

Appendix B

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

Product Name: LTE GSM/WCDMA Smartphone

Trade Mark: DOOGEE

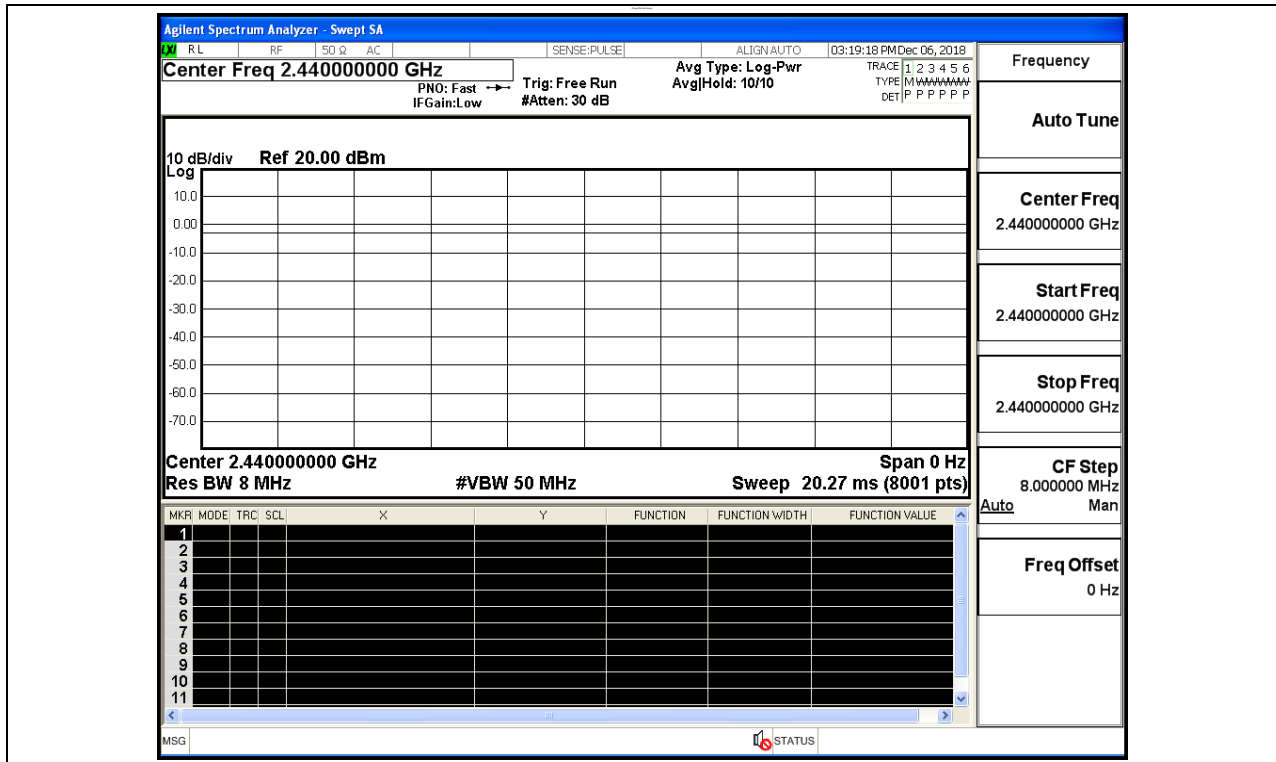
Test Model: S70

Environmental Conditions

Temperature:	22.8 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

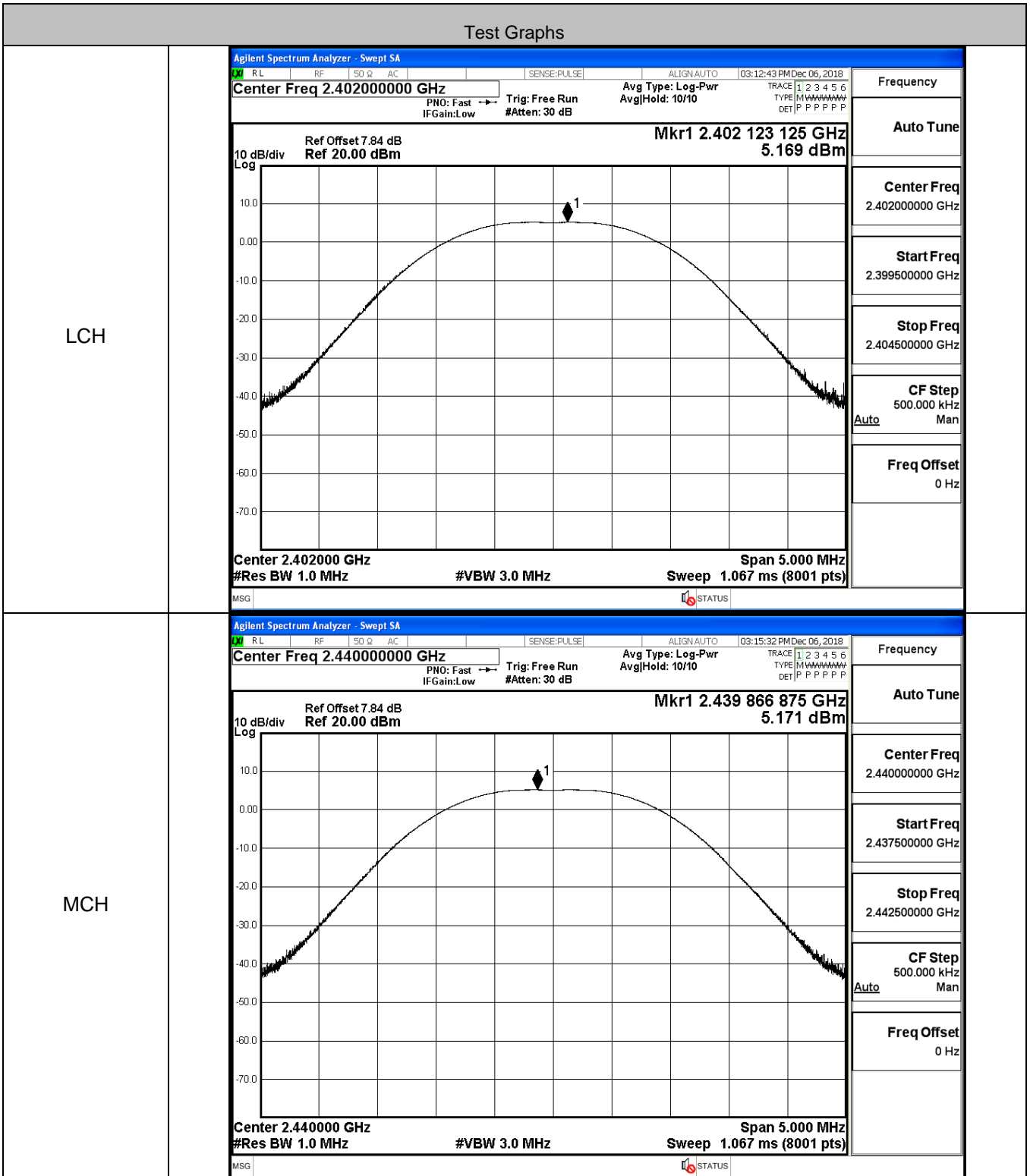
B.1 Duty Cycle

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



B.2 Maximum Conducted Peak Output Power

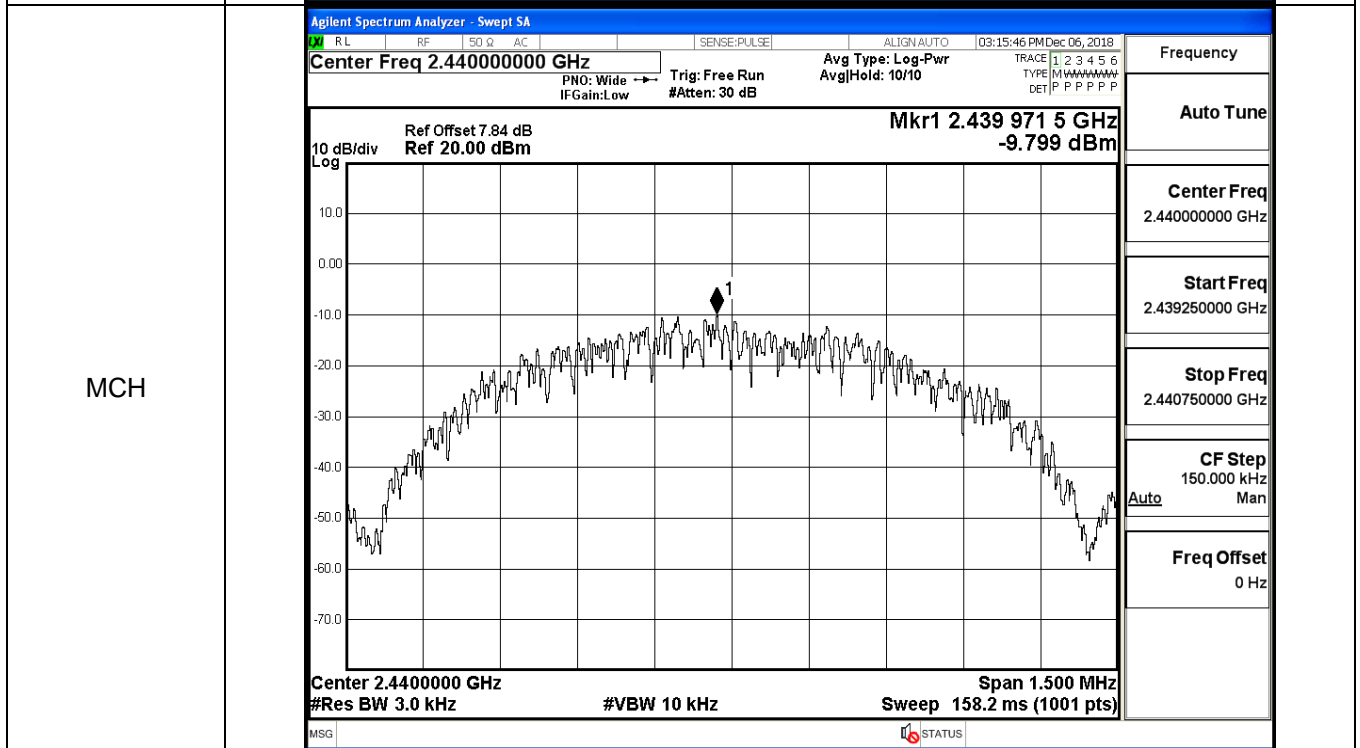
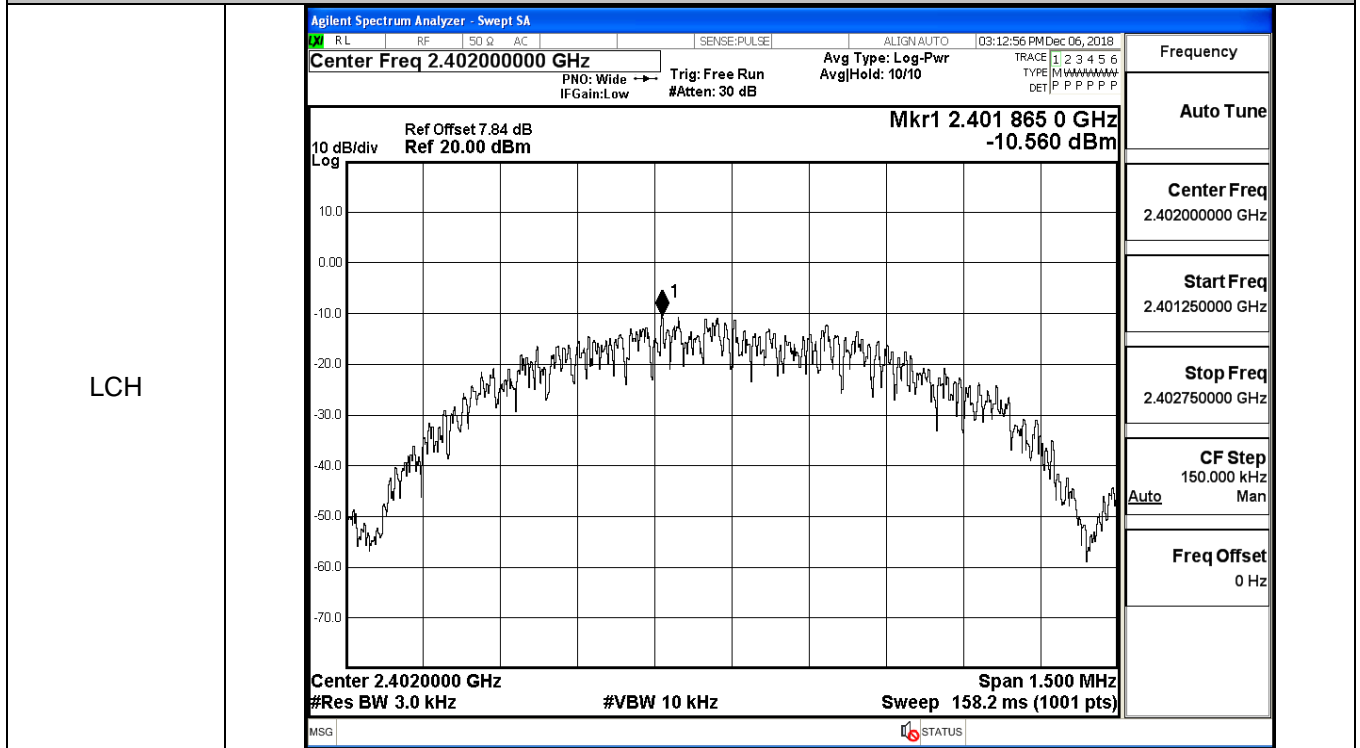
Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	5.169	30	PASS
BT LE	MCH	5.171	30	PASS
BT LE	HCH	5.167	30	PASS



B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-10.560	8	PASS
BT LE	MCH	-9.799	8	PASS
BT LE	HCH	-9.809	8	PASS

Test Graphs



B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6758	≥0.5	PASS
BT LE	MCH	0.6878	≥0.5	PASS
BT LE	HCH	0.7024	≥0.5	PASS

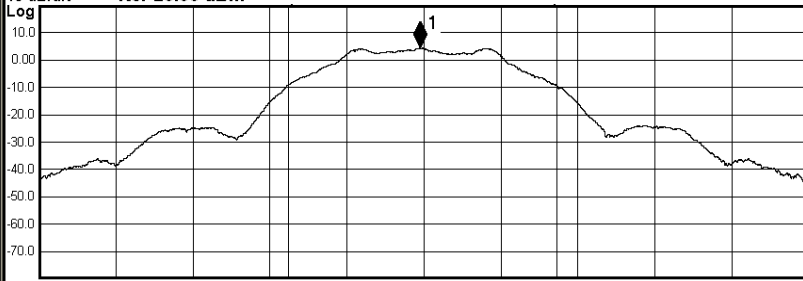
Test Graphs																			
LCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 03:12:31 PM Dec 06, 2018</p> <p style="margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None</p> <p style="margin: 0;">Trig: Free Run AvgHold: 1/1</p> <p style="margin: 0;">#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="text-align: right; margin: 0;">Mkr1 2.4019884 GHz 4.4312 dBm</p> </div> <p style="margin: 0;">Center 2.402 GHz Span 3 MHz</p> <p style="margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <table style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <td style="width: 50%;">Occupied Bandwidth</td> <td style="width: 50%;">Total Power</td> <td style="width: 50%;">11.4 dBm</td> </tr> <tr> <td style="text-align: center;">1.0401 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-2.814 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>675.8 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td>99.00 %</td> </tr> <tr> <td></td> <td></td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	11.4 dBm	1.0401 MHz			Transmit Freq Error	-2.814 kHz	OBW Power	x dB Bandwidth	675.8 kHz	x dB			99.00 %			-6.00 dB
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MCH	<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center; margin: 0;">Agilent Spectrum Analyzer - Occupied BW</p> <p style="font-size: small; margin: 0;">RL RF 50 Ω AC SENSE:PULSE ALIGN:AUTO 03:15:21 PM Dec 06, 2018</p> <p style="margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None</p> <p style="margin: 0;">Trig: Free Run AvgHold: 1/1</p> <p style="margin: 0;">#IFGain:Low #Atten: 30 dB Radio Device: BTS</p> <div style="border: 1px solid black; padding: 2px;"> <p style="text-align: right; margin: 0;">Mkr1 2.4399858 GHz 4.4402 dBm</p> </div> <p style="margin: 0;">Center 2.44 GHz Span 3 MHz</p> <p style="margin: 0;">#Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms</p> <table style="width: 100%; border-collapse: collapse; font-size: small;"> <tr> <td style="width: 50%;">Occupied Bandwidth</td> <td style="width: 50%;">Total Power</td> <td style="width: 50%;">11.4 dBm</td> </tr> <tr> <td style="text-align: center;">1.0397 MHz</td> <td></td> <td></td> </tr> <tr> <td>Transmit Freq Error</td> <td>-2.904 kHz</td> <td>OBW Power</td> </tr> <tr> <td>x dB Bandwidth</td> <td>687.8 kHz</td> <td>x dB</td> </tr> <tr> <td></td> <td></td> <td>99.00 %</td> </tr> <tr> <td></td> <td></td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin: 0;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	11.4 dBm	1.0397 MHz			Transmit Freq Error	-2.904 kHz	OBW Power	x dB Bandwidth	687.8 kHz	x dB			99.00 %			-6.00 dB
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x dB Bandwidth	687.8 kHz	x dB																	
		99.00 %																	
		-6.00 dB																	

HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:PULSE	ALIGN:AUTO	03:16:57 PM Dec 06, 2018
Center Freq 2.480000000 GHz			Center Freq: 2.480000000 GHz		Radio Std: None	
			Trig: Free Run		AvgHold>1/1	
#IFGain:Low			#Atten: 30 dB		Radio Device: BTS	

10 dB/div	Ref Offset 7.84 dB	Mkr1 2.4799835 GHz
Log	Ref 20.00 dBm	4.3715 dBm



Center 2.48 GHz	#VBW 300 kHz	Span 3 MHz
#Res BW 100 kHz	Sweep 1.067 ms	

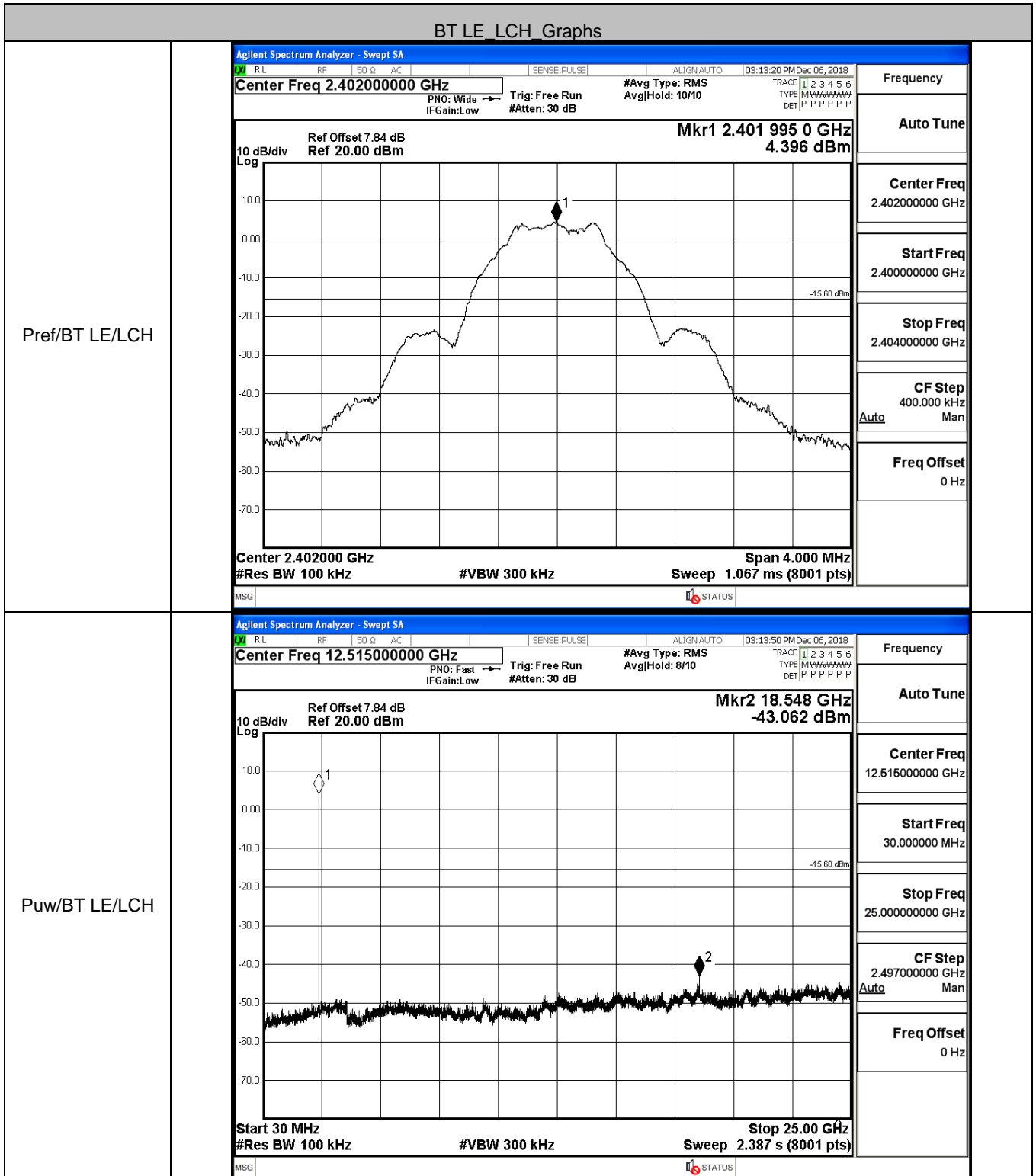
Occupied Bandwidth	Total Power	11.5 dBm
1.0396 MHz		
Transmit Freq Error	-3.215 kHz	OBW Power 99.00 %
x dB Bandwidth	702.4 kHz	x dB -6.00 dB

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

MSG
STATUS

B.5 RF Conducted Spurious Emissions

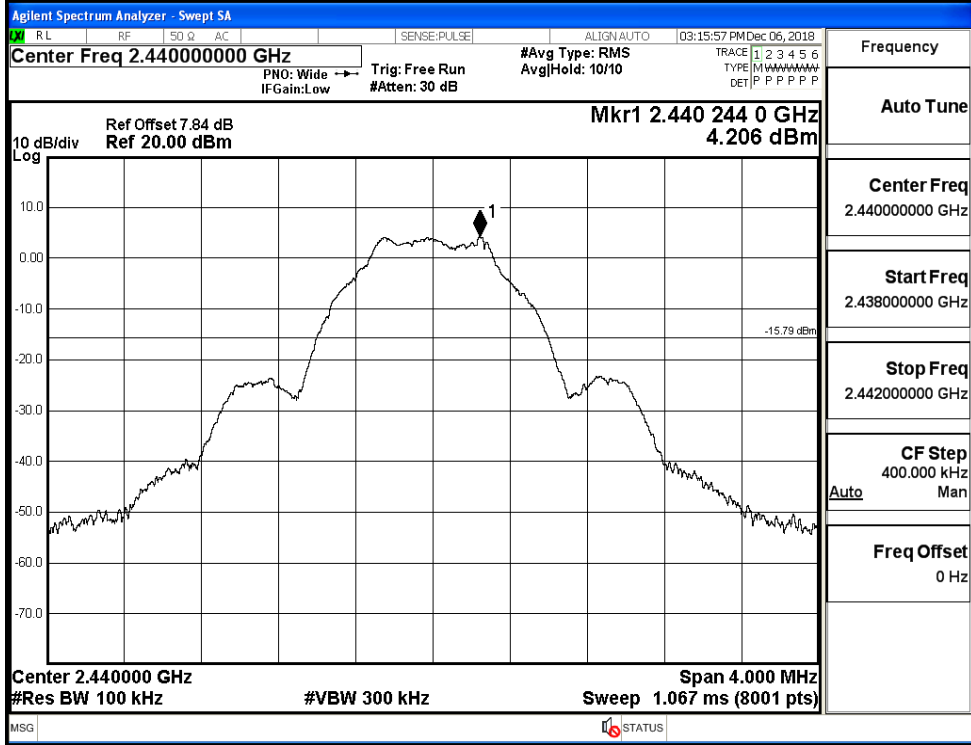
Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	4.396	-43.062	-15.604	PASS
BT LE	MCH	4.206	-44.214	-15.794	PASS
BT LE	HCH	4.399	-44.792	-15.601	PASS



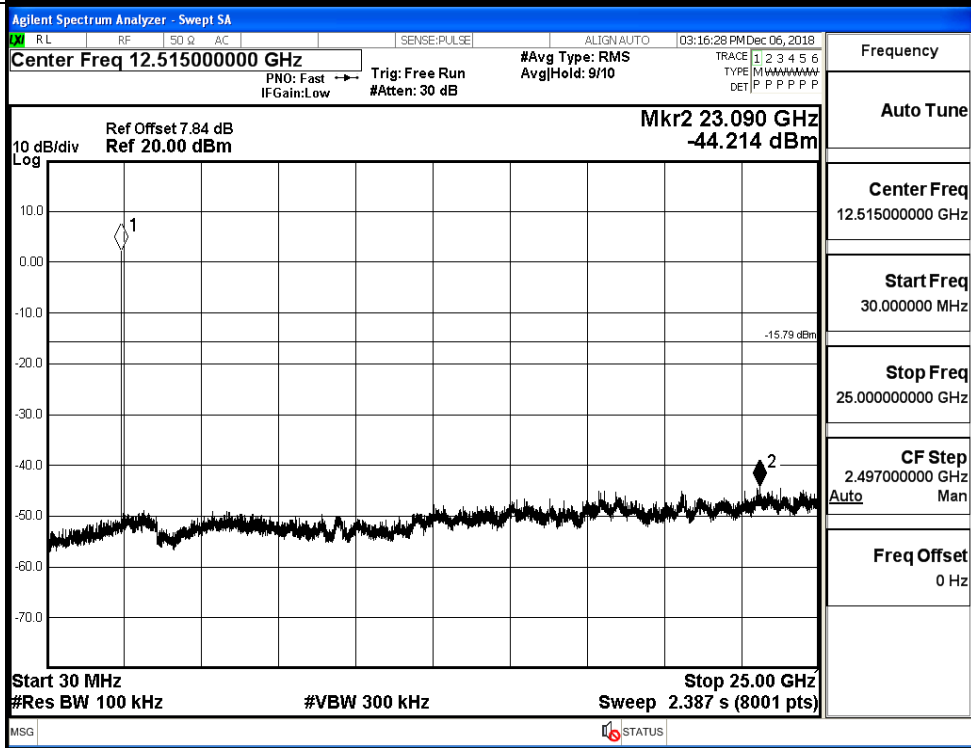
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BT LE_MCH_Graphs

Pref/BT LE/MCH

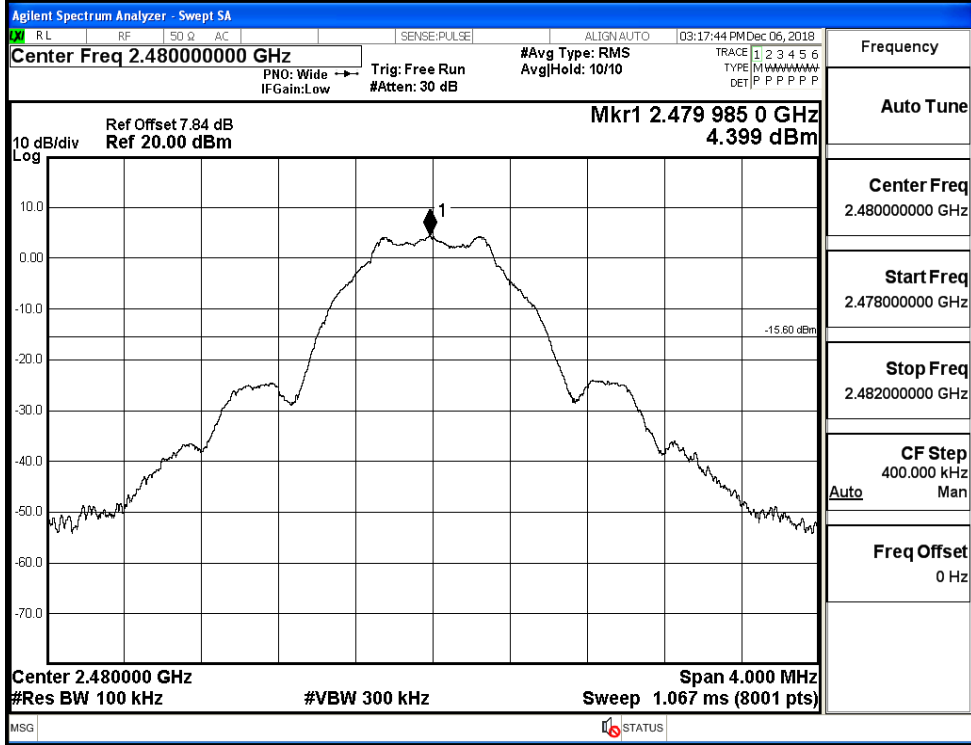


Puw/BT LE/MCH

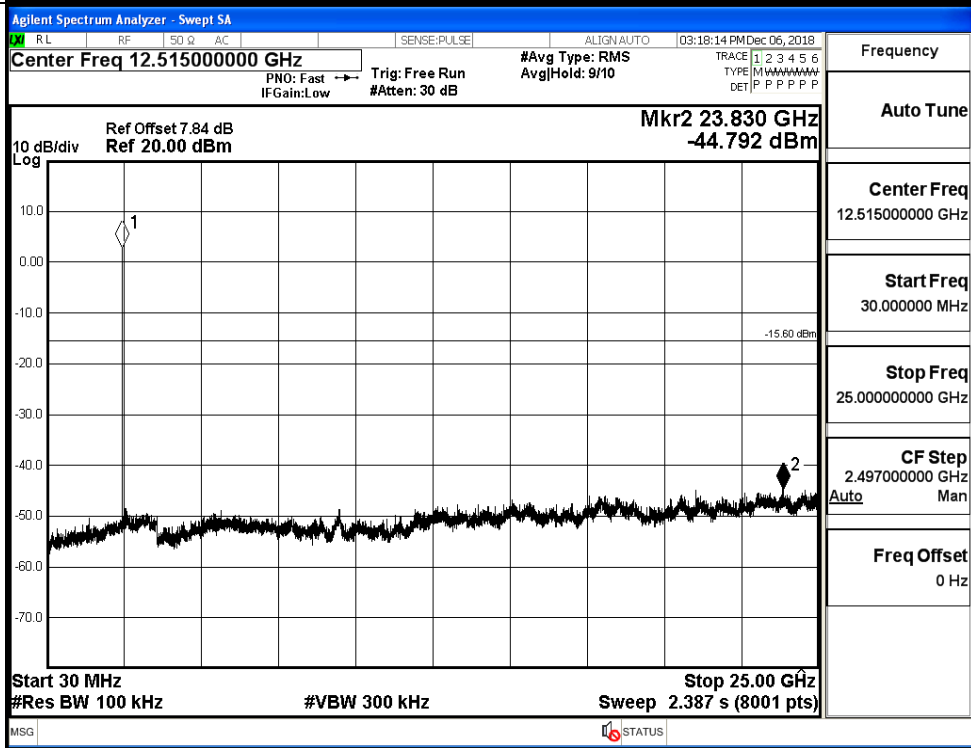


BT LE_HCH_Graphs

Pref/BT LE/HCH



Puw/BT LE/HCH

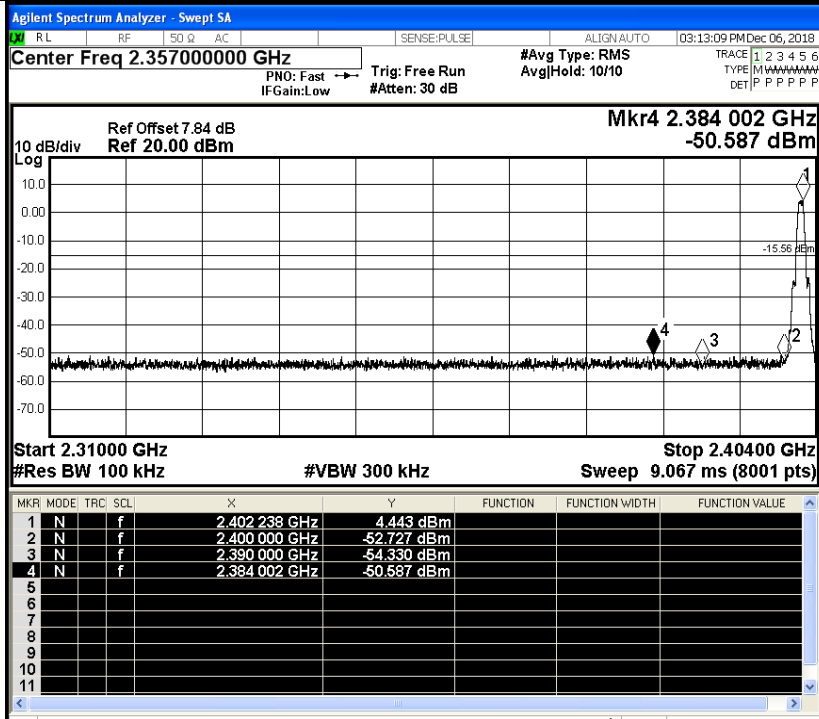


B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	4.443	-50.587	-15.56	PASS
BT LE	HCH	4.564	-49.885	-15.44	PASS

Test Graphs

LCH



Frequency

Auto Tune

Center Freq
2.35700000 GHz

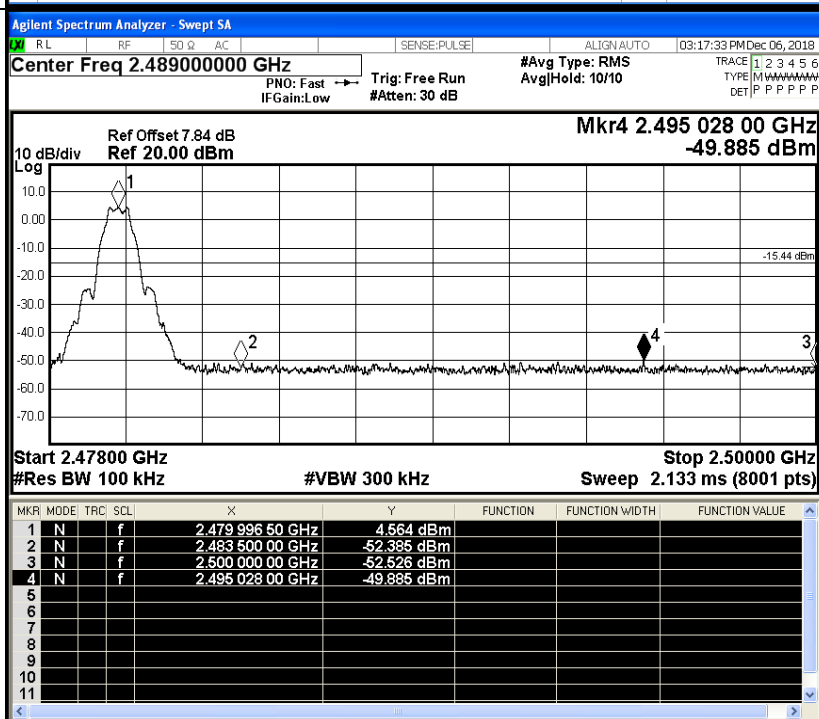
Start Freq
2.31000000 GHz

Stop Freq
2.40400000 GHz

CF Step
9.400000 MHz

Freq Offset
0 Hz

HCH



Frequency

Auto Tune

Center Freq
2.48900000 GHz

Start Freq
2.47800000 GHz

Stop Freq
2.50000000 GHz

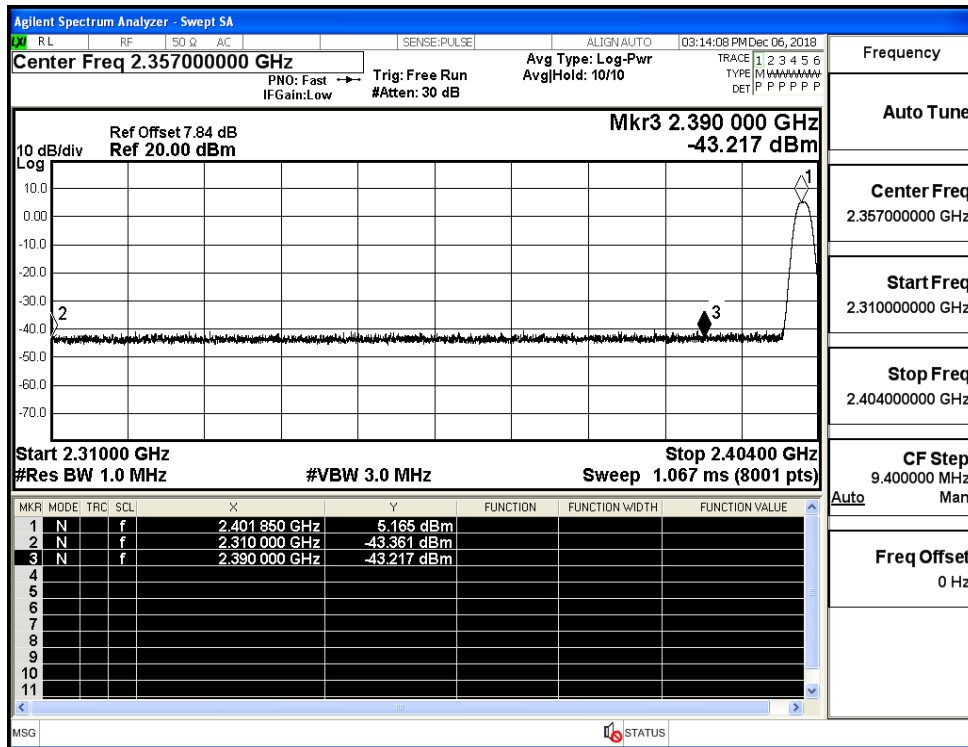
CF Step
2.200000 MHz

Freq Offset
0 Hz

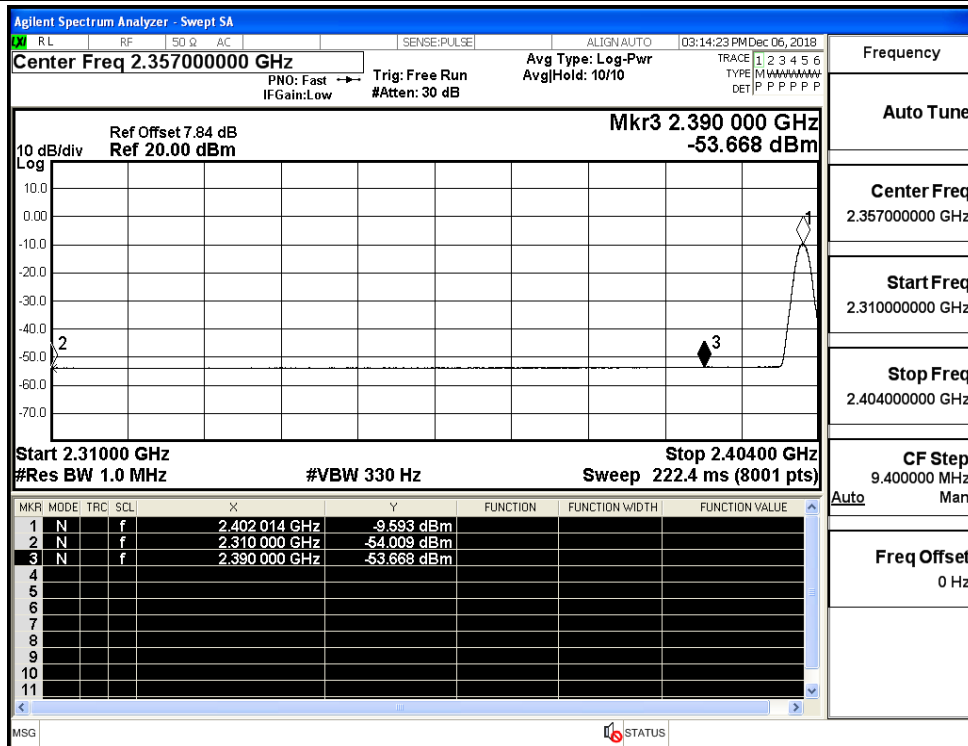
B.7 Restrict-band band-edge measurements

Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-43.36	2.0	0	53.90	PEAK	74	PASS
		Ant1	2310.0	-54.01	2.0	0	43.25	AV	54	PASS
		Ant1	2390.0	-43.22	2.0	0	54.04	PEAK	74	PASS
		Ant1	2390.0	-53.67	2.0	0	43.59	AV	54	PASS
	2480	Ant1	2483.5	-43.88	2.0	0	53.38	PEAK	74	PASS
		Ant1	2483.5	-53.29	2.0	0	43.96	AV	54	PASS
		Ant1	2500.0	-43.33	2.0	0	53.93	PEAK	74	PASS
		Ant1	2500.0	-53.05	2.0	0	44.21	AV	54	PASS

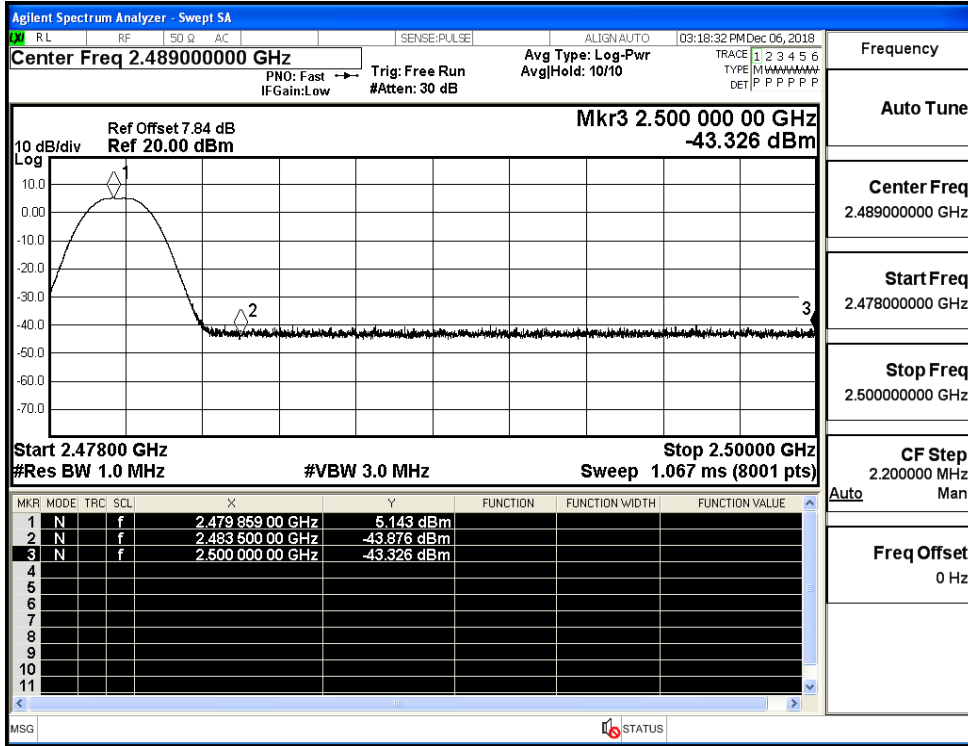
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

