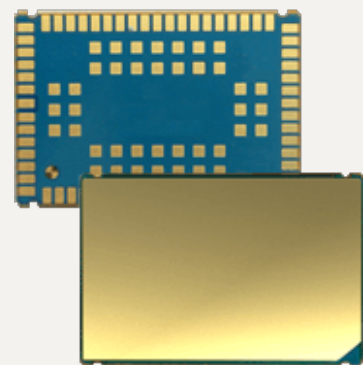


Cinterion[®] EHS5-E

Release Notes

Version: 04.000
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1 Introduction

This Release Note refers to

- **Cinterion® EHS5-E**

Firmware Revision: 04.000

Application Revision Number: 01.000.01

Java Remote Control (JRC) version: 1.60.00

Service LWM2M Agent (SLAE) version: 2.2.0

This release note describes the changes from firmware revision 03.001 and application revision number 00.000.55.

DISCLAIMER for EHS5-E:

The approval process and the implementation of ERA-GLONASS and panEU eCall are still undergoing reviews and changes, with all parties being involved. Gemalto M2M strives to provide all customers with the most recent and use case compliant software. This implies that future module firmware updates may become mandatory for the applications to comply with those use cases. Gemalto M2M undertakes to supply such software updates under the agreed terms and conditions. It is then the responsibility of the customer, and at their discretion, to update previously delivered modules if needed.

1.1 Related Documents

- [1] Cinterion® EHS5-E AT Command Set 04.000
- [2] Cinterion® EHS5-E/EHS5-US Hardware Interface Description 04.000
- [3] Hardware Migration Guide: Differences between BGS2 Rel1+2 and EHSx, v07
- [4] DSB75 Support Board Hardware Interface Description, v014
- [5] Multi-Adapter R1 User Guide, v03
- [6] Getting Started with EHSx, v03
- [7] EHSx Java User's Guide, v15
- [8] Multiplexer Driver Developer's Guide, v19
- [9] Application Note 16: Upgrading Modules Software, v02
- [10] Application Note 17: Firmware Update over the Air, v03
- [11] Application Note 39: USB Interface Description, v04
- [12] Application Note 26: Power Supply for Wireless Applications, v05
- [13] Application Note 40: Thermal Solutions for EHS5 Applications, v02
- [14] Application Note 45: Jamming Detection – Radio Link Stability, v01
- [15] Application Note 48: SMT Module Integration, v04
- [16] Application Note 88: ODIS/DHIR/Portfolio Management via LWM2M, v01
- [17] Application Note 54: EU eCall and ERA GLONASS for Cinterion® Modules, v02

To visit the Gemalto M2M Website you can use the following link:

<http://www.gemalto.com/m2m>

2 New Features

Feature	Brief description
RIL driver package	The Radio Interface Layer (RIL) driver package has been maintained and now it supports Android version up to 8.1.
Incremental firmware update	The firmware can be updated to future releases using delta images. Delta images are much smaller size than full firmware images.
BIP	The module supports default (network) bearer for the Bearer Independent Protocol (BIP).
SIM card detection	The module supports AT^SCKS with parameters <mode> and <SimStatus> to query SIM and chip card holder tray status. Details refer to [1].
Active data connections while USB power saving	During USB power saving ("suspend/resume") and USB reset/re-enumeration, all active data connections will be maintained. Use AT^SCFG to configure that all active data connections are maintained when VUSB is switched off. The settings will be stored non-volatile. Details refer to [1].
Notification for unreachable UDP	In case that the UDP endpoint is not reachable, the following existing URC will occur: ^SIS: 1,0,22,"Remote host is unreachable" This URC will be triggered by ICMP error type 3 and code 0 – 5 for IPv4 and error type 1 and code 0 – 6 for IPv6. Refer to RFC792 and RFC4443 for details.
Prevent SIM update during eCall	During eCall (AT+CECALL=2 3) call, incoming SMS-PP with TP-PID "(U)SIM Data download" are blocked if AT^SCFG="Call/Ecall/BlockSMSPP",1 is configured. This will prevent data modification (for example, profile update) on SIM card in the field during eCall and call back period. Details refer to [1].
GPIO configuration of RTS0	The GPIO RTS0 can be configured as pull up, pull down or tri-state. Setting will be stored non-volatile and become effective after a restart. Details refer to [1].
PDP context sharing	When both IP service via AT command and Java network API are supported, they can share one single public data network (PDN) connection.
Extended baud rate support on serial interfaces	Serial interfaces ASC0 and ASC1 now support the bit rate 300 bps via both AT+IPR and Java level. Details refer to [1].

Feature	Brief description
LWM2M library and client Midlet	<p>The release supports a Light Weight M2M (LWM2M) implementation according to OMA-TS-LightweightM2M-V1_0_1.</p> <p>The Java LWM2M library and an example MIDlet is part of the WTK.</p> <p>Details refer to [15].</p>
DTLS 1.2 protocol (RFC6347) support	Secure layer for UDP is now supported via Java API.
CoAP (RFC7252) support	Constrained Application Protocol (CoAP) is now supported via Java API.
Java AT command interceptor	<p>The module supports a mechanism, which allows custom JAVA MIDLET(s) to register, monitor and process AT commands.</p> <p>These AT commands including all parameters are forwarded to the custom JAVA MIDLET(s) before they are processed by the JRC MIDLET and the native command interpreter.</p> <p>Details refer to [7].</p>

3 Improved Features

Feature	Brief description
Android RIL	<ul style="list-style-type: none"> Automatic data connection is enabled during network switch between different access technologies. With the improved SIM PIN handler in RIL driver, the correct PUK remaining times will be returned after wrong tries. Firmware update becomes more stable because the system time in RIL is calculated correctly.
Jamming Detection	Jamming detection also works in connected mode.
Informal network scan	<p>When using AT^SNMON="INS",2 to perform network scan, wrong URC ^SXNWSCAN will not be displayed.</p> <p>Details refer to [1].</p>
URC for proactive commands	URCs for the proactive commands Set Up Menu, Set Up Idle Mode Text and Language Notification (if they are available) will be sent every time when the module is switched from Automatic Response (AR) mode to Explicit Response (ER) mode.
Error report	<p>In response to 3GPP, the error report displayed with AT+CEER has been further improved.</p> <p>Details refer to [1].</p>
Internet Service stability	<ul style="list-style-type: none"> During continuous IP service data write/read (AT^SISW/AT^SISR), the module will not reboot unexpectedly. Details refer to [1]. The module will not perform ceaseless attach check every 100ms, which might lead to module crash and reboot.
Email via Internet Services	<ul style="list-style-type: none"> The SMTP functionality is enhanced on the email attachment, that is, a blank character will not be appended to the attached file name and the attached file content will not be truncated to 1000 bytes. Special characters in emails are handled correctly, which are no longer changed to question marks when the emails are received.
FTPS	The module sends 'PROT C' command to the FTPS server in advance, so that it can connect and exchange data to all servers that support implicit type of secure FTP with unencrypted data channel.
cwmlib_1.0.jar	The functionality of the external library of cwmlib_1.0.jar has been integrated in firmware. Therefore, it is no longer needed to configure the export in the build path.

Feature	Brief description
ATCommandListener	When the RING line indication is enabled by AT^SCFG="Gpio/mode/RING0","std", in ATCommandListener every URC received by ATEvent() callback method can also trigger the RINGChanged() callback method correctly.
Output stream handling	Java MIDlet is not blocked when sending massive data via USB through Java's CommConnection API.
Serial interface DSR line	When the module is working in PPP connection or Data Terminal Ready (DTR) is toggled off to terminate the PPP connection, the Data Set Ready (DSR) status is set correctly.
GPIO polling frequency	The maximum frequency of changing of the pin state that can be detected is 0.2Hz in power saving mode.
Storing of connection settings	The storing of the Access Point Name (APN) has been improved to ensure that the settings are stored reliably under all conditions.
Microsoft Driver	Microsoft Driver's Certification is renewed.

4 Known Issues

Feature	Brief description
WIN10 support	On WIN10 operating system, the MUX driver is designed to be used with the ASC interfaces only.
Empty content returned	UE cell information can be displayed normally in 2G, while UE cell information is displayed empty (00 00 00 00...) in 3G.
AT+CPBW	<p>As specified in [1], <location> can be omitted in order to write a record to next free <location>. However, this function is working only if the next parameters following after <number> are given as well (although specified as optional parameters in [1]).</p> <p>Example for wrong behaviour:</p> <pre>AT+CPBW=,"22411" +CME ERROR: invalid index</pre> <p>Examples for workarounds:</p> <pre>AT+CPBW=,"22411",,"ADAC Operator" OK AT+CPBW=,"00223344",129 OK</pre>
Microphone mute	AT+CMUT cannot be used during the first voice call, but can be used after the first call.
^SHUTDOWN URC	In the module shutdown sequence, the ^SHUTDOWN URC appears before the SIM interface becomes deactivated. The application should not cut immediately the power supply of the module after the ^SHUTDOWN URC appears.
SMTP	Bare <LF>, instead of <CR><LF>, is found in SMTP protocol while sending emails.
Unmatched certificate	<p>Some servers use the same IP to support multiple secure websites (https), but the certificates for those websites are different.</p> <p>When the module connects to such websites, the root certification not matching issue may occur because it does not get the matched certificate from the server.</p>
White space characters discarded	When using ATCommand class to issue AT commands, the white space characters in AT commands will be discarded. In this case, the file cannot be found in Flash File System (FFS), so the emails with the attachment cannot be sent properly.

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We work closely with global mobile network operators to ensure that Cinterion® modules evolve in sync with wireless networks, providing a seamless migration path to protect your IoT technology investment.

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