

Appendix A: Test Results of Bluetooth LE

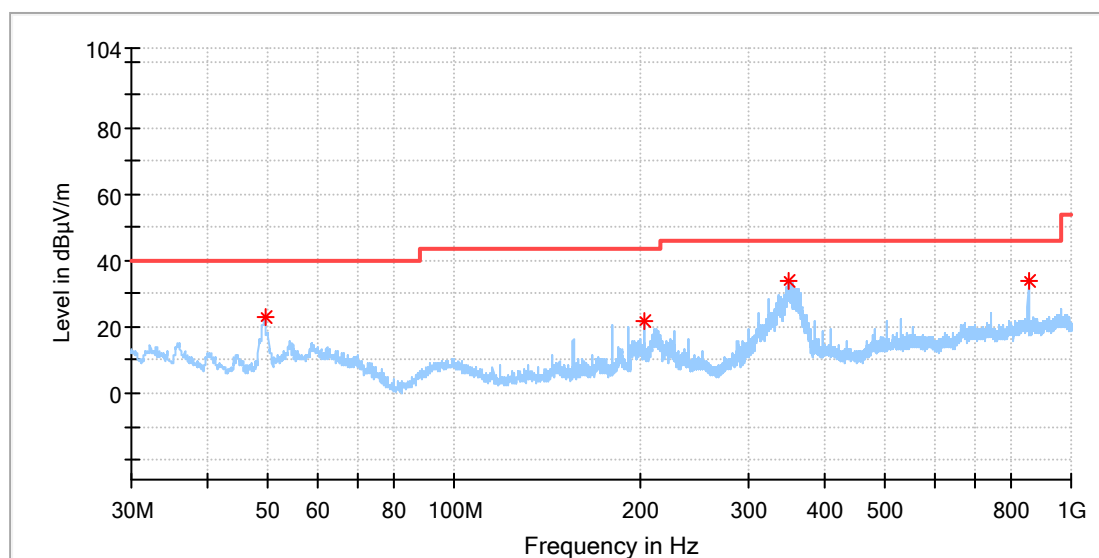
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Appendix A.1: Test Results of Radiated Spurious Emissions

30 MHz to 1GHz

EUT Information

EUT Name:	Amazon Locker
Model:	ZL-ODIN-V1
Test Mode:	TX_BLE_High CH
Test Voltage::	DC 6V From DC Source
Remark:	Temp 22 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

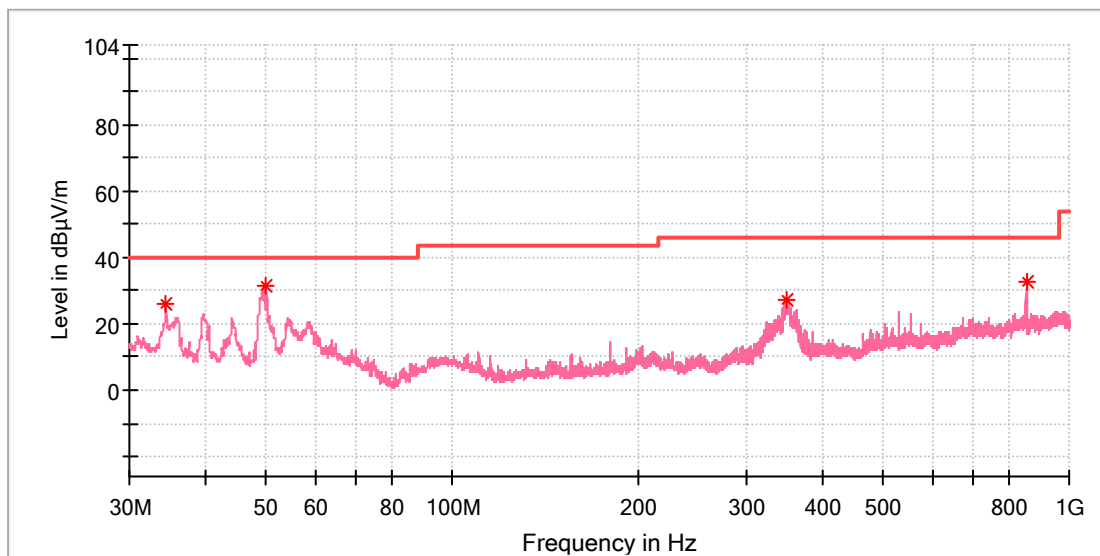


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.400000	23.13	---	40.00	16.87	100.0	H	0.0	-18.6
204.018000	21.83	---	43.50	21.67	100.0	H	191.0	-19.3
349.130000	33.75	---	46.00	12.25	100.0	H	309.0	-15.2
852.560000	34.15	---	46.00	11.85	100.0	H	0.0	-5.9

EUT Information

EUT Name:	Amazon Locker
Model:	ZL-ODIN-V1
Test Mode:	TX_BLE_High CH
Test Voltage::	DC 6V From DC Source
Remark:	Temp 22 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

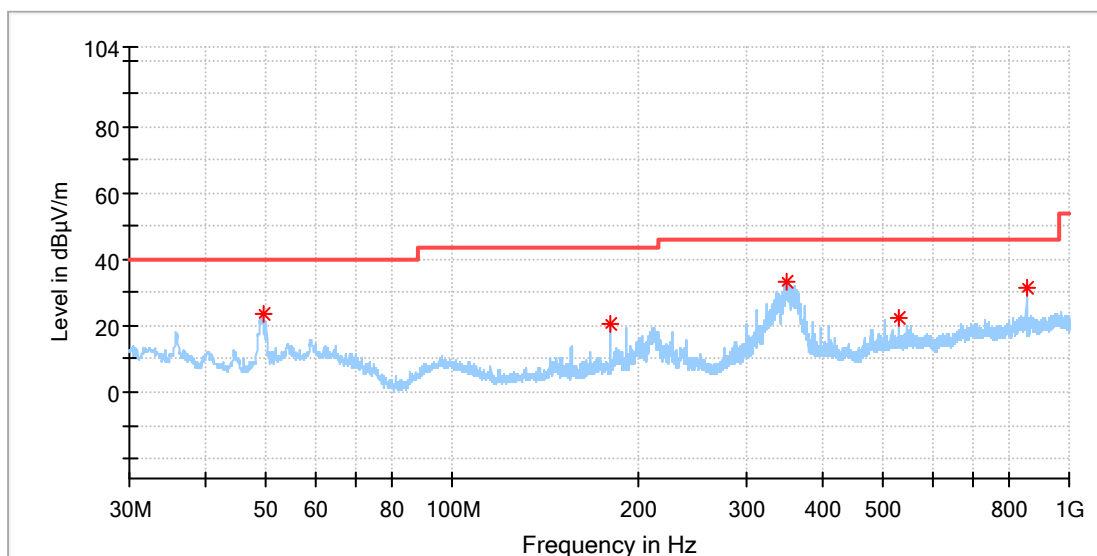


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.365000	26.24	---	40.00	13.76	100.0	V	12.0	-22.5
49.982000	31.57	---	40.00	8.43	100.0	V	245.0	-18.6
349.178500	27.38	---	46.00	18.62	100.0	V	307.0	-15.2
852.560000	32.59	---	46.00	13.41	100.0	V	0.0	-5.9

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 22 Humi:50%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

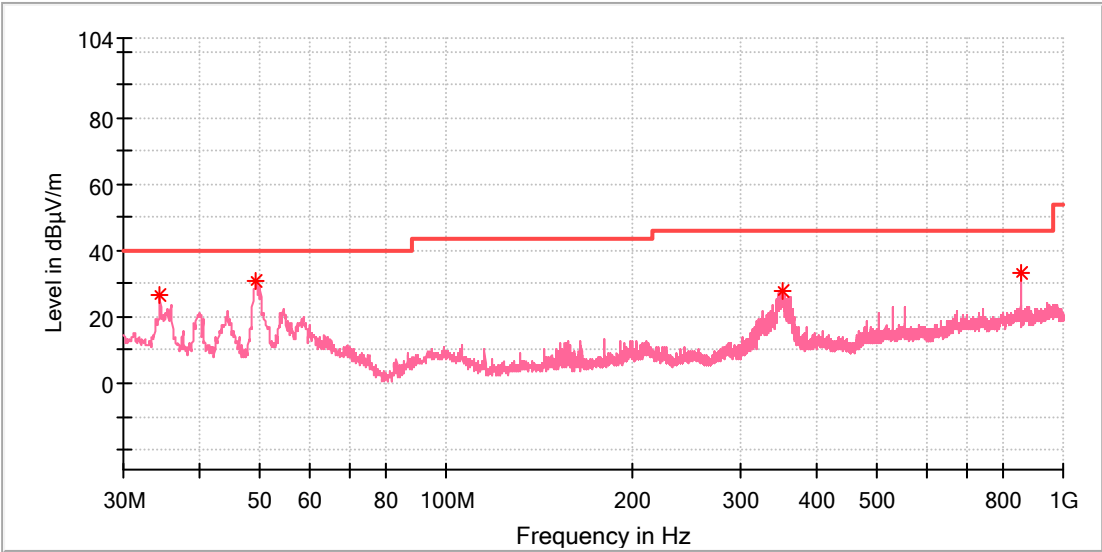


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.351500	23.53	---	40.00	16.47	100.0	H	0.0	-18.6
180.010500	20.61	---	43.50	22.89	100.0	H	236.0	-20.8
347.966000	33.48	---	46.00	12.52	100.0	H	315.0	-15.2
528.046500	22.55	---	46.00	23.45	100.0	H	236.0	-11.7
852.560000	31.67	---	46.00	14.33	100.0	H	304.0	-5.9

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Test Standard:	FCC 15.247
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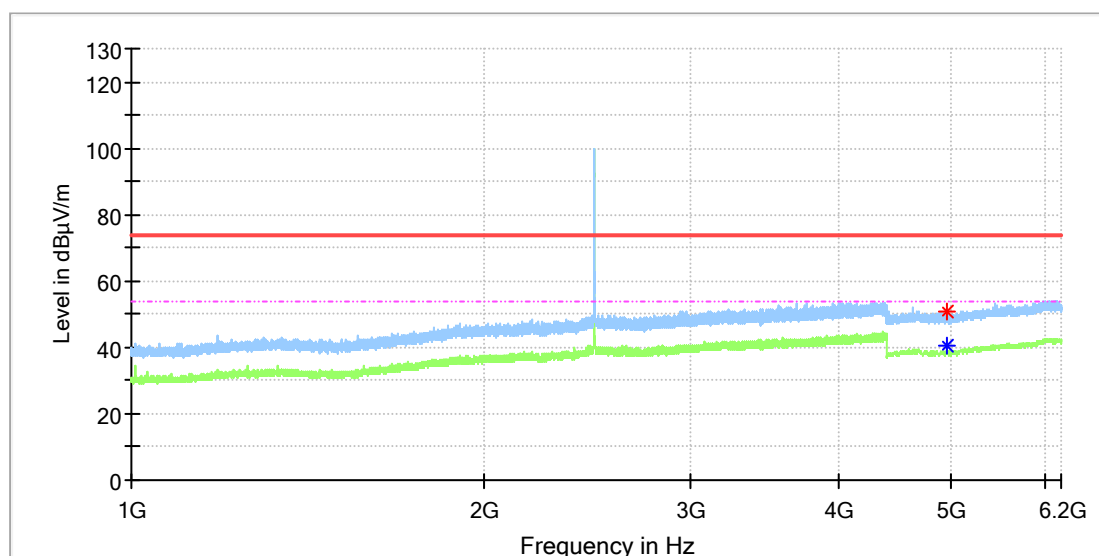
Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
34.365000	26.74	---	40.00	13.26	100.0	V	90.0	-22.5
49.060500	31.04	---	40.00	8.96	100.0	V	221.0	-18.6
350.439500	27.89	---	46.00	18.11	100.0	V	166.0	-15.2
852.560000	33.47	---	46.00	12.53	100.0	V	316.0	-5.9

Above 1GHz

EUT Information

EUT Name:	Amazon Locker
Model:	ZL-ODIN-V1
Test Mode:	TX_BLE_High CH
Test Voltage::	DC 6V From DC Source
Remark:	Temp 24 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

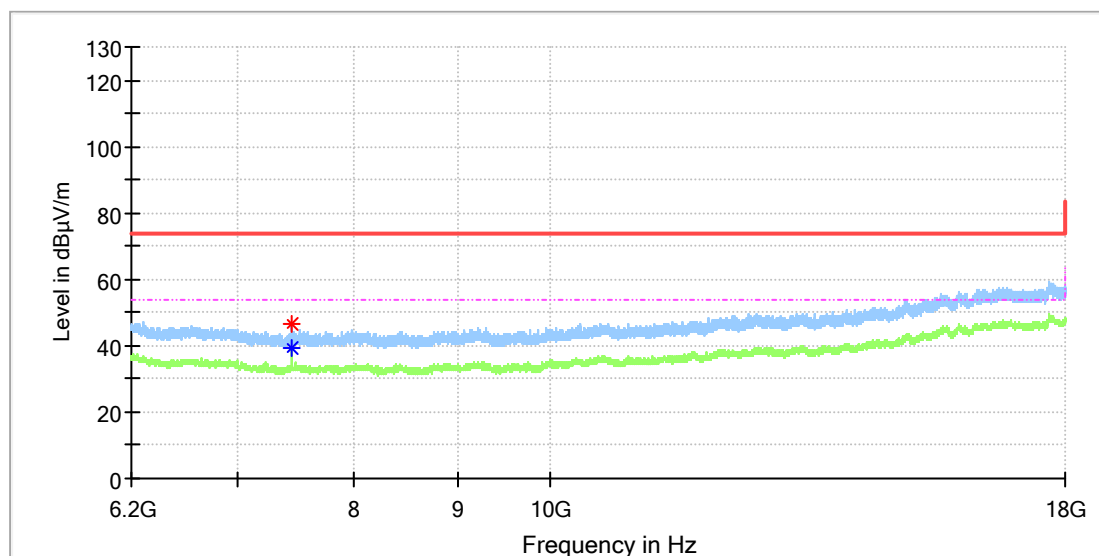


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	50.63	---	74.00	23.37	100.0	H	192.0	11.8
4960.500000	---	40.70	54.00	13.30	100.0	H	192.0	11.8

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_High CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

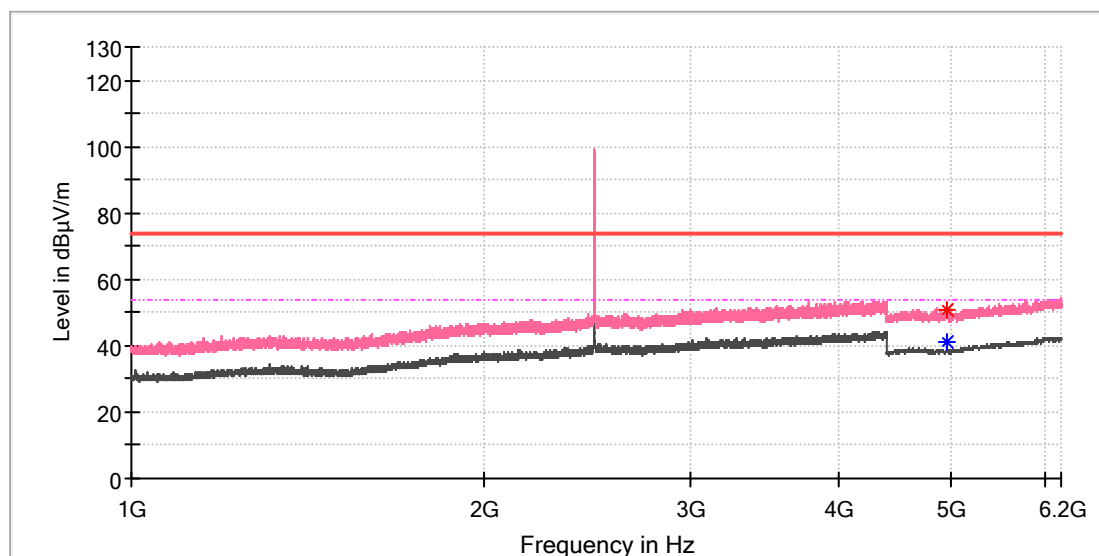


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.000000	---	39.47	54.00	14.53	100.0	H	249.0	8.4
7440.475000	46.33	---	74.00	27.67	100.0	H	344.0	8.4

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_High CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

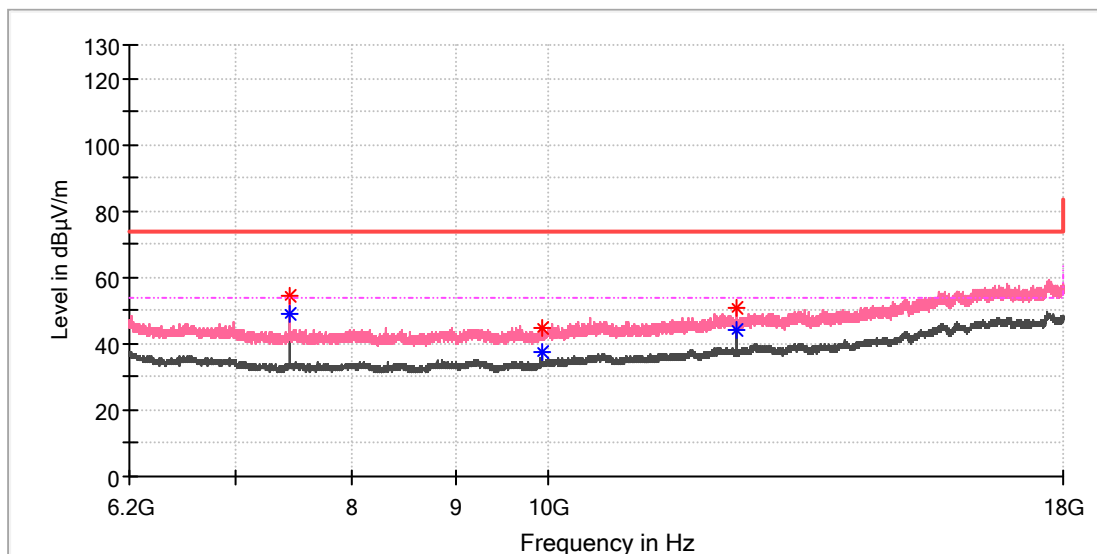


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4960.000000	---	40.94	54.00	13.06	100.0	V	250.0	11.8
4960.500000	50.75	---	74.00	23.25	100.0	V	250.0	11.8

EUT Information

EUT Name:	Amazon Locker
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Test Mode:	TX_BLE_High CH
Test Voltage::	DC 6V From DC Source
Remark:	Temp 24 Humi:47%
Test Standard:	FCC 15.247
Tested By:	Alano Qu
Reviewed By:	Terry Yin

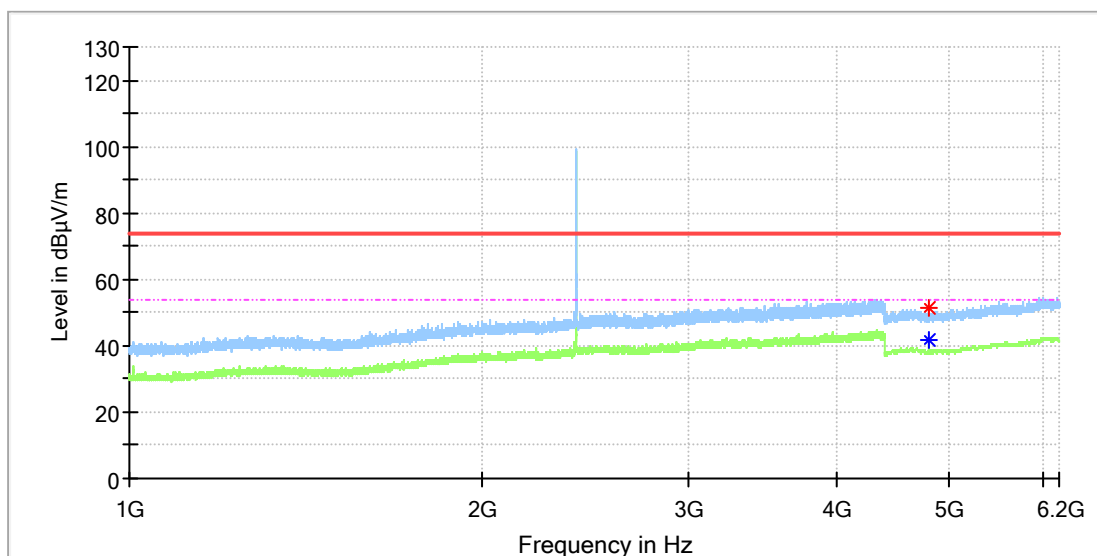


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.983333	---	48.85	54.00	5.15	100.0	V	353.0	8.4
7440.475000	54.43	---	74.00	19.57	100.0	V	353.0	8.4
9920.933333	44.88	---	74.00	29.12	100.0	V	270.0	10.8
9920.933333	---	37.47	54.00	16.53	100.0	V	270.0	10.8
12401.391667	50.69	---	74.00	23.31	100.0	V	0.0	14.7
12401.391667	---	44.18	54.00	9.82	100.0	V	0.0	14.7

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

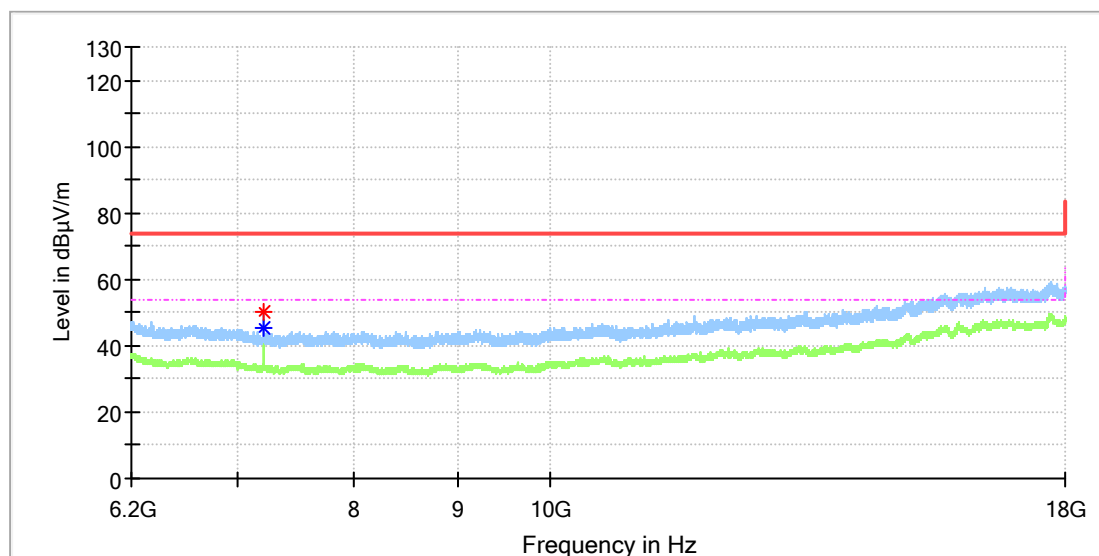


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	51.41	---	74.00	22.59	100.0	H	217.0	11.8
4803.500000	---	41.83	54.00	12.17	100.0	H	217.0	11.8

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

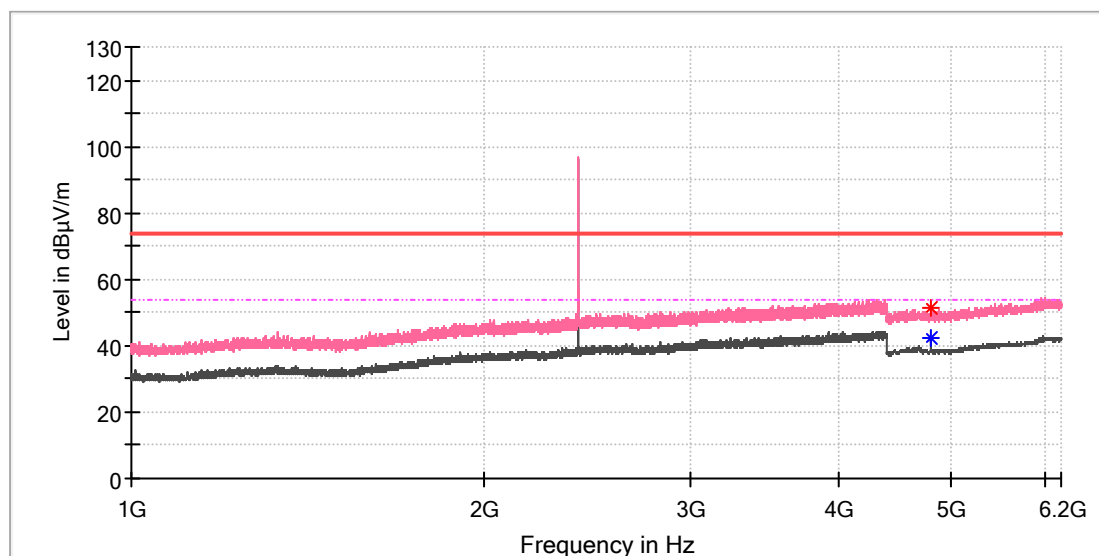


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7205.950000	---	45.41	54.00	8.59	100.0	H	222.0	8.8
7206.441667	49.96	---	74.00	24.04	100.0	H	248.0	8.8

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

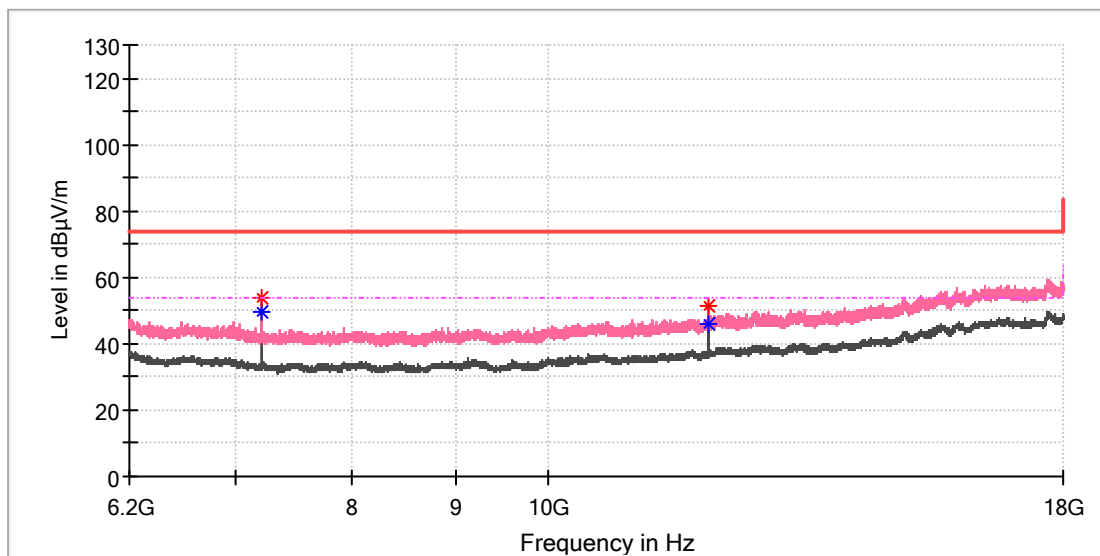


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.500000	51.67	---	74.00	22.33	100.0	V	216.0	11.8
4804.500000	---	42.04	54.00	11.96	100.0	V	216.0	11.8

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

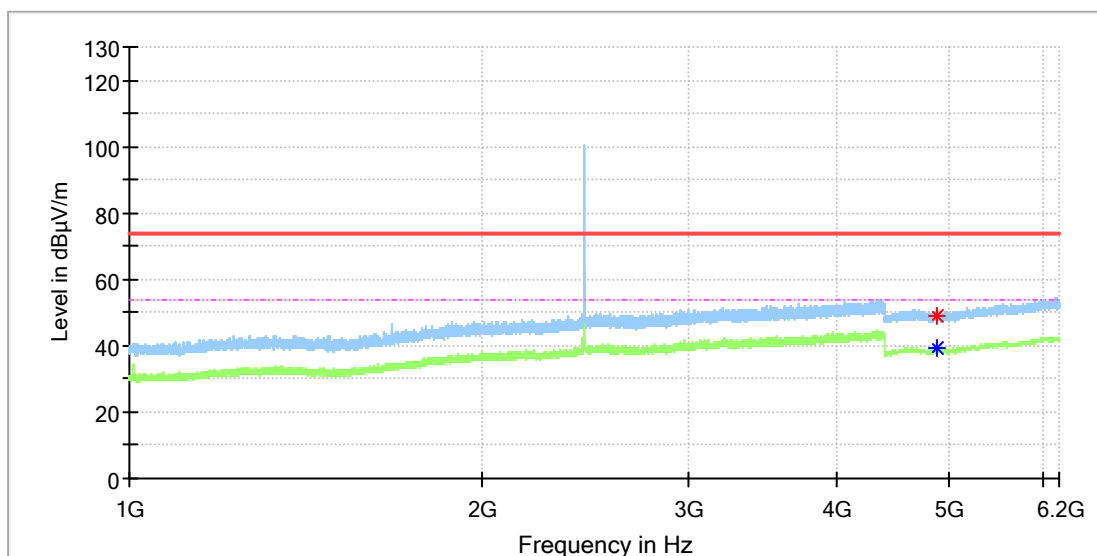


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7204.966667	53.63	---	74.00	20.37	100.0	V	104.0	8.8
7205.458333	---	49.53	54.00	4.47	100.0	V	119.0	8.8
12008.550000	---	45.74	54.00	8.26	100.0	V	0.0	14.0
12010.516667	51.34	---	74.00	22.66	100.0	V	0.0	14.0

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Mid CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

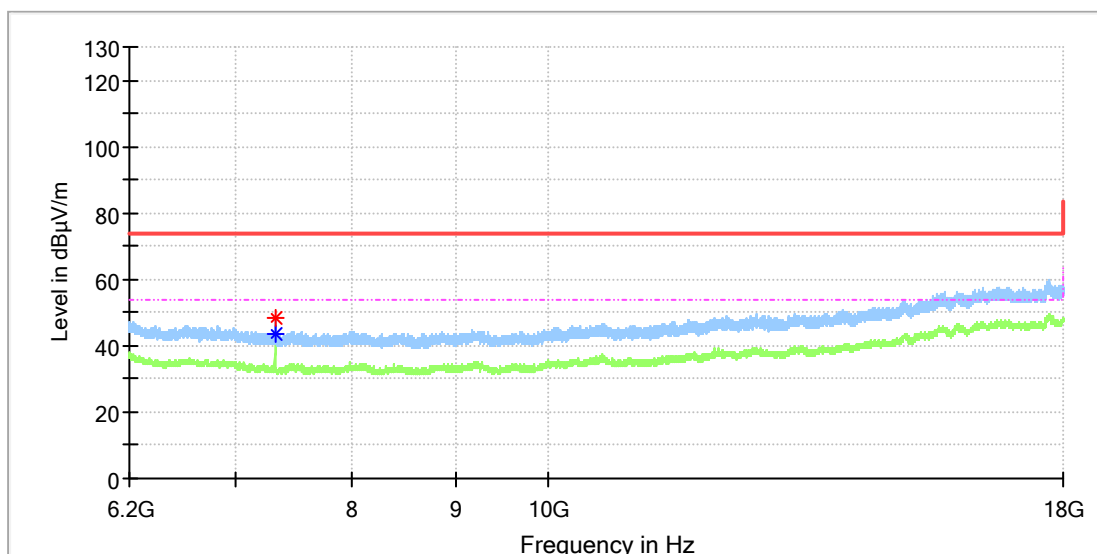


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4878.500000	48.94	---	74.00	25.06	100.0	H	178.0	11.8
4879.500000	---	39.45	54.00	14.55	100.0	H	249.0	11.8

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_Mid CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

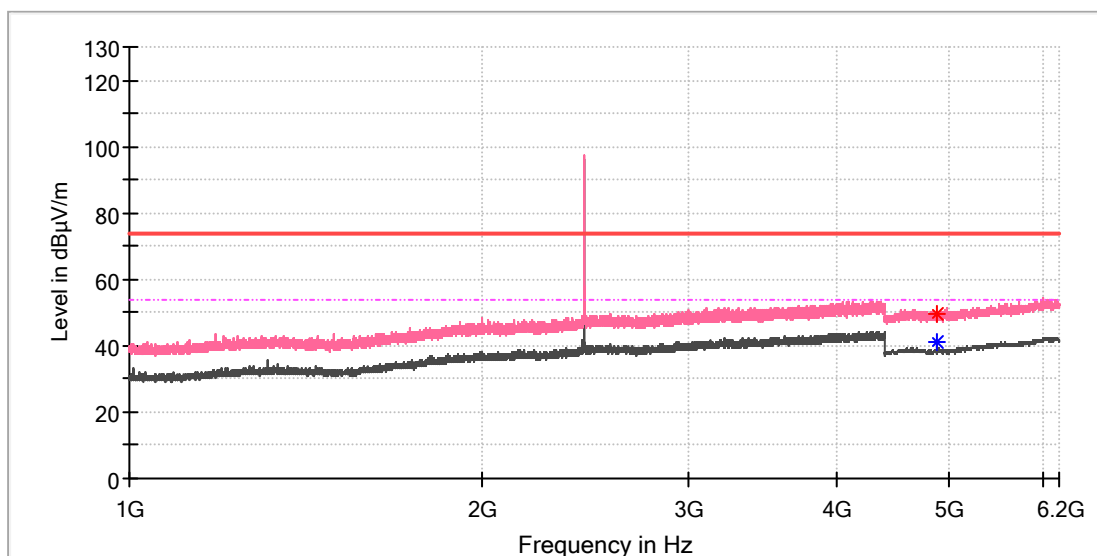


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7319.033333	48.63	---	74.00	25.37	100.0	H	229.0	8.2
7319.033333	---	43.45	54.00	10.55	100.0	H	229.0	8.2

EUT Information

EUT Name: Amazon Locker
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Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
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Critical_Freqs

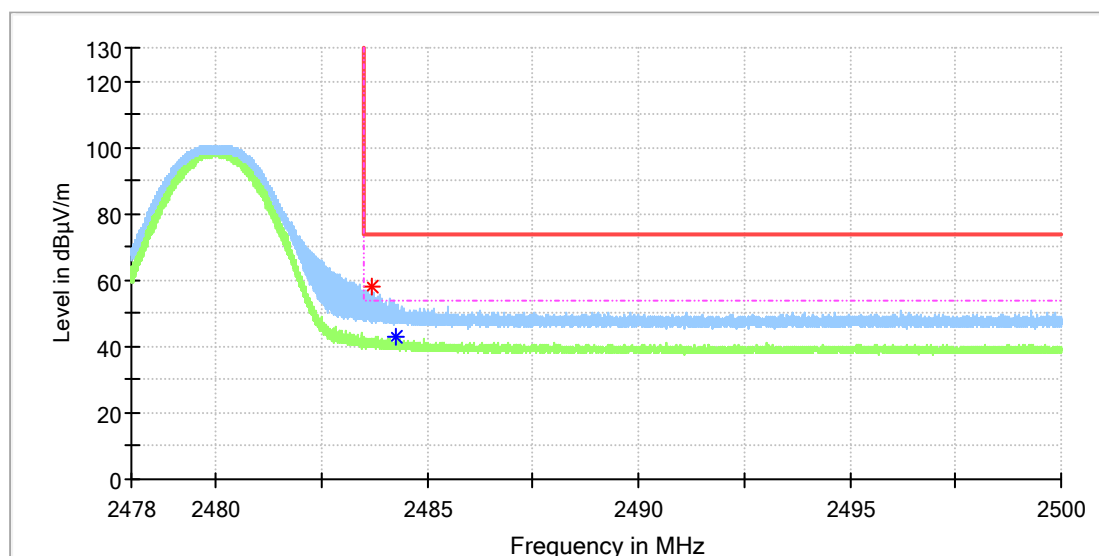
Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4879.500000	---	41.08	54.00	12.92	100.0	V	221.0	11.8
4880.500000	49.80	---	74.00	24.20	100.0	V	285.0	11.8

Frequency (MHz)	QuasiPeak (dBμV/m)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
93.750000	100.0000	100.0000	100.0000	0.0000	0.0000		0.0000	0.0000

Appendix A.2: Test Results of Radiated Emissions in Restricted Bands

EUT Information

EUT Name: Amazon Locker
Model: ZL-ODIN-V1
Test Mode: TX_BLE_High CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

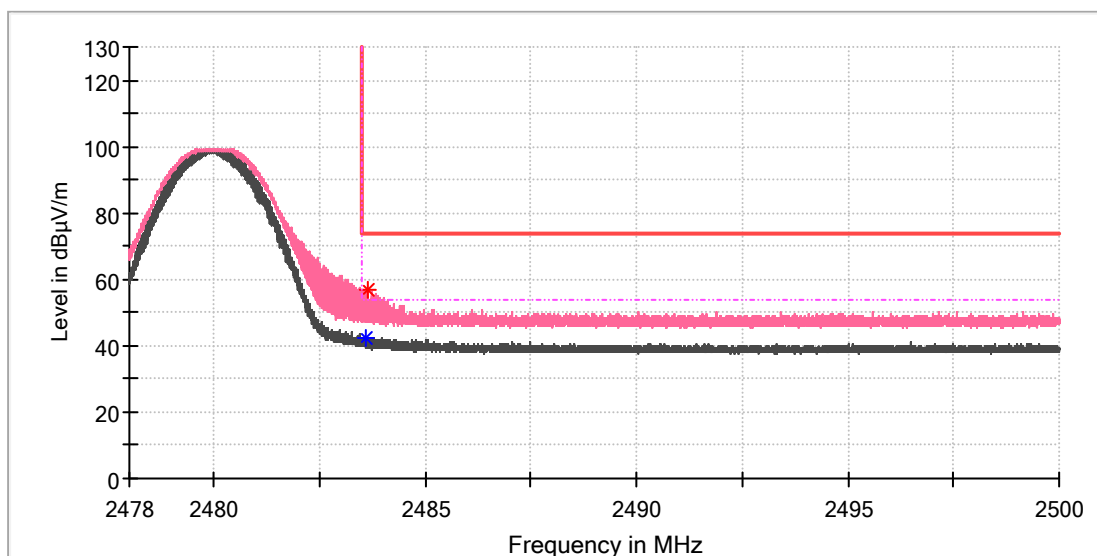


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.679300	57.87	---	74.00	16.13	100.0	H	15.0	7.4
2484.279900	---	42.83	54.00	11.17	100.0	H	0.0	7.4

EUT Information

EUT Name: Amazon Locker
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Test Mode: TX_BLE_High CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

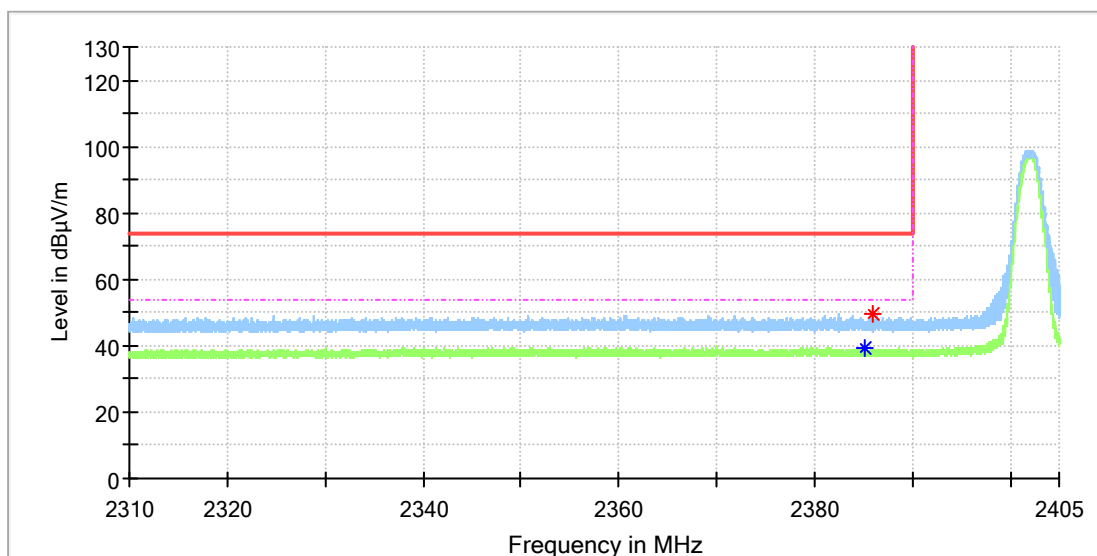


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.584700	---	42.41	54.00	11.59	100.0	V	33.0	7.4
2483.626500	57.01	---	74.00	16.99	100.0	V	59.0	7.4

EUT Information

EUT Name: Amazon Locker
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Test Mode: TX_BLE_Low CH
Test Voltage:: DC 6V From DC Source
Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
Reviewed By: Terry Yin

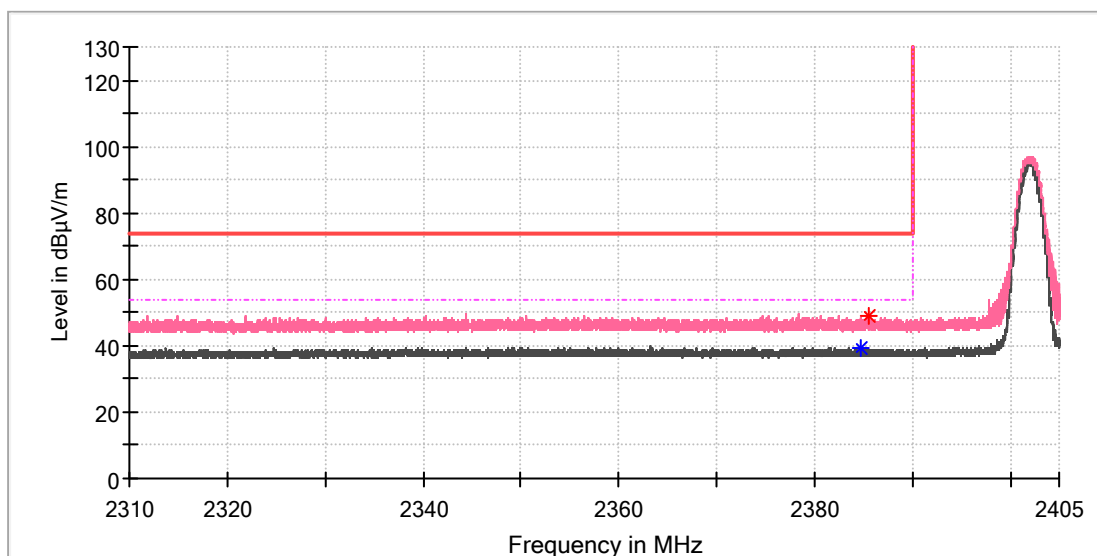


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2385.164000	---	39.20	54.00	14.80	100.0	H	242.0	7.0
2385.905000	49.39	---	74.00	24.61	100.0	H	73.0	7.0

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Remark: Temp 24 Humi:47%
Test Standard: FCC 15.247
Tested By: Alano Qu
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Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2384.660500	---	39.18	54.00	14.82	100.0	V	285.0	7.0
2385.572500	49.25	---	74.00	24.75	100.0	V	168.0	7.0