## **Maximum Permissible Exposure Statement**

For the

Globalstar, Inc.

**ST100** 

April 20, 2020

**Prepared for:** 

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## Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

# $S = PG/4\pi R2$

Where,

S = power density (mW/cm2)

P = output power at the antenna terminal (mW)

G = gain of transmit antenna (numeric)

R = distance from transmitting antenna (cm)

### For Bluetooth Transmitter

Maximum peak output power at antenna input terminal = -0.38 (dBm)

Maximum peak output power at antenna input terminal = 0.916 (mW)

Antenna gain (typical) = -0.14(dBi)

Maximum antenna gain = 1.0(numeric)

Prediction distance = 20 (cm)

Prediction frequency = 2480 (MHz)

MPE limit for uncontrolled exposure at prediction frequency =  $\frac{1 \text{ (mW/cm}^2)}{1 \text{ (mW/cm}^2)}$ 

Power density at prediction frequency =  $0.00018 (mW/cm^2)$ 

To solve for the minimum mounting distance required;

# $R = \sqrt{(PG/4\pi S)}$

 $R = \sqrt{(0.916 \times 1.0 / 4\pi \times 0.00018)} = 20 \text{ cm}$  (Based on continuous transmission)



#### For Satellite Transmitter

Maximum peak output power at antenna input terminal = 24.76 (dBm) \*

Maximum peak output power at antenna input terminal =  $\underline{299.22 \text{ (mW)}}$ 

Antenna gain (typical) = 1.06 (dBi)

Maximum antenna gain = 1.26 (numeric)

Prediction distance = 20 (cm)

Prediction frequency = 1618.75 (MHz)

MPE limit for uncontrolled exposure at prediction frequency =  $\frac{1.0 \text{ (mW/cm}^2)}{1.0 \text{ (mW/cm}^2)}$ 

Power density at prediction frequency =  $0.07500 (mW/cm^2)$ 

To solve for the minimum mounting distance required;

# $R = \sqrt{(PG/4\pi S)}$

 $R = \sqrt{(299.22 \times 1.26 / 4\pi \times 0.075007)} = 20 \text{ cm}$  (Based on continuous transmission)

### Note:

Both transmitters (Bluetooth and Satellite) do not operate at the same time.

### **END OF TEST REPORT**

<sup>\*</sup>Includes 1dB of manufacturer output power tolerance.