

# Medidas sobre el sistema GPRS

# Herramienta de monitorización de la interfaz radio (TEMS)

# Registro en GSM / GPRS: mensajes (capa 3)

Se muestra una actualización de posición (LA / RA) de un móvil GSM / GPRS (observado por medio de la herramienta TEMS).

Las actualizaciones se hacen por separado para las dos redes:

1. Primero el móvil actualiza la LA de GSM (transparencias 4–16)
  - El móvil se identifica con un TMSI que la red considera “no válido”
  - La red pide IMSI y reasigna TMSI, antes de confirmar la actualización.
2. Después actualiza la RA de GPRS (transparencias 17–24)
  - Para ello solicita de nuevo un canal, esta vez de GPRS
  - El proceso incluye reasignación de P-TMSI (en el propio mensaje de confirmación de la actualización).

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File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
<b>MS1</b>	<b>Uplink</b>	<b>Channel Request</b>
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**Channel Request**

Time: 14:53:58.87  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113663

Frame number : 1113662  
 Read from ARFCN  
 Channel number : (GSM 900) 70  
 Random Access Information  
 Establishment cause : (9) Location updating, or Answer to paging (SDCCH), or other SDCCH procedures  
 Random reference : 11

Message dump:  
 0b

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File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	<b>Immediate Assignment</b>
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

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**Message Details**

**Immediate Assignment**  
 Time: 14:53:58.97  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113684

Message target : (1) Message directed to this MS  
 L2 pseudo length : 12  
 Skip indicator : 0  
 Protocol discriminator : (6) Radio resources management messages  
 Message type : 63  
 Two-message assignment (TMA) : (0) No meaning  
 Downlink assignment to mobile in packet idle mode : (0) No meaning  
 TBF or dedicated mode (T/D) : (0) Assigns a dedicated mode resource  
 Page mode : (0) Normal paging

Channel description  
 Channel type : (8) SDCCH/8 + SACCH/C8 or CBCH (SDCCH/8)  
 Subchannel : 2  
 Timeslot number (TN) : 3  
 Training sequence code (TSC) : 6  
 Hopping RF channel : (1) YES  
 Mobile allocation index offset (MAIO) : 0  
 Hopping sequence number (HSN) : 48

Request reference  
 Establishment cause : (9) Location updating, or Answer to paging (SDCCH), or other SDCCH proced  
 Random reference : 11  
 FN modulo 42432 : 10430  
 Representation : T1' = 7, T2 = 4, T3 = 26

Timing advance  
 Timing advance value : 3

Mobile allocation  
 Length : 1  
 Mobile allocation array :  
 [0] : 0  
 [1] : 1  
 [2] : 1  
 [3] : 0  
 [4] : 0  
 [5] : 0  
 [6] : 0  
 [7] : 0

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File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
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MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
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MS1	Downlink	TMSI Reallocation Command
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MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
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MS1	Downlink	System Information Type 4

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**Message Details**

**MS1**

**Location Updating Request**

Time: 14:53:58.97  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113685

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 8  
 Ciphering key sequence number  
 Key sequence : (0) 0  
 Location updating type  
 FOR: Follow-On Request : (0) No follow-on request pending  
 LUT : (0) Normal location updating  
 Location Area Identification  
 MCC : 214  
 MNC : 01  
 LAC : 16072 (Hex 0x3EC8)  
 Mobile station classmark  
 Revision level : (1) Used by phase 2 mobiles  
 ES IND : (1) "Controlled Early Classmark Sending" option is implemented in the MS  
 A5/1 : (0) Encryption algorithm A5/1 available  
 RF power capability : (3) Class 4 for GSM 900 P, E or R, Reserved for 1800/1900  
 Mobile identity  
 Length of mobile identity contents : 5  
 Odd/even indication : (0) Even number of digits  
 Type of identity : (4) TMSI/P-TMSI  
 TMSI/P-TMSI : Hex 0x0CD09609

Message dump:  
 05 08 00 12 f4 10 3e c8 33 05  
 f4 0c d0 96 09

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File View Logfile Presentation Control Configurati

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MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	<b>GPRS Suspension Request</b>
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
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MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
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MS1	Downlink	TMSI Reallocation Command
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MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
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MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**  
**GPRS Suspension Request**  
 Time: 14:53:59.30  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113755

Skip indicator : 0  
 Protocol discriminator : (6) Radio resources management messages  
 Message type : 52  
 TLLI : 3260756921 (Hex 0xC25B33B9) (Local TLLI)  
 Routing area identification  
 MCC : 214  
 MNC : 01  
 LAC : 16072 (Hex 0x3EC8)  
 Routing area code (RAC) : 1 (Hex 0x01)  
 Suspension cause  
 Value : (1) Location area update

Message dump:  
 06 34 c2 5b 33 b9 12 f4 10 3e  
 c8 01 01

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File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**Identity Request**

Time: 14:53:59.53  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113806

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 24  
 Spare half octet  
 Identity type  
 Type of identity : (1) IMSI

Message dump:  
 05 18 01



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File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	<b>Identity Response</b>
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
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MS1	Uplink	TMSI Reallocation Complete
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MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

**MS1**

**Identity Response**

Time: 14:53:59.53  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113806

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 25  
 Mobile identity  
 Length of mobile identity contents : 8  
 Odd/even indication : (1) Odd number of digits  
 Type of identity : (1) IMSI  
 Identity digits (BCD) : 214014001493002

Message dump:  
 05 19 08 29 41 10 04 10 94 03  
 20

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File View Logfile Presentation Control Configurati

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MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
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MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**Measurement Report**

Time: 14:53:59.70  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113843

Measurement results

RXLEV-FULL-SERVING: 52  
 RXLEV-SUB-SERVING: 52  
 RXQUAL-FULL-SERVING: 0  
 RXQUAL-SUB-SERVING: 0  
 BA-USED: 0  
 DTX: Not used

Measurement results (MEAS-VALID): Valid  
 Number of neighboring cell measurements: 6

NCELL	RXLEV-NCELL	BSIC-NCELL	BCCH-FREQ-NCELL
1	38	46	00
2	33	46	15
3	30	46	06
4	26	46	07
5	24	44	04
6	23	46	11

Message dump:  
 06 15 34 34 01 a6 04 d0 be 67  
 8d 33 47 99 82 48 ba e6

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MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
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MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**Authentication Request**

Time: 14:54:00.24  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1113959

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 18  
 Spare half octet  
 Ciphering key sequence number  
 Key sequence : (0) 0  
 Authentication parameter RAND  
 Rand value (Hex) :

[0] : 0x9A  
 [1] : 0xDB  
 [2] : 0x97  
 [3] : 0xC0  
 [4] : 0xDF  
 [5] : 0x3F  
 [6] : 0xB5  
 [7] : 0x87  
 [8] : 0x7D  
 [9] : 0xC7  
 [10] : 0x51  
 [11] : 0x69  
 [12] : 0x9A  
 [13] : 0x3F  
 [14] : 0x41  
 [15] : 0x22

Message dump:  
 05 12 00 9a db 97 c0 df 3f b5  
 87 7d c7 51 69 9a 3f 41 22

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File View Logfile Presentation Control Configurati

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MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

**MS1**

**Authentication Response**

Time: 14:54:00.53  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114022

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 20  
 Authentication Response parameter  
 SRES (Hex) :  
 [0] : 0x62  
 [1] : 0x20  
 [2] : 0xDD  
 [3] : 0x38

Message dump:  
 05 14 62 20 dd 38

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MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
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MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
<b>MS1</b>	<b>Downlink</b>	<b>TMSI Reallocation Command</b>
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**TMSI Reallocation Command**

Time: 14:54:01.18  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114163

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 26  
 Location Area Identification  
 MCC : 214  
 MNC : 01  
 LAC : 19861 (Hex 0x4D95)  
 Mobile identity  
 Length of mobile identity contents : 5  
 Odd/even indication : (0) Even number of digits  
 Type of identity : (4) TMSI/P-TMSI  
 TMSI/P-TMSI : Hex 0xB21252F0

Message dump:  
 05 1a 12 f4 10 4d 95 05 f4 b2  
 12 52 f0

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MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
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MS1	Uplink	Measurement Report
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MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
<b>MS1</b>	<b>Uplink</b>	<b>TMSI Reallocation Complete</b>
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
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MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

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**Message Details**

**MS1**

**TMSI Reallocation Complete**

Time: 14:54:01.18  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114163

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 27

Message dump:  
 05 1b

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
<b>MS1</b>	<b>Downlink</b>	<b>Location Updating Accept</b>
MS1	Uplink	Measurement Report
MS1	Downlink	Channel Release
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

**MS1**

**Location Updating Accept**

Time: 14:54:01.89  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114316

Skip indicator : 0  
 Protocol discriminator : (5) Mobility management messages  
 Message type : 2  
 Location Area Identification  
 MCC : 214  
 MNC : 01  
 LAC : 19861 (Hex 0x4D95)

Message dump:  
 05 02 12 f4 10 4d 95

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 13
MS1	Uplink	Channel Request
MS1	Downlink	Paging Request Type 1
MS1	Downlink	Immediate Assignment
MS1	Uplink	Location Updating Request
MS1	Uplink	Classmark Change
MS1	Uplink	GPRS Suspension Request
MS1	Downlink	System Information Type 5
MS1	Downlink	Identity Request
MS1	Uplink	Identity Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Authentication Request
MS1	Downlink	System Information Type 6
MS1	Uplink	Authentication Response
MS1	Uplink	Measurement Report
MS1	Downlink	System Information Type 5
MS1	Downlink	Ciphering Mode Command
MS1	Uplink	Ciphering Mode Complete
MS1	Uplink	Measurement Report
MS1	Downlink	TMSI Reallocation Command
MS1	Uplink	TMSI Reallocation Complete
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 5ter
MS1	Uplink	Measurement Report
MS1	Downlink	Location Updating Accept
MS1	Uplink	Measurement Report
<b>MS1</b>	<b>Downlink</b>	<b>Channel Release</b>
MS1	Downlink	Synch Channel Information
MS1	Downlink	System Information Type 13
MS1	Downlink	System Information Type 2ter
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 4

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

**MS1**

**Channel Release**

Time: 14:54:02.12  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114367

Skip indicator : 0  
 Protocol discriminator : (6) Radio resources management messages  
 Message type : 13  
 RR cause  
 Value : (0) Normal event

Message dump:  
 06 0d 00



**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 13
MS1	Downlink	Paging Request Type 1
MS1	Uplink	Channel Request
MS1	Downlink	System Information Type 2ter
MS1	Downlink	Immediate Assignment
MS1	Uplink	Routing Area Update Request
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Downlink	Packet Downlink Assignment
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Authentication And Ciphering Request
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

**Message Details**

MS1

**Channel Request**

Time: 14:54:04.56  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114895

Frame number : 1114894  
 Read from ARFCN  
 Channel number : (GSM 900) 70  
 Random Access Information  
 Establishment cause : (12) One phase packet access with request for single timeslot uplink transmission.  
 Random reference : 0

Message dump:  
 78

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 13
MS1	Downlink	Paging Request Type 1
MS1	Uplink	Channel Request
MS1	Downlink	System Information Type 2ter
MS1	Downlink	<b>Immediate Assignment</b>
MS1	Uplink	Routing Area Update Request
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Downlink	Packet Downlink Assignment
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Authentication And Ciphering Request
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

**Message Details**

MS1

**Immediate Assignment**

Time: 14:54:04.72  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114929

Message target : (1) Message directed to this MS  
 L2 pseudo length : 11  
 Skip indicator : 0  
 Protocol discriminator : (6) Radio resources management messages  
 Message type : 63  
 Two-message assignment (TMA) : (0) No meaning  
 Downlink assignment to mobile in packet idle mode : (0) No meaning  
 TBF or dedicated mode (T/D) : (1) Assigns a Temporary Block Flow (TBF)  
 Page mode : (0) Normal paging  
 Packet channel description  
 Channel type : (1) Spare  
 Timeslot number (TN) : 6  
 Training sequence code (TSC) : 6  
 ARFCN : 70  
 Request reference  
 Establishment cause : (12) One phase packet access with request for single timeslot uplink transmiss  
 Random reference : 0  
 FN modulo 42432 : 11662  
 Representation : T1' = 8, T2 = 14, T3 = 34  
 Timing advance  
 Timing advance value : 3  
 Mobile allocation  
 Length : 0  
 Rest octets  
 Packet uplink assignment  
 Temporary flow identifier (TFI) : 0  
 Polling : (0) No action is required from MS  
 Uplink state flag (USF) : 1  
 USF granularity : (0) The MS shall transmit one RLC/MAC block  
 Channel coding command : (1) CS-2  
 TLLI block channel coding : (1) The MS shall use the value commanded in the Channel Coding Co  
 Gamma : 34 dB  
 Timing advance index (TAI) : 0

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 13
MS1	Downlink	Paging Request Type 1
MS1	Uplink	Channel Request
MS1	Downlink	System Information Type 2ter
MS1	Downlink	Immediate Assignment
MS1	Uplink	<b>Routing Area Update Request</b>
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Downlink	Packet Downlink Assignment
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Authentication And Ciphering Request
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

**Message Details**

**MS1**

**Routing Area Update Request**

Time: 14:54:04.74  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1114934

Skip indicator : 0  
 Protocol discriminator : (8) GPRS mobility management messages  
 Message type : 8  
 GPRS ciphering key sequence number  
 Key sequence : (3) 3  
 Update type  
 Update type value : (0) RA updating  
 Old routing area identification  
 MCC : 214  
 MNC : 01  
 LAC : 16072 (Hex 0x3EC8)  
 Routing area code (RAC) : 1 (Hex 0x01)  
 MS Radio Access capability  
 Length of MS RA capability : 10  
 MS RA capability value part  
 MS RA capability value part structs :  
 [0] :  
 Access Technology Type : (1) GSM E  
 Access capabilities  
 Length : 38  
 Content  
 RF Power Capability : 4  
 A5/1 : (1) Encryption algorithm A5/1 available  
 A5/2 : (1) Encryption algorithm A5/2 available  
 A5/3 : (0) Encryption algorithm A5/3 not available  
 A5/4 : (0) Encryption algorithm A5/4 not available  
 A5/5 : (0) Encryption algorithm A5/5 not available  
 A5/6 : (0) Encryption algorithm A5/6 not available  
 A5/7 : (0) Encryption algorithm A5/7 not available  
 ES IND : (1) "Controlled early Classmark Sending" option is implemented  
 PS : (0) "Pseudo Synchronisation" capability not present  
 VGCS : (0) No "Voice Group Call Service" capability or no notifications wanted  
 VBS : (0) No "Voice Broadcast Service" capability or no notifications wanted  
 Multislot capability

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 13
MS1	Downlink	Paging Request Type 1
MS1	Uplink	Channel Request
MS1	Downlink	System Information Type 2ter
MS1	Downlink	Immediate Assignment
MS1	Uplink	Routing Area Update Request
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Downlink	Packet Downlink Assignment
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Authentication And Ciphering Request
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

**Message Details**

MS1

**Authentication And Ciphering Request**

Time: 14:54:05.91  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1115188

Skip indicator : 0  
 Protocol discriminator : (8) GPRS mobility management messages  
 Message type : 18  
 IMEISV request  
 IMEISV request value : (1) IMEISV requested  
 Ciphering algorithm  
 Type of algorithm : (0) Ciphering not used  
 A&C reference number  
 A&C reference number value : 1  
 Force to standby  
 Force to standby value : (0) Force to standby not indicated  
 Authentication parameter RAND  
 Rand value (Hex) :  
 [0] : 0x29  
 [1] : 0x39  
 [2] : 0x07  
 [3] : 0x5A  
 [4] : 0xA9  
 [5] : 0x07  
 [6] : 0x69  
 [7] : 0xC9  
 [8] : 0x14  
 [9] : 0x18  
 [10] : 0x0C  
 [11] : 0x41  
 [12] : 0x6F  
 [13] : 0x2D  
 [14] : 0x77  
 [15] : 0x58  
 GPRS ciphering key sequence number  
 Key sequence : (4) 4

Message dump:  
 08 12 10 10 21 29 39 07 5a a9  
 07 69 c9 14 18 0c 41 6f 2d 77

**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 3
MS1	Downlink	System Information Type 13
MS1	Downlink	Paging Request Type 1
MS1	Uplink	Channel Request
MS1	Downlink	System Information Type 2ter
MS1	Downlink	Immediate Assignment
MS1	Uplink	Routing Area Update Request
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Downlink	Packet Downlink Assignment
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Authentication And Ciphering Request
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

MS1

**Authentication And Ciphering Response**

Time: 14:54:06.39  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1115292

Skip indicator : 0  
 Protocol discriminator : (8) GPRS mobility management messages  
 Message type : 19  
 Spare half octet  
 A&C reference number  
 A&C reference number value : 1  
 Authentication parameter SRES  
 SRES value : Hex 0x73A98E90  
 IMEISV  
 Length of mobile identity contents : 9  
 Odd/even indication : (0) Even number of digits  
 Type of identity : (3) IMEISV  
 Identity digits (BCD) : 5203275103113013

Message dump:  
 08 13 01 22 73 a9 8e 90 23 09  
 53 02 23 57 01 13 31 10 f3



**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	System Information Type 3
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Routing Area Update Accept
MS1	Downlink	Packet Timing Control DL
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Routing Area Update Complete
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	GMM Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

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**Message Details**

**MS1**

**Routing Area Update Complete**

Time: 14:54:07.57  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1115546

Skip indicator : 0  
 Protocol discriminator : (8) GPRS mobility management messages  
 Message type : 10

Message dump:  
 08 0a



**TEMS Investigation GSM 3.2.4 by Ericsson - [luis]**

File View Logfile Presentation Control Configurati

MS1

Source	Direction	Message
MS1	Downlink	System Information Type 4
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Authentication And Ciphering Respo...
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	System Information Type 3
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Routing Area Update Accept
MS1	Downlink	Packet Timing Control DL
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Assignment
MS1	Uplink	Routing Area Update Complete
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Packet Uplink Ack/Nack
MS1	Uplink	Packet Control Acknowledgement
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	<b>GMM Information</b>
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Uplink	Packet Downlink Ack/Nack
MS1	Downlink	Synch Channel Information

RF [MS 1] Data Signaling Ctrl & Config

For Help, press F1

**Message Details**

MS1

**GMM Information**

Time: 14:54:07.81  
 Latitude: not valid  
 Longitude: not valid  
 Frame number: 1115599

Skip indicator : 0  
 Protocol discriminator : (8) GPRS mobility management messages  
 Message type : 33  
 Full name for network  
 Length of Network Name contents : 11  
 Coding Scheme : (0) Cell Broadcast data coding scheme, GSM default alphabet, language unspecified,  
 Add CI : (0) The MS should not add the letters for the Country's Initials to the text string  
 Number of spare bits in last octet : (3) Bits 6 to 8(inclusive) are spare and set to "0" in octet n  
 Text string : vodafone ES

Short name for network  
 Length of Network Name contents : 11  
 Coding Scheme : (0) Cell Broadcast data coding scheme, GSM default alphabet, language unspecified,  
 Add CI : (0) The MS should not add the letters for the Country's Initials to the text string  
 Number of spare bits in last octet : (3) Bits 6 to 8(inclusive) are spare and set to "0" in octet n  
 Text string : vodafone ES

Network time zone  
 Time zone : GMT + 04/4 hours  
 Universal time and time zone  
 Date : 03-12-18  
 Time : 13:49:55  
 Time zone : GMT + 04/4 hours

Message dump:  
 08 21 43 0b 83 f6 37 39 6c 7e  
 bb cb a0 e2 14 45 0b 83 f6 37  
 39 6c 7e bb cb a0 e2 34 46 40  
 47 30 21 81 31 94 55 40