

Information note

Topic SARA-R52 02B Initial production
UBXDOC-686885345-2040 C1-Public

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1 Affected products

Product name	Ordering code	Type number	Firmware
SARA-R520	SARA-R520-02B	SARA-R520-02B-00	Modem: 05.10 Application: A00.01
SARA-R520M10	SARA-R520M10-02B	SARA-R520M10-02B-00	Modem: 05.10 Application: A00.01

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 above products has changed from Engineering Samples (ES) to Initial Production (IP).
For the details of the new features and improvements, see appendix A.

4 Schedule

First production parts will be available in 2024 calendar week 15.

5 Customer impact and recommended action

- u-blox has taken utmost care to ensure full backward compatibility to the ES and PT versions. The product with the new firmware is functionally equivalent to the ES and PT versions. However, a system check before deployment in production is recommended.
- The latest firmware version is required for new devices entering certification labs for conformance and MNOs approvals.

6 Certifications

6.1 Customer impact and recommended action migrating from "01B" to "02B" versions

The HW / FW changes from the "01B" product versions to the "02B" product versions do not affect RF / EMC properties of the modem.

Certifications available for “01B” product versions are also achieved for the “02B” product versions, except Korean regulatory certification, and new approvals have been added.

- Regulatory approvals:
 - The FCC ID and ISED Canada certificate number of the “01B” product versions remain valid for the “02B” product versions, with C2PC executed.
 - The technical documentation for European RED and Australian ACMA RCM regulatory conformity has been updated from the “01B” product versions.
 - GITEKI Japan and NCC Taiwan certifications have been achieved with new certificate numbers.
 - u-blox recommends that integrators check with their preferred certification body to find out if any action is needed for the regulatory approvals of the host product.
- Conformance approvals:
 - PTCRB and GCF certifications have been achieved.
 - u-blox recommends that integrators having a conformance certification in place for the host product should execute the PTCRB and/or the GCF certification process, due to the use of the new hardware and firmware version of the module in the host product.
- Mobile network operators (MNO) approvals:
 - AT&T with FirstNet, Verizon, T-Mobile, Telus, Telstra, Deutsche Telekom approvals have been achieved.
 - u-blox recommends that integrators having any MNO approval in place for the host product should notify related mobile network operator, due to the use of the new HW and FW version of the module in the host product.

7 Firmware update

Both PT and ES modules can be updated to IP firmware version.

SARA-R5 “00B” and “01B” products cannot be updated to “02B” IP firmware version.

7.1 Firmware update packages and md5 signature

Product / delivery	Filename	md5sum
SARA-R520-02B		
EasyFlash	SARA-R520-02B-00-IP-0510A0001-011K00.dof	f3f1109588bd395f60de205b636efafd
FOAT	FOAT_SARA-R520-02B-00-IP-0510A0001-011K00.upd	5d6dfb6db652d041530b0aaad852c860
FOTA 05.09A00.01 to 05.10A00.01 uFOTA ID: 2348	FOTA_SARA-R520-02B-00-ES-0509A0001-011K00_SARA-R520-02B-00-IP-0510A0001-011K00.upd	3b5a0b8276c319333815e360c2189373
FOTA test 05.10 to ENG uFOTA ID: 2349	FOTA_SARA-R520-02B-00-IP-0510A0001-011K00_SARA-R520-02B-00-XX-0510ENG1099A0001-011K00.upd	ef898803ae64a59a68d4bbf428e3b3c6
FOTA test ENG to 05.10 uFOTA ID: 2350	FOTA_SARA-R520-02B-00-XX-0510ENG1099A0001-011K00_SARA-R520-02B-00-IP-0510A0001-011K00.upd	e5eea2511c6b98c6c1a02596c63f5edc
SARA-R520M10-02B		
EasyFlash	SARA-R520M10-02B-00-IP-0510A0001-012K00.dof	60ed0e6eabf2d7c73faa476a6fc45c44

Product / delivery	Filename	md5sum
FOAT	FOAT_SARA-R520M10-02B-00-IP-0510A0001-012K00.upd	d9b51a3d0e5441e2069bb11adebd7533
FOTA 05.09A00.01 to 05.10A00.01 uFOTA ID: 2351	FOTA_SARA-R520M10-02B-00-ES-0509A0001-012K00_SARA-R520M10-02B-00-IP-0510A0001-012K00.upd	e6f264f3d0fd89bd5a30688639b2a5e0
FOTA test 05.10 to ENG uFOTA ID: 2352	FOTA_SARA-R520M10-02B-00-IP-0510A0001-012K00_SARA-R520M10-02B-00-XX-0510ENG1099A0001-012K00.upd	c398f59b351540e2d5d9fee4cc1a7acb
FOTA test ENG to 05.10 uFOTA ID: 2353	FOTA_SARA-R520M10-02B-00-XX-0510ENG1099A0001-012K00_SARA-R520M10-02B-00-IP-0510A0001-012K00.upd	360c736844f566fe973322b0a36be9ed

Click to download EasyFlash .dof images from the table above.

For other 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].

8 Tools

- [u-blox evaluation tool m-center v02.08.00 for Windows](#)
- [u-blox FW flash tool EasyFlash 14.01 for Windows](#)

9 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](#)

A Improvements and new features compared to "01B"

A.1 Hardware

An existing design properly implemented for SARA-R5 series "00B" / "01B" product versions is meant to be fine for SARA-R5 series "02B" product versions.

- Improvements for SARA-R520M10 compared to SARA-R510M8S:
 - Ultra-low power consumption in deep-sleep mode.
 - Integrated u-blox M10 GNSS receiver:
 - Ultra-low power consumption.
 - Excellent performances.
 - Concurrent reception of up to 4 GNSS systems.
 - Hot start capability available without external RTC clock and back-up supply , if the module does not enter deep-sleep mode, or it is not switched-off.
 - Hot start capability available with external RTC clock and back-up supply , if the module enters deep-sleep mode, or it is switched-off.
 - Graceful shutdown and emergency shutdown available using the PWR_ON input.
- Improvements for SARA-R520 compared to SARA-R510S:
 - Integrated u-blox SpotNow A-GPS receiver:
 - Power-optimized solution.
 - Mainly intended for occasional tracking use cases.
 - Graceful shutdown and emergency shutdown available using the PWR_ON input.

For feature details and hardware migration guide refer to the system integration manual [3] and the SARA modules hardware migration guide [9].

A.2 Software

- New PDP context handling
- SpotNow
- Smart Connection Manager
- GNSS M10 with hot start supported and +UGNMEA command
- MQTT Anywhere and MQTT Flex

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

B Known limitations

System

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

Location services

- [u-blox ID 9316]: The +UTIME AT command parameter <pulse_period>=0 configures a 1s pulse period instead of a 0.5s pulse period.

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.