

2.4 GHz / 5.0 GHz

802.11 a/b/g

54 Mbps

EMP-8602 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 25 dBm	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

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### 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, IC, RoHS and WEEE compliant

#### Operating Voltage

3.3V $\pm$ 0.15V

#### Current consumption

##### NMP-8602 PLUS (FCC)

Tx Current  $\leq$  1.3A

Rx Current  $\leq$  400mA

Sleep Current  $\leq$  100mA

##### NMP-8602 (ETSI)

Tx Current  $\leq$  600mA

Rx Current  $\leq$  350mA

Card on Current  $\leq$  350mA

Sleep Current  $\leq$  50mA

#### RF INFORMATION

##### Frequency Band

###### 802.11a:

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:12 non-overlapping channel  
(5.15-5.35GHz, 5.725-5.825GHz)

Europe:19 non-overlapping channel  
(5.15-5.35GHz, 5.47-5.825GHz)

Japan:4 non-overlapping channel  
(5.15-5.25GHz)

China:5 non-overlapping channel  
(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)

##### EMP-8602 (ETSI)

- 5.18-5.32 GHz  
18 dBm @6-24Mbps

16 dBm @36Mbps

14 dBm @48Mbps

13 dBm @54Mbps

- 5.5-5.70 GHz

16 dBm @6-24Mbps

15 dBm @36Mbps

13 dBm @48Mbps

12 dBm @54Mbps

- 5.745-5.85 GHz

16 dBm @6-24Mbps

15 dBm @36Mbps

13 dBm @48Mbps

12 dBm @54Mbps

- 2.412-2.472 GHz (IEEE802.11g)

20 dBm @6-36Mbps

19 dBm @48Mbps

18 dBm @54Mbps

- 2.412-2.472 GHz (IEEE802.11b)

20 dBm @1-11Mbps

##### EMP-8602 PLUS (FCC)

- 4.92-5.08 GHz

17 dBm @6-36Mbps

16 dBm @48Mbps

15 dBm @54Mbps

- 5.18-5.24 GHz

17 dBm @6-36Mbps

16 dBm @48Mbps

15 dBm @54Mbps

- 5.26-5.32 GHz

20 dBm @6-24Mbps

18 dBm @36Mbps

16 dBm @48Mbps

15 dBm @54Mbps

- 5.745-5.825GHz

18 dBm @6-24Mbps

16 dBm @36Mbps

14 dBm @48Mbps

13 dBm @54Mbps

- 2.412-2.462 GHz (IEEE802.11g)

25 dBm @6-24Mbps

23 dBm @36Mbps

22 dBm @48Mbps

21 dBm @54Mbps

- 2.412-2.462 GHz (IEEE802.11b)  
25 dBm @1-11Mbps

##### EMP-8602 PLUS (ETSI)

- 4.92-5.08 GHz

20 dBm @6-36Mbps

16 dBm @48Mbps

15 dBm @54Mbps

- 5.18-5.32 GHz

20 dBm @6-36Mbps

16 dBm @48Mbps

15 dBm @54Mbps

- 5.52-5.70 GHz

19 dBm @6-24Mbps

17 dBm @36Mbps

15 dBm @48Mbps

14 dBm @54Mbps

- 5.745-5.825GHz

18 dBm @6-24Mbps

16 dBm @36Mbps

14 dBm @48Mbps

13 dBm @54Mbps

- 2.412-2.472 GHz (IEEE802.11g)

25 dBm @6-24Mbps

23 dBm @36Mbps

22 dBm @48Mbps

21 dBm @54Mbps

- 2.412-2.472 GHz (IEEE802.11b)

25 dBm @1-11Mbps

#### Antenna

Two antenna connectors (IPEX)

#### Form Factor

Mini-PCI type III B

#### Dimensions (LxWxH)

59.60mm X 44.45mm

#### Weight

15g (0.53 oz)

#### ENVIRONMENTAL

##### Temperature Range

Operating: -20°C to 85°C

Storage: -30°C to 90°C

##### Humidity (non-condensing)

5% - 95% typical

##### Related Product(s)

NMP-8601 (802.11a/b/g)

NMP-3601/NMP-3602 (802.11b/g)

NL-2511MP+ (802.11b)

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