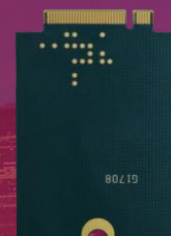# Quectel EM160R-GL

LTE-A Cat 16 M.2 Module

EM160R-GL-AU

Release Notes

LTE-A Module Series

Rev. EM160R-GL-AU_Firmware_Release_Notes_V0208_01.001.01.001

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Our aim is to provide customers with timely and comprehensive service. For any assistance, please contact our company headquarters:

Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai 200233, China
Tel: +86 21 5108 6236
Email: info@quectel.com

Or our local office. For more information, please visit:
http://www.quectel.com/support/sales.htm.

For technical support, or to report documentation errors, please visit:
http://www.quectel.com/support/technical.htm
Or email to support@quectel.com.

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Contents

1. Release Content

This document provides the Release Notes for EM160R-GL-AU. The current release includes the firmware package.

Package	Version
Firmware	EM160RGLAUR02A08M4G_01.001.01.001

2. Matters Needing Attention

SN	Item
[1]	Support data only.
[2]	Support 4Gb nand flash and 2Gb LPDDR4X MCP.

3. Release History

3.1. Firmware Release History

Firmware Release	Description
EM160RGLAUR02A08M4G_01.001.01.001	Only for sample
EM160RGLAUR02A07M4G_01.001.01.001	Only for sample
EM160RGLAUR02A06M4G_01.001.01.001	Only for sample
EM160RGLAUR02A05M4G_01.001.01.001	Only for sample
EM160RGLAUR02A04M4G_01.001.01.001	Only for sample
EM160RGLAUR02A03M4G_01.001.01.001	Only for sample
EM160RGLAUR02A02M4G_01.001.01.001	Only for sample
EM160RGLAUR02A01M4G_01.001.01.001	Only for sample

3.2. New Features

EM160RGLAUR02A08M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Supported Verizon IoT Security functionality.
GENERAL	Added support for AT&T MTU new requirement in 13340 v21.2.
PING	Added **AT+QPING** to ping a remote server.

EM160RGLAUR02A07M4G_01.001.01.001	
Item	**Brief Description**
/	/

EM160RGLAUR02A06M4G_01.001.01.001	
Item	**Brief Description**

GENREAL	Disabled ETWS in SBM network.

EM160RGLAUR02A05M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Configured the first APN of Commercial-Sprint MBN to null.
GENERAL	Supported to enter flight mode by pulling down W_DISABLE1 pin.
GENERAL	Added **AT+QNWCFG="attach_apn"** to control the APN selected for network registration.
GENERAL	Supported importing SAR table through the tool.
GENERAL	Disabled fast dormancy for DCM certification.

EM160RGLAUR02A04M4G_01.001.01.001	
Item	**Brief Description**
ESIM	Supported obtaining EID of eSIM through **AT+QSIMCFG="eid"**.
MBIM	Added 310 650 SIM card configuration to ATT MBN.
GENERAL	Added **AT+QRFTESTPWR** to support TX tests.
GENERAL	Added **AT+CCHO** to open the logic channel of the SIM card.
NETWORK	Added **AT+QNWCFG="lte_csi"** to obtain the value of MCS, RI, CQI and PMI, and added **AT+QNWCFG="csi_ctrl"** to enable/disable **AT+QNWCFG="lte_csi"**.
SIMCARD	Added **AT+QSIMCFG="pn"** to get the electric profile number of eSim.
SIMCARD	Added **AT+QSIMCFG="disable_physim"** to disable/enable SIM card.

EM160RGLAUR02A03M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Added secure boot feature and disabled it by default.
GENERAL	Added **AT+QLOG** to save specific system log.
GENERAL	Added Commercial-DCM and Commercial-KDDI certification related NV configurations.
GENERAL	Configured Pin68 to 2x2MIMO when Pin68 was in high/float level, and 4x4MIMO when Pin68 was in low level.
GENERAL	Added limitation to LTE band 1/3/7/20/38/46 in Commercial-EE MBN.
NETWORK	Added the feature of disabling dialing in roaming status.

EM160RGLAUR02A02M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Added the limitation to the bands of Verizon certification.
GENERAL	Enabled hot-plugging for SIM1 and disabled hot-plugging for SIM2.
GENERAL	Added Commercial-DCM MBN.
GENERAL	Added power difference configuration to meet Japan certification requirements.
GENERAL	Supported AT command **AT+QCERTIOP** to configure APN.
GENERAL	Added Commercial-TMO MBN.
MBIM	Added SMS report feature in MBIM.
GENERAL	Added AT command **AT+QRSRP** to query the RSRP of every antenna.
GENERAL	Supported to register to band 17 through MFBI+Band 12.

3.3. Improved Features

EM160RGLAUR02A08M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Solved the problem of network access failure in some scenarios (such as roaming) after AT&T 3G sunset.

EM160RGLAUR02A07M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Set the SVN of the IMEISV in software to "00" for SoftBank.

EM160RGLAUR02A06M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Modified the object related logic to support the motive diag test case.
GENERAL	Modified the network configuration preference to MTU in Telstra certification.
GENERAL	Modified the first APN of DCM MBN to mopera.net.
GENERAL	Solved the problem of GFIT TC5.2.5 failure by modifying NV configurations of Verizon MBN.

GENERAL	Solved the problem that SoftBank Carrier cellular connection was UMTS after resuming from OS fast shutdown.
NETWORK	Modified to allocate MTU value by the network, and set Ue_Usage_Setting value to data centric as AT&T required.

EM160RGLAUR02A05M4G_01.001.01.001

Item	Brief Description
GENERAL	Solved the problem that the transmission rate did not reach the standard in WCDMA/LTE.
GENERAL	Solved the problem that KDDI would detach from the network if the PLMN was transferred to temporary forbidden PLMN list.
GENERAL	Solved the problem of module crash in force TX/RX test after entering FTM mode in 10 seconds.
GENERAL	Solved the problem that 3CA_1A-3A-38A downlink BLER.
GENERAL	Changed the device ID of the host device from 10241 to 10299 for Verizon motive test.
GENERAL	Merged the Qualcomm patch of skipping PA off to solve the PTCRB AGPS throughput problem.

EM160RGLAUR02A04M4G_01.001.01.001

Item	Brief Description
SMS	Solved the problem that CDMAless-Verizon MBN did not return ACK after receiving WAP push messages, which caused the server to continuously send messages to the module.
GENERAL	Solved the problem that the device failed to send an EVENT-DOWNLOAD (NO SERVICE) in ATT certification and updated ATT MBN version to 202008101.
GENERAL	Solved the problem of memory leak and module dump after receiving the short message.
GENERAL	Solved the problem that the module firmware information displayed incorrectly.
GENERAL	Updated ICCID and PLMN of Commercial-Sprint MBN.
GENERAL	Solved the problem that the return value queried through **AT+CFUN** was incorrectly 0 after setting the module to flight mode.
GENERAL	Solved the problem that the module entered limited service when it reached 100 ℃, and it should enter limited service when it reached 100 ℃.
NETWORK	Solved the problem of terminal DM test failure due to no information reported on the DM platform.
SIMCARD	Solved the problem that after unlocking the PIN of the SIM card in the MBIM network card, MBIM would be automatically connected after the module woke up from sleep and it was expected that the PIN needs to be unlocked again before MBIM was connected.

EM160RGLAUR02A03M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Incorporated Qualcomm patch to solve the problem that the module did not support 4*4MIMO.
GENERAL	Configured the first APN of Commercial-Sprint MBN to r.ispsn.
NETWORK	Solved the problem that the module could not register to the network automatically after rebooting if a cell was locked with **AT+QNWLOCK**.
NETWORK	Fixed the problem that the RSRP values of RX2 and RX3 of WCDMA and LTE returned by **AT+QRSRP** were incorrect.
NETWORK	Solved the problem of no URC report when the module received ETWS.

EM160RGLAUR02A02M4G_01.001.01.001	
Item	**Brief Description**
GENERAL	Solved the problem that MBN could not be selected through PLMN.
GENERAL	Configured network type to MBIM by default.

3.4. Known Issues

Item	**Bug Description**
MBIM	EUT will still show "CMCC" instead of roaming carrier when inserting China Mobile USIM.
GENERAL	CT MBN does not support sending and receiving SMS over IMS currently.
GENERAL	There is a problem of low probabilistic USB memory allocation failure in the QPOWD1 + VBAT stress test.

NOTE

Verification Environment is shown below. For more details, please contact Quectel technical support.
For Windows,
USB Driver: Quectel_LTE&5G_Windows_USB_Driver_For_MBIM_V1.2.11.zip
Qflash Tool: QFlash_V5.2.zip

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4. Functions List

Category	Item	Supported Version (Since)	Note
Basic Function	SMS	EM160RGLAUR02A01M4G_01.001.01.001	/
	FILE	EM160RGLAUR02A01M4G_01.001.01.001	Support UFS/RAM File
Protocol Function	NITZ	EM160RGLAUR02A01M4G_01.001.01.001	/
	PING	EM160RGLAUR02A08M4G_01.001.01.001	/
	LwM2M	EM160RGLAUR02A08M4G_01.001.01.001	/
Special Function	LowPower	EM160RGLAUR02A01M4G_01.001.01.001	/
	SIM Detection	EM160RGLAUR02A01M4G_01.001.01.001	/
	MBIM	EM160RGLAUR02A01M4G_01.001.01.001	/
	ESIM	EM160RGLAUR02A03M4G_01.001.01.001	/
	DFOTA	EM160RGLAUR02A01M4G_01.001.01.001	/
	DSSS	EM160RGLAUR02A01M4G_01.001.01.001	/
	Win10 SMS	EM160RGLAUR02A01M4G_01.001.01.001	/

About Quectel

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