

Product change note

Topic **SARA-R52 02B firmware update**
UBXDOC-686885345-2185 C1-Public
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1 Affected products

Product name	Ordering code	Old type number	New type number	Old Firmware	New Firmware	SVN
SARA-R520	SARA-R520-02B	SARA-R520-02B-00	SARA-R520-02B-01	05.10.A00.01	05.20.A00.01	02
SARA-R520M10	SARA-R520M10-02B	SARA-R520M10-02B-00	SARA-R520M10-02B-01	05.10.A00.01	05.20.A00.01	02

2 Type

- | | |
|--|--|
| ☐ Product status change | ☐ Documentation update |
| ☐ Hardware/component change | ☐ Certification information |
| ☒ Firmware/software update | ☐ Security advisory |
| ☐ Label change | ☐ Other |

3 Description

See appendix A

4 Customer impact and recommended action

- u-blox has taken utmost care to ensure full backward compatibility to the previous versions. The product with the new firmware is functionally equivalent to the previous version. However, a system check before deployment in production is recommended.
- Customer host device certifications impact and recommended action
 - Regulatory approvals:
 - Regulatory approvals of the modules remain valid, as the FW changes do not affect electrical, RF or EMC properties of the modules, so that the FW changes do not affect the regulatory conformities of the modules.
 - Conformance approvals:
 - PTCRB certifications have been updated from the "02B-00" product versions.
 - u-blox recommends integrators having the PTCRB approval in place for the host product to execute the PTCRB ECO certification process due to the use of the new FW version of the module in the host product (no testing is expected, paperwork only).
 - MNO approvals:
 - The AT&T, Verizon Wireless, T-Mobile US and TELUS Mobile Network Operators approvals have been updated from the "02B-00" product versions.

- o u-blox recommends integrators having any of these MNO approvals in place for the host product to notify related Mobile Network Operator due to the use of the new FW version of the module in the host product (no testing is expected, paperwork only).

5 Firmware update

02B-00 (05.10, A00.01) units can be updated to this PCN firmware. It is not possible to downgrade a device from 05.20.A00.01 to 05.10, A00.01 or to 05.10.A99.99.

For FOTA and FOAT firmware update, a two-step procedure must be performed:

1. Starting with FW 02B-00, apply the FOTA upd file from 05.10, A00.01 to 05.10.A99.99.
2. Apply the update using the FOTA upd file from 05.10.A99.99 to 05.20.A00.01.

5.1 Firmware update packages and md5 signature

Product / delivery	Filename	md5sum
SARA-R520-02B		
EasyFlash	SARA-R520-02B-01-IP-0520A0001-011K00.dof	7f3b06b9a8e4df2da7d2e8935d20f59a
FOAT / FOTA 05.10, A00.01 to 05.10.A99.99 uFOTA ID: 2492	FOTA_SARA-R520-02B-00-IP-0510A0001-011K00_SARA-R520-02B-00-XX-0510A9999-011K00.upd	4c5e5f16f0df79640e45094203d5b064
FOAT / FOTA 05.10.A99.99 to 05.20.A00.01 uFOTA ID: 2503	FOTA_SARA-R520-02B-00-XX-0510A9999-011K00_SARA-R520-02B-01-IP-0520A0001-011K00.upd	1767e34b9280f0f35aa0a30d4a12f35a
FOTA test 05.20 to ENG0299 uFOTA ID: 2504	FOTA_SARA-R520-02B-01-IP-0520A0001-011K00_SARA-R520-02B-01-XX-0520ENG0299A0001-011K00.upd	6b234b7da436bba665c48feffa9d22e0
FOTA test ENG0299 to 05.20 uFOTA ID: 2505	FOTA_SARA-R520-02B-01-XX-0520ENG0299A0001-011K00_SARA-R520-02B-01-IP-0520A0001-011K00.upd	7cd52ad33d0b8008e16023257cdace97
SARA-R520M10-02B		
EasyFlash	SARA-R520M10-02B-01-IP-0520A0001-012K00.dof	a1dc647cb46fd98ffed5408e418e47da
FOAT / FOTA 05.10, A00.01 to 05.10.A99.99 uFOTA ID: 2491	FOTA_SARA-R520M10-02B-00-IP-0510A0001-012K00_SARA-R520M10-02B-00-XX-0510A9999-012K00.upd	5ddcc93f0a118432554d6f9ee57cc5a2
FOAT / FOTA 05.10.A99.99 to 05.20.A00.01 uFOTA ID: 2500	FOTA_SARA-R520M10-02B-00-XX-0510A9999-012K00_SARA-R520M10-02B-01-IP-0520A0001-012K00.upd	fa65943e6a1535bebcc88d73939e8845
FOTA test 05.20 to ENG0299 uFOTA ID: 2501	FOTA_SARA-R520M10-02B-01-IP-0520A0001-012K00_SARA-R520M10-02B-01-XX-0520ENG0299A0001-012K00.upd	6c60e9990f13d496749e01748de61176
FOTA test ENG0299 to 05.20 uFOTA ID: 2502	FOTA_SARA-R520M10-02B-01-XX-0520ENG0299A0001-012K00_SARA-R520M10-02B-01-IP-0520A0001-012K00.upd	b930e604b9ef3ed046ff7bec31d7f061

Click to download the EasyFlash image from the table above.

For the FOTA/FOAT FW packages, contact u-blox technical support, www.u-blox.com/support.

For more details of FW update, see the FW update application note [4].

6 Tools

- [u-blox evaluation tool m-center v02.10.00 for Windows](#)
- [u-blox FW flash tool EasyFlash 14.04 for Windows](#)

7 Related documentation

- [1] u-blox SARA-R5 series AT commands manual, [UBX-19047455](#)
- [2] u-blox SARA-R52 series data sheet, [UBX-22038918](#)
- [3] u-blox SARA-R52 series system integration manual, [UBX-23004806](#)
- [4] u-blox SARA-R5 series FW update application note, [UBX-20033314](#)
- [5] u-blox LEXI-R520 / SARA-R520 SpotNow application note, [UBX-22003096](#)
- [6] u-blox EVK-SARA-R52 user guide, [UBX-23006467](#)
- [7] u-blox LEXI-R520 / SARA-R5 Application Development Application Note, [UBX-20009652](#)
- [8] u-blox SARA-R5 smart connection manager application note, [UBX-21006919](#)
- [9] u-blox SARA modules hardware migration guide, [UBX-19045981](#)

Appendix

A Improvements and new features

A.1 Hardware

None.

A.2 Software

For feature details and software migration guide, see the application development guide [\[7\]](#).

General improvements:

- SVN changed to 02
- GSMA TS.25 PLMN list updated
- [u-blox ID 215] u-blox software version format change: modem and application versions returned by AT11 and AT19 commands are now separated by a period instead of a comma.
- [u-blox ID 397] USB profile change: a CDC-ACM interface has been added as AT interface. Host drivers shall be updated, otherwise the trace port won't work. Contact technical support for latest driver.
- [u-blox ID 399] MQTTSN improvement to prevent the client from being stuck during socket closure.
- [u-blox ID 9316] Fixed issue: the +UTIME AT command parameter <pulse_period>=0 configures a 1s pulse period instead of a 0.5s pulse period.
- [u-blox ID 412][u-blox ID 431-432] Improved interoperability with eSIM cards, especially for IMSI swap procedures and remote profile provisioning (configurability of the improvements can be done with +UDCONF=91,33 AT command).
- [u-blox ID 383] New feature: SIM card reader behaviour of +CSIM AT command, which can issue also the GET RESPONSE command; the behaviour is configurable with +UDCONF=251 AT command.
- [u-blox ID 312] Improvements related to the handling of DTR signal in both UPSV=1 and UPSV=0 cases.
- [u-blox ID 443] [u-blox ID 437] Improvements in PSM reliability in stress tests (frequent early wakeup from deep sleep state) and abnormal scenarios (collision of PLMN scan and data transmission).

Mobile Network Operators specific changes:

- AT&T:
 - Improvement: Disabled FGI bit 7 for AT&T and AT&T FirstNet profiles as per AT&T requirement
 - SIM initialization improvement to increase interoperability with FirstNet SIM cards.
- T-Mobile:

- Improvement: implemented the new T-Mobile LwM2M server URI.
- Verizon:
 - VZW global profile (+UMNOPROF:208) has been added with support of roaming bands 5, 12, 20, and 66
 - VZ_REQ_OTADMLWM2M_4531590: LwM2M client no longer needs to update registration at power on. Impact on reduced power consumption.
- Telstra:
 - Voice domain preference and UE's usage setting information element removed from LTE attach request message

B Known limitations

System

- [u-blox ID 9285]: SIM hot insertion with inverted polarity sometimes fails when re-inserting the SIM.

Network services

- [u-blox ID 101]: Wrong GPIO line behavior on NB-IoT for Network Status function.

Smart Connection Manager

[u-blox ID SCM-173]: IPv6 is not handled by SCM. Data stall algorithm will not work if IPv6 is selected via user configuration file.

[u-blox ID SCM-366]: uSCM does not support Relaxed Cell Monitoring.