

# EMP-8602 PLUS-S

## Atheros 6thG Mini-PCI Adapter

2.4 / 5 GHz 802.11a/b/g 54 Mbps



**EMP-8602 PLUS-S** is a mini-PCI type III B High-Power card supporting dual-band (2.4GHz & 5GHz) radio operation. It provides high-speed wireless connection with data rate up to 54Mbps. The shirking dimension and light weight can easily integrate into a wide range of AP/Bridge device.

The 802.11g standard is backwards compatible with 802.11b products. This means that you do not need to change your entire network to maintain connectivity. You may sacrifice some of 802.11g speed when you mix 802.11b and 802.11g devices, but you will not lose the ability to communicate when you incorporate the 802.11g standard into your 802.11b network.

Features	
Features	Benefits
High Speed Data Rate up to 54Mbps	Capable of handling heavy data payloads such as MPEG video streaming
High Output Power up to 27dBm in 2.4GHz, 23dBm in 5GHz	More high power can advance the distance.
Advanced Power Management	Low power consumption in power saving mode.
Support extended Range technology	Extended Range technology give Wi-Fi products twice the range of existing designs
Thermal solution to solve the heat issue	Keep the system stable and extend the working temperature
802.11i security specifications, provides WPA/WPA2 and WEP 64/128 bit encryption	Enhances authentication and security.
Site Survey Utility	Allows users to browser the available active access points which users can connect
802.11e Standard Support	Wireless Multimedia Enhancements Quality of Service support (QoS)
Seamless roaming	Full mobility for users in any scenario

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### Technical Specifications

#### General information

Data Rates	802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11b: 1, 2, 5.5, 11Mbps
Standards / Compliance	WECA (Wi-Fi & Wi-Fi5 compliance), IEEE802.11, IEEE802.11a, IEEE802.11g, IEEE802.11b
Operating Voltage	3.3V±0.15V
Current consumption	Tx Current ≤ 1.5A Rx Current ≤ 400mA Card on Current ≤ 400mA Sleep Current ≤ 100mA

#### RF Specification

Frequency Band	802.11a	802.11b/g	
	4.92~5.08GHz	U.S., Europe and Japan product covering 2.4 to 2.484 GHz, programmable for different country regulations	
	5.15~5.35GHz		
	5.47~5.725GHz, 5.725~5.825GHz		
Modulation Technology	802.11a/g:	802.11b	
	OFDM (64-QAM, 16-QAM, QPSK, BPSK)	DSSS (DBPSK, DQPSK, CCK)	
Operating Channels	802.11b/g	802.11a	
	11 for North America, 14 for Japan, 13 for Europe	US/Canada: 5.15~5.35GHz, 5.47~5.725GHz, 5.725~5.825GHz Europe: 5.15~5.35GHz, 5.47~5.725GHz Japan 4.92~4.98GHz, 5.03~5.091GHz, 5.15~5.25GHz China: 5.725~5.85GHz	
Receive Sensitivity	802.11a	802.11g	802.11b

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(Typical)	-88dBm @ 6Mbps, -70dBm @ 54Mbps	-90 dBm @ 6Mbps, -74 dBm @ 54Mbps	-95 dBm @ 1Mbps -90 dBm @ 11Mbps
Available Transmit Power (Typical)	PLUS-S FCC		PLUS-S ETSI
	5.150~5350 GHz(IEEE802.11a)		5.150~5350 GHz(IEEE802.11a)
	23dBm @6 ~ 24Mbps		23dBm @6 ~ 24Mbps
	21dBm @36Mbps		21dBm @36Mbps
	19dBm @48Mbps		19dBm @48Mbps
	18dBm @54Mbps		18dBm @54Mbps
	5.470~5.725GHz(IEEE802.11a)		5.470~5.725GHz(IEEE802.11a)
	22dBm @6 ~ 24Mbps		22dBm @6 ~ 24Mbps
	20dBm @36Mbps		20dBm @36Mbps
	18dBm @48Mbps		18dBm @48Mbps
	17dBm @54Mbps		17dBm @54Mbps
	5.725~5.825GHz (IEEE802.11a)		2.412~2.472GHz (IEEE802.11g)
	21dBm @6 ~ 24Mbps		26dBm @6 ~ 24Mbps
	19dBm @36Mbps		23.5dBm@36Mbps
	17dBm @48Mbps		22.5 dBm@48Mbps
	16dBm @54Mbps		21.5dBm@54Mbps
	2.412~2.462GHz (IEEE802.11g)		2.412~2.472GHz (IEEE802.11b)
	26dBm @6 ~ 24Mbps		27dBm. @1, 2, 5.5 and 11Mbps
	23.5dBm@36Mbps		
	22.5 dBm@48Mbps		
	21.5dBm@54Mbps		
	2.412~2.462GHz (IEEE802.11b)		
	27dBm. @1, 2, 5.5 and 11Mbps		
RF Connector	Two antenna connectors (U.FL)		
Form Factor	Mini-PCI type III B		

### Environment & Physical

Temperature Range	Operating: -40°C to +85°C Storage: -45°C to +90°C
Humidity (non-condensing)	5% ~ 95% typical
Dimensions	59.60mm(L) X 44.45mm(W)

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Weight	15g (0.53 oz)
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