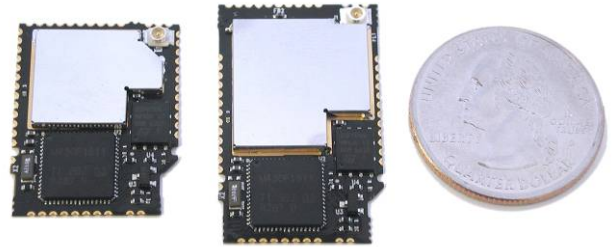


Tmote Mini

Tmote Mini™ and Tmote Mini Plus™

Building on the highly successful Tmote Sky, Moteiv introduces Tmote Mini and Tmote Mini Plus – the latest generation of wireless sensor network (WSN) hardware.



Tmote Mini (left) and Tmote Mini Plus (center) (actual size)

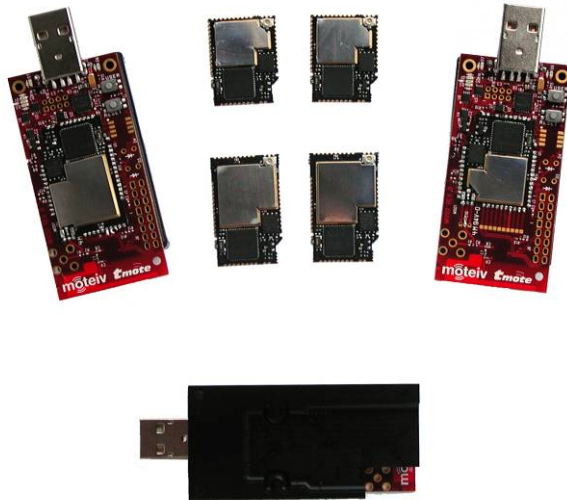
KEY FEATURES:

- ❖ Standard Form Factor: miniSDIO™, allowing for standardized connections
- ❖ Small size: 25.4 mm x 20 mm (less than 1 square inch)
- ❖ Ultra-low power consumption (<1uA sleep, 2 mA active, 19mA tx/rx)
- ❖ Texas Instruments MSP430 microcontroller (8Mhz, 16-bit, 48kB Flash, 10kB RAM)
- ❖ TI/Chipcon CC2420 2.4 Ghz IEEE 802.15.4-compliant transceiver.
- ❖ ST Micro M25P80 1MB EEPROM onboard memory.
- ❖ Multiple interfaces for UART, SPI, I2C, 1-wire as well as 8 ADC signal inputs and 2 DAC output channels.
- ❖ FCC-based RF shielding standard (FCC-certification expected Q207)
- ❖ Software and drivers available on Moteiv's website and CD

Moteiv's **Tmote Mini** combines a Texas Instruments MSP430 microcontroller with a TI/Chipcon CC2420 low-power radio in an industry-standard miniSDIO™ form factor. The Tmote Mini forms the "mote core" of WSN solutions, putting all the required hardware and software in a single one square inch package. This modular approach allows developers, OEMs, and system integrators to concentrate on their application needs rather than WSN platform development. For applications that require longer communication range, the **Tmote Mini Plus** is the same "mote core" as the Tmote Mini but also includes an integrated 100mW power amplifier.

Tmote Mini reflects Moteiv's extensive experience deploying real-world products into real-world applications; Moteiv helped create the WSN industry through our seminal work at UC Berkeley, and continued to foster it through our groundbreaking Tmote Sky product line. The Tmote Mini establishes a new standard of ease in deploying WSN solutions and is available to wirelessly enable your solution today.





SPECIFICATIONS:

Texas Instruments MSP430 Microcontroller	
Architecture	16-bit
Bus Speed	8 MHz
Program Memory	48 kB
RAM	10 kB
External Memory	1024 kB
Sleep Current	< 1µA
Active Current	2 mA
Tx/Rx Current	19 mA
TI/Chipcon CC2420 Transceiver	
Frequency	2400-2483 MHz (ISM Band)
Optimal Outdoor Range	Up to 125m (Tmote Mini)
Optimal Outdoor Range	Up to 500m (Tmote Mini Plus)
Optimal Indoor Range	Up to 30m (Tmote Mini)
Optimal Indoor Range	Up to 100m (Tmote Mini Plus)
RF Output Power	-25 to 0 dBm (Tmote Mini)
RF Output Power	+20 dBm (Tmote Mini Plus)
Data Rate	250 kbps
Antenna	Onboard pins or U.FL connector
Characteristics	
Operating Voltage	2.1 to 3.6 V
Size (L-W-H) in mm	25 x 20 x 1.8 (Tmote Mini)
Size (L-W-H) in mm	32 x 20 x 1.8 (Tmote Mini Plus)
Form Factor	Standard miniSDIO
Operating Temperature	-40 to +85 C, Industrial Range
Full RF-shielding	Built-in
RoHS Compliance	Meets all EU directives
FCC Certification	Expected Q2 2007
IC Certification	Expected Q2 2007

WHAT'S INCLUDED:

The Tmote Mini Development Kit contains everything you need to start designing wireless sensor solutions. The kit includes:

- ❖ Two Tmote Mini motes with standard power output, small size, integration flexibility and all the advantages of Tmote Mini's modular design.
- ❖ Two Tmote Mini Plus motes with an additional +20dBm wireless output power for greater communication range.
- ❖ Two Development Boards with Tmote Mini mote-cores built-in (one Tmote Mini and one Tmote Mini Plus.) Take advantage of the extensive connectivity options of Tmote Mini without designing your own hardware.
- ❖ One Programming Fixture. The Programming Fixture allows specialized applications to be easily loaded onto the Tmote Mini hardware platform.
- ❖ Moteiv Software. Moteiv's industrial-grade operating system, libraries, and mesh networking software optimized for use on Moteiv's Tmote platforms.

OPTIONS:

- ❖ Tmote Mini Plus includes a 100mW power-amplifier at +20dBm for increased RF range, while maintaining small size (32 mm x 20 mm)
- ❖ Tmote Mini and Tmote Mini Plus are available with a convenient U.FL RF connector for attachment of a wide selection of off-the-shelf antennas.

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