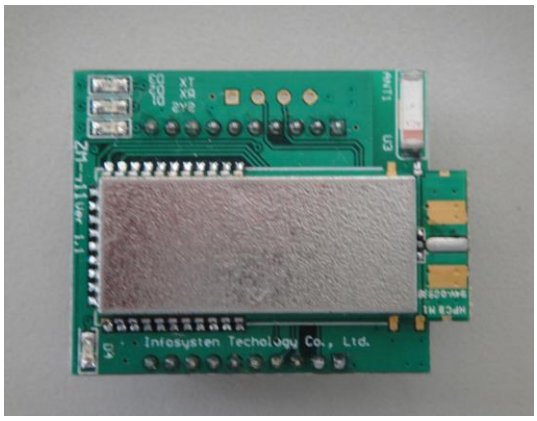
GENERGAL DESCRIPTIONS

ZM-411 is a Zigbee RF PCB Module with the ARM Cortex M3 and UZ2400, also boundled RF power amplifier and LNA on the board to be a high performance and reliability Zigbee RF module. ZM-411 tranefers the data from Zigbee RF to UART and easy to use in the sensoring applications, such as Temperature, Humidity, Smart Meter and so on.

ZM-411 is a small size and low cost module is easy to implement an application in IA, Automatic, Security and any low data rate data transmit ion as a communication interface. ZM-411 supports the , Infosystem INET and Zigbee complient protocal protocols. .



FEATURES

- **Protocol Support**

  Zigbee 802.15.4 , Infosystem INET and Zigbee complient protocol

- **RF**

  Bias: 3.0V~3.6V
  Sleep current: 3 uA
  Effective Distance: 1000 meters (line of sight, environment dependent, typical)
  Chip Antenna or SMA Antenna
  Rx Sensitivity: -101dBm, typical
  Tx Output Power: 19dBm, typical
  Tx Current Consumption: 180mA, typical
  Rx Current Consumption: 34mA, typical

- **CPU**

  ARM Cortex M3
  32K Flash
  8K SRAM

- **Support Interface**

  3.3V UART TTL Interface

- **Setting**

  Setup Tool to setup the PAN ID , RF channel and UART baudrate

- **Security**

  AES-128

- **Low Power Consumption**

  Zigbee Power Consumption

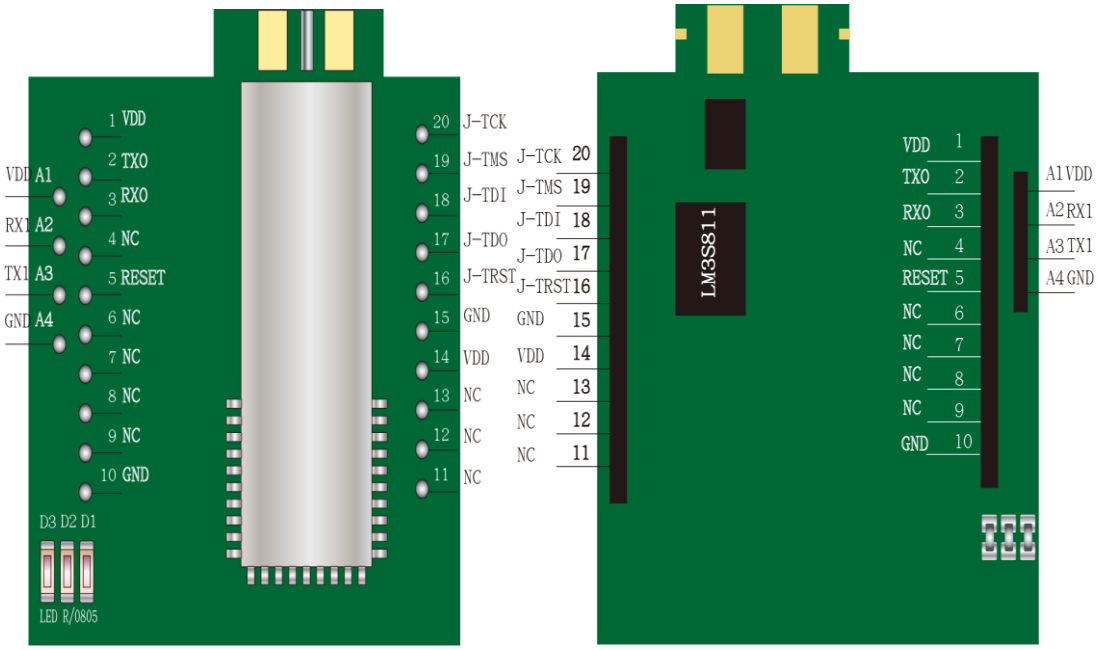
- **High Reliability**

  Working 24Hours per day

- **Low CostAPPLICATIONS**

  Data collection & security terminals:
  Security Devices
  Time Recorders
  Warehouse Terminals
  Shop floor automation Terminals
  Remote Sensors & Meters:
  Power monitors
  Power meters
  Environmental monitors
  Temperature monitors Electronic product
  Smart Grid
  Computer and the auxiliary equipment
  Building automation controls
  Hospital application
  Industry monitoring
  Home Networking

■ ZM-411 Pin Assignment

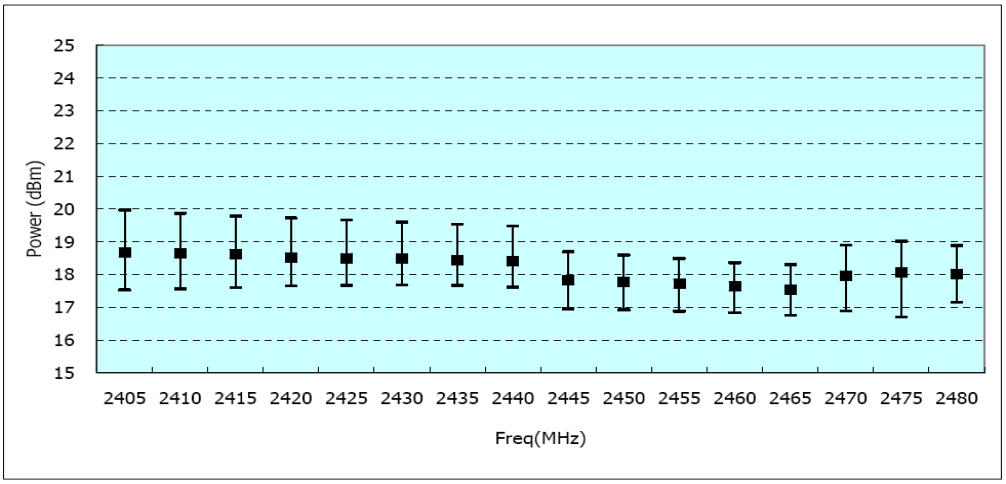


■ ZM-411 Pin Descriptions

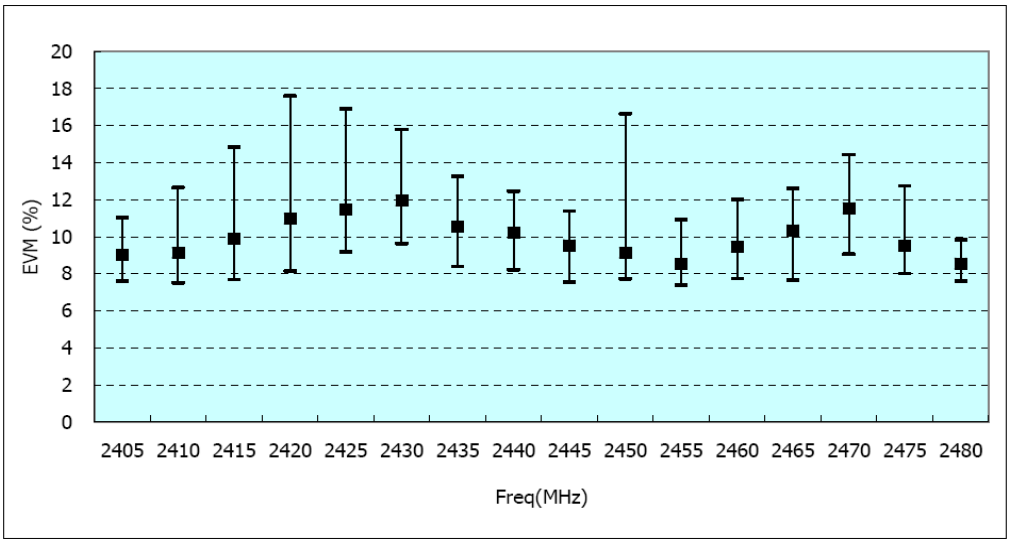
Pin No	Name	Type	Description
1	VDD	P	+3.3V Power In
2	TX0	O	UART Tx, TT:L Level
3	RX0	I	UART Rx, TTL Level
4	NC	-	No Connection
5	RESET	I	Reset Input In, Low Active
6	NC	-	No Connection
7	NC	-	No Connection
8	NC	-	No Connection
9	NC	-	No Connection
10	GND	P	Ground, Power In
11	NC	-	No Connection
12	NC	-	No Connection
13	NC	-	No Connection
14	VDD	P	+3.3V Power In
15	GND	P	Ground, Power In
16	J-TRST	I	J-Tag, Reset
17	J-TDO	O	J-Tag, Data out

18	J-TDI	I	J-Tag, Data In
19	J-TMS	O	J-Tag, Status In
20	J-TCK	I	J-Tag, Clock
A1	VDD	P	Auxiliary Port, +3.3V Power In, For Monitor and Configure
A2	RX1	I	Auxiliary Port, UART Rx, TTL Level, For Monitor and Configure
A3	TX1	O	Auxiliary Port, UART Tx, TT:L Level, For Monitor and Configure
A4	GND	P	Auxiliary Port, Ground, Power In, For Monitor and Configure

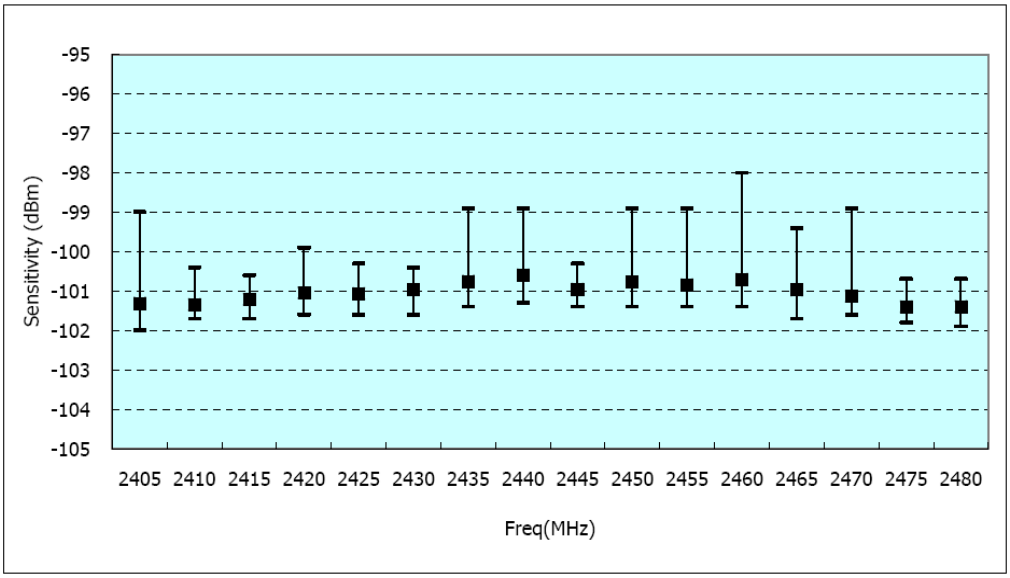
■ TX Output Power



■ TX EVM



RX Sensitivity



RF Electrical Specifications

Test conditions: T_A = 25°C, VDD = 3.3 V, Pout,UZ2400=-10dBm

ITEM	Condition	Specification			Unit
		Min.	Typ.	Max.	
Frequency		2405		2480	MHz
Supply voltage		3.0	3.3	3.6	V
TX Current consumption	(P_{out} =19 dBm)		180		mA
RX Current consumption			34		mA
TX Output power	P_{out}(UZ2400)=-10dBm		19		dBm
TX EVM	P_{out}(UZ2400)=-10dBm		15		%
RX sensitivity	PER<=1% O-QPSk 250kbps		-101		dBm
Communication Range	Throughput >120kbps at 250kbps data rate, LOS		1000		m

Table . Tlectrical Specifications