

Appendix B: Test Results of FCC 15B

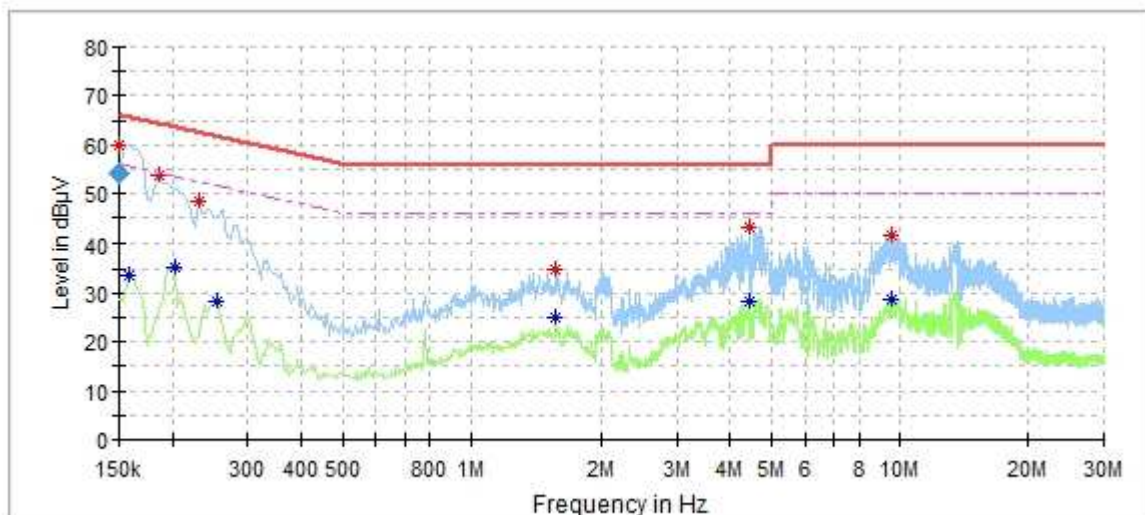
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Appendix B.1: Test Plots of Conducted Emission on AC Mains

Charging by USB Cable

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Order No.:	168311733
Model:	HW10TP
Test Mode:	Charing by USB Cable
Test Voltage:	AC 120V, 60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Remark:	SR1



Critical_Freqs

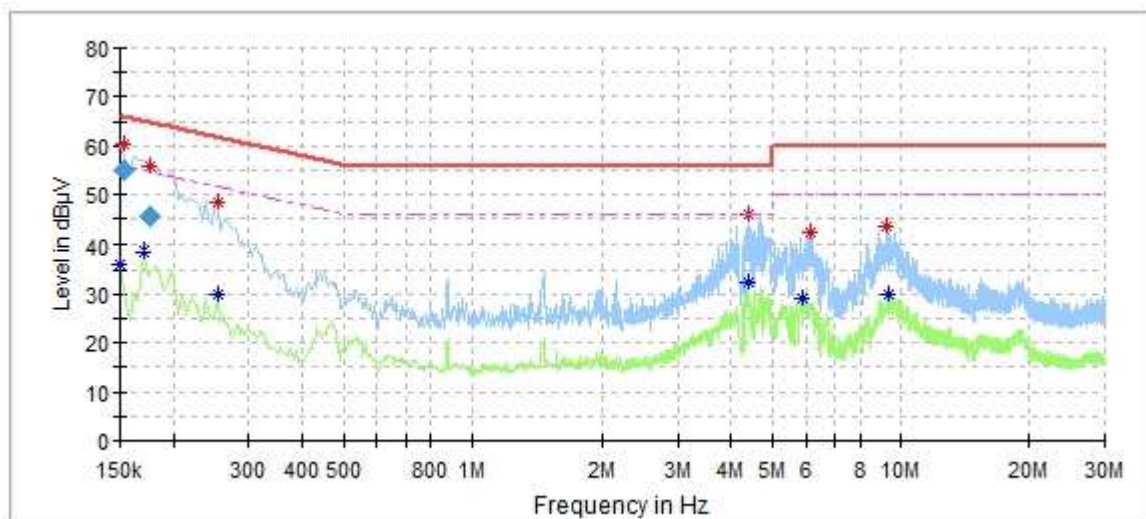
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	59.77	---	65.57	5.80	L1	9.6
0.158000	---	33.80	55.57	21.76	L1	9.6
0.186000	53.62	---	64.21	10.60	L1	9.6
0.202000	---	35.32	53.53	18.21	L1	9.6
0.230000	48.49	---	62.45	13.96	L1	9.6
0.254000	---	28.48	51.63	23.15	L1	9.6
1.564000	---	25.15	46.00	20.85	L1	9.7
1.568000	35.03	---	56.00	20.97	L1	9.7
4.452000	43.14	---	56.00	12.86	L1	9.8
4.452000	---	28.22	46.00	17.78	L1	9.8
9.584000	41.57	---	60.00	18.43	L1	10.0
9.584000	---	28.83	50.00	21.17	L1	10.0

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.150000	54.15	---	66.00	11.85	200.0	9.000	L1	9.6

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
 Order No.: 168311733
 Model: HW10TP
 Test Mode: Charging by USB Cable
 Test Voltage: AC 120V, 60Hz
 Test By: Mac Xie
 Review By: Gary Chen
 Remark: SR1



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.150000	---	36.24	56.00	19.76	N	9.6
0.154000	60.27	---	66.00	5.73	N	9.6
0.170000	---	38.45	54.96	16.51	N	9.6
0.176500	55.67	---	64.39	8.73	N	9.6
0.254000	48.37	---	61.63	13.26	N	9.6
0.254000	---	30.03	51.63	21.60	N	9.6
4.372000	---	32.40	46.00	13.60	N	9.8
4.400000	45.82	---	56.00	10.18	N	9.8
5.856000	---	28.98	50.00	21.02	N	10.0
6.156000	42.45	---	60.00	17.55	N	10.0
9.300000	43.29	---	60.00	16.71	N	10.0
9.304000	---	30.05	50.00	19.95	N	10.0

Final Result

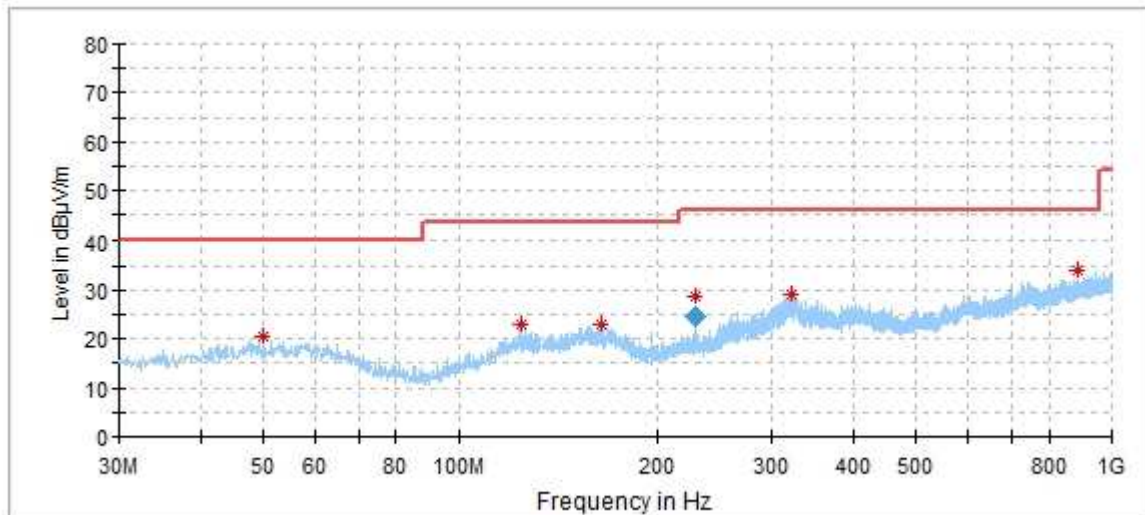
Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.154000	54.89	---	65.78	10.89	200.0	9.000	N	9.6
0.176500	45.45	---	64.65	19.20	200.0	9.000	N	9.6

Appendix B.2: Test Plots of Radiated Emission, Below 1GHz

Charging by USB Cable

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Model:	HW10TP
Order No:	168311733
Test Mode:	Charing by USB Cable
Test Voltage:	AC 120V ,60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Adapter:	3m Chamber



Critical_Freqs

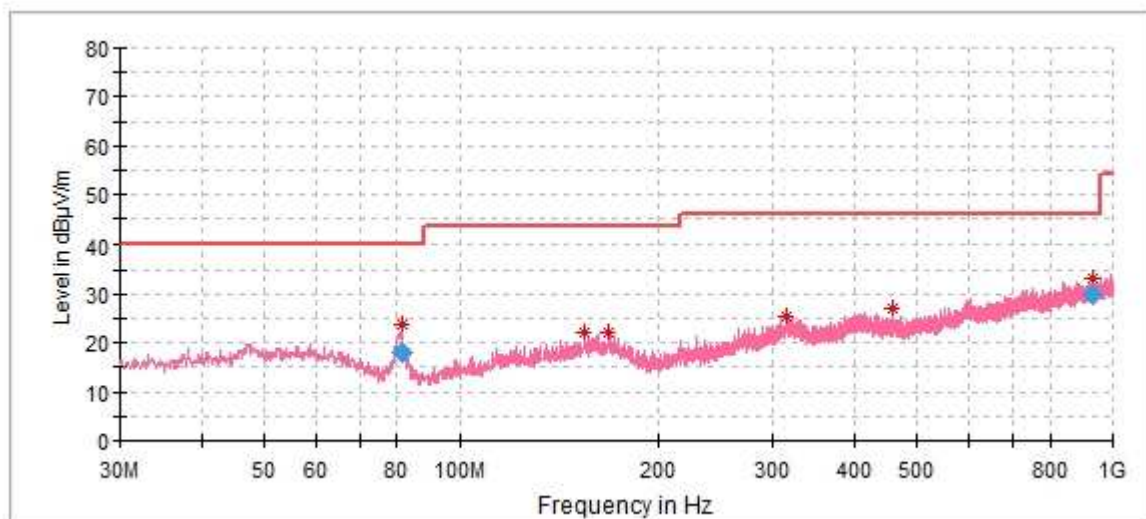
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.982000	20.31	40.00	19.69	300.0	H	356.0	20.7
124.769000	22.95	43.50	20.55	300.0	H	192.0	19.1
163.666000	22.86	43.50	20.64	200.0	H	117.0	21.3
228.910000	28.52	46.00	17.48	105.0	H	71.0	18.9
321.388000	29.22	46.00	16.78	100.0	H	254.0	21.8
884.570000	34.11	46.00	11.89	300.0	H	281.0	31.3

Final_Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
228.910000	24.66	46.00	21.34	1000.0	120.000	105.0	H	71.0	18.9

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
 Model: HW10TP
 Order No: 168311733
 Test Mode: Charing by USB Cable
 Test Voltage: AC 120V ,60Hz
 Test By: Mac Xie
 Review By: Gary Chen
 Adapter: 3m Chamber



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
81.236000	23.98	40.00	16.02	150.0	V	172.0	15.6
153.772000	22.09	43.50	21.41	100.0	V	314.0	21.2
167.837000	22.14	43.50	21.36	100.0	V	341.0	21.5
316.150000	25.53	46.00	20.47	200.0	V	0.0	21.8
459.225000	27.10	46.00	18.90	100.0	V	307.0	24.8
934.294000	33.35	46.00	12.65	250.0	V	130.0	32.1

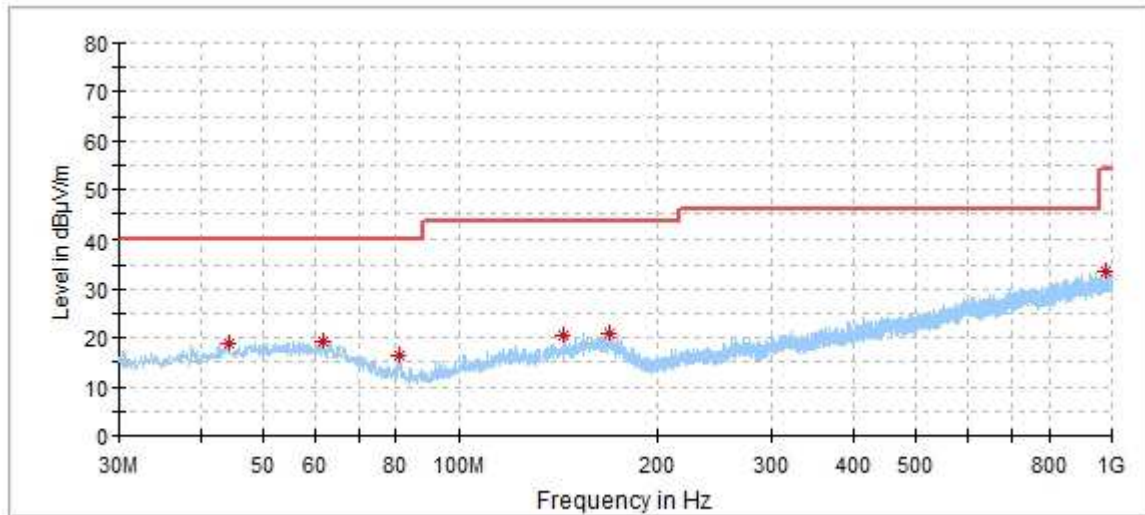
Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
81.236000	18.02	40.00	21.98	1000.0	120.000	150.0	V	172.0	15.6
934.294000	29.82	46.00	16.18	1000.0	120.000	250.0	V	130.0	32.1

On (Bluetooth)

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Model:	HW10TP
Order No:	168311733
Test Mode:	On (Bluetooth)
Test Voltage:	Battery
Test By:	Mac Xie
Review By:	Gary Chen
Adapter:	3m Chamber

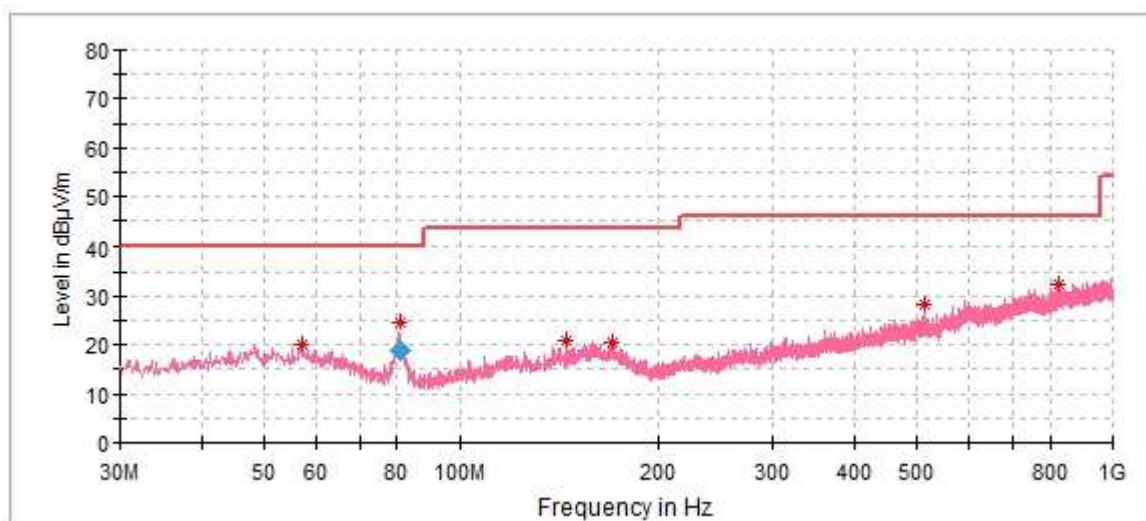


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
44.162000	19.03	40.00	20.97	300.0	H	276.0	20.5
61.816000	19.18	40.00	20.82	200.0	H	316.0	20.6
81.022000	16.58	40.00	23.42	100.0	H	56.0	15.6
143.781000	20.67	43.50	22.83	300.0	H	273.0	20.2
169.098000	20.95	43.50	22.55	100.0	H	161.0	21.6
978.951000	33.66	54.00	20.34	200.0	H	187.0	32.5

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
 Model: HW10TP
 Order No: 168311733
 Test Mode: On (Bluetooth)
 Test Voltage: Battery
 Test By: Mac Xie
 Review By: Gary Chen
 Adapter: 3m Chamber



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
56.966000	20.04	40.00	19.96	300.0	V	28.0	21.3
80.597000	24.62	40.00	15.38	150.0	V	145.0	15.7
144.460000	20.82	43.50	22.68	200.0	V	308.0	20.2
169.680000	20.52	43.50	22.98	300.0	V	318.0	21.7
514.806000	28.14	46.00	17.86	300.0	V	321.0	25.6
823.557000	32.59	46.00	13.41	200.0	V	125.0	30.7

Final Result

Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
80.597000	19.02	40.00	20.98	1000.0	120.000	150.0	V	145.0	15.7

Appendix B.3: Test Plots of Radiated Emission, Above 1GHz

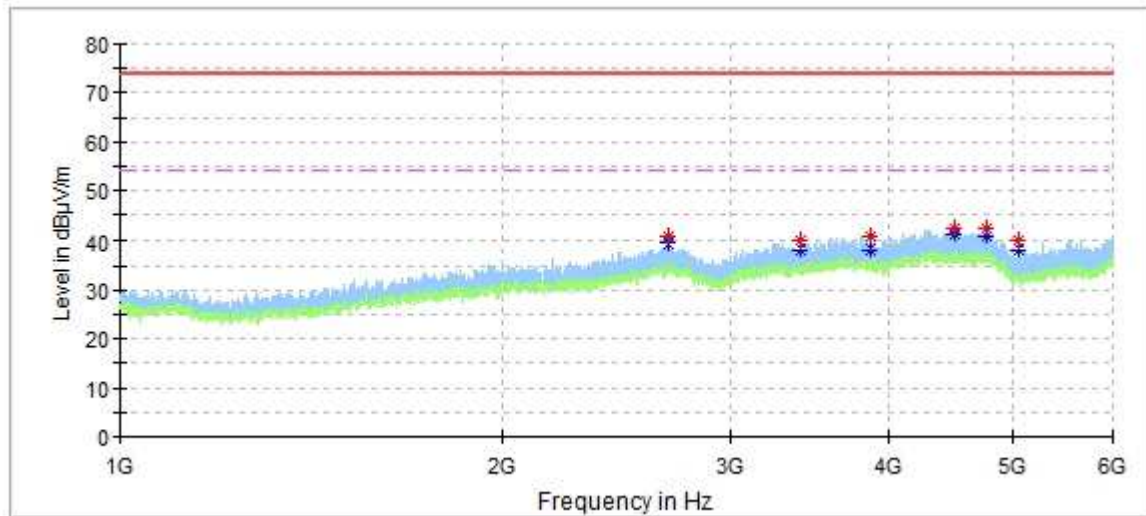
Note:

- Testing was carried out within frequency range 30MHz to the 5th harmonics. The measurement results above 6GHz were greater than 20dB below the limit, so only record the test result within the 30MHz to 6GHz.
- The highest waveform in the figure is Bluetooth Fundamental.

Charging by USB Cable

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Model:	HW10TP
Order No:	168311733
Test Mode:	Charing by USB Cable
Test Voltage:	AC 120V ,60Hz
Test By:	Mac Xie
Review By:	Gary Chen
Adapter:	3m Chamber

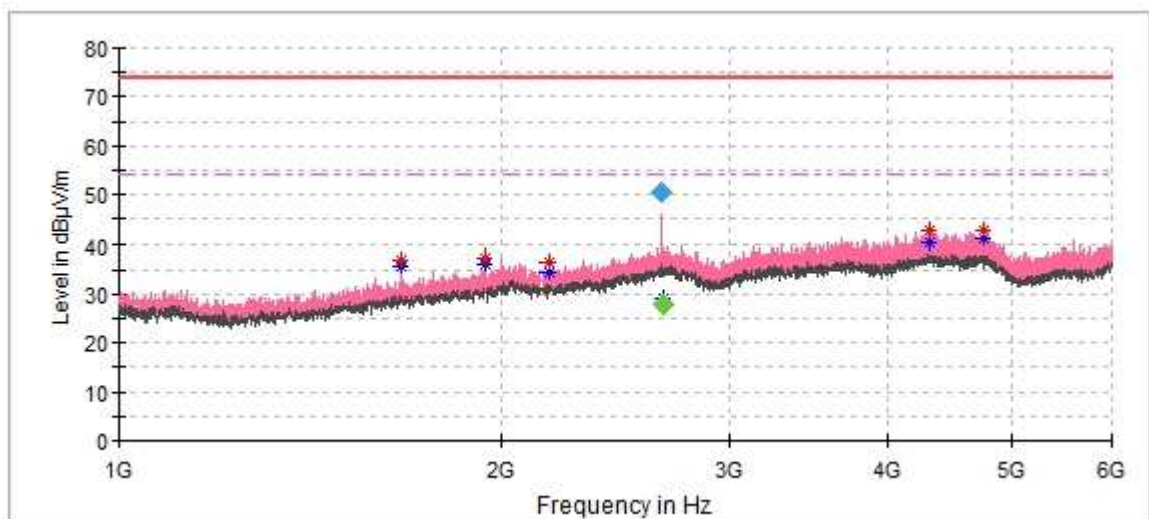


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2681.500000	---	39.51	54.00	14.49	200.0	H	214.0	-3.1
2681.500000	40.48	---	74.00	33.52	200.0	H	214.0	-3.1
3415.000000	39.69	---	74.00	34.31	100.0	H	162.0	-1.5
3415.000000	---	38.01	54.00	15.99	100.0	H	162.0	-1.5
3877.500000	40.67	---	74.00	33.33	100.0	H	0.0	0.0
3877.500000	---	38.16	54.00	15.84	100.0	H	0.0	0.0
4507.000000	---	40.91	54.00	13.09	200.0	H	106.0	2.1
4507.000000	42.19	---	74.00	31.81	200.0	H	106.0	2.1
4783.000000	42.26	---	74.00	31.74	100.0	H	302.0	2.6
4783.000000	---	40.82	54.00	13.18	100.0	H	302.0	2.6
5065.000000	39.69	---	74.00	34.31	100.0	H	82.0	-0.9
5065.000000	---	38.24	54.00	15.76	100.0	H	82.0	-0.9

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
 Model: HW10TP
 Order No: 168311733
 Test Mode: Charging by USB Cable
 Test Voltage: AC 120V ,60Hz
 Test By: Mac Xie
 Review By: Gary Chen
 Adapter: 3m Chamber



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1665.500000	36.91	---	74.00	37.09	100.0	V	129.0	-10.1
1665.500000	---	35.65	54.00	18.35	100.0	V	129.0	-10.1
1937.500000	37.14	---	74.00	36.86	100.0	V	142.0	-8.4
1937.500000	---	36.05	54.00	17.95	100.0	V	142.0	-8.4
2172.000000	36.42	---	74.00	37.58	100.0	V	72.0	-7.8
2172.000000	---	34.62	54.00	19.38	100.0	V	72.0	-7.8
2660.700000	50.69	---	74.00	23.31	100.0	V	155.0	-3.2
2662.700000	---	29.11	54.00	24.89	100.0	V	160.0	-3.2
4321.500000	42.57	---	74.00	31.43	100.0	V	170.0	2.2
4321.500000	---	40.19	54.00	13.81	100.0	V	170.0	2.2
4760.500000	42.87	---	74.00	31.13	100.0	V	303.0	2.9
4760.500000	---	41.16	54.00	12.84	100.0	V	303.0	2.9

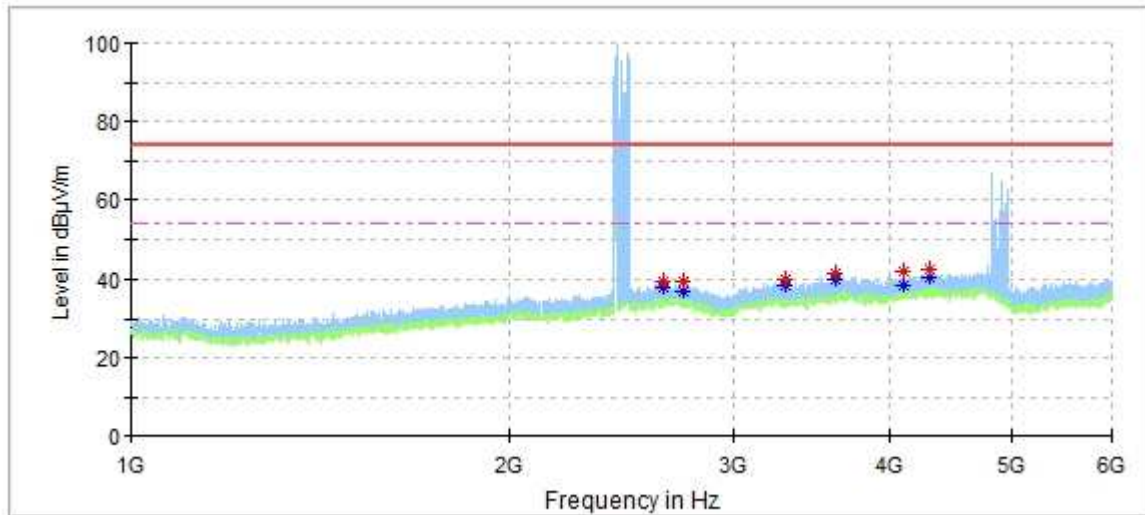
Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2660.700000	50.42	---	74.00	23.58	100.0	V	155.0	-3.3
2662.700000	---	27.95	54.00	26.05	100.0	V	160.0	-3.3

On (Bluetooth)

EUT Information

EUT Name: thinkplus Walkie Talkie Earphone HW10
 Model: HW10TP
 Order No: 168311733
 Test Mode: On (Bluetooth)
 Test Voltage: Battery
 Test By: Mac Xie
 Review By: Gary Chen
 Adapter: 3m Chamber

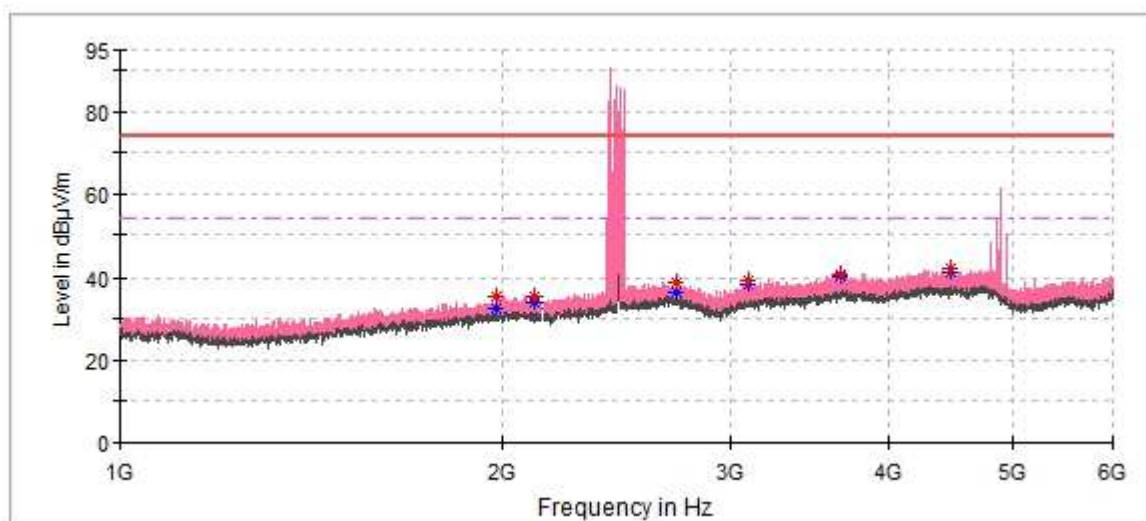


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2636.500000	39.71	---	74.00	34.29	100.0	H	175.0	-3.4
2636.500000	---	37.75	54.00	16.25	100.0	H	175.0	-3.4
2744.000000	39.67	---	74.00	34.33	200.0	H	121.0	-3.5
2744.000000	---	36.88	54.00	17.12	200.0	H	121.0	-3.5
3299.000000	40.25	---	74.00	33.75	100.0	H	216.0	-1.9
3299.000000	---	38.22	54.00	15.78	100.0	H	216.0	-1.9
3618.000000	41.63	---	74.00	32.37	200.0	H	252.0	-0.4
3618.000000	---	40.03	54.00	13.97	200.0	H	252.0	-0.4
4097.500000	41.90	---	74.00	32.10	200.0	H	271.0	1.0
4097.500000	---	38.62	54.00	15.38	200.0	H	271.0	1.0
4298.000000	42.49	---	74.00	31.51	100.0	H	156.0	2.2
4298.000000	---	40.65	54.00	13.35	100.0	H	156.0	2.2

EUT Information

EUT Name:	thinkplus Walkie Talkie Earphone HW10
Model:	HW10TP
Order No:	168311733
Test Mode:	On (Bluetooth)
Test Voltage:	Battery
Test By:	Mac Xie
Review By:	Gary Chen
Adapter:	3m Chamber



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1976.500000	35.74	---	74.00	38.26	100.0	V	105.0	-8.0
1976.500000	---	32.87	54.00	21.13	100.0	V	105.0	-8.0
2117.500000	---	33.93	54.00	20.07	200.0	V	0.0	-7.4
2117.500000	35.76	---	74.00	38.24	200.0	V	0.0	-7.4
2723.500000	38.96	---	74.00	35.04	100.0	V	0.0	-3.2
2723.500000	---	36.35	54.00	17.65	100.0	V	0.0	-3.2
3103.000000	---	38.57	54.00	15.43	100.0	V	171.0	-2.9
3103.000000	39.45	---	74.00	34.55	100.0	V	171.0	-2.9
3672.000000	41.12	---	74.00	32.88	100.0	V	283.0	0.0
3672.000000	---	40.55	54.00	13.45	100.0	V	283.0	0.0
4480.500000	42.50	---	74.00	31.50	200.0	V	126.0	2.1
4480.500000	---	41.40	54.00	12.60	200.0	V	126.0	2.1