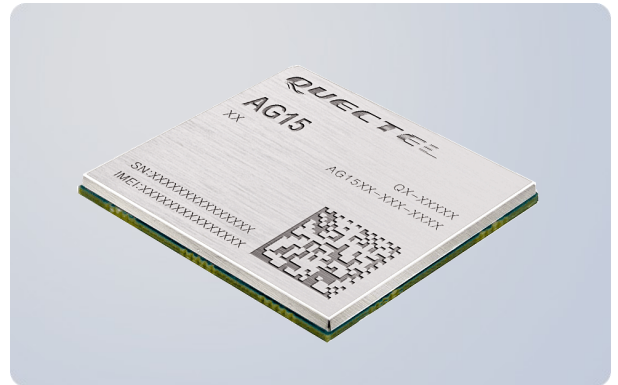


Quectel AG15

IATF 16949 Compliant Automotive Grade C-V2X Module



Quectel AG15 is an automotive grade C-V2X module designed and manufactured according to IATF 16949:2016 standards. It is designed for use in extremely harsh environments and provides superior ESD/EMI protection performance. Through C-V2X PC5 direct communications, AG15 will make traffic smoother and more efficient through paving the way for automated driving and achieving the goal of fully connected traffic.

Based on 3GPP Release 14 compliant LTE-V2X direct communications, AG15 supports vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and vehicle-to-pedestrian (V2P) communications on the unified 5.9GHz ITS band without the need of a (U)SIM, cellular subscription or network assistance. It is able to meet connected vehicles' demand of communication with lower latency, higher reliability and high throughput. Additionally, AG15 provides abundant interfaces, which enables customers to conveniently develop applications.

AG15 supports multiple-input multiple-output (MIMO) technology. The use of multiple antennas at the receiver end at the same time and on the same frequency band greatly minimizes errors and optimizes the data speed. The module also has an embedded multi-constellation high-sensitivity GNSS (GPS, GLONASS, BeiDou, Galileo, QZSS) receiver for positioning, which minimizes design and improves positioning speed and accuracy.

AG15 is a global V2X communication solution to meet enhanced driving safety, autonomous driving, intelligent transport system (ITS) and advanced driver-assistance system (ADAS) application demands. When used in combination with Quectel automotive grade LTE module AG35, it provides automotive industry application solutions with more functions and further extended communication range.



Key Benefits

- ✓ C-V2X PC5 Mode 4 direct communications: independent of cellular network & enabling (U)SIM-less operation
- ✓ Ideal for automotive premarket applications with IATF 16949:2016 requirement
- ✓ Compliant with automotive quality processes such as APQP, PPAP, etc.
- ✓ 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
- ✓ MIMO technology meets demands for data rate and link reliability in modem wireless communication systems



C-V2X PC5 Mode 4
Max 26Mbps (Rx/Tx)



LGA Package



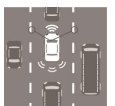
Multi-constellation
GNSS



USB 2.0/3.0 High
Speed Interface



Autonomous
Driving



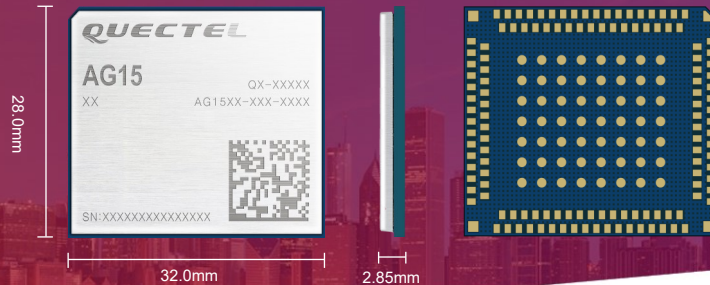
Enhanced
Driving Safety



USB Drivers

Quectel AG15

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Variant for the Global

AG15:

C-V2X TDD: B47 for Global

LTE TDD: B46D* for Japan

Data

C-V2X TDD:

Max 26Mbps (TX)/Max 26Mbps (RX)

GNSS

Embedded GNSS:

GPS/GLONASS/BeiDou/Galileo/QZSS

Interfaces

USB 2.0/3.0 × 1

PCIe × 1

UART × 2

SPI × 1

I2C × 1

1PPS × 1

ADC × 3

Main/Rx-diversity/GNSS Antenna Interfaces

GPIO × 4

Enhanced Features

High Security:

Secure Boot*

SELinux*

ESD/EMI Protection:

Realized through Internal Specific Circuits and Components

Electrical Characteristics

Output Power:

Class 3 (23dBm±2dB) for C-V2X

Power Consumption:

85uA @Power off

Sensitivity:

C-V2X TDD B47: -93dBm (10M)

Software Features

USB Serial Driver:

Windows 7/8/8.1/10, Windows CE 5.0/6.0/7.0*,

Linux 2.6/3.x/4.1~4.14,

Android 4.x/5.x/6.x/7.x/8.x

PCIe Driver:

Linux 4.9.11/4.9.88/4.14

Protocol:

QMI (Qualcomm MSM Interface)

General Features

3GPP Release 14 C-V2X PC5

Bandwidth:

10/20MHz

Temperature Range:

-40°C ~ +85°C

Dimensions:

28.0mm × 32.0mm × 2.85mm

Supply Voltage:

VBAT_BB_3V8: 3.3V~4.3V, 3.8V Typ.

VBAT_RF_5V0: 4.75V~5.25V, 5.0V Typ.

LGA Package

Approvals

TBD

* Under Development