

MC60 Release Notes

GSM/GPRS/GNSS Module Series

Rev. MC60(R1.0)_Firmware_Release_Notes_V0115

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1. Preamble

This document provides the Release Notes for MC60 firmware version **MC60CAR01A15**. It describes major changes compared to MC60 firmware version **MC60CAR01A14**. For a detailed listing of all changes, refer to the MC60 AT Command Set.

2. Matters Needing Attention

SN	Brief Description

3. New Features

Item /Category	Brief description	Since
SIMCARD	Added AT command AT+QCFG="SIM/BipApn", "apn" to set the apn of the SIM card.	R01A15
MQTT	Added AT command AT+QMTCFG="SHOWRECVLEN" to control +QMTRECV URC output format.	R01A14
TCP SSL	Added ciphersuites 0X009C,0X009D,0xC027,0XC028.	R01A14
eCALL	Deleted eCall function.	R01A14
HTTP	Added the function of HTTP segmented download.	R01A14
TCP SSL	Added ciphersuites 0XC030.	R01A14
SMS	Added the function of SMS with National Language Single Shift (Ref 23.038) header.	R01A14
BT	Added SPP service name.	R01A13
NETWORK	Added AT command AT+QCFG="QOPS/Format",1 for convert rxlev to dbm and sort the output according to the signal strength from high to low.	R01A13
FTPS	Added FTPS function.	R01A13
SIMCARD	Added AT command AT+QCFG="SIM/Bip",<n> to turn on or off the BIP function. Currently only supports OPEN CHANNEL related to GPRS.	R01A13
BT	Added AT command AT+QBTHFGVGS for set and get HF volume level.	R01A12
MQTT	Added AT command AT+QMTCFG="DATAFORMAT" to set the format of sending and receiving data, supporting HEX and string.	R01A12

QuecLocator 2.0	Added AT command AT+QLBS,AT+QLBSCFG for QuecLocator function.	R01A12
TCP SSL	Added AT Command AT+QSSLCFG="session",<ctxindex>[,<sessionid>] to restore session.	R01A11
OTHERS	Added the function that can read cache data when TCP/SSL connection is closed by the server.	R01A11
MQTT	Added AT command AT+QMTCFG="VERSION",<tcpconnectID >[,<version_num>] for setting MQTT version, support MQTT version 3.1.1.	R01A10
HTTP	Added AT Command AT+QHTTPCFG="requesttimeout" to configure the timeout for HTTP completion handshake.	R01A10
TCP SSL	Added the AT+QSSLCFG="certchain" to support the certificate chain connection.	R01A10
SIMCARD	Added the CPOL instruction to read the size of the item in the SIM card file.	R01A10
QuecFOTA	Added the function of downloading the GNSS bin files via QuecFOTA.	R01A09
OpenCPU	Added the GPIO pins as EINT (GPIO0, GPIO1, GPIO2, GPIO3).	R01A08
OpenCPU	Added the parameter QL_UART_TX_BUF_SEND_OUT for QI_UART_GetOption to check whether the serial data is sent out or not.	R01A08
GNSS	Added AT Command AT+QGNSSSEPO=2,<server_name>[,<port>] to set the EPO server domain name and port.	R01A08
TCP SSL	Added SNI function.	R01A08
MQTT	Added MQTT function that the length can be specified when the data is published. Solved the problem of unable to send special characters.	R01A08
GENERAL	Added AT Command AT+QCFG="DCD/TranMode",<mode> to configure the moment when the DCD pin is pulled high in file transmission.	R01A08
MQTT	Added MQTT function.	R01A07
GENERAL	Added AT Command AT+QCFG="NW/PDPActAsync" to configure asynchronous mode for AT+QIACT and AT+QIDEACT .	R01A07
GNSS	Supported Galileo satellites system. "GPS+GLONASS+Galileo" multi-GNSS can be enabled by PMTK command \$PMTK353,1,1,1,1,0*2B .	R01A06
TCP SSL	Added the function of TCP SSL transfer mode.	R01A06
GNSS	Added the SDK command \$PQGEO to Configure Parameters of Geofencing.	R01A06
GNSS	Added the SDK command \$PQJAM to enable or disable jamming detection.	R01A06
MMS	Deleted MMS function.	R01A06
SMTP	Deleted SMTP function.	R01A06

GNSS	Added AT Command AT+QGNVPDM .	R01A05
OpenCPU	Added the GPIO pins (SIM2_CLK, SIM2_RST, SIM2_DATA, GPIO0~GPIO4).	R01A05
FILE	Added to support SD function.	R01A05
TCP/UDP	Added the function that RI is set to low level and holds low level for 120ms when module receive TCP data that same as customized heartbeat.	R01A05
OpenCPU	Added the API QL_VSPRINTF() .	R01A05
PPP	Added the QPPPTIMER function.	R01A05
AUDIO Play	Added AT Command AT+QPLAYMEM , AT+QPMEMBG to play audio stream.	R01A05
GNSS	Added EPO function for GNSS (AT+QGNSSSTS/ AT+QGNSSSEPO/ AT+QGREFLOC/ AT+QGEPOAID).	R01A04
GNSS	Added QuecFastFix Online AGPS function.	R01A04
GNSS	Added 1PPS function.	R01A04
Audio Play	Added audio play command (AT+QPCMCLK).	R01A04
PPP	Added PPP function.	R01A04
Dual UART	Added Dual UART function.	R01A04
OpenCPU	Added OpenCPU function.	R01A03
BT	Added BT function, support SPP/HFP/AG profile.	R01A03
PHB	Added Phone Book function.	R01A03
eCALL	Added eCall function.	R01A03
SIM DETECTION	Added SIM detection function.	R01A03
GNSS	Added GNSS function(AT+QGNSSC/AT+QGNSSRD/ AT+QGNSSCMD).	R01A03
GNSS	Added GNSS SDK function (PQEPE/PQGLP).	R01A03

4. Improved Features

Item/Category	Brief description	Since
EPO	Optimized the EPO download process.	R01A14
BT	Fixed the bug that reading Bluetooth address is 0.	R01A13
QuecLocator 2.0	Fixed the bug that some token values cannot be located.	R01A13
GNSS	Fixed the bug that NMC standard statements such as RMC / VTG / GGA / GLL are still displayed after being closed by PMTK314 command.	R01A13

GNSS	Fixed the bug that AT + QGNSSRD = "NMEA / item" reports full memory.	R01A13
NETWORK	Added AT + QGPRSCAUSE command for querying the error code during GPRS attachment.	R01A13
QuecLocator 2.0	Delete AT + QGSMLOCSETL command and AT + QGSMLOC command.	R01A13
HTTP	Fixed the bug of connection failure when the hostname is larger than 50 bytes during http connection. Currently, the length of the hostname is increased to 150 bytes.	R01A13
GNSS	Fixed the bug that GLONASS rollover.	R01A13
eCall	Turn off voice enhancement in ecall mode.	R01A12
PING	Fixed the bug that return without result when using AT+QPING="0.0.0.0" .	R01A11
BT	Fixed the bug that Bluetooth cannot enter into test mode with META.	R01A10
GNSS	Update to latest AXN5.1.6 to fix that satellites number reduced in GSV when output frequency is greater than 1Hz, and fix that PMTK255 is invalid.	R01A10
GNSS	Submit MTK patch to fix the conflict between flash EPO and code area.	R01A09
GNSS	Fixed the bug that return error when using AT+QGNSSRD="NMEA/EPE" and AT+QGNSSRD="NMEA/GEO" under ALL-in-one.	R01A09
GNSS	Enhanced QZSS stability due to new announcement #194 and #195.	R01A09
eCall	Fixed the bug of low uplink volume in eCall mode.	R01A09
GENERAL	Optimized the FOTA function.	R01A09
BT	Fixed the bug that module as HF, set the volume invalid before using the AT+CLVL .	R01A08
OpenCPU	Fixed the bug that switch GP-TIMER frequently, to the twenty-third times will return the wrong handle.	R01A08
OpenCPU	Fixed the bug that more than 0x7CFFFFFF of the execution QI_GetMsSincePwrOn will cause overflow.	R01A08
BT	Fixed the bug that when the module is used for HF call in speaker mode, the other side will hear the echo.	R01A07
TCP SSL	Fixed the bug that when the send buffer is full, executing AT+QSSSEND to send data will cause closing of SSL connection.	R01A07
NETLIGHT	Fixed the LED flashing way that was different from the Hardware manual.	R01A06
PCM	Optimized the PCM function during the call process.	R01A06

TIME	Fixed the bug that the time is not local time after executing AT+CCLK? .	R01A06
BT	Fixed the bug that when the opposite side device is rejected, AT+QBTPAIRCNF could not be return URC: +QBTPAIRCNF .	R01A06
BT	Fixed the bug that iphone mobile connect module actively shows incomplete information when not paired.	R01A06
HTTP	Fixed the probability abnormality of HTTP POST large data without flow control.	R01A06
OpenCPU	Fixed the bug that hardware IIC return -34 when slave device is busy.	R01A06
GNSS	Improved driving performance at multipath and weak signal condition.	R01A06
GNSS	Optimized speed accuracy performance.	R01A06
OTHERS	Optimized the mechanism of FPLMN.	R01A06
TCP/UDP	Fixed the bug that there is no RI pin hopping when the TCP connection is disconnected by server.	R01A05
BT	Fixed the bug that the volume can't be changed by AT+CLVL command during a Bluetooth phone call.	R01A05
BT	Fixed the bug that there is no RI pin hopping when URC reported in luetooth functional state.	R01A05
TCP/UDP	Optimized the interval range of TCP heartbeat packets keep alive, it can be configured for 10 s ~ 30 min.	R01A05
GNSS	Fixed the bug that GNSS frequently switch will lost some NMEA sentences, when the GSM boot.	R01A05
SMTP	Fixed the bug that there is an error " +QSMTPATT: -12 ", when execute QSMTPPPATT , and Upload a file from the COM.	R01A05
GENERAL	Fixed the bug that SD card and SIM2 pin cannot work normally as a GPIO mode for feeding hardware watchdog in the stage of bootloader.	R01A05
Dual UART	Fixed the bug that setting the debug port baud rate and save the invalid after restart, when Dual UART function is enabled.	R01A05
GENERAL	Fixed the bug that the GNSS module waked up the GSM module too frequently.	R01A04
GNSS	Disabled the NMEA sentence of GPACCURACY output.	R01A04
NITZ	Fixed the bug that the information reported abnormal after executing AT+CTZR=2 .	R01A04
DTMF	Fixed the bug that after executing AT+QWDTMF with empty DTMF code, it will return OK for the first execution and after that will have been reported error regardless of whether the parameters are correct or not.	R01A04
TCP SSL	Fixed the bug that the information reported abnormal after executing AT+QSSLCFG .	R01A04

BT	Fixed the bug that the module could establish only one active connection, but when two active connections were established, there was no wrong reported information.	R01A04
GENERAL	Fixed the bug that PWM work abnormal issue.	R01A03
TCP/UDP	Fixed the bug that modem only receive but couldn't send data while modem re-enter in transparent transmission.	R01A03
GENERAL	Fixed the bug that cell information reported abnormal in calling after executing AT+QENG=2,1 , but hang up after a while cell information reported will back to normal.	R01A03

5. Known Issues

Item/Category	Brief Description
OTHERS	The query command AT+QSSLCFG="certchain" returns the result is missing\r\n.

6. Functions

Basic Function

SMS	Voice Call	Data Call	Fax	USSD	PHB	STK	CMUX	FILE ¹⁾
Y	Y	N	N	Y	Y	Y	Y	Y
Triple UART								
Y								

Protocol Function

TCP/UDP	PPP	FTP	HTTP	NITZ	PING	NTP	HTTPS	TCP SSL
Y	Y	Y	Y	Y	Y	Y	Y	Y
FTPS								
MQTT								
Y	Y							

Special Function

Jamming Detection	DTMF	Audio Record	Audio Play	QuecFOTA	OpenCPU FOTA	Quec Locator 2.0 ²⁾	OpenCPU	DSSS
Y	Y	Y	Y	Y	Y	Y	Y	Y
BT ³⁾								
SIM Detection								
ALARM								
Y	Y	Y						

GNSS Function

AIC	EASY	EPO ⁴⁾	SBAS	Always Locate	LOCUS	PPS sync NMEA	QuecFast FixOnline	SDK ⁵⁾
Y	Y	Y	Y	Y	Y	Y	Y	Y

NOTES

1. Y means the firmware supports this function.
2. N means the firmware does not support this function.
3. ¹⁾ Supports UFS/RAM/SD FILE only.
4. ²⁾ QuecLocator 2.0 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.
5. ³⁾ Supports BT 3.0 only, includes SPP, HFP, OPP.

6. ⁴⁾ After EPO is enabled, it will actively attach GPRS network.
7. ⁵⁾ Supports PQCECF, PQBAUD, PQEPE, PQJAM, PQVEL, PQODO, PQPZ90, PQGLP, PQGEO, PQGBS.
8. Verification Environment is shown below. For more details, please contact Quectel technical support.
For Windows,
Qcom Tool: QCOM_V1.6 or QCOM_V1.7_01_Beta4
Qflash Tool: QFlash_V5.2

For Linux,
CMUX Driver: linux_cmux_2018.zip

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