



## Appendix A

### RF Test Data for BT V5.0(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth remote control

Test Model: HY190C651BB17

#### Environmental Conditions

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

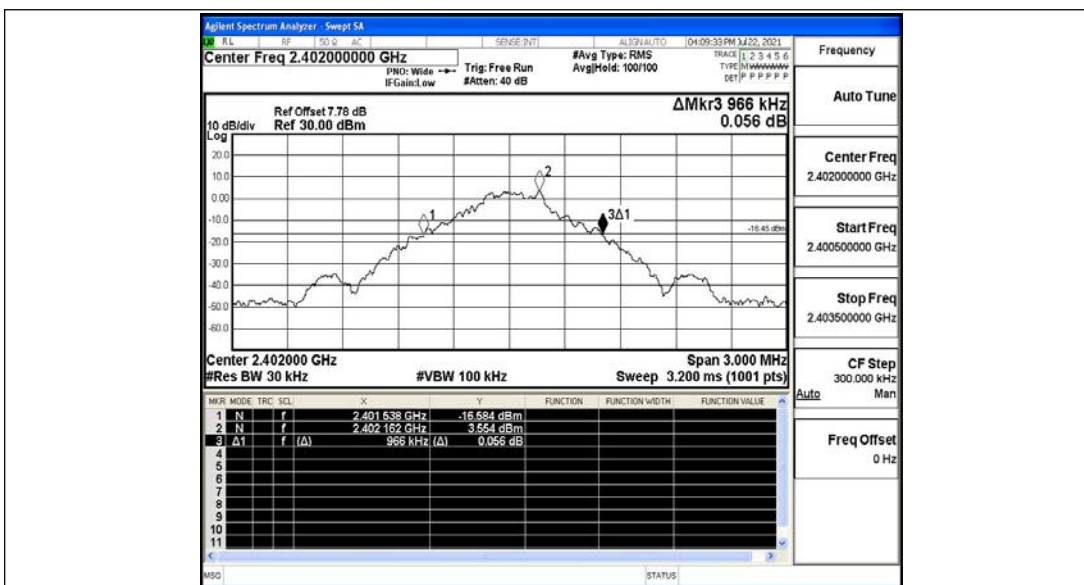
### A.1 20dB Emission Bandwidth

#### Test Result

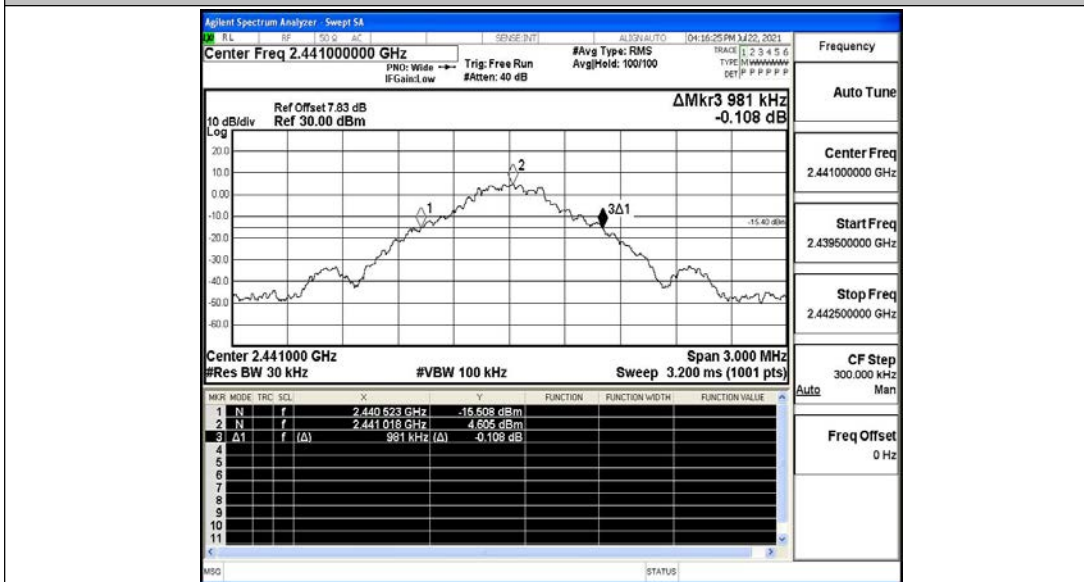
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.966	2401.538	2402.504	---	PASS
		2441	0.981	2440.523	2441.504	---	PASS
		2480	1.044	2479.463	2480.507	---	PASS
2DH5	Ant1	2402	1.299	2401.361	2402.660	---	PASS
		2441	1.359	2440.322	2441.681	---	PASS
		2480	1.323	2479.337	2480.660	---	PASS
3DH5	Ant1	2402	1.317	2401.343	2402.660	---	PASS
		2441	1.311	2440.346	2441.657	---	PASS
		2480	1.308	2479.346	2480.654	---	PASS



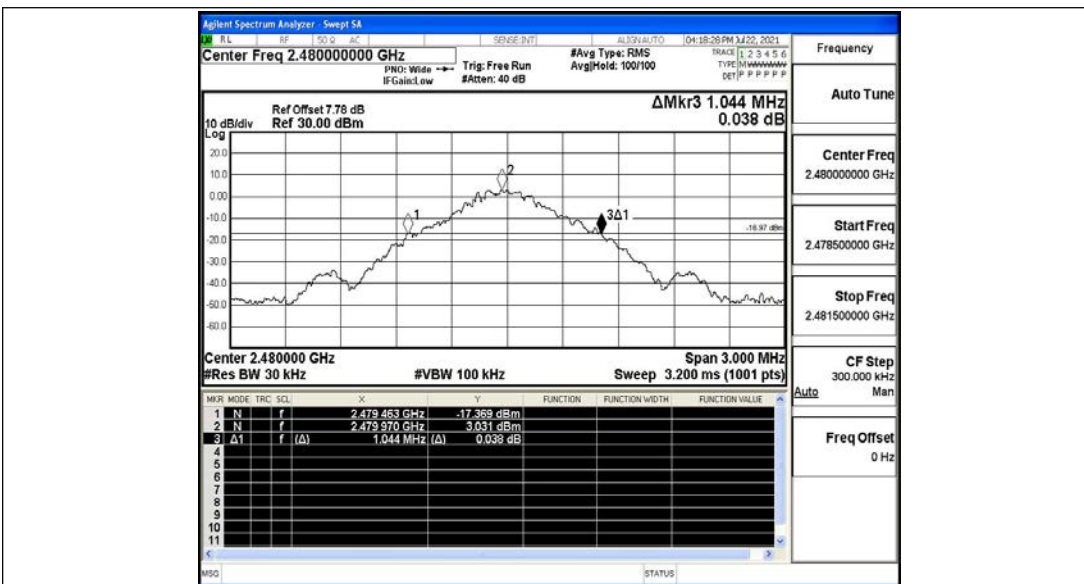
### Test Graphs



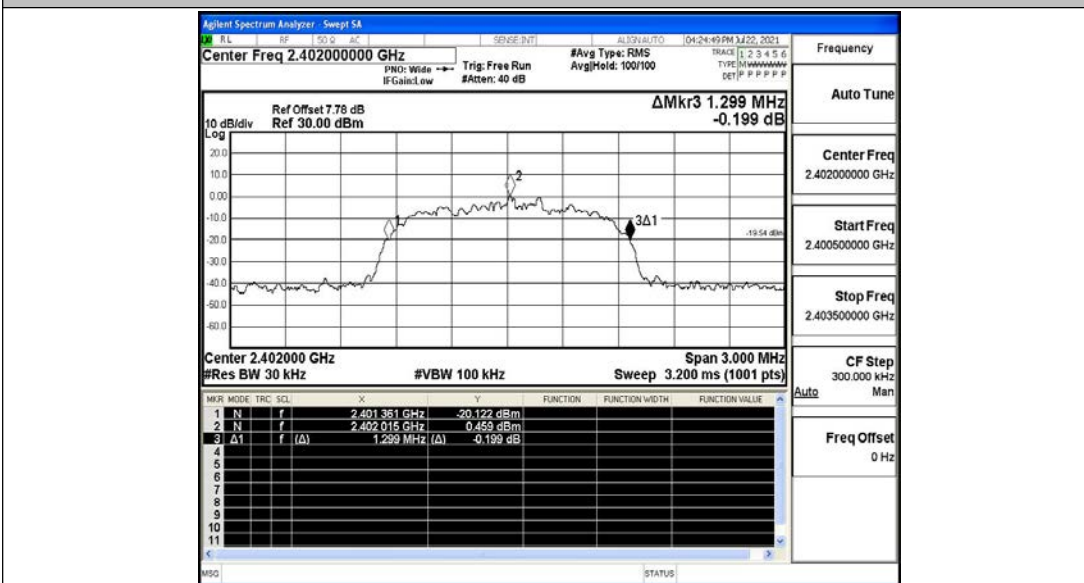
DH5\_Ant1\_2402



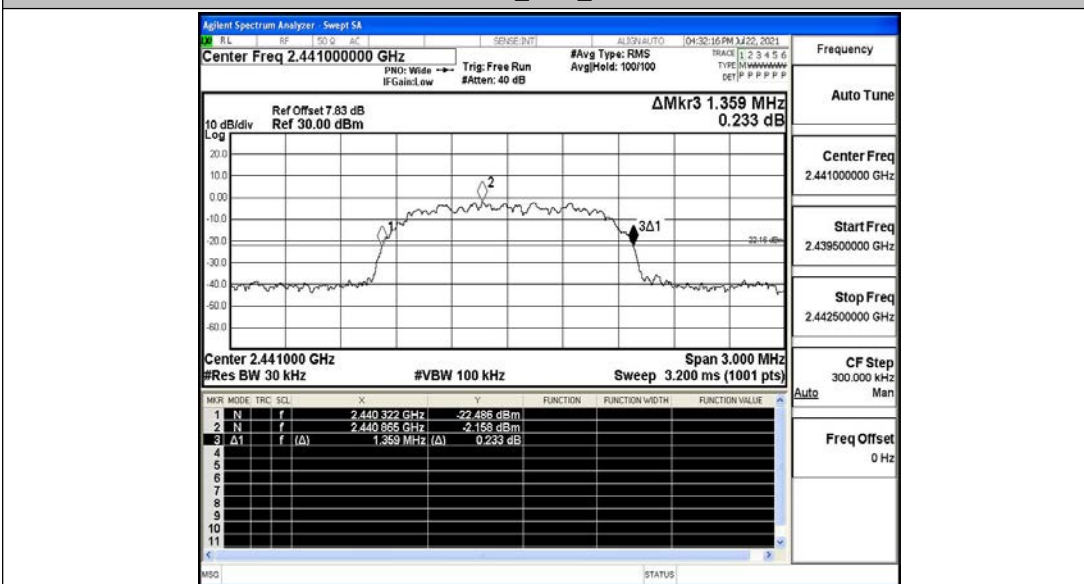
DH5\_Ant1\_2441



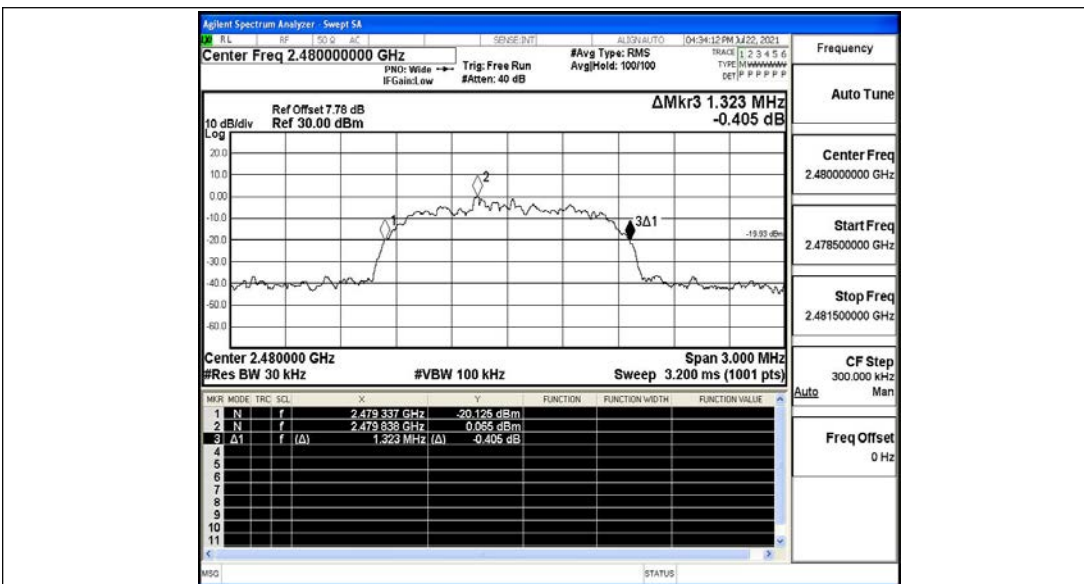
DH5\_Ant1\_2480



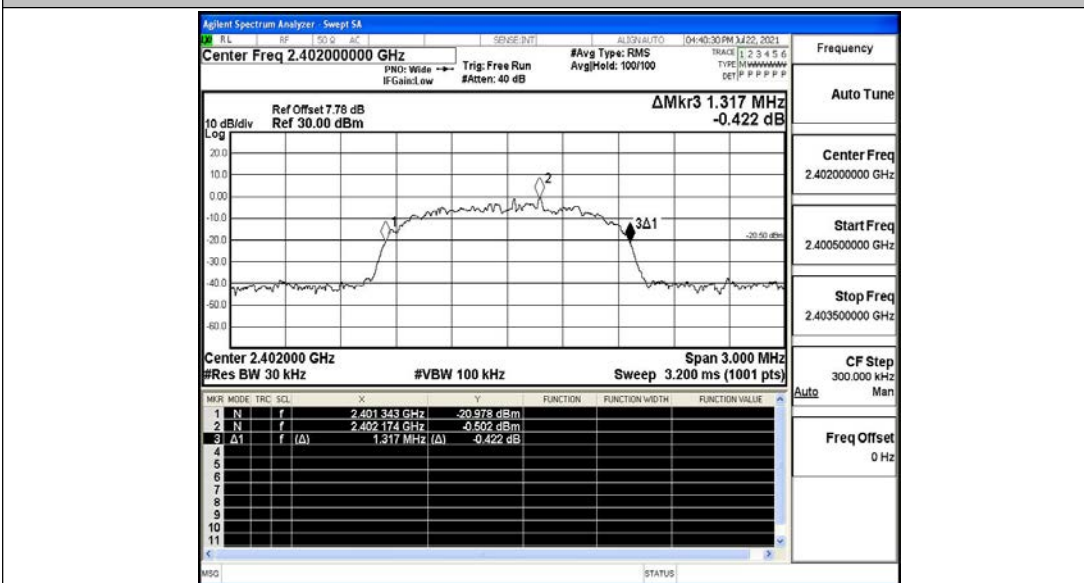
2DH5\_Ant1\_2402



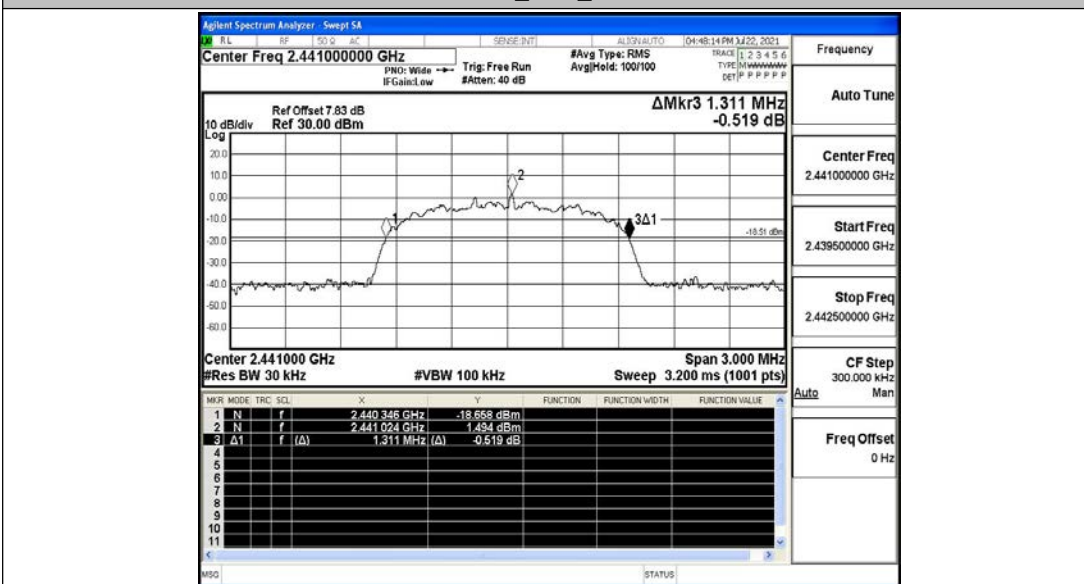
2DH5\_Ant1\_2441



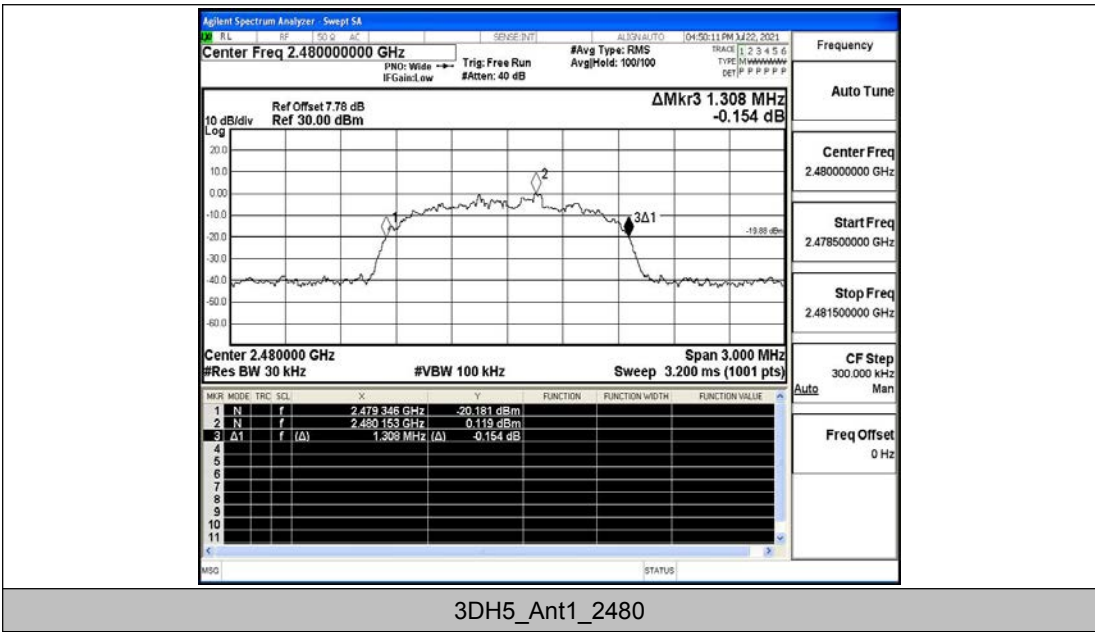
2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

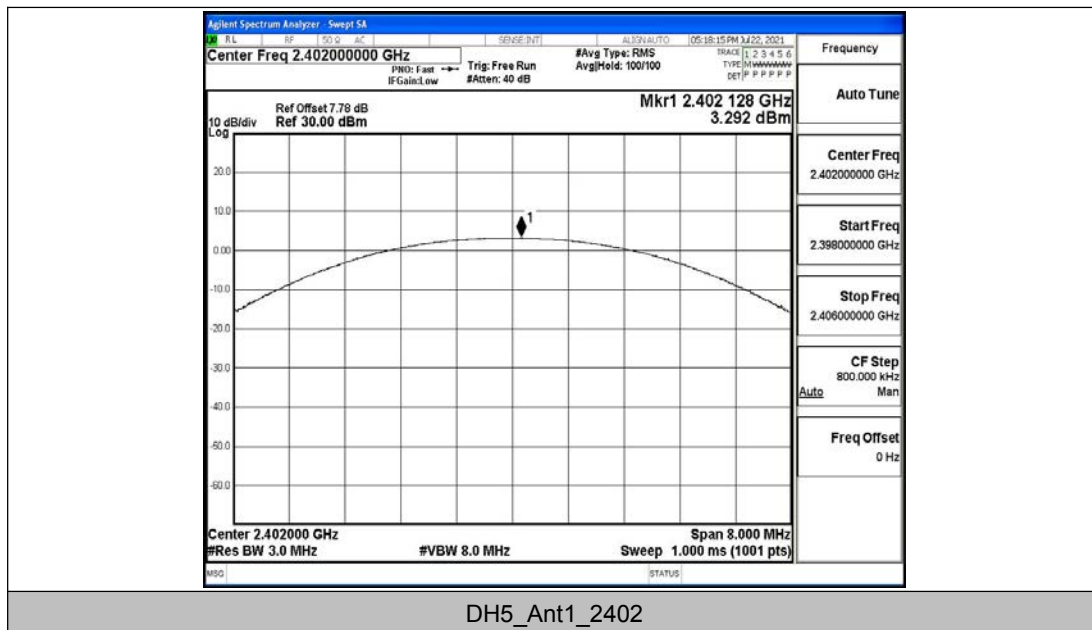


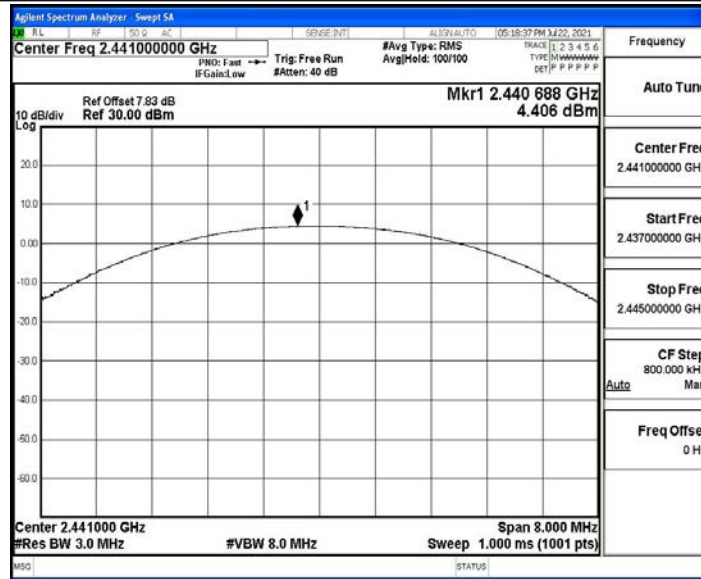
### A.3 Maximum conducted output power

#### Test Result

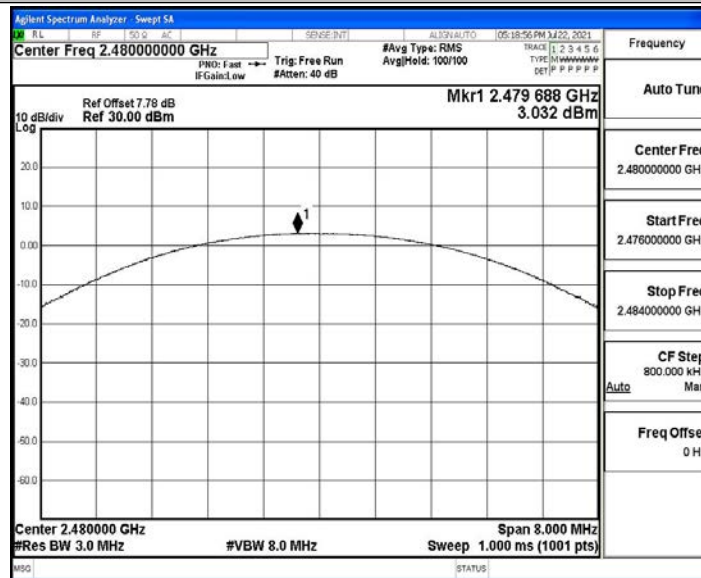
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	3.29	≤30	PASS
		2441	4.41	≤30	PASS
		2480	3.03	≤30	PASS
2DH5	Ant1	2402	2.26	≤20.97	PASS
		2441	3.5	≤20.97	PASS
		2480	2.15	≤20.97	PASS
3DH5	Ant1	2402	2.46	≤20.97	PASS
		2441	3.65	≤20.97	PASS
		2480	2.42	≤20.97	PASS

#### Test Graphs

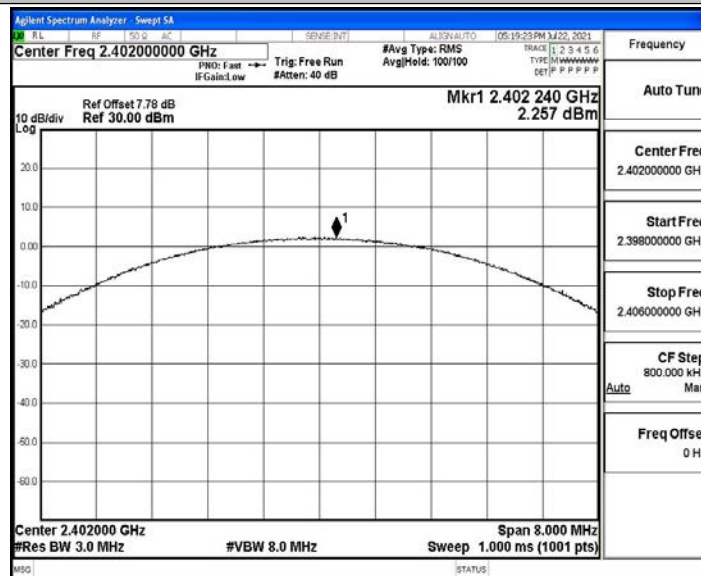




DH5\_Ant1\_2441

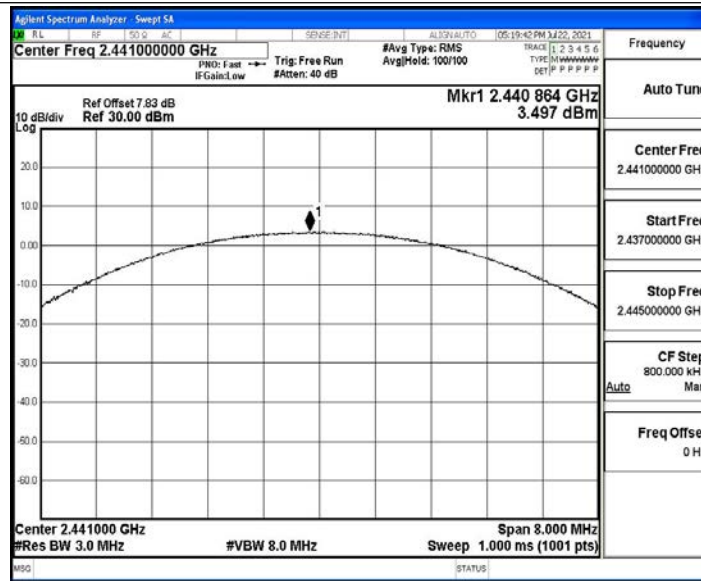


DH5\_Ant1\_2480

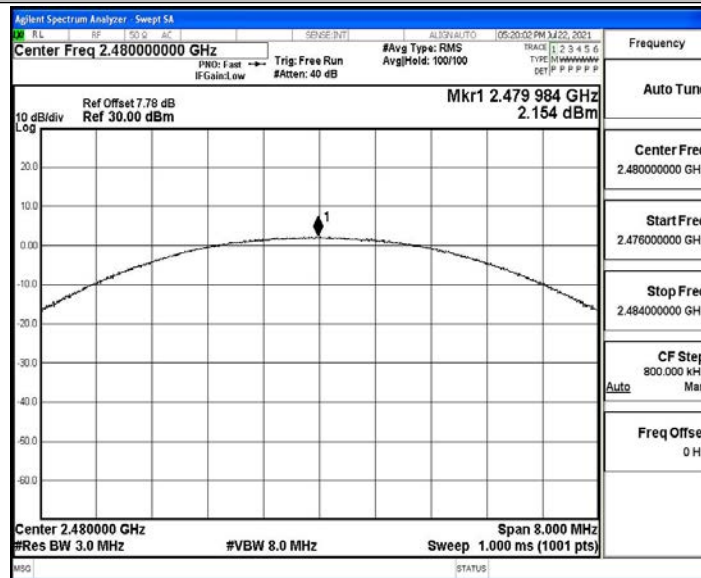


2DH5\_Ant1\_2402

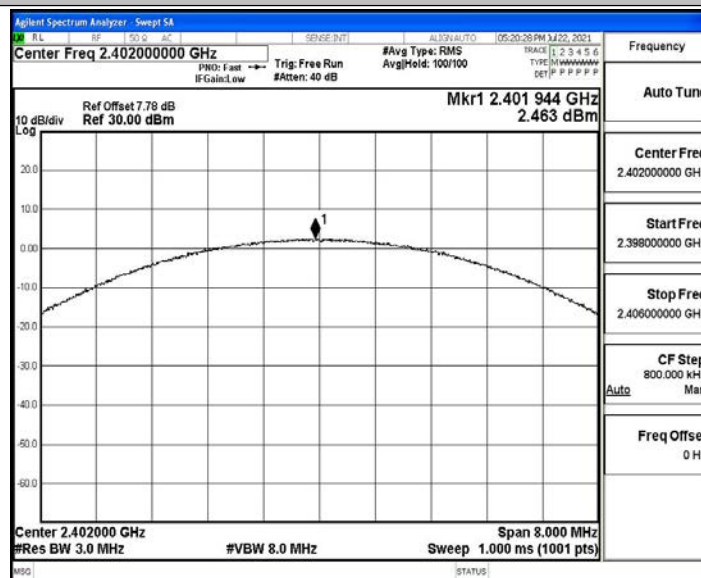




2DH5\_Ant1\_2441

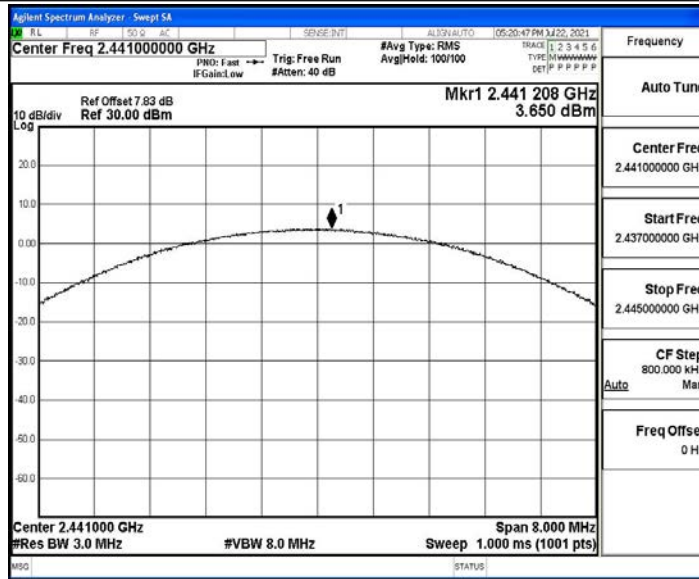


2DH5\_Ant1\_2480

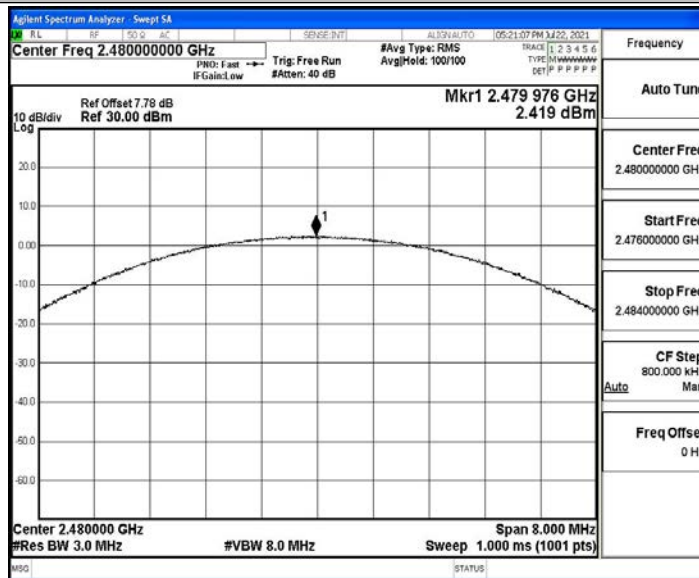


3DH5\_Ant1\_2402





3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

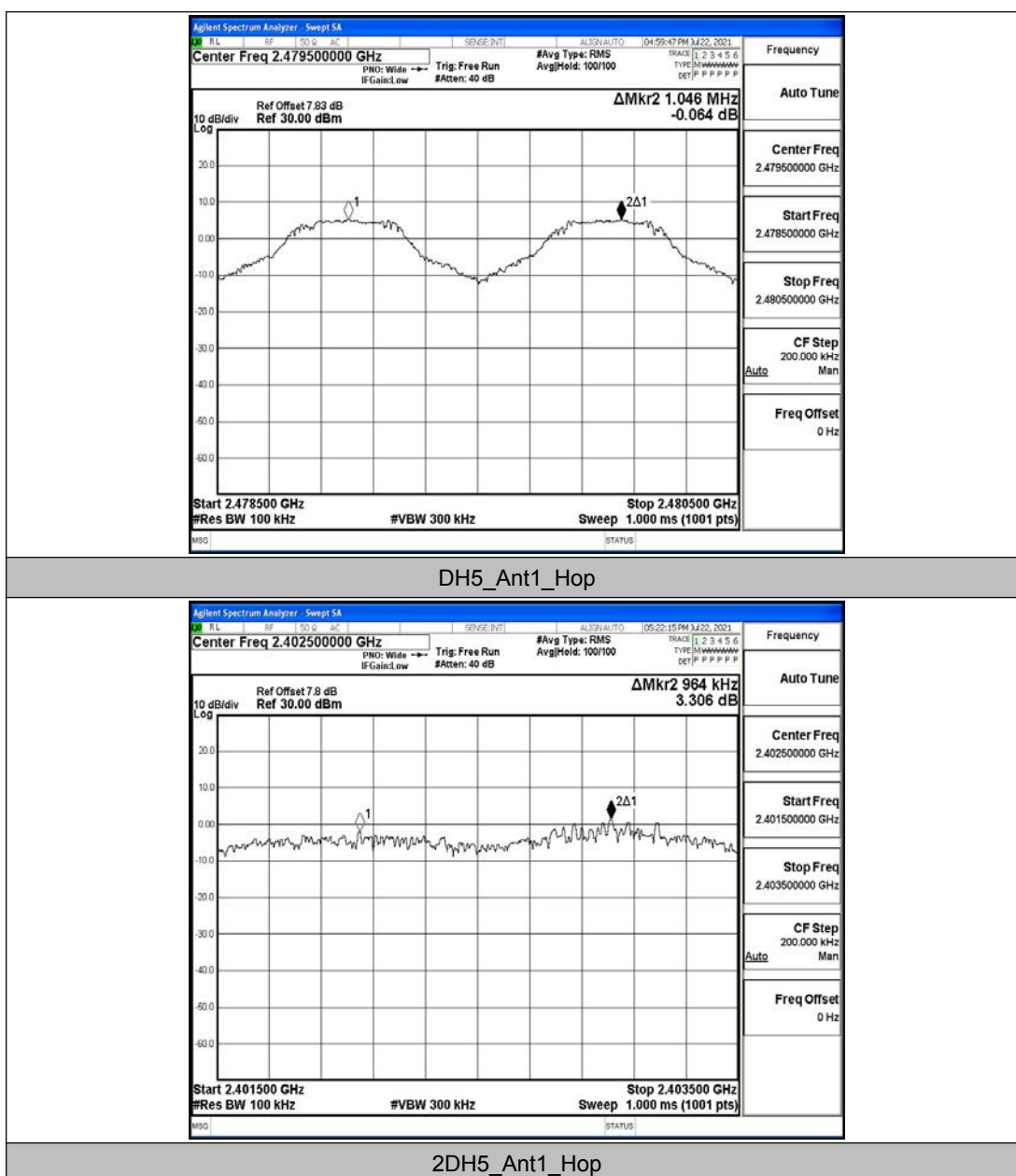


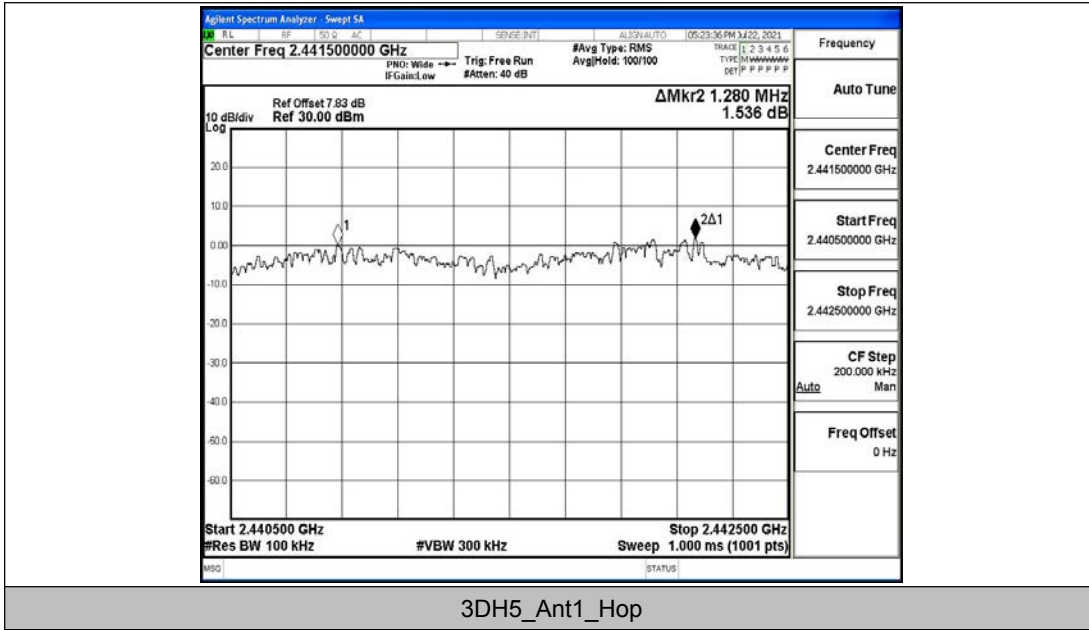
## A.4 Carrier frequency separation

### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	1.046	≥1.044	PASS
2DH5	Ant1	Hop	0.964	≥0.906	PASS
3DH5	Ant1	Hop	1.28	≥0.878	PASS

### Test Graphs





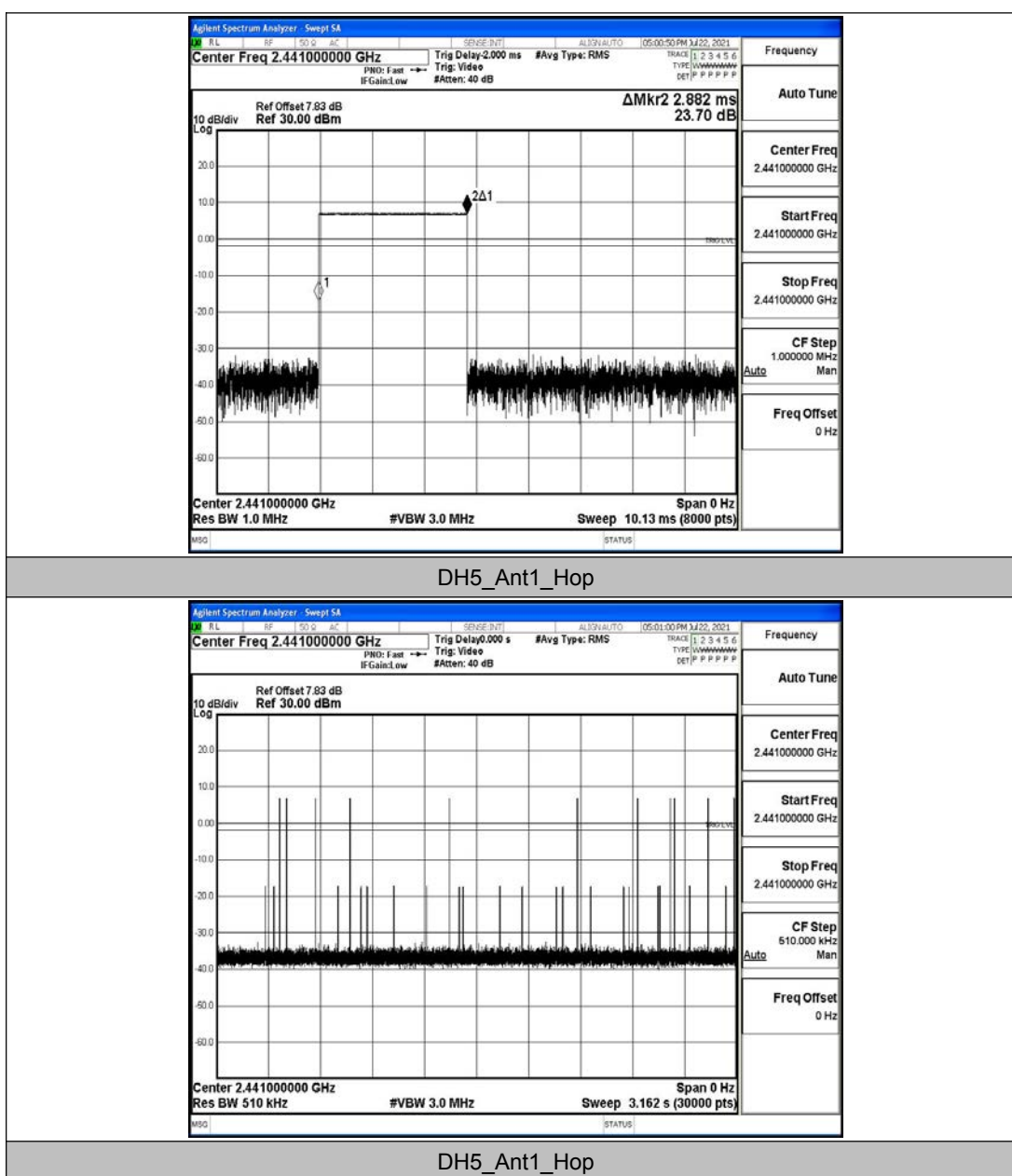


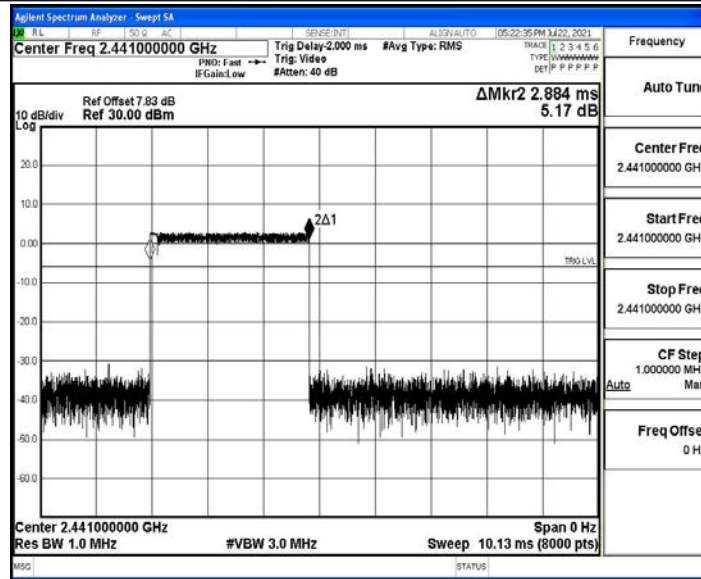
## A.5 Time of occupancy

### Test Result

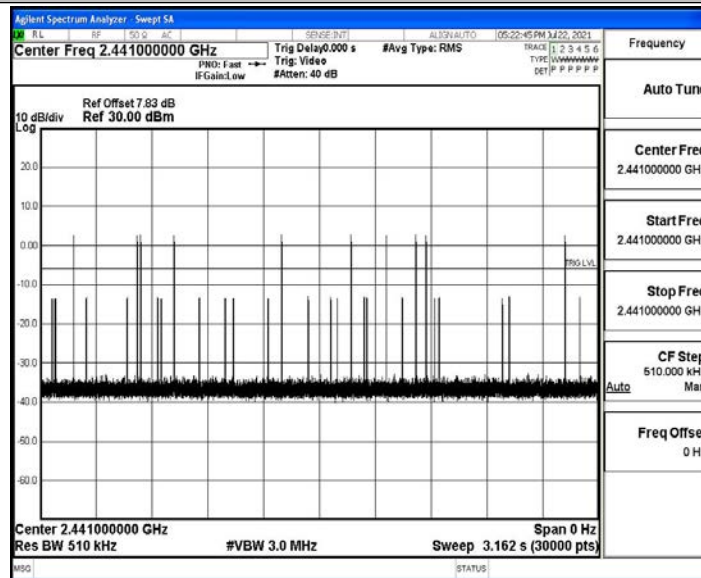
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	120	0.346	≤0.4	PASS
2DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.89	110	0.317	≤0.4	PASS

### Test Graphs

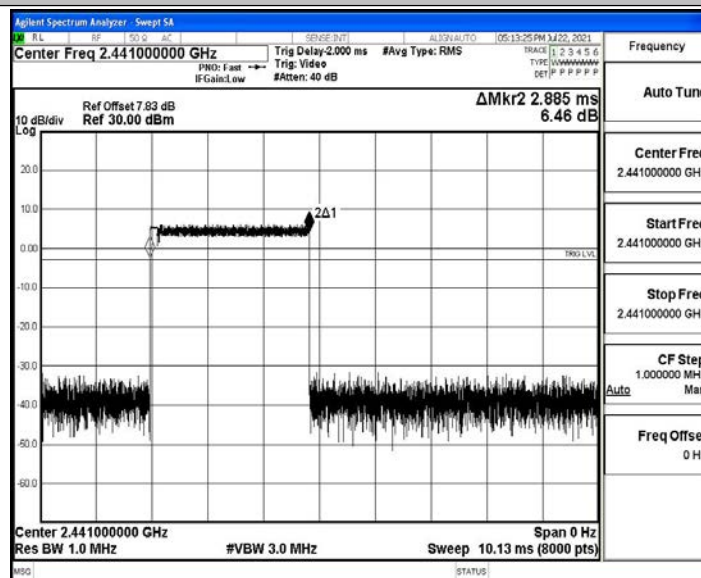




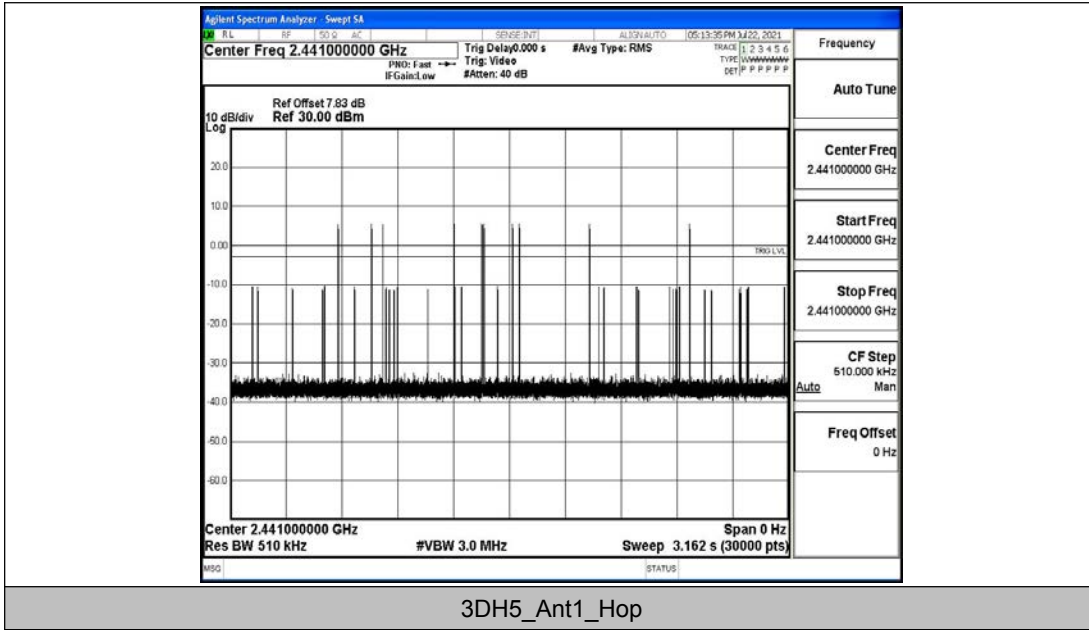
2DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop



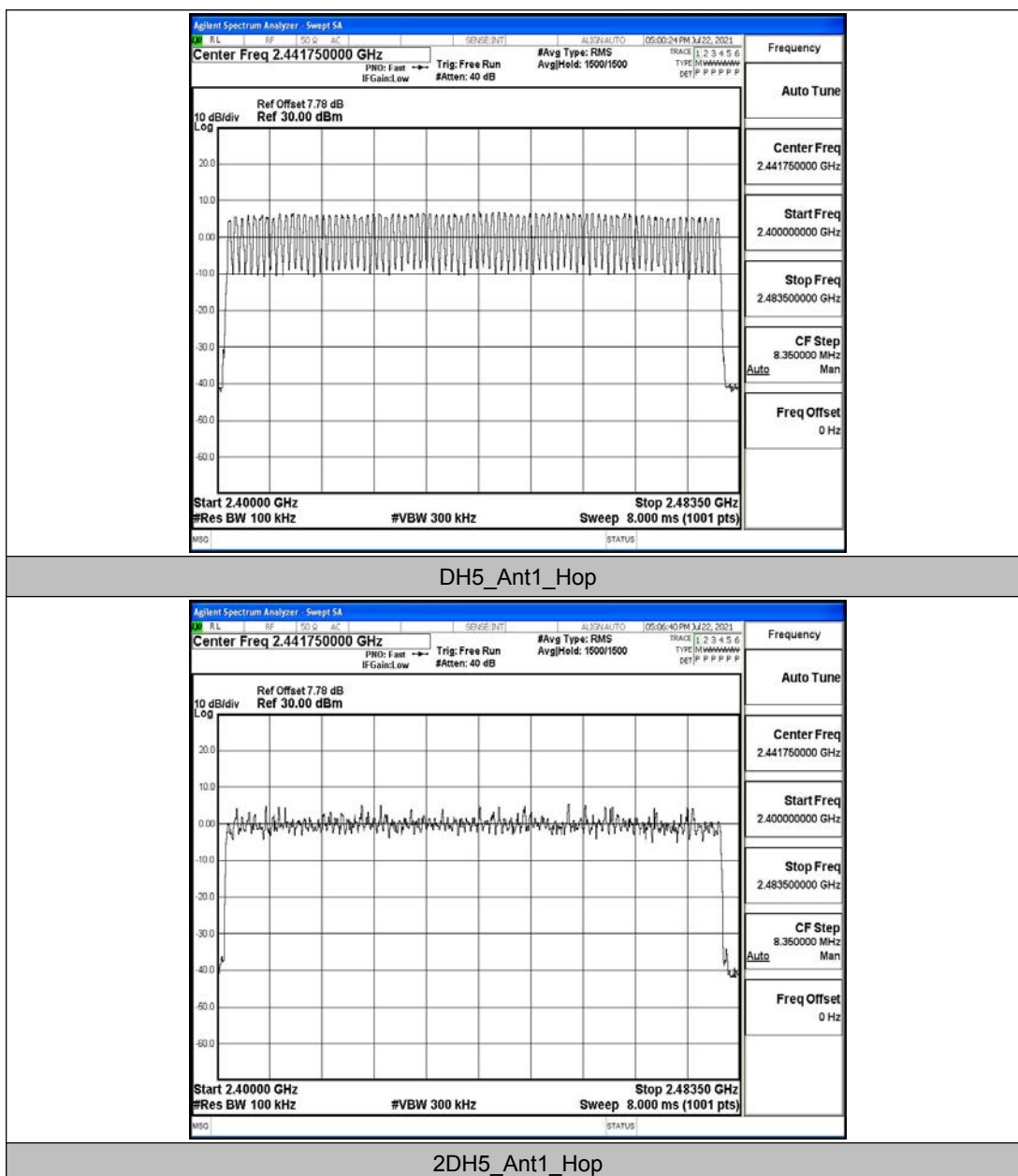


## A.6 Number of hopping channels

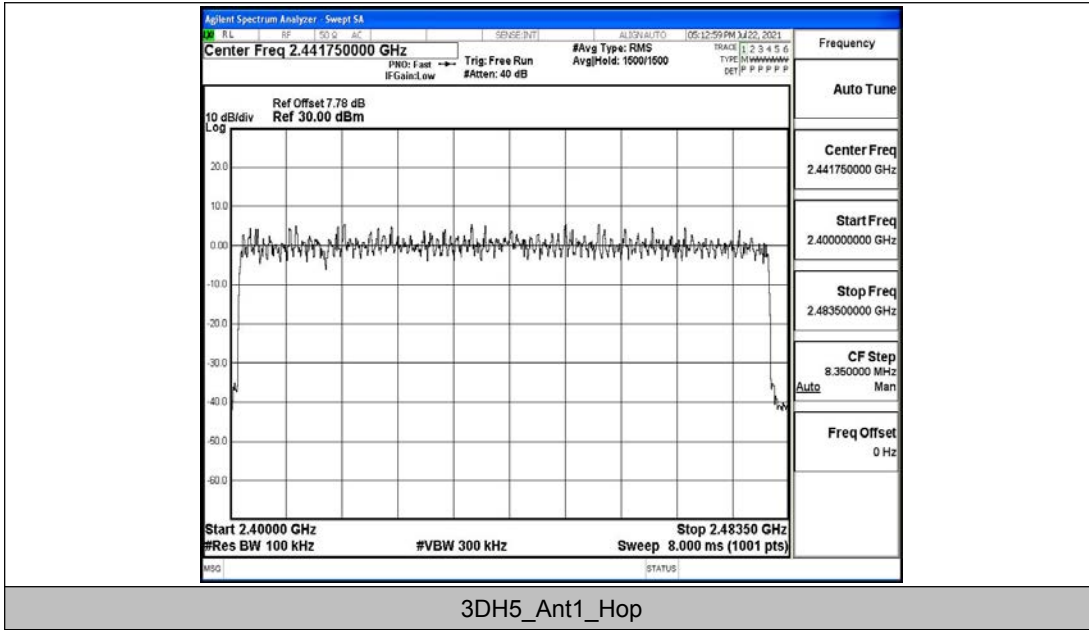
### Test Result

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







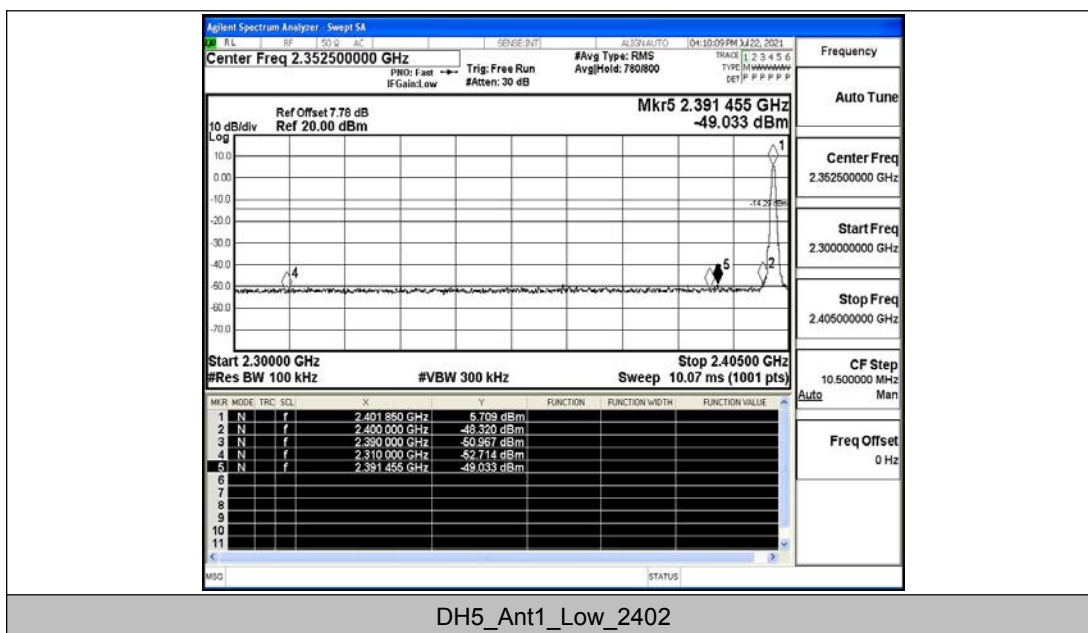


## A.7 Band edge measurements

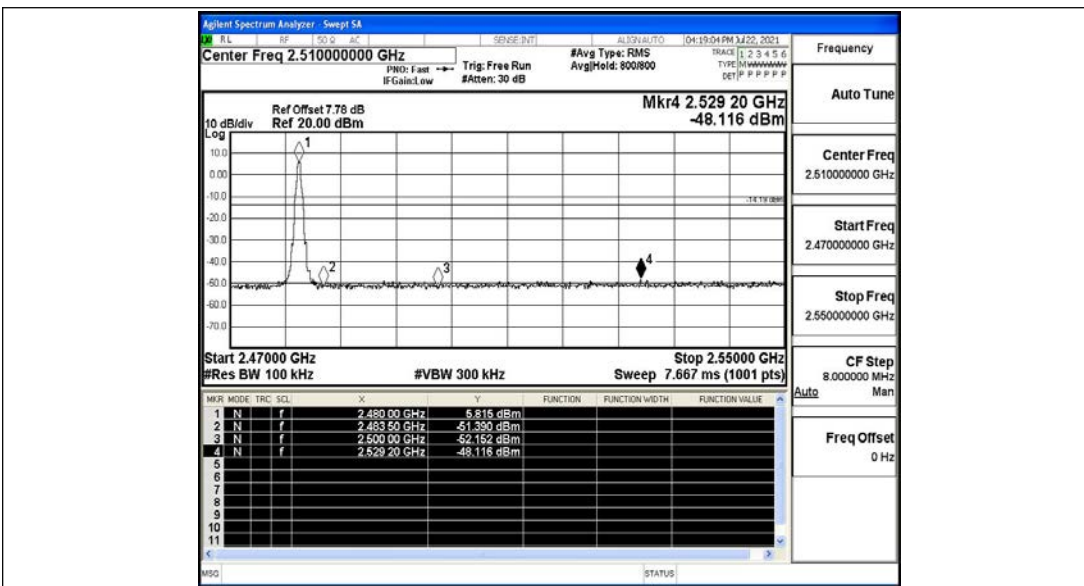
### Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	5.71	-49.03	≤-14.29	PASS
		High	2480	5.82	-48.12	≤-14.19	PASS
		Low	Hop_2402	5.15	-48.99	≤-14.85	PASS
		High	Hop_2480	5.84	-48.72	≤-14.16	PASS
2DH5	Ant1	Low	2402	4.09	-49.04	≤-15.91	PASS
		High	2480	4.15	-47.9	≤-15.85	PASS
		Low	Hop_2402	2.10	-48.89	≤-17.9	PASS
		High	Hop_2480	4.15	-48.73	≤-15.85	PASS
3DH5	Ant1	Low	2402	3.69	-49.92	≤-16.32	PASS
		High	2480	4.23	-48.3	≤-15.77	PASS
		Low	Hop_2402	0.89	-49.07	≤-19.11	PASS
		High	Hop_2480	4.55	-48.7	≤-15.45	PASS

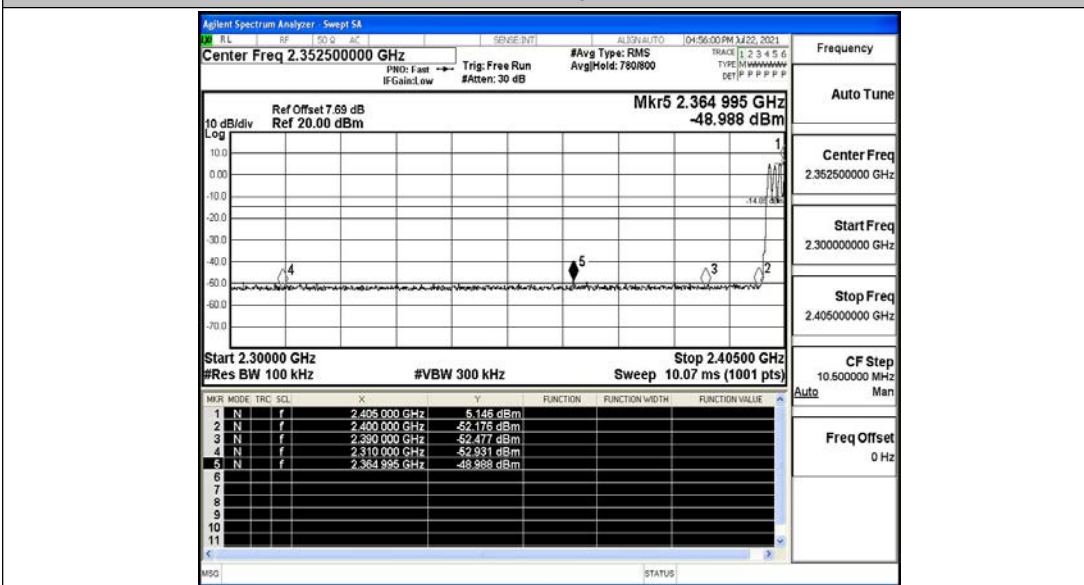
### Test Graphs



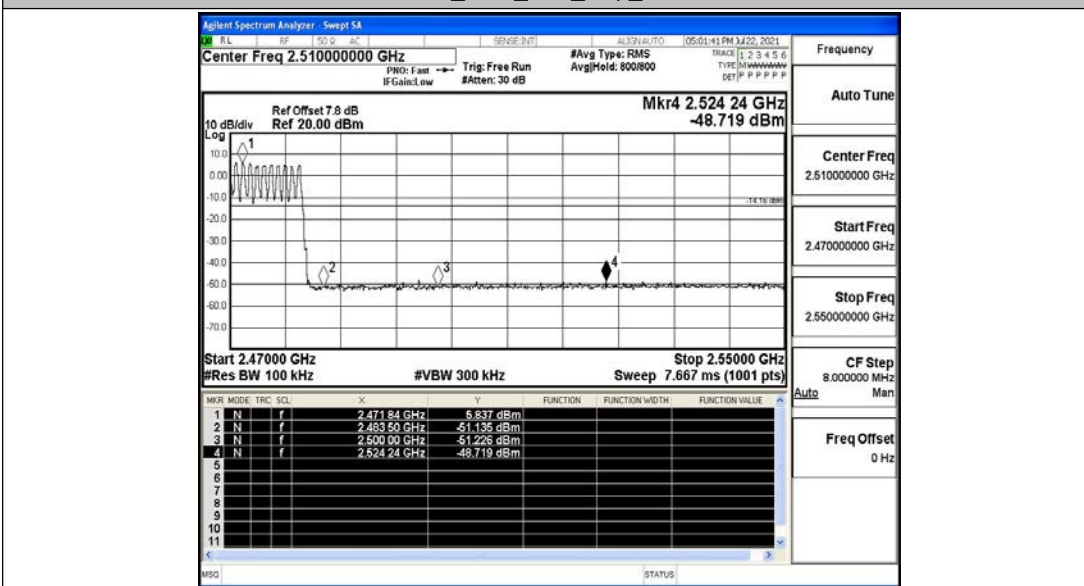
DH5\_Ant1\_Low\_2402



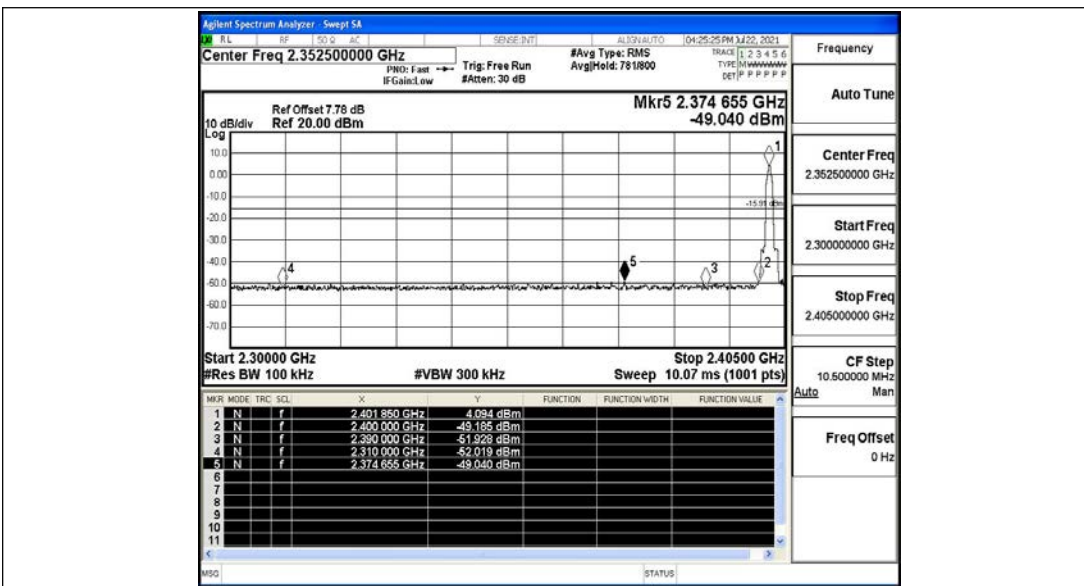
DH5\_Ant1\_High\_2480



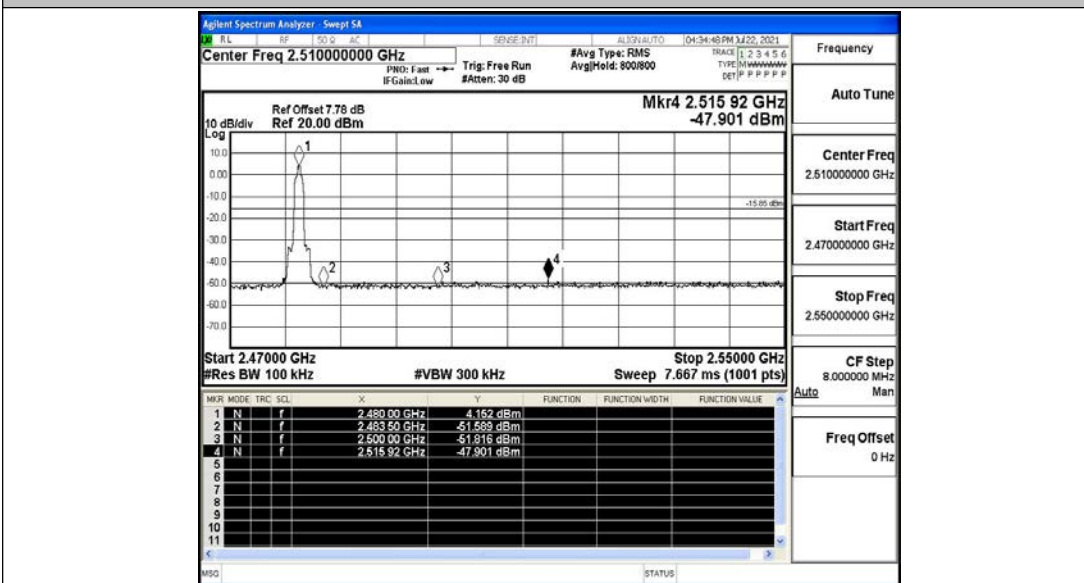
DH5\_Ant1\_Low\_Hop\_2402



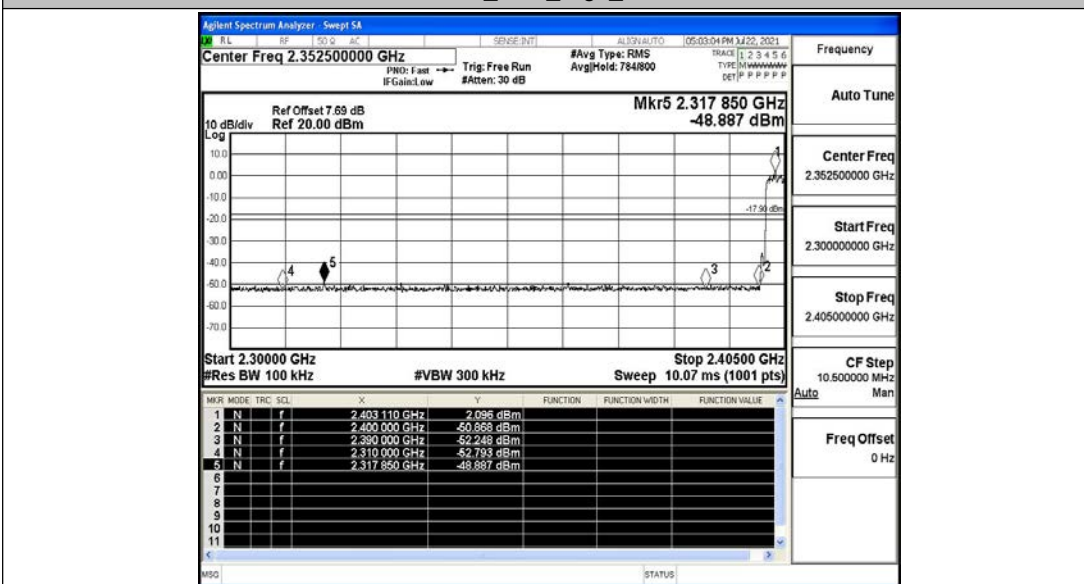
DH5\_Ant1\_High\_Hop\_2480



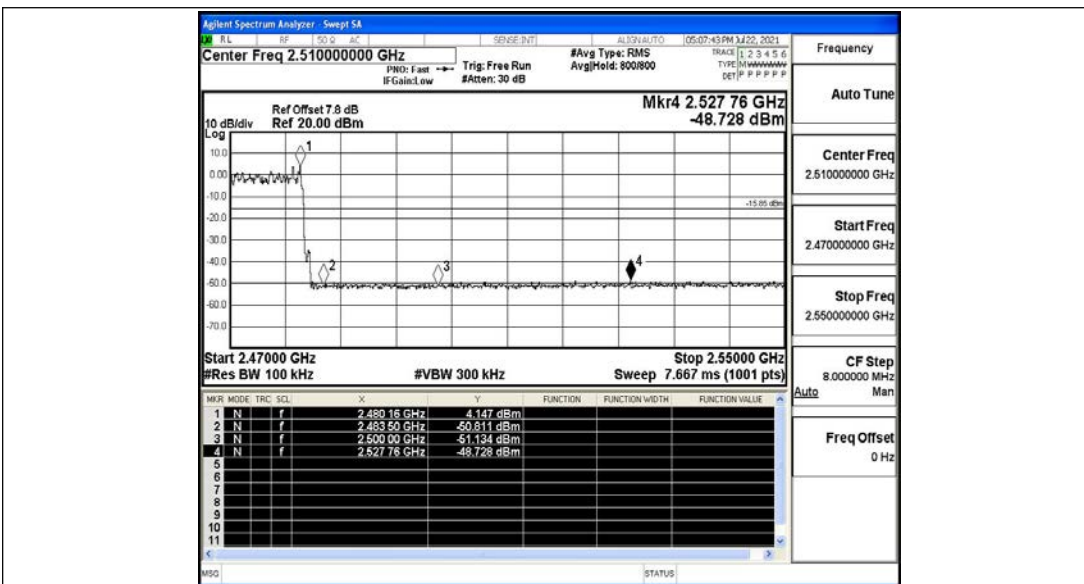
2DH5\_Ant1\_Low\_2402



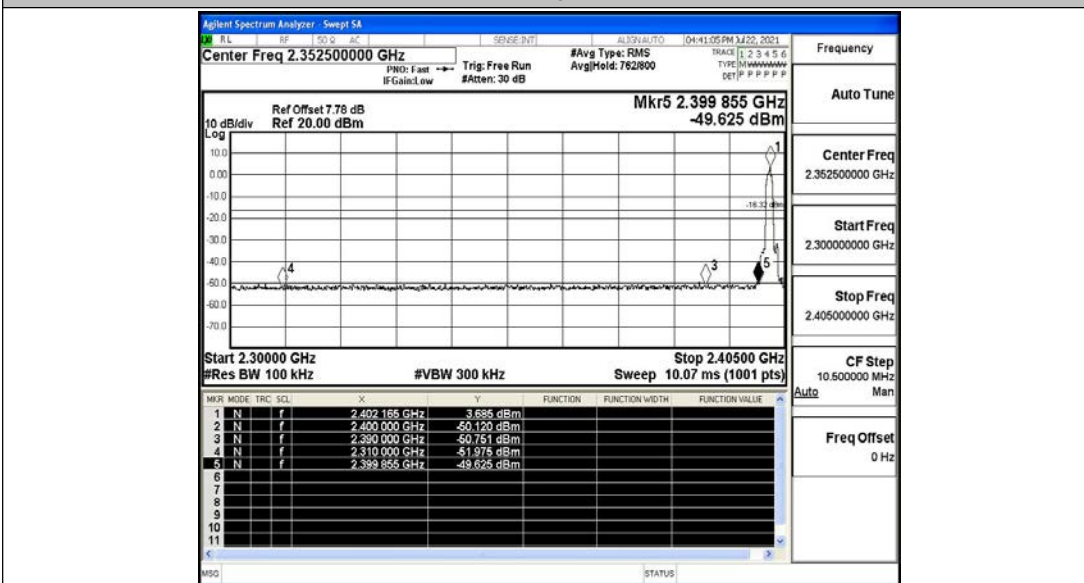
2DH5\_Ant1\_High\_2480



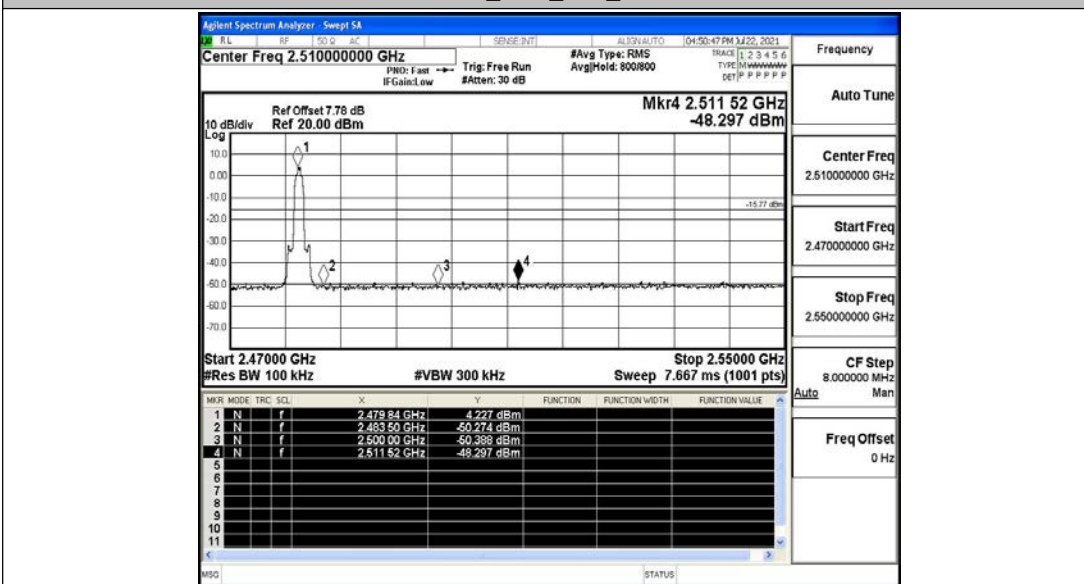
2DH5\_Ant1\_Low\_Hop\_2402



2DH5\_Ant1\_High\_Hop\_2480

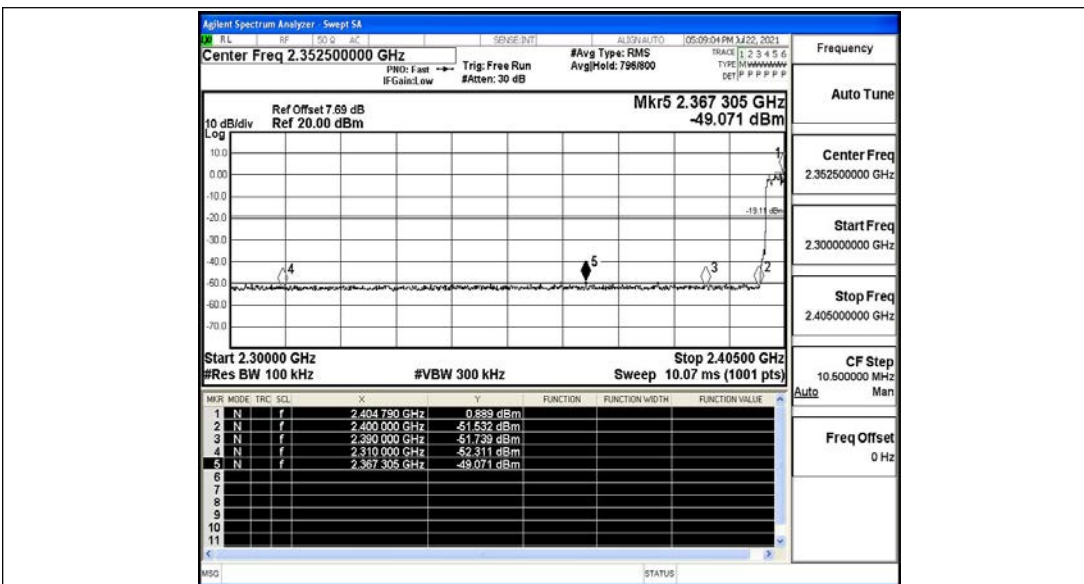


3DH5\_Ant1\_Low\_2402

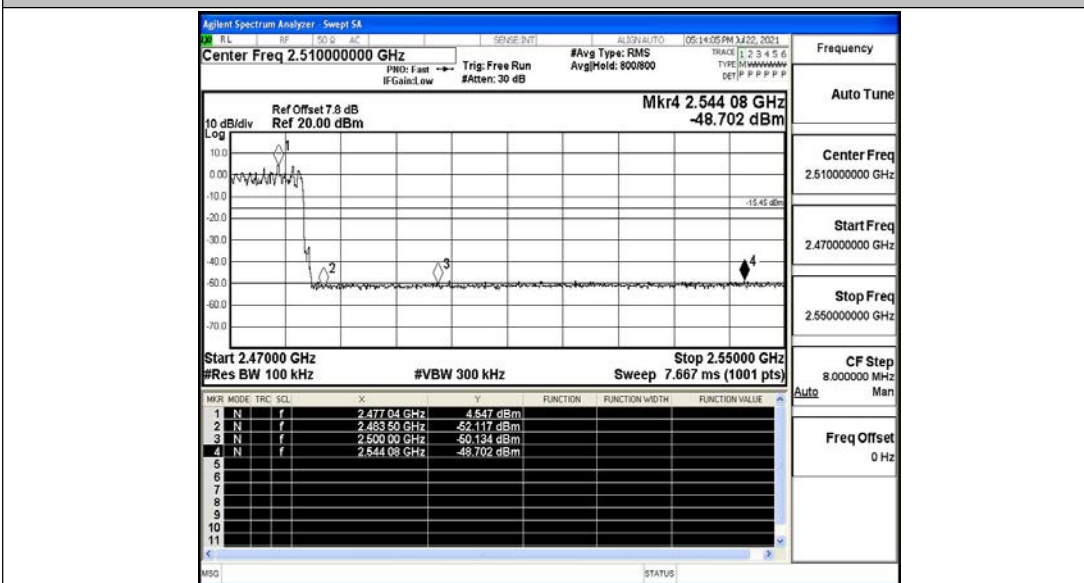


3DH5\_Ant1\_High\_2480





3DH5\_Ant1\_Low\_Hop\_2402



3DH5\_Ant1\_High\_Hop\_2480



## A.8 Conducted Spurious Emission

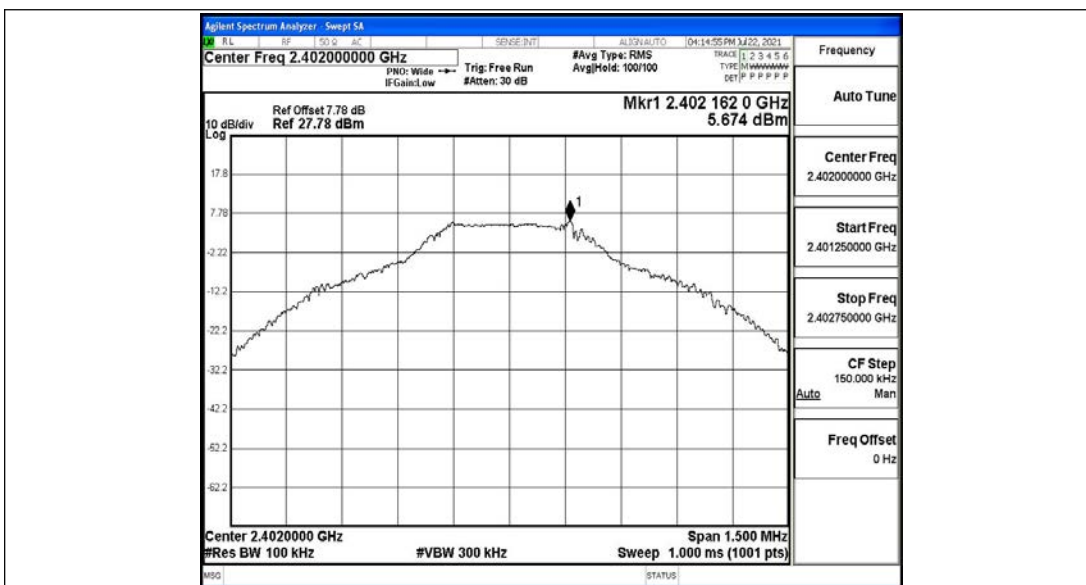
### Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	5.67	5.67	---	PASS
			30~1000	5.67	-62.01	≤-14.33	PASS
			1000~26500	5.67	-47.48	≤-14.33	PASS
		2441	Reference	6.56	6.56	---	PASS
			30~1000	6.56	-61.45	≤-13.44	PASS
			1000~26500	6.56	-48	≤-13.44	PASS
		2480	Reference	5.57	5.57	---	PASS
			30~1000	5.57	-61.99	≤-14.43	PASS
			1000~26500	5.57	-47.12	≤-14.43	PASS
2DH5	Ant1	2402	Reference	0.72	0.72	---	PASS
			30~1000	0.72	-61.45	≤-19.28	PASS
			1000~26500	0.72	-46.87	≤-19.28	PASS
		2441	Reference	4.83	4.83	---	PASS
			30~1000	4.83	-61.4	≤-15.17	PASS
			1000~26500	4.83	-47.09	≤-15.17	PASS
		2480	Reference	4.12	4.12	---	PASS
			30~1000	4.12	-62.25	≤-15.89	PASS
			1000~26500	4.12	-47.46	≤-15.89	PASS
3DH5	Ant1	2402	Reference	3.69	3.69	---	PASS
			30~1000	3.69	-62.41	≤-16.31	PASS
			1000~26500	3.69	-46.8	≤-16.31	PASS
		2441	Reference	4.79	4.79	---	PASS
			30~1000	4.79	-61.22	≤-15.21	PASS
			1000~26500	4.79	-47.2	≤-15.21	PASS
		2480	Reference	4.14	4.14	---	PASS
			30~1000	4.14	-61.64	≤-15.86	PASS
			1000~26500	4.14	-47.66	≤-15.86	PASS

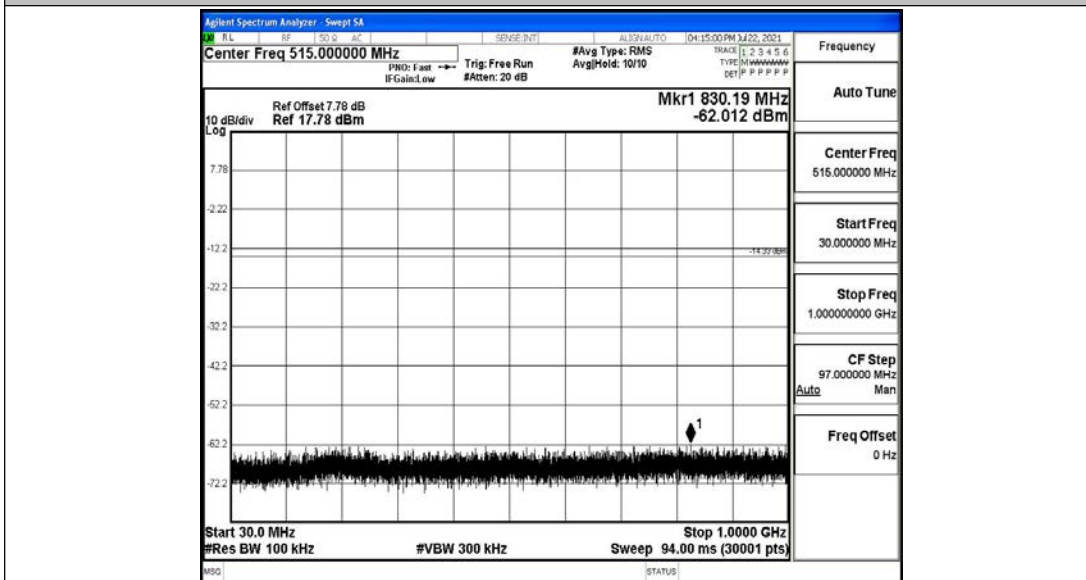




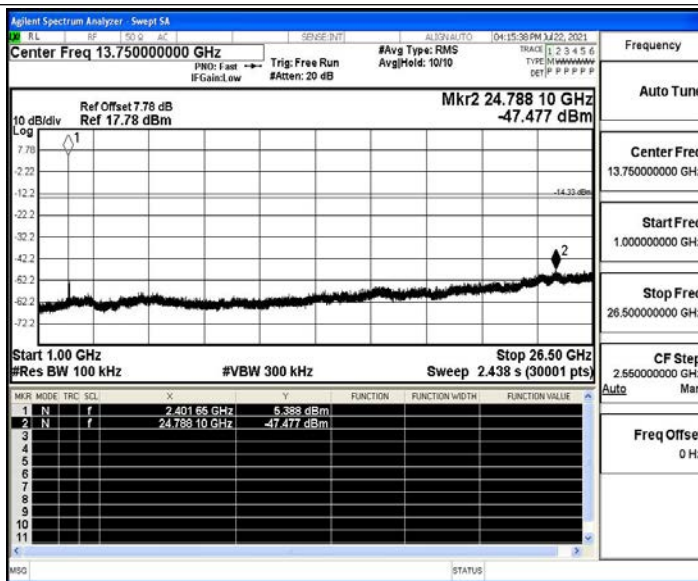
### Test Graphs



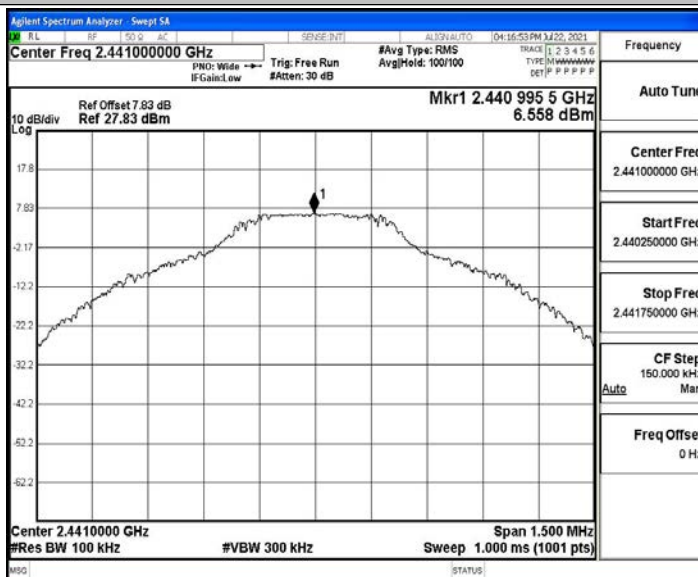
DH5\_Ant1\_2402\_0~Reference



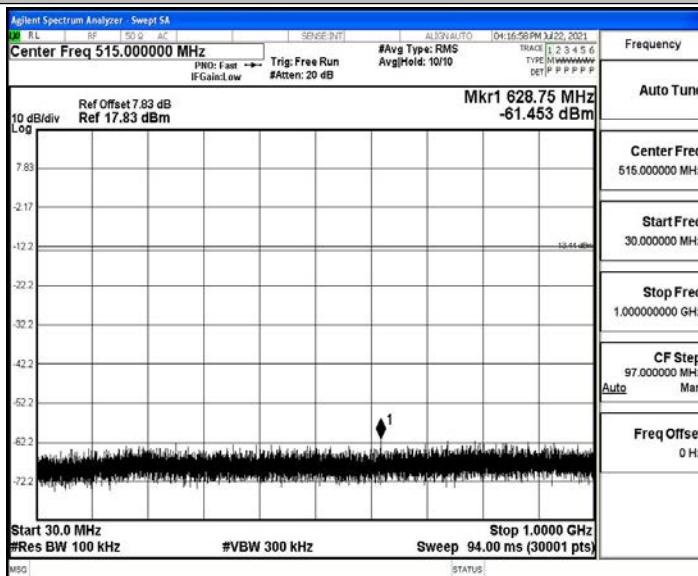
DH5\_Ant1\_2402\_30~1000



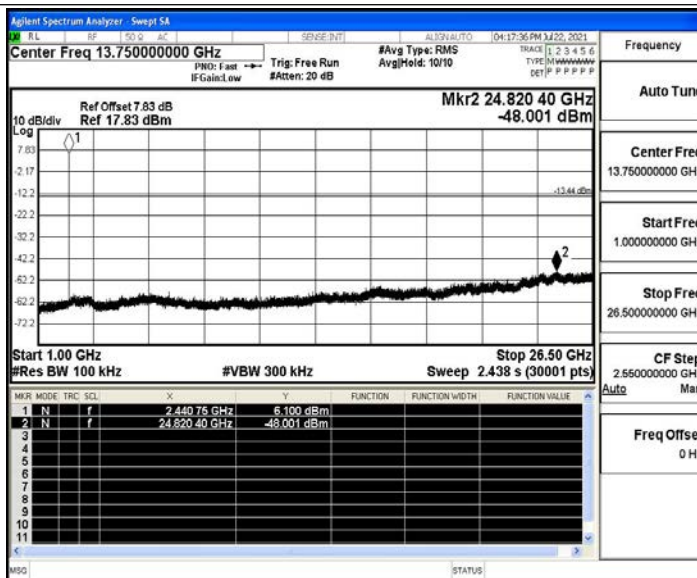
DH5\_Ant1\_2402\_1000~26500



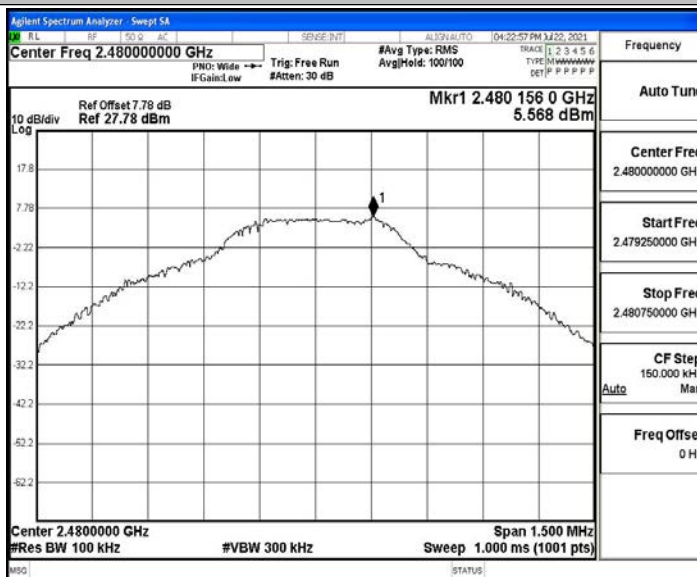
DH5\_Ant1\_2441\_0~Reference



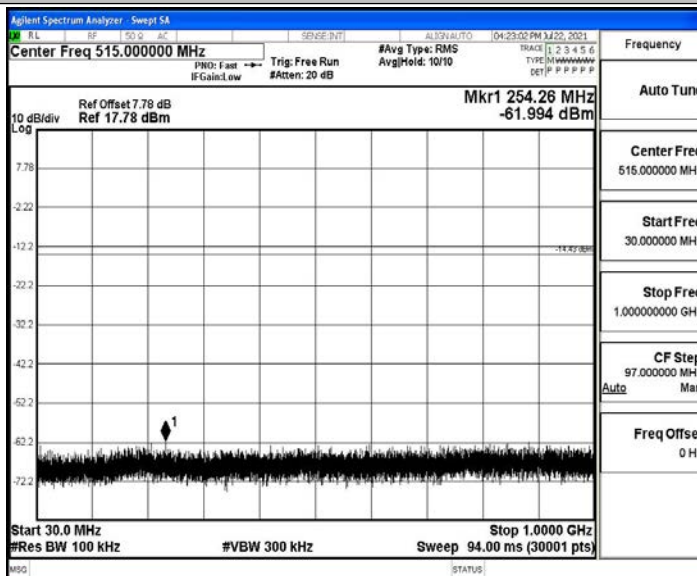
DH5\_Ant1\_2441\_30~1000



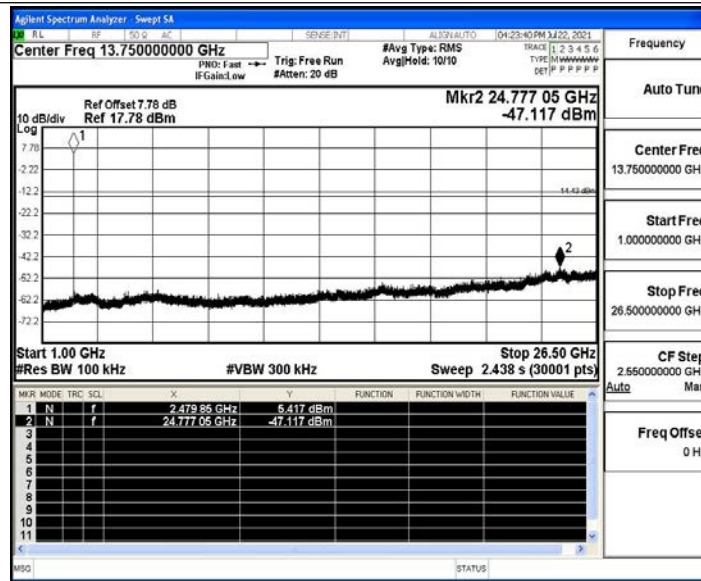
DH5\_Ant1\_2441\_1000~26500



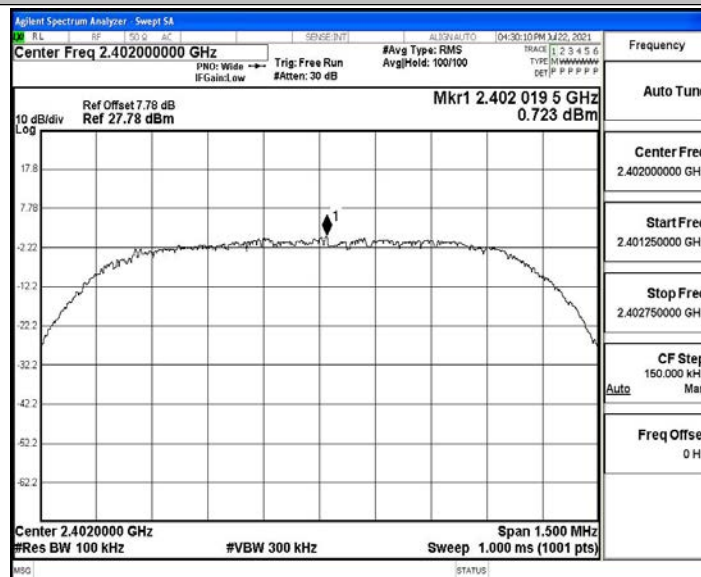
DH5\_Ant1\_2480\_0~Reference



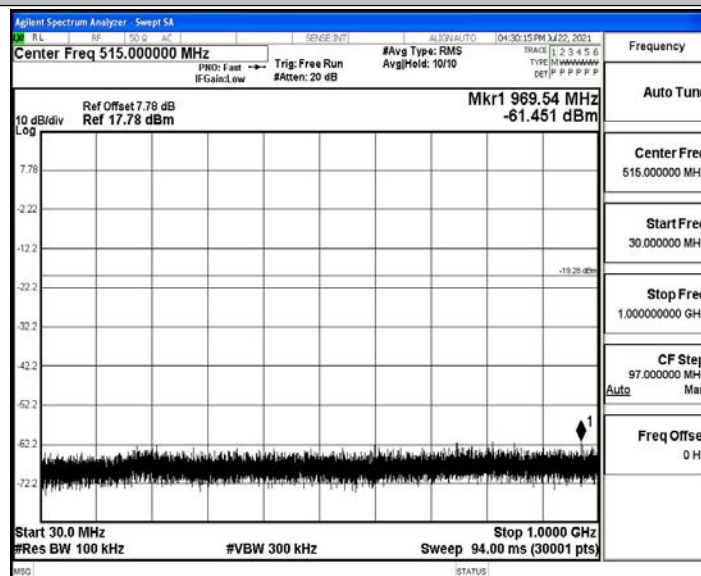
DH5\_Ant1\_2480\_30~1000



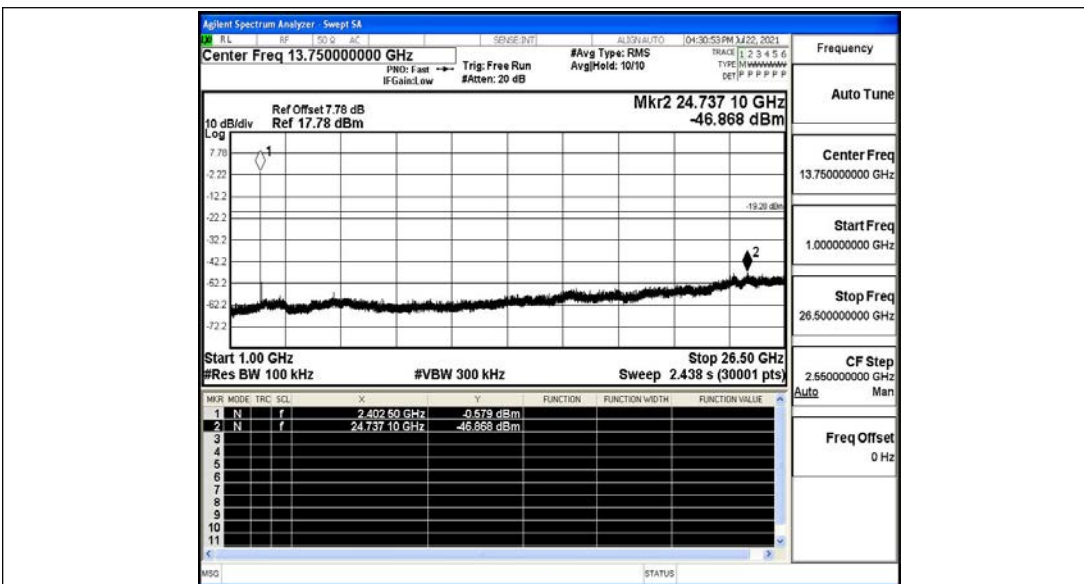
DH5\_Ant1\_2480\_1000~26500



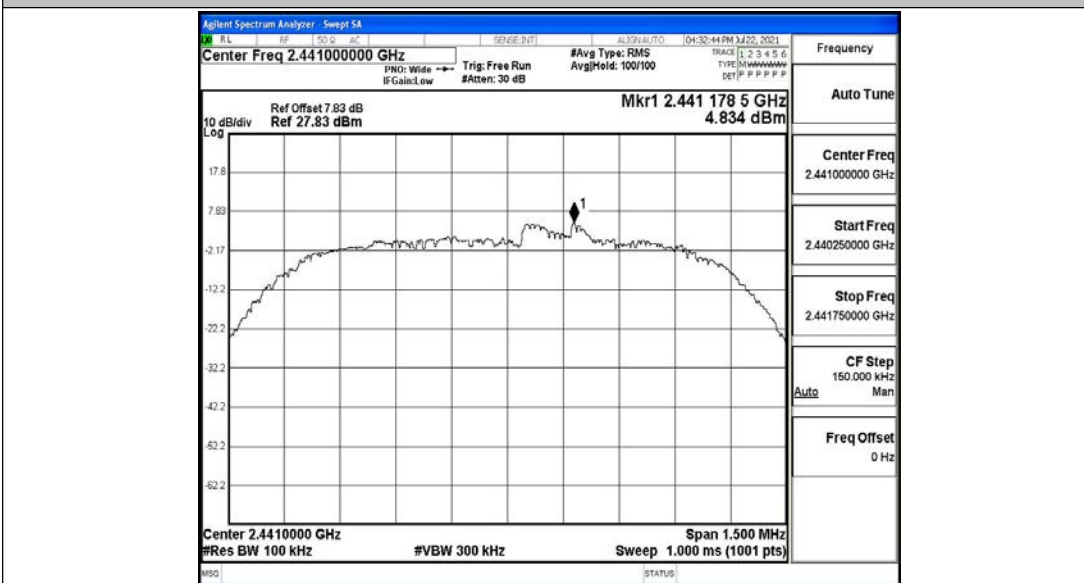
2DH5\_Ant1\_2402\_0~Reference



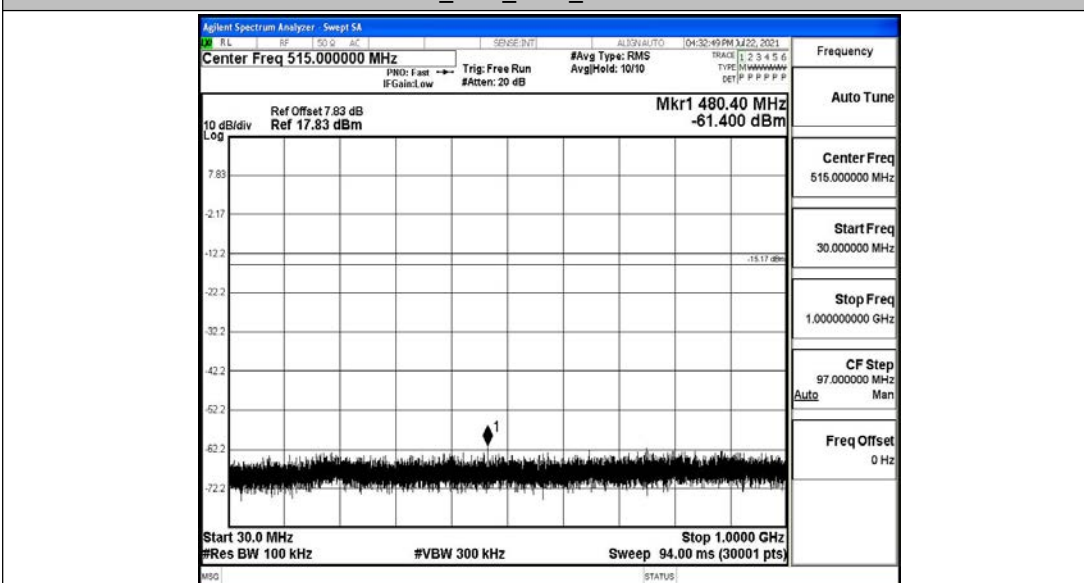
2DH5\_Ant1\_2402\_30~1000



2DH5\_Ant1\_2402\_1000~26500

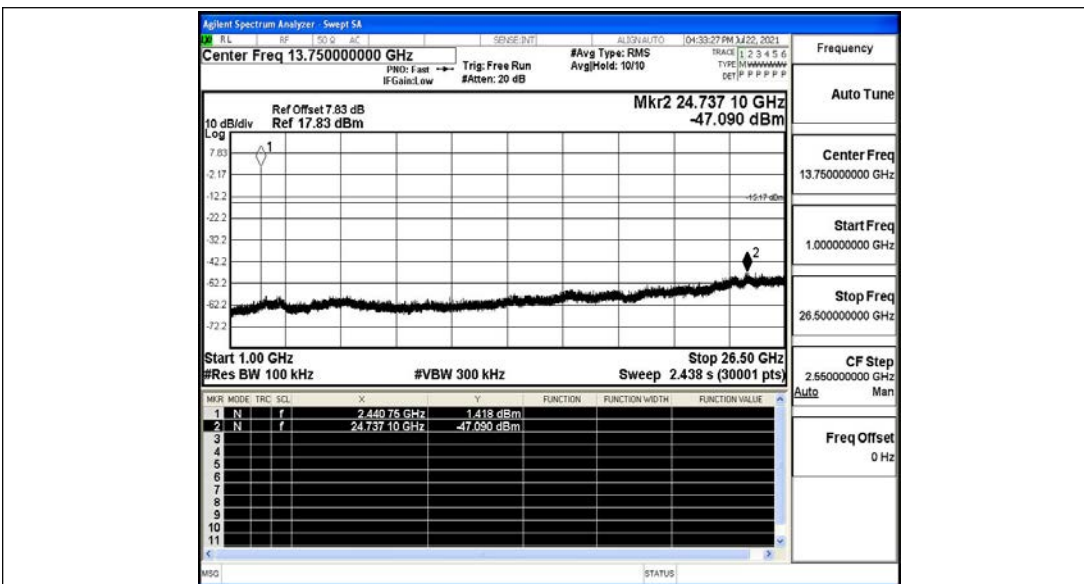


2DH5\_Ant1\_2441\_0~Reference

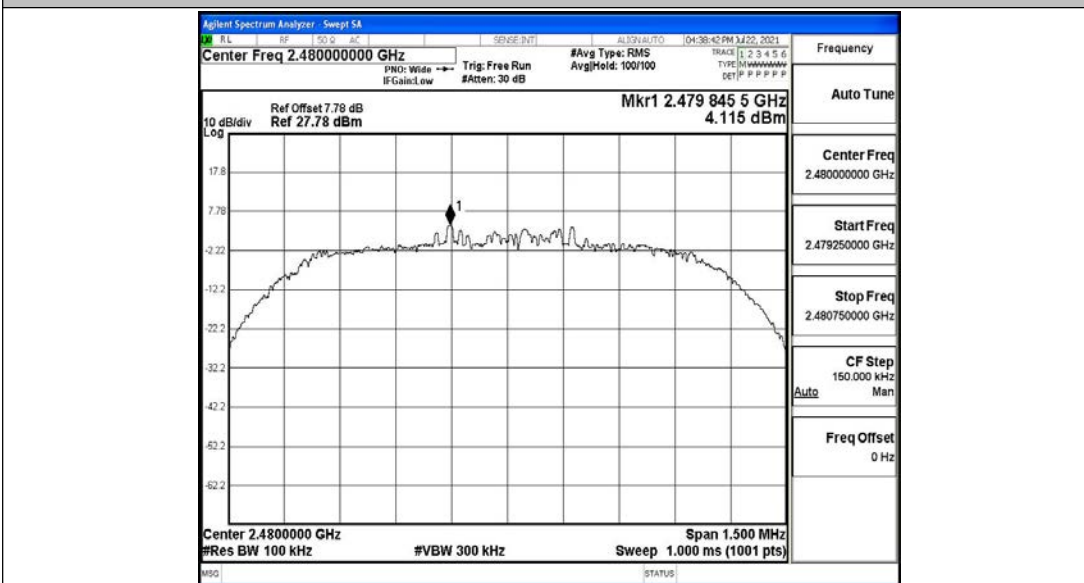


2DH5\_Ant1\_2441\_30~1000

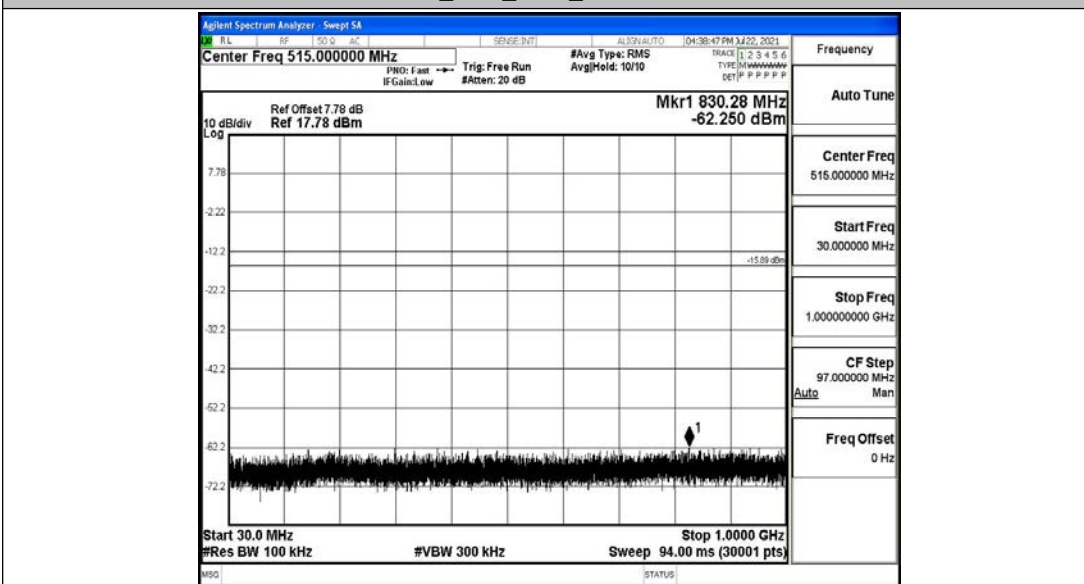




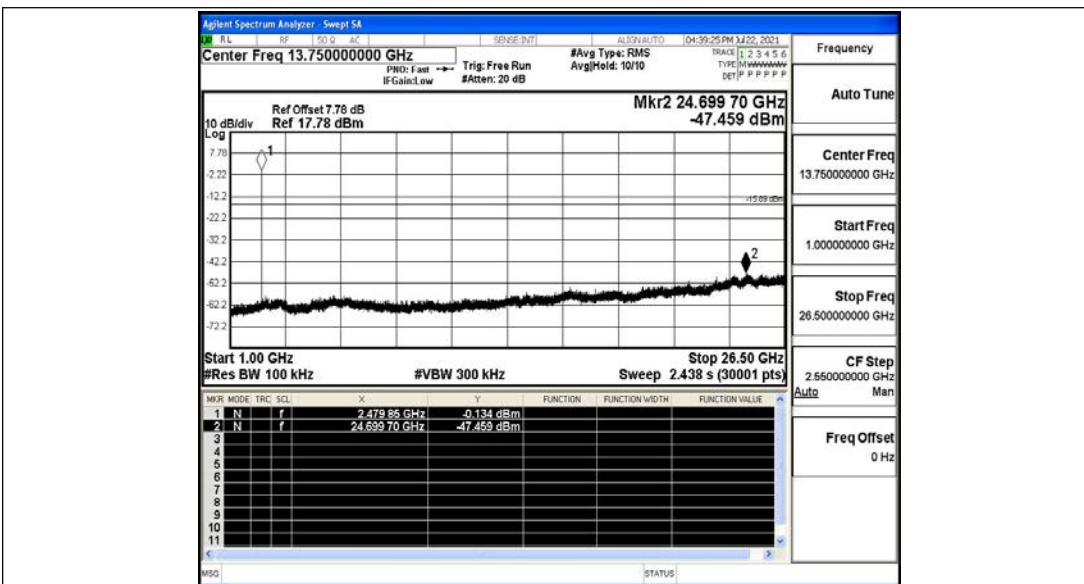
2DH5\_Ant1\_2441\_1000~26500



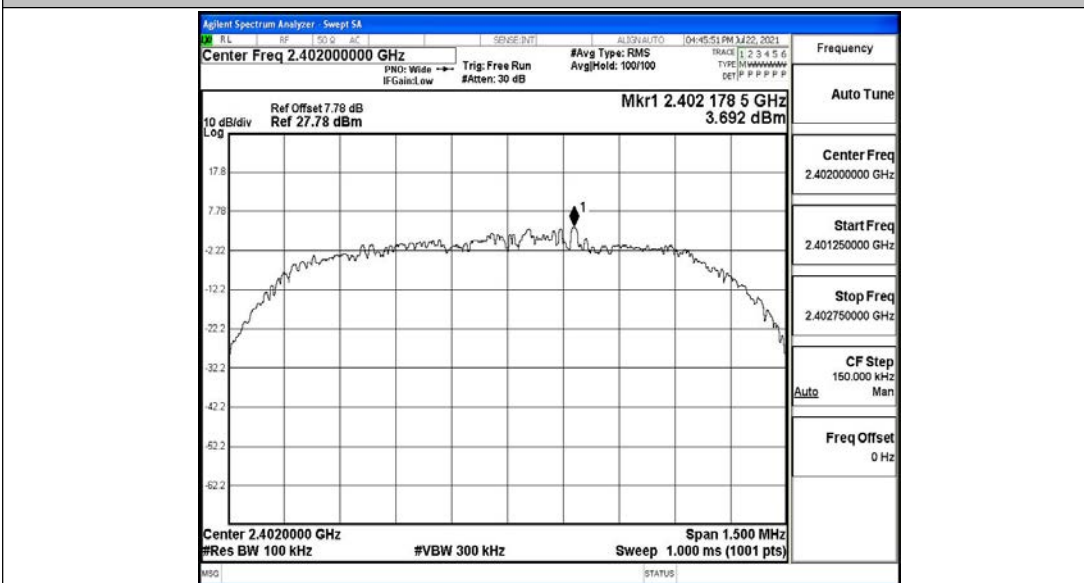
2DH5\_Ant1\_2480\_0~Reference



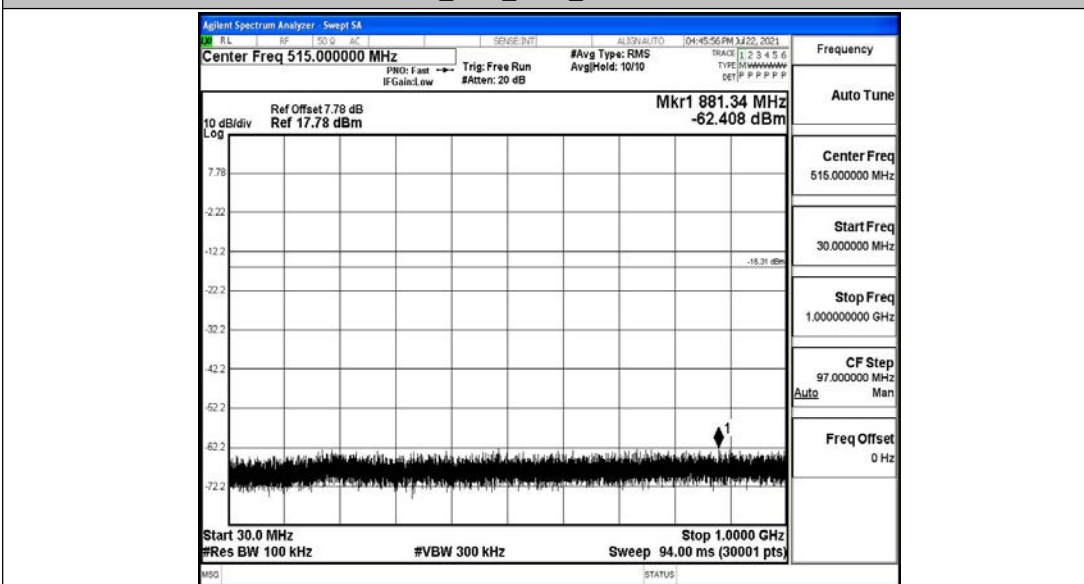
2DH5\_Ant1\_2480\_30~1000



2DH5\_Ant1\_2480\_1000~26500

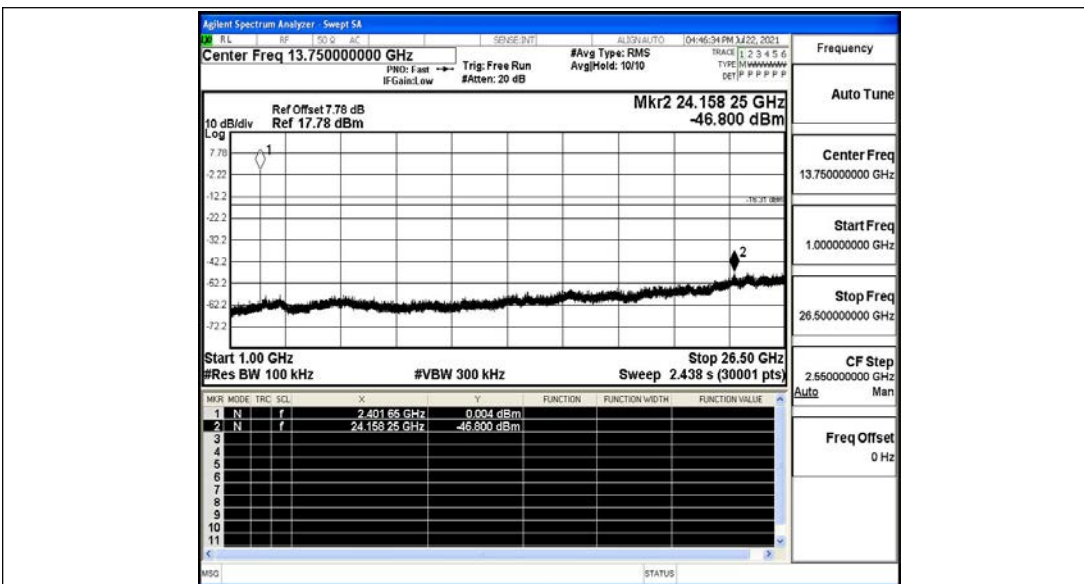


3DH5\_Ant1\_2402\_0~Reference

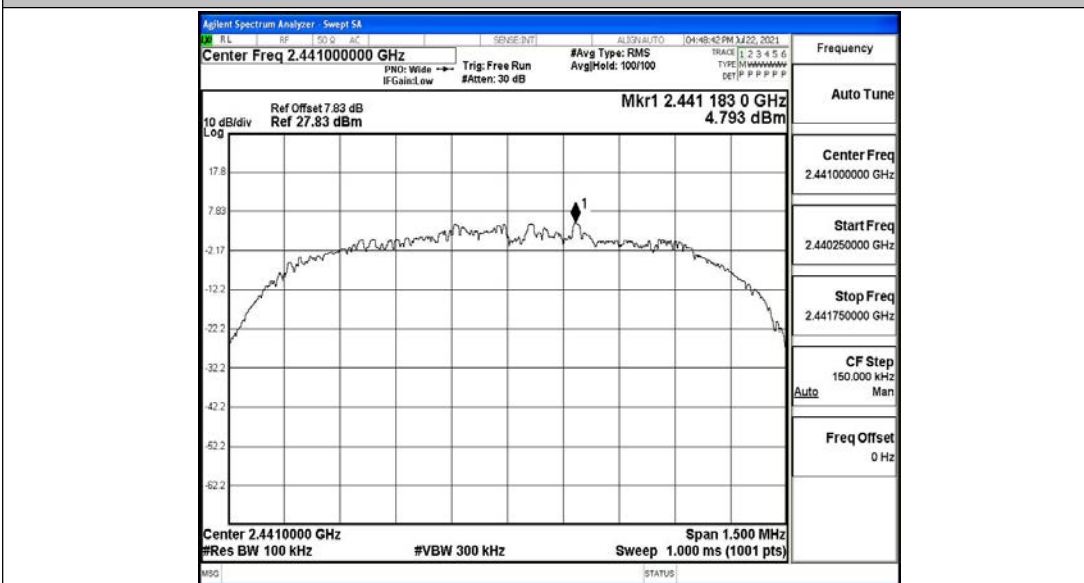


3DH5\_Ant1\_2402\_30~1000

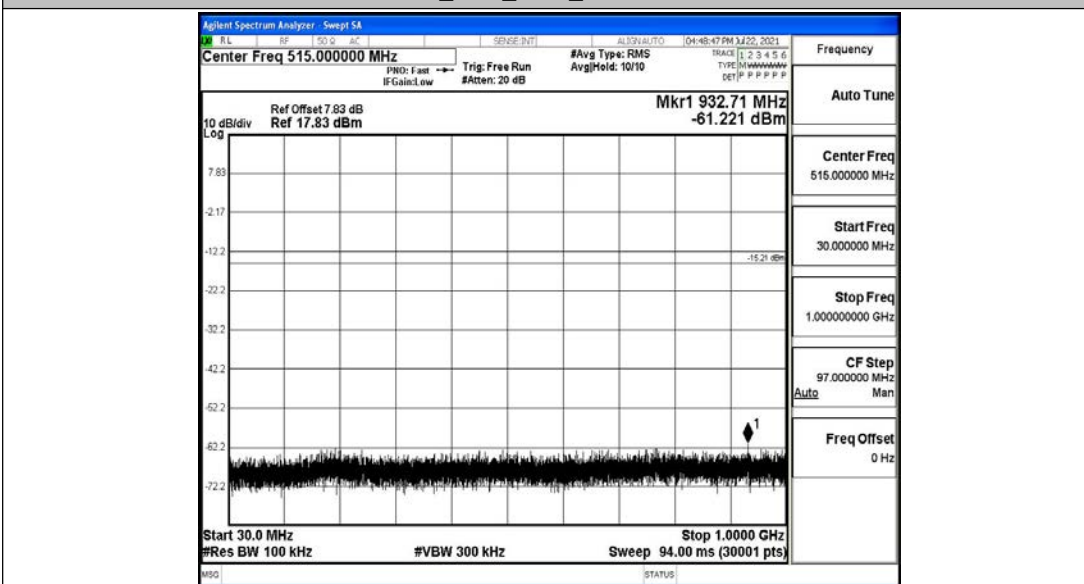




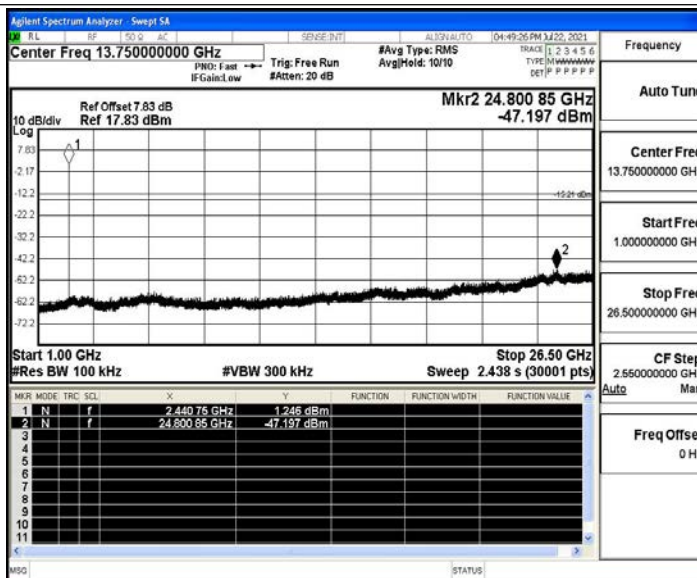
3DH5\_Ant1\_2402\_1000~26500



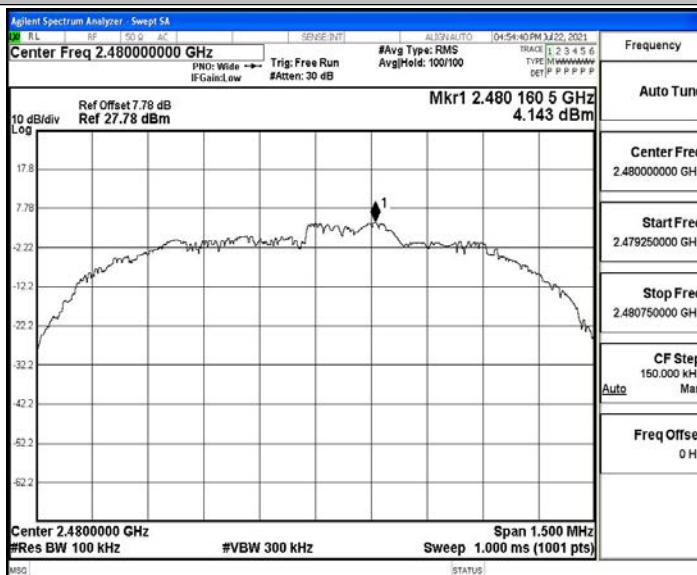
3DH5\_Ant1\_2441\_0~Reference



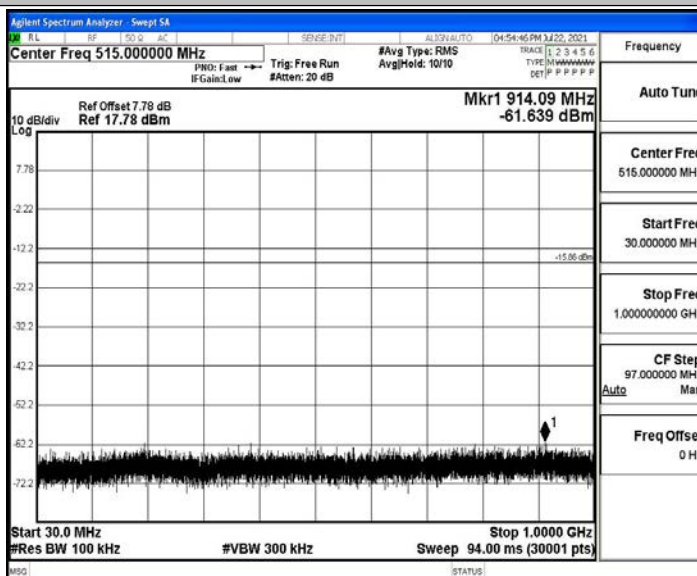
3DH5\_Ant1\_2441\_30~1000



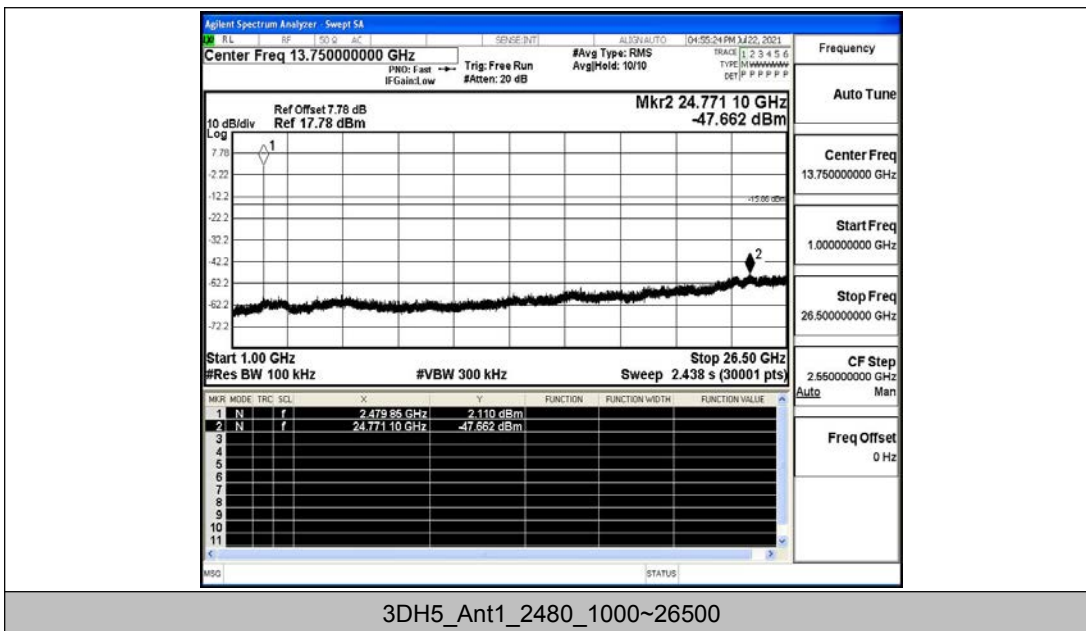
3DH5\_Ant1\_2441\_1000~26500



3DH5\_Ant1\_2480\_0~Reference



3DH5\_Ant1\_2480\_30~1000



3DH5\_Ant1\_2480\_1000~26500



## A.10 Emissions in Restricted Bands

### Test Result

TestMod e	Antenn a	ChNam e	Channe l	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
DH5	Ant1	Low	2402	AV	2310.000	-48.95	≤-41.2 0	46.25	≤54	PASS
				AV	2389.250	-48.46	≤-41.2 0	46.74	≤54	PASS
				AV	2390.000	-48.54	≤-41.2 0	46.66	≤54	PASS
				Peak	2310.000	-40.53	≤-21.2 0	54.67	≤74	PASS
				Peak	2385.365	-37.97	≤-21.2 0	57.23	≤74	PASS
				Peak	2390.000	-41.17	≤-21.2 0	54.03	≤74	PASS
		High	2480	AV	2483.500	-47.13	≤-41.2 0	48.07	≤54	PASS
				AV	2483.520	-47.13	≤-41.2 0	48.07	≤54	PASS
				AV	2500.000	-47.95	≤-41.2 0	47.25	≤54	PASS
				Peak	2483.500	-39.47	≤-21.2 0	55.73	≤74	PASS
				Peak	2497.760	-38.16	≤-21.2 0	57.04	≤74	PASS
				Peak	2500.000	-40.49	≤-21.2 0	54.71	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.97	≤-41.2 0	46.23	≤54	PASS
				AV	2388.935	-48.49	≤-41.2 0	46.71	≤54	PASS
				AV	2390.000	-48.56	≤-41.2 0	46.64	≤54	PASS
				Peak	2310.000	-40.81	≤-21.2 0	54.39	≤74	PASS
				Peak	2320.790	-37.7	≤-21.2 0	57.50	≤74	PASS
				Peak	2390.000	-40.56	≤-21.2 0	54.64	≤74	PASS
		High	2480	AV	2483.500	-47.08	≤-41.2	48.12	≤54	PASS



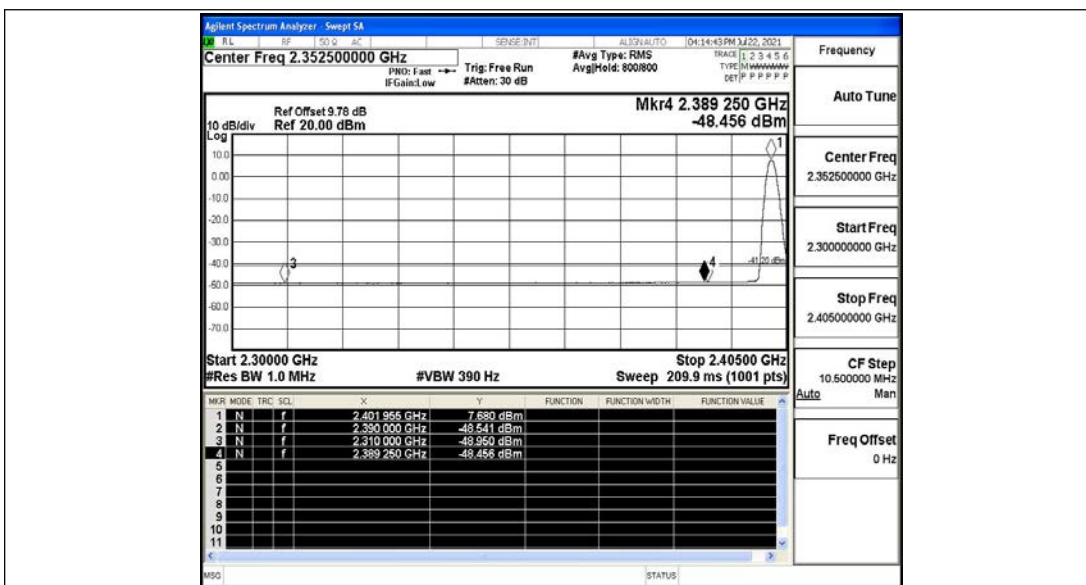
							0			
				AV	2483.520	-47.08	≤-41.2 0	48.12	≤54	PASS
				AV	2500.000	-48.02	≤-41.2 0	47.18	≤54	PASS
				Peak	2483.500	-39.79	≤-21.2 0	55.41	≤74	PASS
				Peak	2498.800	-37.59	≤-21.2 0	57.61	≤74	PASS
				Peak	2500.000	-40.49	≤-21.2 0	54.71	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.95	≤-41.2 0	46.25	≤54	PASS
				AV	2379.275	-48.46	≤-41.2 0	46.74	≤54	PASS
				AV	2390.000	-48.65	≤-41.2 0	46.55	≤54	PASS
				Peak	2310.000	-39.98	≤-21.2 0	55.22	≤74	PASS
				Peak	2348.300	-38.31	≤-21.2 0	56.89	≤74	PASS
				Peak	2390.000	-40.03	≤-21.2 0	55.17	≤74	PASS
		High	2480	AV	2483.500	-47.01	≤-41.2 0	48.19	≤54	PASS
				AV	2483.520	-47.01	≤-41.2 0	48.19	≤54	PASS
				AV	2500.000	-47.98	≤-41.2 0	47.22	≤54	PASS
				Peak	2483.500	-39.14	≤-21.2 0	56.06	≤74	PASS
				Peak	2485.120	-37.46	≤-21.2 0	57.74	≤74	PASS
				Peak	2500.000	-39.31	≤-21.2 0	55.89	≤74	PASS

Note:

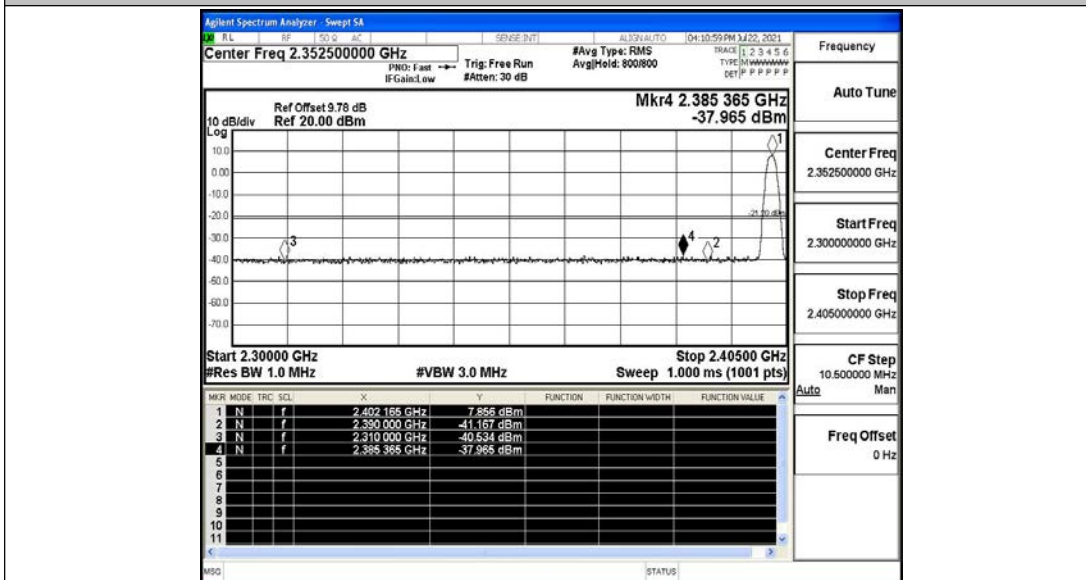
1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



### Test Graphs

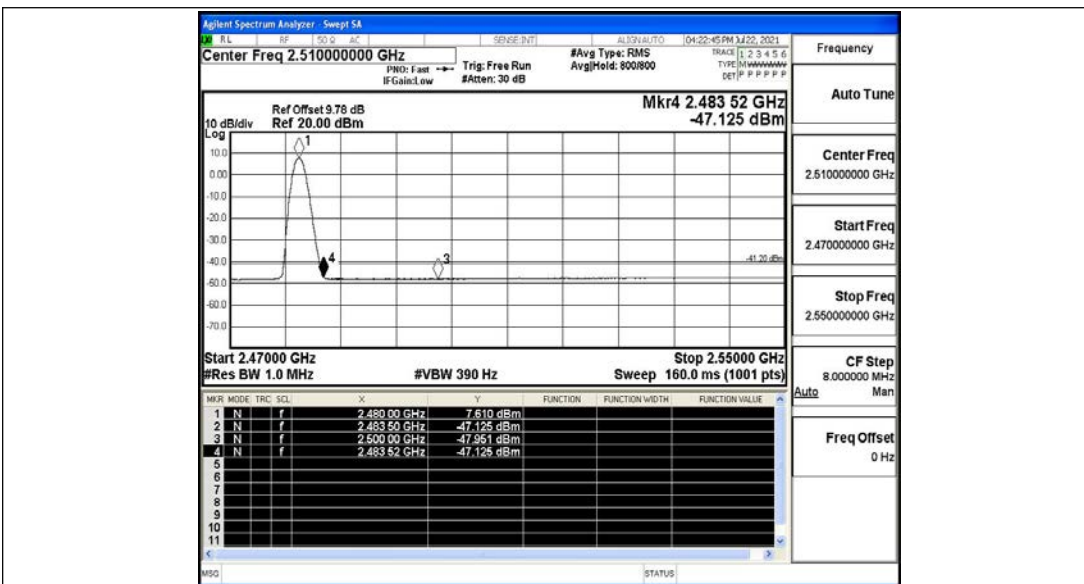


DH5\_Ant1\_Low\_2402\_AV

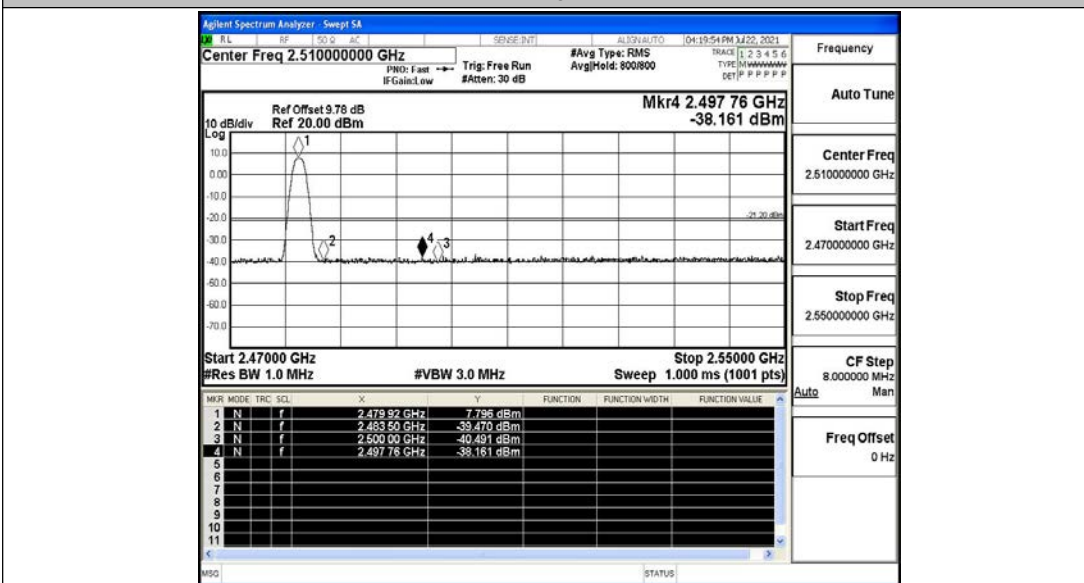


DH5\_Ant1\_Low\_2402\_Peak

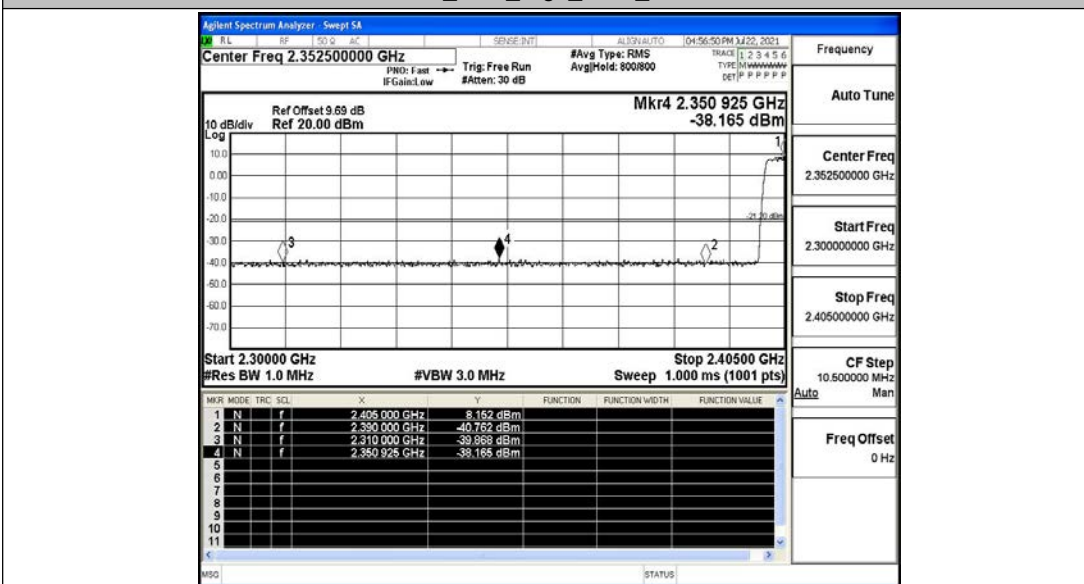




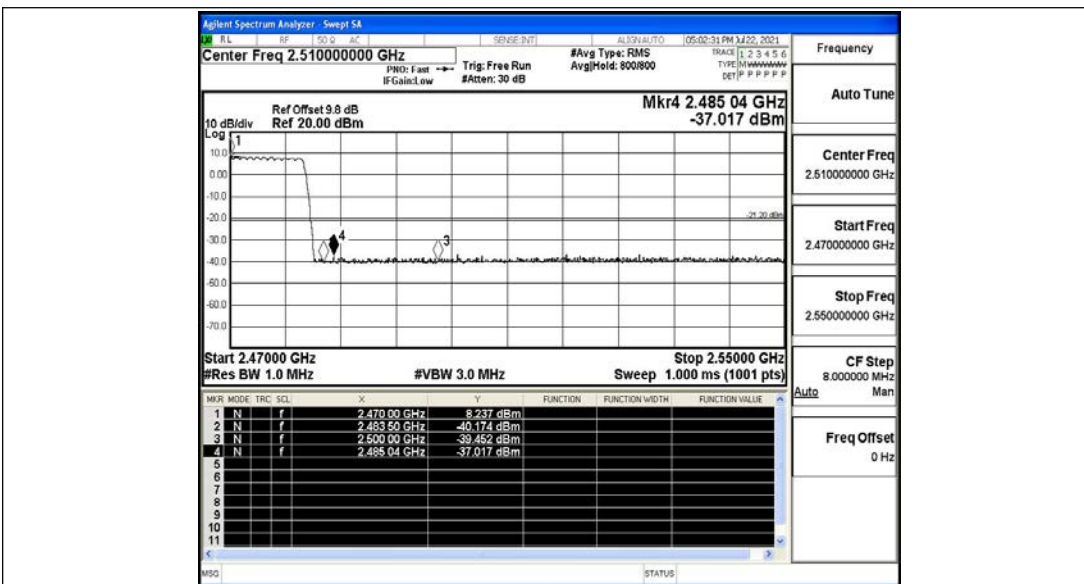
DH5\_Ant1\_High\_2480\_AV



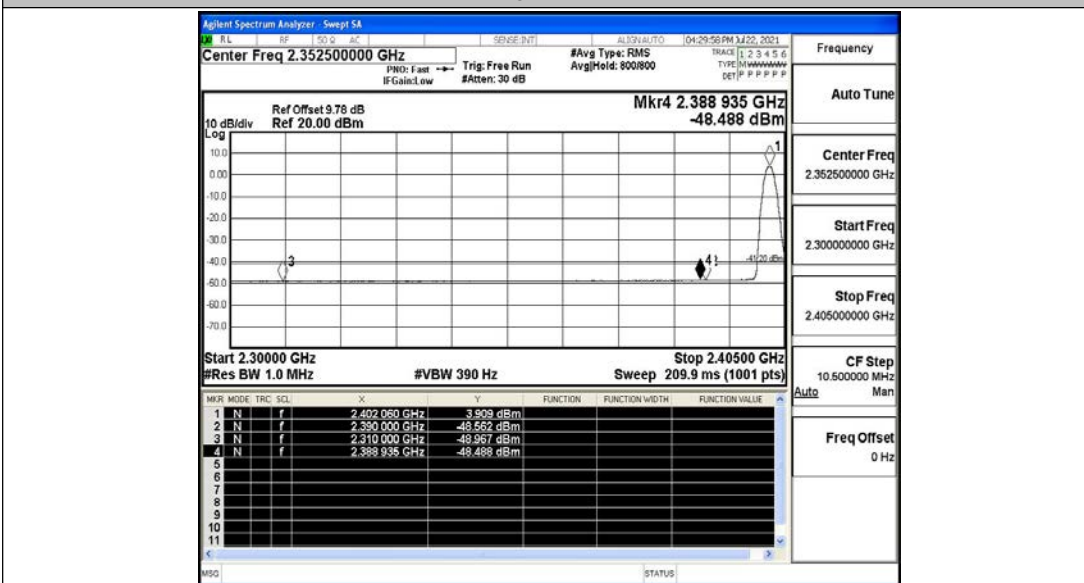
DH5\_Ant1\_High\_2480\_Peak



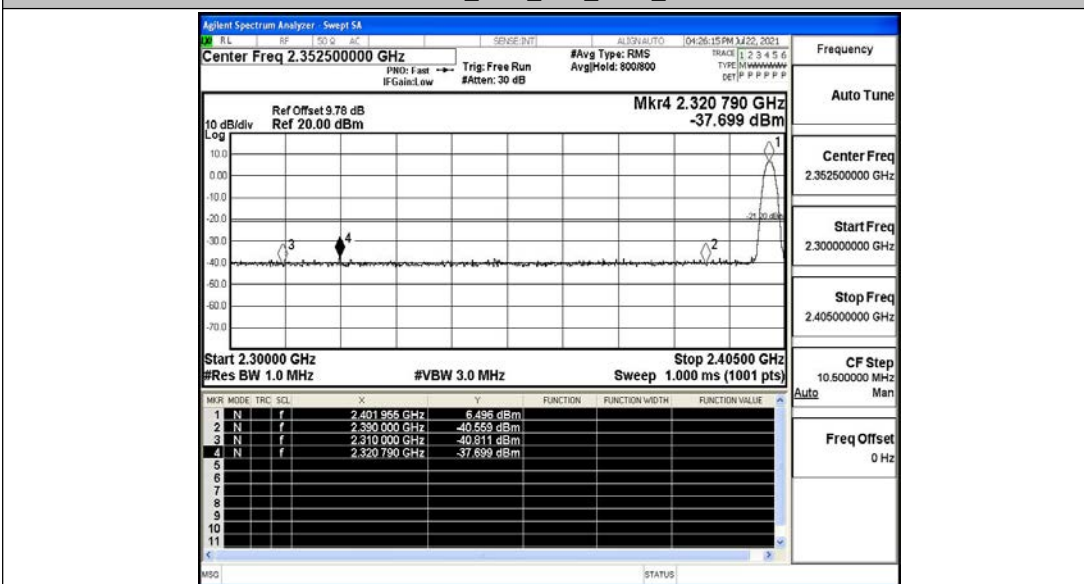
DH5\_Ant1\_Low\_Hop\_2402\_Peak



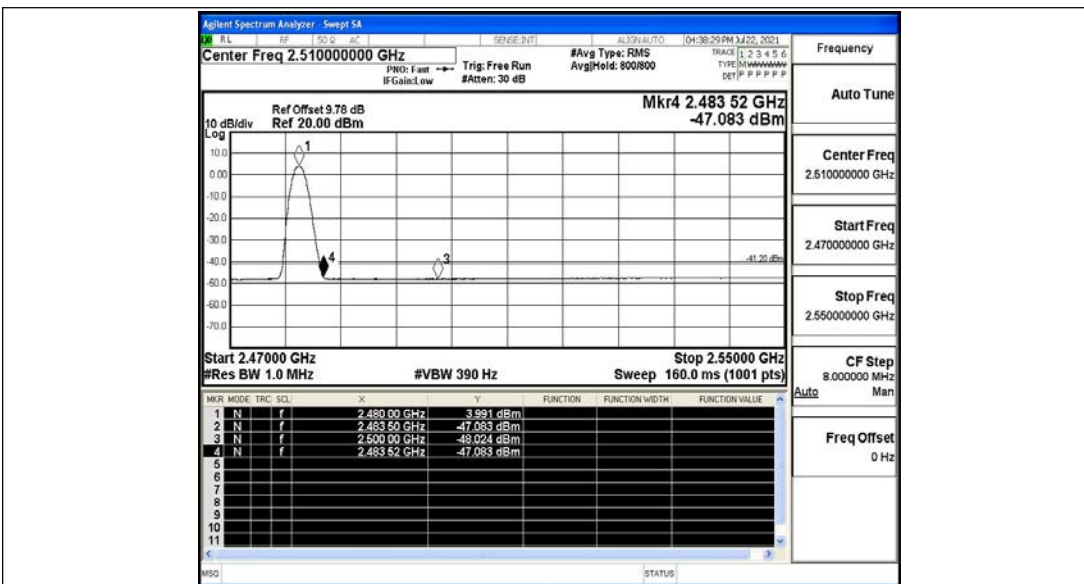
DH5\_Ant1\_High\_Hop\_2480\_Peak



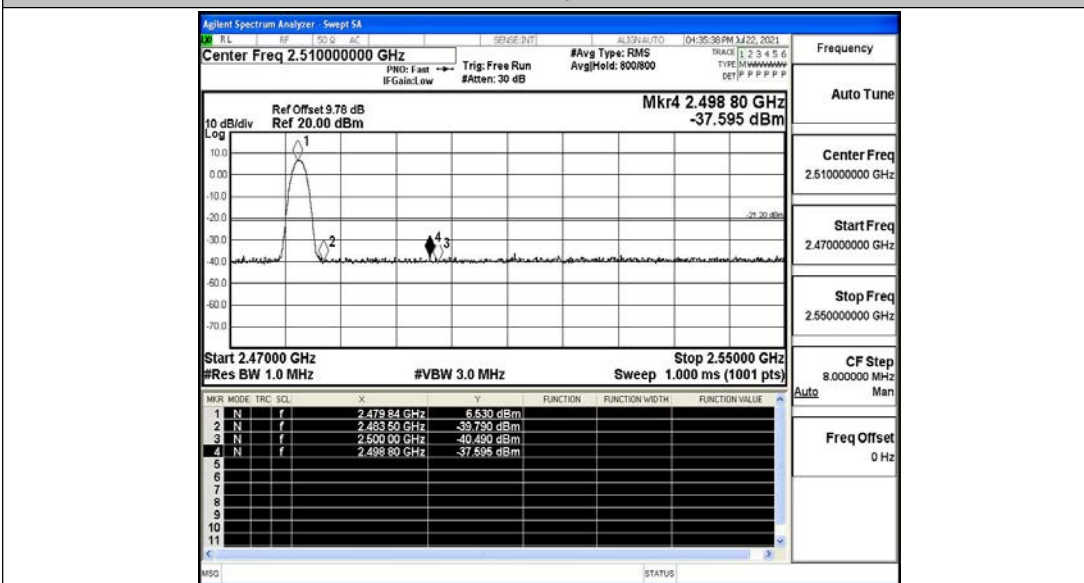
2DH5\_Ant1\_Low\_2402\_AV



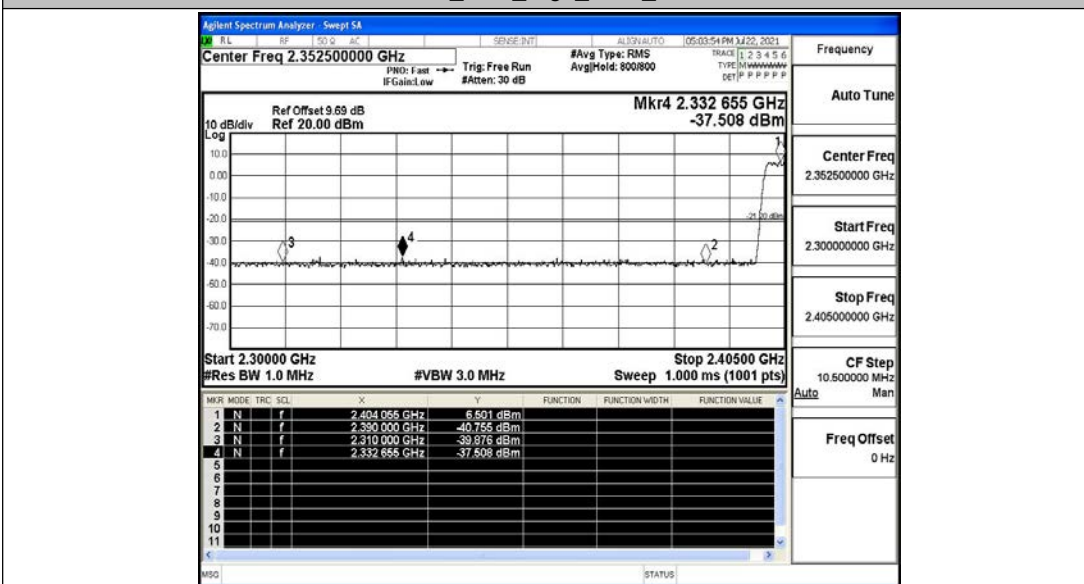
2DH5\_Ant1\_Low\_2402\_Peak



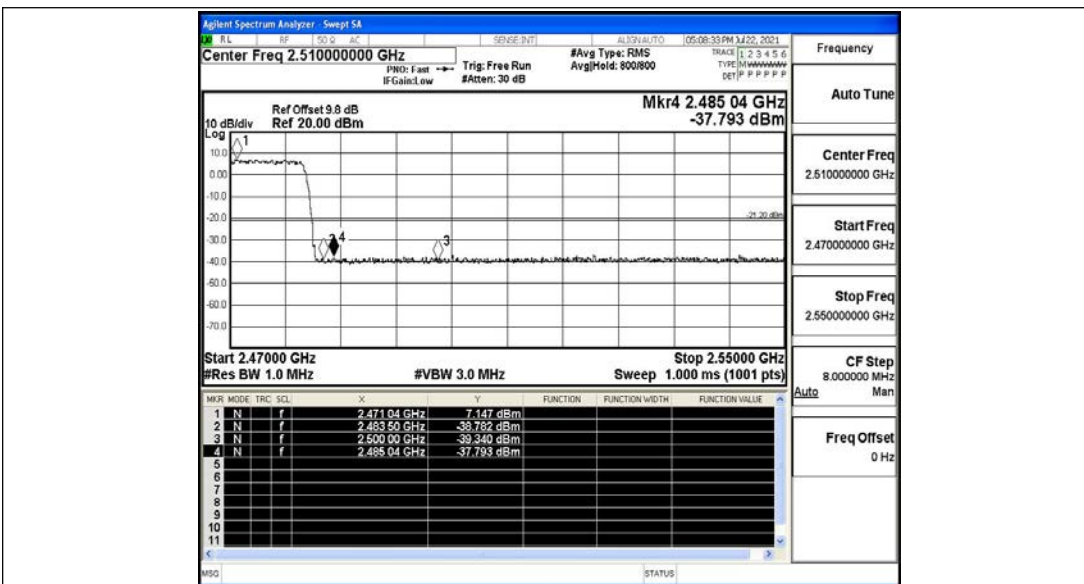
2DH5\_Ant1\_High\_2480\_AV



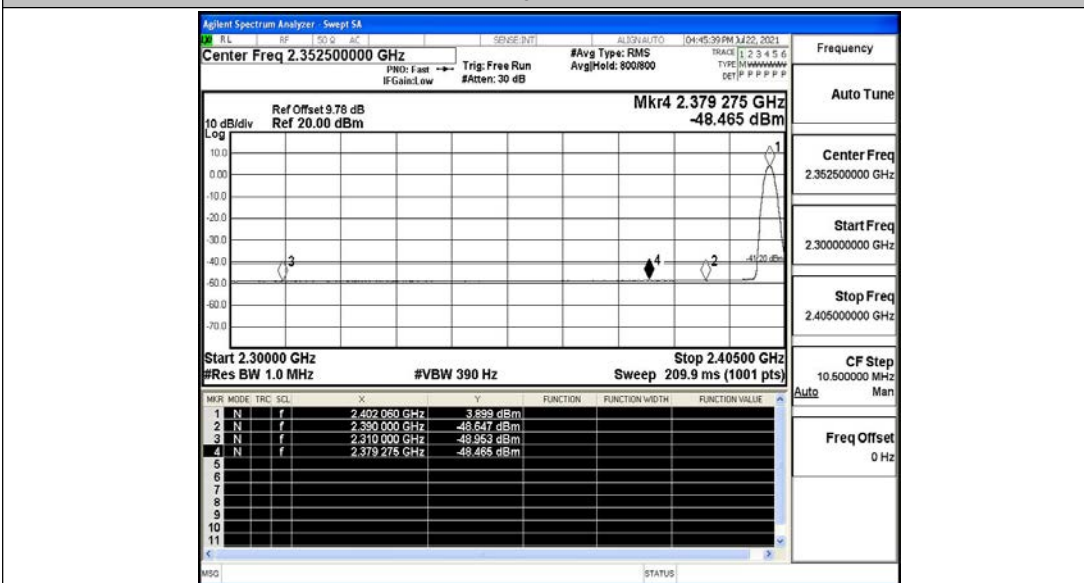
2DH5\_Ant1\_High\_2480\_Peak



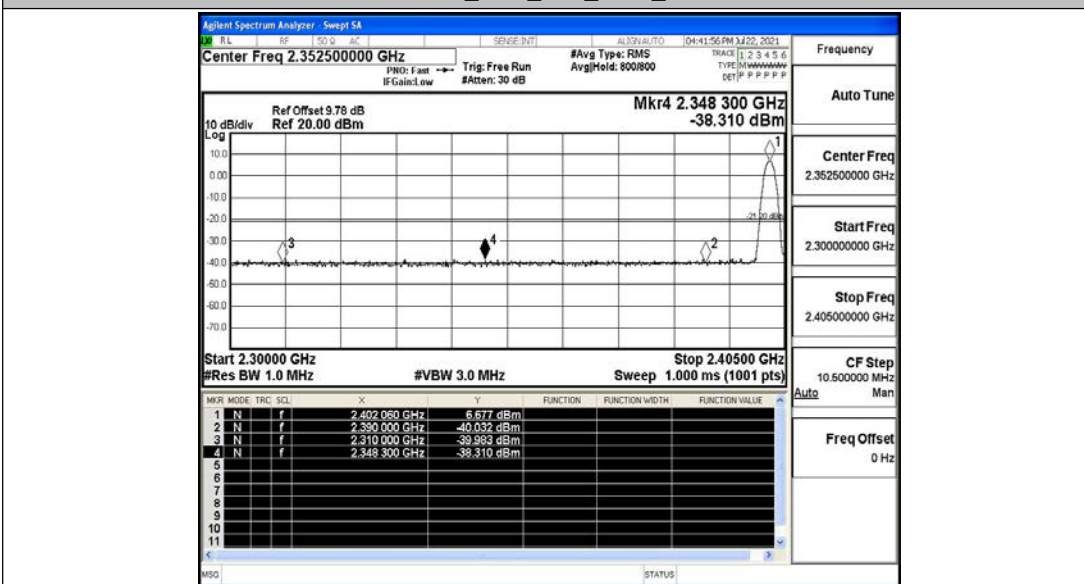
2DH5\_Ant1\_Low\_Hop\_2402\_Peak



2DH5\_Ant1\_High\_Hop\_2480\_Peak

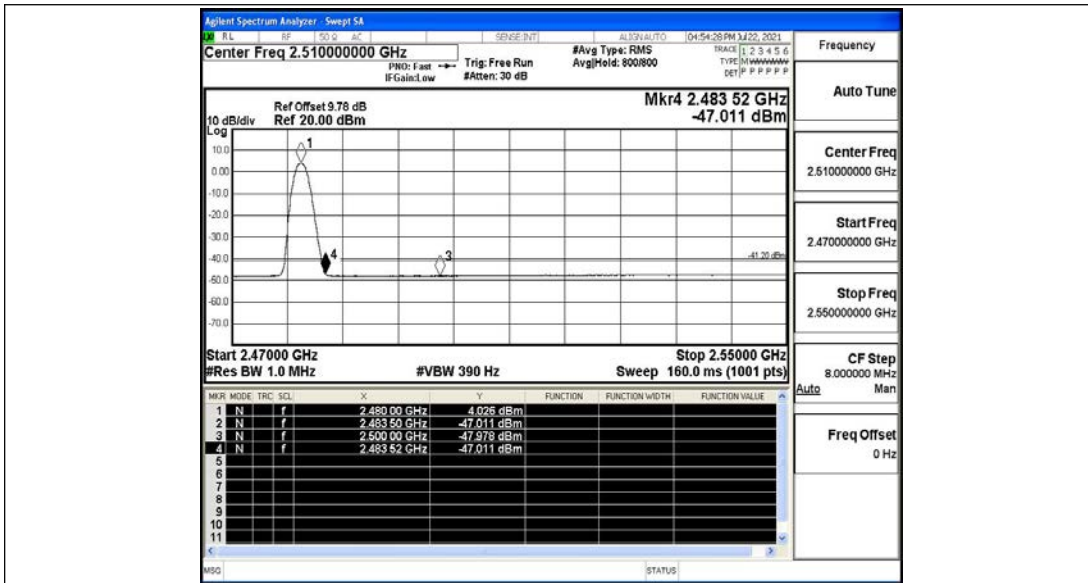


3DH5\_Ant1\_Low\_2402\_AV

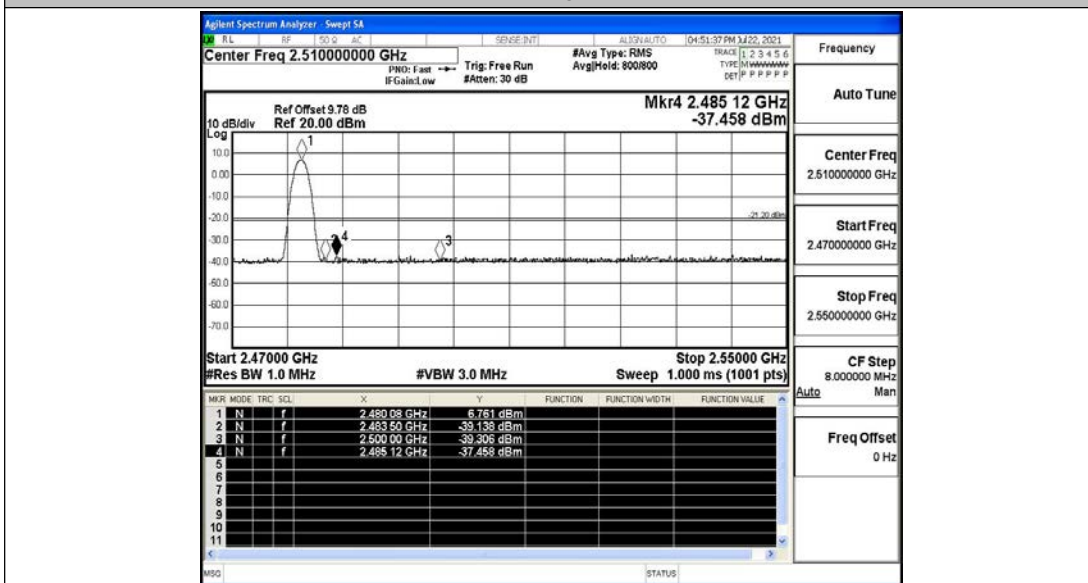


3DH5\_Ant1\_Low\_2402\_Peak

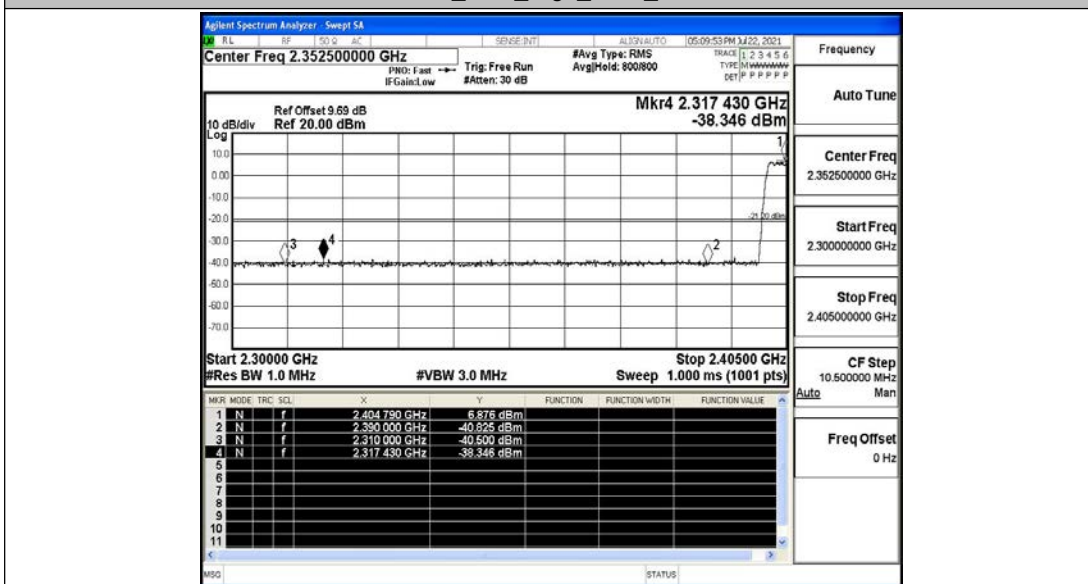




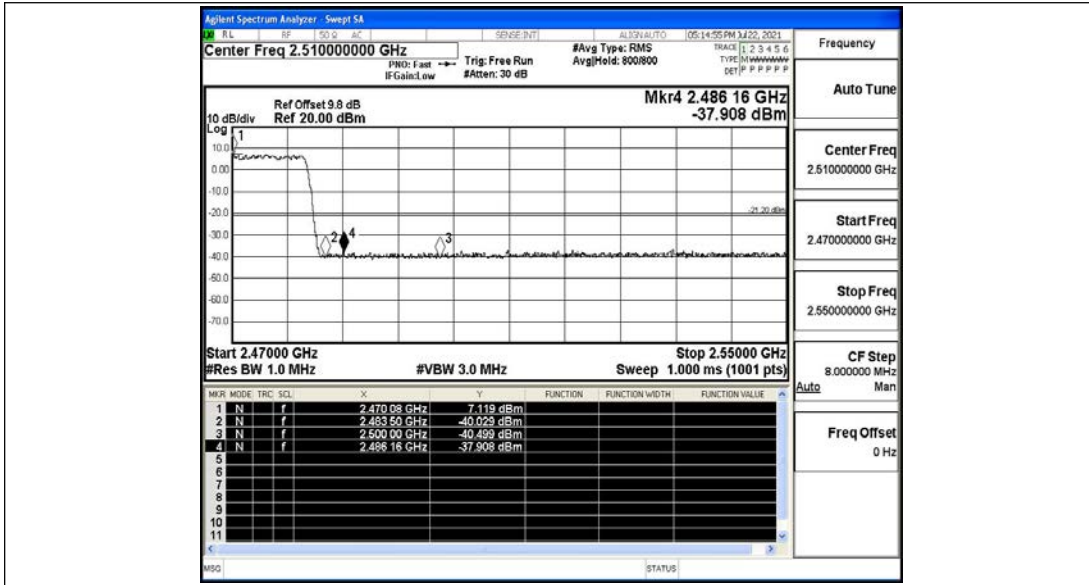
3DH5\_Ant1\_High\_2480\_AV



3DH5\_Ant1\_High\_2480\_Peak



3DH5\_Ant1\_Low\_Hop\_2402\_Peak



3DH5\_Ant1\_High\_Hop\_2480\_Peak