

WPEQ-257ACN



Industry Leading 802.11ac/b/g/n 2T2R Dual-Band Mini PCIe Module



802.11AC/B/G/N DUAL-BAND HALF MINI CARD

» Feature

- Standard : 802.11ac/b/g/n
- Interfaces : PCI Express
- Chipset : Qualcomm Atheros QCA9882-BR4A
- Antenna : 2 x U.FL connectors, 2T2R
- Data rate up to 867Mbps
- Enhanced wireless security :
64/128-bits WEP, WPA, WPA2, WPS, 802.1x
- Support Linux

802.11ac Dual-Band Solution

SparkLAN WPEQ-257ACN is an 802.11ac/b/g/n Dual-Band Mini PCI Express module based on Qualcomm Atheros QCA9882-BR4A chipset. It supports 2T2R (2x2) technology, which runs up to 867Mbps (11ac MCS9). The WPEQ-257ACN supports 20/40/80MHz and 256-QAM to maximize bandwidth efficiency.

Higher throughput for Enterprise Networking

Adopting 802.11ac solution, WPEQ-257ACN is ideal for next-generation high throughput enterprise networking solution.

Secure Wireless Connection

Incorporated with advanced security encryption, such as WEP, WPA, WPA2, WPS, and 802.1x, it helps prevent users' devices from malicious attacks.

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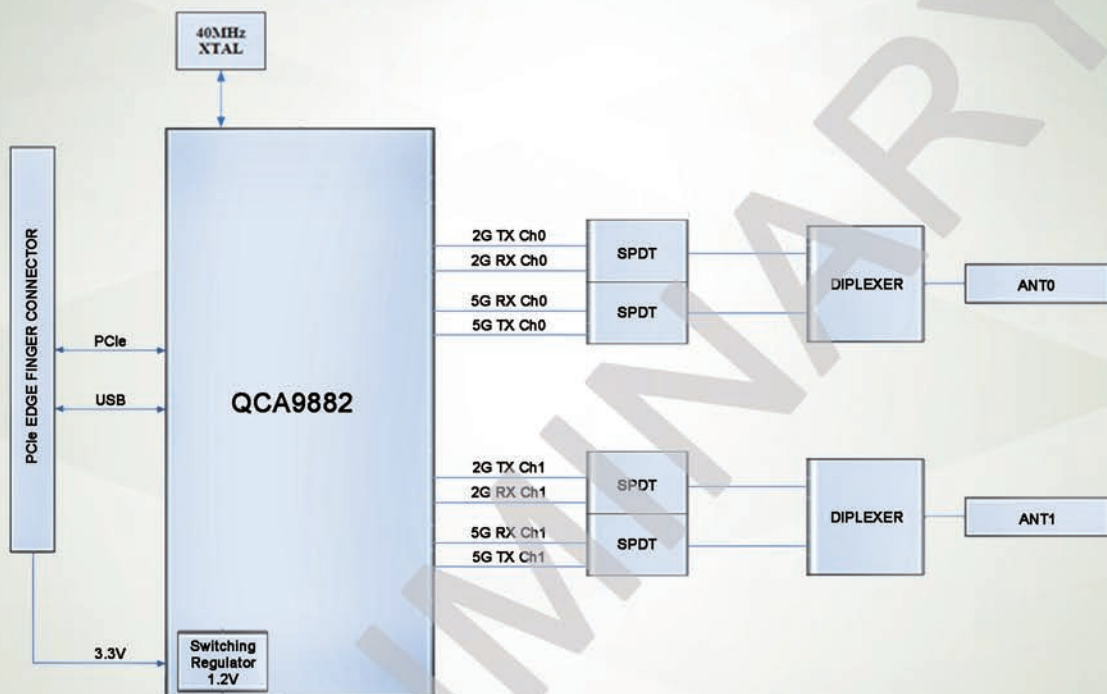
Specification

Standard	IEEE802.11ac/b/g/n
Chipset	Qualcomm Atheros QCA9882-BR4A
Interfaces	Mini PCI express
Form Factor	Mini PCIe (Half Mini Card)
Operating Voltage	DC 3.3V $\pm$ 10% I/O supply voltage
Data Rates	802.11a : 6~54Mbps / 802.11b : 1~11Mbps 802.11g : 6~54Mbps / 802.11n : MCS0~MCS7 802.11ac : MCS0~MCS9
Radio	Antenna : 2 x U.FL connectors, 2T2R Operating Frequency : 11b/g/n ISM Band : 2.412GHz ~ 2.472GHz 11ac ISM Band : 5.180GHz ~ 5.852GHz *subject to local regulations Modulation : 802.11a : OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11b : DSSS (DBPSK, DQPSK, CCK) 802.11g : OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11n : OFDM (BPSK, QPSK, 16-QAM, 64-QAM) 802.11ac : OFDM (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM) Output Power (1T) : 802.11a : 12dBm $\pm$ 2dBm@54Mbps / 802.11b : 15dBm $\pm$ 2dBm@11Mbps 802.11g : 13dBm $\pm$ 2dBm@54Mbps 802.11gn HT20: 12dBm $\pm$ 2dBm@MCS7 / 802.11gn HT40: 11dBm $\pm$ 2dBm@MCS7 802.11an HT20: 11dBm $\pm$ 2dBm@MCS7 / 802.11an HT40: 10dBm $\pm$ 2dBm@MCS7 802.11ac(VHT80) : 4dBm $\pm$ 2dBm@MCS9 Receive Sensitivity (1R) : 802.11a : $\leq$ -65dBm@54Mbps / 802.11b : $\leq$ -76dBm@11Mbps 802.11g : $\leq$ -65dBm@54Mbps 802.11gn HT20: $\leq$ -64dBm@MCS7 / 802.11gn HT40: $\leq$ -61dBm@MCS7 802.11an HT20: $\leq$ -64dBm@MCS7 / 802.11an HT40: $\leq$ -61dBm@MCS7 802.11ac (VHT80): $\leq$ -51dBm@MCS9
Power consumption	TX Mode : TBD RX Mode : TBD
Environmental	Temperature Range : -20~ 55°C (Operating) / -30~75°C (Storing) Humidity(Non-Condensing) : 10% ~ 85% (Operating) / 5% ~ 90% (Storing)
Physical Specification	Dimensions : 30mm X 26.8mm Weight : TBD
Software	Driver : Linux Security : WEP, WPA, WPA2, WPS

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Block Diagram



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Pin Assignment

Pin#	Pin Name	Description
1	WAKE_L(NA)	Output and open Drain active Low signal. This signal is used to request that the system return from a sleep/suspended state to service a function initiated wake event.
2	+3.3V	+3.3V
3	No Connection	
4	GND	GND
5	No Connection	
6	No Connection	
7	CLKREQ_L	Output for reference clock request signal
8	No Connection	
9	GND	GND
10	No Connection	
11	REFCLK-	Input signal for PCI Express differential reference clock (100 MHz)
12	No Connection	
13	REFCLK+	Input signal for PCI Express differential reference clock (100 MHz)
14	No Connection	
15	GND	GND
16	No Connection	
17	No Connection	
18	GND	GND
19	No Connection	
20	W_DISABLE_L	Input and active low signal. This signal is used by the system to disable radio operation on add-in cards that implement radio frequency applications. When implemented, this signal requires a pull-up resistor on the card
21	GND	GND
22	PERST_L	Input signal for functional reset to the card
23	PERn0	PCI Express x1 data interface: one differential receive pair
24	+3.3V	+3.3V
25	PERp0	PCI Express x1 data interface: one differential receive pair
26	GND	GND
27	GND	GND

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Pin Assignment

Pin#	Pin Name	Description
28	No Connection	
29	GND	GND
30	No Connection	
31	PETn0	PCI Express x1 data interface: one differential transmit pair
32	No Connection	
33	PETp0	PCI Express x1 data interface: one differential transmit pair
34	GND	GND
35	GND	GND
36	No Connection	
37	GND	GND
38	No Connection	
39	No Connection	
40	GND	GND
41	No Connection	
42	No Connection	
43	GND	GND
44	LED_WLAN_L (OPT)	Output and open drain active low signal. This signal is used to allow the PCI Express Mini Card add-in card to provide status indicators via LED devices that will be provided by the system.
45	No Connection	
46	No Connection	
47	No Connection	
48	No Connection	
49	No Connection	
50	GND	GND
51	No Connection	
52	+3.3V	+3.3V

* NA→No active, OPT→Optional