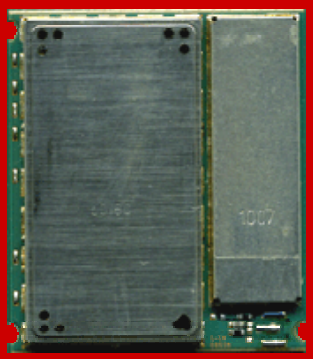
CINTERION
WIRELESS MODULES

EES3



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Release Notes

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1 Preamble

This Release Note describes the Cinterion wireless module
EES3 01.100.

With EES3, Cinterion Wireless Modules GmbH introduces an SMT (Surface Mount Technology) based product variant of MC75i.

EES3 offers the same features and performance as the MC75i module including full-featured quadband GSM 900/1800/850/1900 MHz capability, (E)GPRS Class 12, Voice, Fax, short messages, two serial interfaces, USB, I^2C, SPI, SIM Application Toolkit, an embedded TCP/IP stack and Remote SIM Access.

While MC75i comes with a board-to-board connector and a plug-in antenna connector, EES3 is designed to meet the requirements of automated SMT manufacturing strategies for mobile devices. The EES3 module can be mounted directly on the application's PCB by soldering all connecting pads of the module's application interface and the antenna interface. A major benefit is that SMT makes the module smaller and lighter, eliminates the need for mating connectors and mounting accessories, and thus, helps you save time and money for developing and manufacturing your final GSM/GPRS applications.

The connecting pads are based on the LGA (Land Grid Array) technology providing for secure and high-quality soldering and long product life. The LGA pads are nickel gold plated.

EES3 modules are specified for one soldering cycle.

Like all other Cinterion wireless modules EES3 is RoHS compliant.

1.1 Related Documents

[1] EES3 AT Command Set, v01.100
[2] EES3 Hardware Interface Description, v01.100
[3] Multiplexer User's Guide, v12
[4] Multiplexer Driver Developer's Guide, v11
[5] Multiplexer Driver Installation Guide, v10
[6] Remote SAT User's Guide, v02
[7] Application Note 02: Audio Interface Design for GSM Applications, v06
[8] Application Note 07: Rechargeable Lithium Batteries in GSM Applications, v05
[9] Application Note 16: Updating Firmware, v09
[10] Application Note 22: Using TTY / CTM Equipment, v02
[11] Application Note 24: Application Developer's Guide, v07
[12] Application Note 26: Power Supply Design for GSM Applications, v04
[13] Application Note 32: Integrating USB into Applications, v04
[14] Application Note 45: Jamming Detection – Radio Link Stability Monitor, v02
[15] Application Note 48: SMT Module Integration, v02

The latest product information and technical documents are ready for download on the Cinterion Wireless Modules Website or may be obtained from your local dealer or the Sales department of Cinterion Wireless Modules GmbH. To visit the website you can use the following link:
http://www.cinterion.com

2 Expertise in Managing and Implementing the Production Process

Cinterion Wireless Modules GmbH is able to offer expert assistance in all aspects of planning and implementing an efficient SMT manufacturing process. This includes detailed guidelines for process characterization, process verification, stencil design, storage conditions, unpacking and packaging, soldering practice, ESD protection. For more information please refer to [2] and [15].

In addition, Cinterion Wireless Modules GmbH can provide a number of optional development tools:

- For testing and debugging EES3 modules during development you can take advantage of *EES3 Evaluation Modules*. Equipped with an 80-pin board-to-board connector and a U.FL antenna connector the EES3 Evaluation Module easily connects to the DSB75 Evaluation Kit provided by Cinterion Wireless Modules GmbH.

- Another optional evaluation adapter is a specialized *SMT Socket* which allows multiple connect/disconnect cycles and eliminates the need of soldering your test samples. The SMT Socket is also designed to be easily connected to the Cinterion DSB75 Evaluation Kit using board-to-board and RF connectors.

- Another aid for developing your application design are *Daisy Chain modules* especially suited to verify your own stencils, check electrical connections, evaluate solder joints etc. The Daisy Chain modules will be delivered on tape-and-reel carriers.

3 Improved Features

The LeMans based Cinterion Wireless Module EES3 is currently being introduced on the market with Release 01.000. We recovered within this release two issues in the application part of the module software (TCP/IP Configuration and serial interface). For this reason we are providing a Release 01.100 for EES3.

The changes are limited to the application part of the software and solve the two issues (for details please see below). The changes are not relevant for approval (GCF, PTCRB).

3.1 TCP/IP Configuration Patch

Problem description EES3 Release 01.000:
Transferring large data packages at high data rates can lead to an IP frame buffer overflow that results in the termination of an FTP connection and in rare cases in a module blocking due to a lack of buffers.

Solution description EES3 Release 01.100:
This issue is solved by implementing a TCP/IP configuration patch for the FTP client application.
The "TCP/IP Configuration Patch" is related to the TCP/IP lib. A configuration value was changed in order to achieve a faster (or "more efficient") IP-frame buffer handling.

3.2 Serial Interface Patch

Problem description EES3 Release 01.000:
At high data rates the serial interface might block sporadically the module communication. This might happen while reading the RX hardware buffers when small data packages are transferred.

Solution description EES3 Release 01.100:
The “serial interface patch” is limited to the low level serial driver itself. The handshake mechanism has been adjusted for small data packages.

4 Known Issues

AT command / feature	Brief description
Fax	Proper functioning of fax transmission cannot be guaranteed under all circumstances.
AT^SIND, "+CIEV: lsta" indicator	In some cases a "+CIEV: lsta" indicator sequence may contain a URC without valid channel information, i.e. with all "lsta" parameters set to "0". Usually, this URC will be preceded and followed by valid "+CIEV: lsta" URCs and should therefore be ignored. Example: ... +CIEV: lsta,0,1,70 +CIEV: lsta,0,0,70 +CIEV: lsta,1,9,68,69,69,0 +CIEV: lsta,1,0,0,0,0,0 # To be ignored. +CIEV: lsta,1,40,68,68,68,0 …
AT^SIND, "+CIEV: band" indicator, AT^SCFG, "Radio"Band" feature	The "Radio"Band" parameter <rbc> of the AT^SCFG command and the "+CIEV: band" indicator of the AT^SIND command are specified to output the same value. However, if <rbc> equals the maximum value 15 (quadband) the "band" URC and the AT^SIND read command show a lower value.
Airplane mode	When running a loop test which involves enabling/disabling the "MEopMode/Airplane/OnStart" feature and resetting the module in a quick succession module may sometimes fail to register to the network although Airplane has been disabled. Workaround: Simply enter twice the AT^SCFG command to enable or disable the "MEopMode/Airplane/OnStart" feature. Example: AT^SCFG=MEopMode/Airplane/Onstart,on ^SCFG: "MEopMode/Airplane/OnStart","on" OK AT^SCFG=MEopMode/Airplane/Onstart,on ^SCFG: "MEopMode/Airplane/OnStart","on" OK

AT command / feature	Brief description
AT+CALA, AT+IPR=0	Wakeup into Airplane mode (AT+CALA alarm followed by module switch-off) cannot be used if autobauding (AT+IPR=0) is enabled. Before setting the function Wakeup into Airplane mode ensure that the module is configured for a fixed bit rate (AT+IPR≠0). Reminder messages (AT+CALA alarm set without switching off the module) are not concerned and will work properly.
ATZ / AT+CSCB	ATZ resets all user defined cell broadcast message indication settings specified with AT+CSCB to their factory defaults.
AT^SCTM	The temperature control is not fully effective immediately after reboot. The following errors may occur: • For 2s after reboot the AT^SCTM read command may return the default value 25°C instead of the actual board temperature. • "^SCTM:_B: {-1/1}" URCs may be delayed by up to 15s. • If the module temperature threshold is exceeded during the first 120s the module sends a URC "^SCTM_B: {-2/2}", but does not shut down automatically. Note: If the battery temperature threshold is exceeded the module will correctly send a "^SCTM_A: {-2/2}" URC and switch off automatically.
AT^SPBS	If the maximum number of 255 phonebook entries are stored on a SIM card, the browse command AT^SPBS sometimes does not step through all of these phonebook entries.
AT^SNFS	In rare cases, the module is no longer responding after hanging up a call with ATH and changing another audio mode with AT^SNFS in quick succession. Workaround: After terminating a call with ATH please wait 1 second before changing the audio mode with AT^SNFS.