

Appendix A
RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Neckband

Trade Mark: Vivitar

Test Model: V40049BT

FCC ID: 2AL9B-V40049-BT

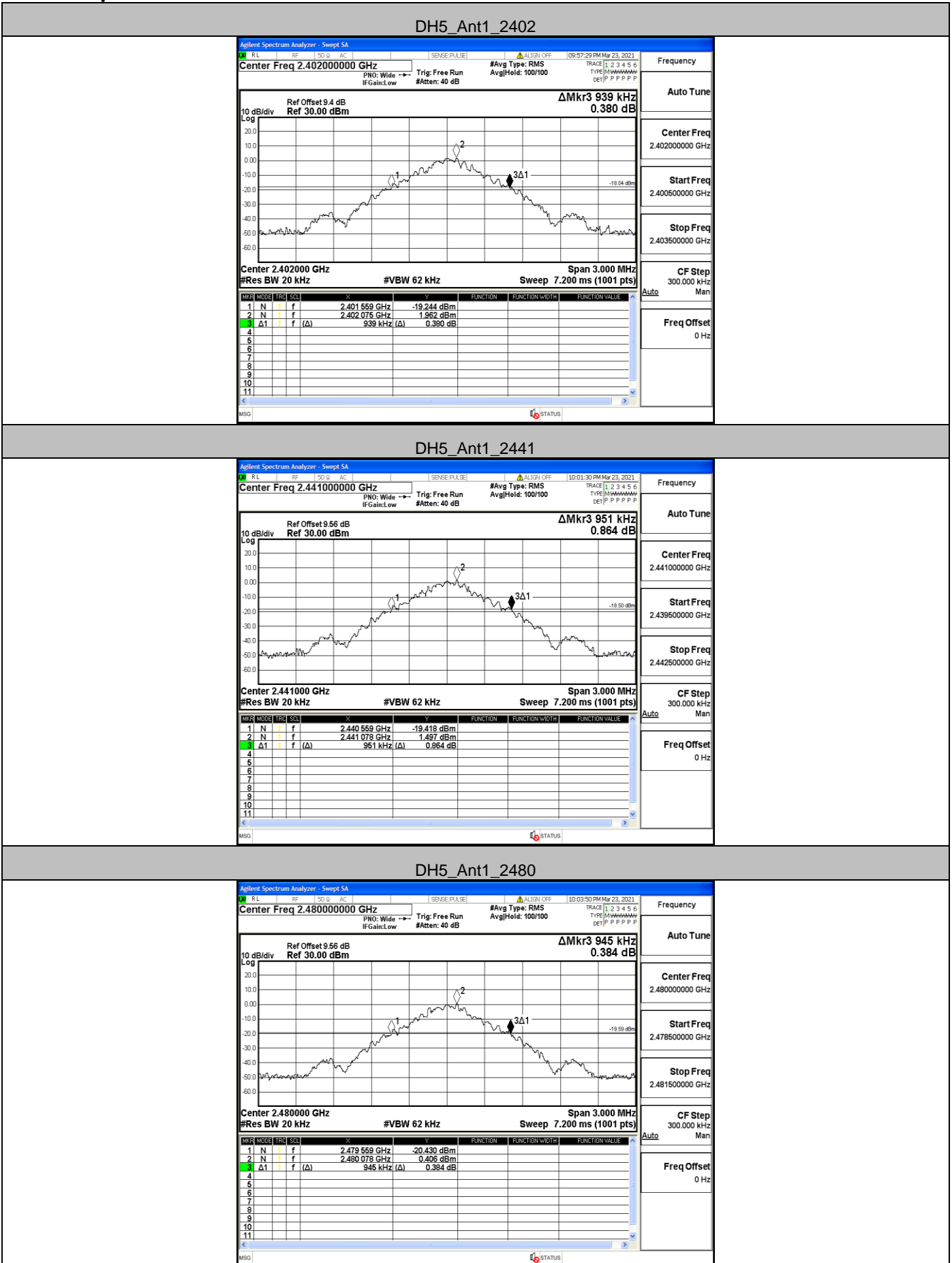
Environmental Conditions

Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

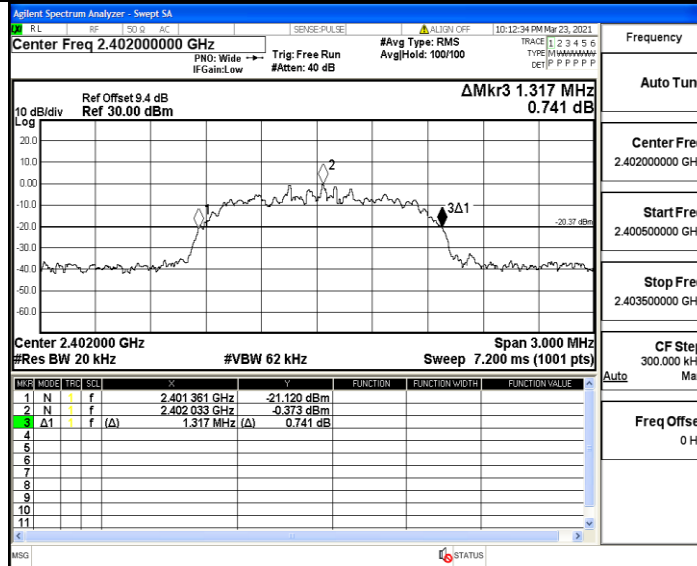
A.1 20 dB Bandwidth

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.939	2401.559	2402.498	---	PASS
		2441	0.951	2440.559	2441.510	---	PASS
		2480	0.945	2479.559	2480.504	---	PASS
2DH5	Ant1	2402	1.317	2401.361	2402.678	---	PASS
		2441	1.326	2440.358	2441.684	---	PASS
		2480	1.263	2479.388	2480.651	---	PASS

Test Graph

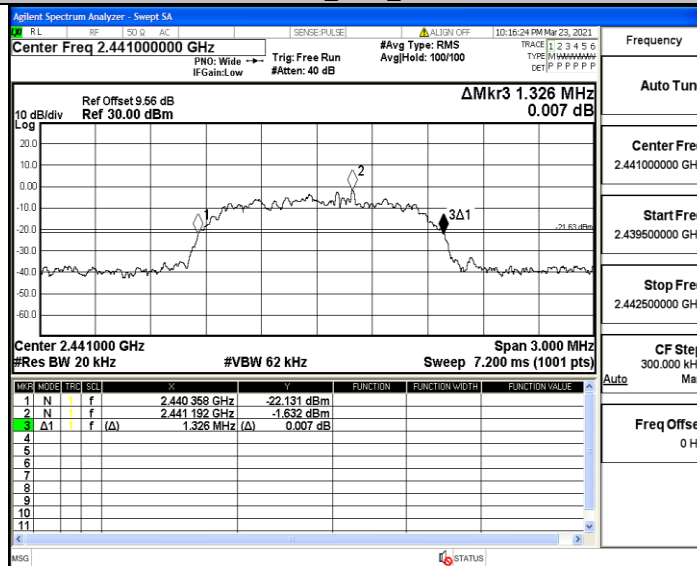


2DH5_Ant1_2402



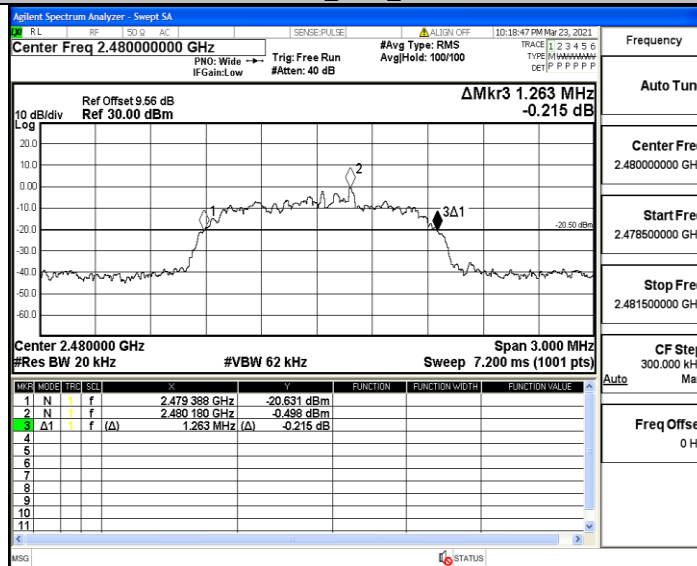
Frequency
Auto Tune
Center Freq
2.402000000 GHz
Start Freq
2.400500000 GHz
Stop Freq
2.403500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz

2DH5_Ant1_2441



Frequency
Auto Tune
Center Freq
2.441000000 GHz
Start Freq
2.439500000 GHz
Stop Freq
2.442500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz

2DH5_Ant1_2480



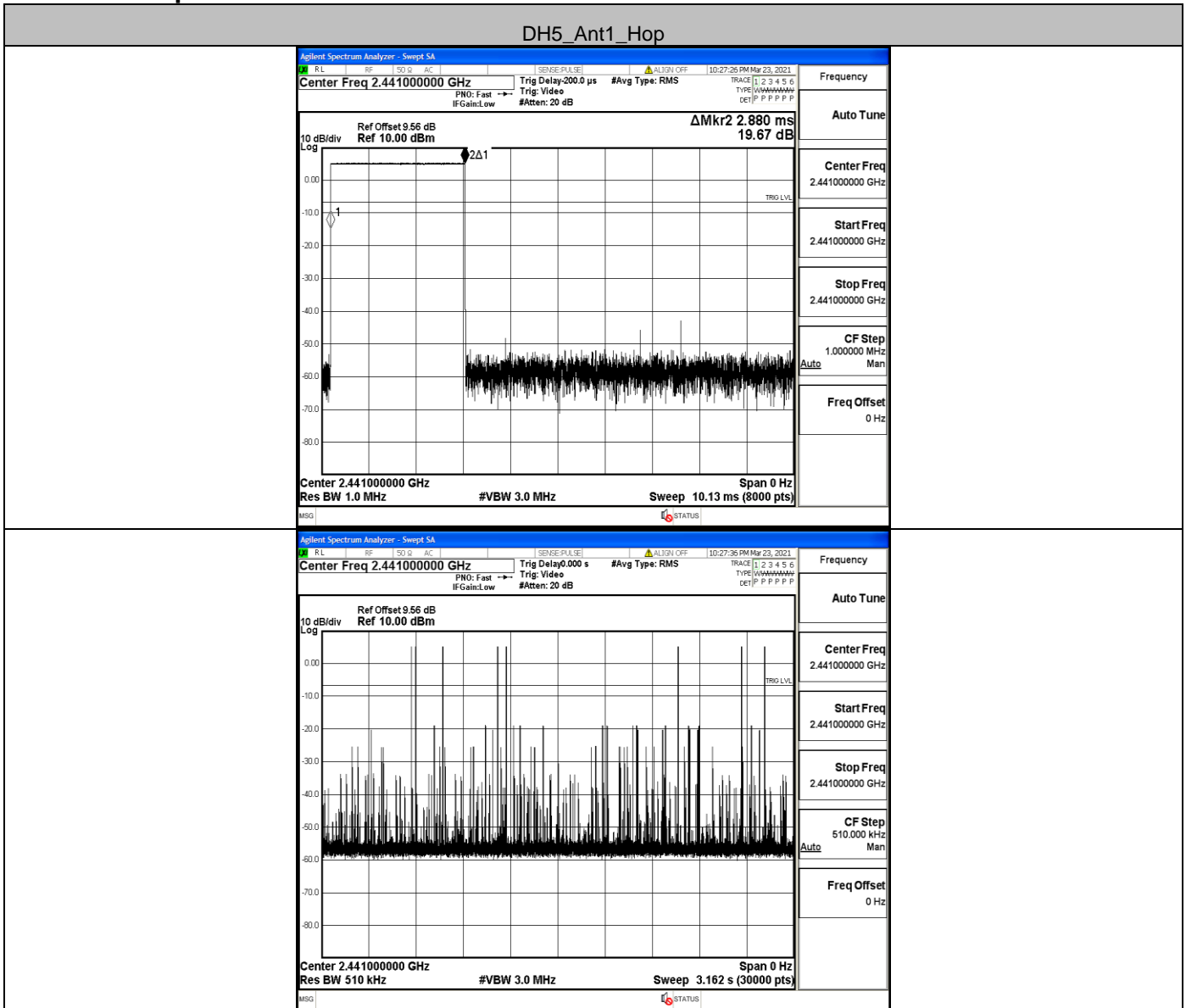
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478500000 GHz
Stop Freq
2.481500000 GHz
CF Step
300.000 kHz
Auto
Man
Freq Offset
0 Hz

A.2 Dwell Time

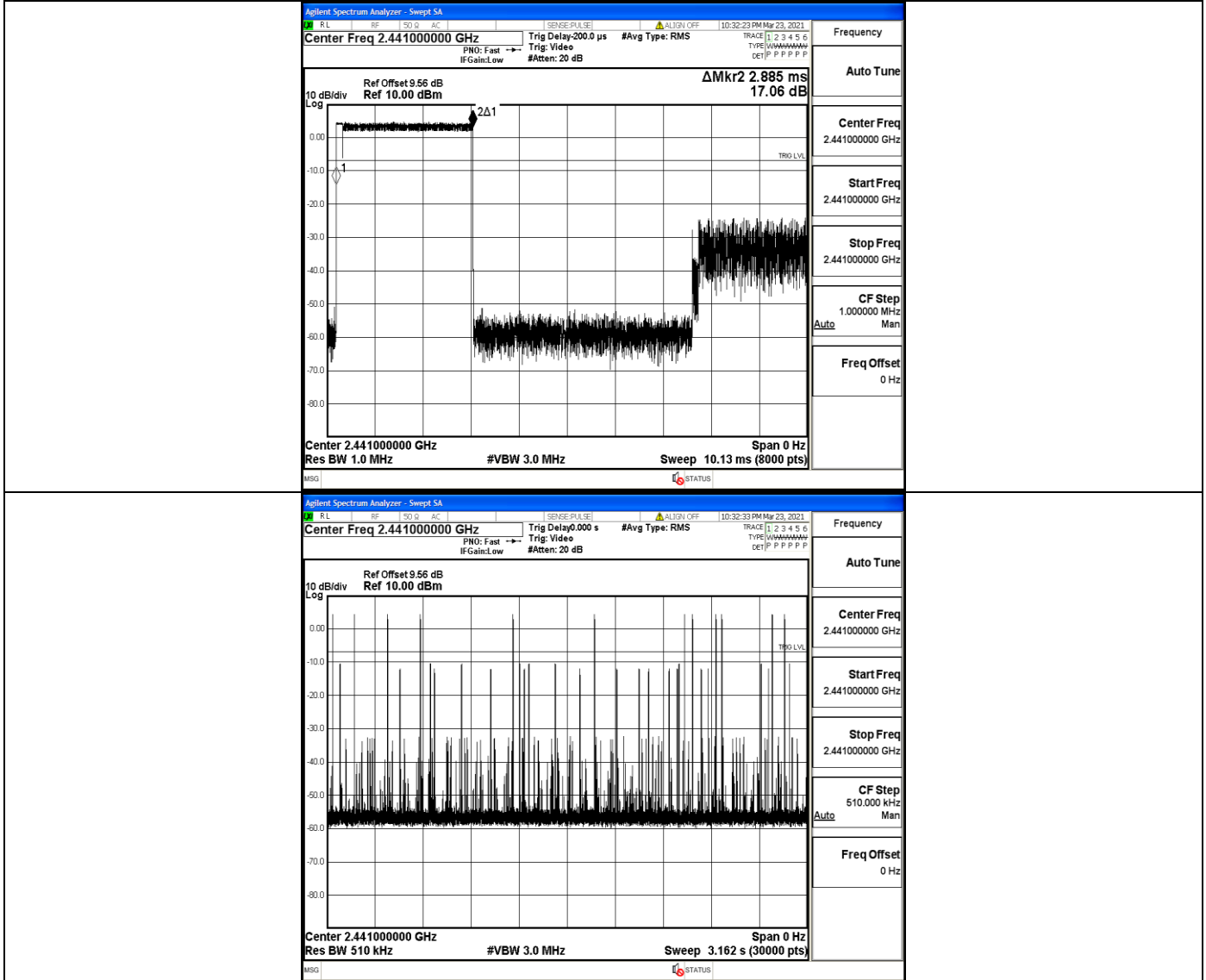
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	90	0.259	<=0.4	PASS
2DH5	Ant1	Hop	2.89	130	0.375	<=0.4	PASS

Test Graph

DH5_Ant1_Hop



2DH5_Ant1_Hop

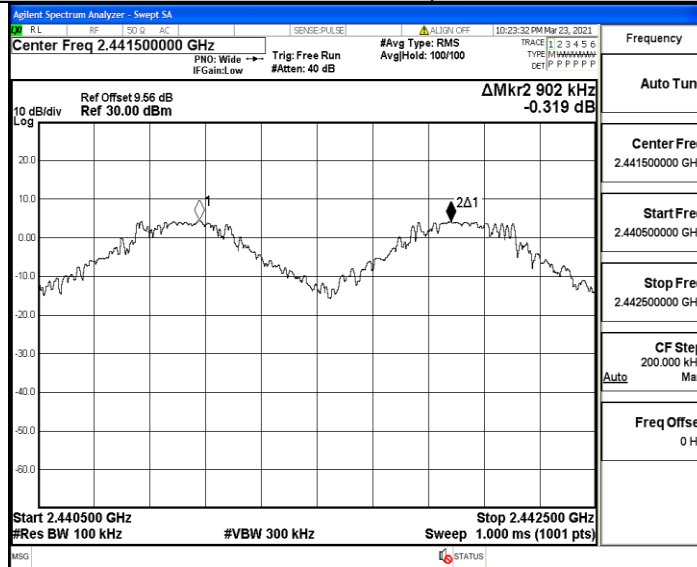


A.3 Carrier Frequency Separation

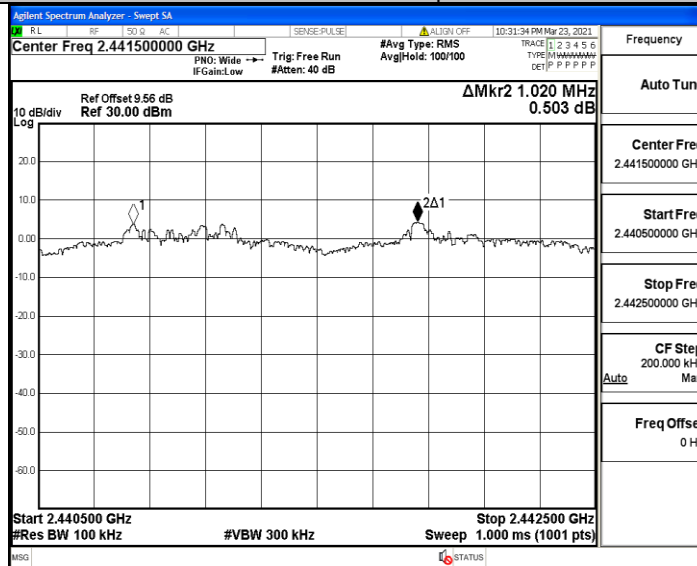
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.902	≥ 0.634	PASS
2DH5	Ant1	Hop	1.020	≥ 0.884	PASS

Test Graph

DH5_Ant1_Hop



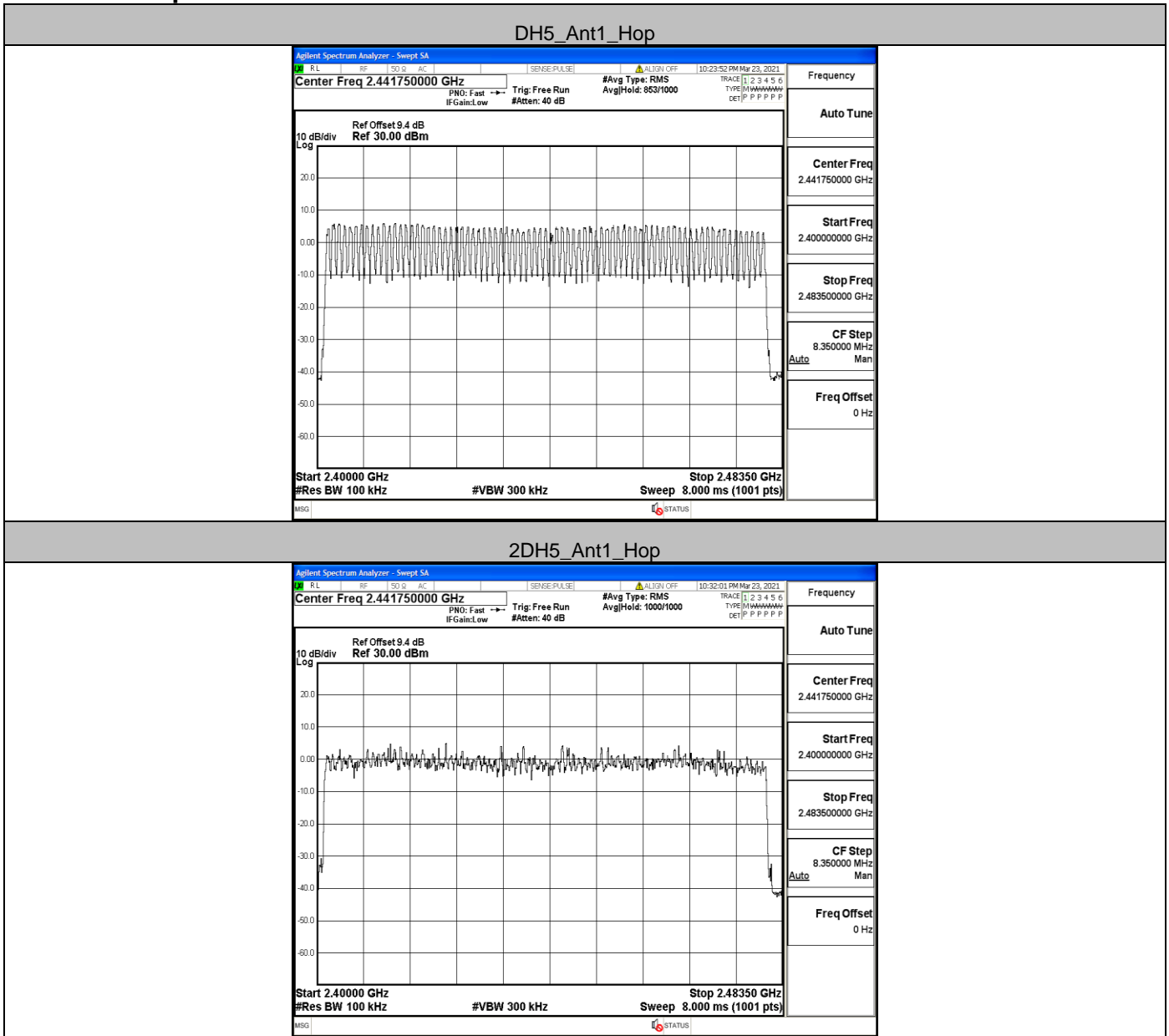
2DH5_Ant1_Hop



A.4 Hopping Channel Number

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	>=15	PASS
2DH5	Ant1	Hop	79	>=15	PASS

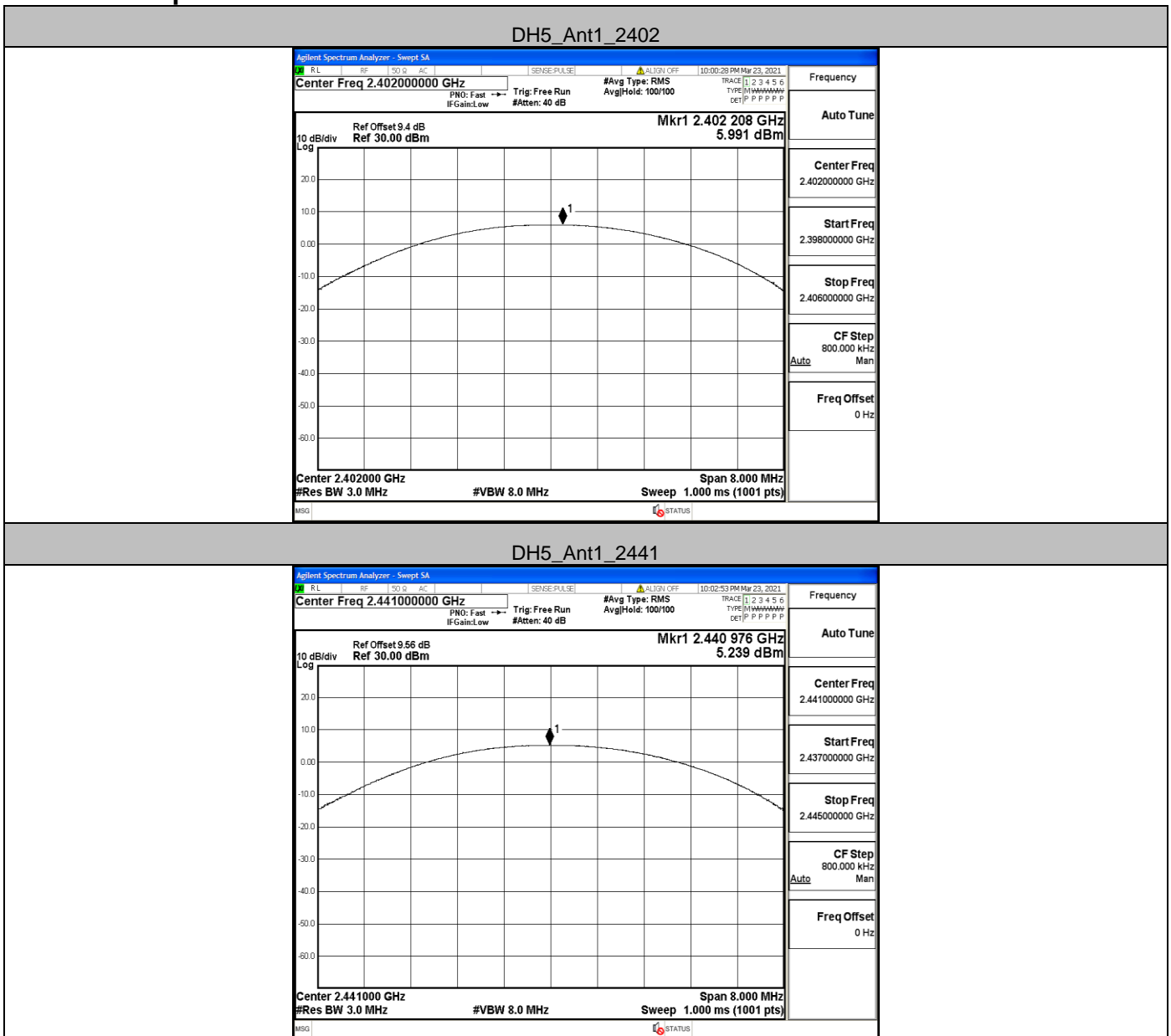
Test Graph



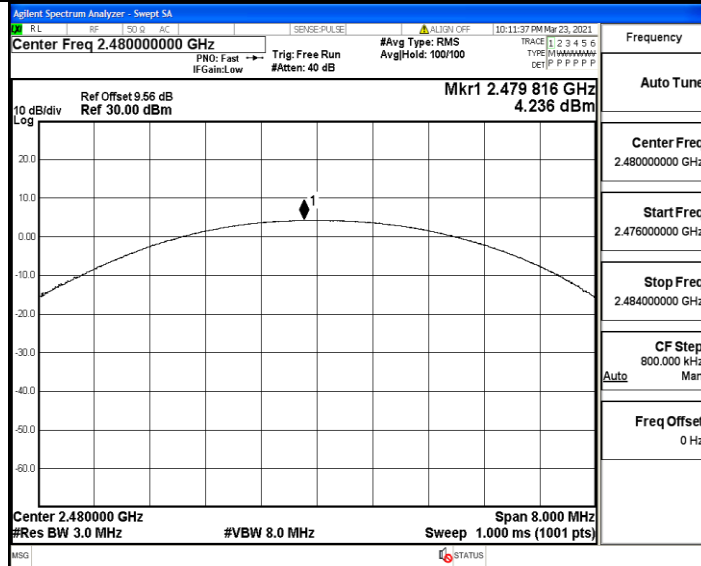
A.5 Conducted Peak Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	5.99	<=20.97	PASS
		2441	5.24	<=20.97	PASS
		2480	4.24	<=20.97	PASS
2DH5	Ant1	2402	5.94	<=20.97	PASS
		2441	5.19	<=20.97	PASS
		2480	3.99	<=20.97	PASS

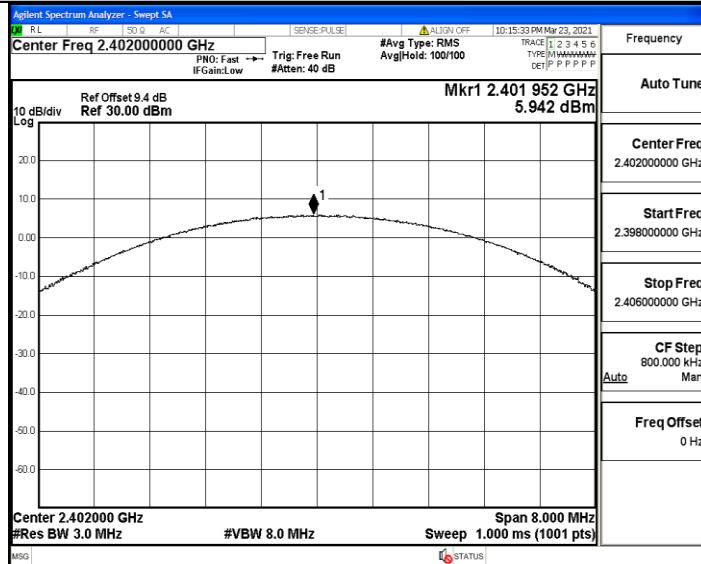
Test Graph



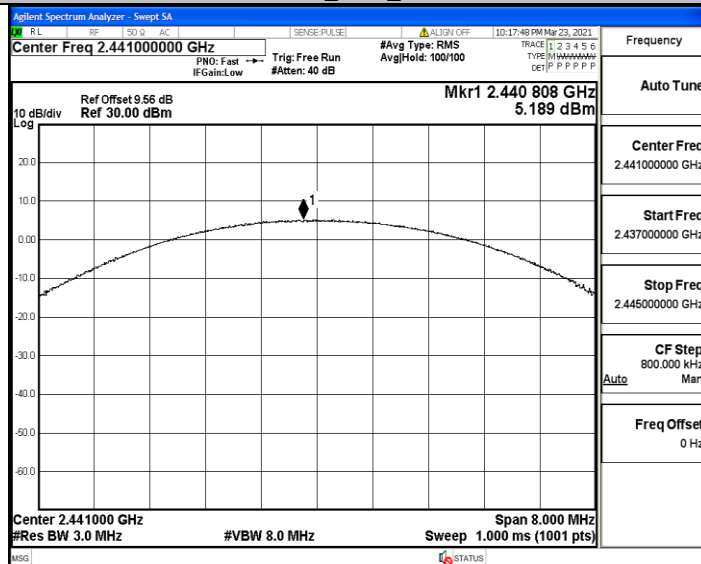
DH5_Ant1_2480



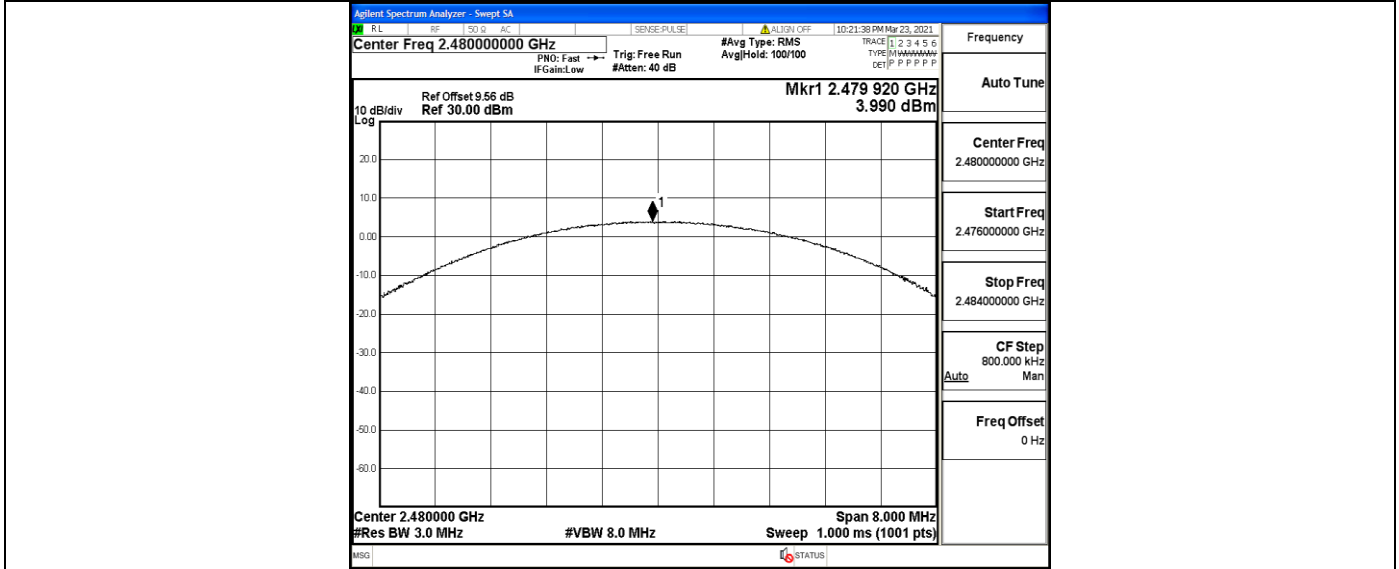
2DH5_Ant1_2402



2DH5_Ant1_2441



2DH5_Ant1_2480

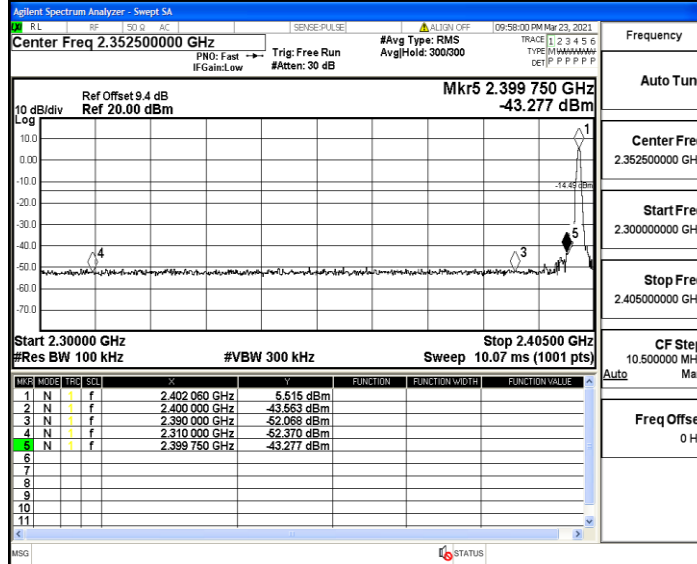


A.6 Band-edge for RF Conducted Emissions

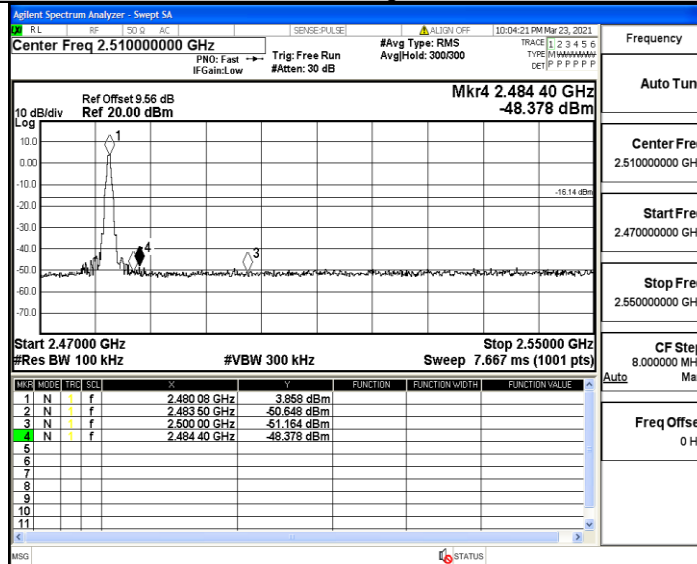
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.52	-43.28	<=-14.49	PASS
		High	2480	3.86	-48.38	<=-16.14	PASS
		Low	Hop_2402	4.55	-50.01	<=-15.45	PASS
		High	Hop_2480	4.66	-48.53	<=-15.34	PASS
2DH5	Ant1	Low	2402	5.01	-41.59	<=-15	PASS
		High	2480	2.07	-48.5	<=-17.93	PASS
		Low	Hop_2402	4.30	-50.38	<=-15.7	PASS
		High	Hop_2480	3.15	-48.72	<=-16.85	PASS

Test Graph

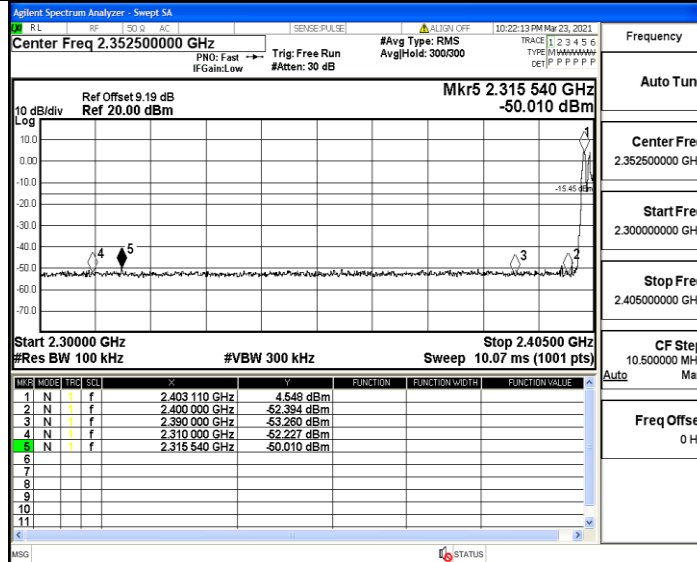
DH5_Ant1_Low_2402



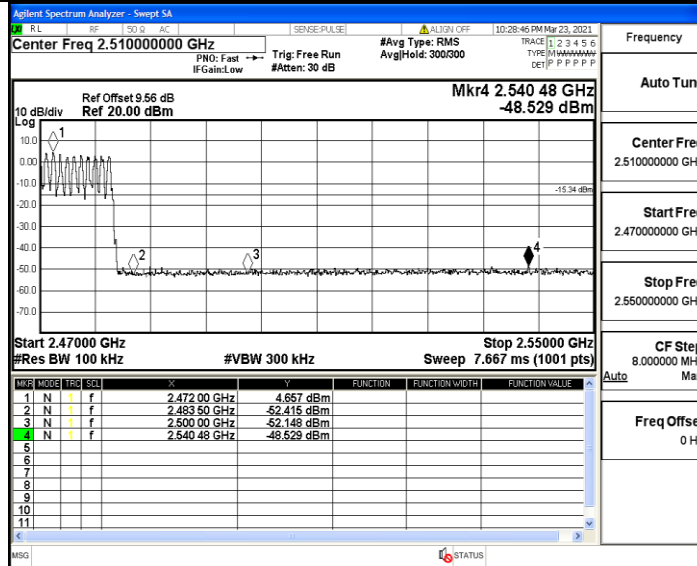
DH5_Ant1_High_2480



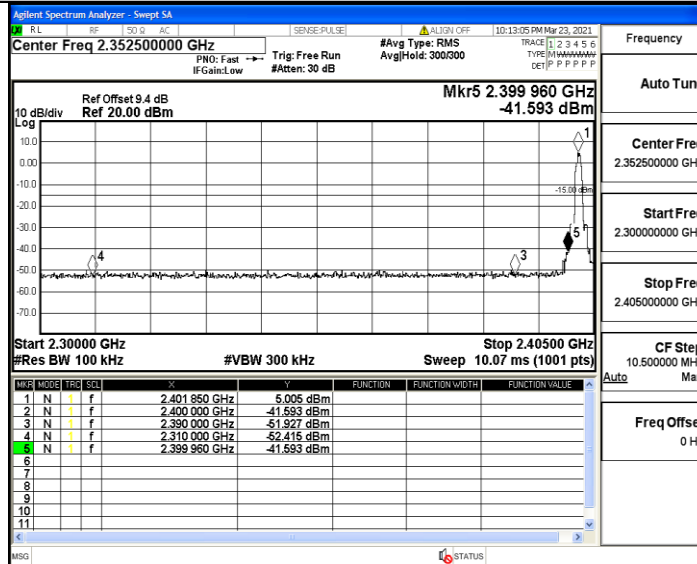
DH5_Ant1_Low_Hop_2402



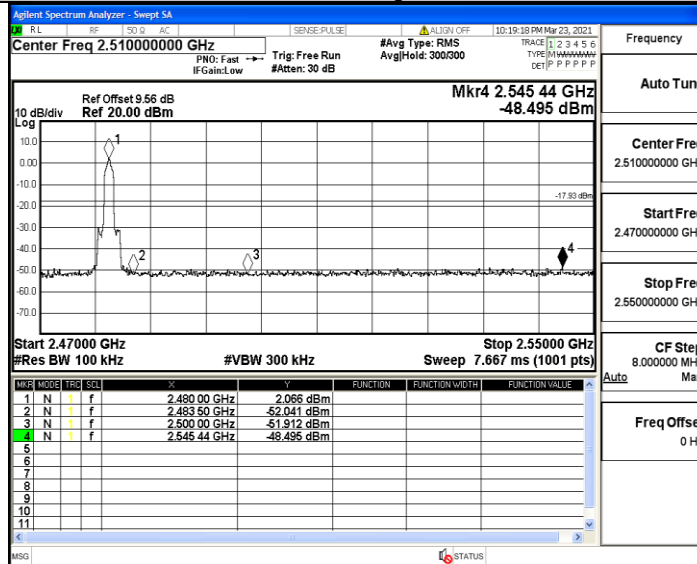
DH5_Ant1_High_Hop_2480



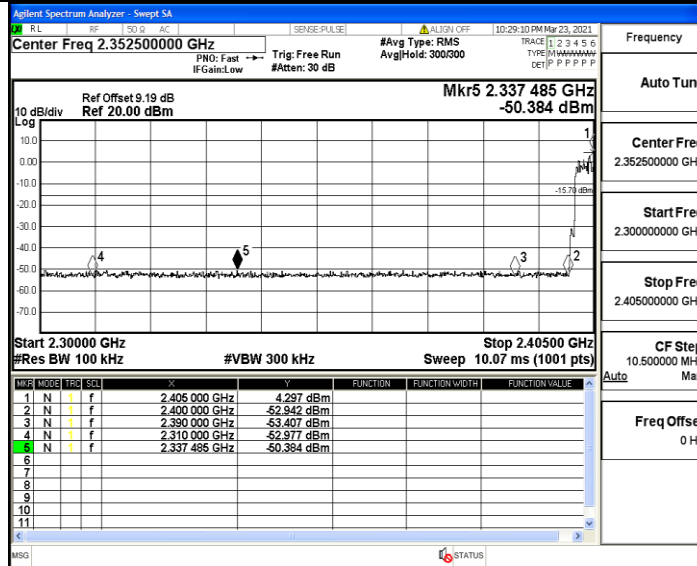
2DH5_Ant1_Low_2402



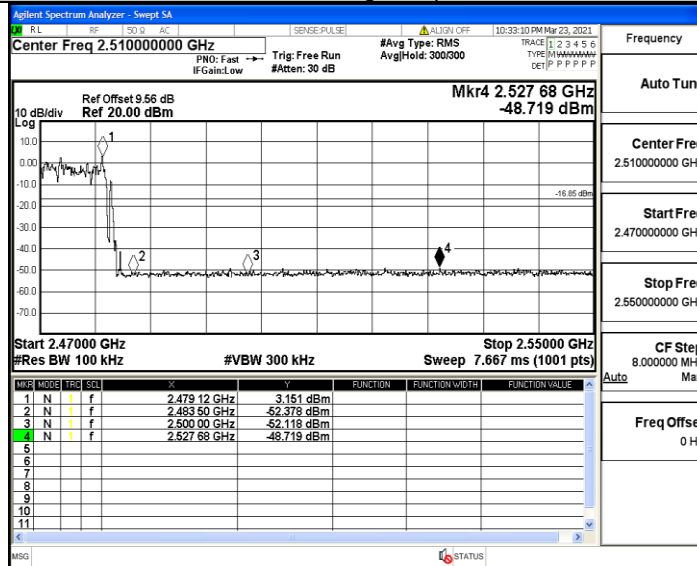
2DH5_Ant1_High_2480



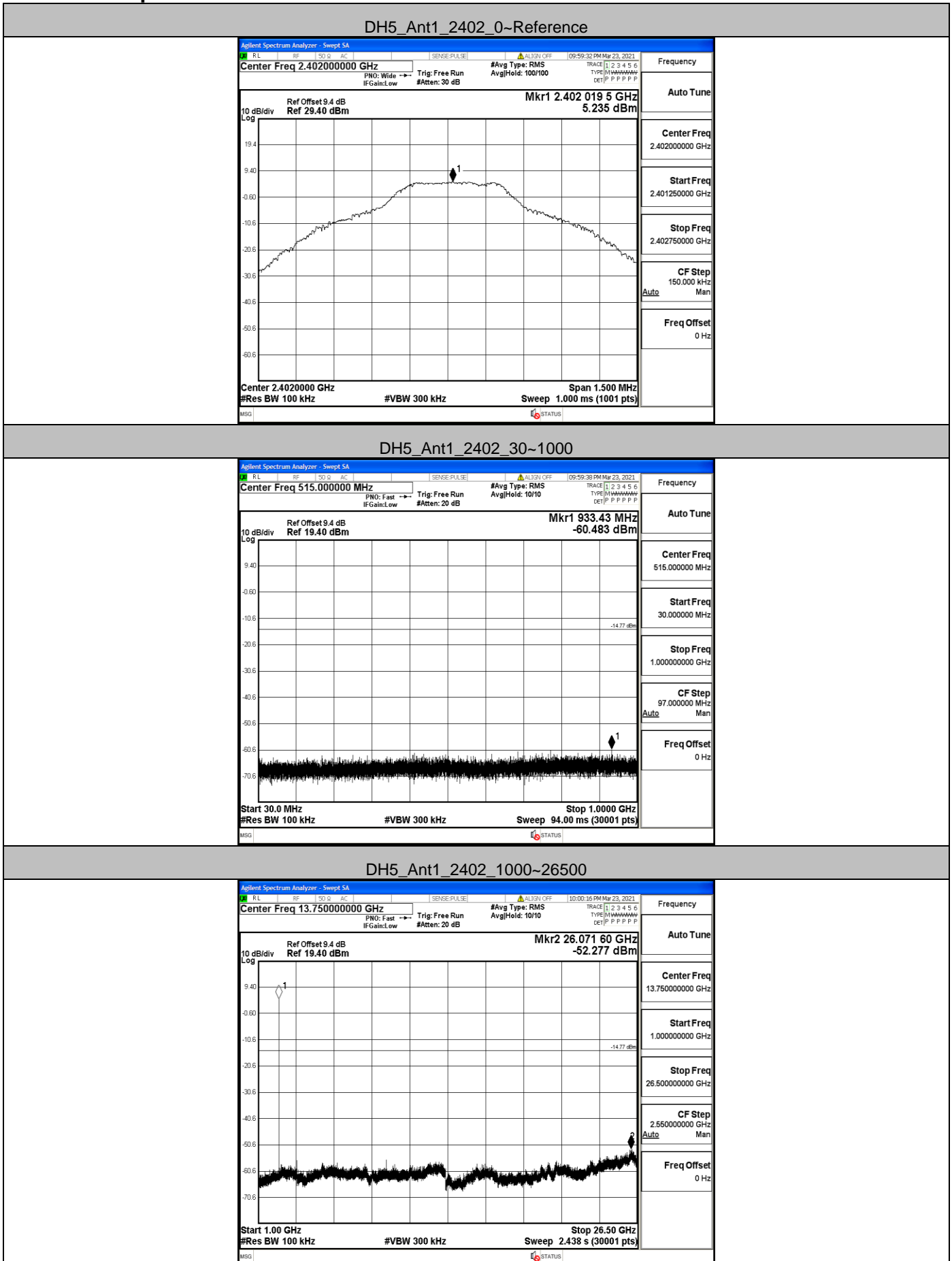
2DH5_Ant1_Low_Hop_2402



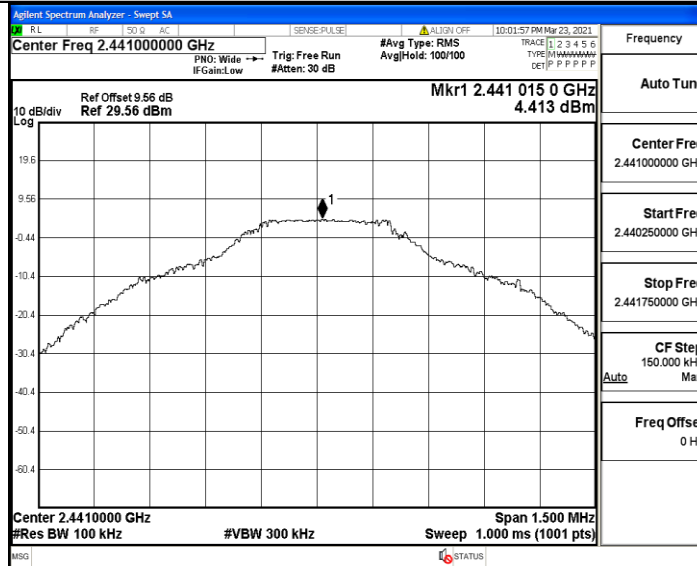
2DH5_Ant1_High_Hop_2480



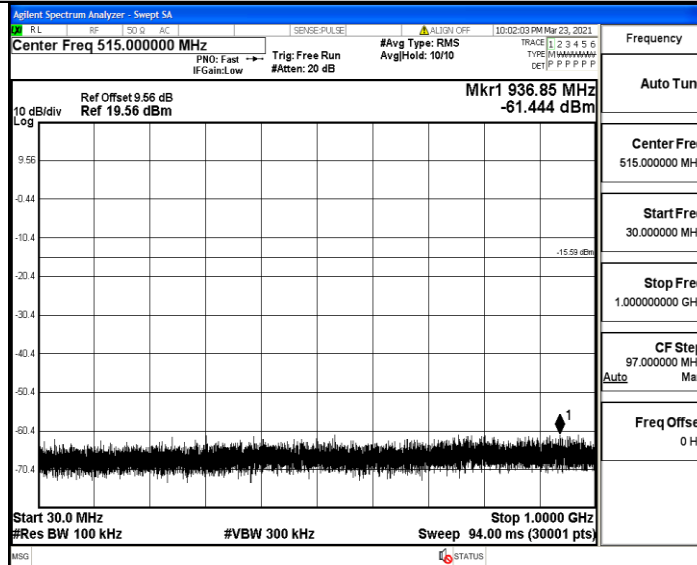
A.7 RF Conducted Spurious Emissions Test Graph



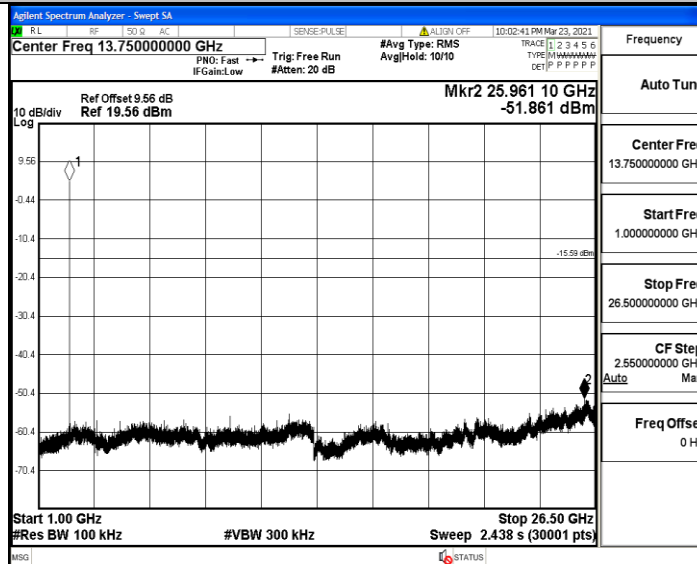
DH5_Ant1_2441_0~Reference



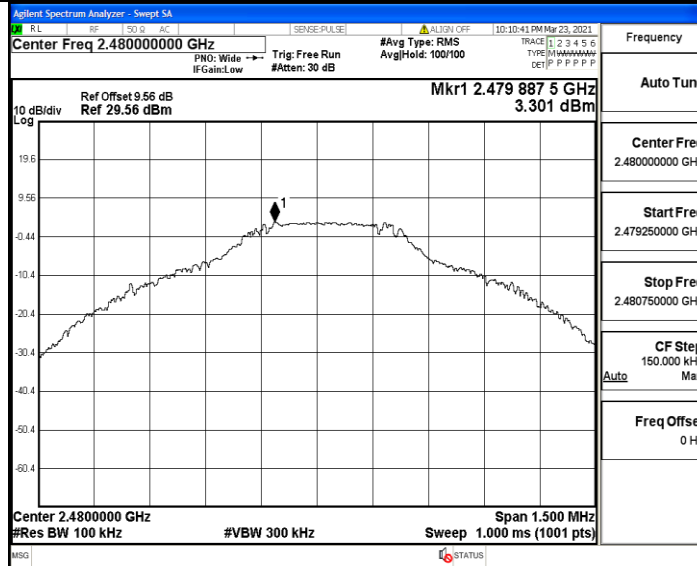
DH5_Ant1_2441_30~1000



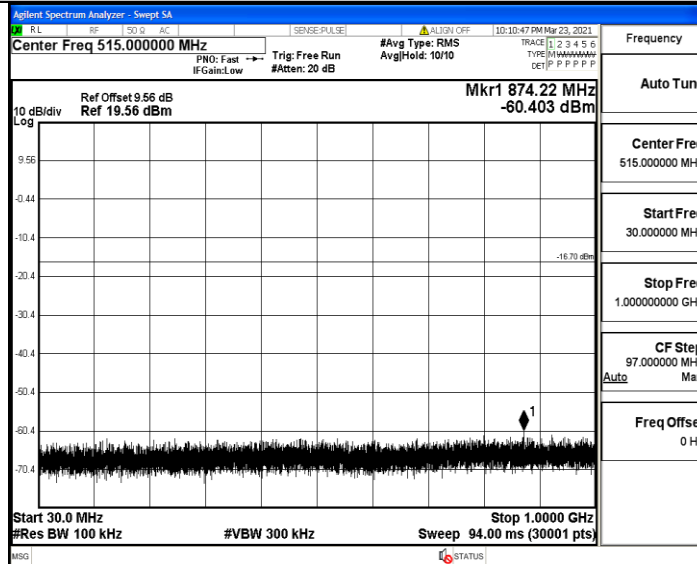
DH5_Ant1_2441_1000~26500



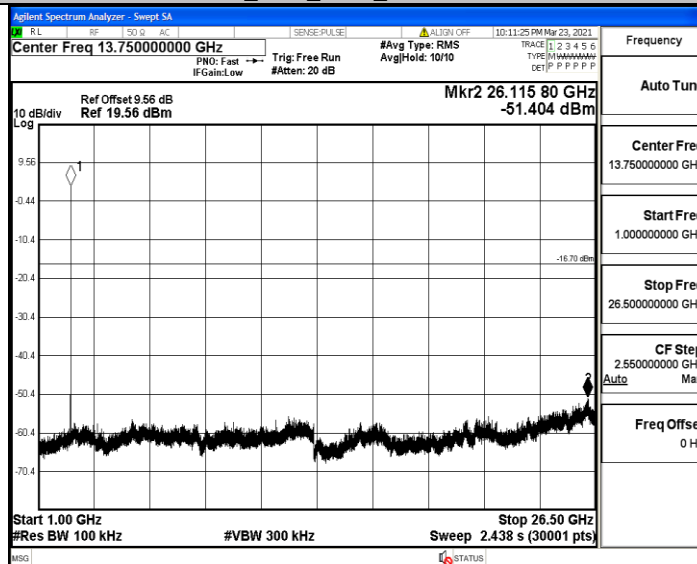
DH5_Ant1_2480_0~Reference



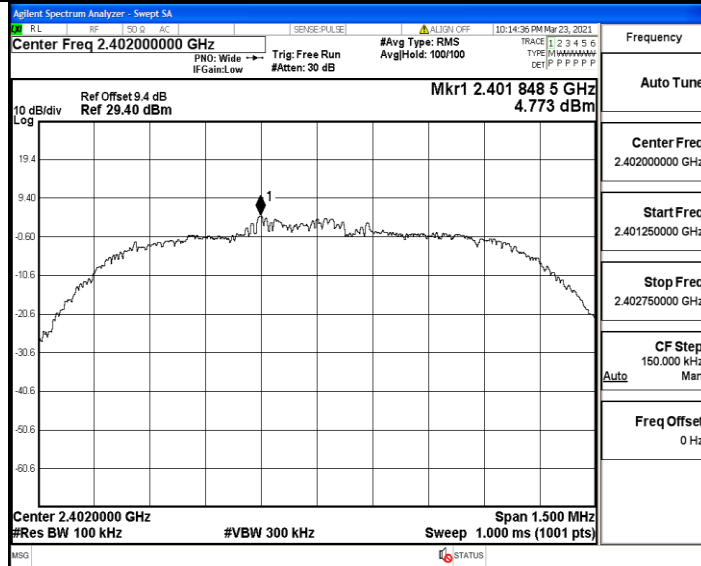
DH5_Ant1_2480_30~1000



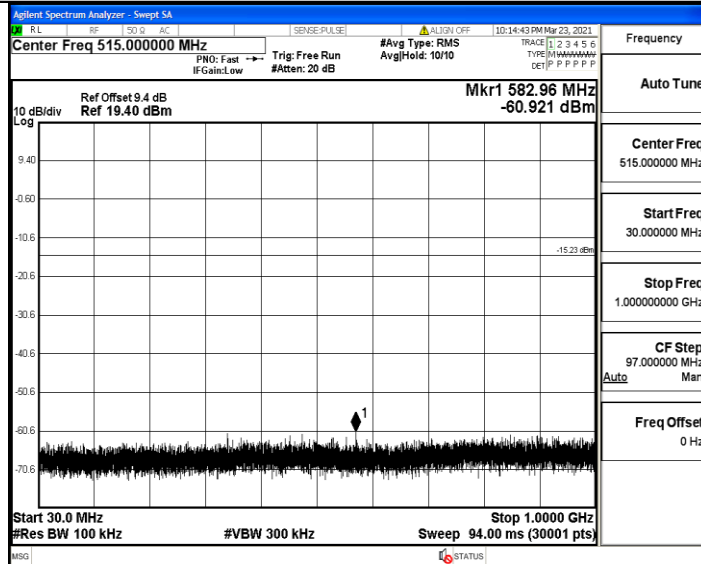
DH5_Ant1_2480_1000~26500



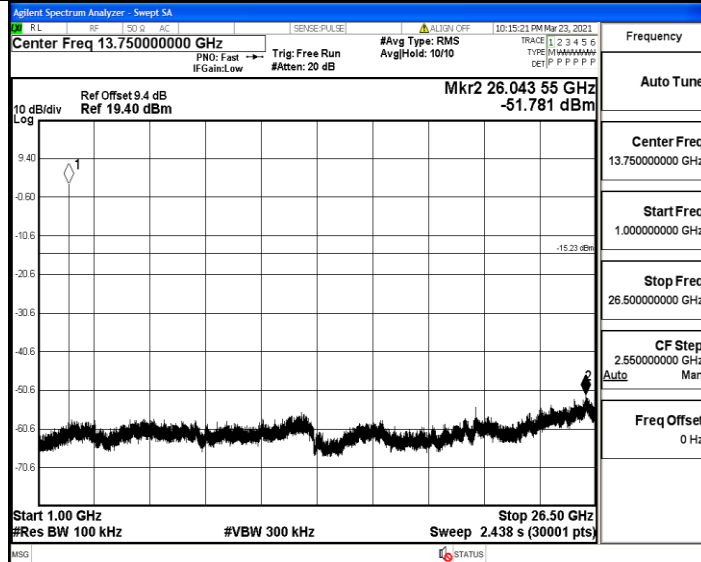
2DH5_Ant1_2402_0~Reference



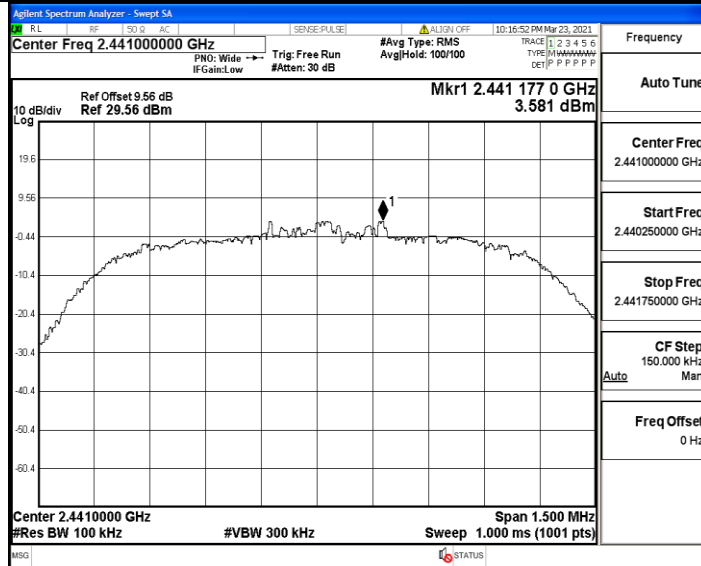
2DH5_Ant1_2402_30~1000



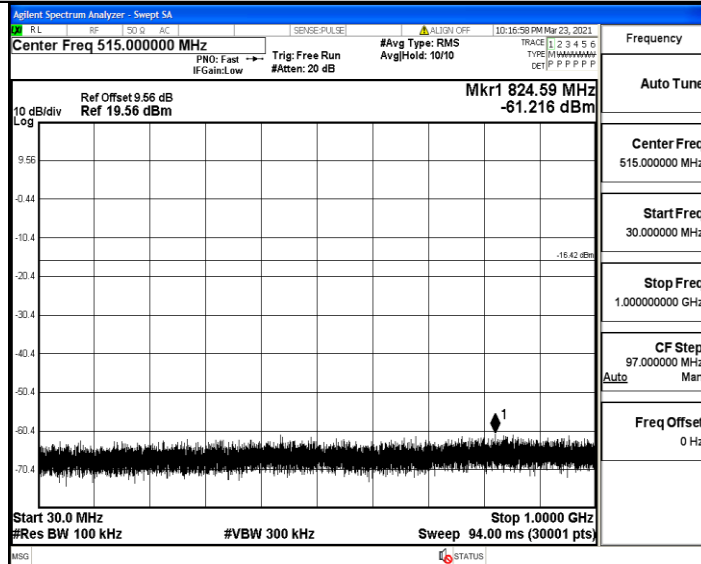
2DH5_Ant1_2402_1000~26500



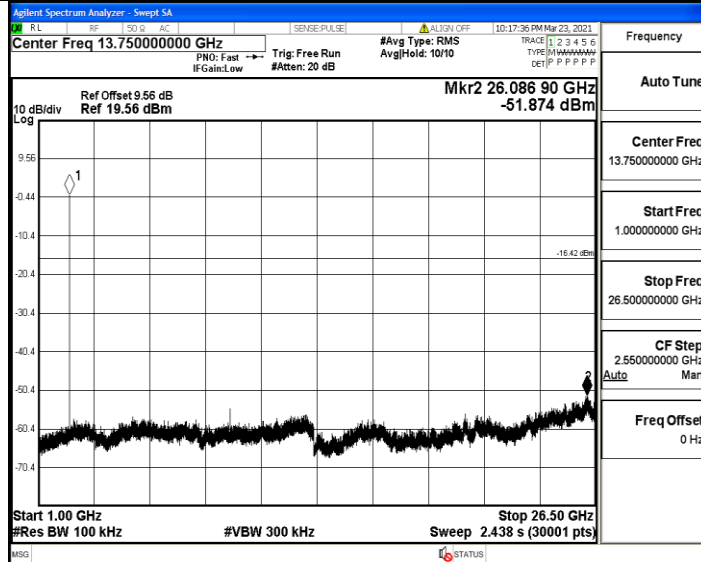
2DH5_Ant1_2441_0-Reference



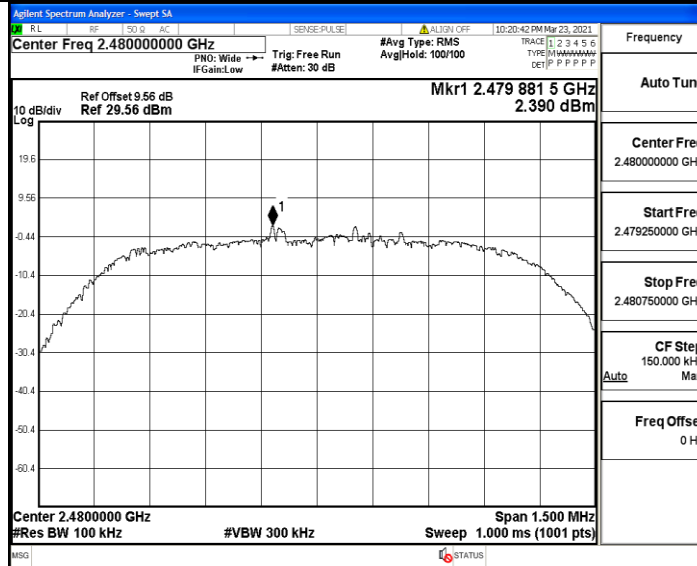
2DH5_Ant1_2441_30~1000



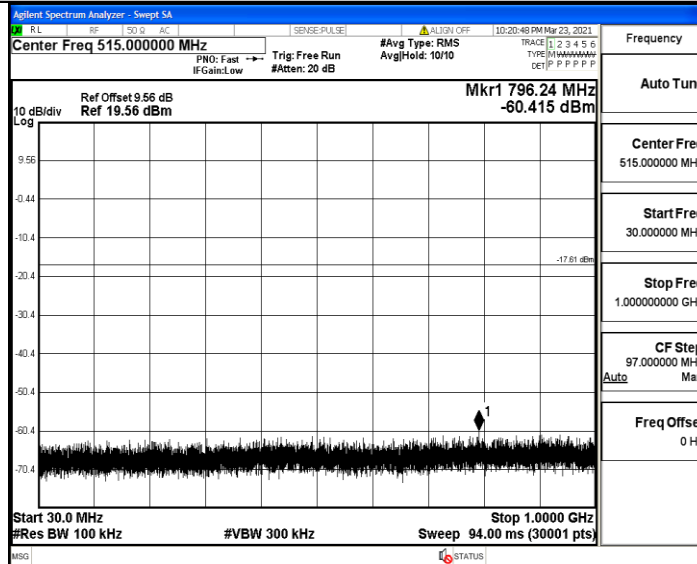
2DH5_Ant1_2441_1000~26500



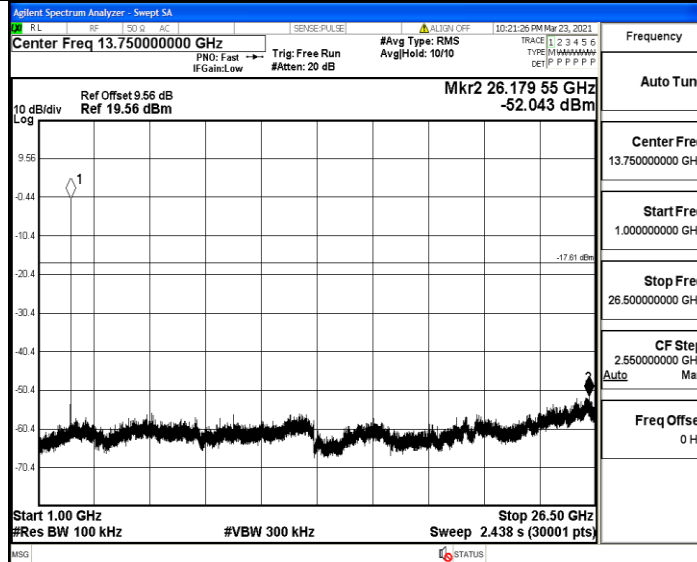
2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



2DH5_Ant1_2480_1000~26500



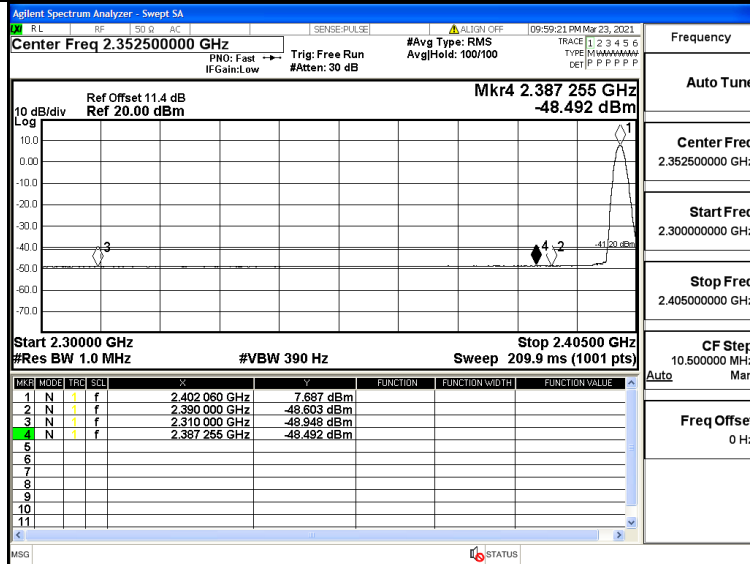
A.8 Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.95	<=-41.20	PASS
				AV	2390.000	-48.6	<=-41.20	PASS
				Peak	2310.000	-40.01	<=-21.20	PASS
				Peak	2390.000	-40.87	<=-21.20	PASS
		High	2480	AV	2483.500	-47.71	<=-41.20	PASS
				AV	2500.000	-48.31	<=-41.20	PASS
				Peak	2483.500	-42.47	<=-21.20	PASS
				Peak	2500.000	-42.2	<=-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.94	<=-41.20	PASS
				AV	2390.000	-48.7	<=-41.20	PASS
				Peak	2310.000	-42.2	<=-21.20	PASS
				Peak	2390.000	-40.18	<=-21.20	PASS
		High	2480	AV	2483.500	-43.26	<=-41.20	PASS
				AV	2500.000	-47.98	<=-41.20	PASS
				Peak	2483.500	-41.46	<=-21.20	PASS
				Peak	2500.000	-41.2	<=-21.20	PASS

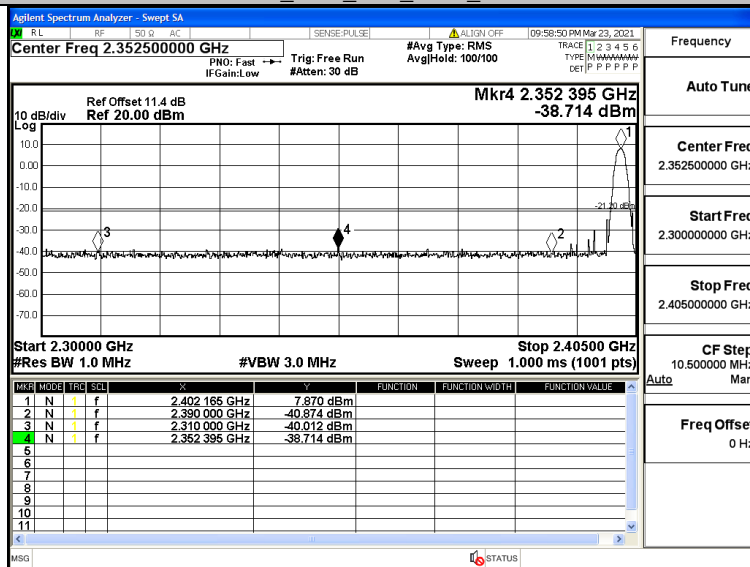
Note:

1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

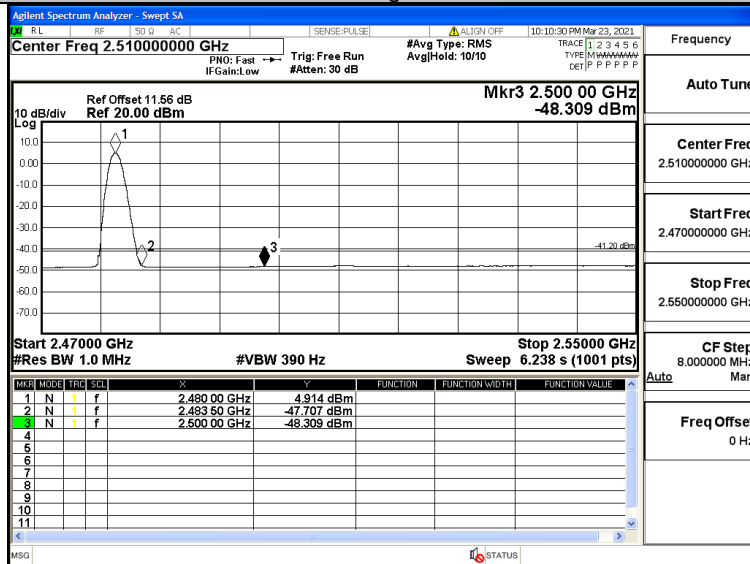
DH5_Ant1_Low_2402_AV



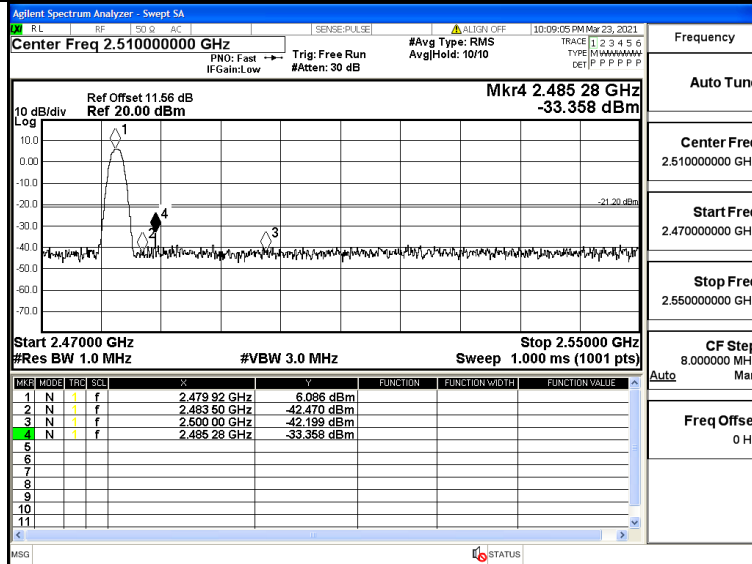
DH5_Ant1_Low_2402_Peak



DH5_Ant1_High_2480_AV

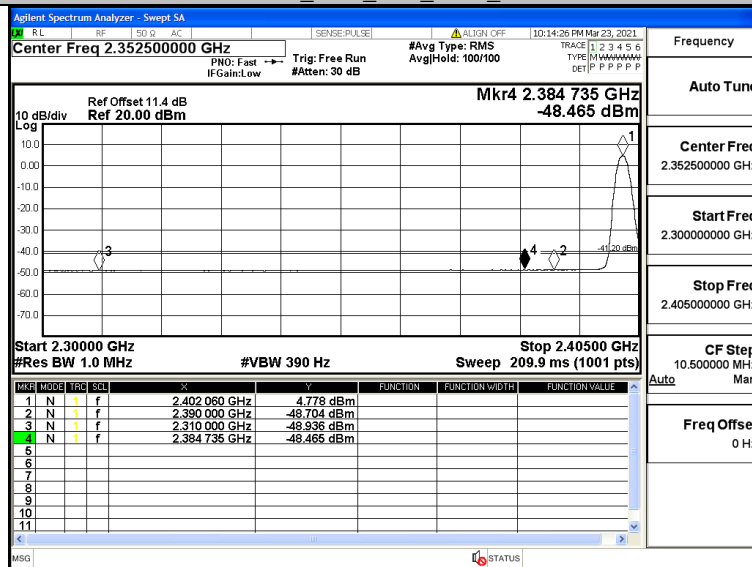


DH5_Ant1_High_2480_Peak



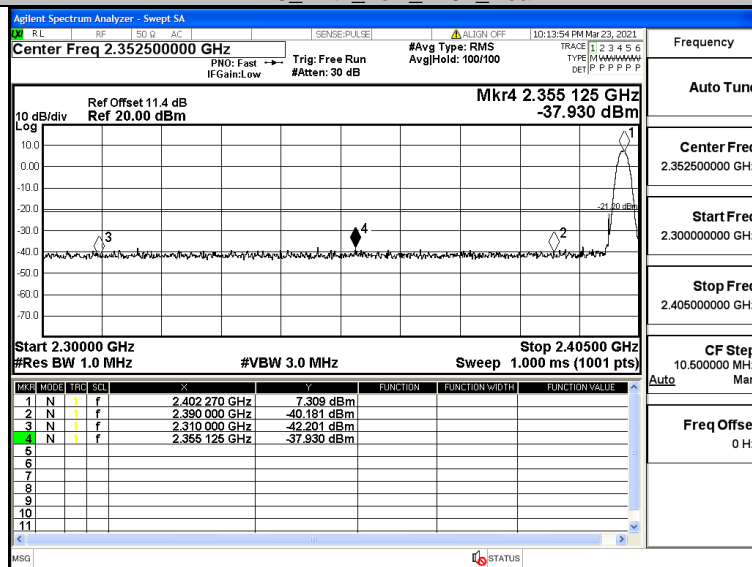
Frequency	
Auto Tune	
Center Freq	2.510000000 GHz
Start Freq	2.470000000 GHz
Stop Freq	2.550000000 GHz
CF Step	8.0000000 MHz
Freq Offset	0 Hz

2DH5_Ant1_Low_2402_AV



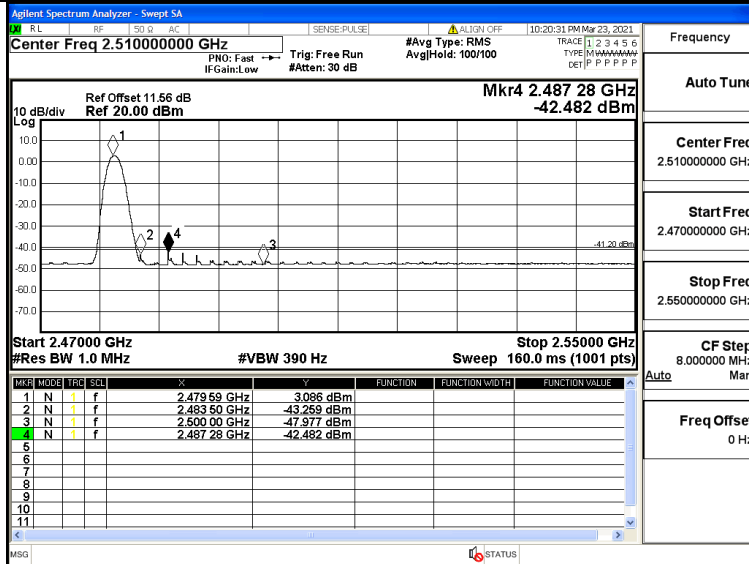
Frequency	
Auto Tune	
Center Freq	2.352500000 GHz
Start Freq	2.300000000 GHz
Stop Freq	2.405000000 GHz
CF Step	10.5000000 MHz
Freq Offset	0 Hz

2DH5_Ant1_Low_2402_Peak



Frequency	
Auto Tune	
Center Freq	2.352500000 GHz
Start Freq	2.300000000 GHz
Stop Freq	2.405000000 GHz
CF Step	10.5000000 MHz
Freq Offset	0 Hz

2DH5_Ant1_High_2480_AV



2DH5_Ant1_High_2480_Peak

