

TEMS™ Pocket 5.3 Sony Ericsson K800i

User's Manual



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optimize and expand their networks.

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1. Introduction

Welcome to TEMS Pocket.

TEMS Pocket is an advanced cellular network diagnostics tool built into a Sony Ericsson or Nokia phone. TEMS Pocket is suitable for day-to-day verification, maintenance and troubleshooting of cellular networks but is also handy for many cell planning tasks.

This document describes TEMS Pocket 5.3 as implemented in the Sony Ericsson K800i phone.

1.1. What's New in TEMS Pocket 5.3

The focus for this release has been to implement TEMS Pocket in the Nokia N75 supporting WCDMA on 850 and 1900 MHz, and to introduce a low-end edition (named "Classic") of the Sony Ericsson-based TEMS Pocket.

In the K800i TEMS Pocket edition described in this document, a number of bugs have been corrected.

1.2. What Was New in TEMS Pocket 5.2

TEMS Pocket 5.2 was implemented in each of the following mobile phones:

- Sony Ericsson K790i, K790a, and K800i

New features include:

- Support of the Arabic language in Sony Ericsson K790i and K800i phones
- Saving of FTP settings to file
- GPS time added in GPS data view

1.3. What Was New in TEMS Pocket 5.1

TEMS Pocket 5.1 was implemented in each of the following mobile phones:

- Sony Ericsson K790i, K790a, and K800i

- Nokia N80

New features included:

- Support for EGPRS on the 850, 900, 1800, and 1900 MHz bands
 - Sony Ericsson K790i: 900/1800/1900 MHz
 - Sony Ericsson K790a: 850/1800/1900 MHz
 - Nokia N80: 850/900/1800/1900 MHz
- Support for GPS positioning of data with Bluetooth GPS
- Compatibility with TEMS Investigation 8.0 versions of the supported phones
- Improved and automated logfile and FTP features
- Call sequences (voice)
- C/I measurements in GSM networks
- Filemarks
- Time log data view
- Improved data views and menus
- Improved events

1.4. What Was New in TEMS Pocket 5.0

(The 5.0 version was built into a Sony Ericsson W900i phone.)

- WCDMA network parameters, air interface measurements, and events
- Many new GSM events, including call events
- Event counting
- Combined data views showing both WCDMA and GSM (both simultaneously when inter-RAT neighbor measurements are being made)
- Possible to record logfiles that can be replayed in TEMS Investigation and TEMS Automatic
- Possible to set up and run FTP sessions (Get and Put) using Pocket functionality
- Improved on-screen help (callout boxes)

2. Overview

2.1. Data Views

Most of the data displayed by TEMS Pocket is to be found in *data views*. When you turn the phone on the first time it will display the W/G Cells data view (after you have selected Start phone from the Start-up menu):

W/G Cells 1.1							
S	10787	24	-88	-7	-	-	-
M	10787	192	-89	-6	-	-	-
M	10787	361	-97	-14	-	-	-
M	10787	8	-97	-14	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
W	10787	24	-82	1	-	-	-
240	05	15	15	65F	-	-	-
Calls				More			

On later occasions, when turned on, the phone will display the data view last inspected, provided that the Pocket functions are activated.

The data views are divided into categories. Each data view is numbered according to the format “x.y”, where “x” is the category and “y” the position of the data view within that category. You browse the categories by moving the navigation key left and right, and the data views within a category by moving the navigation key up and down. TEMS Pocket remembers the view last displayed in each category; when you return to a category, that view is shown.

The top section of the display preserves the ordinary signal strength and battery power level indicators as well as other symbols belonging to the regular user interface of the phone. However, it also shows an icon for the latest TEMS Pocket event that occurred (see section 5.3.4) and a symbol indicating that a logfile is being recorded (see section 4.3).

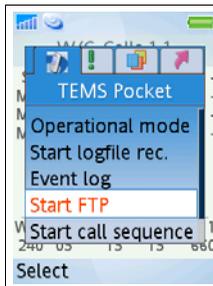
If the default phone display with the operator name appears instead of a TEMS Pocket data view, this is because TEMS Pocket has been put in

background or inactive mode (see section 4.1). By default TEMS Pocket is in active mode, and its data views are visible.

The data views are exhaustively described in chapter 3.

2.2. Menu

 When you press the Activity key on the phone, a tab with TEMS Pocket commands appears on top in the Activity menu:



Most of the commands in this menu are found only here. The menu is gone through in chapter 4.

From the Activity menu you can also access the Pocket menu, which is the chief means of configuring TEMS Pocket: see chapter 5. The Pocket menu can alternatively be accessed from the phone's main menu: Settings → General → Pocket menu.

Note: If the phone memory is full, TEMS Pocket settings can no longer be saved. Remove some files to free up memory.

The Pocket menu is also used to inspect and manage the event log (see section 5.3.1). A shortcut to the event log is found in the Activity menu.

3. Data Views

3.1. General

3.1.1. General Data View Properties

The data views in category 1 (numbered “1.x”) are capable of showing both WCDMA and GSM data. Both will appear simultaneously if the phone is making inter-RAT neighbor measurements.

The data views in category 2 chiefly contain WCDMA-specific data, and those in category 3 and 4 chiefly contain GSM- and GPRS/EGPRS-specific data.

All data views have the same general structure in idle mode and dedicated/active mode.

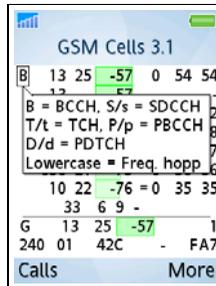
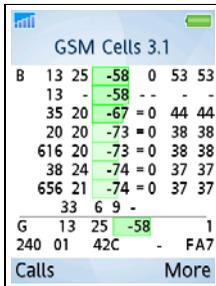
Whenever a parameter is currently not valid, this is indicated in the data view by a dash “—” or a string of dashes.

Certain parameters are presented both numerically and graphically, the number appearing on top of a colored bar whose length and color depend on the parameter value. These parameters are tagged “numeric/graphic” in sections 3.3–3.19. The rules for the graphic presentation are found in appendix B, page 89.

In the case of frequency hopping, the hopping list is shown one channel at a time, a new channel appearing every second.

3.1.2. The Built-in Help Function

If you press More and select “Toggle help”, a callout box appears describing the piece of data in the top left corner of the screen. Use the navigation key to navigate the contents of the data view.

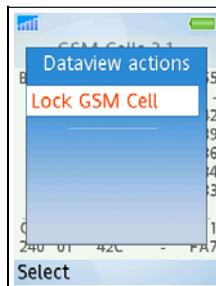
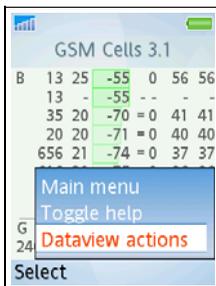


- To turn off the help function, press the Return key . Alternatively, press More and choose Toggle help again.

3.1.3. Data View Actions

In some data views you can perform an action relating to a piece of data shown in the view. For example, in data views listing cells, you can lock on one of the cells.

All data view actions are performed by pressing the More button and choosing Data view actions. A submenu appears listing the available actions.



Specifics on data view actions are found in the subsequent sections.

3.2. Survey of Data Views

No.	View Name	Description
1.1	W/G Cells	Combines WCDMA Cells (2.1) and GSM Cells (3.1) views into a dual mode view.
1.2	PDP Context	Displays PDP addresses and PDP context settings for each address, including NSAPI and APN.
1.3	MM/GMM	Displays identities common to WCDMA and GSM, such as TMSI, P-TMSI, and CGI of last registered network.
1.4	Time Log	Displays time spent by the phone in various states since last power-on.
1.5	GPS	Displays essential GPS data: latitude and longitude, altitude and speed, number of satellites, fix quality, time and date. Note: This view is only available if TEMS Pocket has the GPS option installed.
2.1	WCDMA Cells	Displays UARFCN, cell status, scrambling code, RSCP, Ec/No, and path loss for each cell in active set and monitored/detected neighbor sets.
2.2	WCDMA Channel	Displays SIR and SIR target, power control information, RRC state, and information on transport channels used.
2.3	WCDMA Data	Presents SIR and SIR target, power control information, RRC state, and information on uplink and downlink RLC and transport channel performance.
–	WCDMA WAP browser view	Displays a subset of the WCDMA Data view (2.3) during WAP browsing.

No.	View Name	Description
3.1	GSM Cells	Displays ARFCN, BSIC, RxLev, C1/C31, and C2/C32 for the serving cell and each neighbor. Also presents system information data for cell access, selection, and location.
3.2	GSM Cell Id	Displays ARFCN, LAC, CI, and RxLev for the serving cell and each neighbor. Also presents system information data for cell access, selection, and location.
3.3	GSM BA List	Presents the GSM BA neighbor list as received from the network and shows which BCCH ARFCN the list was received from.
4.1	GSM Serving Cell	Presents system information data on serving cell depending on mode (idle/connected). Note: TMSI, P-TMSI, and TLLI have been moved to the MM/GMM data view.
4.2	GPRS Data	Displays traffic channel ARFCN, timeslots and coding schemes used, and LLC and RLC performance on uplink and downlink.
4.3	GPRS Info	Displays traffic channel ARFCN, timeslots and coding schemes used, and vital GPRS/EGPRS configuration parameters
4.4	GSM C/I Info	Displays C/I information for the most frequently utilized timeslot for each ARFCN in use.
4.5	GSM AMR	Displays GSM logical channel information, AMR codec selected on uplink and downlink, and statistics on AMR codec utilization.
–	GPRS WAP browser view	Displays a subset of the GPRS Data view (4.2) during WAP browsing.

3.3. W/G Cells (View No. 1.1)

W/G Cells 1.1									
-	10787	192						-90	-14
-	10787	361						-95	-
-	-	-						-	-
B	13	25						-55	
	13	-						-55	
	20	20						-70	
	616	20						-72	
G	13	25						-55	1
240	01	42C						-	FA7

Screenshot

W/G Cells 1.1									
W	UARFC	SC	RSCP	Ec/No	PL				
W	UARFC	SC	RSCP	Ec/No	PL				
W	UARFC	SC	RSCP	Ec/No	PL				
W	UARFC	SC	RSCP	Ec/No	PL				
G	ARFC	BS	RxLev						
	ARFC	BS	RxLev						
	ARFC	BS	RxLev						
	ARFC	BS	RxLev						
C	(U)ARFC	B	RSSI		RAC				
MCC	MNC	LAC		RNC	CI				

Key (not shown in this format in the phone display)

Lines 1–4 show WCDMA cells and are thus primarily used in WCDMA mode. However, when WCDMA neighbors are measured in GSM mode, these neighbors also appear here. Note that if you have locked the phone to GSM (Lock to RAT function, section 5.2.1), no WCDMA neighbors will ever be measured.

W: WCDMA cell type: One of

- S: Serving cell
- A: Active set member
- M: Monitored neighbor
- D: Detected neighbor
- – (with values on the rest of the line): Inter-RAT, WCDMA neighbor measured in GSM mode

UARFC: UARFCN, UMTS Absolute Radio Frequency Channel Number

SC: Scrambling Code

RSCP: Received Signal Code Power (dBm), numeric/graphic

Ec/No: Ec/No (dB), numeric/graphic

PL: Pathloss (dB); this measurement appears only when ordered by the network

Lines 5–8 show GSM cells and are thus primarily used in GSM mode. If GSM neighbors are measured while in WCDMA mode, these neighbors also appear here. Note that if you have locked the phone to WCDMA (Lock to RAT function, section 5.2.1), no GSM neighbors will ever be measured.

Line 5: GSM serving cell

Lines 6–8: Three strongest GSM neighbors

G: GSM channel type for serving cell: One of

- B: BCCH; P: PBCCH, p: Hopping PBCCH
- S: SDCCH, s: Hopping SDCCH
- T: TCH, t: Hopping TCH
- D: PDTCH, d: Hopping PDTCH

W/G Cells 1.1					
-	10787	192	-90	-14	-
-	10787	361	-95	-	-
-	-	-	-	-	-
B	13	25	-55		
	13	-	-55		
	20	20	-70		
	616	20	-72		
G	13	25	-55		1
	240	01	42C	-	FA7
Calls			More		

Screenshot

W/G Cells 1.1					
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
G	ARFC	BS	RxLev		
	ARFC	BS	RxLev		
	ARFC	BS	RxLev		
	ARFC	BS	RxLev		
C	(U)ARFC	B	RSSI		RAC
	MCC	MNC	LAC	RNC	CI
Calls			More		

Key

ARFC: ARFCN, Absolute Radio Frequency Channel Number

BS: BSIC, Base Station Identity Code

RxLev: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

Lines 9–10 are used in both WCDMA and GSM mode, showing information on the network that the phone is currently using. The information shown in WCDMA and GSM mode is partly different, as detailed below.

This information is repeated in many other data views.

C: Current RAT {G: GSM, W: WCDMA, -: No service}

(U)ARFC: WCDMA: Serving cell UARFCN; GSM: Serving cell BCCH ARFCN

B: WCDMA: Serving cell Scrambling Code; GSM: Serving cell BSIC

RSSI: Serving cell Received Signal Strength Indicator (= RSCP in WCDMA; = RxLev in GSM), numeric/graphic

RAC: Serving cell Routing Area Code

MCC: Serving cell Mobile Country Code

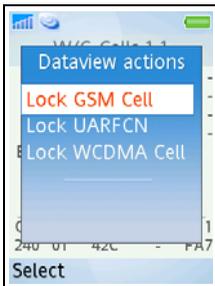
MNC: Serving cell Mobile Network Code

LAC: Serving cell Location Area Code

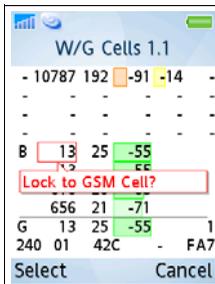
RNC: Serving cell Radio Network Controller ID (WCDMA only; Cell Identity for WCDMA consists of RNC + CI)

CI: Serving cell Cell Identity

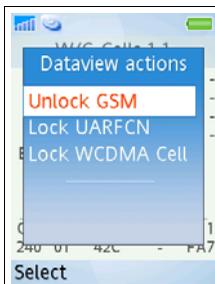
3.3.1. Data View Actions



- You can lock on a cell or (in WCDMA mode) an UARFCN that is listed in the data view.

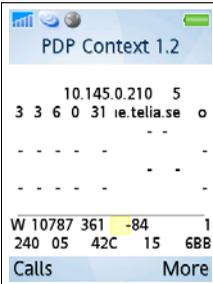


- Choose the cell or UARFCN to lock on by moving the red frame, using the navigation key. When you have navigated to the desired item, press Select.

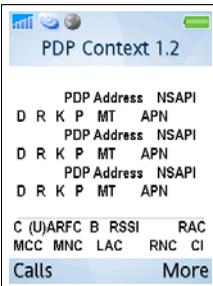


- To unlock, enter the Data view actions menu again and give the appropriate Unlock command.

3.4. PDP Context (View No. 1.2)



Screenshot



Key

There are no actions associated with this data view.

Lines 1–6 show data on the active PDP contexts (up to three) and the contents of the PDP context request.

PDP Address: IPv4 PDP address (12-digit number). See 3GPP TS 24.008, sec. 10.5.6.4.

NSAPI: Network Service Access Point Identifier. See 3GPP TS 24.008, sec. 10.5.6.2.

D: Delay Class {0 ... 4}

R: Reliability Class {0 ... 5}

K: Peak Throughput {0 ... 9}

P: Precedence Class {0 ... 3}

MT: Mean Throughput {0 ... 18, 31}

(For the meanings of values, see appendix A.8.)

APN: Access Point Name

Lines 7–8 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.5. MM/GMM (View No. 1.3)

MM/GMM 1.3				
A2017EB8	240/240			
FA53E317	A			
17E353FA				
240	05	15	1	
W 10787	24	-82	1	
240	05	15	-	-
Calls		More		

Screenshot

MM/GMM 1.3				
TMSI	T3212C/T3212M			
PTMSI	GMM			
TLLI				
RMCC	RMNC	RLAC	RRAC	
C (U)ARFC	B	RSSI	RAC	
MCC	MNC	LAC	RNC	CI
Calls		More		

Key

Lines 1–4 show data related to Mobility Management/GPRS Mobility Management.

TMSI: Temporary Mobile Subscriber Identity (hex)

T3212C: T3212, current time between location updates {Off, 0 ... 1530 minutes}

T3212M: T3212, max time between location updates {Off, 0 ... 1530 minutes}

PTMSI: Packet TMSI (hex)

GMM: GMM Attached {A: Attached, -: Not attached}

TLLI: Temporary Logical Link Identifier (hex)

The following four parameters are updated each time the phone performs a Location Area Update or Routing Area Update.

RMCC: Registered MCC

RMNC: Registered MNC

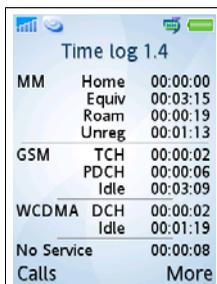
RLAC: Registered LAC

RRAC: Registered RAC

Lines 5–6 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

There are no actions associated with this data view.

3.6. Time Log (View No. 1.4)



Time log 1.4		
MM	Home	00:00:00
	Equiv	00:03:15
	Roam	00:00:19
	Unreg	00:01:13
GSM	TCH	00:00:02
	PDCH	00:00:06
	Idle	00:03:09
WCDMA	DCH	00:00:02
	Idle	00:01:19
No Service		00:00:08
Calls	More	

Screenshot

This view shows the time (in hours, minutes, and seconds) that the phone has spent in each of the following states since last power-on.

MM

Home: Registered in Home PLMN

Equiv: Registered in Equivalent PLMN

Roam: Registered in Roaming PLMN

Unreg: Unregistered

(See 3GPP TS 21.905.)

GSM

TCH: Time using Traffic Channel (TCH)

PDCH: Time using Packet Data Channel (PDCH)

Idle: Time spent in Idle mode

WCDMA

DCH: Time using Dedicated Channel (DCH)

Idle: Time spent in Idle mode

No Service: Time spent in No Service mode

3.6.1. Data View Actions

You can reset all counters in this view by choosing Reset time log.

3.7. GPS (View No. 1.5)

This view is shown only if the GPS option has been purchased with the product.

GPS 1.5			
Latitude	N	6442.0181	
Longitude	E	2111.2019	
Altitude		13.1	
Speed		0.0	
No of satellites		11	
Fix Quality		1	
Time		12:22:22	
Date		07-05-14	
G	19	22	-66
	240	01	440 - 110A
Calls		More	

Screenshot

Lines 1–8 show GPS data.

Latitude: Latitude in degrees, minutes, and decimal minutes.

Longitude: Longitude in degrees, minutes, and decimal minutes.

Altitude: Height above sea level in meters.

Speed: Speed in km/h.

No. of satellites: The number of satellites seen by the GPS device.

Fix quality: Quality of GPS fix; see appendix A.16.

Time: Time of day, hh:mm:ss

Date: Date, yy-mm-dd

No. of satellites and Fix quality will always be valid as long as the phone is connected to the GPS.

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

There are no actions associated with this data view.

3.8. WCDMA Cells (View No. 2.1)

WCDMA Cells 2.1				
S	10787	192	-88	-7
M	10787	24	-88	-6
M	10787	361	-96	-13
M	10787	193	-102	-19
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
W	10787	192	-83	1
240	05	15	15	660
Calls				More

Screenshot

WCDMA Cells 2.1					
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
W	UARFC	SC	RSCP	Ec/No	PL
C	(UARFC	B	RSSI	RAC	
MCC	MNC	LAC	RNC	CI	
Calls				More	

Key

Up to eight cells from the WCDMA active set can be shown.

Lines 1–8

W: WCDMA cell type: One of

- S: Serving cell
- A: Active set member
- M: Monitored neighbor
- D: Detected neighbor
- – (with values on the rest of the line): Inter-RAT, WCDMA neighbor measured in GSM mode

UARFC: UARFCN

SC: Scrambling Code

RSCP: Received Signal Code Power (dBm), numeric/graphic

Ec/No: Ec/No (dB), numeric/graphic

PL: Pathloss (dB); this measurement appears only when ordered by the network

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.8.1. Data View Actions

You can lock on a WCDMA cell or UARFCN that is listed in the view. The procedures for locking and unlocking are the same as in the W/G Cells view; see section 3.3.1.

3.9. WCDMA Channel (View No. 2.2)

WCDMA Channel 2.2			
7.19	6.09	-10	
1	1	CELL_DCH	-
9	DCH U/D	-	5150
8	DCH U/D	1	4050
31	DCH U/D	1	3700
10	DCH U/D	-	3000
-	-	-	-
-	-	-	-
W 10787	24	-82	1
240	05	15	-
More		End call	

Screenshot

WCDMA Channel 2.2			
SIR	SIR_TG	TxPwr	
PCA	PCSS	RRC_STATE	CM
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
ChId	ChT/D	DLBT	Rate
C	U	J	AR
FC	B	RSSI	RAC
MCC	MNC	LAC	RNC
			CI
More		End call	

Key

Line 1

SIR: Signal-to-Interference Ratio (dB)

SIR_TG: SIR Target (dB)

TxPwr: UE Transmit Power (dBm), numeric/graphic

Line 2

PCA: Power Control Algorithm, see 3GPP TS 25.331

PCSS: Power Control Step Size, see 3GPP TS 25.331

RRC_STATE: RRC State, one of {CELL_DCH, CELL_FACH, CELL_PCH, URA_PCH, IDLE, PASSIVE}

CM: Compressed Mode: 0: No, 1: Yes

Lines 3–8

These lines show the configuration of up to 6 transport channels:

ChId: Transport Channel Id

ChT/D: Transport Channel Type and Direction

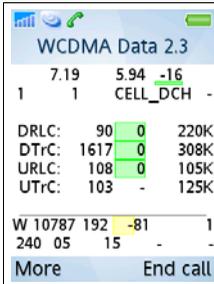
DLBT: Downlink BLER Target (%)

Rate: Maximum transport channel bit rate (bit/s)

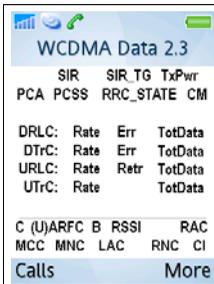
Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

There are no actions associated with this data view.

3.10. WCDMA Data (View No. 2.3)



Screenshot



Key

Line 1

SIR: Signal-to-Interference Ratio (dB)

SIR_TG: SIR Target (dB)

TxPwr: UE Transmit Power (dBm), numeric/graphic

Line 2

PCA: Power Control Algorithm, see 3GPP 25.331

PCSS: Power Control Step Size, see 3GPP 25.331

RRC_STATE: RRC State, one of {CELL_DCH, CELL_FACH, CELL_PCH, URA_PCH, IDLE, PASSIVE}

CM: Compressed Mode: 0: No, 1: Yes

Lines 3–6 report the current performance of and some statistics on the WCDMA data transfer. All values are combined values computed over all used channels.

Line 3: RLC protocol level, downlink

Line 4: Transport channels, downlink

Line 5: RLC protocol level, uplink

Line 6: Transport channels, uplink

Rate: Instantaneous data transfer rate in bytes/s. For RLC this bit rate includes AM channels only (not TM and UM).

Err: Percentage of data blocks erroneously decoded (on downlink), numeric/graphic

Retr: Percentage of data blocks retransmitted (on uplink; RLC only), numeric/graphic

TotData: Total bytes transferred (B = bytes, K = kilobytes, M = megabytes). You can reset these counters as explained in section 3.10.1 below.

WCDMA Data 2.3				
7.19	5.94	-16		
1	1	CELL_DCH	-	
DRLC:	90	0	220K	
DTrc:	1617	0	308K	
URLC:	108	0	105K	
UTrc:	103	-	125K	
W	10787	192	-81	1
	240	05	15	-
More		End call		

Lines 7–8 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

Screenshot

WCDMA Data 2.3				
SIR	SIR_TG	TxPwr		
PCA	PCSS	RRC_STATE	CM	
DRLC:	Rate	Err	TotData	
DTrc:	Rate	Err	TotData	
URLC:	Rate	Retr	TotData	
UTrc:	Rate		TotData	
C (UJARFC	B	RSSI	RAC	
MCC	MNC	LAC	RNC	CI
Calls		More		

Key

3.10.1. Data View Actions

You can reset all counters in this view by choosing Reset data counters. This command also resets the counters in the GPRS Data view (see section 3.15).

3.11. GSM Cells (View No. 3.1)

GSM Cells 3.1										
B	13	25	-53	0	58	58				
	13	-	-53	-	-	-				
	20	20	-69	=	0	42	42			
	616	20	-71	=	0	40	40			
	35	20	-72	=	0	39	39			
	656	21	-73	=	0	38	38			
	10	22	-81	=	0	30	30			
	33	6	9	-						
G	13	25	-53						1	
	240	01	42C	-					FA7	
Calls					More					

Screenshot

GSM Cells 3.1										
L	BC	BS	RxBv	R	C1	C2				
	NC1	BS	RxBv	A	R	C1	C2			
	NC2	BS	RxBv	A	R	C1	C2			
	NC3	BS	RxBv	A	R	C1	C2			
	NC4	BS	RxBv	A	R	C1	C2			
	NC5	BS	RxBv	A	R	C1	C2			
	NC6	BS	RxBv	A	R	C1	C2			
	MT	RH	B	CB						
C	(U)ARFC	B	RSSI	RAC						
	MCC	MNC	LAC	RNC	CI					
Calls					More					

Key

Line 1 (GSM serving cell)

L: Logical Channel

- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

BC: Serving Cell BCCH ARFCN

BS: Base Station Identity Code (BSIC)

RxBv: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

R: Routing Area Color, RACo {0 ... 7}; invalid (“-”) if GPRS not available in network

If the cell does not broadcast packet channels (no PBCCH), the two rightmost parameters are:

C1: Pathloss Criterion C1

C2: Cell Reselection Criterion C2

If the cell supports packet channels (broadcasts a PBCCH), the two rightmost parameters become:

C31: GPRS Signal Strength Threshold Criterion C31

C32: GPRS Cell Ranking Criterion C32

GSM Cells 3.1							
B	13	25	-53	0	58	58	
	13	-	-53	-	-	-	
	20	20	-69	= 0	42	42	
	616	20	-71	= 0	40	40	
	35	20	-72	= 0	39	39	
	656	21	-73	= 0	38	38	
	10	22	-81	= 0	30	30	
	33	6	9	-			
G	13	25	-53				1
	240	01	42C	-	FA7		
Calls				More			

Screenshot

GSM Cells 3.1							
L	BC	BS	RxLv	R	C1	C2	
	NC1	BS	RxLv	A	R	C1	C2
	NC2	BS	RxLv	A	R	C1	C2
	NC3	BS	RxLv	A	R	C1	C2
	NC4	BS	RxLv	A	R	C1	C2
	NC5	BS	RxLv	A	R	C1	C2
	NC6	BS	RxLv	A	R	C1	C2
	MT	RH	B	CB			
C	(U)ARFC	B	RSSI		RAC		
	MCC	MNC	LAC		RNC	CI	
Calls				More			

Key

Lines 2–7 (GSM neighbor cells)

NC1 ... NC6: Neighbor Cell BCCH ARFCN of six strongest neighbors

The rest is as on line 1 except for the addition of:

A: Location Area/Routing Area properties:

- =: Same LA/RA
- R: Same LA, different RA
- L: Different LA
- P: PLMN not matching
- -: Unknown

Line 8

MT: MS-TXPWR-MAX-CCH, maximum RACH power (dBm) {GSM 900: 5 ... 39; GSM 1800: 0 ... 36; GSM 1900: 0 ... 33}

RH: Cell Reselection Hysteresis (dB) {0, 2, 3, 6, 8, 10, 12, 14}

B: BS-PA-MFRMS, number of multiframes between paging subgroups {2 ... 9}

CB: Serving cell barred {B: Barred, -: Not Barred}

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.11.1. Data View Actions

You can lock on a GSM cell that is listed in the view. The procedures for locking and unlocking are the same as in the W/G Cells view; see section 3.3.1.

3.12. GSM Cell Id (View No. 3.2)

GSM Cell Id 3.2					
B	13	42C	FA7	-54	
	13	42C	FA7	-55	
	20	42C	FA8	-70	
	616	42C	5D8	-72	
	656	42C	3EF	-73	
	35	42C	1190	-76	
	10	42C	1150	-80	
	33	6 9	-		
G	13	25	-54		1
	240	01	42C	-	FA7
Calls			More		

Screenshot

GSM Cell Id 3.2					
L	BCCH	LAC	CI	RxLev	
	NC1	LAC	CI	RxLev	
	NC2	LAC	CI	RxLev	
	NC3	LAC	CI	RxLev	
	NC4	LAC	CI	RxLev	
	NC5	LAC	CI	RxLev	
	NC6	LAC	CI	RxLev	
	MT	RH	B	CB	
C (U)ARFC	B	RSSI	RAC		
MCC	MNC	LAC	RNC	CI	
Calls			More		

Key

Line 1 (GSM serving cell)

L: Logical Channel

- B: BCCH
- P: PBCCH, p: Hopping PBCCH
- S: SDCCH, s: Hopping SDCCH
- T: TCH, t: Hopping TCH
- D: PDTCH, d: Hopping PDTCH

BCCH: Serving Cell BCCH ARFCN

LAC: Serving Cell Location Area Code

CI: Serving Cell Identity

RxLev: Serving Cell RxLev (unit user-configurable: see section 5.10.6), numeric/graphic

Lines 2–7 (GSM neighbors)

NC1 ... NC6: Neighbor Cell BCCH ARFCN of six strongest neighbors

LAC: Neighbor Cell Location Area Code

CI: Neighbor Cell Identity

RxLev: Neighbor Cell RxLev

Line 8

MT: MS-TXPWR-MAX-CCH, maximum RACH power (dBm) {GSM 900: 5 ... 39; GSM 1800: 0 ... 36; GSM 1900: 0 ... 33}

RH: Cell Reselection Hysteresis (dB) {0, 2, 3, 6, 8, 10, 12, 14}

B: BS-PA-MFRMS, number of multiframes between paging subgroups {2 ... 9}

CB: Serving cell barred {B: Barred, -: Not Barred}

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.12.1. Data View Actions

You can lock on a GSM cell that is listed in the view. The procedures for locking and unlocking are the same as in the W/G Cells view; see section 3.3.1.

3.13. GSM BA List (View No. 3.3)

B	13	25	-55
10	13	20	35
38	40	616	645
656	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

Screenshot

L	BCCH	BSIC	RxLev
NC1	NC2	NC3	NC4
NC5	NC6	NC7	NC8
NC9	NC10	NC11	NC12
NC13	NC14	NC15	NC16
NC17	NC18	NC19	NC20
NC21	NC22	NC23	NC24
NC25	NC26	NC27	NC28
NC29	NC30	NC31	NC32

Key

Line 1 (serving cell)

L: Logical Channel

- B: BCCH
- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

BCCH: Serving Cell BCCH ARFCN

BSIC: Base Station Identity Code (BSIC)

RxLev: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

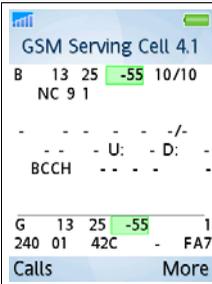
Lines 2–9 (neighbor list = BA list)

NC1 ... NC32: BCCH ARFCNs of all neighbors of the serving cell (up to 32 cells).

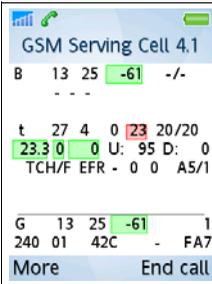
3.13.1. Data View Actions

You can lock on any cell that is listed as a neighbor in this view. The procedures for locking and unlocking are the same as in the W/G Cells view; see section 3.3.1.

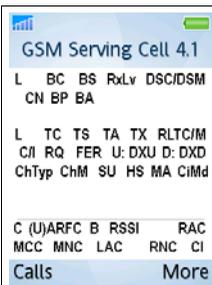
3.14. GSM Serving Cell (View No. 4.1)



Screenshot
idle mode



Screenshot
dedicated mode



Key

Line 1

L: Logical Channel: B for BCCH

BC: BCCH ARFCN

BS: Base Station Identity Code, BSIC

RxBv: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

DSC: Downlink Signalling Counter, current value (*idle mode only*)

DSM: Downlink Signalling Counter, max value (*idle mode only*)

Line 2

This line shows parameters of the GSM cell configuration. This information remains visible in dedicated mode as long as the same cell is used. When handover to a new cell takes place, no configuration information is read for the new cell while the call is in progress, and this line is then blanked.

CN: CCCH configuration, number of BCCH/CCCH timeslots {NC, Comb, NC2, NC3, NC4}; see appendix A.2, page 79

BP: BS-PA-MFRMS, number of multiframes between paging subgroups {2 ... 9}

BA: BS-AG-BLKS-RES, number of CCCH blocks reserved for AGCH {0 ... 7}

GSM Serving Cell 4.1	
B	13 25 -55 10/10 NC 9 1
-	- - - - - /- - - - U: - D: - BCCH - - - - -
G	13 25 -55 1 240 01 42C - FA7
Calls	More

Screenshot
idle mode

GSM Serving Cell 4.1	
B	13 25 -61 -/- - - -
t	27 4 0 23 20/20 23 3 0 0 U: 95 D: 0 TCH/F EFR - 0 0 A5/1
G	13 25 -61 1 240 01 42C - FA7
More	End call

Screenshot
dedicated mode

GSM Serving Cell 4.1	
L	BC BS RqLv DSC/DSM CN BP BA
L	TC TS TA TX RLTC/M C/I RQ FER U: DXU D: DXD ChTyp ChM SU HS MA CImd
C	(U)ARFC B RSSI RAC MCC MNC LAC RNC CI
Calls	More

Key

*Line 3 (dedicated mode)***L:** Logical Channel

- P: PBCCH
- p: Hopping PBCCH
- S: SDCCH
- s: Hopping SDCCH
- T: TCH
- t: Hopping TCH
- D: PDTCH
- d: Hopping PDTCH

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN). Hopping channels are shown one at a time; see section 3.1.1.

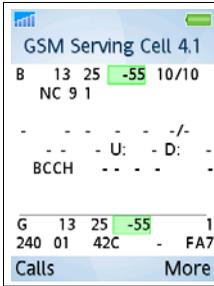
TS: Timeslot Number**TA:** Timing Advance**TX:** UE Transmit Power (dBm), numeric/graphic**RLTC/M:** Radio Link Timeout (Current) and Radio Link Timeout (Max)*Line 4 (dedicated mode)*

C/I: Carrier-to-interference ratio in dB for the traffic channel currently indicated by **TC** on line 3. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; compare section 3.1. C/I is supported for the modes TCH/F, TCH/H, and PDTCH. Numeric/graphic presentation.

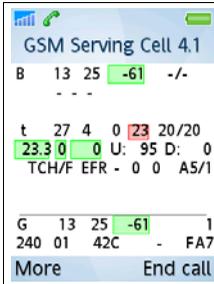
RQ: Receive Bit Error Rate (RxQual; scale defined in 3GPP TS 05.08), numeric/graphic

FER: Frame Erasure Rate (FER) in %. Calculated taking DTX into account, i.e. the figure is based only on blocks actually transmitted. Numeric/graphic presentation.

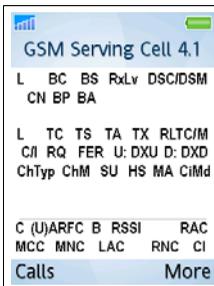
DXU: DTX rate (%) on uplink**DXD:** DTX rate (%) on downlink



Screenshot
idle mode



Screenshot
dedicated mode



Key

There are no actions associated with this data view.

Line 5 (dedicated mode only, except ChTyp)

ChTyp: Channel type, one of {BCCH, PBCCH, PDTCH, SDCCH, TCH/F, TCH/H}; see appendix A.3, page 80

ChM: Channel mode, one of {FR, EFR, HR, AFR, AHR; D24, D48, D96, D144}:

- FR = Speech, Full Rate
- EFR = Speech, Enhanced Full Rate
- HR = Speech, Half Rate
- AFR = Speech, AMR Full Rate
- AHR = Speech, AMR Half Rate
- D24 = Data 2.4 kbit/s, etc. (downlink data rate)

SU: Subchannel Number {0 ... 7}

HS: Hopping Sequence Number {0 ... 63}

MA: MAIO, Mobile Allocation Index Offset {0 ... 63}

CiMd: Ciphering Mode, one of {A5/1, A5/2, GEA/1, GEA/2}

Lines 6–7 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.15. GPRS Data (View No. 4.2)

GPRS Data 4.2									
B	13	25	-53						
d	43	0123	↓↑↑↑	GPRS					
25.0	D:	CS2	G	U:	CS2	G			
58									
DLLC:	544	0	34661B						
DRLC:	518	0	39609B						
ULLC:	354	0	6705B						
URLC:	396	0	8382B						
G	13	25	-53						1
240	01	42C							FA7
Calls					More				

Screenshot

GPRS Data 4.2									
L	BCCH	BSIC	RxLev						
T	TC	Timeslots	Techn						
C/I	D:	CSd	MSd	U:	CSu	MSu			
C	MBEP	BEPV	ARQ						
DLLC:	Rate	Err	TotData						
DRLC:	Rate	Err	TotData						
ULLC:	Rate	Retr	TotData						
URLC:	Rate	Retr	TotData						
C (U)	ARFC	B	RSSI				RAC		
MCC	MNC	LAC	RNC	CI					
Calls					More				

Key

Line 1

L: Logical Channel: B for BCCH

BCCH: Serving Cell BCCH ARFCN

BSIC: Base Station Identity Code (BSIC)

RxLev: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

Line 2

T: Traffic Channel Type:

- P: PBCCH, p: Hopping PBCCH
- S: SDCCH, s: Hopping SDCCH
- T: TCH, t: Hopping TCH
- D: PDTCH, d: Hopping PDTCH

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN)

Timeslots: Timeslots used on uplink and downlink. The timeslots are represented by the numbers 0–7, and those currently in use are replaced by arrows as follows:

- Upward arrow: Timeslot used on uplink
- Downward arrow: Timeslot used on downlink
- Double-headed arrow: Bidirectional timeslot used on both uplink and downlink

Example: 0123↑↑↕↕ means that TS 4, 5, and 7 are being used on the downlink and TS 6 is used on both uplink and downlink.

Techn: Technology supported in cell: “EDGE” or “GPRS”

GPRS Data 4.2									
B	13	25	-53						
d	43	0123	↓↓↓	GPRS					
25.0	D:	CS2	G	U:	CS2	G			
58									
DLLC:	544	0	34661B						
DRLC:	518	0	39609B						
ULLC:	354	0	6705B						
URLC:	396	0	8382B						
G	13	25	-53						
240	01	42C	-	FA7					
Calls					More				

Screenshot

GPRS Data 4.2									
L	BCCH	BSIC	RxLev						
T	TC	Timeslots	Techn						
C/I	D:	CSd	MSd	U:	CSu	MSu			
C	MBEP	BEPV	ARQ						
DLLC:	Rate	Err	TotData						
DRLC:	Rate	Err	TotData						
ULLC:	Rate	Retr	TotData						
URLC:	Rate	Retr	TotData						
C	(U)ARFC	B	RSSI		RAC				
MCC	MNC	LAC	RNC	CI					
Calls					More				

Key

Line 3

C/I: Carrier-to-interference ratio in dB for the traffic channel currently indicated by **TC** on line 2. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; compare section 3.1. Numeric/graphic presentation. Note: C/I for circuit-switched also appears here; there is no differentiation of C/I with respect to data bearer type (CS/PS).

CSd: GPRS: Channel coding scheme on downlink {CS1 ... CS4}; EDGE: Modulation coding scheme on downlink {MCS1 ... MCS9}

MSd: Modulation method on downlink (G = GMSK, 8 = 8-PSK)

CSu: GPRS: Channel coding scheme on uplink {CS1 ... CS4}; EDGE: Modulation coding scheme on uplink {MCS1 ... MCS9}

MSu: Modulation method on uplink (G = GMSK, 8 = 8-PSK)

Line 4

C: EGPRS C Value {0 ... 63}

MBEP: EGPRS mean bit error probability (BEP)

BEPV: EGPRS BEP variance

ARQ: Automatic Repeat Request Mode {ARQ1, ARQ2}; see 3GPP TS 44.060, sec. 9.2.3.1

GPRS Data 4.2									
B	13	25	-53						
d	43	0123	↓↓↓	GPRS					
25.0	D:	C52	G	U:	C52	G			
58	-	-							
DLLC:	544	0	34661B						
DRLC:	518	0	39609B						
ULLC:	354	0	6705B						
URLC:	396	0	8382B						
G	13	25	-53						1
240	01	42C	-	FA7					
Calls					More				

Screenshot

GPRS Data 4.2									
L	BCCH	BSIC	RxLev						
T	TC	Timeslots	Techn						
C/I	D:	C5d	MSd	U:	C5u	MSu			
C	MBEP	BEPV	ARQ						
DLLC:	Rate	Err	TotData						
DRLC:	Rate	Err	TotData						
ULLC:	Rate	Retr	TotData						
URLC:	Rate	Retr	TotData						
C (U)ARFC	B	RSSI	RAC						
MCC	MNC	LAC	RNC	CI					
Calls					More				

Key

There are no actions associated with this data view.

3.15.1. Data View Actions

You can reset all counters in this view by choosing Reset data counters. This command also resets the counters in the WCDMA Data view (see section 3.10).

Lines 5–8 report the current performance of and some statistics on the GPRS data transfer.

Line 5: LLC protocol level, downlink

Line 6: RLC/MAC protocol level, downlink

Line 7: LLC protocol level, uplink

Line 8: RLC/MAC protocol level, uplink

Rate: Instantaneous data transfer rate in bytes/s

Err: Percentage of data blocks erroneously decoded (on downlink), numeric/graphic

Retr: Percentage of data blocks retransmitted (on uplink), numeric/graphic

TotData: Total number of bytes transferred (B = bytes, K = kilobytes, M = megabytes). You can reset these counters as explained in section 3.15.1 below.

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

3.16. GPRS Info (View No. 4.3)

GPRS Info 4.3									
B	13	25	-55						
d	13	0	↓	↓	↓	1567	GPRS		
-D:	-	-	-	-	-	U:	CS2G		
56	-	-	-	-	-				
DL:	-	-	16						
UL:	-	-	16						
R	44	44							
10	500	II	4						
G	13	25	-55						
240	01	42C	-	FA7					
Calls									More

Screenshot

GPRS Info 4.3									
L	BCCH	BSIC	RxLev						
T	TC	Timeslots	Techn						
CI	D:	CSd	MSd	U:	CSu	MSu			
C	MBEP	BEPV	ARQ						
DL:	EWSd	LWSd							
UL:	EWSu	LWSu							
G	T3314C	T3314S							
T3168	T3192	NMO	DX						
C	(U)ARFC	B	RSSI	RAC					
MCC	MNC	LAC	RNC	CI					
Calls									More

Key

Lines 1–4 are the same as in the GPRS Data view: see section 3.15.

Lines 5–6

EWSd: EGPRS window size on downlink {64 ... 1024}

LWSd: LLC window size (for data) on downlink {1 ... 255}

EWSu: EGPRS window size on uplink {64 ... 1024}

LWSu: LLC window size (for data) on uplink {1 ... 255}

Lines 7–8

G: GMM State {I: Idle, R: Ready, S: Standby, -: No GPRS available}

T3314C: T3314 timer value (GMM Ready Timer), current value; see 3GPP TS 24.008, sec. 4.7.2

T3314S: T3314 timer value (GMM Ready Timer), start value; see 3GPP TS 24.008, sec. 4.7.2

T3168: T3168 timer start value (Packet Uplink Assignment Timer), see 3GPP TS 44.060, sec. 13.1 {value in deciseconds, assigned in System Information}

T3192: T3192 timer start value (Packet Final Block Timer) in ms, assigned in System Information; see 3GPP TS 44.060, sec. 13.1 {0, 80, 120, 160, 200, 500, 1000, 1500}

NMO: Network Mode of Operation {I, II, III}; see appendix A.7, page 82

DX: DRX Timer Max, see 3GPP TS 44.060, sec. 5.5.1.5 {0, 1, 2, 4, 8, 16, 32, 64}

Lines 9–10 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

There are no actions associated with this data view.

3.17. GSM C/I Info (View No. 4.4)

Channel	C/I
13	25.0
27	25.0
43	25.0
-	-
-	-
-	-
-	-
-	-

G 13 25 -56 1
240 01 42C - FA7

Calls More

This view shows the carrier-to-interference ratio, C/I, for GSM traffic channels. Up to eight channels can be shown, sorted by worst C/I.

ARFCN: TCH or PDTCH ARFCN (channels in hopping list)

C/I: C/I value in dB for this traffic channel, numeric/graphic

Screenshot

ARFCN	C/I

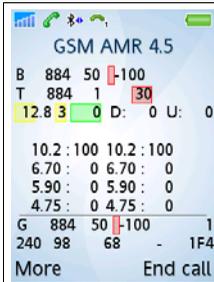
C (U)ARFC B RSSI RAC
MCC MNC LAC RNC CI

Calls More

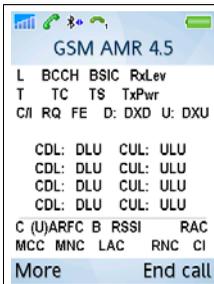
Key

There are no actions associated with this data view.

3.18. GSM AMR (View No. 4.5)



Screenshot



Key

Line 1

L: Logical Channel: B for BCCH

BCCH: Serving Cell BCCH ARFCN

BSIC: Base Station Identity Code (BSIC)

RxLev: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

Line 2

T: Traffic Channel type:

- P: PBCCH, p: Hopping PBCCH
- S: SDCCH, s: Hopping SDCCH
- T: TCH, t: Hopping TCH
- D: PDTCH, d: Hopping PDTCH

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN). Hopping channels are shown one at a time; see section 3.1.1.

TS: Timeslot Number

TxPwr: UE Transmit Power (dBm), numeric/graphic

Line 3

C/I: Carrier-to-interference ratio in dB for the traffic channel currently indicated by **TC** on line 2. That is, for hopping channels the displaying of C/I values is synchronized with the traversal of the hopping list; compare section 3.1. C/I is supported for the modes TCH/F, TCH/H, and PDTCH. Numeric/graphic presentation.

GSM AMR 4.5			
B	884	50	100
T	884	1	30
D	12.8	3	0
U	0	0	0
10.2 : 100 10.2 : 100			
6.70 : 0 6.70 : 0			
5.90 : 0 5.90 : 0			
4.75 : 0 4.75 : 0			
G	884	50	100
RQ	240	98	68
FE			1F4
More		End call	

Screenshot

GSM AMR 4.5			
L	BCCH	BSIC	RxLev
T	TC	TS	TxPwr
C/I	RQ	FE	D: DXD U: DXU
CDL: DLU CUL: ULU			
CDL: DLU CUL: ULU			
CDL: DLU CUL: ULU			
CDL: DLU CUL: ULU			
C (U)ARFC	B	RSSI	RAC
MCC	MNC	LAC	RNC CI
More		End call	

Key

Line 3 (continued)

RQ: Receive Bit Error Rate (RxQual; scale defined in 3GPP TS 05.08), numeric/graphic

FE: Frame Erasure Rate (FER) in %, numeric/graphic

DXD: DTX rate (%) on downlink

DXU: DTX rate (%) on uplink

Lines 4–7

In these lines are shown all speech codecs in the AMR active set.

CDL: AMR codec used on downlink

DLU: Utilization (%) of this downlink AMR codec

CUL: AMR codec used on uplink

ULU: Utilization (%) of this uplink AMR codec

Lines 8–9 are the same as the two bottom lines in the W/G Cells view: see section 3.3.

There are no actions associated with this data view.

3.19. The WAP Browser Data Views

While the WAP browser (activated from the phone's main menu → Internet Services) is running, TEMS Pocket can show selected air interface information in the bottom part of the screen. Two WAP browser data views are provided, one for WCDMA and one for GPRS. You toggle between the views by briefly pressing the top left button on the phone (the one next to the speaker).

The WAP browser data views are by default visible.

- During a WAP session, you can hide the data views by pressing More and choosing Hide data view. To show them again, press More and choose Show data view.
- You can also turn these data views on and off from the Pocket menu; see section 5.10.1.

3.19.1. WCDMA WAP Browser Data View



Screenshot



Key

Line 1

UARFCN: Serving cell UARFCN

SC: Scrambling Code

RSSI: Serving cell RSSI (= RSCP; dBm)

Line 2

SIR: Signal-to-Interference Ratio (dB)

SIR_TG: SIR Target (dB)

TxPwr: UE Transmit Power (dBm)

In lines 3–4, all values are combined values computed over all used channels.

Line 3, left: "DR" (downlink, RLC)

Rate: Total RLC downlink instantaneous data transfer rate in bytes/s

Err: Percentage of RLC downlink data blocks erroneously decoded

Line 3, right: "UR" (uplink, RLC)

Rate: Total RLC uplink instantaneous data transfer rate in bytes/s

Retr: Percentage of RLC uplink data blocks retransmitted



Screenshot



Key

The WAP browser can alternatively be viewed in “landscape” fashion. The data view then still appears at the bottom (that is, along the left side of the phone display when the phone is held in the normal manner). The data view contents and layout remain unchanged.

There are no actions associated with the WAP browser data views.

Line 4, left: “DT” (downlink, transport channels)

Rate: Total instantaneous data transfer rate on downlink transport channels in bytes/s

Err: Percentage of downlink transport channel data blocks erroneously decoded

Line 4, right: “UT” (uplink, transport channels)

Rate: Total instantaneous data transfer rate on uplink transport channels in bytes/s

(no retransmissions shown for uplink transport channels)

3.19.2. GPRS WAP Browser Data View



Screenshot



Key

Line 1

L: Logical Channel: B for BCCH

BCCH: Serving Cell BCCH ARFCN

BSIC: Base Station Identity Code, BSIC

RxLev: Received Signal Strength (unit user-configurable: see section 5.10.6), numeric/graphic

MCSd: EGPRS modulation coding scheme on downlink {MCS1 ... MCS9}

Line 2

T: Traffic Channel type:

- P: PBCCH, p: Hopping PBCCH
- S: SDCCH, s: Hopping SDCCH
- T: TCH, t: Hopping TCH
- D: PDTCH, d: Hopping PDTCH

TC: Traffic Channel (TCH ARFCN) or Stand-alone Dedicated Control Channel (SDCCH ARFCN) or Packet Dedicated Traffic Channel (PDTCH ARFCN). Hopping channels are shown one at a time; see section 3.1.1.

Timeslots: Timeslots used on uplink and downlink. The timeslots are represented by the numbers 0–7, and those currently in use are replaced by arrows as follows:

- Upward arrow: Timeslot used on uplink
- Downward arrow: Timeslot used on downlink
- Double-headed arrow: Bidirectional timeslot used on both uplink and downlink

Example: 0123↑↑↓↑ means that TS 4, 5, and 7 are being used on the downlink and TS 6 is used on both uplink and downlink.

MCSu: EGPRS modulation coding scheme on uplink {MCS1 ... MCS9}



Screenshot



Key

In lines 3–4, all values are combined values computed over all used channels.

Line 3, left: “DL” (downlink, LLC)

Rate: Total LLC downlink instantaneous data transfer rate in bytes/s

Err: Percentage of LLC downlink data blocks erroneously decoded

Line 3, right: “UL” (uplink, LLC)

Rate: Total LLC uplink instantaneous data transfer rate in bytes/s

Retr: Percentage of LLC uplink data blocks retransmitted

Line 4, left: “DR” (downlink, RLC/MAC)

Rate: Total RLC/MAC downlink instantaneous data transfer rate in bytes/s

Err: Percentage of RLC/MAC downlink data blocks erroneously decoded

Line 4, right: “UR” (uplink, RLC/MAC)

Rate: Total RLC/MAC uplink instantaneous data transfer rate in bytes/s

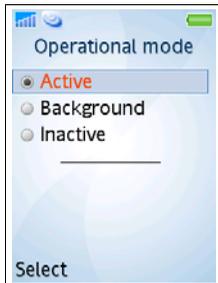
Retr: Percentage of RLC/MAC uplink data blocks retransmitted

4. TEMS Pocket Functions in the Activity Menu

A number of TEMS Pocket functions are accessed by pressing the Activity key. This is the button below the “C” button, labeled .

Note that many of these functions are found only in the Activity menu and not among the submenus of the Pocket menu. They are placed here to be conveniently accessible regardless of what TEMS Pocket functions or other phone functions you are using.

4.1. Operational Mode



Active: All TEMS Pocket functions are active.

Background: No data views are displayed, but all other TEMS Pocket functions are active.

Inactive: No TEMS Pocket functions are active.

4.2. Insert Filemark

This command inserts filemarks in a logfile while it is being recorded. You can use filemarks to tag segments of special interest in the logfile. For example, you might want to note down the location where something happened (if you are not using a GPS).

The filemark text is user-editable and may consist of up to 127 characters.

The Insert filemark command is visible only while logfile recording is in progress.

4.3. Start/Stop Logfile Recording

This command is used for manual recording of TEMS Pocket logfiles. (Logfile recording can also be automated, using a variety of trigger conditions. This is done from the Logfiles menu; see section 5.7.2.)

You can insert *filemarks* in a logfile during recording; see section 4.2.

If the phone runs out of memory during logfile recording, or if some other error occurs, the recording is stopped and you are notified by a message in the display. Note that if the memory is full, it is no longer possible to edit TEMS Pocket settings; you then need to remove some files to free up memory.



While a logfile is being recorded, this icon is shown on the status bar at the top of the display.

Refer to section 5.7 for all remaining details on logfile recording and handling.

4.4. Event Log

This is a shortcut to the event log; see section 5.3.1.

4.5. Start/Stop FTP

This command is used to conduct FTP sessions, including uploading of TEMS Pocket logfiles. The command takes you to a list of the FTP Get and FTP Put operations you have defined. How to perform FTP operations and how to connect to FTP servers is specified in the FTP menu: see section 5.6.

4.6. Connect/Disconnect GPS

This command connects or disconnects a Bluetooth GPS. For further information on using GPS devices with TEMS Pocket, see section 5.5.

The menu item is visible only if you have selected manual connect; see section 5.5.1. If there are no GPS devices to connect to (the list in section 5.5.2 is empty), the menu item is grayed.

While a connect operation is in progress, the menu item reads "Connecting" and is again grayed.

4.7. Start/Stop Call Sequence

This command starts and stops a call sequence. How to set up call sequences is explained in section 5.8.

4.8. Pocket Menu

This is a shortcut to the main Pocket menu; see chapter 5.

5. The Pocket Menu

5.1. General

The Pocket menu can be accessed

- from the Activity menu
- from the phone's main menu by choosing Settings. The Pocket menu appears at the top of the General tab.

The Pocket menu has the following submenus:

- **Cell control** menu: Used to control phone behavior in network (lock on RAT/band/frequency/cell etc.). See section 5.2.
- **Events** menu: Used to show and control the event log, event counters, and event settings. See section 5.3.
- **Data views** menu: Used to control visibility of data views. See section 5.4.
- **GPS** menu: Used to configure GPS settings. Available only if the GPS option is installed. See section 5.5.
- **FTP** menu: Used to set up FTP sessions and FTP logfile transfer. See section 5.6.
- **Logfile** menu: Used to configure automated logfile recording and transfer. See section 5.7.
- **Call sequence** menu: Used to define a call sequence. See section 5.8.
- **Info** menu: Used to inspect some hardware and software data. See section 5.9.
- **General settings** menu: Used to control miscellaneous TEMS Pocket settings. See section 5.10.

5.2. Cell Control Menu

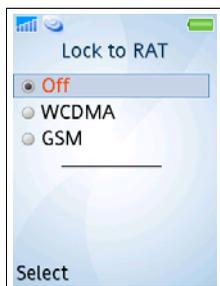
In this menu are collected the functions that modify the phone's behavior in the network.

5.2.1. Lock to RAT

This function locks the phone to one radio access technology in idle mode. It does not have any effect on RAT selection in dedicated mode; however, an ongoing FTP session will be terminated, so the function should not be used while an FTP session is in progress.

When this function is activated, the phone detaches from the network it is currently attached to, and the message "Disconnected from Internet" appears in the phone display. The phone then attaches to the selected network.

If the signal is too weak, the phone will go into no service mode.



Off: No forcing of network selection.

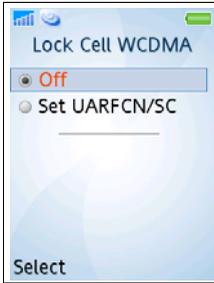
WCDMA: The phone is forced to camp on a WCDMA network whenever one is available.

GSM: The phone is forced to camp on a GSM network whenever one is available.

Regarding interplay between locking functions, see section 5.2.5.

5.2.2. Lock Cell WCDMA

This function locks the phone to a WCDMA cell, which will immediately become the serving cell provided that the signal strength is sufficient. If the signal is too weak, the phone will go into no service mode.



- Choose **Set UARFCN/SC** to lock on a cell. You will be asked to enter a UARFCN and SC. These values will then appear beneath the menu item when selected.
- Alternatively, you can lock on a UARFCN while disregarding scrambling codes. This is done by not entering a SC.
- Choose **Off** to release the lock.

Note that you can also lock on a cell that makes an appearance in data views. See sections 3.3 and 3.8.

Regarding interplay between locking functions, see section 5.2.5.

5.2.3. Lock ARFCN GSM

This function locks the phone to an ARFCN in a GSM network. If there exists an available GSM cell using that ARFCN, the phone will be immediately handed over to that cell provided that the signal strength is sufficient. If the signal is too weak, the phone will go into no service mode.



- Choose **Set ARFCN** to lock on a cell. You will be asked to enter an ARFCN number. This ARFCN will then appear beneath the menu item when selected.
- Choose **Off** to release the lock.

Note that you can also lock on a cell that makes an appearance in data views. See sections 3.3, 3.11, and 3.12.

Regarding interplay between locking functions, see section 5.2.5.

5.2.4. Lock Band GSM

You can order the phone to use only one of its frequency bands. This will of course result in failed calls if you have blocked all bands that are available in the area.



Off: No restriction.

900, 1800, 1900: The phone is locked to the indicated band.

If locked to a band during a call, the phone will not be immediately forced to the selected band. In other words, there is no forcing of handover; but as soon as one occurs, the phone will be redirected to the selected band.

Regarding interplay between locking functions, see section 5.2.5.

5.2.5. Interplay between Locking Functions

If you lock the phone to a cell, UARFCN, or band (sections 5.2.2, 5.2.3, 5.2.4), the phone is also automatically locked to the corresponding RAT. In this situation,

- if you release the cell or band lock, the RAT lock is also automatically released;
- if you release the RAT lock, the cell or band lock is *not* released but remains. This is useful if you want to test inter-RAT handover to and from a specific cell or band in one RAT.

All locking commands have equal priority in the sense that no command can be inhibited by one previously given. For example, if you lock the phone to WCDMA with Lock to RAT and then issue a Lock ARFCN GSM command, the WCDMA lock is released and the phone is RAT locked to GSM instead.

5.2.6. Comparison with Locking Functions in TEMS Investigation

Users familiar with TEMS Investigation (version 6.1 and higher) should note that the relationship between the locking functions in that product is partly different. In TEMS Investigation, the RAT Control setting for Sony Ericsson UMTS phones has priority over all technology-specific settings, so that (for example) trying to lock on a frequency band in GSM has no effect if the phone is currently locked to WCDMA. To be able to lock on a GSM band, you must first manually release the RAT lock. (Compare with section 5.2.5 above.)

For full details, see the TEMS Investigation 8.0 Data Collection User's Manual, section 12.1.2.2.

5.2.7. Ignore Cell Barred

This function governs whether the phone is allowed to access a barred cell.



Off: The phone will make no attempt to access barred cells.

On: The phone will ignore barring of cells.

5.2.8. Reset Control Settings

This command undoes any changes made from the default in the Cell control menu. The reset operation does not affect the General settings and Events menus.

- In the Cell control menu, choose Reset control settings and press Yes to confirm.

If you have not changed anything from the default, the Reset control settings choice is disabled and grayed.

The Cell control settings revert to their defaults when the phone is turned off.

5.3. Events Menu

Events are inspected in the event log. (The term “log” as used in this section has got nothing to do with recording of TEMS Pocket *logfile*s; regarding the latter, see section 4.3.)

Under Event counters, you can check how many times each type of event has occurred.

Under Event settings, you configure settings for events: logging, counting, audio signals, and displaying of icons.

Note: To have events logged at all, you must make sure that the event mode is set to “On” (this is the default setting). See section 5.3.1.3.

5.3.1. Event Log

5.3.1.1. Viewing the Event Log

- In the Events menu, choose Event Log.

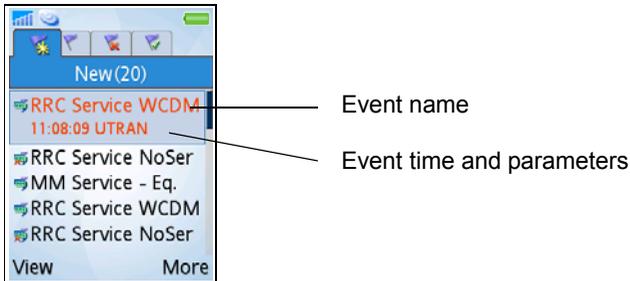
The New tab is shown, listing all events that you have not yet inspected. The number of new events is shown in the tab title.

The All tab shows all events, including those not yet viewed (i.e. those remaining on the New tab).

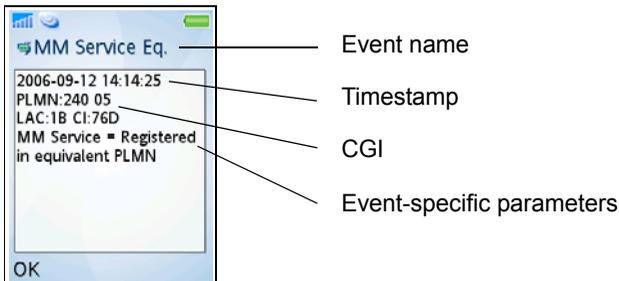
The Fail tab shows all failure events.

The Normal tab shows all normal events.

When an event is selected on a tab, the most important parameters of the event are shown beneath the event name:



To inspect the full details of an event, select it and press View. A plain-text screen appears:



After you have inspected an event, the event is removed from the New tab.

5.3.1.2. Clearing the Event Log

A maximum of 100 events can be stored in the event log. Once the log is full, the oldest log entry is removed whenever a new event is entered. The event log can also be cleared manually:

- To clear the event log, press More and choose “Clear event log”. Press Yes to confirm.

5.3.1.3. Enabling and Disabling Event Logging

Event logging is by default enabled, and the settings for the individual events govern whether each event type is actually logged.

- While in the event log, you can disable event logging as follows: Press More, choose Event logging, and choose Off.

No events will then be logged regardless of how the “Log” option in the event settings is set (see section 5.3.2).

5.3.1.4. Shortcuts to Event Settings and Event Counters

- From the event log you can use the More menu to go directly to the event settings (see section 5.3.2) or event counters (see section 5.3.3).

5.3.2. Event Settings

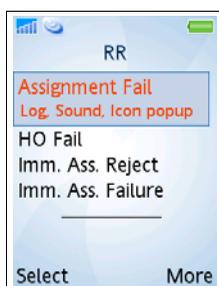
Each type of event has a set of configurable properties.

5.3.2.1. Viewing Event Settings

- From the Events menu, choose Event Settings.

Events are grouped into submenus: one for each event category (CC, MM, SM, GMM, RR, IRAT, RRC, Session). All event types are listed and described in section 5.3.5 below.

Use the navigation key (left/right) to move between event submenus. When you select an event, the current settings for that event are displayed beneath the event name.

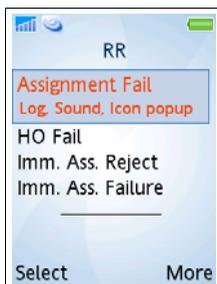


5.3.2.2. Modifying Event Settings

- To change settings for an individual event, navigate to the event and press the Select button.
- To apply identical settings to all events in a category (submenu), navigate to that submenu, press More and choose “Select <category name>” (e.g. “Select RR”).

- To apply identical settings to all events, press More and choose “Select all”.

The following options exist:



Log: Turns logging on and off for the event or event category. Turning off logging also turns off Sound and Icon popup (below).

If you select an event category, or all events, a third option appears which is named Default. This restores the default logging settings listed in section 5.3.5.

Sound:

- “Off” means that no sound will be played when the event occurs.
- “Default” means that, in idle mode, the sound predefined for the event will be played when the event occurs. The prerecorded sound files consist of a voice announcing the event. In dedicated mode, the voice recording is replaced by a notification beep.
- “User set” directs you to a directory in the phone’s file system where you can store sound files of your own and associate them with events. Supported file formats are MIDI, MP3, and AMR. (The prerecorded sound files are not accessible in the file system.)

Icon popup: If turned on, the icon associated with an event will be shown in the status bar each time the event occurs. The icons used are reproduced in section 5.3.5.

5.3.3. Event Counters

TEMS Pocket keeps track of the number of times each type of event has occurred. (This function is always active and cannot be turned off while the application is in Active mode.)

5.3.3.1. Viewing Event Counters

- From the Events menu, choose Event Counters.

The events are divided into the same categories as in the event settings (see section 5.3.2). All event types are listed and described in section 5.3.5 below.

Use the navigation key (left/right) to move between event submenus. When you select an event, the current count for that event is displayed beneath the event name.



5.3.3.2. Resetting Event Counters

- To reset the counter for an event, navigate to the event and press the Reset button.
- To reset the counters for all events in a category (submenu), navigate to that submenu, press More and choose “Reset <category name>” (e.g. “Reset RR”).
- To reset the counters for all events, press More and choose “Reset all counters”.

5.3.4. Event Icons

An icon is shown on the display status bar for the latest event that occurred. When you enter the event log, the currently displayed event icon disappears.

Event icons are differentiated as follows:

- Each event category distinguished under Event settings and Event counters has its own icon (for example, CC and MM; see section 5.3.2).
- All failure events are distinguished by a red cross.

See the examples below:



Normal event



Failure event

For other event categories, the appropriate text string is substituted.

For inter-RAT events, the strings “2G” and “3G” are added to indicate which technology the phone is transferred to:

Handover Direction	Normal Events	Failure Events
GSM to WCDMA		
WCDMA to GSM		

5.3.5. List of Logged Events

This section lists all the events saved in the event log and their parameters. Some of the event parameters are described in more detail in appendix A.

Here are also listed the default values for the settings described in section 5.3.2.

The **T** column indicates whether the event denotes a normal occurrence (N) or some kind of failure (F).

The **Def** column indicates the default logging, sound, and icon popup settings (On = all turned on, Off = all turned off).

All events have CGI as parameter; other parameters appear from the tables.

5.3.5.1. CC Events

For values of CC Cause, see appendix A.5.

Event Name	T	Def	Parameters
Blocked Call	F	On	CC Id, CC Cause
Call Attempt	N	Off	CC Id, Call Type {MO, MT}
Call End	N	Off	CC Id, CC Cause
Call Established	N	Off	CC Id
Dropped Call	F	On	CC Id, CC Cause

5.3.5.2. MM Events

For values of MM Cause, see appendix A.10.

Event Name	T	Def	Parameters
Auth Fail (Authentication Failure)	F	On	MM Cause
Auth Reject (Authentication Reject)	F	On	Constant string: "No SIM or IMSI not approved"
LAU Attempt (Location Area Update Attempt)	N	Off	LA Update Type {Normal, Periodic, IMSI Attach, Combined, Invalid}
LAU Fail (Location Area Update Failure)	F	On	MM Cause
LAU Reject (Location Area Update Reject)	F	On	MM Cause
LAU Success (Location Area Update Success)	N	Off	Previous Location Area, LA Update Type (if = Combined)

Event Name	T	Def	Parameters
MM Service Mode	N	On	MM Service Mode {Registered Home, Registered Equivalent PLMN, Registered Roaming, Full Service, Limited Service}

5.3.5.3. SM Events

For values of SM Cause, see appendix A.15.

Event Name	T	Def	Parameters
PDP Ctx Activ Attempt (PDP Context Activation Attempt)	N	Off	NSAPI
PDP Ctx Activ Compl (PDP Context Activation Complete)	N	Off	NSAPI, IP version {4, 6}, PDP address (IPv4 only)
PDP Ctx Activ Reject (PDP Context Activation Reject)	F	On	NSAPI, SM Cause
PDP Ctx Deact Attempt (PDP Context Deactivation Attempt)	N	Off	NSAPI
PDP Ctx Deact Compl (PDP Context Deactivation Complete)	N	Off	NSAPI, Type {NW, UE}, SM Cause (if Type = NW)

5.3.5.4. GMM Events

For values of GMM Cause, see appendix A.6.

Event Name	T	Def	Parameters
GMM Attach Attempt	N	Off	Attach type: {GPRS, Combined}
GMM Attach Complete	N	Off	Attach type: {GPRS, Combined}
GMM Attach Reject	F	On	“T3310 expired” or GMM Reject Cause
GMM Detach Attempt	N	Off	GMM Cause
GMM Detach Complete	N	Off	GMM Cause, Type {NW, UE}
RAU Attempt (Routing Area Update Attempt)	N	Off	RA Update Type {Normal, Periodic, Combined}
RAU Complete (Routing Area Update Complete)	N	Off	Old RA, New RA
RAU Reject (Routing Area Update Reject)	N	On	Timer Event {True, False}, T3330/GMM Reject Cause

5.3.5.5. RR Events

For values of RR Cause, see appendix A.9.

For values of RR Internal Cause, see appendix A.12.

Event Name	T	Def	Parameters
Assignment Fail (Assignment Failure)	F	On	RR Cause, RR Internal Cause
Data Link TO (Data Link Timeout)	F	On	Target BCCH ARFCN, BSIC, TO value
HO Fail (Handover Failure)	F	On	BCCH ARFCN, BSIC, RR Internal Cause

Event Name	T	Def	Parameters
Imm. Ass. Failure (Immediate Assignment Failure)	F	On	BCCH ARFCN, BSIC, RR Internal Cause
Imm. Ass. Reject (Immediate Assignment Reject)	F	On	BCCH ARFCN, BSIC, RR Internal Cause
Pkt Access Fail (Packet Access Failure)	F	On	BCCH ARFCN, BSIC, RR Cause
Radio Link Timeout	F	On	BCCH ARFCN, BSIC, Radio Link Timeout Counter (Max)
Retrans Pkt Resource (Retransmission Packet Resource)	F	On	BCCH ARFCN, BSIC

5.3.5.6. IRAT Events

Event Name	T	Def	Parameters
HO From UTRAN Attempt	N	Off	UARFCN, SC
HO From UTRAN Failure	F	On	UARFCN, SC
HO From UTRAN Success	N	Off	New BCCH ARFCN, New BSIC
HO To UTRAN Attempt	N	Off	BCCH ARFCN, BSIC
HO To UTRAN Failure	F	On	BCCH ARFCN, BSIC
HO To UTRAN Success	N	Off	New UARFCN, New SC
Cell Change U2G Att	N	Off	UARFCN, SC
Cell Change U2G Fail	F	On	UARFCN, SC

Event Name	T	Def	Parameters
Cell Change U2G Succ	N	Off	New BCCH ARFCN, New BSIC
Cell Change G2U Att	N	Off	BCCH ARFCN, BSIC
Cell Change G2U Fail	F	On	BCCH ARFCN, BSIC
Cell Change G2U Succ	N	Off	New UARFCN, New SC

5.3.5.7. RRC Events

For values of RRC Failure Cause, see appendix A.13.

For values of RRC Protocol Error Cause, see appendix A.14.

Event Name	T	Def	Parameters
Active Set Update Fail	F	On	UARFCN, SC, RRC Failure Cause
Inter Freq Cell Res (Inter-frequency Cell Reselection)	N	Off	New UARFCN, New SC
Inter Freq HO (Inter-frequency Handover)	N	On	New UARFCN, New SC
Phy Channel Est Fail (Physical Channel Establishment Failure)	F	On	UARFCN, SC
RB Reconfig Fail (Radio Bearer Reconfiguration Failure)	F	On	UARFCN, SC, RRC Failure Cause
RB Setup Fail (Radio Bearer Setup Failure)	F	On	UARFCN, SC, RRC Failure Cause
RL Fail (Radio Link Failure)	F	On	UARFCN, SC

Event Name	T	Def	Parameters
RRC Connection Fail (RRC Connection Failure)	F	On	UARFCN, SC, RRC Failure Cause
RRC Protocol Error	F	On	UARFCN, SC, RRC Protocol Error Cause
RRC Service Mode	N	On	New RRC Service Mode {RAT WCDMA, RAT GSM, No service} (event triggered only for these modes, i.e. when the RAT changes and when the phone goes into no service mode)

5.3.5.8. Session Events

Event Name	T	Def	Parameters
FTP Transfer End	N	On	–
FTP Transfer Failed	F	On	–
FTP Transfer Start	N	On	–
GPS Connected	N	On	–
GPS Disconnected	F	On	–
GPS Location Found	N	On	–
GPS Location Lost	F	On	–
Video Call End	N	Off	–
Video Call Failed	F	Off	–
Video Call Start	N	Off	–
Voice Call End	N	Off	–

Event Name	T	Def	Parameters
Voice Call Failed	F	Off	–
Voice Call Start	N	Off	–

5.4. Data Views Menu

In this menu you control the visibility of each data view.

The data views are organized in a multi-tab structure with one tab for each data view category.

The Toggle button sets the visibility for the selected data view.

The Set all command sets the visibility for all data views in the group. Note that this command never has a preset value: the submenu with the choices On and Off has no radio buttons.

To immediately display a data view, select it and press the Goto button. If the visibility is currently set to Off for this view, the view is shown just this once: if you browse to a different view and then back again, the hidden view will be skipped. To make the view permanently visible again you must press Toggle to set its visibility to On.

If you want to hide all data views, you should not edit these settings but rather put TEMS Pocket in background or inactive mode: see section 4.1.

5.5. GPS Menu

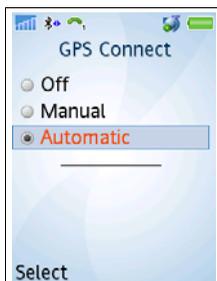
TEMS Pocket can connect to a Bluetooth GPS. This functionality is not part of the standard TEMS Pocket package but is available as an option. The GPS menu is visible only if you have purchased the GPS option.

Using a GPS device with TEMS Pocket enhances compatibility with products such as TEMS Investigation and TEMS Automatic by allowing TEMS Pocket data to be presented on maps.

You can connect to any Bluetooth GPS device that uses Bluetooth version 1.1 or later, SPP (Serial Port Profile) version 1.1, and NMEA-0183 version 2.2 or later.

Bluetooth pairing is handled by the regular Bluetooth functions in the phone. Other means of controlling interaction with the GPS device are found in the GPS menu. See below.

5.5.1. GPS Connect



Off: The phone cannot connect to a GPS, and the Connect GPS item in the Activity menu (section 4.6) is hidden. If a GPS unit is currently connected, choosing this option will disconnect it. If a connect is in progress, it will be aborted.

Manual: The phone can be connected manually to a GPS by using the command in the Activity menu (see section 4.6). If a manual connect fails, an error message is displayed.

Automatic: If a GPS of the type selected in the GPS device submenu (see section 5.5.2) is present, the phone will try to connect to that GPS automatically as soon as the phone is turned on. If an automatic connect fails, the phone will do a retry once every minute until it succeeds. No error messages are given in this case.

Switching between the options Manual and Automatic does not disconnect a GPS that is currently connected.

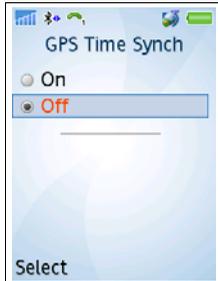
5.5.2. GPS Device



Here are listed all GPS devices that have been Bluetooth paired with the phone. Select which GPS to connect to.

Note: The list may contain further device types besides these, including devices other than GPS units.

5.5.3. GPS Time Synch



If this is set to **On**, the phone clock will be synchronized with the GPS time. This is useful for instance if you are going to upload TEMS Pocket logfiles to a TEMS Automatic database.

5.6. FTP Menu

In this menu you specify FTP servers that the phone is going to interact with (whether for FTP testing or for logfile upload). Here you also set up FTP Put/Get operations to perform during testing.

You start and stop FTP testing from the Activity menu: see section 4.5.

5.6.1. FTP Transfer

Here you define FTP Put and FTP Get operations. Up to ten operations can be defined. At the outset they are simply numbered from 1 to 10 in the user interface; you get the opportunity to name the operations while defining them (see below).



- Select a number to define the corresponding FTP operation.



Name: Text field for labeling the FTP operation.

Direction: Select FTP Put or FTP Get. The remaining parameters are partly different for the two types of operation:

FTP Put Specific Parameters

Local file: Browse to select the file to be uploaded.

Remote directory: Name of directory where the file should be stored on the FTP server.

FTP Get Specific Parameters

Remote file: Path describing the location of the file to get on the FTP server. A leading slash may be used as root symbol but is not mandatory.

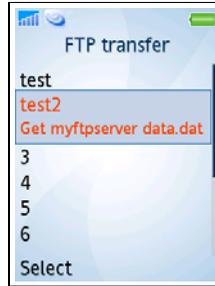
Save file to: The downloaded file can be written either to the phone memory or to the memory stick. In either case, files are stored in the "Other" directory at the root level.

If the phone runs out of memory during an FTP Get operation, the operation will complete, but no file will be stored in the phone file system.

Common Parameters

FTP server: Specify the FTP server to interact with: one of those defined in the FTP server submenu (see section 5.6.2).

Once you are done setting up an FTP operation, its name and direction, the server to interact with, and the file to put/get will appear in the FTP transfer list:



5.6.2. FTP Server

Here you specify FTP servers and how to access them. Up to ten FTP servers can be defined. At the outset they are simply numbered from 1 to 10 in the user interface; you get the opportunity to name the servers while defining them (see below).



- Select a number to define the corresponding FTP server.



Name: Text field for labeling the FTP server.

Remote address: The IP address of the FTP server. This can be either an alphanumeric string, without “ftp://” at the beginning (for example, “ftp.myftpserver.com”), or a 12-digit number. The address may not contain a path to a subdirectory.

Port: The FTP server port. The default is 21.

FTP user: User name on the FTP server.

FTP password: User password on the FTP server.

Remote directory: This parameter applies to logfile upload only; it names the directory where the logfiles should be stored on the FTP server. When you perform a manual FTP Put operation, this parameter is overridden by the identically named parameter in the FTP Put command (see section 5.6.1).

Data account: Select the data account that should be used for the FTP session.

Timeout: This timeout relates to the establishment of the dialup connection, not to the FTP session itself. For the latter, a fixed timeout of 120 s (not user-configurable) is used; failure to obtain a response from the FTP server within that time results in “FTP session error”.

If you set Timeout to 0, no timer is started and no timeout will ever occur.

5.6.3. Exporting FTP Settings

You can export all FTP transfers and FTP servers you have defined to file. The file is named “PocketFtpSettings.tps”.

- In the FTP menu, select Export settings.



Phone memory: The FTP settings file is saved to the phone memory, directory “Other”.

When the phone is connected to a PC, the phone memory is represented in Explorer as a “Removable disk” with the directory “Other” located at the root level.

MemoryStick: The FTP settings file is saved to the memory stick, provided that the phone has got one installed. A similar directory structure is created on the memory stick, including a directory “Other” to which the settings file is written.

When the phone is connected to a PC, the memory stick is represented in Explorer as a second “Removable disk”, again with the directory “Other” located at the root level.

After you select one of the options, the export is performed automatically.

5.6.4. Importing FTP Settings

FTP settings exported to a settings file can be imported into TEMS Pocket. Note that this will erase all FTP settings currently defined in the application. A message will appear warning you about this.

- In the FTP menu, select Import settings. A file dialog appears.



- Select your FTP settings file.



- Press Yes to continue. The import is now performed, replacing all FTP transfers and FTP servers currently defined.

5.7. Logfile Menu

TEMS Pocket can record its measurements in logfiles, containing the same richness of detail as logfiles recorded with TEMS Automatic MTUs or with terminals connected to TEMS Investigation. Logfiles are ordinary files in the phone file system and are handled from the File manager.

Logfiles are stored either in the internal phone memory or on a memory card (see section 5.7.1 below). Sony Ericsson phones support Memory Stick Duo or Memory Stick Micro cards; Nokia phones support miniSD cards. Memory cards up to 2 GB can be used, which is enough to accommodate several hours of continuous logging.

You can record logfiles manually by using commands in the Activity menu: see section 4.3. You can also configure TEMS Pocket to trigger automatic recording of logfiles in a number of situations: see section 5.7.2 below.

There is no replay function in TEMS Pocket, but you can transfer the logfiles to a PC and replay them in TEMS Investigation (version 8.0 or later) or import them into the database of a TEMS Automatic system (version 6.0 or later). The file transfer can be done through a USB cable or via infrared or Bluetooth. It is also possible to upload logfiles to an FTP server using the built-in FTP client, or send logfiles as attachments to e-mail. See sections 5.7.3 and 5.7.4 below.

5.7.1. Save Logfile To



Phone memory: Logfiles are saved to the phone memory, directory “Other”.

MemoryStick: Logfiles are saved to the memory stick, directory “Other”, provided that the phone has got a memory stick installed.

For further details, compare section 5.6.3.

5.7.2. Autostart Logfile

You can configure logfile recording to start automatically in a number of situations.

Below it is indicated when the automatic recording terminates if you do not stop the recording manually from the Activity menu (which is always possible; see section 4.3).



Startup: Logfile recording starts automatically when the phone is powered on and continues until it is powered off.

Voice: Logfile recording starts automatically at the start of a voice call and stops at the end of that call.

Video: Logfile recording starts automatically at the start of a video call and stops at the end of that call.

FTP: Logfile recording starts automatically at the beginning of an FTP testing session (initiated by the Start FTP command in the Activity menu: see section 4.5) and stops at the end of that session. (Recording is naturally *not* triggered by uploading logfiles via FTP.)

Press Mark to check an option. Press Unmark to uncheck an option that is currently checked. Press Save to confirm your selections.

5.7.3. Upload Logfile



Here you configure uploading of logfiles via FTP to an FTP server. What server to upload to is selected in the FTP server submenu: see section 5.7.4.

Immediate: Each logfile is uploaded as soon as it has been recorded.

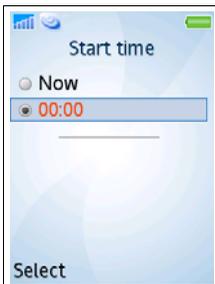
Schedule: Logfiles are uploaded according to a schedule that you define here. Select this option to enter the Start time screen, then turn to section 5.7.3.1.

Each time an upload is performed, all logfiles are sent that have not yet been uploaded (logfiles created since the last upload, plus any older logfiles that remain because you aborted uploading of these files).

Off: No uploading. Logfiles are simply stored in the phone memory or memory stick as long as free space is available.

5.7.3.1. Setting an Upload Schedule

Step 1

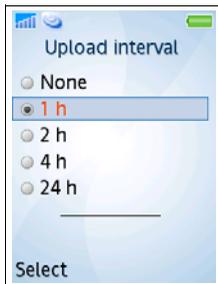


Now: Choose this option to perform the first upload right away (as soon as you are done setting up the schedule). Skip to Step 3 below.

00:00: Choose this option to specify a time of day when the first upload should be performed.

Step 2

If you chose “00:00” in Step 1, set the upload time here.

Step 3

Set the interval between uploads. **None** means that only a single upload will be performed.

Press Select to complete the schedule setup. If you chose Now in Step 1, the upload will start immediately; otherwise it will start at the scheduled time.

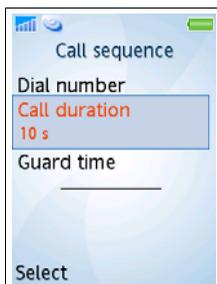
You can abort an upload in progress by using the Stop FTP Put command in the Activity menu (see section 4.5). If you abort an upload, the files that were not transferred will be included in the next upload.

5.7.4. FTP Server

Here you select a FTP server to upload logfiles to. The servers listed are those that you define in the FTP menu (see section 5.6.2). Note that the Remote directory parameter must have a valid value for any server that is going to be used for logfile uploads.

5.8. Call Sequence Menu

TEMS Pocket supports automation of voice calls with a simple call sequence:



Dial number: Enter the number to call.

Call duration: Specify the duration in seconds of each call.

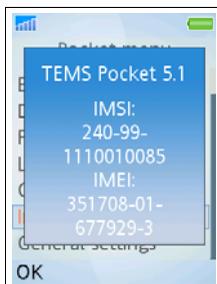
Guard time: Specify the duration in seconds of the idle interval between calls.

You start and stop the call sequence from the Activity menu: see section 4.7.

While the call sequence is executing it will repeat the call defined for it over and over again.

5.9. Info Menu

Entering this menu causes a splash to appear showing the TEMS Pocket version as well as IMSI and IMEI:



IMSI: International Mobile Station Identity of the SIM card used. It is made up of

- Country Code (3 digits)
- Network Code (2 digits)
- Identification Number (at most 10 digits)

IMEI: International Mobile Equipment Identity of the phone. It is made up of

- Type Approval Code (6 digits)
- Final Assembly Code (2 digits)
- Serial Number (6+1 digits)

5.10. General Settings Menu

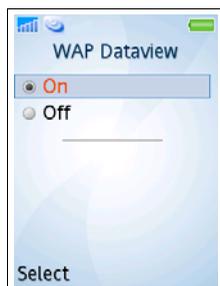
In this menu you specify various aspects of TEMS Pocket behavior and of the data presentation:

- Visibility of WAP data views
- Data view style
- Displaying of messages
- Backlight
- Cell ID format: decimal or hexadecimal
- Power unit: GSM units or dBm (RxLev)
- Full/Sub values (RxLev, RxQual)
- Auto answer
- Redialing of abnormally disconnected calls

The settings made here remain in force until you modify them again or reset them with the Reset All command (see section 5.10.10).

5.10.1. WAP Data View

When you are running WAP services you can have a TEMS Pocket data view displayed at the bottom of the WAP browser. Two data views are selectable, one for WCDMA and one for GPRS. See section 3.19, page 34.



Choosing **On** activates the WAP data views.

For information on how to prepare the phone for WAP and getting started using the service, please consult the user manual for the phone.

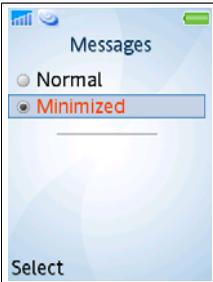
5.10.2. Data View Style



Default: The data views with text in black are displayed against a white background.

Themed: The data views are displayed against the background specified by the theme set in the phone (main menu → Settings → Themes).

5.10.3. Messages

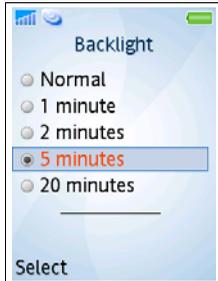


Normal: All phone messages are displayed as usual.

Minimized: Some phone messages are modified or removed in order not to disturb the inspection of TEMS Pocket data views. Specifically:

- The “call in progress” message box, normally displayed throughout calls, is removed.
- The “calling” and “incoming call” message boxes are shown, but the message box size is shrunk to a minimum.
- All other messages are displayed as usual.

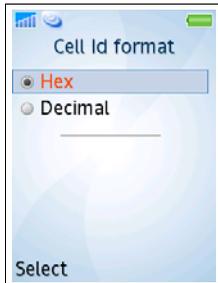
5.10.4. Backlight



Normal: The display backlight is dimmed after about 15 seconds and turned off after about 25 seconds of user inactivity.

1 minute, etc.: The display backlight is dimmed after about 15 seconds as usual but remains in that state for the duration selected, without being turned off, even if there is no user input.

5.10.5. Cell Id Format



Hex: LAC and CI are displayed in hexadecimal digits.

Decimal: LAC and CI are displayed in decimal digits.

5.10.6. Power Display (GSM)



dBm: RxLev is displayed in dBm.

GSM: RxLev is displayed in GSM units.

5.10.7. Measure Mode Display (GSM)



Sub: RxLev and RxQual are presented in the form of Sub values.

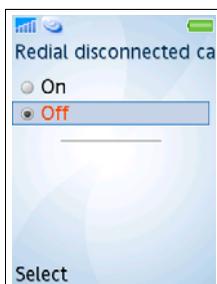
Full: RxLev and RxQual are presented in the form of Full values.

5.10.8. Auto Answer



If **On** is chosen, the phone will automatically answer an incoming call (after a period of time equivalent to two standard ring signals).

5.10.9. Redial Disconnected Calls



If **On** is chosen, the phone will automatically redial mobile-originated calls that were abnormally disconnected (neither party intentionally ended the call).

5.10.10. Reset All

This command restores all settings in the General settings menu to their defaults. See appendix C, page 92 for a listing of the default settings.

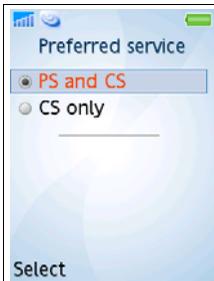
6. Controlling the Phone's Packet-switched Behavior

The TEMS Pocket functions in the phone do not include commands for connecting to and disconnecting from the packet-switched network. This is not needed, since such basic packet-switched behavior is implicitly governed by some menu settings that are in the commercial phone.

6.1. GMM Attach/Detach

To control GMM attach and detach, proceed as follows:

- In the phone's main menu, choose **Settings** and navigate to the **Connectivity** tab.
- Scroll down to **Data communication** and press Select.
- In the Data communication menu, select **Preferred service**.



- If **PS and CS** (the default setting) is chosen, the phone will automatically attach to the packet-switched network. If this setting is active when you turn on the phone, it will perform a GMM attach as soon as you have entered your PIN code.
- If a packet-switched connection is up and you change the setting to **CS only**, the phone will immediately detach from GMM.

6.2. PDP Context Handling

PDP contexts are handled automatically for all data services.

When you start an FTP Get or FTP Put session (section 4.5), TEMS Pocket automatically sets up a PDP context as part of the dialup procedure (specified under Data account in the FTP setup: see section 5.6). When the FTP session terminates, the PDP context is deactivated.

A PDP context is likewise activated automatically when you start the WAP browser (see the phone user manual for details). When you exit the WAP menu, the WAP connection is closed, deactivating the PDP context.

7. Support Contact Information

For support in using TEMS Pocket, please contact Ericsson according to the directions found at www.ericsson.com/tems under the link "Contact TEMS".

To sign up for the TEMS on-line subscription service, please go to the same web site and click the link "TEMS Subscription Service". This free service includes e-mail notification of TEMS product launches, version upgrades and patches, as well as on-line TEMS News.

Appendix A. Parameter Values

This appendix lists the possible values of some parameters appearing in the views and of some event parameters.

A.1. Activate PDP Context Failure Cause

26	Insufficient resources
27	Missing or unknown APN
28	Unknown PDP address or PDP type
29	User authentication failed
30	Activation rejected, unspecified
31	Activation rejected by GGSN
32	Service option not supported
33	Requested service option not subscribed
34	Service option temporarily out of order
35	NSAPI already used
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with the protocol state
99	Information element non-existent or not implemented
111	Protocol error, unspecified
T3380	Fifth expiry of T3380 timer (MS side)

A.2. CCCH Configuration

NC	1 basic physical channel used for CCCH, not combined with SDCCHs
Comb	1 basic physical channel used for CCCH, combined with SDCCHs
NC2	2 basic physical channels used for CCCH, not combined with SDCCHs

- NC3 3 basic physical channels used for CCCH, not combined with SDCCHs
- NC4 4 basic physical channels used for CCCH, not combined with SDCCHs

A.3. Channel Type

- BCCH Broadcast Control Channel, Signalling
- PBCCH Packet Broadcast Control Channel
- PDTCH Packet Dedicated Traffic Channel
- SDCCH Stand-alone Dedicated Control Channel
- TCH/F Traffic Channel, Full Rate
- TCH/H Traffic Channel, Half Rate

A.4. Deactivate PDP Context Cause

- 25 LLC or SNDCP failure
- 26 Insufficient resources
- 36 Regular PDP context deactivation
- 37 QoS not accepted
- 38 Network failure
- 39 Reactivation requested
- T3390 Fifth expiry of T3390 timer (MS side)

A.5. CC Cause

- 1 Unassigned (unallocated) number
- 3 No route to destination
- 6 Channel unacceptable
- 8 Operator determined barring
- 16 Normal call clearing
- 17 User busy
- 18 No user responding
- 19 User alerting, no answer
- 21 Call rejected
- 22 Number changed
- 25 Pre-emption

26	Non selected user clearing
27	Destination out of order
28	Invalid number format (incomplete number)
29	Facility rejected
30	Response to STATUS ENQUIRY
31	Normal, unspecified (<i>not logged</i>)
34	No circuit/channel available
38	Network out of order
41	Temporary failure
42	Switching equipment congestion
43	Access information discarded
44	Requested circuit/channel not available
47	Resources unavailable, unspecified
49	Quality of service unavailable
50	Requested facility not subscribed
55	Incoming calls barred within the CUG
57	Bearer capability not authorized
58	Bearer capability not presently available
63	Service or option not available, unspecified
65	Bearer service not implemented
68	ACM equal to or greater than ACMmax
69	Requested facility not implemented
70	Only restricted digital information bearer capability is available
79	Service or option not implemented, unspecified
81	Invalid transaction identifier value
87	User not member of CUG
88	Incompatible destination
91	Invalid transit network selection
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with protocol state
99	Information element non-existent or not implemented
100	Conditional IE error
101	Message not compatible with protocol state
102	Recovery on timer expiry
111	Protocol error, unspecified
127	Interworking, unspecified

A.6. GMM Cause

2	IMSI unknown in HLR
3	Illegal MS
6	Illegal ME
7	GPRS services not allowed
8	GPRS services and non-GPRS services not allowed
9	MS identity cannot be derived by the network
10	Implicitly detached
11	PLMN not allowed
12	Location area not allowed
13	Roaming not allowed in this location area
14	GPRS services not allowed in this PLMN
15	No suitable cells in location area
16	MSC temporarily not reachable
17	Network failure
20	MAC failure
21	Synch failure
22	Congestion
23	GSM authentication unacceptable
40	No PDP context activated
48–63	Retry upon entry into a new cell
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with the protocol state
99	Information element non-existent or not implemented
100	Conditional IE error
101	Message not compatible with the protocol state
111	Protocol error, unspecified

A.7. GPRS Network Mode of Operation

Handling of paging in the GPRS network.

- I Mode I: All paging on GPRS channels; Gs signalling interface present
- II Mode II: All paging on PCH; no Gs

- III Mode III: All circuit-switched paging on PCH, all packet-switched paging on PPCH; no Gs

A.8. PDP Context Request Parameters

A.8.1. Delay Class

- 0 Subscribed
- 1 Delay class 1
- 2 Delay class 2
- 3 Delay class 3
- 4 Delay class 4 (best effort)

A.8.2. Reliability Class

- 0 Subscribed
- 1 Acknowledged GTP, LLC, and RLC; Protected data
- 2 Unacknowledged GTP; Acknowledged LLC and RLC, Protected data
- 3 Unacknowledged GTP and LLC; Acknowledged RLC, Protected data
- 4 Unacknowledged GTP, LLC, and RLC, Protected data
- 5 Unacknowledged GTP, LLC, and RLC, Unprotected data

A.8.3. Peak Throughput

- 0 Subscribed
- 1 Up to 1 000 octet/s
- 2 Up to 2 000 octet/s
- 3 Up to 4 000 octet/s
- 4 Up to 8 000 octet/s
- 5 Up to 16 000 octet/s
- 6 Up to 32 000 octet/s
- 7 Up to 64 000 octet/s
- 8 Up to 128 000 octet/s
- 9 Up to 256 000 octet/s

A.8.4. Precedence Class

- 0 Subscribed
- 1 High priority
- 2 Normal priority
- 3 Low priority

A.8.5. Mean Throughput

- 0 Subscribed
- 1 100 octet/h
- 2 200 octet/h
- 3 500 octet/h
- 4 1 000 octet/h
- 5 2 000 octet/h
- 6 5 000 octet/h
- 7 10 000 octet/h
- 8 20 000 octet/h
- 9 50 000 octet/h
- 10 100 000 octet/h
- 11 200 000 octet/h
- 12 500 000 octet/h
- 13 1 000 000 octet/h
- 14 2 000 000 octet/h
- 15 5 000 000 octet/h
- 16 10 000 000 octet/h
- 17 20 000 000 octet/h
- 18 50 000 000 octet/h
- 31 Best effort

A.9. RR Cause

- 0 Normal event
- 1 Abnormal release, unspecified
- 2 Abnormal release, channel unacceptable
- 3 Abnormal release, timer expired
- 4 Abnormal release, no activity on the radio path
- 5 Preemptive release

8	Handover impossible, timing advance out of range
9	Channel mode unacceptable
10	Frequency not implemented
65	Call already cleared
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with protocol state
100	Conditional IE error
101	No cell allocation available
111	Protocol error unspecified

A.10. MM Cause

2	IMSI unknown in HLR
3	Illegal MS
4	IMSI unknown in VLR
5	IMEI not accepted
6	Illegal ME
11	PLMN not allowed
12	Location area not allowed
13	Roaming not allowed in this location area
17	Network failure
22	Congestion
32	Service option not supported
33	Requested service option not subscribed
35	Service option temporarily out of order
38	Call cannot be identified
48–63	Retry upon entry into a new cell
95	Semantically incorrect message
96	Invalid mandatory information
97	Message type non-existent or not implemented
98	Message type not compatible with the protocol state
99	Information element non-existent or not implemented
100	Conditional IE error
101	Message not compatible with the protocol state
111	Protocol error, unspecified

A.11. Routing Area Update Failure Cause

3	Illegal MS
6	Illegal ME
7	GPRS services not allowed
9	MS identity cannot be derived by the network
10	Implicitly detached
11	PLMN not allowed
12	Location area not allowed
13	Roaming not allowed in this location area
96	Invalid mandatory information
99	IE non-existent or not implemented
100	Conditional IE error
111	Protocol error, unspecified
T3330	Fifth expiry of T3330 timer (MS side)

A.12. RR Internal Cause

0	Normal release
1	Abnormal release unspecified
2	MAX no of random access
3	Access barred
4	Reject from base station
5	No cell available
6	No ciphering key
7	Reestablish not allowed
8	Data link error
9	Establish error
10	Ciphering algorithm not implemented
11	PS connection aborted due to CS connection
12	PDCH release
13	SCH timing error or timing advance out of range
14	L2 error
15	Message received in invalid state
16	IRAT U2G handover failure

A.13. RRC Failure Cause

0	Configuration unsupported
1	Physical channel failure
2	Incompatible simultaneous reconfiguration
3	Protocol error
4	Compressed mode runtime error
5	Cell update occurred
6	Invalid configuration
7	Configuration incomplete
8	Unsupported measurement
9	MBMS session already received correctly
10	Lower priority MBMS service

A.14. RRC Protocol Error Cause

0	ASN.1 violation or encoding error
1	Message type non-existent or not implemented
2	Message not compatible with receiver state
3	Information element value not comprehended
4	Information element missing
5	Message extension not comprehended

A.15. SM Cause

8	Operator Determined Barring
24	MBMS bearer capabilities insufficient for the service
25	LLC or SMDCP failure (A/Gb mode only)
26	Insufficient resources
27	Missing or unknown APN
28	Unknown PDP address or PDP type
29	User authentication failed
30	Activation rejected by GGSN
31	Activation rejected, unspecified
32	Service option not supported
33	Requested service option not subscribed
34	Service option temporarily out of order

- 35 NSAPI already used (not sent)
- 36 Regular deactivation
- 37 QoS not accepted
- 38 Network failure
- 39 Reactivation required
- 40 Feature not supported
- 41 Semantic error in the TFT operation
- 42 Syntactical error in the TFT operation
- 43 Unknown PDP context
- 44 Semantic errors in packet filter(s)
- 45 Syntactical errors in packet filter(s)
- 46 PDP context without TFT already activated
- 47 Multicast group membership time-out
- 81 Invalid transaction identifier value
- 95 Semantically incorrect message
- 96 Invalid mandatory information
- 97 Message type non-existent or not implemented
- 98 Message type not compatible with the protocol state
- 99 Information element non-existent or not implemented
- 100 Conditional IE error
- 101 Message not compatible with the protocol state
- 111 Protocol error, unspecified
- 112 APN restriction value incompatible with active PDP context

A.16. GPS Fix Quality

- 0 Fix not available or invalid
- 1 GPS SPS Mode, fix valid
- 2 Differential GPS, SPS Mode, fix valid
- 3 GPS PPS Mode, fix valid
- 4 Real Time Kinematic. System used in RTK mode with fixed integers
- 5 Float RTK. Satellite system used in RTK Mode, floating integers
- 6 Estimated (Dead Reckoning) mode
- 7 Manual Input Mode
- 8 Simulator Mode

Appendix B. Graphic Representation of Parameter Values

This appendix describes the bar length and color coding used to visualize parameter values.

B.1. C/I

Bar length proportional to (Value – (–5.0 dB)).

Value = x (dB)	Color
$x > 15.0$	green
$10.0 \leq x \leq 15.0$	yellow
$x < 10.0$	red

B.2. E_c/N_0

Bar length proportional to (Value – (–25 dB)).

Value = x (dB)	Color
$x > -10$	green
$-15 < x \leq -10$	yellow
$x \leq -15$	red

B.3. FER, RLC/LLC Decode Errors/ Retransmissions

Bar length is constant.

Value = x (%)	Color
$x = 0$	green
$1 \leq x \leq 4$	yellow
$x \geq 5$	red

B.4. RxLev, RSCP (= RSSI)

Bar length proportional to (Value – (–110 dBm)).

Value = x (dBm)	Color
$x \geq -70$	green
$-80 \leq x < -70$	light green
$-90 \leq x < -80$	yellow
$-100 \leq x < -90$	orange
$x < -100$	red

B.5. RxQual

Bar length is constant.

Value = x	Color
$x = 0$	green
$1 \leq x \leq 4$	yellow
$x \geq 5$	red

B.6. TxPower

Bar height proportional to (Value – (-30 dBm)).

Value = x (dBm)	Color
$x < 5$	green
$5 \leq x < 15$	yellow
$x \geq 15$	red

Appendix C. Default Settings in TEMS Pocket Menus

This appendix lists the defaults for all settings editable from the Activity and Pocket menus.

C.1. Operating Mode

Active mode

C.2. Cell Control Menu

All cell control functions are by default turned off.

Note: Unlike settings in other menus, these settings revert to their defaults ("Off"/"Normal") when the phone is powered off and on.

C.3. Events Menu

- **Event logging:** On for all events
- **Event counting:** On for all events
- **Event settings:** See section 5.3.5

C.4. Data Views Menu

All data views visible

C.5. GPS Menu

- **GPS connect:** Off
- **GPS time synch:** Off

C.6. FTP Menu

- **Export settings:** Phone memory

C.7. Logfile Menu

- **Save logfile to:** MemoryStick
- **Autostart logfile:** Off

C.8. General Settings Menu

- **WAP data view:** On
- **Data view style:** Default
- **Messages:** Minimized
- **Backlight:** 5 minutes
- **Cell Id format:** Hex
- **Power display:** dBm
- **Measure mode display:** Sub
- **Auto answer:** Off
- **Redial disconnected:** Off

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