



Intelligent Module

Ubiot GH331D

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










GH331D is a multi-network standard Smart LTE Cat 4 module based on Qualcomm quad-core 64-bit ARM Cortex-A53 processor launched by Yuntion, with built-in Qualcomm Adreno™ 702 GPU, and equipped with Android 11.0 operating system (10.0 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.

GH331D supports GPS+GLONASS+BeiDou multiple positioning systems, which greatly improves the positioning speed and accuracy.

GH331D integrates function-rich interfaces (such as LCM, camera, touch screen, microphone, speaker, UART, USB, I2C, Charge and SPI interface, etc.), which greatly expands its application in the M2M field and makes it widely used in smart cashiers machine, 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, Smart wear, vending machines, logistics cabinets and other equipment and industries.

Main Advantage

- Support LTE Cat 4, the maximum downlink rate can reach 150Mbps
- Comprehensive coverage of various network standards
- The screen supports up to 1680x720 (HD+)
- Support dual camera function, up to 3 cameras
- Integrated multi-constellation GNSS receiver to meet the needs of fast and accurate positioning in different environments
- Support 1080P @30fps video recording and playback
- Support charging, up to 5V 2A

 ARM Cortex A53 64-bit Processor (quad core)	 Qualcomm GPU Adreno™ 702	 Android 11
 Cat 4 Max.150Mbps (DL) Max.50Mbps (UL)	 BT5.0 (BR/EDR+BLE)	 GPS+GLONASS+ BeiDou
 IEEE 802.11 a/b/g/n/ac	 Powerful Multimedia Function	 LCC + LGA Package

GH331D Specifications

Band Information - China

GH331D-CE

LTE FDD: B1/B3/B5/B8

LTE TDD: B38/B39/B40/B41

WCDMA: B1/B8

EVDO/CDMA: BC0

GSM: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.

GH331D 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+5G, 802.11 a/b/g/n/ac

GNSS

GPS/GLONASS/BeiDou

LTE Cat 4

Support diversity receiving antenna (optional)
Support 3GPP E-UTRA Release 12
Support dual card dual standby
Firmware update via USB

Bluetooth

BT2.1+EDR/3.0/4.1 LE/4.2/5.0 BLE

Bandwidth

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

General Features

Operation System

Android 11

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

GH331D 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 @30fps

Interface

LCM Interface

4-lane MIPI FHD+ (720×1680)
@60fps

UART Interface

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

USB Interface

USB 2.0 (default) or 3.1 (optional),
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: 2Groups(1.8V/2.95V)
SD Card Interface: 1 Group(Support
SD 3.0, 4-bit SDIO)
PWRKEY: 1.8V, internal pull-up
SPI Interface: 2 Group(1 Group reuse
as UART; 1Group reuse as I2S, I2S
support Tx 和Rx)
ADC Interface: 1 Group
GPIO Interface: 15 Groups

Camera Interface

2-way 4-lane MIPI_CSI, max. speed
2.5Gbps/Lane
Support 3 sets of
Support up to 25M pixel photos
through dual ISP

Audio Interface

Analog Audio:
AUX output, earpiece, headphone,3
groups of microphones support 1
group of noise-cancelling
microphones

Certification

* Represents under development

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