The SaBLE-x-R2 is better with Bluetooth 5. The latest revision of the Bluetooth standard brings four times the range, twice the speed, and eight times the message capacity to low energy devices. These enhancements bring better performance, increased battery life, and a better experience to BLE applications. The SaBLE-x-R2 takes full advantage of these upgrades, as well as includes increased availability flash memory for application usage and OTA capabilities. And since it’s pin-compatible with the previous SaBLE-X, it provides a simple, easy hardware upgrade path to Bluetooth 5 for customers of the previous SaBLE-x module.

**PRODUCT DESCRIPTION**

SaBLE-x-R2 is a certified Bluetooth® Low Energy module built to deliver unmatched RF and power performance. This module can deliver over four times the signal range of previous generation Bluetooth low energy technology, and can operate at nearly 1/3 the average power for a 1 second connection interval when compared to previous Bluetooth low energy modules. Based on the new TI SimpleLink™ Bluetooth® Low Energy CC2640R2F wireless microcontroller (MCU), this self-contained module provides unmatched integration, including an ARM Cortex-M3 application processor, ARM Cortex-M0 processor for the RF core, Sensor Processor Engine, flash memory, and high- and low-speed clocks.

**FEATURES AND BENEFITS**

- Features ARM Cortex-M3 processor for host applications and an ARM Cortex-M0 dedicated for the RF core
- Dedicated Sensor Processor for even lower power operation
- Integrated flash memory, Bluetooth low energy stack, and high- and low-speed clocks
- Certifications: FCC (USA), IC (Canada), ETSI (Europe), Giteki (Japan), RCM (AU/NZ)
- Bluetooth 5 certified and SIG listed — Declaration ID # D035147
- Multiple certified antenna options Trace, Dipole, FlexPIFA™, mFlexPIFA™, and FlexNotch™ LSR offers in-house certification of additional antennas at little or no cost
- Pin for pin hardware drop in from original SaBLE-x modules

**Practical Applications:**

Sensors, Lighting, Security, Home Automation, Sports and Fitness
LSR (A Laird Business) is the leader in Wireless Product Development, offering true end-to-end solutions through its array of services and technical expertise.

**SaBLE-x-R2 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>1.8 V to 3.8 V</td>
</tr>
<tr>
<td>Output Power</td>
<td>+5 dBm</td>
</tr>
<tr>
<td>Receive Sensitivity</td>
<td>-96 dBm, @ 0.1% BER</td>
</tr>
<tr>
<td>Average Power</td>
<td>&lt;10 uA for 1 second BLE connection interval</td>
</tr>
</tbody>
</table>

For full specifications on SaBLE-x-R2, please refer to datasheet.

**TECHNICAL DETAILS**

Bluetooth 5 Certified

Integrated ARM Cortex-M3 MCU, dedicated Cortex-M0 MCU for RF core, and dedicated Sensor Processor Engine

128 kB flash and 20 kB SRAM on-module memory

**KEY FEATURES**

Host or hostless mode operations

Highly-configurable I/O that supports all common peripherals (UART, SPI, I2C, PWM, ADC, etc.)

**ORDER INFORMATION**

<table>
<thead>
<tr>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>450-0177C</td>
<td>SaBLE-x-R2 Module, PCB Trace Antenna (Cut Tape)</td>
</tr>
<tr>
<td>450-0177R</td>
<td>SaBLE-x-R2 Module, PCB Trace Antenna (Tape &amp; Reel)</td>
</tr>
<tr>
<td>450-0178C</td>
<td>SaBLE-x-R2, External Antenna Port (Cut Tape)</td>
</tr>
<tr>
<td>450-0178R</td>
<td>SaBLE-x-R2, External Antenna Port (Tape &amp; Reel)</td>
</tr>
<tr>
<td>450-0184</td>
<td>SaBLE-x Evaluation Kit with TI EM Adapter and Arduino Adapter</td>
</tr>
<tr>
<td>450-0185</td>
<td>SaBLE-x Evaluation Kit with External Antennas, TI EM Adapter and Arduino Adapter</td>
</tr>
</tbody>
</table>

These Laird products are all REACH and EU ROHS compliant.

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

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

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® Low Energy
- ZigBee®
- 802.15.4 & proprietary protocols