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# MMCModem™ GPRS

## Embedded Cellular Modem



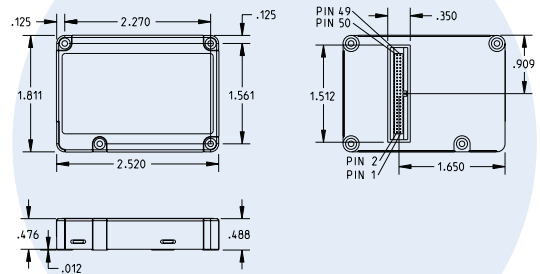
The MMCModem™ GPRS cellular modem offers standards-based quad-band GPRS Class 10 performance. Packaged in a compact, rugged industrial chassis this quick-to-market communications device allows developers to add wireless communication to products with a minimum of development time and expense. The MMCModem GPRS cellular modem is based on industry-standard open interfaces and can be board-to-board or board-to-cable mounted.

## Features

- GPRS Class 10
- Quad-band 850/900/1800/1900 MHz
- Packet data up to 85K bps
- Embedded TCP/IP stack
- Circuit-switched data (GSM) up to 14.4K bps transparent and non-transparent
- Short Message Services (SMS)
- Supports DTMF transmission
- Allows for emergency calls, Full Rate, Enhanced Full Rate and Half Rate (FR/EFR/HR)
- Compatible with supplementary services
- Advanced management features include phone book management, fixed dialing number, real time clock and alarm management
- MMCX antenna connector and SIM socket
- Board-to-board or board-to-cable mounting
- Serial interface supports DTE speeds to 115.2K bps
- AT command compatible
- MNP 2 error correction, V.42bis compression
- Two-year warranty

## Benefits

- Compact, rugged industrial chassis design
- Board-to-board or board-to-cable mounting
- Quick time-to-market
- Carrier approved



## Highlights

**Applications.** The MMCModem GPRS cellular modem is targeted at applications that periodically need to send or receive data over a wireless network. It is an ideal solution for:

- Appliances
- ATM terminals
- Automotive
- Data collection
- Gas pumps
- Industrial and medical remote monitoring systems
- Remote diagnostics
- Remote metering
- Security systems
- Vending/gaming machines
- Other devices requiring wireless connectivity

**Reduces Development Time.** The MMCModem GPRS cellular modem can make your existing and next generation device, machine, or system, communication-ready without requiring significant hardware changes to its design. It actually provides faster time-to-market because it relieves the burden and expense of obtaining PTCRB and RF approvals.

**Internet-enabled.** The MMCModem GPRS cellular modem includes an embedded TCP/IP protocol stack to bring Internet connectivity to any device. Using the Internet protocols and the wireless connection to an IP network, it sends and receives data over the Internet.

**MMCModem Pin-Out.** The MMCModem GPRS cellular modem interfaces easily with existing products through a standard serial communication channel.

The serial DTE channel is capable of transfer speeds to 115.2K bps and can be interfaced directly to a UART or microcontroller. The complete on-board RF transceiver interfaces with an antenna for direct connection to wireless SMS, circuit-switched dial-up or packet data networks.

**Developers Kit.** The Developer's Kit allows you to plug in the communications device and use it for testing, programming and evaluation. The kit includes one development board with RS-232 DB-25 connector, universal power supply, antenna and RS-232 cable.

### Pin Connector

GND	1	2	GND
+5V	3	4	+5V
CT109/DCD	5	6	GND
GPI04	7	8	SPK2N
CT125/RI	9	10	SPK2P
Flashing LED	11	12	SPK1P
CT106/CTS	13	14	SPK1N
ON/~OFF	15	16	MIC2P
AUXV0	17	18	MIC2N
~RST	19	20	MIC1P
GND	21	22	MIC1N
BOOT	23	24	GND
CT103/TX	25	26	GPI00
CT107/DSR	27	28	CT104/RX
CT108-2/DTR	29	30	CT105/RTS
COL3	31	32	COL4
COL1	33	34	COL2
ROW4	35	36	COL0
ROW2	37	38	ROW3
ROW0	39	40	ROW1
NC	41	42	SPL_EN
SPL_I/O	43	44	SPL_CLK
SIMCLK	45	46	SIMRST
SIMVCC	47	48	SIMPRES
SIMDATA	49	50	GPO0

## Specifications

### Packet Data Features

- GPRS Class 10, PBCCH support
- Coding Schemes: CS1 to CS4
- Embedded TCP/IP stack

### Circuit Switched Data/Fax Features

- Asynchronous, transparent & non-transparent up to 14.4K bps, MNP 2 & V.42bis

### SMS Features

- Text & PDU, Point-to-Point, cell broadcast

### IP Protocols Supported

- DNS Resolve, FTP client, IP, IPCP, LCP, PPP (dial-out), TCP socket, UDP socket, CHAP, PAP

### Connectors

- 50-pin
- Antenna: MMCX
- SIM: Standard 3V SIM receptacle (5V SIM with external level shifter)

### Power Requirements

- 5VDC; 400mA typical, 1.4A maximum

### Physical Description

- 2.5" w x 1.8" h x 0.48" d; 2.8 oz.
- (6.4 cm x 4.6 cm x 1.2 cm; 79 g)

### Operating Environment

- 30° to +70° C

### Certifications

- CE Mark
- EMC: FCC Part 2, 15, 22, 24, EN 55022, EN 55024
- Safety: cUL, EN 60950, UL 60950
- Network: PTCRB

## Ordering Information

Product	Description	Region
MTMMC-G-F4*	GSM/GPRS Modem	Global
MTMMC-G-F4-ED†	GSM/GPRS Modem	Global

\* Quad-band Modem, 850/1900 MHz default

† Quad-band Modem, 900/1800 MHz default

Made in Mounds View, MN, U.S.A.

Features and specifications are subject to change without notice.

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