



# H.B. Compliance Solutions

## Maximum Permissible Exposure Statement

For the

**Thrive Smart Systems**

**Receiver**

May 31, 2022

**Prepared for:**

Thrive Smart Systems

980 Queens Drive

American Fork, Utah 84003

**Prepared By:**

H.B. Compliance Solutions

5005 S. Ash Avenue, Suite # A-10

Tempe, Arizona 85282

**Reviewed By:**

A handwritten signature in black ink, appearing to read 'Hoosamuddin Bandukwala'.

Hoosamuddin Bandukwala



Cert # ATL-0062-E

## Prediction of MPE limit at a given distance

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

$$S = PG/4\pi R^2$$

Where,

S = power density (mW/cm<sup>2</sup>)

P = output power at the antenna terminal (mW)

G = gain of transmit antenna (numeric)

R = distance from transmitting antenna (cm)

### For LoRa Transmitter

Maximum peak output power at antenna input terminal = 18.30 (dBm) \*

Maximum peak output power at antenna input terminal = 67.60(mW)

Antenna gain (typical) = 1.5(dBi)

Maximum antenna gain = 1.41 (numeric)

Prediction distance = 20 (cm)

Prediction frequency = 903.5 (MHz)

MPE limit for uncontrolled exposure at prediction frequency = 0.6 (mW/cm<sup>2</sup>)

*Power density at prediction frequency = 0.0189 (mW/cm<sup>2</sup>)*

\*Includes 1dB of manufacturer output power tolerance.

To solve for the minimum mounting distance required;

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

$R = \sqrt{(67.6 \times 1.41 / 4\pi \times 0.0189)} = 20 \text{ cm}$  (Based on continuous transmission)

### END OF TEST REPORT