



RF Exposure evaluation

Product Name : Amplifier
Brand Name : Russound
Model : P100BT
Series Model : N/A
FCCID : WNN-P100BT
Applicant : Russound/FMP, Inc.
Address : 200 International Drive, Suite 155, Portsmouth, NH 03801
Manufacturer : Russound/FMP, Inc.
Address : 200 International Drive, Suite 155, Portsmouth, NH 03801
Standard(s) : 47CFR §1.1310, 47CFR §2.1091
KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt : Mar. 26, 2026
Date of Test : Mar. 26, 2026~Apr. 29, 2026
Issued Date : Apr. 30, 2026

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This device described above has been tested by Dongguan Yaxu (AiT) Technology Limited and the test results show that the equipment under test (EUT) is in compliance with the ISSED requirements. And it is applicable only to the tested sample identified in the report.

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Reviewed by: Emiya Lin
Emiya Lin

Approved by: Simba Huang
Simba Huang



Report Revise Record

Report Version	Issued Date	Notes
M0	Apr. 30, 2026	Initial Release

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1 GENERAL INFORMATION

1.1 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Relative Humidity:	55 %
Air Pressure:	101 kPa

1.2 General Description of EUT

Product Name:	Amplifier
Model/Type reference:	P100BT
Serial Model:	N/A
Model Difference:	N/A
Power Supply:	AC 115-230V, 60/50Hz, Max260W
Hardware Version:	N/A
Software Version:	N/A
Sample(s) Status:	AiTDG-260326001-1
Bluetooth:	
Supported type:	Bluetooth BR/EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	Dipole Antenna
Antenna gain:	3.33dBi
BluetoothLE:	
Modulation:	GFSK
Operation frequency:	2402MHz~2480MHz
Channel number:	40
Channel separation:	2MHz
Antenna type:	Dipole Antenna
Antenna gain:	3.33dBi
Remark: The above DUT's information was declared by manufacturer. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.	

1.3 Test Facility

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

CNAS-Registration No: L6177

Dongguan Yaxu (AiT) technology Limited is accredited to ISO/IEC 17025:2017 general Requirements for the competence of testing and calibration laboratories (CNAS-CL01 Accreditation Criteria for the competence of testing and calibration laboratories) on April 18, 2022

FCC-Registration No.: 362653 Designation Number: CN1457

Dongguan Yaxu (AiT) technology Limited has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

IC-Registration No.: 6819A CAB identifier: CN0122

The 3m Semi-anechoic chamber of Dongguan Yaxu (AiT) technology Limited has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 6819A

A2LA-Lab Cert. No.: 6317.01

Dongguan Yaxu (AiT) technology Limited has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

1.4 Measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 “Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements” and is documented in the AiT quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	0.009MHz-30MHz	3.10dB	(1)
Radiated Emission	30MHz-1GHz	3.75dB	(1)
Radiated Emission	1GHz-18GHz	3.88dB	(1)
Radiated Emission	18GHz-40GHz	3.88dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	1.20dB	(1)
Occupied Channel Bandwidth	0.009MHz-18GHz	0.20dB	(1)

Note (1): The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1 Method of measurement

1.1 Applicable Standard

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

According to §1.1310 and §2.1091 RF exposure is calculated.

FCC KDB447498 D01 General RF Exposure Guidance v06: Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures

1.2 Limit

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	6
3.0 – 30	1842/f	4.89/f	(900/f)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1500	/	/	f/300	6
1500 – 100,000	/	/	5	6

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 30	824/f	2.19/f	(180/f)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1500	/	/	f/1500	30
1500 – 100,000	/	/	1.0	30

F=frequency in MHz

*=Plane-wave equivalent power density

1.3 MPE Calculation Method

Predication of MPE limit at a given distance

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 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

1.4 Antenna Information

EUT can only use antennas certificated as follows provided by manufacturer;

Antenna	Model No. of antenna:	Type of antenna:	Gain of the antenna (Max.)	Frequency range:
BT	/	Dipole Antenna	3.33dBi	2400-2500MHz

1.5 Manufacturing Tolerance

Bluetooth

GFSK (Peak)				
Channel	2402	2441	2480	
Target (dBm)	1.0	0.5	0.0	
Tolerance ±(dB)	1.0	1.0	1.0	
π/4DQPSK (Peak)				
Channel	2402	2441	2480	
Target (dBm)	1.5	0.5	0.0	
Tolerance ±(dB)	1.0	1.0	1.0	
8-DPSK (Peak)				
Channel	2402	2441	2480	
Target (dBm)	1.5	0.5	0.5	
Tolerance ±(dB)	1.0	1.0	1.0	

Bluetooth LE

GFSK (Peak)				
Channel	2402	2441	2480	
Target (dBm)	2.0	1.5	0.5	
Tolerance ±(dB)	1.0	1.0	1.0	
π/4DQPSK (Peak)				
Channel	2402	2441	2480	
Target (dBm)	0.5	0.0	0.0	
Tolerance ±(dB)	1.0	1.0	1.0	

1.6 Standalone MPE Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna is refer to section 2.4, the RF power density can be obtained.

Modulation Type	Output powerwithtune_up		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm ²)	MPE Limits (mW/cm ²)
	dBm	mW				
BT	3.0	1.9953	3.33	2.1528	0.00085	1.0000

Remark:

1. Output power including turn-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

1.7 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*****