

GSM TEMS INVESTIGATION WORKSHOP

Appendix A – System Information

System Information Overview.

- | | | | |
|----------|--|--------|--|
| 1. | Cell Channel description
Rach Control parameters | 4. | Location area identification
Cell Selection parameters
RACH control parameters
CBCH channel description
CBCH mobile allocation
SI 4 rest octets |
| 2. | Neighbor cells description
NCC permitted | 5. | Neighbor cells description |
| 2 bis. | Neighbor cells description
(extension) | 5 bis. | Neighbor cells description(extension) |
| 2 ter. | RACH control parameters
Additional multiband
information
Neighbor cells description(other
bands) | 5 ter. | Additional multiband information
Neighbor cells description(other bands) |
| 2. | Neighbor cells
description(UMTS) | 6. | Location area identification
Cell identity
Cell options
NCC permitted |
| quarter. | Location area identification | 7. | SI 7 rest octets |
| 3. | Cell identity
Control channel description
Cell Options
Cell Selection parameters
RACH control parameters
SI 3 rest octets | 8. | SI 8 rest octets |
| | | 13 | .GPRS information |

Multiplex of phase 2 system information messages on BCCH norm (TC is a sequence number for the 51-frame multiframe).

TC	7	0	1	2	3	4	5	6	7	0	1	2
Multiframe	B	B	B	B	B	B	B	B	B	B	B	B

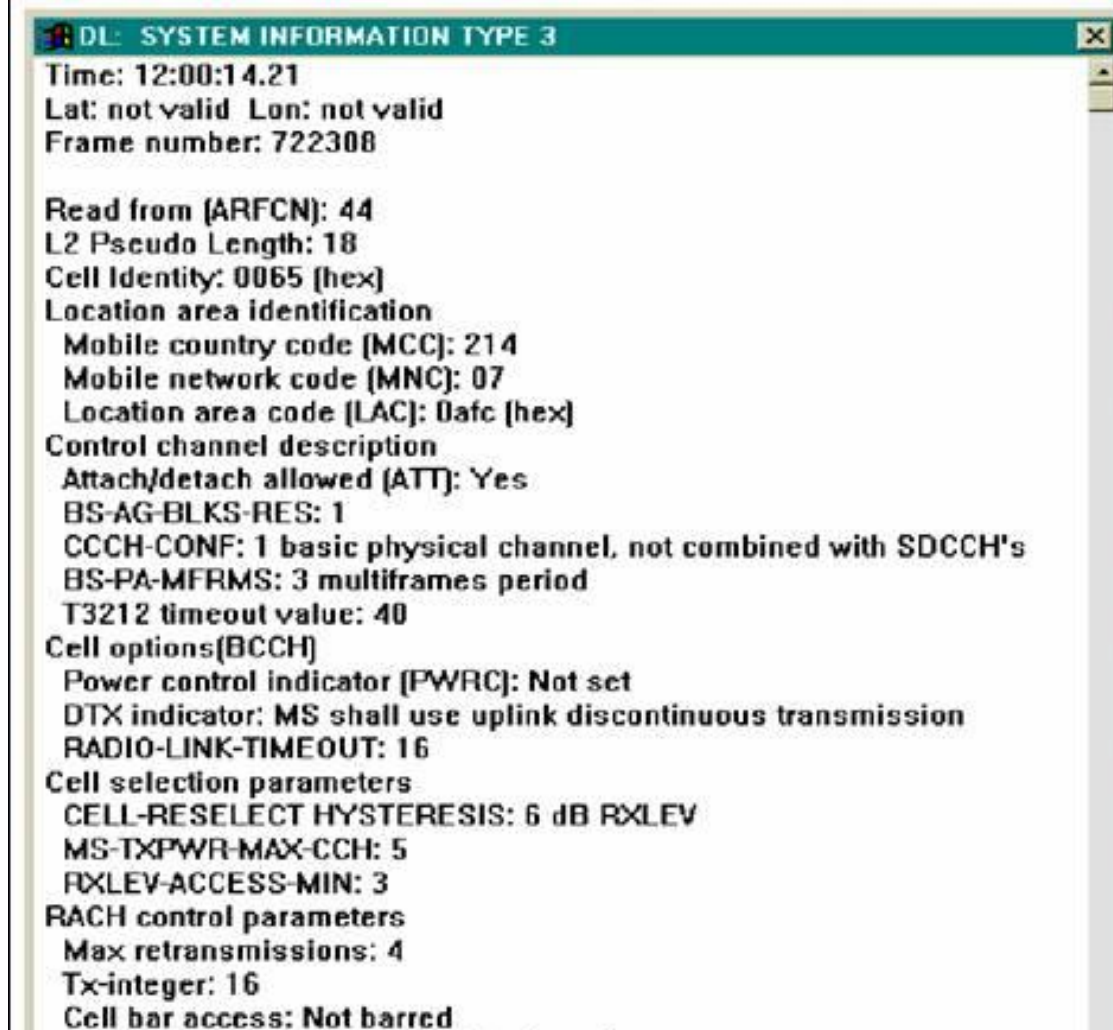
System Information Type

4	1(3)*	2	3	4	3	2	3	4	1(3)	2	3
4	1(3)	2	3	4	3	2 bis	3	4	1(3)	2	3
4	1(3)	2	3	4	3	2 ter	3	4	1(3)	2	3
4	1(3)	2	3	4	2 ter	2 bis	3	4	1(3)	2	3

$$TC = (FN \text{ DIV}(51)) \text{ MOD } 8$$

*System Information Type 1 is mandatory only when frequency hopping is used, otherwise any System Information msg can be sent

TEMS Printout of System Information Type 3.



```
DL: SYSTEM INFORMATION TYPE 3
Time: 12:00:14.21
Lat: not valid Lon: not valid
Frame number: 722308

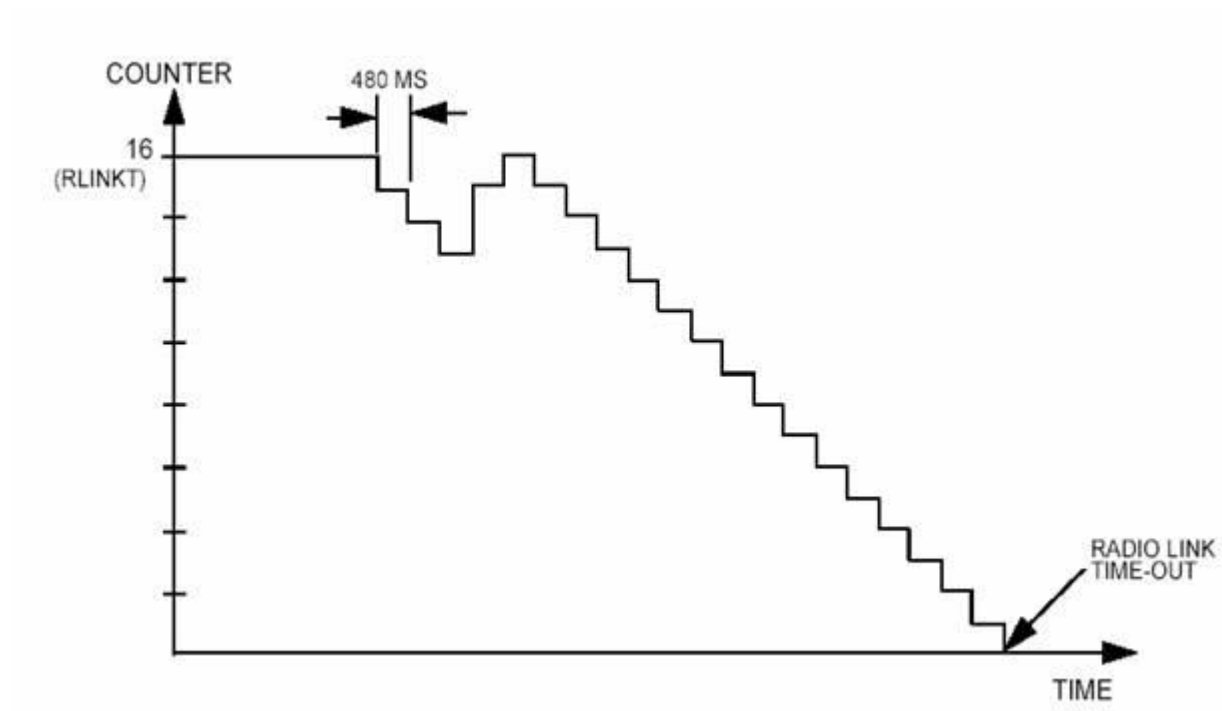
Read from (ARFCN): 44
L2 Pseudo Length: 18
Cell Identity: 0065 [hex]
Location area identification
  Mobile country code (MCC): 214
  Mobile network code (MNC): 07
  Location area code (LAC): 0afc [hex]
Control channel description
  Attach/detach allowed (ATT): Yes
  BS-AG-BLKS-RES: 1
  CCCH-CONF: 1 basic physical channel, not combined with SDCCH's
  BS-PA-MFRMS: 3 multiframes period
  T3212 timeout value: 40
Cell options(BCCH)
  Power control indicator (PWRC): Not set
  DTX indicator: MS shall use uplink discontinuous transmission
  RADIO-LINK-TIMEOUT: 16
Cell selection parameters
  CELL-RESELECT HYSTERESIS: 6 dB RXLEV
  MS-TXPWR-MAX-CCH: 5
  RXLEV-ACCESS-MIN: 3
RACH control parameters
  Max retransmissions: 4
  Tx-integer: 16
  Cell bar access: Not barred
```

TEMS Printout of System Information Type 3 (Cont.).

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Call reestablishment [RE]: Not allowed
Emergency call [EC] allowed: All MS
Not barred class[es] [ACC]: 0 1 2 3 4 5 6 7
                        8 9 11 12 13 14 15
SI 3 Rest Octets
Cell Reselect Parameters Indication [PI]: C2 Parameters present
Cell Bar Quality [CBQ]: 0
If Cell Bar Access = 0
  Cell Selection priority: Normal
  Status for cell reselection: Normal
else
  Cell Selection priority: Barred
  Status for cell reselection: Barred
Cell Reselection Offset: 0 dB
Temporary Offset: 0 dB
Penalty Time: 20 s
Power Offset Indication [POI]: Power Offset Parameter not present
Early Sending: Explicitly accepted
System Information 2ter: Available

Message dump:
00 2c 49 06 1b 00 65 12 f4 70
0a fc 48 01 28 13 65 03 ad 00
00 80 00 4b 2b
```

Radio Link Time-Out, Downlink.



Coding of ACCMIN Parameter.

ACCMIN value	Signal strength value
0	Below -110 dBm
1	-110 dBm to -109 dBm
2	-109 dBm to -108 dBm



62	-49 dBm to -48dBm
63	Greater than -48 dBm

Coding of CCHPWR Parameter for GSM 800 and GSM 900.

CCHPWR value	Signal strength value
0 - 2	39 dBm
3	37 dBm
4	35 dBm



18	7 dBm
19 -31	5 dBm

Coding of CCHPWR Parameter for GSM 1800

CCHPWR value	Signal strength value
29	36 dBm
30	34 dBm
31	32 dBm
0	30 dBm
1	28 dBm
2	26 dBm



14	2 dBm
15 - 28	0 dBm

Coding of CCHPWR Parameter for GSM 1900

CCHPWR value	Signal strength value
22 -29	Reserved
30	33 dBm
31	31 dBm
0	30 dBm
1	28 dBm
2	26 dBm



14	2 dBm
15 - 28	0 dBm

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