

Appendix A

RF Test Data for BT V4.2 (BLE) (Conducted Measurement)

Product Name: Wireless (Bluetooth+SKAA 2.4GHz) headphones

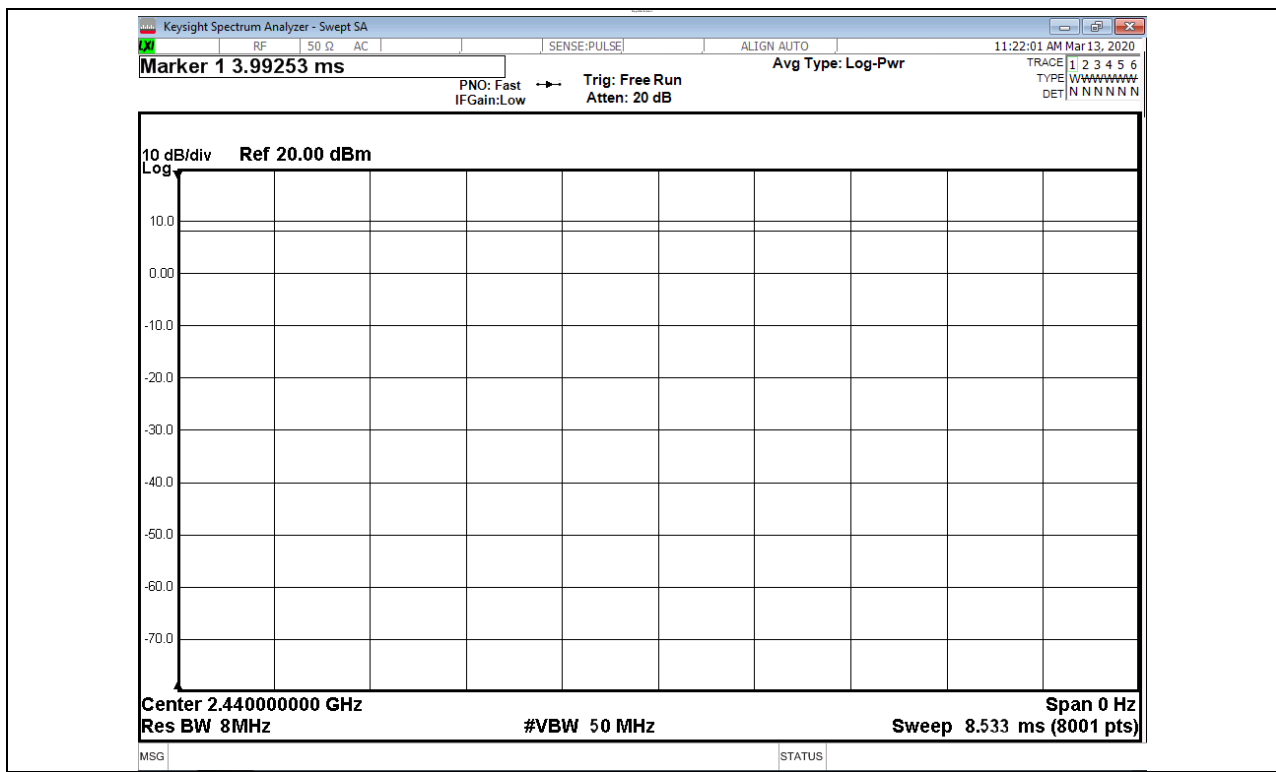


Environmental Conditions

Temperature:	23.9° C
Relative Humidity:	54%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom Liu
Supervised by:	Jayden.Zhuo

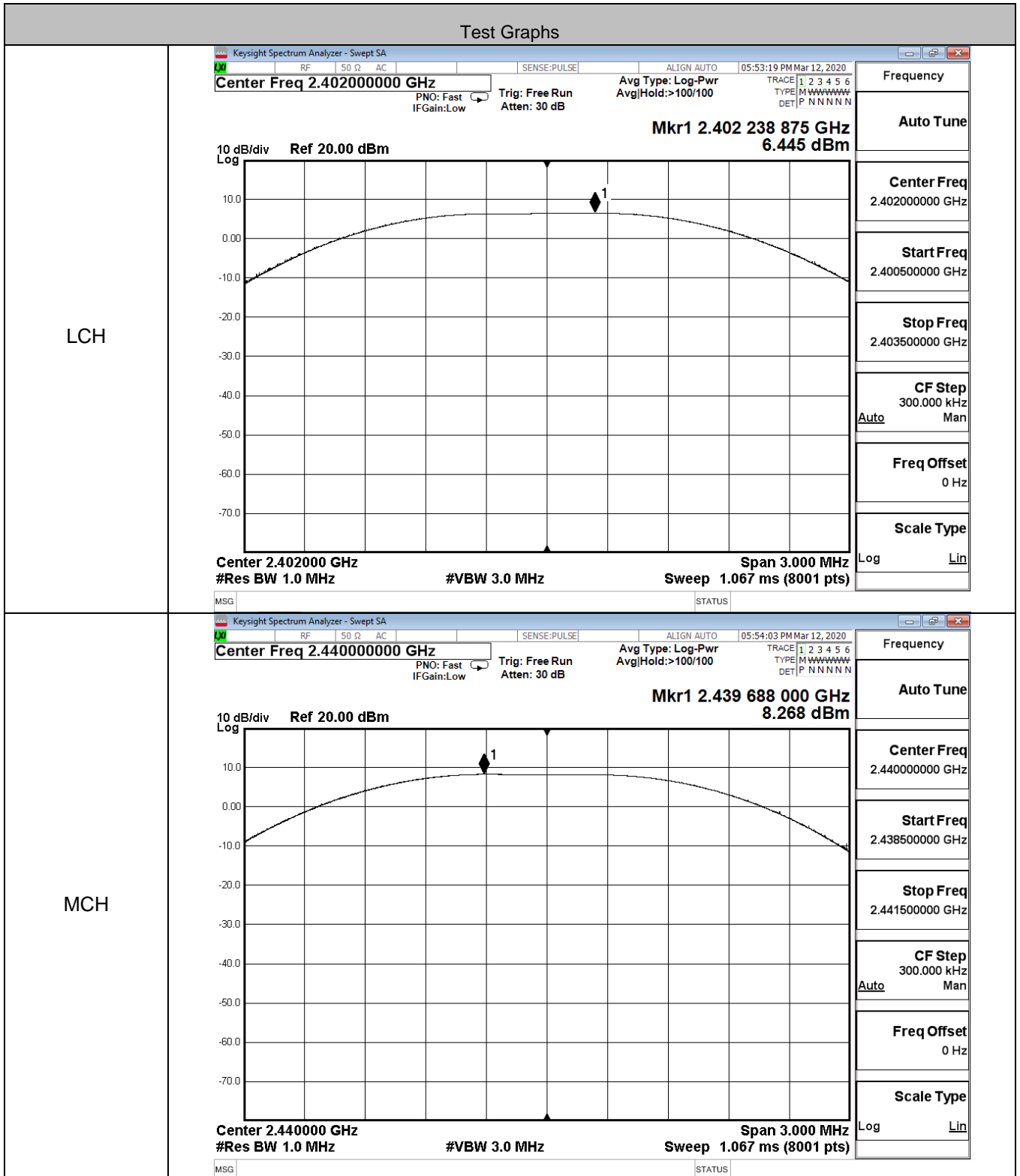
A.1 Duty Cycle

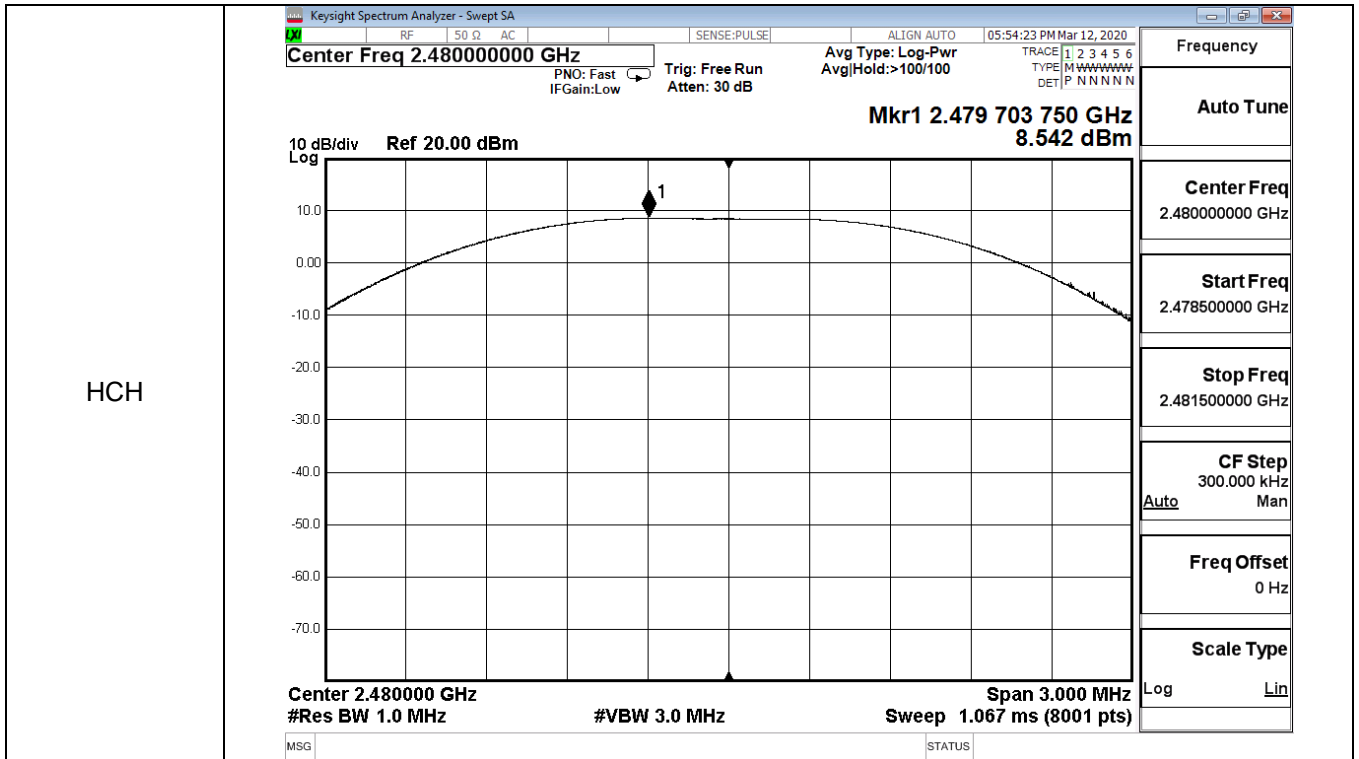
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



A.2 Maximum Conducted Peak Output Power

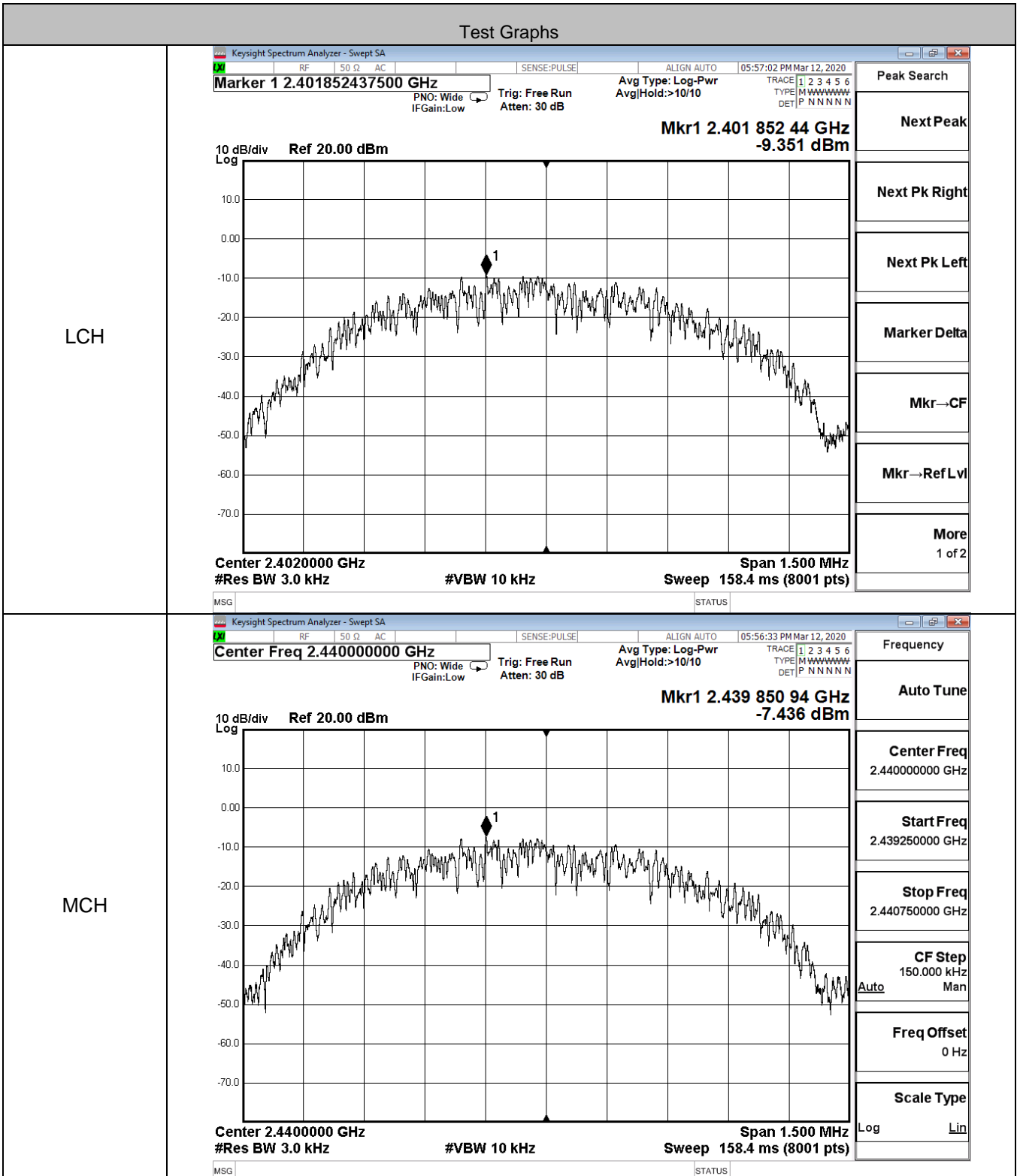
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	6.445	30	PASS
BT LE	MCH	8.268	30	PASS
BT LE	HCH	8.542	30	PASS

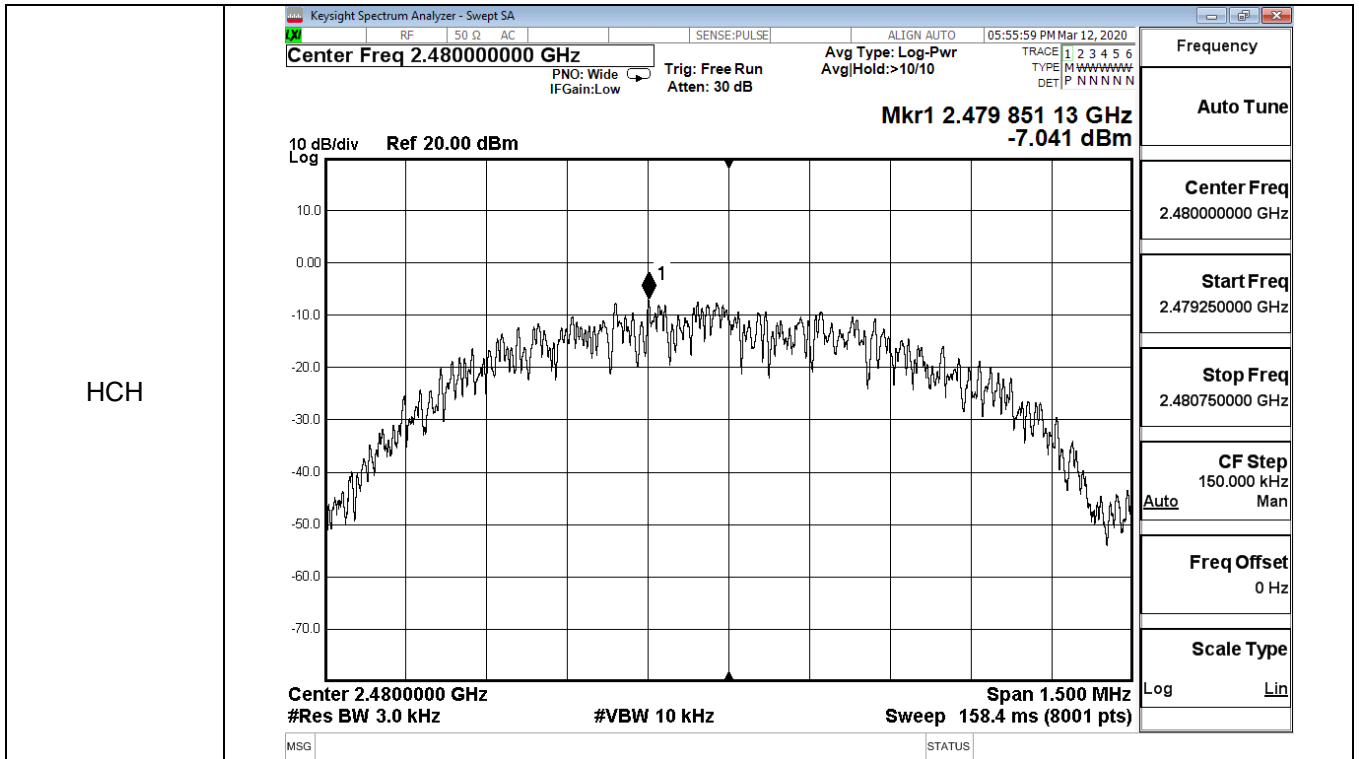




A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-9.351	8	PASS
BT LE	MCH	-7.436	8	PASS
BT LE	HCH	-7.041	8	PASS





A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.7931	≥0.5	PASS
BT LE	MCH	0.7914	≥0.5	PASS
BT LE	HCH	0.6830	≥0.5	PASS

Test Graphs

LCH

Keysight Spectrum Analyzer - Occupied BW

Center Freq: 2.40200000 GHz
 Span 3 MHz
 Res BW 100 kHz
 #VBW 300 kHz
 Sweep 1 ms

Occupied Bandwidth 1.0605 MHz
Total Power 12.7 dBm

Transmit Freq Error -10.058 kHz
 % of OBW Power 99.00 %
 x dB Bandwidth 793.1 kHz x dB -6.00 dB

BW

Res BW 100.00 kHz
 Auto [Man](#)

Video BW 300.00 kHz
 Auto [Man](#)

Filter Type
 Gaussian

MCH

Keysight Spectrum Analyzer - Occupied BW

Center Freq: 2.44000000 GHz
 Span 3 MHz
 Res BW 100 kHz
 #VBW 300 kHz
 Sweep 1 ms

Occupied Bandwidth 1.0884 MHz
Total Power 13.2 dBm

Transmit Freq Error -14.383 kHz
 % of OBW Power 99.00 %
 x dB Bandwidth 791.4 kHz x dB -6.00 dB

Frequency

Center Freq 2.44000000 GHz

CF Step 300.000 kHz
 Auto [Man](#)

Freq Offset
 0 Hz

HCH

Center Freq 2.48000000 GHz		Radio Std: None	
Trig: Free Run		Avg Hold: 10/10	
#IFGain: Low		#Atten: 30 dB	
Radio Device: BTS			
Mkr1 2.480012 GHz		-2.8956 dBm	
Center 2.48 GHz		Span 3 MHz	
#Res BW 100 kHz		#VBW 300 kHz	
		Sweep 1 ms	
Occupied Bandwidth		Total Power 3.95 dBm	
1.0602 MHz			
Transmit Freq Error	14.595 kHz	% of OBW Power	99.00 %
x dB Bandwidth	683.0 kHz	x dB	-6.00 dB

Frequency
2.480000000 GHz

Center Freq
2.480000000 GHz

CF Step
300.000 kHz
Auto Man

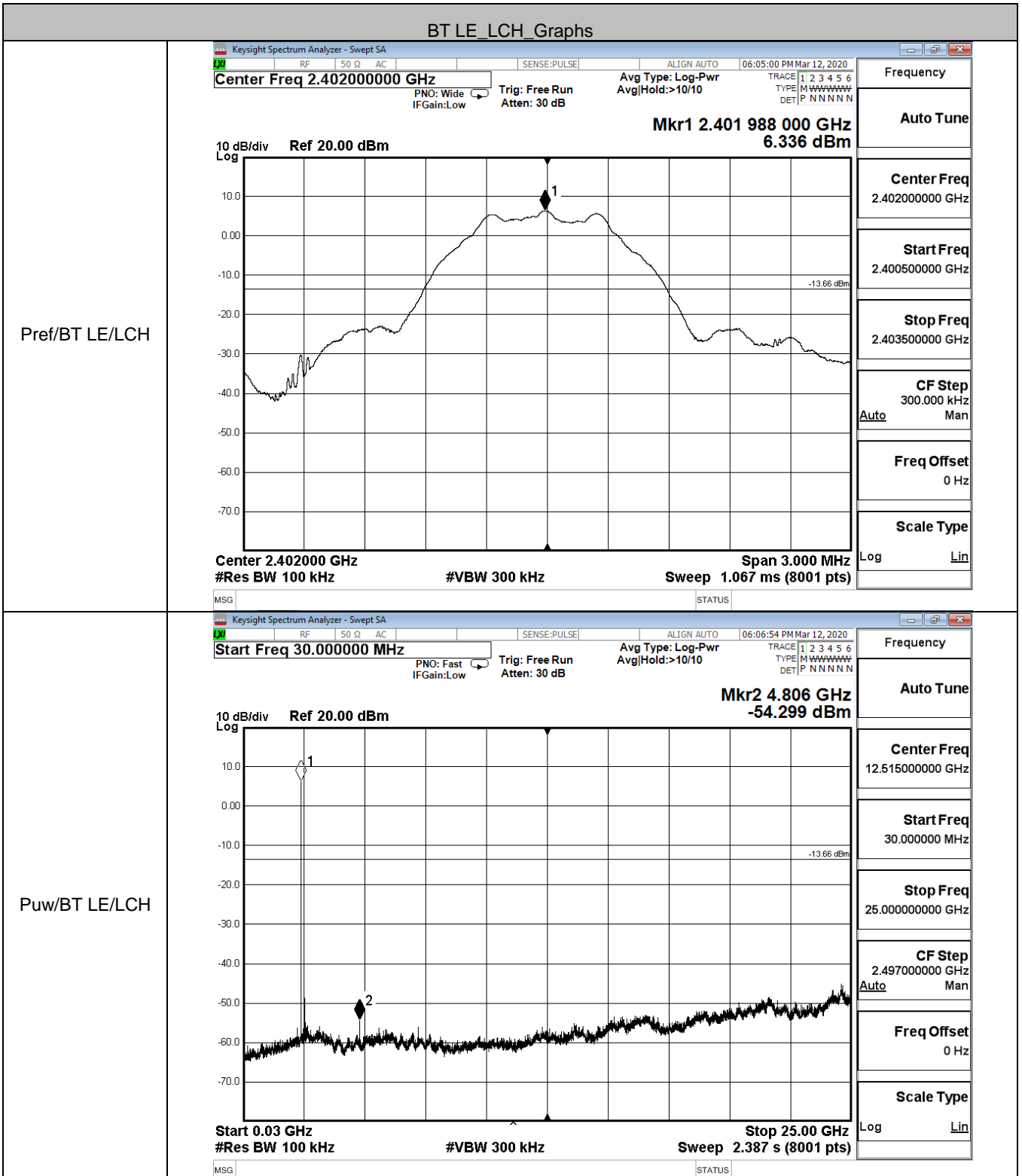
Freq Offset
0 Hz

MSG

STATUS ✖ Align Now All required

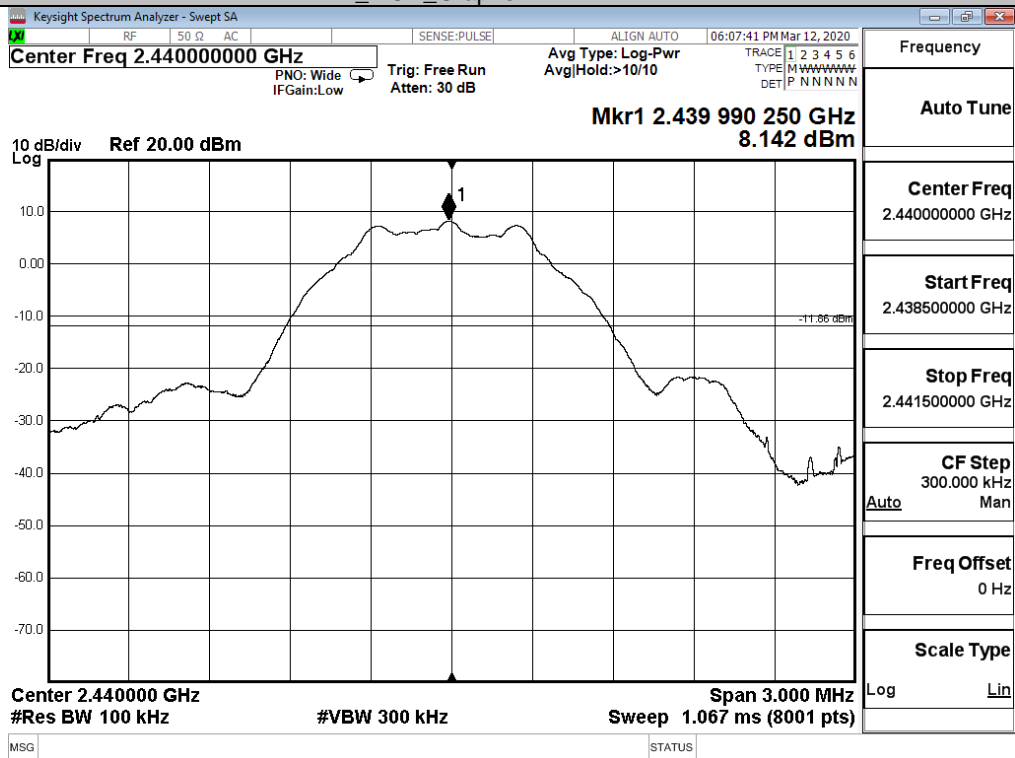
A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	6.336	-54.299	-13.66	PASS
BT LE	MCH	8.142	-50.787	-11.86	PASS
BT LE	HCH	8.349	-54.533	-11.65	PASS

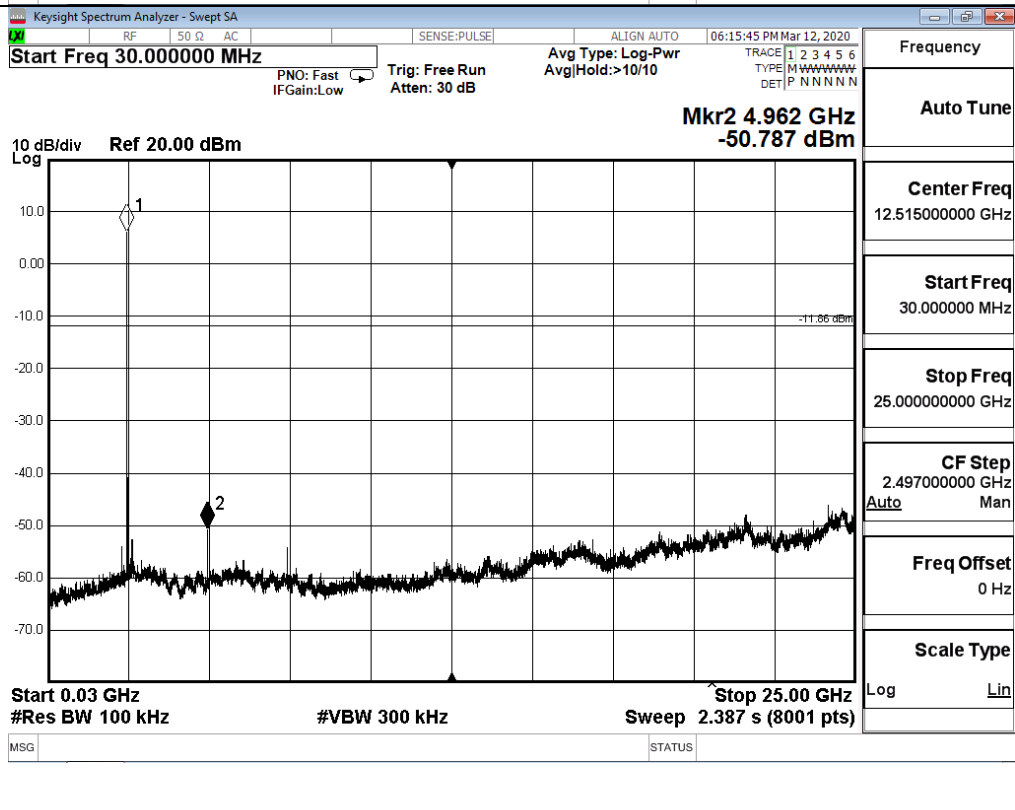


BT LE_MCH_Graphs

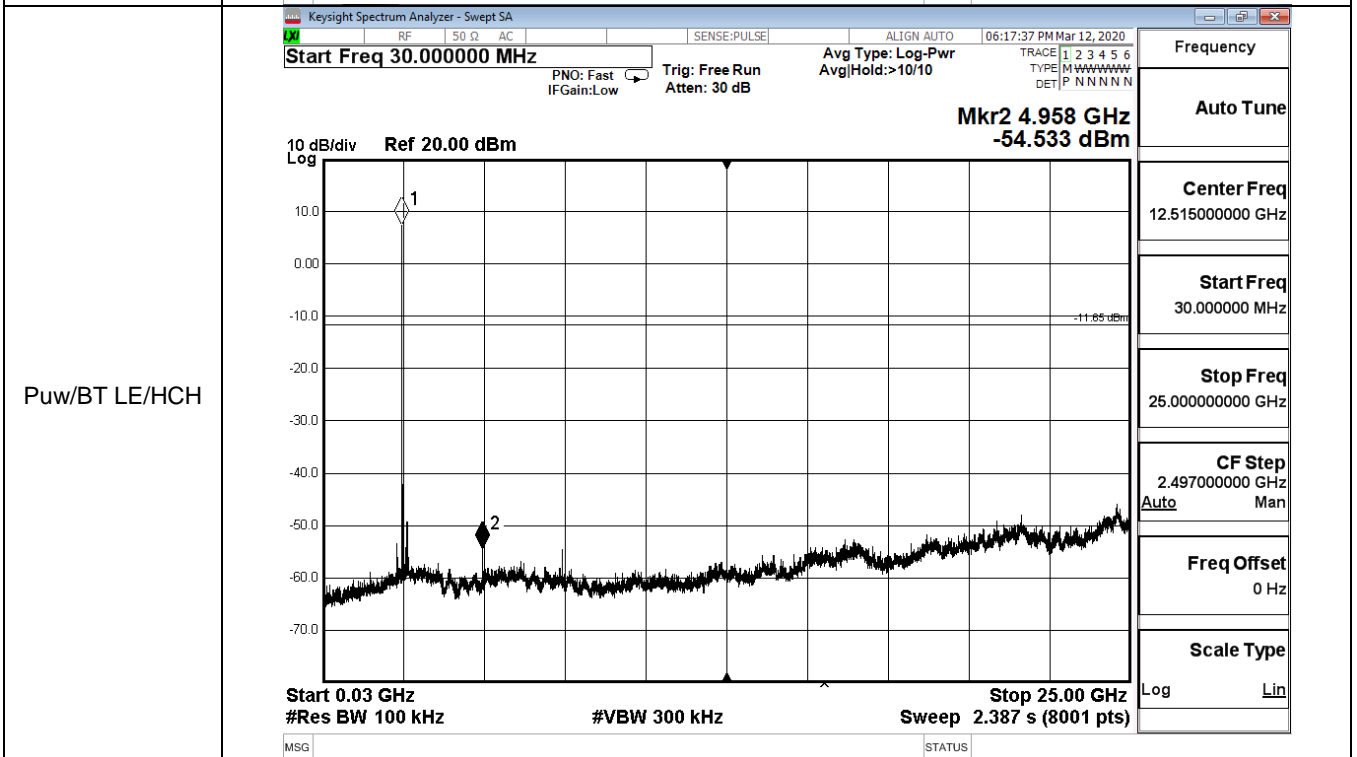
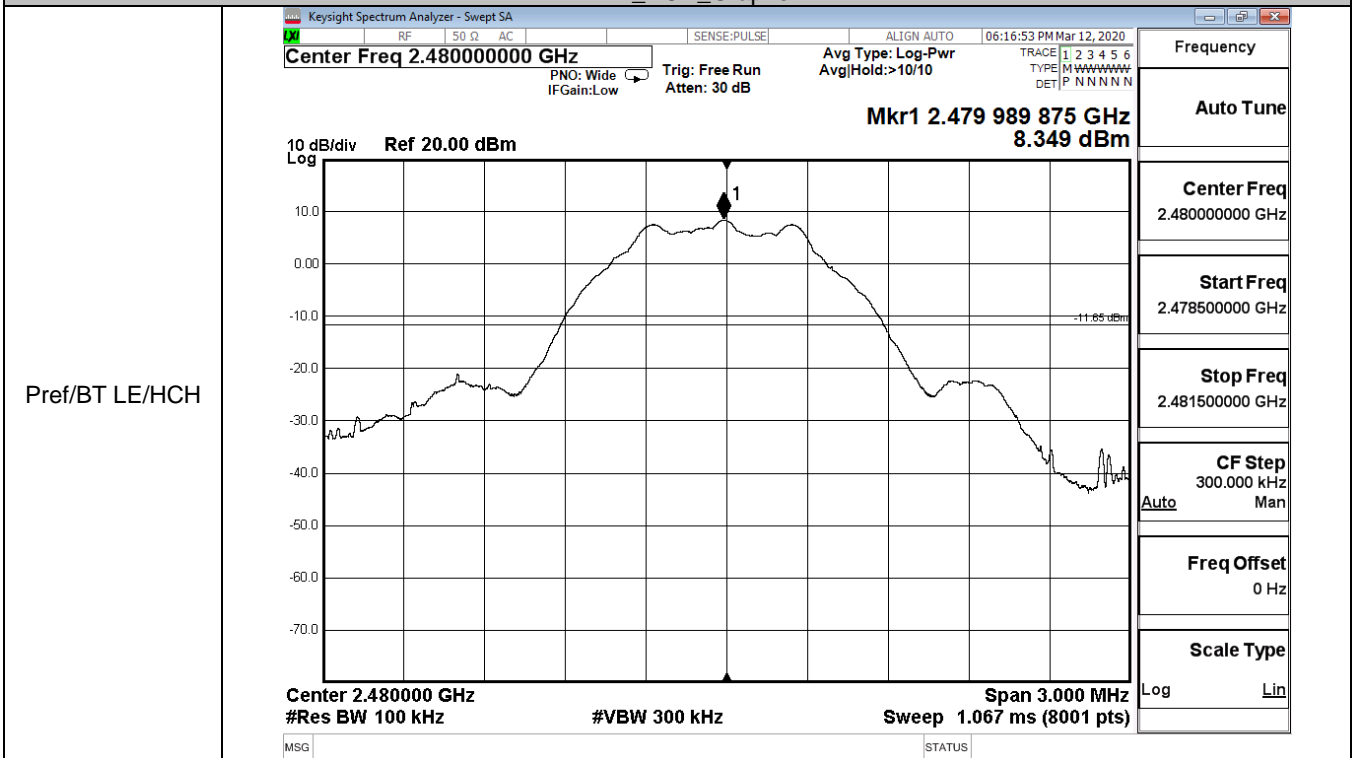
Pref/BT LE/MCH



Puw/BT LE/MCH



BT LE_HCH_Graphs



A.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	6.438	-36.287	-13.56	PASS
BT LE	HCH	8.423	-37.093	-11.58	PASS

Test Graphs

LCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.402 003 GHz	6.438 dBm			
2	N	f		2.400 000 GHz	-32.207 dBm			
3	N	f		2.390 000 GHz	-60.256 dBm			
4	N	f		2.398 701 GHz	-36.287 dBm			

Peak Search

Next Peak

Next Pk Right

Next Pk Left

Marker Delta

Mkr→CF

Mkr→RefLvl

More
1 of 2

HCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.480 002 00 GHz	8.423 dBm			
2	N	f		2.483 500 00 GHz	-51.104 dBm			
3	N	f		2.500 000 00 GHz	-59.503 dBm			
4	N	f		2.482 004 00 GHz	-37.093 dBm			

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

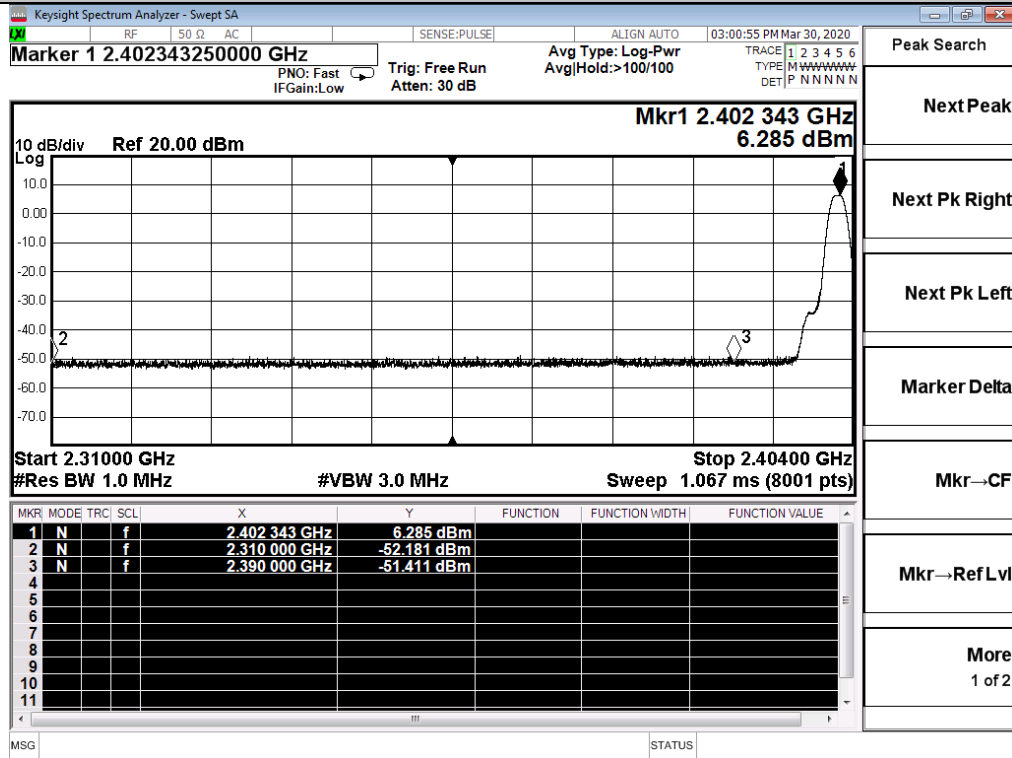
Freq Offset
0 Hz

Scale Type
Log Lin

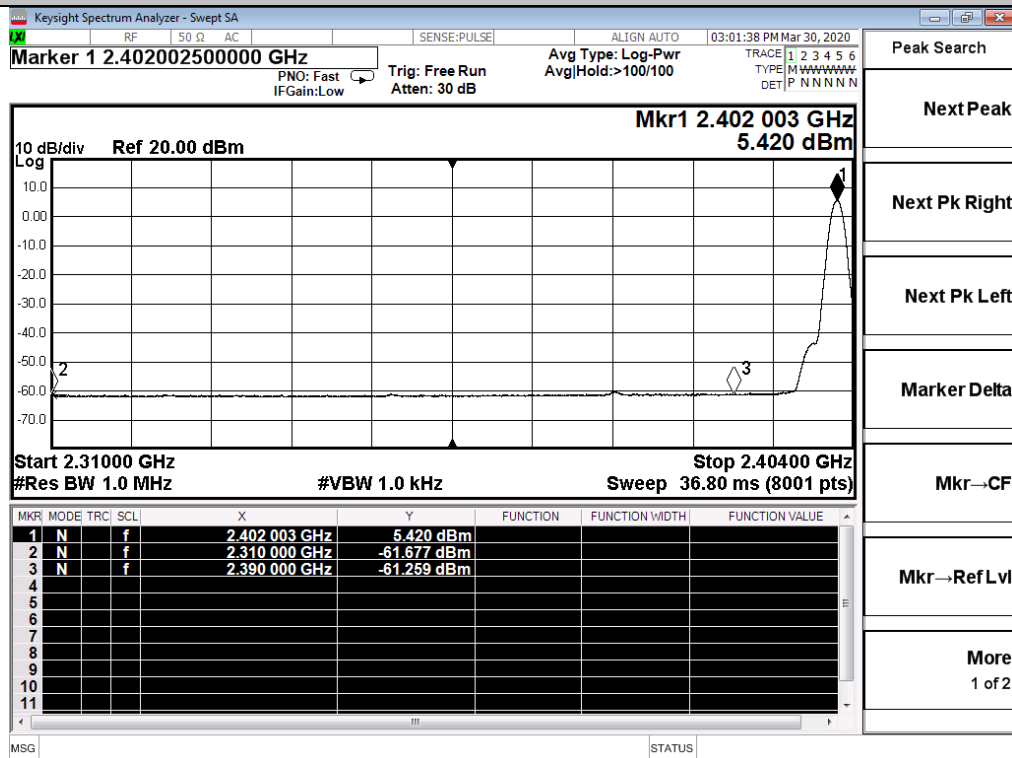
A.7 Restrict-band band-edge measurements

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	-52.181	4	0	47.047	PEAK	74	PASS
		Ant1	2310.0	-61.677	4	0	37.551	AV	54	PASS
		Ant1	2390.0	-51.411	4	0	47.817	PEAK	74	PASS
		Ant1	2390.0	-61.259	4	0	37.969	AV	54	PASS
	2480	Ant1	2483.5	-40.412	4	0	58.816	PEAK	74	PASS
		Ant1	2483.5	-52.128	4	0	47.100	AV	54	PASS
		Ant1	2500.0	-50.478	4	0	48.750	PEAK	74	PASS
		Ant1	2500.0	-61.059	4	0	38.169	AV	54	PASS

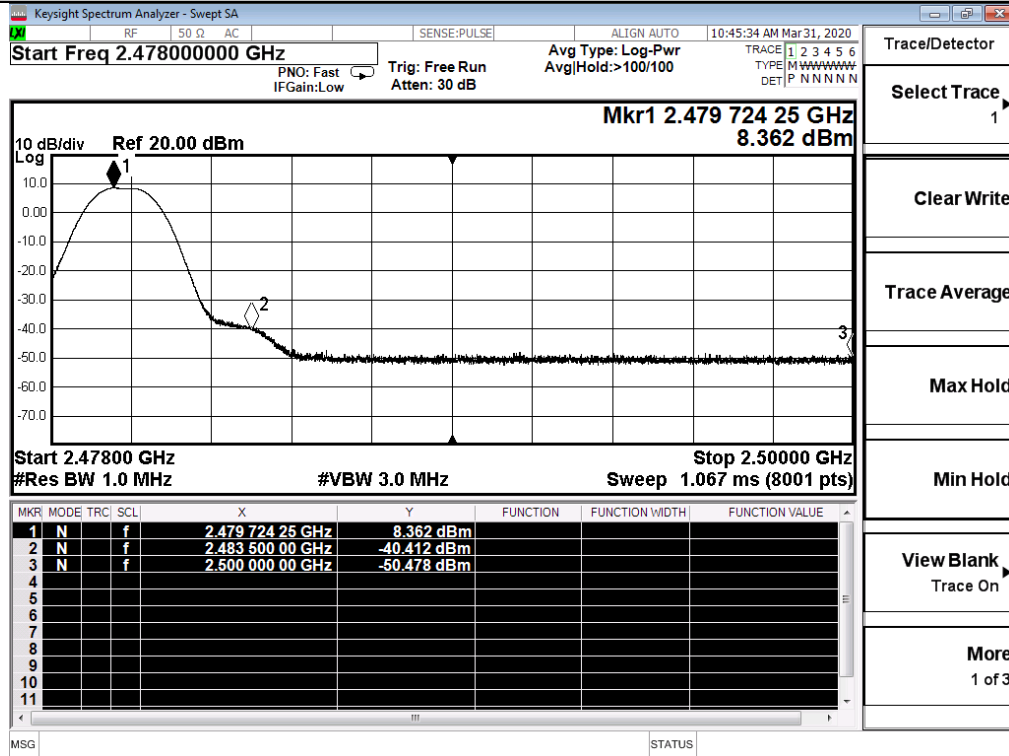
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

