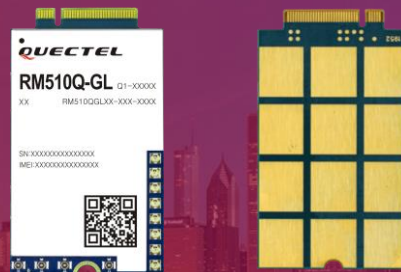


# Quectel RM510Q-GL

5G Sub-6 GHz & mmWave

M.2 Module



## RM510Q-GL-AA

# Release Notes

### 5G Module Series

Rev. RM510Q-GL-AA\_Firmware\_Release\_Notes\_V1103\_01.001.01.001

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## 1. Release Content

This document provides the Release Notes for RM510Q-GL-AA. The current release includes the firmware package.

Package	Version
Firmware	RM510QGLAAR11A03M4G_01.001.01.001

## 2. Matters Needing Attention

SN	Item
[1]	SA MBIM dialing is supported in Windows 10 1903 and above versions.
[2]	During DFOTA upgrade of firmware lower than the current version, if an abnormal power-off occurs, the module may reboot abnormally. It is recommended to ensure stable power supply during DFOTA upgrade.

### 3. Release History

#### 3.1. Firmware Release History

Firmware Release	Description
RM510QGLAAR11A03M4G_01.001.01.001	Only for sample
RM510QGLAAR11A02M4G_01.001.01.001	Only for sample
RM510QGLAAR11A01M4G_01.001.01.001	Only for sample

#### 3.2. New Features

RM510QGLAAR11A03M4G_01.001.01.001	
Item	Brief Description
NETWORK	Added <b>AT+QNWCFG="nr5g_meas_info"</b> to display 5G neighboring cell information.
DFOTA	Supported DFOTA upgrade while RMNET was running.
RF TX FTM	Added <b>AT+QRFTESTSUB0NR5G</b> and <b>AT+QRFTESTSUB0LTE</b> to support power level 2 and power level 3 on TX.
GENERAL	Supported HTTP(S) protocol.
GENERAL	Updated to support LTE uplink 256-QAM.
GENERAL	Added <b>AT+QNWCFG="wcdma_cqi"</b> to get the CQI value.
GNSS	Enabled GNSS by default.
SIMCARD	Supported entering PUK to unlock the SIM card after failing to enable PIN1 and hot plugging operation.
RM510QGLAAR11A02M4G_01.001.01.001	
Item	Brief Description
NETWORK	Added <b>AT+QNWCFG="NR5G_ul_MCS"</b> to query the network parameters of modem.
NETWORK	Added <b>AT+QNWCFG="dss_enable"</b> to control the DSS function and enabled DSS by default..

NETWORK	Added <b>AT+QNWCFG="lte_cell_id"</b> and <b>AT+QNWCFG="nr5g_cell_id"</b> to obtain ECI/NCI related parameters.
USB	Added <b>AT+QCFG="usbspeed"</b> to switch between USB 2.0 and USB 3.0 interface protocols.
RmNet	Added <b>AT+QNETDEVSTATUS</b> to query RmNet device status.
RF TX FTM	Added <b>AT+QRFTESTMMW="mode"</b> to test TX/RX of MMWAVE.
Thermal Mitigation	Supported configuring MDM thermal mitigation strategy through <b>AT+QCFG="thermal5g/mdm"</b> .
GENERAL	Added <b>AT+QCFG="mmwave"</b> to switch the RF NV configurations of mmWave.
GENERAL	Added a set of AT commands for SIM card communication: <ul style="list-style-type: none"> <li>● <b>AT+CCHO</b> is used to open logic channel;</li> <li>● <b>AT+CGLA</b> is used to transmit data on APP;</li> <li>● <b>AT+CCHC</b> is used to close logic channel.</li> </ul>
GENERAL	Added <b>AT+QNWCFG="up/down"</b> and <b>AT+QGDNRCNT</b> to query rate statistics and data flow statistics.
GENERAL	Deleted the subcommands of <b>AT+QCFG="usbspeed"</b> and <b>AT+QCFG="netmaskset"</b> displayed by <b>AT+QCFG=?</b> .
SIMCARD	Added <b>AT+QSIMCFG="disable_physim"</b> to disable the SIM card.

RM510QGLAAR11A01M4G\_01.001.01.001

Item	Brief Description
/	/

### 3.3. Improved Features

RM510QGLAAR11A03M4G\_01.001.01.001

Item	Brief Description
NETWORK	Updated <b>AT+QCAINFO</b> and <b>AT+QNETINFO</b> to complete the return value.
NETWORK	Optimized <b>AT+QNWPREFCFG="rat_acq_order"</b> to solve the problem that an extra NR5G was returned.
NETWORK	Optimized <b>AT+QLTS</b> to solve the problem that the return value was incorrect when the time was not obtained.
NETWORK	Updated <b>AT+QCSQ</b> to solved the problem of incorrect calculation of SINR value.
NETWORK	Optimized <b>AT+QNWCFG="lte_cdrx"</b> to control the length of the DRX cycle.

NETWORK	Solved the problem that the PLMN of the LTE cell returned by <b>AT+QSCAN</b> under SA was empty.
NETWORK	Optimized <b>AT+QNWCFG="nr5g_csi"</b> , and solved the problem that the value of <b>&lt;ri&gt;</b> returned incorrectly.
NETWORK	Solved the problem that <b>AT+QENG="servingcell"</b> kept displaying "SEARCH" when making a call under NSA with the China Unicom SIM card.
NETWORK	Extended <b>AT+CPOL</b> to support the selection of NG-RAN access technology.
SAR	Optimized <b>AT+QSAR</b> to support to control NR 5G SAR power.
GENERAL	Updated <b>AT+QSCAN</b> for scanning LTE and 5G cell information.
GENERAL	Solved the problem that the configuration of <b>AT+C5GREG</b> did not take effect after module rebooting.
GENERAL	Solved the problem of inaccurate RI reporting caused by the dynamic switching of antenna RX.
GENERAL	Solved the problem of network registration in WCDMA weak signal registration.
GENERAL	Optimized <b>AT+QENG="servingcell"</b> to solve the problem of incorrect cell ID queried.
GENERAL	Updated <b>AT+QSINR</b> to solve the problem of incorrect calculation of SINR value.
GENERAL	Optimized the return value format of <b>AT+QCFG="usb/maxpower"</b> .
GNSS	Optimized <b>AT+QGPSCFG="appidname"</b> to solve the problem that the parameter configuration did not take effect.
GNSS	Optimized <b>AT+QGPSGNMEA</b> to solve the problem of incorrect return value format.

RM510QGLAAR11A02M4G\_01.001.01.001

Item	Brief Description
NETWORK	Solved the problem that the module could not work normally when executing <b>AT+QIMSACT=0</b> .
NETWORK	Solve the problem that the return value of <b>AT+CREG</b> after setting <b>AT+CGATT=0</b> was wrong after inserting the SIM card of China Mobile or China Telecom.
NETWORK	Maintained the default value of <b>&lt;SINR&gt;</b> of <b>AT+QENG="servingcell"</b> to -32768 when NSA network was in idle state.
NETWORK	Solved the problem that when <b>AT+QGPAPN=1</b> was executed under real network, the module would not work normally under certain environment.
NETWORK	Solved the problem that the return value of <b>AT+QENG="neighbourcell"</b> was too long and the module could not work normally.
NETWORK	Solved the problem of incorrect PLMN information returned by <b>AT+QENG="servingcell"</b> when sharing base stations.

NETWORK	Solved the problem that when the module registered to SA, <cellID> returned by <b>AT+QENG="servingcell"</b> was incorrect.
NETWORK	Expanded <b>AT+QSRP</b> to support returning the current network standard.
NETWORK	Solved the problem that the band value of EN-DC NSA 5G queried by <b>AT+QENG</b> is inconsistent with the band value printed in QXDM log.
NETWORK	Solved the problem that the <tx-power> value queried by <b>AT+QENG="servingcell"</b> was incorrect after the module registered to SA network.
RF TX FTM	Updated the LTE/WCDMA Tx/Rx process to solve the problem that RX2 such as B42NB7/B3/B1 could not receive signals.
LowPower	Solved the problem that the configured <b>AT+QSCLK</b> did not take effect after module restarting.
LowPower	Solved the problem that the hibernation time of the module was too long.
Thermal Mitigation	Optimized PA thermal mitigation strategy.
Thermal Mitigation	Solved the problem that the return value of <b>AT+QTEMP</b> was incorrect.
5G	Solved the problem that <b>AT+QNWLOCK="common/5g"</b> did not take effect after module restart.
GENERAL	Configured the project to data only.
GENERAL	Solved the problem of incorrect upload and download rates queried by <b>AT+QNWCFG="up/down"</b> .
GENERAL	Solved the problem that <b>AT+QLLM</b> did not take effect.
GENERAL	Solved the problem that there was no URC <b>+QIND: SMS DONE</b> report at module restart.
GNSS	Some historical problems of GNSS are solved.

RM510QGLAAR11A01M4G\_01.001.01.001

Item	Brief Description
/	/

### 3.4. Known Issues

Item	Bug Description
SMS	When you send a message with a China Mobile SIM card, the module will report <b>+CMS ERROR: 350</b> .



**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

For Linux,

QMI\_WWAN Driver: Quectel\_Linux&Android\_QMI\_WWAN\_Driver\_V1.2.0.23.zip

GobiNet Driver: Quectel\_Linux&Android\_GobiNet\_Driver\_V1.6.2.15.zip

PCIE Driver: Quectel\_Linux\_PCIE\_MHI\_Driver\_V1.3.0.16.zip

QFirehose Tool: Quectel\_LTE&5G\_QFirehose\_Linux&Android\_V1.4.5.zip

Quectel-CM Tool: Quectel\_QConnectManager\_Linux\_V1.6.0.26.zip

QLog Tool: Quectel\_QLog\_Linux&Android\_V1.4.17.zip

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## 4. Functions List

Category	Item	Supported Version(Since)	Note
Basic Function	SMS	RM510QGLAAR11A01M4 G_01.001.01.001	/
	NETWORK	RM510QGLAAR11A01M4 G_01.001.01.001	/
File Function	UFS	RM510QGLAAR11A01M4 G_01.001.01.001	/
	RAM	RM510QGLAAR11A01M4 G_01.001.01.001	/
Protocol Function	QMI	RM510QGLAAR11A01M4 G_01.001.01.001	/
Interface Function	USB	RM510QGLAAR11A01M4 G_01.001.01.001	/
	MBIM	RM510QGLAAR11A01M4 G_01.001.01.001	/
	RmNet	RM510QGLAAR11A01M4 G_01.001.01.001	/
	ECM	RM510QGLAAR11A01M4 G_01.001.01.001	/
	PCIE	RM510QGLAAR11A01M4 G_01.001.01.001	/
Locate Function	AGPS	RM510QGLAAR11A01M4 G_01.001.01.001	/
Upgrade Function	DFOTA	RM510QGLAAR11A03M4 G_01.001.01.001	/
SIM Function	(U)SIM Detection	RM510QGLAAR11A01M4 G_01.001.01.001	/
Special Function	RF RX FTM	RM510QGLAAR11A02M4 G_01.001.01.001	/
	RF TX FTM	RM510QGLAAR11A02M4 G_01.001.01.001	/
	LowPower	RM510QGLAAR11A02M4 G_01.001.01.001	/
	Thermal Mitigation	RM510QGLAAR11A01M4 G_01.001.01.001	/
5G Function	5G	RM510QGLAAR11A01M4 G_01.001.01.001	/

## About Quectel

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