



WPER-116GN Wi-Fi half mini card



AMPAK Technology Co., Ltd. introduces a next generation WLAN PCIe half mini card. The module is complied with IEEE 802.11g/b standards and 802.11n draft 2.0 and operates on 2.4GHz frequencies. It can be used to provide up to 150Mbps for IEEE 802.11n draft 2.0, or 54Mbps for IEEE 802.11g, or 11Mbps for IEEE 802.11b to connect your wireless LAN. The module features draft-802.11n-compliant radio in 1x1 (TX/RX) configuration offering performance and enhanced coverage to typical Wi-Fi network. The card's software driver and utility operate on Microsoft's Windows 2000, XP x86/64-bit & Vista x86/64-bit (Only the driver operates on Windows Vista). With seamless roaming, fully interoperability and advanced security with WEP standard, the module offers interoperability with different vendors' Access Points through the wireless LAN.

- **PCI Express interface**
- **High-Speed Mode at 150Mbps**
- **Seamless roaming from cell to cell and between 802.11g/b to 802.11n**





General Specifications

Product Name	WPER-116GN	
Host Interface	PCIe	
Dimensions	Half mini card (26.6x30x3.5 mm)	
Frequency Band	2.4 ~ 2.5GHz (Subject to local regulations)	
Chipset Solution	Ralink RT3090	
RF Chain	1 Transmitter and 1 Receiver	
Antenna Port	1 Main: TX0/RX0	
Number of Channel	USA and Canada: 11ch~ 1,2,3,4,5,6,7,8,9,10,11 (EWC 40MHz mode: 1&5,2&6,3&7,4&8,5&9,6&10,7 &11)	Most European countries: 13ch~ 1,2,3,4,5,6,7,8,9,10,11,12,13 (EWC 40MHz mode: 1&5,2&6,3&7,4&8,5&9,6&10,7&11, 8&12,9&13)
	France: 4ch~ 10,11,12,13	Japan: 13ch (optional 14ch) 1,2,3,4,5,6,7,8,9,10,11,12,13
Modulation	802.11b: CCK, QPSK, BPSK 802.11g: 64-QAM, 16-QAM EWC: 64-QAM, 16-QAM, QPSK, BPSK	
Spreading	802.11b DSSS (Direct Sequence Spread Spectrum) 802.11g OFDM (Orthogonal Frequency Division Multiplexing) EWC: See Achievable Data-Rate Based on EWC	
Data Rate	IEEE 802.11b: 11, 5.5, 2, 1Mbps IEEE 802.11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps EWC: See Achievable Data-Rate Based on EWC	
Operating Voltage	DC 3.3V +/- 10% DC 1.5V +/- 10%	
Power Consumption	MAX 1500mW	
Nominal Temp Range of Transmit Power	802.11b_11Mbps: 18 dBm 802.11g_54Mbps: 15 dBm EWC 20MHz: 14 dBm EWC 40MHz: 14 dBm	
Receive Sensitivity in room temperature	-85dBm @ 802.11b, 11Mbps PER ≤ 8% -65dBm @ 802.11g, 54Mbps PER ≤ 10% -65dBm @ MCS7, EWC 20MHz -60dBm @ MCS7, EWC 40MHz	
Security	-64/128-bit WEP; WEP weak key avoidance, WPA-PSK(TKIP),	



	WPA2-PSK(AES)
Temperature Range	0 ~ 55°C (Operating), -20~85°C (Storing)
Roaming	Full mobility and seamless roaming from cell to cell and across access points (subject to access point)
Network Architectures	Infrastructure and Ad Hoc

Achievable Data-Rate Based on EWC

MCS Index	N _{ss}	Modulation	R	NBPS	NCBPS		NDBPS		Datarate(Mbps)			
					20MHz	40MHz	20MHz	40MHz	800nsGI		400nsGI	
									20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.200	15
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.400	30
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.700	45
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.900	60
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.300	90
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.800	120
6	1	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.000	135
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.200	150