

Cinterion® PLS8-E Cinterion® PLS8-US-R4

Release Notes

Version: v04.001

DocID: PLS8x_rn_v04.001



Document Name: Cinterion® PLS8x Release Notes

Version: **v04.001**

Date: **July 07, 2017**

Docld: **PLS8x_rn_v04.001**

Status: Confidential / Preliminary

GENERAL NOTES

THE PRODUCT INCLUDING THE SOFTWARE PROVIDED BY GEMALTO M2M GMBH ("GEMALTO M2M") WITH THE PRODUCT ("PRODUCT") IS DEEMED ACCEPTED BY RECIPIENT AND IS PROVIDED WITHOUT INTERFACE TO RECIPIENT'S PRODUCTS. THE DOCUMENTATION AND/OR PRODUCT ARE PROVIDED FOR TESTING, EVALUATION, INTEGRATION AND INFORMATION PURPOSES.

COPYRIGHTS

THE SOFTWARE OBTAINED FROM GEMALTO M2M TOGETHER WITH THE PRODUCT ("SOFTWARE") IS THE INTELLECTUAL PROPERTY OF GEMALTO M2M AND/OR ITS LICENSORS.

LIMITED LICENCE GRANT

SUBJECT TO THE TERMS AND CONDITIONS IN THIS AGREEMENT, THE RECIPIENT, ITS CUSTOMERS AND END-CUSTOMERS OF THE PRODUCT SHALL HAVE A NON-EXCLUSIVE RIGHT TO USE THE PRODUCT OBTAINED FROM GEMALTO M2M. THE RECIPIENT SHALL NOT AND SHALL CONTRACTUALLY BIND ITS CUSTOMERS AND THE END-CUSTOMERS NOT TO TRANSFER, COPY, MODIFY, TRANSLATE, REVERSE ENGINEER, CREATE DERIVATIVE WORKS, DISASSEMBLE OR DECOMPILE THE SOFTWARE OR OTHERWISE USE THE SOFTWARE EXCEPT AS SPECIFICALLY AUTHORIZED BY THE PURPOSE OF THIS AGREEMENT OR BY MANDATORY LAW. GEMALTO M2M SHALL BE A THIRD PARTY BENEFICIARY IN THE AGREEMENTS WITH CUSTOMERS AND END-CUSTOMERS REGARDING THE SOFTWARE.

ANY RIGHT, TITLE AND INTEREST IN AND TO THE PRODUCT, OTHER THAN THOSE EXPRESSLY GRANTED TO THE RECIPIENT UNDER THIS AGREEMENT, SHALL REMAIN VESTED WITH GEMALTO M2M OR ITS THIRD PARTY LICENSORS.

GEMALTO M2M IS NOT OBLIGED TO MAKE THE SOURCE CODE OF THE SOFTWARE AVAILABLE TO THE RECIPIENT.

DISCLAIMER OF WARRANTY

THE DOCUMENTATION AND/OR PRODUCT ARE PROVIDED ON AN "AS IS" BASIS ONLY AND MAY CONTAIN DEFICIENCIES OR INADEQUACIES. THE DOCUMENTATION AND/OR PRODUCT ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, GEMALTO M2M FURTHER DISCLAIMS ALL WARRANTIES, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, COMPLETENESS, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT OF THIRD-PARTY RIGHTS. THIS PRODUCT IS NOT INTENDED FOR USE IN LIFE SUPPORT APPLIANCES, DEVICES OR SYSTEMS WHERE A MALFUNCTION OF THE PRODUCT CAN REASONABLY BE EXPECTED TO RESULT IN PERSONAL INJURY. APPLICATIONS INCORPORATING THE DESCRIBED PRODUCT MUST BE DESIGNED TO BE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS PROVIDED IN THESE GUIDELINES. FAILURE TO COMPLY WITH ANY OF THE REQUIRED PROCEDURES CAN RESULT IN MALFUNCTIONS OR SERIOUS DISCREPANCIES IN RESULTS. FURTHERMORE, ALL SAFETY INSTRUCTIONS REGARDING THE USE OF MOBILE TECHNICAL SYSTEMS, INCLUDING GSM AND GPS PRODUCTS, WHICH ALSO APPLY TO CELLULAR PHONES MUST BE FOLLOWED. GEMALTO M2M CUSTOMERS USING THIS PRODUCT FOR USE IN ANY APPLICATIONS DO SO AT THEIR OWN RISK AND AGREE TO FULLY INDEMNIFY GEMALTO M2M FOR ANY DAMAGES RESULTING FROM ILLEGAL USE.

EXCLUSION OF LIABILITY

GEMALTO M2M, ITS LEGAL REPRESENTATIVES AND VICARIOUS AGENTS SHALL - IRRESPECTIVE OF THE LEGAL GROUND - ONLY BE LIABLE FOR DAMAGES IF THE DAMAGE WAS CAUSED THROUGH CULPABLE BREACH OF A MAJOR CONTRACTUAL OBLIGATION (CARDINAL DUTY), I.E. A DUTY THE FULFILMENT OF WHICH ALLOWS THE PROPER EXECUTION OF THE RESPECTIVE AGREEMENT IN THE FIRST PLACE OR THE BREACH OF WHICH PUTS THE ACHIEVEMENT OF THE PURPOSE OF THE AGREEMENT AT STAKE, RESPECTIVELY, AND ON THE FULFILMENT OF WHICH THE RECIPIENT THEREFORE MAY RELY ON OR WAS CAUSED BY GROSS NEGLIGENCE OR INTENTIONALLY. ANY FURTHER LIABILITY FOR DAMAGES SHALL – IRRESPECTIVE OF THE LEGAL GROUND – BE EXCLUDED. IN THE EVENT THAT GEMALTO M2M IS LIABLE FOR THE VIOLATION OF A MAJOR CONTRACTUAL OBLIGATION IN THE ABSENCE OF GROSS NEGLIGENCE OR WILFUL CONDUCT, SUCH LIABILITY FOR DAMAGE SHALL BE LIMITED TO AN EXTENT WHICH, AT THE TIME WHEN THE RESPECTIVE AGREEMENT IS CONCLUDED, GEMALTO M2M SHOULD NORMALLY EXPECT TO ARISE DUE TO CIRCUMSTANCES THAT THE PARTIES HAD KNOWLEDGE OF AT SUCH POINT IN TIME. GEMALTO M2M SHALL IN NO EVENT BE LIABLE FOR INDIRECT AND CONSEQUENTIAL DAMAGES OR LOSS OF PROFIT. GEMALTO M2M SHALL IN NO EVENT BE LIABLE FOR AN AMOUNT EXCEEDING €20,000.00 PER EVENT OF DAMAGE. WITHIN THE BUSINESS RELATIONSHIP THE OVERALL LIABILITY SHALL BE LIMITED TO A TOTAL OF €100,000.00. CLAIMS FOR DAMAGES SHALL BECOME TIME-BARRED AFTER ONE YEAR AS OF THE BEGINNING OF THE STATUTORY LIMITATION PERIOD. IRRESPECTIVE OF THE RECIPIENT'S KNOWLEDGE OR GROSS NEGLIGENT LACK OF KNOWLEDGE OF THE CIRCUMSTANCES GIVING RISE FOR A LIABILITY ANY CLAIMS SHALL BECOME TIME-BARRED AFTER FIVE YEARS AS OF THE LIABILITY AROSE. THE AFOREMENTIONED LIMITATION OR EXCLUSION OF LIABILITY SHALL NOT APPLY IN THE CASE OF CULPABLE INJURY TO LIFE, BODY OR HEALTH, IN CASE OF INTENTIONAL ACTS, UNDER THE LIABILITY PROVISIONS OF THE GERMAN PRODUCT LIABILITY ACT (PRODUKTHAFTUNGSGESETZ) OR IN CASE OF A CONTRACTUALLY AGREED OBLIGATION TO ASSUME LIABILITY IRRESPECTIVE OF ANY FAULT (GUARANTEE).

SECRECY

THE RECIPIENT UNDERTAKES FOR AN UNLIMITED PERIOD OF TIME TO OBSERVE SECRECY REGARDING ANY INFORMATION AND DATA PROVIDED TO HIM IN THE CONTEXT OF THE CONTRACTUAL RELATIONSHIP AND CLASSIFIED AS CONFIDENTIAL OR OTHERWISE RECOGNISABLE AS CONFIDENTIAL, IN PARTICULAR AS TRADE OR COMPANY SECRET AND – AS FAR AS NOT NECESSARY FOR THE ACHIEVEMENT OF THE PURPOSE OF THE CONTRACT – TO NEITHER RECORD NOR FORWARD TO THIRD PARTIES NOR USE IN ANY WAY. EMPLOYEES AND THIRD PARTIES INVOLVED SHALL BE BOUND TO OBSERVE THE ABOVE PROVISIONS.

MISCELLANEOUS

THE INTERPRETATION OF THIS GENERAL NOTE SHALL BE GOVERNED AND CONSTRUED ACCORDING TO GERMAN LAW WITHOUT REFERENCE TO ANY OTHER SUBSTANTIVE LAW. LEGAL VENUE FOR ALL DISPUTES ARISING FROM THIS AGREEMENT SHALL BE MUNICH, GERMANY.

IN THE EVENT OF A CONFLICT BETWEEN THE PROVISIONS OF THIS AGREEMENT AND ANOTHER AGREEMENT REGARDING THE PRODUCT (EXCEPT THE GENERAL TERMS AND CONDITIONS OF GEMALTO M2M) THE OTHER AGREEMENT SHALL PREVAIL.

Copyright

Transmittal, reproduction, dissemination and/or editing of this document as well as utilization of its contents and communication thereof to others without express authorization are prohibited. Offenders will be held liable for payment of damages. All rights created by patent grant or registration of a utility model or design patent are reserved.

Copyright © 2017, Gemalto M2M GmbH, a Gemalto Company

Trademark Notice

Gemalto, the Gemalto logo, are trademarks and service marks of Gemalto and are registered in certain countries.

Contents

1	Introduction	
	1.1 Related Documents	5
2	New Features	6
1	Improved Features	9
	1.1 Known Issues	11

1 Introduction

This Release Note refers to the GSM/UMTS/LTE modules Cinterion® PLS8-E v04.001
Cinterion® PLS8-US-R4 v04.001

DISCLAIMER for PLS8-US-R4:

Upgrading PLS8-US-R3 modules to PLS8-US-R4 firmware is technically possible. However, this is not permitted for PTCRB reasons on the North American market. This is because both releases have an IMEI range on their own, and the newly added VoLTE feature set is subject to PTCRB approval. For commercial use of VoLTE you are advised to order new PLS8-US-R4 modules.

1.1 Related Documents

- [1] PLS8-E Hardware Interface Description, v04.001 PLS8-US-R4 Hardware Interface Description, v04.001
- [2] PLS8-E AT Command Specifications, v04.001 PLS8-US-R4 AT Command Specifications, v04.001
- [3] DSB75 Development Support Board Hardware Interface Description, v14
- [4] Application Note 16: Updating ALS3x, PLS8x Firmware, v02
- [5] Application Note 26: Power Supply for Wireless Applications, v08
- [6] Application Note 39: ALS3, PLS8 USB Interface Description, v03
- [7] Application Note 40: Thermal Solutions for Cinterion® ALS3/PLS8 Application, v03
- [8] Application Note 48: SMT Module Integration, v04
- [9] Application Note 51: Continuous Wave Testing with Cinterion® PLS8x Modules
- [10] User Guide: Getting Started with ALS3/PLS8, v01

To visit the Gemalto M2M Website you can use the following link: www.gemalto.com/m2m

2 New Features

Feature	Brief description
VoLTE support, Provider profile management	To meet the operational requirements for VoLTE this release introduces a new provider profile configuration management. There are now two types of preconfigured provider profiles embedded: • Dedicated provider profiles distinguished by the IIN field (Issuer Identification Number) of the ICCIDs in the SIM: Each provider profile loads a set of persistent provider specific settings, such as PDP contexts defined with AT+CGDCONT, as well as IMS and VoLTE settings if applicable for the specific provider. • One Fallback profile intended for all other providers: The Fallback profile comes with default PDP contexts. It depends on the provider whether default PDP contexts will do. In most cases, the TE will be required to define provider specific PDP contexts. New AT commands: • AT^SCFG "MEopMode/Prov/AutoSelect": Autoselect provider profile if ICCID of inserted SIM matches one of the preconfigured provider profiles. • AT^SCFG "MEopMode/Prov/Cfg: Manually select a provider profile.
	 ATI61: List all preconfigured profiles and selected profile. AT^SCFG "MEopMode/IMS": Enable or disable IMS registration attempt after LTE attach, select Multimedia Telephony and SMS over IMS or CSPS (SGs) AT^SCFG "Call/VoLTE/Codec": Select speech codec configuration for VoLTE calls according to 3GPP TS 24.930. AT^SIND "prov" indicator: Reports provider profile status. AT+CAVIMS: Read IMS voice call availability. AT+CVMOD: Select voice call mode via VoIP or CS. AT^SCFG "SMS/4GPref": Select SMS over IMS or CSPS (SGs). This command is deprecated, its function is fully integrated in the AT^SCFG "MEopMode/IMS" subcommand. For detailed descriptions of the provider profile management please refer, in particular, to AT^SCFG "MEopMode/Prov/Auto-Select", AT^SCFG "MEopMode/Prov/Cfg" and AT+CGDCONT.
Enhanced audio settings AT^SCFG "Audio/Ecfg", AT^SNFI	Enables/disables the following additional microphone settings for AT^SNFI: <echopathdelay>, <rxavcsens> or <tunemode>.</tunemode></rxavcsens></echopathdelay>
AT^SCFG, "SMS/Retrm"	Specifies a timeout of up to 45 seconds for trying to repeat an attempt to send a short message if the first attempt has failed.

Feature	Brief description
AT^SCFG "URC/Ringline/SelWUrc"	Determines the types of URCs (RING, +CMTI, all) allowed to toggle the ring line in the way specified with parameter <urcringlinecfg> of the AT^SCFG subcommand "URC/Ringline".</urcringlinecfg>
AT^SCFG "MEopMode/SRPOM" AT^SINFO "RPM"	AT^SCFG "MEopMode/SRPOM" enables / disables the usage of the default Radio Policy Manager (RPM) parameter settings according to GSMA "TSG.34/TS.34 - IoT Device Connection Efficiency Guidelines", as of Version 1.x, chapter 8.
	AT^SINFO "RPM" returns the currently loaded RPM (Radio Policy Manager) parameters.
AT^SINFO "ProvCfg/Ident"	Indicates the Provider Configuration Identification.
New AT^SGPSC subcommands	AT^SGPSC "Nmea/Gps" enables the output of GPS sentences.
	AT^SGPSC "Nmea/Galileo" enables the output of GALILEO sentences. Disabled automatically when module gets GPS position fix over US territory.
	AT^SGPSC "Nmea/PZ90" enables the conversion of longitude, latitude, altitude from WGS84 to PZ-90 system.
	AT^SGPSC "Nmea/ExtGSV" enables the output of decimals in GSV elements Elevation, Azimuth, SNR/ CN0.
	AT^SGPSC "Nmea/Output", "gpsdataurc" enables the output of NMEA sentences in URC format (as "^SGPSE" URC type "NMEA sentence") eliminating the need of a dedicated NMEA instance. For each single NMEA sentence, there will be a single URC. At the frequency specified with <freqval>, the module will send a set of URCs for each set of NMEA sentences.</freqval>
	AT^SGPSC "Nmea/Data" determines the type of NMEA sentences presented via "^SGPSE" URC type "NMEA sentence" if AT^SGPSC "Nmea/Output" is set to "gpsdataurc".
	AT^SGPSC "Sens/MinElevAngle" configures the minimum GNSS elevation angle.
AT^SIND "dtmf"	The new "dtmf" indicator enables the module to decode and collect DTMF signals sent from a local source or from the network.

Feature	Brief description
AT^SIND "sendsms"	The new "sendsms" URC indicates that the module has finished executing the AT commands for sending a short message, and whether or not the sending attempt was successful.
MBIM AT^SSRVSET	PLS8x modules are designed to support USB Communications Class Subclass MBIM (Mobile Broadband Interface Modell) V1.0 for operating systems MS Windows 8 or higher and Linux Kernel 3.8 and greater. The CDC MBIM enumeration can be enabled using the new option AT^SSRVSET="actsrvset",4. CDC-ECM and CDC MBIM enumerations are mutually exclusive, having different USB composition identifiers: 0061 for CDC-ECM, 0062 for CDC MBIM. Phonebook and SMS are not supported on the MBIM interface.
Incremental firmware update	It is now possible to perform incremental firmware updates. This feature will not work for products upgraded from release 3 to release 4.
For PLS8-US-R4 only: ODIS (OMA DM IMEI Sync) service of AT&T	To meet the requirements of the ODIS (OMA DM IMEI Sync) service of AT&T this release introduces a set of new AT commands: • AT^SNOMADM: Configure OMA-DM settings. • AT^SBNW: Write certificates required for the OMA-DM server. • AT^SIND "omadm" indicator: Reports the progress of an OMA-DM session.
For PLS8-US-R4 only: AT^SIND "ratmode"	The new AT^SIND "ratmode" indicator has been introduced for AT&T specific UICCs with Elementary File EFRATmode. The indicator notifies the user of changes to the EFRATmode initiated by the network.

1 Improved Features

Feature	Brief description
AT^SGPSC settings after FW update	Each firmware update restores all AT^SGPSC settings to their delivery default values. User preferences will need to be reconfigured afterwards.
AT^SGPSC "Nmea/DRSync"	The 1PPS (pulse per second) signal enabled with AT^SGPSC "Nmea/DRSync" and generated on the DR_SYNC line no longer stops 6 min after loss of GNSS signal. It will now be provided without any time limit.
1st and 2nd WWAN (RmNet) adapter	Opening and closing two WWAN connections at the same time is now possible without any problem.
AT+CGDCONT	AT+CGDCONT has been enhanced to support parameters <emergency_indication>, <p-cscf_discovery>, <im_cn_signalling_flag_ind>].</im_cn_signalling_flag_ind></p-cscf_discovery></emergency_indication>
AT+CALA	The AT+CALA command is now fully functional.
SIM Application Toolkit	The handling of some SAT commands in Automatic Response Mode has been improved. They will now be executed automatically instead of being rejected as done with earlier releases. This means the response will now be <status> 0 or 4 "Command performed successfully, but requested icon could not be displayed" instead of <status> 48 "Command beyond UE's capabilities". For details see [2], chapter "Remote SAT Command Types, table "Command Type Table".</status></status>
AT^SISS "ipVer" value 10	The AT^SISS parameter "ipVer" now supports the additional value 10. Intended only for TCP listener and UDP endpoint, value 10 can be employed for every PDP context type. If an IPv4v6 PDP context is used, and this context provides both IPv4 and IPv6 interfaces, it is possible to connect to an IPv4 client and an IPv6 client at the same time. Addresses are always shown in IPv6 format. For IPv4 connections, IPv4-mapped IPv6 address notation is used, i.e. [::ffff:10.66.90.170]. For AT^SISO?, TCP listener and UDP endpoint show "[::]" as local address. Please use AT+CGPADDR to read local address information in this case.
AT^SISW, <eodflag></eodflag>	The <eodflag> is no longer intended for use with HTTP "POST". The size of the data to be posted has to be set using the hcContLen parameter of AT^SISS service profile.</eodflag>

Feature	Brief description
AT^SIND, "simread"	The syntax of the write command response has been improved. Also, the value range has been enhanced to support USIM Elementary File type EFust.
AT^SBNW "agps"	As specified in [2], take care to load only xtra2.bin files (GPS + GLONASS) into the module. Trying to load GPS only files xtra.bin will be denied with error.
AT^SCTM, thermal shutdown	As of this release, automatic shutdown at the undertemperature threshold has been disabled, and therefore, the URC "^SCTM_B: -2" has been cancelled. When reaching the undertemperature limit the module sends, as usual, the warning URC "^SCTM_B: -1" enabling the host application to take precautions, such as protect the module from exposure to extreme conditions, or save or back up data etc.
AT^SATR	AT^SATR has been enhanced. The new options can be used to trigger USIM powerdown and USIM powerup.
AT+CEER AT^SIND "ceer"	AT+CEER provides new SIP END release causes, SIP release causes and ITU Q.850 release causes. AT^SIND "ceer" indicator has additional <ceerrelcausegroup> values: 40 for ITU Q.850 release causes, 41 for SIP release causes.</ceerrelcausegroup>
AT^SCFG "MEopMode/PwrSave"	The value range of the AT^SCFG "MEopMode/PwrSave" parameter <pwrsaveperiod> has been changed from ("0""600") to ("0","21-600"). This means the minimum time can now be 2.1 seconds. Values from 1 to 20 would have prevented the module from entering SLEEP mode. The default value "52" = 5.2 seconds has not changed. Please note that the specification in [2] has not yet been updated.</pwrsaveperiod>

1.1 Known Issues

Issue	Brief description
AT^SCFG: "MEopMode/IMS" after FW upgrade	Upgrading the module firmware currently requires the module to be restarted twice to ensure that the provider profile settings for VoLTE and IMS can be properly configured. After the first restart please wait for the ^SYSSTART URC, then restart the module and wait again for ^SYSSTART.
	Depending on the provider profile it may happen that, after each firmware update, the commands AT^SCFG: "MEopMode/IMS" and AT^SCFG= "SMS/4GPref" return the responses ^SCFG: "MEopMode/IMS","1","mmtel","INCORRECT SMS CONFIGURATION" and ^SCFG: "SMS/4GPref","INCORRECT SMS CONFIGURATION". In such case, please write the AT^SCFG="MEopMode/IMS",1,"mmtel","smsip" command to correct the <smsdomain> parameter. To reduce the number of restarts this should be done before restarting the module the second time.</smsdomain>
AT^SCFG "MEopMode/SRPOM" AT^SINFO "RPM"	Changing the AT^SCFG "MEopMode/SRPOM" settings (see new features in chapter 2) currently requires the module to restart. Then, AT^SINFO "RPM" will correctly show the loaded parameters.
VoLTE Multiparty, AT+CHLD, AT^SHUP	 The handling of VoLTE Multiparty calls is limited as follows: During a Multiparty call AT+CLCC and AT^SLCC show only one party (the conference server). Releasing a single call is not possible, neither with AT+CHLD=1X nor with AT^SHUP. Placing a call on hold with AT+CHLD=2X is not supported. Explicit Call Transfer with AT+CHLD=4 is not supported.
AT^SIST bit rate	On the serial interface ASC0 data transfer in Transparent Mode activated with AT^SIST can be performed only at the default bit rate AT+IPR=115200.
AT^SISS, AT^SIST "etx" for UDP client	Other than specified in [2], the "etx" switch within the address parameter of AT^SISS is not optional, but mandatory to activate Transparent mode for a UDP client, e.g. ^SISS: 1,"address","sockudp://10.42.228.35:7;etx" or AT^SISS=1,"address","sockudp://10.42.228.35:7;etx=26"
AT^SISS "smCC"	Though specified in [2] the "smCC" option for sending emails to Carbon Copy addressees is not implemented.

Issue	Brief description
RING0 line AT^SCFG "URC/Ringline"	While the interface is in Transparent mode the RING0 line does not turn on to indicate URCs, such as incoming short messages. However, the URCs will be properly displayed after closing Transparent mode (in case of SMS if AT+CNMI=2,1 enabled).
For PLS8-E only: eCall	The PLS8-E firmware is not yet fully compliant with all test cases required for panEU eCall approval.

About Gemalto

Since 1996, Gemalto has been pioneering groundbreaking M2M and IoT products that keep our customers on the leading edge of innovation.

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.

Cinterion products integrate seamlessly with Gemalto identity modules, security solutions and licensing and monetization solutions, to streamline development timelines and provide cost efficiencies that improve the bottom line. As an experienced software provider, we help customers manage connectivity, security and quality of service for the long lifecycle of IoT solutions.

For more information please visit

www.gemalto.com/m2m, www.facebook.com/gemalto, or Follow@gemaltoloT on twitter.

Gemalto M2M GmbH Werinherstrasse 81 81541 Munich Germany © Gemalto 2017. All rights reserved. Gemalto, the Gemalto logo, are trademarks and service marks of Gemalto and are registered in certain countries