

Appendix A

RF Test Data for BLE V4.0 (Conducted Measurement)

Product Name: bicycle light

Trade Mark: MAGICSHINE

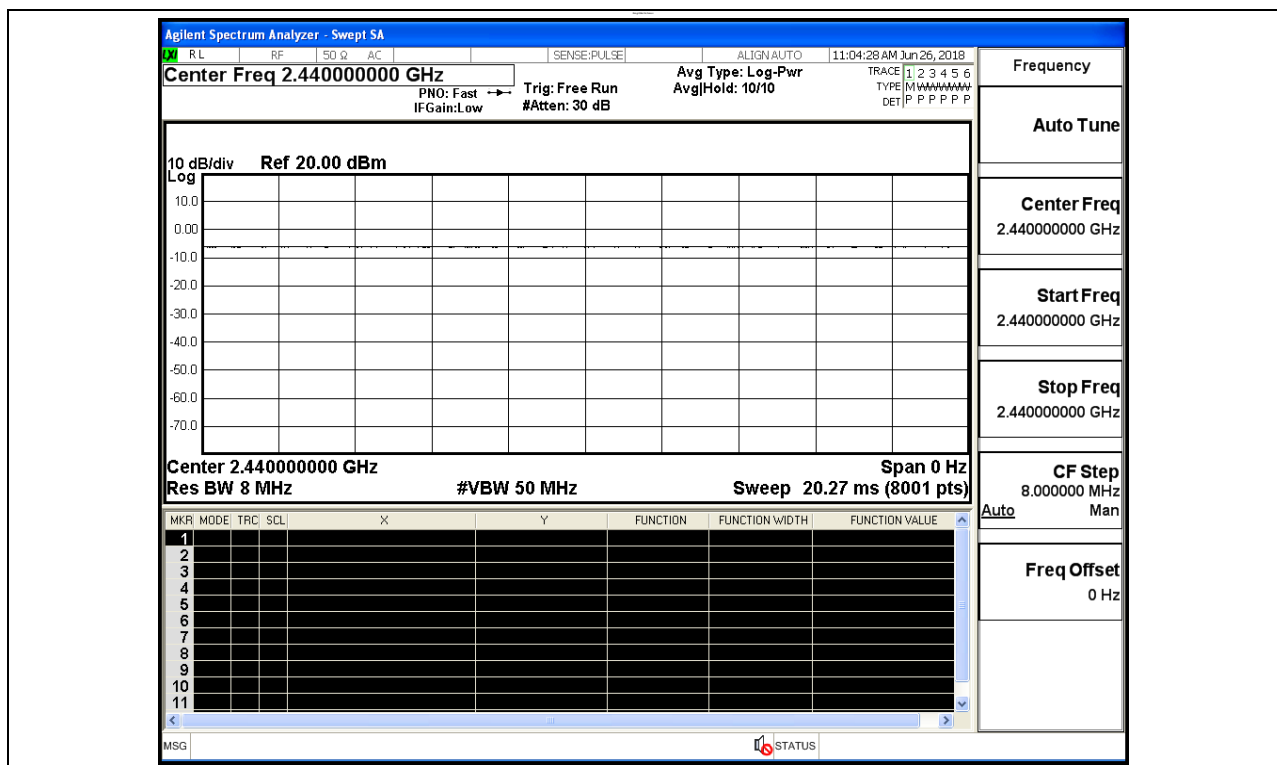
Test Model: MJ-906BC

Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Wilson.Hong
Supervised by:	Jayden.Zhuo

A.1 Duty Cycle

Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS

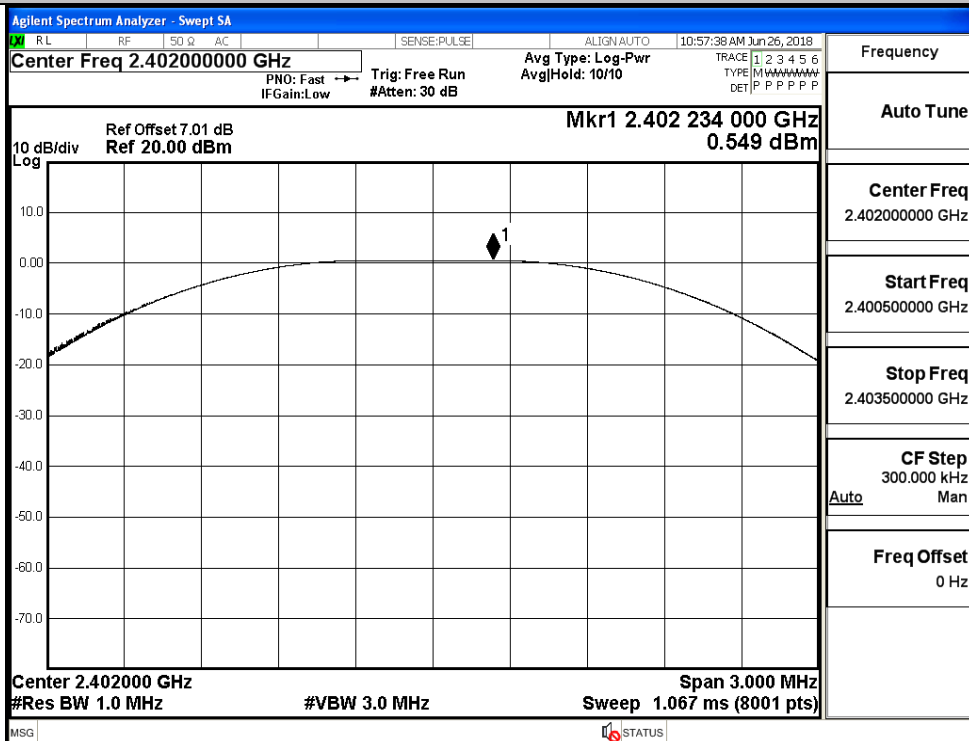


A.2 Maximum Conducted Peak Output Power

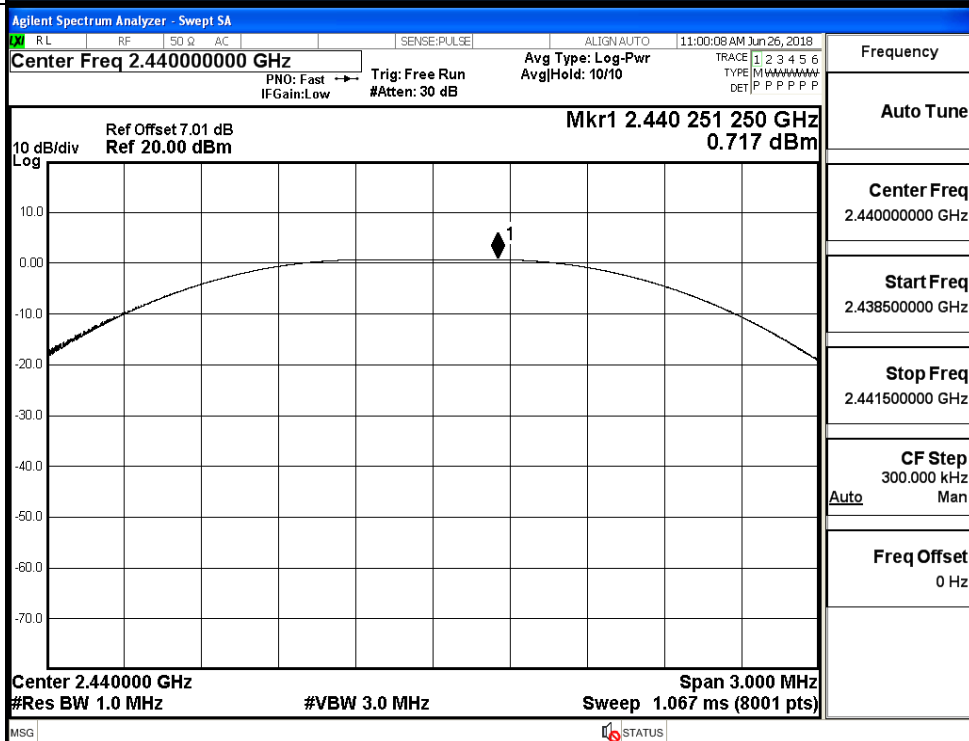
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	0.549	30	PASS
BT LE	MCH	0.717	30	PASS
BT LE	HCH	1.041	30	PASS

Test Graphs

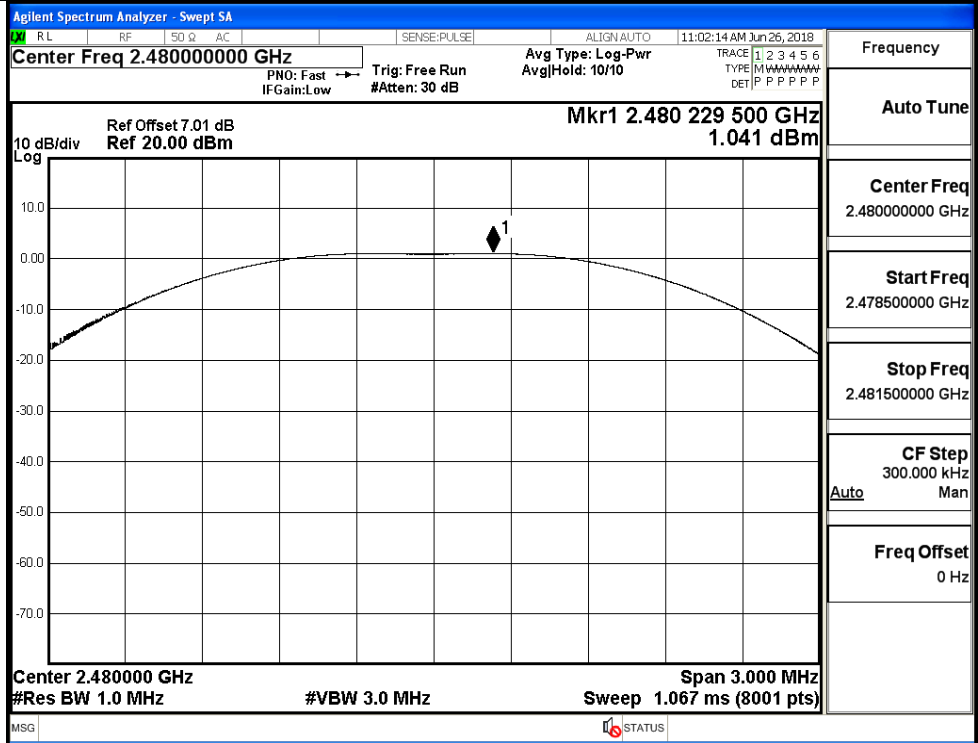
LCH



MCH



HCH

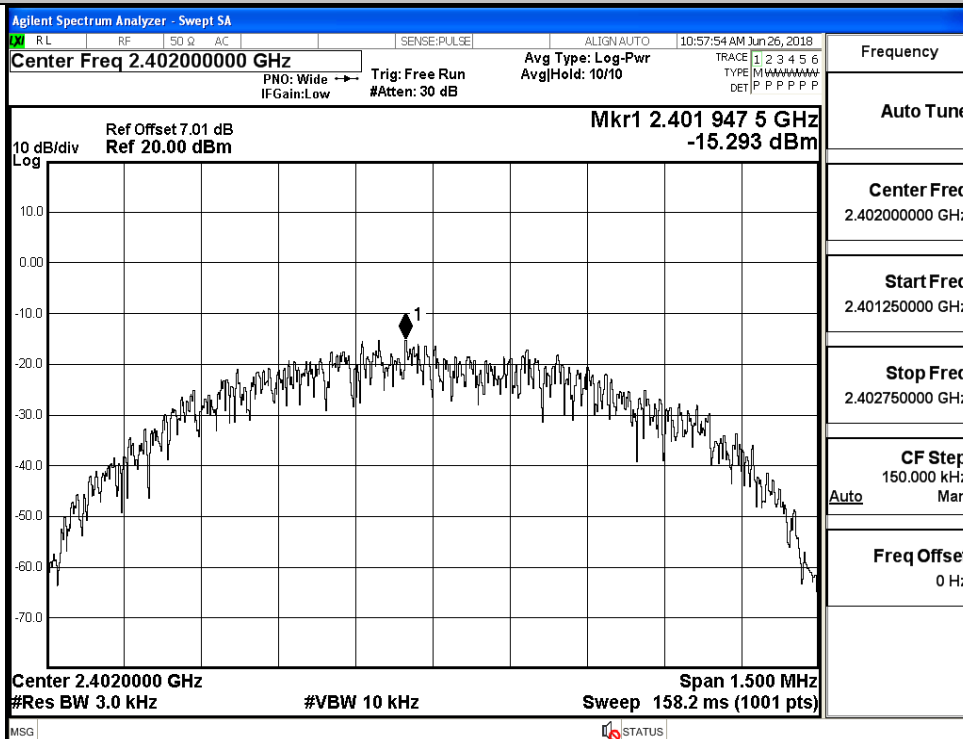


A.3 Maximum Power Spectral Density

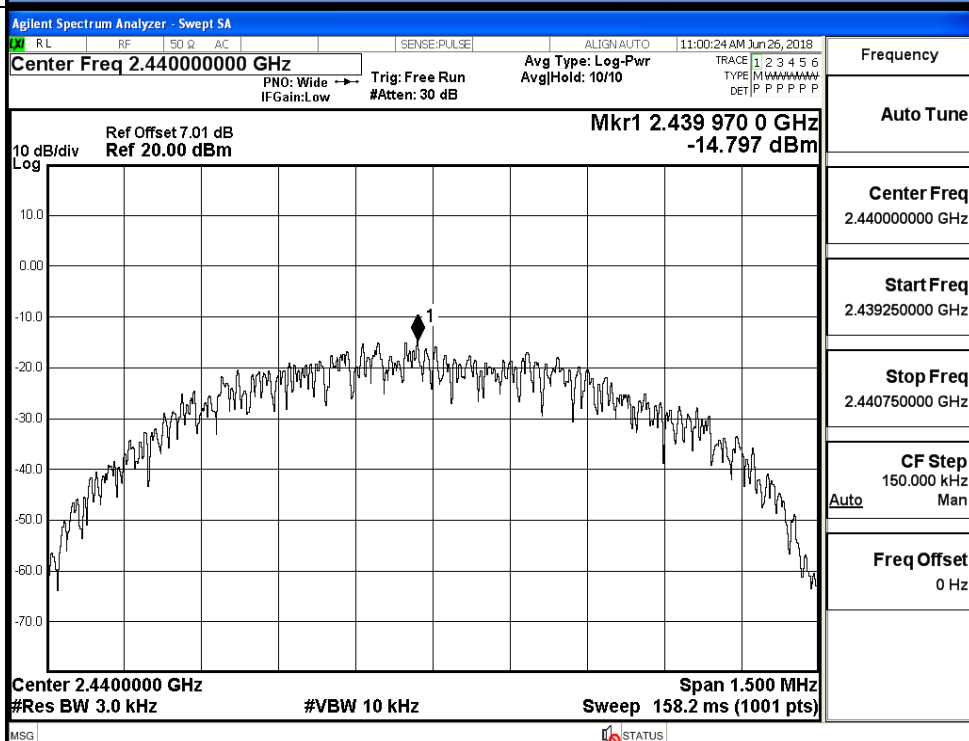
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.293	8	PASS
BT LE	MCH	-14.797	8	PASS
BT LE	HCH	-14.446	8	PASS

Test Graphs

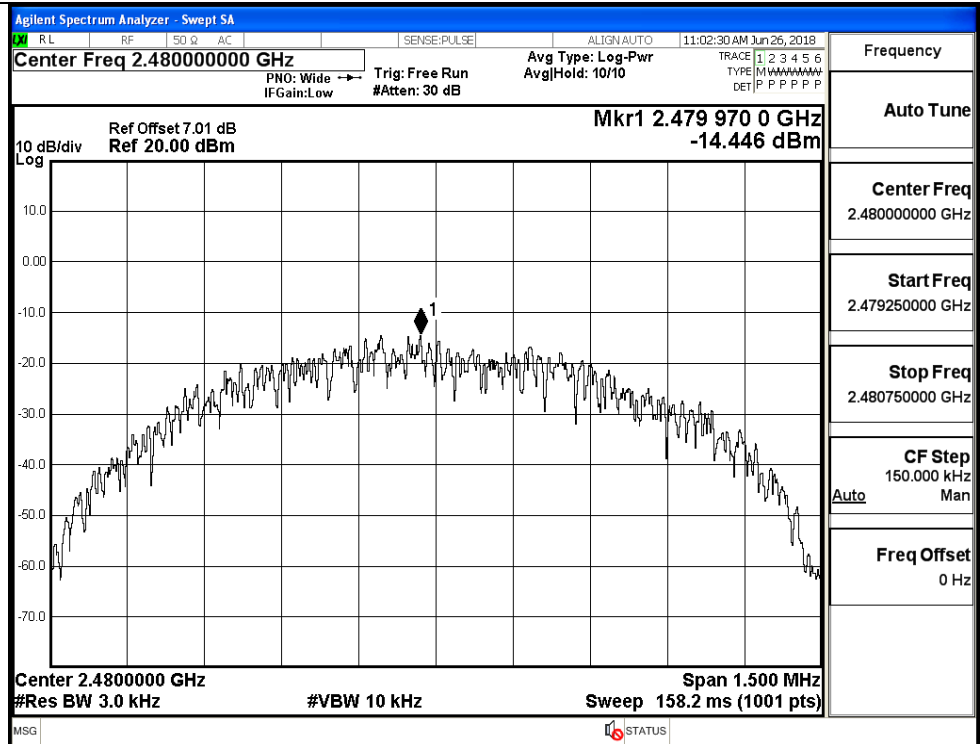
LCH



MCH



HCH

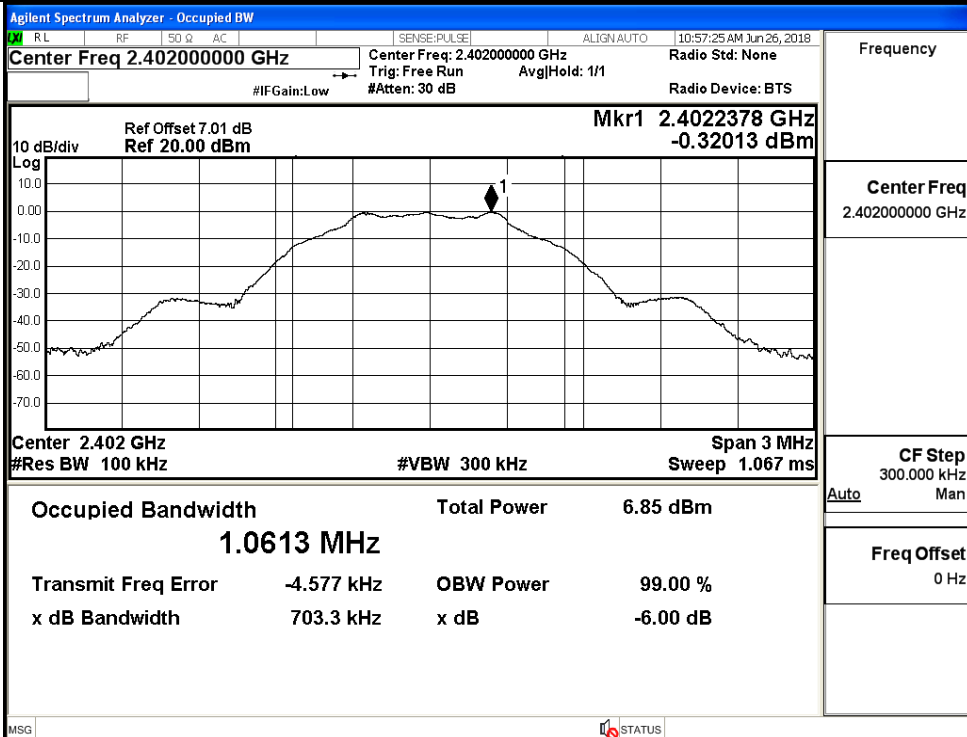


A.4 6dB Bandwidth

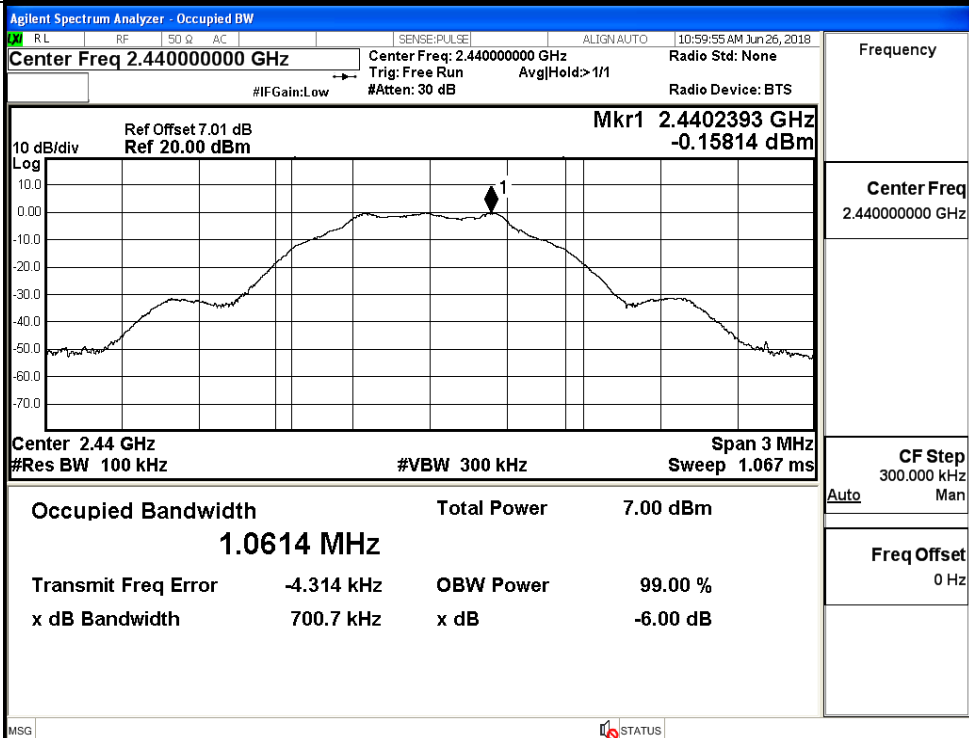
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.7033	≥ 0.5	PASS
BT LE	MCH	0.7007	≥ 0.5	PASS
BT LE	HCH	0.7033	≥ 0.5	PASS

Test Graphs

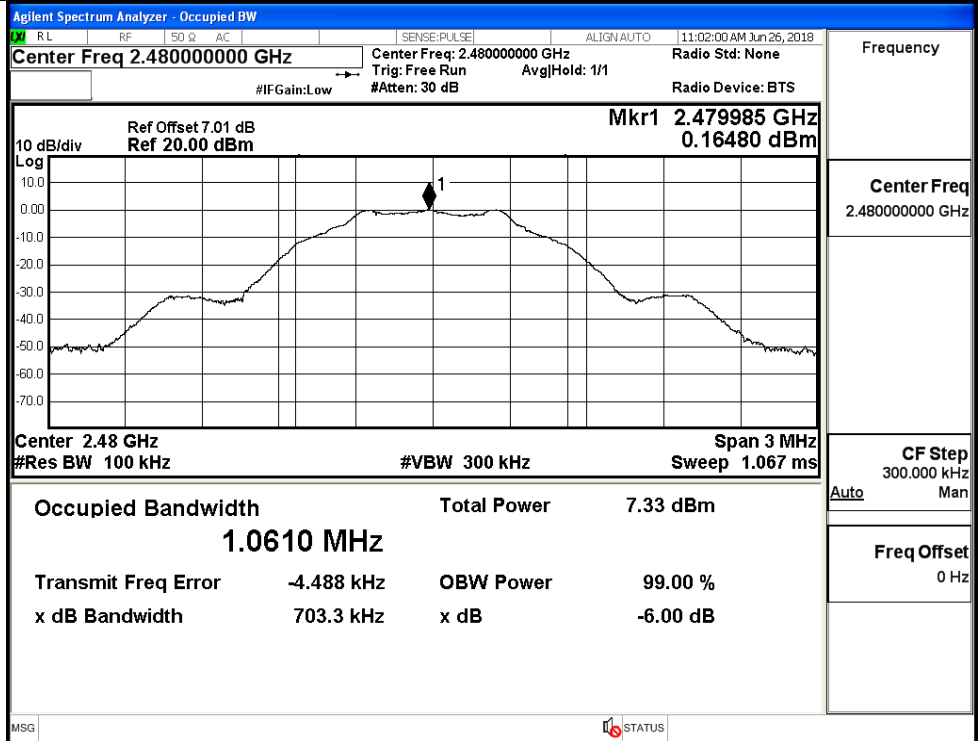
LCH



MCH



HCH

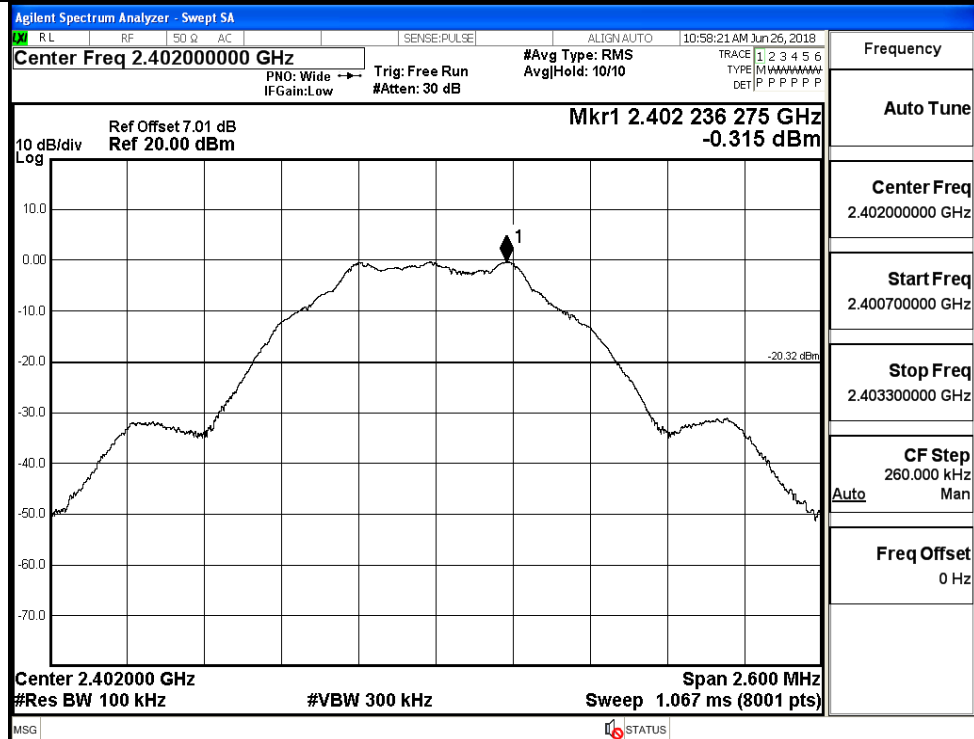


A.5 RF Conducted Spurious Emissions

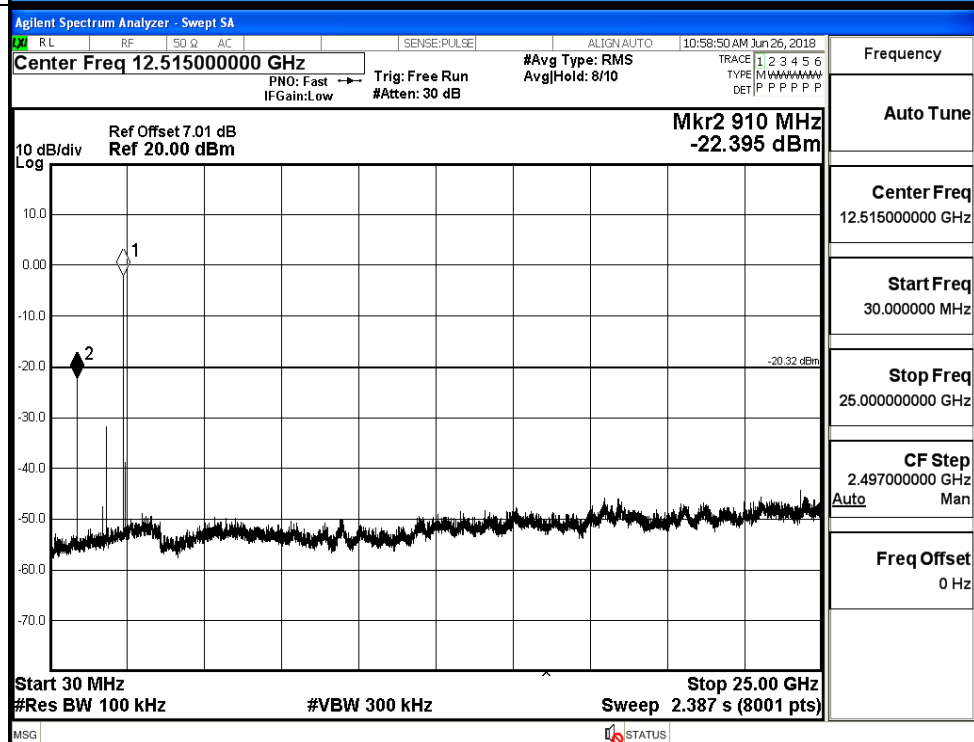
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.315	-22.395	-20.315	PASS
BT LE	MCH	-0.158	-31.065	-20.158	PASS
BT LE	HCH	0.171	-29.452	-19.829	PASS

BT LE LCH Graphs

Pref/BT LE/LCH

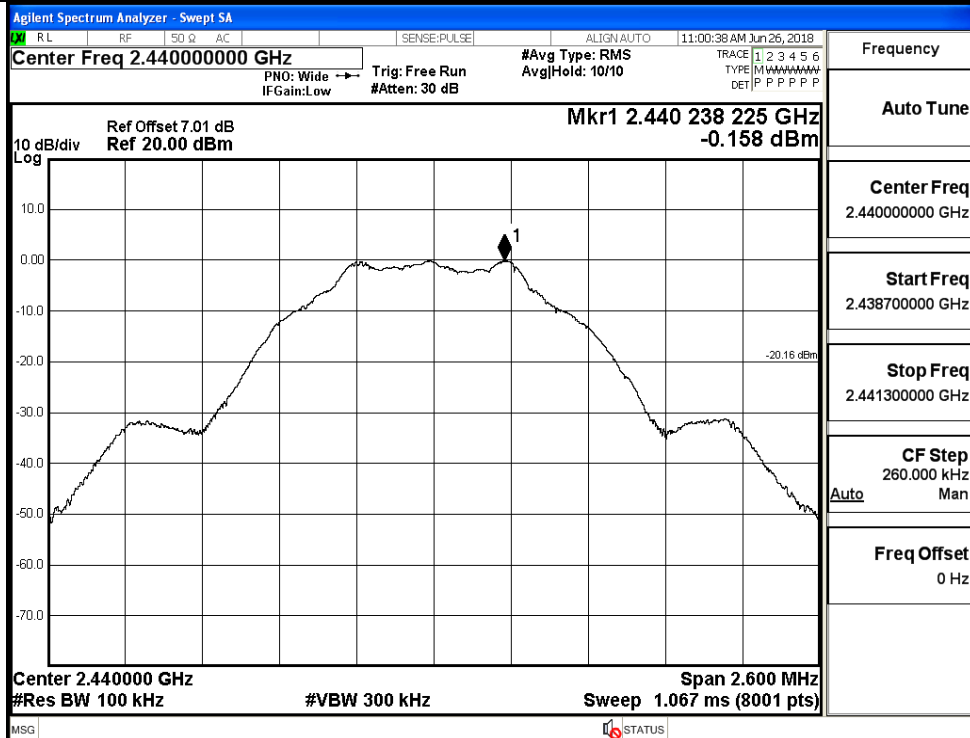


Puw/BT LE/LCH

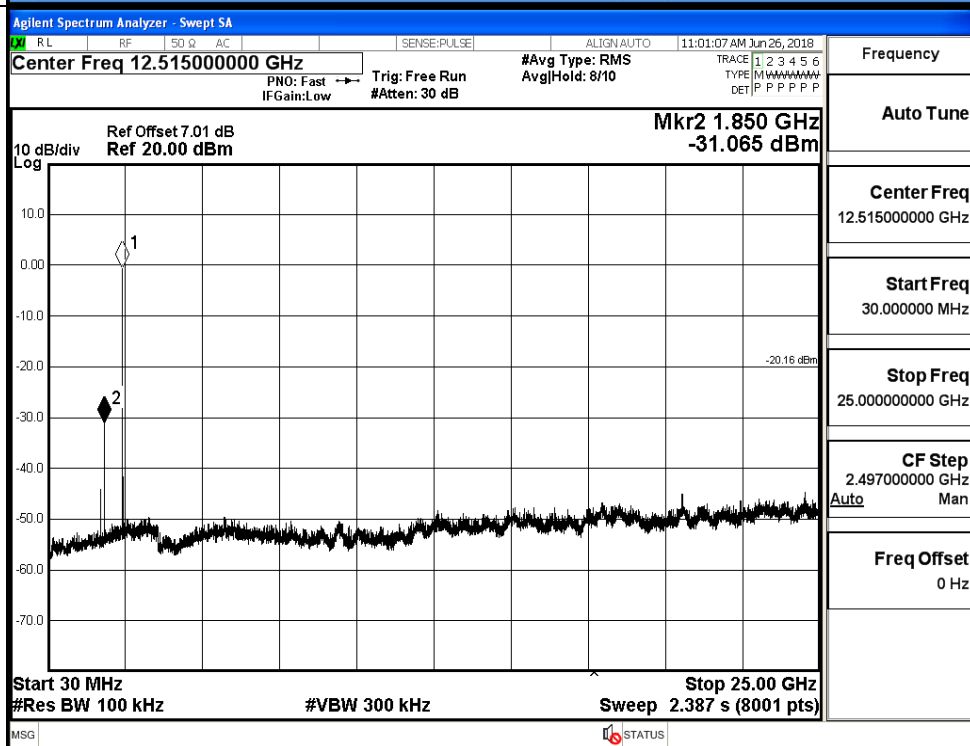


BT LE MCH Graphs

Pref/BT LE/MCH

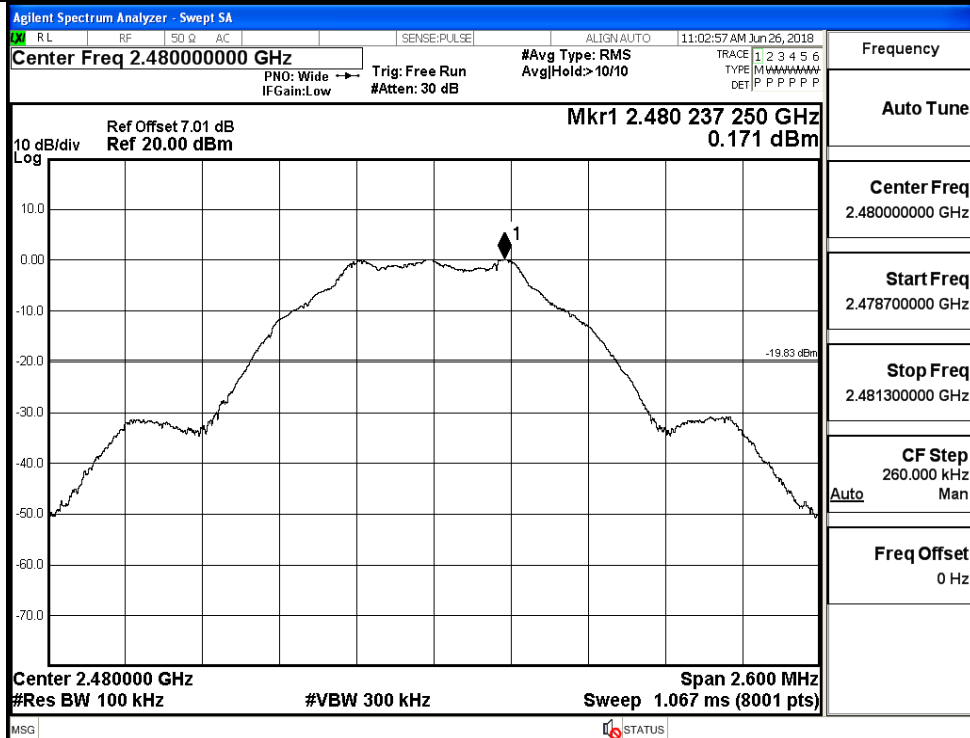


Puw/BT LE/MCH

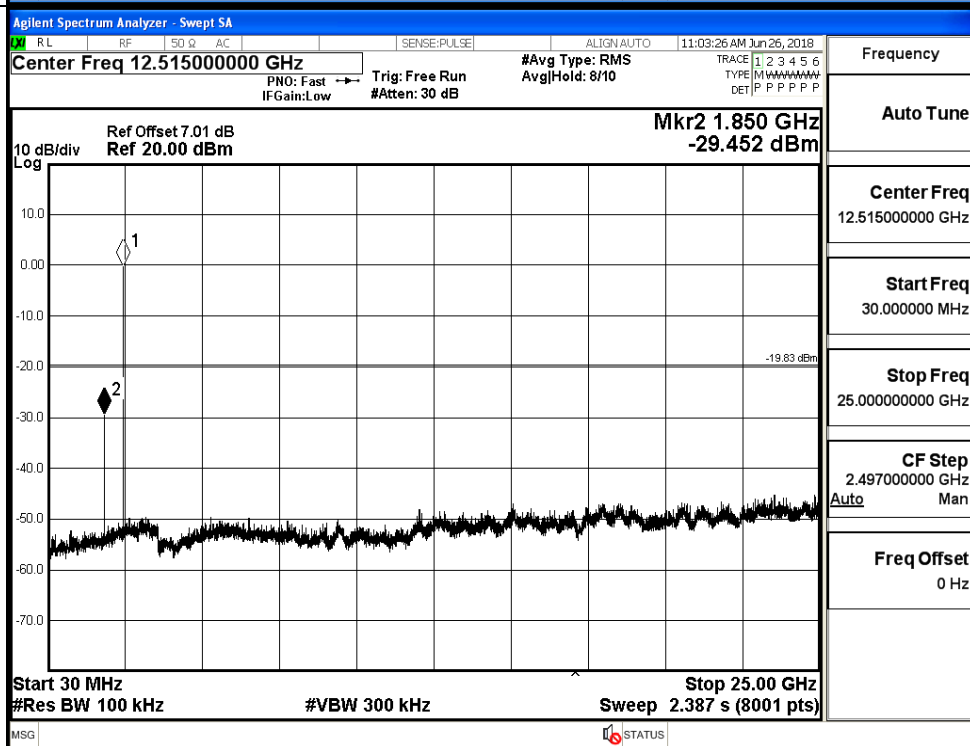


BT LE HCH Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

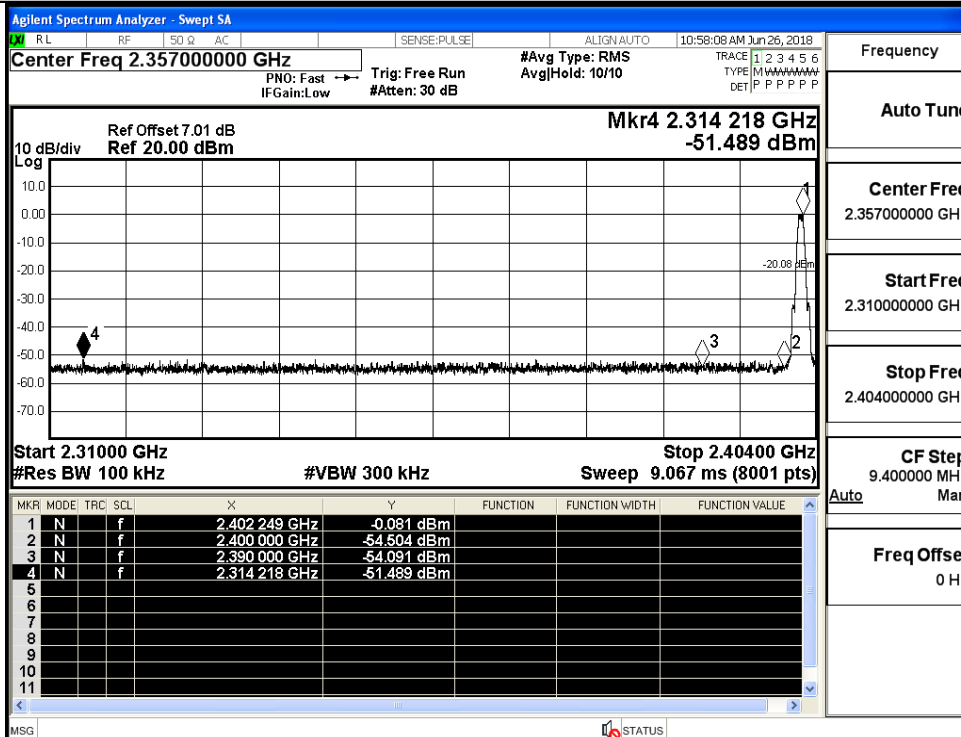


A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.081	-51.489	-20.08	PASS
BT LE	HCH	0.365	-51.190	-19.64	PASS

Test Graphs

LCH



Frequency

Auto Tune

Center Freq

2.357000000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.404000000 GHz

CF Step

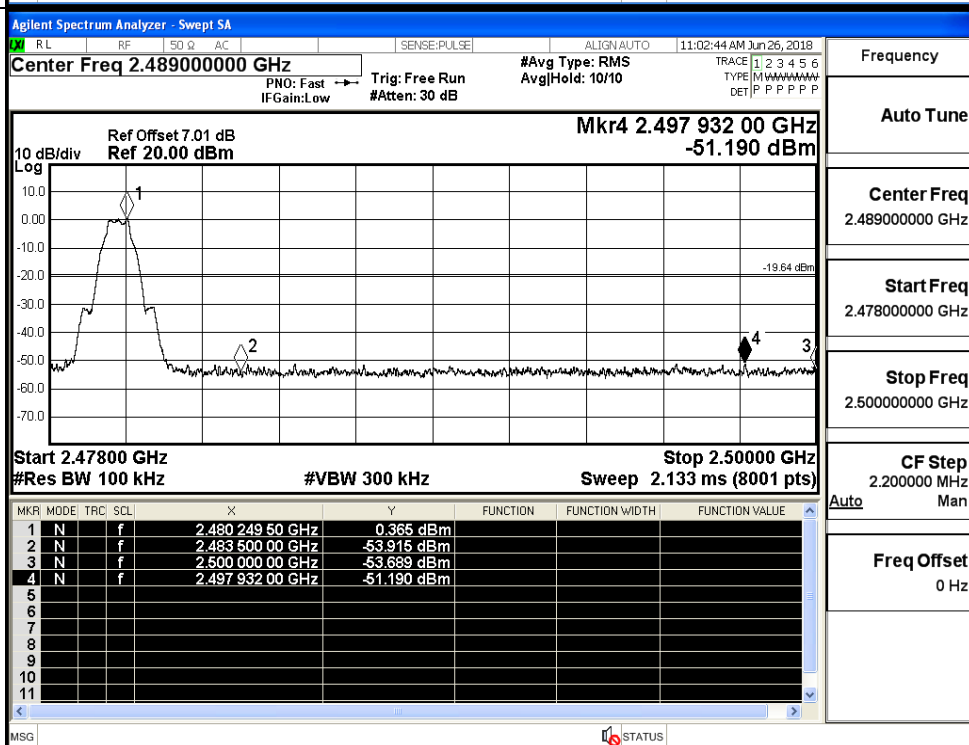
9.400000 MHz

Auto Man

Freq Offset

0 Hz

HCH



Frequency

Auto Tune

Center Freq

2.489000000 GHz

Start Freq

2.478000000 GHz

Stop Freq

2.500000000 GHz

CF Step

2.200000 MHz

Auto Man

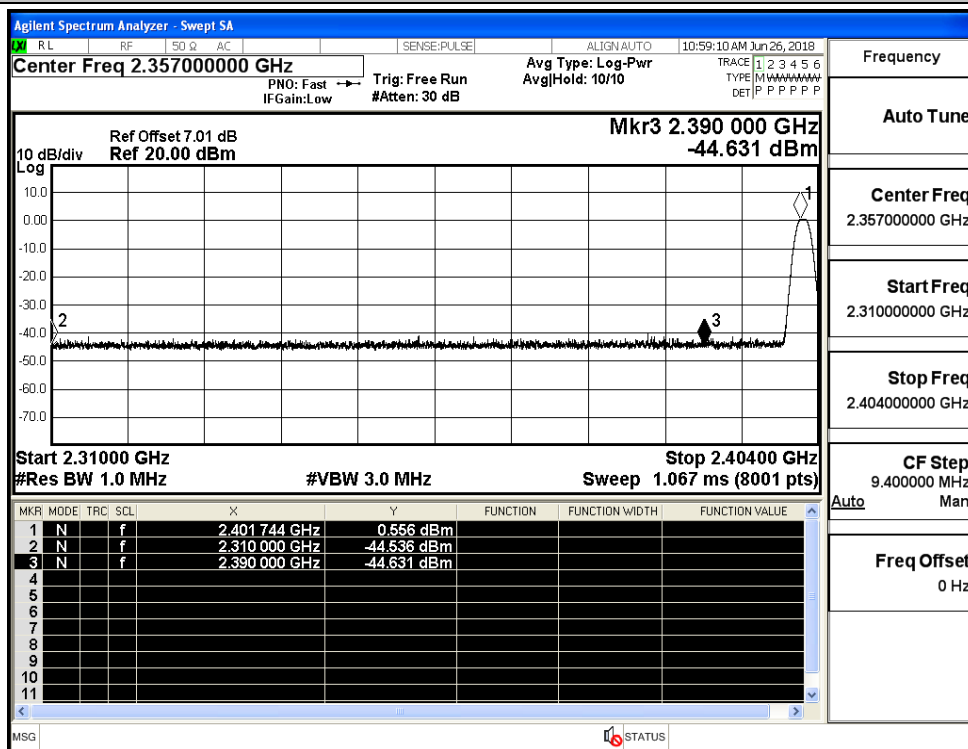
Freq Offset

0 Hz

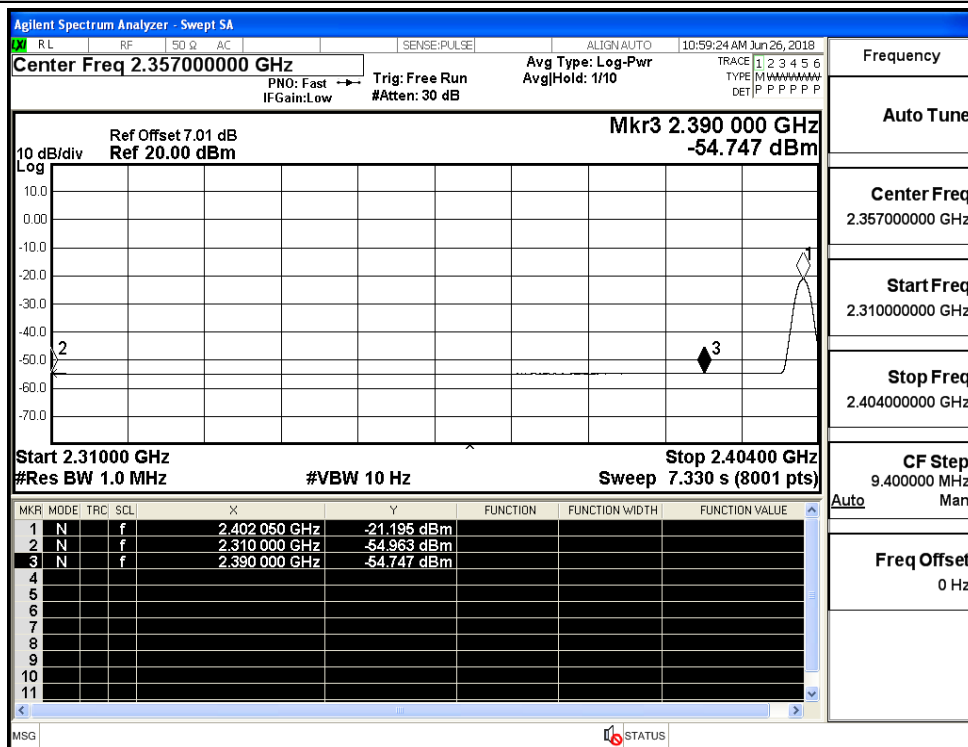
A.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-44.54	2.0	0	52.72	PEAK	74	PASS
		Ant1	2310.0	-54.96	2.0	0	42.29	AV	54	PASS
		Ant1	2390.0	-44.63	2.0	0	52.63	PEAK	74	PASS
		Ant1	2390.0	-54.75	2.0	0	42.51	AV	54	PASS
	2480	Ant1	2483.5	-42.33	2.0	0	54.93	PEAK	74	PASS
		Ant1	2483.5	-54.44	2.0	0	42.82	AV	54	PASS
		Ant1	2500.0	-44.79	2.0	0	52.47	PEAK	74	PASS
		Ant1	2500.0	-54.35	2.0	0	42.91	AV	54	PASS

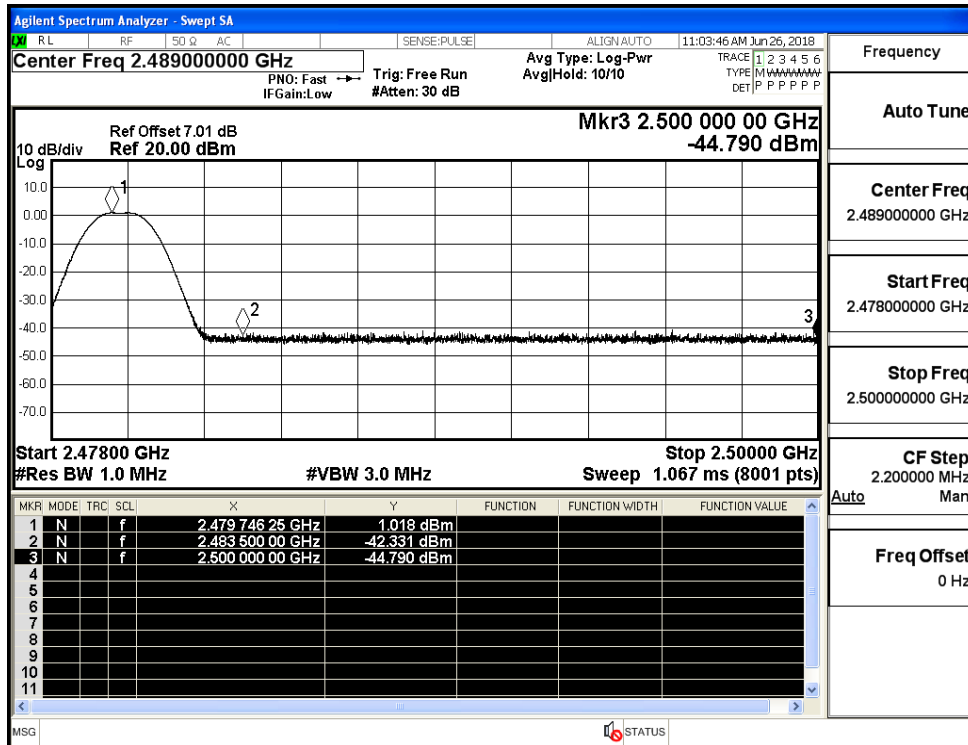
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2402_Ant1_AV



Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2480_Ant1_AV

