

Appendix A

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

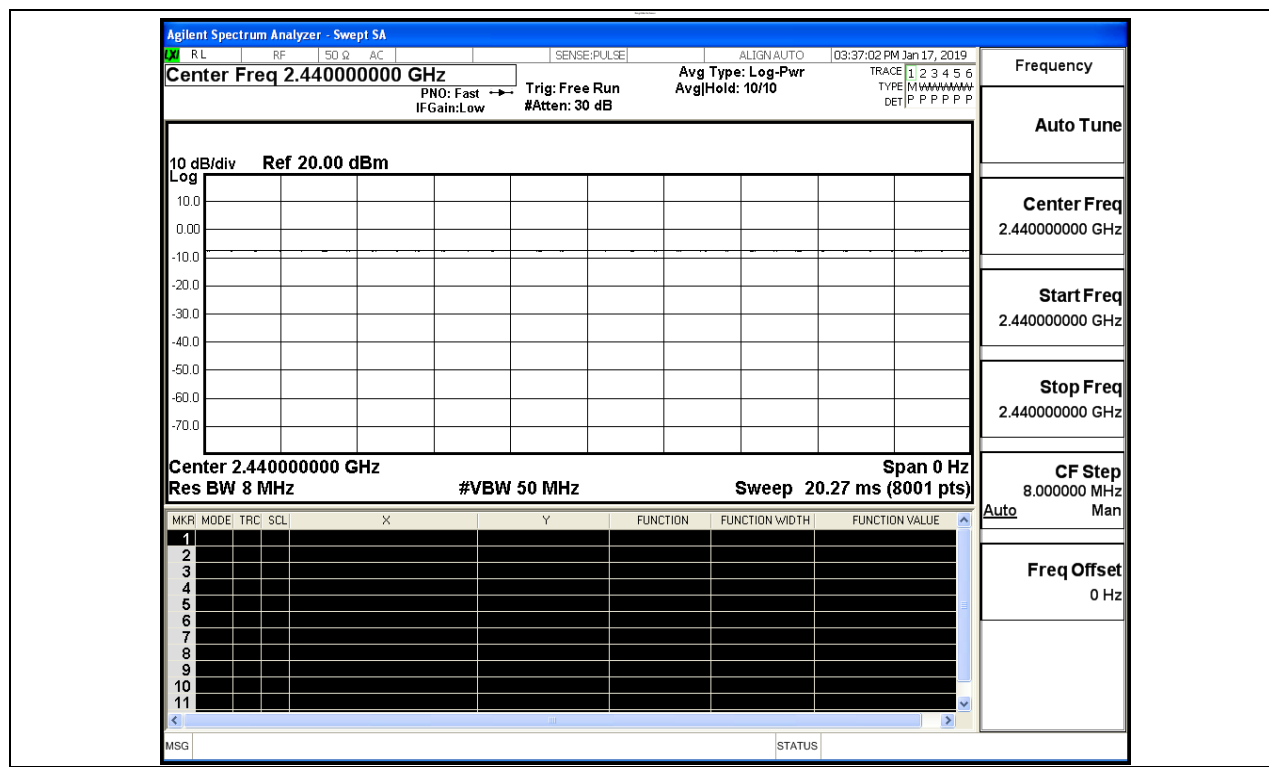
Product Name: Builtin
Trade Mark: Crownstone
Test Model: CR101/02

Environmental Conditions

Temperature:	24.8° C
Relative Humidity:	54.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Diamond.Lu
Supervised by:	Jayden.Zhuo

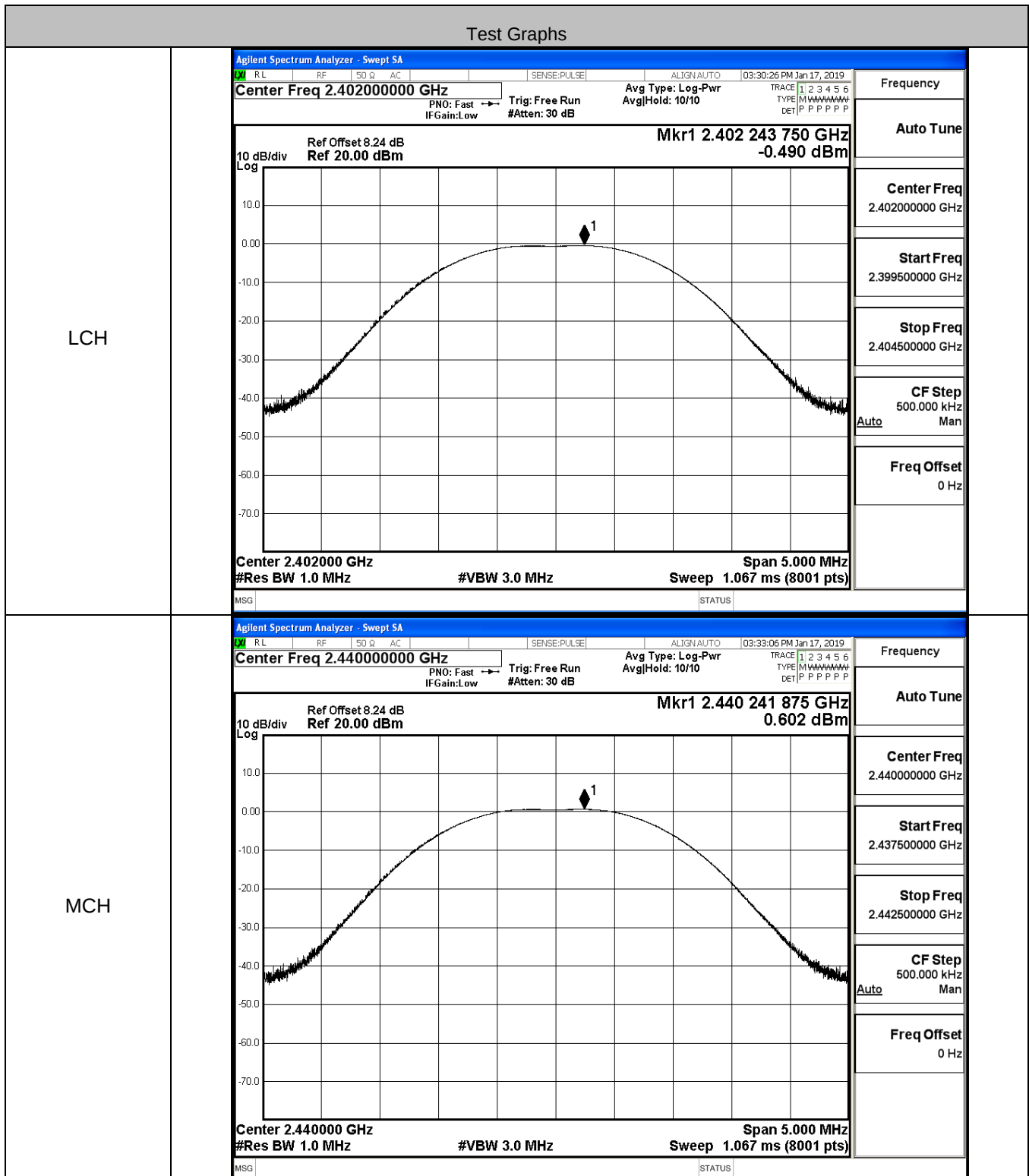
A.1 Duty Cycle

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

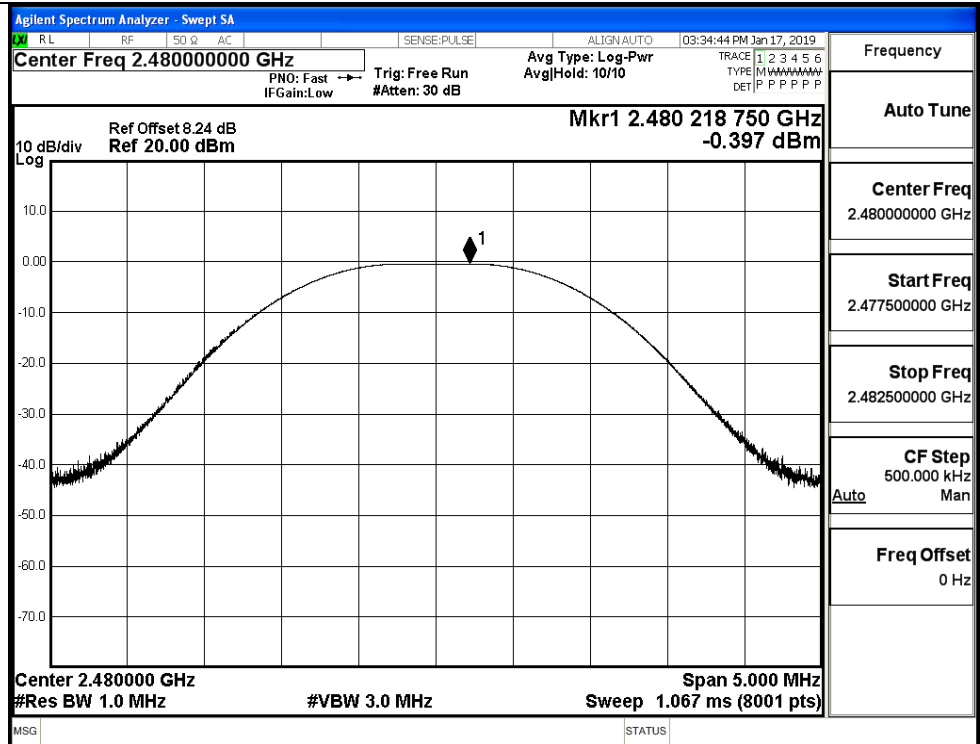


A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.490	30	PASS
BT LE	MCH	0.602	30	PASS
BT LE	HCH	-0.397	30	PASS



HCH

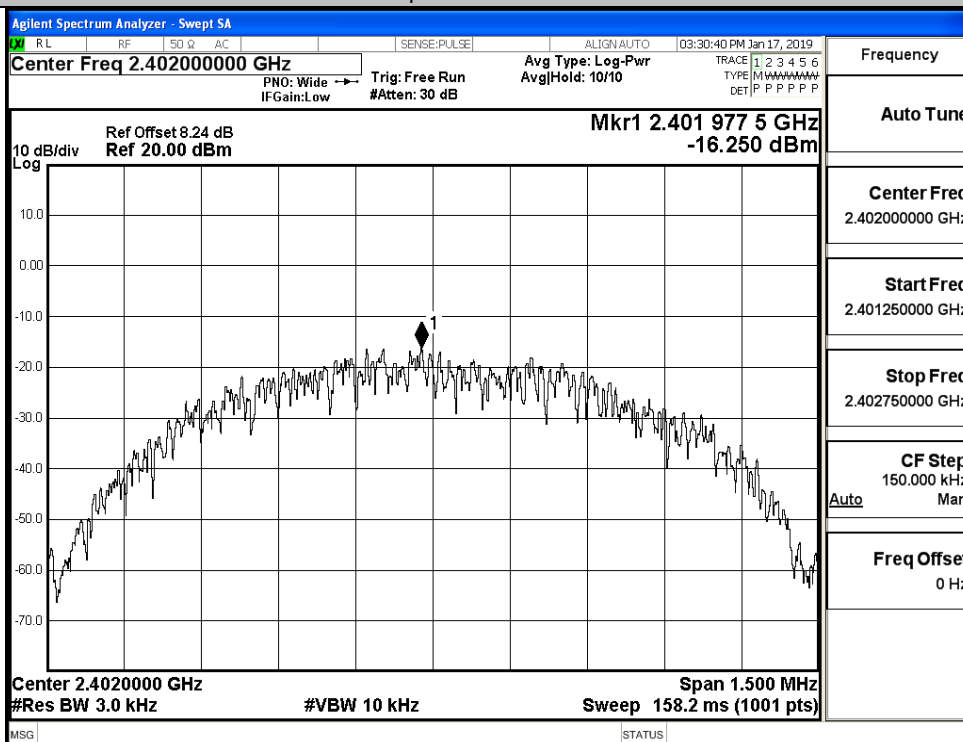


A.3 Maximum Power Spectral Density

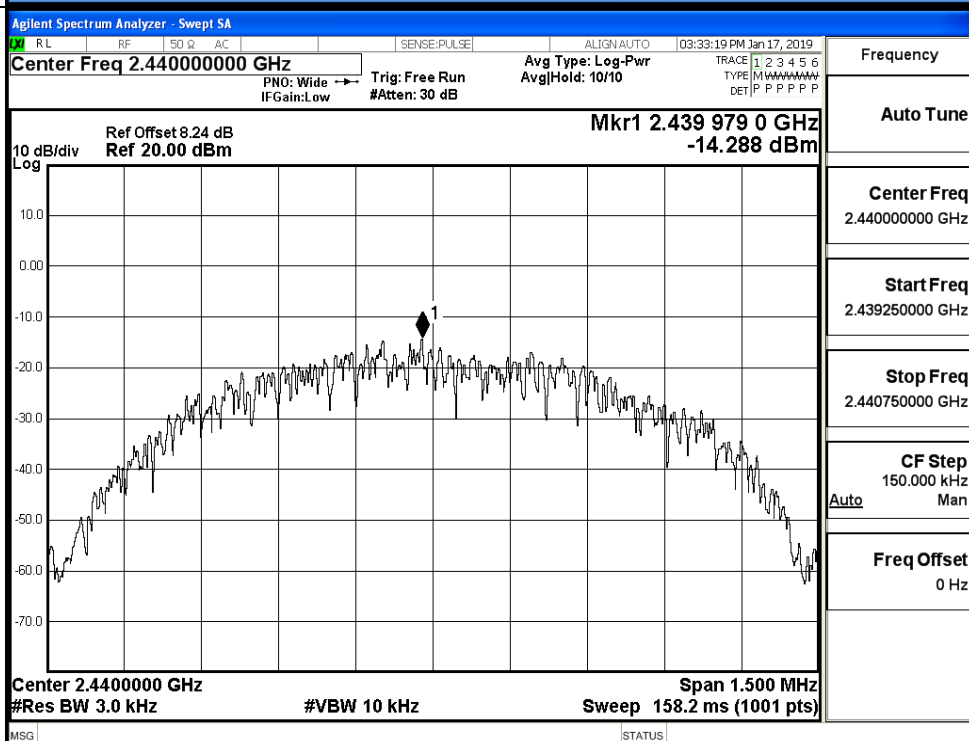
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-16.250	8	PASS
BT LE	MCH	-14.288	8	PASS
BT LE	HCH	-15.487	8	PASS

Test Graphs

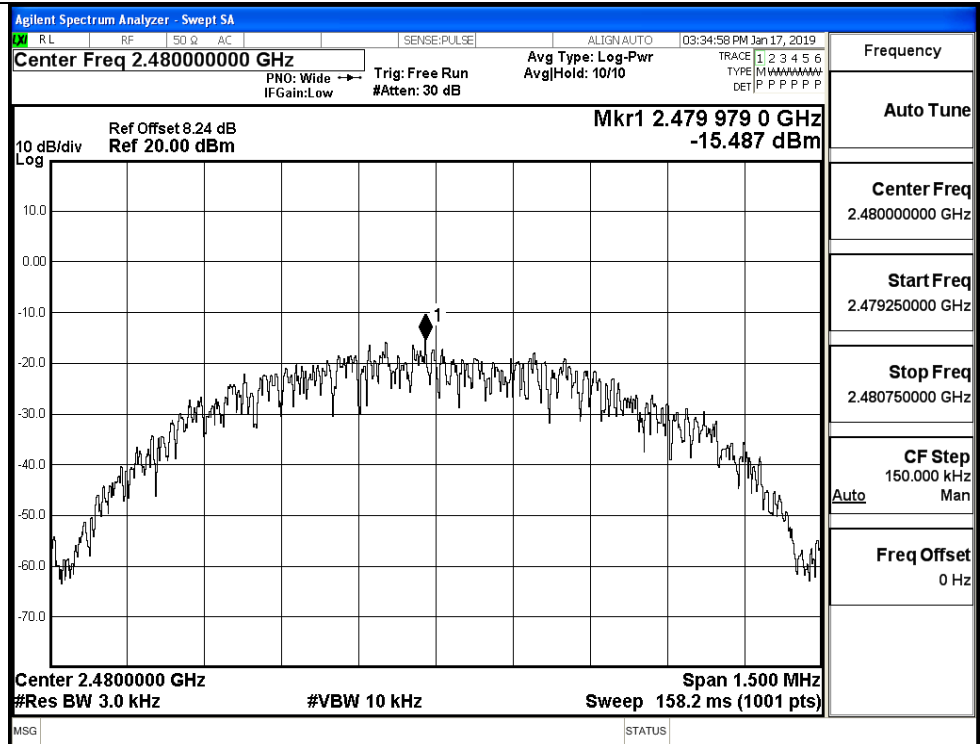
LCH



MCH



HCH

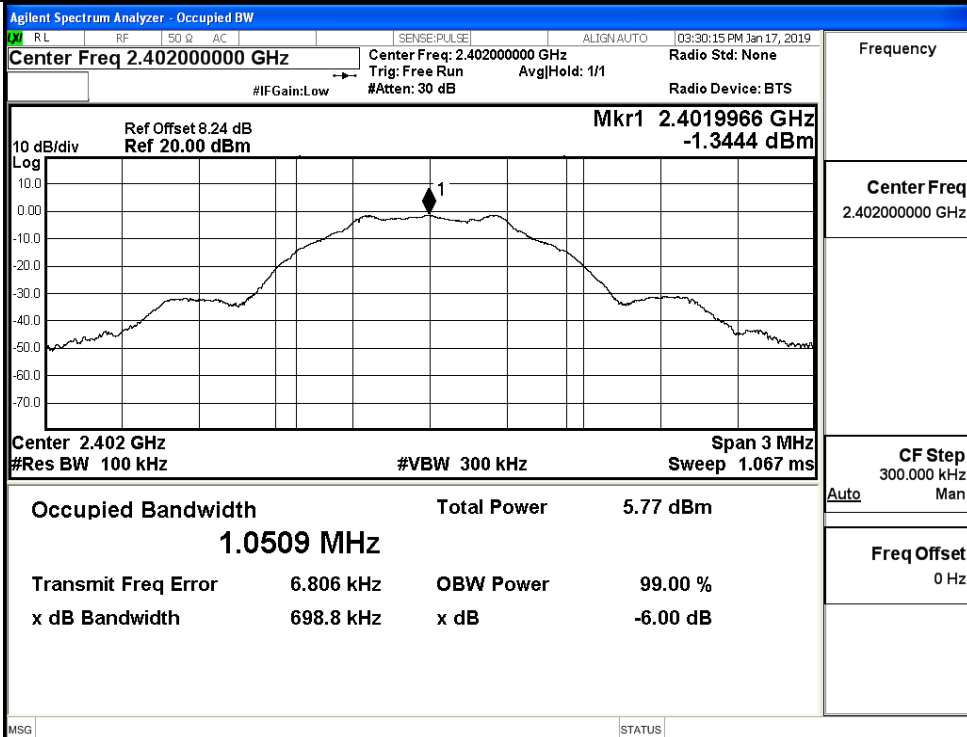


A.4 6dB Bandwidth

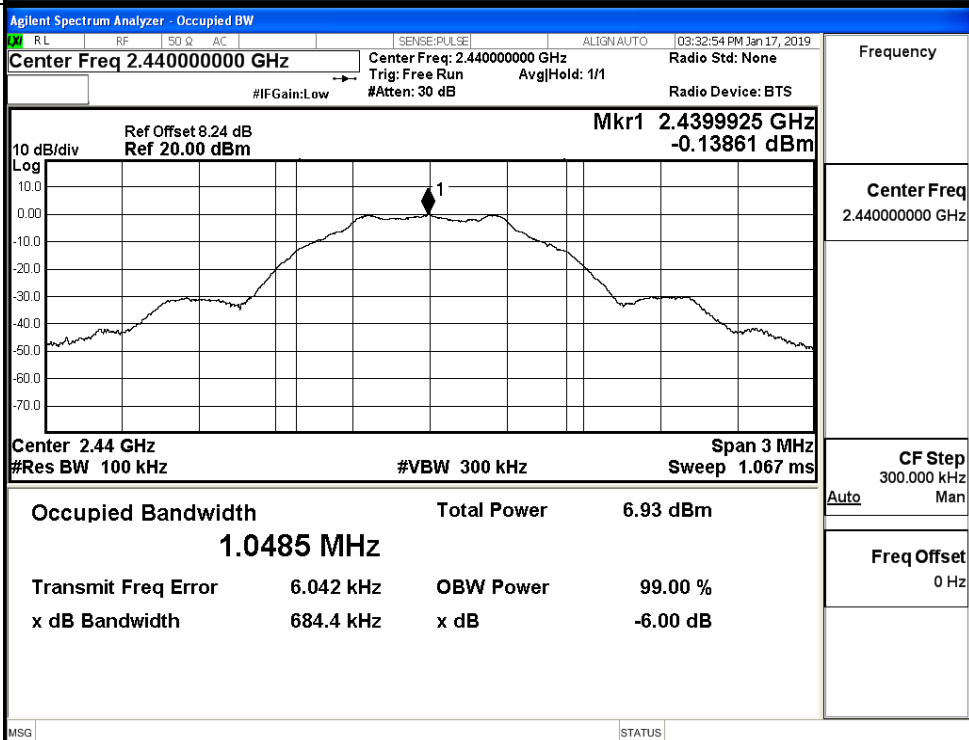
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6988	≥ 0.5	PASS
BT LE	MCH	0.6844	≥ 0.5	PASS
BT LE	HCH	0.6984	≥ 0.5	PASS

Test Graphs

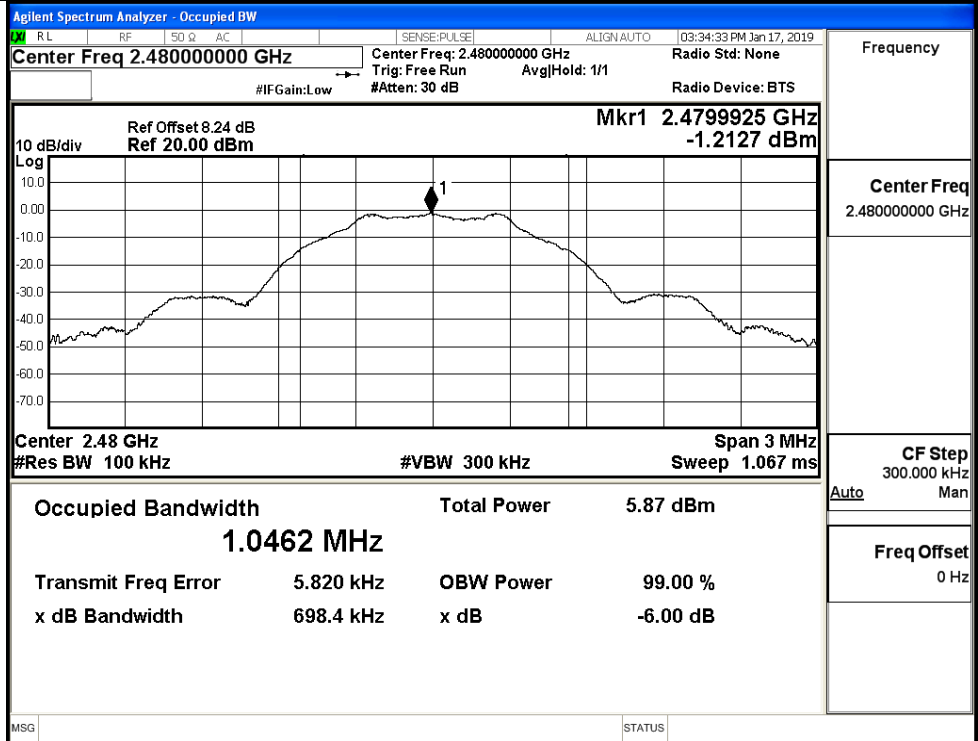
LCH



MCH



HCH

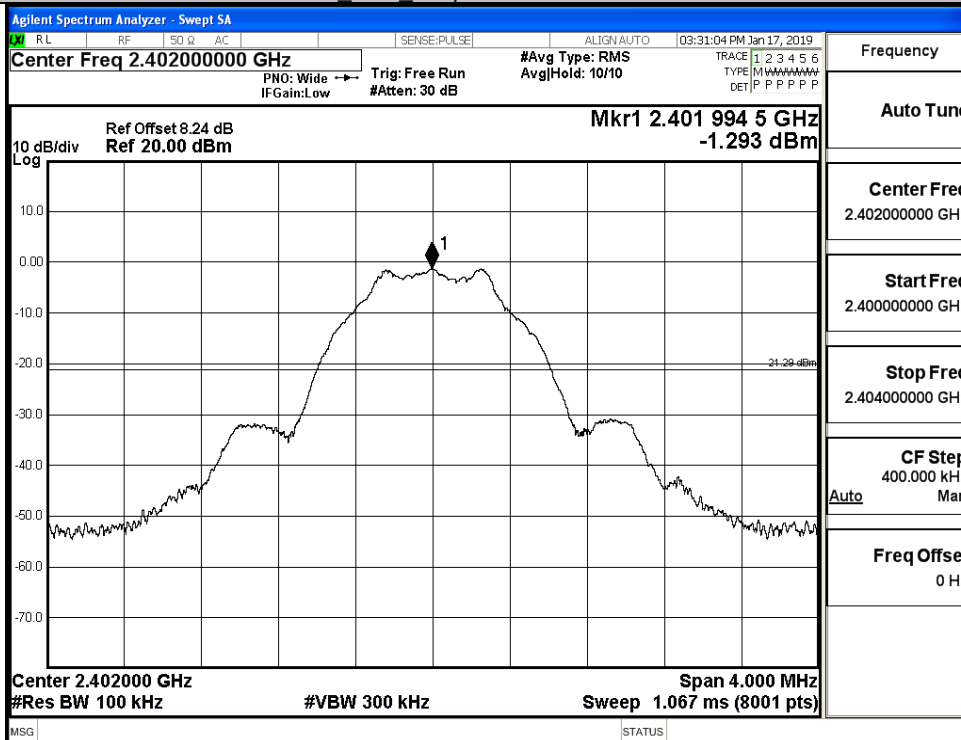


A.6 RF Conducted Spurious Emissions

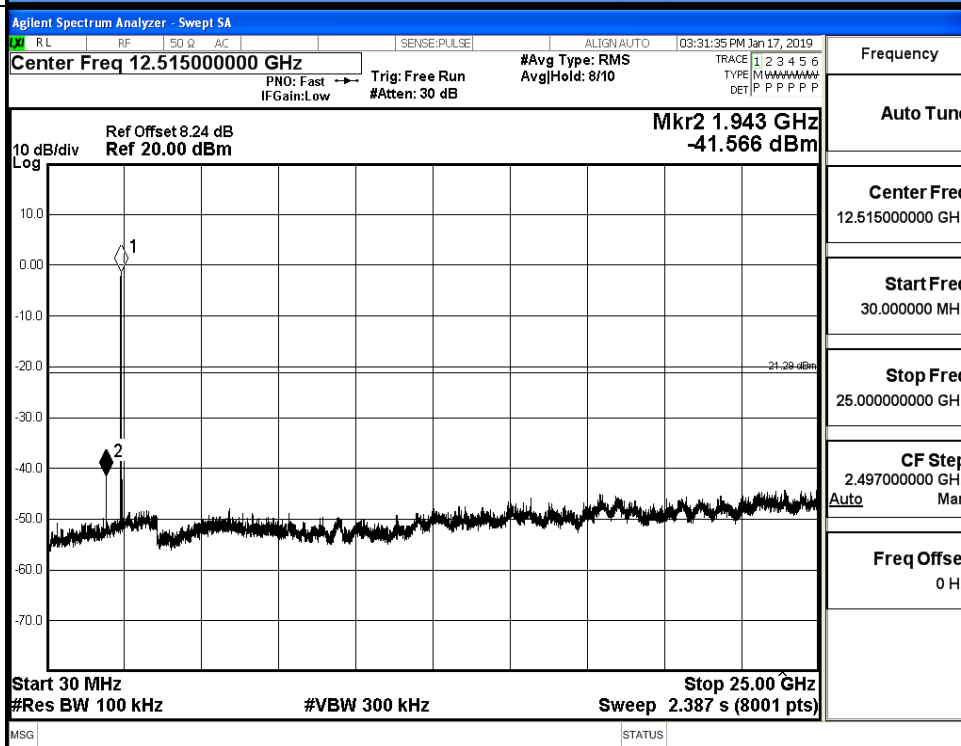
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.293	-41.566	-21.293	PASS
BT LE	MCH	-0.163	-44.015	-20.163	PASS
BT LE	HCH	-1.198	-44.082	-21.198	PASS

BT LE LCH Graphs

Pref/BT LE/LCH

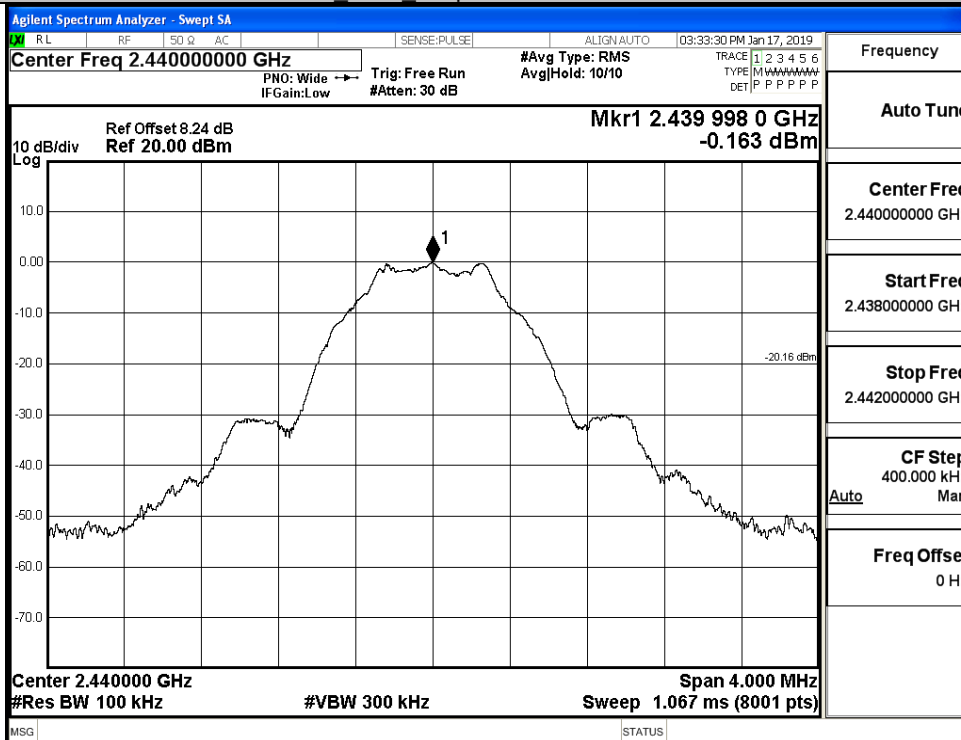


Puw/BT LE/LCH

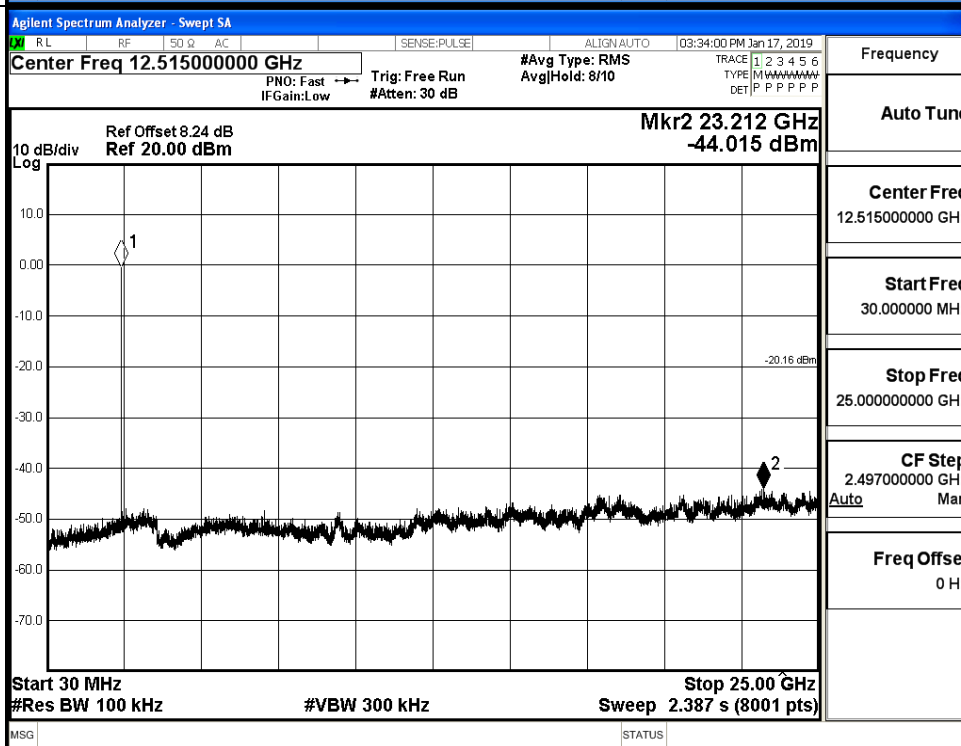


BT LE MCH Graphs

Pref/BT LE/MCH

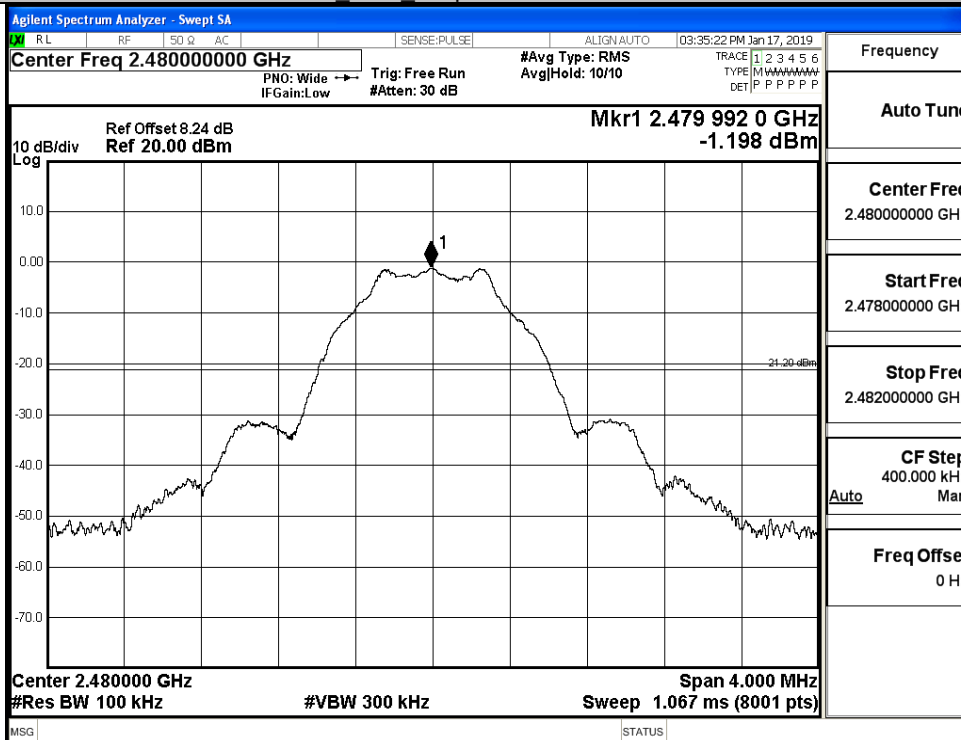


Puw/BT LE/MCH

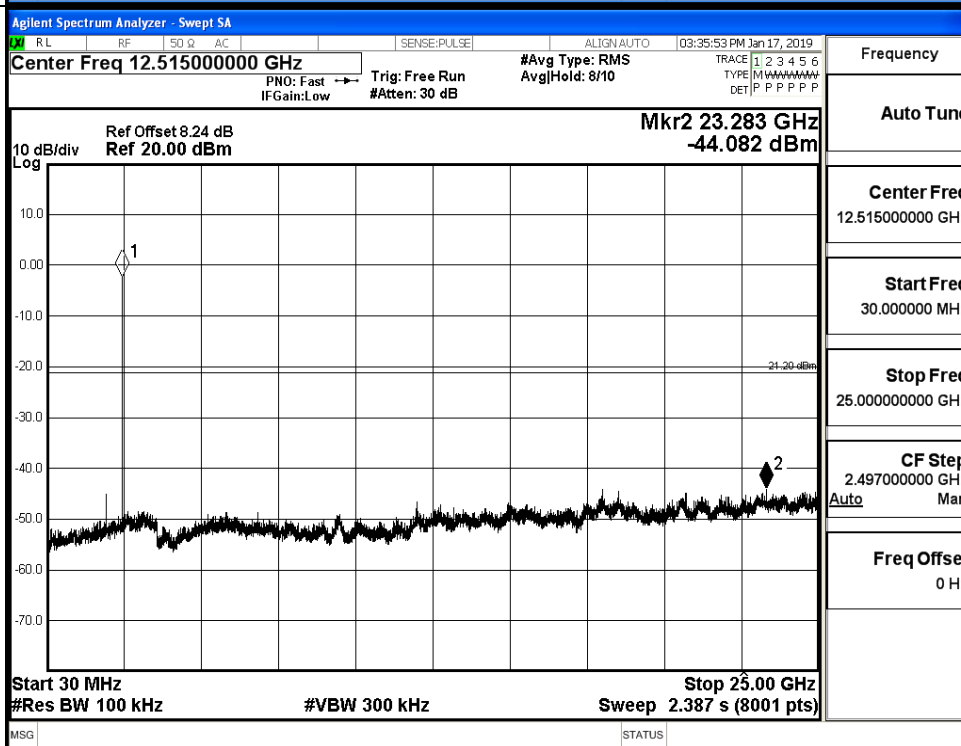


BT LE HCH Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

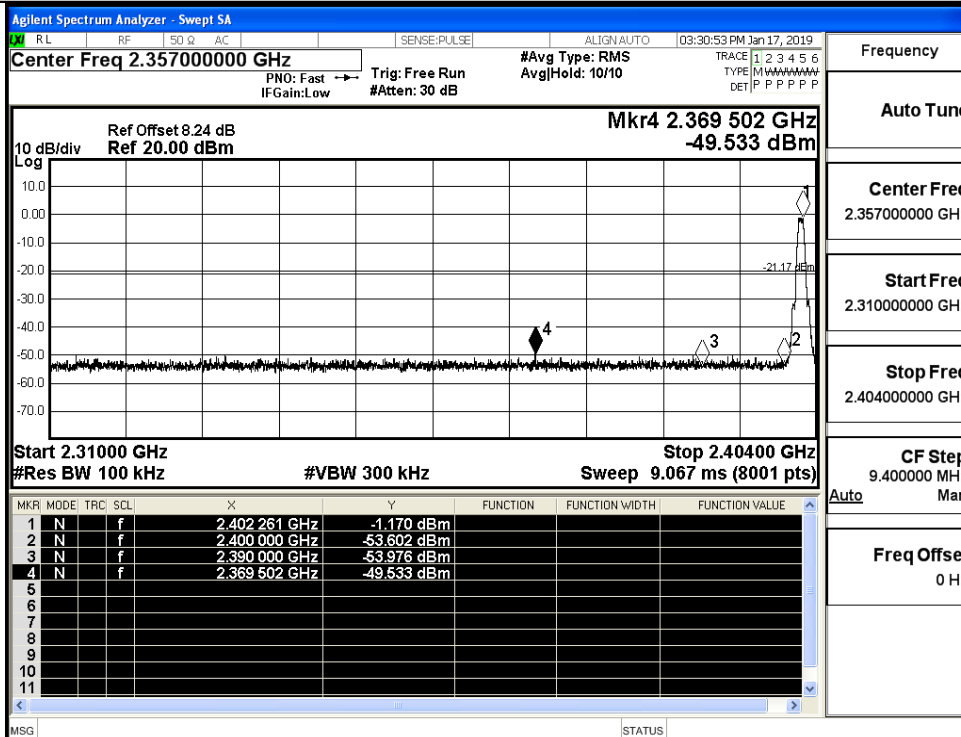


A.7 Band-edge for RF Conducted Emissions

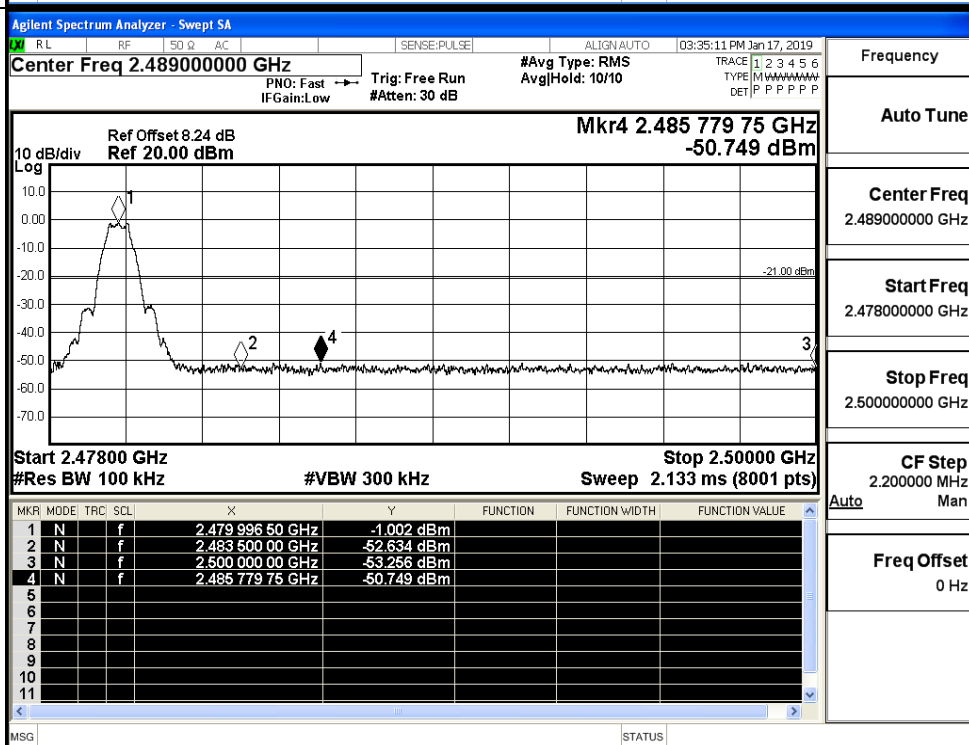
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.170	-49.533	-21.17	PASS
BT LE	HCH	-1.002	-50.749	-21	PASS

Test Graphs

LCH



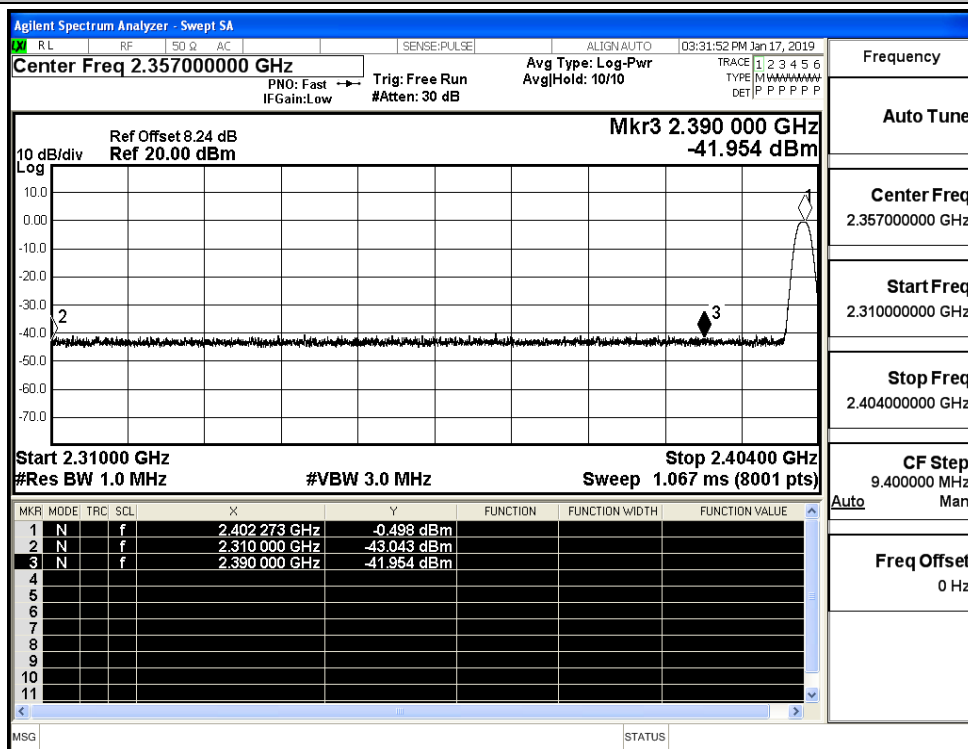
HCH



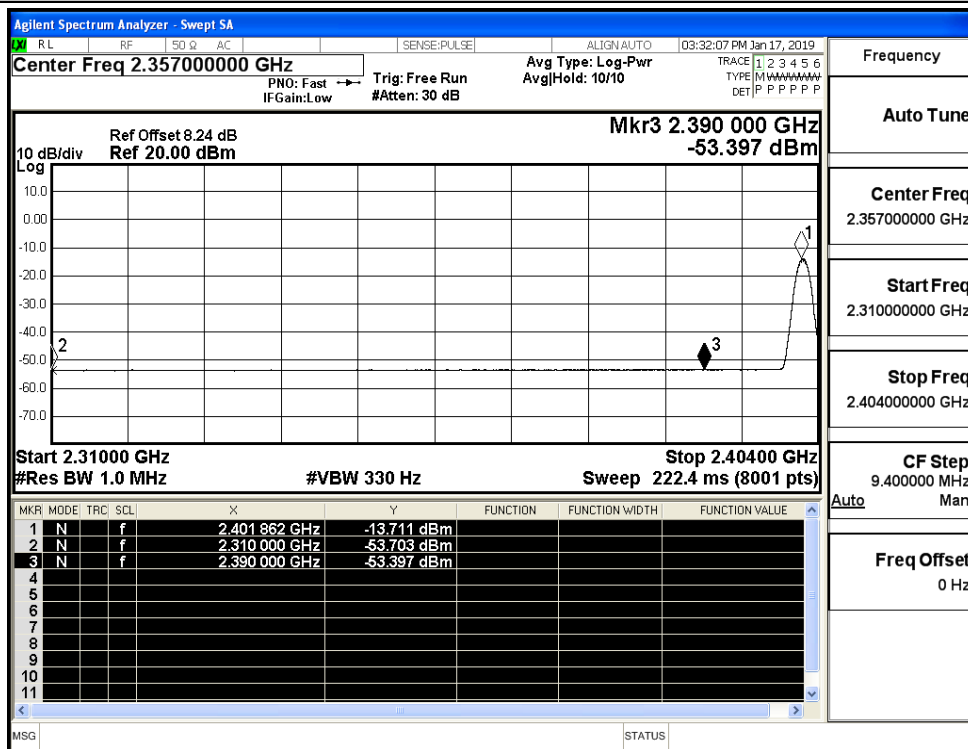
A.8 Restrict-band band-edge measurements

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	-43.043	4.00	0	56.185	PEAK	74	PASS
		Ant1	2310.0	-53.703	4.00	0	45.525	AV	54	PASS
		Ant1	2390.0	-41.954	4.00	0	57.274	PEAK	74	PASS
		Ant1	2390.0	-53.397	4.00	0	45.831	AV	54	PASS
	2480	Ant1	2483.5	-43.520	4.00	0	55.708	PEAK	74	PASS
		Ant1	2483.5	-53.202	4.00	0	46.026	AV	54	PASS
		Ant1	2500.0	-41.086	4.00	0	58.142	PEAK	74	PASS
		Ant1	2500.0	-53.017	4.00	0	46.211	AV	54	PASS

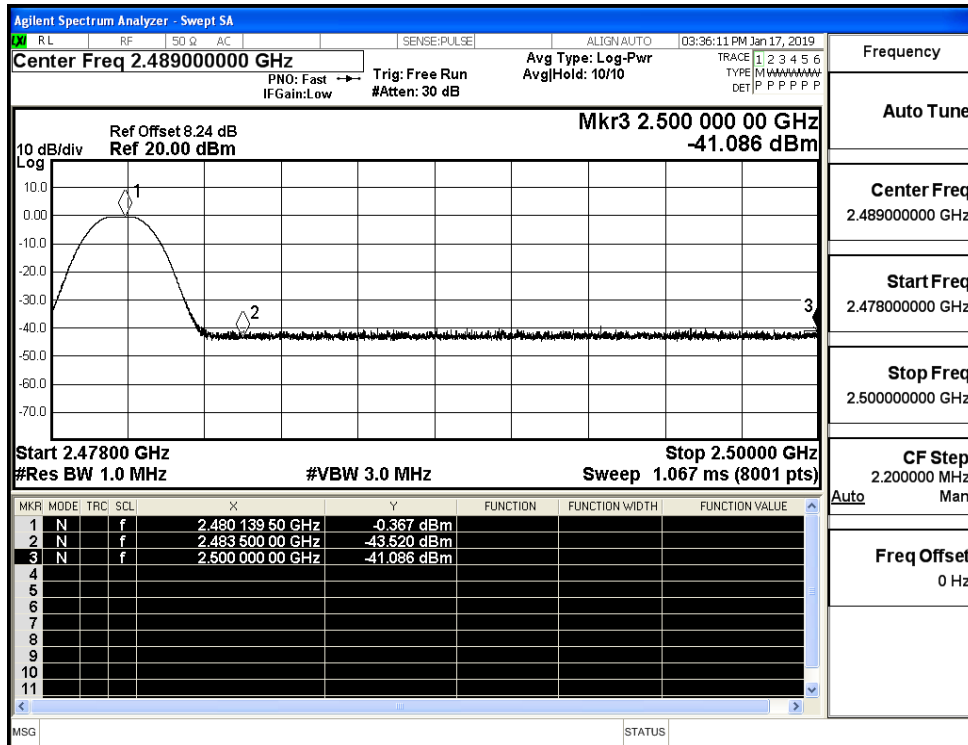
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

