

Appendix B

RF Test Data for BT LE V5.0 (Conducted Measurement)

Product Name: True wireless earbuds

Trade Mark: Happy Plugs

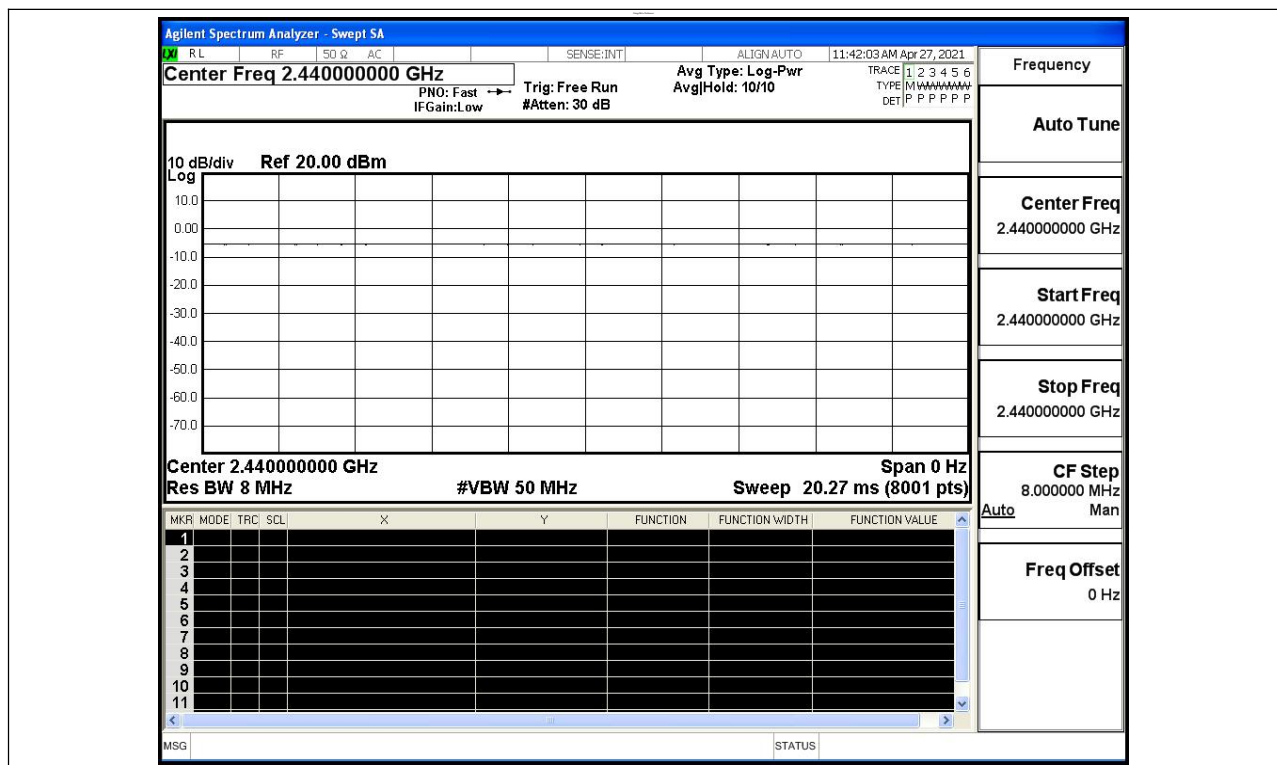
Test Model: Air 1 Zen

Environmental Conditions

Temperature:	24.6 ° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Kay Hu
Supervised by:	Li Huan

B.1 Duty Cycle

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

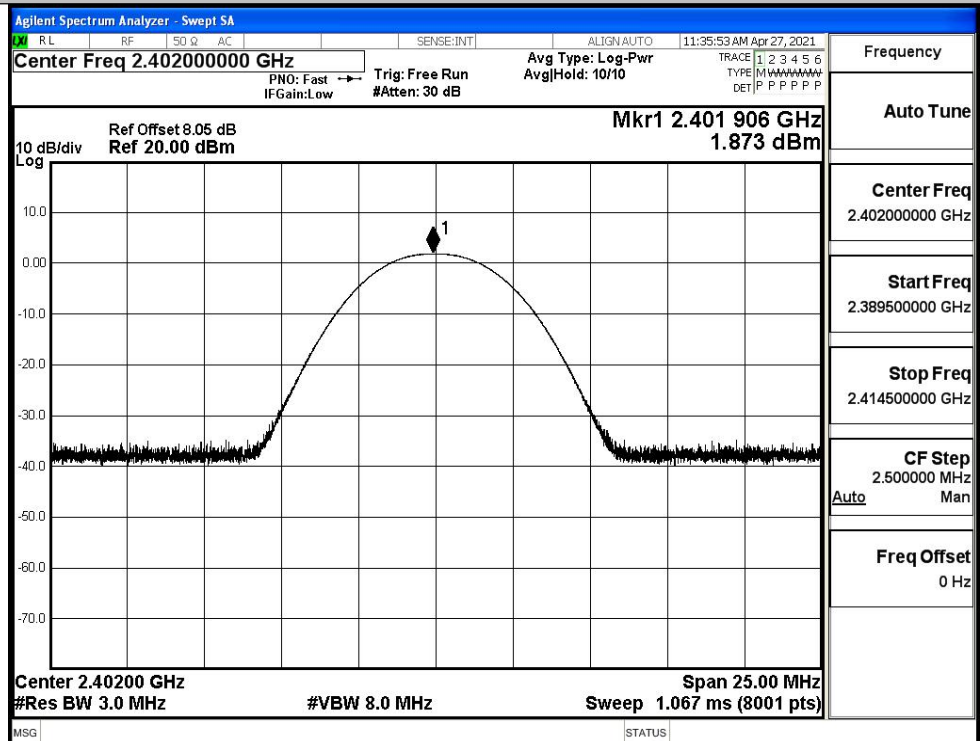


B.2 Maximum Conducted Peak Output Power

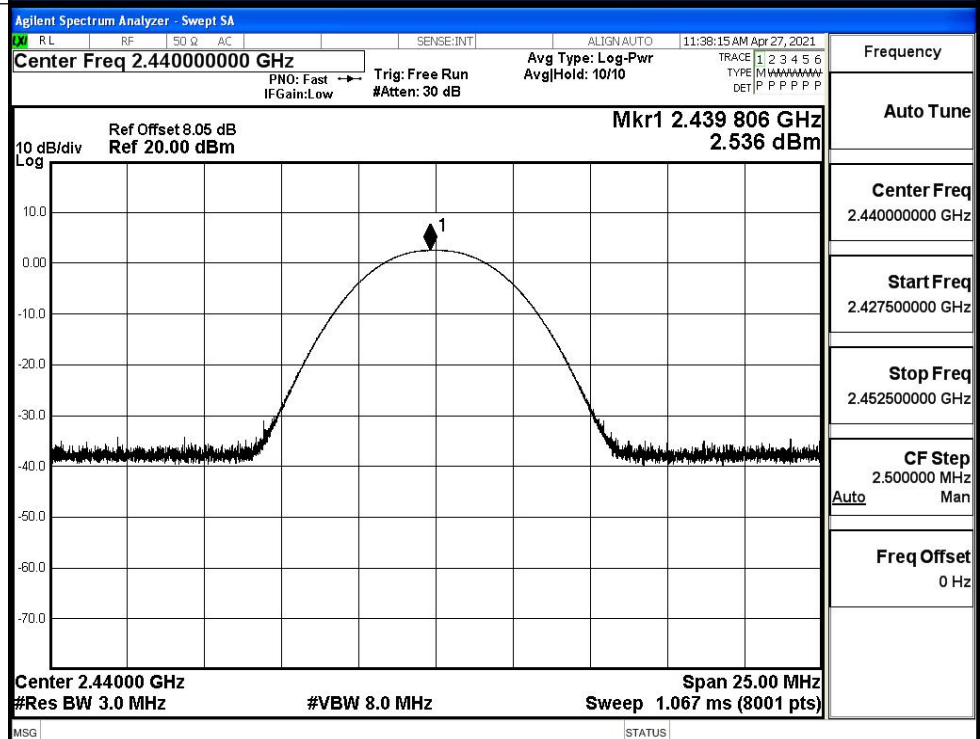
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.873	30	PASS
BT LE	MCH	2.536	30	PASS
BT LE	HCH	2.462	30	PASS

Test Graphs

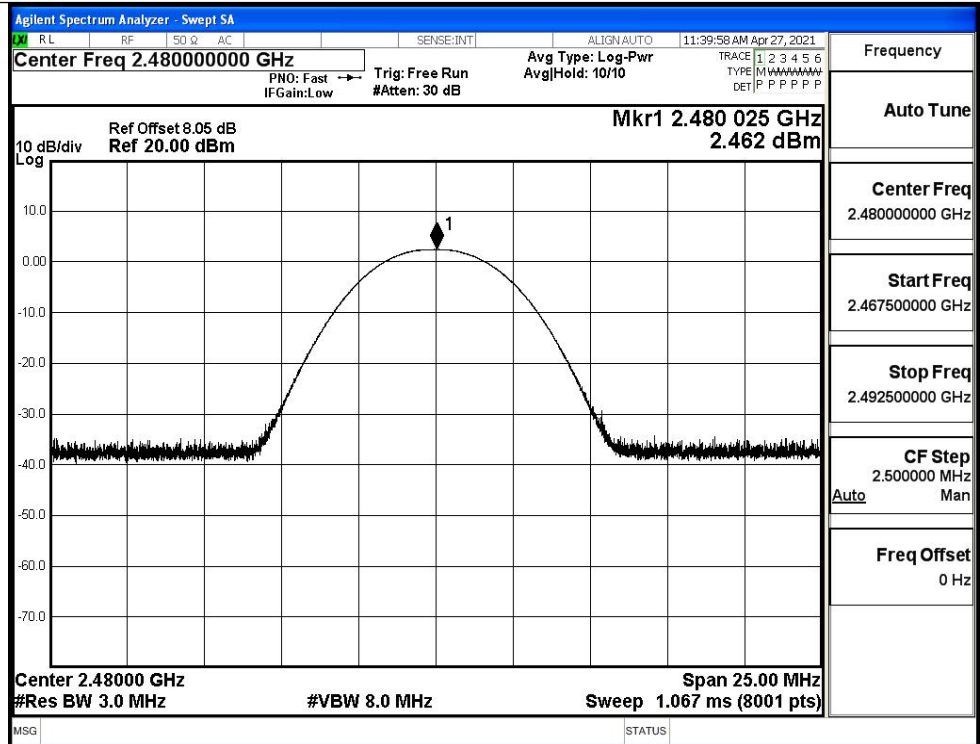
LCH



MCH



HCH

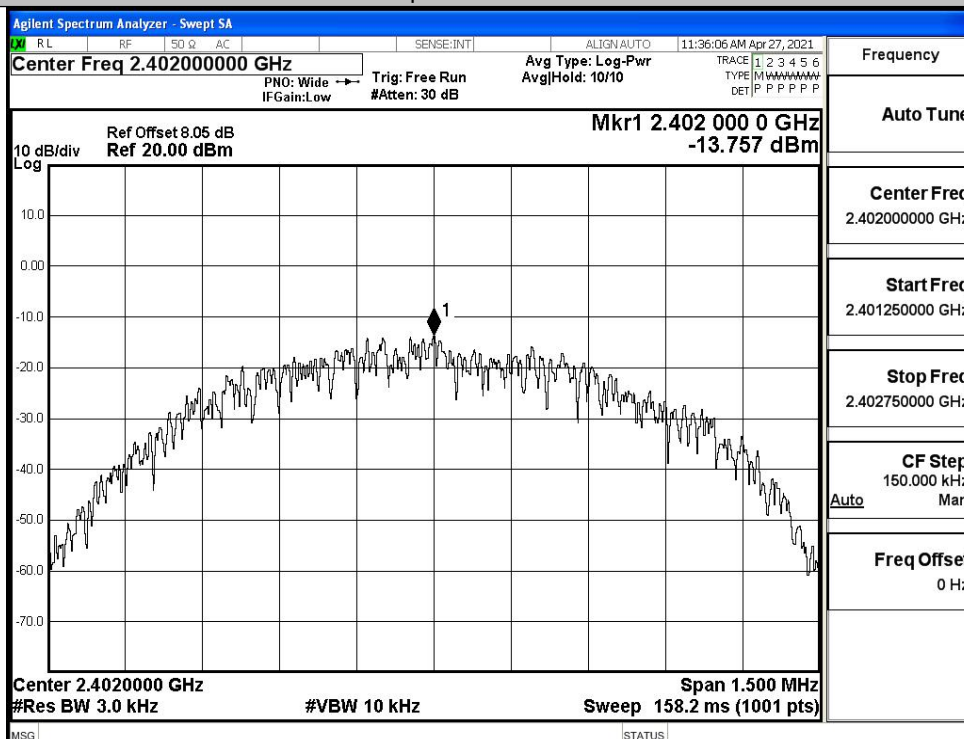


B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-13.757	8	PASS
BT LE	MCH	-13.101	8	PASS
BT LE	HCH	-12.998	8	PASS

Test Graphs

LCH

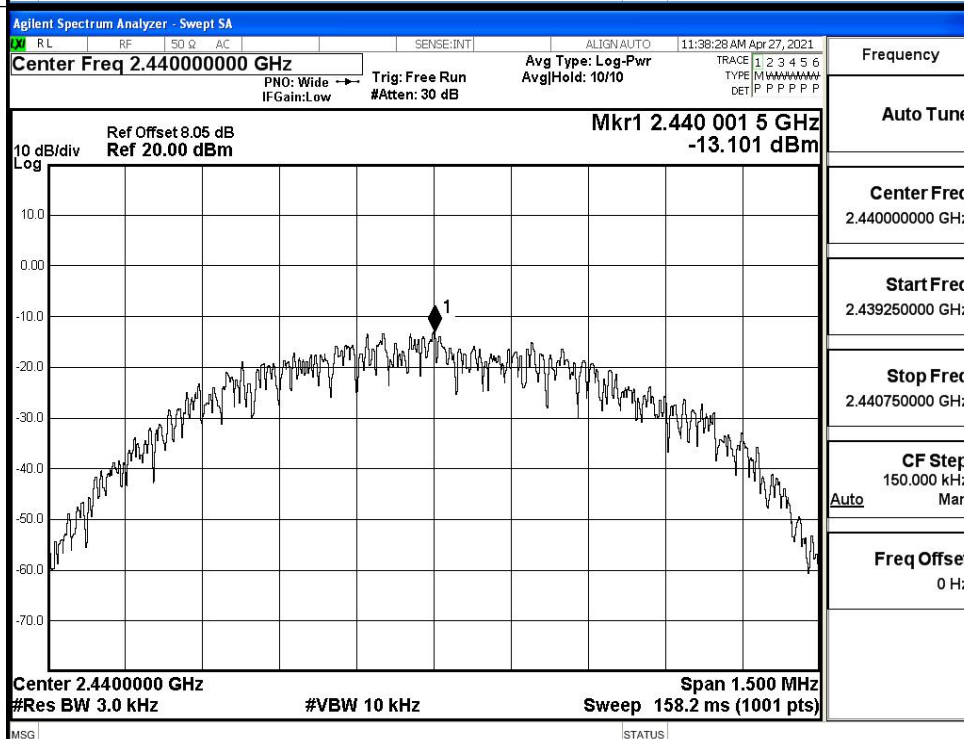


Frequency

Auto Tune

Center Freq
2.402000000 GHzStart Freq
2.401250000 GHzStop Freq
2.402750000 GHzCF Step
150.000 kHz
Auto ManFreq Offset
0 Hz

MCH

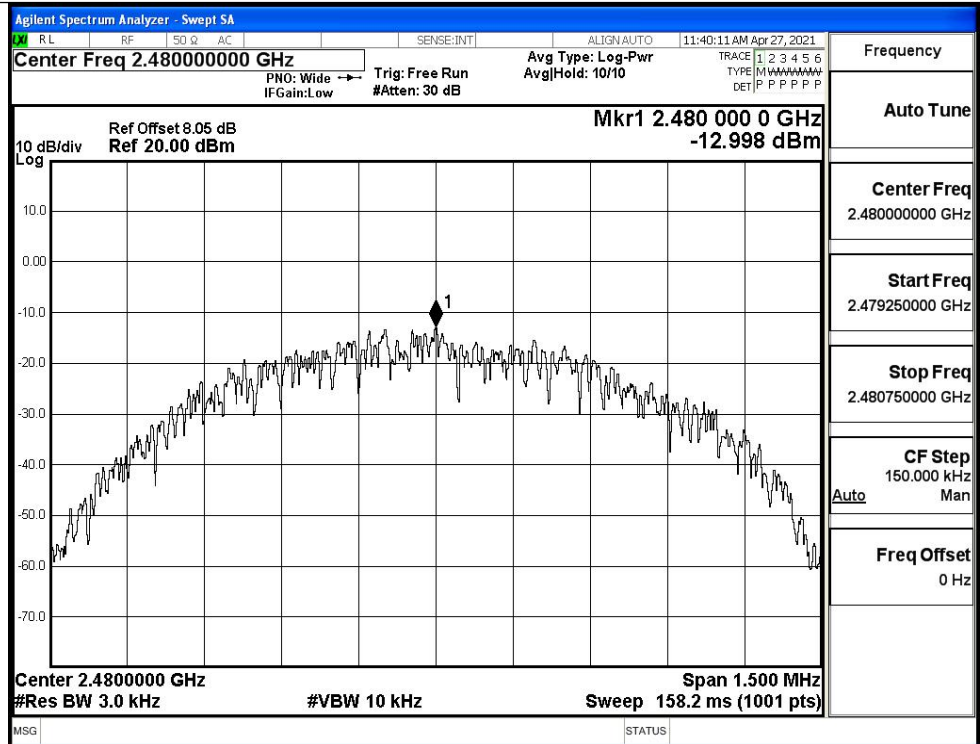


Frequency

Auto Tune

Center Freq
2.440000000 GHzStart Freq
2.439250000 GHzStop Freq
2.440750000 GHzCF Step
150.000 kHz
Auto ManFreq Offset
0 Hz

HCH

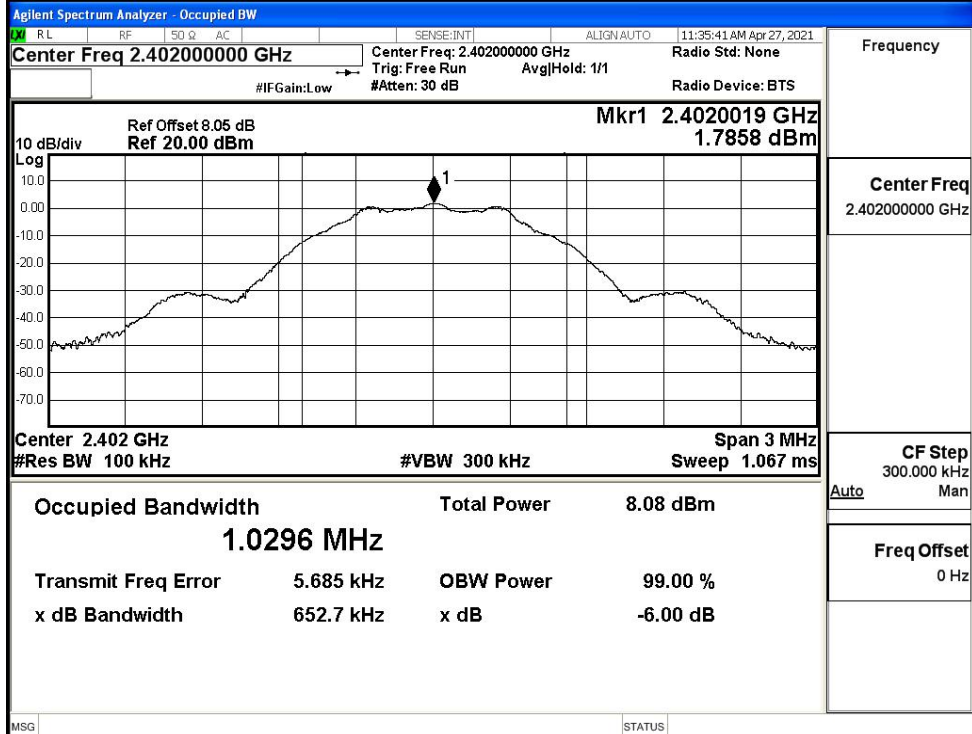


B.4 6dB Bandwidth

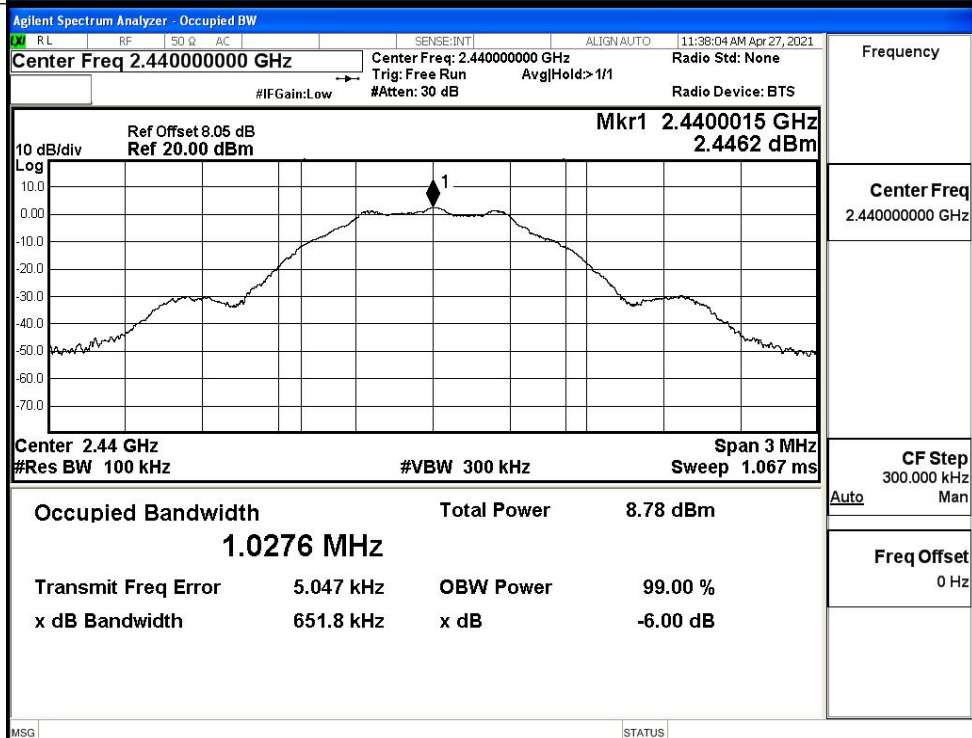
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6527	≥ 0.5	PASS
BT LE	MCH	0.6518	≥ 0.5	PASS
BT LE	HCH	0.6503	≥ 0.5	PASS

Test Graphs

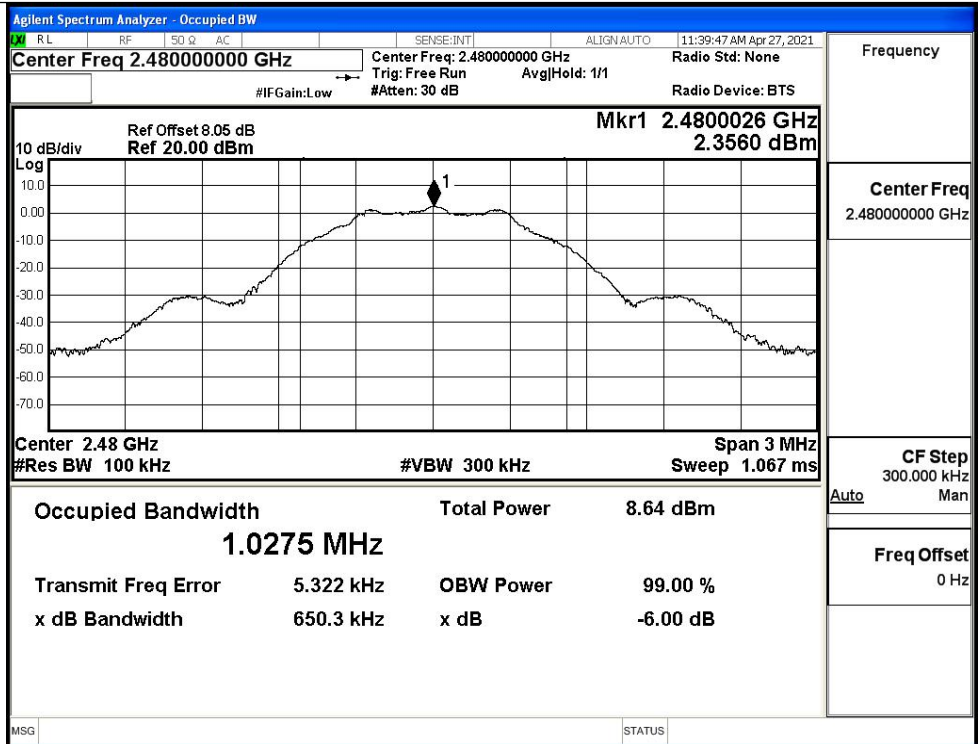
LCH



MCH



HCH

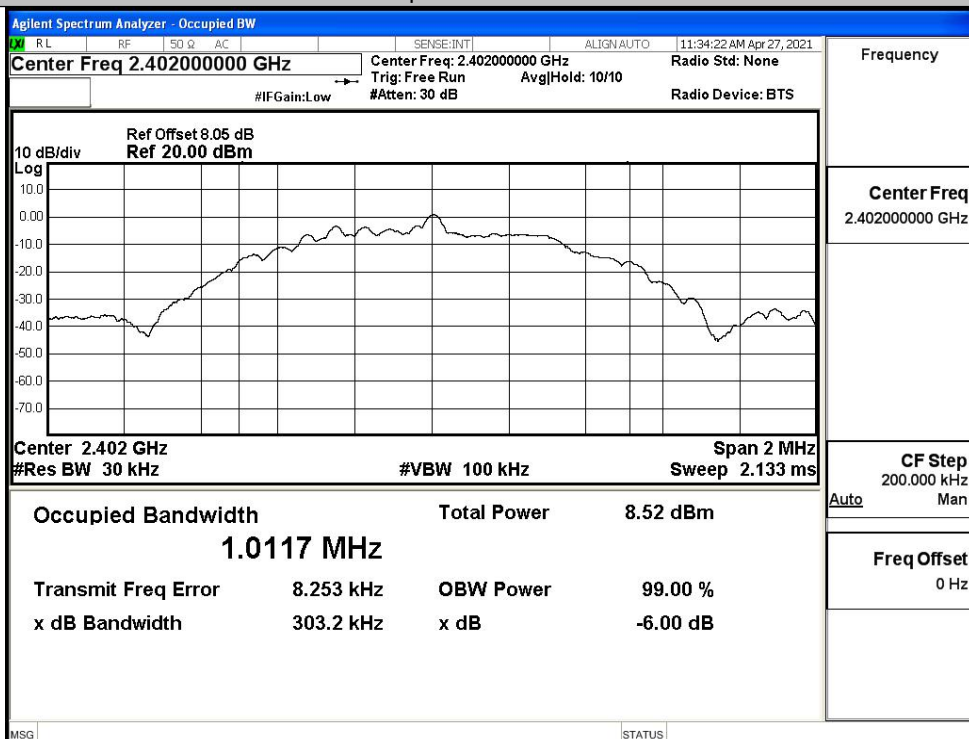


B.5 Occupied Bandwidth

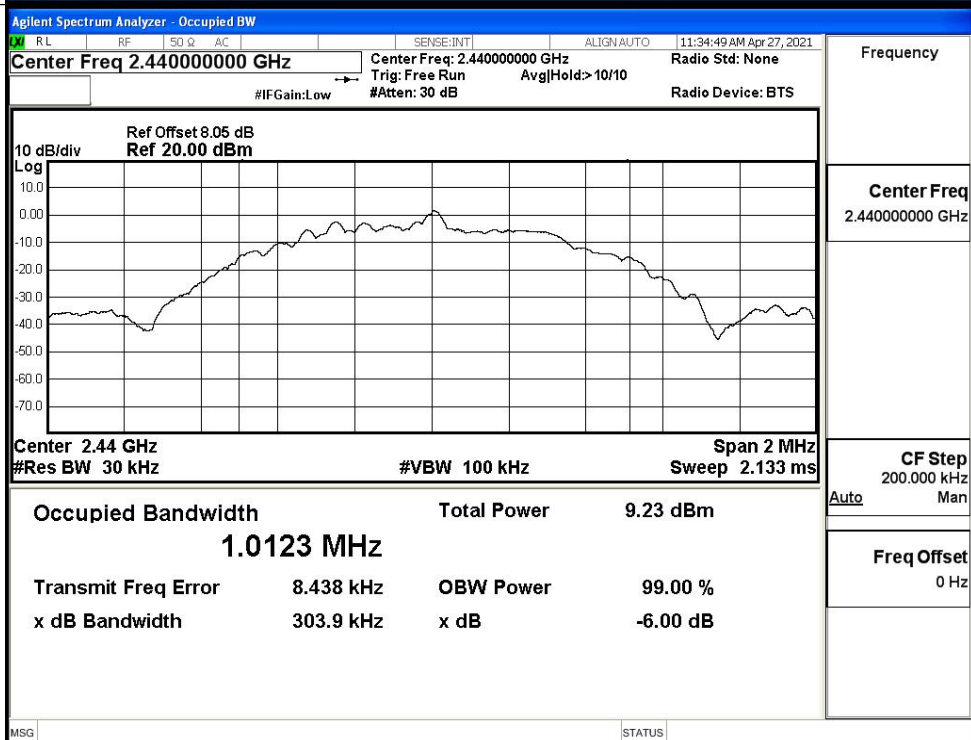
Mode	Channel	Occupied Bandwidth [MHz]	Verdict
BT LE	LCH	1.0117	PASS
BT LE	MCH	1.0123	PASS
BT LE	HCH	1.0131	PASS

Test Graphs

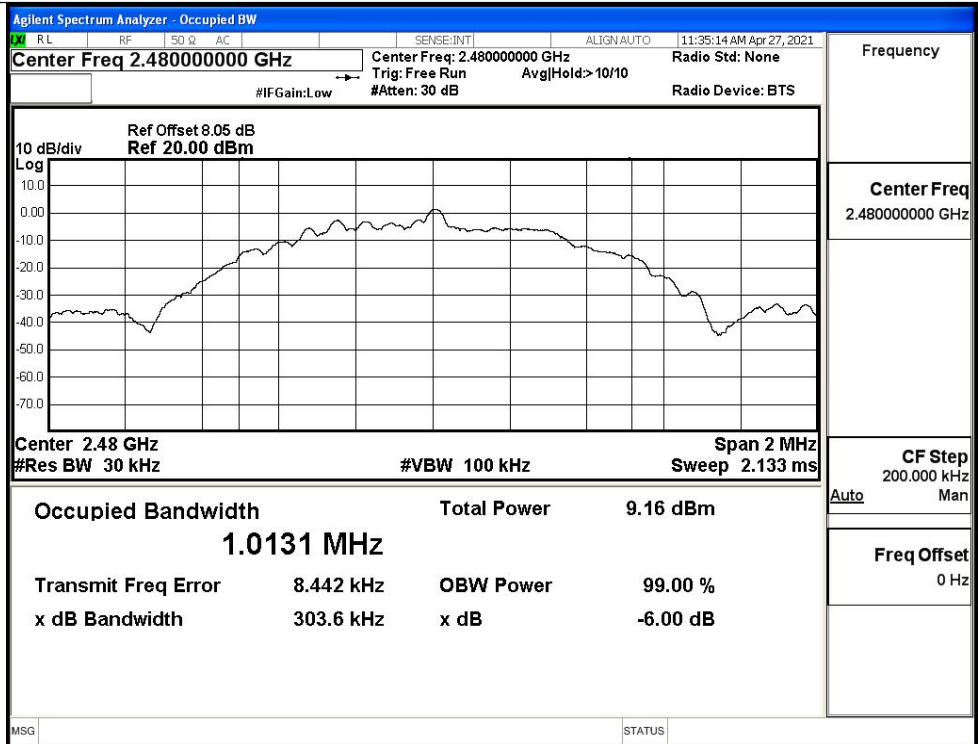
LCH



MCH



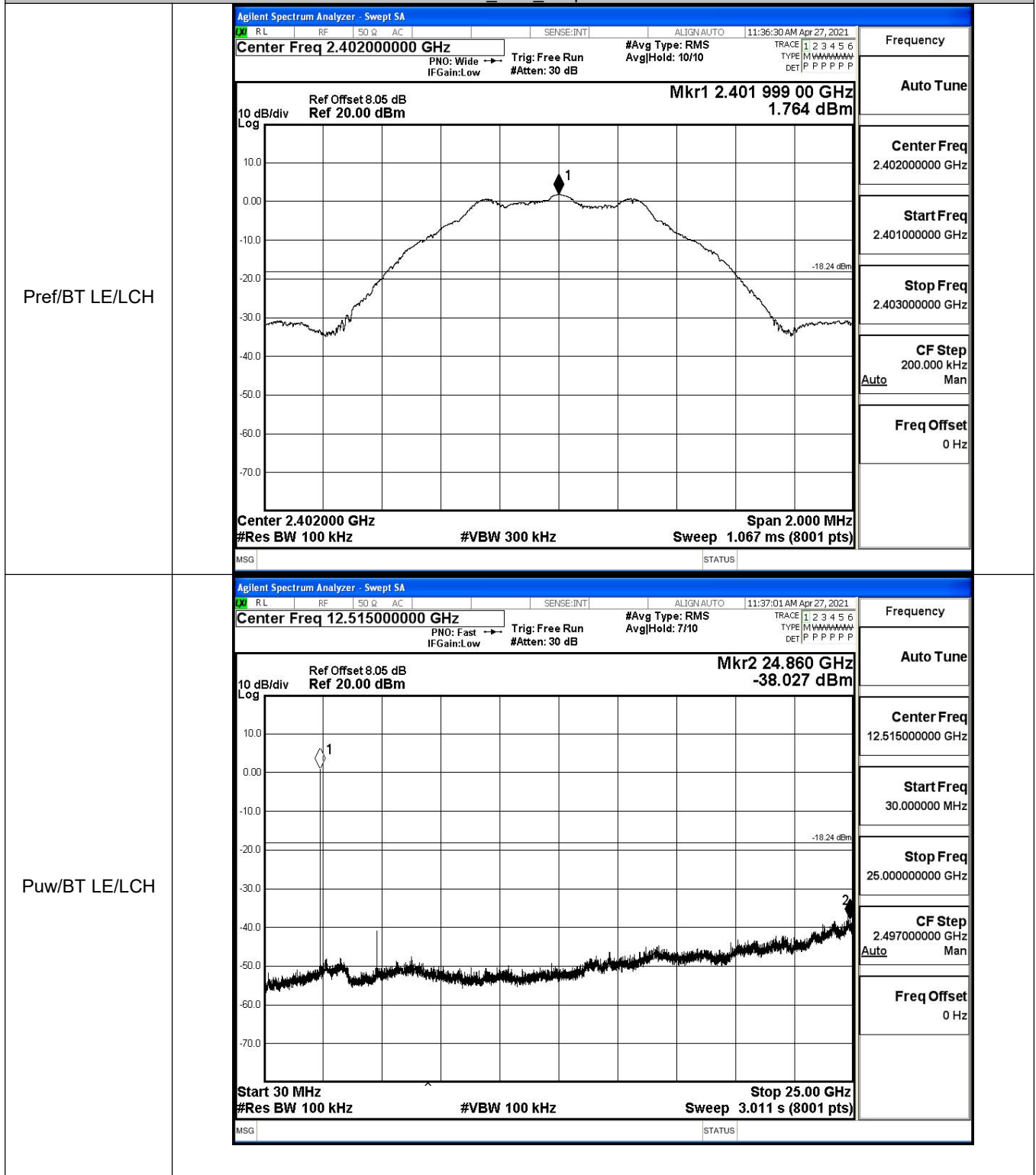
HCH



B.6 RF Conducted Spurious Emissions

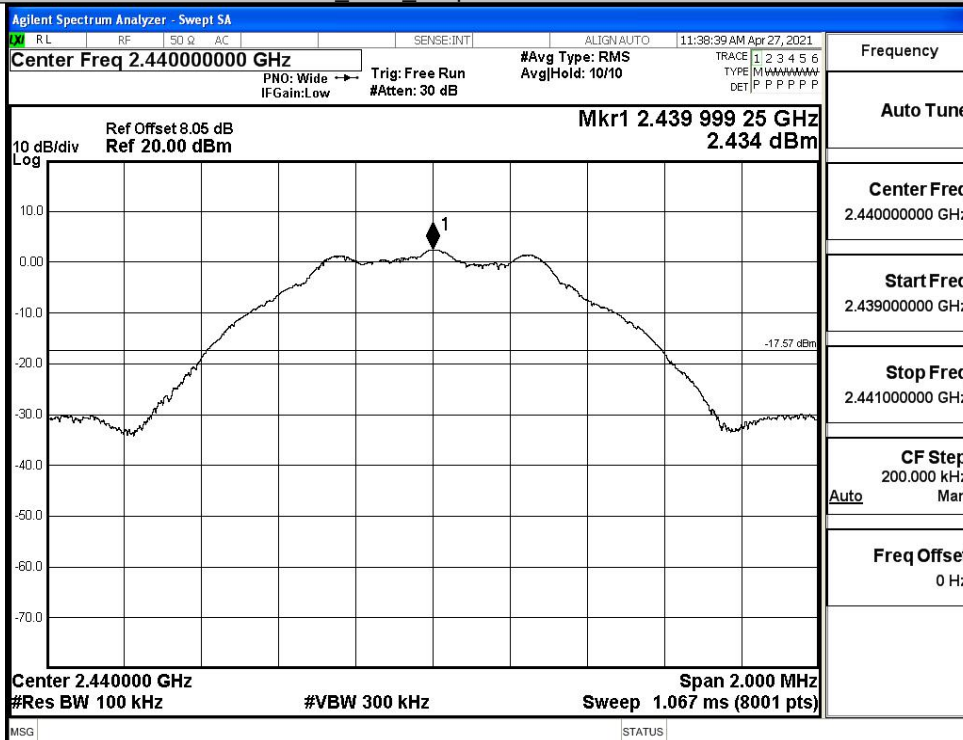
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.764	-38.027	-18.236	PASS
BT LE	MCH	2.434	-38.470	-17.566	PASS
BT LE	HCH	2.304	-38.101	-17.696	PASS

BT LE_LCH_Graphs



BT LE MCH Graphs

Pref/BT LE/MCH

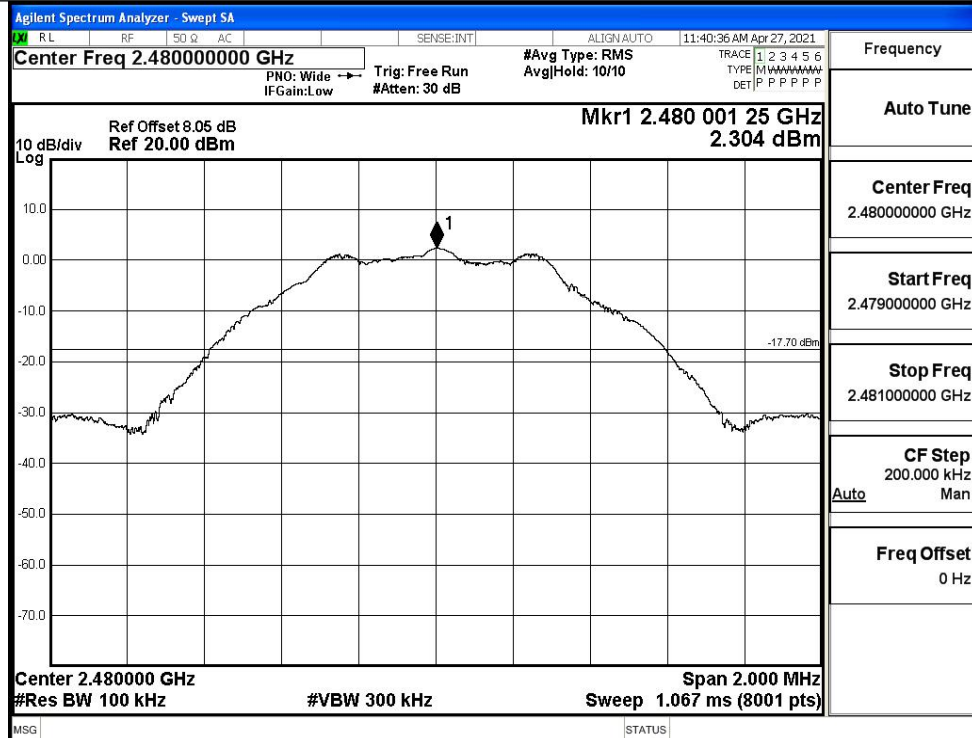


Puw/BT LE/MCH

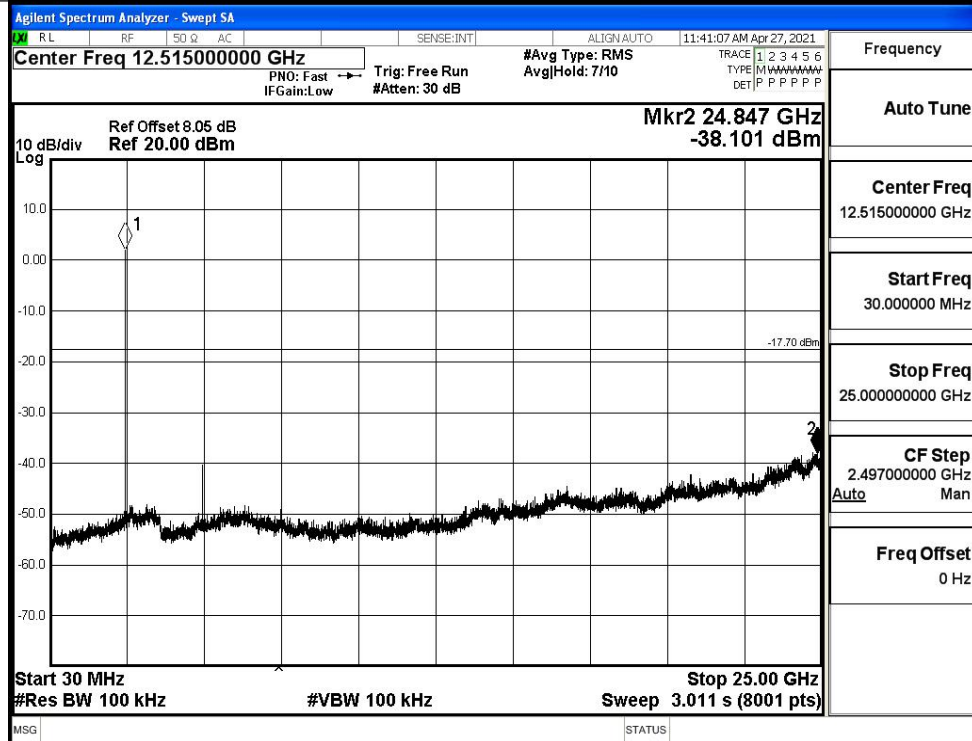


BT LE HCH Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

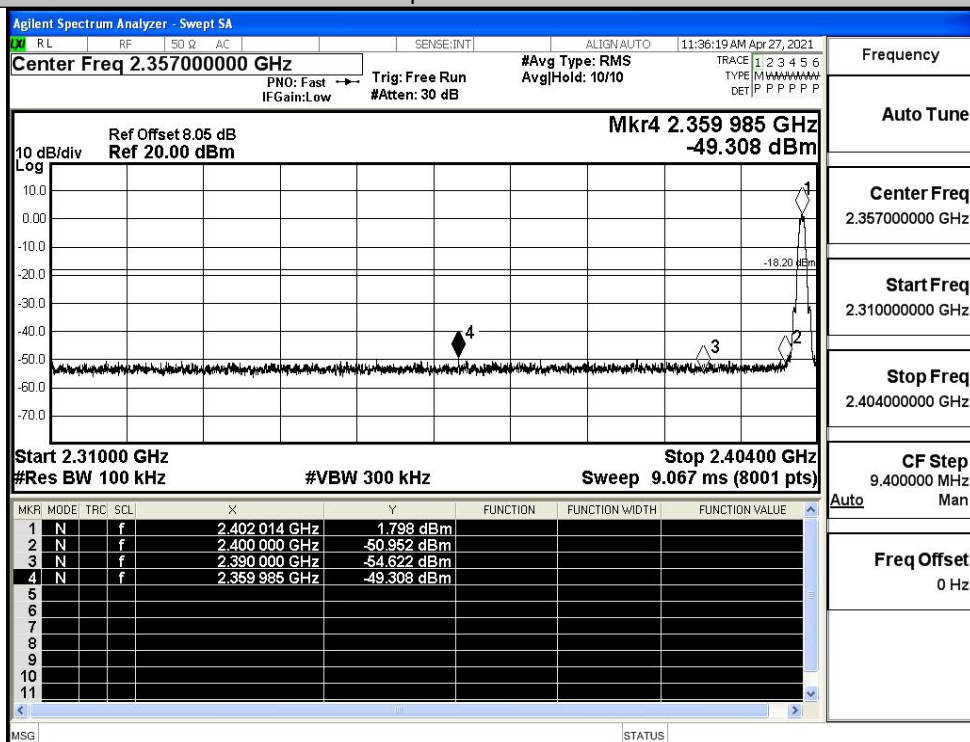


B.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.798	-49.308	-18.2	PASS
BT LE	HCH	2.374	-49.176	-17.63	PASS

Test Graphs

LCH



Frequency

Auto Tune

Center Freq

2.357000000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.404000000 GHz

CF Step

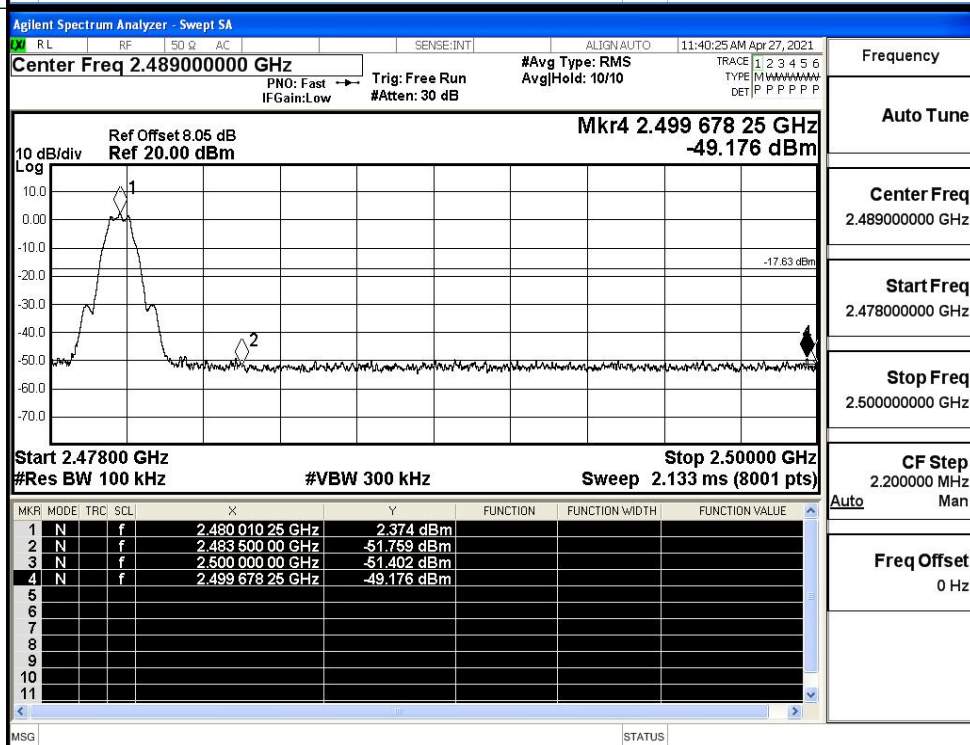
9.400000 MHz

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

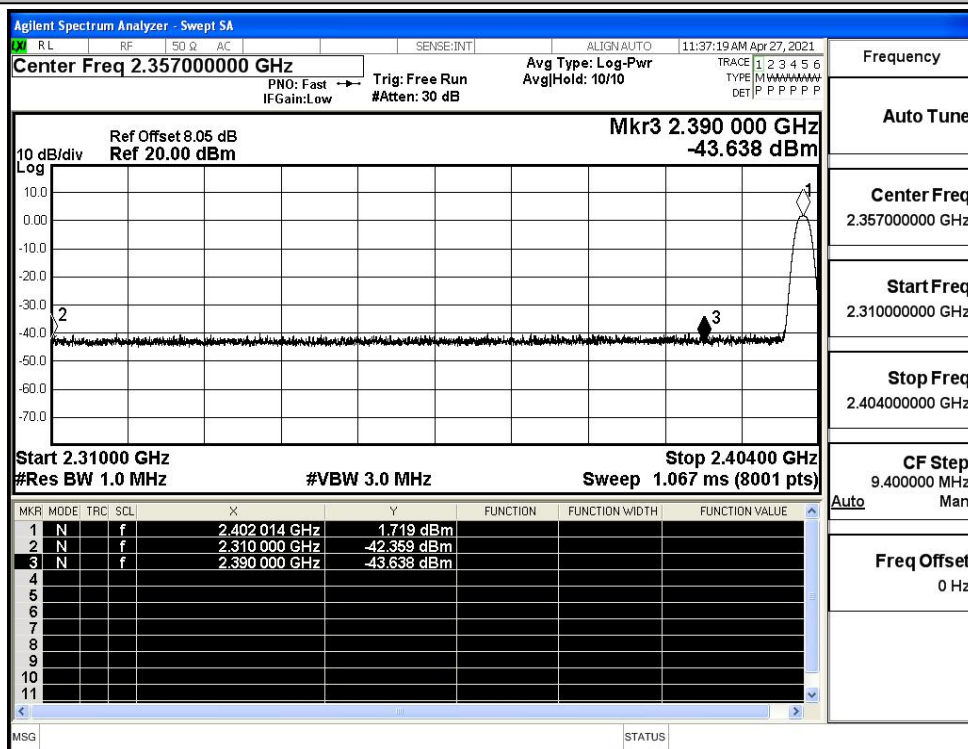
Freq Offset

0 Hz

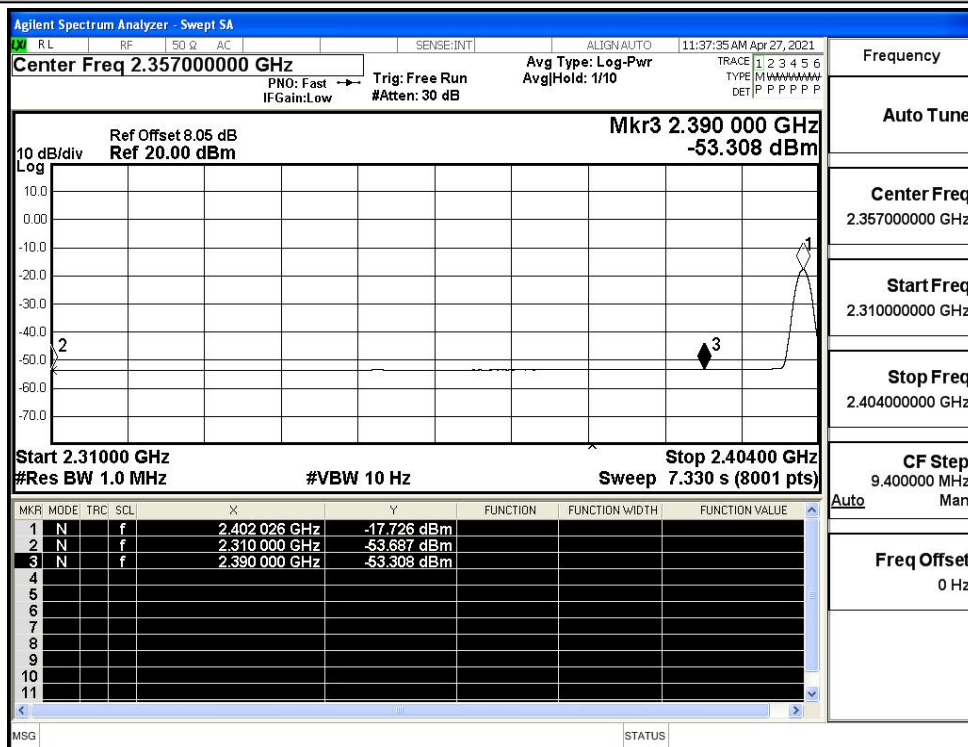
B.8 Restrict-band band-edge measurements

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	-42.36	2.0	0	54.90	PEAK	74	PASS
		Ant1	2310.0	-53.69	2.0	0	43.57	AV	54	PASS
		Ant1	2390.0	-43.64	2.0	0	53.62	PEAK	74	PASS
		Ant1	2390.0	-53.31	2.0	0	43.95	AV	54	PASS
	2480	Ant1	2483.5	-41.91	2.0	0	55.34	PEAK	74	PASS
		Ant1	2483.5	-52.67	2.0	0	44.58	AV	54	PASS
		Ant1	2500.0	-42.31	2.0	0	54.95	PEAK	74	PASS
		Ant1	2500.0	-52.63	2.0	0	44.62	AV	54	PASS

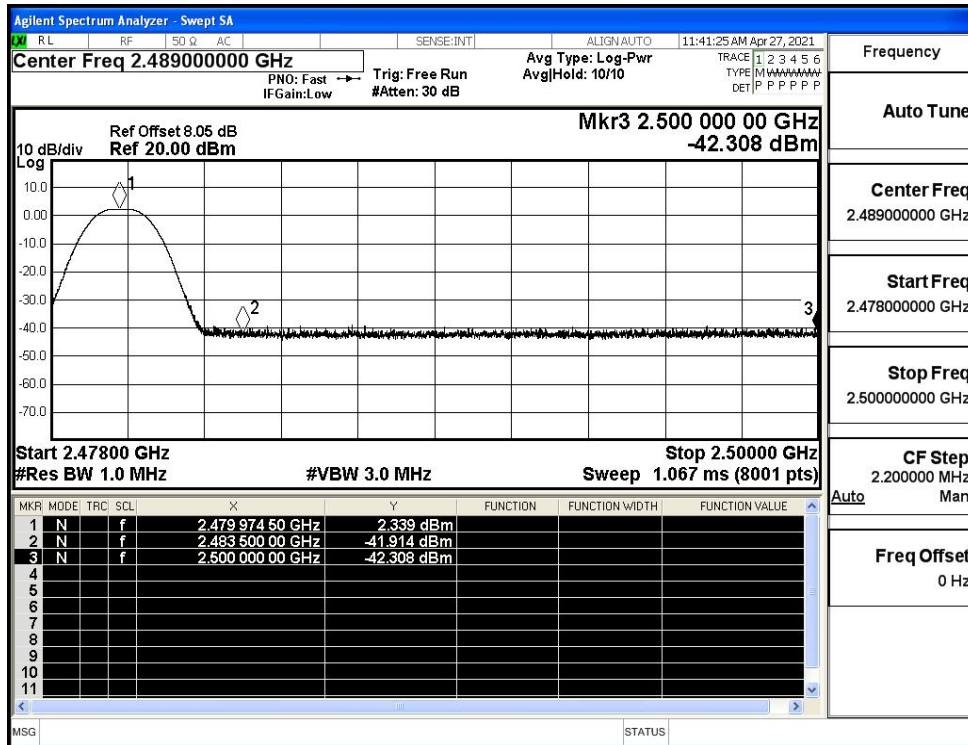
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

