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. Built-in wireless network supports Wi-Fi 6/Wi-Fi 5 radio and 4G/5G cellular communication, keeping the vehicle online around the clock and enabling high-speed and stable data transmission. 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

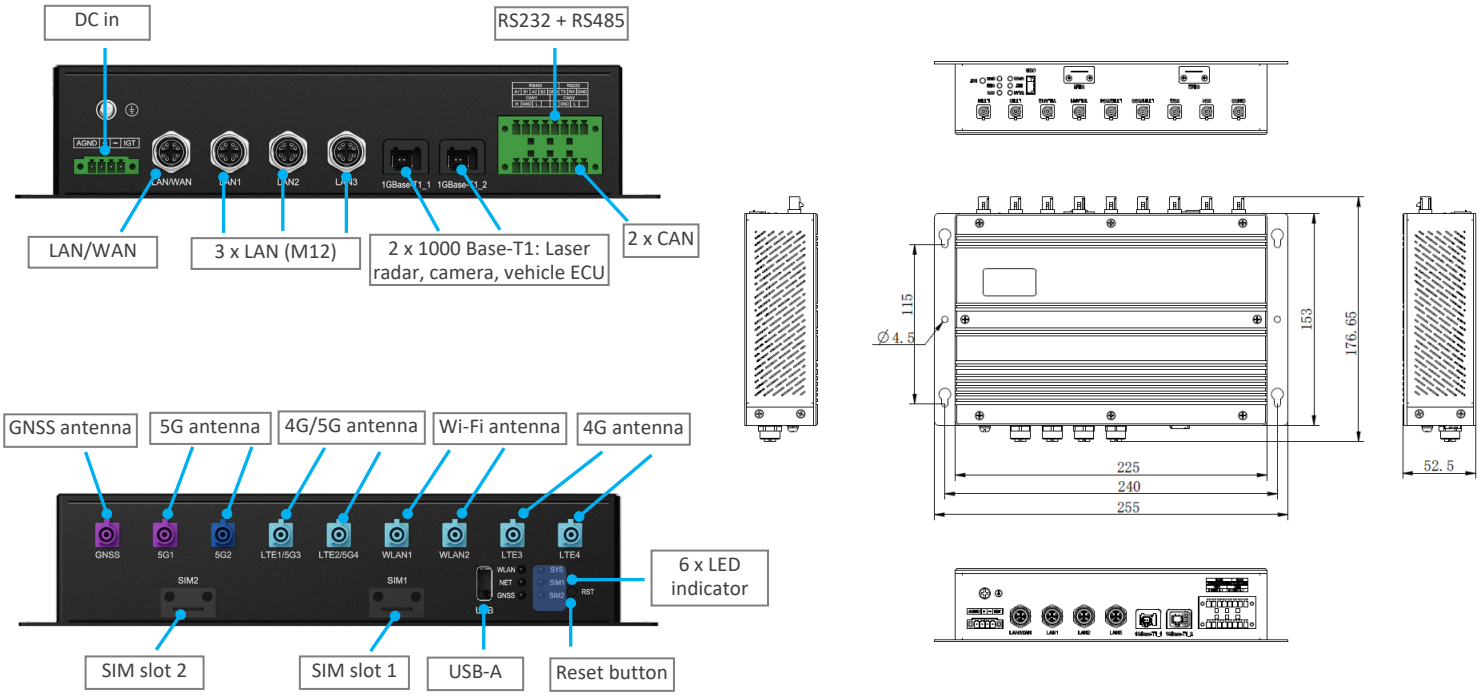
Specifications

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 × 4G LTE (Optional: 4G LTE+ 5G)	
	SIM	2 × Micro SIM slot	
	Antenna	6 × 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 Sub-6GHz	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	
	Frequency Band (FDD+TDD, SA+NSA)	LTE 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 × M12 X-coded (3 × LAN, 1 × LAN/WAN), 10/100/1000Mbps (1000Base-T)	
		2 × 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	
	Antenna	2 × FAKRA code I connector	
Bluetooth	Bluetooth	Bluetooth 5.0	
GNSS	Constellation	GPS, BDS, GLONASS, Galileo, QZSS (A-GNSS supported)	
	Sensitivity	Acquisition: -145 dBm; Tracking: -165 dBm; Reacquisition: -157 dBm	
	Antenna	1 × FAKRA code C connector	
I/O	Serial Port	1 × RS232, Max. 235kbps	2 × RS485, Max. 500kbps
	USB	1 × USB 3.0 Type-A	
	CAN	2 × CAN bus	
System Control	Button	1 × Restore pinhole button ([2, 6s): Restart; [6, 12s): Configuration clear; [12, 20s): Factory reset; [20s,+∞): Normal operation)	
	LED Indicator	1 × System LED	2 × SIM activity LED
		1 × Network connectivity LED	1 × WLAN LED
		1 × GNSS indicator	
	Watchdog Timer	Supported	
	RTC	Supported	
Power	Input	9V-36V DC	
	Socket	1 × 4-pin × 3.81mm (AGND, -, +, Ignition)	
Physical Characteristics	Dimensions	225mm × 176.65mm × 52.5mm (without antenna and mounting kit)	
	Enclosure	Sheet metal	
	Weight	TBD	
	Installation	Wall mounting, Flat mounting	
	IP Rating	IP40	
	Cooling Mode	Heat sink	

Specifications

AG605			
Physical Characteristics	Mechanical Test	Drop: IEC60068-2-31/32 Vibration: IEC60068-2-6	Reliability: SAE J1455, MIL-STD 810G
	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 & API documentation available	
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 upgrade 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 STA > Cellular (def.)
	Dual SIM Support	Dual cellular modules, fixed single active link, no link switching	
	NAT	Dynamic, Static	
	WAN Protocol	DHCP, PPPoE, Static IP	
	IP Application	Ping, Traceroute, Nslookup, DHCP Server/Client, DDNS	
	IP Routing	Static routing	
Network Diagnostics	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 and Outline



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
I/O mating connector	2
DC power connector	1

Optional Accessories	
12V DC Power adapter	1
Power cord	1

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