

EM12-G-PA

Release Notes

LTE-A Module Series

Rev. EM12-G-PA_Firmware_Release_Notes_V0121_01.300.01.300

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1. Preamble

This document provides the Release Notes for firmware version **EM12GPAR01A21M4G** (Configuration version **01.300.01.300**). It describes major changes compared to firmware version **EM12GPAR01A20M4G** (Configuration version **01.202.01.202**).

2. Matters Needing Attention

Please strictly adhere to the following matters needing attention.

SN	Brief Description
[1]	This project supports data only.
[2]	The new firmware version cannot be downgraded to versions released before EM12GPAR01A21M4G_01.200.01.200, otherwise the module will not be able to work normally.
[3]	To extend the service life of flash, it is recommended that the total number of operations related to powering on/off the module, CFUN switching, SIM card hot swapping, dual-SIM switching, or repeated execution of NVM commands should not exceed 30 times per day.
[4]	It is not recommended to directly modify the pre-set APN profiles. Please create an APN profile after the existed CID number. Suppose you modify the APN profile of IMS, SOS, etc. with added specific attributes, these attributes are hidden after modification, causing the profile to still be unavailable.
[5]	AT+QGDCNT=1 , AT+QGDNRCNT and AT+QPDPGDCNT=1 will write data to the flash. Therefore, please do not execute the AT commands frequently. AT+QAUGDCNT is used in conjunction with the above commands to automatically save the packet data counter. ((1) If there is no mandatory needs, it is not recommended to use these AT commands; (2) The time interval set by the timer needs to be lengthened when you use these AT commands.)
[6]	During the FOTA upgrade process, it is necessary to ensure the stable power supply of the module. If the power is disconnected during the upgrade, there is a small probability that the flash will be damaged.
[7]	M.2 module is encapsulated without SPI, and SLIC cannot be mounted on the module.
[8]	It is strongly recommended to integrate FOTA functionality.
[9]	Do not modify the contents of the FOTA upgrade package, recompress it after decompression, or perform other similar operations, because these will lead to upgrade failure. Renaming the FOTA package is currently supported.

[10]	It is not recommended to use non-mass production firmware versions for mass production. If necessary, please contact Quectel Technical Support for evaluation to mitigate risks.
[11]	Please perform thorough acceptance testing of firmware versions, covering both normal and abnormal scenarios. Please also confirm that the firmware version used in production matches the one that has been tested and accepted.
[12]	Please use only the features supported by the module as specified in the product specification and avoid using any unsupported features. For special requirements, please contact Quectel Technical Support for evaluation to mitigate risks.
[13]	When performing firmware flashing, ensure that the target firmware version matches the module hardware. Incompatibility may lead to various issues, such as degraded RF performance.

3. New Features

Item/Category	Brief description	Since
Security	<p>Added relevant codes to support Radio Equipment Directive Delegated Act of European Union Cybersecurity.</p> <ul style="list-style-type: none"> Supported Secure FOTA. Supported Secure Debugging. Added AT+QREDDAVN to query the RED DA firmware version. 	R01A21_01. 300.01.300
GENERAL	Added APN configuration adaptation solution for T-Mobile, Telus and SoftBank operators.	R01A21_01. 300.01.300
GENERAL	Enabled CLAT feature in Commercial-EE MBN by default.	R01A21_01. 300.01.300
GENERAL	Added AT+QMAP="LANIP" to query or set the address pool of LAN.	R01A20_01. 202.01.202
GENERAL	<p>Added the following AT commands:</p> <ul style="list-style-type: none"> Added AT+QPRFMOD="clat_enabled" to query/configure the CLAT-enabled status of the specified profile. Added AT+QCFG="CLAT" to enable or disable CLAT. 	R01A20_01. 201.01.201
GENERAL	Added AT+QCFG="rollback" to query whether software anti-rollback feature is supported.	R01A21_01. 202.01.202
GENERAL	Added AT+QNWCFG="nitz_ons" to query the long name and short name of PLMN from NITZ signal.	R01A21_01. 201.01.201
LwM2M	Disabled AT&T LwM2M feature by default.	R01A21_01. 200.01.200
GENERAL	The new firmware version cannot be downgraded to previous versions, otherwise the module will not be able to work normally.	R01A21_01. 200.01.200
GENERAL	Relevant technical controls have been carried out to restrict normal network registration in regions such as RUS and IRN, thus ensuring	R01A21_01. 200.01.200

	that the module can be used only for civilian applications.	
GENERAL	Added AT+QIMSACT to control IMS function.	R01A21_01. 009.01.009
GENERAL	Added three IMSIs 44020865,44020945 and 44020835 to SBM_PC APN for SoftBank SIM card. Set the default APN as plug.4g.	R01A21_01. 009.01.009
NETWORK	Added AT+QRSCP to query RSCP in WCDMA.	R01A21_01. 008.01.008
GENERAL	Enabled XLAT on T-Mobile MBN.	R01A21_01. 007.01.007
GENERAL	Added Telus_Jasper MBN and its version number is 202112031.	R01A21_01. 007.01.007
GENERAL	Deleted Commercial-EE MBN.	R01A21_01. 005.01.005
GENERAL	Added Rogers_Canada MBN and the version is 0x08014800,202103111.	R01A21_01. 004.01.004
GENERAL	Supported reporting URC information after the base station sent RRC release and defaulted to disable URC report.	R01A20_01. 003.01.003
GENERAL	Added AT+QNWCFG="lte_mimo" to query MIMO status.	R01A20_01. 003.01.003
FOTA	Added AT+QFOTAPID to configure the APN used in dial-up to network for DFOTA upgrade.	R01A21_01. 002.01.002
SIMCARD	Added AT+QSIMLOCK to lock PLMN.	R01A20_01. 001.01.001
NETWORK	Added AT+QXPOWER to get the TX signal power of 4 channels.	R01A20_01. 001.01.001
GENERAL	Added AT+QAGPIO to configure GPIO.	R01A20_01. 001.01.001
GENERAL	Added AT+CBC to support querying the returned voltage value.	R01A20_01. 001.01.001
GENERAL	Added AT+QSINR to query the SINR value of each antenna.	R01A21_01. 001.01.001
GENERAL	Added 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;	R01A21_01. 001.01.001
	2. AT+QNWCFG="lte_rx_power" to query the power of every received antenna;	
	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.	

VoLTE	Supported local ringtone feature.	R01A21_01. 001.01.001
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+QSIMWRFREQ .	R01A19_01. 001.01.001
GENERAL	Added AT+QCFG="rf/maxpower" .	R01A18
NETWORK	Added AT+QNWCFG="bearer" to control whether to report URC of the bearer establishment.	R01A18
AUDIO	Added the UAC function.	R01A18
NETWORK	Added AT+QNWCFG="up/down" and AT+QNWCFG="max_up/down" .	R01A18
GNSS	Added AT+QGPSSNRTEST to test the C/N0 value.	R01A18
GENERAL	Added AT+QCFG="cdrx_enable" .	R01A17
GENERAL	Added AT+QUSBCFG to set USB Speed High 2.0 or super 3.0.	R01A17
GENERAL	Added AT+QNWCFG="qci" .	R01A17
GENERAL	Added AT+QMBIM="mode" and Windows tool to set MBIM only and MBIM+GPS mode.	R01A17
GENERAL	Added AT+QNWCFG="rrcstate" .	R01A17
GNSS	Added AT+QGPSCFG="dpoenable" .	R01A16
GENERAL	Add AT+QCFG="usbserial" .	R01A16
GENERAL	Added AT+CSVM .	R01A15
VoLTE	Added AT+QIMSCFG="qirep" .	R01A15
GENERAL	Added AT+QSIMCFG="eid" to get eSim EID.	R01A14
NETWORK	Added AT+QNWLOCK="common/4g" to enable the feature of locking network.	R01A14
GENERAL	Added AT+QIMSCFG="qirep" .	R01A14
GNSS	Added AT+QGPSCFG="appidname" to configure the username and password for Verizon.	R01A14
NETWORK	Added AT+QCFG="fast_dormancy" .	R01A14
GENERAL	Added AT+QNWCFG="cgatt/rsptime" to control the response time after executing command AT+CGATT .	R01A14

NETWORK	Added AT+QPING .	R01A14
GENERAL	Enabled the feature of retry cause.	R01A14
GENERAL	Added AT+QIMACT .	R01A13
GENERAL	Added AT+QIMSCFG="qsiprc_enable" and AT+QIMSCFG="qsphci_enable" .	R01A13
GENERAL	Added 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
NETWORK	Added AT+QDHLEASE command to set the lease time of the IPv4 DHCP server.	R01A12
AUDIO	Added AT+QIMSCFG="speech_codec" .	R01A12
NETWORK	Added AT+QICSGP .	R01A12
VoLTE	Added 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
VoLTE	Added AT+QIMSCFG="authenticate" .	R01A11
AUDIO	Added AT+QIIC .	R01A11
GENERAL	Supported the feature of LwM2M.	R01A10
GENERAL	Enabled the SAR feature.	R01A09
FILE	Enabled the feature of RAM_FILE.	R01A09
GENERAL	Added AT+CNEM .	R01A09
VoLTE	Added AT+QCFG="IMS" .	R01A09
GENERAL	Added AT+QUIMSLLOT to switch SIM1 and SIM2.	R01A09
GNSS	Added AT+QCFG="gpsdrx" to control whether GPS and DRX using the same antenna.	R01A09
GENERAL	Added AT+QCFG="sim/clock_freq" to fix clock frequency of SIM card.	R01A08
GENERAL	Added AT+QSAR and AT+QCFG="sarcfg" , and supported SAR GPIO feature.	R01A08

GENERAL	Supported single package upgrade solution.	R01A08
NETWORK	Added AT+QNETINFO .	R01A07
GENERAL	Added LTE band25.	R01A07
GENERAL	Added AT+QGSN .	R01A06
GENERAL	Added AT+QCSQ .	R01A06
GENERAL	Added AT+QGMR .	R01A06
GENERAL	Added AT+QEFSVER to query CEFS version number.	R01A06
GENERAL	Added 6 remote MBN: DCM, KDDI, ATT, Telstra, Verizon, Vodafone.	R01A05
AUDIO	Added AT+QDAI .	R01A04
GENERAL	Added AT+QRFTEST="RX"/+QRFTEST="TX" .	R01A04
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+QNAND .	R01A03
GENERAL	Added AT+QTEMP .	R01A03
AUDIO	Added below AT commands: AT+QTTS/+QWTTTS/+QTTSETUP/+QAUDPLAY/+QAUDSTOP/+QPSND/+QAUDRD/+QTONEDET .	R01A03
GENERAL	Added 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+QCFG="nwscanseq" .	R01A02

GENERAL	Added sleep function.	R01A02
GENERAL	Added AT+QSCCLK .	R01A02

4. Improved Features

Item/Category	Brief description	Since
SIM Detection	Solved the probabilistic problem of SIM card initialization failure because the SIM card file failed to be read.	R01A21_01.3 00.01.300
GENERAL	Enhanced the version security.	R01A21_01.3 00.01.300
GENERAL	Solved the problem that the module could not work normally due to the outdated transition information when it transitioned from the connected state to the idle state after HORxD feature was enabled.	R01A21_01.3 00.01.300
GENERAL	Solved the problem that PCI of serving cell was returned after the execution of AT+QENG="neighbourcell" .	R01A21_01.3 00.01.300
GENERAL	Solved the problem that SIM PUK was still returned after the execution of AT+CPIN? when the incorrect SIM PUK was entered for more than 10 times.	R01A21_01.3 00.01.300
GENERAL	Enabled XLAT feature in DT MBN.	R01A21_01.3 00.01.300
GENERAL	Solved the problem that the module was abnormal when SCC service was processed after the network registration.	R01A21_01.3 00.01.300
Audio Record	Solved the problem that the audio recordings were lost on some networks.	R01A20_01.2 02.01.202
GENERAL	Solved the problem that ECM NIC could not be identified on Windows system.	R01A20_01.2 02.01.202
GENERAL	Solved the problem that there was a probability that the module could not work normally due to the abnormality inside the module during the secondary cell measurement.	R01A20_01.2 02.01.202
GENERAL	Solved the probabilistic problem that the module could not work normally after the network registration.	R01A20_01.2 01.01.201
GENERAL	Solved the problem that the firmware of the module was downloaded slowly through LwM2M.	R01A20_01.2 01.01.201
SIM Detection	Solved the problem that AT+QCFG="sim/recovery" did not take effect.	R01A21_01.2 03.01.203
GENERAL	Solved the probabilistic problem that the network test was interrupted when a speedtest was performed in some network environment.	R01A21_01.2 03.01.203
GENERAL	Solved the problem of Verizon Wireless test case "Class3 APN"	R01A21_01.2

	failure.	03.01.203
GENERAL	Modified the project to support data only.	R01A21_01.2 03.01.203
MBIM	Solved the problem that the module provided incorrect provider name in MBIM_CID_REGISTER_STATE message in roaming.	R01A21_01.2 02.01.202
NETWORK	Solved the problem that an incorrect operator ID was returned after the execution of AT+QENG="servingcel" .	R01A21_01.2 02.01.202
GENERAL	Modified the project to support data only.	R01A21_01.2 02.01.202
LwM2M	Solved the problem that SMS message failed to be received when the module received OMADM/LwM2M WAP Push SMS messages without sending back an ACK.	R01A21_01.2 01.01.201
NETWORK	Solved the problem that an incorrect operator ID was returned after the execution of AT+QENG="servingcel" .	R01A21_01.2 01.01.201
GENERAL	Modified the configuration of Home+Roaming of TMO MBN APN to IPV4V6.	R01A21_01.2 01.01.201
Voice Call	Solved the problem that the emergency call failed due to the reason that the module camped on a cell that did not support emergency calls when an emergency call was made.	R01A20_01.2 00.01.200
GENERAL	Extended AT+QSIMLOCK to support <password> with a maximum length of 16 characters and unlock the personalized device lock.	R01A21_01.2 00.01.200
GENERAL	Solved the problem of network abnormality caused by module who mistook the Data PDU for CTRL PDU when it received downlink PDCP and the length of Data PDU in downlink PDCP reached a certain value.	R01A21_01.2 00.01.200
SIMCARD	Solved the problem that the hot swapping feature of SIM card was abnormal probabilistically after the SIM card was switched.	R01A21_01.0 09.01.009
FOTA	Solved the problem of abnormal data call during AT+QFOTADL online upgrade.	R01A21_01.0 08.01.008
FOTA	Optimized DFOTA retry count logic.	R01A21_01.0 08.01.008
GENERAL	Updated NV parameter configuration of KDDI MBN.	R01A21_01.0 07.01.007
GENERAL	Updated default APN of Telstra to telstra.internet.	R01A21_01.0 07.01.007
GENERAL	Changed FGI Bit 27/28/29 of FirstNet to 0.	R01A21_01.0 07.01.007
GENERAL	Solved the problem of abnormal Linux QMI dialing in some scenarios.	R01A21_01.0 07.01.007
FOTA	Solved the problem that no URC +QIND: "FOTA","START" was reported when performing DFOTA upgrade via USB.	R01A21_01.0 05.01.005

GENERAL	Modified parameter of AT+QRFTEST to support testing maximum power output.	R01A21_01.0 05.01.005
GENERAL	Solved the problem of low output power of AT+QRFTEST Band1 TX.	R01A21_01.0 05.01.005
GENERAL	Solved the problem of parameter configuration error of AT+QPMUGPIO .	R01A21_01.0 05.01.005
GENERAL	Solved the problem of insufficient brightness of network status indication LEDs.	R01A21_01.0 05.01.005
GENERAL	Fixed the problem of AT+CREG , AT+CGREG and AT+CEREG not reporting URC and the return format was wrong.	R01A21_01.0 05.01.005
GENERAL	Solved the problem of return error after executing AT+QRFTESTPWR .	R01A21_01.0 05.01.005
GENERAL	Solved the problem that after enabling and then disabling the PC flight mode without the SIM card, the value of <fun> queried by AT+CFUN? was incorrect.	R01A21_01.0 04.01.004
GENERAL	Changed the Rogers_Canada certification type to data only.	R01A21_01.0 04.01.004
NETWORK	Modified to allocate MTU value by the network side, and set ue_usage_setting value to data centric.	R01A20_01.0 04.01.004
GENERAL	Optimized the return value format of AT+QCAINFO .	R01A20_01.0 03.01.003
GENERAL	Solved the problem that number "999" appeared abnormally in the emergency number list when you queried the list by executing AT+QECCNUM? with SIM card inserted.	R01A20_01.0 03.01.003
GENERAL	Extended AT+QNWCFG="lte_l1_para" to support querying CQI parameter.	R01A20_01.0 03.01.003
GENERAL	Solved the problem of no response after executing AT+QPDPGDCNT .	R01A20_01.0 03.01.003
GENERAL	Improved Telefonica Retry & Reboot Schema solution.	R01A21_01.0 03.01.003
GENERAL	Changed the default value of <etws> queried by AT+QCFG="etws" to 1.	R01A21_01.0 02.01.002
VoLTE	Solved the problem that if MT hung up directly when MO made a VoLTE call, busy tone was played incorrectly at MO for about 1.5 minutes.	R01A21_01.0 02.01.002
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+QCFG="usbcfg" to configure serial port combinations.	R01A20_01.0 01.01.001
GENERAL	Optimized 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
SMS	Supported to save messages by default.	R01A19_01.0 01.01.001
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 0xFFFFFFFFFFFFFFFF 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
GENERAL	Extended AT+QCAINFO to support the uplink and downlink indication for SCC.	R01A17
GENERAL	Optimized AT+QCFG="roamservice" .	R01A17
GENERAL	Removed the restriction for Band7.	R01A17
GENERAL	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	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+QICSGP .	R01A16
NETWORK	Solved the problem of incorrect signal quality information returned after executing AT+QCAINFO .	R01A16
GENERAL	Solved the following problems of 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 to 1, 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+QCMGS .	R01A16
GENERAL	Optimized the range of <pci> in AT+QNWLCOK="common/4g" to 0-503 to comply with 3GPP.	R01A16
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+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	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	R01A14

	hung up.	
GENERAL	Optimized 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+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 AT+CMGW was still showing not send after executing 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 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 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	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+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+QXRSGAIN 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+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	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+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+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 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+CVHU? from 1 to 0.	R01A11
GENERAL	Corrected the default value of 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
Low Power	Optimized 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+QFOPEN? , AT+CFUN? , AT+IFC=? .	R01A10
AUDIO	Solved the problem of returned format error when executed 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 of USB port hopping and no 100% progress report, during FOTA upgrade.	R01A09
GNSS	Added 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+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+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. Removed the quotation mark of band displayed by AT+QCFG="sarcfg" .	R01A09
GENERAL	Solved the problem that ADB could not be enabled by AT+QCFG="usbcfg" .	R01A09
AUDIO	Optimized 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+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+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 Gigsby profile to surf the Internet.	R01A09
GENERAL	Optimized 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+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+QCFG="usbid", AT+QCFG="usbnet", AT+QCFG="usbcfg" .	R01A09
GENERAL	Solved the problem that no power output of FDD band RX under FTM.	R01A09
GENERAL	Solved the problem of returned format error when executed 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+QTONEDET=1 in CS voice.	R01A08

GENERAL	Solved the problem that after shutdown by Pwrkey, the second shutdown would fail, and USBAT&USBMODEM port could not work normally.	R01A08
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+CPBF .	R01A08
GENERAL	Supported MBIM only configuration by AT+QCFG="usbcfg" .	R01A08
NETWORK	Solved the problem of returned format error when executed 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+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	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 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+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 crashed at 4 times or CFUN=7, would restore forcedly, to solve the problem that efs damage could not be restored.	R01A06
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 fastboot 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
NETWORK	Extended AT+QCAINFO to adaptive multiple CA information display.	R01A05
GENERAL	Solved the problem that IMEI could not be written.	R01A05

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	Optimized AT+QNWINFO to solve no network standard display problem.	R01A02
NETWORK	Optimized 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+QCFG="nwscanmode",0 .	R01A03
GENERAL	Optimized AT+QCFG="usbid"/"usbcfg"/"usbnet" , directly stored in rawdata partition.	R01A03
GENERAL	Optimized AT+QCFG="band" and extended LTE band65-256 configuration.	R01A03
GENERAL	Fixed the follow 3 problems: A. URCPOROT 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+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+CGSN .	R01A03
GENERAL	Fixed the problem that RF card could not initialize CFUN=7 problem.	R01A02
GENERAL	Optimized 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+CTZU=? to solve returned value format was incorrect. B: Optimized 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

5. Known Issues

Item/Category	Brief Description
/	/

6. Functions

Basic Function								
SMS	Voice Call	PHB	FILE ¹⁾					
Y	Y	Y	Y					
Protocol Function								
QMI	NITZ	LwM2M						
Y	Y	Y						
Special Function								
DTMF	FOTA	SIM Detection	Low Power	DSSS	RMNET	MBIM	UAC	Security ²⁾
Y	Y	Y	Y	Y	Y	Y	Y	Y

NOTE

1. Y means the firmware supports this function.
2. N means the firmware does not support this function.
3. ¹⁾ Supports UFS FILE only.
4. ²⁾ Supports Secure Debugging.
5. Verification Environment is shown below. For more details, please contact Quectel Technical Support.

For Windows,

USB driver -- Quectel_Windows_USB_Driver(Q)_MBIM_V1.3.19.zip

QFlash tool -- QFlash_V7.1

For Linux,

QMI_WWAN Driver: Quectel_Linux&Android_QMI_WWAN_Driver_V1.2.0.3.zip

GobiNet Driver: Quectel_Linux&Android_GobiNet_Driver_V1.6.5.zip

QFirehose Tool: Quectel_Linux_QFirehose_V1.4.12.zip

QFlash Tool: QFlash_Android_1.4.10.zip

Quectel-CM Tool: Quectel_QConnectManager_Linux_V1.6.4.zip