












# G30 GSM/GPRS Module

Delivering seamless mobility to the M2M world



-  Quad Band
-  GPRS Class 10
-  Ext. RF
-  Internal TCP/IP, UDP
-  Over The Air
-  Ext. Temperature
-  RoHS
-  Fully Type Approved
-  Compact LGA Package

## Introducing the SMT Series.

Motorola presents an ultra compact, ultra reliable wireless module. The G30 GSM/GPRS module is part of Motorola's new Surface Mount Technology (SMT) series, allowing you to benefit from small dimensions and cost effective design due to its Land Grid Array (LGA) non-connectorized form factor. These features make it an ideal choice for small host devices for the automated metering industry as well as other M2M segments including telematics, security, and ePOS (Electronic Point-of-Sale).

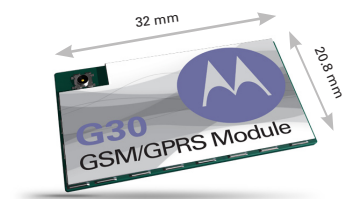
## Optimizing high-volume deployments.

The G30 utilizes surface-mount technology (SMT), eliminating board-to-board connectors and RF cables, making it a cost effective solution. The G30 features Motorola's industry leading RF performance, ensuring reliable network connectivity for real-time communication – a critical requirement for M2M solutions. And because the G30 supports firmware upgrade over-the-air (FOTA), your solution is ensured to stay up-to-date for the long run.

## Answering your demands.

With an extended temperature range, and robust design, the G30 is designed to meet the demanding quality standards required for telematics applications. The G30 also features jamming detection, enabling the module to initiate a series of commands like activating an alarm system upon detecting disruption of cellular connectivity.

Actual size



## Taking quality to heart.

Motorola is known for its culture of quality for more than 80 years. This heritage is reflected in the G30 which is designed for Digital Six Sigma quality standards. Harsh layout rules and accelerated life tests are part of Motorola's relentless efforts to ensure the best outcome that will give you the peace of mind you need when rolling out your product to market.

## Supporting you all the way.

At Motorola we offer our customers devoted support throughout the deployment process including initiation, development, integration and certification, as well as ongoing technical support during and after implementation. Our dedicated team carry out particular efforts, aimed to meet your needs with the utmost satisfaction.

# G30 Product Specifications

## Product Features

### Supported Bands

- Quad Band GSM  
850/900/1800/1900 MHz

### Physical

- Size: 32.0 x 20.8 x 3.4mm
- Mounting: SMT device with 64 pins, Pitch 1.27mm
- Weight: <5 grams

### Environmental

- Operating Temperature: -30°C to +85°C
- Storage Temperature: -40°C to +85°C

### Firmware Upgrade

- Firmware upgrade Over-the-Air (FOTA)

### Programmable Application Processor

- C Language
- Application Space: TBD

## Performance

### Operating Voltage

- Voltage: 3.5V – 4.2V

### Current Consumption

- <90µA (power off mode)
- <1.6mA (GSM, Idle Mode @ DRX=5)
- <300mA (GSM, Talk Mode @850/900 MHz, PCL = 5, P = 33dBm)
- <250mA (GSM, Talk Mode @1800/1900 MHz, PCL = 0, P = 30dBm)
- <1.6mA (GPRS, Attach Mode @ DRX = 5)
- <450mA (GPRS 4+1, TBF Mode @1800/1900 MHz, PCL = 0, P = 3-dBm)

### TX Power

- 850/900 MHz – Class 4 (2 Watts)
- 1800/1900 MHz – Class 1 (1 Watt)

### Typical RX sensitivity

- -108dBm (6dB margin on top of spec)

## Interfaces

### Connectors

- All connectors via LGA pads
- RF contact via LGA pads
- RF U.FL connector is optional

### SIM Card

- 1.8V / 3V (Contacts via LGA pads)
- SIM Toolkit R99

### Connectivity

- UART 8 pins: BR up to 460.8Kbps
- Auto BR
- I2C (Master)
- SPI

## Data Features

### GPRS

- Embedded TCP/IP and UDP/IP Stack
- Embedded FTP
- Multi-slot class 10 (4 Down; 2 Up; 5 Total)
- Coding Scheme CS1 – CS4

### CSD

- CS data calls (transparent / Non-Transparent) up to 9.6kbps

### SMS

- Classes 0,1,2, & 3
- Cell Broadcast
- Concatenated SMS
- Text and PDU modes
- Reception of SMS during CSD calls
- Reception of SMS via GSM or GPRS

### Fax

- Bearer service fax
- Group 3, Class 2.0

## Control / Status Indications

- 10 dedicated GPIOs (up to 23 GPIOs with alternate functions)
- 1 A2D input
- Wake up & Sleep mode mechanism
- Temperature sensor
- Service indicator
- RTC supply output
- Ext. Reset In
- Antenna Detection
- Jamming Detection

## Voice Features

- Telephony
- Digital/Analog audio
- Headset mode
- Hands free mode
- Ringer mode (supporting Midi files)
- Vocoders EFR/HR/FR/AMR
- DTMF support

## Audio Control

- Echo cancellation
- Noise suppression
- Side tone

## Supplementary Service

- Call hold/resume; waiting; multiparty
- Call forwarding
- Call diverting
- Explicit call transfer
- Call barring
- Call completion to busy subscriber
- AOC
- Calling line identification presentation / restriction (CLIP / CLIR)
- Connected line identification presentation / restriction (COLP / COLR)
- USSD
- Network identity and time zone (NITZ)

## AT Command Set

- 3GPPTS 27.007
- 3GPPTS 27.005
- 3GPPTS 27.010
- Proprietary AT commands

## Accessories

- Firmware data loader over serial connection
- Data logger
- Developer Kit

## Regulatory and Approvals

- PTCRB
- IC
- R&TTE
- FCC
- EMC
- GCF
- RoHS

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