Appendix B

RF Test Data for BT V4.2 (BT LE) (Conducted Measurement)

Product Name: Wireless Charger Car Kit

Trade Mark: N/A

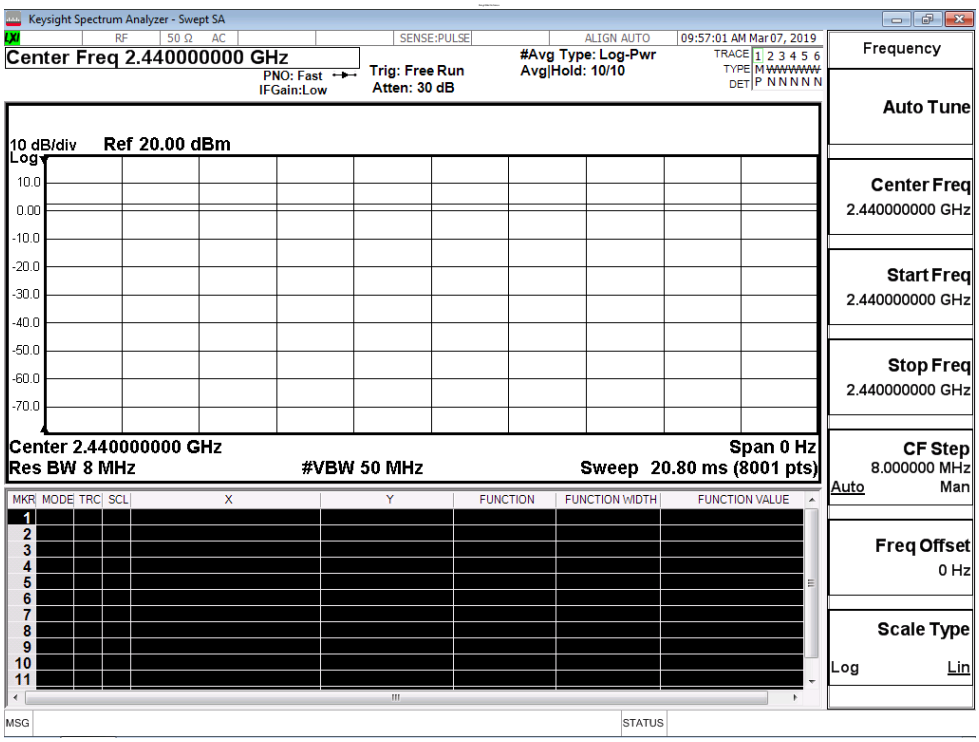
Test Model: FMT1200BT

Environmental Conditions

Temperature:	23.4 ° C
Relative Humidity:	53.2%
ATM Pressure:	100.0 kPa
Test Engineer:	Shane Wu
Supervised by:	Jayden.Zhuo

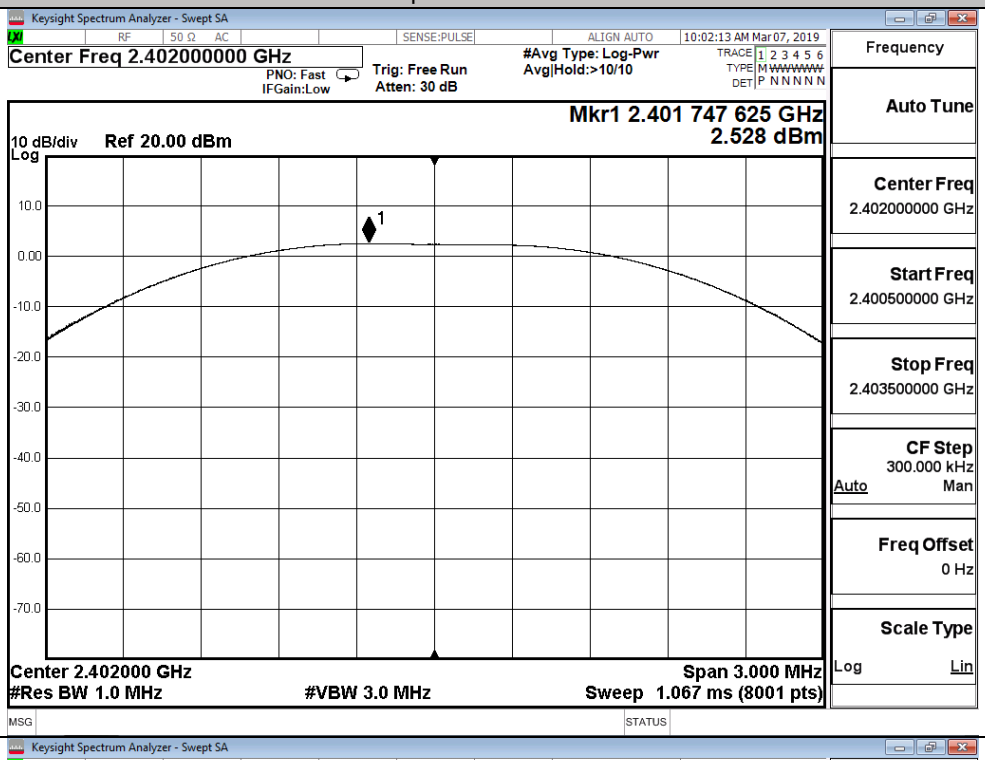
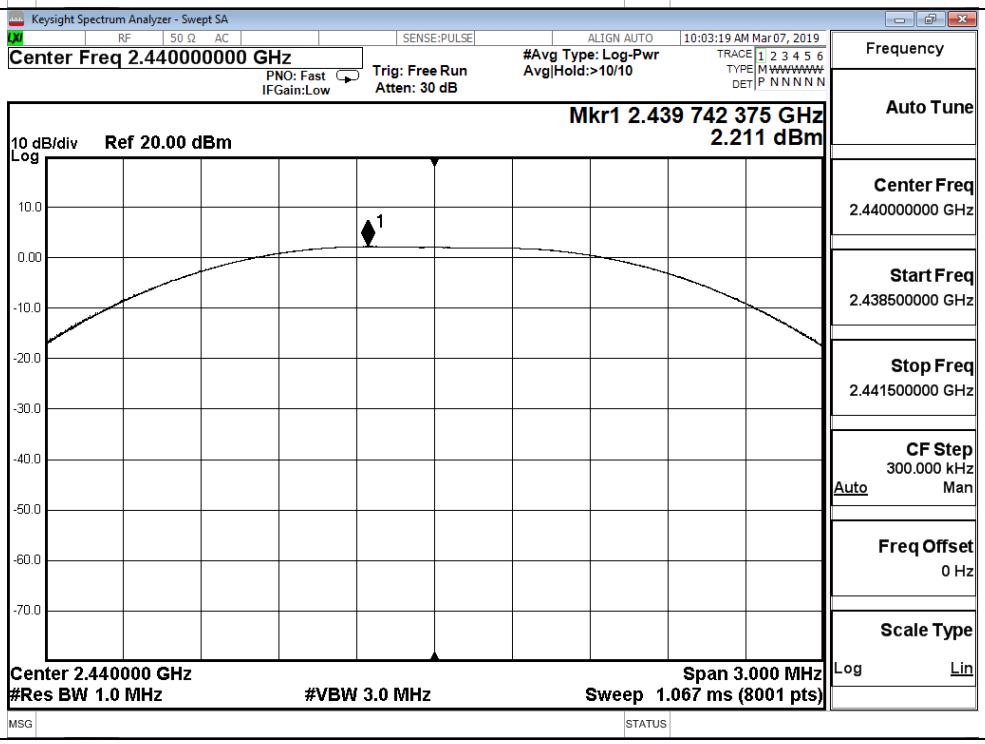
B.1 Duty Cycle

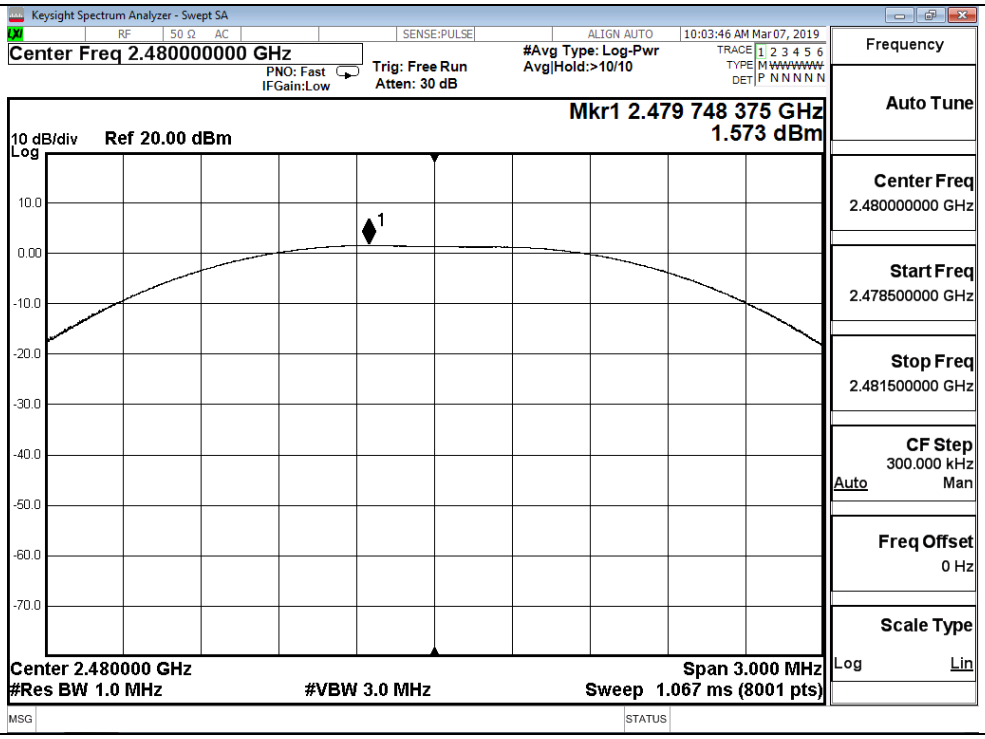
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.528	30	PASS
BT LE	MCH	2.211	30	PASS
BT LE	HCH	1.573	30	PASS

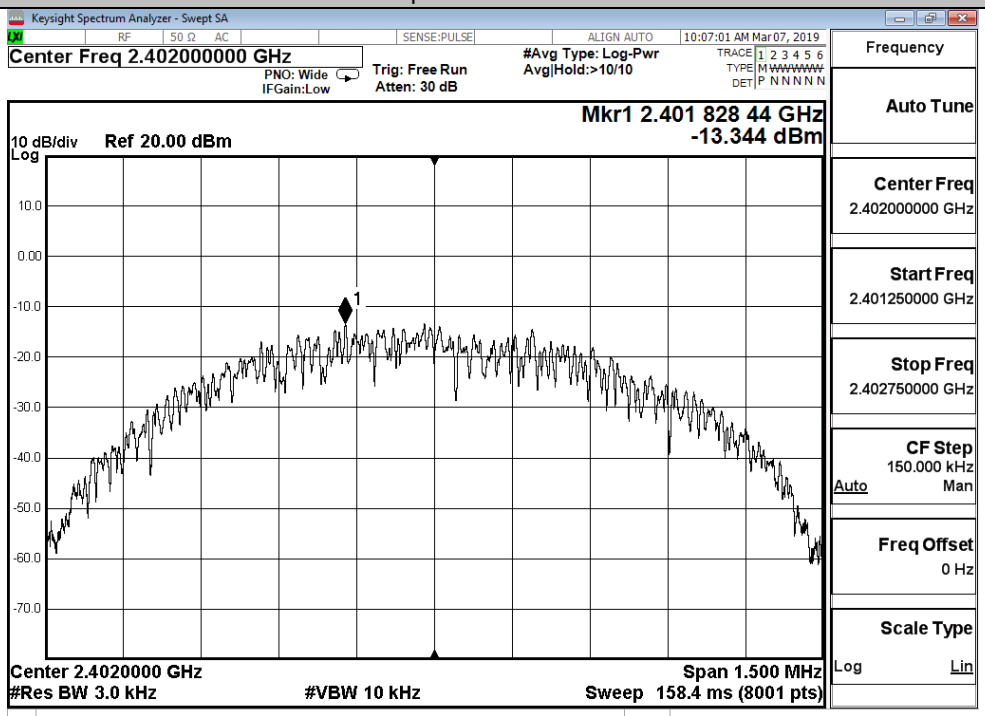
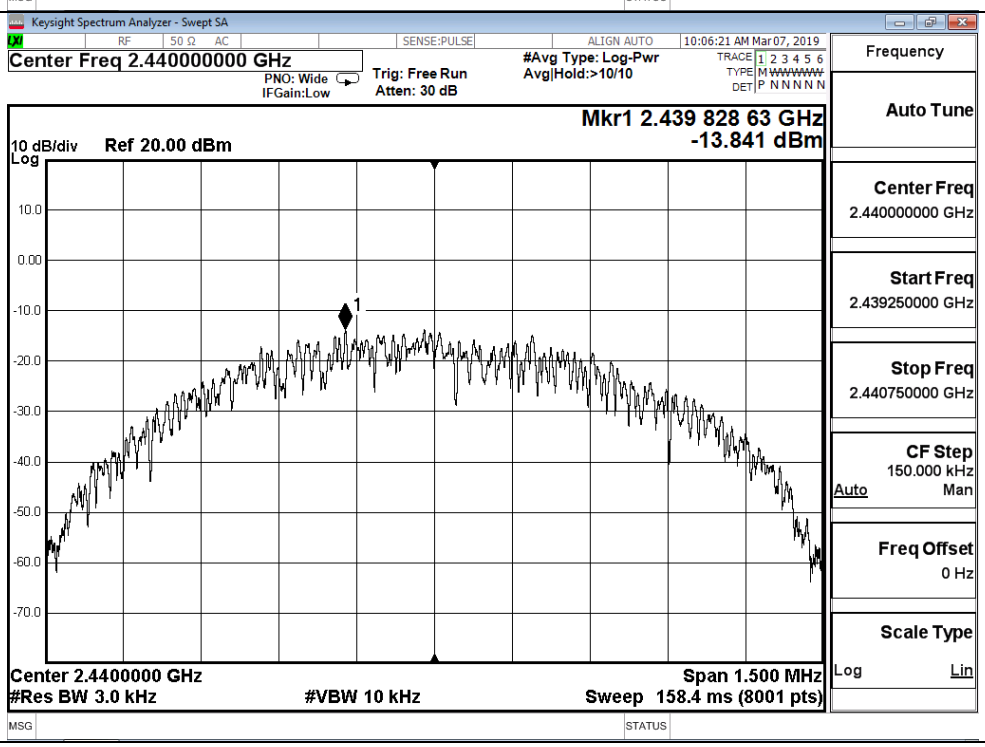
Test Graphs	
LCH	
MCH	

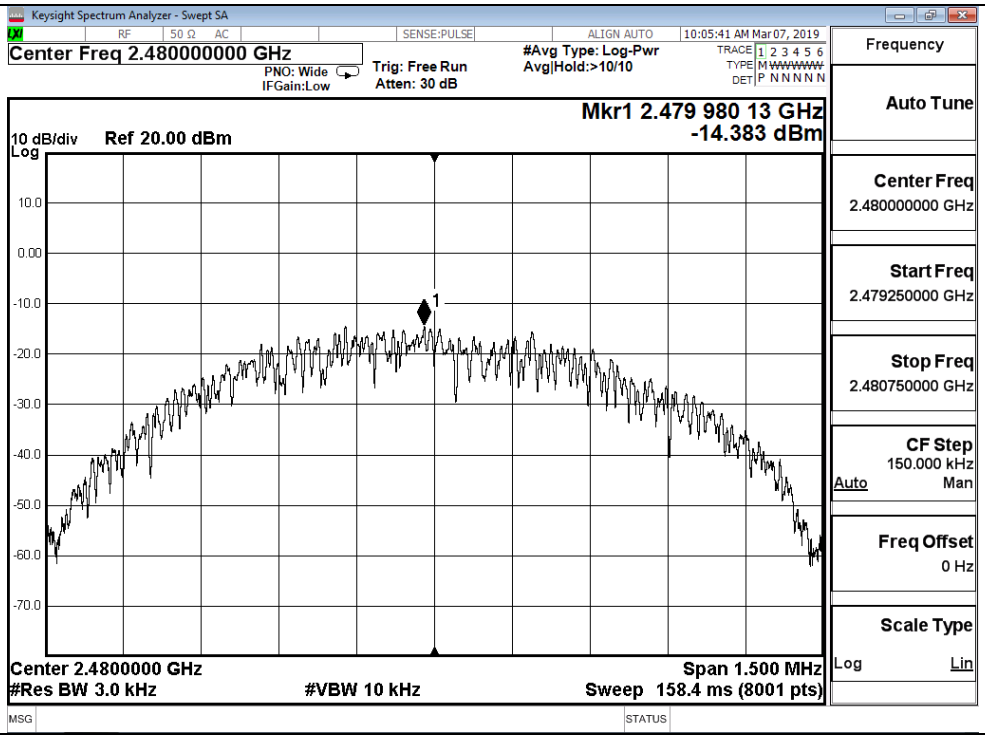
HCH	

Keysight Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
10:03:46 AM Mar 07, 2019
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
#Avg Type: Log-Pwr
Avg|Hold:>10/10
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Mkr1 2.479 748 375 GHz
1.573 dBm
10 dB/div Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center 2.480000 GHz
#Res BW 1.0 MHz
#VBW 3.0 MHz
Span 3.000 MHz
Sweep 1.067 ms (8001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Auto Man
Freq Offset
0 Hz
Scale Type
Log Lin

B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-13.344	8	PASS
BT LE	MCH	-13.841	8	PASS
BT LE	HCH	-14.383	8	PASS

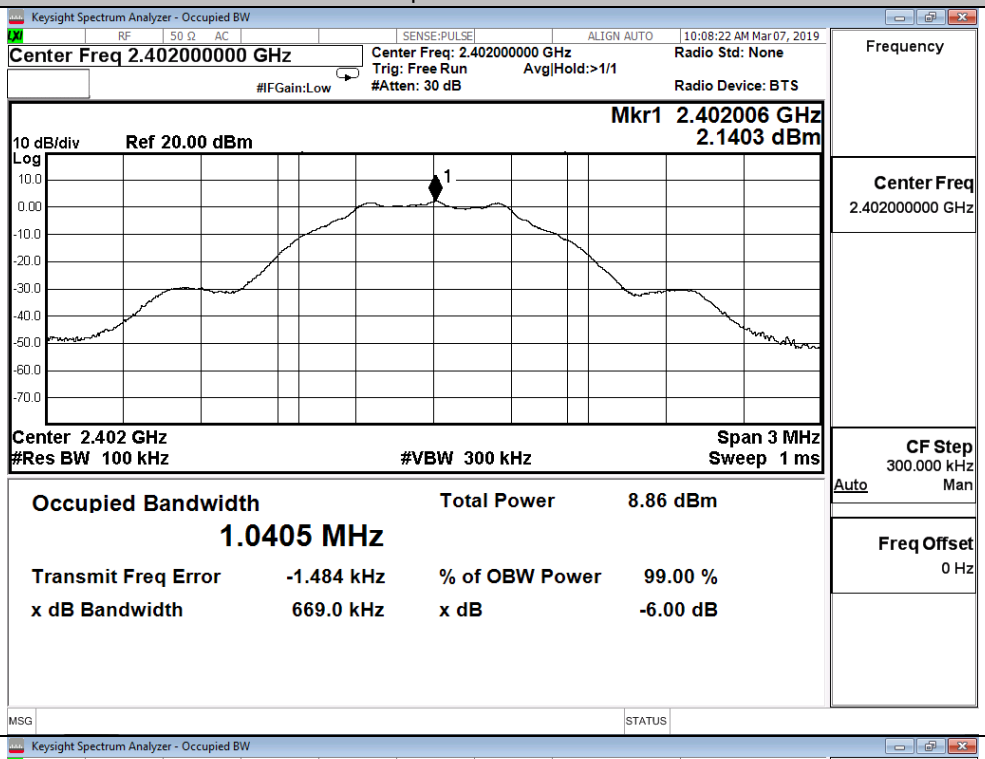
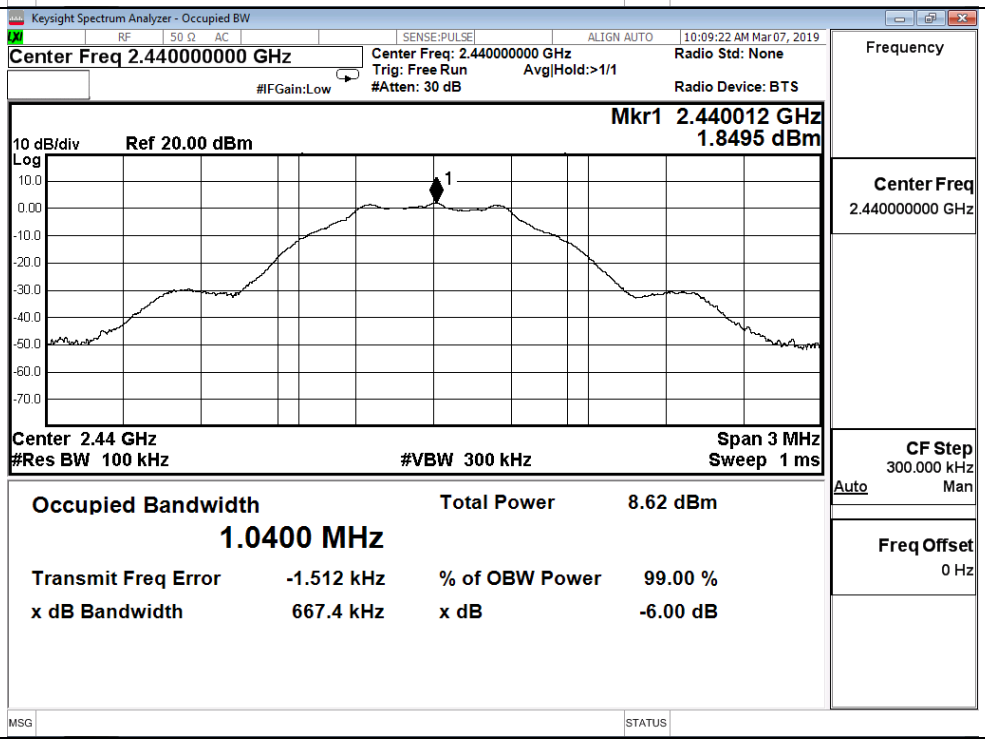
Test Graphs	
LCH	
MCH	

HCH	

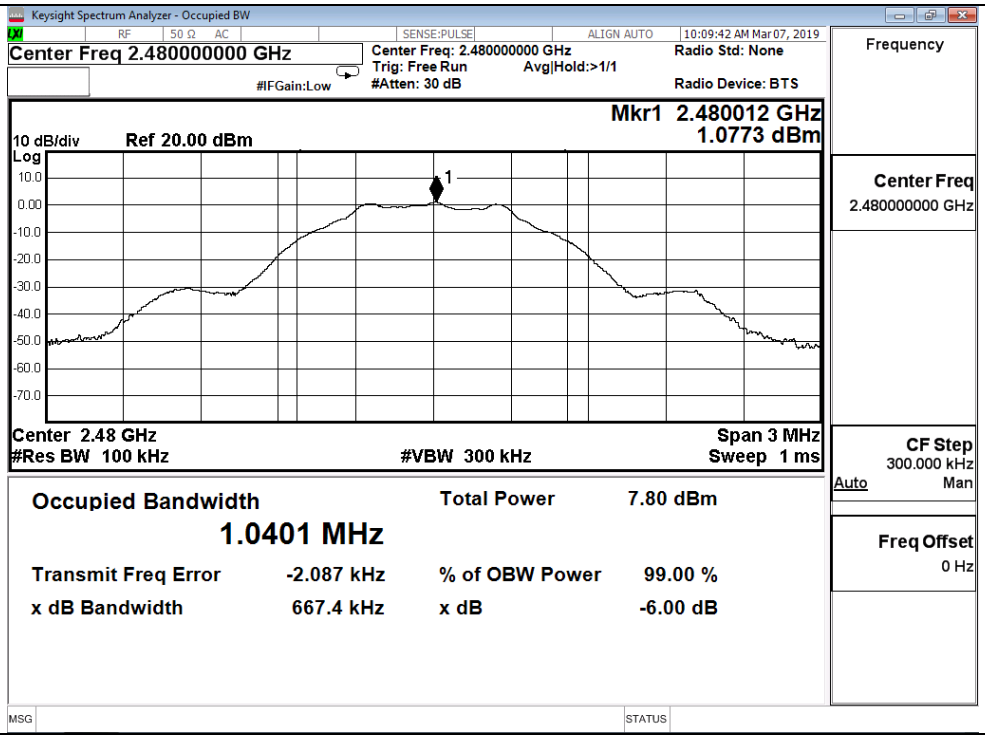
Keysight Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
10:05:41 AM Mar 07, 2019
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 30 dB
#Avg Type: Log-Pwr
Avg|Hold:>10/10
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Mkr1 2.479 980 13 GHz
-14.383 dBm
10 dB/div Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center 2.4800000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 1.500 MHz
Sweep 158.4 ms (8001 pts)
MSG
STATUS
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.479250000 GHz
Stop Freq
2.480750000 GHz
CF Step
150.000 kHz
Auto Man
Freq Offset
0 Hz
Scale Type
Log Lin

B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6690	≥0.5	PASS
BT LE	MCH	0.6674	≥0.5	PASS
BT LE	HCH	0.6674	≥0.5	PASS

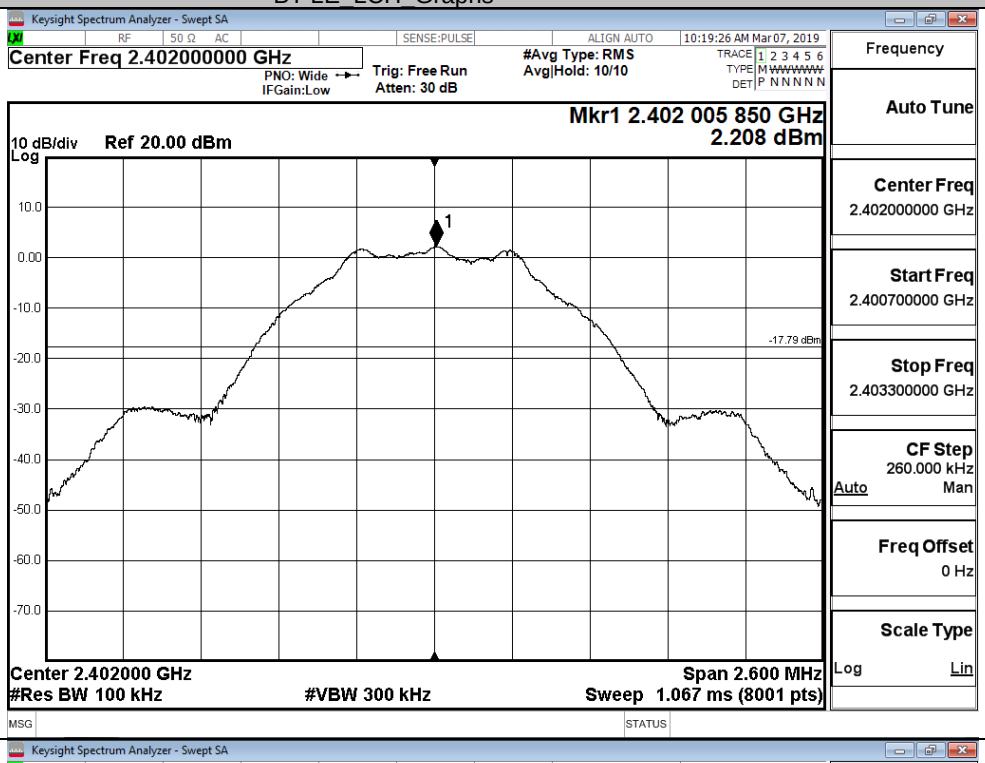
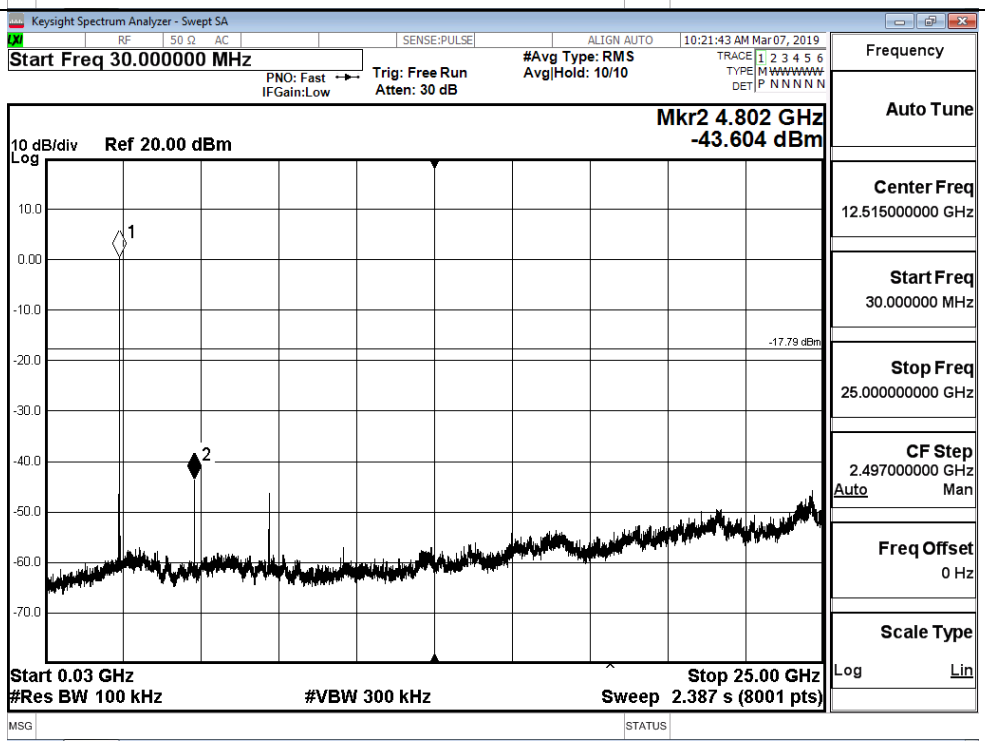
Test Graphs	
LCH	
MCH	

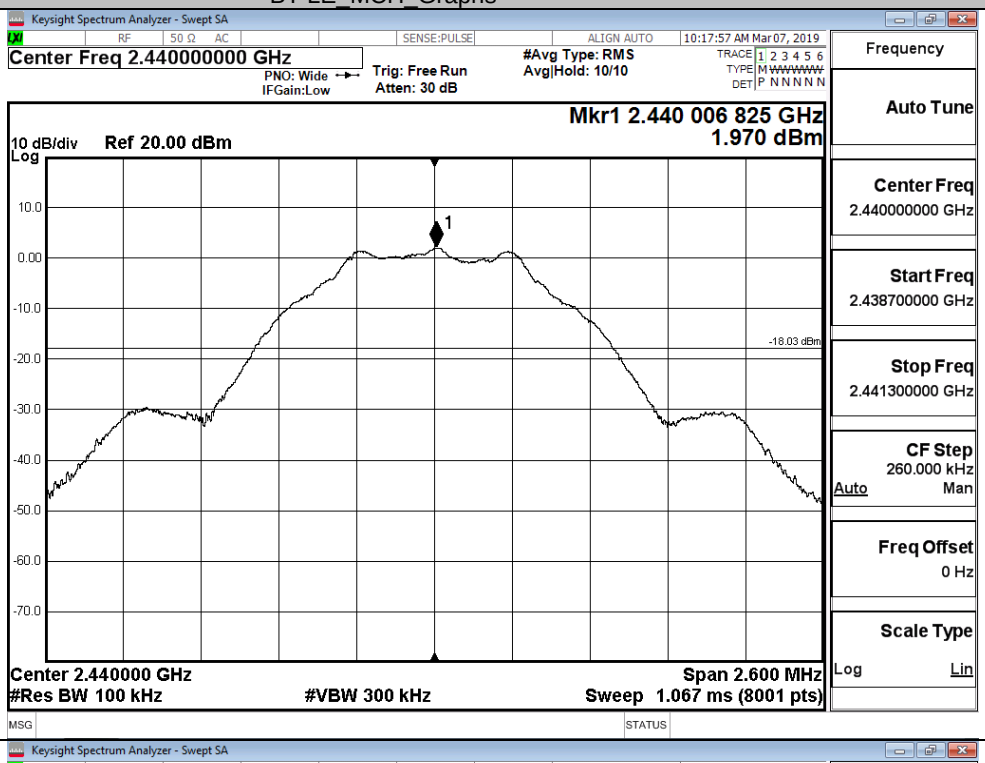
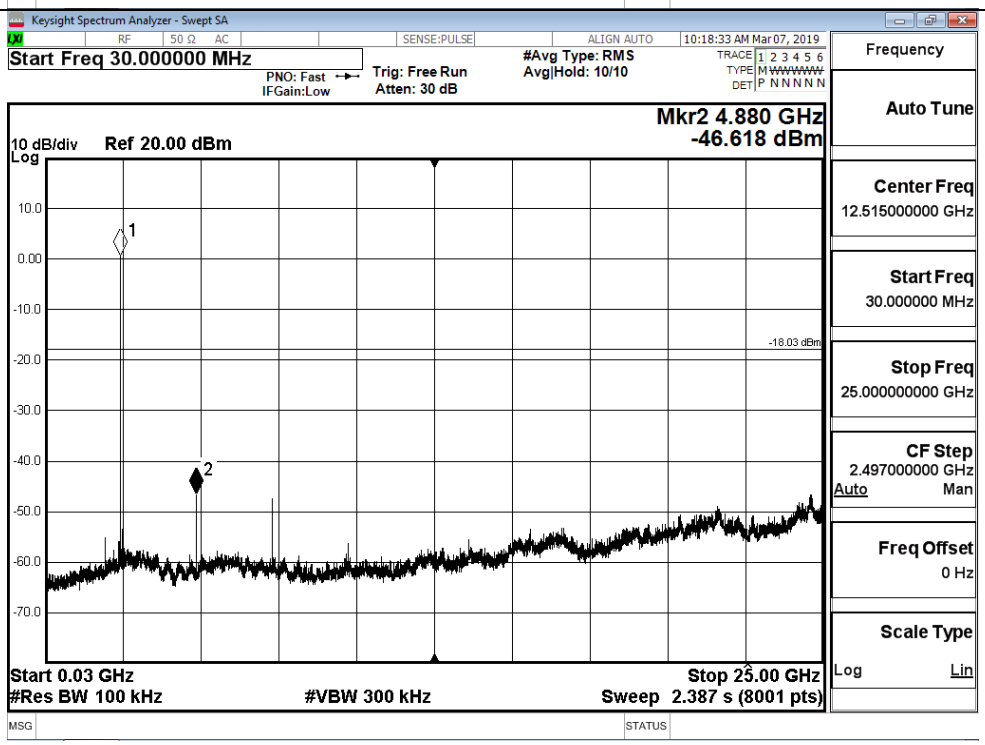
HCH

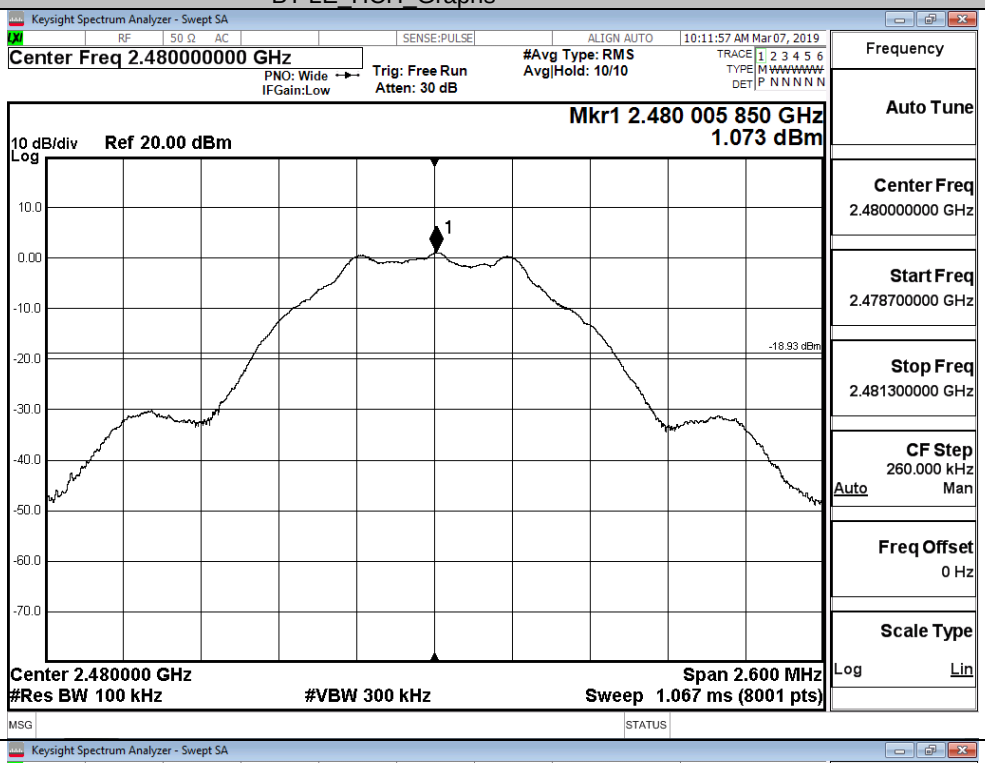
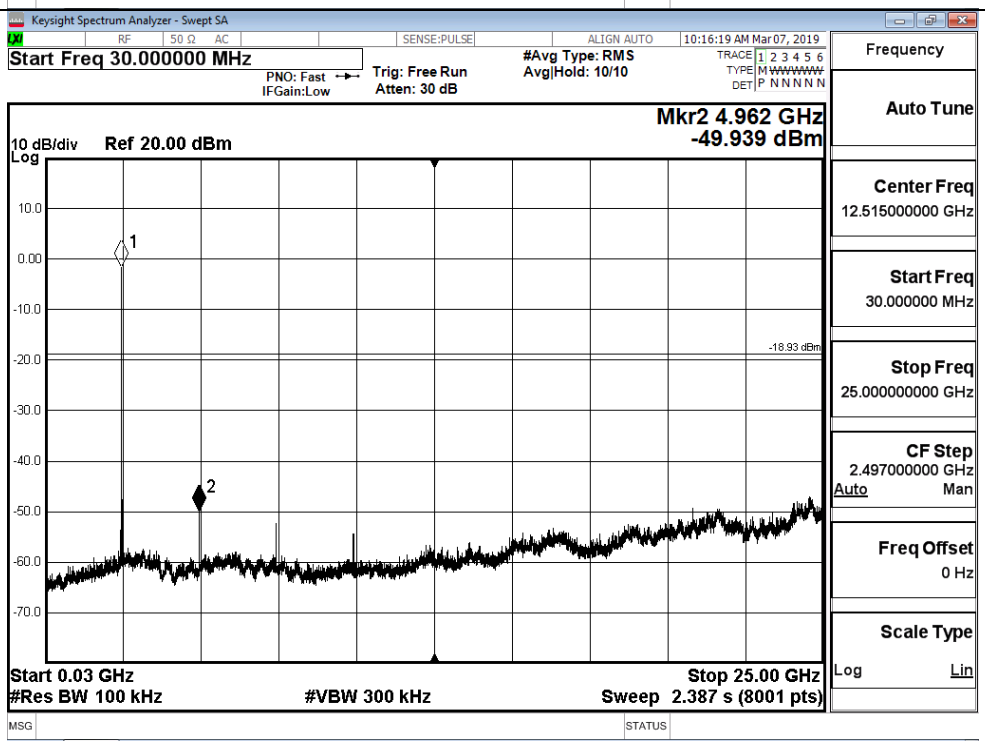

Keysight Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
10:09:42 AM Mar 07, 2019
Center Freq 2.480000000 GHz
#IFGain:Low
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>1/1
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Mkr1 2.480012 GHz
1.0773 dBm
10 dB/div
Ref 20.00 dBm
Log
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
1
Center Freq
2.480000000 GHz
Center 2.48 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 3 MHz
Sweep 1 ms
CF Step
300.000 kHz
Auto
Man
Occupied Bandwidth
1.0401 MHz
Total Power 7.80 dBm
Transmit Freq Error -2.087 kHz
% of OBW Power 99.00 %
x dB Bandwidth 667.4 kHz
x dB -6.00 dB
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	2.208	-43.604	-17.792	PASS
BT LE	MCH	1.970	-46.618	-18.030	PASS
BT LE	HCH	1.073	-49.939	-18.927	PASS

BT LE_LCH_Graphs	
Pref/BT LE/LCH	
Puw/BT LE/LCH	

BT LE_MCH_Graphs	
Pref/BT LE/MCH	
Puw/BT LE/MCH	

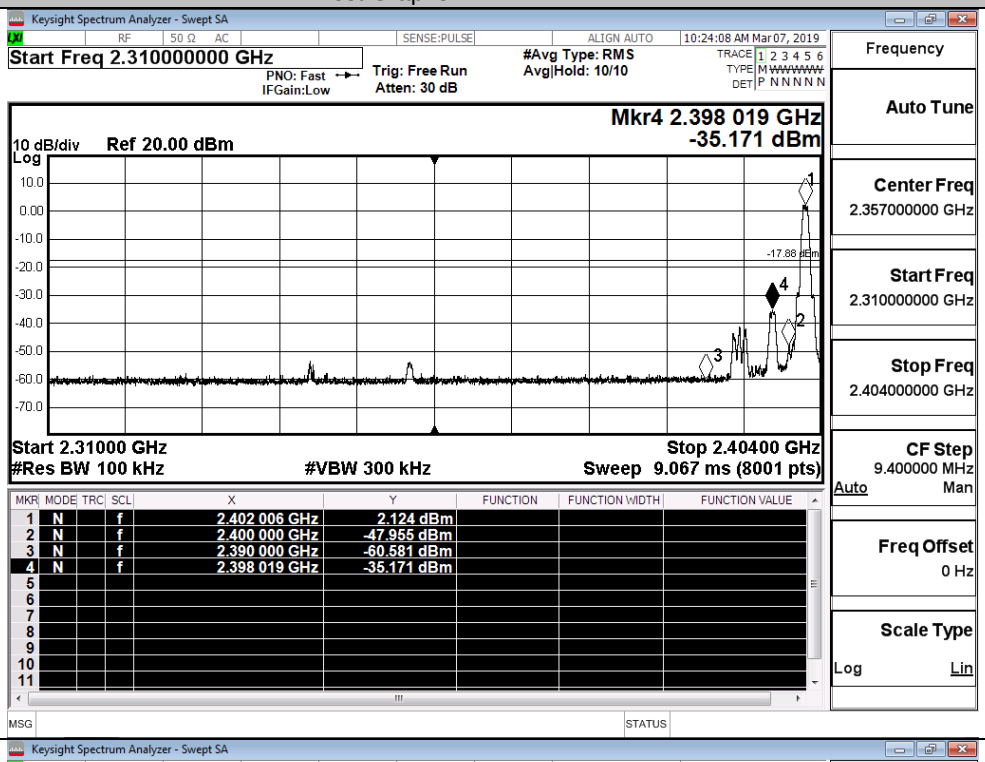
BT LE_HCH_Graphs	
Pref/BT LE/HCH	
Puw/BT LE/HCH	

B.6 Band-edge for RF Conducted Emissions

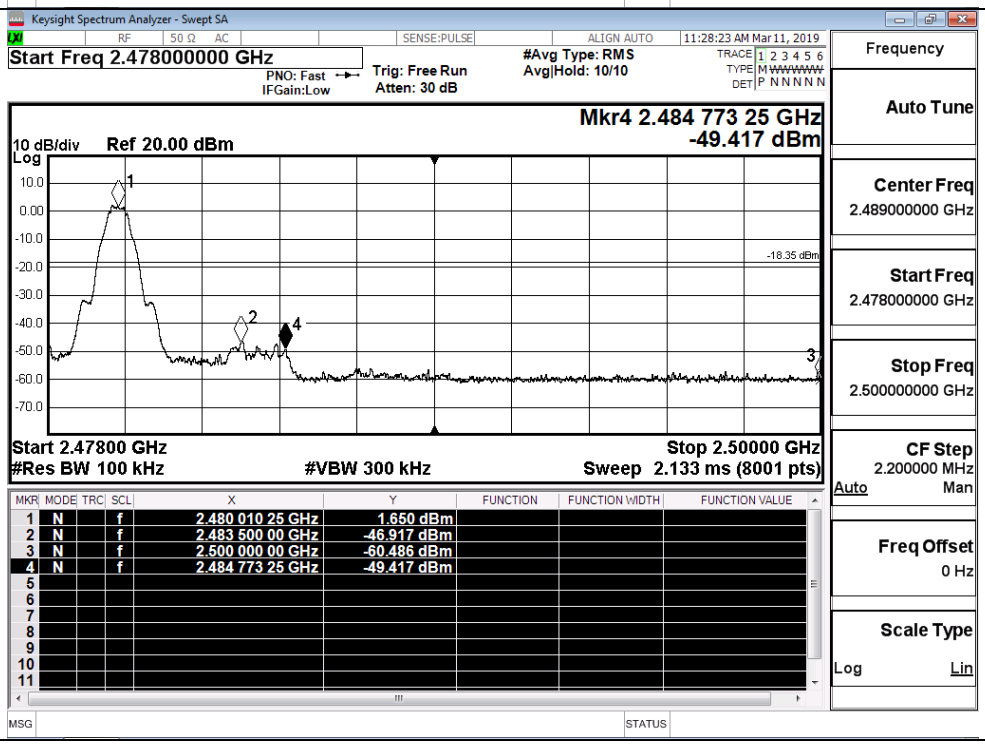
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.124	-35.171	-17.876	PASS
BT LE	HCH	1.650	-49.417	-18.350	PASS

Test Graphs

LCH



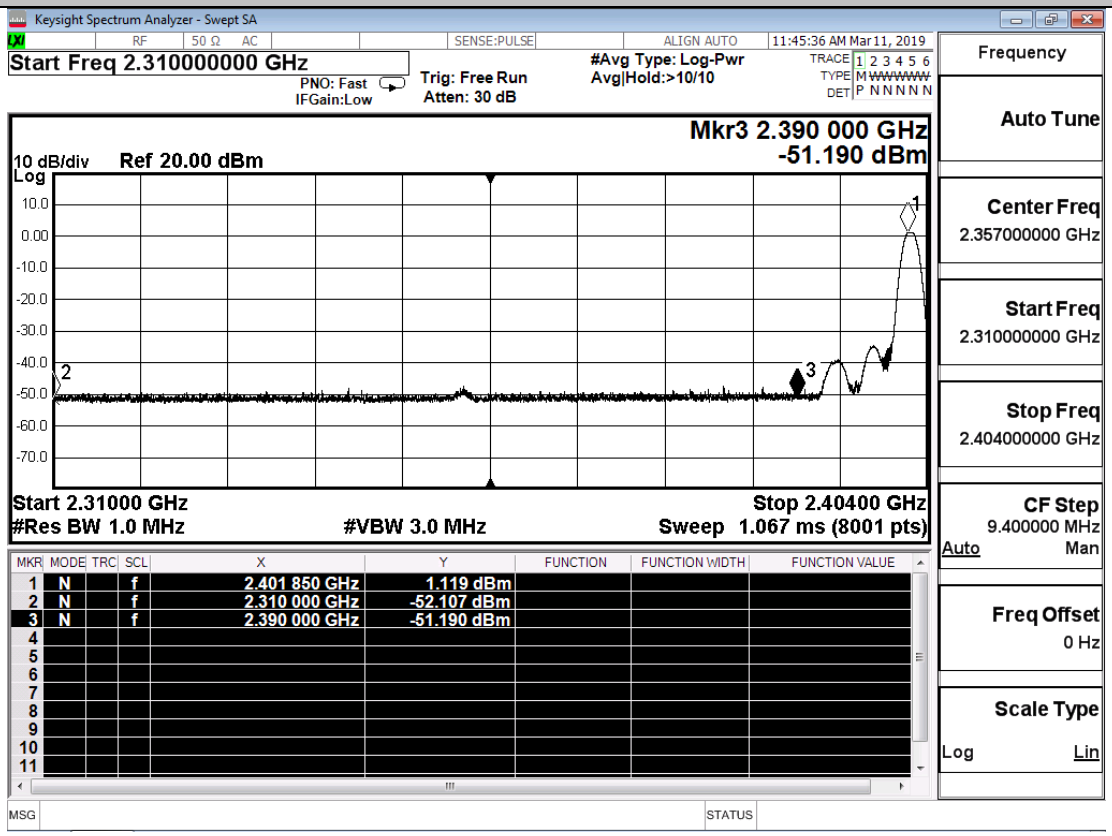
HCH



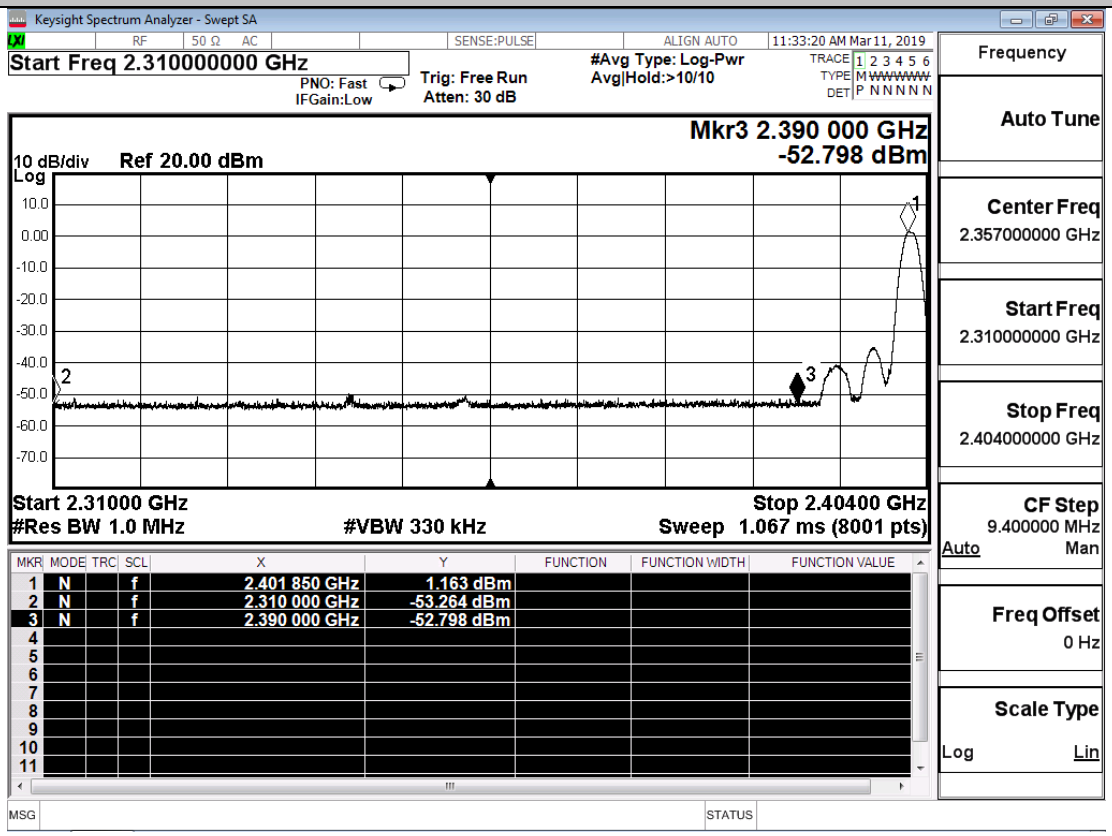
B.7 Restrict-band band-edge measurements

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	-52.107	2.0	0	45.153	PEAK	74	PASS
		Ant1	2310.0	-53.264	2.0	0	43.996	AV	54	PASS
		Ant1	2390.0	-51.190	2.0	0	46.070	PEAK	74	PASS
		Ant1	2390.0	-52.798	2.0	0	44.462	AV	54	PASS
	2480	Ant1	2483.5	-41.769	2.0	0	55.491	PEAK	74	PASS
		Ant1	2483.5	-43.501	2.0	0	53.759	AV	54	PASS
		Ant1	2500.0	-50.666	2.0	0	46.594	PEAK	74	PASS
		Ant1	2500.0	-54.336	2.0	0	42.924	AV	54	PASS

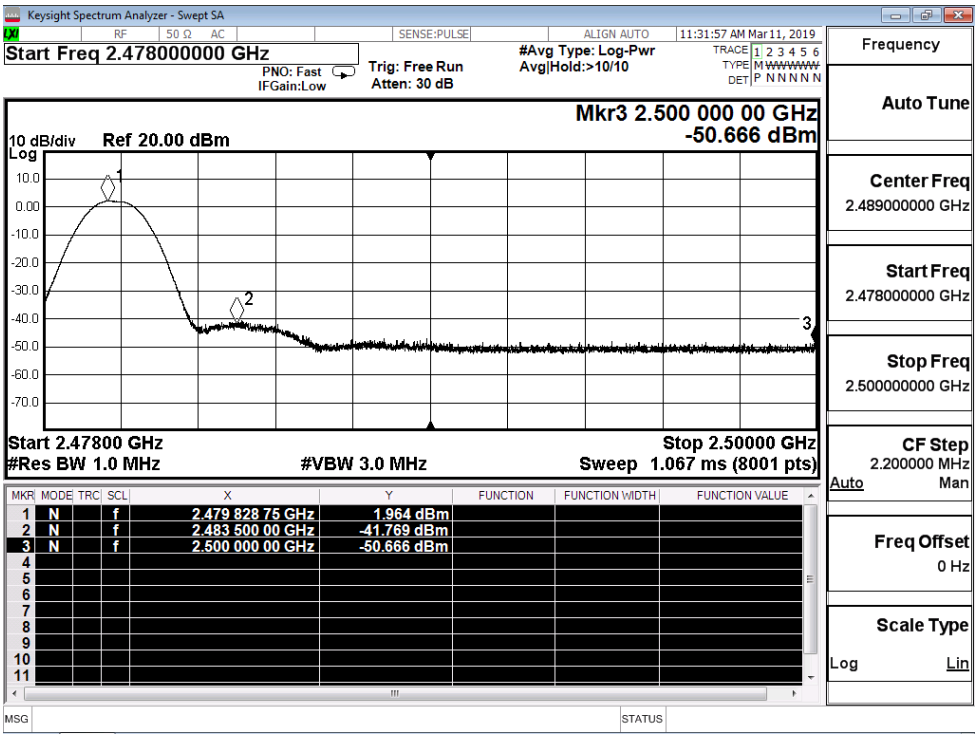
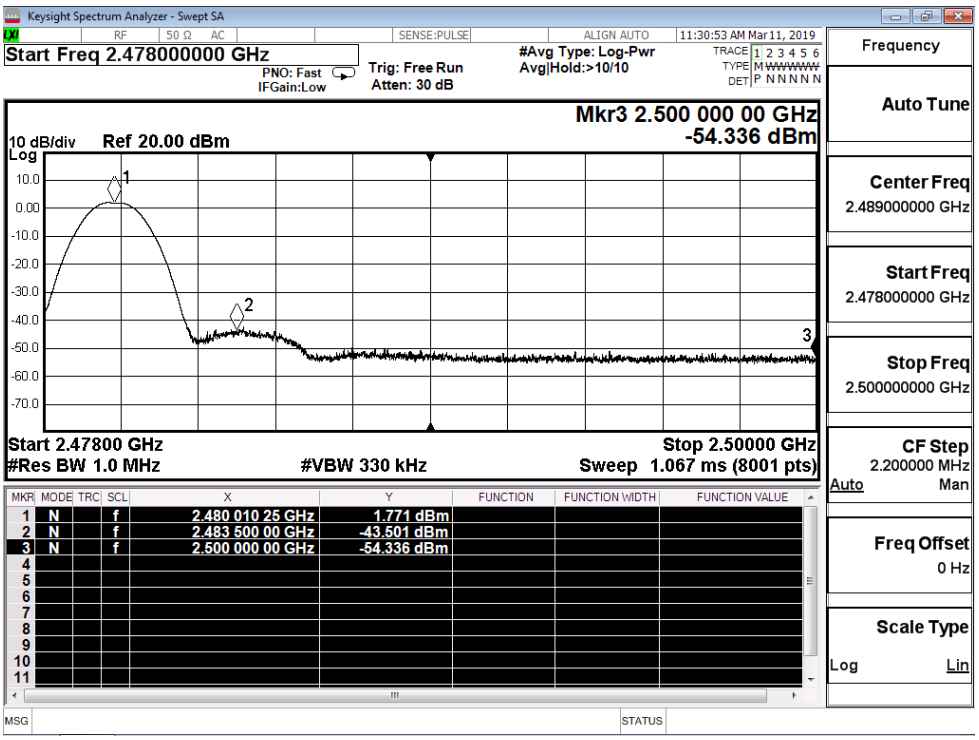
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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