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March 3, 2003

American TCB
6731 Whittier Ave
Suite C110
McLean, VA 22101
Attn: Mr. T. Johnson, Examining Engineer

RE: your e-mail dated February 27, 2003; WaveIP Ltd.
FCC ID: QQ2-GA24

Dear Mr. Johnson,
Please find below the answers to your questions.

1. Attached is the data sheet for the requested antennas:
Horizontal/Vertical, 13dBi (90 deg) Base Station Antennas - MT-363010/HN/NV. (The antennas number spelled wrong as 36010/HN/NV in the User Guide and therefore was fixed in the attached User Guide). Note that HN stand for Horizontal and NV for Vertical.
17dBi (90 DEG) Base Station Antenna - MT-364028/NV. (The antenna number was spelled wrong as 36428/HN/NV in the User Guide and was also fixed).

The data sheets were uploaded on March 3, 2003 via Additional Information.

2. We confirm that MTI 364023/N antenna is not available right now. It is not included in WaveIP approved antenna list.

3. We confirm that 18T-2400-1 antenna is not available right now. It is not included in WaveIP approved antenna list.

4. The EIRP that exceeds 36 dBm was for point-to-point application only! In order to eliminate any possible misunderstanding the Table 6.1 in Appendix C was divided into two tables: one for point-to-multi-point and one for point-to-point.
For Point to Multi Point (p2mp) applications the max EIRP should never exceed +36 dBm.
For Point to Point (p2p) application the max EIRP can be greater than +36 dBm according to FCC 15.247(b)(4)(i).
A note was added that configuring the system to operate in point-to-point can be done only by a professional installer. Configuration is protected by password of administrator privilege only. See 2.4.3.2. and see paragraph 10.4.1.
The revised User Guide_030303 was uploaded on March 3, 2003 via User Manual.

5. Appendix C of the User Guide was updated. The +13 dBi, +14 dBi and +23 dBi antennas were added. The 24 dBi antenna that was listed twice is listed now in two different tables one for point-to-multi-point and one for point-to-point (as mentioned above).

6. The RF exposure (Appendix D) was updated as follows:
   a) The +13 dBi, +14 dBi +23dBi antennas were added.
   b) The 24 dBi antenna is listed in two different tables: One for point-to-multi-point and one for point-to-point. The calculation of the RF exposure is different for the two type of applications. According to FCC 15.247(b)(4)(i) limit of the EIRP in point-to-point can exceed 36 dBm. Since point-to-point is a fixed application, we amended the safety distance in this case into 2 m. See page 35 in the User Guide.

7. The antennas that were tested are listed below:
- 13.5 dBi Directional Flat Panel Antenna: MTI-1004/C/A
- 18 dBi Directional Flat Panel Antenna: MTI-345010/C/A
- 17dBi Base Station Antenna: MA-WC24-6X
- 12 dBi Omni Antenna : Hypelink Tech HG2412U
- 24 dBi Parabolic Dish Antenna: Hyperlink Tech HG2424G.

The full list of WaveIP approved antennas is given in the User Guide Appendix A. For point-to-multi-point applications all antennas meet 36 dBm EIRP and therefore can be classified as mobile. For point-to-point application all antennas are classified as fixed, that's way we define the safety distance of 2 m as mentioned above.

8. HL (see below)

9. HL

10. HL

11. HL

12. HL

13. The GigAccess was designed to work with co-located antennas. That means that two antennas can be connected. The minimum distance between the two antennas should be 20 cm. The two antennas should be of the same type (Directional Flat Panel Antenna, or Base Station Antenna or Parabolic Dish - See Appendix A). Omni antennas are not relevant for co-location. The main idea is to utilize two polarizations: one antenna in vertical polarization and the other in horizontal polarization. The user will select the antenna in need. Only the selected antenna is operational. See the amendment in 2.4.3.2.

14. Proposed Grant Condition:
   a) The antennas used for this transmitter for point-to-multi-point applications must be mounted with a separation distance of 20 cm from all persons during normal operation.
   b) The antennas used for this transmitter for point-to-point applications must be mounted with a separation distance of 2 meters from all persons during normal operation.
   c) Users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

15) Beside all the changes that listed above we amended the following paragraphs:
   a) Page 16 (updated warning).
   b) Paragraph 2.4.3.1. (A new warning was added).
   c) Paragraph 2.4.3.2.
   d) New paragraph 2.4.3.3.
   e) Paragraph 3.4. (Typical sensitivity was changed).
   f) Appendix C and Appendix D as mentioned above.
   g) Paragraph 10.4.1.

Written by:
Michael Dayan, software director,
WaveIP Ltd.

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8. In original test report data was present for the 50 Ω dummy load at the antenna connector.

9. We confirm that for final measurements were used the following settings: RBW = 1 MHz, VBW= 3 MHz for peak measurements, RBW = 1 MHz, VBW = 10 Hz for average measurements.

10. The plot B17 represents spurious emissions inside restricted bands 2200 - 2300 MHz and 2310 – 2390 MHz. Due to the tolerance of Spectrum Analyzer settings, it was in saturation mode. The result 53.13 dB(µV/m) in table on page 7 was measured with an external attenuator (to prevent saturation), zero span, RBW = 1 MHz, VBW= 3 MHz for peak measurements, RBW = 1 MHz, VBW = 10 Hz for average measurements.

11. Plot B35 shows a reading at 40.002 MHz which is outside restricted band and was given as unintentional radiated emission result in the original test report WAVRAD_FCC.15365, page 17.

12. The Tx antennas during the test were positioned in typical installation considered by the WaveIP. The measurement antennas were installed both in vertical and horizontal polarization as referred to in test procedures.

Many thanks for your support and patience.

Sincerely,

Marina Cherniavsky,
Certification engineer
Hermon Laboratories