PRODUCT DESCRIPTION

The TiWi-uB1 Bluetooth® Smart module is a low-power 2.4 GHz Bluetooth 4.0 (BLE) System-on-Chip in a cost effective, pre-certified footprint. Applications can be developed and loaded into the integrated microcontroller, and function without the need for an external processor. Modules can also act as a network processor for applications with an existing MCU in place.

FEATURES AND BENEFITS

- Bluetooth Low Energy 4.0
- Power-optimized BLE stack, including Controller and Host
- Low Profile: 11.6mm x 17.9mm x 2.3mm
- Industrial operating temperature: -40° to +85°C
- On-module trace antenna or external antenna options available
- FCC (USA), IC (Canada) and ETSI (Europe), Giteki (Japan), Bluetooth® SIG Module Certification
- Based on Texas' Instruments CC2541 Transceiver
- Multiple configuration options include:
  - Network processor interface for applications running on an external MCU
  - Single-Chip configuration, allowing applications running on internal MCU

Practical Applications:
Sports and Leisure Equipment, Mobile Phone Accessories, Consumer Electronics
**TIWI-UB1 MODULE PERFORMANCE**

<table>
<thead>
<tr>
<th>SPECIFICATION</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Footprint</td>
<td>11.6 mm x 17.9 mm x 2.3 mm</td>
</tr>
<tr>
<td>Operating Temp</td>
<td>-40 to +85° C</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>2.0 V to 3.6 V</td>
</tr>
<tr>
<td>Transmit Power</td>
<td>0 dBm (Class 3)</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>-94 dBm</td>
</tr>
</tbody>
</table>

For full specifications on TiWi-BLE, please refer to datasheet.

**TECHNICAL DETAILS**

Support for Class 3 applications

Power consumption: 12.6 mA in Tx, 15.7 mA in Rx

Integrated 8051 microcontroller

**KEY FEATURES**

Certified with on module PCB trace and off module dipole antennas

Comprehensive, robust TI Bluetooth stack

Certifications: FCC, IC, ETSI, Giteki, Bluetooth SIG

---

**ORDER INFORMATION**

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>450-0103C</td>
<td>TiWi-uB1 with PCB Trace Antenna, CT</td>
</tr>
<tr>
<td>450-0103R</td>
<td>TiWi-uB1 with PCB Trace Antenna, TR</td>
</tr>
<tr>
<td>450-0106C</td>
<td>TiWi-uB1 with RF Castellation, CT</td>
</tr>
<tr>
<td>450-0106R</td>
<td>TiWi-uB1 with RF Castellation, TR</td>
</tr>
<tr>
<td>450-0120</td>
<td>TiWi-uB1 EM Board, PCB Trace Antenna</td>
</tr>
</tbody>
</table>

These LSR products are all REACH and EU ROHS compliant.

---

LSR is the leader in Wireless Product Development, offering true end-to-end solutions through its array of services and technical expertise.

**Design Services**

LSR delivers complete system solutions from concept to manufacturing. We are your wireless M2M solutions partner, providing complete turnkey services and solutions.

- RF Design/Engineering
- Software/Firmware Design
- Antenna Design
- Industrial Design
- Mechanical Engineering

**EMC Testing & Certification**

At LSR, we understand it is critical for your company to have a compliant product supported by the appropriate documentation, ready for deployment into the market. LSR provides the experience and knowledge to provide quality test services that meet your timeline and budget.

- On-Site FCC / IC / CE EMC Certification
- Wireless & Antenna Testing
- EMC Testing
- International Testing Services

**Wireless Products**

LSR offers the fastest, lowest cost way to add wireless capabilities to your product concept. LSR’s fully-certified modules and antennas accelerate your time-to-market and support the full breadth of communication technologies, including:

- Wi-Fi®
- Bluetooth®
- Bluetooth® Smart
- ZigBee®
- 802.15.4 & proprietary protocols