

## Radiated Spurious Emissions test Data:

All the modes of operation (X, Y, Z) were investigated and the worst-case emissions are reported.

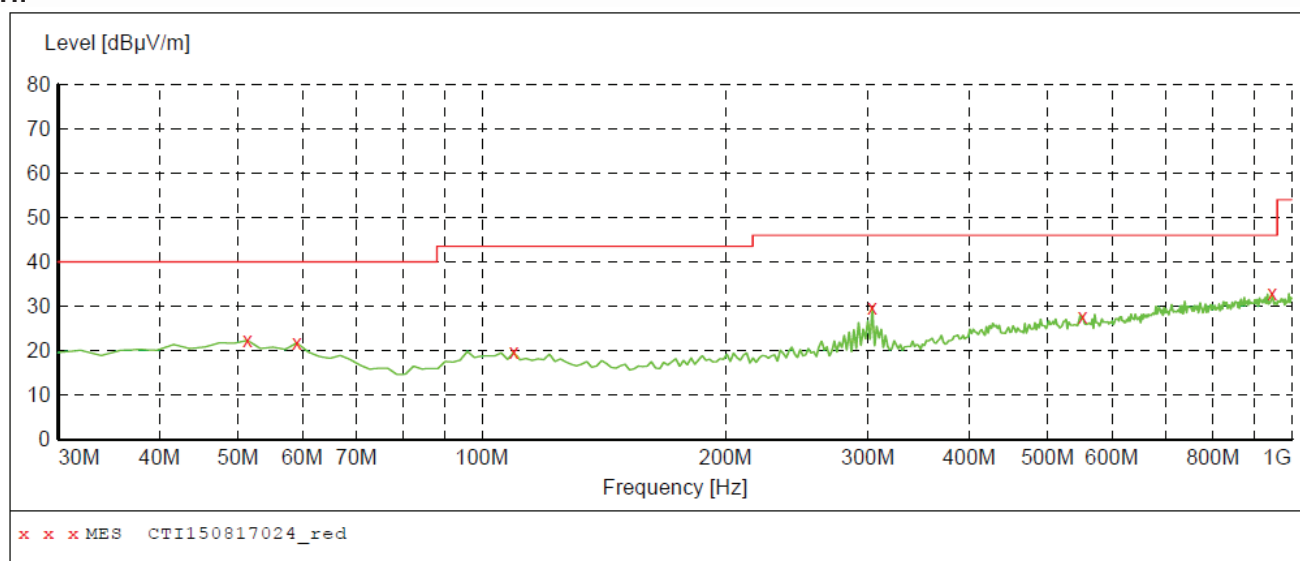
### A. Below 30MHz:

No emissions were found higher than the background below 30MHz and background is lower than the limit, so it deems to compliance with the limit without recorded.

### B. 30MHz ~ 1GHz:

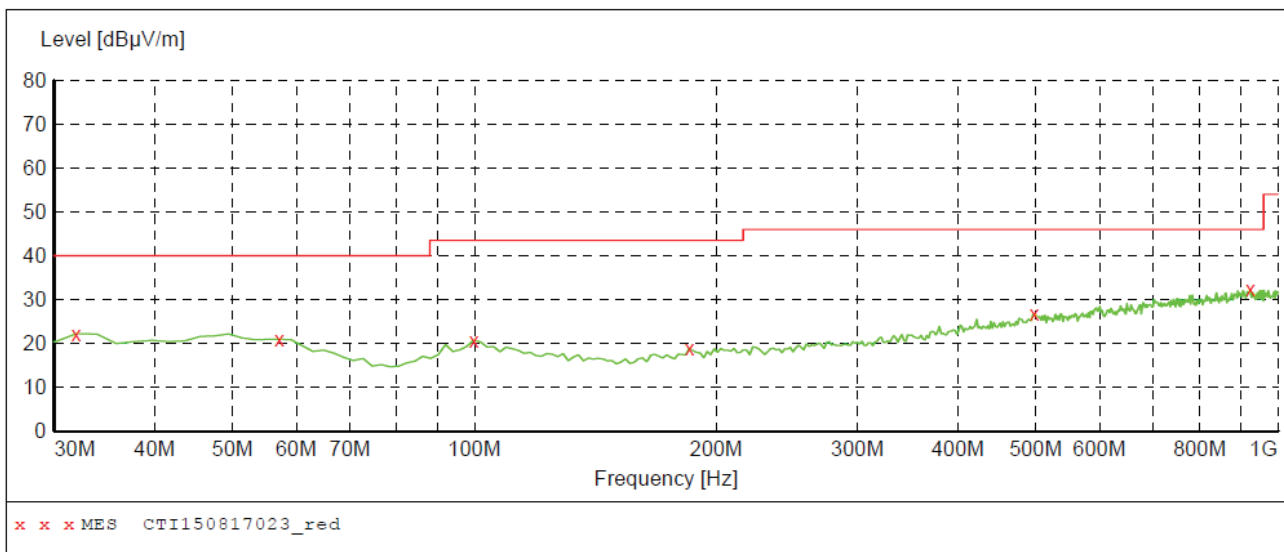
The test data of low channel, middle channel and high channel are almost same in frequency bands 30MHz to 1GHz, and the data of middle channel (GFSK mode) are chosen as representative in below:

H:



| Frequency<br>MHz | Level<br>dBμV/m | Transd<br>dB | Limit<br>dBμV/m | Margin<br>dB | Det. | Height<br>cm | Azimuth<br>deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 51.340000        | 22.30           | 16.3         | 40.0            | 17.7         | ---  | 100.0        | 260.00         | HORIZONTAL   |
| 59.100000        | 21.70           | 15.3         | 40.0            | 18.3         | ---  | 100.0        | 127.00         | HORIZONTAL   |
| 109.540000       | 19.60           | 14.0         | 43.5            | 23.9         | ---  | 100.0        | 340.00         | HORIZONTAL   |
| 303.540000       | 29.70           | 16.0         | 46.0            | 16.3         | ---  | 100.0        | 301.00         | HORIZONTAL   |
| 551.860000       | 27.80           | 21.8         | 46.0            | 18.2         | ---  | 100.0        | 127.00         | HORIZONTAL   |
| 945.680000       | 32.90           | 26.7         | 46.0            | 13.1         | ---  | 100.0        | 10.00          | HORIZONTAL   |

V:



| Frequency<br>MHz | Level<br>dBμV/m | Transd<br>dB | Limit<br>dBμV/m | Margin<br>dB | Det. | Height<br>cm | Azimuth<br>deg | Polarization |
|------------------|-----------------|--------------|-----------------|--------------|------|--------------|----------------|--------------|
| 31.940000        | 22.20           | 14.1         | 40.0            | 17.8         | ---  | 100.0        | 162.00         | VERTICAL     |
| 57.160000        | 21.00           | 15.6         | 40.0            | 19.0         | ---  | 100.0        | 265.00         | VERTICAL     |
| 99.840000        | 20.70           | 14.7         | 43.5            | 22.8         | ---  | 100.0        | 10.00          | VERTICAL     |
| 185.200000       | 18.90           | 13.1         | 43.5            | 24.6         | ---  | 100.0        | 10.00          | VERTICAL     |
| 497.540000       | 26.80           | 21.5         | 46.0            | 19.2         | ---  | 100.0        | 242.00         | VERTICAL     |
| 924.340000       | 32.30           | 26.7         | 46.0            | 13.7         | ---  | 100.0        | 186.00         | VERTICAL     |

**C. Above 1GHz:**
**Test Results-(Measurement Distance: 3m)\_Channel low\_2402MHz\_GFSK mode:**

| Frequency (MHz) | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|-----------------|----------------------|----------------|---------------|---------------|--------------|
| 2390.0          | 37.09                | 74             | PK            | H             | P            |
| 2400.0          | 44.73                | 74             | PK            | H             | P            |
| 2402.0*         | 83.69                | ---            | PK            | H             | P            |
| 4804.0          | 49.11                | 74             | PK            | H             | P            |
| 2390.0          | 37.21                | 74             | PK            | V             | P            |
| 2400.0          | 42.94                | 74             | PK            | V             | P            |
| 2402.0*         | 85.23                | ---            | PK            | V             | P            |
| 4804.0          | 47.61                | 74             | PK            | V             | P            |

\*: fundamental frequency

**Test Results-(Measurement Distance: 3m)\_Channel middle\_2441MHz\_GFSK mode:**

| Frequency (MHz) | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|-----------------|----------------------|----------------|---------------|---------------|--------------|
| 2441.0*         | 86.11                | ---            | PK            | H             | P            |
| 4882.0          | 48.62                | 74             | PK            | H             | P            |
| 2441.0*         | 86.91                | ---            | PK            | V             | P            |
| 4882.0          | 47.91                | 74             | PK            | V             | P            |

\*: fundamental frequency

**Test Results-(Measurement Distance: 3m)\_Channel high\_2480MHz\_GFSK mode:**

| Frequency (MHz) | Measurement (dBuV/m) | Limit (dBuV/m) | Detector Type | Antenna (H/V) | Result (P/F) |
|-----------------|----------------------|----------------|---------------|---------------|--------------|
| 2480.0*         | 85.49                | ---            | PK            | H             | P            |
| 2483.5          | 41.92                | 74             | PK            | H             | P            |
| 4960.0          | 48.86                | 74             | PK            | H             | P            |
| 2480.0*         | 86.92                | ---            | PK            | V             | P            |
| 2483.5          | 41.85                | 74             | PK            | V             | P            |
| 4960.0          | 47.91                | 74             | PK            | V             | P            |

\*: fundamental frequency

**Remark:**

- The above tables show that the frequencies peak data are all below the average limit, so the average data of these frequencies are deemed to fulfill the average limits and not reported.
- All the modes of GFSK,  $\pi/4$ -DQPSK and 8DPSK have been tested. The worst case is GFSK mode, and the worst data of GFSK mode are chosen as above.
- No emission found from 18GHz to 25GHz.
- All outside of operating frequency band and restricted band specified are below 15.209.

## PHOTOGRAPHS OF TEST SETUP

Test mode No.: HESH 2 WIRELESS



**Radiated spurious emission Test Setup-1(Below 1GHz)**



**Radiated spurious emission Test Setup-2(Above 1GHz)**



**Conducted emission Test Setup**

## PHOTOGRAPHS OF EUT Constructional Details

Test mode No.: HESH 2 WIRELESS



View of External Product-1



View of External Product-2



View of External Product-3



View of External Product-4



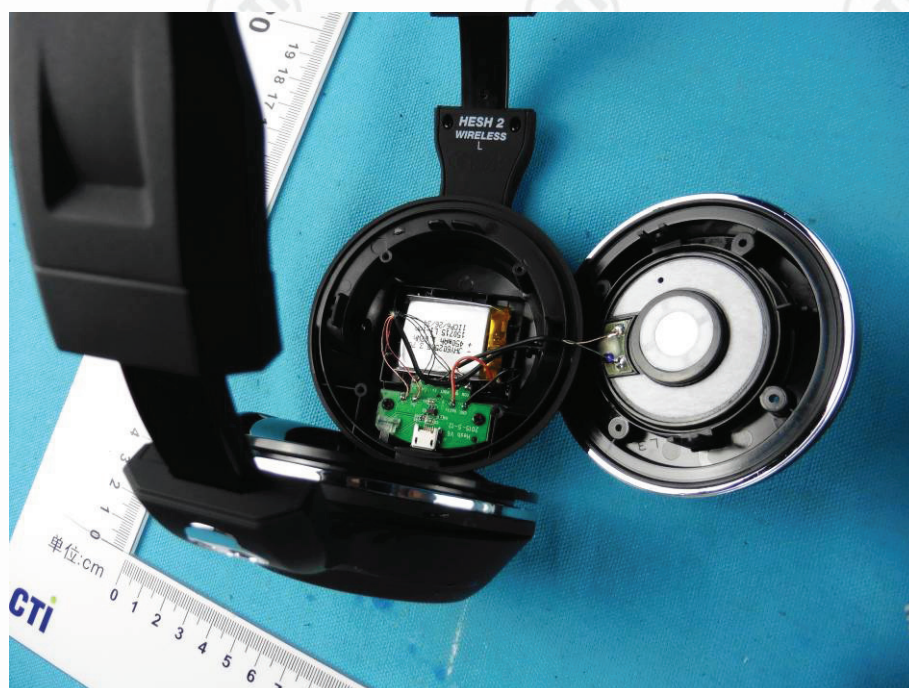
View of External Product-5



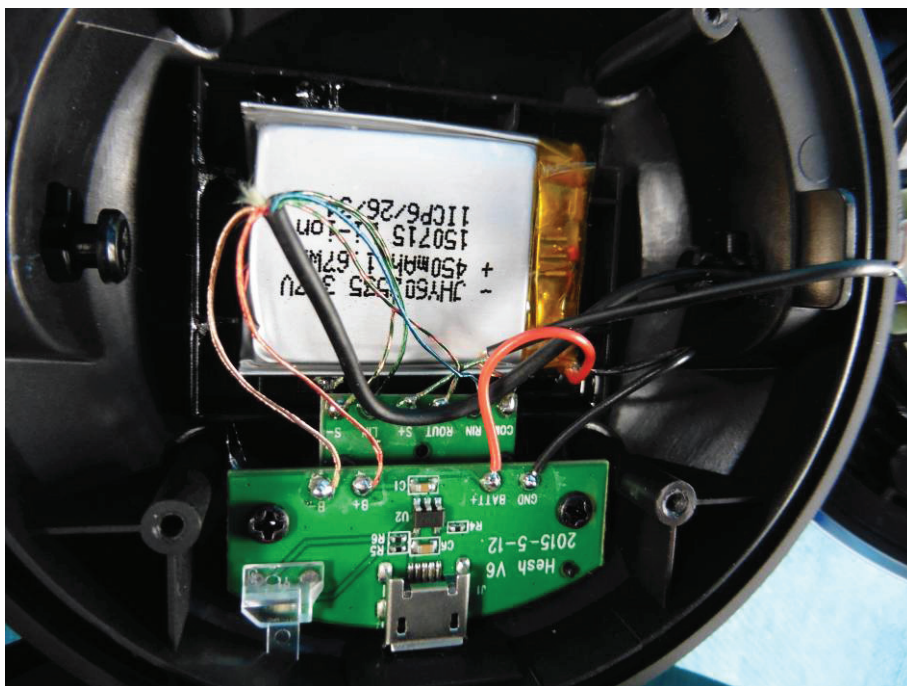
View of External Product-6



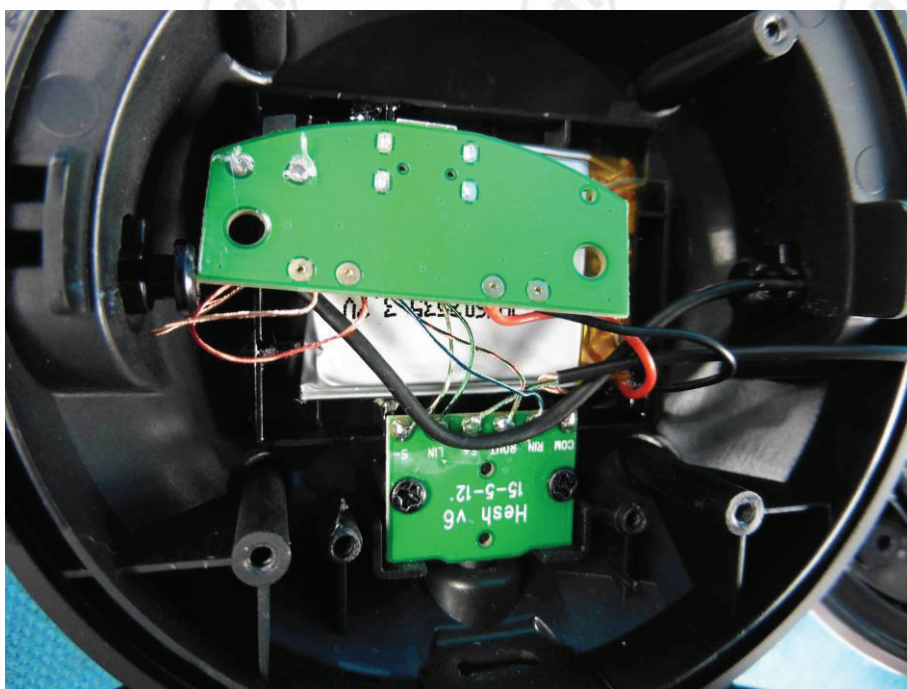
View of Internal Product-1



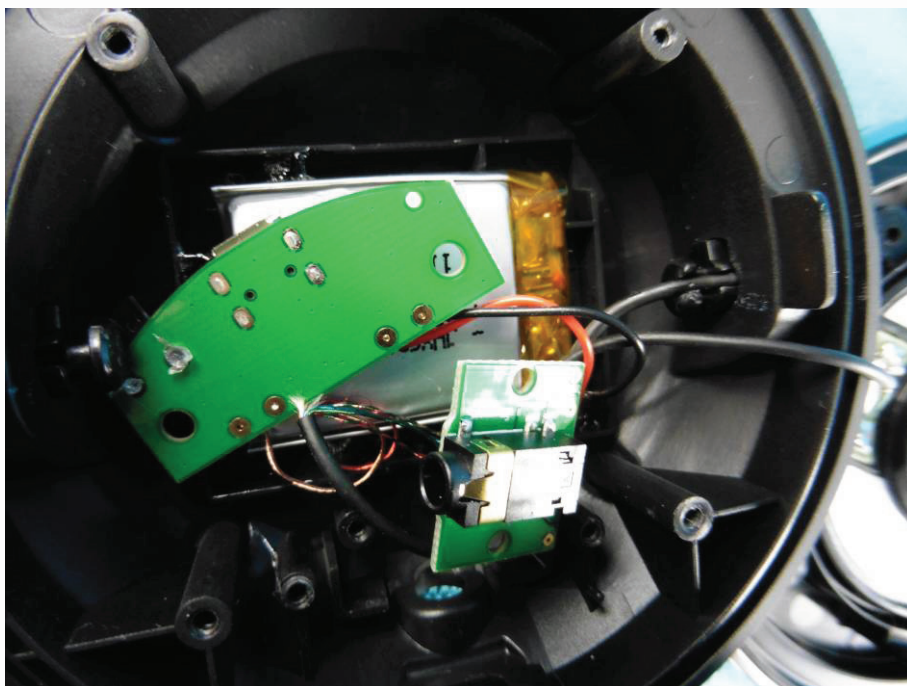
View of Internal Product-2



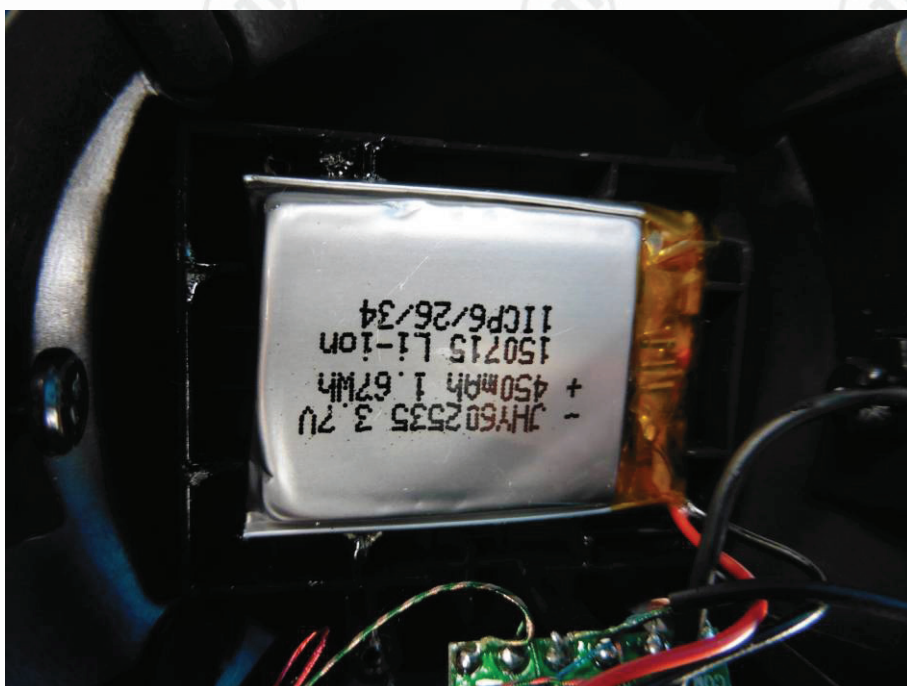
View of Internal Product-3



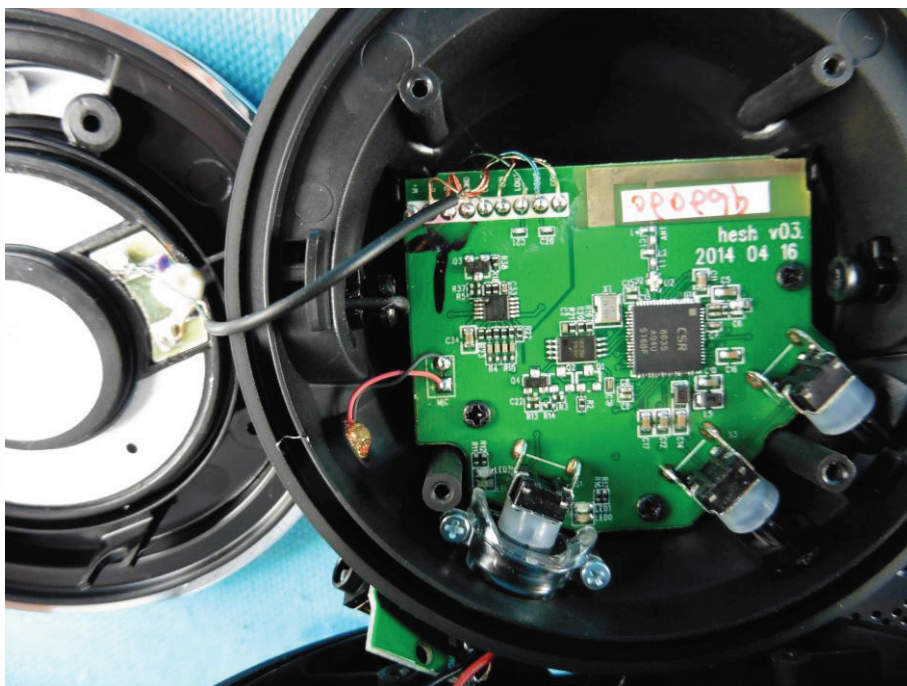
View of Internal Product-4



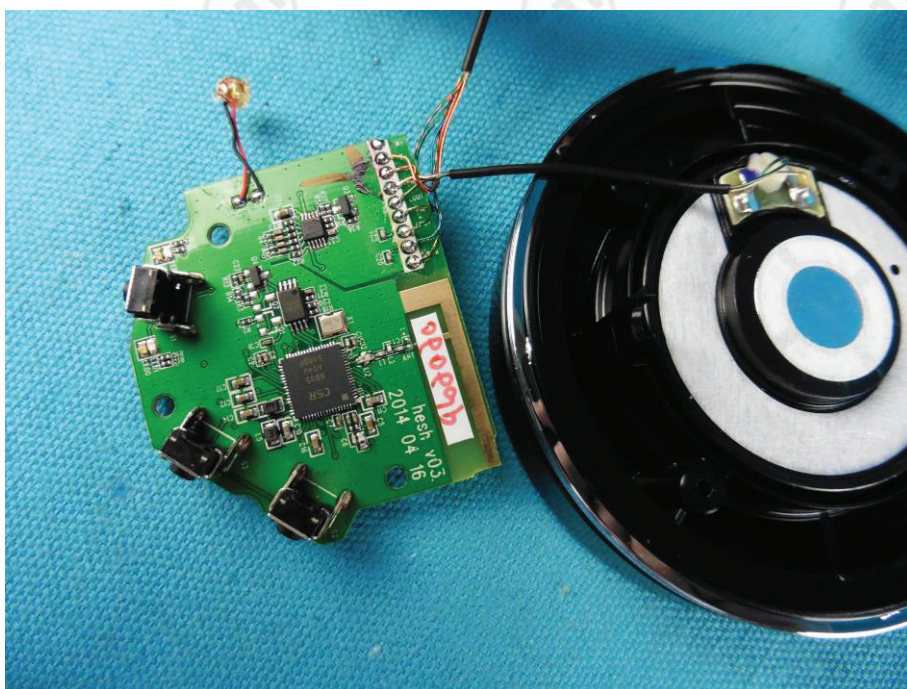
View of Internal Product-5



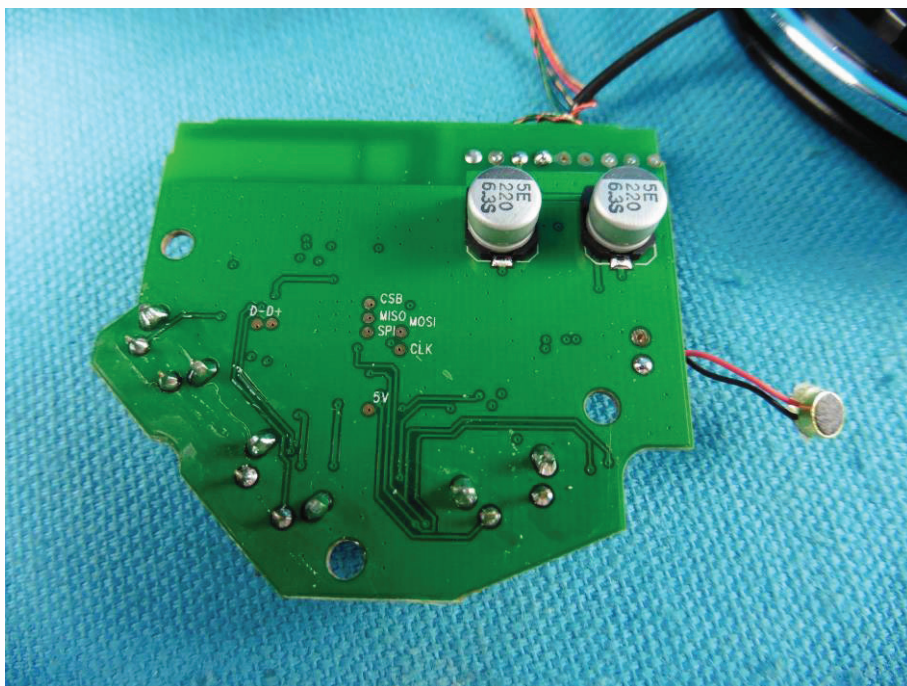
View of Internal Product-6



View of Internal Product-7



View of Internal Product-8



View of Internal Product-9

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

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