

AC-920 IEEE 802.11ac 5GHz mini PCIe Module
AirRunner™ WiFi Series

Featuring the latest IEEE 802.11ac technology and PCIe interface design, the AC-920 embedded module provides up to 80MHz of bandwidth allowing for data rates up to 1.3Gbps (@80MHz / 256-QAM). It is backward compatible with 802.11a, and 802.11n equipment, and is compliant to the latest standards for wireless security including WEP, WPA, WPA2, and 802.1x.

The AC-920, powered by the Qualcomm Atheros QCA9880 chipset, features 3X3 MIMO architecture with high performance RF circuits. High (300mW) rated output power plus excellent sensitivity make the AC-920 an ideal component for applications requiring easy integration and superior wireless coverage.

Backed by Zcomax's quality assurance and commitment to innovation and cost effective design, this embedded module will meet and exceed the needs of your application. For more information on this or any other Zcomax product, please contact your sales representative today!



AC-920 mPCIe Module

Key Features

- 20/40/80MHz bandwidth usage
- Multiple-Input-Multiple-Output (MIMO) technology using 3*3 architecture
- Data rate up to 1.3Gbps (VHT MCS9)
- MAC / Baseband: Atheros QCA9880
- IEEE 802.11ac – backward compatible with 802.11n and 802.11a
- RoHS compliant
- Three U.FL antenna connections
- Advanced security options – WEP(64/128Mbps) / WPA / WPA2

AC-920 at a Glance

Chipset	Qualcomm Atheros QCA9880
Transmit Power	300mW Total Power (3 chains)
Antenna Configuration	3 Tx, 3 Rx Architecture

IEEE	Radio	RoHS	Interface
IEEE 802.11ac			mini PCI-E

1.1 Hardware Specifications

Features	Additional Information						
Chipset Solution	Atheros QCA9880						
Standard Compliance	IEEE 802.11ac/an/a						
Host interface	mini PCI-E						
Operating Voltage	DC 3.3V ± 5%						
Power Consumption (Average)	Throughput (Chariot)	TX		4W			
		RX		2.6W			
		Both TX and RX		3.1W			
		Idle		1.2W			
Output Power @ 25°C (TX power per chain / Tolerance ± 2.0ZdB)	802.11a	6~48Mbps	5240	17			
			5260~5745	20			
	802.11a	54Mbps	5240	15			
			5260~5745	18			
			802.11n	HT20	MCS 0~6	5240	17
					5260~5745	20	
	802.11n	HT20	MCS 7	5240	15		
				5260~5745	18		
			802.11n	HT40	MCS 0~6	5240	17
						5260~5745	20
	802.11n	HT40			MCS 7	5240	15
						5260~5745	18
			802.11ac	VHT20	MCS 0~6	5240	17
						5260~5745	20
	MCS 7	5240			15		
		5260~5745			18		
	MCS 8	5240			14		
		5260~5745			16		
	802.11ac	VHT40		MCS 0~6	5240	17	
					5260~5745	20	
MCS 7				5240	15		
				5260~5745	18		
MCS 8				5240	14		
				5260~5745	16		

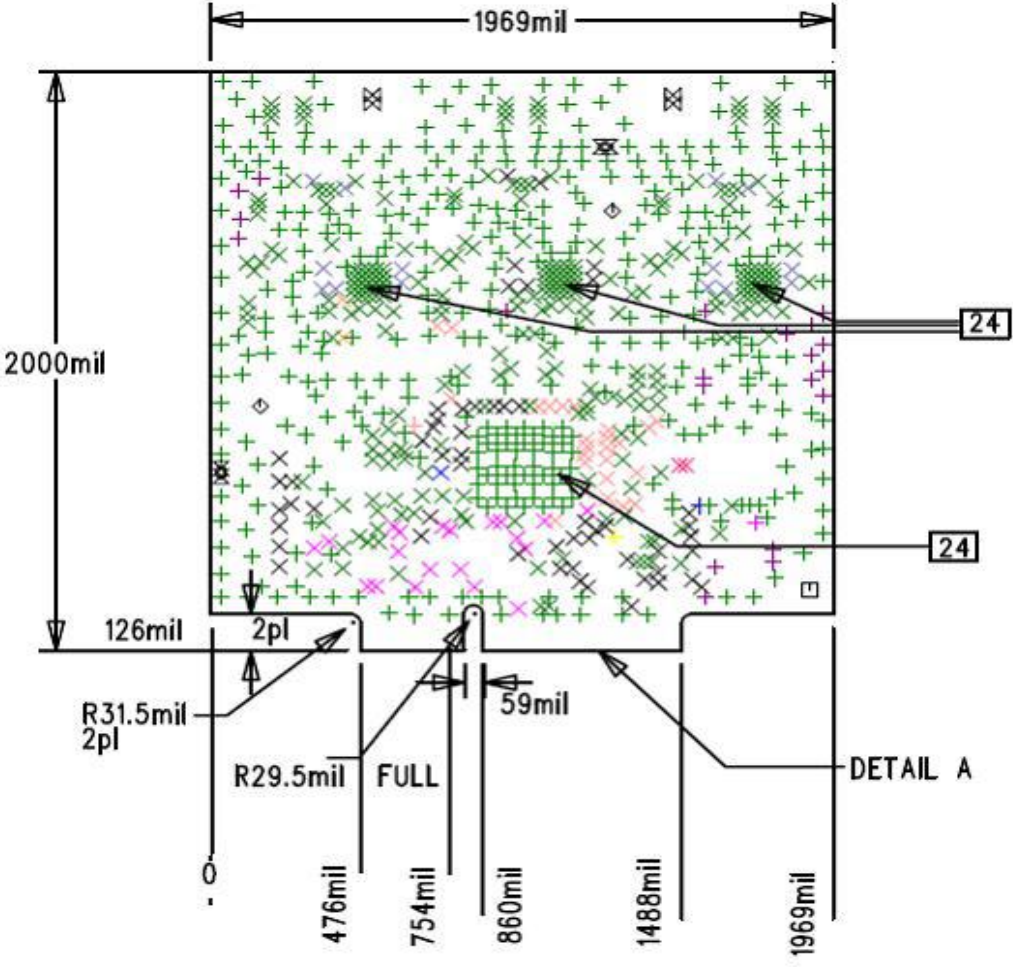
1.2 Hardware Specifications (continued)

			MCS 9	5240~5745	13
		VHT80	MCS 0-6	5240	17
				5260~5745	20
			MCS 7	5240	15
				5260~5745	18
			MCS 8	5240	14
				5260~5745	16
			MCS 9	5240~5745	13
Sensitivity (PER <10% per chain >= Spec; dBm)	Mode	802.11a	802.11n/HT20	802.11n/HT40	
	6 Mbps	-94			
	54 Mbps	-78			
	MCS 0		-94	-89	
	MCS 7		-74	-69	
	Mode	11ac VHT20	11ac VHT40	11ac VHT80	
	MCS 0	-94	-91	-87	
	MCS 7	-73	-70	-67	
	MCS 8	-69	-66	-63	
	MCS 9	-67	-64	-61	
Operating Frequency (GHz)	IEEE 802.11a/ac ISM Band				
	• USA (FCC) : 5.15 ~ 5.35 ; 5.470 ~ 5.725 ; 5.725 ~ 5.850				
	• Europe (ETSI) : 5.15 ~ 5.35 ; 5.470 ~ 5.725				
	• Japan (TELEC) : 5.15 ~ 5.35 ; 5.470 ~ 5.725				
Antenna Connector	u.FL x 3				

1. Measured with IQxel under 25°C room temperature.

Above table represents the programmed target power of the AC-920 during the manufacturing process. The actual conducted Tx power will be limited by the driver according to the regulatory limits defined by the country it is destined for. In conjunction with these regulatory limits the actual output power may differ than the stated target power. Please refer to Appendix.

2. Physical Specification

PCBA Dimension	Description
	<p>50mm(1969 mil) * 50.8mm (2000mil)</p> 
Weight	≤ 15g

3. Environmental Specification

Features	Additional Information
Operating Temperature	-30 ~75°C
Operating Humidity (non-condensing)	90% RH
Storage Temperature	-40 ~85°C
Storage Humidity (non-condensing)	10 - 90% RH
Warranty	12 Months
Green	RoHS Compliant