

WMIA-199N 802.11a/b/g/n Dual-Band (2.4G/5GHz) Mini-PCI Module Atheros AR9160, 2T3R



SPECIFICATIONS

Chipset	
Mac/BB Processor	Atheros AR9160
RF Chip	Atheros AR9106
Host Interface	
32-bit mini-PCI, Type IIIA	
Lead-Free	
RoHS compliant	
Radio	
Antenna	3x U.FL-R-SMT Connectors (3T/3R)
Operating Frequency	802.11a ISM Band ● USA: 5.15GHz ~ 5.35GHz;(CH1~CH8) 5.725GHz~5.825GHz(CH129~CH133) ● Europe: 5.15GHz ~ 5.35GHz;(CH1~CH4) 5.47GHz~5.725GHz(CH100~CH110) ● Japan: 5.15GHz ~ 5.35GHz; (CH1~CH4) 5.47GHz~5.725GHz(CH100~CH110)
	802.11b/g ISM Band ● USA: 2.412GHz ~ 2.462GHz(CH1~CH11) ● Europe: 2.412GHz ~ 2.472GHz(CH1~CH13) ● Japan: 2.412GHz ~ 2.472GHz(CH1~CH13)
Modulation	802.11gn 40MHz Band ● USA: 2.422GHz ~ 2.452GHz(CH3~CH9) ● Europe: 2.422GHz ~ 2.462GHz(CH3~CH11) ● Japan: 2.422GHz ~ 2.462GHz(CH3~CH11) 802.11gn 20MHz Band ● USA: 2.412GHz ~ 2.462GHz(CH1~CH11) ● Europe: 2.412GHz ~ 2.472GHz(CH1~CH13) ● Japan: 2.412GHz ~ 2.472GHz(CH1~CH13)
	802.11an 40MHz Band ● USA: 5.15GHz ~5.35GHz; (CH1~CH8) 5.725GHz~5.825GHz(CH129~CH133) ● Europe: 5.15GHz ~5.35GHz; (CH1~CH3) 5.47GHz~5.725GHz (CH100~CH110) ● Japan:5.15GHz ~5.35GHz; (CH1~CH3) 5.47GHz~5.725GHz (CH100~CH110) 802.11an 20MHz Band ● USA: 5.15GHz ~5.35GHz; (CH1~CH8) 5.725GHz~5.825GHz(CH129~CH133) ● Europe: 5.15GHz ~5.35GHz; (CH1~CH4) 5.47GHz~5.725GHz (CH100~CH110) ● Japan:5.15GHz ~5.35GHz; (CH1~CH4) 5.47GHz~5.725GHz(CH100~CH110)
Modulation	IEEE 802.11b : (DSSS) ● 5.5/11 Mbps(CCK), ● 2 Mbps(DQPSK), ● 1 Mbps(DBPSK)
Modulation	IEEE 802.11a/g : (OFDM/DSSS) ● 48/54 Mbps(QAM-64), ● 24/36 Mbps(QAM-16), ● 12/18 Mbps(QPSK), ● 6/9Mbps (BPSK)
Modulation	IEEE 802.11n : ● QAM-64, ● QAM-16, ● QPSK, ● BPSK
	802.11b 17dBm (one antenna) 802.11g 14dBm (one antenna) 802.11a 5150~5250 12dBm (one antenna) 5250~5850 18dBm (one antenna) 802.11gn HT20 17dBm (Three antenna) HT40 13dBm (Three antenna) 802.11an HT20 5150~5250 12dBm (Three antenna) 5250~5850 18dBm (Three antenna) HT40 5150~5250 12dBm (Three antenna) 5250~5850 18dBm (Three antenna)
Output Power	
Receive Sensitivity	
Power consumption	
802.11b	TX: ≤ 600mA RX: ≤ 600mA
802.11g/n	TX: ≤ 600mA RX: ≤ 600mA
802.11a/n	TX: ≤ 600mA RX: ≤ 600mA
Operating Voltage	
DC 3.3V ± 5%	
Environmental	
	Temperature Humidity
Operating	0 ~ 55°C 10% to 85% Non-Condensing
Storage	-20 ~ 80°C 5% to 90% Non-Condensing
Physical Specification	
Dimensions	59.6 x 50.9 x 3.25 mm (LxWxH)
Weight	≤ 50g
Note: ● The default is ETSI domain.	