

Appendix B

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

**Product Name: TRUE WIRELESS GAMING EARBUDS WITH 60MS
LOW LATENCY, MICROPHONE AND CHARGING CASE**

Trade Mark: iLuv

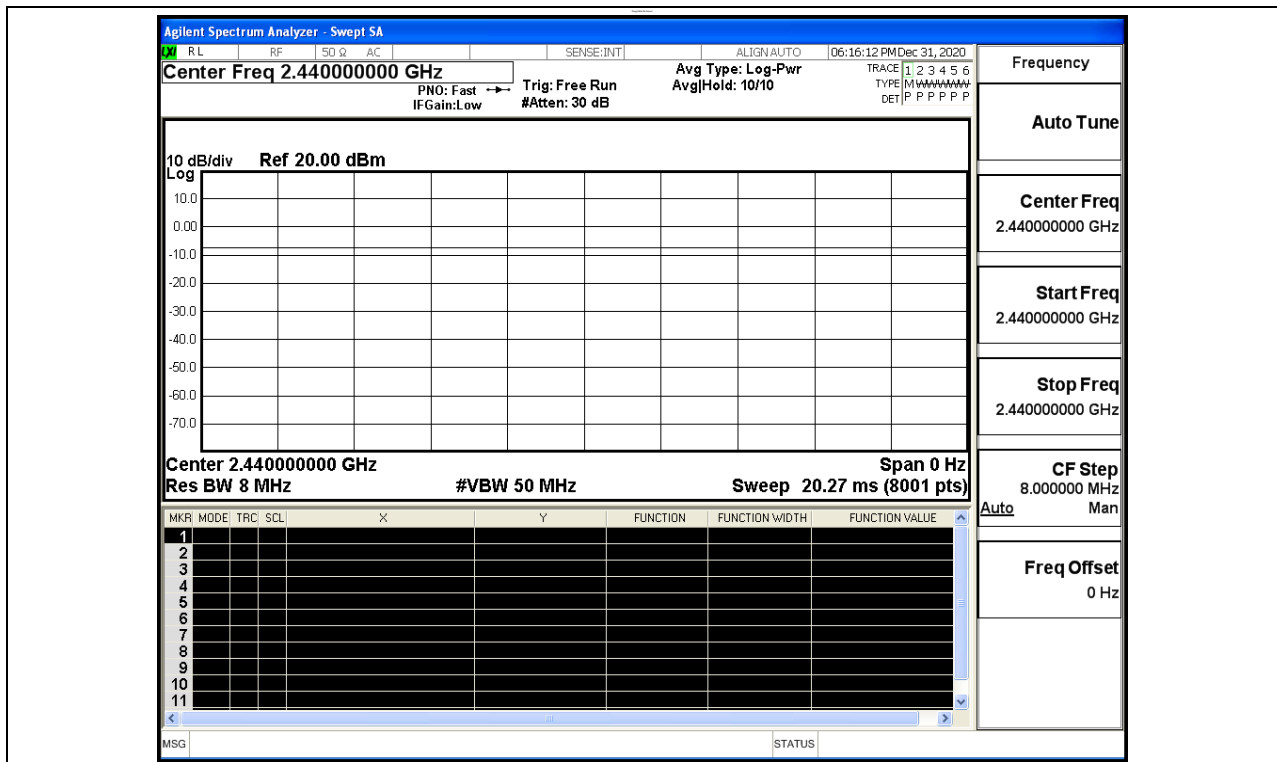
Test Model: SG100

Environmental Conditions

Temperature:	25 ° C
Relative Humidity:	53%
ATM Pressure:	100.0 kPa
Test Engineer:	Ben Jin
Supervised by:	Li Huan

B.1 Duty Cycle

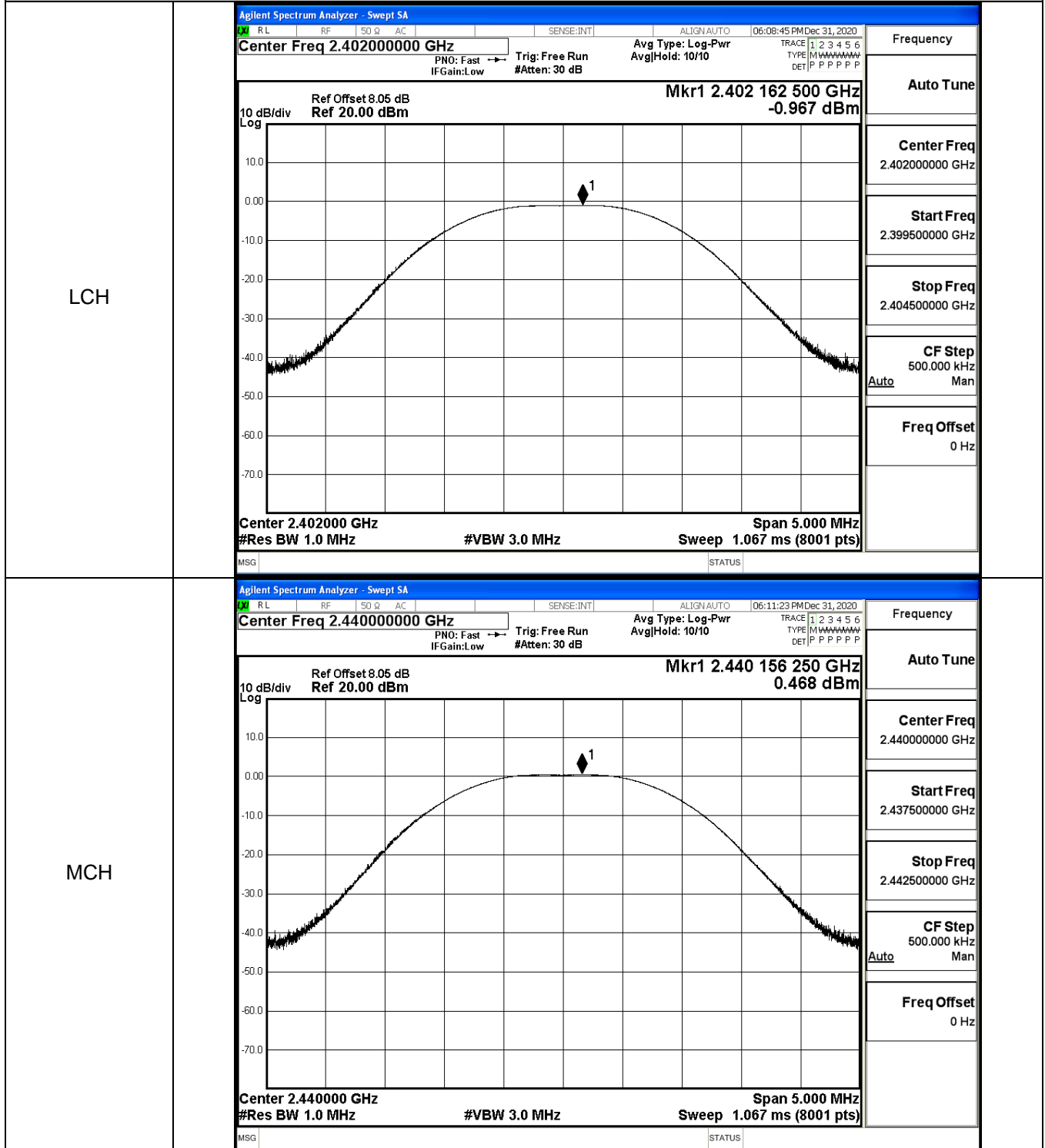
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



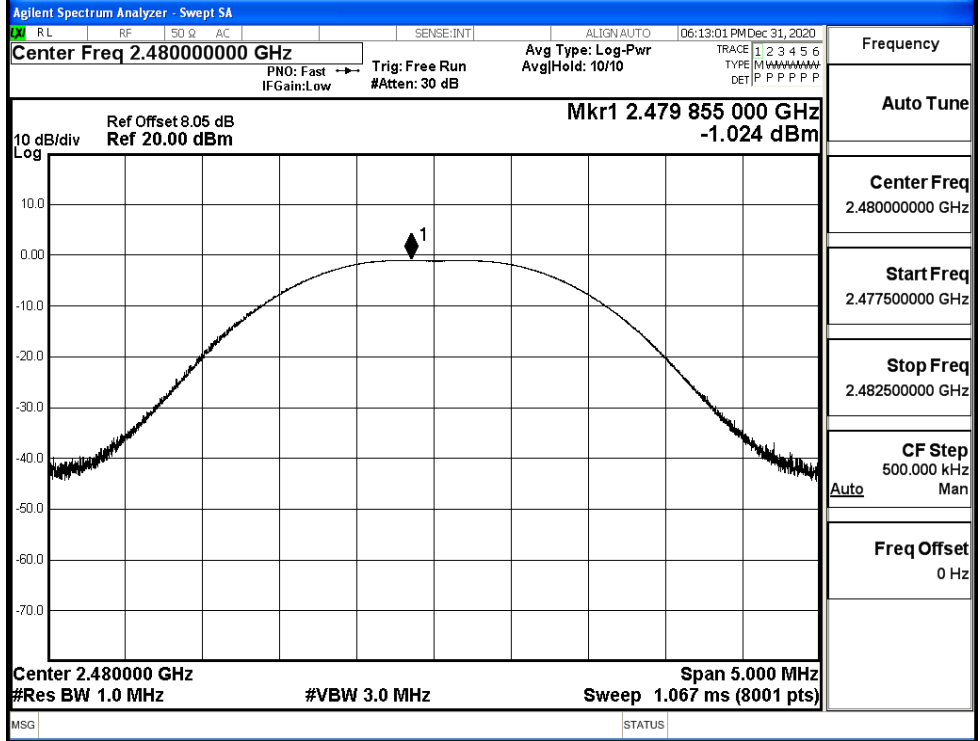
B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.967	30	PASS
BT LE	MCH	0.468	30	PASS
BT LE	HCH	-1.024	30	PASS

Test Graphs



HCH



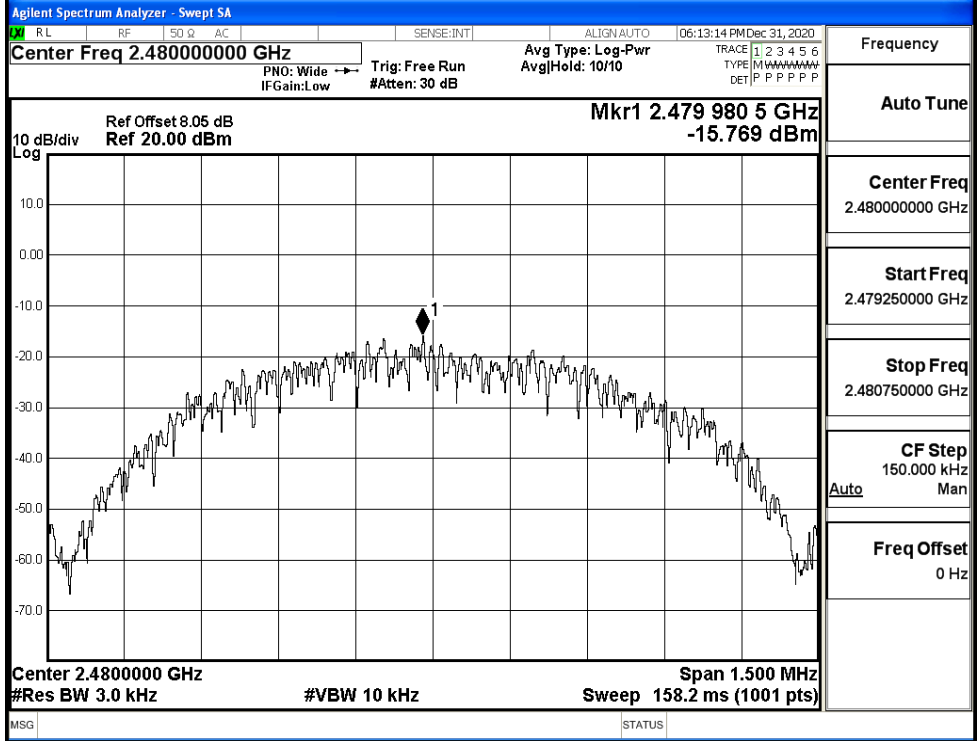
B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-15.820	8	PASS
BT LE	MCH	-14.286	8	PASS
BT LE	HCH	-15.769	8	PASS

Test Graphs

LCH		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.40200000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>Mkr1 2.401 980 5 GHz -15.820 dBm</p> <p>10 dB/div Log</p> <p>Center 2.4020000 GHz #Res BW 3.0 kHz</p> <p>#VBW 10 kHz</p> <p>Span 1.500 MHz Sweep 158.2 ms (1001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.402000000 GHz</p> <p>Start Freq 2.401250000 GHz</p> <p>Stop Freq 2.402750000 GHz</p> <p>CF Step 150.000 kHz Auto</p> <p>Freq Offset 0 Hz</p>
	MCH		<p>Agilent Spectrum Analyzer - Swept SA</p> <p>Center Freq 2.44000000 GHz</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm</p> <p>Mkr1 2.439 982 0 GHz -14.286 dBm</p> <p>10 dB/div Log</p> <p>Center 2.4400000 GHz #Res BW 3.0 kHz</p> <p>#VBW 10 kHz</p> <p>Span 1.500 MHz Sweep 158.2 ms (1001 pts)</p>

HCH



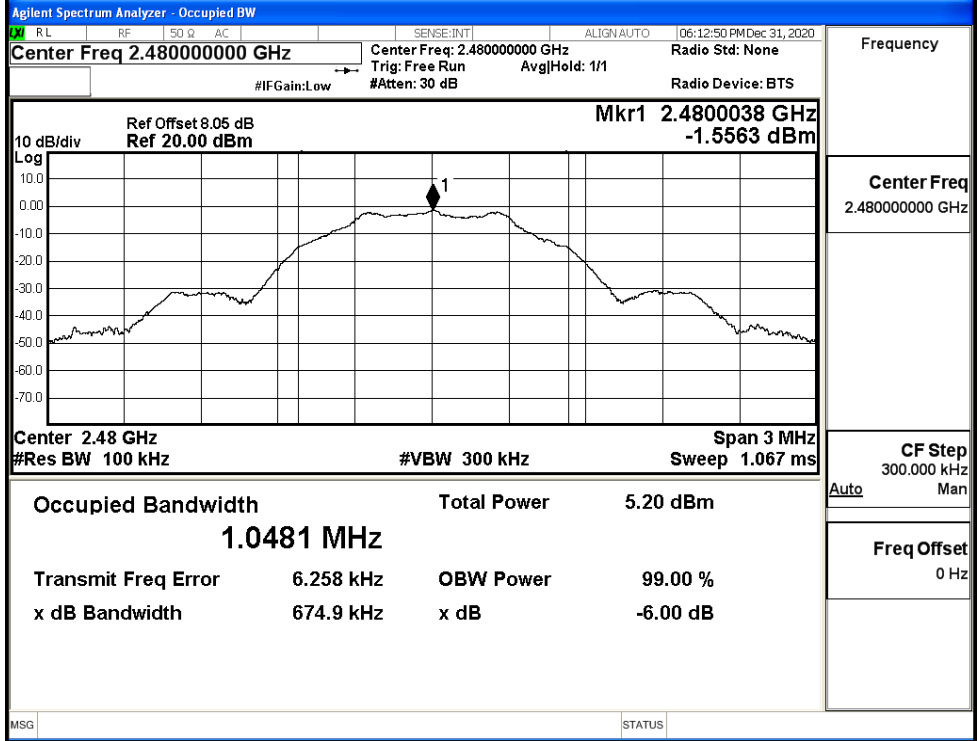
B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6699	≥0.5	PASS
BT LE	MCH	0.6693	≥0.5	PASS
BT LE	HCH	0.6749	≥0.5	PASS

Test Graphs

LCH	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq 2.40200000 GHz Center Freq: 2.40200000 GHz Trig: Free Run AvgHold: 1/1 #IFGain:Low #Atten: 30 dB Radio Std: None Radio Device: BTS</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.4020094 GHz -1.5580 dBm</p> <p>10 dB/div Log</p> <p>Center 2.402 GHz #Res BW 100 kHz #VBW 300 kHz Span 3 MHz Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0494 MHz Total Power 5.24 dBm</p> <p>Transmit Freq Error 8.922 kHz x dB Bandwidth 669.9 kHz OBW Power 99.00 % x dB -6.00 dB</p>	Frequency 2.40200000 GHz CF Step 300.000 kHz Auto Man Freq Offset 0 Hz
	<p>Agilent Spectrum Analyzer - Occupied BW Center Freq 2.44000000 GHz Center Freq: 2.44000000 GHz Trig: Free Run AvgHold: 1/1 #IFGain:Low #Atten: 30 dB Radio Std: None Radio Device: BTS</p> <p>Ref Offset 8.05 dB Ref 20.00 dBm Mkr1 2.4400034 GHz -0.078317 dBm</p> <p>10 dB/div Log</p> <p>Center 2.44 GHz #Res BW 100 kHz #VBW 300 kHz Span 3 MHz Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0490 MHz Total Power 6.68 dBm</p> <p>Transmit Freq Error 6.801 kHz x dB Bandwidth 669.3 kHz OBW Power 99.00 % x dB -6.00 dB</p>	Frequency 2.44000000 GHz CF Step 300.000 kHz Auto Man Freq Offset 0 Hz

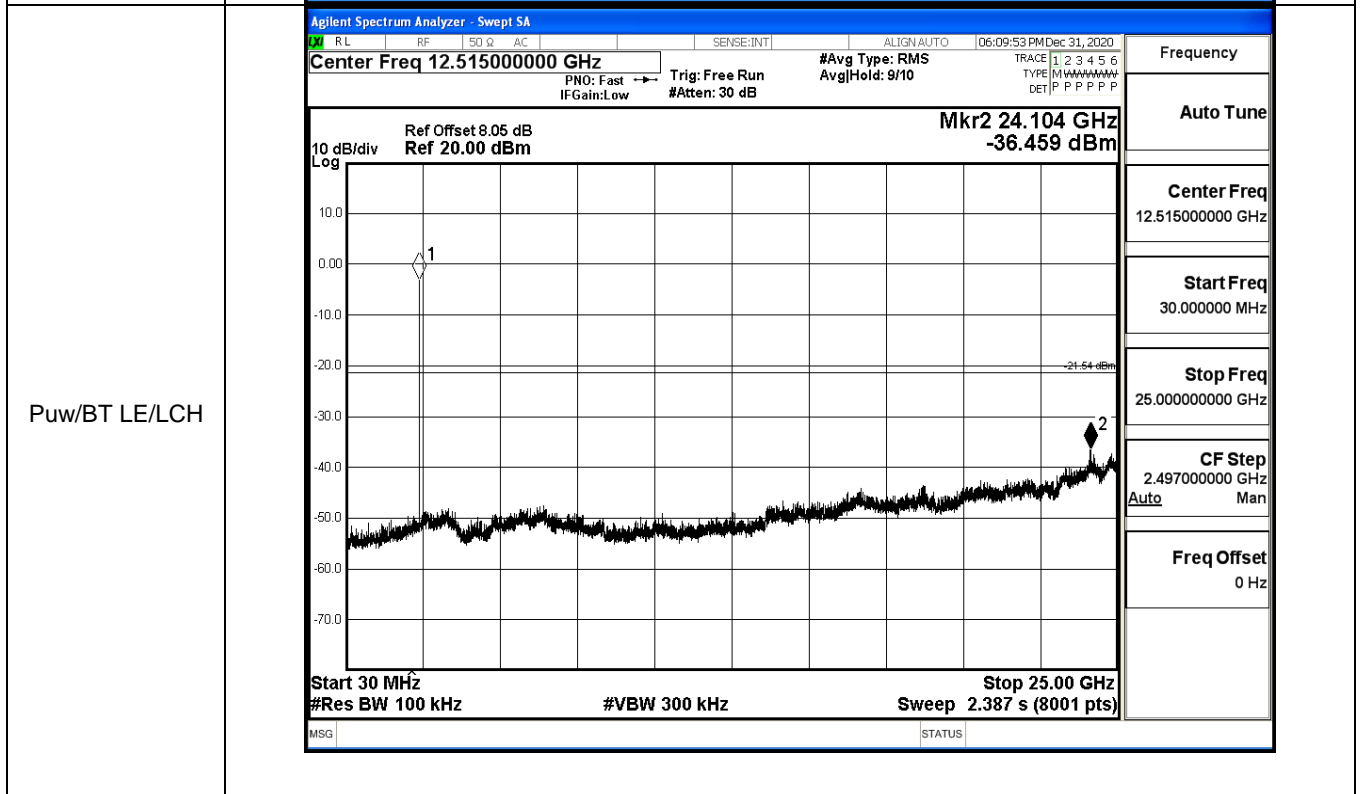
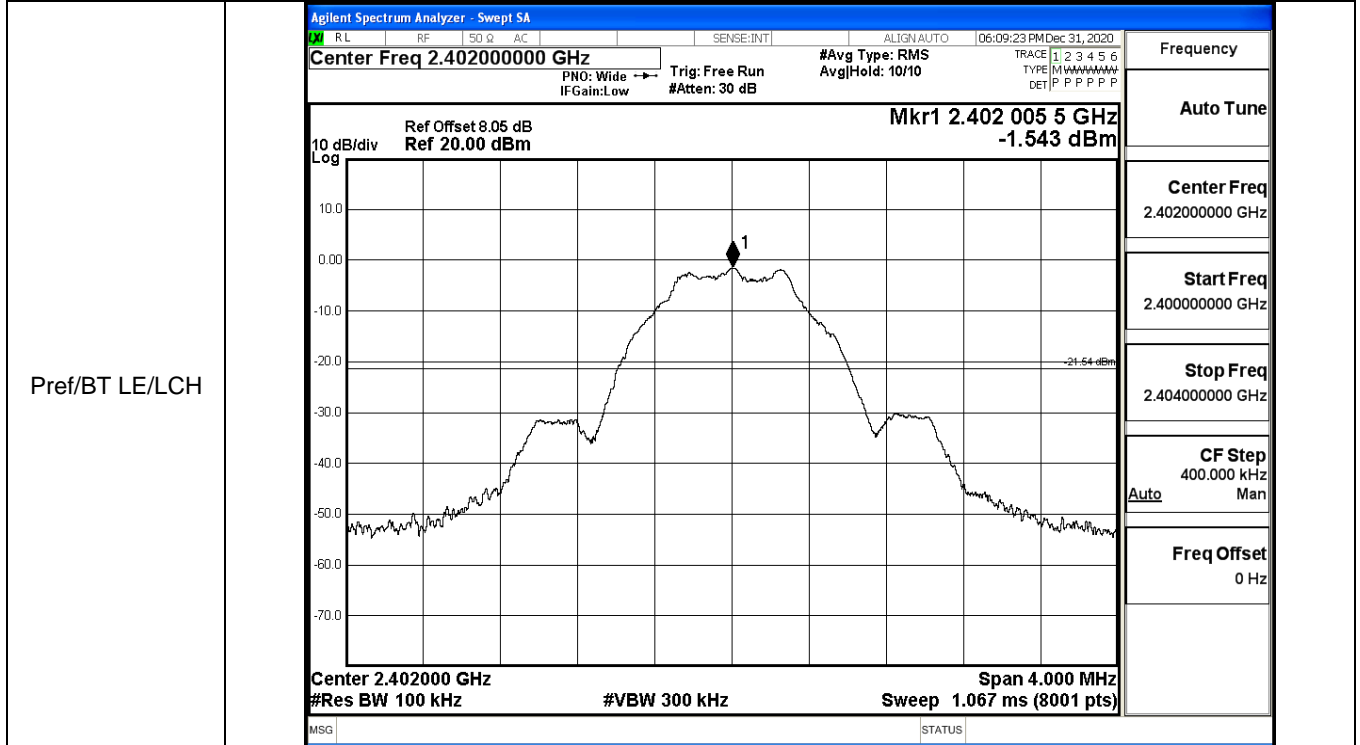
HCH



B.5 RF Conducted Spurious Emissions

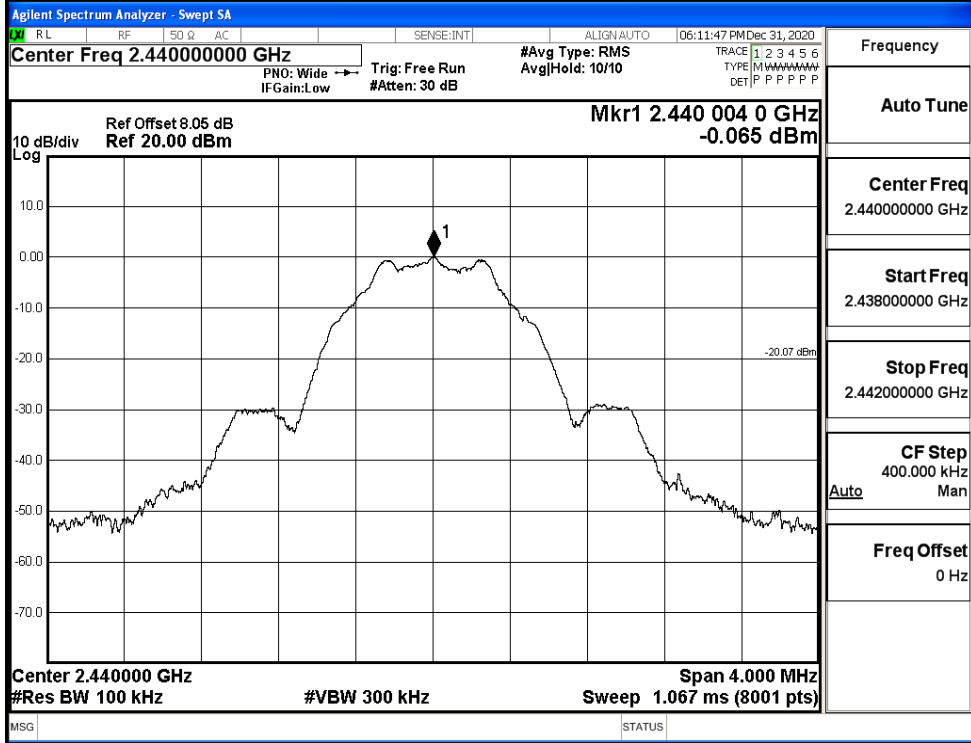
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.543	-36.459	-21.543	PASS
BT LE	MCH	-0.065	-37.346	-20.065	PASS
BT LE	HCH	-1.552	-37.347	-21.552	PASS

BT LE_LCH_Graphs

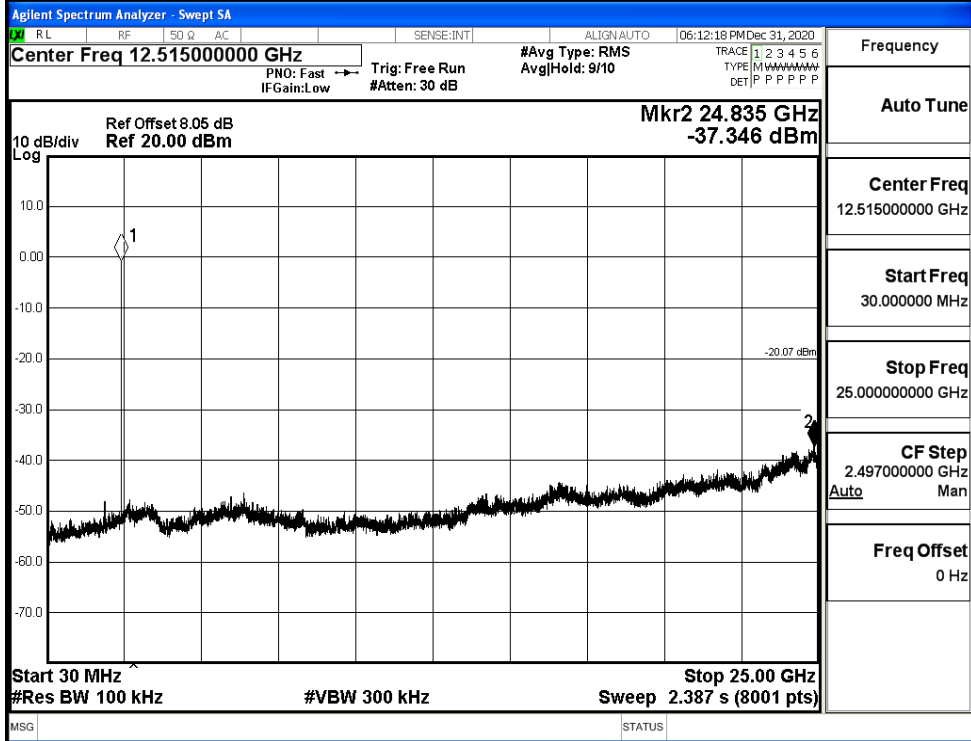


BT LE_MCH_Graphs

Pref/BT LE/MCH

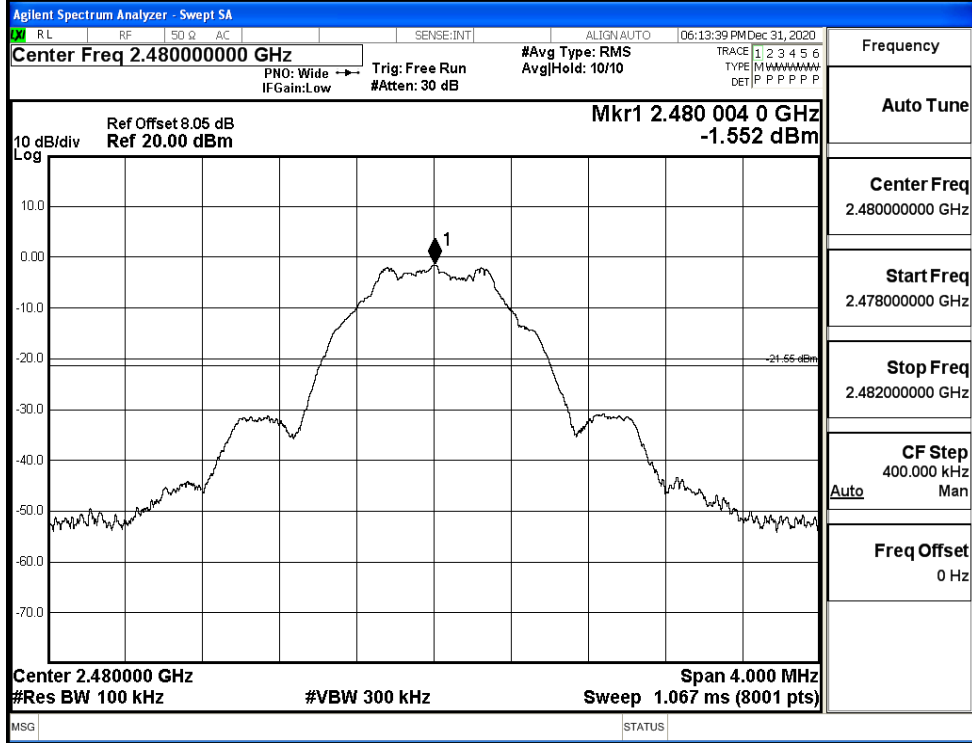


Puw/BT LE/MCH

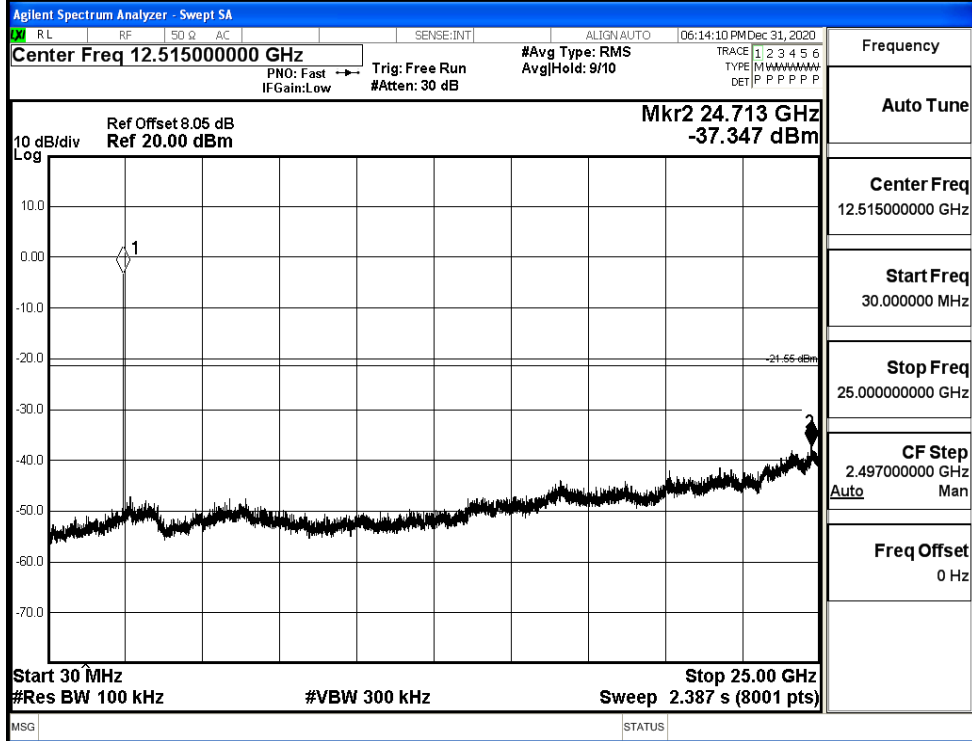


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

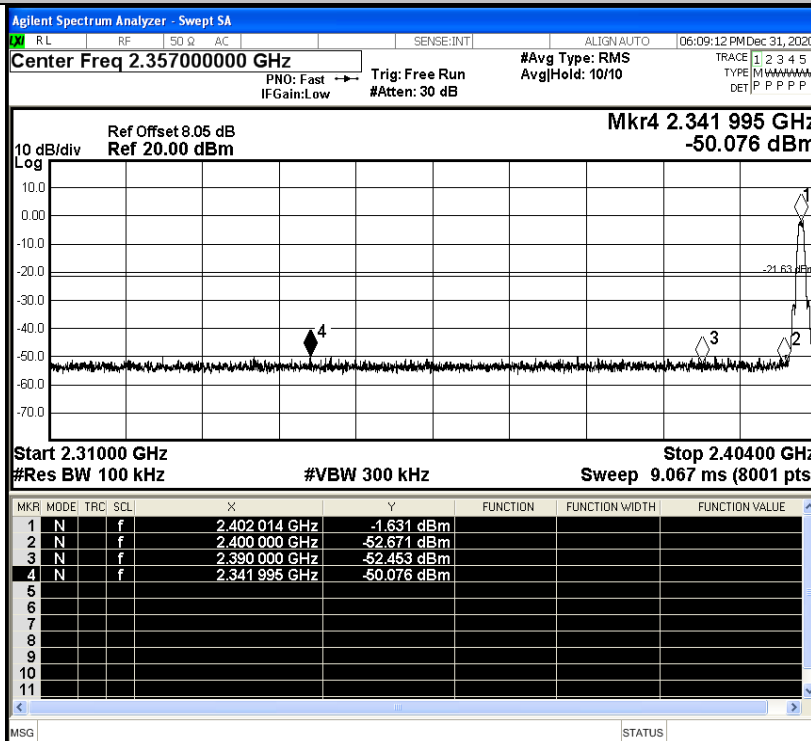


B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-1.631	-50.076	-21.63	PASS
BT LE	HCH	-1.431	-49.649	-21.43	PASS

Test Graphs

LCH



MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N		f	2.402014 GHz	-1.631 dBm			
2	N		f	2.400000 GHz	-52.671 dBm			
3	N		f	2.390000 GHz	-52.453 dBm			
4	N		f	2.341995 GHz	-50.076 dBm			
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
2.357000000 GHz

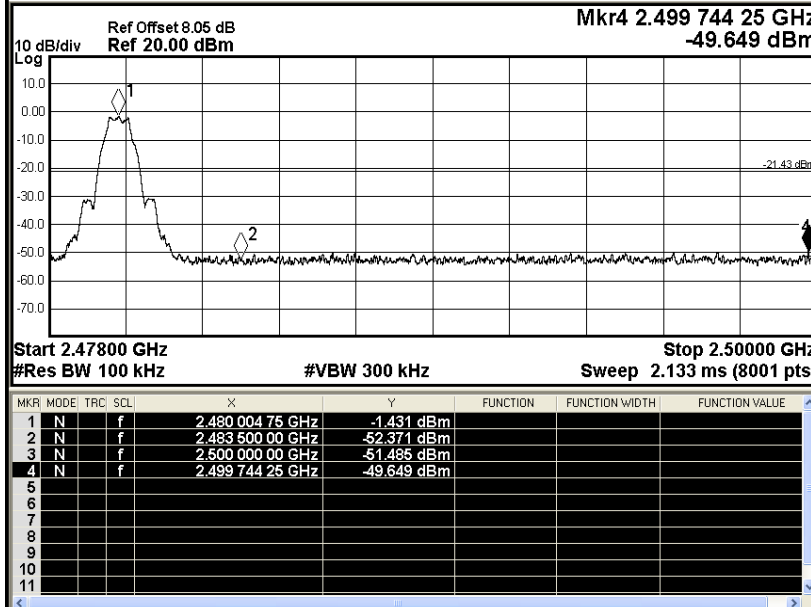
Start Freq
2.310000000 GHz

Stop Freq
2.404000000 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	2.48000475 GHz	-1.431 dBm			
2	N		f	2.48350000 GHz	-52.371 dBm			
3	N		f	2.50000000 GHz	-51.485 dBm			
4	N		f	2.49974425 GHz	-49.649 dBm			
5								
6								
7								
8								
9								
10								
11								

Frequency

Auto Tune

Center Freq
2.489000000 GHz

Start Freq
2.478000000 GHz

Stop Freq
2.500000000 GHz

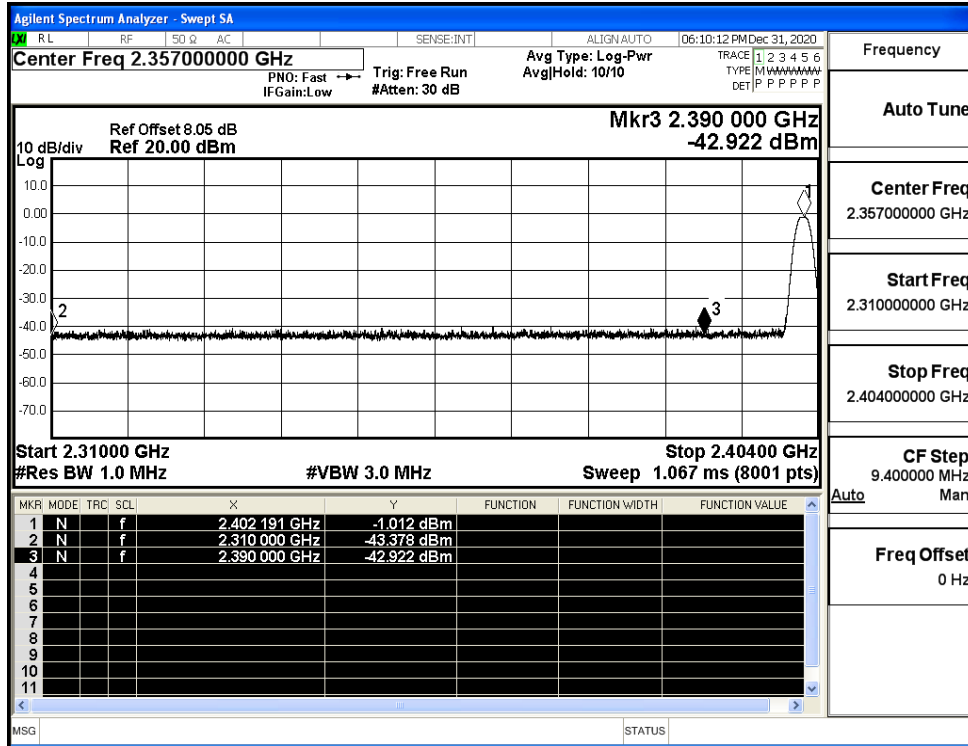
CF Step
2.200000 MHz

Freq Offset
0 Hz

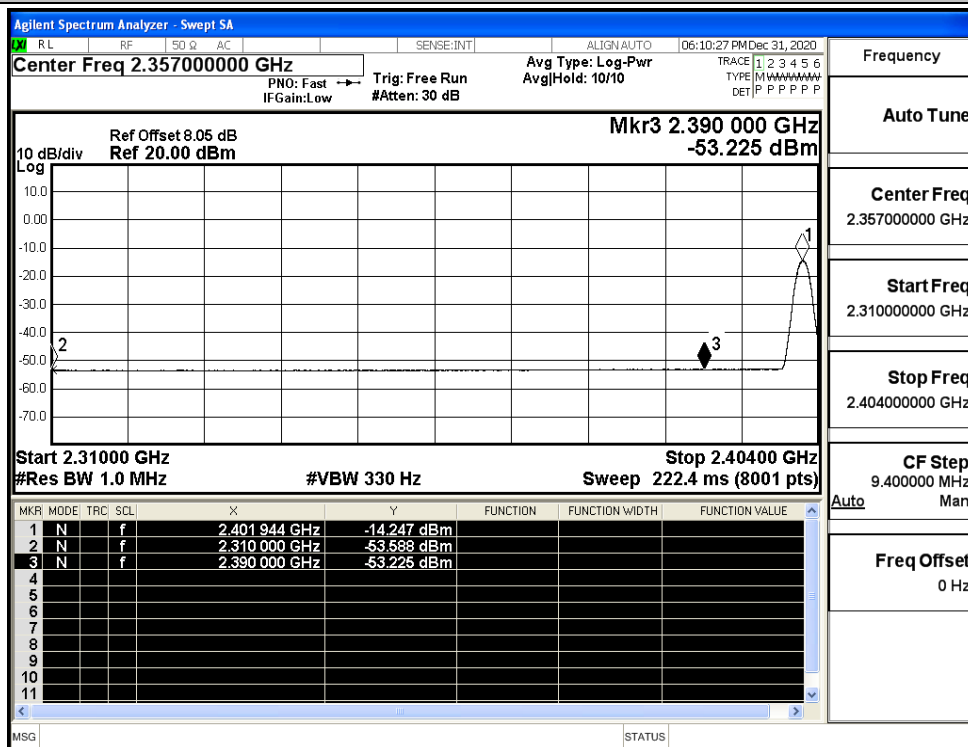
B.7 Restrict-band band-edge measurements

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	-43.38	2.0	0	51.88	PEAK	74	PASS
		Ant1	2310.0	-53.59	2.0	0	41.67	AV	54	PASS
		Ant1	2390.0	-42.92	2.0	0	52.34	PEAK	74	PASS
		Ant1	2390.0	-53.23	2.0	0	42.03	AV	54	PASS
	2480	Ant1	2483.5	-43.15	2.0	0	52.11	PEAK	74	PASS
		Ant1	2483.5	-52.67	2.0	0	42.59	AV	54	PASS
		Ant1	2500.0	-43.17	2.0	0	52.09	PEAK	74	PASS
		Ant1	2500.0	-52.49	2.0	0	42.77	AV	54	PASS

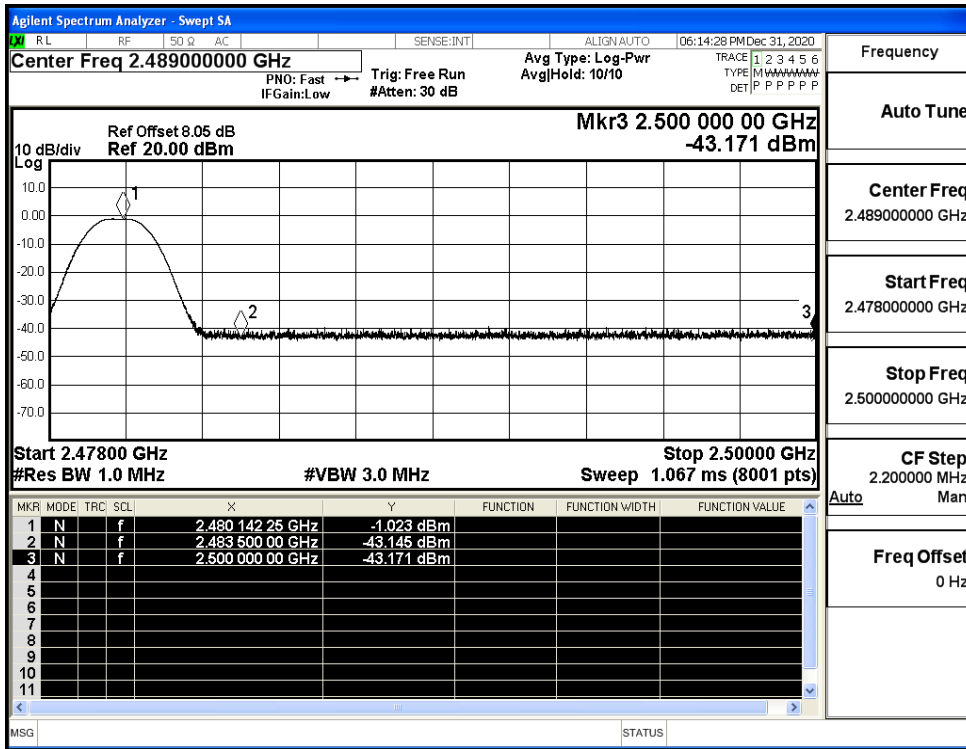
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

