

TEST REPORT

Reference No...... : WTD21D08081902W002
FCC ID : 2AVRWSP-MB-03
Applicant..... : Shenzhen Smart Power Electronics Co., Ltd
Address..... : No.6 in Shantang Industrial Park, Paibang Village, Henggang,
Longgang District, Shenhzen, China.
Manufacturer : Shenzhen Smart Power Electronics Co., Ltd
Address..... : No.6 in Shantang Industrial Park, Paibang Village, Henggang,
Longgang District, Shenhzen, China.
Product..... : 2 in 1 Bluetooth Receiver/ Transmitter
Model(s) : SP-MB-03, XBA9-1017-BLK
Standards..... : FCC Part 2.1091
Date of Receipt sample : 2021-08-11
Date of Test : 2021-08-11 to 2021-08-19
Date of Issue..... : 2021-08-19
Test Result..... : **Pass**

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.

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3. Revision History

Test report No.	Date of Receipt sample	Date of Test	Date of Issue	Purpose	Comment	Approved
WTD21D08081902 W002	2021-08-11	2021-08-11 to 2021-08-19	2021-08-19	Original	-	Valid

4. General Information

4.1. General Description of E.U.T.

Product:	2 in 1 Bluetooth Receiver/ Transmitter
Model(s):	SP-MB-03, XBA9-1017-BLK
Additional model(s):	Only the model name are difference.
Operation Frequency:	2402-2480MHz, 79 Channels in total
Max. RF output power:	0.14dBm
Antenna installation:	PCB Printed Antenna
Antenna Gain:	0dBi
Type of Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK

4.2. Details of E.U.T.

Ratings:	DC 3.7V lithium battery
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4.3. Test Facility

FCC Designation No.: CN1201. Test Firm Registration No.: 523476.
ISED CAB identifier: CN0013. Test Firm Registration No.: 7760A.

5. Test Summary

Test Items	Test Requirement	Result
Maximum Permissible Exposure (Exposure of Humans to RF Fields)	FCC Part 2.1091	PASS

6. RF Exposure

Test Requirement: FCC Part 2.1091

Evaluation Method: KDB 447498 D01 General RF Exposure Guidance v06

6.1. Requirements

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 levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

6.2. The procedures / limit

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
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

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	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

Note: f = frequency in MHz; *Plane-wave equivalent power density

6.3. MPE Calculation Method

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

S = power density (in appropriate units, e.g. mW/cm²)

P = output power to the antenna (in appropriate units, e.g., mW).

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

From the peak EUT RF output power, the minimum mobile separation distance, R=20cm, as well as the gain of the used antenna, the RF power density can be obtained

Antenna Gain (dBi)	Antenna Gain (numeric)	Max. conducted Output Power (dBm)	Max. conducted Output Power (mW)	Power Density (mW/cm ²)	Limit of Power Density (mW/cm ²)	Result
0.00	1.000	0.14	1.03	0.000205	1	Compliance

6.4. Result: Compliance

No SAR measurement is required.

=====End of Report=====