

AGENEWTECH

M318GO

Smart Module Specification_V1.0



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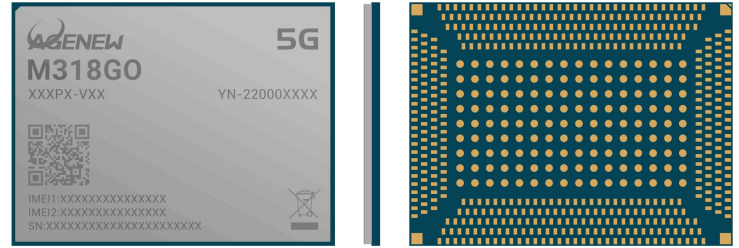
About the Document

History

Version	Date	Author	Description
-	2024-07-30	Daniel Wu	Initial
1.0	2024-07-31	Daniel Wu	Controlled

M318GO

Multi-network Smart 5G module
Supports Wi-Fi & BT



M318GO is a multi-network smart 5G module based on MediaTek's Octa-core MT8791 6nm processor (2×ARM Cortex-A78 + 6×ARM Cortex-A55) launched by Agenew, with inbuilt ARM Mali-G68 MC4 GPU, equipped with Android 13 operating system. Its powerful performance, neon engine processing, 2D/3D graphics acceleration processing capabilities, fully meet the needs of customers for high-speed and multimedia functions in industrial and consumer applications.

M318GO supports full coverage of the entire network system, 5G NSA and SA modes, and is backward compatible with 4G/4G/2G networks. It also supports Wi-Fi 802.11a/b/g/n/ac/ax and BT5.2 near-field wireless communication. In addition, M318GO also has audio and video input and output interfaces and rich GPIO interfaces. It supports a wide range of audio and video codecs. The main screen supports up to FHD+ 1080×2520 @120Hz. At the same time, M318GO supports GPS, GLONASS, BDS and Galileo positioning systems, and the positioning function is fast and accurate.

M318GO is a SMT module, with a total of 636 pins, all of which are LGA pins, with a size of 42.5mm×56.5mm×2.85mm, which can be embedded in various M2M product applications through the pad, making it widely used in smart cash registers, smart POS, tax controllers, security monitoring, vehicle equipment, high-end information collection equipment, smart robots, smart homes, smart hardware, industrial smart handheld devices, drones, high-end police or law enforcement equipment, smart intercom equipment, Smart wearables, vending machines, logistics cabinets and other devices used in different industries.



Main Advantages

- ✓ Comprehensive coverage of multi-network standard
- ✓ Support Wi-Fi 802.11a/b/g/n/ac/ax 2T2R & Bluetooth 5.2 short-range wireless communication
- ✓ Support GPS/GLONASS/BDS/Galileo and other standard satellite positioning, support L1+L5 dual-band
- ✓ Support multiple audio and video codecs
- ✓ Main screen supports up to FHD+ 1080×2520@120Hz
- ✓ Support 4K@30fps video recording and playback
- ✓ Abundant audio/video input and output interfaces and GPIO interfaces
- ✓ Built-in AI unit, support 2.6T computing power



2×ARM Cortex-A78
+6×ARM Cortex-A55
64-bit Processor (Octa-core)



IEEE 802.11
a/b/g/n/ac/ax



Support Android 13



GPS+GLONASS+BDS+Galileo



Powerful Multimedia



BT 5.2

5G NR	M318GO
Region/Operator	China
Operating System	Android 13
Memory	64GB UFS + 4GB LPDDR4X (default)
Module Dimension (mm)	42.5 × 56.5 × 2.85
Packaging	LGA
Temperature Range	
Operation Temperature	Operating temperature range: -20 °C ~ + 80 °C Storage temperature range: -40 °C ~ + 90 °C
Frequency Band Information	
NR	N1/N3/N5/N7/N8/N20/N28/N38/N41(PC2)/N77/N78/N79
LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B20/B28full/B66
LTE-TDD	B34/B38/B39/B40/B41(2496-2690)/B42/B43
WCDMA	B1/B2/B5/B8
CDMA	BC0/BC1
GSM/EDGE	B2/B3/B5/B8
Wi-Fi	2.4/5GHz, 802.11 a/b/g/n/ac/ax , 2×2 MIMO
Bluetooth	BT 5.2
GNSS	GPS + GLONASS + BDS + Galileo
Certification	
Operator Certification	Undetermined
Compulsory Certification	Undetermined
Other Certifications	Undetermined
Data Rate	
NR-FDD	800Mbps (DL) /200Mbps (UL)
NR-TDD	2.3 Gbps (DL) /625Mbps (UL)
LTE-FDD (UL CA)	1.2Gbps (DL) /75Mbps (UL)
LTE-TDD (DL CA)	600Mbps (DL) /45Mbps (UL)
DC-HSPA+	42Mbps (DL) /11.2Mbps (UL)
WCDMA	384Kbps (DL) /384Kbps (UL)
EDGE	236.8Kbps (DL) /236.8Kbps (UL)
GPRS	85.6Kbps (DL) /85.6Kbps (UL)
Features	
NR-FDD Bandwidth (MHz)	5/10/15/20/30/40
NR-TDD Bandwidth (MHz)	10/15/20/40/50/60/80/90/100
LTE Bandwidth (MHz)	1.4/3/5/10/15/20
DL MIMO 4 × 4 Support	●
(U)SIM Card Detection	●
Dual-SIM & Dual-standby	●
USB Firmware Update	●
OTA Firmware Update	●

Remark: 1. *: In progress
2. ●: Supports

5G NR	M318GO
Electrical Specification	
Operating Voltage	3.4~4.5 V, typical 3.8 V
Consumption (Typical)	200µA @ power off, 5.5mA @ sleep mode, typical
Interface	
LCD	4-lane MIPI DSI, max support FHD+ 1080×2520@120fps
Camera	4 × 4-lane MIPI CSI, 2 × ISP, support dual-camera 20MP + 20MP@30fps / 32MP@30fps
TP	Capacitive touch screen, compatible with I2C or SPI control
Audio	Lineout Interface (External audio amplifier required) × 1, receiver × 1, headphone × 1, simulated MIC × 3 + DMIC × 2
USB	× 1, USB 2.0, USB3.1, support OTG
(U)SIM	× 2, support 1.8V/3.0V (U)SIM
UART	× 2, 1 supports hardware flow control, 1 as a debugging serial port
SD Card	× 1, support SD3.0, support 4-bit SDIO
ADC	× 4, universal ADC interface
I2C	× 8, for TP, Cameras, Sensors, etc.
SPI	× 1
PWM	× 2
Motor Driven	× 1
I2S	× 2
Flashlight	× 1
PWRKEY	Internal pull up to VBAT
GPIO	× 23
Antenna	Cellular Antenna × 4, Wi-Fi 2.4G & Bluetooth Antenna × 1, Wi-Fi MIMO Antenna × 1, GNSS Antenna × 1