



Preliminary Product Specification

W704T1-A2

IEEE 802.11BGN 1T1R USB LGA Module

Version: 0.2

Date: Jun. 20, 2013

Release History

DATE	REV	Description of Change
2013/02/25	0.1	Preliminary specification
2013/06/20	0.2	Update model name



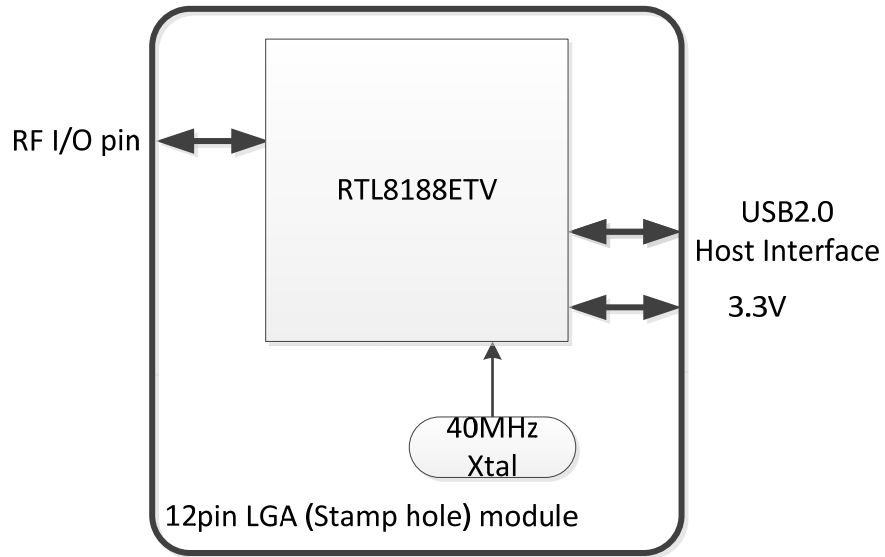
W704T1-A2

IEEE 802.11BGN 1T1R USB LGA Module

1 Features

- Compatible with 802.11n specification for 2.4GHz band, One Transmit and one Receive path (1T1R)
- Supports 20MHz and 40 MHz bandwidth transmission, Short Guard Interval (400ns)
- DSSS with DBPSK and DQPSK, CCK modulation with long and short preamble
- OFDM with BPSK, QPSK, 16QAM, and 64QAM modulation. Convolutional Coding Rate: 1/2, 2/3, 3/4 and 5/6
- 72.2Mbps receive PHY rate and 72.2Mbps transmit PHY rate using 20MHz bandwidth
- 150Mbps receive PHY rate and 150Mbps transmit PHY rate using 40MHz bandwidth
- Backward compatible with 802.11b/g devices while operation in 802.11n mode.
- Complies with USB 1.0/1.1/2.0 for WLAN
- IEEE802/11e QoS Enhancement (WMM)
- 802.11i (WPA, WPA2). Open, shared key, and pair-wise key authentication services
- Frame aggregation for increased MAC efficiency (A-MSDU, A-MPDU)
- Low latency immediate High-Throughput Block Acknowledgement (HT-BA)
- PHY-level spoofing to enhance legacy compatibility
- Power saving mechanism
- Channel management and co-existence
- Transmit Opportunity (TXOP) Short Inter-Frame Space (SIFS) bursting for higher multimedia bandwidth
- 12 pin LGA (stamp hole) module

2 Block Diagram

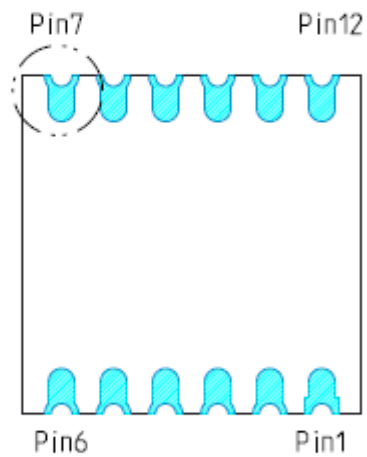
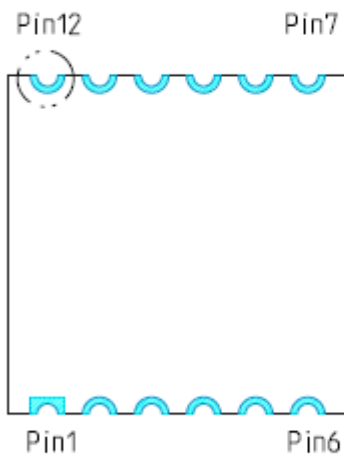
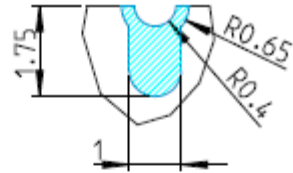
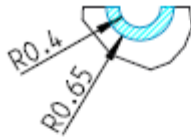
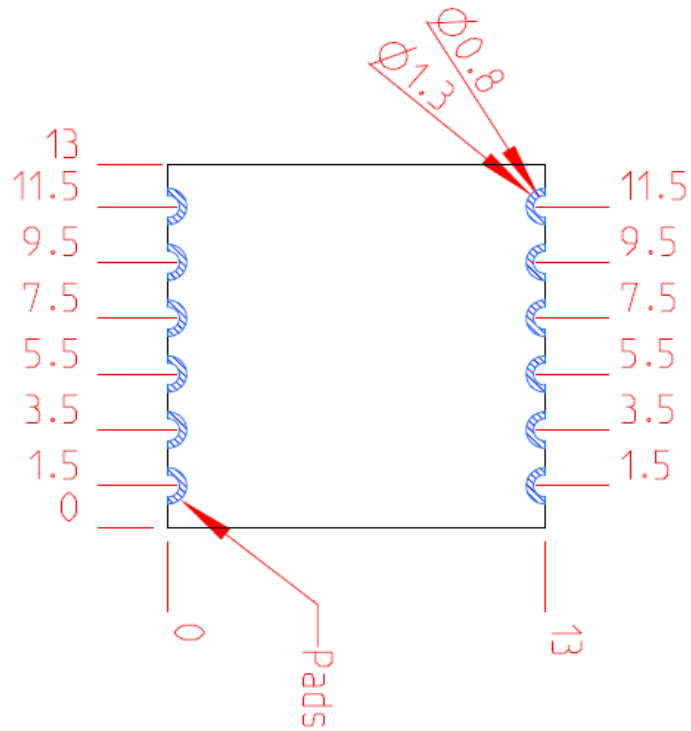


3 General Specifications

Model Name					
W704T1; Ver:A2					
WLAN					
Product Specification					
WLAN Standard	IEEE 802.11b/g/n, 1T1R				
Host interface	USB1.0/1.1/2.0				
Major Chipset	Realtek RTL8188ETV				
Dimensions					
		Minimum	Typical	Maximum	Unit
	Length		13		mm
	Width		13		mm
	Height		TBD		mm
	Weight		TBD		g
Antenna Type	One stamp hole for RF signal connect to external antenna				
Operating Condition					
		Minimum	Typical	Maximum	Unit
Voltage	DC	3.0	3.3	3.6	V
Temperature		0		70	°C
Storage temperature		-20		70	°C
Humidity Non-Operating		10		80	%
Electrical Specification					
Frequency Range	2400 – 2483.5MHz				
Modulation	BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, and CCK				
Output power					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11MHz	14	16	18	dBm
802.11g Mode	54MHz	12	14	16	dBm
802.11n Mode	HT20-MCS7	10	12	14	dBm
802.11n Mode	HT40-MCS7	10	12	14	dBm
Receiver Sensitivity					
		Minimum	Typical	Maximum	Unit
802.11b Mode	11Mbps			-83	dBm
802.11g Mode	54Mbps			-70	dBm
802.11n Mode	HT20-MCS7			-64	dBm
802.11n Mode	HT40-MCS7			-61	dBm

4 Mechanical Dimensions

Unit : mm

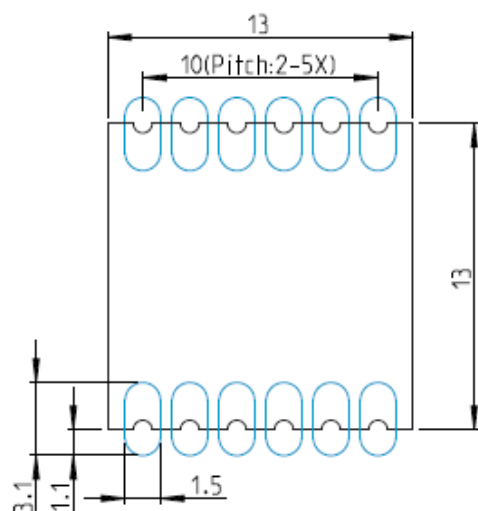


TOP VIEW

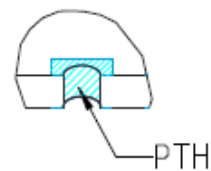
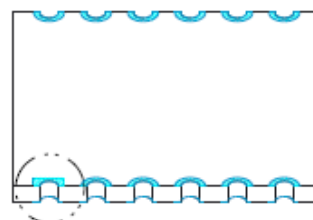
BOTTOM VIEW

5 Recommended Footprint

Unit : mm



Recommended
Layout footprint



6 Connector Pin-out Definitions

Pin	Definition	Type	Description
1	3.3V	P	3.3V power supply.
2	GND	G	Ground
3	GND	G	Ground
4	GND	G	Ground
5	ANT	I/O	Transmit/Receive path
6	GND	G	Ground
7	NC		No connect
8	NC		No connect
9	GND	G	Ground
10	USB D+	I/O	USB D+ for WiFi's USB2.0
11	USB D-	I/O	USB D- for WiFi's USB2.0
12	GND	G	Ground
P : Power; G : Ground; I : Input; O : Output.			

7 Application Circuit

TBD