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June 3, 2016

To: Whom it May Concern

Subject: Calculated Mobile Station Coupling Losses (MSCL) For FCCID: PWO460027

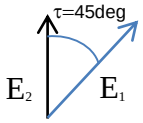
The following formulas were used to calculate MSCL with a 6 foot path loss and a 45 degree polarity mismatch between the inside antenna and the mobile device:

Path Loss dB = 36.6 dB + 20Log(F MHz) dB+ 20Log(D_{miles}) dB

Polarity Loss dB = 10Log(E_1/E_2)^2 dB = P_L dB
P_L dB= 10Log($E_1^2/(E_1 Sin(45_{deg}))^2$) dB = 20Log(1/Sin($45_{deg}$)) dB = 3.01dB
Where:

E_1 = Maximum Possible Magnitude of the Electric Field from the Mobile Device

E_2 = Magnitude of the electric field from the Mobile device with a 45deg polarity mismatch = $E_1 Sin(\tau)$.



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	2.13	2.13	2.12	5.09	7.49
MSCL (dB)	**35.57**	**36.44**	**37.04**	**40.39**	**38.72**

Note: Antenna Gain with Coax Loss as measured.

Sincerely

Patrick L. Cook
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