RF Exposure Report

FCC ID:	2AGJ43KIW
Applicant:	Specialty Technologies, LLC
Address:	340 Victoria Rd Youngstown Ohio 44515 United States
Manufacturer:	Specialty Technologies, LLC
Address:	340 Victoria Rd Youngstown Ohio 44515 United States
Product:	Subwoofer Amplifier
Brand:	SVS(SVS)
Test Model(s):	3000 In-Wall Subwoofer Amplifier
Series Model(s):	N/A
Test Date:	Jan. 18, 2022~May. 06, 2022
Issued Date:	Jun. 07, 2022
Issued By:	Hwa-Hsing (Dongguan) Testing Co., Ltd.
Address:	No.101, Bld N1, Yuyuan 2Rd, Yuyuan Industrial Park, HuangJiang Town, Dongguan, China
Test Firm Registration No.:	915896
Designation No.:	CN1255
Standards:	FCC Part 2 (Section 2.1091) KDB 447498 D04 Interim General RF Exposure Guidance v01 IEEE C95.1

The above equipment has been tested by **Hwa-Hsing (Dongguan) Testing Co., Ltd.**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by : Tank Tan — *Tank Tan*

Reviewed by : Scott He — *Scott He*

Approved by : *Harry Li*

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Release control record

Issue No.	Reason for change	Date issued
211223EL14-SE-US-01	Original Release	Jun. 07, 2022

1 General Information

1.1 General Description of EUT

Product(s)	Subwoofer Amplifier
Test Model(s)	3000 In-Wall Subwoofer Amplifier
Sample No.	HS220308-01-03
Series Model(s)	N/A
Status of EUT	Engineering Prototype
Power Supply Rating	100V-120V~, 50-60Hz, 800W
Modulation Type	GFSK for DTS
Transfer Rate	1 Mbps
Operating Frequency	2402 ~ 2480MHz
Number of Channel	40
Maximum Output Power	6.754dBm
Antenna Type	FPC Antenna
Antenna Gain	3.48dBi Maximum peak Gain
Antenna Connector	N/A
Accessory Device	N/A
Data Cable Supplied	AC Lines: 1.5m

Note:

1. Please refer to the EUT photo document (Reference No.: 211223EL14-1&-2) for detailed product photo.
2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

2 RF exposure limit

1) ☐ Determination of 1 mW blanket exemption under § 1.1307(b)(3)(i)(A)

The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section.

2) ☐ Determination of exemption under the MPE-based § 1.1307(b)(3)(i)(C)

Using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

RF Source Frequency			**Minimum Distance**			**Threshold ERP**
f_L MHz		f_H MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	–	1.34	159 m	–	35.6 m	1,920 R^2
1.34	–	30	35.6 m	–	1.6 m	3,450 R^2/f^2
30	–	300	1.6 m	–	159 mm	3.83 R^2
300	–	1,500	159 mm	–	31.8 mm	0.0128 R^2f
1,500	–	100,000	31.8 mm	–	0.5 mm	19.2R^2
Subscripts L and H are low and high; λ is wavelength. From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.						

3) ☒ Determination of exemption under the SAR-based § 1.1307(b)(3)(i)(B)

The available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold Pth (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\ cm}(d/20\ \text{cm})^x & d \le 20\ \text{cm} \\ ERP_{20\ cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

d = the separation distance (cm);

3 Calculation result

The antennas provided to the EUT, please refer to the following table:

Function	Frequency Band	Antenna gain	Maximum Conducted Power	EIRP
	(MHz)	(dBi)	(dBm)	(dBm)
Bluetooth	2400~2483.5	3.48	6.754	10.234

Function	Distance	Maximum Power		Threshold Pth	Verdict
	(cm)	(dBm)	(mW)	(mW)	
Bluetooth	20	10.234	10.553	3060	Exemption

- Exemption under the SAR-based § 1.1307(b)(3)(i)(B)

Appendix – Information on the Testing Laboratories

We, Hwa-Hsing (Dongguan) Co., Ltd., A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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