

Mobiapps M100

OEM Transceiver

The m100 OEM Transceiver provides worldwide satellite data transmit / receive capabilities for customers involved in satellite-based tracking and industrial remote communications.

The m100 operates over the ORBCOMM low-earth orbit satellite network, providing unlimited global coverage with no blockage.

It can significantly improve asset utilization by allowing clients to monitor, track, and manage their fixed and mobile assets around the world.

The three chip m100 OEM transceiver includes the Analog Devices Blackfin® DSP, MobiApps' m1375 Analog Module, and a GPS RF down converter, creating a fully integrated satellite tracking device. Additional field-proven features make the m100 an ideal choice for managing and monitoring remote and mobile assets.



Advantages of the m100:

- ☒ Designed for OEM use
- ☒ Small form factor
- ☒ Developer friendly
- ☒ Simple mounting to PCB
- ☒ SAE J1455 specifications
- ☒ Host "C" applications
- ☒ Built for harsh environments
- ☒ Optional low-cost GPS

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CHARACTERISTICS

Developers and system integrators can leverage the m100's low cost and high-performance to automate and enhance their customers' operations. Applications can be quickly written in the C programming language with MobiApps' complete Applications Programming Interface (API). The m100's API provides control for satellite communications, GPS, power management, and digital / analog / serial interfaces. The m100's processor memory architecture supports over-the-air reprogramming, greatly simplifying field logistics.

Product Merits:

With the m100's versatility, users can quickly implement solutions that are optimized for their tracking and monitoring applications.

Features include:

- Global LEO satellite coverage (no blockage)
- Industrial grade temperature, shock & vibration
- Very low receive and transmit power
- Wide-range power supply input
- Broad range of digital and analog I/O
- Two programmable serial interfaces
- Ample program and nonvolatile memory
- Complete API in C programming language
- Popular Fusion embedded RTOS
- Optional 12-channel tightly-integrated GPS
- Optional CAN Bus interface



Distributor for Spain and Portugal:



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PRODUCT SPECIFICATIONS

- **Application Interface:**

40-pin 1.27mm pitch male interface header
Three Serial Ports:
ORBCOMM Serial, 3.3V, 7-wire
Application Programmable, 3.3V, 3-wire
Diagnostic, RS232, 2-wire
CAN bus: Optional, CAN 2.0B (3.3V)
Digital I/O: 14 digital or 12 with CAN bus option, all configurable as input or output
Analog Inputs: Four 10-bit (3.3 V levels)
Fast Analog Input: Optional, 12-bit, 20 KSPS
Wake Triggers: Scheduled using onboard RTC; activation of serial port DTR; four digital inputs

- **Power:**

External Input Voltage: 9 – 18 VDC
Conditioning: SAE J1455
Includes 100V load dump
ORBCOMM Tx: 1.8 A @ 12 V (pulse current)
ORBCOMM Rx: 65 mA @ 12 V
With frame save mode: 45 mA @ 12 V
Sleep Mode: < 50 µA @ 12V
GPS: 30 mA @ 12 V

- **Satellite Communications:**

MMCX Pin Plug 50 ohm Connector
Minimum Detectable Signal: -120 dBm (typical)
Transmit Power: 5 Watts Nominal
TX: 148-150.05 MHz; Rx: 137-138 Mhz

- **Application Programming:**

Program / Data Memory (Flash): 6 MB
SDRAM: 16 MB
Language: C/C++ on RTOS
Environment: ADI Visual DSP w/JTAG
Flash File System

- **Environmental:**

Operating Temperature: -40°C to +85°C
Relative Humidity: 0% to 95% non-condensing
Operating Shock: Exceeds SAE J1455 levels
Operating Vibration: Exceeds SAE J1455 levels

- **Mechanical:**

OEM: 88 x 63 x 22 mm (3.5" x 2.4" x 0.9")
PCB with RF Shielding; 4-hole M2 mounting

- **GPS:**

MMCX Socket Jack 50 ohm Connector
Number of Channels: 12
Cold Start: < 52 seconds TTFF (90%)
Hot Start < 10 seconds (90%)
Designed for use with active 3 V antenna
Horizontal Accuracy: < 11 meters (90%)



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