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December 5, 2014

Subject: RF MPE EXPOSURE
Re: FCC ID: PWO460027

To Whom It May Concern:

The MPE calculations for model 460027 signal booster were done for each frequency band: 700 MHz Band 12, 700 MHz Band 13, 800 MHz, 1700/2100 MHz, and 1900 MHz. For each band two calculations were done; these included the worst case scenario for each of the different types of antennas that may be connected to this signal booster: outside and inside antennas. The order of the attached calculations is as follows:

700 MHz Band 12:
1. Outside Antenna: 314411-40075
2. Inside Antenna: 311155

700 MHz Band 13:
1. Outside Antenna: 314411-40075
2. Inside Antenna: 311155

800 MHz band:
1. Outside Antenna: 311129-400100
2. Inside Antenna: 311155

1700/2100 MHz band:
1. Outside Antenna: 314453-40075
2. Inside Antenna: 311155

1900 MHz band:
1. Outside Antenna: 311129
2. Inside Antenna: 311155

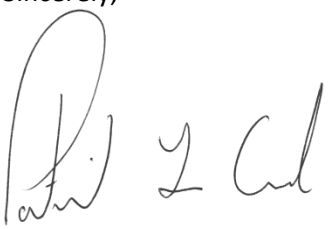
A booster's uplink power must not exceed 1 watt equivalent isotropic radiated power (EIRP) for each band of operation. Composite downlink power must not exceed 0.05 watt EIRP for each band of operation (20.21(e)(8)(i)(D)). The following formula was used to calculate the equivalent isotropic radiated power:

EIRP= Power Out (Watts)*Duty Cycle Percent*Antenna Gain (non-log)*Coax loss (non-log)

The power density (mW/cm^2) is calculated using the following formula:

Calculated Power Density=1000*EIRP (Watts)/(4*π*(Distance from Antenna (cm)^2))

Sincerely,



Patrick L. Cook
Chief Technology Officer

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	698
Pout Watts	0.10965
Duty Cycle Percent	100.0%
Ant. Gain dBi	7.30
Coax Loss dB	2.80
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.50
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.3090
FCC Power Density Limit (mw/cm^2)	0.47
Calculated Power Density (mw/cm^2)	0.0615

REFERENCE DATA

Pout dBm	20.40
Antenna Gain (non-log)	5.37
Coax loss (non-log)	0.52
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	728
Pout Watts	0.01435
Duty Cycle Percent	100.0%
Ant. Gain dBi	4.16
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.16
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0374
FCC Power Density Limit (mw/cm^2)	0.49
Calculated Power Density (mw/cm^2)	0.0074

REFERENCE DATA

Pout dBm	11.57
Antenna Gain (non-log)	2.61
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	776
Pout Watts	0.12078
Duty Cycle Percent	100.0%
Ant. Gain dBi	7.20
Coax Loss dB	3.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.20
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.3177
FCC Power Density Limit (mw/cm^2)	0.52
Calculated Power Density (mw/cm^2)	0.0632

REFERENCE DATA

Pout dBm	20.82
Antenna Gain (non-log)	5.25
Coax loss (non-log)	0.50
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	0.01099
Duty Cycle Percent	100.0%
Ant. Gain dBi	4.16
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.16
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0286
FCC Power Density Limit (mw/cm^2)	0.50
Calculated Power Density (mw/cm^2)	0.0057

REFERENCE DATA

Pout dBm	10.41
Antenna Gain (non-log)	2.61
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	0.32810
Duty Cycle Percent	100.0%
Ant. Gain dBi	9.6
Coax Loss dB	4.74
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.84
Distance From Antenna In Inches	7.87
EIRP (Watts)	1.000
FCC Power Density Limit (mw/cm^2)	0.55
Calculated Power Density (mw/cm^2)	0.1989

REFERENCE DATA

Pout dBm	25.16
Antenna Gain (non-log)	9.08
Coax loss (non-log)	0.34
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	0.00869
Duty Cycle Percent	100.0%
Ant. Gain dBi	6.09
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	6.09
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0353
FCC Power Density Limit (mw/cm^2)	0.58
Calculated Power Density (mw/cm^2)	0.0070

REFERENCE DATA

Pout dBm	9.39
Antenna Gain (non-log)	4.06
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	1710
Pout Watts	0.24434
Duty Cycle Percent	100.0%
Ant. Gain dBi	8.21
Coax Loss dB	4.50
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	3.71
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.5741
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.1142

REFERENCE DATA

Pout dBm	23.88
Antenna Gain (non-log)	6.62
Coax loss (non-log)	0.35
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	2110
Pout Watts	0.01352
Duty Cycle Percent	100.0%
Ant. Gain dBi	6.66
Coax Loss dB	3.17
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	3.49
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0302
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0060

REFERENCE DATA

Pout dBm	11.31
Antenna Gain (non-log)	4.63
Coax loss (non-log)	0.48
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	1850
Pout Watts	0.13868
Duty Cycle Percent	100.0%
Ant. Gain dBi	10.00
Coax Loss dB	5.26
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.74
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.4130
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0822

REFERENCE DATA

Pout dBm	21.42
Antenna Gain (non-log)	10.00
Coax loss (non-log)	0.30
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	0.00885
Duty Cycle Percent	100.0%
Ant. Gain dBi	6.60
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	6.60
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0405
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0080

REFERENCE DATA

Pout dBm	9.47
Antenna Gain (non-log)	4.57
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	1.00