

FCC ID:

HZB-U5358-480

Dear Mr. Dichoso:

This is in response to your fax dated March 27, 2001. These responses follow the numbering of your questions.

1. Emissions of the HZB-U5358-100 equipment will be maintained within the band under all conditions of normal operation under the worst case of frequency shift. **A separate exhibit has been uploaded with the name "15407C Conformance"** and the prior exhibit superceded.
2. Line conducted tests have been performed with an off-the-shelf power supply. **Test setup photos and test results have been uploaded to the FCC database with the name "Conducted Emissions."**
3. The Center frequency of the transmit channels are 5775 MHz and 5300 MHz. The frequency band ranges on the Form 731 and Grant should be corrected to read 5300 MHz-5300 MHz and 5775 MHz – 5775 MHz. **The Grant cannot be accessed; if available, it would be changed to read:**

- | | |
|-------------------------------|----------------------------|
| a. Lower frequency (MHz) 5300 | Upper frequency (MHz) 5300 |
| b. Lower frequency (MHz) 5775 | Upper frequency (MHz) 5775 |

4. **A revised RF exposure attestation with the name "RF Exposure Statement" has been uploaded to the FCC database** and the prior one has been superceded. The new statement demonstrates compliance with the MPE limits of 1.1310 at a separation distance of 1.5m. **The Grant cannot be accessed; if available, the Grant note would be amended to include the 1.5 m distance to agree with TCB Section K procedures as follows:**

The antenna(s) used for this transmitter must be fixed-mounted on outdoor permanent structures with a separation distance of at least 1.5 meters from all persons during normal operation. Users and installers must be provided with antenna installation instructions and transmitter operating conditions, including antenna co-location requirements of 1.1307(b)(3), for satisfying RF exposure compliance.

5. The RF cable is used for connection between the outdoor unit and the antenna. As can be seen from the test setup photo, the cable is just slightly longer than the minimum distance between the antenna and the outdoor unit to allow easier installation. It is impossible to further reduce the length of the cable in any installation. The manufacturer maintains that there is no need to define a minimum length of cable in this case as any shorter length will make installation impossible. Specifically: the RF cable used during testing is of 16-inch long with N type connectors on both ends. The loss from the cable plus connectors is 0.5 dB. The manufacturer warrants that it will always ship the cables with the HZB-U5358-480 equipment, and the cable will be no shorter than 16 inch. **The Grant cannot be accessed; if available, Note Code 36 would be added as follows:**

36 Certain antennas used with this equipment require a minimum cable length, or have power output limitations as documented in the application.

6. The equipment output power is adjustable by the professional installer. To ensure the worst-case situation is covered, the equipment was tested at the maximum output power. The Installation and Maintenance Manual of the product gives detailed instructions to professional installers on how to adjust the output power to maintain compliance to EIRP limits. The HZB-U5358-480 product is not a consumer product and must be installed and maintained by professionally trained personnel. No user manuals will be supplied.
7. The antenna used for testing was of Gabriel SSD2-52A with mid gain of 28.4dBi. The manufacturer wishes to allow higher gain antennas as listed in the manual, to benefit from better received signal gain while maintaining the EIRP limits. Due to the fact the equipment was tested at the maximum output power and full EIRP limit of +30dBm at 5.25-5.35GHz and +46.8dBm EIRP (18.4dBm output power with 28.4dBi antenna) at 5.725-5.825 GHz, as long as these two EIRP limits are not exceeded, any increase in antenna gain will mandate a decrease in equipment output power. Therefore the test results of the 2' antenna cover the worst-case scenario. If the radio had been tested with a higher gain antenna with a reduced output power, the test results in all respects would be equal or better. **An exhibit named "PSD Compliance with Antenna Gain" has been uploaded to the FCC database to support this reasoning. A Gabriel dual polarization antenna datasheet has also been uploaded to the FCC database, under the name "Antenna Datasheet".** Due to the fact the U-NII band is still relatively new, there are few U-NII antennas available, making it impossible to include examples of other brands. The Gabriel dual polarization antenna is the only brand the manufacturer has found so far.
8. The Professional Installation Letter has been edited to emphasize that all installers will have to follow instructions given in the Installation and Maintenance Manual. **The edited Professional Installation Letter has been uploaded to the FCC database under the name "Professional Installation" and the prior one has been superseded. A list of antennas to be used with the HZB-U5358-480 product, with maximum output power calculated to each antenna gain, has also been uploaded to the FCC database under the name "List of antennas."** This list will be included in the Installation and Maintenance Manual. It also includes the formulas for calculating the maximum output power setting at the antenna input, as a function of antenna gain.

Thank you,
Roland Gubisch