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Federal Communications Commission
Authorization and Evaluation Division
7435 Oakland Mills Road
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To Whom It May Concern:

The MPE calculations for model 470086 signal booster were done for the frequency band: 1900 MHz. For each band one calculation was done; this included mobile outside antenna, and mobile inside antenna that may be connected to this signal booster. The order of the attached calculations is as follows:

1900 MHz band:

1. Inside Antenna: CBL000151
2. Outside Antenna: ANT000065

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:

$$\text{EIRP} = \text{Power Out (Watts)} * \text{Duty Cycle Percent} * \text{Antenna Gain (non-log)} * \text{Coax loss (non-log)}$$

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

$$\text{Calculated Power Density} = 1000 * \text{EIRP (Watts)} / (4 * \pi * (\text{Distance from Antenna (cm)})^2)$$

Sincerely,

A handwritten signature in black ink, appearing to read "Derrick Stout", written in a cursive style.

Derrick Stout
Engineering Manager

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

Band 25 Uplink – 1900MHz

INPUT DATA

Frequency MHz	1850
Pout Watts	0.41000
Duty Cycle Percent	100.0%
Ant. Gain dBi	2.60
Coax Loss dB	0.00
Distance From Antenna In cm	20.3

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	2.60
Distance From Antenna In Inches	8.00
EIRP (Watts)	0.7461
FCC Power Density Limit (mw/cm ²)	1.00
Calculated Power Density (mw/cm ²)	0.1439

REFERENCE DATA

Pout dBm	26.13
Antenna Gain (non-log)	1.82
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	1.00

Band 25 Downlink – 1900MHz

INPUT DATA

Frequency MHz	1930
Pout Watts	0.00329
Duty Cycle Percent	100.0%
Ant. Gain dBi	1.48
Coax Loss dB	0.00
Distance From Antenna In cm	20.3

RESULTS OF CALCULATIONS

Ant. Gain less Coax Loss dBi	1.48
Distance From Antenna In Inches	8.00
EIRP (Watts)	0.0049
FCC Power Density Limit (mw/cm ²)	1.00
Calculated Power Density (mw/cm ²)	0.0009

REFERENCE DATA

Pout dBm	5.10
Antenna Gain (non-log)	1.48
Coax loss (non-log)	1.00
General FCC Limit (mw/cm ²)	1.00