



Radio module

WLM200N5-23-4.9

WIRELESS-A/N 20DBM NETWORK MINI PCI ADAPTER WITH ESD

Features

- Atheros XSPAN family chipset
- 4.9GHz IEEE 802.11n compliant and backward compatible with 802.11a
- 4.9GHz Single-band MIMO 2x2 spatial multiplexing technique
- Built-in ESD Protection with ESD/EMP Immunity Threshold: 15KeV^①
- Supports up to 300Mbps physical data rates
- Delivers 10 times the throughput and nearly twice the range of legacy 802.11a network
- Multi-Country Roaming Supported (IEEE802.11d Global Harmonization Standard)
- 2 x MMCX or 2 x U.FL Antenna Connectors^②

Technical Specifications										
Chipset	Atheros AR9220									
Host Interface	PCI Interface v2.3 (Type III-A Mini PCI form factor)									
Operating Voltage	3.3 VDC									
Power Consumption	11a Cont. Tx @6M	3.5W								
	11na Cont. Tx@HT20 MCS0	3W								
	11na Cont. Tx@HT40 MCS0	3W								
	11a Cont. Rx	0.9W								
	Standby	0.7W								
Antenna Connector	2 x MMCX or 2 x U.FL ^②									
Data Rate	IEEE 802.11a :	54Mbps	48Mbps	36Mbps	24Mbps	18Mbps	12Mbps	9Mbps	6Mbps	
	IEEE 802.11n :	20MHz	1Nss: 65Mbps @ 800GI, 72.2Mbps @ 400GI (Max.) 2Nss: 130Mbps @ 800GI, 144.4Mbps @ 400GI (Max.)							
Frequency Range	IEEE 802.11a/n:	4.900-4.98 GHz								
Modulation Techniques	OFDM: BPSK, QPSK, 16QAM, 64QAM									
Radio & EMC Certification	FCC									
RoHS Compliance	Yes									
Temperature Range	Operating: -20°C to 70°C Storage: -40°C to 90°C									
Humidity	Operating: 5% to 95% (non-condensing) Storage: Max.90% (non-condensing)									
Dimension	59.6mm x 51.5mm x 6mm									

WLM200N5-23 ESD MIMO MINIPCI CARD RADIO										
TX SPECIFICATIONS										
	DataRate	TX Power				Tolerance				
802.11a	6-24Mbps	21dBm				± 2dB				
	36Mbps	20dBm				± 2dB				
	48Mbps	19dBm				± 2dB				
	54Mbps	18dBm				± 2dB				
	DataRate	TX Power (per chain)	Tolerance							
5GHz 11n HT 20	MCS 0/8	20dBm	± 2dB							
	MCS 1/9	20dBm	± 2dB							
	MCS 2/10	19dBm	± 2dB							
	MCS 3/11	19dBm	± 2dB							
	MCS 4/12	17dBm	± 2dB							
	MCS 5/13	16.5dBm	± 2dB							
	MCS 6/14	16dBm	± 2dB							
	MCS 7/15	16dBm	± 2dB							
RX SPECIFICATIONS										
	Data Rate	Sensitivity (2 chains)	Tolerance							
802.11a	6M	-97dBm	± 2dB							
	9M	-97dBm	± 2dB							
	12M	-96dBm	± 2dB							
	18M	-94dBm	± 2dB							
5GHz 11n HT 20	MCS0	-97dBm	± 2dB							
	MCS1	-94dBm	± 2dB							
	MCS2	-92dBm	± 2dB							
	MCS3	-87dBm	± 2dB							
	MCS4	-84dBm	± 2dB							
	MCS5	-80dBm	± 2dB							
	MCS6	-79dBm	± 2dB							
MCS7	-77dBm	± 2dB								

ESD CABLE SPECIFICATION	
Cable Dimensions	26cm length
Terminal Material	Copper
Attachment Procedure	End of ESD Cable tied to Earth Ground

Ordering Information^③

CODES	Antenna Connectors type	Carton Dimension
WLM200N5-23 6AA1300ESD4.9	U.FL	For 50pcs (pcs/ctn), 0.40m * 0.22m * 0.085m / 0.006 = 1.5KG For 250pc (pcs/ctn), 0.45m * 0.45m * 0.24m / 0.006 = 8.1KG

- ① Module grounding cable included
- ② Depends on your order configuration
- ③ Configurations are subject to change without notice
Please contact Compex sales representatives for other available configurations



Compliance Information

FCC Compliance Statement:

This device complies with Part 15 of the FCC Rules . Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation. This device must accept any interference received, including interference that may cause undesired operation. Product that is a radio transmitter is labeled with FCC ID.

FCC Caution:

(1) Exposure to Radio Frequency Radiation. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

(2) Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

(3) This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

(4) Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

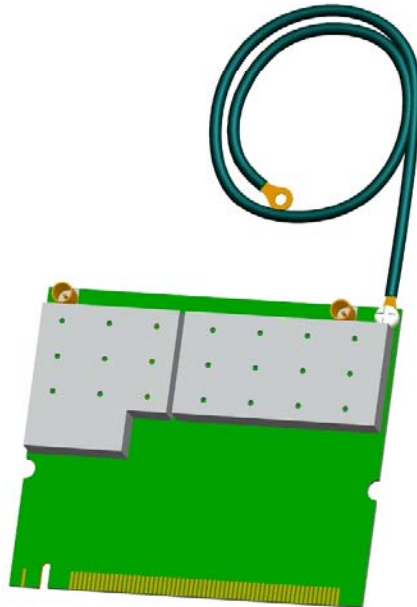
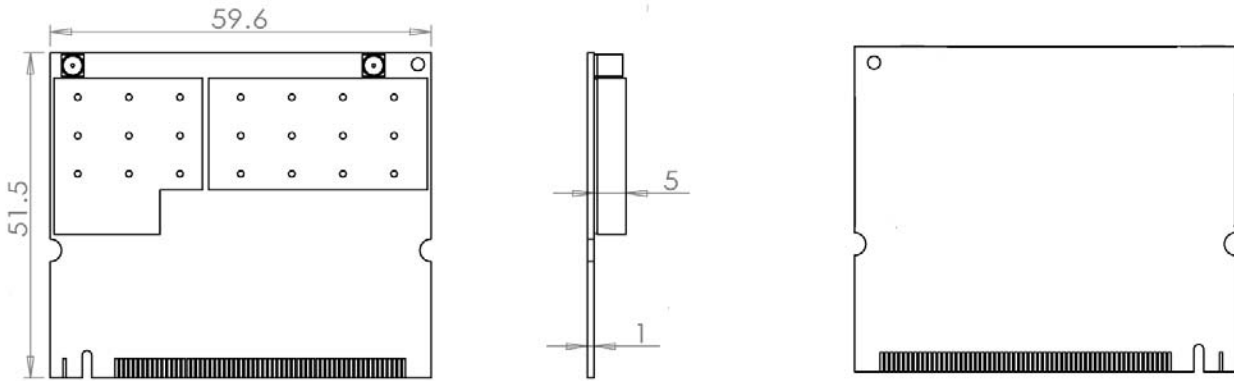
WARNING: The antenna gain which being use must less than 17 dBi.

(1) the modules FCC ID is not visible when installed in the host, or

(2) if the host is marketed so that end users do not have straight forward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: Contains Transmitter Module

FCC ID: OLXWLM200N5-49 or Contains FCC ID: OLXWLM200N5-49 must be used.

Dimensions Drawing



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