Appendix B

RF Test Data for BT V4.2 (BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Headset Bracelet

Trade Mark: BYS

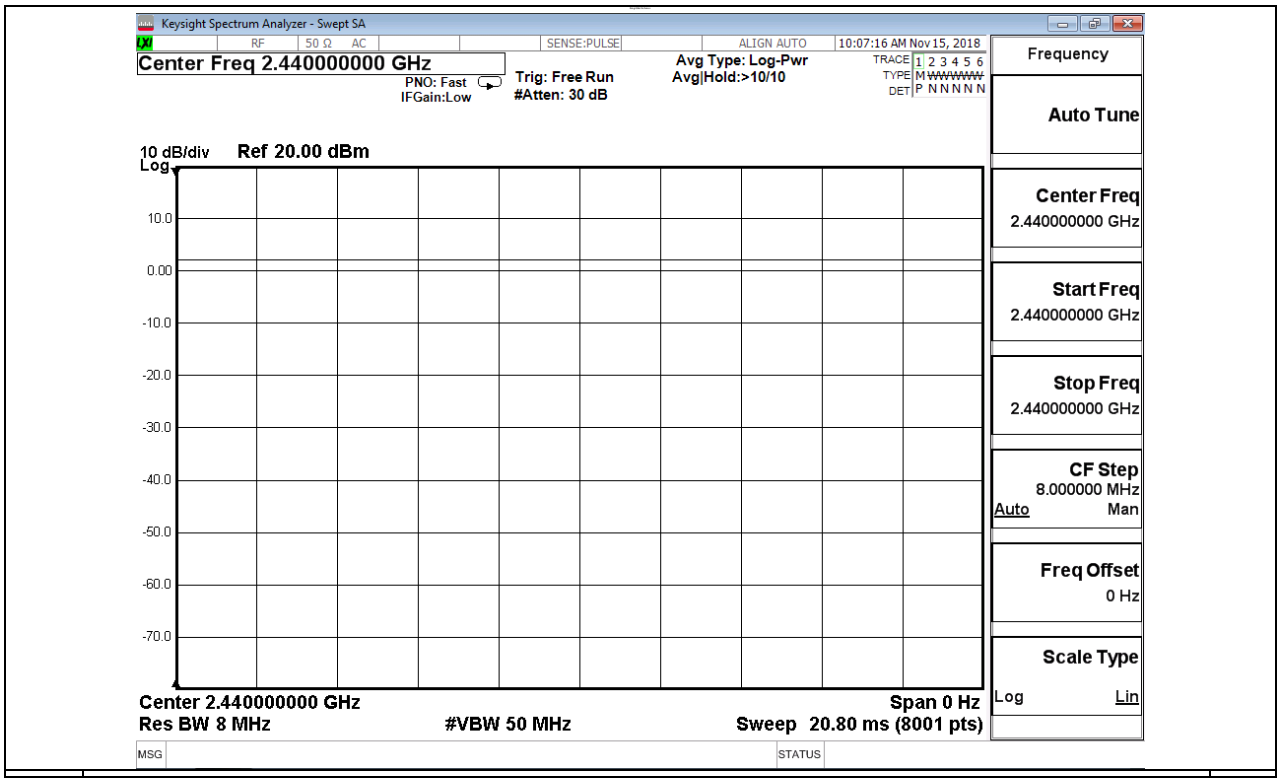
Test Model: BY51

Environmental Conditions

Temperature:	23.9 ° C
Relative Humidity:	54%
ATM Pressure:	100.0 kPa
Test Engineer:	Tom.Liu
Supervised by:	Jayden.Zhuo

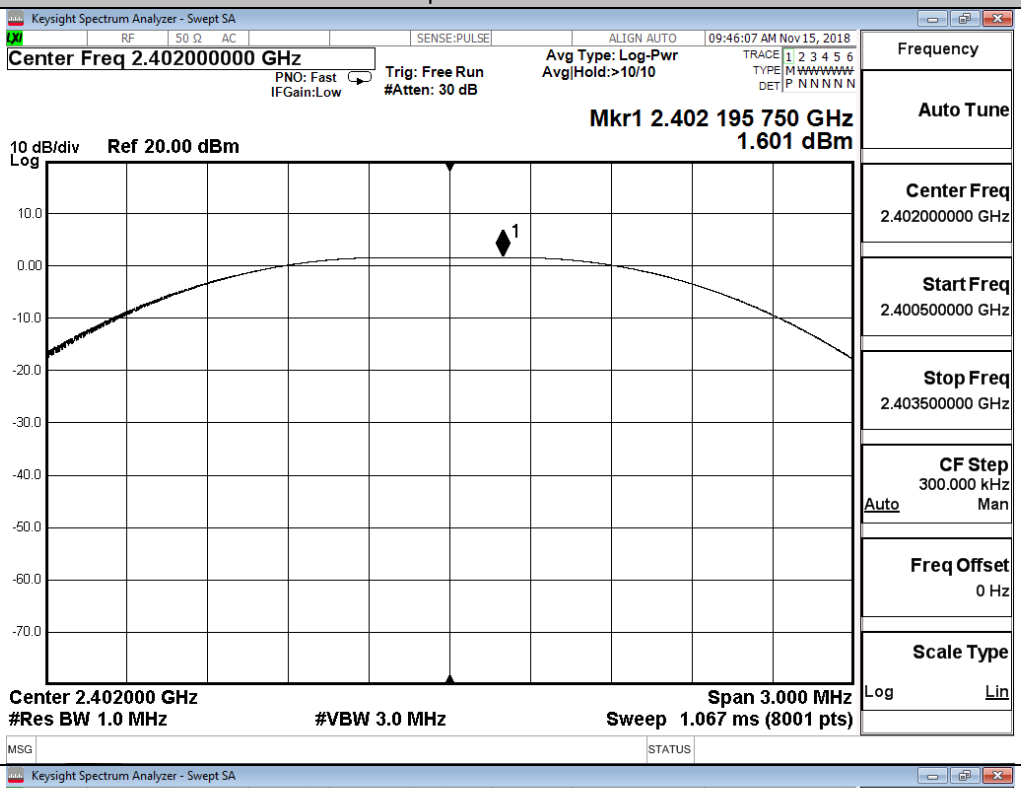
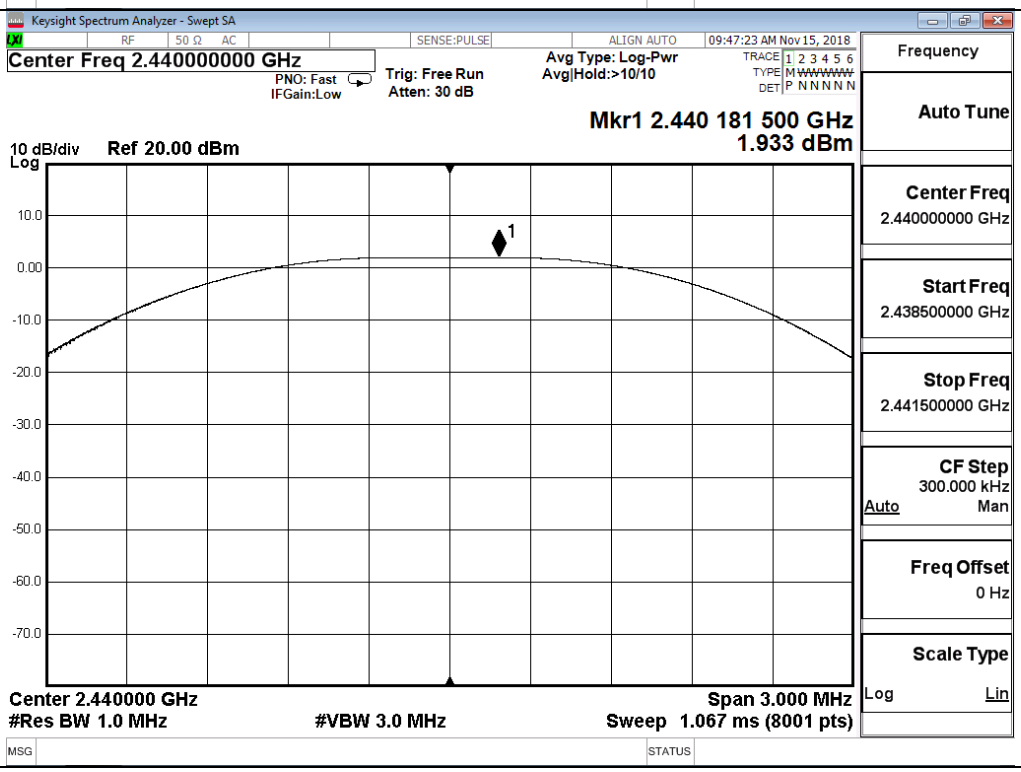
B.1 Duty Cycle

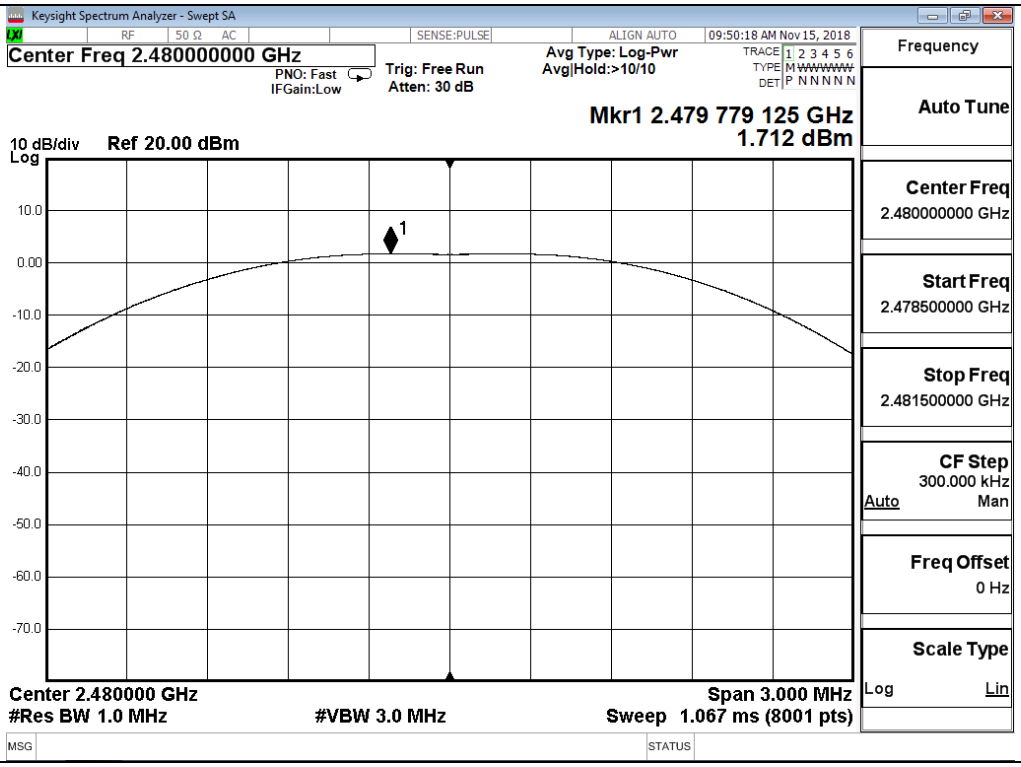
Test Mode	Test Channel	Ant	Duty Cycle[%]	Verdict
BT LE	2440	Ant1	100	PASS



B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.601	30	PASS
BT LE	MCH	1.933	30	PASS
BT LE	HCH	1.712	30	PASS

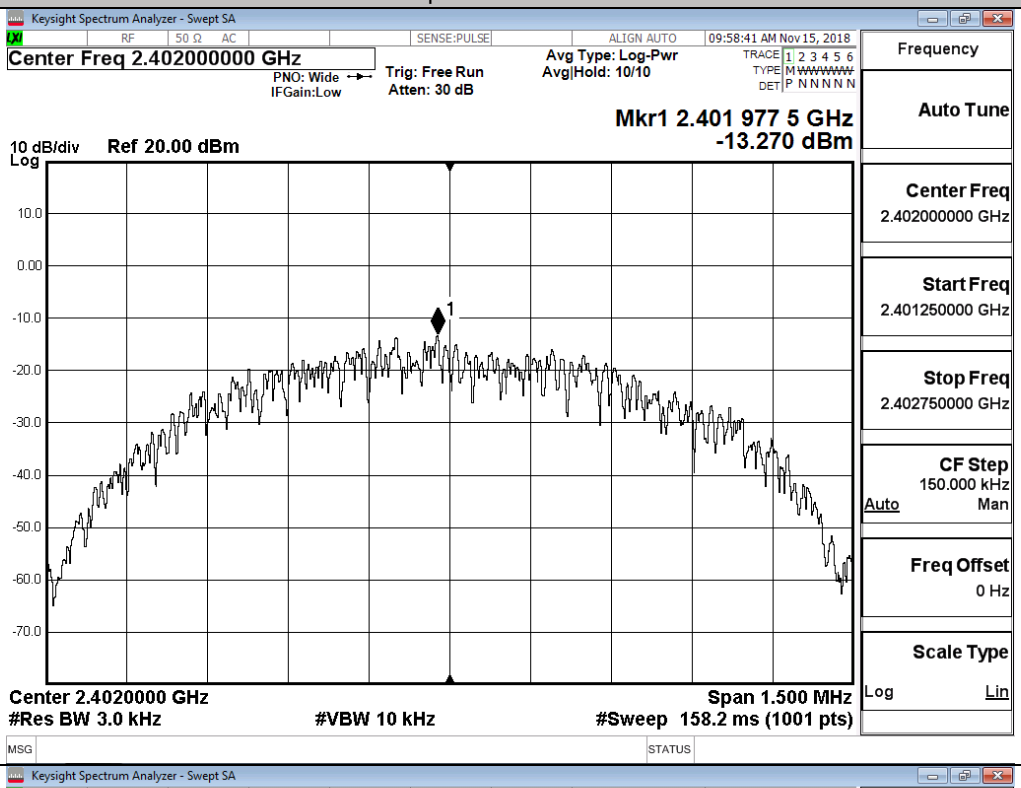
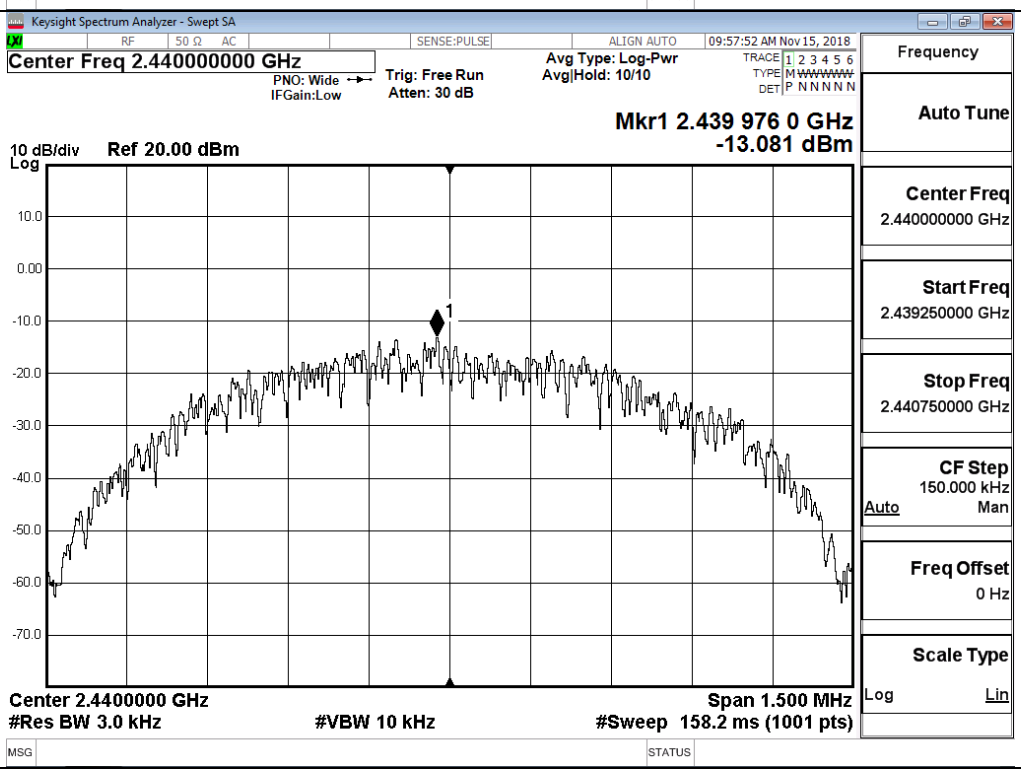
Test Graphs	
LCH	
MCH	

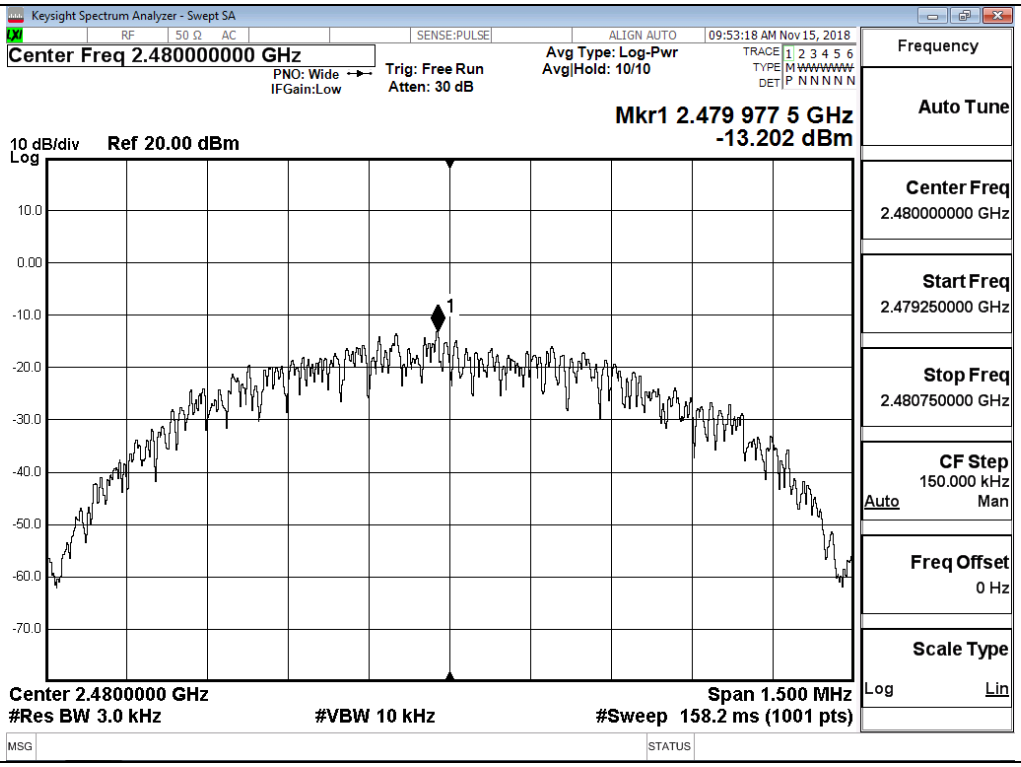
HCH	

Keysight Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
09:50:18 AM Nov 15, 2018
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 2.479 779 125 GHz
1.712 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	-13.270	8	PASS
BT LE	MCH	-13.081	8	PASS
BT LE	HCH	-13.202	8	PASS

Test Graphs	
LCH	
MCH	

HCH	

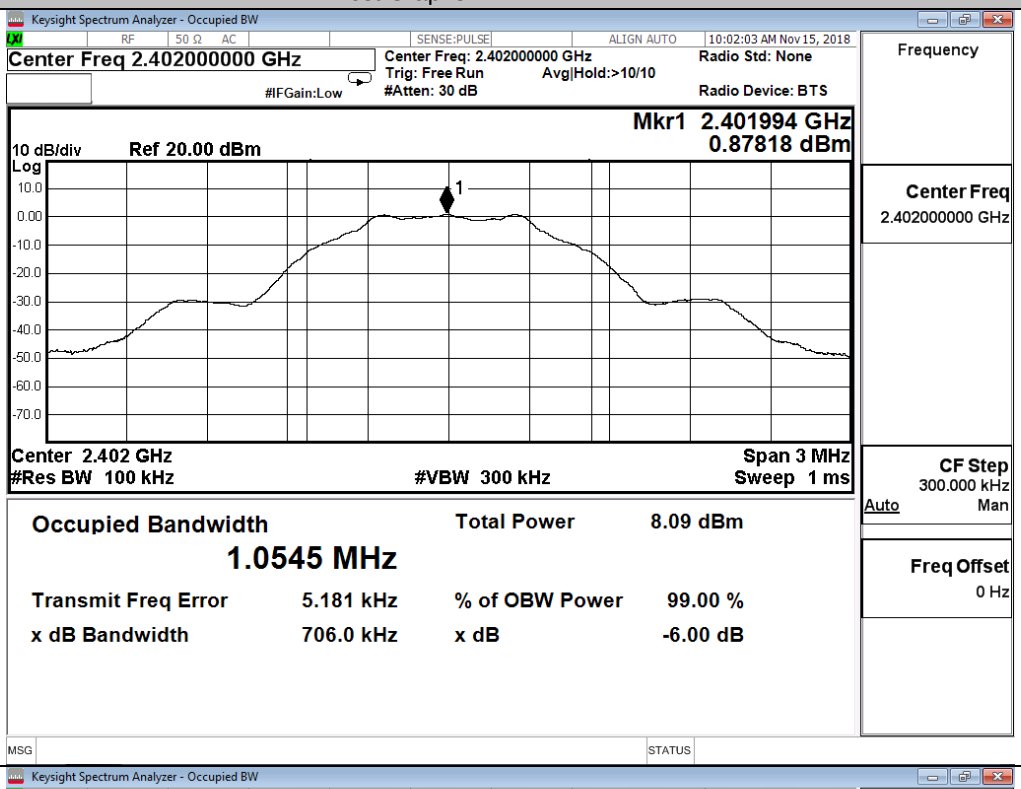
Keysight Spectrum Analyzer - Swept SA
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
09:53:18 AM Nov 15, 2018
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
TRACE 1 2 3 4 5 6
TYPE M WWWWWW
DET P N N N N N
Mkr1 2.479 977 5 GHz
-13.202 dBm
10 dB/div Ref 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 158.2 ms (1001 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

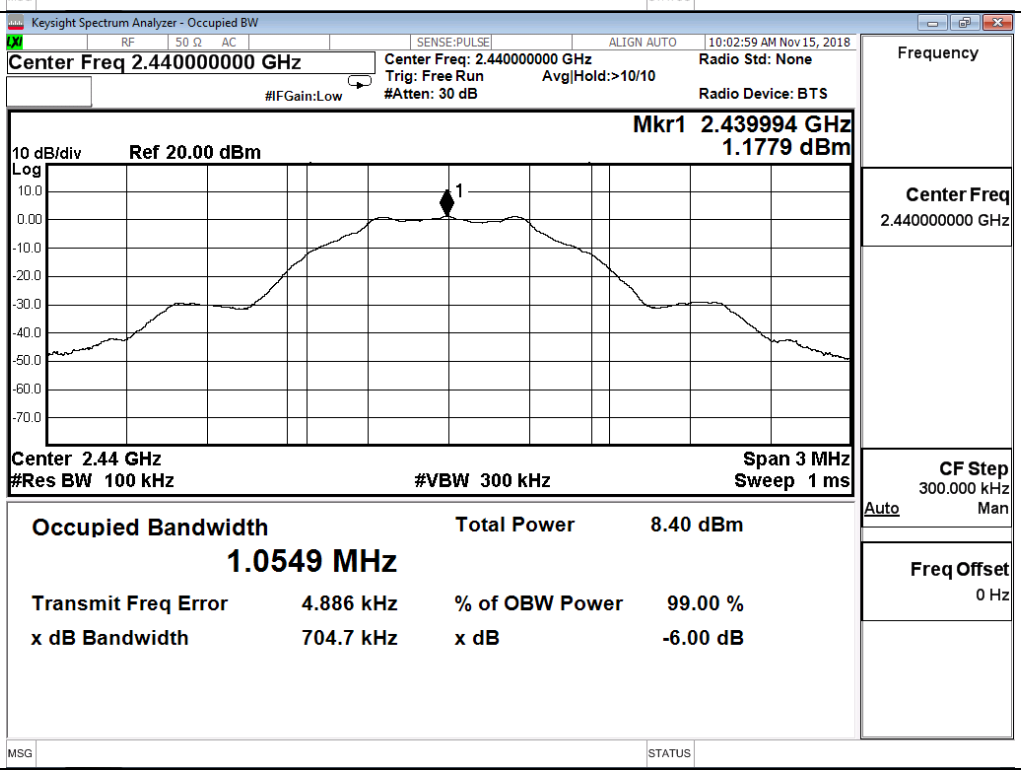
Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.7060	≥0.5	PASS
BT LE	MCH	0.7047	≥0.5	PASS
BT LE	HCH	0.6961	≥0.5	PASS

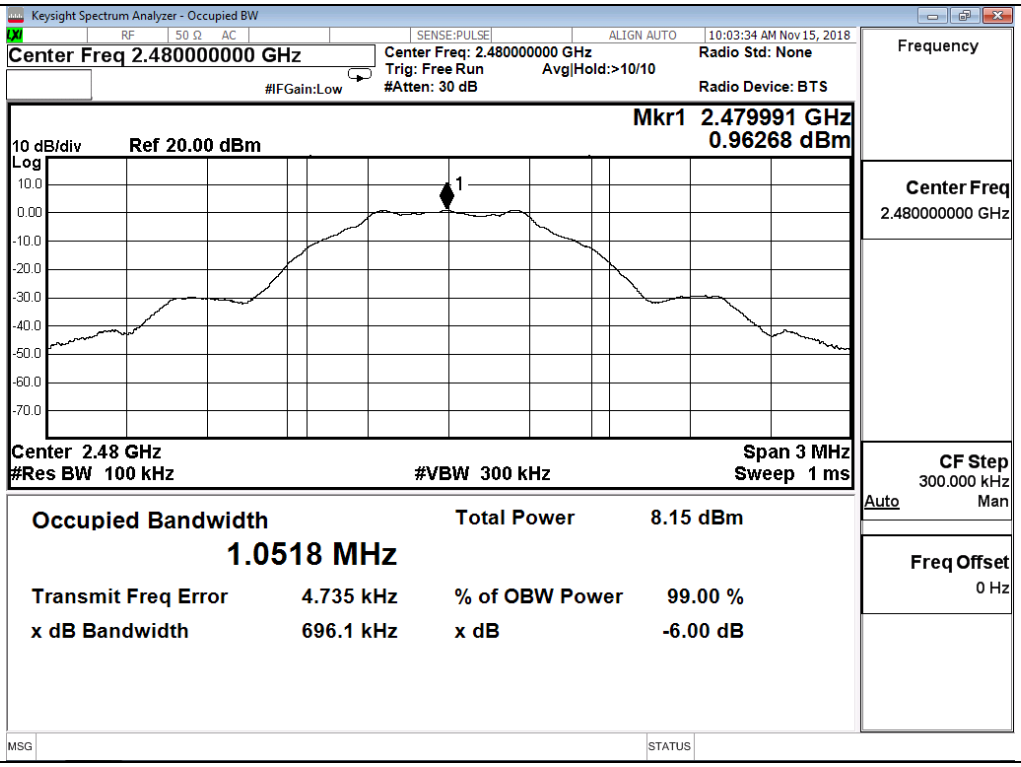
Test Graphs

LCH



MCH

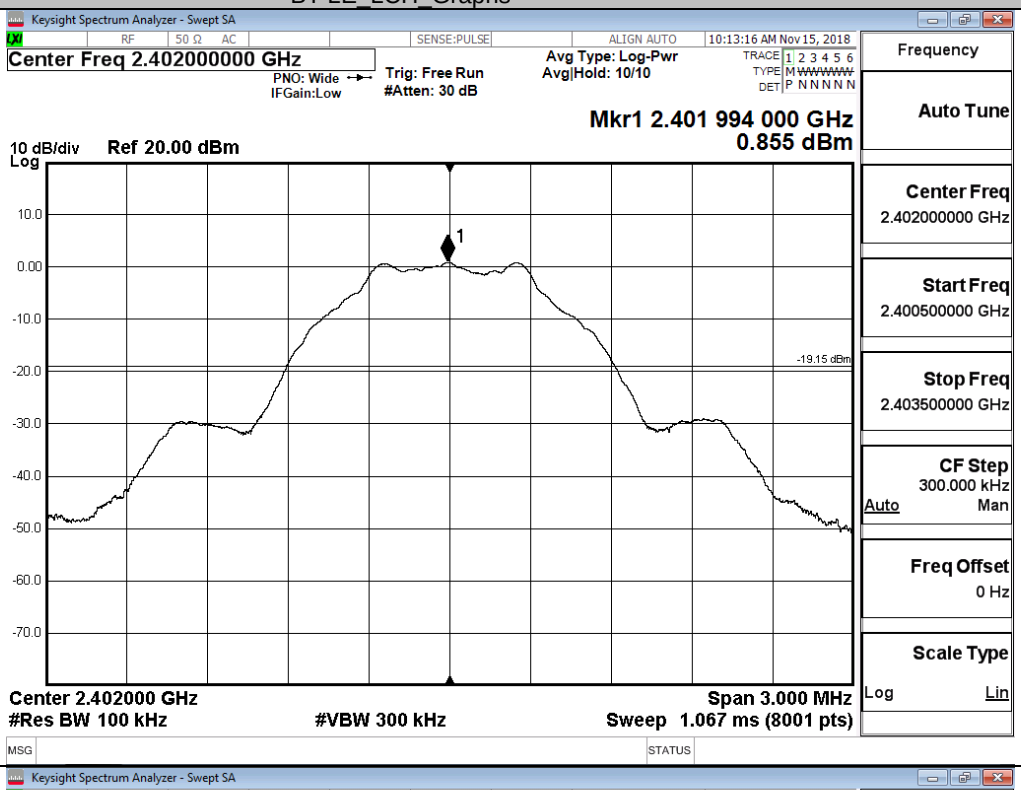
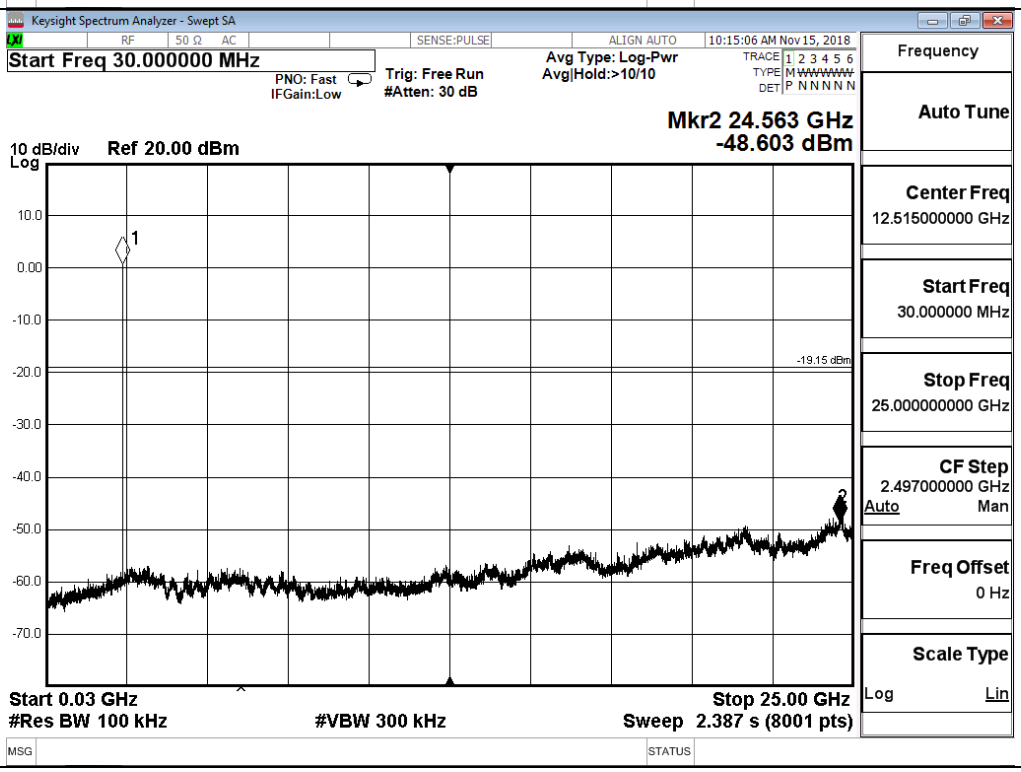


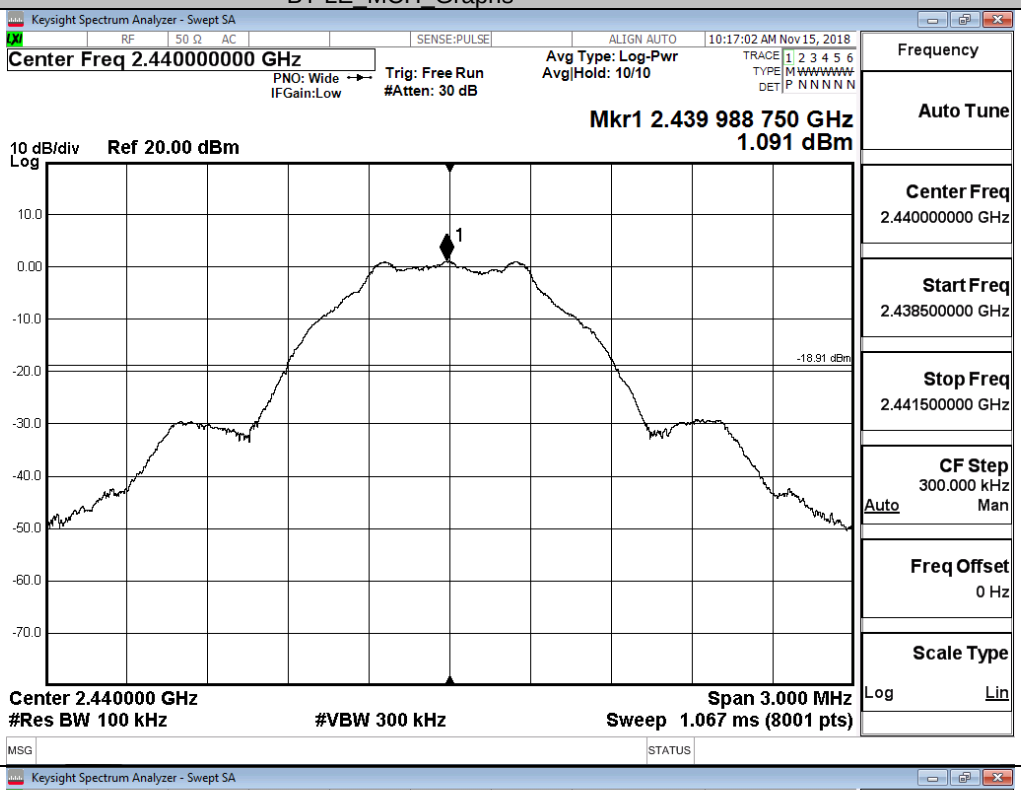
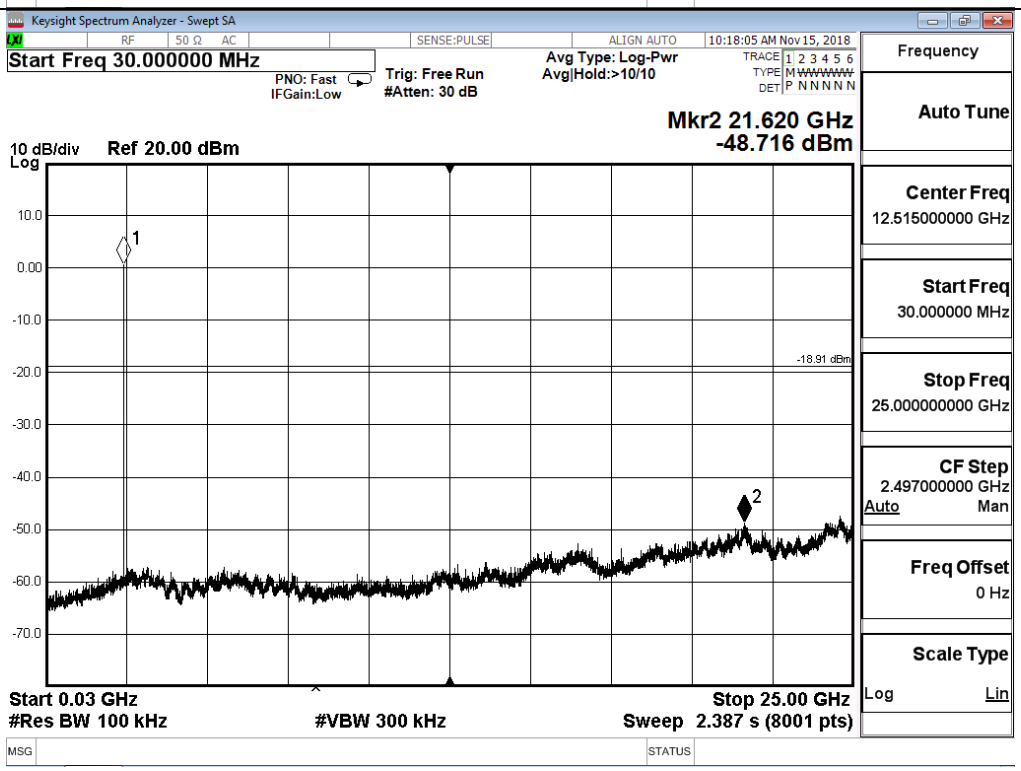
HCH	

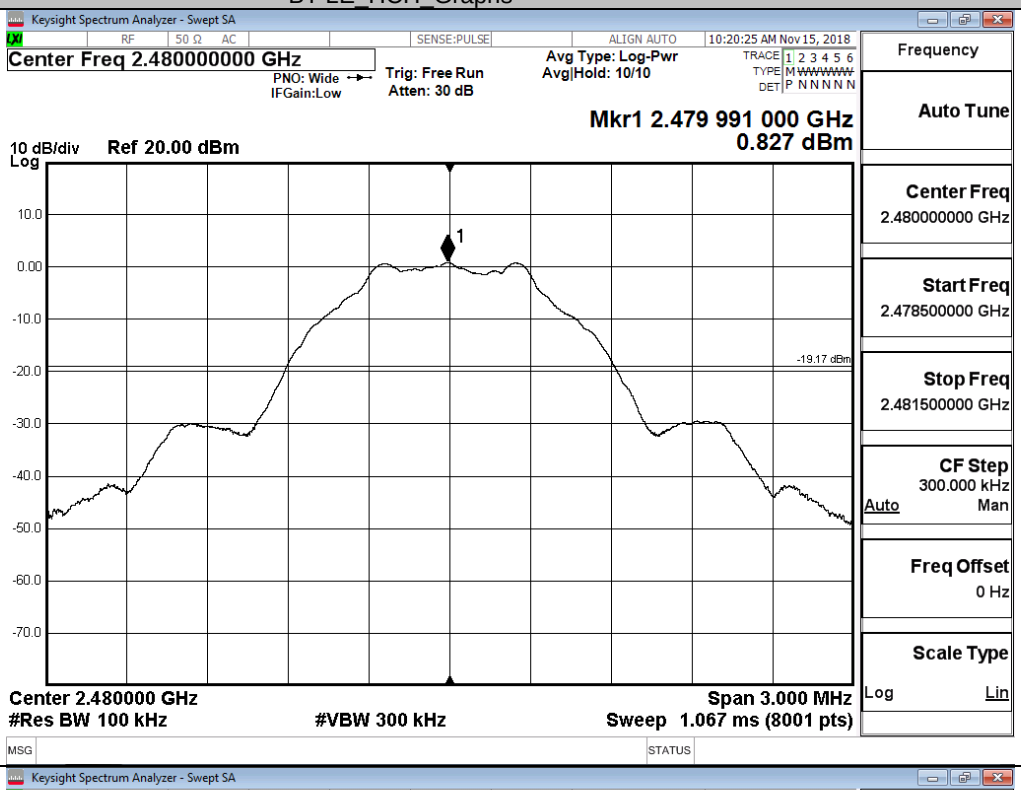
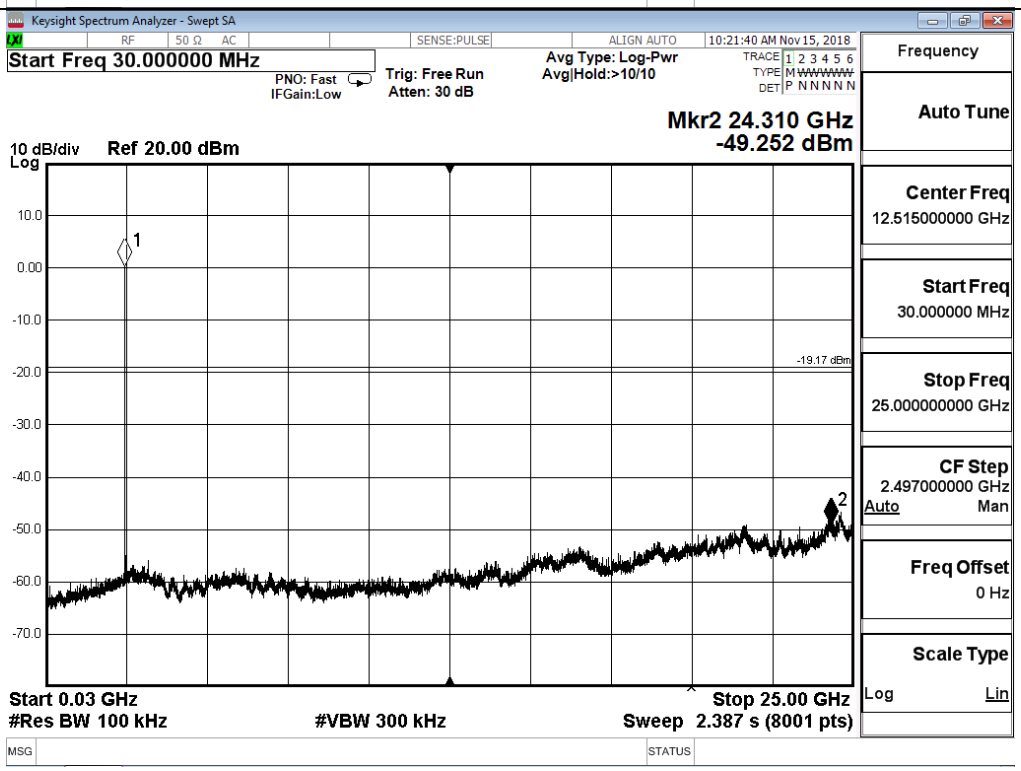
Keysight Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:PULSE
ALIGN AUTO
10:03:34 AM Nov 15, 2018
Center Freq 2.480000000 GHz
#IFGain:Low
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 30 dB
Radio Std: None
Radio Device: BTS
Frequency
Mkr1 2.479991 GHz
0.96268 dBm
10 dB/div
Ref 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
1.0518 MHz
Total Power 8.15 dBm
Transmit Freq Error 4.735 kHz
% of OBW Power 99.00 %
x dB Bandwidth 696.1 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	0.855	-48.603	-19.15	PASS
BT LE	MCH	1.091	-48.716	-18.91	PASS
BT LE	HCH	0.827	-49.252	-19.17	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	

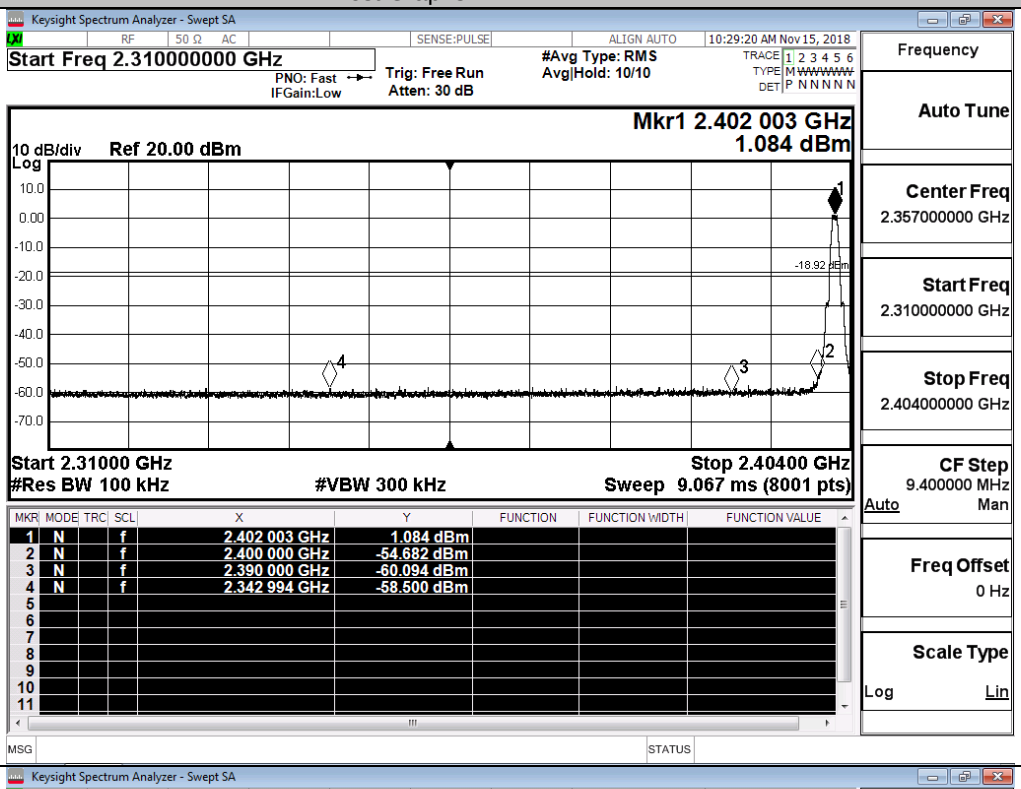
BT LE_HCH_Graphs	
Pref/BT LE/HCH	
Puw/BT LE/HCH	

B.6 Band-edge for RF Conducted Emissions

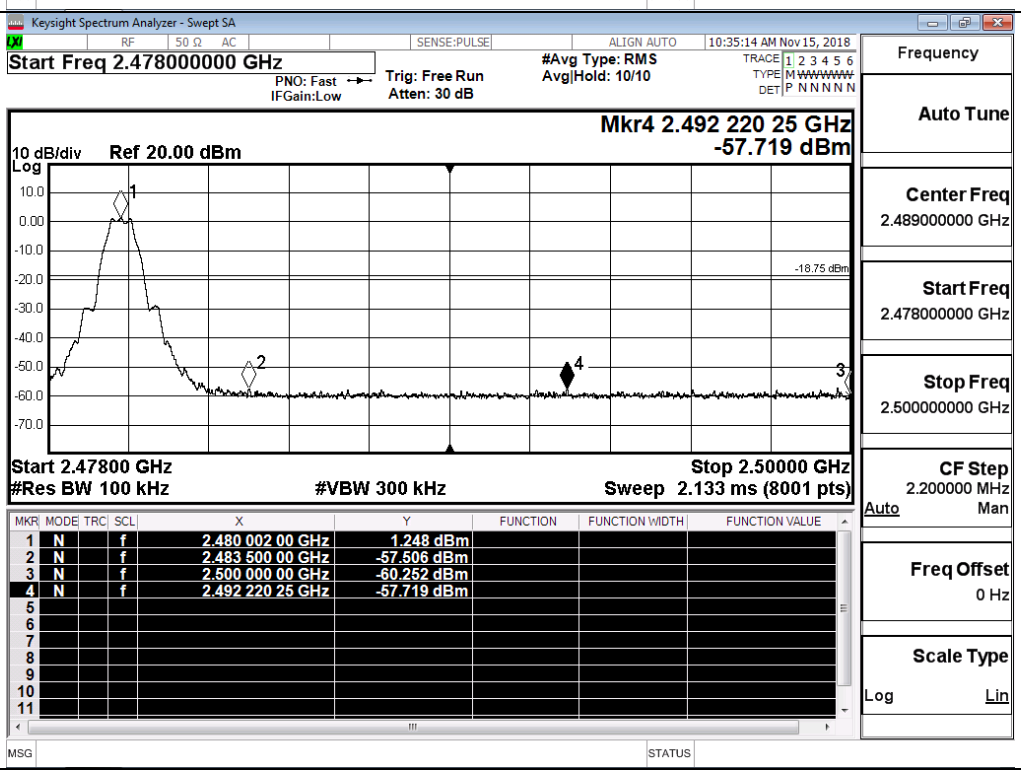
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	1.084	-58.500	-18.92	PASS
BT LE	HCH	1.248	-57.719	-18.75	PASS

Test Graphs

LCH



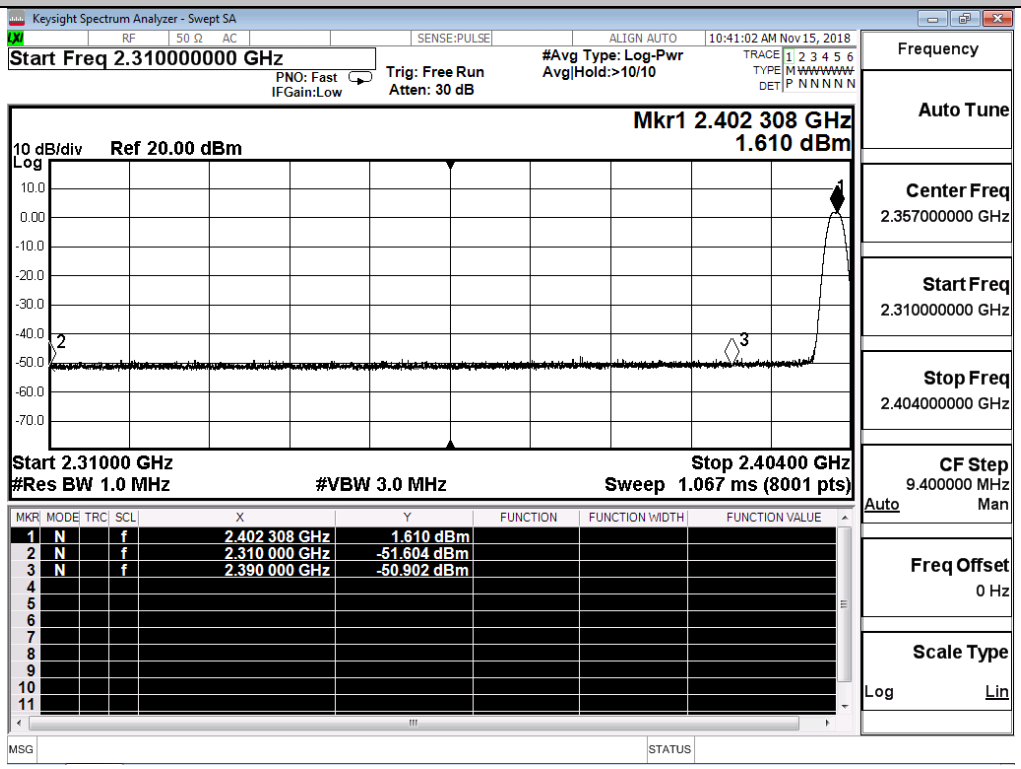
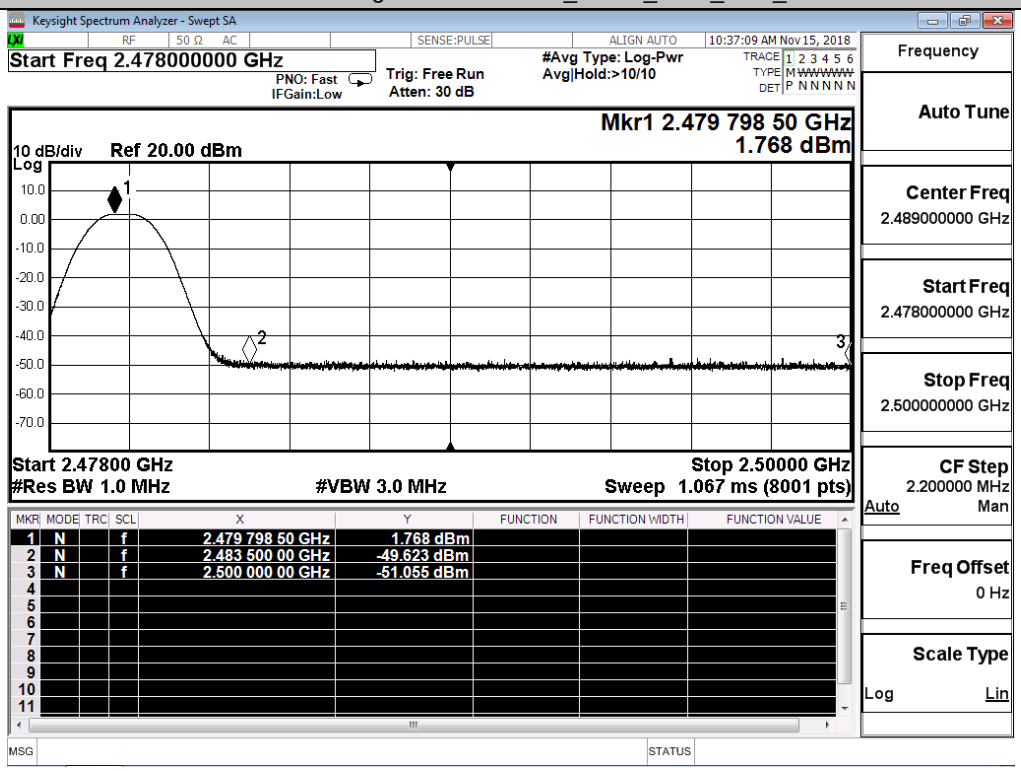
HCH



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	-51.604	2.0	0	45.66	PEAK	74	PASS
		Ant1	2390.0	-50.902	2.0	0	46.36	PEAK	74	PASS
	2480	Ant1	2483.5	-49.623	2.0	0	47.64	PEAK	74	PASS
		Ant1	2500.0	-51.055	2.0	0	46.21	PEAK	74	PASS

Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



Restrict-band band-edge measurements_BT LE_2480_Ant1_PEAK