

Appendix A

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

Product Name: Sensoria Core

Trade Mark: Sensoria

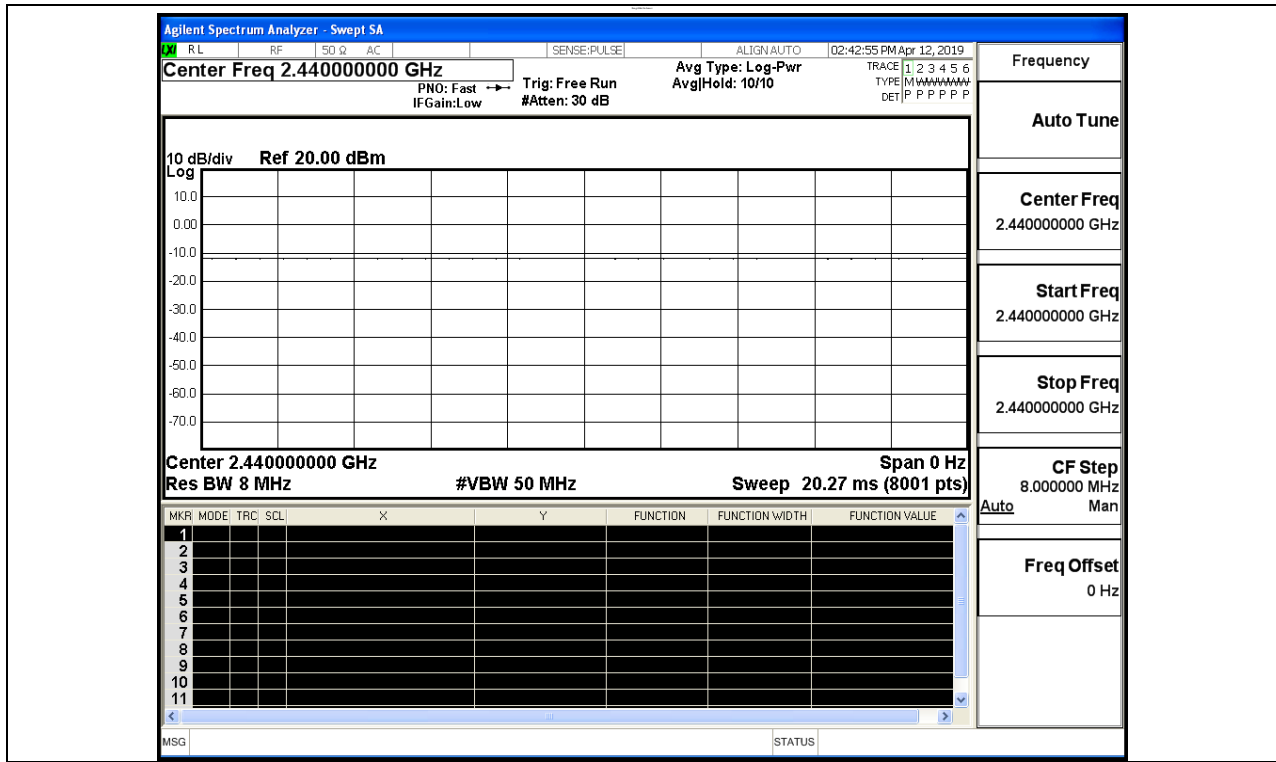
Test Model: Sensoria Core

Environmental Conditions

Temperature:	24.2 °C
Relative Humidity:	53.4%
ATM Pressure:	100.0 kPa
Test Engineer:	David Luo
Supervised by:	Wang Chuang

A.1 Duty Cycle

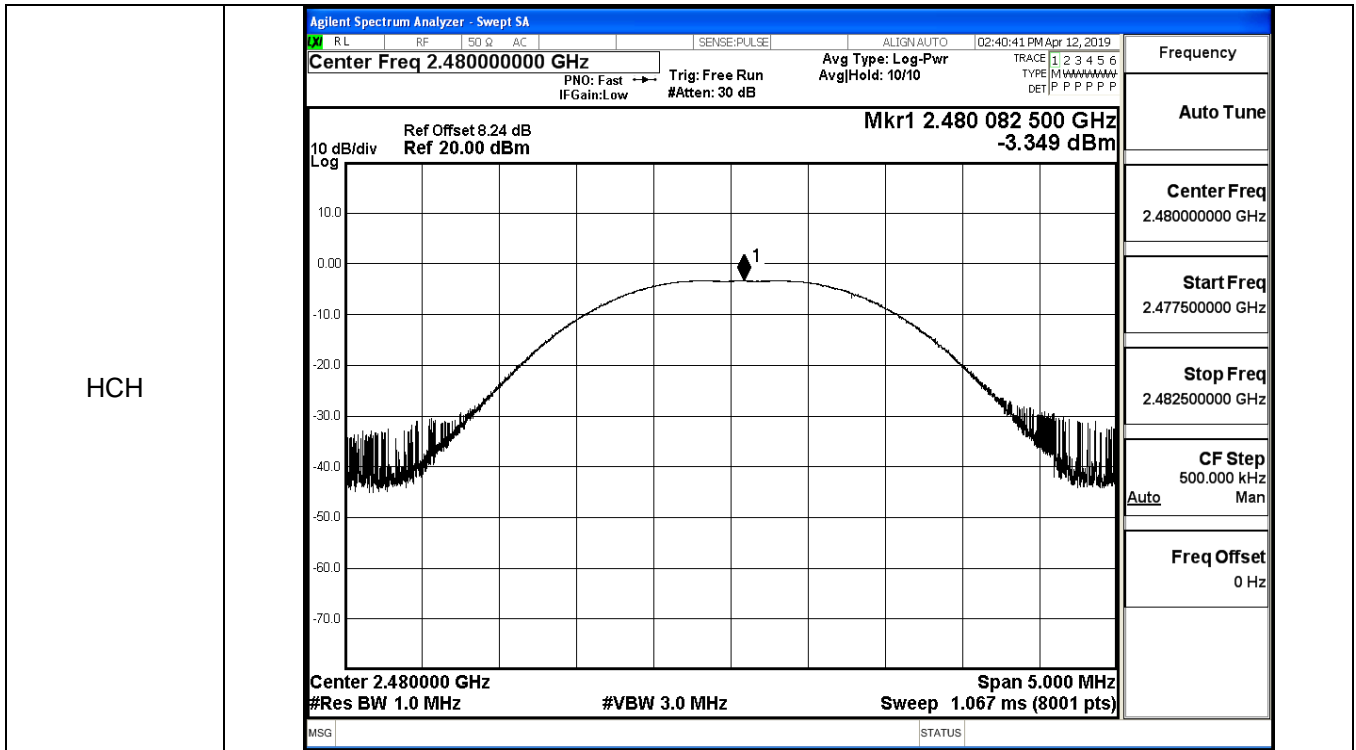
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



A.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-3.952	30	PASS
BT LE	MCH	-3.815	30	PASS
BT LE	HCH	-3.349	30	PASS

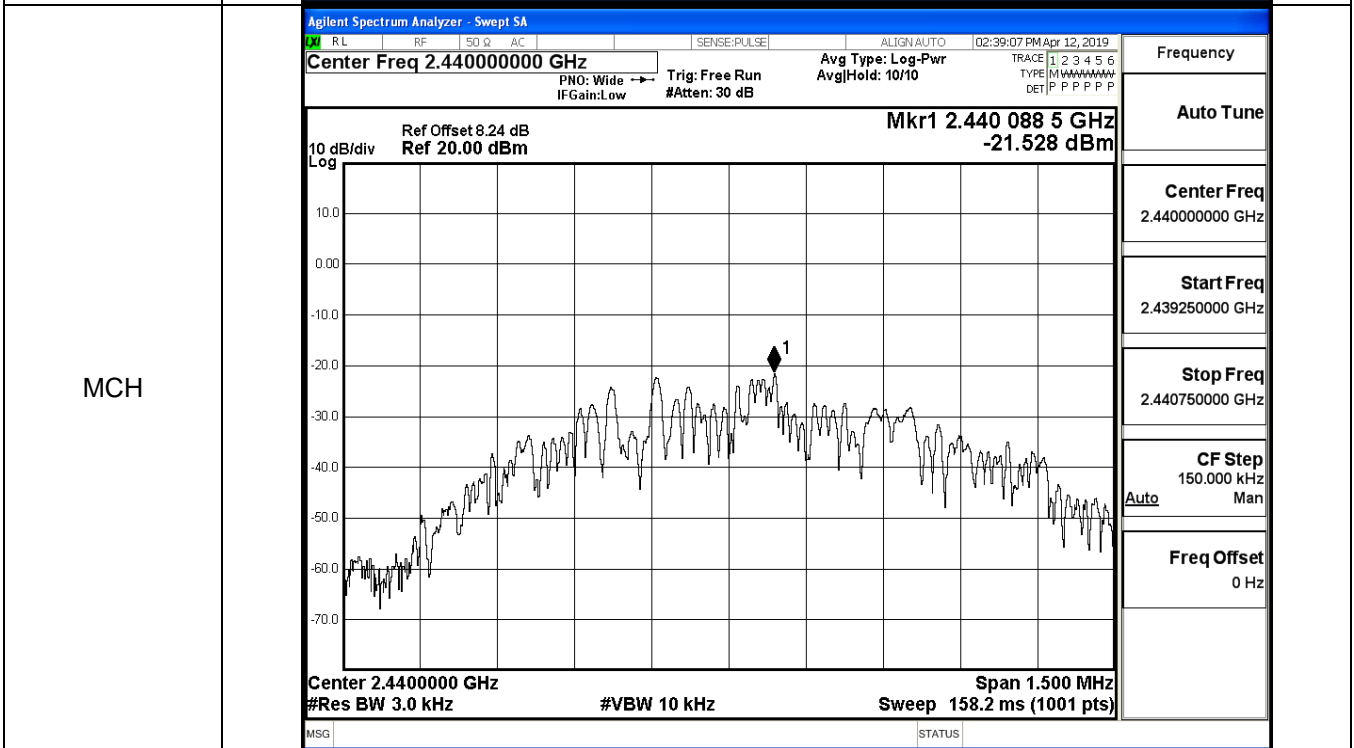
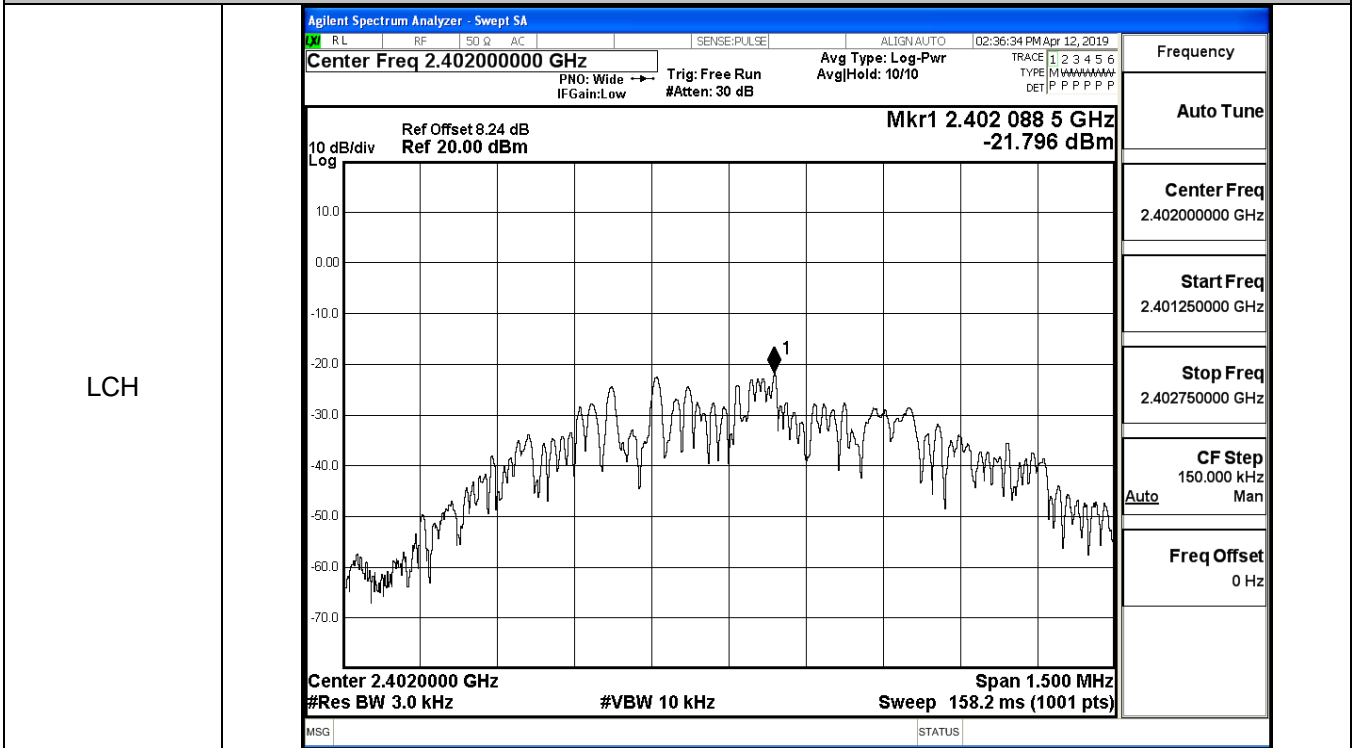
Test Graphs	
LCH	<div data-bbox="418 607 1390 1339"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.40200000 GHz</p> <p>Mkr1 2.401 802 500 GHz -3.952 dBm</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 2.402000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.067 ms (8001 pts)</p> <p>Span 5.000 MHz</p> </div>
MCH	<div data-bbox="418 1352 1390 2092"> <p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.44000000 GHz</p> <p>Mkr1 2.440 073 750 GHz -3.815 dBm</p> <p>Ref Offset 8.24 dB Ref 20.00 dBm</p> <p>10 dB/div Log</p> <p>Center 2.440000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 1.067 ms (8001 pts)</p> <p>Span 5.000 MHz</p> </div>



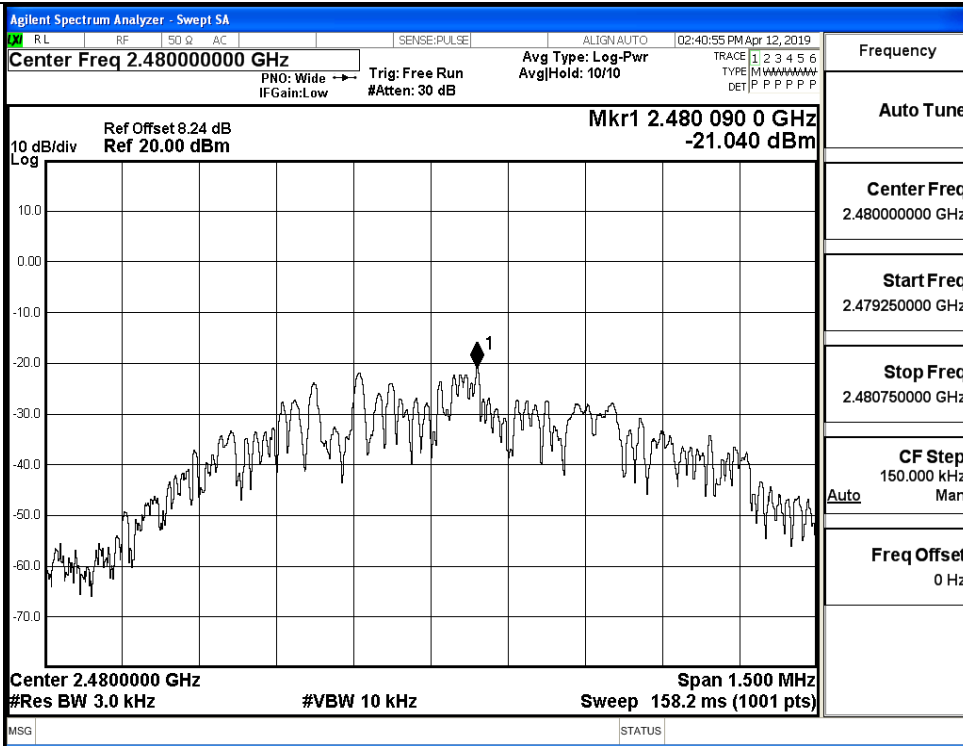
A.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-21.796	8	PASS
BT LE	MCH	-21.528	8	PASS
BT LE	HCH	-21.040	8	PASS

Test Graphs



HCH



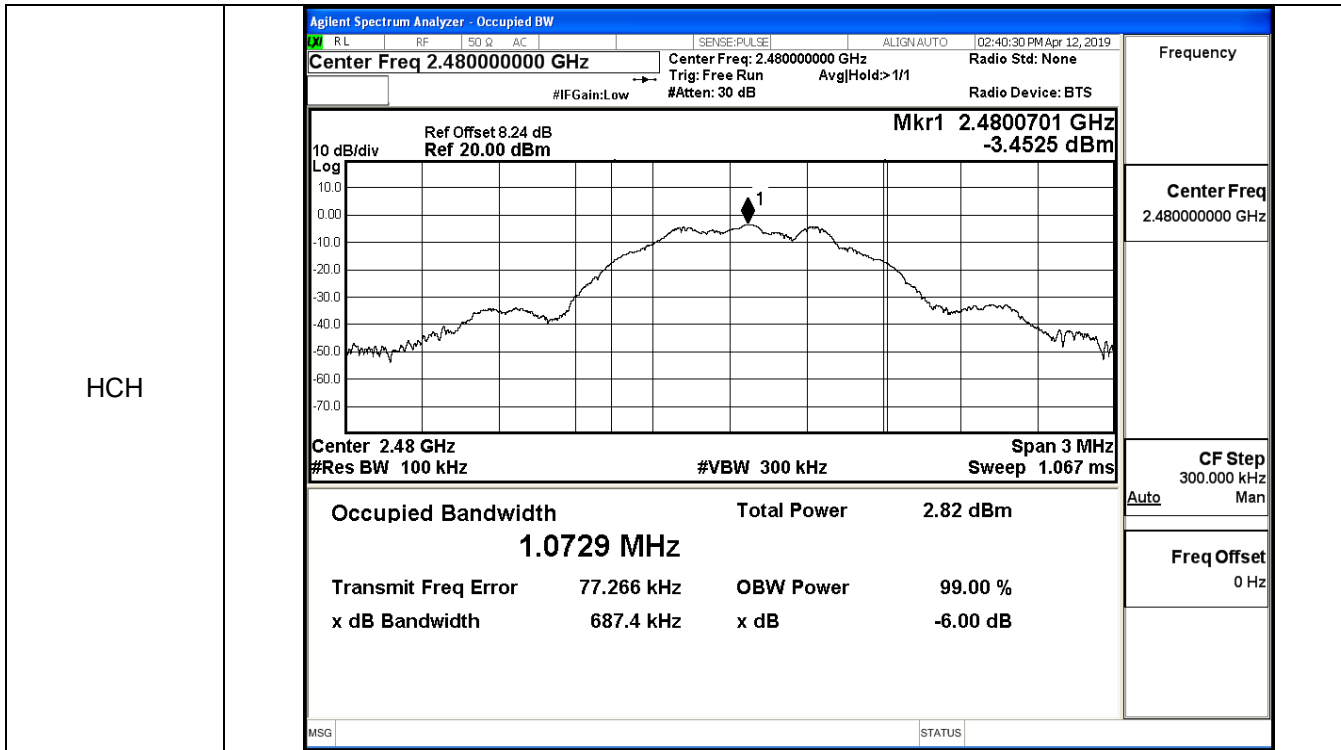
A.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6930	≥0.5	PASS
BT LE	MCH	0.6791	≥0.5	PASS
BT LE	HCH	0.6874	≥0.5	PASS

Test Graphs

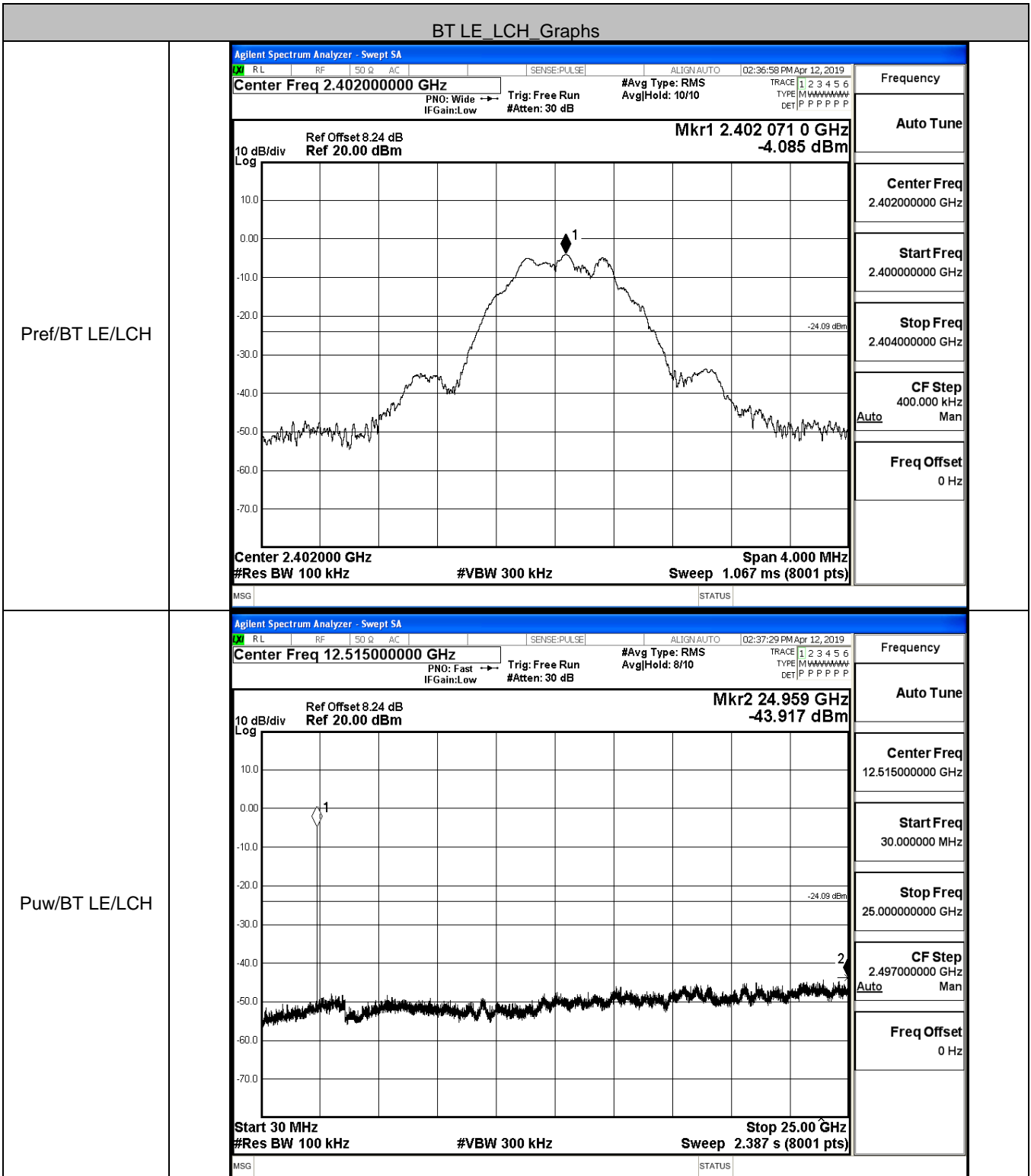
LCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.40200000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: >1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <p>Ref Offset 8.24 dB Mkr1 2.402072 GHz Ref 20.00 dBm -4.0981 dBm</p> <p>Center 2.402 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0657 MHz Total Power 2.25 dBm</p> <p>Transmit Freq Error 75.924 kHz OBW Power 99.00 % x dB Bandwidth 693.0 kHz x dB -6.00 dB</p>	<p>Frequency</p> <p>Center Freq 2.402000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
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MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz Center Freq: 2.440000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <p>Ref Offset 8.24 dB Mkr1 2.4400698 GHz Ref 20.00 dBm -3.8986 dBm</p> <p>Center 2.44 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0732 MHz Total Power 2.38 dBm</p> <p>Transmit Freq Error 75.726 kHz OBW Power 99.00 % x dB Bandwidth 679.1 kHz x dB -6.00 dB</p>	<p>Frequency</p> <p>Center Freq 2.440000000 GHz</p> <p>CF Step 300.000 kHz Auto Man</p> <p>Freq Offset 0 Hz</p>
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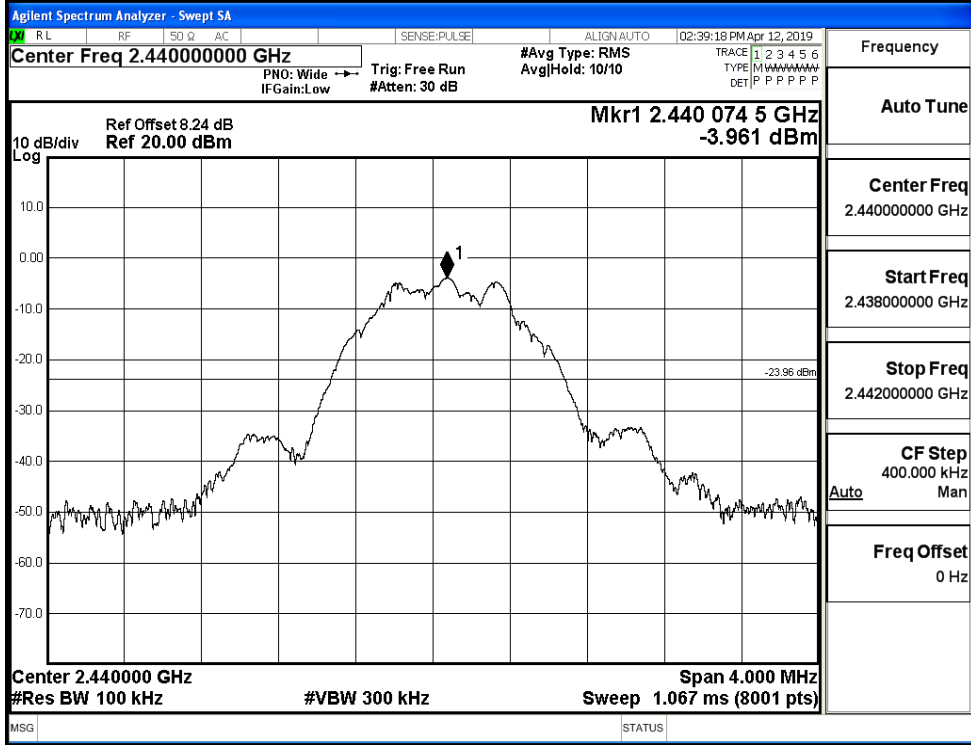
A.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-4.085	-43.917	-24.085	PASS
BT LE	MCH	-3.961	-44.415	-23.961	PASS
BT LE	HCH	-3.449	-44.386	-23.449	PASS

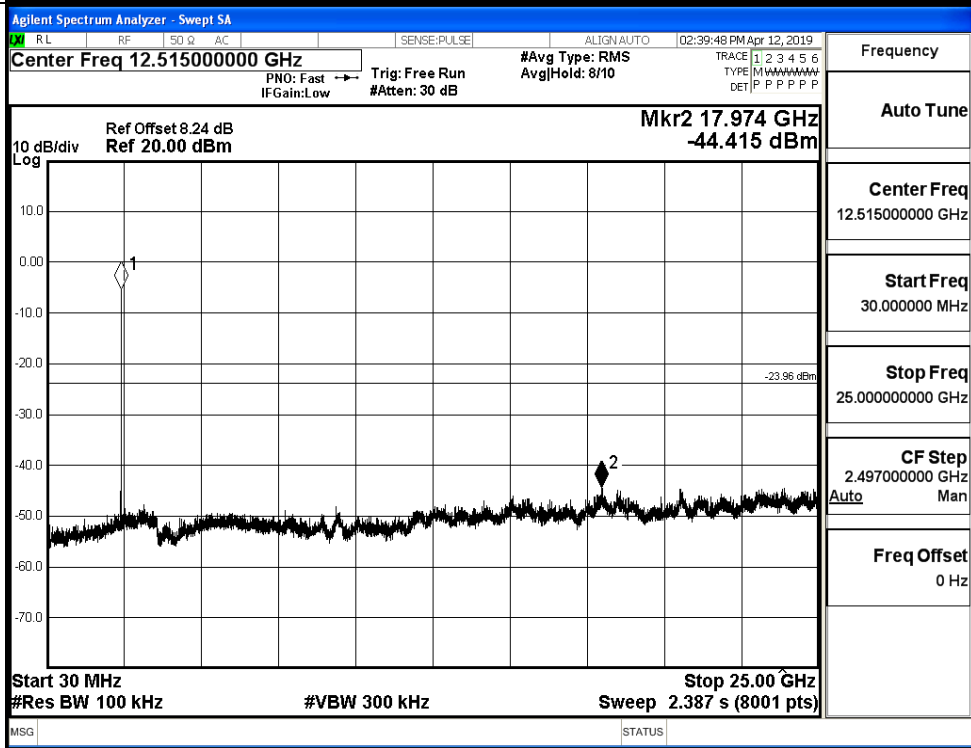


BT LE_MCH_Graphs

Pref/BT LE/MCH

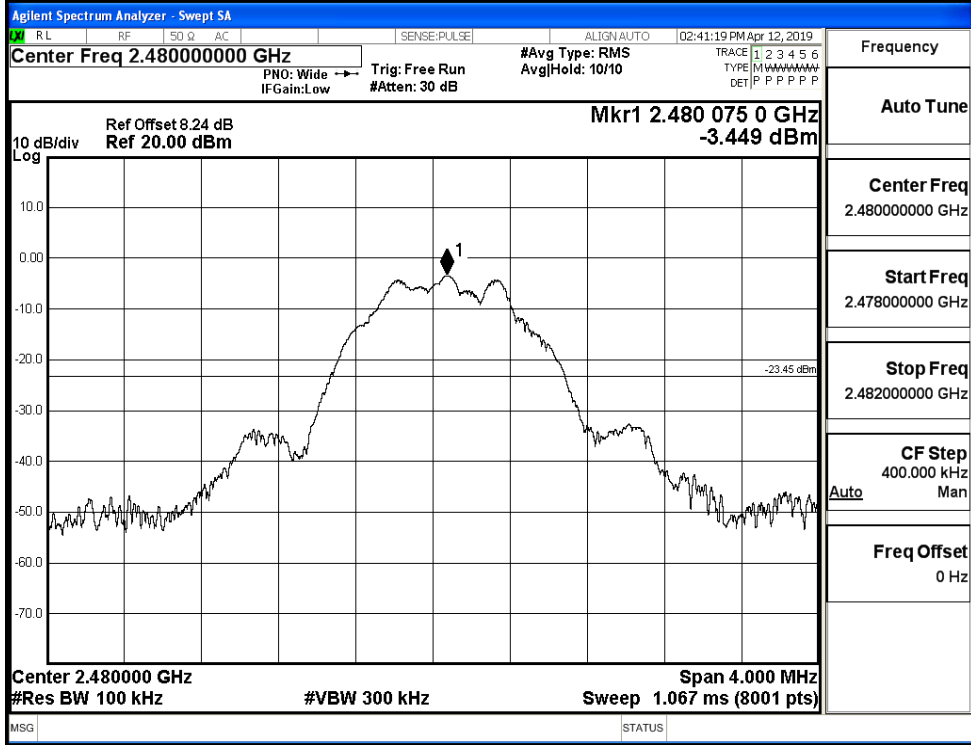


Puw/BT LE/MCH

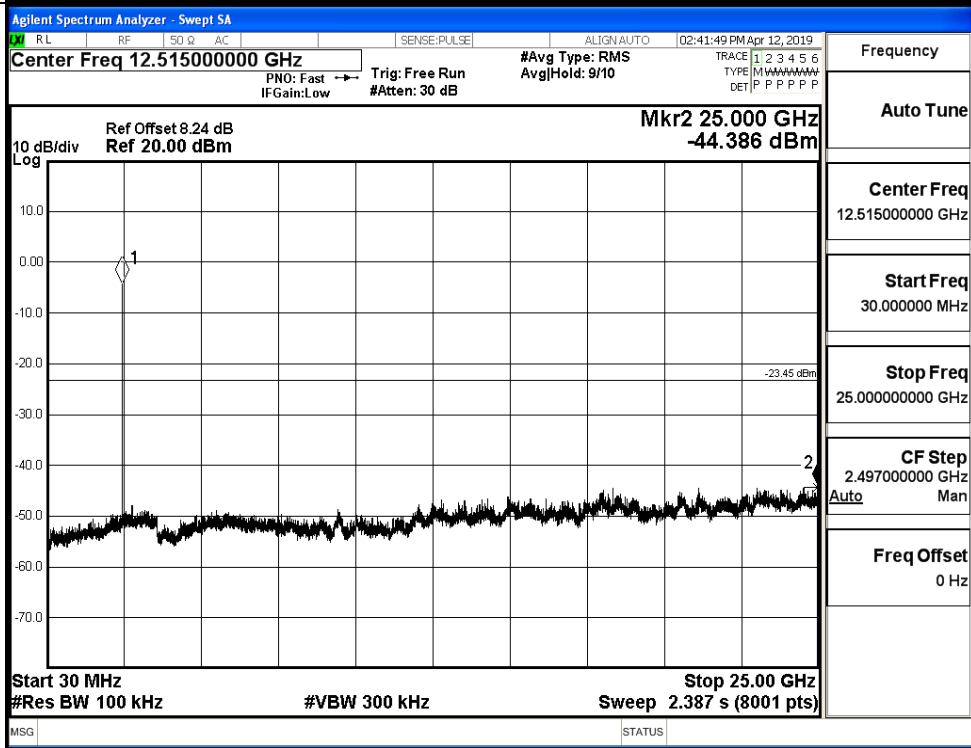


BT LE_HCH_Graphs

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	-4.029	-49.615	-24.03	PASS
BT LE	HCH	-3.434	-49.517	-23.43	PASS

Test Graphs

LCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.402073 GHz	-4.029 dBm			
2	N	f		2.400000 GHz	-53.080 dBm			
3	N	f		2.390000 GHz	-52.904 dBm			
4	N	f		2.373474 GHz	-49.615 dBm			

Frequency

Auto Tune

Center Freq
2.35700000 GHz

Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

HCH

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.480079 GHz	-3.434 dBm			
2	N	f		2.483500 GHz	-53.019 dBm			
3	N	f		2.500000 GHz	-51.982 dBm			
4	N	f		2.493050 GHz	-49.517 dBm			

Frequency

Auto Tune

Center Freq
2.48900000 GHz

Start Freq
2.47800000 GHz

Stop Freq
2.50000000 GHz

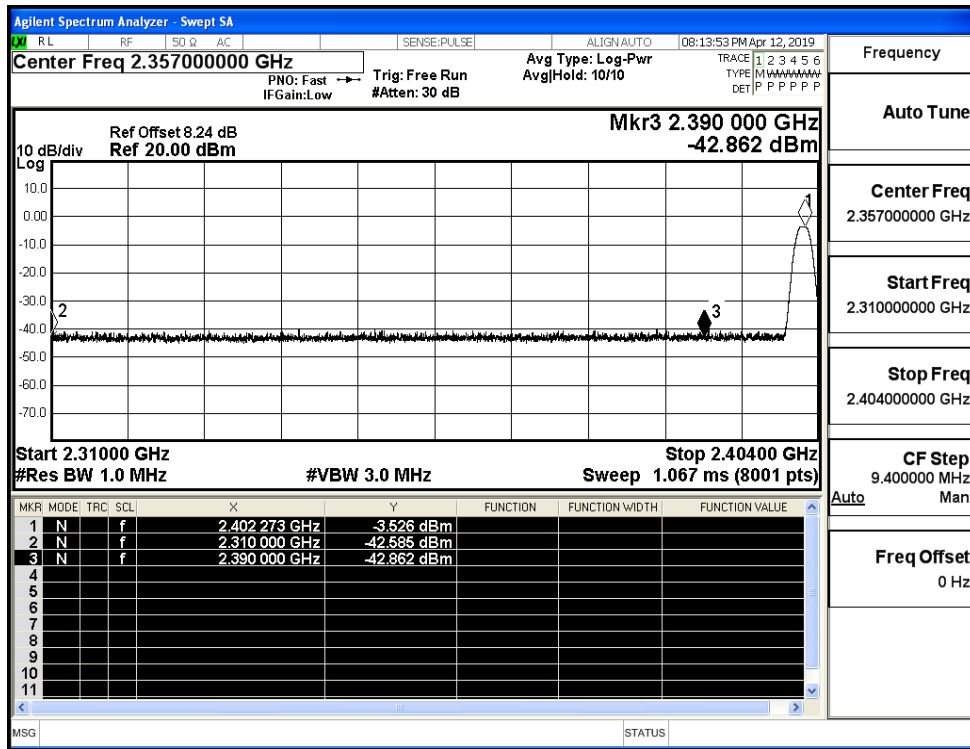
CF Step
2.200000 MHz

Freq Offset
0 Hz

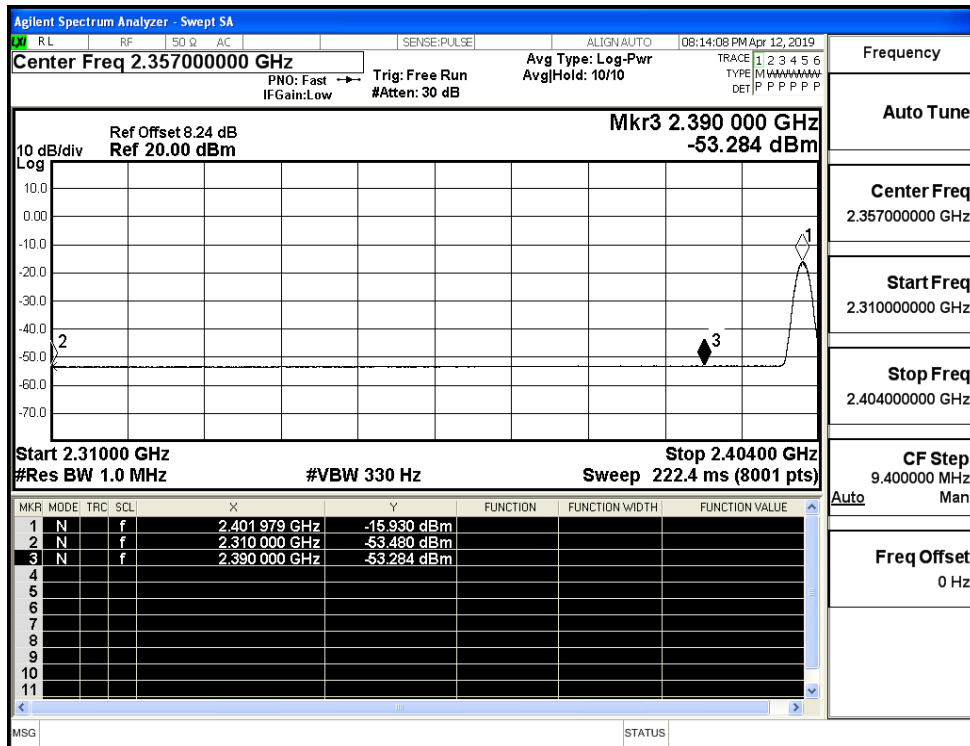
A.7 Restrict-band band-edge measurements

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	-42.59	3.0	0	55.61	PEAK	74	PASS
		Ant1	2310.0	-53.48	3.0	0	44.72	AV	54	PASS
		Ant1	2390.0	-42.86	3.0	0	55.34	PEAK	74	PASS
		Ant1	2390.0	-53.28	3.0	0	44.92	AV	54	PASS
	2480	Ant1	2483.5	-42.50	3.0	0	55.70	PEAK	74	PASS
		Ant1	2483.5	-52.94	3.0	0	45.26	AV	54	PASS
		Ant1	2500.0	-43.22	3.0	0	54.98	PEAK	74	PASS
		Ant1	2500.0	-52.72	3.0	0	45.48	AV	54	PASS

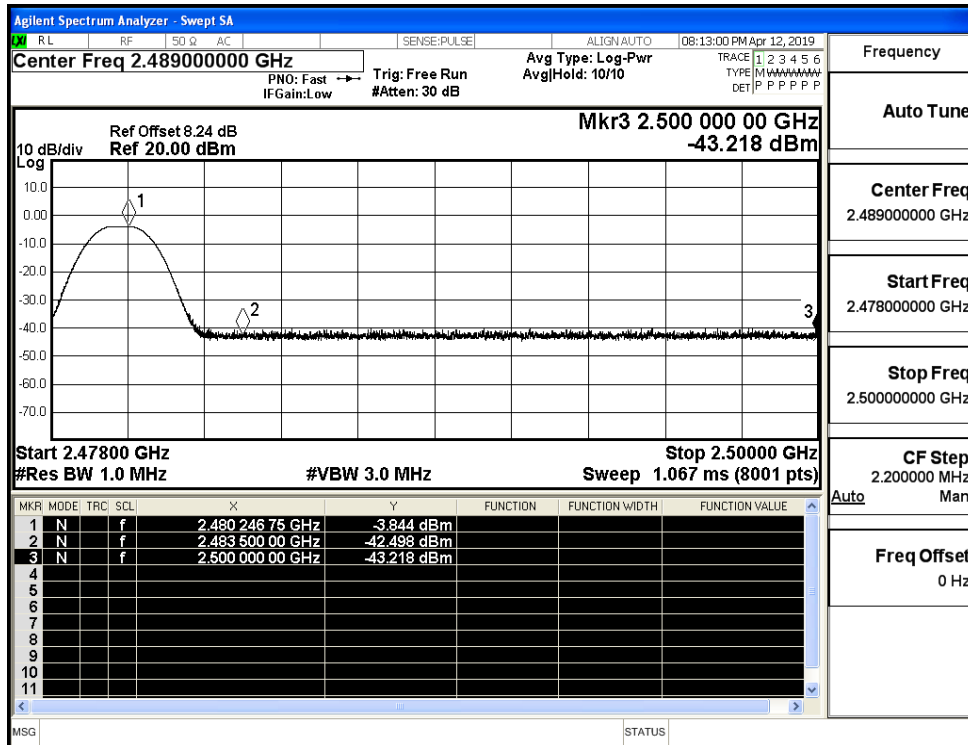
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

