

IN – Information Note

Topic:	SARA-R404M-00B Release to Production
	UBX-17047084
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1 Affected Products

Product Name	Order Number	Type No	Firmware version	Remarks
SARA-R404M	SARA-R404M-00B	SARA-R404M-00B-00	K0.0.00.00.07.06	Status: Initial Production

2 Type of Change

- Hardware modification
- Firmware update
- Documentation update
- Others, _____

3 Description of Change

Known limitations are listed in Annex A and B.

4 Schedule

This information is effective as of 20 July, 2017.

5 Customer Impact and Recommended Action

ES modules can be updated to this IP firmware by contacting u-blox Customer Support Team

6 Reference Documents

- 1] SARA-R4 AT Commands Manual, u-blox Document UBX-17003787
- 2] SARA-R4 Data Sheet, u-blox Document UBX-16024152
- 3] SARA-R4 System Integration Manual, u-blox Document UBX-16029218

A Restriction compared to specifications

A.1 Hardware

No restrictions or limitations

A.2 Firmware

A.2.1 Changes and Bugs fixed

NV setting:

NV item 6502 is updated. Max power output value is changed from 21 dBm to 23 dBm.

SMS:

- +CMGD is functional.
- SMS ACK/NACK is functional.

FOAT:

- +UFWUPD no longer aborts when EOT or CANCEL characters are received via XModem and now waits for +UFWINSTALL command.

Data:

- There is no longer a limitation of 20 file transfers during a power cycle or power save mode.
- AT+UHTTP put file now works for file size ≥ 11701 bytes.

A.2.2 Known Limitations

UART/USB:

The works-as-designed functionality of UART/USB is as follows: upon power-up, if the module is connected via USB, then AT commands are routed via USB. If the module is not connected via USB, then UART is assumed.

Linux machines recognize the Product and Vendor ID for SARA-R4 series of products. The procedure to get module ports is to add the "usbserial vendor=0x05c6 product=0x90b2" line to the /etc/modules file. Using this method, USB is enumerated as ttyUSB* Generic USB to serial device.

UART flow control is not supported. For data sizes in the range of MBs, it is recommended to send data in 1 kB blocks every 20 ms when either writing data to the file system or when sending data over the air (OTA).

Power Save Mode:

- The works-as-designed AT command that controls PSM is +CPSMS.
- As per above, the +UPSV is not utilized in this product.
- When entering PSM (power save mode), customized profile values are not retained in NVM and should be reloaded by the host application.

Data:

- Intermittently, the server socket is not closed upon client request and will remain open.
- +UFTPC file list and file details are not working in active mode; this is a network issue.

AT Command:

- The +VZWAPNE command response starts with \$QCAPNE instead of +VZWAPNE.
- AT+CFUN=1,1 does not work as expected, instead it is recommended to use AT+CFUN=15.
- Issuing AT+CPWROFF does not store any changed profile values in NVM. The host application should re-enter those values when device is powered on.

LWM2M server:

When there is no response (due to invalid session) from the LWM2M server, the UE retries unsuccessfully. The UE tries the existing DTLS session, but is unsuccessful due to the network dropping packets after 60 s. After a couple of retries, the UE tries a new connection with fresh registration. The expected behavior is that when there is no response (due to invalid session) from the LWM2M server, the UE must create a new DTLS session with registration update message.

Factory Test Mode:

- RxAGC value displayed with the +UTEST=2 command is inaccurate
- The following pins are not testable as the product does not support UART flow control: DTR, RTS

A.3 Tools and drivers

USB driver:

USB driver for Windows is: qud.win.1.1_installer_10044.7.zip

Updating of firmware:

In order to flash update the firmware, the following are required:

- USB interface to the module
- Licensed flashing tool as provided by chipset supplier

Contact u-blox Customer Support Team for assistance.

Collecting of log files:

In order to collect a log, licensed logging tool as provided by chipset supplier is required.

Contact u-blox Customer Support Team for assistance.

A.4 Network and Operator

Dependency information:

The following will not be available at initial production due to network readiness:

- eDRX feature is disabled by default in the firmware
- Frequency Hopping on common channels (FH)

FH is currently disabled by the Operator. There is no IOT testing of FH performed on this firmware. As of this writing, this feature is considered low priority by Operator and unlikely to be enabled.

With FH enabled, the common/broadcast channels could be hopped and the device performance would be suboptimal. Should the Operator enable FH in the future, a device firmware update would be required.

Depending on network conditions, an OTA firmware update could take approximately 30 minutes.