

RF Exposure Evaluation Report

Product : 2.0CH SOUNDBAR SYSTEM
Trade mark : BOMAKER
Model/Type reference : Odine II ,Odine III
Serial Number : N/A
Report Number : EED32L00319202R1
FCC ID : 2AS9DODINE2
Date of Issue : Jan. 03, 2020
Test Standards : 47 CFR Part 1.1307(2015)
: 47 CFR Part 1.1310(2015)
: KDB447498D01v06
Test result : PASS

Prepared for:

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2 Version

Version No.	Date	Description
00	Dec. 19, 2019	Original
01	Jan. 03, 2020	Change the bluetooth version

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4 General Information

4.1 Client Information

Applicant:	GuangDong Substanbo Technology Co., Ltd.
Address of Applicant:	8F, Building D, Bantian International Center, Longgang District, Shenzhen, China.
Manufacturer:	HanHong Digital Technology Co., Ltd
Address of Manufacturer:	401, Building E, Yuxing Technology Park, Nanchang 3rd Industry Zone, Nanchang Community, Xixiang Street, Baoan District, Shenzhen City, China
Factory:	HanHong Digital Technology Co., Ltd
Address of Factory:	401, Building E, Yuxing Technology Park, Nanchang 3rd Industry Zone, Nanchang Community, Xixiang Street, Baoan District, Shenzhen City, China

4.2 General Description of EUT

Product Name:	2.0CH SOUNDBAR SYSTEM
Model No.(EUT):	Odine II ,Odine III
Add Model No.:	Odine II
Trade Mark:	BOMAKER
EUT Supports Radios application	BT5.0 Single mode 2402MHz to 2480MHz

4.3 Product Specification subjective to this standard

Frequency Range:	2402MHz~2480MHz	
Modulation Type:	GFSK, π/4DQPSK	
Number of Channels:	79	
Test Power Grade:	GFSK:10 π/4DQPSK:10	
Test Software of EUT:	FCCAssist	
Antenna Type:	PCB Antenna	
Antenna Specification	Bluetooth : Antenna Gain : -0.58 dBi (Numeric gain: 0.87)	
Maximum tune up power	Bluetooth: -1.50 dBm (0.708 mW)	
Power Supply:	Adapter	MODEL:TP06-190250W INPUT:AC100-240V~50/60Hz 1.5A Max OUTPUT:DC19V 2.5 A
Sample Received Date:	Oct. 31, 2019	
Sample tested Date:	Oct. 31, 2019 to Dec. 06, 2019	
<p>The tested sample(s) and the sample information are provided by the client. Model No.:Odine II ,Odine III Only the model Odine II was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference model name. This testing report displaces the original report of No. EED32L00319202, and the original one No. EED32L00319202 was invalid since the date of this testing report released.</p>		

4.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

4.5 Deviation from Standards

None.

4.6 Abnormalities from Standard Conditions

None.

4.7 Other Information Requested by the Customer

None.

5 RF Exposure Evaluation

RF Exposure Compliance Requirement

Given $E = \frac{\sqrt{30 \times P \times G}}{d}$ & $S = \frac{E^2}{377}$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

5.1 Maximum Permissible Exposure

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Bluetooth:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm ²)
78	2480	0.864	0.87	20	0.0001	1

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No. EED32L00319201R1 for EUT external and internal photos.

*** End of Report ***

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