26.3 Test of MS functions in idle mode

26.3.1 Initial conditions

The SIM shall contain a PLMN-Selector that contains only the HPLMN of the MS, and an empty forbidden PLMN list.

Related PICS/PIXIT statements

Type of mobile station (P-GSM 900 or E-GSM 900 or DCS 1 800)

During the tests in 26.3.2 and 26.3.3, the following parameters apply according to the above PICS/PIXIT statement:

RACH control parameters

In cells
GSM 900: 1 to 7
DCS 1 800: 1 to 6:
Multiband GSM/DCS: 1 to 7:

Max retrans	= 01	2 retransmissions
Tx-integer	= 0111	(10) slots for spreading
CB, Cell Barred	= 0	access is allowed
RE	= 1	re-establishment not allowed
AC C00 to AC C15	= 0	access is not barred

In cell
GSM 900: 8
DCS 1 800: 7:
Multiband GSM/DCS: 8:

Max retrans	= 01	2 retransmissions
Tx-integer	= 0111	(10) slots for spreading
CB, Cell Barred	= 1	access is not allowed
RE	= 1	re-establishment not allowed
AC C00 to AC C15	= 0	access is not barred

		GSM 900							DCS 1 800						
Cell	PLMN perm.	BA - ARFCN bit = 1							BA - ARFCN bit = 1						
1	00000100	7	39	65	66	85	97	124	520	580	610	702	703	830	885
2	00000100	8	40	67	68	86	98	123	521	581	612	704	705	831	884
3	00000100	9	41	69	70	87	99	122	522	582	614	706	707	832	883
4	00000100	10	42	71	72	88	100	121	523	583	616	708	709	833	882
5	00000100	11	43	73	74	89	101	120	524	584	618	710	711	844	881
6	00000100	12	44	75	76	90	102	119	525	585	620	712	713	835	880
7	00000100	13	45	77	78	91	103	118	526	586	622	714	715	836	879
8	00000100	124													

		Multiband GSM/DCS						
Cell	PLMN perm.	BA - ARFCN bit = 1						
1	00000100	7	39	702	66	85	885	124
2	00000100	8	40	67	68	86	98	123
3	00000100	9	41	69	70	87	99	122
4	00000100	523	583	616	708	709	833	882
5	00000100	520	7	39	702	85	885	124
6	00000100	12	44	75	76	90	102	119
7	00000100	526	586	622	714	715	836	879
8	00000100	124						

Location area identification

GSM 900 only - begin

Cell	MCC1	MCC2	MCC3	MNC1	MNC2	LAC	
1	0	0	2	0	F	x	
2	0	0	3	2	F	x	
3	0	0	4	3	F	x	
4	0	0	5	4	F	x	
5	0	0	6	5	F	x	
6	0	0	7	6	F	x	
7	0	0	8	7	F	x	
8	0	0	1	0	1	x	The HPLMN of the MS

GSM 900 only - end

DCS 1 800 only - begin

Cell	MCC1	MCC2	MCC3	MNC1	MNC2	LAC	
1	0	0	2	0	F	x	
2	0	0	3	2	F	x	
3	0	0	4	3	F	x	
4	0	0	5	4	F	x	
5	0	0	6	5	F	x	
6	0	0	7	6	F	x	
7	0	0	1	0	1	x	The HPLMN of the MS

DCS 1 800 only - end

Multiband GSM/DCS only - begin

Cell	MCC1	MCC2	MCC3	MNC1	MNC2	LAC	
1	0	0	2	0	F	x	
2	0	0	3	2	F	x	
3	0	0	4	3	F	x	
4	0	0	5	4	F	x	
5	0	0	2	0	F	x	
6	0	0	7	6	F	x	
7	0	0	8	7	F	x	
8	0	0	1	0	1	x	The HPLMN of the MS

Multiband GSM/DCS only - end

NOTE 1: 'x' denotes any value.

NOTE 2: The MS representation of the MCC, MNC on the handset can be manufacturer dependant.

NOTE 3: The NCC values of each cell must be different.

Control channel description and BS options

All

GSM 900: 8 cells
DCS 1 800: 7 cells:
Multiband GSM/DCS: 8 cells:

CELL_RESELECT_HYSTERESIS	= 010	4dB RXLEV hysteresis
MS_TXPWR_MAX_CCH	=	value corresponding to the maximum available output power from MS

RXLEV_ACCESS_MIN	= 30	
ATT	= 0	no IMSI attach and detach
DTX	= 0	no discontinuous transmission
BS_AG_BLKS_RES	= 1	1 block reserved for access grant
CCCH_CONF	= 001	1 SDCCH combined with the CCCH
RADIO_LINK_TIMEOUT	= 5	10 s time-out
BS_PA_MFRMS	= 010	4 multiframes periods for paging
T3212 time-out value	= H'00	

	GSM 900		DCS 1 800	
Cell	level dBµVemf( )	BCCH ARFCN	level dBµVemf( )	BCCH ARFCN
1	+65	1	+65	520
2	+63	7	+63	580
3	+61	39	+61	610
4	+55	65	+55	702
5	+59	66	+59	703
6	+57	85	+57	830
7	+55	97	+55	885
8	+53	124		

	Multiband			
Cell	level dBµVemf( )	BCCH ARFCN		
1	+65	520		
2	+63	7		
3	+61	39		
4	+55	702		
5	+59	66		
6	+57	85		
7	+55	885		
8	+53	124		

For testing an E-GSM Mobile station (see PICS/PIXIT), the BCCH ARFCN of call 7 shall be 985 (instead of 97).

NOTE 4: The SIM should contain a PLMN-Selector that contains only the HPLMN of the MS, and an empty forbidden PLMN list.

26.3.2 MS indication of available PLMNs

26.3.2.1 Test purpose

To verify that a MS can present the available PLMNs to the user when asked to do so in manual mode according to the requirements of GSM 05.08 and GSM 02.11.

26.3.2.2 Method of test

a) The MS is switched on, equipped with a SIM containing default values except for those values listed under section 26.3.1 (initial conditions).

b) The MS is put into manual network selection mode (see PIXIT).

26.3.2.3 Test requirements

1) On entering manual network selection mode, the MS shall present a list of available PLMNs in all its bands of operation (MCC and MNC values, or any other valid indications, see PIXIT), within 2 minutes. Any PLMN shall only be presented once. The list shall include the MCC and MNC of:

GSM 900: cells 1 to 7, but not of cell 8.

DCS 1 800: cells 1 to 6, but not of cell 7.
Multiband: cells 2, 3, 4, 6, 7 and 1 or 5 (cell 1 and 5 have the same MCC and MNC), but not of cell 8.

26.3.3 MS will send only if BSS is "on air"

26.3.3.1 Test purpose

To verify that the MS will not produce any RF transmission if no BSS is received.

26.3.3.2 Method of test

a) The RF-signal for the BCCHs of:

GSM 900: cell 1 to 8 is switched off.
DCS 1 800: cell 1 to 7 is switched off.
Multiband GSM/DCS: cell 1 to 8 is switched off.

b) The SS shall wait 20 s to allow the MS to detect the loss of cells.

c) By MMI, an attempt to originate a call is made.

d) By MMI, an attempt to originate an emergency call is made.

Step d) is only performed if the MS supports speech (see PICS/PIXIT statement).

26.3.3.3 Test requirements

1) The MS must not give "service indication".

2) In steps c) and d) the MS shall not produce any RF output.

26.3.4 Manual mode of PLMN selection

26.3.4.1 Conformance requirements

In manual mode, the MS can try to obtain normal service on any available VPLMN and it shall try to obtain normal service on a VPLMN if and only if the user makes a manual selection of this VPLMN.

Reference

GSM 03.22 section 3.1.

26.3.4.2 Test purpose

To check that in manual mode the MS is able to obtain normal service on a PLMN which is neither the better nor a preferred PLMN and that it tries to obtain service on VPLMN if and only if the user selects it manually.

26.3.4.3 Method of test

Initial conditions

System Simulator:
2 cells, defaults parameter unless otherwise specified.
The SS transmits 2 BCCH carriers in the supported band(s) of the mobile station (for a multiband MS carrier A and B shall be in different bands) with the initial following parameters:

		level (dBµVemf)
carrier A	PLMN 1	38
carrier B	PLMN 2	33

Mobile Station:
The MS is "idle updated" on PLMN1 (HPLMN) and is in manual mode.
The preferred PLMN list does not contain PLMN2, it contains PLMN 3.

Related PICS/PIXIT statement(s)

Description of the manual PLMN selector.

Support of multiband functionality

Foreseen final state of the MS

The MS is "idle updated".

Test procedure

For the different networks and during the whole test, "IMSI attach" flag is set in the BCCH data.

Carrier A is turned off. The MS does not attempt a location updating during 2 minutes.

Carrier A is turned back on with a different MCC-MNC (indicating PLMN 3) and with a higher level (48 dBmVemf) than PLMN 2. The MS does not attempt a location updating during 2 minutes.

PLMN 2 is selected manually. The MS performs a location updating on PLMN 2. Carrier B is turned off. The MS does not attempt a location updating during 2 minutes.

Maximum duration of test

10 minutes

Expected Sequence

Step	Direction	Message	Comments
1 2	SS		carrier A is turned off wait 2 min: the MS shall not send any CHANNEL REQUEST messages during this time
3 4	SS		carrier A is turned on with a different MNC-NCC (PLMN3) and with a high level (48dBmVemf) wait 2 min: the MS shall not send any CHANNEL REQUEST messages during this time
5 6 7 8 9 10	MS MS -> SS SS -> MS MS -> SS SS -> MS SS -> MS	 CHANNEL REQUEST IMMEDIATE ASSIGNMENT LOCATION UPDATING REQUEST LOCATION UPDATING ACCEPT CHANNEL RELEASE	PLMN 2 selected manually on carrier B
11 12	SS		carrier B is turned off wait 2 min: the MS shall not send any CHANNEL REQUEST messages during this time

Specific message contents

None