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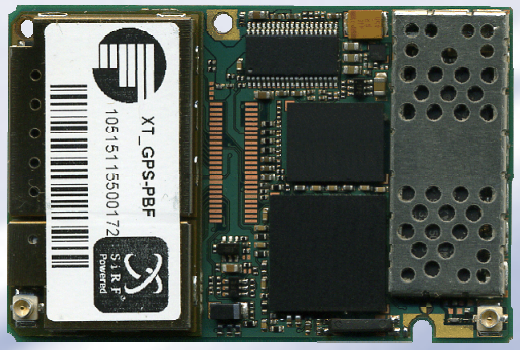

XT55 / XT56
Siemens Cellular Engine

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Release Notes

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XT55 / XT56 Siemens Cellular Engines

1 Preamble

This Release Note describes the **XT55 / XT56 Release 03.03.** The document briefly summarizes all new features and major changes which have been added since Release 02.06.

To meet the legal demands according to the Directive 2002/95/EC (RoHS) the hardware platform of XT55 / XT56 modules has been changed with this release. Along with this change, the SIM interface was optimized for electrical testing on the ORGA IT3 platform according to the "3GPP TS 51.010-1" specifications. The general performance regarding compliance with GSM Standards remains unchanged.

Please note that XT55 / XT56 Release 03.03 and all later releases cannot be loaded into XT55 / XT56 modules based on previous hardware releases. Likewise, older firmware (up to Release 02.50) cannot be loaded into the new hardware platform.

1.1 Related Documents

Updated documents:

[1] XT55 AT Command Set, Version 03.03 and XT56 AT Command Set, Version 03.03
[2] XT5x Hardware Interface Description, Version 03.03
[3] GPRS Startup User's Guide
[4] Remote-SAT User's Guide
[5] XT5x GPS Command Specification
[6] XT5x GPS Startup User's Guide
[7] GSM/GPS Evaluation Board Description
[8] Multiplexer User's Guide
[9] Multiplex Driver Developer's Guide for Windows 2000 and Windows XP
[10] Multiplex Driver Installation Guide for Windows 2000 and Windows XP
[11] Application Note 02: Audio Interface Design
[12] Application Note 07: Rechargeable Lithium Batteries in GSM Applications
[13] Application Note 22: Using TTY / CTM equipment
[14] Application Note 24: Application Developer's Guide
[15] Application Note 21: Implementing Customer IMEI
[16] Application Note 28: Customer SIM Lock

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2 New Features

This chapter summarizes all new features added since XT55 / XT56 Release 02.06.

AT command / Feature	Brief description
Internet Service AT commands	XT55 / XT56 modules feature an embedded TCP/IP stack that is driven by AT commands and enables the host application to easily access the Internet. The advantage of this solution is that it eliminates the need for the application manufacturer to implement own TCP/IP and PPP stacks, thus minimizing cost and time to integrate Internet connectivity into a new or existing host application. Access is provided to the following Internet Services: • Socket Client and Server for TCP, Client for UDP • FTP Client • HTTP Client • SMTP Client • POP3 Client The AT^SICS command serves to create Internet connection profiles for GPRS or CSD. The AT^SISS command specifies the type of service to use with a connection profile, i.e. Socket, HTTP, FTP, POP3 and SMTP. AT^SISO starts an Internet session. AT^SISR and AT^SISW determine the action to be performed, either receiving or sending data. AT^SISC closes the connection. An early version of the Internet Service AT commands was first introduced with the 02.50 interim release of XT55 / XT56. A change history of the interim releases can be found in chapter 3.2.
AT^SCFG, parameter Call/SpeechVersion1	The latest addition to the AT^SCFG command is the parameter Call/SpeechVersion1. It allows to specify or query the indication of Half Rate and Full rate support within the bearer capability information transmitted from the module to the network. On power-up, priority is given to Full Rate. Alternatively, the Half Rate codec can be preferred or disabled.
AT+CGEREP GPRS event reporting	The new command AT+CGEREP enables / disables the presentation of Unsolicited Result Codes (URCs) related to GPRS. If enabled, the URCs are issued any time the status of the PDP context activation, of the attached state or the mobile class changes. The URCs indicate whether the event has been forced by the module or is due to a network activity.

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3 Improved Features

This chapter provides a list of improvements over XT55 / XT56 Release 02.06 and the interim version 02.50.

3.1 Improvements over XT55 / XT56 Release 02.06

AT command / Feature	Brief description
AT^SCFG, parameter Audio/AMR	The power-up default for Adaptive Multi Rate (AMR) has been changed. AMR will be enabled for all operators each time the module is started.
AT+CNMI, AT+CNMA, AT+CMER	This release fixes the CNMA acknowledgement timeout error observed when AT+CNMI was set to route incoming short messages directly to the TE (parameter <mt>=2) and, at the same time, event reporting was activated with AT+CMER.
GPRS problems due to insufficient network coverage	This release fixes the problem that GPRS connections were sometimes not properly terminated if the network coverage was not sufficient.
Enhanced SIM speed	XT55 / XT56 modules support new types of SIM cards designed for high SIM interface speed. This means that the module negotiates enhanced SIM speed to 0x95 when the SIM uses a TA1 value of 0x96. In former releases the module negotiated the SIM speed to 0x94 when the SIM uses a TA1 value of 0x96.
Hardware layout	Along with the hardware modifications for the new platform new ground planes have been added to the PCB, both on the top and bottom. This gives you greater flexibility with contacting ground to the XT55 / XT56 modules.

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3.2 Improvements over Interim Release 02.50

This chapter applies only to the Internet Service AT commands and provides a list of latest changes.

AT command / Feature	Brief description
New connection profile features	The Internet services Socket, HTTP, FTP, POP3 and SMTP can now be used over GPRS and CSD (circuit switched data). The bearer type can be selected with AT^SICS, parameter <conParmValue_conType>. AT^SICS includes the parameter <inactTO>. This is an inactivity timeout that specifies the number of seconds the bearer remains open although the service no longer needs the bearer connection. XT55 / XT56 modules now support the authentication methods PAP (Password Authentication Protocol), CHAP (Handshake Authentication Protocol) or none. The method actually used for an Internet connection via CSD or GPRS is negotiated at the LCP layer, i.e. it is negotiated with the remote peer at connection setup.
Socket Listener	If a Socket connection request is successfully accepted with AT^SISO the expected "^SISW" URC will be correctly issued to notify the host that writing data is possible.
Socket connection with parameter "size"	When a Socket connection configured for a fix data size is closed and the next Socket connection shall use a variable data size (0), it is now possible to open the same service profile and simply change the parameter "size". This eliminates the need to create a new service profile.
HTTP	The handling of redirected HTTP pages has been consolidated. The problem of indicating HTTP service states has been fixed. The AT^SISO read command can now display all possible service states specified in [1].
FTP download / upload	Timing problems during FTP transfer have been fixed. It is no longer necessary to manage the transfer of an announced data package within 40 seconds.
AT^SISS	Setting the parameter "srvtype" no longer resets the parameter "alphabet" to "0".
Timeout in case of poor network coverage	If Internet service commands are used while network coverage is insufficient the module no longer tries to execute the command for an indefinite time, but delivers, after a 2 minute timeout, the result code "+CME ERROR: network is down".

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AT command / Feature	Brief description
Release Causes	A new group of Release Causes dedicated to the Internet Service AT commands has been added and specified in [1]. The Release Causes can be requested by using the command AT+CEER in order to obtain additional information when a problem or failure occurs. The Release Causes are assigned to the Location ID 248, which is the first response parameter. The second parameter can be found in the new chapter “SIEMENS release cause for IP over AT commands”.

4 Known Issues of XT55 / XT56 Release 03.03

Item / Category	Problem / Workaround
AT^SICS	If you wish to reconfigure a CSD or GPRS connection profile from manual to dynamic DNS assignment, please enter an empty string “” for the “dns1” or “dns2” value, as the address 0.0.0.0 is currently not accepted. Example: AT^SICS=0,dns1,””
AT+CEER, Release Cause ID 47	The Siemens Release Cause ID 47 “The current socket connection is not connected anymore” is, at present, only available for the Socket service.
AT+CPMS	If the selected short message storage is “MT” or “ME” and the client attempts to select the “SM” storage shortly after entering the SIM PIN, then the URC “SIM busy” is correctly displayed, but may be followed by an incorrect AT+CPMS write command response. Workaround: After entering a password with AT+CPIN it is recommended to use the AT+CPMS read command and wait for a valid response. Then, it is possible to switch over to the “SM” storage. Workaround example: AT+CPIN=9999 OK AT+CPMS? +CMS ERROR: SIM busy AT+CPMS? +CPMS: “ME”,1,25,”ME”,1,25,”MT”,16,40 OK AT+CPMS=sm,sm,sm +CPMS: 15,15,15,15,15,15 OK
Call forwarding configured incorrectly with ATD	No ERROR message will be returned if you attempt to forward a call to a phone number containing invalid characters. Example: ATD**21*2400xxxx*#; ^SCCFC: 0,1,1,”+441522400”,145 ^SCCFC: 0,1,4,”+441522400”,145 ^SCCFC: 0,1,2,”+441522400”,145 OK

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