



# Quectel EC800M-CN LTE Standard Module

Introduction

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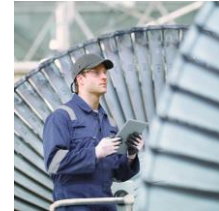
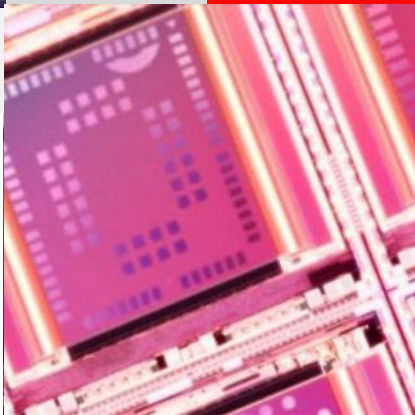
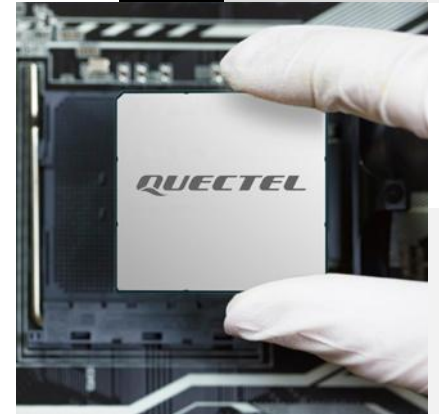




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# Highlights

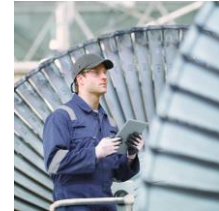
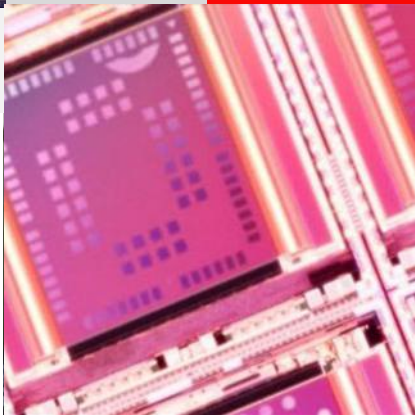
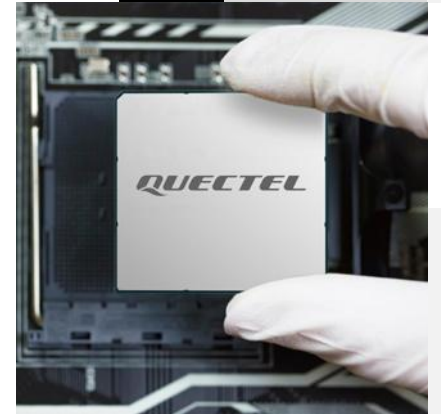
Specifications

Enhanced Technologies

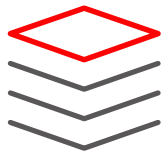
Typical Applications

Customer Support

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# EC800M-CN Highlights



Compatible with EC800G-CN,  
EC800N-CN, EC800E-CN,  
EC800K-CN and EG800K  
series modules

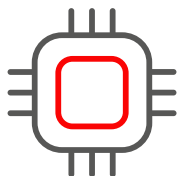
Cost-optimized Cat 1 module



Wi-Fi scanning

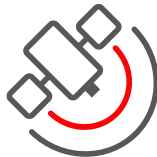


Classic Form Factor: 17.7 × 15.8 × 2.4 mm



Chip Platform: ASR1606

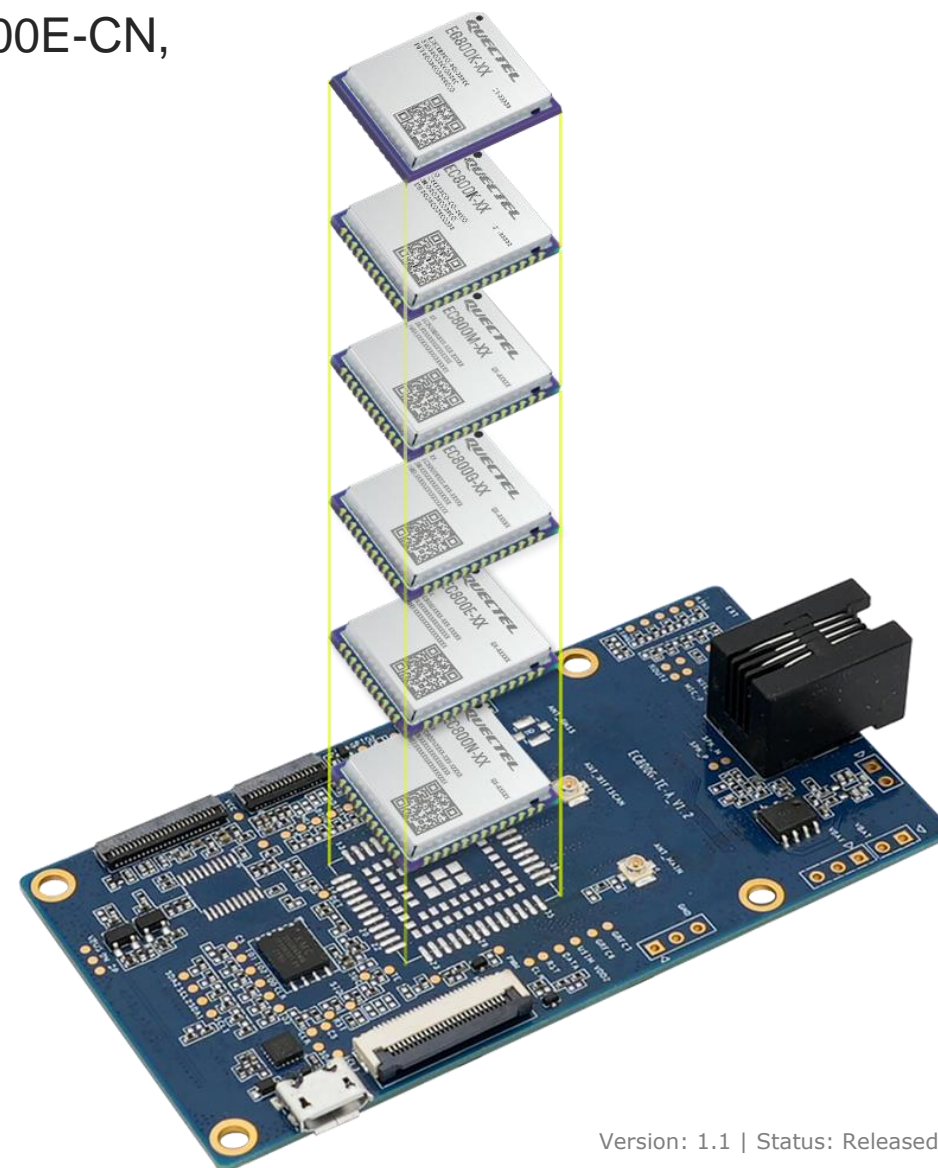
Built-in GNSS function (Optional)



# EC800x Series Compatible Modules



EC800M-CN is compatible with EC800G-CN, EC800N-CN, EC800E-CN, EC800K-CN and EG800K series.



# EC800M-CN Highlights



Interface/ Function	Description
Interface	USB 2.0/ PCM <sup>①</sup> / Analog Audio <sup>①</sup> / USIM/ UART/ ADC/ I2C/ Camera <sup>②</sup> / LCM <sup>②</sup> / PWM <sup>②</sup> / Matrix Keyboard <sup>②</sup> / RESET/ PWRKEY/ Antenna (Main Antenna/ GNSS Antenna <sup>①</sup> )
USB Serial Driver	Windows 8/ 8.1/ 10/ 11, Linux 2.6–5.18, Android 4.x–13.x
RIL Driver	Android 4.x–13.x
USB RNDIS Driver	Windows 8/ 8.1/ 10/ 11, Linux 2.6–6.5
USB ECM Driver	Linux 2.6–6.5
Abundant Protocol	TCP/ UDP/ PPP/ NITZ/ PING/ FILE/ MQTT/ NTP/ HTTP/ HTTPS/ SSL/ FTP/ FTPS/ CMUX*/ MMS*/ SMTP*/ SMTPS*
Enhanced Feature	DFOTA (Delta Firmware Upgrade Over-The-Air, backup and recovery) USIM1 card detection Dual SIM Single Standby Single Pass (Optional) GNSS (Optional) Wi-Fi Scan
SMS	Text and PDU mode Point-to-point MO and MT SMS cell broadcast SMS storage: ME (default) & USIM SGS (default) & IMS(Optional)

\*: Under development.    ①: The function is optional.    ②: Only support by QuecOpen® solution.





Highlights

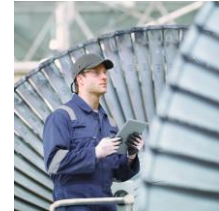
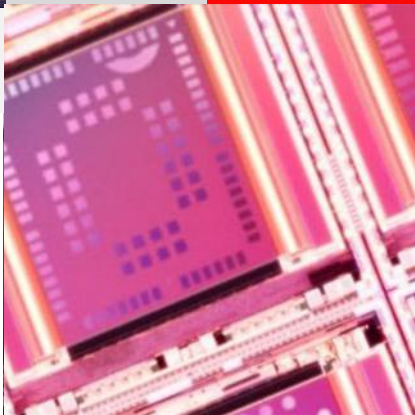
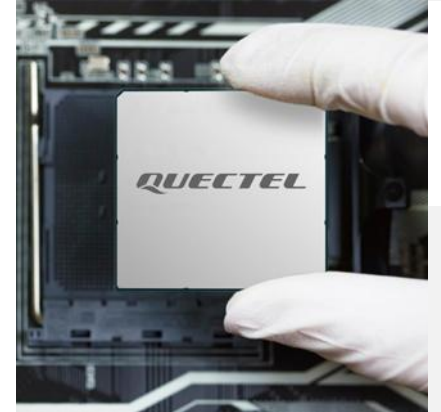
# Specifications

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# EC800M-CN Specifications



17.7 × 15.8 × 2.4 mm  
10 Mbps DL/ 5 Mbps UL

Variant		E800M-CN
LTE	LTE-FDD	B1/ 3/ 5/ 8
	LTE-TDD	B34/ 38/ 39/ 40/ 41
	GNSS (optional)	GPS/ BDS/ GLONASS/ Galileo
QuecLocator®		Optional
Analog Audio		Optional
Digital Audio (PCM)		Optional
Wi-Fi Scan		Supported
VoLTE		Optional
DFOTA		Supported
QuecOpen®		Optional
USIM <sup>①</sup>		× 2, 1.8/ 3.0 V
Supply Voltage Range		3.4–4.3 V, typ. 3.8 V
Region		China/ India
Certifications		<b>Carrier:</b> China Telecom/ China Mobile <b>Regulatory:</b> SRRC/ NAL/ CCC
Project Stage		MP

①: USIM2 is optional.





Highlights

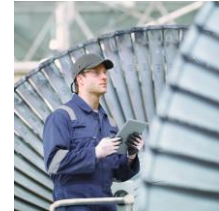
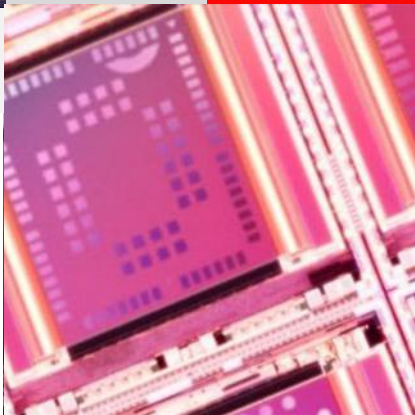
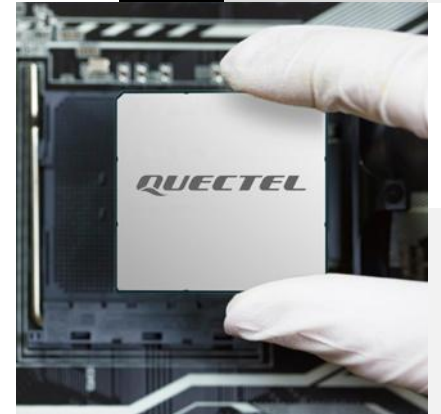
Specifications

**Enhanced Technologies**

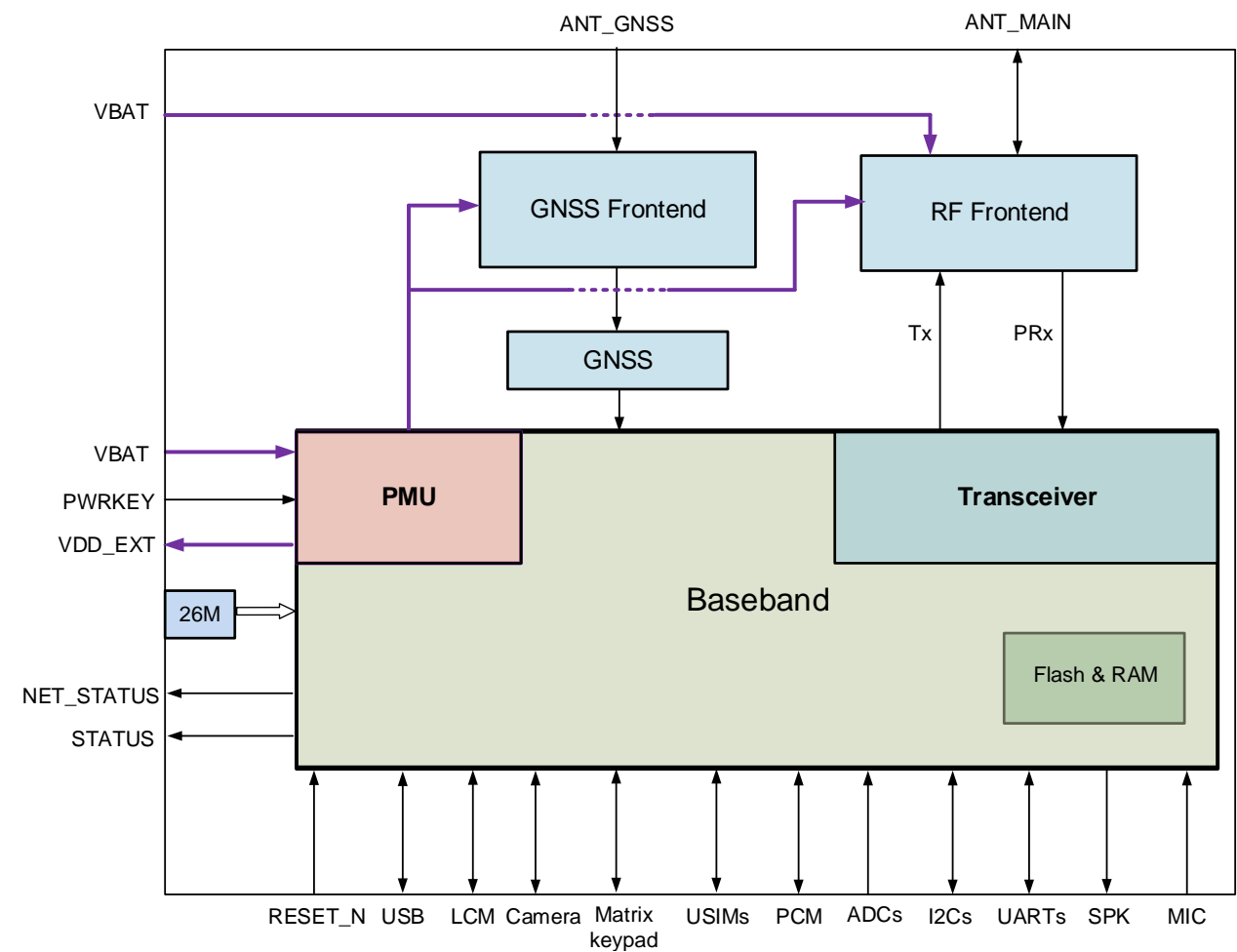
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# Hardware Architecture



LCM, camera and matrix keyboard interfaces are only supported by QuecOpen® solutions.

# Software Advantages



## USB Serial Driver

- Windows 8/ 8.1/ 10/ 11
- Linux 2.6–6.5
- Android 4.x–13.x

## Other Drivers

- RIL Driver: Android 4.x–13.x
- USB RNDIS Driver:  
Windows 8/ 8.1/ 10/ 11  
Linux 2.6–6.5
- USB ECM Driver:  
Linux 2.6–6.5
- GNSS Driver:  
Android 4.x–13.x

## Quality Guarantee

- Reliable network protocols
- Steady flash protection mechanism
- Superior audio algorithms

## Special Features

- QuecOpen® (Optional)
- QuecLocator® (Optional)
- QuecLocator® (Optional)

## Flexible Applications

- USIM1 card detection
- DTMF (Optional)
- GNSS (Optional)
- Dual SIM Single Standby Single Pass (Optional)
- VoLTE (Optional)

## Enhanced AT Commands

- 3GPP TS 27.007
- 3GPP TS 27.005
- Quectel enhanced AT commands

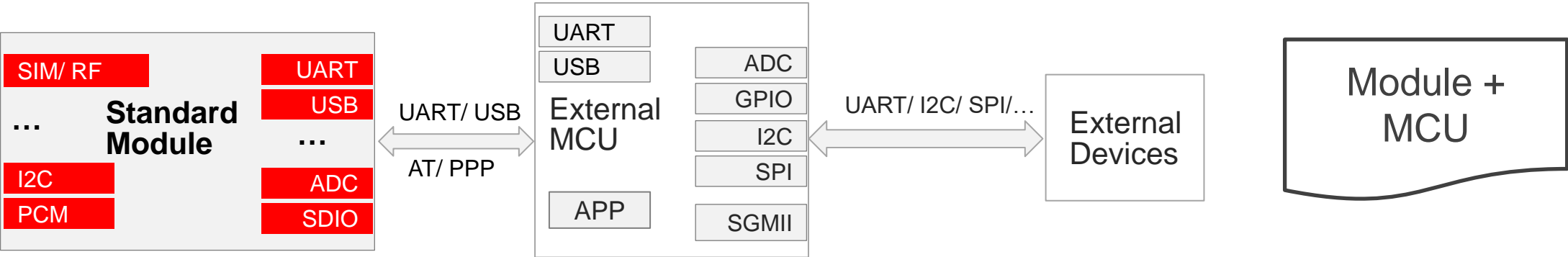
GNSS Driver is optional.



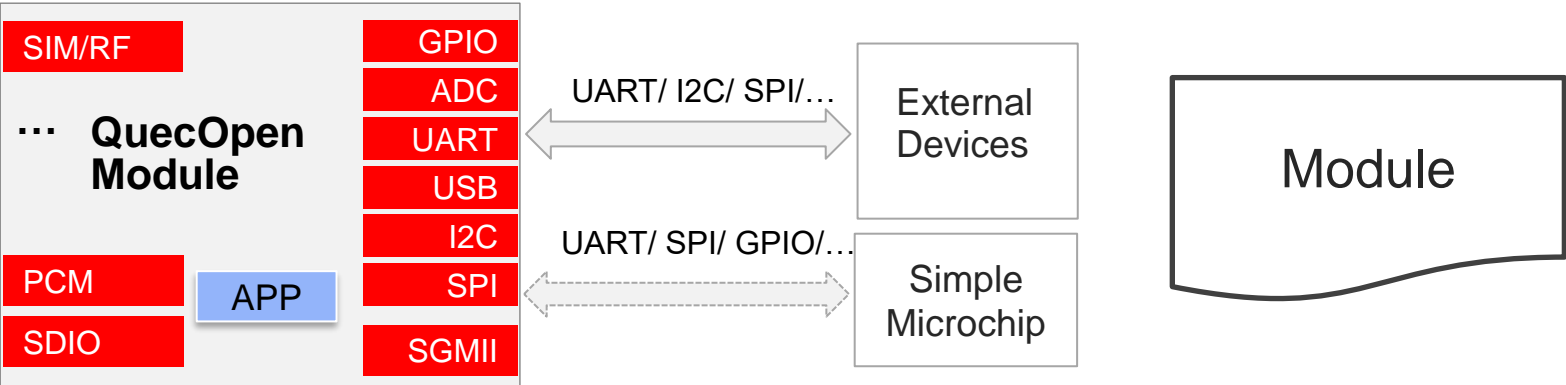
# QuecOpen® VS Standard Module Modes



## Standard Module Mode



## QuecOpen® Module Mode



- Simplify circuit design and reduce product size.
- Rich hardware interfaces, strong performance and easy development.
- Reduce costs by eliminating the need for external MCU.

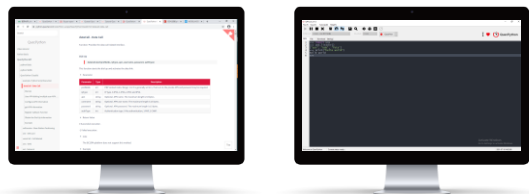
- Native libraries, third-party libraries and sensors
- Demos and source code solutions
- Smooth IoT programming with online user manuals



- Hardware level lock
- Software advanced encryption



- User-friendly
- GUI tool allows for simultaneous testing and programming

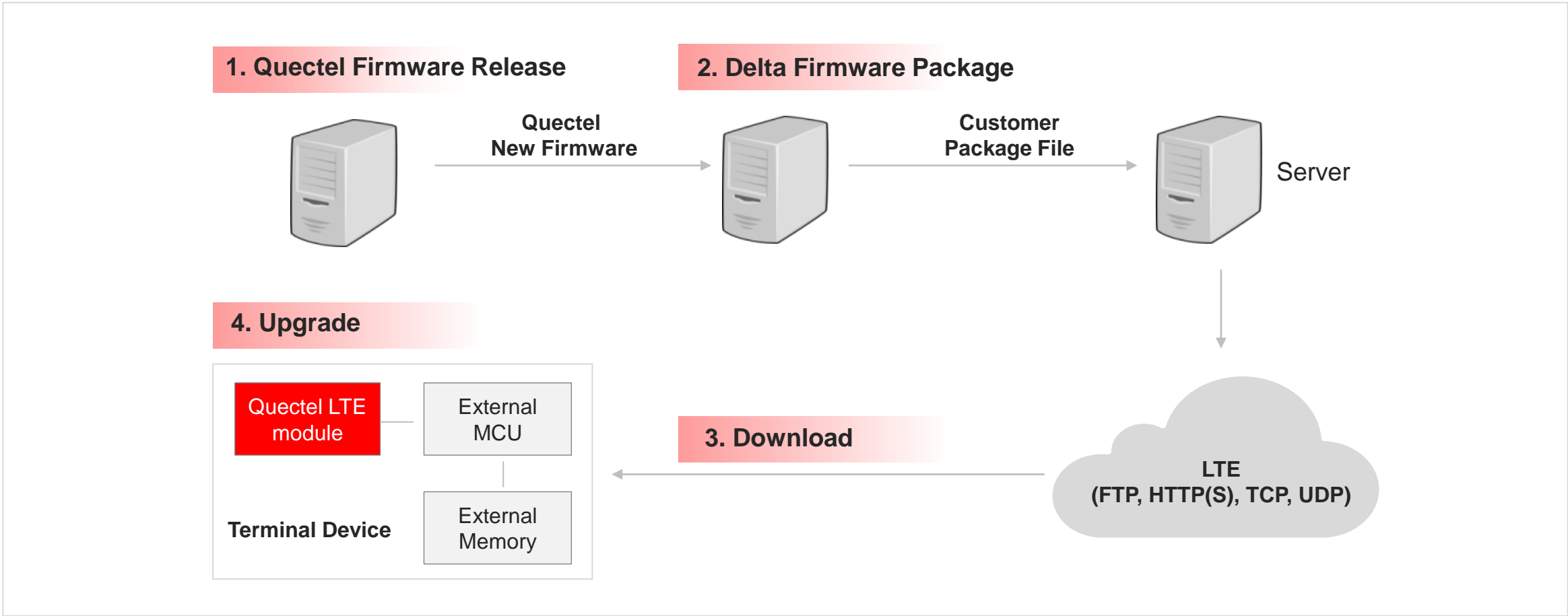


- Bidirectional isolation of client code and hardware environment
- Unified API that can be used for developing applications and subsequently for running scripts freely on any module or platform
- Cost-free code and platform migration for trouble-free hardware selection

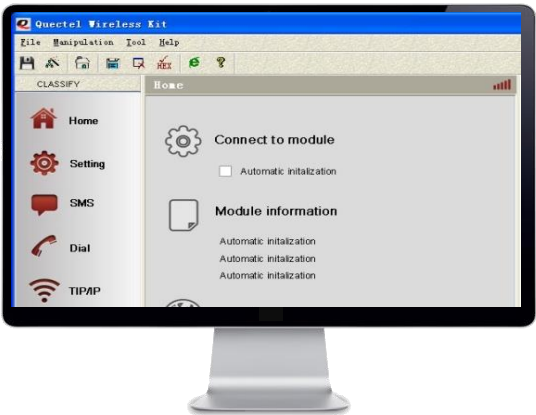


## DFOTA (Delta Firmware Upgrade Over-The-Air)

Quick firmware upgrade through cellular networks owing to differential upgrade, delta firmware package, and fast download speed.

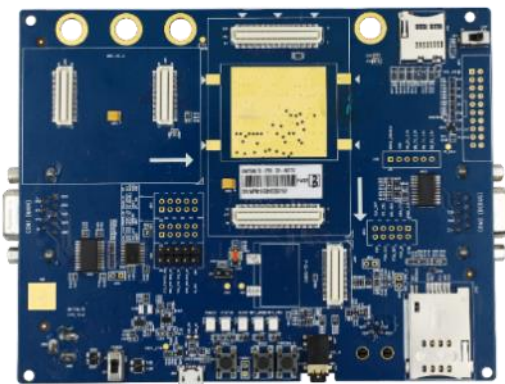






Quectel provides a graphical user interface (GUI) tool QNavigator, which can help customers quickly test the functions of Quectel modules.

## EVB Kit



LCC & LGA Module EVB



Mini PCIe Module EVB



Highlights

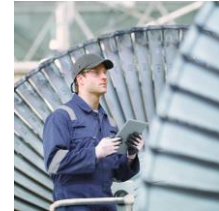
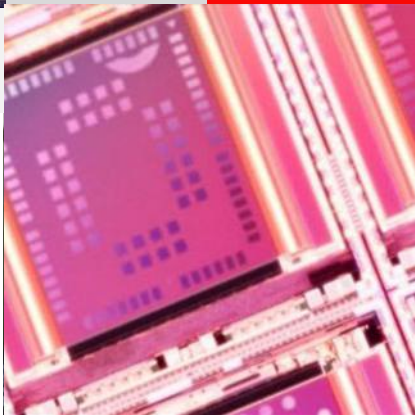
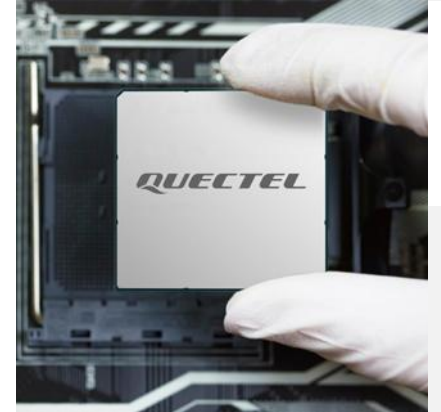
Specifications

Enhanced Technologies

**Typical Applications**

Customer Support

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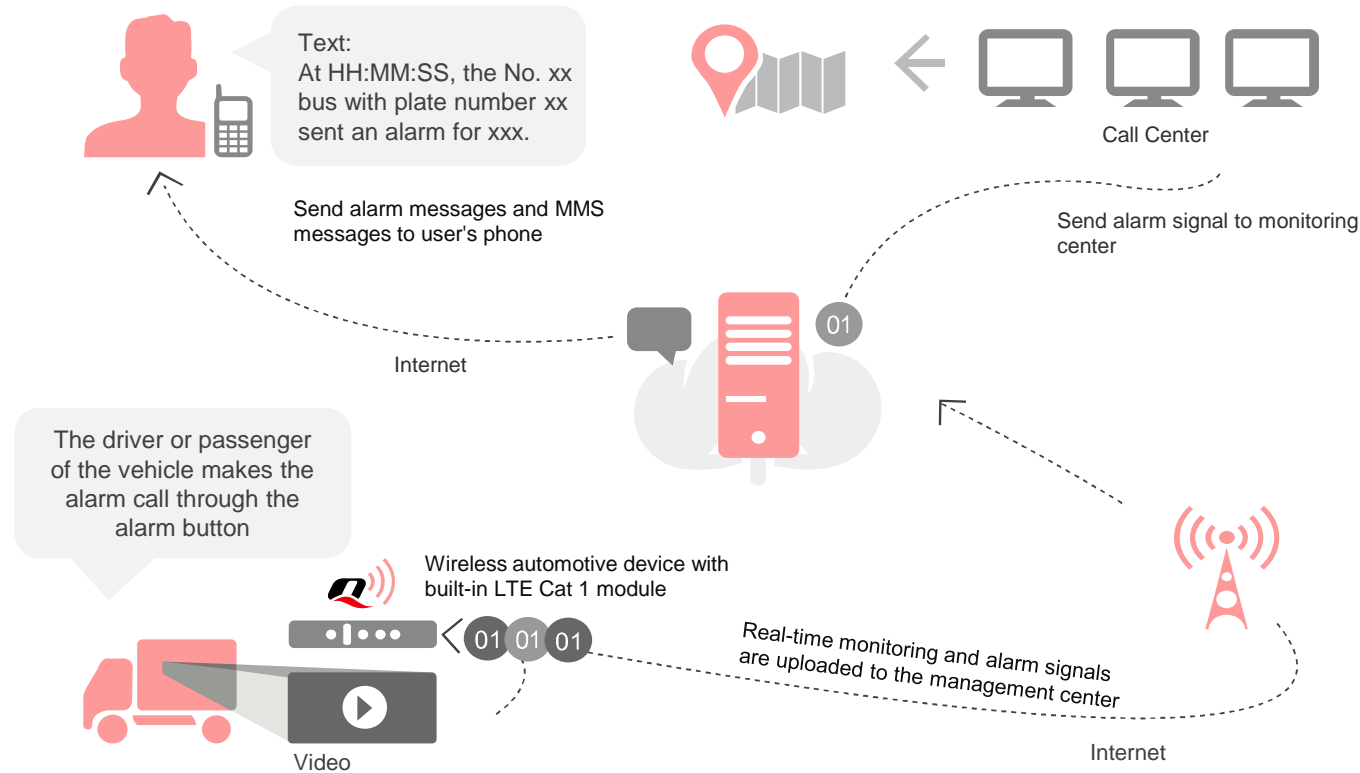
## Vehicle Tracking

## Cargo Tracking

## Ship Tracking

## Fleet Management

## Item Tracking



### Real-time tracking:

Item location and status, as well as daily vehicle use record

### Multiple positioning:

GPS/ BDS + LBS, etc.

### Tracking query:

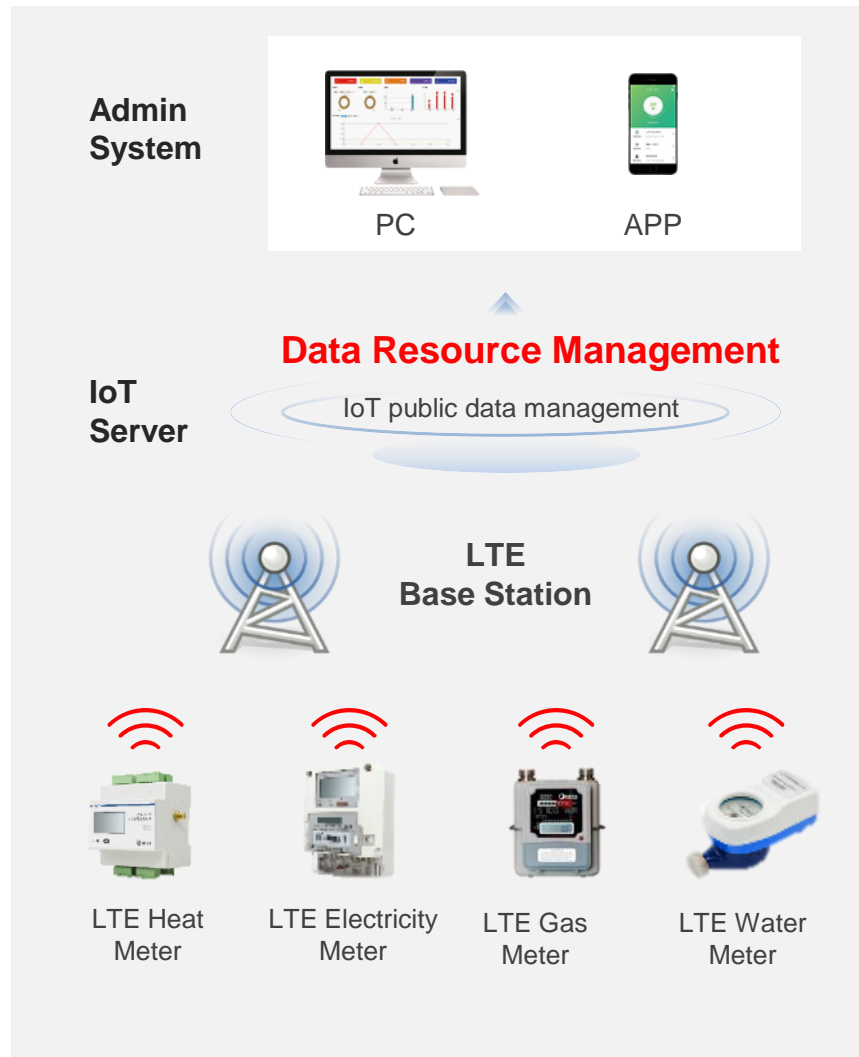
Query vehicle behavior anytime and anywhere

### Electronic fence:

Automatic alarm for deviation from preset route

### Emergency SOS





## Remote Meter Reading



- Resolved low efficiency and high-cost issues caused by manual reading
- Real-time information on power/ water/ gas consumption

## Data Analysis



- Automated statistical analysis and report generation
- Accurate calculation of production and selling cost difference
- Regional consumption statistics
- Annual, monthly and daily consumption statistics

## Energy Conservation



- Instantaneous reporting of dosing errors
- Energy conservation

## Stable and Reliable Data Transmission



- Information management system
- Improved energy consumption management
- Compliant with data encryption standards

# Payment



2G/ 3G phaseout

Over **100 million** 2G/ 3G POS terminals still in use

Over **10 million** of new demands placed each year

Due to comprehensive use, the average time for transitioning from 2G/ 3G to 4G is **2 to 3 years**

Gradual sunseting of 2G/ 3G network will see 2G/ 3G POS terminals replaced with cost-optimized 4G ones.

# Typical Applications



## Intelligent Transportation

- IoV
- CVI
- Vehicle Tracking
- Asset Tracking
- Ship Tracking
- Fleet Management
- OBD
- DVR
- UBI

## Smart Energy

- Ammeter
- Gas Meters
- Water Meters
- Thermal Meters
- Smart Grid
- Wind Generators
- Solar Power Generation
- Charging Piles

## Payment

- Wireless POS
- Cash Registers
- ATM
- Vending Machines
- Top-up Machines





# Typical Applications



## Smart City

- ❑ Street Lighting
- ❑ Traffic Lights
- ❑ Sharing Economy
- ❑ Elevator Monitoring
- ❑ Smart Parking
- ❑ Parking Meters
- ❑ Toll Collection Systems
- ❑ Digital Indicators
- ❑ Advertising Boards
- ❑ Smart Bins
- ❑ LED Landscape Lighting Control

## Wireless Gateway

- ❑ DTUs
- ❑ Consumers Routers
- ❑ Industrial Routers
- ❑ VoIP
- ❑ Servers
- ❑ Wi-Fi Hotspots

## Intelligent Agriculture & Environmental Monitoring

- ❑ Food Traceability
- ❑ Farmland Monitoring
- ❑ Farm Management
- ❑ Meteorological Stations
- ❑ Wildlife Protection
- ❑ Farm Irrigation
- ❑ Environmental Monitoring



# Typical Applications



## Intelligent Industrial

- Industrial PDAs/ Scanners
- Industrial PCs
- Industrial Computers
- Pipeline Monitoring
- Robots
- Flowmeters
- UAV
- Industrial Refrigeration
- Indoor Air Detection
- Water Valves/ Pump Controls

## Smart Life & Healthcare

- Personal Trackers
- Pet Trackers
- Wearables
- Home Automation
- Elderly Monitoring
- Remote Medical Equipment
- Glucometers
- Blood Pressure Meters
- Game Machines
- Patient Monitoring
- Mobile PCs

## Smart Safety

- Alarms
- Intrusion Detectors
- Smoke Detectors
- Gas Detectors
- Motion Sensors
- Asset Protection





Highlights

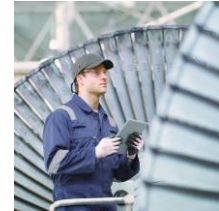
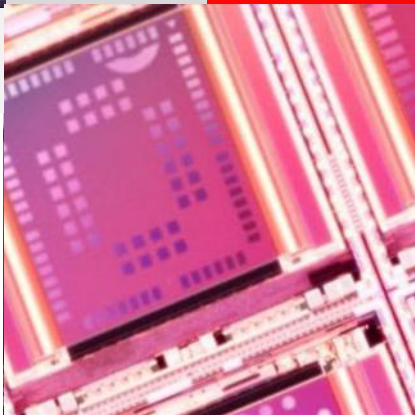
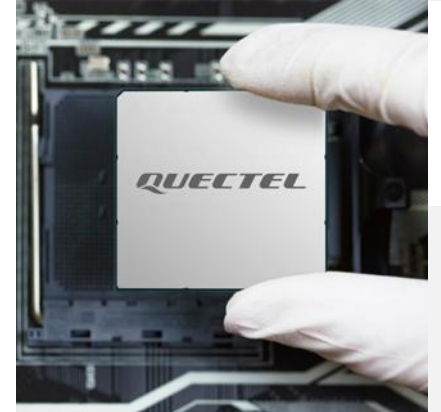
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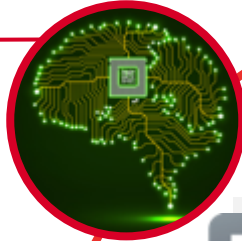


# 360 Degree Support



## 1. System Evaluation

- Analyzing customer requirements
- Recommending the right module for the customer
- Evaluating antenna placement
- Designing antennas



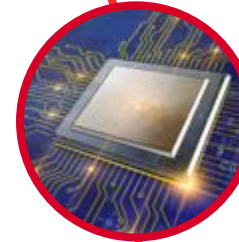
## 2. Design In

- Recommending referenced hardware designs
- Checking schematics and layouts
- Providing software design support



## 3. Prototype

- Providing design validation testing
- Recommending suppliers



## 4. Testing Service

- RF testing
- Power consumption testing
- Audio testing
- Reliability & environmental testing
- ESD testing
- Certification testing
- Antenna debugging



## 5. Mass Production

- Providing assembly and testing guidelines
- Providing after-sales services







**We are a global IoT solutions provider, backed by outstanding support and services, to deliver a smarter world.**

- Unbeatable choice from the broadest module portfolio in the world
- High quality range of off-the-shelf and customized antennas
- Superb support with the largest R&D team in the industry
- Continuous innovation in 5G, LPWA, Automotive, and Smart module technology
- A passionate, dedicated team of "Quectelers" ensures our customers always come first

*Thank You*

**Build a Smarter World**

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