



3301 E. Deseret Drive, St. George, UT 84790  
 www.wilsonelectronics.com • info@wilsonelectronics.com  
 phone 1-800-204-4104 • fax 1-435-656-2432

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To: Whom it May Concern

Subject: Calculated Mobile Station Coupling Losses (MSCL) For FCCID: PWO460030

The following formulas were used to calculate MSCL with a 6' foot path loss and a 45 degree polarity mismatch between the inside antenna and the mobile device:

Path Loss dB = 36.6 dB + 20Log(F MHz) dB+ 20Log(D<sub>miles</sub>) dB

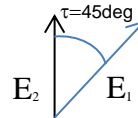
Polarity Loss dB = 10Log(E<sub>1</sub>/E<sub>2</sub>)<sup>2</sup> dB = P<sub>L</sub> dB

P<sub>L</sub> dB = 10Log(E<sub>1</sub><sup>2</sup>/(E<sub>1</sub>Sin(45<sub>deg</sub>))<sup>2</sup>) dB = 20Log(1/Sin(45<sub>deg</sub>)) dB = 3.01dB

Where:

E<sub>1</sub> = Maximum Possible Magnitude of the Electric Field from the Mobile Device

E<sub>2</sub> = Magnitude of the electric field from the Mobile device with a 45deg polarity mismatch = E<sub>1</sub>Sin(τ).



MSCL dB = Path Loss dB + Polarity Loss dB - Antenna Gain dB

The results of the calculations are shown in the following table:

Uplink Center Frequency MHz	707-710	782	836.5	1732.5	1880-1882.5
Path Loss (dB)	34.70	35.57	36.16	42.48	43.21
Polarity Loss (dB)	3	3	3	3	3
Antenna Gain with Coax Loss	-0.80	-1.35	-0.77	-0.01	1.47
<b>MSCL (dB)</b>	<b>38.50</b>	<b>39.92</b>	<b>39.93</b>	<b>45.49</b>	<b>44.74</b>

Note: Antenna Gain with Coax Loss as measured.

Sincerely

Patrick L. Cook  
 Senior Electrical Engineer