

US Tech Test Report:  
 FCC ID:  
 Test Report Number:  
 Issue Date:  
 Customer:  
 Model:

FCC Part 15 Certification  
 2AB5RCOM621  
 23-0088  
 June 20, 2023  
 SwipeSense, Inc.  
 Communication Hub

## Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S** as per the respective limits in Table 1 below, at a distance, d, of 20 cm (Mobile condition) from the EUT.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
<b>Limits for General Population/Uncontrolled Exposure</b>				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f <sup>2</sup>	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz \* = Plane-wave equivalent power density

Therefore, for:

### MPE for 2400 MHz – 2483.5 MHz for Bluetooth LE:

Limit: 1.0 mW/cm<sup>2</sup>

Peak Power (dBm) = 1.86 dBm

Peak Power (Watts) = 0.0015 W

Gain of Transmit Antenna = +1.83 dBi = 1.52 numeric (Highest Gain

Antenna)

d = Distance = 20 cm = 0.2 m

$$\begin{aligned}
 S &= (PG / 4\pi d^2) = EIRP / 4A = 0.0015(1.52) / 4\pi * 0.2 * 0.2 \\
 &= 0.00228 / 0.5030 = 0.00453 \text{ W/m}^2 \\
 &= (0.00453 \text{ W/m}^2) (1\text{m}^2/\text{W}) (0.1 \text{ mW/cm}^2) \\
 &= 0.000453 \text{ mW/cm}^2
 \end{aligned}$$

which is << less than S = 1.0 mW/cm<sup>2</sup>