



RF Exposure Evaluation

FCC ID: 2AIWP-HW6197

1. Client Information

Applicant	:	SHENZHEN HOBBYWING TECHNOLOGY CO., LTD.
Address	:	101-402.Bldg 4,Yasen Hi-tech Industrial Park, 8 Chengxin Rd.,Baolong Town, Longgang Dist., Shenzhen.China
Manufacturer	:	SHENZHEN HOBBYWING TECHNOLOGY CO., LTD.
Address	:	101-402.Bldg 4,Yasen Hi-tech Industrial Park, 8 Chengxin Rd.,Baolong Town, Longgang Dist., Shenzhen.China

2. General Description of EUT

EUT Name	:	Electronic Speed Controller	
Model(s) No.	:	EZRUN MAX6 G2, EZRUN MAX5 HV G2S, EZRUN MAX5 HV G3, EZRUN MAX6 G2S, EZRUN MAX6 G3, EZRUN MAX8 G2S, EZRUN MAX8 G3, EZRUN MAX10 G2S-80A, EZRUN MAX10 G3-80A, EZRUN MAX10 G2S-140A, EZRUN MAX10 G3-140A	
Model Different	:	All PCB boards and circuit diagrams are the same, the only difference is that model names.	
Product Description	:	Operation Frequency:	Bluetooth 5.2(BLE): 2402MHz~2480MHz
		Number of Channel:	Bluetooth 5.2(BLE): 40 channels
		Antenna Gain:	-0.58dBi PCB antenna
		Modulation Type:	GFSK, 1/2Mbps
Power Supply	:	Input: DC 9-33.6V	
Software Version	:	HW6197_SW1_V1.0_BES_B1.03_HW_20230705_43237054	
Hardware Version	:	HW6197-SW1-V1.1	

Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.

Note: More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

- (1) Clause 4.3: General SAR test reduction and exclusion guidance

- Sub clause 4.31: Standalone SAR test exclusion considerations

- 1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 3.0 \text{ for 1-g SAR}$$

- $$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{(GHz)}}}] \leq 7.5.0 \text{ for 10-g SAR}$$



2. Calculation:

Test separation: 5mm						
Bluetooth LE Mode(1Mbps)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	3.852	3 ± 1	4	2.512	0.779	3.0
2.440	3.967	3 ± 1	4	2.512	0.785	3.0
2.480	3.985	3 ± 1	4	2.512	0.791	3.0
Bluetooth LE Mode(2Mbps)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	3.886	3 ± 1	4	2.512	0.779	3.0
2.440	3.999	3 ± 1	4	2.512	0.785	3.0
2.480	4.007	4 ± 1	5	3.162	0.996	3.0

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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