

UMD001

**ZigBee Compliant Platform
Sub 1GHz Transceiver Module**

**DATA SHEET
Version C**



UMD001 Features

- Wide frequency range, including the 433 MHz and 868MHz European and the 902-928 MHz North American ISM bands
- Low power consumption
- Internal MCU with 32K Flash and 2K RAM allows for application programming space and save the cost for additional MCU
- Up to 8 I/O pins provide flexible interfaces
- With 12-bit resolution ADC; 2.5 ms conversion time
- function; 1.7 mV/°C temperature sensor
- 1 UART port, 1 SPI port and 1 I2C port
- With 2 types of on-board RF antenna connector: iPex and SMA
- Connection interface: 1X9+2X12 through hole for 2.0mm pitch header
- “Ready to go” modules speeding up products development

Applications

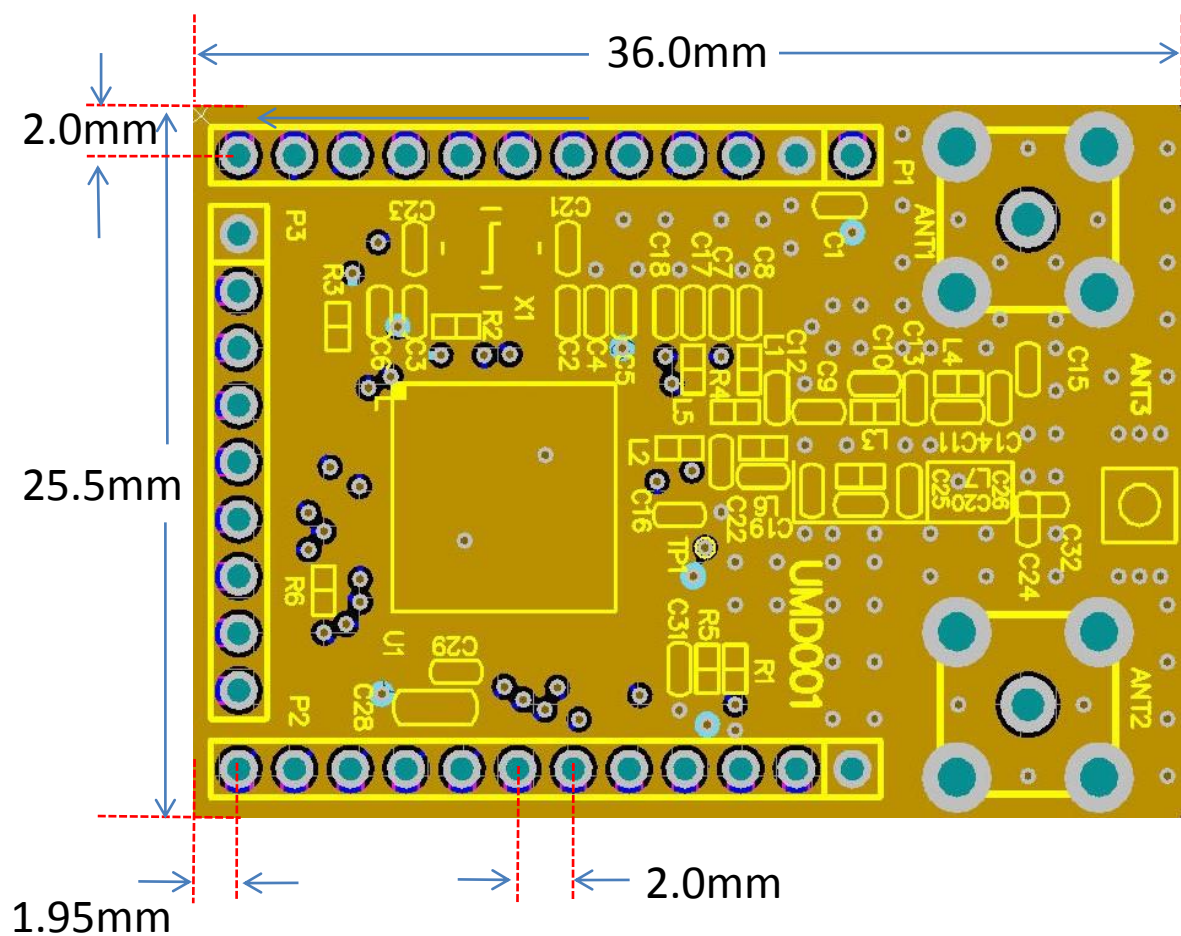
- Automated Meter Reading
- Wireless Sensor Networks
- Home and Building Automation
- Wireless Alarm and Security Systems
- Industrial Monitoring and Control
- Wireless MBUS Standard (EN13757-4:2005)
- Cable replacement

Specifications

- 32KB flash and 2KB RAM
- Input voltage: 1.8V ~ 3.6V
- RF Data rate: Typically 50K, Maximum 300kbps
- RF Transceiver Features
 - High Sensitivity: down to -120 dBm at 1.2 kbps
 - High Selectivity: 16-tap FIR Channel Filter
 - Bullet-proof front end: IIP3 = -18 dBm, IIP2 = +35 dBm, 80 dB Blocking Immunity, no Image Frequency response
 - Low current: Rx = 16mA, 100nA register retention
 - Programmable Pout : -18 to +17 dBm in 1 dB steps
 - Constant RF performance over voltage range of chip
 - FSK bit rates up to 300 kbps
 - Fully integrated synthesizer with a resolution of 61 Hz
 - FSK, GFSK, MSK, GMSK and OOK modulations
 - Built-in Bit Synchronizer performing Clock recovery
 - Incoming Sync Word Recognition
 - Automatic RF Sense with ultra-fast AFC
 - Packet engine with CRC, AES-128 encryption and 66-byte FIFO
 - Built-in temperature sensor and Low battery indicator
 - 32 MHz crystal oscillator clock source
- Up to 8 I/O pins provide flexible interfaces
- With 12-bit resolution ADC; 2.5 ms conversion time; 1.7 mV/°C temperature sensor
- 1 UART port, 1 SPI port and 1 I2C port

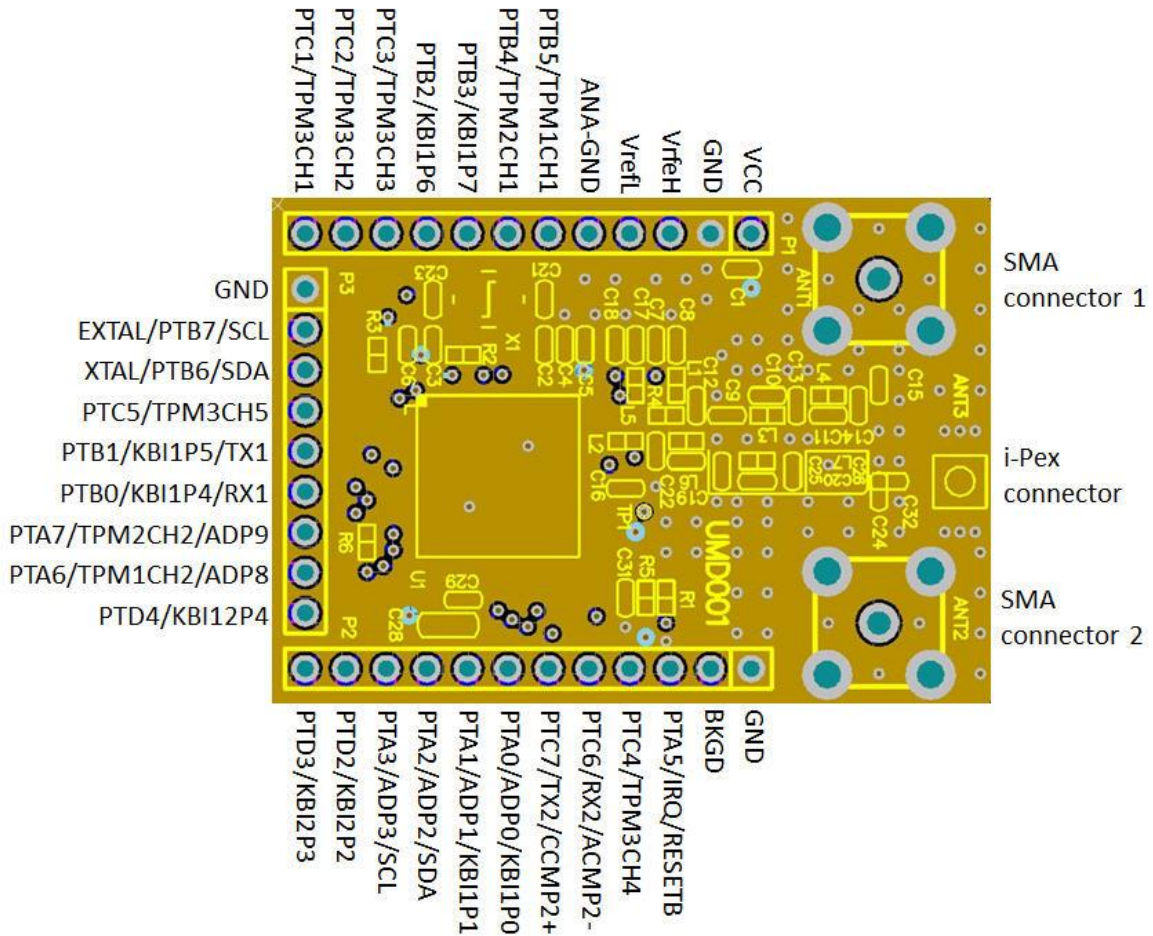
- With 2 types of on-board RF antenna connector: iPex and SMA
- Small module footprint: 25.5mmX36mm

Device Diagram



Dimensions : length 25.5 mm X width 36mm X height 3mm

Pin Definitions



Electrical Specifications

Item	Min	Typical	Max	Unit	
Frequency	433		928	MHz	
Supply voltage	1.8	3.3	3.6	V	
MCU current consumption	Synthesizer mode	9.0		mA	
	Standby mode		1.25	1.5	mA
	Idle mode		1.2		uA
	Sleep mode		0.1		uA
RF current consumption	TX (+13dBm)		45	mA	
	RX		16	mA	
TX output power	-20	0	17	dBm	