Antenna Test Report

2BBVCUAP2

Revision 1.1

J. S.
09-Dec-2024

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Revision History

Rev	Date	Author	Description
0.1	09-Sep-2024	A. L.	Document Creation
0.2	24-Sep-2024	J. S.	Add test results
1.0	25-Nov-2024	J. S.	Release
1.1	09-Dec-2024	J. S.	Update Mfg. addresses

Table of Contents

1 Report Summary

The Vuse Pro Box device FCCID: 2BBVCUAP2 will be produced using one of the two antennas tested below.

The Sunway Communications antenna has gain characteristics shown in Table 1. The Speed Communication Technology antenna has gain characteristics shown in Table 2.

The two antennas were tested in two configurations:

- Without charging cable attached
- With charging cable attached

Table 1: Antenna gain summary

SUN_01 (Sunway Antenna)

Measurement	Gain without charging cable (dBi)	Gain with charging cable (dBi)
Peak Gain (2402-2480 MHz)	-1.60	1.20
Average Gain (2402-2480 MHz)	-5.66	-4.80

Table 2: Antenna gain summary

SPD_01 (Speed Antenna)

Measurement	Gain without charging cable (dBi)	Gain with charging cable (dBi)
Peak Gain (2402-2480 MHz)	-1.22	-0.40
Average Gain (2402-2480 MHz)	-5.35	-5.17

2 Antenna Description

The first antenna manufacturer is Shenzhen Sunway Communication Co., Ltd.

Website: www.sz-sunway.com

Address: No.1013, Xihuan Road, Shajing Street, Bao'an District, Shenzhen, P.R. China

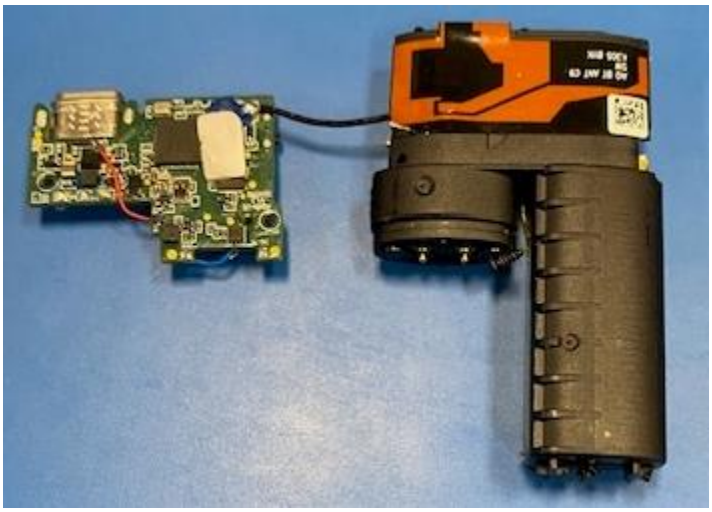
Zip: 518104

The embedded antenna is a flexible circuit connected to the PCB via a coaxial cable.

Figure 1: Sunway Antenna

The embedded antenna element has adhesive on one side securing it to the plastic frame.

Frequency range of interest is 2402 to 2480 MHz.



The 2nd antenna manufacturer is Huizhou Speed AutoIN Technology Co., Ltd.

Website: www.speed-hz.com

Address: No.138, Huize Avenue, Dongjiang High-tech Industrial Park, Zhongkai High-tech Zone, Huizhou

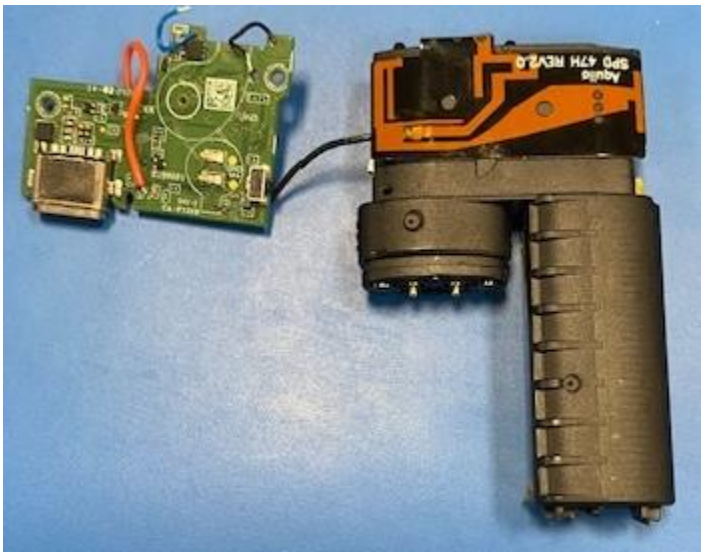
Zip: 516255

The embedded antenna is a flexible circuit connected to the PCB via a coaxial cable.

Figure 2: Speed Antenna

The embedded antenna element has adhesive on one side securing it to the plastic frame.

Frequency range of interest is 2402 to 2480 MHz.

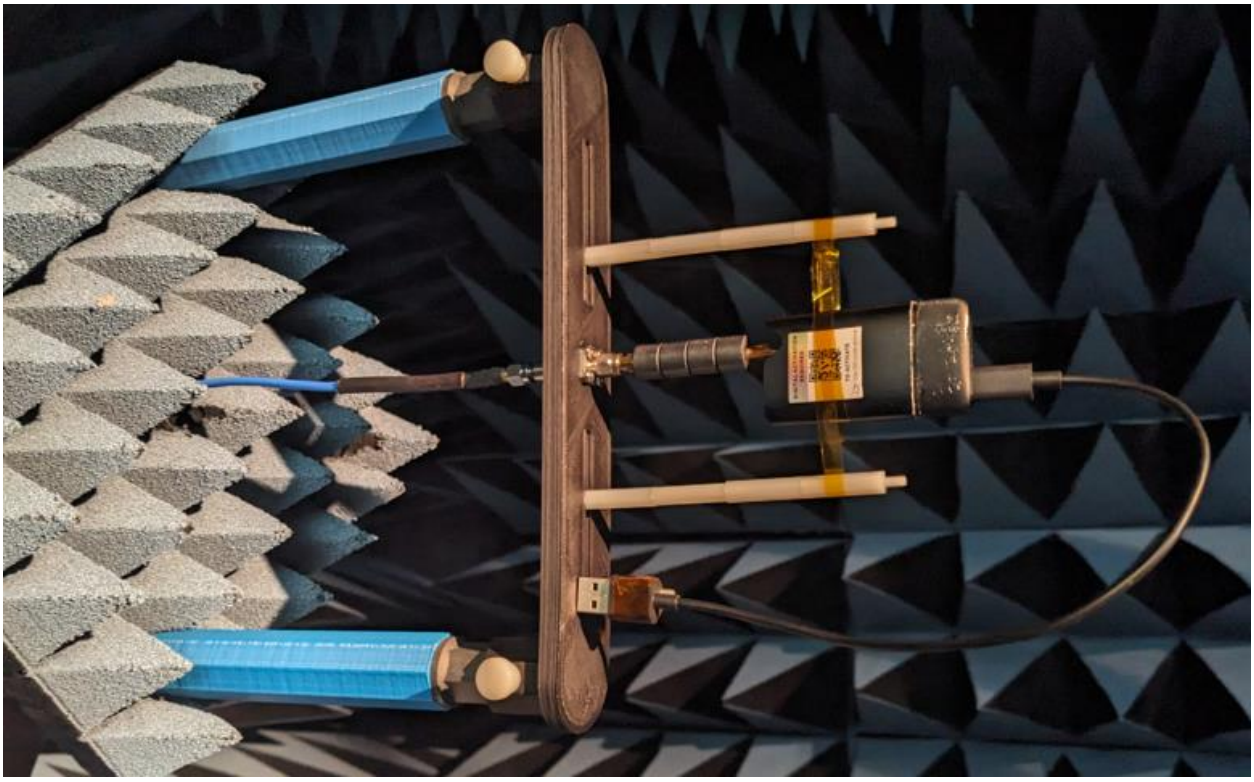


3 Test Setup

Testing was performed at Antenna Test Lab in Raleigh, NC USA.

For passive gain measurements, a coaxial cable is attached to the PCB at the single ended antenna driving point of the radio IC. The radio IC is disconnected for the purpose of antenna testing. The device is reassembled into its metal casing.

Figure 2: Test setup - charging cable attached



4 Antenna Patterns

3D rotatable patterns and result tabulations are available in the accompanying data package.

2024-09-18 VUSE Antennas.zip

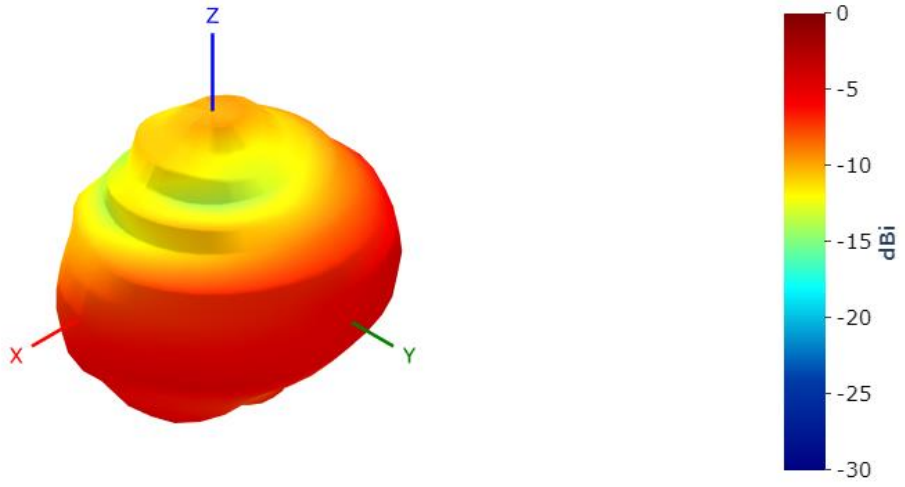


Figure 3: Sunway antenna pattern - charging cable not attached

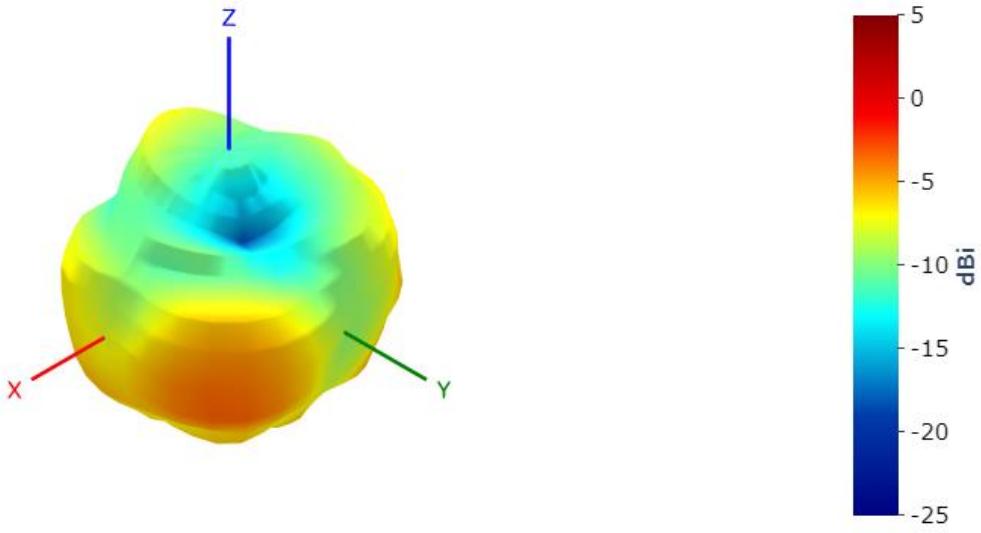


Figure 4: Sunway antenna pattern - charging cable attached

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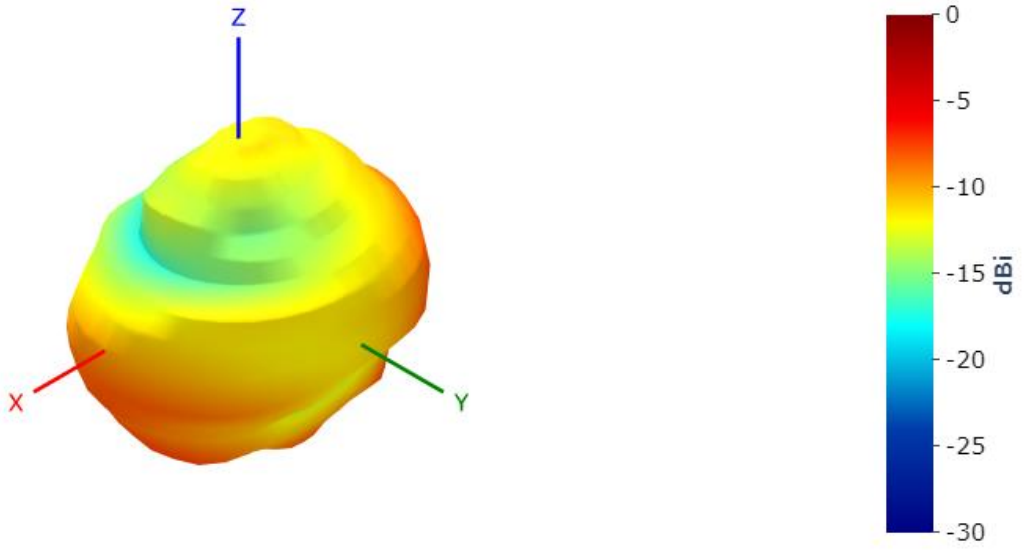

Figure 6: Speed Communication Technology antenna pattern - charging cable not attached

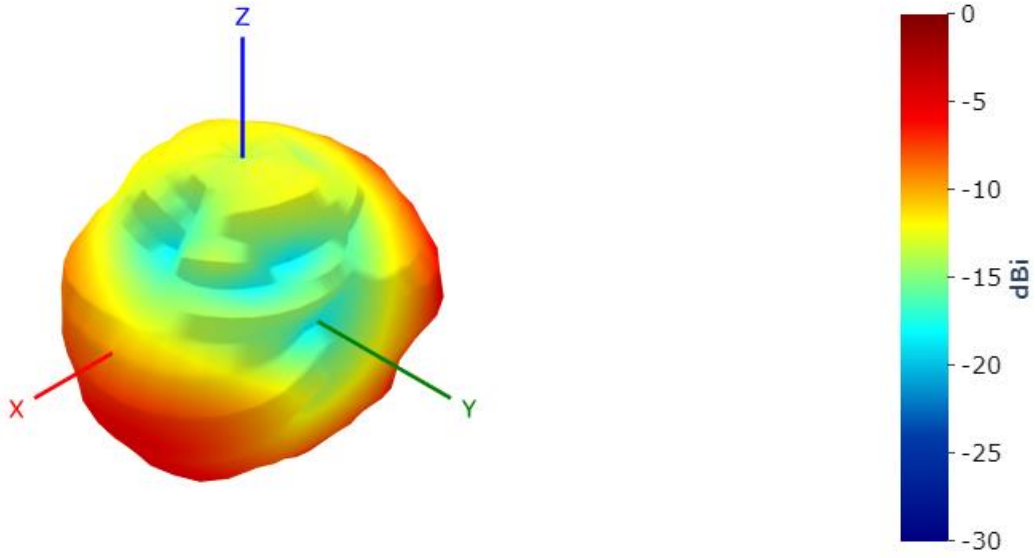

Figure 7: Speed Communication Technology antenna pattern - charging cable attached