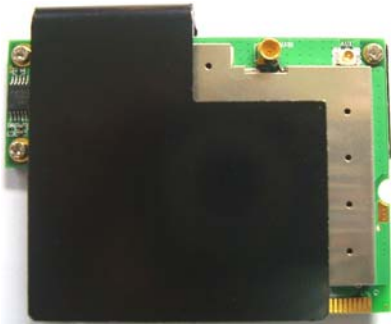


WLM MINIPCI SERIES

WLM54G(G)-28dBm(1000mW)



Complex introduces the WLM54G-28dBm wireless 802.11b/g miniPCI card for high power and long distance Applications -----output power up to 1000mW, enabling a very wide range of wireless coverage. Combined with excellent receiver sensitivity, Complex WLM54G-28dBm is the miniPCI of choice for long distance links, or those where signal levels are reduced due to minor obstructions such as trees or buildings.

Built on Atheros chipsets, Complex WLM54G-28dBm miniPCI network adapter can be used for all IEEE802.11b/g compatible WLAN in the 2.4GHz band. It is ideal for integration in a wide range of OEM devices.

Features

- 2.4GHz IEEE 802.11b/g standard
- Output power of up to 28dBm (1000mw) @ b/g Band
- Supports Atheros Proprietary "Super Mode" allowing for 108Mbps Data Speeds
- Wireless Encryption and Authentication Supported
- Transmission Power Control (TPC)
- Extended Distances and High Speeds Due to Better Output Signal Power
- High Performance with Low Power Consumption
- Multi-Country Roaming Support (IEEE802.11d)
- MMCX Antenna Connector
- Suitable for Embedded System or OEM Project
- Affordable and Ideal for a Variety of Applications

Technical Specifications									
Chipset	WLM54G(G)-28								
	Atheros 2413								
Host Interface	PCI Interface v2.3 (Type III-B Mini PCI form factor)								
Operating Voltage	3.3 VDC								
Power Consumption	7.5W								
Antenna Connector	MMCX (main), U.FL (aux)								
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							
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								
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 46 x 14 mm								
Weight	35 grams								

WLM54G-30 MINIPCI CARD RADIO OPERATING FREQUENCY 2.412~2.484GHz							
TX SPECIFICATIONS				RX SPECIFICATIONS			
	Data Rate	TX Power	Tolerance		DataRate	Sensitivity	Tolerance
802.11b	1Mbps	30dBm	+1.0/-1.5 dB	802.11b	1Mbps	<-90dBm	
	2Mbps	30dBm	+1.0/-1.5 dB		11Mbps	<-70dBm	
	5.5Mbps	30dBm	+1.0/-1.5 dB				
	11Mbps	30dBm	+1.0/-1.5 dB				
802.11g	6Mbps	30dBm	+1.0/-1.5 dB	802.11g	6Mbps	<-90dBm	
	9Mbps	30dBm	+1.0/-1.5 dB				
	12Mbps	30dBm	+1.0/-1.5 dB				
	18Mbps	30dBm	+1.0/-1.5 dB				
	24Mbps	30dBm	+1.0/-1.5 dB		54Mbps	<-70dBm	
	36Mbps	28dBm	+1.0/-1.5 dB				
	48Mbps	27dBm	+1.0/-1.5 dB				
	54Mbps	25dBm	+1.0/-1.5 dB				

ADJUSTABLE CHANNEL SIZE SUPPORT				
G	5MHz	10MHz	20MHz	

DRIVER INFORMATION	
Driver	Linux Madwifi, WindowsXP, Windows 2000

ORDERING CONFIGURATIONS

CODES	SPEED	CARTON DIMENSIONS
WLM54G-6BA1300P30S	Up to 108 Mbps	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
WLM54G-6BA1100P30S	Up to 108 Mbps	
WLM54G-6AA1300P30	Up to 54 Mbps	
WLM54G-6AA1100P30	Up to 54 Mbps	

① Configurations are subjected to change without notice

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 co-located 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.

NOTE:

(1) This device is approved for OEM installation with specified antennas as listed in this Manual. It is the responsibility of the Installer to comply with the separation distance for satisfying RF exposure compliance.

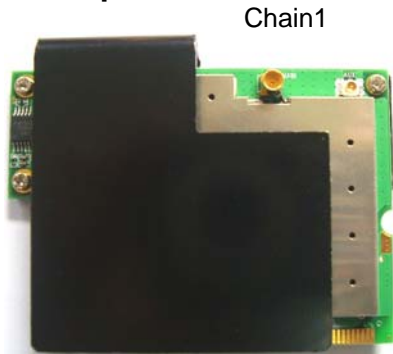
(2) This device only could work when being installed into "client devices" which could not transmit automatically, such as Notebook P.C. , with the software driver limit.

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another

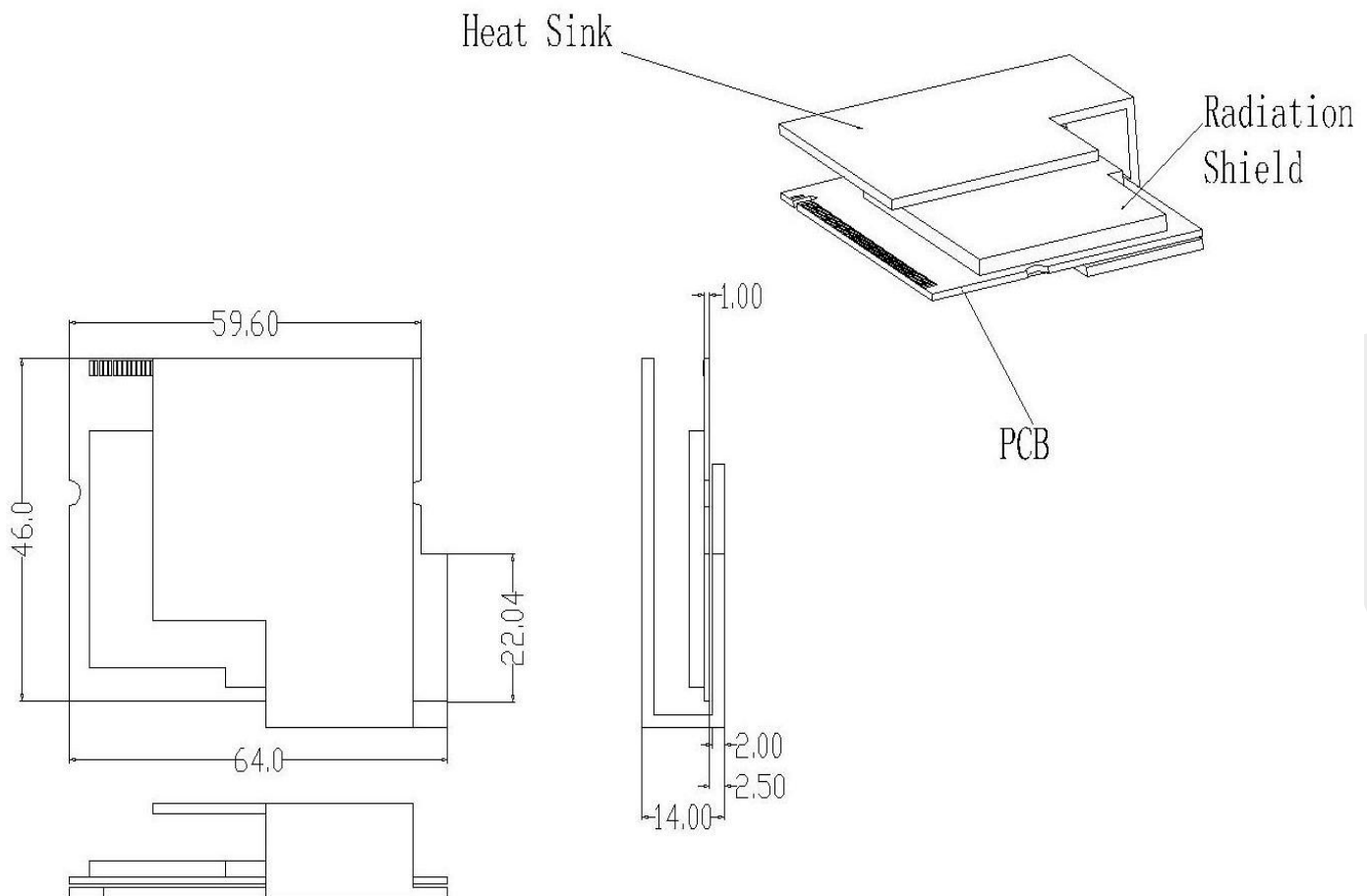
transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization. **WARNING:** This Wireless Mini PCI Adapter does not support ad-hoc mode Function

IMPORTANT NOTE REGARDING ANTENNA USE

Antenna Use (Point to Point) 1x1 Operation



DIMENSIONS DRAWING



b / g (2.4GHz)					a / b / g (2.4/5GHz)			
MODEL	WLM 54G-20dBm	WLM 54G-23dBm	WLM 54G-26dBm	WLM 54G-28dBm	WLM 54AG-20dBm	WLM 54 AG-23dBm	WLM 54A-26dBm	WLM200NX
CHIPSET	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 2413/2414 (AR5005G/GS)	AR 5413/5414 (AR5006X/XS)	AR 5413/5414 (AR5006X/XS)	AR5414(AR5006XS)	AR9220
SPEED	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 54/108Mbps	UP TO 108Mbps	UP TO 300Mbps physical data rates
OUTPUT POWER (Average)								
802.11a	-	-	-	-	20dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	18dBm@6-24Mbps
					17dBm@36Mbps	21dBm@36Mbps	24dBm@36Mbps	18dBm@36Mbps
					16dBm@48Mbps	19dBm@48Mbps	22dBm@48Mbps	17dBm@48Mbps
					13dBm@54Mbps	17dBm@54Mbps	20dBm@54Mbps	16dBm@54Mbps
802.11b	20dBm@1-11Mbps	23dBm@1-11Mbps	26dBm@1-11Mbps	28dBm@1-11Mbps	20dBm@1-11Mbps	23dBm@1-11Mbps		20dBm@1-11Mbps
802.11g	20dBm@6-24Mbps	23dBm@6-24Mbps	26dBm@6-24Mbps	28dBm@6-24Mbps	20dBm@6-24Mbps	23dBm@6-24Mbps		20dBm@6-24Mbps
	19dBm@36Mbps	22dBm@36Mbps	25dBm@36Mbps	26dBm@36Mbps	18dBm@36Mbps	21dBm@36Mbps		19.5dBm@36Mbps
	17dBm@48Mbps	19dBm@48Mbps	24dBm@48Mbps	25dBm@48Mbps	17dBm@48Mbps	19dBm@48Mbps		18.5dBm@48Mbps
	16dBm@54Mbps	17dBm@54Mbps	22dBm@54Mbps	23dBm@54Mbps	15dBm@54Mbps	17dBm@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.							

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