

WMIA-207GN

802.11n draft Mini PCI Module

Atheros AR5416

3T3R



Specification

Standards	IEEE 802.11n draft, 802.11b/g
Interface Type	Mini PCI IIIB
Frequency Band	802.11g/b ISM band 2.400 ~ 2.484GHz
Chipset	Atheros AR5008-3NG AR5416
Number of Channel	<p>802.11b USA and Canada – 11 Most European countries – 13 Japan – 14 France – 4</p> <p>802.11g USA and Canada – 13 Most European countries – 13 Japan – 14</p> <p>HT20 USA and Canada – 13 Most European countries – 13 Japan – 14</p> <p>HT40 USA and Canada – 3~9 Most European countries – 3~9</p>
Spreading	<p>802.11b Direct Sequence Spread Spectrum (DSSS)</p> <p>802.11g Orthogonal Frequency Division Multiplexing (OFDM)</p> <p>HT20 Orthogonal Frequency Division Multiplexing (OFDM) multiple-input/multiple-output (MIMO)</p> <p>HT40 Orthogonal Frequency Division Multiplexing (OFDM) multiple-input/multiple-output (MIMO)</p>
Modulation	<p>802.11g : 64 QAM, 16 QAM,QPSK, BPSK</p> <p>802.11b : CCK,DQPSK,DBPSK</p> <p>HT20,HT40 : 64 QAM, 16 QAM,QPSK, BPSK</p>
Data Rate	<p>802.11b 1,5.5, 2, 1 Mbps</p> <p>802.11g 54, 48, 36,24,18,12, 9, 6 Mbps</p> <p>HT20 : SEE TABLE 1</p> <p>HT40 : SEE TABLE 2</p>
RF chain	3T3R
Antenna	UFL-CON
Transmitted power	<p>802.11b please see the output power table for detail. tolerance: +/-1.5dBm</p> <p>802.11g please see the output power table for detail. tolerance: +/-1.5dBm</p> <p>HT20: please see the output power table for detail. tolerance: +/-1.5dBm</p> <p>HT40: please see the output power table for detail. tolerance: +/-1.5dBm</p>

Receive Sensitivity	<p>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</p> <p>802.11b Typ. -88dBm@11Mbps Typ. -91dBm@5.5Mbps Typ. -92dBm@2Mbps Typ. -93dBm@1Mbps</p> <p>HT20 TBD HT40 TBD</p>
Power consumption (RMS)	<p>802.11b Continue TX: 900mA@3.3V Continue RX: 450mA@3.3V</p> <p>802.11g Continue TX: 950mA@3.3V Continue RX: 500mA@3.3V</p> <p>HT20 Continue TX: 1100mA@3.3V Continue RX: 550mA@3.3V</p> <p>HT40 Continue TX: 1200mA@3.3V Continue RX: 600mA@3.3V</p>
Environmental	<p>Temperature Range: 0 ~ 45°C (Operating); -20 ~ 80°C (Storing)</p> <p>Operating Humidity: Operating Humidity 10% to 85% Non-Condensing Storage Humidity 5% to 90% Non-Condensing</p>
Operating Range	TBD
Network Protocol	TCP/IP, IPX, NDIS4, and NDIS5x
Management Utility	Monitor Internet Access Status via UI
Supplied Driver	Windows 2000/XP
Operating Voltage	3.3V ± 5%,
System Requirements	<p>Desktop PC containing → 32-bit PCI slot → 64MB memory or greater → 300MHz processor or greater Windows XP/2000</p>
Dimensions	59x44x4 mm

MCS Index		
	800ns GI	400ns GI
0	6.5	7.2
1	13.0	14.4
2	19.5	21.7
3	26.0	28.9
4	39.0	43.3
5	52.0	57.8
6	58.5	65.0
7	65.0	72.2
8	13.0	14.444
9	26.0	28.889
10	39.0	43.333
11	52.0	57.778
12	78.0	86.667
13	104.0	115.556
14	117.0	130.000
15	130.0	144.444

TABLE 2 : HT40

MCS Index	Data rate (Mbps)	
	800ns GI	400ns GI
0	13.5	15.0
1	27.0	30.0
2	40.5	45.0
3	54.0	60.0
4	81.0	90.0
5	108.0	120.0
6	121.5	135.0
7	135.0	150.0
8	27.0	30.0
9	54.0	60.0
10	81.0	90.0
11	108.0	120.0
12	162.0	180.0
13	216.0	240.0

15	270.0	300.0

3Tx Output power table [dBm] with antenna in 802.11g, FCC

	2412 MHz	2437MHz	2462 MHz	remark
6~24 Mbps	16	17	13.5	
36 Mbps	16	16	13.5	
48 Mbps	16	16	13.5	
54Mbps	15	15	13.5	

3Tx Output power table [dBm] with antenna in 802.11b,FCC

	2412 MHz	2437MHz	2462 MHz	remark
1 Mbps	19.0	19.0	19.0	
2Mbps	19.0	19.0	19.0	
5.5Mbps	19.0	19.0	19.0	
11Mbps	19.0	19.0	19.0	

3Tx Output power table [dBm] with antenna in HT20,FCC

	2412 MHz	2437MHz	2462 MHz	remark
MCS=0/8	16.5	18	16.5	
MCS=1/9	16.5	18	16.5	
MCS=2/10	16.5	18	16.5	
MCS=3/11	16.5	18	16.5	
MCS=4/12	16.5	18	16.5	
MCS=5/13	16.5	18	16.5	
MCS=6/14	16.5	17.5	16.5	
MCS=7/15	10.5	10.5	10.5	

3Tx Output power table [dBm] with antenna in HT40,FCC

	2412 MHz	2437MHz	2462 MHz	remark
MCS=0/8	13.5	16	13.5	
MCS=1/9	13.5	16	13.5	
MCS=2/10	13.5	16	13.5	
MCS=3/11	13.5	16	13.5	
MCS=4/12	13.5	16	13.5	
MCS=5/13	13.5	16	13.5	
MCS=6/14	13.5	16	13.5	
MCS=7/15	10.5	10.5	10.5	