

RF Exposure Evaluation

FCC ID: 2A29W-XT-3

1. Client Information

Applicant	:	Shenzhenshi Weimiaoyin Technology Co., Ltd.
Address	:	3th Floor303, Building A1, Anle Industrial Park, No.172, Hangcheng Avenue, Bao'an District, Shenzhen, China
Manufacturer	:	Shenzhenshi Weimiaoyin Technology Co., Ltd.
Address	:	3th Floor303, Building A1, Anle Industrial Park, No.172, Hangcheng Avenue, Bao'an District, Shenzhen, China

2. General Description of EUT

EUT Name	:	True Wireless Earphone
Model(s) No.	:	XT-3, Nano3, XT-33, XT-13, XT-23, XT-43
Model Different	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is the colors and model name.
Product Description	Operation Frequency:	Bluetooth V5.1(BT): 2402~2480 MHz
	Number of Channel:	Bluetooth: 79 Channels
	Max Peak Output Power:	Bluetooth: -0.195 dBm(π /4-DQPSK)
	Antenna Gain:	0.8 dBi Caremic Antenna
	Modulation Type:	GFSK(1Mbps) π /4-DQPSK(2Mbps)
Power Supply (Earphone)	:	Input: Output DC 5V DC 3.7V by 25mAh Li-ion battery
Power Supply (Charger Box)	:	Input: Output DC 5V DC 3.7V by 250mAh Li-ion battery
Software Version	:	V222
Hardware Version	:	HF-19180-73 V2
Remark: The antenna gain and adapter provided by the applicant, the adapter and verified for the RF conduction test 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2. Calculation:

Test separation: 5mm						
Bluetooth Mode (GFSK)						
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	-2.728	-2±1	-1	0.794	0.246	3.0
2.441	-1.821	-1±1	0	1.000	0.312	3.0
2.480	-0.810	0±1	1	1.259	0.397	3.0
Bluetooth Mode ($\pi/4$ -DQPSK)						
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	-1.870	-1±1	0	1.000	0.310	3.0
2.441	-0.980	0±1	1	1.259	0.393	3.0
2.480	-0.195	0±1	1	1.259	0.397	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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