

# TEST REPORT

**Product Name** : BT FABRIC BTN SPK, SPACEY LED SPK  
**Model Number** : SP-0222, SP-0233  
**FCC ID** : 2ADM5-SP-0222

**Prepared for** : Zeeva International Limited  
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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 FABRIC BTN SPK, SPACEY LED SPK

Model Name : SP-0222, SP-0233

Trademark : N/A

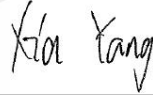
Measurement Procedure Used:

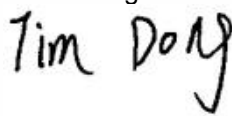
| APPLICABLE STANDARDS  |             |
|-----------------------|-------------|
| STANDARD              | TEST RESULT |
| § 15.247(i), § 2.1093 | PASS        |

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 : July 25, 2023 to September 04, 2023

Prepared by :   
Xia Yang /Editor

Reviewer :   
Tim Dong/ Supervisor

Approve & Authorized Signer :    
Sam Lv / Manager

## Modified History

| Version | Report No.           | Revision Date | Summary         |
|---------|----------------------|---------------|-----------------|
|         | EDG2307250197E00102R | /             | Original Report |
|         |                      |               |                 |
|         |                      |               |                 |



## 2. EUT Specification

| Characteristics                       | Description                                                                                                                                                                                                                                        |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product:</b>                       | BT FABRIC BTN SPK, SPACEY LED SPK                                                                                                                                                                                                                  |
| <b>Model Number:</b>                  | SP-0222, SP-0233<br>(Note: SP-0222 has a volume button and no light board, SP-0233 does not have the volume button, but has the light board Both models of wireless module are the same, both models were tested, the report shows the worst case) |
| <b>Sample:</b>                        | 1#                                                                                                                                                                                                                                                 |
| <b>Device Type:</b>                   | Bluetooth V5.3                                                                                                                                                                                                                                     |
| <b>Data Rate:</b>                     | 1Mbps for GFSK modulation<br>2Mbps for $\pi/4$ -DQPSK modulation<br>3Mbps for 8DPSK modulation                                                                                                                                                     |
| <b>Modulation:</b>                    | GFSK, $\pi/4$ -DQPSK, 8DPSK                                                                                                                                                                                                                        |
| <b>Operating Frequency Range(s) :</b> | 2402-2480MHz                                                                                                                                                                                                                                       |
| <b>Number of Channels:</b>            | 79 channels                                                                                                                                                                                                                                        |
| <b>Transmit Power Max:</b>            | 1.54 dBm(0.001426 W)                                                                                                                                                                                                                               |
| <b>Antenna Gain:</b>                  | -0.58 dBi                                                                                                                                                                                                                                          |
| <b>Power supply:</b>                  | DC 5V from USB, DC 3.7V from battery                                                                                                                                                                                                               |
| <b>Evaluation applied:</b>            | <input type="checkbox"/> MPE Evaluation<br><input checked="" type="checkbox"/> SAR Evaluation                                                                                                                                                      |

|                     |                                                                                                                         |
|---------------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Model Number</b> | Color_UPC#_SKU#                                                                                                         |
| <b>SP-0222</b>      | BLACK-1922342306956-9101456<br>BLUE-1922342306963-9101457<br>GRAY-1922342306970-9101458<br>PURPLE-1922342306987-9101459 |
| <b>SP-0233</b>      | BLACK-1922342315781-9104815<br>PINK-1922342315798-9104816<br>WHITE-1922342315804-9104817                                |

### 3. Test Requirement

## RF EXPOSURE EVALUATION

According to §15.247(i) and §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.

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

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}^{24} \text{ where}$$

- $f_{(\text{GHz})}$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation<sup>25</sup>
- 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  $\leq 50$  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  
BT

| Transmit Frequency (MHz) | Mode      | Measured Power (dBm) | E.I.R.P (dBm) | Tune up Power (dBm) | Max tune up power(dBm) | Calculation Result | 1-g SAR |
|--------------------------|-----------|----------------------|---------------|---------------------|------------------------|--------------------|---------|
| 2402                     | GFSK      | 0.52                 | -0.06         | 0±1                 | 1                      | 0.3902263          | 3       |
| 2441                     | GFSK      | 0.31                 | -0.27         | 0±1                 | 1                      | 0.3933815          | 3       |
| 2480                     | GFSK      | 0.38                 | -0.20         | 0±1                 | 1                      | 0.3965115          | 3       |
| 2402                     | Π/4-DQPSK | 1.25                 | 0.67          | 1±1                 | 2                      | 0.4912658          | 3       |
| 2441                     | Π/4-DQPSK | 1.08                 | 0.50          | 1±1                 | 2                      | 0.4952379          | 3       |
| 2480                     | Π/4-DQPSK | 1.14                 | 0.56          | 1±1                 | 2                      | 0.4991785          | 3       |
| 2402                     | 8DPSK     | 1.54                 | 0.96          | 1±1                 | 2                      | 0.4912658          | 3       |
| 2441                     | 8DPSK     | 1.44                 | 0.86          | 1±1                 | 2                      | 0.4952379          | 3       |
| 2480                     | 8DPSK     | 1.52                 | 0.94          | 1±1                 | 2                      | 0.4991785          | 3       |

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

\*\*\* End of Report \*\*\*