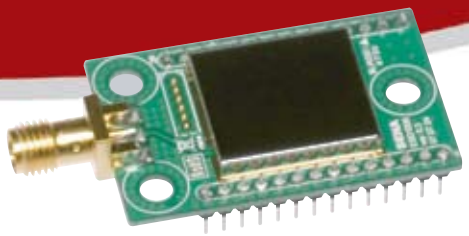
OEM Bluetooth-Serial Module,

Parani™ ESD1000



Features

- Bluetooth Specification v2.0 + EDR
- Useful for Bluetooth-enabling users' devices
- Basic Transmit Power : Max. +18dBm, EDR Transmit Power : Max. +6dBm
- Receiving Sensitivity : -88dBm(0.1%BER)
- Supports Bluetooth profiles SPP(Serial Port Profile)
- External interface for UART
- Interoperability with PDA, laptops etc.
- Supports firmware upgrade via windows-based software(ParaniUpdater)
- Working distance (In an open field) : Nom. 100 meters, up to 1000m using patch antenna
- Easy to use Windows configuration tool available.
- No external drivers required.

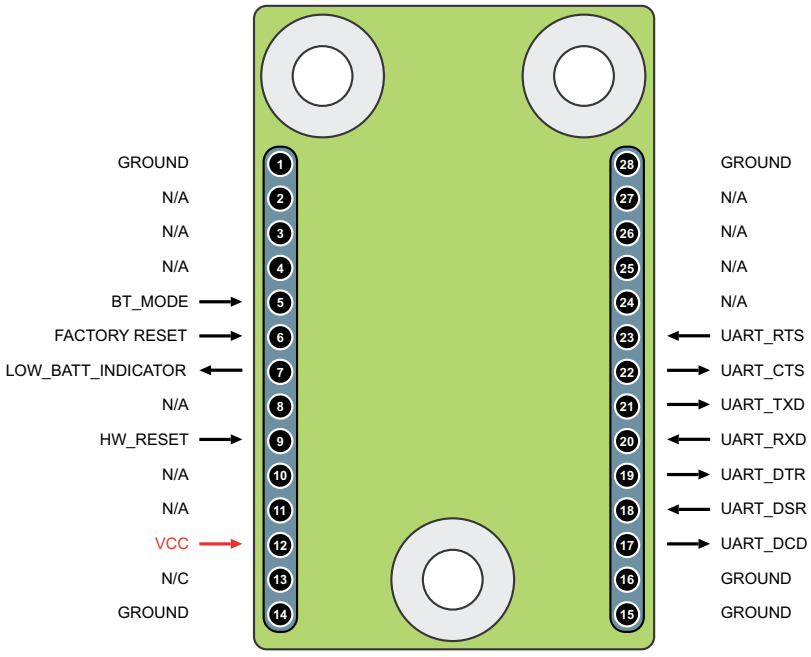
Parani-ESD1000 is Class1 type Embedded Bluetooth Module for users to make their devices Bluetooth-enable. By default, it supports 100 meters of wireless transmit distance. The Parani-ESD1000 has an extension option so that users can extend the transmit distance up to 1000 meters using optional antennas. It supports Bluetooth v2.0+EDR specification, and external interface UART.

Users may configure the Parani-ESD1000 by using easy-to-use Windows-based utility software or by using standard AT command set.

Typical application areas of the Parani-ESD1000 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	GROUND	-	GROUND	GROUND
2	N/A			
3	N/A			
4	N/A			
5	BT_MODE	IN	Pairing signal	TTL
6	FACTORY RESET	IN	Factory reset signal(Active 'L')	TTL
7	LOW_BATT_INDICATOR	OUT	Low battery status(Active 'L')	TTL
8	N/A			
9	HW_RESET	IN	Hardware reset signal(Active 'L')	TTL
10	N/A			
11	N/A			
12	VCC	IN	Power(3.3V)	POWER
13	N/C	-		-
14	GROUND	-	GROUND	GROUND
15	GROUND	-	GROUND	GROUND
16	GROUND	-	GROUND	GROUND
17	UART_DCD	OUT	UART DCD(data carrier detect)	TTL
18	UART_DSR	IN	UART DSR(data set ready)	TTL
19	UART_DTR	OUT	UART DTR(data terminal ready)	TTL
20	UART_RXD	IN	UART RXD(receive data)	TTL
21	UART_TXD	OUT	UART TXD(transmit data)	TTL
22	UART_CTS	OUT	UART CTS(clear to send)	TTL
23	UART_RTS	IN	UART RTS(ready to send)	TTL
24	N/A			
25	N/A			
26	N/A			
27	N/A			
28	GROUND	-	GROUND	GROUND



SENA
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OEM Bluetooth-Serial Module,

Parani™ ESD1000

Specifications

Serial Interface:
- UART
- 2mm Header 14 x 2
- Serial UART speed up to 921.6kbps
- CTS/RTS flow control, DTR/DSR for loop-back & full transfer

Bluetooth Interface:
- Bluetooth v2.0 + EDR
- Class 1
- Profiles: SPP
- Working distance (in open field)

SAT-G01R	-	SAT-G01R	100 meters
SAT-G01R	-	DAT-G01R	150 meters
DAT-G01R	-	DAT-G01R	200 meters
DAT-G01R	-	DAT5-G01R	300 meters
DAT-G01R	-	PAT-G01R	500 meters
DAT5-G01R	-	DAT5-G01R	400 meters
DAT5-G01R	-	PAT-G01R	600 meters
PAT-G01R	-	PAT-G01R	1,000 meters

[Antennas]
SAT-G01R: +1dBi Stub Antenna
DAT-G01R: +3dBi Dipole Antenna
DAT5-G01R: +5dBi Dipole Antenna
PAT-G01R: +9dBi Patch Antenna

Max. Tx power: +18dBm

Receive Sensitivity: -88dBm

Antenna gain:
- Stub: +1dBi, Dipole: +3dBi, Dipole: +5dBi, Patch: +9dBi

Configuration:
- ParaniWin, ParaniWizard, ParaniUpdater
- Modem AT command set

Diagnostic LED:
- TXD, RXD, RTS, CTS, DTR, DSR, DCD on Jig board

Power:
- 3.3VDC
- Minimum: 10mA, Maximum : 60mA

Environmental:
- Operating temperature: -30˚C to 80˚C
- Storage temperature: -40˚C to 85˚C
- Humidity: 90% Non-condensing

Physical properties:
- Dimension (L x W x H):
  49 x 23 x 11 (mm)
  1.93 x 0.9 x 0.43 (in.)
- Weight: 6g

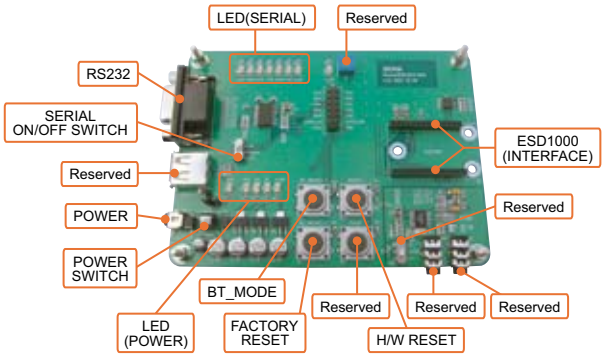
MTBF: 400.89 Years

Regulatory Approvals:
- FCC Part 15 Subpart C Section 15.247
- EN 60950-1: 2001
- ETSI EN 300 328
- ETSI EN 301 489-1
- ETSI EN 301 489-17
- MIC (Type Registration)
- TELEC (Type Certification)
- SIG

Warranty:
- 1-year limited warranty

Parani-ESD1000 Starter Kit

The Parani-ESD1000 Starter Kit includes the evaluation board with the sample circuitry for Parani-ESD1000 interface, power, RS232 interface, H/W Reset, LEDs for users' device development.



Ordering Information

ESD1000 Parani-ESD1000 OEM Bluetooth-Serial Module-Class1 with antenna extension option
ESD1000-00
Optional Accessories :
- *SAT-G01R Antenna: 1 dBi Stub Antenna- RP-SMA-Reverse right-hand thread*
- *DAT-G01R Antenna: 3 dBi Dipole Antenna-RP-SMA-Reverse right-hand thread*
- *DAT5-G01R Antenna: 5 dBi Dipole Antenna-RP-SMA-Reverse right-hand thread*
- *PAT-G01R Antenna: 9 dBi Patch Antenna-RP-SMA-Reverse right-hand thread*
- *SEC-G01R : 15cm Antenna Extension Cable-RP-SMA-Reverse right-hand thread*
- *RFC-G01R: 1m Antenna Extension Cable-RP-SMA-Reverse right-hand thread for PAT-G01R*

ESD1000SK Parani-ESD1000 Starter Kit
Includes:
- *Parani-ESD1000 Module*
- *Jig board*
- *DC Power Adapter*
- *Serial data cable*
- *Quick Start Guide*
- *SAT-G01R Antenna: 1 dBi Stub Antenna- RP-SMA-Reverse right-hand thread*
- *CD-ROM*

For more information, please visit us at http://www.sena.com

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