

RF Exposure

Applicant : Shenzhen Rurun Digital Technology Co., Ltd.
Address : 2/F Jihe Comm Shenjing Ind Zone Huaqing Ave Qinghua
Comm Longhua Dist Shenzhen Guangdong CHINA
Product Name : Audio stand
Brand Mark : MAGIC JOHN
Model : X7
FCC ID : 2BP3U-MAGICJOHNX7
Report Number : BLA-EMC-202506-A4404
Date of Receipt : June 11, 2025
Date of Test : June 11, 2025 to June 19, 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: *Hugh* Review by: *Xavier* Approved by: *Blue Zheng*
Issued Date: June 19, 2025

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

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



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Table of Contents

1	General information	4
1.1	General information	4
1.2	General description of EUT	4
2	Laboratory and accreditations	6
3	RF Exposure Compliance Requirement	7
3.1	Standard Requirement	7
3.2	Limits	7
3.3	Result	8

Revise Record

Version No.	Date	Description
01	June 19, 2025	Original

1 General information

1.1 General information

Applicant	Shenzhen Rurun Digital Technology Co., Ltd.
Address	2/F Jihe Comm Shenjing Ind Zone Huaqing Ave Qinghua Comm Longhua Dist Shenzhen Guangdong CHINA
Manufacturer	Shenzhen Rurun Digital Technology Co., Ltd.
Address	2/F Jihe Comm Shenjing Ind Zone Huaqing Ave Qinghua Comm Longhua Dist Shenzhen Guangdong CHINA
Factory	Shenzhen Rurun Digital Technology Co., Ltd.
Address	2/F Jihe Comm Shenjing Ind Zone Huaqing Ave Qinghua Comm Longhua Dist Shenzhen Guangdong CHINA

1.2 General description of EUT

Product name	Audio stand
Model no.	X7
Series model	N/A
Power supply	DC3.7V by battery
Hardware Version	V1.0
Software Version	V1.0

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:	-0.58dBi(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:	-0.58dBi(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
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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

For BLE(Worst):

Ant gain = -0.58dBi

Max Output power = -0.187dBm @ 2442MHz

$$\text{EIRP} = -0.187 - 0.58 = -0.767 \text{dBm} = 0.838 \text{mW} < 2.751 \text{mW}$$

$$\text{ERP} = -0.767 - 2.15 = -2.917 \text{dBm}$$

Comply with RF exposure exemption limit.

For BT(Worst):

Ant gain = -0.58dBi

Max Output power = 1.222dBm @ 2441MHz

$$\text{EIRP} = 1.222 - 0.58 = 0.642 \text{dBm} = 1.159 \text{mW} < 2.752 \text{mW}$$

$$\text{ERP} = 0.642 - 2.15 = -1.508 \text{dBm}$$

Comply with RF exposure exemption limit.

----END OF REPORT----

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Version: v1.1