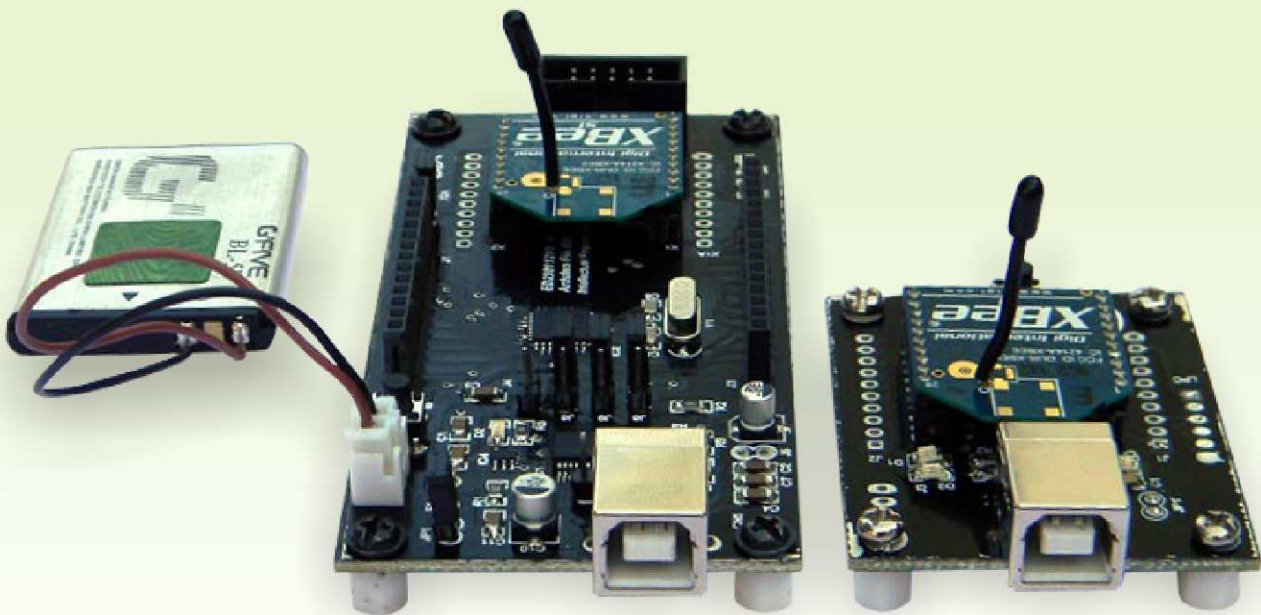




# Nvisduino based ZigBee Development Platform

Nvis 35D



Node

Base

**Nvis 35D Nvisduino based ZigBee Development Platform** is a full featured development platform for ATmega328P microcontroller. This platform is a convenient way to teach the principles of the Arduino, Xbee & the family of AVR microcontrollers through programming and interfacing on the ATmega328P device. The Nvisduino is intended for wireless applications. The user can upload codes with an USB cable, or by using a modified USB-to-XBee adaptor such as Nvisduino Tx (base) the user can upload program through wireless using Xbee S1. It is an ideal platform to implement and test the designs both for the beginners and the experts. Using this platform a range of projects in various domains like wireless communication, robotics, consumer electronics, etc can be done.

## Features

- ATmega328P MCU clocked at 8MHz
- USB boot loader to program ATmega328P device
- Wireless programming via Xbee module (Series 1 only)
- On board ISP connector for PC based programming
- Every pin is marked in order to make work easier
- Master Reset/Restart Key for hardware reset
- Supply from USB/External Supply/ battery
- LED indication for various operation
- Rich Online Learning material

## Scope of Learning

- Learn the concept of Arduino IDE
- Learn the concept of Wireless Zigbee communication
- Learn to interface Xbee module
- Learn to interface AVR series microcontroller
- Learn to develop wireless applications
- Learn to design Wireless Sensor network

## Applications

- Wireless Sensor Networks
- Wireless Data Logger
- Process Automation
- Process Control
- Wireless Security system
- Robotics



# Nvisduino based ZigBee Development Platform

## Nvis 35D

### Technical Specifications

<b>Microcontroller</b>	: ATmega328P
<b>Operating Voltage</b>	: 3.3V
<b>Input Voltage</b>	: 3.35-5V
<b>Input Voltage for charge</b>	: 3.5-5V
<b>Digital I/O Pins</b>	: 14 (of which 6 provide PWM output)
<b>Analog input pins</b>	: 8
<b>DC Current per I/O pin</b>	: 40mA
<b>Flash Memory</b>	: 32KB (of which 2KB used by boot loader)
<b>SRAM</b>	: 2KB
<b>EEPROM</b>	: 1KB
<b>Clock Speed</b>	: 8MHz
<b>Xbee module</b>	
Indoor/Urban range	: up to 100 ft. (30m) S1 up to 133 ft. (40m) S2
Outdoor RF line-of-sight range	: up to 300 ft. (100m) S1 up to 400 ft. (120m) S2
Transmit Power Output	: 1mW (0dbm) S1 2mW (+3dbm) S2
RF data rate	: 250 Kbps
Supply Voltage	: 2.8 - 3.4V
Transmit Current (typical)	: 45mA (@ 3.3V) S1 40mA (@ 3.3V) S2
Idle/Receive Current (typical)	: 50mA (@ 3.3V) S1 40mA (@3.3V) S2
Frequency	: ISM 2.4GHz
Dimensions	: 0.0960" x 1.087"
Operating Temperature	: -40° to 85° C
Antenna Type	: Wire
Network topologies	: Point to point, Star, Mesh (with DigiMesh firmware)

### Ordering Code

Nvisduino	Nvis 35D
Nvisduino node	Nvis 35DN
Nvisduino base	Nvis 35DB
Xbee module (S1)	Nvis 35DXbee S1
Xbee module (S2)	Nvis 35DXbee S2

### Optional

Li-ion battery	3.7V
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### Software Window

```

Blink | Arduino 1.0
File Edit Sketch Tools Help
Blink
/*
 * Blink
 * Turns on an LED on for one second, then off for one second, repeats.
 *
 * This example code is in the public domain.
 */
void setup() {
  // initialize the digital pin as an output.
  // Pin 13 has an LED connected on most Arduino boards:
  pinMode(13, OUTPUT);
}
void loop() {
  digitalWrite(13, HIGH); // set the LED on
  delay(1000);           // wait for a second
  digitalWrite(13, LOW); // set the LED off
  delay(1000);           // wait for a second
}
  
```

