

Appendix B

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

Product Name: Ture wireless earbuds ANC

Trade Mark: Happy Plugs

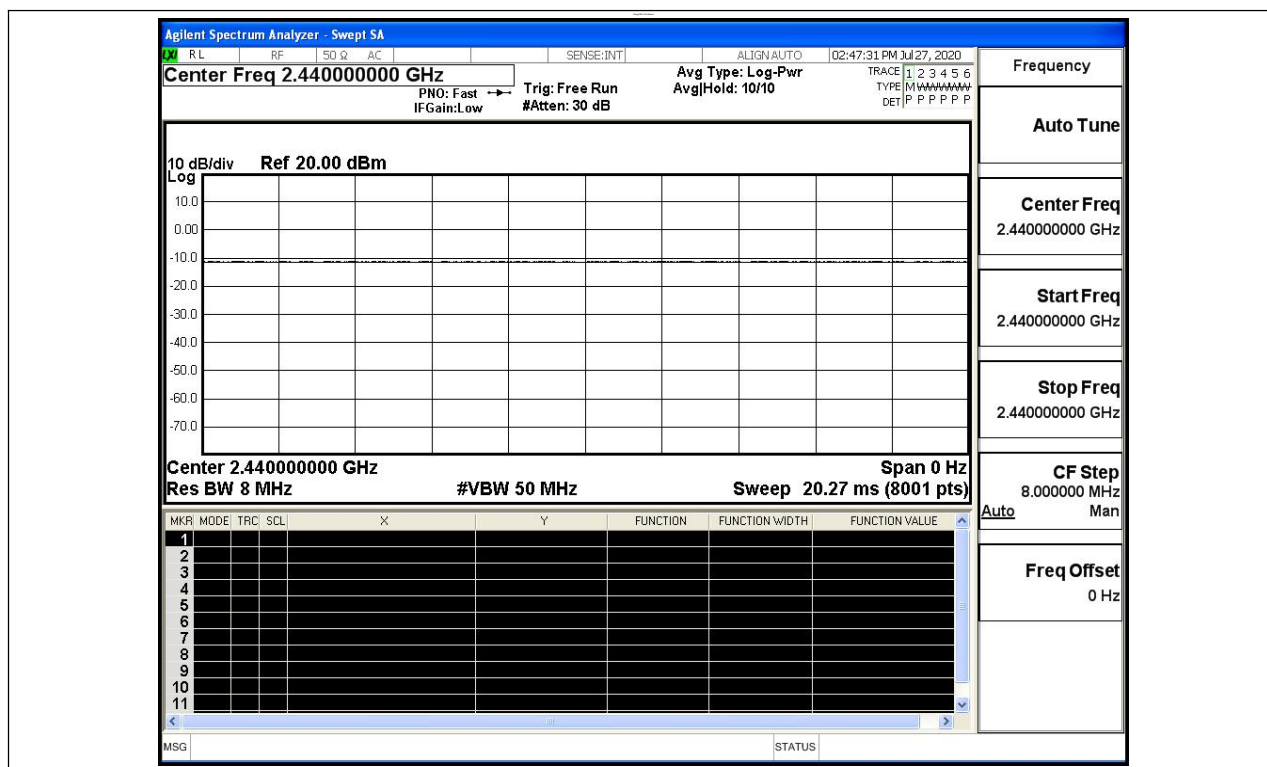
Test Model: Air 1 ANC

Environmental Conditions

Temperature:	23.1 ° C
Relative Humidity:	52.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

B.1 Duty Cycle

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

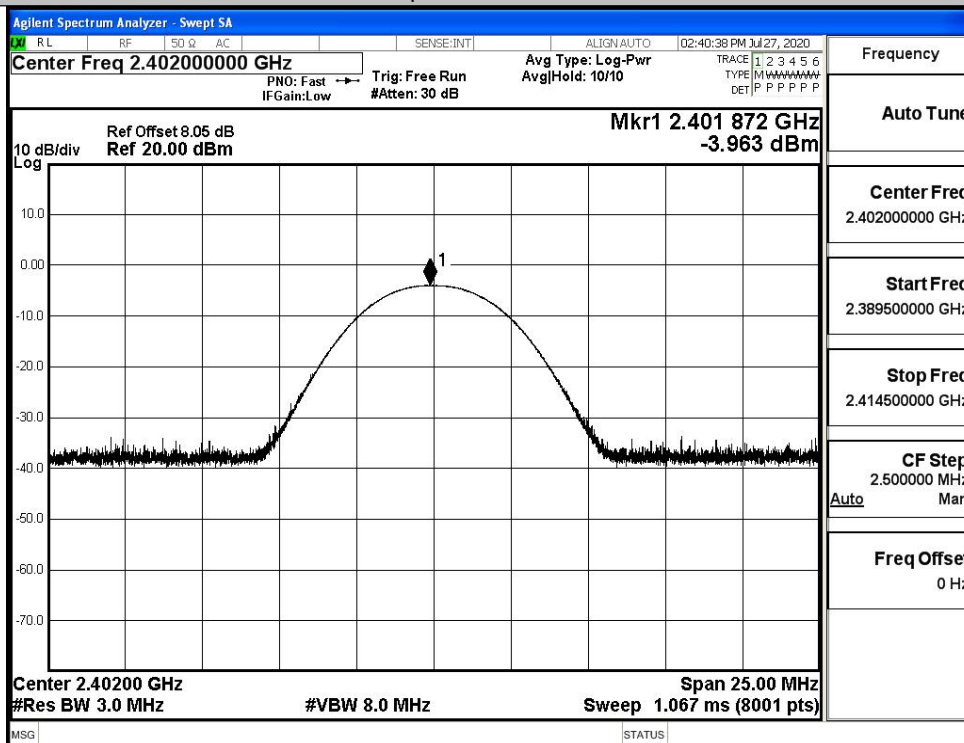


B.2 Maximum Conducted Peak Output Power

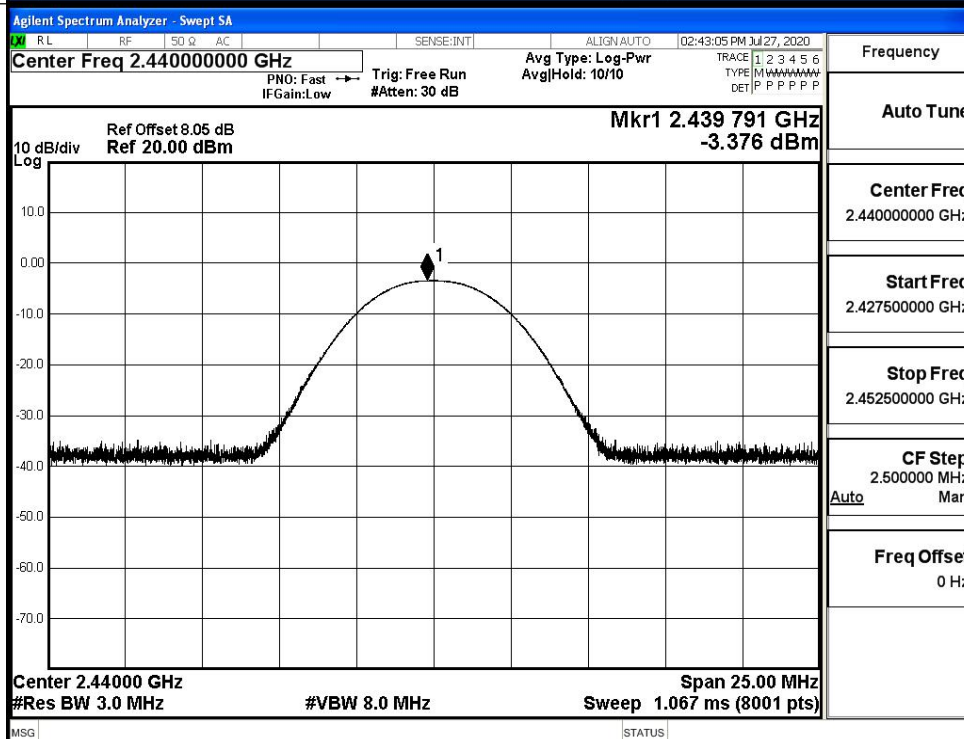
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-3.963	30	PASS
BT LE	MCH	-3.376	30	PASS
BT LE	HCH	-3.689	30	PASS

Test Graphs

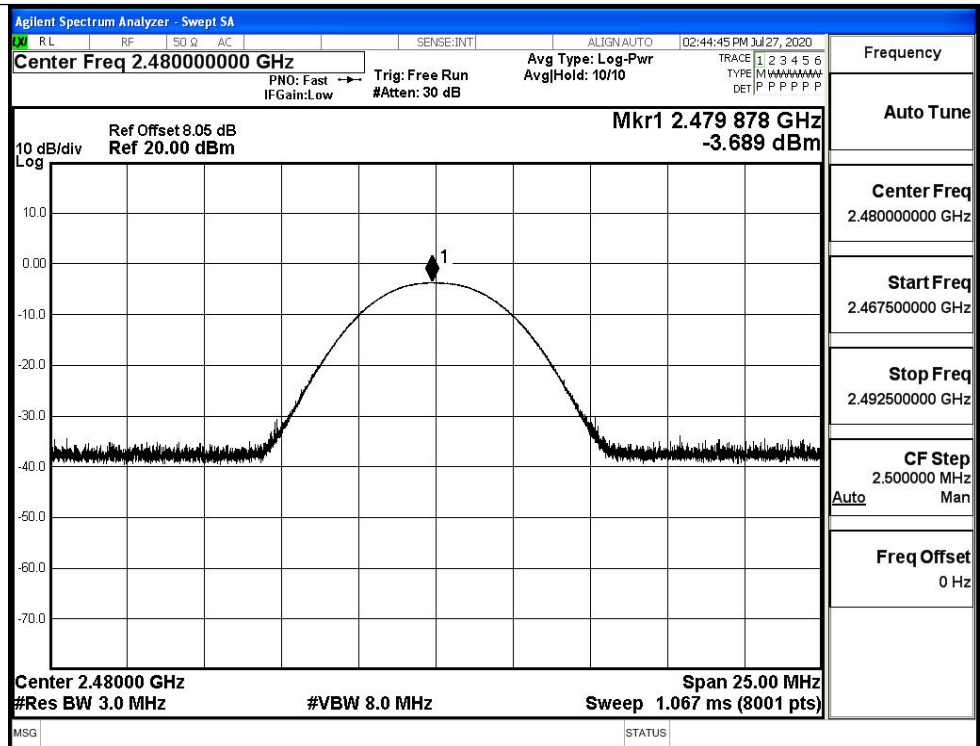
LCH



MCH



HCH

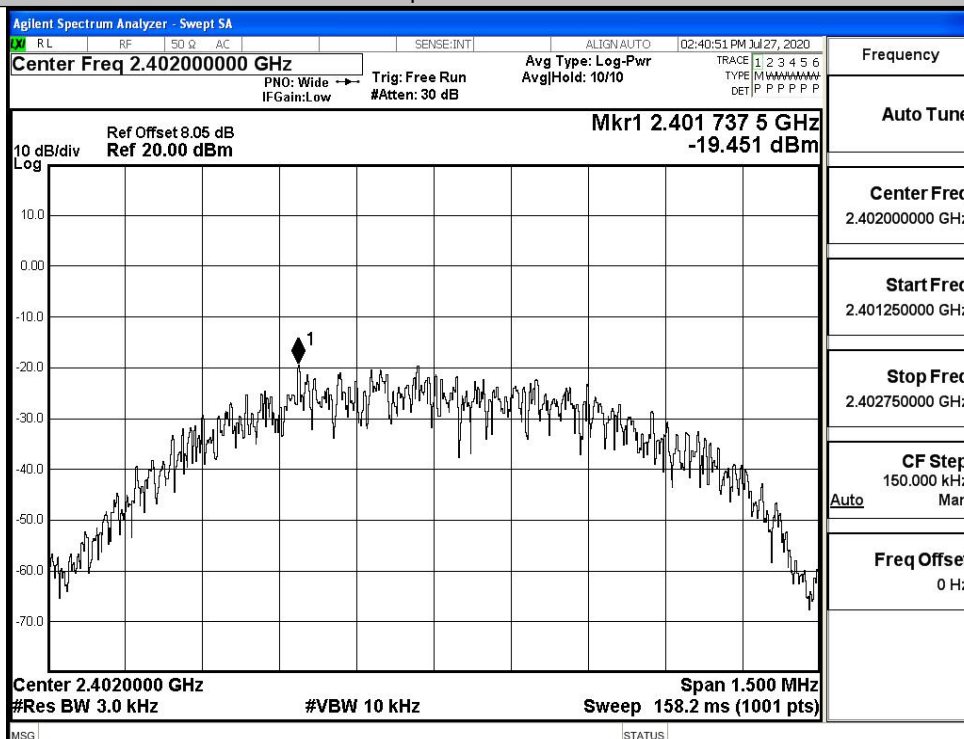


B.3 Maximum Power Spectral Density

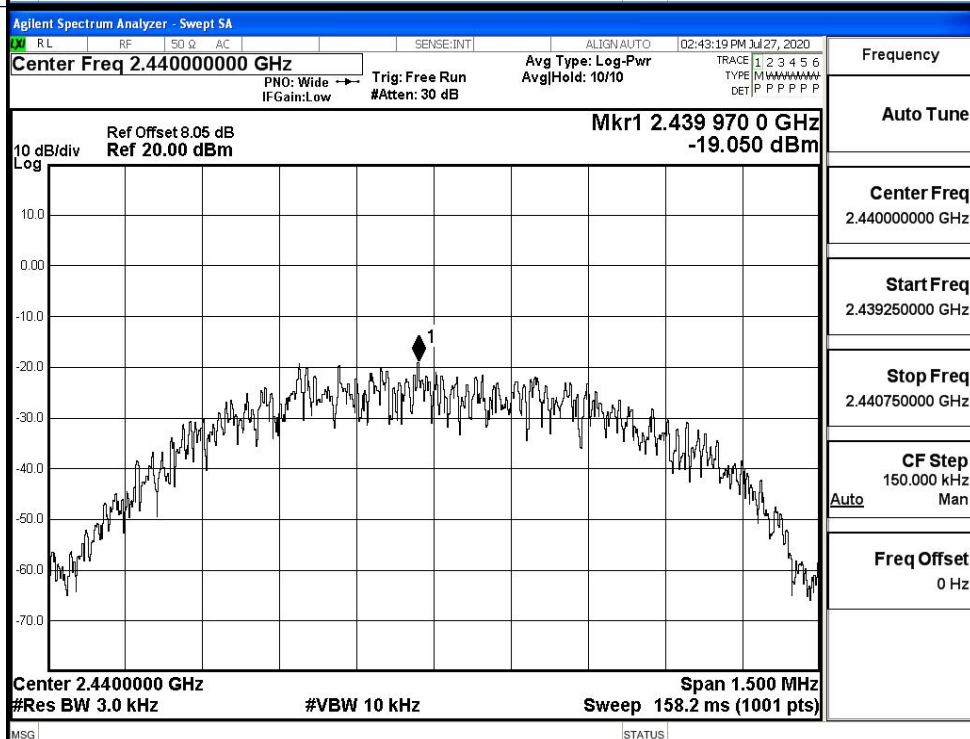
Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-19.451	8	PASS
BT LE	MCH	-19.050	8	PASS
BT LE	HCH	-19.246	8	PASS

Test Graphs

LCH



MCH



Agilent Spectrum Analyzer - Swept SA

Center Freq 2.48000000 GHz

Ref Offset 8.05 dB
Ref 20.00 dBm

10 dB/div
Log

Mkr1 2.479 737 5 GHz
-19.246 dBm

Center 2.480000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz

Span 1.500 MHz
Sweep 158.2 ms (1001 pts)

Frequency

Auto Tune

Center Freq
2.48000000 GHz

Start Freq
2.479250000 GHz

Stop Freq
2.480750000 GHz

CF Step
150.000 kHz
Man

Auto

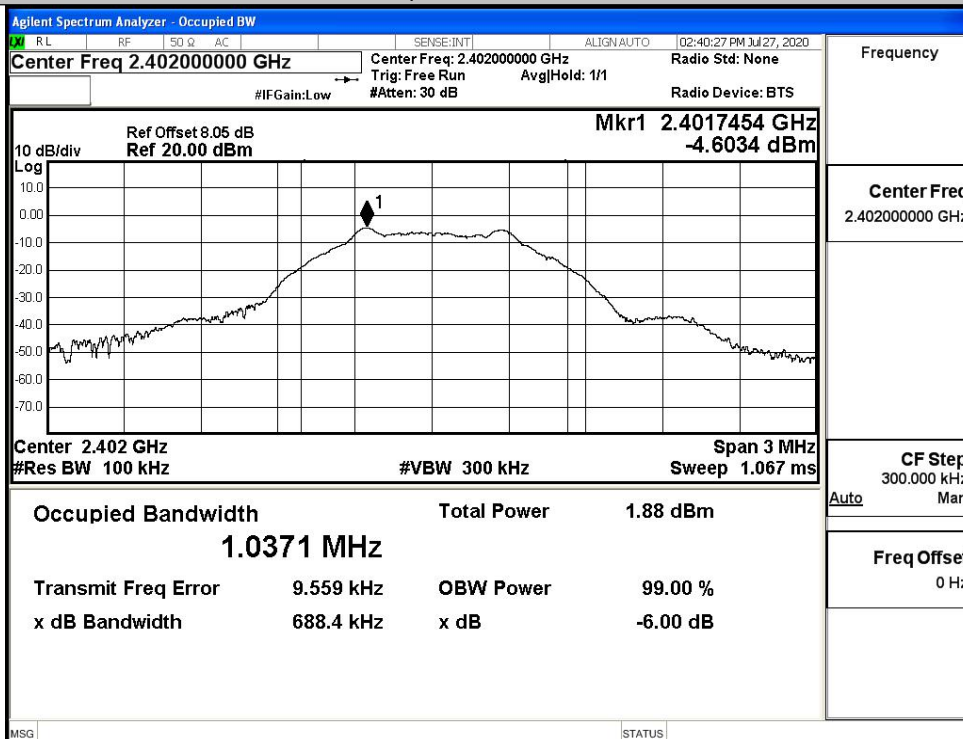
Freq Offset
0 Hz

B.4 6dB Bandwidth

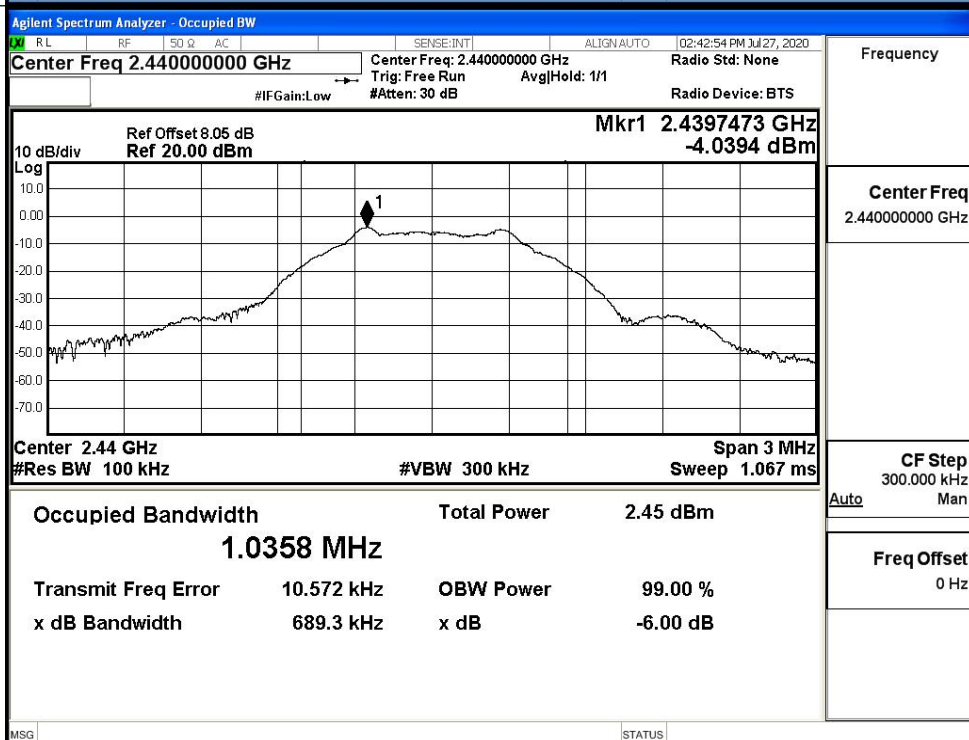
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6884	≥ 0.5	PASS
BT LE	MCH	0.6893	≥ 0.5	PASS
BT LE	HCH	0.6930	≥ 0.5	PASS

Test Graphs

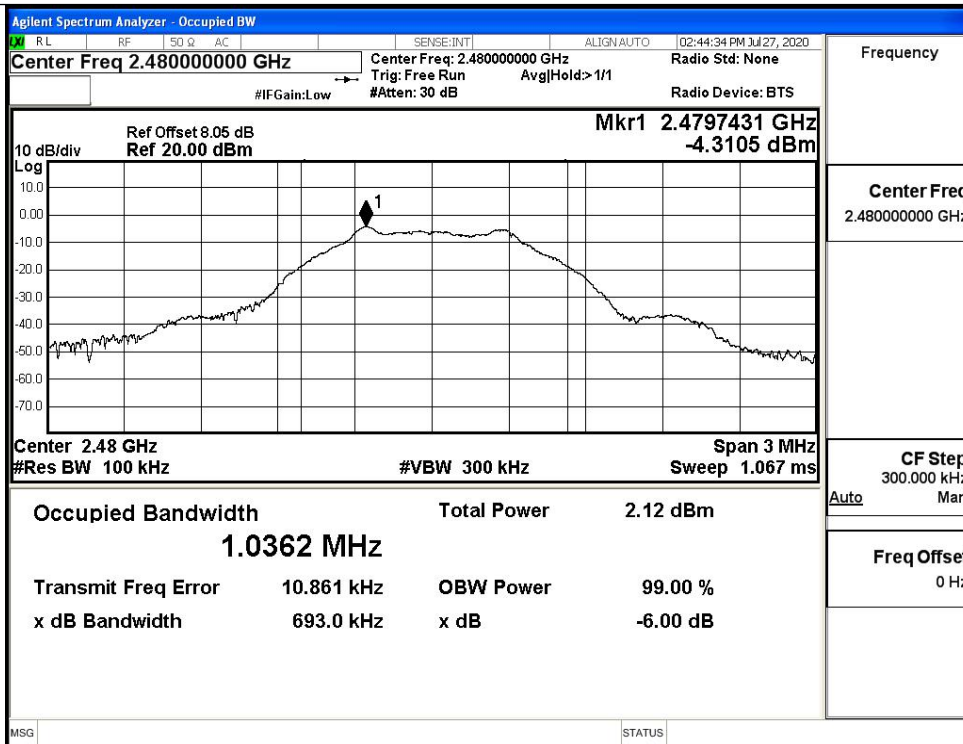
LCH



MCH



HCH



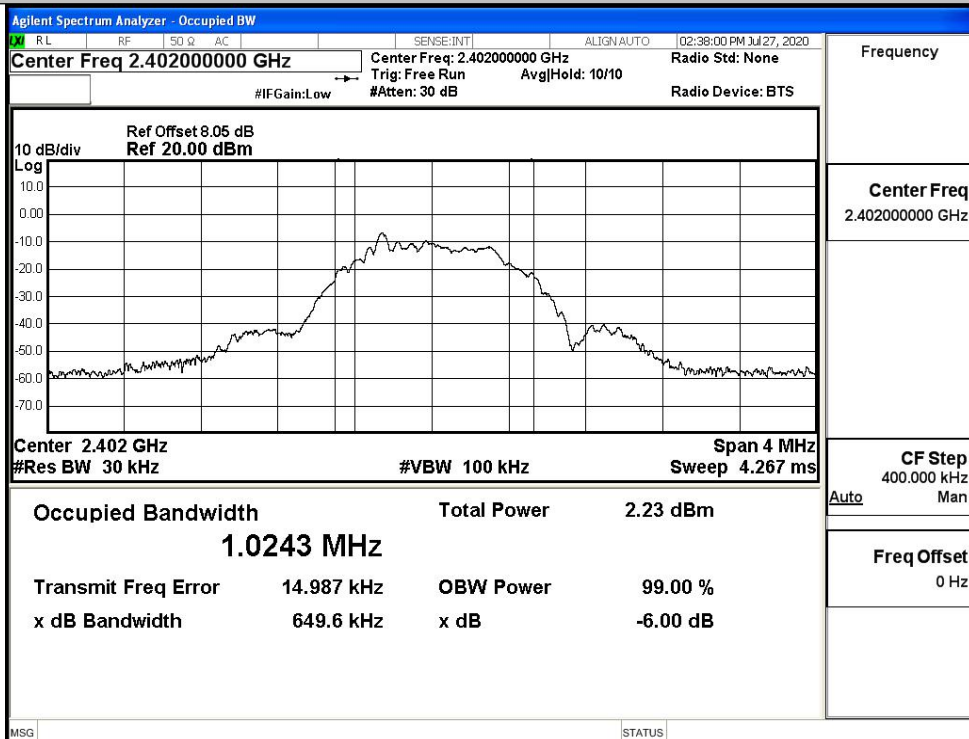
Frequency
Center Freq 2.480000000 GHz
CF Step 300.000 kHz Auto Man
Freq Offset 0 Hz

B.5 Occupied Bandwidth

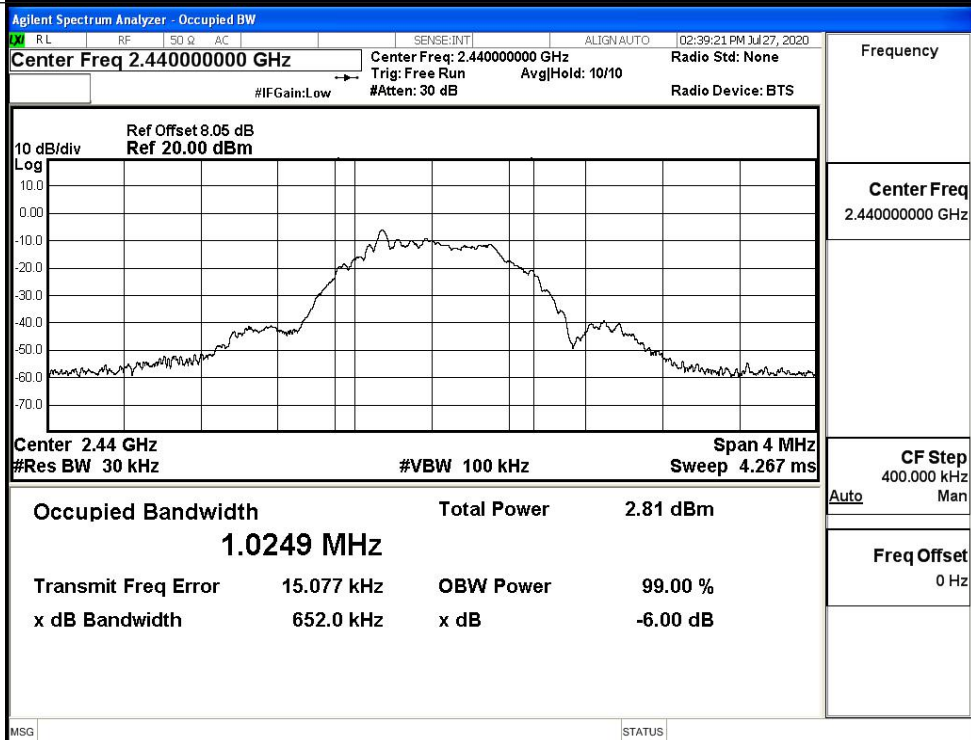
Mode	Channel	Occupied Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	1.0243	≥ 0.5	PASS
BT LE	MCH	1.0249	≥ 0.5	PASS
BT LE	HCH	1.0244	≥ 0.5	PASS

Test Graphs

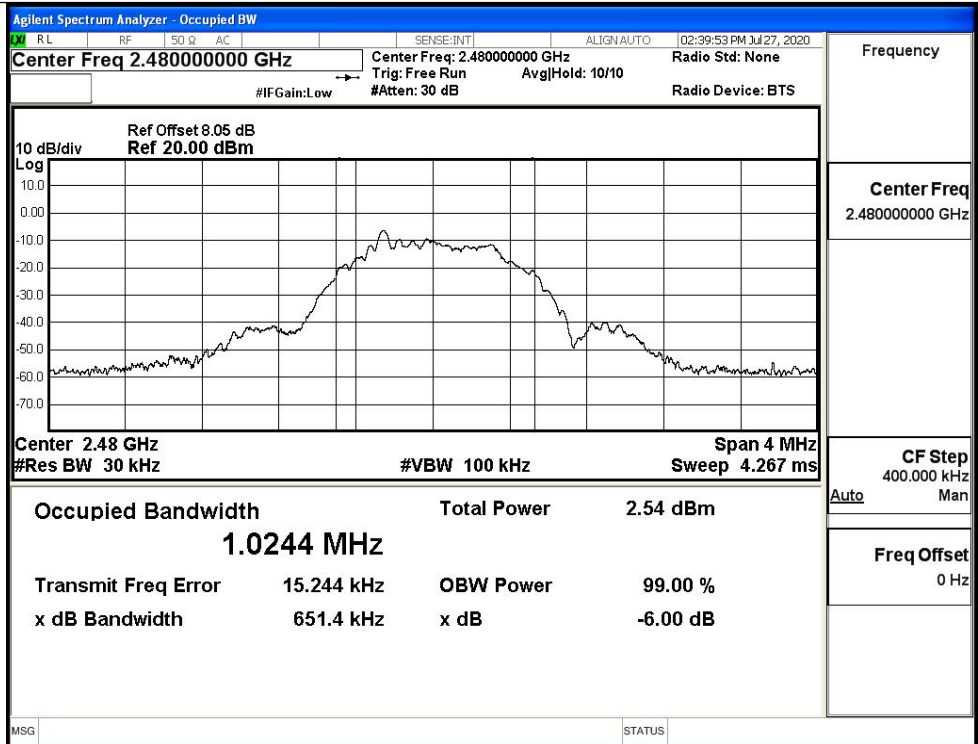
LCH



MCH



HCH

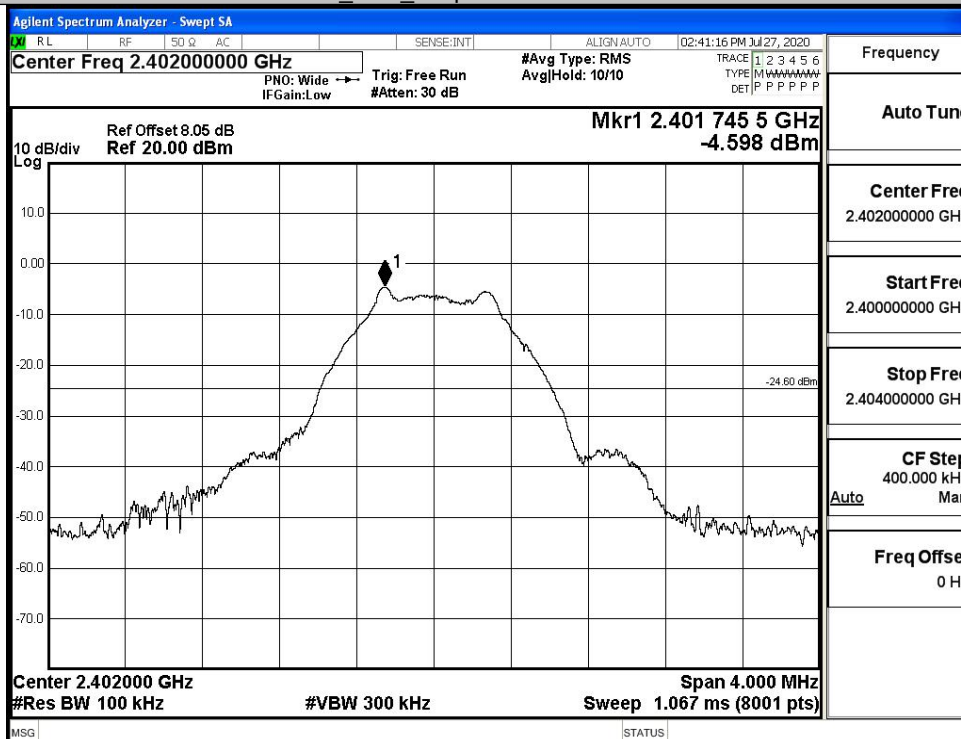


B.6 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.598	-37.069	-24.598	PASS
BT LE	MCH	-4.041	-37.107	-24.041	PASS
BT LE	HCH	-4.334	-33.534	-24.334	PASS

BT LE_LCH_Graphs

Pref/BT LE/LCH



Frequency

Auto Tune

Center Freq
2.402000000 GHz

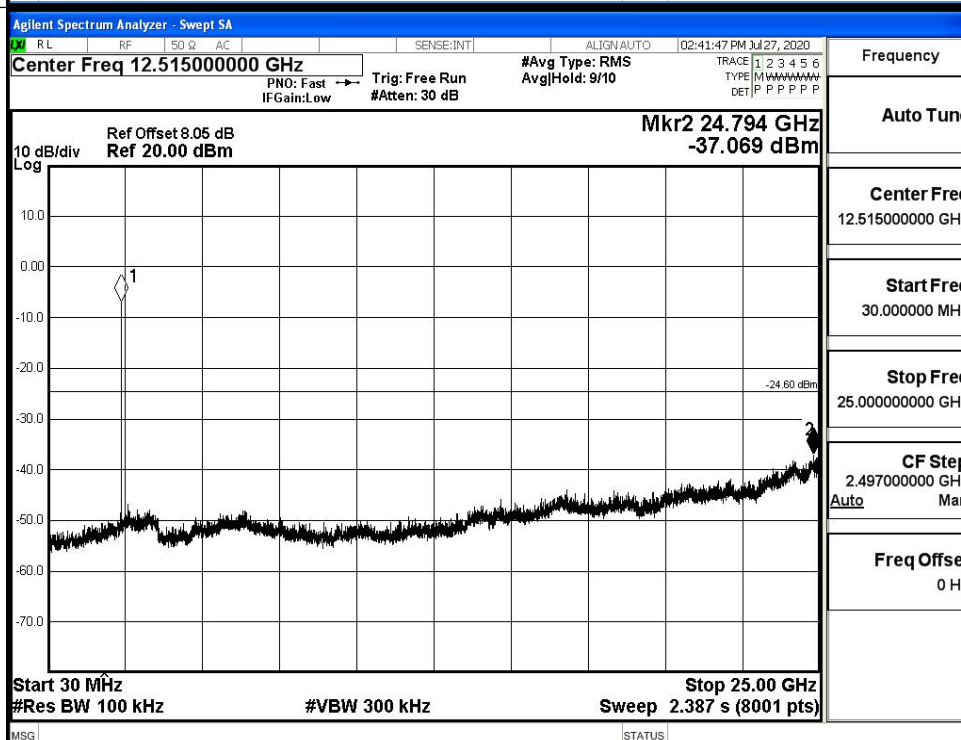
Start Freq
2.400000000 GHz

Stop Freq
2.404000000 GHz

CF Step
400.000 kHz
Auto

Freq Offset
0 Hz

Puw/BT LE/LCH



Frequency

Auto Tune

Center Freq
12.515000000 GHz

Start Freq
30.000000 MHz

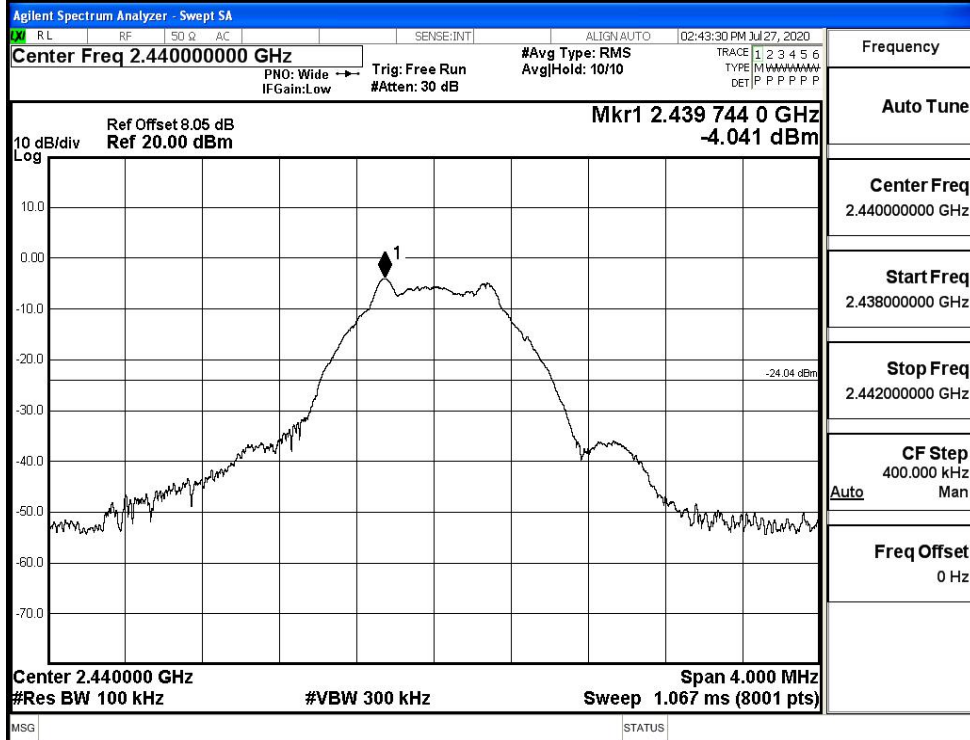
Stop Freq
25.000000000 GHz

CF Step
2.497000000 GHz
Auto

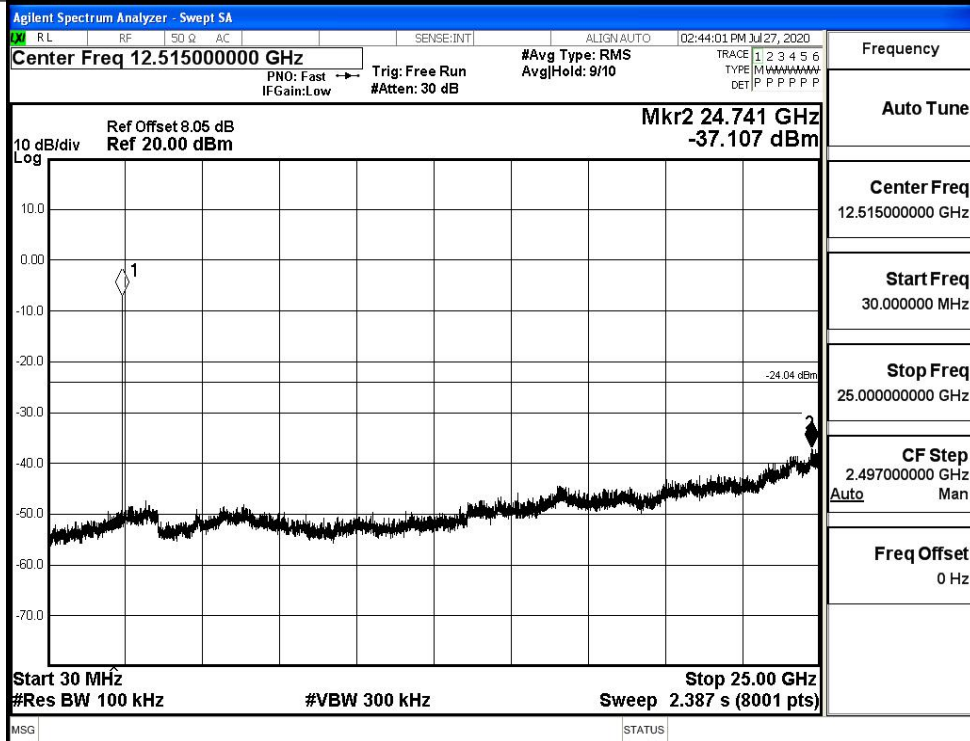
Freq Offset
0 Hz

BT LE MCH Graphs

Pref/BT LE/MCH

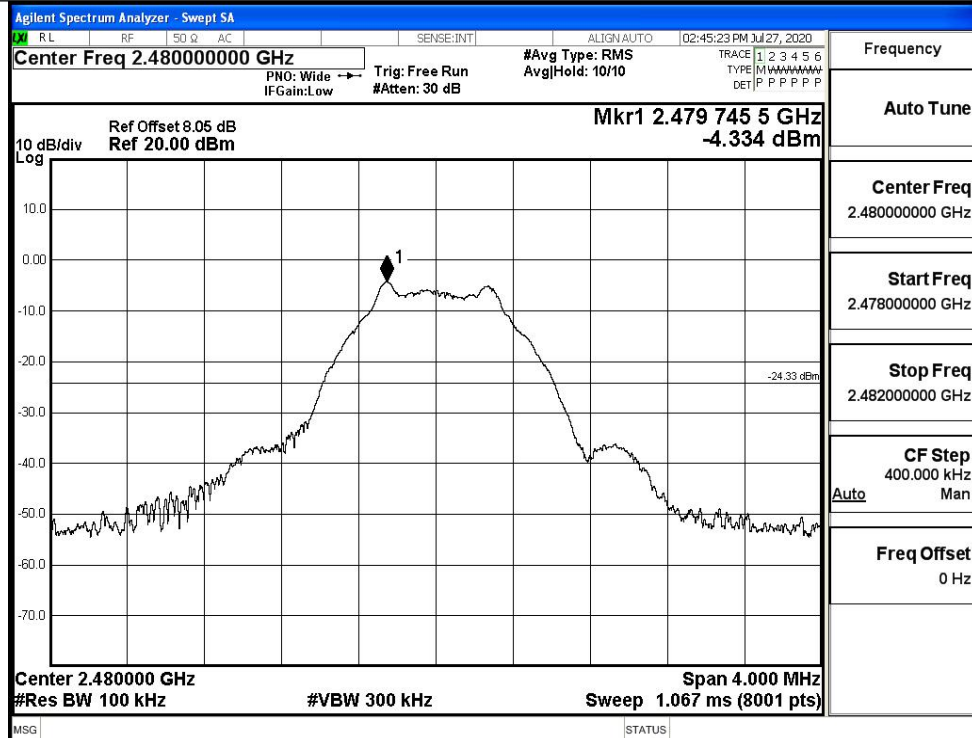


Puw/BT LE/MCH

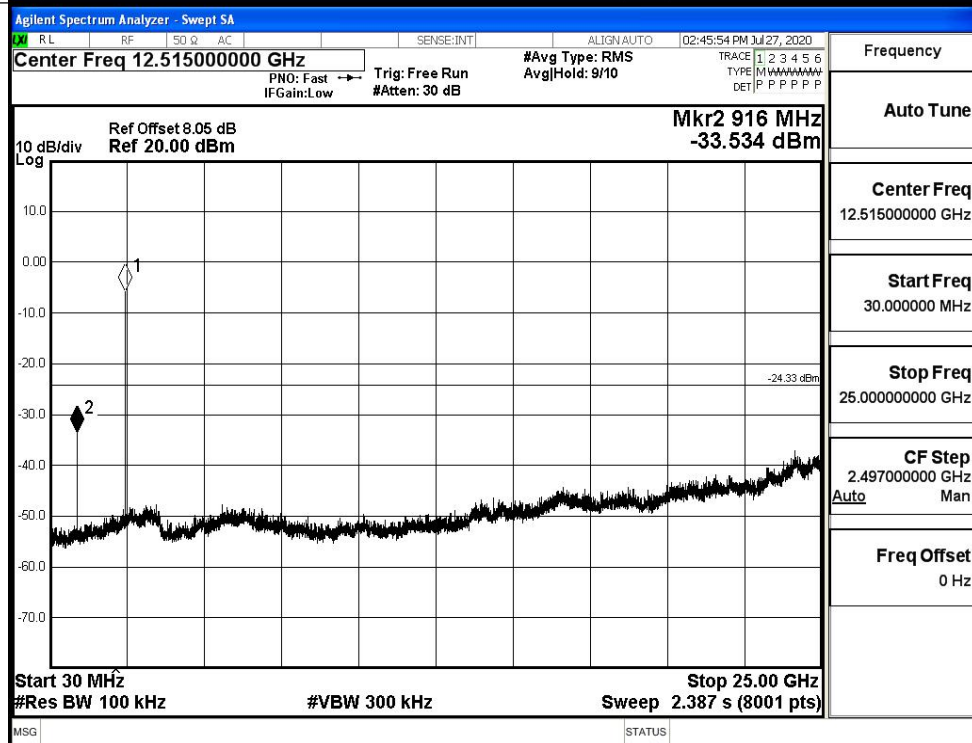


BT LE HCH Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

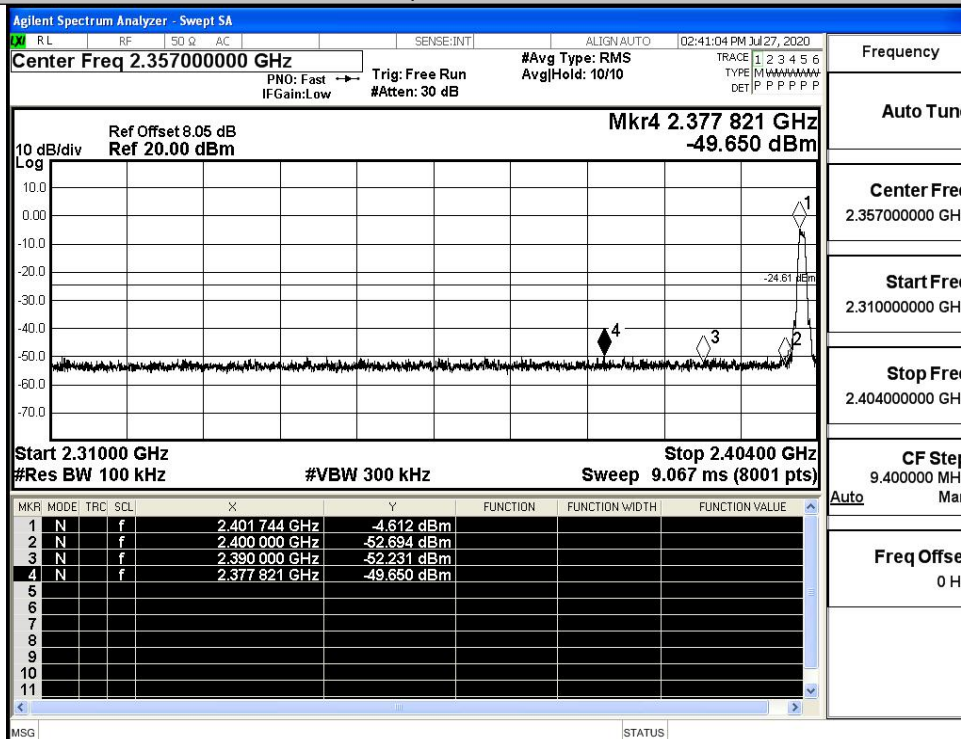


B.7 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.612	-49.650	-24.61	PASS
BT LE	HCH	-4.332	-48.896	-24.33	PASS

Test Graphs

LCH



Frequency

Auto Tune

Center Freq

2.357000000 GHz

Start Freq

2.310000000 GHz

Stop Freq

2.404000000 GHz

CF Step

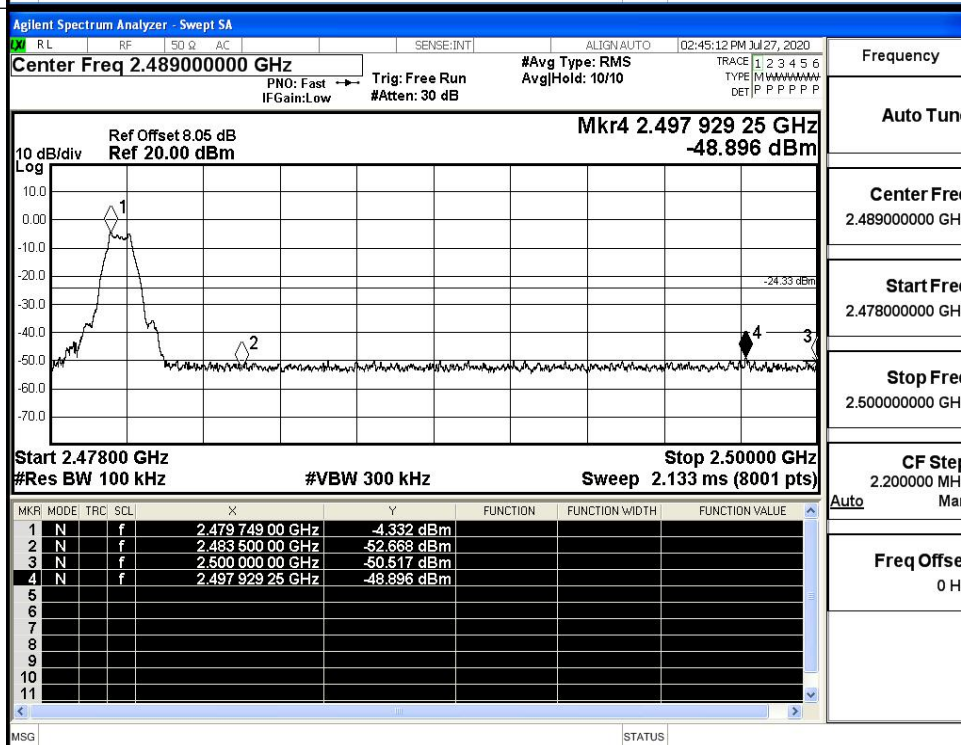
9.400000 MHz

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

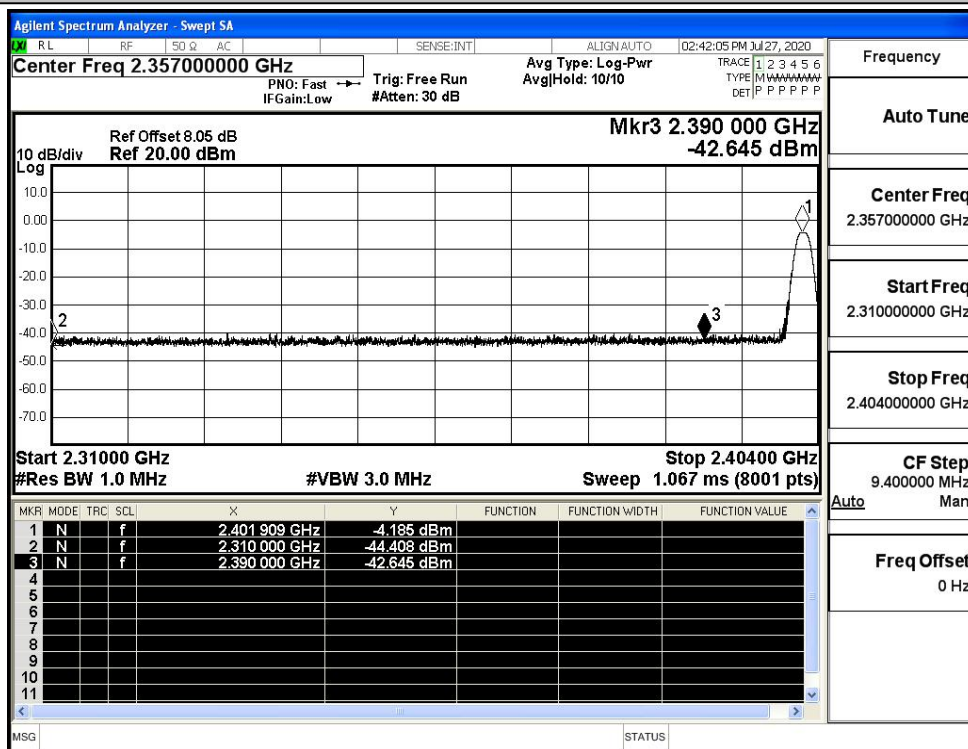
Freq Offset

0 Hz

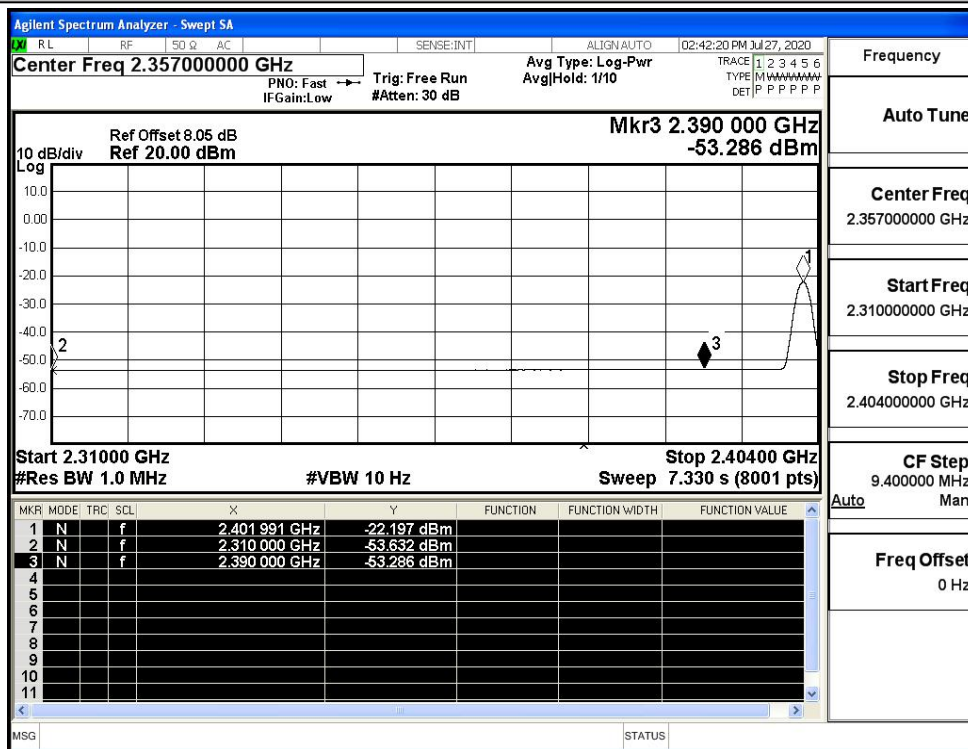
B.8 Restrict-band band-edge measurements

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	-44.41	2.0	0	50.85	PEAK	74	PASS
		Ant1	2310.0	-53.63	2.0	0	41.63	AV	54	PASS
		Ant1	2390.0	-42.65	2.0	0	52.61	PEAK	74	PASS
		Ant1	2390.0	-53.29	2.0	0	41.97	AV	54	PASS
	2480	Ant1	2483.5	-41.80	2.0	0	53.46	PEAK	74	PASS
		Ant1	2483.5	-52.85	2.0	0	42.41	AV	54	PASS
		Ant1	2500.0	-41.55	2.0	0	53.71	PEAK	74	PASS
		Ant1	2500.0	-52.67	2.0	0	42.59	AV	54	PASS

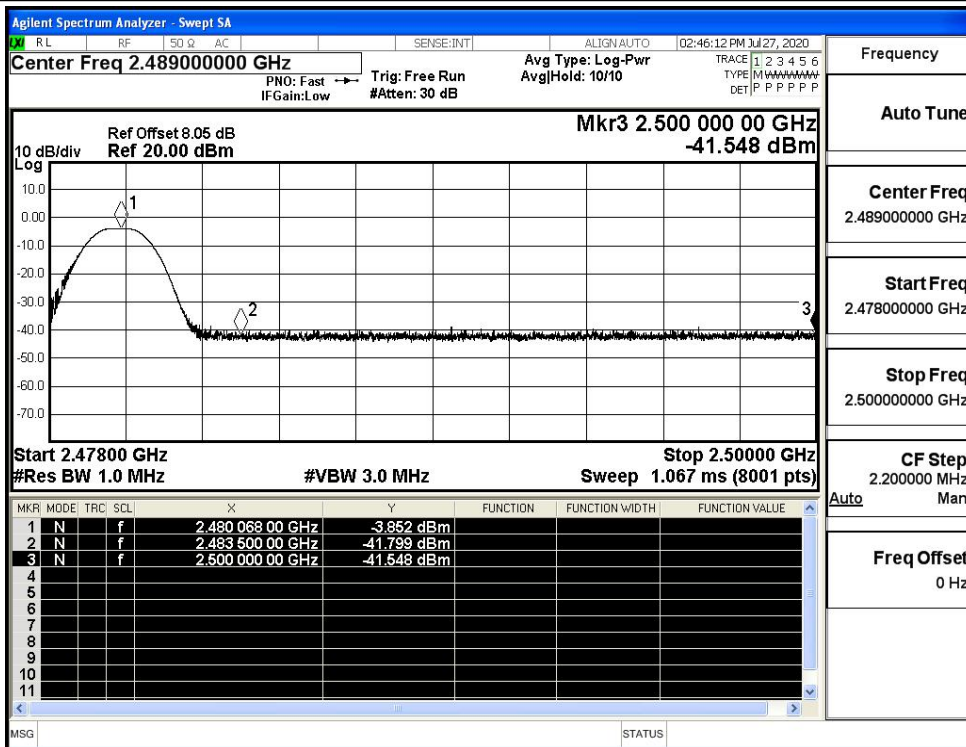
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

