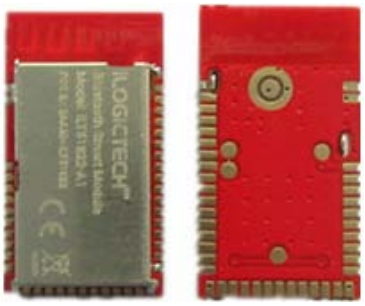
ILOGICTECH

ILT51822 BLE Module

General Description

The ILT51822 is a cost-effective, low-power and true system-on-chip integrated module for Bluetooth® Smart / Bluetooth low energy and 2.4GHz ultra low-power wireless applications. The ILT51822 is a ready BLE module combined with Nordic nRF51822, Crystal and PCB Antenna. The nRF51822 is a powerful, highly flexible multiprotocol SOC built in with a 32-bit ARM® Cortex™ M0 CPU and RF transceiver. It enables robust BLE master or slave nodes.

Features and Benefits



- Bluetooth® Smart / Bluetooth low energy Compatible
- 32-bit ARM Cortex M0 CPU core
- Excellent Link Budget (up to 97dB)
- Good Compatibility with Smart Phone & Host Devices
- Full coverage of BLE Stack supported
- Support of Rich Peripherals Including:
  - I2C™ (Both Master and Slave)
  - SPIs: One Master One Master and Slaver
  - UARTs
  - Up to 31 GPIOs
- Integrated DC-DC With a Wide-Range single supply
  - VBAT or Wide Voltage Mode: 1.8 to 3.6V
- Low-Power Consumption
- Small Module Size – 18 x10 mm

Applications

- 2.4-GHz Bluetooth® Smart / Bluetooth low energy Systems
- Mobile Phone Accessories
- Sports, Fitness, Healthcare sensor
- Wearables
- Beacon
- PC peripherals
- Smart Home, Lighting, Appliance Control
- Proximity / Alert Sensors
- Industrial and commercial sensors
- Toys & Electronic games

Electrical Characteristics

ITEM	TEST REQUIREMENT	REMARKS
Voltage supply	1.8—3.6V	DC
Frequency	2402 – 2480MHz	Programmable
Frequency error	±20KHz	
Modulation	GFSK	
RF Output power	-30 dBm - +4 dBm	Programmable
Receiving sensitivity	-93 dBm	At 1Mbps
Receiving current	13 mA	At 1Mbps
Transmitting current	10.5 mA	RF at 0 dBm
Transmitting current	5.5 mA	RF at -20 dBm
Temperature range	-40 – 85 °C	
Sleep current at PM3	0.4 uA	
Transmit distance	>50M at open area	BER<0.1%
Antenna	50ohm	
module size	18 * 10 mm	

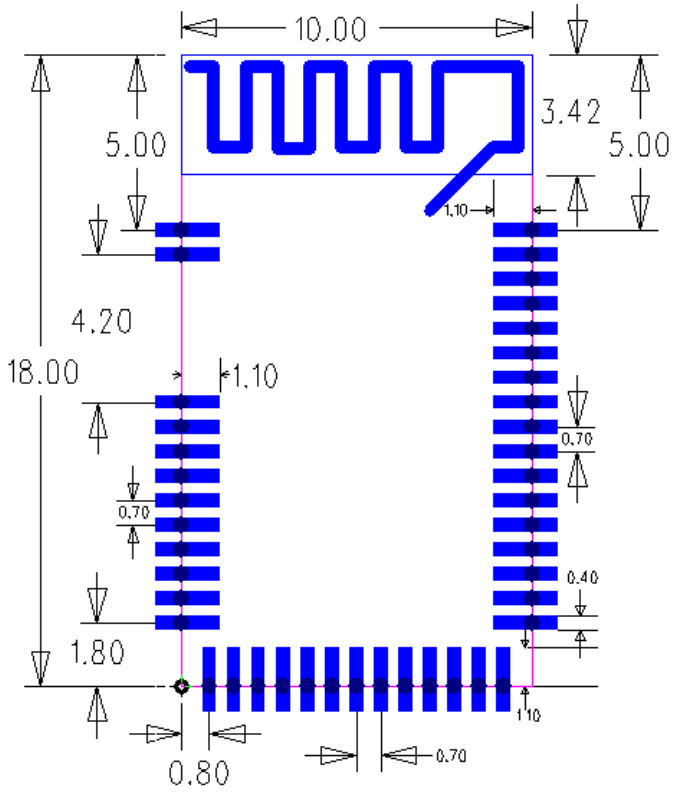
RECOMMENDED OPERATING CONDITIONS

	MIN	MAX	UNIT
Operating ambient temperature range, TA	-20	80	°C
Operating supply voltage	1.8	3.6	V

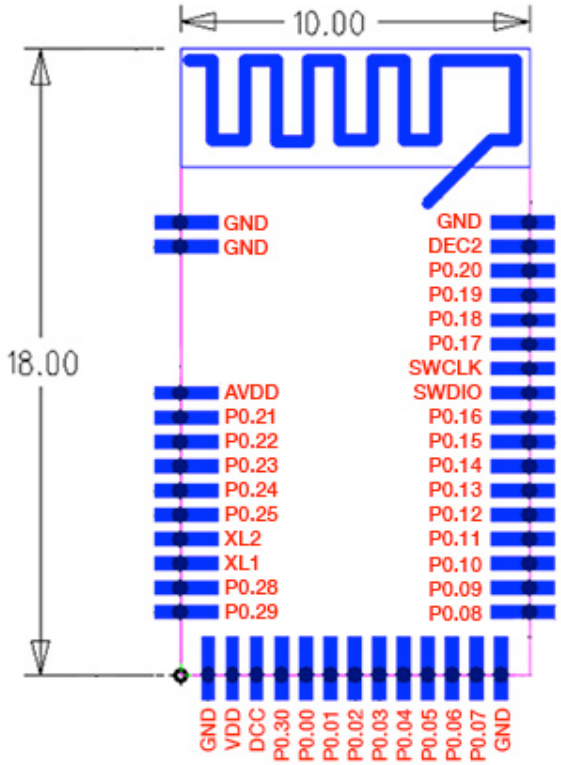
CAUTION:

ESD sensitive device. Precautions should be used when handing the device in order to prevent permanent damage.

Outline and Pin Size



Pin Assignment



FCC ID : 2AAXH-ILT51822

FCC Statement

1. This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s) . 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.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

FCC Statement:

This equipment complies with FCC radiation limits set forth for an uncontrolled environment.This equipment mush not be co-located or operating with any other antenna or transmitter. This module is designed to comply with FCC statement FCC ID is: 2AAXH-ILT51822 The host system using this module should have label in a visible area indicated the following texts "Contains FCC ID: 2AAXH-ILT51822".

NOTE:

Additional information on the Nordic nRF51822 chip can be found in the company's latest datasheet release at https://www.nordicsemi.com/eng/Products/Bluetooth-Smart-Bluetooth-low-energy/nRF51822