



## WIRELESS-A/N 26DBM NETWORK MINI PCI ADAPTER WITH ESD

# WLM200N5-26 ESD

5GHz Single-Band 802.11n MIMO 2 x 2 miniPCI

### Features

- Atheros XSPAN family chipset
- IEEE 802.11n compliant and backward compatible with 802.11a
- Enhanced sensitivity
- Optimized isolation path
- Superior thermal performance
- Maximum output power 26dBm@802.11a / 28dBm MIMO aggregate
- Built-in ESD Protection with ESD/EMP Immunity Threshold: 15KeV<sup>①</sup>
- Multi-Country Roaming Supported (IEEE802.11d Global Harmonization Standard)
- 2 x MMCX connectors allowing for improved mechanical stability and low loss

Technical Specifications										
Chipset	Atheros AR9220									
Host Interface	32-bit mini-PCI Type IIIA+ (6.55mm longer than IIIA type)									
Operating Voltage	3.3 VDC									
Power Consumption	11a Cont. Tx @6M		4.9W							
	11na Cont. Tx@HT20 MCS0		4.3W							
	11na Cont. Tx@HT40 MCS0		4.8W							
	11a Cont. Rx		2.5W							
	Standby		0.8W							
Antenna Connector	2 x MMCX connector									
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.)							
	40MHz	1Nss: 135Mbps @ 800GI, 150Mbps @ 400GI (Max.)								
2Nss: 270Mbps @ 800GI, 300Mbps @ 400GI (Max.)										
Frequency Range	IEEE 802.11a/n:	5.725 ~ 5.850 GHz (US & Canada)								
		5.725 ~ 5.875 GHz (Europe)								
Modulation Techniques	OFDM: BPSK, QPSK, 16-QAM, 64-QAM									
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 57.5mm x 7.5mm									

WLM200N5-26 ESD MIMO MINIPCI CARD RADIO													
TX SPECIFICATIONS													
		DataRate	TX Power		TX Power		TX Power		Tolerance				
			(per chain)	(2 chains)	(per chain)	(2 chains)	(per chain)	(2 chains)					
802.11a	6-24Mbps		26dBm		28dBm		28dBm		±2dB				
	36Mbps		25dBm		28dBm		28dBm		±2dB				
	48Mbps		24dBm		27dBm		27dBm		±2dB				
	54Mbps		23dBm		26dBm		26dBm		±2dB				
		DataRate	TX Power	TX Power	Tolerance			DataRate	TX Power	TX Power	Tolerance		
			(per chain)	(2 chains)					(per chain)	(2 chains)			
5GHz 11n HT 20	MCS 0/8		25dBm	28dBm	±2dB			MCS 0/8	24dBm	27dBm	±2dB		
	MCS 1/9		25dBm	28dBm	±2dB			MCS 1/9	24dBm	27dBm	±2dB		
	MCS 2/10		23.5dBm	26.5dBm	±2dB			MCS 2/10	22.5dBm	25.5dBm	±2dB		
	MCS 3/11		23.5dBm	26.5dBm	±2dB			MCS 3/11	22.5dBm	25.5dBm	±2dB		
	MCS 4/12		22.5dBm	25.5dBm	±2dB			MCS 4/12	22dBm	25dBm	±2dB		
	MCS 5/13		22dBm	25dBm	±2dB			MCS 5/13	20.5dBm	23.5dBm	±2dB		
	MCS 6/14		21dBm	24dBm	±2dB			MCS 6/14	20.5dBm	23.5dBm	±2dB		
	MCS 7/15		20dBm	23dBm	±2dB			MCS 7/15	17dBm	20dBm	±2dB		
RX SPECIFICATIONS													
		DataRate	Sensitivity		Tolerance				DataRate	Sensitivity		Tolerance	
			(2 chains)							(2 chains)			
802.11a	6M		-96dBm		±2dB				24M	-89dBm		±2dB	
	9M		-96dBm		±2dB				36M	-86dBm		±2dB	
	12M		-95dBm		±2dB				48M	-82dBm		±2dB	
	18M		-93dBm		±2dB				54M	-79dBm		±2dB	
5GHz 11n HT 20	MCS0		-95dBm		±2dB				MCS0	-92dBm		±2dB	
	MCS1		-93dBm		±2dB				MCS1	-90dBm		±2dB	
	MCS2		-90dBm		±2dB				MCS2	-87dBm		±2dB	
	MCS3		-89dBm		±2dB				MCS3	-84dBm		±2dB	
	MCS4		-85dBm		±2dB				MCS4	-81dBm		±2dB	
	MCS5		-81dBm		±2dB				MCS5	-77dBm		±2dB	
	MCS6		-79dBm		±2dB				MCS6	-76dBm		±2dB	
	MCS7		-75dBm		±2dB				MCS7	-74dBm		±2dB	

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

### Ordering Information <sup>②</sup>

CODES	Connectors type	Carton Dimension
WLM200N5-26ESD 7B0000	MMCX	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 Configurations are subject to change without notice  
Please contact Compex sales representatives for other available configurations

## COMPLIANCE INFORMATION

### FCC NOTICE

This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Increase the separation between the computer and receiver.
- Consult the dealer or an experienced radio/TV technician for help.

**Caution:** Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

**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.

IEEE 802.11a or 802.11n operation of this product in the U.S.A. is firmware-limited to channels 1 through 24.

### RF exposure warning

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must be installed to provide a separation distance of at least 20cm from

all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

## Compliance Information

### IC Radiation Exposure Statement for Canada

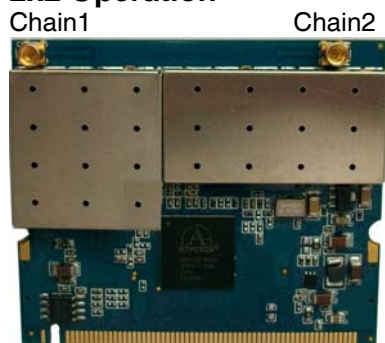
This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. To maintain compliance with IC RF exposure compliance requirements, please avoid direct contact to the transmitting antenna during transmitting. End users must follow the specific operating instructions for satisfying RF exposure compliance.

Operation is subject to the following two conditions:

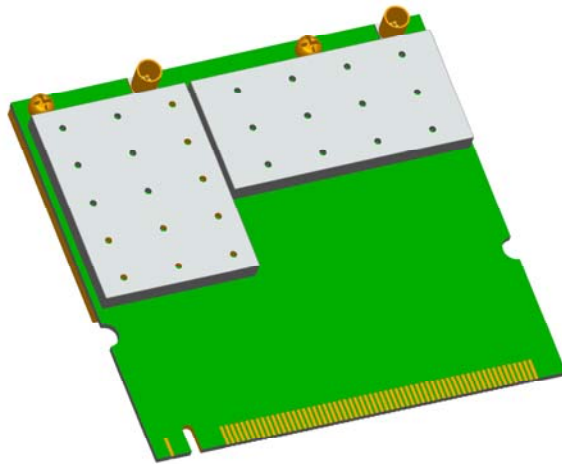
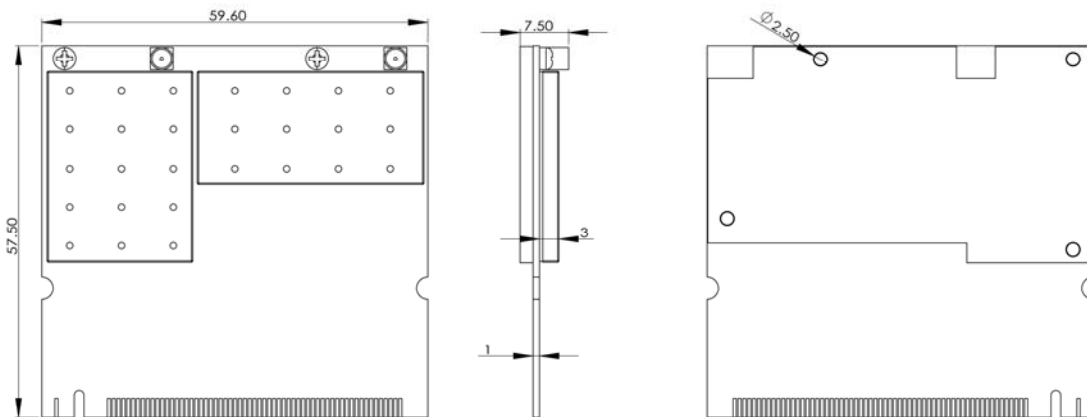
- This device may not cause interference and
- This device must accept any interference, including interference that may cause undesired operation of the device.

**FCC ID: TK4WLM200N5-26ESD**  
**IC : 7849A-N5-26ESD**

### IMPORTANT NOTE REGARDING ANTENNA USE Antenna Use (Point to Multipoint) 2x2 Operation



## Dimensions Drawing



### Complex Systems Pte Ltd

135 Joo Seng Road, PM Industrial Building #08-01,  
Singapore 368363  
Tel: (65) 6286 2086  
Fax: (65) 6280-9947  
Email: sales@compex.com.sg

### Complex (Suzhou) Co Ltd

NO.12, ChuangTou Industrial Square,  
LouFeng North, Suzhou Industrial Park,  
Suzhou, Jiangsu Province, China 215122  
Tel: (86)-512-62950050  
Fax: (86)-512-62950026



Copyright © 2010 Complex Systems. All rights reserved. COMPEX and the COMPEX logo, are registered trademarks of COMPEX Inc. Atheros and other trademarks are properties of their respective owners. While every effort is made to ensure the information accurate, Complex does not accept liability for any errors or mistakes that may arise. Specification is subject to change without notice. DS V: 1.1.2 GH110311

For more information, visit [www.compex.com.sg](http://www.compex.com.sg)