

Appendix B

RF Test Data for BT V4.0(BLE) (Conducted Measurement)

Product Name: GSM/WCDMA Smartphone

Trade Mark: DOOGEE

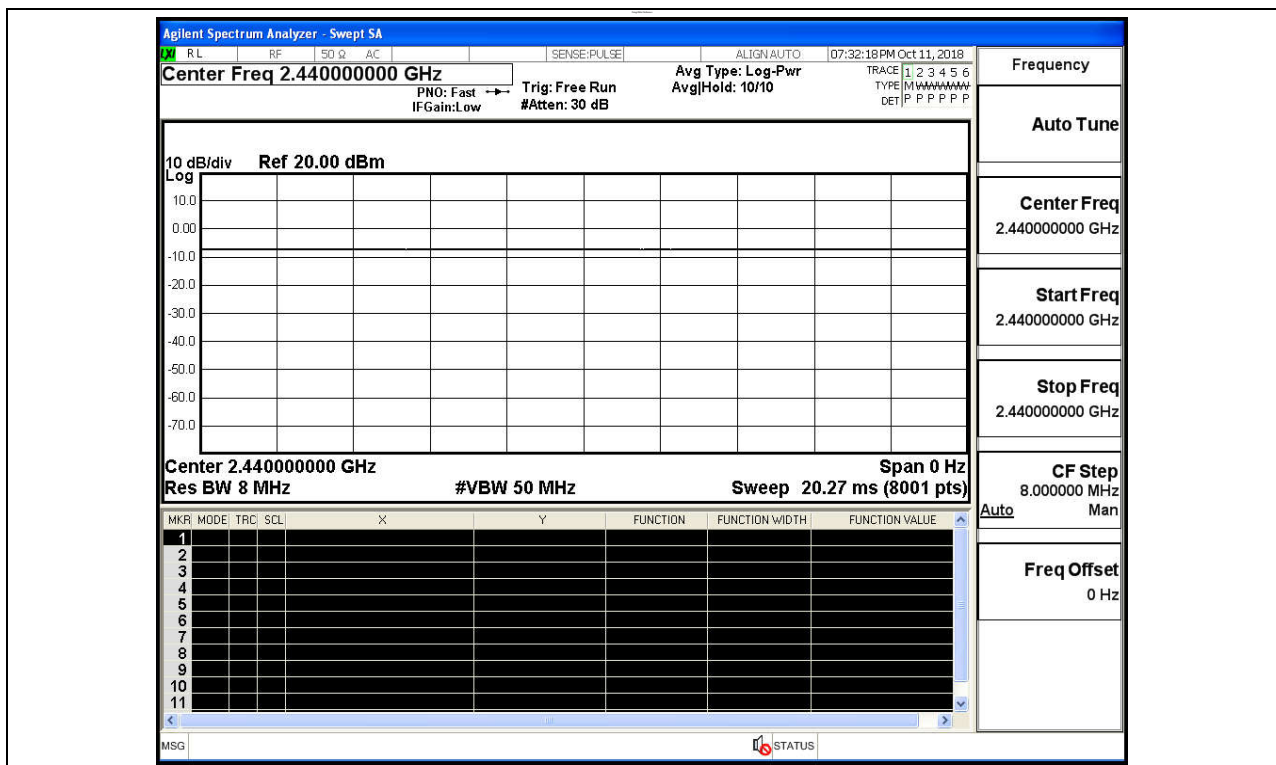
Test Model: X11

Environmental Conditions

Temperature:	23.8 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

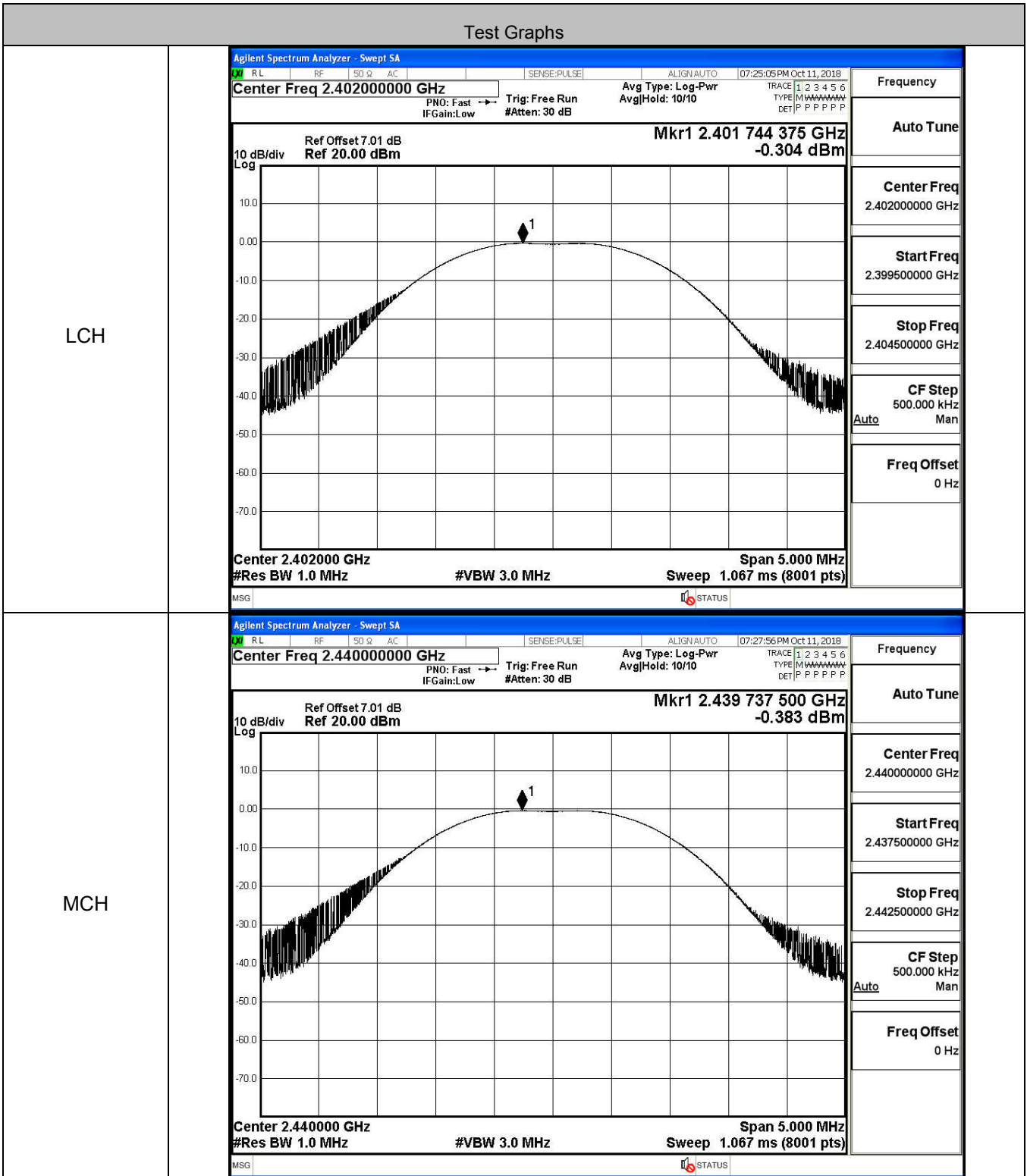
B.1 Duty Cycle

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

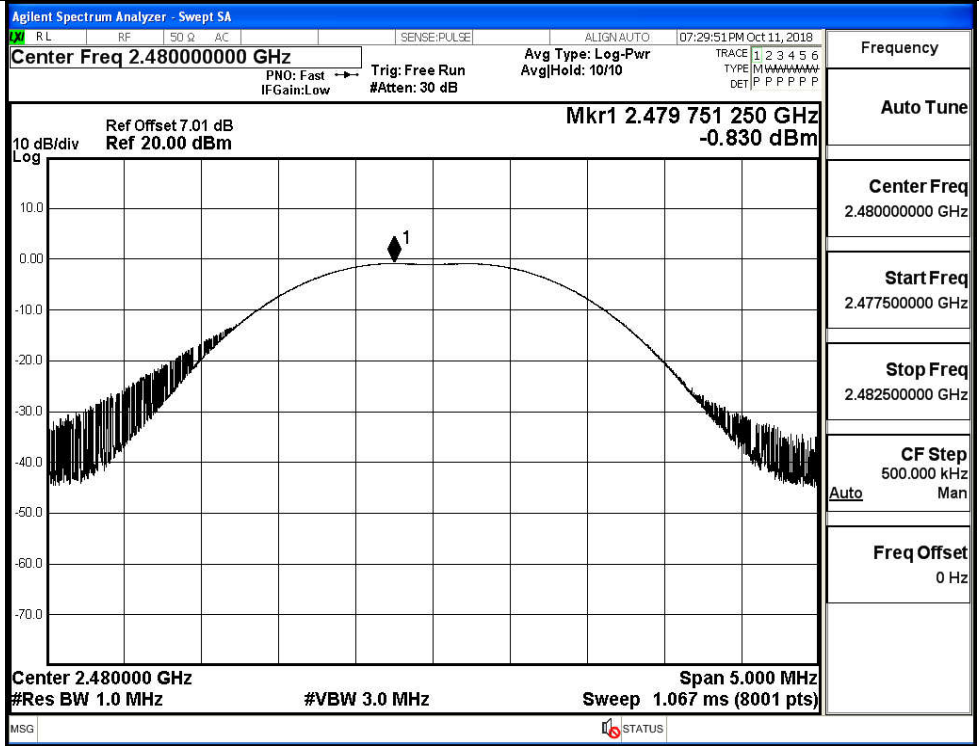


B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.304	30	PASS
BT LE	MCH	-0.383	30	PASS
BT LE	HCH	-0.83	30	PASS



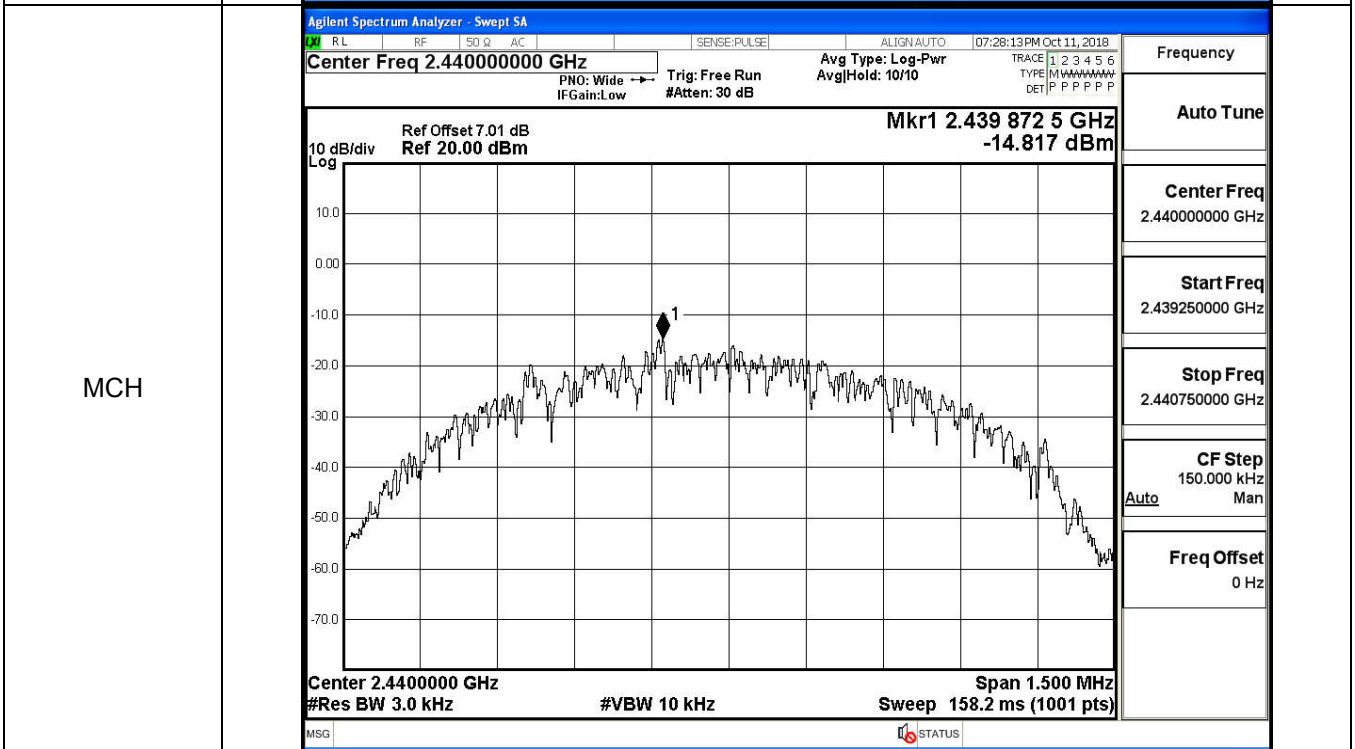
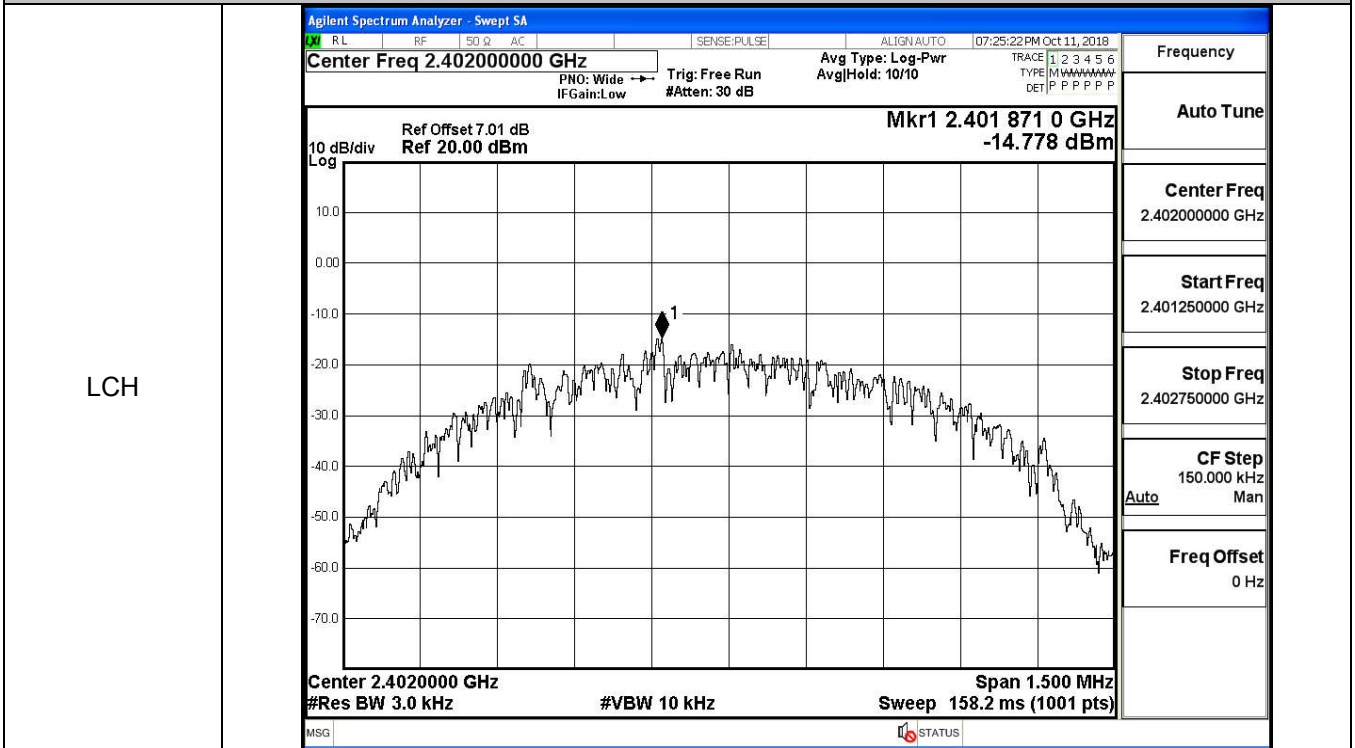
HCH

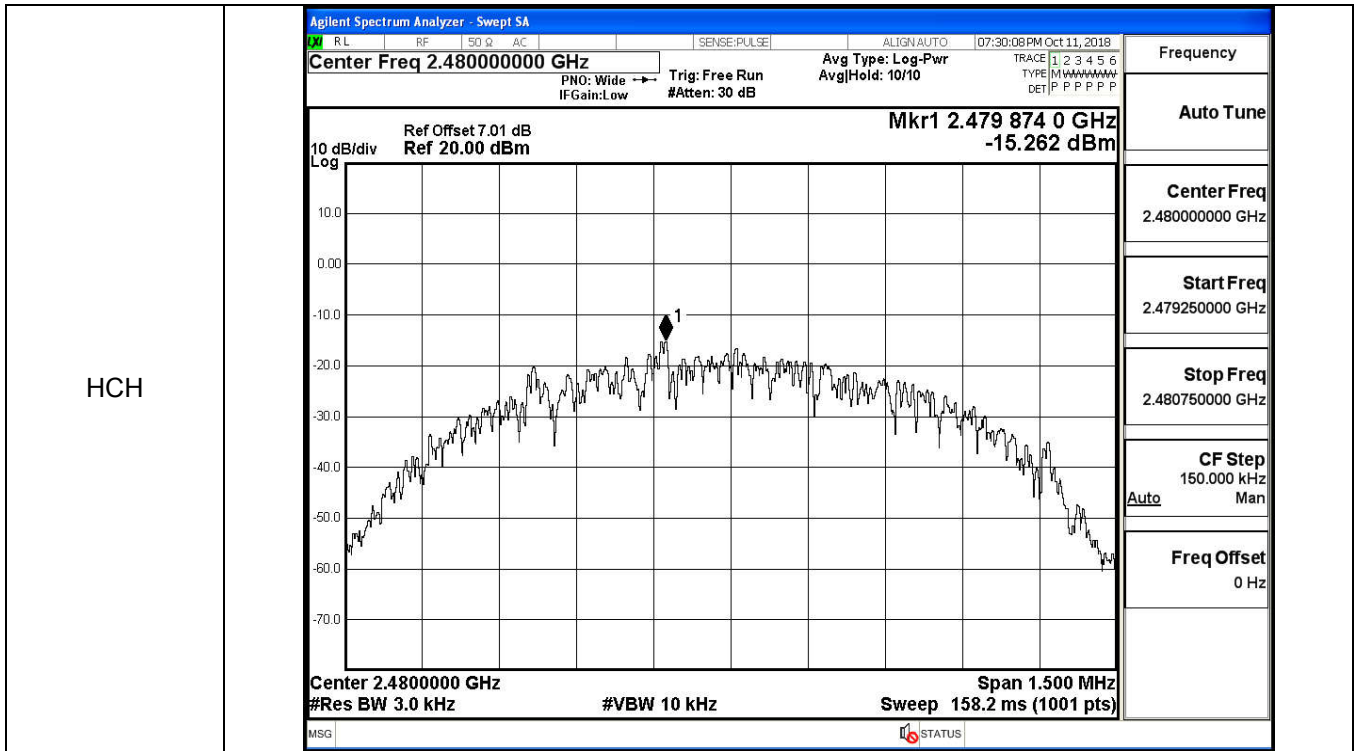


B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-14.778	8	PASS
BT LE	MCH	-14.817	8	PASS
BT LE	HCH	-15.262	8	PASS

Test Graphs





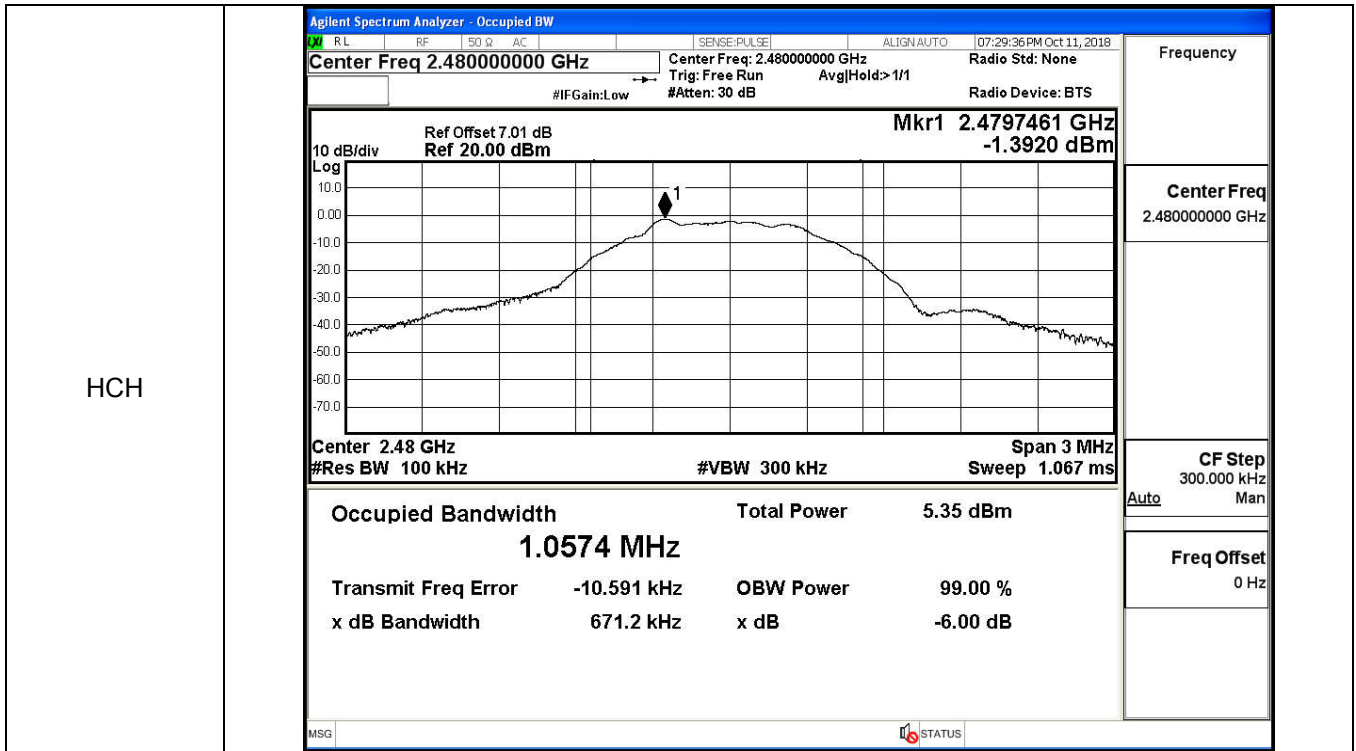
B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6804	≥0.5	PASS
BT LE	MCH	0.6846	≥0.5	PASS
BT LE	HCH	0.6712	≥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</p> <p>Trig: Free Run AvgHold: >1/1 Radio Device: BTS</p> <p>#IFGain: Low #Atten: 30 dB</p> <p>Ref Offset 7.01 dB Mkr1 2.4017454 GHz Ref 20.00 dBm -0.93266 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 1.0576 MHz Total Power 5.81 dBm</p> <p>Transmit Freq Error -14.415 kHz OBW Power 99.00 % x dB Bandwidth 680.4 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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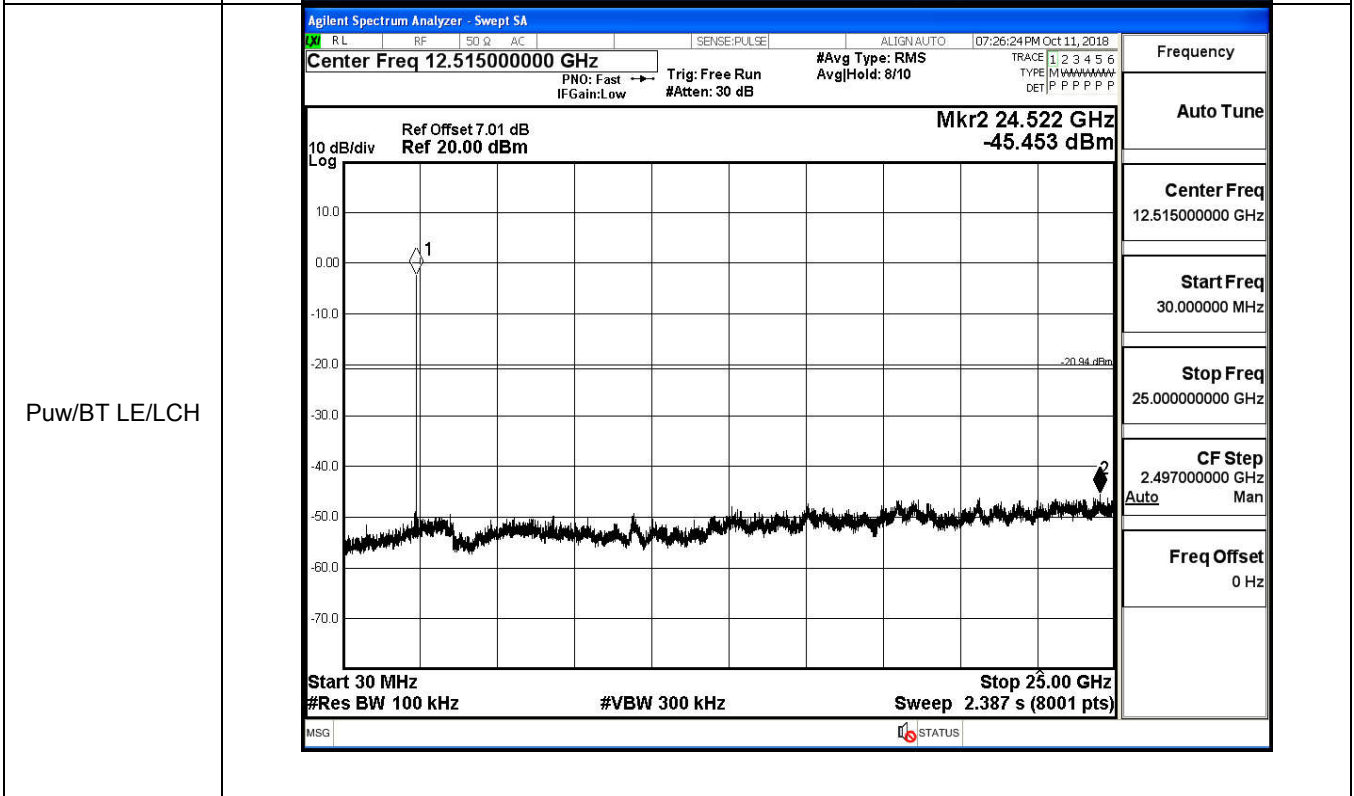
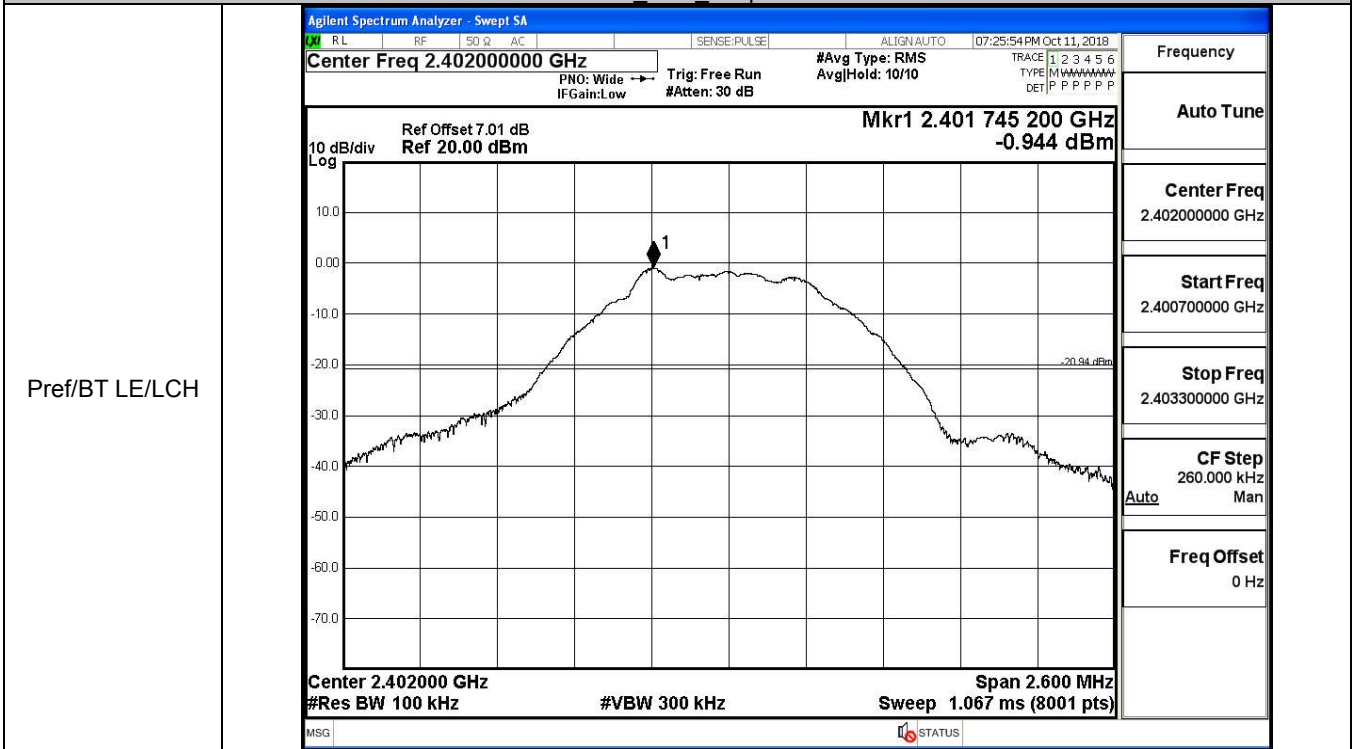
MCH	<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 2.44000000 GHz Center Freq: 2.440000000 GHz Radio Std: None</p> <p>Trig: Free Run AvgHold: 1/1 Radio Device: BTS</p> <p>#IFGain: Low #Atten: 30 dB</p> <p>Ref Offset 7.01 dB Mkr1 2.439742 GHz Ref 20.00 dBm -0.96926 dBm</p> <p>Center 2.44 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <p>Occupied Bandwidth 1.0576 MHz Total Power 5.80 dBm</p> <p>Transmit Freq Error -12.461 kHz OBW Power 99.00 % x dB Bandwidth 684.6 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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B.5 RF Conducted Spurious Emissions

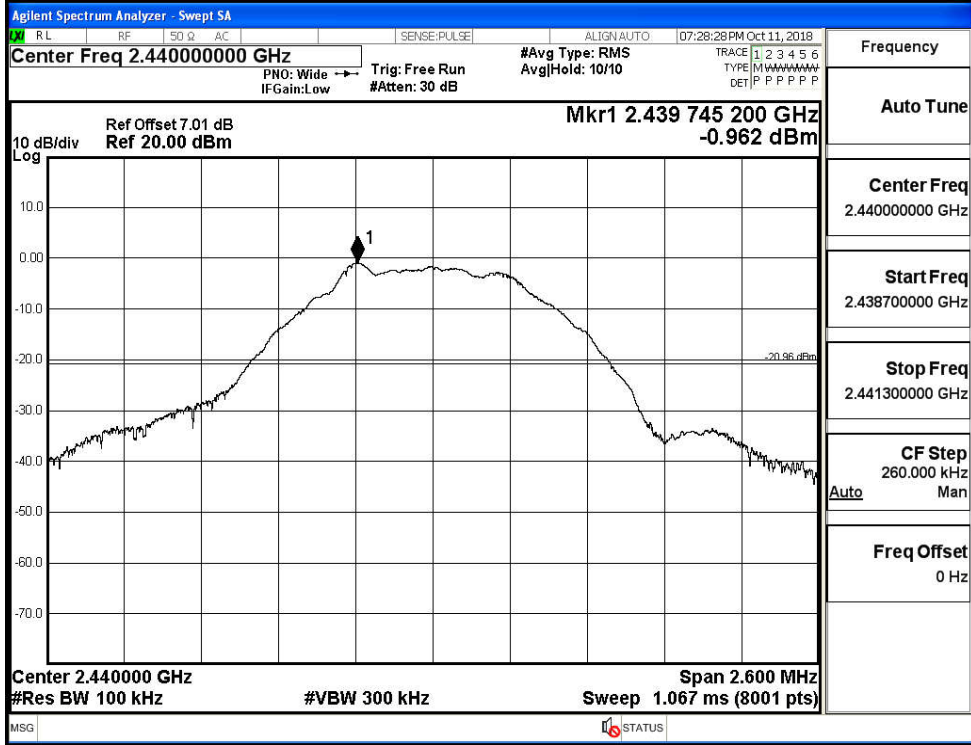
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	-0.944	-45.453	-20.944	PASS
BT LE	MCH	-0.962	-45.477	-20.962	PASS
BT LE	HCH	-1.44	-45.500	-21.440	PASS

BT LE LCH Graphs

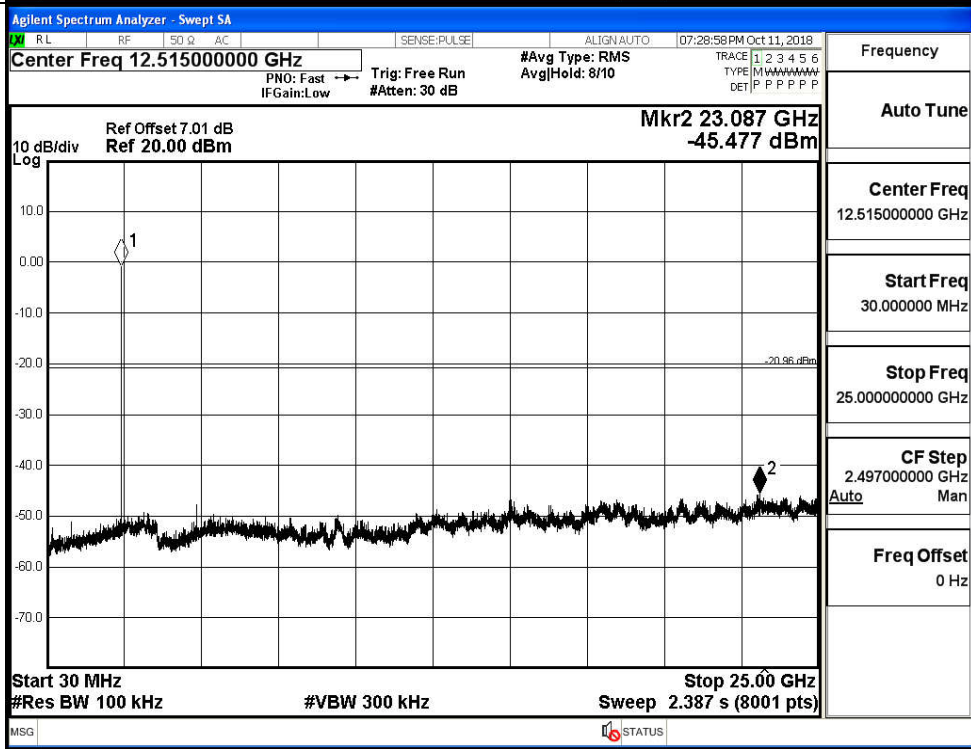


BT LE MCH Graphs

Pref/BT LE/MCH

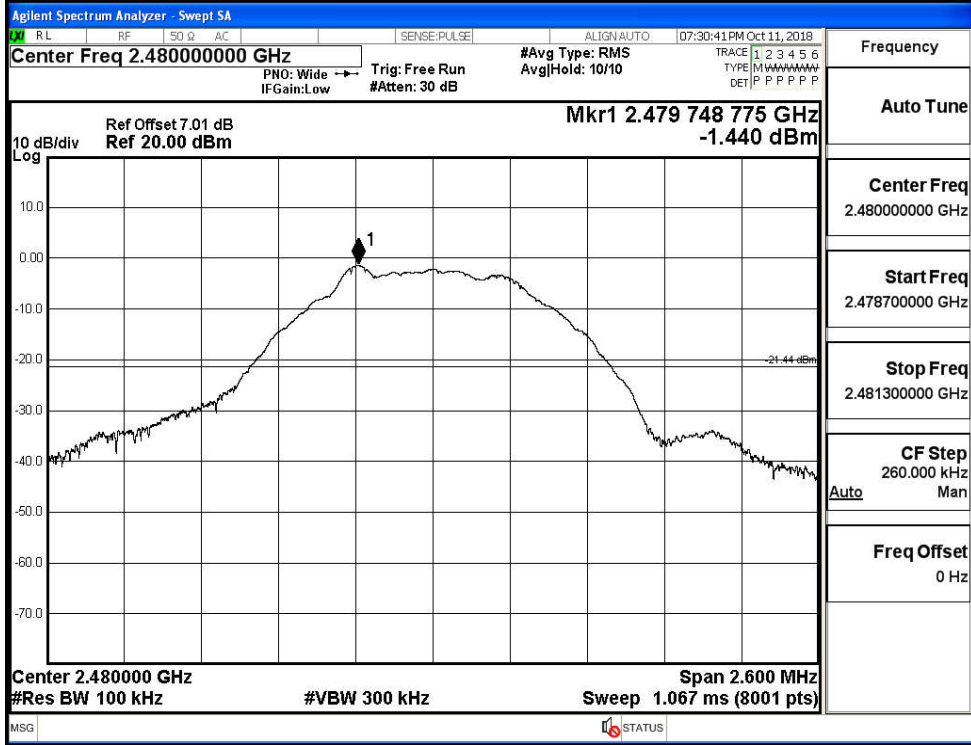


Puw/BT LE/MCH

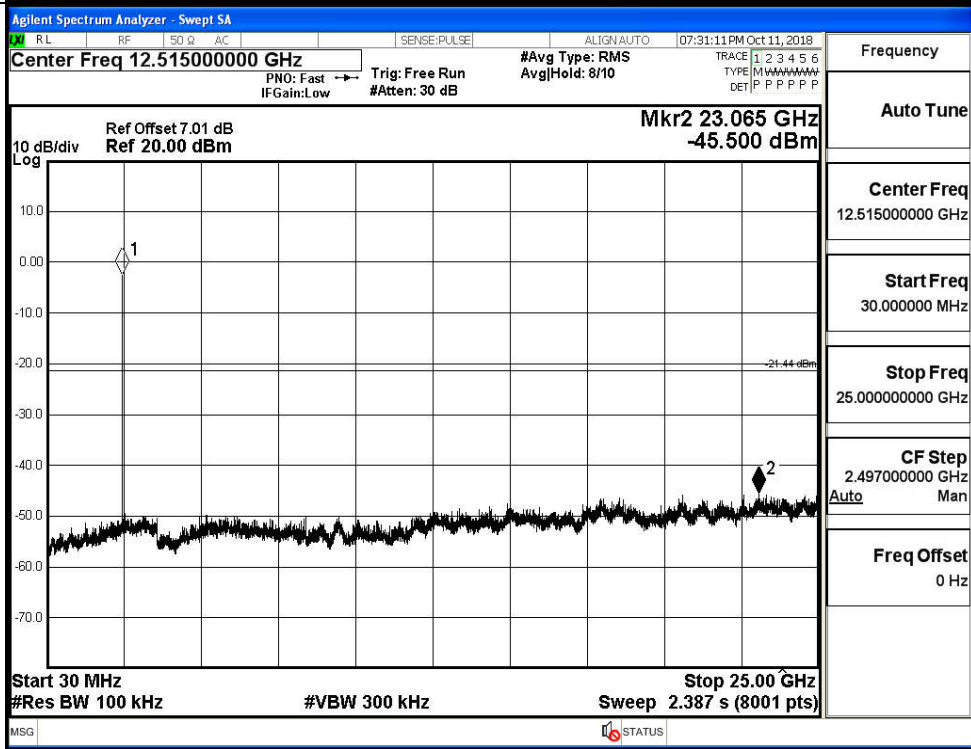


BT LE HCH Graphs

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	-0.759	-49.362	-20.76	PASS
BT LE	HCH	-1.123	-50.870	-21.12	PASS

Test Graphs

LCH

Agilent Spectrum Analyzer - Swept SA
 Center Freq 2.35700000 GHz
 Mkr4 2.376 070 GHz
 -49.362 dBm
 Start 2.31000 GHz Stop 2.40400 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 9.067 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.401744 GHz	-0.759 dBm			
2	N	f		2.400000 GHz	-52.499 dBm			
3	N	f		2.390000 GHz	-53.859 dBm			
4	N	f		2.376070 GHz	-49.362 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

Agilent Spectrum Analyzer - Swept SA
 Center Freq 2.48900000 GHz
 Mkr4 2.490 212 75 GHz
 -50.870 dBm
 Start 2.47800 GHz Stop 2.50000 GHz
 #Res BW 100 kHz #VBW 300 kHz Sweep 2.133 ms (8001 pts)

MKR	MODE	TRC	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE
1	N	f		2.47976450 GHz	-1.123 dBm			
2	N	f		2.48350000 GHz	-53.195 dBm			
3	N	f		2.50000000 GHz	-53.062 dBm			
4	N	f		2.49021275 GHz	-50.870 dBm			

Frequency

Auto Tune

Center Freq
2.48900000 GHz

Start Freq
2.47800000 GHz

Stop Freq
2.50000000 GHz

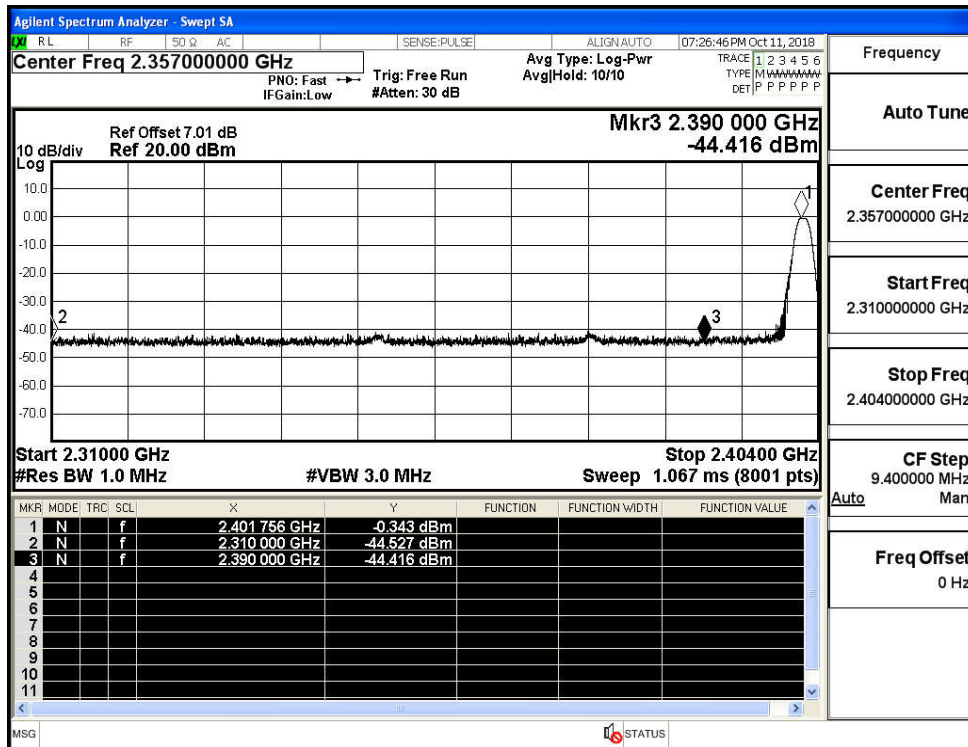
CF Step
2.200000 MHz

Freq Offset
0 Hz

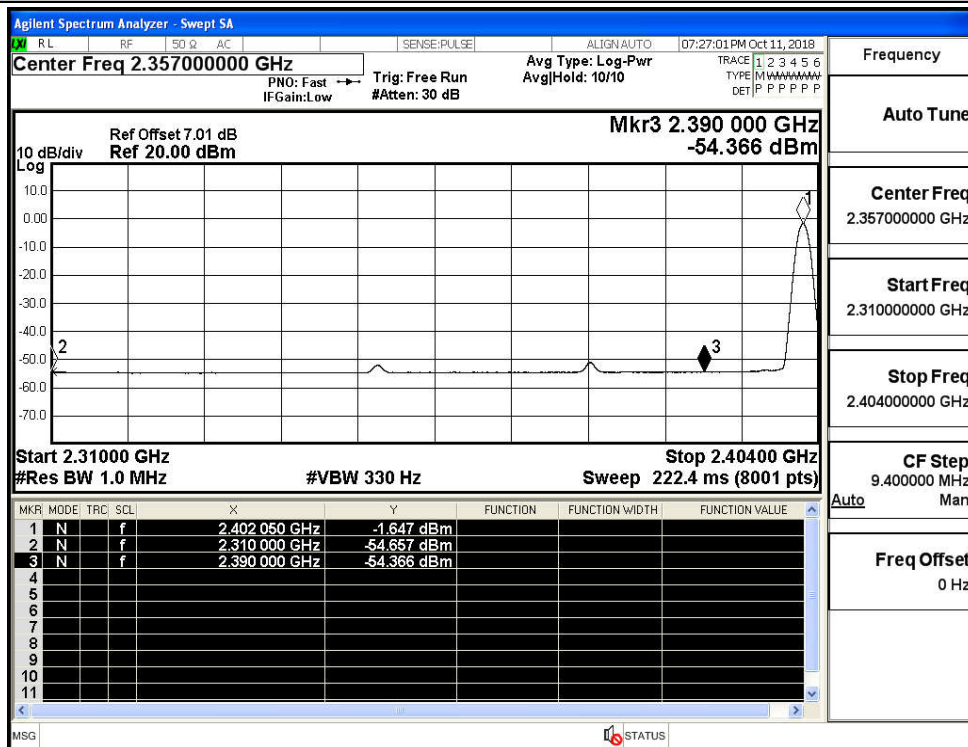
B.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdict
BT LE	2402	Ant1	2310.0	-44.53	2.0	0	52.70	PEAK	74	PASS
		Ant1	2310.0	-54.66	2.0	0	42.57	AV	54	PASS
		Ant1	2390.0	-44.42	2.0	0	52.81	PEAK	74	PASS
		Ant1	2390.0	-54.37	2.0	0	42.86	AV	54	PASS
	2480	Ant1	2483.5	-43.81	2.0	0	53.42	PEAK	74	PASS
		Ant1	2483.5	-53.71	2.0	0	43.52	AV	54	PASS
		Ant1	2500.0	-43.92	2.0	0	53.31	PEAK	74	PASS
		Ant1	2500.0	-54.05	2.0	0	43.18	AV	54	PASS

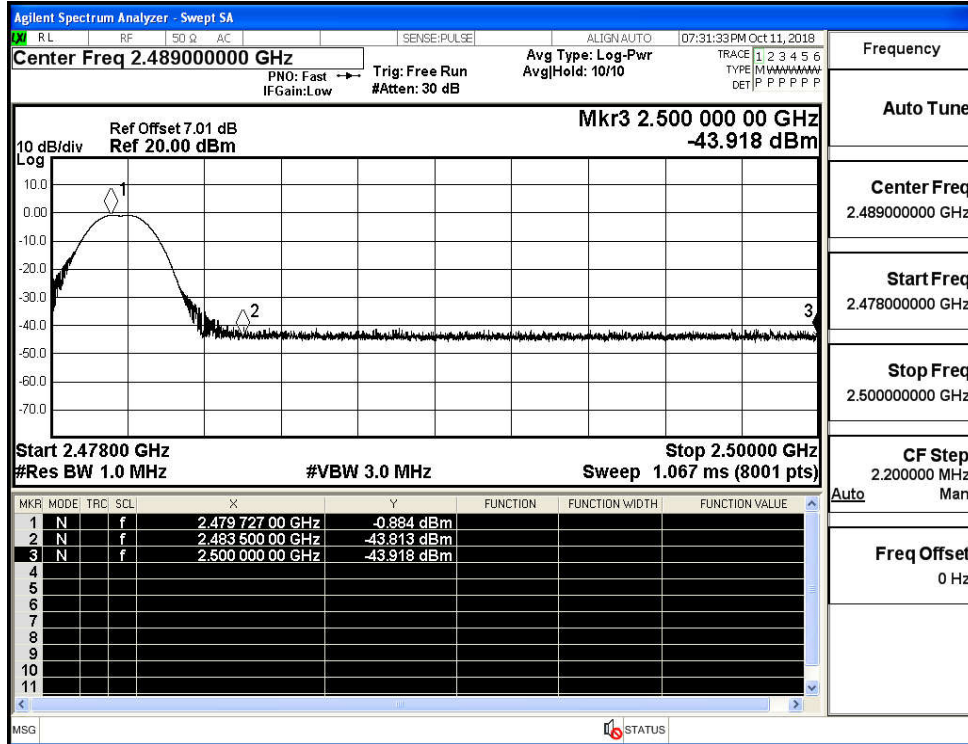
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

