



Date: September 11, 2003

Subject: Response to Correspondence # 25677

From: David Masucci

To: Joe Dichoso

FCC ID: Q5ZQUPID2003

This memorandum is in response to your FCC Correspondence Letter, Reference # 25677. This memorandum will provide responses to questions numbered 1 & 4 of the original reference letter. Other questions which were repeated from the previous correspondence # 25596 were previously answered.

- 1) Improved photograph of the component side of the preamplifier board. This is attached below. A separate jpeg version will be uploaded with this document.
- 2) The data in the following paragraph was taken per the guidelines in Appendix F of the Part 15 rules. A scan was performed at 3 meters in an anechoic (outdoor) environment. Measurements were taken with an EMCO Model 3115 1-18 GHz Double-Ridged Waveguide Horn antenna. Data was recorded manually from an HP 8592 Spectrum Analyzer. The data was then entered into an Excel spreadsheet that performed the calculations as defined in the most recent FCC correspondence # 25677. The spreadsheet also performs the conversion to EIRP, and provides the final result in dBm.

This is in response to the question of measurement at 1000 MHz. First the analyzer was set to a peak detect mode, and the span was set to observe the spectrum from 960 to 1010MHz. No significant peak was found, just a flat noise floor was observed. The analyzer frequency was centered on 1000 MHz. The analyzer was then set as follows: RBW = 1 MHz, VBW = 1 MHz, sweep 15mS (fastest available), detector = sampled, span = 0 Hz. The analyzer was configured for single sweep operation. A single sweep was initiated, and then a peak search was performed. That value was recorded as sample #1. The "next peak" button was pressed and the level recorded for each successive sample, until the 10 highest samples were recorded. A second single sweep was performed, and then 10 more samples starting from the highest were again recorded. This process was repeated until there was a total of 10 sweeps completed, each with 10 samples recorded. For the 1000MHz data point, the measured RMS Average value was -60.07 dBm EIRP. Please note this number is in compliance with the current Part 15 UWB limits for this band.

APPENDIX F RMS AVERAGE / 10 SWEEPS / 10 SAMPLES / 1GHz

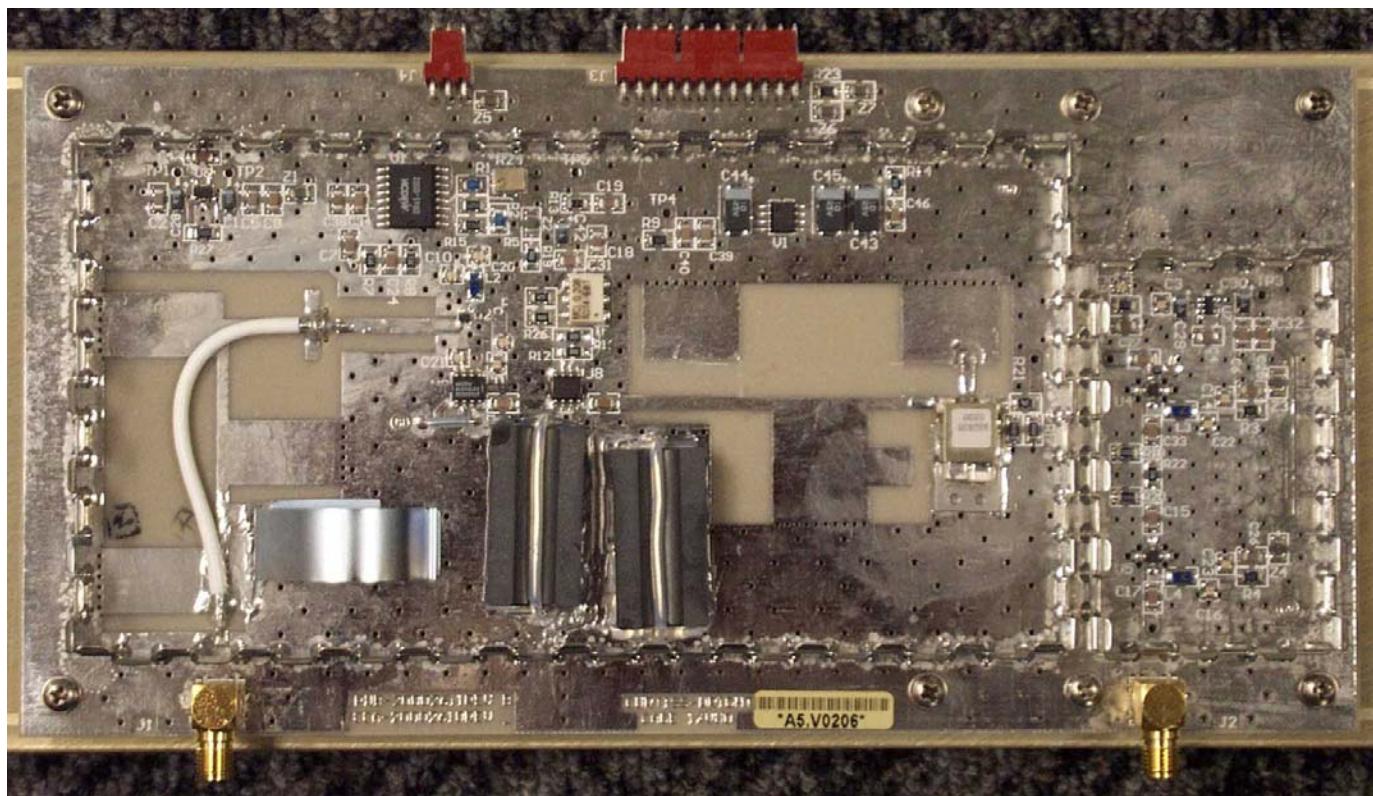
**Centered at 1GHz
10 dB Attenuator**

Sweep 1	Sweep 2	Sweep 3	Sweep 4	Sweep 5	
7.70E-11	7.20E-11	6.90E-11	5.80E-11	6.50E-11	
6.20E-11	6.20E-11	6.70E-11	5.80E-11	5.20E-11	
6.10E-11	6.10E-11	5.90E-11	5.70E-11	4.40E-11	
4.80E-11	5.70E-11	5.30E-11	5.60E-11	4.40E-11	5.13743E-11 W RMS Avg
4.70E-11	5.60E-11	5.30E-11	5.00E-11	4.30E-11	At the Antenna
4.60E-11	5.30E-11	4.80E-11	4.30E-11	4.30E-11	
4.50E-11	5.10E-11	4.60E-11	4.20E-11	4.30E-11	-102.89 dBm RMS Avg
4.20E-11	4.90E-11	4.50E-11	4.20E-11	4.20E-11	At the Antenna
4.20E-11	4.60E-11	4.20E-11	4.10E-11	4.20E-11	
4.10E-11	4.40E-11	4.20E-11	4.00E-11	4.20E-11	-60.07 dBm RMS Avg
					EIRP
5.23E-11 watts RMS	5.567E-11 watts RMS	5.322E-11 watts RMS	4.927E-11 watts RMS	4.65E-11 watts RMS	

Sweep 6	Sweep 7	Sweep 8	Sweep 9	Sweep 10	
6.30E-11	8.70E-11	6.60E-11	7.50E-11	7.10E-11	
6.00E-11	7.80E-11	6.30E-11	6.70E-11	5.60E-11	
5.30E-11	5.80E-11	5.30E-11	5.70E-11	5.10E-11	
5.20E-11	4.90E-11	4.70E-11	5.60E-11	5.00E-11	
5.20E-11	4.80E-11	4.20E-11	5.50E-11	4.60E-11	
4.70E-11	4.20E-11	4.10E-11	4.90E-11	4.60E-11	
4.50E-11	4.10E-11	3.90E-11	4.90E-11	4.50E-11	
4.40E-11	4.00E-11	3.90E-11	4.90E-11	4.40E-11	
4.20E-11	3.80E-11	3.70E-11	4.80E-11	4.40E-11	
4.00E-12	3.70E-11	3.70E-11	4.80E-11	4.20E-11	

4.872E-11 watts RMS 5.439E-11 watts RMS 4.751E-11 watts RMS 5.598E-11 watts RMS 5.02E-11 watts RMS

Excel Spreadsheet of 1000MHz data point



Preamplifier – Component Side