

# EC25-E-FA Release Notes

## LTE Standard Module Series

Rev: EC25-E-FA\_Firmware\_Release\_Notes\_V0618\_20.200.20.200

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## 1. Preamble

This document provides the Release Notes for EC25-E-FA firmware version **EC25EFAR06A18M4G** (Configuration version **20.200.20.200**). It describes major changes compared to EC25-E-FA firmware version **EC25EFAR06A17M4G** (Configuration version **20.200.20.200**).

## 2. Matters Needing Attention

| SN  | Brief Description  |
|-----|--|
| [1] | Multiple PDN is not supported by MBIM.   |
| [2] | In AP mode, due to memory limitations, WIFI supports 10 clients at most.   |
| [3] | The new firmware version could not be downgraded to versions released before EC25EFAR06A16M4G_20.200.20.200, otherwise the module would not be able to work normally   |
| [4] | 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.   |
| [5] | 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.  |
| [6] | <p><b>AT+QGDCNT=1</b> and <b>AT+QDPGDCNT=1</b> will write data to the flash. Therefore, please do not execute the AT commands frequently. <b>AT+QAUGDCNT</b> is used in conjunction with the above commands to automatically save the packet data counter.</p> <ol style="list-style-type: none"> <li>1. If there is no mandatory need, it is not recommended to use these AT commands;</li> <li>2. The time interval set by the timer needs to be lengthened when you use these AT commands.</li> </ol> |
| [7] | Cross-baseline software version update is not supported. For EC25EFAR06A18M4G_20.200.20.200, "R06" represents the baseline information. This Quectel module does not support updating to a firmware version other than R06. If you have any related requirements, please contact Quectel Technical Support.  |

### 3. New Features

| Item/Category | Brief description   | Since                    |
|---------------|---|--------------------------|
| GENERAL       | Added <b>AT+QVOLTEDTMFDET</b> to turn off the in-band DTMF detection.   | R06A18_20.2<br>00.20.200 |
| TCP/UDP       | Added <b>AT+QISENDCYC</b> to detect the upload rate using UDP.  | R06A17_20.2<br>00.20.200 |
| TCP/UDP       | Added <b>AT+QICFG="send/auto"</b> to set the content of the keep-alive packet.  | R06A17_20.2<br>00.20.200 |
| GENERAL       | Added <b>AT+QMMSCFG="user_agent"</b> and <b>AT+QMMSCFG="x_wap_profile"</b> to configure User-Agent and x-wap-profile respectively.  | R06A17_20.2<br>00.20.200 |
| GENERAL       | Added <b>AT+QGPSDEL=0</b> to delete QZSS satellite information.   | R06A17_20.2<br>00.20.200 |
| GENERAL       | Added <b>AT+QTELEFONICA</b> to control Telefonica retry mechanism and solved the problem of Telefonica lab certification.   | R06A17_20.2<br>00.20.200 |
| GENERAL       | The new firmware version could not be downgraded to previous versions, otherwise the module would not be able to work normally.   | R06A16_20.2<br>00.20.200 |
| GENERAL       | Relevant technical controls have been carried out to restrict normal network registration in regions such as RUS and IRN, thus ensuring that the module can be used only for civilian applications. | R06A16_20.2<br>00.20.200 |
| GENERAL       | Added <b>AT+QGPSCFG="extimation_error"</b> to query the estimated error of GPS positioning.   | R06A16_20.2<br>00.20.200 |
| GENERAL       | Added UK_Vodafone_IoT MBN.  | R06A15_20.0<br>02.20.002 |
| MBIM          | Added an APN with attach type.  | R06A14_20.0<br>02.20.002 |
| NETWORK       | Added <b>AT+QNWCFG="rej_cause_7_mapping"</b> to control whether to map the network rejection reason value #7.   | R06A14_20.0<br>02.20.002 |
| GENERAL       | Added update rollback mechanism in SoftSIM SDK.   | R06A14_20.0<br>02.20.002 |
| FTP           | Added <b>AT+QFTPCFG="restenable"</b> to configure whether the support of REST command was required for FTP server.  | R06A13_20.0<br>02.20.002 |
| HTTP          | Added <b>AT+QFWDHTTPCFG</b> to configure features related to HTTP transmission on the AP side.  | R06A13_20.0<br>02.20.002 |
| MQTT          | Supported MQTT to receive up to 100K data at a time.  | R06A13_20.0<br>02.20.002 |
| QuecThing     | Supported QuecThing.  | R06A13_20.0<br>02.20.002 |
| GENERAL       | Added EE MBN.   | R06A13_20.0<br>02.20.002 |
| GENERAL       | Added Airtel MBN.   | R06A13_20.0              |

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|             |  | 02.20.002                |
| GENERAL     | Added <b>AT+QFOTAUPCONFIRM</b> to support HTTP OTA feature.  | R06A13_20.0<br>02.20.002 |
| GENERAL     | Added <b>AT+QOTG</b> to switch USB master and slave mode.  | R06A13_20.0<br>02.20.002 |
| GENERAL     | Added <b>AT+QGPSCFG="fixfreq"</b> to configure NEMA sentence output in 10Hz.                           | R06A13_20.0<br>02.20.002 |
| GENERAL     | Added <b>AT+QCFG="urc/ri/udp"</b> and <b>AT+QCFG="urc/ri/udp_enable"</b> to control the RI of TCP/UDP. | R06A13_20.0<br>02.20.002 |
| QuecLocator | Added <b>AT+QLBSCFG="contextid"</b> to configure the QuecLocator context ID.                           | R06A11_01.0<br>01.01.001 |
| TCP/UDP     | Added <b>AT+QISENDX</b> to send data in HEX or text directly.  | R06A11_01.0<br>01.01.001 |
| Voice Call  | Added <b>AT+QCFG="call_control"</b> to control MO or MT of voice call.                                 | R06A10_01.0<br>01.01.001 |
| HTTP        | Added <b>AT+QFWDHTTP</b> and <b>AT+QFWDHTTPREAD</b> to support HTTP transmission on AP side.           | R06A09_01.0<br>01.01.001 |
| AUDIO       | Supported to play audio transmitted by PC via USB.   | R06A09_01.0<br>01.01.001 |
| MQTT        | Added <b>AT+QMTCFG="onenet"</b> to support to connect the module to OneNET platform through MQTT.      | R06A09_01.0<br>01.01.001 |
| NETWORK     | Added the function of preferential registration to the network for the specified band.                 | R06A09_01.0<br>01.01.001 |
| TCP SSL     | Added <b>AT+QSSLCFG="alpn"</b> to set SSL alpn.  | R06A09_01.0<br>01.01.001 |
| HTTPS       | Added <b>AT+QSSLCFG="session_cache"</b> to optimize HTTPS connection.                                  | R06A09_01.0<br>01.01.001 |
| TCP/UDP     | Expanded the maximum data size of the <b>AT+QISEND</b> to 10K.   | R06A09_01.0<br>01.01.001 |
| NETWORK     | Added jamming detection function.  | R06A09_01.0<br>01.01.001 |
| MMS         | Added <b>AT+QMMSCFG="maxpktlen"</b> to support setting MMS sending length.                             | R06A09_01.0<br>01.01.001 |
| AUDIO       | Supported MP3 audio playback.  | R06A09_01.0<br>01.01.001 |
| GENERAL     | Added <b>AT+QCFG="urcport/sms"</b> to query SMS reporting port.  | R06A09_01.0<br>01.01.001 |
| QuecLocator | Added <b>AT+QLBSEX</b> to enter the cell parameter for positioning.                                    | R06A09_01.0<br>01.01.001 |
| GENERAL     | Added <b>AT+QCFG="lpm/dataind"</b> to enable wakeup function conditionally.                            | R06A09_01.0<br>01.01.001 |
| GENERAL     | Enabled SoftSIM feature.   | R06A09_01.0<br>01.01.001 |

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| NETWORK     | Added AT command to control <b>AT+COPS</b> to scan band, not affecting the band scan of <b>AT+QCFG="nwscanmodeex"</b> . | R06A09_01.0<br>01.01.001 |
| NETWORK     | Added <b>AT+QRRCCONSTATE</b> to query RRC connection state or report RRC connection state.                              | R06A08_01.0<br>07.01.007 |
| NETWORK     | Added <b>AT+QICSGPEH</b> .  | R06A08_01.0<br>07.01.007 |
| NETWORK     | Added <b>AT+QCFG="roamserviceex"</b> to disable network card dialing and voice call in roaming state.                   | R06A08_01.0<br>07.01.007 |
| FILE        | Added the feature of certificate encryption.  | R06A08_01.0<br>07.01.007 |
| GENERAL     | Added <b>AT+QCFG="urc/ri/restart"</b> .   | R06A08_01.0<br>07.01.007 |
| AUDIO       | Added <b>AT+CZESLICEN?</b> .  | R06A08_01.0<br>07.01.007 |
| NETWORK     | Added <b>AT+QEGPAPN</b> to query the actual used APN and configured APN.  | R06A08_01.0<br>07.01.007 |
| QuecLocator | Added <b>AT+QLBS</b> and <b>AT+QLBSCFG</b> to support positioning.  | R06A07_01.0<br>07.01.007 |
| NETWORK     | Support to select PLMN manually without SIM.  | R06A07_01.0<br>07.01.007 |
| QuecLocator | Added <b>AT+QLBSCFG="latOrder"</b> .  | R06A07_01.0<br>07.01.007 |
| GENERAL     | Added <b>AT+QCFG="pingdiscard"</b> .  | R06A07_01.0<br>07.01.007 |
| HTTP        | Added <b>AT+QHTTPSEND</b> to upload single or multiple files to server via POST (boundary)                              | R06A06_01.0<br>06.01.006 |
| GENERAL     | Added <b>AT+QGPSLOCSTART</b> and <b>AT+QLOC</b> to cache GNSS for Norbert specially                                     | R06A06_01.0<br>06.01.006 |
| GENERAL     | Added <b>ATQGPSCFG="xtratimeurccfg"</b>   | R06A06_01.0<br>06.01.006 |
| GENERAL     | Added subcommand <b>AT+QCFG="frhrcodec"</b> .   | R06A06_01.0<br>06.01.006 |
| NETWORK     | Enabled <b>AT+QCFG="urc_cause_support"</b> .  | R06A05_01.0<br>05.01.005 |
| NETWORK     | Added <b>AT+QRPM</b> to support RPM feature for DT.   | R06A05_01.0<br>05.01.005 |
| GENERAL     | Added <b>ATS12</b> to configure the interval for +++ to exit pass-through mode.   | R06A05_01.0<br>05.01.005 |
| MQTT        | Added <b>AT+QMTCFG="willex"</b> to configure will_msg.  | R06A05_01.0<br>05.01.005 |
| GENERAL     | Supported the feature of GSMR.  | R06A05_01.0<br>05.01.005 |
| AUDIO       | Supported the simultaneous voice recording for uplink and downlink by <b>AT+QAUDRD</b> .                                | R06A05_01.0<br>05.01.005 |

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| GENERAL | Supported the DT Operator.   | R06A05_01.0<br>05.01.005 |
| SIMCARD | Added <b>AT+QSIMCHK</b> .  | R06A05_01.0<br>05.01.005 |
| NETWORK | Added <b>AT+QCFG="disable_backoff_lte"</b> .   | R06A05_01.0<br>05.01.005 |
| GENERAL | Added <b>AT+QLEDSTAT</b> to configure and query network status light.  | R06A05_01.0<br>05.01.005 |
| PPP     | Added <b>AT+QCFG="ppp/sleep_ri"</b> .  | R06A04_01.0<br>04.01.004 |
| TCP SSL | Added <b>AT+QSSLCFG="clientkey"</b> .  | R06A04_01.0<br>04.01.004 |
| GENERAL | Added <b>AT+QCFG="divctl"</b> .  | R06A04_01.0<br>04.01.004 |
| TCP/UDP | Added <b>AT+QCFG="tcp/windowsize"</b> .  | R06A04_01.0<br>04.01.004 |
| HTTP    | Added <b>AT+QHHTTTPUT</b> and <b>AT+QHHTTTPUTFILE</b> in HTTP, added <b>AT+QHHTTPCFG="CUSTOM_HEADER"</b> for customers to define HTTP headers for themselves.  | R06A04_01.0<br>04.01.004 |
| GENERAL | Retried to activate PDP with interval of 1m/2m/3m/5m/10m/15m... when UE received cause number 29/33/38 for PDP activation on Telefonica network.   | R06A04_01.0<br>04.01.004 |
| GENERAL | Forbidden to execute<br><b>AT+CLCK="ai",1,"1234"</b> ;<br><b>AT+CLCK="ai",0,"1234"</b> ;<br><b>AT+CLCK="ao",0,"1234"</b> ;<br><b>AT+CLCK="ao",1,"1234"</b> ;<br>and allowed to execute<br><b>AT+CLCK="ai",2;</b><br><b>AT+CLCK="ao",2;</b> | R06A04_01.0<br>04.01.004 |
| GENERAL | Forbidden to execute <b>AT+CUSD</b> when FDN was locked on Telefonica SIM card.  | R06A04_01.0<br>04.01.004 |
| NETWORK | Added new parameter on <b>AT+QCOPS</b> to query cell ID of LTE network.  | R06A04_01.0<br>04.01.004 |
| HTTP    | Added <b>AT+QHHTTPCFG="auth"</b> to support to set user name and password to log in http server.   | R06A04_01.0<br>04.01.004 |
| GENERAL | Refreshed NV 947/5895/7145 as DT required automatically.   | R06A04_01.0<br>04.01.004 |
| NETWORK | Remained on manual network scan mode if UE failed to register by <b>AT+COPS=1,2,&lt;plmn&gt;</b> .   | R06A04_01.0<br>04.01.004 |
| NETWORK | Added <b>AT+QLTENGBR</b> to query LTE neighbor cells.  | R06A03                   |
| NETWORK | Added <b>AT+QCOPSCFG</b> .   | R06A03                   |
| MMS     | Added <b>AT+QMMSCFG="connecttimeout"</b> to configure timeout for MMS connection.  | R06A03                   |



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| GENERAL | Support RF TUNER feature.  | R06A02 |
| GENERAL | Support to reduce TX POWER for temperature protection.   | R06A02 |
| HTTP    | Added <b>AT+QHTTPCFG="window size"</b> to configure the size of TCP slide window.  | R06A02 |
| HTTP    | Added <b>AT+QHTTPCFG="auth"</b> to set user name and password to log in HTTP server.   | R06A02 |
| HTTP    | Added <b>AT+QHTTPCFG="closewaittime"</b> to configure time to force close HTTP socket. Change default time from 120s to 60s. | R06A02 |
| GENERAL | Added <b>AT+QCFG="icf"</b> to configure serial data bit, stop bit and parity bit.  | R06A02 |
| DTMF    | Added <b>AT+QAUDCFG="voldtmfcfg"</b> to configure length and volume of DTMF tone.  | R06A02 |
| GENERAL | Added <b>AT+QCFG="apn/blocked"</b> to support resend PDP activate request when APN is blocked.                               | R06A02 |
| GENERAL | Added <b>AT+QCFG="fast/poweroff"</b> .   | R06A01 |
| GENERAL | Added <b>AT+QACDBLOAD</b> .  | R02A09 |
| NETWORK | Added <b>AT+QCOPS</b> .  | R02A08 |
| GENERAL | Added <b>AT+QRXFTM</b> .   | R02A08 |
| AUDIO   | Support Audio over USB feature.  | R02A08 |
| GENERAL | Support FASTBOOT upgrade mode.   | R02A08 |
| AUDIO   | Support PCM 16K by <b>AT+QDAI</b> .  | R02A08 |
| GENERAL | Added <b>AT+QEMMINFO</b> to query reject_cause T3402 and T3412 timer value   | R02A07 |
| GENERAL | Added <b>AT+QCFG="urc/ri/pin"</b> to set RI pin.   | R02A06 |
| DTMF    | Added <b>AT+QCFG="vts/async",&lt;n&gt;</b> .   | R02A06 |
| GENERAL | Added <b>AT+QCFG="imsreg/iptype",&lt;ver&gt;</b> to indicate IMS registration by IPV4 or IPV6.                               | R02A06 |

## 4. Improved Features

| Item/Category | Brief description  | Since                    |
|---------------|--|--------------------------|
| DFOTA         | Fixed the problem that USB was not recognized probabilistically in FOTA upgrade. | R06A18_20.20<br>0.20.200 |
| FILE          | Fixed the problem that a file cannot be moved and uploaded in SD card.           | R06A18_20.20<br>0.20.200 |
| MMS           | Fixed the problem of duplicate Host field ports in packets sent by MMS.          | R06A18_20.20<br>0.20.200 |



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| NETWORK | Fixed the problem that IMS PDN request was not initiated under the network in Israel.  | R06A18_20.20<br>0.20.200 |
| NETWORK | Fixed the problem of triggering Retry&Reboot of Telefonica when RR timer was stopped after successful attachment and IMS PDN activation was rejected.  | R06A18_20.20<br>0.20.200 |
| NETWORK | GEA1 and GEA2 were disabled, and GEA3 was enabled by default.  | R06A18_20.20<br>0.20.200 |
| NETWORK | Fixed the problem that the module with a SIM card inserted would revert to a 3G network after an emergency call 112 was made.  | R06A18_20.20<br>0.20.200 |
| GENERAL | Optimized <b>AT+QCFG="divctl"</b> to solve the command exception problem.  | R06A18_20.20<br>0.20.200 |
| GENERAL | Fixed the problem that <b>AT+QCFG="pcmclk"</b> did not turn on the PCM clock properly.   | R06A18_20.20<br>0.20.200 |
| GENERAL | Fixed the problem that when the DPO value was set to 2, the GPS would lose lock after GPS was turned on for a period of time.  | R06A18_20.20<br>0.20.200 |
| AUDIO   | Optimized the sound quality of 3104 Codec playback.  | R06A17_20.20<br>0.20.200 |
| MQTT    | Fixed the problem that MQTT PINGREQ packet would still be sent after <b>AT+QMTCFG="keepalive",0</b> was set.   | R06A17_20.20<br>0.20.200 |
| MQTT    | Fixed the problem that the Keepalive PING packet was not sent successfully, which led to the abnormal disconnection of MQTT.   | R06A17_20.20<br>0.20.200 |
| MQTT    | Fixed the problem related to URC that multiple +QMTPUBEX: returned.  | R06A17_20.20<br>0.20.200 |
| NETWORK | Fixed the problem that the servicing cell information was returned after <b>AT+QENG="neighbourcell"</b> was executed to query the neighbor cell information.   | R06A17_20.20<br>0.20.200 |
| NETWORK | Solved the problem that error returned after <b>AT^sysinfo</b> was executed when the module was in SRLTE mode.   | R06A17_20.20<br>0.20.200 |
| WIFI    | Fixed the problem that the device could not connect to the module WIFI hotspot.  | R06A17_20.20<br>0.20.200 |
| GENERAL | Fixed the problem of network searching was limited due to the lack of EFACC files of some SIM cards.   | R06A17_20.20<br>0.20.200 |
| GENERAL | 1. Fixed the problem that GALILEO satellite could not be obtained in the United States.<br>2. Fixed the problem that QZSS could not be used for positioning after <b>AT+QGPSCFG="gnssconfig"</b> was executed. | R06A17_20.20<br>0.20.200 |
| GENERAL | Modified <b>AT+QDNSMASQCFG</b> to fix the problem that the speed of automatic obtaining IP address through DHCP was slow.  | R06A17_20.20<br>0.20.200 |
| GENERAL | Modified the format of the "To" and "Cc" fields in the mail header to conform to the RFC 5322 standard.  | R06A17_20.20<br>0.20.200 |
| GENERAL | Added <b>AT+QWIFI=&lt;value&gt;,&lt;data_call_profile_id&gt;</b> to activate APN when Wi-Fi was enabled, and APN could not be deactivated.   | R06A17_20.20<br>0.20.200 |
| SMTP    | Fixed the problem that SMTP was slow to send data.   | R06A16_20.20<br>0.20.200 |

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| SMTP       | Fixed the problem that SMTP could not properly close the attachment file descriptor after sending UFS attachments of certain sizes, causing USB subsequent uploads to UFS to report error 423. | R06A16_20.20<br>0.20.200 |
| UAC        | Solved the problem that UAC had no sound with a small probability.   | R06A16_20.20<br>0.20.200 |
| GENERAL    | Fixed the problem that the URC was not returned after timeout when executing the POST command.   | R06A16_20.20<br>0.20.200 |
| USSD       | Solved the problem that USSD may report error data to the network sometimes.   | R06A15_20.00<br>2.20.002 |
| DTMF       | Fixed the problem that the DTMF duration set by <b>AT+VTD</b> did not take effect.   | R06A14_20.00<br>2.20.002 |
| HTTPS      | Fixed the problem that the module was unstable after receiving RST during HTTPS handshake.   | R06A14_20.00<br>2.20.002 |
| SMTP       | Optimized the recipients display of SMTP, and fixed the problem that more contacts cannot be viewed in the content of sent emails.   | R06A14_20.00<br>2.20.002 |
| TCP SSL    | Solved the problem that an error occurred at <b>AT+QSSLCFG="renegotiation"</b> to set.   | R06A14_20.00<br>2.20.002 |
| Voice Call | Solved the problem that the previous call number returned by <b>AT+CLIP</b> may be abnormally sometimes.   | R06A14_20.00<br>2.20.002 |
| WIFI       | URC +WIFIAUTHFAIL was reported when devices connected to the module (work as WIFI AP) with wrong password).  | R06A14_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that USB DM port may be abnormal sometimes.   | R06A14_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that the network returns incorrect information due to <b>AT+CUSD</b> sending an error string to the network.  | R06A14_20.00<br>2.20.002 |
| GENERAL    | For Bouygues MBN, modified TEL URI to SIP URI in sip message and "a = sendrecv" to "a= inactive".  | R06A14_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that the module registration status was incorrectly reported without network.   | R06A14_20.00<br>2.20.002 |
| GENERAL    | Fixed the problem that the device manager kept refreshing after the cellular network on Windows was disabled/enabled.  | R06A14_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that when data transmitted through the MQTT protocol, one byte more or one byte less would occur with low probability in the received data                                  | R06A14_20.00<br>2.20.002 |
| DFOTA      | Solved the problem that FOTA upgrade failed when special characters included in the HTTP URL.  | R06A13_20.00<br>2.20.002 |
| HTTP       | Solved the problem that the module automatically rebooted when <b>AT+QHTTPPOSTFILE</b> sends a POST request to HTTP(S) server through a file larger than 1M.                                   | R06A13_20.00<br>2.20.002 |
| HTTP       | Solved the problem that <b>AT+QHTTPREAD</b> failed to read HTTP(S) server response information.  | R06A13_20.00<br>2.20.002 |
| HTTP       | Solved the problem that <b>AT+QFWDHTTP</b> POST could not transmit body files.   | R06A13_20.00<br>2.20.002 |

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|------------|---|--------------------------|
| MQTT       | Solved the problem that +QMTSTAT:0,65535 may be reported after <b>AT+QMTOPEN</b> execution.   | R06A13_20.00<br>2.20.002 |
| RMNET      | Solved the problem that the module could not receive data after setting up a UDP server after NDIS dialing.   | R06A13_20.00<br>2.20.002 |
| TCP SSL    | Solved the problem of incorrect data sending status returned by <b>AT+QSSSEND=&lt;clientID&gt;,0</b> .  | R06A13_20.00<br>2.20.002 |
| TCP/UDP    | Solve the problem of abnormal UDP IPV6 address.   | R06A13_20.00<br>2.20.002 |
| TCP/UDP    | Solved the problem that after TCP connection was established through debug port, incorrect socket connection port was returned by <b>AT+QISTATE</b> .(the connection port should be uart2.) | R06A13_20.00<br>2.20.002 |
| TCP/UDP    | Solved the problem that Modem would discard the TCP data packet sent by the server when window scale was 14.  | R06A13_20.00<br>2.20.002 |
| Voice Call | Solved the problem the third-party could not obtain the calling status during a call.   | R06A13_20.00<br>2.20.002 |
| GENERAL    | Updated SE13 TABLE date to 2020/12/21.  | R06A13_20.00<br>2.20.002 |
| GENERAL    | Solved the kernel vulnerability CVE-2016-5195.  | R06A13_20.00<br>2.20.002 |
| GENERAL    | Modified class 1 APN as telefonica.es for Telefonica.   | R06A13_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that GPS did not automatically turn off when the number of positioning times reached.  | R06A13_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that the module dropped to 2G caused by call forwarding setting.   | R06A13_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that AGPS failed to be turned on after <b>AT+QGPSCFG="fixfreq"</b> set NMEA sentence output frequency.   | R06A13_20.00<br>2.20.002 |
| GENERAL    | Turned off the ECT function on IMS.   | R06A13_20.00<br>2.20.002 |
| GENERAL    | Modified GEA_1 of Telefonica MBN to 0.  | R06A13_20.00<br>2.20.002 |
| WIFI       | Solved the problem that there was no error returned by <b>AT+QWAUTH</b> after setting an out-of-range password.   | R06A12_20.00<br>1.20.001 |
| GENERAL    | Solved the problem that Host could not obtain the IP from MBIM if the network only allocated IP without DNS address.  | R06A12_20.00<br>1.20.001 |
| GENERAL    | Corrected response format of <b>AT+QWWAN=?</b> .  | R06A12_20.00<br>2.20.002 |
| GENERAL    | Solved the problem that Modem could not work normally after executing <b>AT+CFUN=4</b> during booting.  | R06A12_20.00<br>2.20.002 |
| TCP SSL    | Optimized the stability of the module when one TCP SSL was multiplexed at the same time under multiple TCP SSL context.   | R06A12_20.00<br>2.20.002 |
| MQTT       | Corrected the sever port range returned by <b>AT+QMTOPEN=?</b> to (1-65535).  | R06A12_20.00<br>2.20.002 |

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|---------|--|--------------------------|
| TCP/UDP | Solved the problem of memory leak caused by executing <b>AT+QISENDX</b> .  | R06A12_20.00<br>2.20.002 |
| FTP     | Solved the problem that error code 627 returned when data was downloaded discontinuously through FTP.  | R06A11_01.00<br>1.01.001 |
| MQTT    | Corrected the response format of <b>AT+QMTUNS=?</b> from +QMTSUB to +QMTUNS.   | R06A11_01.00<br>1.01.001 |
| FTP     | Solved the problem that error code 619 may be returned when PUT file via FTP.  | R06A11_01.00<br>1.01.001 |
| HTTP    | Solved the problem that after connecting HTTP(S) server successfully with wrong URL and sending GET request through <b>AT+QHTTPGET</b> , executing <b>AT+QHTTPSTOP</b> to cancel HTTP(S) request before URC reported, AT port may not work normally. | R06A11_01.00<br>1.01.001 |
| HTTP    | Solved the problem that an extra +QHTTPURC: "closed" reported when enabling HTTP(S) session closing reporting through <b>AT+QHTTPCFG="closed/ind"</b> .  | R06A11_01.00<br>1.01.001 |
| HTTP    | Solved the problem that <b>AT+QHTTPGET</b> may not send the GET request to HTTP(S) server and there may be no timeout occurred.  | R06A11_01.00<br>1.01.001 |
| GENERAL | Improved the Retry and Reboot scheme for Telefonica.   | R06A11_01.00<br>1.01.001 |
| MQTT    | Solved the problem that <b>AT+QMTRECV</b> execution may cause AT port to work normally after configuring <b>AT+QMTCFG="recv/mode"</b> to not reporting MQTT messages received from the server through URC.   | R06A11_01.00<br>1.01.001 |
| HTTP    | Solved the problem of an error code 702 reported when there was no response from TCP server after HTTP PUT request was sent.   | R06A11_01.00<br>1.01.001 |
| GENERAL | Optimized the CEFS backup and restore mechanism to restore lost files.   | R06A11_01.00<br>1.01.001 |
| GENERAL | Improved the TX feature when switching from other RATs to LTE mode.  | R06A11_01.00<br>1.01.001 |
| GENERAL | Optimized <b>AT+QPOWD=0</b> to fast shut down the module.  | R06A11_01.00<br>1.01.001 |
| GENERAL | Optimized the ubi read-write partition mounting and exception handling mechanism.  | R06A11_01.00<br>1.01.001 |
| GENERAL | Solved the problem that after the modem rebooted, ECM and RNDIS could not ping the Internet normally.  | R06A11_01.00<br>1.01.001 |
| GENERAL | Optimized the jamming detection algorithm in GSM mode.   | R06A11_01.00<br>1.01.001 |
| MQTT    | Solved the problem that the MQTT disconnected when receiving the message with QoS level 2 subscribed successfully.   | R06A11_01.00<br>1.01.001 |
| MQTT    | Solved the problem that the AT performance port could not work normally when executing <b>AT+QMTRECV</b> to receive the message after receiving MQTT message in HEX format with <b>AT+QMTCFG="recv/mode"</b> .                                       | R06A10_01.00<br>1.01.001 |

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| GENERAL | Simplified FTM TX function to configure TX power with a fixed value 20dbm.  | R06A10_01.00<br>1.01.001 |
| FTP     | Optimized the process of compatibility with various server connections and interactions.  | R06A10_01.00<br>1.01.001 |
| HTTP    | Solved the problem that AT/UART port could not work normally when <b>AT+QHTTPSTOP</b> was executed after HTTP request expiration.                             | R06A10_01.00<br>1.01.001 |
| GENERAL | Extended <b>AT+QCFG="dhcpcpkfilt"</b> to determine whether to filter packets according to DHCP destination addresses.   | R06A10_01.00<br>1.01.001 |
| GENERAL | Solved the problem that the sleep_ri pin did not jittered when receiving PPP data in the sleep state ( <b>AT+QCFG="ppp/sleep_ri"</b> did not take effect).    | R06A10_01.00<br>1.01.001 |
| SMS     | Solved the problem that <b>AT+QCFG="urcport/sms"</b> could not set SMS reporting port to debug port.  | R06A10_01.00<br>1.01.001 |
| TCP/UDP | Solved the problem that the number of actually connected clients did not match the set clients when the module was used as a TCP server.                      | R06A10_01.00<br>1.01.001 |
| GENERAL | Solved the problem that after QBI service closed, MBIM could not work normally when it was repeatedly opened or closed.                                       | R06A10_01.00<br>1.01.001 |
| GENERAL | Solved the problem that VF_Germany MBN could not be activated automatically and PLMN was abnormal.  | R06A09_01.00<br>1.01.001 |
| FILE    | Solved the problem of some data loss when uploading files using the FILE related command through the UART debug port after enabled dual serial port function. | R06A09_01.00<br>1.01.001 |
| SMS     | Fixed the problem of insufficient SMS storage.  | R06A09_01.00<br>1.01.001 |
| GENERAL | Disable PDC MBN load feature.   | R06A09_01.00<br>1.01.001 |
| AUDIO   | Solved the problem that the codec parameter restored to the default value after executing audio-related command during a call.                                | R06A09_01.00<br>1.01.001 |
| MQTT    | Improved module stability when MQTT receives a large number of subscribed topics.   | R06A09_01.00<br>1.01.001 |
| NETWORK | Optimized <b>AT+QCFG="roamserviceex"</b> to solve the problem of failed to disable voice call and dial up internet access in roaming mode.                    | R06A09_01.00<br>1.01.001 |
| GENERAL | Optimized <b>AT+QFWDHTTP</b> to set the maximum URL length to 1024 bytes, and added timeout setting and return HTTP response code.                            | R06A09_01.00<br>1.01.001 |
| MQTT    | Improved module stability when using <b>AT+QMTPUBEX</b> related to MQTT to publish data larger than 1500 bytes.   | R06A09_01.00<br>1.01.001 |
| FILE    | Removed redundant Q files in SFS path.  | R06A09_01.00<br>1.01.001 |
| SIMCARD | Enabled FEATURE_MMGSDI_IGNORE_INIT_ERRO configuration to identify invalid SIM card.   | R06A09_01.00<br>1.01.001 |



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| GENERAL     | Optimized Socket connection.   | R06A09_01.00<br>1.01.001 |
| WIFI        | <p>The following problems were resolved:</p> <ol style="list-style-type: none"> <li>1. the return values of <b>AT+QWIFICFG="ssidhide"</b> and <b>AT+QWAUTH=?</b> was incorrect;</li> <li>2. The range of parameter &lt;channel&gt; for the <b>AT+QWIFICFG=?</b> and <b>AT+QWMOCH?</b> is incorrect;</li> <li>3. The parameter &lt;macacl&gt; cannot be set and queried with <b>AT+QWIFICFG</b>.</li> </ol> | R06A09_01.00<br>1.01.001 |
| GENERAL     | Solved the problem that the previous URC was outputted in the next RI signal transition when receiving the continuous URC quickly.   | R06A09_01.00<br>1.01.001 |
| TCP SSL     | Solved the problem that when the module received a large amount of data in SSL mode and read the data with <b>AT+QSSLRECV</b> , URC was returned before finishing the data read.   | R06A09_01.00<br>1.01.001 |
| TCP SSL     | Solved the problem that the format of the parameter <op> of dtls and the parameter <version> of dtlsversion were incorrect returned by <b>AT+QSSLCFG=?</b> .   | R06A09_01.00<br>1.01.001 |
| MQTT        | Solved the problem that after setting willmessage with a length of 256 bytes through <b>AT+QMTCFG="WILLEX"</b> , willtopic will also be returned after willmessage in URC.   | R06A09_01.00<br>1.01.001 |
| MQTT        | Corrected the return format of <b>AT+QMTCFG=?</b> .  | R06A09_01.00<br>1.01.001 |
| NETWORK     | Optimized <b>AT+QCFG="fast_dormancy"</b> to support fast dormancy mode 3.  | R06A09_01.00<br>1.01.001 |
| QuecLocator | Solved the problem that the error code returned incorrectly after executing <b>AT+QLBS</b> .   | R06A09_01.00<br>1.01.001 |
| TCP SSL     | Ignored the verification for multi-level certificate chains by default in the embedded SSL protocol.   | R06A09_01.00<br>1.01.001 |
| SMS         | Solved the problem that the current operator's SMS center number could not display after enabling the SIM card hot-plugging function.  | R06A09_01.00<br>1.01.001 |
| FTP         | Solved the problem that the module could not work properly when executing <b>AT+CFUN</b> during FTP upload and download processes.   | R06A09_01.00<br>1.01.001 |
| Voice Call  | Optimized the three-party call function.   | R06A09_01.00<br>1.01.001 |
| HTTP        | Solved the problem that the module failed to work properly after asking an HTTP request with wrong URL.  | R06A09_01.00<br>1.01.001 |
| NETWORK     | Optimized Telecom LTE ONLY IoT card network registration.  | R06A09_01.00<br>1.01.001 |
| FTP         | Supported multiple server response parsing in FTP mode.  | R06A09_01.00<br>1.01.001 |
| GENERAL     | Modified uar1 in the returned by the <b>AT+QFWDCFG=?</b> to uart1.   | R06A09_01.00<br>1.01.001 |

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| NETWORK     | Increased the maximum length of APN from 62 to 65.  | R06A09_01.00<br>1.01.001 |
| MMS         | Solve the problem that MMS proxy addresses starting with 0 could be set with <b>AT+QMMSCFG="proxy"</b> .  | R06A09_01.00<br>1.01.001 |
| FTP         | Solved the problem that the module could not work normally after executing <b>AT+CFUN=0</b> on other AT ports during FTP upload or download.              | R06A09_01.00<br>1.01.001 |
| GENERAL     | Solved the problem that there was no "uac_fs" and "uac_music" returned after executing <b>AT+QAUDCFG=?</b> .  | R06A09_01.00<br>1.01.001 |
| TCP/UDP     | Solved the problem that after activating PDP, the AT port may not work normally after executing <b>AT+QIDEACT</b> immediately without response.           | R06A09_01.00<br>1.01.001 |
| QuecLocator | Solved the problem that the default server port (80) could not be obtained by <b>AT+QLBSCFG?</b> .  | R06A09_01.00<br>1.01.001 |
| AUDIO       | Updated ACDB file to fix LTE noise problem in telstra certification.  | R06A09_01.00<br>1.01.001 |
| GENERAL     | Solved the problem that the IPV6 domain name address resolved by <b>AT+QIDNSGIP</b> was incorrect.  | R06A09_01.00<br>1.01.001 |
| LowPower    | Solved the problem that the main serial port and modem could not sleep after executing <b>AT+QCFG="wakeupin/level",1,1</b> .                              | R06A09_01.00<br>1.01.001 |
| GENERAL     | Update Bouygues_France_VoLTE MBN version to 202004151.  | R06A09_01.00<br>1.01.001 |
| DFOTA       | Solved the problem that the USB port could not configure due to the modification of the partition table during the DFOTA upgrade.                         | R06A09_01.00<br>1.01.001 |
| NITZ        | Solved the problem that the local time queried by <b>AT+CCLK?</b> was inconsistent with the local time synchronized by <b>AT+CTZU=3</b> from the network. | R06A09_01.00<br>1.01.001 |
| GENERAL     | Solved the problem of USB disconnection.  | R06A09_01.00<br>1.01.001 |
| NETWORK     | Optimized Telecom LTE ONLY IoT card network registration (taking effect immediately).   | R06A09_01.00<br>1.01.001 |
| DTMF        | Modified the source file for DTMF audio.  | R06A09_01.00<br>1.01.001 |
| DTMF        | Optimized DTMF playback duration and DTMF tone interval control.  | R06A09_01.00<br>1.01.001 |
| GENERAL     | Supported customizing incoming ringtones by customers.  | R06A09_01.00<br>1.01.001 |
| GENERAL     | Optimized <b>AT+QCFG="ppp/sleep_ri"</b> to solve the problem of no sleep_ri jitter after receiving PPP data.  | R06A09_01.00<br>1.01.001 |
| GENERAL     | Simplified FTM TX function.   | R06A09_01.00<br>1.01.001 |
| NETWORK     | Improved China Telecom B5 to search frequency 2452 in priority under LTE.   | R06A09_01.00<br>1.01.001 |



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| GENERAL    | Not reported the status of PIN2 by default in MBIM mode.   | R06A09_01.00<br>1.01.001 |
| WIFI       | Solved the problem that RNDIS0 could not connect to the Internet through STA.  | R06A09_01.00<br>1.01.001 |
| GENERAL    | Solved the problem that in CMUX mode, <b>AT+QURCCFG="URCPORT"</b> , "all" sets all ports to output URCs, but URC could not output from USB AT port properly.                       | R06A09_01.00<br>1.01.001 |
| HTTP       | Optimized the feature of HTTP after enabling rspout/auto.  | R06A08_01.00<br>7.01.007 |
| AUDIO      | Solved the problem that the downlink sound would be recorded while the uplink sound was supposed to be recorded in a call.   | R06A08_01.00<br>7.01.007 |
| AUDIO      | Optimized audio card service to solve the problem of abnormal exiting.   | R06A08_01.00<br>7.01.007 |
| GENERAL    | Optimized <b>AT+QDIAGPORT</b> .  | R06A08_01.00<br>7.01.007 |
| HTTP       | Solved the problem that the obtained URL was the URL of HTTPS type unexpectedly while the HTTP type URL was entered under IPv6 address.  | R06A08_01.00<br>7.01.007 |
| GENERAL    | Solved the probabilistic problem of USB disconnection when enabling auto suspend and resume.   | R06A08_01.00<br>7.01.007 |
| MQTT       | Solved the problem that the extra characteristics would be outputted at the end of the data string when executing <b>AT+QMTCFG="willex"</b> to read data.                          | R06A08_01.00<br>7.01.007 |
| GENERAL    | Solved the problem that the extra USB port would be loaded when configuring RNDIS only via <b>AT+QCFG="usbcfg"</b> .   | R06A08_01.00<br>7.01.007 |
| WIFI       | Unified WIFI firmware packing path.  | R06A08_01.00<br>7.01.007 |
| FTP        | Improved FTP feature under IPv6.   | R06A08_01.00<br>7.01.007 |
| HTTP       | Improved HTTP feature under IPv6.  | R06A08_01.00<br>7.01.007 |
| GNSS       | Solved the problem that the positioning mode always be 2D after positioning.   | R06A08_01.00<br>7.01.007 |
| UAC        | Solved the problem that no sound in a UAC call.  | R06A08_01.00<br>7.01.007 |
| AUDIO      | Optimized <b>AT+QAUDRDGAIN?</b> and <b>AT+QAUDPLAYGAIN?</b> .  | R06A08_01.00<br>7.01.007 |
| DFOTA      | Added RSA public key in recoveryfs to check the signature of differential packets during DFOTA upgrade, it will continue to upgrade if pass, otherwise 502 error will be reported. | R06A08_01.00<br>7.01.007 |
| SMS        | Solved the problem that the SMS center address would not be reported under GSM network.  | R06A08_01.00<br>7.01.007 |
| Voice Call | Enabled the DSCI reporting of calling an emergency number without SIM card.  | R06A08_01.00<br>7.01.007 |

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| GENERAL    | Corrected the valid range of parameter <temp_threshold> of <b>AT+QCFG="thermal/txpwrImt"</b> .  | R06A08_01.00<br>7.01.007 |
| GENERAL    | Optimized UE identity reporting process.  | R06A07_01.00<br>7.01.007 |
| DFOTA      | Supported to set baud rate in the process of DFOTA upgrading.   | R06A07_01.00<br>7.01.007 |
| GENERAL    | Solved the problem that there was no LTE result when executing <b>AT+QCOPS=7,0</b> and <b>AT+QCOPS=4,0</b> .  | R06A06_01.00<br>6.01.006 |
| TCP/UDP    | Deleted the extra bytes of the data length when TCPIP reporting URC.  | R06A06_01.00<br>6.01.006 |
| NETWORK    | Solved the problem that when executing <b>AT+QCFG="nwscanmode"</b> to fix 2G network in the case of auto registering network, no CREG reporting and no cell information of CGREG reporting after setting <b>AT+CREG=2</b> , <b>AT+CGREG=2</b> and <b>AT+CEREG=2</b> . | R06A06_01.00<br>6.01.006 |
| NETWORK    | Optimized <b>AT+QCFG="disable_backoff_lte"</b>  | R06A06_01.00<br>6.01.006 |
| TCP SSL    | Extended <b>AT+QSSLCFG="cacertex"</b> to add multiple CA certificates.  | R06A06_01.00<br>6.01.006 |
| TCP/UDP    | Solved the problem that <b>AT+QISEND</b> could not query the bytes ACKED by TCP server when TCP connection was in Half-Close status.  | R06A05_01.00<br>5.01.005 |
| Voice Call | Solved the small probability problem of no sound during the voice call.   | R06A05_01.00<br>5.01.005 |
| AUDIO      | Solved the problem that AT command played AMR format has noise.   | R06A05_01.00<br>5.01.005 |
| NETWORK    | Added cell blacklist function when RRC access failure reached a certain condition.  | R06A05_01.00<br>5.01.005 |
| GENERAL    | Optimized parameter partition restore mechanism.  | R06A05_01.00<br>5.01.005 |
| GENERAL    | Optimized <b>AT+QGPSSUPLCA</b> to solve the return error.   | R06A05_01.00<br>5.01.005 |
| NETWORK    | Solved the problem that the returned RAT value was incorrect when queried via <b>AT+QNWINFO</b> .   | R06A05_01.00<br>5.01.005 |
| GENERAL    | Solved the problem that no response returned or URC for manufacturer command when executed <b>AT+CMEE=0</b> .   | R06A05_01.00<br>5.01.005 |
| GENERAL    | Support to update operator MBN after upgrading module FW.   | R06A05_01.00<br>5.01.005 |
| NTP        | Solved the problem of format error when executed <b>AT+QCFG="NTP"</b> .   | R06A05_01.00<br>5.01.005 |
| MMS        | Solved the problem that when port set by <b>AT+QMMSCFG="proxy"</b> was out of range, would unexpectedly return OK and take effect, not fail.  | R06A05_01.00<br>5.01.005 |

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| MMS     | Solved the problem that no error report when the parameter of <b>AT+QMMSEND</b> was out of range.  | R06A05_01.00<br>5.01.005 |
| MMS     | Solved the problem that the title setting to null can also be successful not failed.   | R06A05_01.00<br>5.01.005 |
| MMS     | Improved module stability when executing <b>AT+QMMSEDT=5,1</b> .   | R06A05_01.00<br>5.01.005 |
| MMS     | Solved the problem that no error report when the parameter of <b>AT+QMMSCFG="sendparam"</b> was missing.                                     | R06A05_01.00<br>5.01.005 |
| GENERAL | Solved the problem of returned format error when executed <b>AT+CCLK?</b> .  | R06A05_01.00<br>5.01.005 |
| GENERAL | Solved the problem that when set the parameter of <b>AT+CTZU</b> to illegal value 2, it would be set and take effect unexpectedly, not fail. | R06A05_01.00<br>5.01.005 |
| MMS     | Solved the problem that the mailbox address or the phone number with same recipient would be added repeatedly.                               | R06A05_01.00<br>5.01.005 |
| GENERAL | Optimized RF Factory Test feature.   | R06A05_01.00<br>5.01.005 |
| TCP/UDP | Supported to report the data length also when TCPIP reporting URC.   | R06A05_01.00<br>5.01.005 |
| TCP/UDP | Optimized the module stability when receiving more than 751 bytes under TCP hex mode.  | R06A05_01.00<br>5.01.005 |
| TCP/UDP | Optimized the process when sending UDP data on different destination port.   | R06A05_01.00<br>5.01.005 |
| NETWORK | Solved the problem of no LTE related response returned when executing <b>AT+QCOPS=7,0</b> or <b>AT+QCOPS=4,0</b> .                           | R06A05_01.00<br>5.01.005 |
| GENERAL | Support to display USSD string of UCS2 7Bit.   | R06A05_01.00<br>5.01.005 |
| NETWORK | Optimized <b>AT+QCOPS</b> to restore band capability after executing this command.   | R06A04_01.00<br>4.01.004 |
| AUDIO   | Optimized <b>AT+QAUDRDGAIN</b> to solve the issue of audio play failure.   | R06A04_01.00<br>4.01.004 |
| NETWORK | Optimized <b>AT+QCOPS</b> to solved issue that executing <b>AT+COPS=0</b> would cause PPP disconnection.                                     | R06A04_01.00<br>4.01.004 |
| NETWORK | Solved the issue that the GSM parameter was incorrect when queried via <b>AT+QCOPS</b> .   | R06A04_01.00<br>4.01.004 |
| NETWORK | Extended <b>AT+QCOPS</b> to display multiple band points of a single LTE band in the response result.  | R06A04_01.00<br>4.01.004 |
| GENERAL | Included Swisscom MBN.   | R06A04_01.00<br>4.01.004 |
| MQTT    | Fixed the issue that MQTT would cause stuck.   | R06A04_01.00<br>4.01.004 |
| GENERAL | Fixed the issue that when enabled wakeup pin sleep function, the wakeup_in pin could not wakeup the UART port.                               | R06A04_01.00<br>4.01.004 |
| NETWORK | Fixed the issue that when TCP/UDP connected, the module would run out of memory when under weak signal.                                      | R06A04_01.00<br>4.01.004 |

|                     |  |                          |
|---------------------|--|--------------------------|
| <b>MQTT</b>         | Optimized AT command could subscribe to five topics at the same time at most.  | R06A04_01.00<br>4.01.004 |
| <b>NTP/MQTT/FTP</b> | Optimized NTP/MQTT/FTP to support IPV6 connection.   | R06A04_01.00<br>4.01.004 |
| <b>TCP/UDP</b>      | Solved the problem that when established multiple TCP connection, it was abnormally to loop QIRD quickly.  | R06A04_01.00<br>4.01.004 |
| <b>NETWORK</b>      | Fixed stuck issue when APN settings was set for thousand times without stopping.   | R06A04_01.00<br>4.01.004 |
| <b>DFOTA</b>        | Optimized DFOTA process.   | R06A04_01.00<br>4.01.004 |
| <b>NTEWORK</b>      | Fixed the problem that no service got from <b>AT+CEREG/CGREG/CREG</b> while module was actually registering network after executing <b>AT+COPS=2</b> and <b>AT+COPS=1,2,"&lt;plmn&gt;"</b> . | R06A04_01.00<br>4.01.004 |
| <b>FTP</b>          | Modified data_address range of <b>AT+QFTPCFG=?</b>   | R06A04_01.00<br>4.01.004 |
| <b>AUDIO</b>        | Solved the issue that the ringing tone of the second MT-CALL could not be played on TI3104 codec.  | R06A04_01.00<br>4.01.004 |
| <b>NETWORK</b>      | Solved the issue that scanning flag was not cleared when executing <b>AT+QCOPS</b> returned error.   | R06A04_01.00<br>4.01.004 |
| <b>WIFI</b>         | Optimized <b>AT+QWBCAST</b> and <b>AT+QWMOCH</b> to solve response error.  | R06A04_01.00<br>4.01.004 |
| <b>NETWORK</b>      | Fixed the issue when switching <b>AT+COPS=2</b> to <b>AT+COPS=0</b> or <b>AT+COPS=1</b> would cause the module unable to register the network before IMSI was ready.                         | R06A04_01.00<br>4.01.004 |
| <b>GENERAL</b>      | Optimized MBIM function.   | R06A04_01.00<br>4.01.004 |
| <b>GENERAL</b>      | Optimized the module to solve the problem that USB HOST did not support zero packet.   | R06A04_01.00<br>4.01.004 |
| <b>AUDIO</b>        | Supported new codec nau88c10.  | R06A04_01.00<br>4.01.004 |
| <b>FTP</b>          | Solved the issue that the serial port could not work normally after executing FTPS command to establish a data channel successfully.   | R06A04_01.00<br>4.01.004 |
| <b>AUDIO</b>        | Supported record/play the voice with AMR format.   | R06A04_01.00<br>4.01.004 |
| <b>MQTT</b>         | Solved the problem that the module could not receive more than 1024 bytes of data sent by the MQTT server.   | R06A04_01.00<br>4.01.004 |
| <b>AUDIO</b>        | Optimized <b>AT+QPSND</b> to support AMR format.   | R06A04_01.00<br>4.01.004 |
| <b>Voice Call</b>   | Fixed the probabilistic issue of no sound during the voice call.   | R06A04_01.00<br>4.01.004 |
| <b>NETWORK</b>      | Fixed the returned RAT value was incorrect when queried via <b>AT+QNWINFO</b> under GSM.   | R06A04_01.00<br>4.01.004 |

|            |   |                          |
|------------|---|--------------------------|
| NETWORK    | Only searched GSM network by <b>AT+COPS=?</b> when UE was configured as GSM only by <b>AT+QCFG="nwscanmode",1</b> . | R06A04_01.00<br>4.01.004 |
| SMS        | Supported IRA characters by GSM 7 bit.  | R06A04_01.00<br>4.01.004 |
| NETWORK    | Fixed the issue that <b>AT+QCOPS</b> may make AT stuck rarely.  | R06A04_01.00<br>4.01.004 |
| HTTP       | Fixed frequent error 702 when posting file by <b>AT+QHTTPPOSTFILE</b> .   | R06A04_01.00<br>4.01.004 |
| SMS        | Fixed the command error when executing <b>AT+CNMA</b> after module receives +CMT message.                           | R06A04_01.00<br>4.01.004 |
| PPP        | Fixed the issue that PPP data connection would not be set up in GSM mode rarely.                                    | R06A04_01.00<br>4.01.004 |
| GENERAL    | Fixed network status to off status when module was in sleep mode.   | R06A04_01.00<br>4.01.004 |
| FTP        | Supported to handle response code 125 from FTP server.  | R06A04_01.00<br>4.01.004 |
| GENERAL    | Modified the range of LTE SINR from <b>AT+QENG</b> .  | R06A04_01.00<br>4.01.004 |
| TCP/UDP    | Fixed issue module could not send data when it was configured as UDP server.  | R06A04_01.00<br>4.01.004 |
| GENERAL    | Supported emergency call number 000.  | R06A04_01.00<br>4.01.004 |
| NETWORK    | Optimize <b>AT+QCOPS</b> to show more cells.  | R06A03                   |
| HTTP       | Fixed stuck issue when using <b>AT+QHTTPSTOP</b> to break HTTP connection in rare case.                             | R06A03                   |
| GENERAL    | Fixed issue that signal isn't available for first time queried by <b>AT+QTXFTM</b> .                                | R06A03                   |
| GENERAL    | Extend <b>AT+QNETINFO</b> to query DRX of GSM/WCDMA/LTE.  | R06A03                   |
| GENERAL    | Optimized <b>AT+QCFG="siminvalirecovery"</b> to make it work.   | R06A03                   |
| HTTP       | Change default timeout for closing HTTP socket to 5000 ms.  | R06A03                   |
| GENERAL    | Support to configure numeric code or string code by <b>AT+CEER</b> . Default is numeric.                            | R06A02                   |
| GENERAL    | Fixed issue that +CBM couldn't be reported when DTR is pulled down.   | R06A02                   |
| Voice Call | Clear extra ring-back tone from special VOLTE network.  | R06A02                   |
| GENERAL    | Fixed SD_VDD to 2.85V without SD card inserted. It is mainly used to support active GPS antenna for MINIPCIE type.  | R06A02                   |
| HTTP       | Fixed frequent HTTP timeout error when posting file without HTTP header.  | R06A02                   |
| SMS        | Support to execute <b>AT+CNMA</b> after receiving +CMT message  | R06A02                   |

|            |  |        |
|------------|--|--------|
|            | when <mode> of <b>AT+CNMI</b> is set to 1 or 2 and type of message service is set as 1 by <b>AT+CSMS</b> .                   |        |
| NETWORK    | Extend <b>AT+QCOPS</b> to support display cell ID instead of PCI for LTE frequency.  | R06A02 |
| NETWORK    | Changed <b>AT+CREG</b> to show registration when registering to EPS only network.  | R06A02 |
| GENERAL    | Fixed net_status to off status when module goes in sleep mode.   | R06A02 |
| Voice Call | Clear "POP" tone when executing audio AT commands during active voice call.  | R06A02 |
| FTP        | Support to handle response code 125 from FTP server during downloading.  | R06A02 |
| NTP        | Return time out for <b>AT+QNTP</b> when no response got from NTP server in 60s.  | R06A02 |
| GENERAL    | Change default value of <b>AT+QSIDET</b> to 0.   | R06A02 |
| GENERAL    | Support broadcast URC by <b>AT+QURCCFG="urcport","all"</b> .   | R06A02 |
| SMS        | Extend <b>AT+CMGR</b> to support read SMS without changing status.   | R06A02 |
| NETWORK    | Fixed modem crash issue when neighbor cell list is too much to be queried by <b>AT+QENG="neighbourcell"</b> .                | R06A02 |
| DTMF       | Using software decode to detect DTMF tone by default during voice call. DTMF over VOLTE isn't changed.                       | R06A02 |
| Voice Call | Fixed the issue that there will be no voice when setting audio parameters immediately after <b>ATD</b> .                     | R06A01 |
| NETWORK    | Modified the format of SMTP header to support gmail.   | R02A07 |
| GENERAL    | Fixed the issue that SD file can't be sent by <b>AT+QHTTPPOST</b> when its length is less than 2048.                         | R02A07 |
| GENERAL    | Fixed the crash issue when module upload file of 10M size from serial port by <b>AT+QFTPPUT</b> .                            | R02A07 |
| GENERAL    | Fixed the bug that module still in sleep mode when DTR in low state.   | R02A06 |
| TCP/UDP    | Fixed the bug that the module can't register to network with <b>AT+CFUN=0</b> , <b>AT+CFUN=1</b> after TCP connection setup. | R02A06 |
| GENERAL    | Fixed the bug that <b>AT+CBC</b> return error while no SIM card is inserted.   | R02A06 |
| TCP/UDP    | Fixed the bug that <b>AT+QIRD</b> can't read the specified data with the setting length.                                     | R02A06 |
| SIMCARD    | Fixed the bug that the IOT card of Telecommunications can't register to network.   | R02A06 |
| TCP/UDP    | Fixed the bug that the module crashed if transport files about 3M in TCP data connection mode.                               | R02A06 |
| NETWORK    | Fixed the bug that <b>AT+QENG="servingcell"</b> and  | R02A06 |



|                |   |        |
|----------------|---|--------|
|                | <b>AT+QENG="neighbourcell"</b> can't get the cell and neighbor cell information in AUTO mode without SIM card.  |        |
| <b>NETWORK</b> | Modify the default search network order as LTE firstly.   | R02A05 |
| <b>GENERAL</b> | Fixed the bug CBC could not execute without SIM card.   | R02A05 |
| <b>PPP</b>     | Fixed the bug that module cannot hand up when send hang frame in PAP authentication stage or sending <b>AT+QPPPDROP</b> .   | R02A05 |
| <b>GENERAL</b> | Fixed the bug <b>AT+QADC &amp; AT+QADCTEMP</b> execute error.   | R02A05 |
| <b>AUDIO</b>   | Improve the default audio EEC value   | R02A04 |
| <b>AUDIO</b>   | Fixed the bug alsaucm test pipe may cause no voice.   | R02A04 |
| <b>TCP/UDP</b> | Modify the randomly generated method for local port when TCPIP build TCP connection.  | R02A04 |
| <b>TCP/UDP</b> | Fixed <b>AT+QICSGP</b> maximum support 127 bytes username and password configuration.   | R02A04 |
| <b>AUDIO</b>   | Fixed the bug about before playing the TTS, it can appear the problem of pop noise. And added <b>AT+QCFG="codec/powsave"</b> to optimize the pop problem.               | R02A04 |
| <b>GENERAL</b> | Fixed the qc automatic detection successful SD card, again configuration <b>AT+QSDMOUNT</b> is 1 to load the card, still can success.                                   | R02A04 |
| <b>AUDIO</b>   | Fix the bug <b>AT+QEEC</b> configuration could change the value of <b>AT+QAUDMOD</b> .  | R02A04 |
| <b>FTP</b>     | Fixed the bug that executing the <b>AT+QFTPPUT</b> to upload from UFS has opened the file, is not an error and to upload, expected return is ERROR.                     | R02A04 |
| <b>TCP/UDP</b> | Fixed the bug that the data will be discarded under TCP push mode.  | R02A03 |
| <b>TCP/UDP</b> | Fixed the bug that RI pin indicates invalid under TCP receives data in push mode.   | R02A03 |
| <b>TCP/UDP</b> | Fixed the bug that <b>AT+QISEND</b> query results error.  | R02A03 |
| <b>FTP</b>     | Fixed the bug that <b>AT+QFTPSTAT</b> return the error status when data uploading.  | R02A03 |
| <b>FTP</b>     | Fixed the bug that the <b>AT+QFTPPUT</b> parameter is set to 2, the implementation of successful and be able to upload files, expected return is ERROR.                 | R02A03 |
| <b>FTP</b>     | Fixed the bug that executing the <b>AT+QFTPPUT</b> to upload data length is set to 0, is not an error and to upload, expected return is ERROR.                          | R02A03 |
| <b>FTP</b>     | Fixed the bug that executing the <b>AT+QFTPLIST</b> configuration is empty or Chinese characters or file does not exist, to list the results, expected return is ERROR. | R02A03 |



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| Voice Call | Fixed the bug in the TCP transparent mode, when receiving calls<br><b>ATA</b> receive the error, expect the <b>ATA</b> to receive calls. | R02A03 |
|------------|--|--------|

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## 5. Known Issues

| Item/Category | Brief Description |
|---------------|-------------------|
| /             | /                 |

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## 6. Functions

| Basic Function    |            |           |                    |           |      |                           |      |                   |
|-------------------|------------|-----------|--------------------|-----------|------|---------------------------|------|-------------------|
| SMS               | Voice Call | Data Call | USSD               | PHB       | CMUX | FILE <sup>1)</sup>        | FAX  | STK               |
| Y                 | Y          | N         | N                  | Y         | Y    | Y                         | N    | N                 |
| Protocol Function |            |           |                    |           |      |                           |      |                   |
| QMI               | TCP/UDP    | PPP       | FTP                | NITZ      | NTP  | PING                      | HTTP | MMS <sup>2)</sup> |
| Y                 | Y          | Y         | Y                  | Y         | Y    | Y                         | Y    | Y                 |
| MQTT              | TCP SSL    | SMTP      | SMTPS              | HTTPS     |      |                           |      |                   |
| Y                 | Y          | Y         | Y                  | Y         |      |                           |      |                   |
| Special Function  |            |           |                    |           |      |                           |      |                   |
| SIM Detection     | UAC        | DFOTA     | DTMF <sup>3)</sup> | Dual UART | TTS  | QuecLocator <sup>4)</sup> | SD   | WIFI              |
| Y                 | Y          | Y         | Y                  | Y         | Y    | Y                         | Y    | Y                 |
| LowPower          | RMNET      | ECM       | RNDIS              | MBIM      | DSSS | QuecThing <sup>5)</sup>   |      |                   |
| Y                 | Y          | Y         | Y                  | Y         | Y    | Y                         |      |                   |

### NOTE

- Y means the firmware supports this function.
- N means the firmware does not support this function.
- <sup>1)</sup>Support RAM FILE only.
- <sup>2)</sup>Support MMS sending only.
- <sup>3)</sup>Supports DTMF decoding only.
- <sup>4)</sup>QuecLocator is an efficient location technology developed by Quectel, While it's not free, you need pay for it if you would like to use it.
- <sup>5)</sup>The device whitelist should be added manually before using QuecThing. Please contact Quectel Technical Supports for details.
- Verification Environment is shown below. For more details, please contact Quectel technical support.  
For Windows,  
Qflash Tool: QFlash\_ V6.8

For Linux,  
QFirehose Tool: QFirehose\_Linux\_Android\_V1.4.13

QMI\_WWAN Driver: Quectel\_Linux&Android\_QMI\_WWAN\_Driver\_V1.2.2

GobiNet Driver: Quectel\_Linux&Android\_GobiNet\_Driver\_V1.6.5

Quectel-CM Tool: Quectel\_QConnectManager\_Linux\_V1.6.1

USB Driver: Quectel\_Linux\_USB\_Serial\_Option\_Driver\_20220622

QLog Tool: Quectel\_QLog\_Linux&Android\_V1.5.16

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