

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

Antenna Test Report

Wire monopole

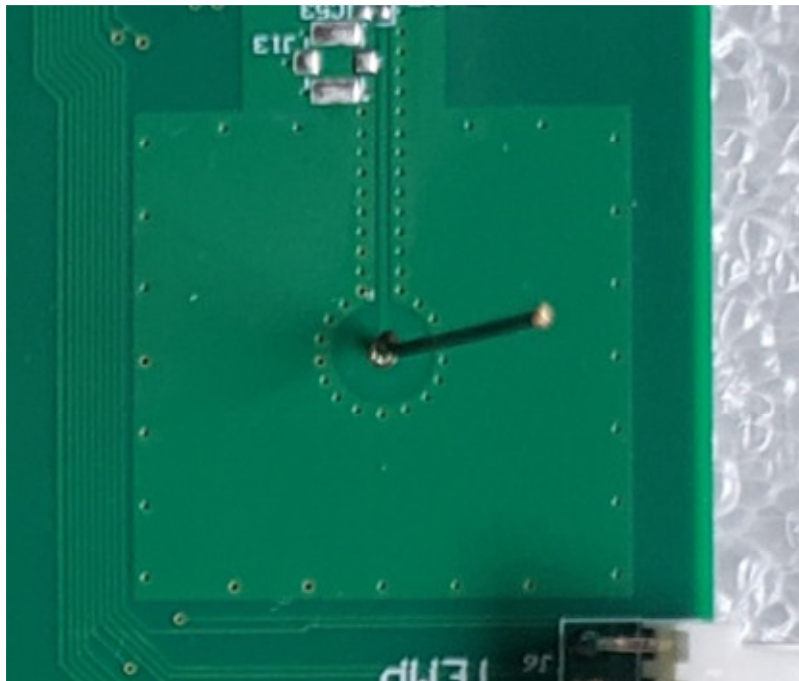


Figure 1. EUT antenna design

Table 1. Measured Field Strength from Test Report

Test: FCC Part 15,247(d), Test Distance= 3 m								
Frequency (MHz)	Test Data	Additional Factor	AF+CL-PA (dB/m)	Corrected Results	Limits (dBuV/m)	Distance / Polarization	Margin (dB)	Detector
Low Channel - PEAK								
2402.00	68.24	0.00	32.35	100.59	--	3.0m./HORZ	--	PK
Mid Channel – PEAK								
2442.00	68.04	0.00	32.68	100.72	--	3.0m./HORZ	--	PK
High Channel– PEAK								
2480.00	67.98	0.00	32.79	100.77	--	3.0m./HORZ	--	PK

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Antenna gain calculated using the following equations to convert the measured field strength value to V/m.

$$\text{dBuV/m to V/m} = 10^{([\text{dBuV/m}] - 120)/20}$$

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Table 2. Converted Fundamental to V/m

Frequency of Fundamental (MHz)	V/m	
2402	0.107	
2442	0.108	
2480	0.109	

Table 3. Measured Conducted Output Power from Test Report

Frequency of Fundamental (MHz)	Raw Test Data dBm	Converted Data (mW)
2402	1.86	1.53
2442	1.62	1.45
2480	1.32	1.35

$$\text{Gain numeric} = (\text{Meters} * \text{V/m})^2 / (30 * \text{Watts})$$

Watts = measured conducted output power from Table 3 above.

$$\text{Gain numeric to Gain dBi} = 10^{(\text{Gain numeric}/10)}$$

Table 4. Antenna Gain

Frequency of Fundamental (MHz)	Gain Numeric	Gain dBi	Peak Antenna Gain dBi
2402	2.244	1.676	1.836
2442	2.413	1.743	
2480	2.640	1.836	