Description

The CBAR-25 Bluetooth 4.0 low energy module is a SMD package module basis Nordic nRF51822 chip; it is a smart module with cost-effective, ultra low power, true system-on-chip (SoC) for Bluetooth low energy applications. It enables robust BLE master or salve nodes to be built with very low total bill of material costs.

The CBAR-25 smart BLE 4.0 module combines an excellent RF transceiver with an ultra low energy ARM Cortex0, in-system programmable 256KB flash memory and many powerful supporting features and peripherals. It is suitable for systems where ultra low power consumption is required.

Features

- Bluetooth low energy technology compatible
- Excellent link budget (up to 97dB)
- Enable long range applications
- Accurate digital RSSI
- Compatible with CE and FCC regulation
- Ultra low energy ARM core chip
- Battery monitor and temperature sensor -

Samples application and profiles

- Full speed USB interface -

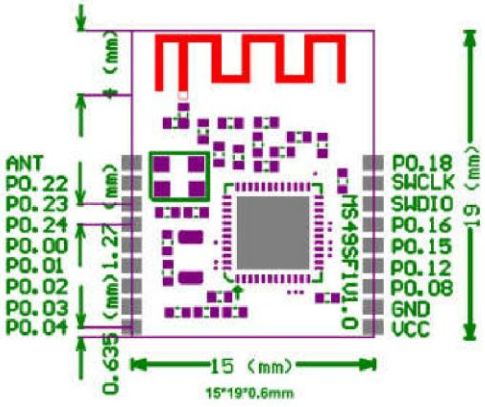
AES security coprocessor

CBAR-25

Application

- 2.4GHz Bluetooth low energy systems
- Mobile phone accessories
- Sports and leisure equipment
- Consumer electronics
- Human interface devices (keyboard, mouse, remote control and etc.)
- USB dongles
- Healthcare and medical

Mechanical Footprint (Unit: mm)



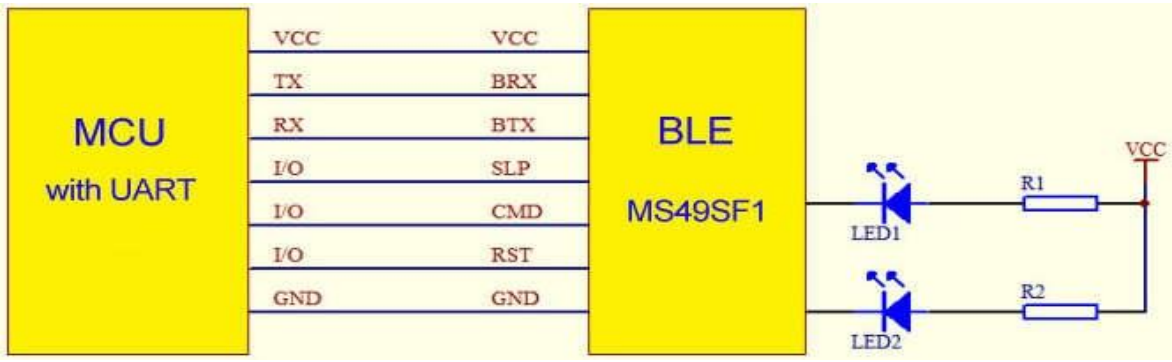
Pin Description

Pin Symbol	Definition	Description	Remark
VDD	---	Positive of power supply	1.8~3.6Vdc
GND	---	Negative of power supply	---
P0.01	CMD	Data / Command	Data=1, Command=0
P0.02	SLP	Sleeping / Waken	Sleeping=1, Waken=0
P0.03	BTX	Send the data to external MCU	CBAR-25's TX
P0.04	BRX	Receive the data from external MCU	CBAR-25's RX
P0.08	LED1	Connection status indication	Active Low
P0.12	LED2	Command status indication	Active Low
P0.15	RST	Reset	Active Low

Electronic Parameters

Item	Test Data	Remarks
Operation Voltage	1.8~3.6V	DC
Operation Frequency	2400-2483.5MHz	Programmable
Frequency Error	+/- 20KHz	---
Transmission Power	-30~+4dBm	Adjustable
Receiving Sensitivity	-93dBm	---
Receiving Current	13mA	Standard mode
Transmission Current	16mA	@+4dBm
	7mA	@-8dBm
Sleep consumption	0.4uA	Power mode 3, connection-less state
Transmission distance	50 meters	BER<0.1%, Open space
Antenna	50ohm	Null
Dimension	19*15*2.0mm	Null

Typical Application



FCC Caution:
Any changes or modifications not expressly
approved by the party responsible for compliance could void the user's
authority to operate this equipment.
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions: (1) This device may not
cause harmful interference, and (2) this device must accept any interference
received, including interference that may cause undesired operation.
This device and its antenna(s) must not be co-located or operating in conjunction
with any other antenna or transmitter.
15.105 Information to the user.
(b) For a Class B digital device or peripheral, the instructions furnished the
user shall include the following or similar statement, placed in a prominent
location in the text of the manual:
Note: This equipment has been tested and found to comply
with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful
interference in a residential installation. This equipment generates, uses and
can radiate radio frequency energy and, if not installed and used in
accordance with the instructions, may cause harmful interference to radio
communications. However, there is no guarantee that interference will not
occur in a particular installation. If this equipment does cause harmful
interference to radio or television reception, which can be determined by
turning the equipment off and on, the user is encouraged to try to correct the
interference by one or more of the following measures:
—Reorient or relocate the receiving antenna.
—Increase the separation between the equipment and receiver.
—Connect the equipment into an outlet on a circuit different from that to which
the receiver is connected.
—Consult the dealer or an experienced radio/TV technician for help.
This equipment complies with FCC radiation exposure limits set forth for an uncont
rolled environment.

Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an
uncontrolled environment.
This transmitter must not be co-located or operating in conjunction with any other
antenna or transmitter.
The availability of some specific channels and/or operational frequency bands
are country dependent and are firmware programmed at the factory to match
the intended destination.
The firmware setting is not accessible by the end user.
The final end product must be labelled in a visible area with the following:
“Contains Transmitter Module 2ANYRCBAR-25”
In the event that these conditions can not be met (for example certain laptop configurations
or co-location with another transmitter), then the FCC authorization is no longer considered
valid and the FCC ID can not be used on the final product. In these circumstances, the OEM
integrator will be responsible for re-evaluating the end product (including the transmitter) and
obtaining a separate FCC authorization