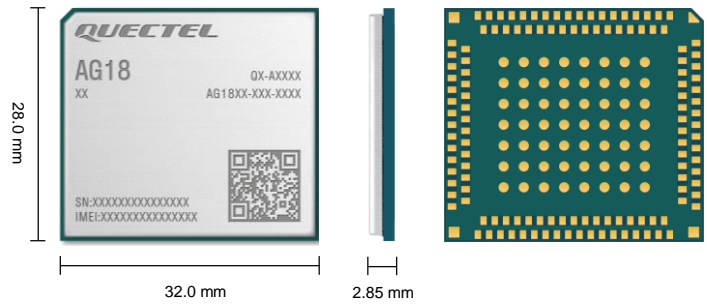


Quectel AG18

IATF 16949 Compliant Automotive Grade C-V2X Module










Quectel AG18 is an automotive grade C-V2X module designed and manufactured according to IATF 16949:2016 standard. With high robustness, the module is designed for extremely harsh environments and features superior ESD/EMI protection. It is a global V2X communication solution for meeting advanced driver-assistance system (ADAS), enhanced driver safety, autonomous driving, and intelligent transport system (ITS) application demands. It provides more functions and supports extended communication ranges for automotive industry solutions.

In line with 3GPP Rel-14, AG18 supports vehicle-to-vehicle (V2V), vehicle-to-infrastructure (V2I) and vehicle-to-pedestrian (V2P) communication in 5.9 GHz ITS band independently of (U)SIM, cellular subscription or network assistance. Through PC5-based C-V2X communication, it makes traffic smoother and more efficient and paves the way for fully connected and automated traffic. It can meet the communication demands of connected vehicles with lower latency, higher reliability and high throughput. In addition, the module supports abundant interfaces, which allows for seamless application development.

AG18 has an embedded dual-frequency and multi-constellation high-precision GNSS receiver (optional) for positioning, which minimizes the design and improves positioning speed and accuracy.

Key Features

- ✓ PC5-based C-V2X Mode 4 communication independent of cellular network for (U)SIM-less operation
- ✓ Ideal for premarket automotive applications with IATF 16949:2016 requirements
- ✓ Compliant with automotive quality processes such as APQP, and PPAP
- ✓ Extended temperature range (-40 °C to +85 °C) and excellent EMI protection compliant with the demanding requirements for automotive devices and ensuring great robustness even in harsh environments
- ✓ Compact SMT form factor ideal for integration in slim and size-constrained automotive solutions
- ✓ Optional dual-frequency, multi-constellation GNSS receiver available for applications requiring a fast and accurate positioning in any environment

 C-V2X Direct Communication Max. 30 Mbps (Rx) Max. 30 Mbps (Tx)	 Enhanced Driver Safety	 LGA Package
 Autonomous Driving	 Dual-frequency GNSS (Optional)	 USB 3.0 Interface
 USB Driver		

Quectel AG18

C-V2X Module	AG18
Region	Global
Dimensions (mm)	28.0 × 32.0 × 2.85
Temperature Range	
Operating Temperature	-35 °C to +75 °C
Extended Temperature	-40 °C to +85 °C
Frequency Band	
C-V2X TDD	B47 ^①
Certificates	
Regulatory	Europe: CE ^② China: SRRC*
Others	WHQL
Max. Data Rate	
C-V2X TDD	30 Mbps (Tx/Rx)
Interfaces	
USB	× 1 (USB 3.0/2.0)
PCIe	× 1
UART	× 2 (Main UART, Debug UART)
SPI	× 1
I2C	× 1
DR_SYNC	× 1
ADC	× 2
Antenna	× 3 (C-V2X × 2 and GNSS × 1)
GPIO	× 4
Enhanced Features	
Embedded GNSS (GPS/ GLONASS/ BDS/ Galileo/ QZSS)	Single-frequency GNSS (L1 or L5) and Dual-frequency GNSS (L1 + L5) Options
QDR	Optional
PACE	Supports Position Assisted Clock Estimator
TUNC ^②	Supports Time Uncertainty Constraint
Enhanced Security	<ul style="list-style-type: none"> Secure Boot SELinux*
ESD/ EMI Protection	Realized Through Dedicated Internal Circuits and Components
Drivers	
USB Serial Driver	Linux 2.6–5.18
Electrical Features	
Supply Voltage Range	VBAT_BB: 3.3–4.3 V, typ. 3.8 V VBAT_RF: 4.75–5.25 V, typ. 5.0 V
Transmitting Power	C-V2X: Class 3 (23 dBm ±2 dB)
Power Consumption (Typ.)	850 mA (Working State)

NOTE:

- ①: global, excluding Japan.
- ②: TBD (To Be Determined).
- * : under development/ongoing.