

## LTE /GSM Module

### GM196

- ◆ Domestic core
- ◆ Low cost
- ◆ High performance
- ◆ Multi-functions



**GM196** is a high-performance, ultra-small LGA+LCC package, and cost-effective LTE/GSM wireless communication module launched by GOSUNCN. The module supports standard Mini PCIe packages to meet the application requirements of products in different industries. It supports FDD/TDD LTE Cat.1, and is compatible with R13 protocol, can achieve good coverage, has ultra-low power consumption, low latency and good mobility, making mobility scene services simpler and more stable.

The GM196 module supports a variety of network protocols (TCP/UDP/FTP/HTTP/FILE/MQTT/SSL/TLS, etc.) to broaden the application scope; at the same time, it supports a variety of functions (remote wake-up, remote upgrade, etc.) to reduce later operation and maintenance costs; support dual-card dual-standby data single-pass, SIM hot-swap, VoLTE calls and other functions.

GM196 can be widely used in industries such as consumer electronics, smart meter reading, wearable devices, POS, industrial control, asset tracking, POC, and security systems in the M2M and IoT fields.

- LCC+LGA 21.9×22.9 package
- Support Mini PCIe package
- Support LTE FDD/LTE TDD/GSM
- High cost performance and high reliability
- Support FOTA
- Support rich hardware interfaces: PCM/Audio/ADC/USB/UART/I2C/GPIO
- Support multiple network protocols: TCP/UDP/FTP/ HTTP/FILE/MQTT/SSL/TLS
- Chip adopts 22nm process, better supply chain



LCC+LGA Package



Compatible design



LTE FDD/TDD/GSM



Low power consumption low cost



Multiple network protocols



Industrial-grade reliability



Comprehensive certification



FOTA

Note: The pictures of module are for reference only, please refer to the actual product .

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## GM196 Series

PID	Band	OS	FLASH
E1A	LTE FDD: B1,B3,B7,B8, B20,B28	RTOS	16M
E1B	LTE TDD: B38,B40, B41 GSM: B3, B8		8M
L1A	LTE FDD: B1,B2,B3,B5,B7,B8,B28,B40	RTOS	16M
L1B	GSM quad-band		8M
E1BF	LTE FDD: B1,B3,B8,B20,B31 GSM: B3, B8	RTOS	8M

## General Features

- ❑ Package: LCC +LGA (80 LCC pins + 82 LGA pins)
- ❑ Dimensions: 21.9 × 22.9mm × 2.4mm
- ❑ Protocol version: 3GPP Release 13
- ❑ Weight: about 2.2g

## Electrical characteristics

- ❑ Transmit power:
  - LTE: 23 ± 2.7dBm (Power Class 3)
  - GSM900 : 33 ± 2dBm (Power Class 4)
  - GSM1800: 30 ± 2dBm (Power Class 1)
- ❑ Voltage range:
  - 3.4V ~ 4.5V (recommended value 3.8V)

## Data characteristics

- ❑ LTE
  - LTE FDD 10Mbps(DL) / 5 Mbps(UL)
  - LTE TDD 8.96Mbps(DL) / 3.1Mbps(UL)
- ❑ GSM
  - EDGE 236.8 Kbps(DL) / 236.8 Kbps(UL)
  - GPRS 85.6 Kbps(DL) / 85.6 Kbps(UL)

## Interfaces

- ❑ USB 2.0 (480 Mbps)
- ❑ UART × 2
- ❑ ADC
- ❑ SIM (1.8/3.0V)
- ❑ I2C
- ❑ Main antenna
- ❑ LED
- ❑ Reset & Power-on
- ❑ WAKEUP-IN & WAKEUP-OUT
- ❑ PCM&AUDIO

## Applications

- ❑ FOTA/UART/USB update
- ❑ TCP/UDP/FTP/ HTTP/FILE/MQTT/SSL/TLS
- ❑ GOSUNCN enhanced AT command
- ❑ PCM & Analog voice
- ❑ VOLTE
- ❑ Android 4.x/5.x/6.x/7.x/8.x/9.x RIL
- ❑ Linux USB Driver
- ❑ Windows 7/8/10

## Environmental adaptability

- ❑ Normal temperature range: -30°C ~ +75°C
- ❑ Extreme Operating temperature: -40°C ~ +85°C
- ❑ Humidity range: 5% ~ 95%

## Certification

- ❑ CE/ROHS\*

Note: 1. \* means function is under development.

