

Appendix A

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

Product Name: 8-Pin Bluetooth 4.2 Audio Receiver

Trade Mark: ZIOCOM

Test Model: ZM004812

FCC ID: RCT-ZM004812

Environmental Conditions

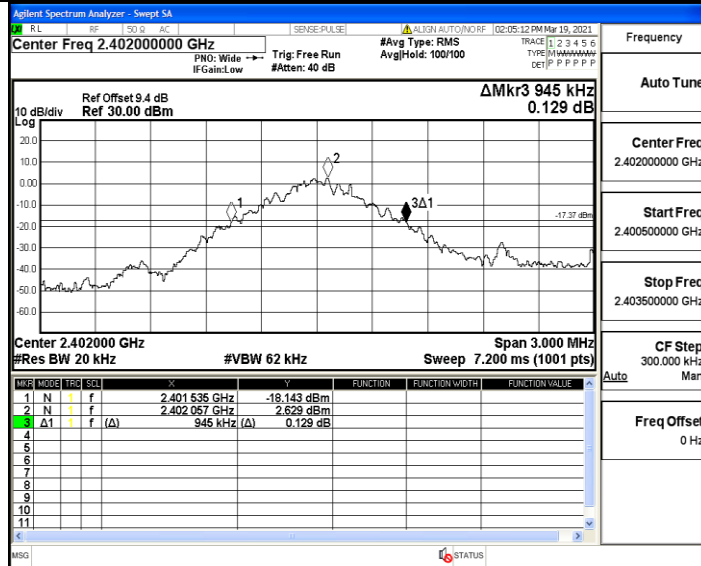
Temperature:	22.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

A.1 20 dB Bandwidth

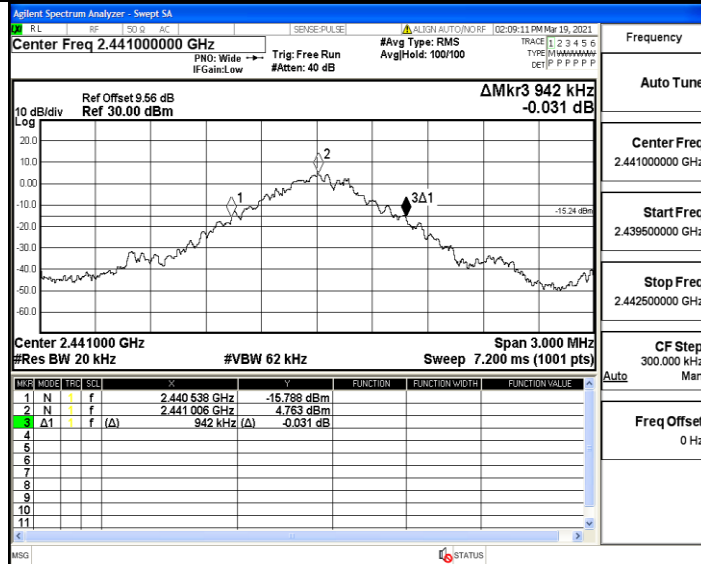
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.945	2401.535	2402.480	---	PASS
		2441	0.942	2440.538	2441.480	---	PASS
		2480	0.939	2479.541	2480.480	---	PASS
2DH5	Ant1	2402	1.320	2401.337	2402.657	---	PASS
		2441	1.236	2440.370	2441.606	---	PASS
		2480	1.245	2479.379	2480.624	---	PASS
3DH5	Ant1	2402	1.257	2401.358	2402.615	---	PASS
		2441	1.251	2440.358	2441.609	---	PASS
		2480	1.254	2479.358	2480.612	---	PASS

Test Graph

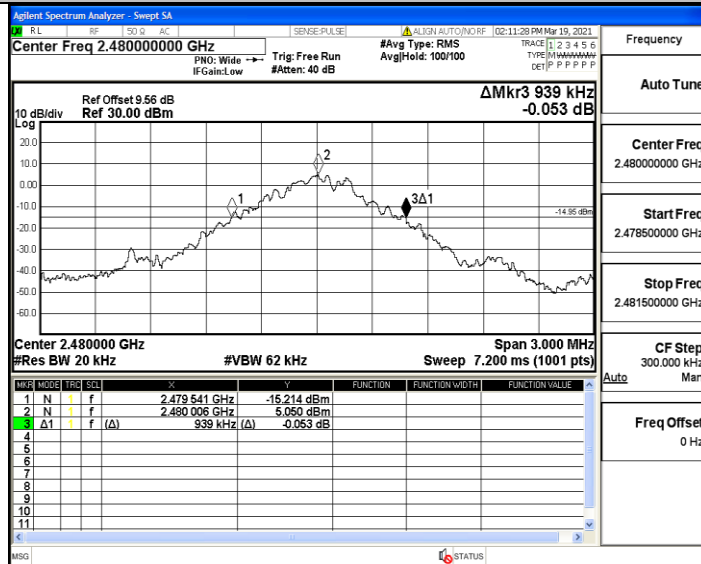
DH5_Ant1_2402



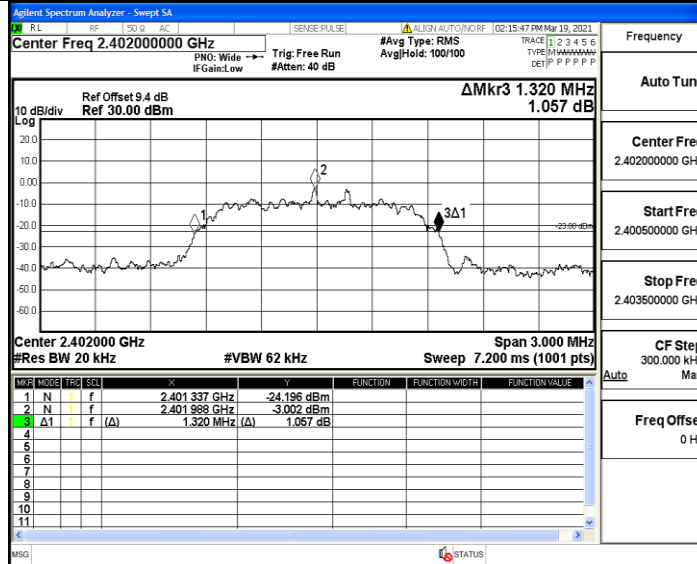
DH5_Ant1_2441



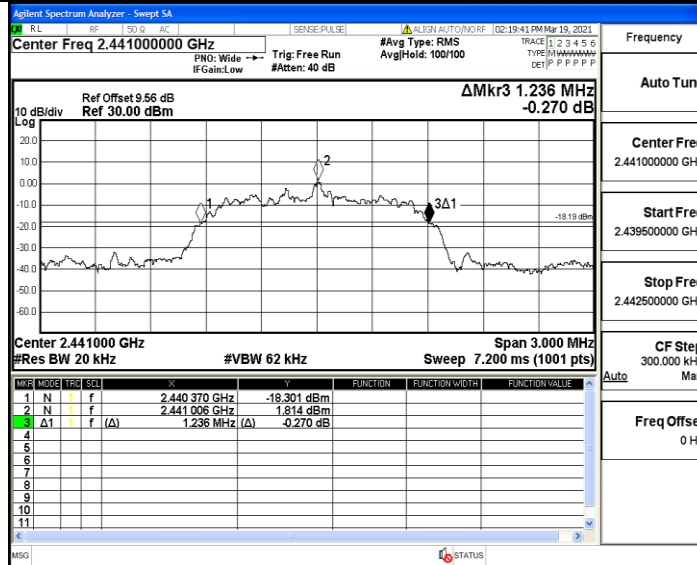
DH5_Ant1_2480



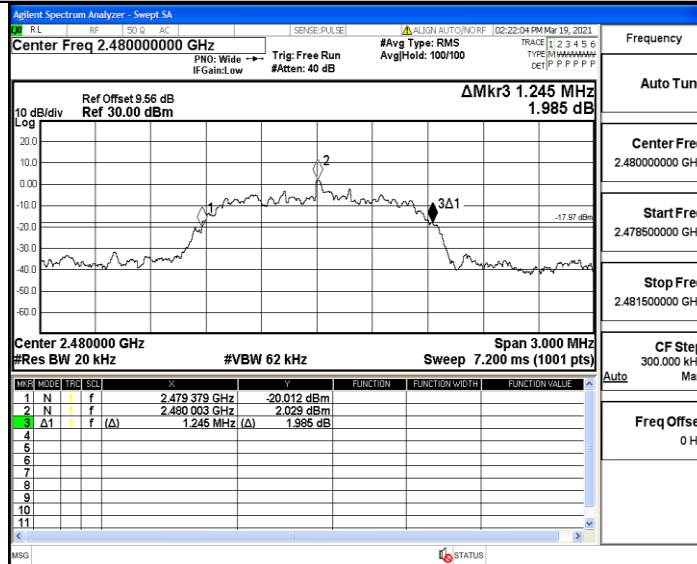
2DH5_Ant1_2402



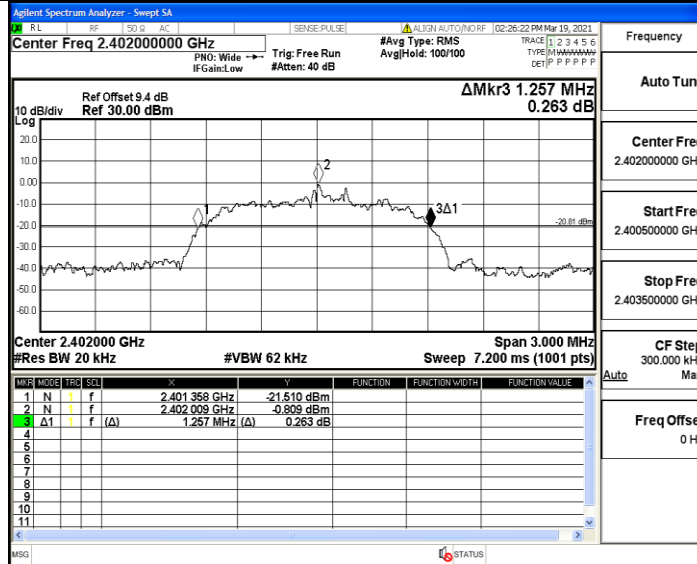
2DH5_Ant1_2441



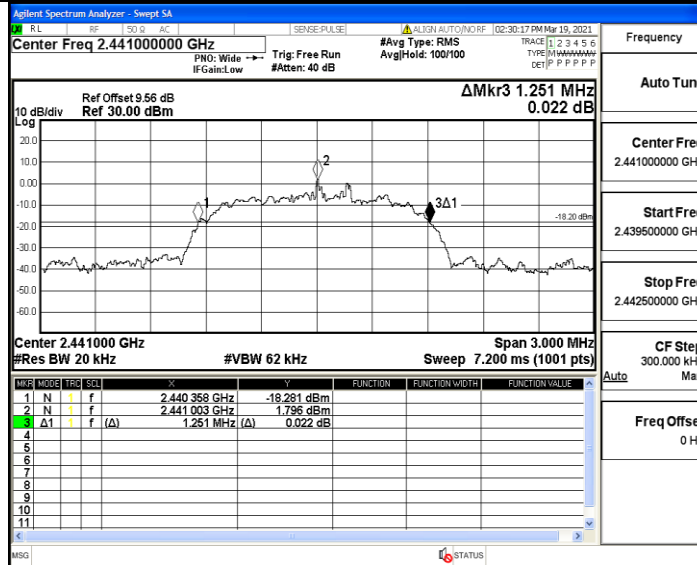
2DH5_Ant1_2480



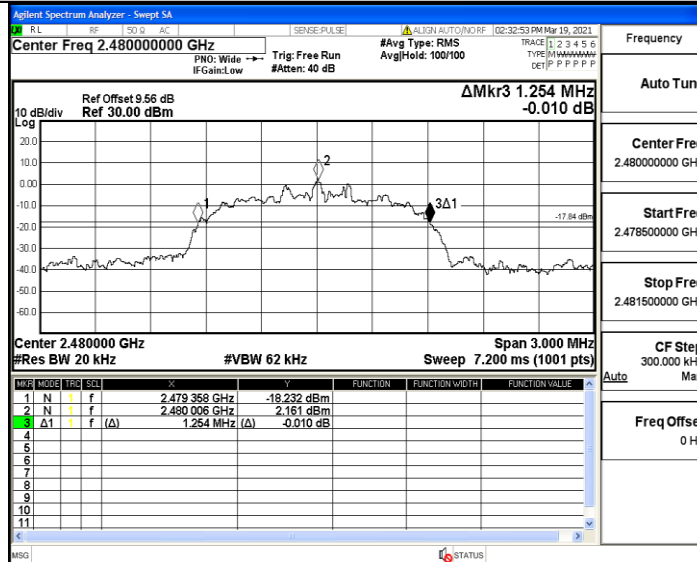
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

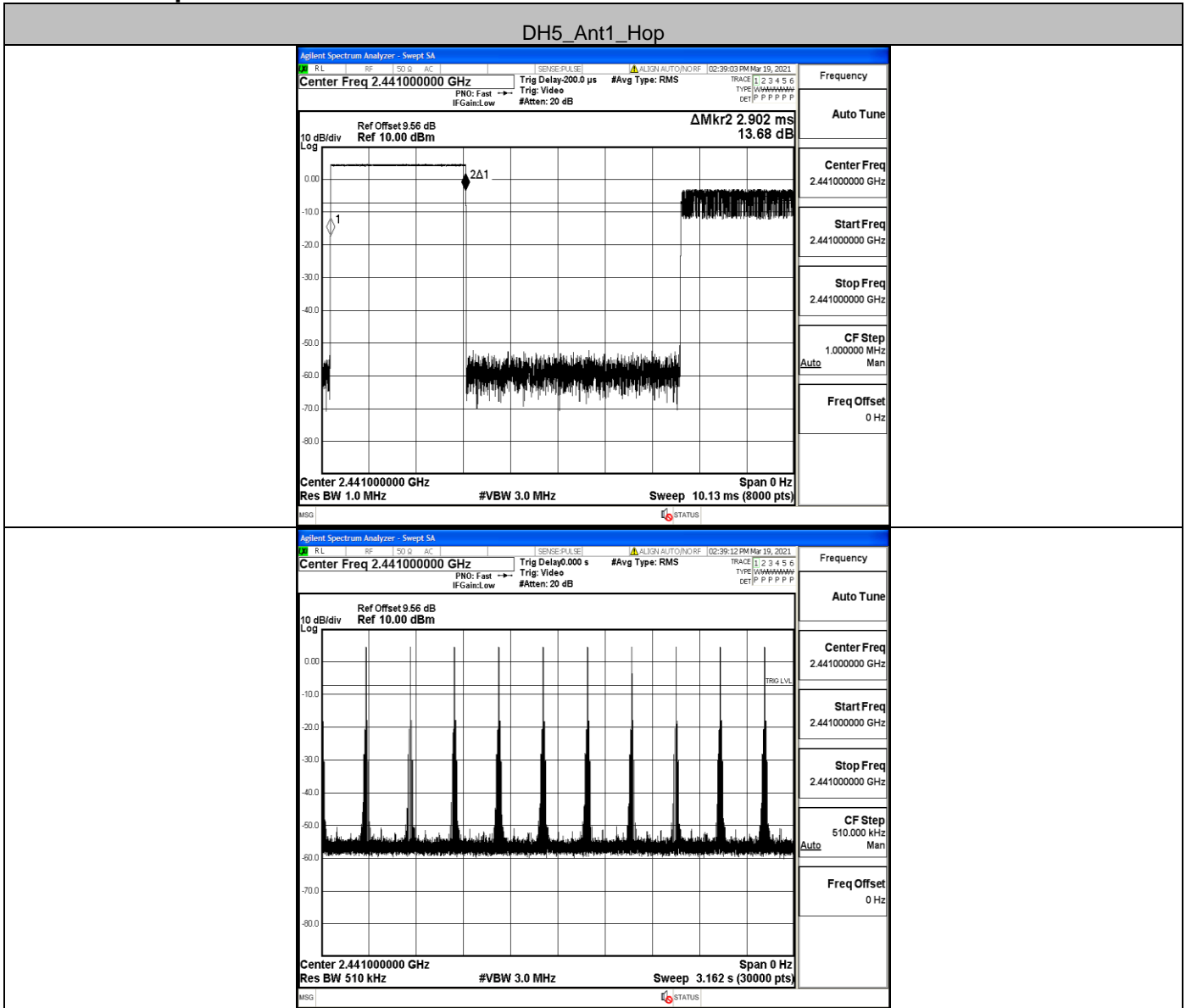


A.2 Dwell Time

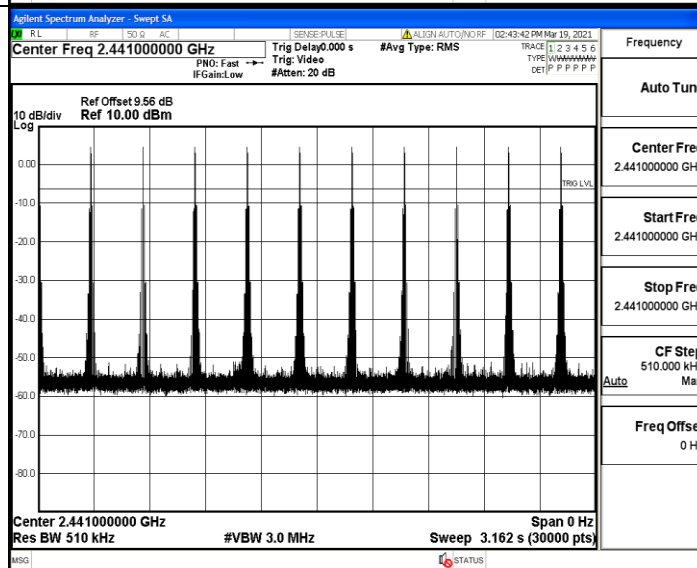
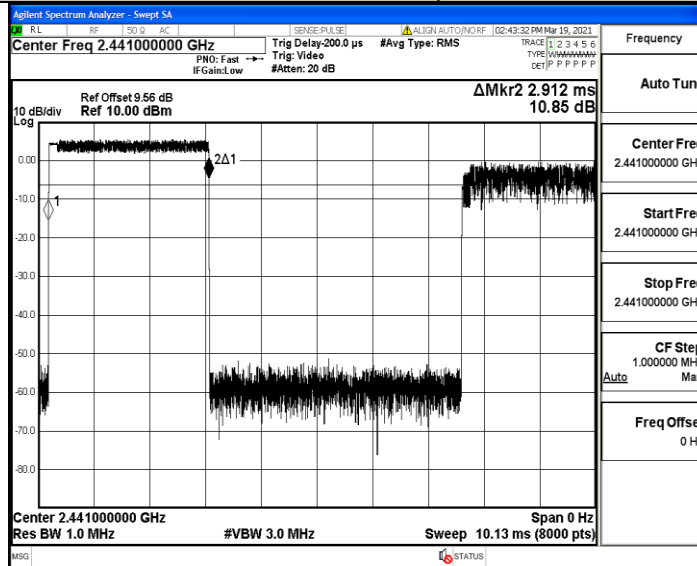
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.90	110	0.319	<=0.4	PASS
2DH5	Ant1	Hop	2.91	110	0.32	<=0.4	PASS
3DH5	Ant1	Hop	2.91	110	0.32	<=0.4	PASS

Test Graph

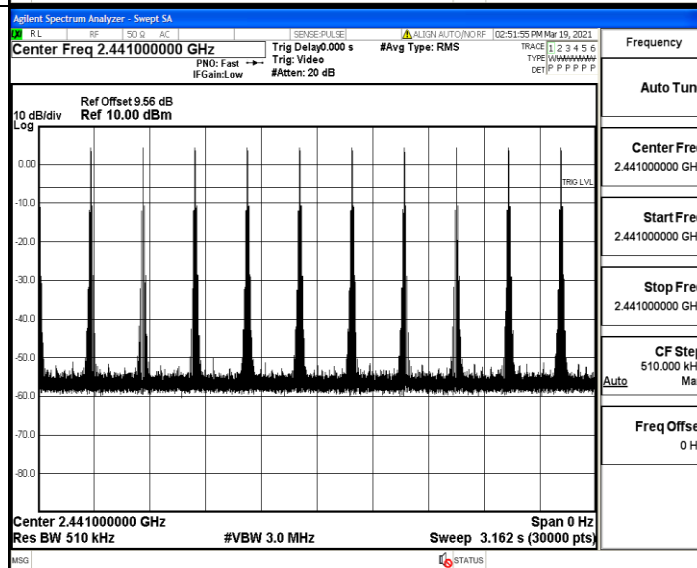
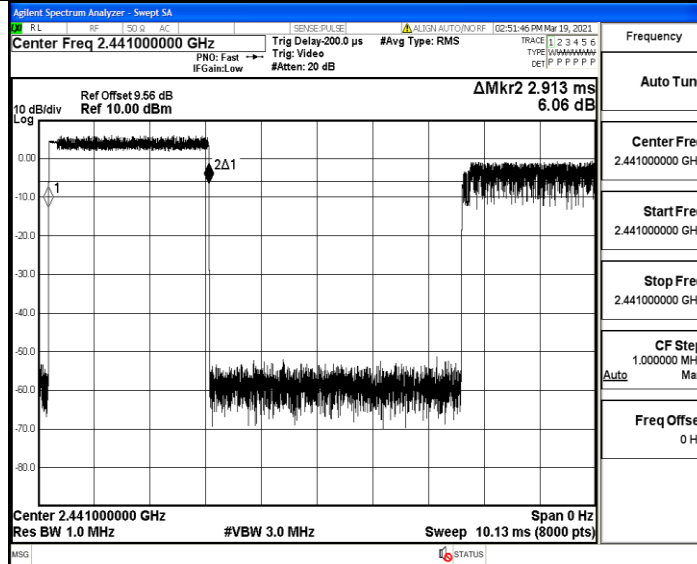
DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop

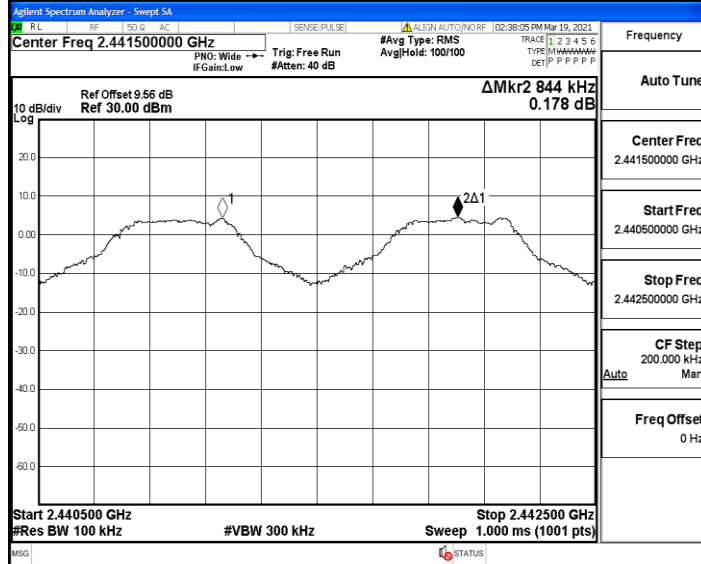


A.3 Carrier Frequency Separation

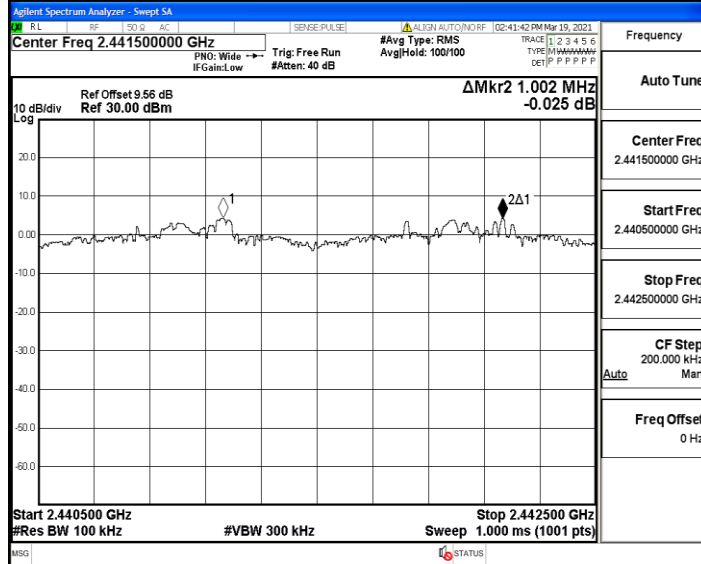
TestMode	Antenna	Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Hop	0.844	≥ 0.630	PASS
2DH5	Ant1	Hop	1.002	≥ 0.880	PASS
3DH5	Ant1	Hop	1.156	≥ 0.838	PASS

Test Graph

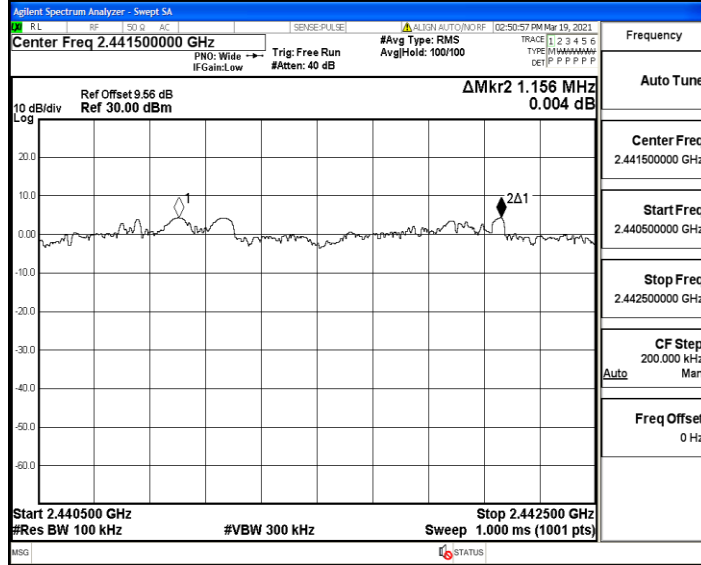
DH5_Ant1_Hop



2DH5_Ant1_Hop



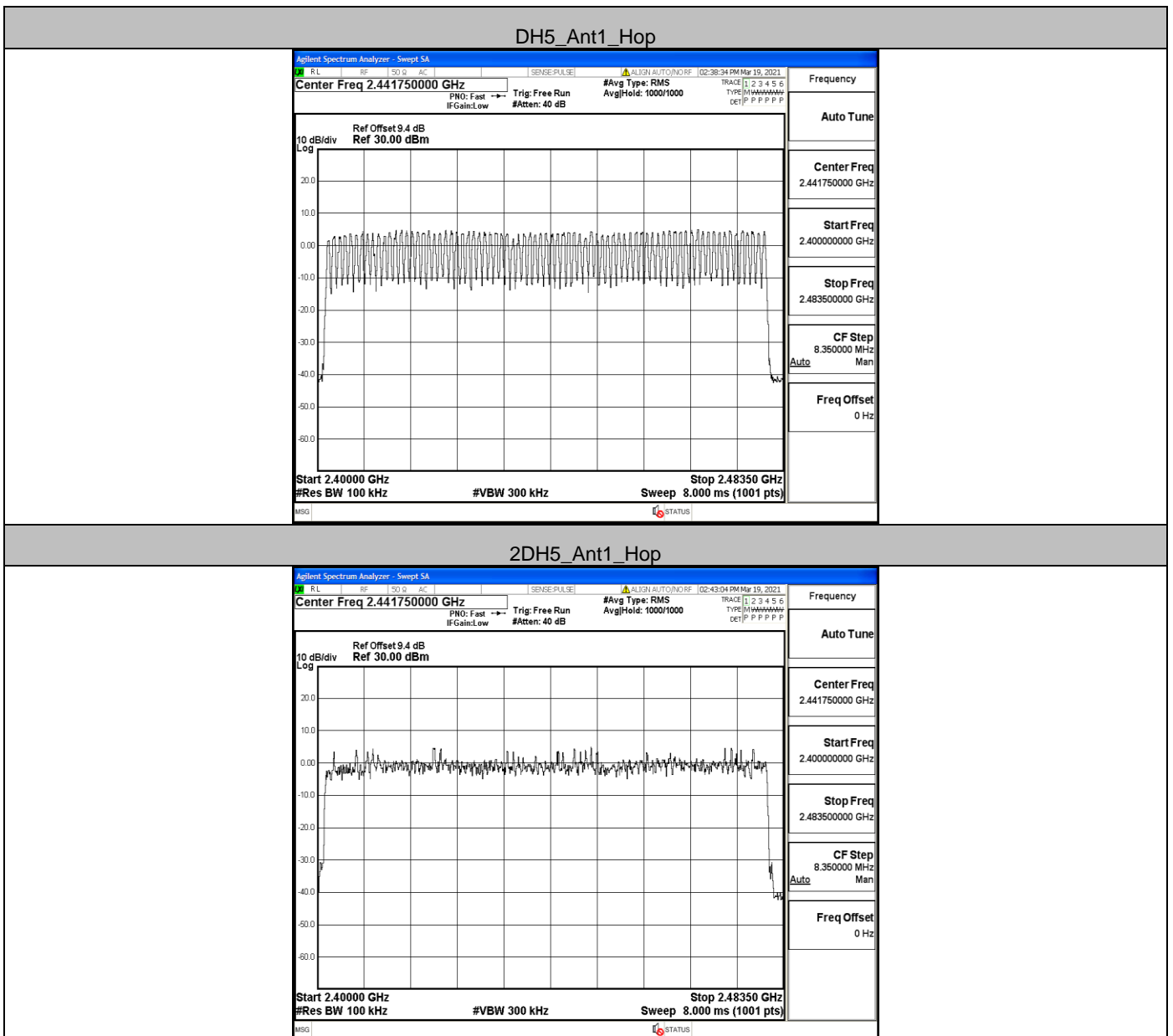
3DH5_Ant1_Hop



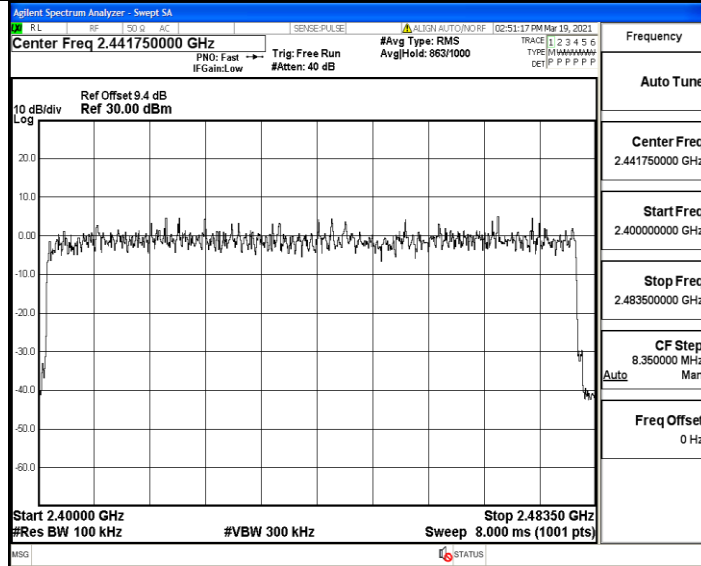
A.4 Hopping Channel Number

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

Test Graph



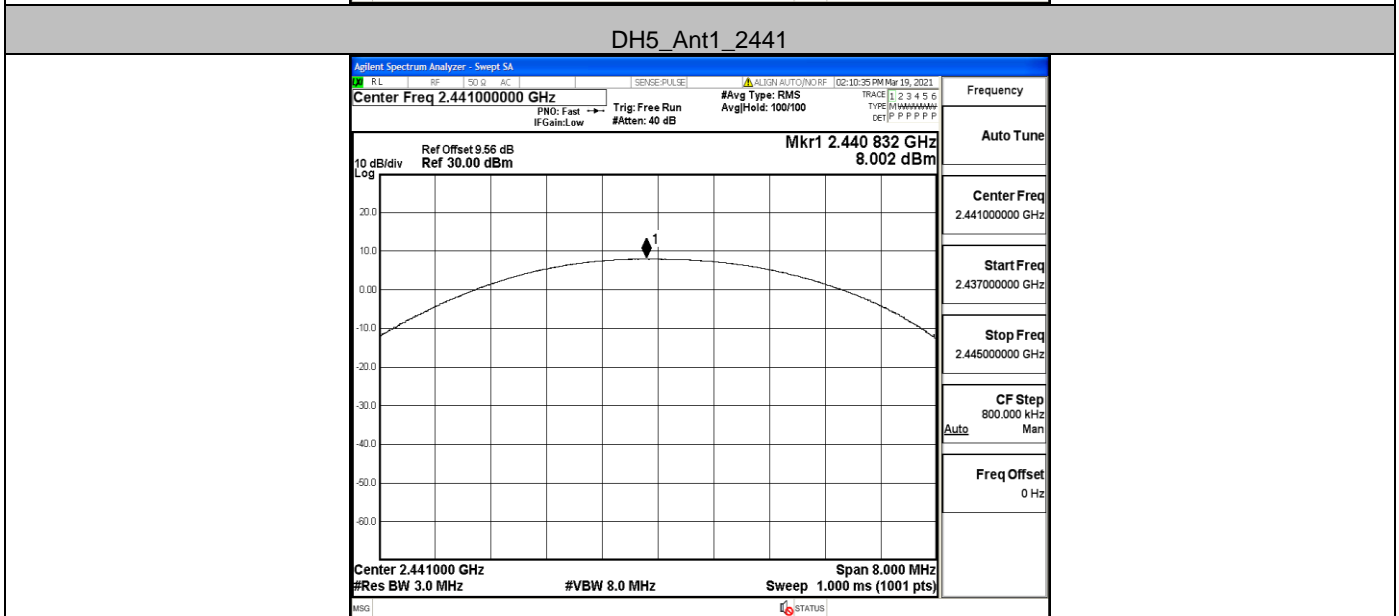
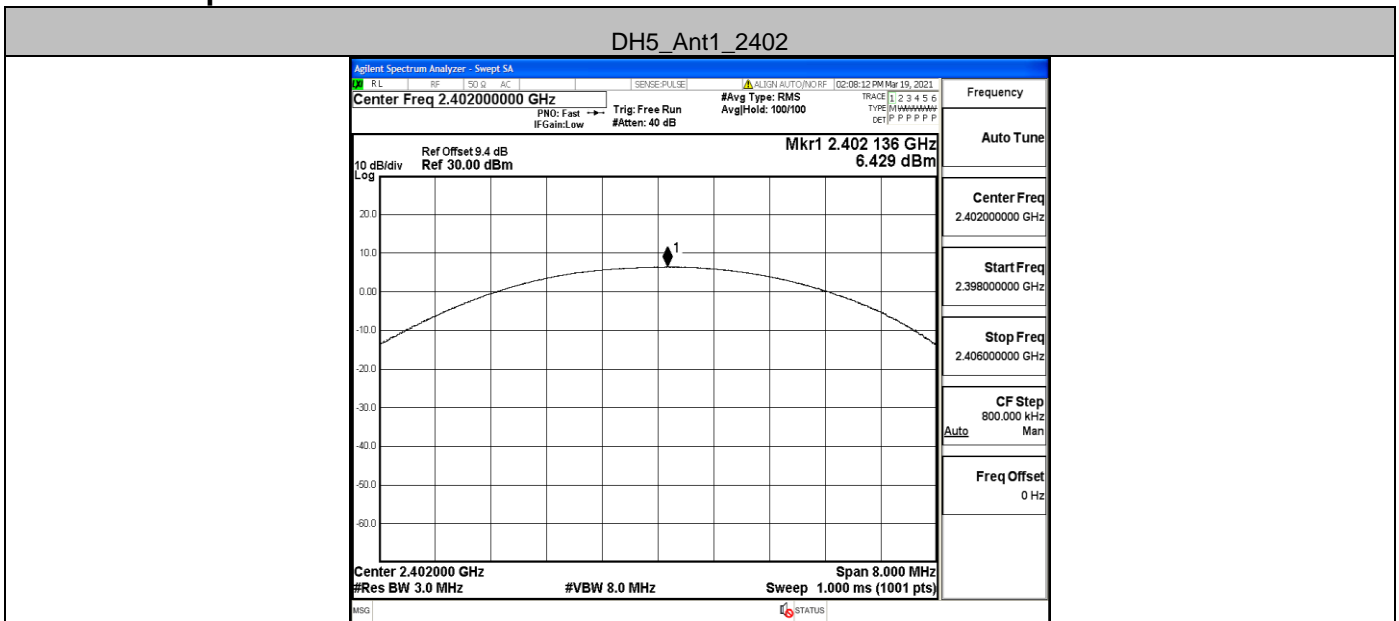
3DH5_Ant1_Hop



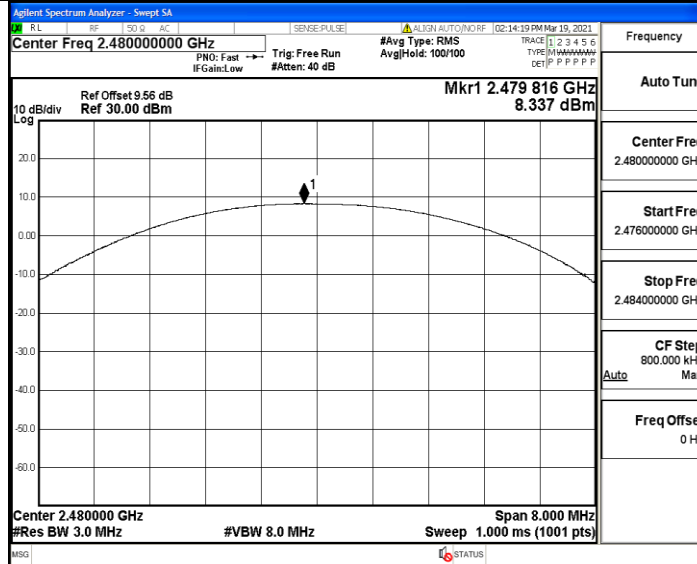
A.5 Conducted Peak Output Power

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	6.43	<=20.97	PASS
		2441	8.00	<=20.97	PASS
		2480	8.34	<=20.97	PASS
2DH5	Ant1	2402	3.76	<=20.97	PASS
		2441	6.15	<=20.97	PASS
		2480	6.43	<=20.97	PASS
3DH5	Ant1	2402	4.49	<=20.97	PASS
		2441	6.63	<=20.97	PASS
		2480	7.05	<=20.97	PASS

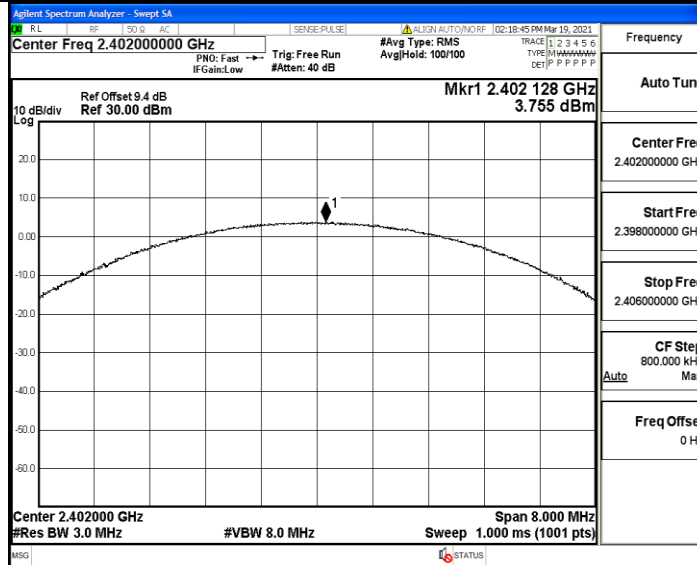
Test Graph



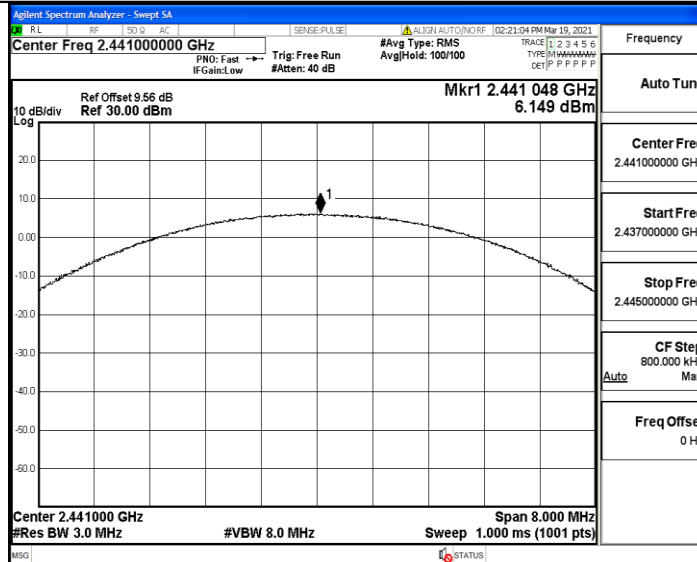
DH5_Ant1_2480



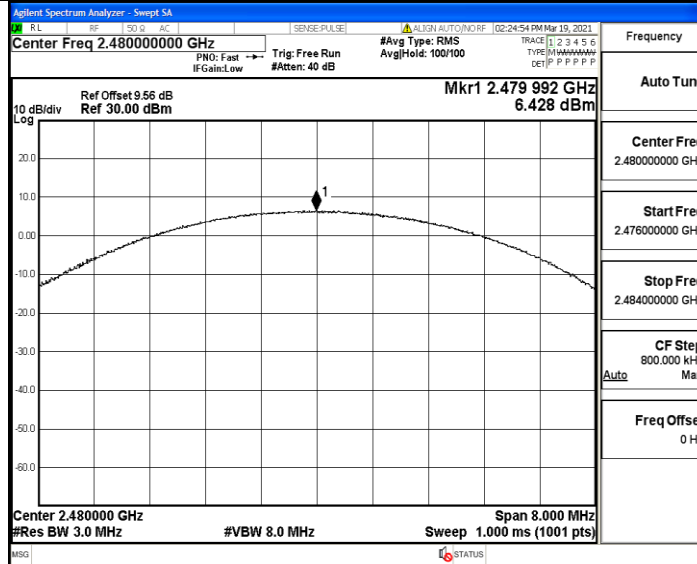
2DH5_Ant1_2402



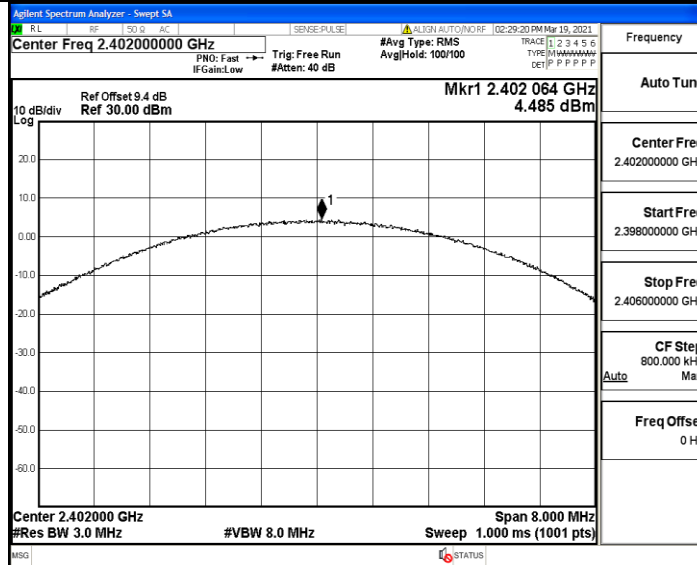
2DH5_Ant1_2441



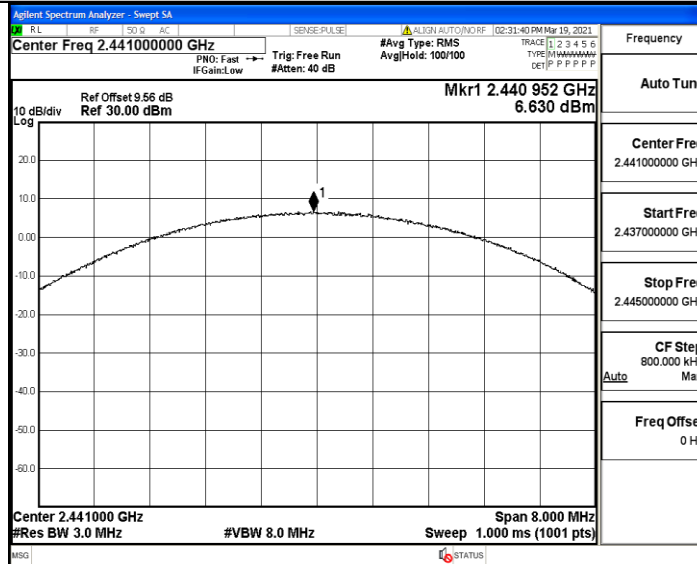
2DH5_Ant1_2480



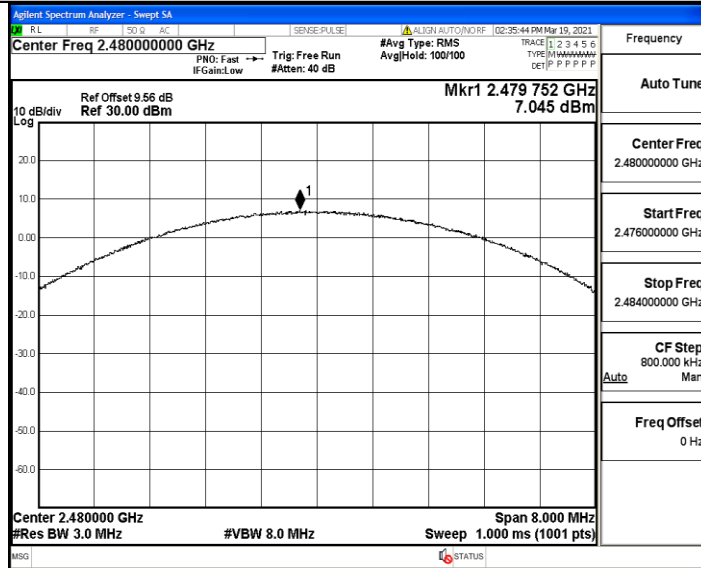
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480

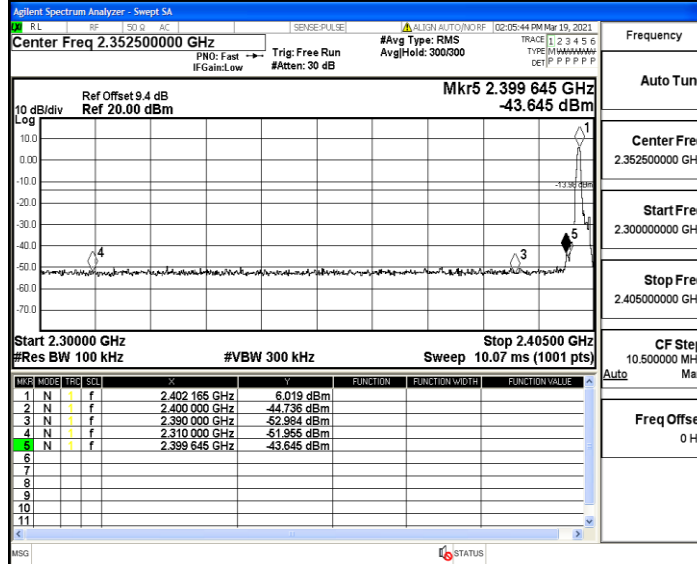


A.6 Band-edge for RF Conducted Emissions

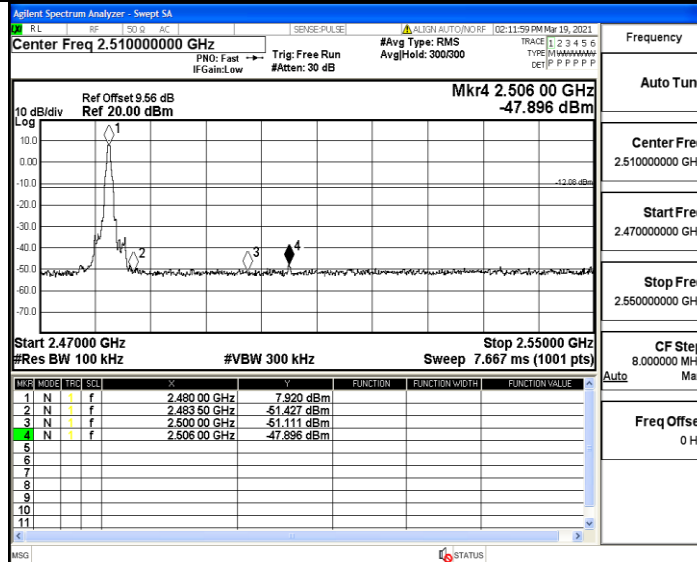
TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	6.02	-43.65	<=-13.98	PASS
		High	2480	7.92	-47.9	<=-12.08	PASS
		Low	Hop_2402	3.02	-47.96	<=-16.98	PASS
		High	Hop_2480	4.72	-48.14	<=-15.28	PASS
2DH5	Ant1	Low	2402	1.80	-34.58	<=-18.2	PASS
		High	2480	4.74	-48.87	<=-15.26	PASS
		Low	Hop_2402	-0.59	-48.59	<=-20.59	PASS
		High	Hop_2480	4.08	-47.46	<=-15.92	PASS
3DH5	Ant1	Low	2402	1.13	-38.32	<=-18.87	PASS
		High	2480	4.77	-48.31	<=-15.23	PASS
		Low	Hop_2402	2.36	-48.08	<=-17.64	PASS
		High	Hop_2480	2.46	-47.38	<=-17.54	PASS

Test Graph

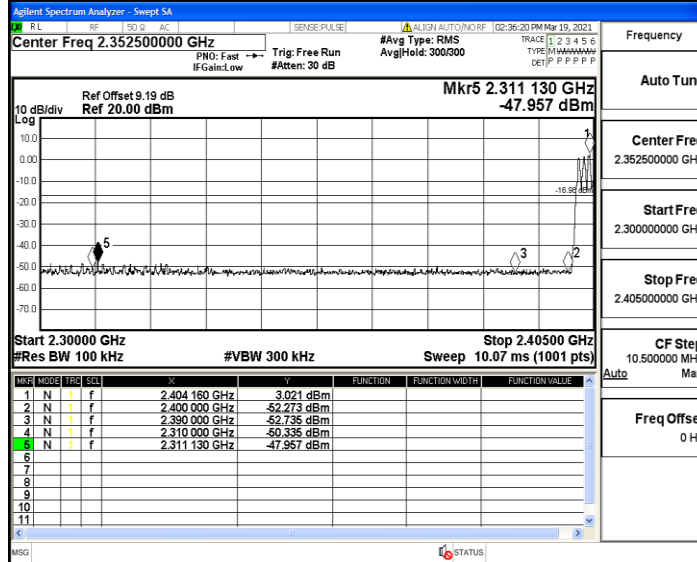
DH5_Ant1_Low_2402



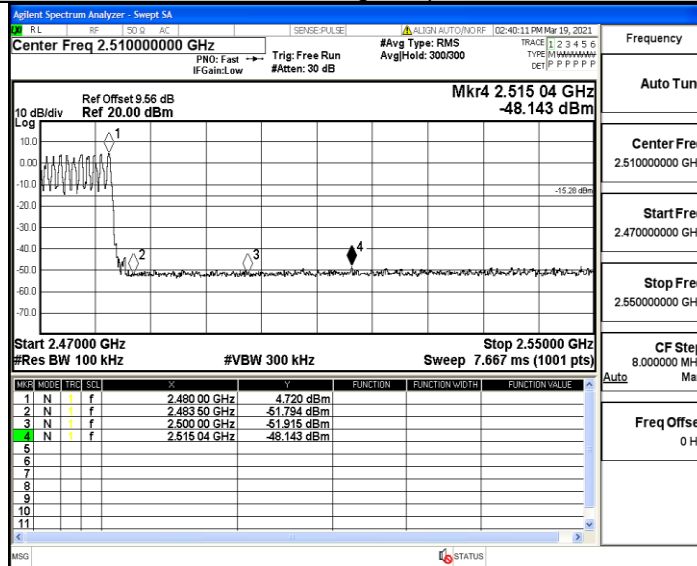
DH5_Ant1_High_2480



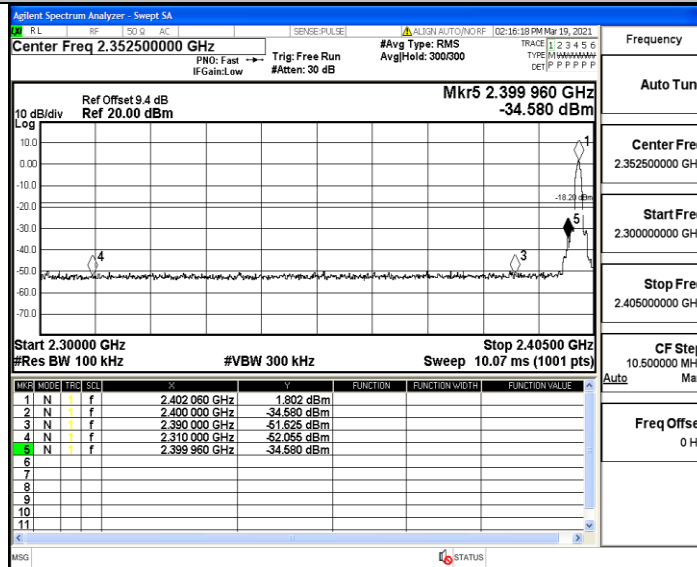
DH5_Ant1_Low_Hop_2402



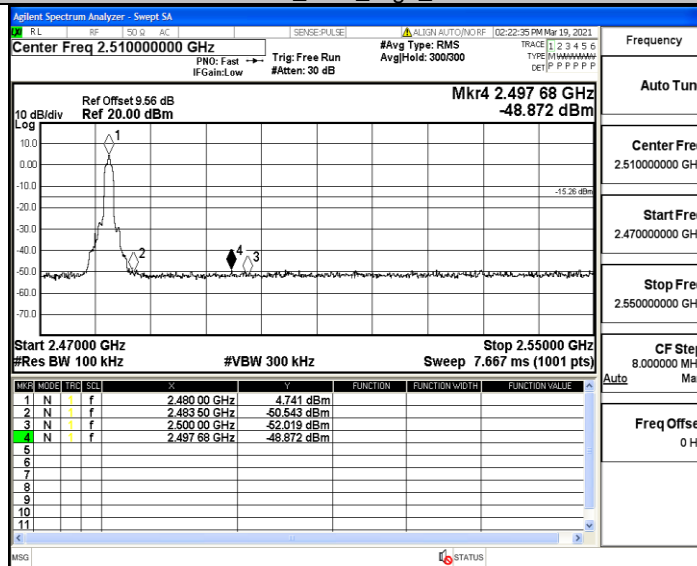
DH5_Ant1_High_Hop_2480



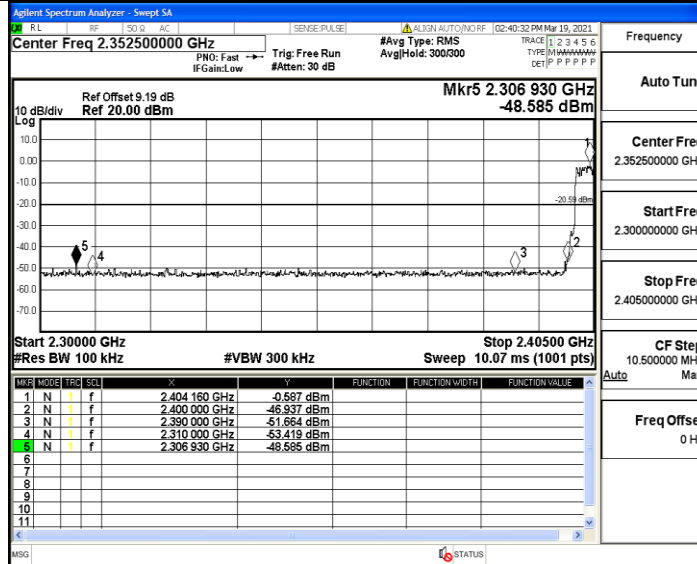
2DH5_Ant1_Low_2402



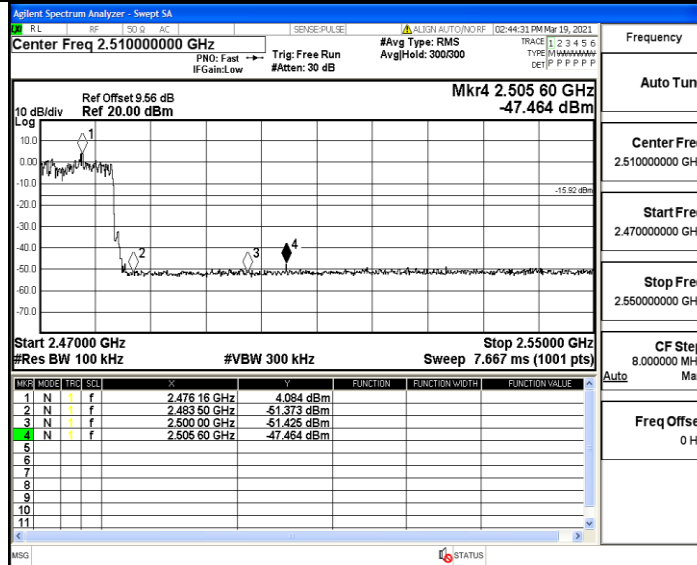
2DH5_Ant1_High_2480



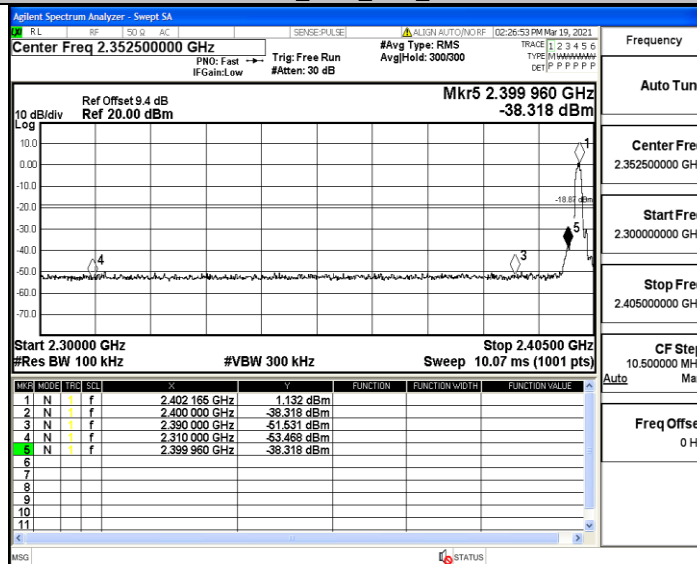
2DH5_Ant1_Low_Hop_2402



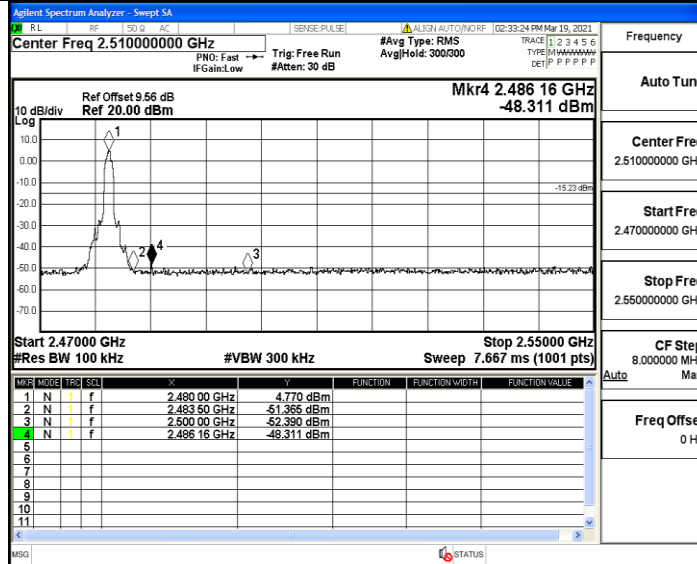
2DH5_Ant1_High_Hop_2480



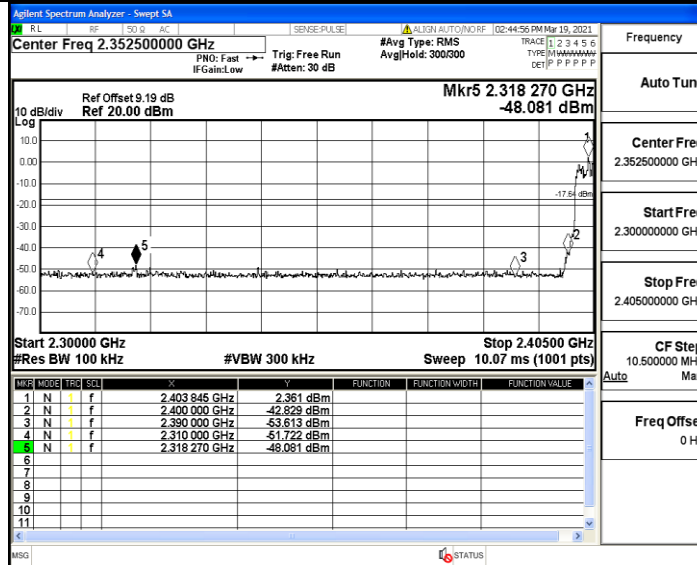
3DH5_Ant1_Low_2402



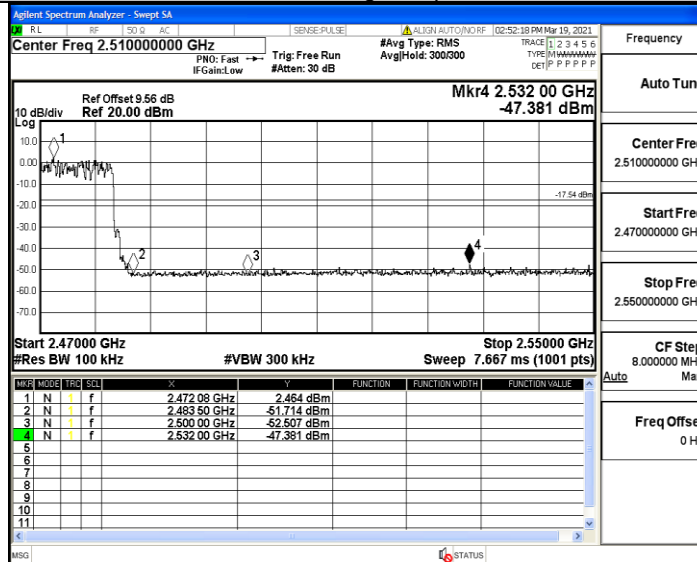
3DH5_Ant1_High_2480



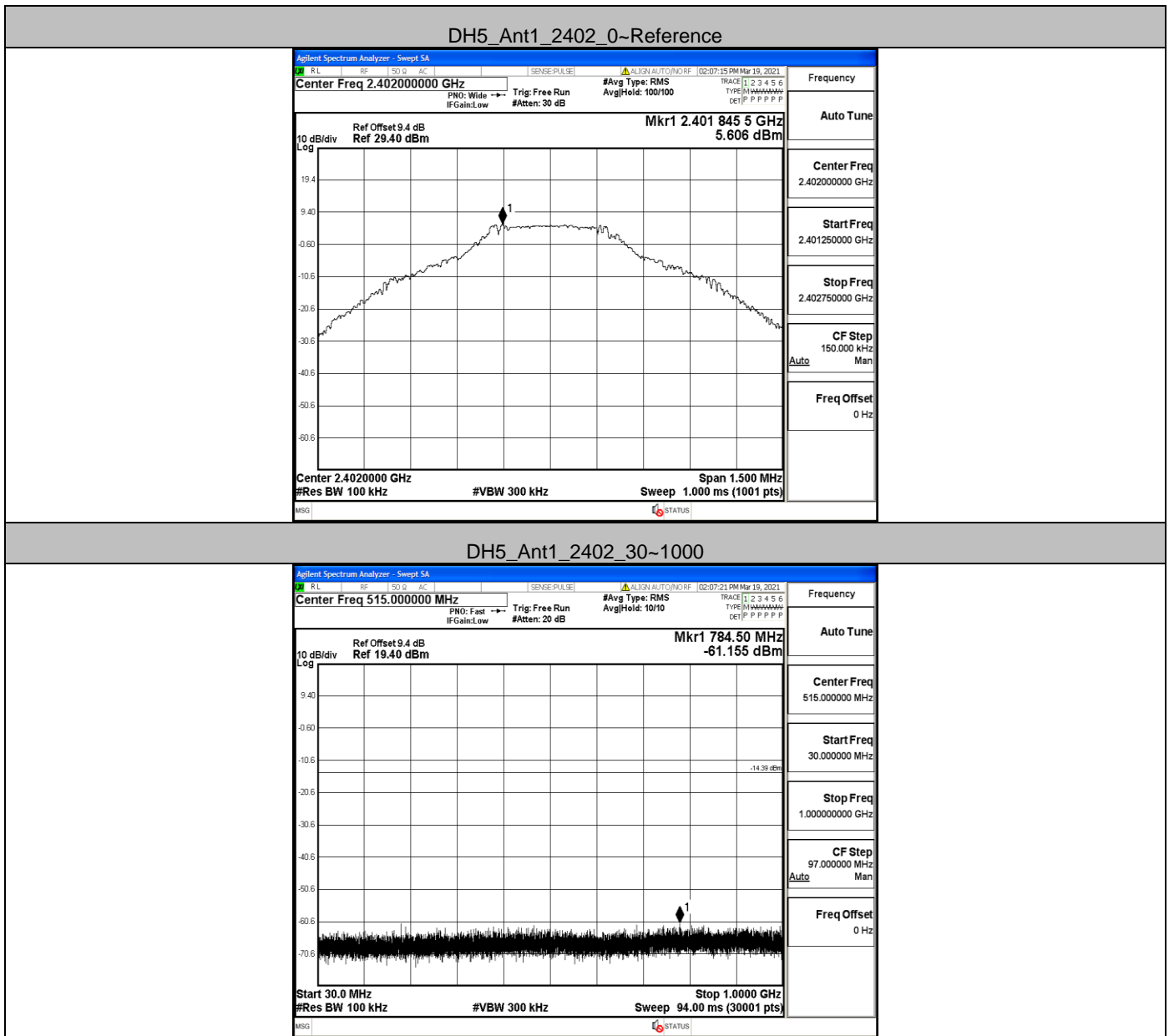
3DH5_Ant1_Low_Hop_2402



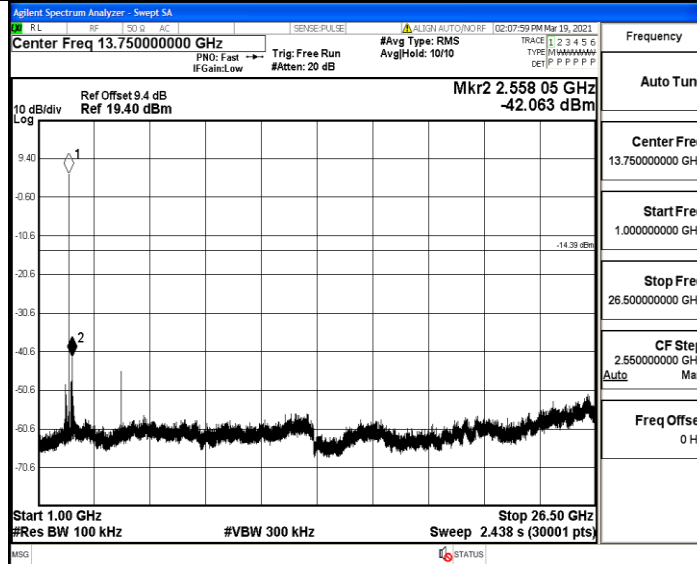
3DH5_Ant1_High_Hop_2480



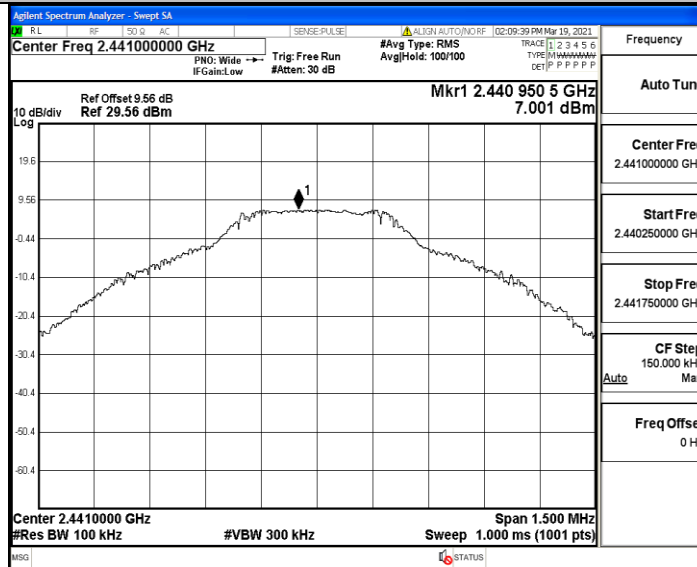
A.7 RF Conducted Spurious Emissions Test Graph



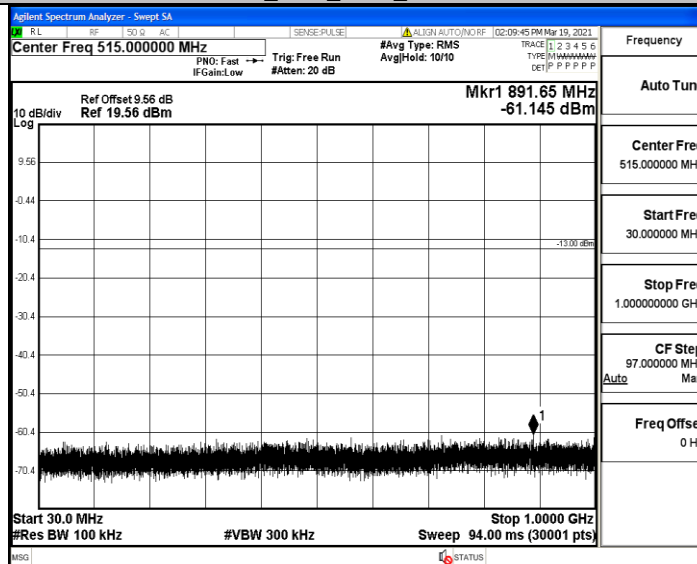
DH5_Ant1_2402_1000~26500



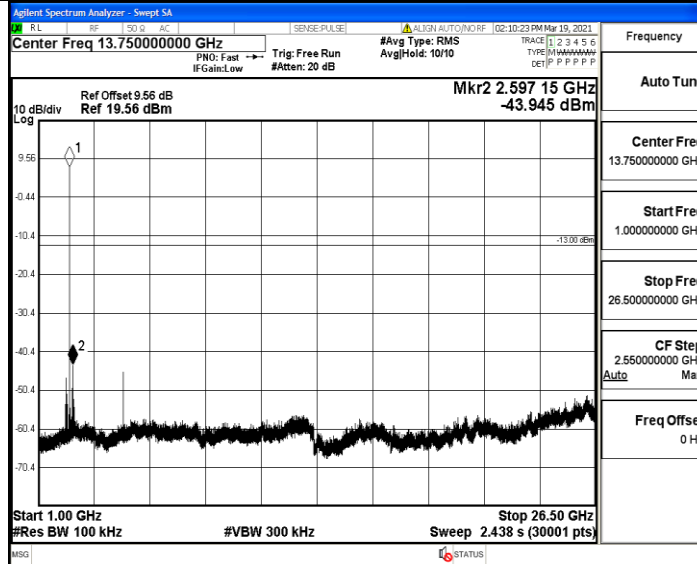
DH5_Ant1_2441_0~Reference



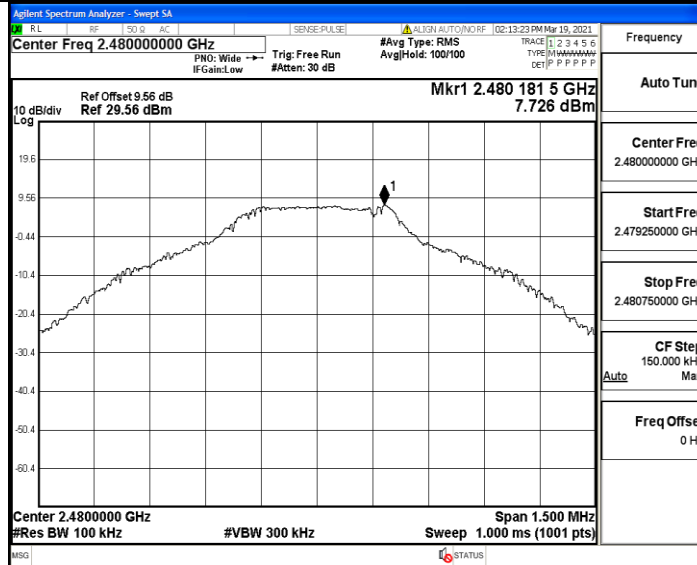
DH5_Ant1_2441_30~1000



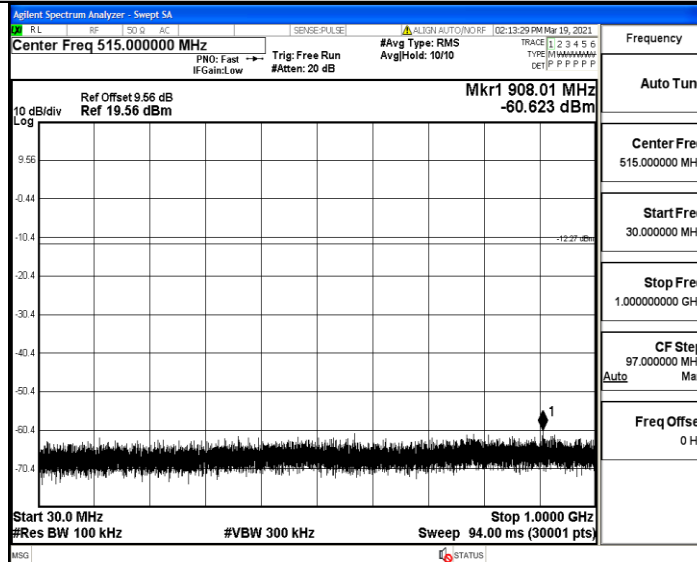
DH5_Ant1_2441_1000~26500



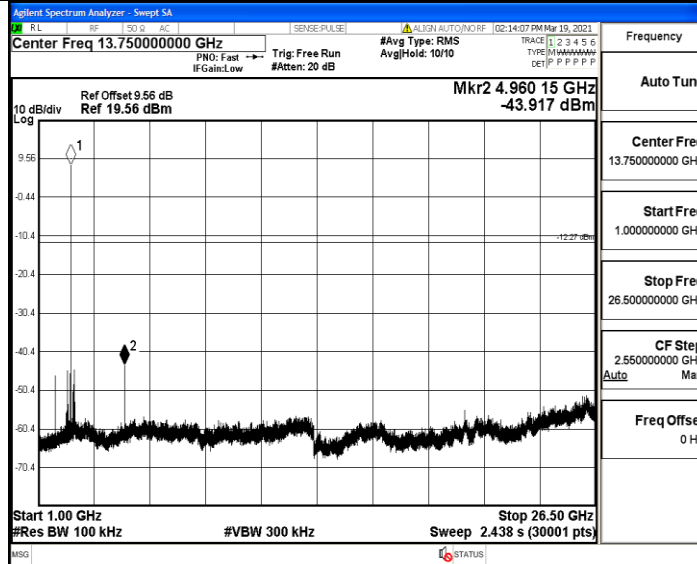
DH5_Ant1_2480_0~Reference



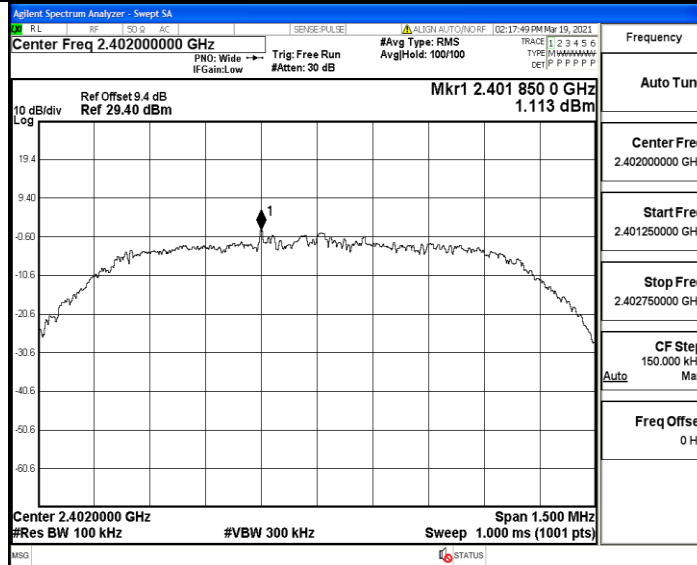
DH5_Ant1_2480_30~1000



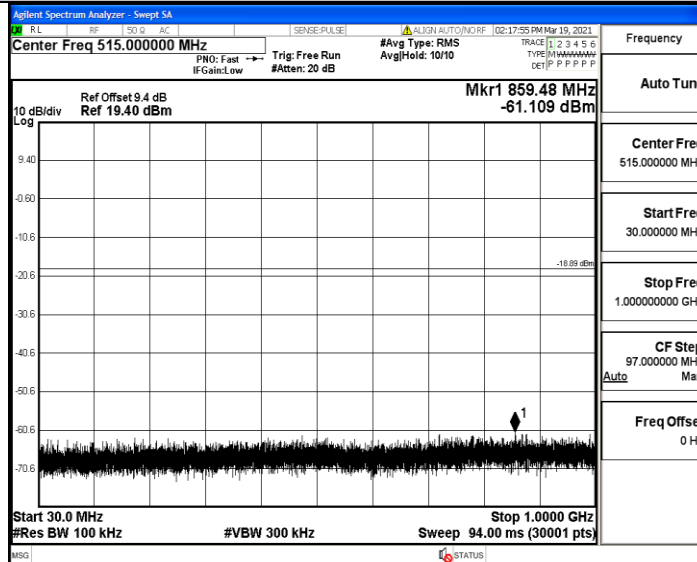
DH5_Ant1_2480_1000~26500



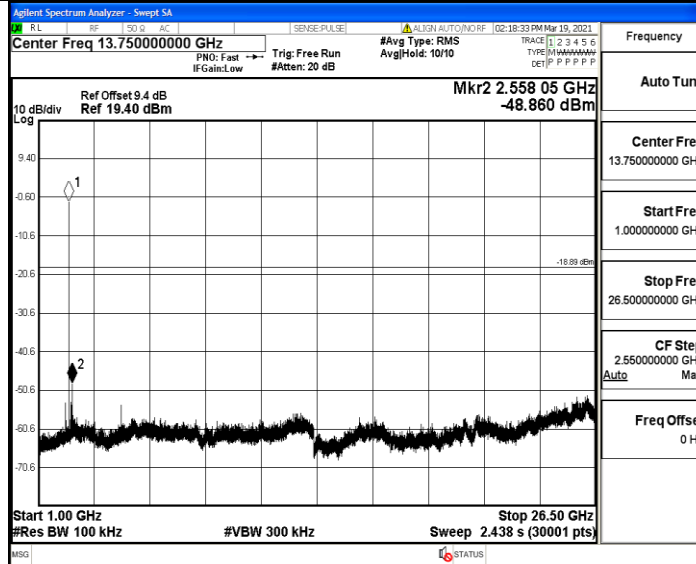
2DH5_Ant1_2402_0~Reference



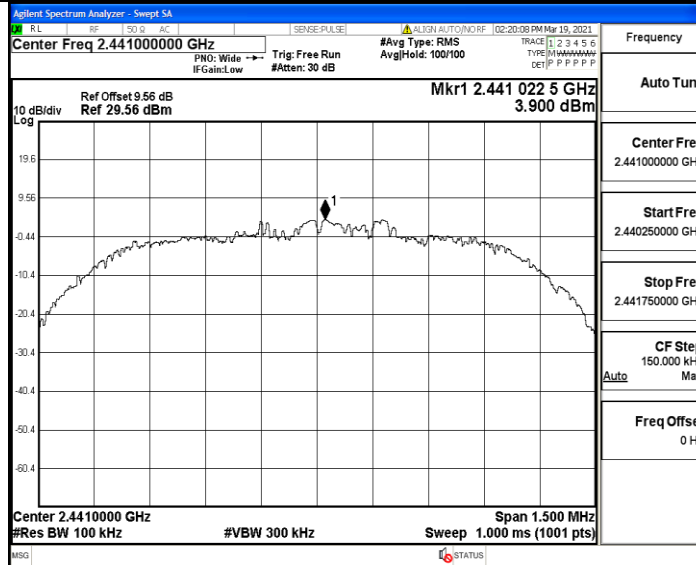
2DH5_Ant1_2402_30~1000



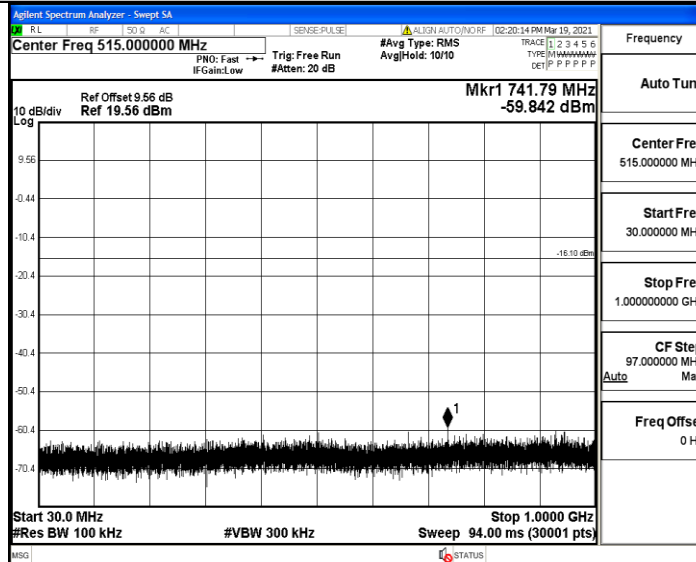
2DH5_Ant1_2402_1000~26500



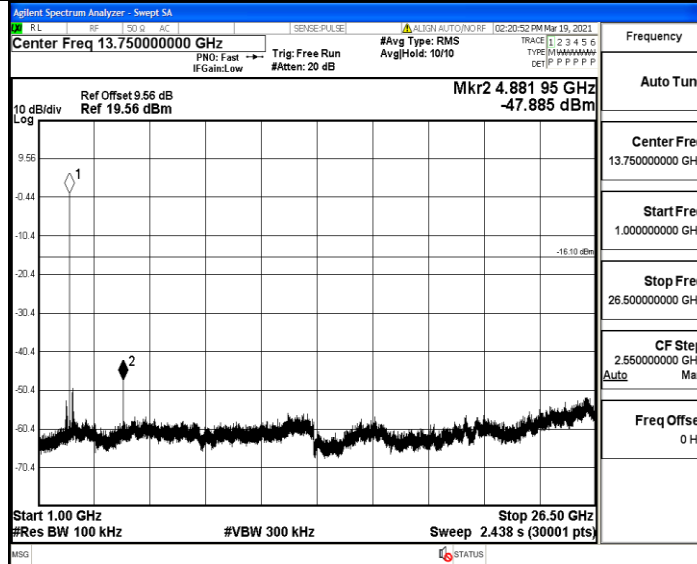
2DH5_Ant1_2441_0~Reference



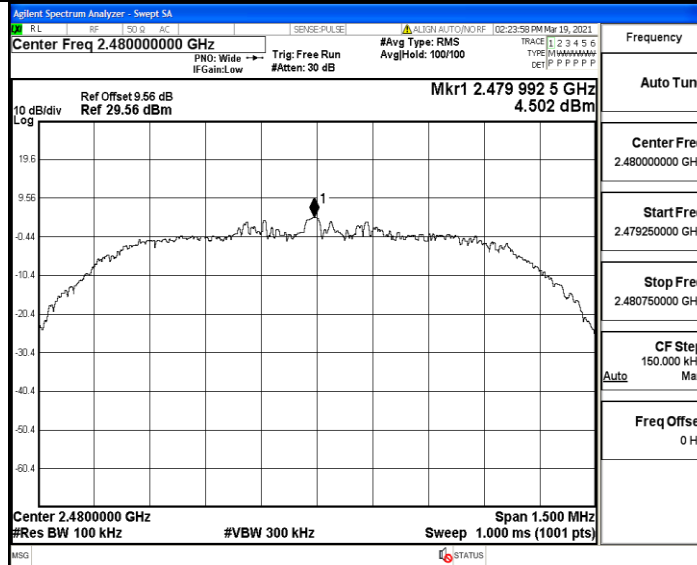
2DH5_Ant1_2441_30~1000



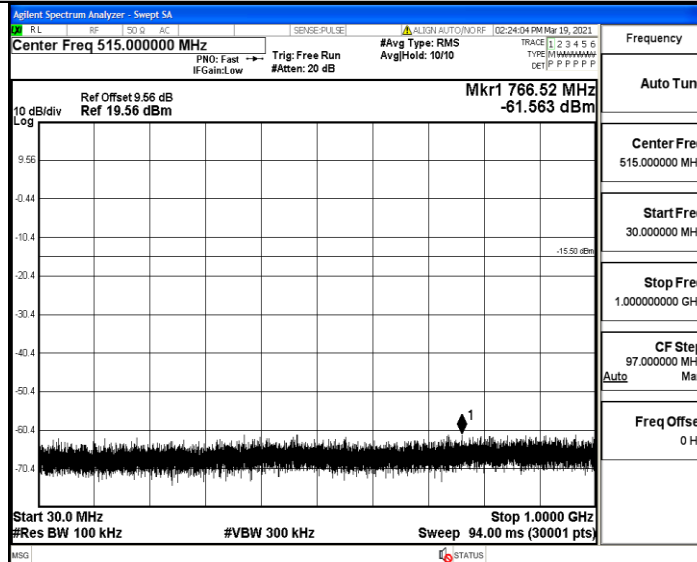
2DH5_Ant1_2441_1000~26500



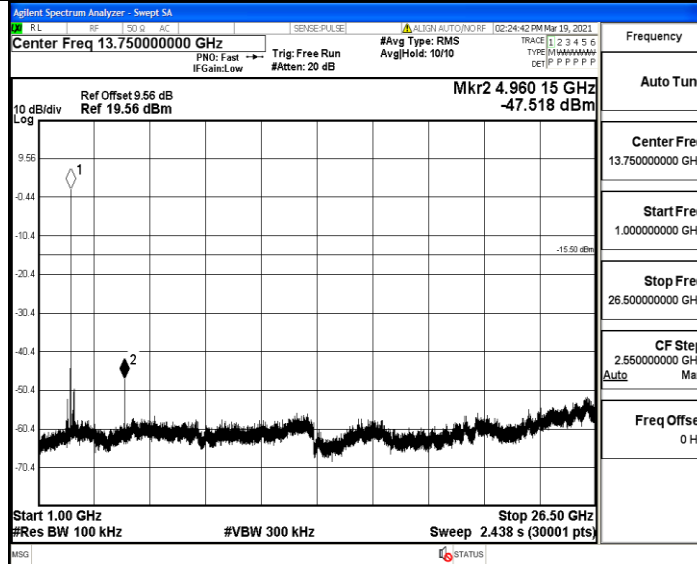
2DH5_Ant1_2480_0~Reference



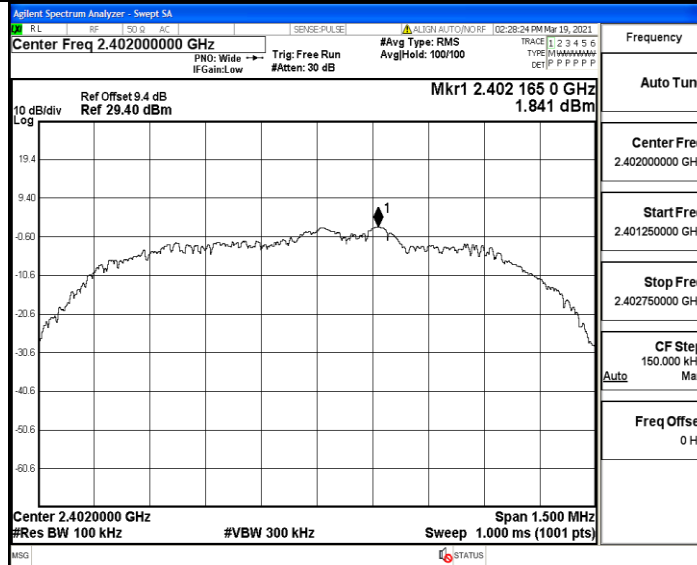
2DH5_Ant1_2480_30~1000



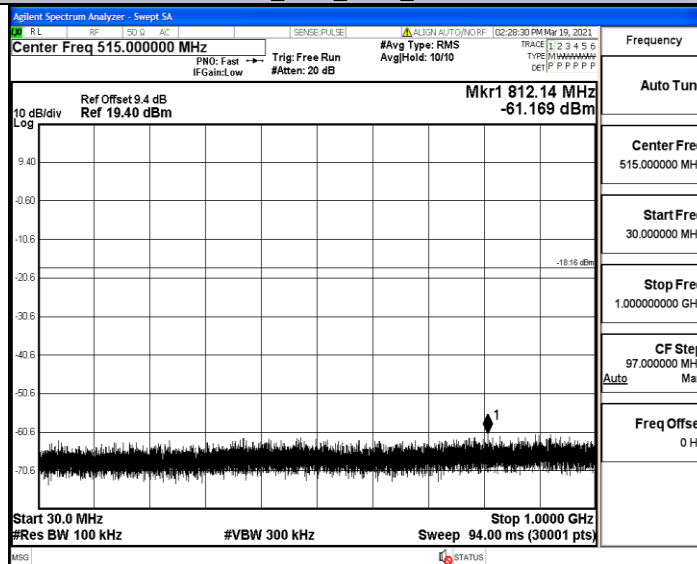
2DH5_Ant1_2480_1000~26500



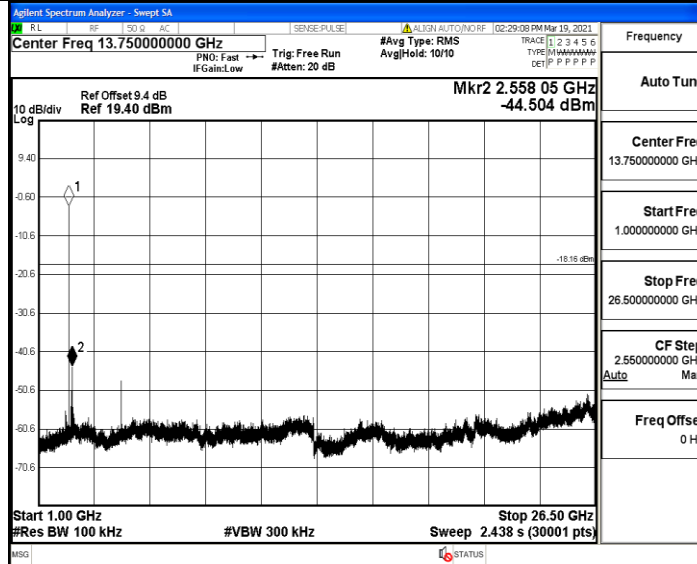
3DH5_Ant1_2402_0~Reference



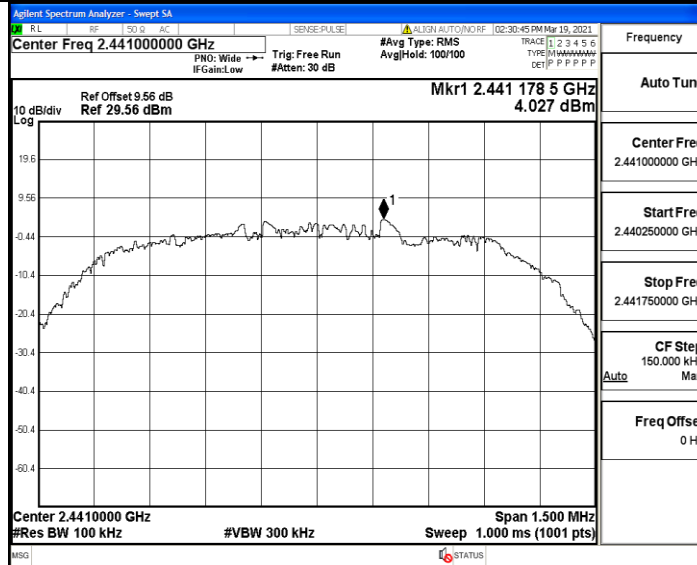
3DH5_Ant1_2402_30~1000



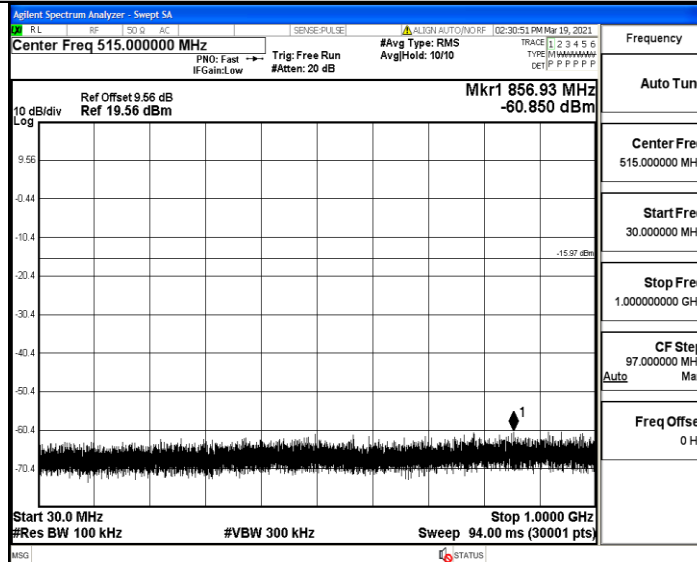
3DH5_Ant1_2402_1000~26500



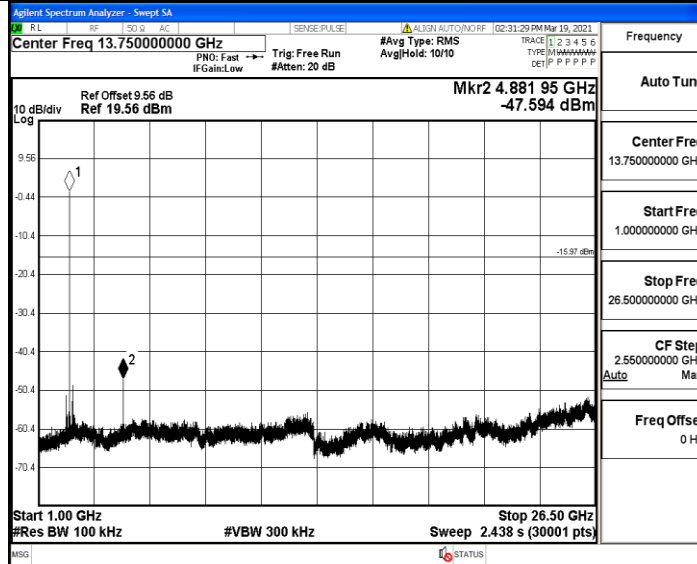
3DH5_Ant1_2441_0~Reference



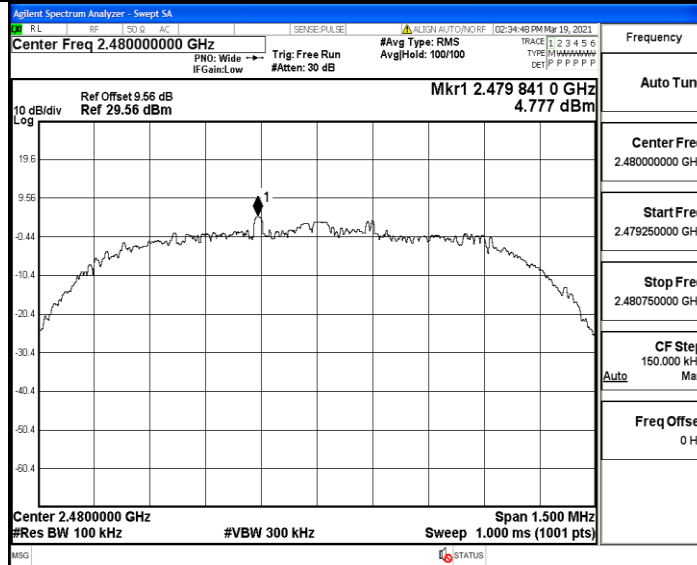
3DH5_Ant1_2441_30~1000



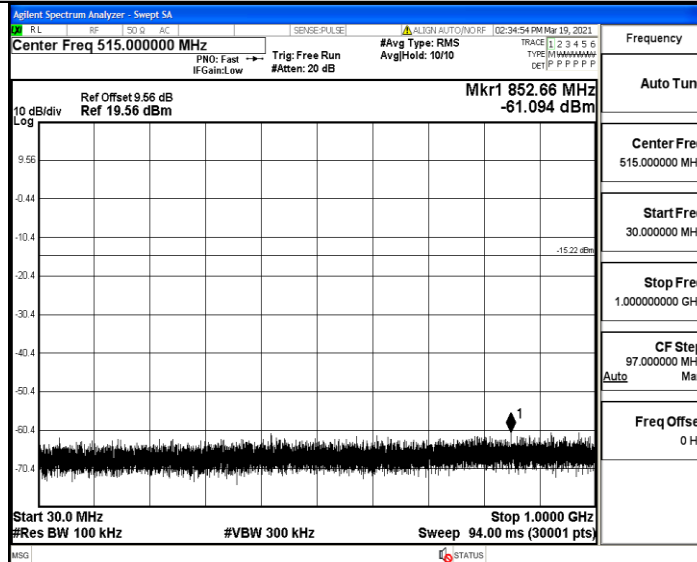
3DH5_Ant1_2441_1000~26500



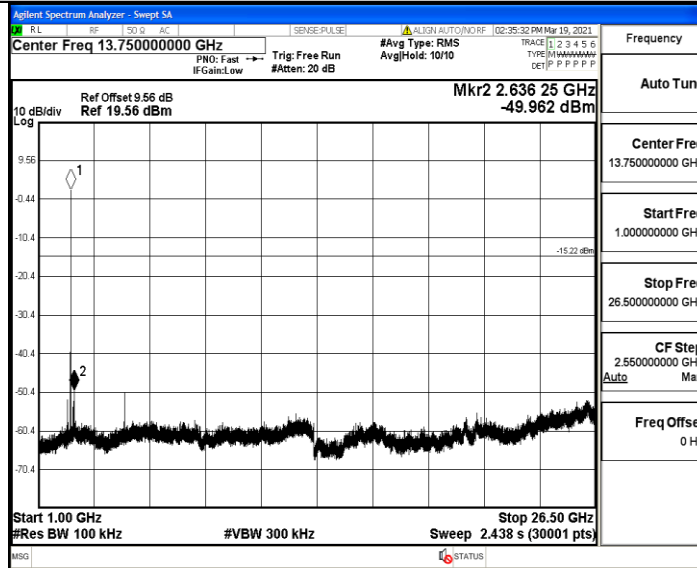
3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



3DH5_Ant1_2480_1000-26500



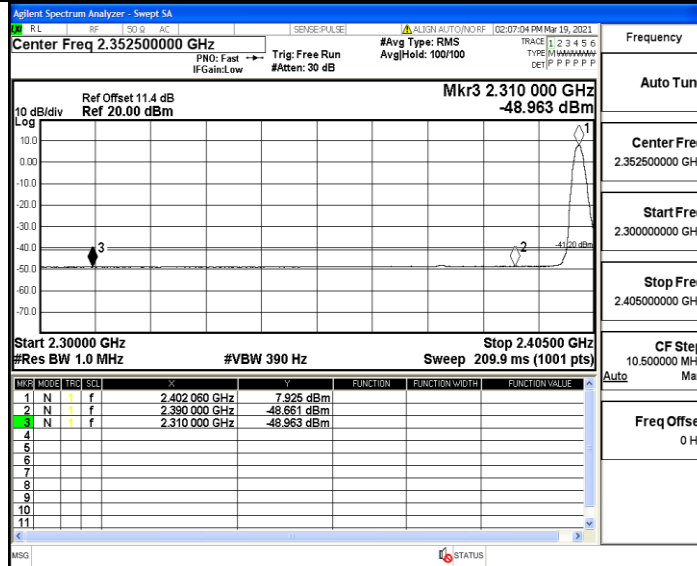
A.8 Restrict-band band-edge measurements

TestMode	Antenna	ChName	Channel	Detector	Freq(MHz)	Result(dBm)	Limit(dBm)	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.97	<=-41.20	PASS
				AV	2390.000	-48.67	<=-41.20	PASS
				Peak	2310.000	-42.03	<=-21.20	PASS
				Peak	2390.000	-41.85	<=-21.20	PASS
		High	2480	AV	2483.500	-44.48	<=-41.20	PASS
				AV	2500.000	-47.96	<=-41.20	PASS
				Peak	2483.500	-39.58	<=-21.20	PASS
				Peak	2500.000	-40.10	<=-21.20	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.89	<=-41.20	PASS
				AV	2390.000	-48.69	<=-41.20	PASS
				Peak	2310.000	-42.45	<=-21.20	PASS
				Peak	2390.000	-42.10	<=-21.20	PASS
		High	2480	AV	2483.500	-45.61	<=-41.20	PASS
				AV	2500.000	-48.03	<=-41.20	PASS
				Peak	2483.500	-40.65	<=-21.20	PASS
				Peak	2500.000	-42.57	<=-21.20	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.94	<=-41.20	PASS
				AV	2390.000	-48.76	<=-41.20	PASS
				Peak	2310.000	-41.73	<=-21.20	PASS
				Peak	2390.000	-40.50	<=-21.20	PASS
		High	2480	AV	2483.500	-45.29	<=-41.20	PASS
				AV	2500.000	-48.02	<=-41.20	PASS
				Peak	2483.500	-39.61	<=-21.20	PASS
				Peak	2500.000	-39.30	<=-21.20	PASS

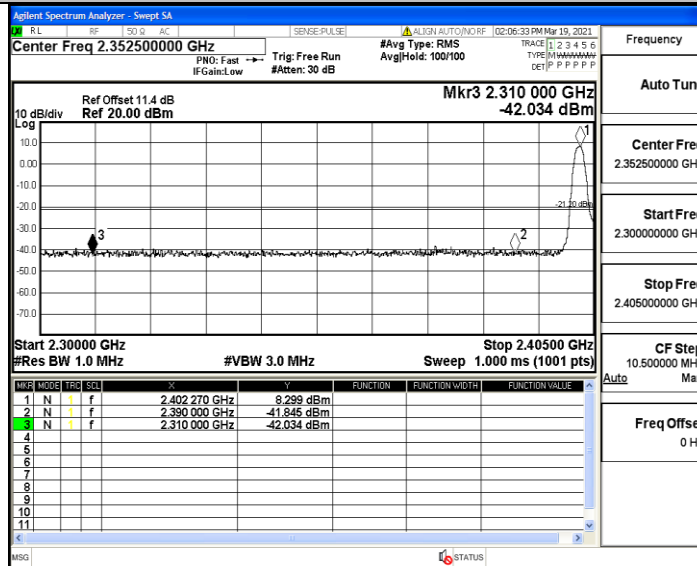
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

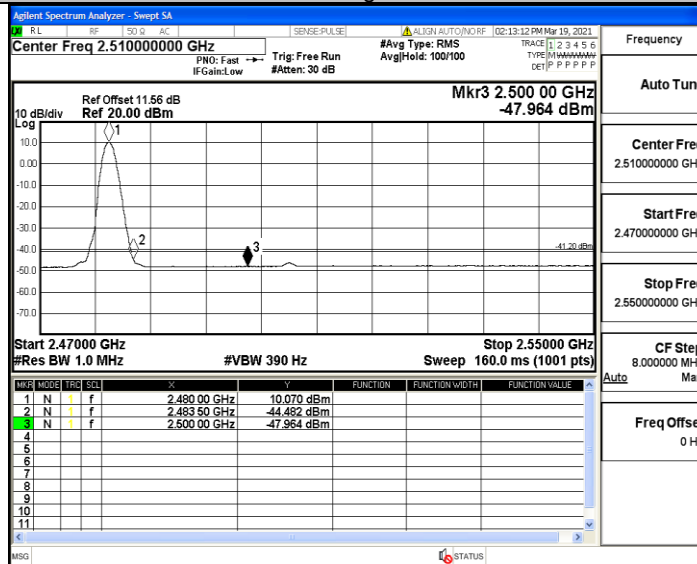
DH5_Ant1_Low_2402_AV



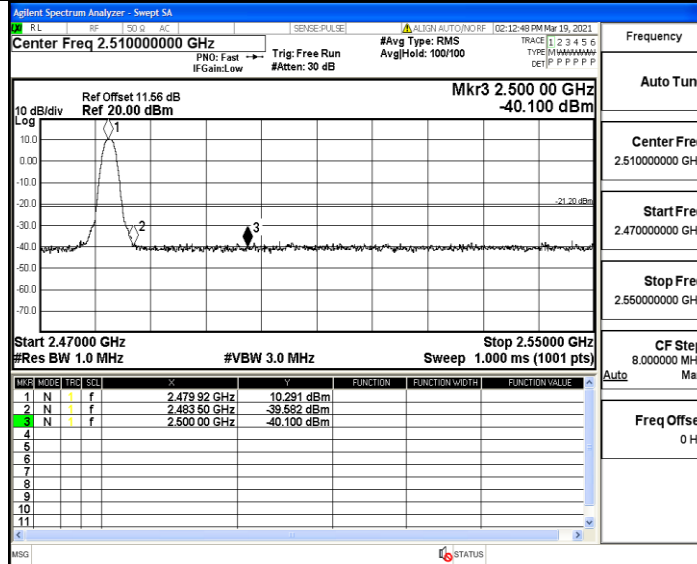
DH5_Ant1_Low_2402_Peak



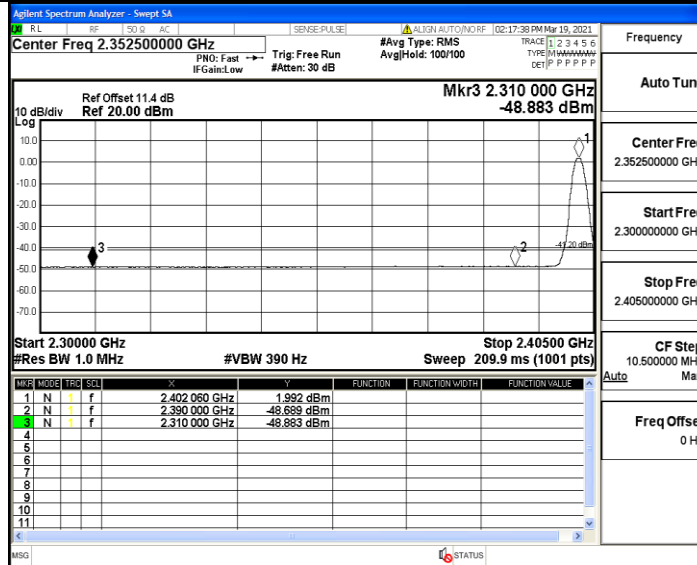
DH5_Ant1_High_2480_AV



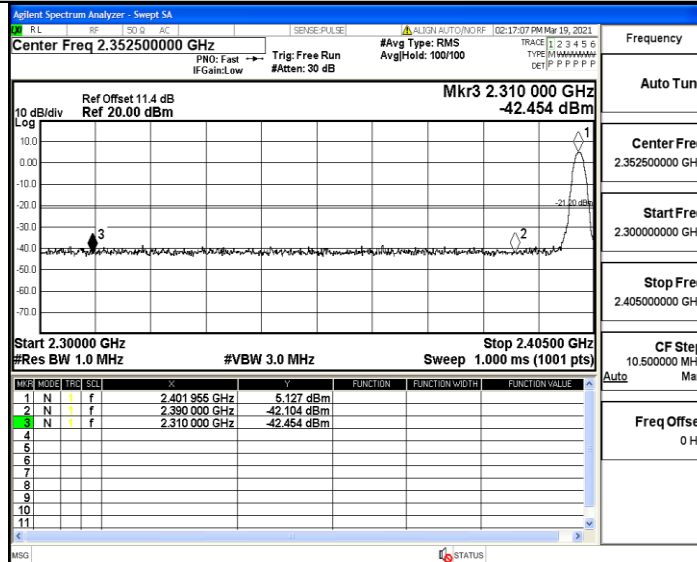
DH5_Ant1_High_2480_Peak



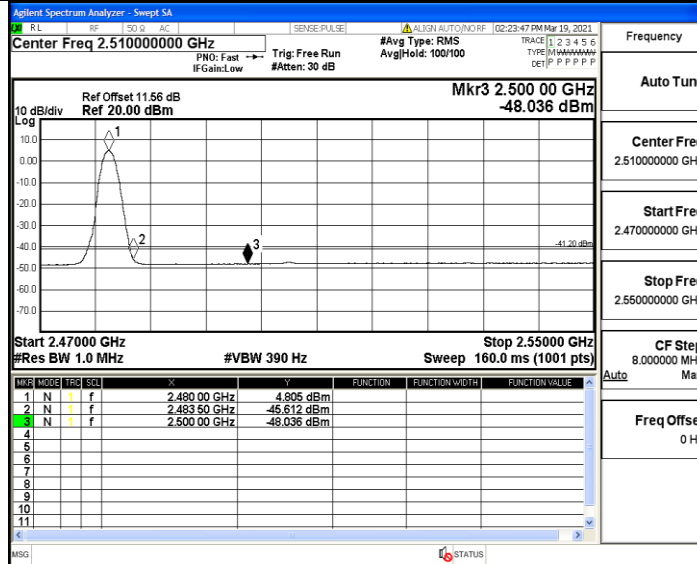
2DH5_Ant1_Low_2402_AV



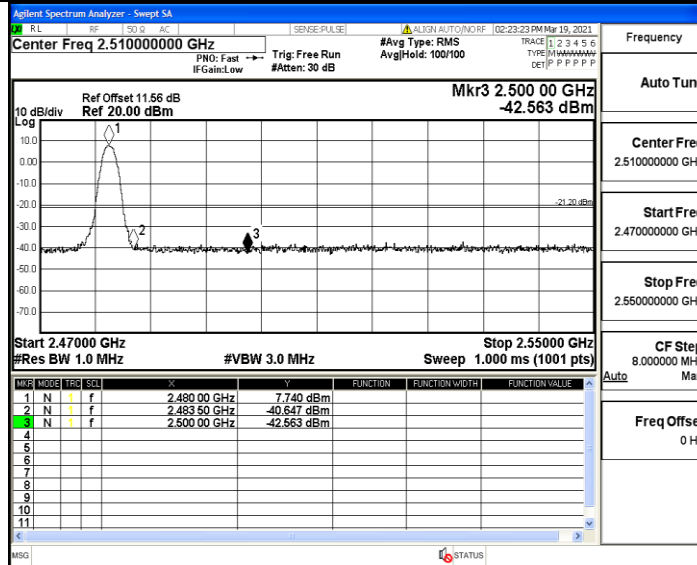
2DH5_Ant1_Low_2402_Peak



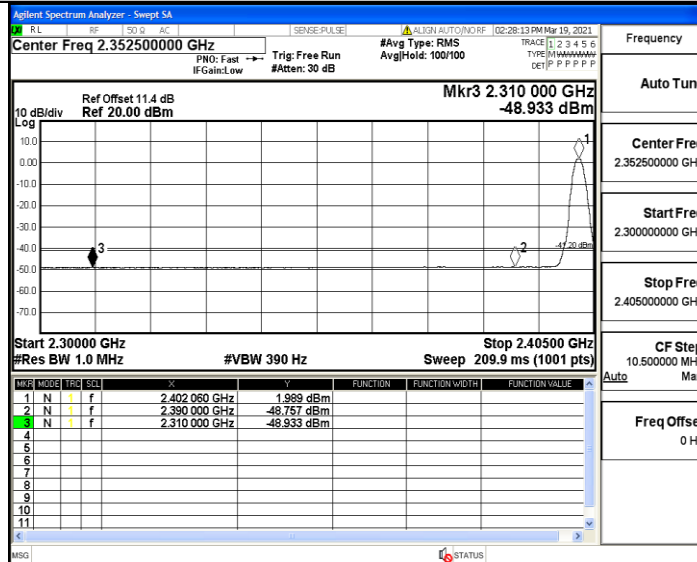
2DH5_Ant1_High_2480_AV



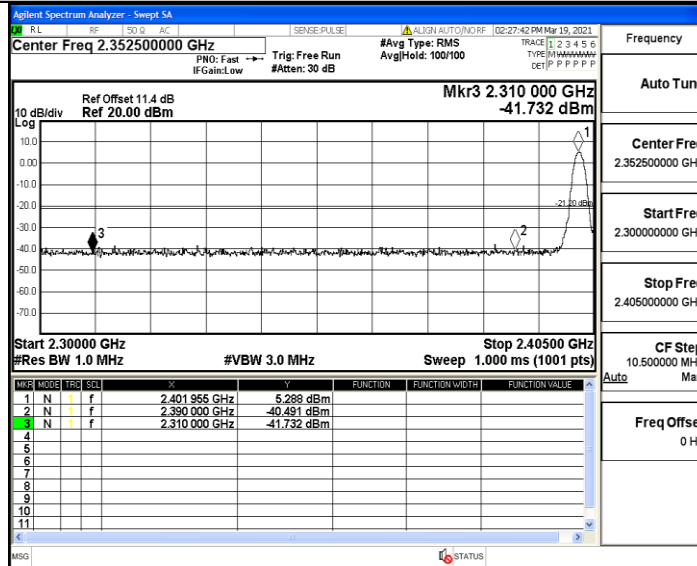
2DH5_Ant1_High_2480_Peak



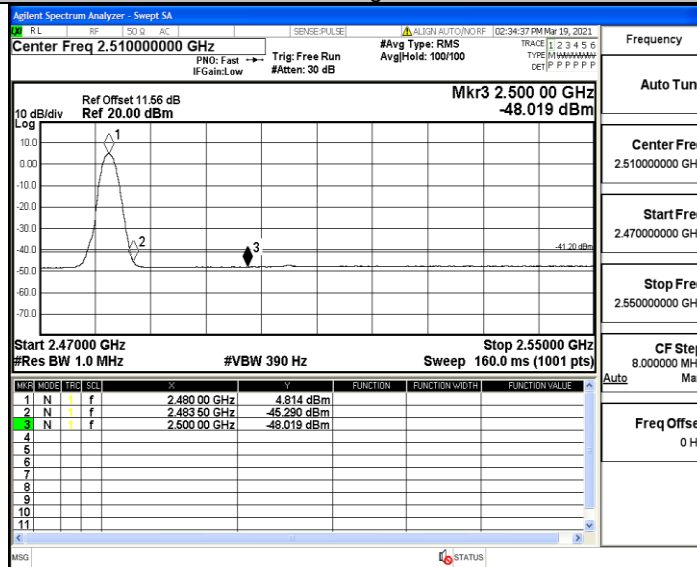
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak

