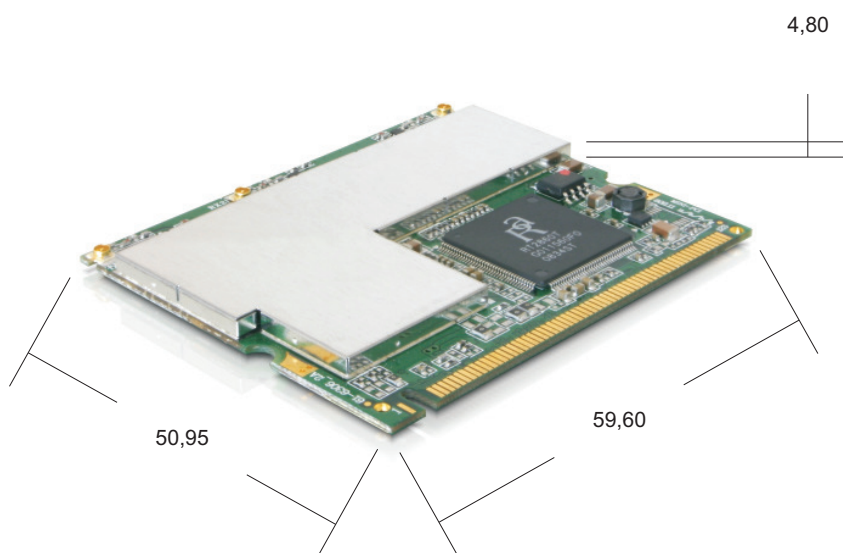


# Specification

## 95848

Delock industry mini PCI WLAN 300Mbps module



date: 18.06.2009

# Specification

## 95848

Delock industry mini PCI WLAN 300Mbps module

### **Contents:**

Device overall description

802.11 wireless LAN

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- channel assignment
- security
- certification
- RF characteristics
- software & OS support
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- operating conditions

# Specification

## 95848

Delock industry mini PCI WLAN 300Mbps module

### Device Overall Description

The 95848 is designed to provide wireless LAN function on mini PCI type IIIA form factor with PCI interface. The wireless LAN function is based on Ralink RT2860 MAC/BBP, RT2850 transceiver and high gain power amplifier.

### Features

- Ralink RT2860 MAC/BBP with RT2850 transceiver
- 2T3R modes
- 11b: 1,2,5.5,11Mbps
- 11g: 6,9,12,18,24,36,48,54Mbps
- 11a: 6,9,12,18,24,36,48,54Mbps
- 11n(20MHz): MCS0-15,32 with shout guard interval support(up to 144MBps)
- 11n(40MHz): MCS0-15,32 with shout guard interval support(up to 300MBps)
- RTS/CTS
- MSDU/PSDU aggregation
- block ack
- reverse direction data flow
- link adaptation
- hardware WEP, TKIP, AES engines
- EAP – TLS, TTLS, LEAP, PEAP
- WPA1/2 – PSK (WPA home)
- WPA1/2 – 802.1x (WPA enterprise)
- roaming

# Specification

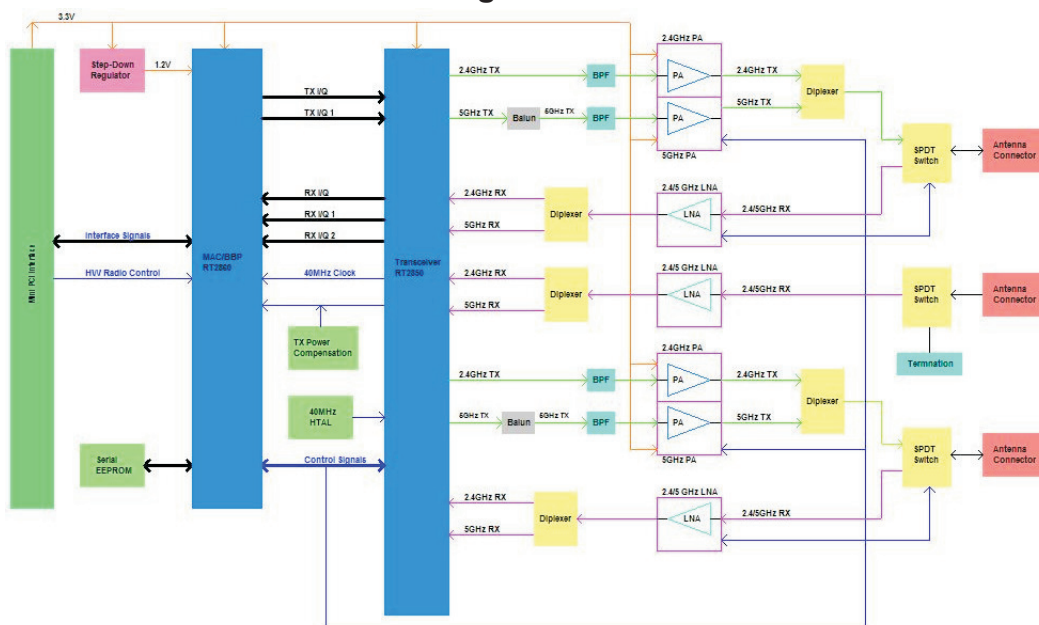
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### Specification compliance

- 802.11n Draft2.0
- 802.11a/b/g
- 802.11i
- 802.11e
- 802.11d
- 802.11h
- 802.11j
- PCI bus interface spec 2.2
- miniPCI spec 1.0

### 802.11 Wireless LAN block diagram



RT2860: Ralink, wireless LAN integrated medium access controller with baseband processor  
 Rt2850: Ralink, 2.4/5GHz dual-band MIMO transceiver

# Specification

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### Channel assignment

#### 2.4GHz channel support

channel	frequency	FCC (US)	IC (CA)	ETSI (EU)	Japan (JP)
1	2412MHz	X	X	X	X
2	2417MHz	X	X	X	X
3	2422MHz	X	X	X	X
4	2427MHz	X	X	X	X
5	2432MHz	X	X	X	X
6	2437MHz	X	X	X	X
7	2442MHz	X	X	X	X
8	2447MHz	X	X	X	X
9	2452MHz	X	X	X	X
10	2457MHz	X	X	X	X
11	2462MHz	X	X	X	X
12	2467MHz			X	X
13	2472MHz			X	X
14	2484MHz				X

#### 5GHz channel support

5GHz Band	FCC (US)	IC (CA)	ETSI (EU)	Japan (JP)
5150~5350MHz	X	X	X	X
5470~5725MHz	X	X*	X	X
5725~5850MHz	X	X		

#### KEY:

US = United States, CA = Canada, EU = European Countries (except France and Spain) JP = Japan; many countries and region are currently revising the channel assignment. X = supported

\*5600~5650MHz interdict

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### Security

- complete security features - WEP 64/128, WPA, WPA2, 802.1x, and 802.11i
- Cisco CCS compliant

### Certification

- WHQL
- Cisco CCX
- Wi-Fi certification: 802.11 a/b/g, 802.11n, WPA, WPA2, WMM, WMM-PS

# Specification

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### RF characteristics

RF parameter	test condition	min.	typ.	max	units
frequency range(5GHz)		4900		5900	MHz
frequency range(2.4GHz)		2412		2484	MHz
TX output power(2.4GHz)	54M OFDM		13.5		dBm
	11M CCK		16.5		dBm
	11n MCS15 BW40		13.5		dBm
	11n MCS0 BW40		17.5		dBm
TX output power(5GHz)	54M OFDM		13.5		dBm
	11n MCS15 BW40		13.5		dBm
	11n MCS0 BW40		17.5		dBm
RX sensitivity(2.4GHz)	11M CCK 8%PER		-92		dBm
	54MOFDM 10%PER		-76		dBm
	11n MCS15 BW40 10%PER		-68		dBm
RX sensitivity(5GHz)	54M OFDM 10%PER		-75		dBm
	11n MCS15 BW40 10%PER		-67		dBm
TX supply current(2.4GHz)	CCK 11M		480		mA
	OFDM 54M		595		mA
	MCS15 BW40		600		mA
	MCS15 BW20		577		mA
TX supply current(5GHz)	OFDM 54M		540		mA
	MCS15 BW40		550		mA
	MCS15 BW20		520		mA
RX supply current(2.4GHz)	OFDM 54M		350		mA
	MCS15 BW40		482		mA
	MCS15 BW20		380		mA
RX supply Current(5G)	OFDM 54M		360		mA
	MCS15 BW40		500		mA
	MCS15 BW20		400		mA

# Specification

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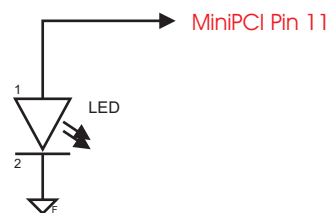
### Software & OS support

operating system	driver
Windows 2000 / XP	available
Windows Vista	available
Linux kernels 2.4,2.6	available
MAC OS 10.3 & 10.4	available
WinCE 5.0 & 6.0	available
WPS	available

### LED indication

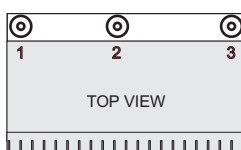
LED status	WLAN card activity
LED on	associated, and authenticated but not transmitting or receiving
LED slow blink	scanning for AP
LED intermittent blink	activity proportional to transmitting/receiving speed
LED off	radio off

### LED schematic suggestion



### Antenna connector

Connector	Vendor	Part#
Antenna *3	Hirose	CL331-0471-0-10 (U.FL-R-SMT), or compliance



connector	transmit	receive
1	x	x
2	o	x
3	x	x

# Specification

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### Mechanical drawing

Dimension: Mini PCI Type IIIA 59.60(W) x 50.80(L) +/-0.15mm

