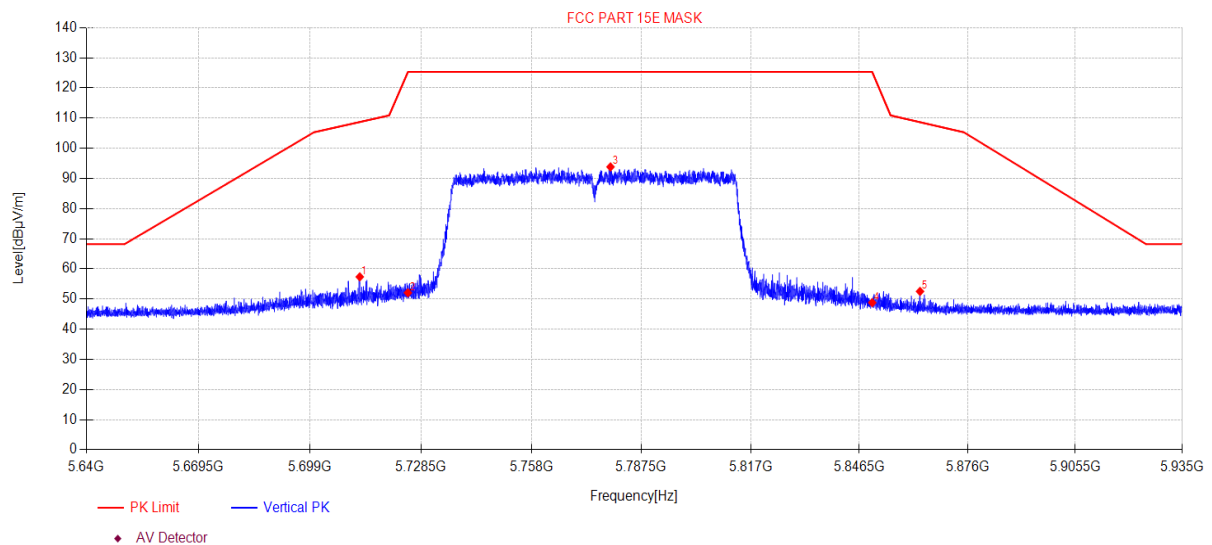


TR-4-E-009 Radiated Emission Test Result

Test Date: 2023-08-12
EUT: Wireless Speaker
Test Mode: Tx mode
Condition: Temp:21.5°C;Humi:57.3%
File Path: d:\ts\2023 report data\Q23060623-2E L42ms\FCC ABOVE 1G 5.8GWIFI\40
Memo: 11AC80MIMO 5775

Tested By: Bairong
Model Number: L42ms
Power Supply: AC 120V/60Hz
Test Site: DDT 3# Chamber

Test Graph



Suspected Data List

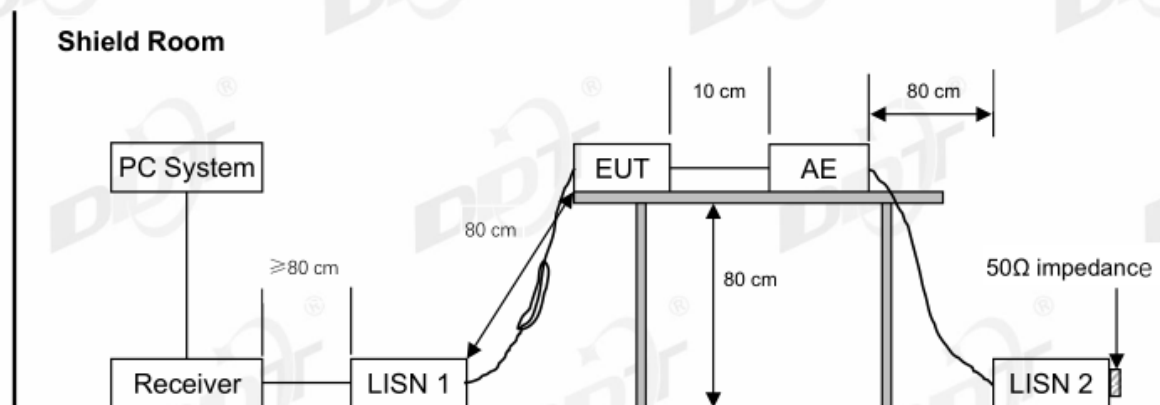
NO	Freq. [MHz]	Reading [dBμV/m]	Cable loss [dB]	Antenna Factor [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	5712.19	58.89	5.87	33.42	-40.82	57.36	108.71	51.35	PK	Vertical
2	5725.00	53.57	5.87	33.45	-40.81	52.08	125.30	73.22	PK	Vertical
3	5779.21	95.09	5.90	33.62	-40.79	93.82	125.30	31.48	PK	Vertical
4	5850.00	49.82	5.94	33.80	-40.76	48.80	125.27	76.47	PK	Vertical
5	5863.02	53.50	5.94	33.83	-40.75	52.52	108.65	56.13	PK	Vertical

Note:

- Level = Reading + Cable loss + Antenna Factor + AMP
- If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

14. Power Line Conducted Emission

14.1. Block diagram of test setup



14.2. Power Line Conducted Emission Limits

Frequency	Quasi-Peak Level dB(μ V)	Average Level dB(μ V)
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.

14.3. Test Procedure

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

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.

14.4. 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 1# Shield Room

D:\2023 CE report data\Q23060623-2E\FCC CE.EM6

Test Date : 2023-08-03

Tested By : Junchang Du

EUT : Wireless Speaker

Model Number : L42ms

Power Supply : AC 120V/60Hz

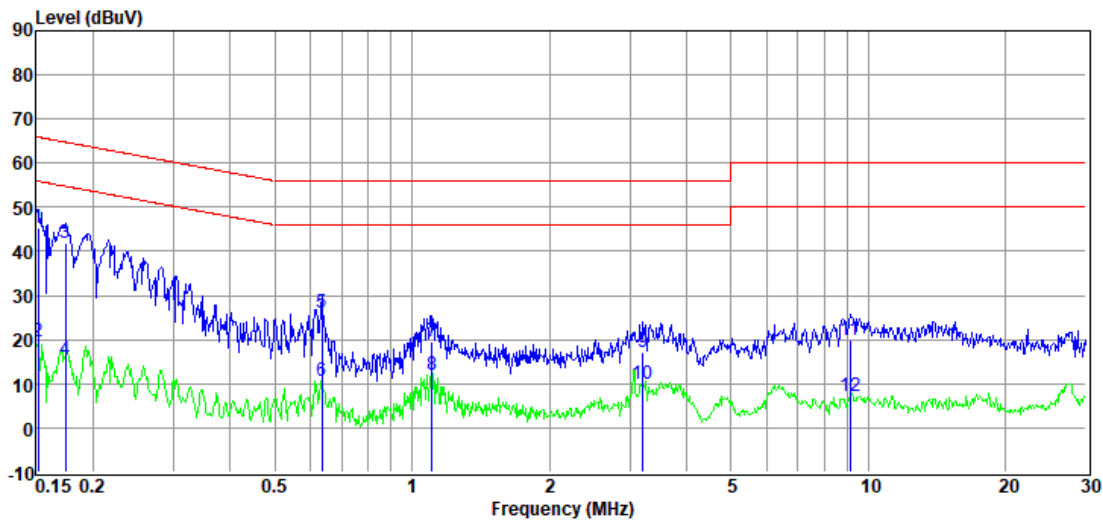
Test Mode : Tx mode

Condition : TEMP:22.6°C, RH:56.6%

LISN : 2022 1# ENV216/LINE

Memo : WIFI 5G

Data: 18



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	25.66	9.61	0.01	9.94	45.22	65.91	-20.69	QP	LINE
2	0.15	0.06	9.61	0.01	9.94	19.62	55.91	-36.29	Average	LINE
3	0.17	22.09	9.70	0.01	9.92	41.72	64.77	-23.05	QP	LINE
4	0.17	-4.27	9.70	0.01	9.92	15.36	54.77	-39.41	Average	LINE
5	0.63	6.49	9.63	0.01	9.92	26.05	56.00	-29.95	QP	LINE
6	0.63	-9.06	9.63	0.01	9.92	10.50	46.00	-35.50	Average	LINE
7	1.11	0.05	9.51	0.02	9.91	19.49	56.00	-36.51	QP	LINE
8	1.11	-7.57	9.51	0.02	9.91	11.87	46.00	-34.13	Average	LINE
9	3.21	-2.44	9.53	0.04	9.91	17.04	56.00	-38.96	QP	LINE
10	3.21	-9.45	9.53	0.04	9.91	10.03	46.00	-35.97	Average	LINE
11	9.11	0.48	9.53	0.08	9.95	20.04	60.00	-39.96	QP	LINE
12	9.11	-12.37	9.53	0.08	9.95	7.19	50.00	-42.81	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.

TR-4-E-010 Conducted Emission Test Result

Test Site : DDT 1# Shield Room

D:\2023 CE report data\Q23060623-2E\FCC CE.EM6

Test Date : 2023-08-03

Tested By : Junchang Du

EUT : Wireless Speaker

Model Number : L42ms

Power Supply : AC 120V/60Hz

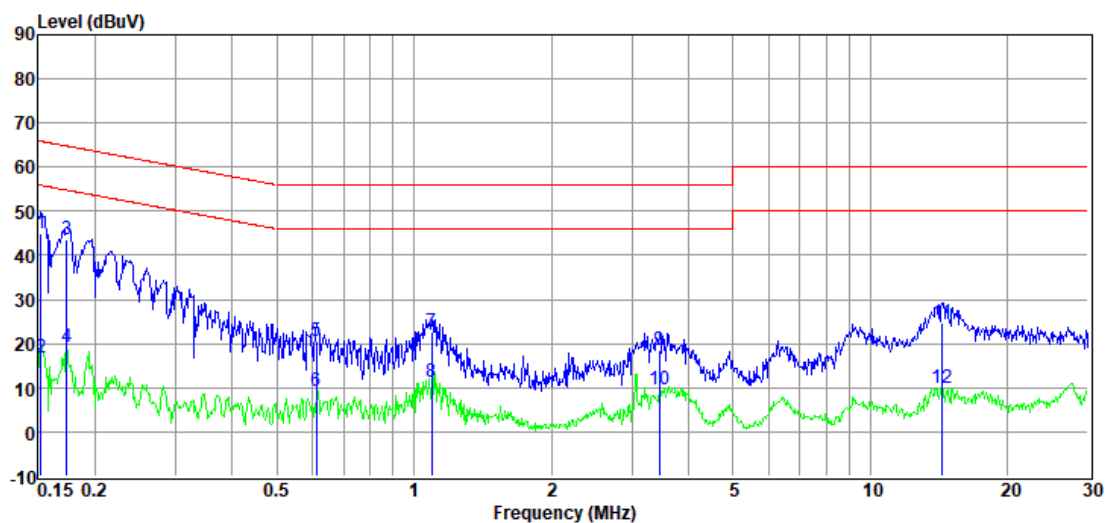
Test Mode : Tx mode

Condition : TEMP:22.6°C, RH:56.6%

LISN : 2022 1# ENV216/NEUTRAL

Memo : WIFI 5G

Data: 20



Item (Mark)	Freq. (MHz)	Read Level (dBμV)	LISN Factor (dB)	Cable Loss (dB)	Pulse Limiter Factor (dB)	Result Level (dBμV)	Limit Line (dBμV)	Over Limit (dB)	Detector	Phase
1	0.15	25.35	9.81	0.01	9.94	45.11	65.87	-20.76	QP	NEUTRAL
2	0.15	-2.89	9.81	0.01	9.94	16.87	55.87	-39.00	Average	NEUTRAL
3	0.17	23.73	9.85	0.01	9.92	43.51	64.81	-21.30	QP	NEUTRAL
4	0.17	-0.56	9.85	0.01	9.92	19.22	54.81	-35.59	Average	NEUTRAL
5	0.61	1.01	9.72	0.01	9.92	20.66	56.00	-35.34	QP	NEUTRAL
6	0.61	-10.34	9.72	0.01	9.92	9.31	46.00	-36.69	Average	NEUTRAL
7	1.09	3.11	9.70	0.02	9.91	22.74	56.00	-33.26	QP	NEUTRAL
8	1.09	-8.40	9.70	0.02	9.91	11.23	46.00	-34.77	Average	NEUTRAL
9	3.45	-1.09	9.70	0.04	9.91	18.56	56.00	-37.44	QP	NEUTRAL
10	3.45	-10.19	9.70	0.04	9.91	9.46	46.00	-36.54	Average	NEUTRAL
11	14.36	5.01	9.71	0.11	9.95	24.78	60.00	-35.22	QP	NEUTRAL
12	14.36	-9.82	9.71	0.11	9.95	9.95	50.00	-40.05	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.

15. Antenna Requirements

15.1. 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.

For intentional device, according to RSS-Gen issue 5 section 6.8.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna.

The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

15.2. Result

The device support 2T2R MIMO, the antennas both used for this product are FPC antennas and no antenna other than that furnished by the responsible party shall be used with the device, maximum antenna gain is 4.14 dBi for antenna 1, 3.71 dBi for antenna 2.

17. Photos of the EUT

Please refer to appendix I.

END OF REPORT