

Radiated Emission test (above 1 GHz)

Freq. (MHz)	Read level (dBμV)	Antenna Factor (dB/m)	PRM Factor (dB)	Cable Loss (dB)	Result Level (dBμV/m)	Limit (dBμV/ m)	Margin (dB)	Detector type	Polarization
Tx mode 2402 MHz									
4804.00	48.54	32.31	43.34	6.80	44.31	74.00	-29.69	Peak	HORIZONTAL
6882.00	46.76	36.02	43.06	7.93	47.65	74.00	-26.35	Peak	HORIZONTAL
8769.00	46.20	38.16	41.91	9.19	51.64	74.00	-22.36	Peak	HORIZONTAL
11540.00	44.20	39.78	42.07	11.12	53.03	74.00	-20.97	Peak	HORIZONTAL
13614.00	45.04	40.96	42.69	11.74	55.05	74.00	-18.95	Peak	HORIZONTAL
13614.00	38.11	40.96	42.69	11.74	48.12	54.00	-5.88	Average	HORIZONTAL
16521.00	47.24	41.14	42.25	13.20	59.33	74.00	-14.67	Peak	HORIZONTAL
16521.00	37.23	41.14	42.25	13.20	49.32	54.00	-4.68	Average	HORIZONTAL
4804.00	48.70	32.31	43.34	6.80	44.47	74.00	-29.53	Peak	VERTICAL
7086.00	47.68	36.44	42.94	8.12	49.30	74.00	-24.70	Peak	VERTICAL
9024.00	46.46	38.32	41.81	9.53	52.50	74.00	-21.50	Peak	VERTICAL
11574.00	43.38	39.77	42.02	11.11	52.24	74.00	-21.76	Peak	VERTICAL
13393.00	43.70	40.56	42.80	11.48	52.94	74.00	-21.06	Peak	VERTICAL
15943.00	43.22	39.07	42.27	12.62	52.64	74.00	-21.36	Peak	VERTICAL
Tx mode 2441 MHz									
4882.00	47.39	32.46	43.29	6.89	43.45	74.00	-30.55	Peak	HORIZONTAL
7290.00	49.08	36.76	42.79	8.48	51.53	74.00	-22.47	Peak	HORIZONTAL
10146.00	44.97	39.03	42.31	10.30	51.99	74.00	-22.01	Peak	HORIZONTAL
12730.00	43.60	39.27	42.58	11.66	51.95	74.00	-22.05	Peak	HORIZONTAL
14328.00	40.09	41.37	42.23	12.13	51.36	74.00	-22.64	Peak	HORIZONTAL
16385.00	40.88	40.62	42.26	13.05	52.29	74.00	-21.71	Peak	HORIZONTAL
4882.00	47.43	32.46	43.29	6.89	43.49	74.00	-30.51	Peak	VERTICAL
7171.00	48.08	36.57	42.87	8.27	50.05	74.00	-23.95	Peak	VERTICAL
9636.00	46.29	38.80	42.06	9.83	52.86	74.00	-21.14	Peak	VERTICAL
11336.00	44.85	39.80	42.38	10.94	53.21	74.00	-20.79	Peak	VERTICAL
13274.00	44.57	40.30	42.86	11.39	53.40	74.00	-20.60	Peak	VERTICAL
15416.00	44.22	39.73	41.95	12.50	54.50	74.00	-19.50	Peak	VERTICAL
15416.00	38.16	39.73	41.95	12.50	48.44	54.00	-5.56	Average	VERTICAL
Tx mode 2480 MHz									
4960.00	48.51	32.62	43.23	6.99	44.89	74.00	-29.11	Peak	HORIZONTAL
7324.00	46.48	36.82	42.76	8.54	49.08	74.00	-24.92	Peak	HORIZONTAL
10197.00	45.31	39.12	42.34	10.31	52.40	74.00	-21.60	Peak	HORIZONTAL
12832.00	43.67	39.43	42.74	11.47	51.83	74.00	-22.17	Peak	HORIZONTAL
14294.00	40.39	41.38	42.26	12.14	51.65	74.00	-22.35	Peak	HORIZONTAL
15348.00	42.63	39.84	41.91	12.59	53.15	74.00	-20.85	Peak	HORIZONTAL
4960.00	47.73	32.62	43.23	6.99	44.11	74.00	-29.89	Peak	VERTICAL
7732.00	47.65	37.47	42.48	8.74	51.38	74.00	-22.62	Peak	VERTICAL
10044.00	45.58	38.87	42.23	10.29	52.51	74.00	-21.49	Peak	VERTICAL
12390.00	43.21	39.05	42.04	11.88	52.10	74.00	-21.90	Peak	VERTICAL
14328.00	41.21	41.37	42.23	12.13	52.48	74.00	-21.52	Peak	VERTICAL
16079.00	43.25	39.33	42.29	12.73	53.02	74.00	-20.98	Peak	VERTICAL
Result: Pass									

Note: 1. 30 MHz ~ 25 GHz: (Scan with GFSK, $\pi/4$ -DQPSK and 8DPSK, the worst case is 8DPSK Mode)

2. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

3. For emissions above 1 GHz. If peak results comply with AV limit, AV Result is deemed to comply with AV limit.

11. RF Conducted Spurious Emissions

11.1. Block diagram of test setup

Same as section 4.1

11.2. Limits

In any 100 kHz bandwidth outside the frequency bands 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.

11.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

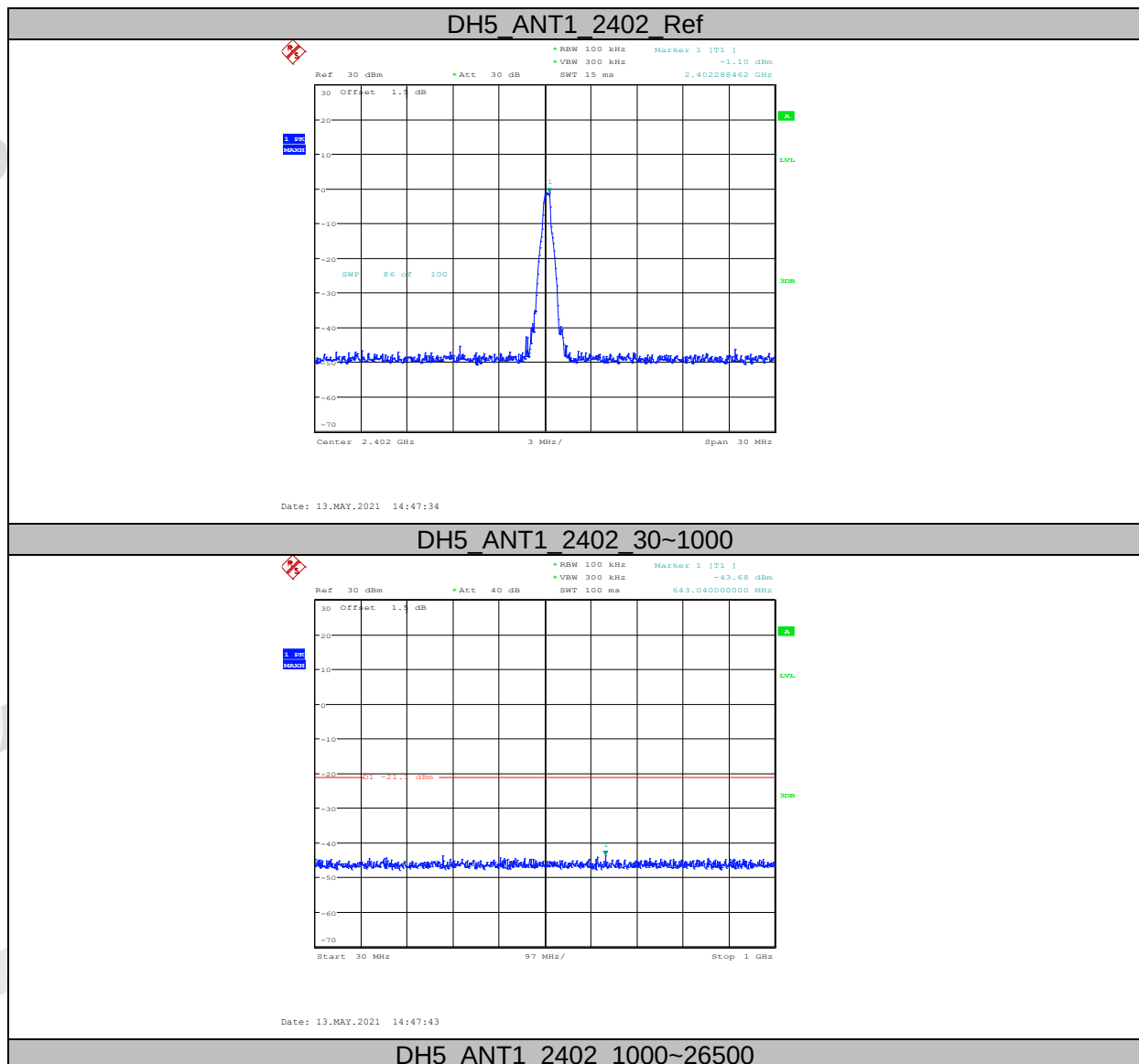
RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{span}/\text{RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

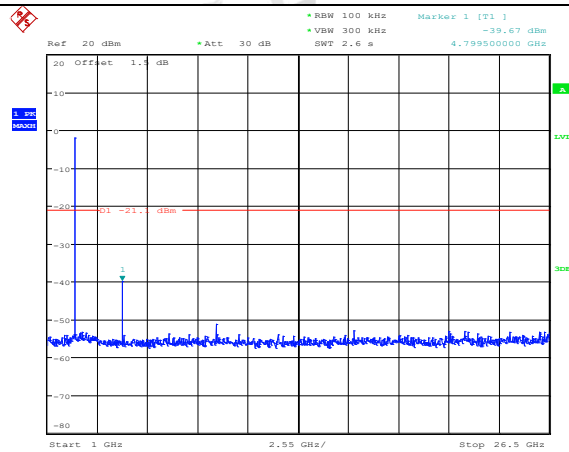
(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

11.4. Test result

Mode	Freq. (MHz)	Verdict
GFSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass
$\pi/4$ -DQPSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass
8DPSK	Hopping off 2402	Pass
	Hopping off 2441	Pass
	Hopping off 2480	Pass

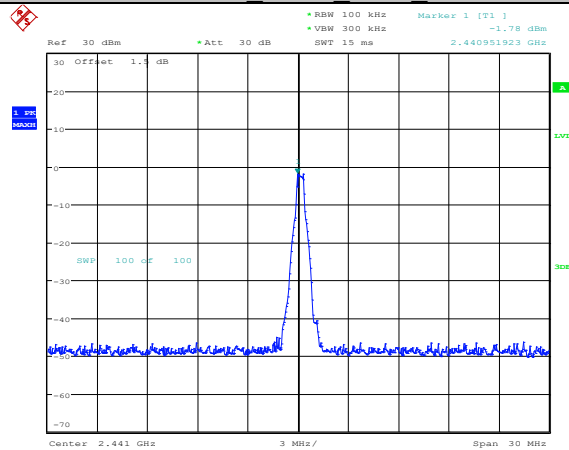
11.5. Original test data





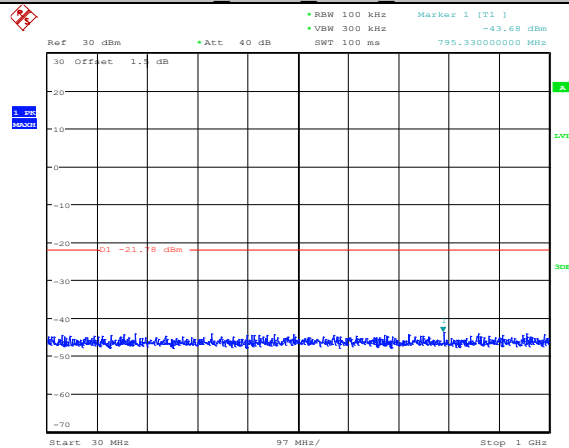
Date: 13.MAY.2021 14:47:54

DH5 ANT1 2441 Ref



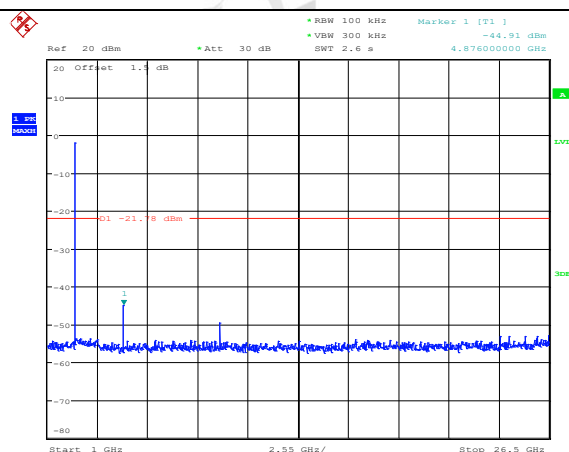
Date: 13.MAY.2021 14:48:38

DH5 ANT1 2441 30~1000



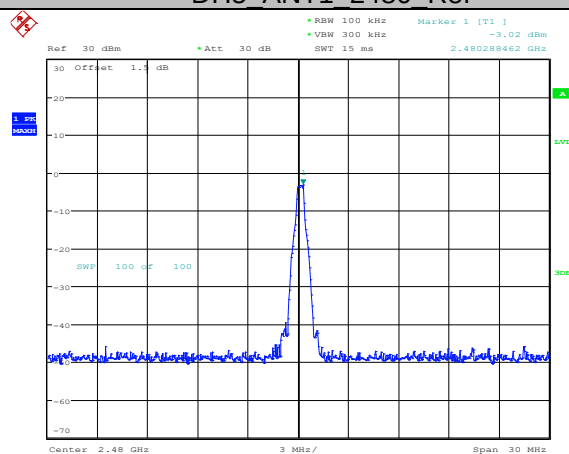
Date: 13.MAY.2021 14:48:46

DH5 ANT1 2441 1000~26500



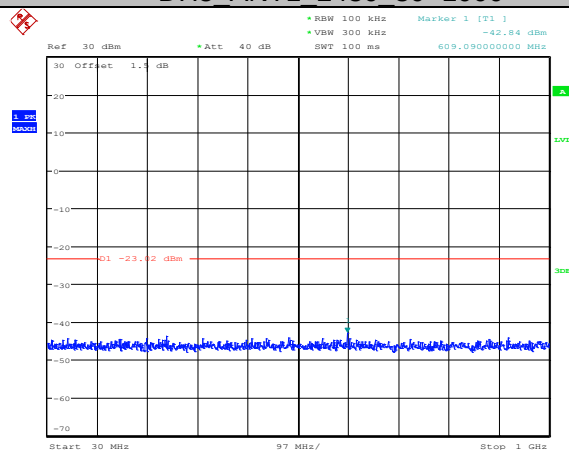
Date: 13.MAY.2021 14:48:57

DH5 ANT1 2480 Ref



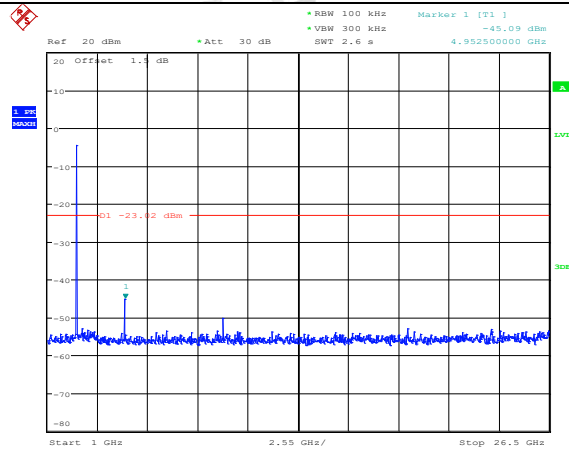
Date: 13.MAY.2021 14:49:47

DH5 ANT1 2480 30~1000

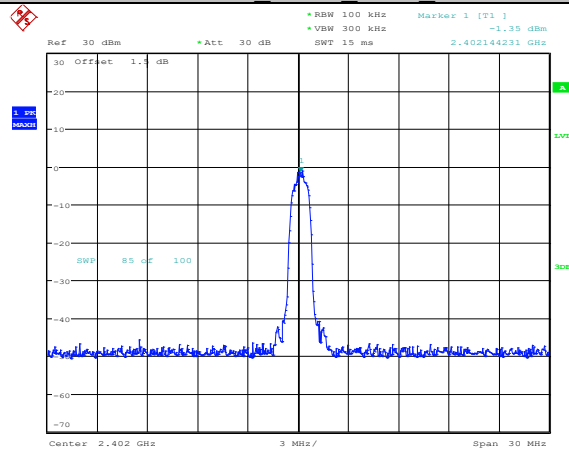


Date: 13.MAY.2021 14:49:55

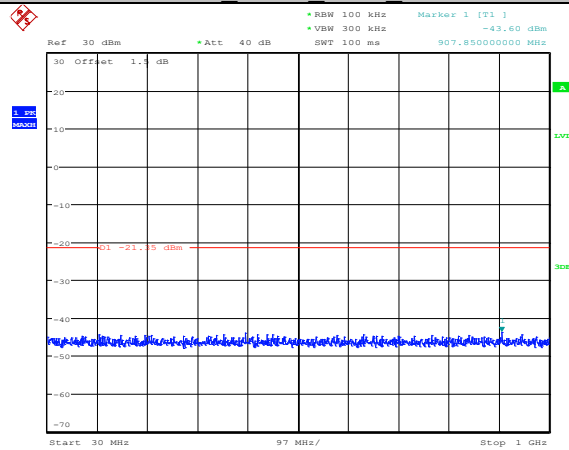
DH5 ANT1 2480 1000~26500



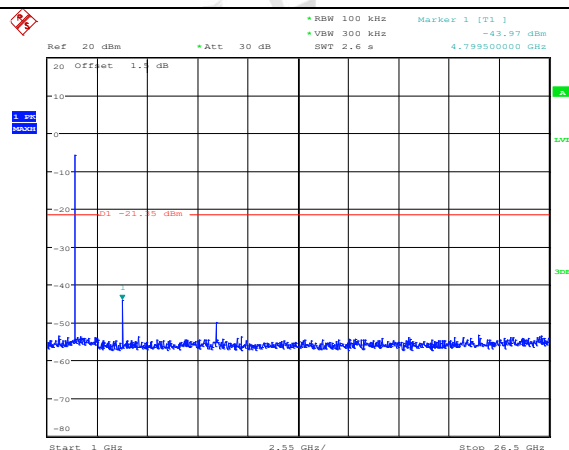
2DH5 ANT1 2402 Ref



2DH5 ANT1 2402 30~1000

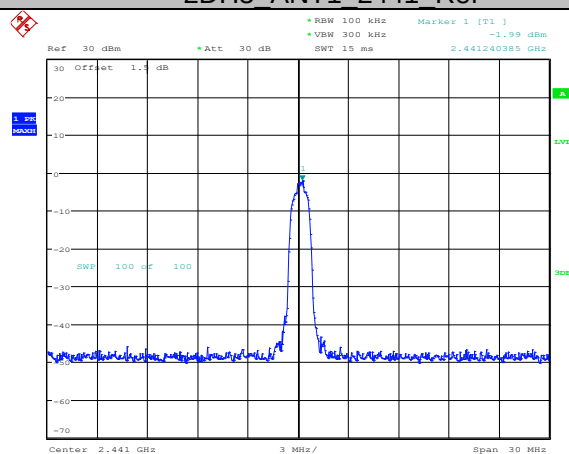


2DH5 ANT1 2402 1000~26500



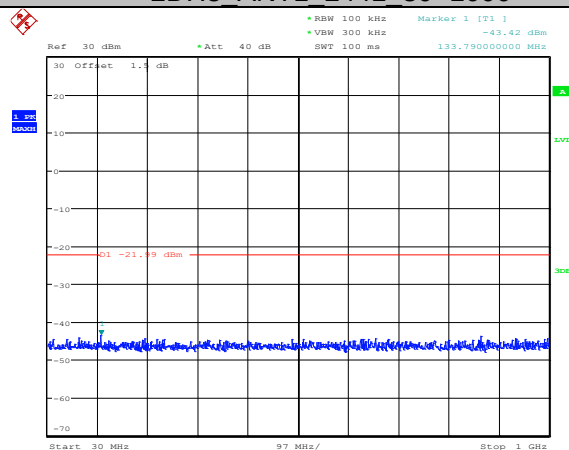
Date: 13.MAY.2021 14:51:41

2DH5 ANT1 2441 Ref



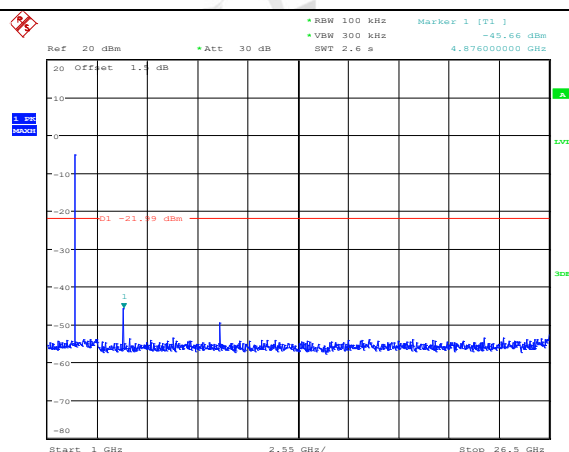
Date: 13.MAY.2021 14:52:24

2DH5 ANT1 2441 30~1000



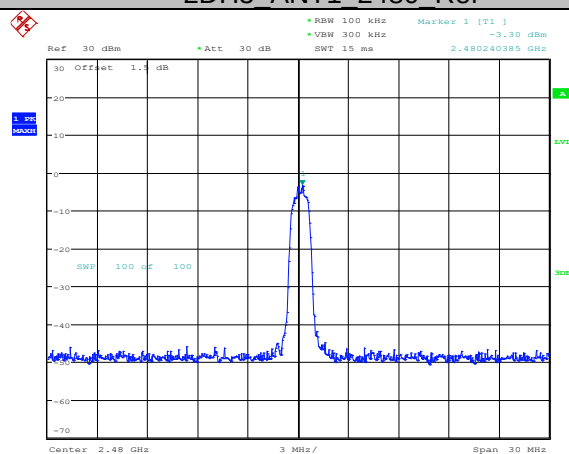
Date: 13.MAY.2021 14:52:32

2DH5 ANT1 2441 1000~26500



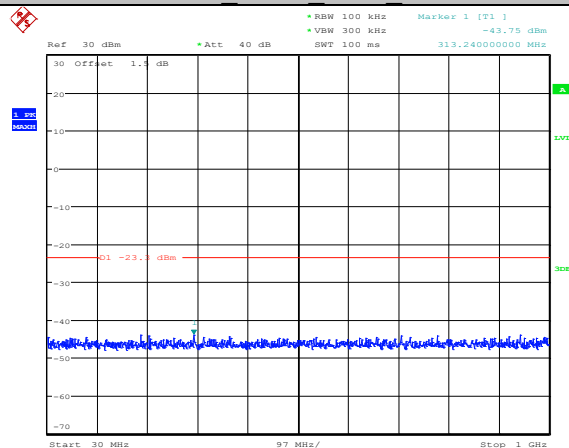
Date: 13.MAY.2021 14:52:43

2DH5 ANT1 2480 Ref



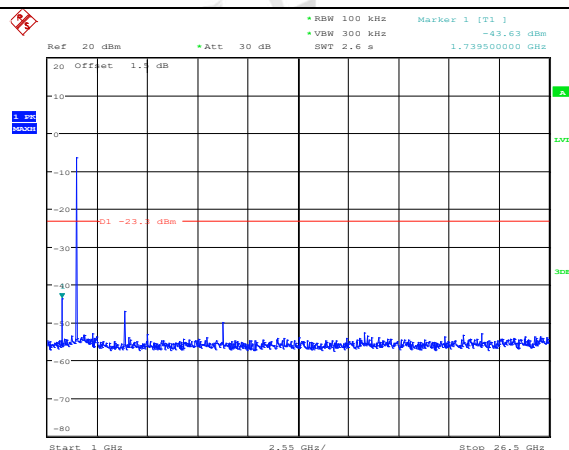
Date: 13.MAY.2021 14:53:35

2DH5 ANT1 2480 30~1000



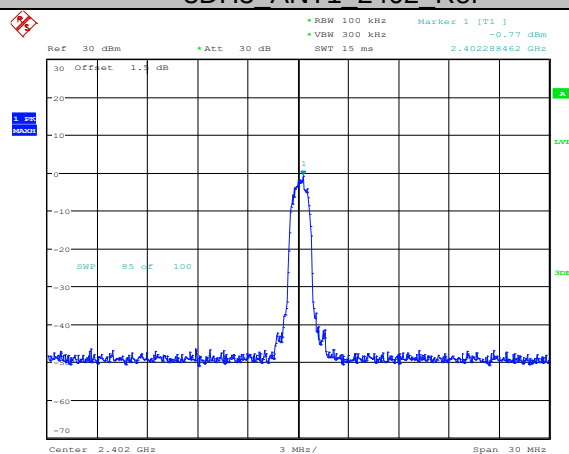
Date: 13.MAY.2021 14:53:43

2DH5 ANT1 2480 1000~26500



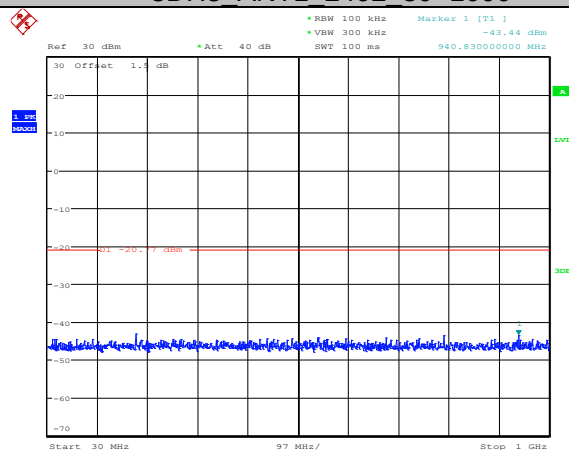
Date: 13.MAY.2021 14:53:54

3DH5 ANT1 2402 Ref



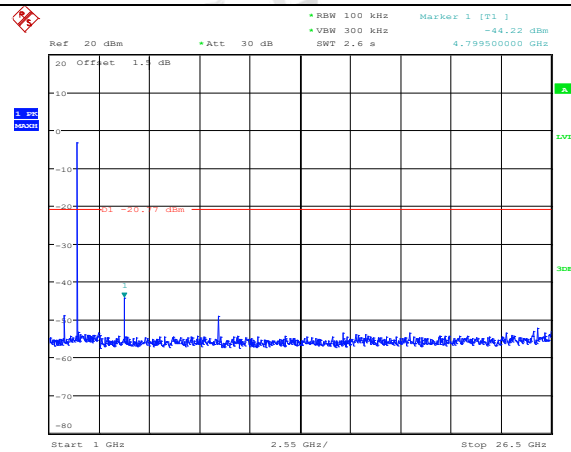
Date: 13.MAY.2021 14:54:51

3DH5 ANT1 2402 30~1000



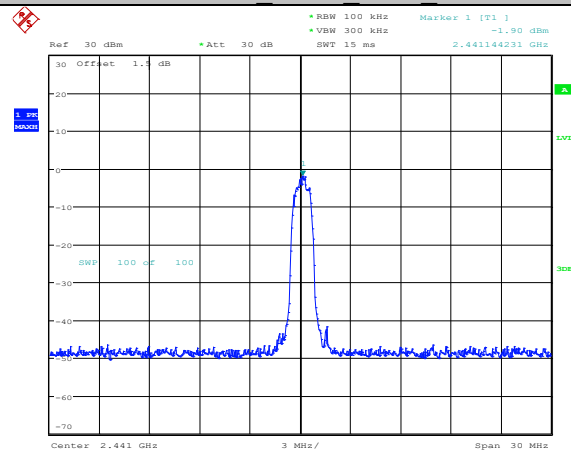
Date: 13.MAY.2021 14:54:59

3DH5 ANT1 2402 1000~26500



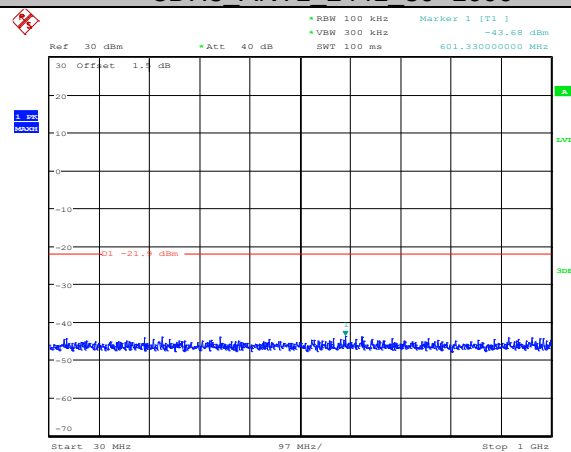
Date: 13.MAY.2021 14:55:10

3DH5_ANT1_2441_Ref



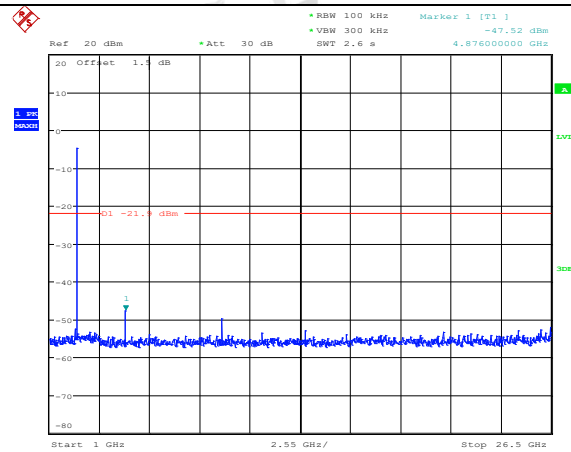
Date: 13.MAY.2021 14:55:53

3DH5 ANT1 2441 30~1000



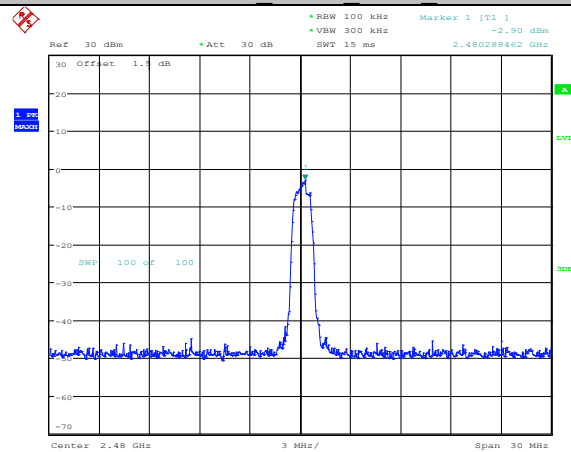
Date: 13.MAY.2021 14:56:01

3DH5 ANT1 2441 1000~26500



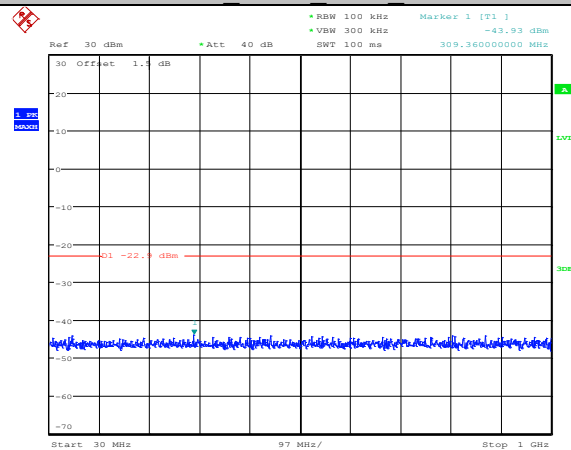
Date: 13.MAY.2021 14:56:12

3DH5_ANT1_2480_Ref



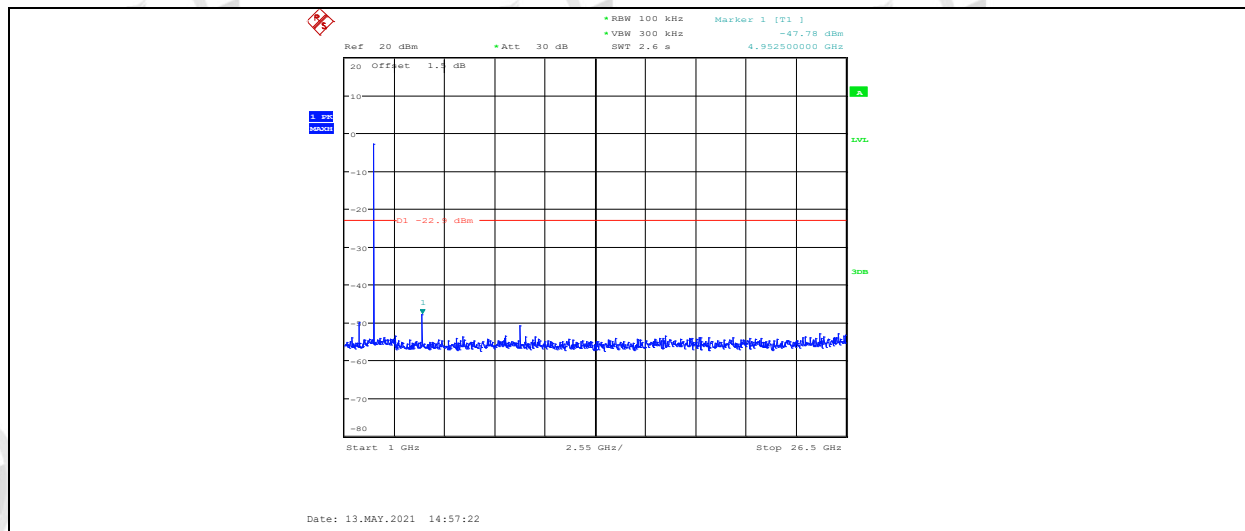
Date: 13.MAY.2021 14:57:02

3DH5 ANT1 2480 30~1000



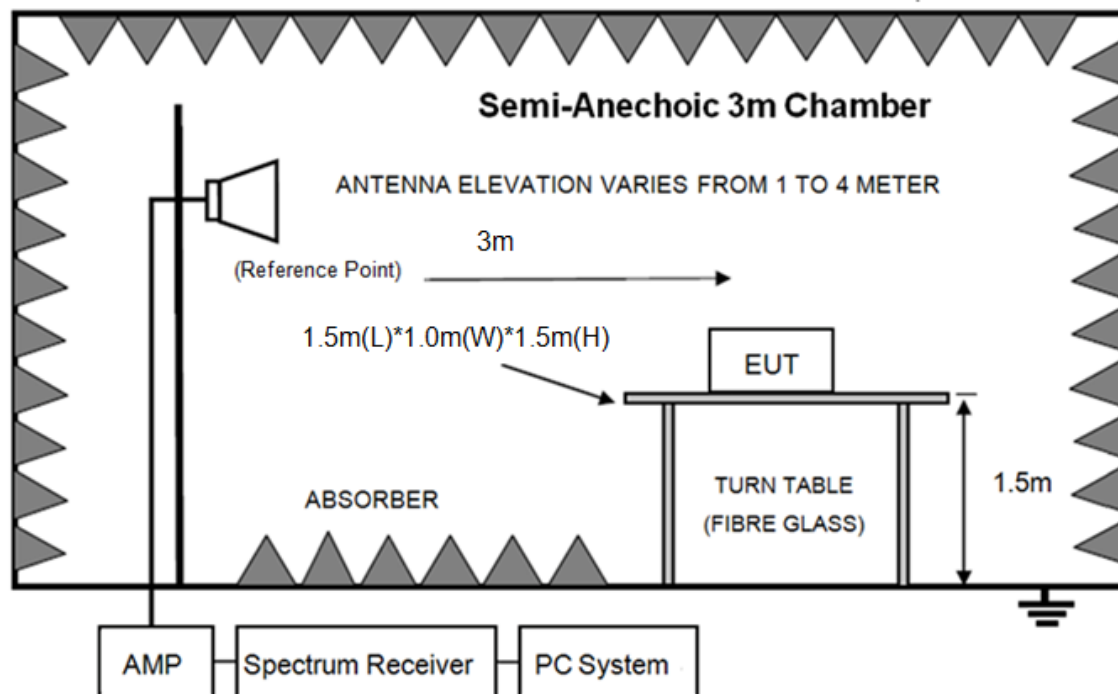
Date: 13.MAY.2021 14:57:11

3DH5 ANT1 2480 1000~26500



12. Band Edge Compliance (Radiated Method)

12.1. Block diagram of test setup



12.2. Limit

All restriction band should comply with 15.209, other emission should be at least 20 dB below the fundamental.

12.3. Test procedure

Same with clause 10.3 except change investigated frequency range from 2310 MHz to 2410 MHz and 2470 MHz to 2500 MHz.

Remark: All restriction band have been tested, and only the worst case is shown in report.

12.4. Test result

Pass. (See below detailed test result)

Remark: hopping on and hopping off mode all have been test, hopping off mode is worse and reported only, the worst case recorded in this report.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

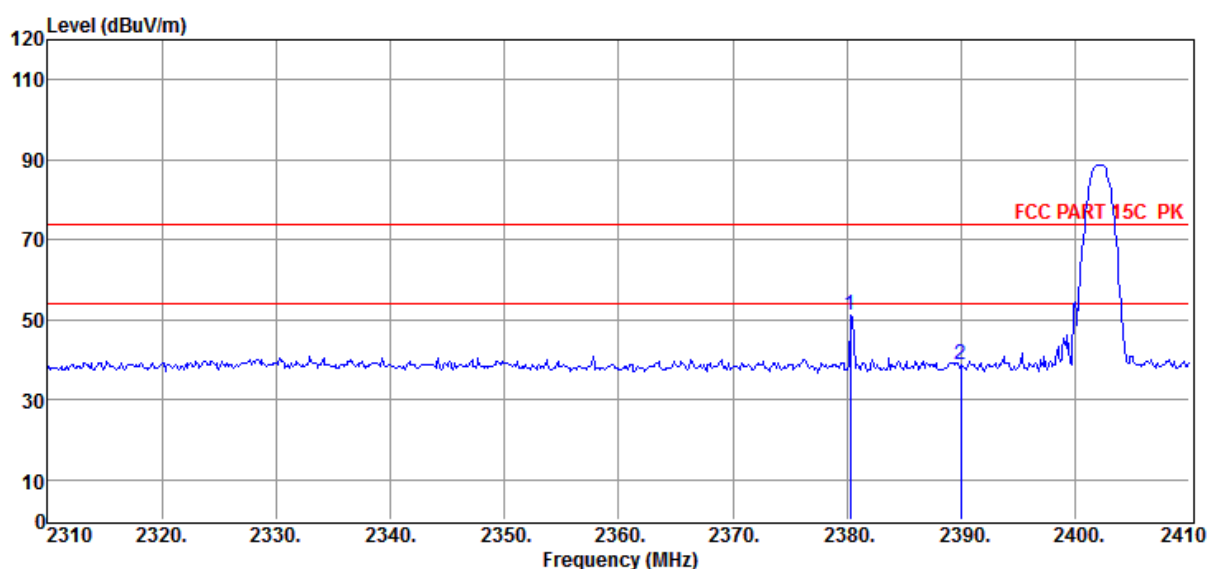
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020
BBHA9120D/3m/HORIZONTAL

Memo : DH5 2402



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2380.30	61.43	27.88	43.13	4.79	50.97	74.00	-23.03	Peak	HORIZONTAL
2	2390.00	49.12	27.89	43.14	4.80	38.67	74.00	-35.33	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

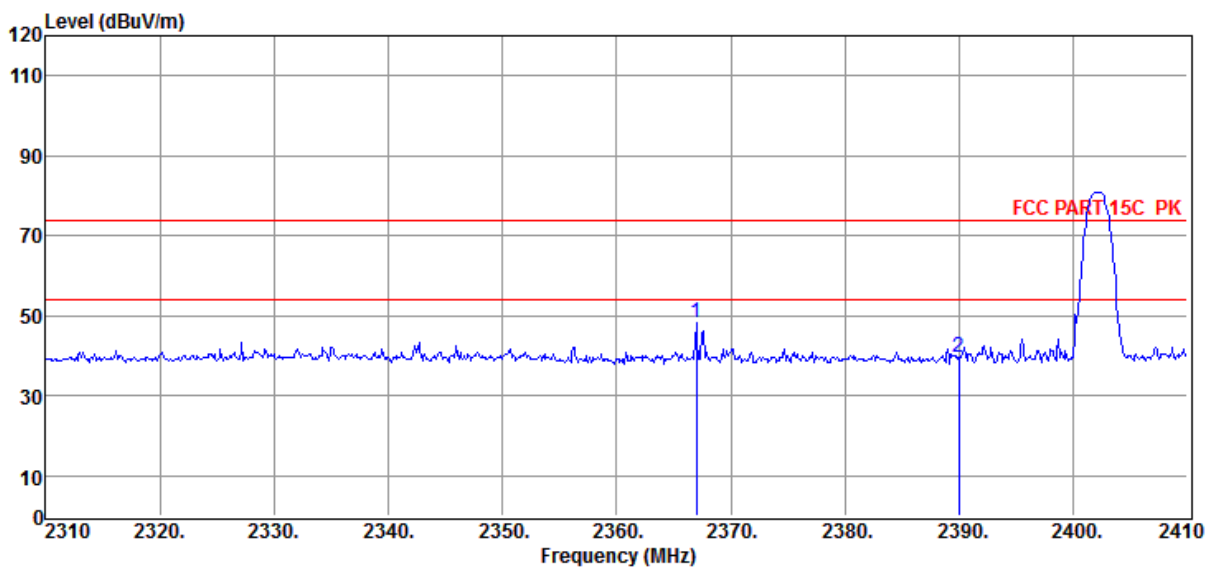
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#
Test Date : 2021-05-18
EUT : Game speakers
Power Supply : Battery
Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa
Memo : DH5 2402

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6
Tested By : Bairong
Model Number : HY101
Test Mode : Tx mode
Antenna/Distance : 2020 BBHA9120D/3m/VERTICAL



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2367.00	58.64	27.87	43.12	4.77	48.16	74.00	-25.84	Peak	VERTICAL
2	2390.00	50.23	27.89	43.14	4.80	39.78	74.00	-34.22	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC
ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

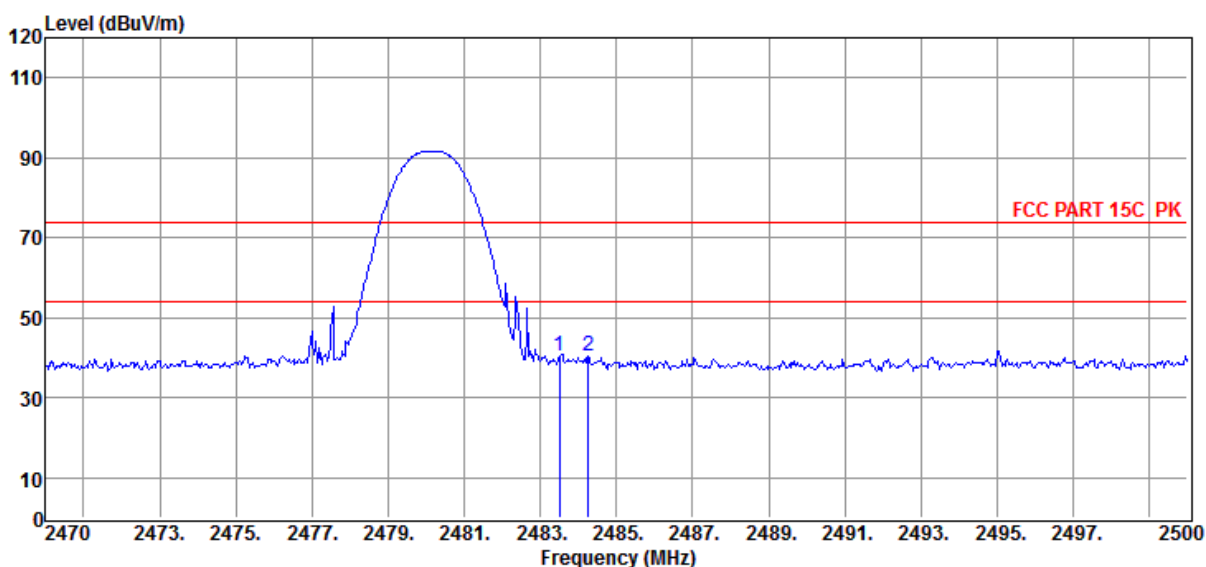
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020
BBHA9120D/3m/HORIZONTAL

Memo : DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	50.79	27.98	43.23	4.90	40.44	74.00	-33.56	Peak	HORIZONTAL
2	2484.25	50.78	27.98	43.23	4.90	40.43	74.00	-33.57	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

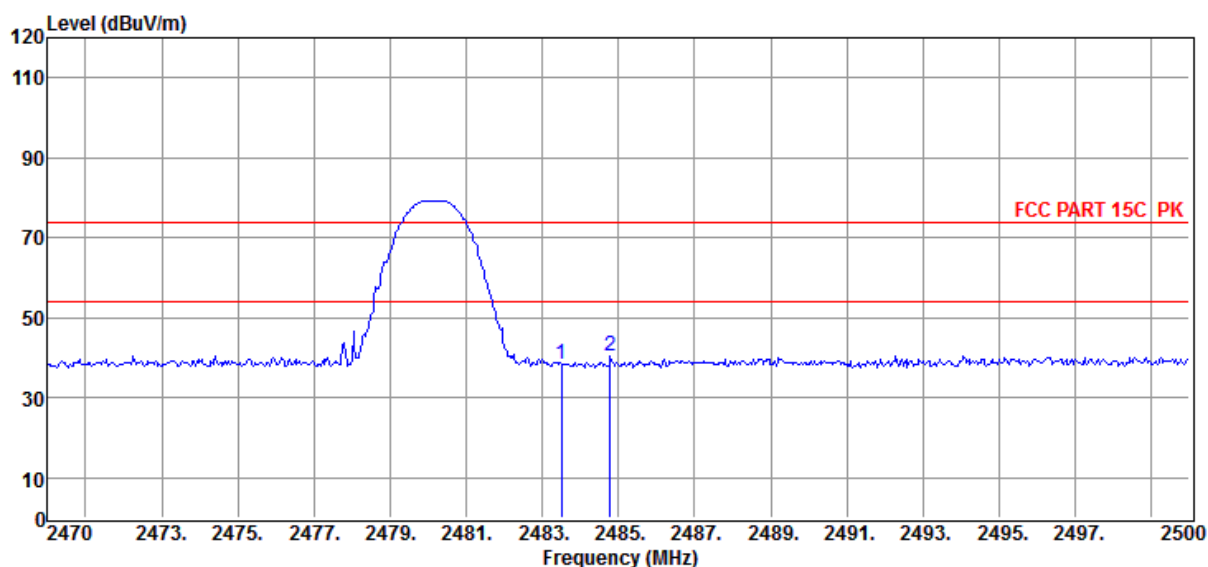
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/VERTICAL

Memo : DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.90	27.98	43.23	4.90	38.55	74.00	-35.45	Peak	VERTICAL
2	2484.79	50.62	27.98	43.24	4.90	40.26	74.00	-33.74	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

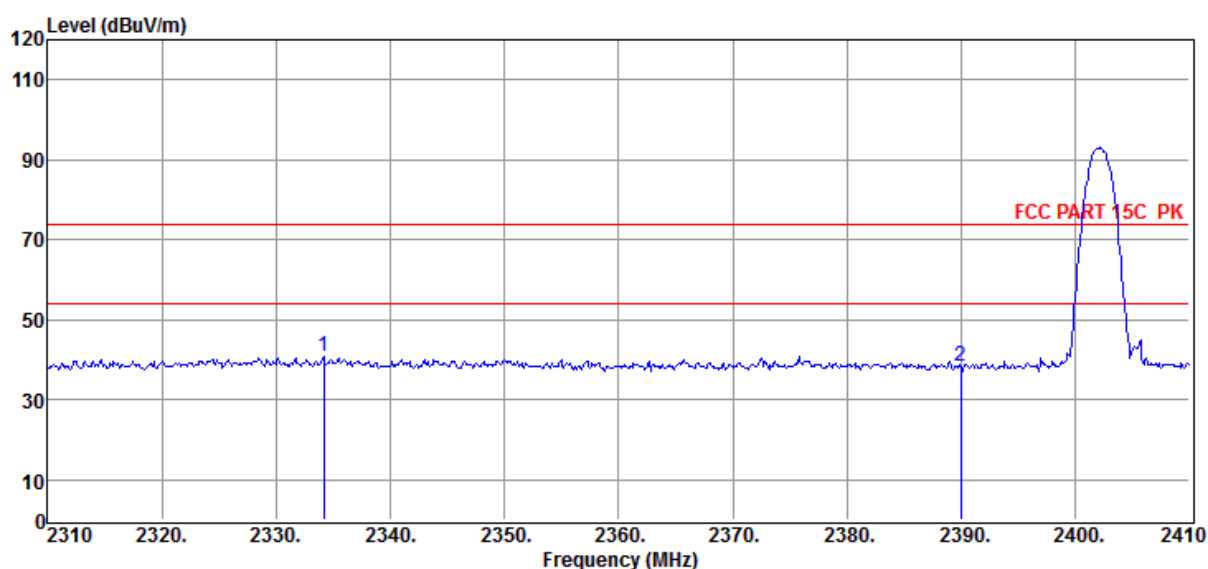
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 2DH5 2402



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2334.20	51.17	27.83	43.08	4.74	40.66	74.00	-33.34	Peak	HORIZONTAL
2	2390.00	48.65	27.89	43.14	4.80	38.20	74.00	-35.80	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC
ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

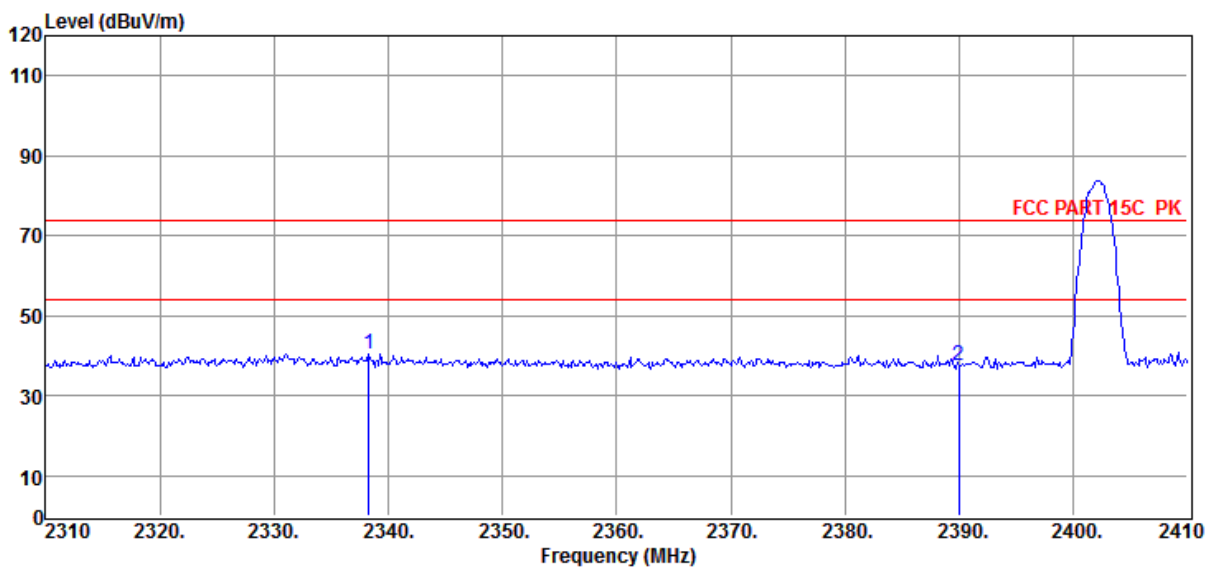
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/VERTICAL

Memo : 2DH5 2402



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2338.30	50.88	27.84	43.09	4.74	40.37	74.00	-33.63	Peak	VERTICAL
2	2390.00	48.17	27.89	43.14	4.80	37.72	74.00	-36.28	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC
ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

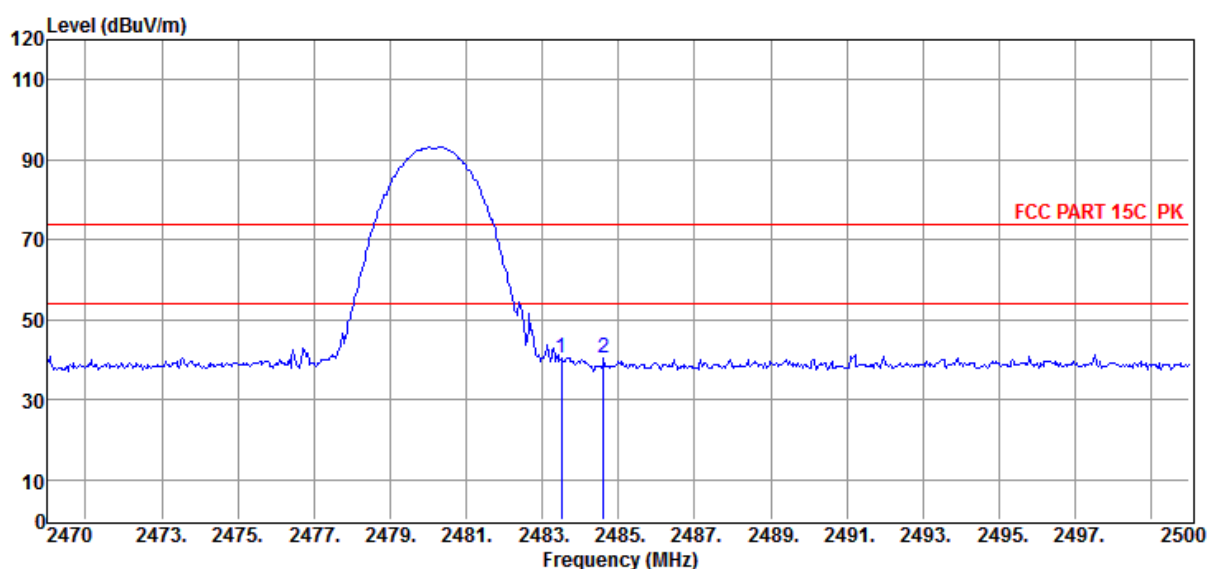
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020
BBHA9120D/3m/HORIZONTAL

Memo : 2DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	50.67	27.98	43.23	4.90	40.32	74.00	-33.68	Peak	HORIZONTAL
2	2484.61	50.85	27.98	43.24	4.90	40.49	74.00	-33.51	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

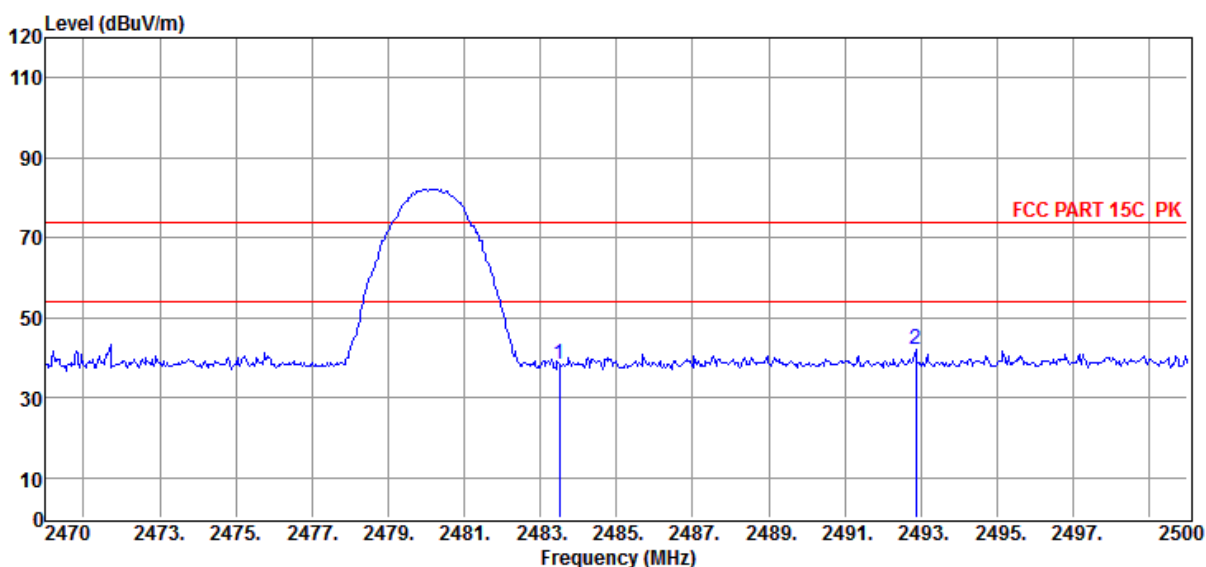
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/VERTICAL

Memo : 2DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.69	27.98	43.23	4.90	38.34	74.00	-35.66	Peak	VERTICAL
2	2492.86	52.51	27.99	43.24	4.91	42.17	74.00	-31.83	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

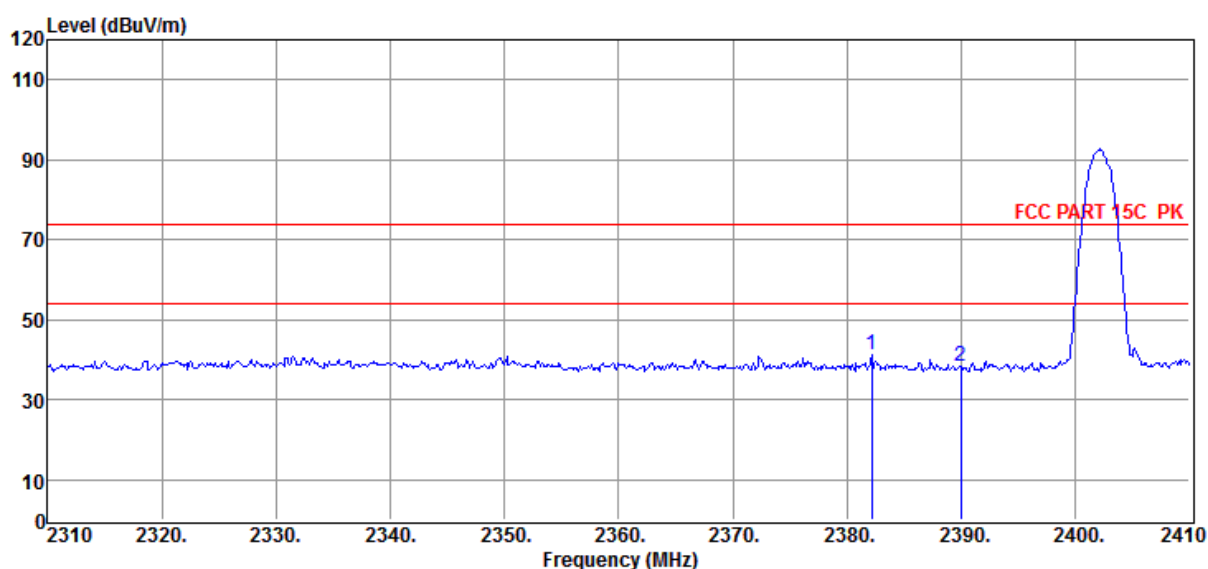
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020
BBHA9120D/3m/HORIZONTAL

Memo : 3DH5 2402



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2382.20	51.58	27.88	43.13	4.79	41.12	74.00	-32.88	Peak	HORIZONTAL
2	2390.00	48.67	27.89	43.14	4.80	38.22	74.00	-35.78	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

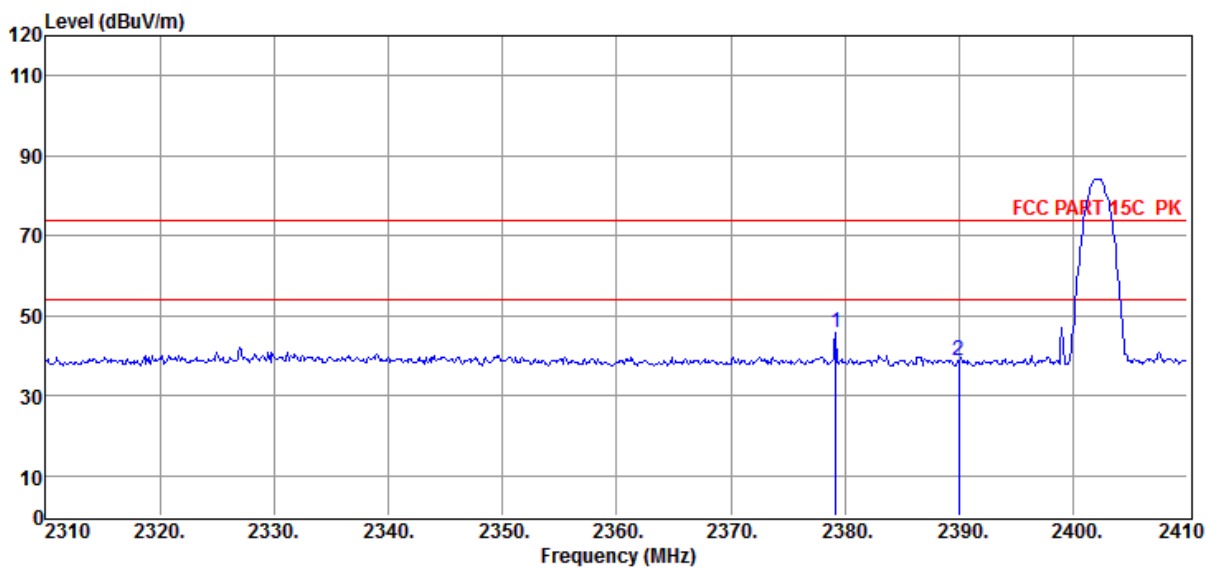
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/VERTICAL

Memo : 3DH5 2402



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2379.20	56.16	27.88	43.13	4.79	45.70	74.00	-28.30	Peak	VERTICAL
2	2390.00	49.08	27.89	43.14	4.80	38.63	74.00	-35.37	Peak	VERTICAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

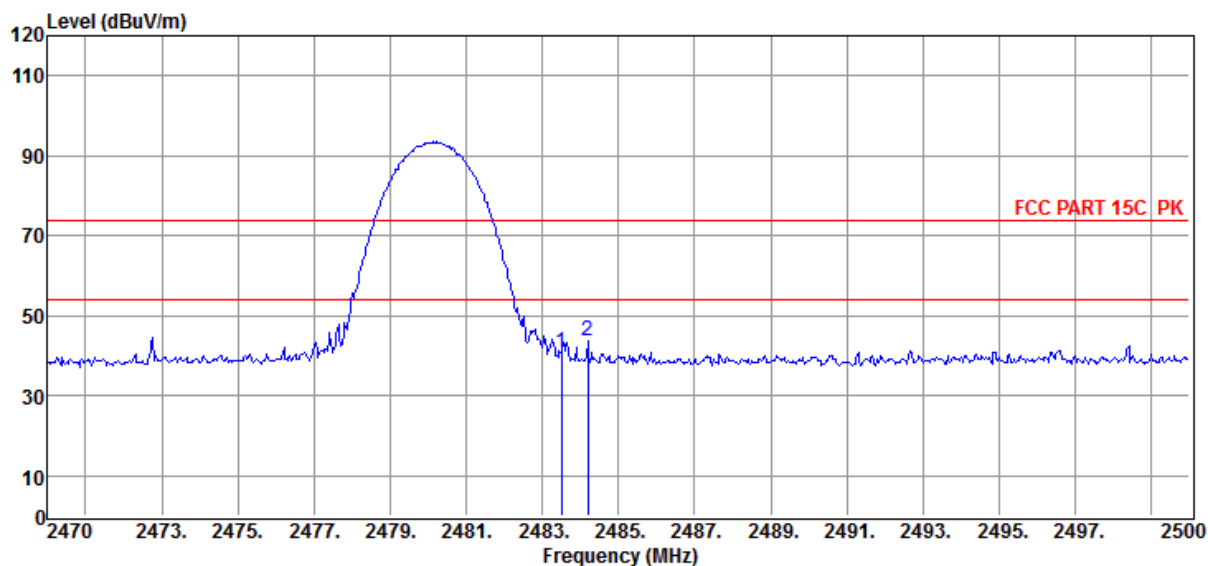
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/HORIZONTAL

Memo : 3DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	51.20	27.98	43.23	4.90	40.85	74.00	-33.15	Peak	HORIZONTAL
2	2484.19	53.90	27.98	43.23	4.90	43.55	74.00	-30.45	Peak	HORIZONTAL

Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Site : DDT 3m Chamber 2#

D:\2021 RE2# Report Data\Q21041308-2E HY101\FCC
ABOVE 1G.EM6

Test Date : 2021-05-18

Tested By : Bairong

EUT : Game speakers

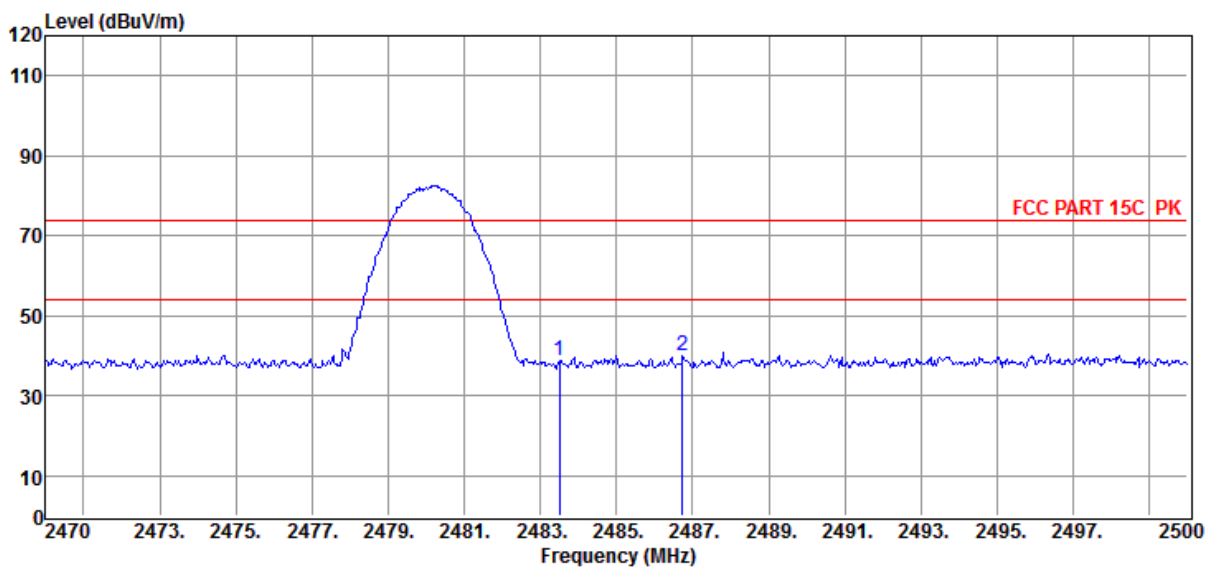
Model Number : HY101

Power Supply : Battery

Test Mode : Tx mode

Condition : Temp:24.5°C,Humi:55%,Press:100.1kPa **Antenna/Distance** : 2020 BBHA9120D/3m/VERTICAL

Memo : 3DH5 2480



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	Antenna Factor (dB/m)	PRM Factor dB	Cable Loss dB	Result Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Detector	Polarization
1	2483.50	48.96	27.98	43.23	4.90	38.61	74.00	-35.39	Peak	VERTICAL
2	2486.74	50.34	27.99	43.24	4.91	40.00	74.00	-34.00	Peak	VERTICAL

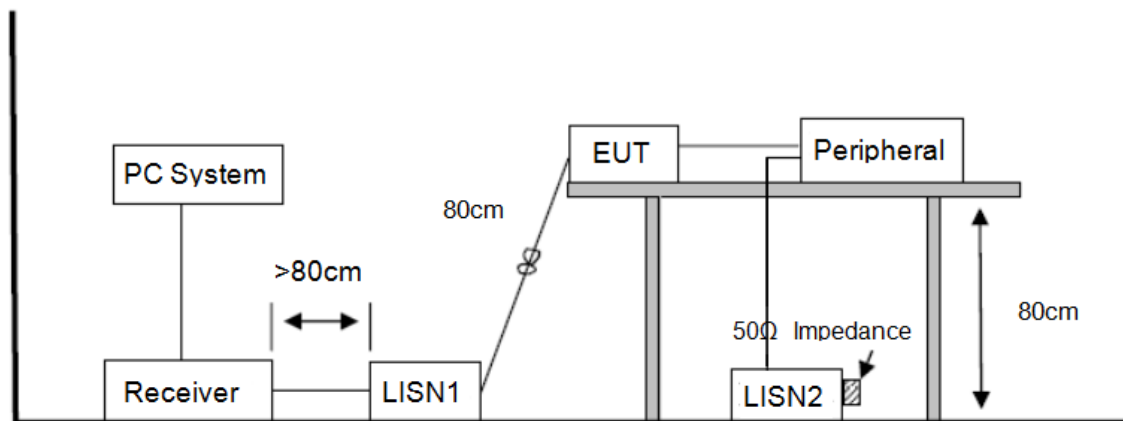
Note: 1. Result Level = Read Level + Antenna Factor + Cable loss - PRM Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

13. Power Line Conducted Emission

13.1. Block diagram of test setup



13.2. Power line conducted emission limits

Frequency	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150 kHz ~ 500 kHz	66 ~ 56*	56 ~ 46*
500 kHz ~ 5 MHz	56	46
5 MHz ~ 30 MHz	60	50

Note 1: * Decreasing linearly with logarithm of frequency.

Note 2: The lower limit shall apply at the transition frequencies.

13.3. Test procedure

The EUT and Support equipment, if needed, were put placed on a non-metallic table, 80cm above the ground plane.

Configuration EUT to simulate typical usage as described in clause 2.4 and test equipment as described in clause 10.2 of this report.

All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.

All support equipment power received from a second LISN.

Emissions were measured on each current carrying line of the EUT using an EMI Test Receiver connected to the LISN powering the EUT.

The Receiver scanned from 150 kHz to 30 MHz for emissions in each of the test modes.

During the above scans, the emissions were maximized by cable manipulation.

The test mode(s) described in clause 2.4 were scanned during the preliminary test.

After the preliminary scan, we found the test mode producing the highest emission level.

The EUT configuration and worse cable configuration of the above highest emission levels were recorded for reference of the final test.

EUT and support equipment were set up on the test bench as per the configuration with highest

emission level in the preliminary test.

A scan was taken on both power lines, Neutral and Line, recording at least the six highest emissions.

Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit.

The test data of the worst-case condition(s) was recorded.

The bandwidth of test receiver is set at 9 kHz.

13.4. Test result

Pass. (See below detailed test result)

Note1: All emissions not reported below are too low against the prescribed limits.

Note2: "----" means Peak detection; "----" means Average detection.

Note3: Pre-test AC conducted emission at both voltage AC 120V/60Hz and AC 240V/50Hz, recorded worse case.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 5# Shield Room

D:\2021 report data\Q21041308-2E\CE.EM6

Test Date : 2021-04-20

Tested By : Vic Xie

EUT : Game speakers

Model Number : HY101

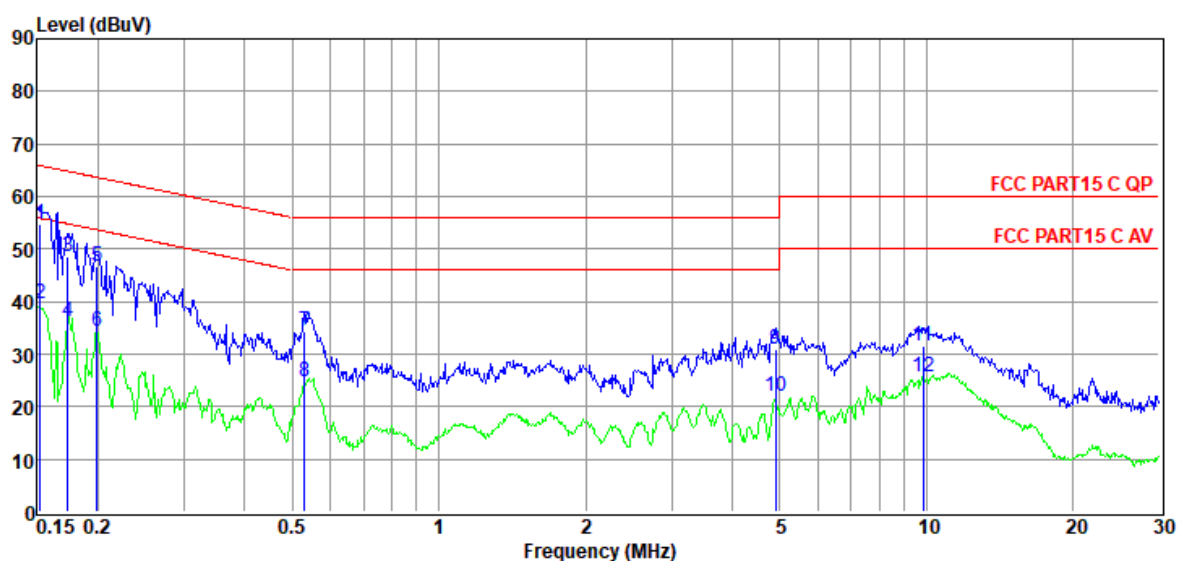
Power Supply : AC 120V/60Hz

Test Mode : TX

Condition : Temp:24.5°C,Humi:55.5%,Press:101.4kPa LISN

: 2020 ENV 216 2#/NEUTRAL

Memo :



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.15	35.18	9.38	0.02	10.01	54.59	65.87	-11.28	QP	NEUTRAL
2	0.15	20.12	9.38	0.02	10.01	39.53	65.87	-26.34	Average	NEUTRAL
3	0.17	29.16	9.38	0.02	10.01	48.57	64.81	-16.24	QP	NEUTRAL
4	0.17	16.89	9.38	0.02	10.01	36.30	64.81	-28.51	Average	NEUTRAL
5	0.20	27.18	9.39	0.02	10.01	46.60	63.67	-17.07	QP	NEUTRAL
6	0.20	14.83	9.39	0.02	10.01	34.25	63.67	-29.42	Average	NEUTRAL
7	0.53	14.76	9.40	0.02	10.01	34.19	56.00	-21.81	QP	NEUTRAL
8	0.53	5.33	9.40	0.02	10.01	24.76	56.00	-31.24	Average	NEUTRAL
9	4.90	11.49	9.47	0.08	10.01	31.05	56.00	-24.95	QP	NEUTRAL
10	4.90	2.26	9.47	0.08	10.01	21.82	56.00	-34.18	Average	NEUTRAL
11	9.86	11.78	9.67	0.11	10.01	31.57	60.00	-28.43	QP	NEUTRAL
12	9.86	5.87	9.67	0.11	10.01	25.66	60.00	-34.34	Average	NEUTRAL

Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).

4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 5# Shield Room

D:\2021 report data\Q21041308-2E\CE.EM6

Test Date : 2021-04-20

Tested By : Vic Xie

EUT : Game speakers

Model Number : HY101

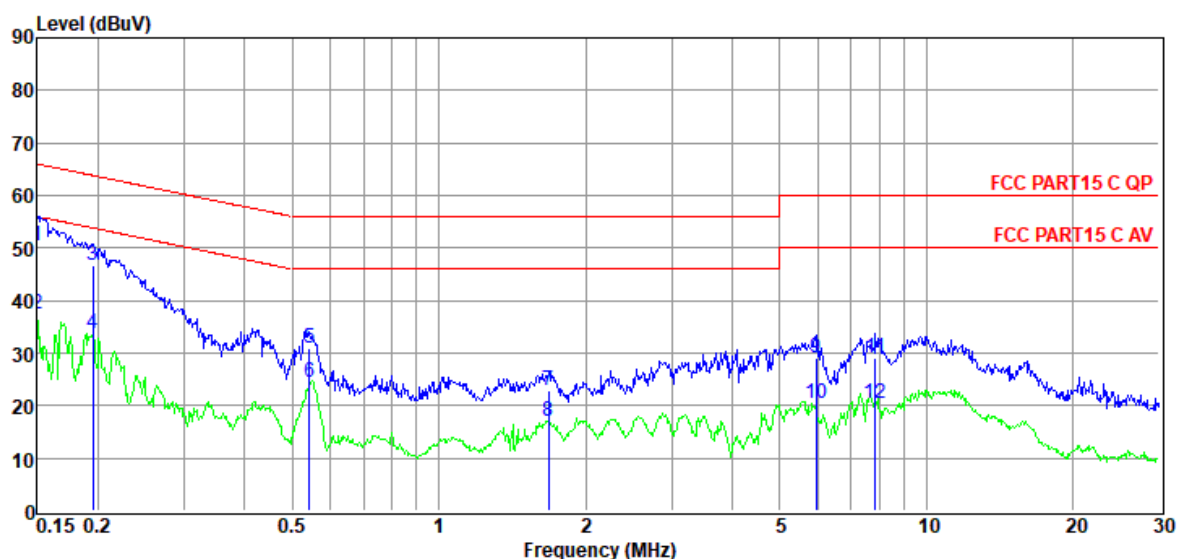
Power Supply : AC 120V/60Hz

Test Mode : TX

Condition : Temp:24.5°C,Humi:55.5%,Press:101.4kPa LISN

: 2020 ENV 216 2#/LINE

Memo :



Item	Freq.	Read Level	LISN Factor	Cable Loss	Pulse Limiter Factor	Result Level	Limit Line	Over Limit	Detector	Phase
(Mark)	(MHz)	(dBμV)	(dB)	(dB)	(dB)	(dBμV)	(dBμV)	(dB)		
1	0.15	30.99	9.41	0.02	10.01	50.43	66.00	-15.57	QP	LINE
2	0.15	18.02	9.41	0.02	10.01	37.46	56.00	-18.54	Average	LINE
3	0.20	27.32	9.42	0.02	10.01	46.77	63.80	-17.03	QP	LINE
4	0.20	14.16	9.42	0.02	10.01	33.61	53.80	-20.19	Average	LINE
5	0.54	11.40	9.45	0.02	10.01	30.88	56.00	-25.12	QP	LINE
6	0.54	4.97	9.45	0.02	10.01	24.45	46.00	-21.55	Average	LINE
7	1.68	3.50	9.43	0.04	10.01	22.98	56.00	-33.02	QP	LINE
8	1.68	-2.57	9.43	0.04	10.01	16.91	46.00	-29.09	Average	LINE
9	5.93	9.54	9.52	0.09	10.01	29.16	60.00	-30.84	QP	LINE
10	5.93	0.73	9.52	0.09	10.01	20.35	50.00	-29.65	Average	LINE
11	7.85	9.44	9.59	0.10	10.01	29.14	60.00	-30.86	QP	LINE
12	7.85	0.66	9.59	0.10	10.01	20.36	50.00	-29.64	Average	LINE

Note: 1. Result Level = Read Level + LISN Factor + Pulse Limiter Factor + Cable loss.

2. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).

4. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.

14. Antenna Requirements

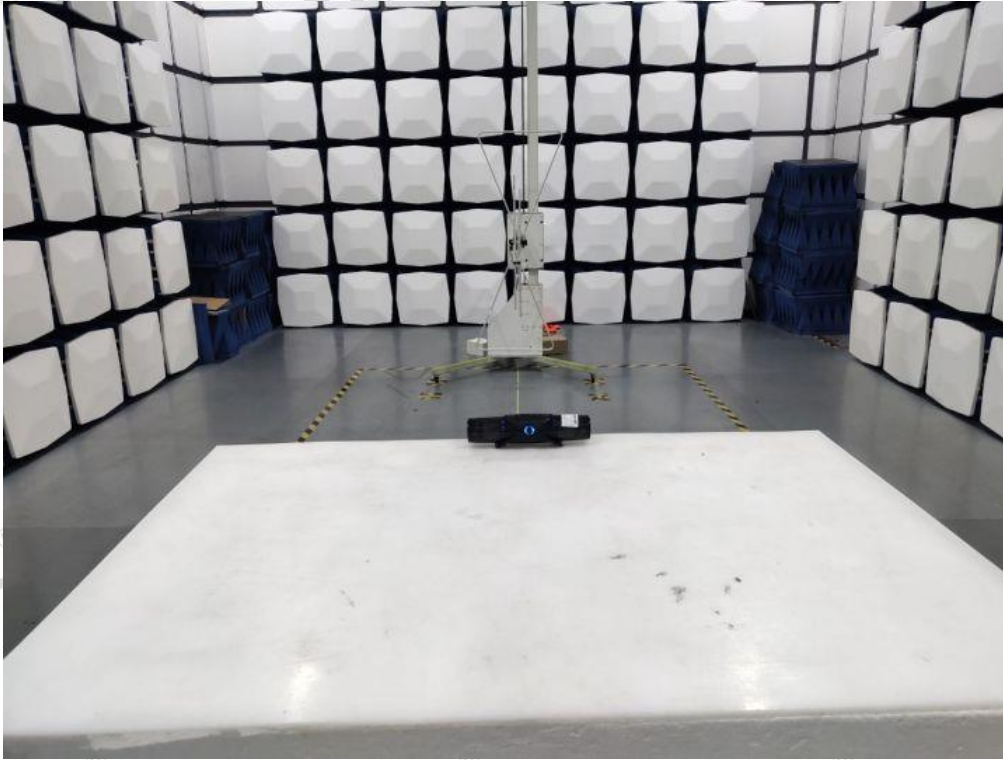
14.1. Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

14.2. Result

The antenna used for this product is PCB antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain is 2dBi.

15. Test Setup Photograph

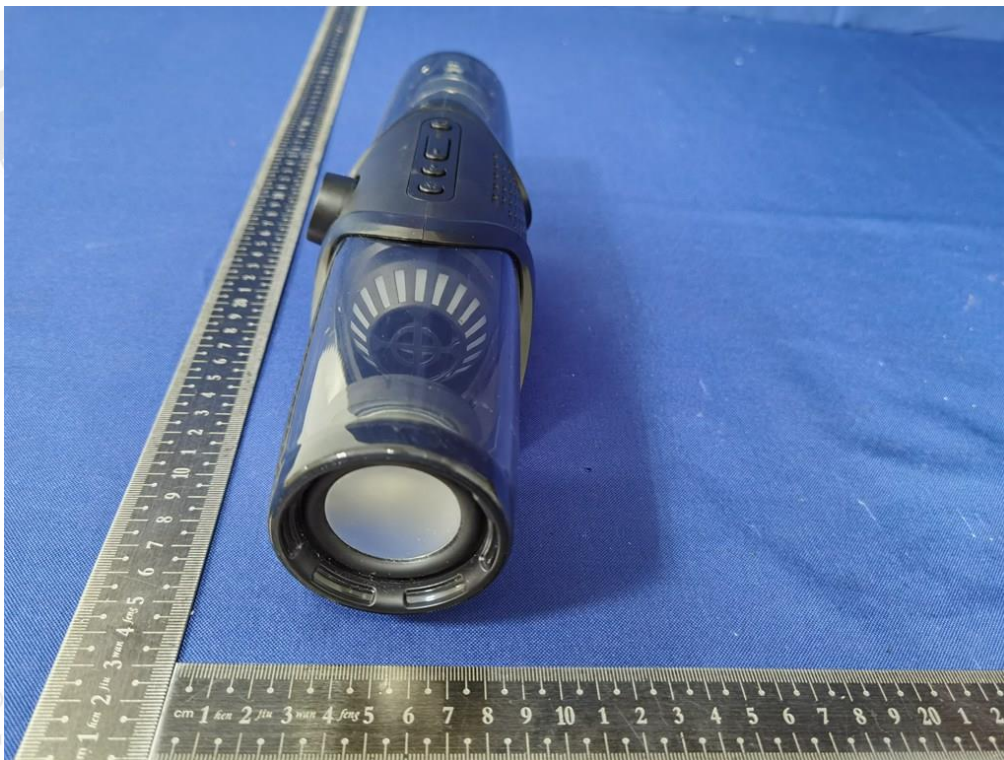


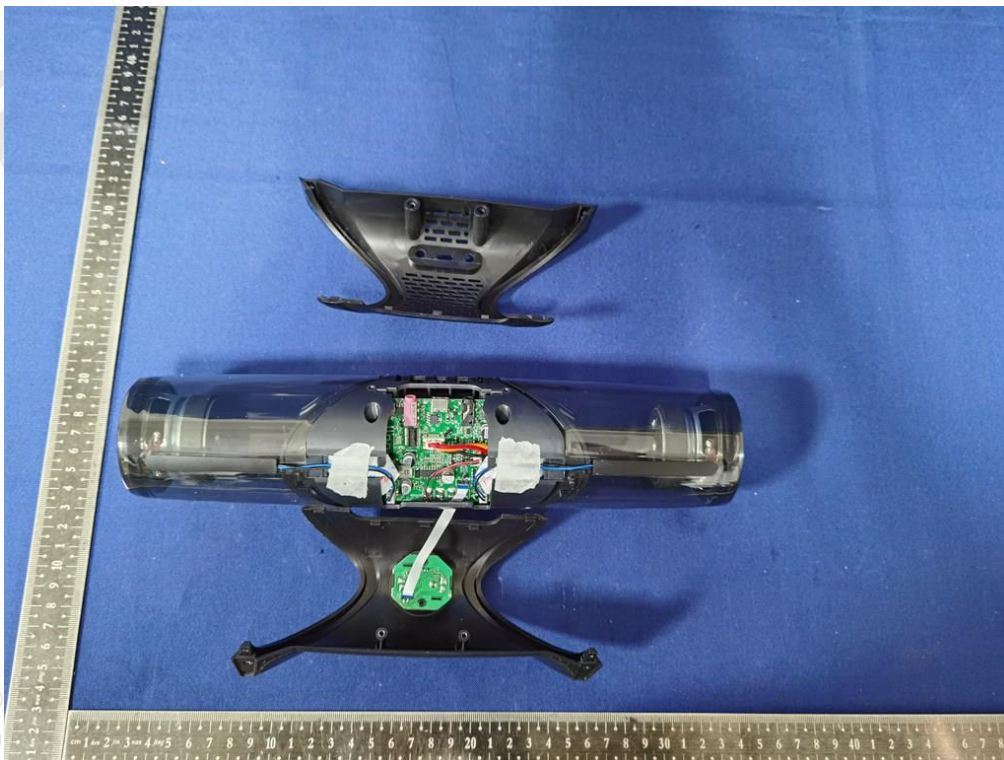
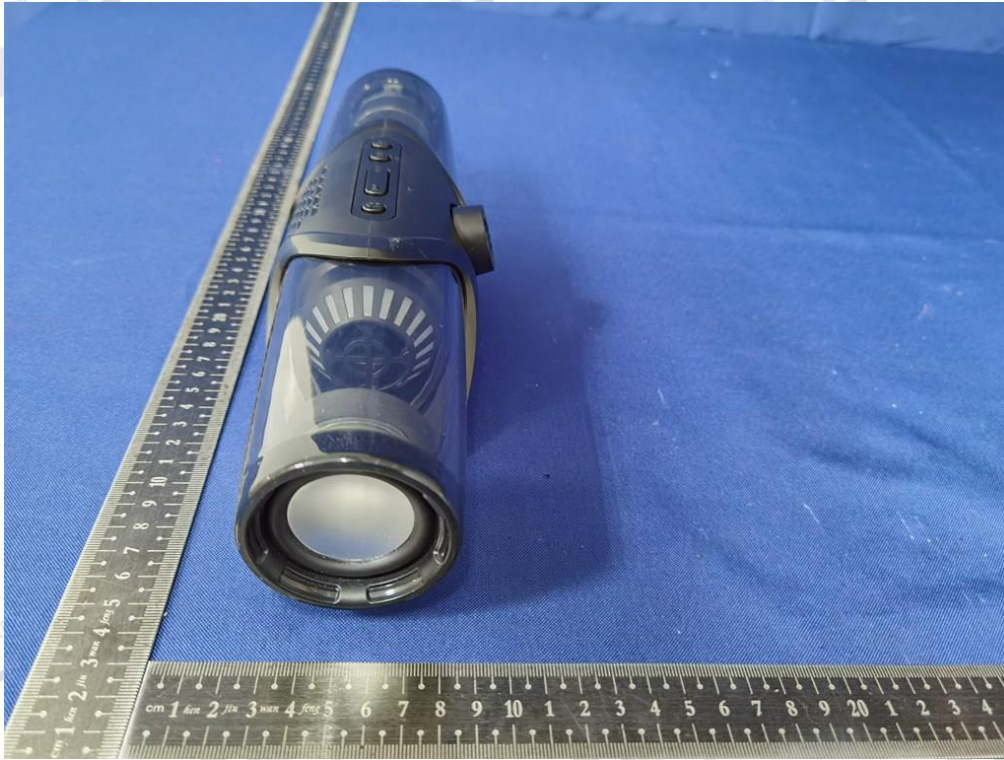


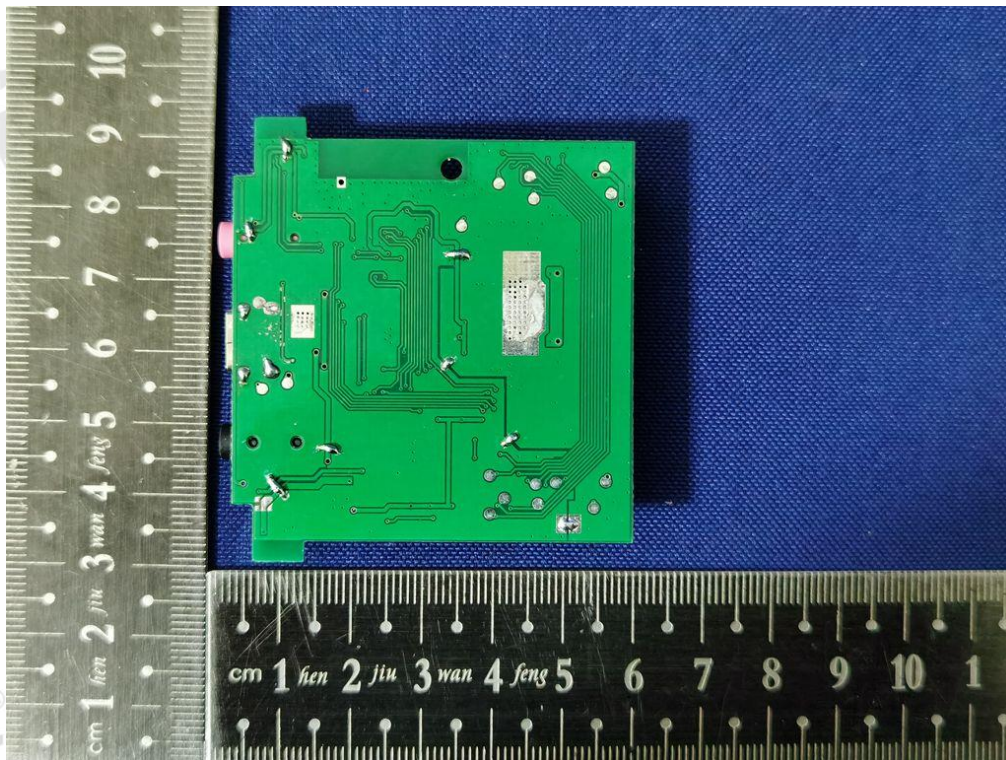
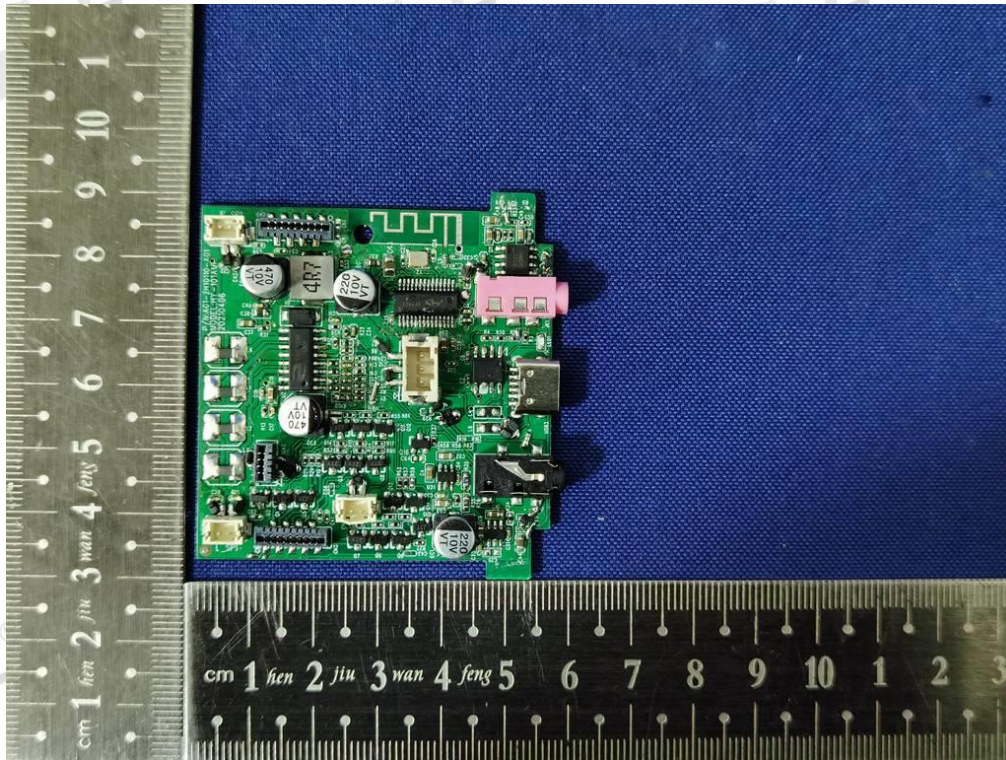
16. Photos of the EUT

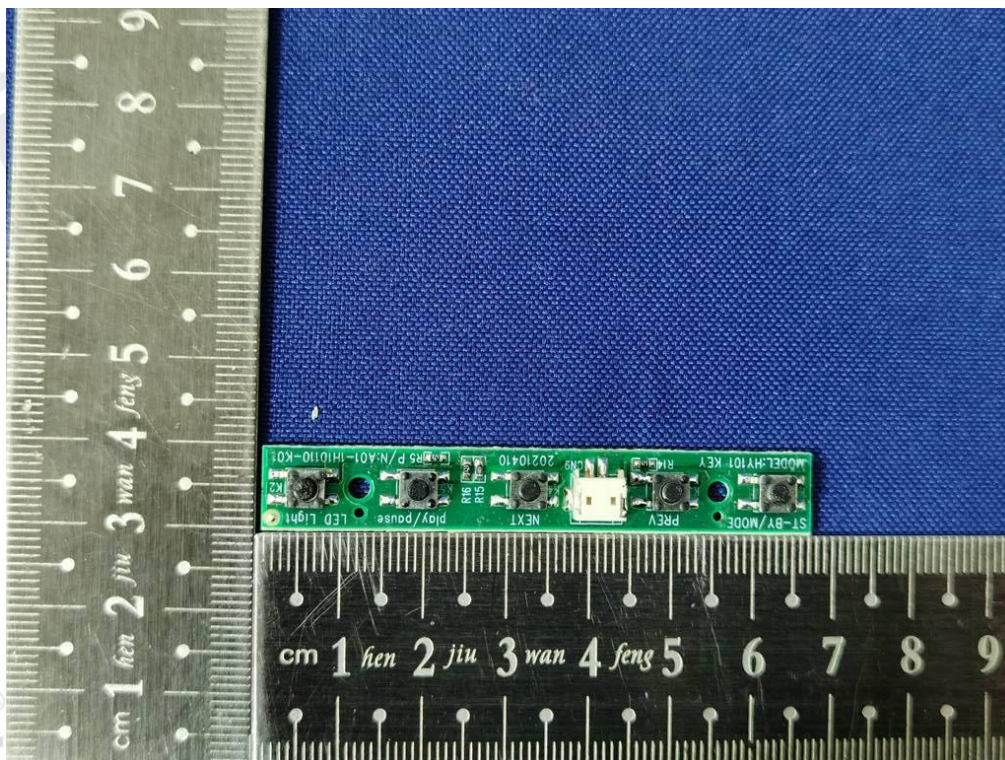
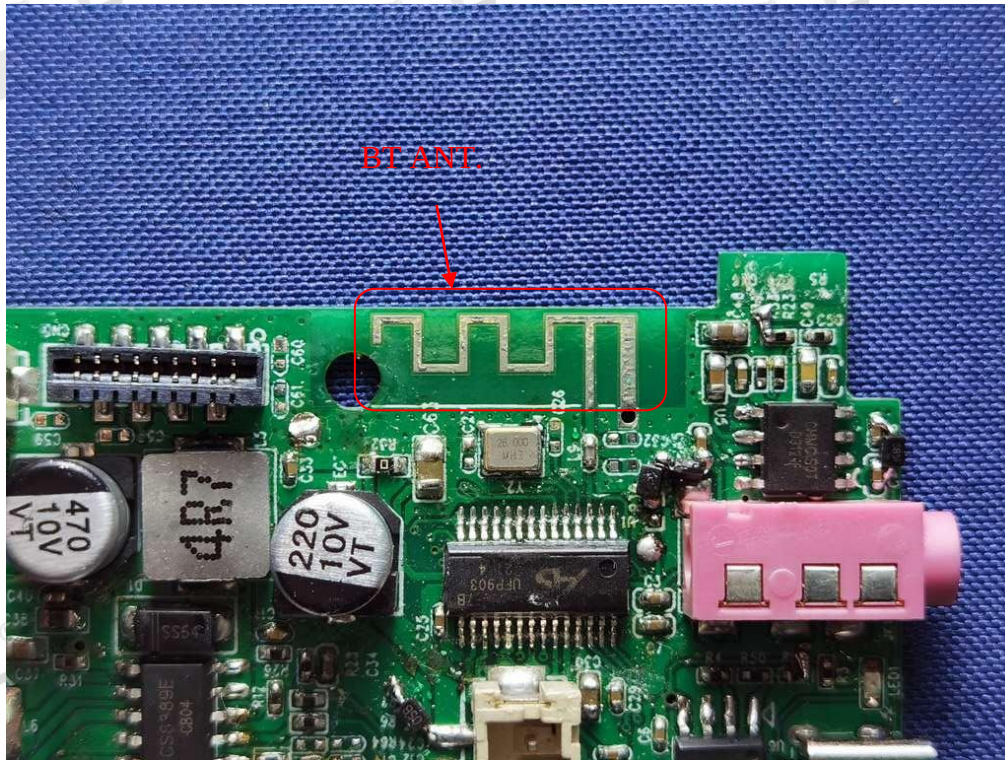


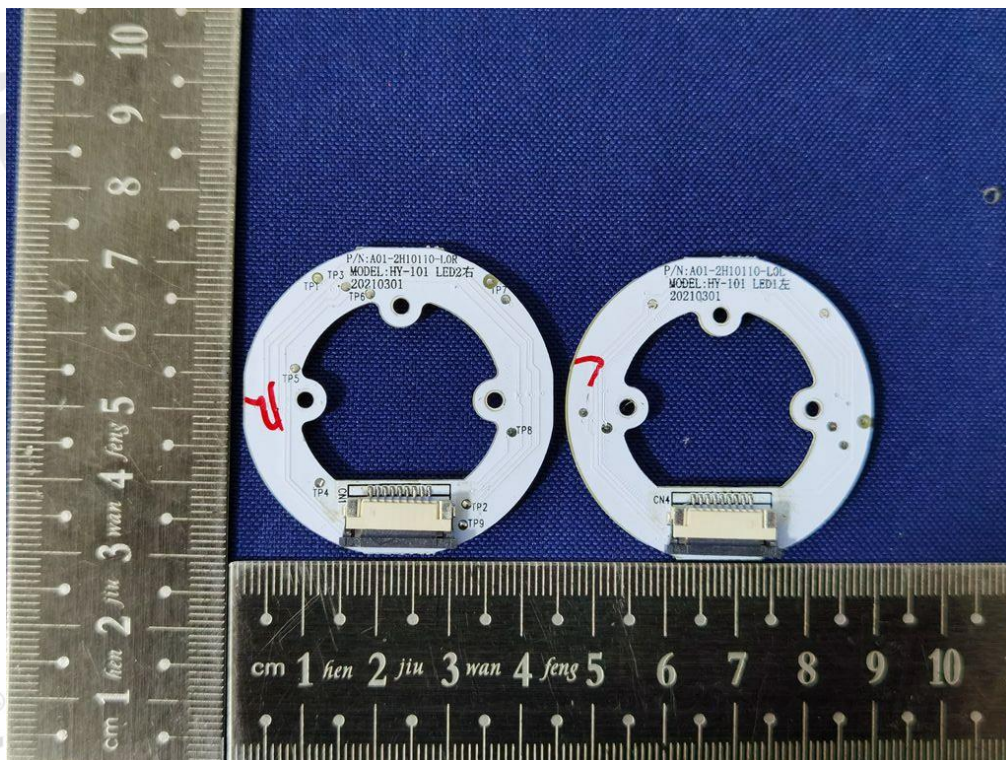
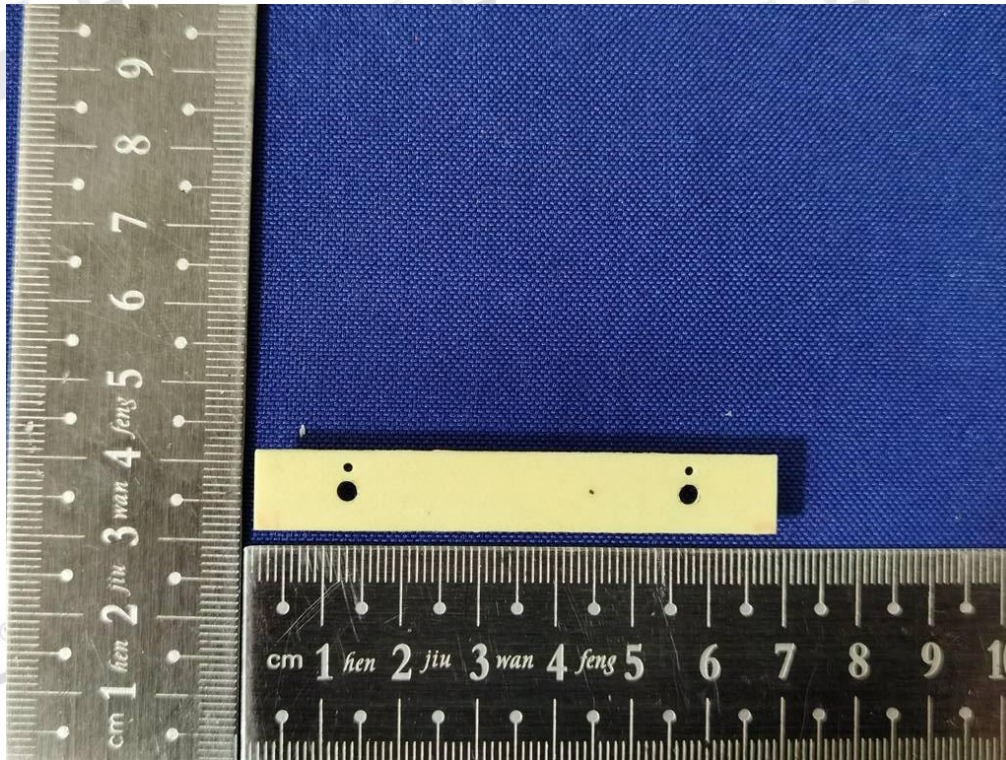


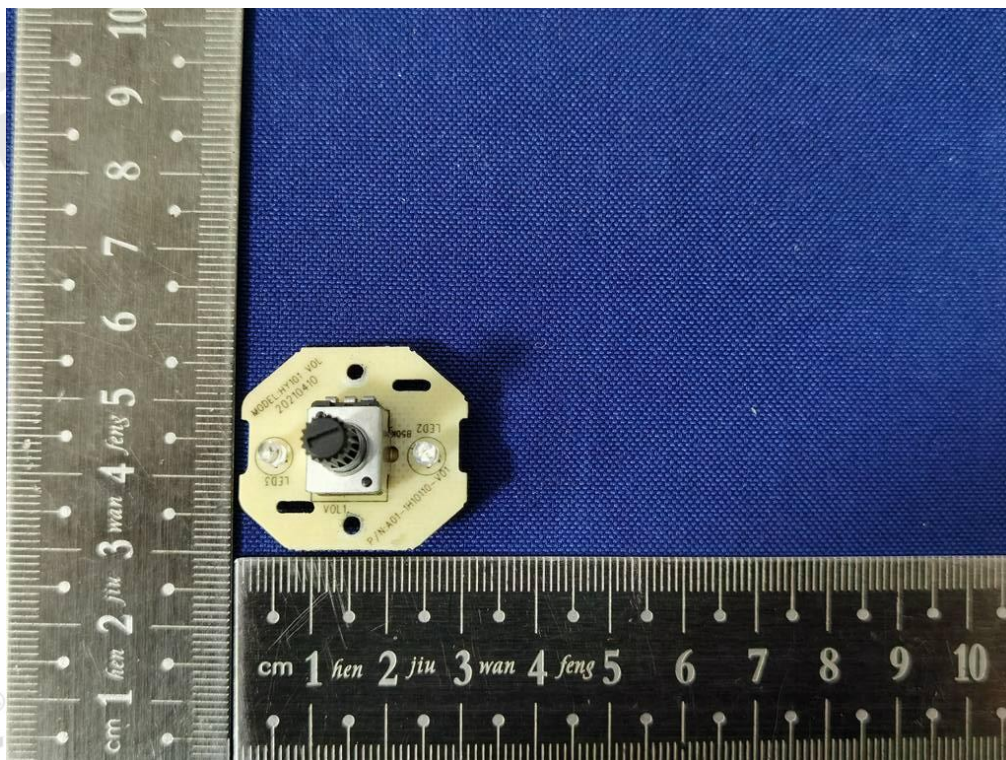
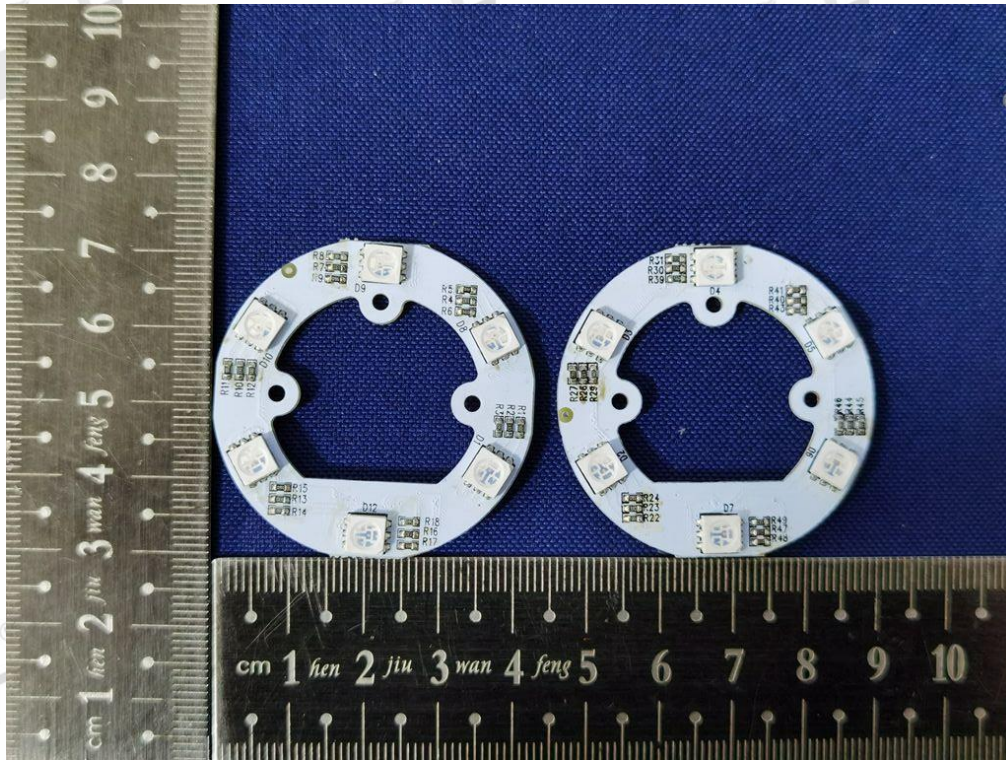


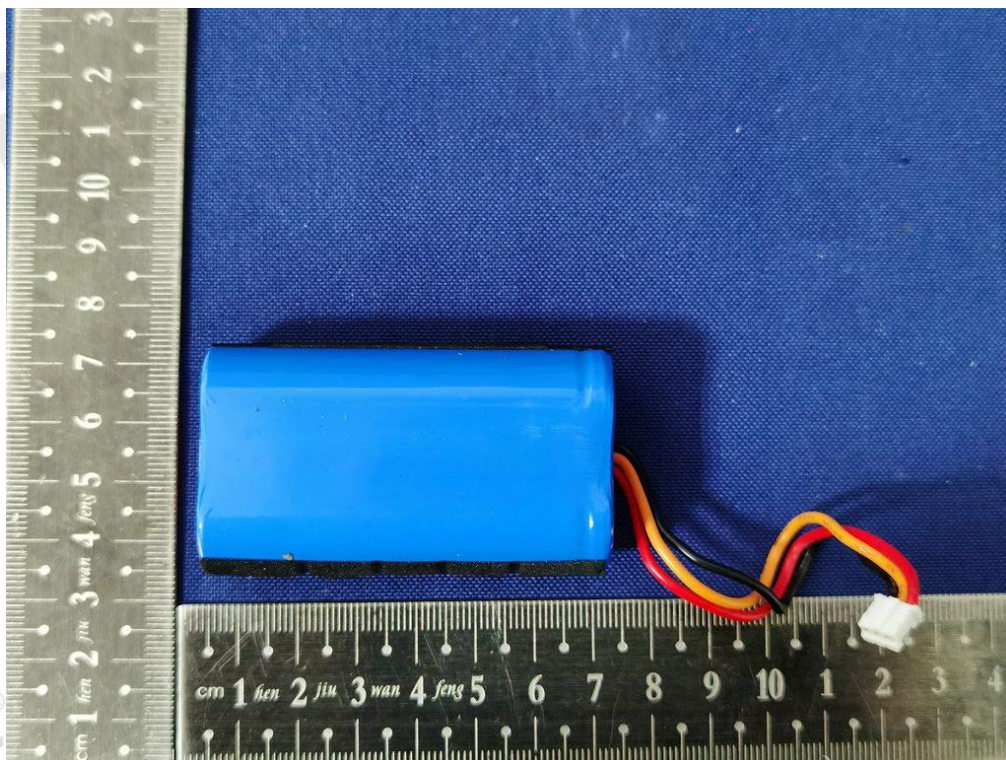
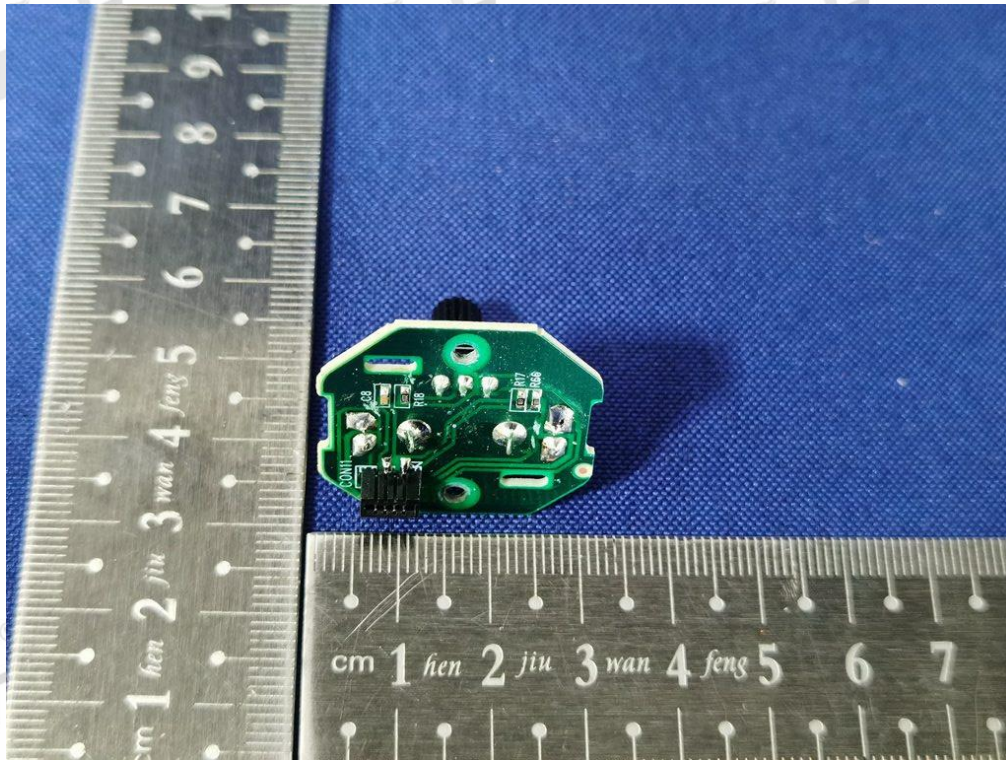


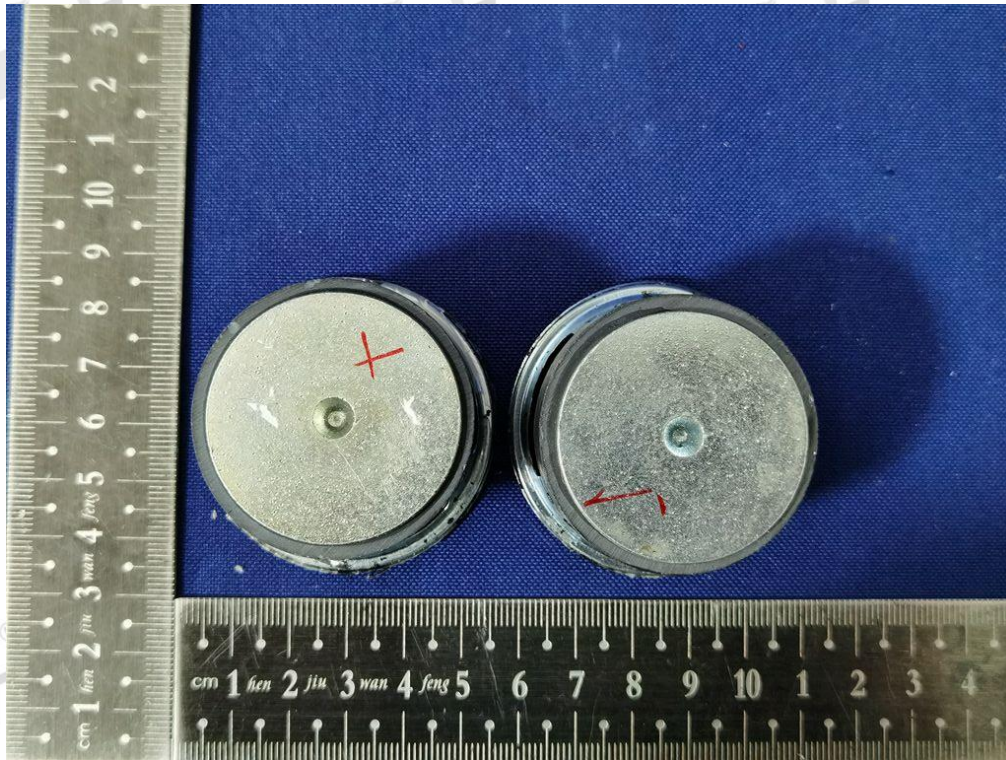












END OF REPORT