HJT-R7601MU6

IEEE 802.11b/g/n (1T1R) WLAN USB Module

Version: 1.0

Customer			
Date	2016.12.02		
Model Name	HJT-R7601MU6		
Part NO.			
Blink Approve Field			
ENGINEER	QC	SALES	
Customer Approve Field			
ENGINEER	QC	MANUFACTORY	PURCHASING

Content

1. General Description

HJT-R7601MU6 product accord with FCC CE is a highly integrated Wi-Fi single chip which support 150 Mbps PHY rate. It fully complies with IEEE802.11n and IEEE802.11b/g standard, offering feature-rich wireless connectivity at high standard, and delivering reliable, cost-effective throughput from an extended distance. Optimized RF architecture and baseband algorithms provide superb performance and lower power consumption. Intelligent MAC design deploys a high efficient DMA engine and hardware data processing accelerators which offloads the host processor.

2. The range of applying

MID, networking camera, STB GPS, E-book, Hard disk player, Network Radios, PSP and other device which need be supported by wireless networking.

3. Product Specification

3.1 Electrical and Performance Specification

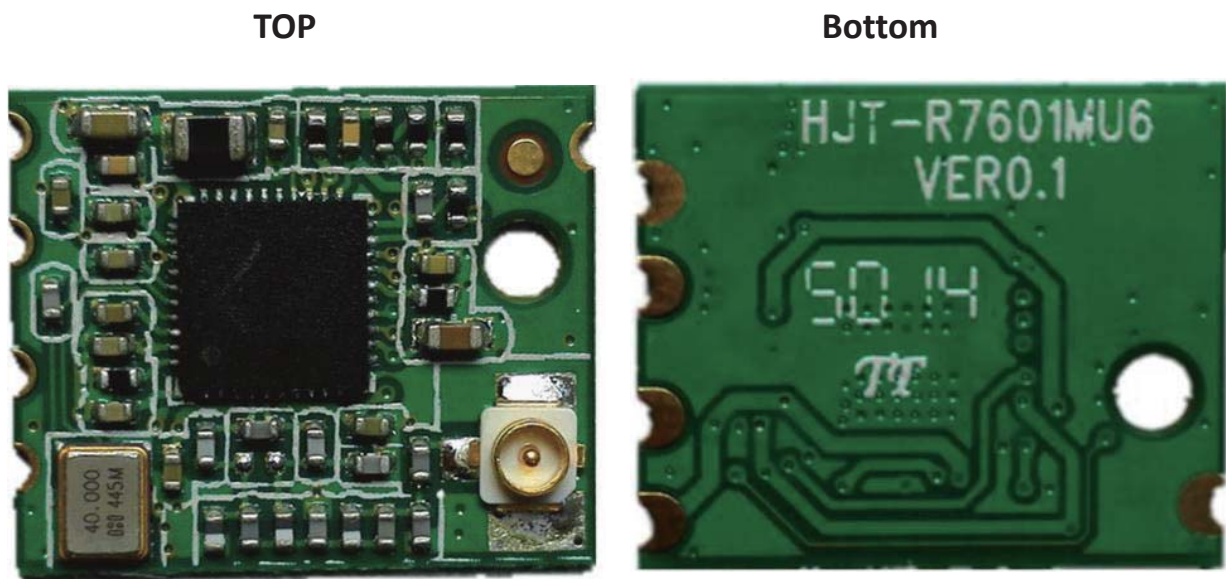| Item	Description
Product Name	HJT-R7601MU6
Major Chipset	MT7601
Host Interface	USB2.0
Standard	IEEE 802.11b, IEEE 802.11g,IEEE 802.11n
Frequency Range	2.4GHz~2.4835GHz
Modulation Type	802.11b: CCK, DQPSK, DBPSK 802.11g: 64-QAM,16-QAM, QPSK, BPSK 802.11n: 64-QAM,16-QAM, QPSK, BPSK
Working Mode	Infrastructure, Ad-Hoc
Data Transfer Rate	802.11b: 11, 5.5, 2, 1 Mbps 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: 150Mbps(MAX)
Spread Spectrum	IEEE 802.11b: DSSS (Direct Sequence Spread Spectrum) IEEE 802.11g/n:OFDM (Orthogonal Frequency Division Multiplexing)
Sensitivity @PER	135M:-70dBm@10%PER 54M:-74dBm@10%PER 36M:-80dBm@10%PER 11M:-89dBm@8%PER 6M: -91dBm@10%PER 1M: -97dBm@8%PER
Antenna type	Connect to the external antenna through the IPEX
The transmit distance	Indoor 100M, Outdoor 300M, according the local environment
Dimension(L*W*H)	15.7*13*0.8mm (LxWxH) ， Tolerance: +-0.15mm
Power supply	3.3V +/-0.2V, 320mA
Power Consumption	standby mode 50mA@3.3V , TX mode 262mA@3.3V
Clock source	40MHz
Working Temperature	-10°C to +50°C
Storage temperature	-40°C to +70°C

3.2 DC Characteristic

Vcc=3.3V，Ta = 25 °C，unit: mA	
Terms	**Contents**
Specification : IEEE802.11b	
Mode	DSSS / CCK

Frequency	2412 – 2462MHz			
Data rate	1, 2, 5.5, 11Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	239	249	262	mA
Rx mode	91	92	93	mA
Sleep mode	47	48	50	mA
Specification : IEEE802.11g				
Mode	OFDM			
Frequency	2412 - 2462MHz			
Data rate	6, 9, 12, 18, 24, 36, 48, 54Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	145	185	248	mA
Rx mode	92	93	100	mA
Sleep mode	46	48	49	mA
Specification : IEEE802.11n				
Mode	OFDM			
Frequency	2412 - 2462MHz			
Data rate	6.5, 13, 19.5, 26, 39, 52, 58.5, 65Mbps			
DC Characteristics	min	Typ.	max.	unit
TX mode	143	178	259	mA
Rx mode	91	92	93	mA
Sleep mode	47	48	49	mA

3.3 RF Characteristic

Mode	Rate(Mbps)	EVM(dB)			Sensitivity(dBm)		
		CH1	CH7	CH13	CH1	CH7	CH13
11b	1	-29.88	-28.56	-29.83	-92	-92	-92
	11	-28.60	-28.82	-29.25	-89	-89	-89
11g	6	-22.05	-22.60	-23.21	-91	-91	-91
	54	-30.02	-30.85	-30.02	-74	-74	-74
11n HT20	MCS0	-21.35	-21.77	-21.91	-89	-89	-89
	MCS7	-29.67	-30.98	-31.70	-73	-73	-73
11n HT40	MCS0	-22.30	-23.00	-23.23	-89	-89	-89
	MCS7	-31.21	-31.58	-30.57	-70	-70	-70

3.4 Product Photo

TOP   **Bottom**

3.5 Mechanical Specification
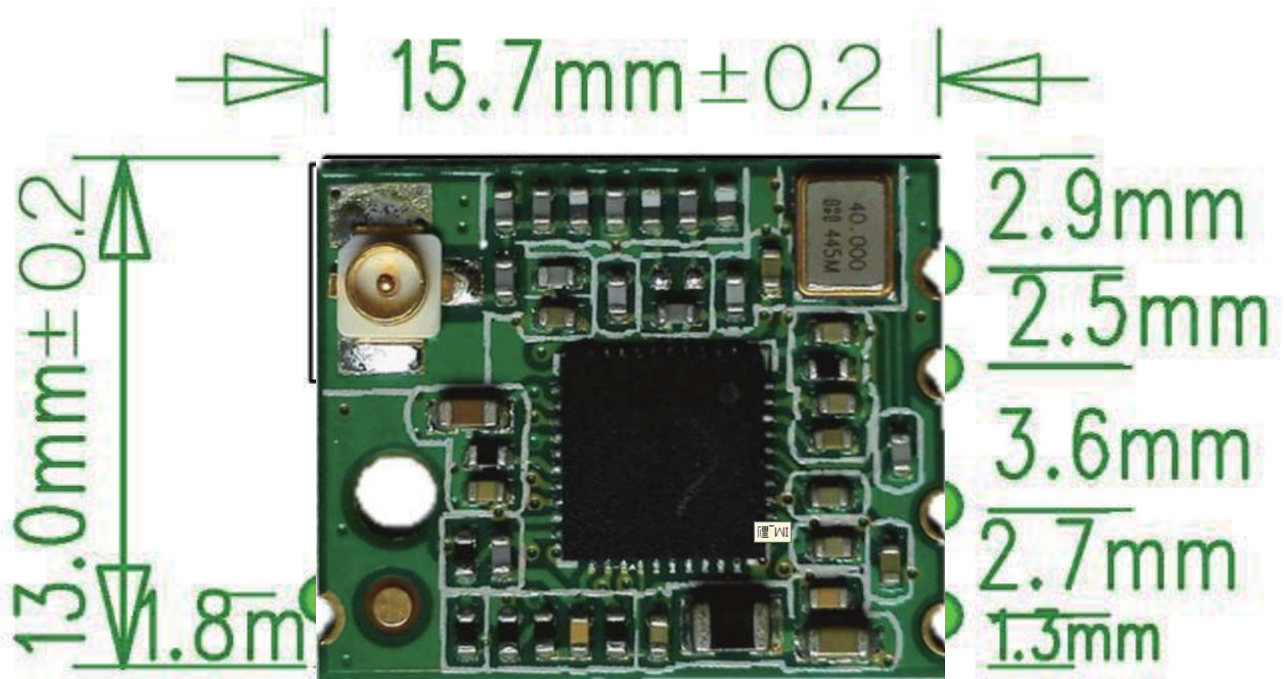
3.6Product Pin Definition
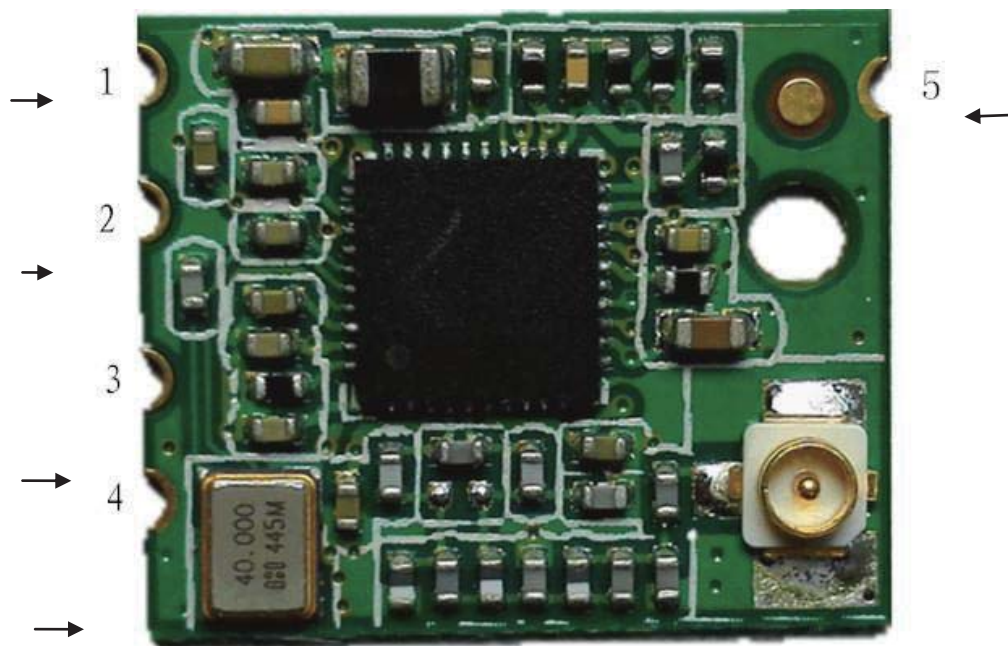
Pin No：	Function	Description
1	DC :3.3V	VDD3.3V for digital IO
2	UDM	High-speed USB D- signal
3	UDP	High-speed USB D+ signal
4	GND	Ground
5	GND	Ground

4. Supported platform

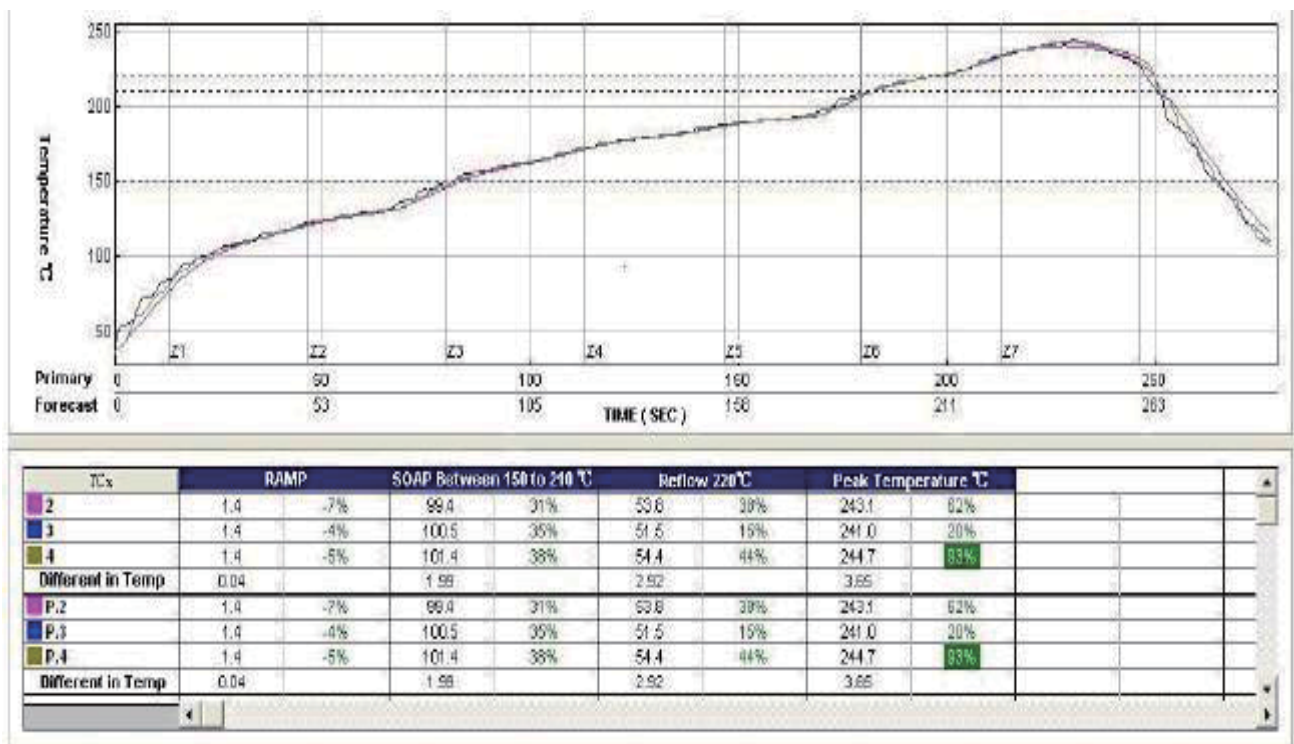| Operating System	CPU Framework	Driver
WIN2000/XP/VISTA/WIN7	X86 Platform	Enable
LINUX2.4/2.6	ARM, MIPSII	Enable
WINCE5.0/6.0	ARM ,MIPSII	Enable

5. WiFi RF Circuit reference pictures
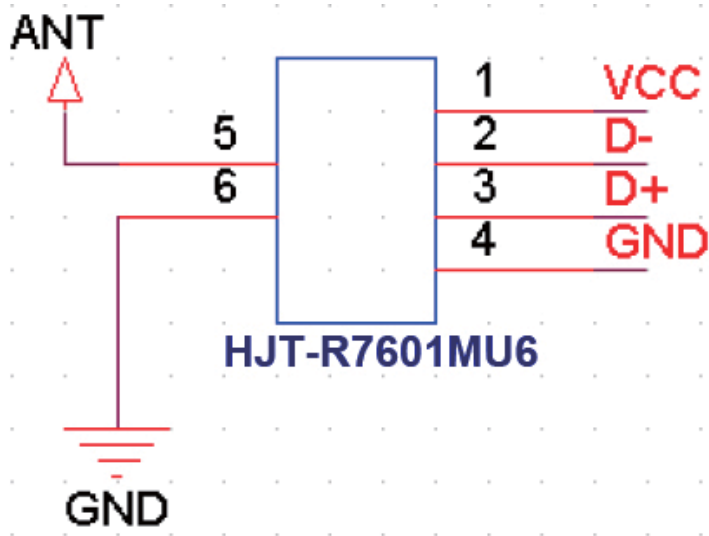
Note: 1. Connect to the external antenna through the IPEX

2. The USB differential pair needs to keep 90 Ω impedance.

6. Typical Solder Reflow Profile

TCx	RAMP		SOAP Between 150 to 210 ℃		Reflow 220℃		Peak Temperature ℃				
2	1.4	-7%	99.4	31%	53.8	38%	243.1	62%			
3	1.4	-4%	100.5	35%	51.5	15%	241.0	20%			
4	1.4	-5%	101.4	38%	54.4	44%	244.7	93%			
Different in Temp	0.04		1.99		2.92		3.65				
P.2	1.4	-7%	99.4	31%	53.8	38%	243.1	62%			
P.3	1.4	-4%	100.5	35%	51.5	15%	241.0	20%			
P.4	1.4	-5%	101.4	38%	54.4	44%	244.7	93%			
Different in Temp	0.04		1.99		2.92		3.65				

7. Precautions for use

1. Pls handle the module under ESD protection.
2. Reflow soldering shall be done according to the solder reflow profile. Peak temperature 245℃.
3. Products require baking before mounting if humidity indicator cards reads >30% temp <30 degree C, humidity < 70% RH, over 96 hours.
   Baking condition: 125 degree C, 12 hours
   Baking times: 1 time
4. Storage Condition: Moisture barrier bag must be stored under 30 degree C, humidity under 85% RH. The calculated shelf life for the dry packed product shall be a 12 months from the bag seal date. Humidity indicator cards must be blue, <30%.

Note:The module is limited to OEM installation ONLY;The OEM integrator is responsible for ensuring that the end-user has no manual instructions to remove or install module.

If the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following:
"Contains Transmitter Module FCC ID: XXXXXXXX"
when the module is installed inside another device, the user manual of this device must contain below warning statements;
1、 This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

That separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and different antenna configurations.

This product is mounted inside of the end product only by professional installers OEM. They use this module with changing the power and control signal setting by software of end product within the scope of this application. End user can not change this setting.
The equipment complies with RF exposure limits. This module is limited to installation in mobile or fixed applications. The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.