Information note

Topic	**LARA-R6001D-00B IP information note Rev. 3**
	UBX-22008409 C1-Public
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1 Affected products

Product name	Ordering code	Type number	Firmware		Remarks
LARA-R6001D	LARA-R6001D-00B	LARA-R6001D-00B-00	Modem:	00.13	
			Application:	A00.01	

2 Type

☒ Product status change   ☒ Documentation update

☐ Hardware/component change   ☐ Certification information

☒ Firmware/software update   ☐ Security advisory

☒ Label change   ☐ Other

3 Description

Status of the above listed product has changed from Engineering Samples (ES) to Initial Production (IP). The module labels have been updated to include related certification information.

3.1 Hardware changes

No hardware changes.

3.2 Software changes

The following features have been added:

- [u-blox ID 805]: Implement +UDCONF=81 AT command to disable SIM / UICC integrity check on test network.
- [u-blox ID 1795]: Ring Indicator (RI) line implemented on the virtual serial port over USB.
- [u-blox ID 1797]: Data Set Ready (DSR) line implemented on the virtual serial port over USB.

The following issues have been fixed:

Internet suite

- [u-blox ID 1983]: Four simultaneous HTTP PUT operations can cause a socket error.

Connectivity

- [u-blox ID 1547]: "CONNECT 150000000" returned when starting a dial-up.
- [u-blox ID 1608]: MSC packets are not sent to indicate RI line transitions on MUX.
- [u-blox ID 1913]: The activation of dialup connection over USB can fail if &S value is set to 1.

Positioning

- [u-blox ID 1645]: CellLocate® and AssistNow requests always fail in 3G RAT. AssistNow online using AT+UGPS=1,4 command always returns +UUGIND: 4,9 (generic error).
- [u-blox ID 1680]: Local aiding GNSS files are not saved into file system at module reboot or power off.
- [u-blox ID 1637] [u-blox ID 1638] [u-blox ID 1641] [u-blox ID 1774] [u-blox ID 1855] [u-blox ID 1897]: CellLocate® performance is not optimized.
- [u-blox ID 2080]: AssistNow Online and CellLocate® requests do not work after flash the device until AssistNow Offline is requested.

File system

- [u-blox ID 1235]: Large file download on internal file system via USB can fail. The file shall be sent in chunks of 1 MB.

Security

- [u-blox ID 1726]: +USECOPCMD fails if not empty APN parameter is used.
- [u-blox ID 1714]: +USECE2EDATAENC fails using E2E encryption.
- [u-blox ID 1976]: Backup and restore feature can cause an error on RoT persistent data.
- [u-blox ID 2073]: Wrong response from AT+USECMODE=0 when security is disabled.

4   Schedule

Estimated first shipment date[1]:	20-Apr-2022
Documentation (e.g. release note)	Available

5   Firmware update

- ES units (LARA-R6001D-00B-00, FW version: 00.11 A00.01) can be upgraded to the IP firmware by means of the u-blox EasyFlash tool, FOAT and FOTA procedures. See section 2.6 of the u-blox LARA-R6 series system integration manual [3] for details on the hardware requirements to perform the firmware update over USB interface using the u-blox EasyFlash tool.
- An IP unit cannot be downgraded with the ES firmware.

5.1   Firmware update packages and md5 signature

Product / delivery	Filename	md5sum
LARA-R6001D-00B		
EasyFlash	LARA-R6001D-00B-00-IP-0013A0001-003K00.dof	fa5b6298e310d8769dfb8373c514ccf3
FOTA from ES 00.11,A00.01 to IP 00.13,A00.01 uFOTA ID: 1516	LARA-R6001D-00B-00-ES-0011A0001-003K00_LARA-R6001D-00B-00-IP-0013A0001-003K00.upd	9fbe09e19aaf9d8238871b7b544215be

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[1] The estimated first shipment date is the forecasted date that a customer may expect to receive product

Product / delivery	Filename	md5sum
FOAT	LARA-R6001D-00B-00-IP-0013A0001-003K00.upd	58b254c27834a4a55fe90fc8d092536f
FOTA test 00.13 to 00.13_ENG0099 uFOTA ID: 1518	LARA-R6001D-00B-00-IP-0013A0001-003K00_LARA-R6001D-00B-00-XX-0013ENG0599A0001-003K00.upd	cffde1d6f7777552cc809bcc18397637
FOTA test 00.13_ENG0099 to 00.13 uFOTA ID: 1519	LARA-R6001D-00B-00-XX-0013ENG0599A0001-003K00_LARA-R6001D-00B-00-IP-0013A0001-003K00.upd	3854c8aea9dd6252a1510e226794df07

6 Tools

- m-center v02.06.00 – Download from the u-blox.com website via this page: m-center
- EasyFlash 13.03 – Download from the u-blox.com website via this link: EasyFlash
- Windows driver v1.0.0.0 – Download from the u-blox.com website via this link: LARA-R6 driver

7 Related documentation

[1]   u-blox LARA-R6 series AT commands manual, UBX-21046719
[2]   u-blox LARA-R6 series data sheet, UBX-21004391
[3]   u-blox LARA-R6 series system integration manual, UBX-21010011
[4]   u-blox EVK-R6 user guide, UBX-21035387

Appendix

A Known bugs and limitations

Internet suite

- [u-blox ID 1806] [u-blox ID 1958]: Possible data loss while uploading file via UDP direct link.
- [u-blox ID 2138]: It is not possible to perform FTP traffic in dialup over <cid> =1 when LwM2M is activating a data call over the same PDP context. See appendix B.1.2 for a workaround proposal.
- [u-blox ID 2522]: The +UIPCHGN AT command is not supported.
- [u-blox ID 2523]: AT commands are not processed, and URC not printed on one serial interface while in direct link mode on another serial interface.

Registration/Network services

- [u-blox ID 1246]: AT+COPS=1 is unresponsive if issued in airplane mode (+CFUN: 4) or minimum functionality (+CFUN: 0).
- [u-blox ID 1932]: Transitory registration URCs (+CREG, +CEREG, +CGREG) do not always match with the effective registration state.
- [u-blox ID 2127]: When AT+COPS=1 is used specifying the RAT, the module is forced to single RAT configuration. AT+CFUN=0/1 cycle is needed to restore multi-RAT.
- [u-blox ID 2482]: +CGEREP and +CNMI URCs are buffered on all AT terminals when a dial-up connection is in progress and displayed only when dialup is terminated.
- [u-blox ID 1925]: Jamming detection does not support all LTE bands.

SIM management

- [u-blox ID 890]: SIM not present is returned by +CPIN read command after boot for a transitory phase of a few seconds.

Security

- [u-blox ID 2526]: Memory full error trying to encrypt data with the maximum allowed size.

V24 control and V25ter

- [u-blox ID 77]: All modules have echo disabled (ATE0). After a factory reset (+UFACTORY) the echo configuration is set to enable. If it is necessary to have the echo enabled, we suggest issuing the command to enable the echo (ATE1) at module boot, as soon as the AT interface is ready. This is suggested to be executed within the host application production process, where we recommend also to execute the file system backup by issuing the AT+UBKUPDATA command after having enabled the echo.

B   Usage notes

B.1.1 Internet suite

When using UDP sockets, +USOCO shall not be used to connect them, otherwise the UDP socket will not work.

B.1.2 Dial-up

With reference to [u-blox ID 2138]: due to a possible conflict between the internal embedded applications and the PPP, a packet loss can occur in the external host application. The scenario occurs only if the PPP is initialized as the first application to use the PDP context (<cid>) and subsequently an internal application is initialized on the same context identifier. The issue has a low probability to occur.

In the following table, it is reported a workaround that prevents the issue from occurring. The proposed solution consists in the creation of a socket before activating the PPP connection.

PPP activation

Steps	AT command	Response	Details
1	AT+CGACT=1,<cid>	OK	Activate the PDP context <cid>.
2	AT+USOCR=17,1,0,<cid>	+USOCR: <id> OK	Create a socket mapped to the <cid>. ☞ The <id> of the socket reported in the response need to be stored so to properly close the socket once the PPP will be deactivated.
3	ATD*99***<cid>#	CONNECT	Activate the dial-up.

PPP deactivation

Steps	AT command	Response	Details
1	+++	DISCONNECT	Deactivate the dial-up.
2	AT+USOCL=<id>	+USOCL: <id> OK	Close the specific socket <id>.
3	AT+CGACT=0,<cid>	OK	Deactivate the specific <cid> PDP context used in the dial-up procedure.

☞ The proposed workaround, if implemented as above, will be able to operate correctly even when the fix will be available on a future release.