

From: Eric Freimark

To: Behnam Ghaffari

Date: July 30, 2010

Subject: FCC File No. 0293-EX-PL-2010

Message:

As requested, the calculations for Paragraph 6 are as follows:

Receive Gain (A)	35 dBm
Antenna Cable Insertion Loss (B)	-12 dBm
Repeater Amp Gain (C)	30 dBm
Repeater Antenna Gain Best Case (D)	3 dBm
Total System Gain (=A+B+C+D) (E)	56 dBm
Average Receive Power L1 North America (F)	-130 dBm
Radiated Power (=E+F) (G)	-74 dBm
Range (H)	0.019 miles
GPS repeater carrier frequency (I):	1575 MHz
Free Space loss with Isotropic Antennas ($=-(36.6+(20*\text{LOG}_{10}(H*I)))$) (J)	-66.09 dBm
Repeated signal power @ range (=J+G) (K)	-140.09 dBm
Total signal power @ range ($= (10^{(K/10)})*0.001$) (L)	9.8E-18 W
Effective radiated power (=G-30) (M)	-104 dBW
Effective radiated power ($=10^{(M/10)}$) (N)	39.8E-12 W
Transmitted power ($=10^{((M-3)/10)}$) (O)	20.0E-12 W

Antenna insertion loss calculated using LMR 240 ultra flex coax

The person to be notified is Dr. Carrick Talmadge (clt@olemiss.edu, 662-380-6361)

Please contact me if you have any further questions.