

APPENDIX B: TEST RESULTS OF BLUETOOTH (LOW ENERGY)

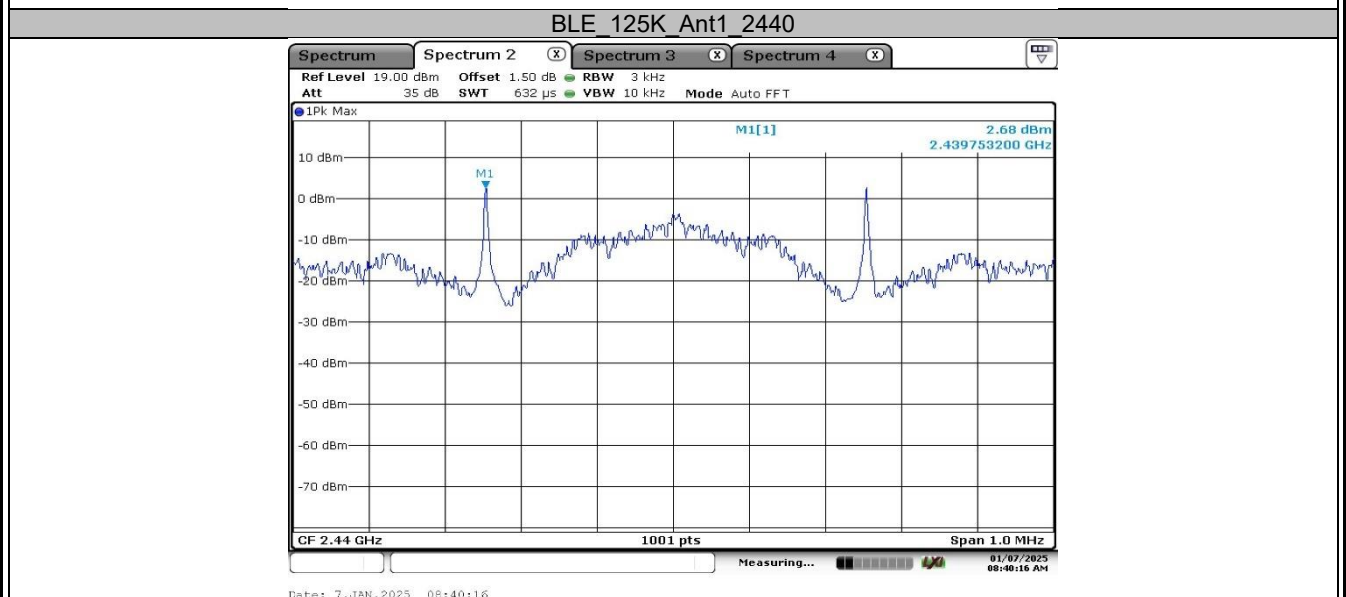
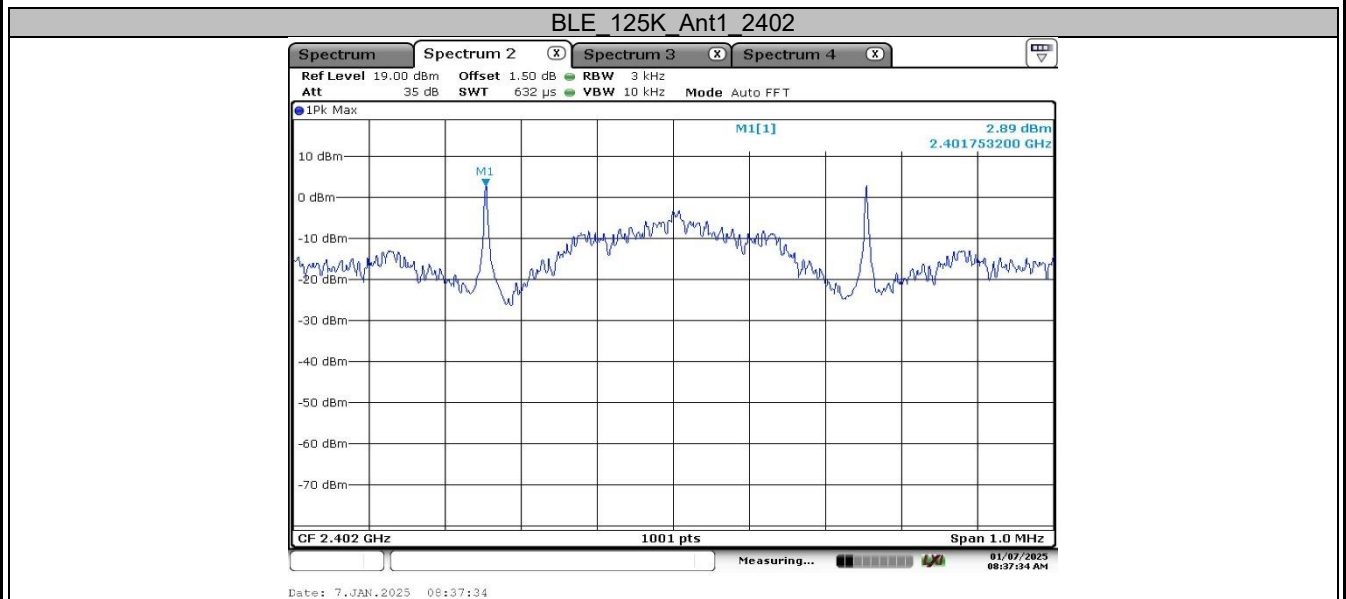
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APPENDIX B.1: CONDUCTED POWER SPECTRAL DENSITY

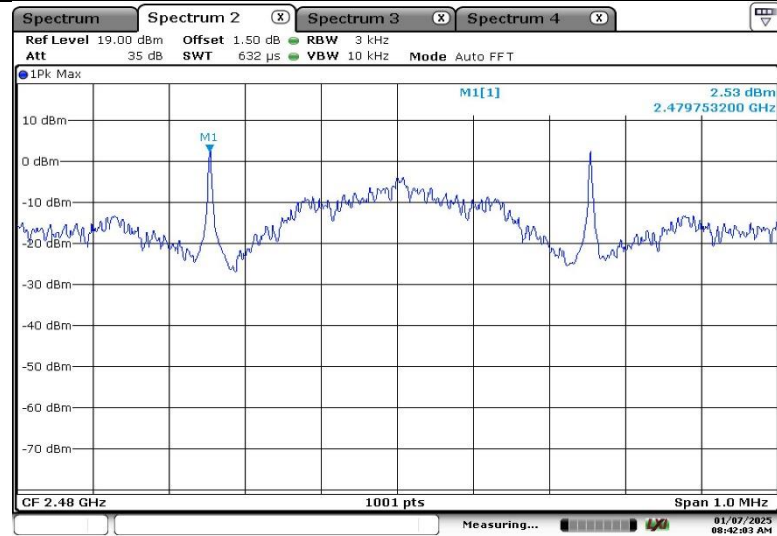
Test Result

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_125K	Ant1	2402	2.89	≤8.00	PASS
		2440	2.68	≤8.00	PASS
		2480	2.53	≤8.00	PASS
BLE_500K	Ant1	2402	2.69	≤8.00	PASS
		2440	2.47	≤8.00	PASS
		2480	2.34	≤8.00	PASS
BLE_1M	Ant1	2402	-6.79	≤8.00	PASS
		2440	-7.22	≤8.00	PASS
		2480	-7.45	≤8.00	PASS
BLE_2M	Ant1	2402	-9.49	≤8.00	PASS
		2440	-9.51	≤8.00	PASS
		2480	-10.04	≤8.00	PASS

Test Graphs

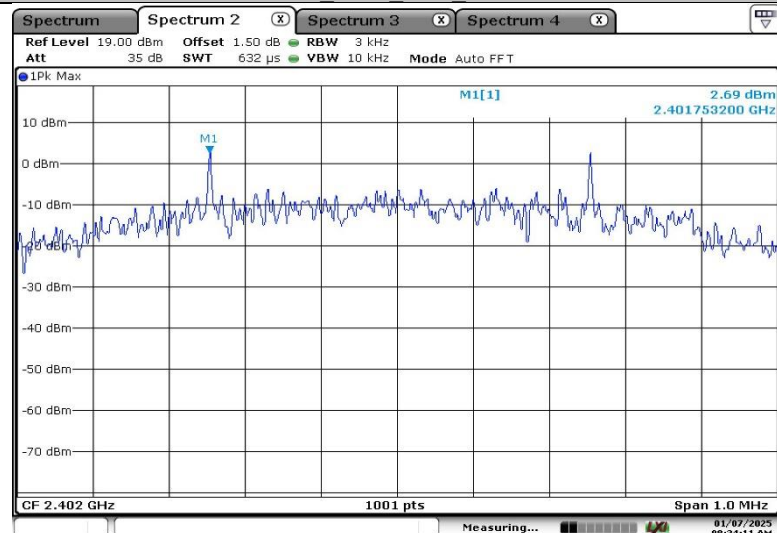


BLE_125K Ant1_2480



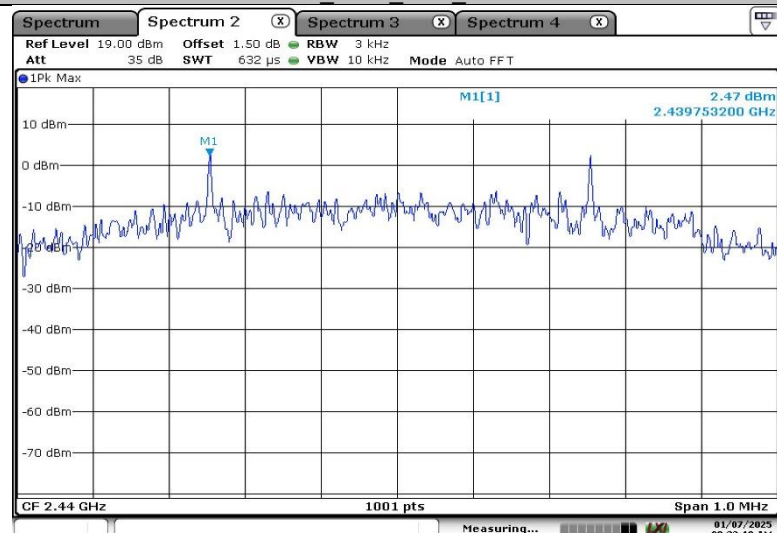
Date: 7.JAN.2025 08:42:03

BLE_500K Ant1_2402



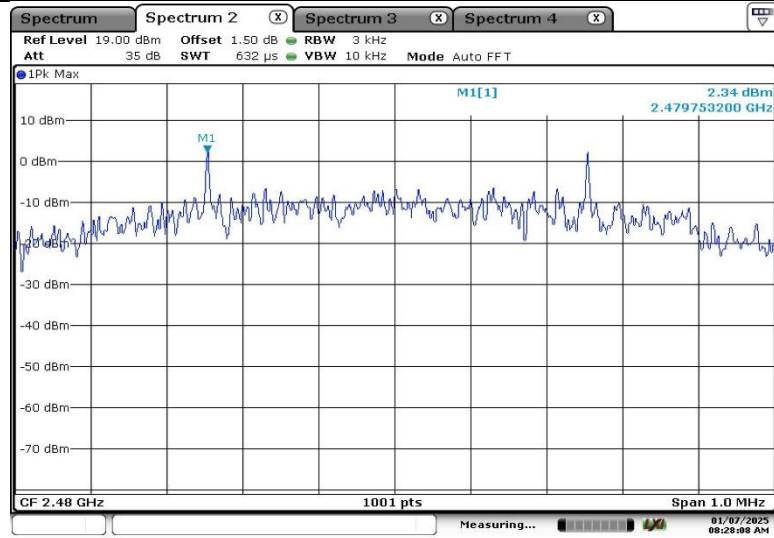
Date: 7.JAN.2025 08:34:11

BLE_500K Ant1_2440



Date: 7.JAN.2025 08:32:10

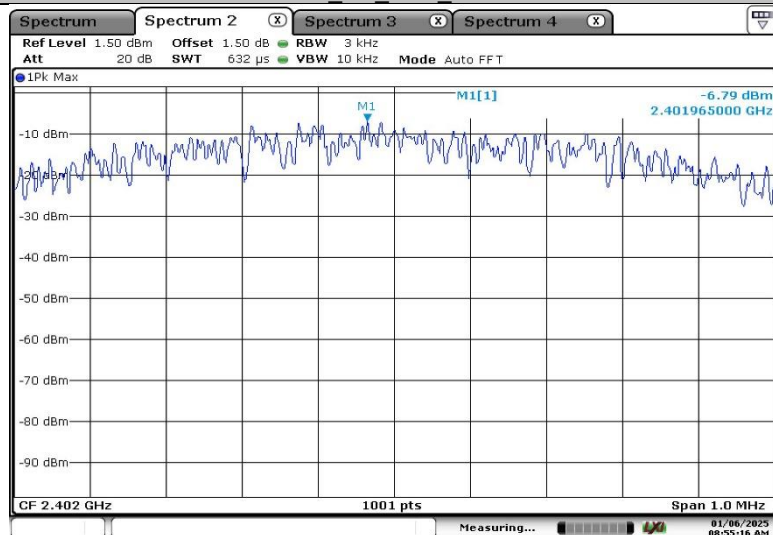
BLE_500K_Ant1_2480



Date: 7.JAN.2025 08:28:09

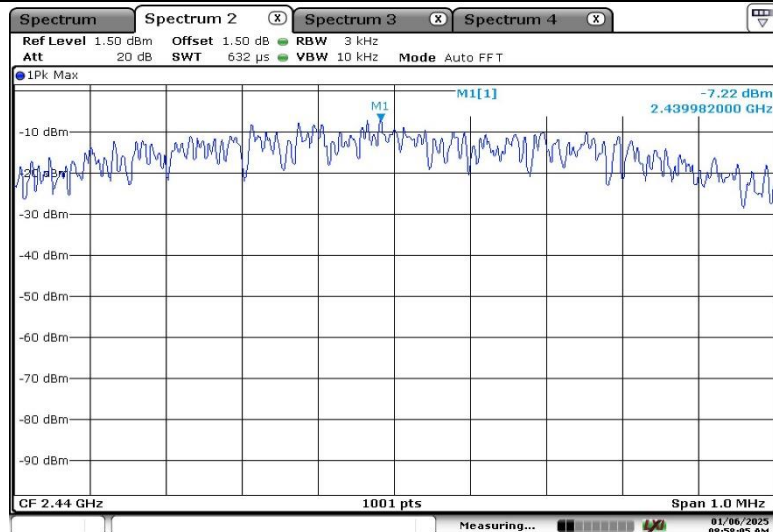
4

BLE_1M_Ant1_2402



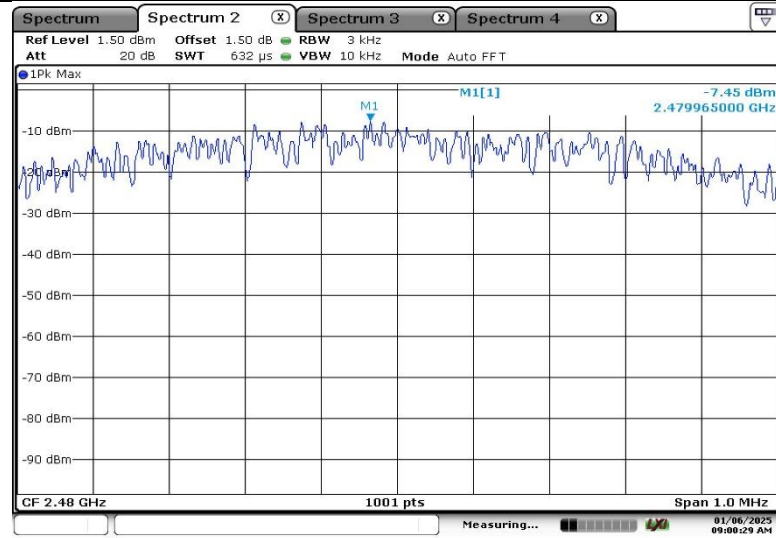
Date: 6.JAN.2025 08:55:16

BLE_1M_Ant1_2440



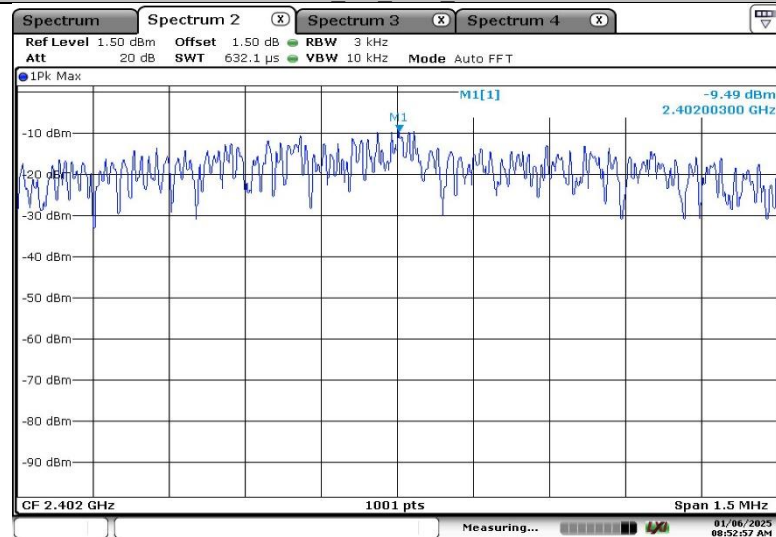
Date: 6.JAN.2025 08:58:05

BLE 1M Ant1 2480



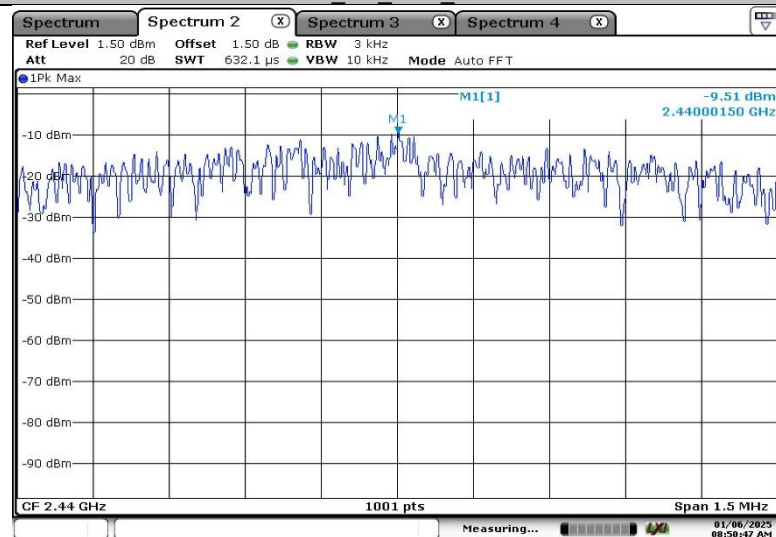
Date: 6.JAN.2025 09:00:29

BLE 2M Ant1 2402

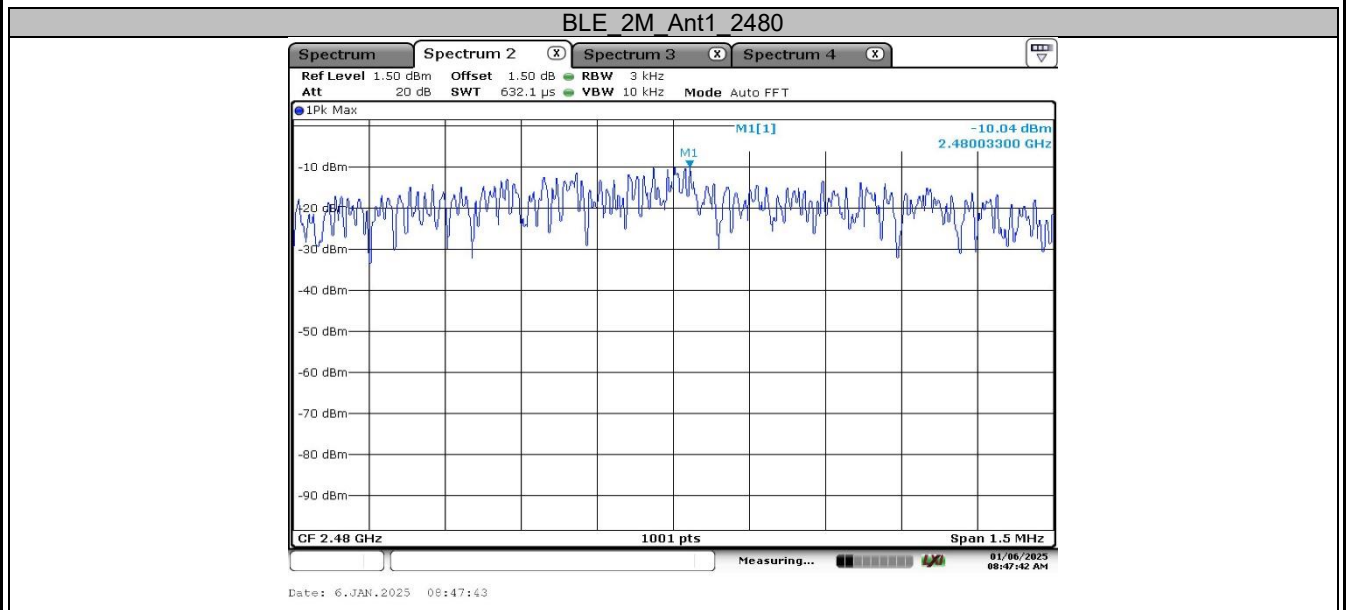


Date: 6.JAN.2025 08:52:57

BLE 2M Ant1 2440



Date: 6.JAN.2025 08:50:47



APPENDIX B.2: 6dB BANDWIDTH

Setting	Instrument Value	Target Value
RBW	100.000 kHz	~ 100.000 kHz
VBW	300.000 kHz	~ 300.000 kHz

BLE_125K

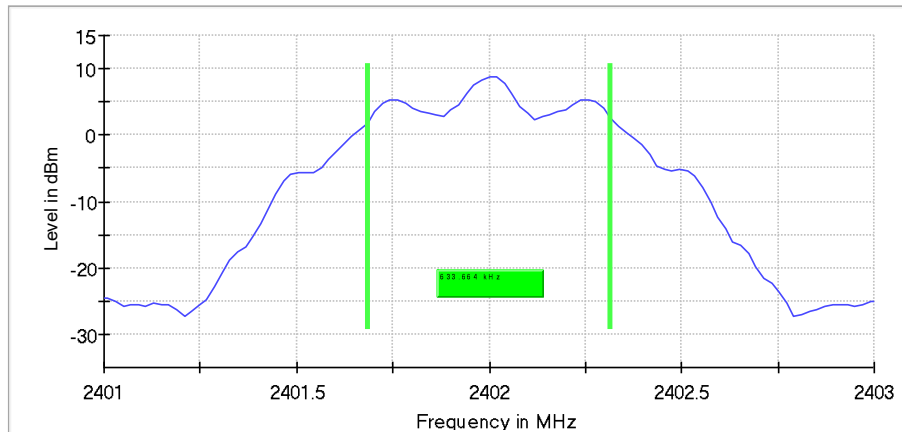
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.633664	0.500000	---	2401.683168	2402.316832

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	8.8	PASS

6 dB Bandwidth



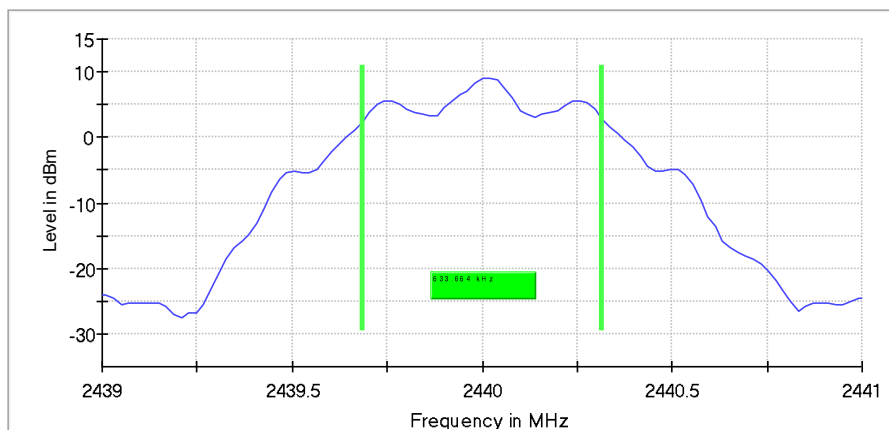
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	0.633664	0.500000	---	2439.683168	2440.316832

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	9.1	PASS

6 dB Bandwidth



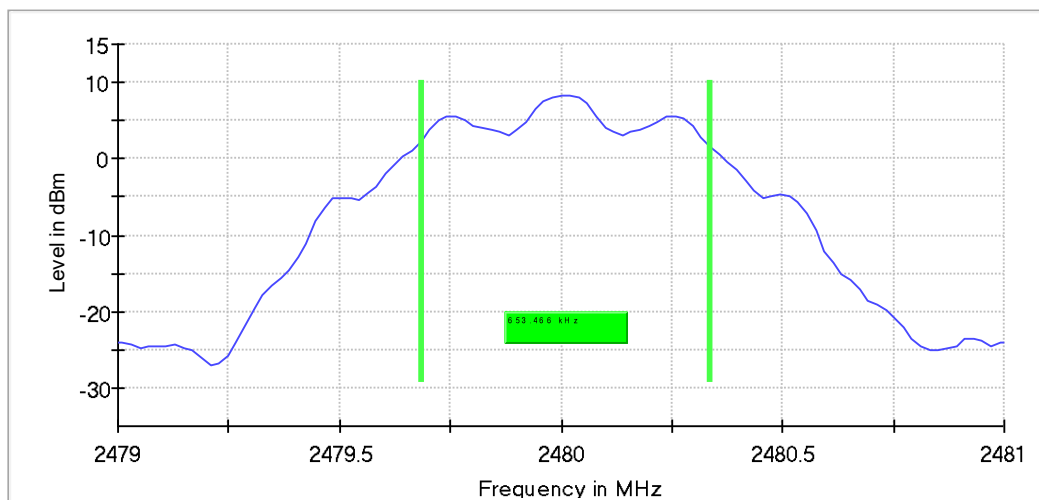
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.653466	0.500000	---	2479.683168	2480.336634

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	8.4	PASS

6 dB Bandwidth



BLE_500K

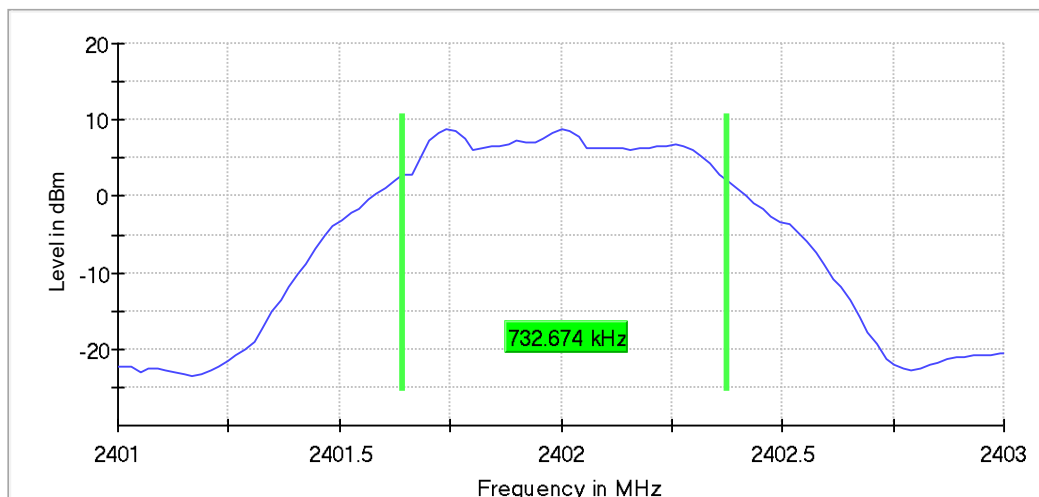
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.732674	0.500000	---	2401.643564	2402.376238

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	8.8	PASS

6 dB Bandwidth



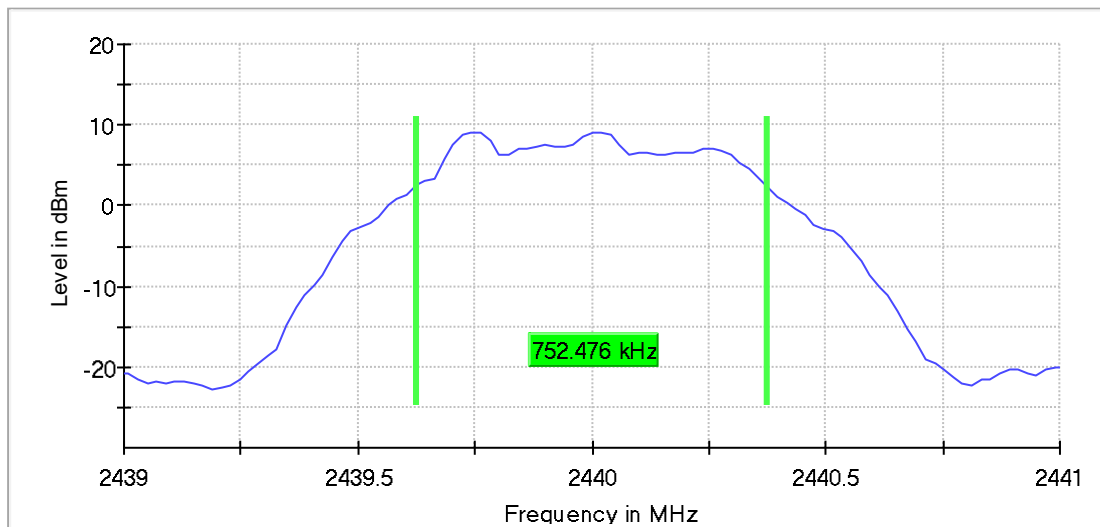
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	0.752476	0.500000	---	2439.623762	2440.376238

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	9.2	PASS

6 dB Bandwidth



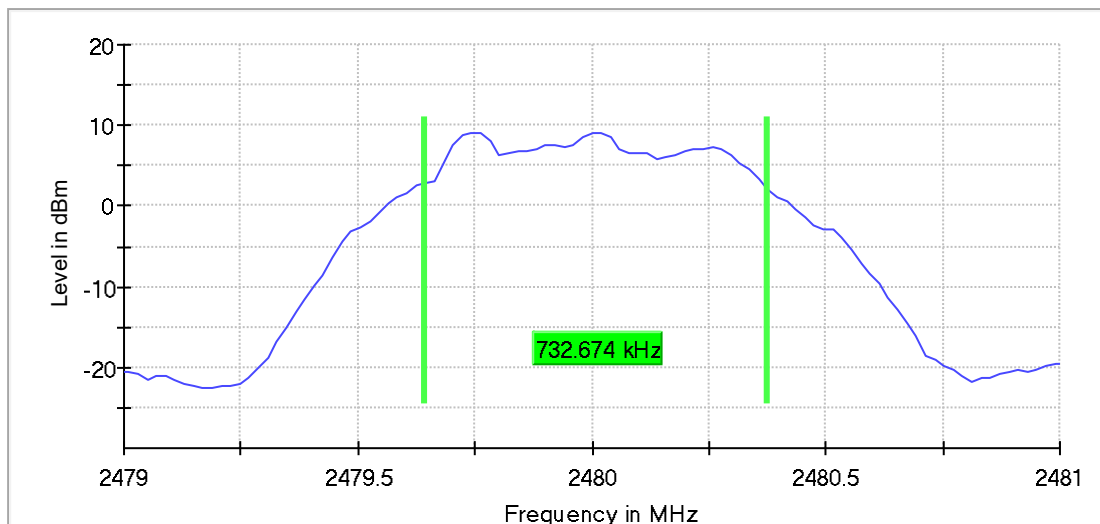
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.732674	0.500000	---	2479.643564	2480.376238

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	9.1	PASS

6 dB Bandwidth



BLE_1M

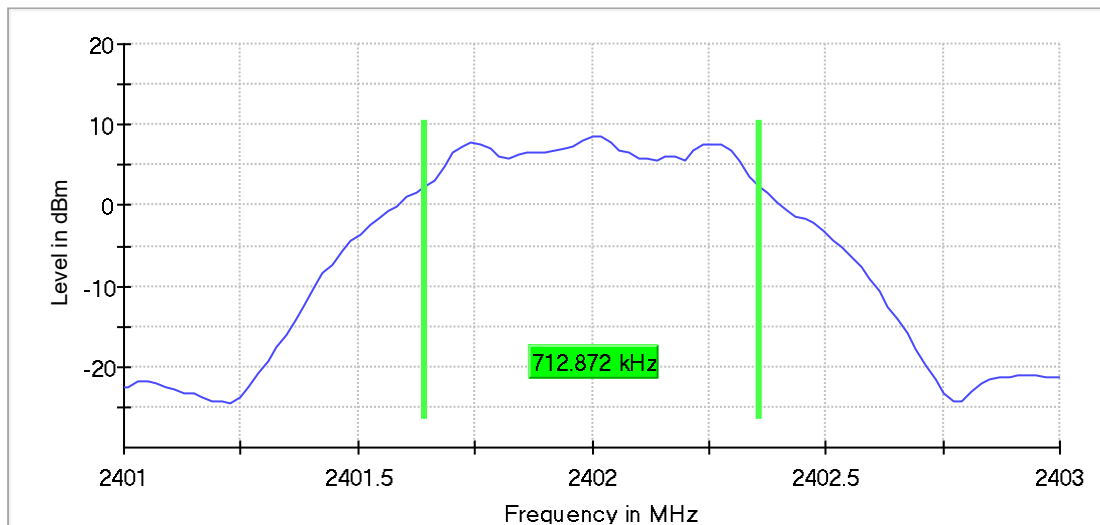
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	0.712872	0.500000	---	2401.643564	2402.356436

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	8.5	PASS

6 dB Bandwidth



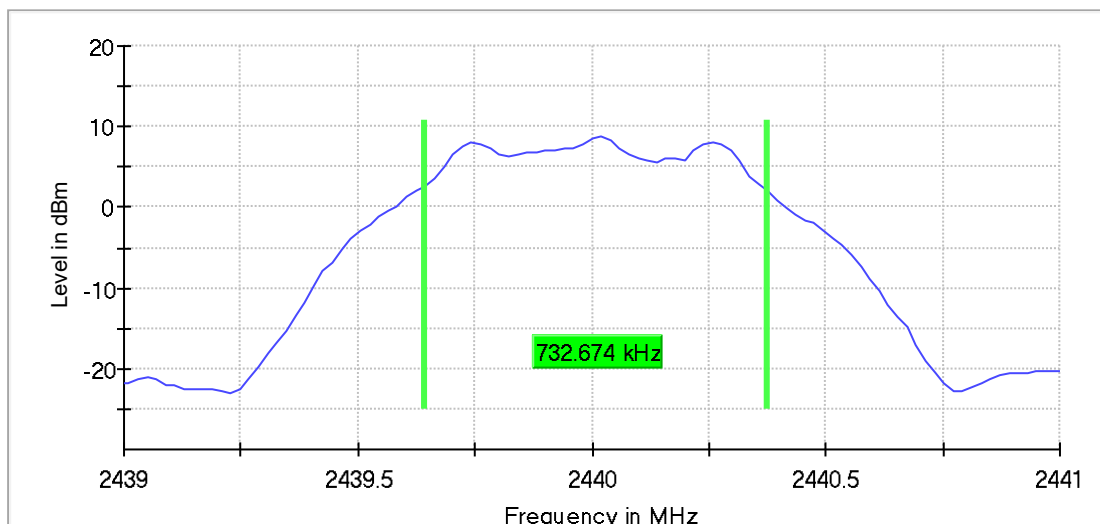
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	0.732674	0.500000	---	2439.643564	2440.356436

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	8.7	PASS

6 dB Bandwidth



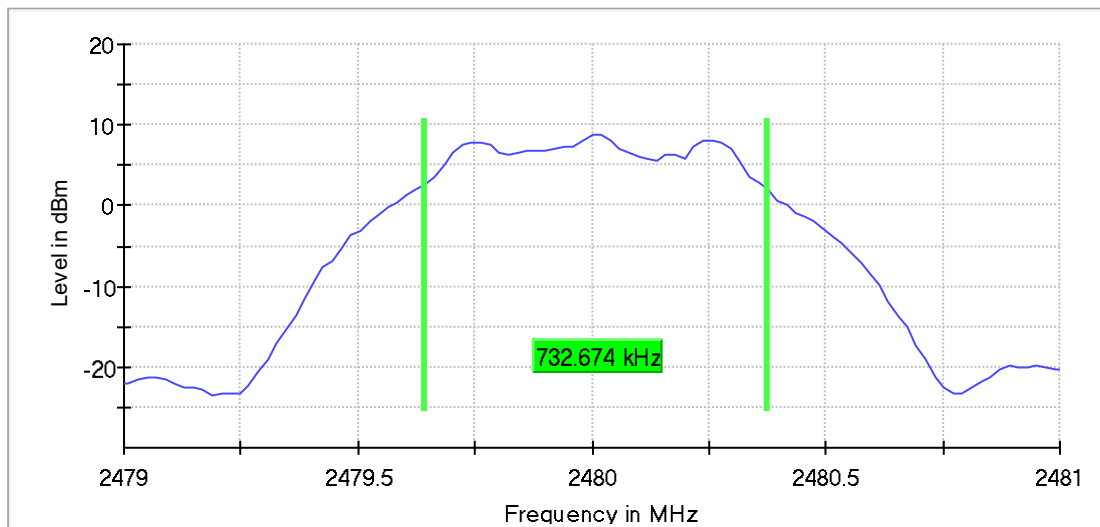
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	0.732674	0.500000	---	2479.643564	2480.376238

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	8.7	PASS

6 dB Bandwidth



BLE_2M

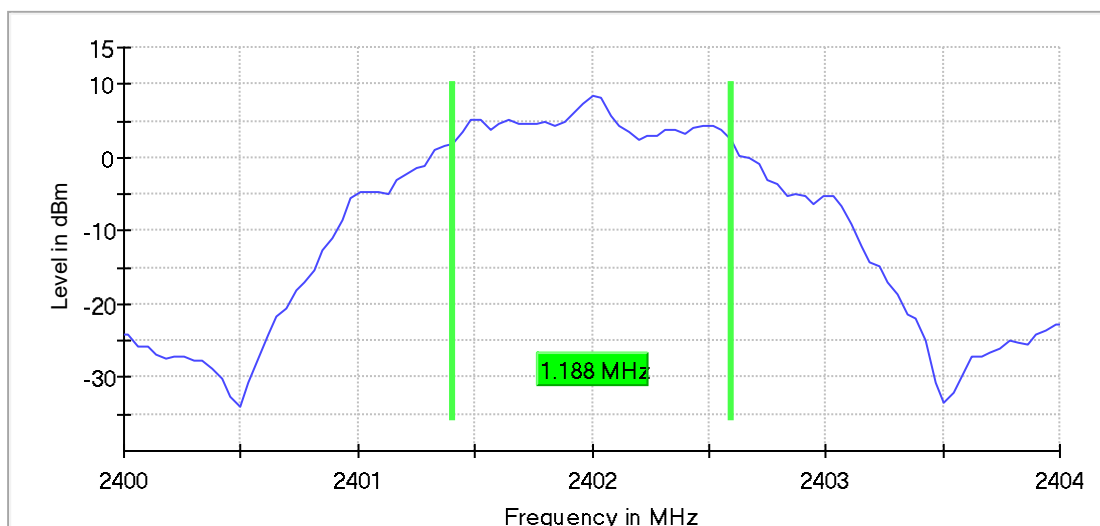
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.188118	0.500000	---	2401.405941	2402.594059

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2402.000000	8.5	PASS

6 dB Bandwidth



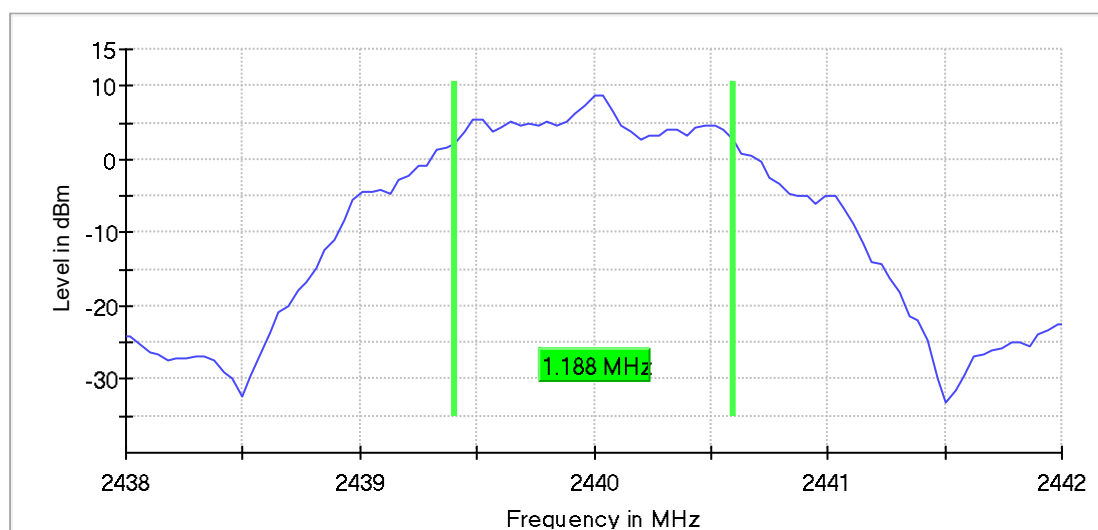
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.188118	0.500000	---	2439.405941	2440.594059

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2440.000000	8.7	PASS

6 dB Bandwidth



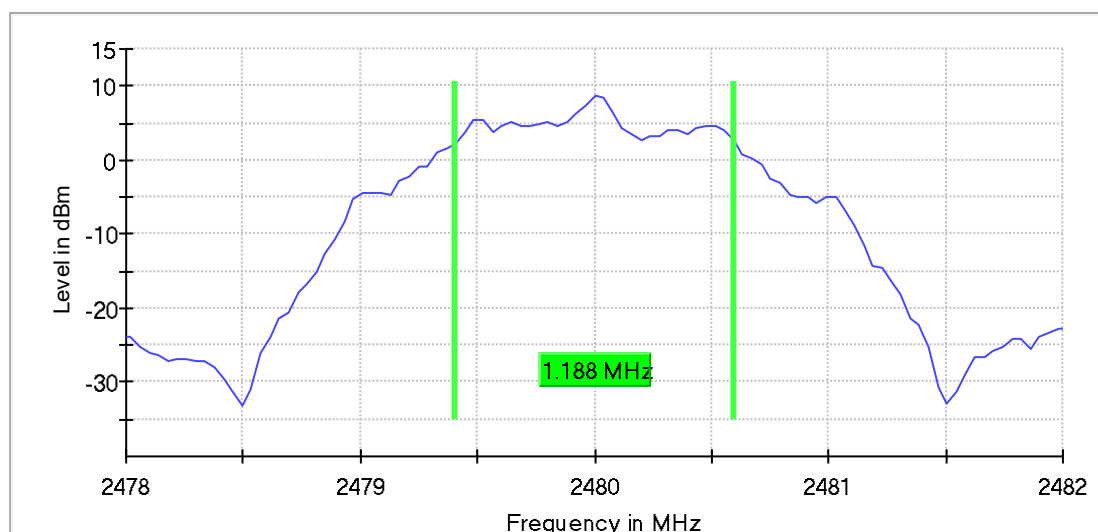
6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.188118	0.500000	---	2479.405941	2480.594059

(continuation of the "6 dB Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Max Level (dBm)	Result
2480.000000	8.7	PASS

6 dB Bandwidth



APPENDIX B.3: 99% BANDWIDTH

BLE_125K

Setting	Instrument Value	Target Value
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz

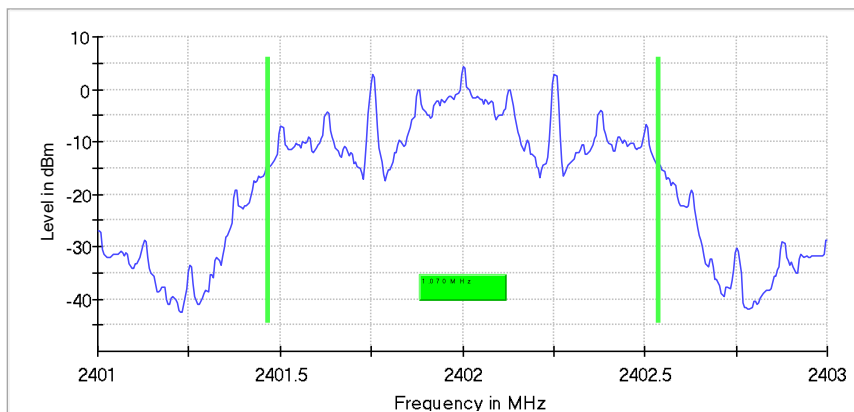
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.070000	---	---	2401.467500	2402.537500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS

99 % Bandwidth



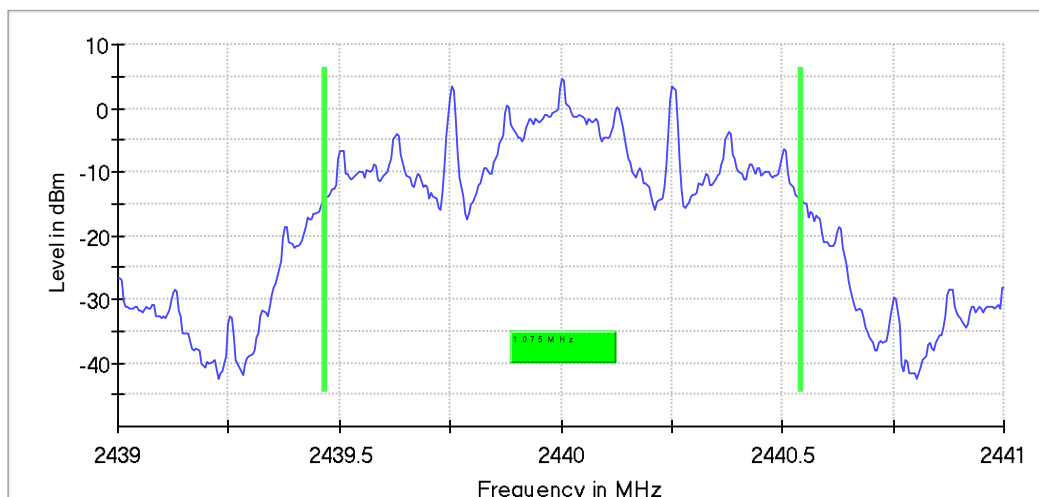
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.075000	---	---	2439.467500	2440.542500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2440.000000	PASS

99 % Bandwidth



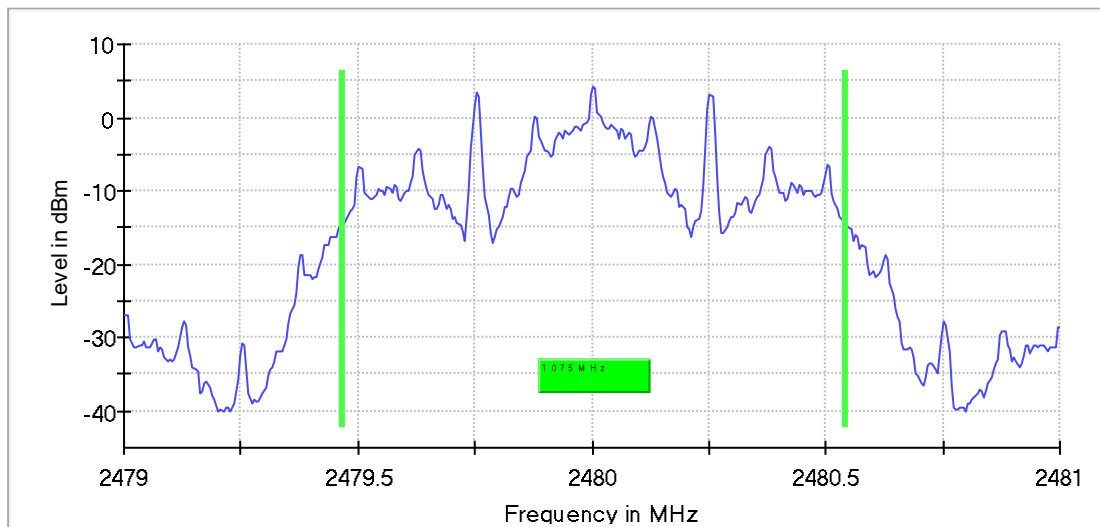
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.075000	---	---	2479.467500	2480.542500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

99 % Bandwidth



BLE_500K

Setting	Instrument Value	Target Value
RBW	10.000 kHz	>= 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz

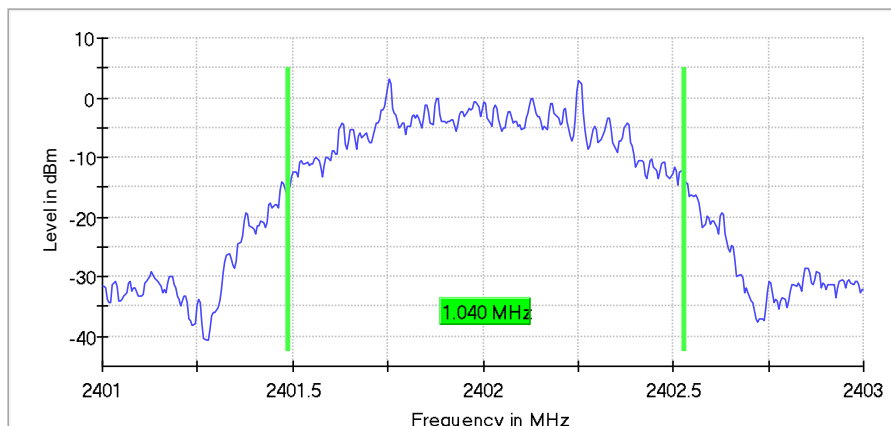
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.040000	---	---	2401.487500	2402.527500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS

99 % Bandwidth



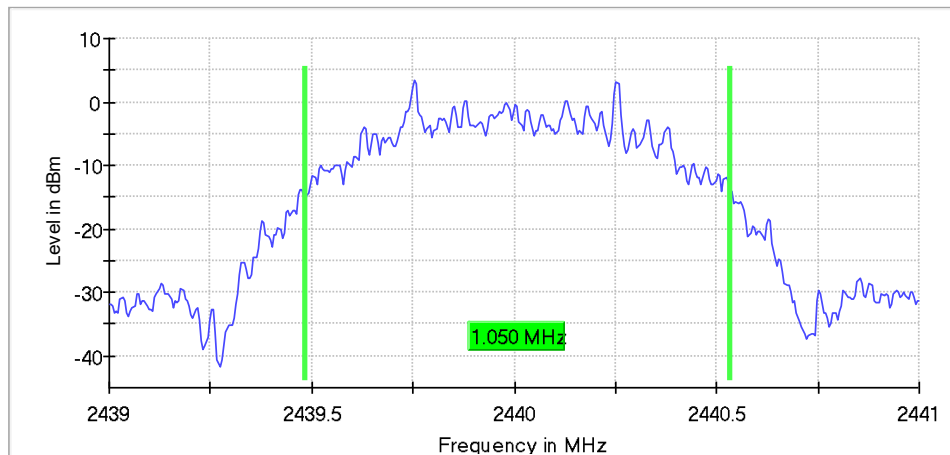
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.050000	---	---	2439.482500	2440.532500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2440.000000	PASS

99 % Bandwidth



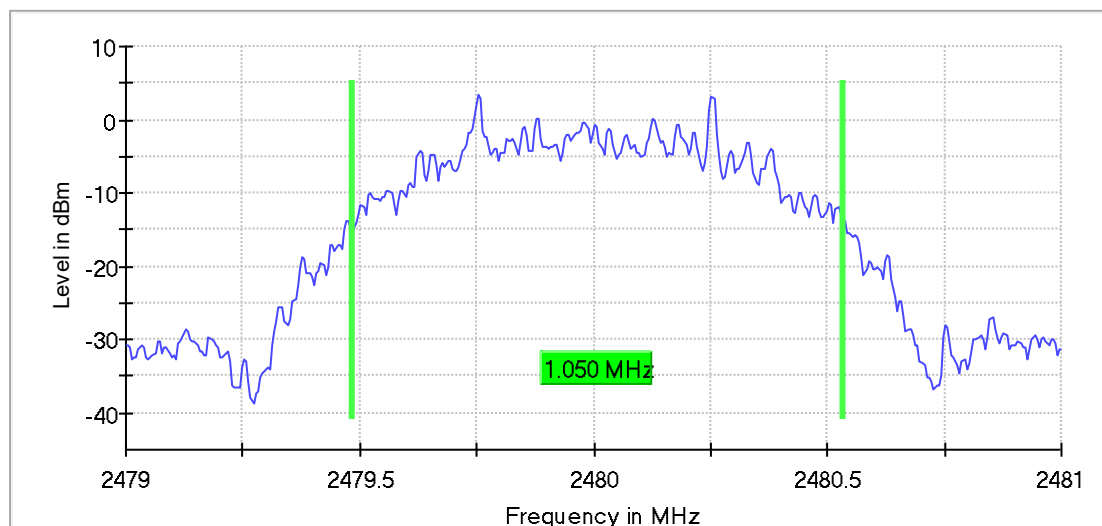
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.050000	---	---	2479.482500	2480.532500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

99 % Bandwidth



BLE_1M

Setting	Instrument Value	Target Value
RBW	10.000 kHz	≥ 10.000 kHz
VBW	30.000 kHz	≥ 30.000 kHz

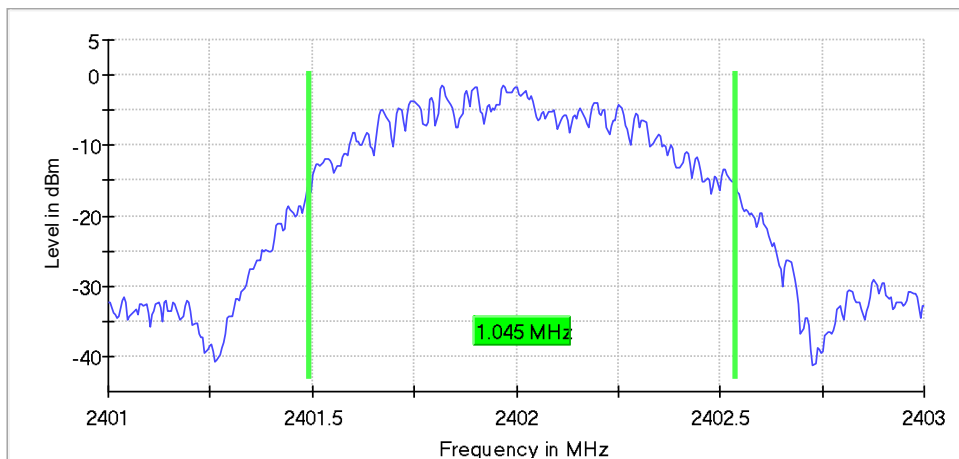
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	1.045000	---	---	2401.492500	2402.537500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS

99 % Bandwidth



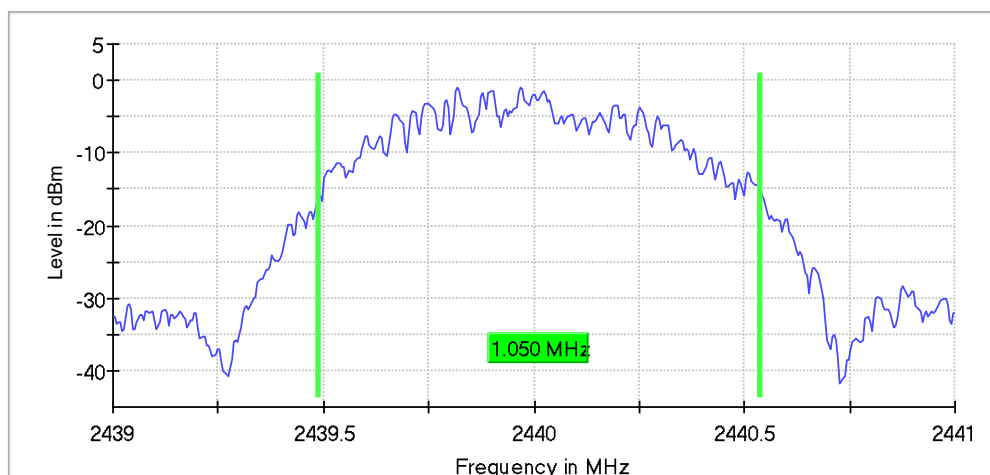
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	1.050000	---	---	2439.487500	2440.537500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2440.000000	PASS

99 % Bandwidth



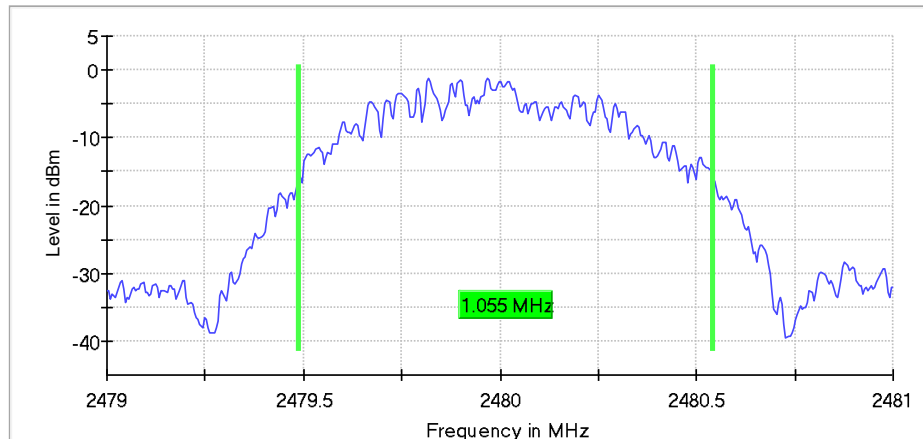
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	1.055000	---	---	2479.487500	2480.542500

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

99 % Bandwidth



BLE_2M

Setting	Instrument Value	Target Value
Span	4.000 MHz	4.000 MHz
RBW	20.000 kHz	>= 20.000 kHz
VBW	100.000 kHz	>= 60.000 kHz

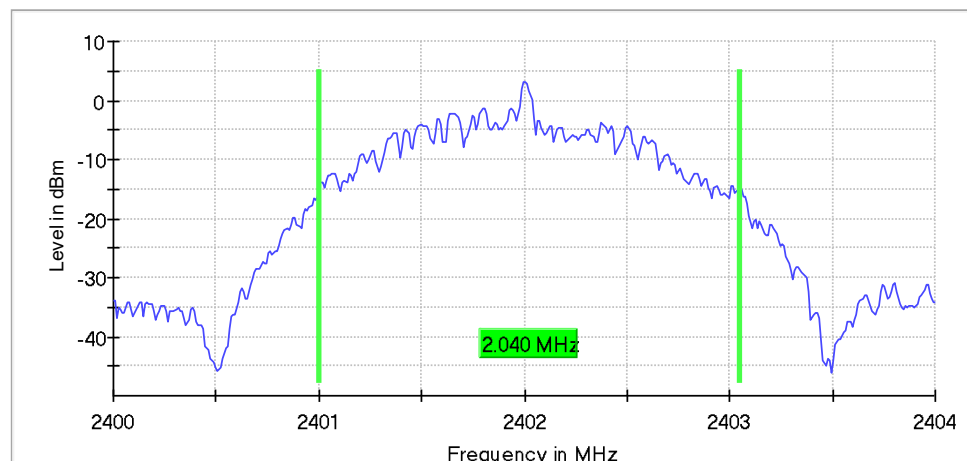
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2402.000000	2.040000	---	---	2401.005000	2403.045000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2402.000000	PASS

99 % Bandwidth



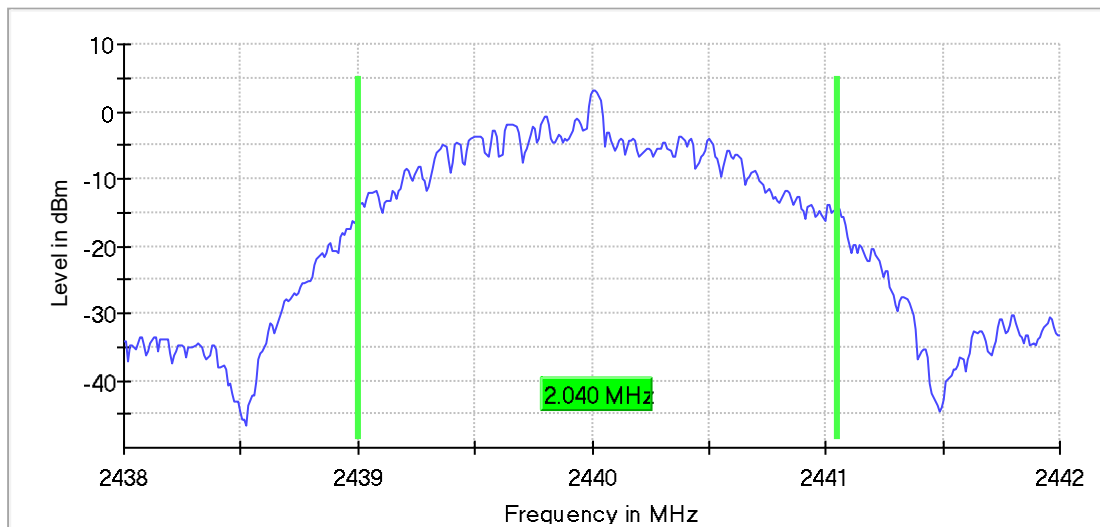
99 % Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2440.000000	2.040000	---	---	2439.005000	2441.045000

(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2440.000000	PASS

99 % Bandwidth



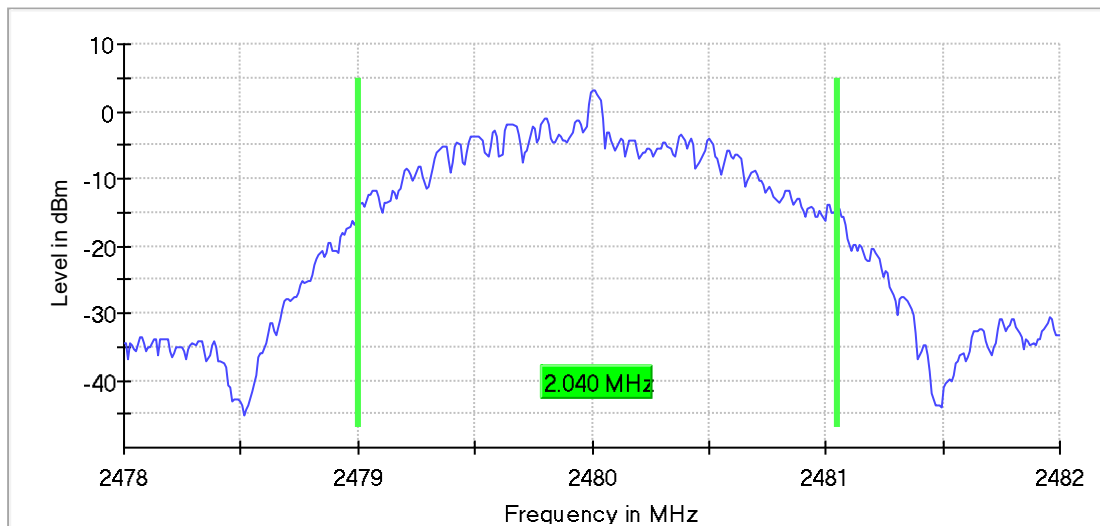
99 % Bandwidth

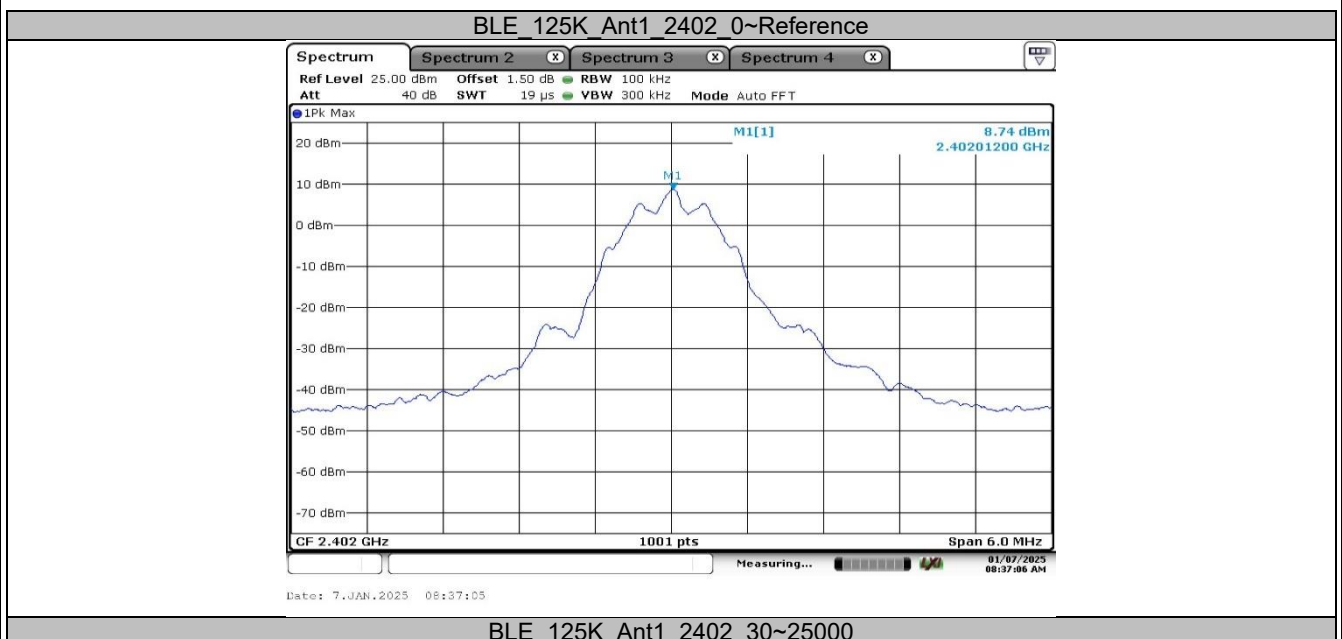
DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)
2480.000000	2.040000	---	---	2479.005000	2481.045000

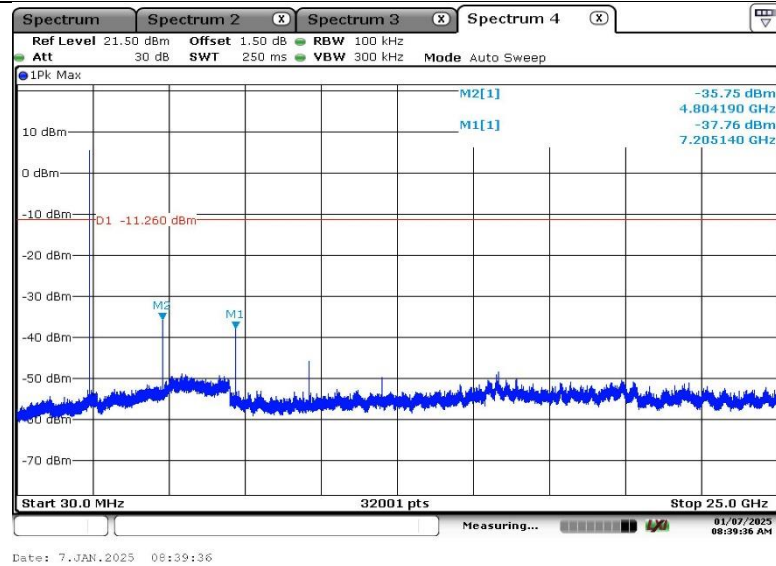
(continuation of the "99 % Bandwidth" table from column 6 ...)

DUT Frequency (MHz)	Result
2480.000000	PASS

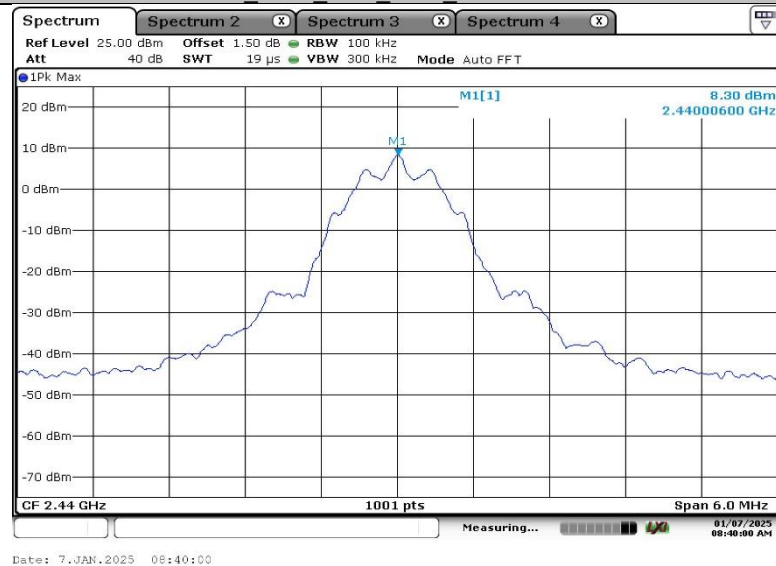
99 % Bandwidth



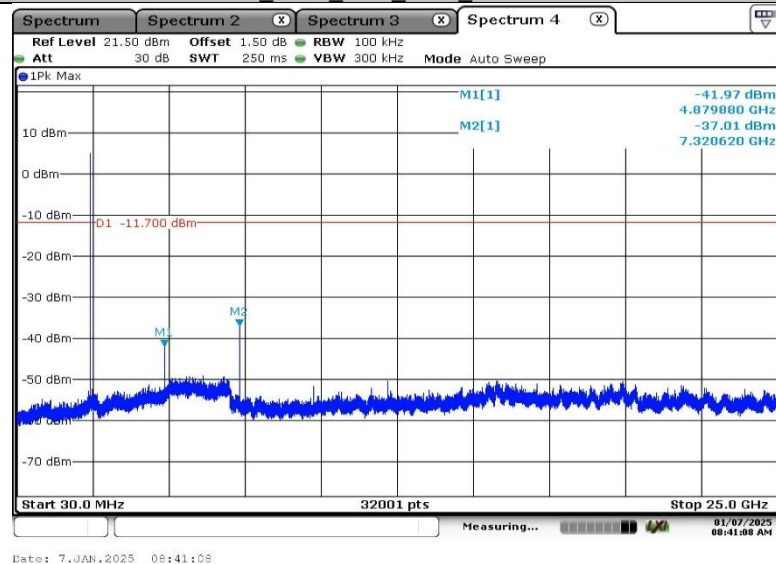




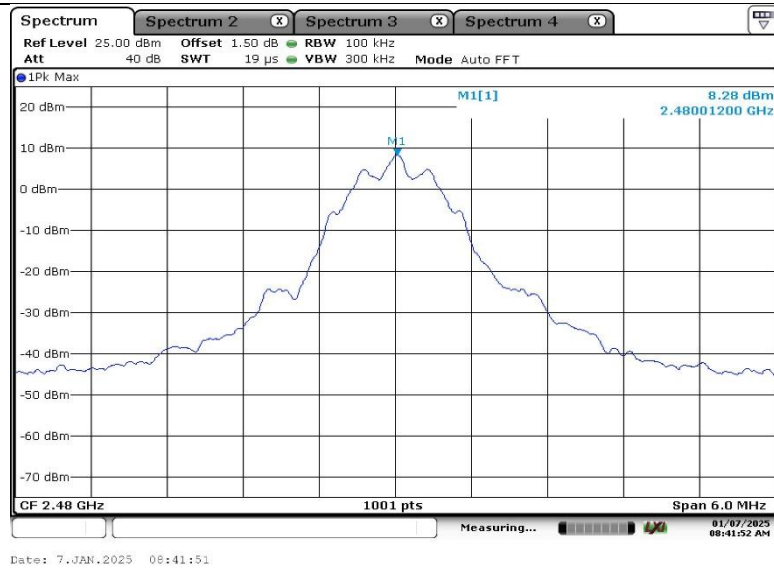
BLE_125K_Ant1_2440_0~Reference



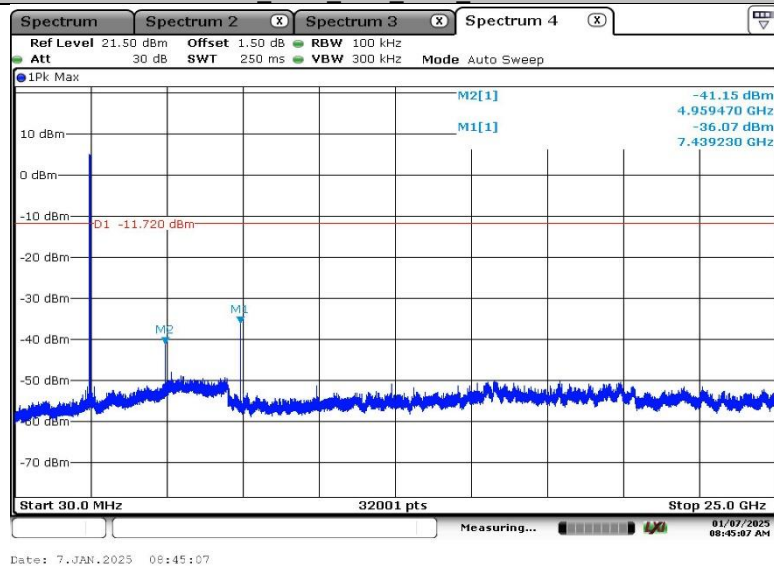
BLE_125K_Ant1_2440_30~25000



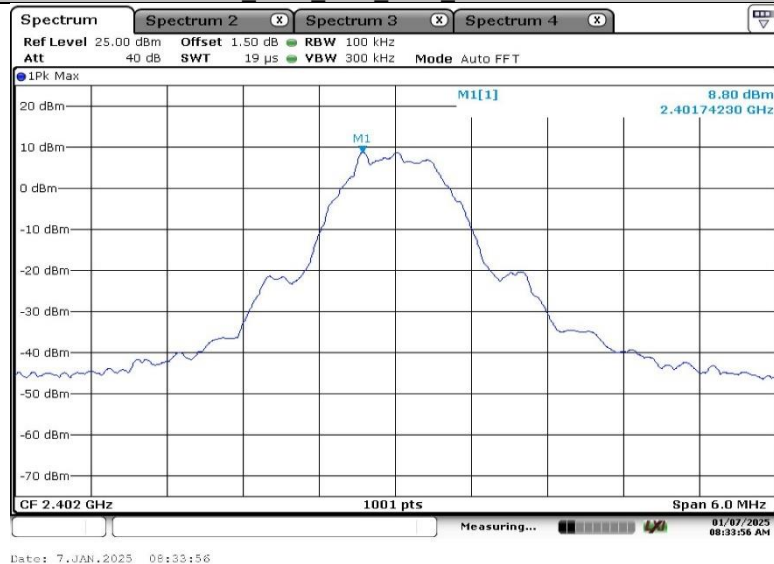
BLE_125K_Ant1_2480_0~Reference



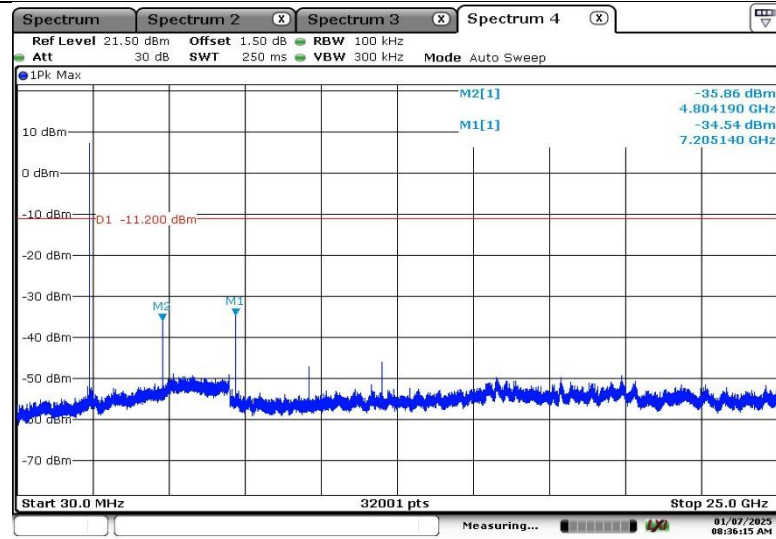
BLE_125K Ant1_2480_30~25000



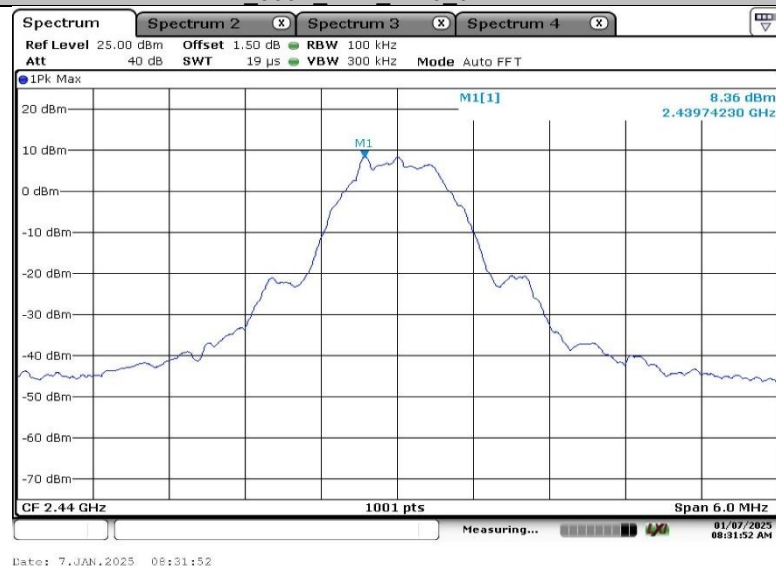
BLE_500K Ant1_2402_0~Reference



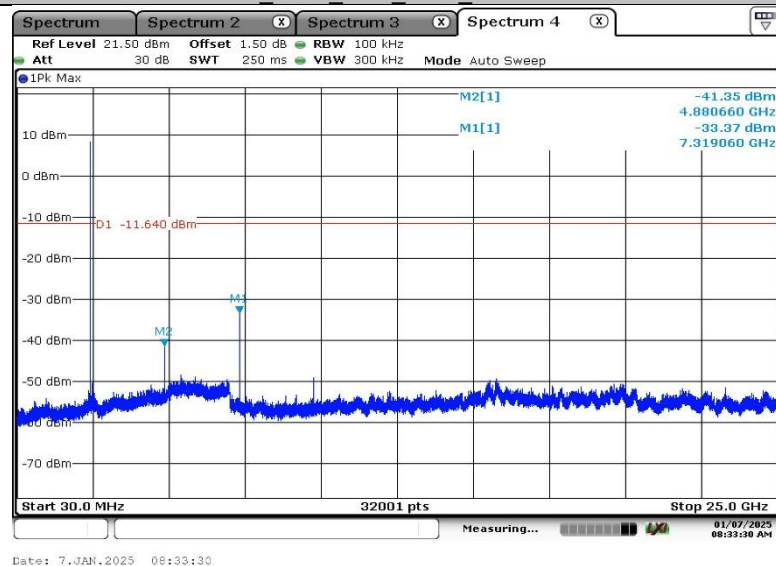
BLE_500K Ant1_2402_30~25000



BLE_500K_Ant1_2440_0~Reference



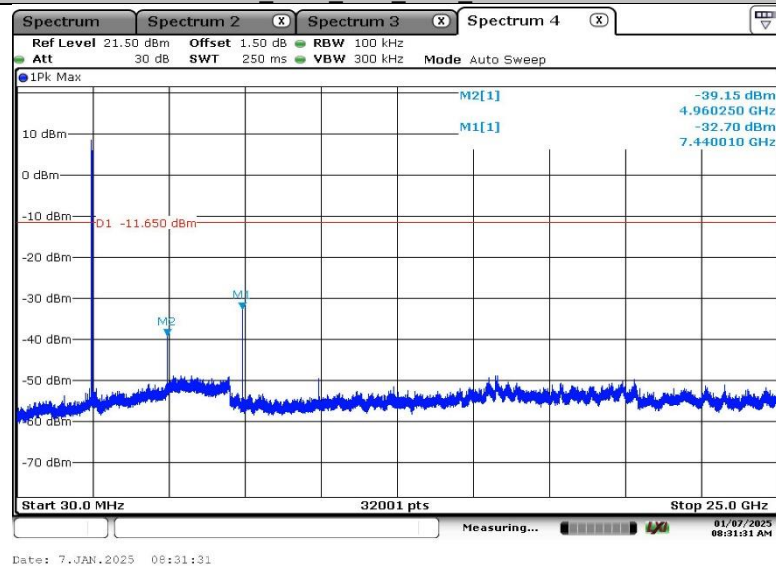
BLE_500K_Ant1_2440_30~25000



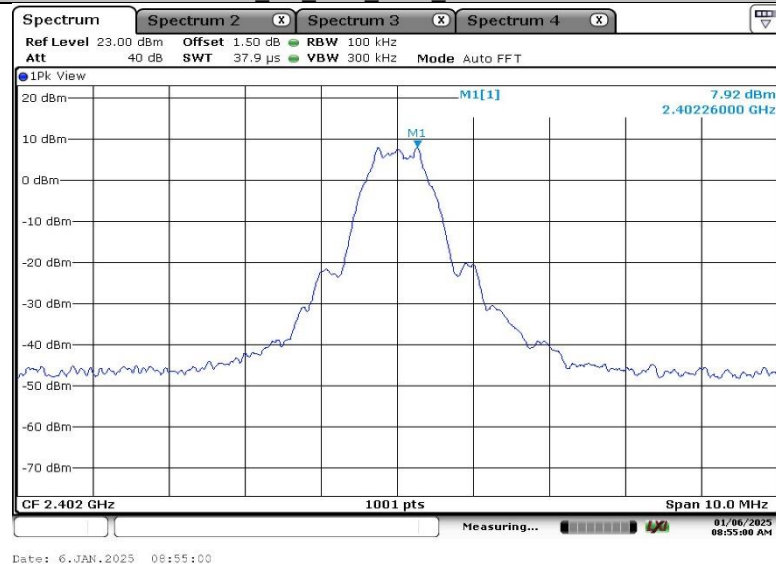
BLE_500K_Ant1_2480_0~Reference



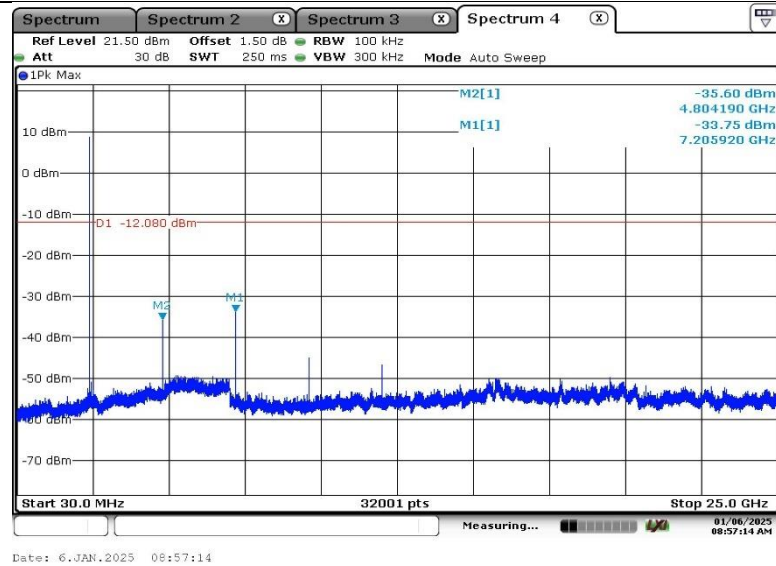
BLE_500K Ant1 2480 30~25000



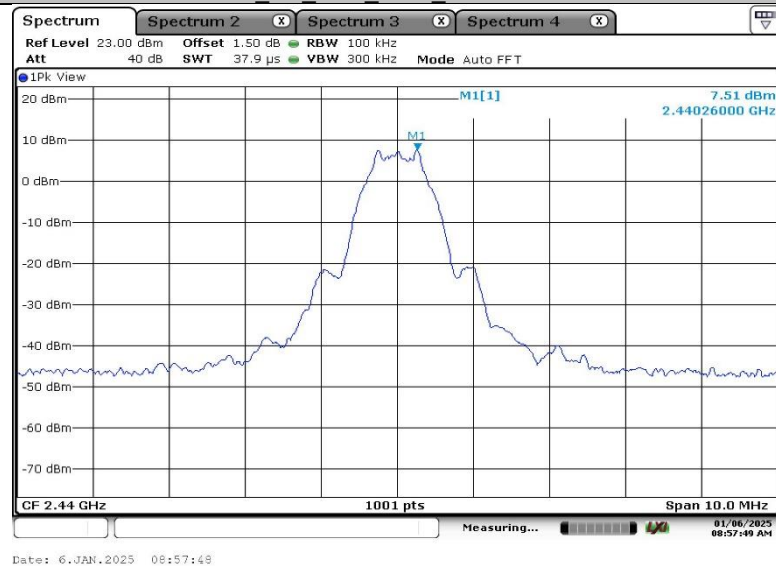
BLE_1M Ant1 2402 0~Reference



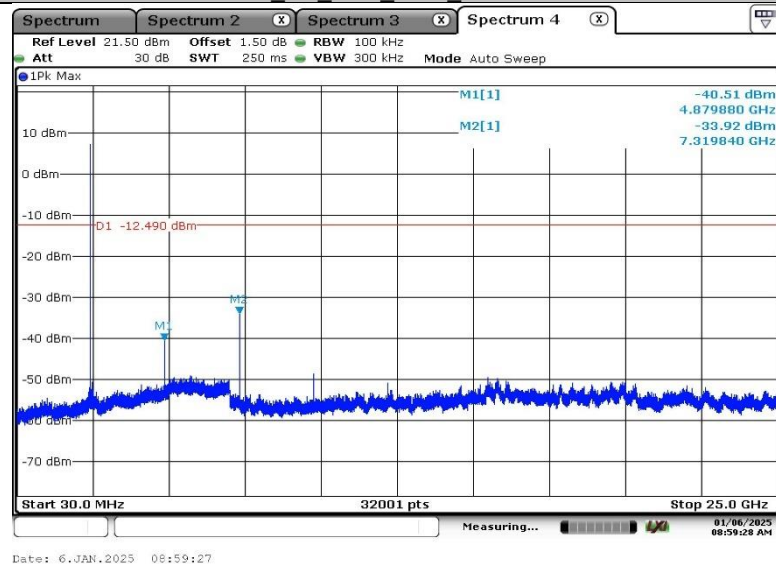
BLE_1M Ant1 2402 30~25000



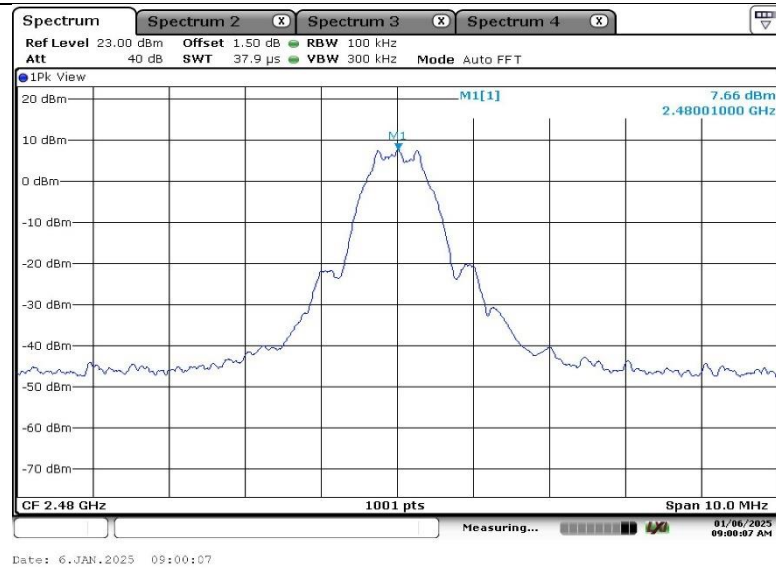
BLE_1M_Ant1_2440_0~Reference



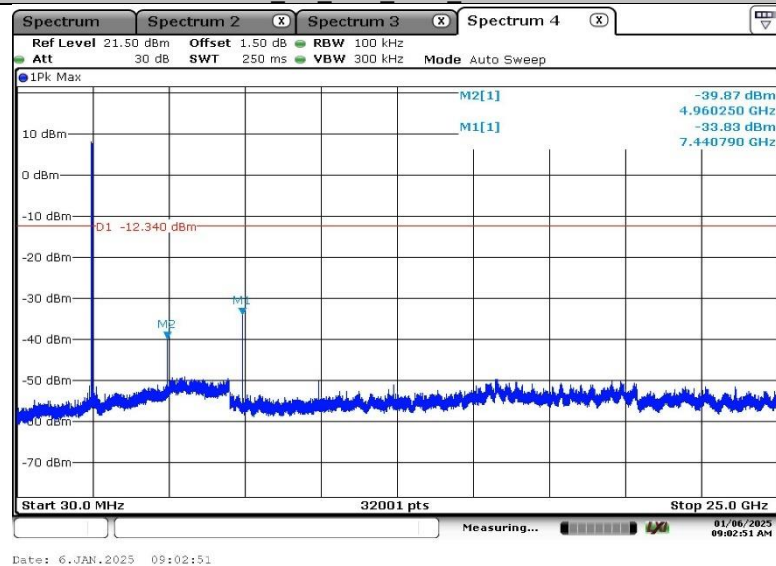
BLE_1M_Ant1_2440_30~25000



BLE_1M_Ant1_2480_0~Reference



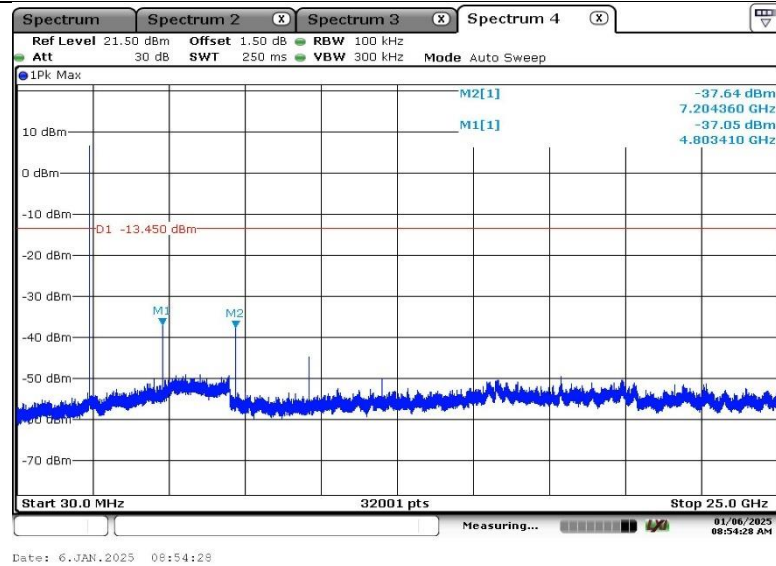
BLE_1M_Ant1_2480_30~25000



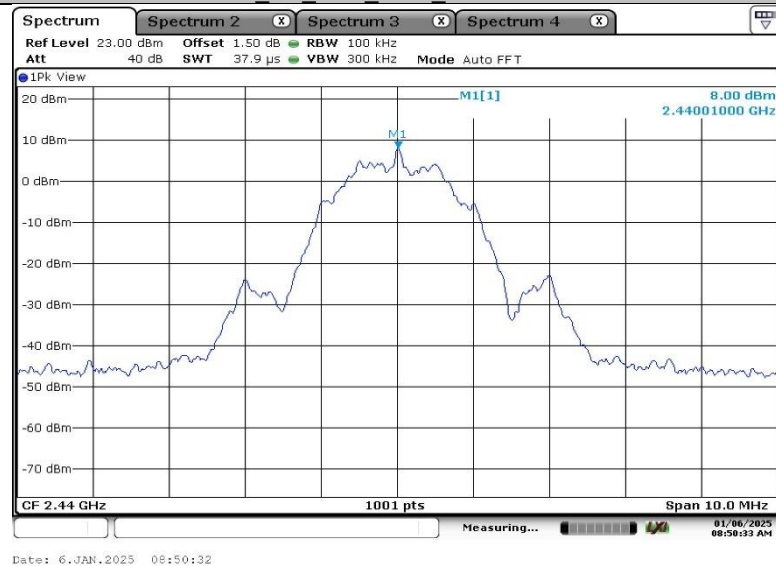
BLE_2M_Ant1_2402_0~Reference



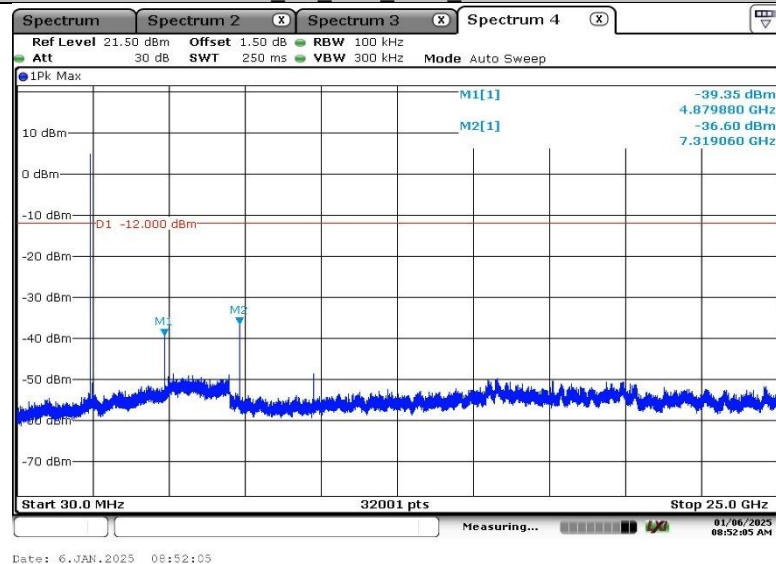
BLE_2M_Ant1_2402_30~25000



BLE 2M_Ant1_2440_0~Reference



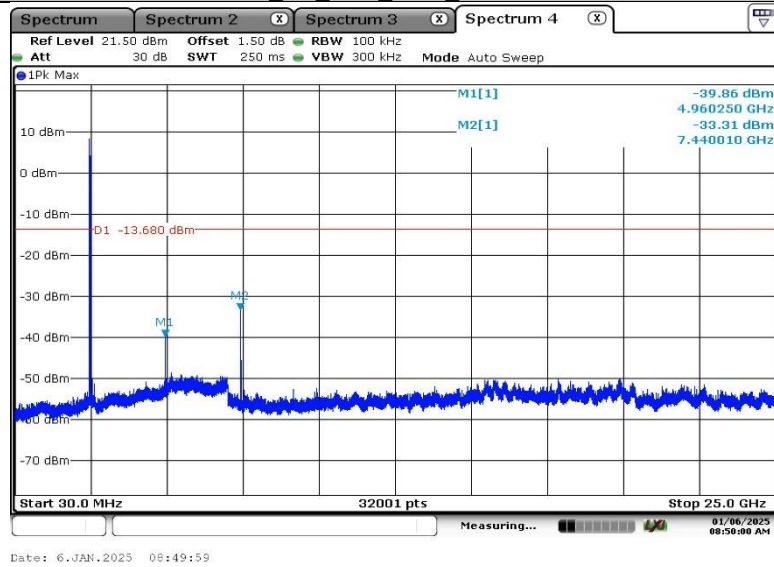
BLE 2M_Ant1_2440_30~25000



BLE_2M_Ant1_2480_0~Reference



BLE 2M Ant1 2480 30~25000



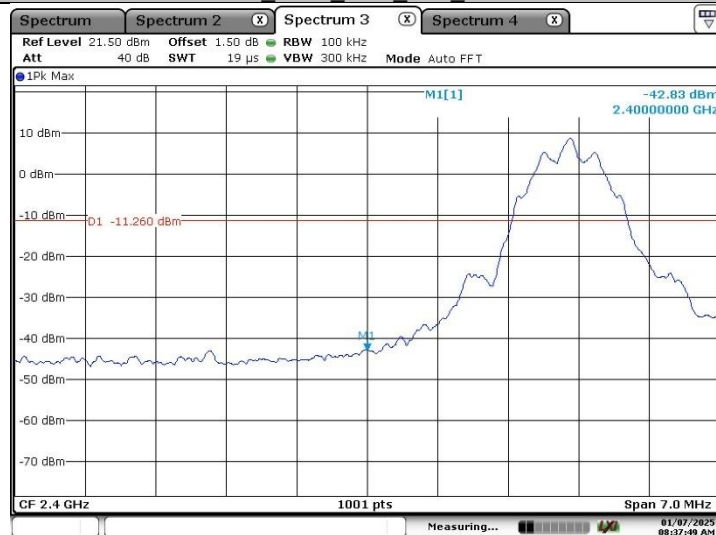
Band Edge

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	Low	2402	8.74	-42.83	≤-11.26	PASS
		High	2480	8.28	-44.96	≤-11.72	PASS
BLE_500K	Ant1	Low	2402	8.8	-42.24	≤-11.2	PASS
		High	2480	8.35	-44.51	≤-11.65	PASS
BLE_1M	Ant1	Low	2402	7.92	-41.72	≤-12.08	PASS
		High	2480	7.66	-45.75	≤-12.34	PASS
BLE_2M	Ant1	Low	2402	6.55	-24.91	≤-13.45	PASS
		High	2480	6.32	-44.45	≤-13.68	PASS

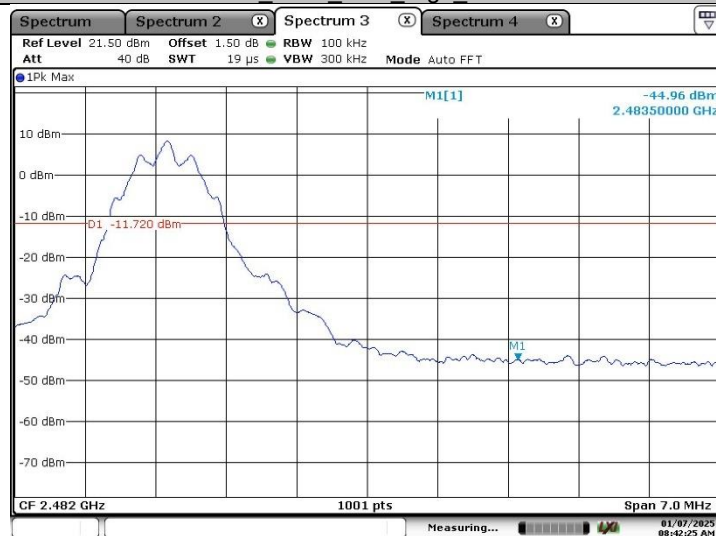
Test Graphs

BLE_125K Ant1 Low 2402



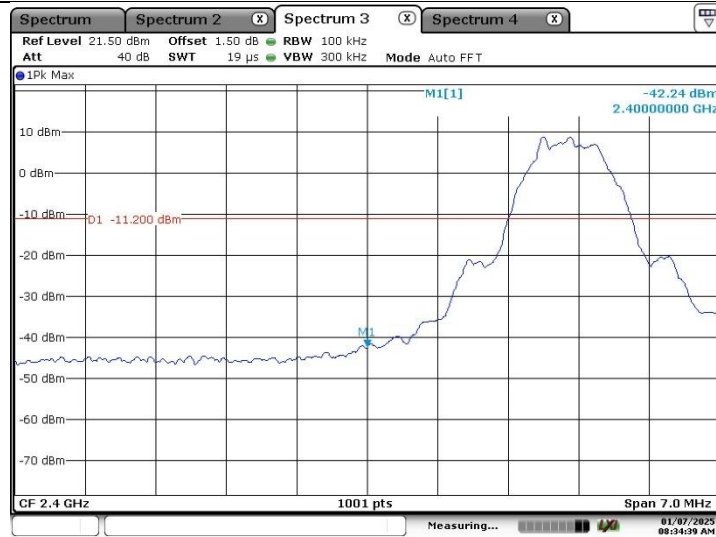
Date: 7.JAN.2025 09:37:49

BLE_125K Ant1 High 2480

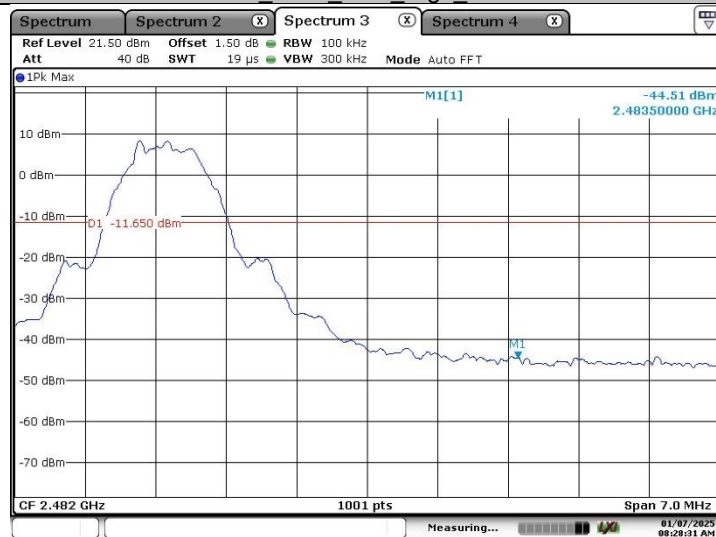


Date: 7.JAN.2025 09:42:25

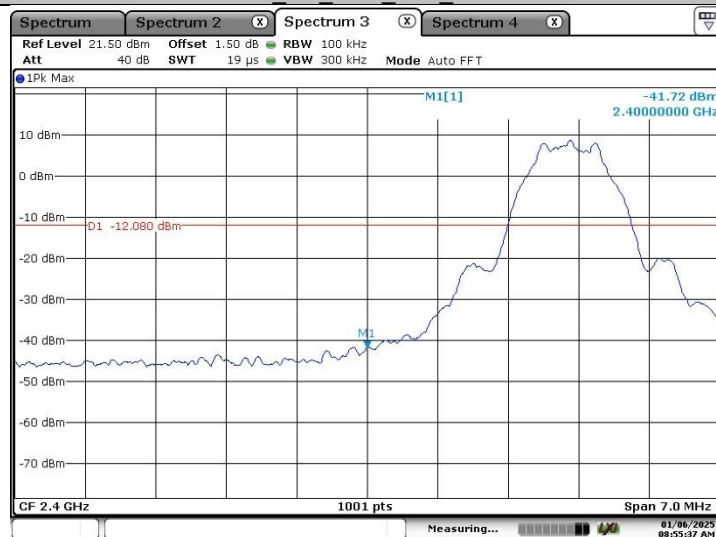
BLE_500K Ant1 Low 2402



BLE_500K Ant1_High_2480



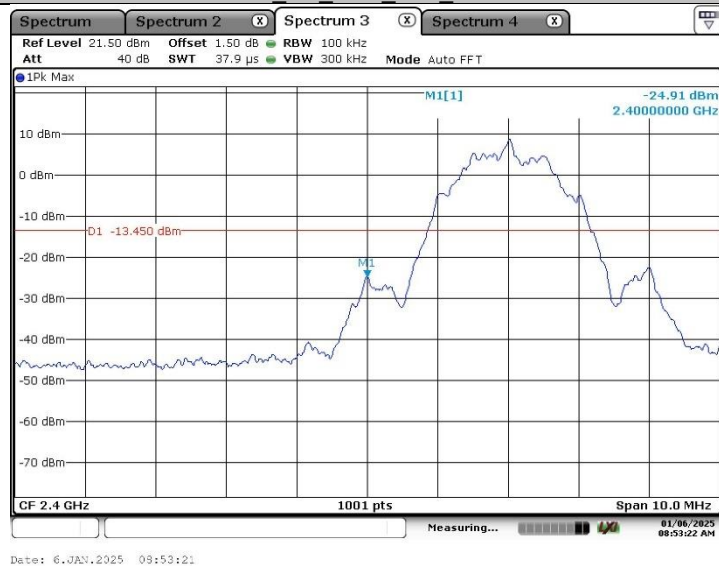
BLE_1M Ant1_Low_2402



BLE_1M Ant1_High_2480



BLE 2M Ant1 Low 2402



BLE 2M Ant1 High 2480



APPENDIX B.5: RADIATED SPURIOUS EMISSIONS

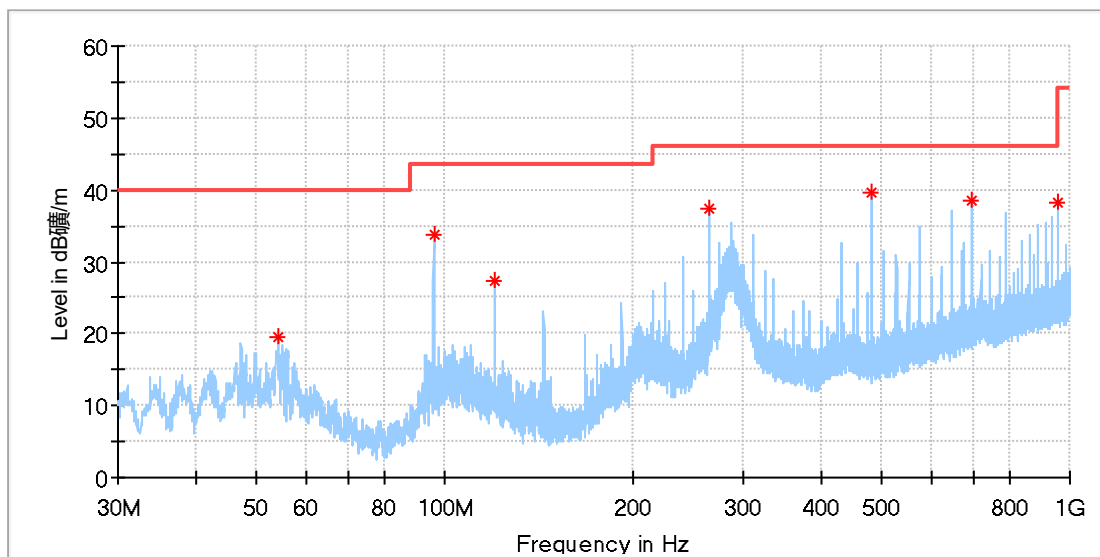
Note:

- 1) This testing was carried out on different modulations, but only the worst case was presented in this report.
- 2) 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.

30MHz - 1GHz (Worst case)

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

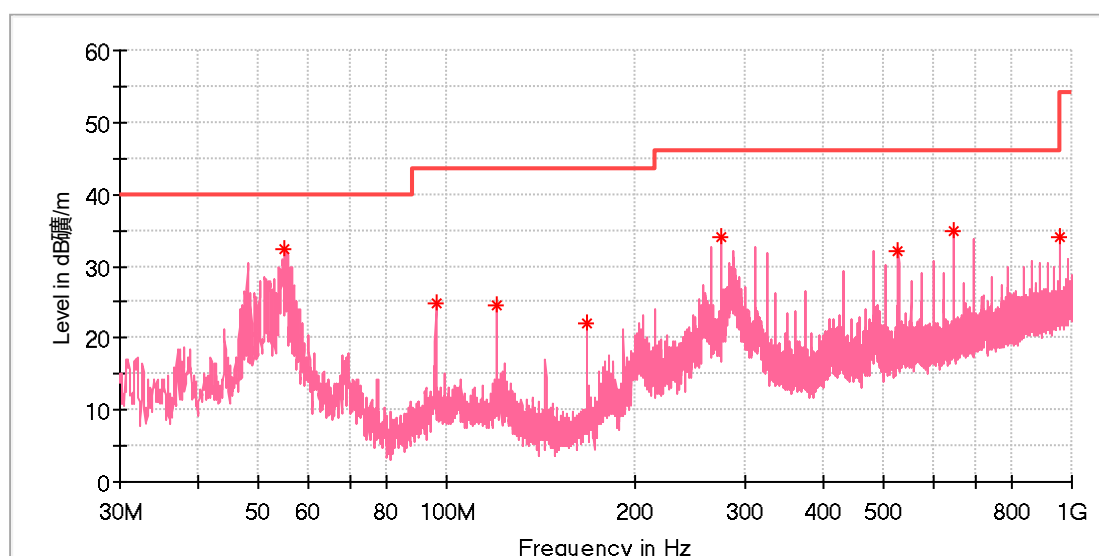


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
54.212692	19.41	40.00	20.59	100.0	H	49.0	-18.5
95.997308	33.65	43.50	9.85	100.0	H	264.0	-19.7
119.986154	27.24	43.50	16.26	100.0	H	231.0	-20.9
263.993846	37.48	46.00	8.52	100.0	H	23.0	-17.1
480.005385	39.67	46.00	6.33	100.0	H	215.0	-12.1
696.016923	38.57	46.00	7.43	100.0	H	264.0	-8.0
960.006154	38.31	54.00	15.69	100.0	H	247.0	-4.1

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



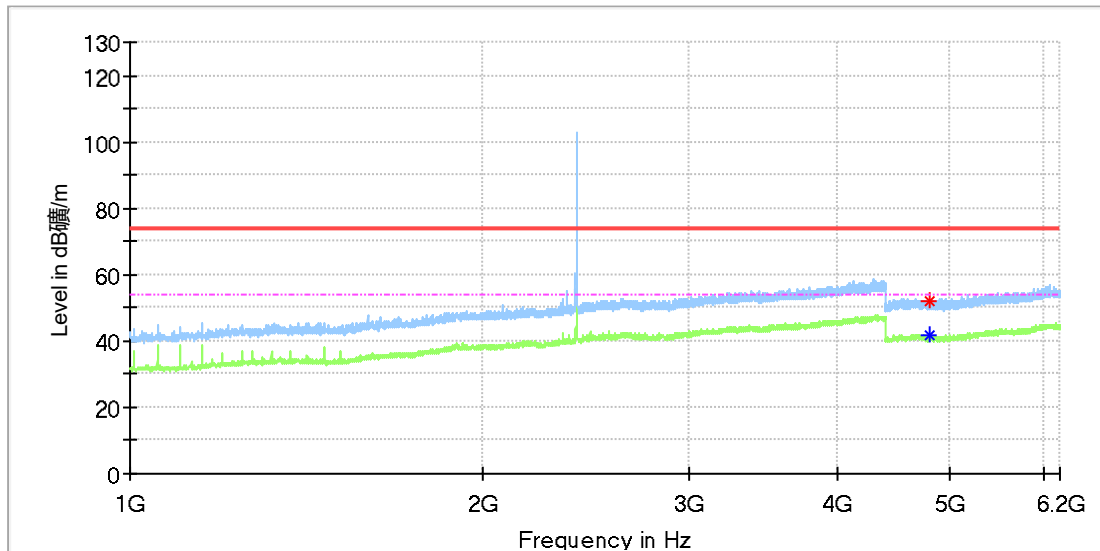
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
55.145385	32.28	40.00	7.72	100.0	V	5.0	-18.6
95.997308	24.92	43.50	18.58	100.0	V	336.0	-19.7
119.986154	24.68	43.50	18.82	100.0	V	165.0	-20.9
168.001154	22.17	43.50	21.33	100.0	V	134.0	-21.4
274.999615	34.00	46.00	12.00	100.0	V	344.0	-16.8
527.983077	32.22	46.00	13.78	100.0	V	237.0	-11.3
648.001923	34.94	46.00	11.06	100.0	V	352.0	-8.9
960.006154	34.18	54.00	19.82	100.0	V	190.0	-4.1

1GHz-18GHz

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

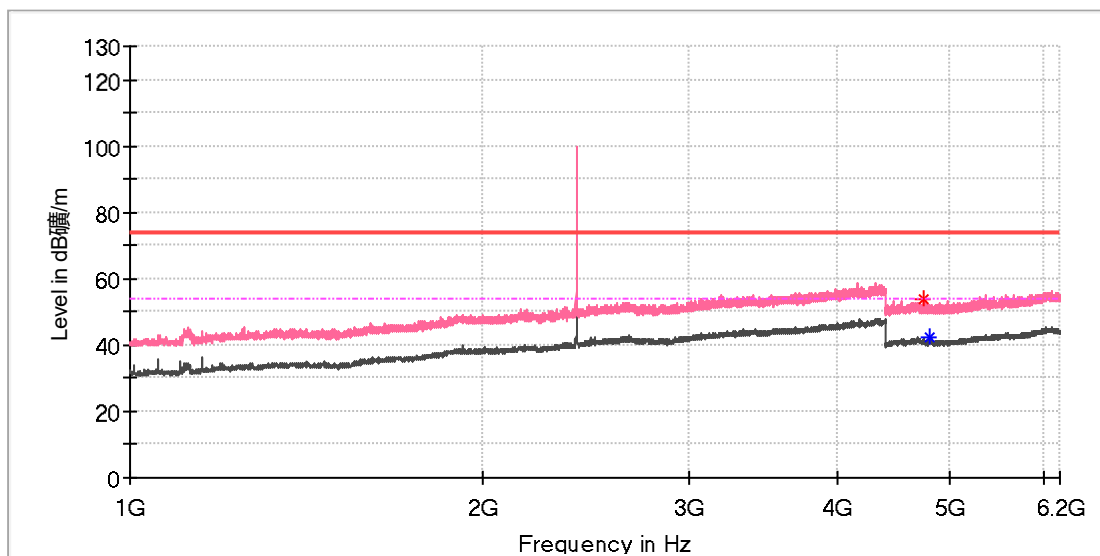


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.500000	---	41.46	54.00	12.54	150.0	H	334.0	13.3
4809.000000	51.86	---	74.00	22.14	150.0	H	250.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Low channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

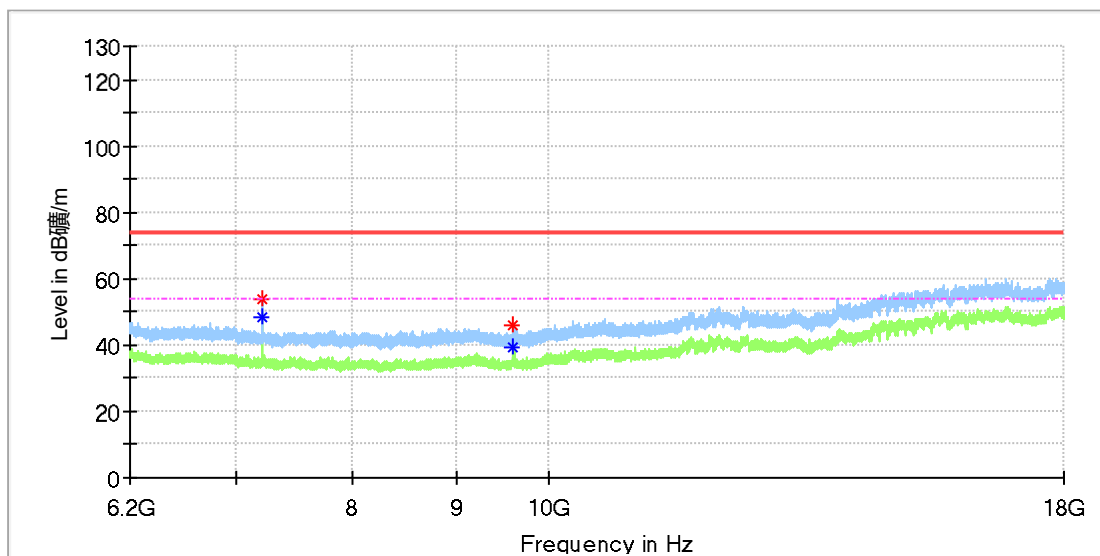


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4752.000000	53.63	---	74.00	20.37	150.0	V	176.0	13.3
4803.500000	---	42.24	54.00	11.76	150.0	V	46.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Low channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

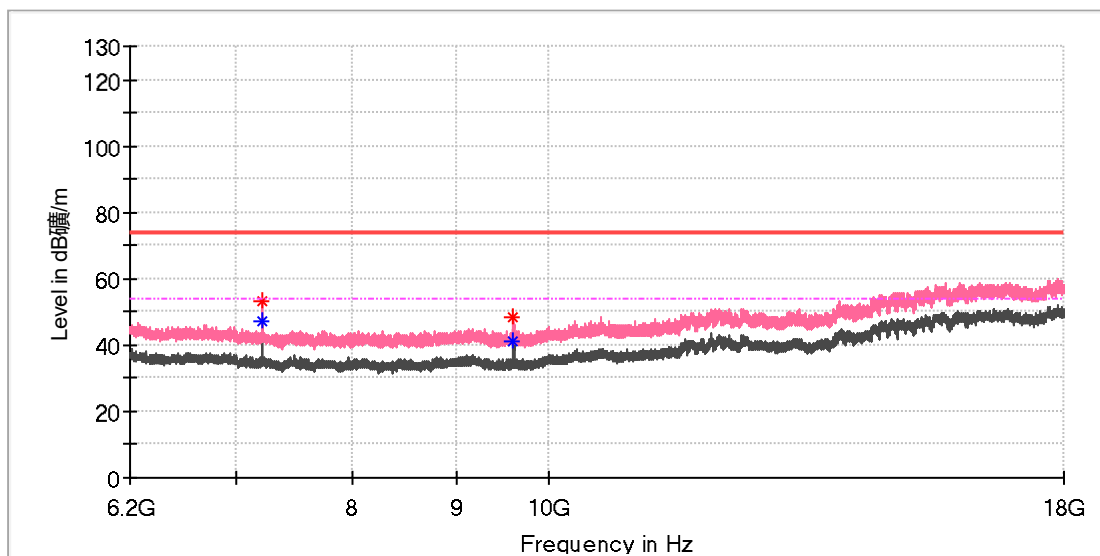


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7205.458333	---	48.26	54.00	5.74	150.0	H	227.0	8.8
7206.933333	53.82	---	74.00	20.18	150.0	H	227.0	8.8
9606.758333	45.97	---	74.00	28.03	150.0	H	93.0	10.4
9607.250000	---	39.42	54.00	14.58	150.0	H	93.0	10.4

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Low channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

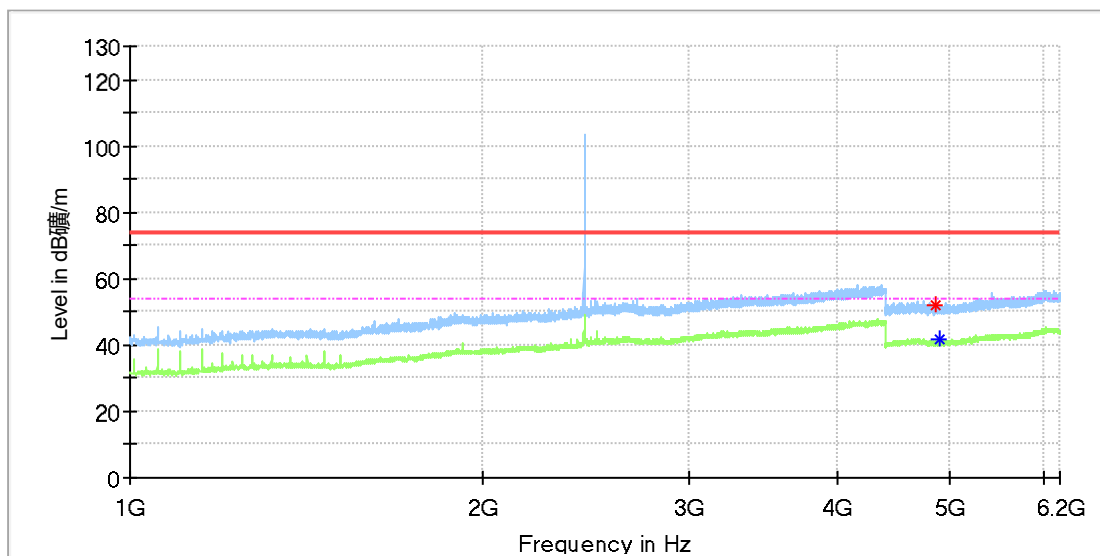


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7204.966667	---	47.01	54.00	6.99	150.0	V	19.0	8.8
7204.966667	53.23	---	74.00	20.77	150.0	V	19.0	8.8
9607.250000	---	41.13	54.00	12.87	150.0	V	92.0	10.4
9607.250000	48.14	---	74.00	25.86	150.0	V	92.0	10.4

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

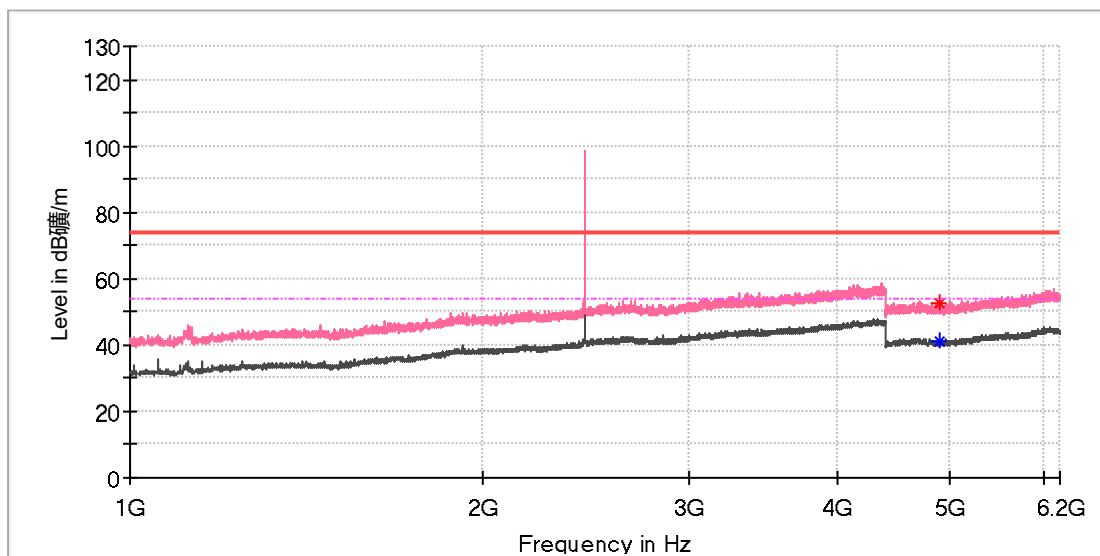


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4852.500000	51.98	---	74.00	22.02	150.0	H	184.0	13.3
4898.000000	---	41.58	54.00	12.42	150.0	H	78.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

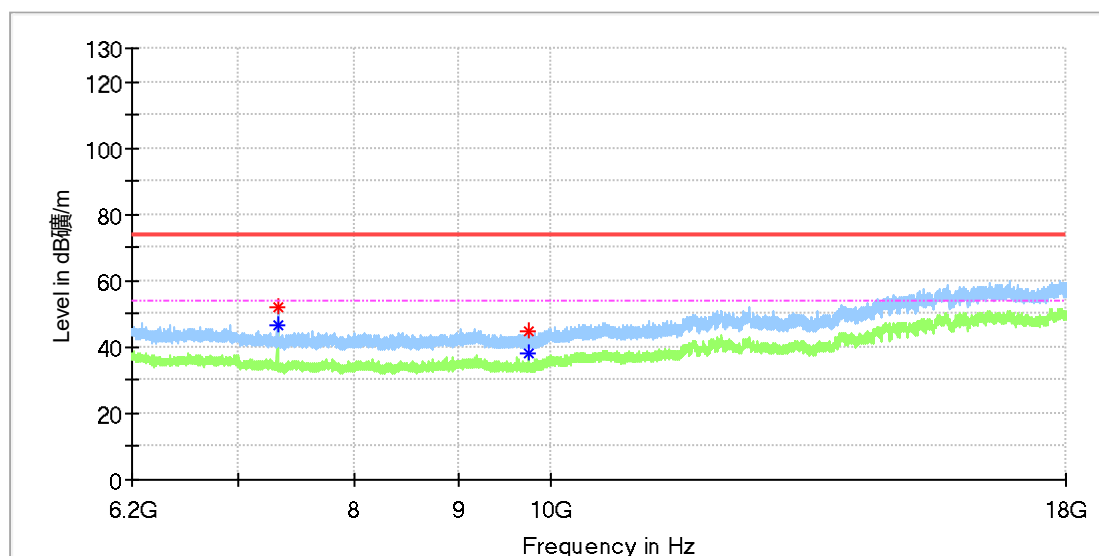


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4897.500000	---	41.07	54.00	12.93	150.0	V	305.0	13.3
4904.500000	52.38	---	74.00	21.62	150.0	V	335.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

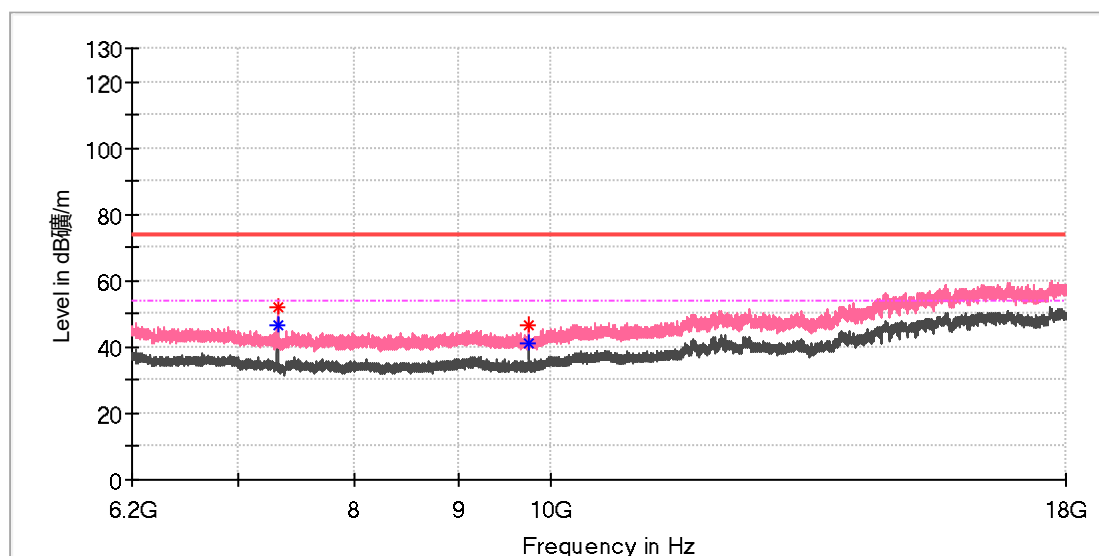


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7319.033333	---	46.59	54.00	7.41	150.0	H	287.0	8.2
7319.033333	51.88	---	74.00	22.12	150.0	H	287.0	8.2
9759.666667	---	37.80	54.00	16.20	150.0	H	143.0	10.4
9760.650000	44.86	---	74.00	29.14	150.0	H	95.0	10.4

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_Mid channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

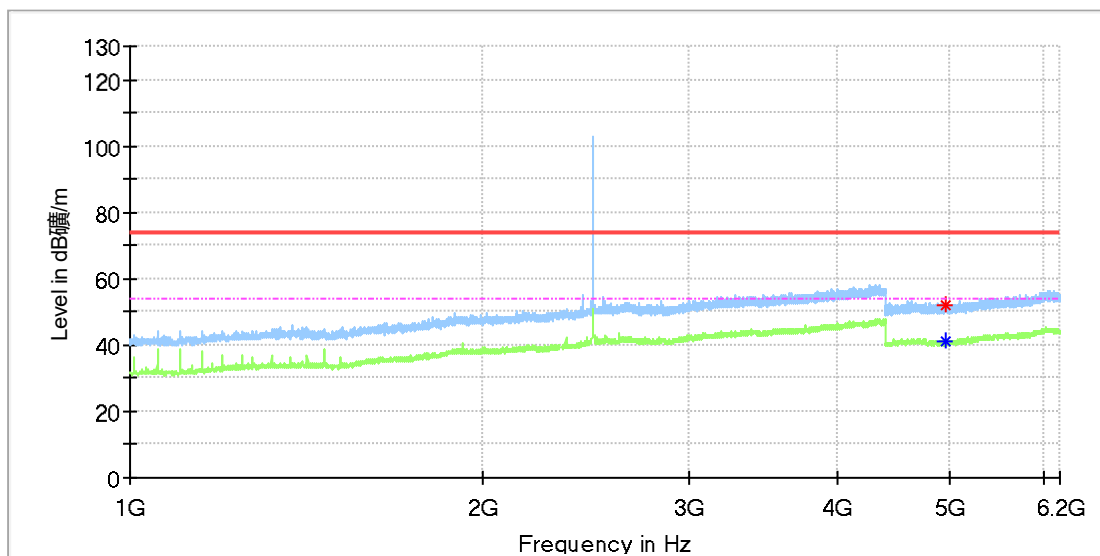


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7318.541667	---	46.47	54.00	7.53	150.0	V	19.0	8.2
7319.033333	51.87	---	74.00	22.13	150.0	V	19.0	8.2
9759.175000	---	41.02	54.00	12.98	150.0	V	93.0	10.4
9759.175000	46.63	---	74.00	27.37	150.0	V	93.0	10.4

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_High channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

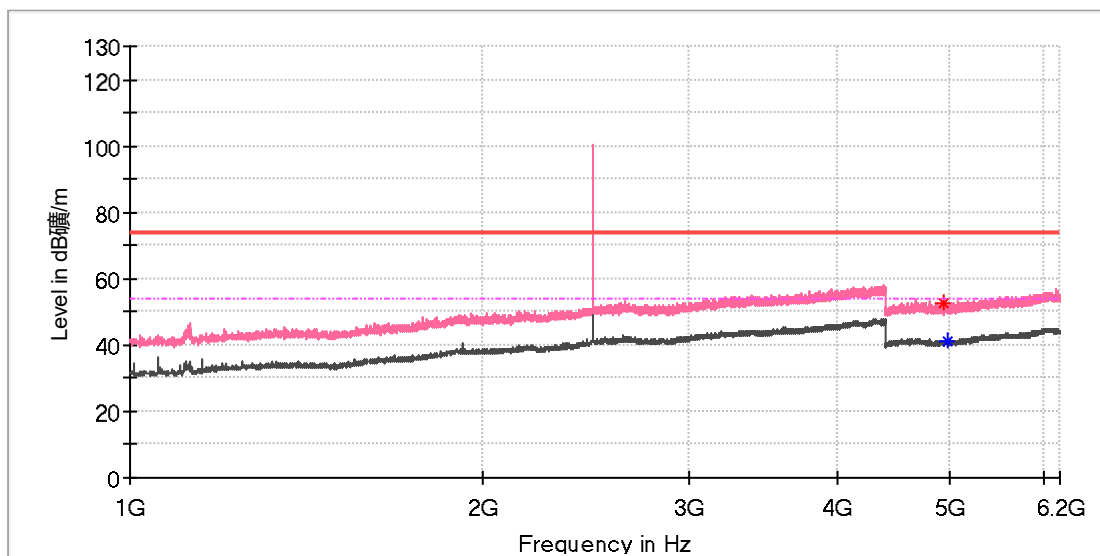


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4949.500000	---	41.37	54.00	12.63	150.0	H	359.0	13.3
4964.000000	52.27	---	74.00	21.73	150.0	H	193.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_High channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

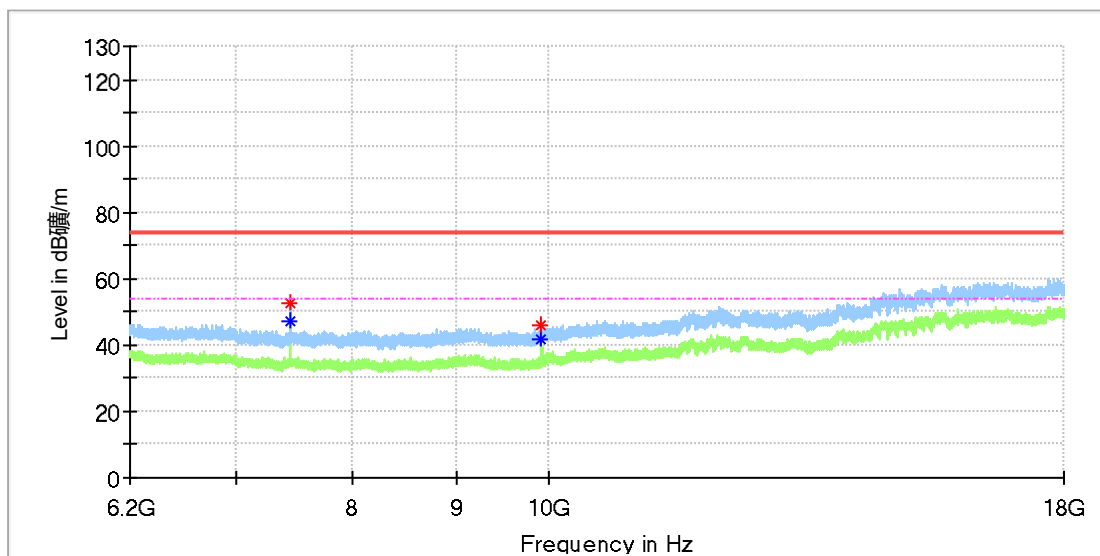


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4942.500000	52.85	---	74.00	21.15	150.0	V	244.0	13.3
4968.500000	---	41.27	54.00	12.73	150.0	V	140.0	13.3

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_High channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin

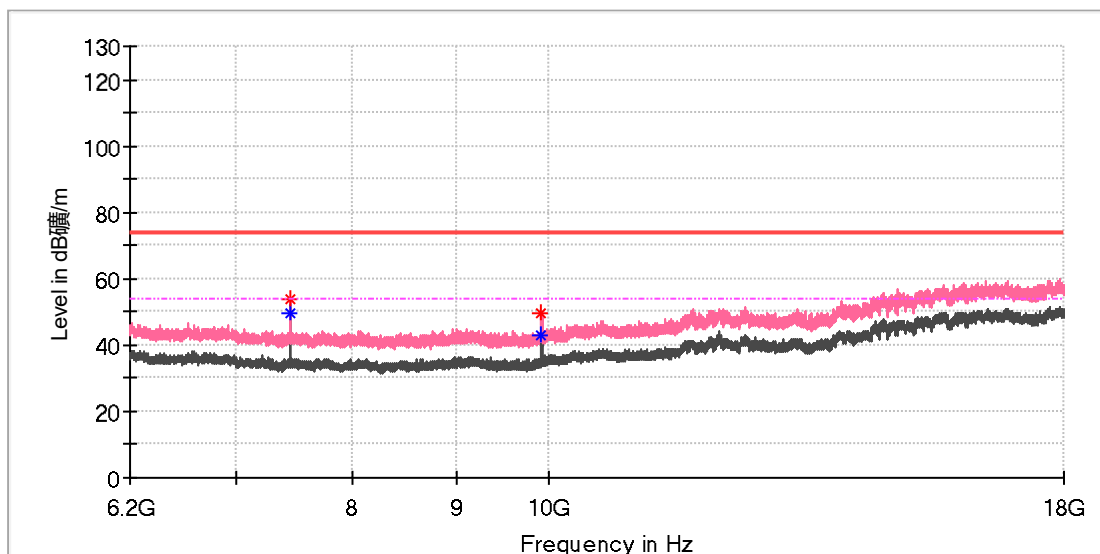


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.491667	---	47.00	54.00	7.00	150.0	H	291.0	8.4
7440.475000	52.69	---	74.00	21.31	150.0	H	291.0	8.4
9918.966667	---	41.59	54.00	12.41	150.0	H	291.0	10.8
9919.950000	45.76	---	74.00	28.24	150.0	H	89.0	10.8

EUT Information

EUT Name: ACP Essential 28 Point Controller
Model: IQ5-28-B-24
Test Mode: BLE 1M_High channel
Order No/Sample No: 168517854/A003801894-001
Test Voltage:: 120V/60Hz
Remark: Temp 24 Humi:50%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



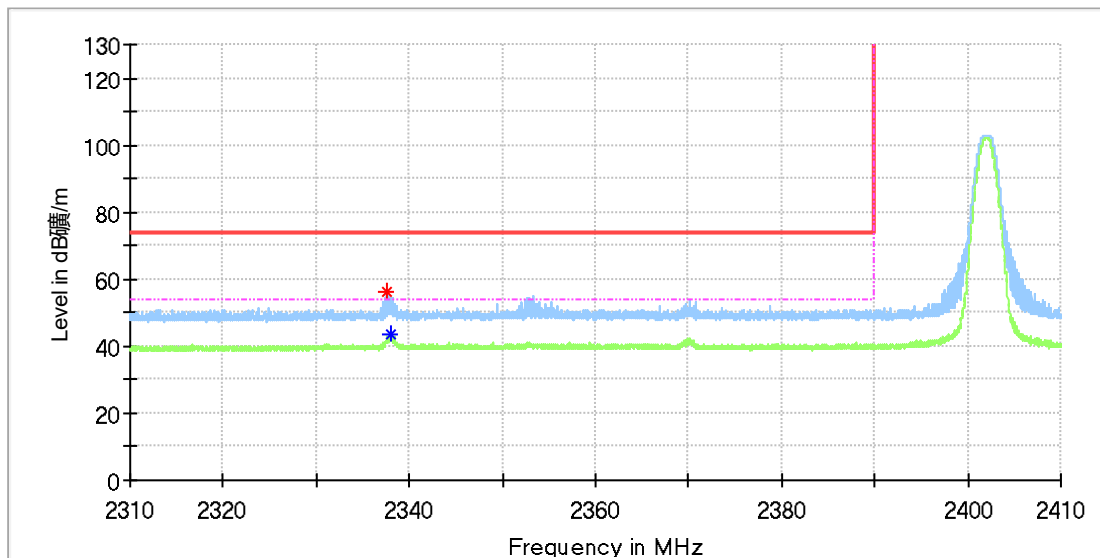
Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.000000	53.84	---	74.00	20.16	150.0	V	115.0	8.4
7439.983333	---	49.28	54.00	4.72	150.0	V	82.0	8.4
9918.966667	49.34	---	74.00	24.66	150.0	V	94.0	10.8
9918.966667	---	43.13	54.00	10.87	150.0	V	94.0	10.8

APPENDIX B.6: RADIATED EMISSIONS IN RESTRICTED BANDS

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

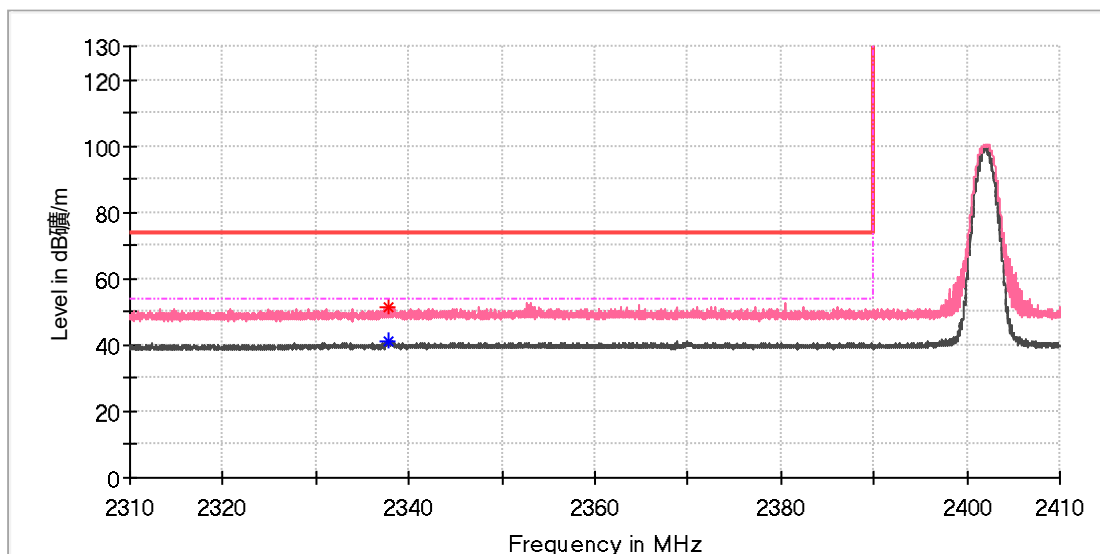


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2337.485294	56.05	---	74.00	17.95	150.0	H	231.0	8.4
2338.044118	---	43.28	54.00	10.72	150.0	H	171.0	8.4

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

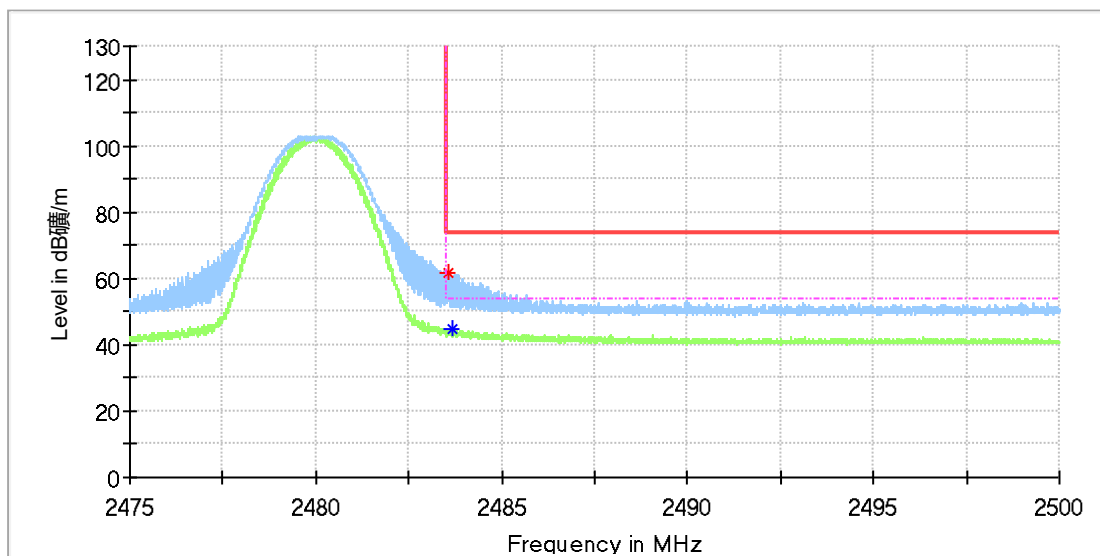


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2337.823530	51.53	---	74.00	22.47	150.0	V	216.0	8.4
2337.882353	---	41.26	54.00	12.74	150.0	V	209.0	8.4

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

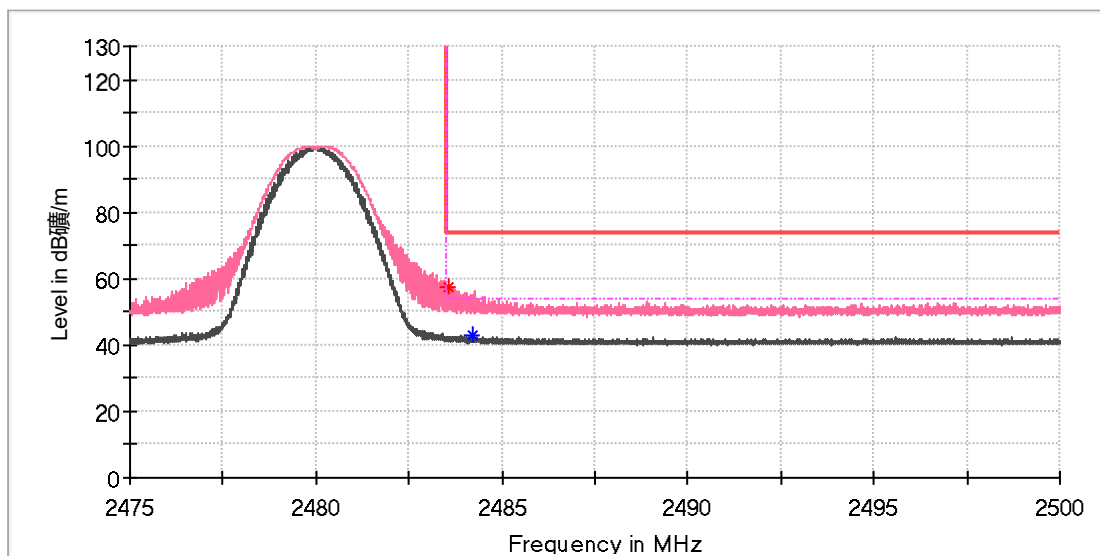


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.555147	61.64	---	74.00	12.36	150.0	H	230.0	9.0
2483.691177	---	44.69	54.00	9.31	150.0	H	238.0	9.0

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

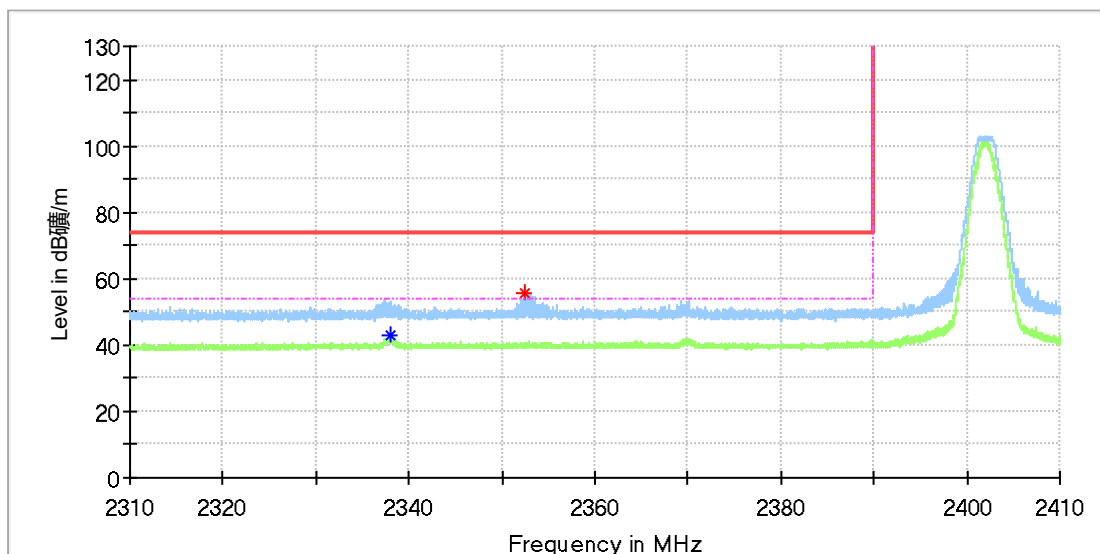


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.540441	57.69	---	74.00	16.31	150.0	V	234.0	9.0
2484.202206	---	42.98	54.00	11.02	150.0	V	80.0	9.0

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 2M_Low channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

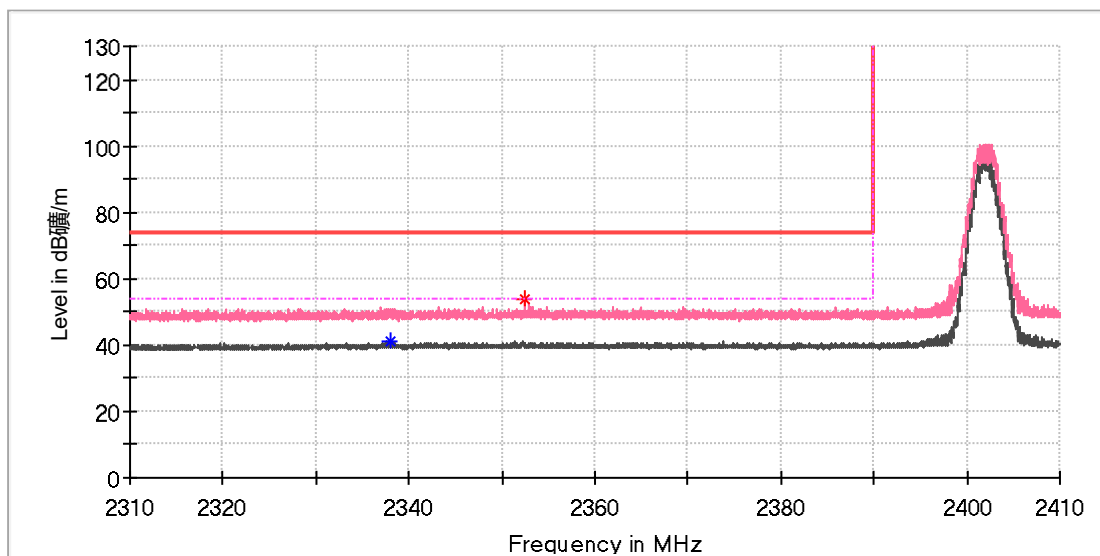


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2338.044118	---	42.97	54.00	11.03	150.0	H	238.0	8.4
2352.455882	55.51	---	74.00	18.49	150.0	H	126.0	8.5

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 2M_Low channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

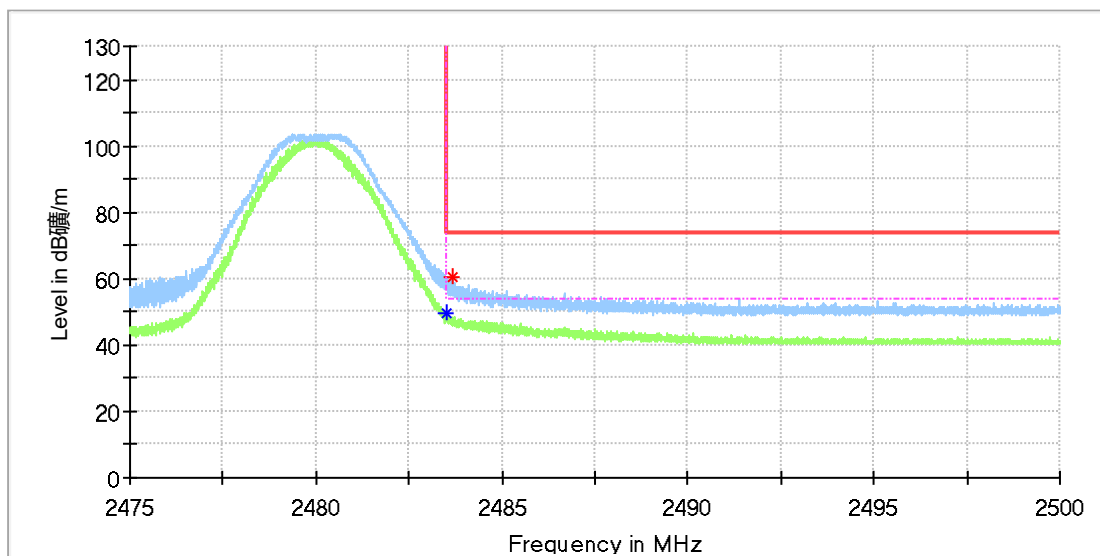


Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2338.088235	---	41.21	54.00	12.79	150.0	V	220.0	8.4
2352.514706	53.60	---	74.00	20.40	150.0	V	241.0	8.5

EUT Information

EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 2M_High channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

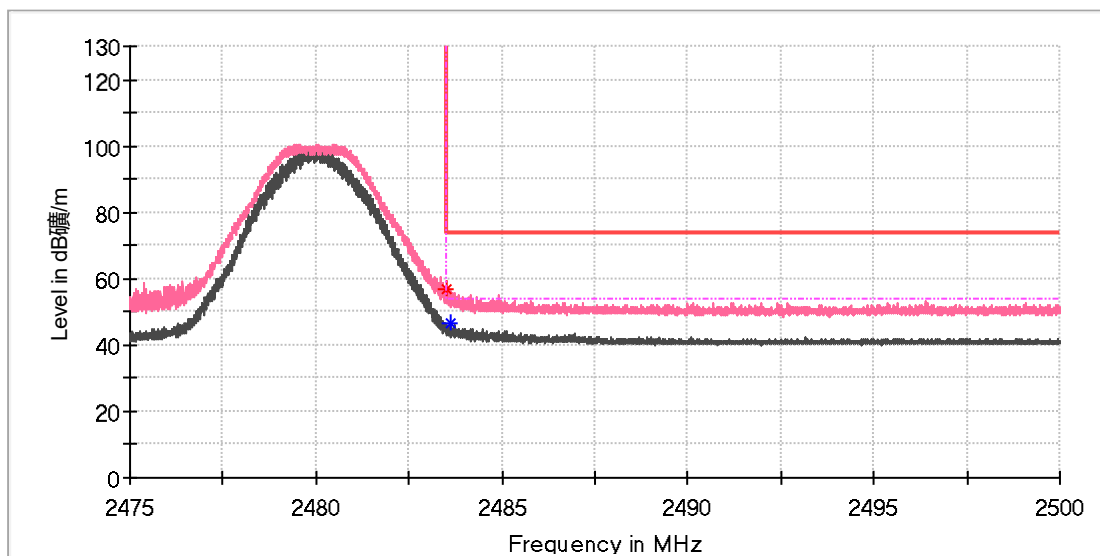


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.500000	---	49.75	54.00	4.25	150.0	H	124.0	9.0
2483.665441	60.40	---	74.00	13.60	150.0	H	234.0	9.0

EUT Information

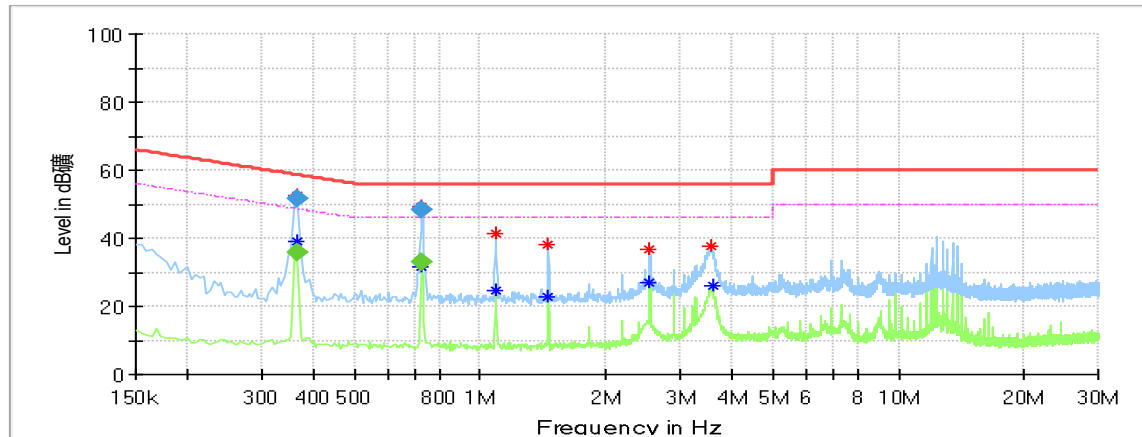
EUT Name:	ACP Essential 28 Point Controller
Model:	IQ5-28-B-24
Test Mode:	BLE 2M_High channel
Order No/Sample No:	168517854/A003801894-001
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.518382	56.84	---	74.00	17.16	150.0	V	86.0	9.0
2483.613971	---	46.75	54.00	7.25	150.0	V	240.0	9.0

APPENDIX B.7: CONDUCTED EMISSION ON AC MAINS

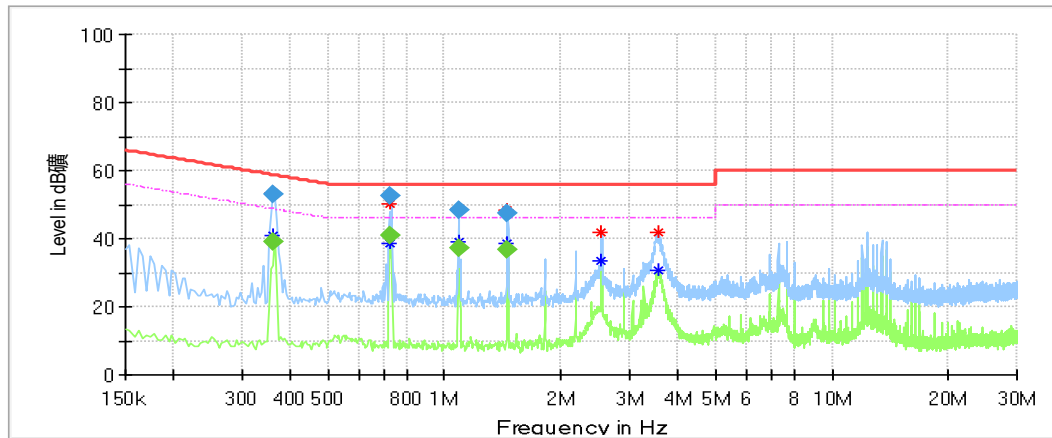


Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.365000	52.56	---	58.69	6.13	L1	9.9
0.365000	---	38.95	48.69	9.74	L1	9.9
0.725500	---	31.54	46.00	14.46	L1	9.9
0.725500	49.33	---	56.00	6.67	L1	9.9
1.090500	---	24.63	46.00	21.37	L1	10.0
1.090500	41.24	---	56.00	14.76	L1	10.0
1.455000	38.32	---	56.00	17.68	L1	10.0
1.455000	---	22.79	46.00	23.21	L1	10.0
2.544000	---	26.88	46.00	19.12	L1	10.1
2.544000	36.94	---	56.00	19.06	L1	10.1
3.565500	37.89	---	56.00	18.11	L1	10.1
3.588000	---	25.83	46.00	20.17	L1	10.1

Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.365000	---	35.81	48.61	12.80	1000.0	9.000	L1	9.9
0.365000	51.54	---	58.61	7.08	1000.0	9.000	L1	9.9
0.725500	---	32.98	46.00	13.02	1000.0	9.000	L1	9.9
0.725500	48.42	---	56.00	7.58	1000.0	9.000	L1	9.9



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.361500	---	40.96	48.59	7.64	N	9.7
0.361500	53.47	---	58.68	5.21	N	9.7
0.725500	---	38.49	46.00	7.51	N	9.7
0.725500	50.12	---	56.00	5.88	N	9.7
1.089500	---	39.17	46.00	6.83	N	9.8
1.089500	49.05	---	56.00	6.95	N	9.8
1.453500	---	38.37	46.00	7.63	N	9.8
1.453500	48.54	---	56.00	7.46	N	9.8
2.542000	---	33.40	46.00	12.60	N	9.8
2.542000	41.69	---	56.00	14.31	N	9.8
3.554000	41.86	---	56.00	14.14	N	9.8
3.562000	---	30.71	46.00	15.29	N	9.8

Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	Average (dBμV)	Limit (dBμV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Corr. (dB)
0.361500	---	39.06	48.69	9.63	1000.0	9.000	N	9.7
0.361500	52.82	---	58.69	5.88	1000.0	9.000	N	9.7
0.725500	---	40.77	46.00	5.23	1000.0	9.000	N	9.7
0.725500	52.60	---	56.00	3.40	1000.0	9.000	N	9.7
1.089500	48.14	---	56.00	7.86	1000.0	9.000	N	9.8
1.089500	---	37.05	46.00	8.95	1000.0	9.000	N	9.8
1.453500	---	36.76	46.00	9.24	1000.0	9.000	N	9.8
1.453500	47.55	---	56.00	8.45	1000.0	9.000	N	9.8