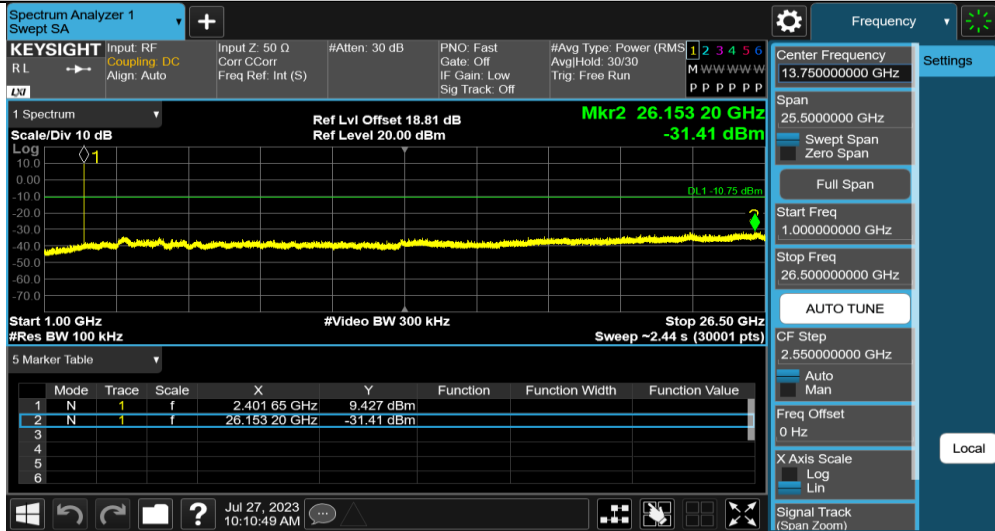


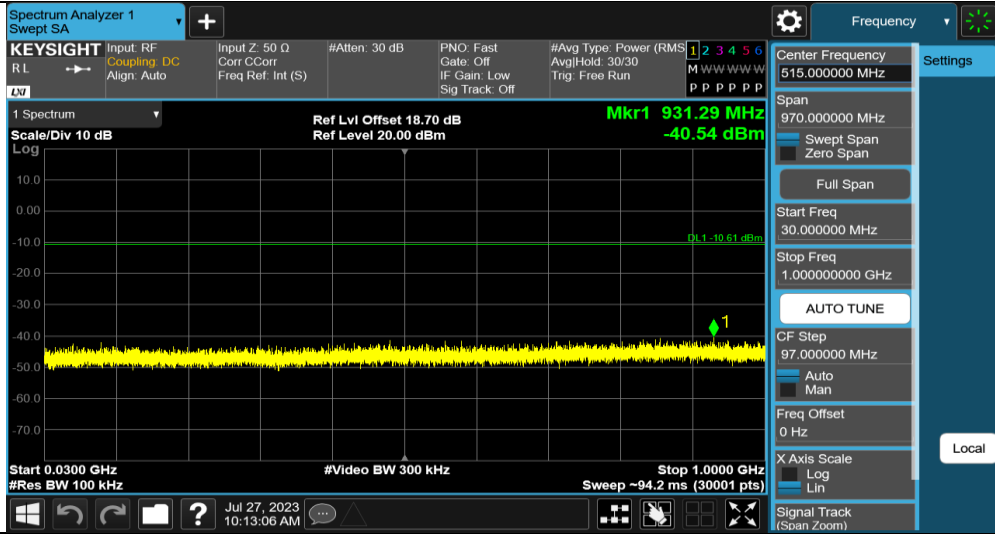
BLE\_1M\_Ant1\_2402\_1000~26500



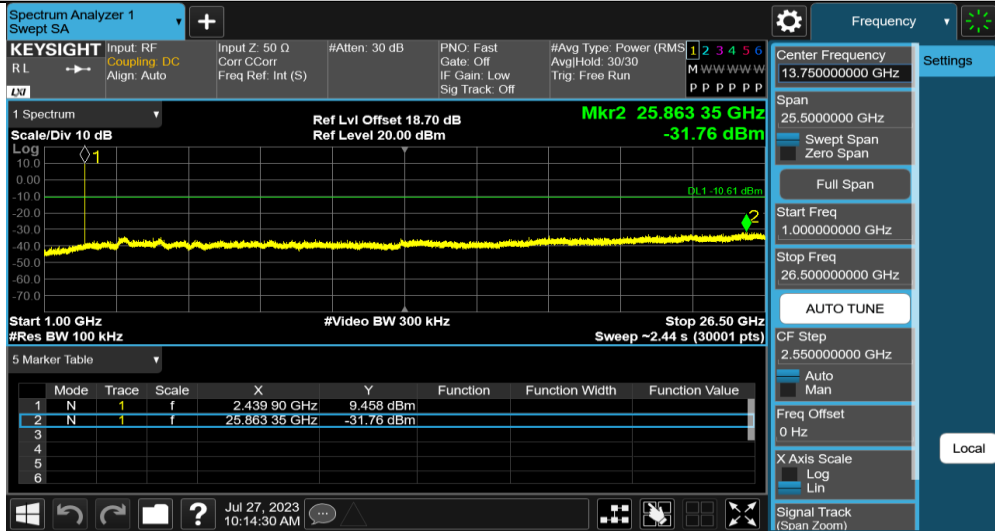
BLE\_1M\_Ant1\_2440\_0~Reference



BLE\_1M\_Ant1\_2440\_30~1000



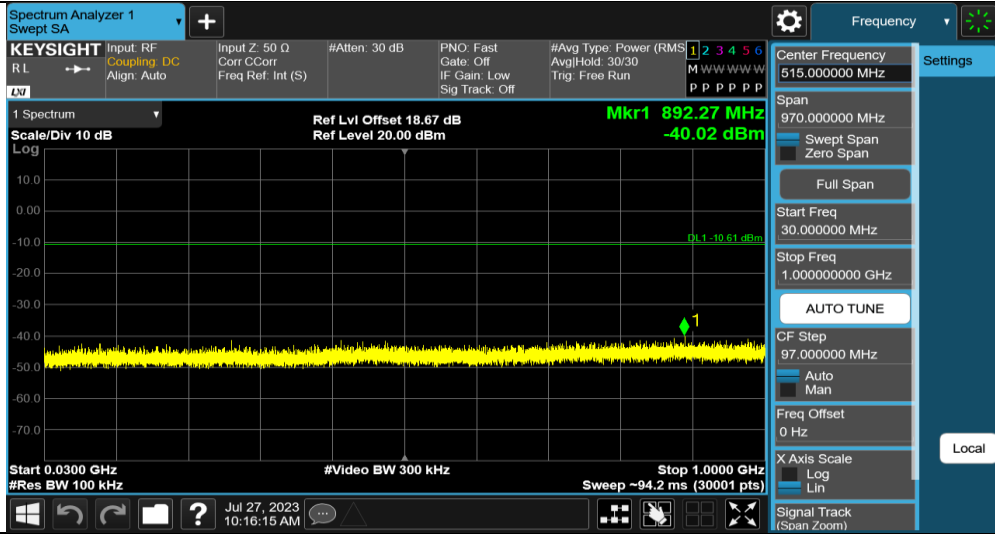
BLE\_1M\_Ant1\_2440\_1000~26500



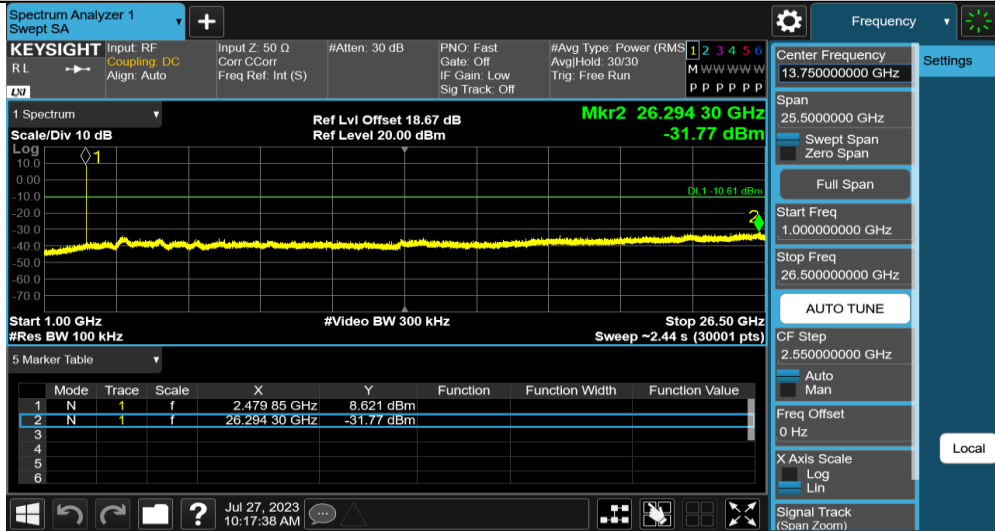
BLE\_1M\_Ant1\_2480\_0~Reference



BLE\_1M\_Ant1\_2480\_30~1000



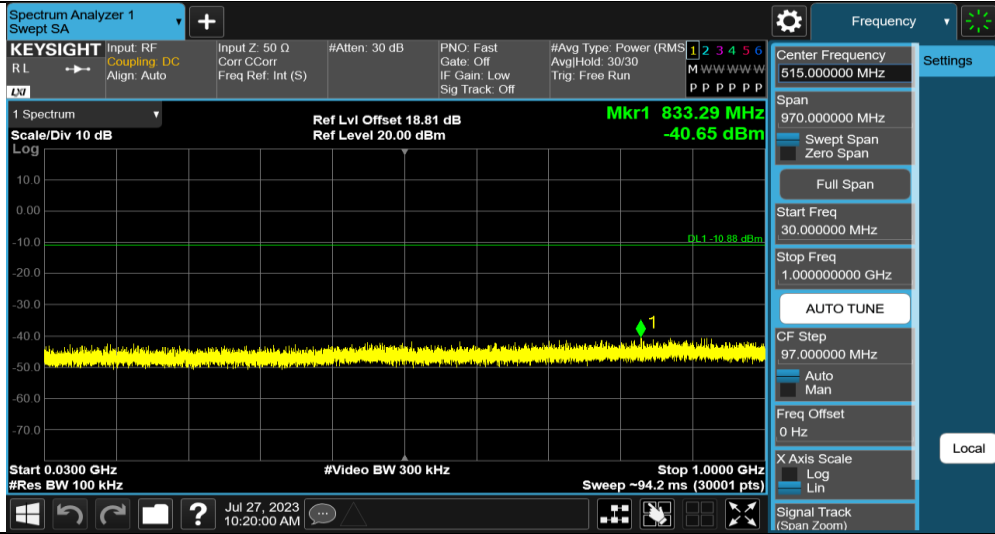
BLE\_1M\_Ant1\_2480\_1000-26500



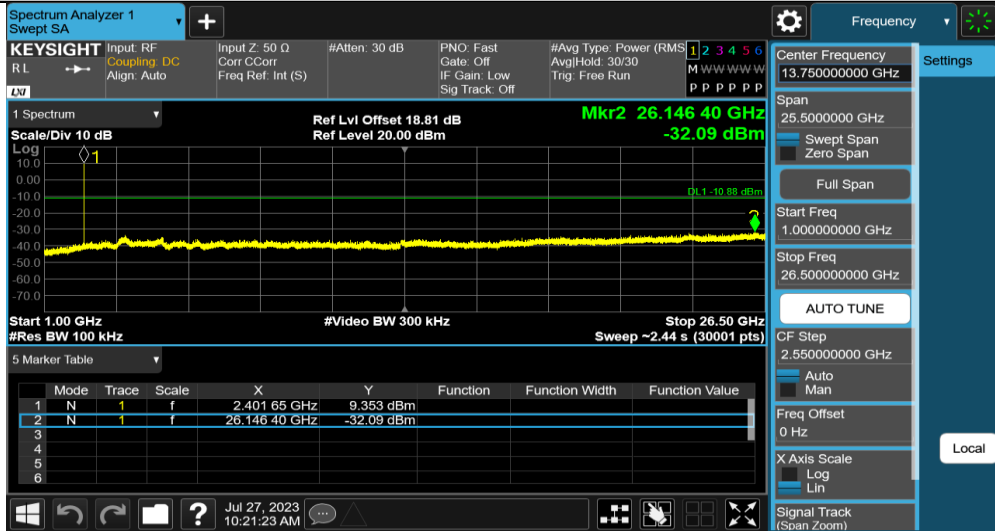
BLE\_2M\_Ant1\_2402\_0-Reference



BLE\_2M\_Ant1\_2402\_30-1000



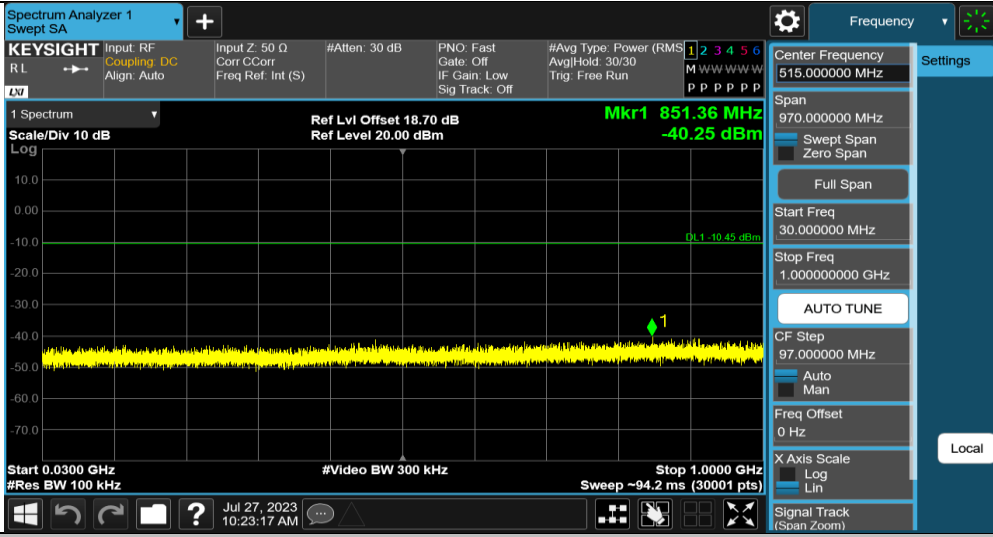
BLE\_2M\_Ant1\_2402\_1000~26500



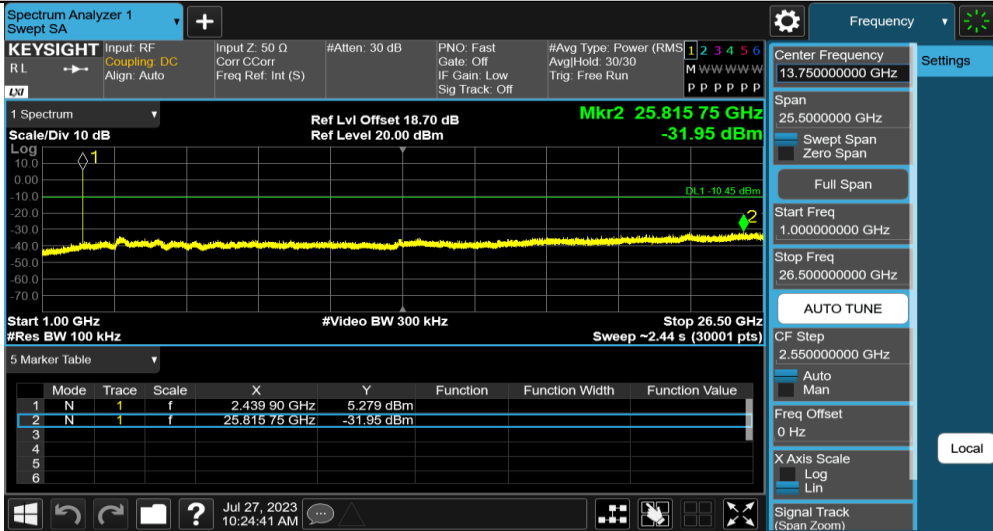
BLE\_2M\_Ant1\_2440\_0~Reference



BLE\_2M\_Ant1\_2440\_30~1000



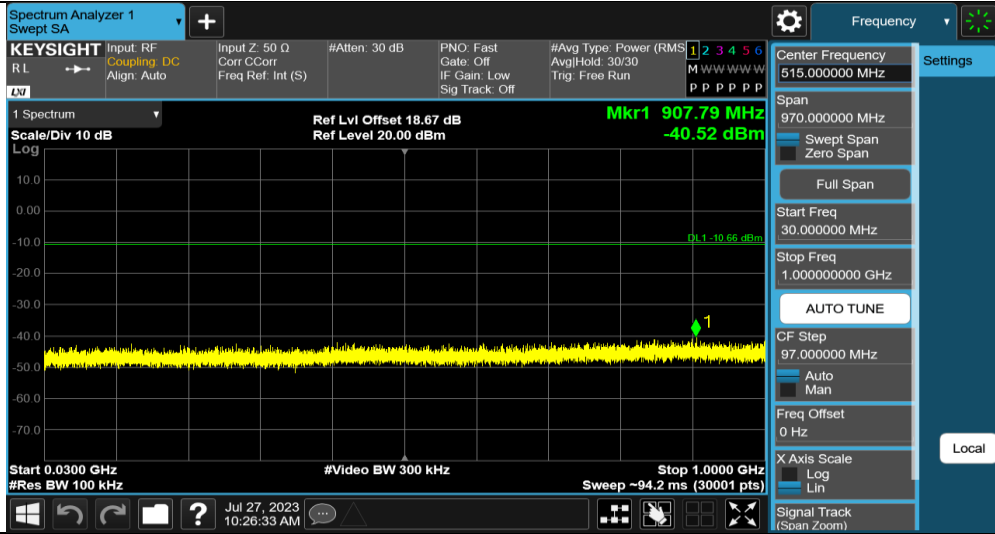
BLE\_2M\_Ant1\_2440\_1000~26500



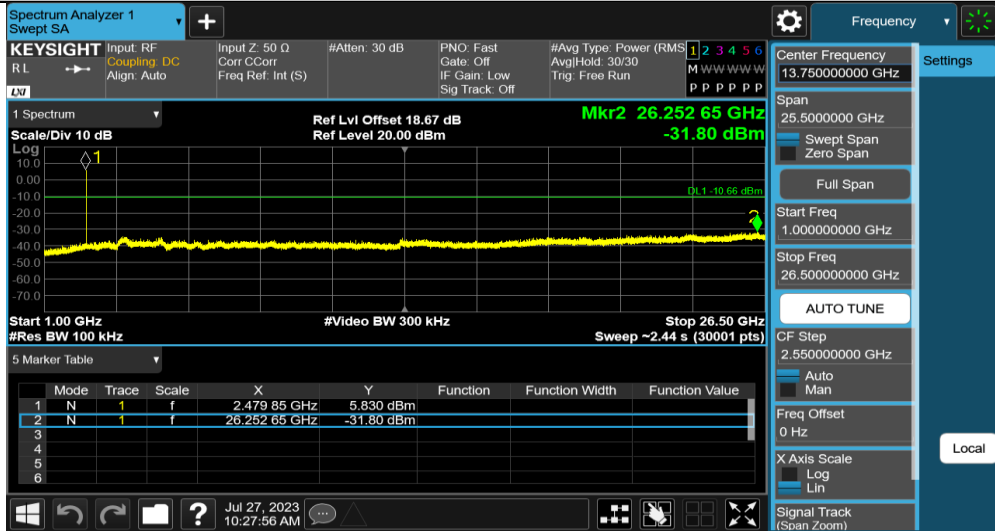
BLE\_2M\_Ant1\_2480\_0~Reference



BLE\_2M\_Ant1\_2480\_30~1000



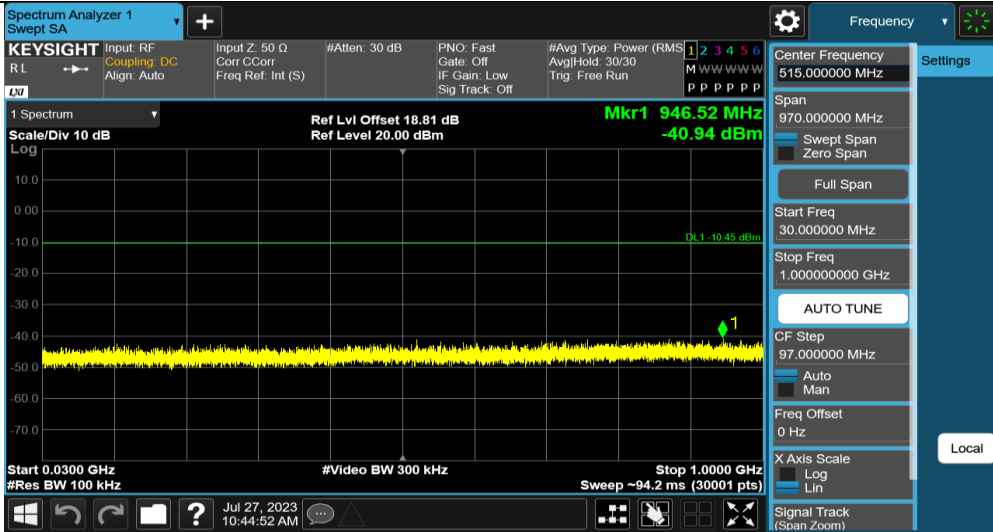
BLE\_2M\_Ant1\_2480\_1000~26500



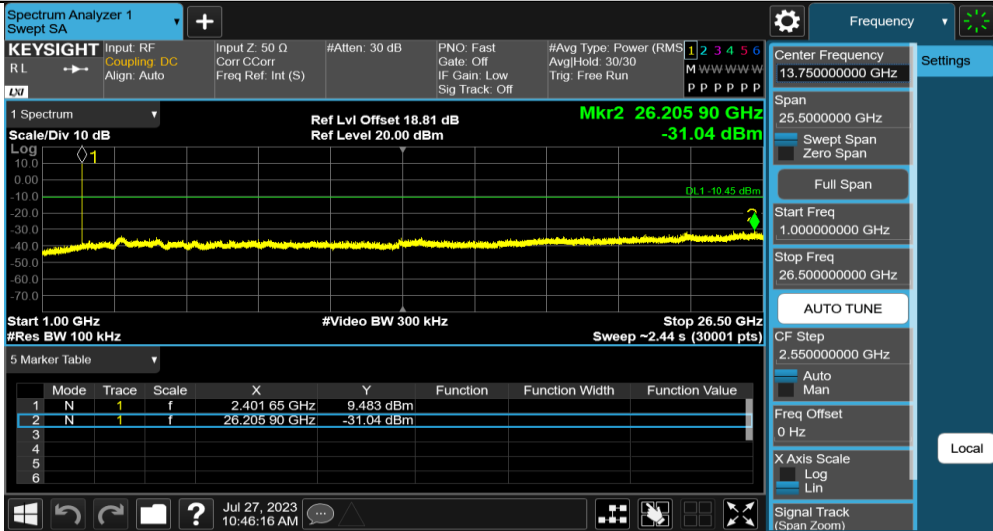
BLE\_500K\_Ant1\_2402\_0~Reference



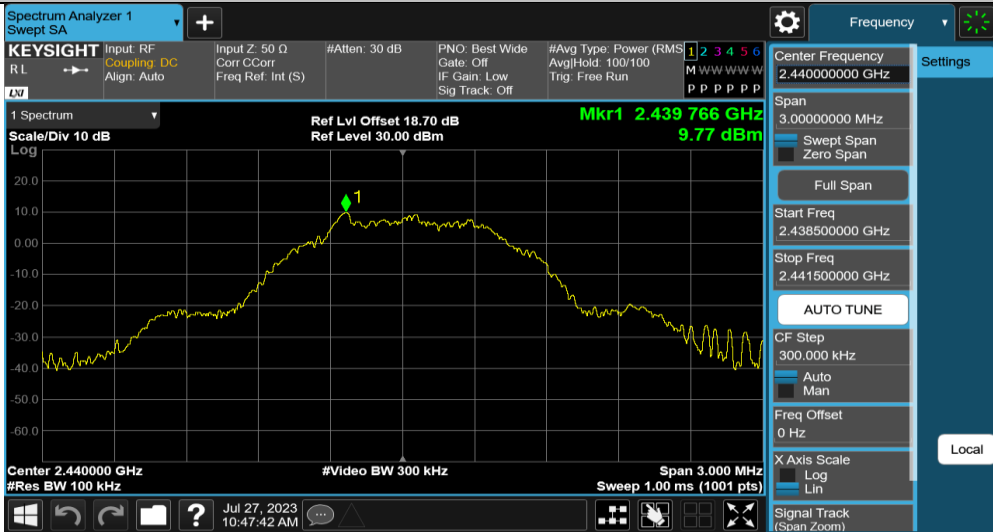
BLE\_500K\_Ant1\_2402\_30~1000



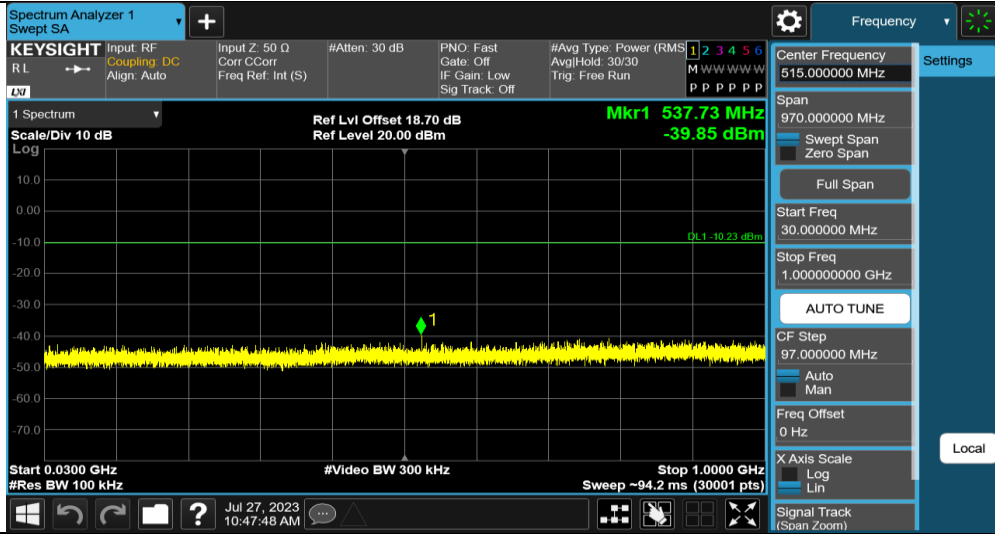
BLE\_500K\_Ant1\_2402\_1000~26500



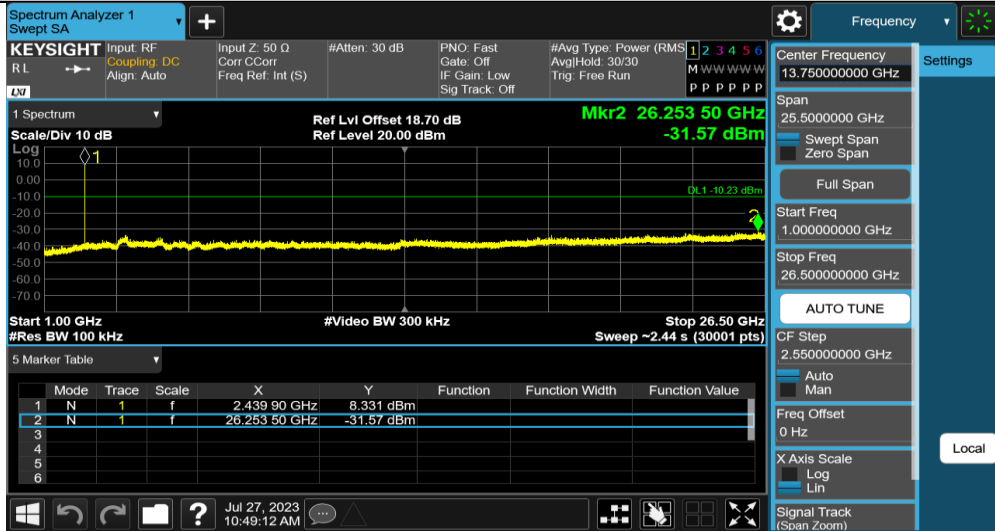
BLE\_500K\_Ant1\_2440\_0~Reference



BLE\_500K\_Ant1\_2440\_30~1000



BLE\_500K\_Ant1\_2440\_1000~26500



BLE\_500K\_Ant1\_2480\_0~Reference

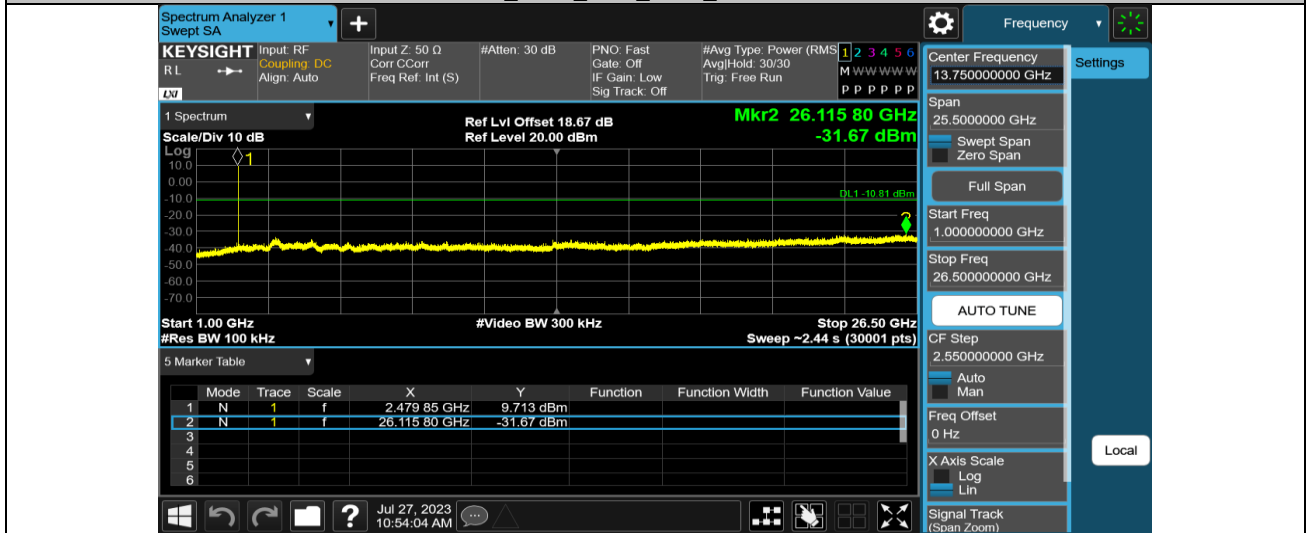


BLE\_500K\_Ant1\_2480\_30~1000





BLE\_500K\_Ant1\_2480\_1000~26500

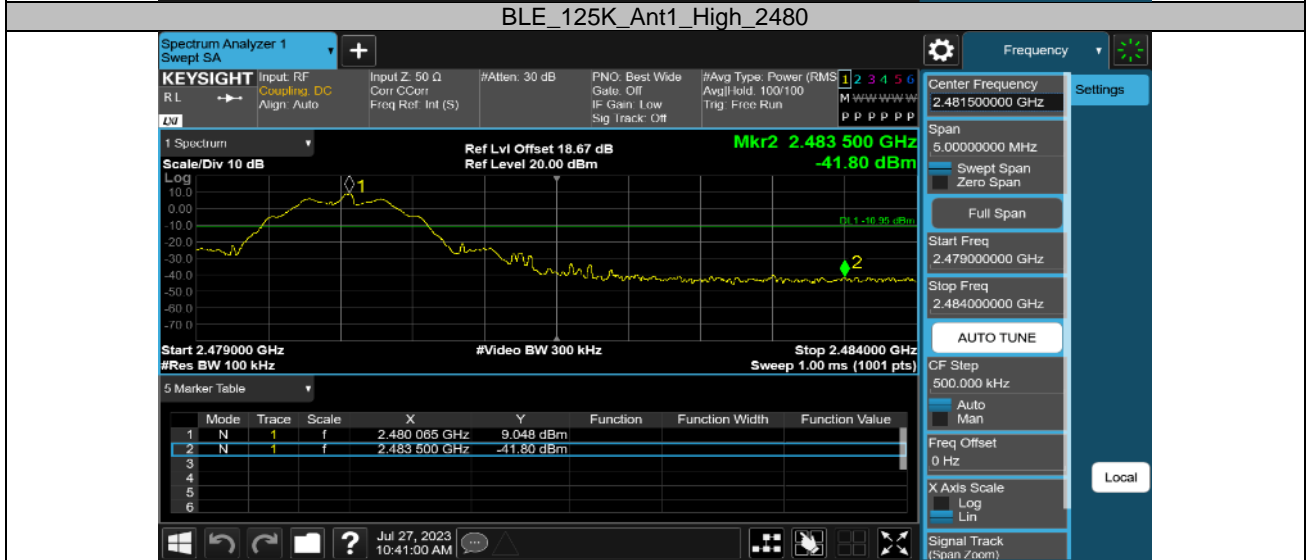
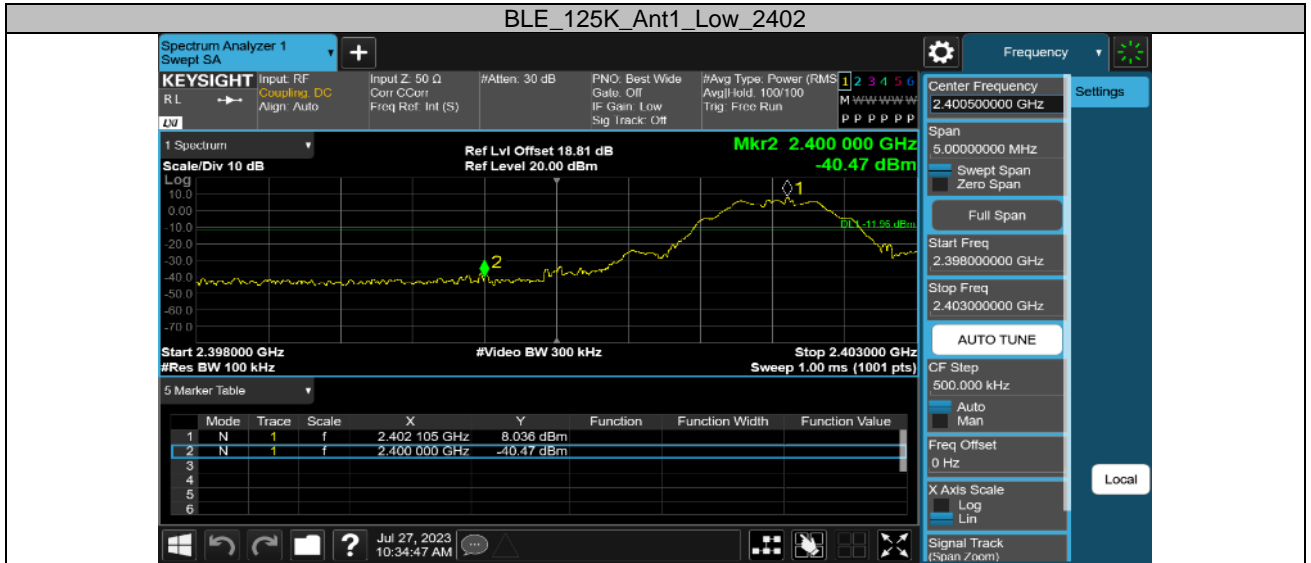


Band Edge

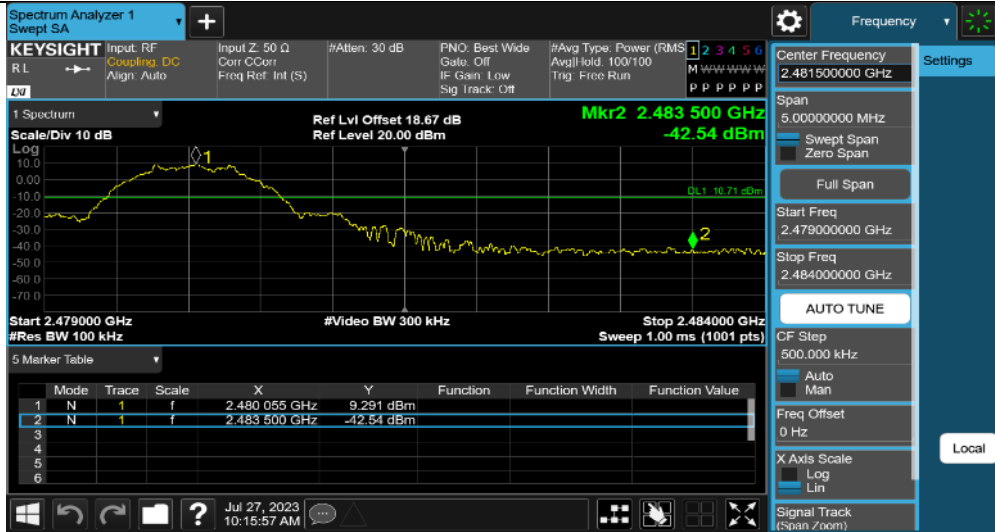
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_125K	Ant1	Low	2402	8.036	-40.47	≤-11.96	PASS
		High	2480	9.048	-41.8	≤-10.95	PASS
BLE_1M	Ant1	Low	2402	9.053	-43.51	≤-10.95	PASS
		High	2480	9.291	-42.54	≤-10.71	PASS
BLE_2M	Ant1	Low	2402	9.324	-23.78	≤-10.68	PASS
		High	2480	9.37	-43.69	≤-10.63	PASS
BLE_500K	Ant1	Low	2402	9.47	-39.65	≤-10.53	PASS
		High	2480	9.672	-43.04	≤-10.33	PASS

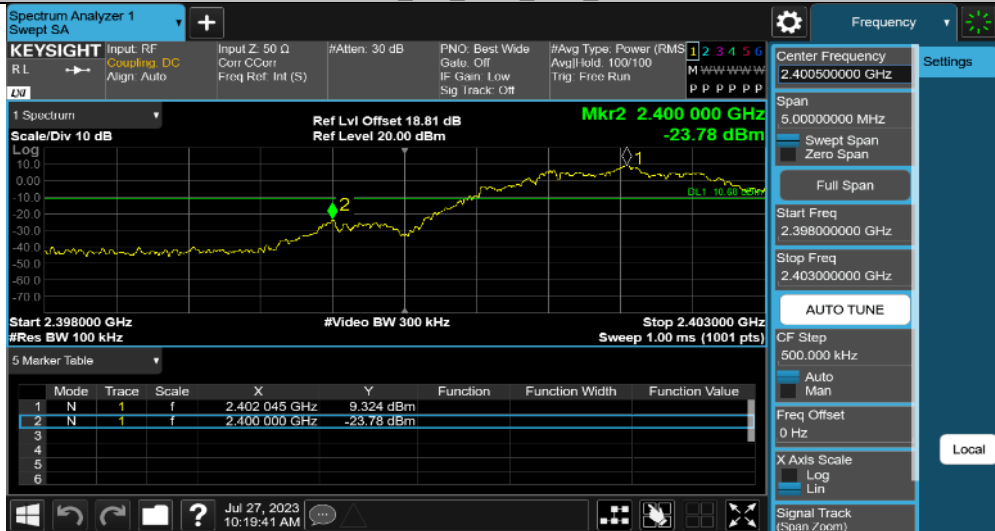
Test Graphs



BLE\_1M\_Ant1\_High\_2480



BLE\_2M\_Ant1\_Low\_2402



BLE\_2M\_Ant1\_High\_2480



BLE\_500K\_Ant1\_Low\_2402



BLE\_500K\_Ant1\_High\_2480



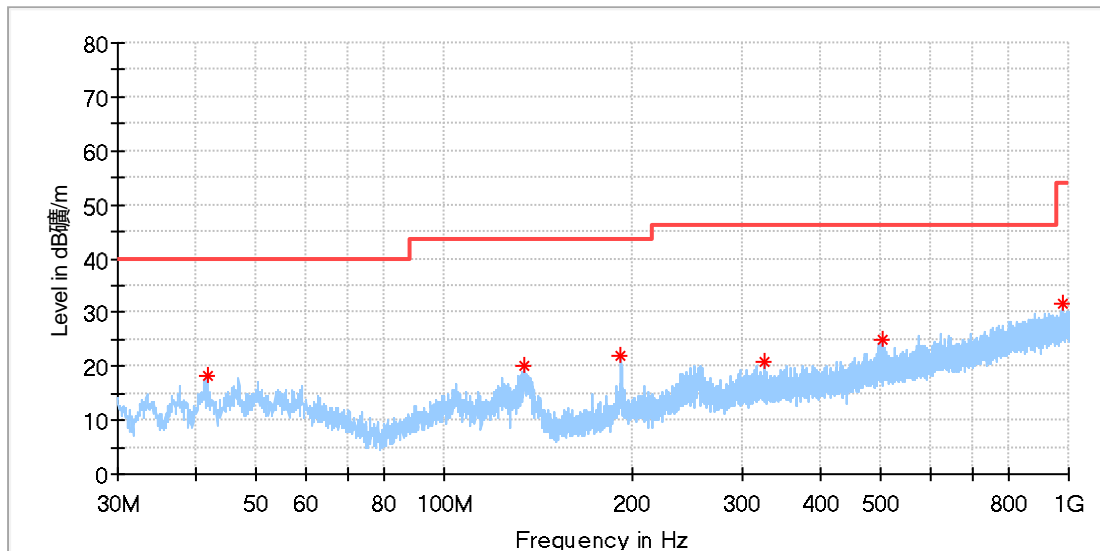
## APPENDIX B.5: RADIATED SPURIOUS EMISSIONS

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.

30 MHz to 1GHz

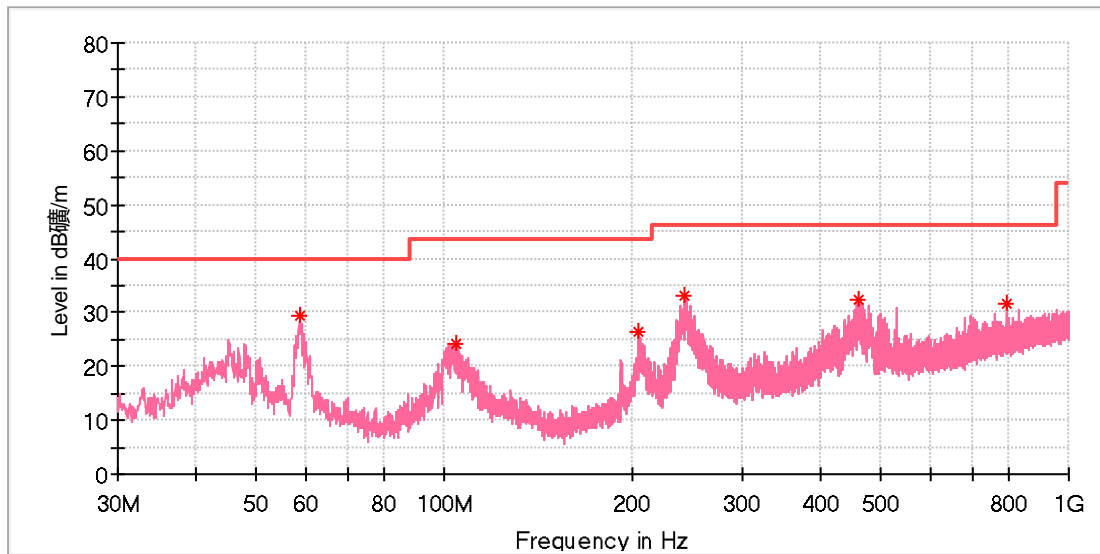
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
41.688500	18.39	40.00	21.61	100.0	H	16.0	-19.7
134.275000	19.95	43.50	23.55	100.0	H	69.0	-22.0
191.990000	21.85	43.50	21.65	100.0	H	315.0	-19.4
325.025500	21.00	46.00	25.01	100.0	H	222.0	-15.6
502.826500	25.07	46.00	20.93	100.0	H	125.0	-11.8
974.586000	31.64	54.00	22.36	100.0	H	194.0	-4.1

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



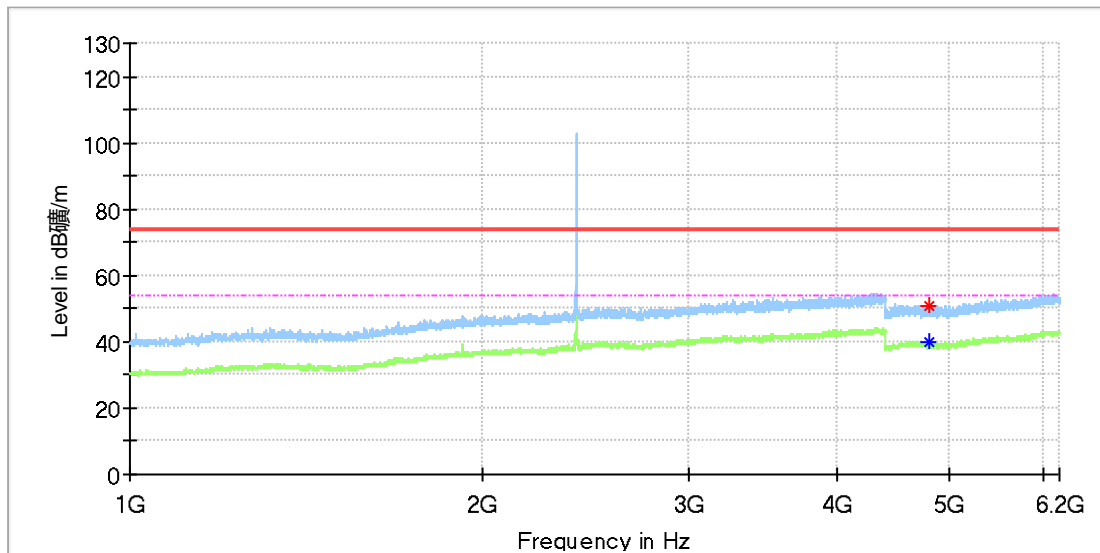
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
58.566500	29.36	40.00	10.64	100.0	V	154.0	-18.8
104.496000	24.19	43.50	19.31	100.0	V	77.0	-18.8
204.988000	26.29	43.50	17.21	100.0	V	77.0	-18.9
243.206000	33.05	46.00	12.95	100.0	V	77.0	-17.7
461.165000	32.47	46.00	13.53	100.0	V	69.0	-12.7
797.076000	31.62	46.00	14.38	100.0	V	218.0	-6.4

1GHz-18GHz

Note: The highest waveform in the figure is Bluetooth Fundamental.

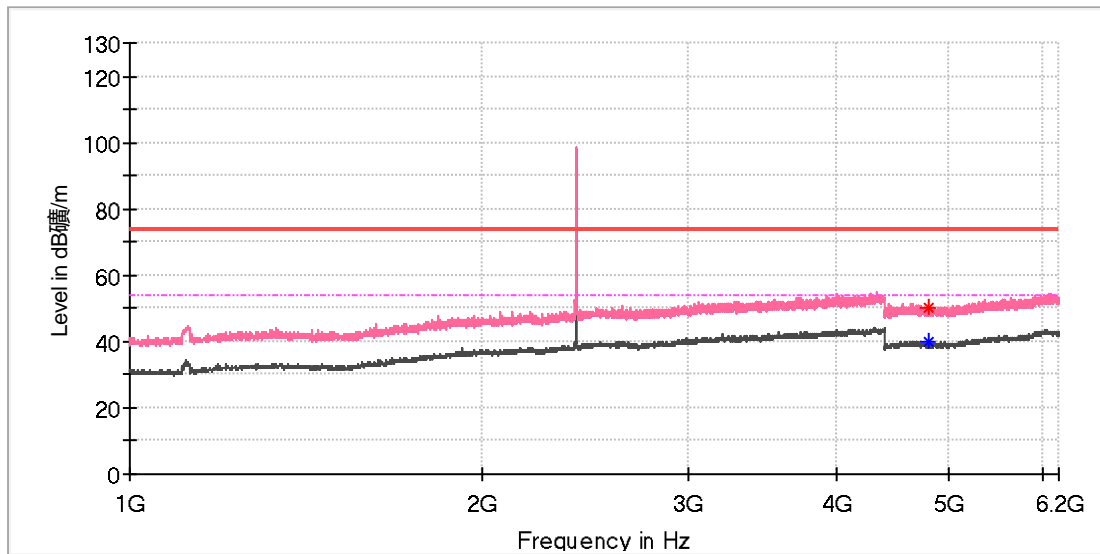
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



**Critical\_Freqs**

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4809.500000	---	39.71	54.00	14.29	150.0	H	37.0	11.8
4811.000000	50.57	---	74.00	23.43	150.0	H	246.0	11.8

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

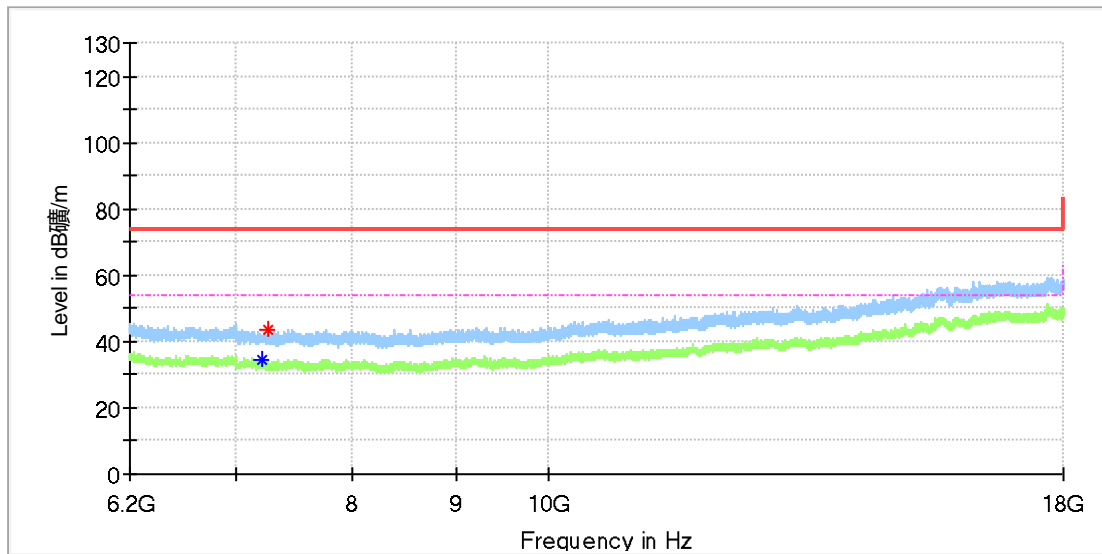


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4801.000000	---	39.68	54.00	14.32	150.0	V	284.0	11.8
4807.500000	50.21	---	74.00	23.79	150.0	V	326.0	11.8



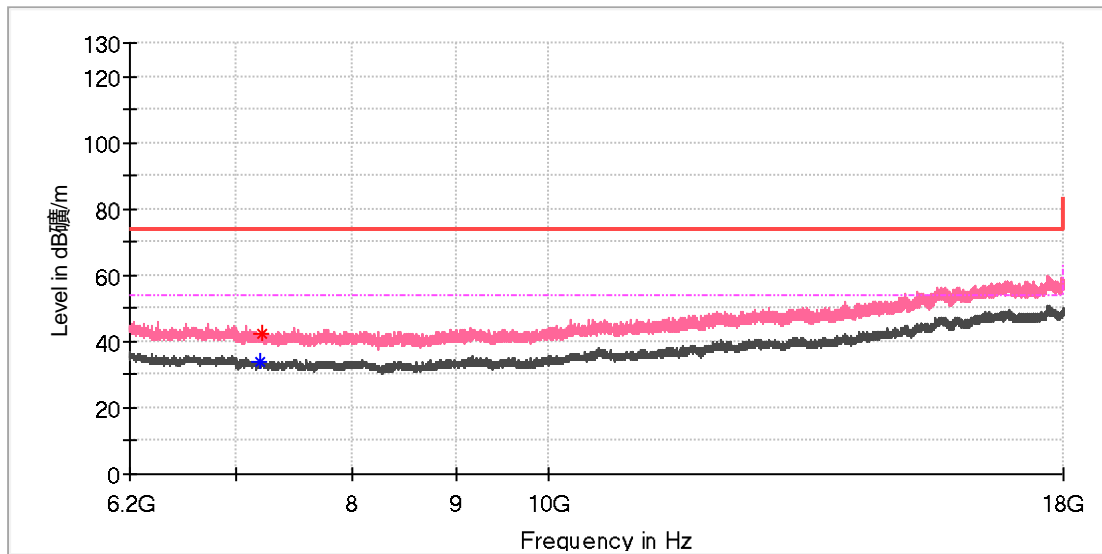
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7204.475000	---	34.20	54.00	19.80	150.0	H	47.0	8.8
7256.591667	43.31	---	74.00	30.69	150.0	H	0.0	8.5

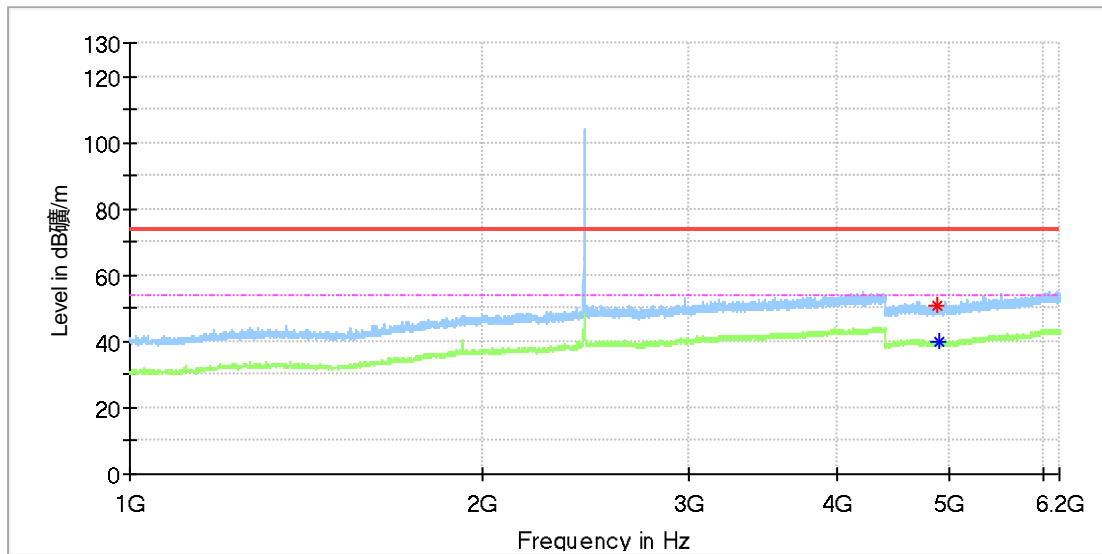
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



**Critical Freqs**

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7196.116667	---	34.15	54.00	19.85	150.0	V	192.0	8.8
7218.241667	42.40	---	74.00	31.60	150.0	V	144.0	8.7

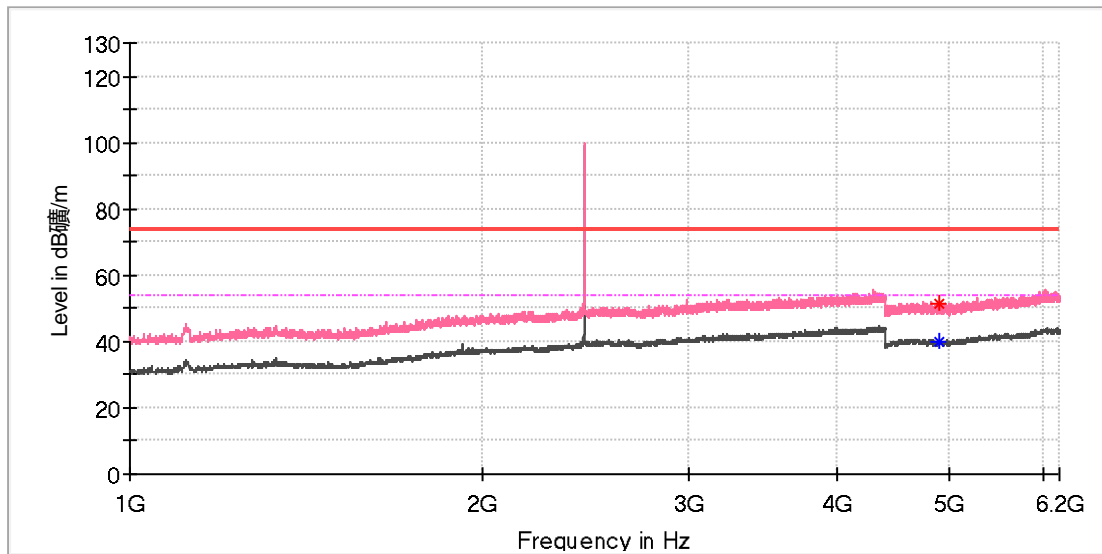
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4871.500000	50.67	---	74.00	23.33	150.0	H	142.0	11.8
4899.000000	---	40.18	54.00	13.82	150.0	H	129.0	11.8

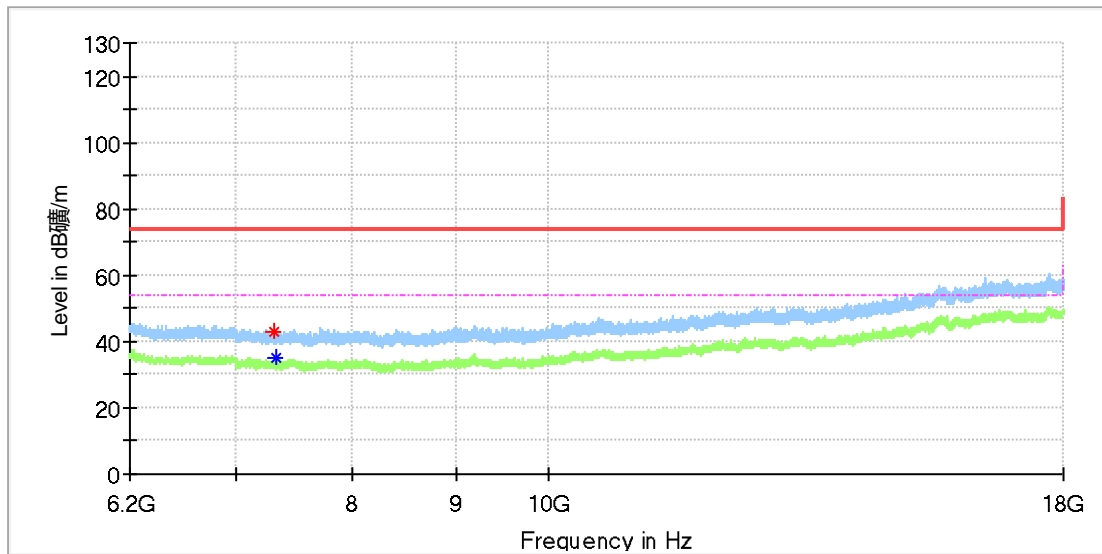
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4894.000000	51.19	---	74.00	22.81	150.0	V	251.0	11.8
4894.000000	---	39.99	54.00	14.01	150.0	V	251.0	11.8

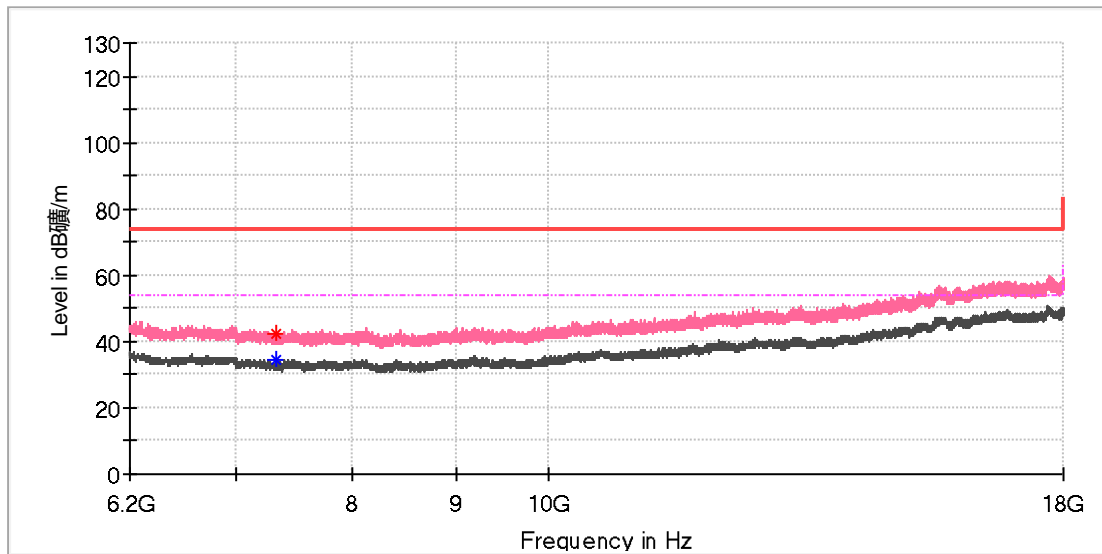
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7315.100000	43.05	---	74.00	30.95	150.0	H	132.0	8.2
7319.033333	---	35.28	54.00	18.72	150.0	H	2.0	8.2

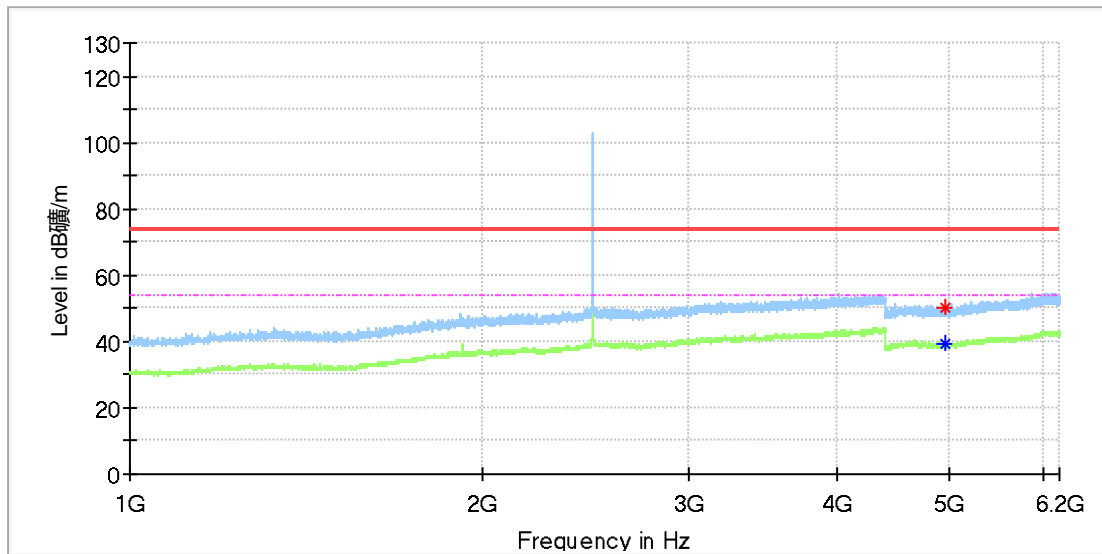
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Mid channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7320.508333	---	34.24	54.00	19.76	150.0	V	353.0	8.2
7328.866667	42.60	---	74.00	31.40	150.0	V	182.0	8.1

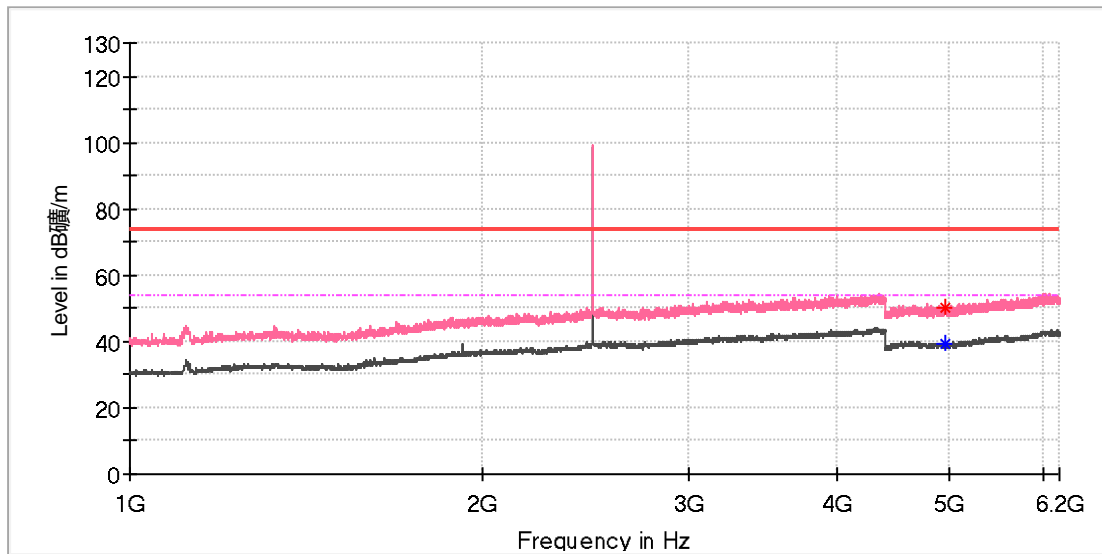
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4951.000000	---	39.42	54.00	14.58	150.0	H	337.0	11.8
4959.500000	49.93	---	74.00	24.07	150.0	H	291.0	11.8

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

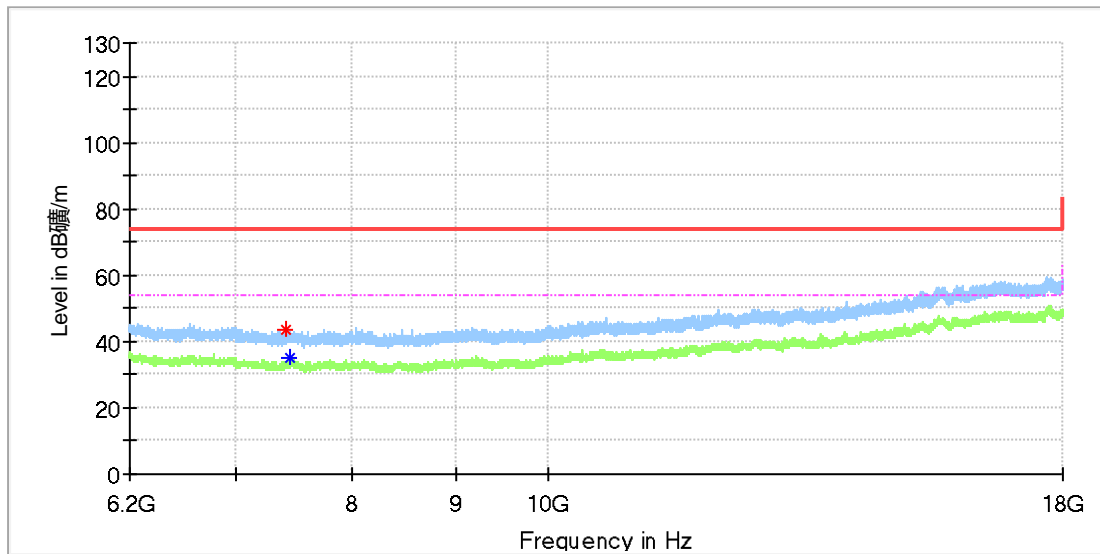


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4956.000000	---	39.60	54.00	14.40	150.0	V	342.0	11.8
4963.000000	50.09	---	74.00	23.91	150.0	V	174.0	11.8



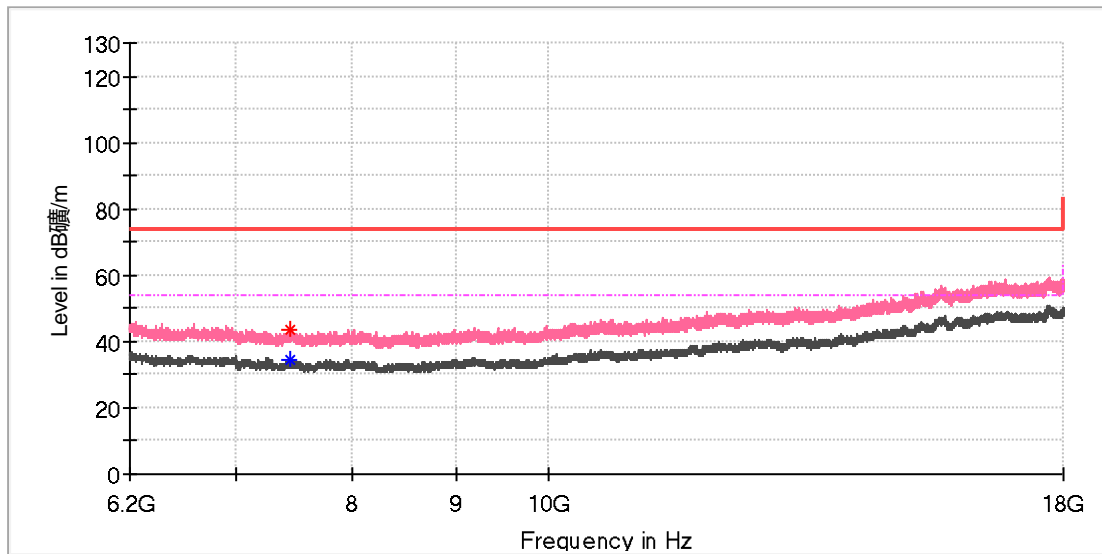
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7407.533333	43.34	---	74.00	30.66	150.0	H	81.0	8.3
7441.458333	---	34.78	54.00	19.22	150.0	H	128.0	8.4

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin

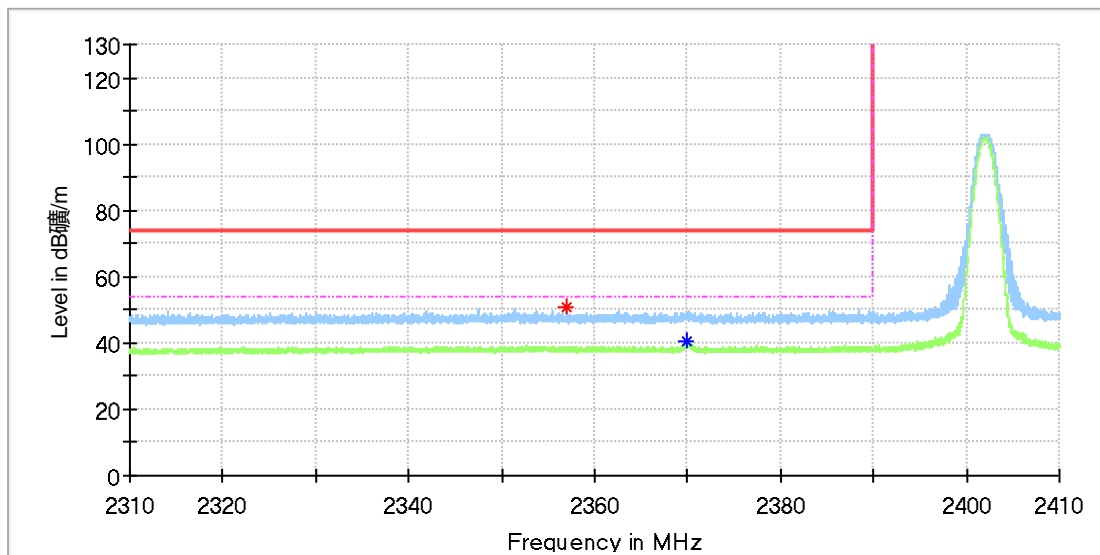


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
7439.983333	---	34.77	54.00	19.23	150.0	V	359.0	8.4
7440.475000	43.62	---	74.00	30.38	150.0	V	359.0	8.4

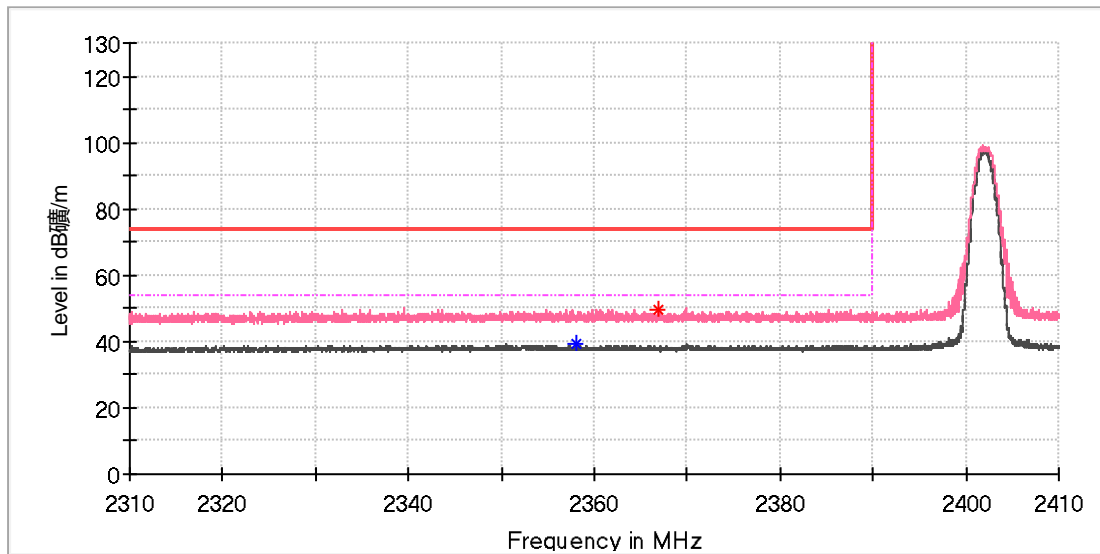
**APPENDIX B.6: RADIATED EMISSIONS IN RESTRICTED BANDS**

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
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)
2357.014706	50.58	---	74.00	23.42	150.0	H	5.0	6.9
2369.926471	---	40.58	54.00	13.42	150.0	H	0.0	6.9

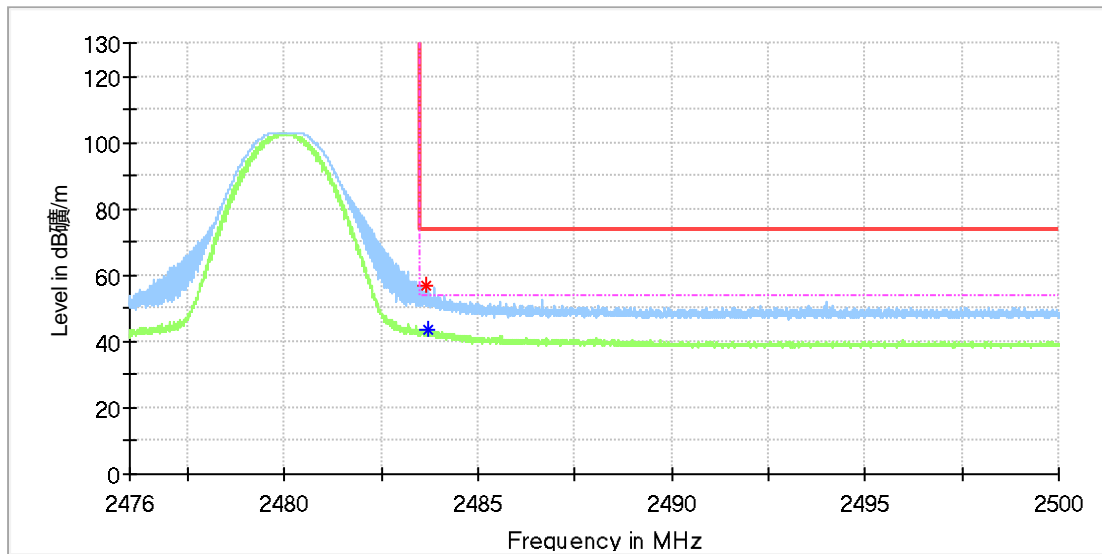
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_Low channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2358.000000	---	39.20	54.00	14.80	150.0	V	278.0	6.9
2366.897059	49.80	---	74.00	24.20	150.0	V	257.0	6.9

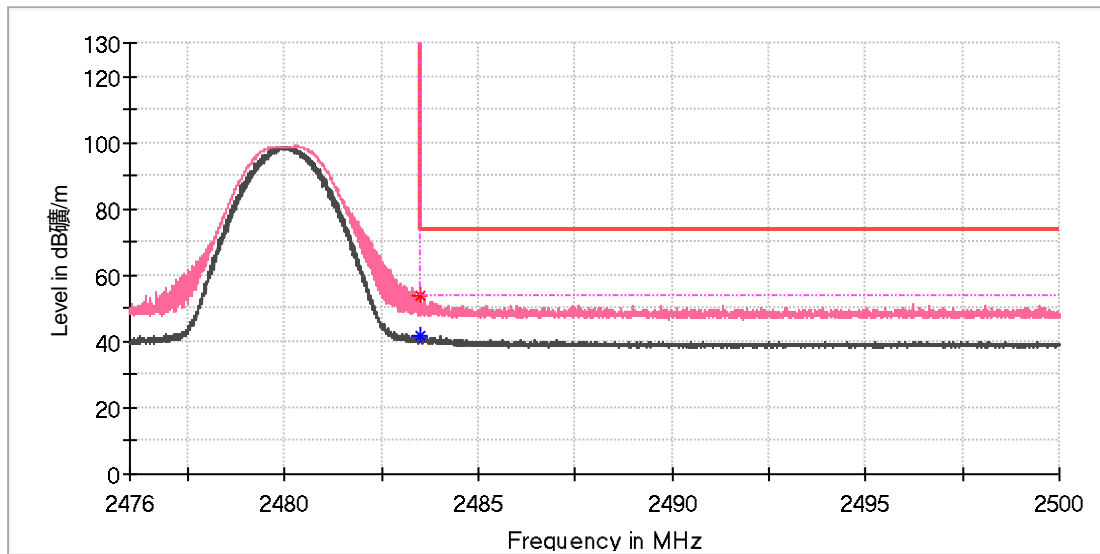
EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.669412	56.88	---	74.00	17.12	150.0	H	0.0	7.4
2483.708235	---	43.63	54.00	10.37	150.0	H	0.0	7.4

EUT Name:	I/O Module
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	BLE 1M_High channel
Order No/Sample No:	168435417/A003516465-010
Test Voltage::	120V/60Hz
Remark:	Temp 24 Humi:50%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



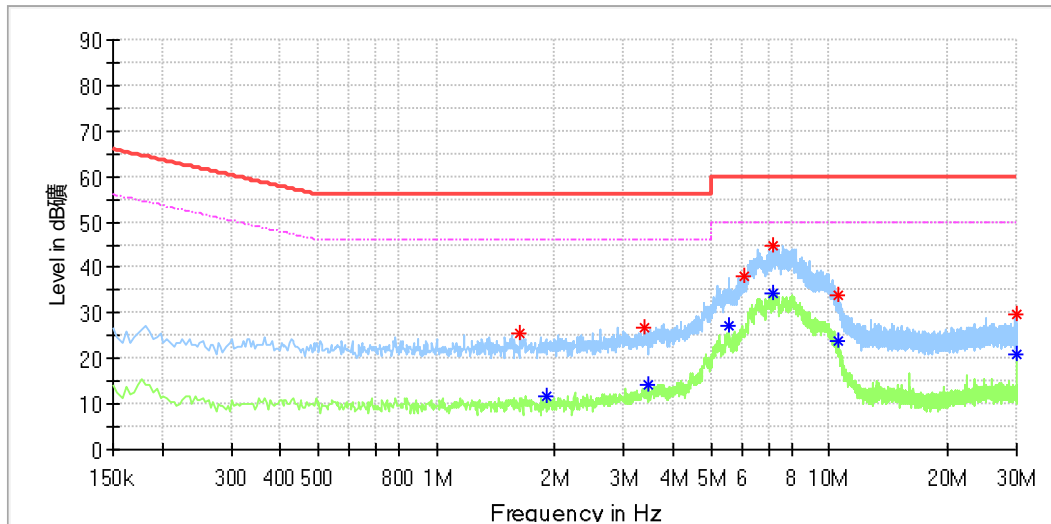
### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.514118	53.85	---	74.00	20.15	150.0	V	265.0	7.4
2483.521177	---	41.79	54.00	12.21	150.0	V	272.0	7.4

**APPENDIX B.7: CONDUCTED EMISSION ON AC MAINS**

Normal Working with Bluetooth connected

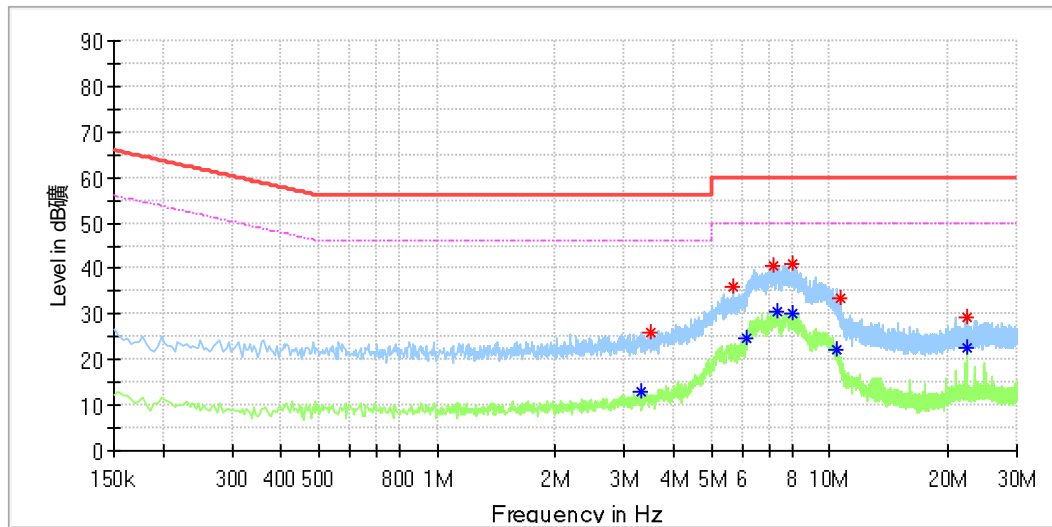
EUT Name:	I/O Module
Order Number:	168435417(P01048896)
Model:	IQ5-IO-8UIO-B
Test Mode:	On, Normal working with BLE connected
Test Voltage:	AC 120V60Hz
Test Standard:	FCC Part 15B
Test By:/Review By:	Charlie Zha / Gary Chen
Tem./Hum./Pressure:	23.2°C/50.6%/101kPa
Remark:	SR1



**Critical Freqs**

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
1.634000	25.43	---	56.00	30.57	L1	10.1
1.898000	---	11.84	46.00	34.16	L1	10.1
3.386000	26.71	---	56.00	29.29	L1	10.2
3.478000	---	14.21	46.00	31.79	L1	10.2
5.562000	---	27.30	50.00	22.70	L1	10.3
6.074000	38.26	---	60.00	21.74	L1	10.3
7.194000	---	34.23	50.00	15.77	L1	10.3
7.214000	44.72	---	60.00	15.28	L1	10.3
10.494000	---	23.85	50.00	26.15	L1	10.3
10.514000	33.77	---	60.00	26.23	L1	10.3
30.000000	29.72	---	60.00	30.28	L1	10.4
30.000000	---	21.01	50.00	28.99	L1	10.4

EUT Name:	I/O Module
Order Number:	168435417(P01048896)
Model:	IQ5-IO-8UIO-B
Test Mode:	On, Normal working with BLE connected
Test Voltage:	AC 120V60Hz
Test Standard:	FCC Part 15B
Test By:/Review By:	Charlie Zha / Gary Chen
Tem./Hum./Pressure:	23.2°C/50.6%/101kPa
Remark:	SR1

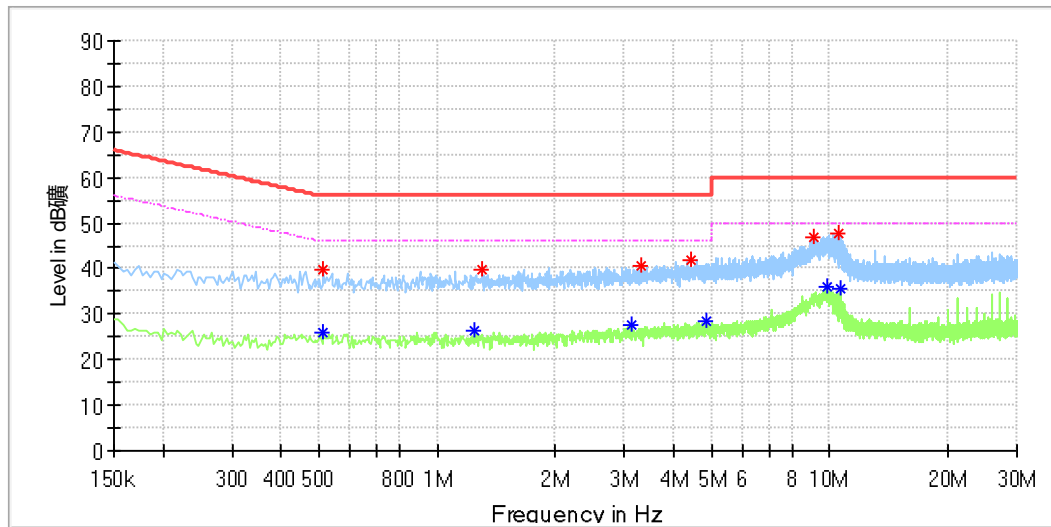


### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
3.310000	---	12.77	46.00	33.23	N	9.9
3.502000	26.09	---	56.00	29.91	N	9.9
5.654000	35.85	---	60.00	24.15	N	9.9
6.118000	---	24.59	50.00	25.41	N	9.9
7.210000	40.77	---	60.00	19.23	N	10.0
7.322000	---	30.62	50.00	19.38	N	10.0
8.038000	41.04	---	60.00	18.96	N	10.0
8.078000	---	30.16	50.00	19.84	N	10.0
10.422000	---	22.27	50.00	27.73	N	10.0
10.618000	33.48	---	60.00	26.52	N	10.0
22.498000	29.42	---	60.00	30.58	N	10.3
22.502000	---	22.45	50.00	27.55	N	10.3



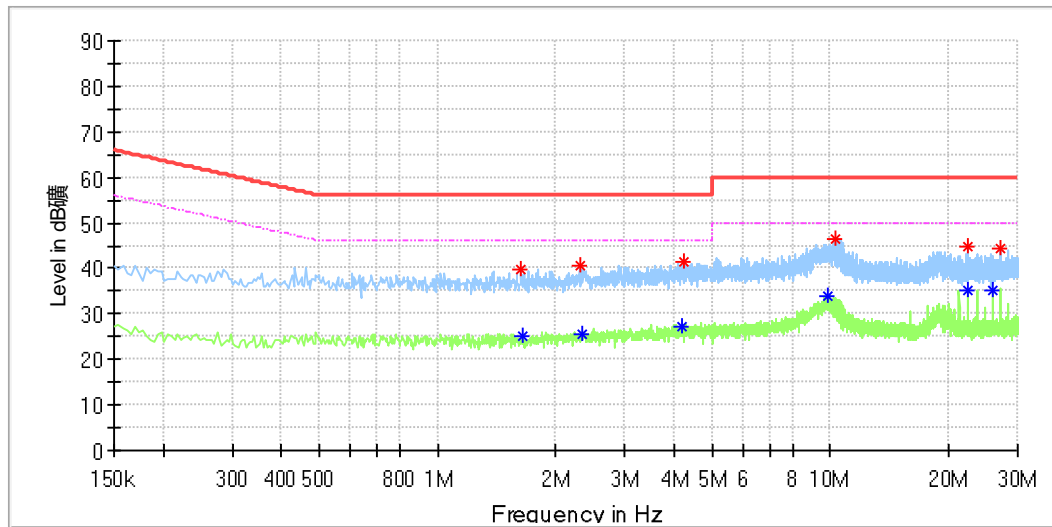
EUT Name:	I/O Module
Order Number:	168435417(P01048896)
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	On, Normal working with BLE connected
Test Voltage:	AC 120V60Hz
Test Standard:	FCC Part 15C
Test By:/Review By:	Charlie Zha / Gary Chen
Tem./Hum./Pressure:	23.2°C/50.6%/101kPa
Remark:	SR2



### Critical Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
0.514000	---	25.83	46.00	20.17	L1	10.0
0.514000	39.77	---	56.00	16.23	L1	10.0
1.250000	---	26.50	46.00	19.50	L1	10.1
1.302000	39.90	---	56.00	16.10	L1	10.1
3.134000	---	27.73	46.00	18.27	L1	10.2
3.290000	40.51	---	56.00	15.49	L1	10.2
4.446000	41.96	---	56.00	14.04	L1	10.2
4.870000	---	28.34	46.00	17.66	L1	10.2
9.078000	47.04	---	60.00	12.96	L1	10.3
9.854000	---	35.87	50.00	14.13	L1	10.3
10.486000	47.74	---	60.00	12.26	L1	10.3
10.634000	---	35.44	50.00	14.56	L1	10.3

EUT Name:	I/O Module
Order Number:	168435417(P01048896)
Model:	IQ5-IO-8UIO-HOA-B
Test Mode:	On, Normal working with BLE connected
Test Voltage:	AC 120V60Hz
Test Standard:	FCC Part 15C
Test By:/Review By:	Charlie Zha / Gary Chen
Tem./Hum./Pressure:	23.2°C/50.6%/101kPa
Remark:	SR2



### Critical\_Freqs

Frequency (MHz)	MaxPeak (dBµV)	Average (dBµV)	Limit (dBµV)	Margin (dB)	Line	Corr. (dB)
1.630000	39.83	---	56.00	16.17	N	9.8
1.642000	---	25.18	46.00	20.82	N	9.8
2.298000	40.76	---	56.00	15.24	N	9.9
2.322000	---	25.66	46.00	20.34	N	9.9
4.190000	---	27.39	46.00	18.61	N	9.9
4.246000	41.36	---	56.00	14.64	N	9.9
9.898000	---	34.01	50.00	15.99	N	10.0
10.334000	46.56	---	60.00	13.44	N	10.0
22.466000	---	35.05	50.00	14.95	N	10.3
22.470000	44.80	---	60.00	15.20	N	10.3
26.014000	---	35.17	50.00	14.83	N	10.3
27.198000	44.37	---	60.00	15.63	N	10.4