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FCC ID Z5IBMD345 Class II Permissive Change Module Integration Instructions

List of Applicable FCC Rules

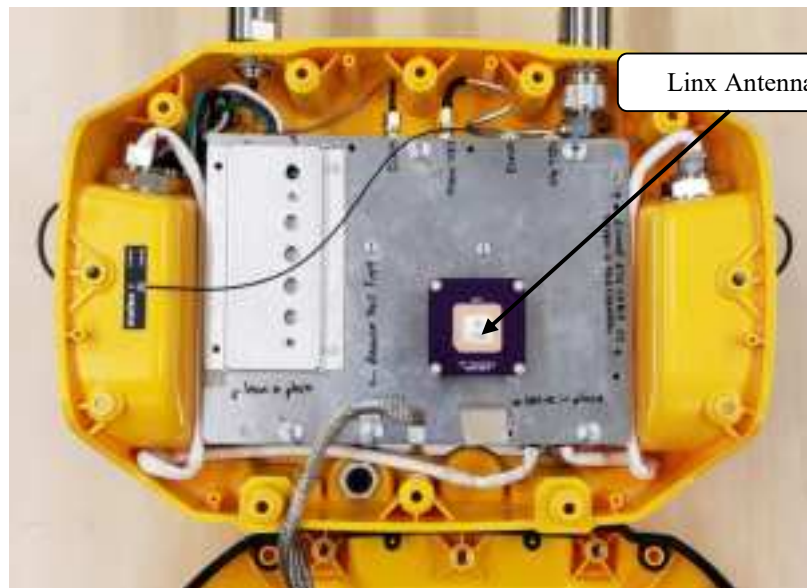
- a. Title 47 CFR Part 15.247: "Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz"
- b. Title 47 CFR Part 1.1310: "Radiofrequency radiation exposure limits"

Specific Operation Use Conditions

This module is only approved for use by the grantee in its own products and not intended for sale to third parties.

Per the restriction above, very limited end-user integration instructions are required according to FCC KDB 996369, Section 2.1. The module is only of limited approval and is installed in the host (SD-BASE-4) along with transmitter modules Z5ISL1 (equivalent to RYK-WPEQ262ACNIBT per a Change of ID) and N7NEM75. RF test reports provided are performed with all transmitters operational, and the provided MPE report includes data for all transmitters simultaneously transmitting in a worst case fashion. The module is integrated at time of Host production and is non-removable afterwards; the Host is not intended to be disassembled or altered after production. For the tested specified RF performance to be met, the module must be integrated into the Host (SD-BASE-4) as follows:

- a. Installed per the photo below. The module should be installed in on a mPCIE carrier card in slot J10 of the single-board computer. The RF connector on the Z5IBMD345 module is connected to the Linx ANT-2.4-CPA antenna through a u.FL-u.FL cable on the front of the EMI shield. Further details can be found in "(7) Internal Host Photos.pdf".



- b. In this Host, the below restrictions apply to meet spurious emissions limits. These limitations are reflected in Form 731 and RSP-100 Annex B, and are implemented in the FCC 15.247 and RSS 247 test reports.
 - a. Only the GFSK modulation mode (used over 2402 – 2472 MHz) is used. The module's original grant which uses O-QPSK (over a frequency of 2405 – 2480 MHz) is not to be used.
 - b. Output power setting of the nRF52840 transceiver is reduced from -8 dBm to -12 dBm (this is the power going into the output power amplifier), thus reducing the module's total output power from 64.5 mW to 25.1 mW.

Limited Module Procedures

The need to use a limited modular approval in this case is for use in a specific host. In this case, KCF Technologies' SD-BASE-4. This module will only be installed in KCF Technologies' products at time of production and is not for sale. This specific permissive change is only for use in the SD-BASE-4 host.

Trace Antenna Designs

Not Applicable

RF Exposure Considerations

A Maximum Permissible RF Exposure (MPE) report is included in the document submission package. With all transmitters in the host active in a worst case band-selection scenario, the Host is compliant per Title 47 CFR Part 1.1310. The host is not a mobile device, nor is intended to be use in close proximity to a human body. The Product Guide includes text to this effect (*i.e.* "not for use within 20 cm of a human body").

Antennas

A datasheets for the antenna that is integrated into the Host enclosure and that is used during testing is included in the document submission package. The antenna is a Linx ANT-2.4-CPA. This antenna is installed at time of production is not to be removed or altered/replaced. The device itself is for industrial use and is only professionally installed.

Label and Compliance Information

The Host (SD-BASE-4) contains a label with the list of installed transmitter IDs. Images and photos of the relevant product label are included in the document submission package. Applicable FCC compliance text is included in the Product Guide.

Information on Test Modes and Additional Testing Requirements

Since the module is not intended for sale or for use in other products, no instructions for test modes are required.

Additional Testing, Part 15 Subpart B Disclaimer

Since the module is not intended for sale or for use in other products, no instructions for additional testing are required.

Note EMI Considerations

Since the module is not intended for sale or for use in other products, no instructions for EMI considerations are required.

How to Make Changes

Since the module is not intended for sale or for use in other products, no instructions for how to make changes are required.