



Maximum Permissible Exposure Evaluation

FCC ID: 2AXQW-JZB3B2W

1. Client Information

Applicant	:	Studio Designs Limited
Address	:	B11, 3rd Fl, Wong King Ind Building, 2-4 Tai Yau Street, San Po Kong, Hong Kong, China
Manufacturer	:	Shenzhen Hi-FiD Electronics Tech Co., Ltd.
Address	:	4 ~ 5F B7, 3F B17, Hengfeng Industrial Town, Zhoushi Road, Bao'an District, Shenzhen City, Guangdong Province, China. 518126.

2. General Description of EUT

EUT Name	:	Jazzman	
Models No.	:	JZB3B2W	
Model Different	:	----	
Product Description	:	Operation Frequency:	Bluetooth 5.3(BDR+EDR): 2402MHz~2480MHz
		Number of Channel:	Bluetooth 5.3(BDR+EDR): 79 channels
		Antenna Gain:	2.04dBi PCB Antenna for Bluetooth
		Modulation Type:	GFSK, Pi/4-DQPSK, 8-DPSK(3Mbps)
Power Rating	:	Adapter Mode:MX36D1-1203000 Input:100-240v~50/60Hz, 1A Output:DC 12V3A,36W Wireless charging Output: 15W DC 3.7V by 220mAh Rechargeable Li-ion battery	
Software Version	:	V1.0	
Hardware Version	:	V1.0	
Connecting I/O Port(S)	:	Please refer to the User's Manual	
Remark	:	The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.	

MPE Calculations for Bluetooth

1. EUT Operation Condition:

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

2. 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

3. Simultaneous transmission MPE Considerations

According to KDB447498: All transmitters and antennas in the host must be either evaluated for MPE compliance, by measurement or computational modeling, or qualify for the standalone MPE test exclusion in section 7.1. Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneous transmitting antennas incorporated in a host device, based on the calculated/estimated, numerically modeled or measured field strengths or power density, is ≤ 1.0 .

This means that:

$$\sum \text{ of MPE ratios } \leq 1.0$$

4. Test Result:

Mode	Frequency (MHz)	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 ²) [S]	Limit of Power Density (mW/ cm ²) (S)
GFSK	2402	2.084	2±1	3	2.04	20	0.0006	1
	2441	1.363	1±1	2	2.04	20	0.0005	1
	2480	0.817	1±1	2	2.04	20	0.0005	1
Pi/4-DQ PSK	2402	2.627	3±1	4	2.04	20	0.0008	1
	2441	1.945	2±1	3	2.04	20	0.0006	1
	2480	1.232	1±1	2	2.04	20	0.0005	1
8-DPSK	2402	2.877	3±1	4	2.04	20	0.0008	1
	2441	2.105	2±1	3	2.04	20	0.0006	1
	2480	1.620	2±1	3	2.04	20	0.0006	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 ²)
300-1,500	F/1500
1,500-100,000	1.0

For Bluetooth LE

MPE limit S: 1mW/ cm²

The MPE is calculated as **0.0008** < **limit 1mW / cm²**. 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-----

