



# **Preliminary Product Specification**

**W704S0**

**IEEE 802.11BGN 1T1R SDIO LGA Module**

**Version: 0.4**

Date: Nov. 20, 2012

## Release History

<b>DATE</b>	<b>REV</b>	<b>Description of Change</b>
2012/06/25	0.1	Preliminary specification initial Release
2012/09/11	0.2	Update RF specification
2012/10/01	0.3	Add Block diagram and update RF specification
2012/11/20	0.4	Update Pin definition



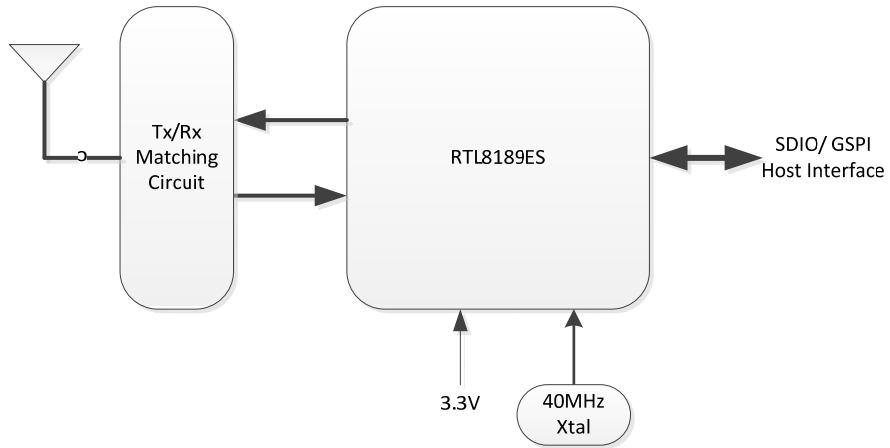
## W704S0

### IEEE 802.11BGN 1T1R LGA Module

#### 1 WLAN Features

- Compatible with 802.11n specification, One Transmit and one Receive path (1T1R)
- Short Guard Interval (400ns)
- 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 SDIO 1.1/ 2.0/ 3.0 for WLAN and clock rate up to 100MHz
- 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

## 2 Block Diagram

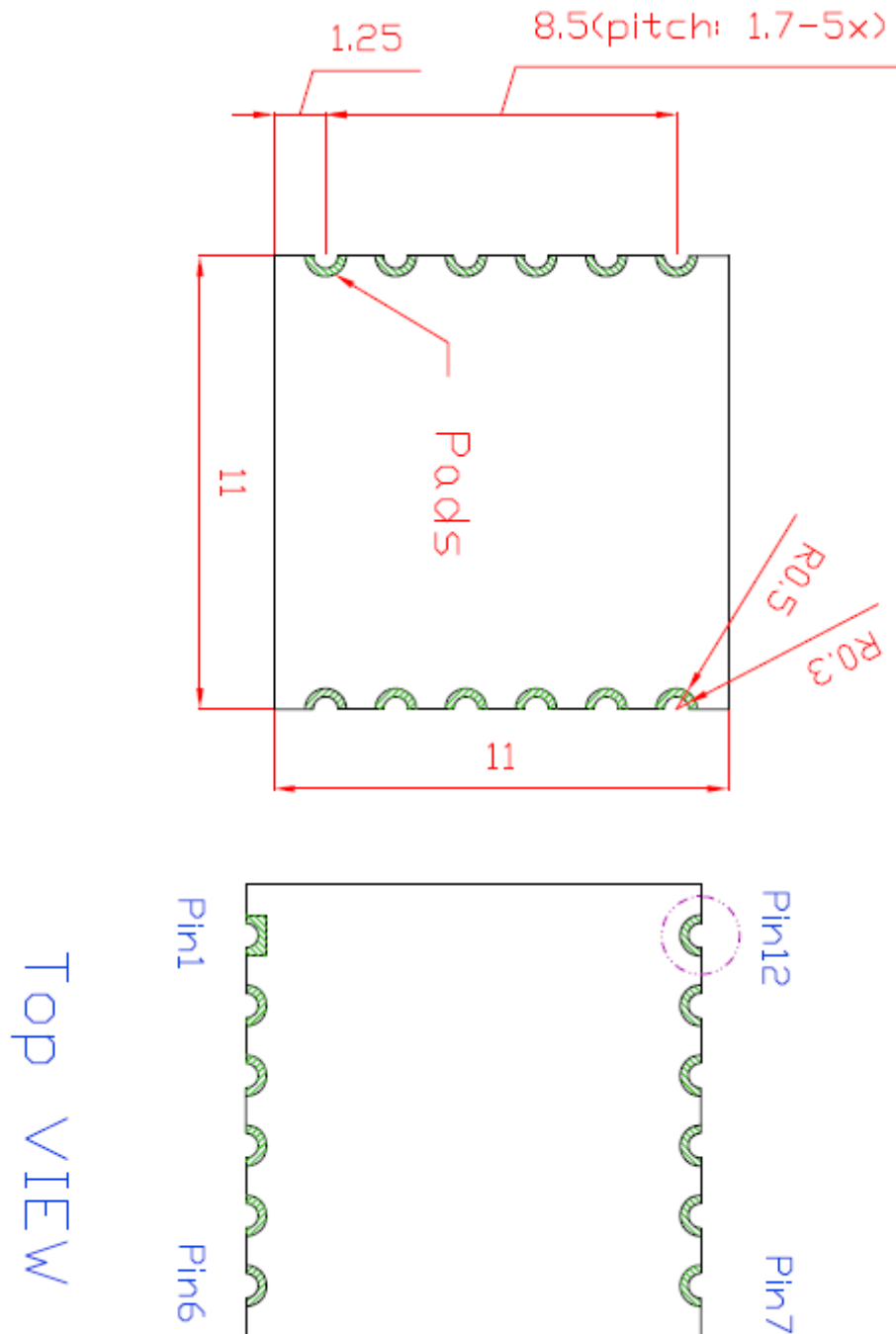


### 3 General Specifications

<b>Model Name</b>					
W704S0					
<b>WLAN</b>					
<b>Product Specification</b>					
WLAN Standard	IEEE 802.11b/g/n, 1T1R				
Host interface	SDIO				
Major Chipset	Realtek RTL8189ES				
<b>Dimensions</b>					
		Minimum	Typical	Maximum	Unit
	Length		11		mm
	Width		11		mm
	Height		1.6		mm
	Weight		TBD		g
Antenna Type	One stamp hole for RF single connect to external antenna				
<b>Operating Condition</b>					
		Minimum	Typical	Maximum	Unit
Voltage	DC	3.15	3.3	3.45	V
Temperature		0		70	°C
Storage temperature		-20		70	°C
Humidity Non-Operating		10		80	%
<b>Electrical Specification</b>					
Frequency Range	2400 – 2483.5MHz				
Modulation	BPSK, QPSK, 16QAM, 64QAM, DBPSK, DQPSK, and CCK				
<b>Output power</b>					
		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
<b>Receiver Sensitivity</b>					
		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



## 5 Connector Pin-out Definitions

Pin	Definition	Type	Description
1	SD_D2	I/O	SDIO
2	SD_CLK	I/O	SDIO
3	SD_D0	I/O	SDIO
4	SD_D1	I/O	SDIO
5	SD_CMD	I/O	SDIO
6	SD_D3	I/O	SDIO
7	Reserved	I/O	Left floating
8	Power down	I/O	Low disable WLAN. High enable WLAN.
9	RF	I/O	RF port
10	VDIO	P	VDD for SDIO Pin, the power supply is same as the signal level of SDIO bus (3.3V ~ 1.8V)
11	GND	G	Ground.
12	3.3V	P	DC 3.3V input
P : Power; G : Ground; I : Input; O : Output.			

## 6 Application Circuit

TBD