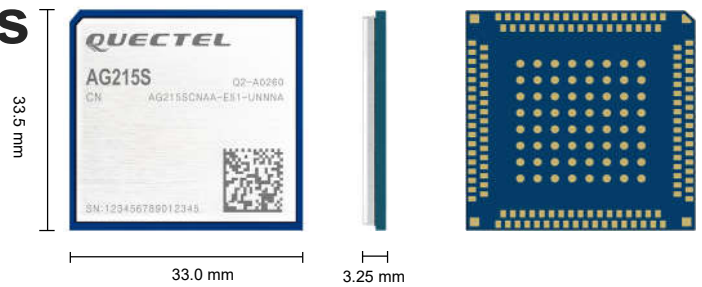


# Quectel AG215S Series

## IATF 16949 Compliant Automotive Grade C-V2X Application Processor Module



Quectel AG215S is a series of automotive grade C-V2X Application Processor modules designed and manufactured according to IATF 16949:2016 standards. Designed for use in extremely harsh environments and providing superior ESD/EMI protection performance, AG215S series EAP module can be used widely in C-V2X communication solution to meet enhanced driving safety, autonomous driving, intelligent transport system (ITS) and advanced driver-assistance system (ADAS) application demands. It can also fulfill the critical security function in V2X based on the powerful ARM cores and dedicated hardware Crypto engine.

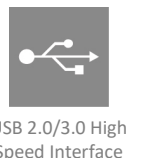
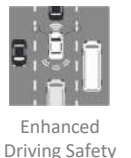
Based on 3GPP Release 14/15 compliant LTE-V2X direct communications, Quectel automotive grade C-V2X module AG15 and cellular modules AG52xR/AG55xQ/AG57xQ support vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and vehicle-to-pedestrian (V2P) communications in PC5 mode on the unified 5.9 GHz ITS band and concurrently work in uU mode. AG215S can be used in combination with these automotive grade modules (AG15/AG52xR/AG55xQ/AG57xQ) to implement as C-V2X Application Processor to host ITS stack and applications. Thus, it provides automotive industry application solutions with more functions and further extended communication range, especially enabling C-V2X for traffic safety and efficiency in nowadays.

Quectel Automotive Modules will make traffic smoother and more efficient through paving the way for automated driving and achieving the goal of fully connected traffic.



### Key Benefits

- ✓ Designed for automotive applications with IATF 16949:2016 requirement
- ✓ Compliant with automotive quality processes such as APQP, PPAP, etc.
- ✓ Powerful Application Processor to host ITS stack and applications
- ✓ Optimized communication performance with Quectel AG52xR/AG55xQ/AG57xQ
- ✓ Embedded hardware engine fulfills powerful ECDSA verification capability
- ✓ Support global and China national security algorithms
- ✓ Additional many types of optional HSM/SE integrated
- ✓ ITS stack integrated (optional)
- Wide operation temperature range (-40 °C to +85 °C) meets the
- ✓ demanding requirements for automotive devices
- Excellent EMC protection ensures great robustness even in harsh
- ✓ environments
- Compact SMT form factor ideal for integration in slim and size-constrained automotive solutions



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## IATF 16949 Compliant Automotive Grade C-V2X Application Processor Module

### Processors

ARM Cortex-A53 Microprocessor Cores

64-bit Processor

1.4 GHz Dual-Core Processor

(Quad-Core Processor Optional)

### Various HSM integrated

AG215S-CN High performance HSM TTM2000

AG215S-GL Low performance HSM XDSM3275\*

AG215S-GL High performance HSM XDSM3276\*

AG215S-GL Low performance HSM SLS37\*

AG215S-GL No internal HSM\*

### Interfaces

SDIO × 1

USB 2.0/3.0 × 1

PCIe Gen2 × 1

RGMI 1 Gbps × 1

UART × 2

SPI × 2

I2C × 2

1PPS (Input) × 1

ADC × 2

### Enhanced Features

#### High Security:

Secure Boot\*

SELinux\*

#### Powerful ECDSA Capability:

##### Curve Supported:

NIST p-384, NIST p-256

Brainpool p-384, Brainpool p-256

SM2 256 bit

Encryption algorithm will be different following the different built-in HSM

#### Scalable ECDSA Capability:

Up to 2500TPS through Embedded Hardware

Engine and CPU (Based on NIST p-256 and SMT)

Hardware Crypto Engine Embedded\*

Support Secret Key Generation and Storage, and

Digital Signature and Verification

Additional 2000TPS ECDSA Capability Supported

(Based on NIST p-256 and SMT)

#### ESD/EMI Protection:

Realized through Internal Specific Circuits and

Components

### Electrical Characteristics

**Power Consumption:** Power Consumption will be related with the APP software of customer

### Software Features

Linux kernel:

4.9.11/4.9.88/4.14

Protocol:

QMI (Qualcomm MSM Interface)

### General Features

**Temperature Range:**

-40 °C to +85 °C

**Dimensions:**

33.0 mm × 33.5 mm × 3.25 mm

**Supply Voltage:**

VBAT\_3V8: 3.5 to 4.3 V, 3.8 V Typ.

**Package:**

LGA

### Approvals

TBD

\* Under Development