

Product Change Note

Topic TOBY-R200-02B, TOBY-R202-02B, LARA-R202-02B, LARA-R203-02B FW update
UBX-19011731

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1 Affected Products

Product Name	Order Code	Type No (old)	FW (old)	Type No (new)	FW (new)
TOBY-R200	TOBY-R200-02B	TOBY-R200-02B-03	30.31 A02.02	TOBY-R200-02B-04	30.33 A02.02
TOBY-R202	TOBY-R202-02B	TOBY-R202-02B-03	30.31 A02.02	TOBY-R202-02B-04	30.33 A02.02
LARA-R202	LARA-R202-02B	LARA-R202-02B-02	30.42 A01.02	LARA-R202-02B-03	30.44 A01.02
LARA-R203	LARA-R203-02B	LARA-R203-02B-02	30.39 A01.03	LARA-R203-02B-03	30.41 A01.03

2 Type of Change

- Hardware modification
- Firmware update
- Documentation update
- Others

3 Description of Change

[u-blox ID 3925] ASN.1 decoding issue.

This fix addresses a critical defect in the way ASN.1-encoded messages contained in information broadcast by LTE base stations are decoded by the module. Some parts of these messages are used to convey network information to the device. In order to enable the selection of valid cells in an LTE network, this information needs to be decoded properly by the device. The failure to properly decode these messages can result in the inability of the module to establish an LTE connection. Because of impending changes by the network operator to the content of these encoded messages, in certain conditions the module may enter a state where it is permanently unable to connect to an available and valid LTE network.

This issue was not observed earlier because the network operator labs and field test locations used in the chipset and module certification processes did not create the conditions necessary to expose the issue.

The fix included in the maintenance release resolves the decoding defect and makes the module more robust and able to properly decode those messages.

Other changes implemented on application level:

[CA-062263 / u-blox ID 1445] missing SNI (Server Name Indication) feature for SSL/TLS

[CA-032977 / u-blox ID 3654] Certificate Serial number length extension

4 Schedule

New type number with new firmware will be introduced in production immediately with estimated first shipment date shown here:

Estimated First Shipment Date	17-May-2019
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5 Customer Impact and Recommended Action

u-blox has taken utmost care to ensure full backward compatibility to the previous versions. Successor products are pin-to-pin compatible to their predecessors.

Customer devices in the field that have an old type number or are using old firmware, and are operating normally, are at risk of failure due to future changes in the network. These configuration changes are expected to become more widespread as the operator begins decommissioning 3G service and re-farming that spectrum for use in 4G and 5G services. It is therefore strongly recommended that modules with the old type number be upgraded with the new firmware version as outlined in the table above. New firmware can be downloaded to the module using serial interface, USB or over the air (FOTA).

In order to maintain device certification, the PTCRB ECO process will be required and no testing is expected. With respect to mobile network operators (MNO), the end-device manufacturer shall discuss how to apply the proper process with their point of contact at the MNO; paperwork-only activity is expected. Operator approvals for affected products are being updated.

Implemented product changes do not affect regulatory certification (FCC, ISED and RED).

6 Known bugs and limitations

See the Information Notes [2], [3], [4].

6.1 Firmware update

If the firmware update is performed with +UFWINSTALL AT command, the application needs to erase the file system (FS) content with AT+UFACTORY=2,1 before performing the update.

Be aware, as written in [1], that the +UFACTORY AT command will be executed at the next module boot. Therefore to force an immediate execution of the command, the module needs to be rebooted (i.e. AT+CFUN=15).

Firmware update via the EasyFlash tool or via AT (+UFWUPD) already erases the file system.

7 Reference Documents

- [1] u-blox AT Commands Manual (UBX-13002752)
- [2] TOBY-R200-02B-00 / TOBY-R202-02B-00 Product Change Notification (UBX-17048314)
- [3] LARA-R202-02B IP Information Note (UBX-17057959)
- [4] LARA-R203-02B IP Information Note (UBX-17048311)