

Cinterion[®] PLS8-E Cinterion[®] PLS8-US-R4

Release Notes

Version: v04.001 DocID: PLS8x_rn_v04.001



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Document Name:	Cinterion® PLS8x Release Notes
Version:	v04.001
Date:	July 07, 2017
Docld:	PLS8x_rn_v04.001

Status: Confidential / Preliminary

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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 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+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/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.
1 st and 2 nd 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_ </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 <i>"Command performed successfully, but requested icon could not be displayed"</i> instead of <status> 48 <i>"Command beyond UE's capabilities"</i>. 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 CONFIG- URATION" 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.

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