

YOU MAKE YOUR PRODUCTS GREAT, WE MAKE THEM SMART



OEM End-to-End Solution Provider for IoT, Secure Mobile Device Interoperability and Access Control Automation.

Delphian Systems is an engineering firm specializing in the development and integration of secure wireless devices, mobile & cloud application systems, and micro-electromechanical actuators & sensor devices.

We provide complete end-to-end solutions for customer-partners whose products require interoperability with mobile devices and seamless & secure network connectivity. We invented SecuRemote® technology as a response to OEM needs for eliminating the complexity of adding mobile to existing products, and for enabling rapid product development that leverages mobile technology trends.



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About SecuRemote Technology

A technology platform that makes OEM products smart and fully interoperable with smartphones, mobile and personal Bluetooth Smart® devices.

Modular Architecture

The platform provides an integrated modular system of hardware, embedded software, and application software that can be used for existing products and for the development of a wide range of new products.

Technology Platform

How does SecuRemote add value to the process of developing mobile device interoperable products? Very simple, by:

Removing the typical complexity and cost associated with wireless and cloud connectivity

Adding more flexibility and scalability to product design, and making the new product development process faster and more cost effective



Key Technology Components

Smart Module makes products "SR-enabled" by providing wireless network connectivity and interoperability between such products and Smart devices. It is added to an OEM product via a simple interface.

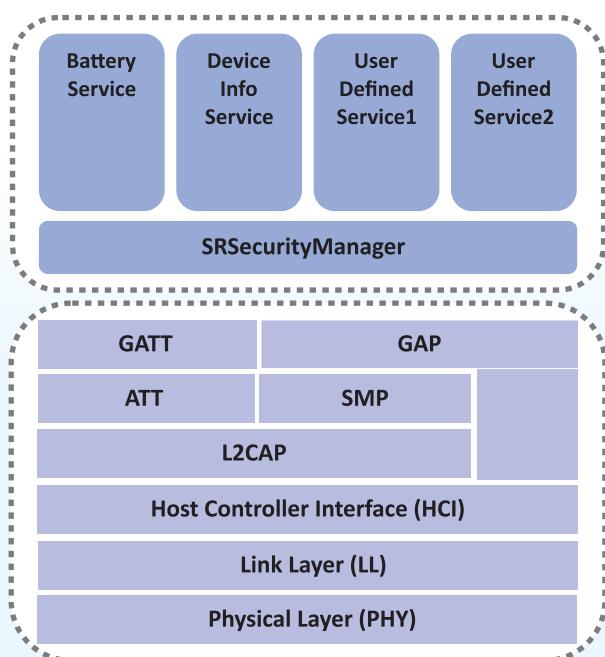
SR Bridge provides a perpetual link between the cloud, SR devices and networks via cellular or internet connection.

SRAApp works with all major mobile OS.

SR Portal (SRP), a secure and scalable cloud system is designed for both consumer and OEM use.

Bluetooth Architecture for SecuRemote®

SR Network Security Mechanism: SR Network has its own security mechanism for BLE communication. It uses AES encryption algorithm while communicating over BLE. SR Network uses unique serial #, security token and three crypto keys (AES Key), device type and security level.



SR Network Topology

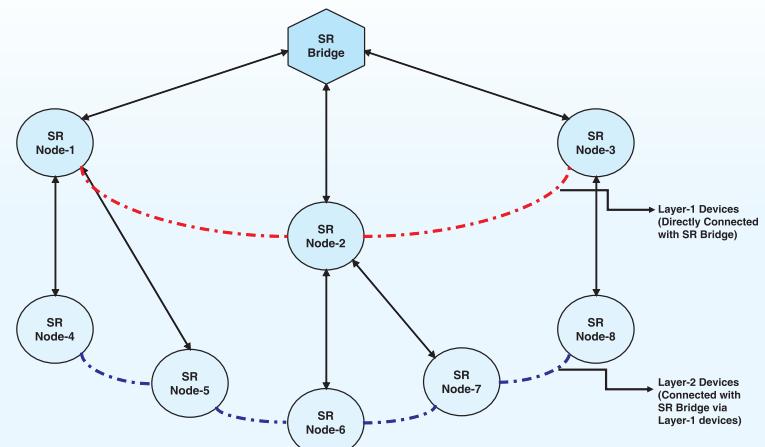
SR practical mesh network is designed by keeping two key points in mind

Self-Configurable

The SR practical mesh network will configure itself with minimum or no user intervention, i.e. it can be used like any other plug and play device.

Self-Healing

The SR practical mesh network will self-heal, i.e. in case of any SR node replacement, relocation or failure the network will reconfigure itself with minimum or no user intervention.



SRU232 High Range BLE Module

Overview of SRU232

SRU232 module is a power-optimized true system-on-chip (SoC) solution for both BLE and ANT applications. The processor combines excellent performance of a leading RF transceiver with an industry-standard - 32 bit ARM® Cortex™-M0 CPU, with 256K Flash, 16K RAM - and many other powerful supporting features and peripherals. SRU232 runs BLE and ANT protocol simultaneously for support of SecuRemote® mesh topology.



Features

- ◆ Fully Certified Bluetooth 4.0 Smart module
- ◆ On-board embedded Bluetooth Low Energy stack
- ◆ Range up to 250 meter (LOS) @ 10 dBm
- ◆ End-to-End Secure Encryption Algorithm
- ◆ GAP, GATT, SMP, L2CAP and integrated public profiles
- ◆ ANT support for mesh networking
- ◆ Over The Air (OTA) firmware upgrade support
- ◆ Low power modes
- ◆ Flexible peripheral interface
- ◆ UART, SPI and I2C host interface
- ◆ 25 # of multiplex GPIO
- ◆ 8 # of 10 bit ADC (multiplex with GPIO)
- ◆ Two 16 bit and one 32 bit timers with counter mode
- ◆ Compact size: 25 mm x 20 mm x 2.3mm
- ◆ Castellated SMT pads for easy and reliable PCB mounting
- ◆ Ceramic chip and u.FL antenna support in one module
- ◆ User configurable antenna type
- ◆ Disable PA mode for low power application
- ◆ Environmentally friendly, RoHS compliant
- ◆ Bluetooth SIG and FCC certification

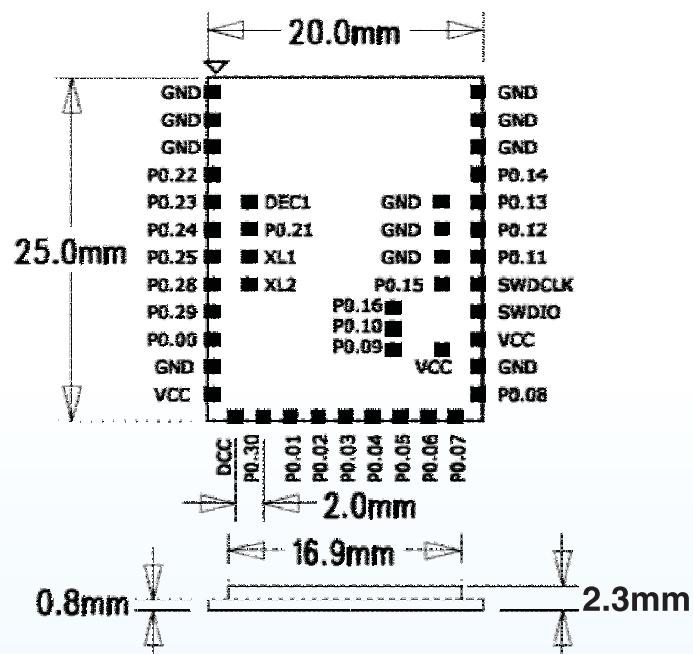
Applications

- ◆ Wireless sensors
- ◆ Medical applications
- ◆ Home automation
- ◆ Industrial control
- ◆ LED light control

Benefits of SecuRemote® Platform

- ◆ Fast time to market
- ◆ Low development risk
- ◆ Minimal RF engineering experience necessary
- ◆ Minimal Bluetooth experience necessary
- ◆ Fully integrated Bluetooth smart solution
- ◆ ANT base mesh network support
- ◆ Easy to implement, short design cycle
- ◆ No additional FCC certification required
- ◆ Setting can be stored in internal flash so no need to use external EEPROM.

Mech. Dimensions



Specifications

Standard	: Bluetooth® 4.0
Profiles	: GATT, GAP, SMP, L2CAP
Frequency	: 2.40-2.48 GHz
Voltage	: 1.8V – 3.3V
Current @ Tx power 10dBm	: 50 mA
Current @ Tx power 20dBm	: 95 mA
Current @ Sleep Mode	: 40 µA
Temperature	: -25°C to 85°C
Maximum Data Rate	: 2 Mbps
Interface	: UART,I2C,SPI, DIO, ADC
L.O.S. Range (iOS Device)	: 250 meter @ 10 dBm
RF Rx Sensitivity (BLE)	: -93 dBm
RF Rx Sensitivity (ANT)	: -90 dBm
RF Tx Power	: Configurable, Up to +10 dBm
Antenna 1	: Ceramic Chip Antenna
Antenna 2	: u.FL Antenna

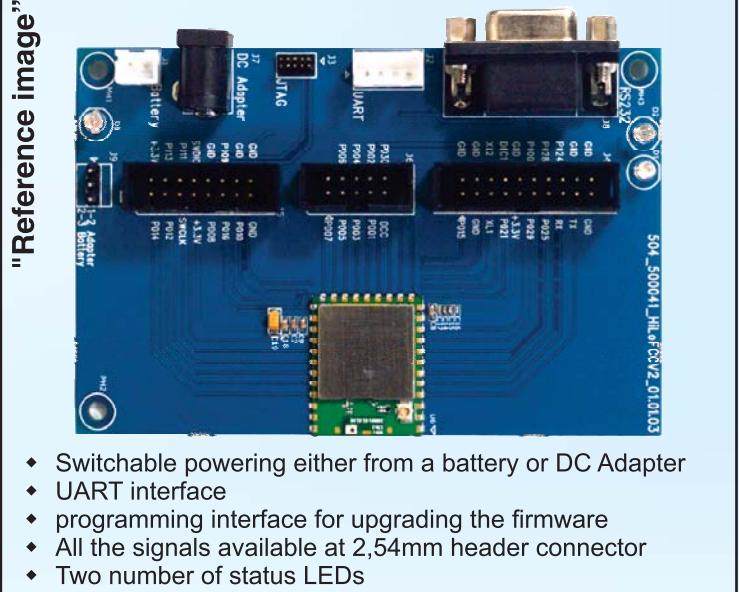
Certification

FCC ID : 2AEHJRSU232
IC Industry Canada : 20053-SRU232

SECUREMOTE® BLUETOOTH LOW ENERGY RAPID DEVELOPMENT TOOLS

SecuRemote® BLE has multiple supporting tools for rapid wireless connectivity prototyping, providing multiple options for the development of Bluetooth Low Energy (BLE) applications

SRH232-V2-EVM : Evaluation kit for SRU232 - V2



- Switchable powering either from a battery or DC Adapter
- UART interface
- programming interface for upgrading the firmware
- All the signals available at 2,54mm header connector
- Two number of status LEDs

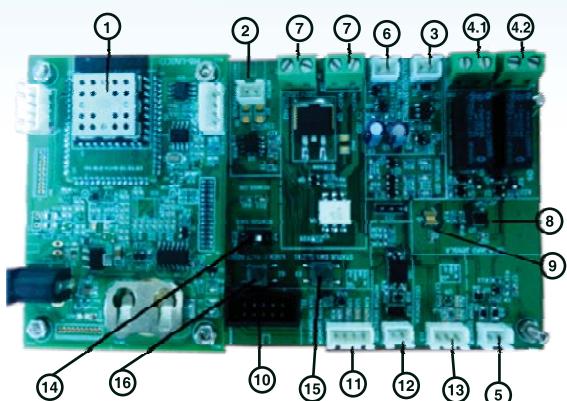
SRU232 - V2 - SDK



"Reference image"

- AT Command
- API
- Sample Codes - iOS
- Sample Codes - Android

"Reference image"



SRU232-V2-DK : Development kit for SRU232 - V2

- Motor interface
- Solenoid interface
- Relay interface
 - Relay1
 - Relay2
- Thermistor
- Constant current LED support
- Constant voltage LED support
- Accelerometers
- Humidity sensors
- Water sensor
- CO2 sensor
- Motion detector interface
- Status Switch1
- Status Switch2
- Factory Reset switch

Ordering Information

SRU232-V2-C : SRU232 with Chip Antenna
SRU232-V2-U : SRU232 with u.FL Antenna
SRH232-V2-EVM : Evaluation kit for SRU232 - V2
SRU232-V2-DK : Development Kit for SRU232 - V2

The item described in this product brief
is part of our total SECUREMOTE®
To Learn more, visit our website or
just ask us !



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