50 EGPRS Default Conditions, Message Contents and Macros

The following clause 50 details default conditions, messages and macros that shall be used for the EGPRS test cases. These conditions, messages and macros are derived from the "GPRS default conditions, message contents and macros" (see clause 40). In the following subclauses only those parameters are listed which deviate from the "GPRS default conditions, message contents and macros".

Where values have not been specified the equivalent overall GPRS default values (see subclause 40.1) should be used. If values need to be removed from the overall GPRS defaults then these should be specified as 'OMITTED'.

In case of ambiguity EGPRS settings take precedence over GPRS settings.

50.1 EGPRS Default Test Conditions

Since GPRS and EGPRS make use of the same channel combinations subclause 40.1 applies to both GPRS and EGPRS.

NOTE: 'One phase access' test cases may not be fully executed for MS requesting 'Two phases access'.

The resulting step "If the MS requests two phase access the Test Case is terminated" should be interpreted as "Test case is not applicable for the MS".

List of affected test cases (by this note):

51.2.3.1, 51.2.3.2, 51.2.3.3, 51.2.3.4, 51.2.3.5, 51.2.3.6, 51.2.3.7, 51.2.3.8, 51.2.3.9, 51.2.3.10, 51.2.3.11, 51.2.3.12, 51.2.3.13, 51.2.3.14, 51.2.3.15, 51.2.3.16, 51.2.3.17, 51.2.6.9, 52.8.1.6, 52.8.1.7, 52.8.1.8, 52.8.1.9, 52.8.1.10, 52.8.1.12, 52.10.2.

50.2 EGPRS Default Message Contents

50.2.1 EGPRS System Information Messages

The EGPRS system information messages for cell A, B, C, D, E, F are identical to the corresponding GPRS system information messages for cell A, B, C, D, E, F, except the settings in the system information messages as given in the tables below.

SYSTEM INFORMATION TYPE 13:

SI 13 Rest Octets:
GPRS Cell Options IE:
   Extension Information
    - Extension length
 	
    - {0|1 <Extension Information>}
    - EGPRS_PACKET_CHANNEL_REQUEST
 	
    - BEP_PERIOD
    - PFC_FEATURE_MODE
    - DTM_SUPPORT
    - BSS_PAGING_COORDINATION
 	
For Rel 4 network simulation
    - CNN_ACTIVE
    - NW_EXT_UTBF
For Rel 6 network simulation
    - MULTIPLE_TBF_CAPABILITY
    - EXT_UTBF_NO_DATA
 	
    - DTM_ENHANCEMENTS_CAPABILITY
 	
    - { 0 | 1 }
End Rel 6
End Rel 4
	
	R99: 001000
	Rel 4: 001010
	Rel 6: 001110
	1 EGPRS supported by the cell.
	0 Use of EGPRS PACKET CHANNEL
	    REQUEST_message for uplink TBF establishment.
	0110
	0 Packet Flow Context Procedures not supported
	0 Cell does not support DTM procedures.
	0 Circuit-Switched paging coordination not supported
	    in cell
	
	0 CNN is disabled in the cell
	0 Ext UL TBF not supported in the cell
	
	0 Cell does not support multiple TBF procedures
	0 MS shall send a PACKET UPLINK DUMMY
	CONTROL BLOCK message when there is no other
	RLC/MAC block ready to send in an uplink radio block
	allocated by the network
	0 Cell does not support enhanced DTM CS
	establishment and enhanced DTM CS release
	procedures
	0 -- MBMS procedures not supported by the cell

50.2.2   EGPRS Packet System Information messages

50.2.2.1   Cell A

The EGPRS packet system information messages for cell A, B, C, D, E, F are identical to the corresponding GPRS packet system information messages for cell A, B, C, D, E, F

50.2.3   EGPRS default contents of Layer 2 messages

The EGPRS default contents of Layer 2 messages are identical to the GPRS default contents of Layer 2 messages (see subclause 40.1.2.3) with the following exception in the tables given below. In these tables only those layer 2 messages are listed differing in specific EGPRS information elements (IE's) from the corresponding GPRS IE's.

NOTE: In this subclause all information element values are in binary. Numeric values written within quotes are in decimal.

50.2.3.1 PACKET UPLINK ASSIGNMENT message

MESSAGE_TYPE	001010
PAGE_MODE	00 Normal Paging
Persistence Level	0 No Persistence Level Present
Referenced Address struct	As received from the MS
{ 0 < Global TFI >	
| 10 < TLLI >	
| 110 < TQI >	
| 111 <Packet Request Reference >}	
{0|1 Message escape bit}	1
{00 EGPRS message contents}	00 EGPRS messages contents present
- {0|1 CONTENTION_RESOLUTION_TLLI}	0 not present
- {0|1 COMPACT reduced MA}	0 reduced COMPACT Mobile Allocation list not present
- EGPRS Modulation and Coding Scheme	Dependant upon test case (Default MCS_1)
- Resegment	0 Retransmitted RLC data blocks shall not be re-segmented
- EGPRS Window Size	Dependant upon test case (Default 64)
- {0|1 Access Technologies Request}	0 Access technology Request Info not present
- ARAC RETRANSMISSION REQUEST	0 retransmission of an ADDITIONAL MS RADIO ACCESS CAPABILITIES message is not requested
TLLI_BLOCK_CHANNEL_CODING	1
{0|1 BEP_PERIOD2}	0 BEP_PERIOD2 not present
Packet Timing Advance	
{ 0|1 < TIMING_ADVANCE_VALUE >	1 Timing Advance Value present
- TIMING_ADVANCE_VALUE }	30 bit periods
{ 0|1< TIMING_ADVANCE_INDEX >	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER > }	
{0|1 Packet Extended Timing Advance}	0 Packet Extended TA for GSM 400 not present
{0|1<Frequency Parameters>}	Not present in case MS is in DTM mode otherwise present when required for channel assignment
< TSC >	Arbitrarily chosen (default 101)
{ 00< ARFCN >}	00 (ARFCN no hopping)
- ARFCN }	As for "Serving cell, PDTCH (PBCCH not present), SDCCH " in section 40.1.1 for the current cell
In case of Dynamic Allocation:	
Dynamic Allocation	01 Dynamic Allocation
EXTENDED_DYNAMIC_ALLOCATION	0 dynamic allocation only
{ 0 | 1 < P0 >}	0 downlink power control is not used
USF_GRANULARITY	0 MS shall transmit only one RLC/MAC block
{ 0 | 1 < UPLINK_TFI_ASSIGNMENT >}	1 assign uplink TFI
- UPLINK_TFI_ASSIGNMENT	00000
{ 0 | 1 < RLC_DATA_BLOCKS_GRANTED > }	0 open-ended TBF
{ 0 | 1 < TBF Starting Time > }	0 No starting time present
Timeslot Allocation	0 Timeslot Allocation without Power Control Parameters
	One slot arbitrarily chosen, the following USF_TNx shall be corresponding to the chosen value x (default timeslot 4 assigned)
- { 0 | 1 < USF_TN0 > }	0 USF not assigned
- { 0 | 1 < USF_TN1 > }	0 USF not assigned
- { 0 | 1 < USF_TN2 > }	0 USF not assigned
- { 0 | 1 < USF_TN3 > }	0 USF not assigned
- { 0 | 1 < USF_TN4 > }	1 USF not assigned
- USF_TN4	Arbitrarily chosen (default 000)
- { 0 | 1 < USF_TN5 > }	0 USF not assigned
- { 0 | 1 < USF_TN6 > }	0 USF not assigned
- { 0 | 1 < USF_TN7 > }	0 USF not assigned
In case of Multiblock allocation	
< TIMESLOT_NUMBER >	100
{ 0 | 1	0 (ALPHA and GAMMA_TN not present)
< ALPHA >	
< GAMMA_TN >}	
{ 0 | 1	0 P0, BTS_PWR_CTRL_MODE , PR_MODE not present
< P0 >	
< BTS_PWR_CTRL_MODE >	
< PR_MODE }	

< TBF Starting Time >	0 (Absolute Starting Time, indicating current frame + 104 frames)
< NUMBER OF RADIO BLOCKS ALLOCATED>	00
spare padding	Spare Padding

50.2.3.2 PACKET DOWNLINK ASSIGNMENT message

MESSAGE_TYPE	000010
PAGE_MODE	00 Normal Paging
Persistence Level	0 (no Persistence Level Present)
Referenced Address	
-	1 (address is TLLI)
- TLLI	Same as the value received from MS
MAC_MODE	00 Dynamic Allocation
RLC_MODE	0 Acknowledged mode
CONTROL_ACK	0
TIMESLOT_ALLOCATION	arbitrarily chosen (default timeslot 4)
Packet Timing Advance	
{ 0|1< TIMING_ADVANCE_VALUE >	1 (timing advance value)
- TIMING_ADVANCE_VALUE }	30 bit periods
{ 0|1< TIMING_ADVANCE_INDEX >	0 (no timing advance index)
<TIMING_ADVANCE_TIMESLOT_NUMBER > }	
{0|1<Frequency Parameters>}	Not present in case MS is in DTM mode otherwise present when required for channel assignment
< TSC >	Arbitrarily chosen (default 5)
{ 00< ARFCN >}	00 (ARFCN no hopping)
- ARFCN }	As for "Serving cell, PDTCH, SDCCH " in section 40.1.1 for the current cell
{0|1<DOWNLINK_TFI_ASSIGNMENT>}	1 (assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	00001
{0|1<Power Control Parameters>}	1 (Power Control Parameters present)
- ALPHA	0.5
- GAMMA for allocated timeslots	For DCS 1800 and PCS 1900: +6 dBm. For all other bands: +8 dBm
	(default timeslot 4)
{0|1<TBF_STARTING_TIME>}	0 (starting time not present)
{0|1<Measurement Mapping>}	0 (no measurement mapping)
{null|0|1 Additional contents for Release 99}	1 Additional contents for Release 99 present
- EGPRS Window Size	Dependant upon test case (Default 64)
- LINK_QUALITY_MEASUREMENT_MODE	00 MS reports BEP and interferer meas.
- {0|1 Packet Extended Timing Advance}	0 Packet Extended TA for GSM 400 not present
- {0|1 BEP_PERIOD2}	0 BEP_PERIOD2 not present
Spare padding	Spare Padding

50.2.4 EGPRS Default contents of Layer 3 messages

This subclause contains the default values of L3 messages, which unless indicated otherwise in clause 40 and 50 resp., shall be transmitted by the system simulator and which are required to be received from the MS under test.

The EGPRS default contents of Layer 3 messages are identical to the GPRS default contents of Layer 3 messages (see subclause 40.2.4) with the following exception in the tables given below. In these tables only those layer 3 messages are listed differing in specific EGPRS information elements (IE's) from the corresponding GPRS IE's.

NOTE: In this subclause all information element values are in binary. Numeric values written within quotes are in decimal.

50.2.4.1 IMMEDIATE ASSIGNMENT messages

50.2.4.1.1 IMMEDIATE ASSIGNMENT message (Packet Downlink Construction)

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging.
Packet Response Type and Dedicated mode or TBF	
- T/D	Temporary Block Flow
- Downlink	1 Resources assigned in IA Rest Octets
- TMA	0 No meaning
Packet Channel Description	Dependant upon the test case.
Request Reference	Copy of last received by the SS.
Timing Advance	
- Timing advance value	"30" bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
	HH
- Packet Downlink Assignment	01 Packet Downlink Assignment present
- TLLI	(The value received from MS)
-	1
- TFI_ASSIGNMENT	Any value not used before
- RLC_MODE	RLC unacknowledged mode
{0 | 1 < ALPHA >	1 ALPHA present
- ALPHA	"0.5"
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm
	For all other bands: +8 dBm
- POLLING	0 No Packet Control Acknowledgment is required from MS
- TA_VALID	1 Timing Advance value in TA IE is valid
Presence of following bit fields indicate EGPRS TBF mode	H EGPRS TBF mode applied
- EGPRS Window Size	Dependant upon test case (Default 64)
- LINK_QUALITY_MEASUREMENT _MODE	00 MS reports neither BEP nor interferer meas.
- {0|1 BEP_PERIOD2}	0 BEP_PERIOD2 not present
- spare padding	Spare Padding

50.2.4.1.2 IMMEDIATE ASSIGNMENT message (Packet Uplink construction):

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging.
Dedicated mode or TBF	
- T/D	1 Temporary Block Flow
- Downlink	0 No meaning
- TMA	0 No meaning
Packet Channel Description	Dependant upon the test case.
Request Reference	0111 1111
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
	LH
	00 (EGPRS Packet Uplink Assignment)
< Extended RA >	Copy of the five LSB of the last EGPRS PACKET CHANNEL REQUEST received.
{ 0	1 < Access Technologies Request : Access Technologies Request struct > }	0
- Packet Uplink Assignment	1
- TFI_ASSIGNMENT	Any value not used before
- POLLING	0
-	0 Dynamic Allocation
- USF	Any value not used before
- USF_GRANULARITY	0 (transmit one RLC block)
{ 0	1}	0 (P0, PR_MODE not present)
-EGPRS CHANNEL_CODING_COMMAND	Depending on test case (Default MCS_1)
- TLLI_BLOCK_CHANNEL_CODING	1 MS shall used the coding scheme as specified by EGPRS CHANNEL_CODING_COMMAND
{ 0	1 < BEP_PERIOD2 > }	0 (BEP_PERIOD2 not present)
- RESEGMENT	1 Resegmentation on uplink retransmissions allowed (type I ARQ)
- EGPRS Window Size	Dependant on test case (Default 64)
{0	1 < ALPHA >}	1 ALPHA present
- ALPHA	0.5
- GAMMA	
	For DCS 1800 and PCS 1900: +6 dBm
	For all other bands: +8 dBm
{ 0	1 < TIMING_ADVANCE_INDEX > }	0 Timing Advance Index not present
{ 0	1 < TBF_STARTING_TIME > }	0 TBF Starting Time not present
- spare padding	Spare Padding

50.2.4.1.3 IMMEDIATE ASSIGNMENT message (Multiblock allocation construction):

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 11.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111111
Page Mode	
- Page Mode	Normal Paging.
Dedicated mode or TBF	
- T/D	1 Temporary Block Flow
- Downlink	0 No meaning
- TMA	0 No meaning
Packet Channel Description	Dependant upon the test case.
Request Reference	0111 1111
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
	LH
	00 (EGPRS Packet Uplink Assignment)
< Extended RA >	Copy of the five LSB of the last EGPRS PACKET CHANNEL REQUEST received.
{ 0	1 < Access Technologies Request : Access Technologies Request struct > }	0
- Packet Uplink Assignment	0 (Multiblock assignment)
{0	1 < ALPHA >}	1 ALPHA present
- ALPHA	0.5
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm
	For all other bands: +8 dBm
- TBF_STARTING_TIME	Indicating Absolute Starting Time (calculated by the SS within a range of +50 to + 250 from current frame)
NUMBER OF RADIO BLOCKS ALLOCATED	00
{ L	H }	L (P0, BTS_PWR_CTRL_MODE , PR_MODE not present)
- spare padding	Spare Padding

50.2.4.2 IMMEDIATE ASSIGNMENT REJECT message

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111010
Page Mode	
- Page Mode	Normal Paging.
Request Reference 1	0111 1111
Wait Indication 1	0 seconds.
Request Reference 2	Not pertaining to the MS under test.
Wait Indication 2	0 seconds.
Request Reference 3	Not pertaining to the MS under test.
Wait Indication 3	0 seconds.
Request Reference 4	Not pertaining to the MS under test.
Wait Indication 4	0 seconds.
IAR rest octets	
- { 0	1 < Extended RA 1 : bit (5) > }	1 coded as the 5 least significant bits of the initiating EGPRS PACKET CHANNEL REQUEST message
- { 0	1 < Extended RA 2 : bit (5) > }	0 Not present.
- { 0	1 < Extended RA 3 : bit (5) > }	0 Not present.
- { 0	1 < Extended RA 4 : bit (5) > }	0 Not present.
- spare padding	Spare Padding

50.2.4.3 PDCH ASSIGNMENT COMMAND message (downlink)

Information Element	Value/Remarks
Protocol Discriminator	RR Management
Skip indicator	0000
Message Type	00101010
Description of the Channel, after time	
- Channel Description	
- Channel Type and TDMA offset	TCH/F + ACCH's
- Timeslot Number	Slot 2 [1]
- Training Sequence Code	Same as the BCC
- Hopping channel	Single RF channel
- ARFCN	Same as BCCH carrier
- RR Packet Downlink Assignment	
- LENGTH_IN_OCTETS	"400"
- MAC_MODE	00 (Dynamic allocation)
- RLC_MODE	1 (RLC unacknowledged mode)
- TIMESLOT_ALLOCATION	Slot 2
- Packet Timing Advance	
- { 0|1 -<TIMING_ADVANCE_VALUE> }	1 (TIMING_ADVANCE_VALUE present)
- TIMING_ADVANCE_VALUE	"30" bit periods
- { 0|1 <TIMING_ADVANCE_INDEX> }	0 (TIMING_ADVANCE_INDEX and TIMING_ADVANCE_TIMESLOT_NUMBER not present)
- { 0|1 <P0> }	0 (Downlink power control parameters not present)
- { 0|1 <Power Control Parameters> }	1 (Uplink Power Control Parameters present)
- ALPHA	"0.5"
- { 0|1 <GAMMA_TN0> }	0 (GAMMA_TN0 not present)
- { 0|1 <GAMMA_TN1> }	0 (GAMMA_TN1 not present)
- { 0|1 <GAMMA_TN2> }	1 (GAMMA_TN2 present)
- GAMMA_TN2	For GSM 700, T-GSM 810, GSM 850 and GSM 900: +8 dBm For DCS 1800 and PCS 1900: +6 dBm
- { 0|1 <GAMMA_TN3> }	0 (GAMMA_TN3 not present)
- { 0|1 <GAMMA_TN4> }	0 (GAMMA_TN4 not present)
- { 0|1 <GAMMA_TN5> }	0 (GAMMA_TN5 not present)
- { 0|1 <GAMMA_TN6> }	0 (GAMMA_TN6 not present)
- { 0|1 <GAMMA_TN7> }	0 (GAMMA_TN7 not present)
- { 0|1 <DOWNLINK_TFI_ASSIGNMENT> }	1 (Assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	00011
- { 0|1 <MEASUREMENT_STARTING_TIME> }	0 (No measurement information)
Presence of following bit fields indicate EGPRS TBF mode	1 EGPRS TBF mode applied
- EGPRS Window Size	Dependant upon test case
- LINK_QUALITY_MEASUREMENT_MODE	00 MS reports neither BEP nor interferer meas.
- {0|1 Packet Extended Timing Advance}	0 Packet Extended TA for GSM 400 not present
- SPARE_BITS	Spare padding

50.2.4.4 DTM Assignment Command

For R99/Rel 4 network simulation:	
Optional extension information	1 Extension information present
- {0|1 <Extension Information>}	1 EGPRS supported by the cell.
end R99	

50.2.4.5 IMMEDIATE PACKET ASSIGNMENT messages

50.2.4.5.1 IMMEDIATE PACKET ASSIGNMENT message (IPA Downlink Assignment)

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Downlink Assignment	010 IPA Downlink Assignment present
-	1
- TLLI	(the value received from MS)
- TFI_ASSIGNMENT	Any value not used before
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
-	1
- TLLI	(other value than received from MS)
- TFI_ASSIGNMENT	Any value not used before
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- No repeat for other device	0
- LINK_QUALITY_MEASUREMENT_MODE	0 (not present)
- RLC_MODE	RLC acknowledged mode
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

50.2.4.5.2 IMMEDIATE PACKET ASSIGNMENT message (IPA Uplink Assignment):

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	100 IPA Uplink Assignment present
-	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- TFI_ASSIGNMENT	Any value not used before
- USF	Any value not used before
-EGPRS CHANNEL_CODING_COMMAND	Depending on test case (Default MCS_1)
-	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- TFI_ASSIGNMENT	Any value than above
- USF	Any value than above
- EGPRS CHANNEL_CODING_COMMAND	MCS_1
- Radio Access Capabilities Request	0
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

50.2.4.5.3 IMMEDIATE PACKET ASSIGNMENT message (IPA Single Block Uplink Assignment):

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	001 IPA Single Block Uplink Assignment present
-	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- STARTING_TIME_OFFSET	offset to the start frame number of the assigned single uplink block
-	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- STARTING_TIME_OFFSET	different to offset to the start frame number of the assigned single uplink block assigned to MS
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

50.3 Default EGPRS Conditions, Message Contents and Macros for the Higher Layer Test Cases

Since the EGPRS higher layers (LLC, GPRS Mobility Management, Session Management and SNDCP) are identical with the GPRS higher layers the same test cases shall also apply to EGPRS.

50.4 EGPRS Macros

50.4.1 Overview

The following subclause presents macros for EGPRS test cases. Definition and syntax (see subclauses 40.4.1.1 and 40.4.1.2) of the macros for EGPRS test cases are identical to the definition and syntax of the macros of the GPRS test cases.

50.4.2 EGPRS Default Message Contents

The EGPRS default message contents of the macros for the EGPRS test cases are identical to the GPRS default message contents of the macros for the GPRS test cases (see subclause 40.4.2).

50.4.3 EGPRS Macro Message Sequences

The macros for EGPRS test cases are identical to the macros for the GPRS test cases (see subclause 40.4.) with the following exceptions in the tables given below. In these tables only those EGPRS macro sequences are listed differing from the corresponding GPRS macro sequences.

50.4.3.1 Acknowledged downlink data

Step	Direction	Message	Comments
	SS ↔ MS	{ Acknowledged downlink data }	Macro
1	SS → MS	{ Downlink data }	Macro
2	MS → SS	EGPRS PACKET DOWNLINK ACK/NACK	

50.4.3.2 Downlink data transfer

Step	Direction	Message	Comments
	SS ↔ MS	{ Downlink data transfer }	Macro
a. RLC unacknowledged mode			
1	SS → MS	{ Downlink data }	Macro
2	SS → MS	RLC DOWNLINK DATA	FBI bit set to '1' and valid RRBP field
3	MS → SS	PACKET CONTROL ACKNOWLEDGMENT	In the uplink block specified by the RRBP field
b. RLC acknowledged mode			
1	SS ↔ MS	{ Acknowledged downlink data }	Macro
2	SS ↔ MS	{ Acknowledged downlink data }	Macro
⋮	⋮	⋮	
N	SS ↔ MS	{ Acknowledged downlink data }	Macro. n ≥ 1
n+1	SS → MS	RLC DOWNLINK DATA	
n+2	SS → MS	RLC DOWNLINK DATA	
⋮	⋮	⋮	
M	SS → MS	RLC DOWNLINK DATA	m ≥ n+1. FBI bit set to '1' and valid RRBP field
m+1	MS → SS	EGPRS PACKET DOWNLINK ACK/NACK	In the uplink block specified by the RRBP field. Final Ack Indicator bit set to '1'

50.4.3.3 Uplink data transfer

Step	Direction	Message	Comments
	MS ↔ SS	{ Uplink data transfer }	Macro (arguments: see note 4)
1	MS → SS	RLC UPLINK DATA	See notes 1 and 2
2a	MS → SS	RLC UPLINK DATA	
2b	SS → MS	PACKET UPLINK ACK/NACK	See note 3
3a	MS → SS	RLC UPLINK DATA	
3b	SS → MS	PACKET UPLINK ACK/NACK	
⋮	⋮	⋮	
N	MS → SS	RLC UPLINK DATA	n ≥ 1. CV set to '0'
N+1	SS → MS	PACKET UPLINK ACK/NACK	Final Ack Indicator bit = '1' and valid RRBP field
N+2	MS → SS	PACKET CONTROL ACKNOWLEDGEMENT	In the uplink block specified by the RRBP field

NOTE 1: SI bit set to '0' in all data blocks.
NOTE 2: The SS sends a PACKET UPLINK ACK/NACK message at least every k-1 RLC UPLINK DATA messages, being k the window size with a value according to the number of timeslots allocated in the direction (uplink or downlink) of the TBF operating in EGPRS TBF mode, see 3GPP TS 44.060.
NOTE 3: The field CV in the RLC UPLINK DATA messages verifies:

$$\text{Let integer } x = round\left(\frac{TBC - BSN' - 1}{NTS \times K}\right).$$

$$\text{then, } CV = \begin{cases} x, & \text{if } x \le BS\_CV\_MAX, \\ 15, & \text{otherwise.} \end{cases}$$

where:
- TBC: total number of RLC data blocks that will be transmitted in the TBF;
- BSN': absolute block sequence number of the RLC data block, from 0 to (TBC - 1);
- NTS: number of timeslots assigned to the uplink TBF, with range 1 to 8;
- K = 2 when commanded MCS is MCS-7, MCS-8 or MCS-9 otherwise K=1.
- the function round() rounds upwards to the nearest integer;
- BS_CV_MAX is a parameter broadcast in the system information;
- the division operation is non-integer and results in zero only for (TBC - BSN' - 1) = 0.

NOTE 4: In the case of Dynamic MAC mode, the macro reference in the corresponding test case may contain a certain frequency (in seconds^{-1} or frames^{-1}) for the SS to indicate the USF allocated to the mobile so that the MS is allowed to transmit. Otherwise, mobile's USF is indicated in every available block.

NOTE 5: When an EGPRS RLC/MAC block for data transfer consists of two RLC data blocks, the CV of the RLC/MAC header refers to the second RLC data block.

50.4.3.4 Uplink dynamic allocation one phase access

Step	Direction	Message	Comments
		{Uplink dynamic allocation one phase access}	Macro parameters: **n**: the number of RLC data block to be transferred, **USF_GRANULARITY**: 1 or 4 blocks, **RLC_DATA_BLOCKS_GRANTED**: 9-261 (close-end), or absent (open-end) **EGPRS Channel Coding Command**: MCS-1, -2, -3, -4, -5, -6, -6, -7, -8, -9 or MCS-5-7, MCS-6-9 **Resegment Bit**: incremental redundancy on/off in uplink direction **Window Size**: according to number of allocated timeslots **TLLI_BLOCK_CHANNEL_CODING**: MCS-1 or as data block **REL_OR_ABS_FN**: absolute or relative frame number encoding for starting time **TBF_STARTING_TIME**
0	MS		Trigger the MS initiating uplink transfer **n** octets data according to the test PDP context activated
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST OR CHANNEL REQUEST	Received on RACH.
2	SS -> MS	IMMEDIATE ASSIGNMENT	uplink dynamic allocation, Sent on AGCH.
NOTE:	After step 2, the MS is not yet in the packet transfer mode. The contention resolution must be completed.		

50.4.3.5 Uplink dynamic allocation one phase access with contention resolution

Step	Direction	Message	Comments
		{Uplink dynamic allocation one phase access with contention resolution}	Macro parameters: **n**: the number of RLC data block to be transferred, **USF_GRANULARITY**: 1 or 4 blocks, **RLC_DATA_BLOCKS_GRANTED**: 9-261 (close-end), or absent (open-end) **EGPRS Channel Coding Command**: MCS-1, -2, -3, -4, -5, -6, -6, -7, -8, -9 or MCS-5-7, MCS-6-9 **Resegment Bit**: incremental redundancy on/off in uplink direction **Window Size**: according to number of allocated timeslots **TLLI_BLOCK_CHANNEL_CODING**: MCS-1 or as data block **REL_OR_ABS_FN**: absolute or relative frame number encoding for starting time **TBF_STARTING_TIME**
0	MS		Trigger the MS initiating uplink transfer **n** octets data according to the test PDP context activated
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST OR CHANNEL REQUEST	Received on RACH.
2	SS -> MS	IMMEDIATE ASSIGNMENT	uplink dynamic allocation, Sent on AGCH.
3	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH of the PDCH, the USF assigned to the MS, on 3 blocks from the last radio block containing the uplink assignment.
4A	MS -> SS	UPLINK RLC DATA BLOCK	For **USF_GRANULARITY** = 1, containing TLLI in the RLC/MAC header.
4B1	MS -> SS	UPLINK RLC DATA BLOCK	For **USF_GRANULARITY** = 4, containing TLLI in the RLC/MAC header.
4B2	MS -> SS	UPLINK RLC DATA BLOCK	For **USF_GRANULARITY** = 4, containing TLLI in the RLC/MAC header.
4B3	MS -> SS	UPLINK RLC DATA BLOCK	For **USF_GRANULARITY** = 4, containing TLLI in the RLC/MAC header.
4B4	MS -> SS	UPLINK RLC DATA BLOCK	For **USF_GRANULARITY** = 4, containing TLLI in the RLC/MAC header.
5	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH, containing TLLI received at step 4.

50.4.3.6 Uplink dynamic allocation two phase access

Step	Direction	Message	Comments
		{Uplink dynamic allocation two phase access}	Macro parameters: **n**: the number of RLC data block to be transferred, **Multiblock Allocation Struct,** **USF_GRANULARITY**: 1 or 4 blocks, **RLC_DATA_BLOCKS_GRANTED**: 9-261 (close-end), or absent (open-end)**EGPRS Channel Coding Command:** MCS-1, -2, -3, -4, -5, -6, -6, -7, -8, -9 or MCS-5-7, MCS-6-9 **Resegment Bit:** incremental redundancy on/off in uplink direction **Window Size:** according to number of allocated timeslots **TLLI_BLOCK_CHANNEL_CODING**: MCS-1 or as data block, TBF_STARTING_TIME
0	MS		Trigger the MS initiating uplink transfer **n** octets data according to the test PDP context activated
1	MS -> SS	CHANNEL REQUEST Or EGPRS PACKET CHANNEL REQUEST	Received on RACH.
2	SS -> MS		
		IMMEDIATE ASSIGNMENT	Sent on AGCH, allocates two uplink blocks
3	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the first block assigned in step 2. EGPRS capability indicated in the MS Radio Access Capability IE. If the access type of the PACKET RESOURCE REQUEST specifies "Two Phase Access Req" check that the PEAK_THROUGHPUT, RADIO_PRIORITY and RLC_MODE are compliant with the PDP context used. In case of SMS over GPRS PEAK THROUGHPUT is not checked.
3a (conditional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 3) indicates 1, then step 3a is performed.
3b (optional)	MS -> SS	uplink control block (e.g. PACKET MEASUREMENT REPORT, PACKET UPLINK DUMMY CONTROL BLOCK)	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 3) indicates 0, then step 3b is optionally performed.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	uplink dynamic allocation, no starting time (as default, otherwise use **TBF_STARTING_TIME**), Sent on PACCH of the same PDCH assigned in step 2.

50.4.3.7 Void

50.4.3.8 Void

50.4.3.9 Void

50.4.3.10 Downlink TBF establishment

Step	Direction	Message	Comments
		{Downlink TBF establishment}	Macro parameters: **RLC mode** **TBF_STARTING_TIME** **Window Size:** according to number of allocated timeslots
1	SS -> MS	PAGING REQUEST	1st Repeated Page info contains P-TMSI of the MS. Sent on PCH.
2	MS -> SS	EGPRS PACKET CHANNEL OR CHANNEL REQUEST	ACCESS TYPE = " Page Response ". Received on RACH.
3	SS -> MS	IMMEDIATE ASSIGNMENT	Random Reference = pertaining to the message received in step 2. Dynamic allocation, Sent on AGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on PACCH containing USF assigned to the MS.
5	MS -> SS	UPLINK RLC DATA BLOCK	LLC PDU implicitly indicating paging response, containing TLLI in the RLC/MAC header. Received on uplink PDTCH assigned in step 3.
6	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data block. Sent on uplink PACCH.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Acknowledge the RLC control message. Received on uplink PACCH.
8	SS -> MS	IMMEDIATE ASSIGNMENT	Downlink Assignment, TLLI value as received. Sent on PCH. Three macro parameters as assigned in the test cases. EGPRS TBF mode indicated.

50.4.3.10A Uplink data

Step	Direction	Message	Comments
	MS ↔ SS	{ Uplink data }	Macro (arguments: see note 2)
1	MS → SS	RLC UPLINK DATA	SI bit set to '0'
2a ⋮ 2b ⋮	MS → SS ⋮ SS → MS ⋮	RLC UPLINK DATA ⋮ PACKET UPLINK ACK/NACK ⋮	See notes 1
N	MS → SS	RLC UPLINK DATA	till the required amount of blocks are received
N+1	SS → MS	PACKET UPLINK ACK/NACK	
NOTE 1:		The SS sends a PACKET UPLINK ACK/NACK message at least every k-1 RLC UPLINK DATA messages, being k the window size with a value of 64 blocks.	
NOTE 2:		In the case of Dynamic MAC mode, the macro reference in the corresponding test case may contain a certain frequency (in seconds^{-1} or frames^{-1}) for the SS to indicate the USF allocated to the mobile so that the MS is allowed to transmit. Otherwise, mobile's USF is indicated in every available block.	

50.4.3.11 GPRS Attach using EGPRS messages on CCCH

The following table describes a signalling sequence performing the GPRS attach procedure. Note that there are different possible sequences implementing the GPRS attach procedure.

The macros {Completion of GPRS attach} in the test cases refer to the table below starting at the step required for the particular sequence.

NOTE: EGPRS PACKET CHANNEL REQUEST shall be used in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used if support of EGPRS Packet Access enhancement is False for a R99 MS.

{GPRS attach procedure}

Step	Direction	Message	Comments
0			MS is triggered to initiate the GPRS attach procedure.
1	MS -> SS	CHANNEL REQUEST Or EGPRS PACKET CHANNEL REQUEST	Establishment Cause is 'One Phase', if it is CHANNEL REQUEST; Establishment Cause is 'signalling'; if it is EGPRS PACKET CHANNEL REQUEST.
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access, dynamic allocation. Assigns GPRS TBF if CHANNEL REQUEST is received in step 1. Assigns EGPRS TBF if EGPRS PACKET CHANNEL REQUEST is received in step 1.
3	MS -> SS	(EGPRS) RLC data blocks	Transporting: **ATTACH REQUEST**
4	SS -> MS	PACKET UPLINK ACK/NACK	Indicating correct reception of uplink blocks, including RRBP field set.
5	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	Sent on PACCH
6	SS -> MS	IMMEDIATE ASSIGNMENT	For downlink TBF in EGPRS TBF Mode, sent 1 s. after step 5 on AGCH.
7	SS -> MS	EGPRS RLC data blocks	Transporting: **ATTACH ACCEPT**. Last block containing a valid RRBP field and FBI set.
8A	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Including Channel Request Description.
9A	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
10A	MS -> SS	EGPRS RLC data blocks	Transporting: **ATTACH COMPLETE**
11A	SS -> MS	PACKET UPLINK ACK/NACK	Including valid RRBP field
12A	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	
8B	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Not including Channel Request Description.
9B	MS->SS	CHANNEL REQUEST Or EGPRS PACKET CHANNEL REQUEST	Establishment Cause is 'One Phase', if it is CHANNEL REQUEST; Establishment Cause is 'signalling'; if it is EGPRS PACKET CHANNEL REQUEST.
10B	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access, dynamic allocation. Assigns GPRS TBF if CHANNEL REQUEST is received in step 1. Assigns EGPRS TBF if EGPRS PACKET CHANNEL REQUEST is received in step 1.
11B	MS -> SS	(EGPRS) RLC data blocks	Transporting: **ATTACH COMPLETE**
12B	SS -> MS	PACKET UPLINK ACK/NACK	Indicating correct reception of uplink blocks, including RRBP field set.
13B	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	

50.4.3.12 Void

50.4.3.13 PDP Context Activation On CCCH

The following table describes a signalling sequence performing the PDP Context Activation.

The macros {Completion of PDP Context Activation} in the test cases refer to the table below starting at the step required for the particular sequence.

NOTE: EGPRS PACKET CHANNEL REQUEST shall be used in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used if support of EGPRS Packet Access enhancement is False for a R99 MS.

{PDP Context Activation procedure}

Step	Direction	Message	Comments
0			MS is triggered to initiate the PDP Context Activation procedure with specific Test PDP Context Number specified in test case.
1	MS -> SS	CHANNEL REQUEST Or EGPRS PACKET CHANNEL REQUEST	Establishment Cause is 'One Phase', if it is CHANNEL REQUEST; Establishment Cause is 'signalling'; if it is EGPRS PACKET CHANNEL REQUEST.
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access, dynamic allocation; Assigns GPRS TBF if CHANNEL REQUEST is received in step 1. Assigns EGPRS TBF if EGPRS PACKET CHANNEL REQUEST is received in step 1.
3	MS -> SS	RLC data blocks	Transporting: **ACTIVATE PDP CONTEXT REQUEST**
4	SS -> MS	PACKET UPLINK ACK/NACK	Indicating correct reception of uplink blocks, including RRBP field set.
5	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	Sent on PACCH
6	SS -> MS	IMMEDIATE ASSIGNMENT	For downlink TBF in EGPRS Mode, sent 1 s. After step 5 on AGCH.
7	SS -> MS	EGPRS RLC data blocks	Transporting: **ACTIVATE PDP CONTEXT ACCEPT**. Last block containing a valid RRBP field and FBI set.
8A	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Not including Channel Request Description.
-			The following steps are required only if the Test PDP context is for LLC Acknowledge mode.
9A	MS->SS	EGPRS PACKET CHANNEL REQUEST	
10A	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF in EGPRS TBF Mode, one phase access, dynamic allocation.
11A	MS -> SS	RLC data blocks	Transporting: **SABM**
12A	SS -> MS	PACKET UPLINK ACK/NACK	Indicating correct reception of uplink blocks, including RRBP field set.
13A	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	
-			The following Path will be taken only if the Test PDP Context is for LLC Acknowledge mode.
8B	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Including Channel Request Description.
9B	SS -> MS	PACKET UPLINK ASSIGNMENT	Sent on PACCH.
10B	MS -> SS	RLC data blocks	Transporting: **SABM**
11B	SS -> MS	PACKET UPLINK ACK/NACK	Including valid RRBP field
12B	MS -> SS	PACKET CONTROL ACKNOWLEDGMENT	
13B		Void	
14	SS -> MS	IMMEDIATE ASSIGNMENT	For downlink TBF in EGPRS Mode, sent 1 s. After step 13 on AGCH.
15	SS -> MS	EGPRS RLC data blocks	Transporting: **UA**. Last block containing a valid RRBP field and FBI set.
16	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	

50.4.3.14 Void

50.4.3.15 PDP Context Activation, IPA capable MS

The procedure {PDP Context Activation procedure, IPA capable MS} is the same as procedure {PDP Context Activation procedure} in section 50.4.3.13 except:

- IPA support bit set to '1' in paging messages of MS paging-sub-channel during all steps

- In following steps Immediate Packet Assignment is sent by the SS:

2	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	For uplink TBF, one phase access, dynamic allocation; Assigns EGPRS TBF.

6	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	For downlink TBF in EGPRS Mode, sent 1 s. After step 5 on AGCH.

10A	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	For uplink TBF in EGPRS TBF Mode, one phase access, dynamic allocation.

14	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	For downlink TBF in EGPRS Mode, sent 1 s. After step 13 on AGCH.

50.5 Test PDP contexts

The PDP contexts used in the EGPRS dynamic allocation and EGPRS RLC test cases are identical to the PDP contexts used in the GPRS dynamic allocation and RLC test cases (see 40.5) with the following exception in the table given below.

Test PDP context30 is the default Test PDP context which is used in the test cases where no particular Test PDP contexts are specified. Compression is always turned off if nothing else is stated explicitly in the test case.

If the MS does not include any PDP address, dynamic PDP address shall be assigned by the SS. The MS with Rel-8 behaviour shall not include the PDP address and the PDP address allocation is dynamic always.

NOTE: In this subclause all information element values are in decimal.

Table 50.5: Test PDP contexts

	PDP Context30	PDP Context31
LLC SAPI	SAPI = 3	SAPI =9
Reliability Class	5 (RLC unacknowledged) (LLC unacknowledged)	3 (RLC acknowledged) (LLC unacknowledged)
Delay Class	4 (best effort)	4 (best effort)
Precedence Class	2 (normal)	2 (normal)
Peak Throughput Class	6 (32 000 octet/s)	7 (64 000 octet/s)
Mean Throughput Class	17 (20 000 000 octet/h)	17 (20 000 000 octet/h)
PDP Type	IP type	IP type
PDP Address	Static/Dynamic	Static/Dynamic
APN	Arbitrarily chosen	Arbitrarily chosen
Protocol Configuration Options	PPP options	PPP options
Radio Priority	1	1
Traffic Class	Background	Background
Delivery Order	'yes'	'yes'
Delivery of erroneous SDU	'yes'	'no'
Maximum SDU size	150	150
Maximum bit rate for uplink	256 kbps	512 kbps
Maximum bit rate for downlink	256 kbps	512 kbps
Residual BER	$4*10^{-3}$	10^{-5}
SDU error ratio	10^{-3}	10^{-4}
Transfer delay	0 (not relevant for background class)	0
Traffic Handling priority	0 (not relevant for background class)	0
Guaranteed bit rate for uplink	0 (not relevant for background class)	0
Guaranteed bit rate for downlink	0 (not relevant for background class)	0
Quality of service settings to be used when testing R5 or later MS		
Signalling Indication	0	0
Source Statistics Descriptor	0	0
Maximum bit rate for downlink (extended)	0	0
Guaranteed bit rate for downlink (extended)	0	0
Quality of service settings to be used when testing R7 behaviour		
Maximum bit rate for uplink (extended)	0	0
Guaranteed bit rate for uplink (extended)	0	0

51 EGPRS Paging, TBF establishment/release and DCCH related procedures

51.1 RR / Paging

The paging procedure is used by the network to cause the MS to establish either an RR connection for circuit switched services or a downlink TBF for EGPRS packet transfer. Normally the MS listens to its paging sub-channel when DRX is used, but this can be modified by the use of different page mode. The correct monitoring of its paging sub-channel on CCCH in different control channel configurations and correct implementation of the paging procedure in the MS are essential. They are the test objectives of this clause.

NOTE:

A R99 MS may optionally use either a Channel Request message or an EGPRS Packet Channel Request to answer to Packet Paging by the SS on CCCH.

In case the MS uses a Channel Request to respond to a Paging Request message on CCCH, the SS shall include GPRS specific message contents in the corresponding Immediate Assignment / Immediate Assignment Reject message.

In case the MS uses EGPRS Channel Request to respond to a Paging Request message on CCCH, the SS shall include EGPRS specific message contents in the corresponding Immediate Assignment / Immediate Assignment Reject message.

51.1.1 Void

51.1.2 Void

51.1.3 Void

51.1.4 Void

51.1.5 RR / Paging / on CCCH for EGPRS service

51.1.5.1 RR / Paging / on CCCH for EGPRS service / normal paging

51.1.5.1.1 RR / Paging / on CCCH for EGPRS service / normal paging with P-TMSI successful

51.1.5.1.1.1 Conformance requirements

1. The network initiates the paging procedure by sending a paging request message on an appropriate paging sub-channel on CCCH. Paging initiation using a paging sub-channel on CCCH is used when sending paging information to a mobile station and PCCCH is not present in the cell.

2. The mobile station in packet idle mode is required to receive and analyse the paging messages and immediate assignment messages sent on the paging sub-channels on CCCH corresponding to the paging groups determined for it in packet idle mode.

3. A PAGING REQUEST message may include more than one mobile station identification.

4. In a PAGING REQUEST message used for the packet paging procedure, the mobile station shall be identified by the P-TMSI (GPRS TMSI) or its IMSI. If the mobile station is identified by the P-TMSI, it shall indicate the receipt of a paging request to the MM sub-layer.

   If the mobile station identified by its IMSI, it shall parse the message for a corresponding *Packet Page Indication* field:

   - if the *Packet Page Indication* field indicates a paging procedure for RR connection establishment, or the field is not present in the message, the mobile station shall initiate the immediate assignment procedure;

- if the *Packet Page Indication* field indicates a packet paging procedure, the mobile station shall indicate the receipt of a paging request to the MM sub-layer.

5. The mobile station initiates the packet access procedure by scheduling the sending of CHANNEL REQUEST messages on RACH.

References

3GPP TS 24.008, subclauses 3.3.2.1.1, 3.5.1.1, 3.5.1.2 and 3.5.2.1.

3GPP TS 05.02, subclause 6.5.6.

3GPP TS 04.18/44.018, subclause 3.5.2.1.2

51.1.5.1.1.2 Test purpose

1. To verify that the MS in packet idle mode, GPRS attached state, is able to determine its CCCH group and PAGING group and that the MS responds correctly with CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST on RACH with cause value of 'packet access' upon receipt of a PAGING REQUEST TYPE 1 message for packet access with paging mode set to normal.

2. To verify that the MS is able to respond to PAGING REQUEST TYPE 1 for packet access when the MS is addressed with its P-TMSI, but another field of the paging message contains an IMSI different from that of the MS.

3. To verify that the MS is able to respond to PAGING REQUEST TYPE 2 for packet access when the MS is addressed with its P-TMSI, but other fields of the paging message contain a TMSI and an IMSI different from that of the MS.

4. To verify that the MS is able to respond to PAGING REQUEST TYPE 3 for packet access when the MS is addressed with its P-TMSI, but other fields of the paging message contain TMSIs different from that of the MS.

51.1.5.1.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, CCCH combined with SDCCH, EGPRS supported, PCCCH absent, Max-Retrans = 2, BS_AG_BLKS_RES = 2, BS_PA_MFRMS = 6, SPLIT_PG_CYCLE is supported on CCCH in the cell.

Mobile Station:

The MS is GPRS attached with a TMSI (only for MS operation mode A or MS operation mode B) and a P-TMSI allocated, SPLIT PG CYCLE negotiated. The mobile station is in packet idle mode and has left the Transfer non-DRX mode period, i.e. the system simulator shall wait for a period equivalent to the value of the NON_DRX_TIMER parameter before sending the first paging message to the MS.

Specific PICS Statements

- Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

- Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

- MS operation mode A (TSPC_operation_mode_A)

- MS operation mode B (TSPC_operation_mode_B)

PIXIT Statements

-

Test Procedure

The test is repeated three times. Each time the MS is paged for the packet paging procedure through a different paging request type message. After receiving a CHANNEL REQUEST with the establishment cause 'one phase access', or an EGPRS PACKET CHANNEL REQUEST with the establishment cause 'signalling' an open-end TBF is assigned. A

USF is assigned to the MS to enable it to transfer an uplink RLC data block. The received data block is acknowledged by the SS with , Final Ack Indicator = '1' , a valid RRBP. The MS sends PACKET CONTROL ACKNOWLEDGEMENT.

Maximum Duration of Test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment in the following cases

    a. If Release of EGPRS supported is Release 4 or above.

    b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment if support of EGPRS Packet Access enhancement is False for a R99 MS.

Expected Sequence

The test sequence is repeated for k = 1 … 3.

Step	Direction	Message	Comments
1A	SS -> MS	PAGING REQUEST TYPE 1	k=1 1st Mobile Identity contains P-TMSI of the MS, 2nd Mobile Identity not present. Sent on PCH.
1B	SS -> MS	PAGING REQUEST TYPE 2	k=2 1st Mobile Identity contains P-TMSI of the MS, the other two Mobile Identities not addressing the MS. Sent on PCH.
1C	SS -> MS	PAGING REQUEST TYPE 3	k=3 1st Mobile Identity contains P-TMSI of the MS, the remaining Mobile Identities not addressing the MS. Sent on PCH.
2	MS -> SS	CHANNEL REQUEST/ EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause = "one phase access", received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
3	SS -> MS	IMMEDIATE ASSIGNMENT	Request Reference = pertaining to the message received in step 2. Uplink assignment, sent on AGCH.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on PACCH containing USF assigned to the MS.
5	MS -> SS	(EGPRS) UPLINK RLC DATA BLOCK (not L3 Message)	LLC PDU implicitly indicating paging response, containing TLLI in the RLC/MAC header. Received on uplink PDTCH assigned in step 4.
6	SS -> MS	PACKET UPLINK ACK/NACK	acknowledge the received RLC data block, Final Ack Indicator = '1' , a valid RRBP. Sent on PACCH.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	acknowledge the RLC control message. Received on PACCH.

Specific Message Contents

IMMEDIATE ASSIGNMENT message in step 3 in case CHANNEL REQUEST is received in Step 2:

Information Element	value/ remark
Dedicated mode or TBF	
- T/D	TBF
- Downlink	0 , no meaning
- TMA	0, no meaning
Packet Channel Description	
- Channel Type	'00001' spared
- TN	Chosen arbitrarily
- TSC	Chosen arbitrarily
-	0
-	00 (Binary)
- ARFCN	For GSM 450: 267
	For GSM 480: 315
	For GSM 700, T-GSM 810: 450
	For GSM 850: 190
	For GSM 900: 30
	For DCS 1 800: 650
	For PCS 1 900: 650
Request Reference	Pertaining to last Channel Request sent by the MS.
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	HH
-	00 (packet uplink assignment)
- Packet Uplink Assignment	
- Assign a TBF	1, Dynamic allocation
- TFI_ASSIGNMENT	chosen arbitrarily
- POLLING	0, no
-	0, dynamic allocation
- USF	chosen arbitrarily
- USF granularity	0, single block
- 0|1 <P0 >	0
- CHANNEL_CODING_COMMAND	00, CS-1
- TLLI_BLOCK CHANNEL_CODING	00, CS-1
- 0|1 <ALPHA >	1
- ALPHA	0.5
- GAMMA	For GSM 450: +8 dBm
	For GSM 480: +8 dBm
	For GSM 700, T-GSM 810: +8 dBm
	For GSM 850: +8 dBm
	For GSM 900: +8 dBm
	For DCS 1 800: +6 dBm
	For PCS 1 900: +6 dBm
- {0|1<TIMING_ADVANCE_INDEX>}	0 (no timing advance index)
- {0|1<TBF_STARTING_TIME>}	0
- spare padding	Spare Padding

IMMEDIATE ASSIGNMENT message in step 3 in case EGPRS PACKET CHANNEL REQUEST is received in Step 2:

Information Element	value/ remark
Dedicated mode or TBF	
- T/D	TBF
- Downlink	0 , no meaning
- TMA	0, no meaning
Packet Channel Description	
- Channel Type	'00001' spared
- TN	Chosen arbitrarily
- TSC	Chosen arbitrarily
-	0
-	00 (Binary)
- ARFCN	For GSM 450: 267
	For GSM 480: 315
	For GSM 700, T-GSM 810: 450
	For GSM 850: 190
	For GSM 900: 30
	For DCS 1 800: 650
	For PCS 1 900: 650
Request Reference	0x7f
Timing Advance	
- Timing advance value	30 bit periods.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IA rest octets	
-	LH
-	00 (EGPRS packet uplink assignment)
-EGPRS Packet Uplink Assignment	
- Extended RA	Corresponding to the last EGPRS Packet Channel Request sent by the MS.
- Assign a TBF	1, Dynamic allocation
- TFI_ASSIGNMENT	chosen arbitrarily
- POLLING	0, no
-	0, dynamic allocation
- USF	chosen arbitrarily
- USF granularity	0, single block
- 0|1 <P0 >	0
- EGPRS CHANNEL_CODING_COMMAND	MCS-1
- TLLI_BLOCK CHANNEL_CODING	0
- 0|1 <ALPHA >	1
- ALPHA	0.5
- GAMMA	For GSM 450: +8 dBm
	For GSM 480: +8 dBm
	For GSM 700, T-GSM 810: +8 dBm
	For GSM 850: +8 dBm
	For GSM 900: +8 dBm
	For DCS 1 800: +6 dBm
	For PCS 1 900: +6 dBm
- {0|1<TIMING_ADVANCE_INDEX>}	0 (no timing advance index)
- {0|1<TBF_STARTING_TIME>}	0
- spare padding	Spare Padding

51.1.5.1.2   RR / Paging / on CCCH for EGPRS service / normal paging with IMSI successful

51.1.5.1.2.1   Conformance requirements

1. If the MS was paged by the network with the IMSI (for EGPRS service), the MS shall delete any RAI, P-TMSI, P-TMSI signature and GPRS ciphering key sequence number stored. The MS shall then perform a GPRS attach or combined GPRS attach procedure.

References

3GPP TS 24.008, subclause 4.7.9.1.2.

3GPP TS 04.18/44.018, subclause 3.5.2.1.2

51.1.5.1.2.2 Test purpose

To verify that the MS is able to respond to PAGING REQUEST TYPE 1 when the MS is addressed with its IMSI with *Packet Page Indication* set to packet paging procedure, and that the MS then performs a GPRS attach or combined GPRS attach procedure.

51.1.5.1.2.3 Method of test

Initial Conditions

System Simulator:

1 cell, CCCH combined with SDCCH, EGPRS supported, PCCCH absent, Max-Retrans = 2, BS_AG_BLKS_RES = 2, BS_PA_MFRMS = 9.

Mobile Station:

The MS is in GPRS attached with a TMSI (only for MS operation mode A or MS operation mode B) and a P-TMSI allocated, SPLIT PG CYCLE negotiated. The mobile station is in packet idle mode and has left the Transfer non-DRX mode period, i.e. the system simulator shall wait for a period equivalent to the value of the NON_DRX_TIMER parameter before sending the first paging message to the MS.

Specific PICS Statements

- Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

- Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

- MS operation mode A Yes/No (TSPC_operation_mode_A)

- MS operation mode B Yes/No (TSPC_operation_mode_B)

PIXIT Statements

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Test Procedure

The MS is paged on PCH with IMSI for packet paging procedure. After receiving the CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST from the MS a TBF is assigned. The MS sends an LLC PDU containing TLLI in the RLC/MAC header and ATTACH REQUEST, implicitly indicating a paging response. The SS verifies the completeness of ATTACH REQUEST and acknowledges the received RLC data blocks with a valid RRBP and Final Ack indicator = '1'.

Maximum Duration of Test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment if support of EGPRS Packet Access enhancement is False for a R99 MS.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	PAGING REQUEST TYPE 1	1st Mobile Identity contains IMSI of the MS, second Mobile Identity not present. Packet page indication indicates packet paging procedure. Sent on PCH.
2	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause = = "one phase packet access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
3	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access.
4	MS -> SS	(EGPRS) UPLINK RLC DATA BLOCK (ATTACH REQUEST)	LLC PDU containing a TLLI and the first part of ATTACH REQUEST, the implicit paging response to step 1. Received on the uplink PDTCH assigned in step 3.
5	SS -> MS	PACKET UPLINK ACK/NACK	Contention resolution, acknowledge the received RLC data blocks, No USF assigned. Sent on PACCH.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	(EGPRS) UPLINK RLC DATA BLOCK	.Repeat step 6 & 7 until the CV = 0 to receive the complete ATTACH REQUEST message
8	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data blocks. Final Ack indicator = '1', containing valid RRBP, sent on PACCH
9	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Acknowledge the RLC control messages. Received on PACCH.

Specific Message Contents

Contents for SYSTEM INFORMATION and PACKET SYSTEM INFORMATION Messages:

Information Element	value/ remark
RACH Control Parameters - Max Retrans	Max 2 retransmission

51.1.5.1.3 RR / Paging / on CCCH for EGPRS service / normal paging with P-TMSI ignored

The MS shall ignore paging not addressing to it. If paging is not implemented correctly unnecessary accesses will be provoked on CCCH which is shared by all MS in a same cell. This kind of the wrong paging behaviour of the same type of MS in a GSM network can block the use of CCCH and will, therefore, cause an unacceptable degradation of the both GSM EGPRS and circuit-switched services to other users of the mobile stations.

51.1.5.1.3.1 Conformance requirements

Paging initiation using the paging subchannel on CCCH is used when sending paging information to a mobile station in idle mode. It is also used when sending paging information to a mobile station in packet idle mode, if PCCCH is not present in the cell.

In a PAGING REQUEST message used for the packet paging procedure, the mobile station shall be identified by the P-TMSI (GPRS TMSI) or its IMSI. If the mobile station is identified by the P-TMSI, it shall proceed as specified in 3GPP TS 04.18, subclause 3.5.1.2.

References

3GPP TS 04.18/44.018, subclauses 3.3.2.1.1 and 3.5.1.1, 3.5.2.1.2.

51.1.5.1.3.2 Test purpose

To verify that the MS ignores a PAGING REQUEST TYPE 1, 2 messages where both P-TMSI and IMSI do not address the MS although the paging message is sent on the CCCH to which the CCCH_GROUP belongs.

51.1.5.1.3.3   Method of test

Initial Conditions

System Simulator:

> 1 cell, CCCH combined with SDCCH, EGPRS supported, PCCCH absent, Max-Retrans = 2,
> BS_AG_BLKS_RES = 2, BS_PA_MFRMS = 7.

Mobile Station:

> The MS is GPRS attached with a TMSI (only for MS operation mode A or MS operation mode B) and a P-TMSI
> allocated and SPLIT PG CYCLE negotiated. The mobile station is in packet idle mode and has left the Transfer
> non-DRX mode period, i.e. the system simulator shall wait for a period equivalent to the value of the
> NON_DRX_TIMER parameter before sending the first paging message to the MS.

Specific PICS Statements

-   Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

-   Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

-   MS operation mode A Yes/No (TSPC_operation_mode_A)

-   MS operation mode B Yes/No (TSPC_operation_mode_B)

PIXIT Statements

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Test Procedure

The test is repeated twice. Each time a different paging message not addressing the MS is sent on the PCH belonging to
the MS. It is checked that the no access attempt is made by the MS for 5 s.

The MS is then paged for packet paging. The MS attempts a random access which is rejected.

Maximum Duration of Test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment in the
following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment if support of EGPRS Packet
Access enhancement is False for a R99 MS.

Expected Sequence

The test steps 1 - 2 is repeated for k = 1 .. 2

Step	Direction	Message	Comments
1A	SS -> MS	PAGING REQUEST TYPE 1	k=1, The two packet page indications are set to packet paging procedure. 1st Mobile Identity contains P-TMSI, 2nd Mobile Identity contains IMSI, both Identities do not address the MS. Sent on PCH belonging to the MS.
1B	SS -> MS	PAGING REQUEST TYPE 2	k=2, Packet page indication 3 is set to packet paging procedure. 1st Mobile Identity contains P-TMSI, 2nd Mobile Identity contains P-TMSI, 3rd Identity contains IMSI, all identities not addressing the MS. Sent on PCH belonging to the MS.
2	SS		Check that no CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST is sent from the MS for 5s.
3	SS -> MS	PAGING REQUEST TYPE 1	1st Mobile Identity contains IMSI of the MS, second Mobile Identity not present. Packet page indication indicates packet paging procedure. Sent on PCH belonging to the MS.
4	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause "one phase packet access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
5	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Random Reference = pertaining to the message received in step 4.

Specific Message Contents

PAGING REQUEST TYPE 1 message:

Information Element	value/ remark
Mobile Identity 1	
- odd/even indication	Even.
- Type of Identity	P-TMSI.
- Identity Digits	P-TMSI value not allocated to MS.
Mobile Identity 2	IMSI different from the value stored on the SIM.
P1 rest octets	
- Packet Page Indication 1	H, Packet Paging
- Packet Page Indication 2	H, Packet Paging

PAGING REQUEST TYPE 2 message:

Information Element	value/ remark
Mobile Identity 1	
- TMSI value	P-TMSI value not allocated to the MS.
P2 rest octets	LLLL
- Packet Page Indication 3	H, Packet Paging

51.1.5.2 RR / Paging / on CCCH for EGPRS service / extended paging

51.1.5.2.1 RR / Paging / on CCCH for EGPRS service / extended paging with P-TMSI successful

51.1.5.2.1.1 Conformance requirements

The paging and immediate assignment type messages contain a page mode information element. This information element controls possible additional requirements on mobile stations belonging to the paging subgroup corresponding to the paging subchannel the message was sent on. This implies that a given mobile station shall take into account the page mode information element of any message sent on its own paging subchannel whatever the nature of this message (paging messages or immediate assignment messages). This further implies that the mobile station does not take into account page mode information element of messages sent on paging subchannels other than its own paging subchannel. The requirements yielded by the page mode information element are as follows:

b) extended paging: the mobile station is required in addition to receive and analyse the next but one message on the PCH.

References

3GPP TS 04.18/44.018, subclauses 3.3.2.1.1, 3.5.2.1.2, 9.1.18, 9.1.19 and 9.1.20.

51.1.5.2.1.2 Test purpose

1. To verify that the MS operates in the extended page mode when it is ordered by the SS in PAGING REQUEST TYPE 1 which does not address the MS, but on the paging sub-channel corresponding to the MS identity.

2. To verify that the MS operates in the extended page mode when it is ordered by the SS in PAGING REQUEST TYPE 2 which does not address the MS, but on the paging sub-channel corresponding to the MS identity.

3. To verify that the MS operates in the extended page mode when it is ordered by the SS in PAGING REQUEST TYPE 3 which does not address the MS, but on the paging sub-channel corresponding to the MS identity.

4. To verify that the MS operates in the extended page mode when it is ordered by the SS in IMMEDIATE ASSIGNMENT on the paging sub-channel corresponding to the MS identity.

5. To verify that the MS operates in the extended page mode when it is ordered by the SS in IMMEDIATE ASSIGNMENT EXTENDED on the paging sub-channel corresponding to the MS identity.

6. To verify that the MS operates in the extended page mode when it is ordered by the SS in IMMEDIATE ASSIGNMENT REJECT on the paging sub-channel corresponding to the MS identity.

51.1.5.2.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, EGPRS supported, PCCCH absent, Max-Retrans = 2, CCCH_CONF = 1 basic physical channel used for CCCH with non-combined SDCCH, BS_AG_BLKS_RES = 3, BS_PA_MFRMS = 8.

Mobile Station:

The MS is GPRS attached with a TMSI (only for MS operation mode A or MS operation mode B) and a P-TMSI allocated and SPLIT PG CYCLE negotiated. The mobile station is in packet idle mode and has left the Transfer non-DRX mode period, i.e. the system simulator shall wait for a period equivalent to the value of the NON_DRX_TIMER parameter before sending the first paging message to the MS.

Specific PICS Statements

- Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

- Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

- MS operation mode A Yes/No (TSPC_operation_mode_A)

- MS operation mode B Yes/No (TSPC_operation_mode_B)

PIXIT Statements

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Test Procedure

The test is repeated 6 times. Each time a different downlink message is sent on PCH or AGCH for setting the page mode to extended paging. The MS is paged on the next but one page block for the packet paging procedure. The MS starts a random accesses which are rejected by the SS.

Maximum Duration of Test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment if support of EGPRS Packet Access enhancement is False for a R99 MS.

Expected Sequence

The test sequence is repeated for k = 1 … 6

Step	Direction	Message	Comments
1A	SS -> MS	PAGING REQUEST TYPE 1	k=1, All mobile Identities do not address the MS. Page mode is set to "extended paging". Packet page indication indicates packet paging procedure. Sent on PCH.
1B	SS -> MS	PAGING REQUEST TYPE 2	k=2, All mobile Identities do not address the MS. Page mode is set to "extended paging". Packet page indication indicates packet paging procedure. Sent on PCH.
1C	SS -> MS	PAGING REQUEST TYPE 3	k=3, All mobile Identities do not address the MS. Page mode is set to "extended paging". Channel Needed IE's are coded with 00. Sent on PCH.
1D	SS -> MS	IMMEDIATE ASSIGNMENT	k=4, Page mode is set to "extended paging". Request Reference does not address any request references sent by the MS in previous test steps. Sent on paging channel (PCH).
1E	SS -> MS	IMMEDIATE ASSIGNMENT EXTENDED	Page mode is set to "extended paging". Request Reference does not address any request references sent by the MS in previous test steps. Sent on paging channel (PCH).
1F	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	k=6, Page mode is set to "extended paging". Request Reference does not address any request references sent by the MS in previous test steps. Sent on paging channel (PCH).
2	SS -> MS	PAGING REQUEST TYPE 1	1st Mobile Identity contains P-TMSI of the MS, 2nd Mobile Identity not present. Page mode is set to "normal paging". Packet page indication indicates packet paging procedure. Sent on the next but one subblock on the same CCCH as previous paging message.
3	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause = "One phase access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
4	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause "One phase access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
5	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Request Reference = pertaining to the message received in step 4. Page mode is set to "normal paging". Sent on AGCH.

51.1.5.3   RR / Paging / on CCCH for EGPRS service / paging reorganisation

51.1.5.3.1   Conformance requirements

The paging and immediate assignment type messages contain a page mode information element. This information element controls possible additional requirements on mobile stations belonging to the paging subgroup corresponding to the paging subchannel the message was sent on. This implies that a given mobile station shall take into account the page mode information element of any message sent on its own paging subchannel whatever the nature of this message (paging messages or immediate assignment messages). This further implies that the mobile station does not take into account page mode information element of messages sent on paging subchannels other than its own paging subchannel. The requirements yielded by the page mode information element are as follows:

c)   paging reorganization: The mobile station shall receive all messages on the CCCH regardless of the BS-AG-BLKS-RES setting. It is required to receive all BCCH messages. When the mobile station receives the next message to its (possibly new) paging subgroup the subsequent action is defined in the page mode information element in that message.

References

   3GPP TS 04.18/44.018, subclause 3.3.2.1.1, 3.5.2.1.2.

   3GPP TS 04.60/44.060, subclause 7.1.2.1

51.1.5.3.2   Test purpose

1. To verify that the MS, after reception of a message with page mode set to "paging reorganisation", answers to paging messages (with page mode set to "normal paging") sent on its old CCCH in paging blocks which do not belong to the MS's paging sub-channel.

2. To test that the MS correctly determines its new paging sub-channel when the number of reserved blocks, BS_AG_BLKS_RES, and the number of 51-multiframes between transmissions of paging messages for mobile stations of the same paging group BS_PA_MFRMS are changed.

3. To test that the MS correctly determines its new paging sub-channel when the number of basic physical channels for CCCH is changed.

51.1.5.3.3   Method of test

Initial Conditions

System Simulator:

   1 cell, EGPRS supported, PCCCH absent, Max-Retrans = 2, CCCH_CONF = 0 (1 basic physical channel used for CCCH with non-combined SDCCH), BS_AG_BLKS_RES = 3, BS_PA_MFRMS = 6. SPGC_CCCH_SUP = 0 (SPLIT_PG_CYCLE is not supported on CCCH in the cell).

Mobile Station:

   The MS is GPRS attached with a TMSI (only for MS operation mode A or MS operation mode B) and a P-TMSI allocated and SPLIT PG CYCLE negotiated. The mobile station is in packet idle mode and has left the Transfer non-DRX mode period, i.e. the system simulator shall wait for a period equivalent to the value of the NON_DRX_TIMER parameter before sending the first paging message to the MS.

Specific PICS Statements

   -   Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

   -   Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

   -   MS operation mode A Yes/No (TSPC_operation_mode_A)

   -   MS operation mode B Yes/No (TSPC_operation_mode_B)

PIXIT Statements

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Test Procedure

The page mode is set to paging reorganisation. The MS is paged for packet paging procedure through PAGING REQUEST TYPE 1 which is sent before the MS's original paging sub-channel re-occurs, but later than the next paging block of that CCCH. The MS starts the random access. The access attempt is rejected.

The SS changes the CCCH configuration with BS_AG_BLKS_RES=2 and BS_PA_MFRMS=5 and waits two SI13 repeat periods, and then sets the page mode to Normal Paging. The MS is paged for packet paging procedure through PAGING REQUEST TYPE 2 sent on the new paging sub-channel. The MS starts the random access. The access attempt is rejected via IMMEDIATE ASSIGNMENT REJECT. PAGING REQUEST TYPE 1 with paging fill frame and page mode set to "paging reorganisation" is sent.

Two additional CCCHs are activated by the SS. The same test procedure as above is repeated.

Maximum Duration of Test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used to respond to Paging and Packet Paging Request for TBF Establishment in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used to respond to Paging Request for TBF Establishment if support of EGPRS Packet Access enhancement is False for a R99 MS.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT EXTENDED	Page mode set to "paging reorganisation"
2	SS -> MS	PAGING REQUEST TYPE 1	Sent before the MS's original paging sub-channel re-occurs, but later than the next paging block of that CCCH. Page mode set to "normal paging", for packet paging procedure.
3	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause = "one phase access", received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Request Reference = pertaining to the message received in step 3. Sent on AGCH.
5	SS	PAGING REQUEST TYPE 1	Sent on the MS's paging sub-channel. Paging fill frame and page mode set to "paging reorganisation". All L3 messages sent on any paging sub-channel are paging fill frame specify Paging Reorganisation.
6	SS		Set BS_AG_BLKS_RES=2 and BS_PA_MFRMS=5 in SI's. The value of the BCCH_CHANGE_MARK in the SI13 is altered to indicate the changes. SI_CHANGE_FIELD = 3.
7	SS		Wait two SI13 repeat periods. All L3 messages sent on any paging sub-channel are paging fill frame specify Normal Paging. Wait for the time required for BS_PA_MFRMS Multi-Frames.
8	SS -> MS	PAGING REQUEST TYPE 2	1st Mobile Identity contains P-TMSI of the MS. 2nd Mobile Identity contains P-TMSI, 3rd Identity contains IMSI, the last two identities not addressing the MS. Packet page indication indicates packet paging procedure. Page mode = "same as before", sent on the new PCH belonging to the MS.
9	MS -> SS	CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE)	In case CHANNEL REQUEST is received Establishment Cause = "one phase access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH.
10	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Request Reference = pertaining to the message received in step 9.
11	SS	PAGING REQUEST TYPE 1	Sent on the MS's paging sub-channel. Paging fill frame and page mode set to "paging reorganisation". All L3 messages sent on any paging sub-channel are paging fill frame specify Paging Reorganisation.
12	SS		Reconfigure the SS channels so that additional two CCCH's are set on slot 2 and slot 4, Set CCCH_CONF = 4 in SI's. The value of the BCCH_CHANGE_MARK in the SI13 is altered to indicate the changes. SI_CHANGE_FIELD = 3.
13	SS		Wait two SI13 repeat periods. All L3 messages sent on any paging sub-channel are paging fill frame specify Normal Paging. Wait for the time required for BS_PA_MFRMS Multi-Frames.
14	SS -> MS	PAGING REQUEST TYPE 2	1st Mobile Identity contains P-TMSI of the MS. 2nd Mobile Identity contains P-TMSI, 3rd Identity contains IMSI, the last two identities not addressing the MS. Packet page indication indicates packet paging procedure. Page mode = "same as before", sent on the new PCH belonging to the MS.

| 15 | MS -> SS | CHANNEL REQUEST/EGPRS PACKET CHANNEL REQUEST (see NOTE) | In case CHANNEL REQUEST is received Establishment Cause = "one phase access". Received on RACH. In case EGPRS PACKET CHANNEL REQUEST is received ACCESS TYPE = " Signalling ". Received on RACH. |
| 16 | SS -> MS | IMMEDIATE ASSIGNMENT REJECT | Request Reference = pertaining to the message received in step 15. Sent on AGCH. |

Specific Message Contents

None.

51.1.5.4 RR / Paging / on CCCH for EGPRS service / default message contents

Void

51.1.6 Void

51.2 RR procedures on CCCH related to temporary block flow establishment

This clause presents tests for "RR procedures on CCCH related to temporary block flow establishment" which are specified in 3GPP TS 04.18 subclause 3.5.

Default conditions

The SS default conditions simulate one cell with default settings as defined in the EGPRS general defaults section, except:

- SI 13 Rest Octets contains no PCCCH description (PCCCH is not supported by the network).

The MS default initial condition is GPRS/EGPRS attached. Unless otherwise stated, no PDP context is required.

Default message contents and signalling macros are also defined in the GPRS general defaults section, except for those messages and macros specified at the end of this clause.

51.2.1 Permission to access the network

51.2.1.1 Permission to access the network / priority classes

51.2.1.1.1 Conformance requirements

Access to the network is allowed:

- if packet access is allowed in the cell for the priority class associated with the packet transfer, as indicated by the PRIORITY_ACCESS_THR parameter broadcast in SI 13 message.

References

3GPP TS 04.18 subclause 3.5.2.1.1.

51.2.1.1.2 Test purpose

To verify that the MS accesses the network only if packet access is allowed in the cell for the priority class associated with the packet transfer.

51.2.1.1.3 Method of test

Initial conditions

System Simulator:

Network Mode of Operation is set to NMO II

Mobile Station:

For PRIORITY_ACCESS_THR >2 MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

For PRIORITY_ACCESS_THR <=2 MS is Idle Updated

Specific PICS Statements

-

PIXIT Statements

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Test procedure

For PRIORITY_ACCESS_THR >2 MS is triggered to transfer data. The SS verifies that the MS accesses the network as appropriate.

For PRIORITY_ACCESS_THR <=2 MS is triggered to perform an attach procedure. The SS verifies that the MS does not try to access the Network.

Specific test parameters:

- PRIORITY_ACCESS_THR is chosen from {0, 1, 2, 3, 4, 5, 6, 7}.

- priority level is chosen from { 1, 2, 3, 4 }

Expected sequence

For PRIORITY_ACCESS_THR >2

Step	Direction	Message	Comments
1			The MS is triggered to transfer data
2	SS		See verification

Verification:

The SS verifies for 10 s that MS access (or not) to the network according to the PRIORITY_ACCESS_THR values below.

0 1 1   packet access is allowed for priority level 1;
1 0 0   packet access is allowed for priority level 1 to 2;
1 0 1   packet access is allowed for priority level 1 to 3;
1 1 0   packet access is allowed for priority level 1 to 4;
1 1 1   spare, shall be interpreted as (packet access allowed).

For PRIORITY_ACCESS_THR <=2

Step	Direction	Message	Comments
1			The MS is triggered to do Attach procedure
2	SS		The SS verifies for 10 s that MS does not try to access to the network.

51.2.2   Initiation of the packet access procedure

51.2.2.1   Initiation of the packet access procedure / establishment causes

51.2.2.1.1   Conformance requirements

The CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages are sent on RACH and contain the parameters:

- an establishment cause which indicates packet access, and as applicable, a request for one phase packet access or single block packet access for a CHANNEL REQUEST (clause 9.1.8), or a request for one phase access or two phase access or short access or sending of signalling data for an EGPRS PACKET CHANNEL REQUEST (see 3GPP TS 04.60);

- a random reference which is drawn randomly from an uniform probability distribution for every new transmission.

References

3GPP TS 04.18/44.018 subclause 3.5.2.1.2.

Justification

51.2.2.1.2 Test purpose

To verify that the CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST message sent by the MS contains the correct establishment cause or Access Type when initiating a packet access procedure.

51.2.2.1.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached.

Specific PICS Statements

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PIXIT Statements

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Test procedure

If the MS supports PDP context, the MS is triggered to initiate a PDP Context Activation procedure for RLC unacknowledged mode. The SS verifies that the MS attempts either a one phase packet access by sending a CHANNEL REQUEST or by sending an EGPRS PACKET CHANNEL REQUEST with Access Type 'signalling'.

The MS is triggered to transfer RLC data blocks. The SS verifies that the MS correctly sets the Access Type in the EGPRS PACKET CHANNEL REQUEST message.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is triggered to initiate a PDP Context Activation 3.
2	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	SS verifies that Establishment Cause is 'one phase' if the MS has sent a CHANNEL REQUEST. SS verifies that Access Type is 'signalling' if the MS has sent an EGPRS PACKET CHANNEL REQUEST.
3	SS <->MS	{Completion of PDP Context Activation Procedure}	Macro completion from step 2.
4	MS		MS is triggered to transfer data.
5	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS verifies that Access Type is 'two phase access'.
6	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	

Specific Message Contents:

None.

51.2.2.2 Random references for two phase packet access

51.2.2.2.1 Conformance requirements

The CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages are sent on RACH and contain the parameters:

- an establishment cause which indicates packet access, and as applicable, a request for one phase packet access or single block packet access for a CHANNEL REQUEST (clause 9.1.8), or a request for one phase access or two phase access or short access or sending of signalling data for an EGPRS PACKET CHANNEL REQUEST (see 3GPP TS 04.60);

- a random reference which is drawn randomly from an uniform probability distribution for every new transmission.

References

3GPP TS 04.18/44.018 subclause 3.5.2.1.2.

51.2.2.2.2 Test purpose

To verify that the MS produces different Random References when accessing the network for two phase access.

51.2.2.2.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH, Parameter MAX_RETRANS is set to 4 retransmissions.

Mobile Station:

MS is GPRS attached, a PDP context in RLC unacknowledged mode has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data, it shall attempt a Two Phase packet access (3GPP TS 04.18 / 3.5.2.1.2). The SS does not answer to the access bursts but stores N (= 80) Random References and verifies that the MS uses all possible values (0 ... 7) in its Random Reference.

Justification

The length of the Random Reference is 3 bits two phase packet access (3GPP TS 04.18 / table 9.9). This test verifies that the MS uses all values (0 ... 7) in its Random Reference.

The probability that in a sequence of N samples one of the possible value does not appear is $8*(7/8)**N$ for large N.

Note: The number of samples N has been computed such that the probability of refusing a correct MS is less than 0,02 %.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is triggered to transfer data. (Two phase Packet Access)
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
4	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
5	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
6	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
7	SS		SS waits 5.5 seconds (Maximum value of T3146 is 5 seconds) Note: Test Case executes Step 8A or 8B depending on MS behaviour. If any EGPRS PACKET CHANNEL REQUEST received during the wait time, SS continue with Step 8A else SS continue with Step 8B
8A (Conditional)	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References and repeats the Steps 3 to 7.
8B (Conditional)	SS		Repeat Steps 1 to 7
-9	MS<->SS		Steps 1 to 8 are repeated until 80 EGPRS PACKET CHANNEL REQUEST messages have been received.
-10	SS		SS verifies that all Request Reference values (0 to 7) come out in the stored samples.

51.2.2.3   Random references for one phase packet access and for Access Type 'signalling'

51.2.2.3.1   Conformance requirements

The CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages are sent on RACH and contain the parameters:

- an establishment cause which indicates packet access, and as applicable, a request for one phase packet access or single block packet access for a CHANNEL REQUEST (clause 9.1.8), or a request for one phase access or two phase access or short access or sending of signalling data for an EGPRS PACKET CHANNEL REQUEST (see 3GPP TS 04.60);

- a random reference which is drawn randomly from an uniform probability distribution for every new transmission.

References

3GPP TS 04.18/44.018 subclause 3.5.2.1.2.

51.2.2.3.2   Test purpose

To verify that the MS produces different Random References when accessing the network for one phase access or with Access Type 'signalling'.

51.2.2.3.3   Method of test

Initial conditions

System Simulator: default settings except:

Parameter MAX_RETRANS is set to 4 retransmissions.

T3302 = 1 minute

Mobile Station:

Note: MS may be brought into the required condition by causing it to be triggered to perform GPRS attach and the SS responding with ATTACH REJECT in which T3302 is set to 1 minute and the cause set to "MSC temporarily not reachable". MS treats this as a temporary failure and enters the test sequence by restarting the attach procedure.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS shall attempt either a one phase packet access using Channel Request or Access Type signalling using Egprs Packet Channel Request. The SS does not answer to the access bursts but stores N (N=80 in case of Channel Request and N=380 in case of Egprs Packet Channel Request) Random References and verifies that the MS uses all possible values in its Random Reference.

Possible values in case of Channel Request are 0...3 and not using value '111' as a value of the 3 least significant bits for channel request octet (see 3GPP TS 04.18/Table 9.1.8.1)

Possible values in case of Egprs Packet Channel Request are 0...31 (see 3GPP TS 04.60 / 11.2.5a and 3GPP TS 04.18/Table 9.1.8.1).

Justification

In case of Channel Request:

Possible values for Random Reference for one phase packet access are 0 to 3 (value '111' is not allowed). This test verifies that the MS uses all values (0 ... 3) in its Random Reference.

In case of Egprs Packet Channel Request

Possible values for Random Reference for signalling are 0 to 31. This test verifies that the MS uses all values (0 ... 31) in its Random Reference.

Maximum duration of the test

45 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	MS re-starts the Attach Procedure. SS stores the value of Request References
2	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
3	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
4	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
5	MS -> SS	CHANNEL REQUEST or: EGPRS PACKET CHANNEL REQUEST	SS stores the value of Request References
6		**{Location Update Procedure}**	Step 6 is optional and depends on the mobile implementation. Macro for Location Updating.
7	MS<->SS		Steps 1 to 6 are repeated N/5 times Note: N=80 in case Channel Request is used by MS N=380 in case Egprs Packet Channel Request is used by MS.
8	SS		In case of Channel Requests: SS verifies that all Random Reference values (Random Reference field is filled with "x") in the range 0 to 3 come out in the stored samples and that value '111' is not used as a value of the 3 least significant bits for channel request octet. In case of Egprs Packet Channel Requests: SS verifies that all Random Reference values in the range 0 to 31 come out in the stored samples.

The Channel Request message is coded as follows (reference 3GPP TS 04.08 / 3GPP TS 44.018 table 9.9):

011110xx   One phase packet access with request for single timeslot uplink.

01111x0x   transmission; one PDCH is needed.

01111xx0   [TBD]

51.2.2.4   Initiation of the packet access procedure / timer T3146

51.2.2.4.1   Conformance requirements

Having sent the maximum number of EGPRS PACKET CHANNEL REQUEST messages, the mobile station starts timer T3146. At expiry of timer T3146, the packet access procedure is aborted and a packet access failure is indicated to upper layers.

Reference

3GPP TS 04.18 subclause 3.5.2.1.2.

51.2.2.4.2   Test purpose

To verify that the MS waits T3146 seconds before aborting the packet access procedure.

51.2.2.4.3 Method of test

Initial conditions

System Simulator: Default settings except:

System Information parameter MAX_RETRANS is set to 2 retransmissions.

CCCH non-combined with SDCCH.

System Information parameter TX_INTEGER in RACH Control Parameters is set to 3.

Mobile Station:

MS is GPRS attached, PDP Context 31 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. The SS waits until the MS sends all M+1 EGPRS PACKET CHANNEL REQUEST messages, and then sends an IMMEDIATE ASSIGNMENT before minimum value of T3146 seconds elapse. In this case the MS shall correctly send the LLC PDU on the assigned PDCH.

The MS is triggered again to initiate uplink data transfer, the SS waits until the MS sends all M+1 EGPRS PACKET CHANNEL REQUEST messages, where M is the parameter Max Retrans broadcast on BCCH. The SS waits until the maximum value of T3146 seconds elapse and sends an IMMEDIATE ASSIGNMENT which shall be ignored by the MS since the access procedure should be aborted.

Note:

Timer T3146 (3GPP TS 04.18 clause 11) depends on parameter TX_INTEGER broadcast on BCCH.

The minimum value of the timer is 2*S+TX_INTEGER slots, where S is given in 3GPP TS 04.08 / 3GPP TS 44.018, Table 3.1.

The maximum value of this timer is 5 seconds. (Subclause 11.1.1 in 04.08)

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	The MS is triggered to initiate uplink data transfer..
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
4	SS		SS waits T3146 - 0.1*T3146 (using minimum value of T3146, which is 2*S + TX_INTEGER slots)
5	SS -> MS	IMMEDIATE ASSIGNMENT	Multi block assignment using Multiblock Allocation Struct, allocates two uplink blocks to order the MS to follow the two-phase access procedure. Sent on AGCH.
6	MS -> SS	PACKET RESOURCE REQUEST	Received on the first block assigned in step 5.
6a (conditional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 6) indicates 1, then step 6a is performed.
6b (optional)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 6) indicates 0, then step 6b is optionally performed.
7	SS -> MS	PACKET UPLINK ASSIGNMENT	Uplink dynamic allocation. Sent on PACCH.
8	SS <->MS	Completion of macro {Uplink data transfer }	SS allows MS to complete the uplink data transfer.
9	MS -> SS	EGPRS PACKET CHANNEL REQUEST	The MS is triggered a second time to initiate uplink data transfer.
10	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request
11	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request
12	SS		SS waits 5.5 seconds (Maximum value of T3146 is 5 seconds)
13	SS -> MS	IMMEDIATE ASSIGNMENT	Multi block assignment using Multiblock Allocation Struct, to order the MS to follow the two-phase access procedure. Sent on AGCH.
14	SS		MS shall ignore the message, SS verifies that MS does not send PACKET RESOURCE REQUEST. Note: Depending upon the MS implementation the upper layers may have reinitiated the access procedure during the wait time at step 12. So SS shall ignore any EGPRS PACKET CHANNEL REQUEST received.
15	MS		Switch Off

The complete test is repeated for:

- TX_INTEGER set to 20 (MS shall set timer T3146 to 1.1s); and for

- TX_INTEGER set to 32 (MS shall set timer T3146 to 2.1s).

51.2.2.5 Initiation of the packet access procedure / Request Reference

51.2.2.5.1 Conformance requirements

On receipt of an IMMEDIATE ASSIGNMENT message corresponding to one of its 3 last EGPRS PACKET CHANNEL REQUEST messages, the mobile stops sending EGPRS PACKET CHANNEL REQUEST messages and switches to the assigned PDCH.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.1.

51.2.2.5.2 Test purpose

1. To verify that the MS continues sending EGPRS PACKET CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT containing an incorrect Request Reference.

2. To verify that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages and switches to the assigned PDCH when receiving an IMMEDIATE ASSIGNMENT containing a Request Reference IE corresponding to one of its last 3 EGPRS PACKET CHANNEL REQUEST messages.

51.2.2.5.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH, Parameter MAX_RETRANS is set to 7 retransmissions.

Mobile Station:

MS is GPRS attached, PDP Context 31 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After 3 EGPRS PACKET CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT including an incorrect Request Reference. The SS verifies that the MS continues sending EGPRS PACKET CHANNEL REQUEST messages.

After the 5th EGPRS PACKET CHANNEL REQUEST message the SS sends an IMMEDIATE ASSIGNMENT including a correct Request Reference. The SS verifies that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages, switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
4	SS -> MS	IMMEDIATE ASSIGNMENT	Multi block assignment using Multiblock Allocation Struct, to order the MS to follow the two-phase access procedure. Sent on AGCH and including a Request Reference different from those included in previous EGPRS PACKET CHANNEL REQUEST messages.
5	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS continues sending EGPRS PACKET CHANNEL REQUEST messages. One or Two Phase Access Request.
6	MS -> SS	EGPRS PACKET CHANNEL REQUEST	One or Two Phase Access Request.
7	SS -> MS	IMMEDIATE ASSIGNMENT	Multi block assignment using Multiblock Allocation Struct, allocates two uplink blocks to order the MS to follow the two-phase access procedure. Sent on AGCH. With Request Reference corresponding to step 3. MS shall stop sending further access bursts.
8	MS -> SS	PACKET RESOURCE REQUEST	Received on the first block assigned in step 7.
8a (conditional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 8) indicates 1, then step 8a is performed.
8b (optional)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 8) indicates 0, then step 8b is optionally performed.
9	SS -> MS	PACKET UPLINK ASSIGNMENT	Uplink dynamic allocation. Sent on PACCH.
10	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None.

51.2.2.6 Two phase packet access / establishment cause

51.2.2.6.1 Conformance requirement

if the SI 13 indicates that the cell is EGPRS capable and EGPRS PACKET CHANNEL REQUEST on RACH is not supported in the cell, the EGPRS mobile station shall use the 8 bit CHANNEL REQUEST message and shall initiate a two phase access request.

Reference

3GPP TS 04.18 3.5.2.1.3.4.

51.2.2.6.2 Test purpose

To verify that the mobile station sends CHANNEL REQUEST using two-phase packet access.

51.2.2.6.3 Method of test

Initial conditions

System Simulator: Default settings except:

- SI13 indicating that EGPRS_PACKET_CHANNEL_REQUEST is not supported in the cell

Mobile Station:

- MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate acknowledged uplink data transfer. The SS shall verify that CHANNEL REQUEST indicates two-phase access.

Maximum duration of the test

2 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate the transfer of 200 user data octets.
2	MS -> SS	CHANNEL REQUEST	Two Phase Access Request. Received on RACH.
3	SS -> MS	IMMMEDIATE ASSIGNMENT	Multi block allocation struct, allocating two uplink blocks. Sent on AGCH.
4	MS -> SS	PACKET RESOURCE REQUEST	Received on the first block assigned in step 3.
4a (condi-tional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 4) indicates 1, then step 4a is performed.
4b (option al)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 4) indicates 0, then step 4b is optionally performed.
5	SS -> MS	PACKET UPLINK ASSIGNMENT	Dynamic allocation struct MCS1. Sent on the PACCH of the assigned PDCH.
6		{Uplink data transfer, dynamic allocation}	Macro. Completion from step 4 in the TBF procedure.

Specific message contents

None.

51.2.2.7 Initiation of the packet access procedure by IPA capable MS / IMMEDIATE PACKET ASSIGNMENT message configured initially and later not configured on MS own Paging sub-channel

51.2.2.7.1 Conformance requirements

If the mobile station supports the IMMEDIATE PACKET ASSIGNMENT message, the mobile station shall monitor cell's capability for IMMEDIATE PACKET ASSIGNMENT message within paging messages received on its own paging sub-channel.

Purpose of the packet access procedure	EGPRS PACKET CHANNEL REQUEST supported in the cell	EGPRS PACKET CHANNEL REQUEST not supported in the cell
User data transfer - requested RLC mode = unacknowledged	EGPRS PACKET CHANNEL REQUEST with access type = 'Two Phase Access Request'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request' or 'Two Phase Access Request'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged (Reduced Latency supported by MS)	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request by Reduced Latency MS' (NOTE 2)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged by an IPA capable mobile station	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request' or 'Two Phase Access Request by IPA capable MS' (NOTE 3)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer (e.g. page response, cell update, MM signalling, etc)	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer for a mobile station configured for "*NAS signalling low priority*" (e.g. page response, cell update, MM signalling, etc)	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling' (NOTE 5) or 'Two Phase Access Request' (NOTE 6)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer (e.g. page response, cell update, MM signalling, etc) by an IPA capable mobile station	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling Request by IPA capable MS'(NOTE 4)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Sending of a measurement report or of a PACKET CELL CHANGE FAILURE	CHANNEL REQUEST with establishment cause = 'Single block packet access'	
Sending of a PACKET PAUSE message	CHANNEL REQUEST with establishment cause = 'Single block packet access' (NOTE 1)	
Sending of an MBMS Service Request message	CHANNEL REQUEST with establishment cause = 'Single block MBMS access'	

NOTE 1: Upon sending the first CHANNEL REQUEST message the mobile station shall start timer T3204. If timer T3204 expires before an IMMEDIATE ASSIGNMENT message granting a single block period on an assigned packet uplink resource is received, the packet access procedure is aborted. If the mobile station receives an IMMEDIATE ASSIGNMENT message during the packet access procedure indicating a packet downlink assignment procedure, the mobile station shall ignore the message.

NOTE 2: The One phase Access Request by Reduced Latency MS shall be used by the mobile station supporting reduced latency if Reduced Latency Access is supported by the network. The 'One Phase Access Request by Reduced Latency MS' or 'Two Phase Access Request by IPA capable MS' may be used instead if the mobile station is capable of both Reduced Latency and IMMEDIATE PACKET ASSIGNMENT and the network supports IMMEDIATE PACKET ASSIGNMENT message and Reduced Latency Access.

NOTE 3: (This note does not apply if Note 2 is applicable) The 'One Phase Access Request' with IPA capability signalled by the MultislotClass field in the EGPRS PACKET CHANNEL REQUEST message or 'Two Phase Access Request by IPA capable MS' shall be used by the mobile station supporting IMMEDIATE PACKET ASSIGNMENT message if support of the IMMEDIATE PACKET ASSIGNMENT message is signalled by the network.

NOTE 4: The 'Signalling Request by IPA capable MS' shall be used if both mobile station and network supports IMMEDIATE PACKET ASSIGNMENT.

NOTE 5: The access type 'Signalling' shall be used if a mobile station receives an indication from the upper layers to override *NAS signalling low priority*

NOTE 6: The access type 'Two Phase Access Request' shall be used if a mobile station does not receive an indication from the upper layers to override *NAS signalling low priority*

References

3GPP TS 44.018 subclause 3.5.2.1.2

51.2.2.7.2 Test purpose

To verify that the IPA capable MS shall monitor cell's capability for IMMEDIATE PACKET ASSIGNMENT message within the paging messages received on its own paging sub-channel. If the capability for IMMEDIATE PACKET ASSIGNMENT message within the paging messages received on its own paging sub-channel is configured initially by the network, the IPA capable MS follows the packet access procedure defined for an IPA capable MS. Later, when the capability for IMMEDIATE PACKET ASSIGNMENT message is not configured on the IPA capable MS own paging sub-channel via the PAGING REQUEST TYPE 1 with the IPA Support bit set to '0', the MS follows the legacy packet access procedure.

51.2.2.7.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. IPA support bit set to '1' in paging messages of MS paging-sub-channel.

Mobile Station:

MS is GPRS attached.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to activate PDP context. MS sends EGPRS PACKET CHANNEL REQUEST with establishment cause "Signalling by IPA capable MS". SS sends IMMEDIATE ASSIGNMENT and PDP context activation procedure is completed. SS configures MS paging-sub-channel to indicate support for IPA message. SS waits until MS reads its paging-sub-channel. MS is triggered to initiate an uplink data transfer of RLC data blocks with acknowledged mode. MS sends EGPRS PACKET CHANNEL REQUEST with establishment cause "Two Phase Access Request". SS sends IMMEDIATE ASSIGNMENT and Uplink data transfer is completed.

Maximum duration of the test

3 minutes.

Expected sequence

Step	Direction	Message	Comments
1	SS		Wait until MS is in DRX mode and reads its paging-sub-channel.
2	MS		MS is triggered to initiate the PDP Context Activation procedure with PDP Context 31
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Establishment cause = "Signalling by IPA capable MS" Received on RACH.
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	
5	MS -> SS	Completion of macro { PDP context activation, IPA capable MS }	SS allows MS to complete the PDP context activation procedure.
6	SS		MS paging-sub-channel is configured to indicate not support for IPA message (IPA support bit set to '0').
7	SS		SS waits until MS reads its paging-sub-channel.
8	MS		MS is triggered to transfer data
9	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Establishment cause = "Two Phase Access Request" Received on RACH.
10	SS -> MS	IMMEDIATE ASSIGNMENT	
11	MS -> SS	Completion of macro { Uplink data transfer }	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None.

51.2.2.8 Initiation of the packet access procedure by IPA capable MS / IMMEDIATE PACKET ASSIGNMENT message not configured initially and later configured on MS own Paging sub-channel

51.2.2.8.1 Conformance requirements

If the mobile station supports the IMMEDIATE PACKET ASSIGNMENT message, the mobile station shall monitor cell's capability for IMMEDIATE PACKET ASSIGNMENT message within paging messages received on its own paging sub-channel.

Purpose of the packet access procedure	EGPRS PACKET CHANNEL REQUEST supported in the cell	EGPRS PACKET CHANNEL REQUEST not supported in the cell
User data transfer - requested RLC mode = unacknowledged	EGPRS PACKET CHANNEL REQUEST with access type = 'Two Phase Access Request'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request' or 'Two Phase Access Request'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged (Reduced Latency supported by MS)	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request by Reduced Latency MS' (NOTE 2)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
User data transfer - requested RLC mode = acknowledged by an IPA capable mobile station	EGPRS PACKET CHANNEL REQUEST with access type = 'One Phase Access Request' or 'Two Phase Access Request by IPA capable MS' (NOTE 3)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer (e.g. page response, cell update, MM signalling, etc)	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling'	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer for a mobile station configured for "*NAS signalling low priority*" (e.g. page response, cell update, MM signalling, etc)	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling' (NOTE 5) or 'Two Phase Access Request' (NOTE 6)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Upper layer signalling transfer (e.g. page response, cell update, MM signalling, etc) by an IPA capable mobile station	EGPRS PACKET CHANNEL REQUEST with access type = 'Signalling Request by IPA capable MS' (NOTE 4)	CHANNEL REQUEST with establishment cause = 'Single block packet access' for initiation of a two-phase access
Sending of a measurement report or of a PACKET CELL CHANGE FAILURE	CHANNEL REQUEST with establishment cause = 'Single block packet access'	
Sending of a PACKET PAUSE message	CHANNEL REQUEST with establishment cause = 'Single block packet access' (NOTE 1)	
Sending of an MBMS Service Request message	CHANNEL REQUEST with establishment cause = 'Single block MBMS access'	

NOTE 1: Upon sending the first CHANNEL REQUEST message the mobile station shall start timer T3204. If timer T3204 expires before an IMMEDIATE ASSIGNMENT message granting a single block period on an assigned packet uplink resource is received, the packet access procedure is aborted. If the mobile station receives an IMMEDIATE ASSIGNMENT message during the packet access procedure indicating a packet downlink assignment procedure, the mobile station shall ignore the message.

NOTE 2: The One phase Access Request by Reduced Latency MS shall be used by the mobile station supporting reduced latency if Reduced Latency Access is supported by the network. The 'One Phase Access Request by Reduced Latency MS' or 'Two Phase Access Request by IPA capable MS' may be used instead if the mobile station is capable of both Reduced Latency and IMMEDIATE PACKET ASSIGNMENT and the network supports IMMEDIATE PACKET ASSIGNMENT message and Reduced Latency Access.

NOTE 3: (This note does not apply if Note 2 is applicable) The 'One Phase Access Request' with IPA capability signalled by the MultislotClass field in the EGPRS PACKET CHANNEL REQUEST message or 'Two Phase Access Request by IPA capable MS' shall be used by the mobile station supporting IMMEDIATE PACKET ASSIGNMENT message if support of the IMMEDIATE PACKET ASSIGNMENT message is signalled by the network.

NOTE 4: The 'Signalling Request by IPA capable MS' shall be used if both mobile station and network supports IMMEDIATE PACKET ASSIGNMENT.

NOTE 5: The access type 'Signalling' shall be used if a mobile station receives an indication from the upper layers to override *NAS signalling low priority*

NOTE 6: The access type 'Two Phase Access Request' shall be used if a mobile station does not receive an indication from the upper layers to override *NAS signalling low priority*

References

3GPP TS 44.018 subclause 3.5.2.1.2

51.2.2.8.2 Test purpose

To verify that the IPA capable MS shall monitor cell's capability for IMMEDIATE PACKET ASSIGNMENT message within the paging messages received on its own paging sub-channel. If the capability for IMMEDIATE PACKET ASSIGNMENT message within the paging messages received on its own paging sub-channel is not configured initially by the network, the IPA capable MS follows the legacy packet access procedure. Later, when the capability for IMMEDIATE PACKET ASSIGNMENT message is configured on the IPA capable MS own paging sub-channel via the PAGING REQUEST TYPE 1 message with the IPA Support bit set to '1', the MS follows the packet access procedure defined for a IPA capable MS.

51.2.2.8.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. IPA support bit set to '0' in paging messages of MS paging-sub-channel.

Mobile Station:

MS is GPRS attached and PDP context 31 activated.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate an uplink data transfer. MS sends EGPRS PACKET CHANNEL REQUEST with establishment cause "Two Phase Access Request". SS sends IMMEDIATE ASSIGNMENT and Uplink data transfer is completed. SS configures MS paging-sub-channel to indicate support for IPA message. SS waits until MS reads its paging-sub-channel. MS is triggered to initiate an uplink data transfer of RLC data blocks with acknowledged mode. MS sends EGPRS PACKET CHANNEL REQUEST with establishment cause "Two Phase Access Request by IPA capable MS". SS sends IMMEDIATE PACKET ASSIGNMENT and Uplink data transfer is completed.

Maximum duration of the test

3 minutes.

Expected sequence

Step	Direction	Message	Comments
1	SS		Wait until MS is in DRX mode and reads its paging-sub-channel.
2	MS		MS is triggered to transfer data
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Establishment cause = "Two Phase Access Request" Received on RACH.
4	SS -> MS	IMMEDIATE ASSIGNMENT	
5	MS -> SS	Completion of macro { Uplink data transfer }	SS allows MS to complete the uplink data transfer.
6	SS		MS paging-sub-channel is configured to indicate support for IPA message (IPA support bit set to '1').
7	SS		SS waits until MS reads its paging-sub-channel.
8	MS		MS is triggered to transfer data
9	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Establishment cause = "Two Phase Access Request by IPA capable MS" Received on RACH.
10	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	
11	MS -> SS	Completion of macro { Uplink data transfer }	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None.

51.2.3 Packet immediate assignment / One phase packet access

51.2.3.1 Two-message assignment / Successful case

51.2.3.1.1 Conformance requirements

If the mobile station receives an IMMEDIATE ASSIGNMENT message and the Dedicated mode or TBF information element indicates that this is the first message in a two-message assignment, the mobile station shall continue to listen to the full CCCH. The network may send a second IMMEDIATE ASSIGNMENT message within two multiframe periods following the first IMMEDIATE ASSIGNMENT, specifying the packet channel description and, if required, a mobile allocation for the assignment.

On receipt of an IMMEDIATE ASSIGNMENT message or, in case of a two-message assignment, a matching pair of IMMEDIATE ASSIGNMENT messages corresponding to one of its 3 last EGPRS PACKET CHANNEL REQUEST messages, the mobile station stops T3146 (if running), stops sending EGPRS PACKET CHANNEL REQUEST messages, and switches to the assigned PDCH.

Reference

    3GPP TS 04.18 subclause 3.5.2.1.3.1.

51.2.3.1.2 Test purpose

To verify that the MS correctly decodes a two-message assignment and switches to the assigned PDCH.

51.2.3.1.3 Method of test

Initial conditions

    System Simulator:

        1 cell, CCCH combined with SDCCH.

    Mobile Station:

        MS is GPRS attached, PDP Context 31 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST the SS sends a two-message IMMEDIATE ASSIGNMENT which actually describes a default IMMEDIATE ASSIGNMENT message, except that it is split in two parts: basically, the first part contains the IA Rest Octets, and the second part the Packet Channel Description IE.

The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment
4	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents), sent within two multiframes after step 3.
5	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific message contents:

IMMEDIATE ASSIGNMENT (first message)

Information Element	Value
as default except:	
Dedicated mode or TBF:	
- TMA	1 (is first message of a two-message assignment)
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	all bits are set to '0'
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	as default

IMMEDIATE ASSIGNMENT (second message)

Information Element	Value
as default except:	
Dedicated mode or TBF:	
- TMA	0
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	as default
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	Second Part Assignment.

51.2.3.2 Two-message assignment / Failure cases

51.2.3.2.1 Conformance requirements

If the indirect encoding is used, the IMMEDIATE ASSIGNMENT message may contain a CHANGE_MARK_1 field. If that is present, the mobile station shall verify the validity of the SI13_CHANGE_MARK associated with the GPRS mobile allocation to which the message refers, see 3GPP TS 04.60. If the CHANGE_MARK_1 field and the SI13_CHANGE_MARK do not match, the message does not satisfactorily define a PDCH.

The two IMMEDIATE ASSIGNMENT messages in a two-message assignment shall have the same contents of the Request Reference information elements.

If the mobile station does not receive the second IMMEDIATE ASSIGNMENT messages in a two-message assignment within two multiframe periods following the first message, the mobile station shall discard the first IMMEDIATE ASSIGNMENT message received.

If the information available in the mobile station, after the reception of an IMMEDIATE ASSIGNMENT message or the second IMMEDIATE ASSIGNMENT message of a two-message assignment, does not satisfactorily define a PDCH, a TBF establishment failure has occurred.

Reference

3GPP TS 04.18 subclauses 3.5.2.1.3.1 and 3.5.2.1.5.

51.2.3.2.2 Test purpose

To verify that the MS does not respond to a two-message assignment if:

- CHANGE_MARK_1 does not match SI13 CHANGE_MARK.

- the second IMMEDIATE ASSIGNMENT message is not received within two multiframes after the first - message.

- Request References in both messages do not have same contents.

51.2.3.2.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH, CHANGE_MARK in SI13 is set to 1, TX-INTEGER = 7.

MAX_RETRANS = 7.

Mobile Station:

MS is GPRS attached, PDP Context 31 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST the SS sends a two-message IMMEDIATE assignment:

- **first attempt:** CHANGE_MARK_1 does not match SI13 CHANGE_MARK, leading to TBF establishment failure. (see 3GPP TS 04.18 subclause 3.5.2.1.5).

- **second attempt:** the second IMMEDIATE ASSIGNMENT message is not received within two multiframes after the first message. The MS shall discard the assignment and continue with packet access.

- **third attempt:** Request References in both messages do not have same contents. MS shall re-initiate packet access.

- **fourth attempt:** the second IMMEDIATE ASSIGNMENT message is received in the last access grant block before the second multiframes after the first message. In this case the MS shall successfully switch to the assigned PDCH and complete the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to initiate uplink data transfer.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment with contents as specified below (see specific message contents).
4	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) except: Packet Channel Description IE describes a hopping channel including CHANGE_MARK_1 different from SI13 CHANGE_MARK.
-			Step 4a is an optional test step and is depending on the MS implementation. If the SS doesn't receive EGPRS PACKET CHANNEL REQUEST message within 5 sec step 4a applies.
4a (optional test step)			The MS is triggered to initiate uplink data transfer.
5	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS shall initiate packet access
5A			If the MS requests two phase access the Test Case is terminated
6	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents)
7	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) sent after two multiframes after the first message.
8	MS -> SS	EGPRS PACKET CHANNEL REQUEST	The MS shall discard the assignment and continue with packet access.
8A			If the MS requests two phase access the Test Case is terminated
9	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents) including a Request Reference corresponding to step 8.
10	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) except: Request Reference is different from that in step 8.
11	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS shall re-initiate packet access
11A			If the MS requests two phase access the Test Case is terminated
12	SS -> MS	IMMEDIATE ASSIGNMENT	first message of two-message assignment (see specific message contents)
13	SS -> MS	IMMEDIATE ASSIGNMENT	second message (see specific message contents) sent in the last access grant block before the second multiframe after the first message elapses.
14	MS<->SS	Completion of macro { Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific message contents:

IMMEDIATE ASSIGNMENT (first message)

Information Element	Value
as default except:	
Dedicated mode or TBF:	
- TMA	1 (is first message of a two-message assignment)
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	all bits are set to '0'
Request Reference:	as default
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	as default

IMMEDIATE ASSIGNMENT (second message)

Information Element	Value
as default except:	
Dedicated mode or TBF:	
- TMA	0
- Downlink	0
- T/D	1 (assign a TBF)
Packet Channel Description:	as default
Request Reference:	as default (0111 1111)
Timing Advance:	as default
Starting Time:	not present
IA Rest Octets:	HH
	{ 1 < Second Part Packet Assignment > }
< Second Part Packet Assignment > ::=	
{ H { 1 Extended RA > }	Last five bits of the EGPRS Packet Channel Request received.

51.2.3.3 Packet uplink assignment / Polling bit set

51.2.3.3.1 Conformance requirement

If the Polling bit is set to 1, MS shall send a PACKET CONTROL ACKNOWLEDGEMENT message (see 04.60) on the assigned PDCH, in the uplink block specified by the TBF Starting Time. In this case the TBF Starting Time is used both to indicate when the assigned PDCH becomes valid and to specify the uplink block.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

51.2.3.3.2 Test purpose

To verify that the MS sends a PACKET CONTROL ACKNOWLEDGEMENT message in the correct uplink block if the Polling bit is set in packet uplink assignment construction.

51.2.3.3.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP Context 31 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and with the Polling bit set. The MS shall send a PACKET CONTROL ACKNOWLEDGMENT on the assigned uplink block and then complete the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		MS is triggered to initiate uplink data transfer.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access and Polling bit set, and arbitrarily chosen TBF starting time in the future.
4	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	sent on the block indicated by TBF starting time in step 3.
5	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 3:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.4 One phase packet access / Contention resolution / Successful case

51.2.3.4.1 Conformance requirements

After receiving an IMMEDIATE ASSIGNMENT message in which one phase packet access for an uplink transfer is granted, the mobile station shall start timer T3164 and proceed with the contention resolution at one phase access defined in 3GPP TS 04.60.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

3GPP TS 04.60 subclause 7.1.2.3.

51.2.3.4.2 Test purpose

To verify that the MS includes the correct TLLI (Temporary Logical Link Identifier) in the first RLC data blocks until contention resolution is completed.

51.2.3.4.3 Method of test

Initial conditions

System Simulator:

1cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the RLC data blocks which are sent preceding the reception of PACKET UPLINK ACK/NACK.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
1A			If the MS requests two phase access the Test Case is terminated
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase access
3	MS -> SS	3 RLC data blocks	SS verifies correct TLLI in RLC headers.
4	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI
5	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 2:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.5 One phase packet access / Contention resolution / TLLI mismatch

51.2.3.5.1 Conformance requirement

If the TLLI in the PACKET UPLINK ACK/NACK message differs from that sent by the MS in the RLC block headers, the MS shall immediately stop transmitting on this TBF and re-initiate the packet access procedure unless it has already been repeated 4 times.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

3GPP TS 04.60 subclause 7.1.2.3.

51.2.3.5.2 Test purpose

To verify that the MS immediately stops transmitting if it receives a PACKET UPLINK ACK/NACK with incorrect TLLI.

51.2.3.5.3 Method of test

Initial conditions

System Simulator:

1cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the first three blocks. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including an incorrect TLLI. The SS shall verify that the MS 'immediately' stops transmitting (see note below) and retries packet access procedure.

NOTE: The MS is allowed to transmit n RLC blocks after the block containing the PACKET UPLINK ACK/NACK message (the exact value of n is specified in 3GPP TS 05.10 subclause 6.11).

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
1A			If the MS requests two phase access the Test Case is terminated
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase packet access granted, dynamic allocation.
3	MS -> SS	3 RLC data blocks	SS verifies correct TLLI in RLC headers.
4	SS -> MS	PACKET UPLINK ACK/NACK	Including incorrect TLLI
5	SS		The SS verifies that the MS transmits at most further n (=6) data blocks after step 4 (see Note) before re-initiating packet access.
6	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS re-initiates packet access procedure.
6A			If the MS requests two phase access the Test Case is terminated
7	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, one phase packet access granted, dynamic allocation.
8	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Steps 2 and 7:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.6 One phase packet access / Contention resolution / Counter N3104

51.2.3.6.1 Conformance requirement

The contention resolution has failed on the mobile station when the counter N3104 has reached its maximum value.

Reference

3GPP TS 04.60 subclause 7.1.2.3.

51.2.3.6.2 Test purpose

To verify that the MS correctly sets and considers counter N3104.

NOTE: Counter N3104 is incremented by 1 with each new RLC/MAC block the mobile station sends until the first PACKET UPLINK ACK/NACK message is received.

Its maximum value is N3104_MAX = 3 * (BS_CV_MAX+3)* no-of-timeslots-assigned, where BS_CV_MAX is broadcast in SI 13 Rest Octets.

51.2.3.6.3 Method of test

Initial conditions

System Simulator: Default settings except:

1 cell, CCCH combined with SDCCH, BS_CV_MAX value in System Information Type 13 arbitrarily chosen in the range 3 to 10.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer 1000 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. SS assigns radio resource to the MS. The MS shall start transferring RLC data blocks. The SS verifies that the MS sends N3104_MAX data blocks. The SS verifies that the MS stops transmitting after sending N3104_MAX radio blocks and restarts packet access procedure.

At the second attempt, the SS sends PACKET UPLINK ACK/NACK exactly after N3104_MAX - 1 data blocks. The SS verifies that this time the MS does not abort the access procedure and successfully completes uplink transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS is triggered to transfer 1000 data octets.
1A			If the MS requests two phase access the Test Case is terminated
2	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, indicating one phase packet access
3	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	With MS USF
4	MS -> SS	RLC data block	
5			Step 3 and 4 are repeated until N3104_MAX data blocks are received.
6	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS verifies that MS does not send further RLC data blocks and that MS re-initiates packet access procedure.
6A			If the MS requests two phase access the Test Case is terminated
7	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, indicating one phase packet access granted.
8	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	With MS USF
9	MS -> SS	RLC data block	
-			Step 8 and 9 are repeated until N3104_MAX – 1 data blocks are received.
10	SS -> MS	PACKET UPLINK ACK/NACK	
11	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Steps 2 and 8:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.7 One phase packet access / Contention resolution / Timer T3166

51.2.3.7.1 Conformance requirement

The contention resolution has failed on the mobile station when the counter N3104 has reached its maximum value, or on expiry of timer T3166.

Reference

3GPP TS 04.60 subclause 7.1.2.3.

51.2.3.7.2 Test purpose

To verify that the MS correctly considers timer T3166.

51.2.3.7.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH, BS_CV_MAX value in System Information Type 13 is set to 15.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer 1 000 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and dynamic allocation. The MS shall start transferring RLC data blocks. The SS reduces the block transfer rate by controlling the USF flag. In this way, the SS forces T3166 (with value 5 s.) to expire before counter N3104 reaches N3104_MAX (with value 45 blocks for current settings). The SS verifies that the MS stops transmitting and restarts packet access procedure.

At the second attempt, the SS sends PACKET UPLINK ACK/NACK before T3166 seconds. The SS verifies that this time the MS does not abort the access procedure and successfully completes the data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS is triggered to transfer 1000 data octets.
1A			If the MS requests two phase access the Test Case is terminated
2	SS -> MS	IMMEDIATE ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation. MCS1 shall be used.
3	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF addressing the MS
4	MS -> SS	RLC data block	
5	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
8	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
9	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
11	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
12	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
14	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
15	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF not addressing the MS
16	MS<->SS		Steps 3 to 15 are repeated at most 22 times or until MS does not send further RLC data blocks at step 4. Note: steps 3 to 15 transfer one block every 52 frames, or 240 ms. 22 repetitions require about 5.5 s. (Timer T3166 shall expire)
17	MS -> SS	EGPRS PACKET CHANNEL REQUEST	MS re-initiates packet access procedure.
17A			If the MS requests two phase access the Test Case is terminated
18	SS -> MS	IMMEDIATE ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation.
19	MS<->SS		Steps 3 to 15 are repeated 17 times. Note: 17 repetitions require about 4.3 s. (Timer T3166 should not expire)
20	SS -> MS	PACKET UPLINK ACK/NACK	
21	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Steps 2 and 18:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.8 One phase packet access / Contention resolution / 4 access repetition attempts

51.2.3.8.1 Conformance requirement

If contention resolution for packet access fails, the mobile station shall reinitiate the packet access procedure unless it has already been repeated 4 times.

Reference

3GPP TS 04.60/44.060 subclause 7.1.2.3.

51.2.3.8.2 Test purpose

To verify that the MS attempts the packet access initiation 4 or 5 times.

51.2.3.8.3 Method of test

Initial conditions

System Simulator:

1cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

- Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

PIXIT Statements

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Test procedure

The MS is triggered to transfer 200 octets of data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access. The MS shall start transferring RLC data blocks including the correct TLLI in the first three blocks. The SS acknowledges the RLC block transfer with a PACKET UPLINK ACK/NACK including a TLLI not corresponding to the MS. The SS shall verify that the MS stops transmitting blocks and attempts packet access a total of four or five times.

Note:

The MS is allowed to transmit n RLC blocks after the block containing the PACKET UPLINK ACK/NACK message (the exact value of n is specified in 3GPP TS 05.10 subclause 6.11).

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted, dynamic allocation.
4	MS -> SS	3 RLC data blocks	
5	SS -> MS	PACKET UPLINK ACK/NACK	including incorrect TLLI
6	MS -> SS		MS aborts packet access procedure, and is allowed to transmit at most n RLC data blocks (see Note above).
7	MS<->SS		repetition 1: MS shall reinitiate a packet access procedure, steps 2 to 6 are repeated.
8	MS<->SS		repetition 2: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.
9	MS<->SS		repetition 3: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.
10 (optional step)	MS<->SS		If PICS 'Release of EGPRS supported' for MS is Release 99 or 4, this step is optional. If PICS 'Release of EGPRS supported' for MS is Release 5 or later, this step is not allowed. repetition 4: MS reinitiates a packet access procedure, steps 2 to 6 are repeated.
NOTE:	After step 10 the MS may reinitiate a packet access procedure, since higher layers may request to restart the access procedure.		

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 3:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.9 One phase packet access / TBF starting time

51.2.3.9.1 Conformance requirement

In case the packet uplink assignment construction contains a TBF starting time and the mobile station receives the IMMEDIATE ASSIGNMENT message before the TBF starting time has expired, it shall wait until the frame number indicated by the TBF starting time before accessing the channel. If the mobile station receives the message after the TBF starting time has expired, it shall ignore the TBF starting time and may immediately access the channel.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

3GPP TS 04.60 subclause 8.1.1.5.

51.2.3.9.2 Test purpose

To verify that the MS correctly considers the TBF Starting Time included in the IMMEDIATE ASSIGNMENT message.

51.2.3.9.3 Method of test

Initial conditions

System Simulator:

1cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and containing a TBF starting time. The MS may start transferring RLC data blocks at the exact frame specified by the TBF starting time.

The test is repeated with a TBF starting time in the past. In this case the MS shall 'immediately' (see note below) send RLC data blocks.

NOTE: The MS shall start transmitting RLC blocks within n blocks after the block containing the IMMEDIATE ASSIGNMENT message (the exact value of n is specified in 3GPP TS 05.10 subclause 6.11.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
1A			If the MS requests two phase access the Test Case is terminated
2	SS -> MS	IMMEDIATE ASSIGNMENT	indicating one phase packet access granted, dynamic allocation and an arbitrarily chosen TBF Starting Time (indicating a future frame number).
3	SS		SS continually sends PACKET DOWLINK DUMMY CONTROL BLOCK containing USF assigned to the MS. SS verifies that MS does not transmit for frame numbers below TBF Starting Time.
4	MS -> SS	3 RLC data blocks	SS verifies that first RLC block arrives on first allowed block after TBF Starting Time.
5	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
6	MS -> SS	RLC data blocks	
7	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.
8	MS		The MS is triggered again to transfer 200 octets of data.
9	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
9A			If the MS requests two phase access the Test Case is terminated
10	SS -> MS	IMMEDIATE ASSIGNMENT	Indicating one phase packet access granted, dynamic allocation and an arbitrarily chosen TBF Starting Time with value less than current frame number.
A11 (Optional step)	MS -> SS	3 RLC data blocks	SS continually sends PACKET DOWLINK DUMMY CONTROL BLOCK containing USF assigned to the MS. SS verifies that MS starts sending RLC data blocks. The SS shall not check the number of blocks before the MS starts to send RLC blocks.
A12 (Optional step)	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
A13 (Optional step)	MS -> SS	RLC data blocks	Go to step 14
B11 (Optional step)	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
B12 (Optional step)			If the MS requests two phase access the Test Case is terminated
B13 (Optional step)	SS -> MS	IMMEDIATE ASSIGNMENT	Go to step 14
C11 (Optional step)			Verify that the MS does not send anything. Go to step 15
14	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer.
15			

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Steps 2, 10 and B13:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.10 One phase packet access / Timing Advance Index present

51.2.3.10.1 Conformance requirement

If the timing advance index (TAI) is included in the packet uplink assignment construction, the mobile station shall use the continuous update timing advance mechanism, see 3GPP TS 05.10, using PTCCH in the same timeslot as the assigned PDCH.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

3GPP TS 03.64 subclause 6.5.7.2.

51.2.3.10.2 Test purpose

To verify that the MS uses the continuous update timing advance mechanism and sends access bursts in the PTCCH slots as determined by the Timing Advance Index (TAI) sent in the IMMEDIATE ASSIGNMENT.

51.2.3.10.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered for uplink data transfer. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message indicating one phase packet access and containing a Timing Advance Index. During TBF transfer, the SS shall verify the access bursts sent by the MS in the PTCCH.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 440 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	For one phase packet access, dynamic allocation and including Timing Advance Index TAI=0.
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Assigning the USF assigned in step 3. Sent on PDCH, 3 block after the message sent in step 3
5	MS -> SS	RLC data block	
6	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
7			Wait for 3 blocks.
8	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer. During the data transfer, USF is assigned to MS once in 250ms

Verification

During TBF transfer (steps 4 to 8) the SS monitors access bursts on PTCCH which are located on slots with numbers FN, such that (FN mod (8*52)) = 12 for TAI = 0 (3GPP TS 03.64/6.5.7.2 and 3GPP TS 05.02/Table 6). The access burst contents shall be '11111111111'.

The test is repeated once more with an arbitrarily chosen TAI in the range 1 to 15. SS shall verify that the access bursts are sent in the correct PTCCH slots as specified in 3GPP TS 05.02 table 6.

51.2.3.11 One phase packet access / Timing Advance Index not present

51.2.3.11.1 Conformance requirement

If a timing advance index (TAI) field is not included, the continuous update timing advance mechanism shall not be used.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.2.

51.2.3.11.2 Test purpose

To verify that the MS does not send any access bursts on PTCCH (i.e. it does not use the continuous update timing advance mechanism) if TAI is not present in the IMMEDIATE ASSIGNMENT message.

51.2.3.11.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. The SS assigns packet uplink resources in an IMMEDIATE ASSIGNMENT message not including a Timing Advance Index. During TBF transfer, the SS shall verify that the MS does not send any access bursts in idle frames.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 440 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE ASSIGNMENT	not including Timing Advance Index
4	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Assigning the USF assigned in step 3. Sent on PDTCH, 3 block after the message sent in step 3
5	MS -> SS	RLC data block	
6	SS -> MS	PACKET UPLINK ACK/NACK	Including correct TLLI.
7			Wait for 3 blocks.
8	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete data transfer. During the data transfer, USF is assigned to MS once in 250ms

Verification

The SS verifies that the MS does not transmit in idle frames during data block transfer (steps 4 to 8). Idle frame numbers are 12, 25, 38 and 51 in the 52-multiframe structure.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 3:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.3.12 Packet Immediate Assignment by IPA Capable MS / One phase packet access / IPA uplink assignment

51.2.3.12.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

- the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.3.12.2 Test purpose

To verify that in the case of one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Uplink Assignment struct correctly assigns the packet uplink resource to the addressed MS and contain parameters relevant to the uplink assignment of packet resource specific to the MS.

51.2.3.12.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST the SS sends IMMEDIATE PACKET ASSIGNMENT message.

The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Default IMMEDIATE PACKET Assignment message
4	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.13 Packet Immediate Assignment by IPA Capable MS / One phase packet access / IPA uplink assignment / Consecutive EGPRS Packet Channel Requests

51.2.3.13.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

-    the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2.

51.2.3.13.2   Test purpose

To verify that in the case of one phase packet access by a MS supporting IMMEDIATE PACKET ASSIGNMENT, the MS consecutively sends EGPRS PACKET CHANNEL REQUEST messages with different Random References according to the maximum number of retransmissions defined in RACH control parameters broadcasted in the SYSTEM INFORMATION TYPE 3, when not receiving an IMMEDIATE PACKET ASSIGNMENT message from the network within a specified time limit.

To verify that the network receives all EGPRS PACKET CHANNEL REQUEST messages from the MS and responds to all by sending an IMMEDIATE PACKET ASSIGNMENT in one AGCH to the same MS with different request references. The MS reacts to only the first IMMEDIATE PACKET ASSIGNMENT message and ignores the others.

51.2.3.13.3   Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1'). RACH control parameters set to max retrans =7.

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of repeated EGPRS PACKET CHANNEL REQUEST the SS sends IMMEDIATE PACKET ASSIGNMENT including request reference from first EGPRS PACKET CHANNEL REQUEST. The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS does not answer
2A			If the MS requests two phase access the Test Case is terminated
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
4	SS--> MS	IMMEDIATE PACKET ASSIGNMENT	Including request reference from EGPRS PACKET CHANNEL REQUEST in step 2
5	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer. MS shall not send another EGPRS PACKET CHANNEL REQUEST.

Specific Message Contents:

None

51.2.3.14 Packet Immediate Assignment by IPA Capable MS / One phase packet access / IPA uplink assignment / Radio_Access_Capability_bit set

51.2.3.14.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

- the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

If the Radio Access Capability Request bit is set to 1, mobile stations addressed in the IPA Uplink Assignment struct in the IMMEDIATE PACKET ASSIGNMENT message shall send MS Radio Access Capability 2 IE in PACKET RESOURCE REQUEST message.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.3.14.2 Test purpose

To verify that in the case of one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Uplink Assignment struct correctly assigns the packet uplink resource to the addressed MS and contain parameters relevant to the uplink assignment of packet resources specific to the MS. If the Radio_Access_Capability_bit is set to 1, the MS sends the MS_Radio_Access_Capability_2_IE in the PACKET RESOURCE MESSAGE

51.2.3.14.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST the SS sends IMMEDIATE PACKET ASSIGNMENT message which contains Radio Access Capability Request bit set to 1.

MS shall send the PACKET RESOURCE REQUEST including MS Radio Access Capability 2 IE.

The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	IMMEDIATE PACKET ASSIGNMENT contains Radio Access Capability Request bit set to 1.
4	MS <-> SS	PACKET RESOURCE REQUEST	MS sends MS Radio Access Capability 2 IE.
5	MS <-> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.15 Packet Immediate Assignment by IPA Capable MS / One phase packet access / IPA uplink assignment / Multiple MS devices

51.2.3.15.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

- the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.3.15.2 Test purpose

To verify that in the case of one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Uplink Assignment struct correctly assigns the packet uplink resource for multiple MS devices and contain parameters relevant to the uplink assignment of packet resources specific to different MS devices.

To verify that the MS reacts to only the IMMEDIATE PACKET ASSIGNMENT message addressed to it, which includes the request reference from the EGPRS PACKET CHANNEL REQUEST message sent by it to the network and ignores the others, which are addressed to other MS.

51.2.3.15.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate an uplink data transfer. After reception of an EGPRS PACKET CHANNEL REQUEST message, the SS initially sends an IMMEDIATE PACKET ASSIGNMENT message to the MS, which includes a different request reference from the EGPRS PACKET CHANNEL REQUEST. The MS ignores this IMMEDIATE PACKET ASSIGNMENT message.

The SS sends another IMMEDIATE PACKET ASSIGNMENT message which includes the request reference from the EGPRS PACKET CHANNEL REQUEST sent by the MS. The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Ignored by MS. Request reference is different from EGPRS PACKET CHANNEL REQUEST in step 2
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Includes request reference from EGPRS PACKET CHANNEL REQUEST in step 2
5	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.16 Packet Immediate Assignment by IPA Capable MS / One phase packet access / IPA uplink assignment / Multiple MS devices / Radio_Access_Capability_bit set

51.2.3.16.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

-   the temporary flow identity;

-   the USF value;

-   the EGPRS channel coding command for RLC data block;

-   the timing advance value;

-   the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

If the Radio Access Capability Request bit is set to 1, mobile stations addressed in the IPA Uplink Assignment struct in the IMMEDIATE PACKET ASSIGNMENT message shall send MS Radio Access Capability 2 IE in PACKET RESOURCE REQUEST message.

Reference

   3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.3.16.2 Test purpose

To verify that in the case of one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Uplink Assignment struct correctly assigns the packet uplink resource for multiple MS devices and contain parameters relevant to the uplink assignment of packet resources specific to different MS devices. If the Radio_Access_Capability_bit is set to 1, the MS devices addressed in the IPA Uplink Assignment struct send the MS_Radio_Access_Capability_2_IE in the PACKET RESOURCE MESSAGE.

51.2.3.16.3 Method of test

Initial conditions

   System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST, the SS initially sends an IMMEDIATE PACKET ASSIGNMENT message, which includes a different request reference from the EGPRS PACKET CHANNEL REQUEST and contains the Radio Access Capability Request bit set to 1. The MS ignores this IMMEDIATE PACKET ASSIGNMENT message.

The SS sends another IMMEDIATE PACKET ASSIGNMENT message which includes the request reference from the EGPRS PACKET CHANNEL REQUEST sent by the MS and contains the Radio Access Capability Request bit set to 1.

MS shall send the PACKET RESOURCE REQUEST including MS Radio Access Capability 2 IE.

The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	IMMEDIATE PACKET ASSIGNMENT contains Radio Access Capability Request bit set to 1. Ignored by MS. Request reference is different from EGPRS PACKET CHANNEL REQUEST in step 2
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	IMMEDIATE PACKET ASSIGNMENT contains Radio Access Capability Request bit set to 1.
5	MS <-> SS	PACKET RESOURCE REQUEST	MS sends MS Radio Access Capability 2 IE.
6	MS <-> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.17 Packet Immediate Assignment by IPA capable MS/ one phase packet access /IPA uplink assignment/ Multiple MS devices/ Identical Random Reference and FN Offset

51.2.3.17.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

- the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.3.17.2 Test purpose

To verify that in the case of one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, and the IPA Uplink Assignment struct assigns the packet uplink resource for multiple MS devices with identical Random References and FN offset values. In this case, the different MS devices distinguish between their packet uplink resources by the TFI and USF values which are specific to different MS devices.

To verify that in the case that the MS receives consecutive IMMEDIATE PACKET ASSINGMENT messages containing the same packet reference request and FN offset, the MS reacts to only the IMMEDIATE PACKET ASSIGNMENT message with the matching uplink TFI or USF values.

51.2.3.17.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate an uplink data transfer. After reception of an EGPRS PACKET CHANNEL REQUEST message, the SS consecutively sends IMMEDIATE PACKET ASSIGNMENT message to the MS, which includes identical request reference and FN offset from the EGPRS PACKET CHANNEL REQUEST. The MS reacts to the IMMEDIATE PACKET ASSIGNMENT message with the matching uplink TFI and USF. The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Ignored by MS.
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	
5	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.18   Packet Immediate Assignment by IPA capable MS/ single block packet access /IPA single block uplink assignment

51.2.3.18.1   Conformance requirement

In the case the single block packet access is granted in IMMEDIATE PACKET ASSIGNMENT message, the *IPA Single Block Uplink Assignment struct* may assign one uplink block for multiple mobile stations and contains the following parameters specific to different mobile stations:

- the power control parameter setting;

- the timing advance value;

- the relative TBF starting time; and

- the frequency parameters.

In addition, the *IPA Single Block Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction.

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in 3GPP TS 04.018.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1 and 3.5.2.1.3.3

51.2.3.18.2   Test purpose

To verify that in the case the single block packet access is granted in the IMMEDIATE PACKET ASSIGNMENT, the IPA Single Block Uplink Assignment struct correctly assigns one uplink block for the addressed MS and contains parameters relevant to the single block uplink assignment to the MS.

51.2.3.18.3   Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. The SS assigns packet uplink resources for single block in an IMMEDIATE PACKET ASSIGNMENT message including a TBF starting time. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame.

The SS verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Single block packet access granted. For uplink TBF, single block assignment for an arbitrarily chosen TBF Starting Time in the future
4	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
5	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

None

51.2.3.19   Packet Immediate Assignment by IPA capable MS/ single block packet access /IPA single block uplink assignment/Consecutive EGPRS Packet Channel Requests

51.2.3.19.1   Conformance requirement

In the case the single block packet access is granted in IMMEDIATE PACKET ASSIGNMENT message, the *IPA Single Block Uplink Assignment struct* may assign one uplink block for multiple mobile stations and contains the following parameters specific to different mobile stations:

- the power control parameter setting;

- the timing advance value;

- the relative TBF starting time; and

- the frequency parameters.

In addition, the *IPA Single Block Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction.

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in 3GPP TS 04.018.

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.3

51.2.3.19.2 Test purpose

To verify that in the case of single block packet access by a MS supporting IMMEDIATE PACKET ASSIGNMENT, the MS consecutively sends EGPRS PACKET CHANNEL REQUEST messages with different Random References according to the maximum number of retransmissions defined in RACH control parameters broadcasted in the SYSTEM INFORMATION TYPE 3, when not receiving an IMMEDIATE PACKET ASSIGNMENT message from the network within a specified time limit.

To verify that the network receives all EGPRS PACKET CHANNEL REQUEST messages from the MS and responds to all by sending an IMMEDIATE PACKET ASSIGNMENT in one AGCH to the same MS with different request references. The MS reacts to only the first IMMEDIATE PACKET ASSIGNMENT message and ignores the others.

51.2.3.19.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1'). RACH control parameters set to max retrans =7.

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. After reception of repeated EGPRS PACKET CHANNEL REQUEST the SS assigns packet uplink resources for single block and sends an IMMEDIATE PACKET ASSIGNMENT including a TBF starting time and a request reference from first EGPRS PACKET CHANNEL REQUEST. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame and subsequently verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	SS does not answer
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
4	SS--> MS	IMMEDIATE PACKET ASSIGNMENT	Single block packet access granted. For uplink TBF, single block assignment for an arbitrarily chosen TBF Starting Time in the future and including request reference from EGPRS PACKET CHANNEL REQUEST in step 2
5	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
6	MS<->SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer. MS shall not send another EGPRS PACKET CHANNEL REQUEST.

Specific Message Contents:

None

51.2.3.20 Packet Immediate Assignment by IPA capable MS/single block packet access/IPA single block uplink assignment/Multiple MS devices

51.2.3.20.1 Conformance requirement

In the case the single block packet access is granted in IMMEDIATE PACKET ASSIGNMENT message, the *IPA Single Block Uplink Assignment struct* may assign one uplink block for multiple mobile stations and contains the following parameters specific to different mobile stations:

- the power control parameter setting;

- the timing advance value;

- the relative TBF starting time; and

- the frequency parameters.

In addition, the *IPA Single Block Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction.

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in 3GPP TS 04.018.

Reference

   3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.3

51.2.3.20.2 Test purpose

To verify that in the case the single block packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Single Block Uplink Assignment struct correctly assigns one uplink block for multiple MS devices and contain parameters relevant to the single block uplink assignment of packet resources specific to different MS devices.

To verify that the MS reacts to only the IMMEDIATE PACKET ASSIGNMENT message addressed to it, which includes the request reference from the EGPRS PACKET CHANNEL REQUEST message sent by it to the network and ignores the others, which are addressed to other MS.

51.2.3.20.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate an uplink data transfer. After reception of an EGPRS PACKET CHANNEL REQUEST message, the SS assigns packet uplink resources for single block and initially sends an IMMEDIATE PACKET ASSIGNMENT message to the MS, which includes a TBF starting time and a different request reference from the EGPRS PACKET CHANNEL REQUEST. The MS ignores this IMMEDIATE PACKET ASSIGNMENT message.

The SS sends another IMMEDIATE PACKET ASSIGNMENT message which includes a TBF starting time and the request reference from the EGPRS PACKET CHANNEL REQUEST sent by the MS. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame and subsequently verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Ignored by MS. Request reference is different from EGPRS PACKET CHANNEL REQUEST in step 2
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Single block packet access granted. For uplink TBF, single block assignment for an arbitrarily chosen TBF Starting Time in the future and includes request reference from EGPRS PACKET CHANNEL REQUEST in step 2
5	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
6	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE PACKET ASSIGNMENT message Step 3:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	001 IPA Single Block Uplink Assignment present
- (Addressing device 1)	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- STARTING_TIME_OFFSET	different offset to the start frame number of the assigned single uplink block
- (Addressing device 2)	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS and value of device 1
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS and value of device 1
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- STARTING_TIME_OFFSET	different to offset to the start frame number of the assigned single uplink block assigned to MS and value of device 1
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

IMMEDIATE PACKET ASSIGNMENT message Step 4:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	001 IPA Single Block Uplink Assignment present
-	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- STARTING_TIME_OFFSET	offset to the start frame number of the assigned single uplink block
-	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- STARTING_TIME_OFFSET	different to offset to the start frame number of the assigned single uplink block assigned to MS
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

51.2.3.21 Packet Immediate Assignment by IPA capable MS/single block packet access /IPA single block uplink assignment/ Multiple MS devices/Identical Random Reference and FN Offset

51.2.3.21.1 Conformance requirement

In the case the single block packet access is granted in IMMEDIATE PACKET ASSIGNMENT message, the *IPA Single Block Uplink Assignment struct* may assign one uplink block for multiple mobile stations and contains the following parameters specific to different mobile stations:

- the power control parameter setting;

- the timing advance value;

- the relative TBF starting time; and

- the frequency parameters.

In addition, the *IPA Single Block Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction.

The network shall use the TBF starting time to indicate the first frame number belonging to the single block period granted for packet access. The mobile station may use that block period to send a PACKET RESOURCE REQUEST message to initiate the two phase access defined in 3GPP TS 04.018.

Reference

    3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.3

51.2.3.21.2   Test purpose

To verify that in the case the single block packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNMENT, and the IPA Single Block Uplink Assignment struct assigns one uplink block for multiple MS devices with identical Random References and FN offset values. In this case, the different MS devices distinguish between their packet uplink resources by the relative TBF start time and frequency parameters, which are specific to different MS devices. The SS checks that the MS switches on the assigned PDTCH and the TBF is established correctly.

To verify that in the case that the MS receives consecutive IMMEDIATE PACKET ASSINGMENT messages containing the same packet reference request and FN offset, the MS reacts to only the IMMEDIATE PACKET ASSIGNMENT message with the matching relative TBF start time and frequency parameters.

51.2.3.21.3   Method of test

Initial conditions

System Simulator:

    1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

    MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate an uplink data transfer. After reception of an EGPRS PACKET CHANNEL REQUEST message, the SS assigns packet uplink resources for single block and consecutively sends IMMEDIATE PACKET ASSIGNMENT message to the MS, which includes identical request reference and FN offset from the EGPRS PACKET CHANNEL REQUEST plus a TBF starting time. The MS reacts to the IMMEDIATE PACKET ASSIGNMENT message with the matching relative TBF start time and frequency parameters. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame and subsequently verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Ignored by MS. Does not include matching relative TBF start time and frequency parameters
4	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	Includes matching relative TBF start time and frequency parameters
5	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
6	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE PACKET ASSIGNMENT message Step 3:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	001 IPA Single Block Uplink Assignment present
- (Addressing device 1)	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- STARTING_TIME_OFFSET	different offset to the start frame number of the assigned single uplink block
- (Addressing device 2)	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS and value of device 1
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS and value of device 1
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- STARTING_TIME_OFFSET	different to offset to the start frame number of the assigned single uplink block assigned to MS and value of device 1
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

IMMEDIATE PACKET ASSIGNMENT message Step 4:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	001 IPA Single Block Uplink Assignment present
-	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- STARTING_TIME_OFFSET	offset to the start frame number of the assigned single uplink block
-	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- STARTING_TIME_OFFSET	different to offset to the start frame number of the assigned single uplink block assigned to MS
- No repeat for other device	0
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

51.2.4 Packet immediate assignment / Multiblock packet access

51.2.4.1 Multiblock packet access / Packet Resource Request

51.2.4.1.1 Conformance requirement

The network shall use the TBF starting time to indicate the first frame number belonging to the multiblock period granted for packet access. If a multiple block packet access is granted, it forces the mobile station to perform a two phase packet access.

Reference

   3GPP TS 04.18 subclauses 3.5.2.1.3.1 and 3.5.2.1.3.3a.

51.2.4.1.2 Test purpose

To verify that the MS sends PACKET RESOURCE REQUEST in the assigned block as indicated by the TBF starting time when it is triggered for uplink transfer.

51.2.4.1.3 Method of test

Initial conditions

   System Simulator:

1 cell, CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate uplink data transfer. The SS assigns packet uplink resources for multiblock in an IMMEDIATE ASSIGNMENT message including a TBF starting time. The SS verifies that the MS sends a PACKET RESOURCE REQUEST at the first allowed block as indicated by the TBF starting frame.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		The MS is triggered to transfer 200 octets of data.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2	SS -> MS	IMMEDIATE ASSIGNMENT	For uplink TBF, multiblock assignment for an arbitrarily chosen TBF Starting Time in the future.
3	MS -> SS	PACKET RESOURCE REQUEST	SS verifies that first block is on first allowed block starting at frame number given by TBF Starting Time.
4	SS -> MS	PACKET ACCESS REJECT	with default contents.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 2:

Information Element	value/ remark
Number of radio blocks allocated	00

51.2.4.2   Void

51.2.5   Packet immediate assignment / Packet access rejection

51.2.5.1   Packet access rejection / wait indication

51.2.5.1.1   Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last CHANNEL REQUEST messages, the mobile station stops sending CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

Reference

3GPP TS 04.18 subclause 3.5.2.1.3.4.

51.2.5.1.2 Test purpose

To verify that the MS stops sending CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT REJECT containing a Request Reference IE corresponding to one of its last 3 CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages.

Further on, the SS verifies that the MS makes a new attempt for uplink transfer only after T3142 seconds ("wait indication" timer) after last IMMEDIATE ASSIGNMENT REJECT elapse.

51.2.5.1.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH, Parameter MAX_RETRANS is set to 7 retransmissions.

Mobile Station:

MS is switched off.

Specific PICS Statements

- Release of EGPRS Supported (TSPC_MS_EGPRS_RELEASE)

- Support of EGPRS Packet Access Enhancement (TSPC_EGPRS_ENHANC)

PIXIT Statements

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Test procedure

The MS is triggered to initiate the GPRS attach procedure. After reception of 3 CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT with correct Request Reference and including a waiting indication (T3142). The SS verifies that the MS stops sending CHANNEL REQUEST or EGPRS PACKET CHANNEL REQUEST messages and does not attempt a new packet access until T3142 seconds elapse.

Maximum duration of the test

5 minutes.

NOTE:

EGPRS PACKET CHANNEL REQUEST shall be used in the following cases

a. If Release of EGPRS supported is Release 4 or above.

b. If Support of EGPRS Packet Access enhancement is True for a R99 MS.

CHANNEL REQUEST shall be used if support of EGPRS Packet Access enhancement is False for a R99 MS.

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to initiate GPRS attach procedure.
1	MS -> SS	CHANNEL REQUEST or; EGPRS PACKET CHANNEL REQUEST	
2	MS -> SS	CHANNEL REQUEST or; EGPRS PACKET CHANNEL REQUEST	
3	MS -> SS	CHANNEL REQUEST or; EGPRS PACKET CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	including Request Reference corresponding to the (EGPRS PACKET) CHANNEL REQUEST in step 1, and waiting time indication with value T3142=50s.
5	SS		SS verifies that MS does not send any further access bursts (see note below).
6	MS -> SS	CHANNEL REQUEST or; EGPRS PACKET CHANNEL REQUEST	SS verifies that the access burst does not arrive before T3142 – 0.1 * T3142 (=45s) after last IMMEDIATE ASSIGNMENT REJECT message.
7	SS -> MS	IMMEDIATE ASSIGNMENT	for uplink TBF, one phase access
8	MS<->SS	Completion of macro {GPRS attach procedure}	SS allows MS to complete GPRS attach.

The test is repeated with an arbitrarily chosen value of T3142 in the range 2 to 60 s.

NOTE: The number of frames between successive access bursts considering the default Sys Info parameters used in the test is larger than 58 frames (see 3GPP TS 04.08 / 3GPP TS 44.018 table 3.1). This value is large enough to allow the MS to respond to the IMMEDIATE ASSIGNMENT REJECT message by stopping sending the next access bursts.

Specific Message Contents:

51.2.5.2 Packet access rejection / assignment before T3142 expires

51.2.5.2.1 Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last EGPRS PACKET CHANNEL REQUEST messages, the mobile station stops sending EGPRS PACKET CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last EGPRS PACKET CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

Reference

3GPP TS 04.18, subclause 3.5.2.1.3.4.

51.2.5.2.2 Test purpose

To verify that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages when receiving an IMMEDIATE ASSIGNMENT REJECT and, if an IMMEDIATE ASSIGNMENT containing a correct Request Reference arrives before T = min {T3142, T3146} seconds elapse, then the MS shall accept this assignment. (See below for a note on T3146).

51.2.5.2.3 Method of test

Initial conditions

System Simulator: Default settings except:

Parameter MAX_RETRANS is set to 7 retransmissions.

Parameter TX_INTEGER is set to 32.

CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. After reception of 3 EGPRS PACKET CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT with correct Request Reference and including a waiting indication (T3142). The SS verifies that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages.

Before T = min {T3142, T3146} seconds elapse, the SS sends an IMMEDIATE ASSIGNMENT with correct Request Reference. The MS shall switch to the assigned PDCH and transfer the data.

Note on T3146:

NOTE: T3146 is started when sending the last EGPRS PACKET CHANNEL REQUEST or when receiving the IMMEDIATE ASSIGNMENT REJECT. At its expiry, the packet access is aborted.

The value of T3146 is given by T+2*S (3GPP TS 04.08 / 3GPP TS 44.018, clause 11.1.1), where T is TX_INTEGER and S is given in 3GPP TS 04.08 / 3GPP TS 44.018, Table 3.1. The value of T3146 is 2.15 s. for the current settings.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to transfer 200 octets.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	including Request Reference corresponding to the EGPRS PACKET CHANNEL REQUEST in step 2, and waiting time indication with value T3142 = 2 s.
5			The SS verifies that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages.
6	SS -> MS	IMMEDIATE ASSIGNMENT	sent after 1.5s. (of the last IMMEDIATE ASSIGNMENT REJECT) and including Request Reference corresponding to step 1.
7	SS<->MS	Completion of macro {Uplink data transfer }	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 6:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.5.3 Packet access rejection / Interpretation of Extended RA i / Correct value of Extended RA i

51.2.5.3.1 Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last EGPRS PACKET CHANNEL REQUEST messages, the mobile station stops sending EGPRS PACKET CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last EGPRS PACKET CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

The IMMEDIATE ASSIGNMENT REJECT message is sent on the CCCH by the network to up to four mobile stations to indicate that no channel is available for assignment.

When set to the value '0111 1111', the RA information of the Request Reference i IE indicates that an Extended RA i field may be included in the IAR Rest Octets. The mobile station shall use the information in the Extended RA i field to identify the Immediate Assignment Reject message corresponding to an EGPRS Packet Channel Request message. If the Extended RA i field is not included, the mobile station shall assume that the Request Reference i IE does not correspond to the EGPRS Packet Channel Request message.

Reference

   3GPP TS 04.18, subclause 3.5.2.1.3.4.,9.1.20

51.2.5.3.2 Test purpose

To verify that the MS correctly decode a Request Reference i IE when set to value 0111 1111 and decode the corresponding Extended RA i field in a IMMEDIATE ASSIGNMENT REJECT message.

51.2.5.3.3 Method of test

Initial conditions

   System Simulator: Default settings except:

Parameter MAX_RETRANS is set to 7 retransmissions.

Parameter TX_INTEGER is set to 32.

CCCH combined with SDCCH.

Mobile Station:

MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. After reception of 3 EGPRS PACKET CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT message with Request Reference 3 having the value '0111 1111' and including a waiting indication (T3142). The correct Extended RA value is stored in Extended RA 3 field. The SS verifies that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages.

Before T = min {T3142, T3146} seconds elapse, the SS sends an IMMEDIATE ASSIGNMENT with another value of Extended RA. The SS verifies that the MS switch to the assigned PDCH and transfer the data.

Note on T3146:

NOTE: T3146 is started when sending the last EGPRS PACKET CHANNEL REQUEST or when receiving the IMMEDIATE ASSIGNMENT REJECT. At its expiry, the packet access is aborted.

The value of T3146 is given by T+2*S (3GPP TS 04.08 / 3GPP TS 44.018, clause 11.1.1), where T is TX_INTEGER and S is given in 3GPP TS 04.08 Table 3.1 / 3GPP TS 44.018, Table 3.3.1.1.2.1. The value of T3146 is 2.28 s for the current settings.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to transfer 200 octets.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Including Request Reference 3 '0111 1111' and Extended RA 3 corresponding to the last EGPRS PACKET CHANNEL REQUEST received. All other Request Reference have value '0000 0000' WAIT INDICATION(T3142=2secs.)
5			The SS verifies that the MS stops sending EGPRS PACKET CHANNEL REQUEST messages.
6	SS -> MS	IMMEDIATE ASSIGNMENT	sent after 1.5s. (of the last IMMEDIATE ASSIGNMENT REJECT) and including the Request Reference '0111 1111' and same Extended RA as included in Step 2 (Extended RA 2). Including Dynamic Allocation Struct.
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH of the PDTCH assigned. USF assigned to the MS
8	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Verify that TFI is correct.
9	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledging the data block. Including the TLLI as received in the data block in step 8.
10	SS<->MS	Completion of macro {Uplink data transfer }	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 6:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.5.4 Packet access rejection / Interpretation of Extended RA i / Extended RA i not included

51.2.5.4.1 Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT REJECT message corresponding to one of its 3 last EGPRS PACKET CHANNEL REQUEST messages, the mobile station stops sending EGPRS PACKET CHANNEL REQUEST messages, starts timer T3142 with the indicated value, ("wait indication" information element), starts T3146 if it has not already been started, and listens to the downlink CCCH until T3146 expires. During this time, additional IMMEDIATE ASSIGNMENT REJECT messages are ignored, but any immediate assignment corresponding to any other of its 3 last EGPRS PACKET CHANNEL REQUEST messages make the mobile station follow the assignment procedure. If no such immediate assignment is received, the mobile station returns to packet idle mode.

The IMMEDIATE ASSIGNMENT REJECT message is sent on the CCCH by the network to up to four mobile stations to indicate that no channel is available for assignment.

When set to the value '0111 1111', the RA information of the Request Reference i IE indicates that an Extended RA i field may be included in the IAR Rest Octets. The mobile station shall use the information in the Extended RA i field to identify the Immediate Assignment Reject message corresponding to an EGPRS Packet Channel Request message. If the Extended RA i field is not included, the mobile station shall assume that the Request Reference i IE does not correspond to the EGPRS Packet Channel Request message.

Reference

   3GPP TS 04.18, subclause 3.5.2.1.3.4.,9.1.20

51.2.5.4.2   Test purpose

To verify that MS ignores the IMMEDIATE ASSIGNMENT REJECT message if Extended RA i field corresponding to a Request Reference i 0111 1111 is not included in the IMMEDIATE ASSIGNMENT REJECT message.

51.2.5.4.3   Method of test

Initial conditions

   System Simulator: Default settings except:

      Parameter MAX_RETRANS is set to 7 retransmissions.

      Parameter TX_INTEGER is set to 32.

      CCCH combined with SDCCH.

   Mobile Station:

      MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to transfer data. After reception of 3 EGPRS PACKET CHANNEL REQUEST messages, the SS sends an IMMEDIATE ASSIGNMENT REJECT message with Request Reference 3 having the value '0111 1111' and including a waiting indication (T3142). The Extended RA 3 field is not included in the message. The SS verifies that the MS ignores the IMMEDIATE ASSIGNMENT REJECT message and continue sending EGPRS PACKET CHANNEL REQUEST messages.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
0	MS		MS is triggered to transfer 200 octets.
1	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
3	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
4	SS -> MS	IMMEDIATE ASSIGNMENT REJECT	Including Request Reference 3 '0111 1111' and no Extended RA 3 present. All other Request Reference have value '0000 0000' WAIT INDICATION (T3142=2secs.)
5	MS -> SS	EGPRS PACKET CHANNEL REQUEST	The SS verifies that the MS ignores IMMEDIATE ASSIGNMENT REJECT message and continue sending EGPRS PACKET CHANNEL REQUEST message.
6	SS -> MS	IMMEDIATE ASSIGNMENT	Including the Request Reference '0111 1111' and Extended RA corresponding to EGPRS PACKET CHANNEL REQUEST received in Step 5. Including Dynamic Allocation Struct.
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH of the PDTCH assigned. USF assigned to the MS
8	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Verify that TFI is correct.
9	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledging the data block. Including the TLLI as received in the data block in step 8.
10	SS<->MS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 6:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS

51.2.6 Packet downlink assignment procedure using CCCH

51.2.6.1 Initiation of packet downlink assignment procedure / MS listens to correct CCCH block

51.2.6.1.1 Conformance requirement

The network initiates the packet downlink assignment procedure by sending an IMMEDIATE ASSIGNMENT message in unacknowledged mode on the CCCH timeslot corresponding to CCCH group the mobile station belongs to.

On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned TFI; it starts timer T3190.

Reference

3GPP TS 04.18 subclause 3.5.3.1.2.

51.2.6.1.2 Test purpose

To verify that the MS responds to an IMMEDIATE ASSIGNMENT for downlink TBF sent on PCH blocks corresponding to the MS's paging group.

51.2.6.1.3 Method of test

Initial conditions

System Simulator:

EGPRS supported.

Default settings except:

Parameters CCCH_CONF, BS_AG_BLKS_RES, and BS_PA_MFRMS are arbitrarily chosen.

Mobile Station:

MS is GPRS attached, DRX have been negotiated, MS is in Ready state.

A PDP context has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The SS sends an IMMEDIATE ASSIGNMENT for downlink transfer on a PCH block corresponding to its paging group (see 3GPP TS 05.02 subclause 6.5.2) which depends on Sys Info parameters and the MS's IMSI. The MS shall switch to the assigned PDCH and exercise downlink transfer.

Maximum duration of the test

NA

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment with correct TLLI.
2	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer of 200 octets of data.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Step 1:

Information Element	value/ remark
EGPRS Window Size	192 Max Window size for 1 TS
Link Quality Measurement Mode	00

51.2.6.2 Initiation of packet downlink assignment procedure / timer T3190

51.2.6.2.1 Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned TFI; it then starts timer T3190.

If the mobile station does not receive a RLC/MAC block on the assigned PDCHs before timer T3190 expires, then a TBF establishment failure has occurred.

Reference

    3GPP TS 04.18 subclause 3.5.3.1.2.

51.2.6.2.2 Test purpose

To verify that the MS returns to packet idle updated if RLC/MAC blocks are sent after T3190 seconds, and that the MS correctly receives RLC/MAC blocks if they are sent before T3190 seconds.

51.2.6.2.3 Method of test

Initial conditions

    System Simulator:

        1 cell, CCCH combined with SDCCH.

        EGPRS Supported.

    Mobile Station:

        MS is GPRS attached, PDP context 31 has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The SS assigns a PDCH for downlink transfer but does not send any RLC/MAC blocks until T3190 seconds have elapsed. The MS shall return to packed idle updated and ignore the RLC/MAC blocks.

To verify that the MS returned to packet idle updated, the SS again assigns a PDCH and sends RLC/MAC blocks before T3190 seconds elapse. The SS shall successfully transfer all RLC data blocks.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF on a PCH block corresponding to the MS, including a packet downlink assignment.
2	SS		SS waits T3190 + 10% (=5.5s) after the last IMMEDIATE ASSIGNMENT.
3	SS -> MS	RLC data blocks	SS sends data
4	SS		SS verifies for 10s. that the MS does not respond.
5	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH.
6	SS		SS waits T3190 – 10% (=4.5s) after the last IMMEDIATE ASSIGNMENT
7	SS -> MS	RLC data blocks	SS starts sending 200 octets of data, including FB=0, RRPB valid value, ESPB set
8	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	indicating correct reception of data blocks.
9	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT message:

	Information Element	value/ remark
Steps 1 & 5	EGPRS Window Size	192 Max Window size for 1 TS
Steps 1 & 5	Link Quality Measurement Mode	00
Steps 1 & 5	RLC_MODE	RLC acknowledged mode

EGPRS DOWNLINK ACK/NACK in Step 8

Information Element	value/ remark
ACK/NACK Description IE MS_OUT_OF_MEMORY IE EGPRS Channel Quality Report IE	0
Final_Ack_Indicator	0

51.2.6.3 Initiation of packet downlink assignment procedure / TBF starting time

51.2.6.3.1 Conformance requirement

The IMMEDIATE ASSIGNMENT message may indicate a TBF starting time. If the mobile station receives the message before the TBF starting time has expired, it shall wait until the frame number indicated by the TBF starting time, start timer T3190 and switch to the assigned PDCH. If the mobile station receives the message after the TBF starting time has expired, it shall ignore the indicated TBF starting time, immediately start timer T3190 and switch to the assigned PDCH.

Reference

3GPP TS 04.18 subclause 3.5.3.1.2.

51.2.6.3.2 Test purpose

To verify that the MS correctly considers the TBF starting time during downlink assignment.

51.2.6.3.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

EGPRS Supported.

Mobile Station:

MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The SS assigns a PDCH via an IMMEDIATE ASSIGNMENT including a TBF starting time. The SS does not send RLC data blocks after TBF starting time + T3190 elapses. The MS shall return to packed idle updated and ignore the RLC data blocks.

The SS assigns again a PDCH, and this time the SS sends RLC data blocks before TBF starting time + T3190 expires. The MS shall successfully receive the RLC data blocks.

Finally, the SS assigns the third time a PDCH, but including a TBF starting time which expired. The SS immediately sends RLC data blocks which shall be acknowledged by the MS.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	including a packet downlink assignment with a TBF Starting Time corresponding to 10s after the current frame number.
2	SS		SS waits 1.1 * (TBF Starting Time +T3190) (=16.5 s) after the last IMMEDIATE ASSIGNMENT.
3	SS -> MS	RLC data block	including Polling bit set and valid RRBP field.
4	SS		SS verifies for that the MS does not respond in the assigned block in step 3.
5	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH with TBF Starting Time corresponding to 10s after the current frame number.
6	SS		SS waits 0.9 * (TBF Starting Time +T3190) (= 13.5 s) after the last IMMEDIATE ASSIGNMENT.
7	SS -> MS	RLC data block	including Polling bit set and valid RRBP field.
8	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	sent in the assigned block at step 7 indicating correct reception of downlink RLC block.
9	MS<->SS	Completion of macro {Downlink data transfer}	SS completes data transfer.
10	SS -> MS	IMMEDIATE ASSIGNMENT	SS assigns again a PDCH with TBF Starting Time which already elapsed.
11	SS -> MS	RLC data block	sent in the third block after the block containing the message in step 10 (see note below), including Polling bit set and valid RRBP field.
12	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	indicating correct reception of RLC block.
13	MS<->SS	Completion of macro {Downlink data transfer}	SS completes data transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT message:

	Information Element	value/ remark
Steps 1 & 5	EGPRS Window Size	192 Max Window size for 1 TS
Steps 1 & 5	Link Quality Measurement Mode	00

EGPRS DOWNLINK ACK/NACK in Step 8

Information Element	value/ remark
ACK/NACK Description IE	
MS_OUT_OF_MEMORY IE	0
EGPRS Channel Quality Report IE	
Final_Ack_Indicator	0

NOTE: The requirements to uplink and downlink assignment reaction times are stated in 3GPP TS 05.10 subclause 6.11: An MS shall be ready to transmit and receive using a new assignment no later than the next occurrence of block B((x+3) mod 12) where block B(x) is the last radio block containing the uplink assignment.

51.2.6.4 Initiation of packet downlink assignment procedure / incorrect TFI

51.2.6.4.1 Conformance requirement

On receipt of an IMMEDIATE ASSIGNMENT message [the MS] stops monitoring downlink CCCH and switches to the assigned PDCH and starts listening for downlink RLC/MAC blocks identified by the assigned Temporary Flow Identifier (TFI).

Reference

3GPP TS 04.18 subclause 3.5.3.1.2.

51.2.6.4.2 Test purpose

To verify that the MS correctly considers the TFI in the RLC/MAC blocks.

51.2.6.4.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH.

EGPRS Supported.

Mobile Station:

MS is GPRS attached, a PDP context has been established and the MS is in Packet Idle mode.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The SS assigns a PDCH and starts transmitting RLC/MAC blocks with incorrect TFI. The MS shall ignore these RLC/MAC blocks and, after T3190 expires, return to packet idle mode.

To prove that the MS returns to idle mode, the SS assigns again a PDCH, and this time the SS sends RLC/MAC blocks with correct TFI. The MS shall successfully receive the data packets.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF
2	SS -> MS	RLC data block	SS sends RLC blocks with incorrect TFI (i.e. not corresponding to the last IMMEDIATE ASSIGNMENT), including Polling bit set and valid RRBP field.
3	SS		SS verifies that the MS does not respond in the assigned block.
4	SS		SS waits value of T3190 + 10% (=5.5s).
5	SS -> MS	IMMEDIATE ASSIGNMENT	for downlink TBF
6	SS -> MS	RLC data block	with correct TFI, including Polling bit set and valid RRBP field.
7	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	indicating correct reception of RLC block.
8	MS<->SS	Completion of macro {Downlink data transfer}	SS completes downlink transfer.

Specific Message Contents:

IMMEDIATE ASSIGNMENT message:

	Information Element	value/ remark
Steps 1 & 5	EGPRS Window Size	192 Max Window size for 1 TS
Steps 1 & 5	Link Quality Measurement Mode	00

EGPRS DOWNLINK ACK/NACK in Step 7

Information Element	value/ remark
ACK/NACK Description IE	
MS_OUT_OF_MEMORY IE	0
EGPRS Channel Quality Report IE	
Final_Ack_Indicator	0

51.2.6.5 to 51.2.6.8 FFS

51.2.6.9 Initiation of both the packet uplink and downlink assignment procedure by IPA capable MS/Simultaneous IPA uplink and downlink assignment

51.2.6.9.1 Conformance requirement

In the case the one phase packet access is granted to MS supporting IMMEDIATE PACKET ASSIGNEMENT, the *IPA Uplink Assignment struct* may assign packet uplink resource for multiple mobile stations and contain following parameters specific to different mobile stations:

- the temporary flow identity;

- the USF value;

- the EGPRS channel coding command for RLC data block;

- the timing advance value;

- the Radio Access Capabilities Request bit.

In addition, the *IPA Uplink Assignment struct* contains the timeslot number which is common to all mobile stations addressed in this construction. Relevant default values shall be used for the RLC window size, Alpha, RESEGMENT and USF_GRANULARITY parameters as specified in subclause 10.5.2.78.

At the establishment of a downlink temporary block flow for MS supporting IMMEDIATE PACKET ASSIGNMENT message, the IPA Downlink Assignment struct sent in IMMEDIATE PACKET ASSIGNMENT message may assign

packet downlink resources for multiple mobile stations and contains the following parameters specific to different mobile stations:

- the TLLI;

- the temporary flow identity;

- the power control parameters;

- optionally, the timing advance value.

In addition, the IPA Downlink Assignment struct also contains the following parameters which are common to all mobile stations addressed in this structure:

- the timeslot number;

- optionally the link quality measurement mode;

- the RLC mode;

- the frequency parameters;

Reference

3GPP TS 44.018 subclause 3.5.2.1.3.1and 3.5.2.1.3.2

51.2.6.9.2 Test purpose

To verify that the simultaneous establishment of a downlink and uplink TBF for the MS supporting IMMEDIATE PACKET ASSIGNMENT, the IPA Downlink Assignment struct and the IPA Uplink Assignment struct sent in the IMMEDIATE PACKET ASSIGNMENT correctly assigns the packet downlink and uplink resources respectively for the MS and contains relevant parameters specific to the MS.

51.2.6.9.3 Method of test

Initial conditions

System Simulator:

1 cell, CCCH combined with SDCCH. EGPRS supported. EGPRS PACKET CHANNEL REQUEST supported in GPRS cell options. Paging messages configured to indicate support for IMMEDIATE PACKET ASSIGNMENT message (IPA support bit set to '1').

Mobile Station:

MS is GPRS attached, PDP Context 2 is activated and the MS is in packet idle mode.

Specific PICS Statements

-PIXIT Statements

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Test procedure

The MS is triggered to initiate simultaneous uplink and downlink data transfer. After reception of EGPRS PACKET CHANNEL REQUEST the SS sends an IMMEDIATE PACKET ASSIGNMENT message. The SS assigns a PDCH via an IMMEDIATE PACKET ASSIGNMENT including a TBF starting time.

The SS immediately sends RLC data blocks which shall be acknowledged by the MS. The SS also verifies that the MS correctly switches to the assigned PDCH and completes the uplink data transfer.

Maximum duration of the test

5 minutes.

Expected sequence

Step	Direction	Message	Comments
1	MS		The MS is triggered to transfer 200 octets of data.
2	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
2A			If the MS requests two phase access the Test Case is terminated
3	SS -> MS	IMMEDIATE PACKET ASSIGNMENT	IMMEDIATE PACKET ASSIGNMENT message including a packet uplink & downlink assignment with a TBF Starting Time
4	SS -> MS	RLC data block	
5	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Indicating correct reception of RLC block.
6	MS -> SS	Completion of macro {Uplink data transfer}	SS allows MS to complete the uplink data transfer.

Specific Message Contents:

IMMEDIATE PACKET ASSIGNMENT message Step 3:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IPA rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is xx.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	01101001
Page Mode	
- Page Mode	Normal Paging.
Feature Indicator	
- PS-IR	0
- CS-IR	0
IPA rest octets	
- IPA Uplink Assignment	100 IPA Uplink Assignment present
-	1
- Random Reference	11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
- TFI_ASSIGNMENT	Any value not used before
- USF	Any value not used before
-EGPRS CHANNEL_CODING_COMMAND	Depending on test case (Default MCS_1)
-	1
- Random Reference	different to 11 bits of the EGPRS PACKET CHANNEL REQUEST from MS
- FN_OFFSET	different offset to the FN of EGPRS PACKET CHANNEL REQUEST from MS
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- TFI_ASSIGNMENT	Any value than above
- USF	Any value than above
- EGPRS CHANNEL_CODING_COMMAND	MCS_1
- Radio Access Capabilities Request	0
- No repeat for other device	0
- IPA Downlink Assignment	010 IPA Downlink Assignment present
-	1
- TLLI	(the value received from MS)
- TFI_ASSIGNMENT	Any value not used before
- GAMMA	For DCS 1800 and PCS 1900: +6 dBm For all other bands: +8 dBm
- TIMING_ADVANCE_VALUE	30 bit periods
-	1
- TLLI	(other value than received from MS)
- TFI_ASSIGNMENT	Any value not used before
- GAMMA	For DCS 1800 and PCS 1900: 0 dBm For all other bands: 0 dBm
- TIMING_ADVANCE_VALUE	10 bit periods
- No repeat for other device	0
- LINK_QUALITY_MEASUREMENT_MODE	0 (not present)
- RLC_MODE	RLC acknowledged mode
- TN	Dependant upon the test case (default = 4)
-	1
- Frequency Parameters	Dependant upon the test case (default: Serving cell, PDTCH as defined in section 40.1)
- spare padding	Spare Padding

51.3   MAC/RLC Release

The maximum duration of each test is per default 5 minutes.

51.3.1 TBF Release / Uplink / Normal / MS initiated

51.3.1.1 TBF Release / Uplink / Normal / MS initiated / Acknowledged mode

51.3.1.1.1 Conformance requirements

1. The MS initiates release of the uplink TBF by beginning the countdown process. When the MS has sent the RLC data block with CV = 0 and there are no elements in the V(B) array set to the value Nacked, it shall start timer T3182 and stop timer T3180, if running. The MS shall continue to send RLC data blocks on each assigned uplink data block, according to the algorithm defined in 3GPP TS 04.60, subclause 9.1.3.2.

2. Upon reception of a PACKET UPLINK ACK/NACK message the MS shall stop timer T3182.

3. If the PACKET UPLINK ACK/NACK message has the Final Ack Indicator bit set to '1', the MS shall transmit the PACKET CONTROL ACKNOWLEDGEMENT message and release the TBF. If there is no ongoing downlink TBF the MS shall enter packet idle mode.

4. If the PACKET UPLINK ACK/NACK message requests retransmission of RLC data blocks, the MS shall if necessary wait for allocation of uplink resources and then retransmit the RLC data blocks requested, restarting timer T3180 after each block is transmitted . The MS shall then start timer T3182 and wait for a PACKET UPLINK ACK/NACK message as above.

5. Upon transition from the packet transfer mode to the packet idle mode, a MS shall enter the Transfer non-DRX mode period.

6. Upon a receipt of a commanding message or indication from the network requiring an action by the MS, if the reaction time for such action is not specified elsewhere, the MS shall begin to perform the required action no later than the next occurrence of block B((x+6) mod 12), where block B(x) is the radio block containing the commanding message or indication from the network.

References

3GPP TS 04.60, subclauses 9.3.2.3 and 5.5.1.5.

3GPP TS 05.10, subclause 6.11.4.

51.3.1.1.2 Test purpose

To verify that in RLC acknowledged mode:

1. the MS initiates release of an uplink TBF by beginning countdown process. After CV = 0 and no elements in the V(B) array set to the value "Nacked" the MS continues to send RLC data blocks on each assigned uplink data block in the way defined in 3GPP TS 04.60, subclause 9.1.3 and waits for PACKET UPLINK ACK/NACK.

2. the MS retransmits the requested RLC data blocks if the PACKET UPLINK ACK/NACK message requests to do so. The MS then waits for another PACKET UPLINK ACK/NACK message.

3. the MS transmits the PACKET CONTROL ACKNOWLEDGEMENT message and release the TBF upon reception of a PACKET UPLINK ACK/NACK with the Final Ack Indicator bit set to '1'. If there is no on going downlink TBF the MS shall enter packet idle mode.

51.3.1.1.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

cell, default setting, BS_CV_MAX = 10.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP test context2 activated.

Specific PICS Statements

- EGPRS Multislotclass (TSPC_Type_EGPRS_Multislot_ClassX where X = 1..45)

PIXIT Statements

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Test Procedure

The test has three parts.

1. The MS is triggered to transfer user data. A TBF of dynamic allocation in acknowledged mode with USF_GRANULARITY = 1 block is assigned. The countdown values are checked during the RLC data transferring. The SS acknowledges the all received RLC data blocks with the Final Ack Indicator bit set to '1. The SS assigns a downlink TBF, transfers a number of downlink data blocks and polls the MS. The MS responses the polling.

2. The MS is assigned a TBF of dynamic allocation in acknowledged mode with USF_GRANULARITY = 4 blocks. The countdown values are checked during the RLC data transferring. The SS acknowledges the all received RLC data blocks with the Final Ack Indicator bit set to '1.

3. The MS is triggered to transfer user data. A TBF of dynamic allocation on two timeslots in acknowledged mode with USF_GRANULARITY = 4 block is assigned. The countdown values are checked during the RLC data transferring.

The SS acknowledges the all received RLC data blocks with the Final Ack Indicator bit set to '1.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation one phase access with contention resolution} Or {Uplink dynamic allocation two phase access}	N = 440 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-1, Resegment bit = 1, TLLI_BLOCK_CHANNEL_CODING: '0'B, MCS-1. RLC acknowledged mode (PDP context2), without starting time
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until the countdown value CV=4.
5	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all received data blocks, USF assigned to the MS. PREEMPTIVE_TRANSMISSION_BIT=1
6	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that CV=3.
7	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
8	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that CV=2.
8a			Repeat steps 7 and 8 two more times and check that first CV=1 block is received and then CV = 0 is received.
9	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
10	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the data block is a retransmission of the data block transmitted in step 6, CV=3.
11	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
12	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the data block is a retransmission of the data block transmitted in step 8.
12a			Repeat steps 11 and 12 two more times and check that first CV =1 block is retransmitted and then CV = 0 is retransmitted
12b	SS		SS waits BS_CV_MAX periods

Step	Direction	Message	Comments
13	SS -> MS	PACKET UPLINK ACK/NACK	Negatively acknowledge the data block transmitted with CV = 0. PREEMPTIVE_TRANSMISSION_BIT=1
13a			Wait for 5 radio block periods.
13b	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Containing USF assigned to MS.
A14 (optional step)	MS -> SS	UPLINK RLC DATA BLOCK	MS may retransmit block with CV=3 if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B14
B14 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
14	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the data block is a retransmission of the data block transmitted with CV = 0.
15	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing a valid RRBP=26. Acknowledge the last two data blocks. PREEMPTIVE_TRANSMISSION_BIT=1
16	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the radio block specified by RRBP
17	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, acknowledged mode.
18	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCKS	10 downlink data blocks, the data block with FBI = '1' and a valid RRBP
19	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 18. Check that the Final Ack indicator = '1'.
20		{Uplink dynamic allocation one phase access with contention resolution} or {Uplink dynamic allocation two phase access}	N = 440 octets, USF_GRANULARITY = 4 blocks, EGPRS_CHANNEL_CODING_COMMAND: MCS-1, Resegment bit = 1, TLLI_BLOCK_CHANNEL_CODING: '0'B, MCS-1. RLC acknowledged mode (PDP context2), without starting time PREEMPTIVE_TRANSMISSION_BIT=1 (Applicable only in case of one phase access with contention resolution)
21	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
22	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
23	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
24	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
25	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
25A (optional step)	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all received data blocks. PREEMPTIVE_TRANSMISSION_BIT=1. This step should be executed only if two phase access has been performed at step20.
26			Regard the steps 21 - 25 as a step block. Repeat the step block until the countdown value CV = 0 in one of data blocks received.
26a	SS		SS waits BS_CV_MAX periods after reception of Data block with CV=0
27	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all received data blocks except for the data blocks which have CV=2, CV=1, and CV=0. Set SSN value in Ack/Nack description equal to the BSN' of the received data block with CV = 1. PREEMPTIVE_TRANSMISSION_BIT=1
27a	SS		Wait for 5 block periods
27b	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A28 (optional step)	MS -> SS	UPLINK RLC DATA BLOCK	MS may retransmit block with CV=15 if it has already been scheduled before the end of the reaction time.
28	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 2.

Step	Direction	Message	Comments
29	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 1.
30	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 0.
31A (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	If Optional Step A28 is received, then this step shall be bypassed. (USF Granularity=1 and 4 blocks already received) Check that the countdown value CV = 2.
31	SS		SS waits BS_CV_MAX periods.
32	SS -> MS	PACKET UPLINK ACK/NACK	Negatively acknowledge the data blocks of CV=2, and CV=0.Acknowledge the data block of CV=1. PREEMPTIVE_TRANSMISSION_BIT=1
32a	SS		Wait for 5 block periods
32b	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
33A (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Optional Step . The MS may transmit the Data block already in the transmit buffer with CV=1 if 31A was received or CV=2 if 31A was not received.
33	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 2.
34	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 0.
35	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check that the countdown value CV = 2.
36A (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	If Optional Step 33A is received, then this step shall be bypassed. (USF Granularity=1 and 4 blocks already received) Check that the countdown value CV = 0.
37	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received. PREEMPTIVE_TRANSMISSION_BIT=1
38	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.
39	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, acknowledged mode.
40	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCKS	10 downlink data blocks, the data block with FBI = '1' and a valid RRBP
41	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 40. Check that the Final Ack indicator = '1'.
			The following steps are not applicable to the MS in EGPRS multislot class 1, 2, 3, 4, 8, 30, 35 and 40.
42		{Uplink dynamic allocation two phase access}	N = 1000 octets, without starting time, USF_GRANULARITY = 4 blocks, RLC_DATA_BLOCKS_GRANTED = open-end, EGPRS_CHANNEL_CODING_COMMAND: MCS-4, Resegment bit = 1, RLC acknowledged mode (PDP context2), Two slots, USF_0 on TN_0 and USF_1 on TN_1, are assigned.
43	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Assigned USF_0 on $PDTCH_0$ addressing the MS.
44	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Assigned USF_1 on $PDTCH_1$ addressing the MS, sent on the same TDMA frame as step 43.
45	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	Received on the assigned $PDTCH_0$ and $PDTCH_1$. Check that the coding as specified in EGPRS_CHANNEL_CODING_COMMAND, the TFI is correct and the block does not contain TLLI.
46	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	Received on the assigned $PDTCH_0$ and $PDTCH_1$.
47	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	Received on the assigned $PDTCH_0$ and $PDTCH_1$.
48	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	Received on the assigned $PDTCH_0$ and $PDTCH_1$.

Step	Direction	Message	Comments
49			Regard the steps 43 - 48 as a step block. Repeat the step block until the countdown value CV =0 in one of data blocks received. Check the CV decrement from BS_CV_MAX (10) to 0.
50	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing a valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received. PREEMPTIVE_TRANSMISSION_BIT=1
51	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

51.3.1.2 TBF Release / Uplink / Normal / MS initiated / Unacknowledged mode

51.3.1.2.1 Conformance requirements

The MS initiates release of the uplink TBF by beginning the countdown process. It indicates the end of the TBF by setting the CV value to 0 and starts timer T3182.

Upon reception of a PACKET UPLINK ACK/NACK message the MS shall stop timer T3182. If the PACKET UPLINK ACK/NACK message has the Final Ack Indicator bit set to '1', the MS shall transmit the PACKET CONTROL ACKNOWLEDGEMENT message and release the TBF. If there is no ongoing downlink TBF the MS shall enter packet idle mode.

If timer T3182 expires the MS shall release the TBF as if a PACKET UPLINK ACK/NACK message was received.

References

3GPP TS 04.60, subclause 9.3.3.3.

51.3.1.2.2 Test purpose

To verify that in RLC unacknowledged mode:

1. the MS initiates release of an uplink TBF by beginning the countdown process and indicates the end of the TBF by setting the CV value to 0.

2. the MS transmits the PACKET CONTROL ACKNOWLEDGEMENT message and release the TBF upon reception of a PACKET UPLINK ACK/NACK message with the Final Ack Indicator bit set to '1' after CV=0. If there is no ongoing downlink TBF the MS enters packet idle mode.

3. the MS releases the TBF as if a PACKET UPLINK ACK/NACK message was received when timer T3182 expires.

51.3.1.2.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 12.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP test context3 activated.

Specific PICS Statements

- EGPRS Multislotclass (TSPC_Type_EGPRS_Multislot_ClassX where X = 1..45)

PIXIT Statements

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Test Procedure

The test procedure has three parts.

1. The MS is triggered to transfer data. A TBF of dynamic allocation in unacknowledged mode is assigned. The countdown values are checked during the RLC data transferring. The SS acknowledges the all received RLC data blocks with the Final Ack Indicator bit set to '1 and polls the MS. The MS sends PACKET CONTROL ACKNOWLEDGEMENT in response of polling. After 6 blocks the SS assigns a downlink TBF in unacknowledged mode, sends a number downlink data blocks and polls the MS with a valid RRBP. The MS responses the polling.

2. The MS is triggered to transfer data. A TBF of dynamic allocation in unacknowledged mode is assigned. The countdown values are checked during the RLC data transferring. The SS does not acknowledge the received RLC data blocks. After CV = 0 the SS waits for 5.5s (T3182 expires). Once CV=0 the SS checks that the MS does not transfer further RLC data blocks on the assigned TBF.

3. The MS is triggered to transfer data. A TBF of dynamic allocation on two timeslots in unacknowledged mode is assigned. The countdown values are checked during the RLC data transferring. The SS does not acknowledge the received RLC data blocks. Once CV=0 the SS checks that the MS does not transfer further RLC data blocks on the assigned TBF. The last block may be transmitted twice (once in each slot) or the MS may transmit a PACKET UPLINK DUMMY CONTROL message..

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 440 octets in RLC unacknowledged mode. (PDP context3) TLLI_BLOCK_CHANNEL_CODING = '0'B, MCS-1, EGPRS_CHANNEL_CODING_COMMAND = MCS-1, Resegment bit = 1.
2	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until the countdown value CV=0.
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing a valid RRBP=13, no retransmission needed. PREEMPTIVE_TRANSMISSION_BIT=1
6	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.
7	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	<u>USF assigned to MS</u>
8	SS		Check that no data block is transmitted by the MS in the next radio blocks.
9	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, unacknowledged mode. Steps 10 – 12 verify whether the MS has entered idle mode.
10	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	
11			Repeat step 10 ten times. In the last data block set FBI = '1' with a valid RRBP.
12	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP in step 11.
13		{Uplink dynamic allocation two phase access}	n = 600 octets in RLC unacknowledged mode. (PDP context3) TLLI_BLOCK_CHANNEL_CODING = '1'B, MCS-1, EGPRS_CHANNEL_CODING_COMMAND = MCS-1, Resegment bit = 1.
14	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	<u>USF assigned to MS</u>
15	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDCH.
16			Repeat step 14 and 15 until the countdown value CV=0.

Step	Direction	Message	Comments
16 a	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS to delay start of T3180 by 500ms (SS should ignore any received Rlc data block). This step is repeated until a PACKET UPLINK DUMMY CONTROL BLOCK is received from the MS, but not more than 4 times.
17	SS		Wait 5.5 seconds (starting after the last RLC data block) to allow T3182 expiring
18	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS
19	SS		Check that no data block is transmitted by the MS.
			The following steps are not applicable to the MS in EGPRS multislot class 1, 2, 3, 4, 8, 30, 35 and 40.
20	SS -> MS	{Uplink dynamic allocation two phase access}	n = 1200 octets in RLC unacknowledged mode. (PDP context3) Uplink dynamic allocation EGPRS_CHANNEL_CODING_COMMAND = MCS-4, Resegment bit = 1, Two timeslots are assigned
21	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCKS	Sent on PDTCH0 and PDTCH1
22	MS->SS	EGPRS UPLINK RLC DATA BLOCKS	Received on the assigned PDTCH$_1$ and PDTCH$_0$.
23	SS		Repeat steps 21 and 22 Check the CV decrement from BS_CV_MAX (=12) to 0 in the received data blocks. Last block (CV=0) may be transmitted twice, once in PDTCH$_0$ and once in PDTCH$_1$ or the MS may transmit a PACKET UPLINK DUMMY CONTROL BLOCK after the last EGPRS RLC DATA BLOCK
23 a	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS to delay start of T3180 by 500ms (SS should ignore any received Rlc data block). This step is repeated until a PACKET UPLINK DUMMY CONTROL BLOCK is received from the MS, but not more than 4 times.
24	SS		Wait 5.5 seconds (starting after the last RLC data block) for T3182 expiry
25	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCKS	Sent on PDTCH0 and PDTCH1
26	SS		Verify that no data block is transmitted by the MS

51.3.1.3 TBF Release / Uplink / Normal / MS initiated / Channel coding change during countdown

51.3.1.3.1 Conformance requirements

If the MS receives a change in the EGPRS Channel Coding Command in a PACKET UPLINK ACK/NACK message during the countdown procedure, the MS shall act upon the new EGPRS Channel Coding Command. The MS shall then recalculate the CV values for any untransmitted RLC data blocks using the new RLC data block size.

References

3GPP TS 04.60, subclause 9.3.1.

51.3.1.3.2 Test purpose

It is verified that the MS acts upon the new EGPRS Channel Coding Command and recalculates the CV values for any untransmitted RLC data blocks using the new RLC data block size when the MS receives a change of EGPRS Channel Coding Command in a PACKET UPLINK ACK/NACK message during the countdown procedure.

51.3.1.3.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 7.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context3 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

1. The MS is triggered to transfer data. A TBF of dynamic allocation with channel coding MCS-4 in unacknowledged mode is assigned. The countdown values are checked during the RLC data transferring.

2. Once CV=7 (BS_CV_MAX) the SS acknowledges the all received RLC data blocks and changes the channel coding to MCS-1. In the next received RLC data block CV=15. The countdown values are checked during the RLC data transferring.

3. When CV=7 is reached the SS acknowledges the all received RLC data blocks and changes the channel coding to MCS-2. The SS checks the next received RLC data block containing CV=5 or 4 or 3 as the case may be. The countdown values are checked during the RLC data transferring until CV=0. The SS acknowledges all received RLC data blocks with the Final Ack Indicator bit set to '1.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 1800 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND = MCS-4, Resegment bit = 1. RLC unacknowledged mode (PDP context3), without starting time
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
3	MS-> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
4			Repeat step 2 and 3 until the countdown value CV=7 (BS_CV_MAX).
5	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all received data blocks, EGPRS_CHANNEL_CODING_COMMAND = MCS-1, Resegment bit = 1. PREEMPTIVE_TRANSMISSION_BIT=1 SS will then wait for 6 blocks with no USF
6	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may transmit a previously queued RLC block with the old coding scheme MCS-4 and CV=6
B6 (optional step)	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS. This step is executed in case step A6 is executed
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that the countdown value CV = 15.
8	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH assigned in step 2, containing USF assigned to the MS. PREEMPTIVE_TRANSMISSION_BIT=1
9	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
10			Repeat step 8 and 9 until the countdown value CV=7 (BS_CV_MAX).
11	SS -> MS	PACKET UPLINK ACK/NACK	EGPRS_CHANNEL_CODING_COMMAND = MCS-2, Resegment bit = 1. PREEMPTIVE_TRANSMISSION_BIT=1 SS will then wait for 6 blocks with no USF
12	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A12 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may transmit a previously queued RLC block with the old coding scheme MCS-1 and CV=6
B12 (optional step)	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS. This step is executed in case step A12 is executed
13	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check the countdown value CV. In case the MS has sent an EGPRS UPLINK RLC DATA BLOCK in step A12, CV = 3 or 4, otherwise CV = 4 or 5.
14	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
15	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
16			Repeat step 14 and 15 until the countdown value CV=0.
17	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP, acknowledge the all received data blocks. PREEMPTIVE_TRANSMISSION_BIT=1
18	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents

PACKET UPLINK ACK/NACK message in step 5:

Information Element	value/ remark
EGPRS_CHANNEL_CODING_COMMAND	MCS-1

PACKET UPLINK ACK/NACK message in step 11:

Information Element	value/ remark
EGPRS_CHANNEL_CODING_COMMAND	MCS-2

51.3.2   TBF Release / Uplink / Normal / Network initiated

51.3.2.1   TBF Release / Uplink / Normal / Network initiated / Acknowledged mode

51.3.2.1.1   Conformance requirements

The network may initiate release of an uplink TBF by transmitting a PACKET TBF RELEASE message to the mobile station on the PACCH. A cause value indicates the reason for release.

If the cause value is "Normal release" the mobile station shall continue to the next LLC PDU boundary, starting the count down procedure at whatever value of CV is appropriate to count down to zero at the LLC PDU boundary, and then release the TBF according to the procedures in 3GPP TS 04.60, subclause 9.3.2.3.

References

3GPP TS 04.60, subclause 8.1.1.4.

51.3.2.1.2   Test purpose

To verify that when the MS, in an uplink TBF of the RLC acknowledged mode, receives a PACKET TBF RELEASE message with cause value "Normal release":

1. the MS continues the TBF to the next LLC PDU boundary;

2. the MS starts the count down procedure at whatever value of CV is appropriate to count down to zero at the LLC PDU boundary;

3. the MS then releases the TBF according to uplink acknowledged mode release procedure.

51.3.2.1.3   Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 7.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context 2 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

1. The MS is triggered to transfer 2000 octets user data. A TBF of dynamic allocation in acknowledged mode is assigned. After the MS transfers several RLC data blocks the SS sends PACKET TBF RELEASE with cause value "Normal release. The length indicator and E bit in data block headers are checked during the RLC data transferring until CV=0 to ensure that the MS has transmitted only the RLC data block of the first LLC PDU.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation one phase access with contention resolution} or {Uplink dynamic allocation two phase access}	n = 2000 octets (Note: more than one LLC PDU is needed for the test.) USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-1, TLLI_BLOCK_CHANNEL_CODING: '1'B, MCS-1. RLC acknowledged mode (PDP context2), without starting time
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 three times
5	SS -> MS	PACKET TBF RELEASE	Sent on the PACCH of the PDCH assigned, USF not assigned to the MS, Global TFI is same as the assigned one in step 1, Uplink_Release = yes, Cause value = "Normal release".
5a	SS		SS waits 3 blocks.
6	SS -> MS	PACKET UPLINK ACK/NACK	USF assigned to the MS, on PACCH of the assigned PDCH in step 1. PREEMPTIVE_TRANSMISSION_BIT=1
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
8			Repeat step 6 and 7 until the countdown value CV=0 in step 7. Use of the Length indicator and E bit of the received data headers to determine that only the 1st LLC PDU is transmitted.
9	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP. Acknowledge all data blocks. PREEMPTIVE_TRANSMISSION_BIT=1
10	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.
11	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH assigned in step 1, containing USF assigned to the MS. PREEMPTIVE_TRANSMISSION_BIT=1
12	SS		Check that no data block is transmitted by the MS in the next radio block to step 11.

51.3.2.2 TBF Release / Uplink / Normal / Network initiated / Unacknowledged mode

51.3.2.2.1 Conformance requirements

The network may initiate release of an uplink TBF by transmitting a PACKET TBF RELEASE message to the mobile station on the PACCH. A cause value indicates the reason for release.

If the cause value is "Normal release" a mobile station shall continue to the next LLC PDU boundary, starting the count down procedure at whatever value of CV is appropriate to count down to zero at the LLC PDU boundary, and then release the TBF according to the procedures in 3GPP TS 04.60, subclause 9.3.3.3.

References

3GPP TS 04.60, subclauses 8.1.1.4 and 9.3.3.3.

51.3.2.2.2 Test purpose

To verify that when the MS receives a PACKET TBF RELEASE message with cause value "Normal release" during an unacknowledged mode uplink TBF:

1. the MS continues the TBF to the next LLC PDU boundary;

2. the MS starts the count down procedure at whatever value of CV is appropriate to count down to zero at the LLC PDU boundary;

3. the MS then releases the TBF according to uplink unacknowledged mode release procedure.

51.3.2.2.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 15.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context3 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

1. The MS is triggered to transfer 2000 octets user data. A TBF of dynamic allocation in unacknowledged mode is assigned. After the MS transfers several RLC data blocks the SS sends PACKET TBF RELEASE with cause value "Normal release. The length indicator, M and E bit in data block headers are checked during the RLC data transferring until CV=0 to ensure that the MS has transmitted only the RLC data block of the first LLC PDU.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 2000 octets in RLC unacknowledged mode. (PDP context3) TLLI_BLOCK_CHANNEL_CODING = '0'B, MCS-1, EGPRS_CHANNEL_CODING_COMMAND = MCS-1.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF Assigned to MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 five times.
5	SS -> MS	PACKET TBF RELEASE	Sent on the PACCH of the PDCH assigned, USF not assigned to the MS, Global TFI is same as the assigned one in step 1, Uplink_Release = yes, Cause value = "Normal release".
5a	SS		SS waits 3 blocks.
6	SS -> MS	PACKET UPLINK ACK/NACK	USF assigned to the MS, on PACCH of the assigned PDCH in step 1.
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
8			Repeat steps 6 and 7 until the countdown value CV=0 in step 7. Use of the Length indicator and E bit of the received data headers to determine that only the 1st LLC PDU is transmitted.
9	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP, No retransmission needed. Sent on PACCH of the assigned PDCH. PREEMPTIVE_TRANSMISSION_BIT=1
10	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

51.3.3   TBF Release / Uplink / Network initiated / Abnormal release

51.3.3.1   Conformance requirements

The network may initiate release of an uplink TBF by transmitting a PACKET TBF RELEASE message to the mobile station on the PACCH. If the cause value is "Abnormal release" the mobile station shall immediately stop transmitting and follow the abnormal release with random access procedure.

References

3GPP TS 04.60, subclause 8.1.1.4.

51.3.3.2   Test purpose

To verify that the MS immediately stops transmitting and follows the abnormal release with random access procedure when it receives a PACKET TBF RELEASE message on the PACCH with cause value "Abnormal release".

51.3.3.3   Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 9.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context2 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF of dynamic allocation in acknowledged mode is assigned. After the MS transfers several RLC data blocks the SS sends PACKET TBF RELEASE with cause value "Abnormal release. The MS reinitiates a random access for one or two phase access request.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation one phase access with contention resolution} or {Uplink dynamic allocation two phase access}	n = 1200 octets in RLC acknowledged mode. (PDP context2) TLLI_BLOCK_CHANNEL_CODING = '0'B, MCS-1, EGPRS CHANNEL_CODING_COMMAND = MCS-1.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF Assigned to MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
4			Repeat steps 2 and 3 five times.
5	SS -> MS	PACKET TBF RELEASE	Sent on the PACCH of the PDCH assigned, Global TFI is same as the assigned one in step 1, Uplink_Release = yes, Cause value = "Abnormal release".
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS, on PACCH of the assigned PDCH in step 1. Sent on the next block of that of message sent in step 5. This step is repeated for 5 times. Repetition should be on the consecutive blocks as that of the first.
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS is allowed to send max. 5 blocks. Received on the assigned PDTCH. Check that the MS does not send more than five blocks.
8	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Received on RACH.

51.3.4   TBF Release / Downlink / Normal / Network initiated

51.3.4.1   TBF Release / Downlink / Normal / Network initiated / Acknowledged mode

51.3.4.1.1   Conformance requirements

If the mobile station receives an RLC data block with the FBI bit set the value '1' and with a valid RRBP field, the mobile station shall transmit a EGPRS PACKET DOWNLINK ACK/NACK message in the specified uplink block. The mobile station shall continue to monitor all assigned PDCHs.

Whenever the mobile station receives an RLC data block with a valid RRBP and the mobile station has received all RLC data blocks of the TBF, the mobile station shall send the PACKET DOWNLINK ACK/NACK message with the Final Ack Indicator bit set to '1', stop timer T3190 and start or restart timer T3192.

If the mobile station receives more than one RLC data block with the FBI set to '1', it shall accept the data from only the first one of these blocks.

If the mobile station, after sending the EGPRS PACKET DOWNLINK ACK/NACK message with the Final Ack Indicator bit set to '1', receives a PACKET DOWNLINK ASSIGNMENT or PACKET TIMESLOT RECONFIGURE message with the Control Ack bit set to '1' while timer T3192 is running, the mobile station shall stop timer T3192, consider the previous downlink TBF released and act upon the new assignment.

When timer T3192 expires the mobile station shall stop monitoring its assigned downlink PDCHs. If the mobile station is operating in half duplex mode and received an uplink assignment during the TBF release procedure, the mobile station shall then immediately act upon the assignment. Otherwise, and if there is no ongoing uplink TBF, enter packet idle mode.

References

3GPP TS 04.60, subclause 9.3.2.5.

51.3.4.1.2   Test purpose

To verify that in a downlink TBF of acknowledged mode:

1. The MS sends EGPRS PACKET DOWNLINK ACK/NACK in the specified uplink block and continues monitoring all assigned PDCHs when it receives an RLC data block with a valid RRBP field and the Final Block Indicator (FBI) = '1'.

2. Whenever the MS receives an RLC data block with a valid RRBP and has received all RLC data blocks of the TBF, it sends EGPRS PACKET DOWNLINK ACK/NACK with the Final Ack Indicator bit set to '1'.

3. If the MS receives more than one RLC data block with the FBI set to '1', it accepts the data from only the first one of these blocks.

4. While timer T3192 is running, if the MS receives, after sending EGPRS PACKET DOWNLINK ACK/NACK with the Final Ack Indicator bit set to '1', PACKET DOWNLINK ASSIGNMENT with the Control Ack bit set to '1', the MS acts upon the new downlink assignment.

5. The MS stops monitoring its assigned downlink PDCHs and enters packet idle mode when timer T3192 expires if there is no ongoing uplink TBF.

51.3.4.1.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 15.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context2 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

1. The MS receives an IMMEDIATE ASSIGNMENT message containing packet downlink assignment on its PCH. The SS transmits 10 downlink RLC data blocks with consecutive BSN. The SS then transmits a downlink RLC data block with the highest BSN which is ten higher than the BSN of the last RLC data block. The SS sets FBI bit and polls the MS with a valid RRBP in the header of the RLC data block. The MS acknowledges the received data blocks and request a retransmission for the missing 9 data blocks in SSN and RBB fields.

2. The SS sends another 5 RLC data blocks and polls the MS with a valid RRBP. The MS acknowledges the received data blocks and request the retransmission of the missing 4 RLC data blocks. The SS transmits the last 4 RLC data blocks and polls the MS with RRBP=N+26. While the MS waiting for transmission of the final Acknowledgement the SS transmits a RLC data block which sets FBI bit and has same BSN as in the first FBI set beforehand. The MS ignores the downlink data and acknowledges the entire TBF with FINAL_ACK_INDICATION set. The SS transmits another data block with FBI set and polls the MS. The MS acknowledges the entire TBF with FINAL_ACK_INDICATION set. The SS waits 3 s.

3. The MS receives an IMMEDIATE ASSIGNMENT message containing packet downlink assignment on its PCH. The SS transmits a number of downlink RLC data blocks, sets FBI bit and polls the MS with a valid RRBP. The MS acknowledges the entire TBF with FINAL_ACK_INDICATION set.

4. The SS sends another PACKET DOWNLINK ASSIGNMENT on the assigned PACCH with Control ACK bit set. The SS transmits a number of downlink RLC data blocks on the new assigned PDTCH, sets FBI bit and polls the MS with a valid RRBP. The MS acknowledges the entire TBF with FINAL_ACK_INDICATION set.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, acknowledged mode.
2	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Sent on downlink PDTCH assigned.
3			Repeat step 2 nine times, each time BSN is incremented by 1
4	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with valid RRBP, FBI bit is set. BSN is incremented by 10. The MS has missed 9 consecutive RLC data blocks. BSN of this data block = (BSN of the last data block in step 3 + 10) mod 2048
5	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 4. Check that the Final Ack indicator = '0' and the SSN and RBB values for the 9 missing data blocks .
6	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	BSN of the data block = (BSN of the last data block in step 3 + 1) mod 2048
7			Repeat step 6 three times, each time BSN is incremented by 1 on the basis of the last BSN in step 6
8	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	A valid RRBP, BSN is incremented by 1.
9	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 8. Check that the Final Ack indicator = '0' and SSN and RBB values for the 4 missing data blocks.
10	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	BSN is incremented by 1
11			Repeat step 10 twice
12	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	RRBP.= N+26, BSN is incremented by 1
13	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	FBI bit is set, BSN is same as in step 4, RRBP.= N+26, sent on next radio block from step 12.
14	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 12. Check that the Final Ack indicator = '1'.
15	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 13. Check that the Final Ack indicator = '1'.
16	SS		Wait for expiry of T3192
17	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	FBI bit is set, a valid RRBP. Sent on downlink PDTCH assigned in step 1.
18	SS		Check that the MS does not respond on RRBP in step 17, the MS is now in packet idle mode.
19	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, acknowledged mode.
20	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	
21			Repeat step 20 ten times
22	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with FBI = '1' and valid RRBP.
23	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 22. Check that the Final Ack indicator = '1'.
24	SS		Wait for 80% of expiry of T3192
25	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Downlink Assignment, acknowledged mode. A different slot assigned. Control Ack Bit = 1. Sent on PACCH.
26	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	
27			Repeat step 26 ten times
28	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with FBI = '1' and valid RRBP.

| 29 | MS -> SS | EGPRS PACKET DOWNLINK ACK/NACK | Received on the block specified by RRBP in step 28. Check that the Final Ack indicator = '1'. |

Specific Message Contents

EGPRS PACKET DOWNLINK ACK/NACK message in step 15:

Information Element	value/ remark
Ack/Nack Description	
- FINAL_ACK_INDICATION	1 (final ack)
- STARTING_SEQUENCE_NUMBER	V(R)
- RECEIVED_BLOCK_BITMAP	Acknowledges all data blocks transmitted by the MS

PACKET DOWNLINK ASSIGNMET message in step 25:

Information Element	value/ remark
CONTROL_ACK	1
TIMESLOT_ALLOCATION	Single slot arbitrarily chosen but different from the value in step 19
{L|H<DOWNLINK_TFI_ASSIGNMENT>}	H (assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	Arbitrarily chosen but different from the value in step 19

51.3.4.2 TBF Release / Downlink / Normal / Network initiated / Unacknowledged mode

51.3.4.2.1 Conformance requirements

For each RLC data block with the FBI bit set to '1' and with a valid RRBP field, the mobile station shall transmit the PACKET CONTROL ACKNOWLEDGEMENT message in the uplink block specified by the RRBP field. The mobile station shall continue to read the assigned downlink PDCHs until the block period pointed to by the RRBP. If the mobile station receives more than one RLC data block with the FBI bit set to '1' and with valid RRBP fields that point the same uplink block period, the mobile station shall transmit the PACKET CONTROL ACKNOWLEDGEMENT message only once. The mobile station shall then stop timer T3190, start timer T3192 and continue to monitor all assigned downlink PDCHs. If the mobile station then receives a subsequent RLC data block with a valid RRBP and the FBI bit set to '1', the mobile station shall retransmit the PACKET CONTROL ACKNOWLEDGEMENT message and restart timer T3192.

If the mobile station receives more than one RLC data block with the FBI set to '1', it shall accept the data from only the first one of these blocks.

If the mobile station, after sending the PACKET CONTROL ACKNOWLEDGEMENT message, receives a PACKET DOWNLINK ASSIGNMENT or PACKET TIMESLOT RECONFIGURE message with the Control Ack bit set to '1' while timer T3192 is running, the mobile station shall stop timer T3192, consider the previous downlink TBF released and act upon the new assignment.

When timer T3192 expires the mobile station shall stop monitoring its assigned downlink PDCHs.

References

3GPP TS 04.60, subclause 9.3.3.5.

51.3.4.2.2 Test purpose

To verify that in a downlink TBF of unacknowledged mode:

1. The MS transmits PACKET CONTROL ACKNOWLEDGEMENT in the uplink block specified by the RRBP field whenever it receives an RLC data block with a valid RRBP field and the Final Block Indicator (FBI) set to the value '1'.

2. After sending PACKET CONTROL ACKNOWLEDGEMENT the MS continues to monitor all assigned downlink PDCHs.

3. While timer T3192 is running, if the MS receives, after sending the PACKET CONTROL ACKNOWLEDGEMENT, a PACKET DOWNLINK ASSIGNMENT with the Control Ack bit set to '1', the MS acts upon the new downlink assignment.

4. The MS stops monitoring its assigned downlink PDCHs and enters packet idle mode when timer T3192 expires.

51.3.4.2.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 15, T3192 = 1,5 s.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context3 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

1. The MS receives an IMMEDIATE ASSIGNMENT message containing packet downlink assignment on its PCH. The SS transmits 11 downlink RLC data blocks with consecutive BSN. The SS then transmits a downlink RLC data block with the BSN which is ten higher than the BSN of the last RLC data block. The SS polls the MS with a valid RRBP in the header of the RLC data block. The MS acknowledges the received data blocks.

2. The SS sends another RLC data block and polls the MS with a valid RRBP and with the FBI bit set. The MS sends PACKET CONTROL ACKNOWLEDGEMENT.

3. The SS resends the RLC data block and polls the MS with a valid RRBP and with the FBI bit set. The MS sends PACKET CONTROL ACKNOWLEDGEMENT. The SS waits 1.2s and resends the RLC data block and polls the MS with a valid RRBP and with the FBI bit set. The MS responds with PACKET CONTROL ACKNOWLEDGEMENT. The SS waits till T3192 expires. . The SS resends the RLC data block with FBI set and a valid RRBP and checks that the MS does not transmit any data block on RRBP block.

4. The SS sends an IMMEDIATE ASSIGNMENT message containing packet downlink assignment on the PCH of the MS. The SS transmits a number of downlink RLC data blocks, sets FBI bit and polls the MS with a valid RRBP. The MS shall respond with PACKET CONTROL ACKNOWLEDGEMENT.

5. The SS sends PACKET DOWNLINK ASSIGNMENT on the assigned PACCH with Control ACK bit set. The SS transmits a number of downlink RLC data blocks on the new assigned PDTCH, sets FBI bit and polls the MS with a valid RRBP. The MS shall respond with PACKET CONTROL ACKNOWLEDGEMENT.

Expected Sequence

Step	Direction	Message	Comments
1	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, unacknowledged mode.
2	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Sent on downlink PDTCH assigned.
3			Repeat step 2 ten times, each time BSN is incremented by 1
4	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with valid RRBP, BSN is incremented by 10. The MS has missed 9 consecutive RLC data blocks. BSN of this data block = (BSN of the last data block in step 3 + 10) mod 2048
5	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 4. Check that the Final Ack indicator = '0'
6	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	A valid RRBP, BSN is incremented by 1, FBI bit is set.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP in step 6.
8			Repeat step 6 and 7 once; keeping the BSN same
9	SS		Wait 1,2 seconds (T3192 not expired).
10	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with FBI ='1' and valid RRBP, BSN is same as the BSN of the data block sent in step 6.
11	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP in step 10.
12	SS		Wait for expiry of T3192
13	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with the same BSN as in Step 6, with FBI = '1' and valid RRBP. Sent on downlink PDTCH assigned in step 1.
14	SS		Check that the MS does not transmit any Control block on the block identified by the RRBP.
15	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment, unacknowledged mode.
16	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	
17			Repeat step 16 ten times
18	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with FBI = '1' and valid RRBP.
19	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	
20	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Wait 1,2 seconds (T3192 not expired). Downlink Assignment, unacknowledged mode. A different timeslot assigned. Control Ack Bit = 1. Sent on PACCH.
21	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Sent 5 blocks from last block containing PACKET DOWNLINK ASSIGNMENT
22			Repeat step 21 ten times
23	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with FBI = '1' and valid RRBP.
24	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP in step 23.

PACKET DOWNLINK ASSIGNMENT message in step 20:

Information Element	value/ remark
RLC_MODE	Unacknowledged mode
CONTROL_ACK	1
{L|H<DOWNLINK_TFI_ASSIGNMENT>}	H (assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	Arbitrarily chosen but different from the value in step 15
TIMESLOT_ALLOCATION	Single slot arbitrarily chosen but different from the values already assigned.

51.3.5 PDCH Release

51.3.5.1 Void

51.3.5.2 PDCH Release / With TIMESLOTS_AVAILABLE

51.3.5.2.1 Conformance requirements

When a mobile station receives a PACKET PDCH RELEASE message containing a TIMESLOTS_AVAILABLE field, it shall immediately stop transmitting and receiving on all assigned PDCHs, which are indicated as not present in the TIMESLOTS_AVAILABLE field, remove those PDCHs from its list of assigned PDCHs.

If all of the mobile station's assigned PDCHs are removed from its list of assigned PDCH, and, if an uplink TBF was in progress, the mobile station shall perform an abnormal release with random access. If no uplink TBF was in progress, the mobile station shall perform an abnormal release with return to CCCH or PCCCH.

References

3GPP TS 04.60, subclause 8.2.

51.3.5.2.2 Test purpose

To verify that when the MS receives a PACKET PDCH RELEASE message with a TIMESLOTS_AVAILABLE field indicating that one or more timeslots is no longer available for packet data service:

1. it immediately stops transmitting and receiving on all assigned PDCHs which are not presented in the TIMESLOTS_AVAILABLE field.

2. it performs an abnormal release with random access when all of the MS's assigned PDCHs are removed, and an uplink TBF was in progress.

3. it performs an abnormal release with return to CCCH when all of the MS's assigned PDCHs are removed, and no uplink TBF was in progress.

51.3.5.2.3 Method of test

Initial Conditions

System Simulator:

EGPRS supported.

1 cell, default setting, BS_CV_MAX = 15.

Mobile Station:

The MS is GPRS attached with a P-TMSI allocated, SPLIT PG CYCLE negotiated and PDP context2 activated.

Specific PICS Statements

- EGPRS Multislotclass (TSPC_Type_EGPRS_Multislot_ClassX where X = 1..45)

PIXIT Statements

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Test Procedure

1. The MS is triggered to transfer user data. A TBF on one slot of dynamic allocation in acknowledged mode is assigned. After the MS transfers several RLC data blocks the SS sends PACKET PDCH RELEASE with TIMESLOTS_AVAILABLE indicating no timeslot available. It is checked that the MS initiates a random access for one or two phase access request. A TBF is assigned to the MS to allow it to complete the uplink data transferring.

2. The MS is triggered to transfer user data. A TBF on two consecutive slots of dynamic allocation in acknowledged mode is assigned. After the MS transfers several RLC data blocks the SS sends PACKET PDCH

RELEASE with TIMESLOTS_AVAILABLE indicating that only a timeslot is available and the assigned downlink control timeslot is no more available. The MS uses the available timeslot to complete the uplink data transferring.

3. The MS receives an IMMEDIATE ASSIGNMENT message containing packet downlink assignment on its PCH. A downlink TBF with a timeslot is assigned. The SS transmits several downlink RLC data blocks. Then SS sends PACKET PDCH RELEASE with TIMESLOTS_AVAILABLE indicating no timeslot available and polls the MS with a valid RRBP for acknowledgement. It is checked that the MS does not react upon the polling.

4. A downlink TBF with two timeslots is assigned. The SS transmits several downlink RLC data blocks. Then SS sends PACKET PDCH RELEASE with TIMESLOTS_AVAILABLE indicating only a timeslot available and polls the MS with a valid RRBP for acknowledgement. It is checked that the MS does not react upon the polling and continues receiving the downlink data on the available timeslot. The SS sends another PACKET PDCH RELEASE with TIMESLOTS_AVAILABLE indicating no timeslot available and polls the MS with a valid RRBP for acknowledgement. It is checked that the MS does not react upon the polling.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation one phase access with contention resolution} or {Uplink dynamic allocation two phase access}	n = 1000 octets in RLC acknowledged mode (Test PDP context2). EGPRS CHANNEL_CODING_COMMAND = MCS-4.
2	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	Received data block on the assigned PDTCH.
4	SS		Repeat steps 2 and 3 five times
5	SS -> MS	PACKET PDCH RELEASE	Sent on the PACCH of the PDCH assigned in step 1. With TIMESLOTS_AVAILABLE indicating no timeslot available, RRBP = N + 26.
6	SS		SS checks that no PACKET CONTROL ACKNOWLEDGEMENT is received.
7	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to MS
8	SS		Verify that no data block is received.
9	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Received on RACH.
10	SS -> MS	IMMEDIATE ASSIGNMENT	Multiblock assignment allocating two uplink blocks, to order the MS making two phase access procedure. Sent on AGCH.
11	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the first block assigned in step 10.
11a (conditional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 11) indicates 1, then step 11a is performed.
11b (optional)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 11) indicates 0, then step 11b is optionally performed.
12	SS -> MS	PACKET UPLINK ASSIGNMENT	Open-ended uplink dynamic allocation with one time slot, USF_GRANULARITY = single block, EGPRS CHANNEL_CODING_COMMAND = MCS-4, Sent on PACCH of the same PDCH assigned in step 10.
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH of the PDCH assigned in step 12, containing USF assigned to the MS.
14	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH.
15		{Completion of uplink RLC data block transfer}	
16		{Uplink dynamic allocation one phase access with contention resolution} or {Uplink dynamic allocation two phase access}	The MS of the EGPRS multislot class 1, 2, 3, 4, 8, 30, 35 and 40 skips the steps 16 to 38 n = 1100 octets in RLC acknowledged mode. (Test PDP context2), EGPRS CHANNEL_CODING_COMMAND = MCS-2 Two timeslots
17	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCKS	USFs assigned to MS. Sent on PDTCH$_6$ and PDTCH$_7$.
18	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH$_6$ and PDTCH$_7$.
19			Repeat step 17 and 18 three times
20	SS -> MS	PACKET PDCH RELEASE	Sent on the PACCH of the PDCH$_6$ assigned in step 16. With TIMESLOTS_AVAILABLE indicating no timeslot available RRBP=N+26.
21	SS		SS checks that no PACKET CONTROL ACKNOWLEDGEMENT is received.
22	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCKS	USFs assigned to MS. Sent on PDTCH6 and PDTCH7

Step	Direction	Message	Comments
23	SS		Verify that MS stop sending on both $PDTCH_6$ and $PDTCH_7$
24	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Received on RACH.
25	SS -> MS	IMMEDIATE ASSIGNMENT	Multiblock assignment allocating two uplink blocks, to order the MS making two phase access procedure. Sent on AGCH.
26	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the first block assigned in step 25.
26a (conditional)	MS -> SS	ADDITIONAL MS RADIO ACCESS CAPABILITIES	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 26) indicates 1, then step 26a is performed.
26b (optional)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	If <ADDITIONAL MS RAC INFORMATION AVAILABLE> field in the received PACKET RESOURCE REQUEST message (step 26) indicates 0, then step 26b is optionally performed.
27	SS -> MS	PACKET UPLINK ASSIGNMENT	Uplink dynamic allocation EGPRS CHANNEL_CODING_COMMAND = MCS-4 Two timeslots assigned
28	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCKS	USFs assigned to MS. Sent on $PDTCH_0$ and $PDTCH_1$.
29	MS -> SS	EGPRS UPLINK RLC DATA BLOCKS	data blocks received on the assigned $PDTCH_1$ and $PDTCH_0$.
30	SS		Repeat steps 28 and 29 three times
31	SS -> MS	PACKET PDCH RELEASE	Sent on the PACCH of the $PDCH_1$ assigned in step 27. With TIMESLOTS_AVAILABLE indicating only the timeslot corresponding to $PDCH_0$ available.
32	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent after 6 radio blocks from step 31 on $PDCH_1$, USFs assigned to MS
33	SS		Verify that no data block was received
34	SS->MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on $PDCH_0$, USFs assigned to MS
35	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned $PDTCH_0$.
36			Repeat step 34 and 35 until the countdown value CV=0
37	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all data blocks received RLC data blocks . Sent on $PACCH_0$. PREEMPTIVE_TRANSMISSION_BIT=1
38	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on $PDCH_0$
39	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group, including a packet downlink assignment with one timeslot assigned, acknowledged mode.
40	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	A valid RRBP
41	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP in step 40.
42	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Repeat the step three times.
43	SS -> MS	PACKET PDCH RELEASE	Sent on the next radio block from step 42 with TIMESLOTS_AVAILABLE indicating no timeslot available.
44	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Sent on the next radio block from step 43 on PDTCH released, a valid RRBP = N + 21 or 22.
45	SS		Check that no EGPRS PACKET DOWNLINK ACK/NACK received on the block specified in step 44. The steps from 46 onwards are applicable to all EGPRS multislot classes except the EGPRS multislot class1.
46A	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on a PCH block corresponding to the MS's paging group with TBF Starting time.
46B	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Timeslot1 and Timeslot0 assigned, acknowledged mode. Sent on the PACCH assigned in stpe46A.
47	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Repeat the step five times. The RLC data blocks are received on $PDTCH_1$ and $PDTCH_0$. The last data block on $PDTCH_1$ containing a valid RRBP.

Step	Direction	Message	Comments
48	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block specified by RRBP on $PDTCH_7$ Check whether all data blocks in step 47 are acknowledged.
49	SS -> MS	PACKET PDCH RELEASE	With TIMESLOTS_AVAILABLE indicating only $timeslot_0$ available. Sent on the PACCH of $PDCH_1$.
50	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Repeat the step five times. The RLC data blocks are received on $PDTCH_0$. The last data block on $PDTCH_0$ containing a valid RRBP.
51	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	On the block specified by RRBP on $PDTCH_0$. Check whether all data blocks sent in step 50 are acknowledged.
52	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	One data block with a valid RRBP = N + 26 on $PDTCH_7$.
53	SS		Check that no EGPRS PACKET DOWNLINK ACK/NACK received on the block specified.
54	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Repeat the step five times on $PDTCH_0$.
55	SS -> MS	PACKET PDCH RELEASE	With TIMESLOTS_AVAILABLE indicating no timeslot available sent on the next block from step 54.
56	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Sent on the next radio block of step 55 on $PDTCH_0$, a valid RRBP = N + 21 or 22.
57	SS		Check that no EGPRS PACKET DOWNLINK ACK/NACK is received on the block specified in step 56.

Specific Message Contents:

IMMEDIATE ASSIGNMENT, Steps 10 and 25:

Information Element	value/remark
Number of radio blocks allocated	01

51.3.6 TBF Release / Extended Uplink

51.3.6.1 TBF Release / Extended Uplink / Recalculation of CV before CV = 0

51.3.6.1.1 Conformance requirements

In an uplink TBF operating in extended uplink TBF mode, the CV shall indicate the current number of RLC data blocks that has not been transmitted in the uplink TBF. The mobile station shall update the TBC value and recalculate the CV for any untransmitted RLC data block in the following cases:

- The RLC entity of the mobile station receives new data from upper layers for transmission in the uplink TBF.

References

3GPP TS 44.060, subclause 9.3.1.3

51.3.6.1.2 Test purpose

To verify that MS recalculates the CV when a new PDU is received from upper layers before MS has sent an RLC data block with CV=0.

51.3.6.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, NW_EXT_UTBF = 1, BS_CV_MAX = 14

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF using dynamic allocation in acknowledged mode is assigned. The SS assigns an USF to MS until MS has sent CV = 14. Then MS is triggered to send more data. SS acknowledges all received data. A new USF is assigned to MS every 4th second. The CV is checked in the data block. If the CV becomes '0' before having been recalculated, the test has failed. Otherwise the uplink TBF is continued and completed.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-2, RLC acknowledged mode (PDP context2)
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=14 (BS_CV_MAX).
5	MS		Trigger MS to send 400 octets of data.
6	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge all received data. USF assigned to the MS.
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Check CV
8	SS		Wait 4s
9			Repeat step 6 to 8 until CV (as received in step 7) > 14 (successful) or CV = 0 (failed)
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
11	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
12			Repeat step 10 and 11 until CV=0.
13	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
14	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents

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51.3.6.2 TBF Release / Extended Uplink / Recalculation of CV after CV = 0

51.3.6.2.1 Conformance requirements

[3GPP TS 44.060, 9.1.3.1]

In the extended uplink TBF mode, if V(S) = V(A) and there is no RLC data block with BSN = V(S) available, the mobile station shall stop sending RLC data blocks. The mobile station shall continue sending RLC data blocks when a RLC data block with BSN = V(S) is available.

[3GPP TS 44.060, 9.3.1.3]

In an uplink TBF operating in extended uplink TBF mode, the CV shall indicate the current number of RLC data blocks that has not been transmitted in the uplink TBF. The mobile station shall update the TBC value and recalculate the CV for any untransmitted RLC data block in the following cases:

- The RLC entity of the mobile station receives new data from upper layers for transmission in the uplink TBF.

[3GPP TS 44.060, 9.3.1b.2]

In extended uplink TBF mode, the uplink TBF may be maintained during temporary inactive periods, where the mobile station has no RLC information to send.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

3GPP TS 44.060, subclause 9.1.3.1, 9.3.1.3, 9.3.1b.2

51.3.6.2.2   Test purpose

1   To verify that MS sends an RLC/MAC control block after fully acknowledgement of transmitted RLC data.

2   To verify that MS continues to send RLC data blocks on the current TBF when MS receives new data from upper layers when all RLC data have been fully acknowledged.

3   To verify that MS recalculates the CV when a new LLC PDU is received from upper layers after MS has sent a RLC data block with CV=0.

51.3.6.2.3   Method of test

Initial Conditions

System Simulator:

1 cell, NW_EXT_UTBF = 1, BS_CV_MAX = 15

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF of dynamic allocation in acknowledged mode is assigned. SS assigns an USF to MS until MS has sent CV = 0. SS acknowledges all received data with Final Ack Indicator bit set to '0'. SS continues to assigns USF to MS. MS shall send a PACKET UPLINK DUMMY CONTROL BLOCK every time. Then

MS is triggered to send more data. After one second a new USF is assigned to MS. MS shall send a data block with a recalculated CV. Then the uplink TBF is continued and completed.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-2, RLC acknowledged mode (PDP context2)
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat step 6 and 7 five times.
9	MS		Trigger the MS to send 400 octets of data. SS should take care of allocating USF's to the MS in order to prevent the MS from releasing the TBF. If SS receives PACKET UPLINK DUMMY CONTROL BLOCKs, these shall be discarded. If SS receives an UPLINK RLC DATA BLOCK, then verify that the MS has recalculated the CV.
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
11	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
12			Repeat step 10 and 11 until CV=0
13	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
14	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents

51.3.6.3 TBF Release / Extended Uplink / MCS change order while CV=0

51.3.6.3.1 Conformance requirements

[3GPP TS 44.060, 9.1.3.1b2]

During a period when the network does not receive any RLC data blocks from the mobile station, the network may periodically send a PACKET UPLINK ACK/NACK message to the mobile station.

[3GPP TS 44.060, 9.1.11]

The modulation and coding scheme may be changed following the procedures described in sub-clause 9.3.2.1

[3GPP TS 44.060, 9.3.2.1]

The selection of MCS is controlled by the network.

[3GPP TS 44.060, 12.10.d: EGPRS modulation and coding scheme]

This information element defines the modulation and coding scheme to be used.

References

3GPP TS 44.060, subclause 9.1.3.1b2

3GPP TS 44.060, 9.1.11

3GPP TS 44.060, 9.3.2.1

51.3.6.3.2 Test purpose

To verify that MS applies the new ordered MCS whereas the MCS change command has been received while CV = 0.

51.3.6.3.3 Method of test

Initial Conditions

System Simulator:

1 cell, NW_EXT_UTBF = 1, BS_CV_MAX = 15

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF of dynamic allocation in acknowledged mode is assigned. SS assigns an USF to MS until MS has sent CV = 0. SS acknowledges all received data with Final Ack Indicator bit set to '0'. SS continues to assigns USF to MS. MS sends a PACKET UPLINK DUMMY CONTROL BLOCK every time. Then MS received a new Modulation and Coding Scheme command while it transmits PACKET UPLINK DUMMY CONTROL BLOCKs. Last, it is triggered to send more data. After one second a new USF is assigned to MS. MS shall send a data block with a recalculated CV. Then the uplink TBF shall be continued and completed with the new commanded MCS.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-3, RLC acknowledged mode (PDP context2)
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat step 6 and 7 five times.
9	SS -> MS	PACKET UPLINK ACK/NACK	EGPRS_CHANNEL_CODING_COMMAND: MCS-4
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
11	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
12	MS		Trigger the MS to send 400 octets of data. SS should take care of allocating USF's to the MS in order to prevent the MS from releasing the TBF. If SS receives PACKET UPLINK DUMMY CONTROL BLOCKs, these shall be discarded. If SS receives an UPLINK RLC DATA BLOCK, then verify that the MS has recalculated the CV.
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
14	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Verify that the MS uses the new ordered MCS.
15			Repeat step 13 and 14 until CV=0
16	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
17	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents

Specific Message Contents

PACKET UPLINK ACK NACK (Step 1):

As default message contents except: EGPRS_CHANNEL_CODING_COMMAND	MCS-3

PACKET UPLINK ACK NACK (Step 9):

As default message contents except: EGPRS_CHANNEL_CODING_COMMAND	MCS-4

51.3.6.4 TBF Release / Extended Uplink / TBF reconfigure by PACKET TIMESLOT RECONFIGURE

51.3.6.4.1 Conformance requirements

The mobile station shall attempt to decode every downlink RLC/MAC block on all assigned PDCHs. Whenever the mobile station receives an RLC/MAC block containing an RLC/MAC control block, the mobile station shall attempt to interpret the message contained therein. If the message addresses the mobile station, the mobile station shall act on the message.

The network may at any time during the uplink TBF initiate a change of resources by sending on the downlink PACCH monitored by the MS, an unsolicited PACKET UPLINK ASSIGNMENT or PACKET TIMESLOT RECONFIGURE message to the mobile station. During the reallocation TFI is allowed to be changed.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in sub-clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in sub-clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send for this TBF, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in sub-clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

3GPP TS 44.060, subclause 9.3.1b.2

3GPP TS 44.060, subclause 8.1.1.1.1

51.3.6.4.2 Test purpose

To verify that if the MS receives a PACKET TIMESLOT RECONFIGURE while the Uplink TBF is extended, the MS switches to the new assigned channels and continues sending of PACKET DUMMY CONTROL BLOCKs in the uplink.

51.3.6.4.3 Method of test

Initial Conditions

System Simulator:

1 cell, EGPRS supported, NW_EXT_UTBF = 1.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF using dynamic allocation in acknowledged mode is assigned. The SS assigns an USF to MS. SS receives data blocks till CV=0 and acknowledges all the blocks with an UPLINK ACK/NACK setting FAI=0. Then SS checks that if a USF is matched to the MS it sends a UPLINK DUMMY CONTROL BLOCK. SS sends a PACKET TIMESLOT RECONFIGURE, reassigning the timeslot given for Uplink

and initiating a downlink TBF. SS checks that the MS is sending a UPLINK DUMMY CONTROL BLOCK on the new channels whenever the USF is matched. SS releases the downlink TBF. SS initiates a data transfer of 200 octets. SS checks that the MS is using the newly assigned channels for doing the data transfer. SS allows the MS to complete the data transfer and releases the TBF.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-2, RLC acknowledged mode (PDP context2)
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat step 6 and 7 five times.
9	SS -> MS	PACKET TIMESLOT RECONFIGURE	See Specific message content. Assigning different timeslot, starting a downlink TBF.
10	SS -> MS	EGPRS DOWNLINK RLC DATA BLOCK	Containing RRBP= N+21 or +22 and USF assigned to the MS. FBI ='1'. Sent on the downlink PDTCH assigned on 3 blocks from the last radio block containing the TIMESLOT RECONFIGURE in step 9.
11	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	Received on the uplink PDTCH assigned in step 9.
12	MS -> SS	EGPRS PACKET DOWNLINK ACK/NACK	Received on the block of frame number = N+21 or +22, N is the frame number of the first burst of the data block in step 10.

Step	Direction	Message	Comments
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
14	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
15	MS		Trigger the MS to send 200 octets of data. SS should take care of allocating USF's to the MS in order to prevent the MS from releasing the TBF. If SS receives PACKET UPLINK DUMMY CONTROL BLOCKs, these shall be discarded. If SS receives an UPLINK RLC DATA BLOCK, then verify that the MS has recalculated the CV.
16	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
17	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
18			Repeat step 16 and 17 until CV=0
19	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
20	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents

PACKET TIMESLOT RECONFIGURE message in step 9:

Information Element	value/ remark
PAGE_MODE	Normal
	0, Global TFI as reference
- Global TFI	0, uplink TFI
	same value as assigned in the uplink in step 1
EGPRS CHANNEL CODING COMMAND	Arbitrarily chosen from valid values
Resegment	1
{0|1<Downlink EGPRS window size>	0
{0|1<Uplink EGPRS window size>	0
<Link quality measurement mode>	00
Global packet Timing Advance	
- {0|1<TIMING_ADVANCE_VALUE>}	1 (timing advance value)
- TIMING_ADVANCE_VALUE	30 bit periods
- {0|1<UPLINK_TIMING_ADVANCE_INDEX> <UPLINK_TIMING_ADVANCE_TIMESLOT_NUMBER>}	0 (no uplink timing advance index) The MS stops the operation of the continuous timing advance procedure.
- {0|1<DOWNLINK_TIMING_ADVANCE_INDEX> <DOWNLINK_TIMING_ADVANCE_TIMESLOT_NUMBER>}	0 (no downlink timing advance index) The MS stops the operation of the continuous timing advance procedure.
DOWNLINK_RLC_MODE	Acknowledged mode
CONTROL_ACK	0
{0|1<DOWNLINK_TFI_ASSIGNMENT>}	1
- GLOBAL_TFI_ASSIGNMENT	Arbitrarily chosen but different from the value for uplink TBF
{0|1<UPLINK_TFI_ASSIGNMENT>}	0
DOWNLINK_TIMESLOT_ALLOCATION	Timeslot 5 assigned
{0|1<Frequency parameters>}	0
Dynamic allocation	0
- Extended Dynamic Allocation	0 (Dynamic allocation)
{0|1<P0>}	0
- USF GRANULARITY	0 (1 RLC block)
- {0|1<RLC_DATA_BLOCKS_GRANTED>}	0 (open-ended TBF)
- {0|1<TBF_STARTING_TIME>}	0 (no starting time)
-	1 (Timeslot Allocation with Power Control Parameters)
- ALPHA	0.5
- {0|1<USF_TNx><GAMMA_TNx>}	000001 (timeslot 5 assigned)
- USF_TN$_5$	Arbitrarily chosen but different from current value

- GAMMA_TN$_5$	For GSM 900: +8 dBm For GSM 400: +8 dBm For GSM 850: +8 dBm For GSM 700 and T-GSM 810: +8 dBm For DCS 1 800: +6 dBm For PCS 1 900: +6 dBm 00

51.3.6.5 TBF Release / Extended Uplink / TBF reconfigure by PACKET UPLINK ASSIGNMENT

51.3.6.5.1 Conformance requirements

The mobile station shall attempt to decode every downlink RLC/MAC block on all assigned PDCHs. Whenever the mobile station receives an RLC/MAC block containing an RLC/MAC control block, the mobile station shall attempt to interpret the message contained therein. If the message addresses the mobile station, the mobile station shall act on the message.

The network may at any time during the uplink TBF initiate a change of resources by sending on the downlink PACCH monitored by the MS, an unsolicited PACKET UPLINK ASSIGNMENT or PACKET TIMESLOT RECONFIGURE message to the mobile station. During the reallocation TFI is allowed to be changed.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in sub-clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in sub-clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send for this TBF, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in sub-clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

  3GPP TS 44.060, subclause 9.3.1b.2

  3GPP TS 44.060, subclause 8.1.1.1.1

51.3.6.5.2 Test purpose

To verify that if the MS receives a PACKET UPLINK ASSIGNMENT while the Uplink TBF is extended, the MS switches to the new assigned channels and continues sending of PACKET DUMMY CONTROL BLOCKs in the uplink.

51.3.6.5.3 Method of test

Initial Conditions

  System Simulator:

    1 cell, EGPRS supported, NW_EXT_UTBF = 1.

  Mobile Station:

    MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS is triggered to transfer user data. A TBF using dynamic allocation in acknowledged mode is assigned. The SS assigns an USF to MS. SS receives data blocks till CV=0 and acknowledges all the blocks with an UPLINK ACK/NACK setting FAI=0. Then SS checks that if a USF is matched to the MS it sends a UPLINK DUMMY CONTROL BLOCK. SS sends a PACKET UPLINK ASSIGNMENT, reassigning the timeslot given for Uplink. SS checks that the MS is sending a UPLINK DUMMY CONTROL BLOCK on the new channels whenever the USF is matched. SS initiates a data transfer of 200 octets. SS checks that the MS is using the newly assigned channels for doing the data transfer. SS allows the MS to complete the data transfer and releases the TBF.

Expected Sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets, USF_GRANULARITY = 1 block, EGPRS_CHANNEL_CODING_COMMAND: MCS-2, RLC acknowledged mode (PDP context2)
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat step 6 and 7 five times.
9	SS -> MS	PACKET UPLINK ASSIGNMENT	See Specific message content. Assigning different timeslot.
10	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS. Sent after 3 blocks of sending the messages in step 9.
11	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
12	MS		Trigger the MS to send 200 octets of data. SS should take care of allocating USF's to the MS in order to prevent the MS from releasing the TBF. If SS receives PACKET UPLINK DUMMY CONTROL BLOCKs, these shall be discarded. If SS receives an UPLINK RLC DATA BLOCK, then verify that the MS has recalculated the CV.
13	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
14	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
15			Repeat step 13 and 14 until CV=0
16	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
17	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific Message Contents :

PACKET UPLINK ASSIGNMENT message in step 9:

Information Element	value/ remark
Dynamic allocation	01
-	000000
-	1 (Timeslot Allocation with Power Control Parameters for 1 slot assigned)
- ALPHA	0.5
-	000001 (timeslot 5 assigned)
- USF_TN5	Arbitrarily chosen
- GAMMA_TN5	For GSM 900: +8 dBm
	For GSM 400: +8 dBm
	For GSM 850: +8 dBm
	For GSM 700 and T-GSM 810: +8 dBm
	For DCS 1 800: +6dBm
	For PCS 1 900: +6 dBm
-	00000

51.3.6.6 Extended Uplink TBF / Cell Change while in Extended Uplink/ No Packet Neighbouring Cell Data

51.3.6.6.1 Conformance requirements

If CCN is enabled (see sub-clause 5.5.1.1a), the mobile station shall behave as in network control mode NC0 or NC1 up to the point when a new cell has been chosen. It shall then check the CCN_SUPPORTED parameter, if available, that was last received for that cell. This parameter can be sent on BCCH or PBCCH or individually in PACKET MEASUREMENT ORDER or in PACKET CELL CHANGE ORDER messages. If it is available and if it indicates that CCN mode shall be entered towards that cell or if it is not available, then instead of performing the cell change, the mobile station shall start timer T3206 and enter the CCN mode. At the first possible opportunity, the MS shall then, when in CCN mode, inform the network about the proposed cell by sending a PACKET CELL CHANGE NOTIFICATION message, stop timer T3206, start timers T3208 and T3210. The PACKET CELL CHANGE NOTIFICATION message shall contain the ARFCN for the BCCH and the BSIC as identity of the proposed cell. The message shall also contain measurement reports for the proposed cell and for other neighbour cells if available. In CCN mode the mobile station shall continue the data transfer and store neighbour cell system information if received in instances of the PACKET NEIGHBOUR CELL DATA message, but not perform the cell change. At receipt of the first PACKET NEIGBOUR CELL DATA message or PACKET CELL CHANGE CONTINUE message or PACKET CELL CHANGE ORDER message, the mobile station shall stop the timer T3210. If a mobile station as response to a PACKET CELL CHANGE NOTIFICATION message receives a PACKET CELL CHANGE CONTINUE message without receiving any neighbour cell system information, the mobile station shall stop timer T3208, stop timer T3210 if still running, leave CCN mode and continue cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE CONTINUE message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE CONTINUE message is received, the mobile station shall stop timer T3208, leave CCN mode and continue the cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE ORDER message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE ORDER message is received, the mobile station shall stop timer T3208, leave CCN mode and follow the procedures as specified for the Packet Cell Change Order (sub-clause 8.4) and in sub-clause 8.8.1.

In extended uplink TBF mode, the uplink TBF may be maintained during temporary inactive periods, where the mobile station has no RLC information to send.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

3GPP TS 44.060, subclause 8.8.3

3GPP TS 44.060, subclause 9.3.1b.2

51.3.6.6.2   Test purpose

To verify that an MS which is in Extended Uplink TBF, NACC active, changes to the proposed cell while in extending (sending uplink dummy control blocks).

51.3.6.6.3   Method of test

Initial conditions

System Simulator:

2 cells, EGPRS supported, CCN Active, RXLEV_ACCESS_MIN = -90dBm, NW_EXT_UTBF = 1.

Cell A: RLA_C = -50 dBm, is active.

Cell B: RLA_C = -60 dBm, is active.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate packet uplink transfer. SS assigns resources to the MS and it starts to send uplink data that the SS acknowledge. When MS reaches CV=0, it starts sending PACKET UPLINK DUMMY CONTROL BLOCKS During the uplink the signal strength of Cell A is lowered to – 80 dBm. The MS enters CCN mode and sends PACKET CELL CHANGE NOTIFICATION. The MS then continues to send PACKET UPLINK DUMMY CONTROL BLOCKS. While MS is sending PACKET ULINK DUMMY CONTROL BLOCKs, the SS then sends PACKET CELL CHANGE CONTINUE and the MS change to Cell B. The MS request resources for an uplink in the new cell and complete the uplink transfer in the new cell.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets. USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end TLLI_BLOCK_CHANNEL_CODING: same as channel coding EGPRS_CHANNEL_CODING_COMMAND: MCS-1 No starting time present.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat steps 6 and 7 five times
9	SS		Lower signal strength of Cell A to –80 dBm.
10	SS -> MS	PACKET UPLINK ACK/NACK	USF assigned to the MS
11	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK Or PACKET CELL CHANGE NOTIFICATION	
12			Step 10 and 11 are repeated until a PACKET CELL CHANGE NOTIFICATION is received in step 11, but no longer than 15 sec. The test has failed if no PACKET CELL CHANGE NOTIFICATION is received in Cell A within 15 sec from Step 9.
13	SS -> MS	PACKET CELL CHANGE CONTINUE	See specific message content.
			The following messages are to be sent and received in Cell B.
14	MS ->SS	EGPRS PACKET CHANNEL REQUEST	
15	SS ->MS	IMMEDIATE ASSIGNMENT	Sent on the AGCH.
16	MS ->SS	PACKET RESOURCE REQUEST	Received on the single block assigned in step 15. Access type = 'Cell Update' or 'Two Phase Access'
17	SS ->MS	PACKET UPLINK ASSIGNMENT	uplink dynamic allocation, no starting time Sent on PACCH of the same PDCH assigned in step 15.
18		{Completion of uplink RLC data block transfer}	MS performs a Cell Update.

Specific message contents

PACKET CELL CHANGE CONTINUE in Step 13

Information element	Value/remark
< PAGE_MODE : bit (2) >	00 (Normal Paging)
0	0
< GLOBAL_TFI : Global TFI IE >	0 <5 bit Uplink TFI>
0 | 1	1
< ARFCN : bit (10) >	ARFCN of Cell B.
< BSIC : bit (6) >	BSIC of Cell B.
<CONTAINER_ID>	01

51.3.6.7 Extended Uplink TBF / Cell Change failure while in Extended Uplink/ No Packet Neighbouring Cell Data

51.3.6.7.1 Conformance requirements

If CCN is enabled (see sub-clause 5.5.1.1a), the mobile station shall behave as in network control mode NC0 or NC1 up to the point when a new cell has been chosen. It shall then check the CCN_SUPPORTED parameter, if available, that was last received for that cell. This parameter can be sent on BCCH or PBCCH or individually in PACKET MEASUREMENT ORDER or in PACKET CELL CHANGE ORDER messages. If it is available and if it indicates that CCN mode shall be entered towards that cell or if it is not available, then instead of performing the cell change, the mobile station shall start timer T3206 and enter the CCN mode. At the first possible opportunity, the MS shall then, when in CCN mode, inform the network about the proposed cell by sending a PACKET CELL CHANGE NOTIFICATION message, stop timer T3206, start timers T3208 and T3210. The PACKET CELL CHANGE NOTIFICATION message shall contain the ARFCN for the BCCH and the BSIC as identity of the proposed cell. The message shall also contain measurement reports for the proposed cell and for other neighbour cells if available. In CCN mode the mobile station shall continue the data transfer and store neighbour cell system information if received in instances of the PACKET NEIGHBOUR CELL DATA message, but not perform the cell change. At receipt of the first PACKET NEIGBOUR CELL DATA message or PACKET CELL CHANGE CONTINUE message or PACKET CELL CHANGE ORDER message, the mobile station shall stop the timer T3210.If a mobile station as response to a PACKET CELL CHANGE NOTIFICATION message receives a PACKET CELL CHANGE CONTINUE message without receiving any neighbour cell system information, the mobile station shall stop timer T3208, stop timer T3210 if still running, leave CCN mode and continue cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE CONTINUE message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE CONTINUE message is received, the mobile station shall stop timer T3208, leave CCN mode and continue the cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE ORDER message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE ORDER message is received, the mobile station shall stop timer T3208, leave CCN mode and follow the procedures as specified for the Packet Cell Change Order (sub-clause 8.4) and in sub-clause 8.8.1.

In extended uplink TBF mode, the uplink TBF may be maintained during temporary inactive periods, where the mobile station has no RLC information to send.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

3GPP TS 44.060, subclause 8.8.3

3GPP TS 44.060, subclause 9.3.1b.2

51.3.6.7.2 Test purpose

To verify that an MS, which is in Extended Uplink TBF, NACC active, shall revert to the previous TBF, if selected cell disappears from the coverage and MS should still stay in Extended Uplink TBF

51.3.6.7.3 Method of test

Initial conditions

System Simulator:

2 cells, EGPRS supported, CCN Active, RXLEV_ACCESS_MIN = -90dBm, NW_EXT_UTBF = 1.

Cell A: RLA_C = -50 dBm, is active.

Cell B: RLA_C = -60 dBm, is active.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established. Ready timer is deactivated.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate packet uplink transfer. SS assigns resources to the MS and it starts to send uplink data that the SS acknowledge. When MS reaches CV=0, it starts sending PACKET UPLINK DUMMY CONTROL BLOCKS During the uplink the signal strength of Cell A is lowered to − 80 dBm. The MS enters CCN mode and sends PACKET CELL CHANGE NOTIFICATION. The MS then continues to send PACKET UPLINK DUMMY CONTROL BLOCKS. While MS is sending PACKET ULINK DUMMY CONTROL BLOCKs, the SS then sends PACKET CELL CHANGE CONTINUE and the MS change to Cell B. MS tries to access Cell B. SS deactivates Cell B, The MS request resources for an uplink in the old cell.

Maximum duration of the test

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Expected sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 500 octets. USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end TLLI_BLOCK_CHANNEL_CODING: same as channel coding EGPRS_CHANNEL_CODING_COMMAND: MCS-1 No starting time present.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 until CV=0
5	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B6.
B6 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
8			Repeat steps 6 and 7 five times
9	SS		Lower signal strength of Cell A to –80 dBm.
10	SS -> MS	PACKET UPLINK ACK/NACK	USF assigned to the MS
11	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK Or PACKET CELL CHANGE NOTIFICATION	
12			Step 10 and 11 are repeated until a PACKET CELL CHANGE NOTIFICATION is received in step 11, but no longer than 15 sec. The test has failed if no PACKET CELL CHANGE NOTIFICATION is received in Cell A within 15 sec from Step 9.
13	SS -> MS	PACKET CELL CHANGE CONTINUE	See specific message content.
14	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Allow the MS to try to access Cell B
15			Cell B is deactivated
			The following messages are to be sent and received in Cell A.
16	MS -> SS	EGPRS PACKET CHANNEL REQUEST	
17	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on the AGCH.
18	MS -> SS	PACKET RESOURCE REQUEST	Received on the single block assigned in step 17.
19	SS -> SS	PACKET UPLINK ASSIGNMENT	Uplink dynamic allocation, no starting time, Sent on PACCH of the same PDCH assigned in step 17.
20		{Completion of uplink RLC data block transfer}	MS performs a Cell Update.

Specific message contents

PACKET CELL CHANGE CONTINUE in Step 13

Information element	Value/remark
< **PAGE_MODE** : bit (2) >	00 (Normal Paging)
0	0
< **GLOBAL_TFI** : Global TFI IE >	0 <5 bit Uplink TFI>
0 | 1	1
< **ARFCN** : bit (10) >	ARFCN of Cell B.
< **BSIC** : bit (6) >	BSIC of Cell B.
<CONTAINER_ID>	01

51.3.6.8 Extended Uplink TBF / Cell Change while in Extended Uplink/ With Packet Neighbouring Cell Data

51.3.6.8.1 Conformance requirements

If CCN is enabled (see sub-clause 5.5.1.1a), the mobile station shall behave as in network control mode NC0 or NC1 up to the point when a new cell has been chosen. It shall then check the CCN_SUPPORTED parameter, if available, that was last received for that cell. This parameter can be sent on BCCH or PBCCH or individually in PACKET MEASUREMENT ORDER or in PACKET CELL CHANGE ORDER messages. If it is available and if it indicates that CCN mode shall be entered towards that cell or if it is not available, then instead of performing the cell change, the mobile station shall start timer T3206 and enter the CCN mode. At the first possible opportunity, the MS shall then, when in CCN mode, inform the network about the proposed cell by sending a PACKET CELL CHANGE NOTIFICATION message, stop timer T3206, start timers T3208 and T3210. The PACKET CELL CHANGE NOTIFICATION message shall contain the ARFCN for the BCCH and the BSIC as identity of the proposed cell. The message shall also contain measurement reports for the proposed cell and for other neighbour cells if available. In CCN mode the mobile station shall continue the data transfer and store neighbour cell system information if received in instances of the PACKET NEIGHBOUR CELL DATA message, but not perform the cell change. At receipt of the first PACKET NEIGBOUR CELL DATA message or PACKET CELL CHANGE CONTINUE message or PACKET CELL CHANGE ORDER message, the mobile station shall stop the timer T3210.If a mobile station as response to a PACKET CELL CHANGE NOTIFICATION message receives a PACKET CELL CHANGE CONTINUE message without receiving any neighbour cell system information, the mobile station shall stop timer T3208, stop timer T3210 if still running, leave CCN mode and continue cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE CONTINUE message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE CONTINUE message is received, the mobile station shall stop timer T3208, leave CCN mode and continue the cell reselection in NC0/NC1 mode. The network sends first necessary system information for the cell proposed in the PACKET CELL CHANGE NOTIFICATION message, or for any other cell, in one or more instances of the PACKET NEIGHBOUR CELL DATA message and sends then a PACKET CELL CHANGE ORDER message. The mobile station shall store the received system information as specified in sub-clause 8.8.1. When the first instance of the PACKET NEIGHBOUR CELL DATA message is received, the mobile station shall stop timer T3210 if still running. When the PACKET CELL CHANGE ORDER message is received, the mobile station shall stop timer T3208, leave CCN mode and follow the procedures as specified for the Packet Cell Change Order (sub-clause 8.4) and in sub-clause 8.8.1.

In extended uplink TBF mode, the uplink TBF may be maintained during temporary inactive periods, where the mobile station has no RLC information to send.

During the temporary inactive periods, the mobile station may stop sending RLC data block, as defined in clause 9.1.3. The network shall continue allocating the mobile station uplink radio blocks during the inactivity period, using the procedures defined in clause 8.1.1 for each medium access mode. Uplink radio blocks shall be allocated as required allowing the mobile station to continue the transfer of RLC data blocks, when a new RLC data block becomes available.

When the mobile station is allocated an uplink radio block and there is no RLC data block ready to send, the mobile station shall send an RLC/MAC control block in each uplink radio block allocated by the network. The priority defined in clause 8.1.1 for different kinds of RLC/MAC blocks apply.

References

3GPP TS 44.060, subclause 8.8.3

3GPP TS 44.060, subclause 9.3.1b.2

51.3.6.8.2 Test purpose

To verify that: MS takes into consideration the change of parameter NW_EXT_UTBF in SI13 (sent in PACKET NEIGHBOUR CELL DATA) and operate in Extended Uplink TBF in the new cell.

51.3.6.8.3 Method of test

Initial conditions

System Simulator:

2 cells, EGPRS supported, CCN Active, RXLEV_ACCESS_MIN = -90dBm,.

Cell A: RLA_C = -50 dBm, is active and NW_EXT_UTBF = 0.

Cell B: Supports PACKET SI STATUS. No System Information is broadcast on the BCCH, except SI3. This is only made to make it possible to verify that the MS uses the information in Packet Neighbour Cell Data. RLA_C = -60 dBm, is active and NW_EXT_UTBF = 1.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test procedure

The MS is triggered to initiate packet uplink transfer. SS assigns resources to the MS and it starts to send uplink data that the SS acknowledge. During the uplink the signal strength of Cell A is lowered to − 80 dBm. The MS enters CCN mode and sends PACKET CELL CHANGE NOTIFICATION. SS sends one or more PACKET NEIGHBOUR CELL DATA to the MS (with NW_EXT_UTBF in SI13 set to 1). The SS then sends PACKET CELL CHANGE CONTINUE and the MS change to Cell B. The MS requests resources for an uplink and asks for SI2 and SI2bis messages by sending PACKET_SI_STATUS In the new cell the MS completes the uplink transfer while operating in extended uplink TBF.

Maximum duration of the test

-

Expected sequence

Step	Direction	Message	Comments
1		{Uplink dynamic allocation two phase access}	n = 1200 octets. USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end TLLI_BLOCK_CHANNEL_CODING: same as channel coding EGPRS_CHANNEL_CODING_COMMAND: MCS-1 No starting time present.
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
4			Repeat step 2 and 3 five times
5	SS		Lower signal strength of Cell A to –80 dBm.
6	SS -> MS	PACKET UPLINK ACK/NACK	USF assigned to the MS
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK Or PACKET CELL CHANGE NOTIFICATION	
8			Step 6 and 7 are repeated until a PACKET CELL CHANGE NOTIFICATION is received in step 7, but no longer than 15 sec. The test has failed if no PACKET CELL CHANGE NOTIFICATION is received in Cell A within 15 sec from Step 5.
9	SS -> MS	PACKET NEIGHBOUR CELL DATA	USF assigned to the MS
10	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
11			Step 9 and 10 are repeated until all instances of PACKET NEIGHBOUR CELL DATA are sent (SI13 with NW_EXT_UTBF = 1 and SI_STATUS_IND = 1).
12	SS -> MS	PACKET CELL CHANGE CONTINUE	
			The following messages are to be sent and received in Cell B.
13		{Uplink dynamic allocation two phase access}	USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end TLLI_BLOCK_CHANNEL_CODING: same as channel coding EGPRS_CHANNEL_CODING_COMMAND: MCS-1 No starting time present.
14	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS USF is assigned once in 52-multiframes.
15	MS -> SS	EGPRS UPLINK RLC DATA BLOCK or PACKET SI STATUS or PACKET RESOURCE REQUEST	Step 16 is performed only if a PACKET RESOURCE REQUEST is received in step 15.
16	SS -> MS	PACKET UPLINK ASSIGNMENT	Repeats the PDTCH assignment given in step 13.

17			Step 14 and 15 are repeated until a PACKET SI STATUS is received in step 15. The PACKET SI STATUS shall be sent within 10 sec of accessing the cell. Verify that the MS does not request SI that was sent in step 9. If the RLC DATA BLOCK with BSN = 0 received in Step 15 contains an empty LLC PDU as the first LLC PDU, Steps 14 and 15 are further repeated until a PACKET RESOURCE REQUEST is received in Step 15. NOTE: The empty LLC PDU may be accompanied by another low priority RLC data block (with Packet Resource Request and Packet Uplink Assignment or Packet Timeslot Reconfigure as required), in order to ensure that the radio resources are used efficiently.
18		PACKET SERVING CELL DATA	SI2,SI4 and SI2bis messages are sent .
19		PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
20 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK or PACKET RESOURCE REQUEST	
21 (conditional step)	SS->MS	PACKET UPLINK ASSIGNMENT	Step 21 is performed only PRR is sent step 20. Repeats the PDTCH assignment from the PUA step 13
22			Repeat step 19 and 20 until CV=0
23	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 0. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
24	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS, Sent after 6 blocks of sending the message in step 23.
A24 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while Packet Uplink Ack/Nack is being processed. In this case go to step B24.
B24 (optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
25	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	
26			Repeat step 24 and 25 five times.
27	MS		Trigger the MS to send 500 octets of data. SS should take care of allocating USF's to the MS in order to prevent the MS from releasing the TBF
28	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
29	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	
30			Repeat step 28 and 29 until CV=0
31	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indication = 1 containing valid RRBP. Sent on PACCH of the assigned PDCH. Acknowledge all data blocks received.
32	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

Specific message contents

PACKET NEIGHBOUR CELL DATA in Step 9

The message contains the default SI_13, with NW_EXT_UTBF = 1 and SI_STATUS_IND = 1, default SI1 and SI3 for Cell B.

Information element	Value/remark
< **PAGE_MODE** : bit (2) >	00 (Normal Paging)
0	0
< **GLOBAL_TFI** : Global TFI IE >	0 <5 bit Uplink TFI>
< **CONTAINER_ID** : bit (2) >	01 for SI belonging to Cell B
< **SPARE** :bit(1)>	0
< **CONTAINER INDEX** :bit (5)>	00000 to the index needed to send all SIs for each cell.
0 | 1	0 No ARFCN or BSIC
Container repetition struct	
< **PD** : bit(3)>	000, BCCH

PACKET CELL CHANGE CONTINUE in Step 12

Information element	Value/remark
< **PAGE_MODE** : bit (2) >	00 (Normal Paging)
0	0
< **GLOBAL_TFI** : Global TFI IE >	0 <5 bit Uplink TFI>
0 | 1	1
< **ARFCN** : bit (10) >	ARFCN of Cell B.
< **BSIC** : bit (6) >	BSIC of Cell B.
<**CONTAINER_ID**>	01

51.3.6.9 TBF Release / Extended Uplink / Change of RLC mode / Normal release

51.3.6.9.1 Conformance requirements

During an uplink packet transfer, upper layer may request to transfer another LLC PDU. If the new LLC PDU does not have the same RLC mode as the current uplink TBF but has a higher radio priority, the mobile station shall complete the transmission of the current LLC PDU using the countdown procedure including acknowledgement from the network, if in acknowledged mode.

If the TBF is operated in extended uplink TBF mode (see sub-clause 9.3.1b), the mobile station shall use the procedure in sub-clause 8.1.1.6 for changing RLC mode.

The mobile station shall send a PACKET RESOURCE REQUEST message on PACCH indicating the new RLC mode and start timer T3168.

If timer T3168 expires, the mobile station shall retransmit the PACKET RESOURCE REQUEST message and restart timer T3168.

On receipt of a PACKET RESOURCE REQUEST message, indicating a change of RLC mode, the network shall release the uplink TBF at a point determined by the network, using the procedure defined in sub-clause 9.5.

On receipt of PACKET UPLINK ACK/NACK with Final Ack Indicator set to '1' the mobile station shall stop timer T3168 and after sending the PACKET CONTROL ACK perform the change of RLC mode by establishing a new TBF.

References

3GPP TS 44.060, subclauses 8.1.1.6, 8.1.1.1.2 and 9.5.

51.3.6.9.1.2 Test purpose

To verify that during extended uplink TBF the MS re-establishes the TBF and changes the RLC mode.

51.3.6.9.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, NW_EXT_UTBF = 1, BS_CV_MAX = 14, T3168 timeout value=7 (4s), N201-U=500 for SAPI 3, 5, 9, 11, N201-U=270 for SAPI 7.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 1 and context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

An uplink TBF is established and in progress. SS assigns USFs allowing the MS to transmit data blocks. The MS is triggered to transfer 220 octets user data with a different RLC mode and higher radio priority.

The mobile station shall complete the transmission of the current LLC PDU. SS will verify the complete reception of the LLC PDU.

SS acknowledge the LLC PDU with a EGPRS Packet Uplink Ack/Nack with TBF Est field is set to '1' and Final Ack Indicator bit set to '1'. The mobile station shall use the same procedures as are used for TBF establishment using two phase starting from the point where the mobile station transmits the PACKET RESOURCE REQUEST message.

In case the MS ignores the TBF Est field in the EGPRS PACKET UPLINK ACK/NACK, the mobile station shall transmit a PACKET CONTROL ACKNOWLEDGEMENT message, release the TBF and shall establish a new TBF using two phase access.

SS assigns a PDCH to the MS. SS assigns USFs allowing the MS to transmit data blocks until the countdown value CV=0.

SS sends an EGPRS Packet Uplink Ack/Nack with TBF Est field set to '0' and Final Ack Indicator bit set to '1' and the MS is polled. The MS answers with a Packet Control Acknowledgement and the TBF is released.

Maximum Duration of Test

5 minutes.

Expected Sequence

Step	Direction	Message	Comments
1	MS	{Uplink dynamic allocation two phase access}	In PDP context2, n = 220 octets, without starting time, USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end, TLLI_BLOCK_CHANNEL_CODING: MCS-1, EGPRS_CHANNEL_CODING_COMMAND: MCS-1, RADIO_PRIORITY = 4
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH, the USF assigned to the MS, on 3 blocks from the last radio block containing the uplink assignment.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that the coding as specified by EGPRS_CHANNEL_CODING_COMMAND, the TFI, and BSN is correct.
4			Repeat step 2 and 3 three times.
5	MS		To trigger the MS to transfer 220 octets: in test PDP context1, unacknowledged RLC mode and Radio Priority = 1
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH, the USF assigned to the MS.
7	MS -> SS	EGPRS UPLINK RLC DATA BLOCK Or	Received on the assigned PDTCH. Check that the coding as specified by CHANNEL_CODING_COMMAND, the TFI, and BSN is correct. Send PACKET UPLINK ACK/NACK to acknowledge all received data blocks when CV=0 and PACKET RESOURCE REQUEST is not yet received. (Note: MS may retransmit the block with BSN=0 once if it has already been scheduled while PACKET UPLINK ACK/NACK is being processed and the new LLC PDU is not ready for the transmission)
		PACKET RESOURCE REQUEST Or	Received on PACCH of the assigned PDCH indicating the change of RLC mode. Check for radio priority level = 1 and RLC mode Unacknowledged RLC mode.
		PACKET UPLINK DUMMY CONTROL BLOCK	The MS is in extended TBF mode.
8			Repeat step 6 and 7 until CV = 0 and a PACKET RESOURCE REQUEST has been received
9	SS -> MS	EGPRS PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH assigned, acknowledging all blocks so far. FINAL_ACK_INDICATION = '1',TBF Est = 1. Valid RRBP.
10	SS		Verify that only one complete LLC PDU has been received.
11 (optional)	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH. If not received continue with step 14.
12 (conditional)	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Received on RACH. Access Type: "Two Phase Access".
13 (conditional)	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on the AGCH
14	MS -> SS	PACKET RESOURCE REQUEST	Received on PACCH of the assigned PDCH. Check for radio priority level = 1 and RLC mode Unacknowledged RLC mode. Received on the block specified by the single block assignment of step 13 or by the RRBP of step 9.
15	SS -> MS	PACKET UPLINK ASSIGNMENT	Open-ended uplink dynamic allocation, no starting time, USF_GRANULARITY = single block. Sent on PACCH of the assigned PDCH.
16	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	The USF assigned to the MS. Sent on PACCH of the assigned PDCH.

Step	Direction	Message	Comments
17	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the PDTCH assigned.
18			Repeat step 16 and 17 until countdown value CV=0.
19	SS -> MS	EGPRS PACKET UPLINK ACK/NACK	FINAL_ACK_INDICATION = '1', TBF Est = 0, a valid RRBP, acknowledge all received data, sent on PACCH.
20	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

51.3.6.10 TBF Release / Extended Uplink / Change of RLC mode / Abnormal release

51.3.6.10.1 Conformance requirements

During an uplink packet transfer, upper layer may request to transfer another LLC PDU. If the new LLC PDU does not have the same RLC mode as the current uplink TBF but has a higher radio priority, the mobile station shall complete the transmission of the current LLC PDU using the countdown procedure including acknowledgement from the network, if in acknowledged mode. immediately request a resource reallocation for uplink according to the new Radio Priority of the new LLC PDU by sending a PACKET RESOURCE REQUEST message on the PACCH and starting timer T3168.

If the TBF is operated in extended uplink TBF mode (see sub-clause 9.3.1b), the mobile station shall use the procedure in sub-clause 8.1.1.6 for changing RLC mode.

Then the mobile station shall complete the transmission of the current LLC PDU. If the TBF is operated in extended uplink TBF mode, the mobile station shall release the uplink TBF and re-establish a new uplink TBF in order to change the RLC mode.

The mobile station shall send a PACKET RESOURCE REQUEST message on PACCH indicating the new RLC mode and start timer T3168.

If timer T3168 expires, the mobile station shall retransmit the PACKET RESOURCE REQUEST message and restart timer T3168.

If timer T3168 expires and the PACKET RESOURCE REQUEST message has already been transmitted four times, the mobile station shall perform an abnormal release with access retry (see sub-clause 8.7.2).

On receipt of a PACKET RESOURCE REQUEST message, indicating a change of RLC mode, the network shall release the uplink TBF at a point determined by the network, using the procedure defined in sub-clause 9.5.

On receipt of PACKET UPLINK ACK/NACK with Final Ack Indicator set to '1' the mobile station shall stop timer T3168 and after sending the PACKET CONTROL ACK perform the change of RLC mode by establishing a new TBF.

References

3GPP TS 44.060, subclauses 8.1.1.6, 8.1.1.1.2, and 9.5.

51.3.6.10.1.2 Test purpose

To verify that during extended uplink TBF the MS perform an abnormal release with access retry after timer T3168 expired and PACKET RESOURCE REQUEST message has been transmitted four times.

51.3.6.10.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, NW_EXT_UTBF = 1, BS_CV_MAX = 14, T3168 timeout value=7 (4s), N201-U=500 for SAPI 3, 5, 9, 11, N201-U=270 for SAPI 7.

Mobile Station:

MS is in Packet Idle mode, GPRS attached with support of GERAN Feature Package 1 indicated in MS Radio Access Capabilities, and PDP context 1 and context 2 established.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

An uplink TBF is established and in progress. SS assigns USFs allowing the MS to transmit data blocks until the MS completes the countdown procedure. As soon as the MS is in extended UL TBF mode, the MS is triggered to transfer 220 octets user data with different RLC mode.

The mobile station shall immediately request a resource reallocation for uplink indicating the changed RLC mode applied to the new LLC PDU by sending a PACKET RESOURCE REQUEST message on the PACCH and start timer T3168.

SS keeps assigning USFs, the MS will send Packet Uplink Dummy Control Blocks till T3168 expire. The MS will send a PACKET RESOURCE REQUEST message again on the PACCH and restart timer T3168.

The SS keeps assigning USFs till the MS has transmitted the Packet Resource Request four times.

The MS shall perform an abnormal release with access retry.

The SS will assign new resources to the MS to complete the new TBF.

Maximum Duration of Test

5 minutes.

Expected Sequence

Step	Direction	Message	Comments
1	MS	{Uplink dynamic allocation two phase access}	In PDP context2, n = 220 octets, without starting time, USF_GRANULARITY = 1 block, RLC_DATA_BLOCKS_GRANTED = open-end, TLLI_BLOCK_CHANNEL_CODING: MCS-1, EGPRS_CHANNEL_CODING_COMMAND: MCS-1, RADIO_PRIORITY = 4,
2	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	Sent on the PACCH, the USF assigned to the MS, on 3 blocks from the last radio block containing the uplink assignment.
3	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the assigned PDTCH. Check that the coding as specified by EGPRS_CHANNEL_CODING_COMMAND, the TFI is correct.
4			Repeat step 2 and 3 till CV = 0
5	SS -> MS	EGPRS PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH assigned, the USF not assigned to the MS, acknowledging all blocks. FINAL_ACK_INDICATION = '0',TBF Est = 1
6	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS, sent after 6 blocks from step 5
A6 (optional step)	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	MS may retransmit the block with BSN=0 once if it has already been scheduled while EGPRS PACKET UPLINK ACK/NACK is being processed. In this case go to step B6.
B6(optional step)	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
7	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	MS is in extended UL TBF mode.
8	MS		To trigger the MS to transfer 220 octets: in test PDP context1, unacknowledged RLC mode and Radio Priority = 1
9	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
A10 (optional step)	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	MS may transmit while processing the uplink data trigger PACKET UPLINK DUMMY CONTROL BLOCK. In this case repeat step 9 until a PACKET RESOURCE REQUEST is received.
10	MS -> SS	PACKET RESOURCE REQUEST	MS starts T3168. Received on the PACCH of the assigned PDCH, Indicating the change of RLC mode: Check that radio priority level = 1 and Unacknowledged RLC mode.
11	SS -> MS	EGPRS PACKET UPLINK ACK/NACK	To prevent T3184 from expiring, sent on the PACCH of the PDCH assigned, the USF not assigned to the MS, acknowledging all Blocks. FINAL_ACK_INDICATION = '0', TBF Est = 0
12	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	USF assigned to the MS
13	MS -> SS	PACKET UPLINK DUMMY CONTROL BLOCK	MS is in extended UL TBF mode.
		Or	
		PACKET RESOURCE REQUEST	Received on the PACCH of the assigned PDCH, Indicating the change of RLC mode: Check that radio priority level = 1 and Unacknowledged RLC mode.
14			Repeat Step 12 and 13 until a PACKET RESOURCE REQUEST has been received. Check that the PACKET RESOURCE REQUEST is received within T3168 +/- 10% from the previous PACKET RESOURCE REQUEST.
15			Repeat Step 11 to Step 14 until the PACKET RESOURCE REQUEST has been received a total of 4 times. .

Step	Direction	Message	Comments
			MS shall perform an abnormal release with access retry
16	MS -> SS	EGPRS PACKET CHANNEL REQUEST	Received on RACH for TBF establishment for transferring of the LLC PDU in PDP context1.
17	SS -> MS	IMMEDIATE ASSIGNMENT	Sent on the AGCH
18	MS -> SS	PACKET RESOURCE REQUEST	Received on the single block assigned in step 17. Check that radio priority level = 1, peak throughput class = 5, unacknowledged RLC mode.
19	SS -> MS	PACKET UPLINK ASSIGNMENT	Open-ended uplink dynamic allocation, no starting time, USF_GRANULARITY = single block.
20	SS -> MS	PACKET DOWNLINK DUMMY CONTROL BLOCK	The USF assigned to the MS. Sent on PACCH of PDCH assigned in step 19.
21	MS -> SS	EGPRS UPLINK RLC DATA BLOCK	Received on the PDTCH assigned.
22			Repeat step 20 and 21 until countdown value CV=0.
23	SS -> MS	EGPRS PACKET UPLINK ACK/NACK	FINAL_ACK_INDICATION = '1', a valid RRBP, acknowledge all received data, sent on PACCH.
24	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

51.3.7 Void

51.4 Void

51.5 EGPRS Dual transfer mode

To bring the MS into active state U10, macro 40.4.3.22 shall be used.

51.5.1 PS establishment whilst in dedicated mode

51.5.1.1 Uplink TBF establishment

51.5.1.1.1 Uplink TBF establishment with no reallocation of CS resources

51.5.1.1.1.1 Uplink TBF establishment with no reallocation of CS resources / Successful case / Uplink resources assigned

51.5.1.1.1.1.1 Conformance requirements

While in dedicated mode, the establishment of an uplink packet resource may be initiated by the RR entity of the mobile station using the packet request procedure. The procedure is triggered by a request from upper layers to transfer an LLC PDU; see 3GPP TS 24.007.

On receipt of a DTM REQUEST message the network may allocate an uplink packet resource. The packet uplink resource is assigned to the mobile station in one of the DTM assignment messages:

- DTM ASSIGNMENT COMMAND or

- PACKET ASSIGNMENT.

The PACKET ASSIGNMENT message is only used when the packet resource is a PDCH and no reallocation of the RR connection is needed.

On receipt of:

- DTM ASSIGNMENT COMMAND message or

- PACKET ASSIGNMENT message,

the mobile station shall stop T3148.

- when the network sends a PACKET ASSIGNMENT message, the packet request procedure is completed for the network when assignment message is sent and for the mobile station when it is received.

When the packet request procedure is completed, the mobile station has entered the dual transfer mode.

References

3GPP TS 04.18/44.018 sub-clause 3.4.22.1.1

51.5.1.1.1.1.2 Test purpose

To verify that the MS:

- decodes correctly the Cell's System information, understanding that DTM access is allowed;

- requests an uplink TBF when it has something to send;

- acts upon the PACKET ASSIGNMENT message and then transmitting on the PDCH allocated.

51.5.1.1.1.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, DTM supported

Mobile Station:

The MS is in the active state (U10) of a call.
The MS is in packet idle mode with a P-TMSI allocated and PDP context 1 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS, whilst in dedicated mode, is triggered to initiate packet uplink transfer data in RLC unacknowledged mode and sends a DTM REQUEST message. On receipt of the DTM REQUEST message, requesting uplink resources, the SS assigns the MS PS resource. The SS accomplishes the resource assignment by passing a PACKET ASSIGNMENT message to the MS. On receipt of the PACKET ASSIGNMENT message, the MS starts to send RLC DATA BLOCKS to the SS on the assigned PDTCH.

The codec to be used in this test is chosen dependent on the capabilities of the MS.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N. When: k=1, Channel Type=TCH/F; k=2, Channel Type=TCH/H.
2	MS		Trigger the MS to initiate an uplink packet transfer containing 1000 octets.
3	MS->SS	DTM REQUEST	
4	SS->MS	PACKET ASSIGNMENT	SS sends this message such that it is received before Timer T3148 expiry. Includes information on the Radio resources provided to the MS. See specific message contents.
5	MS<->SS	{ Uplink data transfer }	Macro - Completion of the 1000 Octets of Data.

Specific Message Contents

PACKET ASSIGNMENT (Step 4):

k=1;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	$(N \pm 1)$ MOD 8 MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

k=2;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	N MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

51.5.1.1.1.2 Uplink TBF establishment with no reallocation of CS resources / Successful case / Downlink resources assigned

51.5.1.1.1.2.1 Conformance requirements

While in dedicated mode, the establishment of an uplink packet resource may be initiated by the RR entity of the mobile station using the packet request procedure. The procedure is triggered by a request from upper layers to transfer an LLC PDU; see 3GPP TS 24.007.

On receipt of a DTM REQUEST message the network may allocate an uplink packet resource. The packet uplink resource is assigned to the mobile station in one of the DTM assignment messages:

- DTM ASSIGNMENT COMMAND or

- PACKET ASSIGNMENT.

The PACKET ASSIGNMENT message is only used when the packet resource is a PDCH and no reallocation of the RR connection is needed.

On receipt of:

- DTM ASSIGNMENT COMMAND message or

- PACKET ASSIGNMENT message,

the mobile station shall stop T3148.

If the received DTM ASSIGNMENT COMMAND or PACKET ASSIGNMENT message includes uplink packet resources, the mobile station shall proceed with the packet access. If the received message includes downlink packet resources and no uplink packet resources, the mobile station shall abort the packet access procedure and proceed with the procedure specified in clause 3.4.22.3, and then attempt an establishment of uplink TBF, using the applicable procedure specified in 3GPP TS 04.60.

- when the network sends a PACKET ASSIGNMENT message, the packet request procedure is completed for the network when assignment message is sent and for the mobile station when it is received.

When the packet request procedure is completed, the mobile station has entered the dual transfer mode.

If the received PACKET ASSIGNMENT message includes downlink packet resources and no uplink packet resources, the mobile station shall abort the packet access procedure and proceed with the downlink TBF establishment, and then attempt an establishment of uplink TBF.

References

> 3GPP TS 04.18/44.018 sub-clauses 3.4.22.1.1, 3.4.22.3
> 3GPP TS 04.60/44.060 sub-clause 8.1.2.5

51.5.1.1.1.2.2 Test purpose

To verify that the MS:

- decodes correctly the Cell's System information, understanding that DTM access is allowed;

- requests an uplink TBF;

- acts upon the PACKET ASSIGNMENT message containing downlink resources.

- attempts uplink TBF establishment, once the downlink TBF establishment is complete.

51.5.1.1.1.2.3 Method of test

Initial Conditions

> System Simulator:

>> 1 cell, DTM supported

> Mobile Station:

>> The MS is in the active state (U10) of a call on cell A.
>> The MS is in packet idle mode with a P-TMSI allocated and PDP context 1 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS, whilst in dedicated mode, is triggered to initiate packet uplink transfer data in RLC unacknowledged mode and sends a DTM REQUEST message. On receipt of the DTM REQUEST message, requesting uplink resources, the SS assigns the MS downlink PS resources using the PACKET ASSIGNMENT message. The MS, upon receipt of the assignment message, aborts the packet access procedure and proceeds with the downlink assignment. When possible the MS requests the uplink TBF establishment. The SS upon receipt of the resource request allocates the MS uplink

resources using the PACKET UPLINK ASSIGNMENT message. The MS then starts to send RLC DATA BLOCKS to the SS on the assigned PDTCH.

The codec to be used in this test is chosen dependent on the capabilities of the MS.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

  5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N of cell A. When: k=1, Channel Type=TCH/F; k=2, Channel Type=TCH/H.
2	MS		Trigger the MS to initiate an uplink packet transfer containing 1000 octets.
3	MS->SS	DTM REQUEST	
4	SS->MS	PACKET ASSIGNMENT	SS sends this message such that it is received before Timer T3148 expiry. See specific message contents.
5	SS<->MS	{ Downlink data }	Macro
6	MS->SS	EGPRS PACKET DOWNLINK ACK/NACK	Channel Request Description IE indicating that uplink resources are required.
7	SS->MS	PACKET UPLINK ASSIGNMENT	When: k=1, Timeslot = T; k=2, Timeslot = N.
8	MS<->SS	{ Uplink data transfer }	Macro - Completion of the 10kB of Data.

Specific Message Contents

PACKET ASSIGNMENT (Step 4):

k=1;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included $T = (N \pm 1)$ MOD 8 64 00

k=2;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included N 64 00

51.5.1.1.2 Uplink TBF establishment with reallocation of CS resources

51.5.1.1.2.1 Uplink TBF establishment with reallocation of CS resources / Successful case

51.5.1.1.2.1.1 Conformance requirements

Upon receipt of the DTM ASSIGNMENT COMMAND message, the mobile station initiates a local end release of link layer connections, disconnects the physical channels, commands the switching to the assigned channel and initiates the establishment of lower layer connection (this includes the activation of the channel, their connection and the establishment of the main signalling link).

References

3GPP TS 04.18/44.018 sub-clause 3.4.22.1.1.3.1

51.5.1.1.2.1.2 Test purpose

To verify that the MS allows reallocation of its CS resources during the request for PS resources. The resources can either be reallocated to a new timeslot within the same frequency or a new frequency.

51.5.1.1.2.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, DTM supported.

Mobile Station:

The MS is in the active state (U10) of a call.
The MS is in packet idle mode, with a P-TMSI allocated and PDP context 1 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

The MS, whilst in dedicated mode, is triggered to initiate packet uplink data transfer and sends a DTM REQUEST message. On receipt of the DTM REQUEST message, requesting uplink resources, the SS reallocates the MS's CS resources and assigns PS resources to the MS. The SS accomplishes the resource assignment by passing a DTM ASSIGNMENT COMMAND message to the MS. Once the MS has received the assignment message, it moves to the new allocation, reconnects the CS resources, passes the ASSIGNMENT COMPLETE message to the SS on the main DCCH and starts to send RLC DATA BLOCKS to the SS on the assigned TBF.

The codec to be used in this test is chosen dependent on the capabilities of the MS.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N. When: k=1, Channel Type=TCH/F; k=2, Channel Type=TCH/H.
2	MS		Trigger the MS to initiate an uplink packet transfer containing 1000 octets.
3	MS->SS	DTM REQUEST	Sent on main DCCH
4	SS->MS	DTM ASSIGNMENT COMMAND	This message is sent such that it is received before expiry of timer T3148. See specific message contents.
5	MS->SS	ASSIGNMENT COMPLETE	Sent on new main DCCH.
6	MS->SS	{ Uplink Data Transfer }	Macro - Completion of the 1000 octets of Data.

Specific Message Contents

DTM ASSIGNMENT COMMAND (Step 4):

k=1;

As default message contents as defined in section 40.2.4.28 except: Channel Description IE - Timeslot Number - Channel Type RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	 N', chosen arbitrarily. TCH/F $(N' \pm 1)$ MOD 8 MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

k=2;

As default message contents as defined in section 40.2.4.28 except: Channel Description IE - Timeslot Number - Channel Type RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	 N', chosen arbitrarily. TCH/H N' MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

51.5.1.2 Downlink TBF establishment

51.5.1.2.1 Whilst in Ready State

51.5.1.2.1.1 Downlink TBF establishment in Ready State / Successful case

51.5.1.2.1.1.1 Conformance requirements

This procedure is only applicable to a mobile station in dedicated mode and with no TBF allocated. If the mobile station already has an ongoing TBF, the establishment of the downlink packet resource is performed on the PACCH; see 3GPP TS 04.60.

The establishment of a downlink packet resource is initiated by the RR entity on the network side using the packet downlink assignment procedure in dedicated mode. The procedure is triggered by a request from upper layers to

transfer an LLC PDU; see 3GPP TS 24.007. The request from upper layers specifies a QoS profile, an *RLC mode*, *DRX parameters* and an *MS classmark* associated with the packet transfer.

The network initiates the packet downlink assignment procedure in dedicated mode by sending a DTM assignment message (i.e. DTM ASSIGNMENT COMMAND or a PACKET ASSIGNMENT) in acknowledged mode on the main DCCH.

The completion of the packet downlink assignment procedure while in dedicated mode depends on the actual assignment message used by the network:

- when the network sends a PACKET ASSIGNMENT message, the packet downlink assignment procedure is completed for the network when assignment message is sent and for the mobile station when it is received.

References

3GPP TS 04.18/44.018 sub-clause 3.4.22.3

51.5.1.2.1.1.2   Test purpose

To test that while in dedicated mode and in ready state, the MS can decode and act upon the allocation of downlink packet resources and enter dual transfer mode.

51.5.1.2.1.1.3   Method of test

Initial Conditions

System Simulator:

1 cell, DTM supported.

Mobile Station:

The MS is in the active state (U10) of a call.
The MS is in the GMM READY state, with a P-TMSI allocated and PDP context 1 activated.

Specific PICS Statements

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PIXIT Statements

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Test Procedure

Whilst in an active call on timeslot N, the MS receives a PACKET ASSIGNMENT message on the main DCCH, instructing the MS to switch to the designated timeslot. The SS waits a specified time and then starts to transmit to the newly allocated resources. The test procedure is complete when the MS successfully acknowledges the downlink RLC data blocks.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N of cell A. When: K=1, Channel Type = TCH/F K=2, Channel Type = TCH/H
2	SS->MS	PACKET ASSIGNMENT	See specific message contents.
3	SS		SS Waits T3190 – 50% (2.5s)
4	SS<->MS	{ Downlink data transfer }	Macro – Transmitting 10kB of Data

Specific Message Contents

PACKET ASSIGNMENT (Step 2):

k=1;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included $(N \pm 1)$ MOD 8 64 00

k=2;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included N 64 00

51.5.2 Void

51.5.3 PS establishment whilst in dual transfer mode

51.5.3.1 Uplink TBF establishment with a downlink TBF established

51.5.3.1.1 Uplink TBF establishment with a downlink TBF established and no PS downlink reallocation

51.5.3.1.1.1 Conformance requirements

The mobile station may request establishment of one or more uplink TBFs when there are one or more ongoing downlink TBFs by including a Channel Request Description or the Extended Channel Request Description information element in the (EGPRS) PACKET DOWNLINK ACK/NACK message. Initiation is triggered by a request from upper layers to transfer an upper layer PDU.

When multiple TBF procedures are not supported, the mobile station initiates the packet access procedure by sending the Channel Request Description information element in the (EGPRS) PACKET DOWNLINK ACK/NACK message on the PACCH and starting timer T3168.

On receipt of an (Extended) Channel Request Description information element in the (EGPRS)PACKET DOWNLINK ACK/NACK message, the network may assign radio resources to the mobile station on one or more PDCHs by transmitting an uplink assignment message (e.g. PACKET UPLINK ASSIGNMENT, MULTIPLE TBF UPLINK ASSIGNMENT, PACKET TIMESLOT RECONFIGURE or MULTIPLE TBF TIMESLOT RECONFIGURE message) on the PACCH, or may reject one or more of the requests by sending a PACKET ACCESS REJECT message on the PACCH. If the PACKET TIMESLOT RECONFIGURE message is sent, then the message shall contain the UPLINK_TFI_ASSIGNMENT field.

On receipt of a PACKET UPLINK ASSIGNMENT or PACKET TIMESLOT RECONFIGURE message the mobile station shall stop timer T3168 and switch to the assigned PDCHs.

References

3GPP TS 04.60/44.060 sub-clause 8.1..2.5

51.5.3.1.1.2 Test purpose

To verify that the MS can be assigned uplink PS resources, when no reallocation of the existing CS and downlink PS resources is required.

51.5.3.1.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, DTM supported.

Mobile Station:

The MS is in the state "idle, updated, GMM-registered, GPRS attached" with a TMSI, P-TMSI allocated and PDP context 1 has been established. The MS is also in the active state (U10) of a call on the cell.

Specific PICS Statements

-

PIXIT Statements

-

Test Procedure

Whilst in an active call on timeslot N, the MS receives a PACKET ASSIGNMENT message on the main DCCH, instructing the MS to switch to a designated timeslot and receive data. The SS then starts to transmit to the newly allocated resources. Before the SS completes transmission of the 1000 octets of data, the MS is triggered to initiate an uplink packet transfer. The SS then sends another RLC Downlink Data block to the MS with the S/P bit set to 1. The MS responds by sending a EGPRS PACKET DOWNLINK ACK/NACK message to the SS including the Channel Request Description IE. The SS allocates uplink resources to the MS with the PACKET UPLINK ASSIGNMENT message. The test procedure is complete when the SS successfully verifies both uplink and downlink transmission are working in parallel.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N of cell A. When: k=1, Channel Type = TCH/F; k=2, Channel Type = TCH/H.
2	SS->MS	PACKET ASSIGNMENT	See specific message contents.
3	SS<->MS	{ Downlink data transfer }	Macro – Transmission of 10k octets of data
4	MS		Before the completion of the downlink transmission, the MS is triggered to initiate an uplink packet transfer containing 1000 octets.
5	SS<->MS	**{ Downlink data transfer }**	RLC Downlink Data - S/P Bit = 1 Continue the **{ Downlink data transfer }** until the MS include the Channel Request Description IE in the EGPRS PACKET DOWNLINK ACK/NACK.
6	SS->MS	PACKET UPLINK ASSIGNMENT	When: k=1, Timeslot=T; and k=2, Timeslot=N.
7	SS		Verify both uplink and downlink data transmission is functioning correctly.

Specific Message Contents

PACKET ASSIGNMENT (Step 2):

k=1;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included $T = (N \pm 1)$ MOD 8 64 00

k=2;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE RR Packet Downlink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS Window Size LINK_QUALITY_MEASUREMENT_MODE	 Not included N 64 00

51.5.3.2   Downlink TBF establishment with a uplink established

51.5.3.2.1   Downlink TBF establishment with a uplink TBF established and no PS uplink reallocation

51.5.3.2.1.1   Conformance requirements

During uplink transfer, the network may initiate a downlink TBF by sending a PACKET DOWNLINK ASSIGNMENT message, or a PACKET TIMESLOT RECONFIGURE, to the mobile station on the PACCH. If a PACKET TIMESLOT RECONFIGURE message is sent, then the message shall contain the DOWNLINK_TFI_ASSIGNMENT field. The multislot restrictions of the mobile station shall be observed.

References

3GPP TS 04.60/44.060 sub-clause 8.1.1.1.3

51.5.3.2.1.2   Test purpose

To verify that a downlink TBF can be established without reallocation of uplink PS resources, whilst maintaining DTM.

51.5.3.2.1.3 Method of test

Initial Conditions

System Simulator:

1 cell, DTM supported

Mobile Station:

The MS is in the active state (U10) of a call.
The MS is GPRS idle with a P-TMSI allocated and the PDP context 1 activated.

Specific PICS Statements

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PIXIT Statements

-

Test Procedure

The MS, whilst in dedicated mode, is triggered to initiate packet uplink transfer of 1000 octets of data in RLC unacknowledged mode and sends a DTM REQUEST message. On receiving the DTM REQUEST message, requesting uplink resources, the SS assigns the MS an uplink TBF. The SS accomplishes the resource assignment by passing a PACKET ASSIGNMENT message to the MS. On receiving the PACKET ASSIGNMENT message, the MS starts to send RLC DATA BLOCKS to the SS on the assigned PDTCH. Once the MS has sent correctly approximately 500 octets, the SS transmits a PACKET DOWNLINK ASSIGNMENT message allocating the MS downlink packet resources. The test procedure is complete when the SS successfully verifies both uplink and downlink transmission are working in parallel.

MS supporting DTM/EGPRS shall complete testing for k=1 and MSs indicating support of single slot DTM/EGPRS shall additionally complete testing for k=2.

Maximum Duration of Test

5 minutes

Expected Sequence

The test sequence is repeated for k = 1,2.

Step	Direction	Message	Comments
1	SS		MS in the active state (U10) of a call on Timeslot N. When: k=1, Channel Type=TCH/F; k=2, Channel Type=TCH/H.
2	MS		Trigger the MS to initiate an uplink packet transfer containing 1000 octets.
3	MS->SS	DTM REQUEST	
4	SS->MS	PACKET ASSIGNMENT	Includes information on the Radio resources provided to the MS. See specific message contents.
5	MS<->SS	{ Uplink data }	Macro – Approximately 500 Octets
6	SS->MS	PACKET DOWNLINK ASSIGNMENT	When: k=1, Timeslot = (N ± 1) MOD 8; k=2, Timeslot =N.
7	SS		Verify both uplink and downlink data transmission is functioning correctly.

Specific Message Contents

PACKET ASSIGNMENT (Step 4):

k=1;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	 (N ± 1) MOD 8 MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

k=2;

As default message contents as defined in section 40.2.4.31 except: RR Packet Uplink Assignment IE - TIMESLOT_ALLOCATION *Additions for R99:* EGPRS_MCS_MODE RESEGMENT EGPRS Window Size RR Packet Downlink Assignment IE	 N MCS-1 0 Retransmitted RLC data blocks shall not be re-segmented 64 Not included

51.6 Dynamic ARFCN mapping tests

51.6.1 Void