

GSM-GPS click



PID: MIKROE-2382

RS Product Code: [136-0840](#)

GSM-GPS click is a mikroBUS add-on board with a SIM808 module that combines GSM/GPRS and GPS into a single device. Ideal for remote tracking devices in any shape or form.

The high-performance GSM/GPRS engine works on GSM, EGSM, DSC and PCS frequencies. The GPS has a 1 second TTF (Time To First Fix) from a hot start and 30 seconds from a cold start. Tracking sensitivity is -165 dBm.

The board has two antenna connectors, one for GSM the other for GPS. The bottom side has a SIM card slot and a Micro USB connector for interfacing with a PC.

GSM-GPS click communicates with the target board MCU through mikroBUS UART interface, with additional functionality provided by STAT, PWRKEY, RTS, RS, and CTS. Beside the mikroBUS, the board has additional pins for connecting speakers and a microphone to the GSM engine.

GSM-GPS click uses the 3.3V and 5V power supply.

Specification

Product Type	GSM - GPS
Applications	GSM and GPS, remote functionality.
On-board modules	SIM808, SIM card slot, antenna connectors, Micro USB slot
Key Features	quad-band GSM: 850, EGSM 900, DCS 1800, PCS 1900, GPS TTF: 1s cold start; 28s warm start; 30s cold start, GPS Sensitivity: -148 dBm cold start; -159 re-acquisition; -165 dBm tracking
Key Benefits	Automatically searches for frequency bands, SMS storage
Interface	UART
Power Supply	3.3V and 5V
Compatibility	mikroBUS
Click board size	L (57.15 x 25.4 mm)
Weight	36g

The following are the most important features of the GPRS module:

- Quad-band 850/900/1800/1900MHz
- GPRS multi-slot class 12/10
- GPRS mobile station class B
- Compliant to GSM phase 2/2+
- Class 4 (2 W @ 850/900MHz)
- Class 1 (1 W @ 1800/1900MHz)
- Dimensions: 24*24*2.6mm
- Weight: 3.3g
- Control via AT commands (3GPP TS 27.007, 27.005 and SIMCOM enhanced AT Commands)
- Supply voltage range 3.4 ~ 4.4V
- Low power consumption
- Operation temperature:-40°C ~85°C

Specification for GPS

- Sensitivity
- Tracking: -165 dBm
- Cold starts : -148 dBm
- Time-To-First-Fix
- Cold starts: 32s (typ.)
- Hot starts: <1s
- Warm starts: 3s
- Accuracy
- Horizontal position : <2.5m CEP

Specifications for GPRS Data

- GPRS class 12: max. 85.6 kbps (downlink/uplink)
- PBCCH support
- Coding schemes CS 1, 2, 3, 4
- PPP-stack
- USSD
- Specifications for SMS via GSM/GPRS
- Point to point MO and MT
- SMS cell broadcast
- Text and PDU mode

Programming

This code snippet sends an SMS message with current GPS position coordinates.

```
1 void gsm_act_send_info()
2 {
3     char tmp[ 60 ] = { 0 };
4     char msg[ 160 ] = { 0 };
5     strcpy( tmp, "AT+CMGS=" );
6     strcat( tmp, tmp_num );
7     strcpy( msg, "LAT : " );
8     strcat( msg, latitude );
9     strcat( msg, "\r\nLON : " );
10    strcat( msg, longitude );
11    strcat( msg, "\r\nALT : " );
12    strcat( msg, altitude );
13    at_cmd( tmp );
14    at_cmd_addition( msg );
15 }
```

Code examples that demonstrate the usage of GSM-GPS click with MikroElektronika hardware, written for mikroC for ARM, AVR, FT90x, PIC and PIC32 are available on Libstock.

Downloads

[GSM-GPS click Examples](#)

[GSM-GPS click Schematic](#)