



# Intelligent Module

## Ubiot GH300

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

GH300 is a series of multi-network standard intelligent LTE Cat 4 modules launched by Yuntion, equipped with Android operating system.










GH300 supports LTE FDD up to 150Mbps downlink and 50Mbps uplink data transmission, and is backward compatible with EDGE and GSM/GPRS networks to ensure that it can work well in areas lacking 3G and 4G networks; It also supports IEEE 802.11 a/b/g/n wireless transmission protocol and BT4.1 LE Bluetooth technology (Android 7.1 and above supports BT4.2).

GH300 supports MIMO and multiple receiving antennas can be used at the receiving end, thereby increasing the downlink rate, reducing the bit error rate and improving the communication quality. GH300 supports GPS+GLONASS+BeiDou multiple positioning systems, greatly improving the positioning speed and accuracy.

GH300 integrates function-rich interfaces (such as LCM, camera, touch screen, microphone, speaker, UART, USB, I2C interface, etc.), which greatly expands the application in the M2M field, and can be widely used in MID, PND, POS, routers, data cards, in-vehicle terminals, smart phones, digital billboards, security, and industrial-grade PDAs and other industries and equipment.

### Main Advantage

- Equipped with Android operating system, integrated Wi-Fi, Bluetooth and GNSS in one
- Comprehensive coverage of various network standards
- Supports MIMO technology to improve wireless communication data transfer rate and connection reliability
- Integrated multi-constellation GNSS receiver to meet the needs of fast and accurate positioning in different environments
- Adopt LCC+LGA package for easy placement and testing

 Smart LTE Cat 4 Max 150Mbps (DL) Max 50Mbps (UL)	 IEEE 802.11 a/b/g/n	 Android
 Max 42Mbps (DL) Max 5.76Mbps (UL)	 BT4.2 (BR/EDR+BLE)	 Multi-constellation GNSS
 USB2.0 High-speed Interface	 Powerful Multimedia Function	 LCC + LGA Package

# GH300 Specifications

## Band Information - China

### **GH300-CE:**

LTE FDD: B1/B3/B5/B8  
LTE TDD: B38/B39/B40/B41  
TD-SCDMA: B34/B39  
EVDO/CDMA: BC0  
WCDMA: B1/B8  
GSM: 900/1800MH

### **GH300-CM:**

LTE TDD: B38/B39/B40/B41  
TD-SCDMA: B34/B39  
GSM: 900/1800MHz

### **GH300-CUT:**

LTE FDD: B1/B3/B5/B8  
EVDO/CDMA: BC0  
WCDMA: B1/B8  
GSM: 900/1800MHz

## Data

### **LTE**

LTE FDD: Max 150Mbps (DL)/Max 50Mbps (UL)  
LTE TDD: Max 130Mbps (DL)/Max 30Mbps (UL)

### **UMTS**

DC-HSDPA: Max 42Mbps (DL)  
HSUPA: Max 5.76Mbps (UL)  
WCDMA: Max 384Kbps (DL/UL)

### **TD-SCDMA**

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

### **CDMA2000**

EVDO: Max 3.1Mbps (DL)/Max  
1.8Mbps (UL)  
1X Advanced: Max 307.2Kbps (DL/UL)

### **GSM**

GPRS: Max 107Kbps (DL)/Max  
85.6Kbps (UL)  
EDGE: Max 296Kbps (DL)/Max  
236.8Kbps (UL)

## Electrical Parameters

### **Supply Voltage**

3.5V~4.2V  
Typ.3.8V

### **Power Consumption**

22uA @shutdown  
4mA @sleep mode, typ.

# GH300 Specifications

## Electrical Parameters

### RF Output Power

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

### RF Sensitivity(dBm)

LTE FDD B1: -100dBm	LTE TDD B39: -100dBm
LTE FDD B2: -100dBm	LTE TDD B40: -100dBm
LTE FDD B3: -100dBm	LTE TDD B41: -100dBm
LTE FDD B4: -100dBm	WCDMA B1: -109dBm
LTE FDD B5: -100dBm	WCDMA B2: -109dBm
LTE FDD B7: -100dBm	WCDMA B4: -109dBm
LTE FDD B8: -100dBm	WCDMA B5: -110dBm
LTE FDD B12: -100dBm	WCDMA B6: -109dBm
LTE FDD B13: -100dBm	WCDMA B8: -110dBm
LTE FDD B18: -100dBm	WCDMA B19: -110dBm
LTE FDD B19: -100dBm	TD-SCDMA: -108dBm
LTE FDD B20: -99dBm	EVDO/CDMA: -109dBm
LTE FDD B25: -99dBm	GSM 850: -109dBm
LTE FDD B26: -99dBm	EGSM 900: -109dBm
LTE FDD B28: -99dBm	DCS 1800: -109dBm
LTE TDD B38: -100dBm	PCS 1900: -109dBm

## Highlight Features

### WLAN

GH300-CE/CM/CUT: 2.4G, 802.11  
a/b/g/n

### GNSS

GPS/GLONASS/BeiDou

### Bandwidth

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

### Bluetooth

BT2.1+EDR/3.0/4.1/4.2LE (Android  
7.1 and above supports BT4.2)

Support 3GPP E-UTRA Release 10

Support diversity receiving antenna, downlink support MIMO 2×2

(U)SIM Card Detect

Firmware update via USB

## General Features

### Operation System

Android 5.1/6.0/7.1

### Storage

8GB eMMC+1GB LPDDR3  
16GB eMMC+2GB LPDDR3

### Operating Temperature Range

-35°C ~ +80°C

### Size

29mm × 39.5mm × 2.6mm

### Package

LCC + LGA Package

### Weight

About 6.6g

# GH300 Specifications

## Audio & Video

### Voice Codec Mode

HR/FR/EFR/AMR/AMR-WB

### Echo Algorithm

Echo Cancellation/Noise Suppression

### VoLTE

Support VoLTE (Voice over LTE)

### Audio

MP3, AAC+, eAAC, AMR-NB, -WB,  
G.711, WMA 9/10 Pro

### Video

Encode: 30fps 720P (H.264), 30fps WVGA(MPEG-4/VP8)  
Decode: 30fps 1080P (H.264/MPEG-4/VP8/H.265DivX4/5/6), 30fps WVGA (H.263)

## Interface

### LCM Interface

4-lane MIPI\_DSI, Max. speed up to  
HD (720P) @60fps

### Camera Interface

MIPI\_CSI, Max speed up to 1.5Gbps/lane;  
Support 2 group of cameras;  
Back Camera use 2 group of MIPI\_CSI, max  
support up to 8MP;  
Front camera use 1 group of MIPI\_CSI,  
max support 2MP

### Audio

2 analog audio inputs  
3 analog audio outputs

### Touch Screen Interface

Capacitive Touch Screen

### USB 2.0 Interface

× 1  
Support USB OTG

### Other Interfaces

SD Card interface× 1, SD 3.0 ; 4-bit SDIO  
(U)SIM interface × 2,support 1.8V/2.95V  
I2C interface× 3  
ADC × 1,general ADC interface  
SPI interface × 1 ,multiplexed with GPIO  
GPIO interface× 22  
PWM interface × 1  
Motor drive interface × 1  
Button interface: power button, volume up,  
volume down

### Antenna Interface

Main Antenna, Diversity Antenna,  
GNSS Antenna, Wi-Fi/BT and FM  
antenna interface

### UART Interface

× 2  
Maximum rate of 4Mbps per group  
One set supports hardware flow  
control

## Certification

CCC(China)

\* Represents under development