



# WPEA-121N

## PRODUCT SPECIFICATION

Standard	IEEE802.11a; IEEE802.11b; IEEE 802.11g; IEEE 802.11n
Bus Interface	PCI Express
Form Factor	PCIe half mini card
Data Rate	802.11b: 11, 5.5, 2, 1 Mbps; 802.11g: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11a: 54, 48, 36, 24, 18, 12, 9, 6 Mbps 802.11n: MCS 0 to 15 for HT20MHz
Media Access Control	CSMA/CA with ACK
Modulation Techniques	802.11b: CCK, DQPSK, DBPSK 802.11a/g: 64 QAM, 16 QAM, QPSK, BPSK 802.11n:
Network architecture	Infrastructure mode
Operating Channel	2.4GHz 11: (Ch. 1-11) – United States 13: (Ch. 1-13) – Europe 14: (Ch. 1-14) – Japan 5GHz 12: USA 19: EU



Frequency Range	2.4G 2.412 ~ 2.4835 GHz 5G 5.15 ~ 5.85 GHz
Transmit Output Power -2x2(Tolerance:±2dBm)	802.11b 17dBm@11M  802.11a 5180,5240,5320,5400MHz 12dBm@54M 5500,5600,5700,5825MHz 11dBm@54M  802.11g 16dBm@54M  <b>802.11n(measured by 1 spatial)</b> 2.4G 15dBm@MCS7_HT20 14dBm@MCS7_HT40  5G HT20: 5180,5240MHz 12dBm@MCS7 5320,5400MHz 11dBm@MCS7 5500,5700MHz 10dBm@MCS7 5745,5825MHz 9dBm@MCS7  HT40: 5180,5240MHz 11dBm@MCS7



<p>Transmit Output Power -2x2(Tolerance:+-2dBm)</p>	<p><b>802.11n(measured by 2 spatial)</b></p> <p>2.4G</p> <p>17dBm(MCS7_HT20)</p> <p>16dBm(MCS7_HT40)</p> <p>5G</p> <p>HT20:</p> <p>5180,5240MHz 15dBm@MCS15</p> <p>5320,5400MHz 14dBm@MCS15</p> <p>5500,5700MHz 11dBm@MCS15</p> <p>5745,5825MHz 11dBm@MCS15</p> <p>HT40:</p> <p>5180,5240MHz 14dBm@MCS15</p> <p>5320.5400MHz 13dBm@MCS15</p>
<p>Receiver Sensitivity</p>	<p>802.11b -85dBm@11M</p> <p>802.11a -76dBm@54M</p> <p>802.11g -76dBm@54M</p> <p>802.11n</p> <p>2.4G</p> <p>-90dBm@MCS0_HT20</p> <p>-75dBm@MCS7_HT20</p> <p>-88dBm@MCS0_HT40</p> <p>-72dBm@MCS7_HT40</p> <p><b>5G</b></p> <p>-90dBm@MCS0_HT20</p> <p>-74dBm@MCS7_HT20</p>



Security	WPA, WPA-PSK, WPA2, WPA2-PSK, WEP 64bit & 128bit, IEEE. 802.1x with EAP support (LEAP, WPA2/AES with EAP-TLS, PEAP-MSCHAPv2 , EAP-FAST, single-sign-on with LEAP)
Cisco CCX	CCX V5 support
Radio stream	2x2 multiple-input multiple-output (MIMO) with two spatial streams
Operating Voltage	3.3 V $\pm$ 10% I/O supply voltage
OS supported	Windows 2000/XP/Vista/Win7/ Linux
Power Consumption	TX Mode: 600mA RX Mode: 237mA Associated Idle: 11mA RF-off Mode: 9mA
Antenna Type	2 U.FL RF connectors

#### Antenna

<b>1</b>	<b>Ant. Type</b>	PIFA	<b>Model No.</b>	PMT0073		
<b>Peak Gain (dBi)</b>	2.4G	-2.4	5.15~5.25GHz	-5.1	5.725~5.850GHz	-3.6

<b>2</b>	<b>Ant. Type</b>	PIFA	<b>Model No.</b>	PMT0073		
<b>Peak Gain (dBi)</b>	2.4G	-2.4	5.15~5.25GHz	-5.1	5.725~5.850GHz	-3.6



#### Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

For product available in the USA/Canada market, only channel 1~11 can be operated. Selection of other channels is not possible.

This device is restricted to indoor use.



#### FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This module is intended for OEM integrator.

The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

Appropriate measurements (e.g. 15 B compliance) and if applicable additional equipment authorizations (e.g. Verification , Doc) of the host device to be addressed by the integrator/manufacture.

#### IMPORTANT NOTE:

This module is intended for OEM integrator. The OEM integrator is still responsible for the FCC compliance requirement of the end product, which integrates this module.

20cm minimum distance has to be able to be maintained between the antenna and the users for the host this module is integrated into. Under such configuration, the FCC radiation exposure limits set forth for an population/uncontrolled environment can be satisfied.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment.

#### USERS MANUAL OF THE END PRODUCT:

In the users manual of the end product, the end user has to be informed to keep at least 20cm separation with the antenna while this end product is installed and operated. The end user has to be informed that the FCC radio-frequency exposure guidelines for an uncontrolled environment can be satisfied. The end user has to also be informed that any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this equipment. If the size of the end product is smaller than 8x10cm, then additional FCC part 15.19 statement is required to be available in the users manual: This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.



**LABEL OF THE END PRODUCT:**

The final end product must be labeled in a visible area with the following " Contains TX FCC ID: 2ACHK-02110113 ". If the size of the end product is larger than 8x10cm, then the following FCC part 15.19 statement has to also be available on the label: This device complies with Part 15 of FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

Professional installation

Section 15.204(b) states that an approved "transmission system" must always be marketed as a complete system including the antenna.