



Intelligent Module

Ubiot GH331










Multi-network Standard Intelligent LTE module / Support GNSS & Wi-Fi & BT

GH331 is a multi-network standard Smart LTE Cat 4 module based on Qualcomm octa-core 64-bit ARM Cortex-A53 processor launched by Yuntion, built-in Qualcomm Adreno™ 506 GPU, and equipped with Android 7.1 operating system (9.0 optional). Its powerful performance and rich multimedia functions fully meet the needs of customers for high speed and multimedia functions in industrial and consumer applications. It supports GPS+GLONASS+BeiDou multiple positioning systems, which greatly improves the positioning speed and accuracy.

GH331 integrates feature-rich interfaces (such as LCM, camera, touch screen, microphone, speaker, UART, USB, I2C and SPI interfaces, etc.), which greatly expand its application in the M2M field, making it widely used in smart cash registers, Intelligent POS, tax control machine, security monitoring, vehicle-mounted equipment, high-end information collection equipment, intelligent robot, smart home, intelligent hardware, industrial intelligent handheld equipment, drone, high-end police or law enforcement equipment, intelligent intercom equipment, intelligent wearable , vending machines, logistics cabinets and other equipment and industries.

Main Advantage

- Support LTE Cat 4 and 2x20MHz carrier aggregation, the maximum downlink rate can reach 150Mbps
- Comprehensive coverage of various network standards
- Support dual-screen different display and dual-touch control, the main screen supports up to 1920x1200@60fps, and the auxiliary screen supports up to 1920x1080@60fps
- Support dual camera function, up to 4 cameras
- Integrated multi-constellation GNSS receiver to meet the needs of fast and accurate positioning in different environments
- Support 1080P @60fps video recording and playback

 ARM Cortex-A53 64-bit processor (octa-core)	 Qualcomm GPU Adreno™ 506	 Android 7.1
 Cat 4 Max.150Mbps (DL) Max.50Mbps (UL)	 BT4.2 (BR/EDR+BLE)	 GPS+GLONASS+ BeiDou
 IEEE 802.11 a/b/g/n	 Powerful Multimedia function	 LCC + LGA Package

GH331 Specifications

Band Information - China

GH331-CE

LTE FDD: B1/B3/B5/B8

LTE TDD: B38/B39/B40/B41

WCDMA: B1/B8

EVDO/CDMA: BC0

GSM:850/900/1800MHz

Data

LTE

Cat 4 FDD: Max. 150Mbps (DL)/50Mbps (UL)

Cat 4 TDD: Max. 135Mbps (DL)/35Mbps (UL)

UMTS

DC-USDPA: Max. 42Mbps (DL)

DC-HSUPA: Max. 11.2Mbps (UL)

WCDMA: Max. 384Kbps (DL/UL)

TD-SCDMA

Max. 4.2Mbps (DL)/2.2Mbps (UL)

CDMA2000

EVDO:

Max. 3.1Mbps (DL)/1.8Mbps (UL)

1X Advanced:

Max. 307.2Kbps (DL/UL)

GSM

GPRS:

Max. 107Kbps (DL)/85.6Kbps (UL)

EDGE:

Max. 296Kbps (DL)/236.8Kbps (UL)

Electrical Parameters

Supply Voltage

3.4V~4.4V

Typ.3.8V

Power Consumption

73uA @shutdown

3.9mA @ sleep mode, typ.

GH331 Specifications

Electrical Parameters

RF Output Power

Class 4 (33dBm±2dB) for GSM850
Class 4 (33dBm±2dB) for EGSM900
Class 1 (30dBm±2dB) for DCS1800
Class 1 (30dBm±2dB) for PCS1900
Class E2 (27dBm±3dB) for GSM850 8-PSK
Class E2 (27dBm±3dB) for EGSM900 8-PSK
Class E2 (26dBm±3dB) for DCS1800 8-PSK
Class E2 (26dBm±3dB) for PCS1900 8-PSK
Class 3 (24dBm+1/-3dB) for WCDMA bands
Class 3 (24dBm+3/-1dB) for EVDO/CDMA BC0
Class 2 (24dBm+1/-3dB) for TD-SCDMA bands
Class 3 (23dBm±2dB) for LTE-FDD bands
Class 3 (23dBm±2dB) for LTE-TDD bands

RF Sensitivity(dBm)

LTE FDD B1: -98dBm
LTE FDD B3: -98dBm
LTE FDD B5: -99dBm
LTE FDD B8: -99dBm
LTE TDD B34: -99dBm
LTE TDD B38: -98dBm
LTE TDD B39: -99dBm
LTE TDD B40: -98dBm
LTE TDD B41: -98dBm
WCDMA B1: -109dBm
WCDMA B8: -110dBm
TD-SCDMA B34: -109dBm
TD-SCDMA B39: -109dBm
EVDO/CDMA BC0: -109dBm
EGSM900: -108dBm
DCS1800: -108dBm

Highlight Features

WLAN

2.4G, 802.11 a/b/g/n

GNSS

GPS/GLONASS/BeiDou

LTE Cat 4, Supports 2x20MHz carrier aggregation
Support diversity receive antenna (only support LTE B38/B40/B41 diversity reception)
Support 3GPP E-UTRA Release 12
Support dual-screen display
Support dual card dual standby
Firmware update via USB

Bluetooth

BT2.1+EDR/3.0/4.1 LE/4.2 BLE

Bandwidth

1.4/3/5/10/15/20MHz

General Features

Operation System

Android 7.1
(9.0 opt.)

Storage

16GB eMMC+2GB LPDDR3(Default)
64GB eMMC+4GB LPDDR3(Optional)

Operating Temperature Range

-40°C ~ +80°C

Size

35.0mm × 40.0mm × 2.50mm

Package

LCC + LGA Package

Weight

About 7.8g

GH331 Specifications

Audio & Video

VoLTE

Support VoLTE Ultra HD voice call

SRVCC/CSFB

Support SRVCC/CSFB voice fallback technology

Audio

Supports 24-bit/192kHz high-fidelity music playback

Wi-Fi Video

The highest codec
1080P @30fps

Video Encode and Decode

1080P @60fps

Interface

LCM Interface

4-lane MIPI_DSI0 + 4-lane MIPI_DSI1
WUXGA (1920×1200) @60fps

UART Interface

3 sets
Support hardware flow control
Maximum speed up to 4Mbps

USB Interface

Compliant with USB 3.0/2.0 specification
Support USB OTG

Touch Screen Interface

Capacitive Touch Screen

Antenna Interface

Main , Diversity , GNSS Antenna and
Wi-Fi & BT & FM Antenna Interface

Other Interfaces

I2C Interface: 5 Groups
(U)SIM Interface:2 Groups(1.8V/2.95V)
SD 卡Interface: 1 group(Support SD 3.0, 4-bit SDIO)
PWRKEY : 1.8V, Internal pull-up
SPI Interface: 2 Groups(1 can be multiplexed as UART; 1 group can be multiplexed as I2S, I2S supports Tx and Rx)
ADC Interface: 1 group
GPIO Interface: 15 groups

Camera Interface

3-way 4-lane MIPI_CSI, maximum rate 2.1Gbps/Lane
Supports 3 or 4 cameras
Through dual ISP, it can support up to 24M pixel photography

Audio Interface

Analog Audio:
Speakers, Earpieces, Headphones, Line Out. 3 groups of microphones support 1 group of noise-cancelling microphones

Certification

CCC SRRC NAL

* Represents under development

For more information and support, please visit www.yuntion.com For Business Cooperation: navy.yao@yuntion.com

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