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March 6, 2007


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FILED/ACCEPTED

MAR 14 2007

Federal Communications Commission
Office of the Secretary

*Via Hand Delivery*
Julius Knapp, Chief
Office of Engineering & Technology
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**RE: Response to FCC Inquiries of 2-19-07**

Dear Mr. Knapp:

Thank you for your recent letter of inquiry. Below we address each of your inquiries, using the numbering included in your inquiry.

1. **Please explain what each column in the tables represent.**
   The "header" for the test information previously submitted is presented below. Explanations follow.

| (a) | (b) | (c) | (d) | (e) | (f) | (g) | (h) | (i) | (j) | (k) | (l) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Frequency | Test Data | AF | Test Data | AF+CA-AMP | Results | Limits | Distance / | Margin | PK = n | EUT Position | EUT Height |
| (MHz) | (dBm) | Table | (dBuV) | (dB) | (dBuV) | (dBuV) | Polarity | (dB) | / QP | degrees | meters |

a. Frequency (MHz) – The frequency measured (87.9 MHz)
b. Test Data (dBm) – The peak value obtained from the Spectrum Analyzer at the frequency indicated (-63.7 dBm)
c. AF Table – The Antenna Factor table in the Excel program used to correct for the Antenna (Biconical Antenna factored at 10 m Vertical Orientation)
d. Test Data – Data converted from dBm to dBuV using dBuV=dBm+107
e. AF+CA-AMP – The antenna Factor, Cable Loss, and Amplifier Gain (if used) to correct the dBuV data value
f. Results – Test Data + Cable Loss – Amp Gain + Antenna factor resulting in a value in dBuV/m
g. Limits – No limits were applied as the result was compared to the measured ambient. However, every even line is the measure of the unit transmitting. Every odd line is the ambient measured value. So in this case, the ambient measured value was compared to the unit value.
h. Distance/Polarity – the distance in which calibration of the antenna was conducted.
i. Margin – in this case (dBuV/m) is the result – the Ambient
j. PK=n- indicate if the signal, with the WUT on, was over or under the ambient.
k. EUT Position – indicate if the signal, with the EUT on, was over or under the ambient signal

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1. EUT Height columns – indicate if the signal, with the EUT on, was over or under the ambient signal

2. **Did the test measurement reveal that TRN emissions are below the ambient levels? If so, please explain how that is possible,**

   The test measurement did not reveal that TRN emissions are below the ambient levels. The commission asked TRN Atlanta to perform its emissions test at a distance of 100ft from the transmitting antenna. TRN Atlanta first measure at 50 ft to identify the EUT signal above the ambient. However, measurements at 75 ft were so close to ambient that the lab could not distinguish EUT signal from ambient signal.

3. **Did the test measurements reveal that ambient emissions levels decrease with increased frequency separation from the TRN emitter? If so, please explain how that is possible?**

   The test measurements did not reveal that ambient emissions level decrease with increased frequency separation from the TRN emitter. Ambient signal did slightly fluctuate at a fixed distance from the train to allow a 1-5dB variance from the previous signal measured. Measurements were taken with a pre-amp to compensate for antenna loss and allow for a more accurate measurement.

4. **In conducting the tests, why was antenna model 3110B chosen?**

   The Biconcial antenna is rated for the frequencies 30MHz to 200MHz?

5. **What antenna factor was used?**

   Antenna factor was calculated from antenna calibration data provided in tabular format. Calculation included pre-amp gain and cable loss.

6. **Please provide a sample calculation showing how the measured readings were converted to field strength dBuV/m.**

   The calculation was as follows:
   Test Data (dBm) + 107 + Cable Loss – Amp Gain + Antenna Factor = dBuV/m.
   A sample calculation:
   -63.7 + 107 -15.3 (10.3 combined Antenna Factor, -25.8 AMP Gain and 0.2 Cable loss) = 28dBuV/m

I trust this to be responsive and if there are any additional questions, please contact the undersigned.

Sincerely,

Thomas Gutierrez
*Counsel for The Rail Network*

cc: Bruce Romano, Esq.
Larry Walke, NAB