

**AN-622-49 IEEE 802.11a/b/g/n Mini PCI Module**  
AirRunner™ WiFi Series

The Zcomax AN-622-49 is an extremely versatile mPCI module, supporting the ISM 2.4GHz and 5GHz UNII bands as well as the 4.9GHz public safety band. Utilizing the field proven Atheros AR9220 802.11a/b/g/n chipset ensures use of the latest technology while remaining a cost effective choice for a wide array of projects. The AR9220 chipset enables 300Mbps performance on either band (2.4GHz or 4.9/5GHz). This wireless mini PCI module has been purposely designed with integrated applications in mind. Its low profile external antenna connectors and standard mini PCI interface, ensure that the AN-622-49 will fit into any design supporting the mini PCI form factor.

The AN-622-49's reliable design helps to reduce the overall costs associated with wireless integration by eliminating the need for the debugging and driver support commonly associated with designing a product from the "ground up". The AN-622-49 module is a robust plug and play ready device.

For more information on this or any other Zcomax product please contact one of our sales professionals today.



**AN-622-49 mPCI Module**

**Key Features**

- IEEE 802.11a/b/g/n compliant
- Special 4.9GHz public safety band ready
- 2.4GHz / 5GHz dual-band MIMO
- Based on Atheros XSPAN® family
- Chipset: Atheros AR9220
- Tx power up to 24dBm
- Receive sensitivity to -93dBm
- 2 x Hirose u.FL
- RoHS compliant
- Temperature range: -20 to +60°C

**AN-622-49 at a Glance**

Chipset	Atheros AR9220 (XSPAN®)
Transmit Power	Up to 24 dBm
Performance	300 Mbps performance
MIMO	2x2 dual-band

IEEE	Radio	RoHS	Interface

Dual-Band 802.11n MIMO

Radio Specification				
802.11 Standard	IEEE 802.11a/b/g/n compliant			
Chipset	Atheros AR9220 (Single chip, dual-band)			
Modulation	OFDM: BPSK, QPSK, 16-QAM, 64-QAM / DSS: DBPSK, DQPSK, CCK			
Supported Frequency Ranges	ISM Band: FCC-2.412GHz ~ 2.462GHz; Public Safety- 4.94 ~ 4.99GHz ETSI-2.412GHz ~ 2.472GHz			
	UNII : FCC-5.15GHz~5.850GHz, ETSI 5.15GHz~5.35GHz, 5.47GHz~5.725GHz			
RF Output Power (± 2dB)	IEEE 802.11a	4940-4990MHz	6-24Mbps	21dBm
		5150-5350MHz	36Mbps	21dBm
		5470-5725MHz	48Mbps	20dBm
			54Mbps	19dBm
		5725-5825MHz	6-24Mbps	21dBm
			36Mbps	20dBm
	48Mbps		19dBm	
	54Mbps		17dBm	
	IEEE 802.11b	1-11Mbps		21dBm
	IEEE 802.11g	6-24Mbps		24dBm
		36Mbps		23dBm
		48Mbps		22dBm
		54Mbps		20dBm
	IEEE 802.11gn	HT20 MCS0/8		24dBm
		HT20 MSC1/9		
		HT 20 MSC2/10		
		HT 20 MSC3/11		
		HT 20 MSC4/12		
		HT 20 MSC5/13		
		HT 20 MSC6/14		23dBm
		HT 20 MSC7/15		19dBm
		HT 40 MSC0/8		23dBm
		HT 40 MSC1/9		
		HT 40 MSC2/10		
		HT 40 MSC3/11		
		HT 40 MSC4/12		22dBm
		HT 40 MSC5/13		21dBm
HT 40 MSC6/14				
HT 40 MSC7/15		19dBm		
IEEE 802.11an	4940~4990 5150~5350	HT20 MCS0/8		24dBm
		HT20 MCS1/9		
		HT20 MCS2/10		
		HT20 MCS3/11		23dBm
		HT20 MCS4/12		
		HT20 MCS5/13		
		HT20 MCS6/14		
	HT20 MCS7/15		19dBm	
	5470~5725	HT20 MCS0/8		22dBm
		HT20 MCS1/9		
		HT20 MCS2/10		
		HT20 MCS3/11		
		HT20 MCS4/12		
		HT20 MCS5/13		
		HT20 MCS6/14		
	HT20 MCS7/15		17dBm	
	5725~5825	HT20 MCS0/8		22dBm
		HT20 MCS1/9		
		HT20 MCS2/10		
		HT20 MCS3/11		
HT20 MCS4/12				
HT20 MCS5/13				
HT20 MCS6/14		21dBm		
HT20 MCS7/15		17dBm		
HT40 MCS0/8		22dBm		

**Dual-Band 802.11n MIMO**

	4940~4990 5150~5350	HT40 MCS1/9	21dBm	
		HT40 MCS2/10		
		HT40 MCS3/11		
		HT40 MCS4/12		
		HT40 MCS5/13		
		HT40 MCS6/14		
	5470~5725	HT40 MCS7/15	16dBm	
		HT40 MCS0/8	20dBm	
		HT40 MCS1/9		
		HT40 MCS2/10		
		HT40 MCS3/11		
		HT40 MCS4/12		
	5725~5825	HT40 MCS5/13		21dBm
		HT40 MCS6/14		
		HT40 MCS7/15		
		HT40 MCS0/8		
		HT40 MCS1/9		
		HT40 MCS2/10		
Receiver Sensitivity	OFDM Data Rate		2.4GHz	4.9/5GHz
	1Mbps / 11Mbps		-93dBm / -88dBm	N/A
	6Mbps / 9Mbps		-91dBm / -90dBm	-88dBm / -87dBm
	12Mbps / 18Mbps		-88dBm / -86dBm	-86dBm / -84dBm
	24 Mbps / 36 Mbps		-83dBm / -79dBm	-81dBm / -77dBm
	48Mbps / 54Mbps		-75dBm / -74dBm	-75dBm / -74dBm
	802.11n Data Rates		2.4GHz	4.9/5GHz
	HT20 MSC0/MSC7		-90dBm / -71dBm	-90dBm / -71dBm
	HT40 MSC0/MSC7		-86dBm / -68dBm	-86dBm / -68dBm
Power Consumption		IEEE 802.11a/b/g Tx ≤ 750mA, Rx ≤ 400mA		

Physical Specification	
Interface	32-bit mini-PCI Type III-A
Dimensions	59.6mm x 50.95mm x 4.5mm ± 0.15mm
Weight	≤ 15g
Operating voltage	DC 3.3V ± 5%
Working Temperature	-20°C to 60°C, < 95% relative humidity (non-condensing)
Storage Temperature	-30°C to 80°C, 5-90% relative humidity (non-condensing)
Green Information	RoHS Compliant
Antenna Connectors	2 x u.FL

Warranty	
Warranty Period	1 Year limited warranty from the date of purchase