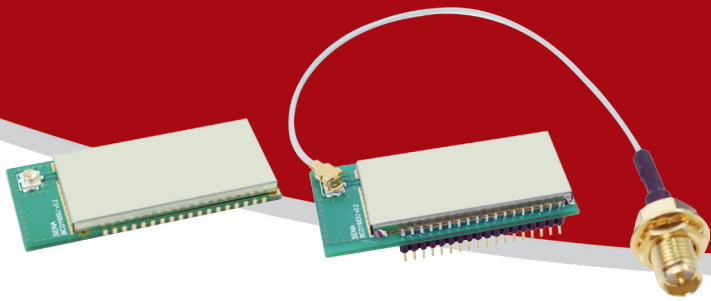


# Bluetooth Module, Parani™ BCD110



## Features

- Bluetooth Class 1
- Bluetooth v2.0+EDR specification
- Transmit Power: +18dBm Typical
- Receive sensitivity: -90dBm (0.1% BER)
- Integrated 8Mbit Flash Memory
- Supports Serial Port Profile (SPP), Sena I/O Profile, SCO Connection
- Working distance (In an open field): Nom.200m, up to 1000m
- Supports built-in chip, stub and dipole antennas
- Standard HCI over UART or USB
- BCD110 firmware supporting up to 7 simultaneous multiple connections
- Firmware upgrade via windows-based software (ParaniUpdater)
- Easy to use Windows configuration tool available.
- ROHS compliant

The Parani-BCD110 is a Bluetooth Class 1 OEM module for OEM manufacturers who want to implement Bluetooth Class 1 functionality with their products cost effectively and also in timely manner.

The BCD110 supports Class 1 Bluetooth transmission level for longer communication distance typically ranges from 200 m up to 1 km. The BCD110 supports UART, USB, PCM, PIO interfaces for the communication with the OEM products.

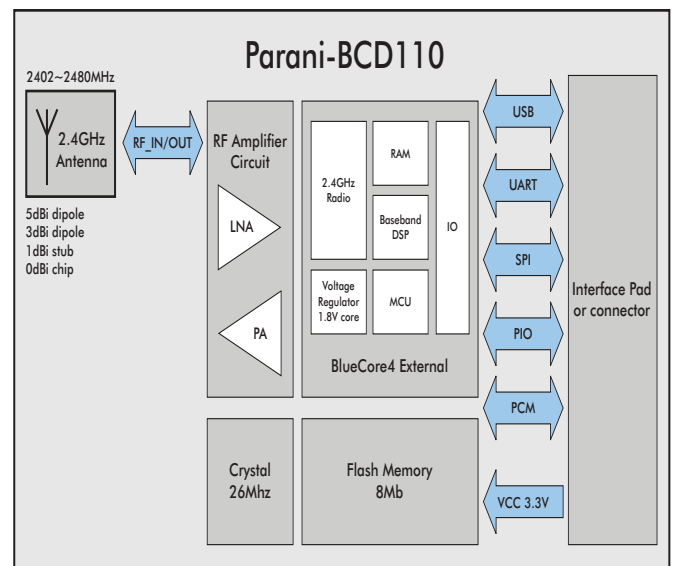
The BCD110 supports Bluetooth v2.0+EDR, SPP (Serial Port Profile), Sena I/O profile, SCO connections, and digital I/O with up to 7 simultaneous multiple connections.

It is designed to work out-of-box for real world SPP applications such as POS (Point-of-sales), industrial automation, remote metering and other various applications. Optionally, the BCD110 can be supplied with only software stack up to HCI level so entire Bluetooth stack runs on the host side for the application such as USB dongles for computers, or OEM manufacturers can even develop and embed their own firmware into the BCD110.

## Specifications

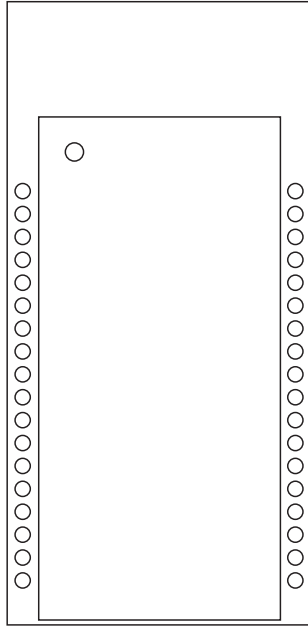
<b>Bluetooth Specifications</b>	Bluetooth v2.0 + EDR
	Class1
	Profile: SPP(Serial Port Profile), Sena I/O Profile
	Working distance: By default antenna is 200m (0.12 mile), Supports up to 1000m (0.62 mile)
<b>Transmit Power</b>	+18dBm Typical
<b>Receive Sensitivity</b>	-90dBm (0.1% BER)
<b>TX Output Spectrum-Frequency range</b>	2402 MHz – 2480 MHz
<b>Interfaces</b>	UART, USB, PCM, PIO
<b>Serial Interface</b>	- Serial UART speed up to 921.6kbps - CTS/RTS flow control, DTR/DSR for loop-back & full transfer
<b>I/O Interface</b>	5 DIO, 2 AI
<b>PIN Interface</b>	- BCD110Sx: 1.27mm SMD Pad 18 x 2 (36pin) - BCD110Dx: 1.27mm Pin Header 18X2 (36pin)
<b>USB Interface</b>	V2.0
<b>Configuration</b>	ParaniWIN, Modem AT command set
<b>Firmware Update</b>	ParaniUpdater
<b>Power</b>	Nominal : 70mA@3.3VDC Maximum : 150mA@3.3VDC (200mA@3.3VDC in Test Mode)
<b>Environmental</b>	- Operating temperature: -40°C ~ 80°C - Storage temperature: -40°C ~ 85°C - Humidity: 90% (Non-condensing)
<b>Physical properties</b>	Parani-BCD110 Dimension
	- DIP type 34.6 x 16.8 x 7.5 mm (0.661 in x 1.362 in x 0.295 in) - SMD type 34.6 x 14.8 x 3.0 mm (1.362 in x 0.583 in x 0.118 in)
	Weight
	- Parani-BCD110B-SC-MPF: 2g - Parani-BCD110B-SU-MPF: 2g - Parani-BCD110B-DC-MPF: 3g - Parani-BCD110B-DU-MPF: 3g - Parani-BCD110B-DS-MPF: 4g
<b>Approvals</b>	FCC, CE, IC, KC, TELEC, SIG
<b>Warranty</b>	1-year limited warranty

## Device Diagram



## Pin Description

No	NAME	DEFINE
1	GND	GND
2	GND	GND
3	PVCC	PVCC (+3.3V)
4	AIO_0	AIO_0
5	AIO_1	AIO_1
6	UART_RTS	UART_RTS
7	UART_RXD	UART_RXD
8	UART_TXD	UART_TXD
9	UART_CTS	UART_CTS
10	USB_DN	N/A
11	USB_DP	N/A
12	PCM_IN	PCM_IN
13	PCM_SYNC	PCM_SYNC
14	PCM_CLK	PCM_CLK
15	PCM_OUT	PCM_OUT
16	+3V3	+3V3
17	GND	GND
18	RESETB	RESETB



DEFINE	NAME	No
GND	GND	36
GND	GND	35
GND	GND	34
DIO_4	PIO_11	33
DIO_3	PIO_10	32
DIO_2	PIO_9	31
DIO_1	PIO_8	30
UART_DCD	PIO_2	29
UART_DTR	PIO_3	28
DIO_0	PIO_7	27
BT_MODE	PIO_6	26
FACTORY RESET	PIO_5	25
UART_DSR	PIO_4	24
N/A	SPI_MOSI	23
N/A	SPI_CSB	22
N/A	SPI_CLK	21
N/A	SPI_MISO	20
GND	GND	19

## Ordering Information

Part Number	Description
BCD110B-DU-MPF	Bluetooth embedded OEM module DIP Type, Class 1 w/ U.FL connector
BCD110B-DS-MPF	Bluetooth embedded OEM module DIP Type, Class 1 w/ RP-SMA connector
BCD110B-DC-MPF	Bluetooth embedded OEM module DIP Type, Class 1 w/ chip antenna
BCD110B-SU-MPF	Bluetooth embedded OEM module SMD Type, Class 1 w/ U.FL connector
BCD110B-SC-MPF	Bluetooth embedded OEM module SMD Type, Class 1 w/ chip antenna
BCD110B-SK-MPF-VWV	Starter kit for Parani-BCD110 Rev.B
BCD110B-SC-SPP (SPP Only)	Bluetooth embedded OEM module SMD Type, Class 1 w/ chip antenna
BCD110B-SU-SPP (SPP Only)	Bluetooth embedded OEM module SMD Type, Class 1 w/ U.FL connector
BCD110B-DC-SPP (SPP Only)	Bluetooth embedded OEM module DIP Type, Class 1 w/ chip antenna
BCD110B-DS-SPP (SPP Only)	Bluetooth embedded OEM module DIP Type, Class 1 w/ RP-SMA connector
BCD110B-DU-SPP (SPP Only)	Bluetooth embedded OEM module DIP Type, Class 1 w/ U.FL connector
BCD110B-SK-SPP-VWV (SPP Only)	Starter kit for Parani-BCD110

### Optional Accessories

Part number	Description
SAT-G01R	1 dBi Stub Antenna, RP-SMA Plug, Right-hand Thread
DAT-G01R	3 dBi Dipole Antenna, RP-SMA Plug, Right-hand Thread
DAT5-G01R	5 dBi Dipole Antenna, RP-SMA Plug, Right-hand Thread
SEC-G01R	15cm RPSMA Antenna Extension Cable, Right-Hand Thread
UEC-G01R	12cm U.FL to RPSMA Cable, Right-Hand Thread

## Applications

- High-speed data transceiver systems for long distance communication
- PCs/Personal Digital Assistants (PDA)
- Bluetooth USB dongle
- Bluetooth serial dongle
- Bluetooth access points
- Industrial automation devices
- Automotive applications
- Medical Systems
- Remote metering devices
- POS (Point-of-sales) devices

