

Quectel RM502Q-AE

IoT/eMBB-Optimized

5G Sub-6 GHz M.2 Module



RM502Q-AE-AA

Release Notes

5G Module Series

Rev. RM502Q-AE-AA_Firmware_Release_Notes_V1102_01.002.01.002

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1. Release Content

This document provides the Release Notes for RM502Q-AE-AA. The current release includes the firmware package.

Package	Version
Firmware	RM502QAEAR11A02M4G_01.002.01.002

2. Matters Needing Attention

SN	Item
[1]	SA MBIM dialing is supported in Windows 10 1903 and above versions.
[2]	5G CA and VoNR are not supported.

3. Release History

3.1. Firmware Release History

Firmware Release	Description
RM502QAEAR11A01M4G_01.001.01.001	Internal use only
RM502QAEAR11A02M4G_01.001.01.001	Only for sample
RM502QAEAR11A02M4G_01.002.01.002	Only for sample

3.2. New Features

RM502QAEAR11A02M4G_01.001.01.001	
Item	Brief Description
GENERAL	Added the feature of flashing fool-proofing that the versions of a different module are not allowed to be upgraded in the module.
GENERAL	Added AT+QSINR and AT+QSRQ to query the received signal value.
GENERAL	Added AT+QMAP="lan" to configure QCMAP LAN IP.
NETWORK	Added AT+QNWPRECFG="nr5g_disable_mode" to disable NR5G configuration.
GENERAL	Configured the module to data only. Added Telus_DataOnly MBN version 20200911.
RM502QAEAR11A02M4G_01.002.01.002	
Item	Brief Description
NETWORK	Added 513/624 channel and B3C_n78.
NETWORK	Added AT+QNWCFG="dss_enable" to control the DSS function.
NETWORK	Added AT+QNWCFG="lte_cell_id" and AT+QNWCFG="nr5g_cell_id" to obtain ECI/NCI related parameters.
USB	Added AT+QCFG="usbspeed" to switch between USB 2.0 and USB 3.0 interface protocols.
Thermal Mitigation	Set the Level 2 temperature threshold of thermal mitigation mechanism to

	105 °C.
5G	Added AT+QNWCFG="nr5g_cdrx" to control 5G_CDRX.
GENERAL	Added AT+QETH="eth_at" to support SMD switching between Modem port and Ethernet port.

3.3. Improved Features

RM502QAEAR11A02M4G_01.001.01.001	
Item	Brief Description
GENERAL	Modified NV73890 from 0 to 1 to solve the problem that the LTE throughput rate was not up to standard.
GENERAL	Solved the problem that the module could not enter flight mode after pulling low W_DIS pin.
USB	Solved the problem of product name display error at the first boot-up after the module downloaded the firmware version.
RM502QAEAR11A02M4G_01.002.01.002	
Item	Brief Description
GENERAL	Extended AT+CPOL to check whether the SIM card supported NR5G.
NETWORK	Solved the problem that the module could not work normally when executing AT+QIMSACT=0 .
NETWORK	Solve the problem that the return value of AT+CREG after setting AT+CGATT=0 was wrong after inserting the SIM card of China Mobile or China Telecom.
NETWORK	Maintained the default value of <SINR> of AT+QENG="servingcell" to -32768 when NSA network was in idle state.
NETWORK	Solved the problem that when AT+QGPAPN=1 was executed under real network, the module would not work normally under certain environment.
LowPower	Solved the problem that there was no URC report when the module received SMS in sleep mode.
5G	Solved the problem that AT+QNWLOCK="common/5g" did not take effect after module restart.
GENERAL	Solved the problem that the band value returned by AT+QENG in EN-DC mode was incorrect.
GENERAL	Solved the problem that there was no URC +QIND: SMS DONE report at module restart.
GNSS	Solved the problem of returning historical residual information when executing AT+QGPSGNMEA for the first time.

LowPower	Solved the problem that when you executed AT+CFUN=0/AT+CFUN=4 , the module entered slow clock but the current consumption value unexpectedly maintained at 28 mA.
LowPower	Solved the problem that when you executed AT+CFUN=1 , the module could not enter slow clock in linux and the current consumption continues to be 2–300 mA.
PCle	Solved the problem that after configuring to PCle mode by executing AT+QCFG="data_interface",1,0 , QMI and AT port did not respond after booting the module with IPQ4019.
PCle	Solved the problem that the port could not be loaded after switching to IPQ4019 if you executed AT+QCFG="data_interface",1,0 to configure PCle and IPQ8074 could be loaded normally.

3.4. Known Issues

Item	Bug Description
NETWORK	In NSA base network, after fixing to LTE mode, AT+QENG="neighbourcell" does not return neighboring cell information.
DFOTA	When you perform DFOTA upgrade with IPQ 4019, URC +QIND: "FOTA", "START" is not reported.
GENERAL	When network URC automatic report is enabled, URC is reported when CSQ is not changed; and no URC +CREG: and +CGREG: is reported.
LowPower	After executing AT+QSCCLK=1,1 to enter slow clock and then rebooting the module, the module could not enter slow clock again.
PCIE	After executing AT+QCFG="data_interface",1,0 the USB AT port cannot work normally probabilistically after the module enables ADB.

NOTE

Verification Environment is shown below. For more details, please contact Quectel technical support.

For Windows,

USB Driver: Quectel_LTE&5G_Windows_USB_Driver_V2.2.4.zip

Qflash Tool: QFlash_V4.18

QLog Tool: QWinLog_V1.6.1.zip

For Linux,

QMI_WWAN Driver: Quectel_Linux&Android_QMI_WWAN_Driver_V1.2.0.12.zip

GobiNet Driver: Quectel_Linux&Android_GobiNet_Driver_V1.6.1.zip

PCIE Driver: Quectel_Linux_PCIE_MHI_Driver_V1.3.0.11.zip

QFirehose Tool: Quectel_LTE&5G_QFirehose_Linux&Android_V1.3.2.zip

Quectel-CM Tool: Quectel_QConnectManager_Linux_V1.6.0.12.zip

QLog Tool: Quectel_QLog_Linux&Android_V1.4.7.zip

Quectel IPQ Driver: Quectel_Linux_PCIE_MHI_Driver_V1.3.0.15.zip

Qualcomm IPQ Driver: spf11.1

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4. Functions List

Category	Item	Supported Version(Since)	Note
Basic Function	SMS	RM502QAEAAAR11A02M4G_01.001.01.001	/
	NETWORK	RM502QAEAAAR11A02M4G_01.001.01.001	/
Protocol Function	QMI	RM502QAEAAAR11A02M4G_01.001.01.001	/
Interface Function	USB	RM502QAEAAAR11A02M4G_01.001.01.001	/
	MBIM	RM502QAEAAAR11A02M4G_01.001.01.001	/
	RmNet	RM502QAEAAAR11A02M4G_01.001.01.001	/
	PCIE	RM502QAEAAAR11A02M4G_01.001.01.001	/
Locate Function	AGPS	RM502QAEAAAR11A02M4G_01.002.01.002	
Upgrade Function	DFOTA	RM502QAEAAAR11A02M4G_01.002.01.002	
SIM Function	(U)SIM Detection	RM502QAEAAAR11A02M4G_01.001.01.001	/
Special Function	RF RX FTM	/	Not support currently
	RF TX FTM	/	Not support currently
	LowPower	RM502QAEAAAR11A02M4G_01.002.01.002	
	Thermal Mitigation	RM502QAEAAAR11A02M4G_01.002.01.002	
5G Function	5G	RM502QAEAAAR11A02M4G_01.001.01.001	/

About Quectel

Quectel Wireless Solutions is the leading global supplier of cellular and GNSS modules, with a broad product portfolio covering the most recent wireless technologies of 5G, LTE/LTE-A, NB-IoT/LTE-M, UMTS/HSPA(+), GSM/GPRS and GNSS. As a professional IoT (Internet of Things) technology developer and cellular module supplier, Quectel is able to provide one-stop services for IoT cellular modules. Quectel products have been widely applied in IoT/M2M fields including smart payment, telematics and transport, smart energy, smart cities, security, wireless gateways, industry, healthcare, agriculture, and environment monitoring.

