



# Maximum Permissible Exposure Evaluation

**FCC ID: ZRR-S312**

## 1. Client Information

<b>Applicant</b>	:	Shenzhen Adition Audio Science & Technology Co.,Ltd
<b>Address</b>	:	Floor1-5, No.2 Building, Huidebao Industrial Park, No.11, Second Industrial Zone, Baihua Community, Guangming Sub-district, Guangming District, Shenzhen City, China
<b>Manufacturer</b>	:	Shenzhen Adition Audio Science & Technology Co.,Ltd
<b>Address</b>	:	Floor1-5, No.2 Building, Huidebao Industrial Park, No.11, Second Industrial Zone, Baihua Community, Guangming Sub-district, Guangming District, Shenzhen City, China

## 2. General Description of EUT

<b>EUT Name</b>	:	3.1.2 CH Dolby Atmos Soundbar and Subwoofer	
<b>Models No.</b>	:	S312	
<b>Model Different</b>	:	----	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth 4.2(BDR+EDR): 2402MHz~2480MHz
		Number of Channel:	79 channels
		Antenna Gain:	2.5dBi PCB Antenna
<b>Power Rating</b>	:	Adapter:GW48W-180250UH Input:100-240V~50/60Hz 1.2A Output:18V, 2.5A	
<b>Software Version</b>	:	MCU: BV06 Dolby decoder: V23	
<b>Hardware Version</b>	:	V0	
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual	
<b>Remark</b>	:	the evaluation report used the EUT(20211029-17-2#).	

**MPE Calculations for Bluetooth**

**1. Antenna Gain:**

PCB Antenna:2.5dBi.

**2. EUT Operation Condition:**

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

**3. Exposure Evaluation:**

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=(PG)/4\pi R^2$$

Where

**S:** power density

**P:** power input to the antenna

**G:** power gain of the antenna in the direction of interest relative to an isotropic radiator.

**R:** distance to the center of radiation of the antenna

**4. Test Result:**

Mode	Conducted Power(max) (dBm)	Turn-up Power (dB)	Max tune up power (dBm) [P]	ANT Gain (dBi) [G]	Distance (cm) [R]	Power Density (mW/ cm <sup>2</sup> ) [S]	Limit of Power Density (mW/ cm <sup>2</sup> ) (S)
GFSK	4.434	4±1	5	2.5	20	0.00112	1
π/4-DQPSK	4.504	4±1	5	2.5	20	0.00112	1
8-DPSK	4.478	4±1	5	2.5	20	0.00112	1

**5. Conclusion:**

As specified in Table 1B of 47 CFR 1.1310- Limits for Maximum Permissible Exposure (MPE),

**Limits for General Population/ Uncontrolled Exposure**

Frequency Range (MHz)	Power density (mW/ cm <sup>2</sup> )
300-1,500	F/1500
1,500-100,000	1.0

For Bluetooth:2402~2480 MHz  
MPE limit S: 1mW/ cm<sup>2</sup>

The MPE is calculated as  $0.00112 \text{ mW} / \text{cm}^2 < \text{limit } 1 \text{mW} / \text{cm}^2$ . So, RF exposure limit warning or SAR test are not required.

The EUT will only be used with a separation of 20cm or greater between the antenna and nearby persons and can therefore be considered a mobile transmitter per 47 CFR2.1091 (b).

The RF Exposure Information page from the manual is included here for reference.

#### Note

For a more detailed features description, please refer to the RF Test Report.

#### 6. Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

-----END OF REPORT-----