

WMIA-166AG
802.11 a/b/g Mini PCI Module
Atheros AR5006XS AR5414A



Product Specification

Chipset	Atheros AR5006XS AR5414A		
Interface Type	Mini PCI Interface Type IIIB		
Dimensions	60x45x4 mm		
Weight	20g		
Frequency Band	802.11a 5.15GHz to 5.85GHz (subject to local regulations) 802.11b ISM band 2.400 ~ 2.484GHz (subject to local regulations) 802.11g ISM band 2.400 ~ 2.484GHz (subject to local regulations)	Receive Sensitivity	802.11a/g Nominal Temp Range: - 6Mbps 10-5 BER @ -90dBm, typical - 9Mbps 10-5 BER @ -89dBm, typical - 12Mbps 10-5 BER @ -88dBm, typical - 18Mbps 10-5 BER @ -86dBm, typical - 24Mbps 10-5 BER @ -82dBm, typical - 36Mbps 10-5 BER @ -78dBm, typical - 48Mbps 10-5 BER @ -72dBm, typical - 54Mbps 10-5 BER @ -68dBm, typical 802.11b Typ. -88dBm@11Mbps,+/-2dBm Typ. -91dBm@5.5Mbps Typ. -92dBm@2Mbps Typ. -93dBm@1Mbps
Network Standard	IEEE 802.11a,802.11b,802.11g		
Number of Channel	802.11a *subject to local regulations 802.11b USA and Canada – 11 Most European countries – 13 Japan – 14 France – 4 802.11g USA and Canada – 13 Most European countries – 13 Japan – 14	Power consumption(peak)	802.11a Continue TX: 510mA @3.3V Continue RX: 250 mA@3.3V 802.11b Continue TX: 380mA@3.3V Continue RX: 220mA@3.3V 802.11g Continue TX: 400mA@3.3V Continue RX: 280 mA@3.3V
Spreading	802.11a Orthogonal Frequency Division Multiplexing (OFDM) 802.11b Direct Sequence Spread Spectrum (DSSS) 802.11g Orthogonal Frequency Division Multiplexing (OFDM)	Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.11a, IEEE 802.11b, IEEE 802.11g draft standard , Wi-Fi compliant
Modulation	802.11a/g : 64 QAM, 16 QAM,QPSK, BPSK 802.11b : CCK,DQPSK,DBPSK	Warranty	1 year
Data Rate	802.11a 54, 48, 36,24,18,12, 9, 6 Mbps per channel, auto fallback for extended range 802.11b 11,5.5, 2, 1 Mbps per channel, auto fallback for extended range 802.11g 108, 54, 48, 36,24,18,12, 9, 6 Mbps per channel, auto fallback for extended range	Environmental	Temperature Range: 0 ~ 55°C (Operating); -20 ~ 80°C (Storing) Operating Humidity: Operating Humidity 10% to 85% Non-Condensing Storage Humidity 5% to 90% Non-Condensing
Antenna	Single antenna with 1dBi antenna gain at 2.4GHz band and 2dBi antenna gain at 5GHz band. (External antenna)	Operating Range	Open Space: Up to 260 m: Indoor: 100 m The transmission speed varies in the surrounding environment
Transmitted power	802.11a please see the output power table for detail. tolerance: +/-1.5dBm 802.11b please see the output power table for detail. tolerance: +/-1.5dBm 802.11g please see the output power table for detail. tolerance: +/-1.5dBm	Network Protocol	TCP/IP, IPX, NDIS4, and NDIS5 ,NDIS 5.1
		Management Utility	Monitor Internet Access Status via UI
		Supplied Driver	Windows 98SE/ME/2000/XP, Linux
		Operating Voltage	3.3V ± 5%,
		System Requirements	Desktop PC containing → 32-bit PCI slot → 64MB memory or greater → 300MHz processor or greater Microsoft Windows 98 Second Edition/Millennium Edition/2000/ Windows XP

*valid operating channel numbers by **FCC**

Regulatory domain	Band(GHz)	Operating Channel Numbers	Channel center frequencies(MHz)
The United States	U-NII I band (5.15GHz~5.25GHz)	36	5180
		40	5200
		44	5220
		48	5240
The United States	U-NII II band (5.25GHz~5.35GHz)	52	5260
		56	5280
		60	5300
		64	5300
The United States	U-NII III band (5.725GHz~5.825GHz)	149	5745
		153	5765
		157	5785
		161	5805

*valid operating channel numbers by **ETSI,HYPERLAN/2**

Regulatory domain	Band(GHz)	Operating Channel Numbers	Channel center frequencies(MHz)
ETSI	5.15GHz~5.25GHz	36	5180
		40	5200
		44	5220
		48	5240
ETSI	5.25GHz~5.35GHz	52	5260
		56	5280
		60	5300
		64	5300
ETSI	5.500GHz~5.700GHz	100	5500
		104	5520
		108	5540
		112	5560
		116	5580
		120	5600
		124	5620
		128	5640
		132	5660
		136	5680
		140	5700

*valid operating channel numbers by **TELEC(optional)**

Regulatory domain	Band(GHz)	Operating Channel Numbers	Channel center frequencies(MHz)
TELEC	5.15GHz~5.25GHz	34	5170
		38	5190
		42	5210
		46	5230

Output power table [dBm],base mode for 802.11a ,**FCC**(preliminary DATA)

CH	5180 MHz	5200 MHz	5220 MHz	5240 MHz	5260 MHz	5280 MHz	5300 MHz	5320 MHz	5745 MHz	5765 MHz	5785 MHz	5805 MHz
6~24 Mbps	15	15	17	17	17	17	17	17	17	17	17	17

36 Mbps	15	15	16	16	16	16	16	16	16	16	16	16
48 Mbps	14	14	14	14	14	14	14	14	14	14	14	14
54 Mbps	12	12	12	12	12	12	12	12	12	12	12	12

Output power table [dBm], turbo mode for 802.11a,FCC(preliminary DATA)

CH	5210 MHz	5250MHz	5290 MHz	5760 MHz	remark
12~48 Mbps	15	15	17	17	
72 Mbps	15	15	15	15	
96 Mbps	14	14	14	14	
108Mbps	13	13	13	13	

Output power table [dBm],base mode for 802.11a ,ETSI(preliminary DATA)

CH	5180 MHz	5200 MHz	5220 MHz	5240 MHz	5260 MHz	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5600 MHz	5700MHz z	remark
6~24 Mbps	17	17	17	17	17	17	17	17	17	17	17	
36 Mbps	16	16	16	16	16	16	16	16	16	16	16	
48 Mbps	14	14	14	14	14	14	14	14	14	14	14	
54 Mbps	12	12	12	12	12	12	12	12	12	12	12	

Output power table [dBm] in 802.11g, FCC(preliminary DATA)

CH	2412 MHz	2447MHz	2472 MHz	remark
6~24 Mbps	16.5	18	16.5	
36 Mbps	16.5	17	16.5	
48 Mbps	16	16	16	
54Mbps	15	15	15	

Output power table [dBm] in 802.11g, ETSI(preliminary DATA)

CH	2412 MHz	2447MHz	2472 MHz	remark
6~24 Mbps	14.5	14.5	14.5	
36 Mbps	14.5	14.5	14.5	
48 Mbps	14.5	14.5	14.5	
54Mbps	14.5	14.5	14.5	

Output power table [dBm] in 802.11b,FCC(preliminary DATA)

CH	2412 MHz	2447MHz	2472 MHz	remark
1 Mbps	18	19	18	
2Mbps	18	19	18	
5.5Mbps	18	19	18	
11Mbps	18	19	18	

Output power table [dBm] in 802.11b,ETSI(preliminary DATA)

802.11 WLAN Module Series

C O N N E C T I O N M A D E E A S Y

CH	2412 MHz	2447MHz	2472 MHz	remark
1 Mbps	16	16	16	
2Mbps	16	16	16	
5.5Mbps	16	16	16	
11Mbps	16	16	16	