

Appendix B

RF Test Data for BT V4.0(BDR/EDR) (Conducted Measurement)

Product Name: HyFlip

Trade Mark: Hyundai

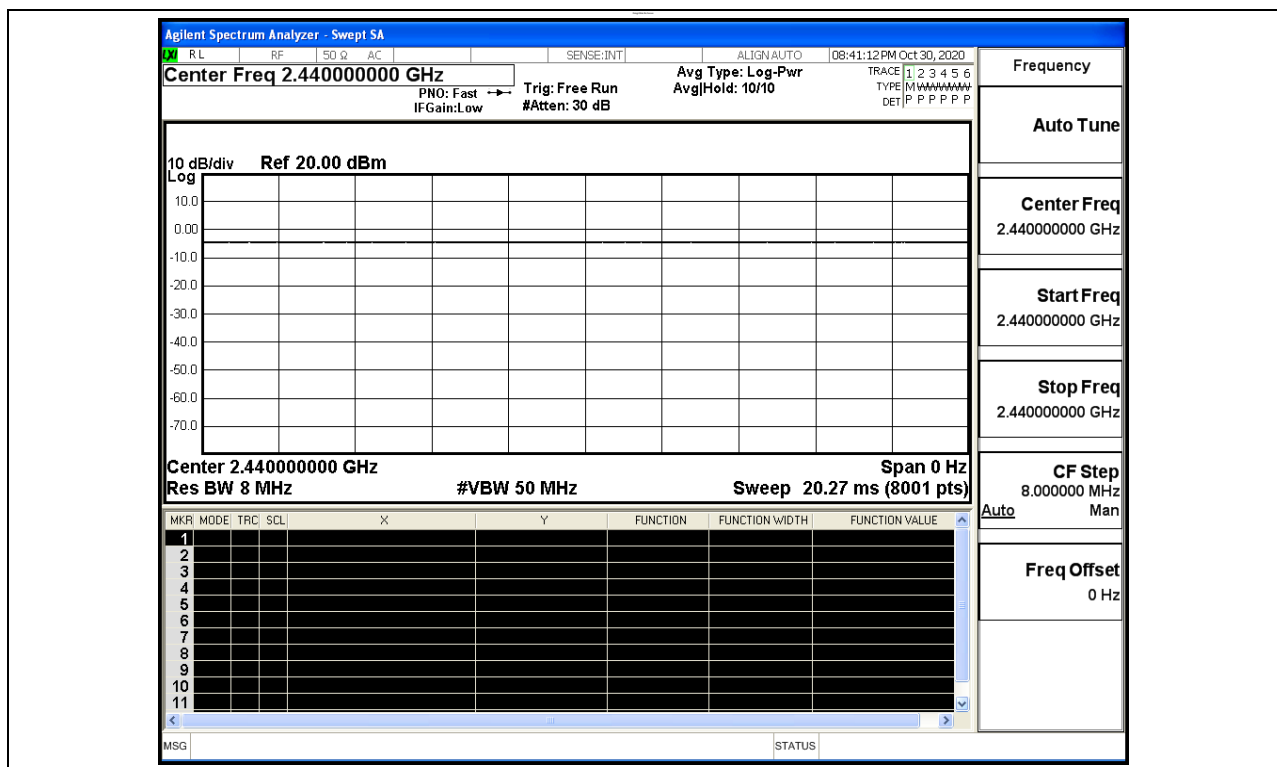
Test Model: HTLF14INC4Z1SSG

Environmental Conditions

Temperature:	24.2 ° C
Relative Humidity:	53.6%
ATM Pressure:	100.0 kPa
Test Engineer:	Jenny Wu
Supervised by:	Li Huan

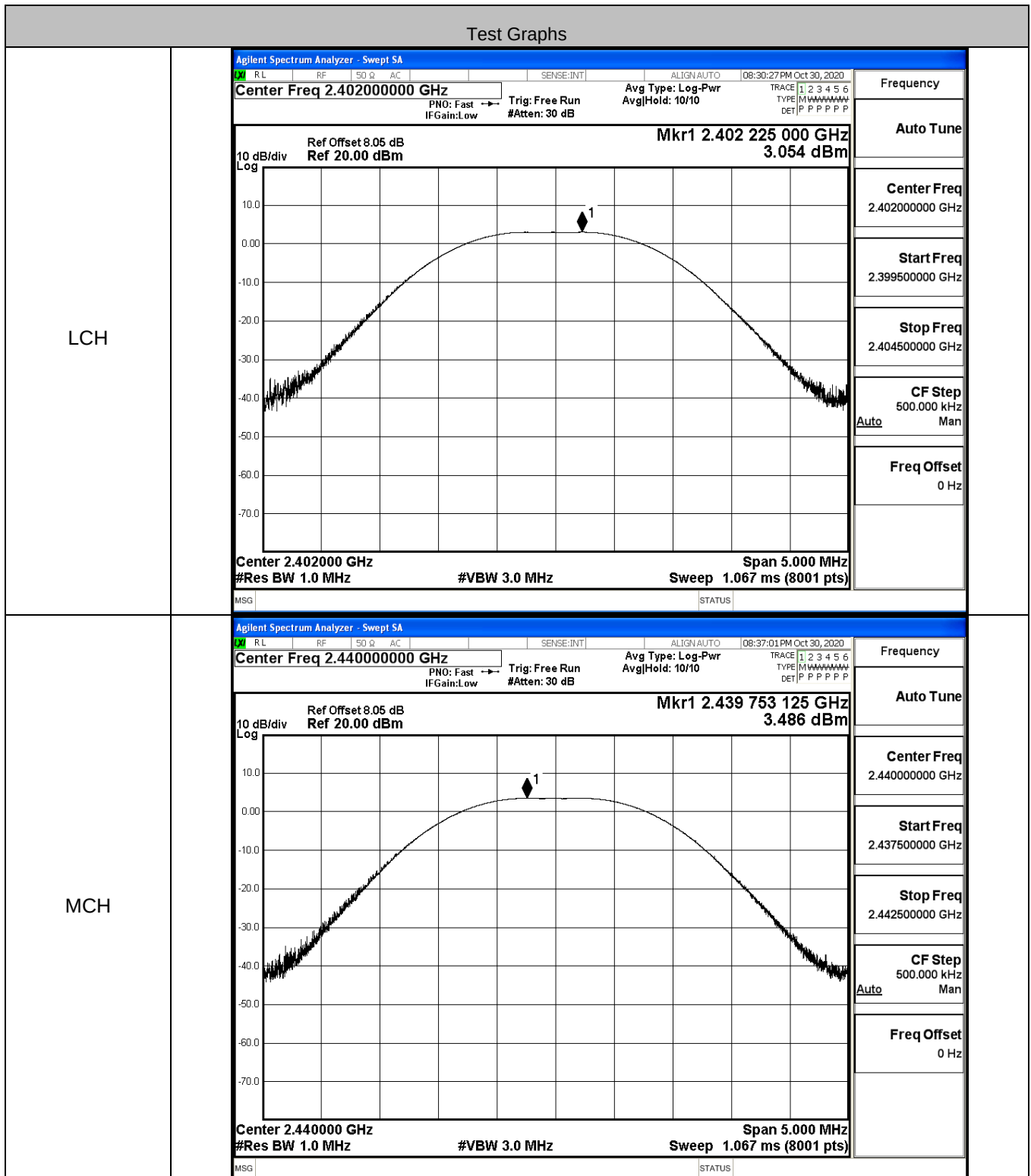
B.1 Duty Cycle

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

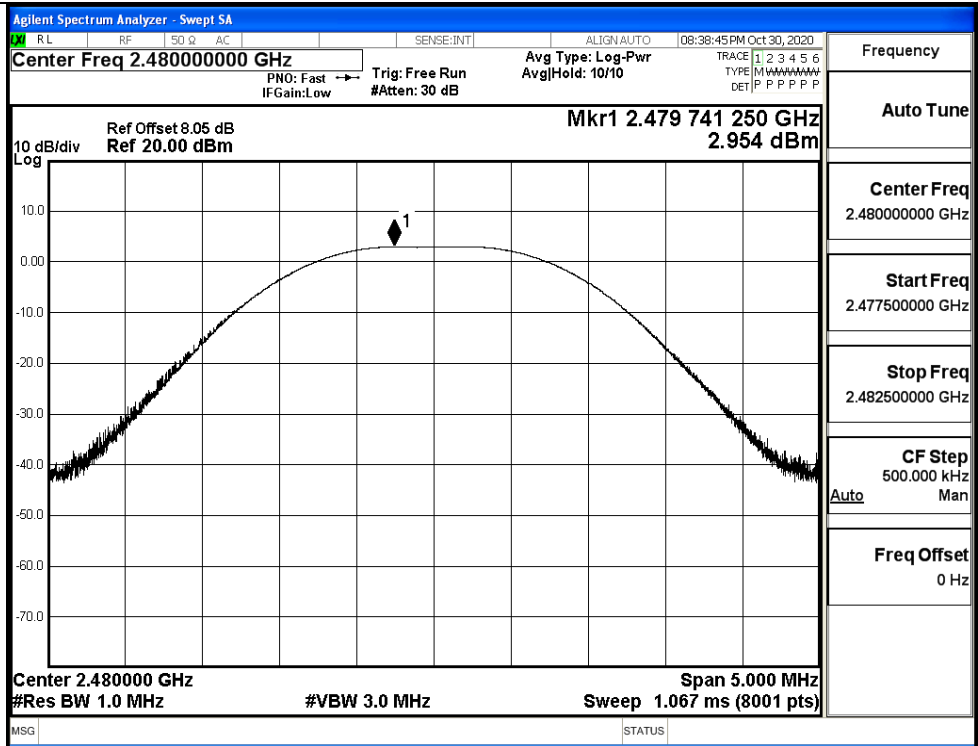


B.2 Maximum Conducted Peak Output Power

Mode	Channel	Conduct Peak Power[dBm]	Limit [dBm]	Verdict
BT LE	LCH	3.054	30	PASS
BT LE	MCH	3.486	30	PASS
BT LE	HCH	2.954	30	PASS

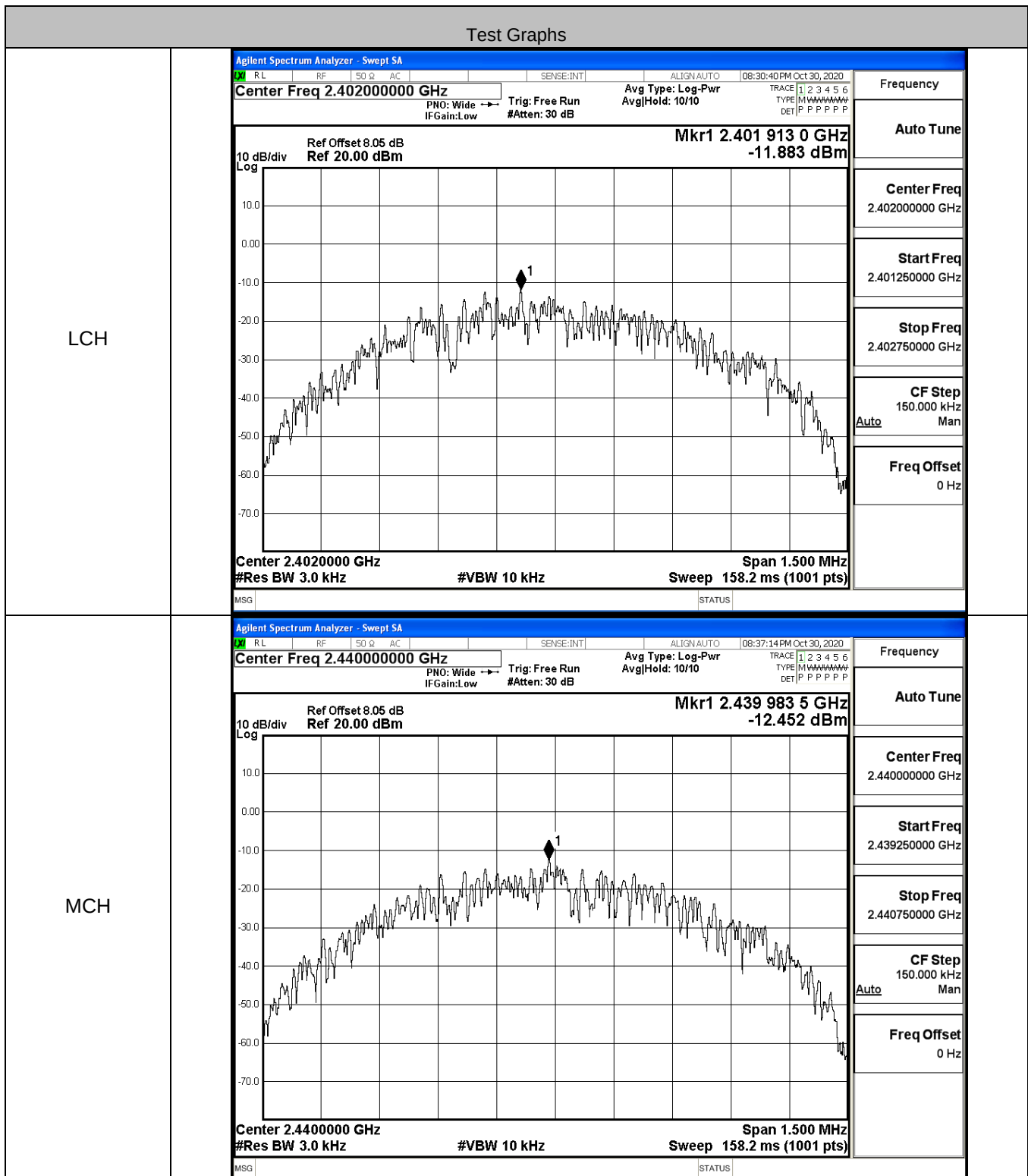


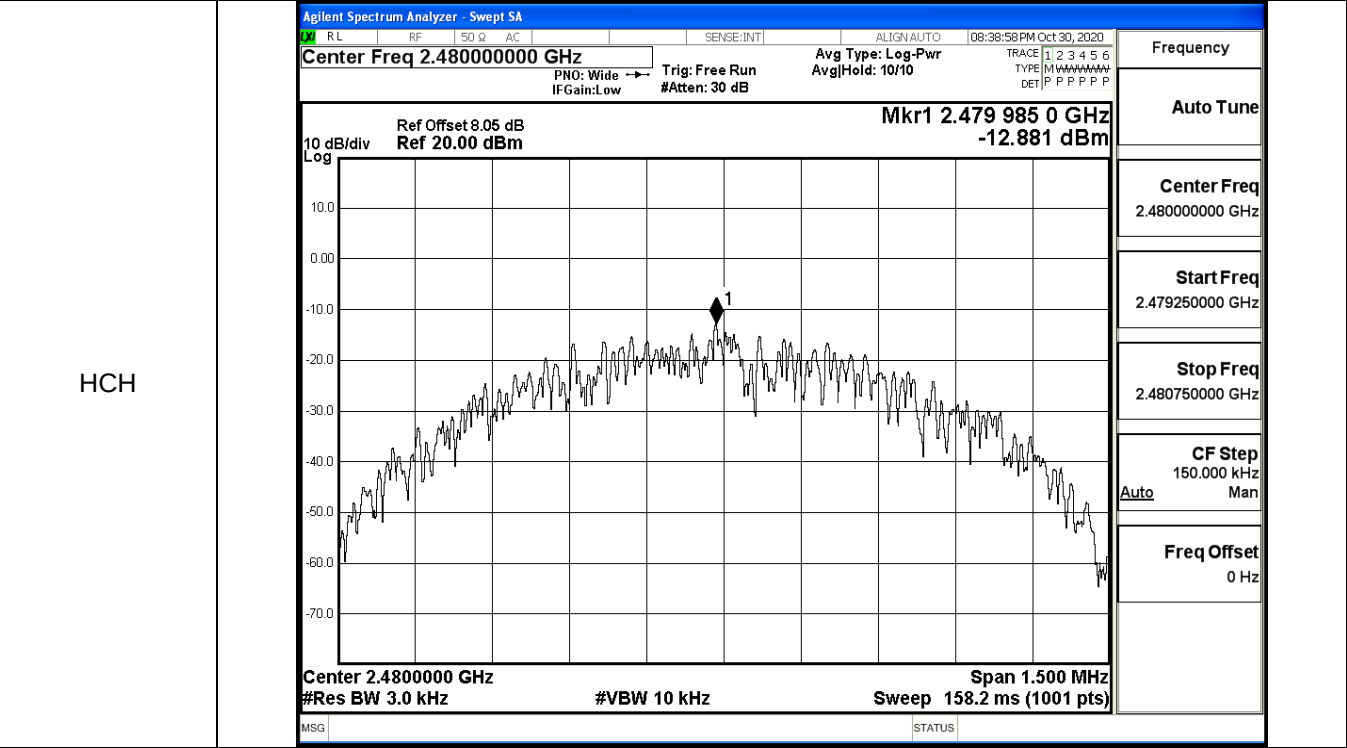
HCH



B.3 Maximum Power Spectral Density

Mode	Channel	PSD [dBm/3KHz]	Limit [dBm/3KHz]	Verdict
BT LE	LCH	-11.883	8	PASS
BT LE	MCH	-12.452	8	PASS
BT LE	HCH	-12.881	8	PASS



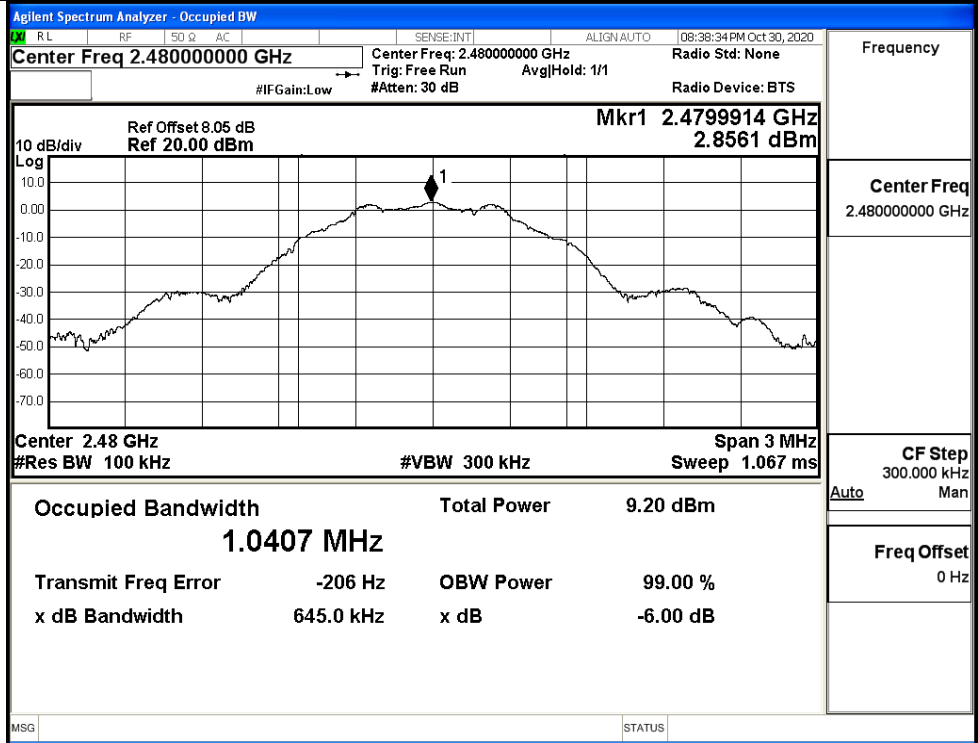


B.4 6dB Bandwidth

Mode	Channel	6dB Bandwidth [MHz]	Limit [MHz]	Verdict
BT LE	LCH	0.6504	≥ 0.5	PASS
BT LE	MCH	0.6472	≥ 0.5	PASS
BT LE	HCH	0.6450	≥ 0.5	PASS

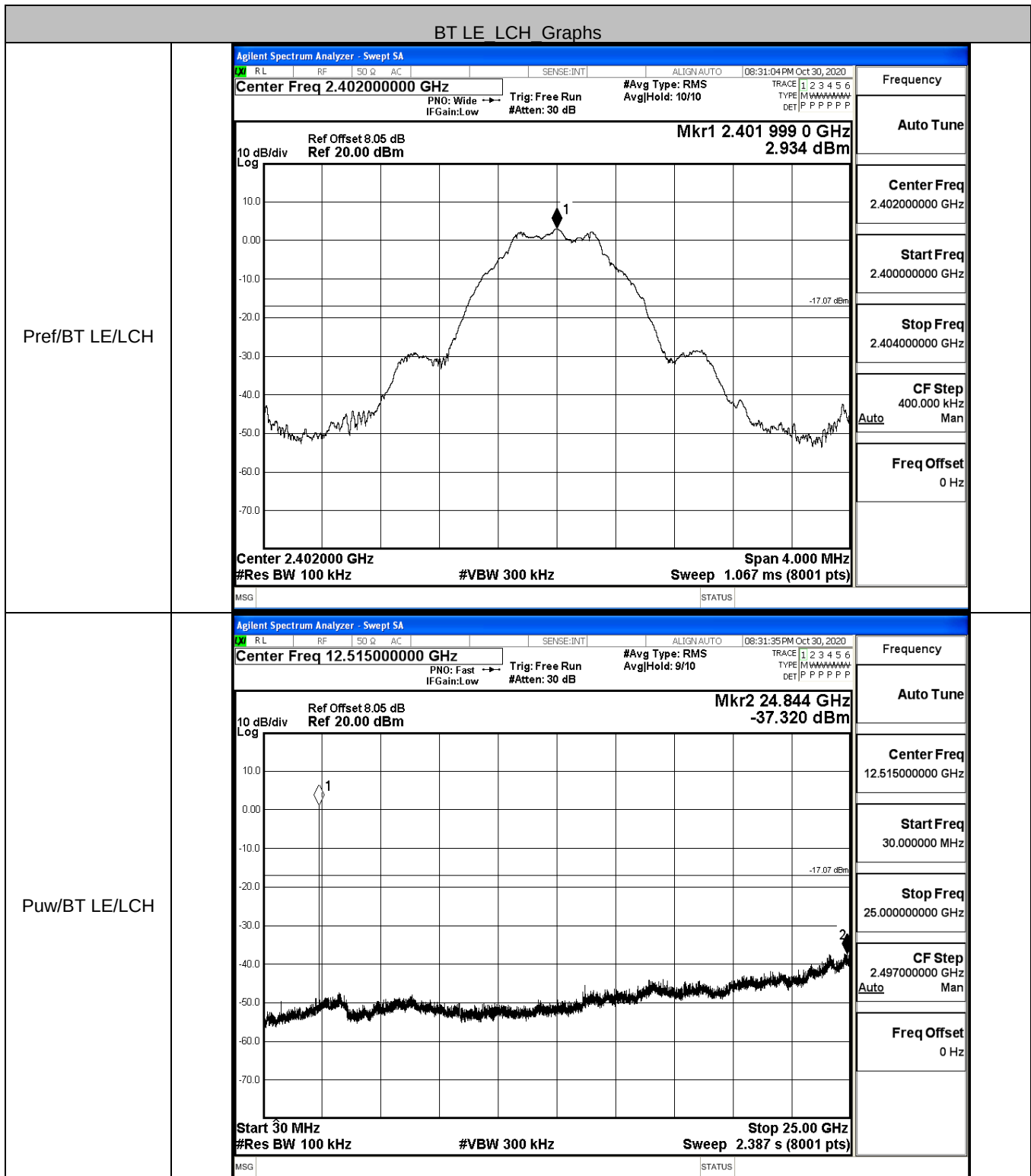
Test Graphs			
LCH		Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 08:30:16 PM Oct 30, 2020 Center Freq 2.402000000 GHz Center Freq: 2.402000000 GHz Radio Std: None Trig: Free Run AvgHold: 1/1 #IFGain: Low #Atten: 30 dB Radio Device: BTS Ref Offset 8.05 dB Mkr1 2.4019951 GHz Ref 20.00 dBm 2.9278 dBm Center 2.402 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms Occupied Bandwidth Total Power 9.38 dBm 1.0437 MHz Transmit Freq Error -9.785 kHz OBW Power 99.00 % x dB Bandwidth 650.4 kHz x dB -6.00 dB MSG STATUS	Frequency Center Freq 2.402000000 GHz CF Step 300.000 kHz Man Freq Offset 0 Hz
		Agilent Spectrum Analyzer - Occupied BW RL RF 50 Ω AC SENSE:INT ALIGN: AUTO 08:34:59 PM Oct 30, 2020 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 Ref Offset 8.05 dB Mkr1 2.4399888 GHz Ref 20.00 dBm 3.3847 dBm Center 2.44 GHz Span 3 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 1.067 ms Occupied Bandwidth Total Power 9.84 dBm 1.0516 MHz Transmit Freq Error -4.112 kHz OBW Power 99.00 % x dB Bandwidth 647.2 kHz x dB -6.00 dB MSG STATUS	Frequency Center Freq 2.440000000 GHz CF Step 300.000 kHz Man Freq Offset 0 Hz
MCH			

HCH



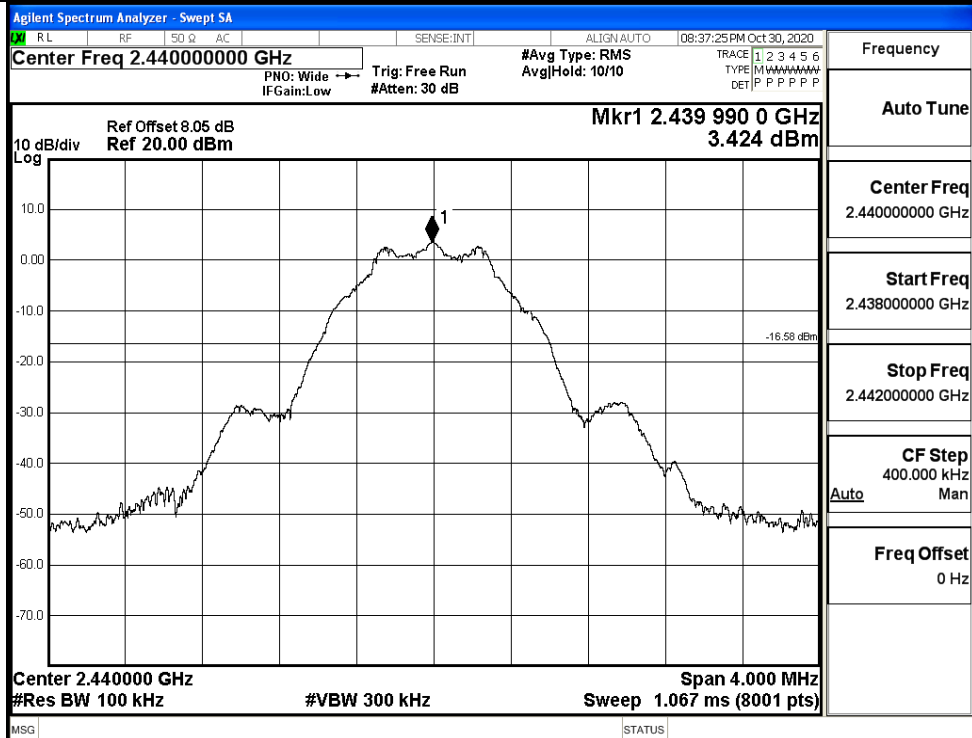
B.5 RF Conducted Spurious Emissions

Mode	Channel	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	2.934	-37.320	-17.066	PASS
BT LE	MCH	3.424	-37.100	-16.576	PASS
BT LE	HCH	2.813	-36.271	-17.187	PASS

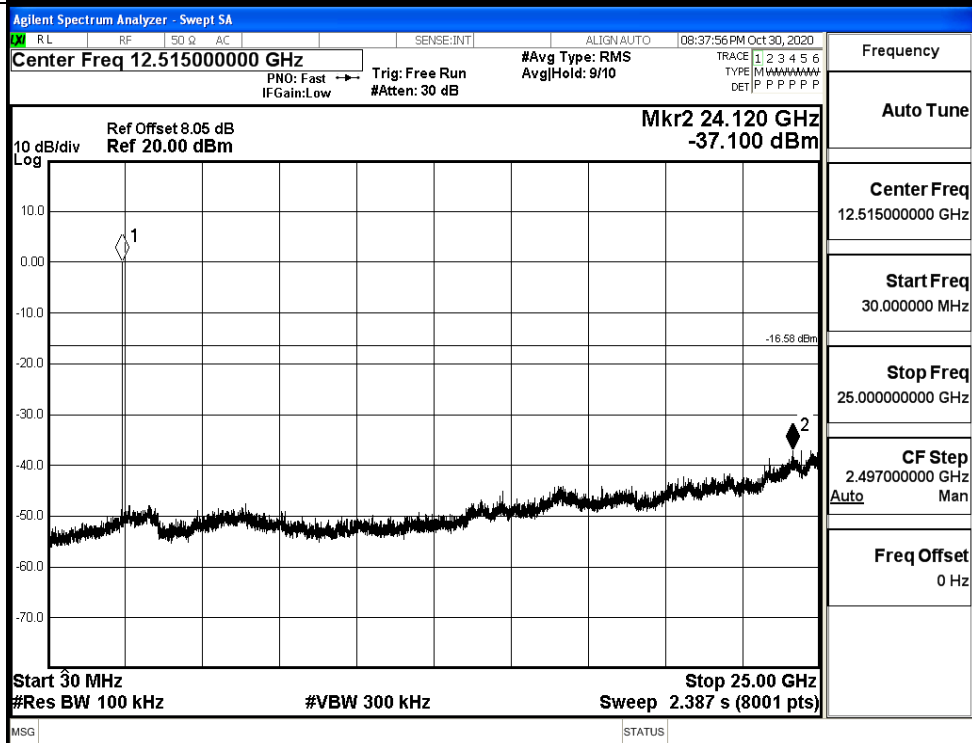


BT LE MCH Graphs

Pref/BT LE/MCH

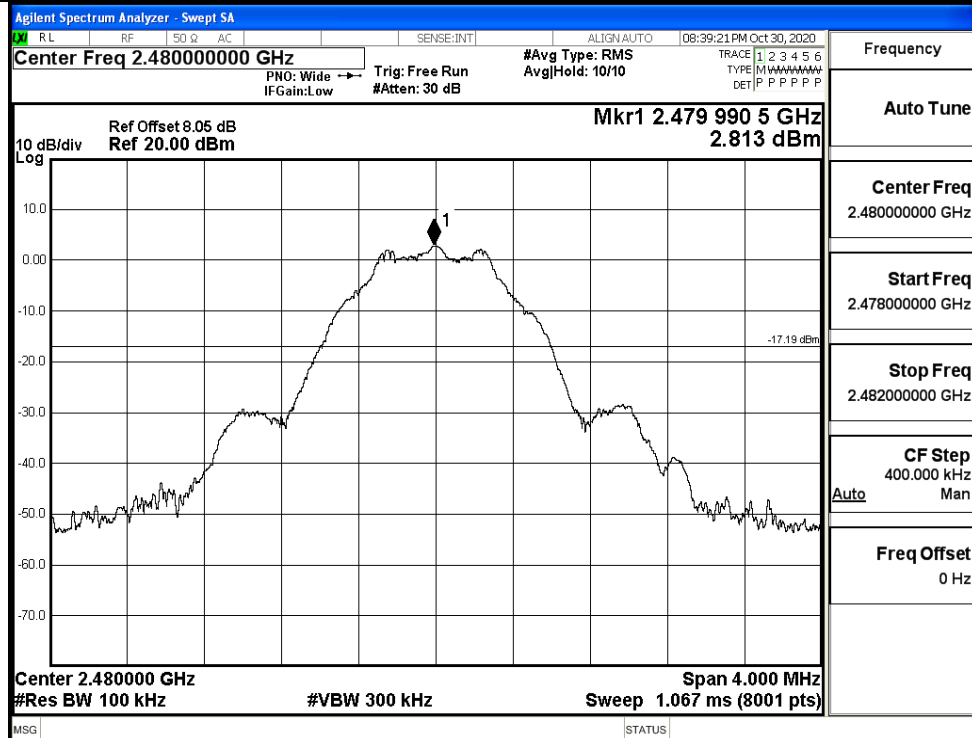


Puw/BT LE/MCH

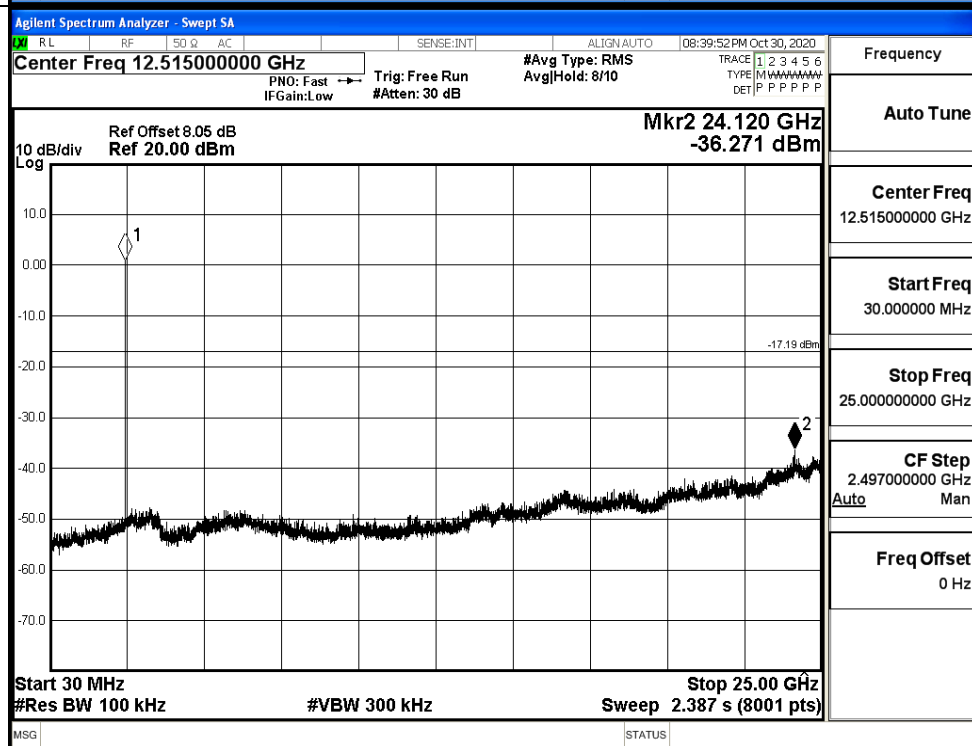


BT LE HCH Graphs

Pref/BT LE/HCH

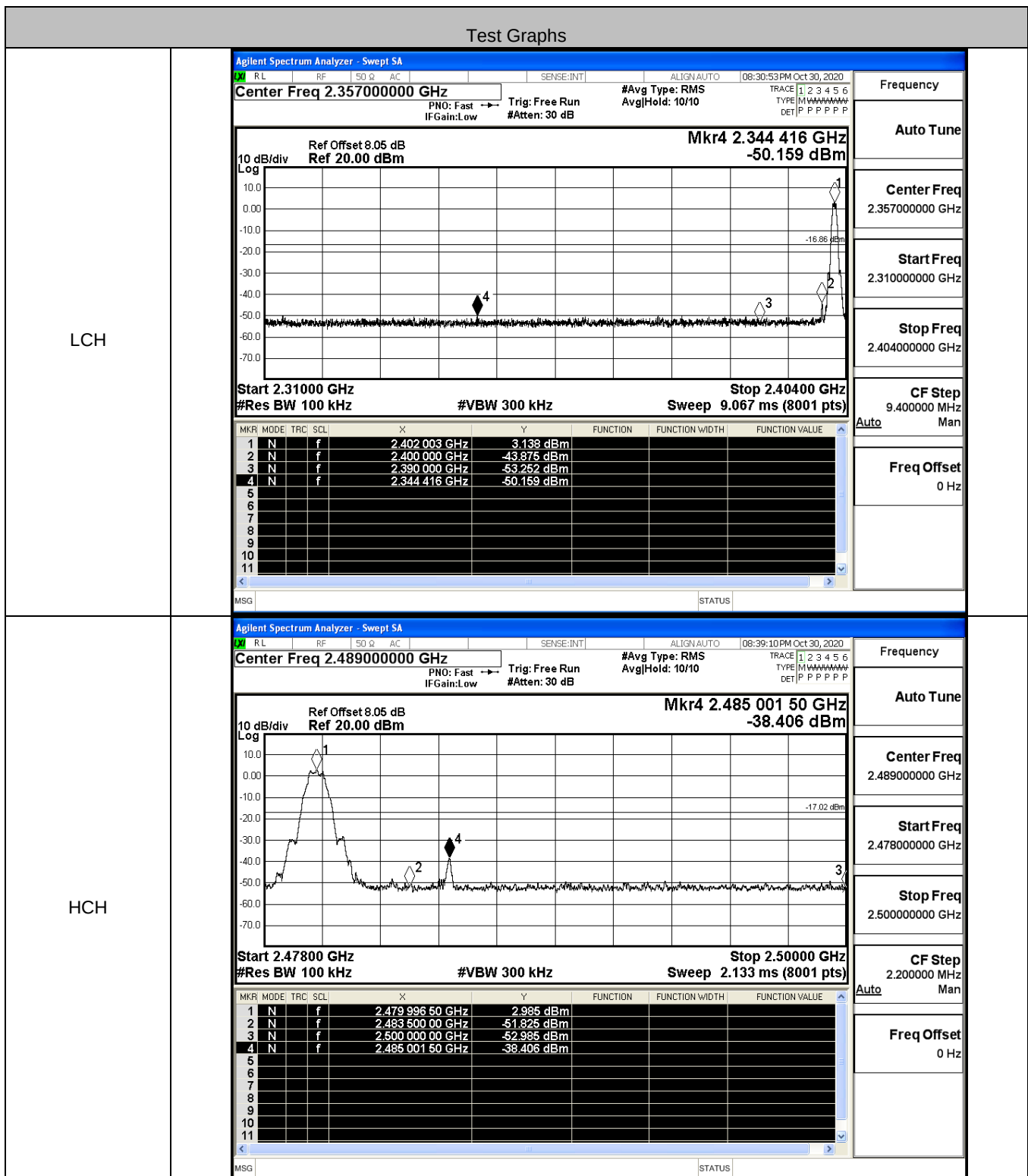


Puw/BT LE/HCH



B.6 Band-edge for RF Conducted Emissions

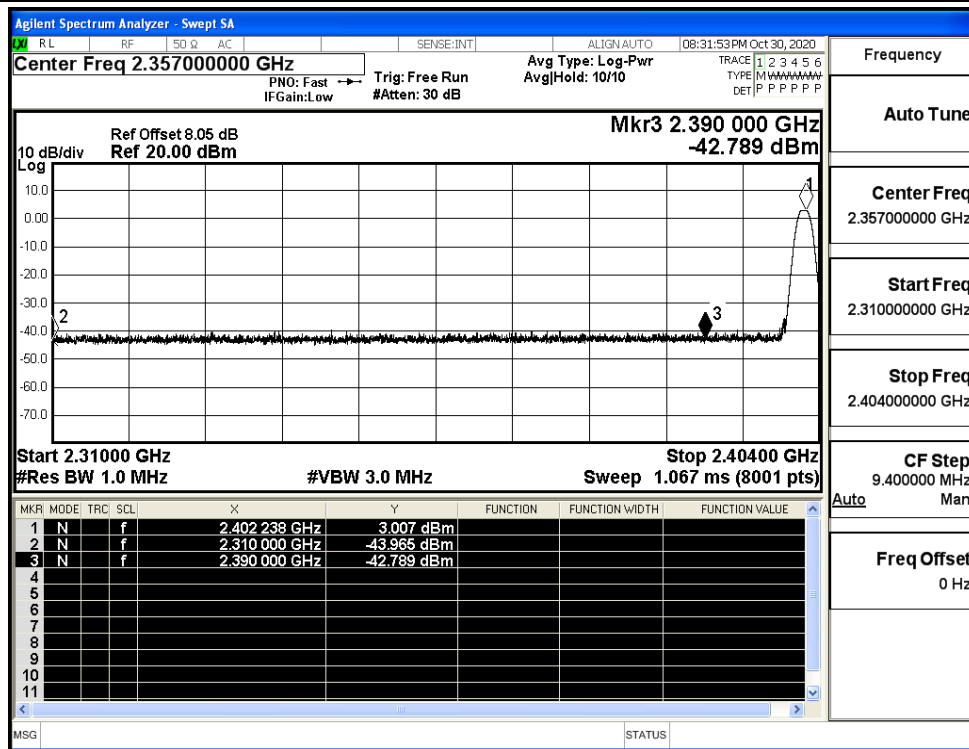
Mode	Channel	Carrier Power[dBm]	Max.Spurious Level [dBm]	Limit [dBm]	Verdict
BT LE	LCH	3.138	-50.159	-16.86	PASS
BT LE	HCH	2.985	-38.406	-17.02	PASS



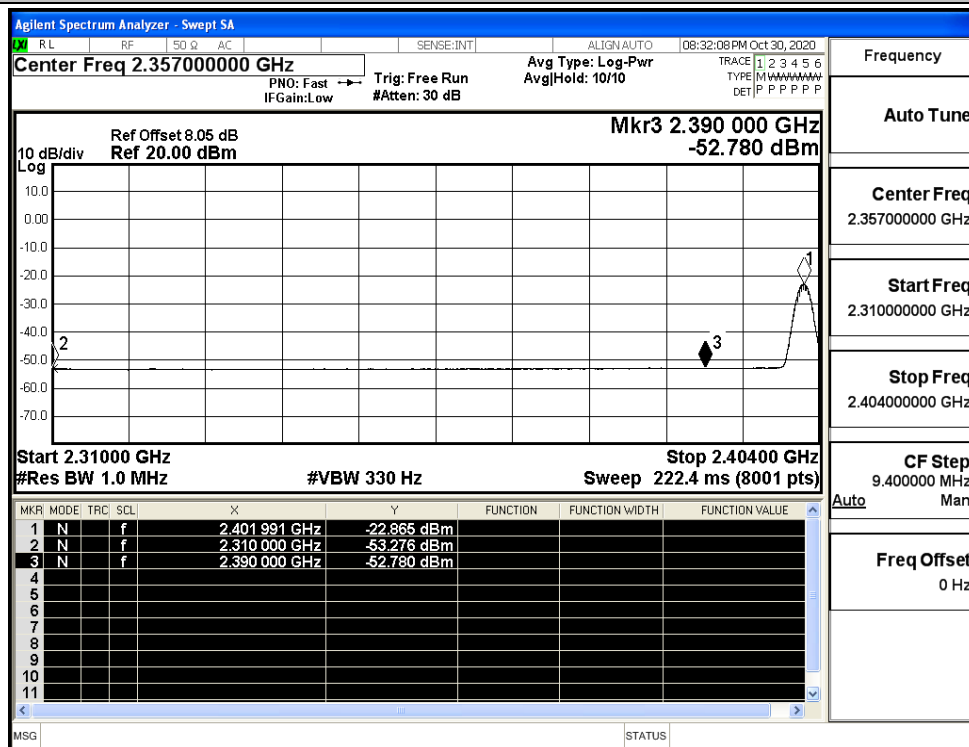
B.7 Restrict-band band-edge measurements

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	-43.97	2.05	0	53.34	PEAK	74	PASS
		Ant1	2310.0	-53.28	2.05	0	44.03	AV	54	PASS
		Ant1	2390.0	-42.79	2.05	0	54.52	PEAK	74	PASS
		Ant1	2390.0	-52.78	2.05	0	44.53	AV	54	PASS
	2480	Ant1	2483.5	-40.81	2.05	0	56.5	PEAK	74	PASS
		Ant1	2483.5	-52.42	2.05	0	44.89	AV	54	PASS
		Ant1	2500.0	-43.09	2.05	0	54.22	PEAK	74	PASS
		Ant1	2500.0	-52.31	2.05	0	45	AV	54	PASS

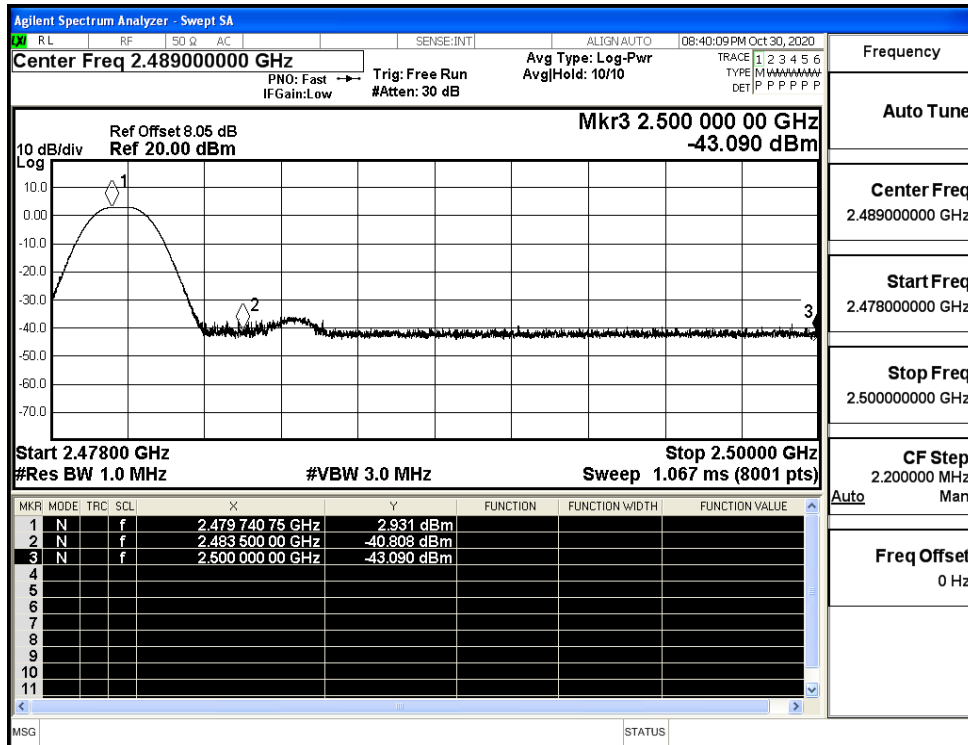
Restrict-band band-edge measurements_BT LE_2402_Ant1_PEAK



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

