

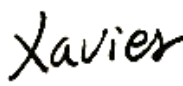
RF Exposure

Applicant : SHENZHEN WEIKING TECHNOLOGY CO.,LTD
FuCheng Street, Zhangge Community, ZhangGe Road,
Address : No.142, Building 1, Room 301 Shenzhen Longhua
Guangdong
Product Name : Bluetooth speaker
Brand Mark : W-KING
Model : X20S
Series model : BT420S
FCC ID : 2BOUY-X20S
Report Number : BLA-EMC-202509-A2704
Date of Receipt : Sep. 10, 2025
Date of Test : Sep. 10, 2025 to Sep. 28, 2025
47 CFR Part 15, Part1.1307
Test Standard : 47 CFR Part 15, Part2.1093
KDB447498D04 General RF Exposure Guidance v01
Test Result : Pass

Compiled by:



Review by:



Approved by:



Issued Date: Nov. 21, 2025



BlueAsia of Technical Services(Shenzhen) Co.,Ltd.

Address: Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District,
Shenzhen, Guangdong Province, China



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Revise Record

Version No.	Date	Description
01	Nov. 21, 2025	Original

1 General information

1.1 General information

Applicant	Guangdong WeiKing Acoustic Co.,Ltd
Address	No.17 Maonan Road, Zhongshan Torch Development Zone, GuangDong, China
Manufacturer	SHENZHEN WEIKING TECHNOLOGY CO.,LTD
Address	FuCheng Street, Zhangge Community, ZhangGe Road, No.142, Building 1, Room 301 Shenzhen Longhua Guangdong
Factory	SHENZHEN WEIKING TECHNOLOGY CO.,LTD
Address	FuCheng Street, Zhangge Community, ZhangGe Road, No.142, Building 1, Room 301 Shenzhen Longhua Guangdong

1.2 General description of EUT

Product name	Bluetooth speaker
Model no.	X20S
Series model	BT420S
Desc of series model	The above models are identical in PCB layout, internal structure components, assets and security mechanisms, only model No. and color is different.
Power supply	DC10.8V by battery
Hardware Version	2.0
Software Version	2.44

BLE:

Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Rate data:	1Mbps; 2Mbps
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	PCB antenna
Antenna Gain:	0dBi(Provided by customer)

BT:

Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK, pi/4DQPSK, 8DPSK
Channel Spacing:	1MHz
Number of Channels:	79
Antenna Type:	PCB antenna
Antenna Gain:	0dBi(Provided by customer)

2 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Address:	Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
ISED CAB identifier No.:	CN0028
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

3 RF Exposure Compliance Requirement

3.1 Standard Requirement

According to 447498 D04 Interim General RF Exposure Guidance v01

Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

3.2 Limits

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B. 2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

Example values shown in Table B.2 are for illustration only.

Table B.2—Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
		5	10	15	20	25	30	35	40	45	50
	300	39	65	88	110	129	148	166	184	201	217
	450	22	44	67	89	112	135	158	180	203	226
	835	9	25	44	66	90	116	145	175	207	240
	1900	3	12	26	44	66	92	122	157	195	236
	2450	3	10	22	38	59	83	111	143	179	219
	3600	2	8	18	32	49	71	96	125	158	195
	5800	1	6	14	25	40	58	80	106	136	169

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

3.3 Result

$$\text{EIRP} = \text{pt} \times \text{gt} = (\text{E} \times \text{d})^2 / 30$$

Where:

pt = transmitter output power in watts,

gt = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m,

d = measurement distance in meters (m)

$$\text{Spot} = (\text{E} \times \text{d})^2 / 30 \times \text{gt}$$

Separation distance = 0.5cm

Ant gain = 1.87dBi

For BLE(Worst):

Max Output power = -0.882dBm @ 2402MHz BLE1M

$$\text{EIRP} = -0.882\text{dBm} + 0\text{dBi} = -0.882\text{dBm} = 1.259\text{mW} < 2.788\text{mW}$$

$$\text{ERP} = -0.882 - 2.15 = -3.032\text{dBm}$$

Comply with RF exposure exemption limit.

For BT(Worst):

Max Output power = -0.783dBm @ 2480MHz 8DPSK

$$\text{EIRP} = -0.783\text{dBm} + 0\text{dBi} = -0.783\text{dBm} = 0.835\text{mW} < 2.717\text{mW}$$

$$\text{ERP} = -0.783 - 2.15 = -2.933\text{dBm}$$

Comply with RF exposure exemption limit.

----END OF REPORT----

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