EM12-G-PA Release Notes

LTE-A Standard Module Series

Rev. EM12-G-PA_Firmware_Release_Notes_V0121_01.001.01.001

Date: 2020-09-30

1. Preamble

This document provides the Release Notes for EM12-G-PA firmware version **EM12GPAR01A21M4G_01.001.01.001**. It describes major changes compared to EM12-G-PA firmware version **EM12GPAR01A20M4G_01.002.01.002**. For details please refer to the EM12 AT Command Set.

2. Matters Needing Attention

SN	Brief Description
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3. New Features

Item/Category	Brief description	Since
GENERAL	Added AT command **AT+QPOWD**.	R01A02
GENERAL	Added ROW MCFG MBN.	R01A02
GENERAL	Added USB configuration related AT command **AT+QCFG="USBID"/"USBCFG"/"USBNET"**.	R01A02
GENERAL	Added UART DTR feature.	R01A02
NETWORK	Added AT command **AT+QCFG="nwscanseq"**.	R01A02
GENERAL	Added sleep function.	R01A02
GENERAL	Added AT command **AT+QSCLK**.	R01A02
GENERAL	Supported storing USB criptors in the rawdata partition during the download phase and supported firehose download to emergency mode in SBL mode.	R01A03
GENERAL	Added remotefs function.	R01A03
AUDIO	Added below AT commands: **AT+CLVL/+CMUT/+CRSL/+QAUDLOOP/+QSIDET**.	R01A03
GENERAL	Added Quectel ACDB functions.	R01A03
AUDIO	Added below AT commands: **AT+QAUDMOD/+QEEC/+QMIC/+QRXGAIN/+QAUDPLAYGAIN/+QAUDRDGAIN/+QLTONE/+QLDTMF**.	R01A03

GENERAL	Added AT command **AT+QNAND**.	R01A03
GENERAL	Added AT command **AT+QTEMP**.	R01A03
AUDIO	Added below AT commands: **AT+QTTS/+QWTTS/+QTTSETUP/+QAUDPLAY/+QAUDSTOP/+QPSND/+QAUDRD/+QTONEDET**.	R01A03
AUDIO	Added AT command **AT+QDAI**.	R01A04
GENERAL	Added AT command **AT+QRFTEST="RX"/+QRFTEST="TX"**.	R01A04
GENERAL	Added 6 remote MBN: DCM, KDDI, ATT, Telstra, Verizon, Vodafone.	R01A05
GENERAL	Added AT command **AT+QGSN**.	R01A06
GENERAL	Added AT command **AT+QCSQ**.	R01A06
GENERAL	Added AT command **AT+QGMR**.	R01A06
GENERAL	Added AT command **AT+QEFSVER** to query CEFS version number.	R01A06
NETWORK	Added AT command **AT+QNETINFO**.	R01A07
GENERAL	Added LTE band25.	R01A07
GENERAL	Added AT command **AT+QCFG="sim/clk_freq"** to fix clock frequency of SIM card.	R01A08
GENERAL	Added AT command **AT+QSAR** and **AT+QCFG="sarcfg"**, and supported SAR GPIO feature.	R01A08
GENERAL	Supported single package upgrade solution.	R01A08
GENERAL	Enabled the SAR feature.	R01A09
FILE	Enabled the feature of RAM_FILE.	R01A09
GENERAL	Added AT command **AT+CNEM**.	R01A09
VOLTE	Added AT command **AT+QCFG="IMS"**.	R01A09
GENERAL	Added AT command **AT+QUIMSLOT** to switch SIM1 and SIM2.	R01A09
GNSS	Added AT command **AT+QCFG="gpsdrx"** to control whether GPS and DRX using the same antenna.	R01A09
GENERAL	Supported the feature of LwM2M.	R01A10
VOLTE	Added AT commands **AT+QIMSCFG="authenticate"**.	R01A11
AUDIO	Added AT command **AT+QIIC**.	R01A11
NETWORK	Added **AT+QDHLEASE** command to set the lease time of the IPv4 DHCP server.	R01A12

AUDIO	Added AT command **AT+QIMSCFG="speech_codec"**.	R01A12
NETWORK	Added AT command **AT+QICSGP**.	R01A12
VOLTE	Added AT Command **AT+QIMSCFG="impi"**, **AT+QIMSCFG="IMPU"**, **AT+QIMSCFG="domain"**.	R01A12
GENERAL	Added ChungHwa_Taiwan_Commercial MBN 0x0801FD01.	R01A12
GENERAL	Added the MBN of TaiwanMobile_Commercial, FarEastOne_Taiwan_commercial, ChungHwa_Taiwan_Commercial.	R01A12
GENERAL	Added AT command **AT+QIMACT**.	R01A13
GENERAL	Added AT command **AT+QIMSCFG="qsiprc_enable"** and **AT+QIMSCFG="qsphci_enable"**.	R01A13
GENERAL	Added AT command **AT+QIMSCFG="mwi"**.	R01A13
GENERAL	Added Spain-Non_VoLTE-Telefonica MBN as version 0x08010C20.	R01A13
GENERAL	Added Telus_Canada MBN to version 0x08014900.	R01A13
GENERAL	Added hVoLTE-Verizon MBN as version 0x0801010E.	R01A13
GENERAL	Added AT command **AT+QSIMCFG="eid"** to get eSim EID.	R01A14
NETWORK	Added AT command **AT+QNWLOCK="common/4g"** to enable the feature of locking network.	R01A14
GENERAL	Added AT command **AT+QIMSCFG="qirep"**.	R01A14
GNSS	Added AT command **AT+QGPSCFG="appidname"** to configure the username and password for Verizon.	R01A14
NETWORK	Added AT command **AT+QCFG="fast_dormancy"**.	R01A14
GENERAL	Added AT command **AT+QNWCFG="cgatt/rsptime"** to control the response time after executing command **AT+CGATT**.	R01A14
NETWORK	Added AT command **AT+QPING**.	R01A14
GENERAL	Enabled the feature of retry cause.	R01A14
GENERAL	Added AT command **AT+CSVM**.	R01A15
VOLTE	Added AT command **AT+QIMSCFG="qirep"**.	R01A15
GNSS	Added AT command **AT+QGPSCFG="dpoenable"**.	R01A16
GENERAL	Add AT Command **AT+QCFG="usbserial"**.	R01A16
GENERAL	Added AT command **AT+QCFG="cdrx_enable"**.	R01A17
GENERAL	Added AT command **AT+QUSBCFG** to set USB Speed High 2.0 or super 3.0.	R01A17

GENERAL	Added AT command **AT+QNWCFG="qci"**.	R01A17
GENERAL	Added AT command **AT+QMBIM="mode"** and Windows tool to set MBIM only and MBIM+GPS mode.	R01A17
GENERAL	Added AT command **AT+QNWCFG="rrcstate"**.	R01A17
GENERAL	Added AT command **AT+QCFG="rf/maxpower"**.	R01A18
NETWORK	Added AT command **AT+QNWCFG="bearer"** to control whether to report URC of the bearer establishment.	R01A18
AUDIO	Added the UAC function.	R01A18
NETWORK	Added AT command **AT+QNWCFG="up/down"** and **AT+QNWCFG="max_up/down"**.	R01A18
GNSS	Added AT command **AT+QGPSSNRTEST** to test the C/N0 value.	R01A18
SMS	Added **AT+QCFG="sms_control"** to control SMS sending and receiving.	R01A19_01.001.01.001
VOICE CALL	Added **AT+QCFG="call_control"** to control the voice call functions.	R01A19_01.001.01.001
SIMCARD	Added AT command **AT+QSIMWRFREQ**.	R01A19_01.001.01.001
SIMCARD	Added AT command **AT+QSIMLOCK** to lock PLMN.	R01A20_01.001.01.001
NETWORK	Added AT command **AT+QXPOWER** to get the TX signal power of 4 channels.	R01A20_01.001.01.001
GENERAL	Added AT command **AT+QAGPIO** to configure GPIO.	R01A20_01.001.01.001
GENERAL	Added AT command **AT+CBC** to support querying the returned voltage value.	R01A20_01.001.01.001
GENERAL	Added AT command **AT+QSINR** to query the SINR value of each antenna.	R01A21_01.001.01.001
GENERAL	Added AT command **AT+QCFG="netmaskset"** to configure the network card subnet mask.	R01A21_01.001.01.001
NETWORK	Added the following AT commands: 1. **AT+QNWCFG="lte_tx_power"** to query the TX power, PUCCH power, PRACH power and PUSCH power; 2. **AT+QNWCFG="lte_rx_power"** to query the power of every received atenna; 3. **AT+QNWCFG="lte_l1_para_ctrl"** to control whether to query the parameters of LTE Layer1; 4. **AT+QNWCFG="lte_l1_para"** to query PDSCH channel parameters.	R01A21_01.001.01.001

4. Improved Features

Item/Category	Brief description	Since
GENERAL	Fixed the problem that RF card could not initialize **CFUN=7** problem.	R01A02
GENERAL	Optimized AT command **AT+QMBNCFG** to solve module would reboot problem.	R01A02
GENERAL	Fixed the problem that band9, band18, band19, band21 could not work normally.	R01A02
GENERAL	Solved the problem that LTE BAND30 PRX/DRX could not work normally.	R01A02
GENERAL	Fixed the problem that the URC failed to report on the AP side.	R01A02
GENERAL	A: Optimized AT command **AT+CTZU=?** to solve returned value format was incorrect. B: Optimized AT command **AT$QCPDPP?** to show auth type, username, password in returned value.	R01A02
GENERAL	Fixed the problem that Sahara could not work normally when 3PCC under CA_1A_3A_7A.	R01A02
GENERAL	Solved the problem that the uplink of mid band did not work.	R01A02
GENERAL	Solved the problem of low transmitting power of WCDMA B4.	R01A02
NETWORK	Optimized AT command **AT+QNWINFO** to solve no network standard display problem.	R01A02
NETWORK	Optimized AT command **AT+QCFG="NWSCANMODE",7** to fix the problem that would return 0 when inserted Telecom SIM card.	R01A03
NETWORK	Fixed the problem that network did not attach on EHPLMN when searched via AT command **AT+QCFG="nwscanmode",0**.	R01A03
GENERAL	Optimized AT command **AT+QCFG="usbid"/"usbcfg"/"usbnet"**, directly stored in rawdata partition.	R01A03
GENERAL	Optimized AT command **AT+QCFG="band"** and extended LTE band65-256 configuration.	R01A03
GENERAL	Fixed the follow 3 problems: A. URCPORT was null by default but expectation was USBAT. B. Queried via command **AT+CSQ** returned error when without SIMCARD inserting or CFUN=0. C. When executing **AT+CREG/CEREG/CGREG/CLCK=”SC”,2** to query related command returned error under locking PIN state.	R01A03
GENERAL	Solved the problem that **AT+QCFG="USBNET"** set illegal parameters without error returning.	R01A03
GENERAL	Solved the problem that module could not boot up normally after erasing the cache partition.	R01A03

GENERAL	Optimized AT command **AT+QCFG="usbcfg"** to change display from decimal to hexadecimal when queried VID/PID.	R01A03
GENERAL	Fixed the problem that no "**OK**" returned when queried via AT command **AT+CGSN**.	R01A03
AUDIO	Fixed the problem that AT command could not work normally under main serial port after the UART port was turned on loop tone (**AT+QAUDLOOP=1**).	R01A04
AUDIO	Changed parameter range of **AT+QSIDET** from (0-100) to (0-65535).	R01A04
GENERAL	A: Updated CEFS, restored NV28874 ca combos to full-configuration. B: Enabled to select Operator MBN automatically. C: Added hardware MBN SS-LA-MSM8998 and added remote software MBN of CMCC ct cu.	R01A04
NETWORK	Extend AT command **AT+QCAINFO** to adaptive multiple CA information display.	R01A05
GENERAL	Solved the problem that IMEI could not be written.	R01A05
GENERAL	Solved the problem that when modified profile would cause memory leak.	R01A06
NETWORK	Fixed the problem that the module became CS only after changing the SIM card of different operators, which made it impossible to register LTE.	R01A06
GENERAL	Optimized CEFS backup when appeared the first bad block.	R01A06
GENERAL	Solved the problem that the module could not work normally caused by EFS file system randomly damaged and the file lost.	R01A06
GENERAL	Solved the problem that after opening readback, the ds task would be occupied by the filetask for a long time in the process of allocating memory, the LTE ML1 underlying memory application was stuck, the scheduling was not timely caused system crash.	R01A06
NETWORK	Solved the problem that band description was incorrect when queried via **AT+QNWINFO**.	R01A06
GENERAL	Modified the RF configuration of band21 and band32 used for hardware V3.3.	R01A06
NETWORK	Opened Roaming function by default on Linux side.	R01A06
GENERAL	Solved URC port mapping error.	R01A06
GENERAL	Solved the problem that when queried via AT command **AT+COPS=?** the returned format was incorrect.	R01A06
GENERAL	Fixed the problem that when queried via **AT+QTEMP=?** returned error.	R01A06
GENERAL	Added the new restore scheme: if modem side consecutive crushed at 4 times or CFUN=7, would restore forcedly, to solve the	R01A06

	problem that efs damage could not be restored.	
GENERAL	Modified configuration file of lighttpd process to delete log file.	R01A06
GENERAL	Fixed the problem that system ubi volume could not mount in recovery mode.	R01A06
GENERAL	Solved the problem that powered off when downloaded the UBI file system image by fastboot, there was probabilistic fail to update corresponding partition when next boot up.	R01A06
GENERAL	Set a force entry fastboot flag when used flastboot flash command to download the firmware, and you must clean the flag after download ended.	R01A06
GENERAL	Solved the problem that if the module CEFS was damaged, CFUN=4 could not trigger the CEFS restore.	R01A06
NETWORK	Solved the problem that format of creg urc was abnormal.	R01A06
NETWORK	Solved the problem that the band value of **AT+QCFG="band",0,0,0** was incorrect.	R01A06
NETWORK	Set the default band value.	R01A06
NETWORK	Solved the problem of inconsistent of cell information displayed by **CEREG** and **CREG/CGREG**.	R01A06
GENERAL	Supported that Win10 system with message function could send SMS.	R01A06
GENERAL	Solve the problem that **QCSQ** has no URC report when **AT+QCSQ** was set to 1.	R01A06
NETWORK	Allowed band set by **AT+QCFG** when cops were set to manual mode.	R01A06
GENERAL	Solved the problem that module could not connect to network via USB 3.0.	R01A06
GENERAL	Optimized the module stability when using **AT&W**.	R01A07
NETWORK	Fixed the problem that **AT+QCFG="band"** could not set or query WCDMA Band9.	R01A07
VOICE CALL	Solved the problem that there was no any sound during Voice call.	R01A07
GENERAL	Updated CMCC MBN to version 0x08012010.	R01A07
GENERAL	Solved the problem of returned format error when executed AT commands **AT+CNMI=?**, **AT+CSCB=?**, **AT+CCFC=?**.	R01A08
GENERAL	Supported to select China Telecom MBN when the prefix of IMSI was 99904/46003 and select China Mobile MBN when the prefix of IMSI was 46013.	R01A08
VOICE CALL	Optimized AT command **AT+QTONEDET=1** in CS voice.	R01A08
GENERAL	Solved the problem that after shutdown by Pwrkey, the second	R01A08

	shutdown would fail, and USBAT&USBMODEM port could not work normally.	
GENERAL	Supported to select ROW MBN automatically when PLMN was 001-01.	R01A08
NETWORK	Supported to query CQI, MCS, RI of network under LTE.	R01A08
PHB	Solved the problem of returned format error when executed AT command **AT+CPBF**.	R01A08
GENERAL	Supported MBIM only configuration by AT command **AT+QCFG="usbcfg"**.	R01A08
NETWORK	Solved the problem of returned format error when executed AT command **AT+QCAINFO**.	R01A08
SMS	Set the default CNMI value to "2,2", and solved the problem that SMS reported to MBIM directly.	R01A08
SMS	Fixed the yellow sign caused by MBIM SMS.	R01A08
GENERAL	Updated CEFS version to V00015.	R01A08
NETWORK	Optimized AT command **AT+QNETINFO="CMR"** by adding PMI info.	R01A08
GENERAL	Solved the problem of FOTA upgrade failure caused by the FOTA package was too large.	R01A08
GENERAL	Solved the problem of USB port hopping and no 100% progress report, during FOTA upgrade.	R01A09
GNSS	Added AT command **AT+QGPSDEL**, and optimized **AT+QGPSCFG**, **AT+QGPSXTRADARA**.	R01A09
GENERAL	Supported self-checking feature to restore parameter partition when network appeared unknown serious error.	R01A09
GENERAL	Optimized AT command **AT+CNMA**.	R01A09
GENERAL	Solved the problem of the default value of **AT+QINDCFG** was incorrect.	R01A09
SMS	Solved the problem that after executing **AT+CNMI=2,2**, SMS would be saved unexpectedly.	R01A09
SMS	Solved the problem that when SMS direct pushing feature has already taken effect, SMS would be saved again if switched to different SIM card and activated MBN.	R01A09
AUDIO	Solved the parameter errors of AT command **AT+QSIDET**, **AT+QTTSETUP**.	R01A09
GENERAL	Solved the problem that the QSIMDET status would restore to default value unexpectedly after executing **AT+QSIMDECT** to configure hot-plugging and rebooting.	R01A09
GENERAL	Solved the problem that **AT+EGMR=1,8** only could be set once.	R01A09
GENERAL	Solved the problem of band28 sar feature did not take effect.	R01A09

	Removed the quotation mark of band displayed by AT command **AT+QCFG="sarcfg"**.	
GENERAL	Solved the problem that ADB could not be enabled by **AT+QCFG="usbcfg"**.	R01A09
AUDIO	Optimized AT command **AT+QCFG="tone/incoming"** to support music play function.	R01A09
GENERAL	Solved the problem that no response return when switching CFUN=0 to CFUN=1 if without SIM card.	R01A09
GENERAL	Solved the CFUN=0 execution failure after switching SIM1/SIM2 on WIN 10.	R01A09
GENERAL	Improved the module stability when inserted SIM card to slot2 if without specifying the slot on WIN 10.	R01A09
GNSS	Set that GPS and DRX using the same antenna by default.	R01A09
GENERAL	Solved the small probability problem of Modem port working abnormally.	R01A09
GNSS	Solved the problem that no NMEA output after GPS working for a while.	R01A09
GENERAL	Solved the problem of FOTA upgrading incompletely.	R01A09
VOICE CALL	Solved the problem that the returned emergency call number was null after executing AT command **AT+QECCNUM**.	R01A09
GENERAL	Solved the problem of USB loading failure during FOTA process.	R01A09
QMI	Solved the problem that QMI related AT commands working abnormally after modem rebooting.	R01A09
SMS	Solved the problem that if CNMI was set default to 2 after downloading firmware, the first SMS would be stored unexpectedly when module rebooting.	R01A09
NETWORK	Set IPV4 MTU to 1460, IPV6 to 1358 when activating Telstra MBN.	R01A09
GENERAL	Solved the problem of uploading files failure by AT command **AT+QFUPL**.	R01A09
AUDIO	Solved the problem that VTS could only send one tone.	R01A09
GENERAL	Set that when the SIM card was locked in PUK2, allowed to execute **AT+CPIN=<PUK2>,<new PIN2>** to unlock PUK2.	R01A09
GNSS	Solved the problem of no NMEA output after plugging in/out USB.	R01A09
GENERAL	Solved the problem that ESIM failed to enable the profile for the second time after using Gigsky profile to surf the Internet.	R01A09
GENERAL	Optimized AT command **AT+QFDWL** to solve the problem that no response returned and AT port worked abnormally.	R01A09
AUDIO	Solved the problem of no ring back.	R01A09

VOLTE	Solved the parameter syntax error for AT command **AT+QIMSCFG="ims_enable"**.	R01A09
AUDIO	Solved the problem that ring back could not be turned off.	R01A09
GENERAL	Solved the problem of returned format error when executing AT commands **AT+QCFG="usbid"**, **AT+QCFG="usbnet"**, **AT+QCFG="usbcfg"**.	R01A09
GENERAL	Solved the problem that no power output of FDD band RX under FTM.	R01A09
LOWPOWER	Optimized AT command **AT+QSCLK** to save parameter.	R01A10
GENERAL	Optimized parameter partition restore mechanism to solved the problem that after executing **AT+CFUN=1,1**, parameter partition would be restore unexpectedly.	R01A10
AUDIO	Solved the problem of no sound on up-link.	R01A10
GENERAL	Solved the problem of returned format error when executed AT commands **AT+QFOPEN?**, **AT+CFUN?**, **AT+IFC=?**.	R01A10
AUDIO	Solved the problem of returned format error when executed AT commands **AT+QAUDPLAY=?**, **AT+QEEC=?**.	R01A10
AUDIO	Supported incoming-call ringtone and optimized ring back.	R01A10
GENERAL	Solved the small probability problem of SIM card could not be identified during reboot.	R01A10
GENERAL	Solved the problem that no temperature info returned after executing **AT+QTEMP** for 1000 times.	R01A11
VOICE CALL	Set that if the SIM card supported STK CALL CONTROL, the module should first send STK CALL CONTROL to the card after the ATD dialing, and then initiated a call to the network after getting SIM card permission.	R01A11
SMS	Solved the problem that when the CPMS was all set to SM and the SM was full, sent SMS to the module, but module could not receive it, then after the module deleting a SMS, it would receive the previous message soon.	R01A11
GENERAL	Solved the problem of restarting caused by cache partition corruption.	R01A11
GENERAL	Optimized the startup time.	R01A11
GENERAL	Solved the problem of deleting MBN failure by **AT+QMBNCFG="delete"**.	R01A11
GENERAL	Corrected the default value of AT command **AT+CVHU?** from 1 to 0.	R01A11
GENERAL	Corrected the default value of AT command **AT+CMEE?**. Solved the problem of the returned format of **AT+CPOL?** was incorrect.	R01A11

GENERAL	Solved the small probability problem of reboot when switching SIM cards repeatedly.	R01A11
AUDIO	Improved the sound quality.	R01A11
GENERAL	Supported B1, B3, B7, B20, B38 for UK-vodafone.	R01A12
GENERAL	Solved the problem of dialing failure caused by sending DHCP request to module before Quectel-CM dialing.	R01A12
AUDIO	Optimized AT Command **AT+QIIC**.	R01A12
GENERAL	Solved the problem that **AT+COPS** command could not query short name with eight characters.	R01A12
GENERAL	Solved the problem that the module could not successfully switch from CFUN=0 to CFUN=4 when dual cards inserted.	R01A12
PPP	Fixed the problem that could not save traffic data when **AT+QGDCNT=1.**	R01A12
NETWORK	Fixed the problem that **<act>** parameter of **AT+QNWINFO** command only displayed 4 bytes.	R01A12
NETWORK	Fixed the problem that there was no time message of **AT+QLTS** command after network registration.	R01A12
NETWORK	Fixed the problem that network could not be connected when network card acquired IP successfully in ECM mode.	R01A12
GENERAL	Updated GCF_PTCRB MBN to version 0x0801FE02.	R01A12
GENERAL	Solved the problem that B34 could not be registered when activate CMCC MBN.	R01A12
GENERAL	Solved the problem that switch from LTE12 to WCDMA B2 failure in sub-certification of GCF/PTCRB.	R01A12
GENERAL	Optimized AT command **AT+QCFG="band"** to support the band to set to 0.	R01A12
GENERAL	Fixed the problem that there was no DSCI report after hang up the phone when setting DSCI value to 1.	R01A12
GENERAL	Optimized **AT+QFLST** to solve the problem that the first returned value did not wrap.	R01A12
AUDIO	Optimized AT Command **AT+QDAI**.	R01A12
GENERAL	1. Enabled MFBI function and to achieve B12+MFBI to register B17. 2. Added FirstNet MBN to support FirstNet certification test. 3. Retained the IMS registration and cancelled the VoLTE function when ATT or FirstNet MBN was activated.	R01A12
GENERAL	Solved the problem of switching failure from LTE B12 to WCDMA B2 in GCF/PTCRB certification.	R01A13
GENERAL	Fixed the wrong query value of AT command **AT+QINISTAT**.	R01A13

GENERAL	Solved the problem of vibration after pressing the powerkey.	R01A13
AUDIO	Solved the problem that the volume could not change after setting the downlink volume value of **AT+QRXGAIN** before the call and during the call and fixed the problem that **AT+QAUDMOD** could not take effect.	R01A13
GENERAL	Updated the ROW_Generic_3GPP_PTCRB_GCF MBN to version 0x0801FE02.	R01A13
GENERAL	Fixed the problem of abnormal SSR after erasing rawdata.	R01A13
GENERAL	Fixed the problem that pwr_key had a long shutdown time.	R01A13
GENERAL	Fixed the problem that AT command **AT+QIMSCFG="user_agent"** returned error.	R01A13
GENERAL	Solved the problem that B3 and B8 could not be registered when China Mobile CMCC MBN was activated.	R01A13
NETWORK	Solved the problem of no synchronous reporting when rebooting module after **AT+CTZU** enabled synchronous reporting.	R01A13
AUDIO	Fixed the problems that **AT+QMIC** could not take effect after it was successfully configured and that **AT+CRSL** could not change the volume of an incoming call.	R01A13
GENERAL	Solved the problem that could not switch SLOT successfully without SIM card inserted if under Windows.	R01A14
GENERAL	Solved the problem that there was no error reported when set time zone via **AT+CCLK** was wrong.	R01A14
NETWORK	Solved the problem that it would repeatedly report CREG/CGREG/CEREG selection information after logging out the network by **AT+COPS=2** and setting mismatched operators by **AT+COPS=4,2,"50500"**.	R01A14
GENERAL	Solved the problem that the default value queried by **AT+QSIMDET?** was incorrect.	R01A14
AUDIO	Solved the problem that A emitted a "beep" sound when A called B and C called A, and A still emitted the "beep" sound after B was hung up.	R01A14
GENERAL	Optimized AT command **AT+QEEC=?** to solve the problem that after executing this command, error would be returned no matter what parameter was set.	R01A14
GENERAL	Fixed mismatch problem between actual return rate and theoretical rate of **AT+QGETMAXRATE**.	R01A14
GENERAL	Solved the problem that there was an additional URC reported when switching CFUN4 to CFUN1.	R01A14
GENERAL	Corrected the returned value format after executing AT command **AT+CBC=?**.	R01A14
FOTA	Supported five times limitation for FOTA upgrade.	R01A14

GENERAL	Supported RPM function for ATT.	R01A14
SMS	Solved the problem that the send status of the message that written by command **AT+CMGW** was still showing not send after executing command **AT+CMSS**.	R01A14
AUDIO	Supported Telstra ringback and busytone when net does not support net ringback and net busytone.	R01A14
AUDIO	Solved the problem that command **AT+QTONEDET** failed to take effect on reporting DTMF URC of VoLTE call. Improved VoLTE DTMF to correct sound.	R01A14
NETWORK	Solved the problem that error occurred when executing **AT+COPS?** under the circumstances that SIM card was non-inserted, (U)SIM card was locked and **AT+CFUN=0**.	R01A14
GNSS	Solved the problem that command **AT+QGPSCFG="outport","none"** did not take effect. Optimized returned value format of command **AT+QGPSLOC?**.	R01A14
GENERAL	Optimized the safety mechanism of ADB.	R01A14
GENERAL	Solved the problem that the returned MTU value of IPv6 when executing **AT+QMUTINFO** was not the same with that one queried by netsh on Windows PC.	R01A14
VOICE CALL	Solved the problem that +CME ERROR reported unexpectedly when configuring **AT+CHLD=2** could take effect.	R01A14
GENERAL	Solved the problem that error reported without error code after executing **AT+CIMI** without SIM card inserted.	R01A14
GENERAL	Solved the problem that the AT performance port could not be used when configuring **AT+QCFG="usbnet",3**.	R01A14
GENERAL	Configured the default value of **AT+QSCLK** to 0.	R01A14
AUDIO	Solved the problem that there was no RING report when MT party was in a call if the feature of call waiting was enabled.	R01A14
GENERAL	Updated "Telstra_Australia_Commercial" version to 0x08010F00, 201907181.	R01A15
NETWORK	Solved the problem that the band information was incorrect returned by **AT+QNWINFO**.	R01A15
GNSS	Optimized AT command **AT+QGPSCFG="agnssprotocol"**.	R01A15
GENERAL	Solved the problem that **AT+QFDEL="EFS:*"** responded **ERROR**.	R01A15
GENERAL	Solved the problem that an error was reported unexpectedly after **AT+QHUP** executed successfully.	R01A15
AUDIO	Added busytone support on 3G Telstra network.	R01A15
GENERAL	Updated "Telstra_Australia_Commercial" version to 0x08010F00,201908191.	R01A16

NETWORK	Solved the problem of Verizon IMS roaming registration failure.	R01A16
NETWORK	Solved the problem of display error after executing AT command **AT+QICSGP**.	R01A16
NETWORK	Solved the problem of incorrect signal quality information returned after executing AT command **AT+QCAINFO**.	R01A16
GENERAL	Solved the following problems of AT command **AT+QIMSCFG="qirep"**: 1. When set the first parameter to 1 to enable automatic report, there was one more \r\n returned 2. After the automatic report is enabled by setting the first parameter to1, the first returned value was 0 unexpectedly when querying **AT+QIMSCFG="qirep"**.	R01A16
GENERAL	Optimized QUECTEL_FLY_MODE feature.	R01A16
GENERAL	Optimized **AT+QNWCFG="rat_seq"** to be effective when using RPLMN.	R01A16
SMS	Supported SMS in CDMA format for AT command **AT+QCMGS**.	R01A16
GENERAL	Optimized the range of **<pci>** in AT command **AT+QNWLCOK="common/4g"** to 0-503 to comply with 3GPP.	R01A16
GENERAL	Extended **AT+QCAINFO** to support the uplink and downlink indication for SCC.	R01A17
GENERAL	Optimized AT command **AT+QCFG="roamservice"**.	R01A17
GENERAL	Removed the restriction for Band7.	R01A17
GENRAL	Updated timer of RTPlink and RTCPlink to 20s for Verizon	R01A17
GENERAL	Solved the problem that executing **AT+CCLK** returns ERROR when the SIM card was in the locked pin state.	R01A17
GENERAL	Solved the problem that Band 7 could not been reported when checking module's UE ability during the network registration process after activating Verizon MBN.	R01A18
NETWORK	Added a new valid value 0xFFFE for parameter <bandval> and 0x7FFFFFFFFFFFFFFE for <ltebandval> of command **AT+QCFG="band"** to enable the module to restore the factory settings of supported band.	R01A18
SMS	Modified the SMS storage upper limit of 3GPP to 127 and of 3GPP2 to 99.	R01A18
SMS	Enabled the reporting of URC +QINDCFG: "smsfull" by default of command **AT+QINDCFG="smsfull"**.	R01A18
NETWORK	Changed the configuration storage mechanism of command **AT+QNWLOCK="common/4g"** to not saving by default.	R01A18
SMS	Supported to save messages by default.	R01A19_01.0 01.01.001

LwM2M	Optimized LwM2M DFOTA upgrade strategy in Verizon certification.	R01A20_01.0 01.01.001
GENERAL	Modified AT command **AT+QCSQ** to display **<rssi>** as a negative value.	R01A20_01.0 01.01.001
SMS	Solved the problem that 3GPP2 SMSs with international numbers were not received under the Verizon real network.	R01A20_01.0 01.01.001
GENERAL	Updated Commercial-Sprint MBN version to 202005271.	R01A20_01.0 01.01.001
GENERAL	Updated Commercial-SBM MBN version to 202005261.	R01A20_01.0 01.01.001
GENERAL	ATT data only device configured FGI bit 27/28/29 to 0.	R01A20_01.0 01.01.001
GENERAL	Solved the problem that the return value for Band 4 of **AT+QRFTEST** was incorrect.	R01A20_01.0 01.01.001
SMS	Solved the problem that 3GPP2 SMS could not be saved.	R01A20_01.0 01.01.001
SMS	Solved the problem of report 305 error when writing special characters in SMS.	R01A20_01.0 01.01.001
GENERAL	Changed the default value of **AT+QCFG="rrc"** from 4 to 5.	R01A20_01.0 01.01.001
GENERAL	Changed the default value of **AT+QGPSCFG="dpoenable"** to 0.	R01A20_01.0 01.01.001
GENERAL	Optimized AT command **AT+QCFG="usbcfg"** to configure serial port combinations.	R01A20_01.0 01.01.001
GENERAL	Optimized AT command **AT+QNETINFO="servingcell"** to delete 0x in the front of **<earfcn>** and **<tac>**.	R01A20_01.0 01.01.001
GENERAL	Modified the memory storage of the mobile equipment phonebook from 25 to 500.	R01A21_01.0 01.01.001

5. Known Issues

Item/Category	Brief Description
VoLTE	There is no ringback tone at MO in VoLTE calls with China Mobile SIM card.
SMS	After the Verizon SIM card is inserted into the module and the firmware version is upgraded, the SMS format **<n>** queried by **AT+QCFG="LTESMS/FORMAT"** is incorrect after the first boot, and the expected value is 2.
GENERAL	In Linux system, when the module plays the recording file by **AT+QPCMV=1,2**, the peer cannot hear the recording.
GENERAL	The default IP type queried by **AT+QICSGP** is incorrect.

GENERAL	The default value of <etws> queried by **AT+QCFG="etws"** is incorrect, and it is expected to be 1.
VoLTE	There is a high probability that if MT hangs up directly when MO makes a VoLTE call, busy tone is played incorrectly at MO for about 1.5 minutes.

6. Functions

Basic Function							
SMS	Voice Call	PHB	FILE[1]				
Y	Y	Y	Y				
Protocol Function							
QMI	NITZ	LwM2M					
Y	Y	Y					
Special Function							
DFOTA	SIM Detection	Low Power	DTMF	DSSS	RMNET	MBIM	UAC
Y	Y	Y	Y	Y	Y	Y	Y

NOTES

1. Y means the firmware supports this function.
2. N means the firmware does not support this function.
3. [1] Supports RAM and UFS/EFS FILE only.
4. 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_V1.2.10
   Qflash Tool: QFlash_V4.20

   For Linux,
   QMI_WWAN Driver: Quectel_Linux&Android_QMI_WWAN_Driver_V1.2.0.3.zip
   GobiNet Driver: Quectel_Linux&Android_GobiNet_Driver_V1.6.2.2.zip
   QFirehose Tool: Quectel_Linux_QFirehose_V1.2.3.zip
   QFlash Tool: QFlash_Android_1.4.10.zip
   Quectel-CM Tool: Quectel_QConnectManager_Linux_V1.6.0.1.zip