Technical Description

The brief circuit description is listed as follows:

U1 acts as MCU
U3 acts as 3.3V Regulator
Charger Circuit (U2, Q1, Q2) act as the charging circuit part
Y1 acts as 16MHz Oscillator
RF Chip set TNT-2400SSV-UDN acts as 2.4GHz RF transceiver

Antenna Used:
An internal, integral antenna has been used.
Antenna Gain: 0dBi
Nominal rated field strength: 100.0dBµV/m at 3m
Maximum allowed field strength of production tolerance: +/- 3dB

2.4GHz GFSK Transceiver Module

TNT-2400SSV-UDN

Data Sheet

General Description

The TNT-2400SSV_UDN module is designed for 2.4GHz ISM band wireless application using GFSK transceiver. This module is a fully programmable frequency synthesizer through SPI. The maximum data rate is 2Mbps.

Features

- 2.4GHz ISM band operation
- 250Kbps, 1Mbps, 2Mbps
- Continuous TX mode, no re-lock between packets required
- Programmable status monitor: dedicated RX/FIFO monitor mode
- 1.9 to 3.6V supply range
- Automatic packet processing
- Advanced RSSI recording mode

Application

- Wireless PC peripherals
- Wireless keyboard and mice
- Wireless gamepads
- VOIP & wireless headsets
- Remote controls
- Home automation
- Toys
- Consumer electronics

Specification

Item	Specification	Remark
Supply Voltage	1.9V ~ 3.6V	
Current consumption	9uA @Power-down mode 47uA @Standby mode 26.6mA @Rx mode 20.5mA @TX mode (Pout=0dBm)	Typical
Frequency	2400 - 2484MHz	ISM band
Maximum TX power	2dBm	
RX sensitivity	-92 dBm @250kbps -90 dBm @1Mbps -88 dBm @2Mbps	
Modulation	GFSK	
Transmission distance	about 40 meter	
Dimension	15mm x 13.6mm	

Pad Description
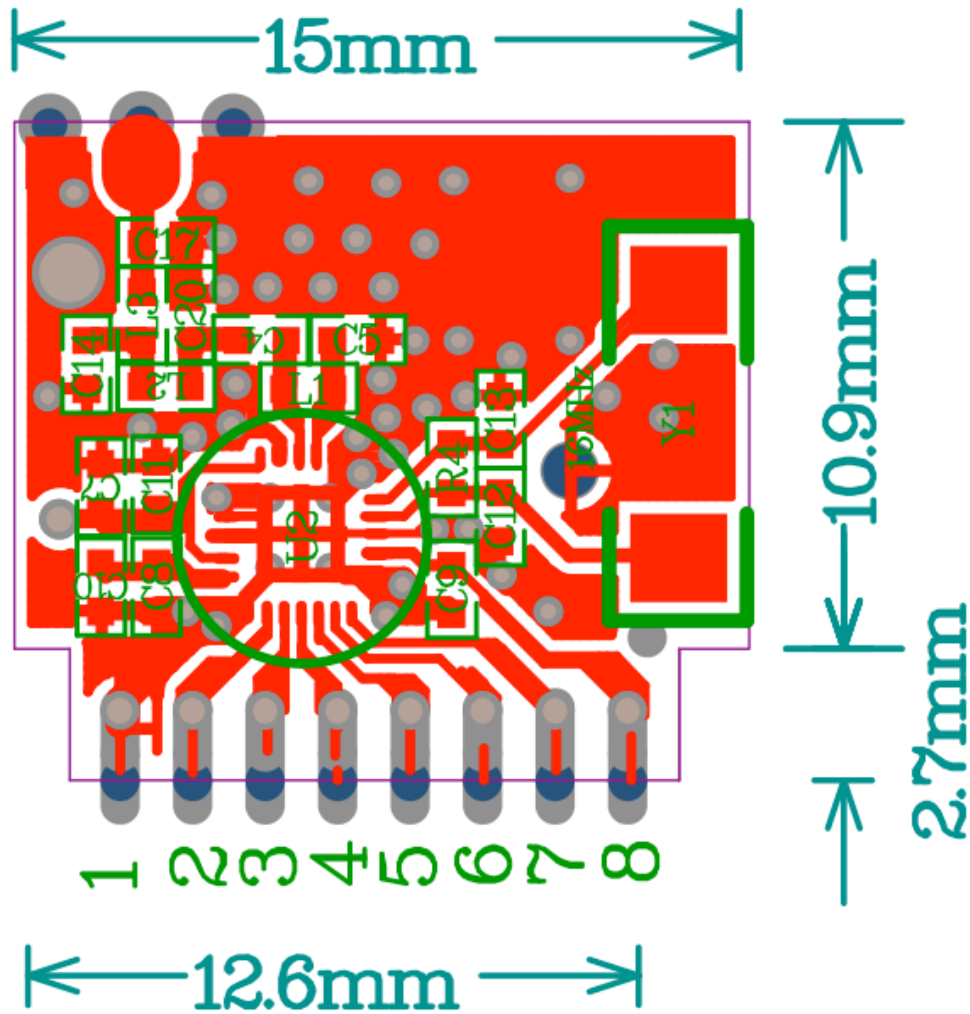
Pad No.	Symbol	Function Description	Remark
1	GND	Ground	1
2	CE	Hard-wire pin to activate radio TX/RX	
3	CSN	SPI chip selection	
4	SCK	SPI clock	
5	MOSI	SPI slave data input	
6	MISO	SPI slave data output	
7	IRQ	Programmable interrupt, active low	
8	VCC	Supply voltage	1.9 ~3.6

Block Diagram
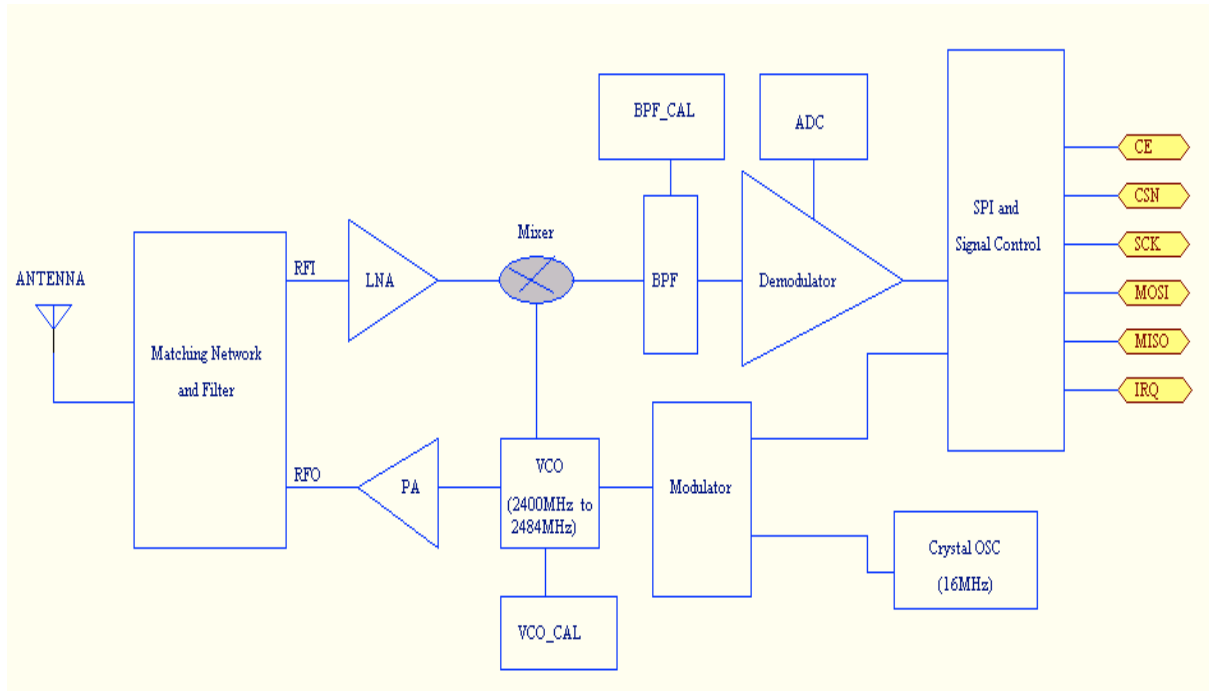
Application circuit

SPI serial bus (4 wires)
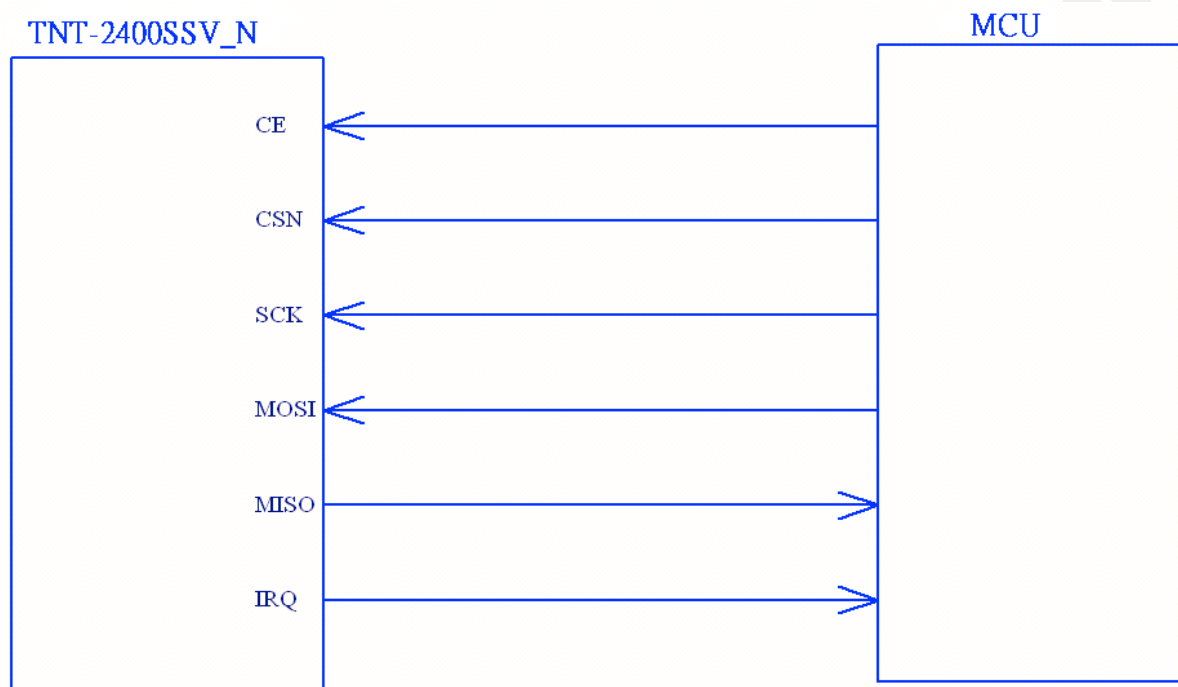
Data Sheet Document History

Revision	Date	Description
A1	2013 / 10	Preliminary version I
A2	2014 / 01	Updated part number to TNT-2400SSV_UDN