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March 9, 2017

Subject: RF MPE EXPOSURE
Re: FCC ID: PWO460021

To Whom It May Concern:

The MPE calculations for model 460021 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: 314411-40075
2. Inside Antenna: 311155

1700/2100 MHz band:
1. Outside Antenna: 31441-40075
2. Inside Antenna: 311155

1900 MHz band:
1. Outside Antenna: 314473-0640
2. Inside Antenna: 311155

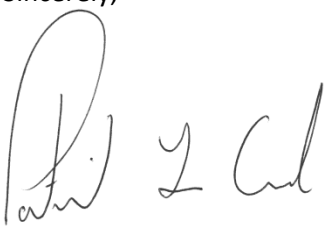
A booster's uplink power must not exceed 1 watt equivalent isotropic radiated power (EIRP) for each band of operation. Composite downlink power must not exceed 0.05 watt EIRP for each band of operation (20.21(e)(8)(i)(D)). The following formula was used to calculate the equivalent isotropic radiated 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	0.30479
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)	0.8590
FCC Power Density Limit (mw/cm^2)	0.47
Calculated Power Density (mw/cm^2)	0.1709

REFERENCE DATA

Pout dBm	24.84
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	0.00194
Duty Cycle Percent	100.0%
Ant. Gain dBi	4.16
Coax Loss dB	0.00
Distance From Antenna In cm	20

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.16
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0050
FCC Power Density Limit (mw/cm^2)	0.49
Calculated Power Density (mw/cm^2)	0.0010

REFERENCE DATA

Pout dBm	2.87
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	0.27227
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)	0.7161
FCC Power Density Limit (mw/cm^2)	0.52
Calculated Power Density (mw/cm^2)	0.1425

REFERENCE DATA

Pout dBm	24.35
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	0.00190
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)	0.0050
FCC Power Density Limit (mw/cm^2)	0.50
Calculated Power Density (mw/cm^2)	0.0010

REFERENCE DATA

Pout dBm	2.79
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	0.21878
Duty Cycle Percent	100.0%
Ant. Gain dBi	7.80
Coax Loss dB	3.20
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.60
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.6310
FCC Power Density Limit (mw/cm^2)	0.55
Calculated Power Density (mw/cm^2)	0.1255

REFERENCE DATA

Pout dBm	23.40
Antenna Gain (non-log)	6.03
Coax loss (non-log)	0.48
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	0.00192
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)	0.0078
FCC Power Density Limit (mw/cm^2)	0.58
Calculated Power Density (mw/cm^2)	0.0016

REFERENCE DATA

Pout dBm	2.83
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	0.13490
Duty Cycle Percent	100.0%
Ant. Gain dBi	8.21
Coax Loss dB	4.40
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	3.81
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.3243
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0645

REFERENCE DATA

Pout dBm	21.30
Antenna Gain (non-log)	6.62
Coax loss (non-log)	0.36
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	0.00158
Duty Cycle Percent	100.0%
Ant. Gain dBi	6.66
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	6.66
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0073
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0015

REFERENCE DATA

Pout dBm	2.00
Antenna Gain (non-log)	4.63
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	1850
Pout Watts	0.27733
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)	0.8260
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.1643

REFERENCE DATA

Pout dBm	24.43
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	0.00156
Duty Cycle Percent	100.0%
Ant. Gain dBi	9.77
Coax Loss dB	0.00
Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	9.77
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.0148
FCC Power Density Limit (mw/cm^2)	1.00
Calculated Power Density (mw/cm^2)	0.0029

REFERENCE DATA

Pout dBm	1.92
Antenna Gain (non-log)	9.48
Coax loss (non-log)	1.00
General FCC Limit (mw/cm^2)	1.00