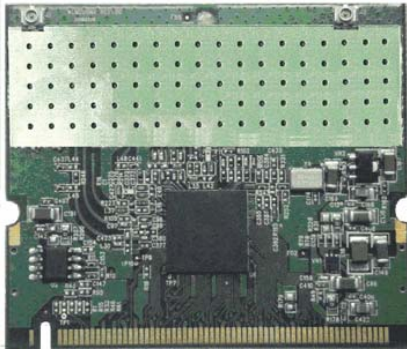


# WLM200N2 MINIPCI

2 x 2 802.11N MIMO mini-PCI Modules



WLM200N2 MiniPCI network adapter provides leading 802.11b/g/n performance, supporting up to 300Mbps physical data rates and 200Mbps of actual user throughput on both the uplink and downlink. Adding Wireless N to your Wireless device, it provides higher efficiency for everyday activities such as file transfers, Internet browsing, and media streaming.

Built on Atheros chipset, it can be used with all draft IEEE 802.11n compatible WLANs, and is ideally suited to be integrated into a wide range of OEM devices.

## Features

- 2.4GHz IEEE 802.11b/g standard
- Output Power of up to 20dBm @ b/g/n Band
- Support for up to 2x2 MIMO with spatial multiplexing
- Four times the throughput of 802.11g
- Wireless Encryption and Authentication Supported
- Transmission Power Control (TPC)
- Enhanced performance with Atheros XSPAN technology Optimized for higher throughput at long range
- High Performance (up to 300Mbps physical data rates and 200Mbps of actual user throughput) with Low Power Consumption
- Multi-Country Roaming Support (IEEE802.11d)
- 2 X U.FL Antenna Connector
- Suitable for Embedded System or OEM Project
- Affordable and Ideal for a Variety of Applications

Technical Specifications										
Chipset	AR9223									
Host Interface	PCI Interface v2.3 (Type III-B Mini PCI form factor)									
Operating Voltage	3.3 VDC									
Power Consumption	2.4W									
Antenna Connector	2 x U.FL Antenna Connector									
Standards	IEEE 802.11b:	11Mbps	5.5Mbps	2Mbps	1Mbps					
	IEEE 802.11g:	54Mbps	48Mbps	36Mbps	24Mbps	18Mbps	12Mbps	9Mbps	6Mbps	
	Automatically fallback to 5.5Mbps, 2Mbps, 1Mbps									
	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 802.11b/g	2.412GHz ~ 2.462GHz (US & Canada)								
		2.412GHz ~ 2.472GHz (Europe)								
		2.412GHz ~ 2.484GHz (Japan)								
Modulation Techniques	OFDM: BPSK, QPSK, 16 QAM, 64QAM DSSS: DBPSK, DQPSK, CCK									
Security	64/128-bit WEP, TKIP, AES, IEEE802.1x authentication									
Certificate	FCC, CE									
ROHS Compliance	Yes									
Environment Specifications	Operating: -20°C to 70°C Storage: -65°C to 100°									
Humidity	5% to 95% (non-condensing)									
Dimension	59.6 x 51 x 3 mm									

WLM200N2 MIMO MINIPCI CARD RADIO OPERATING FREQUENCY 2.412-2.484GHz									
TX SPECIFICATIONS					TX SPECIFICATIONS				
	DataRate	TX Power		Tolerance		DataRate	TX Power		Tolerance
802.11b	11Mbps	20dBm		±2dB	802.11g	6-24Mbps	20dBm		±2dB
	5.5Mbps	20dBm		±2dB		36Mbps	19.5dBm		±2dB
	2Mbps	20dBm		±2dB		48Mbps	18.5dBm		±2dB
	1Mbps	20dBm		±2dB		54Mbps	17dBm		±2dB
802.11n	HT20 @800GI(400GI): +16 ~ +20dBm								
	HT40 @800GI(400GI): +14 ~ +18dBm								
RX SPECIFICATIONS					RX SPECIFICATIONS				
	DataRate	Sensitivity (Typical/Maximum 2Rx)		Tolerance		DataRate	Sensitivity (Typical/Maximum 2Rx)		Tolerance
802.11g	6 Mbps	-96/-92dBm		±2dB	802.11b	1 Mbps	-96/-92dBm		±2dB
	9 Mbps	-96/-92dBm		±2dB		5.5Mbps	-94/-90dBm		±2dB
	12 Mbps	-96/-92dBm		±2dB		11 Mbps	-91/-87dBm		±2dB
	18 Mbps	-95/-91dBm		±2dB					
	24Mbps	-92/-88dBm		±2dB					
	38Mbps	-89/-85dBm		±2dB					
	48Mbps	-85/-81dBm		±2dB					
	54Mbps	-83/-79dBm		±2dB					
	DataRate	Sensitivity (Typical/Maximum 2Rx)		Tolerance		DataRate	Sensitivity (Typical/Maximum 2Rx)		Tolerance
	MCS0	-96/-92dBm		±2dB		MCS0	-90/-86dBm		±2dB
	MCS1	-95/-91dBm		±2dB		MCS1	-90/-86dBm		±2dB
	MCS2	-93/-89dBm		±2dB		MCS2	-89/-85dBm		±2dB
	MCS3	-90/-86dBm		±2dB		MCS3	-87/-82dBm		±2dB
	MCS4	-87/-81dBm		±2dB		MCS4	-84/-79dBm		±2dB
	MCS5	-83/-76dBm		±2dB		MCS5	-79/-75dBm		±2dB

<b>802.11</b> <b>b/g/n H20</b>	MCS6	-81/-76dBm	±2dB
	MCS7	-79/-73dBm	±2dB
	MCS8	-95/-91dBm	±2dB
	MCS9	-93/-89dBm	±2dB
	MCS10	-90/-86dBm	±2dB
	MCS11	-87/-83dBm	±2dB
	MCS12	-84/-80dBm	±2dB
	MCS13	-79/-75dBm	±2dB
	MCS14	-77/-73dBm	±2dB
	MCS15	-75/-71dBm	±2dB

<b>802.11</b> <b>b/g/n H40</b>	MCS6	-78/-74dBm	±2dB
	MCS7	-75/-71dBm	±2dB
	MCS8	-90/-86dBm	±2dB
	MCS9	-89/-85dBm	±2dB
	MCS10	-87/-83dBm	±2dB
	MCS11	-84/-80dBm	±2dB
	MCS12	-81/-77dBm	±2dB
	MCS13	-76/-72dBm	±2dB
	MCS14	-74/-68dBm	±2dB
	MCS15	-71/-67dBm	±2dB

<b>DRIVER INFORMATION</b>	
<b>Driver</b>	Linux Madwifi, WindowsXP , Windows 2000, Windwos Vista

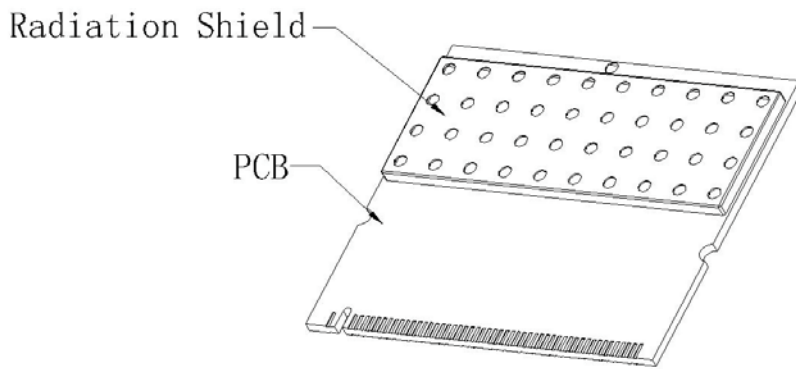
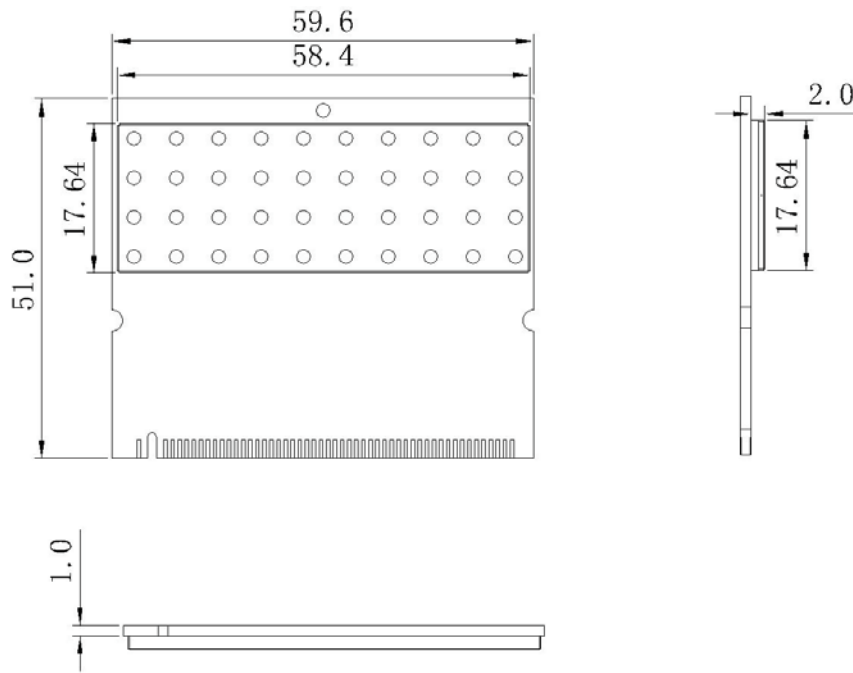
### ORDERING CONFIGURATIONS<sup>①</sup>

<b>CODES</b>	<b>SPEED</b>	<b>CARTON DIMENSIONS</b>
WLM200N2 6AA1100	Up to 300 Mbps physical data rates	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
WLM200N2 6AA1300	Up to 300 Mbps physical data rates	

① Configurations are subjected to change without notice



DIMENSIONS DRAWING



## WLM FAMILY SERIES OF MINIPCI

b / g (2.4GHz)						a / b / g (2.4/5GHz)		
MODEL	WLM 54G-20dBm	WLM 54G-23dBm	WLM 54G-26dBm	WLM 54G – 28dBm	WLM200N2	WLM 54AG – 20dBm	WLM 54 AG – 23dBm	WLM 54A – 26dBm
CHIPSET	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR9223	AR 5413/5414 (AR5006X/XS)	AR 5413/5414 (AR5006X/XS)	AR5414 (AR5006XS)
SPEED	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 300Mbps physical data rates	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 108Mbps
OUTPUT POWER (Average)								
802.11a	-	-	-	-	-	-	23dBm@6-24Mbps	26dBm@6-24Mbps
	-	-	-	-	-	-	17dBm@36Mbps	21dBm@36Mbps
	-	-	-	-	-	-	16dBm@48Mbps	19dBm@48Mbps
	-	-	-	-	-	-	13dBm@54Mbps	17dBm@54Mbps
802.11b	20dBm@1-11Mbps	23dBm@1-11Mbps	26dBm@1-11Mbps	28dBm@1-11Mbps	20dBm@1-11Mbps	20dBm@1-11Mbps	23dBm@1-11Mbps	
802.11g	20dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	28dBm@6-24Mbps	20dBm@6-24Mbps	20dBm@6-24Mbps	23dBm@6-24Mbps	
	19dBm@36Mbps	22dBm@36Mbps	25dBm@36Mbps	26dBm@36Mbps	19.5dBm@36Mbps	18dBm@36Mbps	21dBm@36Mbps	
	17dBm@48Mbps	19dBm@48Mbps	24dBm@48Mbps	25dBm@48Mbps	18.5dBm@48Mbps	17dBm@48Mbps	19dBm@48Mbps	
	16dBm@54Mbps	17dBm@54Mbps	22dBm@54Mbps	23dBm@54Mbps	17dBm@54Mbps	15dBm@54Mbps	17dBm@54Mbps	
Modulation Techniques	OFDM and DSSS OFDM: BPSK, QPSK, 16QAM, 64QAM DSSS: DBPSK, DQPSK, CCK							
Interface	PCI Interface v2.3 (Type III-B Mini PCI Form Factor)							
Receiver Sensitivity	802.11g < -90dBm @ 6Mbps < -70dBm @ 54Mbps		802.11b < -92dBm @ 6Mbps < -87dBm @ 11Mbps		802.11a < -90dBm @ 6Mbps < -70dBm @ 54Mbps			
Operating Channels	IEEE 802.11g: 11 Channel (US & Canada) 13 Channel (Europe) 14 Channel (Japan)				IEEE 802.11a: 13 Channel (US & Canada) 19 Channel (Europe) 10 Channel (Japan)			
Power	3.3VDC							
Operating Temperature	-20°C to 70°C							
Dimensions	6.0cm x 4.5cm High Power Cards (26dBm/30dBm) has bigger dimensions.							

### Compex Systems Pte Ltd

135 Joo Seng Road, PM Industrial Building #08-01, Singapore 368363  
Tel: (65) 6288 8220  
Fax: (65) 6280-9947

### Compex (CHANGSHU) CO. Ltd

Block 8, Haicheng Industrial Square  
Changshu Economic Development Zone,  
Jiangsu Province, China 215513  
Tel: (86)-512-52297891  
Fax: (86)-512-52698858

### Compex (Suzhou) CO. Ltd

No. 12, ChuangTou Industrial Square,  
LouFeng North, Suzhou Industrial Park,  
Suzhou City, Jiangsu Province, China  
Tel: (86)-512-62950031  
Fax: (86)-512-62950032



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