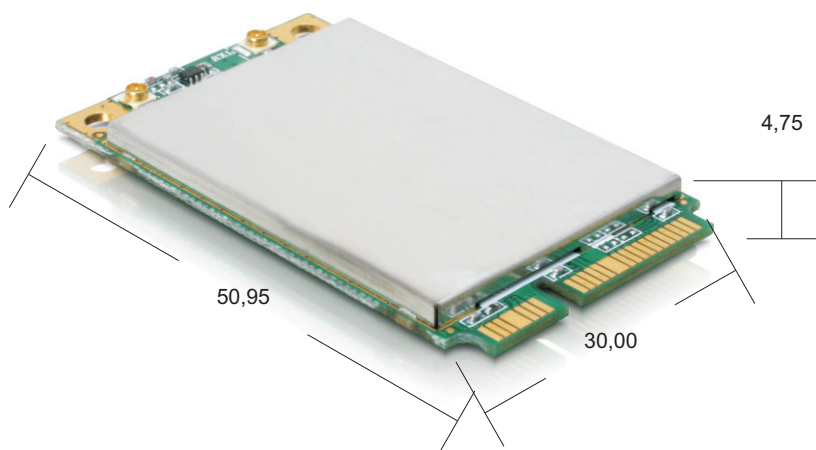


Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module



date: 09.06.2009

Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

Contents:

device overall description

802.11 wireless lan

- features
- block diagram
- modulation methods
- channel assignment
- security (WEP key)
- RF characteristics
- software & OS support
- operating conditions
- antenna connector
- host interface pin definition and mechanic drawing

Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

Device overall description

The 95818 is designed to provide wireless LAN function on a small form factor with PCI Express interface. The wireless LAN function is based on Ralink RT2790 MAC/BBP, Rt2720 transceiver and high gain power amplifier, fully comply with current draft IEEE 802.11n and IEEE 802.11 b/g standards.

Features

- Ralink RT2700E with RT2790 MAC/BBP and 2720 Transceiver
- 11b: 1, 2, 5.5, 11Mbps
- 11g: 6, 9, 12, 24, 36, 48, 54Mbps
- 11n (20/40Mhz): MCS0-7 (up to 144Mbps PHY data)
- 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

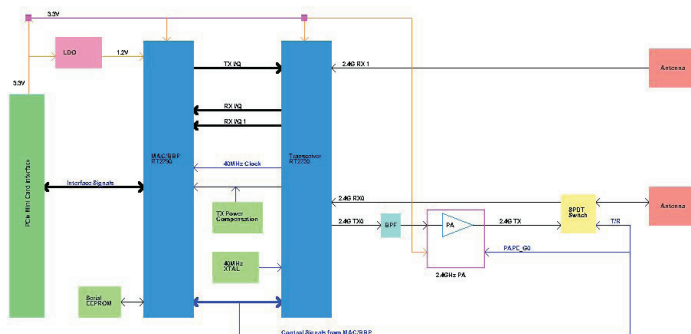
95819

Delock industry miniPCIe WLAN 144 Mbps module

802.11 wireless lan block diagram

RT2790: Ralink, wireless LAN integrated medium access controller with baseband processor

Rt2720: Ralink, 2.4Ghz single chip transceiver



Channel assignment

Channel	FCC (US)	IC (CA)	ETSI (EU)	Japan JP)
1	X	X	X	X
2	X	X	X	X
3	X	X	X	X
4	X	X	X	X
5	X	X	X	X
6	X	X	X	X
7	X	X	X	X
8	X	X	X	X
9	X	X	X	X
10	X	X	X	X
11	X	X	X	X
12			X	X
13			X	X
14				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

Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

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 b/g, 802.11n, WPA, WPA2, WMM, WMM-PS

Software & OS support

Operating System	Driver
Windows 98SE	available
Windows Me	available
Windows 2000 / XP	available
Windows Vista	available
Linux 2.6.x	available
MAC OS 10.3 & 10.4	available
Wince 5.0 & 6.0	available

Operating conditions

Voltage range	5V +-5%
Operating temperatur range	0°C - 85°C
Storage temperature range	-20°C - 85°C
Relative humidity during operating	95% (non condensing)
Relative humidity during storage	95% (non condensing)

Antenna connector

Hirose CL331-0471-0-10 (U.FL-R-SMT) or compliance

Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

Pin definition

Pin#	name	Pin#	name
51	reserved*	52	+3,3V
49	reserved*	50	GND
47	reserved*	48	+1,5V
45	reserved*	46	LED_WPAN#
43	reserved*	44	LED_WLAN#
41	reserved*	42	LED_WWAN#
39	reserved*	40	GND
37	reserved*	38	USB_D+
35	GND	36	USB_D-
33	PETp0	34	GND
31	PETn0	32	SMB_DATA
29	GND	30	SMB_CLK
27	GND	28	+1,5V
25	PERp0	26	GND
23	PERn0	24	+3,3Vaux
21	GND	22	PERST#
19	reserved* (UIM_C4)	20	W_DISABLE#
17	reserved* (UIM_C8)	18	GND
mechanical key			
15	GND	16	UIM_VPP
13	REFCLK+	14	UIM_RESET
11	REFCLK-	12	UIM_CLK
9	GND	10	UIM_DATA
7	CLKREQ#	8	UIM_PWR
5	reserved*	6	1,5V
3	reserved*	4	GND
1	WAKE#	2	3,3V

Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

RF characteristics

RF characteristics	minimum	typical	maximum	units
PC interface		Mini PCIe		
internal antenna impedance		50		ohms
operating temperature range	0		+65	J
storage temperature range	-10		+85	J
supply voltage	3.0	3.3	3.6	V
RX supply current (CCK)	382	387	392	mA
RX supply current (54Mbps)	425	429	434	mA
RX supply current (300Mbps)	525	530	535	mA
TX supply current (CCK)	404	409	414	mA
TX supply current (54Mbps)	357	362	367	mA
TX supply current (150Mbps)	346	351	356	mA
Radio off current		120		mA
RX sensitivity, 11 Mbps(CCK)		-86		dBm
RX sensitivity, 54Mbps(OFDM)		-71		dBm
TX output power(CCK)		16.8		dBm
TX output power(OFDM)		13.8		dBm
TX carrier suppression				dB
TX spectral mask (CCK)		PASS		
TX spectral mask (OFDM)		PASS		
TX spectral mask (11n,20M)		PASS		
TX spectral mask (11n,40M)		PASS		
preamble length		Long/Short		

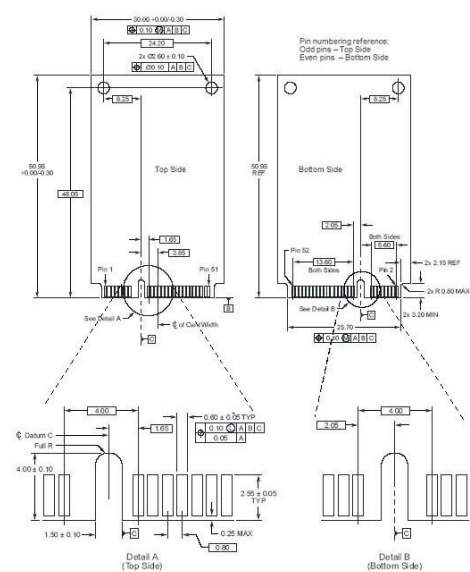
Specification

95819

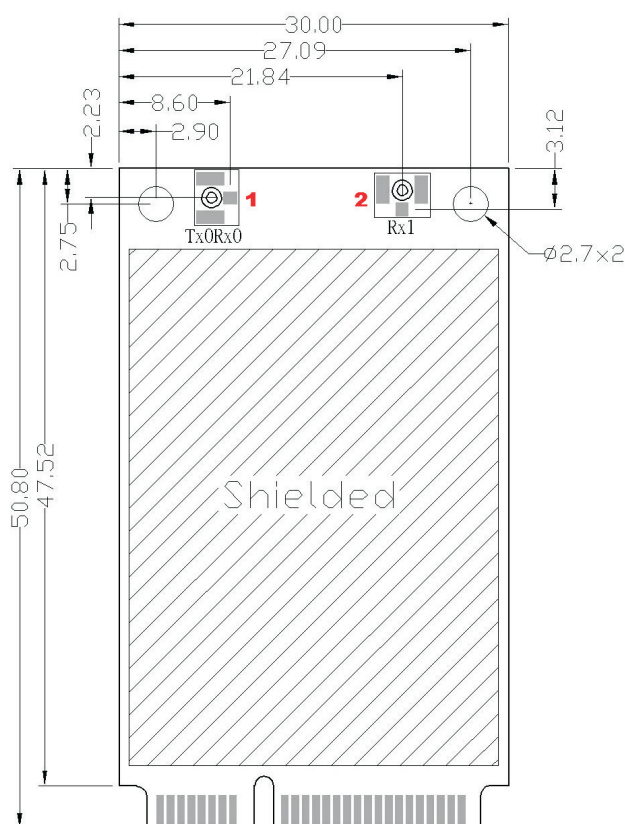
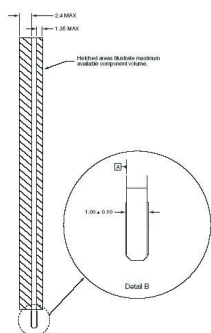
Delock industry miniPCle WLAN 144 Mbps module

Mechanical drawing

Dimension: 50.95 (L) x 30.00(W) mm



Card Top and Bottom Details A and B



Specification

95819

Delock industry miniPCIe WLAN 144 Mbps module

LED status:

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

