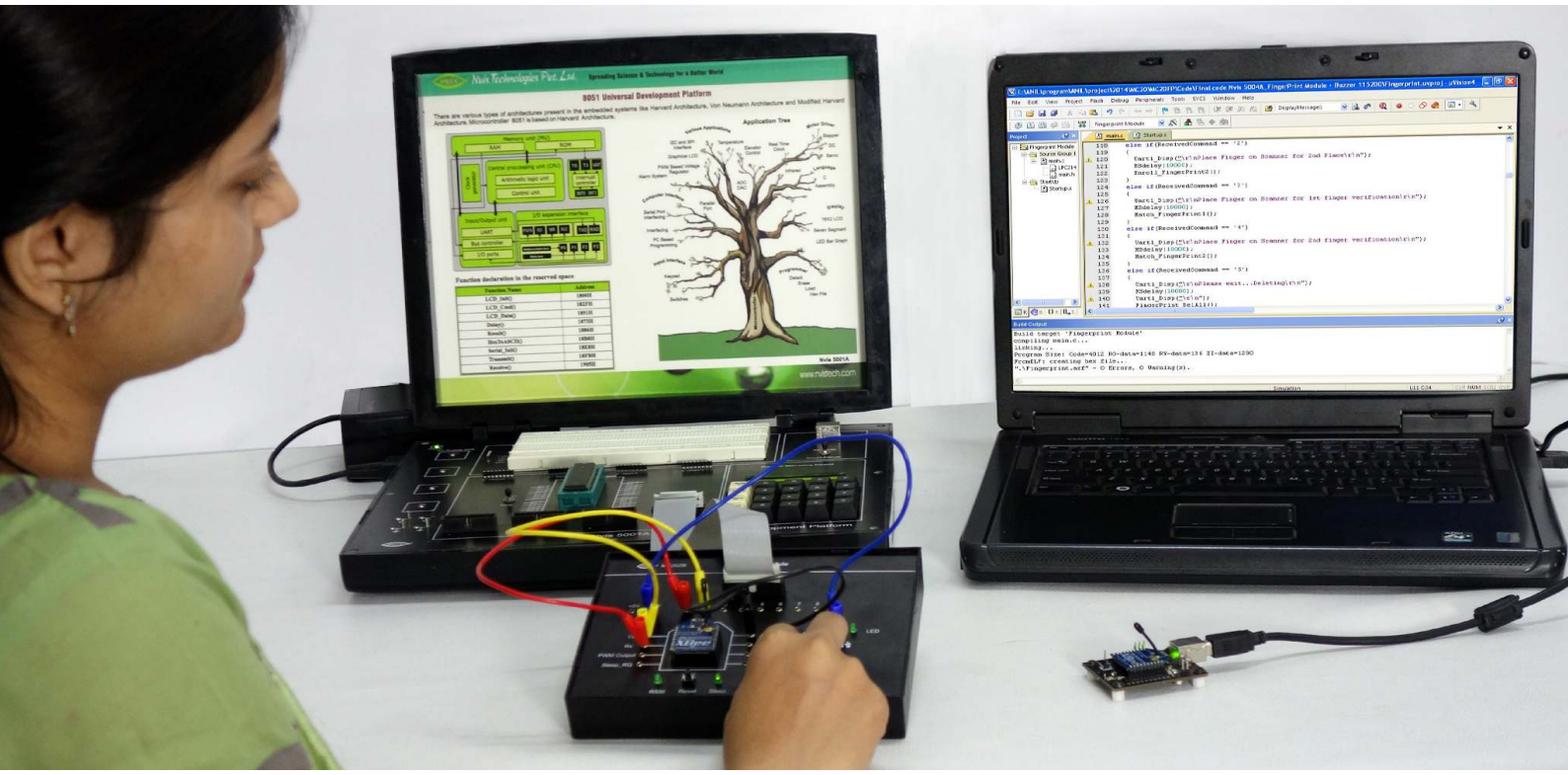
Zigbee Module

Nvis MC20ZB



Zigbee Module MC20ZB is an extension module for Nvis Microcontroller development platforms. The module has been designed for students and practicing engineers to gain invaluable practical experience on the principle and applications of microcontroller & Zigbee module. The object is to have a clear understanding of how Zigbee module is interfaced and controlled with microcontroller.

ZigBee modules are embedded solutions providing wireless end-point connectivity to devices. These modules use the Zigbee networking protocol for fast point-to-multipoint or peer-to-peer networking.

The Zigbee modules interface to a host device through a logic-level asynchronous serial port. Through its serial port, the module can communicate with any logic and voltage compatible UART, or through a level translator to any serial device.

Features

- **Wireless communication via ZigBee series 2 module**
- **On board 4nos 10-bit ADC**
- **On board 2 digital input switch**
- **On board PWM interface**
- **On board Power saving mode**
- **On board RSSI indicator**
- **On board Sleep mode indicator**
- **On board LED for indicator**
- **USB board for PC interface**
- **On board +5V and +3.3V Supply**
- **Board can be used as standalone**
- **Zigbee firmware up-gradation by using USB board**
- **Expansion connectors for Microcontroller**
- **Every pin is marked in order to make the work easier**

Scope of Learning

- To study of the implementation, analysis and interfacing of Zigbee module
- To study of implementation & analysis of peer to peer, star & mesh networking
- To study and learn to Interface Zigbee module with microcontroller
- To study and learn to use internal peripherals (ADC, PWM & I/O) of Zigbee module
- To study and design Wireless sensor network
- To study and design Automation application

Node

Base

Zigbee Module

Nvis MC20ZB

Technical Specifications

Indoor/Urban range	:	up to 80 ft
Outdoor RF line-of-sight range	:	up to 250 ft
Transmit power output	:	1 mW (0dbm)
RF data rate	:	250 Kbps
Supply voltage	:	2.8 - 3.4 V
Transmit current (typical)	:	45 mA (@ 3.3 V)
Idle/Receive current (typical)	:	50 mA (@ 3.3 V)
Frequency	:	ISM 2.4 GHz
Antenna	:	Wire type
Network topologies	:	Point to point, star, mesh
ADC	:	4 internal 10-Bit ADC
PWM output	:	0 to + 3.3V
Digital input	:	2 switches
LED	:	+5V
Power Supply	:	From Scientech 620X Series and Nvis 500X Series Microcontroller development platform
Operating temperature	:	-40°C to 85°C
Product Tutorial	:	Online (on www.Nvistech.com)
Interface	:	20 pin FRC cable
Dimensions (mm)	:	W 175 x D 130 x H 28
Weight	:	220 gms (approximately)
Included Accessories		
USB board	:	1 no.
ZigBee module S2	:	2 nos.
USB A to B cable	:	1no.
Patch cord	:	6 nos.

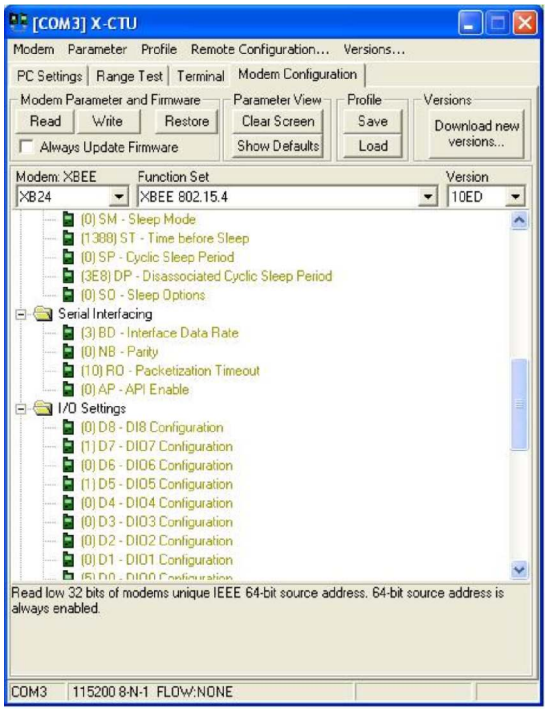
Note:

- This module is compatible with Scientech 620X Series and Nvis 5001A/2/3/4/4A/5 Series Microcontroller development platform.
- To run MC20ZB module with Nvis 5004, Add-on board is required.
- Star and Mesh networking can be create using multiple MC20ZB module
- To run MC20ZB Module, MC10 Module is required

Applications

- Home Automation
- Security System
- Data Management
- Wireless Data logger
- Weather monitoring
- Robotics

Zigbee configuration software



Subject to Change

Designed and Manufactured in India by -

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