

Appendix A

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

Product Name: External HD digital Bluetooth

Trade Mark: 

Test Model: KCE-800BT

FCC ID: 2A38M-KCE800BT

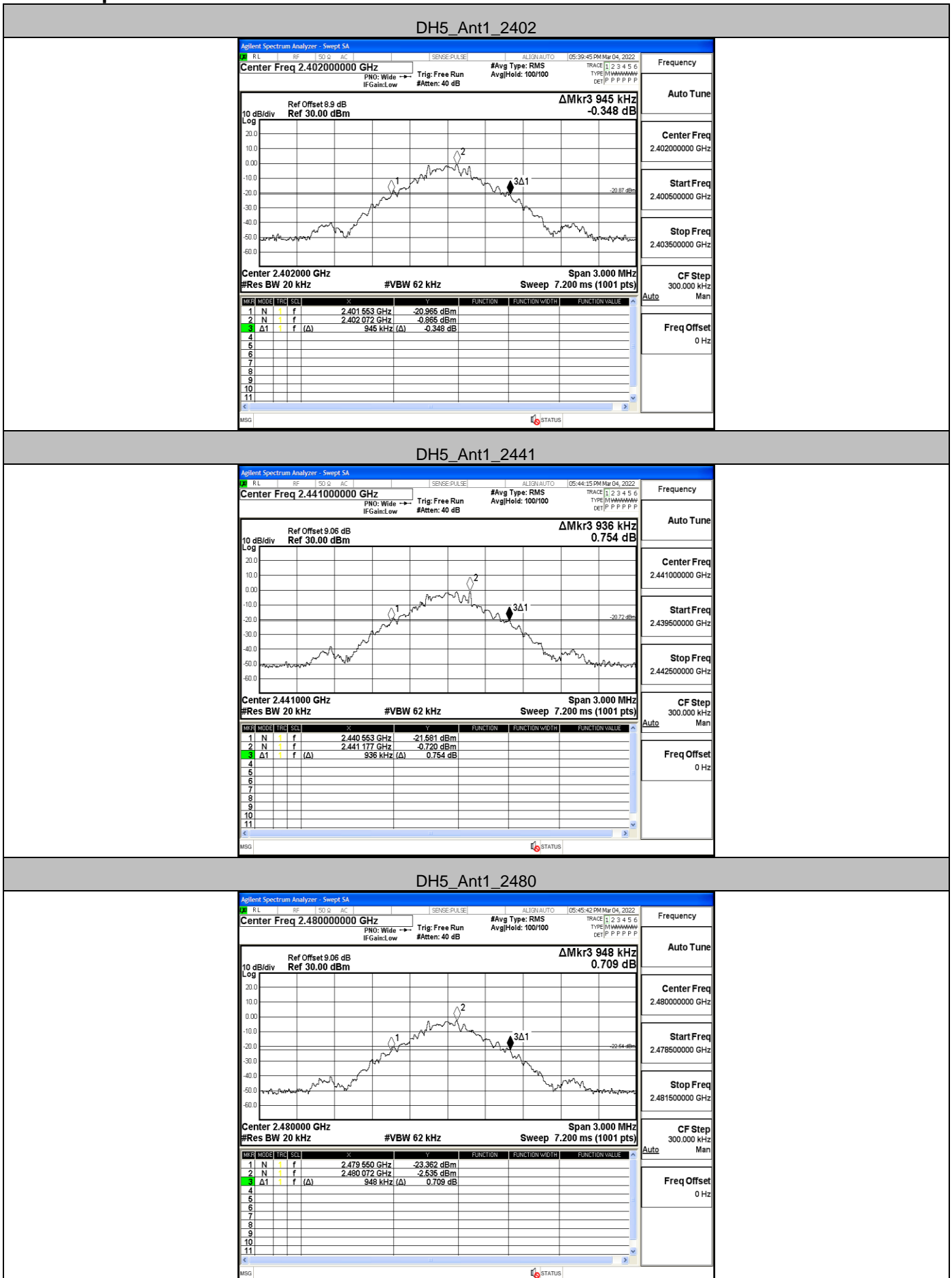
Environmental Conditions

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

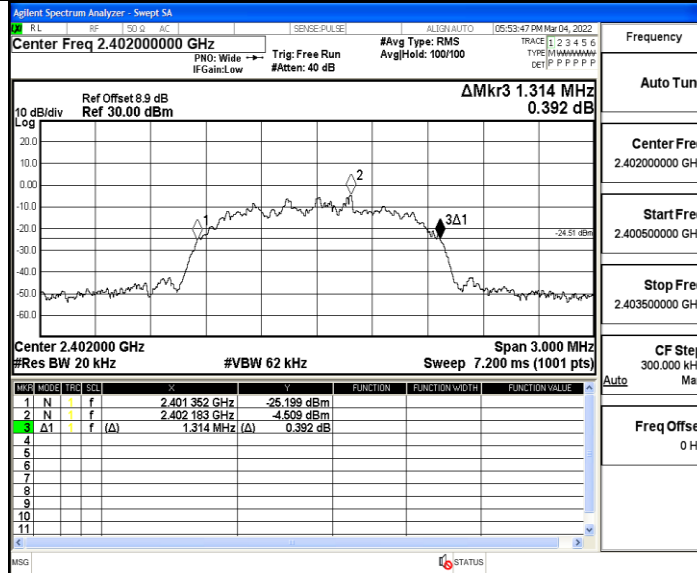
A.1 20 dB Bandwidth

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.553	2402.498	---	---
		2441	0.936	2440.553	2441.489	---	---
		2480	0.948	2479.550	2480.498	---	---
2DH5	Ant1	2402	1.314	2401.352	2402.666	---	---
		2441	1.290	2440.376	2441.666	---	---
		2480	1.323	2479.349	2480.672	---	---
3DH5	Ant1	2402	1.263	2401.367	2402.630	---	---
		2441	1.278	2440.364	2441.642	---	---
		2480	1.254	2479.376	2480.630	---	---

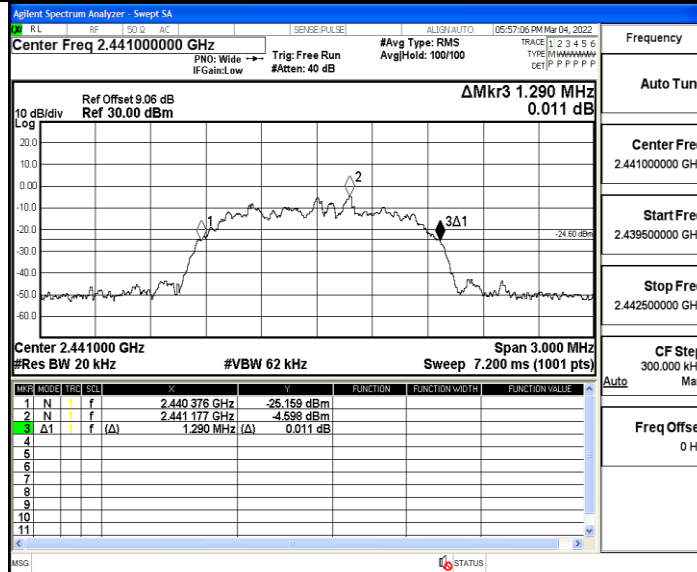
Test Graph



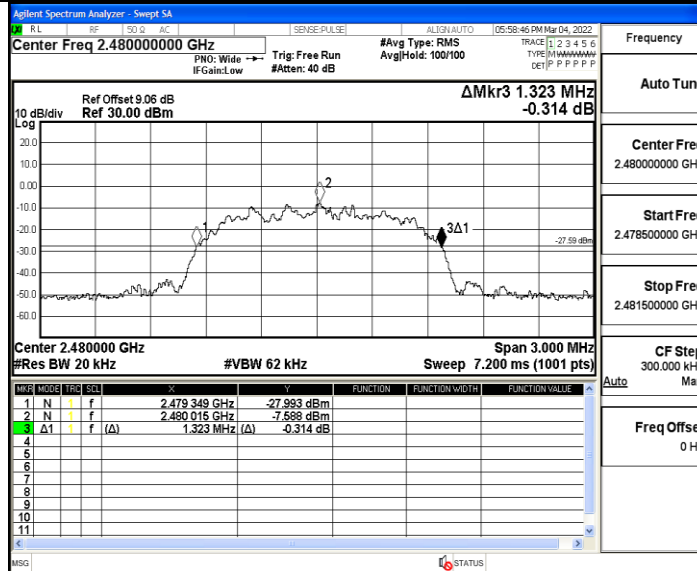
2DH5_Ant1_2402



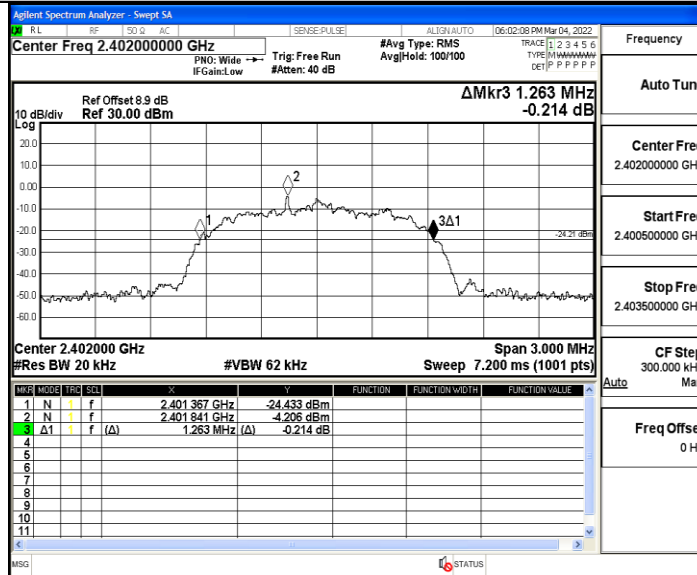
2DH5_Ant1_2441



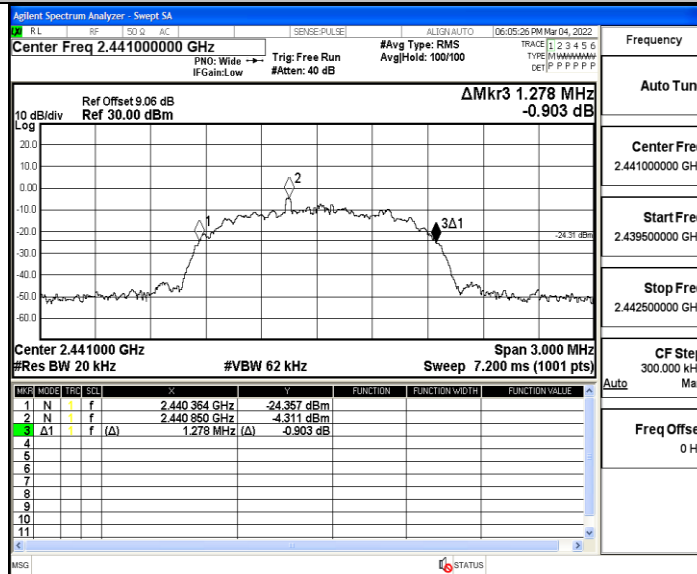
2DH5_Ant1_2480



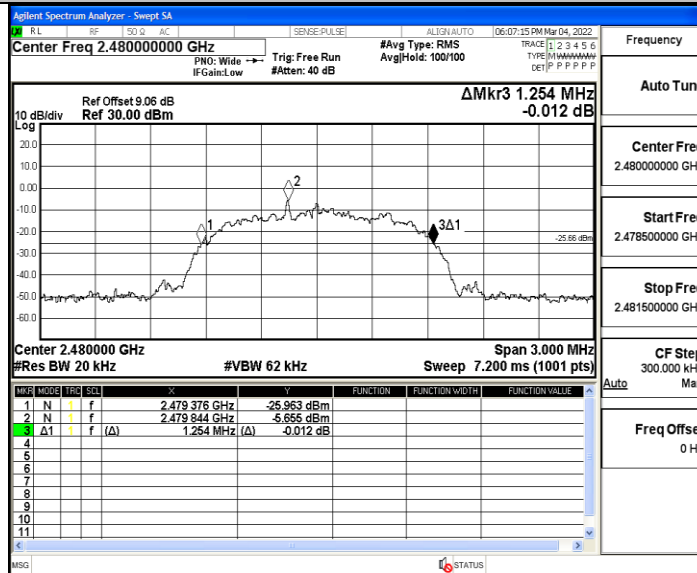
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

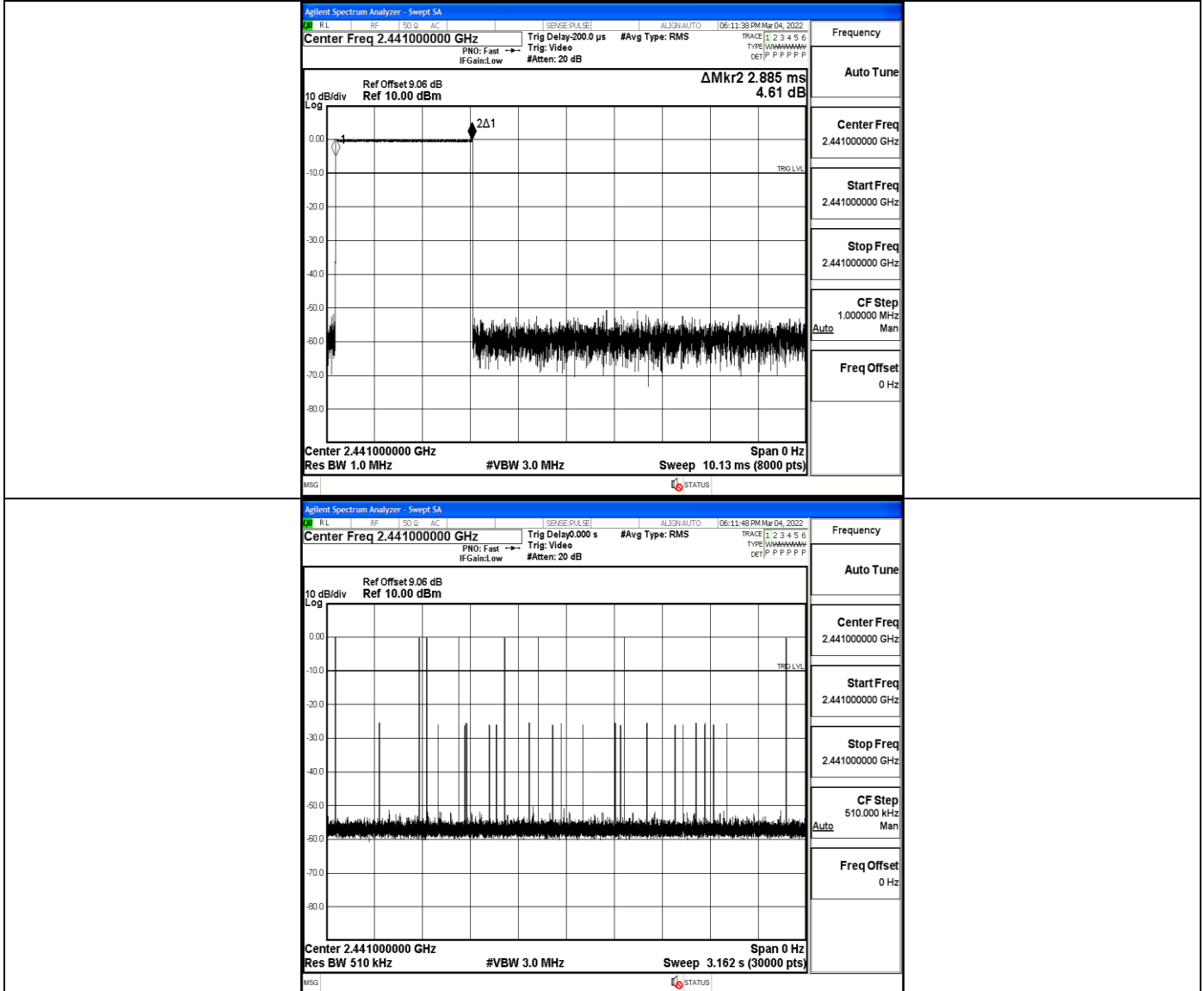


A.2 Dwell Time

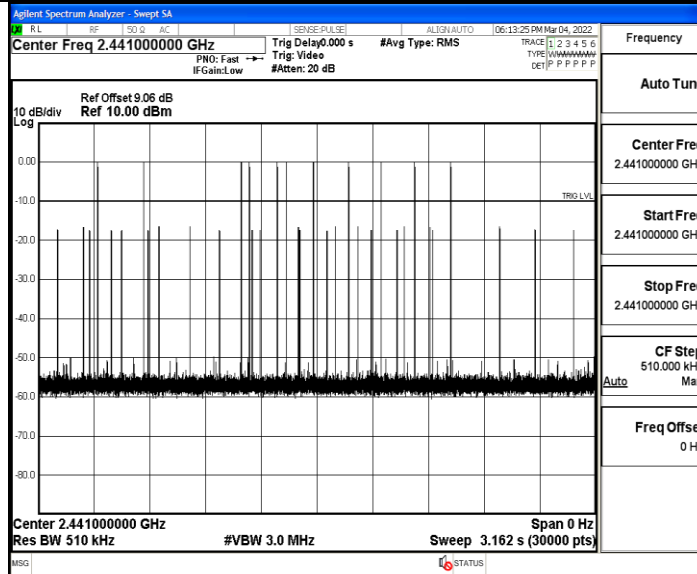
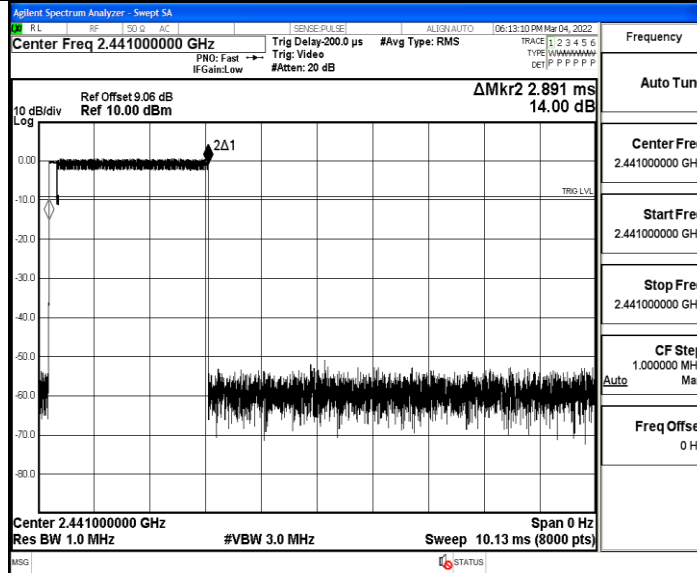
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.89	90	0.26	≤0.4	PASS
2DH5	Ant1	Hop	2.89	120	0.347	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.347	≤0.4	PASS

Test Graph

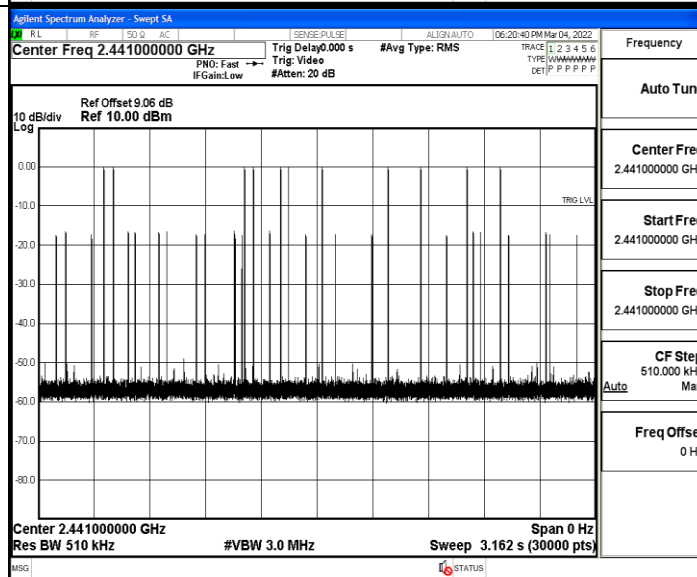
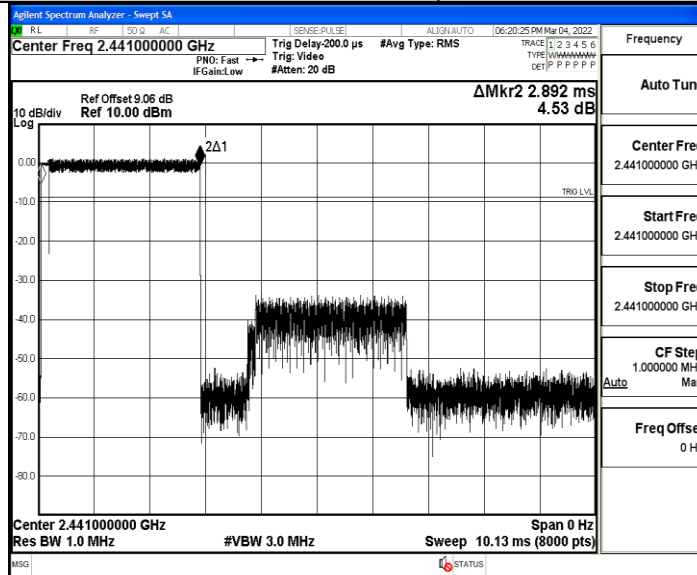
DH5_Ant1_Hop



2DH5_Ant1_Hop



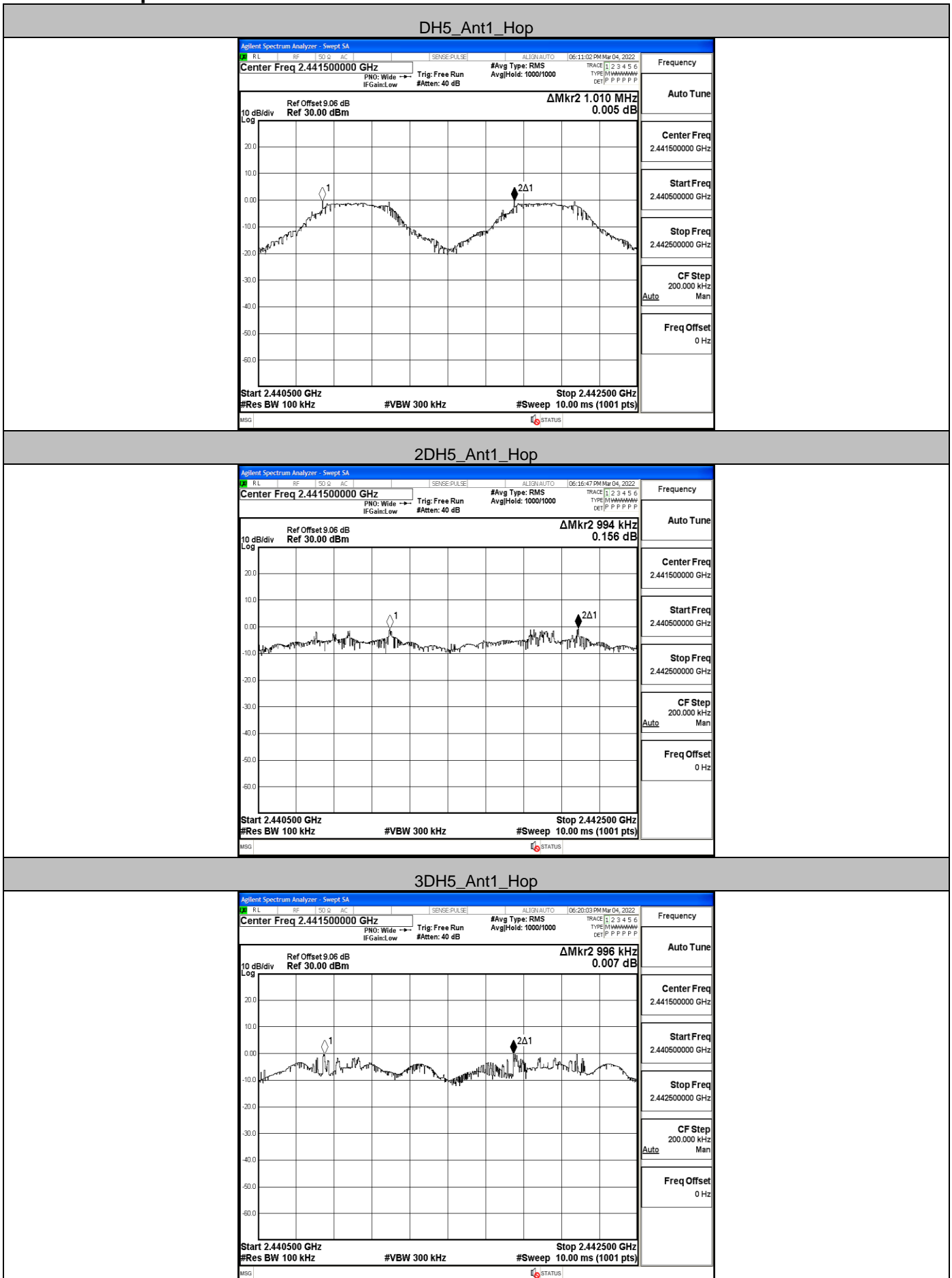
3DH5_Ant1_Hop



A.3 Carrier Frequency Separation

TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	1.01	≥ 0.948	PASS
2DH5	Ant1	Hop	0.994	≥ 0.882	PASS
3DH5	Ant1	Hop	0.996	≥ 0.852	PASS

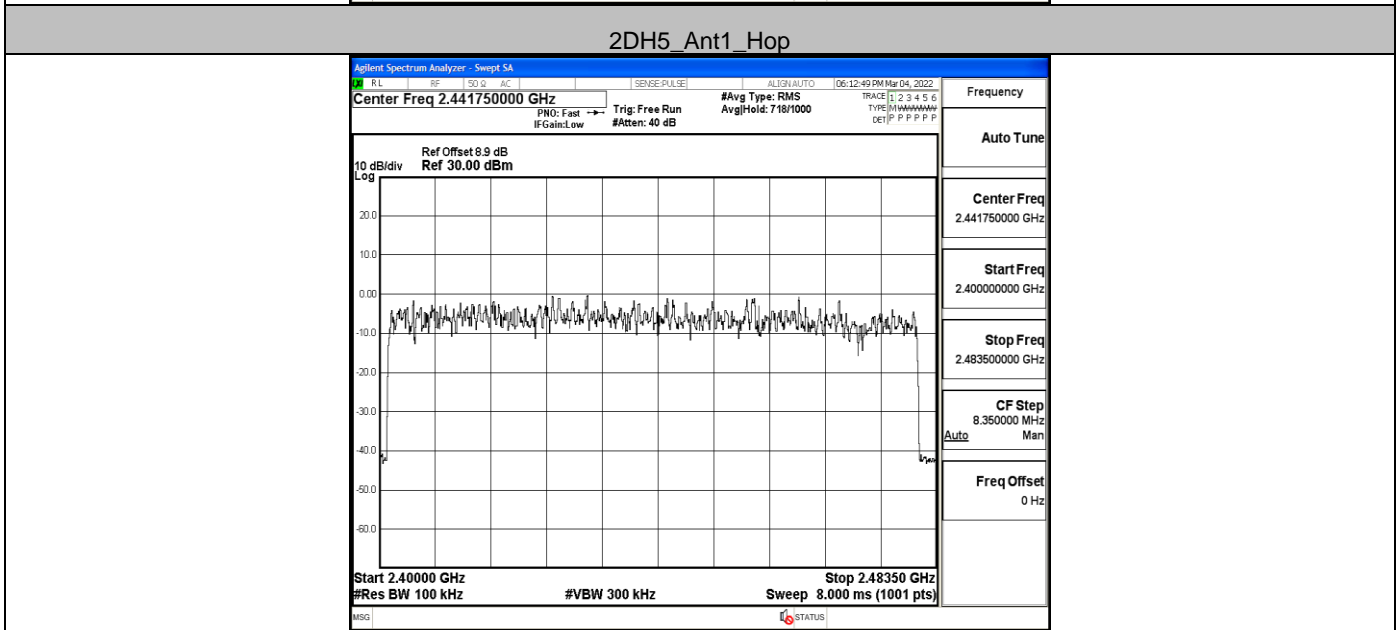
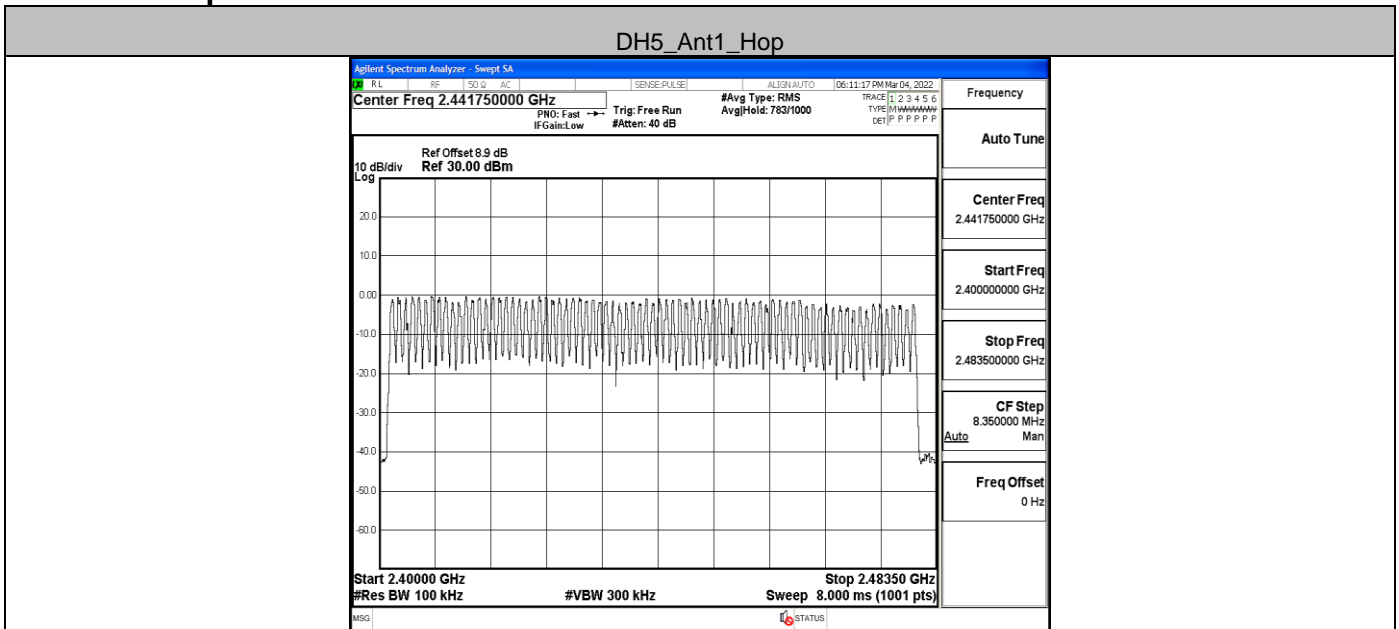
Test Graph



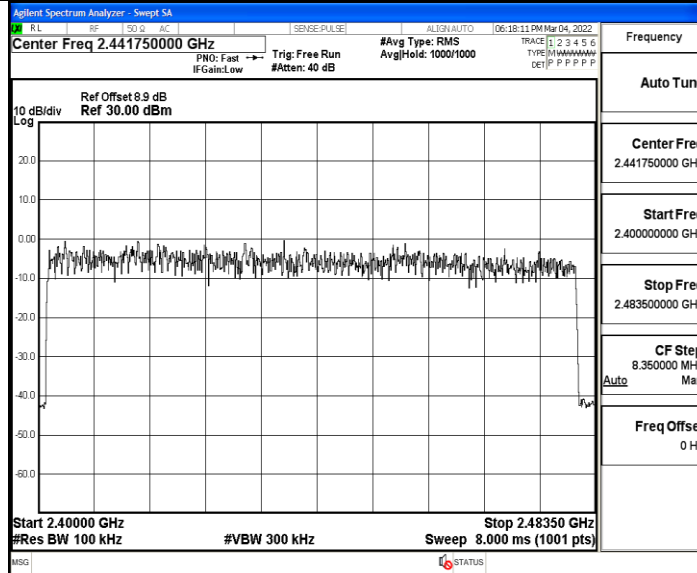
A.4 Hopping Channel Number

TestMode	Antenna	Channel	Result[Num]	Limit[Num]	Verdict
DH5	Ant1	Hop	79	≥15	PASS
2DH5	Ant1	Hop	79	≥15	PASS
3DH5	Ant1	Hop	79	≥15	PASS

Test Graph



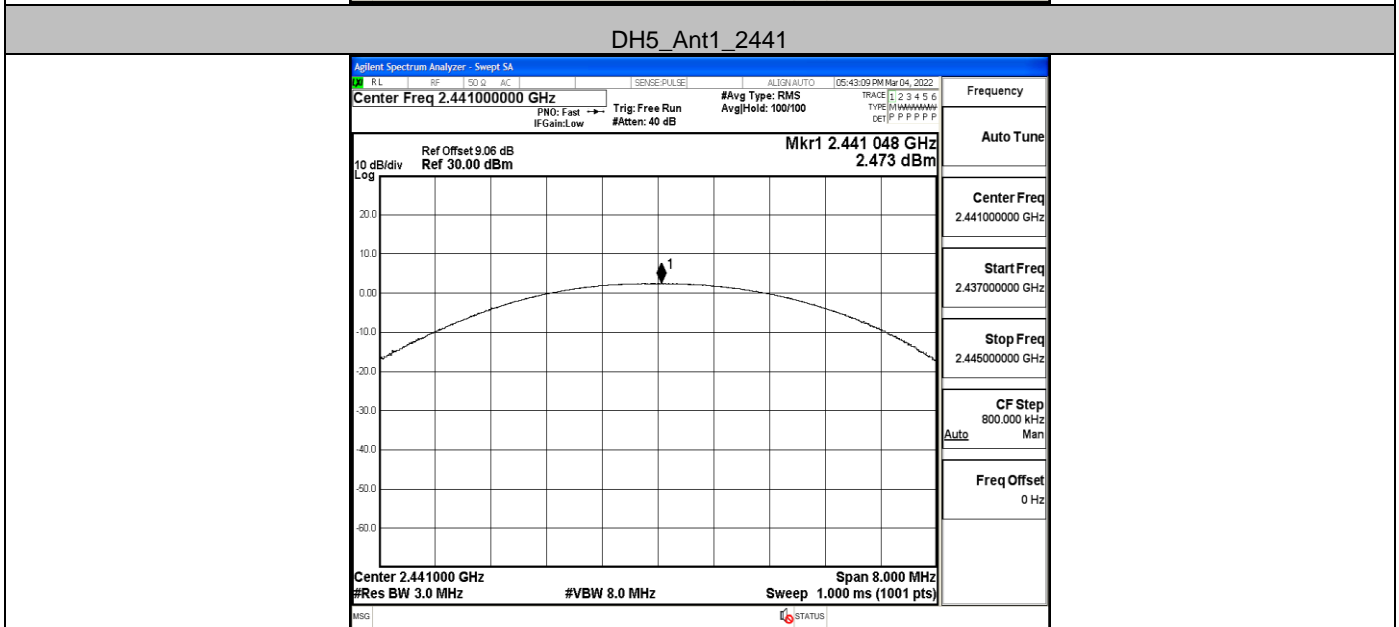
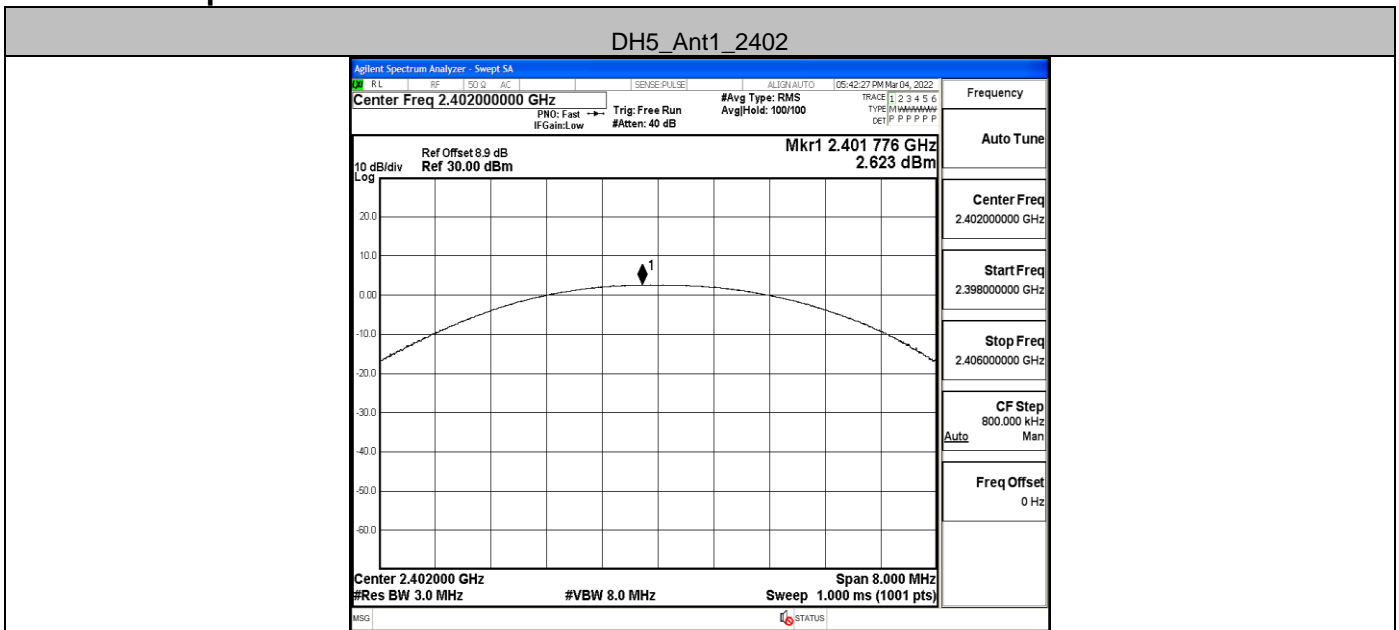
3DH5_Ant1_Hop



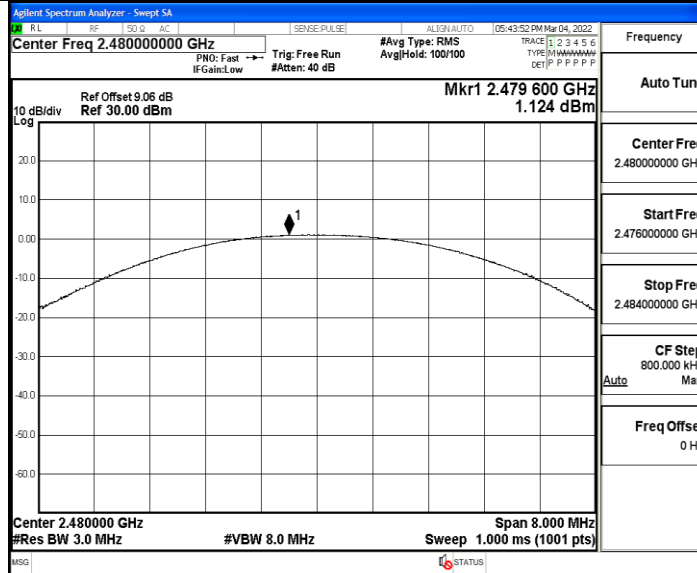
A.5 Conducted Peak Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	2.62	≤30	PASS
		2441	2.47	≤30	PASS
		2480	1.12	≤30	PASS
2DH5	Ant1	2402	1.33	≤20.97	PASS
		2441	1.11	≤20.97	PASS
		2480	-0.3	≤20.97	PASS
3DH5	Ant1	2402	1.86	≤20.97	PASS
		2441	1.55	≤20.97	PASS
		2480	0.18	≤20.97	PASS

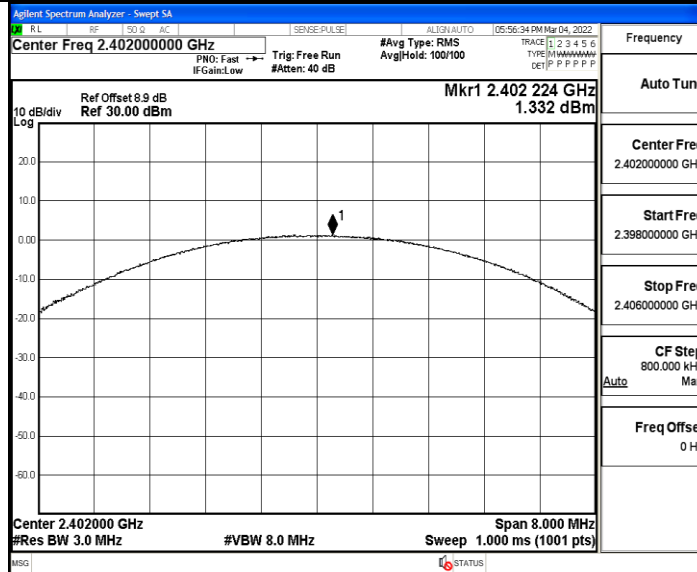
Test Graph



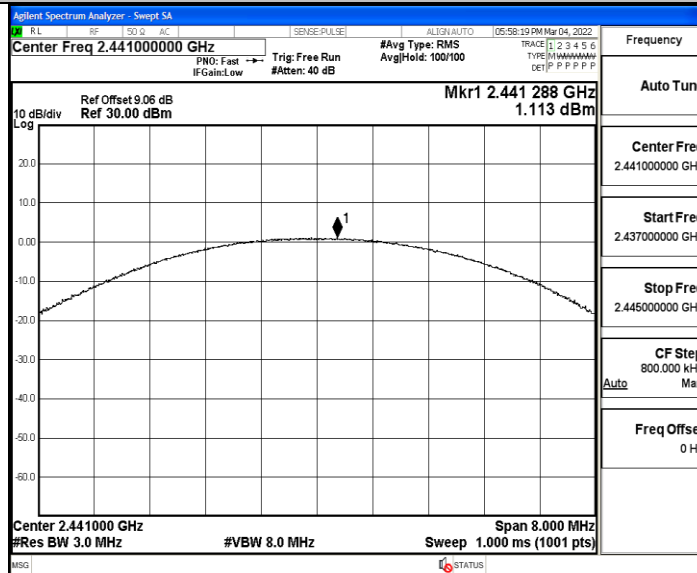
DH5_Ant1_2480



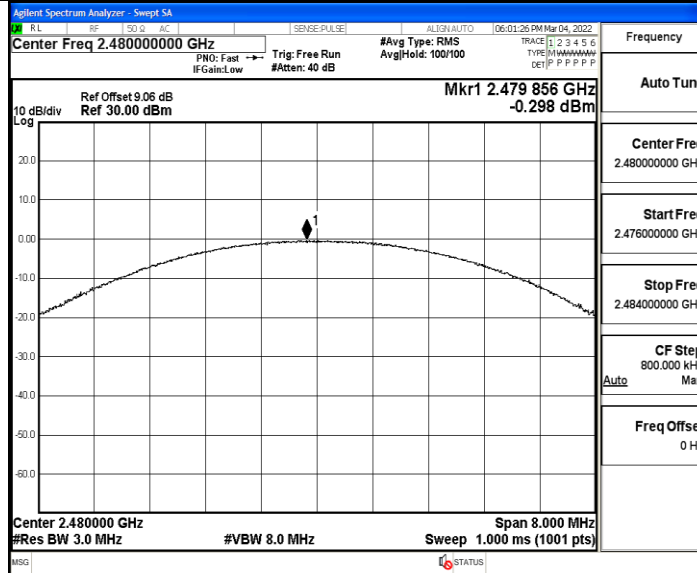
2DH5_Ant1_2402



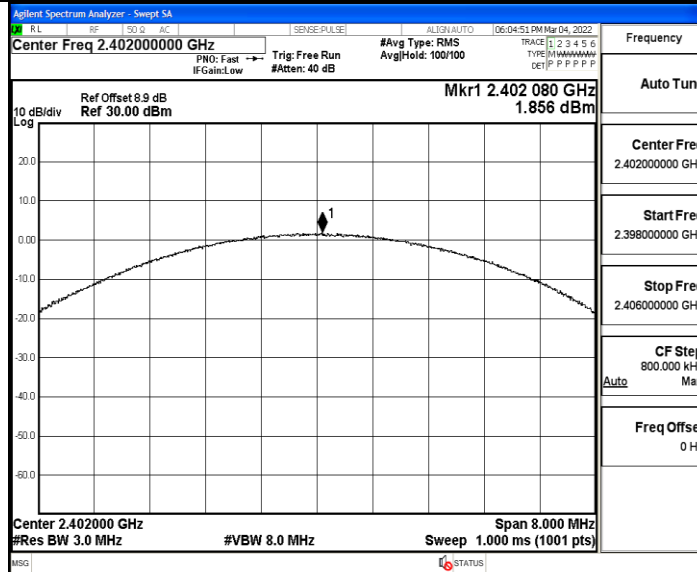
2DH5_Ant1_2441



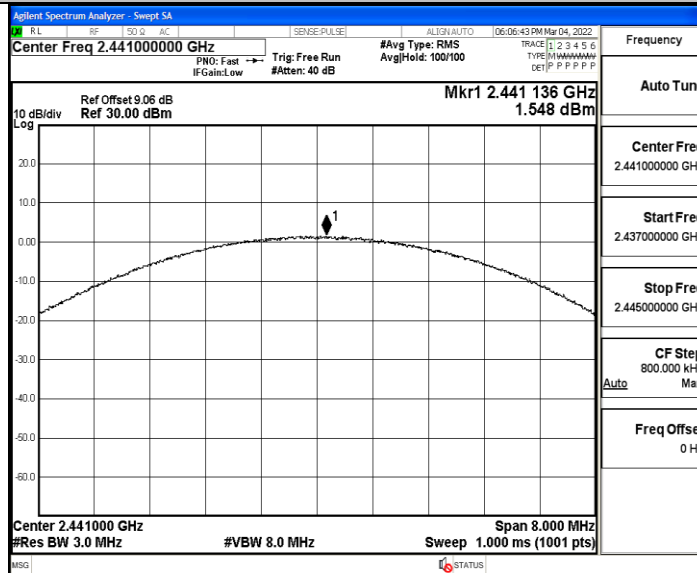
2DH5_Ant1_2480



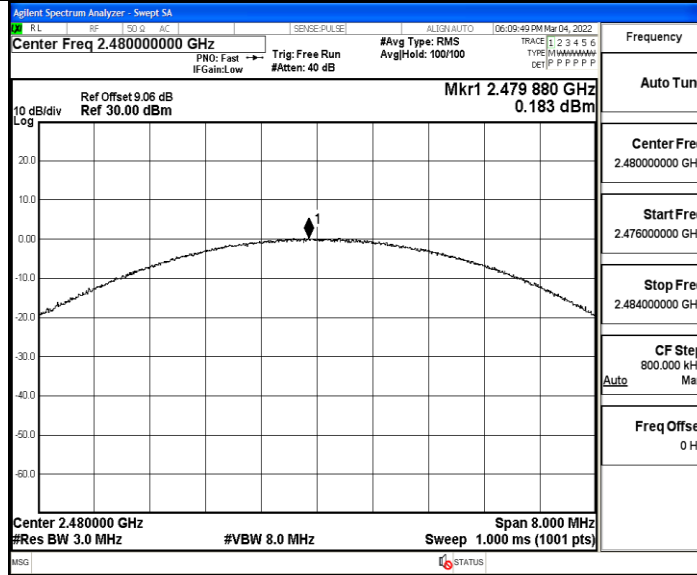
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

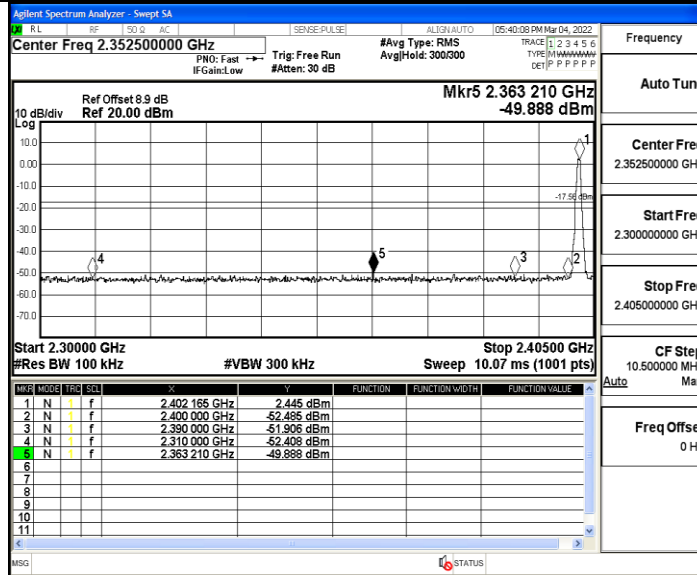


A.6 Band-edge for RF Conducted Emissions

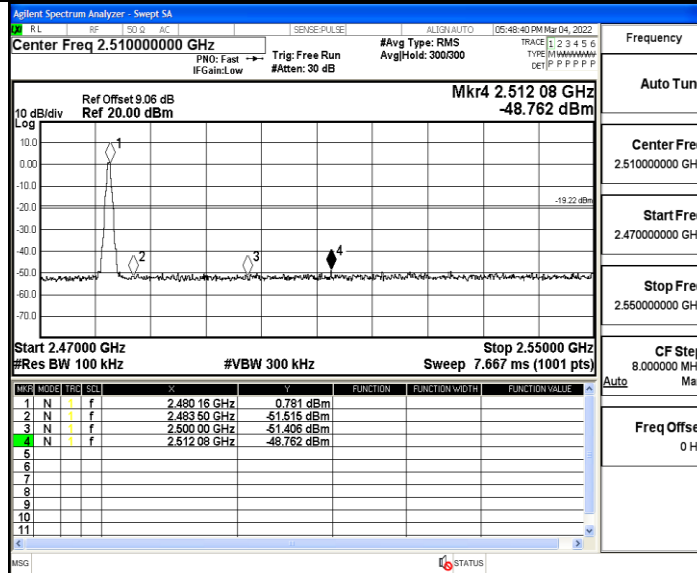
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.45	-49.89	≤-17.56	PASS
		High	2480	0.78	-48.76	≤-19.22	PASS
		Low	Hop_2402	-1.75	-50.14	≤-21.75	PASS
		High	Hop_2480	-2.14	-49.6	≤-22.14	PASS
2DH5	Ant1	Low	2402	-0.24	-50.31	≤-20.24	PASS
		High	2480	-2.54	-49.26	≤-22.54	PASS
		Low	Hop_2402	-3.70	-50.58	≤-23.7	PASS
		High	Hop_2480	-2.50	-48.94	≤-22.5	PASS
3DH5	Ant1	Low	2402	-1.37	-49.39	≤-21.37	PASS
		High	2480	-1.94	-49.39	≤-21.94	PASS
		Low	Hop_2402	-0.98	-50.53	≤-20.98	PASS
		High	Hop_2480	-4.53	-49.52	≤-24.53	PASS

Test Graph

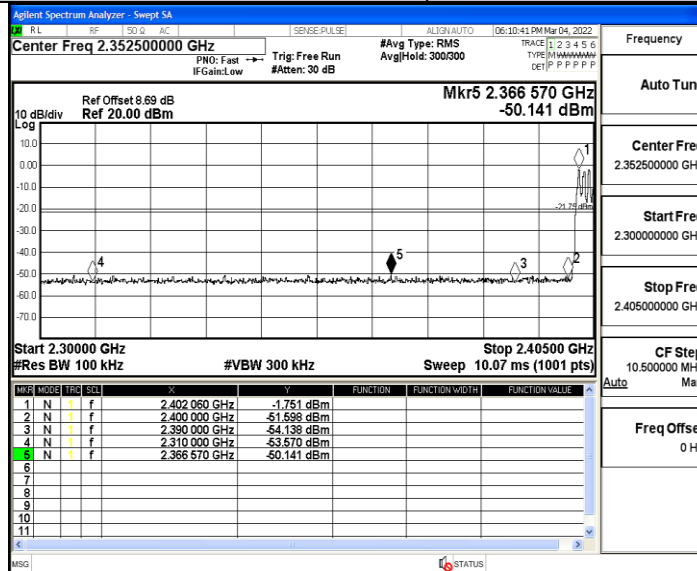
DH5_Ant1_Low_2402



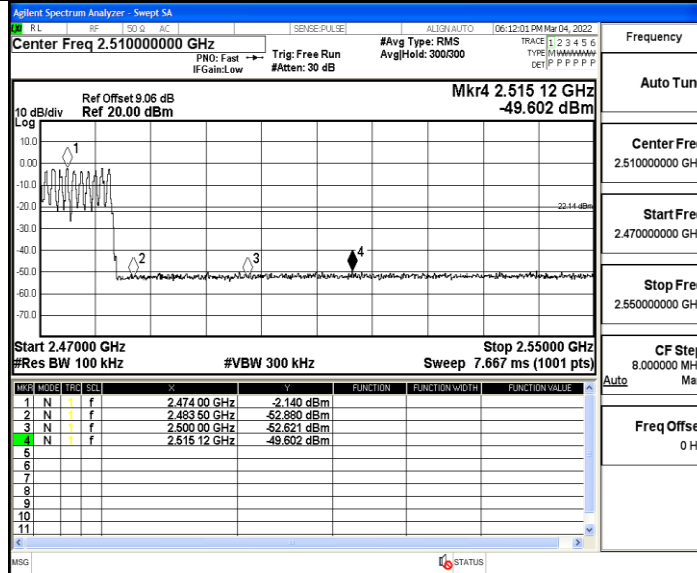
DH5_Ant1_High_2480



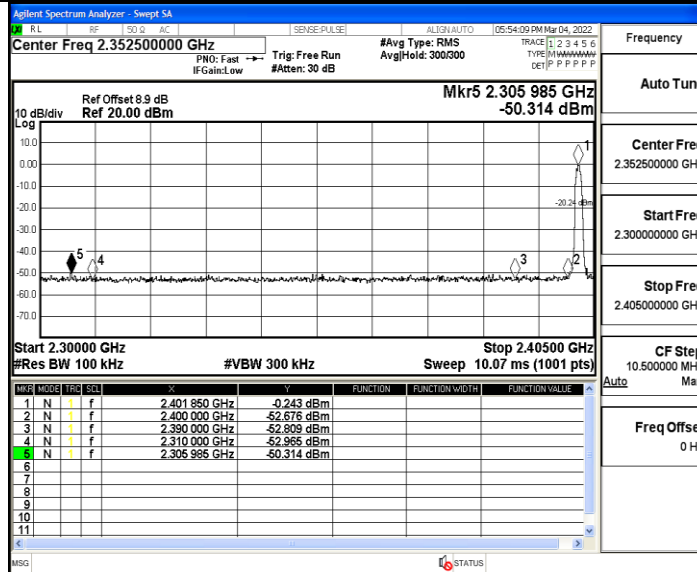
DH5_Ant1_Low_Hop_2402



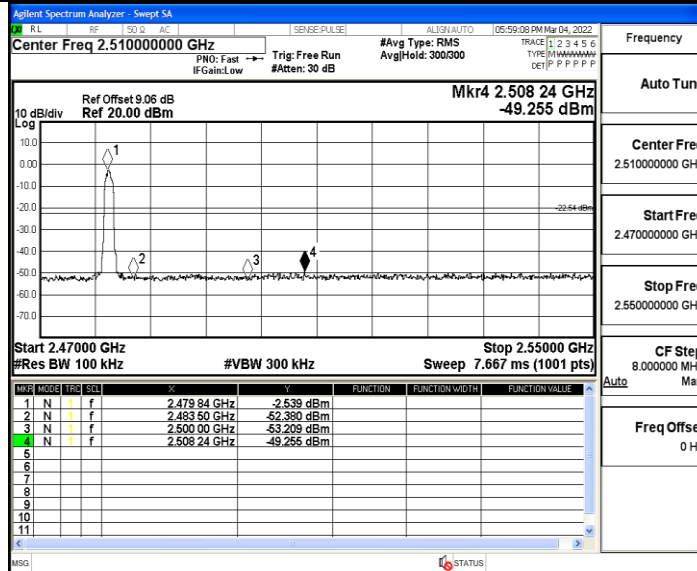
DH5_Ant1_High_Hop_2480



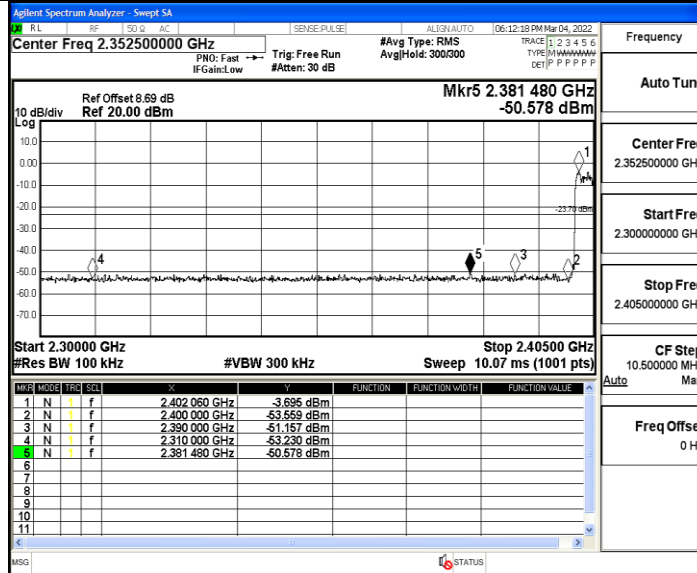
2DH5_Ant1_Low_2402



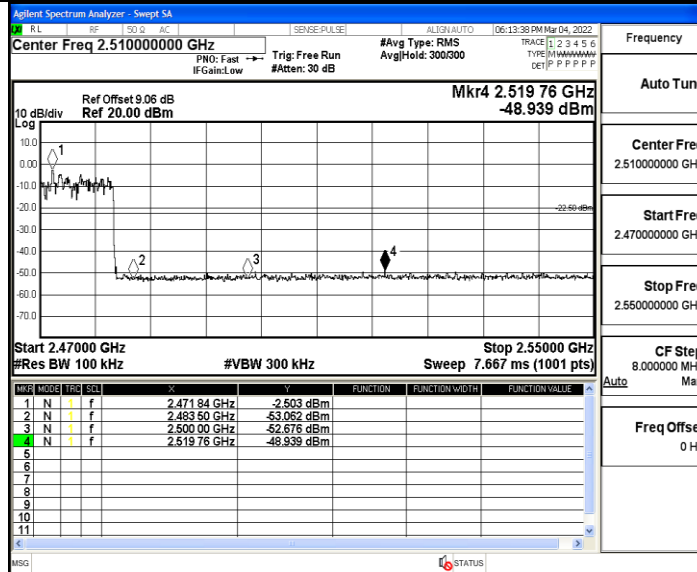
2DH5_Ant1_High_2480



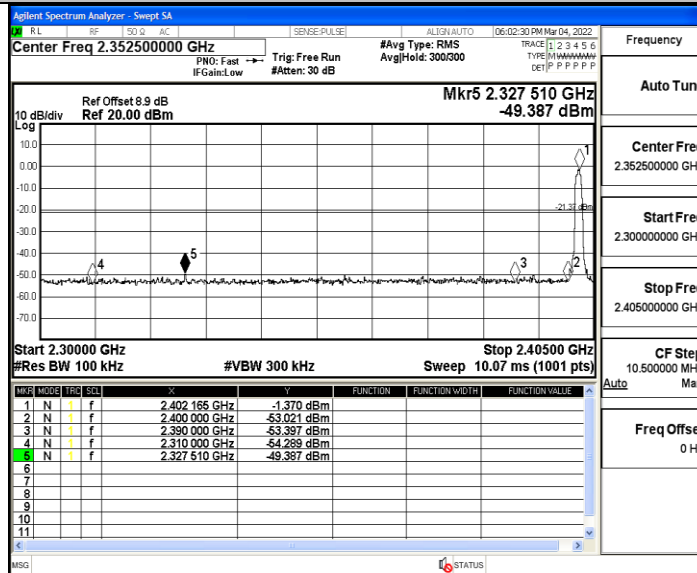
2DH5_Ant1_Low_Hop_2402



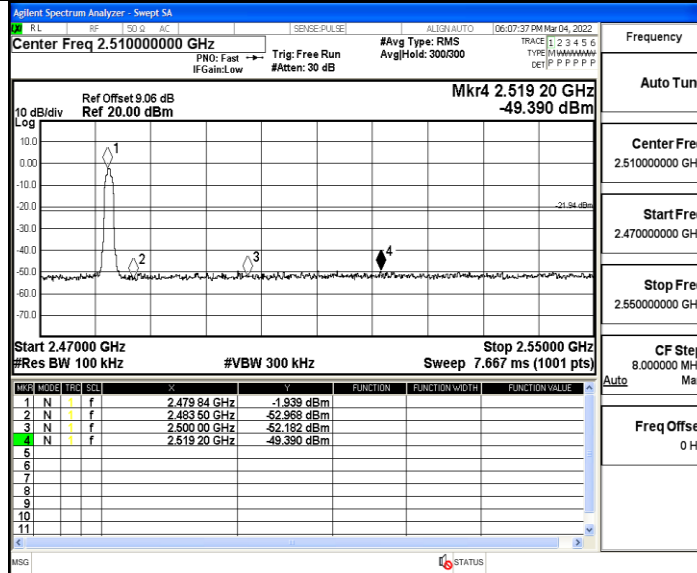
2DH5_Ant1_High_Hop_2480



3DH5_Ant1_Low_2402

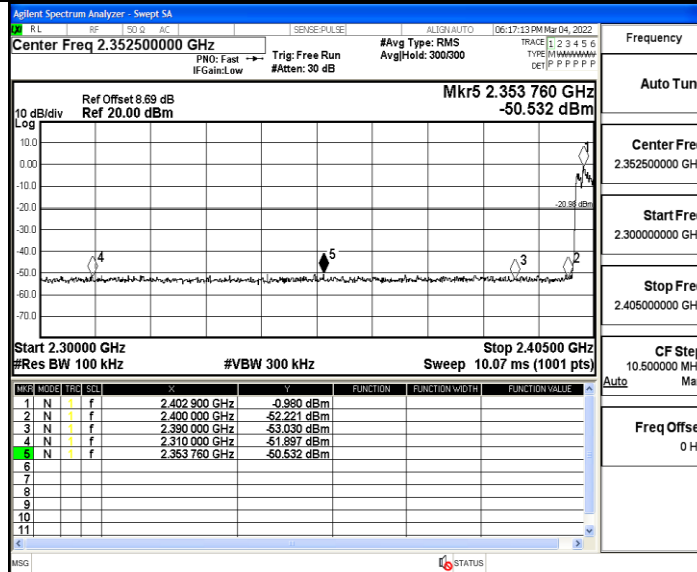


3DH5_Ant1_High_2480



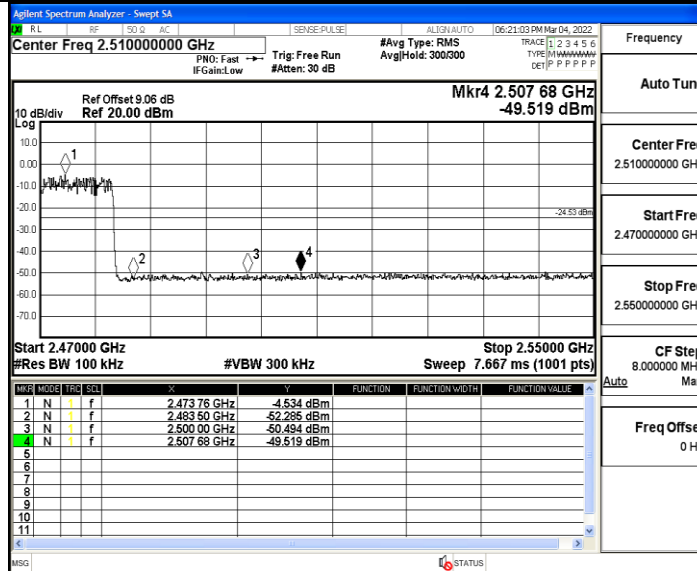
Frequency	Auto Tune
Center Freq	2.51000000 GHz
Start Freq	2.47000000 GHz
Stop Freq	2.55000000 GHz
CF Step	8.000000 MHz
Freq Offset	0 Hz

3DH5_Ant1_Low_Hop_2402



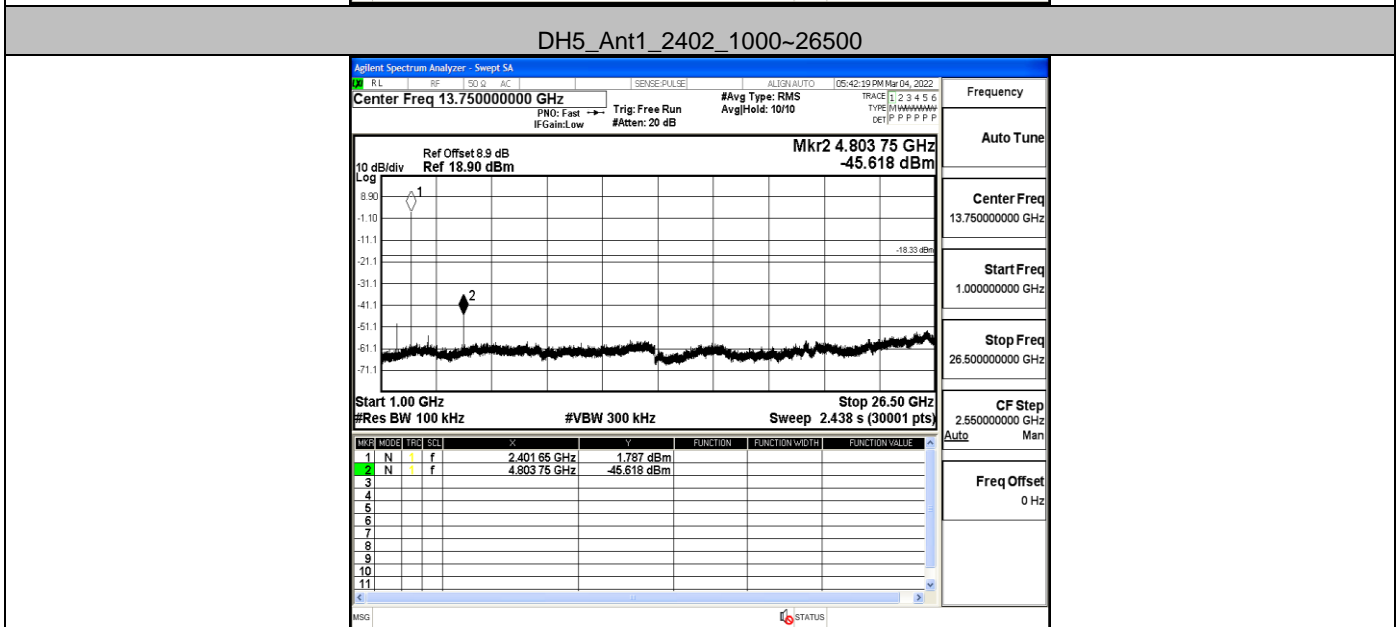
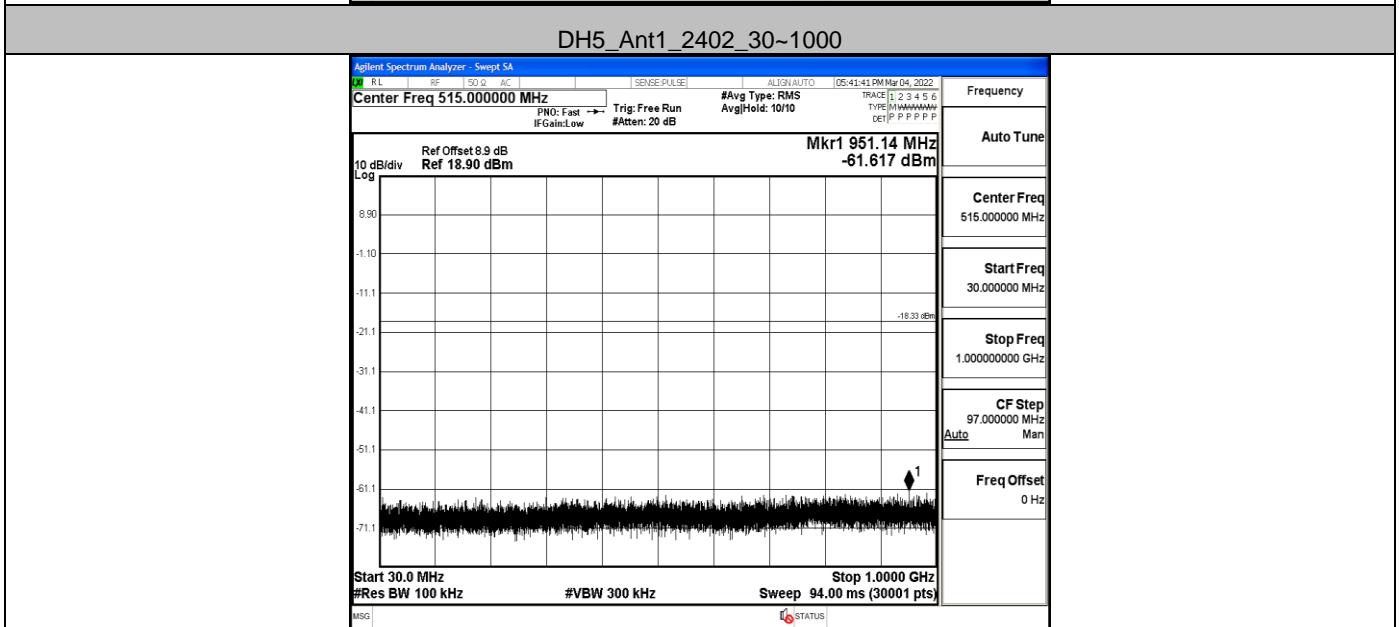
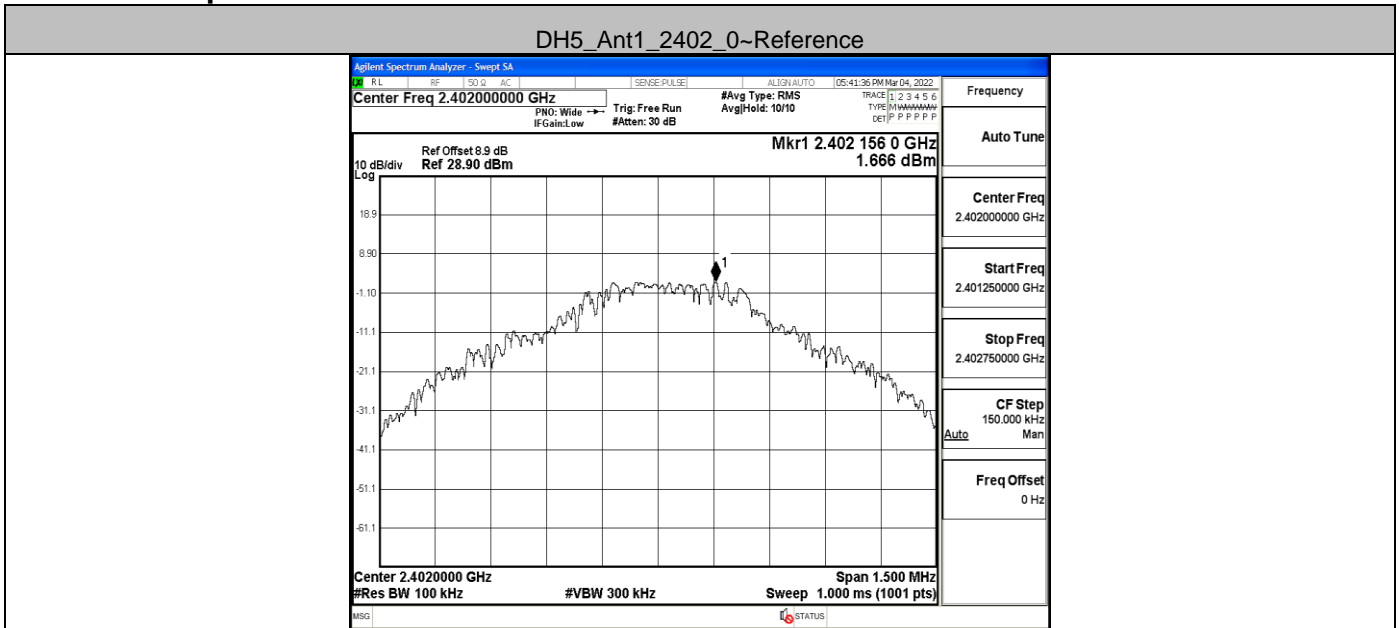
Frequency	Auto Tune
Center Freq	2.35250000 GHz
Start Freq	2.30000000 GHz
Stop Freq	2.40500000 GHz
CF Step	10.500000 MHz
Freq Offset	0 Hz

3DH5_Ant1_High_Hop_2480

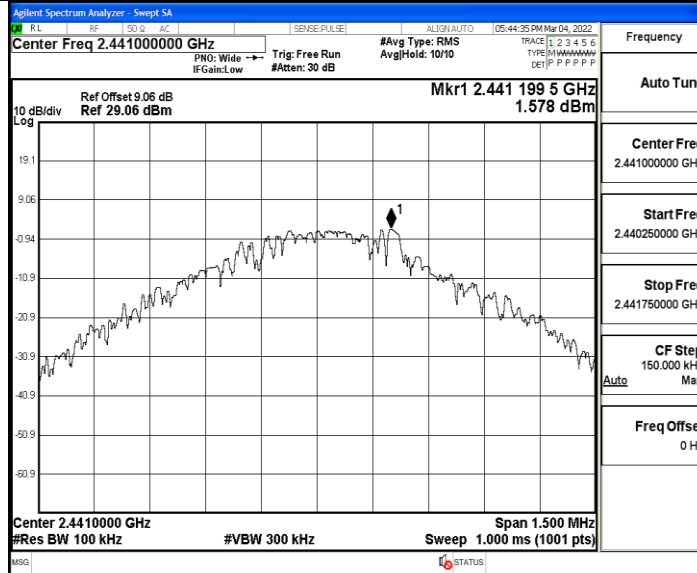


Frequency	Auto Tune
Center Freq	2.51000000 GHz
Start Freq	2.47000000 GHz
Stop Freq	2.55000000 GHz
CF Step	8.000000 MHz
Freq Offset	0 Hz

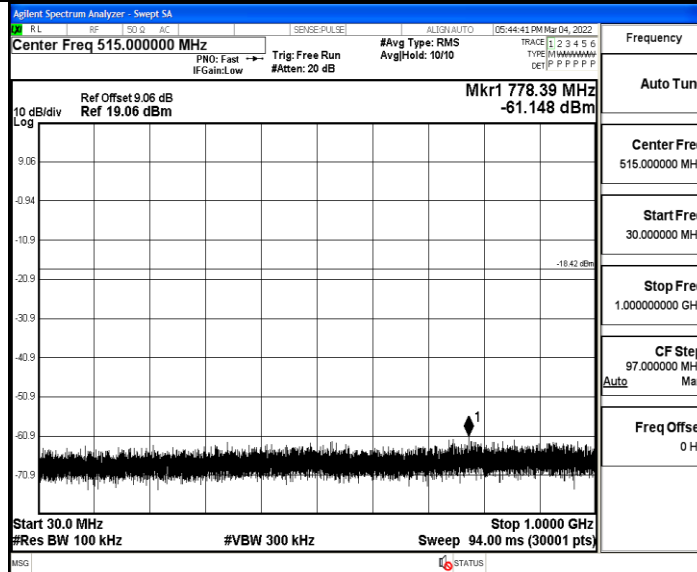
A.7 RF Conducted Spurious Emissions Test Graph



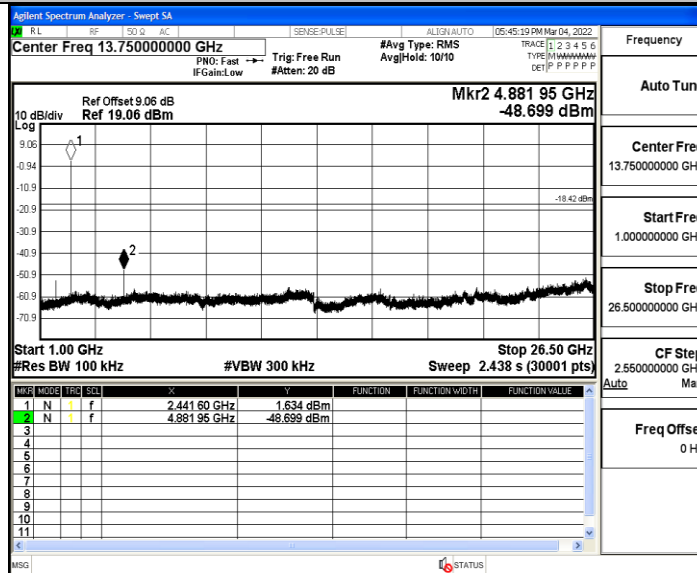
DH5_Ant1_2441_0~Reference



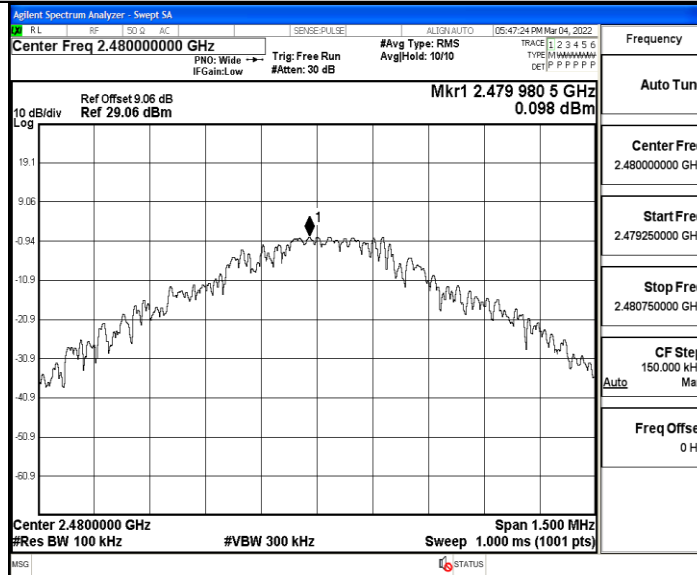
DH5_Ant1_2441_30~1000



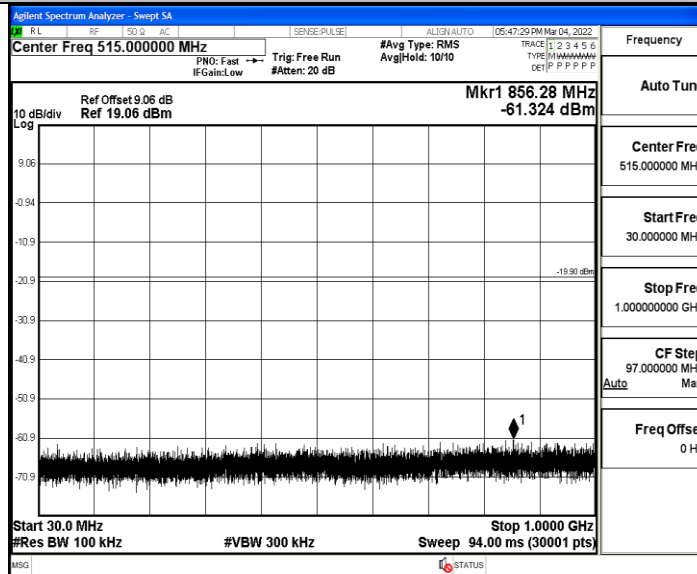
DH5_Ant1_2441_1000~26500



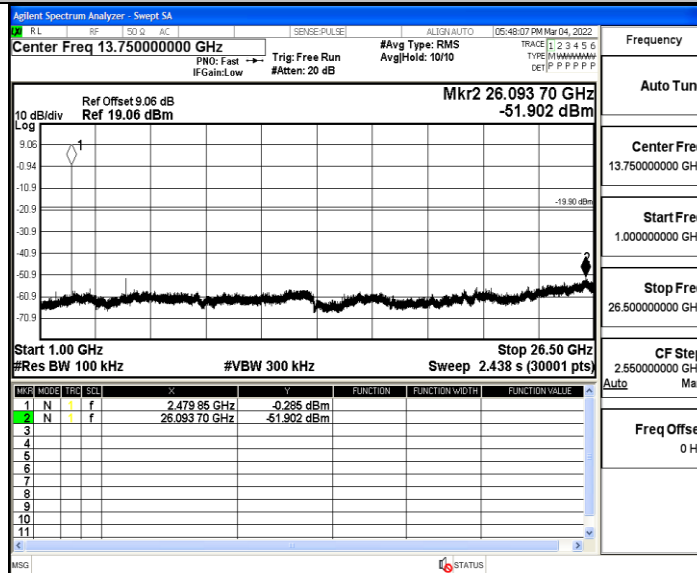
DH5_Ant1_2480_0~Reference



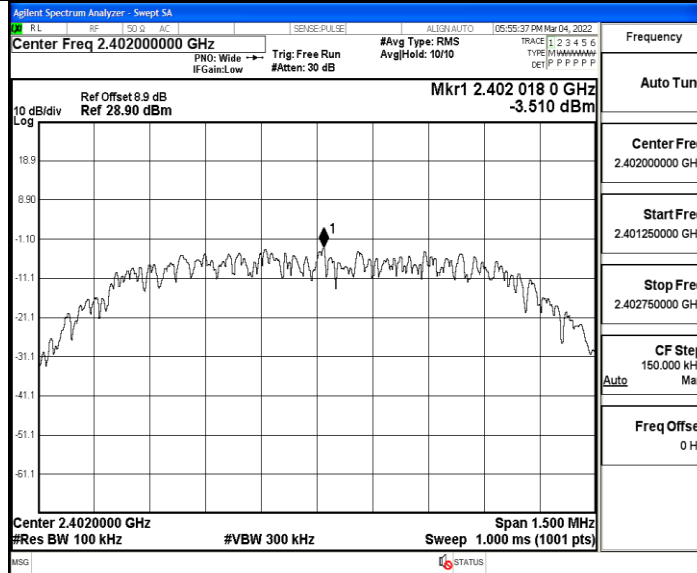
DH5_Ant1_2480_30~1000



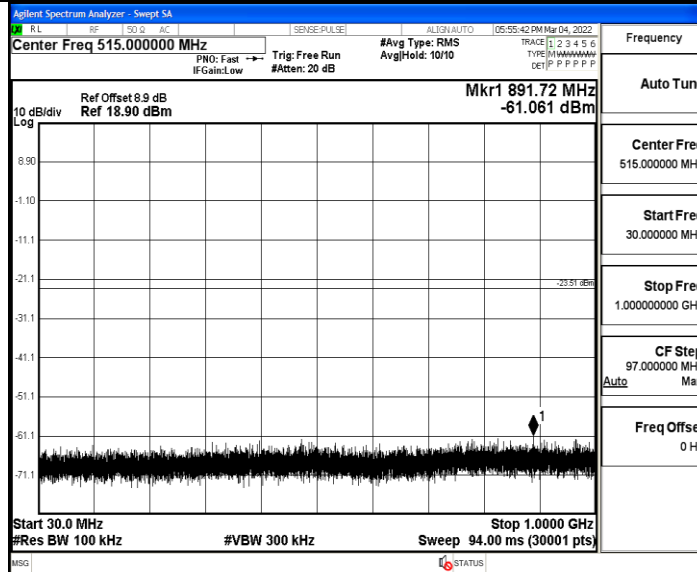
DH5_Ant1_2480_1000~26500



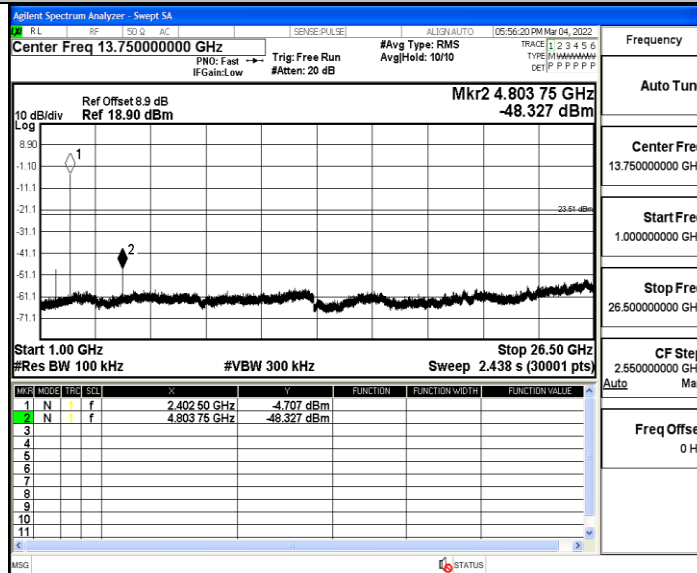
2DH5_Ant1_2402_0~Reference



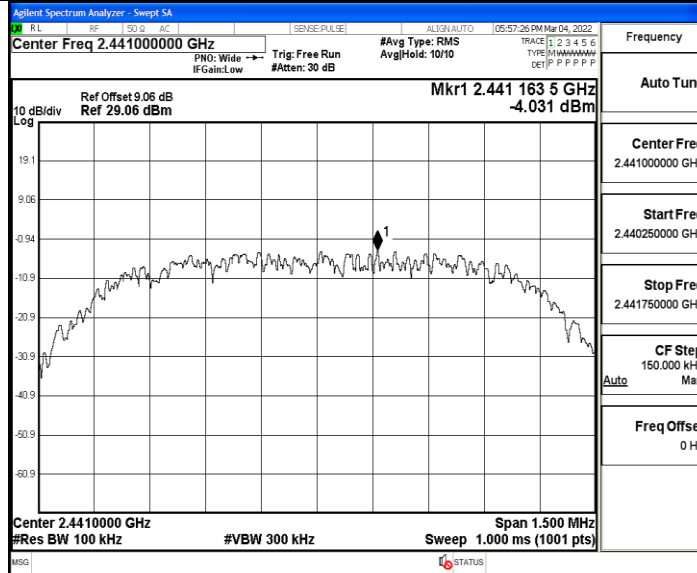
2DH5_Ant1_2402_30~1000



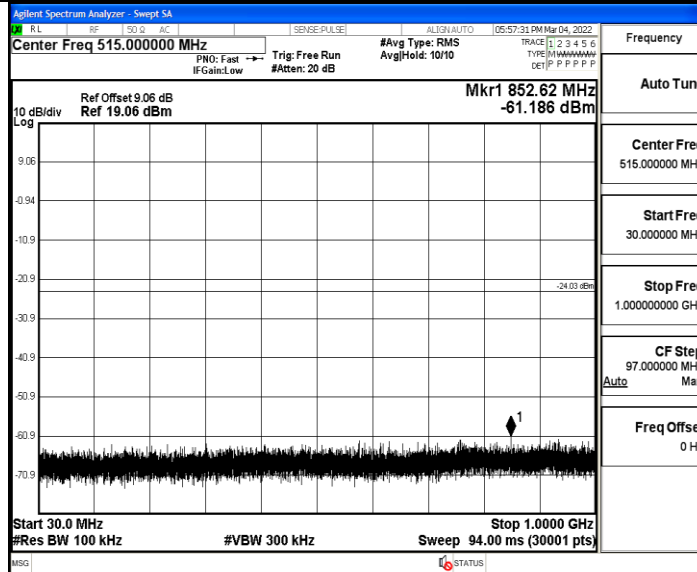
2DH5_Ant1_2402_1000~26500



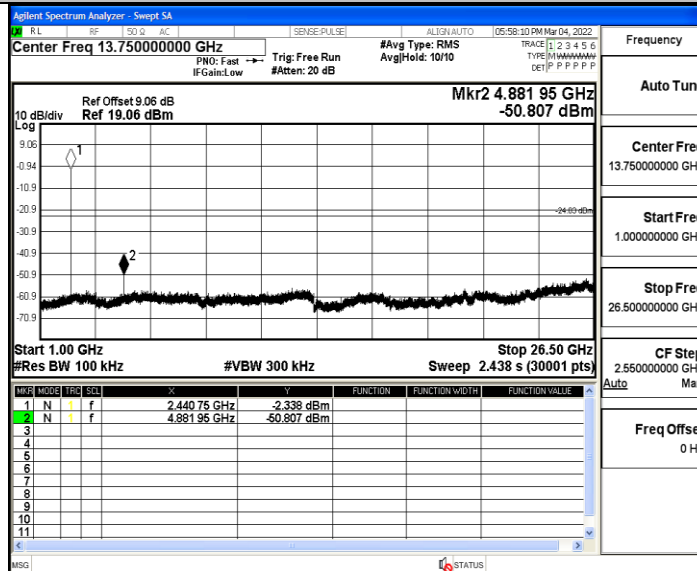
2DH5_Ant1_2441_0~Reference



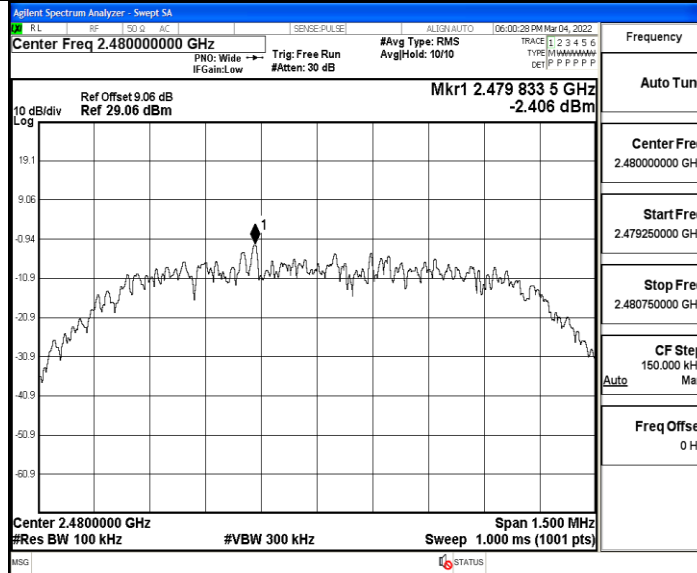
2DH5_Ant1_2441_30~1000



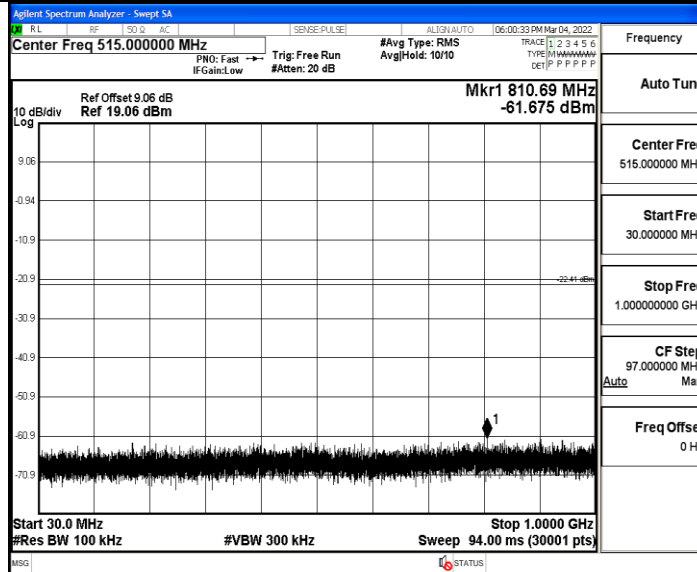
2DH5_Ant1_2441_1000~26500



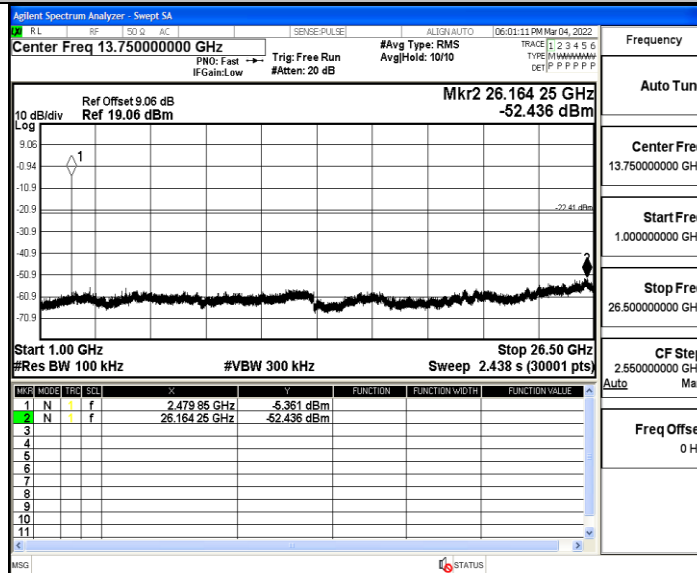
2DH5_Ant1_2480_0~Reference



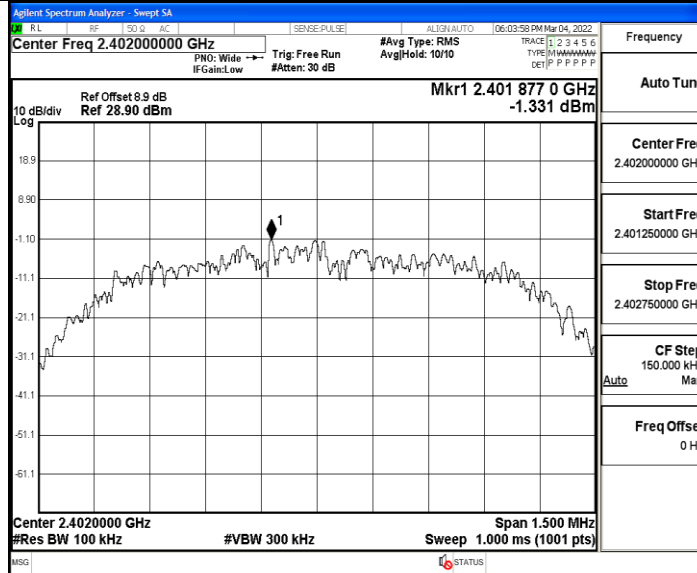
2DH5_Ant1_2480_30~1000



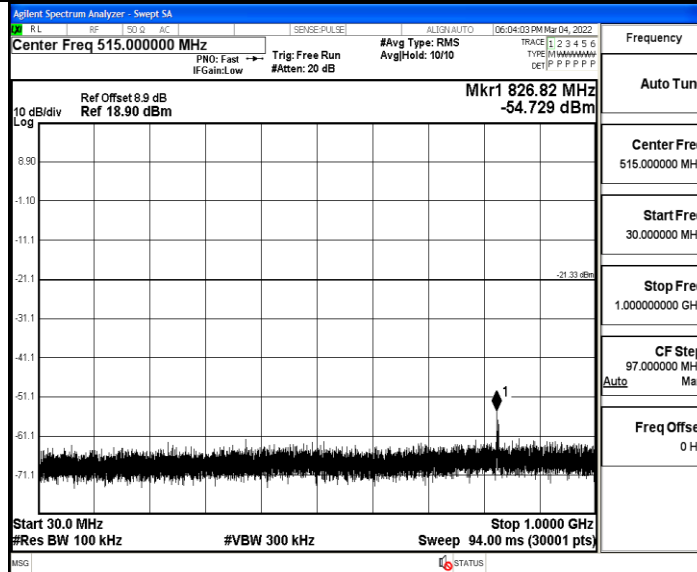
2DH5_Ant1_2480_1000~26500



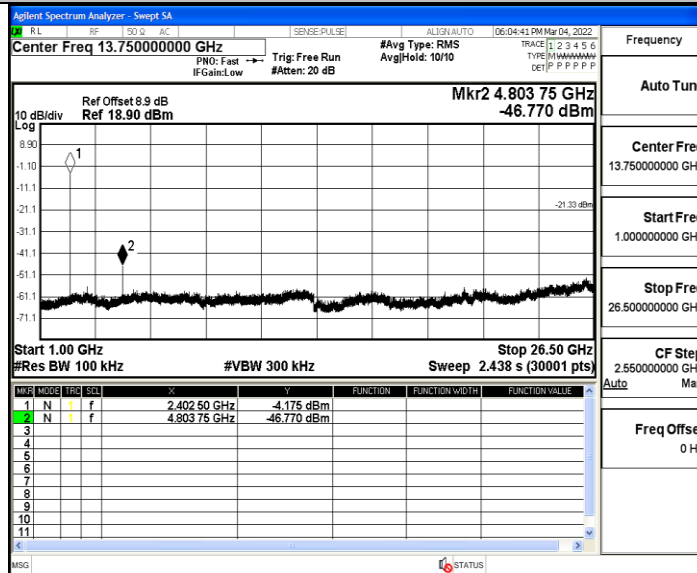
3DH5_Ant1_2402_0~Reference



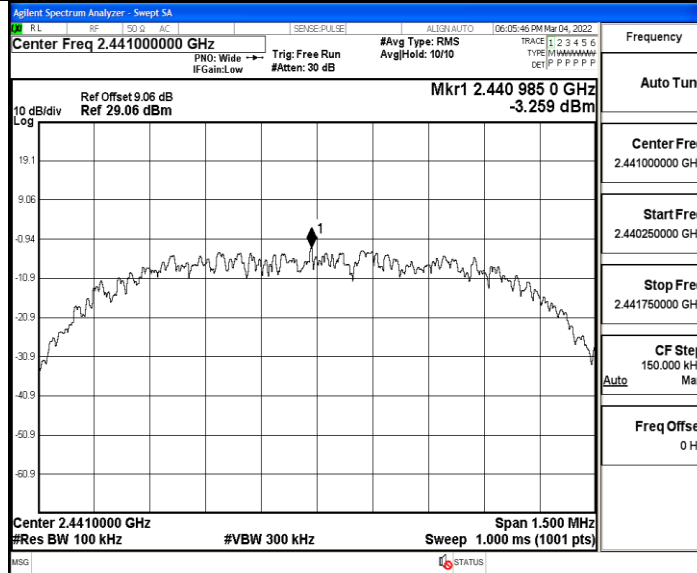
3DH5_Ant1_2402_30~1000



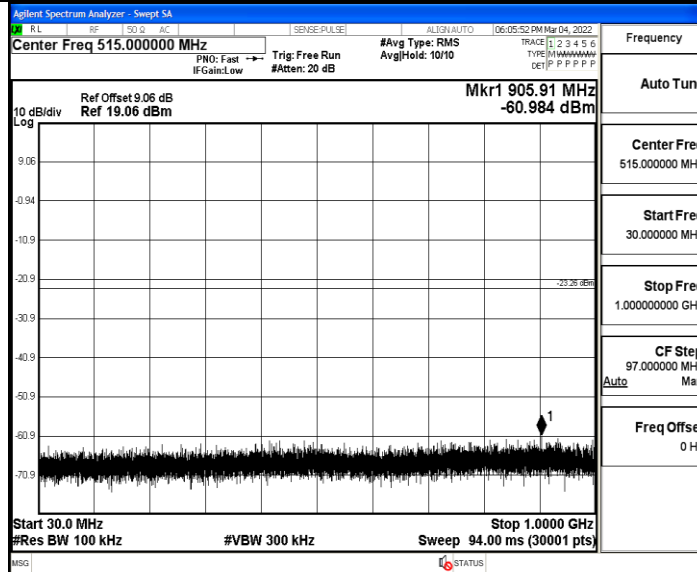
3DH5_Ant1_2402_1000~26500



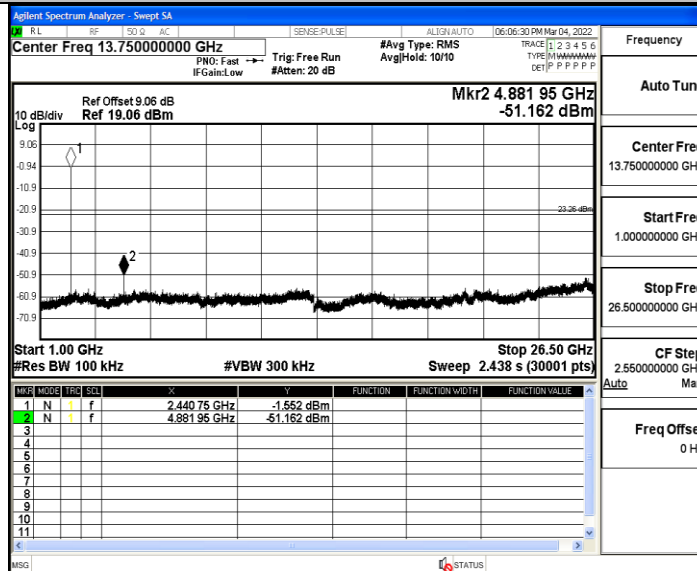
3DH5_Ant1_2441_0~Reference



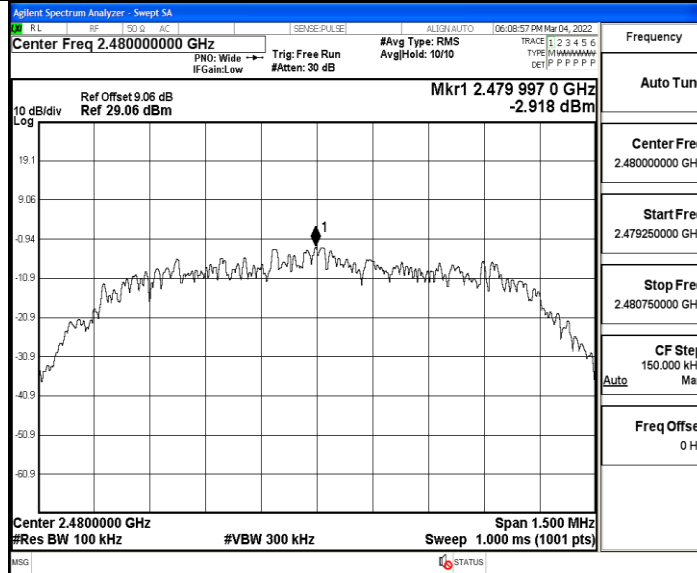
3DH5_Ant1_2441_30~1000



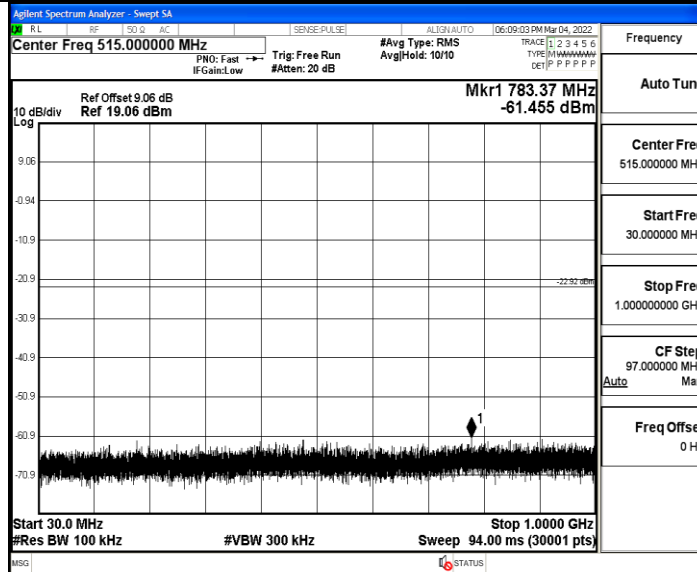
3DH5_Ant1_2441_1000~26500



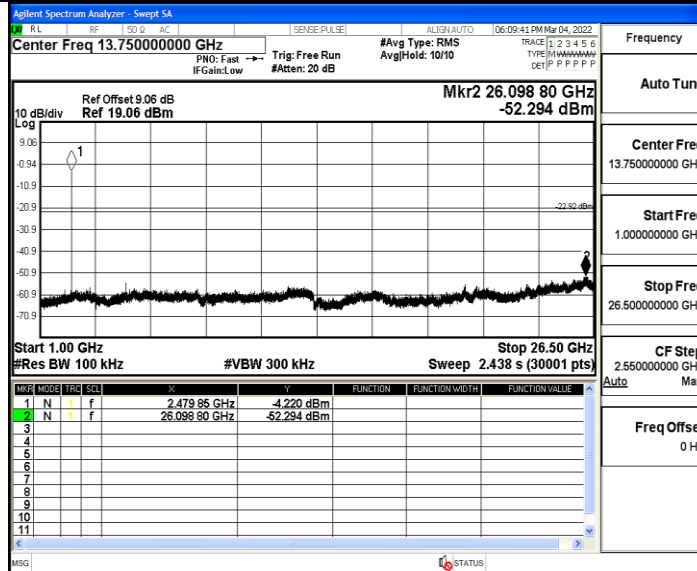
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000~26500



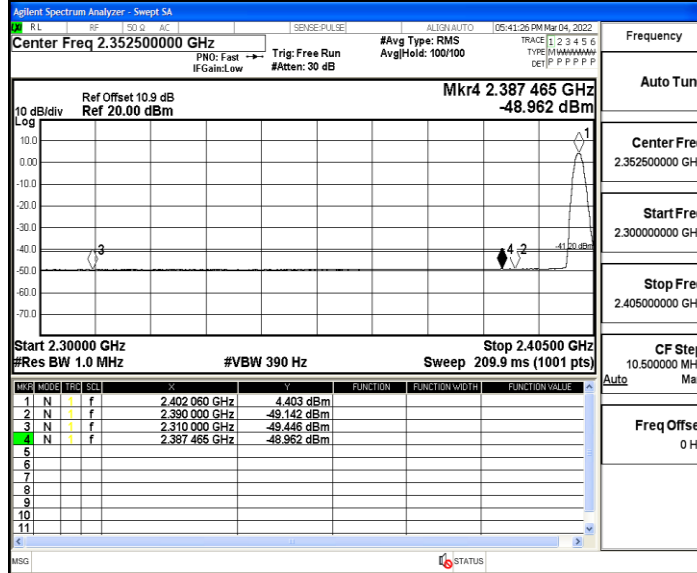
A.8 Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-49.45	≤-41.20	PASS
				AV	2387.465	-48.96	≤-41.20	PASS
				AV	2390.000	-49.14	≤-41.20	PASS
				Peak	2310.000	-41.18	≤-21.20	PASS
				Peak	2363.945	-39.24	≤-21.20	PASS
				Peak	2390.000	-42.34	≤-21.20	PASS
		High	2480	AV	2483.500	-48.29	≤-41.20	PASS
				AV	2499.920	-48.24	≤-41.20	PASS
				AV	2500.000	-48.24	≤-41.20	PASS
				Peak	2483.500	-42.51	≤-21.20	PASS
				Peak	2487.360	-38.55	≤-21.20	PASS
				Peak	2500.000	-41.58	≤-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-49.37	≤-41.20	PASS
				AV	2389.565	-48.93	≤-41.20	PASS
				AV	2390.000	-49.09	≤-41.20	PASS
				Peak	2310.000	-41.77	≤-21.20	PASS
				Peak	2320.685	-38.44	≤-21.20	PASS
				Peak	2390.000	-39.68	≤-21.20	PASS
		High	2480	AV	2483.500	-48.33	≤-41.20	PASS
				AV	2498.720	-48.32	≤-41.20	PASS
				AV	2500.000	-48.44	≤-41.20	PASS
				Peak	2483.500	-41.31	≤-21.20	PASS
				Peak	2499.120	-39.18	≤-21.20	PASS
				Peak	2500.000	-42.04	≤-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-49.32	≤-41.20	PASS
				AV	2387.990	-48.93	≤-41.20	PASS
				AV	2390.000	-49.06	≤-41.20	PASS
				Peak	2310.000	-42.06	≤-21.20	PASS
				Peak	2346.515	-38.83	≤-21.20	PASS
				Peak	2390.000	-42.27	≤-21.20	PASS
		High	2480	AV	2483.500	-48.38	≤-41.20	PASS
				AV	2499.680	-48.28	≤-41.20	PASS
				AV	2500.000	-48.44	≤-41.20	PASS
				Peak	2483.500	-41.15	≤-21.20	PASS
				Peak	2491.600	-38.79	≤-21.20	PASS
				Peak	2500.000	-41.43	≤-21.20	PASS

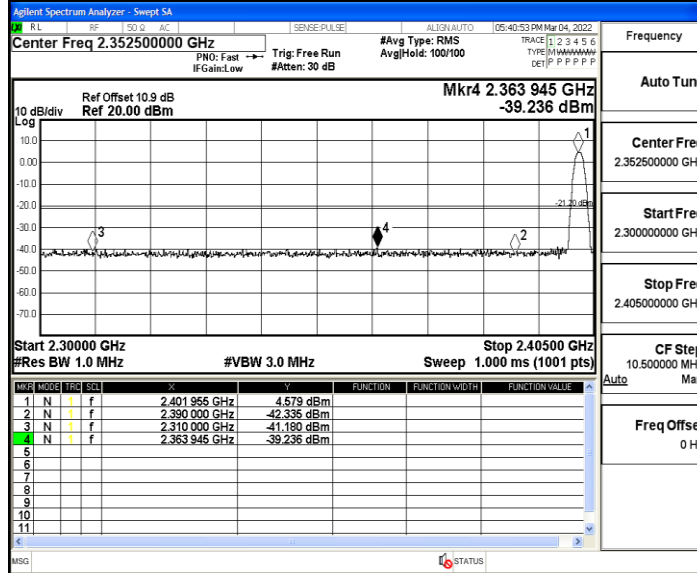
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

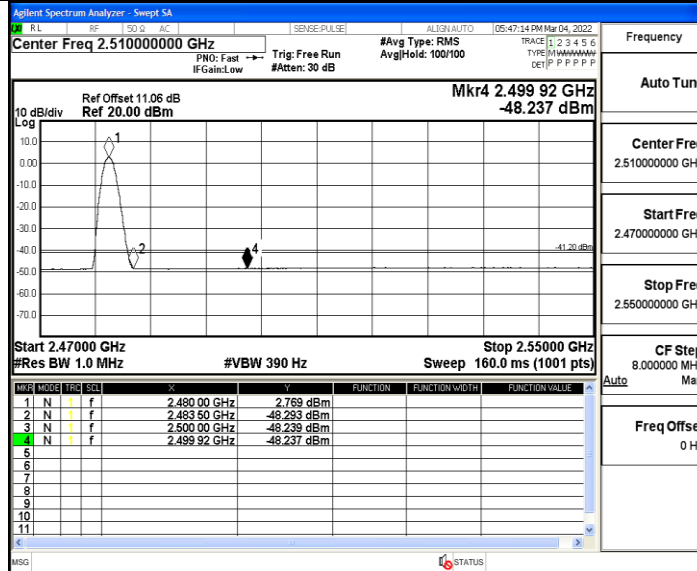
DH5_Ant1_Low_2402_AV



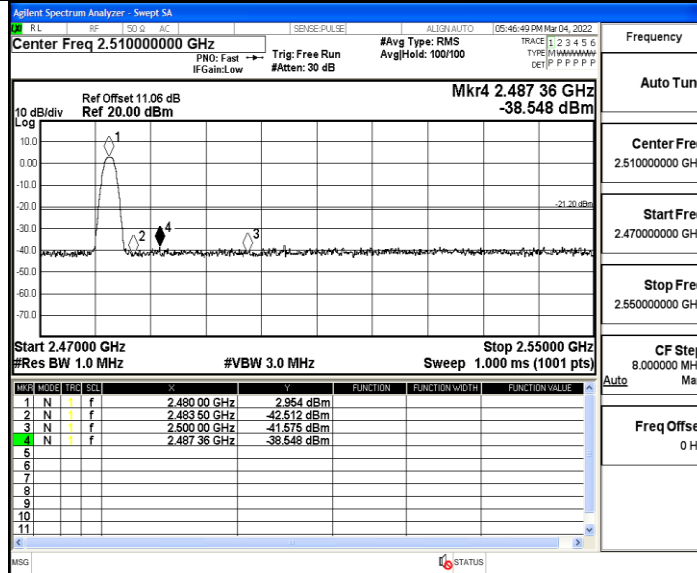
DH5_Ant1_Low_2402_Peak



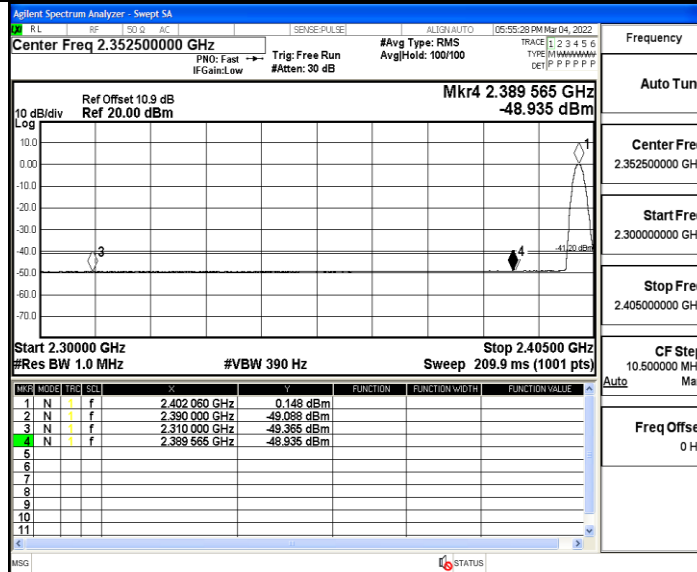
DH5_Ant1_High_2480_AV



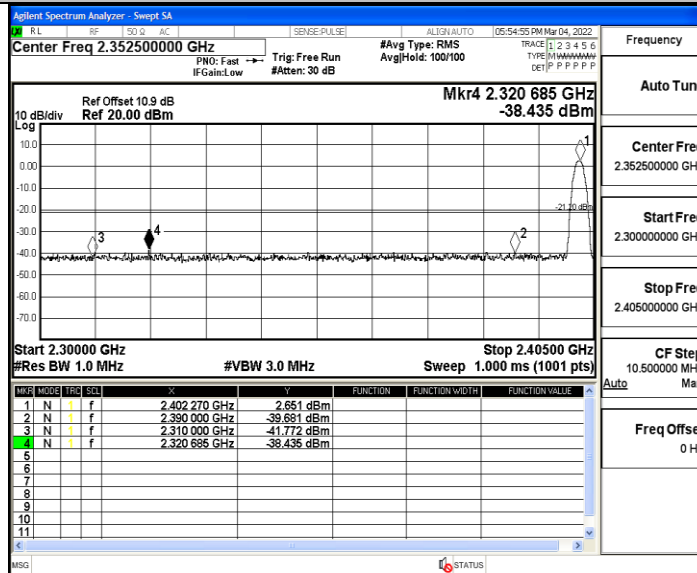
DH5_Ant1_High_2480_Peak



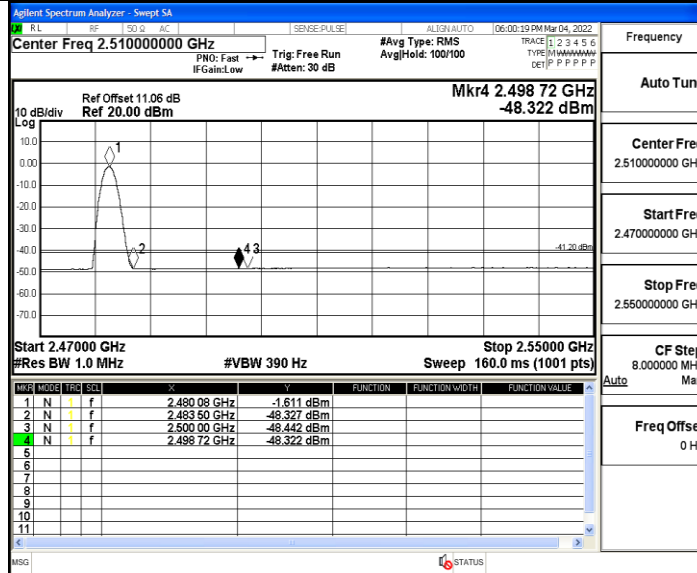
2DH5_Ant1_Low_2402_AV



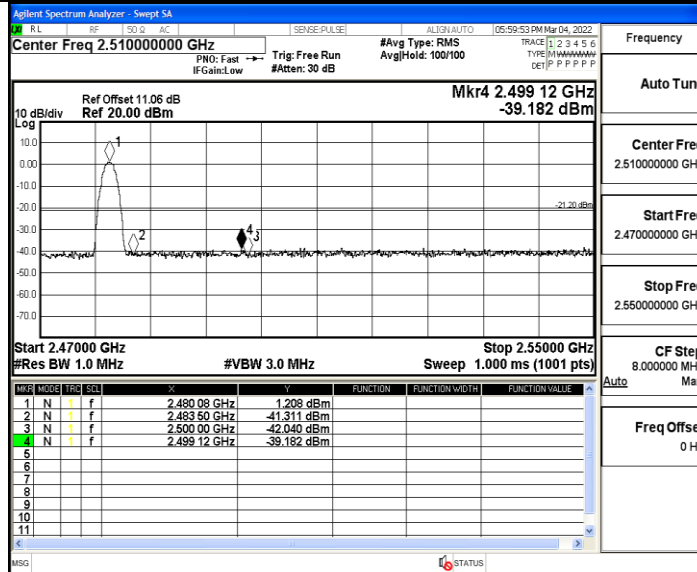
2DH5_Ant1_Low_2402_Peak



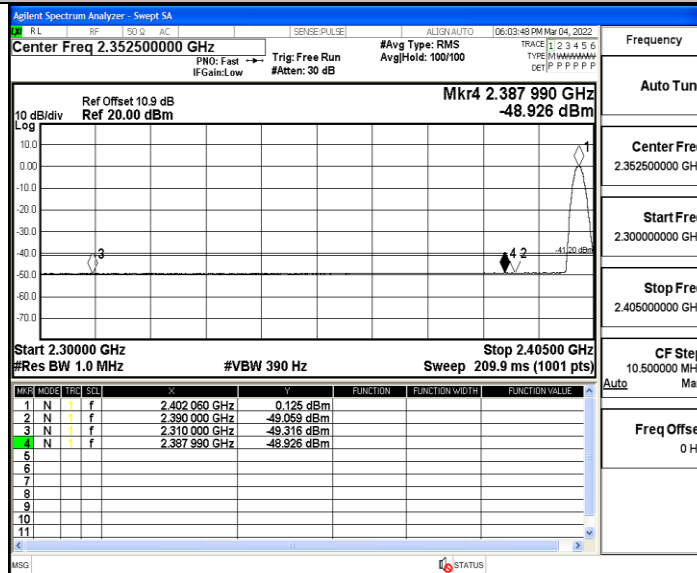
2DH5_Ant1_High_2480_AV



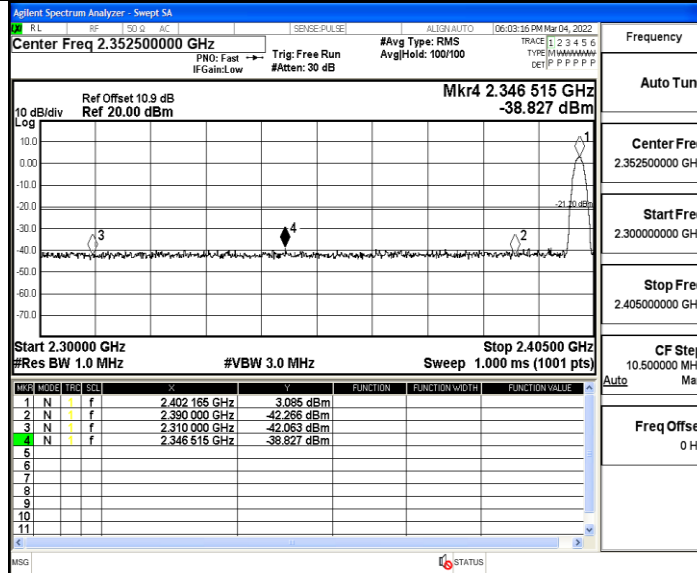
2DH5_Ant1_High_2480_Peak



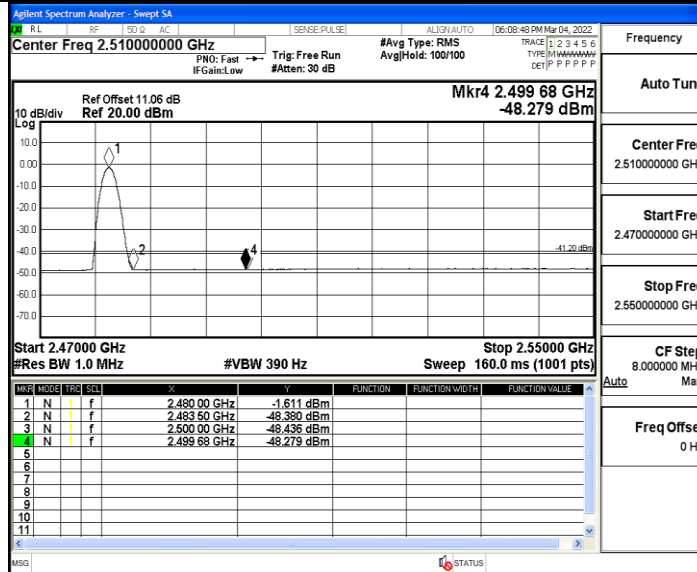
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

