

# Cat-M/NB-IoT Module

## GM100

 LCC+LGA Form Factor	 NB-IoT/Cat-M/GPRS	 CoAP/MQTT
 Ultra Low Power Consumption	 2 x UARTs	 GNSS
 -40°C ~ 85 °C	 PSM & eDRX	 VoLTE
 Embedded TCP/UDP	 Enhanced AT Commands	 Ultra small package

## M2M Application

**GM100** is a ultra small package NB-IoT/Cat-M/GPRS module. The dimensions of GM100 is : 20mm × 24mm× 2.3mm , and it is fully compatible with 3GPP R14 standard. GM100 can support VoLTE under Cat-M mode, that means it can support mobility and lower power consumption, and these three advantages make it more popular in Smart meter, Smart city, wearable devices and tracker industries.

GM100 is designed for low-power, wide-area, massive IoT connection, multiple protocols including CoAP, TCP/UDP, MQTT, OMA-LWM2M, DTLS , CM oneNET are embedded in it. GM100 can support PSM and eDRX low-power working mode.



## General Features

- ❑ LCC+LGA Form Factor
- ❑ Dimensions: 20mm × 24mm × 2.3mm
- ❑ 3GPP R14 support
- ❑ VoLTE\*
- ❑ GNSS
- ❑ Band support:
  - NB-IoT/Cat-M  
Band1/2/3/4/5/8/12/13/14\*/18/19/20/25/26/28/66/71\*/85
  - GPRS Band 2/3/5/8

## Data Rate

- ❑ LTE-CatM
  - Uplink 1119Kbps / Downlink 588Kbps
- ❑ NB-IoT
  - Uplink 158.5Kbps / Downlink 127Kbps
- ❑ EDGE (Multi-slot Class 12)
  - Uplink 236.8Kbps / Downlink 296Kbps
- ❑ GPRS (Multi-slot Class 10)
  - Uplink 85.6Kbps / Downlink 107Kbps

## GM100 Series

PID	Band
G1A	NB-IoT/Cat-M: Band1/2/3/4/5/8/12/13/14*/18/19/20/25/26/ 28/66/71*/85 GPRS: Band 2/3/5/8

\*Note: Band14 only support Cat M1  
Band71 only support Cat NB1/NB2  
VoLTE is under Developing

## Electrical & Sensitivity

- ❑ RF Power:
  - NB-IoT:  $23 \pm 2.7$ dBm
- ❑ Power Supply:
  - 3.0V –4.2V (3.6V is recommended)

## Interfaces

- ❑ UART
- ❑ USB
- ❑ SIM interface (1.8V)
- ❑ RF PAD for Primary Antenna
- ❑ Reset & Power-on
- ❑ ADC
- ❑ IIS
- ❑ GPIO
- ❑ WAKEUP\_IN/WAKEUP\_OUT

## Applications

- ❑ CoAP/OMA-LWM2M/CM oneNET/MQTT
- ❑ TCP/UDP
- ❑ HTTP/HTTPS
- ❑ FOTA
- ❑ GOSUNCN extended AT commands

## Environmental

- ❑ Operation temperature : -30° C to +75° C
  - Extreme Operating temperature : -40° C to +85° C
- ❑ Storage temperature : -40° C to +85° C
- ❑ Humidity : : 5%~ 95%