

Appendix B: Test Results

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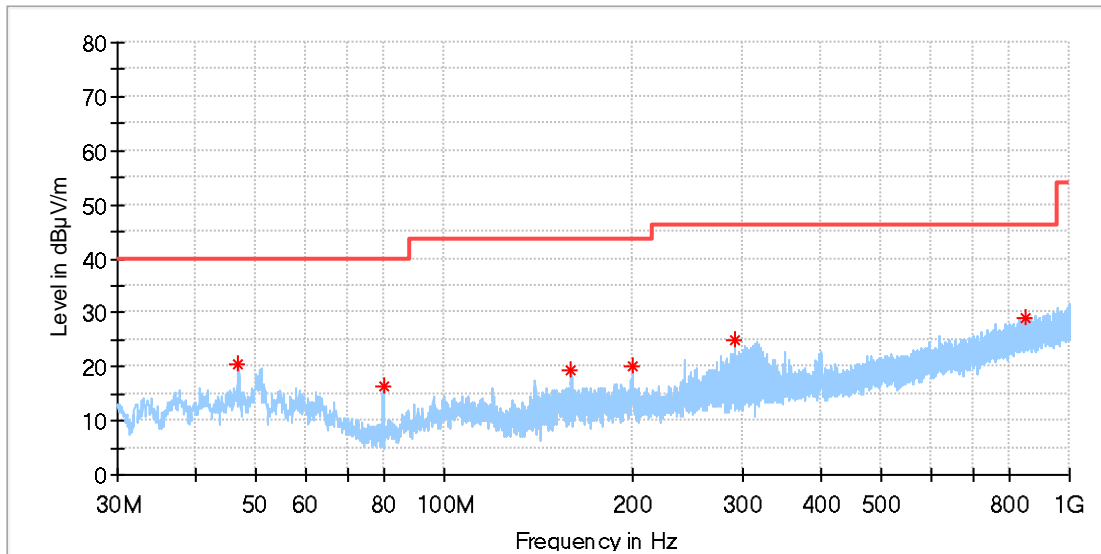
Appendix B.1: Test Results of Field strength of fundamental & harmonics

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

30MHz - 1GHz

EUT Information

EUT Name:	USB Dongle
Model:	RG51
Test Mode:	2.4GHz M CH
Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

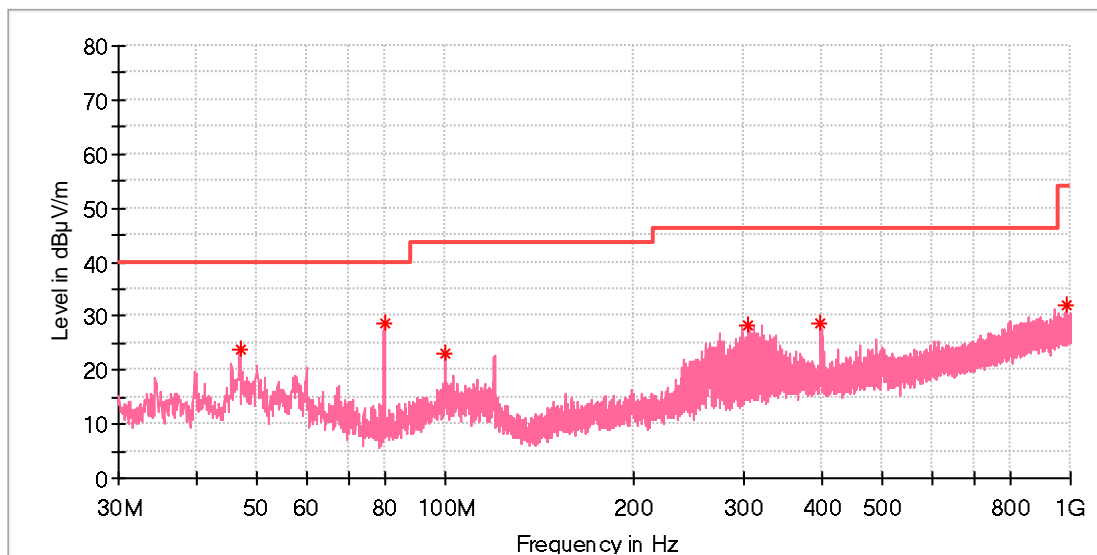


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.878000	20.45	40.00	19.55	100.0	H	254.0	-18.5
79.809500	16.54	40.00	23.46	100.0	H	199.0	-23.5
159.689000	19.37	43.50	24.13	100.0	H	206.0	-21.8
200.089500	20.19	43.50	23.31	100.0	H	206.0	-19.0
291.706000	24.84	46.00	21.16	100.0	H	89.0	-16.5
850.426000	29.20	46.00	16.80	100.0	H	102.0	-5.5

EUT Information

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 Model: RG51
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 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin



Critical Freqs

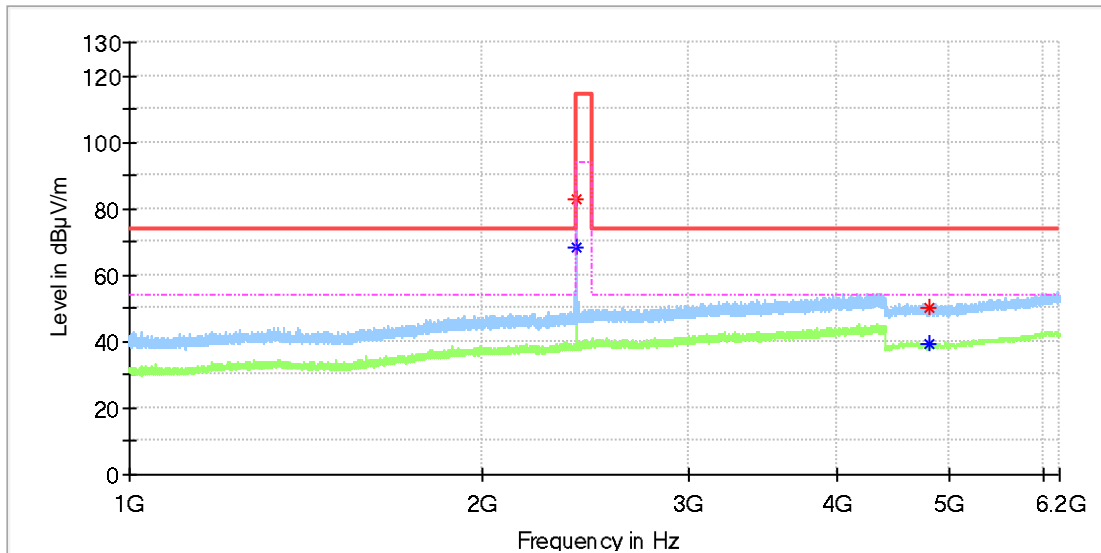
Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
46.926500	23.65	40.00	16.35	100.0	V	333.0	-18.5
79.858000	28.82	40.00	11.18	100.0	V	0.0	-23.5
99.840000	23.04	43.50	20.46	100.0	V	327.0	-19.0
305.140500	28.41	46.00	17.59	100.0	V	354.0	-16.1
397.339000	28.61	46.00	17.39	100.0	V	178.0	-13.7
981.958000	32.16	54.00	21.84	100.0	V	230.0	-4.0

1GHz - 18GHz

Note: The highest waveform in the figure is 2.4GHz Fundamental.

EUT Information

EUT Name:	USB Dongle
Model:	RG51
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Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

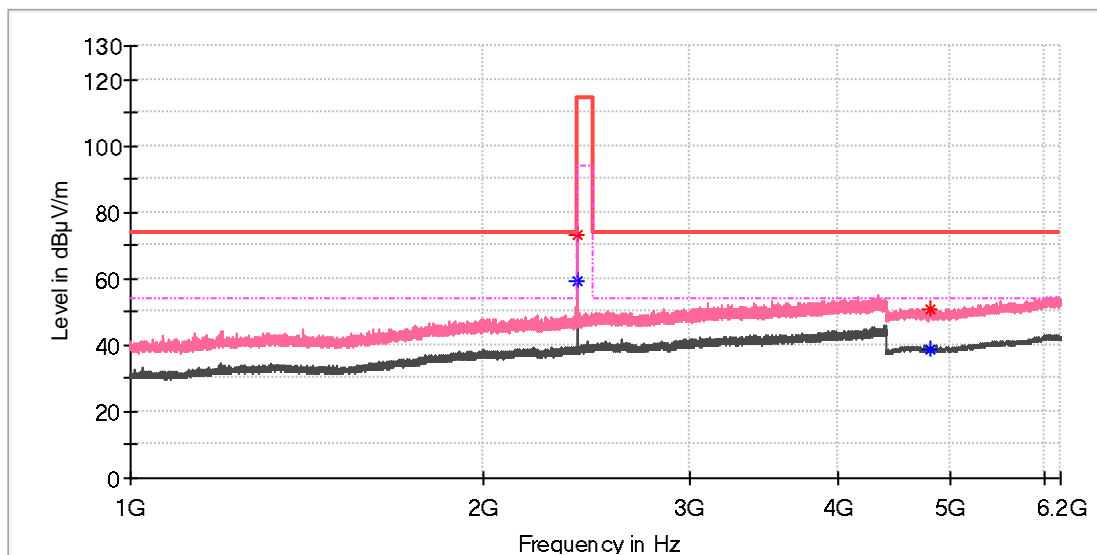


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2401.820000	---	68.28	94.00	25.72	100.0	H	0.0	7.0
2402.500000	83.01	---	114.00	30.99	100.0	H	0.0	7.0
4803.500000	50.47	---	74.00	23.53	100.0	H	233.0	11.8
4807.000000	---	39.40	54.00	14.60	100.0	H	247.0	11.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz L CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

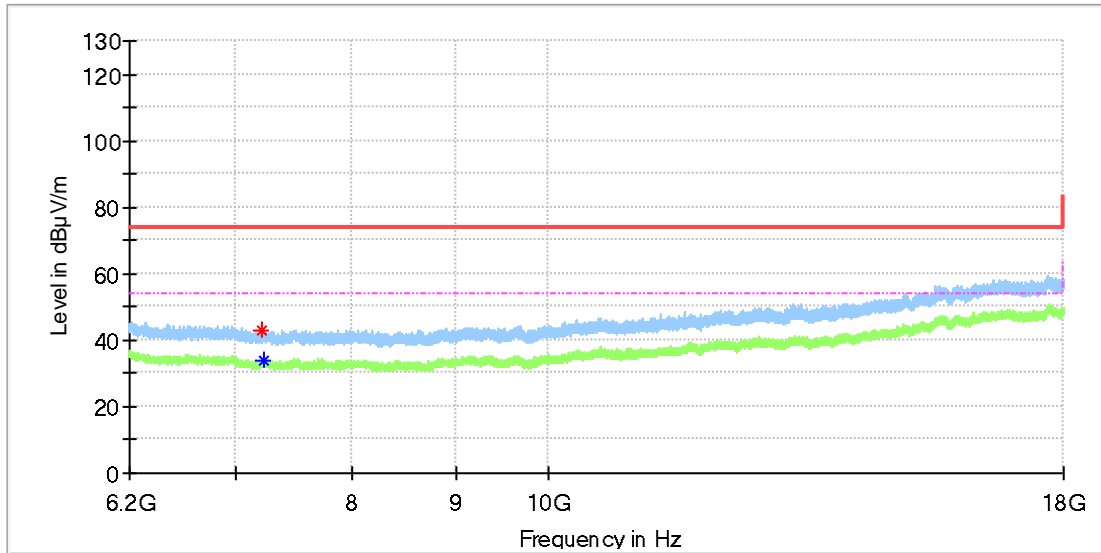


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2403.520000	73.45	---	114.00	40.55	100.0	V	310.0	7.0
2404.200000	---	59.24	94.00	34.76	100.0	V	310.0	7.0
4808.500000	50.61	---	74.00	23.39	100.0	V	10.0	11.8
4809.500000	---	38.91	54.00	15.09	100.0	V	77.0	11.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
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 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
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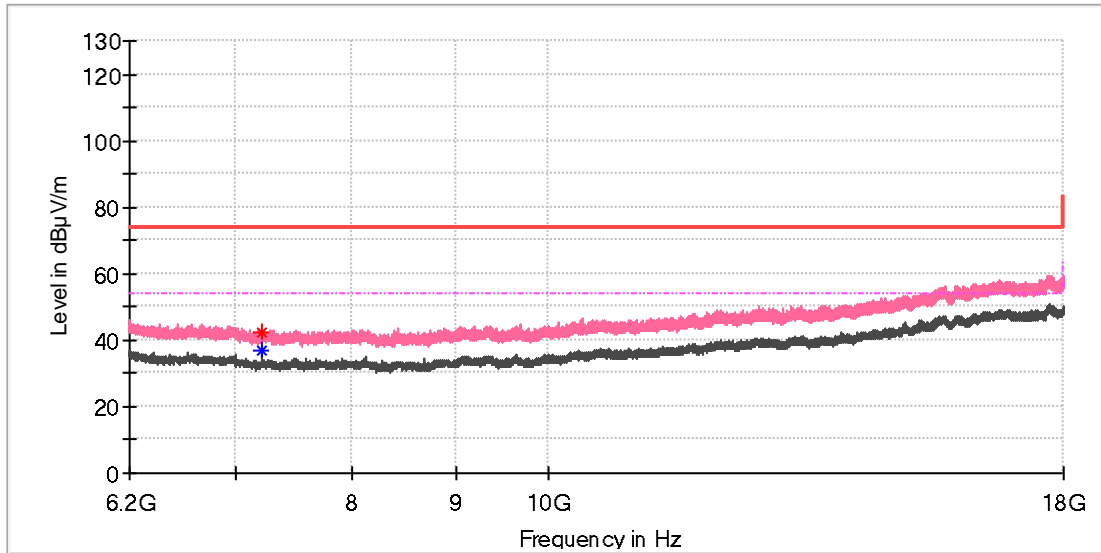


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7211.358333	43.14	---	74.00	30.86	100.0	H	239.0	8.7
7220.208333	---	34.13	54.00	19.87	100.0	H	11.0	8.7

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz L CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

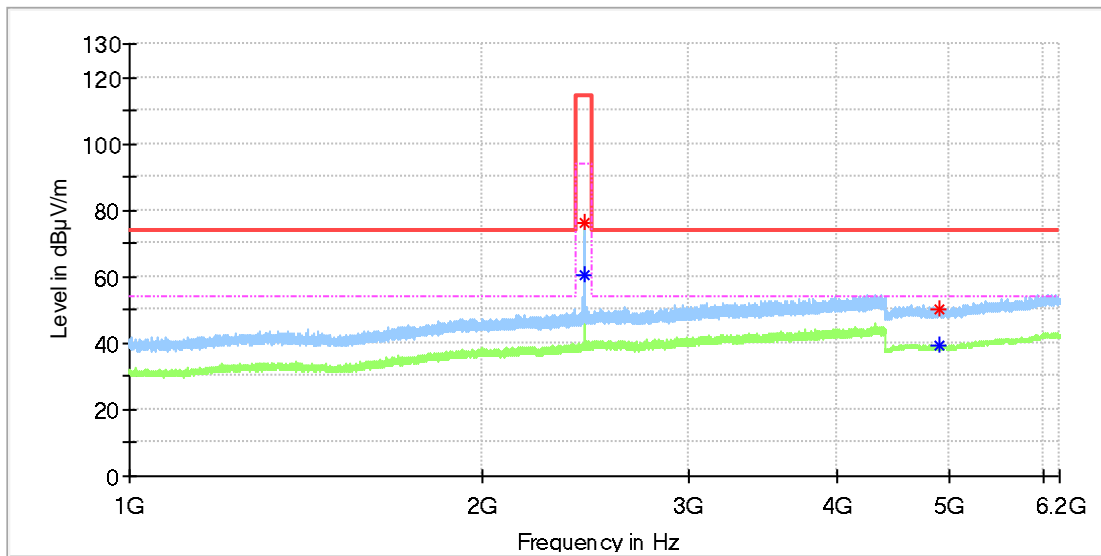


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7208.900000	42.24	---	74.00	31.76	100.0	V	32.0	8.8
7208.900000	---	36.99	54.00	17.01	100.0	V	32.0	8.8

EUT Information

EUT Name:	USB Dongle
Model:	RG51
Test Mode:	2.4GHz M CH
Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

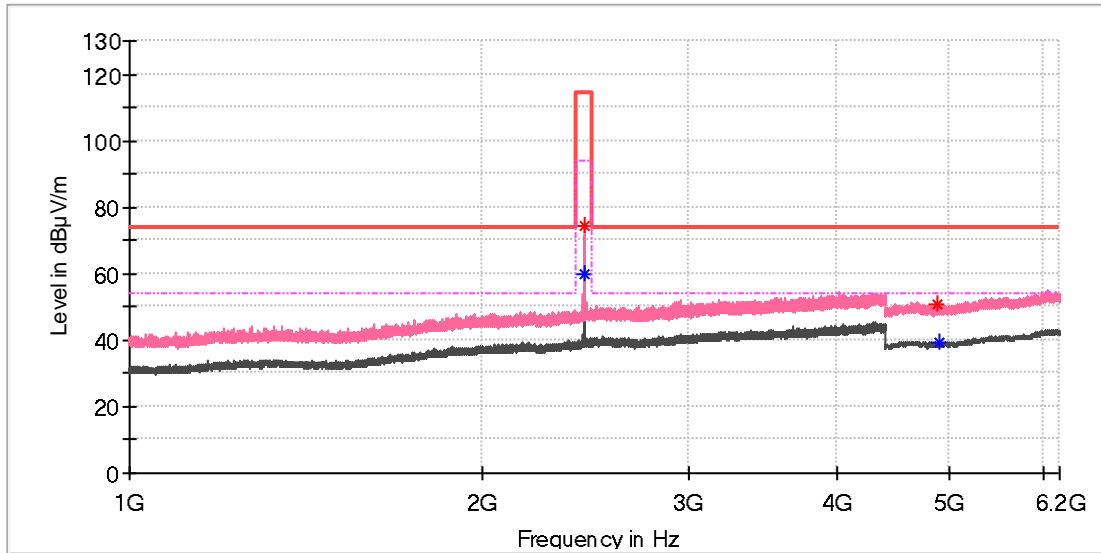


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2439.900000	76.15	---	114.00	37.85	100.0	H	191.0	7.4
2440.580000	---	60.47	94.00	33.53	100.0	H	191.0	7.4
4889.000000	50.45	---	74.00	23.55	100.0	H	117.0	11.8
4892.000000	---	39.04	54.00	14.96	100.0	H	117.0	11.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz M CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

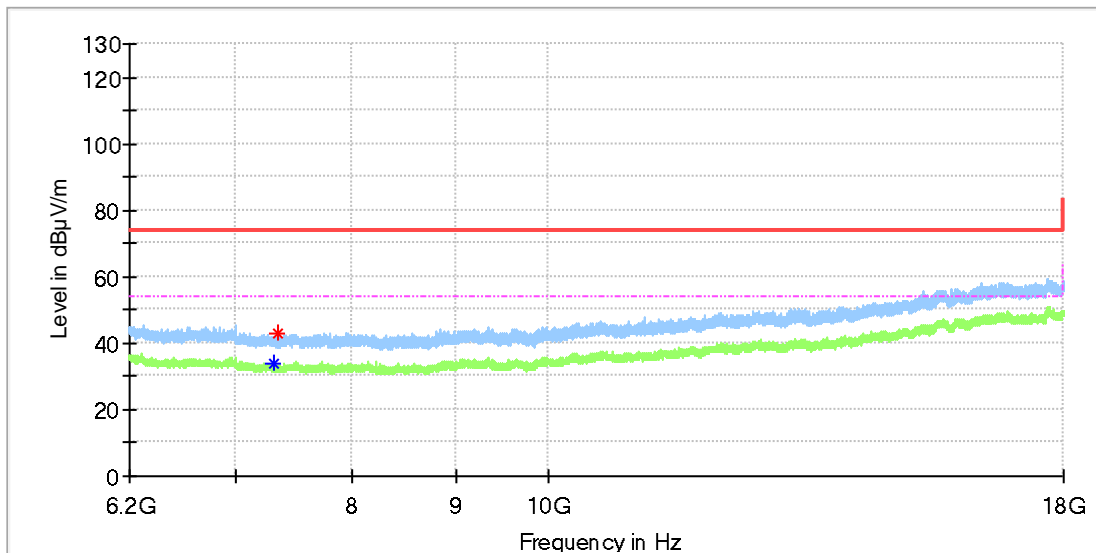


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2438.200000	74.29	---	114.00	39.71	100.0	V	64.0	7.4
2438.710000	---	59.77	94.00	34.23	100.0	V	64.0	7.4
4876.000000	50.58	---	74.00	23.42	100.0	V	109.0	11.8
4898.000000	---	39.17	54.00	14.83	100.0	V	0.0	11.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz M CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

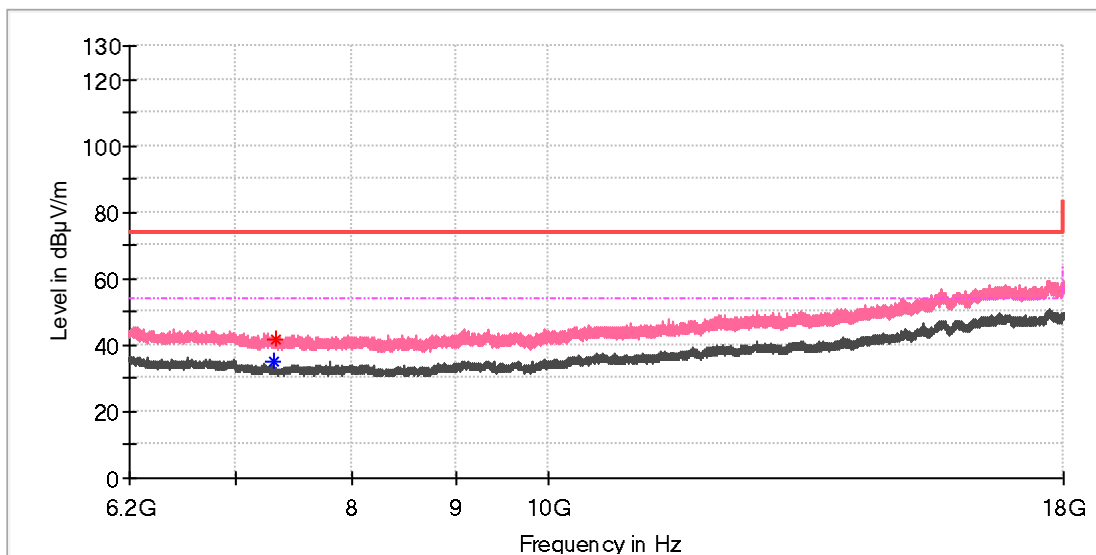


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7317.066667	---	33.57	54.00	20.43	100.0	H	355.0	8.2
7349.516667	42.67	---	74.00	31.33	100.0	H	331.0	8.1

EUT Information

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Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

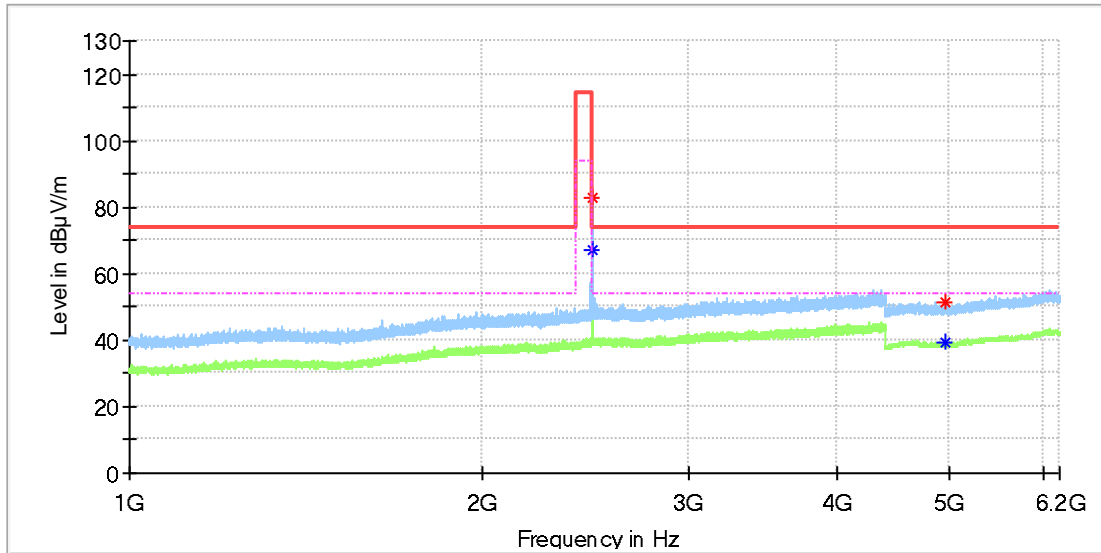


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7317.066667	---	35.09	54.00	18.91	100.0	V	107.0	8.2
7330.833333	41.94	---	74.00	32.06	100.0	V	23.0	8.1

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz H CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

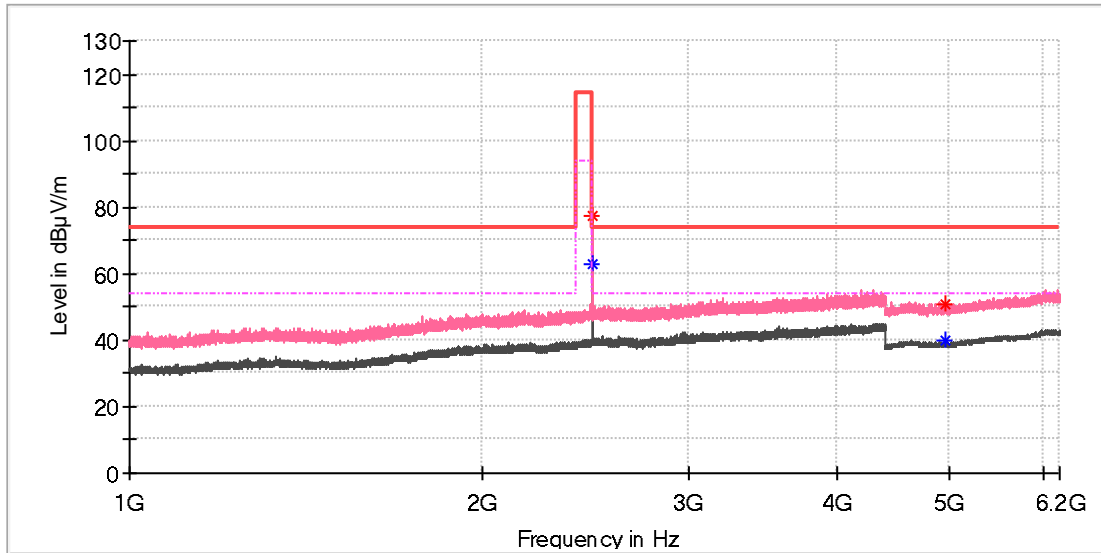


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2479.680000	83.05	---	114.00	30.95	100.0	H	229.0	7.4
2480.360000	---	67.12	94.00	26.88	100.0	H	28.0	7.4
4950.000000	51.67	---	74.00	22.33	100.0	H	194.0	11.8
4952.500000	---	39.18	54.00	14.82	100.0	H	222.0	11.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz H CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

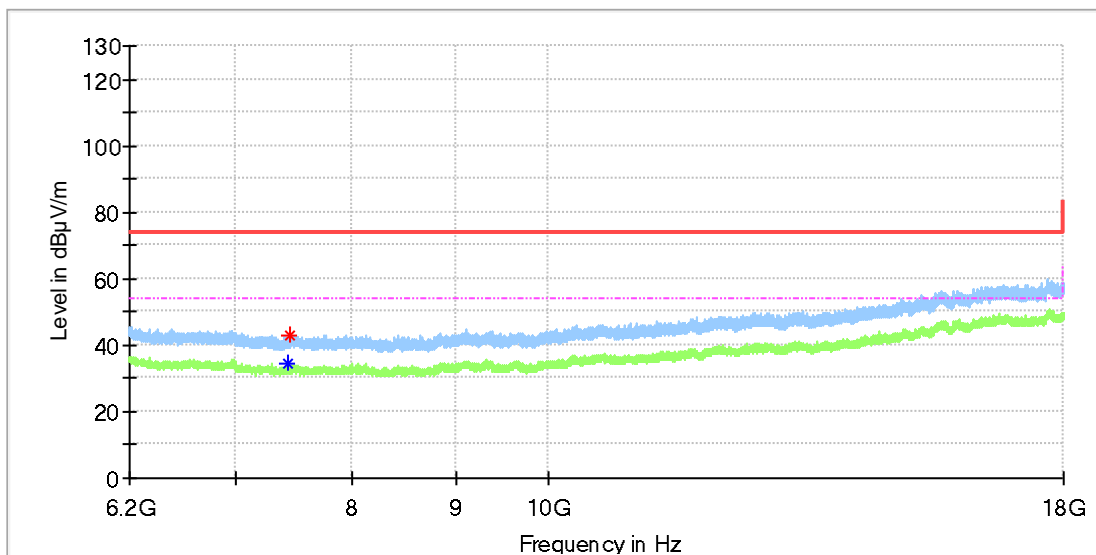


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2479.170000	77.15	---	114.00	36.85	100.0	V	0.0	7.4
2480.530000	---	62.61	94.00	31.40	100.0	V	0.0	7.4
4949.500000	---	39.80	54.00	14.20	100.0	V	352.0	11.8
4961.500000	50.76	---	74.00	23.24	100.0	V	176.0	11.8

EUT Information

EUT Name:	USB Dongle
Model:	RG51
Test Mode:	2.4GHz H CH
Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

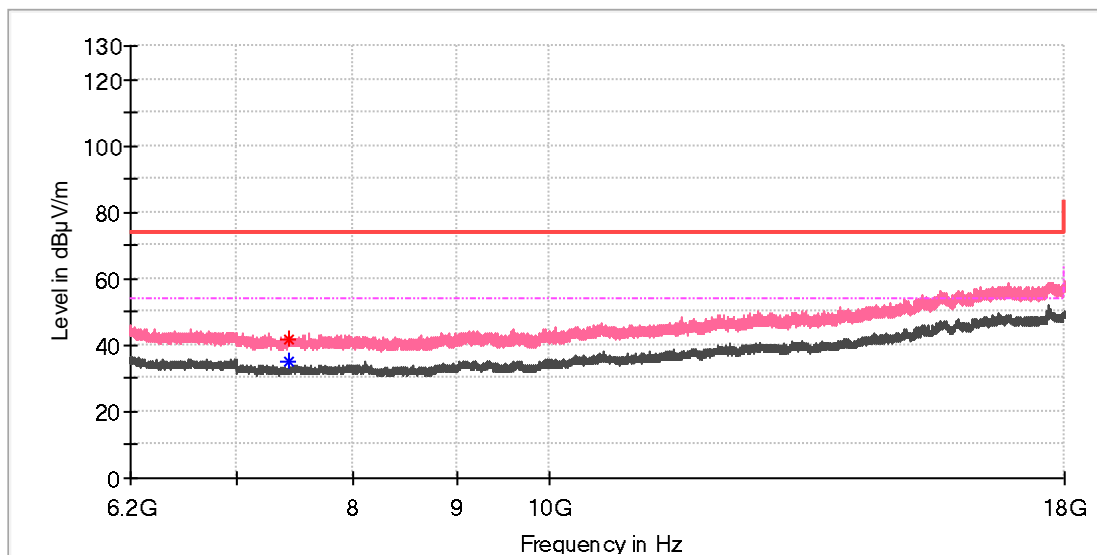


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7428.675000	---	34.21	54.00	19.79	100.0	H	174.0	8.4
7445.883333	42.88	---	74.00	31.12	100.0	H	261.0	8.5

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz H CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

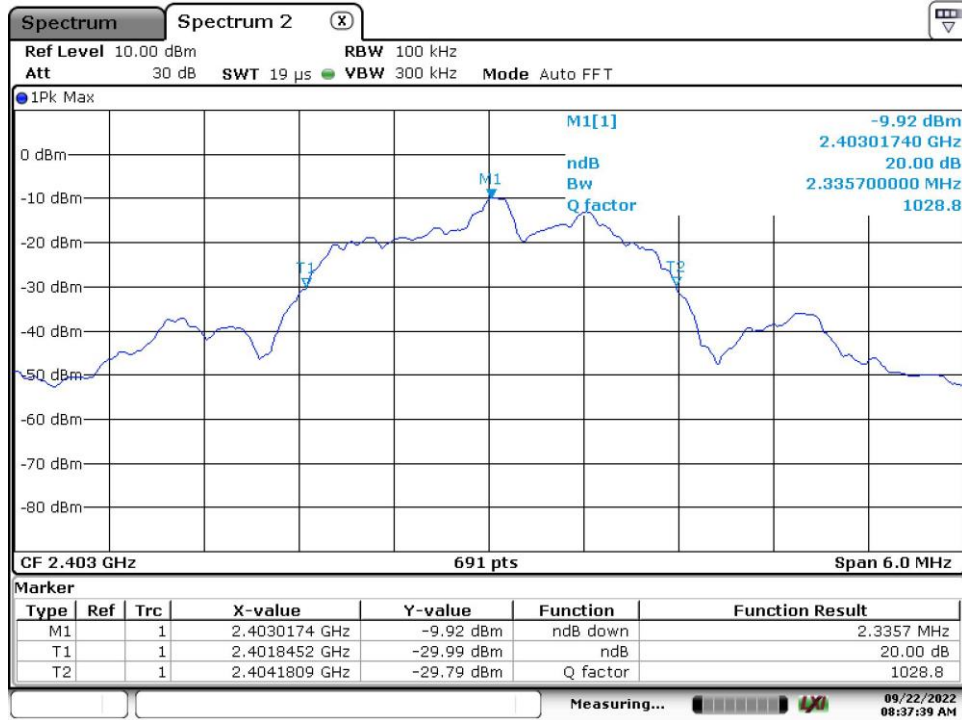


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7435.066667	42.00	---	74.00	32.00	100.0	V	41.0	8.4
7435.558333	---	34.97	54.00	19.03	100.0	V	41.0	8.4

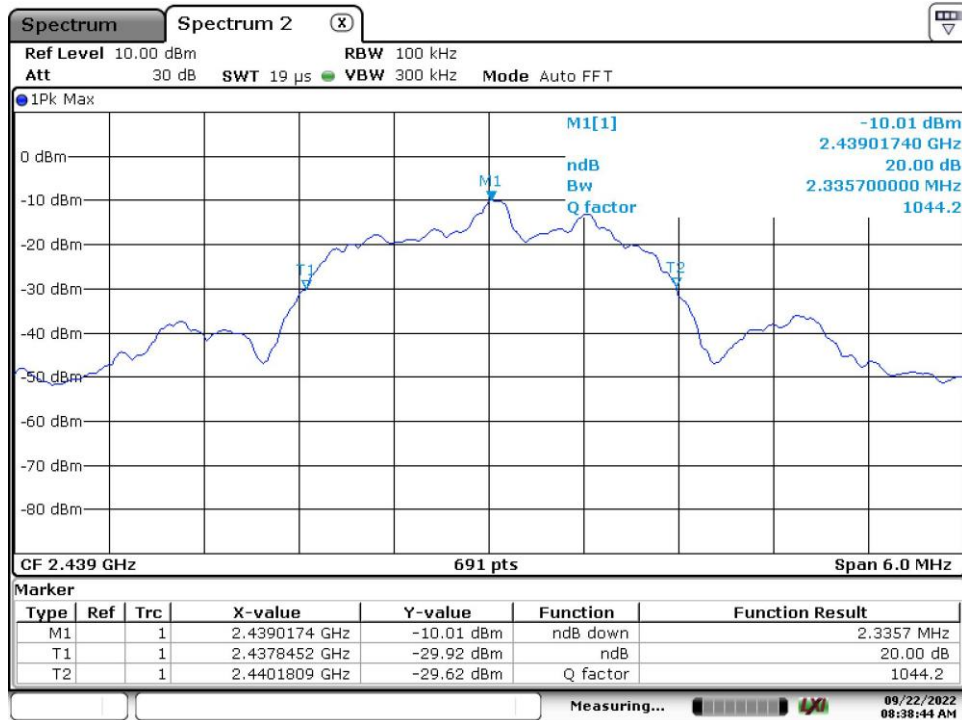
Appendix B.2: Test Results of 20dB Bandwidth

2403MHz



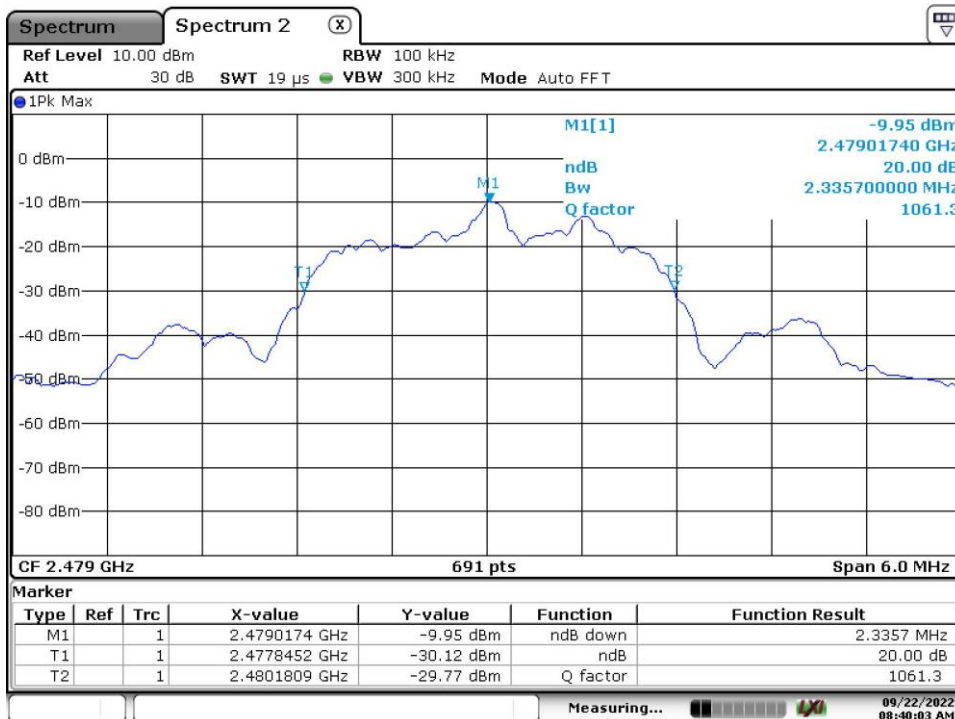
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2439MHz



Date: 22.SEP.2022 08:38:44

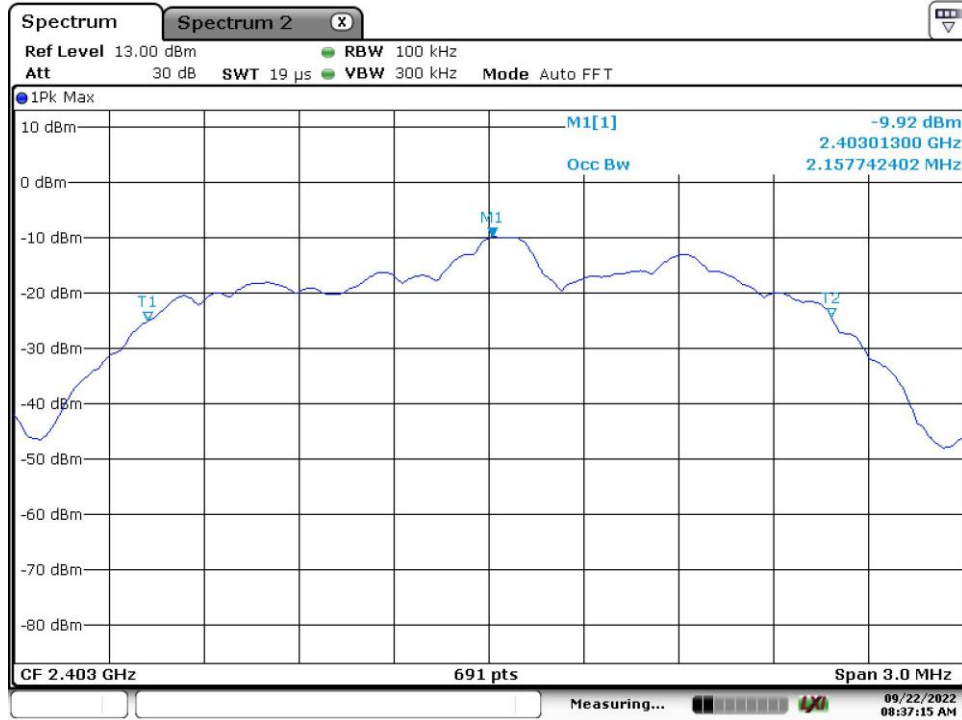
2479MHz



Date: 22.SEP.2022 08:40:03

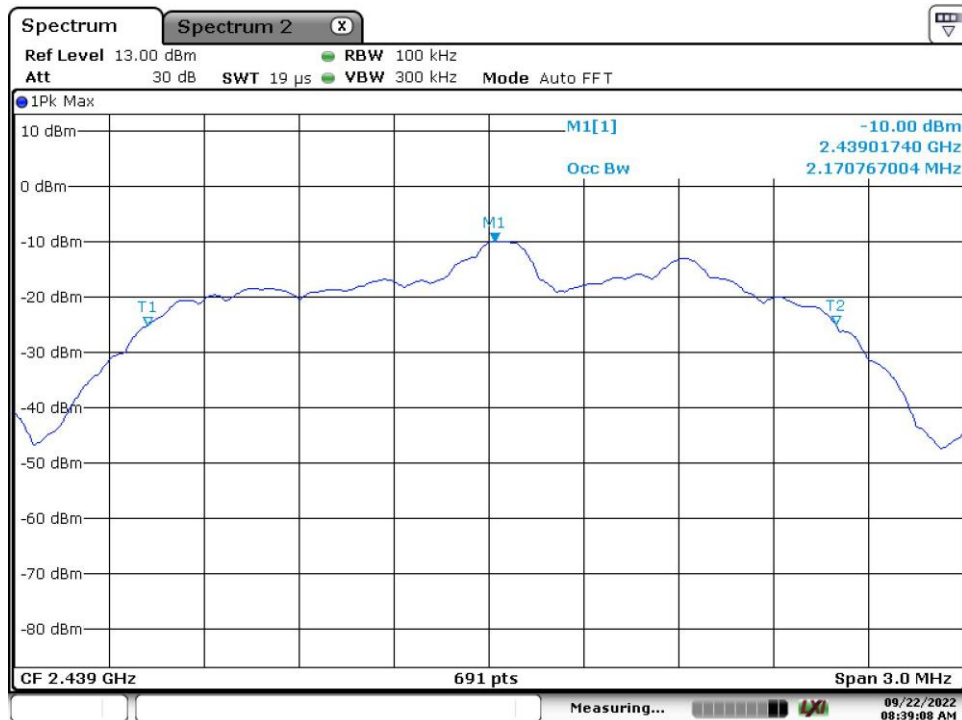
Appendix B.3: Test Results of 99% Bandwidth

2403MHz



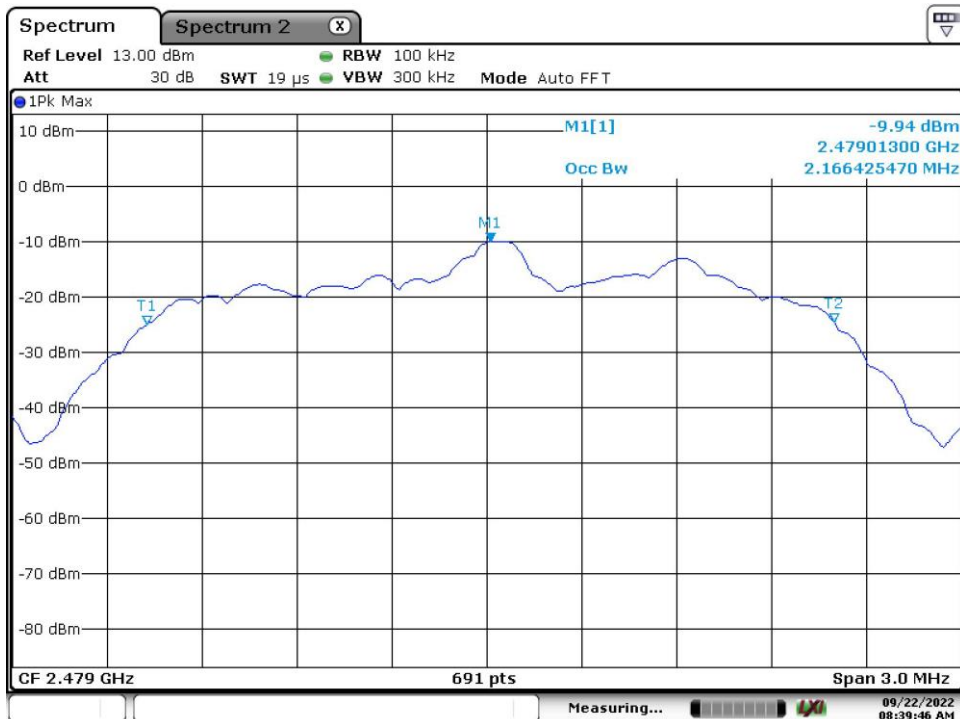
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2439MHz



Date: 22.SEP.2022 08:39:09

2479MHz

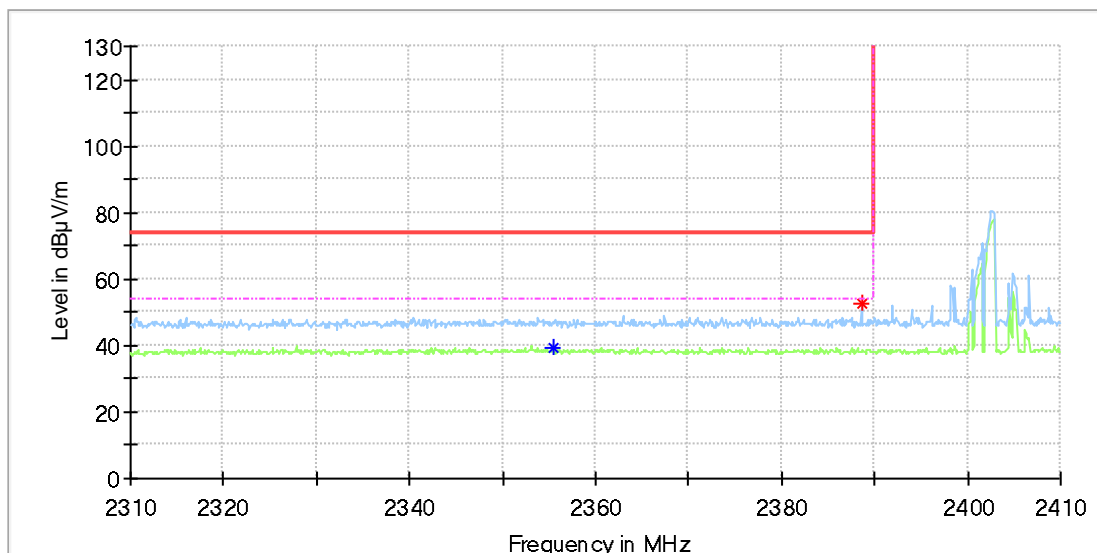


Date: 22.SEP.2022 08:39:46

Appendix B.4: Test Results of Band Edge

EUT Information

EUT Name:	USB Dongle
Model:	RG51
Test Mode:	2.4GHz L CH
Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

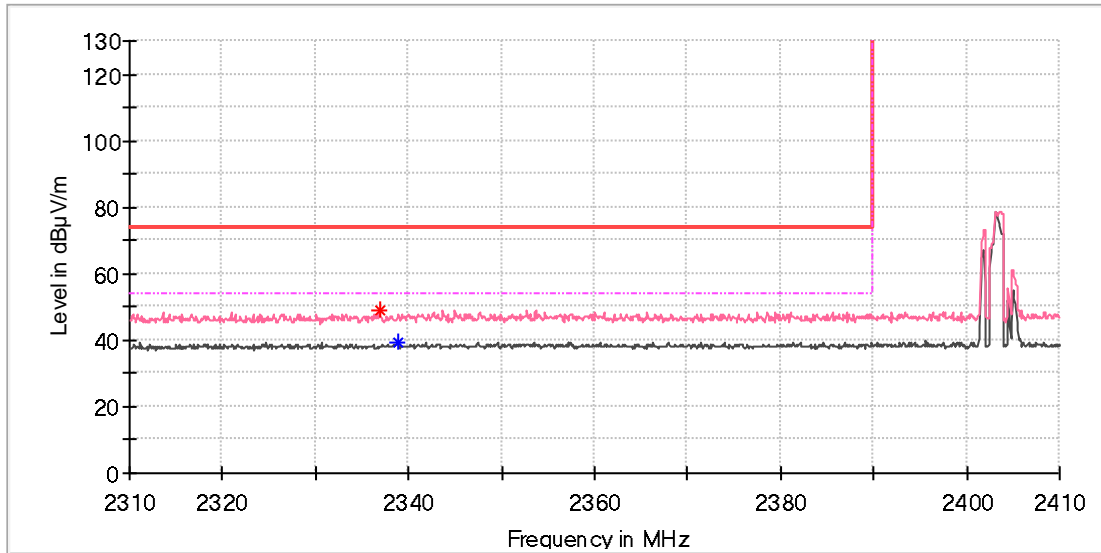


Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2355.400000	---	39.58	54.00	14.42	100.0	H	214.0	6.9
2388.600000	52.39	---	74.00	21.61	100.0	H	315.0	7.0

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz L CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

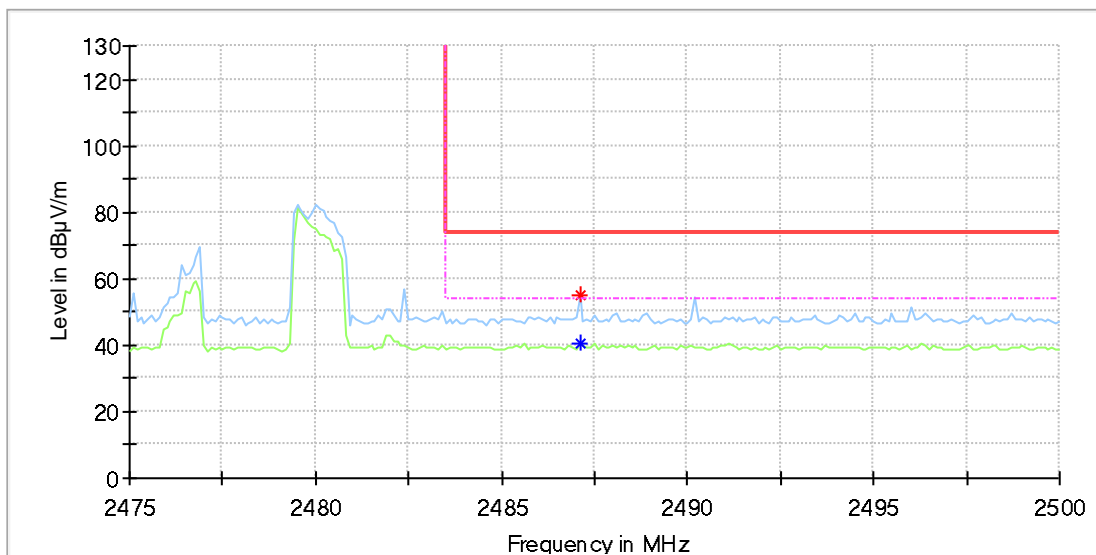


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2336.900000	49.02	---	74.00	24.98	100.0	V	17.0	6.8
2338.800000	---	39.25	54.00	14.75	100.0	V	292.0	6.8

EUT Information

EUT Name: USB Dongle
 Model: RG51
 Test Mode: 2.4GHz H CH
 Order No/Sample No: 168390083/A003339290-002
 Test Voltage: DC 5V from USB
 Remark: Temp 23 Humi:58%
 Test Standard: FCC 15.249
 Tested By: Kei Zhang
 Reviewed By: Terry Yin

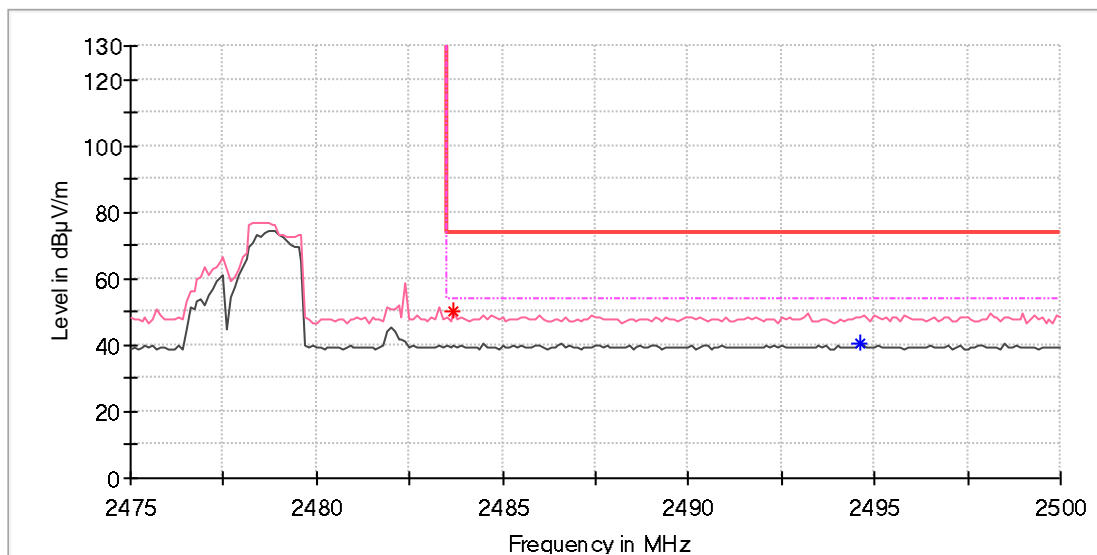


Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2487.100000	---	40.73	54.00	13.27	100.0	H	344.0	7.4
2487.100000	54.95	---	74.00	19.05	100.0	H	344.0	7.4

EUT Information

EUT Name:	USB Dongle
Model:	RG51
Test Mode:	2.4GHz H CH
Order No/Sample No:	168390083/A003339290-002
Test Voltage:	DC 5V from USB
Remark:	Temp 23 Humi:58%
Test Standard:	FCC 15.249
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



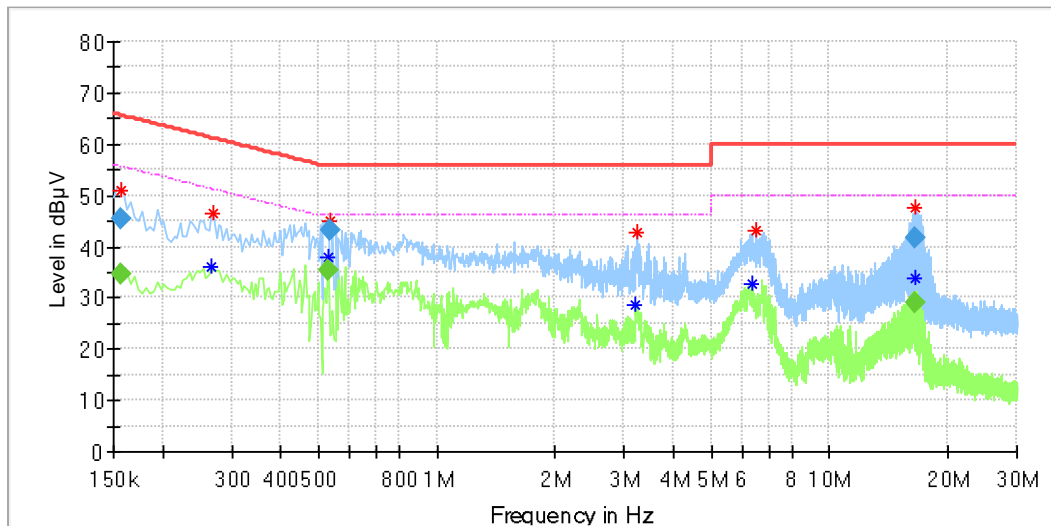
Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.700000	49.99	---	74.00	24.01	100.0	V	0.0	7.4
2494.600000	---	40.56	54.00	13.44	100.0	V	314.0	7.4

Appendix B.5: Test Results of Conducted Emission on AC Mains

EUT Information

EUT Name: USB Dongle
 Order Number: 168390083
 Model: RG51
 Test Mode: ON
 Test Voltage: AC 120V, 60Hz
 Test By:/Review By: Ouyang Wang/Gary Chen
 Test Standard: FCC PORT 15
 Tem./Hum./Pressure: 25.0°C/50.2%/101kPa
 Remark: SR2



Critical Freqs

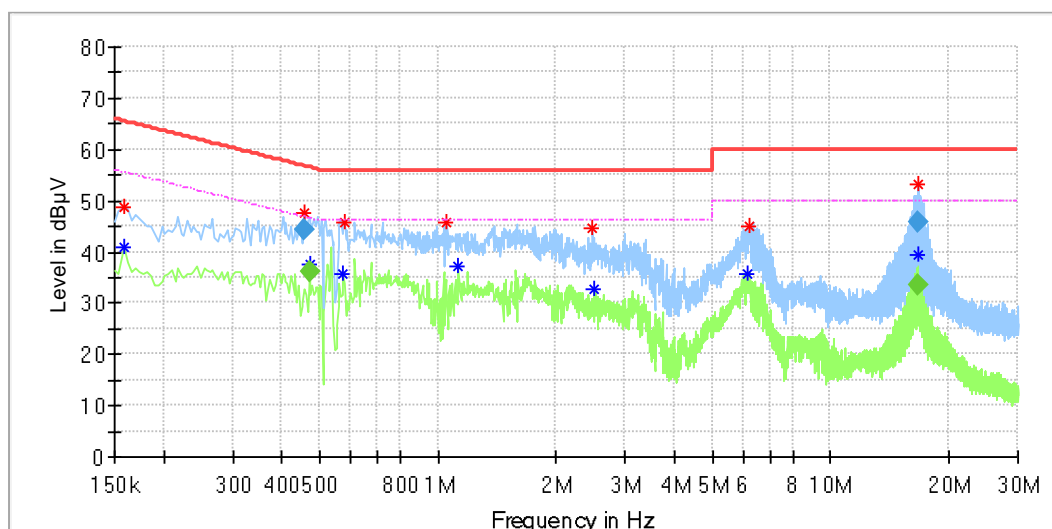
Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.157500	51.08	---	65.57	14.49	L1	9.9
0.157500	---	34.83	55.36	20.53	L1	9.9
0.266000	---	36.20	51.24	15.04	L1	9.9
0.270000	46.36	---	61.12	14.76	L1	9.9
0.529500	---	37.86	46.00	8.14	L1	10.0
0.534500	45.07	---	56.00	10.93	L1	10.0
3.214000	---	28.78	46.00	17.22	L1	10.2
3.242000	42.62	---	56.00	13.38	L1	10.2
6.326000	---	32.88	50.00	17.12	L1	10.3
6.470000	43.13	---	60.00	16.87	L1	10.3
16.558500	---	33.77	50.00	16.23	L1	10.4
16.589500	47.57	---	60.00	12.43	L1	10.4

Final Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.157500	45.48	---	65.60	20.11	1000.0	9.000	L1	9.9
0.157500	---	34.72	55.60	20.87	1000.0	9.000	L1	9.9
0.529500	---	35.20	46.00	10.80	1000.0	9.000	L1	10.0
0.534500	43.08	---	56.00	12.92	1000.0	9.000	L1	10.0
16.558500	---	28.87	50.00	21.13	1000.0	9.000	L1	10.4
16.589500	41.68	---	60.00	18.32	1000.0	9.000	L1	10.4

EUT Information

EUT Name: USB Dongle
 Order Number: 168390083
 Model: RG51
 Test Mode: ON
 Test Voltage: AC 120V, 60Hz
 Test By./Review By: Ouyang Wang/Gary Chen
 Test Standard: FCC PORT 15
 Tem./Hum./Pressure: 25.0°C/50.2%/101kPa
 Remark: SR2



Critical_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.158000	48.76	---	65.57	16.81	N	9.8
0.158000	---	41.01	55.57	14.56	N	9.8
0.457500	47.73	---	56.73	9.00	N	9.8
0.473500	---	37.57	46.51	8.94	N	9.8
0.574000	---	35.59	46.00	10.41	N	9.8
0.578000	45.65	---	56.00	10.35	N	9.8
1.054000	45.65	---	56.00	10.35	N	9.8
1.126000	---	37.17	46.00	8.83	N	9.8
2.482000	44.49	---	56.00	11.51	N	9.9
2.506000	---	32.69	46.00	13.31	N	9.9
6.134000	---	35.86	50.00	14.14	N	9.9
6.222000	44.97	---	60.00	15.03	N	9.9
16.685500	53.06	---	60.00	6.94	N	10.2
16.693500	---	39.60	50.00	10.40	N	10.2

Final_Result

Frequency (MHz)	QuasiPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.457500	44.31	---	56.74	12.43	1000.0	9.000	N	9.8
0.473500	---	36.15	46.45	10.31	1000.0	9.000	N	9.8
16.685500	45.70	---	60.00	14.30	1000.0	9.000	N	10.2
16.693500	---	33.43	50.00	16.57	1000.0	9.000	N	10.2