

TEST REPORT

Product Name : BT HALF SPHERE SPK, BT METAL HORT SPK
Model Number : SP-0245, SP-0238
FCC ID : 2ADM5-SP-0245

Prepared for : Zeeva International Limited
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Report Number : EDG2310120171E00102R
Date(s) of Tests : October 12, 2023 to October 30, 2023
Date of issue : October 30, 2023

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1. TEST RESULT CERTIFICATION

Applicant : Zeeva International Limited
 Address : Suite 1007B, 10th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Hong Kong, China
 Manufacturer : Zeeva International Limited
 Address : Suite 1007B, 10th Floor, Exchange Tower, 33 Wang Chiu Road, Kowloon Bay, Hong Kong, China
 EUT : BT HALF SPHERE SPK, BT METAL HORT SPK
 Model Name : SP-0245, SP-0238
 Trademark : N/A

Measurement Procedure Used:

| APPLICABLE STANDARDS | |
|-----------------------|-------------|
| STANDARD | TEST RESULT |
| § 15.247(i), § 2.1093 | PASS |

The above equipment was tested by EMTEK(DONGGUAN) CO., LTD. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules FCC § 15.247(i), § 2.1093.

The test results of this report relate only to the tested sample identified in this report

Date of Test : October 12, 2023 to October 30, 2023

Prepared by : 
 Xia Yang /Editor

Reviewer : 
 Tim Dong/ Supervisor

Approve & Authorized Signer :  
 Sam Lv / Manager

Modified History

| Version | Report No. | Revision Date | Summary |
|---------|----------------------|---------------|-----------------|
| | EDG2310120171E00102R | / | Original Report |
| | | | |
| | | | |



2. EUT Specification

| Characteristics | Description |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Product: | BT HALF SPHERE SPK, BT METAL HORT SPK |
| Model Number: | SP-0245, SP-0238 These models are identical except for the product name, model number and appearance, and SP-0245 was chosen here for full test |
| COLOR: | SP-0245: BLACK; GRAY; PURPLE; GREEN SP-0238: BLACK; PINK; GREEN; RED |
| UPC: | SP-0245: 1922343015222; 1922343015239; 1922343015246; 1922343015253 SP-0238: 1922343015178; 1922343015185; 1922343015192; 1922343015208 |
| SKU: | SP-0245: 9119813; 9119814; 9119815; 9119816 SP-0238: 9119807; 9119808; 9119809; 9119810 |
| Sample: | 1# |
| Data Rate: | 1Mbps for GFSK modulation 2Mbps for $\pi/4$ -DQPSK modulation 3Mbps for 8DPSK modulation |
| Modulation: | GFSK, $\pi/4$ -DQPSK, 8DPSK |
| Bluetooth Version: | 5.3 |
| Operating Frequency Range(s) : | 2402-2480MHz |
| Number of Channels: | 79 channels |
| Transmit Power Max: | -4.41 dBm(0.000362 W) |
| Antenna Type: | PCB Antenna |
| Antenna Gain: | -0.58 dBi |
| Power supply: | DC 5V from USB DC 3.7V from battery |
| Evaluation applied: | <input type="checkbox"/> MPE Evaluation <input checked="" type="checkbox"/> SAR Evaluation |

3. Test Requirement

SAR Evaluation

According to 447498 D01 V06, 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.

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot$

$[\sqrt{f_{(\text{GHz})}}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,²⁴ where

- $f_{(\text{GHz})}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation²⁵
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum *test separation distance* is ≤ 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval. One antenna is available for the EUT. The minimum separation distance is 5mm.

4. Measurement Result

Antenna gain: -0.58 dBi

| Transmit Frequency(MHz) | Mode | Measured Power (dBm) | E.I.R.P (dBm) | Tune upPower (dBm) | Max tune up power(dBm) | Calculation Result | 1-g SAR |
|-------------------------|-----------|----------------------|---------------|--------------------|------------------------|--------------------|---------|
| 2402 | GFSK | -5.41 | -5.99 | -6±1 | -5 | 0.0980204 | 3 |
| 2441 | GFSK | -6.95 | -7.53 | -7±1 | -6 | 0.0784899 | 3 |
| 2480 | GFSK | -8.81 | -9.39 | -9±1 | -8 | 0.0499178 | 3 |
| 2402 | Π/4-DQPSK | -4.88 | -5.46 | -5±1 | -4 | 0.1234004 | 3 |
| 2441 | Π/4-DQPSK | -6.37 | -6.95 | -7±1 | -6 | 0.0784899 | 3 |
| 2480 | Π/4-DQPSK | -8.25 | -8.83 | -9±1 | -8 | 0.0499178 | 3 |
| 2402 | 8DPSK | -4.41 | -4.99 | -5±1 | -4 | 0.1234004 | 3 |
| 2441 | 8DPSK | -6.09 | -6.67 | -7±1 | -6 | 0.0784899 | 3 |
| 2480 | 8DPSK | -7.97 | -8.55 | -8±1 | -7 | 0.0628428 | 3 |

According to KDB 447498 D01 V06, no stand-alone required for BT antenna, and no simultaneous SAR measurement is required.

*** End of Report ***