

Information note

Topic LENA-R8001-00C and LENA-R8001M10-00C Initial production
UBXDOC-686885345-1771 C1-Public

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1 Affected products

Product name	Ordering code	Type number	Firmware	Remarks
LENA-R8001	LENA-R8001-00C	LENA-R8001-00C-00	Modem: 02.00 Application: A01.40	
LENA-R8001M10	LENA-R8001M10-00C	LENA-R8001M10-00C-00	Modem: 02.00 Application: A01.40	

2 Type

- | | |
|--|---|
| <input checked="" type="checkbox"/> Product status change | <input checked="" type="checkbox"/> Documentation update |
| <input type="checkbox"/> Hardware/component change | <input checked="" type="checkbox"/> Certification information |
| <input checked="" type="checkbox"/> Firmware/software update | <input type="checkbox"/> Security advisory |
| <input type="checkbox"/> Label change | <input type="checkbox"/> Other |

3 Description

Status of the above product has changed from engineering samples (ES) to initial production (IP). For the details of the new features and improvements implemented in the IP version, see sections [3.2](#), [3.3](#).

Certifications have been completed according to the u-blox LENA-R8 series data sheet [\[2\]](#).

3.1 Hardware changes

No changes from ES.

3.2 LENA-R8001 Software changes

The following issues have been fixed:

General

- [u-blox ID 266]: The AT&V command does not work.

SIM

- [u-blox ID 83]: After having inserted for three times the wrong PIN2 / PUK2, the "+CME ERROR: Execute command failure" error result code is issued instead of "+CME ERROR: SIM PUK2 required".

Multiplexer

- [u-blox ID 291]: dial-up on multiplexer is not supported.

Internet suite

- [u-blox ID 112]: NULL character (0x00) cannot be used in binary mode.
- [u-blox ID 250]: When partially reading data from an UDP socket, the remaining data in the buffer are lost.
- [u-blox ID 296]: UDP socket cannot be set in listening mode by the +USOLI AT command.
- [u-blox ID 260]: SSL is not supported on FTP data channel.

Low power mode

- [u-blox ID 293, 294, 295]: The module can correctly enter the low power idle mode only after having issued the AT+UPSV=4 command, but the setting is not persistent across power cycles and the AT+UPSV=0 command does not work. Thus, once the +UPSV: 4 condition is set, if a reboot is executed, the module behaves as in the +UPSV: 0 factory-programmed configuration even though the information text response to the read command is +USPV: 4.

3.3 LENA-R8001M10 Software changes

The following issues have been fixed:

Registration/Network services

- [u-blox ID 368]: When set in dual RAT mode (+URAT: 5,3) and device registered in 2G, no +CREG / +CGREG URCs are issued if out of coverage.
- [u-blox ID 508]: Registration with band 66 could be unstable.

Packet switched data services

- [u-blox ID 356]: In Linux OS environment, "NO CARRIER" message is never returned when PPP is terminated.
- [u-blox ID 489]: The +CGACT AT command always returns <status>=0 for the default PDP context

File system

- [u-blox ID 574]: The +ULSTFILE AT command is not supported.
- [u-blox ID 509]: The +UDWNFILE AT command does not check the available memory space before starting the file transfer. If downloading file size exceeds the available space, the command starts anyway and only at the end, returns "+CME ERROR: Execute command failure" error result code. The file is partially stored in the file system.

Serial interface

- [u-blox ID 494 / u-blox ID 502]: HW flow control could be ineffective in data upload via direct link in case of slow data connection. Data loss could occur.
- [u-blox ID 310]: When device is in data state, DTR transition from OFF to ON (DTR level high to low) brings the device in OLCM, while it should be the contrary: DTR transition from ON to OFF (DTR level low to high) shall bring the device into OLCM.
- [u-blox ID 472]: When using MUX, PPP is interrupted when sending SMS on a different MUX channel.

Internet applications

- [u-blox ID 260]: FTP client does not support SSL connection on both control and data channels.

Localization features

- [u-blox ID 484]: Data flow on USB from cellular modem to GNSS does not work.
- [u-blox ID 506]: When enabling GNSS data flow by the AT+UGPRF=1 command, only NMEA messages are displayed on the USB5 port. UBX messages are not available on USB5 port.
- [u-blox ID 499]: +UUGIN D URCs stop working after first GNSS activation.
- [u-blox ID 492]: Forwarding of GNSS data flow to multiple destinations concurrently does not work. Only one destination is supported.
- [u-blox ID 491]: When the connection with the CellLocate® server is interrupted, the autonomous sensor indication provided by +UULOC URC is not valid.

Firmware update

- [u-blox ID 460]: +UFWUPD: 128 URC is not returned when the FOAT update is completed.

4 Schedule

First production parts will be available in 2023 calendar week 39.

5 Firmware update

- LENA-R8001-00C engineering samples cannot be updated to initial production firmware version.
- LENA-R8001M10-00C engineering samples cannot be updated to initial production firmware by +UFWUPD.
- LENA-R8001M10-00C engineering samples can be updated to initial production firmware by +UFWINSTALL and Flashing tool.

5.1 Firmware update packages and md5 signature

Product / delivery	Filename	md5sum
LENA-R8001M10-00C		
Full FW image	LENA-R8001M10-00C-00_FW02.00_A01.40_IP.pac	7d043d91b472dfce7ea354164340e150
FOTA from ES to IP	LENA-R8001M10-00C-00_FW02.00_A01.22_ES-to-LENA-R8001M10-00C-00_FW02.00_A01.40_IP.zip	a7c4b93745cc118f3ce30dd4ffad3ede4
FOAT test: IP to dummy	LENA-R8001M10-00C-00_FW02.00_A01.40_IP-to-LENA-R8001M10-00C-00_FW02.00_A01.40_dummy.zip	9c56e66a1e92597580a242efc4441ae3
FOTA test: IP to dummy		
FOAT test: dummy to IP	LENA-R8001M10-00C-00_FW02.00_A01.40_dummy-to-LENA-R8001M10-00C-00_FW02.00_A01.40_IP.zip	9eac603244188d467b45d947b828d08c
FOTA test: dummy to IP		

Product / delivery	Filename	md5sum
LENA-R8001-00C		
FOAT test: IP to dummy	LENA-R8001-00C-00_FW02.00_A01.40_IP-to-	d4096a87d0454e867c3a266f89c4
FOTA test: IP to dummy	LENA-R8001-00C-00_FW02.00_A01.40_dummy.zip	cb0b
FOAT test: dummy to IP	LENA-R8001-00C-00_FW02.00_A01.40_dummy-to-	5031f3b8a065e26f61a2598769a5
FOTA test: dummy to IP	LENA-R8001-00C-00_FW02.00_A01.40_IP.zip	a393

Download full FW images from LENA-R8 series [Documentation and resources](#).
 For the FW packages, contact u-blox technical support, www.u-blox.com/support.
 For more details of FW update, see LENA-R8 series application development guide [5].

6 Tools

- [u-blox evaluation tool m-center v02.08.00 for Windows](#)
- [LENA-R8 USB drivers for Windows](#)
- [FlashingTool_ResearchDownload_R24.0.0003](#)

7 Related documentation

- [1] u-blox LENA-R8 series AT commands manual, [UBX-22016905](#)
- [2] u-blox LENA-R8 series data sheet, [UBX-22003110](#)
- [3] u-blox LENA-R8 series system integration manual, [UBX-22015376](#)
- [4] u-blox EVK-R8 user guide, [UBX-22018774](#)
- [5] u-blox LENA-R8 series application development guide, [UBX-22038374](#)

Appendix

A Known limitations

Packet switched data services

- [u-blox ID 411]: PPP and internal application cannot use the same CID.
- [u-blox ID 668]: the +CGACT read command does not report the default CID in the response when another PDP context is active. Workaround: the +CGDCONT read command reports all the defined context.

Connectivity

- [u-blox ID 297, 660]: DCD output does not work (it doesn't change status according to Carrier Detect Status) when AT&C1 is set.
- [u-blox ID 656]: In Direct Link, when using the USB port, especially if large amount of data is to be transferred, data loss may occur. Workaround: Don't use direct link (both socket and FTP) in USB design. UART is not affected by the issue.

Internet applications

- [u-blox ID 350]: When NAT is enabled, no listening socket (including active FTP mode) can be used.
- [u-blox ID 649]: LIST FTP command truncates the responses.

Device and data security

- [u-blox ID 191]: Importing a private key from serial I/O (+USECMNG=0,2,...) does not work.
Workaround: Import the same private keys from file stored on FS (+USECMNG=1,2,...).

File System

- [u-blox ID 174]: Append mode is not supported by +UDWNFILE with FOAT tag.
Workaround: AT+UDWNFILE=<filename>,<size>,"F"AT" must download the file in a single shot.

Localization features

- [u-blox ID 663]: +UGUBX responses are not reliable because the reply might not match the requested class and message ID. For navigation purposes it is recommended to use NMEA related AT commands. If communicating via UBX protocol is required, consider connecting host processor directly to GNSS system via the GNSS UART interface .

B Usage notes

- When powering up the module and autobauding is enabled (factory-programmed configuration), the first AT command issued is not executed, but instead used to synchronize the UART interface. Therefore, no information text response or final result code is returned.