

WPEQ-160ACN

802.11ac/abgn Dual-Band

1T1R Half Mini PCIe Module



Next-Generation High Throughput Enterprise Networking Solution

WPEQ-160ACN is an 802.11ac/abgn 2.4GHz+5GHz half-mini PCIe module based on Qualcomm QCA9377-7 chipset. It supports 1T1R with RX diversity technology, which runs up to 433Mbps, provides higher throughput performance, reliability and range. The WPEQ-160ACN supports 20/40/80MHz and 256-QAM to maximize bandwidth efficiency.

WPEQ-160ACN is a Wi-Fi half mini PCIe Module form factor, but with USB bus interface. WPEQ-160ACN is a single-die wireless local area network (WLAN) solution to support 1x1 802.11ac/abgn WLAN standards, designed to deliver superior integration of WLAN and low-energy technology.

Embedded Application :

Applications include medical devices, security systems, industrial, PoS, digital signs, Gaming machine, Medical equipment, industrial tablet PC's, handheld devices, thin client devices, and many more.

Key Feature :

- Qualcomm Atheros QCA9377-7
- Antenna: 2xU.FL connectors, 1T1R
- Data Rates: Allows link speeds up to 433Mbps
- Support Win7/8.1/10

Specification :

Standards:	IEEE 802.11ac/a/b/g/n (1T1R)
Chipset:	Qualcomm Atheros QCA9377-7
Data Rate:	802.11b: 11Mbps / 802.11a/g: 54Mbps / 802.11n: MCS0~7/ 802.11ac: MCS0~9
Operating Frequency:	IEEE 802.11 ac/a/b/g/n ISM Band, 2.412GHz~2.472GHz, 5.180MHz~5.825MHz *Subject to local regulations
Interface:	USB
Form Factor:	Half Mini PCIe
Antenna:	2xU.FL connectors (main antenna 0 on, diversity antenna 1 off) for 1T1R
Modulation:	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11a/g: 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)
Power Consumption	TX: TBD / RX: TBD
Operating Voltage:	DC 3.3V
Operating Temperature Range:	-20°C~70°C
Storage Temperature Range:	-30°C~85°C
Humidity (Non-Condensing)	5%~90% (Operating) 5%~95% (Storing)
Dimension (in mm):	29.85mm x 26.3mm
Weight (g):	≤ 4.7g
Driver Support:	Windows7/8.1/10
Security	64/128-bits WEP, WPA, WPA2, 802.1x

OUTPUT POWER & SENSITIVITY

802.11b

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
11Mbps	19dBm	$\leq$ -76dBm

802.11g

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
54Mbps	16dBm	$\leq$ -74dBm

802.11n / 2.4GHz

HT20	Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
	MCS7	16dBm	$\leq$ -70dBm
HT40	MCS7	16dBm	$\leq$ -68dBm

802.11a

Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
54Mbps	13dBm	$\leq$ -73dBm

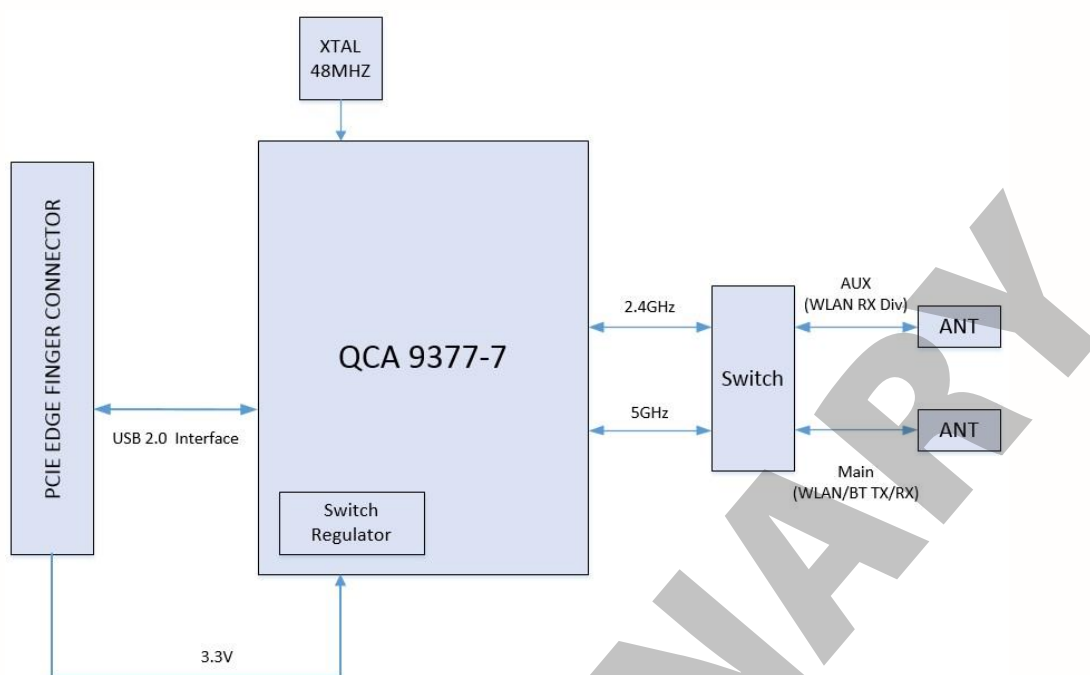
802.11n / 5GHz

HT20	Data Rate	Tx $\pm$ 2dBm	Rx Sensitivity
	MCS7	13dBm	$\leq$ -67dBm
HT40	MCS7	13dBm	$\leq$ -63dBm

802.11ac

VHT80	Data Rate	Tx $\pm$ 2dBm (1TX)	Rx Sensitivity
	MCS9	10dBm	$\leq$ -55dBm

Block Diagram



Pin Assignment

Pin#	Pin Name	Description	Pin#	Pin Name	Description
1	No Connection	-	2	+3.3V	+3.3V
3	No Connection	-	4	GND	GND
5	No Connection	-	6	No Connection	-
7	No Connection	-	8	No Connection	-
9	GND	GND	10	No Connection	-
11	No Connection	-	12	No Connection	-
13	No Connection	-	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	No Connection	-
23	No Connection	-	24	No Connection	-
25	No Connection	-	26	GND	GND
27	GND	GND	28	No Connection	-
29	GND	GND	30	No Connection	-
31	No Connection	-	32	No Connection	-

Pin Assignment

Pin#	Pin Name	Description	Pin#	Pin Name	Description
33	No Connection	-	34	GND	GND
35	GND	GND	36	USB D-	USB serial data
37	GND	GND	38	USB D+	USB serial data
39	3.3V	+3.3V	40	GND	GND
41	3.3V	+3.3V	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