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June 21, 2012

Subject: RF MPE EXPOSURE

Re: FCC ID: PWO2B5125

To Whom It May Concern:

The MPE calculations for the 2B5125 were done for each frequency band: 700 MHz, 800 MHz, and 1900 MHz. For each band three calculations were done, these included the different possibilities of antennas that may be coupled with this signal booster: mobile outside, fixed outside, and inside antennas. The order of the attached calculations is as follows:

700 MHz band:

1. Fixed Outside Antenna
2. Mobile Outside Antenna
3. Inside Antenna

800 MHz band:

4. Fixed Outside Antenna
5. Mobile Outside Antenna
6. Inside Antenna

1900 MHz band:

7. Fixed Outside Antenna
8. Mobile Outside Antenna
9. Inside Antenna

The results of these calculations determine the RF safety warning that reads as follows:

FCC regulations require that any fixed outside antenna used with this signal booster may not have gain (less cable loss) that exceeds 15 dBi and must be located at least 25 inches from all people. Any mobile outside antenna must not exceed 4.6 dBi gain (less cable loss) and must be located at least 8 inches from all people. Inside antennas must not exceed 15 dBi gain (less cable loss) and must be located at least 8 inches from all people.

Sincerely,

A handwritten signature in blue ink that reads 'James W. Wilson'. The signature is fluid and cursive, with the first letters of each word being capitalized and prominent.

James W. Wilson
President



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	776
Pout Watts	0.44700
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	47.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	18.50
ERP (Watts)	8.6191
EIRP (Watts)	14.1354
FCC Limit at Above Frequency (mw/cm ²)	0.52
Calculated Power Density With Above Input Data (mw/cm ²)	0.51

REFERENCE DATA

Pout dBm	26.50
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	776-787 MHz (Uplink)
Mobile or Fixed?	Fixed
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	18.5 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	776
Pout Watts	0.44700
Duty Cycle Percent	100.0%
Ant. Gain dBi	7.40
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	7.40
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	1.4978
EIRP (Watts)	2.4564
FCC Limit at Above Frequency (mw/cm ²)	0.52
Calculated Power Density With Above Input Data (mw/cm ²)	0.49

REFERENCE DATA

Pout dBm	26.50
Antenna Gain (non-log)	5.50
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	776-787 MHz (Uplink)
Mobile or Fixed?	Mobile
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 7.4 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	746
Pout Watts	0.00063
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	0.0121
EIRP (Watts)	0.0199
FCC Limit at Above Frequency (mw/cm ²)	0.50
Calculated Power Density With Above Input Data (mw/cm ²)	0.0040

REFERENCE DATA

Pout dBm	-2.01
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	746-757 MHz (Downlink)
Mobile or Fixed?	Mobile/Fixed
Outside or Inside Antenna?	Inside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	824
Pout Watts	0.85100
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	63.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	24.80
ERP (Watts)	16.4091
EIRP (Watts)	26.9110
FCC Limit at Above Frequency (mw/cm ²)	0.55
Calculated Power Density With Above Input Data (mw/cm ²)	0.54

REFERENCE DATA

Pout dBm	29.30
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	824-849 MHz (Uplink)
Mobile or Fixed?	Fixed
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	25 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	824
Pout Watts	0.85100
Duty Cycle Percent	100.0%
Ant. Gain dBi	4.60
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.60
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	1.4965
EIRP (Watts)	2.4543
FCC Limit at Above Frequency (mw/cm ²)	0.55
Calculated Power Density With Above Input Data (mw/cm ²)	0.49

REFERENCE DATA

Pout dBm	29.30
Antenna Gain (non-log)	2.88
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	824-849 MHz (Uplink)
Mobile or Fixed?	Mobile
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 4.6 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	869
Pout Watts	0.00098
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	0.0189
EIRP (Watts)	0.0310
FCC Limit at Above Frequency (mw/cm ²)	0.58
Calculated Power Density With Above Input Data (mw/cm ²)	0.0062

REFERENCE DATA

Pout dBm	-0.09
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	f/1500

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	869-894 MHz (Downlink)
Mobile or Fixed?	Mobile/Fixed
Outside or Inside Antenna?	Inside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	1850
Pout Watts	0.67600
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	41.5


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	16.34
ERP (Watts)	13.0348
EIRP (Watts)	21.3770
FCC Limit at Above Frequency (mw/cm ²)	1.00
Calculated Power Density With Above Input Data (mw/cm ²)	0.9877

REFERENCE DATA

Pout dBm	28.30
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	1.00

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	1850-1910 MHz (Uplink)
Mobile or Fixed?	Fixed
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	16.5 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	1850
Pout Watts	0.67600
Duty Cycle Percent	100.0%
Ant. Gain dBi	4.70
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0


RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	4.70
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	1.2165
EIRP (Watts)	1.9950
FCC Limit at Above Frequency (mw/cm ²)	1.00
Calculated Power Density With Above Input Data (mw/cm ²)	0.3969

REFERENCE DATA

Pout dBm	28.30
Antenna Gain (non-log)	2.95
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	1.00

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	1850-1910 MHz (Uplink)
Mobile or Fixed?	Mobile
Outside or Inside Antenna?	Outside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 4.7 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012



Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

INPUT DATA

Frequency MHz	1930
Pout Watts	0.00074
Duty Cycle Percent	100.0%
Ant. Gain dBi	15.00
Coax Loss dB	0.00
Evaluation Distance From Antenna In cm	20.0

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	15.00
Evaluation Distance From Antenna In Inches	7.87
ERP (Watts)	0.0143
EIRP (Watts)	0.0234
FCC Limit at Above Frequency (mw/cm ²)	1.00
Calculated Power Density With Above Input Data (mw/cm ²)	0.0047

REFERENCE DATA

Pout dBm	-1.31
Antenna Gain (non-log)	31.62
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	1.00

SUMMARY FOR PUBLICATION

For Amplifier Model Number:	2B5125
Frequency Band (MHz)	1930-1990 MHz (Downlink)
Mobile or Fixed?	Mobile/Fixed
Outside or Inside Antenna?	Inside
Antenna Type:	Any antenna whose gain less cable loss does not exceed 15 dBi
Safe Distance (inches):	8 inches
Signature:	
Date:	May 15, 2012