

## Appendix C

# Test Results of Radiated Emission & AC Mains Conducted Emission

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Note: The radiated spurious emission were measured from 9KHz to 26.5GHz, the measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

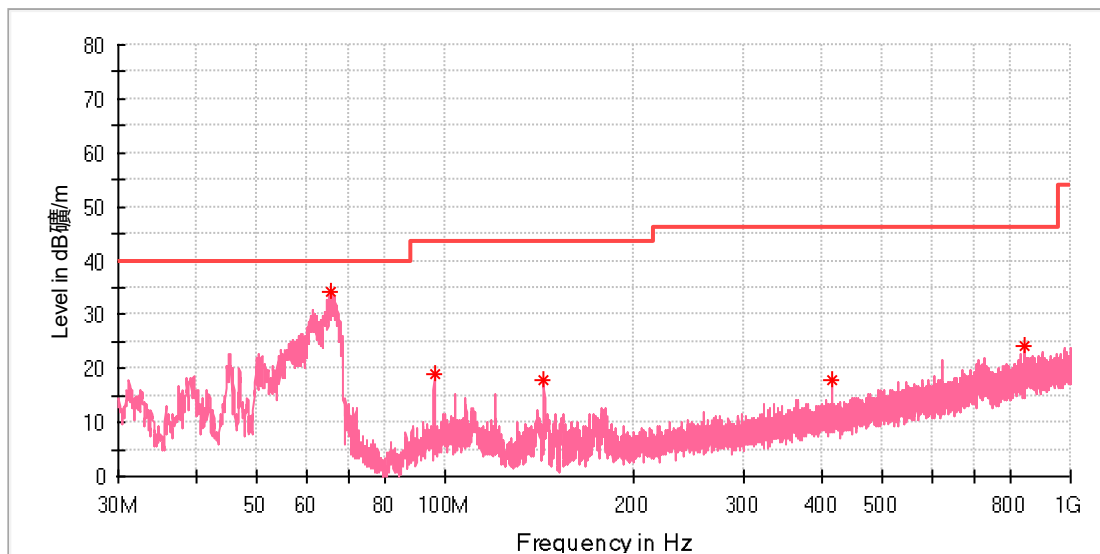
All modes tested, only the worst-case reported.

## Appendix C.1: Test Plots of Radiated Spurious Emission

BDR mode, 30MHz - 1GHz

### EUT Information

EUT Name:	Insignia 2.0 soundbar
Model:	NS-HTSB22
Test Mode:	BR_DH5_High channel
Order No/Sample No:	168343624/A003166170-001
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:54%
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)
65.666154	34.10	40.00	5.90	100.0	V	283.0	-20.6
95.997308	18.83	43.50	24.67	100.0	V	326.0	-19.9
143.975000	17.97	43.50	25.53	100.0	V	0.0	-22.6
415.985385	17.89	46.00	28.11	100.0	V	172.0	-13.8
845.322308	24.18	46.00	21.82	100.0	V	244.0	-6.0

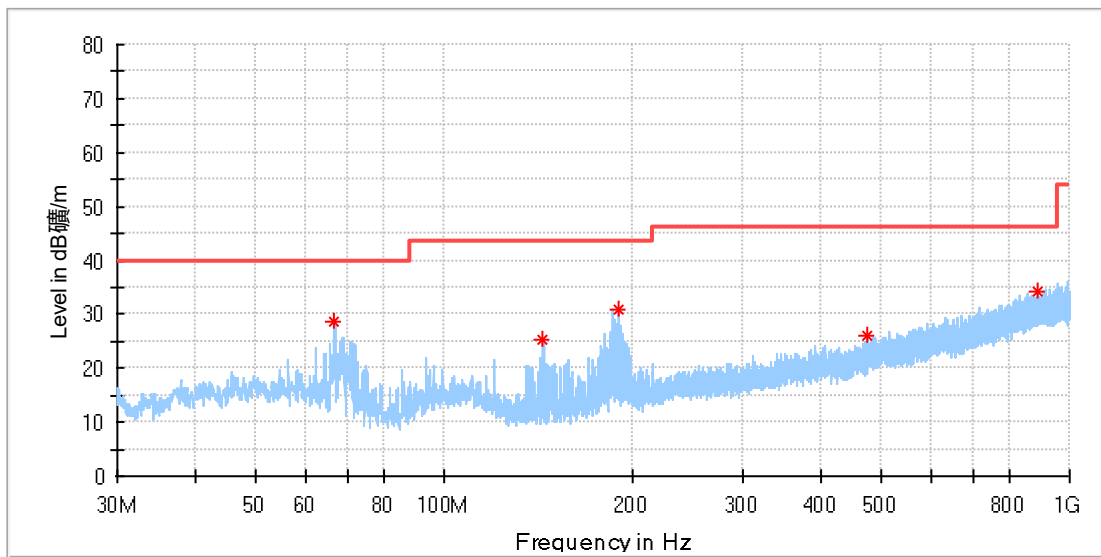
### Final\_Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
66.811500	28.56	40.00	11.44	100.0	H	328.0	-20.7
143.975000	25.30	43.50	18.20	100.0	H	46.0	-22.2
190.050000	31.05	43.50	12.45	100.0	H	235.0	-19.5
475.424000	25.94	46.00	20.06	100.0	H	206.0	-12.3
890.341500	34.39	46.00	11.61	100.0	H	63.0	-5.1

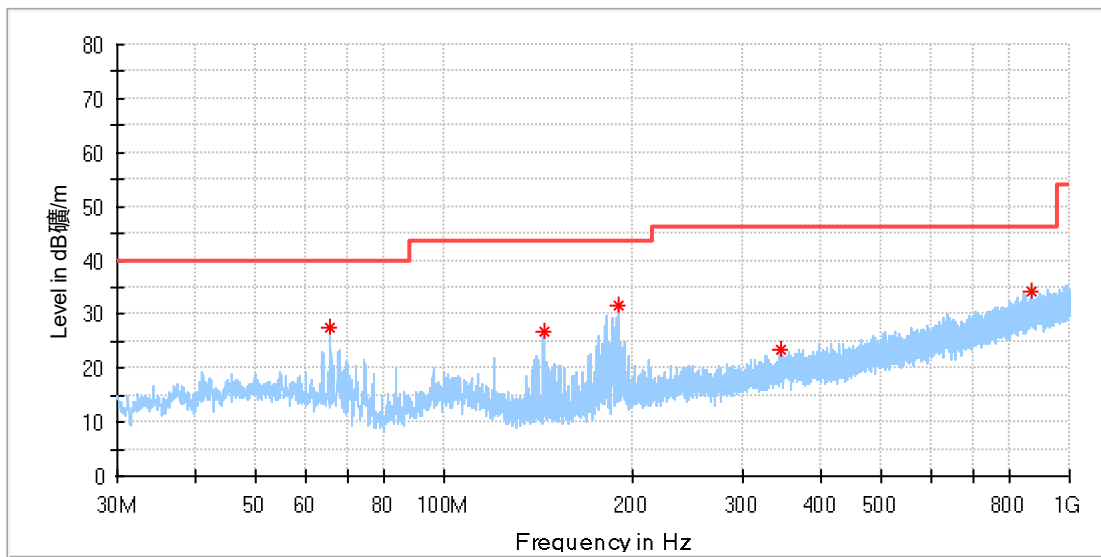
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
65.696000	27.68	40.00	12.32	100.0	H	317.0	-20.3
144.023500	26.71	43.50	16.79	100.0	H	143.0	-22.2
190.292500	31.70	43.50	11.80	100.0	H	231.0	-19.5
346.608000	23.37	46.00	22.63	100.0	H	51.0	-14.8
869.050000	34.19	46.00	11.81	100.0	H	295.0	-5.2

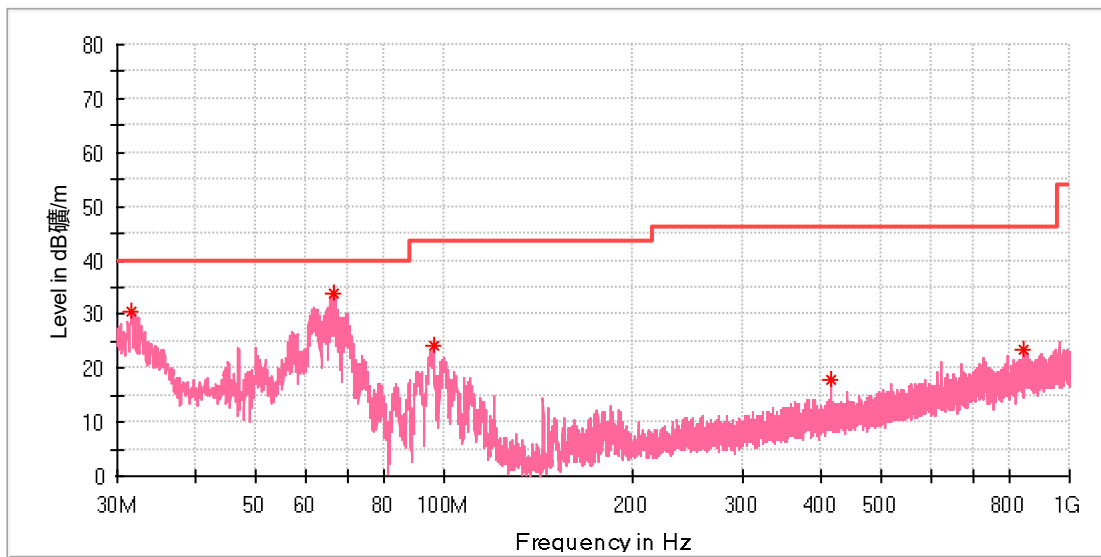
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
31.566923	30.56	40.00	9.44	100.0	V	166.0	-23.1
66.449615	33.75	40.00	6.25	100.0	V	317.0	-20.9
95.997308	24.23	43.50	19.27	100.0	V	359.0	-19.9
415.985385	17.82	46.00	28.18	100.0	V	337.0	-13.8
845.098462	23.43	46.00	22.57	100.0	V	0.0	-6.0

### Final Result

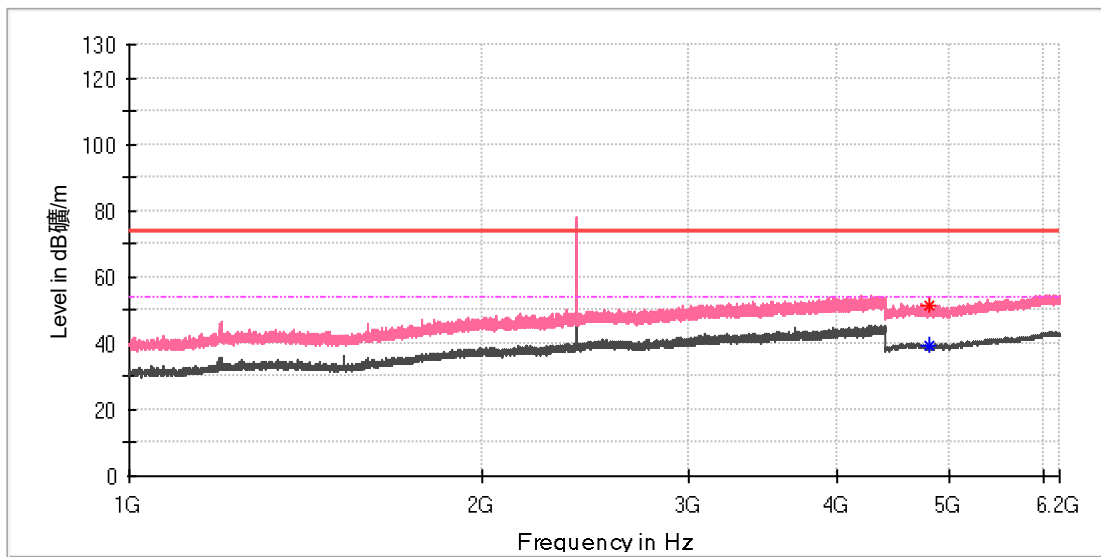
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
4806.500000	---	39.55	54.00	14.45	100.0	V	2.0	11.8
4809.000000	51.23	---	74.00	22.77	100.0	V	99.0	11.8

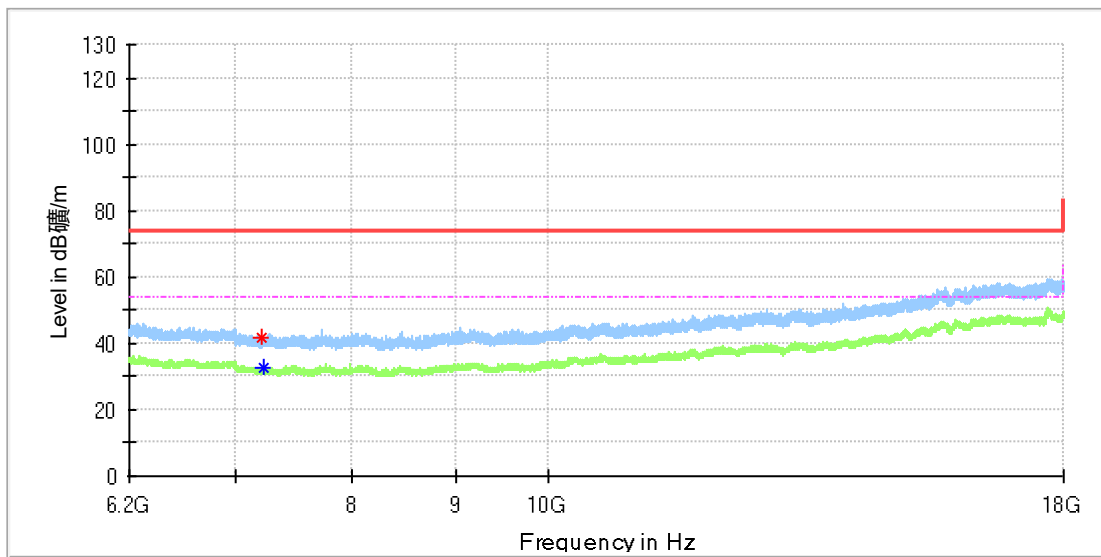
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7204.475000	41.60	---	74.00	32.40	100.0	H	336.0	8.8
7221.683333	---	32.74	54.00	21.26	100.0	H	53.0	8.7

### Final Result

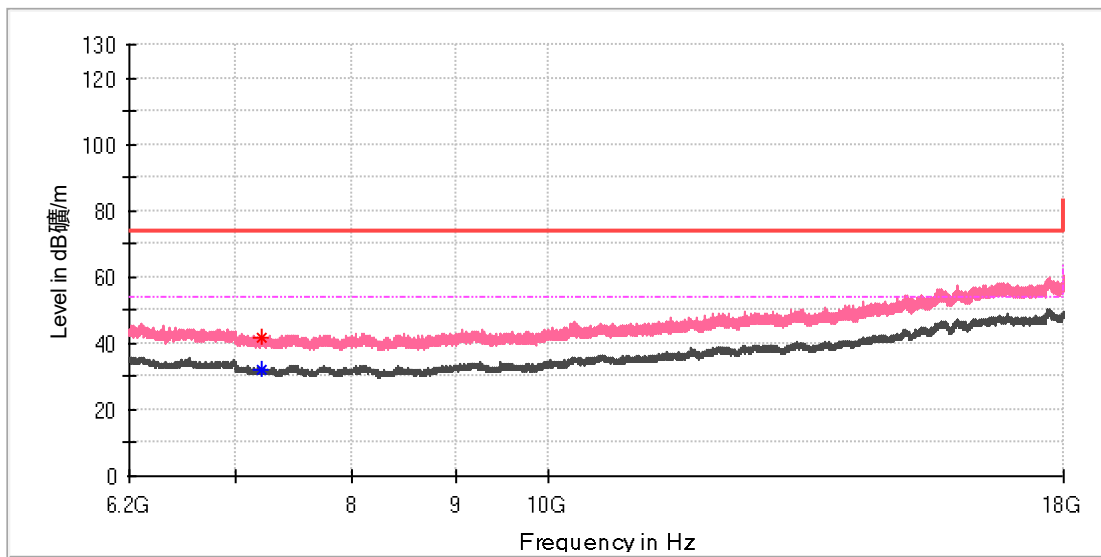
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7202.508333	---	32.07	54.00	21.93	100.0	V	44.0	8.8
7211.850000	41.96	---	74.00	32.04	100.0	V	17.0	8.7

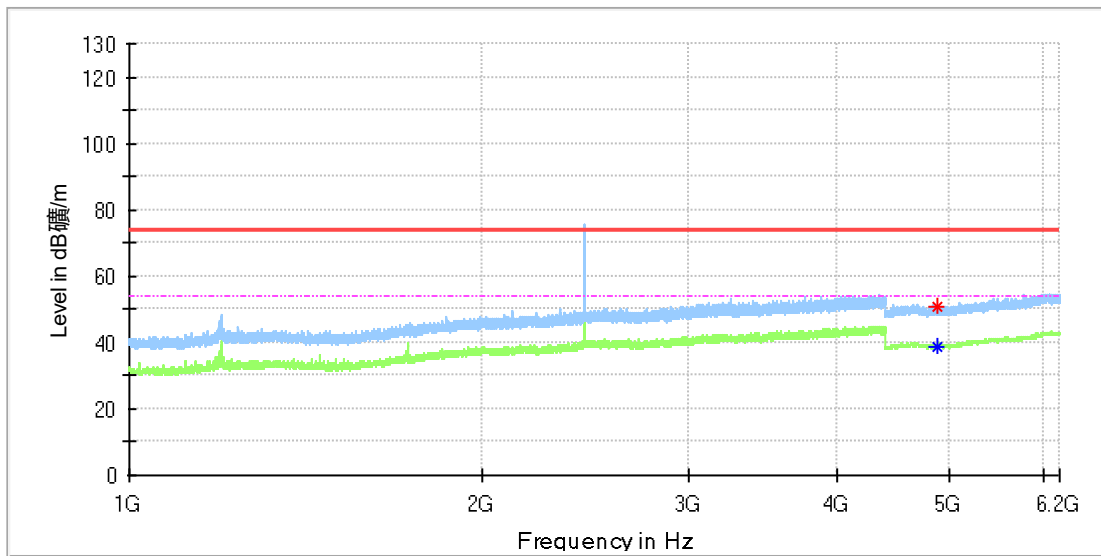
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Mid channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
4876.000000	50.81	---	74.00	23.19	100.0	H	9.0	11.8
4882.000000	---	38.76	54.00	15.24	100.0	H	187.0	11.8

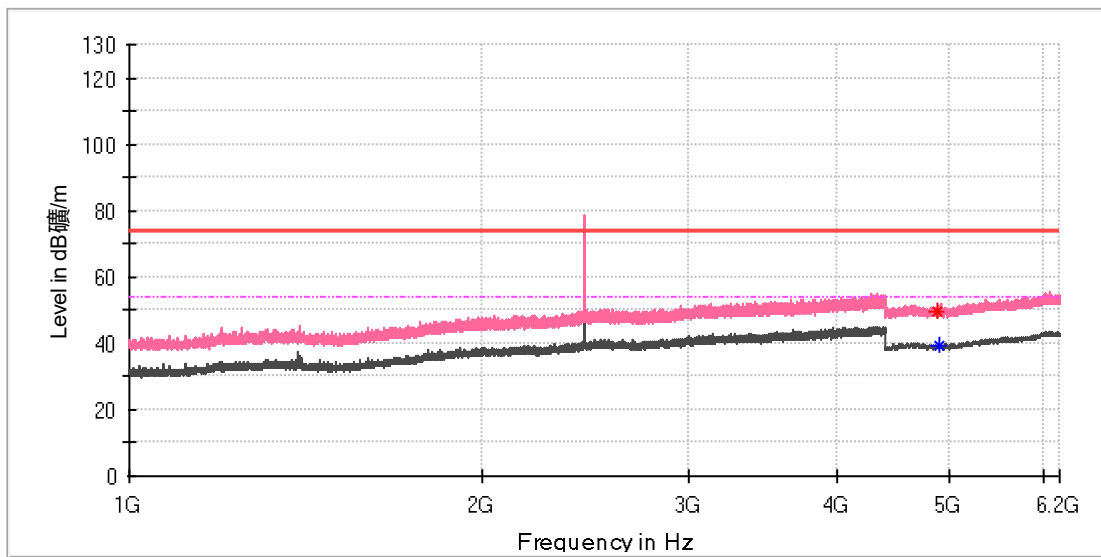
### Final\_Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Mid channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
4882.500000	49.66	---	74.00	24.34	100.0	V	81.0	11.8
4891.500000	---	39.43	54.00	14.57	100.0	V	7.0	11.8

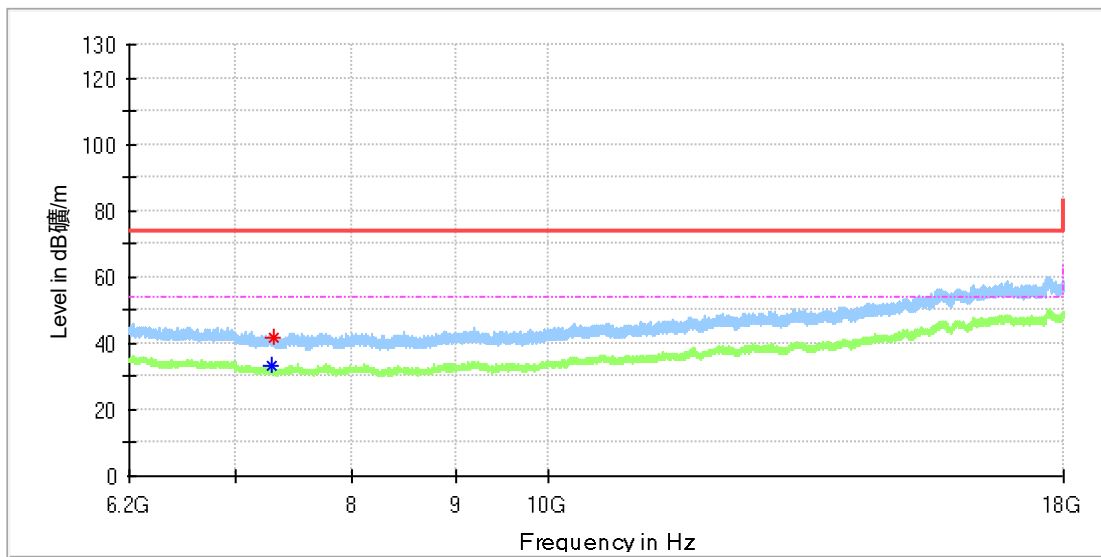
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Mid channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7298.383333	---	33.04	54.00	20.96	100.0	H	129.0	8.3
7317.558333	41.65	---	74.00	32.35	100.0	H	86.0	8.2

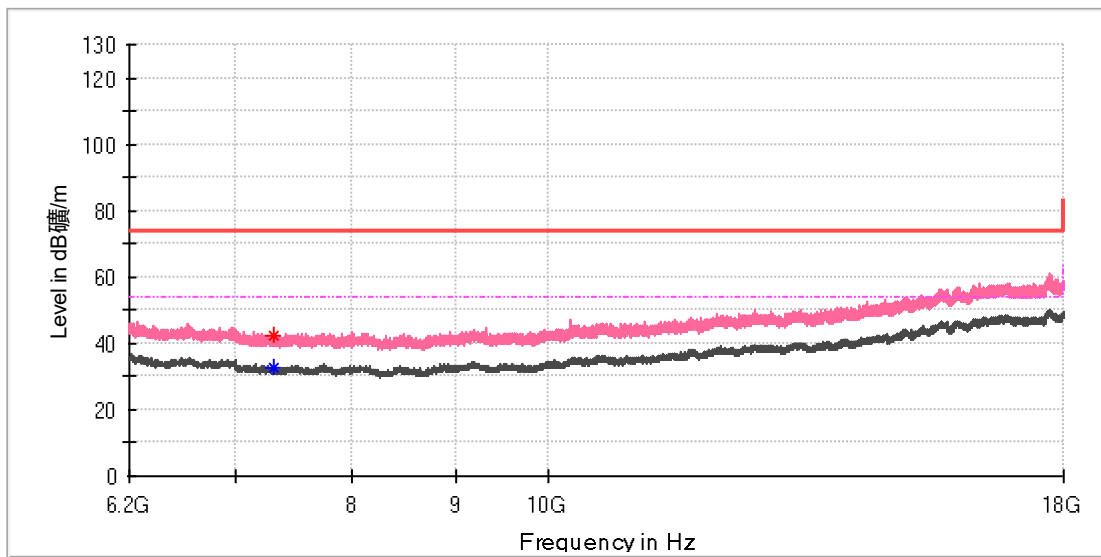
### Final Result

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

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### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Mid channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7306.250000	---	32.42	54.00	21.58	100.0	V	187.0	8.3
7316.575000	42.35	---	74.00	31.65	100.0	V	173.0	8.2

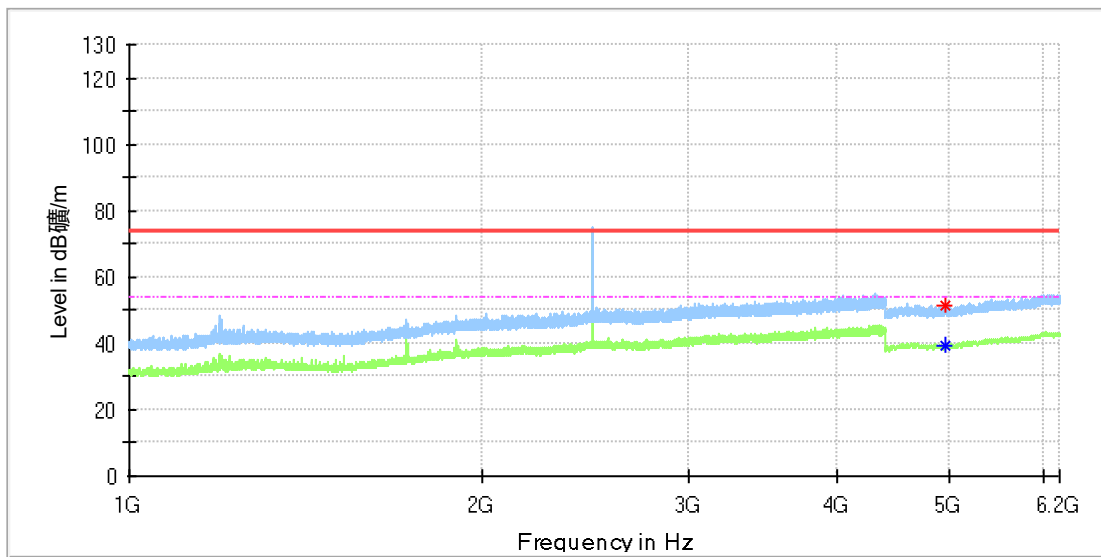
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
4964.500000	51.50	---	74.00	22.50	100.0	H	145.0	11.8
4964.500000	---	39.50	54.00	14.50	100.0	H	145.0	11.8

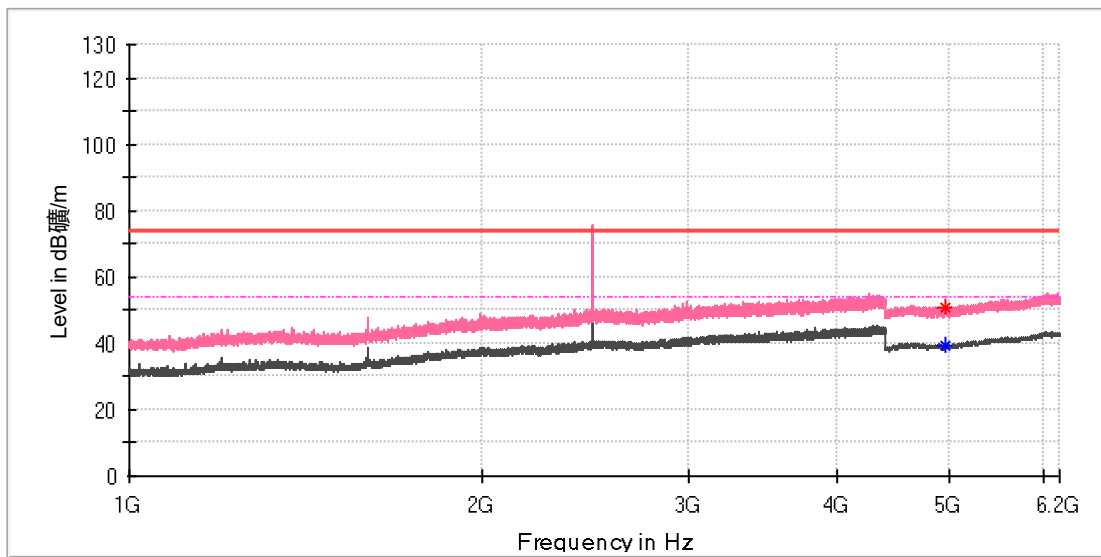
### Final Result

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

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
4958.500000	50.86	---	74.00	23.14	100.0	V	42.0	11.8
4959.500000	---	39.52	54.00	14.48	100.0	V	178.0	11.8

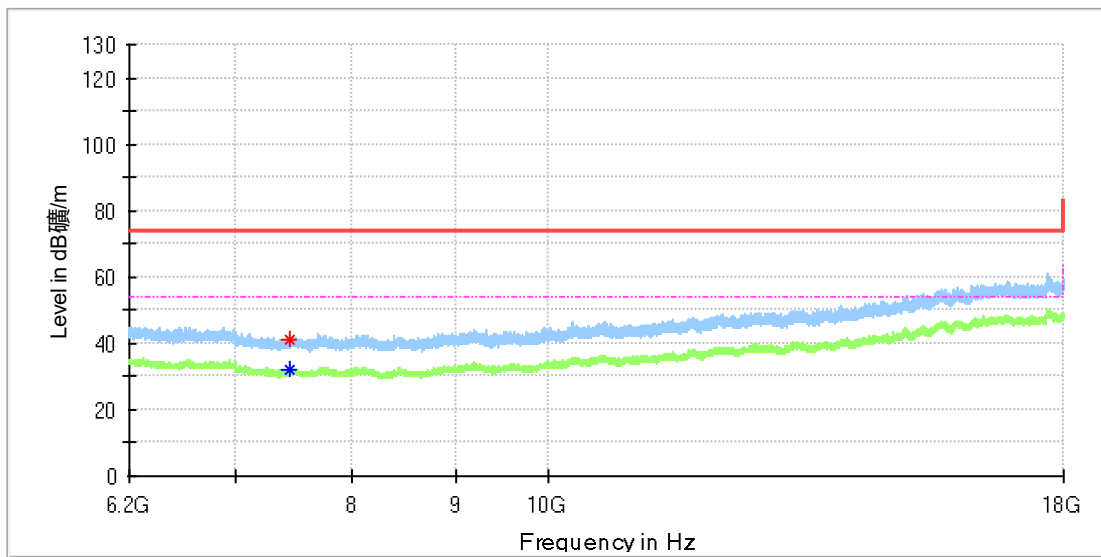
### Final Result

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

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### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7438.508333	---	32.28	54.00	21.72	100.0	H	0.0	8.4
7441.458333	41.28	---	74.00	32.72	100.0	H	231.0	8.4

### Final Result

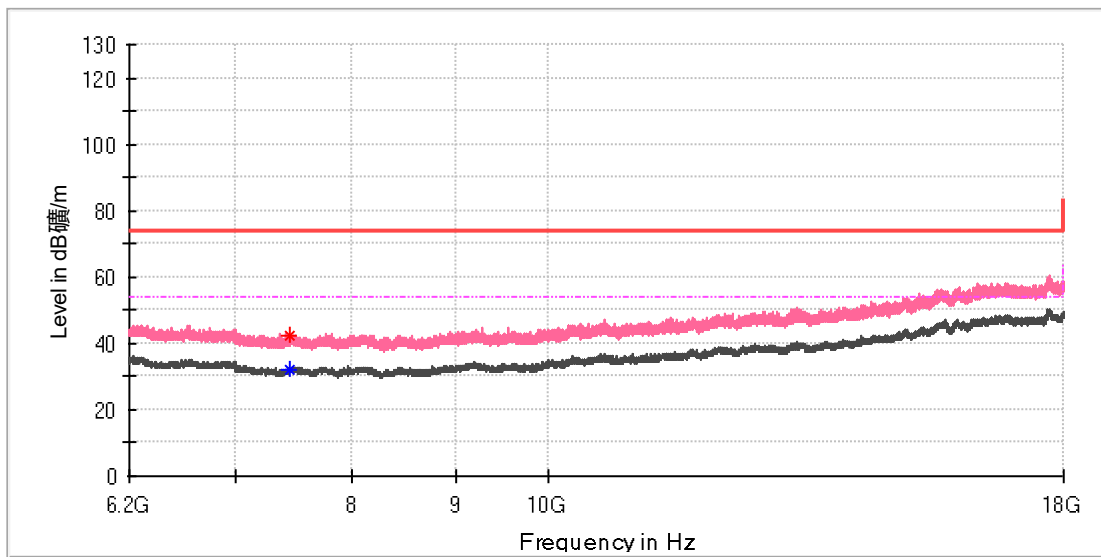
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
7440.966667	---	32.22	54.00	21.78	100.0	V	199.0	8.4
7452.275000	42.15	---	74.00	31.85	100.0	V	328.0	8.5

### Final Result

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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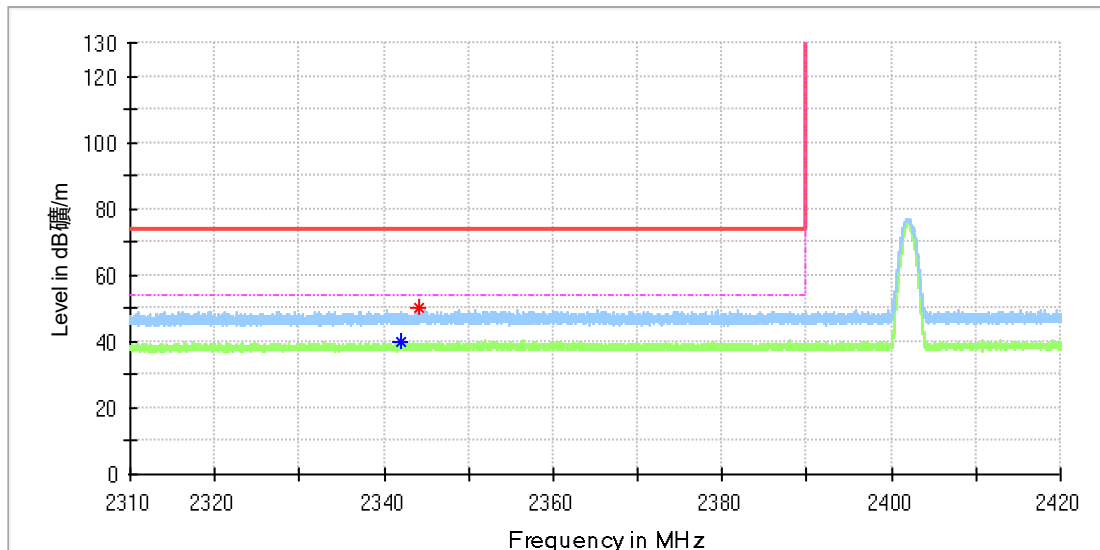
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## Appendix C.2: Test Plots of Band Edge (Radiated)

BDR mode, Low Channel

### EUT Information

EUT Name:	Insignia 2.0 soundbar
Model:	NS-HTSB22
Test Mode:	BR_DH5_Low channel
Order No/Sample No:	168343624/A003166170-001
Test Voltage::	120V/60Hz
Remark:	Temp 23 Humi:54%
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)
2341.977000	---	39.76	54.00	14.24	100.0	H	97.0	6.8
2344.034000	50.16	---	74.00	23.84	100.0	H	130.0	6.9

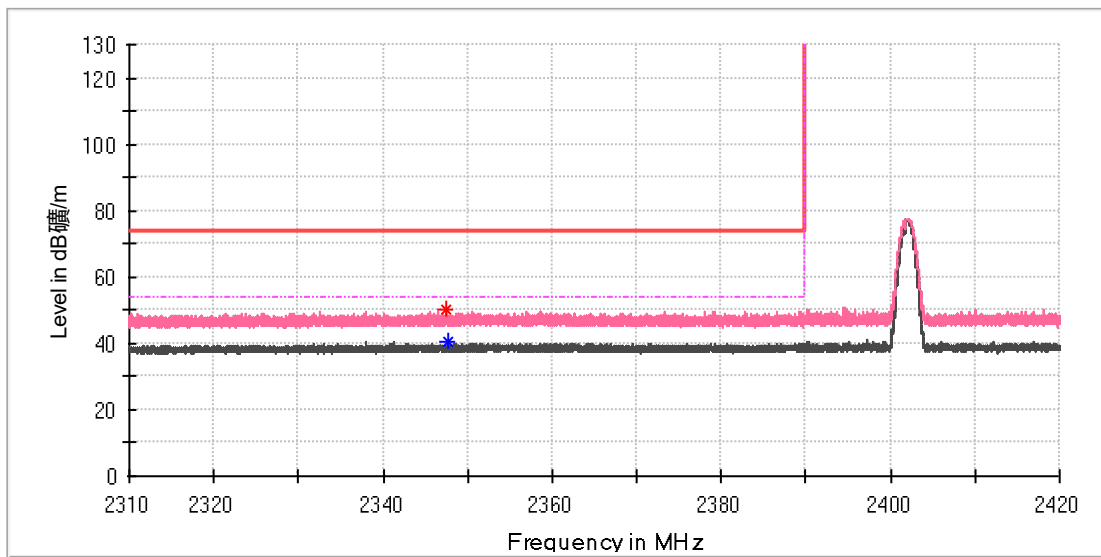
### Final\_Result

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

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### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_Low channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
2347.521000	50.03	---	74.00	23.97	100.0	V	220.0	6.9
2347.675000	---	40.34	54.00	13.66	100.0	V	186.0	6.9

### Final Result

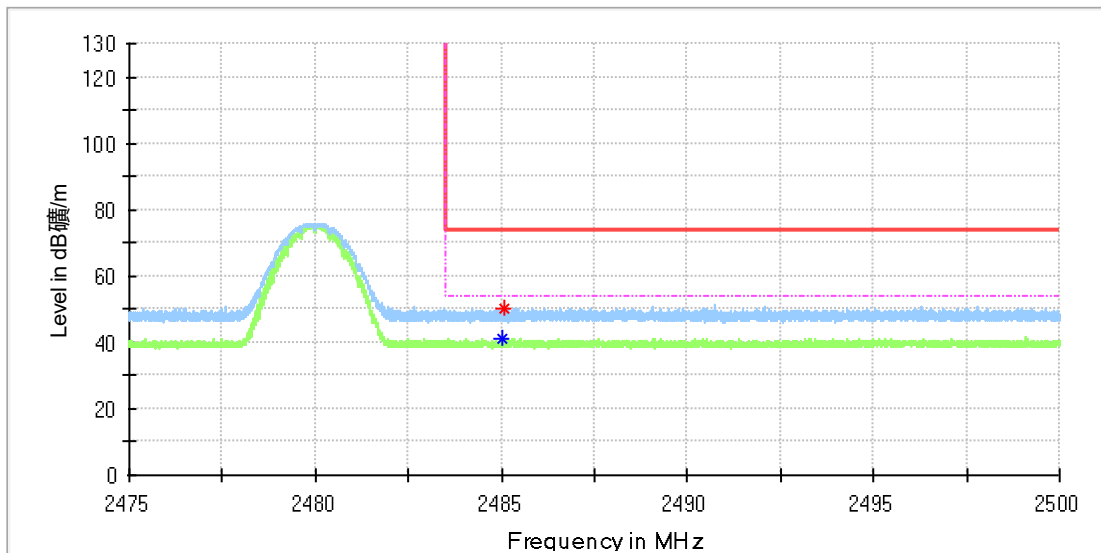
Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
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**BDR mode, High Channel**

**EUT Information**

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
2485.027000	---	40.83	54.00	13.17	100.0	H	166.0	7.4
2485.070750	50.41	---	74.00	23.59	100.0	H	278.0	7.4

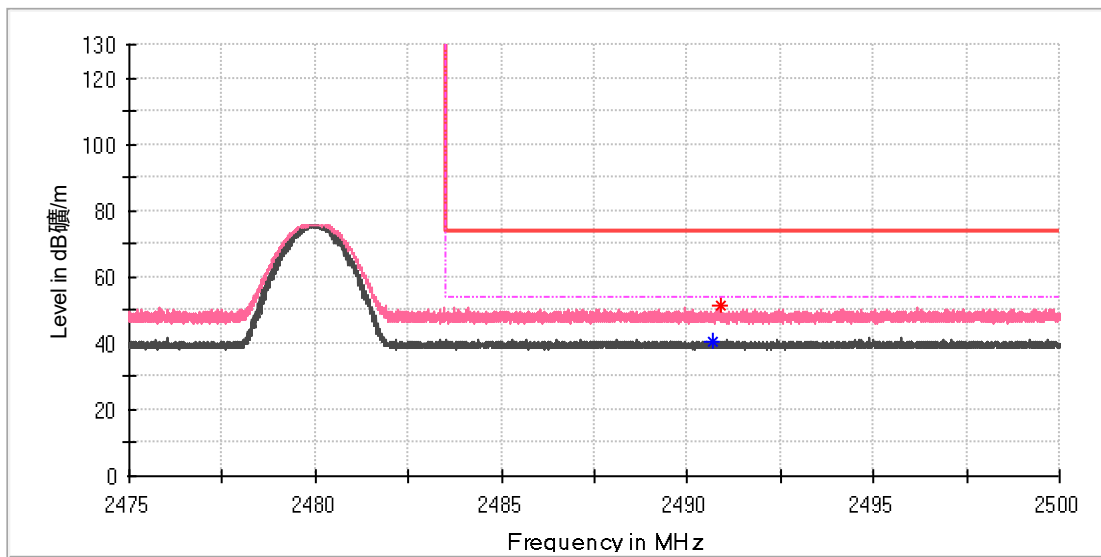
**Final Result**

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

### EUT Information

EUT Name: Insignia 2.0 soundbar  
 Model: NS-HTSB22  
 Test Mode: BR\_DH5\_High channel  
 Order No/Sample No: 168343624/A003166170-001  
 Test Voltage:: 120V/60Hz  
 Remark: Temp 23 Humi:54%  
 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)
2490.676000	---	40.81	54.00	13.19	100.0	V	0.0	7.4
2490.868500	51.66	---	74.00	22.34	100.0	V	120.0	7.4

### Final Result

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