



# EnGenius® DATASHEET

<b>Atheros 6<sup>th</sup>G Mini-PCI Adapter</b>		<b>NMP-8602 PLUS-S (New)</b>
<b>2.4 / 5.0 GHz</b>	<b>802.11a/b/g</b>	<b>54 Mbps</b>

NMP-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	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

\* Theoretical wireless signal rate based on IEEE standard of 802.11a, b, g chipset used. Actual throughput may vary. Network conditions and environmental factors lower actual throughput rate.

\*\* All specifications are subject to change without notice.

## Technical Specifications

### 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

### Regulation Certifications

FCC Part 15/UL

### Operating Voltage

3.3V±0.15V

### Current consumption

Tx Current ≤ 1.5A

Rx Current ≤ 400mA

Card on Current ≤ 400mA

Sleep Current ≤ 100mA

### RF Information

#### Frequency Band

##### 802.11a:

4.92~5.08GHz

5.15~5.35GHz

5.47~5.725GHz, 5.725~5.825GHz

##### 802.11b/g:

U.S., Europe and Japan product covering 2.4 to 2.484 GHz, programmable for different country regulations

### Modulation Technology

##### 802.11a/g:

OFDM (64-QAM, 16-QAM, QPSK, BPSK)

##### 802.11b:

DSSS (DBPSK, DQPSK, CCK)

### Operating Channels

#### 802.11b/g

11 for North America, 14 for Japan, 13 for Europe

#### 802.11a

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 (Typical)

#### 802.11a:

-88dBm @ 6Mbps,

-70dBm @ 54Mbps

#### 802.11g:

-90 dBm @ 6Mbps,

-74 dBm @ 54Mbps

#### 802.11b:

-95 dBm @ 1Mbps

-90 dBm @ 11Mbps

### Available Transmit Power (Typical)

#### PLUS-S FCC

- 4.920~5.080 GHz & 5.150~5350 GHz(IEEE802.11a)

23dBm @ 6 ~ 24Mbps

21dBm @ 36Mbps

19dBm @ 48Mbps

18dBm @ 54Mbps

- 5.470~5.725GHz(IEEE802.11a)

22dBm @ 6 ~ 24Mbps

20dBm @ 36Mbps

18dBm @ 48Mbps

17dBm @ 54Mbps

- 5.725~5.825GHz (IEEE802.11a)

21dBm @ 6 ~ 24Mbps

19dBm @ 36Mbps

17dBm @ 48Mbps

16dBm @ 54Mbps

- 2.412~2.462GHz (IEEE802.11g)

26dBm @ 6 ~ 24Mbps

23.5dBm@36Mbps

22.5 dBm@48Mbps

21.5dBm@54Mbps

- 2.412~2.462GHz (IEEE802.11b)

27dBm. @1, 2, 5.5 and 11Mbps

#### PLUS-S ETSI

- 4.920~5.080 GHz & 5.150~5350 GHz(IEEE802.11a)

23dBm @ 6 ~ 24Mbps

21dBm @ 36Mbps

19dBm @ 48Mbps

18dBm @ 54Mbps

- 5.470~5.725GHz(IEEE802.11a)

22dBm @ 6 ~ 24Mbps

20dBm @ 36Mbps

18dBm @ 48Mbps

17dBm @ 54Mbps

- 2.412~2.472GHz (IEEE802.11g)

26dBm @ 6 ~ 24Mbps

23.5dBm@36Mbps

22.5 dBm@48Mbps

21.5dBm@54Mbps

- 2.412~2.472GHz (IEEE802.11b)

27dBm. @1, 2, 5.5 and 11Mbps

### RF Connector

Two antenna connectors (U.FL)

### Form Factor

Mini-PCI type III B

### Dimensions (LxWxH)

59.60mm X 44.45mm

### Weight

15g (0.53 oz)

### Environmental

#### Temperature Range

Operating: -40°C to +85°C

Storage: -45°C to 90°C

#### Humidity (non-condensing)

5% ~ 95% typical

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