

Appendix B

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

Product Name: LTE GSM/WCDMA Smartphone

Trade Mark: DOOGEE

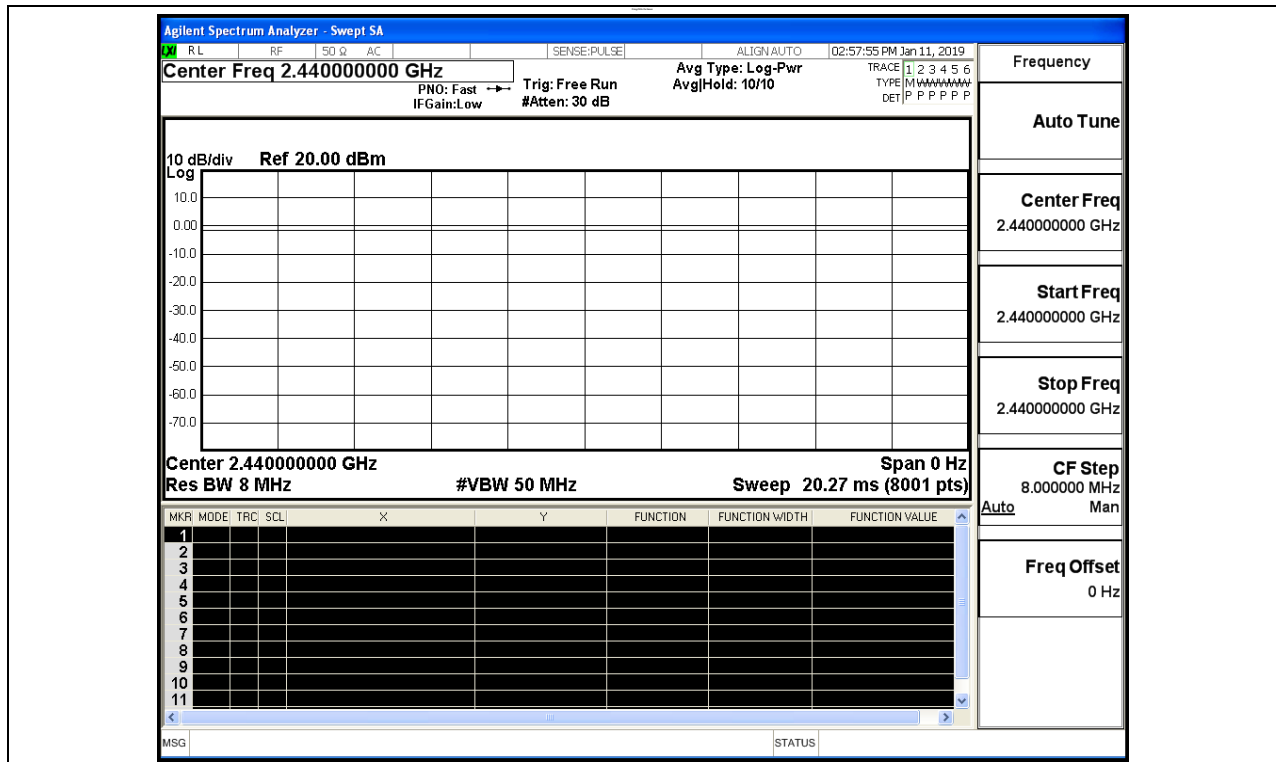
Test Model: S90

Environmental Conditions

Temperature:	24.1 ° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Mina.Xu
Supervised by:	Jayden.Zhuo

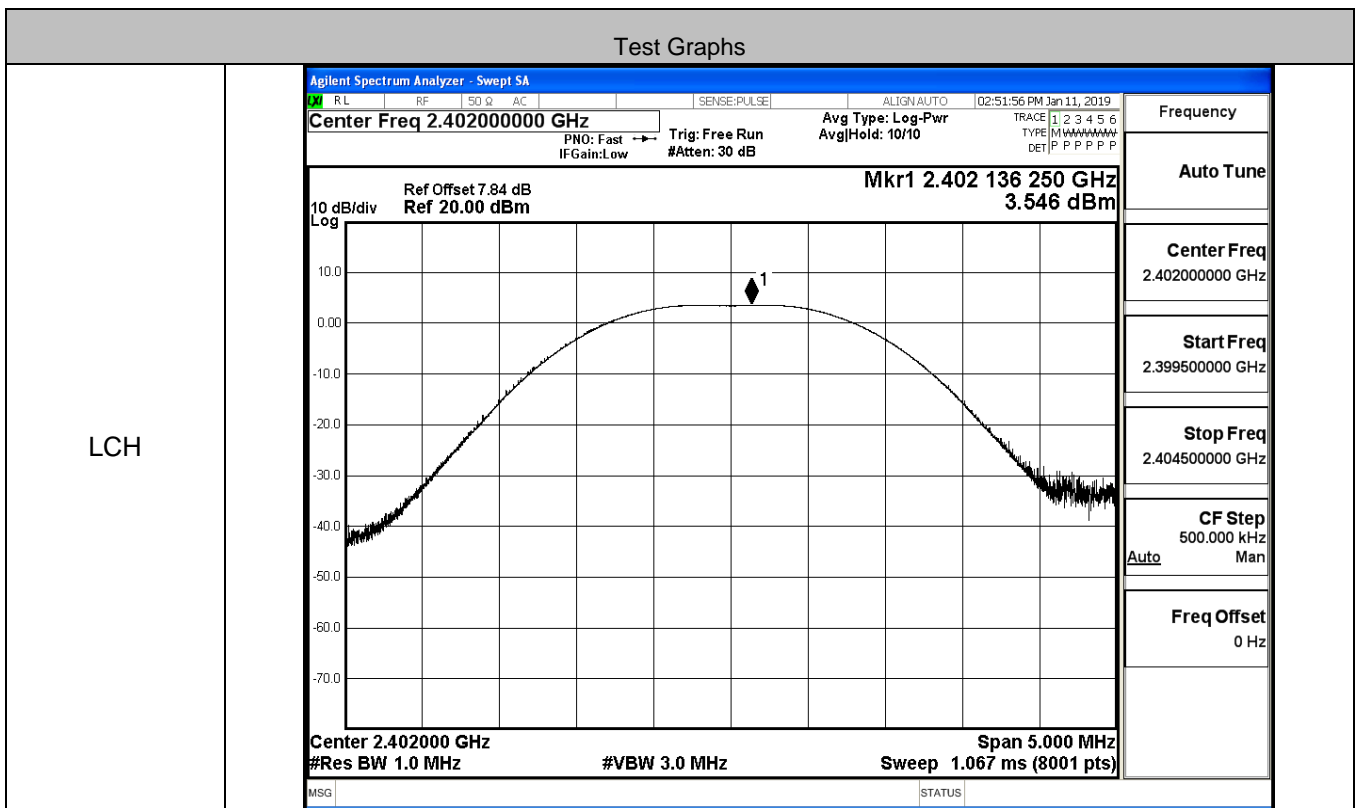
B.1 Duty Cycle

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

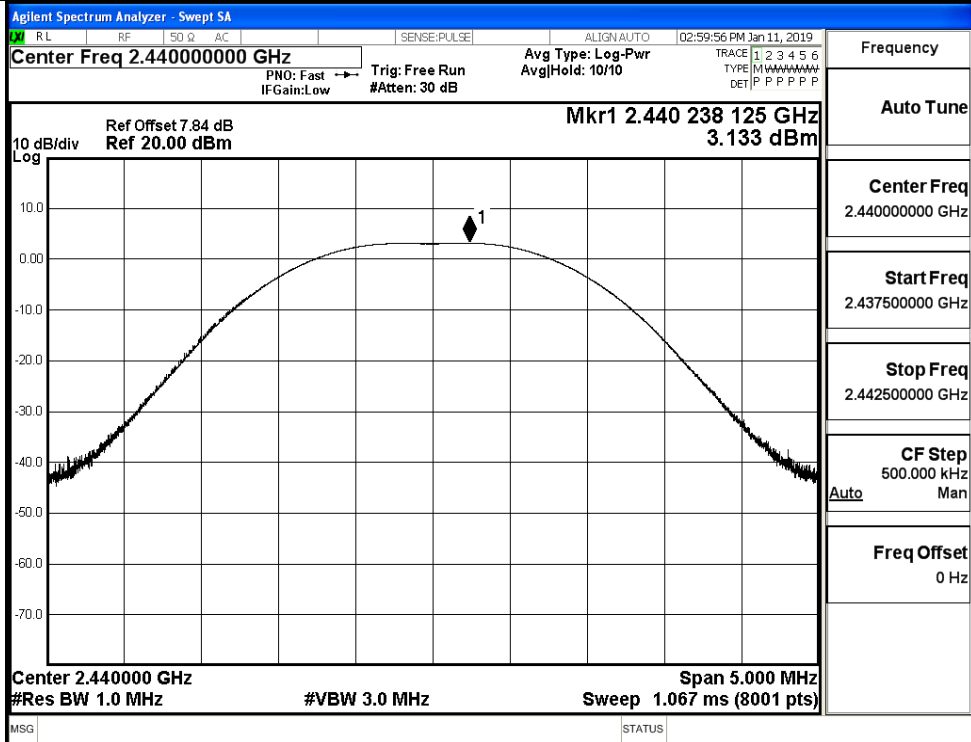


B.2 Maximum Conducted Peak Output Power

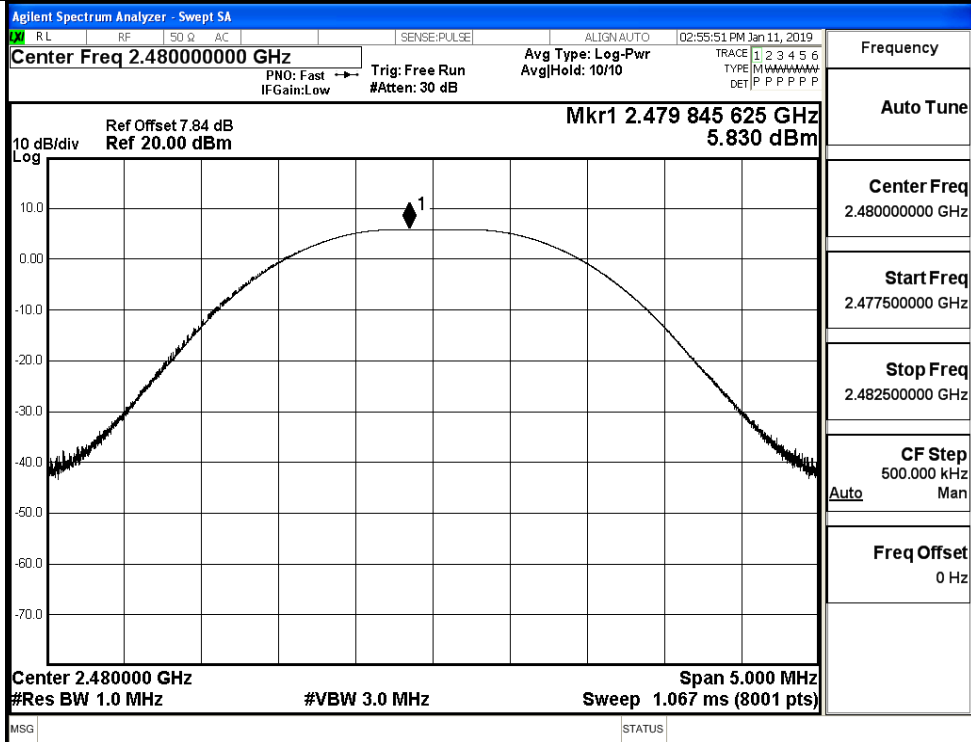
Mode	Channel	Conduct Peak Power[dBm]	Conduct Average Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	3.546	2.622	30	PASS
BT LE	MCH	3.133	2.064	30	PASS
BT LE	HCH	5.830	4.678	30	PASS



MCH

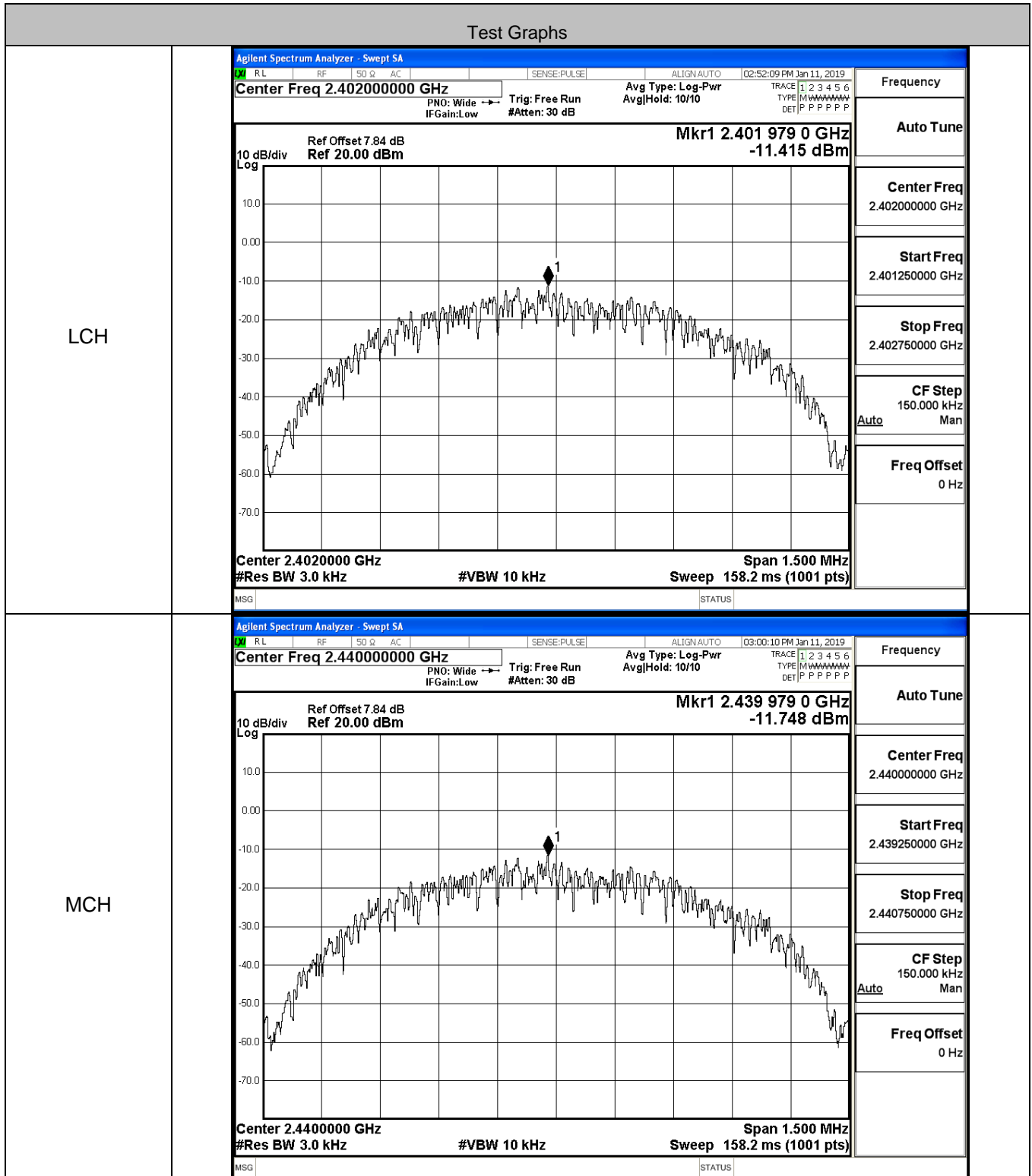


HCH



B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-11.415	8	PASS
BT LE	MCH	-11.748	8	PASS
BT LE	HCH	-9.057	8	PASS



B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6959	≥0.5	PASS
BT LE	MCH	0.6856	≥0.5	PASS
BT LE	HCH	0.6959	≥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 02:51:45 PM Jan 11, 2019</p> <p style="margin: 0;">Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: >1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;">10 dB/div Log</div> <div style="text-align: right;">Mkr1 2.4019981 GHz 2.6809 dBm</div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.402 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td colspan="2">9.81 dBm</td> </tr> <tr> <td colspan="4" style="text-align: center;">1.0508 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>6.620 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>695.9 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	9.81 dBm		1.0508 MHz				Transmit Freq Error	6.620 kHz	OBW Power	99.00 %	x dB Bandwidth	695.9 kHz	x dB	-6.00 dB
Occupied Bandwidth	Total Power	9.81 dBm															
1.0508 MHz																	
Transmit Freq Error	6.620 kHz	OBW Power	99.00 %														
x dB Bandwidth	695.9 kHz	x dB	-6.00 dB														
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 02:54:04 PM Jan 11, 2019</p> <p style="margin: 0;">Center Freq 2.440000000 GHz Center Freq: 2.440000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS</p> <div style="display: flex; justify-content: space-between;"> <div style="font-size: x-small;">10 dB/div Log</div> <div style="text-align: right;">Mkr1 2.4399944 GHz 5.3391 dBm</div> </div> <div style="display: flex; justify-content: space-between; font-size: x-small;"> <div>Center 2.44 GHz #Res BW 100 kHz</div> <div>#VBW 300 kHz</div> <div>Span 3 MHz Sweep 1.067 ms</div> </div> <table style="width: 100%; font-size: x-small; margin-top: 5px;"> <tr> <td>Occupied Bandwidth</td> <td>Total Power</td> <td colspan="2">12.4 dBm</td> </tr> <tr> <td colspan="4" style="text-align: center;">1.0482 MHz</td> </tr> <tr> <td>Transmit Freq Error</td> <td>6.017 kHz</td> <td>OBW Power</td> <td>99.00 %</td> </tr> <tr> <td>x dB Bandwidth</td> <td>685.6 kHz</td> <td>x dB</td> <td>-6.00 dB</td> </tr> </table> <p style="font-size: x-small; margin-top: 5px;">MSG STATUS</p> </div>	Occupied Bandwidth	Total Power	12.4 dBm		1.0482 MHz				Transmit Freq Error	6.017 kHz	OBW Power	99.00 %	x dB Bandwidth	685.6 kHz	x dB	-6.00 dB
Occupied Bandwidth	Total Power	12.4 dBm															
1.0482 MHz																	
Transmit Freq Error	6.017 kHz	OBW Power	99.00 %														
x dB Bandwidth	685.6 kHz	x dB	-6.00 dB														

HCH

Agilent Spectrum Analyzer - Occupied BW

RL	RF	50 Ω	AC	SENSE:PULSE	ALIGN:AUTO	02:55:39 PM Jan 11, 2019
Center Freq 2.480000000 GHz			Center Freq: 2.480000000 GHz		Radio Std: None	
			Trig: Free Run		AvgJHold> 1/1	
			#IFGain:Low		#Atten: 30 dB	
					Radio Device: BTS	

10 dB/div
Log

Mkr1 2.4799933 GHz
5.0628 dBm

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

Occupied Bandwidth	Total Power	12.2 dBm
1.0456 MHz		
Transmit Freq Error	4.909 kHz	OBW Power 99.00 %
x dB Bandwidth	695.9 kHz	x dB -6.00 dB

MSG
STATUS

Frequency

Center Freq
2.480000000 GHz

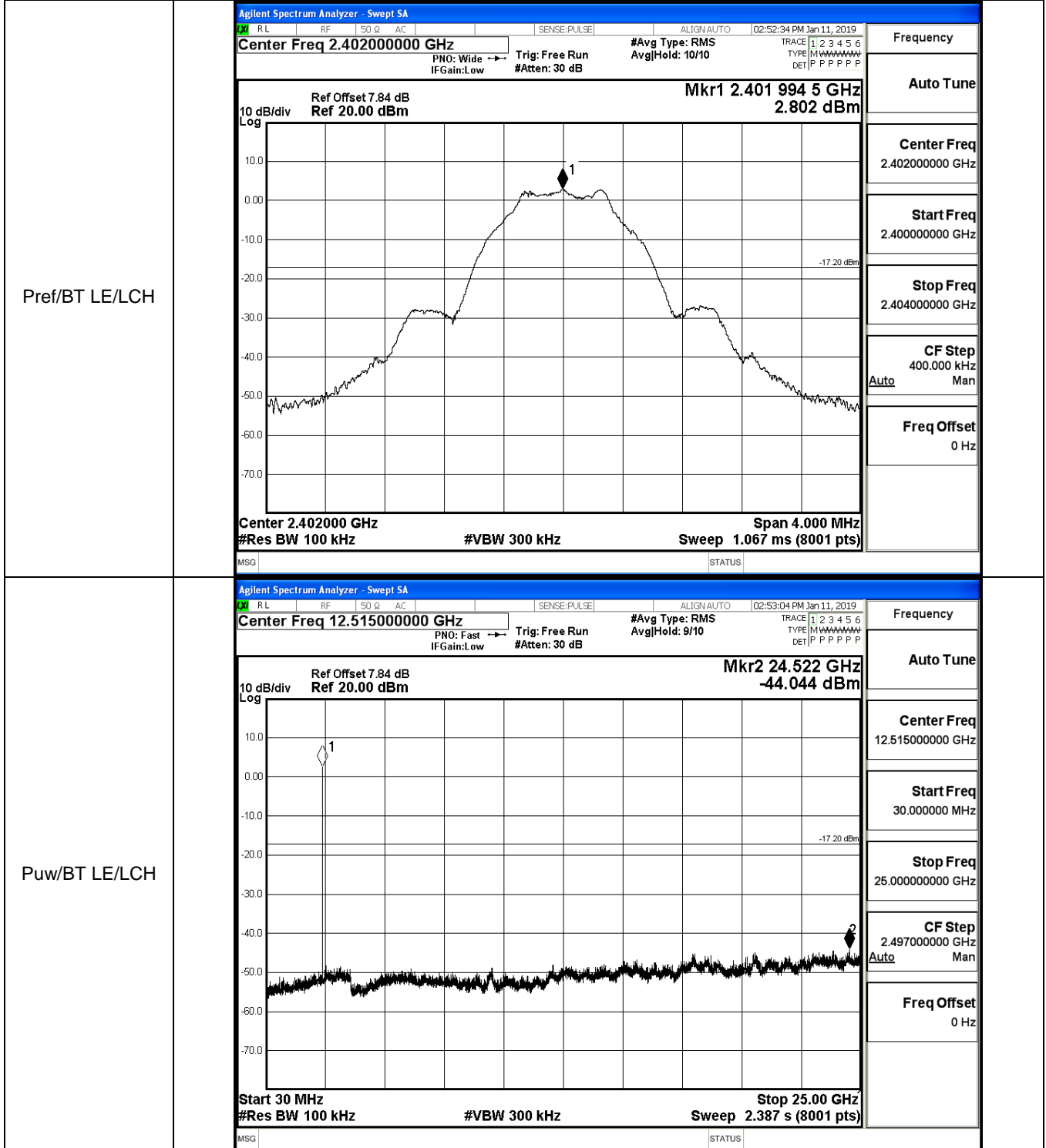
CF Step
300.000 kHz
Auto Man

Freq Offset
0 Hz

B.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.802	-44.044	-17.198	PASS
BT LE	MCH	5.306	-44.274	-14.694	PASS
BT LE	HCH	5.092	-44.318	-14.908	PASS

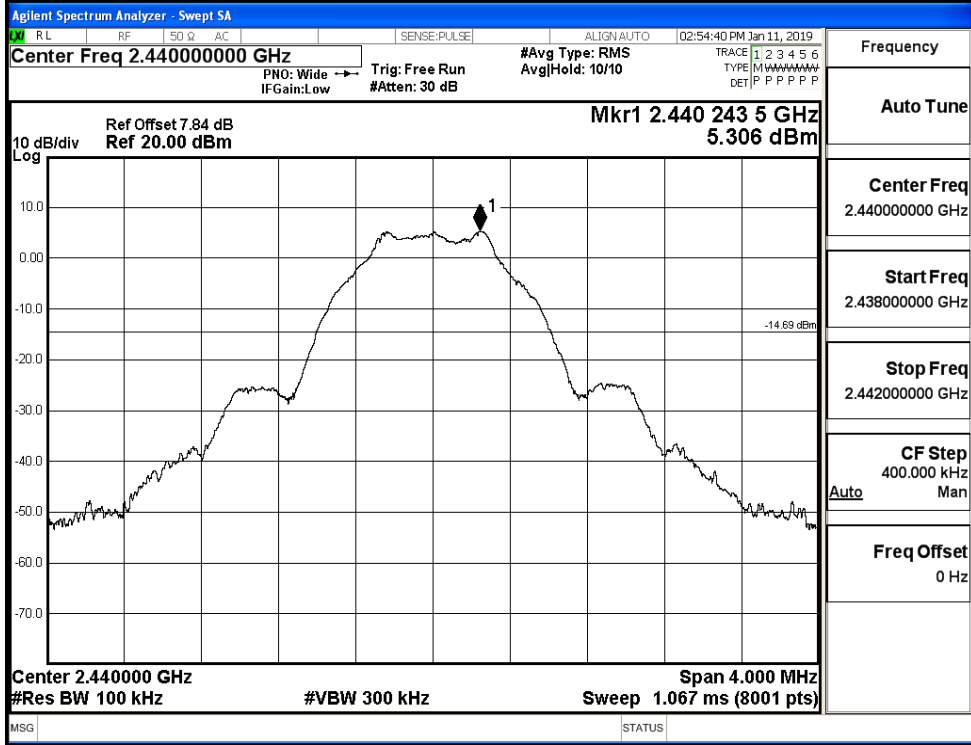
BT LE_LCH_Graphs



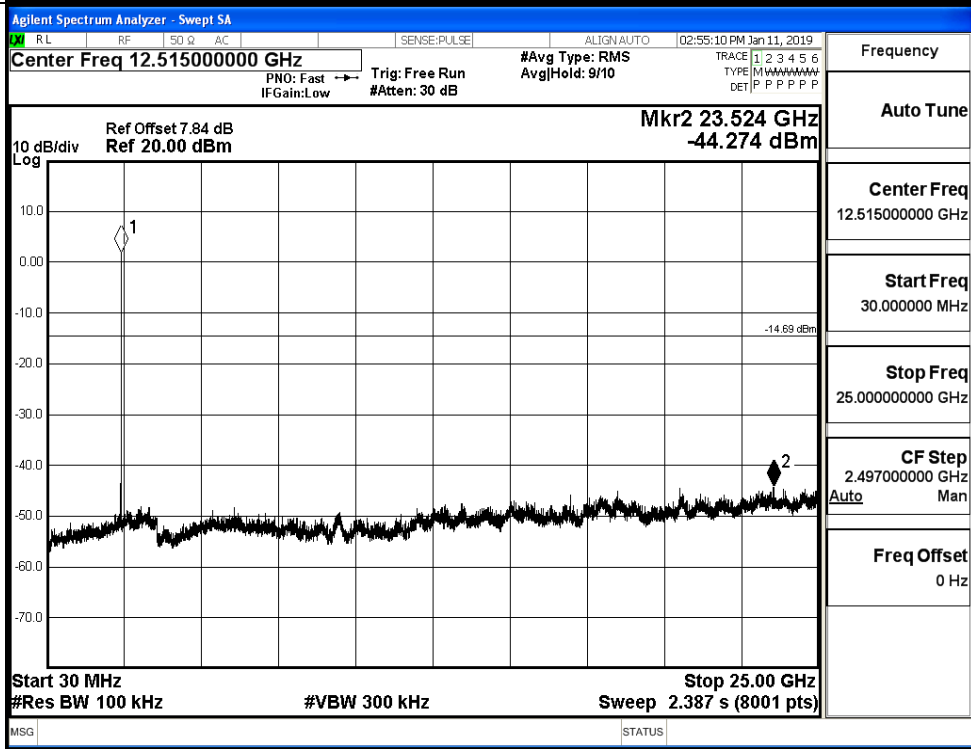
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BT LE_MCH_Graphs

Pref/BT LE/MCH

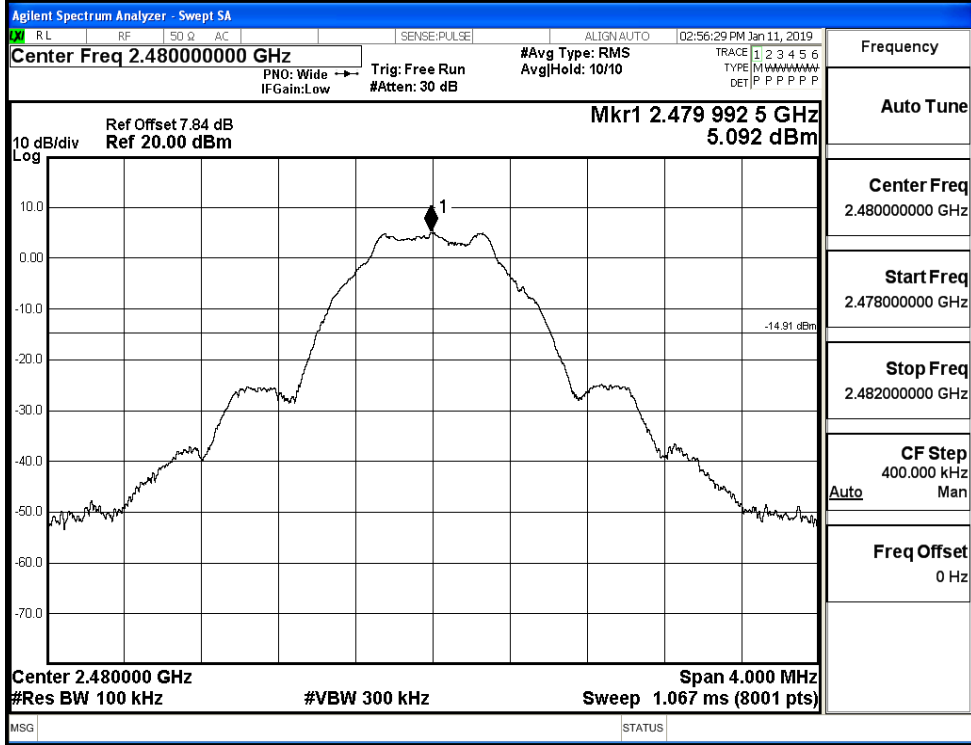


Puw/BT LE/MCH

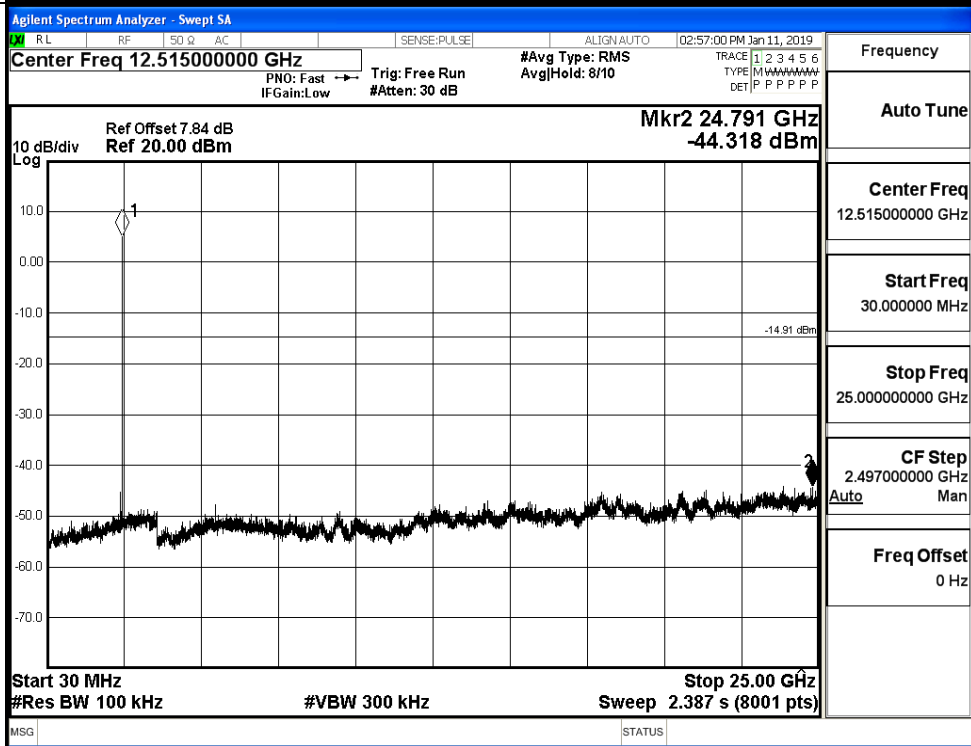


BT LE_HCH_Graphs

Pref/BT LE/HCH



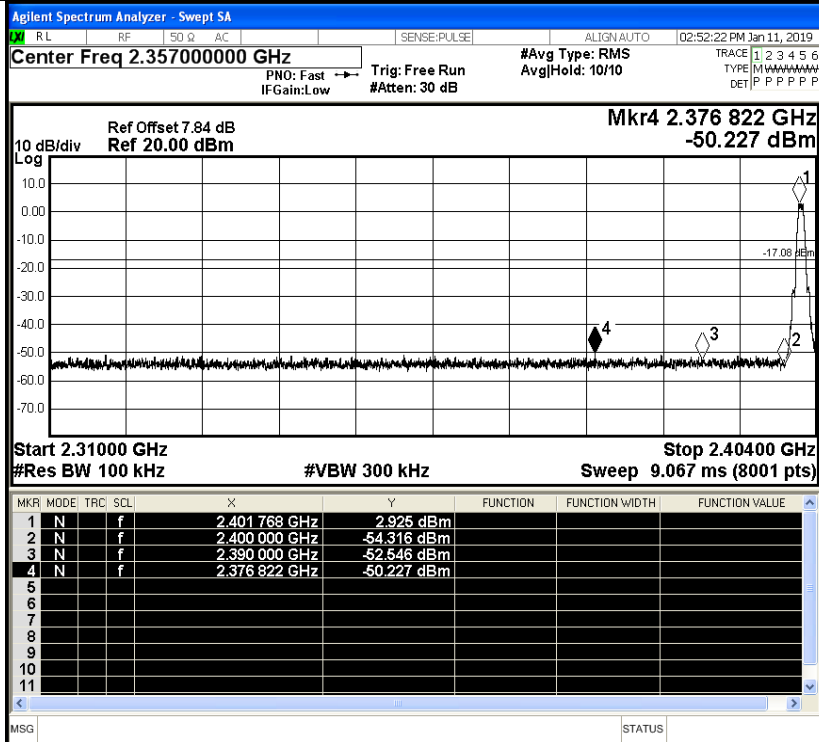
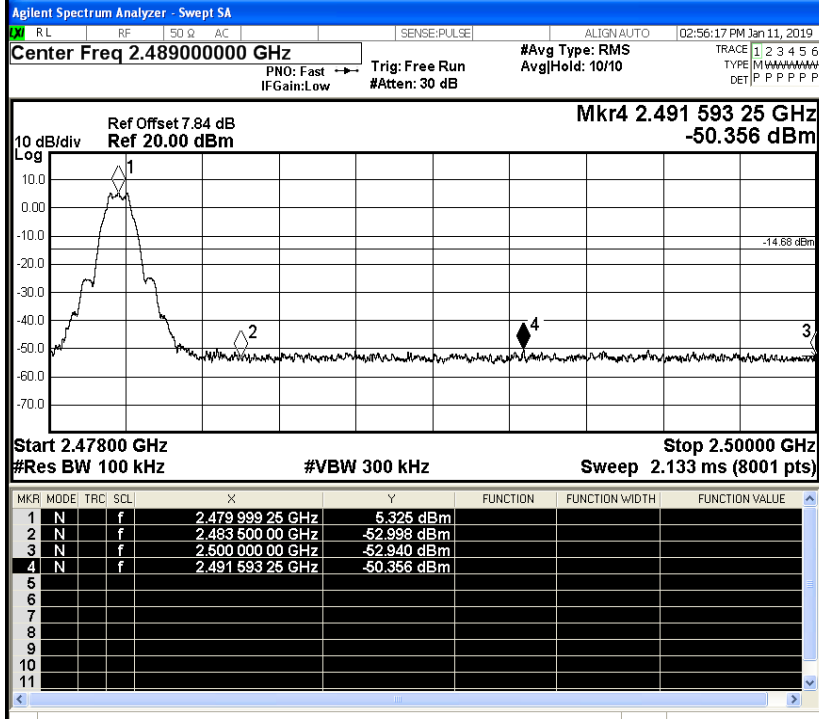
Puw/BT LE/HCH



B.6 Band-edge for RF Conducted Emissions

Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.925	-50.227	-17.08	PASS
BT LE	HCH	5.325	-50.356	-14.68	PASS

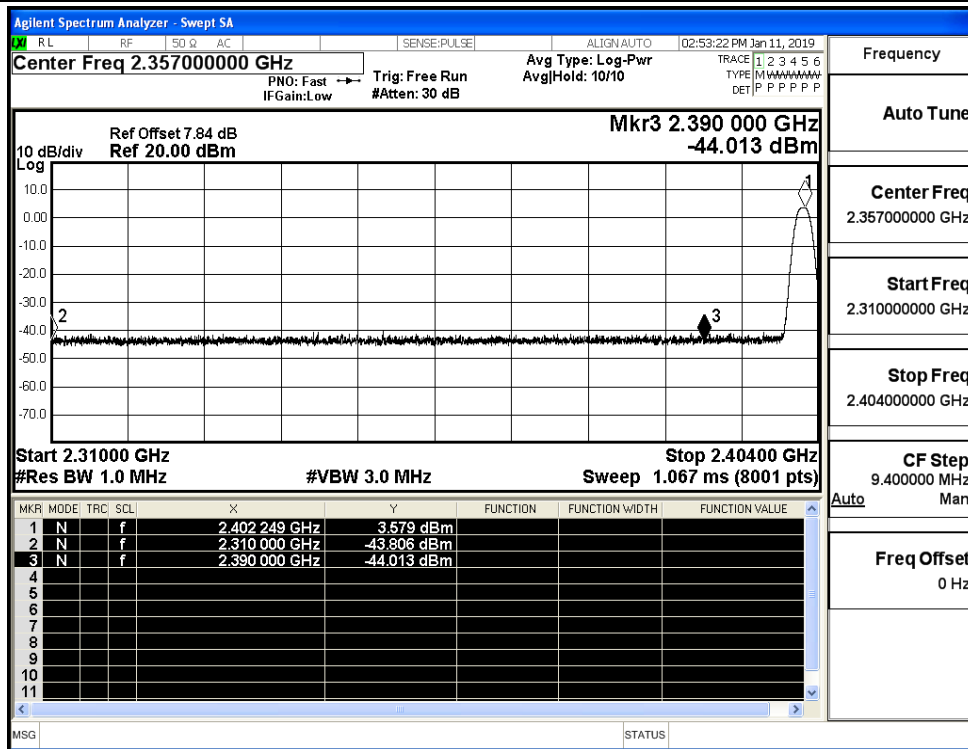
Test Graphs

LCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.35700000 GHz</p> <p>Start Freq 2.31000000 GHz</p> <p>Stop Freq 2.40400000 GHz</p> <p>CF Step 9.400000 MHz</p> <p>Freq Offset 0 Hz</p>
HCH		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 2.48900000 GHz</p> <p>Start Freq 2.47800000 GHz</p> <p>Stop Freq 2.50000000 GHz</p> <p>CF Step 2.200000 MHz</p> <p>Freq Offset 0 Hz</p>

B.7 Restrict-band band-edge measurements

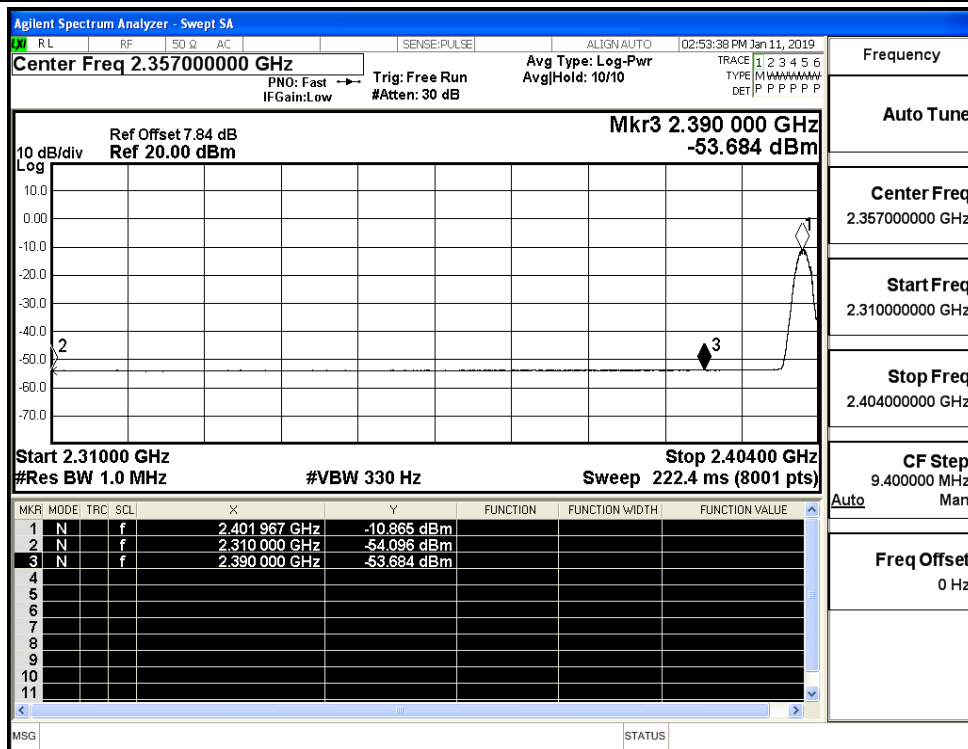
Test Mode	Test Channel	Ant	Freq.	Power [dBm]	Gain	Ground Factor	E [dBuV/m]	Detector	Limit [dBuV/m]	Verdi
BT LE	2402	Ant1	2310.0	-43.81	2.0	0	53.45	PEAK	74	PASS
		Ant1	2310.0	-54.10	2.0	0	43.16	AV	54	PASS
		Ant1	2390.0	-44.01	2.0	0	53.24	PEAK	74	PASS
		Ant1	2390.0	-53.68	2.0	0	43.57	AV	54	PASS
	2480	Ant1	2483.5	-42.28	2.0	0	54.98	PEAK	74	PASS
		Ant1	2483.5	-53.25	2.0	0	44.00	AV	54	PASS
		Ant1	2500.0	-42.59	2.0	0	54.67	PEAK	74	PASS
		Ant1	2500.0	-53.29	2.0	0	43.97	AV	54	PASS

Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



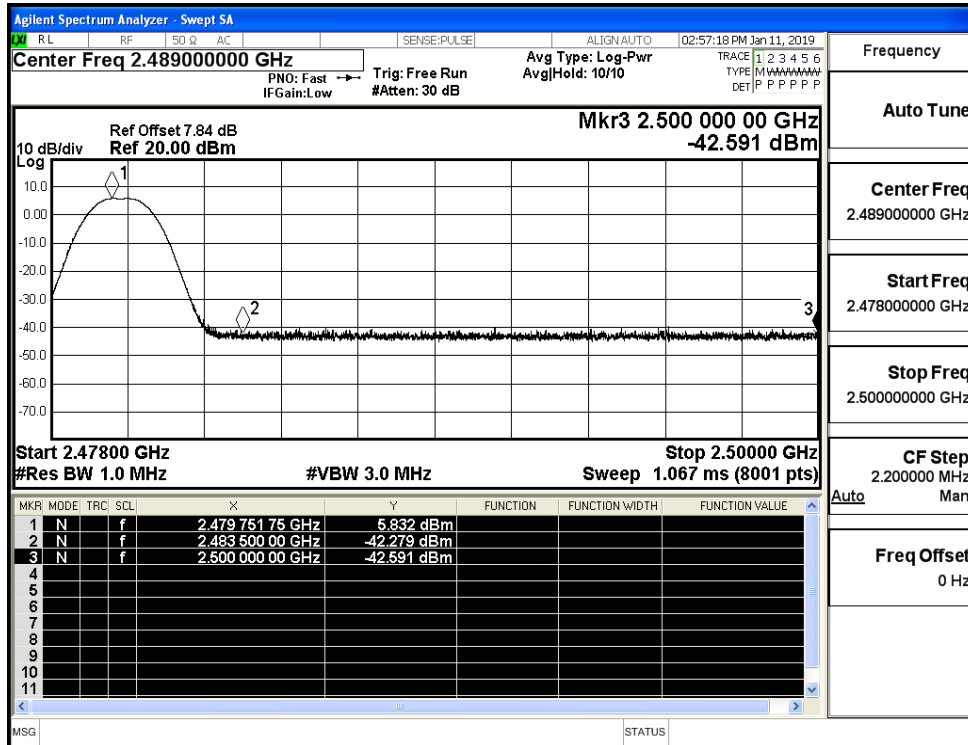
Frequency
Auto Tune
Center Freq 2.357000000 GHz
Start Freq 2.310000000 GHz
Stop Freq 2.404000000 GHz
CF Step 9.400000 MHz
Auto Man
Freq Offset 0 Hz

Restrict-band band-edge measurements_BT LE_2402_Ant1_AV



Frequency
Auto Tune
Center Freq 2.357000000 GHz
Start Freq 2.310000000 GHz
Stop Freq 2.404000000 GHz
CF Step 9.400000 MHz
Auto Man
Freq Offset 0 Hz

Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2480_Ant1_AV

