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August 18, 2024

Subject: RF MPE EXPOSURE

Re: FCC ID: PWO072

To Whom It May Concern:

The MPE calculations for model 460072 signal booster were done for 5GNR n77 band frequency range of 3450 -3980 MHz. One calculation was done; this included an highest gain outside antenna, and an highest gain inside antenna that may be connected to this signal booster.

The following formula was used to calculate the EIRP:

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

The power density (mW/cm²) 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 'Ilesh Patel', written in a cursive style.

Ilesh Patel Senior Engineering Product Manager

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

Downlink – 3450 MHz

INPUT DATA	
Frequency MHz	3450
Pout Watts	0.67608
Duty Cycle Percent	100.0%
Ant. Gain dBi	7.00
Coax Loss dB	9.60
Distance From Antenna In cm	20.0
RESULTS OF CALCULATIONS	
Ant. Gain less Coax Loss dBi	-2.60
Distance From Antenna In Inches	7.87
EIRP (Watts)	0.3715
FCC Power Density Limit (mw/cm ²)	1.00
Calculated Power Density (mw/cm ²)	0.0739
REFERENCE DATA	
Pout dBm	28.30
Antenna Gain (non-log)	5.01
Coax loss (non-log)	0.11
General FCC Limit (mw/cm ²)	1.00

Minimum Safe Distance From Antennas

Based upon FCC OET Bulletin 65 and other FCC Sources

Uplink – 3450 MHz

INPUT DATA	
Frequency MHz	3450
Pout Watts	0.70795
Duty Cycle Percent	100.0%
Ant. Gain dBi	11.50
Coax Loss dB	9.60
Distance From Antenna In cm	20.0
RESULTS OF CALCULATIONS	
Ant. Gain less Coax Loss dBi	1.90
Distance From Antenna In Inches	7.87
EIRP (Watts)	1.0965
FCC Power Density Limit (mw/cm ²)	1.00
Calculated Power Density (mw/cm ²)	0.2181
REFERENCE DATA	
Pout dBm	28.50
Antenna Gain (non-log)	14.13
Coax loss (non-log)	0.11
General FCC Limit (mw/cm ²)	1.00