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## 40. GPRS default conditions, message contents and macros.

### 40.1 Default test conditions.

The following default test conditions shall apply if not otherwise stated within an individual test description for all tests which shall use hopping PDTCH from channel combination xiii). The testcases for higher layers shall use the second set of default test conditions for channel combination xi) and xii) as specified in section 40.2.

In the tables following, decimal values will normally be used. Where a hexadecimal value is used, it indicated with an "H". A binary value will be indicated with a "B" .

## 40.1.1 Default settings for cell A:

	GSM 900	DCS 1800
General signalling conditions for all carriers		
Ciphering	Yes	yes
General RF-conditions for all carriers		
Frequency hopping mode	Non-hopping	Non-hopping
Propagation profile	Static	Static
Downlink Input Level	63 dBm Vemf( )	63 dBm Vemf( )
Uplink output power	Minimum according to MS power class	Minimum according to MS power class
Serving cell, BCCH/CCCH carrier		
Channel ARFCN	20	590
Alternative channels	40 or 60	690 or 830
Serving cell, PDTCH, SDCCH		
Channel ARFCN	30	650
Alternative channels	50 or 70	750 or 850
Power Control Indicator	0	0
Neighbouring cells BCCH/CCCH carriers		
Channel ARFCN	10, 80, 90, 100, 110, 120	520, 600, 700, 780, 810, 870
Alternative channels	15, 85, 95, 105, 115, 122	530, 610, 710, 790, 820, 880
Input level	53 dBm Vemf( )	53 dBm Vemf( )
Network dependent parameters		
Cell identity	0001H	0001H
Mobile country code, MCC	001 (decimal)	001 (decimal)
Mobile network code, MNC	01 (decimal)	01 (decimal)
Location area code, LAC	0001H	0001H
Frequency List	Bit Map 0	Range 512
BCCH allocation sequence number(BA_IND)	0	0
Cell Channel Descriptor	Bit Map 0	Range 512
PLMN colour code, NCC	1	1
BS colour code, BCC	5	5
SMS Cell Broadcast	Not active	Not active
DTX	Not available	Not available
IMSI Attach-detach	Not allowed	Not allowed
CCCH_CONF	1 basic physical channel for CCCH	1 basic physical channel for CCCH
BS_AG_BLKS_RES	3 blocks reserved	3 blocks reserved
BS_PA_MFRMS	6 multiframes	6 multiframes
CELL_BAR_ACCESS	not barred	not barred
Call-reestablishment (RE)	not allowed	not allowed
Emergency Call allowed	Allowed	allowed
Access Control Class (AC)	access for all classes allowed	access for all classes allowed
Radio_Link_Time-out	8	8
T3212 Periodic	1	1
Access control parameters		
Max retrans	1	1
TX-integer	5	5
CELL_RESELECT_HYSTERESIS	12dB	12dB
MS_TXPWR_MAX_CCH	mid level	mid level
RXLEV_ACCESS_MIN	Minimum	minimum
NECI	Halfrate supported	Halfrate supported
ACS (additional reselection param IND)	No additional cell parameters are present in SI messages 7 and 8	No additional cell parameters are present in SI messages 7 and 8
P1 and C2 parameters	C2 parameters not present	C2 parameters not present
POI and POWER OFFSET	N/A	POWER OFFSET Parameter not present
CELL_BAR_QUALIFY	0	0
CELL_RESELECT_OFFSET	0	0
PENALTY_TIME	0	0
TEMPORARY_OFFSET	0	0
BA ARFCN		
	Both P-GSM and E-GSM ARFCNs are broadcast:	ARFCNs 520, 590, 600, 700, 780, 810, 870 broadcast in SI 2.
	GSM ARFCNs 10, 20, 40, 80, 90, 100, 110, 120 broadcast in SI 2	

	E-GSM ARFCNs 985, 989, 995, 1010, 1014 broadcast in SI 2bis For multiband tests, the ARFCNs 10, 20, 40, 80, 90, 100, 110, 120 are broadcast in SI 2 of GSM cell and in SI 2ter of DCS cell. The ARFCNs 520, 590, 600, 700, 780, 810, 870 are broadcast in SI 2 of DCS cell and in SI 2ter of GSM cell	
GPRS Parameters		
RA_CODE	0000101	0000101
EXT_DYN_ALLOCATIONN_SUPPORTED	not supported	not supported
FIXED_ALLOCATION_SUPPORTED	Supported	supported
ACC_BURST_TY	11 bits burst	11 bits burst
CONTROL_ACK_TYPE	RLC/MAC control block	RLC/MAC control block
NETWORK_CONTROL_ORDER	normal MS control	normal MS control
DRX_TIMER_MAX	non-DRX not supported	non-DRX not supported
PC_MEAS_CHAN	BCCH	BCCH
PCCH Type	52-multiframe	52-multiframe
NETWORK_OPERATON_MODE	network operation mode I	network operation mode I
BS_PCC_CHAN	1 PCCCH channel	1 PCCCH channel
BS_PBCCH_BLKs	3 blocks	3 blocks
BS_PAG_BLKs_RES	2 blocks	2 blocks
BS_PRACH_BLKs	1 block	1 block
T3168	2 seconds	2 seconds
T3192	2 seconds	2 seconds
GPRS Ciphering	Enabled	Enabled

## 40.1.2 Default settings for cell B

The default settings for cell B are identical to those of cell A with the following exceptions:

	GSM 900	DCS 1800
Downlink Input Level	53 dBm Vemf()	53 dBm Vemf()
Serving cell, BCCH/CCCH carrier		
Channel ARFCN	30	520
Serving cell, PDTCH, SDCCH		
Channel ARFCN	50	750
Cell identity	0002H	0002H

## 40.2 Default message contents.

### 40.2.1 System Information messages

#### 40.2.1.1 Cell A

With the SYSTEM INFORMATION messages, the information elements are listed in alphabetic order (this is because some information elements occur in several SYSTEM INFORMATION types).

NOTE 1: BCCH can send 1 instance of SYSTEM INFORMATION 13.

## 40.2.1.1.1 Contents of information elements in SYSTEM INFORMATION TYPE 1 to 13 messages.

(CBCH) Channel Description	Not present.
(CBCH) Mobile Allocation	Not present.
Cell Channel Description	
- Format identifier	For GSM 900: Bit map 0.
	For DCS 1800: Range 512.
	For GSM 900: Channel Numbers 20, 30, 40, 50, 60 and 70.
- Cell Allocation ARFCN	For DCS1800: Channel Numbers 590, 650, 690, 750, 830 and 850.
Cell Identity	
- Cell Identity Value	0001Hex
Cell Options	
- Power Control Indicator	Power Control Indicator is not set.
- DTX Indicator	MS shall not use DTX.
- Radio_Link_Timeout	8 SACCH blocks.
Cell Selection Parameters	
- Cell_Reselect_Hysteresis	12 dB.
- MX_TXPWR_MAX_CCH	Minimum level.
- ACS	For SI3, spare (set to '0'); for SI4, No additional cell parameters are present in SYSTEM INFORMATION messages 7 and 8.
	New establishment causes not supported.
- NECI	Minimum level.
- RXLEV_ACCESS_MIN	
Control Channel Description	
- Attach-Detach allowed	IMSI Attach-detach not allowed.
- BS_AG_BLK_RES	3 blocks reserved for access grant.
- CCCH_CONF	1 basic physical channel used for CCCH, not combined with SDCCHs.
	6 multiframe periods for transmission of paging messages.
- BS_PA_MFRMS	1
- T3212 Time-out value	
L2 pseudo length	
- System information 1	21
- System information 2	22
- System information 3	18
- System information 4	12
- System information 7	1
- System information 8	1
- System information 13	0
Location Area Identification	
- Mobile Country Code	001 (Decimal)
- Mobile Network Code	01 (Decimal)
- Location Area Code	0001(Hex)
Message Type	
- System information 1	00011001 (Binary)
- System information 2	00011010 (Binary)
- System information 2bis	00000010 (Binary)
- System information 2ter	00000011 (Binary)
- System information 3	00011011 (Binary)
- System information 4	00011100 (Binary)
- System information 5	00011101 (Binary)
- System information 5bis	00000101 (Binary)
- System information 5ter	00000110 (Binary)
- System information 7	00011111 (Binary)
- System information 8	00011000 (Binary)
- System information 13	00000000 (Binary)
Neighbour Cells Description	
- Format identifier	For SI 2 For GSM 900: Bit map 0. For DCS 1800: Range 512.
	0
- BCCH Allocation Sequence	For GSM 900: Channel numbers 10, 20, 40, 80, 90, 100, 110 and 120.
- BCCH Allocation ARFCN	For DCS 1800: Channel numbers 520, 590, 600, 700, 780, 810 and 870.

- EXT-IND	For GSM 900, this IE carries only part of the BA. For DCS 1800, this IE carries complete BA.
Neighbour Cells Description	SI 2bis for GSM 900
- Format identifier	For GSM 900: Range 256
- BCCH Allocation Sequence	0
- BCCH Allocation ARFCN	For GSM 900: Channel numbers 985, 989, 995, 1010 and 1014.
- EXT-IND	This IE carries only part of the BA.
Neighbour Cells Description 2	SI2ter
- Multiband Reporting	00 (Binary)
- Format identifier	For GSM 900: Range 512
	For DCS 1800: Range 1024
- BCCH Allocation Sequence	0
- BCCH Allocation ARFCN	For GSM 900: Channel numbers 520, 590, 600, 700, 780, 810 and 870.
	For DCS 1800: Channel Numbers 10, 20, 40, 80, 90, 100, 110 and 120.
NCC Permitted	0000 0010
RACH Control Parameters	
- Max Retrans	Max 1 retrans.
- Tx-integer	5 slots used.
- Cell Barred for Access	Cell is not barred.
- Call Reestablishment Allowed	Not allowed.
- Access Control Class	Access is not barred.
- Emergency Call allowed	Yes.
SI 1 Rest Octets	
- {0 1<NCH Position>}	1 (NCH Position present)
- NCH position	00011(Binary)
- spare padding	Spare Padding
SI 2bis Rest Octets	Spare Padding
SI 2ter Rest Octets	Spare Padding
SI 3 Rest Octets	
- Optional Selection Parameters	0 (no optional selection parameters)
- Optional Power Offset	0 (no optional power offset)
- System Information 2ter Indicator	0 (for GSM 900 or DCS 1800, no SI2ter exists)
- Early Classmark Sending Control	1 (perform early classmark sending)
- Scheduling if and where	0(no system information type 9)
- GPRS Indicator	1 (GPRS supported)
- RA COLOUR	001(Binary)
- SI13 POSITION	On BCCH Norm
- spare padding	Spare Padding
SI 4 Rest Octets	
- Optional Selection Parameters	0 (no optional selection parameters)
- Optional Power Offset	0 (no optional power offset)
- GPRS Indicator	1 (GPRS supported)
- RA COLOUR	001(Binary)
- SI13 POSITION	On BCCH Norm
- spare padding	Spare Padding
SI 7 Rest Octets	Same as SI 4 Rest Octets
SI 8 Rest Octets	Same as SI 4 Rest Octets
SI 13 Rest Octets	
-	H (SI 13 Rest Octets are not spare)
- BCCH_CHANGE_MARK	000
- SI_CHANGE_FIELD	0 Update of unspecified message
{GPRS Mobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list>}	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000100
-MA_BITMAP	1111 4 belonging
-{1{0 1<ARFCN index list>}}	0 ARFCN index list not present
-	1 (PBCCH present in cell)
- PSI1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
- PBCCH Description	
- Pb	0110
- TSC	010

- TN - ARFCN - - spare padding	011 Timeslot 4 01 0000010100 ARFCN 30 Spare Padding
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### 40.2.1.2 Cell B

The contents of SYSTEM INFORMATION TYPE 1 to 13 messages for cell B are identical to those of cell A with the following exceptions:

GSM 900

Cell Channel Description - Format Identifier - Cell Allocation ARFCN Cell Identity - Cell Identity Value	Bit map 0. Channel Number 30.  0002H
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DCS 1800

Cell Channel Description - Format Identifier - Cell Allocation ARFCN Cell Identity - Cell Identity Value	Range 512. Channel Number 520.  0002H
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## 40.2.2 Packet System Information messages

### 40.2.2.1 Cell A.

This section contains default sets of PSI message contents for two GSM GPRS neighbour cells followed by default sets of PSI message contents for two DCS GPRS neighbour cells. All cells are operating with channel combination xi).

In this section all information element values are in binary. Numeric values in comments are in decimal.

## 40.2.2.1.1

## PACKET SYSTEM INFORMATION TYPE 1 (GSM GPRS).

MESSAGE_TYPE	110001
PAGE_MODE	00 Normal Paging
PBCCH_CHANGE_MARK	000
PSI_CHANGE_FIELD	0000
PSI1_REPEAT_PERIOD	0110
PSI_COUNT_LR	001000
{PSI_COUNT_HR}	1 PSI_COUNT_HR present
PSI_COUNT_HR	0010
MEASUREMENT_ORDER	1 PSI5 broadcast
GPRS Cell Options	
- NMO	00 Network Mode 1
- T3168	011 2 seconds
- T3192_VALUE	001 1 second
- DRX_TIMER_MAX	001 1 second
- ACCESS_BURST_TYPE	1 11 bit access burst
- CONTROL_ACK_TYPE	1 RLC/MAC Control block
- BS_CV_MAX	0111
{ PAN parameters }	1 PAN parameters present
- PAN_DEC	001
- PAN_INC	001
- PAN_MAX	000
- {Extension Bits IE}	0 Extension bits not present
PRACH Control Parameters	
- ACC_CONTR_CLASS	0000000000000000 All Access Control Classes are allowed
- MAX_RETRANS	00 Maximum 1 retransmission each priority
- S	0001 15 slots between
- TX_INT	0010 4 slots
- {0 1<PERSISTENCE_LEVEL>}	0 persistence level not present
PCCCH Organization Parameters	
- BS_PCC_REL	0 No release pending
- BS_PBCCH_BLKs	00 Block B0 only
- BS_PAG_BLKs_RES	0010 2 blocks reserved
- BS_PRACH_BLKs	0001 1 block (B0) reserved
Global Power Control Parameters	
- ALPH	0000 $\alpha = 0$
- T_AVG_W	00000 $k = 0$
- T_AVG_T	00000 $k = 0$
- Pb	0110 $P_b = -12\text{dB}$
- PC_MEAS_CHAN	0 On BCCH
- INT_MEAS_CHANNEL_LIST_AVAIL	1 PSI4 message broadcast
- N_AVG_I	0110
PSI_STATUS_IND	0
Padding	2 padding bits

40.2.2.1.2 PACKET SYSTEM INFORMATION TYPE 2 (GSM GPRS). Instance 1 of 2

MESSAGE_TYPE	110010
PAGE_MODE	00 Normal Paging
PSI2_CHANGE_MARK	01
PSI2_INDEX	000
PSI2_COUNT	001 Two instances of PSI2
Cell Identification	1 Cell Identification parameters present
-Location Area Identification IE	00001 (ID value 1 represented in 5 octets)
-RAC	00000001
-Cell Identity IE	01 (ID value 1 represented in 2 octets)
Non GPRS Cell Options	1 Non GPRS Cell Options present
-ATT	0 Attach/detach not allowed
-{Timeout for periodic update	1 Timeout value for periodic update included
-T3212	00000001 Timeout value
-NECI	0 Half rate support
-PWRC	0 Power control indicator
-DTX	00
-RADIO_LINK_TIMEOUT	0111 value 8
-BS_AG_BLK_RES	011 3 reserved
-CCCH_CONF	001
-BS_PA_MFRMS	110 value 6
-MAX_RETRANS	01
-TX_INTEGER	0101 value 5
-EC	1
-MS_TXPWR_MAX_CCCH	10001
-{0 1<extension bits>}	0 No extension bits
{Reference Frequency Lists}	
- Reference Frequency list 1	0001 List 1
-IE length	1101 IE length = 13
	00000000 format 0 + spare + ARFCN 124 - 121
	00000000 ARFCN 120 - 113
	00000000 ARFCN 112 - 105
	00000000 ARFCN 104 - 97
	00000000 ARFCN 96 - 89
	00000000 ARFCN 88 - 81
ARFCN 80	10000000 ARFCN 80 - 73
	00000000 ARFCN 72 - 65
	00001000 ARFCN 64 - 57
	00000010 ARFCN 56 - 49
ARFCN 40	00000000 ARFCN 48 - 41
	10000000 ARFCN 40 - 33
	00000000 ARFCN 32 - 25
ARFCN 20	00001000 ARFCN 24 - 17
ARFCN 10	00000010 ARFCN 16 - 9
	00000000 ARFCN 8 - 1
{Cell Allocation}	
-RFL_NUMBER	0001 List 1
{GPRS Mobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list>}	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000100
-MA_BITMAP	1111 4 belonging
-1{0 1<ARFCN index list>}	0 ARFCN index list not present
{PCCCH Description}	1 Description present
-TSC	100 Training Sequence 4
-{1<MA_NUMBER }	1 Hopping PCCCH carriers
-MA_NUMBER	0010
-MAIO	000010
-TIMESLOT_ALLOCATION	00001000 Timeslot 4
Padding	



40.2.2.1.3 PACKET SYSTEM INFORMATION TYPE 2 (GSM GPRS). Instance 2 of 2

MESSAGE_TYPE	110010
PAGE_MODE	00 Normal Paging
PSI2_CHANGE_MARK	01
PSI2_INDEX	001
PSI2_COUNT	001 Two instances of PSI2
Cell Identification	0 Cell Identification parameters not present
Non GPRS Cell Options	0 Non GPRS Cell Options not present
{Reference Frequency Lists }	
- Reference Frequency list 2	0010 List 2
-IE length	1101 IE length = 13
	00000000 format 0 + spare + ARFCN 124 - 121
	00000000 ARFCN 120 – 113
	00000000 ARFCN 112 – 105
	00000000 ARFCN 104 – 97
	00000000 ARFCN 96 – 89
	00000000 ARFCN 88 – 81
	00000000 ARFCN 80 – 73
ARFCN 70	00100000 ARFCN 72 – 65
ARFCN 60	00001000 ARFCN 64 – 57
ARFCN 50	00000010 ARFCN 56 – 49
	00000000 ARFCN 48 – 41
ARFCN 40	10000000 ARFCN 40 – 33
ARFCN 30	00100000 ARFCN 32 – 25
ARFCN 20	00001000 ARFCN 24 – 17
	00000000 ARFCN 16 – 9
	00000000 ARFCN 8 – 1
{GPRSMobile Allocations }	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list> }	1 Number list present
-RFL_NUMBER	0001 List 2
-{0	0
-MA_LENGTH	001010 10 octets
-MA_BITMAP	010101010 4 belonging
- 1 {0 1<ARFCN index list> }	0 ARFCN index list not present
Padding	

40.2.2.1.4 PACKET SYSTEM INFORMATION TYPE 3 (GSM GPRS).

MESSAGE_TYPE	110011
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_COUNT	0011 Three 3bis messages
Serving Cell parameters	
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXC_ACC	0
- GPRS_RXLEV_ACCESS_MIN	011111 -80dBm
- GPRS_MS_TXPWR_MAX_CCH	10001 Mid level
- {0 1<HCS Serving Cell parameters>}	1 HCS Serving Cell parameters present
- PRIORITY_CLASS	001
- HCS_THR	00000 -110 dBm
General Cell Selection parameter	
- GPRS_CELL_RESELECT_HYSTERESIS	000 0 dB
- C31_HYST	0 Not used in C31
- C32_QUAL	0
- RANDOM_ACCESS_RETRY	0 No access to other cells
- {0 1<T_RESEL >}	1 present
- T_RESEL	001 10 seconds
- {0 1<RA_RESELECT_HYSTERESIS>}	1 present)
- RA_RESELECT_HYSTERESIS	000 0 dB
Neighbour Cell parameters	Containing ARFCN 10 and 80
-	1 start of neighbour cell parameters
- START_FREQUENCY	0000010 ARFCN 10 (MSB)
	10 ARFCN 10 (LS 2bits)
- Cell selection params	
- BSIC	001101
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXC_ACC	0
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	011111 -80dBm
- GPRS_MS_TXPWR_MAX_CCH	10001 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	00000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	000
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION>}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	1 PBCCH
- PBCCH_LOCATION	11 PBCCH on TN4 of BCCH
- PSI 1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
:NR_OF_REMAINING_CELLS	0001
:FREQ_DIFF_LENGTH	110 7 bits
:FREQUENCY_DIFF	1000110 ARFCN 80
- Cell selection params	
- BSIC	001110
- CELL_BAR_ACCESS_2	0 Normal reselection
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	100111 -88dBm
- GPRS_MS_TXPWR_MAX_CCH	10011 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	0 GPRS_TEMPORARY_OFFSET not present
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	0 HCS params not present
- {0 1<SI13_PBCCH_LOCATION>}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	0 SI13 Location
- SI13_LOCATION	0 SI13 on BCCH Norm
End of Neighbour parameter	0
Padding	Padding

## 40.2.2.1.5

## PACKET SYSTEM INFORMATION TYPE 3bis (GSM GPRS). (Instance 1 of 3)

MESSAGE_TYPE	110100
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_INDEX	0000
PSI3_BIS_COUNT	0010
Neighbour Cell parameters	Containing ARFCN 40 and 80.
-	1 start of neighbour cell parameters
- START_FREQUENCY	00001010 ARFCN 40 (MSB)
	00 ARFCN 40 (LS 2 bits)
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	1 same routing area
- SAME_RA_AS_SERVING_CELL	1 GPRS_RXLEV_ACCESS_MIN present
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	101000 -89dBm
- GPRS_RXLEV_ACCESS_MIN	10100 Mid level
- GPRS_MS_TXPWR_MAX_CCH	1 GPRS_TEMPORARY_OFFSET present
- {0 1<GPRS_TEMPORARY_OFFSET>}	000
- GPRS_TEMPORARY_OFFSET	00000
- GPRS_PENALTY_TIME	1 GPRS_RESELECT_OFFSET present
- {0 1<GPRS_RESELECT_OFFSET>}	10000 0dB
- GPRS_RESELECT_OFFSET	1 HCS params present
- {0 1<HCS params>}	000
- GPRS_PRIORITY_CLASS	10100
- GPRS_HCS_THR	1 SI13_PBCCH_LOCATION present
- {0 1<SI13_PBCCH_LOCATION>}	1 PBCCH
0- SI13  1 PBCCH Location	11 PBCCH on TN4 of BCCH
- PBCCH_LOCATION	0110 PSI1 repeat period = 7
- PSI1_REPEAT_PERIOD	0001
- NR_OF_REMAINING_CELLS	101 6 bits
- FREQ_DIFF_LENGTH	101000 40d (ARFCN 80)
- FREQUENCY_DIFF	
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	1 same routing area
- SAME_RA_AS_SERVING_CELL	1 GPRS_RXLEV_ACCESS_MIN present
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	101000 -89dBm
- GPRS_RXLEV_ACCESS_MIN	10100 Mid level
- GPRS_MS_TXPWR_MAX_CCH	1 GPRS_TEMPORARY_OFFSET present
- {0 1<GPRS_TEMPORARY_OFFSET>}	000
- GPRS_TEMPORARY_OFFSET	0000
- GPRS_PENALTY_TIME	1 GPRS_RESELECT_OFFSET present
- {0 1<GPRS_RESELECT_OFFSET>}	10000 0dB
- GPRS_RESELECT_OFFSET	1 HCS params present
- {0 1<HCS params>}	000
- GPRS_PRIORITY_CLASS	10100
- GPRS_HCS_THR	1 SI13_PBCCH_LOCATION present
- {0 1<SI13_PBCCH_LOCATION>}	0 SI13 Location
0- SI13  1 PBCCH Location	0 SI13 on BCCH norm
- SI13_LOCATION	0 (end of neighbour cell parameters)
-	0 Neighbour Cell parameters 2 not present
0 1<Neighbour Cell parameters 2>	Padding 11 bits
Padding	

40.2.2.1.6 PACKET SYSTEM INFORMATION TYPE 3bis (GSM GPRS) (Instance 2 of 3)

MESSAGE_TYPE	110100
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_INDEX	001
PSI3_BIS_COUNT	010
Neighbour Cell parameters	containing ARFCN 100 and 110
-	1 start of neighbour cell parameters
- START_FREQUENCY	00011001 ARFCN 100 (MSB)
	00 ARFCN 100 (LS 2 bits)
- Cell selection params	
- BSIC	001101
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	00000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	0
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	1 PBCCH
- PBCCH_LOCATION	11 PBCCH on TN4 of BCCH
- PSI 1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
- NR_OF_REMAINING_CELLS	0001
- FREQ_DIFF_LENGTH	010
- FREQUENCY_DIFF	1010 (10d - ARFCN 110)
- Cell selection params	
- BSIC	001101 (Binary)
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	0000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	000
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	0 SI13 Location
- SI13_LOCATION	0 SI13 on BCCH norm
-	0 (end of neighbour cell parameters)
0 1<Neighbour Cell parameters 2>	0 Neighbour Cell parameters 2 not present
Padding	Padding 18 bits

40.2.2.1.7 PACKET SYSTEM INFORMATION TYPE 3bis (GSM GPRS) (Instance 3 of 3)

MESSAGE_TYPE	110100
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_INDEX	010
PSI3_BIS_COUNT	010
Neighbour Cell parameters	containing ARFCN 985 and 989
-	1 start of neighbour cell parameters
- START_FREQUENCY	0011110110 ARFCN 985 (MSB)
	01 ARFCN 985 (LS 2 bits)
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	00000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	0
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	1 PBCCH
- PBCCH_LOCATION	11 PBCCH on TN4 of BCCH
- PSI 1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
- NR_OF_REMAINING_CELLS	0001
- FREQ_DIFF_LENGTH	010
- FREQUENCY_DIFF	100
- Cell selection params	001101 (Binary)
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	0000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	000
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	0 SI13 Location
- SI13_LOCATION	0 SI13 on BCCH norm
-	0 (end of neighbour cell parameters)
0 1<Neighbour Cell parameters 2>	0 Neighbour Cell parameters 2 not present
Padding	Padding 17 bits

40.2.2.1.8

PACKET SYSTEM INFORMATION TYPE 4 (GSM GPRS)

MESSAGE_TYPE	110101
PAGE_MODE	00 Normal Paging
PSI4_CHANGE_MARK	00
PSI4_COUNT	000
PSI4_INDEX	000
Channel List for interference measurements	
- Channel group struct	
- {0<ARFCN> 1<MA_NUMBER><MAIO>}	0
- ARFCN	00000111 (ARFCN 30 - MSB)
	10 (ARFCN 30 - LS 2 bits)
- TIMESLOT_ALLOCATION	00100000 Timeslot 2 assigned
- Channel group struct	1 present
- {0<ARFCN> 1<MA_NUMBER><MAIO>}	0
- ARFCN	00000111 (ARFCN 30 - MSB)
	10 (ARFCN 30 - LS 2 bits)
- TIMESLOT_ALLOCATION	00010000 Timeslot 3 assigned
-	0 (end of channel list)
Padding	Padding 121 bits

## 40.2.2.1.9 PACKET SYSTEM INFORMATION TYPE 5 (GSM GPRS).

Note that the following message is only sent if the MEASUREMENT\_ORDER IE in PSI1 is set to 1.

MESSAGE_TYPE	110110
PAGE_MODE	00 Normal Paging
PSI5_CHANGE_MARK	00
PSI5_INDEX	000
PSI5_COUNT	000
{0}1<NC Measurement Parameters>	1 NC Measurement Parameters present
- NETWORK_CONTROL_ORDER	00 NC0
- {	1 NC Periods present
- NC_NON_DRX_PERIOD	111
- NC_REPORTING_PERIOD_I	111
- NC_REPORTING_PERIOD_T}	011
{0}1<EXT Measurement Parameters>	1 EXT Measurement Parameters present
- EXT_MEASUREMENT_ORDER	01 EM1 struct
- EXT_REPORTING_TYPE	01
- NCC_PERMITTED	00000010
- {EXT Frequency List struct}	0 External frequency list not included
Padding	Padding 118 bits

## 40.2.2.1.10 PACKET SYSTEM INFORMATION TYPE 13 (GSM GPRS).

MESSAGE_TYPE	110111
PAGE_MODE	00 Normal Paging
BCCH_CHANGE_MARK	000
SI_CHANGE_FIELD	0000 Unspecified
{0}1<SI13_CHANGE_MARK>	1 Present
{GPRSMobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0}1<RFL number list>	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000100
-MA_BITMAP	1111 4 belonging
-1{0}1<ARFCN index list>}}	0 ARFCN index list not present
- PSI1_REPEAT_PERIOD	1 PBCCH present in cell
PBCCH Description	0110 PSI1 repeat period = 7
- Pb	0110
- TSC	010
- TN	011 Timeslot 4
- ARFCN	01 ARFCN to follow
Padding	0000010100 ARFCN 30 Padding

40.2.2.1.11 PACKET SYSTEM INFORMATION TYPE 1 (DCS GPRS).

MESSAGE_TYPE	110001
PAGE_MODE	00 Normal Paging
PBCCH_CHANGE_MARK	000
PSI_CHANGE_FIELD	0000
PSII_REPEAT_PERIOD	0110
PSI_COUNT_LR	001000
{PSI_COUNT_HR}	1 PSI_COUNT_HR present
PSI_COUNT_HR	0010
MEASUREMENT_ORDER	1 PSI5 broadcast
GPRS Cell Options	
- NMO	00 Network Mode 1
- T3168	011 2 seconds
- T3192_VALUE	001 1 second
- DRX_TIMER_MAX	001 1 second
- ACCESS_BURST_TYPE	1 11 bit access burst
- CONTROL_ACK_TYPE	1 RLC/MAC Control block
- BS_CV_MAX	0111
{ PAN parameters }	1 PAN parameters present
- PAN_DEC	001
- PAN_INC	001
- PAN_MAX	000
- {Extension Bits IE}	0 Extension bits not present
PRACH Control Parameters	
- ACC_CONTR_CLASS	0000000000000000 All Access Control Classes are allowed
- MAX_RETRANS	00 Maximum 1 retransmission each priority
- S	0001 15 slots between
- TX_INT	0010 4 slots
- {0 1<PERSISTENCE_LEVEL>}	0 persistence level not present
PCCCH Organization Parameters	
- BS_PCC_REL	0 No release pending
- BS_PBCCH_BLKs	00 Block B0 only
- BS_PAG_BLKs_RES	0010 2 blocks reserved
- BS_PRACH_BLKs	0001 1 block (B0) reserved
Global Power Control Parameters	
- ALPH	0000 $\alpha = 0$
- T_AVG_W	00000 $k = 0$
- T_AVG_T	00000 $k = 0$
- Pb	0110 Pb = -12 dB
- PC_MEAS_CHAN	0 On BCCH
- INT_MEAS_CHANNEL_LIST_AVAIL	1 PSI4 message broadcast
- N_AVG_I	0110
PSI_STATUS_IND	0
Padding	2 padding bits



## 40.2.2.1.12

## PACKET SYSTEM INFORMATION TYPE 2 (DCS GPRS). Instance 1 of 2

MESSAGE_TYPE	110010
PAGE_MODE	00 Normal Paging
PSI2_CHANGE_MARK	01 Two instances of PSI2
PSI2_INDEX	000
PSI2_COUNT	000
Cell Identification	1 Cell Identification parameters present
-Location Area Identification IE	00001 (ID value 1 represented in 5 octets)
-RAC	00000001
-Cell Identity IE	01 (ID value 1 represented in 2 octets)
Non GPRS Cell Options	1 Non GPRS Cell Options present
-ATT	0 Attach/detach not allowed
-{Timeout for periodic update	1 Timeout value for periodic update included
-T3212	00000001 Timeout value
-NECI	0 Half rate support
-PWRC	0 Power control indicator
-DTX	00
-RADIO_LINK_TIMEOUT	0111 value 8
-BS_AG_BLK_RES	011 3 reserved
-CCCH_CONF	001
-BS_PA_MFRMS	110 value 6
-MAX_RETRANS	01
-TX_INTEGER	0101 value 5
-EC	1
-MS_TXPWR_MAX_CCCH	10001
-{0 1<extension bits>}	0 No extension bits
{Reference Frequency Lists}	
-Reference Frequency list 1	0001 List 1
-IE length	0011 IE length = 3 (512 format)
	10001001 format 10 + spare 00 + format 100 + 1 bit
	00000100 ARFCN 520
	00000101 ARFCN 530
	00111101 ARFCN 5400
	10000010 ARFCN 550
	10000000
{Cell Allocation}	
-RFL_NUMBER	0001 List 1
{GPRS Mobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list>}	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000100
-MA_BITMAP	1111 4 belonging
- 1{0 1<ARFCN index list>}}	0 ARFCN index list not present
{PCCCH Description}	1 Description present
-TSC	100 Training Sequence 4
-{1<MA_NUMBER }	1 Hopping PCCCH carriers
-MA_NUMBER	0010
-MAIO	000010
-TIMESLOT_ALLOCATION	00001000 Timeslot 4
Padding	

40.2.2.1.13

PACKET SYSTEM INFORMATION TYPE 2 (DCS GPRS). Instance 2 of 2

MESSAGE_TYPE	110010
PAGE_MODE	00 Normal Paging
PSI2_CHANGE_MARK	01 Two instances of PSI2
PSI2_INDEX	000
PSI2_COUNT	001
Cell Identification	0 Cell Identification parameters not present
Non GPRS Cell Options	0 Non GPRS Cell Options not present
{Reference Frequency Lists}	
- Reference Frequency list 2	0010 List 2
-IE length	0110 IE length = 6 (512 format)
	10001001 format 10 + spare 00 + format 100 + 1 bit
	00101100 ARFCN 600
	00001010 ARFCN 610
	00111011 ARFCN 620
	00000101 ARFCN 630
	00111011 ARFCN 640
	01110110 ARFCN 650
	00010100 ARFCN 660
	00101000 ARFCN 670
{GPRSMobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list>}	1 Number list present
-RFL_NUMBER	0001 List 2
-{0	0
-MA_LENGTH	001010 10 octets
-MA_BITMAP	010101010 4 belonging
- 1{0 1<ARFCN index list>}	0 ARFCN index list not present
Padding	

## 40.2.2.1.14

## PACKET SYSTEM INFORMATION TYPE 3 (DCS GPRS).

MESSAGE_TYPE	110011
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_COUNT	0001 Two 3bis messages
Serving Cell parameters	
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXC_ACC	0
- GPRS_RXLEV_ACCESS_MIN	011111 -80dBm
- GPRS_MS_TXPWR_MAX_CCH	10001 Mid level
- {0 1<HCS Serving Cell parameters>}	1 HCS Serving Cell parameters present
- PRIORITY_CLASS	001
- HCS_THR	00000 -110 dBm
General Cell Selection parameter	
- GPRS_CELL_RESELECT_HYSTERESIS	000 0 dB
- C31_HYST	0 Not used in C31
- C32_QUAL	0
- RANDOM_ACCESS_RETRY	0 No access to other cells
- {0 1<T_RESEL>}	1 present)
- T_RESEL	001 10 seconds
- {0 1<RA_RESELECT_HYSTERESIS>}	1 present)
- RA_RESELECT_HYSTERESIS	000 0 dB
Neighbour Cell parameters	containing ARFCN 520 and 600
-	1 start of neighbour cell parameters
- START_FREQUENCY	10000010 (MSB) ARFCN 520
	00 (LS 2bits)
- Cell selection params	
- BSIC	001101
- CELL_BAR_ACCESS_2	0 Normal reselection
- EXC_ACC	0
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	011111 -80dBm
- GPRS_MS_TXPWR_MAX_CCH	10001 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	00000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	000
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION>}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	1 PBCCH
- PBCCH_LOCATION	11 PBCCH on TN4 of BCCH
- PSI_1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
:NR_OF_REMAINING_CELLS	0001
:FREQ_DIFF_LENGTH	110 7 bits
:FREQUENCY_DIFF	1010000 (ARFCN 600)
- Cell selection params	
- BSIC	001110
- CELL_BAR_ACCESS_2	0 Normal reselection
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	0 GPRS_RXLEV_ACCESS_MIN not present
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	0000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	0 HCS params not present
- {0 1<SI13_PBCCH_LOCATION>}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	0 SI13 Location
- SI13_LOCATION	0 SI13 on BCCH norm
	0 (end of neighbour cell parameters)
Padding	Padding

## 40.2.2.1.15

## PACKET SYSTEM INFORMATION TYPE 3bis (DCS GPRS). (Instance 1 of 2)

MESSAGE_TYPE	110100
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_INDEX	0000
PSI3_BIS_COUNT	0001
Neighbour Cell parameters	containing ARFCN 600 and 700
-	1 start of neighbour cell parameters
- START_FREQUENCY	0010010110 ARFCN 600 (MSB)
	00 ARFCN 600 (LS 2 bits)
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	1 same routing area
- SAME_RA_AS_SERVING_CELL	1 GPRS_RXLEV_ACCESS_MIN present
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	101000 -89dBm
- GPRS_RXLEV_ACCESS_MIN	10100 Mid level
- GPRS_MS_TXPWR_MAX_CCH	1 GPRS_TEMPORARY_OFFSET present
- {0 1<GPRS_TEMPORARY_OFFSET>}	000
- GPRS_TEMPORARY_OFFSET	00000
- GPRS_PENALTY_TIME	1 GPRS_RESELECT_OFFSET present
- {0 1<GPRS_RESELECT_OFFSET>}	10000 0dB
- GPRS_RESELECT_OFFSET	1 HCS params present
- {0 1<HCS params>}	0
- GPRS_PRIORITY_CLASS	10100
- GPRS_HCS_THR	1 SI13_PBCCH_LOCATION present
- {0 1<SI13_PBCCH_LOCATION>}	1 PBCCH
0- SI13  1 PBCCH Location	11 PBCCH on TN4 of BCCH
- PBCCH_LOCATION	0110 PSI1 repeat period = 7
- PSI1_REPEAT_PERIOD	0001
- NR_OF_REMAINING_CELLS	110
- FREQ_DIFF_LENGTH	1100100 (ARFCN 700, 100 difference)
- FREQUENCY_DIFF	
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	1 same routing area
- SAME_RA_AS_SERVING_CELL	1 GPRS_RXLEV_ACCESS_MIN present
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	101000 -89dBm
- GPRS_RXLEV_ACCESS_MIN	10100 Mid level
- GPRS_MS_TXPWR_MAX_CCH	1 GPRS_TEMPORARY_OFFSET present
- {0 1<GPRS_TEMPORARY_OFFSET>}	000
- GPRS_TEMPORARY_OFFSET	0000
- GPRS_PENALTY_TIME	1 GPRS_RESELECT_OFFSET present
- {0 1<GPRS_RESELECT_OFFSET>}	10000 0dB
- GPRS_RESELECT_OFFSET	1 HCS params present
- {0 1<HCS params>}	000
- GPRS_PRIORITY_CLASS	10100
- GPRS_HCS_THR	1 SI13_PBCCH_LOCATION present
- {0 1<SI13_PBCCH_LOCATION>}	0 SI13 Location
0- SI13  1 PBCCH Location	0 SI13 on BCCH norm
- SI13_LOCATION	0 (end of neighbour cell parameters)
-	Padding 11 bits
Padding	

## 40.2.2.1.16

## PACKET SYSTEM INFORMATION TYPE 3bis (DCS GPRS)) (Instance 2 of 2)

MESSAGE_TYPE	110100
PAGE_MODE	00 Normal Paging
PSI3_CHANGE_MARK	00
PSI3_BIS_INDEX	001
PSI3_BIS_COUNT	001
Neighbour Cell parameters	containing ARFCN 810 and 850
-	1 start of neighbour cell parameters
- START_FREQUENCY	0011001010 ARFCN 810 (MSB)
	10 ARFCN 810 (LS 2 bits)
- Cell selection params	001101
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1 same routing area
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	00000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	001
- GPRS_PRIORITY_CLASS	0
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	1 PBCCH
- PBCCH_LOCATION	11 PBCCH on TN4 of BCCH
- PSI 1_REPEAT_PERIOD	0110 PSI1 repeat period = 7
- NR_OF_REMAINING_CELLS	0001
- FREQ_DIFF_LENGTH	101
- FREQUENCY_DIFF	101000 ( ARFCN 850)
- Cell selection params	001101 (Binary)
- BSIC	0 Normal reselection
- CELL_BAR_ACCESS_2	0
- EXT_ACC	0
- SAME_RA_AS_SERVING_CELL	1
- {0 1<GPRS_RXLEV_ACCESS_MIN>}	1 GPRS_RXLEV_ACCESS_MIN present
- GPRS_RXLEV_ACCESS_MIN	101000 -89dBm
- GPRS_MS_TXPWR_MAX_CCH	10100 Mid level
- {0 1<GPRS_TEMPORARY_OFFSET>}	1 GPRS_TEMPORARY_OFFSET present
- GPRS_TEMPORARY_OFFSET	000
- GPRS_PENALTY_TIME	0000
- {0 1<GPRS_RESELECT_OFFSET>}	1 GPRS_RESELECT_OFFSET present
- GPRS_RESELECT_OFFSET	10000 0dB
- {0 1<HCS params>}	1 HCS params present
- GPRS_PRIORITY_CLASS	000
- GPRS_HCS_THR	10100
- {0 1<SI13_PBCCH_LOCATION >}	1 SI13_PBCCH_LOCATION present
0- SI13  1 PBCCH Location	0 SI13 Location
- SI13_LOCATION	0 SI13 on BCCH norm
-	0 (end of neighbour cell parameters)
Padding	Padding 14 bits

40.2.2.1.17

PACKET SYSTEM INFORMATION TYPE 4 (DCS GPRS)

MESSAGE_TYPE	110101
PAGE_MODE	00 Normal Paging
PSI4_CHANGE_MARK	00
PSI4_COUNT	000
PSI4_INDEX	000
Channel List for interference measurements	
- Channel group struct	
- {0<ARFCN> 1<MA_NUMBER><MAIO>}	0
- ARFCN	10000100 (ARFCN 530 –MSB)
- TIMESLOT_ALLOCATION	10 (ARFCN 530 - LS 2 bits)
- Channel group struct	00100000 Timeslot 2 assigned
- {0<ARFCN> 1<MA_NUMBER><MAIO>}	1 present
- ARFCN	0
- TIMESLOT_ALLOCATION	10000100 (ARFCN 530 –MSB)
-	10 (ARFCN 530 - LS 2 bits)
-	00010000 Timeslot 3 assigned
-	0 (end of channel list)
Padding	Padding 121 bits

## 40.2.2.1.18 PACKET SYSTEM INFORMATION TYPE 5 (DCS GPRS).

Note that the following message is only sent if the MEASUREMENT\_ORDER IE in PSI1 is set to 1.

MESSAGE_TYPE	110110
PAGE_MODE	00 Normal Paging
PSI5_CHANGE_MARK	00
PSI5_INDEX	000
PSI5_COUNT	000
{0 1<NC Measurement Parameters>}	1 NC Measurement Parameters present
- NETWORK_CONTROL_ORDER	00 NC0
- {<NC_NON_DRX_PERIOD>}	1 NC Periods present
- NC_NON_DRX_PERIOD	111
- NC_REPORTING_PERIOD_I	111
- NC_REPORTING_PERIOD_T	011
{0 1<EXT Measurement Parameters>}	1 EXT Measurement Parameters present
- EXT_MEASUREMENT_ORDER	00
- NCC_PERMITTED	00000010
- {0 1<INT_FREQUENCY>}	0 Interference frequencies not included
- {0 1 External Frequency List}	0 External frequency list not included
Padding	Padding 118 bits

## 40.2.2.1.19 PACKET SYSTEM INFORMATION TYPE 13 (DCS GPRS).

MESSAGE_TYPE	110111
PAGE_MODE	00 Normal Paging
BCCH_CHANGE_MARK	000
SI_CHANGE_FIELD	0000 Unspecified
{0 1<SI13_CHANGE_MARK>}	1 Present
{GPRSMobile Allocations}	1 GPRS Mobile Allocation present
-MA_NUMBER	0001
-HSN	000000 Sequence 0
-{0 1<RFL number list>}	1 Number list present
-RFL_NUMBER	0010 List 2
-{0	0
-MA_LENGTH	000100
-MA_BITMAP	1111 4 belonging
-1{0 1<ARFCN index list>}}	0 ARFCN index list not present
- PSI1_REPEAT_PERIOD	1 PBCCH present in cell
PBCCH Description	0110 PSI1 repeat period = 7
- Pb	0110
- TSC	010
- TN	011 Timeslot 4
- ARFCN	01 ARFCN to follow
Padding	1001001110 ARFCN 590
	Padding

## 40.2.2.2 Cell B.

The contents of Packet System Information messages for cell B are identical to those of cell A with the following exceptions:

## 40.2.2.2.1 PACKET SYSTEM INFORMATION TYPE 2 (GSM GPRS). Instance 1 of 2

-Cell Identity IE	02 (ID value 2 represented in 2 octets)
{Reference Frequency Lists}	
- Reference Frequency list 1	0001 List 1
-IE length	1101 IE length = 13
	00000000 format 0 + spare + ARFCN 124 - 121
	00000000 ARFCN 120 - 113
	00000000 ARFCN 112 - 105
ARFCN 100	00001000 ARFCN 104 - 97
ARFCN 90	00000010 ARFCN 96 - 89
	00000000 ARFCN 88 - 81
ARFCN 80	10000000 ARFCN 80 - 73
	00000000 ARFCN 72 - 65
	00000000 ARFCN 64 - 57
	00000000 ARFCN 56 - 49
	00000000 ARFCN 48 - 41
ARFCN 40	10000000 ARFCN 40 - 33
	00000000 ARFCN 32 - 25
	00000000 ARFCN 24 - 17
	00000000 ARFCN 16 - 9
	00000000 ARFCN 8 - 1
-TSC	101 Training Sequence 5

## 40.2.2.2.2 PACKET SYSTEM INFORMATION TYPE 2 (GSM GPRS). Instance 2 of 2

{Reference Frequency Lists}	
- Reference Frequency list 2	0010 List 2
-IE length	1101 IE length = 13
	00000000 format 0 + spare + ARFCN 124 - 121
ARFCN 120	10000000 ARFCN 120 - 113
ARFCN 110	00100000 ARFCN 112 - 105
	00000000 ARFCN 104 - 97
	00000000 ARFCN 96 - 89
	00000000 ARFCN 88 - 81
	00000000 ARFCN 80 - 73
ARFCN 70	00100000 ARFCN 72 - 65
ARFCN 60	00001000 ARFCN 64 - 57
ARFCN 50	00000010 ARFCN 56 - 49
	00000000 ARFCN 48 - 41
ARFCN 40	10000000 ARFCN 40 - 33
	00000000 ARFCN 32 - 25
	00000000 ARFCN 24 - 17
	00000000 ARFCN 16 - 9
	00000000 ARFCN 8 - 1
- 1{0 1<ARFCN index list>}}	0 ARFCN index list not present
Padding	



40.2.2.2.3 PACKET SYSTEM INFORMATION TYPE 2 (DCS GPRS). Instance 1 of 2

-Cell Identity IE {Reference Frequency Lists} - Reference Frequency list 1 -IE length	02 (ID value 2 represented in 2 octets)  0001 List 1 0011 IE length = 3 10001001 ARFCN format 10 + spare 00 + format 100 + 1 bit 00001110 ARFCN 540 00001010 ARFCN 560 00111011 ARFCN 580 00000101 ARFCN 600 00000000 101 Training Sequence 5
-TSC	

40.2.2.2.4 PACKET SYSTEM INFORMATION TYPE 2 (DCS GPRS). Instance 2 of 2

{Reference Frequency Lists} - Reference Frequency list 2 -IE length	0010 List 2 0110 IE length = 6(512 format) 10001001 ARFCN format 10 + spare 00 + format 100 + 1 bit 01000101 ARFCN 650 00100011 ARFCN 690 00101110 ARFCN 720 10001010 ARFCN 750 00110001 ARFCN 790 01101100 ARFCN 810 00111100 ARFCN 830 01010000 ARFCN 850
---	---

40.2.3 Default contents of Layer 2 messages.

40.2.3.1 PACKET PAGING REQUEST message:

MESSAGE_TYPE PAGE_MODE {0 1<PERSISTENCE_LEVEL>} {0 1<NLN>} {1 <Repeated Page info>} - - - PTMSI - spare padding	100010 00 Normal Paging 0 (no persistence level present) 0 (no notification list number) 1 (start of Repeated Page info) 0 (Page request for TBF establishment) 0 (PTMSI) 00000000000000000000000000000000 P-TMSI allocated during GPRS attach procedure 0 ( end of Repeated Page info) Spare Padding
--	---

40.2.3.2 PACKET ACCESS REJECT message:

MESSAGE_TYPE PAGE_MODE Reject - - - Packet Request Reference - - spare padding	100001 00 Normal Paging  1 (TLLI not present) 0(Packet Request Reference) information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received 0 (no waiting indication) 0 (end of Reject IE) Spare Padding
--	---

## 40.2.3.3 PACKET QUEUEING NOTIFICATION message:

MESSAGE_TYPE	000110
PAGE_MODE	00 Normal Paging
Packet Request Reference	information field sent in PACKET CHANNEL REQUEST and frame number in which PACKET CHANNEL REQUEST was received
TQI	0010001000100010
spare padding	Spare Padding

## 40.2.3.4 PACKET UPLINK ASSIGNMENT message:

MESSAGE_TYPE	001010
PAGE_MODE	00 Normal Paging
Persistence Level	1 Persistence Level Present
- PERSISTENCE_LEVEL	0000
Packet Request Reference	111 Packet Request Reference Present
-RANDOM_ACCESS_INFORMATION value	01010101010
-FRAME_NUMBER	0101010101010101
CHANNEL_CODING_COMMAND	01 CS2
TLLI_BLOCK_CHANNEL_CODING	1
Timing Advance value	0 Timing Advance Value not present
Timing Advance Index	1 Timing Advance Index present
-TIMING_ADVANCE_INDEX	0011
-TIMING_ADVANCE_TIMESLOT_NUMBER	010
{0 1<Frequency Parameters>}	1 (Frequency Parameters present)
- Frequency Parameters	
- TSC	011
- ARFCN	For GSM 900, 30 For DCS 1800, 650
Single Block Allocation	01 (Single Block Allocation)
- TIMESLOT_NUMBER	0101
	1 (ALPHA, GAMMA_TN present)
- ALPHA	0011 0.5
- GAMMA_TN	For GSM 900, +9 dBm For DCS 1800, +6 dBm
- TBF_STARTING_TIME	indicating (current frame + 250 frames)
spare padding	Spare Padding

## 40.2.3.5 PACKET DOWNLINK ASSIGNMENT message:

MESSAGE_TYPE	000010
PAGE_MODE	00 Normal Paging
Persistence Level	1 Persistence Level Present
- PERSISTENCE_LEVEL	0000
Referenced Address	1 (address is TLLI)
-	Same as the value received from MS
- TLLI	00 Dynamic Allocation
MAC_MODE	0 Acknowledged mode
RLC_MODE	0
CONTROL_ACK	0
TIMESLOT_ALLOCATION	00100000
Timing Advance value	0 Timing Advance Value not present
Timing Advance Index	1 Timing Advance Index present
-TIMING_ADVANCE_INDEX	0011
-TIMING_ADVANCE_TIMESLOT_NUMBER	010
{0 1<Frequency Parameters>}	1 (Frequency Parameters present)
- Frequency Parameters	
- TSC	011
- ARFCN	For GSM 900, 30
	For DCS 1800, 650
{0 1<DOWNLINK_TFI_ASSIGNMENT>}	1 (assign downlink TFI)
- DOWNLINK_TFI_ASSIGNMENT	00011(Binary)
{0 1<Power Control Parameters>}	1 (Power Control Parameters present)
- ALPHA	0
- {0 1<GAMMA_TN0>}	0 (no GAMMA_TN0)
- {0 1<GAMMA_TN1>}	0 (no GAMMA_TN1)
- {0 1<GAMMA_TN2>}	0 (GAMMA_TN2 present)
- GAMMA_TN2	For GSM 900, +9 dBm
	For DCS 1800, +6 dBm
- {0 1<GAMMA_TN3>}	0 (no GAMMA_TN3)
- {0 1<GAMMA_TN4>}	0 (no GAMMA_TN4)
- {0 1<GAMMA_TN5>}	0 (no GAMMA_TN5)
- {0 1<GAMMA_TN6>}	0 (no GAMMA_TN6)
- {0 1<GAMMA_TN7>}	0 (no GAMMA_TN7)
{0 1<TBF_STARTING_TIME>}	1 (starting time present)
- TBF_STARTING_TIME	indicating (current frame + 10 frames)
{0 1<Measurement Mapping>}	0 (no measurement mapping)
spare padding	Spare Padding

## 40.2.3.6 PACKET DOWNLINK DUMMY CONTROL BLOCK message:

MESSAGE_TYPE	100101
PAGE_MODE	00 Normal Paging
Persistence Level	1 Persistence Level Present
- PERSISTENCE_LEVEL	0000
Spare padding	Spare Padding

## 40.2.3.7 PACKET DOWNLINK ACK/NACK message:

MESSAGE_TYPE	000010
DOWNLINK_TFI	00000 As allocated to the downlink TBF
Ack/Nack Description	
- FINAL_ACK_INDICATION	1 (entire TBF being acknowledged)
- STARTING_SEQUENCE_NUMBER	Ignored
- RECEIVE_BLOCK_BITMAP	Ignored
{0 1<Channel Request Description>}	0 (no channel request)
Channel Quality Report	
- C_VALUE	000000 to be calculated by MS
- RXQUAL	000 to be calculated by MS
- SIGN_VAR	000000 to be calculated by MS
- {0 1<I_LEVEL_TN0>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN1>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN2>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN3>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN4>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN5>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN6>}	0000 encoded by MS based on C_VALUE
- {0 1<I_LEVEL_TN7>}	0000 encoded by MS based on C_VALUE
spare padding	Spare Padding

## 40.2.4 Default contents of Layer 3 messages.

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

In this clause, decimal values are normally used. However, sometimes a hexadecimal value, indicated by an "Hex", or a binary value, indicated by a "Binary" is used.

## 40.2.4.1 CHANNEL RELEASE message:

Protocol Discriminator	0110 (RR Management).
Skip Indicator	0000
Message Type	00001101
RR Cause	
- RR Cause Value	Normal event.

40.2.4.2 IMMEDIATE ASSIGNMENT message:

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	Normal Paging.
- Page Mode	
Packet Response Type and Dedicated mode or TBF	0
- Downlink	Temporary Block Flow
- T/D	Using Packet Channel Description
- PR Type	
Packet Channel Description	PDCH
- Channel Type	4 (Chosen arbitrarily)
- TN	Chosen arbitrarily
- TSC	0
-	00 (Binary)
-	30
- ARFCN	Copy of last received by the SS.
Request Reference	
Timing Advance	30 bit periods.
- Timing advance value	
Mobile Allocation	0
- Length	Not present.
Starting Time	
IA rest octets	HH
-	1 (Packet Downlink Assignment)
- Packet Downlink Assignment	
- TLLI	00000000000000000000000000000001
-	1
- TFI_ASSIGNMENT	Any value not used before
- RLC_MODE	RLC unacknowledged mode
- ALPHA	0.5
- GAMMA	For GSM 900, +9 dBm
	For DCS 1800, +6 dBm
- spare padding	Spare Padding

## 40.2.4.3 IMMEDIATE ASSIGNMENT EXTENDED message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the IAX rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 18.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00111001
Page Mode	
- Page Mode	Normal Paging.
Channel Description 1	
- Channel Type and TDMA offset	SDCCH/8, with subchannel chosen arbitrarily by the test house.
- Timeslot Number	Chosen arbitrarily by the test house.
- Training Sequence Code	Chosen arbitrarily by the test house.
- Hopping	Single RF channel.
- ARFCN	
Request Reference 1	For GSM 900, Channel number 30; For DCS 1800, Channel number 650.
Timing Advance 1	Pertaining to last Channel Request sent by the MS.
- Timing advance value	Chosen arbitrarily by the test house.
Channel Description 2	
- Channel Type and TDMA offset	Same channel type as in Channel Description 1, but different TDMA offset to that in Channel Description 1.
- Timeslot Number	equal to the value in Channel Description 1.
- Training Sequence Code	equal to the value in Channel Description 1.
- Hopping	Single RF channel.
- ARFCN	equal to the value in Channel Description 1.
Request Reference 2	Not pertaining to any Channel Requests sent by the MS.
Timing Advance 2	
- Timing advance value	Chosen arbitrarily by the test house.
Mobile Allocation	
- Length	0
Starting Time	Not present.
IAX rest octets	All bits set to spare.

## 40.2.4.4 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	Copy of last received by the SS.
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	All bits set to spare.

## 40.2.4.5 PAGING REQUEST TYPE 1 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P1 rest octets and L2 pseudo length IEs. For the default message the L2 pseudo length is 9.
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100001
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	00 (indicating packet paging).
- second channel	00 (indicating packet paging).
Mobile Identity 1	
- odd/even indication	Even.
- Type of Identity	P-TMSI.
- Identity Digits	P-TMSI previously allocated to MS.
Mobile Identity 2	Not present.
P1 rest octets	
- {L H<NLN(PCH)>}	L (no Notification List Number(PCH))
- {L H<Priority1>}	L (no priority specified for mobile Id 1)
- {L H<Priority2>}	L (no priority specified for mobile Id 2)
- Packet Page Indication 1	Packet Paging
- Packet Page Indication 2	L
- {L H<Group Call Information>}	L (no Group call Information)
- {L H<NLN status>}	L (no Notification List Number status)
- spare padding	Spare Padding

## 40.2.4.6 PAGING REQUEST TYPE 2 message:

L2 pseudo length	This is the sum of the lengths of all the information elements present in the message except for the P2 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	00100010
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	00 (indicating packet paging).
- second channel	00 (indicating packet paging).
Mobile Identity 1	
- TMSI value	P-TMSI previously allocated to MS.
Mobile Identity 2	
- TMSI value	P-TMSI not allocated to MS.
Mobile Identity 3	IMSI not relevant to the MS under test
P2 rest octets	
- {L H<CN3>}	H (channel needed for mobile Id 3 present)
- CN3	Indicating packet paging
- {L H<NLN>}	L (no notification list number)
- {L H<Priority1>}	L (no priority specified for mobile Id 1)
- {L H<Priority2>}	L (no priority specified for mobile Id 2)
- {L H<Priority3>}	L (no priority specified for mobile Id 3)
- {L H<NLN status>}	L (no notification list number status)
- Packet Page Indication 3	Packet Paging
- spare padding	Spare Padding

## 40.2.4.7 PAGING REQUEST TYPE 3 message:

L2 pseudo length	19
Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100100
Page Mode	
- Page Mode	Normal Paging.
Channels needed	
- first channel	00 (indicating packet paging).
- second channel	00 (indicating packet paging).
Mobile identity 1	
- TMSI value	P-TMSI previously allocated to MS.
Mobile identity 2	
- TMSI value	P-TMSI not allocated to MS.
Mobile identity 3	
- TMSI value	P-TMSI not allocated to MS.
Mobile identity 4	
- TMSI value	P-TMSI not allocated to MS.
P3 rest octets	
- {L H<CN3><CN4>}	H (channel needed for mobile Id 3 and 4 present)
- CN3	Indicating packet paging
- CN4	Indicating packet paging
- {L H<NLN>}	L (no notification list number)
- {L H<Priority1>}	L (no priority specified for mobile Id 1)
- {L H<Priority2>}	L (no priority specified for mobile Id 2)
- {L H<Priority3>}	L (no priority specified for mobile Id 3)
- {L H<Priority4>}	L (no priority specified for mobile Id 4)
- {L H<NLN status>}	L (no notification list number status)
- spare padding	Spare Padding

## 40.2.4.8 PAGING RESPONSE message:

Protocol Discriminator	RR Management.
Skip Indicator	0000
Message Type	00100111
Ciphering Key Sequence Number	
- Key Sequence	Key sequence number previously allocated to MS, or "111" if no key is available.
Mobile Station Classmark 2	3 or 4 octets
Mobile Identity	
- odd/even indication	Even.
- Type of identity	TMSI
- Identity Digits	P-TMSI previously allocated to MS.



## 40.2.4.9 ATTACH REQUEST message:

Protocol discriminator	1000 (MM message for GPRS service)
Skip indicator	0000
Attach request message identity	00000001
MS network capability	
- GPRS A5 bits	
- GPRS A5/2	not checked
- GPRS A5/1	not checked
- SM capabilities via dedicated channels	not checked
- SM capabilities via GPRS channels	not checked
- USC2 support	not checked
- SS screening Indicator	not checked
- Padding bit	Spare Padding
Attach type	GPRS attach (MS class C)
GPRS ciphering key sequence number	no key available
DRX parameter	not checked
Force to standby	not checked
Spare half octet	Spare half octet
P-TMSI or IMSI	P-TMSI
MS Radio Access capability	not checked
Requested READY timer value	not checked

## 40.2.4.10 ATTACH ACCEPT message:

Protocol discriminator	1000 (MM message for GPRS service)
Skip indicator	0000
Attach accept message identity	00000010
Attach result	Copy back attach type (GPRS attach (MS class C))
Force to standby	not indicated (subject to CR)
Periodic RA update timer	timer is deactivated
Radio priority for SMS	priority level 3
Spare half octet	Spare half octet
Routing area identification	
- MCC	001 (decimal)
- MNC	01 (decimal)
- LAC	0001H
- RAC	05H
P-TMSI signature	P-TMSI signature
Negotiated READY timer value	32 seconds
Allocated P-TMSI	P-TMSI

## 40.2.4.11 ATTACH COMPLETE message:

Protocol discriminator	MM message for GPRS
Skip indicator	0000
Attach complete message identity	00000011
Force to standby	not indicated (subject to CR)
Spare half octet	Spare half octet

## 40.2.4.12 PDCH ASSIGNMENT COMMAND message (downlink):

Information Element	Value/Remarks
Protocol Discriminator	RR Management
Skip indicator	0000 (Binary)
Message Type	00101010 (Binary)
Description of the Channel, after time	
- Channel Description	
- Channel Type and TDMA offset	TCH/F + ACCH's
- Timeslot Number	Slot 2 <sup>1</sup>
- 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	1 (TIMING_ADVANCE_VALUE present)
<TIMING_ADVANCE_VALUE> }	
-	30 bit periods
TIMING_ADVANCE_VALUE	
- { 0 1	0 (TIMING_ADVANCE_INDEX and
<TIMING_ADVANCE_INDEX> }	TIMING_ADVANCE_TIMESLOT_NUMBER not present)
- { 0 1 <Power Control Parameters> }	1 (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 900: +9 dBm
	For DCS 1 800: +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	1 (Assign downlink TFI)
<DOWNLINK_TFI_ASSIGNMENT> }	
-	00011 (Binary)
DOWNLINK_TFI_ASSIGNMENT	
- { 0 1	0 (No measurement information)
<MEASUREMENT_STARTING_TI> }	
- N_SPARE_BITS	Spare padding

## 40.2.4.13 RR-CELL CHANGE ORDER message:

Information Element	Value/Remarks
Protocol Discriminator	RR Management
Skip indicator	0000 (Binary)
Message Type	00001000 (Binary)
Cell description	
- PLMN colour code, NCC	1
- BS colour code, BCC	5
- BCCH ARFCN	For GSM 900: 10
	For DCS 1 800: 520
NC mode for target cell	
- NC mode	00 (binary, NC0 mode)
Spare half octet	Spare Padding

<sup>1</sup> It is not clear the meaning of this field. I have just written a CR to 04.08 to make explicit that the MS shall ignore it.

### 40.3 Default GPRS Conditions, Message Contents and Macros for the Higher Layer Test Cases

This clause details default conditions and messages that shall be used for the higher layer test cases (GPRS Mobility Management, Session Management and SMDCP).

These alternate conditions and messages are derived from the standard defaults via the changes listed in the following sub-clause. They aim to produce default conditions with permitted channel combinations of:

PBCCH+PCCCH+PDTCH+PACCH+PTCCH (xi. from GSM 05.02 'Permitted Channel Combinations onto a Basic Physical Channel')

PCCCH+PDTCH+PACCH+PTCCH (xii. From GSM 05.02 'Permitted Channel Combinations onto a Basic Physical Channel')

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

#### 40.3.1 Default Test Conditions for the Higher Layer Test Cases.

Network dependant parameters	
CCCH_CONF	1 basic physical channel for CCCH combined with SDCCH
BS_AG_BLKS_RES	0 blocks reserved
BS_PA_MFRMS	5 multiframe periods

#### 40.3.2 Default Message for the Higher Layer Test Cases.

##### 40.3.2.1 Default Contents of System Information Messages for the Higher Layer Test Cases.

Default Contents of Information Elements in SYSTEM INFORMATION TYPE 1 to 13 Messages Used for the Higher Layer Test Cases.

Control Channel Description	
- BS_AG_BLKS_RES	0 blocks reserved for access grant.
- CCCH_CONF	1 basic physical channel used for CCCH, combined with SDCCHs.
- BS_PA_MFRMS	5 multiframe periods for transmission of paging messages.

**Normal Case**

<p>SI 13 Rest Octets</p> <p>Routing Area Code(RAC)  SPLIT_PG_CYCLE(SPGC_CCCH_SUP)  PRIORITY_ACCESS_THR  NETWORK_CONTROL_ORDER</p> <p>GPRS Cell Options  NETWORK_MODE OF OPERATION  T3168  T3192  DRX_TIMER_MAX  ACCESS_BURST_TYPE  CONTROL_ACK_TYPE  BS_CV_MAX  PAN_DEC  PAN_INC  PAN_MAX</p> <p>GPRS Power Control Parameters  ALPHA  T_AVG_W  T_AVG_T  PC_MEAS_CHAN  N_AVG_I  INT_MEAS_CHANNEL_LIST_AVAIL</p>	<p>For PBCCH not present case</p> <p>00000101(Binary)  Supported  Packet access allowed for priority level 1 to 4  Normal MS control, no measurement reporting</p> <p>NMO I  2 seconds  2 seconds  Non-DRX not supported  11 bits access burst  RLC/MAC control block  7  3  3  010(Binary)</p> <p>12  12  BCCH  7  Not Available</p>
--	--

**Alternate Case**

<p>SI 13 Rest Octets</p> <p>PSI1_REPEAT_PERIOD</p> <p>PBCCH Description  TSC  TN</p> <p>ARFCN</p>	<p>For PBCCH present case</p> <p>0110 (Binary)</p> <p>3  Timeslot 2</p> <p>Non-Hopping Channel  For GSM 900: 30  For DCS 1800: 650</p>
--	---

### 40.3.3 Contents Of Packet System Information Messages for the Higher Layer Test Cases

PACKET SYSTEM INFORMATION TYPE 2 Instance 1 of 1 for Higher Layer Test Cases

Non GPRS Cell Options -BS_AG_BLKs_RES -CCCH_CONF -BS_PA_MFRMS	1 Non GPRS Cell Options present 000 0 reserved 001 100 value 5
{PCCCH Description}  -TSC  -ARFCN  -TIMESLOT_ALLOCATION	Description present  011 Training Sequence 3 Non-hopping PCCCH carrier For GSM 900: 30 For DCS 1800: 650 00100000 Timeslot 2

PACKET SYSTEM INFORMATION TYPE 13

Normal Case

<p>Routing Area Code(RAC)  SPLIT_PG_CYCLE(SPGC_CCCH_SUP)  PRIORITY_ACCESS_THR  NETWORK_CONTROL_ORDER</p> <p>GPRS Cell Options  NETWORK_MODE OF OPERATION  T3168  T3192  DRX_TIMER_MAX  ACCESS_BURST_TYPE  CONTROL_ACK_TYPE  BS_CV_MAX  PAN_DEC  PAN_INC  PAN_MAX</p> <p>GPRS Power Control Parameters  ALPHA  T_AVG_W  T_AVG_T  PC_MEAS_CHAN  N_AVG_I  INT_MEAS_CHANNEL_LIST_AVAIL</p>	<p>For PBCCH not present case</p> <p>00000101(Binary)  Supported  Packet access allowed for priority level 1 to 4  Normal MS control, no measurement reporting</p> <p>NMO I  2 seconds  2 seconds  Non-DRX not supported  11 bits access burst  RLC/MAC control block  7  3  3  010(Binary)</p> <p>12  12  BCCH  7  Not Available</p>
--	---

Alternate Case

<p>PBCCH Description  TSC  TN</p> <p>ARFCN</p>	<p>For PBCCH present case</p> <p>3  Timeslot 2</p> <p>Non-Hopping Channel  For GSM 900: 30  For DCS 1800: 650</p>
--	---

## 40.3.4 Contents of Layer 2 Messages for the Higher Layer Test Cases.

### PACKET UPLINK ASSIGNMENT message:

{0 1<Frequency Parameters>} - Frequency Parameters - ARFCN Single Block Allocation - TIMESLOT_NUMBER	1 (Frequency Parameters present)  ARFCN of the PCCCH 01 (Single Block Allocation) 010 1 (ALPHA, GAMMA_TN present)
--	--

### PACKET DOWNLINK ASSIGNMENT message:

{0 1<Frequency Parameters>} - Frequency Parameters - ARFCN	1 (Frequency Parameters present)  ARFCN of the PCCCH
--	--

## 40.3.5 Contents of Layer 3 Messages for the Higher Layer Test Cases.

### IMMEDIATE ASSIGNMENT message:

Packet Channel Description - TN - ARFCN	2 (Chosen arbitrarily) ARFCN of the PCCCH
---	--

### IMMEDIATE ASSIGNMENT EXTENDED message:

Channel Description 1 - Channel Type and TDMA offset  - Timeslot Number - ARFCN	SDCCH/4, with subchannel chosen arbitrarily by the test house. 0 ARFCN of the CCCCH
---	---

## 40.4 Macros.

### 40.4.1 Overview

This document presents macros for GPRS test cases. It is intended to be a working document forming part of the GPRS Test Specifications.

#### 40.4.1.1 Definition

A macro is a name or sentence, possibly followed by an argument list, that is equated to a text to which it is to be expanded, possibly with the substitution of actual arguments.

Macros may be used to simplify the writing and reading of the test cases or to avoid the repetition of common sentences, message contents or message sequences. The macros defined in this section can be used throughout the test cases.

The definition of the macros is done in alphabetical order.

### 40.4.1.2 Syntax

#### 40.4.1.2.1 Message contents

Any macro referencing message contents shall use the following table:

Macro reference (arguments)		
(P)SI	Information Element	Value/Remarks

The table must contain:

Macro reference: word or sentence that gives the name to the macro. It may include a list of arguments with actual values for some IE's.

(P)SI: the System Information and Packet System Information messages whose content is referenced. Several (P)SIs can be referenced in this column. The defined IE value(s) refers to the (P)SI(s) in the same row.

Information Element: IE which value is specified.

Value/Remarks: value and any other comment specific to the IE's. In particular, the mapping between an argument value and its coding shall be specified in this column.<sup>2</sup>

#### 40.4.1.2.2 Message sequence

Any macro referencing message contents shall use the following table:

Step	Direction	Message	Comments
		{ Macro reference }	Macro (arguments)

The table must contain:

Macro reference: word or sentence that gives the name to the macro. It may include a list of arguments with actual values for some parameters used within the macro.

Step: Number of the message. Letters may be used for general values: the same rules as in GSM 11.10 apply.

Direction: it must be either

”MS → SS”, for an uplink message or a macro containing only uplink message(s),

”SS → MS”, for a downlink message or a macro containing only downlink message(s),

”SS ↔ MS”, for a macro containing both uplink and downlink message(s),

”MS”, for an action performed on the mobile side, or

”SS”, for an action performed on the system simulator side.

Message: Message name or macro reference.

Comments: any other comment specific to the message. In particular, value of certain bits/fields of the correspondent message.

<sup>2</sup> If possible, only the meaning of the value will be shown and not the value itself; this avoids updating when the core specifications are modified.



The symbol ‘:’ can be used to indicate that the previous and following message or sequence of messages (both previous and following must appear) is sent an unknown number of times, probably referenced with a letter on the ‘step’ column.

## 40.4.2 Default message contents

### 40.4.2.1 GPRS not supported

(P)SI	Information Element	Value/Remarks
SI 3 SI 4 SI 7 SI 8	GPRS Indicator	GPRS not supported

### 40.4.2.2 GPRS supported

(P)SI	Information Element	Value/Remarks
SI 3 SI 4 SI 7 SI 8	GPRS Indicator	GPRS supported

### 40.4.2.3 GPRS supported using BCCH

(P)SI	Information Element	Value/Remarks
SI 13	[Bit after RA_CODE]	PCCCH not present

### 40.4.2.4 GPRS supported using PBCCH

(P)SI	Information Element	Value/Remarks
SI 13	[Bit after RA_CODE]	PCCCH present

### 40.4.2.5 Max retrans set to {1, 2, 4, 7}

(P)SI	Information Element	Value/Remarks
SI 1 SI 2 SI 2bis SI 3 SI 9	RACH Control Parameters - Max retrans	Maximum 1 retransmission, maximum 2 retransmissions, maximum 4 retransmissions or maximum 7 retransmissions

## 40.4.3 Macro message sequences

### 40.4.3.1 Acknowledged downlink data

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

40.4.3.2 Classmark and measurement

Step	Direction	Message	Comments
	MS → SS	{ Classmark and measurement }	Macro
1a	MS → SS	MEASUREMENT REPORT	Mobile Station Classmark 2 and 3
2a	MS → SS	CLASSMARK CHANGE	
1b	MS → SS	CLASSMARK CHANGE	
2b	MS → SS	MEASUREMENT REPORT	Mobile Station Classmark 2 and 3
3	MS → SS	{ Measurement reporting }	Macro

40.4.3.3 Downlink data

Step	Direction	Message	Comments
	SS → MS	{ Downlink data }	Macro
1	SS → MS	RLC DOWNLINK DATA	FBI bit set to '0'
2	SS → MS	RLC DOWNLINK DATA	
⋮	⋮	⋮	
N	SS → MS	RLC DOWNLINK DATA	

40.4.3.4 Downlink data transfer

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

40.4.3.5 Measurement reporting

Step	Direction	Message	Comments
	MS → SS	{ Measurement reporting }	Macro
1	MS → SS	MEASUREMENT REPORT	See note 1
2	MS → SS	MEASUREMENT REPORT	
⋮	⋮	⋮	$n \geq 1$
N	MS → SS	MEASUREMENT REPORT	

NOTE 1: These messages are sent continuously on the ACCH. As no short messages are sent, this sequence should not be temporarily interrupted by other messages also sent on the same channel. However, other messages may be sent on the main DCCH.

## 40.4.3.6 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	See note 3
2b	SS → MS	PACKET UPLINK ACK/NACK	
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 of 64 blocks.

NOTE 3: The field CV in the RLC UPLINK DATA messages verifies

$$CV' = \text{round}\left(\frac{TBC - BSN' - 1}{NTS}\right)$$

$$CV = \begin{cases} CV' & x \leq BS\_CV\_MAX \\ 15 & \text{otherwise} \end{cases}$$

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,
- 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<sup>-1</sup> or frames<sup>-1</sup>) 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.

## 40.4.3.7 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, <b>USF_GRANULARITY</b> : 1 or 4 blocks, <b>RLC_DATA_BLOCKS_GRANTED</b> : 9-261 (close-end), or absent (open-end) <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>TLLI_BLOCK_CHANNEL_CODING</b> : CS-1 or as data block <b>REL_OR_ABS_FN</b> : absolute or relative frame number encoding for starting time <b>TBF_STARTING_TIME</b>
0	MS		Trigger the MS initiating uplink transfer n octets data according to the test PDP context activated
1	MS → SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS → MS	PACKET UPLINK ASSIGNMENT	uplink dynamic allocation, Sent on PAGCH.

Note: after step 2, the MS is not yet in the packet transfer mode. The contention resolution must be completed.

## 40.4.3.8 Uplink dynamic allocation one phase access with contention resolution

Step	Direction	Message	Comments
		{Uplink dynamic allocation one phase access with contention resolution}	Macro parameters: <b>n</b> : the number of RLC data block to be transferred, <b>USF_GRANULARITY</b> : 1 or 4 blocks, <b>RLC_DATA_BLOCKS_GRANTED</b> : 9-261 (close-end), or absent (open-end) <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>TLLI_BLOCK_CHANNEL_CODING</b> : CS-1 or as data block <b>REL_OR_ABS_FN</b> : absolute or relative frame number encoding for starting time <b>TBF_STARTING_TIME</b>
0	MS		Trigger the MS initiating uplink transfer <b>n</b> octets data according to the test PDP context activated
1	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS -> MS	PACKET UPLINK ASSIGNMENT	uplink dynamic allocation, Sent on PAGCH.
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 <b>USF_GRANULARITY</b> = 1, containing TLLI in the RLC/MAC header.
4B1	MS -> SS	UPLINK RLC DATA BLOCK	For <b>USF_GRANULARITY</b> = 4, containing TLLI in the RLC/MAC header.
4B2	MS -> SS	UPLINK RLC DATA BLOCK	For <b>USF_GRANULARITY</b> = 4, containing TLLI in the RLC/MAC header.
4B3	MS -> SS	UPLINK RLC DATA BLOCK	For <b>USF_GRANULARITY</b> = 4, containing TLLI in the RLC/MAC header.
4B4	MS -> SS	UPLINK RLC DATA BLOCK	For <b>USF_GRANULARITY</b> = 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.

## 40.4.3.9 Uplink dynamic allocation two phase access

Step	Direction	Message	Comments
		{Uplink dynamic allocation two phase access}	Macro parameters: <b>n</b> : the number of RLC data block to be transferred, <b>USF_GRANULARITY</b> : 1 or 4 blocks, <b>RLC_DATA_BLOCKS_GRANTED</b> : 9-261 (close-end), or absent (open-end) <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>TLLI_BLOCK_CHANNEL_CODING</b> : CS-1 or as data block, <b>TBF_STARTING_TIME</b>
0	MS		Trigger the MS initiating uplink transfer <b>n</b> octets data according to the test PDP context activated
1	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS -> MS	PACKET UPLINK ASSIGNMENT	Single block assignment, to order the MS to follow the two phase access procedure. Sent on PAGCH.
3	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the single block assigned in step 2. Check that the <b>PEAK_THROUGHPUT</b> , <b>RADIO_PRIORITY</b> and <b>RLC_MODE</b> are compliant with the PDP context used.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	uplink dynamic allocation, no starting time (as default, otherwise use <b>TBF_STARTING_TIME</b> ), Sent on PACCH of the same PDCH assigned in step 2.

### 40.4.3.10 Completion of uplink RLC data block transfer

The steps 1A – 3A are applied for the 1 uplink slot with the USF granularity 1 block.

The steps 1B, 2B1-2B4 and 3B are applied for the 1 uplink slot with the USF granularity 4 blocks.

The steps 1C – 5C are applied for the 2 uplink slots with USF granularity 1 block.

The steps 6 – 7 are common the cases A, B and C.

Step	Direction	Message	Comments
		<b>{Completion of uplink RLC data block transfer}</b>	Macro parameters: <b>USF_GRANULARITY</b> : 1 or 4 blocks, the <b>number of slots</b> assigned in the uplink.
1A,1B	SS -> MS	PACKET UPLINK ACK/NACK	The assigned USF assigned to the MS to the MS.
2A	MS -> SS	UPLINK RLC DATA BLOCK	For USF_GRANULARITY = 1 Received on the assigned PDTCH.
2B1 2B2 2B3 2B4	MS -> SS MS -> SS MS -> SS MS -> SS	UPLINK RLC DATA BLOCK UPLINK RLC DATA BLOCK UPLINK RLC DATA BLOCK UPLINK RLC DATA BLOCK	For USF_GRANULARITY = 4 Received on the assigned PDTCH. Received on the assigned PDTCH Received on the assigned PDTCH Received on the assigned PDTCH
3A,3B			Repeat the steps 1A and 2A or 1B and 2B1-2B4 until the countdown value CV=0 in step 2A or in one of the steps 2B1 - 2B4.
1C	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH 1, the assigned USF1 addressing the MS.
2C	SS -> MS	PACKET UPLINK ACK/NACK	Sent on the PACCH of the PDCH 2 on the same radio block as step 1C, the assigned USF2 addressing the MS.
3C	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH 1.
4C	MS -> SS	UPLINK RLC DATA BLOCK	Received on the assigned PDTCH 2.
5C			Repeat steps 1C – 4C until the countdown value CV=0 in step 3C or step 4C.
6	SS -> MS	PACKET UPLINK ACK/NACK	Final Ack Indicator = '1' containing valid RRBP. Sent on the PACCH of the assigned PDCH.
7	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Received on the block specified by RRBP on PACCH of the assigned PDCH.

#### 40.4.3.10.1 PACKET UPLINK ACK/NACK message in step 6:

Ack/Nack Description - FINAL_ACK_INDICATION - STARTING_SEQUENCE_NUMBER - RECEIVED_BLOCK_BITMAP	1 (final ACK) No information, ignored No information, ignored
---	---

## 40.4.3.11 Uplink fixed allocation one phase access

Step	Direction	Message	Comments
		<b>{Uplink fixed allocation one phase access}</b>	Macro parameters: <b>n</b> : the number of RLC data block to be transferred, <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>TLLI_BLOCK_CHANNEL_CODING</b> : CS-1 or as data block, <b>DOWNLINK_CONTROL_TIMESLOT</b> <b>HALF_DUPLEX_MODE</b> <b>TBF_STARTING_TIME</b> <b>BLOCKS_OR_BLOCK_PERIODS</b> <b>ALLOCATION_BITMAP_LENGTH</b> <b>ALLOCATION_BITMAP</b>
0	MS		Trigger the MS initiating uplink transfer <b>n</b> octets data according to the test PDP context activated
1	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH. Check the channel request description whether being an open-ended or close-ended TBF
2	SS -> MS	PACKET UPLINK ASSIGNMENT	uplink fixed allocation, assigning sufficient resource on a single slot (greater than <b>n</b> blocks) Sent on PAGCH.
3	MS -> SS	PACKET RESOURCE REQUEST	Received if open-ended in step 1, ignore it

The macro is used for establishment of a TBF in acknowledged RLC mode.

## 40.4.3.12 Uplink fixed allocation one phase access with contention resolution

Step	Direction	Message	Comments
		<b>{Uplink fixed allocation one phase access with contention resolution}</b>	Macro parameters: <b>n</b> : the number of RLC data block to be transferred, <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>TLLI_BLOCK_CHANNEL_CODING</b> : CS-1 or as data block, <b>HALF_DUPLEX_MODE</b> <b>TBF_STARTING_TIME</b> : <b>BLOCKS_OR_BLOCK_PERIODS</b> : <b>ALLOCATION_BITMAP_LENGTH</b> : <b>ALLOCATION_BITMAP</b>
0	MS		Trigger the MS initiating uplink transfer <b>n</b> octets data according to the test PDP context activated
1	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH. Check the channel request description whether being an open-ended or close-ended TBF
2	SS -> MS	PACKET UPLINK ASSIGNMENT	uplink fixed allocation, assigning sufficient resource on a single slot (greater than <b>n</b> blocks) Sent on PAGCH.
3	MS -> SS	PACKET RESOURCE REQUEST	If received, ignore it
4	MS -> SS	UPLINK RLC DATA BLOCK	containing TLLI in the RLC/MAC header
5	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data block with TLLI received in step 4.

The macro is used for establishment of a TBF in acknowledged RLC mode.

## 40.4.3.13 Uplink fixed allocation two phase access

Step	Direction	Message	Comments
		<b>{Uplink fixed allocation two phase access}</b>	Macro parameters: <b>n</b> : the number of RLC data block to be transferred, <b>CHANNEL_CODING_COMMAND</b> : CS-1, -2, -3, -4 <b>HALF_DUPLEX_MODE</b> <b>TBF_STARTING_TIME</b> : <b>BLOCKS_OR_BLOCK_PERIODS</b> : <b>ALLOCATION_BITMAP_LENGTH</b> : <b>ALLOCATION_BITMAP</b>
0	MS		Trigger the MS initiating uplink transfer <b>n</b> octets data according to the test PDP context activated
1	MS -> SS	PACKET CHANNEL REQUEST	Received on PRACH.
2	SS -> MS	PACKET UPLINK ASSIGNMENT	Single block assignment, to order the MS to follow the two phase access procedure. Sent on PAGCH.
3	MS -> SS	PACKET RESOURCE REQUEST	Two phase access procedure. Received on the single block assigned in step 2.
4	SS -> MS	PACKET UPLINK ASSIGNMENT	Check that the <b>PEAK_THROUGHPUT</b> , <b>RADIO_PRIORITY</b> and <b>RLC_MODE</b> are compliant with the PDP context used. uplink fixed allocation, no starting time (as default, otherwise use <b>TBF_STARTING_TIME</b> ), Sent on PACCH of the same PDCH assigned in step 2.

## 40.4.3.14 Downlink TBF establishment

Step	Direction	Message	Comments
		<b>{Downlink TBF establishment}</b>	Macro parameters: <b>RLC mode</b> <b>TBF_STARTING_TIME</b>
1	SS -> MS	PACKET PAGING REQUEST	1 <sup>st</sup> Repeated Page info contains P-TMSI of the MS. Sent on PPCH.
2	MS -> SS	PACKET CHANNEL REQUEST	ACCESS TYPE = " Page Response ". Received on PRACH.
3	SS -> MS	PACKET UPLINK ASSIGNMENT	Random Reference = pertaining to the message received in step 2. Fixed allocation for 5 RLC data blocks, Sent on PAGCH.
4	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.
5	SS -> MS	PACKET UPLINK ACK/NACK	Acknowledge the received RLC data block. Sent on uplink PACCH.
6	MS -> SS	PACKET CONTROL ACKNOWLEDGEMENT	Acknowledge the RLC control message. Received on uplink PACCH.
7	SS -> MS	PACKET DOWNLINK ASSIGNMENT	Downlink Assignment, TLLI value as received. Sent on PPCH. Three macro parameters as assigned in the test cases.

## 40.4.3.15 PDP Context Activation

Mobile initiated, for LLC mode unacknowledged:

Step	Direction	Message	Comments
		<b>{PDP Context Activation}</b>	
1	MS -> SS	Activate PDP Context Request	
2	SS -> MS	Activate PDP Context Accept	

Mobile initiated, for LLC mode acknowledged:

Step	Direction	Message	Comments
		<b>{PDP Context Activation}</b>	
1	MS -> SS	Activate PDP Context Request	
2	SS -> MS	Activate PDP Context Accept	
3	MS -> SS	SABM	Link establishment (When relevant to the test case, steps 3 and 4 are shown as a part of the test case)
4	SS -> MS	UA	

#### 40.4.3.16 PDP Context Deactivation

Mobile initiated:

Step	Direction	Message	Comments
		<b>{PDP Context Deactivation}</b>	
1	MS -> SS	Deactivate PDP Context Request	
2	SS -> MS	Deactivate PDP Context Accept	

Network initiated:

Step	Direction	Message	Comments
		<b>{PDP Context Deactivation}</b>	
1	SS -> MS	Deactivate PDP Context Request	
2	MS -> SS	Deactivate PDP Context Accept	

#### 40.4.3.17 Inter-SGSN Routing Area Update

Step	Direction	Message	Comments
		<b>{Inter-SGSN Routing Area Update}</b>	
1	SS -> MS	Packet Cell Change Order	SS requests the MS to move to a new cell in a Routing Area belonging to a different SGSN.
2	MS -> SS	Routing Area Update Request	The updating type shall be "Combined RALA Updating" for Class B mobiles in Network Mode I and "RA Updating" for Class C mobiles supporting GPRS.
3	SS->MS	XID	XID with RESET
4	MS->SS	XID	XID response
5	SS -> MS	Routing Area Update Accept	

#### 40.4.3.18 PDP Context Modification

This procedure is always initiated by the network.



Step	Direction	Message	Comments
		<b>{PDP Context Modification}</b>	
1	SS -> MS	Modify PDP Context	
2	MS -> SS	Modify PDP Context Accept	

## 40.5 Test PDP contexts

The following table defines 7 PDP contexts used in the GPRS dynamic allocation and RLC testcases. Test PDP context3 is the default Test PDP context which is used in the test cases where no particular Test PDP contexts are specified.

**Table 40.5 Test PDP contexts**

	<b>PDP Context1</b>	<b>PDP Context2</b>	<b>PDP context3</b>	<b>PDP context4</b>
LLC SAPI	SAPI = 3	SAPI = 11	SAPI = 11	SAPI = 9
Reliability Class	5 (RLC unacknowledged) (LLC unacknowledged)	3 (RLC acknowledged) (LLC unacknowledged)	5	3
Delay Class	4 (best effort)	4	4	4
Precedence Class	2 (normal)	2	2	2
Peak Throughput Class	5 (128 kbit/s)	5	5	6 (256 kbit/s)
Mean Throughput Class	16 (~11.1 kbit/s)	16	16	16
PDP Type	IP type	IP type	IP type	IP type
PDP Address	Dynamic	Dynamic	dynamic	dynamic
APN	smg7.etsi.fr	smg7.etsi.fr	smg7.etsi.fr	smg7.etsi.fr
Protocol Configuration Options	PPP options	PPP options	PPP options	PPP options
Radio Priority	1	4	4	4
Data Compression	OFF	OFF	OFF	OFF
Header Compression	OFF	OFF	OFF	OFF

The table continues on the next page.

	<b>PDP context5</b>	<b>PDP context6</b>	<b>PDP Context7</b>	<b>PDP Context 8</b>
LLC SAPI	SAPI = 3	SAPI = 9	SAPI = 9	SAPI = 5
Reliability Class	3	5	5	3 (RLC acknowledged) (LLC unacknowledged) (data protected)
Delay Class	4	4	4	4 (best effort)
Precedence Class	2	2	2	2 (normal)
Peak Throughput Class	5	6	6	5 (128 kbit/s)
Mean Throughput Class	16	16	16	16 (~11.1 kbit/s)
PDP Type	IP type	IP type	IP type	IP type
PDP Address	dynamic	dynamic	Dynamic	Dynamic
APN	smg7.etsi.fr	smg7.etsi.fr	smg7.etsi.fr	Smg7.etsi.fr
Protocol Configuration Options	PPP options	PPP options	PPP options	PPP options
Radio Priority	1	4	4	1
Data Compression	OFF	OFF	OFF	OFF
Header Compression	OFF	OFF	OFF	OFF

	<b>PDP Context 9</b>	<b>PDP Context 10</b>	<b>PDP Context 11</b>
LLC SAPI	SAPI = 11	SAPI = 5	SAPI = 3
Reliability Class	3 (RLC acknowledged) (LLC unacknowledged) (data protected)	5 (RLC unacknowledged) (LLC unacknowledged) (data unprotected)	2 (RLC acknowledged) (LLC acknowledged) (data protected)
Delay Class	4 (best effort)	4 (best effort)	4 (best effort)
Precedence Class	2 (normal)	2 (normal)	2 (normal)
Peak Throughput Class	5 (128 kbit/s)	5 (128 kbit/s)	5 (128 kbit/s)
Mean Throughput Class	16 (~11.1 kbit/s)	16 (~11.1 kbit/s)	16 (~11.1 kbit/s)
PDP Type	IP type	IP type	IP type
PDP Address	Dynamic	dynamic	Dynamic
APN	Smg7.etsi.fr	Smg7.etsi.fr	Smg7.etsi.fr
Protocol Configuration Options	PPP options	PPP options	PPP options
Radio Priority	1	1	1
Data Compression	OFF	OFF	OFF
Header Compression	OFF	OFF	OFF

The table continues on the next page.

	PDP Context 12	PDP Context 13	PDP Context 14
LLC SAPI	SAPI = 9	SAPI = 11	SAPI = 9
Reliability Class	2 (RLC acknowledged) (LLC acknowledged) (data protected)	1 (RLC acknowledged) (LLC acknowledged) (data protected)	2 (RLC acknowledged) (LLC acknowledged) (data protected)
Delay Class	4 (best effort)	4 (best effort)	4 (best effort)
Precedence Class	2 (normal)	2 (normal)	2 (normal)
Peak Throughput Class	5 (128 kbit/s)	5 (128 kbit/s)	5 (128 kbit/s)
Mean Throughput Class	16 (~11.1 kbit/s)	16 (~11.1 kbit/s)	16 (~11.1 kbit/s)
PDP Type	IP type	IP type	IP type
PDP Address	dynamic	dynamic	Dynamic
APN	Smg7.etsi.fr	Smg7.etsi.fr	Smg7.etsi.fr
Protocol Configuration Options	PPP options	PPP options	PPP options
Radio Priority	1	1	1
Data Compression	OFF	OFF	ON
Header Compression	OFF	OFF	ON

## 40.6 Appendix A.

### 40.6.1 ARFCNs in different SI messages

		GSM 900		DCS 1 800	
		<i>Serving cell</i>	<i>Neighbouring cells</i>	<i>Serving cell</i>	<i>Neighbouring cells</i>
<b>BCCH / CCCH</b>	Default	20	10, 80, 90, 100, 110, 120	590	520, 600, 700, 780, 810, 870
	<i>Alternative</i>	40, 60	15, 85, 95, 105, 115, 122	690, 830	530, 610, 710, 790, 820, 880
<b>PDTCH / SDCCH</b>	<i>Default</i>	30		650	
	<i>Alternative</i>	50, 70		750, 850	

		GSM 900	DCS 1 800
<b>Cell Allocation</b> [SI 1]	<i>11.10</i>	20, 30, 50, 70	590, 650, 750, 850
	<i>47/98</i>	20, 30, 40, 50, 60, 70	590, 650, 690, 750, 830, 850
	<i>Propos.</i>	20, 30, (40,) 50, (60,) 70	590, 650, (690,) 750, (830,) 850
<b>Neighbouring cells</b> [SI 2]	<i>11.10</i>	10, 20, 40, 80, 90, 100, 110, 120	520, 590, 600, 700, 780, 810, 870
	<i>47/98</i>		
	<i>Propos.</i>	10, 80, 90, 100, 110, 120 (+15, 85...)	520, 600, 700, 780, 810, 870 (+530, 610...)
<b>Neighbouring cells</b> [SI 2bis]	<i>11.10</i>	Not present	
	<i>47/98</i>	985, 989, 995, 1010, 1014	
	<i>Propos.</i>	985, 989, 995, 1010, 1014	
<b>Neighbouring cells</b> [SI 2ter]	<i>11.10</i>	Not present	
	<i>47/98</i>	520, 590, 600, 700, 780, 810, 870	10, 20, 40, 80, 90, 100, 110, 120
	<i>Propos.</i>	520, 600, 700, 780, 810, 870 (+530, 610...)	10, 80, 90, 100, 110, 120 (+15, 85...)
<b>Neighbouring cells</b> [SI 5]	<i>11.10</i>	As Cell Channel Description in SI 1	

	47/98	Not present
	<i>Propos.</i>	As BCCH Frequency list in SI 2