

Gemicom Technology, Inc.

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## **Product specifications**

### **802.11 a/b/g/n miniPCI module**

**Model Number: WMAN-23QR**

Revision 1.0  
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## **Introduction**

This document is to specify the product requirements for 802.11 a/b/g/n mini PCI type IIIA module. The miniPCI is based on Ralink MAC/BBP RT2860 and Transceiver RT2850 chip solution. The WMAN-23QR complied with IEEE 802.11n draft 2.0 and IEEE 802.11 a/b/g standards.

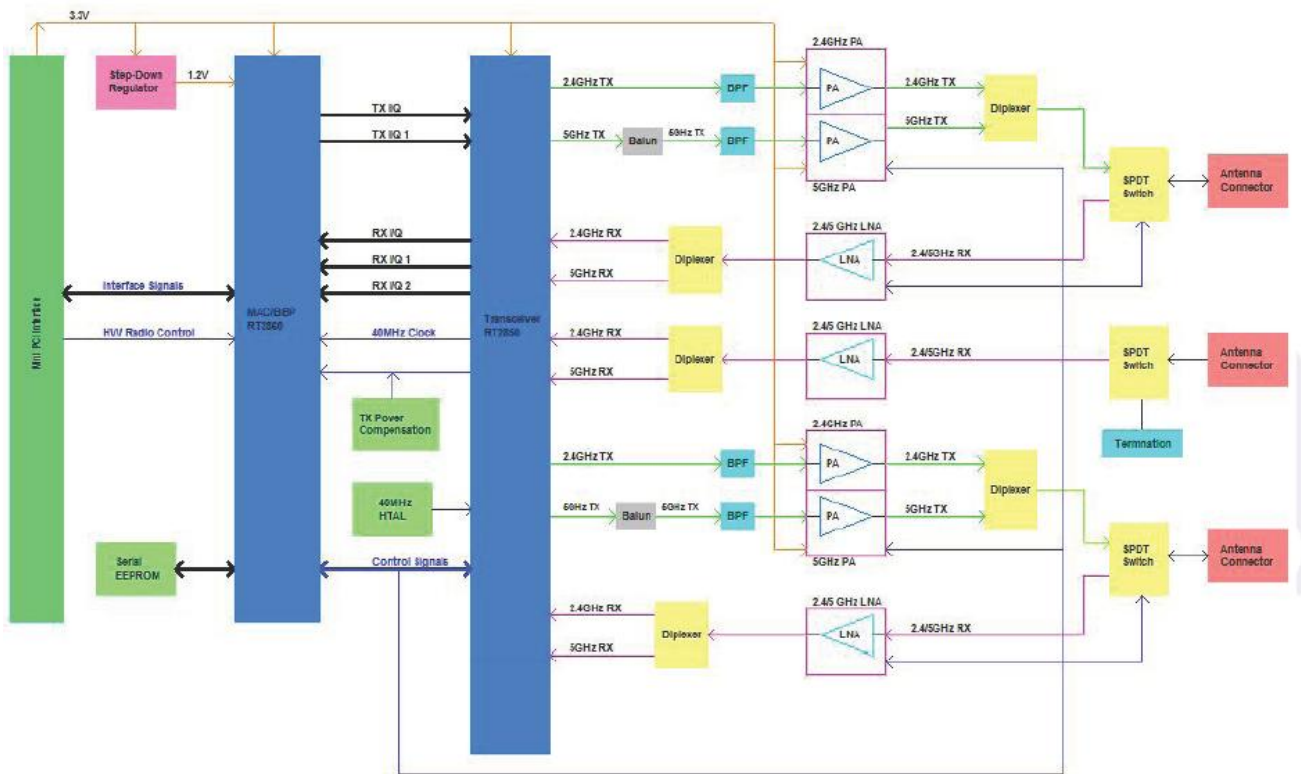
## **Product Features**

- Highly integrated MIMO 2T3R Ralink MAC/BBP RT2860 with PCI interface and Transceiver RT2850 with 2.4GHz (low band) and 5~6GHz (high band) ISM bands.
- Fully comply with IEEE 802.11n draft 2.0 and 802.11 a/b/g standards
- Two Tx and Three Rx mode
- 300Mbps Receive PHY Rate; 300Mbps Transmit PHY Rate and support 2 streams
- Modulation Technology support OFDM, DSSS
- Operating Frequency: 2.4~2.5GHz and 4.9~5.9GHz
- Host interface: Mini PCI Type III A, 124 Pin
- Operating Channels: CH1~14, CH36~48, CH52~64, CH149~161
- 64/128-bit WEP, TKIP, AES hardware encryption, WPA, WPA2
- Three U.FL I-PEX antenna connectors
- Support Linux driver and utility, Windows OS versions

# Block Diagram

RT2860 : Ralink wireless LAN integrated medium access controller with Baseband processor.

RT2850 : Ralink 2.4/5GHz dual-band MIMO Transceiver



## RF Characteristics

Item	2.4GHz Band	5GHz Band
<b>Output Power</b>	802.11b: 16 dBm 802.11g: 13 ~ 17.5 dBm 802.11n 20MHz: 13 ~17.5 dBm 802.11n 40MHz: 13 ~17.5 dBm	802.11a: 13 ~ 17.5 dBm 802.11n 20MHz: 13~17.5 dBm 802.11n 40MHz: 13~ 17.5 dBm
<b>Sensitivity</b>	<p><b>802.11b</b></p> <p>-91 dBm @1Mbps -88 dBm @11Mbps</p> <p><b>802.11g</b></p> <p>-90 dBm @6Mbps -74 dBm @54Mbps</p> <p><b>802.11n 20MHz</b></p> <p>-89 dBm@MCS0 -67 dBm@MCS15</p> <p><b>802.11n 40MHz</b></p> <p>-87 dBm@MCS0 -65 dBm@MCS7</p>	<p><b>802.11a</b></p> <p>-89 dBm@6Mbps -74 dBm@54Mbps</p> <p><b>802.11n 20MHz</b></p> <p>-89 dBm@MCS0 -69 dBm@MCS15</p> <p><b>802.11n 40MHz</b></p> <p>-85 dBm@MCS0 -65 dBm@MCS15</p>

## Software Feature

- Support Windows 2000/XP
- Support Windows Vista
- Support Linux Kernel 2.4.2.6
- Support Mac OS 10.3 & 10.4
- Support WinCE 5.0 & 6.0
- WPS

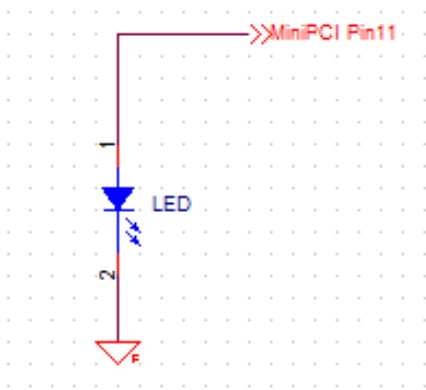
## Security

- 64/128 bit WEP encryption
- AES: CCM
- 802.1x authentication
- 802.1x WPA-PSK and TKIP, WPA2
- IEEE 802.11i
- Cisco certified Extensions, all versions through V5



## LED indication

LED status	WLAN activity
LED ON	Associated, and authentication but not transmitting or receiving
LED slow blink	Scanning for AP
LED intermittent blink	Activity proportional to transmitting/receiving speed
LED OFF	Radio off



## Mechanical Drawing

Dimension: 50.80 (L) x 59.60 (W) mm

