18.2.3 Combinations on PDSCH, SCCPCH, PUSCH and PRACH

18.2.3.1 Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.1.1 Interactive or background / UL: 64(payload 320) DL: 256 kbps (10 ms TTI) / PS RAB + UL: 3.4/16.8 DL: 3.4/33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.1.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.1.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.1. for the uplink payload of 320 bits and downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, 16.8 kbps SHCCH and the 3.4 kbps DCCH. The Interactive/Background PS RAB on the USCH has a 320 bit Payload Size.
- The RACH channel can carry combinations of the signalling Radio Bearer for 16.8 kbps CCCH, DCCH, and SHCCH excluding or including an Interactive/Background 12.8 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB, the 16 kbps SHCCH and the 3.4 kbps DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI.
- The FACH can carry combinations of the signalling Radio Bearer for 33.6 kbps CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 32 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.1.1.3 Method of test

The contents of the System Information Block type 5 are specified in clause 8.1.2.2 with the following modifications.

- PUSCH system information	
- PUSCH Identity	1
- PUSCH info	
- TFCS ID	1
- Common timeslot info	
- 2nd interleaving mode	Frame
- TFCI coding	16
- Puncturing Limit	0.40
- Repetition period	1
- Repetition length	1
- PUSCH timeslots and codes	
- Dynamic SF usage	FALSE
- First timeslot Code List	1
- Channelisation Code	As required by individual test below
- CHOISE more timeslots	As required by individual test below
- USCH TFS	As required by individual test below
- USCH TFCS	As required by individual test below

Uplink TFS for the 64 kbps USCH:

	TFI	DTCH	SHCCH (SRB#5)	DCCH (SRB#1 – SRB#4)
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	3x337	N/A	N/A
	TF4, bits	4x337	N/A	N/A

Uplink TFCS for the 64 kbps USCH:

TFCI	(DTCH, SHCCH, DCCH)
UL_USCH_TFC0	(TF0, TF0, TF0)
UL_USCH_TFC1	(TF1, TF0, TF0)
UL_USCH_TFC2	(TF2, TF0, TF0)
UL_USCH_TFC3	(TF3, TF0, TF0)
UL_USCH_TFC4	(TF4, TF0, TF0)
UL_USCH_TFC5	(TF0, TF1, TF0)
UL_USCH_TFC6	(TF1, TF1, TF0)
UL_USCH_TFC7	(TF2, TF1, TF0)
UL_USCH_TFC8	(TF3, TF1, TF0)
UL_USCH_TFC9	(TF4, TF1, TF0)
UL_USCH_TFC10	(TF0, TF0, TF1)
UL_USCH_TFC11	(TF1, TF0, TF1)
UL_USCH_TFC12	(TF2, TF0, TF1)
UL_USCH_TFC13	(TF3, TF0, TF1)
UL_USCH_TFC14	(TF4, TF0, TF1)
UL_USCH_TFC15	(TF0, TF1, TF1)
UL_USCH_TFC16	(TF1, TF1, TF1)
UL_USCH_TFC17	(TF2, TF1, TF1)
UL_USCH_TFC18	(TF3, TF1, TF1)
UL_USCH_TFC19	(TF4, TF1, TF1)

Uplink TFS for the RACH without DTCH:

	TFI	CCCH (SRB#0)	DCCH (SRB#1 – SRB#5)	SHCCH (SRB#5)
TFS	TF0, bits	1x170	1x170	1x170

Uplink TFCS for the RACH without DTCH:

TFCI	(CCCH, DCCH, SHCCH)
UL_RACH_TFC0	(TF0)

Uplink TFS for the RACH with DTCH:

	TFI	DTCH (20 ms TTI)	CCCH (SRB#0)	DCCH (SRB#1 – SRB#4)	SHCCH (SRB#5)
TFS	TF0, bits	1x170	1x170	1x170	1x170

Uplink TFCS for the RACH with DTCH:

TFCI	(DTCH, CCCH, DCCH, SHCCH)
UL_RACH_DTCH_ TFC0	(TF0)

Downlink TFS for 256 kbps DSCH:

	TFI	DTCH(256kbps)	SHCCH SRB#5	DCCH SRB#1-#4
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	4x337	N/A	N/A
	TF4, bits	8x337	N/A	N/A

Downlink TFCS for the 256 kbps DSCH:

TFCI	DTCH, SHCCH, DCCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF0, TF1, TF0),
DL_DSCH_TFC6	(TF1, TF1, TF0),
DL_DSCH_TFC7	(TF2, TF1, TF0),
DL_DSCH_TFC8	(TF3, TF1, TF0),
DL_DSCH_TFC9	(TF4, TF1, TF0),
DL_DSCH_TFC10	(TF0, TF0, TF1),
DL_DSCH_TFC11	(TF1, TF0, TF1),
DL_DSCH_TFC12	(TF2, TF0, TF1),
DL_DSCH_TFC13	(TF3, TF0, TF1),
DL_DSCH_TFC14	(TF4, TF0, TF1),
DL_DSCH_TFC15	(TF0, TF1, TF1),
DL_DSCH_TFC16	(TF1, TF1, TF1),
DL_DSCH_TFC17	(TF2, TF1, TF1),
DL_DSCH_TFC18	(TF3, TF1, TF1),
DL_DSCH_TFC19	(TF4, TF1, TF1)

Downlink TFS for FACH without DTCH:

	TFI	CCCH/DCCH/SHCCH/BCCH
TFS	TF0, bits	0x171
	TF1, bits	1x171
	TF2, bits	2x171
	TF3, bits	3x171
	TF4 ,bits	4x171

Downlink TFCS for FACH without DTCH:

TFCI	CCCH/DCCH/SHCCH/BCCH
DL_FACH_TFC0	TF0
DL_ FACH_TFC1	TF1
DL_ FACH_TFC2	TF2
DL_ FACH_TFC3	TF3
DL_ FACH_TFC4	TF4

Downlink TFS for FACH with DTCH:

	TFI	DTCH/CCCH/DCCH/SHCCH/BCCH
TFS	TF0, bits	0x171
	TF1, bits	1x171
	TF2, bits	2x171
	TF3, bits	1x363
	TF4 ,bits	3x171
	TF5, bits	4x171
	TF6, bits	2x363

Downlink TFCS for FACH with DTCH:

TFCI	DTCH/CCCH/DCCH/SHCCH/BCCH
DL_ FACH_TFC0_DTCH	TF0
DL_ FACH_TFC1_DTCH	TF1
DL_ FACH_TFC2_DTCH	TF2
DL_ FACH_TFC3_DTCH	TF3
DL_ FACH_TFC4_DTCH	TF4
DL_ FACH_TFC5_DTCH	TF5
DL_ FACH_TFC6_DTCH	TF6

Sub-tests for RACH/FACH:

See Section 18.2.6.1

Sub-tests – USCH & DSCH:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 312	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 632	DTCH: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1912	DTCH: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552	DTCH: 2552
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10, UL_TFC11, and UL_TFC15 are part of the minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.1.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH/TF2 (2x337).
   - for sub-test 3: DTCH/TF3 (3x337).
   - for sub-test 4: DTCH/TF4 (4x337).
4. At step 15 the UE shall return
   - for sub-test 1, 2, and 4: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on DTCH having the first 1272 bits equal to the content as the DL RLC SDU sent by the SS in the downlink.

18.2.3.1.2 Interactive or background / UL: 64(145 bit TBS – 20 ms TTI) DL: 256 kbps (337 bit TBS – 10 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.1.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.1.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.1 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 256 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.1.2.3 Method of test

Uplink TFS for the 64 kbps USCH – 145 bit TBS & 20 ms TTI:

	TFI	DTCH	SHCCH (SRB#5)	DCCH (SRB#1 – SRB#4)
TFS	TF0, bits	0x145	0x169	0x149
	TF1, bits	1x145	1x169	1x149
	TF2, bits	3x145	N/A	N/A
	TF3, bits	7x145	N/A	N/A
	TF4, bits	10x145	N/A	N/A

Uplink TFCS for the 64 kbps USCH – 145 bit TBS & 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for 256 kbps DSCH – 10 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for 256 kbps DSCH - 10 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests – USCH (337 bit TBS & 20 ms TTI) & DSCH (337 bit TBS & 10 ms TTI):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 376 (128x1)x3 - 8	DTCH: 312 (320 x 1) - 8
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 760 (128x3)x2 - 8	DTCH: 632 (320 x 2) - 8
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1784 (7x128) x 2 - 8	DTCH: 1272 (4 x 320) - 8
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552 (10x128) x 2 - 8	DTCH: 2552 (8 x 320) - 8

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.1.2.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH/TF2 (3x145).
   - for sub-test 3: DTCH/TF3 (7x145).
   - for sub-test 4: DTCH/TF4 (10x145).
4. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on DTCH having the first 312 bits equal to the content of the DL RLC SDU sent by the SS.
- for sub-test 2: an RLC SDU on DTCH having the first 632 bits equal to the content of the DL RLC SDU sent by the SS.
- for sub-test 3: an RLC SDU on DTCH having the first 1272 bits equal to the content of the DL RLC SDU sent by the SS.
- for sub-test 4: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS

18.2.3.1.3 Interactive or background / UL: 64(337 bit TBS – 20 ms TTI) DL: 256 kbps (337 bit TBS – 20 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.1.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.1.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.1 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the 256 kbps Interactive/Background PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 256 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.1.3.3 Method of test

Uplink TFS for the 64 kbps USCH – 337 bit TBS & 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Uplink TFS for the 64 kbps USCH – 337 bit TBS & 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in Section 18.2.3.1.1.3

Uplink TFCS for the RACH without DTCH:

See corresponding table in Section 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in Section 18.2.3.1.1.3

Uplink TFCS for the RACH with DTCH:

See corresponding table in Section 18.2.3.1.1.3

Downlink TFS for 256 kbps DSCH – 337 bit TBS & 20 ms TTI:

	TFI	DTCH(256kbps)	SHCCH SRB#5	DCCH SRB#1-#4
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	4x337	N/A	N/A
	TF4, bits	8x337	N/A	N/A
	TF5, bits	12x337	N/A	N/A
	TF6, bits	16x337	N/A	N/A

Downlink TFS for 256 kbps DSCH – 337 bit TBS & 20 ms TTI:

TFCI	DTCH, SHCCH, DCCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF5, TF0, TF0),
DL_DSCH_TFC6	(TF6, TF0, TF0),
DL_DSCH_TFC7	(TF0, TF1, TF0),
DL_DSCH_TFC8	(TF1, TF1, TF0),
DL_DSCH_TFC9	(TF2, TF1, TF0),
DL_DSCH_TFC10	(TF3, TF1, TF0),
DL_DSCH_TFC11	(TF4, TF1, TF0),
DL_DSCH_TFC12	(TF5, TF1, TF0),
DL_DSCH_TFC13	(TF6, TF1, TF0),
DL_DSCH_TFC14	(TF0, TF0, TF1),
DL_DSCH_TFC15	(TF1, TF0, TF1),
DL_DSCH_TFC16	(TF2, TF0, TF1),
DL_DSCH_TFC17	(TF3, TF0, TF1),
DL_DSCH_TFC18	(TF4, TF0, TF1),
DL_DSCH_TFC19	(TF5, TF0, TF1),
DL_DSCH_TFC20	(TF6, TF0, TF1),
DL_DSCH_TFC21	(TF0, TF1, TF1),
DL_DSCH_TFC22	(TF1, TF1, TF1),
DL_DSCH_TFC23	(TF2, TF1, TF1),
DL_DSCH_TFC24	(TF3, TF1, TF1),
DL_DSCH_TFC25	(TF4, TF1, TF1),
DL_DSCH_TFC26	(TF5, TF1, TF1),
DL_DSCH_TFC27	(TF6, TF1, TF1)

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in Section 18.2.3.1.1.3

Sub-tests for RACH/FACH – 20 ms TTI:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 20 ms TTI & UL TBS (337 bit) and DL TBS (337 bit):

Sub-tests – USCH (337 bit TBS & 20 ms TTI) & DSCH (337 bit TBS & 20 ms TTI):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 312 (1 x 320) - 8	DTCH: 312 (1 x 320) - 8
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 632 (2 x 320) - 8	DTCH: 632 (1 x 320) - 8
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1912 (3 x 320) - 8	DTCH: 1272 (4 x 320) - 8
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552 (4 x 320) x 2 - 8	DTCH: 2552 (8 x 320) - 8
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 3832 (4 x 320) x 3 - 8	DTCH: 3832 (12 x 320) - 8
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (4 x 320) x 4 - 8	DTCH: 5112 (16 x 320) - 8

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.2.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST

3. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: DTCH/TF1 (1x337).

   - for sub-test 2: DTCH/TF2 (2x337).

   - for sub-test 3: DTCH/TF3 (3x337).

   - for sub-test 4, 5, and 6: DTCH/TF4 (4x337).

4. At step 15 the UE shall return

   - for sub-test 1, 2, 4, 5, and 6: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

   - for sub-test 3: an RLC SDU on DTCH having the first 1272 bits equal content as the DL RLC SDU sent by the SS.

18.2.3.1.4 Interactive or background / UL: 64(145 bit TBS – 20 ms TTI) DL: 256 kbps (337 bit TBS – 20 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH 64 kbps + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.1.4.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.1.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.1 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.

- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the 256 kbps Interactive/Background PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 256 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.1.4.3 Method of test

Uplink TFS for the 64 kbps USCH – 145 bit TBS & 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – 145 bit TBS & 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for 256 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.1.3.2

Downlink TFCS for the 256 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.1.3.2

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests – USCH (145 bit TBS & 20 ms TTI) & DSCH (337 bit TBS & 10 ms TTI):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 376 (128 x 1)x3 - 8	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 760 (128 x 3) x 2 - 8	DTCH: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1784 (7x128) x 2 - 8	DTCH: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19,	DTCH: 2552 (10x128) x 2 - 8	DTCH: 2552
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 3832 (10x128) x 3 - 8	DTCH: 3832 (12 x 320) - 8
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (10x128) x 4 - 8	DTCH: 5112 (16 x 320) - 8

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.1.4.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST.

3. At step 15 the UE transmitted transport format shall be

   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH/TF2 (3x145).
   - for sub-test 3: DTCH/TF3 (7x145).
   - for sub-test 4, 5 and 6: DTCH/TF4 (10x145).

4. At step 15 the UE shall return

   - for sub-test 4 to 6: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 1: an RLC SDU on DTCH having the first 312 bits equal content as the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on DTCH having the first 632 bits equal content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on DTCH having the first 1272 bits equal content as the DL RLC SDU sent by the SS.

18.2.3.2 Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.2.1 Interactive or background / UL: 64(337 bit TBS – 20 ms TTI) DL: 384 kbps (337 bit TBS – 10 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.2.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.2.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.2 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB, the SHCCH and the DCC. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.2.1.3 Method of Test

Uplink TFS for the 64 kbps USCH – 337 bit TBS & 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the 64 kbps USCH – 337 bit TBS & 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for 384 kbps DSCH – 337 bit TBS & 10 ms TTI:

	TFI	DTCH(384 kbps)	SHCCH SRB#5	DCCH SRB#1-#4
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	4x337	N/A	N/A
	TF4, bits	8x337	N/A	N/A
	TF5, bits	12x337	N/A	N/A

Downlink TFS for 384 kbps DSCH – 337 bit TBS & 10 ms TTI:

TFCI	DTCH,SHCCH,DCCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF5, TF0, TF0),
DL_DSCH_TFC6	(TF0, TF1, TF0),
DL_DSCH_TFC7	(TF1, TF1, TF0),
DL_DSCH_TFC8	(TF2, TF1, TF0),
DL_DSCH_TFC9	(TF3, TF1, TF0),
DL_DSCH_TFC10	(TF4, TF1, TF0),
DL_DSCH_TFC11	(TF5, TF1, TF0),
DL_DSCH_TFC12	(TF0, TF0, TF1),
DL_DSCH_TFC13	(TF1, TF0, TF1),
DL_DSCH_TFC14	(TF2, TF0, TF1),
DL_DSCH_TFC15	(TF3, TF0, TF1),
DL_DSCH_TFC16	(TF4, TF0, TF1),
DL_DSCH_TFC17	(TF5, TF0, TF1),
DL_DSCH_TFC18	(TF0, TF1, TF1),
DL_DSCH_TFC19	(TF1, TF1, TF1),
DL_DSCH_TFC20	(TF2, TF1, TF1),
DL_DSCH_TFC21	(TF3, TF1, TF1),
DL_DSCH_TFC22	(TF4, TF1, TF1)
DL_DSCH_TFC23	(TF5, TF1, TF1)

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-tests for RACH/FACH – 20 ms TTI:

See Section 18.2.6.1

Sub-tests – USCH (337 bit TBS & 20 ms TTI) & DSCH (337 bit TBS & 10 ms TTI):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 312 (1x320)x1 - 8	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 632 (2x320)x1 - 8	DTCH: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1912 (3 x 320) x 2 - 8	DTCH: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552 (4 x 320) x 2 - 8	DTCH: 2552
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	RB5: 3832 (4 x 320) x 3 - 8	RB5: 3832

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. .
RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.2.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH /TF2 (2x337).
   - for sub-test 3: DTCH /TF3 (3x337).
   - for sub-test 4 and 5: DTCH /TF4 (4x337)
4. At step 15 the UE shall return
   - for sub-test 1, 2, 4, 5: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on RB5 having the first 1272 bits equal to the content of the DL RLC SDU sent by the SS

18.2.3.2.2 Interactive or background / UL: 64(145 bit TBS – 20 ms TTI) DL: 384 kbps / PS RAB/10 ms TTI/145 bits TBS (337 bit TBS – 10 ms TTI) + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.2.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.2.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.2 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH, and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.2.2.3 Method of test

Uplink TFS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for the 384 kbps DSCH – 10 ms TTI:

See corresponding table in 18.2.3.2.1.3

Downlink TFCS for the 384 kbps DSCH - 10 ms TTI:

See corresponding table in 18.2.3.2.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-tests for RACH/FACH – 20 ms TTI:

See Section 18.2.6.1

Sub-tests for USCH/DSCH – 10 ms TTI & UL 145 bit TBS and DL 337 bit TBS:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 376 (1x128)x3 - 8	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 760 (3x128)x2 - 8	DTCH: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1784 (7x128)x2 - 8	DTCH: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552 (10x128)x2 - 8	DTCH: 2552
5	DL_DSCH_TFC5	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, DL_DSCH_TFC12, DL_DSCH_TFC18, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	RB5: 3832 (3x128)x10 - 8	RB5: 3832
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. . RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.2.2.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH /TF2 (3x145).
   - for sub-test 3: DTCH /TF3 (7x145).
   - for sub-test 4: RB5/TF4 (10x145)

4. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on RB5 having the first 312 bits equal to the content of the DL RLC SDU sent by the SS

   - for sub-test 2: an RLC SDU on RB5 having the first 632 bits equal to the content of the DL RLC SDU sent by the SS

   - for sub-test 3: an RLC SDU on RB5 having the first 1272 bits equal to the content of the DL RLC SDU sent by the SS

   - for sub-tests 4, 5: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.2.3 Interactive or background / UL: 64 (337 bit TBS – 20 ms TTI) DL: 384 kbps (337 bit TBS – 20 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.2.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.2.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.2 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.

- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.2.3.3 Method of Test

See 18.2.1.3 for test procedure

Uplink TFS for the 64 kbps USCH – Transport Block Size 337 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 337 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for the 384 kbps DSCH – 20 ms TTI:

	TFI	DTCH(384 kbps)	SHCCH SRB#5	DCCH SRB#1-#4
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	4x337	N/A	N/A
	TF4, bits	8x337	N/A	N/A
	TF5, bits	12x337	N/A	N/A
	TF6, bits	16x337	N/A	N/A
	TF7, bits	20x337	N/A	N/A
	TF8, bits	24x337	N/A	N/A

Downlink TFCS for the 384 kbps DSCH - 20 ms TTI:

TFCI	DTCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF5, TF0, TF0),
DL_DSCH_TFC6	(TF6, TF0, TF0),
DL_DSCH_TFC7	(TF7, TF0, TF0),
DL_DSCH_TFC8	(TF8, TF0, TF0),
DL_DSCH_TFC9	(TF0, TF1, TF0),
DL_DSCH_TFC10	(TF1, TF1, TF0),
DL_DSCH_TFC11	(TF2, TF1, TF0),
DL_DSCH_TFC12	(TF3, TF1, TF0),
DL_DSCH_TFC13	(TF4, TF1, TF0),
DL_DSCH_TFC14	(TF5, TF1, TF0),
DL_DSCH_TFC15	(TF6, TF1, TF0),
DL_DSCH_TFC16	(TF7, TF1, TF0),
DL_DSCH_TFC17	(TF8, TF1, TF0),
DL_DSCH_TFC18	(TF0, TF0, TF1),
DL_DSCH_TFC19	(TF1, TF0, TF1),
DL_DSCH_TFC20	(TF2, TF0, TF1),
DL_DSCH_TFC21	(TF3, TF0, TF1),
DL_DSCH_TFC22	(TF4, TF0, TF1),
DL_DSCH_TFC23	(TF5, TF0, TF1),
DL_DSCH_TFC24	(TF6, TF0, TF1),
DL_DSCH_TFC25	(TF7, TF0, TF1),
DL_DSCH_TFC26	(TF8, TF0, TF1),
DL_DSCH_TFC27	(TF0, TF1, TF1),
DL_DSCH_TFC28	(TF1, TF1, TF1),
DL_DSCH_TFC29	(TF2, TF1, TF1),
DL_DSCH_TFC30	(TF3, TF1, TF1),
DL_DSCH_TFC31	(TF4, TF1, TF1),
DL_DSCH_TFC32	(TF5, TF1, TF1),
DL_DSCH_TFC33	(TF6, TF1, TF1)
DL_DSCH_TFC34	(TF7, TF1, TF1)
DL_DSCH_TFC35	(TF8, TF1, TF1)

Downlink TFS for FACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-tests for RACH/FACH – 20 ms TTI:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 20 ms TTI & UL TBS (337 bit) and DL TBS (337 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6 UL_USCH_TFC10 UL_USCH_TFC11 UL_USCH_TFC15 UL_USCH_TFC16	DTCH: 312	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7 UL_USCH_TFC10 UL_USCH_TFC12 UL_USCH_TFC15 UL_USCH_TFC17	RB5: 632	RB5: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8 UL_USCH_TFC10 UL_USCH_TFC13 UL_USCH_TFC15 UL_USCH_TFC18	RB5: 1912 (3x320) x 2 - 8	RB5: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_USCH_TFC10 UL_USCH_TFC14 UL_USCH_TFC15 UL_USCH_TFC19	RB5: 2552	RB5: 2552
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_USCH_TFC10 UL_USCH_TFC14 UL_USCH_TFC15 UL_USCH_TFC19	RB5: 3832	RB5: 3832
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9 DL_DSCH_TFC18 DL_DSCH_TFC27 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10 UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_USCH_TFC10 UL_USCH_TFC14 UL_USCH_TFC15 UL_USCH_TFC19	RB5: 5112	RB5: 5112
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, DL_DSCH_TFC18, DL_DSCH_TFC27, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	RB5: 6392	RB5: 6392

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC8	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_DSCH_TFC10, DL_DSCH_TFC15, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	RB5: 6392	RB5: 6392
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. . RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.2.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH /TF2 (2x337).
   - for sub-test 3: DTCH /TF3 (3x337).
   - for sub-test 4, 5, 6, 7, and 8: DTCH /TF4 (4x337)
4. At step 15 the UE shall return
   - for sub-test 1, 2, 4, 5, 7 and 8: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on RB5 having the first 1272 bits equal to the content of the DL RLC SDU sent by the SS

18.2.3.2.4 Interactive or background / UL: 64 (145 bit TBS – 20 ms TTI) DL: 384 kbps (337 bit TBS – 20 ms TTI) / PS RAB+ UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.2.4.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.2.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.1 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.

- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the 384 kbps Interactive/Background PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.2.4.3 Method of test

Uplink TFCS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for the 384 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.1.3.2

Downlink TFCS for the 384 kbps DSCH - 20 ms TTI:

See corresponding table in 18.2.3.1.3.2

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 20 ms TTI & UL TBS (145 bit) and DL TBS (337 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 376 (1x128)x3 - 8	DTCH: 312
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 760 (3x128)x2 - 8	DTCH: 632
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 1784 (7x128)x2 - 8	DTCH: 1272
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 2552 (10x128)x2 - 8	DTCH: 2552
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 3832 (10x128)x3 - 8	DTCH: 3832
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (10x128)x4 - 8	DTCH: 5112
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 6392 (10x128)x5 - 8	DTCH: 6392

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, DL_DSCH_TFC14, DL_DSCH_TFC21, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 7672 (10x128)x6 - 8	DTCH: 7672
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB5: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.2.4.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH/TF2 (3x145).
   - for sub-test 3: DTCH/TF3 (7x145).
   - for sub-test 4, 5, 6, 7, and 8: DTCH/TF4 (10x145).
4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on DTCH having the first 312 bits equal content as the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on DTCH having the first 632 bits equal content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on DTCH having the first 1272 bits equal content as the DL RLC SDU sent by the SS.
   - for sub-test 4,5,6,7 and 8: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.3 Interactive or background / UL: 64 DL: 2048 kbps/ PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.3.1 Interactive or background / UL: 64 (337 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 10 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.3.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.3.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.3 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 2048 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 2048 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.3.1.3 Method of test

Uplink TFS for the 64 kbps USCH – Transport Block Size 337 bits:

- See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 337 bits:

- See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

- See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

- See corresponding table in 18.2.3.1.1.3

Downlink TFS for 2048 kbps DSCH – 10 ms TTI:

	TFI	**DTCH(2048 kbps)**	**SHCCH SRB#5**	**DCCH SRB#1-#4**
TFS	TF0, bits	0x657	0x169	0x149
	TF1, bits	1x657	1x169	1x149
	TF2, bits	2x657	N/A	N/A
	TF3, bits	4x657	N/A	N/A
	TF4, bits	8x657	N/A	N/A
	TF5, bits	12x657	N/A	N/A
	TF6, bits	16x657	N/A	N/A
	TF7, bits	20x657	N/A	N/A
	TF8, bits	24x657	N/A	N/A
	TF9, bits	28x657	N/A	N/A
	TF10, bits	30x657	N/A	N/A

Downlink TFCS for 2048 kbps DSCH - 10 ms TTI:

TFCI	DTCH,SHCCH,DCCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF5, TF0, TF0),
DL_DSCH_TFC6	(TF6, TF0, TF0),
DL_DSCH_TFC7	(TF7, TF0, TF0),
DL_DSCH_TFC8	(TF8, TF0, TF0),
DL_DSCH_TFC9	(TF9, TF0, TF0),
DL_DSCH_TFC10	(TF10, TF0, TF0),
DL_DSCH_TFC11	(TF0, TF1, TF0),
DL_DSCH_TFC12	(TF1, TF1, TF0),
DL_DSCH_TFC13	(TF2, TF1, TF0),
DL_DSCH_TFC14	(TF3, TF1, TF0),
DL_DSCH_TFC15	(TF4, TF1, TF0),
DL_DSCH_TFC16	(TF5, TF1, TF0),
DL_DSCH_TFC17	(TF6, TF1, TF0),
DL_DSCH_TFC18	(TF7, TF1, TF0),
DL_DSCH_TFC19	(TF8, TF1, TF0),
DL_DSCH_TFC20	(TF9, TF1, TF0),
DL_DSCH_TFC21	(TF0, TF0, TF1),
DL_DSCH_TFC22	(TF1, TF0, TF1),
DL_DSCH_TFC23	(TF2, TF0, TF1),
DL_DSCH_TFC24	(TF3, TF0, TF1),
DL_DSCH_TFC25	(TF4, TF0, TF1),
DL_DSCH_TFC26	(TF5, TF0, TF1),
DL_DSCH_TFC27	(TF6, TF0, TF1),
DL_DSCH_TFC28	(TF7, TF0, TF1),
DL_DSCH_TFC29	(TF8, TF0, TF1),
DL_DSCH_TFC30	(TF9, TF0, TF1),
DL_DSCH_TFC31	(TF0, TF1, TF1),
DL_DSCH_TFC32	(TF1, TF1, TF1),
DL_DSCH_TFC33	(TF2, TF1, TF1),
DL_DSCH_TFC34	(TF3, TF1, TF1),
DL_DSCH_TFC35	(TF4, TF1, TF1),
DL_DSCH_TFC36	(TF5, TF1, TF1),
DL_DSCH_TFC37	(TF6, TF1, TF1),
DL_DSCH_TFC38	(TF7, TF1, TF1),
DL_DSCH_TFC39	(TF8, TF1, TF1),
DL_DSCH_TFC40	(TF9, TF1, TF1),

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL TBS (337 bit) and DL TBS (657 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 632 (320 x1) x 2 - 8	RB5: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 1272 (320 x2) x2 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 2872 (320 x3) x3 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (320 x4) x4 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 7672 (320 x4) x6 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 10232 (320 x4) x8 - 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15,	DTCH: 12792 (320 x4) x10 - 8	DTCH: 12792

				UL_USCH_TFC19		
8	DL_DSCH_TFC8	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 15352 (320 x4) x12 - 8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 17912 (320 x4) x14 - 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 20472 (320 x4) x16 - 8	DTCH: 20472
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.3.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH/TF2 (2x337).
   - for sub-test 3: DTCH/TF3 (3x337).
   - for sub-test 4 to 10: DTCH/TF4 (4x337)
3. At step 15 the UE shall return
   - for sub-test 1, 2, 4 to 10: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 3: an RLC SDU on DTCH having the first 2552 bits equal to the content of the DL RLC SDU sent by the SS.

18.2.3.3.2 Interactive or background / UL: 64(145 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 10 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.3.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.3.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.2 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 256 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.2.3.3 Method of test

Uplink TFS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for DSCH – 10 ms TTI:

See corresponding table in 18.2.3.3.1.3

Downlink TFCS for DSCH - 10 ms TTI:

See corresponding table in 18.2.3.3.1.3

Downlink TFS for FACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-tests for RACH/FACH – 20 ms TTI:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL TBS (145 bit) and DL TBS (657 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 632 (128 x1) x5 - 8	RB5: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 1528 (128 x3) x4 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18,	DTCH: 2680 (128 x7) x3 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (128 x10) x4 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_SCH_TFC19	DTCH: 7672 (128 x10) x6- 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 10232 (128 x10) x8- 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 12792 (128 x10)x10- 8	DTCH: 12792

8	DL_DSCH_TFC8	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 15352 (128 x10)x12-8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 17912 (128 x10)x14-8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, DL_DSCH_TFC21, DL_DSCH_TFC31, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 20472 (128 x10)x16-8	DTCH: 20472
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

See 18.2.1.3 for test procedure.

18.2.3.2.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH /TF2 (3x145).
   - for sub-test 3: DTCH /TF3 (7x145).
   - for sub-test 4 to 10: DTCH /TF4 (10x145)
4. At step 15 the UE shall return
   - for sub-test 1, 4, 5, 6, 7, 8, 9, and 10: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB5 having the first 1272 bits equal to the content of the DL RLC SDU sent by the SS
   - for sub-test 3: an RLC SDU on RB5 having the first 2552 bits equal to the content of the DL RLC SDU sent by the SS

18.2.3.3.3 Interactive or background / UL: 64 (337 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 20 ms TTI) / PS RAB+ UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.3.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.3.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.3 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 2048 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 2048 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.3.3.3 Method of test

Uplink TFS for the USCH – Transport Block Size 337 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the USCH – Transport Block Size 337 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for 2048 kbps DSCH – 20 ms TTI:

	TFI	DTCH(2048 kbps)	SHCCH SRB#5	DCCH SRB#1-#4
TFS	TF0, bits	0x657	0x169	0x149
	TF1, bits	1x657	1x169	1x149
	TF2, bits	2x657	N/A	N/A
	TF3, bits	4x657	N/A	N/A
	TF4, bits	8x657	N/A	N/A
	TF5, bits	12x657	N/A	N/A
	TF6, bits	16x657	N/A	N/A
	TF7, bits	20x657	N/A	N/A
	TF8, bits	24x657	N/A	N/A
	TF9, bits	28x657	N/A	N/A
	TF10, bits	32x657	N/A	N/A
	TF11, bits	36x657	N/A	N/A
	TF12, bits	40x657	N/A	N/A
	TF13, bits	44x657	N/A	N/A
	TF14, bits	48x657	N/A	N/A
	TF15, bits	52x657	N/A	N/A
	TF16, bits	56x657	N/A	N/A
	TF17, bits	60x657	N/A	N/A
	TF18, bits	64x657	N/A	N/A

Downlink TFCS for 2048 kbps DSCH - 20 ms TTI:

TFCI	DTCH,SHCCH,DCCH
DL_DSCH_TFC0	(TF0, TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0, TF0),
DL_DSCH_TFC2	(TF2, TF0, TF0),
DL_DSCH_TFC3	(TF3, TF0, TF0),
DL_DSCH_TFC4	(TF4, TF0, TF0),
DL_DSCH_TFC5	(TF5, TF0, TF0),
DL_DSCH_TFC6	(TF6, TF0, TF0),
DL_DSCH_TFC7	(TF7, TF0, TF0),
DL_DSCH_TFC8	(TF8, TF0, TF0),
DL_DSCH_TFC9	(TF9, TF0, TF0),
DL_DSCH_TFC10	(TF10, TF0, TF0),
DL_DSCH_TFC11	(TF11, TF0, TF0),
DL_DSCH_TFC12	(TF12, TF0, TF0),
DL_DSCH_TFC13	(TF13, TF0, TF0),
DL_DSCH_TFC14	(TF14, TF0, TF0),
DL_DSCH_TFC15	(TF15, TF0, TF0),
DL_DSCH_TFC16	(TF16, TF0, TF0),
DL_DSCH_TFC17	(TF17, TF0, TF0),
DL_DSCH_TFC18	(TF18, TF0, TF0),
DL_DSCH_TFC19	(TF0, TF1, TF0),
DL_DSCH_TFC20	(TF1, TF1, TF0),
DL_DSCH_TFC21	(TF2, TF1, TF0),
DL_DSCH_TFC22	(TF3, TF1, TF0),
DL_DSCH_TFC23	(TF4, TF1, TF0),
DL_DSCH_TFC24	(TF5, TF1, TF0),
DL_DSCH_TFC25	(TF6, TF1, TF0),
DL_DSCH_TFC26	(TF7, TF1, TF0),
DL_DSCH_TFC27	(TF8, TF1, TF0),
DL_DSCH_TFC28	(TF9, TF1, TF0),
DL_DSCH_TFC29	(TF10, TF1, TF0),
DL_DSCH_TFC30	(TF11, TF1, TF0),
DL_DSCH_TFC31	(TF12, TF1, TF0),
DL_DSCH_TFC32	(TF13, TF1, TF0),
DL_DSCH_TFC33	(TF14, TF1, TF0),
DL_DSCH_TFC34	(TF15, TF1, TF0),
DL_DSCH_TFC35	(TF16, TF1, TF0),
DL_DSCH_TFC36	(TF17, TF1, TF0),
DL_DSCH_TFC37	(TF18, TF1, TF0),
DL_DSCH_TFC38	(TF0, TF0, TF1),
DL_DSCH_TFC39	(TF1, TF0, TF1),
DL_DSCH_TFC40	(TF2, TF0, TF1),
DL_DSCH_TFC41	(TF3, TF0, TF1),
DL_DSCH_TFC42	(TF4, TF0, TF1),
DL_DSCH_TFC43	(TF5, TF0, TF1),
DL_DSCH_TFC44	(TF6, TF0, TF1),
DL_DSCH_TFC45	(TF7, TF0, TF1),
DL_DSCH_TFC46	(TF8, TF0, TF1),
DL_DSCH_TFC47	(TF9, TF0, TF1),
DL_DSCH_TFC48	(TF10, TF0, TF1),
DL_DSCH_TFC49	(TF11, TF0, TF1),
DL_DSCH_TFC50	(TF12, TF0, TF1),
DL_DSCH_TFC51	(TF13, TF0, TF1),
DL_DSCH_TFC52	(TF14, TF0, TF1),
DL_DSCH_TFC53	(TF15, TF0, TF1),
DL_DSCH_TFC54	(TF16, TF0, TF1),
DL_DSCH_TFC55	(TF17, TF0, TF1),
DL_DSCH_TFC56	(TF18, TF0, TF1),
DL_DSCH_TFC57	(TF0, TF1, TF1),
DL_DSCH_TFC58	(TF1, TF1, TF1),
DL_DSCH_TFC59	(TF2, TF1, TF1),
DL_DSCH_TFC61	(TF3, TF1, TF1),

DL_DSCH_TFC62	(TF4, TF1, TF1),
DL_DSCH_TFC63	(TF5, TF1, TF1),
DL_DSCH_TFC64	(TF6, TF1, TF1),
DL_DSCH_TFC65	(TF7, TF1, TF1),
DL_DSCH_TFC66	(TF8, TF1, TF1),
DL_DSCH_TFC67	(TF9, TF1, TF1),
DL_DSCH_TFC68	(TF10, TF1, TF1),
DL_DSCH_TFC69	(TF11, TF1, TF1),
DL_DSCH_TFC70	(TF12, TF1, TF1),
DL_DSCH_TFC71	(TF13, TF1, TF1),
DL_DSCH_TFC72	(TF14, TF1, TF1),
DL_DSCH_TFC73	(TF16, TF1, TF1),
DL_DSCH_TFC74	(TF17, TF1, TF1),
DL_DSCH_TFC75	(TF18, TF1, TF1),

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 20 ms TTI & UL TBS (337 bit) and DL TBS (657 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 632 (320 x1) x2 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 1272 (320 x2) x2 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 2872 (320 x3) x3 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (320 x4) x4 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 7672 (320 x4) x6 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 10232 (320 x4) x8 - 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 12792 (320 x4) x10 - 8	DTCH: 12792

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC8	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 15352 (320 x4) x12 - 8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 17912 (320 x4) x14 - 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 20472 (320 x4) x16 - 8	DTCH: 20472
11	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 23032 (320 x4) x18 - 8	DTCH: 23032
12	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 25592 (320 x4) x20 - 8	DTCH: 25592
13	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 28152 (320 x4) x22 - 8	DTCH: 28152
14	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 30712 (320 x4) x24 - 8	DTCH: 30712

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
15	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 33272 (320 x4) x26 - 8	DTCH: 33272
16	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 35832 (320 x4) x28 - 8	DTCH: 35832
17	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 38392 (320 x4) x30 - 8	DTCH: 38392
18	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 40952 (320 x4) x32 - 8	DTCH: 40952

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs

NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.3.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH/TF2 (2x337).
   - for sub-test 3: DTCH/TF3 (3x337).
   - for sub-tests 4 to 18: DTCH/TF4 (4x337).
3. At step 15 the UE shall return

- for sub-test 1 to 18: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.3.4 Interactive or background / UL: 64(145 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 20 ms TTI) / PS RAB + UL: 16.8 DL: 33.6 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.3.4.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.3.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.2 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 64 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 2048 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 2048 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.3.4.3 Method of test

Uplink TFS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFCS for the 64 kbps USCH – Transport Block Size 145 bits:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.3

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for 2048 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.3.3.3

Downlink TFCS for 2048 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.3.3.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 20 ms TTI & UL TBS (145 bit) and DL TBS (657 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_USCH_TFC10, UL_USCH_TFC11, UL_USCH_TFC15, UL_USCH_TFC16	DTCH: 632 (128 x1) x5 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_USCH_TFC10, UL_USCH_TFC12, UL_USCH_TFC15, UL_USCH_TFC17	DTCH: 1528 (128 x3) x4 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_USCH_TFC10, UL_USCH_TFC13, UL_USCH_TFC15, UL_USCH_TFC18	DTCH: 2680 (128 x7) x3 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 5112 (128 x10) x4 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 7672 (128 x10) x6- 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 10232 (128x10) x8 - 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 12792 (128 x10)x10- 8	DTCH: 12792

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC8	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 15352 (128 x10)x12-8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 17912 (128 x10)x14-8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 20472 (128 x10)x16-8	DTCH: 20472
11	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 23032 (320 x4) x18 - 8	DTCH: 23032
12	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 25592 (128 x10) x20 - 8	DTCH: 25592
13	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 28152 (128 x10) x22 - 8	DTCH: 28152
14	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 30712 (128 x10) x24 - 8	DTCH: 30712

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
15	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 33272 (128 x10) x26 - 8	DTCH: 33272
16	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 35832 (128 x10) x28 - 8	DTCH: 35832
17	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 38392 (128 x10) x30 - 8	DTCH: 38392
18	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC14, UL_USCH_TFC15, UL_USCH_TFC19	DTCH: 40952 (128 x10) x32 - 8	DTCH: 40952

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC10 and UL_TFC15 are part of the minimum set of TFCIs
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.

See 18.2.1.3 for test procedure.

18.2.3.3.4.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH/TF2 (3x145).
   - for sub-test 3: DTCH/TF3 (7x145).
   - for sub-tests 4 to 18: DTCH/TF4 (10x145).
4. At step 15 the UE shall return

- for sub-test 4 to 18: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.
- for sub-test 2: an RLC SDU on DTCH having the first 1272 bits equal to the contents as the DL RLC SDU sent by the SS.
- for sub-test 3: an RLC SDU on DTCH having the first 2552 bits equal to the contents as the DL RLC SDU sent by the SS.

18.2.3.4 Interactive or background / UL: 384 DL: 2048 kbps / PS RAB + UL: 3.4 DL: 16.8 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.4.1 Interactive or background / UL: 384 DL (337 bit TBS – 20 ms TTI): 2048 kbps (657 bit TBS – 10 ms TTI) / PS RAB+ UL: 3.4 DL: 16.8 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.4.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.4.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.4 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 384 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 384 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.4.1.3 Method of test

Uplink TFS for the 384 kbps USCH – Transport Block Size 337 bits:

	TFI	DTCH	SHCCH (SRB#5)	DCCH (SRB#1 – SRB#4)
TFS	TF0, bits	0x337	0x169	0x149
	TF1, bits	1x337	1x169	1x149
	TF2, bits	2x337	N/A	N/A
	TF3, bits	4x337	N/A	N/A
	TF4, bits	8x337	N/A	N/A
	TF5, bits	12x337	N/A	N/A
	TF6, bits	16x337	N/A	N/A
	TF7, bits	20x337	N/A	N/A
	TF8, bits	24x337	N/A	N/A

Uplink TFCS for the 384 kbps USCH – Transport Block size 337 bits:

TFCI	(DTCH, SHCCH, DCCH)
UL_USCH_TFC0	(TF0, TF0, TF0),
UL_USCH_TFC1	(TF1, TF0, TF0),
UL_USCH_TFC2	(TF2, TF0, TF0),
UL_USCH_TFC3	(TF3, TF0, TF0),
UL_USCH_TFC4	(TF4, TF0, TF0),
UL_USCH_TFC5	(TF5, TF0, TF0),
UL_USCH_TFC6	(TF6, TF0, TF0),
UL_USCH_TFC7	(TF7, TF0, TF0),
UL_USCH_TFC8	(TF8, TF0, TF0),
UL_USCH_TFC9	(TF0, TF1, TF0),
UL_USCH_TFC10	(TF1, TF1, TF0),
UL_USCH_TFC11	(TF2, TF1, TF0),
UL_USCH_TFC12	(TF3, TF1, TF0),
UL_USCH_TFC13	(TF4, TF1, TF0),
UL_USCH_TFC14	(TF5, TF1, TF0),
UL_USCH_TFC15	(TF6, TF1, TF0),
UL_USCH_TFC16	(TF7, TF1, TF0),
UL_USCH_TFC17	(TF8, TF1, TF0),
UL_USCH_TFC18	(TF0, TF0, TF1),
UL_USCH_TFC19	(TF1, TF0, TF1),
UL_USCH_TFC20	(TF2, TF0, TF1),
UL_USCH_TFC21	(TF3, TF0, TF1),
UL_USCH_TFC22	(TF4, TF0, TF1),
UL_USCH_TFC23	(TF5, TF0, TF1),
UL_USCH_TFC24	(TF6, TF0, TF1),
UL_USCH_TFC25	(TF7, TF0, TF1),
UL_USCH_TFC26	(TF8, TF0, TF1),
UL_USCH_TFC27	(TF0, TF1, TF1),
UL_USCH_TFC28	(TF1, TF1, TF1),
UL_USCH_TFC29	(TF2, TF1, TF1),
UL_USCH_TFC30	(TF3, TF1, TF1),
UL_USCH_TFC31	(TF4, TF1, TF1),
UL_USCH_TFC32	(TF5, TF1, TF1),
UL_USCH_TFC33	(TF6, TF1, TF1),
UL_USCH_TFC34	(TF7, TF1, TF1),
UL_USCH_TFC35	(TF8, TF1, TF1),

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.2

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.2

Downlink TFS for 2048 kbps DSCH – 10 ms TTI:

See corresponding table in 18.2.3.3.1.3

Downlink TFCS for 2048 kbps DSCH - 10 ms TTI

See corresponding table in 18.2.3.3.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL TBS (337 bit) and DL TBS (337 bit):

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC18, UL_USCH_TFC19, UL_USCH_TFC27, UL_USCH_TFC28	DTCH: 312 (320 x1) x2 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC2, UL_USCH_TFC9, UL_USCH_TFC11, UL_USCH_TFC18, UL_USCH_TFC20, UL_USCH_TFC27, UL_USCH_TFC29	DTCH: 1272 (320 x2) x2 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21, UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 2552 (320 x4) x2 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 5112 (320 x8) x2 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC5	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 7672 (320 x12) x2 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC14, UL_USCH_TFC18, UL_USCH_TFC23, UL_USCH_TFC27, UL_USCH_TFC32	DTCH: 10232 (320 x16) x2 - 8	DTCH:10232
7	DL_DSCH_TFC7	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 12792 (320 x20) x2 - 8	DTCH: 12792
8	DL_DSCH_TFC8	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC7, UL_USCH_TFC9, UL_USCH_TFC16, UL_USCH_TFC18, UL_USCH_TFC25, UL_USCH_TFC27, UL_USCH_TFC34	DTCH: 15352 (320 x24) x2 - 8	DTCH: 1 5352

9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 17912 (320 x8) x7 - 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 19192 (320 x20) x3 - 8	DTCH: 19192
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC18 and UL_TFC27 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. The UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

18.2.3.4.1.4 Test requirements

See 18.1.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST.
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH/TF2 (2x337).
   - for sub-test 3: DTCH/TF3 (4x337).
   - for sub-test 4: DTCH/TF3 (8x337).
   - for sub-test 5: DTCH/TF4 (12x337)
   - for sub-test 6: DTCH/TF4 (16x337)
   - for sub-test 7: DTCH/TF4 (20x337)
   - for sub-test 8: DTCH/TF4 (24x337)
   - for sub-test 9: DTCH/TF4 (8x337)
   - for sub-test 10: DTCH/TF4 (20x337).
4. At step 15 the UE shall return

   - for sub-test 1 to 10: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.4.2 Interactive or background / UL: 384(145 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 10 ms TTI) / PS RAB + UL: 3.4 DL: 16.8 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.4.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.4.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.4 for the downlink 10 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 384 kbps UL PS RAB, SHCCH and the DCCH.

- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 384 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.4.1.3 Method of test

Uplink TFS for the 384 kbps USCH – Transport Block Size 145 bits:

	TFI	DTCH	SHCCH (SRB#5)	DCCH (SRB#1 – SRB#4)
TFS	TF0, bits	0x145	0x169	0x149
	TF1, bits	1x145	1x169	1x149
	TF2, bits	3x145	N/A	N/A
	TF3, bits	7x145	N/A	N/A
	TF4, bits	10x145	N/A	N/A
	TF5, bits	20x145	N/A	N/A
	TF6, bits	30x145	N/A	N/A
	TF7, bits	40x145	N/A	N/A
	TF8, bits	60x145	N/A	N/A

Uplink TFCS for the 384 kbps USCH – Transport Block size 145 bits:

See corresponding table in 18.2.3.4.1.2

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.2

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.2

Downlink TFS for 2048 kbps DSCH – 10 ms TTI:

See corresponding table in 18.2.3.3.1.3

Downlink TFCS for 2048 kbps DSCH - 10 ms TTI

See corresponding table in 18.2.3.3.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL TBS (337 bit) and DL TBS (337 bit):

Sub-test	Downlink TFCS Under Test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC18, UL_USCH_TFC19, UL_USCH_TFC27, UL_USCH_TFC28	DTCH: 632 (128 x1) x5 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC2, UL_USCH_TFC9, UL_USCH_TFC11, UL_USCH_TFC18, UL_USCH_TFC20, UL_USCH_TFC27, UL_USCH_TFC29	DTCH: 1272 (128x5) x2- 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21, UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 2552 (128 x10) x2 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 5112 (128 x20) x2 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC5	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 7672 (128 x30) x2 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC14, UL_USCH_TFC18, UL_USCH_TFC23, UL_USCH_TFC27, UL_USCH_TFC32	DTCH: 10232 (128 x40) x2 - 8	DTCH:10232
7	DL_DSCH_TFC7	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 12792 (128 x50) x2 - 8	DTCH: 12792
8	DL_DSCH_TFC8	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC7, UL_USCH_TFC9, UL_USCH_TFC16, UL_USCH_TFC18, UL_USCH_TFC25, UL_USCH_TFC27, UL_USCH_TFC34	DTCH: 15352 (128 x60) x2 - 8	DTCH: 15352

9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 17912 (128 x20) x7 - 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC9, UL_USCH_TFC18, UL_USCH_TFC27	UL_USCH_TFC0, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 19192 (128 x50) x3 - 8	DTCH: 19192
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC9, UL_TFC18 and UL_TFC27 are part of the minimum set of TFCIs NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. The UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

18.2.3.4.1.4 Test requirements

See 18.1.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x145).
   - for sub-test 2: DTCH/TF2 (5x145).
   - for sub-test 3: DTCH/TF3 (10x145).
   - for sub-test 4: DTCH/TF3 (20x145).
   - for sub-test 5: DTCH/TF4 (30x145)
   - for sub-test 6: DTCH/TF4 (40x145).
   - for sub-test 7: DTCH/TF4 (50x145).
   - for sub-test 8: DTCH/TF4 (60x145).
   - for sub-test 9: DTCH/TF4 (20x145).
   - for sub-test 10: DTCH/TF4 (50x145).
4. At step 15 the UE shall return

   - for sub-test 1 to 10: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.4.3 Interactive or background / UL: 384 (337 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 20 ms TTI) / PS RAB + UL: 3.4 DL: 16.8 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.4.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.4.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.4 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 384 kbps UL PS RAB, SHCCH and the DCCH.

- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 384 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.4.3.3 Method of test

Uplink TFS for the 384 kbps USCH – Transport Block Size 337 bits:

- See corresponding table in 18.2..3.3.3.2

Uplink TFCS for the 384 kbps USCH – Transport Block size 337 bits:

- See corresponding table in 18.2.3.3.3.2

Uplink TFS for the RACH without DTCH:

- See corresponding table in 18.2.3.1.1.2

Uplink TFS for the RACH with DTCH:

- See corresponding table in 18.2.3.1.1.2

Downlink TFS for 2048 kbps DSCH – 20 ms TTI:

- See corresponding table in 18.2.3.3.1.3

Downlink TFCS for 2048 kbps DSCH – 20 ms TTI

- See corresponding table in 18.2.3.3.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

- See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

- See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

- See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

- See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

- See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL TBS (337 bit) and DL TBS (337 bit):

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC18, UL_USCH_TFC19, UL_USCH_TFC27, UL_USCH_TFC28	DTCH: 632 (320 x1) x2 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC9, UL_USCH_TFC11, UL_USCH_TFC18, UL_USCH_TFC20, UL_USCH_TFC27, UL_USCH_TFC29	DTCH: 1272 (320 x2) x2 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21, UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 2872 (320 x4) x2 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 5112 (320 x8) x2 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC5	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC14, UL_USCH_TFC18, UL_USCH_TFC23, UL_USCH_TFC27, UL_USCH_TFC32	DTCH: 7672 (320 x12) x2 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 10232 (320 x16) x2 - 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC7, UL_USCH_TFC9, UL_USCH_TFC16, UL_USCH_TFC18, UL_USCH_TFC25, UL_USCH_TFC27, UL_USCH_TFC34	DTCH: 12792 (320 x20) x2 - 8	DTCH: 12792

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC8	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC8, UL_USCH_TFC9, UL_USCH_TFC17, UL_USCH_TFC18, UL_USCH_TFC26, UL_USCH_TFC27, UL_USCH_TFC35	DTCH: 15352 (320 x24) x2 - 8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 17912 (320 x8) x7- 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 20472 (320 x8) x8- 8	DTCH: 20472
11	DL_DSCH_TFC10	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21, UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 23032 (320 x4) x18 - 8	DTCH: 23032
12	DL_DSCH_TFC10	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 25592 (320 x16) x5 - 8	DTCH: 25592
13	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 28152 (320 x8) x11 - 8	DTCH: 28152
14	DL_DSCH_TFC10	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 20472 (320 x24) x4 - 8	DTCH: 30712
15	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 33272 (320 x8) x13 - 8	DTCH: 33272

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
16	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 20472 (320 x4) x28 - 8	DTCH: 35832
17	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 38392 (320 x8) x14 - 8	DTCH: 38392
18	DL_DSCH_TFC10	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 40952 (320 x24) x8- 8	DTCH: 40952
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

18.2.3.4.3.4 Test requirements

See 18.1.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST.
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x337).
   - for sub-test 2: DTCH/TF2 (2x337).
   - for sub-test 3: DTCH/TF3 (4x337).
   - for sub-test 4: DTCH/TF3 (8x337).
   - for sub-test 5: DTCH/TF4 (12x337)
   - for sub-test 6: DTCH/TF5 (16x337)
   - for sub-test 7: DTCH/TF6 (20x337)
   - for sub-test 8: DTCH/TF8 (24x337)
   - for sub-test 9 to 13: DTCH/TF4 (8x337)
   - for sub-test 11: DTCH/TF3 (4x337)
   - for sub-test 12: DTCH/TF6 (16x337)
   - for sub-test 13: DTCH/TF4 (8x337)
   - for sub-test 14: DTCH/TF8 (24x337)

- for sub-test 15 to 17: DTCH/TF4 (8x337)
- for sub-test 18: DTCH/TF8 (24x337)

4. At step 15 the UE shall return

- for sub-test 1 to 18: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.3.4.4 Interactive or background / UL: 384(145 bit TBS – 20 ms TTI) DL: 2048 kbps (657 bit TBS – 20 ms TTI) / PS RAB + UL: 3.4 DL: 16.8 kbps SRBs for DCCH, CCCH and BCCH + UL: 16.8 DL: 16 kbps SRBs for SHCCH

18.2.3.4.4.1 Conformance requirement

See 18.2.2.4.1.

18.2.3.4.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for two UL transport channels (a RACH and a USCH) and two DL transport channels (DSCH and FACH) as specified in TS 34.108, clause 6.10.3.4.2.4 for the downlink 20 ms TTI case.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 384 kbps UL PS RAB, SHCCH and the DCCH.
- The RACH channel can carry combinations of the signalling Radio Bearer for CCCH, DCCH, and SHCCH *excluding or including* an Interactive/Background 384 kbps UL PS RAB.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB, the SHCCH and the DCCH. The Interactive/Background PS RAB on the DSCH has a 10 ms TTI. The Interactive/Background 384 kbps UL PS RAB channel has a 145 bit Transport Block Size (TBS).
- The FACH can carry combinations of the signalling Radio Bearer for CCCH, DCCH, SCCH, BCCH and *excluding or including* an Interactive/Background 384 kbps PS RAB.

To be able to test the downlink radio bearer on the DSCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.3.4.4.3 Method of test

Uplink TFS for the 384 kbps USCH – Transport Block Size 337 bits:

See corresponding table in 18.2..3.3.3.2

Uplink TFCS for the 384 kbps USCH – Transport Block size 337 bits:

See corresponding table in 18.2.3.3.3.2

Uplink TFS for the RACH without DTCH:

See corresponding table in 18.2.3.1.1.2

Uplink TFS for the RACH with DTCH:

See corresponding table in 18.2.3.1.1.2

Downlink TFS for 2048 kbps DSCH – 20 ms TTI:

See corresponding table in 18.2.3.3.1.3

Downlink TFCS for 2048 kbps DSCH – 20 ms TTI

See corresponding table in 18.2.3.3.1.3

Downlink TFS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH without DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Downlink TFCS for FACH with DTCH – 20 ms TTI:

See corresponding table in 18.2.3.1.1.3

Sub-test for RACH/FACH – 20 ms TT1:

See Section 18.2.6.1

Sub-tests for DSCH/USCH – 10 ms TTI & UL 145 bit TBS and DL 337 bit TBS:

Sub -test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
1	DL_DSCH_TFC1	UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC9, UL_USCH_TFC10, UL_USCH_TFC18, UL_USCH_TFC19 UL_USCH_TFC27, UL_USCH_TFC28	DTCH: 632 (128x1) x4 - 8	DTCH: 632
2	DL_DSCH_TFC2	UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC9, UL_USCH_TFC11, UL_USCH_TFC18, UL_USCH_TFC20 UL_USCH_TFC27, UL_USCH_TFC29	DTCH: 1272 (128x5) x2 - 8	DTCH: 1272
3	DL_DSCH_TFC3	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57 UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21 UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 2872 (128x10) x2 - 8	DTCH: 2552
4	DL_DSCH_TFC4	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 5112 (128x20) x2 - 8	DTCH: 5112
5	DL_DSCH_TFC5	UL_USCH_TFC5	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC9, UL_USCH_TFC14 UL_USCH_TFC18, UL_USCH_TFC23, UL_USCH_TFC27, UL_USCH_TFC32	DTCH: 7672 (128x30) x2 - 8	DTCH: 7672
6	DL_DSCH_TFC6	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 10232 (128x40) x2 - 8	DTCH: 10232
7	DL_DSCH_TFC7	UL_USCH_TFC7	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC7, UL_USCH_TFC9, UL_USCH_TFC16 UL_USCH_TFC18, UL_USCH_TFC25, UL_USCH_TFC27, UL_USCH_TFC34	DTCH: 12792 (128x50) x2 - 8	DTCH: 12792

Sub -test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
8	DL_DSCH_TFC8	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC8, UL_USCH_TFC9, UL_USCH_TFC17, UL_USCH_TFC18, UL_USCH_TFC26, UL_USCH_TFC27, UL_USCH_TFC35	DTCH: 15352 (128x60) x2 - 8	DTCH: 15352
9	DL_DSCH_TFC9	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 17912 (128x20) x7- 8	DTCH: 17912
10	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 20472 (128x20) x8- 8	DTCH: 20472
11	DL_DSCH_TFC10	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC9, UL_USCH_TFC12, UL_USCH_TFC18, UL_USCH_TFC21, UL_USCH_TFC27, UL_USCH_TFC30	DTCH: 23032 (128x10) x18 - 8	DTCH: 23032
12	DL_DSCH_TFC10	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15, UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 25592 (128x40) x5 - 8	DTCH: 25592
13	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 28152 (128x20) x11 - 8	DTCH: 28152
14	DL_DSCH_TFC10	UL_USCH_TFC8	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC6, UL_USCH_TFC9, UL_USCH_TFC15 UL_USCH_TFC18, UL_USCH_TFC24, UL_USCH_TFC27, UL_USCH_TFC33	DTCH: 30712 (128x60) x4 - 8	DTCH: 30712
15	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 33272 (128x20) x13 - 8	DTCH: 33272

Sub -test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (bits) (note)	Test data size (bits) (note)
16	DL_DSCH_TFC10	UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 35832 (128x20) x14 - 8	DTCH: 35832
17	DL_DSCH_TFC10	UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 38392 (128x10) x30 - 8	DTCH: 38392
18	DL_DSCH_TFC10	UL_USCH_TFC6	DL_DSCH_TFC0, DL_DSCH_TFC19, DL_DSCH_TFC38, DL_DSCH_TFC57, UL_USCH_TFC0, UL_USCH_TFC5, UL_USCH_TFC10, UL_USCH_TFC15	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC9, UL_USCH_TFC13, UL_USCH_TFC18, UL_USCH_TFC22, UL_USCH_TFC27, UL_USCH_TFC31	DTCH: 40952 (128x40) x8- 8	DTCH: 40952
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. DTCH: the UL RLC SDU size have been chosen such that the UE will return all data received in downlink and that the UL RLC SDU will fill up the uplink transport format set under test over one or several transmission time intervals.						

18.2.3.4.3.4 Test requirements

See 18.1.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST.
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: DTCH/TF1 (1x128).
   - for sub-test 2: DTCH/TF2 (5x128).
   - for sub-test 3: DTCH/TF3 (10x128).
   - for sub-test 4: DTCH/TF4 (20x128).
   - for sub-test 5: DTCH/TF5 (30x128)
   - for sub-test 6: DTCH/TF6 (40x128)
   - for sub-test 7: DTCH/TF7 (50x128)
   - for sub-test 8: DTCH/TF8 (60x128)
   - for sub-test 9 to 13: DTCH/TF4 (20x128)
   - for sub-test 14: DTCH/TF8 (60x128)
   - for sub-test 15 to 16: DTCH/TF4 (8x128)
   - for sub-test 17: DTCH/TF3(10x128)
   - for sub-test 18: DTCH/TF6 (40x128)

4. At step 15 the UE shall return

   - for sub-test 1 to 18: an RLC SDU on DTCH having the same content as the DL RLC SDU sent by the SS.

18.2.4 Combinations on PDSCH, SCCPCH, DPCH, PUSCH and PRACH

18.2.4.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 256 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.1.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 kbps (320 bit payload – 20 ms TTI) DL: 256 kbps (320 bit payload – 10 ms TTI) / PS RAB/ + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.1.1.1 Conformance requirement

See 18.2.2.4.1

18.2.4.1.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH, RACH, and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.1. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 320 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 256 kbps PS RAB on the DSCH has a 320 bit payload and 10 ms TTI.
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.1.1.3 Method of test

Uplink TFS for DCH:

	TFI	RAB Subflow#1 DTCH	RAB Subflow#2 DTCH	RAB Subflow#3 DTCH	SRB#1-SRB#4 DCCH
TFS	TF0, bits	0x81(alt. 1x0) (note)	0x103	0x60	0x148 (alt. 1x0) (note)
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Uplink TFCS for DCH:

TFCI	(Subflow#1, Subflow#2, Subflow#3, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC_3 are part of the minimum set of TFCIs. NOTE 2: In case TB size zero is configured for any transport channel, the first TFC is required; it is optional otherwise.	

Uplink TFS for USCH – 320 bit payload& 20 ms TTI:

	TFI	RAB DTCH	SRB SHCCH
TFS	TF0, bits	0x337	0x169
	TF1, bits	1x337	1x169
	TF2, bits	2x337	N/A
	TF3, bits	3x337	N/A
	TF4, bits	4x337	N/A

Uplink TFCS for USCH – 320 bit payload& 20 ms TTI:

TFCI	(RAB, SHCCH)
UL_USCH_TFC0	(TF0, TF0)
UL_USCH_TFC1	(TF1, TF0)
UL_USCH_TFC2	(TF2, TF0)
UL_USCH_TFC3	(TF3, TF1)
UL_USCH_TFC4	(TF4, TF1)
UL_USCH_TFC5	(TF0, TF1)
UL_USCH_TFC6	(TF1, TF1)
UL_USCH_TFC7	(TF2, TF1)
UL_USCH_TFC8	(TF3, TF1)
UL_USCH_TFC9	(TF4, TF1)
NOTE: UL_USCH_TFC0, UL_USCH_TFC1 and UL_USCH_TFC5 are part of the minimum set of TCIs	

TFS for RACH:

	TFI	SRB#0 & SRB#5 CCCH, SHCCH
TFS	TF0, bits	1x170

Downlink TFS for DCH:

		RAB subflow #1 DTCH	RAB subflow #2 DTCH	RAB subflow #3 DTCH	SRB#1-SRB#4 DCCH
TFS	TF0, bits	0x81 (alt. 1x0) (note)	0x103	0x60	0x148 (alt. 1x0) (note)
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS for DCH:

TFCI	DTCH(RAB Subflow#1 – RAB subflow#3), DCCH
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS for DSCH – 320 bit payload& 10 ms TTI:

		DTCH RAB Subflow#4	SHCCH
TFS	TF0, bits	0x337	0x169
	TF1, bits	1x337	1x169
	TF2, bits	2x337	N/A
	TF3, bits	4x337	N/A
	TF4, bits	8x337	N/A

Downlink TFCS for DSCH – 320 bit payload& 10 ms TTI:

TFCI	256 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0)
DL_DSCH_TFC1	(TF1, TF0)
DL_DSCH_TFC2	(TF2, TF0)
DL_DSCH_TFC3	(TF3, TF0)
DL_DSCH_TFC4	(TF4, TF0)
DL_DSCH_TFC5	(TF0, TF1)
DL_DSCH_TFC6	(TF1, TF1)
DL_DSCH_TFC7	(TF2, TF1)
DL_DSCH_TFC8	(TF3, TF1)
DL_DSCH_TFC9	(TF4, TF1)

Downlink TFS for FACH – 32 kbps:

		CCCH/SHCCH/BCCH
TFS	TF0, bits	0x171
	TF1, bits	1x171
	TF2, bits	2x171
	TF3, bits	3x171(alt. N/A)
	TF4, bits	4x171(alt. N/A)

Downlink TFCS for FACH– 32 kbps:

TFCI	CCCH/SHCCH/BCCH
DL_FACH_TFC0	(TF0)
DL_FACH_TFC1	(TF1)
DL_FACH_TFC2	(TF2)
DL_FACH_TFC3	(TF3)
DL_FACH_TFC4	(TF4)
	ALT
DL_FACH_TFC0	(TF0,)
DL_FACH_TFC1	(TF1)
DL_FACH_TFC2	(TF2)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:312 (1x320) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:632 (2x320) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1912 (3x320) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (4x320) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1912	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:2552 (8x320) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: UL_USCH_TFC0 UL_USCH_TFC1 and UL_USCH_TFC5 are part of the minimum TFCIs NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.1.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be:
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1(1x337)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)

4. At step 15 the UE shall return

   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.

   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS

   - for sub-test 3, 5, and 9: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS

   - for sub-test 4, 6, and 10: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

   - for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.1.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(128 bit payload - 20 ms TTI) DL: 256 kbps (320 bit payload – 10 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.1.2.1 Conformance requirement

See 18.2.2.4.1

18.2.4.1.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH , FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.1. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 145 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 256 kbps PS RAB on the DSCH has a 320 bit payload and 10 ms TTI. (TBS).

- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.1.2.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 145 bit payload & 20 ms TTI:

	TFI	RAB DTCH	SRB SHCCH
TFS	TF0, bits	0x145	0x169
	TF1, bits	1x145	1x169
	TF2, bits	3x145	N/A
	TF3, bits	7x145	N/A
	TF4, bits	10x145	N/A

Uplink TFCS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 320 bit payload& 10 ms TTI:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DSCH – 320 bit payload& 10 ms TTI:

See comparable table in 18.2.4.1.1.3

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0 UL_USCH_TFC1 UL_USCH_TFC5 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:376 (128 x 1)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:376 (128 x 1)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:760 (128 x 3)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:760 (128 x 3)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC3, UL_TFC0, UL_TFC3,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128) x 2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC5, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: UL_USCH_TFC0 UL_USCH_TFC1 and UL_USCH_TFC5 are part o f the minimum TFCIs NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.1.2.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1(1x145)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60); Subflow#4/TF1(1x145)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2(3x145)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60);Subflow#4/TF2(3x145)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3(7x145)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60); Subflow#4/TF3(7x145)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4(10x145)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60); Subflow#4/TF4(10x145)
4. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
- for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as the RLC SDU sent by SS
- for sub-test 3: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 312 bits equal to the content as sent by SS
- for sub-test 4: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 312 bits equal to the content as sent by SS
- for sub-test 5: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 632 bits equal to the content as sent by SS
- for sub-test 6: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 632 bits equal to the content as sent by SS
- for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
- for sub-test 9: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
- for sub-test 10: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as the RLC SDU as sent by SS

18.2.4.1.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(320 bit payload – 20 ms TTI) DL: 256 kbps (320 bit payload – 20 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.1.3.1 Conformance requirement

See 18.2.2.4.1

18.2.4.1.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH , FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.1. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 320 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 256 kbps PS RAB on the DSCH has a 320 bit payload and 20 ms TTI.
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.1.3.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH - 320 bit payload& 20 ms TTI:

		DTCH RAB Subflow#4	SHCCH
TFS	TF0, bits	0x337	0x169
	TF1, bits	1x337	1x169
	TF2, bits	2x337	N/A
	TF3, bits	4x337	N/A
	TF4, bits	8x337	N/A
	TF5, bits	12x337	N/A
	TF6, bits	16x337	N/A

Downlink TFCS for DSCH – 320 bit payload& 20 ms TTI:

TFCI	256 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0),
DL_DSCH_TFC2	(TF2, TF0),
DL_DSCH_TFC3	(TF3, TF0),
DL_DSCH_TFC4	(TF4, TF0),
DL_DSCH_TFC5	(TF5, TF0),
DL_DSCH_TFC6	(TF6, TF0),
DL_DSCH_TFC7	(TF0, TF1),
DL_DSCH_TFC8	(TF1, TF1),
DL_DSCH_TFC9	(TF2, TF1),
DL_DSCH_TFC10	(TF3, TF1),
DL_DSCH_TFC11	(TF4, TF1),
DL_DSCH_TFC12	(TF5, TF1),
DL_DSCH_TFC13	(TF6, TF1)

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1912 (3x320) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1912	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:3832 (12x320) -8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320) -8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4 x 320)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (16x320) -8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4 x 320)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (16x320) -8

NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs.
NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 18.2.1.3 for test procedure.

18.2.4.1.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x337)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1(1x60); Subflow#4/TF4 (4x337)
   - for sub-test 13: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 14: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3, 5, and 9: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 4, 6, and 10: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.1.4 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(128 bit payload - 20 ms TTI) DL: 256 kbps (320 bit payload – 20 ms TTI)/ PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.1.4.1 Conformance requirement

See 18.2.2.4.1

18.2.4.1.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH , FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.1. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 145 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 256 kbps PS RAB on the DSCH has a 320 bit payload and 20 ms TTI. (TBS).
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.1.4.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.3.3

Downlink TFCS for DSCH - 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.3.3

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0 UL_USCH_TFC1 UL_USCH_TFC5 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:376 (128 x 1)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:376	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:760 (128 x 3)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:760 (128 x 3)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5 DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:3832 (12x320) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (16x320) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC7, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (16x320) - 8

NOTE 1:	UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs.
NOTE 2:	UL_USCH_TFC0 UL_USCH_TFC1 and UL_USCH_TFC5 are part o f the minimum TFCIs
NOTE 3:	See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.

See 18.2.1.3 for test procedure.

18.2.4.1.4.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x145)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x145)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2(2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (3x145)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF2 (3x337)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (7x145)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (10x145)
   - for sub-test 13: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 14: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (10x145)
4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3, 5, and 9: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 4, 6, and 10: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 7,9,11,13: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 8,10,12,14: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 384 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH+ DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.2.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 (320 bit payload – 20 ms TTI) DL: 384 kbps (320 bit payload – 10 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.2.1.1 Conformance requirement

See 18.2.2.4.1

18.2.4.2.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH, RACH, and DCH) and three DL transport channels (DSCH , FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.2. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 320 bit payload and 20 ms TTI.

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 256 kbps PS RAB on the DSCH has a 320 bit payload and 10 ms TTI.

- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.2.1.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 320 bit payload& 10 ms TTI:

		DTCH RAB Subflow#4	SHCCH
TFS	TF0, bits	0x337	0x169
	TF1, bits	1x337	1x169
	TF2, bits	2x337	N/A
	TF3, bits	4x337	N/A
	TF4, bits	8x337	N/A
	TF4, bits	12x337	N/A

Downlink TFCS for DSCH – 320 bit payload& 10 ms TTI:

TFCI	384 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0),
DL_DSCH_TFC2	(TF2, TF0),
DL_DSCH_TFC3	(TF3, TF0),
DL_DSCH_TFC4	(TF4, TF0),
DL_DSCH_TFC5	(TF5, TF0),
DL_DSCH_TFC6	(TF0, TF1),
DL_DSCH_TFC7	(TF1, TF1),
DL_DSCH_TFC8	(TF2, TF1),
DL_DSCH_TFC9	(TF3, TF1),
DL_DSCH_TFC10	(TF4, TF1),
DL_DSCH_TFC11	(TF5, TF1)

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312 (1x320) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:632 (2x320) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1912 (3x320) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (4x320) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1912	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x320) x 2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:2552 (8x320) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:3832 (12x320)-8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320)-8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.2.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)

- for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1(1x337)
- for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
- for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
- for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)
- for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
- for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
- for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
- for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
- for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)

4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3, 5, 9 and 11: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 4, 6, 10 and 12: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.2.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 (128 bit payload - 20 ms TTI) DL: 384 kbps (320 bit payload – 10 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.2.2.1 Conformance requirement

See 18.2.2.4.1

18.2.4.2.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.2. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 256 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 384 kbps PS RAB on the DSCH has a 320 bit payload and 10 ms TTI. (TBS).
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH, and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.2.2.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 10 ms TTI:

See comparable table in 18.2.4.2.1.3

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:376 (1x128)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312 (1x320) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#4:376 (1x128)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:760 (3x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632 (2x320) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:760 (3x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272 (4x320) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#4:1784 (7x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552 (8x320) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:3832 (12x320)-8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320)-8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: UL_USCH_TFC0 UL_USCH_TFC1 and UL_USCH_TFC5 are part o f the minimum TFCIs NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.2.2.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)

- for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x145)
- for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x145)
- for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (3x128)
- for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (3x128)
- for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (7x128)
- for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (7x128)
- for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x128)
- for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x128)
- for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x128)
- for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x128)

4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 312 bits equal to content sent by SS
   - for sub-test 4: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 312 bits equal to content sent by SS
   - for sub-test 5: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 632 bits equal to content sent by SS
   - for sub-test 6: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 632 bits equal to content sent by SS
   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 9: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same contents equal to content sent by SS
   - for sub-test 10: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same contents equal to content sent by SS

18.2.4.2.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(320 bit payload – 20 ms TTI) DL: 384 kbps (320 bit payload – 20 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.2.3.1 Conformance requirement

See 18.2.2.4.1

18.2.4.2.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.2. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 320 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 384 kbps PS RAB on the DSCH has a 320 bit payload and 20 ms TTI.
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.2.3.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH - 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH - 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH - 320 bit payload& 20 ms TTI:

		DTCH RAB Subflow#4	SHCCH
TFS	TF0, bits	0x337	0x169
	TF1, bits	1x337	1x169
	TF2, bits	2x337	N/A
	TF3, bits	4x337	N/A
	TF4, bits	8x337	N/A
	TF5, bits	12x337	N/A
	TF6, bits	16x337	N/A
	TF7, bits	20x337	N/A
	TF8, bits	24x337	N/A

Downlink TFCS for DSCH – - 320 bit payload & 20 ms TTI:

TFCI	384 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0),
DL_DSCH_TFC2	(TF2, TF0),
DL_DSCH_TFC3	(TF3, TF0),
DL_DSCH_TFC4	(TF4, TF0),
DL_DSCH_TFC5	(TF5, TF0),
DL_DSCH_TFC6	(TF6, TF0),
DL_DSCH_TFC7	(TF7, TF0),
DL_DSCH_TFC8	(TF8, TF0),
DL_DSCH_TFC9	(TF0, TF1),
DL_DSCH_TFC10	(TF1, TF1),
DL_DSCH_TFC11	(TF2, TF1),
DL_DSCH_TFC12	(TF3, TF1),
DL_DSCH_TFC13	(TF4, TF1),
DL_DSCH_TFC14	(TF5, TF1),
DL_DSCH_TFC15	(TF6, TF1),
DL_DSCH_TFC16	(TF7, TF1),
DL_DSCH_TFC17	(TF8, TF1)

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0 UL_USCH_TFC1 UL_USCH_TFC5 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:312 (1x320) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0 DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632 (2x320) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1912 (3x320)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272 (4x320) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1912	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x320)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552 (8x320) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:3832 (12x320) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (4x320)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (16x320) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (16x320) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (4x320)x5 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:6392 (20x320) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (4x320)x5 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (20x320) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:7672 (24x320) - 8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (24x320) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.2.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x337)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)

- for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
- for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
- for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
- for sub-test 1,13,15,and 17: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
- for sub-test 12,14,16,18: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)

4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3, 5, 9 and 11: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 4, 6, 10 and 12: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 9,11,13,15 and 17: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 8,10,12,14,16 and 18: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.2.4 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(128 bit payload - 20 ms TTI) DL: 384 kbps (320 bit payload – 20 ms TTI)/ PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.2.4.1 Conformance requirement

See 18.2.2.4.1

18.2.4.2.4.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.2. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 320 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 384 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 384 kbps PS RAB on the DSCH has a 320 bit payload and 20 ms TTI. (TBS).
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.2.4.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.2.3.1

Downlink TFCS for DSCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.2.3.1

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0 UL_USCH_TFC1 UL_USCH_TFC5 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:376 (1x128)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:312 (1x320) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:376 (1x128)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:760 (3x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632 (2x320) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:760 (3x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (4x320) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1784 (7x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC6, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552 (8x320) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (10x128)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:3832 (12x320) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (10x128)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:3832 (12x320)-8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (16x320) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (16x320) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (10x128)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:6392 (20x320) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (10x128) 6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:6392 (20x320) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (10x128)x7 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:7672 (24x320)-8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC9, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (10x128)x7 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (24x320) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: UL_USCH_TFC0 UL_USCH_TFC1 and UL_USCH_TFC5 are part o f the minimum TFCIs NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.2.4.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x145)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1(1x145)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (3x128)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (3x128)

- for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (7x128)
- for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (7x128)
- for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x128)
- for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x128)
- for sub-test 11,13,15, and 17: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x128)
- for sub-test 12,14,16, and 18: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x128)

4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS
   - for sub-test 3, 5, 9 and 1,13, 15 and 17: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 4, 6, 10,12, 14 16 and 18: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS
   - for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS
   - for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

18.2.4.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 DL: 2048 kbps / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.3.1 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(320 bit payload – 20 ms TTI) DL: 2048 kbps (640 bit payload - 10 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.3.1.1 Conformance requirement

See 18.2.2.4.1

18.2.4.3.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH, RACH, and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.3. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 640 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 320 bit payload and 20 ms TTI.
- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 2048 kbps PS RAB on the DSCH has a 640 bit payload and 10 ms TTI.
- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.
- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.3.1.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH – 320 bit payload& 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 640 bit payload & 10 ms TTI:

		DTCH RAB Subflow#4	**SHCCH**
TFS	TF0, bits	0x657	0x169
	TF1, bits	1x657	1x169
	TF2, bits	2x657	N/A
	TF3, bits	4x657	N/A
	TF4, bits	8x657	N/A
	TF5, bits	12x657	N/A
	TF6, bits	16x657	N/A
	TF7, bits	20x657	N/A
	TF8, bits	24x657	N/A
	TF9, bits	28x657	N/A
	TF10,bits	30x657	N/A

Downlink TFCS for DSCH – 640 bit payload & 10 ms TTI:

TFCI	2048 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0),
DL_DSCH_TFC2	(TF2, TF0),
DL_DSCH_TFC3	(TF3, TF0),
DL_DSCH_TFC4	(TF4, TF0),
DL_DSCH_TFC5	(TF5, TF0),
DL_DSCH_TFC6	(TF6, TF0)
DL_DSCH_TFC7	(TF7, TF0),
DL_DSCH_TFC8	(TF8, TF0),
DL_DSCH_TFC9	(TF9, TF0),
DL_DSCH_TFC10	(TF10, TF0),
DL_DSCH_TFC11	(TF0, TF1),
DL_DSCH_TFC12	(TF1, TF1),
DL_DSCH_TFC13	(TF2, TF1),
DL_DSCH_TFC14	(TF3, TF1),
DL_DSCH_TFC15	(TF4, TF1),
DL_DSCH_TFC16	(TF5, TF1),
DL_DSCH_TFC17	(TF6, TF1),
DL_DSCH_TFC18	(TF7, TF1),
DL_DSCH_TFC19	(TF8, TF1),
DL_DSCH_TFC20	(TF9, TF1)

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5 DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632 (320x1)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632 (1x640) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (320x1)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (1x640) - 8
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (320x2)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:1272 (2x640) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (320x2)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (2x640) - 8
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2872 (3x320)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:2552 (4x640) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2872 (3x320)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x640) - 8
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (8x640) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (8x640) - 8
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:7672 (12x640) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (12x640) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (4x320)x8 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:10228 (16x640) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (4x320)x8 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:10228 (16x640) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (4x320)x10 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:12792 (20x640) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (4x320)x10 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:12792 (20x640) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (4x320)x12 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:15352 (24x640) - 8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (4x320)x12 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:15352 (24x640) - 8
19	DL_TFC1, DL_DSCH_TFC9	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (4x320)x14 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:17912 (28x640) - 8
20	DL_TFC2, DL_DSCH_TFC9	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (4x320)x14 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:17912 (28x640) - 8
21	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:19192 (4x320)x15 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:19192 (30x640) - 8

22	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:19192 (4x320)x15 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:19192 (30x640) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.3.1.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x337)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
   - for sub-test 13,15,17,19,21: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 14,16,18,20,22: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS

- for sub-test 3, 5, 9,11,13,15,17,19 and 21: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 4, 6, 10, 12, 14, 16,18, 20, 22: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

18.2.4.3.2 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64 (128 bit payload - 20 ms TTI) DL: 2048 kbps (640 bit payload - 10 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.3.2.1 Conformance requirement

See 18.2.2.4.1

18.2.4.3.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.3. Test is designed for the downlink shared channel (DSCH) 10 ms TTI case and 640 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background 2048 kbps PS RAB on the DSCH has a 640 bit payload and 10 ms TTI. (TBS).

- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.3.2.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH - 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.2.3

Uplink TFCS for USCH – 145 bit payload & 20 ms TTI:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 10 ms TTI:

See comparable table in 18.2.4.3.1.3

Downlink TFCS for DSCH – 10 ms TTI:

See comparable table in 18.2.4.3.1.3

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632 (128x1)x5 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:632 (1x640) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0 UL_USCH_TFC1 UL_USCH_TFC5 UL_USCH_TFC6 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (128x1)x5 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (1x640) - 8
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1528 (128x3)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (2x640) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1528 (128x3)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (2x640) - 8
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2680 (128x7)x3 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:2552 (4x640) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2680 (128x7)x3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x640) - 8
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (128x10)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:5112 (8x640) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (128x10)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (8x640) - 8
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (128x10)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:7672 (12x640) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 128(x10)x6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (12x640) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:10232 (128x10)x8 - 8	Subflow#1:39 Subflow#2:No data Subflow#3:No data Subflow#4:10232 (16x640) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4: 10232 (128x10)x8 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:10232 (16x640) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (128x10)x10 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:12792 (20x640) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (128x10)x10 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:12792 (20x640) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (128x10)x12 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:15352 (24x640) - 8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (128x10)x12 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:15352 (24x640) - 8
19	DL_TFC1, DL_DSCH_TFC9	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (128x10)x14 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:17912 (28x640) - 8
20	DL_TFC2, DL_DSCH_TFC9	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (128x10)x14 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:17912 (28x640) - 8
21	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9 UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:19192 (128x10)x15 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:19192 (30x640) - 8

22	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:19192 (128x10)x15 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:19192 (30x640) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.3.2.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1(1x145)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x145)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (3x145)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (3x145)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (7x145)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (7x145)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)
   - for sub-test 13,15,17,19,21: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 14,16,18,20,22: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)
4. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.
   - for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS

- for sub-test 3, 9,11,13,15,17,19 and 21: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 4, 10, 12, 14, 16,18, 20, 22: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 5: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 6: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

18.2.4.3.3 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(320 bit payload – 20 ms TTI) DL: 2048 kbps (640 bit payload - 20 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.3.3.1 Conformance requirement

See 18.2.2.4.1

18.2.4.3.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH, RACH, and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.3. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 640 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps UL PS RAB channel has a 337 bit Transport Block Size (TBS).

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 2048 kbps DL PS RAB channel has a 657 bit Transport Block Size (TBS).

- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.3.3.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 20 ms TTI:

		DTCH RAB Subflow#4	SHCCH
TFS	TF0, bits	0x657	0x169
	TF1, bits	1x657	1x169
	TF2, bits	2x657	N/A
	TF3, bits	4x657	N/A
	TF4, bits	8x657	N/A
	TF5, bits	12x657	N/A
	TF6, bits	16x657	N/A
	TF7, bits	20x657	N/A
	TF8, bits	24x657	N/A
	TF9, bits	28x657	N/A
	TF10,bits	32x657	N/A
	TF11,bits	36x657	N/A
	TF12,bits	40x657	N/A
	TF13,bits	44x657	N/A
	TF14,bits	48x657	N/A
	TF15,bits	52x657	N/A
	TF16,bits	56x657	N/A
	TF17,bits	60x657	N/A
	TF17,bits	64x657	N/A

Downlink TFCS for DSCH –20 ms TTI:

TFCI	2048 kbps RAB DTCH & SHCCH
DL_DSCH_TFC0	(TF0, TF0),
DL_DSCH_TFC1	(TF1, TF0),
DL_DSCH_TFC2	(TF2, TF0),
DL_DSCH_TFC3	(TF3, TF0),
DL_DSCH_TFC4	(TF4, TF0),
DL_DSCH_TFC5	(TF5, TF0),
DL_DSCH_TFC6	(TF6, TF0)
DL_DSCH_TFC7	(TF7, TF0),
DL_DSCH_TFC8	(TF8, TF0),
DL_DSCH_TFC9	(TF9, TF0),
DL_DSCH_TFC10	(TF10, TF0),
DL_DSCH_TFC11	(TF11, TF0),
DL_DSCH_TFC12	(TF12, TF0),
DL_DSCH_TFC13	(TF13, TF0),
DL_DSCH_TFC14	(TF14, TF0),
DL_DSCH_TFC15	(TF15, TF0),
DL_DSCH_TFC16	(TF16, TF0),
DL_DSCH_TFC17	(TF17, TF0),
DL_DSCH_TFC18	(TF18, TF0),
DL_DSCH_TFC19	(TF0, TF1),
DL_DSCH_TFC20	(TF1, TF1),
DL_DSCH_TFC21	(TF2, TF1),
DL_DSCH_TFC22	(TF3, TF1),
DL_DSCH_TFC23	(TF4, TF1),
DL_DSCH_TFC24	(TF5, TF1),
DL_DSCH_TFC25	(TF6, TF1),
DL_DSCH_TFC26	(TF7, TF1),
DL_DSCH_TFC27	(TF8, TF1),
DL_DSCH_TFC28	(TF9, TF1)
DL_DSCH_TFC29	(TF10, TF1),
DL_DSCH_TFC30	(TF11, TF1),
DL_DSCH_TFC31	(TF12, TF1),
DL_DSCH_TFC32	(TF13, TF1),
DL_DSCH_TFC33	(TF14, TF1),
DL_DSCH_TFC34	(TF15, TF1),
DL_DSCH_TFC35	(TF16, TF1),
DL_DSCH_TFC36	(TF17, TF1),
DL_DSCH_TFC37	(TF17, TF1),

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5 DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5 DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:312	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632 (320x1)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:632 (1x640) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (320x1)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (1x640) - 8
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (320x2)x2 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (2x640) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (320x2)x2 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (2x640) - 8
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3,	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2872 (3x320) x 3 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:2552 (4x640) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2872 (3x320) x 3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x640) - 8
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320) x 4 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:5112 (8x640) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (4x320) x 4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (8x640) - 8
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:7672 (12x640) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (4x320)x6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (12x640) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (4x320)x8 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:10228 (16x640) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (4x320)x8 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:10228 (16x640) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl w#4:12792 (4x320)x10 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:12792 (20x640) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl w#4:12792 (4x320)x10 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:12792 (20x640) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl w#4:15352 (4x320)x12 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:15352 (24x640) - 8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl w#4:15352 (4x320)x12 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:15352 (24x640) - 8
19	DL_TFC1, DL_DSCH_TFC9	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl w#4:17912 (4x320)x14 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:17912 (28x640) - 8
20	DL_TFC2, DL_DSCH_TFC9	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl w#4:17912 (4x320)x14 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:17912 (28x640) - 8
21	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 20472 (4x320)x16 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:20472 (32x640) - 8

22	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl#4: 20472 (4x320)x16 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:20472 (32x640) - 8
23	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 23032 (4x320)x18 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:23032 (36x640) - 8
24	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl#4: 23032 (4x320)x18 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:23032 (36x640) - 8
25	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 25592 (4x320)x20 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:25592 (40x640) - 8
26	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl#4: 25592 (4x320)x20 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:25592 (40x640) - 8
27	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 28152 (4x320)x22 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:28152 (44x640) - 8
28	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:28152 (4x320)x22 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:28152 (44x640) - 8

29	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfw#4:30712 (4x320)x24 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:30712 (48x640) - 8
30	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfw#4:30712 (4x320)x24 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:30712 (48x640) - 8
31	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfw#4:33272 (4x320)x26 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:33272 (52x640) - 8
32	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfw#4:33272 (4x320)x26 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:33272 (52x640) - 8
33	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfw#4:35832 (4x320)x28 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:35832 (56x640) - 8
34	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfw#4:35832 (4x320)x28 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:35832 (56x640) - 8
35	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfw#4:38392 (4x320)x30 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:38392 (60x640) - 8

36	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:38392 (4x320)x30 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:38392 (60x640) - 8
37	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:40952 (4x320)x32 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:40952 (64x640) - 8
38	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:40952 (4x320)x32 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:40952 (64x640) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.3.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1 (1x337)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1 (1x337)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (2x337)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2 (2x337)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (3x337)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (3x337)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)

- for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)

- for sub-test 13,15,17,19,21,23,25,27,29,31,33,35, and 37: Subflow#1/TF1 (1x39); Subflow#4/TF4 (4x337)

- for sub-test 14,16,18,20,22,24,26,28,30,32,34,36,and 38: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (4x337)

4. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.

- for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS

- for sub-test 3, 5, 9,11,13,15,17,19,21,23,25,27,29,31,33,35, and 37: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 4, 6, 10, 12, 14, 16,18, 20, 22,24,26,28,30,32,34,36, and 38: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

18.2.4.3.4 Conversational / speech / UL: 12.2 DL: 12.2 kbps / CS RAB + UL: 3.4 DL: 3.4 kbps SRBs for DCCH + Interactive or background / UL: 64(128 bit payload - 20 ms TTI) DL: 2048 kbps (640 bit payload - 20 ms TTI) / PS RAB + UL: 16.8 kbps SRBs for CCCH and SHCCH + DL: 33.6 kbps SRBs for CCCH SHCCH and BCCH

18.2.4.3.3.1 Conformance requirement

See 18.2.2.4.1

18.2.4.3.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration for three UL transport channels (USCH , RACH , and DCH) and three DL transport channels (DSCH, FACH, and DCH) as specified in TS 34.108, clause 6.10.3.4.3.3. Test is designed for the downlink shared channel (DSCH) 20 ms TTI case and 640 bit payload for the Interactive/Background PS RAB.

On the UL

- The USCH channel can carry combinations of the Interactive/Background 64 kbps UL PS RAB and 16.8 kbps SHCCH. The Interactive/Background 64 kbps PS RAB on the USCH has a 145 bit payload and 20 ms TTI.

- The RACH channel can carry combinations of the 16.8 kbps signalling Radio Bearers for CCCH and SHCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH.

On the DL

- The DSCH can carry combinations of the Interactive/Background 2048 kbps PS RAB and the 16.8 kbps SHCCH. The Interactive/Background PS RAB on the DSCH has a 20 ms TTI. The Interactive/Background 2048 kbps PS RAB on the DSCH has a 640 bit payload and 20 ms TTI. (TBS).

- The FACH can carry combinations of the signalling 33.6 kbps Radio Bearer for CCCH, BCCH and SCCH.

- The DCH channel can carry combinations of the 12.2 kbps Conversational/Speech/CS and the 3.4 kbps DCCH

To be able to test the downlink radio bearer on the DSCH and the DCH, the UE loopback function is used on the uplink radio bearer on the USCH.

18.2.4.3.3.3 Method of test

Uplink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Uplink TFS for USCH:

See comparable table in 18.2.4.1.1.3

Uplink TFCS for USCH:

See comparable table in 18.2.4.1.1.3

TFS for RACH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for DCH:

See comparable table in 18.2.4.1.1.3

Downlink TFS for DSCH – 640 bit payload & 20 ms TTI:

See comparable table in 18.2.4.3.3.3

Downlink TFCS for DSCH – 640 bit payload & 20 ms TTI:

See comparable table in 18.2.4.3.3.3

Downlink TFS for FACH – 32 kbps:

See comparable table in 18.2.4.1.1.3

Downlink TFCS for FACH– 32 kbps:

See comparable table in 18.2.4.1.1.3

Sub-tests – USCH:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 1)	UL RLC SDU size (note 2)	Test data size (note 2)
1	DL_TFC1	UL_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:No data
2	DL_TFC2	UL_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:128	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:No data
3	DL_TFC1, DL_DSCH_TFC1	UL_TFC1, UL_USCH_TFC1	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:632 (128x1)x5 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:632 (1x640) - 8
4	DL_TFC2, DL_DSCH_TFC1	UL_TFC2, UL_USCH_TFC1	DL_DSCH_TFC0 DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC5, UL_USCH_TFC6, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (128x1)x5 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:632 (1x640) - 8
5	DL_TFC1, DL_DSCH_TFC2	UL_TFC1, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:1528 (128x3)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:1272 (2x640) - 8
6	DL_TFC2, DL_DSCH_TFC2	UL_TFC2, UL_USCH_TFC2	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC2, UL_USCH_TFC5, UL_USCH_TFC7, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1528 (128x3)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:1272 (2x640) - 8
7	DL_TFC1, DL_DSCH_TFC3	UL_TFC1, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:2680 (128x7) x 3 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:2552 (4x640) - 8

8	DL_TFC2, DL_DSCH_TFC3	UL_TFC2, UL_USCH_TFC3	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC3, UL_USCH_TFC5, UL_USCH_TFC8, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2680 (128x7) x 3 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:2552 (4x640) - 8
9	DL_TFC1, DL_DSCH_TFC4	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:5112 (8x640) - 8
10	DL_TFC2, DL_DSCH_TFC4	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (10x128)x4 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:5112 (8x640) - 8
11	DL_TFC1, DL_DSCH_TFC5	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (10x128)x6 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:7672 (12x640) - 8
12	DL_TFC2, DL_DSCH_TFC5	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (10x128)x6 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:7672 (12x640) - 8
13	DL_TFC1, DL_DSCH_TFC6	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (10x128)x8 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:10228 (16x640) - 8
14	DL_TFC2, DL_DSCH_TFC6	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:10228 (10x128)x8 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:10228 (16x640) - 8

15	DL_TFC1, DL_DSCH_TFC7	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (10x1280)x10 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:12792 (20x640) - 8
16	DL_TFC2, DL_DSCH_TFC7	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:12792 (10x128)x10 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:12792 (20x640) - 8
17	DL_TFC1, DL_DSCH_TFC8	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (10x128)x12 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:15352 (24x640) - 8
18	DL_TFC2, DL_DSCH_TFC8	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:15352 (10x128)x12 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:15352 (24x640) - 8
19	DL_TFC1, DL_DSCH_TFC9	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (10x128)x14 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:17912 (28x640) - 8
20	DL_TFC2, DL_DSCH_TFC9	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:17912 (10x128)x14 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:17912 (28x640) - 8
21	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 20472 (10x128)x16 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:20472 (32x640) - 8

22	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:20472 (10x128)x16 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:20472 (32x640) - 8
23	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:23032 (10x128)x18 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:23032 (36x640) - 8
24	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:23032 (10x128)x18 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:23032 (36x640) - 8
25	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflow#4:25592 (10x128)x20 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:25592 (40x640) - 8
26	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subfl#4: 25592 (10x128)x20 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:25592 (40x640) - 8
27	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subfl#4: 28152 (10x128)x22 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:28152 (44x640) - 8
28	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:28152 (10x128)x22 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:28152 (44x640) - 8

29	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:30712 (10x128)x24 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:30712 (48x640) - 8
30	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:30712 (10x128)x24 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:30712 (48x640) - 8
31	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:33272 (10x128)x26 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:33272 (52x640) - 8
32	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:33272 (10x128)x26 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:33272 (52x640) - 8
33	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:35832 (10x128)x28 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:35832 (56x640) - 8
34	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:35832 (10x128)x28 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:35832 (56x640) - 8
35	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:38392 (10x128)x30 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:38392 (60x640) - 8

36	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:38392 (10x128)x30 - 8	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflow#4:38392 (60x640) - 8
37	DL_TFC1, DL_DSCH_TFC10	UL_TFC1, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	Subflow#1:39 Subflow#2:103 Subflow#3:60 Subflw#4:40952 (10x128)x32 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:40952 (64x640) - 8
38	DL_TFC2, DL_DSCH_TFC10	UL_TFC2, UL_USCH_TFC4	DL_DSCH_TFC0, DL_DSCH_TFC11, UL_USCH_TFC0, UL_USCH_TFC5, DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_USCH_TFC0, UL_USCH_TFC1, UL_USCH_TFC4, UL_USCH_TFC5, UL_USCH_TFC9, UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	Subflow#1:81 Subflow#2:103 Subflow#3:60 Subflw#4:40952 (10x128)x32 - 8	Subflow#1:39 Subflow#2:No data Subflow#1:No data Subflow#4:40952 (64x640) - 8
NOTE 1: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.						

See 18.2.1.3 for test procedure.

18.2.4.3.3.4 Test requirements

See 18.2.1.3 for definition of step 10 and step 15.

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step A10i or B10b the UE shall send PUSCH CAPACITY REQUEST
3. At step 15 the UE transmitted transport format shall be
   - for sub-test 1: Subflow#1/TF1 (1x39).
   - for sub-test 2: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60)
   - for sub-test 3: Subflow#1/TF1 (1x39); Subflow#4/TF1(1x145)
   - for sub-test 4: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF1(1x145)
   - for sub-test 5: Subflow#1/TF1 (1x39); Subflow#4/TF2 (3x145)
   - for sub-test 6: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF2(3x145)
   - for sub-test 7: Subflow#1/TF1 (1x39); Subflow#4/TF3 (7x145)
   - for sub-test 8: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF3 (7x145)
   - for sub-test 9: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)
   - for sub-test 10: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)
   - for sub-test 11: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)

- for sub-test 12: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)

- for sub-test 13,15,17,19,21,23,2,5,27,29,31,33,35 and 37: Subflow#1/TF1 (1x39); Subflow#4/TF4 (10x145)

- for sub-test 14,16,18,20,22,24,26,28,30,32,34,36 and 38: Subflow#1/TF2 (1x81); Subflow#2/TF1 (1x103); and Subflow#3/TF1 (1x60); Subflow#4/TF4 (10x145)

4. At step 15 the UE shall return

- for sub-test 1: an RLC SDU on Subflow#1 having the same content as sent by SS; and no data shall be received on Subflow#2 or Subflow#3.

- for sub-test 2: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS

- for sub-test 3, 9,11,13,15,17,19,21,23,25,27,29,31,33,35 and 37: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 4, 10, 12, 14, 16,18, 20, 22,24,26,28,30,32,34,36 and 38: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the same content as sent by SS

- for sub-test 5: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 6: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 1272 bits equal to the content as sent by SS

- for sub-test 7: an RLC SDU on Subflow#1 having the same content as sent by SS; no data shall be received on Subflow#2 or Subflow#3; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

- for sub-test 8: an RLC SDU on each of Subflow#1, Subflow#2 and Subflow#3 having the same content as sent by SS; and an RLC SDU on Subflow#4 having the first 2552 bits equal to the content as sent by SS

18.2.5 Combinations on SCCPCH

18.2.5.1 Stand-alone signalling RB for PCCH

18.2.5.1.1 Stand-alone signalling RB for PCCH at 12 kbps

18.2.5.1.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.1.1.2 Test Purpose

To verify establishment and data transfer of Paging 1 message which comprises IE "BCCH Modification Information", with the "Value Tag" different from the "MIB Value Tag" of the current Master Information Block. This test is specified in TS 34.108, clause 6.10.3.4.4.1. The SCCPCH carries the PCH at 12 kbps.

18.2.5.1.1.3 Method of Test

The contents of the System Information Block type 5 are specified in clause 8.1.2.2.

Downlink TFS for PCCH:

		SRBs
TFS	TF0, bits	0x240
	TF1, bits	1x240

Downlink TFCS for PCCH:

TFCI	(SRB)
DL_TFC0	(TF0)
DL_TFC1	(TF1)

Sub-test:

See 18.2.1.1 for test procedure.

18.2.5.1.1.4 Test Requirements

See 18.2.1.1 for definition of step 6

1. At step 6 the UE transmitted PAGING RESPONSE (DCCH) received at the SS shall complete the test and end gracefully.

18.2.5.1.2 Stand-alone signalling RB for PCCH at 8 kbps

18.2.5.1.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.1.2.2 Test Purpose

To verify establishment and data transfer of Paging 1 message which comprises IE "BCCH Modification Information", with the "Value Tag" different from the "MIB Value Tag" of the current Master Information Block. This test specified in TS 34.108, clause 6.10.3.4.4.1. The SCCPCH carries the PCH at 8 kbps.

18.2.5.1.2.3 Method of Test

The contents of the System Information Block type 5 is specified in clause 8.1.2.2.

Downlink TFS for PCCH:

		SRBs
TFS	TF0, bits	0x80
	TF1, bits	1x80
	TF2, bits	2x80

Downlink TFCS:

TFCI	(SRB)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)

Sub-tests:

See 18.2.1.1 for test procedure.

18.2.5.1.2.4 Test Requirements

See 18.2.1.1 for definition of step 6

1. At step 6 the UE transmitted PAGING RESPONSE (DCCH) received at the SS shall complete the test and end gracefully.

18.2.5.2 Interactive/Background PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.2.

This radio bearer configuration is tested with three different SYSTEM INFORMATION (BCCH) configurations:

1. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.1(TDD FFS).

   Two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for Interactive/Background PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 18.2.5.2.1.

2. The contents of System Information Block type 5 as specified in TS 34.108, clause 6.1.3 (TDD FFS).

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for Interactive/Background PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 18.2.5.2.2.

3. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.2 (TDD FFS).

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for Interactive/Background PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

   This configuration is verified in test case 18.2.5.2.3.

18.2.5.2.1 One SCCPCH: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2.1.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.2 and 6.10.3.4.5.2 for the case when two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.2(Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2.1.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.1 (TDD FFS).

Uplink TFS:

	TFI	RB7+SRB (12.8 kbps on RACH)
TFS	TF0, bits	1 x 170

Uplink TFCS:

TFCI	RB7+SRB
UL_TFC0	TF0

Downlink TFS for SCCPCH#2:

	TFI	RB7 (32 kbps)	SRBs
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3, bits	N/A	3x171
	TF4, bits	N/A	4x171

Downlink TFCS for SCCPCH#2:

TFCI	(RB7,SRB)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF0, TF3)
DL_TFC4	(TF0, TF4)
DL_TFC5	(TF1, TF0)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF1, TF2)
DL_TFC8	(TF2, TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits	RB7: 312 bits
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits	RB7: 632 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.

See 18.2.1.1 for test procedure.

18.2.5.2.1.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB7 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2.2 Two SCCPCHs: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2.2.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.2 and 6.10.3.4.5.2 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.2 (Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2.2.3 Method of Test

The contents of System Information Block type 5 shall be as specified in TS 34.108, clause 6.1.3 (TDD FFS).

Uplink TFS:

	TFI	RB7+SRB (12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB7+SRB
UL_TFC0	TF0

Downlink TFS (for SCCPCH#2 & SCCPCH#3):

	TFI	RB7 (32 kbps)	SRBs
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3,bits	N/A	3x171
	TF4,bits	N/A	4x171

Downlink TFCS (for SCCPCH#2 & SCCPCH#3):

TFCI	(RB7,SRB)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF0, TF3)
DL_TFC4	(TF0, TF4)
DL_TFC5	(TF1, TF0)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF1, TF2)
DL_TFC8	(TF2, TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits	RB7: 312 bits
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits	RB7: 632 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.

See 18.2.1.1 for test procedure.

18.2.5.2.2.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB7 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2.3 One SCCPCH/connected mode: Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2.3.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.2 and 6.10.3.4.5.2 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.2 (Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2.3.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.2 (TDD FFS).

Uplink TFS:

	TFI	**RB7+SRB (12.8 kbps on RACH)**
TFS	TF0, bits	1 x 170

Uplink TFCS:

TFCI	**RB7+SRB**
UL_TFC0	TF0

Downlink TFS for SCCPCH#3:

	TFI	**RB7 (32 kbps)**	**SRBs**
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3,bits	N/A	3x171
	TF4,bits	N/A	4x171

Downlink TFCS for SCCPCH#3:

TFCI	(SRB, RB7)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF0, TF3)
DL_TFC4	(TF0, TF4)
DL_TFC5	(TF1,TF0)
DL_TFC6	(TF1,TF2)
DL_TFC7	(TF1,TF3)
DL_TFC8	(TF2,TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits	RB7: 312 bits
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits	RB7: 632 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.

See 18.2.1.1 for test procedure.

18.2.5.2.3.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB7 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2a Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.2a.

This radio bearer configuration is tested with three different SYSTEM INFORMATION (BCCH) configurations:

1. The contents of System Information Block type 5 shall be as per the message specific content below.

   Two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 18.2.5.2a.1.

2. The contents of System Information Block type 5 as specified in TS 34.108, clause 6.1.3.

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

   This configuration is verified in test case 18.2.5.2a.2.

3. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.2.

   Three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

   This configuration is verified in test case 18.2.5.2a.3.

Specific Message Content for Radio Bearer Setup message to be used for these test cases:

Use the RADIO BEARER SETUP message as defined in [9] TS 34.108 clause 9, with the following exceptions:

Information Element	Value/remark
- RAB information for setup	
- RAB info	(AM DTCH for PS domain)
- RAB identity	0000 0101B The first/ leftmost bit of the bit string contains the most significant bit of the RAB identity.
- CN domain identity	PS domain
- NAS Synchronization Indicator	Not Present
- Re-establishment timer	useT315
- RB information to setup	
- RB identity	20
- PDCP Info	Not Present
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	No Discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_PDU	Not Present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Windows	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not Present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	Not Present
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- Logical channel identity	7
- CHOICE RLC size list	Configured
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	6
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	7
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	7
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH

Information Element	Value/remark
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	7
- RAB identity	0000 0110B The first/ leftmost bit of the bit string contains the most significant bit of the RAB identity.
- CN domain identity	PS domain
- NAS Synchronization Indicator	Not Present
- Re-establishment timer	useT315
- RB information to setup	
- RB identity	24
- PDCP info	Not Present
- CHOICE RLC info type	RLC info
- CHOICE Uplink RLC mode	AM RLC
- Transmission RLC discard	
- CHOICE SDU discard mode	No Discard
- MAX_DAT	15
- Transmission window size	128
- Timer_RST	500
- Max_RST	4
- Polling info	
- Timer_poll_prohibit	200
- Timer_poll	200
- Poll_PDU	Not Present
- Poll_SDU	1
- Last transmission PDU poll	TRUE
- Last retransmission PDU poll	TRUE
- Poll_Windows	99
- Timer_poll_periodic	Not Present
- CHOICE Downlink RLC mode	AM RLC
- In-sequence delivery	TRUE
- Receiving window size	128
- Downlink RLC status info	
- Timer_status_prohibit	200
- Timer_EPC	Not Present
- Missing PDU indicator	TRUE
- Timer_STATUS_periodic	Not Present
- RB mapping info	
- Information for each multiplexing option	2 RBMuxOptions
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	DCH
- UL Transport channel identity	1
- Logical channel identity	10
- CHOICE RLC size list	Configured
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	DCH
- DL DCH Transport channel identity	6
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	10
- RLC logical channel mapping indicator	Not Present
- Number of uplink RLC logical channels	1
- Uplink transport channel type	RACH
- UL Transport channel identity	Not Present
- Logical channel identity	10
- CHOICE RLC size list	Explicit list
- RLC size index	Reference to TS34.108 clause 6 Parameter Set
- MAC logical channel priority	8
- Downlink RLC logical channel info	
- Number of downlink RLC logical channels	1
- Downlink transport channel type	FACH

Information Element	Value/remark
- DL DCH Transport channel identity	Not Present
- DL DSCH Transport channel identity	Not Present
- Logical channel identity	10

18.2.5.2a.1 One SCCPCH: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2a.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2a.1.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.2a and 6.10.3.4.5.3 for the case when two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.3.1 (Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2a.1.3 Method of Test

The contents of System Information Block type 5 per the specific message content below.

See 18.2.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combinations for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	RB7+RB8+SRB (2x12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB7 + RB8
UL_TFC0	TF0

Downlink TFS for SCCPCH#2:

	TFI	RB7 + RB8 (2x32 kbps)	SRBs
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3, bits	N/A	3x171
	TF4, bits	N/A	4x171

Downlink TFCS for SCCPCH#2:

TFCI	(RB7+RB8, SRB)
DL_TFC0	(TF0,TF0)
DL_TFC1	(TF0,TF1)
DL_TFC2	(TF0,TF2)
DL_TFC3	(TF0,TF3)
DL_TFC4	(TF0,TF4)
DL_TFC5	(TF1,TF0)
DL_TFC6	(TF1,TF1)
DL_TFC7	(TF1,TF2)
DL_TFC8	(TF2,TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits RB8: 376 bits	RB7: 312 bits RB8: No Data
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits RB8: 632 bits	RB7: No Data RB8: 632 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.						

Specific Message Contents

Use the default parameter values for the system information block 5 with the same type specified in clause

6.1.1 of TS 34.108, with the following exceptions

Information Element	Value/remark
- SIB6 indicator	FALSE

See 18.2.1.1 for test procedure.

18.2.5.2.3.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB8 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2a.2 Two SCCPCHs: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2a.2. 1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2a.2. 2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.2a and 6.10.3.4.5.3 for the case when three SCCPCHs are used in this SYSTEM INFORMATION

configuration. The first SCCPCH carries the PCH and both the second and third SCCPCHs carry the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.3.1 (Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2a.2.1.3 Method of Test

The contents of System Information Block type 5 shall be as specified in TS 34.108, clause 6.1.3.

See 18.2.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combinations for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	RB7 + RB8 (2x12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB7 + RB8
UL_TFC0	TF0

Downlink TFS:

	TFI	RB7 + RB8 (2x32 kbps)	SRBs
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3, bits	N/A	3x171
	TF4, bits	N/A	4x171

Downlink TFCS for SCCPCH#2 & #3:

TFCI	(SRB, RB7+RB8)
DL_TFC0	(TF0,TF0)
DL_TFC1	(TF0,TF1)
DL_TFC2	(TF0,TF2)
DL_TFC3	(TF0,TF3)
DL_TFC4	(TF0,TF4)
DL_TFC5	(TF1,TF0)
DL_TFC6	(TF1,TF1)
DL_TFC7	(TF1,TF2)
DL_TFC8	(TF2,TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits RB8: 376 bits	RB7: 312 bits RB8: No Data
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits RB8: 632 bits	RB7: No Data RB8: 632 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.						

See 18.2.1.1 for test procedure.

18.2.5.2.3.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.
   - for sub-test 2: an RLC SDU on RB8 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2a.3 One SCCPCH/connected mode: Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRBs for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.2a.3.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2a.3. 2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.2.4.3.2 and 6.10.2.4.4.2 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for two Interactive/Background 32 kbps PS RABs and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.2.4.4.2 (Interactive/Background 32 kbps PS RAB + Interactive/Background 32 kbps PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.2a.3.1.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.2.

See 18.2.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combinations for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	RB7+RB8+SRB (2x12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB7 + RB8
UL_TFC0	TF0

Downlink TFS for SCCPCH #3:

	TFI	RB7 + RB8 (2x32 kbps)	SRBs
TFS	TF0, bits	0x363	0x171
	TF1, bits	1x363	1x171
	TF2, bits	2x363	2x171
	TF3, bits	N/A	3x171
	TF4, bits	N/A	4x171

Downlink TFCS for third SCCPCH:

TFCI	(SRB, RB7+RB8)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0,TF1)
DL_TFC2	(TF0,TF2)
DL_TFC3	(TF0,TF3)
DL_TFC4	(TF0,TF4)
DL_TFC5	(TF1,TF0)
DL_TFC6	(TF1,TF1)
DL_TFC7	(TF1,TF2)
DL_TFC8	(TF2,TF0)

Sub-tests:

Sub-test	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 376 bits RB8: 376 bits	RB7: 312 bits RB8: No Data
2	DL_TFC8	UL_TFC0	DL_TFC0	UL_TFC0	RB7: 632 bits RB8: 632 bits	RB7: No Data RB8: 632 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB7: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.

See 18.2.1.1 for test procedure.

18.2.5.2.3.4 Test Requirements

See 18.2.1.1 for definition of step 15

1. At step 10 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 15 the UE shall return
   - for sub-test 1: an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.

- for sub-test 2: an RLC SDU on RB8 having the same content as the DL RLC SDU sent by the SS.

18.2.5.2b SRBs for CCCH + SRB for DCCH + SRB for BCCH

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.2b.

This radio bearer configuration is tested with one SYSTEM INFORMATION (BCCH) configuration:

1. The contents of System Information Block type 5 and 6 as specified in TS 34.108, clause 6.1.1 (TDD FSS).

   Two SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH and the second SCCPCH carries the FACH for SRBs on CCCH/ DCCH/ BCCH.

18.2.5.2b.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.2b.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.2b and 6.10.3.4.5.1 for the case when one SCCPCH is used in this SYSTEM INFORMATION configuration. The SCCPCH carries the FACH for SRBs on CCCH/ DCCH/ BCCH.

18.2.5.2b.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.1(TDD FSS).

See 18.2.1.1 for test procedure.

NOTE The test procedure for single radio bearer configurations is used as there are no uplink transport format combinations for simultaneous data transmission on the PS radio bearers, nor any transport format combination for simultaneous data transmission and signalling.

Uplink TFS:

	TFI	SRB
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	SRB
UL_TFC0	TF0

Downlink TFS for SCCPCH:

	TFI	SRBs
TFS	TF0, bits	0x171
	TF1, bits	1x171
	TF2, bits	2x171
	TF3, bits	3x171
	TF4, bits	4x171

Downlink TFCS for SCCPCH:

TFCI	(SRB)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)

18.2.5.2b.4 Test Requirements

See 18.2.1.1 for definition of step 6

1. At step 6 the UE transmitted PAGING RESPONSE (DCCH) received at the SS shall complete the test and end gracefully.

18.2.5.3 Interactive/Background RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.3.1 Interactive/Background 32 kbps RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.3.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.3.1.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.3 and 6.10.3.4.5.2 for the case when one SCCPCH is used in this SYSTEM INFORMATION (BCCH) configuration. The SCCPCH carries the PCH, the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.2 (Interactive/Background - 12.2 kbps) PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.3.1.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.0b.

Uplink TFS:

	TFI	RB8 (12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB8
UL_TFC0	TF0

Downlink TFS:

	TFI	RB8 (32 kbps)	PCCH	SRBs
TFS	TF0, bits	0x363	0x240	0x171
	TF1, bits	1x363	1x240	1x171
	TF2, bits	2x363	N/A	2x171
	TF3, bits	N/A	N/A	3x171
	TF4, bits	N/A	N/A	4x171

Downlink TFCS:

TFCI	(RB8, PCCH, SRB)
DL_TFC0	(TF0, TF0, TF0),
DL_TFC1	(TF0, TF0, TF1),
DL_TFC2	(TF0, TF0, TF2),
DL_TFC3	(TF0, TF0, TF3),
DL_TFC4	(TF0, TF0, TF4),
DL_TFC5	(TF0, TF1, TF0),
DL_TFC6	(TF0, TF1, TF1),
DL_TFC7	(TF0, TF1, TF2),
DL_TFC8	(TF0, TF1, TF3),
DL_TFC9	(TF0, TF1, TF4),
DL_TFC10	(TF1, TF0, TF0),
DL_TFC11	(TF1, TF0, TF1),
DL_TFC12	(TF1, TF0, TF2),
DL_TFC13	(TF1, TF0, TF3),
DL_TFC14	(TF1, TF0, TF4),
DL_TFC15	(TF1, TF1, TF0),
DL_TFC16	(TF1, TF1, TF1),
DL_TFC17	(TF1, TF1, TF2),
DL_TFC18	(TF1, TF1, TF3),
DL_TFC19	(TF1, TF1, TF4),
DL_TFC20	(TF2, TF0, TF0),
DL_TFC21	(TF2, TF0, TF1),
DL_TFC22	(TF2, TF0, TF2),
DL_TFC23	(TF2, TF0, TF3),
DL_TFC24	(TF2, TF0, TF4),
DL_TFC25	(TF2, TF1, TF0),
DL_TFC26	(TF2, TF1, TF1),
DL_TFC27	(TF2, TF1, TF2),
DL_TFC28	(TF2, TF1, TF3),
DL_TFC29	(TF2, TF1, TF4)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC20	UL_TFC1	DL_TFC0, UL_TFC0	UL_TFC0	RB8:632 bits	RB8: 632 bits
NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit).						

See 18.2.1.1 for test procedure.

18.2.5.3.1.4 Test requirements

See 18.2.1.1 for definition of step 15

1. At step 15 the UE shall return an RLC SDU on RB8 having the same content as sent by SS

18.2.5.3.2 Interactive/Background 16 kbps RAB + SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.3.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.3.2.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.3 and 6.10.3.4.5.2 for the case when one SCCPCH is used in this SYSTEM INFORMATION (BCCH) configuration. The SCCPCH carries the PCH, the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.2 (Interactive/Background - 12.2 kbps) PS RAB + SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.3.2.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.0b.

Uplink TFS:

	TFI	RB8 (12.8 kbps on RACH)
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	RB8
UL_TFC0	TF0

Downlink TFS:

	TFI	RB8 (32 kbps)	PCCH	SRBs
TFS	TF0, bits	0x363	0x80	0x171
	TF1, bits	1x363	1x80	1x171
	TF2, bits	N/A	2x80	2x171

Downlink TFCS:

TFCI	(SRB, PCCH,RB8)
DL_TFC0	(TF0, TF0, TF0),
DL_TFC1	(TF0, TF0, TF1),
DL_TFC2	(TF0, TF0, TF2),
DL_TFC3	(TF0, TF1, TF0),
DL_TFC4	(TF0, TF1, TF1),
DL_TFC5	(TF0, TF2, TF0),
DL_TFC6	(TF0, TF2, TF1),
DL_TFC7	(TF1, TF0, TF0)

Sub-tests:

Sub-test	Downlink TFCS under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs	UL RLC SDU size (note)	Test data size (note)
1	DL_TFC7	UL_TFC0	DL_TFC0, UL_TFC0	UL_TFC0	RB8: 376 bits	RB8: 312 bits

NOTE: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: Test data size has been set to the payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit). The UL RLC SDU size parameter has been set to achieve verification of all test data sent by SS in downlink, i.e. UL RLC SDU size is set to nearest multiple of the payload size of the UL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit) which is equal or bigger than the test data size.

See 18.2.1.1 for test procedure.

18.2.5.3.2.4 Test requirements

See 18.2.1.1 for definition of step 15

1. At step 15 the UE shall return an RLC SDU on RB7 having the same content as 1 times plus 64 lsb's of the DL RLC SDU sent by the SS.

18.2.5.3a SRBs for PCCH + SRB for CCCH + SRB for DCCH + SRB for BCCH

18.2.5.3a.1 SRBs for PCCH at 12 kbps + SRB for CCCH + SRB for DCCH + SRB for BCCH at 32 kbps

18.2.5.3a.1.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.3a.1.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause for the case when one SCCPCH is used in this SYSTEM INFORMATION (BCCH) configuration. The SCCPCH carries the PCH at 12 kbps and the FACH for SRBs on CCCH/ DCCH/ BCCH at 32 kbps.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.1 (SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.3a.1.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.0b.

Uplink TFS:

	TFI	SRB
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	SRB
UL_TFC0	TF0

Downlink TFS:

	TFI	PCCH	SRBs
TFS	TF0, bits	0x240	0x171
	TF1, bits	1x240	1x171
	TF2, bits	N/A	2x171
	TF3,bits	N/A	3x171
	TF4,bits	N/A	4x171

Downlink TFCS:

TFCI	(PCCH, SRB)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF0, TF3)
DL_TFC4	(TF0, TF4)
DL_TFC5	(TF1, TF0)
DL_TFC6	(TF1, TF1)
DL_TFC7	(TF1, TF2)
DL_TFC8	(TF1, TF3)
DL_TFC9	(TF1, TF4)

Sub-tests:

See 18.2.1.1 for test procedure.

18.2.5.3a.1.4 Test requirements

See 18.2.1.1 for definition of step 6x

1. At step 6x the UE transmitted SECURITY MODE COMPLETE (DCCH) received at the SS shall complete the test and end gracefully.

18.2.5.3a.2 SRBs for PCCH at 8 kbps kbps + SRB for CCCH + SRB for DCCH + SRB for BCCH at 16 kbps

18.2.5.3a.2.1 Conformance requirement

See 18.2.2.4.1.

18.2.5.3a.2.2 Test purpose

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause for the case when one SCCPCH is used in this SYSTEM INFORMATION (BCCH) configuration. The SCCPCH carries the PCH at 8 kbps and the FACH for SRBs on CCCH/ DCCH/ BCCH at 16 kbps.

To be able to test the downlink radio bearer using the UE loopback function, the reference radio bearer configuration according to TS 34.108, clause 6.10.3.4.5.1 (SRB for CCCH + SRB for DCCH on PRACH) is used in uplink.

18.2.5.3a.2.3 Method of Test

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.0b.

Uplink TFS:

	TFI	SRB
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	SRB
UL_TFC0	TF0

Downlink TFS:

	TFI	PCCH	SRBs
TFS	TF0, bits	0x80	0x171
	TF1, bits	1x80	1x171
	TF2, bits	2x80	2x171

Downlink TFCS:

TFCI	(PCCH, SRB)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF1, TF0)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF0)
DL_TFC6	(TF2, TF1)

Sub-tests:

See 18.2.1.1 for test procedure.

18.2.5.3a.2.4 Test requirements

See 18.2.1.1 for definition of step 6x

1. At step 6x the UE transmitted SECURITY MODE COMPLETE (DCCH) received at the SS shall complete the test and end gracefully.

18.2.5.4 RB for CTCH + SRB for CCCH +SRB for BCCH.

18.2.5.4.1 Definition and applicability

Applicable only for a UE supporting Cell Broadcast Services (CBS) as a type of Broadcast/Multicast Services.

It shall be possible to indicate the reception of certain CBS message contents carried with certain activated CG message types in a clear way on UE side.

18.2.5.4.2 Conformance Requirement

See 18.2.2.4.1 and 7.4.2.1.2.

18.2.5.4.3 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.4 for the case when three SCCPCHs are used in this SYSTEM INFORMATION configuration. The first SCCPCH carries the PCH. The second SCCPCH carries the FACH for CTCH (Cell Broadcast Service) and the FACH for SRBs on CCCH/ BCCH for idle mode UEs. The third SCCPCH carries the FACH for Interactive/Background 32 kbps PS RAB and the FACH for SRBs on CCCH/ DCCH/ BCCH for connected mode UEs.

To verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clauses 6.10.3.4.4.3. Data transfer on CTCH is tested similar to testing BMC for a UE in idle mode as specified in TS 34.123-1, clause 7.4.2, data transfer on CCCH is tested by establishing a RRC connection.

18.2.5.4.4 Method of Test

Initial conditions:

The contents of System Information Block type 5 and 6 shall be as specified in TS 34.108, clause 6.1.2.

The UE is RRC idle mode, the BMC entity is established.

The CB message ID stored on the SIM shall be known for this test (parameter for CBS PDUs). The CBS data type shall be allocated and activated in the UE.

Related ICS/IXIT Statement(s):

As in clause 7.4.2.1.4

Uplink TFS:

	TFI	**RB7+SRB (32 kbps on RACH)**
TFS	TF0, bits	1x170

Uplink TFCS:

TFCI	**RB7+SRB**
UL_TFC0	TF0

Downlink TFS:

	TFI	RB7 (16 kbps on CTCH)	SRBs
TFS	TF0, bits	0x163	0x171
	TF1, bits	1x163	1x171
	TF2, bits	2x163	2x171

Downlink TFCS:

TFCI	(RB7, SRB)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF0, TF1)
DL_TFC2	(TF0, TF2)
DL_TFC3	(TF1, TF0)
DL_TFC4	(TF1, TF1)
DL_TFC5	(TF2, TF0)

Test Procedure:

a) The UE in RRC Idle mode is triggered to wait for the next system information. The UE is activated to receive CBS messages.

b) The UE and the SS have configured their RLC, MAC, and PHYs layers with all CB related system information.

c) The SS sends the CVS message containing an activated CGS message type according to CB-Data 1 to the UE; this shall be repeated for CPREP times (indicated by the parameter "repetition period").

d) The UE indicates in an unambiguous way, that this message was received.

e) Steps 1a → 1d in the Expected sequence are followed by the steps 2 – 6 of the test procedure according to clause 18.2.1.1.

Expected sequence

Step	Direction		Message	Comments
	UE	SS		
1a	←		SYSTEM INFORMATION	
1b				The SS waits for about 10 s to make sure, that the UE is configured to receive CBS data
1c	←		BMC CBS Message	Activated CBS message with CB Data 1 message content as described by the manufacturer. This message shall be repeated "CPREP" times, Parameter: - Message_ID, - Serial-No, - Data coding scheme, - CB-Data 1,
1d				After having received the BMC CBS message the UE shall indicate the reception of CB Data 1 in a clear way.

18.2.5.4.5 Test Requirements

At step 1d in the table above, the UE shall store and decode a received activated CBS message.

At step 5 of the test procedure according to clause 18.2.1.1 the RRC Connection shall be established.

18.2.5.5 64.8kbps RB for MTCH with 80 ms TTI

18.2.5.5.1 Conformance Requirement

The UE shall correctly receive user data on the MTCH from the peer to peer RLC entity according to the configured MTCH.

Reference(s)

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

3GPP TS 25.331 (RRC)

18.2.5.5.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.5.

18.2.5.5.3 Method of Test

See 14.1.5 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (64.8 kbps)
TFS	TF0, bits	0x665
	TF1, bits	1x665
	TF2, bits	2x665
	TF3, bits	3x665
	TF4, bits	4x665
	TF5, bits	5x665
	TF6, bits	6x665
	TF7, bits	7x665
	TF8, bits	8x665

Downlink TFCS:

TFCI	RB for MTCH (64.8 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)
DL_TFC5	(TF5)
DL_TFC6	(TF6)
DL_TFC7	(TF7)
DL_TFC8	(TF8)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	640
2	DL_TFC2	DL_TFC0	1288
3	DL_TFC3	DL_TFC0	1936
4	DL_TFC4	DL_TFC0	2584
5	DL_TFC5	DL_TFC0	3232
6	DL_TFC6	DL_TFC0	3880
7	DL_TFC7	DL_TFC0	4528
8	DL_TFC8	DL_TFC0	5176
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5.5.4 Test Requirements

See 14.1.5 for definition of steps 8 and 12.

1. For the first sub-test: At step 8 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 12 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 14.1.5 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5.6 129.6 kbps RB for MTCH with 80 ms TTI

18.2.5.6.1 Conformance Requirement

See 18.2.5.5.1.

18.2.5.6.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.6.

18.2.5.6.3 Method of Test

See 14.1.5 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (129.6 kbps kbps)
TFS	TF0, bits	0x664
	TF1, bits	1x664
	TF2, bits	2x664
	TF3, bits	3x664
	TF4, bits	4x664
	TF5, bits	5x664
	TF6, bits	6x664
	TF7, bits	7x664
	TF8, bits	8x664
	TF9, bits	9x664
	TF10, bits	10x664
	TF11, bits	11x664
	TF12, bits	12x664
	TF13, bits	13x664
	TF14, bits	14x664
	TF15, bits	15x664
	TF16, bits	16x664

Downlink TFCS:

TFCI	RB for MTCH (129.6 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)
DL_TFC5	(TF5)
DL_TFC6	(TF6)
DL_TFC7	(TF7)
DL_TFC8	(TF8)
DL_TFC9	(TF9)
DL_TFC10	(TF10)
DL_TFC11	(TF11)
DL_TFC12	(TF12)
DL_TFC13	(TF13)
DL_TFC14	(TF14)
DL_TFC15	(TF15)
DL_TFC16	(TF16)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	640
2	DL_TFC2	DL_TFC0	1288
3	DL_TFC3	DL_TFC0	1936
4	DL_TFC4	DL_TFC0	2584
5	DL_TFC5	DL_TFC0	3232
6	DL_TFC6	DL_TFC0	3880
7	DL_TFC7	DL_TFC0	4528
8	DL_TFC8	DL_TFC0	5176
9	DL_TFC9	DL_TFC0	5824
10	DL_TFC10	DL_TFC0	6472
11	DL_TFC11	DL_TFC0	7120
12	DL_TFC12	DL_TFC0	7768
13	DL_TFC13	DL_TFC0	8416
14	DL_TFC14	DL_TFC0	9064
15	DL_TFC15	DL_TFC0	9712
16	DL_TFC16	DL_TFC0	10360

NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.

18.2.5.6.4 Test Requirements

See 14.1.5 for definition of steps 8 and 12.

1. For the first sub-test: At step 8 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 12 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 14.1.5 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5.7 259.2 kbps RB for MTCH with 40 ms TTI

18.2.5.7.1 Conformance Requirement

See 18.2.5.5.1.

18.2.5.7.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.7.

18.2.5.7.3 Method of Test

See 14.1.5 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (259.2 kbps)
TFS	TF0, bits	0x665
	TF1, bits	1x665
	TF2, bits	2x665
	TF3, bits	3x665
	TF4, bits	4x665
	TF5, bits	5x665
	TF6, bits	6x665
	TF7, bits	7x665
	TF8, bits	8x665
	TF9, bits	9x665
	TF10, bits	10x665
	TF11, bits	11x665
	TF12, bits	12x665
	TF13, bits	13x665
	TF14, bits	14x665
	TF15, bits	15x665
	TF16, bits	16x665

Downlink TFCS:

TFCI	RB for MTCH (259.2 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)
DL_TFC5	(TF5)
DL_TFC6	(TF6)
DL_TFC7	(TF7)
DL_TFC8	(TF8)
DL_TFC9	(TF9)
DL_TFC10	(TF10)
DL_TFC11	(TF11)
DL_TFC12	(TF12)
DL_TFC13	(TF13)
DL_TFC14	(TF14)
DL_TFC15	(TF15)
DL_TFC16	(TF16)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	640
2	DL_TFC2	DL_TFC0	1288
3	DL_TFC3	DL_TFC0	1936
4	DL_TFC4	DL_TFC0	2584
5	DL_TFC5	DL_TFC0	3232
6	DL_TFC6	DL_TFC0	3880
7	DL_TFC7	DL_TFC0	4528
8	DL_TFC8	DL_TFC0	5176
9	DL_TFC9	DL_TFC0	5824
10	DL_TFC10	DL_TFC0	6472
11	DL_TFC11	DL_TFC0	7120
12	DL_TFC12	DL_TFC0	7768
13	DL_TFC13	DL_TFC0	8416
14	DL_TFC14	DL_TFC0	9064
15	DL_TFC15	DL_TFC0	9712
16	DL_TFC16	DL_TFC0	10360
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5.7.4 Test Requirements

See 14.1.5 for definition of steps 8 and 12.

1. For the first sub-test: At step 8 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 12 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 14.1.5 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5.8 124.4kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5.8.1 Conformance Requirement

The UE shall correctly receive user data on the MTCH from the peer to peer RLC entity according to the configured MTCH.

Reference(s)

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

3GPP TS 25.331 (RRC)

18.2.5.8.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.9.

18.2.5.8.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (124.4 kbps)
TFS	TF0, bits	0x4993
	TF1, bits	1x4993
	TF2, bits	2x4993

Downlink TFCS:

TFCI	RB for MTCH (124.4 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4960
2	DL_TFC2	DL_TFC0	9936
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5.8.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5.9 320.4kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5.9.1 Conformance Requirement

See 18.2.5.8.1.

18.2.5.9.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.10.

18.2.5.9.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (320.4 kbps)
TFS	TF0, bits	0x4289
	TF1, bits	1x4289
	TF2, bits	6x4289

Downlink TFCS:

TFCI	RB for MTCH (320.4 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4256
2	DL_TFC2	DL_TFC0	25616
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5.9.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5.10 497.6kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5.10.1 Conformance Requirement

See 18.2.5.8.1.

18.2.5.10.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.4.11.

18.2.5.10.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (497.6 kbps)
TFS	TF0, bits	0x4993
	TF1, bits	1x4993
	TF2, bits	8x4993

Downlink TFCS:

TFCI	RB for MTCH (497.6 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4960
2	DL_TFC2	DL_TFC0	39792
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5.10.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5a Combinations on SCCPCH type 2

18.2.5a.1 124.4kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5a.1.1 Conformance Requirement

The UE shall correctly receive user data on the MTCH from the peer to peer RLC entity according to the configured MTCH.

Reference(s)

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

3GPP TS 25.331 (RRC)

18.2.5a.1.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.11.7.2.2.1.

18.2.5a.1.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (124.4 kbps)
TFS	TF0, bits	0x4992
	TF1, bits	1x4992
	TF2, bits	2x4992

Downlink TFCS:

TFCI	RB for MTCH (124.4 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4960
2	DL_TFC2	DL_TFC0	9936
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5a.1.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE: For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5a.2 320.4kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5a.2.1 Conformance Requirement

See 18.2.5a.1.1.

18.2.5a.2.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.11.7.2.2.2.

18.2.5a.2.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (320.4 kbps)
TFS	TF0, bits	0x4288
	TF1, bits	1x4288
	TF2, bits	2x4288
	TF3, bits	3x4288
	TF4, bits	4x4288
	TF5, bits	5x4288
	TF6, bits	6x4288

Downlink TFCS:

TFCI	RB for MTCH (320.4 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)
DL_TFC5	(TF5)
DL_TFC6	(TF6)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4256
2	DL_TFC2	DL_TFC0	
3	DL_TFC3	DL_TFC0	
4	DL_TFC4	DL_TFC0	
5	DL_TFC5	DL_TFC0	
6	DL_TFC6	DL_TFC0	25616
NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.			

18.2.5a.2.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.5a.3 497.6kbps RB for MBSFN MTCH with 80 ms TTI

18.2.5a.3.1 Conformance Requirement

See 18.2.5a.1.1

18.2.5a.3.2 Test purpose

Test to verify establishment and data transfer of reference radio bearer configuration as specified in TS 34.108, clause 6.11.7.2.2.3.

18.2.5a.3.3 Method of Test

See subclause 18.2.1.6 for test procedure.

Downlink TFS:

	TFI	RB for MTCH (497.6 kbps)
TFS	TF0, bits	0x4992
	TF1, bits	1x4992
	TF2, bits	2x4992
	TF3, bits	3x4992
	TF4, bits	4x4992
	TF5, bits	5x4992
	TF6, bits	6x4992
	TF7, bits	7x4992
	TF8, bits	8x4992

Downlink TFCS:

TFCI	RB for MTCH (497.6 kbps)
DL_TFC0	(TF0)
DL_TFC1	(TF1)
DL_TFC2	(TF2)
DL_TFC3	(TF3)
DL_TFC4	(TF4)
DL_TFC5	(TF5)
DL_TFC6	(TF6)
DL_TFC7	(TF7)
DL_TFC8	(TF8)

Sub-tests:

Sub-test	Downlink TFCS Under test	Implicitly tested	Test data size (bits) (note 1)
1	DL_TFC1	DL_TFC0	4960
2	DL_TFC2	DL_TFC0	
3	DL_TFC3	DL_TFC0	
4	DL_TFC4	DL_TFC0	
5	DL_TFC5	DL_TFC0	
6	DL_TFC6	DL_TFC0	
7	DL_TFC7	DL_TFC0	
8	DL_TFC8	DL_TFC0	39792

NOTE 1: Test data size (=DL SDU size) has been set to the N*payload size of the DL TF under test minus 16 bits (size of 15 bit length indicator and expansion bit), where N is the number of transport blocks in the transport format combination under test.

18.2.5a.3.4 Test Requirements

See subclause 18.2.1.6 for definition of steps 9 and 13.

1. For the first sub-test: At step 9 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than zero.

2. For the second and following sub-tests: At step 13 the UE shall send a UE TEST LOOP MODE 3 RLC SDU COUNTER RESPONSE with a RLC SDU counter value greater than the reported value at previous sub-test.

NOTE: For UE in UE test loop mode 3 then the RLC SDU counter value is only reset upon reception of CLOSE UE TEST LOOP message configuring UE test loop mode 3. As the generic test procedure in section 18.2.1.6 runs through all sub-tests without deactivating the UE test mode then the SS needs to check the reported counter value against the value reported at the previous sub-test.

18.2.6 Combinations on PRACH

18.2.6.1 SRB for CCCH + SRB for DCCH

The reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.5.1 is implicitly tested by the test cases 18.2.5.2b.1.

18.2.6.2 Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

The reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.5.2 is implicitly tested by the test cases 18.2.5.2.1, 18.2.5.2.2, 18.2.5.2.3 and 18.2.5.3.

18.2.6.3 Interactive/Background 12.8 kbps PS RAB + Interactive/Background 12.8 kbps PS RAB + SRB for CCCH + SRB for DCCH

The reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.5.3 is implicitly tested by the test cases 18.2.5.2a.1, 18.2.5.2a.2 and 18.2.5.2a.3.

18.2.7 Combinations on DPCH and HS-PDSCH

18.2.7.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.1.1 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB, UL 336bit block size

18.2.7.1.1.1 Conformance requirement

For HS-DSCH the transport block size is derived from the value signalled on the HS-SCCH. The mapping between the TFRI value and the transport block size for each mode is specified below:

Let k be the signalled TFRI value, then the corresponding HS-DSCH transport block size L_k is given by :

If k=1..510

$$L_k = \lfloor L_{\min} p^k \rfloor$$

$$p = \frac{8313}{8192}$$

$$L_{\min} = 57$$

If k = 511

L_k = 102000

If k=0, L_k indicates NULL and shall not be used to signal a transport block size in the TFRI.

Transport block sizes calculated by this formula shall equal the values indicated in Table 18.2.7.1.1.1.1

Table 18.2.7.1.1.1.1: HSDPA Transport Block Sizes for 3.84 Mcps TDD

TB index (k)	TB size [bits]	TB index (k)	TB size [bits]	TB index (k)	TB size [bits]	TB index (k)	TB size [bits]
0	NULL	128	372	256	2432	384	15890
1	57	129	377	257	2468	385	16124
2	58	130	383	258	2504	386	16362
3	59	131	389	259	2541	387	16604
4	60	132	394	260	2579	388	16849
5	61	133	400	261	2617	389	17098
6	62	134	406	262	2656	390	17351
7	63	135	412	263	2695	391	17607
8	64	136	418	264	2735	392	17867
9	65	137	424	265	2775	393	18131
10	66	138	431	266	2816	394	18399
11	66	139	437	267	2858	395	18671
12	67	140	443	268	2900	396	18946
13	68	141	450	269	2943	397	19226
14	69	142	457	270	2986	398	19510
15	71	143	463	271	3030	399	19798
16	72	144	470	272	3075	400	9.0.01
17	73	145	477	273	3121	401	20388
18	74	146	484	274	3167	402	20689
19	75	147	491	275	3213	403	20994
20	76	148	499	276	3261	404	21304
21	77	149	506	277	3309	405	21619
22	78	150	514	278	3358	406	21938
23	79	151	521	279	3408	407	22263
24	81	152	529	280	3458	408	22591
25	82	153	537	281	3509	409	22925
26	83	154	545	282	3561	410	23264
27	84	155	553	283	3613	411	23607
28	85	156	561	284	3667	412	23956
29	87	157	569	285	3721	413	24310
30	88	158	578	286	3776	414	24669
31	89	159	586	287	3832	415	25033
32	91	160	595	288	3888	416	25403
33	92	161	604	289	3946	417	25778
34	93	162	613	290	4004	418	26159
35	95	163	622	291	4063	419	26545
36	96	164	631	292	4123	420	26938
37	98	165	640	293	4184	421	27335
38	99	166	650	294	4246	422	27739
39	100	167	659	295	4309	423	28149
40	102	168	669	296	4372	424	28565
41	103	169	679	297	4437	425	28987
42	105	170	689	298	4502	426	29415
43	107	171	699	299	4569	427	29849
44	108	172	709	300	4636	428	30290
45	110	173	720	301	4705	429	30738

46	111	174	730	302	4774	430	31192
47	113	175	741	303	4845	431	31652
48	115	176	752	304	4916	432	32120
49	116	177	763	305	4989	433	32594
50	118	178	775	306	5063	434	33076
51	120	179	786	307	5138	435	33564
52	122	180	798	308	5213	436	34060
53	123	181	809	309	5290	437	34563
54	125	182	821	310	5369	438	35074
55	127	183	834	311	5448	439	35592
56	129	184	846	312	5528	440	36117
57	131	185	858	313	5610	441	36651
58	133	186	871	314	5693	442	37192
59	135	187	884	315	5777	443	37742
60	137	188	897	316	5862	444	38299
61	139	189	910	317	5949	445	38865
62	141	190	924	318	6037	446	39439
63	143	191	937	319	6126	447	40021
64	145	192	951	320	6217	448	40613
65	147	193	965	321	6308	449	41212
66	150	194	980	322	6402	450	41821
67	152	195	994	323	6496	451	42439
68	154	196	1009	324	6592	452	43066
69	156	197	1024	325	6689	453	43702
70	159	198	1039	326	6788	454	44347
71	161	199	1054	327	6889	455	45002
72	163	200	1070	328	6990	456	45667
73	166	201	1085	329	7094	457	46342
74	168	202	1101	330	7198	458	47026
75	171	203	1118	331	7305	459	47721
76	173	204	1134	332	7413	460	48426
77	176	205	1151	333	7522	461	49141
78	178	206	1168	334	7633	462	49867
79	181	207	1185	335	7746	463	50603
80	184	208	1203	336	7860	464	51351
81	186	209	1221	337	7976	465	52109
82	189	210	1239	338	8094	466	52879
83	192	211	1257	339	8214	467	53660
84	195	212	1276	340	8335	468	54453
85	198	213	1294	341	8458	469	55257
86	201	214	1313	342	8583	470	56073
87	204	215	1333	343	8710	471	56901
88	207	216	1353	344	8839	472	57742
89	210	217	1373	345	8969	473	58595
90	213	218	1393	346	9102	474	59460
91	216	219	1413	347	9236	475	60338
92	219	220	1434	348	9373	476	61230
93	222	221	1456	349	9511	477	62134
94	226	222	1477	350	9652	478	63052
95	229	223	1499	351	9794	479	63983

96	232	224	1521	352	9939	480	64928
97	236	225	1543	353	10086	481	65887
98	239	226	1566	354	10235	482	66860
99	243	227	1589	355	10386	483	67848
100	246	228	1613	356	10539	484	68850
101	250	229	1637	357	10695	485	69867
102	254	230	1661	358	10853	486	70899
103	258	231	1685	359	11013	487	71946
104	261	232	1710	360	11176	488	73009
105	265	233	1736	361	11341	489	74087
106	269	234	1761	362	11508	490	75182
107	273	235	1787	363	11678	491	76292
108	277	236	1814	364	11851	492	77419
109	281	237	1840	365	12026	493	78563
110	285	238	1868	366	12204	494	79723
111	290	239	1895	367	12384	495	80901
112	294	240	1923	368	12567	496	82095
113	298	241	1952	369	12752	497	83308
114	303	242	1981	370	12941	498	84539
115	307	243	2010	371	13132	499	85787
116	312	244	2039	372	13326	500	87054
117	316	245	2070	373	13523	501	88340
118	321	246	2100	374	13722	502	89645
119	326	247	2131	375	13925	503	90969
120	331	248	2163	376	14131	504	92313
121	336	249	2195	377	14340	505	93676
122	340	250	2227	378	14551	506	95060
123	346	251	2260	379	14766	507	96464
124	351	252	2293	380	14984	508	97889
125	356	253	2327	381	15206	509	99335
126	361	254	2362	382	15430	510	100802
127	366	255	2397	383	15658	511	102000

Reference(s)

3GPP TS 25.321 Section 9.2.3.2

18.2.7.1.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.1 for the UL 336 bit block size case.

18.2.7.1.1.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	3x336	N/A
	TF4, bits	4x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)
1	1	3	512	128	336	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 312
	2	3	512	128					
	3	3	512	128					
	4	3	512	128					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
2	1	3	256	128	656	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 632
	2	3	256	128					
	3	3	256	128					
	4	3	256	128					
	5	3	256	256					
	6	3	256	256					
	7	3	512	512					
	8	3	512	512					
	9	3	1024	512					
3	1	3	512	256	336	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 952
	2	3	512	256					
	3	3	512	256					
	4	3	512	256					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
4	1	8	256	256	656	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC5 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.

18.2.7.1.1.4 Test requirements

See 14.1.3.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE transmitted transport format shall be
   - for sub-test 1: TF1 (1x336).

- for sub-test 2: TF2 (2x336).
- for sub-test 3: TF3 (3x336).
- for sub-test 4: TF4 (4x336).

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.1.2 Interactive or background / UL:64 DL: [max bit rate depending on UE category] / PS RAB, UL 144bit block size

18.2.7.1.2.1 Conformance requirement

See 18.2.7.1.1.1

18.2.7.1.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.1 for the UL 144 bit block size case.

18.2.7.1.2.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x144	0x148
	TF1, bits	1x144	1x148
	TF2, bits	3x144	N/A
	TF3, bits	7x144	N/A
	TF4, bits	10x144	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)
1	1	3	512	128	336	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 120
	2	3	512	128					
	3	3	512	128					
	4	3	512	128					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
2	1	3	256	128	656	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 376
	2	3	256	128					
	3	3	256	128					
	4	3	256	128					
	5	3	256	256					
	6	3	256	256					
	7	3	512	512					
	8	3	512	512					
	9	3	1024	512					
3	1	3	512	256	336	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 888
	2	3	512	256					
	3	3	512	256					
	4	3	512	256					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
4	1	8	256	256	656	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC5 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.

18.2.7.1.2.4 Test requirements

See 14.1.3.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE transmitted transport format shall be
   - for sub-test 1: TF1 (1x144).

- for sub-test 2: TF2 (3x144).
- for sub-test 3: TF3 (7x144).
- for sub-test 4: TF4 (10x144).

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.2 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.2.1 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB, UL 336bit block size

18.2.7.2.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.2.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.2 for the UL 336 bit block size case.

18.2.7.2.1.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)
1	1	3	512	128	336	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 312
	2	3	512	128					
	3	3	512	128					
	4	3	512	128					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
2	1	3	256	128	656	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 632
	2	3	256	128					
	3	3	256	128					
	4	3	256	128					
	5	3	256	256					
	6	3	256	256					
	7	3	512	512					
	8	3	512	512					
	9	3	1024	512					
3	1	3	512	256	336	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1272
	2	3	512	256					
	3	3	512	256					
	4	3	512	256					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
4	1	8	256	256	656	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2552
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC5 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.

18.2.7.2.1.4 Test requirements

See 14.1.3.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE transmitted transport format shall be
   - for sub-test 1: TF1 (1x336).

- for sub-test 2: TF2 (2x336).
- for sub-test 3: TF3 (4x336).
- for sub-test 4: TF4 (8x336).

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.2.2 Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB, UL 144bit block size

18.2.7.2.2.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.2.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.2 for the UL 144 bit block size case.

18.2.7.2.2.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (128 kbps)	DCCH
TFS	TF0, bits	0x144	0x148
	TF1, bits	1x144	1x148
	TF2, bits	7x144	N/A
	TF3, bits	14x144	N/A
	TF4, bits	20x144	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

Sub-test	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)
1	1	3	512	128	336	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 120
	2	3	512	128					
	3	3	512	128					
	4	3	512	128					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
2	1	3	256	128	656	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 888
	2	3	256	128					
	3	3	256	128					
	4	3	256	128					
	5	3	256	256					
	6	3	256	256					
	7	3	512	512					
	8	3	512	512					
	9	3	1024	512					
3	1	3	512	256	336	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 1784
	2	3	512	256					
	3	3	512	256					
	4	3	512	256					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
4	1	8	256	256	656	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 2552
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC5 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.

18.2.7.2.2.4 Test requirements

See 14.1.3.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE transmitted transport format shall be
   - for sub-test 1: TF1 (1x144).

- for sub-test 2: TF2 (7x144).
- for sub-test 3: TF3 (14x144).
- for sub-test 4: TF4 (20x144).

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.3 Interactive or background / UL:384 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.3.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.3.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.3.

18.2.7.3.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (384 kbps, 10ms)	DCCH
TFS	TF0, bits	0x336	0x148
	TF1, bits	1x336	1x148
	TF2, bits	2x336	N/A
	TF3, bits	4x336	N/A
	TF4, bits	8x336	N/A
	TF5, bits	12x336	N/A

Uplink TFCS:

TFCI	(RB5, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Sub-tests:

Sub-test	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Transmission window size (note 1)	MAC-d PDU size (bits)	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)
1	1	3	512	128	336	UL_TFC1	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 312
	2	3	512	128					
	3	3	512	128					
	4	3	512	128					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
2	1	3	256	128	656	UL_TFC2	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 632
	2	3	256	128					
	3	3	256	128					
	4	3	256	128					
	5	3	256	256					
	6	3	256	256					
	7	3	512	512					
	8	3	512	512					
	9	3	1024	512					
3	1	3	512	256	336	UL_TFC3	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1272
	2	3	512	256					
	3	3	512	256					
	4	3	512	256					
	5	3	512	256					
	6	3	512	256					
	7	3	1536	512					
	8	3	1536	512					
	9	3	2047	512					
4	1	8	256	256	656	UL_TFC4	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 2552
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					
5	1	8	256	256	656	UL_TFC5	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 3832
	2	8	256	256					
	3	8	256	256					
	4	8	256	256					
	5	8	256	256					
	6	8	256	256					
	7	8	512	512					
	8	8	512	512					
	9	8	1024	512					

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC5 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.

18.2.7.3.4 Test requirements

See 14.1.3.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE transmitted transport format shall be
   - for sub-test 1: TF1 (1x336).
   - for sub-test 2: TF2 (2x336).
   - for sub-test 3: TF3 (4x336).
   - for sub-test 4: TF4 (8x336).
   - for sub-test 5: TF5 (12x336).
3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.4.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.4.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.4.

18.2.7.4.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (384 kbps, 10 ms TTI)	DCCH
TFS	TF0, bits	0x81	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	4x336	N/A
	TF4, bits	N/A	N/A	N/A	8x336	N/A
	TF5, bits	N/A	N/A	N/A	12x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF5, TF0)
UL_TFC16	(TF1, TF0, TF0, TF5, TF0)
UL_TFC17	(TF2, TF1, TF1, TF5, TF0)
UL_TFC18	(TF0, TF0, TF0, TF0, TF1)
UL_TFC19	(TF1, TF0, TF0, TF0, TF1)
UL_TFC20	(TF2, TF1, TF1, TF0, TF1)
UL_TFC21	(TF0, TF0, TF0, TF1, TF1)
UL_TFC22	(TF1, TF0, TF0, TF1, TF1)
UL_TFC23	(TF2, TF1, TF1, TF1, TF1)
UL_TFC24	(TF0, TF0, TF0, TF2, TF1)
UL_TFC25	(TF1, TF0, TF0, TF2, TF1)
UL_TFC26	(TF2, TF1, TF1, TF2, TF1)
UL_TFC27	(TF0, TF0, TF0, TF3, TF1)
UL_TFC28	(TF1, TF0, TF0, TF3, TF1)
UL_TFC29	(TF2, TF1, TF1, TF3, TF1)
UL_TFC30	(TF0, TF0, TF0, TF4, TF1)
UL_TFC31	(TF1, TF0, TF0, TF4, TF1)
UL_TFC32	(TF2, TF1, TF1, TF4, TF1)
UL_TFC33	(TF0, TF0, TF0, TF5, TF1)
UL_TFC34	(TF1, TF0, TF0, TF5, TF1)
UL_TFC35	(TF2, TF1, TF1, TF5, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Speech and Interactive Background radio bearer. As the Interactive Background UL:384 kbps radio bearer (RB8) has the highest number of transport formats (5 for TTI=10 ms and excluding TF0) then 5 sub-tests has been defined. The selected UL TFCI to achieve test coverage of TF1 to TF5 for RB8 and for the different speech transport formats are: UL_TFC4 for TF1, UL_TFC8 for TF2, UL_TFC11 for TF3, UL_TFC13 for TF4 and UL_TFC17 for TF5.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	256	336	DL_TFC1	UL_TFC4	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC18	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC18, UL_TFC22	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	256	656	DL_TFC2	UL_TFC8	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC18	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC8, UL_TFC18, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC2	UL_TFC11	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC18	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC11, UL_TFC18, UL_TFC29	RB5: 81 RB6: 103 RB7: 60 RB8: 1272	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	DL_TFC1	UL_TFC13	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC18	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC13, UL_TFC18, UL_TFC31	RB5: 39 RB6: 103 RB7: 60 RB8: 2552	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	9	3	1024	512							
5	1	3	256	256	656	DL_TFC2	UL_TFC17	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC18	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC17, UL_TFC18, UL_TFC35	RB5: 81 RB6: 103 RB7: 60 RB8: 3832	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 and UL_TFC18 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.
NOTE 4: The test data size for RB8 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.

18.2.7.4.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.5 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: 64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.5.1 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: 64 DL:[Bit rate depending on the UE category] / PS RAB, UL 336bit block size

18.2.7.5.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.5.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.5 for the UL 336 bit block size case.

18.2.7.5.1.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81	0x103	0x60	0x336	0x148
	TF1, bits	1x39	1x103	1x60	1x336	1x148
	TF2, bits	1x81	N/A	N/A	2x336	N/A
	TF3, bits	N/A	N/A	N/A	3x336	N/A
	TF4, bits	N/A	N/A	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Speech and Interactive Background radio bearer. As the Interactive Background UL:64 kbps radio bearer (RB8) has the highest number of transport formats (4 excluding TF0) then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB8 and for the different speech transport formats are: UL_TFC4 for TF1, UL_TFC8 for TF2, UL_TFC11 for TF3 and UL_TFC13 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	DL_TFC1	UL_TFC4	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	DL_TFC2	UL_TFC8	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 632	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC2	UL_TFC11	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 952	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	8	256	256	656	DL_TFC1	UL_TFC13	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	8	256	256							
	3	8	256	256							
	4	8	256	256							
	5	8	256	256							
	6	8	256	256							
	7	8	512	512							
	8	8	512	512							

	9	8	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 and UL_TFC15 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.
NOTE 4: The test data size for RB8 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.

18.2.7.5.1.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.5.2 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Interactive or background / UL: 64 DL:[Bit rate depending on the UE category] / PS RAB, UL 144bit block size

18.2.7.5.2.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.5.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.5 for the UL 144 bit block size case.

18.2.7.5.2.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
RLC Transmission window size	See sub-test table
RLC Receiving window size	See sub-test table

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	RB8 (64 kbps, 20 ms TTI)	DCCH
TFS	TF0, bits	0x81	0x103	0x60	0x144	0x148
	TF1, bits	1x39	1x103	1x60	1x144	1x148
	TF2, bits	1x81	N/A	N/A	3x144	N/A
	TF3, bits	N/A	N/A	N/A	7x144	N/A
	TF4, bits	N/A	N/A	N/A	10x144	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, RB8, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1, TF0)
UL_TFC4	(TF1, TF0, TF0, TF1, TF0)
UL_TFC5	(TF2, TF1, TF1, TF1, TF0)
UL_TFC6	(TF0, TF0, TF0, TF2, TF0)
UL_TFC7	(TF1, TF0, TF0, TF2, TF0)
UL_TFC8	(TF2, TF1, TF1, TF2, TF0)
UL_TFC9	(TF0, TF0, TF0, TF3, TF0)
UL_TFC10	(TF1, TF0, TF0, TF3, TF0)
UL_TFC11	(TF2, TF1, TF1, TF3, TF0)
UL_TFC12	(TF0, TF0, TF0, TF4, TF0)
UL_TFC13	(TF1, TF0, TF0, TF4, TF0)
UL_TFC14	(TF2, TF1, TF1, TF4, TF0)
UL_TFC15	(TF0, TF0, TF0, TF0, TF1)
UL_TFC16	(TF1, TF0, TF0, TF0, TF1)
UL_TFC17	(TF2, TF1, TF1, TF0, TF1)
UL_TFC18	(TF0, TF0, TF0, TF1, TF1)
UL_TFC19	(TF1, TF0, TF0, TF1, TF1)
UL_TFC20	(TF2, TF1, TF1, TF1, TF1)
UL_TFC21	(TF0, TF0, TF0, TF2, TF1)
UL_TFC22	(TF1, TF0, TF0, TF2, TF1)
UL_TFC23	(TF2, TF1, TF1, TF2, TF1)
UL_TFC24	(TF0, TF0, TF0, TF3, TF1)
UL_TFC25	(TF1, TF0, TF0, TF3, TF1)
UL_TFC26	(TF2, TF1, TF1, TF3, TF1)
UL_TFC27	(TF0, TF0, TF0, TF4, TF1)
UL_TFC28	(TF1, TF0, TF0, TF4, TF1)
UL_TFC29	(TF2, TF1, TF1, TF4, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Speech and Interactive Background radio bearer. As the Interactive Background UL:64 kbps radio bearer (RB8) has the highest number of transport formats (4 excluding TF0) then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB8 and for the different speech transport formats are: UL_TFC4 for TF1, UL_TFC8 for TF2, UL_TFC11 for TF3 and UL_TFC13 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	DL_TFC1	UL_TFC4	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4, UL_TFC15, UL_TFC19	RB5: 39 RB6: 103 RB7: 60 RB8: 120	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	DL_TFC2	UL_TFC8	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC8, UL_TFC15, UL_TFC23	RB5: 81 RB6: 103 RB7: 60 RB8: 376	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC2	UL_TFC11	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC11, UL_TFC15, UL_TFC26	RB5: 81 RB6: 103 RB7: 60 RB8: 888	RB5: 81 RB6: 103 RB7: 60 RB8: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	8	256	256	656	DL_TFC1	UL_TFC13	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC15	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC13, UL_TFC15, UL_TFC28	RB5: 39 RB6: 103 RB7: 60 RB8: 1272	RB5: 39 RB6: No data RB7: No data RB8: See note 4
	2	8	256	256							
	3	8	256	256							
	4	8	256	256							
	5	8	256	256							
	6	8	256	256							
	7	8	512	512							
	8	8	512	512							

	9	8	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3 and UL_TFC15 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB8: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.
NOTE 4: The test data size for RB8 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.

18.2.7.5.2.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.6 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.6.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.6.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.6.

18.2.7.6.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC	
TM RLC	
Segmentation indication	FALSE
Transmission RLC discard	
CHOICE *SDU Discard Mode*	
Timer based no explicit	
Timer_discard	100ms
Downlink RLC	
TM RLC	
Segmentation indication	FALSE

NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 384 kbps, 10 ms TTI)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	4x336	N/A
	TF4, bits	N/A	8x336	N/A
	TF5, bits	N/A	12x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0,TF0,TF0)
UL_TFC1	(TF1,TF0,TF0)
UL_TFC2	(TF0,TF1,TF0)
UL_TFC3	(TF1,TF1,TF0)
UL_TFC4	(TF0,TF2,TF0)
UL_TFC5	(TF1,TF2,TF0)
UL_TFC6	(TF0,TF3,TF0)
UL_TFC7	(TF1,TF3,TF0)
UL_TFC8	(TF0,TF4,TF0)
UL_TFC9	(TF1,TF4,TF0)
UL_TFC10	(TF0,TF5,TF0)
UL_TFC11	(TF1,TF5,TF0)
UL_TFC12	(TF0,TF0,TF1)
UL_TFC13	(TF1,TF0,TF1)
UL_TFC14	(TF0,TF1,TF1)
UL_TFC15	(TF1,TF1,TF1)
UL_TFC16	(TF0,TF2,TF1)
UL_TFC17	(TF1,TF2,TF1)
UL_TFC18	(TF0,TF3,TF1)
UL_TFC19	(TF1,TF3,TF1)
UL_TFC20	(TF0,TF4,TF1)
UL_TFC21	(TF1,TF4,TF1)
UL_TFC22	(TF0,TF5,TF1)
UL_TFC23	(TF1,TF5,TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	4x640	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Conversational CS and Interactive Background PS radio bearer. As the Interactive Background UL:384 kbps radio bearer (RB6) has the highest number of transport formats (5 for TTI=10 ms and excluding TF0) then 5 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF5 for RB6 and for TF1 for RB5 are: UL_TFC3 for TF1, UL_TFC5 for TF2, UL_TFC7 for TF3, UL_TFC9 for TF4 and UL_TFC11 for TF5.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	256	336	DL_TFC1	UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC12, UL_TFC15	RB5: 640 RB6: 312	RB5: 4x640 RB6: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	256	656	DL_TFC1	UL_TFC5	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC12, UL_TFC17	RB5: 640 RB6: 632	RB5: 4x640 RB6: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC1	UL_TFC7	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC7, UL_TFC12, UL_TFC19	RB5: 640 RB6: 1272	RB5: 4x640 RB6: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	DL_TFC1	UL_TFC9	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC9, UL_TFC12, UL_TFC21	RB5: 640 RB6: 2552	RB5: 4x640 RB6: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	9	3	1024	512							
5	1	3	256	256	656	DL_TFC1	UL_TFC11	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC12	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC11, UL_TFC12, UL_TFC23	RB5: 640 RB6: 3832	RB5: 4x640 RB6: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, and UL_TFC12 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.
NOTE 4: The test data size for RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.

18.2.7.6.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.7 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.7.1 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB, UL 336bit block size

18.2.7.7.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.7.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.7 for the UL 336 bit block size case.

18.2.7.7.1.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC	
TM RLC	
Segmentation indication	FALSE
Transmission RLC discard	
CHOICE *SDU Discard Mode*	
Timer based no explicit	
Timer_discard	100ms
Downlink RLC	
TM RLC	
Segmentation indication	FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI.	

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x336	0x148
	TF1, bits	4x640	1x336	1x148
	TF2, bits	N/A	2x336	N/A
	TF3, bits	N/A	3x336	N/A
	TF4, bits	N/A	4x336	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF0, TF1, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF2, TF0)
UL_TFC5	(TF1, TF2, TF0)
UL_TFC6	(TF0, TF3, TF0)
UL_TFC7	(TF1, TF3, TF0)
UL_TFC8	(TF0, TF4, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF1, TF0, TF1)
UL_TFC12	(TF0, TF1, TF1)
UL_TFC13	(TF1, TF1, TF1)
UL_TFC14	(TF0, TF2, TF1)
UL_TFC15	(TF1, TF2, TF1)
UL_TFC16	(TF0, TF3, TF1)
UL_TFC17	(TF1, TF3, TF1)
UL_TFC18	(TF0, TF4, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	4x640	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Conversational CS and Interactive Background PS radio bearer. As the Interactive Background UL:64 kbps radio bearer (RB6) has the highest number of transport formats (4 excluding TF0) then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB6 and for TF1 for RB5 are: UL_TFC3 for TF1, UL_TFC5 for TF2, UL_TFC7 for TF3 and UL_TFC9 for TF4.

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Conversational CS and Interactive Background PS radio bearer. As the Interactive Background UL:64 kbps radio bearer (RB6) has the highest number of transport formats (4 excluding TF0) then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB6 and for TF1 for RB5 are: UL_TFC3 for TF1, UL_TFC5 for TF2, UL_TFC7 for TF3 and UL_TFC9 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	DL_TFC1	UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 312	RB5: 4x640 RB6: See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	DL_TFC1	UL_TFC5	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 632	RB5: 4x640 RB6: See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC1	UL_TFC7	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 640 RB6: 952	RB5: 4x640 RB6: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	DL_TFC1	UL_TFC9	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 640 RB6: 1272	RB5: 4x640 RB6: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test. NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, and UL_TFC10 are part of minimum set of TFCIs. NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI. NOTE 4: The test data size for RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.7.1.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.7.2 Conversational / unknown / UL:64 DL:64 kbps / CS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB, UL 144bit block size

18.2.7.7.2.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.7.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.7 for the UL 144 bit block size case.

18.2.7.7.2.3 Method of test

Initial Conditions

The following RLC Info parameter values shall be set by the SS for the Conversational / unknown / UL:64 DL:64 kbps / CS RAB (RB5):

	RB5 (Conv. 64 kbps)
Uplink RLC	
TM RLC	
Segmentation indication	FALSE
Transmission RLC discard	
CHOICE *SDU Discard Mode*	
Timer based no explicit	
Timer_discard	100ms
Downlink RLC	
TM RLC	
Segmentation indication	FALSE
NOTE: Timer based discard without explicit signalling is used in uplink to secure that the UE will be able to return data for the case when the UE test loop function will not deliver all the SDUs in one and the same TTI .	

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (Conv. 64 kbps)	RB6 (I/B 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x144	0x148
	TF1, bits	4x640	1x144	1x148
	TF2, bits	N/A	3x144	N/A
	TF3, bits	N/A	7x144	N/A
	TF4, bits	N/A	10x144	N/A

Uplink TFCS:

TFCI	(RB5, RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF0, TF1, TF0)
UL_TFC3	(TF1, TF1, TF0)
UL_TFC4	(TF0, TF2, TF0)
UL_TFC5	(TF1, TF2, TF0)
UL_TFC6	(TF0, TF3, TF0)
UL_TFC7	(TF1, TF3, TF0)
UL_TFC8	(TF0, TF4, TF0)
UL_TFC9	(TF1, TF4, TF0)
UL_TFC10	(TF0, TF0, TF1)
UL_TFC11	(TF1, TF0, TF1)
UL_TFC12	(TF0, TF1, TF1)
UL_TFC13	(TF1, TF1, TF1)
UL_TFC14	(TF0, TF2, TF1)
UL_TFC15	(TF1, TF2, TF1)
UL_TFC16	(TF0, TF3, TF1)
UL_TFC17	(TF1, TF3, TF1)
UL_TFC18	(TF0, TF4, TF1)
UL_TFC19	(TF1, TF4, TF1)

Downlink TFS:

	TFI	RB5 (Conv. 64 kbps)	DCCH
TFS	TF0, bits	0x640	0x148
	TF1, bits	4x640	1x148

Downlink TFCS:

TFCI	(RB5, DCCH)
DL_TFC0	(TF0, TF0)
DL_TFC1	(TF1, TF0)
DL_TFC2	(TF0, TF1)
DL_TFC3	(TF1, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Conversational CS and Interactive Background PS radio bearer. As the Interactive Background UL:64 kbps radio bearer (RB6) has the highest number of transport formats (4 excluding TF0) then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB6 and for TF1 for RB5 are: UL_TFC3 for TF1, UL_TFC5 for TF2, UL_TFC7 for TF3 and UL_TFC9 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	DL_TFC1	UL_TFC3	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC10, UL_TFC13	RB5: 640 RB6: 120	RB5: 4x640 RB6: See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	DL_TFC1	UL_TFC5	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC10, UL_TFC15	RB5: 640 RB6: 376	RB5: 4x640 RB6: See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	DL_TFC1	UL_TFC7	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC7, UL_TFC10, UL_TFC17	RB5: 640 RB6: 888	RB5: 4x640 RB6: See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	DL_TFC1	UL_TFC9	DL_TFC0, DL_TFC2, UL_TFC0, UL_TFC10	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC9, UL_TFC10, UL_TFC19	RB5: 640 RB6: 1272	RB5: 4x640 RB6: See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test. NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, and UL_TFC10 are part of minimum set of TFCIs. NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI. NOTE 4: The test data size for RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.7.2.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.8 Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:384 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.8.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.8.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.8.

18.2.7.8.3 Method of test

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	**RB6 (I/B 384 kbps)**	**RB6 (I/B 384 kbps)**	**DCCH**
TFS	TF0, bits	0x340	0x340	0x148
	TF1, bits	1x340	1x340	1x148
	TF2, bits	2x340	2x340	N/A
	TF3, bits	4x340	4x340	N/A
	TF4, bits	8x340	8x340	N/A
	TF5, bits	12x340	12x340	N/A

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF5, TF0)
UL_TFC6	(TF0, TF1)
UL_TFC7	(TF1, TF1)
UL_TFC8	(TF2, TF1)
UL_TFC9	(TF3, TF1)
UL_TFC10	(TF4, TF1)
UL_TFC11	(TF5, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the 2 x Interactive Background PS radio bearer. As the 2 x Interactive Background UL:384 kbps radio bearer (RB5+RB6) have 5 transport formats then 5 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF5 for RB5+RB6 are: UL_TFC1 for TF1, UL_TFC2 for TF2, UL_TFC3 for TF3, UL_TFC4 for TF4 and UL_TFC5 for TF5.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	256	336	N/A	UL_TFC1	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC6, UL_TFC7	RB5: 312 RB6: 312	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	256	656	N/A	UL_TFC2	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC6, UL_TFC8	RB5: 632 RB6: 632	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	N/A	UL_TFC3	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC6, UL_TFC9	RB5: 1272 RB6: 1272	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	N/A	UL_TFC4	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC6, UL_TFC10	RB5: 2552 RB6: 2552	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
5	1	3	256	256	656	N/A	UL_TFC5	UL_TFC0, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6, UL_TFC11	RB5: 3832 RB6: 3832	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.
NOTE 2: UL_TFC0, UL_TFC1 and UL_TFC6 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5 and RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) ,where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.
NOTE 4: The test data size for RB5 and RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.

18.2.7.8.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.9 Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.9.1 Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB, UL 340bit block size

18.2.7.9.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.9.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.9 for the UL 340 bit block size case.

18.2.7.9.1.3 Method of test

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 + RB6 (64 kbps RAB, 20 ms TTI)	DCCH
TFS	TF0, bits	0x340	0x148
	TF1, bits	1x340	1x148
	TF2, bits	2x340	N/A
	TF3, bits	3x340	N/A
	TF4, bits	4x340	N/A

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the 2 x Interactive Background PS radio bearer. As the 2 x Interactive Background UL:64 kbps radio bearer (RB5+RB6) has 4 transport formats then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB5+RB6 are: UL_TFC1 for TF1, UL_TFC2 for TF2, UL_TFC3 for TF3 and UL_TFC4 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	N/A	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 312 RB6: 312	See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	N/A	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 632 RB6: 632	See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	N/A	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 952 RB6: 952	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	N/A	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272 RB6: 1272	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test. NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, and UL_TFC10 are part of minimum set of TFCIs. NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI. NOTE 4: The test data size for RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.9.1.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.9.1 Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB + Interactive or background / UL:64 DL:[Bit rate depending on the UE category] / PS RAB, UL 148bit block size

18.2.7.9.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.9.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.9 for the UL 148 bit block size case.

18.2.7.9.1.3 Method of test

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	**RB5 + RB6 (64 kbps RAB, 20 ms TTI)**	**DCCH**
TFS	TF0, bits	0x148	0x148
	TF1, bits	1x148	1x148
	TF2, bits	3x148	N/A
	TF3, bits	7x148	N/A
	TF4, bits	10x148	N/A

Uplink TFCS:

TFCI	**(RB5 + RB6, DCCH)**
UL_TFC0	(TF0, TF0)
UL_TFC1	(TF1, TF0)
UL_TFC2	(TF2, TF0)
UL_TFC3	(TF3, TF0)
UL_TFC4	(TF4, TF0)
UL_TFC5	(TF0, TF1)
UL_TFC6	(TF1, TF1)
UL_TFC7	(TF2, TF1)
UL_TFC8	(TF3, TF1)
UL_TFC9	(TF4, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the 2 x Interactive Background PS radio bearer. As the 2 x Interactive Background UL:64 kbps radio bearer (RB5+RB6) has 4 transport formats then 4 sub-tests have been defined. The selected UL TFCI to achieve test coverage of TF1 to TF4 for RB5+RB6 are: UL_TFC1 for TF1, UL_TFC2 for TF2, UL_TFC3 for TF3 and UL_TFC4 for TF4.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	N/A	UL_TFC1	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC5, UL_TFC6	RB5: 120 RB6: 120	See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	N/A	UL_TFC2	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC5, UL_TFC7	RB5: 376 RB6: 376	See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	N/A	UL_TFC3	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC5, UL_TFC8	RB5: 888 RB6: 888	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	N/A	UL_TFC4	UL_TFC0, UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC9	RB5: 1272 RB6: 1272	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test. NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2, and UL_TFC10 are part of minimum set of TFCIs. NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) , where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI. NOTE 4: The test data size for RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.9.1.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.10 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.7.10.1 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB, UL 336bit block size

18.2.7.10.1.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.10.1.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.10 for the UL 336 bit block size case.

18.2.7.10.1.3 Method of test

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	**RB5 (Streaming 128 kbps, 20ms)**	**RB6 (I/B 128 kbps, 20ms)**	**DCCH**
TFS	TF0, bits	0x656	0x336	0x148
	TF1, bits	1x656	1x336	1x148
	TF2, bits	2x656	2x336	N/A
	TF3, bits	4x656	4x336	N/A
	TF4, bits	N/A	8x336	N/A

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)-
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF0, TF0)
UL_TFC3	(TF3, TF0, TF0)
UL_TFC4	(TF0, TF1, TF0)
UL_TFC5	(TF1, TF1, TF0)
UL_TFC6	(TF2, TF1, TF0)
UL_TFC7	(TF3, TF1, TF0)
UL_TFC8	(TF0, TF2, TF0)
UL_TFC9	(TF1, TF2, TF0)
UL_TFC10	(TF2, TF2, TF0)
UL_TFC11	(TF3, TF2, TF0)
UL_TFC12	(TF0, TF3, TF0)
UL_TFC13	(TF1, TF3, TF0)
UL_TFC14	(TF2, TF3, TF0)
UL_TFC15	(TF3, TF3, TF0)
UL_TFC16	(TF0, TF4, TF0)
UL_TFC17	(TF1, TF4, TF0)
UL_TFC18	(TF2, TF4, TF0)
UL_TFC19	(TF3, TF4, TF0)
UL_TFC20	(TF0, TF0, TF1)
UL_TFC21	(TF1, TF0, TF1)
UL_TFC22	(TF2, TF0, TF1)
UL_TFC23	(TF3, TF0, TF1)
UL_TFC24	(TF0, TF1, TF1)
UL_TFC25	(TF1, TF1, TF1)
UL_TFC26	(TF2, TF1, TF1)
UL_TFC27	(TF3, TF1, TF1)
UL_TFC28	(TF0, TF2, TF1)
UL_TFC29	(TF1, TF2, TF1)
UL_TFC30	(TF2, TF2, TF1)
UL_TFC31	(TF3, TF2, TF1)
UL_TFC32	(TF0, TF3, TF1)
UL_TFC33	(TF1, TF3, TF1)
UL_TFC34	(TF2, TF3, TF1)
UL_TFC35	(TF3, TF3, TF1)
UL_TFC36	(TF0, TF4, TF1)
UL_TFC37	(TF1, TF4, TF1)
UL_TFC38	(TF2, TF4, TF1)
UL_TFC39	(TF3, TF4, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Streaming + Interactive Background PS radio bearer. The Streaming UL:128 kbps + Interactive Background UL:128 kbps radio bearer (RB5+RB6) have 40 transport format combinations. As the transport formats where RB5, RB6 or DCCH has no data (TF0 for RB5, RB6 or DCCH) is considered as implicitly tested when the transport format combinations with data is tested then no specific sub-tests for those transport format combinations have been specified. The selected UL TFCI to achieve test coverage of TF1 to TF3 for RB5 and TF1 to TF4 for RB6 are: UL_TFC5 to UL_TFC7, UL_TFC9 to UL_TFC11, UL_TFC13 to UL_TFC15 and UL_TFC17 to UL_TFC19.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	N/A	UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC20, UL_TFC21	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC25	RB5: 632 RB6: 312	See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	N/A	UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC6, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC26	RB5: 1272 RB6: 312	See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	N/A	UL_TFC7	UL_TFC0, UL_TFC3, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC7, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC27	RB5: 2552 RB6: 312	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	N/A	UL_TFC9	UL_TFC0, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC8, UL_TFC9, UL_TFC20,	RB5: 632 RB6: 632	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	7	3	512	512					UL_TFC21, UL_TFC24, UL_TFC29		
	8	3	512	512							
	9	3	1024	512							
5	1	3	512	256	656	N/A	UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC8, UL_TFC10, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC30	RB5: 1272 RB6: 632	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
6	1	3	256	256	656	N/A	UL_TFC11	UL_TFC0, UL_TFC3, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC8, UL_TFC11, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC31	RB5: 2552 RB6: 632	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
7	1	3	512	256	656	N/A	UL_TFC13	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC12, UL_TFC13, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC33	RB5: 632 RB6: 1272	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
8	1	3	256	256	656	N/A	UL_TFC14	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC12, UL_TFC14, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC34	RB5: 1272 RB6: 1272	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
9	1	3	512	256	656	N/A	UL_TFC15	UL_TFC0,	UL_TFC0,	RB5: 2552	See note 4

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	2	3	512	256				UL_TFC3, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC12, UL_TFC15, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC35	RB6: 1272	
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
10	1	3	256	256	656	N/A	UL_TFC17	UL_TFC0, UL_TFC1, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC16, UL_TFC17, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC37	RB5: 632 RB6: 2552	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
11	1	3	512	256	656	N/A	UL_TFC18	UL_TFC0, UL_TFC8, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC8, UL_TFC16, UL_TFC18, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC38	RB5: 1272 RB6: 2552	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
12	1	3	256	256	656	N/A	UL_TFC19	UL_TFC0, UL_TFC3, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC16, UL_TFC19, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC39	RB5: 2552 RB6: 2552	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.

NOTE 2: UL_TFC0, UL_TFC1, UL_TFC4 and UL_TFC20 are part of minimum set of TFCIs. Also the transport format combinations UL_TFC21 and UL_TFC24 using TF1 on either RB5 or RB6 and TF1 on DCCH has been included in the allowed TFCs as those could happen during the sub-test.

NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5 and RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) ,where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 4: The test data size for RB5 and RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.10.1.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.7.10.2 Streaming / unknown / UL:128 DL: [guaranteed 128, max bit rate depending on UE category] kbps / PS RAB + Interactive or background / UL:128 DL: [max bit rate depending on UE category] / PS RAB, UL 144bit block size

18.2.7.10.2.1 Conformance requirement

See 18.2.7.1.1.1.

18.2.7.10.2.2 Test purpose

To verify radio bearer establishment and correct data transfer for reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.6.10 for the UL 144 bit block size case.

18.2.7.10.2.3 Method of test

The generic test procedure in 14.1.3.5 is run for each sub-test.

Uplink TFS:

	TFI	RB5 (Streaming 128 kbps, 20ms)	RB6 (I/B 128 kbps, 20ms)	DCCH
TFS	TF0, bits	0x656	0x144	0x148
	TF1, bits	1x656	1x144	1x148
	TF2, bits	2x656	7x144	N/A
	TF3, bits	4x656	14x144	N/A
	TF4, bits	N/A	20x144	N/A

Uplink TFCS:

TFCI	(RB5 + RB6, DCCH)
UL_TFC0	(TF0, TF0, TF0)-
UL_TFC1	(TF1, TF0, TF0)
UL_TFC2	(TF2, TF0, TF0)
UL_TFC3	(TF3, TF0, TF0)
UL_TFC4	(TF0, TF1, TF0)
UL_TFC5	(TF1, TF1, TF0)
UL_TFC6	(TF2, TF1, TF0)
UL_TFC7	(TF3, TF1, TF0)
UL_TFC8	(TF0, TF2, TF0)
UL_TFC9	(TF1, TF2, TF0)
UL_TFC10	(TF2, TF2, TF0)
UL_TFC11	(TF3, TF2, TF0)
UL_TFC12	(TF0, TF3, TF0)
UL_TFC13	(TF1, TF3, TF0)
UL_TFC14	(TF2, TF3, TF0)
UL_TFC15	(TF3, TF3, TF0)
UL_TFC16	(TF0, TF4, TF0)
UL_TFC17	(TF1, TF4, TF0)
UL_TFC18	(TF2, TF4, TF0)
UL_TFC19	(TF3, TF4, TF0)
UL_TFC20	(TF0, TF0, TF1)
UL_TFC21	(TF1, TF0, TF1)
UL_TFC22	(TF2, TF0, TF1)
UL_TFC23	(TF3, TF0, TF1)
UL_TFC24	(TF0, TF1, TF1)
UL_TFC25	(TF1, TF1, TF1)
UL_TFC26	(TF2, TF1, TF1)
UL_TFC27	(TF3, TF1, TF1)
UL_TFC28	(TF0, TF2, TF1)
UL_TFC29	(TF1, TF2, TF1)
UL_TFC30	(TF2, TF2, TF1)
UL_TFC31	(TF3, TF2, TF1)
UL_TFC32	(TF0, TF3, TF1)
UL_TFC33	(TF1, TF3, TF1)
UL_TFC34	(TF2, TF3, TF1)
UL_TFC35	(TF3, TF3, TF1)
UL_TFC36	(TF0, TF4, TF1)
UL_TFC37	(TF1, TF4, TF1)
UL_TFC38	(TF2, TF4, TF1)
UL_TFC39	(TF3, TF4, TF1)

Sub-tests:

The principle used to select sub-tests has been to cover all uplink and downlink TFS for the Streaming + Interactive Background PS radio bearer. The Streaming UL:128 kbps + Interactive Background UL:128 kbps radio bearer (RB5+RB6) have 40 transport format combinations. As the transport formats where RB5, RB6 or DCCH has no data (TF0 for RB5, RB6 or DCCH) is considered as implicitly tested when the transport format combinations with data is tested then no specific sub-tests for those transport format combinations have been specified. The selected UL TFCI to achieve test coverage of TF1 to TF3 for RB5 and TF1 to TF4 for RB6 are: UL_TFC5 to UL_TFC7, UL_TFC9 to UL_TFC11, UL_TFC13 to UL_TFC15 and UL_TFC17 to UL_TFC19.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
1	1	3	512	128	336	N/A	UL_TFC5	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC20, UL_TFC21	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC5, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC25	RB5: 632 RB6: 120	See note 4
	2	3	512	128							
	3	3	512	128							
	4	3	512	128							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
2	1	3	256	128	656	N/A	UL_TFC6	UL_TFC0, UL_TFC2, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC6, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC26	RB5: 1272 RB6: 120	See note 4
	2	3	256	128							
	3	3	256	128							
	4	3	256	128							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
3	1	3	512	256	336	N/A	UL_TFC7	UL_TFC0, UL_TFC3, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC7, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC27	RB5: 2552 RB6: 120	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
4	1	3	256	256	656	N/A	UL_TFC9	UL_TFC0, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC8, UL_TFC9, UL_TFC20,	RB5: 632 RB6: 888	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	7	3	512	512					UL_TFC21, UL_TFC24, UL_TFC29		
	8	3	512	512							
	9	3	1024	512							
5	1	3	512	256	656	N/A	UL_TFC10	UL_TFC0, UL_TFC2, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC8, UL_TFC10, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC30	RB5: 1272 RB6: 888	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
6	1	3	256	256	656	N/A	UL_TFC11	UL_TFC0, UL_TFC3, UL_TFC8, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC8, UL_TFC11, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC31	RB5: 2552 RB6: 888	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
7	1	3	512	256	656	N/A	UL_TFC13	UL_TFC0, UL_TFC1, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC12, UL_TFC13, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC33	RB5: 632 RB6: 1784	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
8	1	3	256	256	656	N/A	UL_TFC14	UL_TFC0, UL_TFC2, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC4, UL_TFC12, UL_TFC14, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC34	RB5: 1272 RB6: 1784	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
9	1	3	512	256	656	N/A	UL_TFC15	UL_TFC0,	UL_TFC0,	RB5: 2552	See note 4

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
	2	3	512	256				UL_TFC3, UL_TFC12, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC12, UL_TFC15, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC35	RB6: 1784	
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
10	1	3	256	256	656	N/A	UL_TFC17	UL_TFC0, UL_TFC1, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC16, UL_TFC17, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC37	RB5: 632 RB6: 2552	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							
11	1	3	512	256	656	N/A	UL_TFC18	UL_TFC0, UL_TFC8, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC4, UL_TFC8, UL_TFC16, UL_TFC18, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC38	RB5: 1272 RB6: 2552	See note 4
	2	3	512	256							
	3	3	512	256							
	4	3	512	256							
	5	3	512	256							
	6	3	512	256							
	7	3	1536	512							
	8	3	1536	512							
	9	3	2047	512							
12	1	3	256	256	656	N/A	UL_TFC19	UL_TFC0, UL_TFC3, UL_TFC16, UL_TFC4, UL_TFC20, UL_TFC6	UL_TFC0, UL_TFC1, UL_TFC3, UL_TFC4, UL_TFC16, UL_TFC19, UL_TFC20, UL_TFC21, UL_TFC24, UL_TFC39	RB5: 2552 RB6: 2552	See note 4
	2	3	256	256							
	3	3	256	256							
	4	3	256	256							
	5	3	256	256							
	6	3	256	256							
	7	3	512	512							
	8	3	512	512							
	9	3	1024	512							

NOTE 1: The SS shall configure the RLC transmission and receiver window size depending on the UE category. The values are set to cope with the number of SDUs used in the sub-test and within the UE capabilities for the actual UE category under test.

NOTE 2: UL_TFC0, UL_TFC1, UL_TFC4 and UL_TFC20 are part of minimum set of TFCIs. Also the transport format combinations UL_TFC21 and UL_TFC24 using TF1 on either RB5 or RB6 and TF1 on DCCH has been included in the allowed TFCs as those could happen during the sub-test.

NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
RB5 and RB6: The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit) ,where N is the number of transport blocks for the UL transport format under test. This will make the UE to return one RLC SDU per UL TTI.

Sub-tes	UE Category	Number of HARQ processes	RLC Receiving window size (note 1)	RLC Trans-mission window size (note 1)	MAC-d PDU size (bits)	Downlink TFCS Under test	Uplink TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)	UL RLC SDU size (bits) (note 3)	Test data size (bits) (note 4)
NOTE 4: The test data size for RB5 and RB6 is dependent on the actual TFRC test point, see the generic test procedure in 14.1.3.5.											

18.2.7.10.2.4 Test requirements

See 14.1.3.5 for definition of the referenced step numbers.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.

2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the actual sub-test.

3. At step 18 and for each TFRC test point:

   If the downlink RLC SDU size is less than the configured UL RLC SDU for the actual sub-test then the UE shall return 4 RLC SDUs where the first bits of each SDU has the same content as the RLC SDUs sent by the SS in downlink. Otherwise the UE shall return 4 RLC SDUs where each SDU has the same content as the first bits of the RLC SDUs sent by the SS in downlink.

   NOTE: The generic test procedure as specified in 14.1.3.5.2 sends 4 SDUs of size (N_{PDUs} * MAC-d PDU payload size) / 4 minus 8 bits (size of 7 bit length indicator and expansion bit). For the case when the downlink SDU size is less than the configured UL SDU size then all data is returned otherwise the returned data is truncated.

18.2.8 Combinations on DPCH, HS-DSCH and E-PUCH

18.2.8.1 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH on DCH

18.2.8.1.1 Conformance requirement

The UE shall be able to establish the UTRAN requested radio bearers within the UE's signalled radio access capabilities.

The UE shall correctly transfer user data from peer to peer RLC entities according to the requested radio bearer configuration.

Reference(s)

3GPP TS 25.331, clause 8.2.1

3GPP TS 25.2xx series (Physical Layer)

3GPP TS 25.321 (MAC)

3GPP TS 25.322 (RLC)

18.2.8.1.2 Test purpose

For the reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.7.1:

1. To verify that the UE is able to establish the radio bearer combination.

2. To verify correct data transfer using all the possible MAC-d PDU sizes of the transport channel mapped to E-DCH.

18.2.8.1.3 Method of test

The following parameters are specific for this test case:

Parameter	Value
MAC-hs receiver window size	16
HS-DSCH MAC-d PDU size	336

E-DCH Category	RLC Transmission window size
1	512
2	512
3	512
4	1536
5	1536

HS-DSCH Category	HS-PDSCH Number of HARQ processes	RLC Receiving window size	HS-PDSCH TFRC (note 1)					
			Max MAC-d PDU size	Minimum TBS	Number of MAC-d PDUs	Modulation scheme	Number HS-DSCH timeslots	TFRI
1	2	512	336	357	1	QPSK	1	126
2	2	512	336	357	1	QPSK	1	126
3	3	512	336	357	1	QPSK	1	126
4	3	512	336	357	1	QPSK	1	126
5	3	512	336	357	1	QPSK	1	126
6	3	512	336	357	1	QPSK	1	126
7	3	1536	336	357	1	QPSK	1	126
8	3	1536	336	357	1	QPSK	1	126
9	3	2047	336	357	1	QPSK	1	126
NOTE 1: The HS-PDSCH TFRC should be selected to enable all test data on DTCH on HS-DSCH to be transmitted in one TTI, i.e. such that the MAC-hs transport block size is bigger than the maximum MAC-d PDU size under test + MAC-hs header size (21 bits). See 18.2.7.1.1 (MAC-d PDU size=336) for recommended TFRC values for different transport block size.								

The generic test procedure in 18.2.1.5 is run for each sub-test.

Sub-tests:

Sub-test	Applicable E-DCH Category	E-DPDCH TTI and E-TFCI Table (note 1)	E-DPDCH Number of HARQ processes	UL RLC SDU size (note 2)	Test data size (note 3)
1	1 to 5	10ms, Table 0	4	312	312
NOTE 1: E-DPDCH TTI and E-TFCI table according to TS 25.321 Annex B. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI. NOTE 3: The test data size is for DTCH mapped to E-DCH selected according to the MAC-d PDU size to be tested.					

18.2.8.1.4 Test requirements

See 18.2.1.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE shall return a RLC SDU with same content as sent in downlink.

18.2.8.2 Void

18.2.8.3 Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] SRBs for DCCH on E-DCH and HS-DSCH

18.2.8.3.1 Conformance requirement

See 18.2.8.1.1.

18.2.8.3.2 Test purpose

For the reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.7.3:

1. To verify that the UE is able to establish the radio bearer combination.

2 To verify correct data transfer using all the possible MAC-d PDU sizes of the transport channel mapped to E-DCH.

18.2.8.3.3 Method of test

See 18.2.8.1.3.

18.2.8.3.4 Test requirements

See 18.2.8.1.4.

18.2.8.4 Conversational / speech / UL:12.2 DL:12.2 kbps / CS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:3.4 DL:3.4 kbps SRBs for DCCH

18.2.8.4.1 Conformance requirement

See 18.2.8.1.1.

18.2.8.4.2 Test purpose

For the reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.7.4:

1. To verify that the UE is able to establish the radio bearer combination.

2 To verify correct data transfer using all the possible MAC-d PDU sizes of the transport channel mapped to E-DCH in combination with the possible TFCI of the conversional speech radio bearer.

18.2.8.4.3 Method of test

The following parameters are specific for this test case:

Uplink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Uplink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
UL_TFC0	(TF0, TF0, TF0, TF0)
UL_TFC1	(TF1, TF0, TF0, TF0)
UL_TFC2	(TF2, TF1, TF1, TF0)
UL_TFC3	(TF0, TF0, TF0, TF1)
UL_TFC4	(TF1, TF0, TF0, TF1)
UL_TFC5	(TF2, TF1, TF1, TF1)

Downlink TFS:

		RB5 (RAB subflow #1)	RB6 (RAB subflow #2)	RB7 (RAB subflow #3)	DCCH
TFS	TF0, bits	1x0	0x103	0x60	0x148
	TF1, bits	1x39	1x103	1x60	1x148
	TF2, bits	1x81	N/A	N/A	N/A

Downlink TFCS:

TFCI	(RB5, RB6, RB7, DCCH)
DL_TFC0	(TF0, TF0, TF0, TF0)
DL_TFC1	(TF1, TF0, TF0, TF0)
DL_TFC2	(TF2, TF1, TF1, TF0)
DL_TFC3	(TF0, TF0, TF0, TF1)
DL_TFC4	(TF1, TF0, TF0, TF1)
DL_TFC5	(TF2, TF1, TF1, TF1)

Parameter	Value
MAC-hs receiver window size	16
HS-DSCH MAC-d PDU size	336

E-DCH Category	RLC Transmission window size
1	512
2	512
3	512
4	512
5	1536
6	1536

HS-DSCH Category	HS-PDSCH Number of HARQ processes	RLC Receiving window size	HS-PDSCH TFRC (note 1)					
			Max MAC-d PDU size	Minimum TBS	Number of MAC-d PDUs	Modulation scheme	Number HS-DSCH timeslots	TFRI
1	2	512	336	357	1	QPSK	1	126
2	2	512	336	357	1	QPSK	1	126
3	3	512	336	357	1	QPSK	1	126
4	3	512	336	357	1	QPSK	1	126
5	3	512	336	357	1	QPSK	1	126
6	3	512	336	357	1	QPSK	1	126
7	3	1536	336	357	1	QPSK	1	126
8	3	1536	336	357	1	QPSK	1	126
9	3	2047	336	357	1	QPSK	1	126
NOTE 1: The HS-PDSCH TFRC should be selected to enable all test data on DTCH on HS-DSCH to be transmitted in one TTI, i.e. such that the MAC-hs transport block size is bigger than the maximum MAC-d PDU size under test + MAC-hs header size (21 bits). See 18.2.7.1.1 (MAC-d PDU size=336) for recommended TFRC values for different transport block size.								

The generic test procedure in 18.2.1.5 is run for each sub-test.

Sub-tests:

Sub-test	Applicable E-DCH Category	E-DPDCH TTI and E-TFCI Table (note 1)	E-DPDCH Number of HARQ processes	DCH				UL RLC SDU size (note 3)	Test data size (note 4)
				DL TFCS Under test	UL TFCS Under test	Implicitly tested	Restricted UL TFCIs (note 2)		
1	1 to 5	10ms, Table 0	4	DL_TFC1	UL_TFC1	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC4	RB5: 39 RB6: 103 RB7: 60 RB8: 312	RB5: 39 RB6: No data RB7: No data RB8: 312
2	1 to 5	10ms, Table 0	4	DL_TFC2	UL_TFC2	DL_TFC0, DL_TFC3, UL_TFC0, UL_TFC3	UL_TFC0, UL_TFC1, UL_TFC2, UL_TFC3, UL_TFC5	RB5: 81 RB6: 103 RB7: 60 RB8: 312	RB5: 81 RB6: 103 RB7: 60 RB8: 312

NOTE 1: E-DPDCH TTI and E-TFCI table according to TS 25.321 Annex B.
NOTE 2: UL_TFC0, UL_TFC1, UL_TFC2 and UL_TFC3 are part of minimum set of TFCIs.
NOTE 3: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs.
The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI.
NOTE 4: The test data size is for DTCH mapped to E-DCH selected according to the MAC-d PDU size to be tested.

18.2.8.4.4 Test requirements

See 18.2.1.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At steps 17 to 20 the UE transmitted transport format shall be within the set of restricted TFCIs as specified for the sub-test.
3. At step 18 and for each radio bearer where test data is sent in downlink the UE shall return a RLC SDU with same content as sent in downlink. For radio bearers where no data is sent in downlink then no data shall be received in uplink.

18.2.8.5 Streaming or interactive or background / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB + Streaming or interactive or background / UL: [max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] / PS RAB + UL:[max bit rate depending on UE category and TTI] DL:3.4 kbps SRBs for DCCH on E-DCH and DL DCH

18.2.8.5.1 Conformance requirement

See 18.2.8.1.1.

18.2.8.5.2 Test purpose

For the reference radio bearer configuration as specified in TS 34.108, clause 6.10.3.4.7.5:

1. To verify that the UE is able to establish the radio bearer combination.
2 To verify correct data transfer using all the possible MAC-d PDU sizes of the transport channel mapped to E-DCH.

18.2.8.5.3 Method of test

The first Streaming or background or interactive / UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB is referred to as RB5 and the second Streaming or interactive or background UL:[max bit rate depending on UE category and TTI] DL: [max bit rate depending on UE category] kbps / PS RAB is referred to RB6.

The following parameters are specific for this test case and RB5 and RB6:

Parameter	Value
MAC-hs receiver window size	16
HS-DSCH MAC-d PDU size	336

E-DCH Category	RLC Transmission window size
1	512
2	512
3	512
4	512
5	1536
6	1536

HS-DSCH Category	HS-PDSCH Number of HARQ processes	RLC Receiving window size	HS-PDSCH TFRC (note 1)					
			Max MAC-d PDU size	Minimum TBS	Number of MAC-d PDUs	Modulation scheme	Number HS-DSCH timeslots	TFRI
1	2	512	336	357	1	QPSK	1	126
2	2	512	336	357	1	QPSK	1	126
3	3	512	336	357	1	QPSK	1	126
4	3	512	336	357	1	QPSK	1	126
5	3	512	336	357	1	QPSK	1	126
6	3	512	336	357	1	QPSK	1	126
7	3	1536	336	357	1	QPSK	1	126
8	3	1536	336	357	1	QPSK	1	126
9	3	2047	336	357	1	QPSK	1	126
NOTE 1: The HS-PDSCH TFRC should be selected to enable all test data on DTCH on HS-DSCH to be transmitted in one TTI, i.e. such that the MAC-hs transport block size is bigger than the maximum MAC-d PDU size under test + MAC-hs header size (21 bits). See 18.2.7.1.1 (MAC-d PDU size=336) for recommended TFRC values for different transport block size.								

The generic test procedure in 18.2.1.5 is run for each sub-test.

Sub-tests:

Sub-test	E-DCH Category	E-DPDCH TTI and E-TFCI Table (note 1)	E-DPDCH Number of HARQ processes	UL RLC SDU size (note 2)	Test data size (note 2)
1	1 to 5	10ms, Table 0	4	RB5:312 RB6:312	RB5:312 RB6:312
NOTE 1: E-DPDCH TTI and E-TFCI table according to TS 25.321 Annex B. NOTE 2: See TS 34.109 [10] clause 5.3.2.6.2 for details regarding loopback of RLC SDUs. The UL RLC SDU size is set to N*UL RLC payload size minus 8 bits (size of 7 bit length indicator and expansion bit), where N is the number of transport blocks for the UL transport format under test. This will enable the UE to return the data within one UL TTI. NOTE 3: The test data size is for DTCH mapped to E-DCH selected according to the MAC-d PDU size to be tested.					

18.2.8.5.4 Test requirements

See 18.2.1.5 for definition of step 12 and step 18.

1. At step 12 the UE shall send RADIO BEARER SETUP COMPLETE.
2. At step 18 the UE shall return a RLC SDU on RB5 and RB6 with same content as sent in downlink.