Appendix A

RF Test Data for BT V5.0 (DSS) (Conducted Measurement)

Product Name: Bradford Bluetooth® Headphones

Trade Mark: Gemline

Test Model: 101128-001B

Environmental Conditions

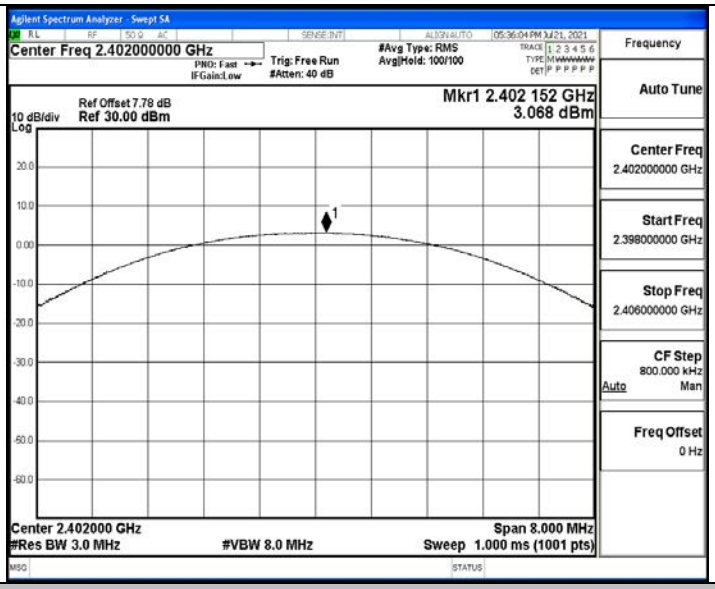
Temperature:	21.6 ° C
Relative Humidity:	52.7%
ATM Pressure:	100.0 kPa
Test Engineer:	Ken He
Supervised by:	Li Huan

A.1 Maxmum Conducted Peak Output Power

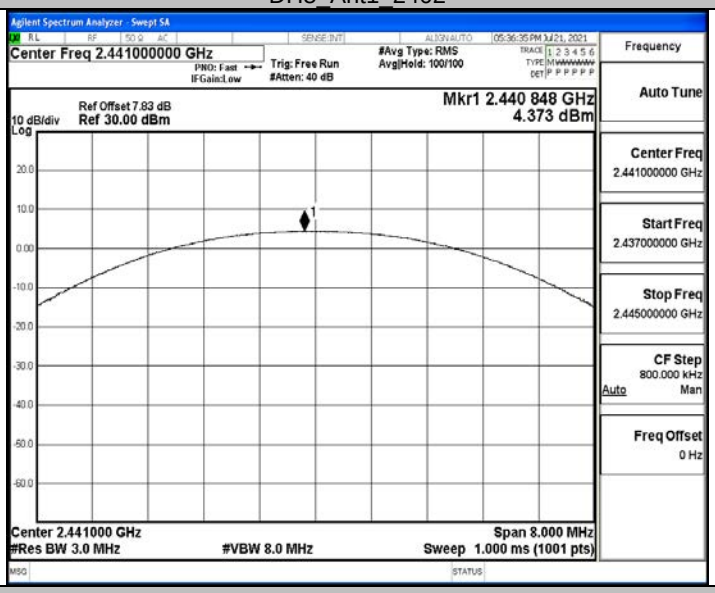
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.07	≤20.97	PASS
		2441	4.37	≤20.97	PASS
		2480	3.01	≤20.97	PASS
2DH5	Ant1	2402	2.17	≤20.97	PASS
		2441	3.54	≤20.97	PASS
		2480	2.15	≤20.97	PASS
3DH5	Ant1	2402	2.41	≤20.97	PASS
		2441	3.63	≤20.97	PASS
		2480	2.35	≤20.97	PASS

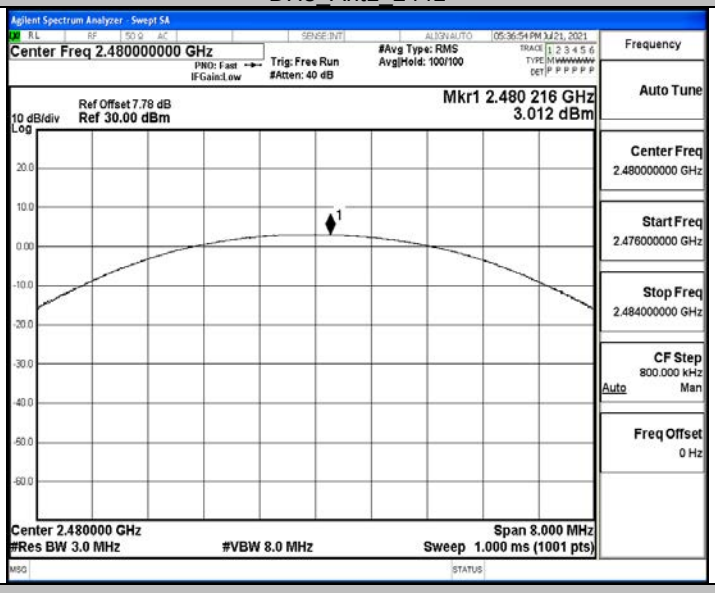
Test Graphs



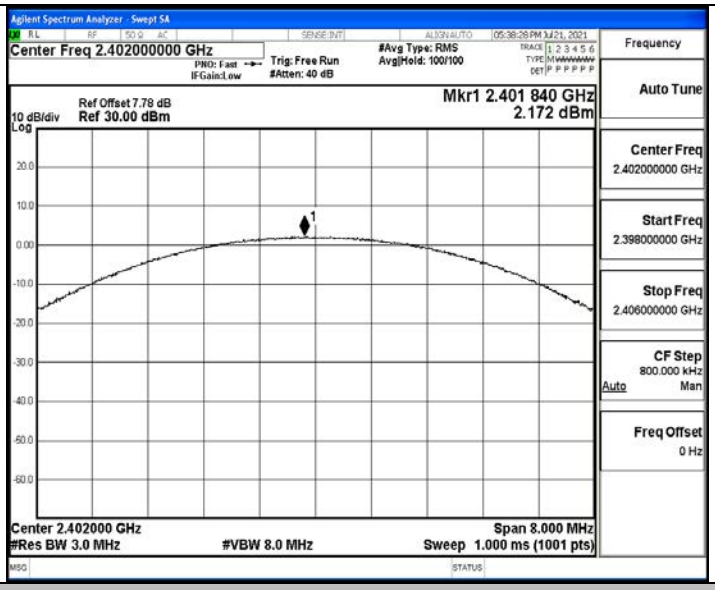
DH5_Ant1_2402



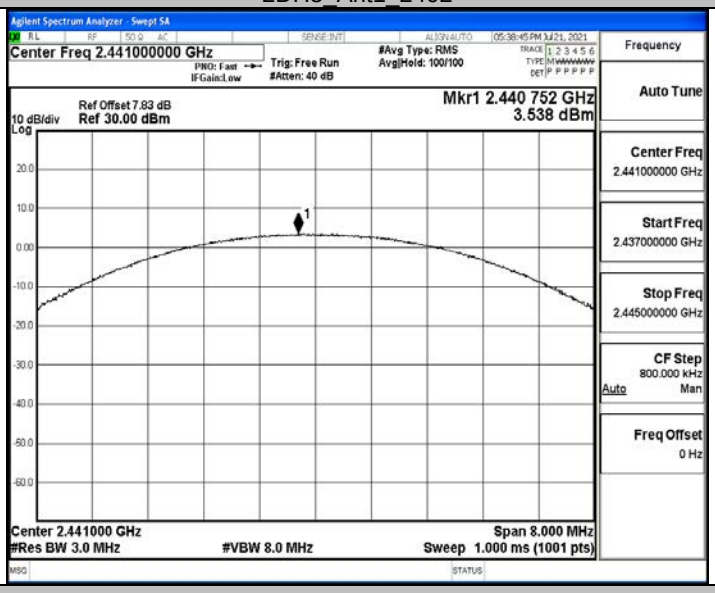
DH5_Ant1_2441



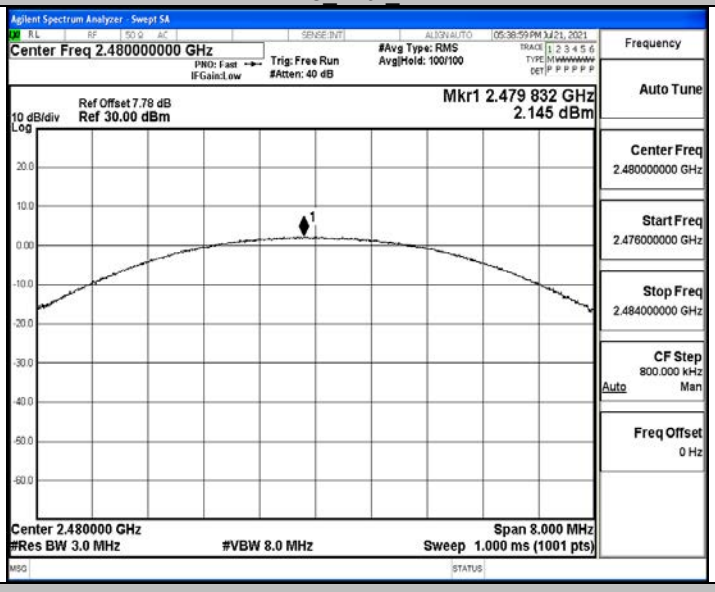
DH5_Ant1_2480



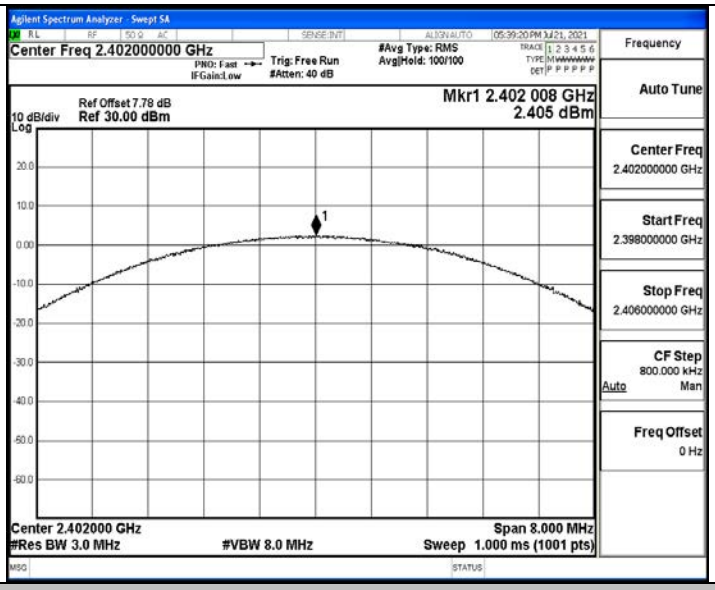
2DH5_Ant1_2402



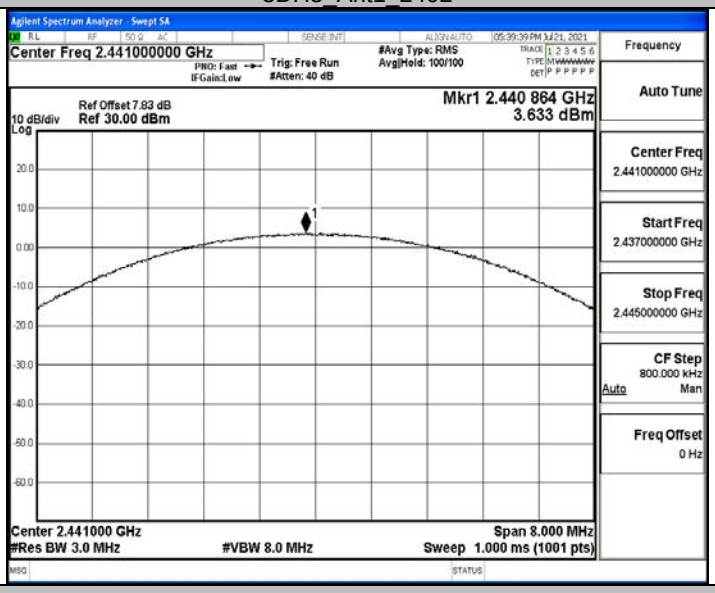
2DH5_Ant1_2441



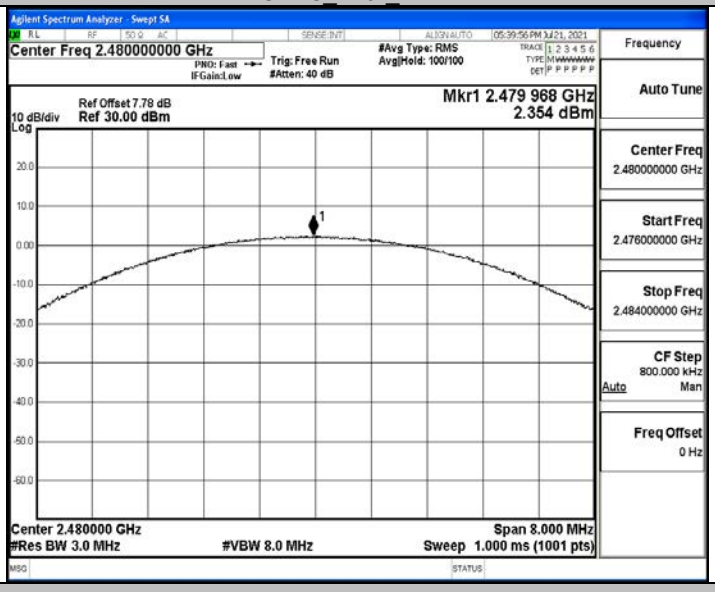
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



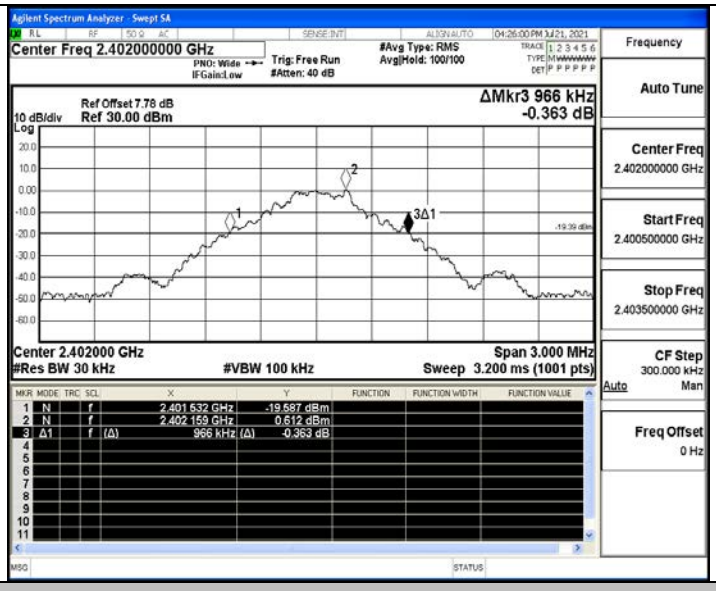
3DH5_Ant1_2480

A.2 20dB Bandwidth

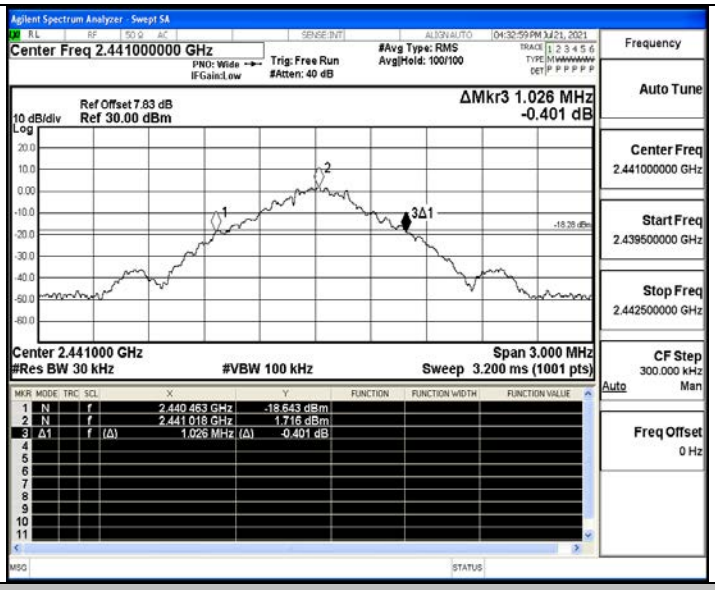
Test Result

TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.966	2401.532	2402.498	---	PASS
		2441	1.026	2440.463	2441.489	---	PASS
		2480	1.032	2479.466	2480.498	---	PASS
2DH5	Ant1	2402	1.284	2401.370	2402.654	---	PASS
		2441	1.314	2440.346	2441.660	---	PASS
		2480	1.311	2479.346	2480.657	---	PASS
3DH5	Ant1	2402	1.296	2401.352	2402.648	---	PASS
		2441	1.317	2440.343	2441.660	---	PASS
		2480	1.299	2479.355	2480.654	---	PASS

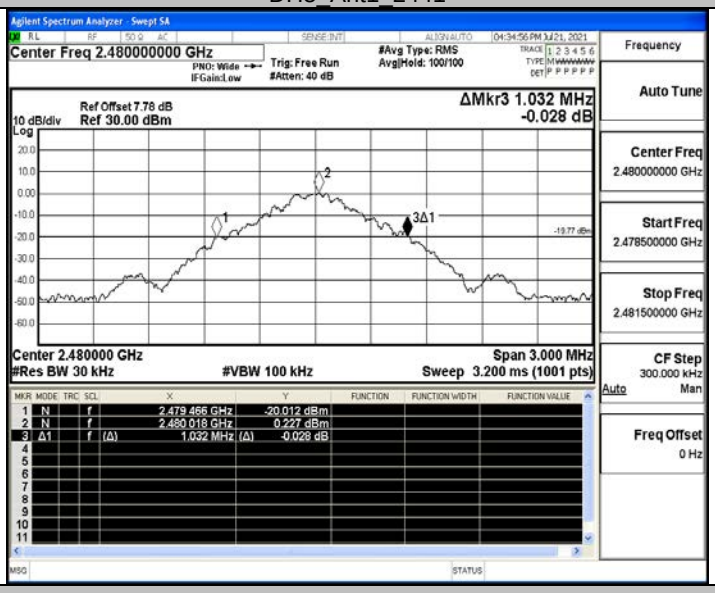
Test Graphs



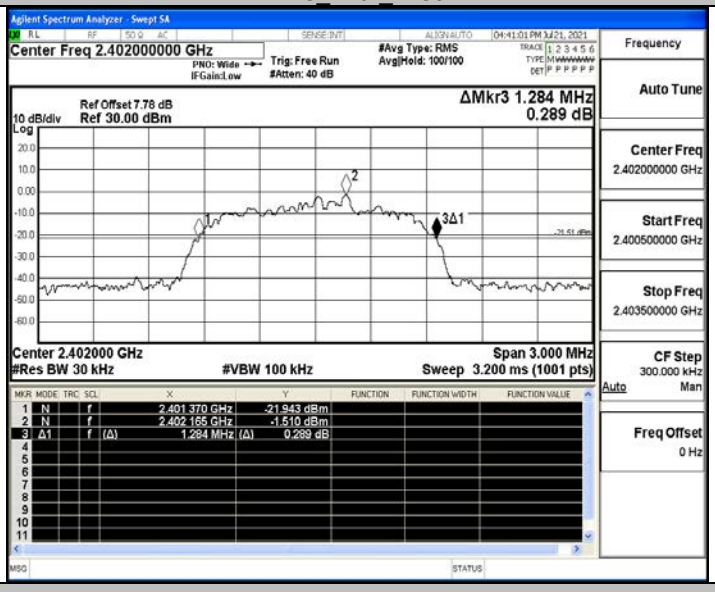
DH5_Ant1_2402



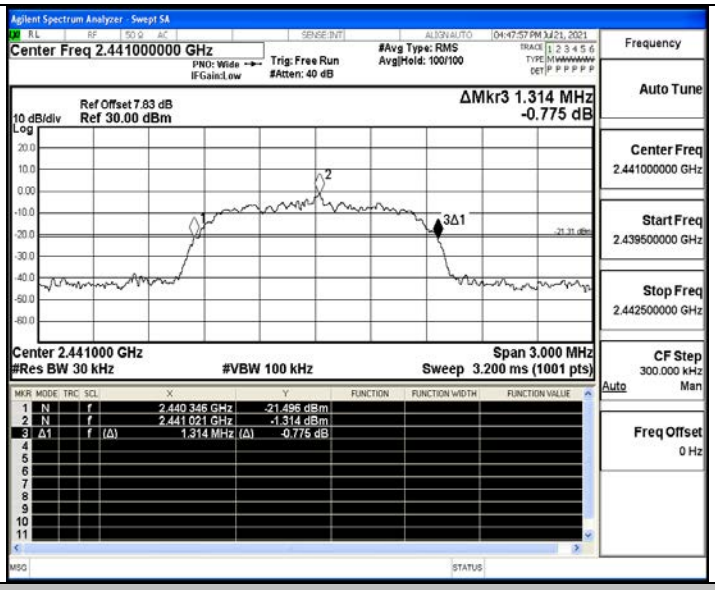
DH5_Ant1_2441



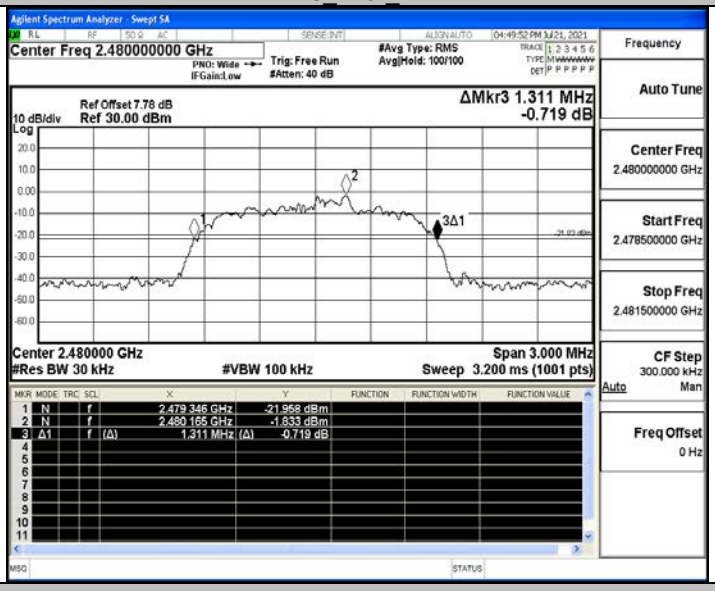
DH5_Ant1_2480



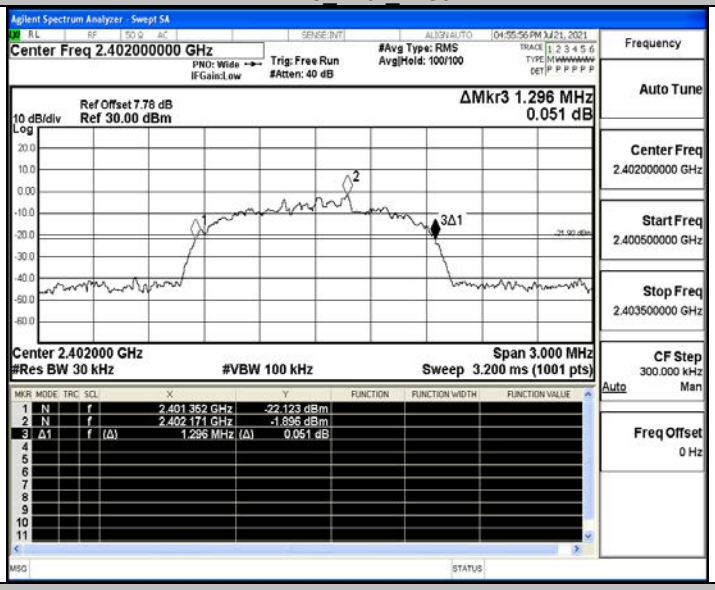
2DH5_Ant1_2402



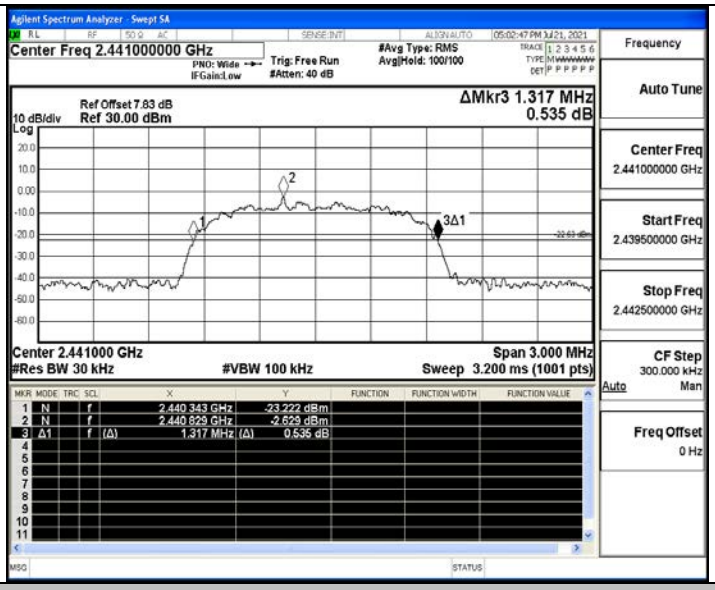
2DH5_Ant1_2441



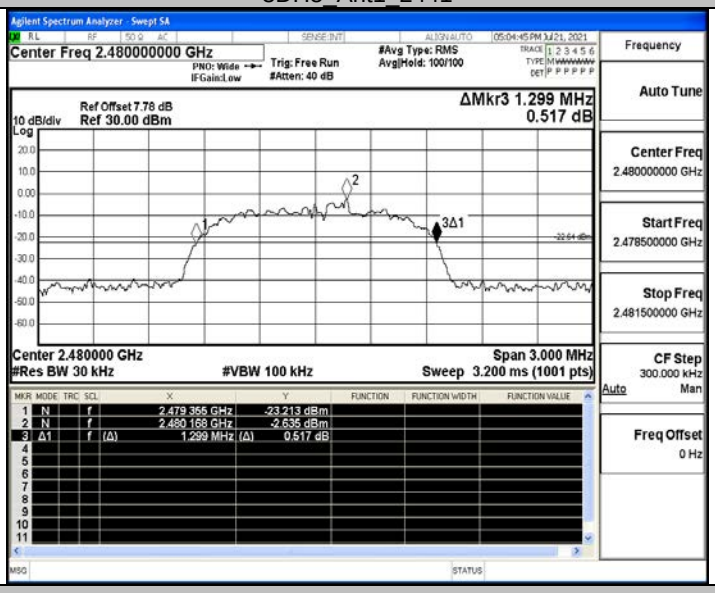
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



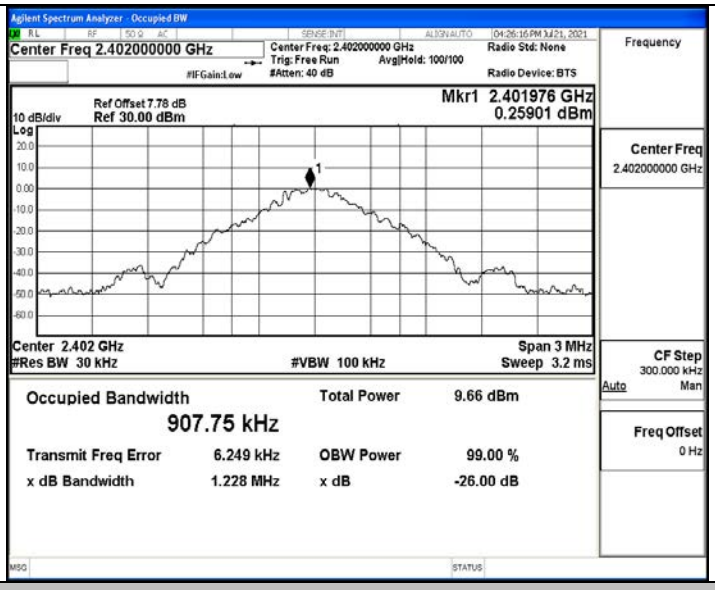
3DH5_Ant1_2480

A.3 Occupied Bandwidth

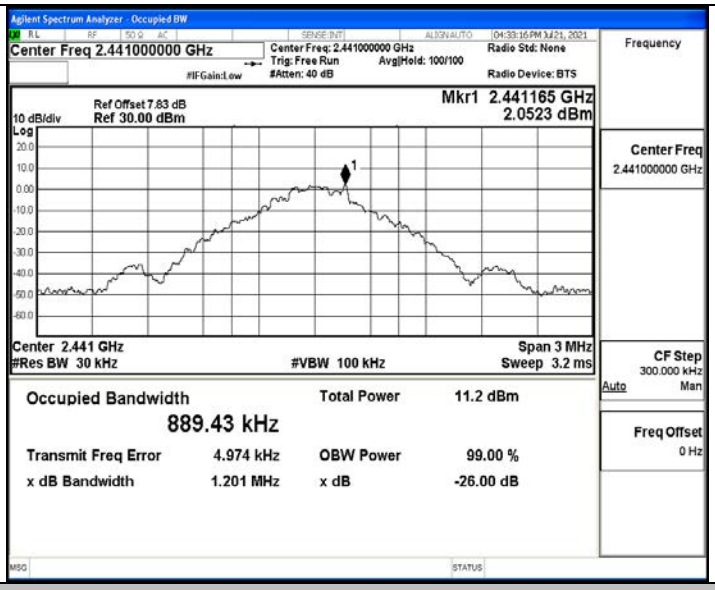
Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.90775	2401.552	2402.460	---	PASS
		2441	0.88943	2440.560	2441.450	---	PASS
		2480	0.90712	2479.553	2480.460	---	PASS
2DH5	Ant1	2402	1.2041	2401.403	2402.607	---	PASS
		2441	1.1872	2440.410	2441.597	---	PASS
		2480	1.1807	2479.409	2480.590	---	PASS
3DH5	Ant1	2402	1.2061	2401.397	2402.603	---	PASS
		2441	1.1903	2440.407	2441.597	---	PASS
		2480	1.2104	2479.393	2480.603	---	PASS

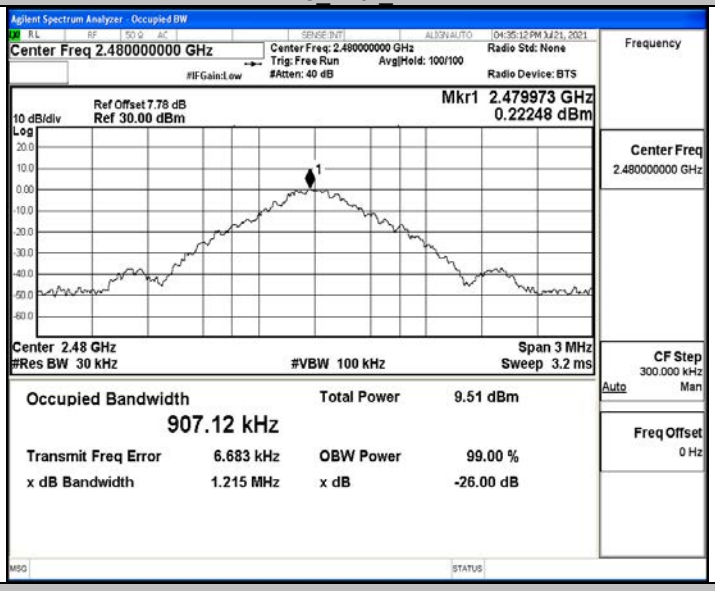
Test Graphs



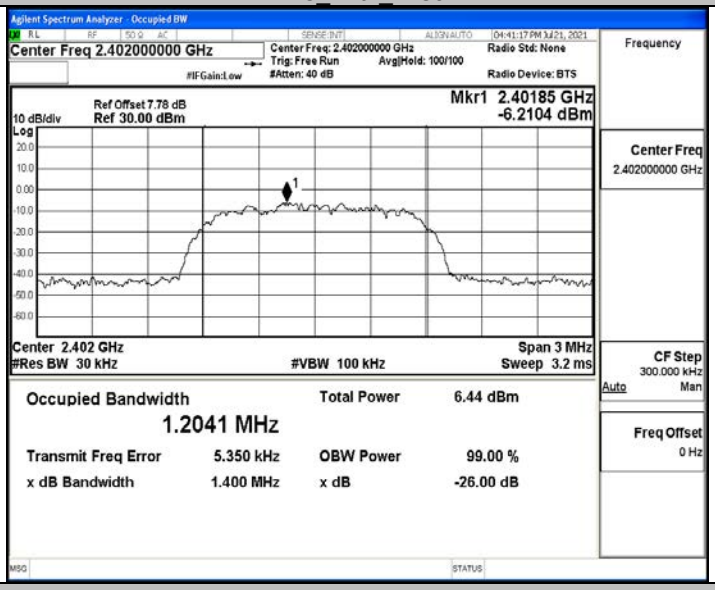
DH5_Ant1_2402



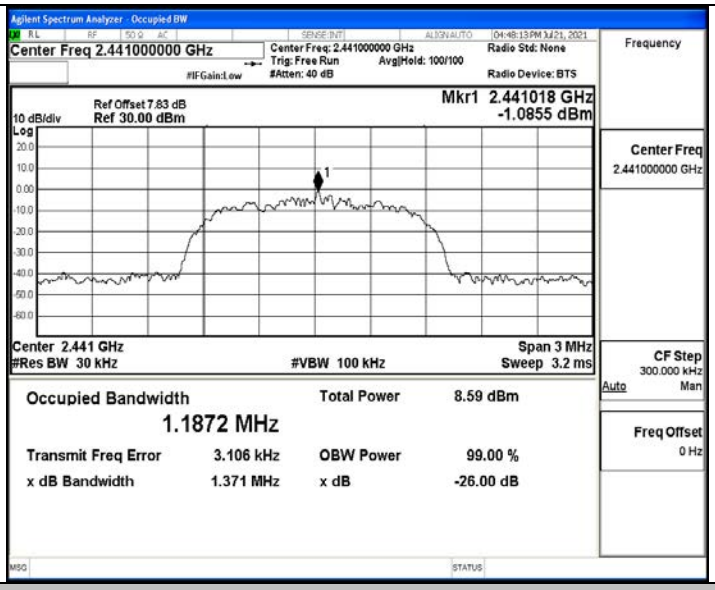
DH5_Ant1_2441



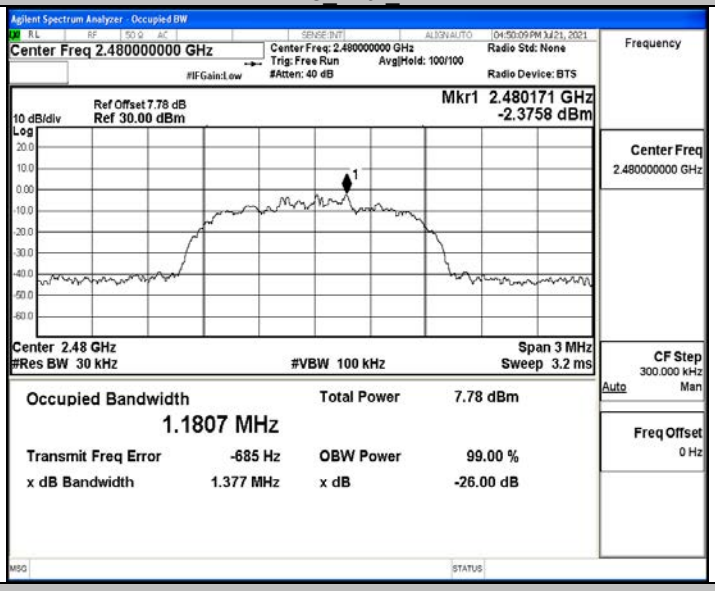
DH5_Ant1_2480



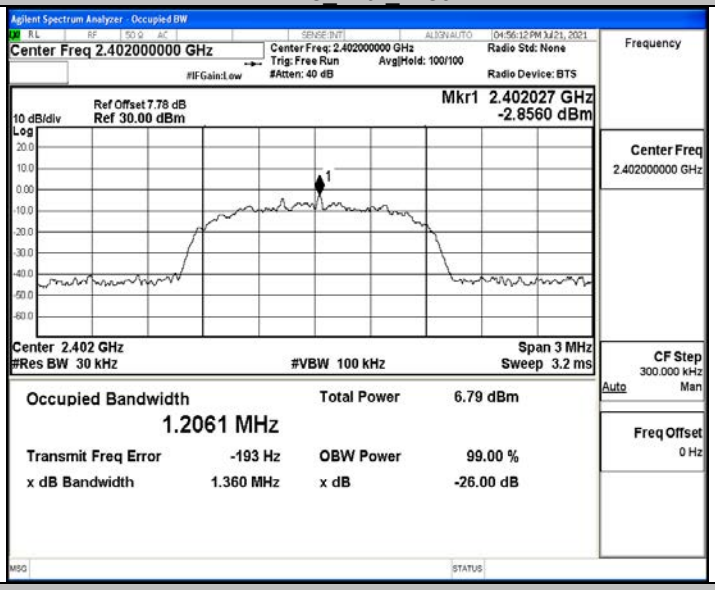
2DH5_Ant1_2402



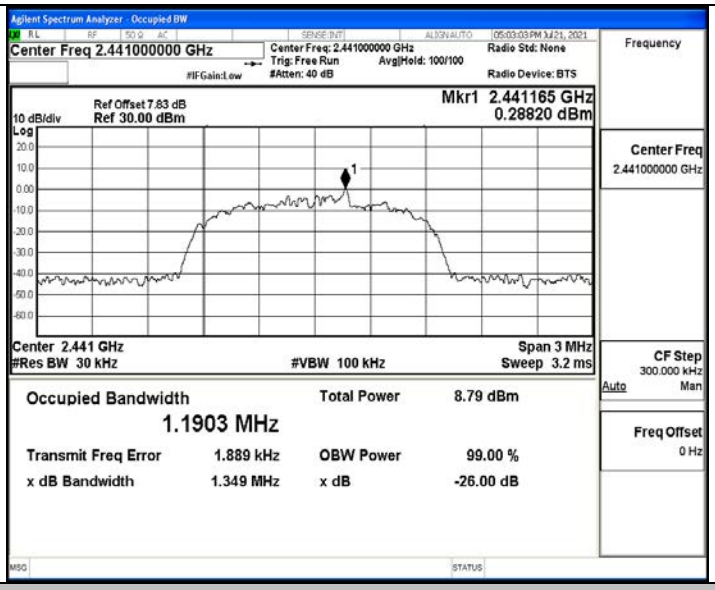
2DH5_Ant1_2441



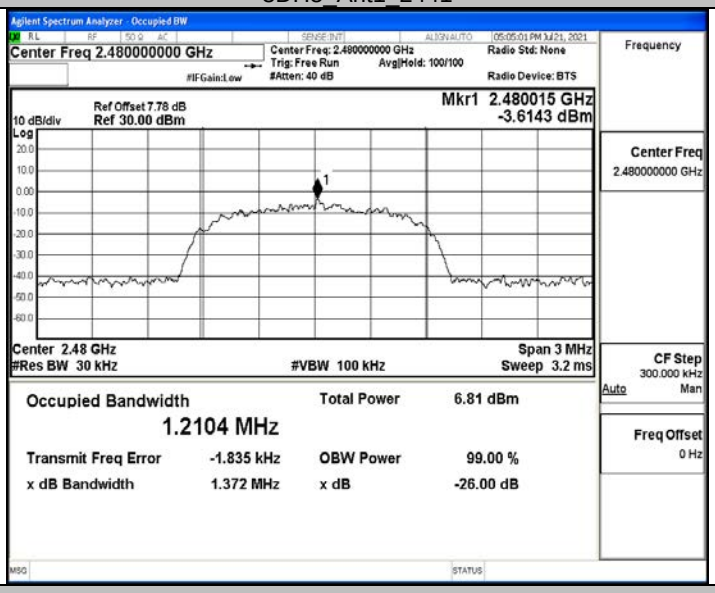
2DH5_Ant1_2480



3DH5_Ant1_2402



3DH5_Ant1_2441



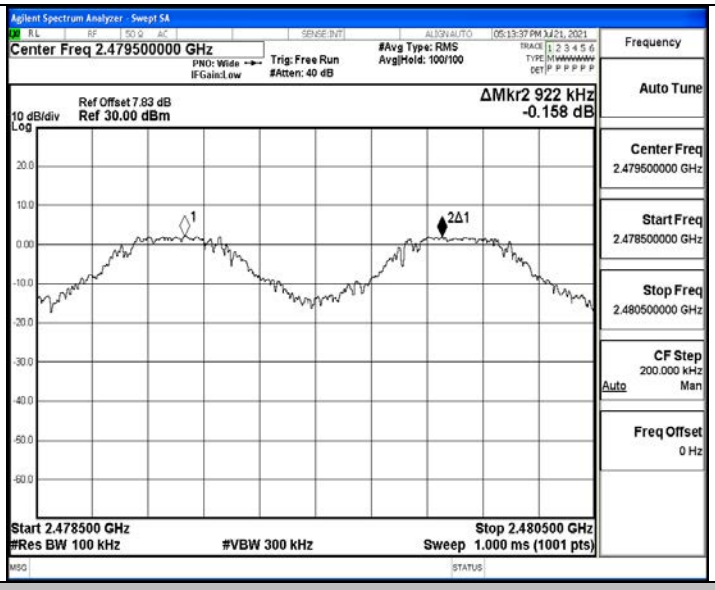
3DH5_Ant1_2480

A.4 Carrier Frequency Separation

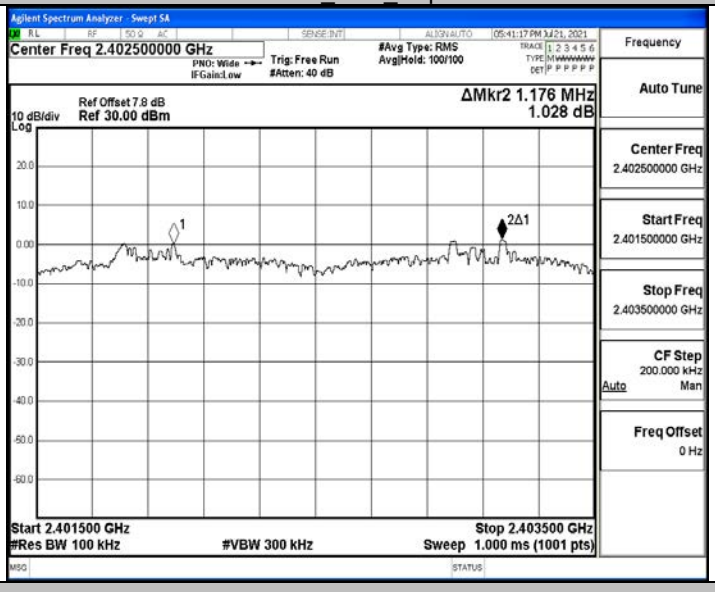
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.922	≥0.688	PASS
2DH5	Ant1	Hop	1.176	≥0.876	PASS
3DH5	Ant1	Hop	1.012	≥0.878	PASS

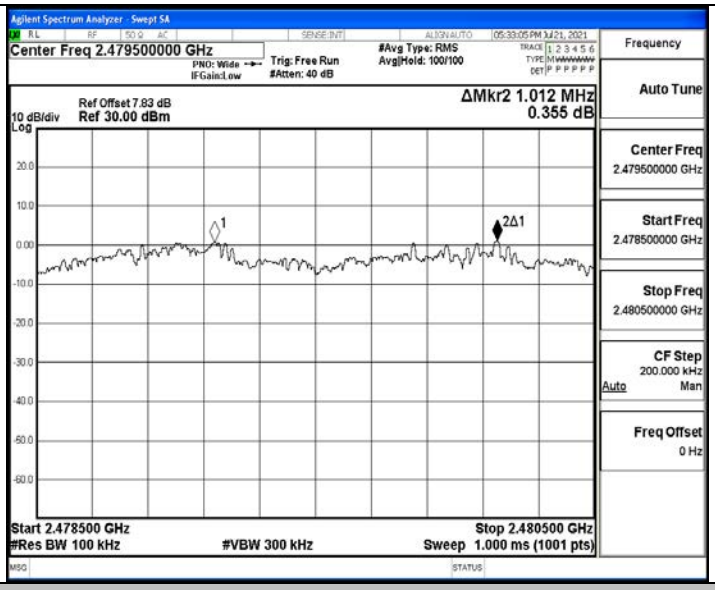
Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



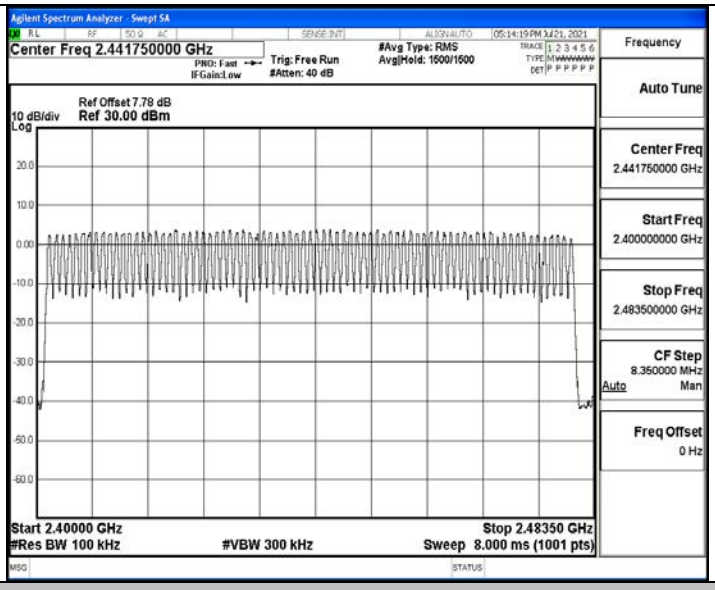
3DH5_Ant1_Hop

A.5 Hopping Channel Number

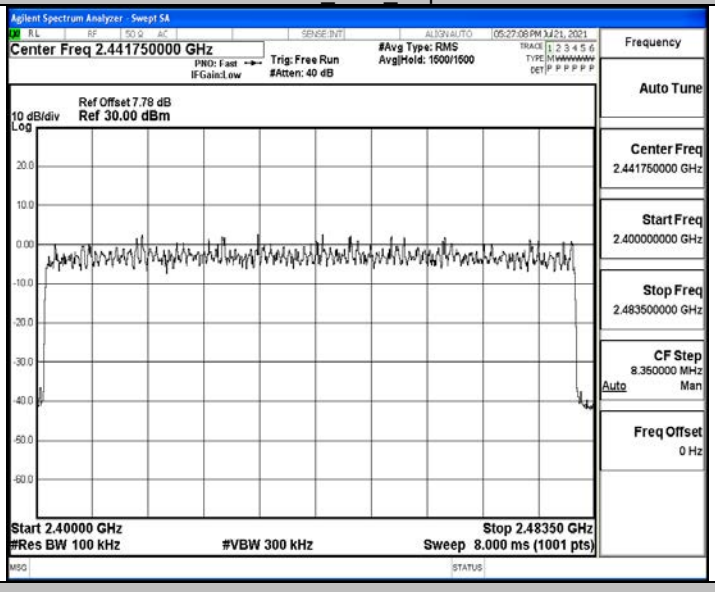
Test Result

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

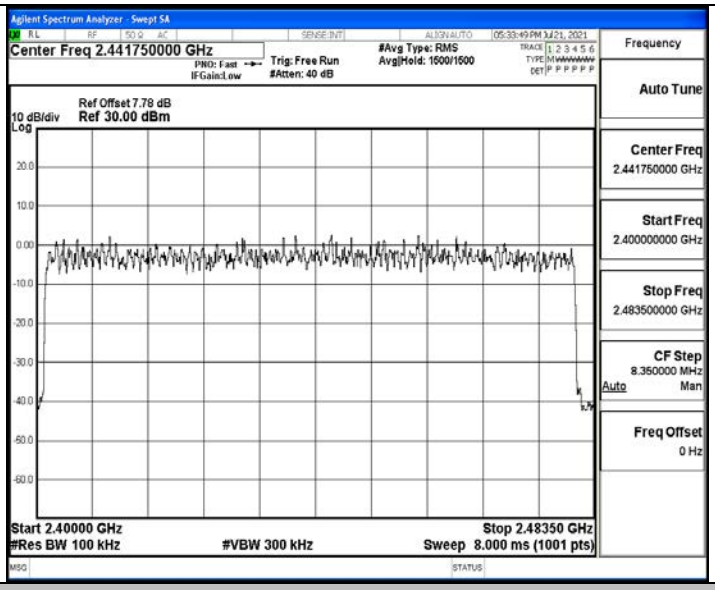
Test Graphs



DH5_Ant1_Hop



2DH5_Ant1_Hop



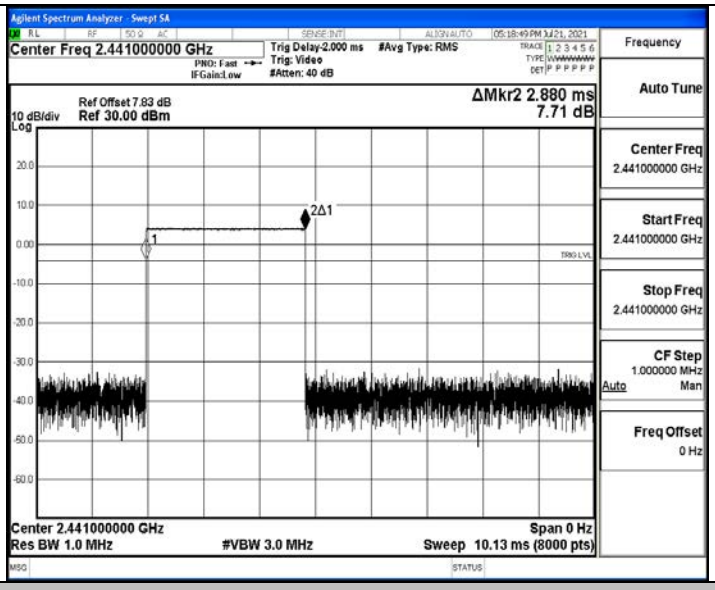
3DH5_Ant1_Hop

A.6 Dwell Time

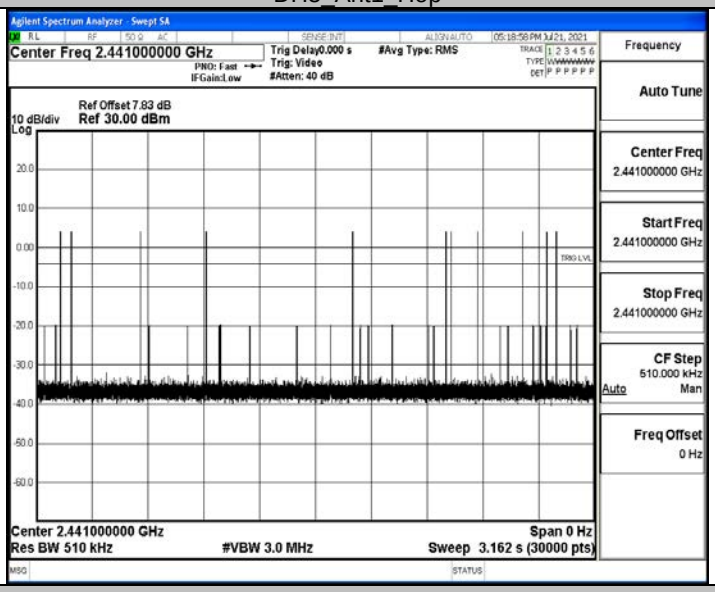
Test Result

TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
2DH5	Ant1	Hop	2.88	90	0.26	≤0.4	PASS
3DH5	Ant1	Hop	2.89	130	0.375	≤0.4	PASS

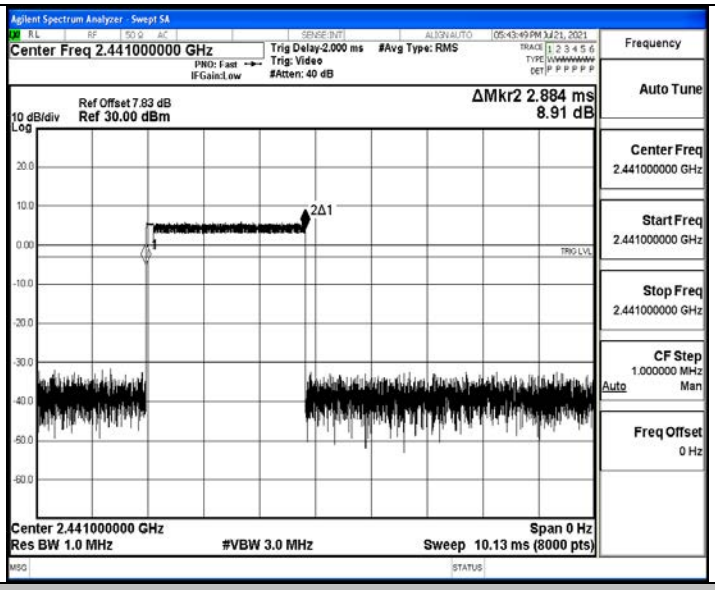
Test Graphs



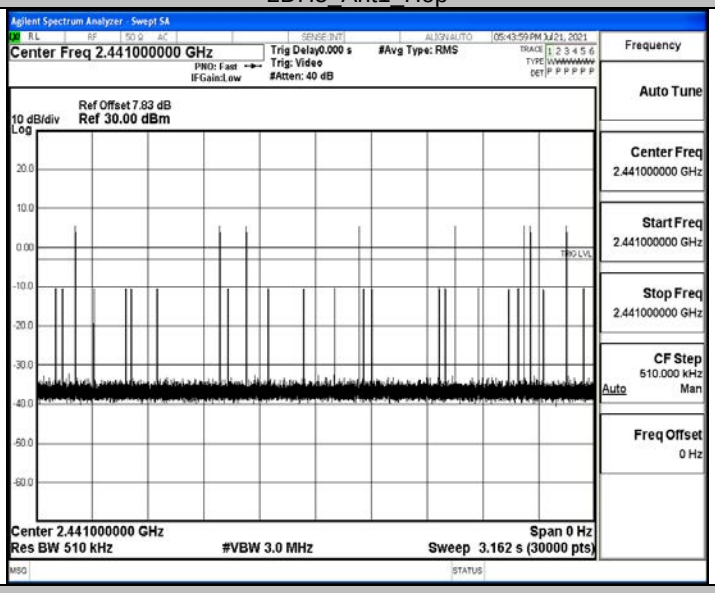
DH5_Ant1_Hop



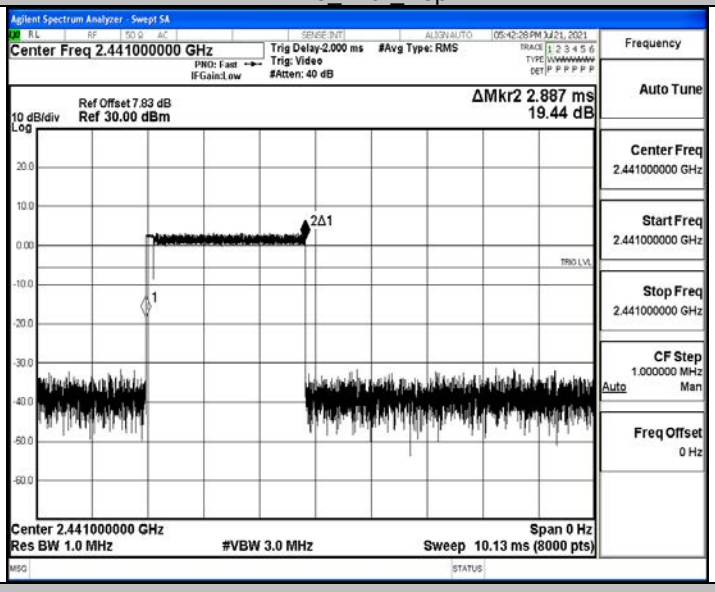
DH5_Ant1_Hop



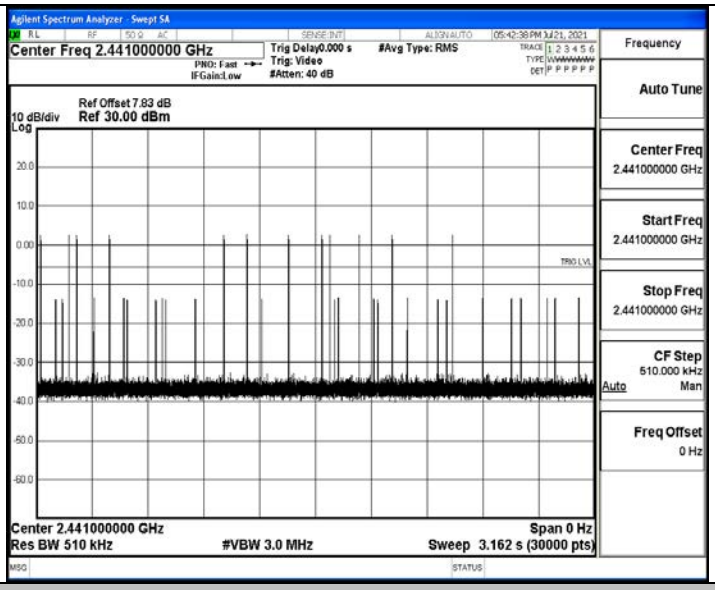
2DH5_Ant1_Hop



2DH5_Ant1_Hop



3DH5_Ant1_Hop



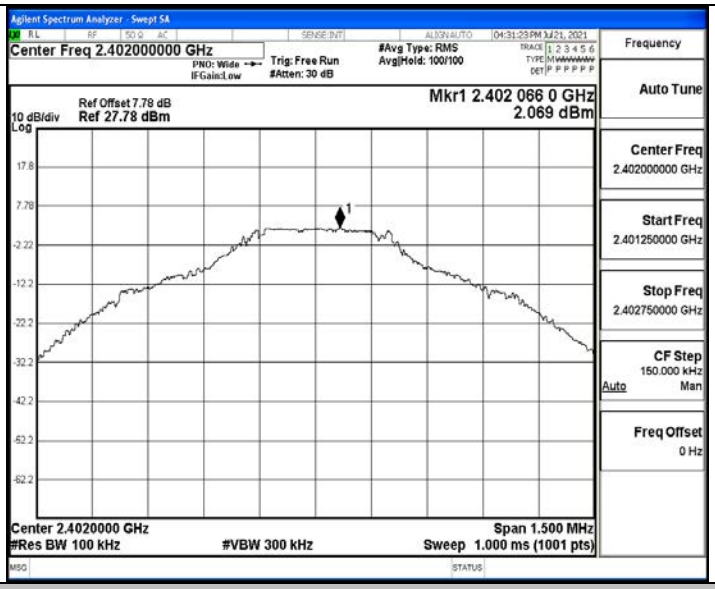
3DH5_Ant1_Hop

A.7 RF Conducted Spurious Emissions

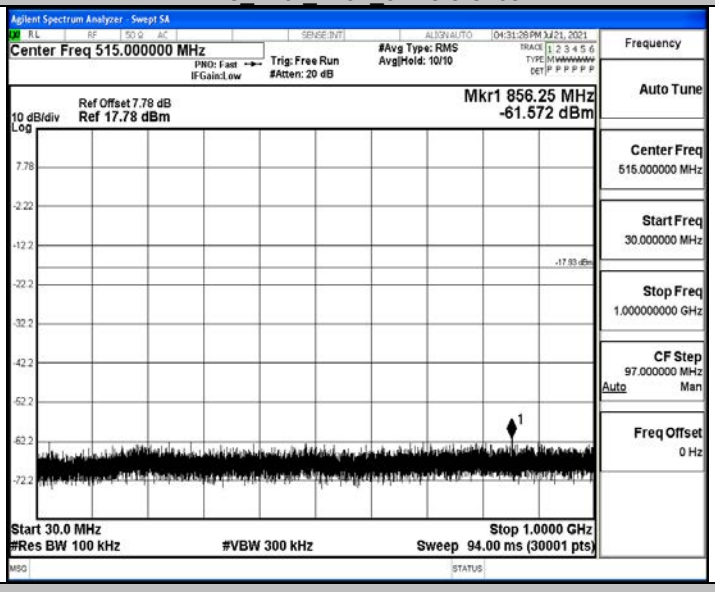
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	2.07	2.07	---	PASS
			30~1000	2.07	-61.57	≤-17.93	PASS
			1000~26500	2.07	-46.37	≤-17.93	PASS
		2441	Reference	3.53	3.53	---	PASS
			30~1000	3.53	-61.9	≤-16.47	PASS
			1000~26500	3.53	-47.69	≤-16.47	PASS
		2480	Reference	2.65	2.65	---	PASS
			30~1000	2.65	-61.24	≤-17.35	PASS
			1000~26500	2.65	-47.83	≤-17.35	PASS
2DH5	Ant1	2402	Reference	1.17	1.17	---	PASS
			30~1000	1.17	-61.85	≤-18.83	PASS
			1000~26500	1.17	-47.61	≤-18.83	PASS
		2441	Reference	1.75	1.75	---	PASS
			30~1000	1.75	-61.41	≤-18.25	PASS
			1000~26500	1.75	-47.54	≤-18.25	PASS
		2480	Reference	0.39	0.39	---	PASS
			30~1000	0.39	-61.81	≤-19.61	PASS
			1000~26500	0.39	-47.22	≤-19.61	PASS
3DH5	Ant1	2402	Reference	0.90	0.90	---	PASS
			30~1000	0.90	-62.13	≤-19.11	PASS
			1000~26500	0.90	-47.74	≤-19.11	PASS
		2441	Reference	2.42	2.42	---	PASS
			30~1000	2.42	-62.22	≤-17.58	PASS
			1000~26500	2.42	-47.58	≤-17.58	PASS
		2480	Reference	1.17	1.17	---	PASS
			30~1000	1.17	-61.42	≤-18.83	PASS
			1000~26500	1.17	-47.46	≤-18.83	PASS

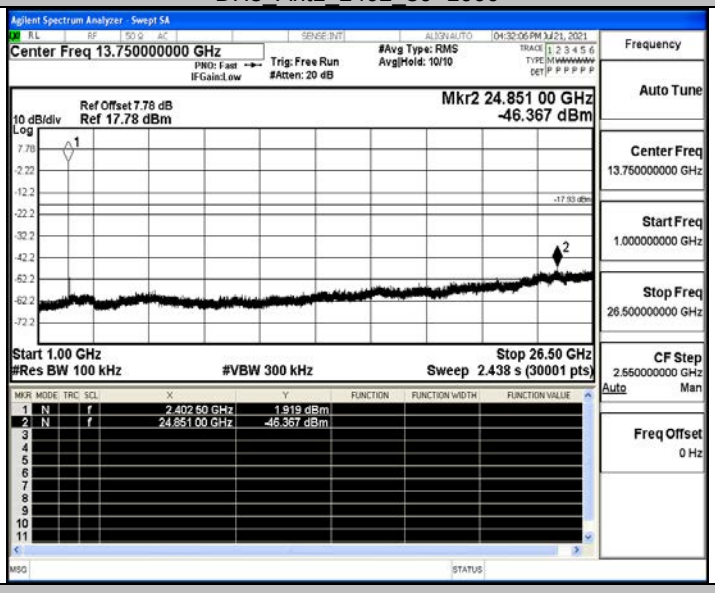
Test Graphs



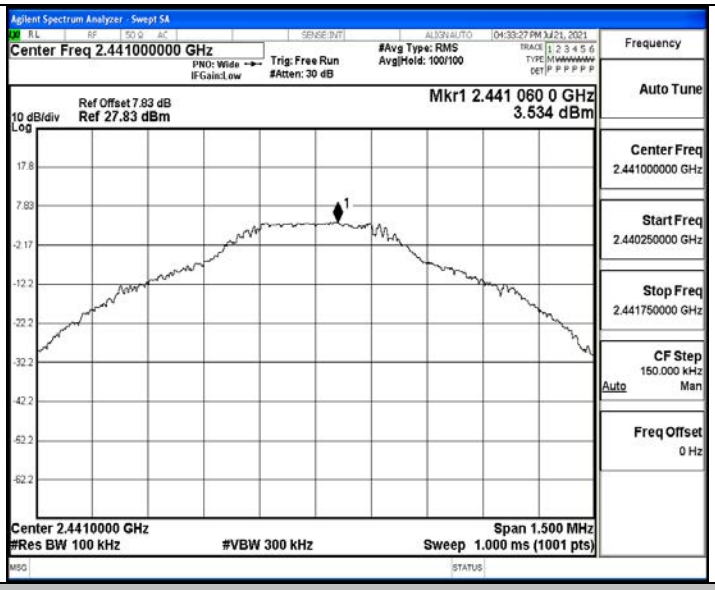
DH5_Ant1_2402_0~Reference



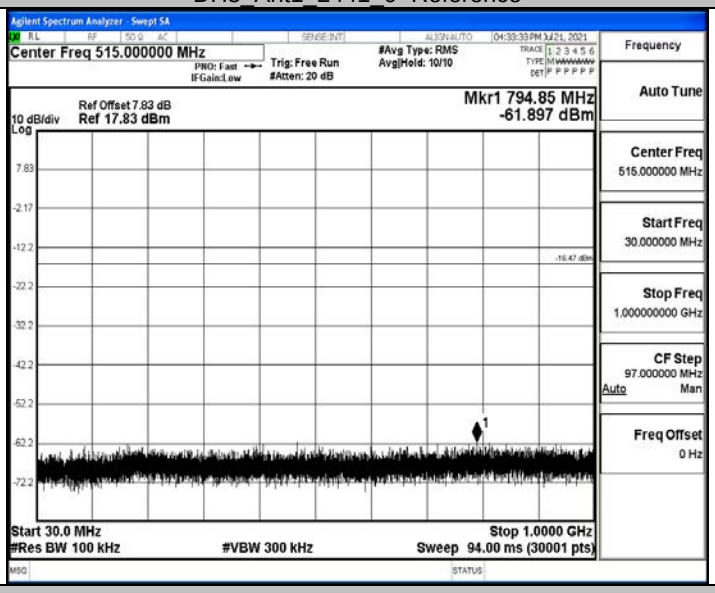
DH5_Ant1_2402_30~1000



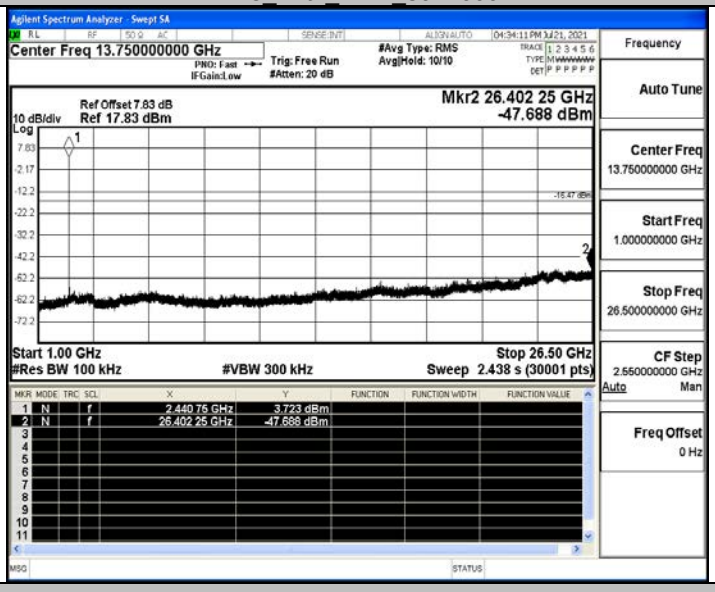
DH5_Ant1_2402_1000~26500



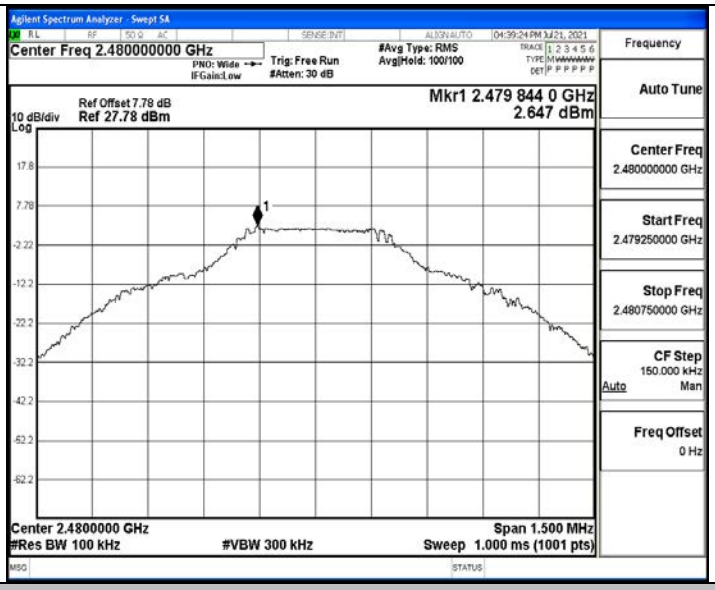
DH5_Ant1_2441_0~Reference



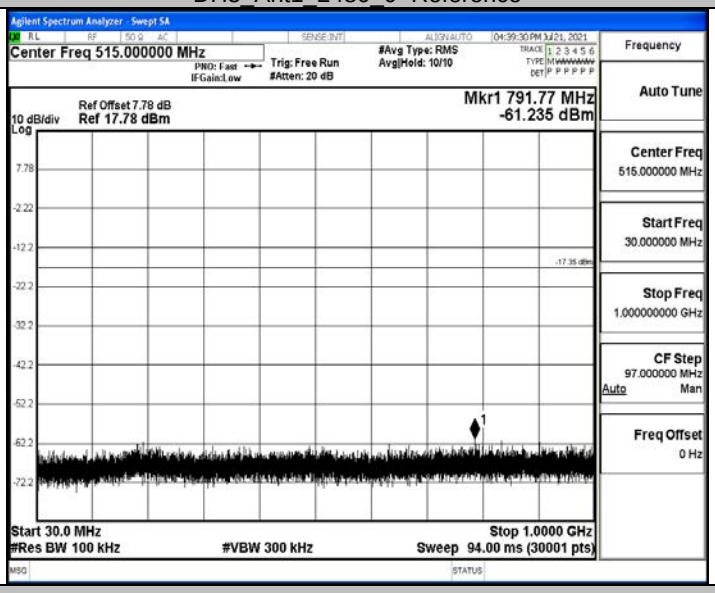
DH5_Ant1_2441_30~1000



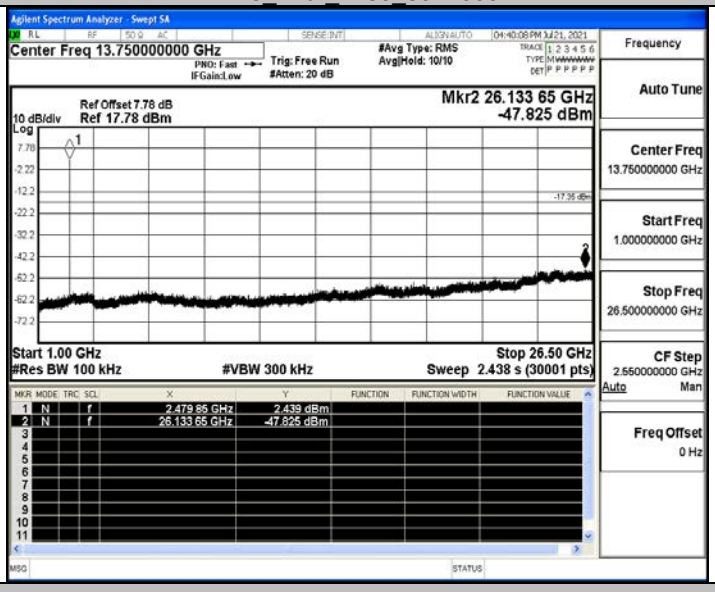
DH5_Ant1_2441_1000~26500



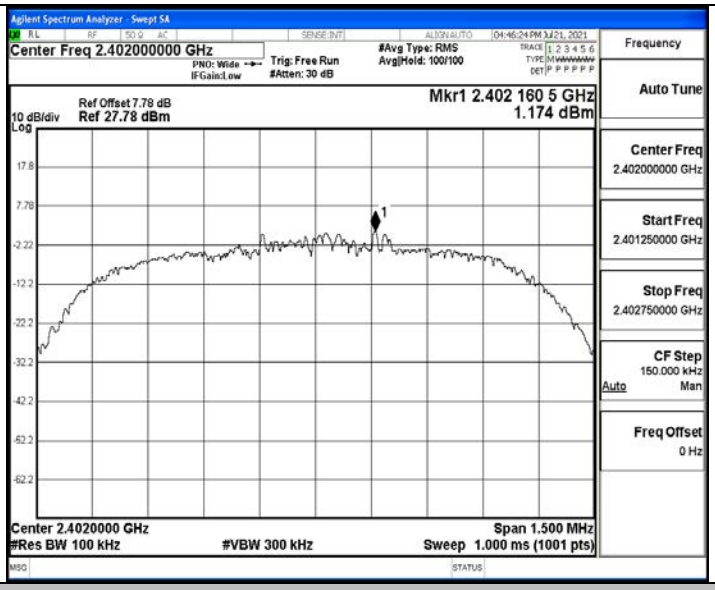
DH5_Ant1_2480_0~Reference



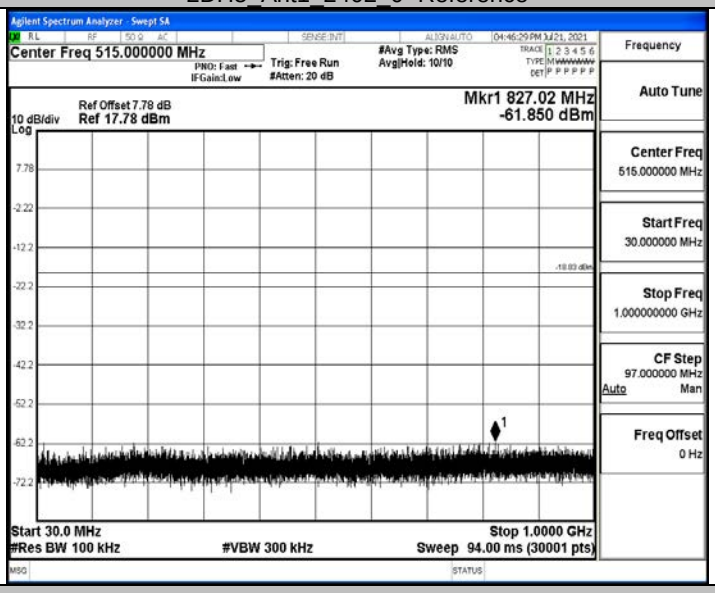
DH5_Ant1_2480_30~1000



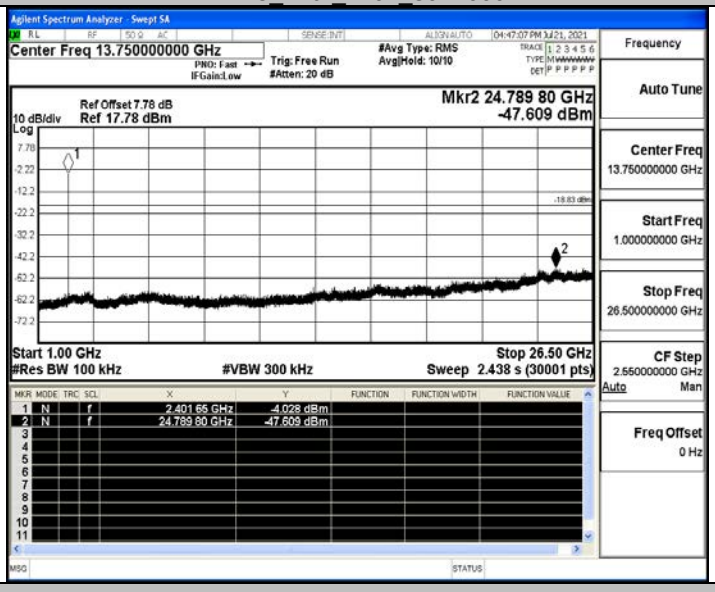
DH5_Ant1_2480_1000~26500



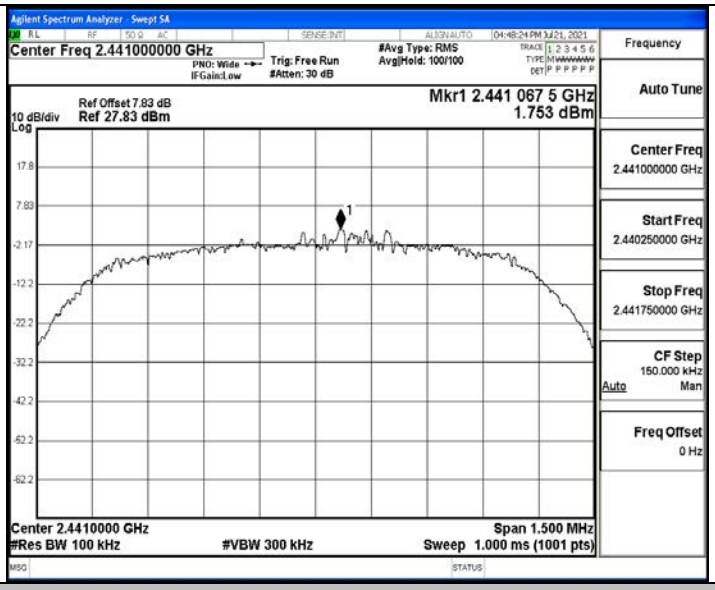
2DH5_Ant1_2402_0~Reference



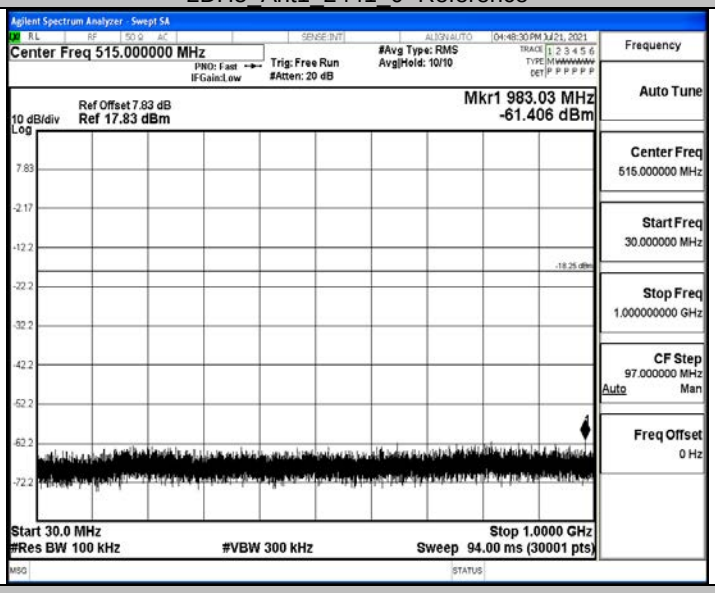
2DH5_Ant1_2402_30~1000



2DH5_Ant1_2402_1000~26500



2DH5_Ant1_2441_0~Reference



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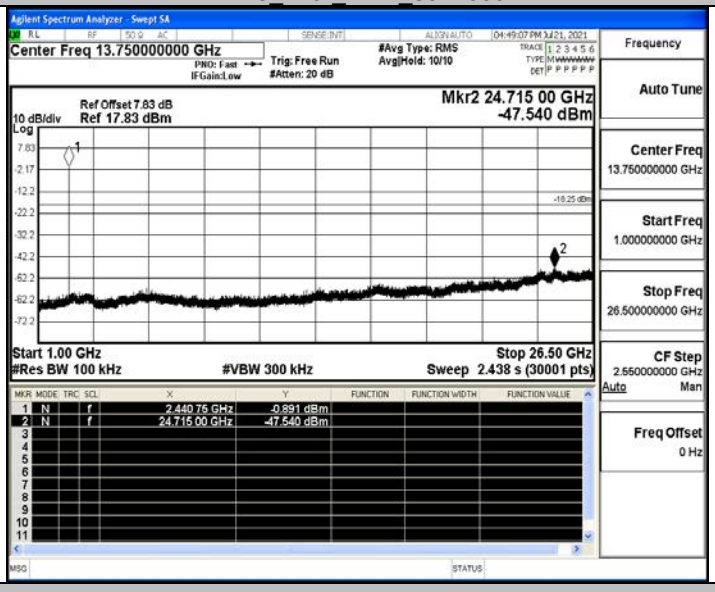

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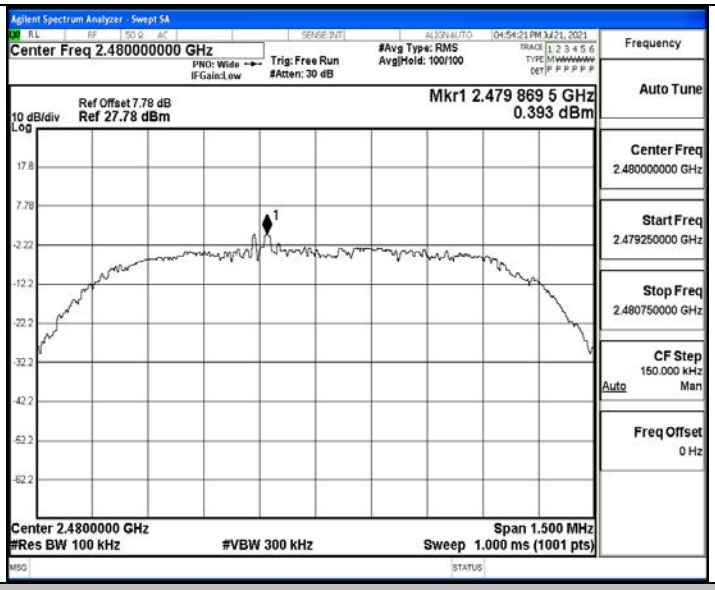
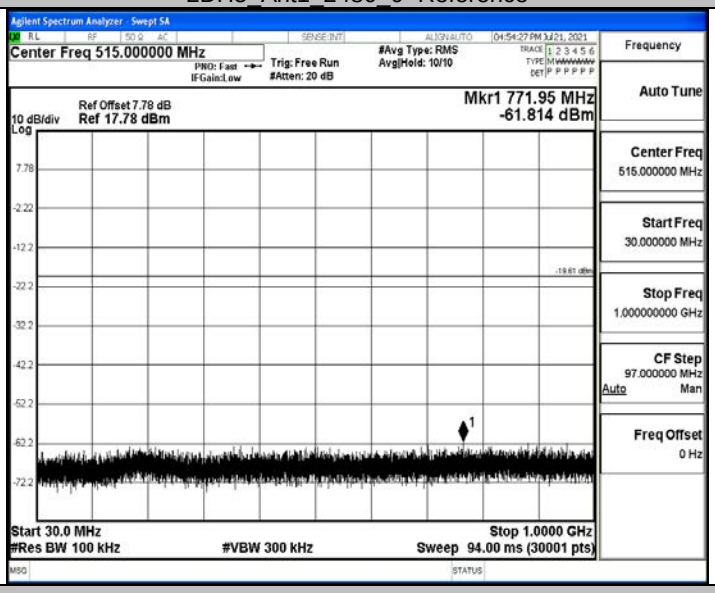
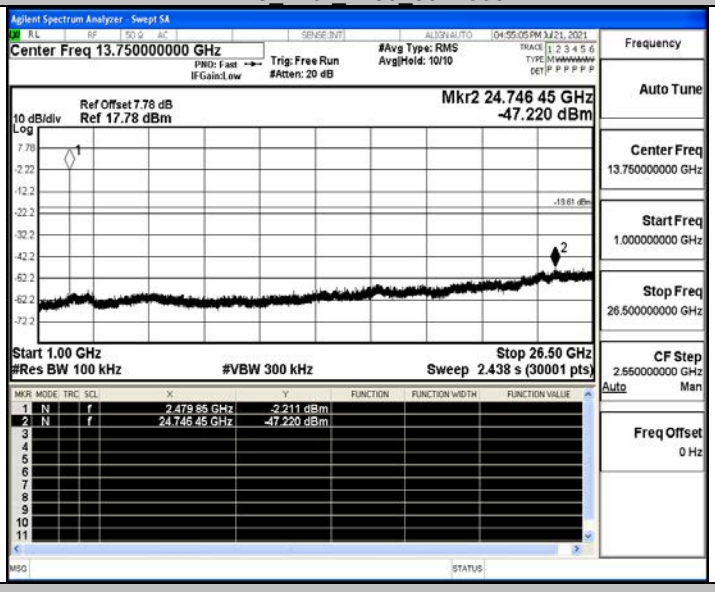


2DH5_Ant1_2480_0~Reference



2DH5_Ant1_2480_30~1000



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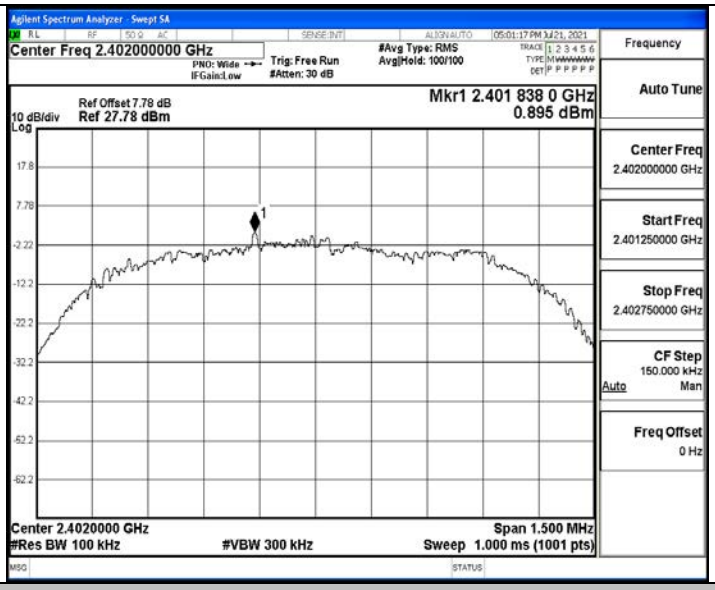
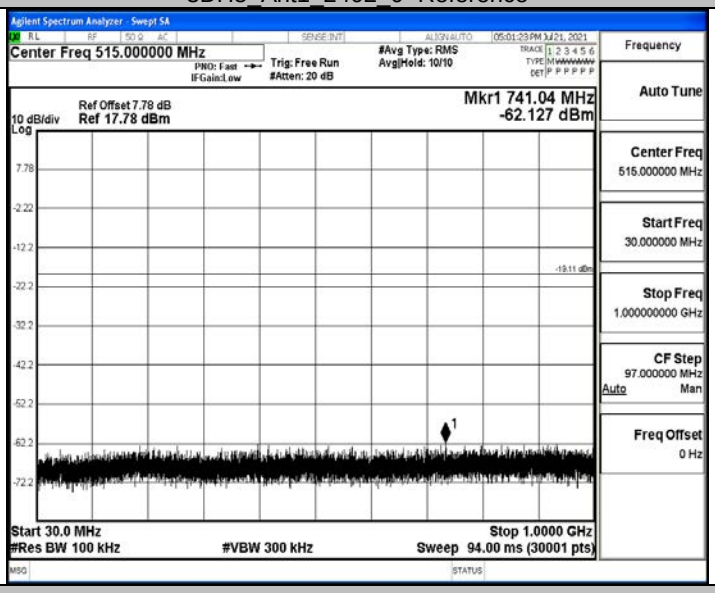


3DH5_Ant1_2402_0~Reference



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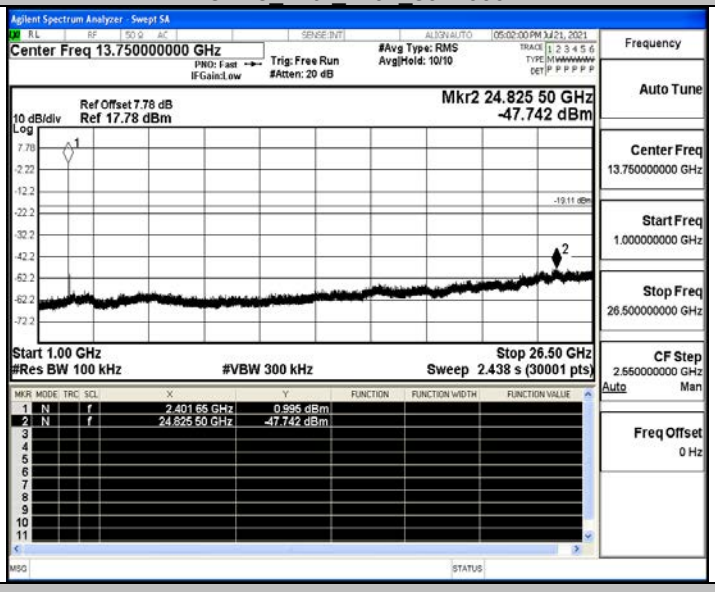
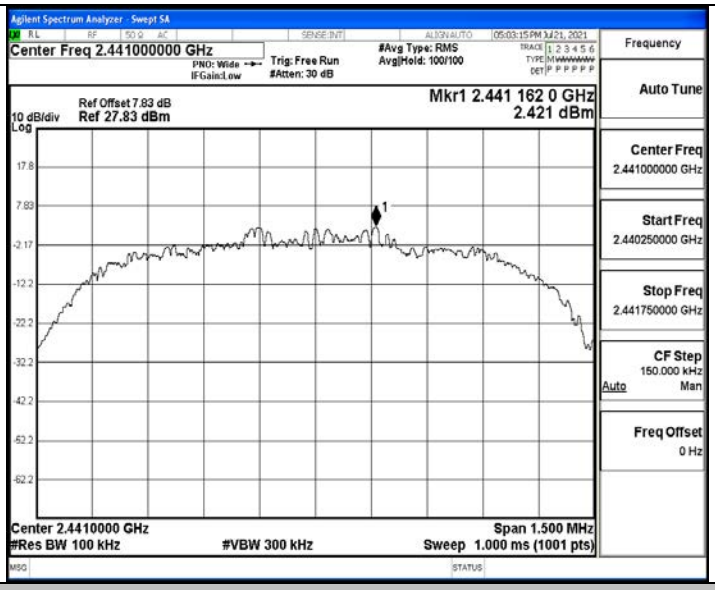
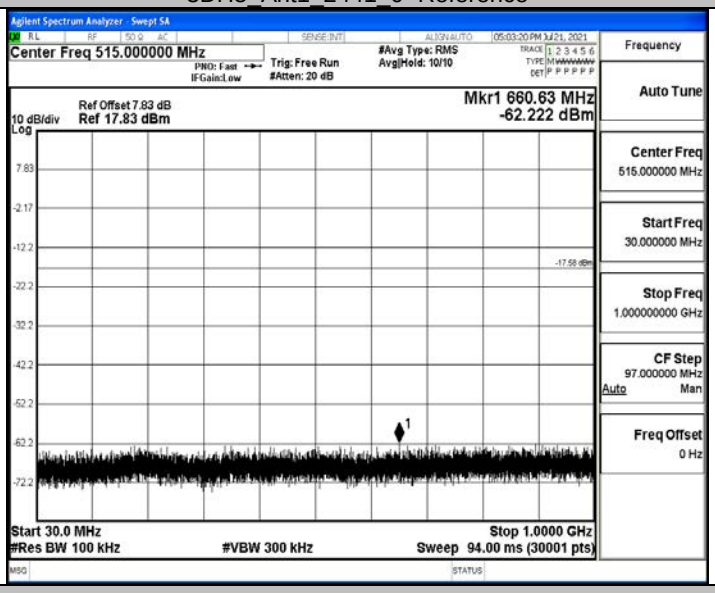


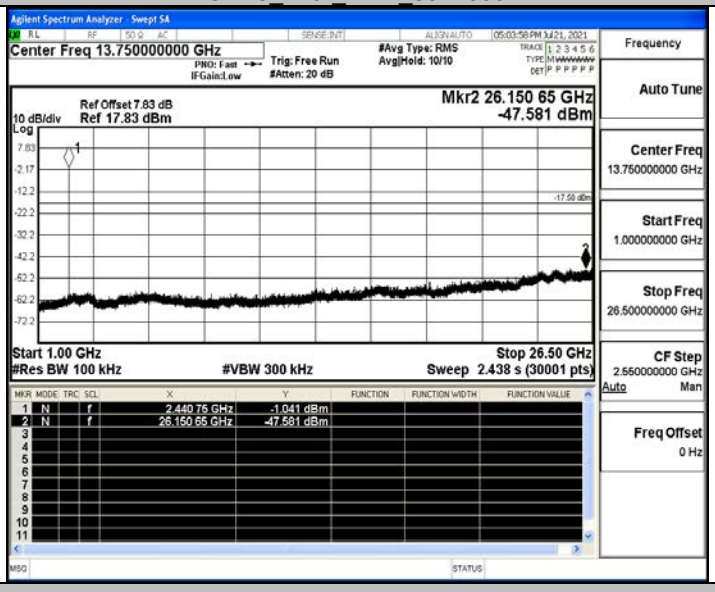
3DH5_Ant1_2402_1000~26500



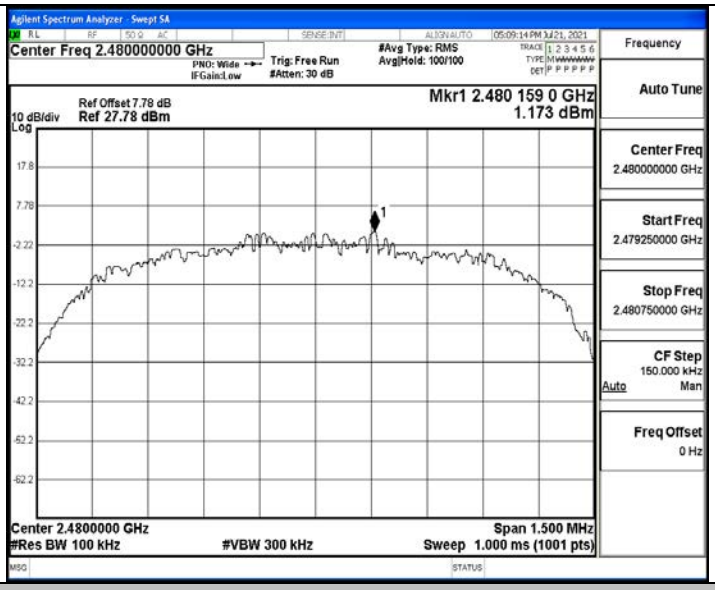
3DH5_Ant1_2441_0~Reference



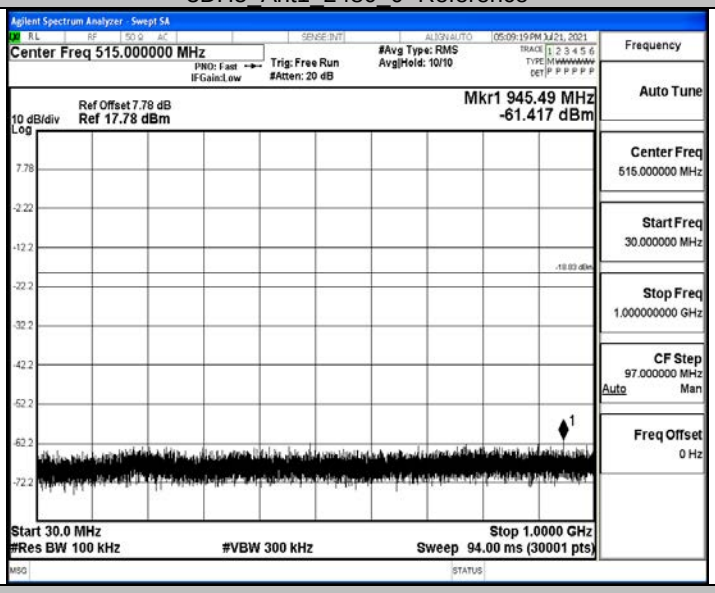
3DH5_Ant1_2441_30~1000



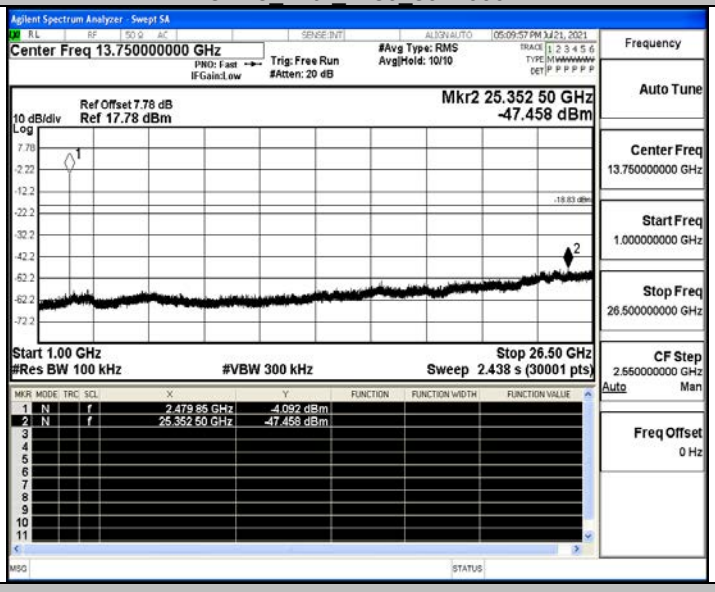
3DH5_Ant1_2441_1000~26500



3DH5_Ant1_2480_0~Reference



3DH5_Ant1_2480_30~1000



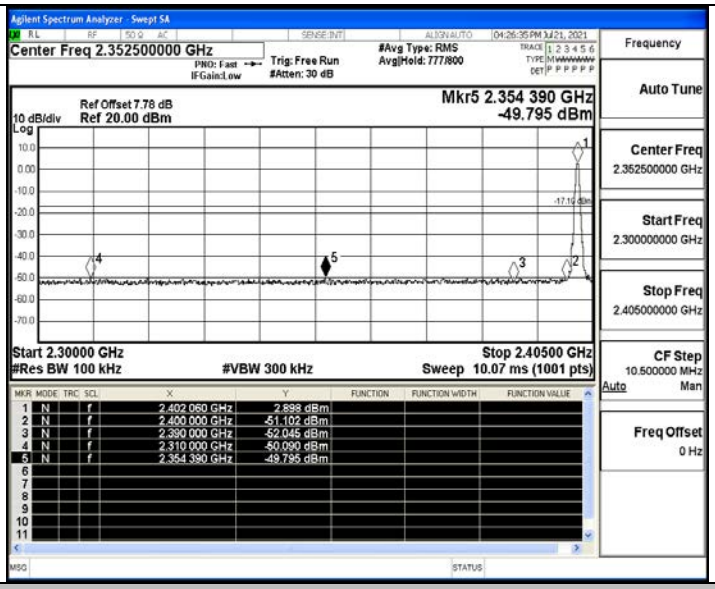
3DH5_Ant1_2480_1000~26500

A.8 Band-edge for RF Conducted Emissions

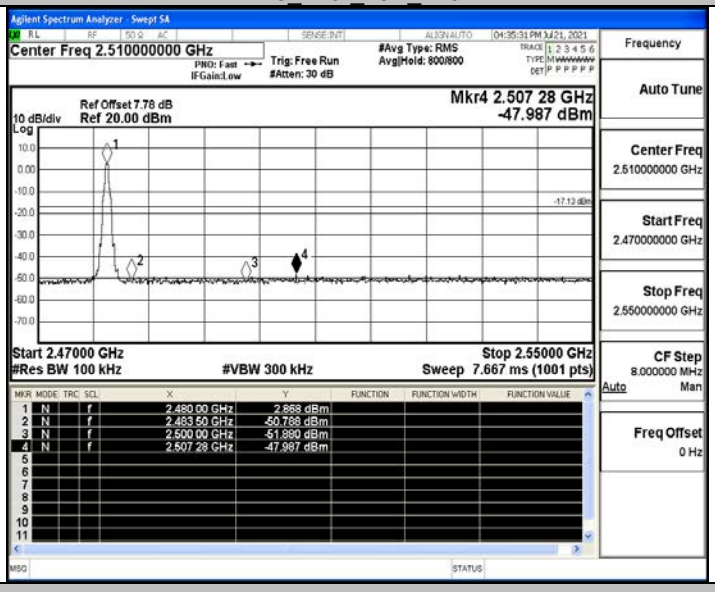
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	2.90	-49.8	≤-17.1	PASS
		High	2480	2.87	-47.99	≤-17.13	PASS
		Low	Hop_2402	2.65	-49.68	≤-17.35	PASS
		High	Hop_2480	3.07	-48.66	≤-16.93	PASS
2DH5	Ant1	Low	2402	1.29	-48.99	≤-18.71	PASS
		High	2480	1.45	-48.56	≤-18.55	PASS
		Low	Hop_2402	-2.28	-49.85	≤-22.28	PASS
		High	Hop_2480	-0.25	-48.89	≤-20.25	PASS
3DH5	Ant1	Low	2402	1.06	-48.18	≤-18.94	PASS
		High	2480	1.13	-48.36	≤-18.87	PASS
		Low	Hop_2402	0.92	-49.79	≤-19.08	PASS
		High	Hop_2480	1.22	-49.03	≤-18.79	PASS

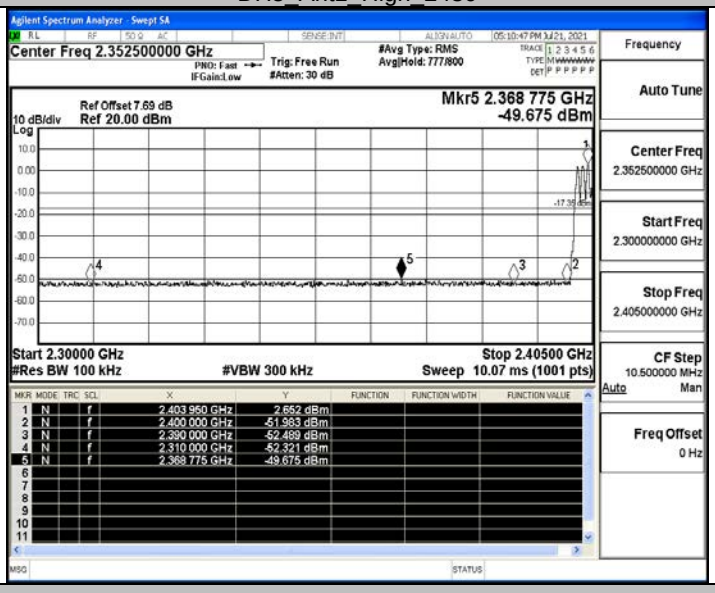
Test Graphs



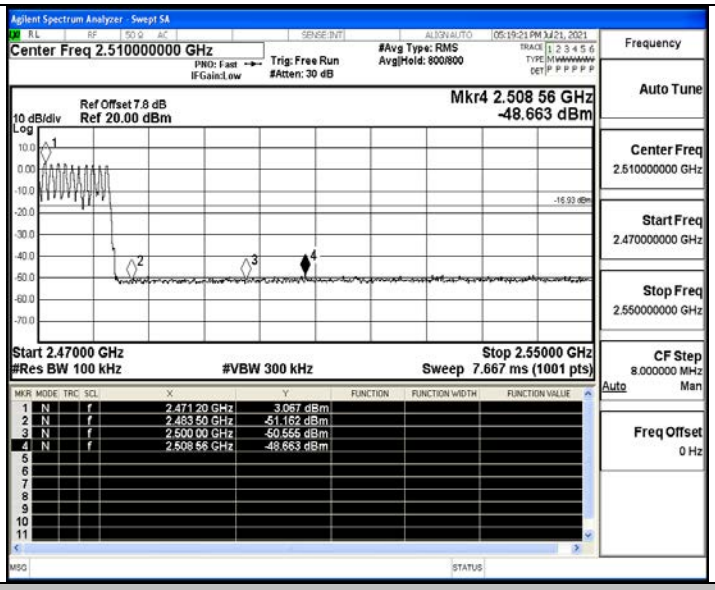
DH5_Ant1_Low_2402



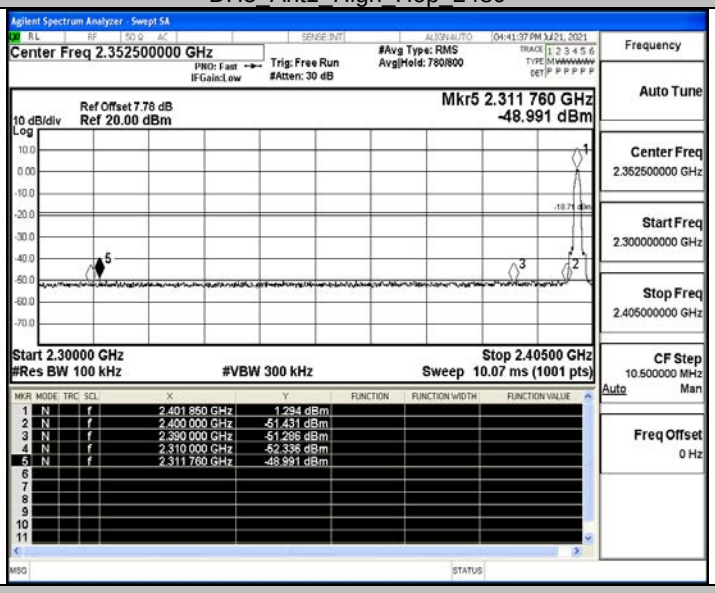
DH5_Ant1_High_2480



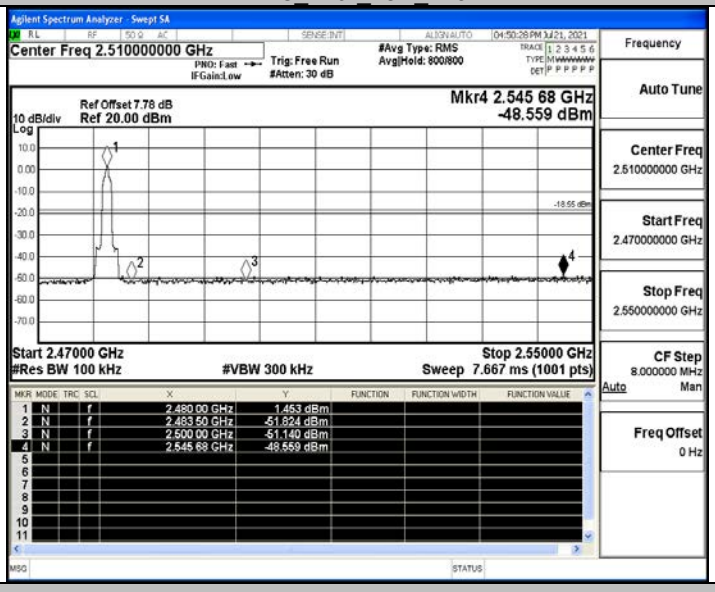
DH5_Ant1_Low_Hop_2402



DH5_Ant1_High_Hop_2480



2DH5_Ant1_Low_2402



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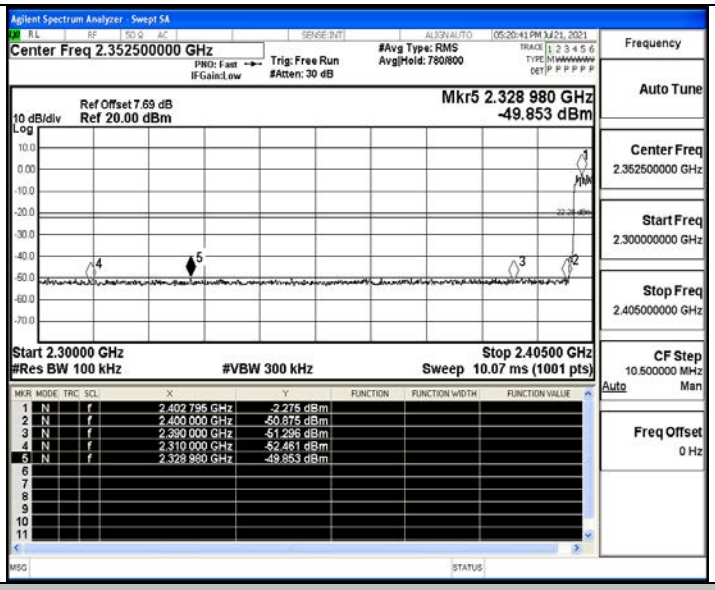

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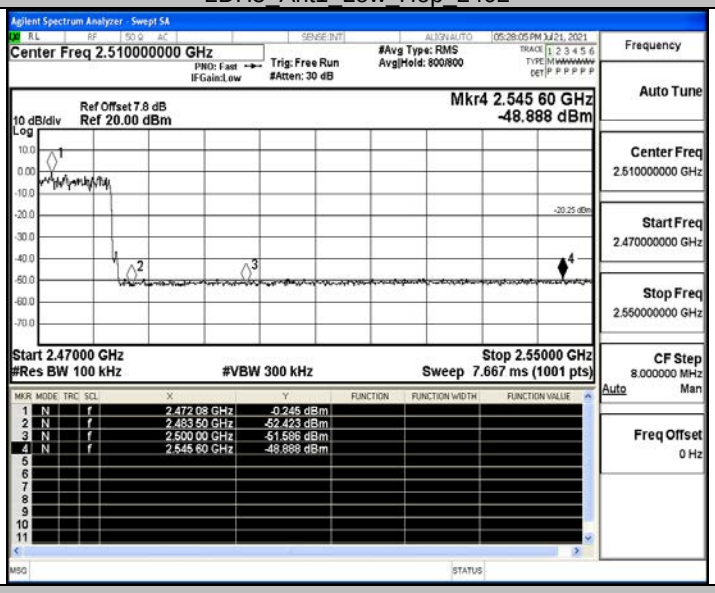
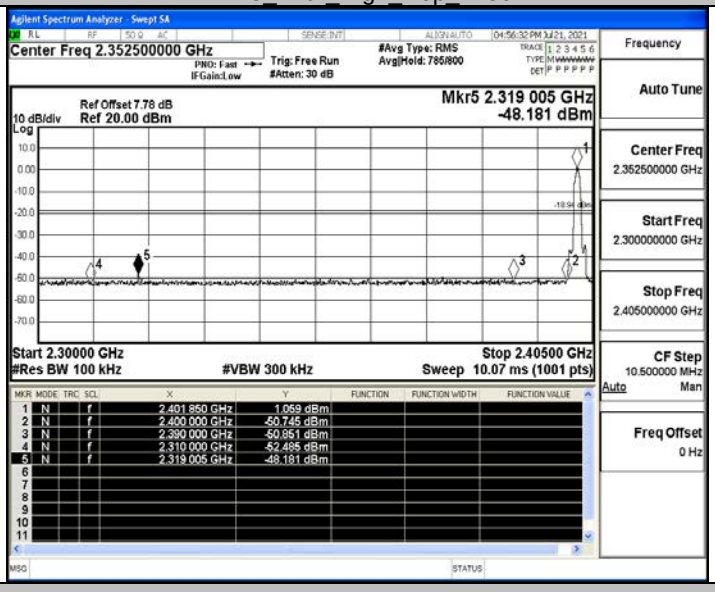
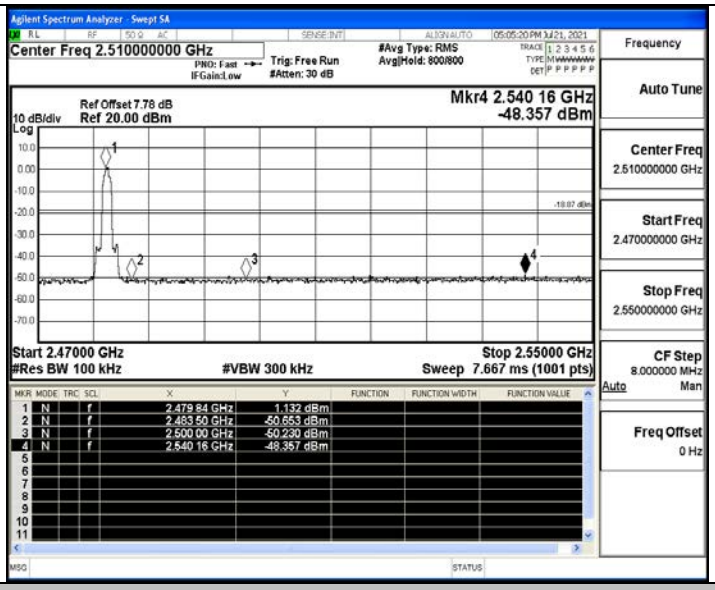


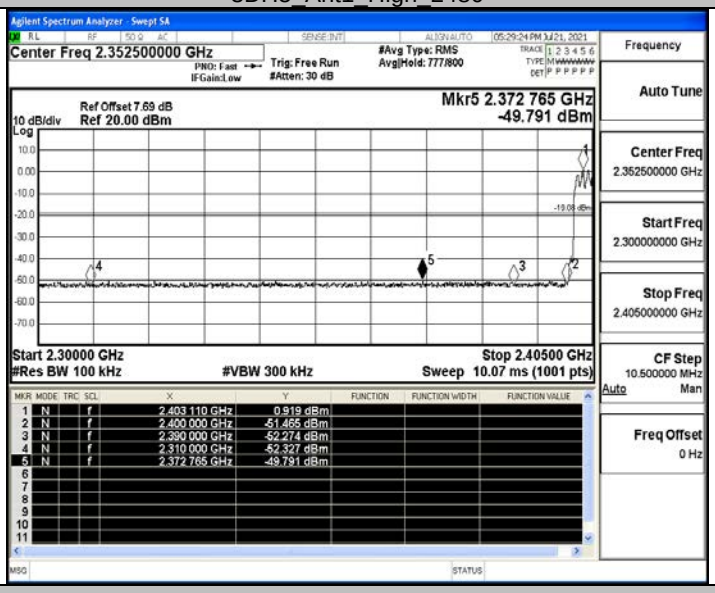
2DH5_Ant1_High_Hop_2480



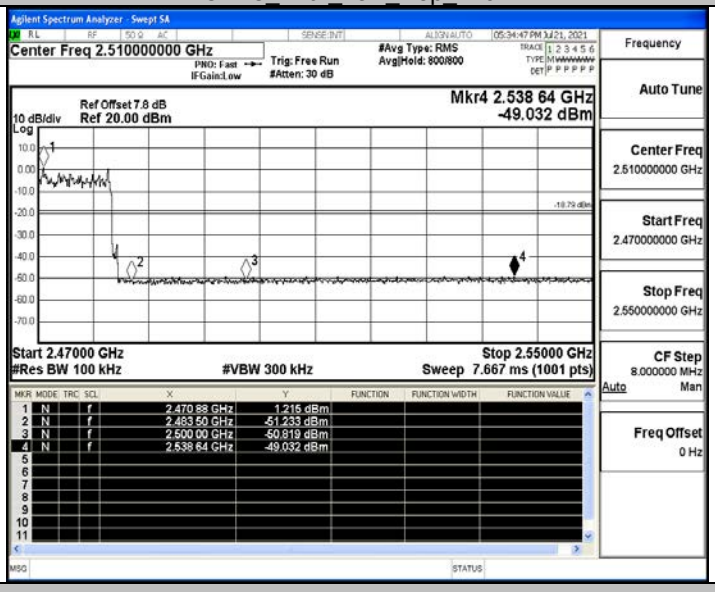
3DH5_Ant1_Low_2402



3DH5_Ant1_High_2480



3DH5_Ant1_Low_Hop_2402



3DH5_Ant1_High_Hop_2480

A.9 Restrict-band band-edge measurements

Test Result

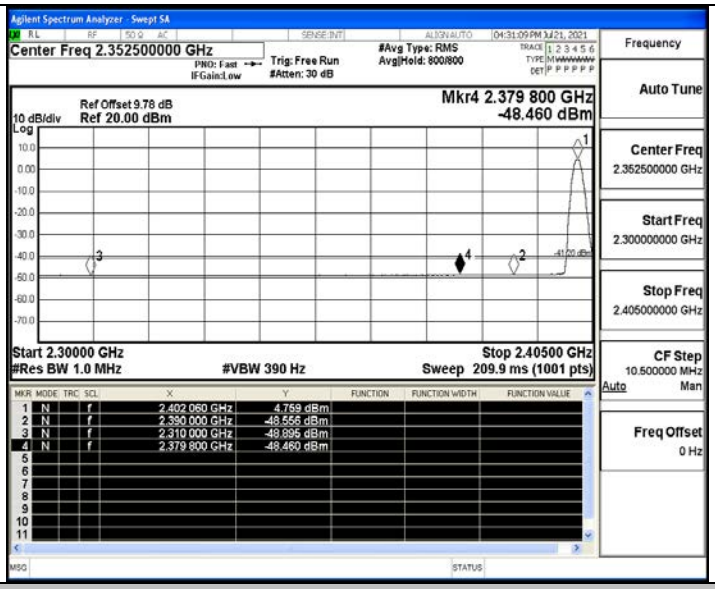
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.9	≤-41.20	46.30	≤54	PASS
				AV	2379.800	-48.46	≤-41.20	46.74	≤54	PASS
				AV	2390.000	-48.56	≤-41.20	46.64	≤54	PASS
				Peak	2310.000	-40.51	≤-21.20	54.69	≤74	PASS
				Peak	2381.165	-37.06	≤-21.20	58.14	≤74	PASS
				Peak	2390.000	-40.93	≤-21.20	54.27	≤74	PASS
		High	2480	AV	2483.500	-47.65	≤-41.20	47.55	≤54	PASS
				AV	2483.520	-47.65	≤-41.20	47.55	≤54	PASS
				AV	2500.000	-47.92	≤-41.20	47.28	≤54	PASS
				Peak	2483.500	-39.89	≤-21.20	55.31	≤74	PASS
				Peak	2493.200	-37.3	≤-21.20	57.90	≤74	PASS
				Peak	2500.000	-38.51	≤-21.20	56.69	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.84	≤-41.20	46.36	≤54	PASS
				AV	2387.360	-48.31	≤-41.20	46.89	≤54	PASS
				AV	2390.000	-48.56	≤-41.20	46.64	≤54	PASS
				Peak	2310.000	-40.45	≤-21.20	54.75	≤74	PASS
				Peak	2371.190	-38	≤-21.20	57.20	≤74	PASS
				Peak	2390.000	-40.15	≤-21.20	55.05	≤74	PASS
		High	2480	AV	2483.500	-47.54	≤-41.20	47.66	≤54	PASS
				AV	2483.520	-47.54	≤-41.20	47.66	≤54	PASS
				AV	2500.000	-47.77	≤-41.20	47.43	≤54	PASS
				Peak	2483.500	-40.24	≤-21.20	54.96	≤74	PASS
				Peak	2497.040	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2500.000	-40.21	≤-21.20	54.99	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.97	≤-41.20	46.23	≤54	PASS
				AV	2389.250	-48.6	≤-41.20	46.60	≤54	PASS
				AV	2390.000	-48.66	≤-41.20	46.54	≤54	PASS
				Peak	2310.000	-40.38	≤-21.20	54.82	≤74	PASS
				Peak	2342.735	-38.35	≤-21.20	56.85	≤74	PASS
				Peak	2390.000	-40.12	≤-21.20	55.08	≤74	PASS
		High	2480	AV	2483.500	-47.66	≤-41.20	47.54	≤54	PASS
				AV	2483.520	-47.66	≤-41.20	47.54	≤54	PASS
				AV	2500.000	-48.04	≤-41.20	47.16	≤54	PASS
				Peak	2483.500	-38.48	≤-21.20	56.72	≤74	PASS

				Peak	2490.160	-37.6	≤-21.20	57.60	≤74	PASS
				Peak	2500.000	-40.09	≤-21.20	55.11	≤74	PASS

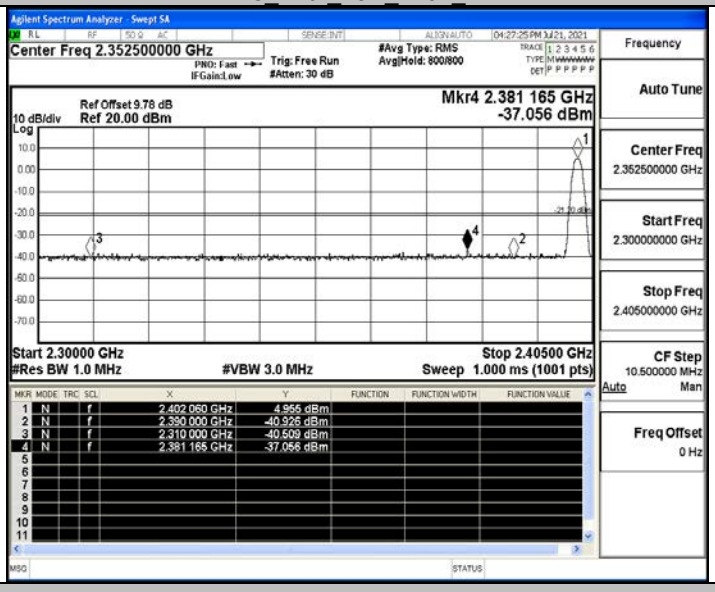
Note：

1. The Antenna Gain is compensated in the graph.
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.

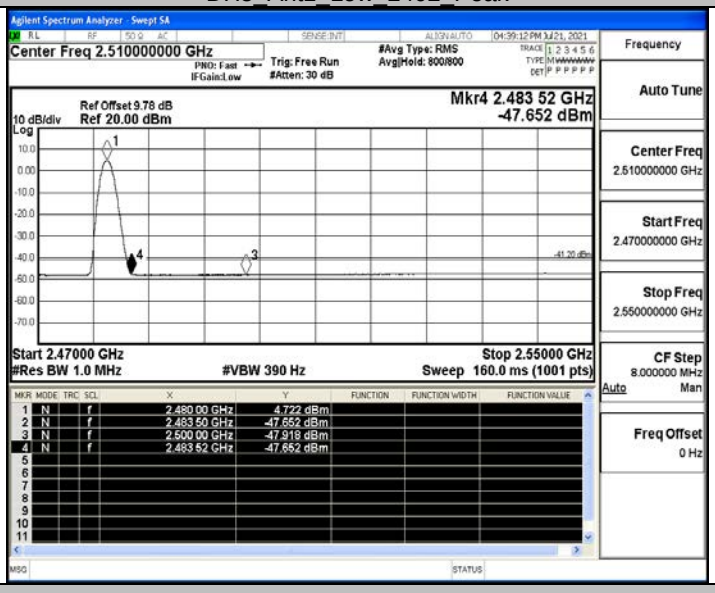
Test Graphs



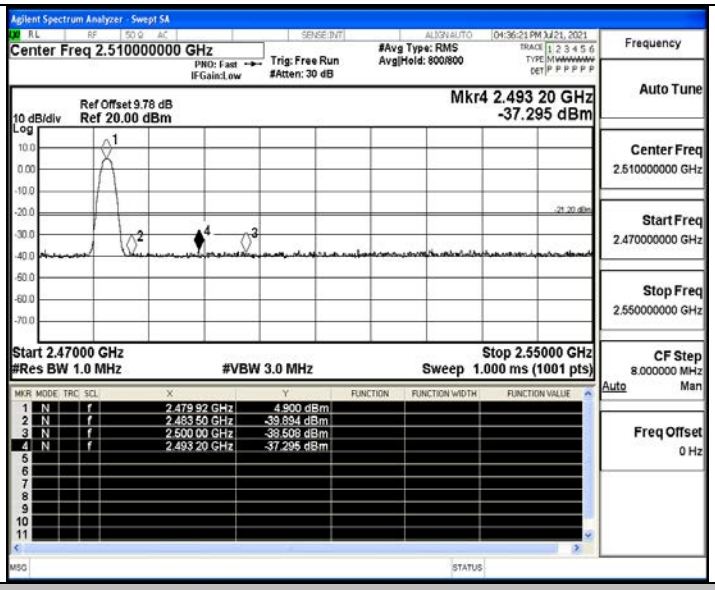
DH5_Ant1_Low_2402_AV



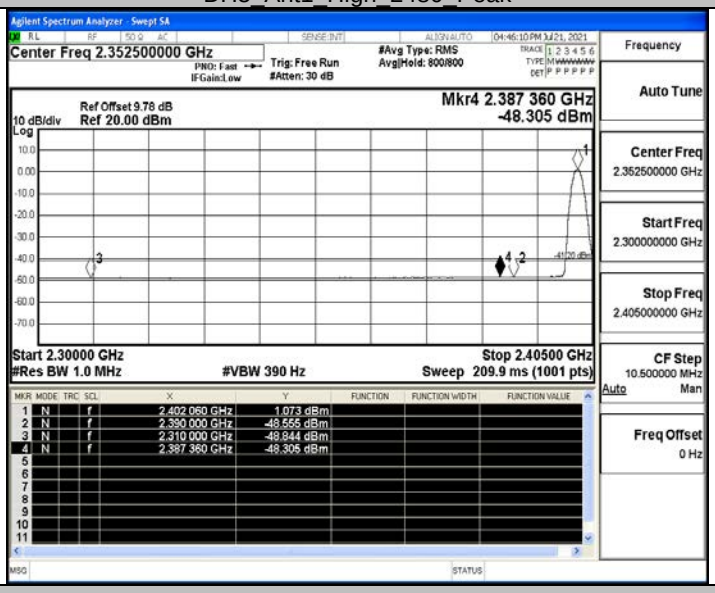
DH5_Ant1_Low_2402_Peak



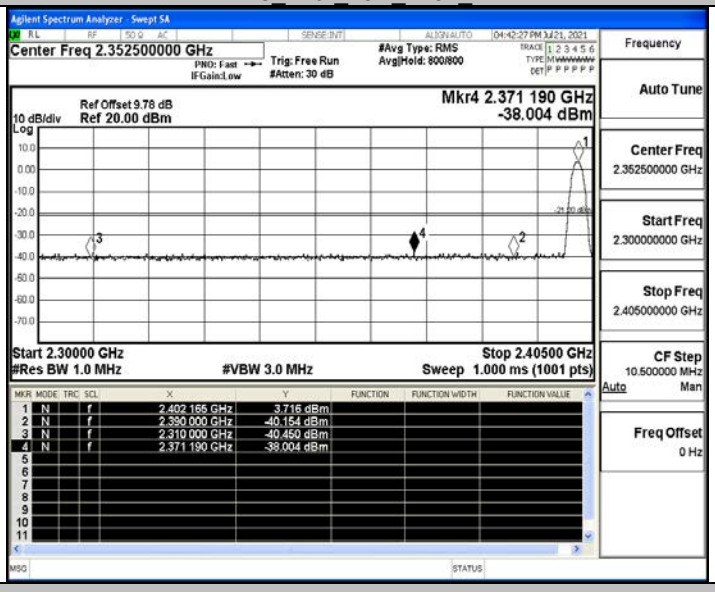
DH5_Ant1_High_2480_AV



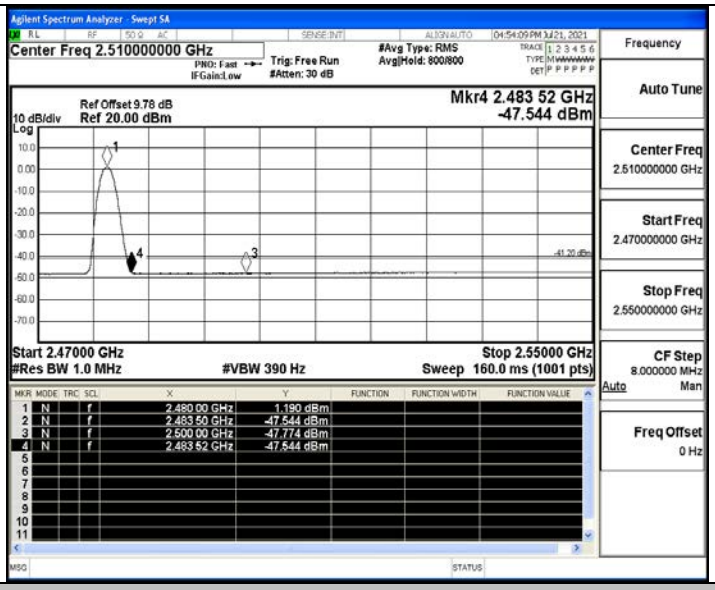
DH5_Ant1_High_2480_Peak



2DH5_Ant1_Low_2402_AV



2DH5_Ant1_Low_2402_Peak



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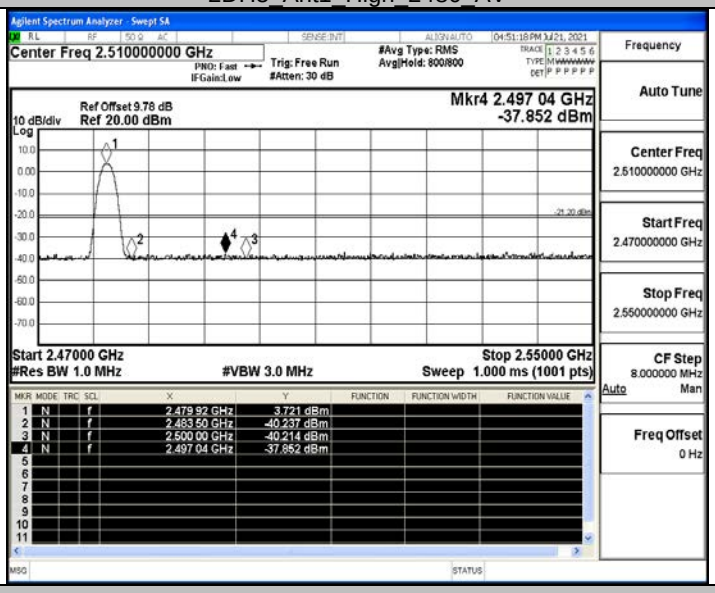
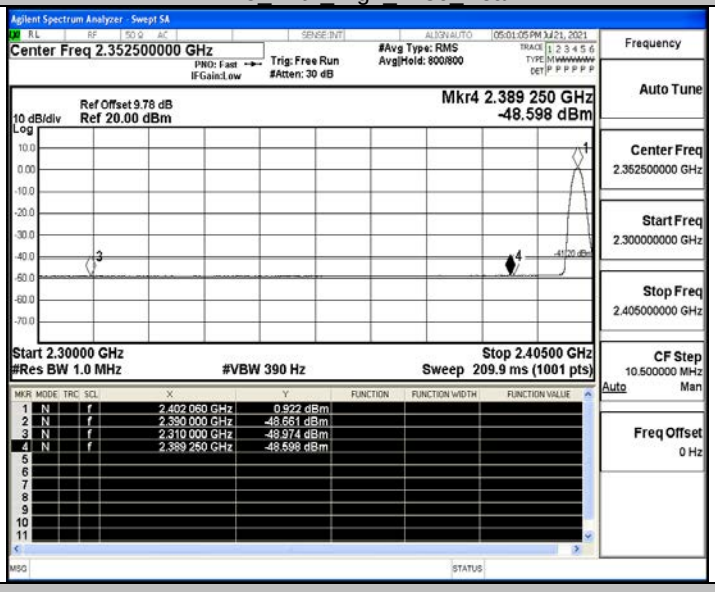
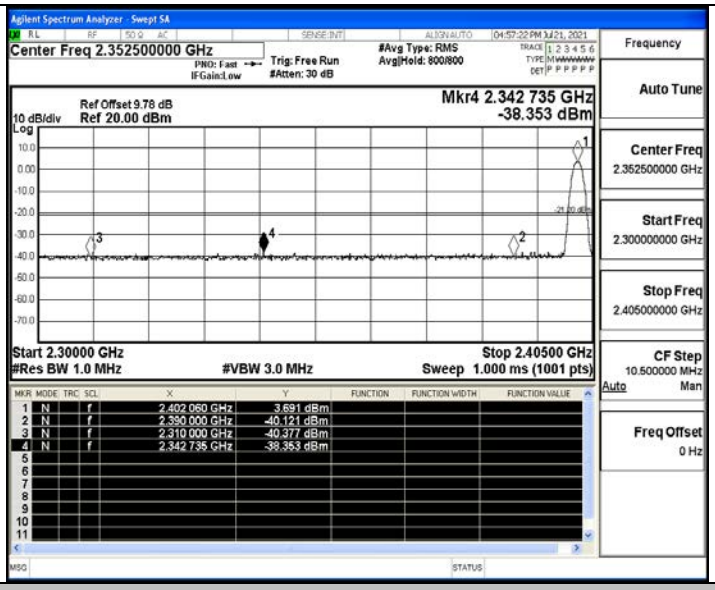


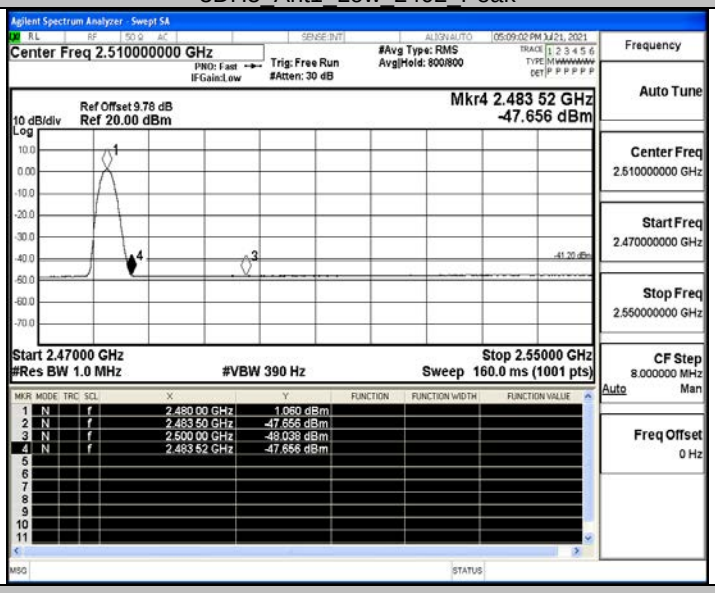
2DH5_Ant1_High_2480_Peak



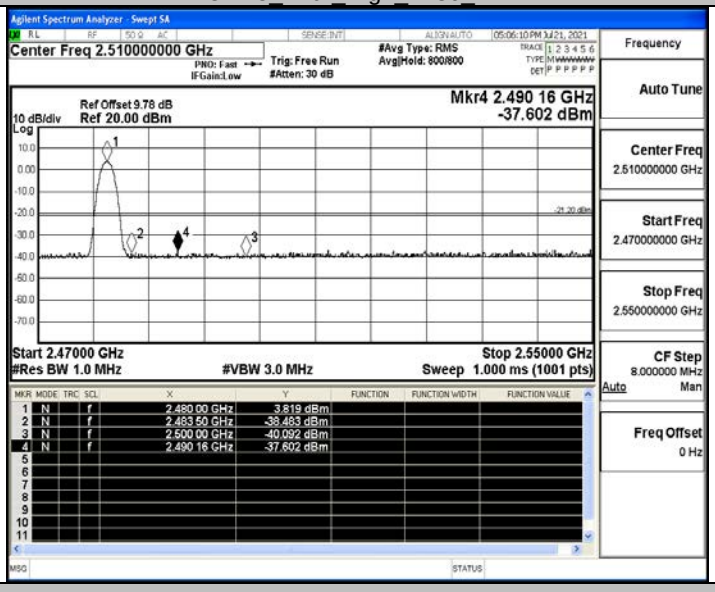
3DH5_Ant1_Low_2402_AV



3DH5_Ant1_Low_2402_Peak



3DH5_Ant1_High_2480_AV



3DH5_Ant1_High_2480_Peak