

REGULATORY COMPLIANCE INFORMATION

The RS-500 (Impinj model number IPJ-RS500-GX) is approved for modular certification by FCC and Industry Canada (IC) under the following ID numbers:

FCC ID: GU6-RS500GX

IC: 1502A-RS500GX

Modular approval allows installation in different end-use products by an original equipment manufacturer (OEM) with limited or no additional testing or equipment authorization for the transmitter function provided by the RS500.

In addition, the end product must comply with all applicable FCC equipment authorizations, regulations, requirements and equipment functions not associated with the RS500. For example, compliance must be demonstrated to regulations for other transmitter components within the host product, to requirements for unintentional radiators (Part 15B), and to additional authorization requirements for the non-transmitter functions.

The OEM applying the RS500 is required to include all FCC and/or IC statements and warnings detailed in the following sections to the end product labeling (where specified) and in the finished product manual. The OEM must also strictly adhere to antenna and installation guidelines and MPE restrictions stated in this document.

Product Labeling

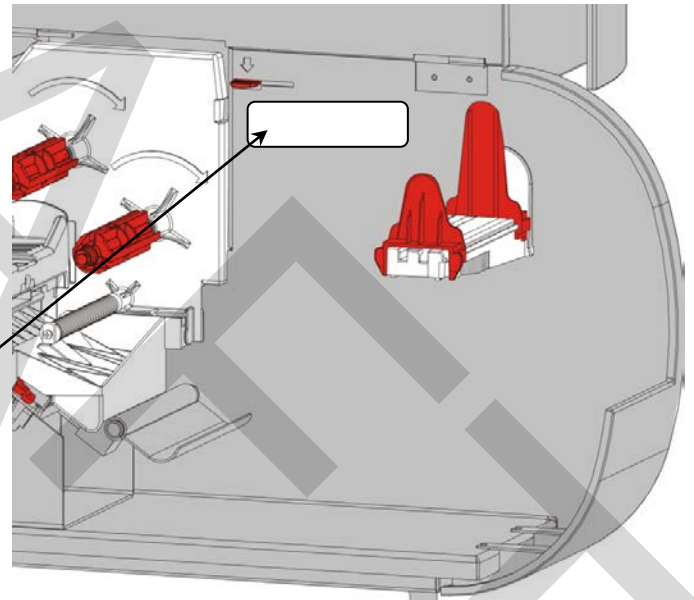
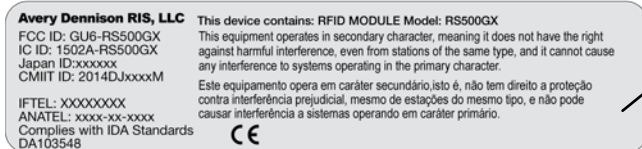
A statement must be included on the exterior of the final OEM product which communicates that the device identified by the aforementioned FCC and Industry Canada ID numbers are contained within the product. For example:

This product contains a radio module certified as
FCC ID: GU6-RS500GX and
IC: 1502A-RS500GX

OR

Contains FCC ID: GU6-RS500GX

Contains IC: 1502A-RS500GX



The OEM must include the following statements on the exterior of the finished product unless the product is too small (e.g. less than 4 x 4 inches):

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 any interference that may cause undesired operation.

US Requirements

The finished product manual must contain the following statement:

WARNING: The Federal Communications Commission warns that changes or modifications of the radio module within this device not expressly approved by the manufacturer could void the user's authority to operate the equipment.

In the case where an OEM seeks class B (residential) limits for the host product, the finished product manual must contain the following statement:

Note: 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.

In the case where an OEM seeks the lesser category of a Class A digital device for their finished product, the following statement must be included in the manual of the finished product:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

Canadian Requirements

The OEM must include the following regulatory statements (shown in *italics*) in both English and French on the exterior of the finished product and/or in the product manual:

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.

The OEM must include the following regulatory statements (shown in *italics*) in both English and French in the finished product manual:

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 IC: 1502A-RS500GX 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.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

Le présent émetteur radio IC: 1502A-RS500GX a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne. Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

Impinj, Inc. Mini-Guardrail Model IMP-A0303-00 Near Field antenna, -20 dBi far field gain

Antenna Requirements

In order to operate the RS500 under either GU6-RS500GX or IC: 1502A-RS500GX, the OEM must strictly follow these antenna guidelines:

The OEM may operate only with the following antenna or antenna types with maximum gain as shown:

- ◆ Impinj, Inc. Mini-Guardrail Model IMP-A0303-00, segmented loop (Near Field) antenna, - 20 dBi far field gain

RF I/O interface to the antenna connector on the PCB shall be accomplished via a micro strip or strip line transmission line with characteristic impedance of 50 ohms +/- 10%. A custom coaxial pigtail may also be utilized to connect to the antenna in lieu of a connector.

The connector on the OEM's PCB which interfaces to the antenna must be of a unique type to disable connection to a non-permissible antenna in compliance with FCC section 15.203. The following connectors are allowed:

- ◆ Right angle Reverse-Polarity SMA (RP-SMA) Jack : Amphenol part number 132136RP or equivalent
- ◆ Ultra Miniature Coaxial Connector (UMCC) Jack: Molex part number 0734120110 or equivalent
- ◆ Custom 50 ohm coaxial pigtail from PCB to antenna
- ◆ The OEM must professionally install the RS500 into its final environment to ensure that the conditions are met.

Maximum Power Exposure (MPE) and Usage Limitations

The minimum safe distance for people from the RS500 has been determined by conservative calculation to be less than 20 cm for the allowable antenna types. The end product User's Guide must include the following statement in a prominent location:

To comply with FCC's RF radiation exposure requirements, the antenna(s) used for this transmitter must be installed such that a minimum separation distance of 20 cm is maintained between the radiator (antenna) & user's/nearby people's body at all times and must not be co-located or operating in conjunction with any other antenna or transmitter.

This radio transmitter IC: 1502A-RS500GX should not be installed and/or operated simultaneously with any other antenna or transmitter in the final OEM system.