

# Technical Description

The brief circuit description is listed as follows:

U1 acts as MCU

U3 acts as 3.3V Regulator

(U6, Q1, Q2) act as the motor driver circuit

Y1 acts as 16MHz Oscillator

RF Chip set A7105 acts as 2.4GHz RF transceiver

Antenna Used:

An internal, integral antenna has been used.

Antenna Gain: 0dBi

Nominal rated field strength: 94.9dBuV/m at 3m

Maximum allowed field strength of production tolerance: +/- 3dB

## 2.4GHz FSK / GFSK Transceiver Module

**TNT-7105-DN**

**Data Sheet**

## General Description

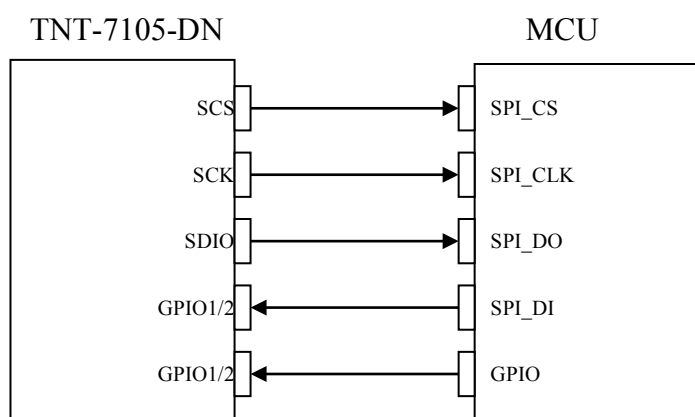
The TNT-7105-DN module is designed for 2.4GHz ISM band wireless application using FSK / GFSK transceiver. This module features a fully programmable frequency synthesizer by SPI. The maximum data rate is 500Kbps.

## Electrical specification

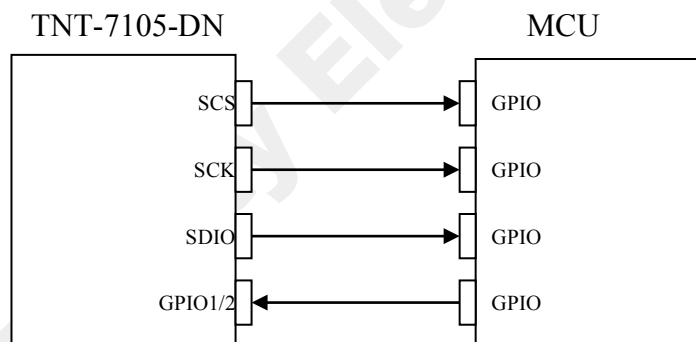
Item	Specification	Remark
Supply Voltage	1.9V ~ 3.6V	
Current consumption	0.7uA @Sleep mode 0.3mA @Idle mode 1.7mA @Stand-by mode 15.5mA @Rx mode 20.5mA @Tx mode (Pout=0dBm)	Typical
Frequency	2400 – 2483MHz	ISM band
Transmit output power	0 dBm @ room temperature	Typical
Rx sensitivity	-107dBm (typical) @2Kbps mode, Dev = 124KHz -104dBm (typical) @25Kbps mode, Dev = 124KHz -97dBm (typical) @250Kbps mode, Dev = 186KHz -95dBm (typical) @500Kbps mode, Dev = 186KHz	BER ≤ 1E-3
Modulation	FSK or GFSK	
Interface	8 x 1 pin 1.5mm	
Dimension	15.0mm (L) x 13.6mm (W) x 5mm (H)	Not include connector
Operating temperature	-40 ~ 85 °C	

## Application circuit

### SPI serial bus (4 wires)

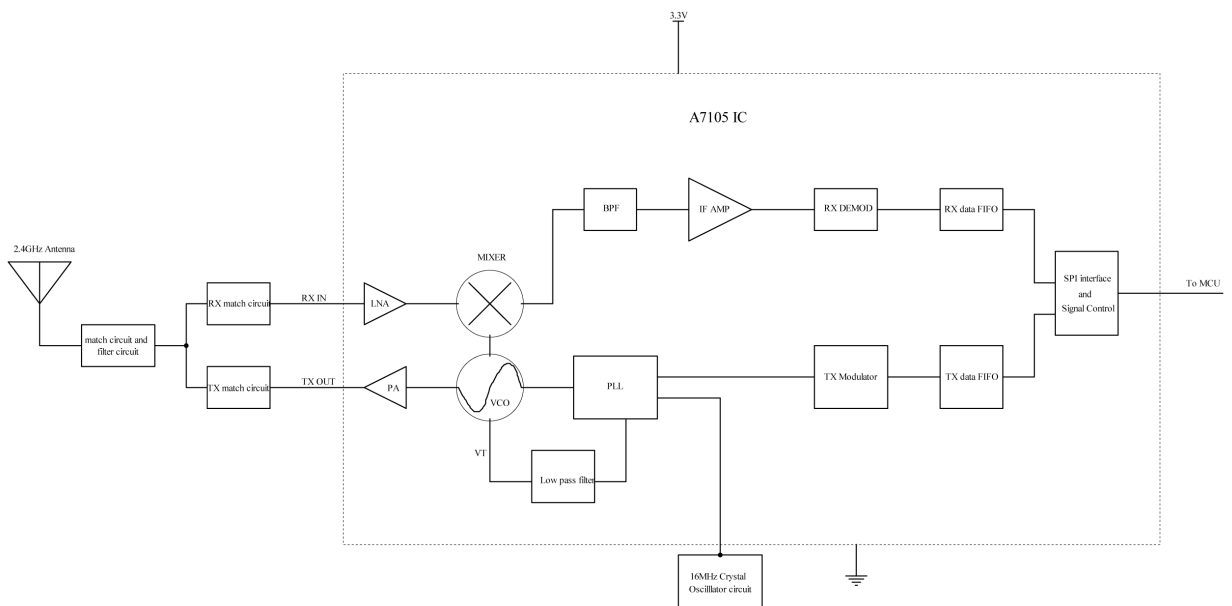


### Serial bus (3 wires)

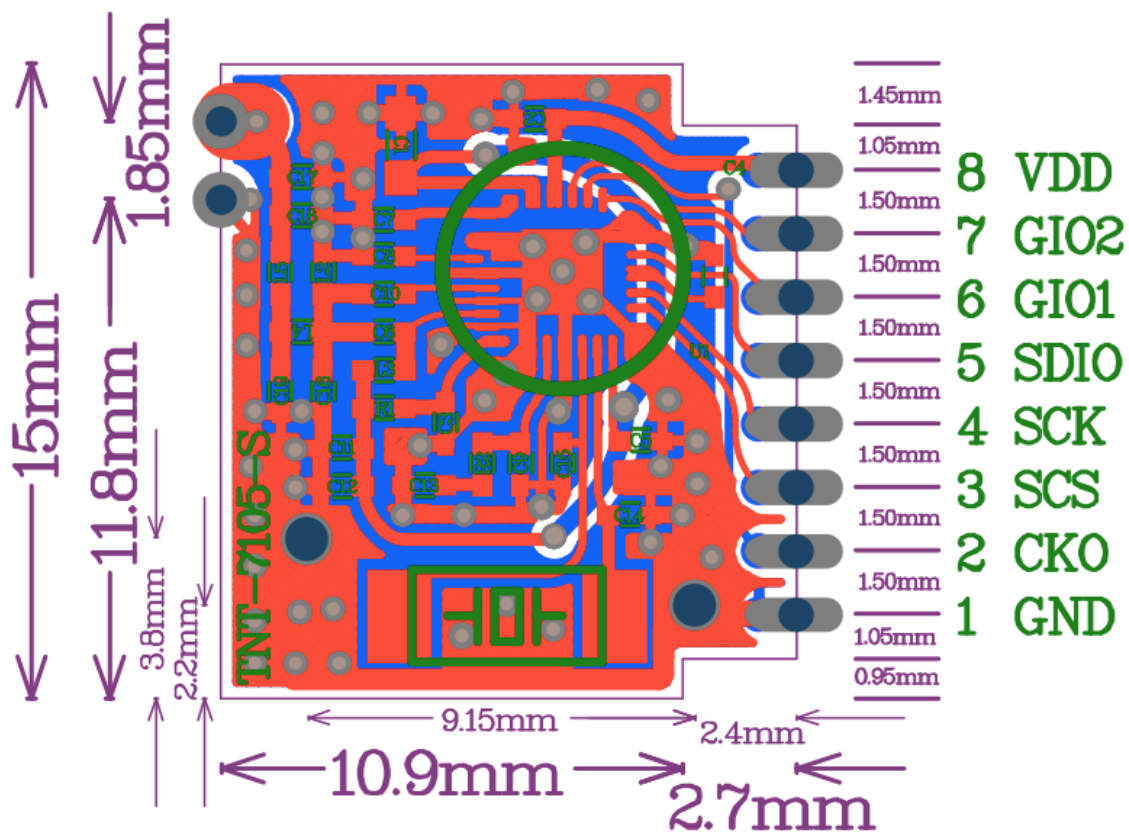


## Block Diagram

A7105 MODULE BLOCK DIAGRAM



## Pad Description



Pad No.	Symbol	Function Description	Remark
1	GND	Ground	1
2	CKO	Output clock	
3	SCS	SPI chip selection	
4	SCK	SPI clock	
5	SDIO	SPI read/write data pin	
6	GIO1	Multi-function IO1	
7	GIO2	Multi-function IO2	
8	VDD	Supply voltage	1.9 ~3.6

## Data Sheet Document History

Revision	Date	Description
A1	2014 / 01	Preliminary version I
A2	2014 / 04	Added Block Diagram