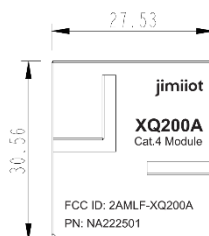


XQ200A, communication module

LTE Cat4 module

Designed specifically for both M2M and IoT applications



Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This device is intended only for OEM integrators under the following conditions:

- 1) The antenna must be installed such that 20 cm is maintained between the antenna and users, and the maximum antenna gain allowed for use with this device is 4.86 dBi.
- 2) The transmitter module may not be co-located with any other transmitter or antenna.

As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

This transmitter module is authorized only for use in device where the antenna may be installed such that 20 cm may be maintained between the antenna and users. The final end product must be labeled in a visible area with the following: “**Contains FCC ID: 2AMLF-XQ200A**”. The grantee’s FCC ID can be used only when all FCC compliance requirements are met.

Manual Information To the End User

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the user’s manual of the end product which integrates this module. The end user manual shall include all required regulatory information/warning as show in this manual.

Additional testing, Part 15 Subpart B disclaimer

The modular transmitter is authorized by the Federal Communications Commission (FCC) only for the specific rule parts (i.e., FCC transmitter rules) listed in the grant. The host product manufacturer is responsible for ensuring the host complies with any other applicable FCC rules not covered by

the modular transmitter certification. If the grantee markets its product as compliant with Part 15, Subpart B (while the product also contains digital circuitry operating as unintentional radiators), the grantee must state that the final host product incorporating the modular transmitter still requires Part 15, Subpart B compliance testing.

1. product introduction

The XQ200A series is a wireless communication positioning module developed based on the ASR1803SC chip, which simultaneously supports LTE Cat4/WCDMA/GSM and supports LTE-FDD and LTE-TDD network data connections.

The XQ200A series includes two models: XQ200A-EULA and XQ200A-NA, which meet the frequency band coverage requirements of different countries and regions. The module adopts laser engraving technology, featuring an exquisite appearance, strong metallic texture, better heat dissipation, information that is not easily erased, and better adaptability to automation requirements.

Meanwhile, the module is compactly packaged, measuring only 32.0mm × 29.0mm × 2.1mm. It is equipped with a rich variety of built-in network protocols, integrates multiple industrial standard interfaces, and supports multiple driver and software functions (suitable for USB drivers under operating systems such as Windows7/8/8.1/10, Linux, and Android), greatly expanding its application scope in the M2M field. Such as MIFI, OTT, CPE, routers, data cards, tablet computers, video security, tracking and positioning, and industrial-grade PDAs, etc.

2. Function

Functional overview

- Wireless communication module supporting LTE Cat 4 designed specifically for M2M and IoT applications;
- Basic pin-to-pin with EC200A series modules;
- Ultra-thin LCC package;

The baseband chip integrates RAM and Flash.

- Supports DFOTA;
- USB 2.0 high-speed interface;
- Ultra-high cost performance.

3. communication characteristics

3.1. Frequiband

GSM: 850/950/1800/1900MHz

WCDMA: B1_2_4_5_8

LTE CAT. 4: B1_2_3_4_5_7_8_20_28_66_38_40_41

NA: GSM: 850/1800MHz

WCDMA: B2_4_5

LTE CAT. 4: B2_4_5_7_12_13_14_17_25_26_41_66_71

3. 2. LTE features

- . supports 3GPP R9 non-CA Cat 4 FDD and TDD
- . supports 1.4/3/5/10/15/20 MHz radio frequency bandwidth
- . supports MIMO downlink
- . supports uplink QPSK and 16-QAM modulation
- . supports downlink QPSK, 16-QAM, 64-QAM modulation modes
- . LTE-FDD: maximum downlink rate 150 Mbps, maximum uplink rate 50 Mbps
- . LTE-TDD: maximum downlink rate 130 Mbps, maximum uplink rate 30 Mbps

3. 3 UMTS Features

- . supports 3GPP R7 HSPA+, HSDPA, HSUPA and WCDMA
- . supports QPSK, 16-QAM and 64QAM modulation
- . HSPA+ : maximum downlink rate 21 Mbps
- . HSUPA: maximum uplink rate 5.76 Mbps
- . WCDMA: maximum downlink rate 384 kbps, maximum uplink rate 384 kbps

3. 4 GSM Features

GPRS:

- . supports GPRS multi-slot level 12
- . encoding format: CS 1-4
- . maximum downlink rate 85.6 kbps, maximum uplink rate 85.6 kbps

EDGE:

- . supports EDGE multi-slot level 12
- . supports GMSK and 8-PSK modulation coding methods
- . downline encoding format: MCS 1-9
- . uplink encoding format: MCS 1-9
- . maximum downlink rate 236.8 kbps, maximum uplink rate 236.8 kbps

3. 5 call

Support VoLTE

3. 6 SMS

- Support;4. Interface: INTERFACE

4. Interface

4. 1 General Interface

- 1 USB2.0 high-speed interface;
- 3 UART interfaces;
- 2 ADC interfaces;
- 2 I2C interfaces;
- 1 1.8/3.0V (U) SIM interface;

- 2 SDIO ports;
- 3 SSP ports;
- RESET (Low level valid)
- PWRKEY(Valid at low levels)

4. 2 Antenna

- External LTE antenna;

4. 3 SIM

- 1 1.8/3.0V (U) SIM interface
- Supports eSIM insertion (soft SIM)
- Firmware upgrade
- USB interface;
- FOTA
- Delta Firmware Upgrade Over-the-Air;

5. General characteristics

5. 1 3GPP Standard

Commands defined in 3GPP TS 27.007 and 27.005

5. 2 Temperature

Storage temperature: -40°C to +85°C

Working temperature: -20°C to +70°C

5. 3 Appearance

Size:32.0mm ×29.0mm × 2.1mm;

Weight:About 7g;

5.4 working voltage

Input the working voltage range

3.3V - 4.3V, 3.8V Typ.

5. 5 AT instruction

Commands defined in 3GPP TS 27.007 and 27.005