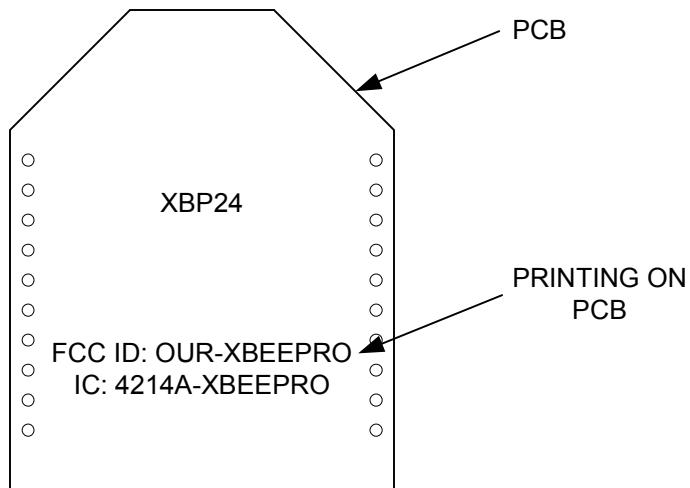
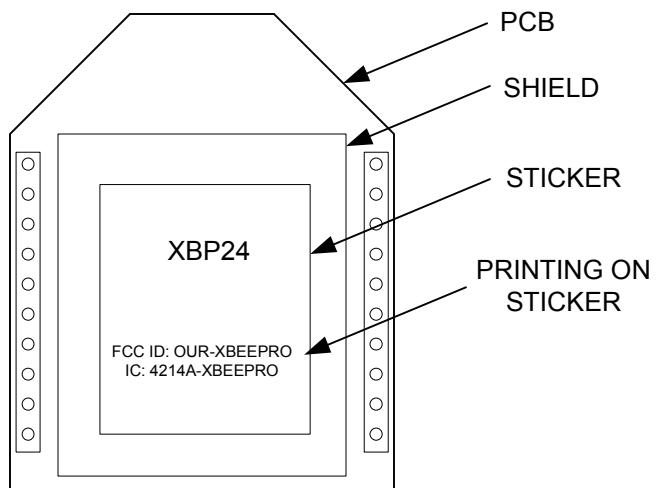


TOP VIEW OF MODULE



-OR-

BOTTOM VIEW OF MODULE



# Appendix A: Agency Certifications

## FCC Certification (pending)

The XBee/XBee-PRO RF Module complies with Part 15 of the FCC rules and regulations. Compliance with the labeling requirements, FCC notices and antenna usage guidelines is required.

To fulfill FCC Certification requirements, the OEM must comply with the following regulations:

1. The system integrator must ensure that the text on the external label provided with this device is placed on the outside of the final product [Figure A-01].
2. The XBee/XBee-PRO RF Module may be used only with approved antennas that have been tested with this modem.

### OEM Labeling Requirements



WARNING: The Original Equipment Manufacturer (OEM) must ensure that FCC labeling requirements are met. This includes a clearly visible label on the outside of the final product enclosure that displays the contents shown in the figure below.

Figure A-01. Required FCC Label for OEM products containing the XBee/XBee-PRO RF Module

Contains FCC ID: pending

The enclosed 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.

### FCC Notices

**IMPORTANT:** The XBee/XBee-PRO OEM RF Module has been certified by the FCC for use with other products without any further certification (as per FCC section 2.1091). Changes or modifications not expressly approved by MaxStream could void the user's authority to operate the equipment.

**IMPORTANT:** OEMs must test final product to comply with unintentional radiators (FCC section 15.107 & 15.109) before declaring compliance of their final product to Part 15 of the FCC Rules.

**IMPORTANT:** The RF module has been certified for remote and base radio applications. If the module will be used for portable applications, the device must undergo SAR testing.

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: Re-orient or relocate the receiving antenna, Increase the separation between the equipment and receiver, Connect equipment and receiver to outlets on different circuits, or Consult the dealer or an experienced radio/TV technician for help.



## FCC-Approved Antennas (2.4 GHz)

The XBee/XBee-Pro OEM RF Module can be installed utilizing antennas and cables constructed with standard connectors (Type-N, SMA, TNC, etc.) if the installation is performed professionally and according to FCC guidelines. For installations not performed by a professional, non-standard connectors (RPSMA, RPTNC, etc.) must be used.

The modules are pre-FCC approved for use in fixed base station and mobile applications [refer to table below]. As long as the antenna is mounted at least 20 cm (8 in) from nearby persons, the application is considered a mobile application. Antennas not listed in the table must be tested to comply with FCC Section 15.203 (unique antenna connectors) and Section 15.247 (emissions).

Table A-02. Antennas approved for use with the XBee/XBee-PRO OEM RF Modules (all 2.4 GHz)

Part Number	Type (Description)	Gain	Application	Min. Separation
A24-HABMM-PSI	Dipole (Half-wave bulkhead mount articulated MMCX w/ pigtail)	2.1 dBi	Fixed/Mobile*	20 cm
A24-HBMM-PSI	Dipole (Half-wave bulkhead mount MMCX w/ pigtail)	2.1 dBi	Fixed/Mobile*	20 cm
A24-HABSM	Dipole (Articulated RPSMA)	2.1 dBi	Fixed/Mobile*	20 cm
A24-QBMM-PSI	Monopole (Quarter-wave bulkhead mount MMCX w/pigtail)	1.9 dBi	Fixed/Mobile*	20 cm
A24-QABMM-PSI	Monopole (Quarter-wave bulkhead mount articulated MMCX w/pigtail)	1.9 dBi	Fixed/Mobile*	20 cm
A24-QI	Monopole (Integrated whip)	1.9 dBi	Fixed/Mobile*	20 cm
A24-C1	Surface Mount	-1.5 dBi	Fixed/Mobile*	20 cm
A24-Y4NF	Yagi (4-element)	6.0 dBi	Fixed*	2 m
A24-Y6NF	Yagi (6-element)	8.8 dBi	Fixed*	2 m
A24-Y7NF	Yagi (7-element)	9.0 dBi	Fixed*	2 m
A24-Y9NF	Yagi (9-element)	10.0 dBi	Fixed*	2 m
A24-Y10NF	Yagi (10-element)	11.0 dBi	Fixed*	2 m
A24-Y12NF	Yagi (12-element)	12.0 dBi	Fixed*	2 m
A24-Y13NF	Yagi (13-element)	12.0 dBi	Fixed*	2 m
A24-Y15NF	Yagi (15-element)	12.5 dBi	Fixed*	2 m
A24-Y16NF	Yagi (16-element)	13.5 dBi	Fixed*	2 m
A24-Y16RM	Yagi (16-element, RPSMA connector)	13.5 dBi	Fixed*	2 m
A24-Y18NF	Yagi (18-element)	15.0 dBi	Fixed*	2 m
A24-F2NF	Omni-directional (Fiberglass base station)	2.1 dBi	Fixed/Mobile*	20 cm
A24-F3NF	Omni-directional (Fiberglass base station)	3.0 dBi	Fixed/Mobile*	20 cm
A24-F5NF	Omni-directional (Fiberglass base station)	5.0 dBi	Fixed/Mobile*	20 cm
A24-F8NF	Omni-directional (Fiberglass base station)	8.0 dBi	Fixed*	2 m
A24-F9NF	Omni-directional (Fiberglass base station)	9.5 dBi	Fixed*	2 m
A24-F10NF	Omni-directional (Fiberglass base station)	10.0 dBi	Fixed*	2 m
A24-F12NF	Omni-directional (Fiberglass base station)	12.0 dBi	Fixed*	2 m
A24-F15NF	Omni-directional (Fiberglass base station)	15.0 dBi	Fixed*	2 m
A24-W7NF	Omni-directional (Base station)	7.2 dBi	Fixed*	2 m
A24-M7NF	Omni-directional (Mag-mount base station)	7.2 dBi	Fixed*	2 m
A24-P8SF	Flat Panel	8.5 dBi	Fixed*	2 m
A24-P8NF	Flat Panel	8.5 dBi	Fixed*	2 m
A24-P13NF	Flat Panel	13.0 dBi	Fixed*	2 m
A24-P14NF	Flat Panel	14.0 dBi	Fixed*	2 m
A24-P15NF	Flat Panel	15.0 dBi	Fixed*	2 m
A24-P16NF	Flat Panel	16.0 dBi	Fixed*	2 m
A24-P19NF	Flat Panel	19.0 dBi	Fixed*	2 m

\* Antennas can be approved for portable applications if integrator gains approval through SAR testing. If the antenna will be mounted closer than 20 cm to nearby persons, then the application is considered "portable" and requires an additional test performed on the final product. This test is called the Specific Absorption Rate (SAR) testing and measures the emissions from the module and how they affect the person.

### RF Exposure

	<p>WARNING: To satisfy FCC RF exposure requirements for mobile transmitting devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation. To ensure compliance, operations at closer than this distance is not recommended.</p> <p>The antenna used for this transmitter must not be co-located in conjunction with any other antenna or transmitter.</p>
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The preceding statement must be included as a CAUTION statement in manuals for OEM products to alert users on FCC RF Exposure compliance.