Wilson® Electronics, Inc.
3301 East Deseret Drive
St. George, Utah 84790
www.wilsonelectronics.com
info@wilsonelectronics.com
Phone 800.204.4104 • Fax 435.656.2432

July 30, 2012

Subject: RF MPE EXPOSURE
Re: FCC ID: PWO275165

To Whom It May Concern:

The MPE calculations for model 275165 signal booster were done for each frequency band: 700 MHz, 800 MHz, and 1900 MHz. For each band two calculations were done; these included the different possibilities of antennas that may be connected to this signal booster: fixed outside and inside antennas. The order of the attached calculations is as follows:

700 MHz band:
1. Fixed Outside Antenna
2. Inside Antenna

800 MHz band:
3. Fixed Outside Antenna
4. Inside Antenna

1900 MHz band:
5. Fixed Outside Antenna
6. Inside Antenna

The results of these calculations determine the safe distances and gains for antennas that may be connected to this signal booster as summarized below:

	Fixed Outside Antenna	Inside Antenna
Maximum Gain less Cable Loss (dBi)	15	9
Minimum Distance from All People (inches/cm)	23/58	8/20

Sincerely,

Patrick L. Cook
Senior Research and Development Engineer

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	776
Pout Watts	0.31600
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Distance From Antenna In cm	39.5

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Distance From Antenna In Inches	15.55
ERP (Watts)	6.0932
EIRP (Watts)	9.9928
FCC Power Density Limit (mw/cm^2)	0.52
Calculated Power Density (mw/cm^2)	0.51

REFERENCE DATA

Pout dBm	25.00
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	f/1500

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	746
Pout Watts	0.19500
Duty Cycle Percent	100.0%
Ant. Gain dBi	11.00
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	11.00
Distance From Antenna In Inches	7.87
ERP (Watts)	1.4969
EIRP (Watts)	2.4549
FCC Power Density Limit (mw/cm^2)	0.50
Calculated Power Density (mw/cm^2)	0.49

REFERENCE DATA

Pout dBm	22.90
Antenna Gain (non-log)	12.59
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	f/1500

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	824
Pout Watts	0.72400
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Distance From Antenna In cm	58.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Distance From Antenna In Inches	22.83
ERP (Watts)	13.9603
EIRP (Watts)	22.8949
FCC Power Density Limit (mw/cm^2)	0.55
Calculated Power Density (mw/cm^2)	0.54

REFERENCE DATA

Pout dBm	28.60
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	f/1500

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	869
Pout Watts	0.30900
Duty Cycle Percent	100.0%
Ant. Gain dBi	9.00
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	9.00
Distance From Antenna In Inches	7.87
ERP (Watts)	1.4966
EIRP (Watts)	2.4545
FCC Power Density Limit (mw/cm^2)	0.58
Calculated Power Density (mw/cm^2)	0.49

REFERENCE DATA

Pout dBm	24.90
Antenna Gain (non-log)	7.94
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	f/1500

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	1850
Pout Watts	0.87100
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Distance From Antenna In cm	47.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Distance From Antenna In Inches	18.50
ERP (Watts)	16.7948
EIRP (Watts)	27.5434
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.99

REFERENCE DATA

Pout dBm	29.40
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	1.00

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	1930
Pout Watts	0.32400
Duty Cycle Percent	100.0%
Ant. Gain dBi	11.80
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	11.80
Distance From Antenna In Inches	7.87
ERP (Watts)	2.9902
EIRP (Watts)	4.9039
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.98

REFERENCE DATA

Pout dBm	25.11
Antenna Gain (non-log)	15.14
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	1.00