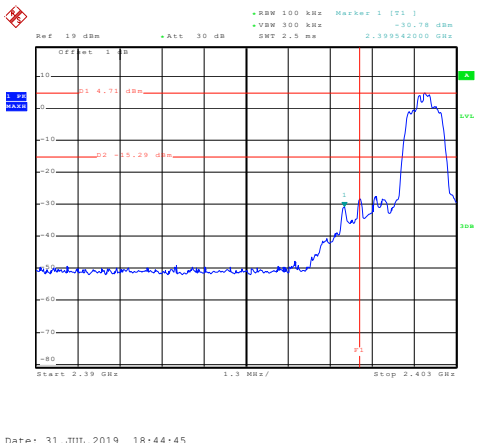
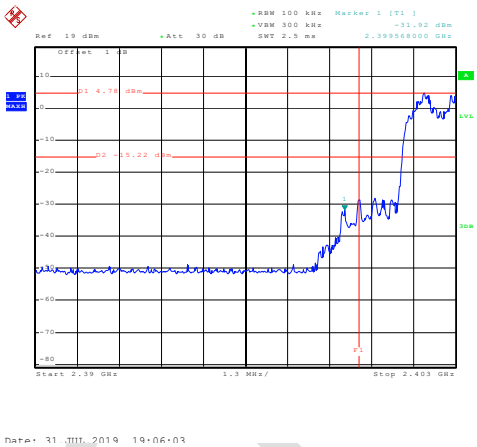
Pi/4QPSK Mode:

Test channel:	Lowest channel

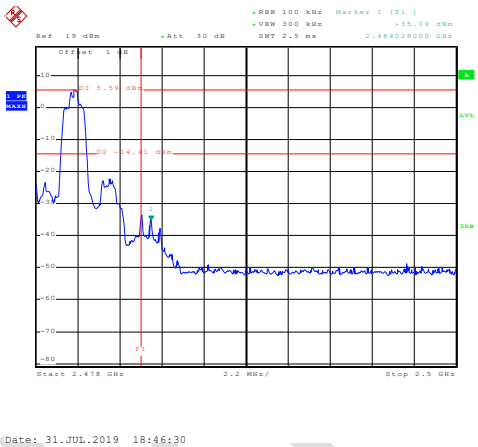


No-hopping mode

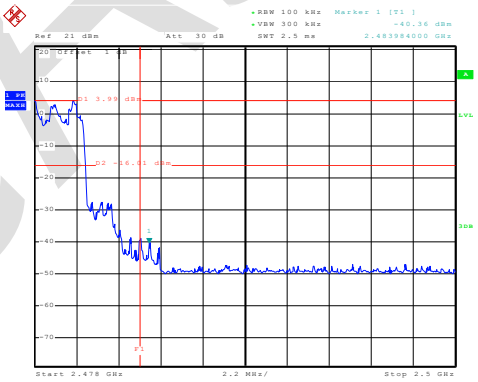


Hopping mode

Test channel:	Highest channel



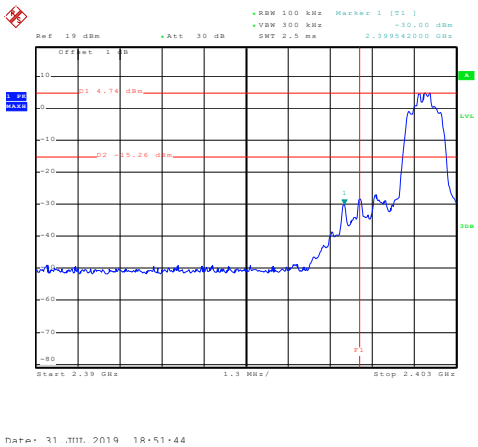
No-hopping mode



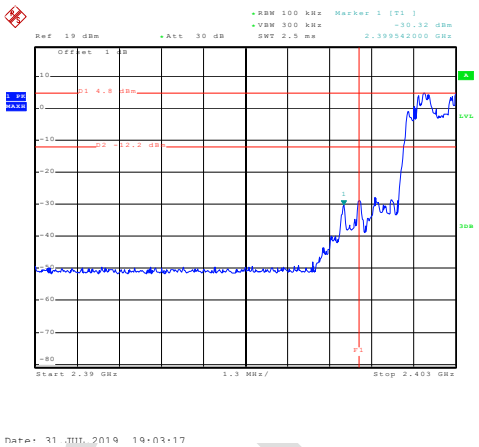
Hopping mode

8-DPSK Mode:

Test channel:	Lowest channel

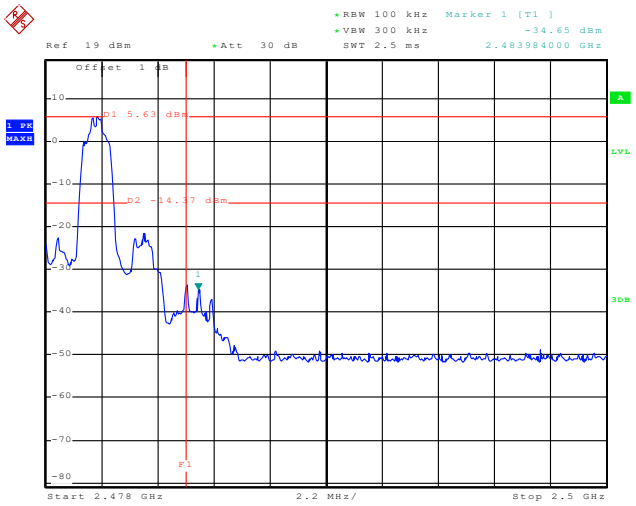


No-hopping mode

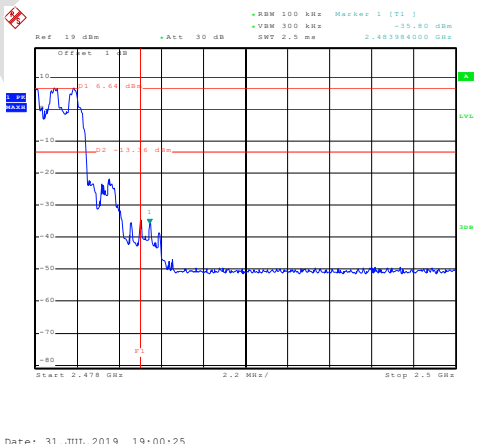


Hopping mode

Test channel:	Highest channel

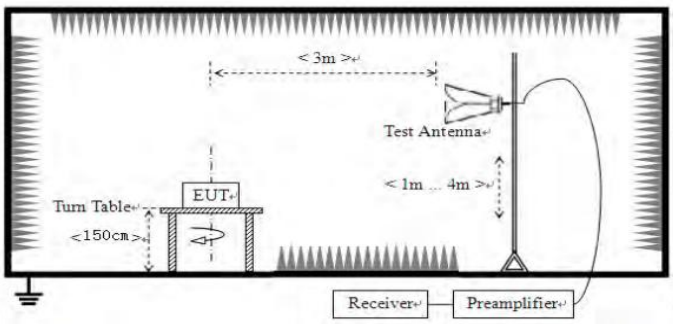


No-hopping mode



Hopping mode

7.9.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>All restriction band have been tested, and 2310MHz to 2390MHz, 2483.5MHz to 2500MHz band is the worse case</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>54.00</td><td>Average Value</td></tr>
<tr><td>74.00</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Test setup:</td><td> 
</td></tr>
<tr><td>Test Procedure:</td><td>1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 6.0 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.2 for details</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

Remark:

1. *During the test, pre-scan the GFSK, Pi/4QPSK, 8-DPSK modulation, and found the 8-DPSK modulation which it is worse case.*

Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	56.38	-14.56	41.82	74.00	-32.18	Horizontal
2390.00	58.64	-14.19	44.45	74.00	-29.55	Horizontal
2310.00	60.97	-14.85	46.12	74.00	-27.88	Vertical
2390.00	64.76	-14.52	50.24	74.00	-23.76	Vertical

Average value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	43.48	-14.56	28.92	54.00	-25.08	Horizontal
2390.00	44.93	-14.19	30.74	54.00	-23.26	Horizontal
2310.00	43.03	-14.85	28.18	54.00	-25.82	Vertical
2390.00	46.23	-14.52	31.71	54.00	-22.29	Vertical

Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	76.20	-13.66	62.54	74.00	-11.46	Horizontal
2500.00	58.07	-13.57	44.50	74.00	-29.50	Horizontal
2483.50	74.24	-14.05	60.19	74.00	-13.81	Vertical
2500.00	67.60	-13.97	53.63	74.00	-20.37	Vertical

Average value:

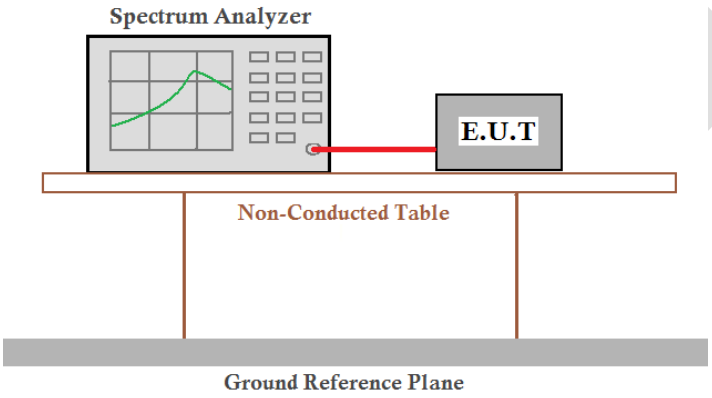
Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	57.68	-13.66	44.02	54.00	-9.98	Horizontal
2500.00	45.46	-13.57	31.89	54.00	-22.11	Horizontal
2483.50	57.30	-14.05	43.25	54.00	-10.75	Vertical
2500.00	52.59	-13.97	38.62	54.00	-15.38	Vertical

Remark:

1. *Final Level =Receiver Read level + Correct factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor= Antenna Factor + Cable Loss – Preamplifier Factor*

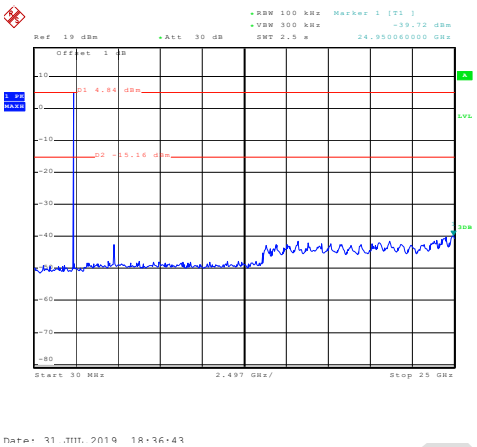
7.10 Spurious Emission

7.10.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d)
Test Method:	ANSI C63.10:2013
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

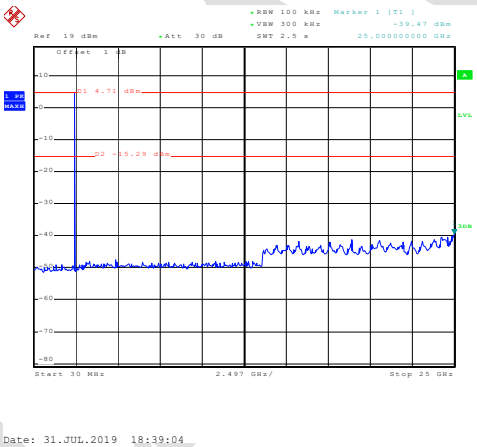
Remark:
During the test, pre-scan the GFSK, Pi/4QPSK, 8-DPSK modulation, and found the 8-DPSK modulation which it is worse case.

Test channel:	Lowest channel



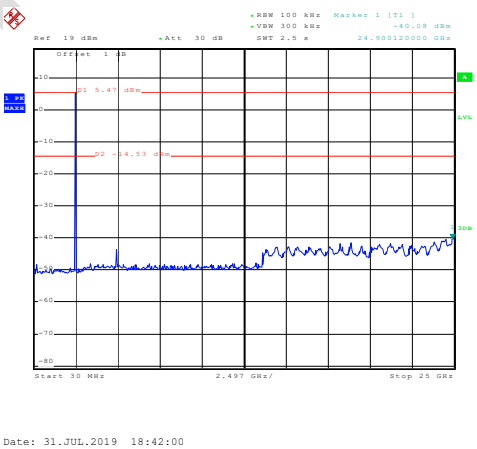
30MHz~25GHz

Test channel:	Middle channel



30MHz~25GHz

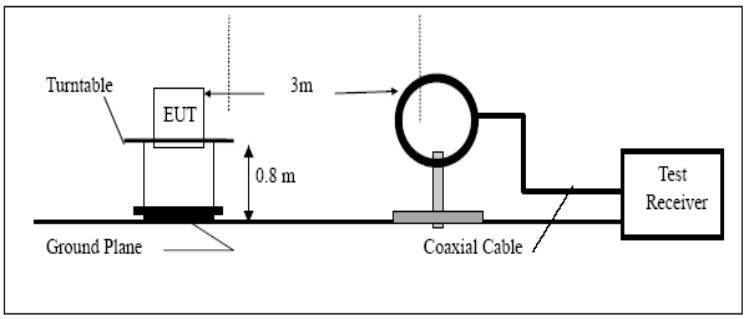
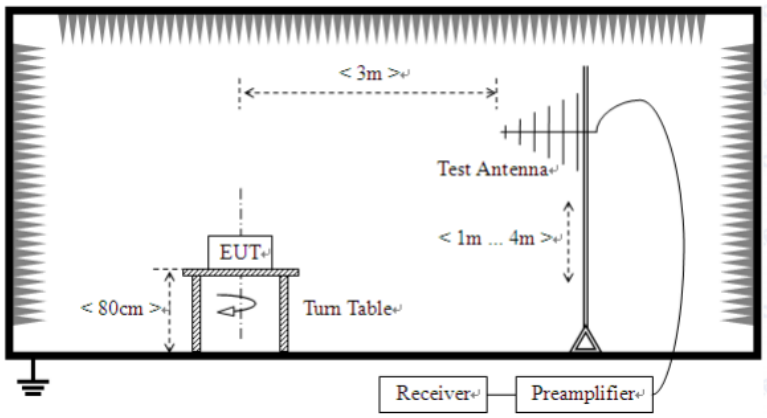
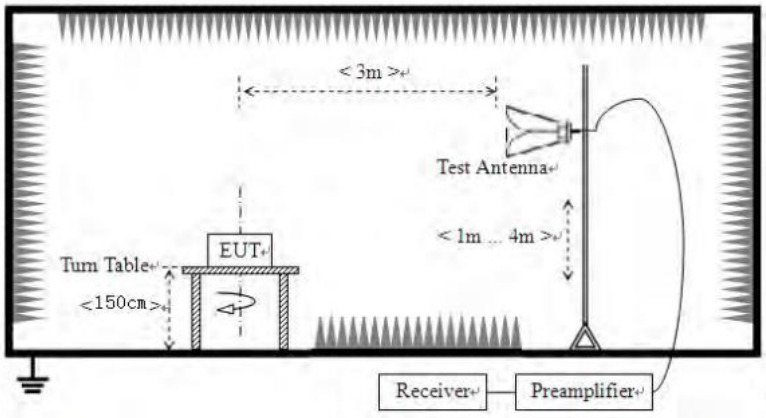
Test channel:	Highest channel



30MHz~25GHz

7.10.2 Radiated Emission Method

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>9kHz to 25GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Value</th></tr>
<tr><td>9KHz-150KHz</td><td>Quasi-peak</td><td>200Hz</td><td>600Hz</td><td>Quasi-peak</td></tr>
<tr><td>150KHz-30MHz</td><td>Quasi-peak</td><td>9KHz</td><td>30KHz</td><td>Quasi-peak</td></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>120KHz</td><td>300KHz</td><td>Quasi-peak</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak</td></tr>
<tr><td>Peak</td><td>1MHz</td><td>10Hz</td><td>Average</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(Spurious Emissions)</td><td>
<table>
<tr><th>Frequency</th><th>Limit (uV/m)</th><th>Value</th><th>Measurement Distance</th></tr>
<tr><td>0.009MHz-0.490MHz</td><td>2400/F(KHz)</td><td>QP</td><td>300m</td></tr>
<tr><td>0.490MHz-1.705MHz</td><td>24000/F(KHz)</td><td>QP</td><td>30m</td></tr>
<tr><td>1.705MHz-30MHz</td><td>30</td><td>QP</td><td>30m</td></tr>
<tr><td>30MHz-88MHz</td><td>100</td><td>QP</td><td rowspan="6">3m</td></tr>
<tr><td>88MHz-216MHz</td><td>150</td><td>QP</td></tr>
<tr><td>216MHz-960MHz</td><td>200</td><td>QP</td></tr>
<tr><td>960MHz-1GHz</td><td>500</td><td>QP</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>500</td><td>Average</td></tr>
<tr><td>5000</td><td>Peak</td></tr>
</table>
</td></tr>
<tr><td>Limit:
(band edge)</td><td>Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.</td></tr>
</table>

Test setup:	Below 30MHz  Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table (0.8m for below 1G and 1.5m for above 1G) above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. 2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

	3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. 4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. 5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. 6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass

Measurement data:

Remark:

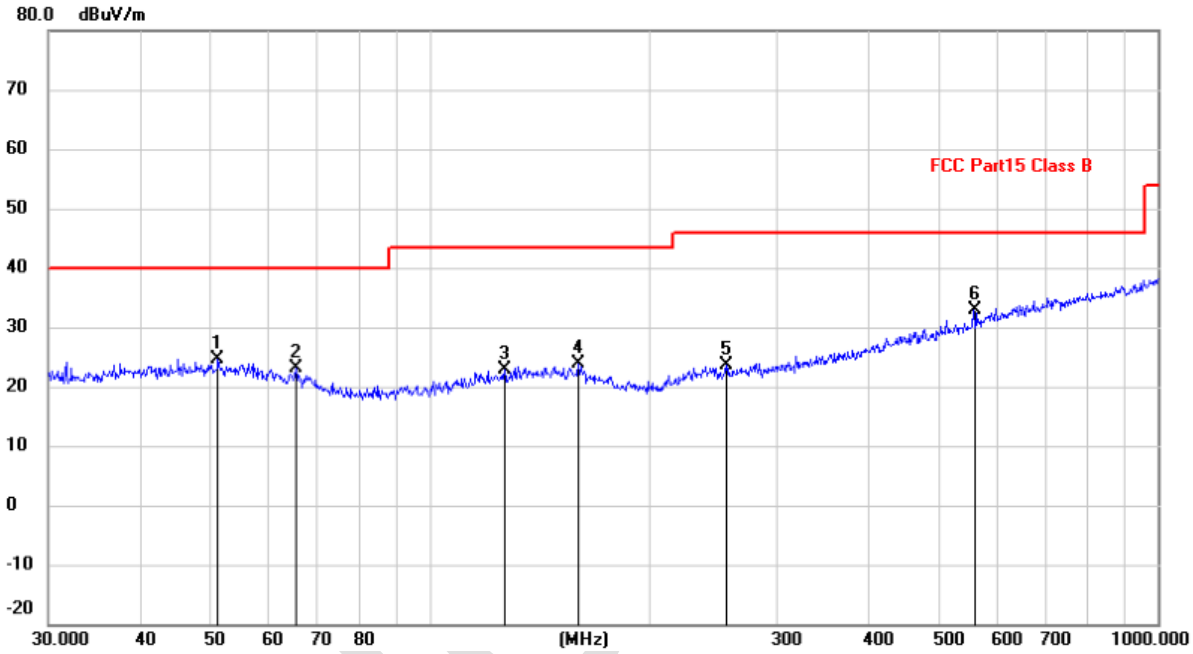
1. *During the test, pre-scan the GFSK, Pi/4QPSK, 8-DPSK modulation, and found the 8-DPSK modulation which it is worse case.*
2. *Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.*

■ **9 kHz ~ 30 MHz**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

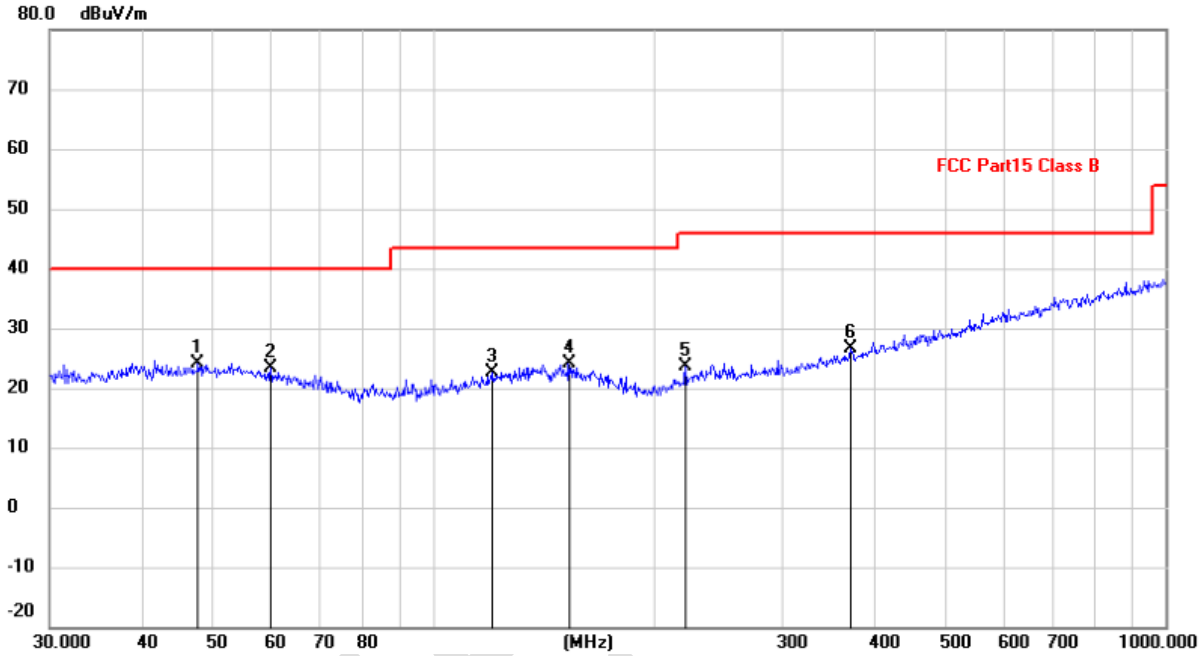
■ **Below 1GHz**

EUT:	True Wireless Earbuds	**Polarziation:**	Horizontal
Model:	BW-FYE5	**Power Source:**	AC120V/60Hz
Mode:	BT mode	**Test by:**	Eason
Temp./Hum.(%H):	26℃/60%RH		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		51.3005	10.82	13.84	24.66	40.00	-15.34	QP
2		65.5727	11.31	11.72	23.03	40.00	-16.97	QP
3		126.7723	10.22	12.60	22.82	43.50	-20.68	QP
4		160.3456	10.93	12.98	23.91	43.50	-19.59	QP
5		255.6231	10.88	12.68	23.56	46.00	-22.44	QP
6	*	558.7302	12.71	20.12	32.83	46.00	-13.17	QP

EUT:	True Wireless Earbuds	**Polarziation:**	Vertical
Model:	BW-FYE5	**Power Source:**	AC120V/60Hz
Mode:	BT mode	**Test by:**	Eason
Temp./Hum.(%H):	26℃/60%RH		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1	*	47.8260	10.16	13.92	24.08	40.00	-15.92	QP
2		60.0691	10.35	12.92	23.27	40.00	-16.73	QP
3		120.6991	10.18	12.40	22.58	43.50	-20.92	QP
4		153.2004	11.17	13.03	24.20	43.50	-19.30	QP
5		221.3921	12.31	11.38	23.69	46.00	-22.31	QP
6		372.0045	10.89	15.68	26.57	46.00	-19.43	QP

■ **Above 1GHz**

Test channel:	Lowest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4804.00	75.95	-7.43	68.52	74.00	-5.48	Vertical
7206.00	65.34	-2.42	62.92	74.00	-11.08	Vertical
9608.00	61.05	-2.38	58.67	74.00	-15.33	Vertical
12010.00	*			74.00		Vertical
14412.00	*			74.00		Vertical
4804.00	72.99	-7.43	65.56	74.00	-8.44	Horizontal
7206.00	66.12	-2.42	63.70	74.00	-10.30	Horizontal
9608.00	60.47	-2.38	58.09	74.00	-15.91	Horizontal
12010.00	*			74.00		Horizontal
14412.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4804.00	56.42	-7.43	48.99	54.00	-5.01	Vertical
7206.00	48.69	-2.42	46.27	54.00	-7.73	Vertical
9608.00	47.84	-2.38	45.46	54.00	-8.54	Vertical
12010.00	*			54.00		Vertical
14412.00	*			54.00		Vertical
4804.00	54.66	-7.43	47.23	54.00	-6.77	Horizontal
7206.00	49.03	-2.42	46.61	54.00	-7.39	Horizontal
9608.00	47.34	-2.38	44.96	54.00	-9.04	Horizontal
12010.00	*			54.00		Horizontal
14412.00	*			54.00		Horizontal

Remark:

1. *Final Level =Receiver Read level + Correct factor*
2. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test channel:	Middle

Peak value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4882.00	72.30	-7.49	64.81	74.00	-9.19	Vertical
7323.00	65.34	-2.40	62.94	74.00	-11.06	Vertical
9764.00	62.01	-2.38	59.63	74.00	-14.37	Vertical
12205.00	*			74.00		Vertical
14646.00	*			74.00		Vertical
4882.00	70.22	-7.49	62.73	74.00	-11.27	Horizontal
7323.00	64.33	-2.40	61.93	74.00	-12.07	Horizontal
9764.00	60.07	-2.38	57.69	74.00	-16.31	Horizontal
12205.00	*			74.00		Horizontal
14646.00	*			74.00		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4882.00	54.10	-7.49	46.61	54.00	-7.39	Vertical
7323.00	47.69	-2.40	45.29	54.00	-8.71	Vertical
9764.00	46.58	-2.38	44.20	54.00	-9.80	Vertical
12205.00	*			54.00		Vertical
14646.00	*			54.00		Vertical
4882.00	51.78	-7.49	44.29	54.00	-9.71	Horizontal
7323.00	48.13	-2.40	45.73	54.00	-8.27	Horizontal
9764.00	47.22	-2.38	44.84	54.00	-9.16	Horizontal
12205.00	*			54.00		Horizontal
14646.00	*			54.00		Horizontal

Remark:

1. *Final Level =Receiver Read level + Correct facto*
2. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

Test channel:	Highest

Peak value:

Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4960.00	67.61	-7.47	60.14	74.00	-13.86	Vertical
7440.00	65.45	-2.45	63.00	74.00	-11.00	Vertical
9920.00	59.36	-2.37	56.99	74.00	-17.01	Vertical
12400.00	*			74.00		Vertical
14880.00	*			74.00		Vertical
4960.00	69.62	-7.47	62.15	74.00	-11.85	Horizontal
7440.00	66.17	-2.45	63.72	74.00	-10.28	Horizontal
9920.00	60.48	-2.37	58.11	74.00	-15.89	Horizontal
12400.00	*			74.00		Horizontal
14880.00	*			74.00		Horizontal

Average value:

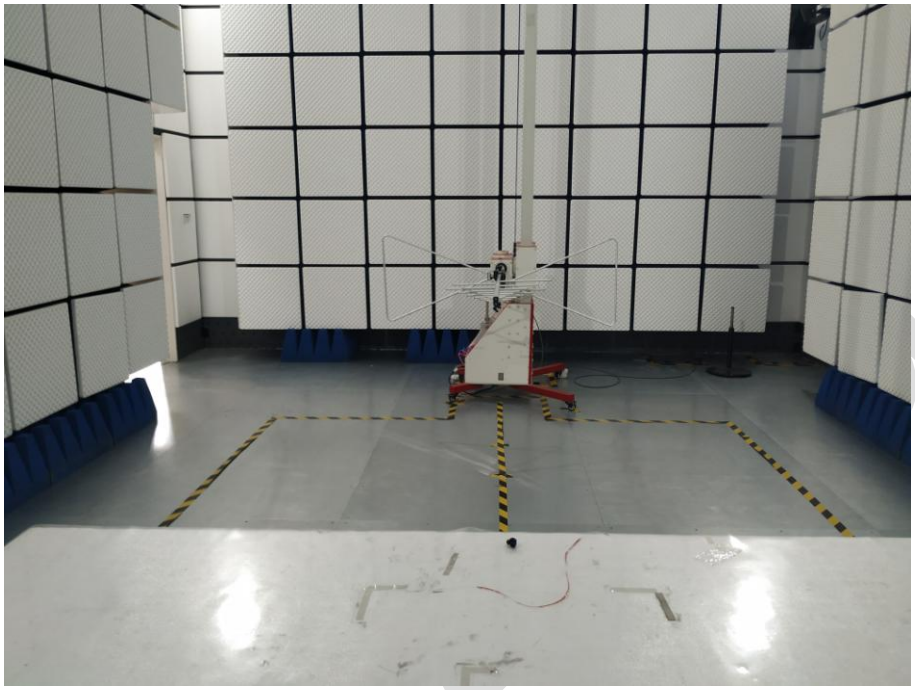
Frequency (MHz)	Read Level (dBuV)	Correct factor (dB/m)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
4960.00	51.05	-7.47	43.58	54.00	-10.42	Vertical
7440.00	48.81	-2.45	46.36	54.00	-7.64	Vertical
9920.00	46.63	-2.37	44.26	54.00	-9.74	Vertical
12400.00	*			54.00		Vertical
14880.00	*			54.00		Vertical
4960.00	51.37	-7.47	43.90	54.00	-10.10	Horizontal
7440.00	47.02	-2.45	44.57	54.00	-9.43	Horizontal
9920.00	45.28	-2.37	42.91	54.00	-11.09	Horizontal
12400.00	*			54.00		Horizontal
14880.00	*			54.00		Horizontal

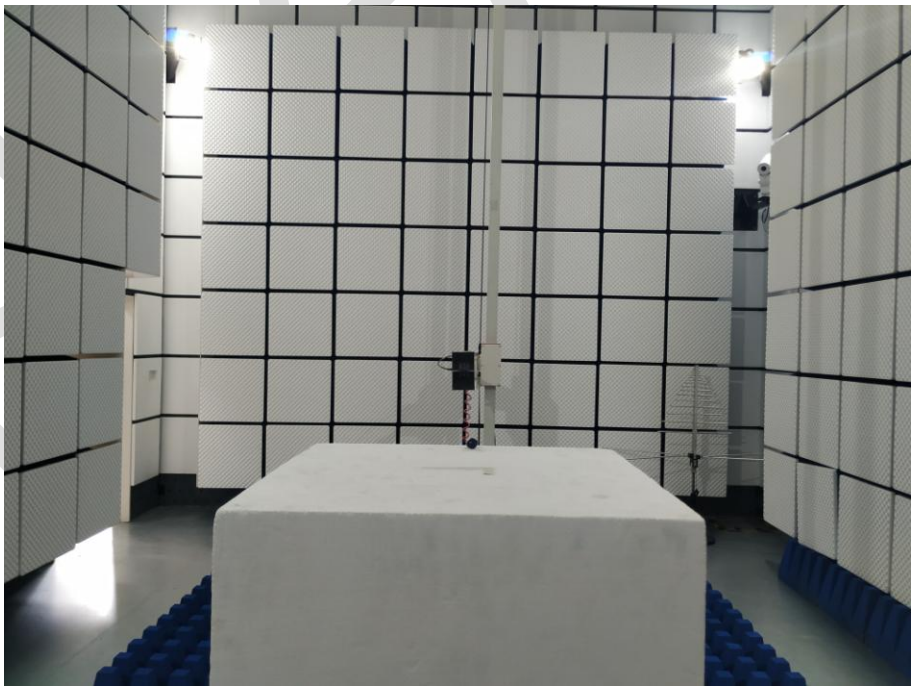
Remark:

1. *Final Level =Receiver Read level + Correct factor*
2. *Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor*
3. *"*", means this data is the too weak instrument of signal is unable to test.*
4. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

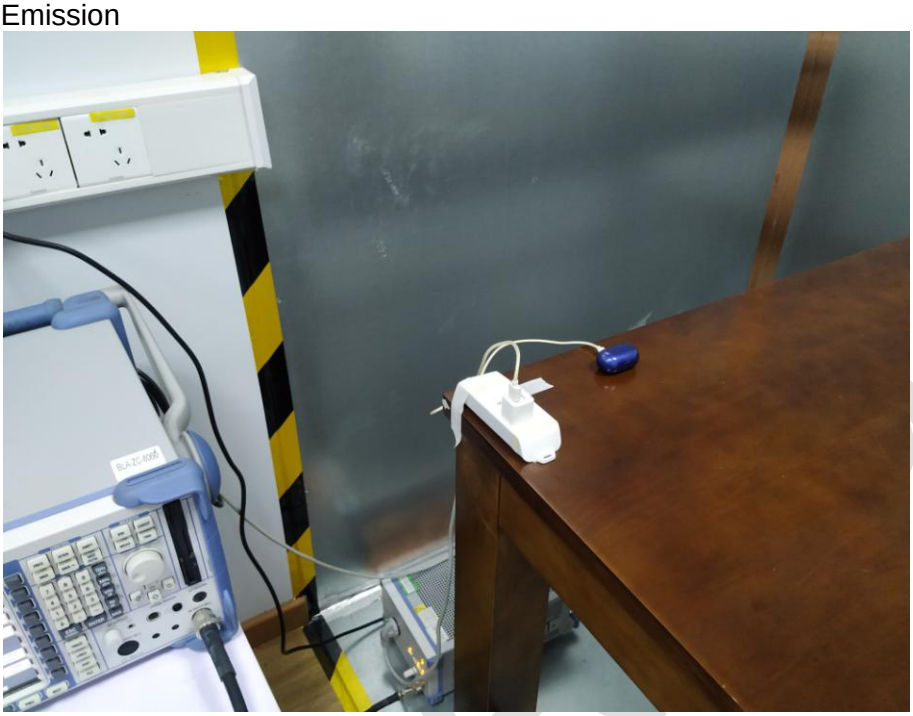
8 Test Setup Photo

Radiated Emission

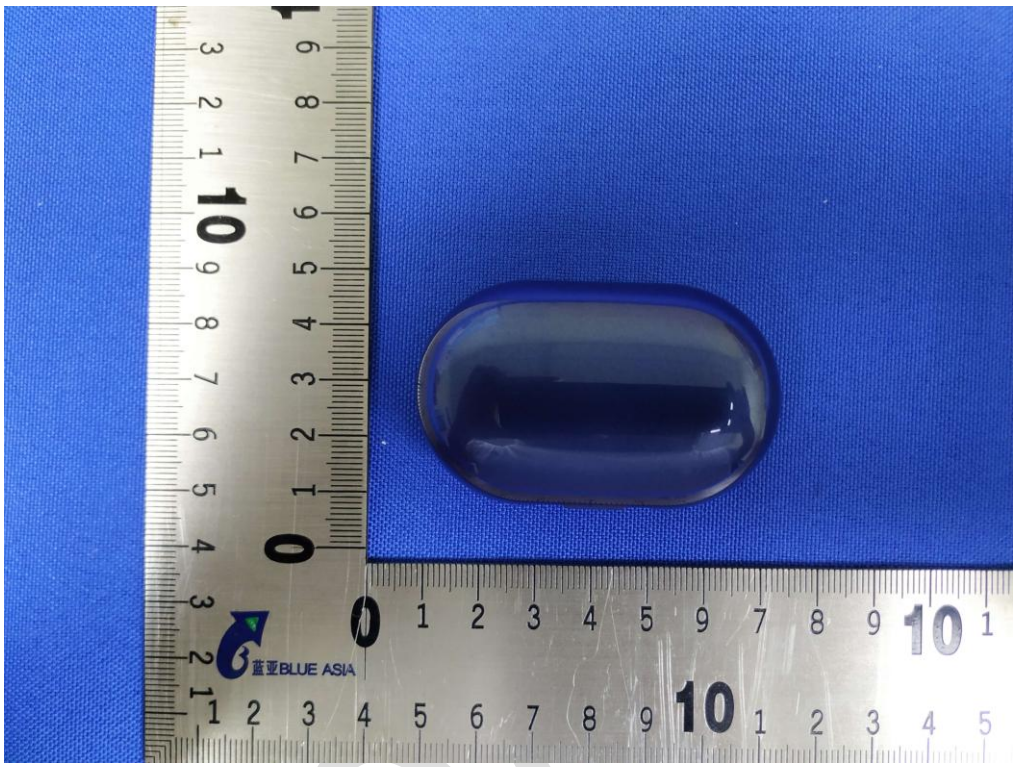




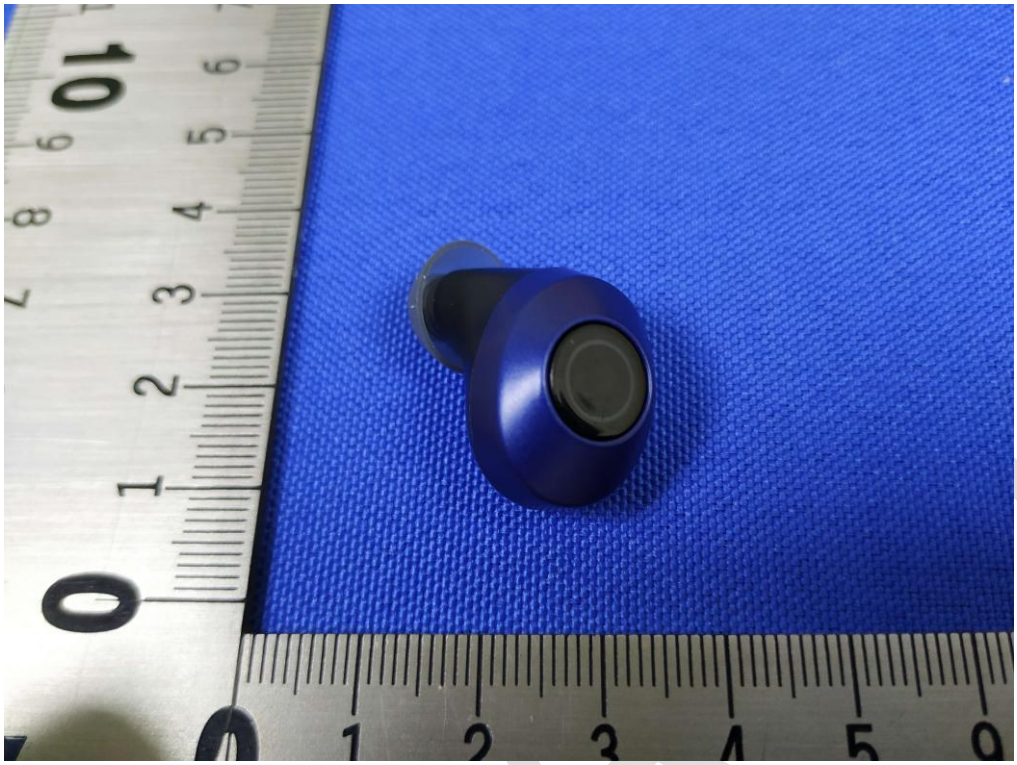
Conducted Emission

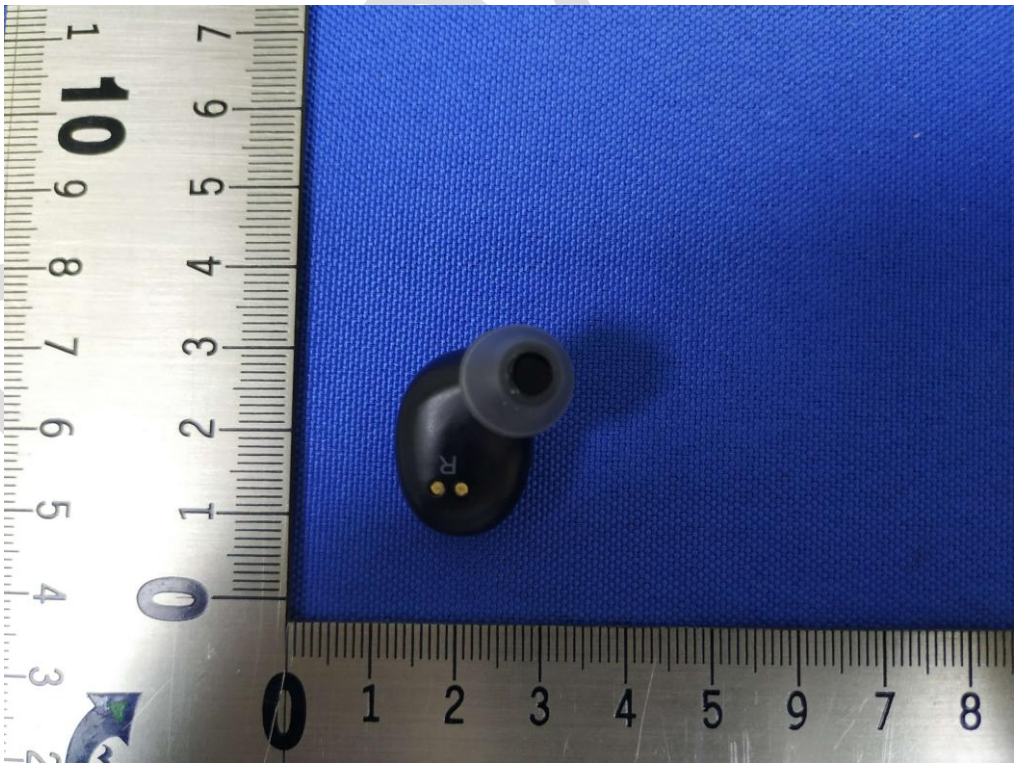


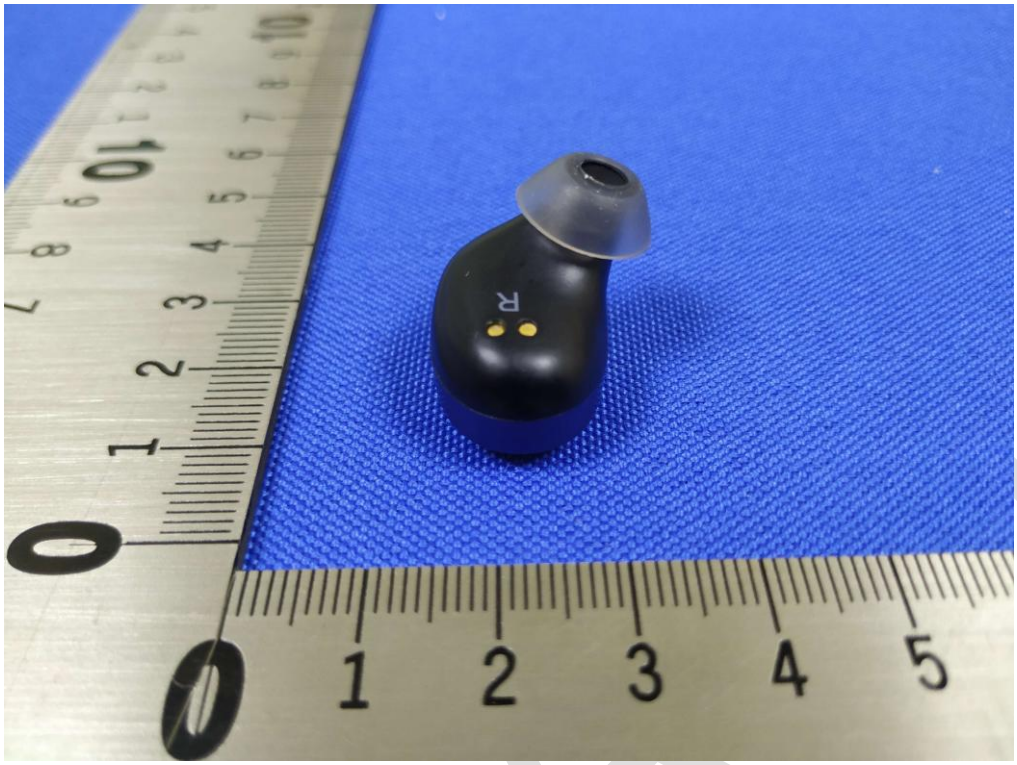
9 EUT Constructional Details



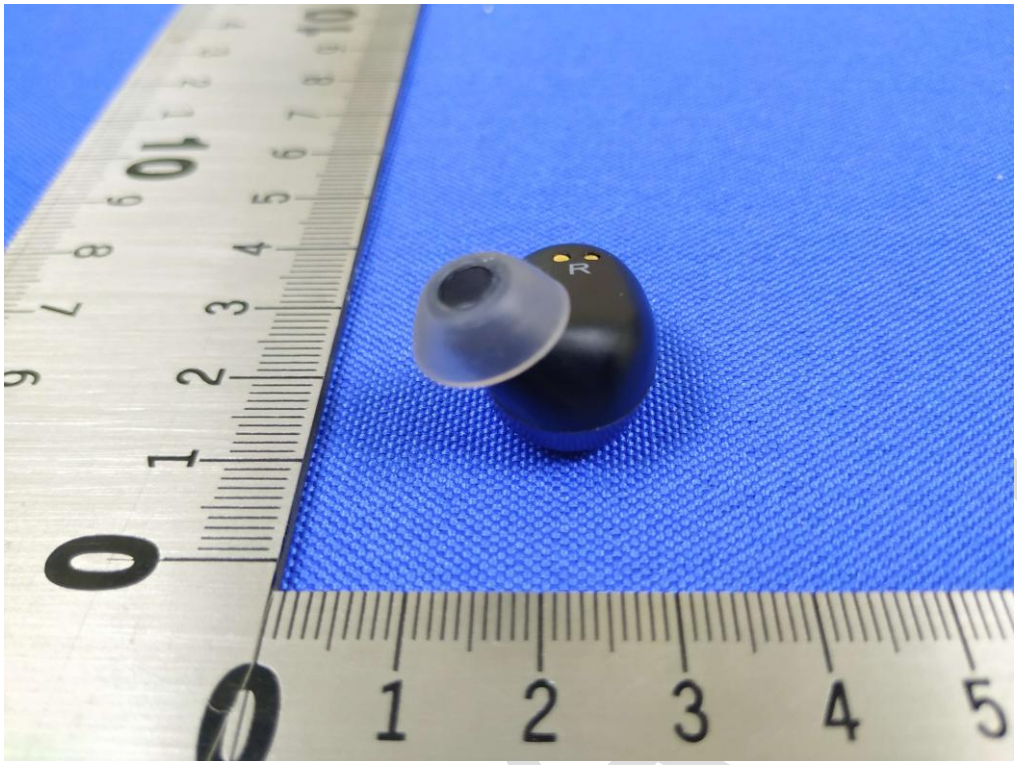

True Wireless Earbuds
Input:5V-0.25A
Model:BW-FYE5

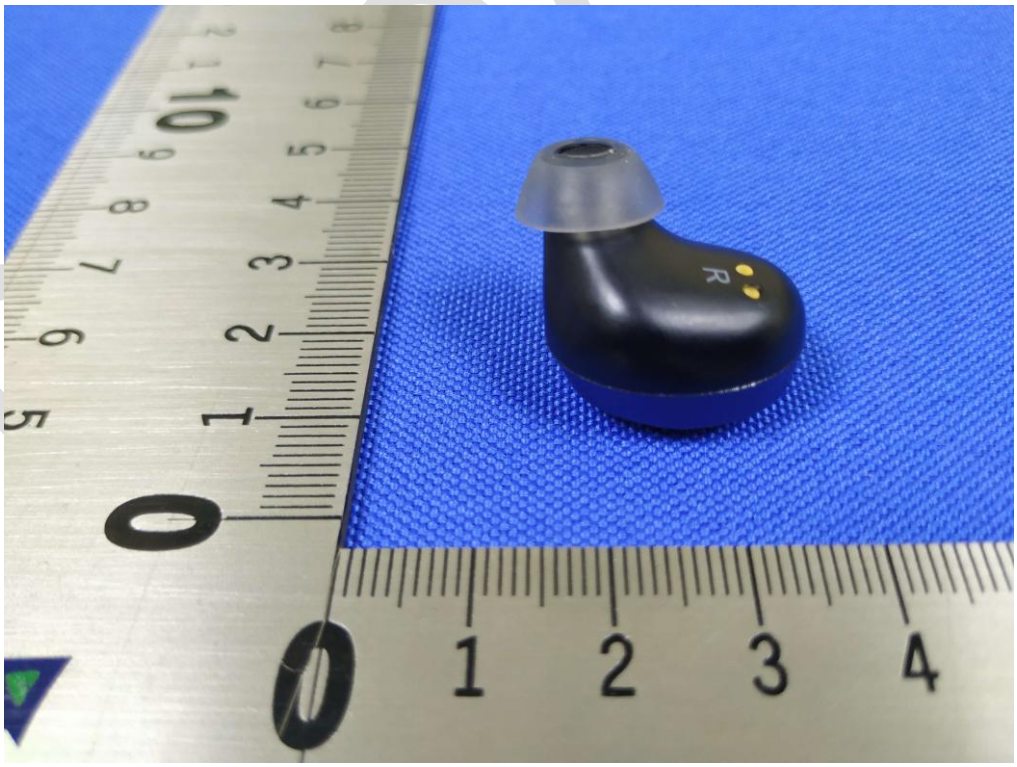


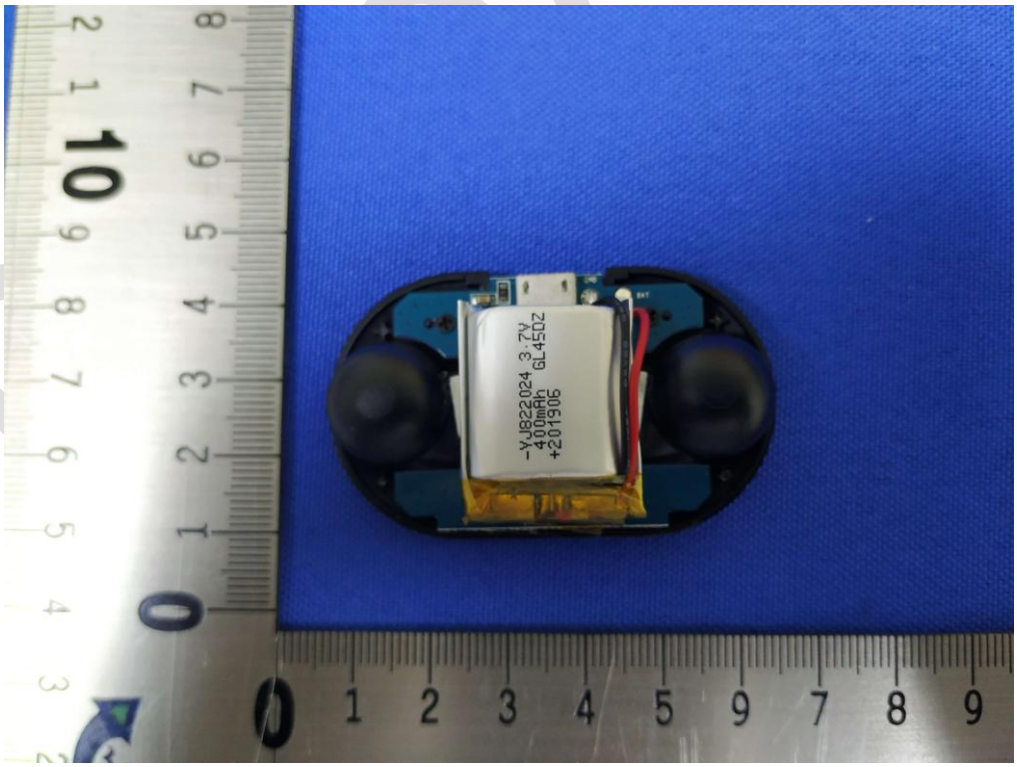


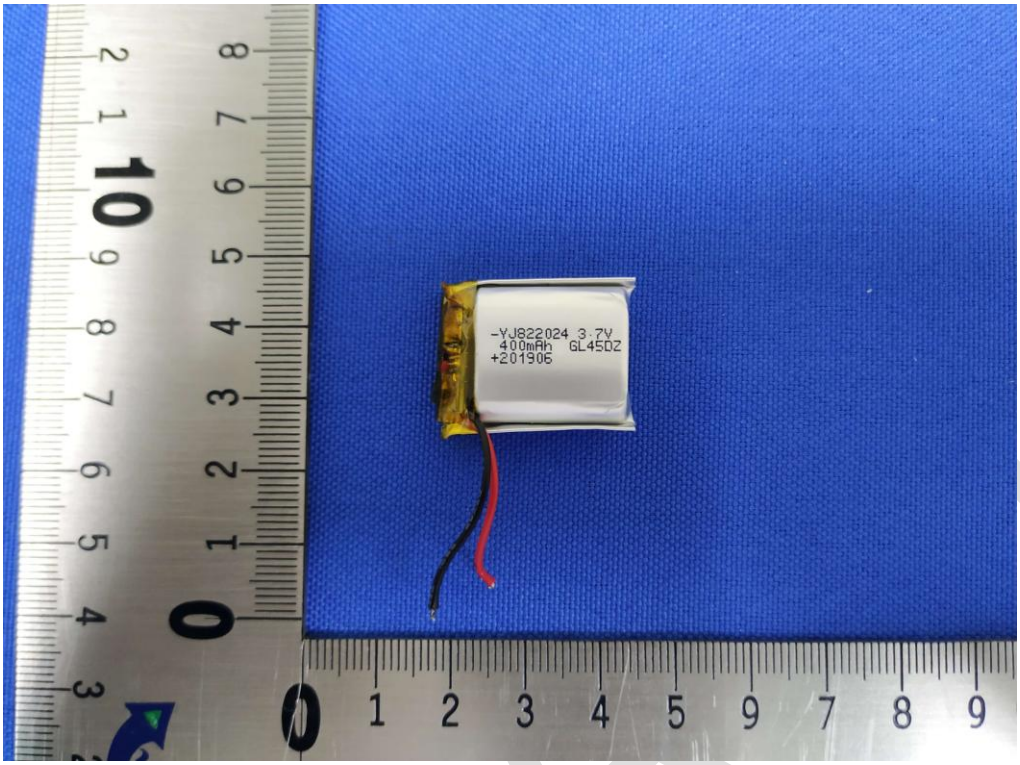

R
0
1
2
3
4
5

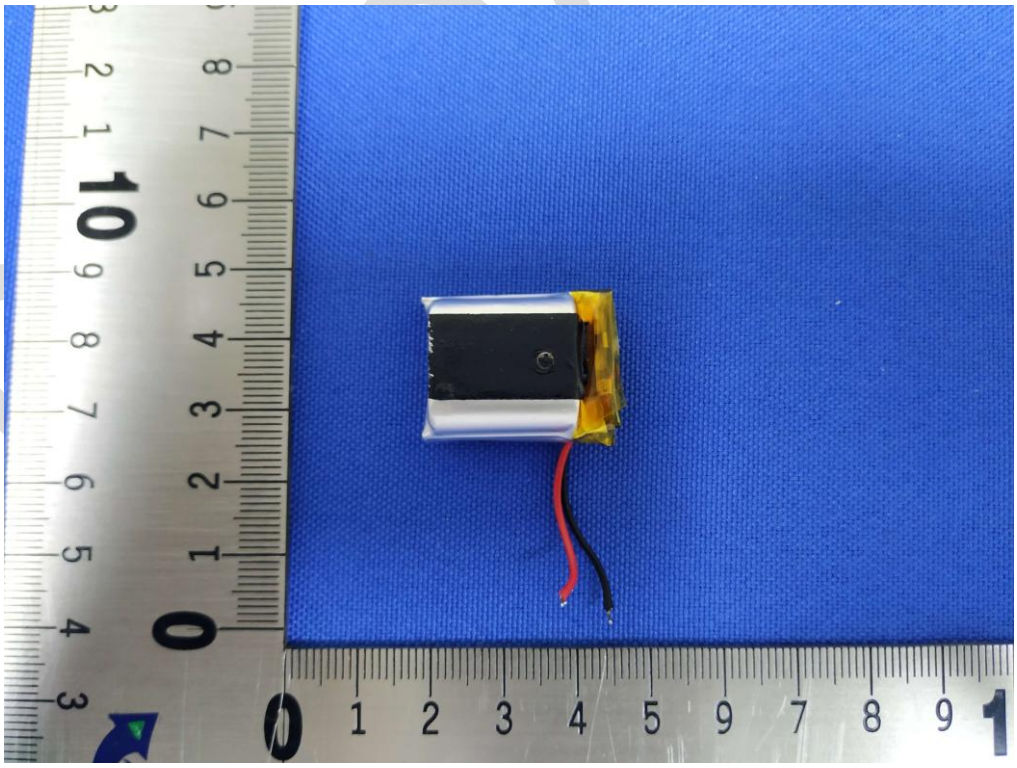

R
0
1
2
3
4
5

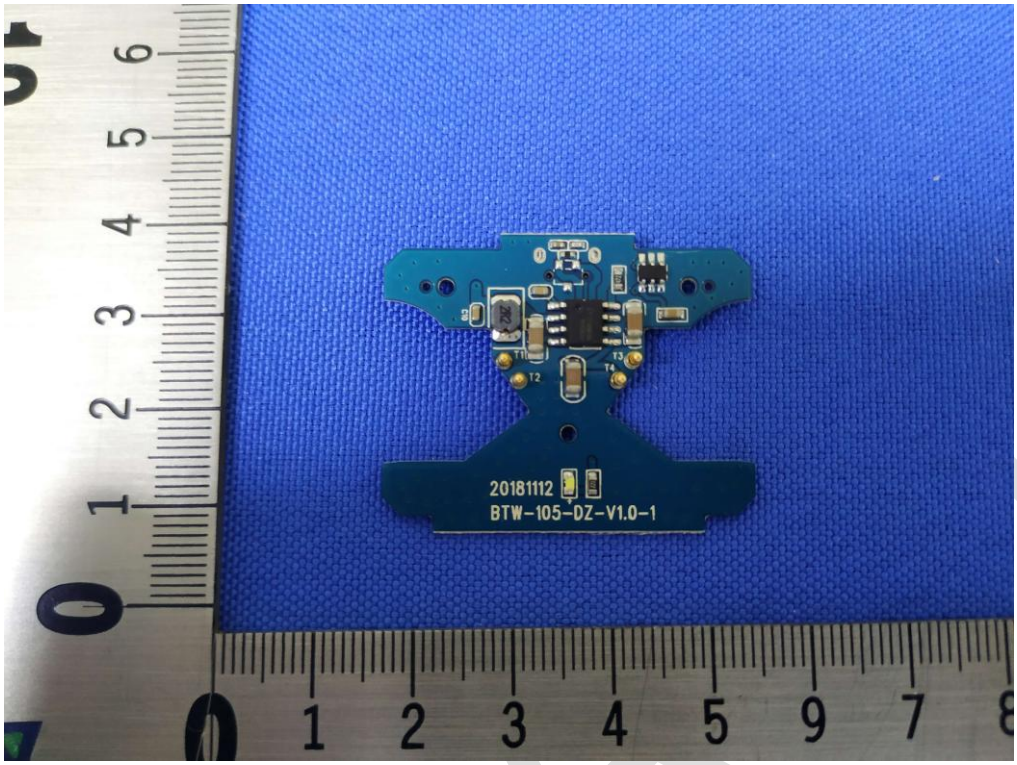

R
0
1
2
3
4
5

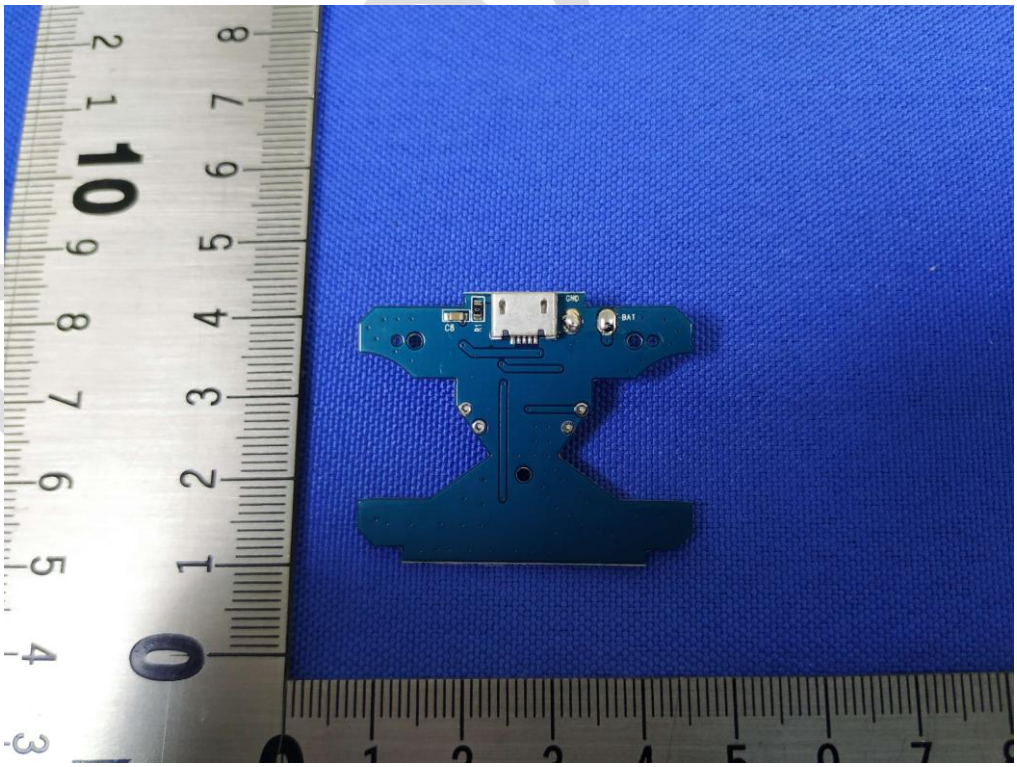

R
0
1
2
3
4

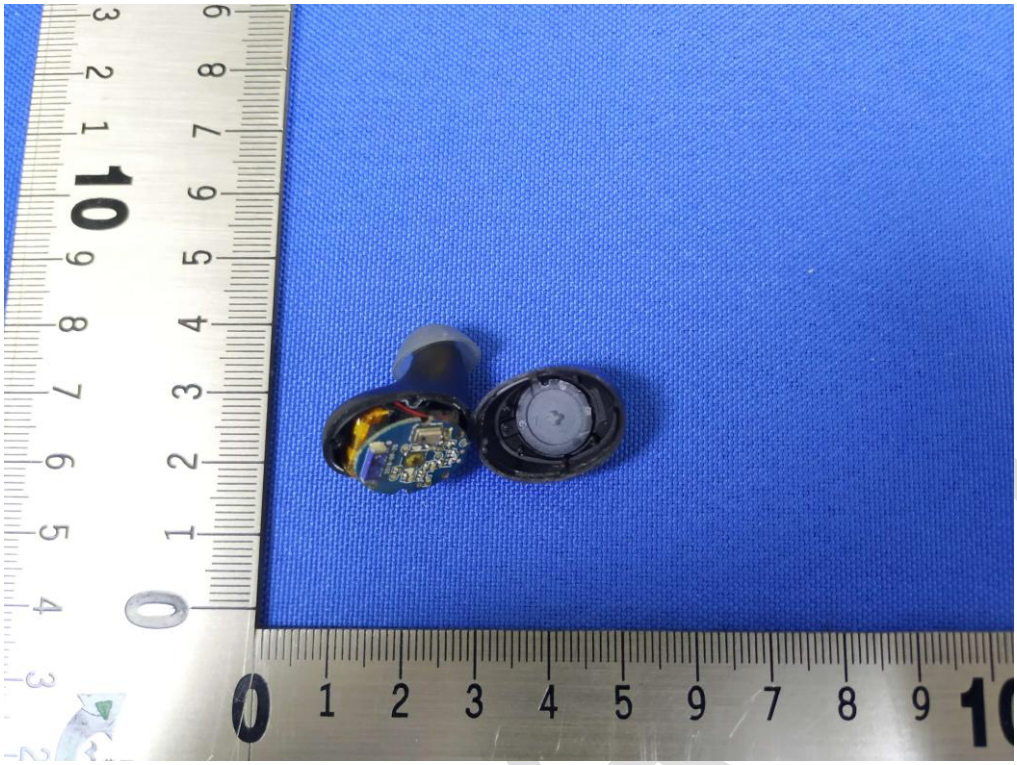


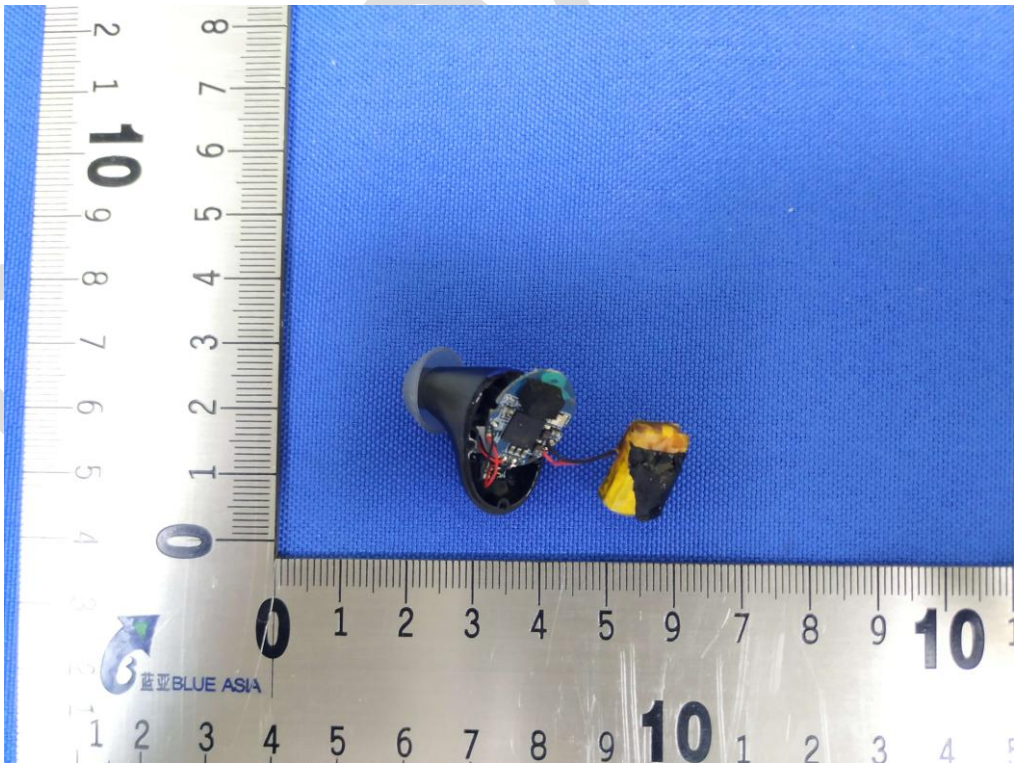

-YJ822024 3.7V
400mAh GL45DZ
+201906

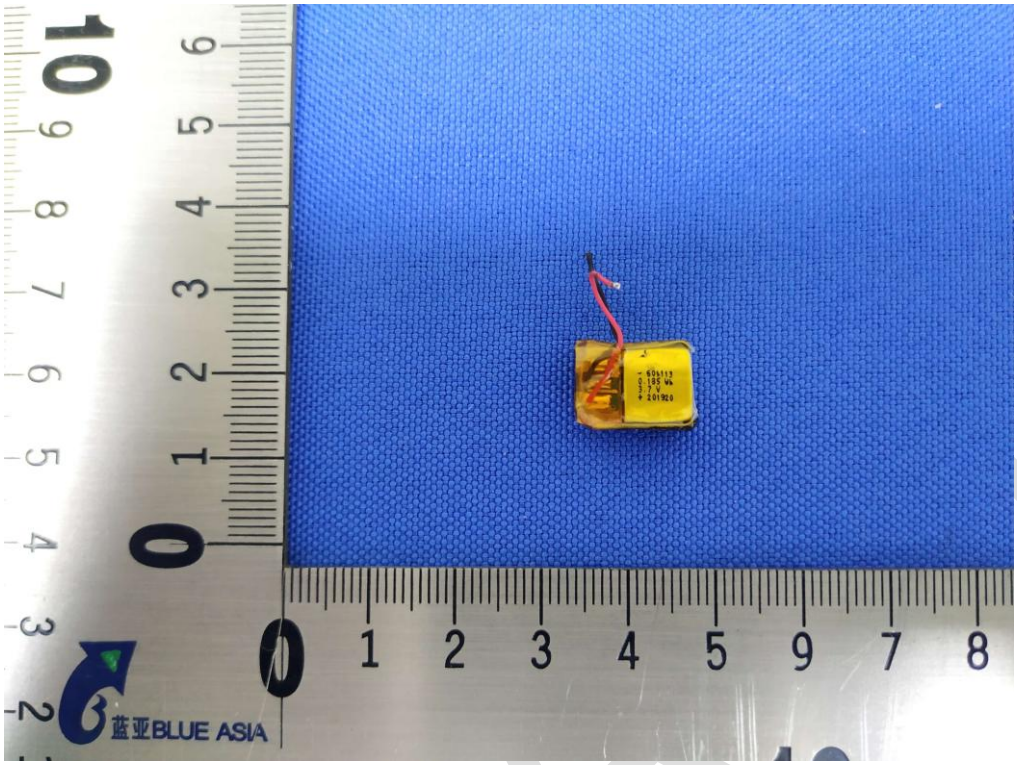


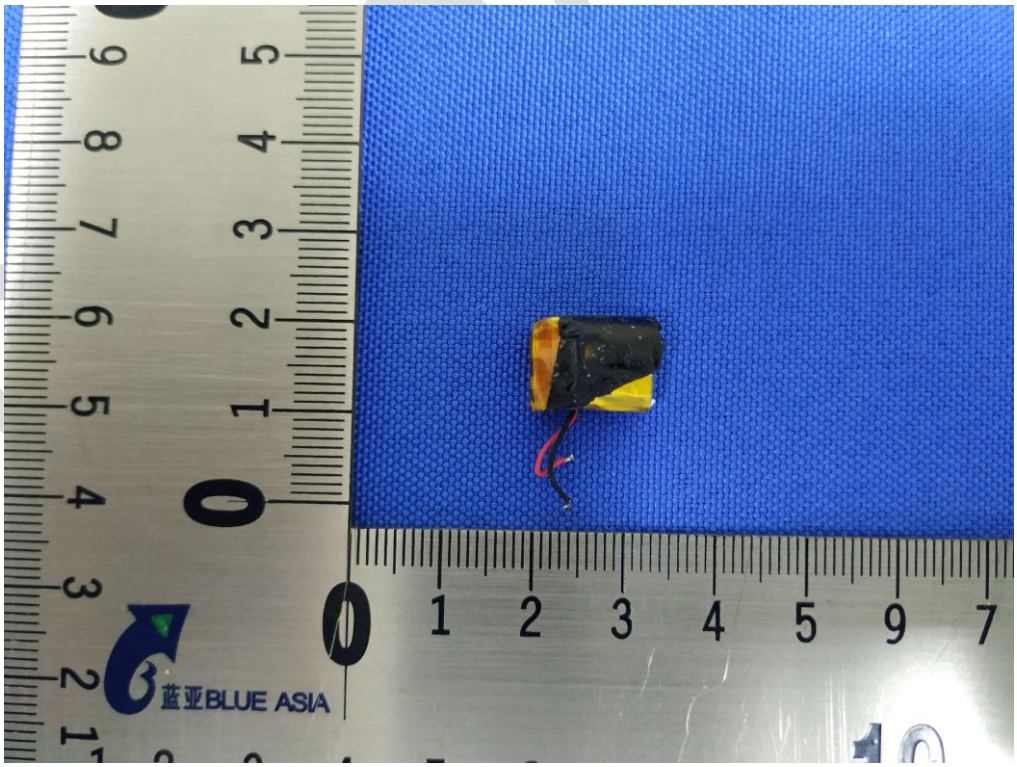

20181112
BTW-105-DZ-V1.0-1

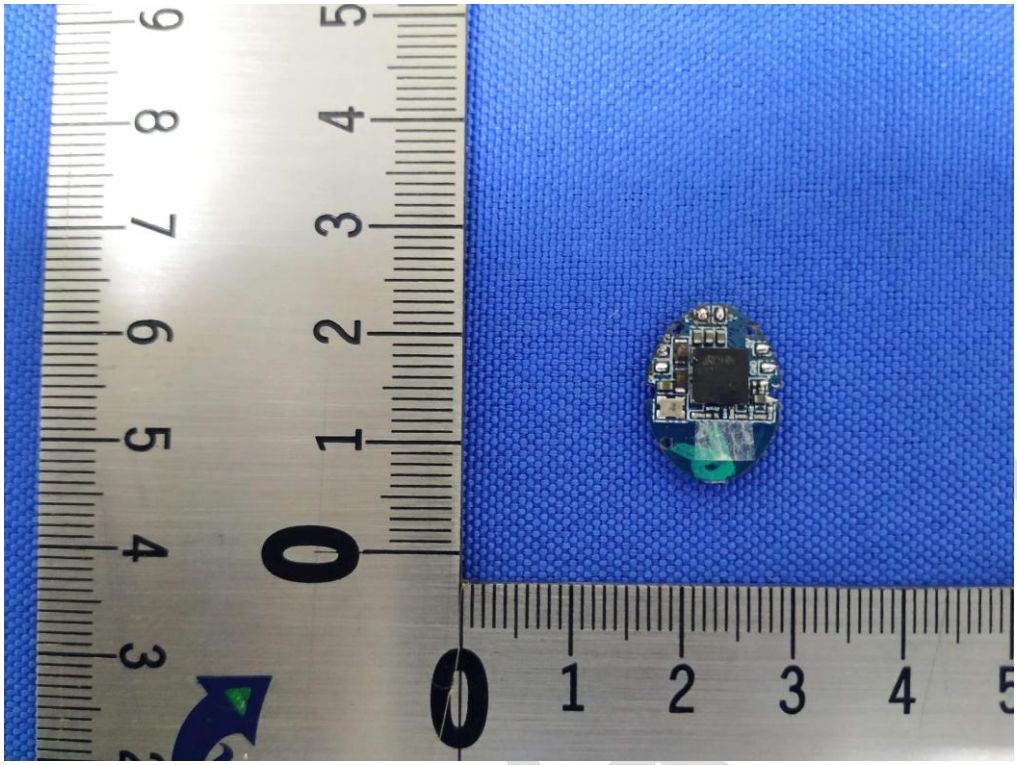


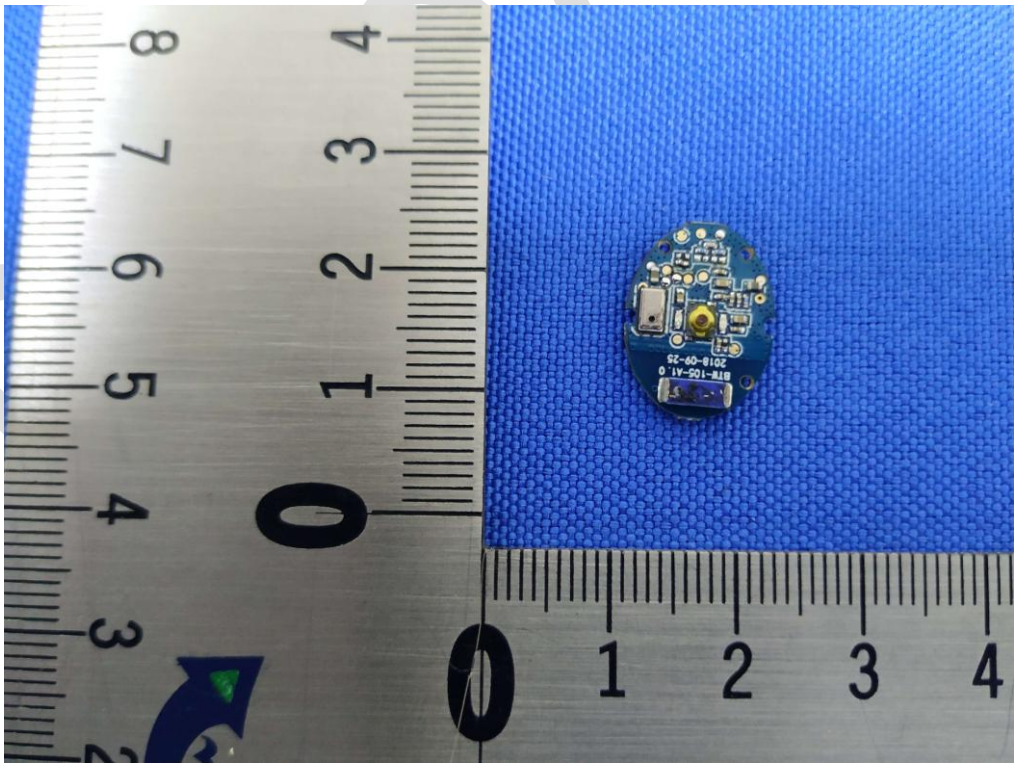





蓝亚BLUE ASIA


蓝亚BLUE ASIA





*** End of Report ***

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