

9158515/MA25MP1 Mini PCI User's Manual

1. Product Overview

The 9158515/MA25MP1 series PCI adapter cards contain an Atheros AR9106 chip for IEEE 802.11a/b/g/n Wireless LAN applications. The mini PCI adapter cards support key security features like Wi-Fi Protected Access (WPA), WPA2, WEP and 802.1x.

Typical application of the card is integration into other wireless products such as AP/ Router which is used distance 20cm away human body.

2. Packaging Contents

The mini PCI card package contains the following item(s):

1 x Wireless Mini PCI Adapter

3. Installation guide

- Shut down the power of the platform
- Align the PCI adapter with the Mini PCI socket on the platform
- Adjust and push down the PCI adapter gently until the metal locking levers on the Mini PCI socket is latched. (Please take note that the PCI adapter can only fit in one direction due to the keyed notch. Wrong orientation will cause improper installation and may damage the Mini PCI socket)
- Connect the antenna(s) on the mini PCI module
- Reboot on the platform
- Install drivers if necessary

4. Frequency

802.11b/g/n: 2412 ~ 2472 MHz

802.11an: 5150 ~ 5350MHz, 5470 ~ 5850MHz

Connector: Reverse SMA PLUG

Antenna Type and Gain:

a. RAD-ISM-2459-ANT-FOOD-6-0:

- Omni-directional Antenna
- 6 dBi for 2.4GHz/ 8 dBi for 5GHz (with metal surface); 3 dBi for 2.4GHz/ 5 dBi for 5GHz (with metal surface)
- Operating Frequency : 2400-2483.5 MHz, 5150-5350 MHz, 5470-5850 MHz

b. RAD-ISM-2400-ANT-OMNI-6-0:

- Omni Antenna
- 6 dBi for 2.4GHz
- Operating Frequency : 2400-2483.5 MHz

c. RAD-ISM-2400-ANT-PAN-8-0:

- Directional Antenna
- 8 dBi for 2.4GHz
- Operating Frequency : 2400-2483.5 MHz

d. RAD-ISM-5000-ANT-PAR-18-N:

- Parabolic Antenna
- 17.7 ~ 18.1 dBi for 5GHz
- Operating Frequency : 5250-5350 MHz, 5470-5850MHz

5. FCC 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 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.

To comply with FCC part 15 rules in the United States, the system must be professionally installed to ensure compliance with the Part 15 certification. It is the responsibility of the operator and professional installer to ensure that only certified systems are deployed in the United States. The use of the system in any other combination (such as co-located antennas transmitting the same information) is expressly forbidden.

6. 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.

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

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

This device is going to be operated in 5.15~5.25GHz frequency range, it is restricted in indoor environment only.

7. 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.

8. Important Notes

The OEM integrator must follow the specific operational requirements for the module installed. Any condition can not met, the FCC ID can't use in the final product.

In these circumstances, OEM integrator should be responsible for re-evaluating the end product (including the transmitter) and obtaining a separation FCC authorization.

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 a 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.

Although the authorized antenna is a standard connector, there are authentication protocols and prevention error mechanism software in this module. Only the Authorized antenna by module could work together with module.

9. Label for end product must include

“Contains FCC ID: YG3MA25MP1” or

“A RF transmitter inside, FCC ID: YG3MA25MP1”

10. IC Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B conforme á la norme NMB-003 du Canada.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils

radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

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

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

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

This radio transmitter (identify the device by certification number, or model number if Category II) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

The device could automatically discontinue transmission in case of absence of information to transmit, or operational failure. Note that this is not intended to prohibit transmission of control or signaling information or the use of repetitive codes where required by the technology.

Dynamic Frequency Selection (DFS) for devices operating in the bands 5250- 5350 MHz,
5470-5600 MHz and 5650-5725 MHz

The device for the band 5150-5250 MHz is only for indoor usage to reduce potential for harmful interference to co-channel mobile satellite systems;

The maximum antenna gain permitted (for devices in the bands 5250-5350 MHz and 5470-5725 MHz) to comply with the e.i.r.p. limit;

The maximum antenna gain permitted for devices in the band 5725-5825 MHz shall comply with the e.i.r.p. limits specified for point-to-point and non point-to-point operation as appropriate.

Users should also be advised that high-power radars are allocated as primary users (i.e. priority users) of the bands 5250-5350 MHz and 5650-5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

IMPORTANT NOTE:**IC Radiation Exposure Statement:**

This equipment complies with IC RSS-102 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 IC 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 IC RSS-102 radiation exposure limits set forth for a 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 user's 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 IC 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. IC statement is required to be available in the user's manual: This Class B digital apparatus complies with Canadian ICES-003. 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 IC : 4720B-MA25MP1".