

## 1.0 Feature and Application

### Feature

- Low Power 3 & 5V Operation
- Designed for 27.04 & 27.21MHz
- FSK Modulation/Demodulation
- Dual conversion receiver
- Comply with to FCC part 15 requirement
- Low cost, High Performance
- Size (TX: 25.0mmx20.0mmx8.5mm; RX: 36.0mmx36.0mmx11.5mm)

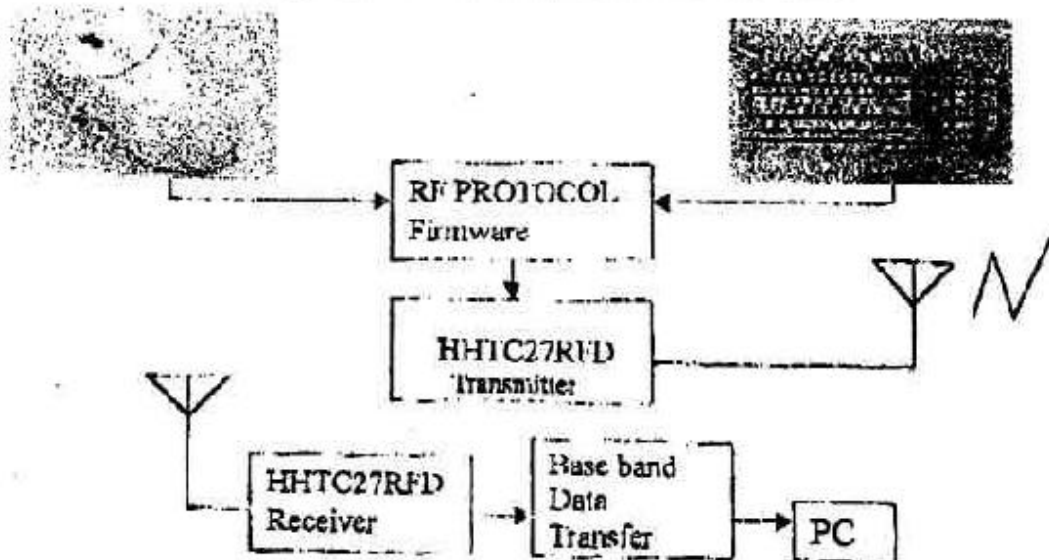
### Applications

- High Performance Digital Radio Links for keyboard, mouse
- General 27M ISM Band
- 2400bps data rate communication

## 2.0 Brief Description

HHTC27RFD RF module is a transmitter and receiver that provide PC input device (include keyboard, mouse) base band-to-RF and RF-to-base band dual conversion functions needs for 26.995 & 27.245 MHz digital communication. The overall system block diagram is shown in Figure 1. We replace the cable from PC to a keyboard and mouse.

Figure1 : OVERALL SYSTEM BLOCK



### 3.0 Signal List

The RF module interface defined herein is the interface to the base band portion and it is an 6-pin male connector (refer to appendix A). The pin-assignment and descriptions of RF-to-BASEBAND interface is explained as follows and the pin-allocation diagram is depicted in appendix A :

Tx :

CONNECT	PIN	NAME	IN/OUT	FUNCTION
CN6	1	Ant1		Antenna1
	2	Ant2	Out	Antenna2
	3	Vcc	In	Power supply
	4	Gnd		Ground
	5	Data	In	Data Input
	6	CS	In	Channel Select

Rx :

CONNECT	PIN	NAME	IN/OUT	FUNCTION
CN6	1	Ant1	In	Antenna1
	2	Ant2		Antenna2
	3	Vcc	In	Power Supply
	4	Gnd		Ground
	5	Data	Out	Data Output
	6	CS	In	Channel Select

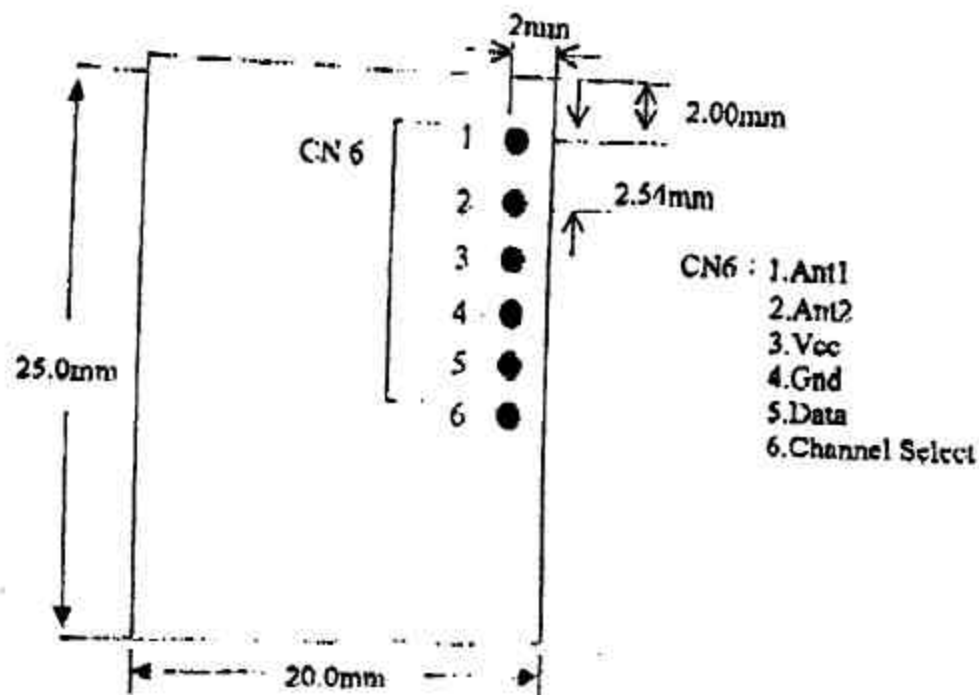
## 4.0 General Specifications of RF Module

Item NO	Parameter	Description	Tx Module	Rx Module
1	Number of channels		2 channels	2 channels
2	Channel spacing		250 KHz	250KHz
3	Receive frequency band		N/A	26.995& 27.245MHz
4	Rx Demodulation		N/A	FSK detection
5	Receiver sensitivity	Minimum		-90 dBm
6	Data rate	Maximum		2400 bps
7	Transmit frequency band		26.995&27.245MHz	N/A
8	Tx Modulation		FSK	N/A
9	Output power FCC Requirements	Maximum Fundamental Spurious Emissions	-10 dBm $\approx 60\text{dB}\mu\text{V/m @3meters}$ $\approx 30\text{mW}$ $<40\text{dB}\mu\text{V/m @3meters}$ $3\text{mW}$	N/A $<10\text{dB}\mu\text{V/m @3meters}$
10	Duplex type		Transmit only	Receive only
11	RF frequency tolerance		$\pm 15\text{ppm}$	$\pm 15\text{ppm}$
12	Temperature range	Operating Storage	0 to 50°C -10 to 60°C	0 to 50°C -10 to 60°C
13	Power source	Nominal	3.0VDC	5.0VDC
14	Power consumption	Maximum Operational Supply current	< 7mA	12mA
15	Dimensions		25.0×20×8.5(mm)	36.0×36.0×11.5(mm)
16	Weight		4g	11g

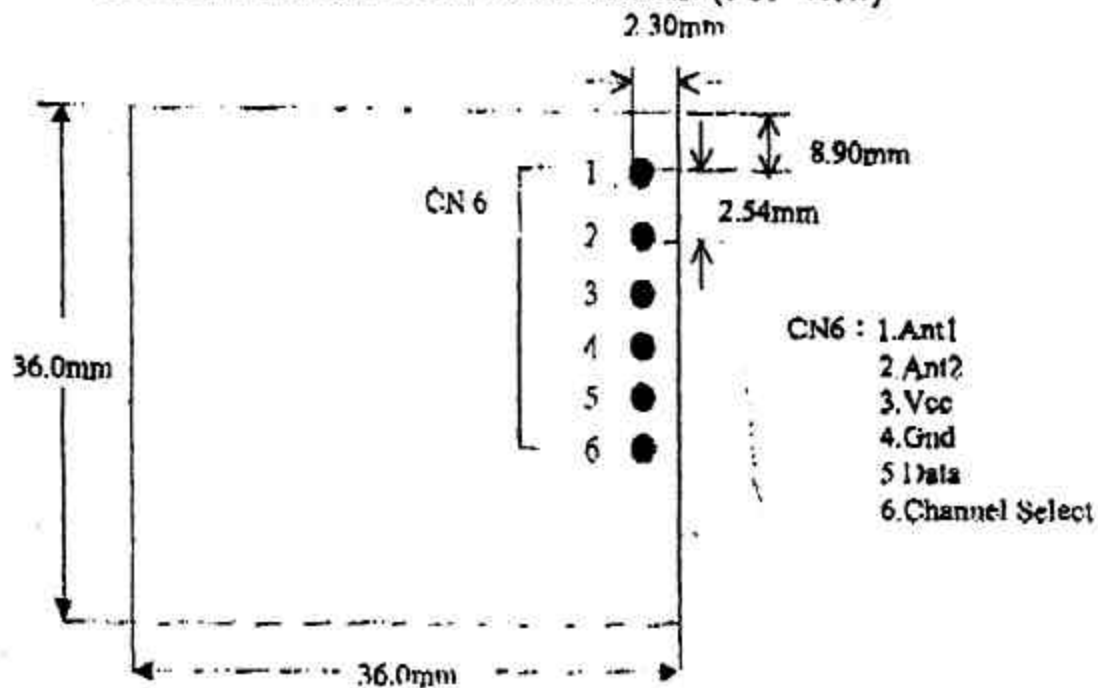
## Appendix A :

### Transmitter & Receiver Module Mechanical Drawing and Interface Pin Allocation

Transmitter Dimension : 25.0×20.0×8.5mm (TOP View)



Receiver Dimension : 36.0×36.0×11.5mm (TOP View)



**CAUTION:** Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.