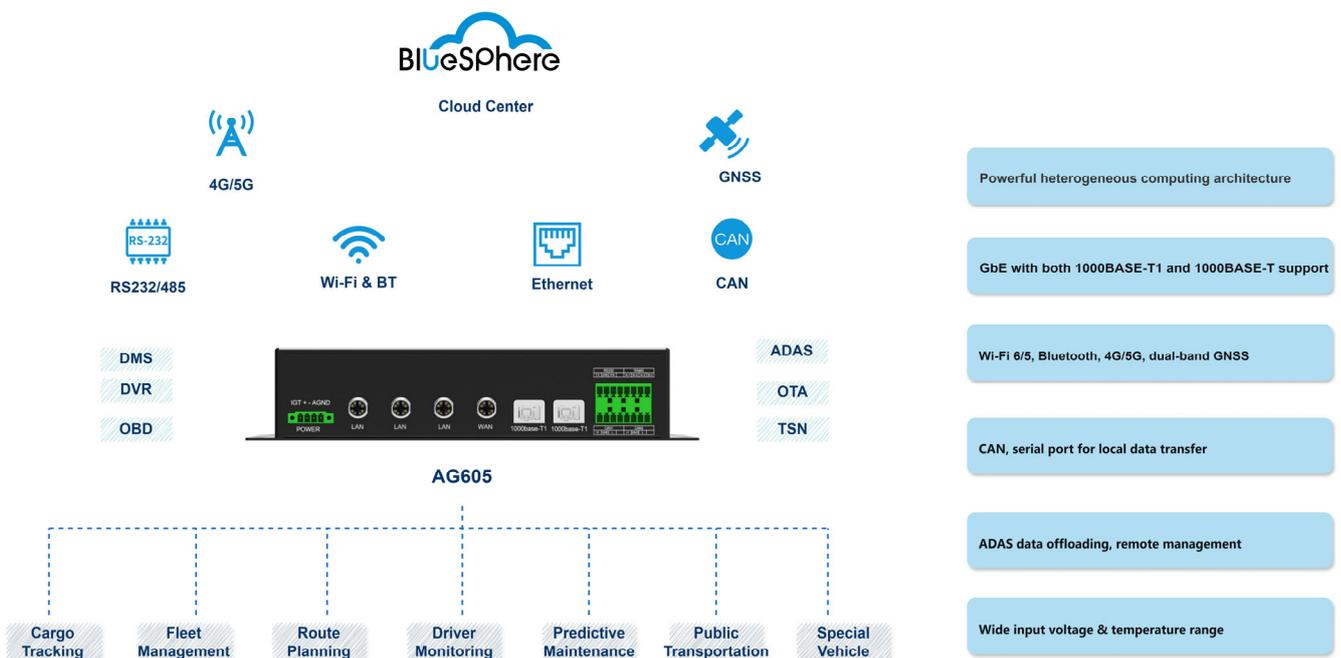# AG605 Automative Gateway

Product Overview

Vantron AG605 automotive gateway is designed to meet the demands of modern connected-vehicle architectures. It is powered by NXP's latest vehicle-network processor that features four Arm® Cortex®-A55 cores and two Cortex®-M7 cores. This design delivers high-performance application processing alongside deterministic real-time control, enabling advanced telematics, real-time data acquisition, and sophisticated fleet management.

The AG605 offers six gigabit Ethernet ports, supporting both 1000BASE-T1 for automotive high-speed links and 1000BASE-T for standard connections. The on-board Wi-Fi 6/Wi-Fi 5 supports multi-SSID hotspot service for up to 32 clients, while the 4G/5G cellular module with dual-SIM support keeps the vehicle always connected for reliable, high-speed data transfer. The dual-band (L1 + L5) high-precision GNSS receiver supports NMEA 0183 and TAIP protocols for precise vehicle positioning. Legacy buses include two CAN 2.0 channels, an RS232, and an RS485 for high-speed communication with ECUs and sensors. The built-in OBD-II gives instant access to device diagnostics.

Designed for -30 °C to +70 °C operation, the gateway accepts 9-36V vehicle power input, with ignition (IGT) sensing. It is fully supported by the cloud-based Vantron Gateway Manager (GWM) for remote monitoring and control, making it ideal for ADAS data offloading, fleet tracking and management, advanced driver behavior monitoring, and predictive maintenance.

Features and Benefits

- Powerful heterogeneous computing architecture
- GbE with both 1000BASE-T1 and 1000BASE-T support
- Wi-Fi 6/5, Bluetooth, 4G/5G, dual-band GNSS
- CAN, serial port for local data transfer
- ADAS data offloading, remote management
- Wide input voltage & temperature range

AG605 Automotive Gateway Datasheet

AG605		
HARDWARE		
System	CPU	Quad-core Arm Cortex-A55 processor (Application domain)
		Dual-core Arm Cortex-M7 MCU (Real-time domain)
	Memory	2GB LPDDR4
	Storage	32GB eMMC
Cellular	Modem	2 x 4G LTE (Optional: 4G LTE+ 5G)
	SIM	2 x Micro SIM slot
	Antenna	6 x FAKRA code D connector (Including two reserved for 5G)
	4G frequency band (LTE FDD Cat 1/4)	B1, B2, B3, B4, B5, B7, B8, B8_US, B9, B12,B13, B14, B18, B19, B20, B25, B26, B28
	5G frequency band (Sub-6GHz, FDD + TDD, SA + NSA)	FR1 bands: n1, n2, n3, n5, n7, n8, n12, n13, n14, n18, n20, n25, n26, n28, n29, n30, n38, n40, n41, n48, n66, n71, n75, n76, n77, n78, n79
		LET bands: B1, B2 (B25), B3, B4 (B66), B26 (B5, B18, B19), B7, B8, B12 (B17), B13, B14, B20, B28, B29 (DL), B30, B32 (DL), B34, B38, B39, B40, B41, B42, B43, B46 (LAA), B48 (CBRS), B66, B71
Ethernet	Port	4 x M12 X-coded (3 x LAN, 1 x LAN/WAN), 10/100/1000Mbps (1000Base-T)
		2 x TE MATEnet, 10/100/1000Mbps (1000Base-T1)
Wi-Fi	Standard	IEEE 802.11 a/b/g/n/ac/ax
	Frequency band	2.4GHz, 5GHz
	Working mode	AP, Station
	Antenna	2 x FAKRA code I connector
Bluetooth	Bluetooth	Bluetooth 5.3
GNSS	Satellite support	GPS, BDS, GLONASS, Galileo, QZSS (A-GNSS supported)
	Sensitivity	Acquisition: -145dBm; Tracking: -165dBm; Reacquisition: -157dBm
	Antenna	2 x FAKRA code C connector
I/O	Serial port	1 x RS232, Max. 235kbps / 2 x RS485, Max. 500kbps
	USB	1 x USB 3.0 Type-A
	CAN	2 x CAN bus
System Control	Button	1 x Restore pinhole button (≤ 2s: restart; 3s-5s: factory reset; ≥10s: clear all data)
	LED indicator	1 x System indicator / 2 x 4G/5G indicator
		1 x Network connectivity indicator / 1 x WLAN indicator
		1 x GNSS indicator
	Watchdog timer	Supported
	RTC	Supported
Power	Input	9V-36V DC
	Socket	1 x 4-pin x 3.81mm (Ignition, +, -, AGND)
Physical Characteristics	Dimensions	TBD
	Enclosure	Metal
	Weight	TBD
	Installation	Wall mounting, Flat mounting
	IP rating	IP40
	Cooling mode	Heat sink

AG605 Automotive Gateway Datasheet

		AG605		
Physical Characteristics	Mechanical test	Drop: IEC60068-2-31/32	Reliability: SAE J1455, MIL-STD 810G	
		Vibration: IEC60068-2-6		
	EMC	SAE J1113-2, ISO 7637-3		
Environmental Condition	Temperature	Operating: -30℃ ~ +70℃	Storage: -40℃ ~ +85℃	
	Humidity	5%-95% RH (Non-condensing)		
Certification	Regulatory	FCC, ISED, CE		
	Vehicle	E-Mark, ITxPT		
	Carrier certification	AT & T, Verizon, T-Mobile		
SOFTWARE				
Edge Computing	Edge computing script	JavaScript, MicroPython		
	Southbound protocol	Modbus TCP, Modbus RTU, EtherNet/IP, ISO-on-TCP, CC-link, etc.		
	Northbound protocol	MQTT		
Custom Development	IPK import	Supported		
	Documentation support	SDK available, API documentation		
Device Management	Device diagnostics	OBD-II		
	GNSS data transfer	Protocol support: NMEA 0183/RTCM 3.x, TAIP via IP/serial port		
	Operating system	Web-based VantronOS		
	Configuration	VantronOS, SSH, cloud-based BlueSphere GWM (Optional)		
	Remote management	BlueSphere GWM (Optional)		
	Upgrade	OTA/Local via VantronOS/BlueSphere GWM (Optional)		
Routing & Network Reliability	Network protocol	IPV4, HTTPS, TCP & UPD, NTP client and server, ARP, TLS		
	Link detection & report	Address: IP, URL	Protocol: ICMP, TCP, HTTP	
	Failover	Auto routing, Auto reconnection	Network priority: Ethernet > Wi-Fi client > Cellular (def.)	
	Dual SIM	Dual SIM failover, automatic switch		
	NAT	Dynamic, Static		
	WAN protocol	DHCP client, PPPoE, Static IP		
	Network management	SNMP v1/v2c/v3		
	IP application	Ping, Traceroute, Nslookup, DHCP Server/Client, DDNS		
	IP routing	Static routing		
Network Diagnostics	Network capture	By time or packet count		
	Statistics	Traffic data and up time at Ethernet WAN, Wi-Fi client WAN, cellular WAN		
		Cellular and Wi-Fi signal strength; SIM card switch frequency		
	Health check	Usage of CPU, memory, disk		
		Service running status		
		Alarm on Ethernet/Wi-Fi/cellular hardware abnormality		
	Log	System log, diagnostic log	Log export supported	
Security	Firewall	Stateful, whitelist control, port mapping		
	Access control	MAC address filtering, IP address filtering		
	Firmware validation	SHA256 checksum		

Exterior

- DC in
- 3 x LAN (M12)
- LAN/WAN
- 2 x 1000 Base-T1: Laser radar, camera, vehicle ECU
- RS232 + RS485
- 2 x CAN

- Wi-Fi antenna
- 5G antenna
- 4G/5G antenna
- 4G antenna
- 6 x LED indicator
- Reset button
- SIM slot 2
- GNSS antenna
- SIM slot 2
- USB-C
- USB-A
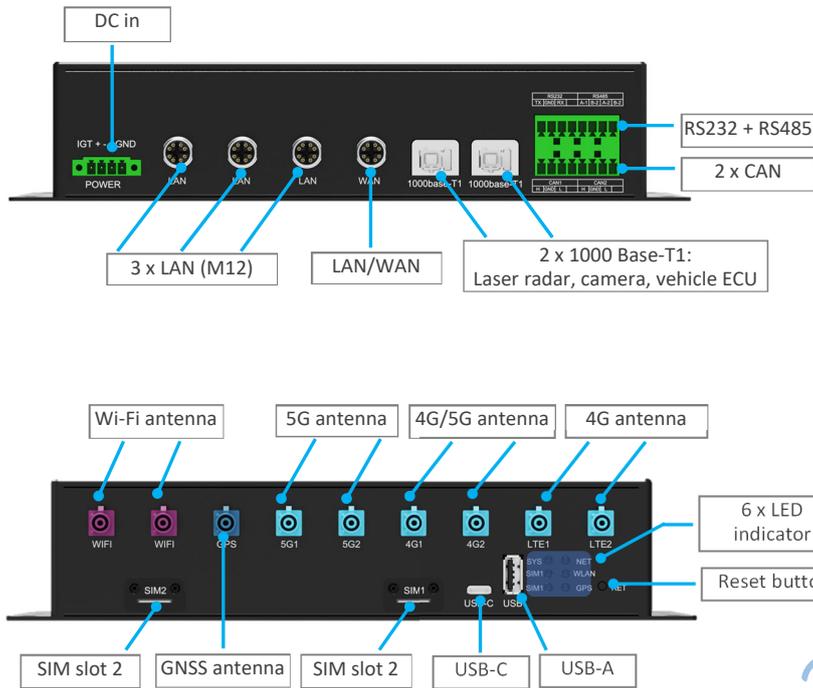
Ordering Information

Nomenclature: AG605-C-W

C (Cellular): **Null-**4G + 4G; **5G-**4G + 5G

W (Wi-Fi): **Null-**Wi-Fi 5; **W6-**Wi-Fi 6

Example Ordering No.	Cellular	Wi-Fi	Memory & Storage	Installation
AG605	Dual 4G	Wi-Fi 5	2GB + 32GB	Wall mounting, Flat mounting
AG605-5G	4G + 5G	Wi-Fi 5	2GB + 32GB	Wall mounting, Flat mounting
AG605-W6	Dual 4G	Wi-Fi 6	2GB + 32GB	Wall mounting, Flat mounting

Packing List	
AG605 Edge computing gateway	1
Wi-Fi antenna	2
4G LTE antenna	4
I/O mating connector	2
DC power connector	1

Optional Accessories	
12V DC Power adapter	1
Power cord	1
5G antenna	2