



m100

m100 OEM Satellite Transceiver

The m100 OEM Transceiver provides worldwide satellite data transmit / receive capabilities for asset 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, GPS RF downconverter and MobiApps' RF ASIC, 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
- ▶ Intelligent GPS

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
- ▶ 12-channel tightly-integrated GPS
- ▶ Optional CAN Bus interface



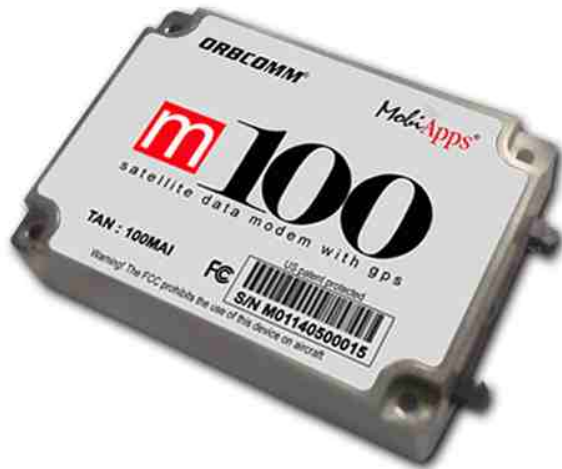
m100 Product Specifications

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

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



Power:

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

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%)

Specifications are subject to change. Please consult a MobiApps® sales representative for the latest product information.

MobiApps® is a leading provider of terrestrial and satellite technologies for industrial remote communications. MobiApps® designs and manufactures communications chipsets, transceiver modules and software platforms for applications in remote monitoring, asset tracking, and other equipment management for global customers. By merging technological advances in GPS, satellite communications, terrestrial wireless technologies and the Internet, MobiApps® offers cost-effective and integrated platforms for delivering industrial applications and machine-to-machine communications. MobiApps® is ISO 9001:2000 certified.