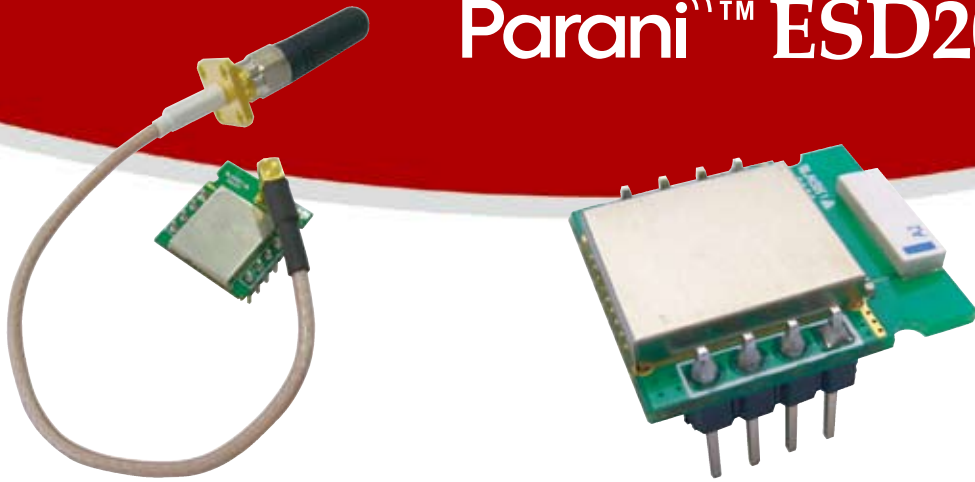


OEM Bluetooth-Serial Module, Parani™ ESD200/210



Features

- Output Interface UART, Compliant Bluetooth stack v1.2-improved AFH(Adaptive Frequency Hopping), Fast connection
- Transmit Power: Max. +4dBm
- Receiving Sensitivity: -80dBm(0.1%BER)
- Antenna gain - Chip: 0dBi, Stub: +2dBi, Dipole: +3dBi, Patch: +9dBi
- Compact size: 18 x 20 x 11.7(mm)
- Provides transparent RS232 serial cable replacement.
- Supports Bluetooth Serial Port Profile.
- Interoperability with PDA, laptops etc.
- Built-in chip antenna included
- Supports firmware upgrade via windows-based software (ParaniUpdater)
- Working distance(In an open field)
 - Parani-ESD200: Class 2, Nom. 30meters
 - Parani-ESD210: Class 2, Nom. 30meters, up to 300m using patch antenna
- Easy to use Windows configuration tool available.
- No external drivers required.

Parani-ESD Series is OEM Bluetooth-Serial Module type product line based on Bluetooth technology. Parani-ESD Series is designed for integration into user devices by on-board installation. They are connected to the device via built-in UART interface and communicate with other Bluetooth device.

Parani-ESD Series enables RS232-based serial devices to communicate wirelessly throughout the range of 30m~300m(Parani-ESD210-Class 2).

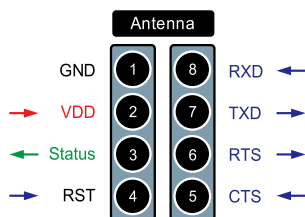
Parani-ESD200 has a built-in on-board antenna and Parani-ESD210 has an antenna connector for connecting external antenna. Users can extend Bluetooth communication range by connecting the external antenna to antenna connector.

Users may configure the Parani-ESD Series by using easy-to-use Windows-based utility software or by using standard AT command set.

Typical application areas of the Parani-ESD Series include:

- RS232 cable replacement
- Truck/Bus monitoring system
- Car Diagnostics
- Wireless POS system
- Wireless machine(healthcare/industrial) monitoring
- Wireless Factory monitoring
- PLC programming
- Wireless Printing
- Wireless logistics

Pin Assignment Information



| Pin no. | Pin name | Direction | Description | Signal Level |
|---------|----------|-----------|---------------------------------------|--------------|
| 1 | GND | | Power Ground | Ground |
| 2 | VDD | Input | DC input (3.0 ~ 3.3V) | Power |
| 3 | Status | Output | Bluetooth Connect Detect (Active Low) | TTL |
| 4 | RST | Input | Reset (Active Low) | TTL |
| 5 | CTS | Input | UART Clear to Send | TTL |
| 6 | RTS | Output | UART Ready to Send | TTL |
| 7 | TXD | Output | UART data out | TTL |
| 8 | RXD | Input | UART data input | TTL |

Specifications

Serial Interface

- UART Interface, 2.54mm Header 1x4x2, 1200bps to 230 Kbps
- CTS/RTS flow control: Default

Bluetooth Interface

- Bluetooth v1.2
- Class 2
- Level - Max. 4 dBm
- Protocols - RFCOMM, L2CAP, SDP
- Profiles - General Access Profile, Serial Port Profile
- Working distance
 - ESD200:
 - Nominal 30 meters
 - ESD210:
 - Default Antenna - Default Antenna 30 meters
 - Default Antenna - Dipole Antenna 50 meters
 - Dipole Antenna - Dipole Antenna 80 meters
 - Patch Antenna - Dipole Antenna 150 meters
 - Patch Antenna - Patch Antenna 300 meters

Configuration

- ParaniWin, ParaniWizard, Modem AT command set

Firmware Update

- ParaniUpdater

Power

- 3.3VDC
- Nominal current consumption: 40mA @ 3.3VDC approximately

Environmental

- Operating temperature: -10°C to 55°C
- Storage temperature: -20°C to 70°C
- Humidity: 90% Non-condensing

Physical properties

- 18 x 20 x 11.7(mm) / 0.7 x 0.78 x 0.47(in.)
- Weight: ESD200 - 4g / ESD210 - 14g

MTBF

- Parani-ESD200: 556.53 Years / Parani-ESD210: 562.74 Years

Approvals

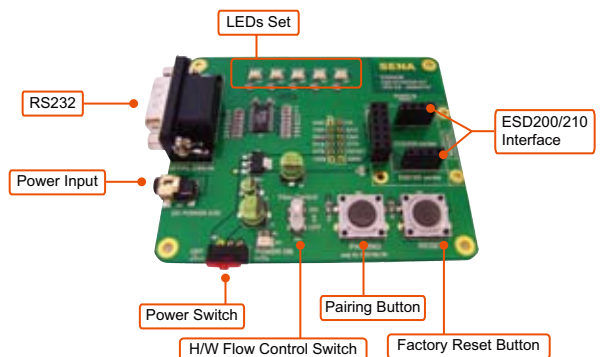
- FCC, CE

Warranty

- 1-year limited warranty

Parani-ESD Starter Kit

Parani-ESD Starter Kit includes the evaluation board with the sample circuitry for Parani-ESD200/210 interface, power, RS232 Interface, Reset, LEDs, Pairing, H/W flow control for user device development.



Ordering Information

ESD200 Parani-ESD200 OEM Bluetooth-Serial Module-Class2 with Built-in chip antenna

ESD200-01 Includes: Embedded On-board Antenna

ESD210 Parani-ESD210 OEM Bluetooth-Serial Module-Class2 with antenna extension option

ESD210-00 Includes: Module only - antenna and cable NOT included

ESD210-01 Includes

- SAT: Parani-SAT Stub Antenna-SMA Male-Left Handed
- EEC: Parani-EEC 15cm Antenna Extension Cable

Optional Accessories

- DAT: Parani-DAT Dipole Antenna-SMA Male-Left Handed
- PAT: Parani-PAT Patch Antenna-SMA R/A Female-Right Handed
- SLR: SMA-Male left handed to right handed adapter
- RFC: Parani-RFC 1m Antenna Extension Cable for Patch antenna

Parani-ESD200SK Starter Kit for Parani-ESD200

Parani-ESD210SK Starter Kit for Parani-ESD210

Includes

- Any one of the following modules: ESD200, ESD210
- Jig board
- DC Power Adapter
- Serial data cable

For more information,
 please visit us at <http://www.senaindustrial.com>

Contact us via E-mail

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