Appendix B: Test Results of Bluetooth BDR/EDR

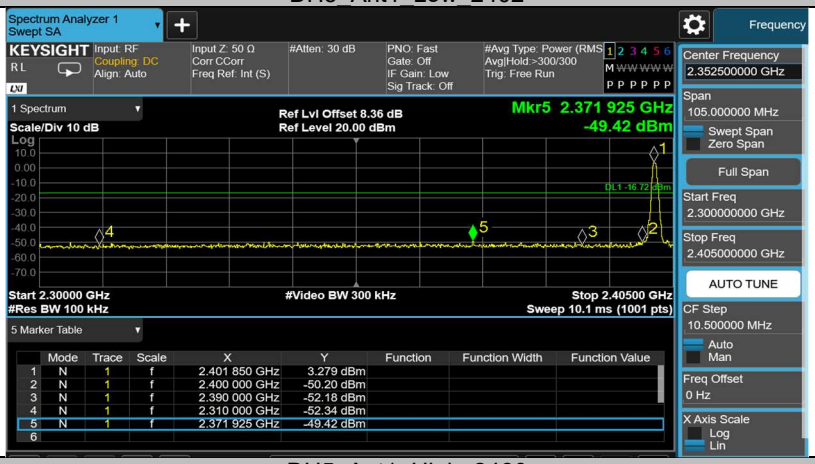
APPENDIX B: TEST RESULTS OF BLUETOOTH BDR/EDR **1**
APPENDIX B.6: TEST RESULTS OF CONDUCTED SPURIOUS EMISSIONS MEASURED IN 100 KHZ BANDWIDTH 2
Band Edge *2*
APPENDIX B.7: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS 5
30MHz - 1GHz *5*
1GHz - 18GHz *9*
APPENDIX B.8: TEST RESULTS OF RADIATED EMISSIONS IN RESTRICTED BANDS 21

Appendix B.1: Test Results of Conducted Spurious Emissions Measured in 100 kHz Bandwidth

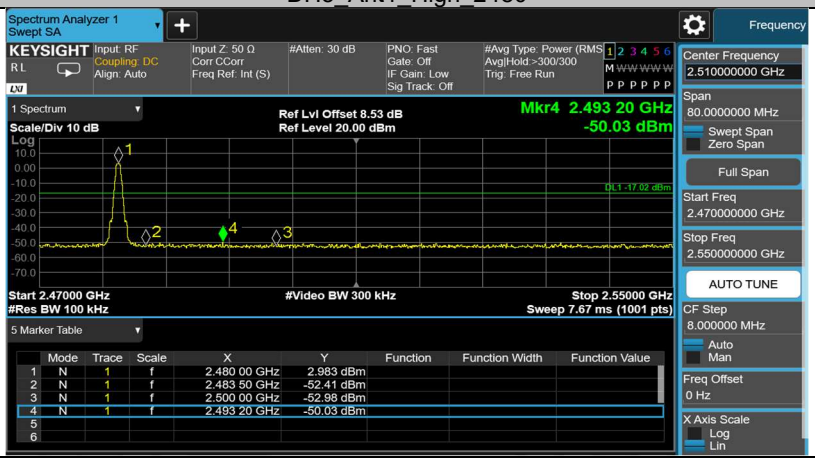
Band Edge

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	3.28	-49.42	≤-16.72	PASS
		High	2480	2.98	-50.04	≤-17.02	PASS
		Low	Hop_2402	2.39	-50.54	≤-17.61	PASS
		High	Hop_2480	2.59	-50.08	≤-17.41	PASS
3DH5	Ant1	Low	2402	3.00	-50.38	≤-17	PASS
		High	2480	2.93	-50.21	≤-17.07	PASS
		Low	Hop_2402	-2.56	-49.58	≤-22.56	PASS
		High	Hop_2480	-1.04	-50.19	≤-21.04	PASS

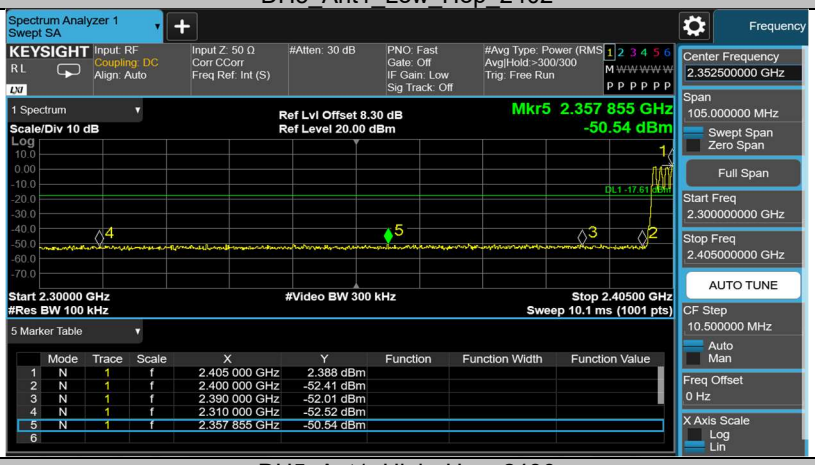
DH5_Ant1_Low_2402



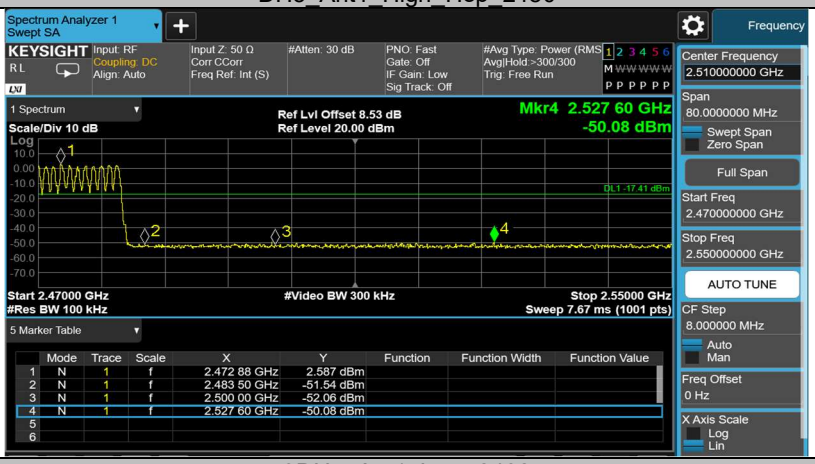
DH5_Ant1_High_2480



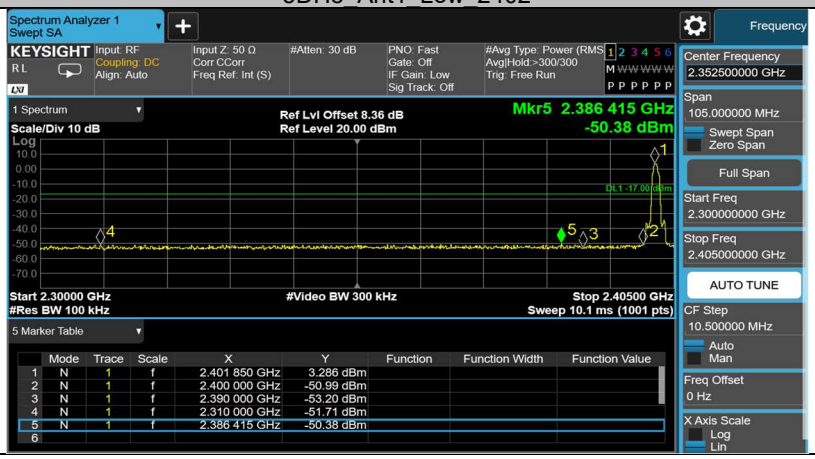
DH5_Ant1_Low_Hop_2402



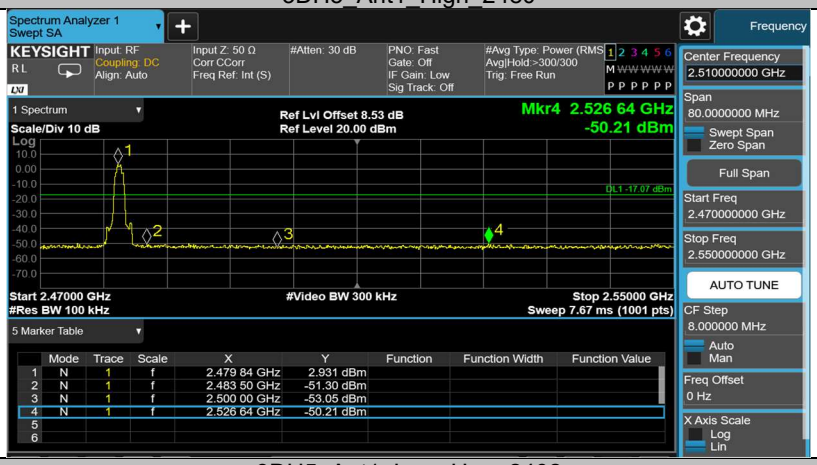
DH5_Ant1_High_Hop_2480



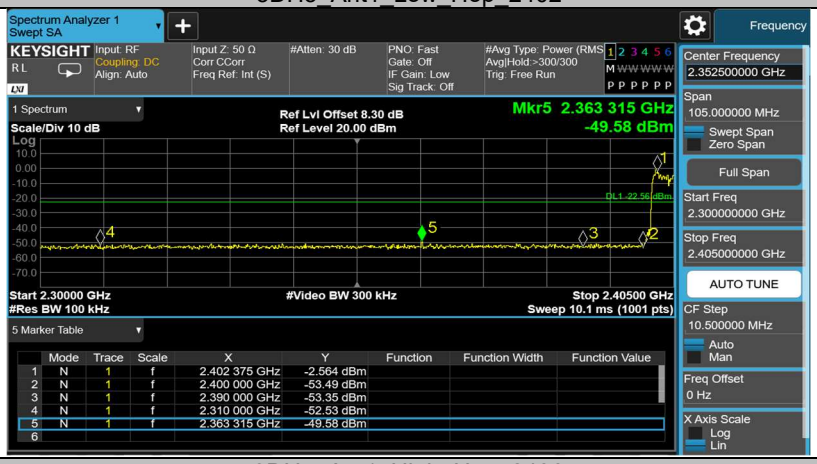
3DH5_Ant1_Low_2402



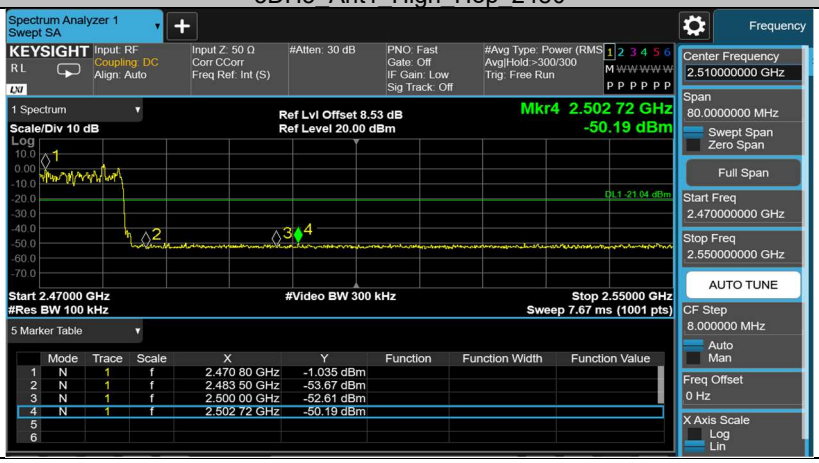
3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480



Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and 18GHz - 26.5GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

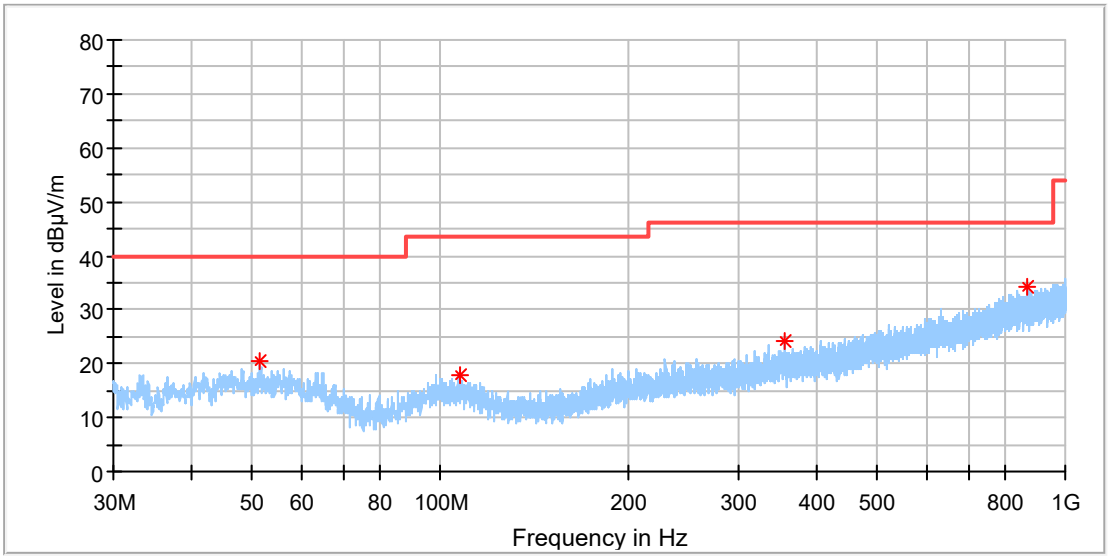
Appendix B.2: Test Results of Radiated Spurious Emissions

Note: This testing was carried out on different modulations, but only the worst case was presented in this report.

30MHz - 1GHz

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003187210-001
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

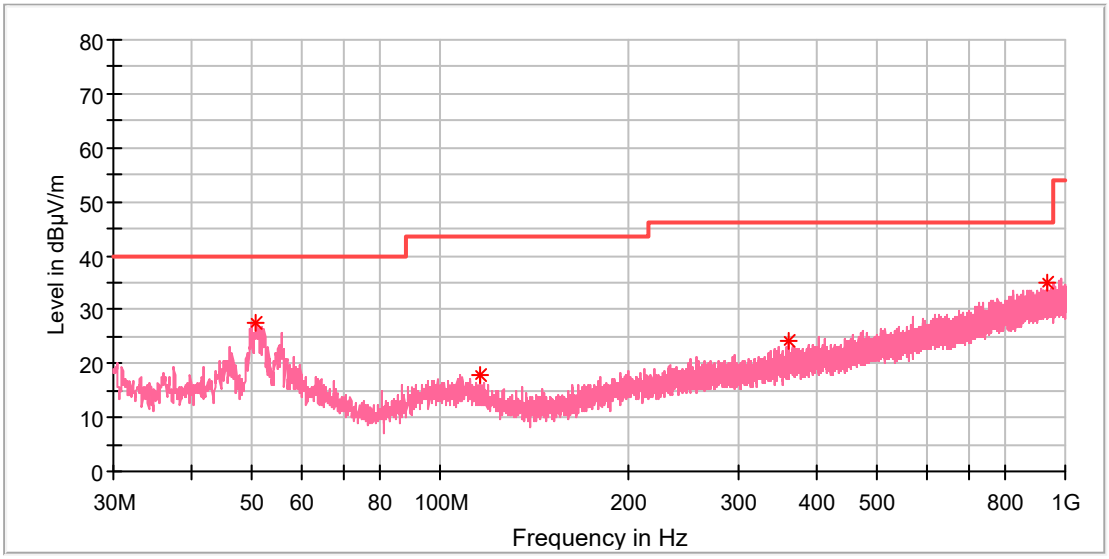
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
51.388500	20.28	40.00	19.72	100.0	H	356.0	-18.3
107.745500	17.74	43.50	25.76	100.0	H	161.0	-18.9
356.938500	24.33	46.00	21.67	100.0	H	42.0	-14.7
871.669000	34.15	46.00	11.85	100.0	H	280.0	-5.2

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003187210-001
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

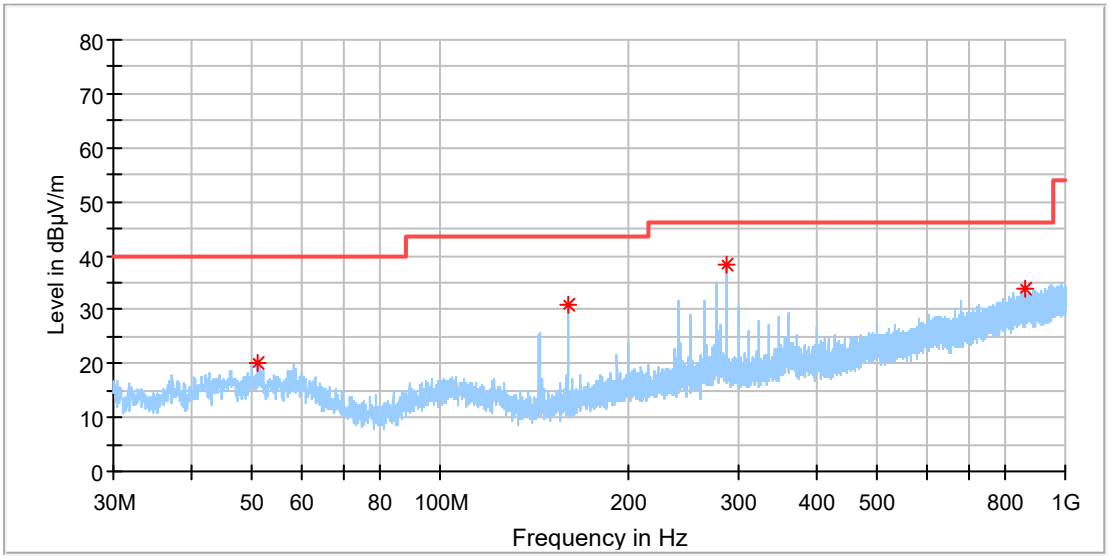
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
50.855000	27.49	40.00	12.51	100.0	V	99.0	-18.3
115.651000	17.92	43.50	25.58	100.0	V	266.0	-19.9
360.479000	24.23	46.00	21.77	100.0	V	205.0	-14.6
937.483500	35.03	46.00	10.97	100.0	V	285.0	-4.6

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M06
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003201415-001
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

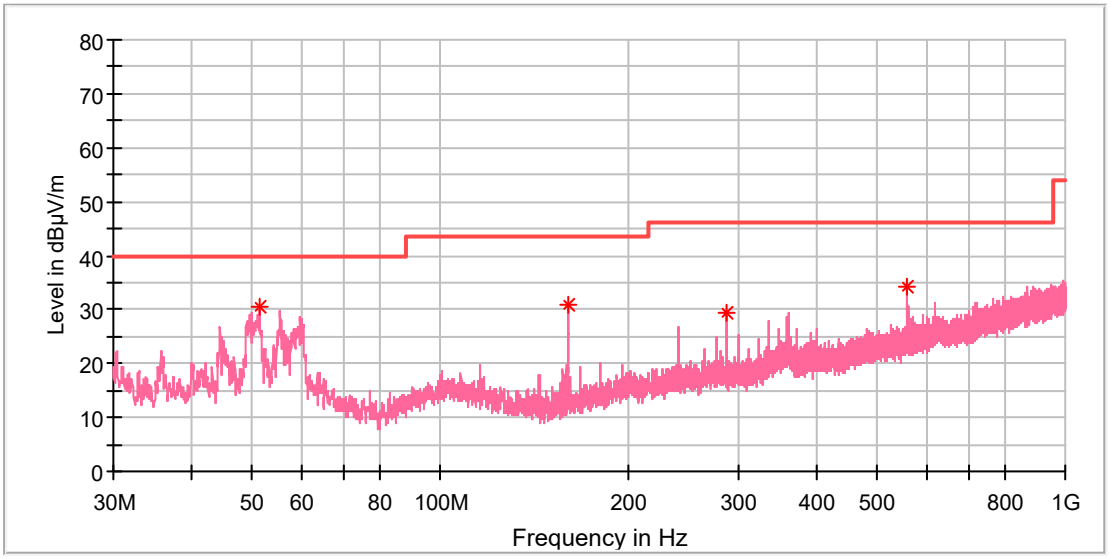
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
51.000500	19.93	40.00	20.07	100.0	H	0.0	-18.3
159.980000	30.88	43.50	12.62	100.0	H	13.0	-21.8
288.020000	38.17	46.00	7.83	100.0	H	180.0	-16.6
863.327000	33.68	46.00	12.32	100.0	H	0.0	-5.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M06
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003201415-001
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
51.340000	30.58	40.00	9.42	100.0	V	252.0	-18.3
160.028500	30.70	43.50	12.80	100.0	V	252.0	-21.8
287.971500	29.38	46.00	16.62	100.0	V	75.0	-16.6
560.008000	34.20	46.00	11.80	100.0	V	214.0	-10.7

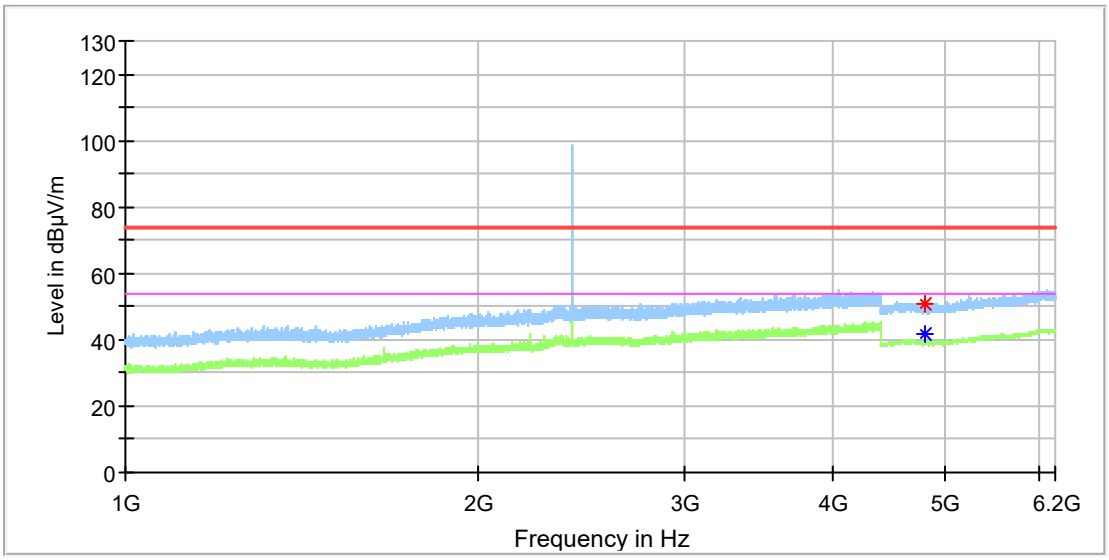
Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

1GHz - 18GHz
Note: The highest waveform in the figure is Bluetooth Fundamental.

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

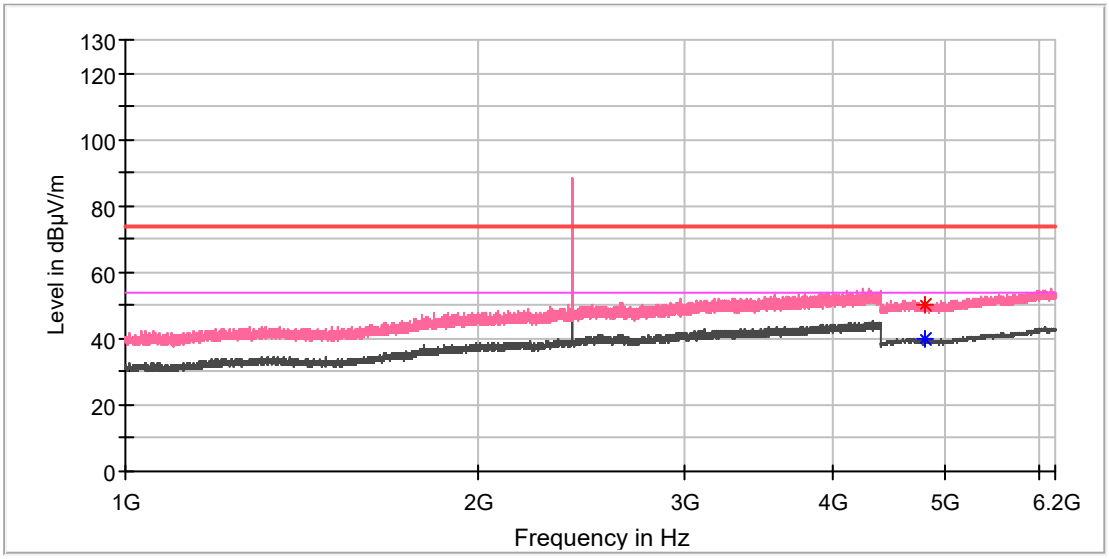
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	50.99	---	74.00	23.01	100.0	H	342.0	11.8
4804.000000	---	41.65	54.00	12.35	100.0	H	115.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

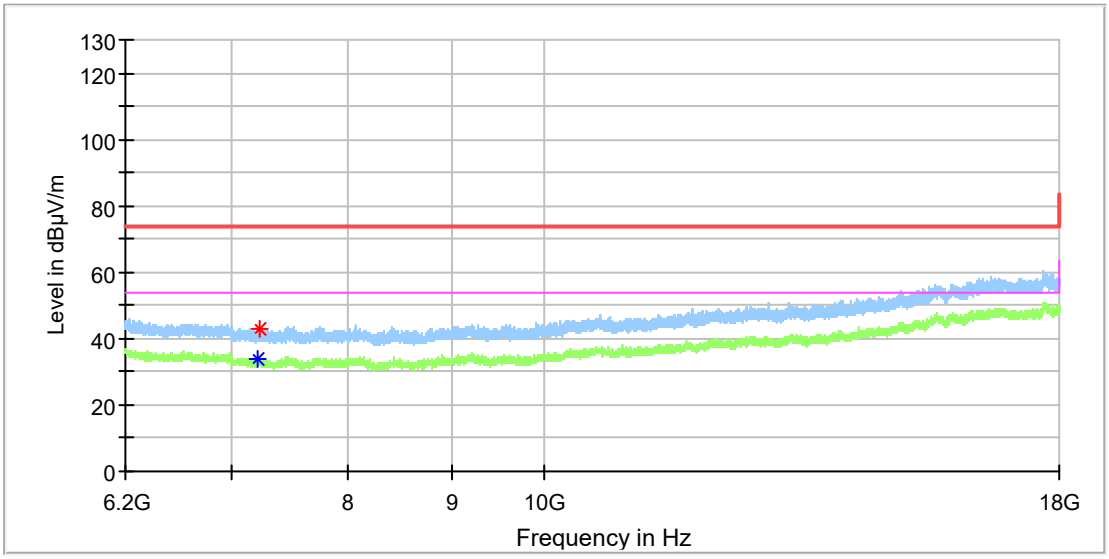
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	---	40.06	54.00	13.94	100.0	V	225.0	11.8
4810.500000	50.31	---	74.00	23.69	100.0	V	260.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

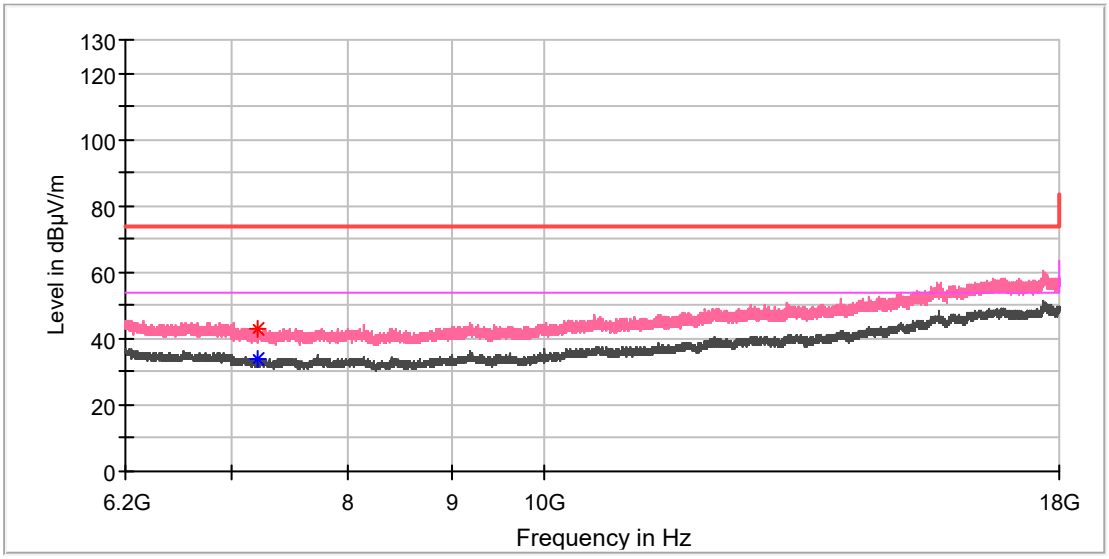
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7209.391667	---	33.64	54.00	20.36	100.0	H	1.0	8.8
7226.108333	42.82	---	74.00	31.18	100.0	H	22.0	8.7

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

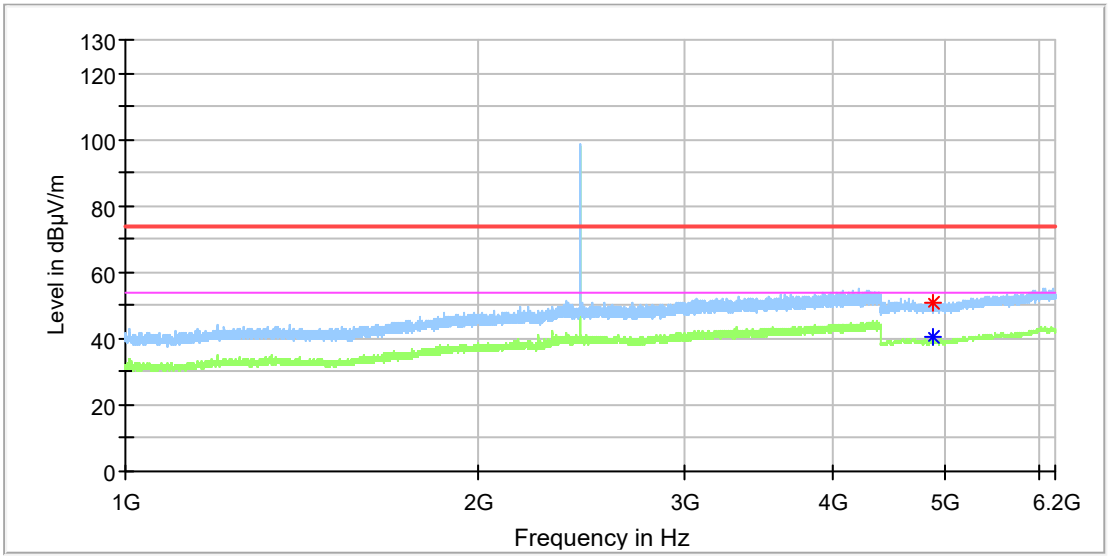
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7204.966667	42.77	---	74.00	31.23	100.0	V	256.0	8.8
7205.950000	---	33.76	54.00	20.24	100.0	V	184.0	8.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

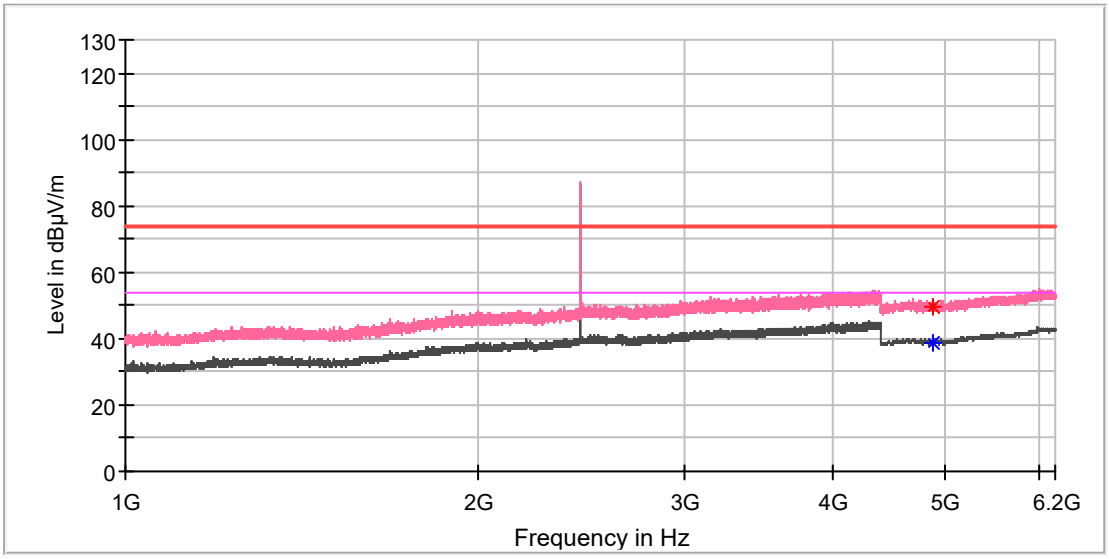
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4882.000000	---	40.66	54.00	13.34	100.0	H	184.0	11.8
4883.500000	50.69	---	74.00	23.31	100.0	H	170.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

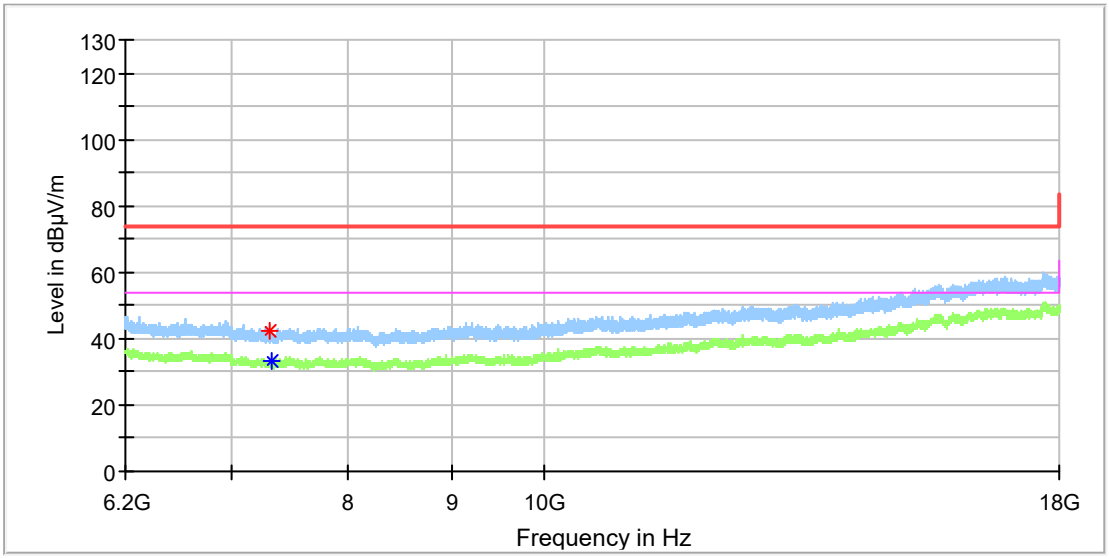
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4883.000000	---	38.81	54.00	15.19	100.0	V	57.0	11.8
4884.000000	49.86	---	74.00	24.14	100.0	V	262.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

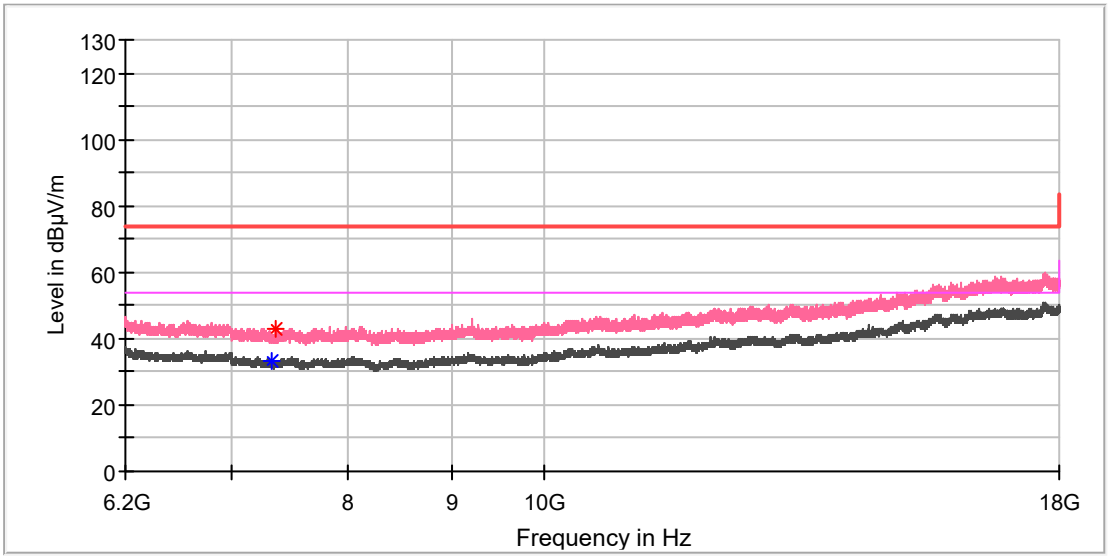
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7314.116667	42.36	---	74.00	31.64	100.0	H	0.0	8.2
7321.491667	---	33.33	54.00	20.67	100.0	H	236.0	8.2

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Mid channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

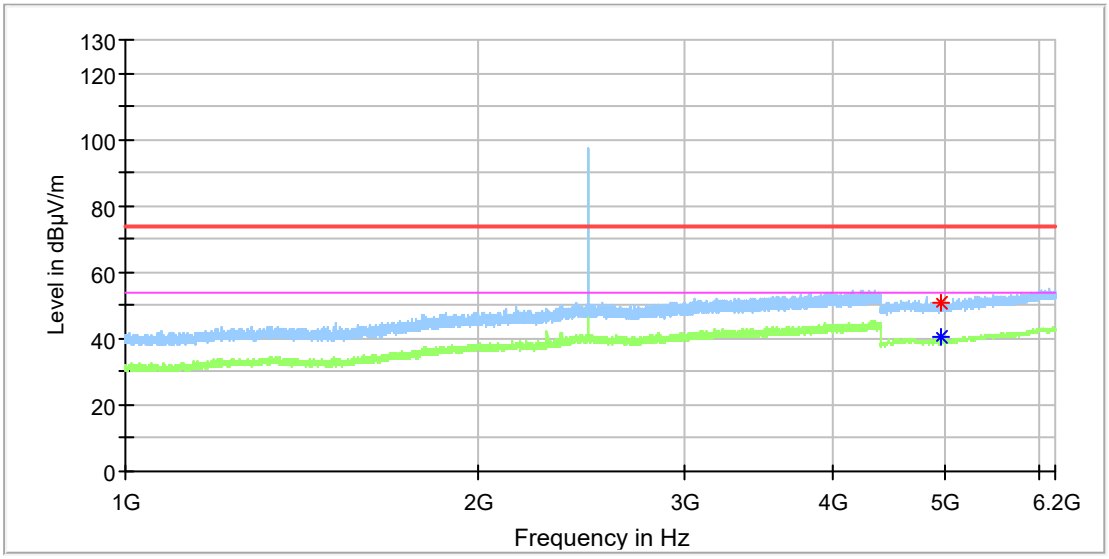
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7328.375000	---	33.13	54.00	20.88	100.0	V	8.0	8.1
7354.925000	43.18	---	74.00	30.82	100.0	V	106.0	8.1

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

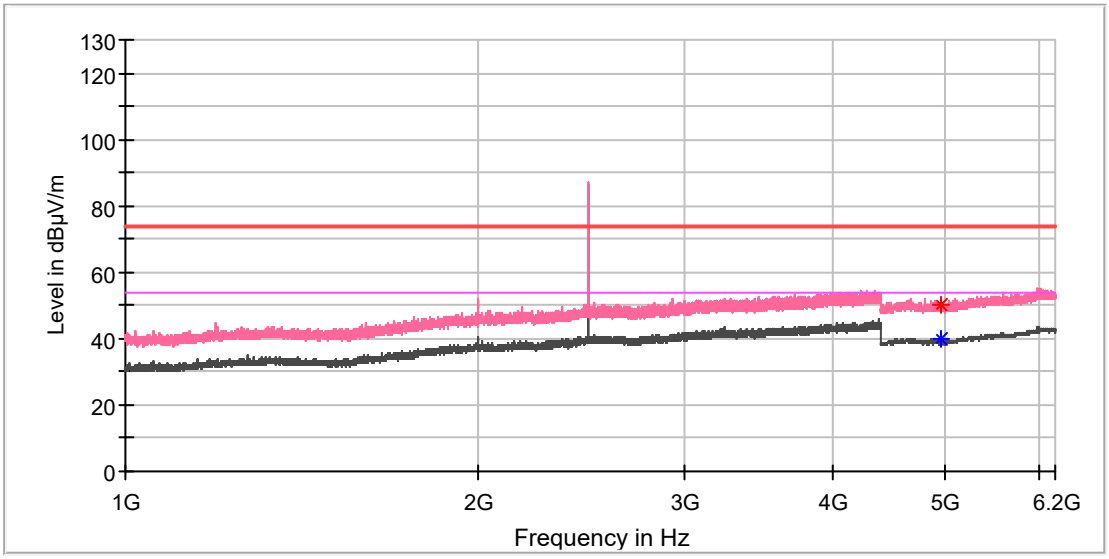
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4951.500000	50.50	---	74.00	23.50	100.0	H	28.0	11.8
4959.500000	---	40.42	54.00	13.58	100.0	H	277.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

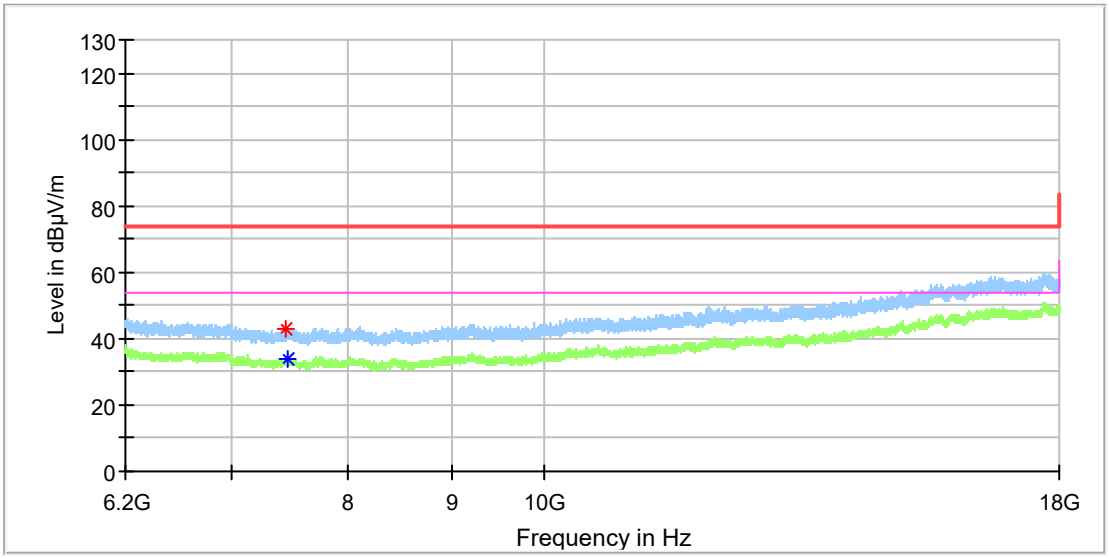
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4958.000000	50.08	---	74.00	23.93	100.0	V	281.0	11.8
4959.500000	---	39.62	54.00	14.38	100.0	V	89.0	11.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

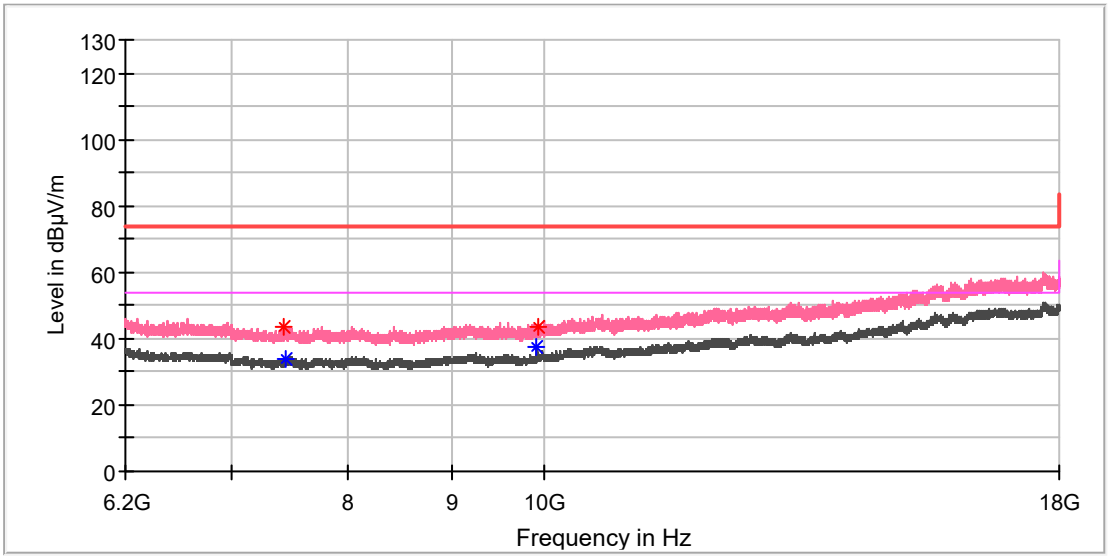
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7444.408333	43.02	---	74.00	30.98	100.0	H	56.0	8.5
7458.666667	---	34.03	54.00	19.97	100.0	H	82.0	8.5

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7422.775000	43.56	---	74.00	30.44	100.0	V	342.0	8.4
7441.458333	---	34.06	54.00	19.94	100.0	V	329.0	8.4
9919.950000	---	37.75	54.00	16.25	100.0	V	80.0	10.8
9920.441667	43.34	---	74.00	30.66	100.0	V	80.0	10.8

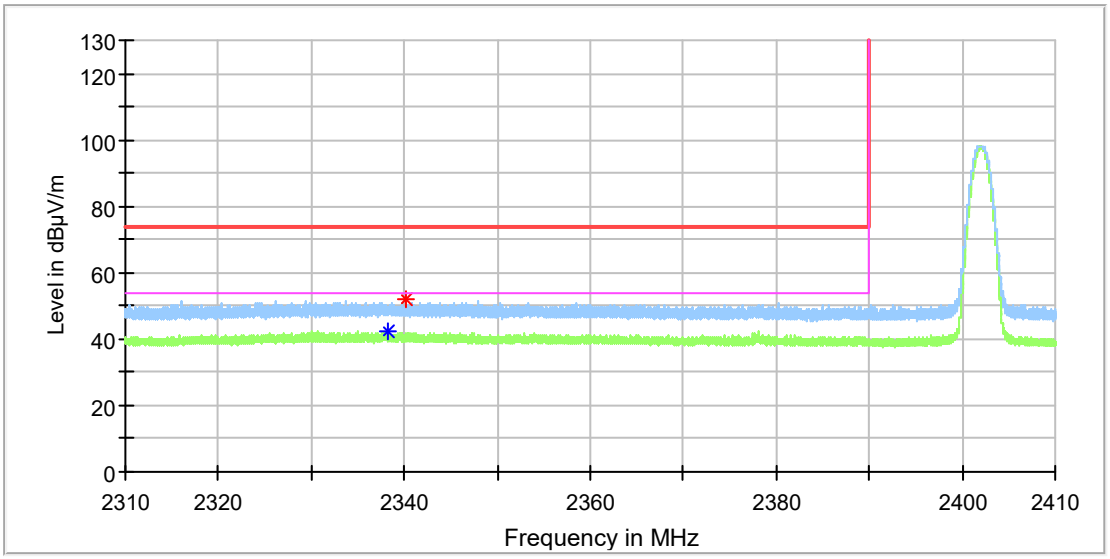
Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

Appendix B.3: Test Results of Radiated Emissions in Restricted Bands

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

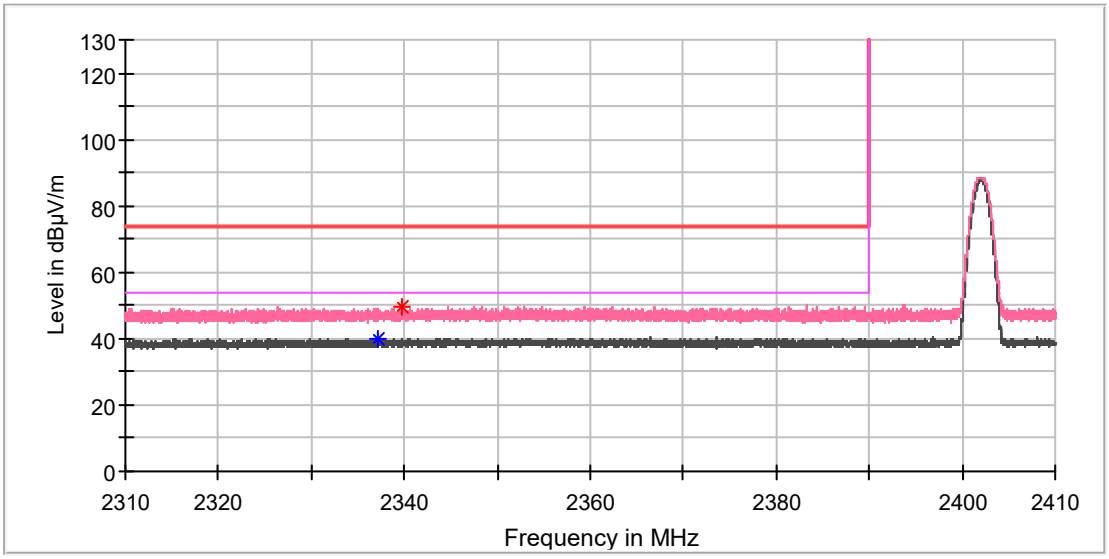
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2338.190000	---	42.35	54.00	11.65	100.0	H	0.0	6.8
2340.080000	52.00	---	74.00	22.00	100.0	H	100.0	6.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

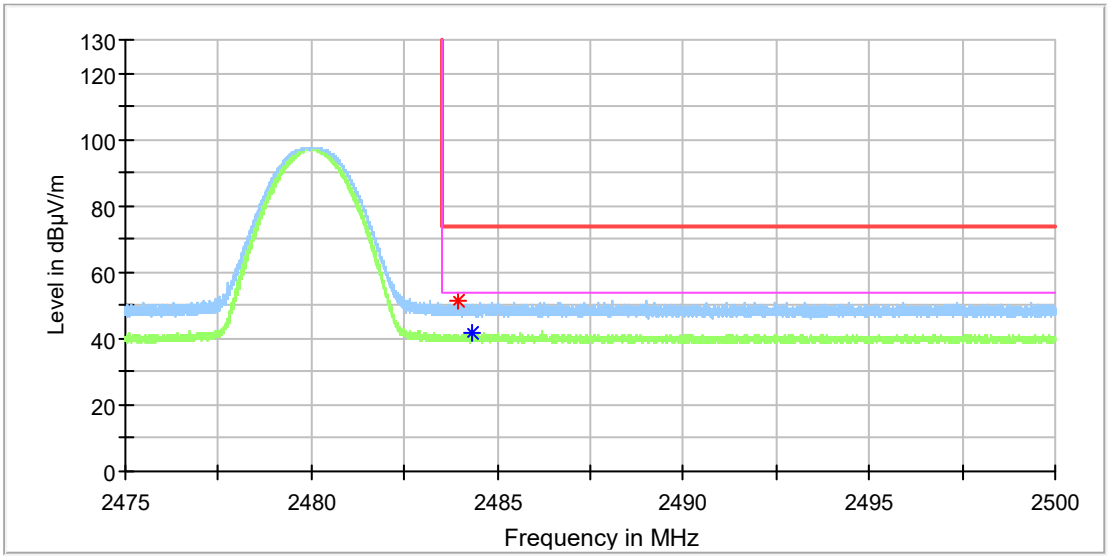
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2337.175000	---	39.81	54.00	14.19	100.0	V	144.0	6.8
2339.805000	49.51	---	74.00	24.49	100.0	V	3.0	6.8

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

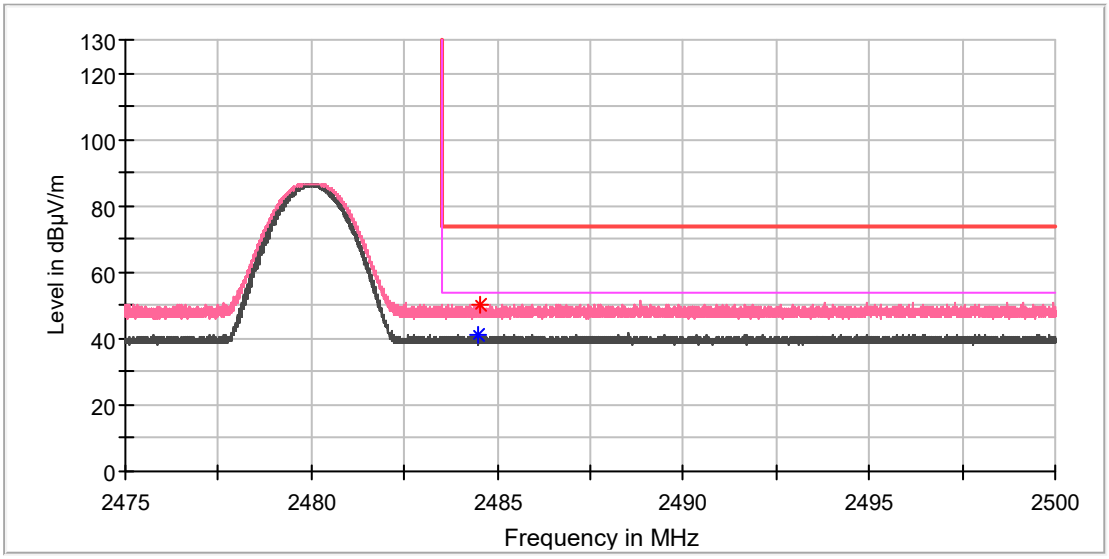
Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.918750	51.21	---	74.00	22.79	100.0	H	279.0	7.4
2484.307500	---	41.80	54.00	12.20	100.0	H	352.0	7.4

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---

EUT Information

EUT Name:	Bluetooth Speaker
Model:	M03
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168334216/A003183556-002
Test Voltage:	AC 120V, 60Hz
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2484.468750	---	40.82	54.00	13.18	100.0	V	44.0	7.4
2484.552500	50.41	---	74.00	23.59	100.0	V	32.0	7.4

Final_Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
---	---	---	---	---		---	---