



Appendix A

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

Product Name: Carson Bluetooth® Speaker

Trade Mark: Gemline

Test Model: 101132-001B

Environmental Conditions

Temperature:	24.6° C
Relative Humidity:	54.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Carl Fu
Supervised by:	Li Huan

A.1 Maximum Conducted Peak Output Power

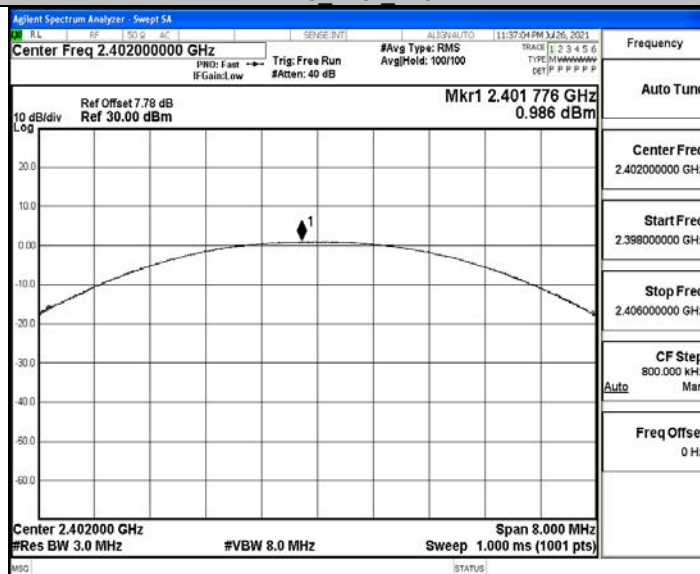
Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	2402	0.99	≤20.97	PASS
		2441	-0.41	≤20.97	PASS
		2480	0.62	≤20.97	PASS
2DH5	Ant1	2402	0.08	≤20.97	PASS
		2441	-1.05	≤20.97	PASS
		2480	-0.29	≤20.97	PASS
3DH5	Ant1	2402	0.15	≤20.97	PASS
		2441	-0.98	≤20.97	PASS
		2480	-0.11	≤20.97	PASS

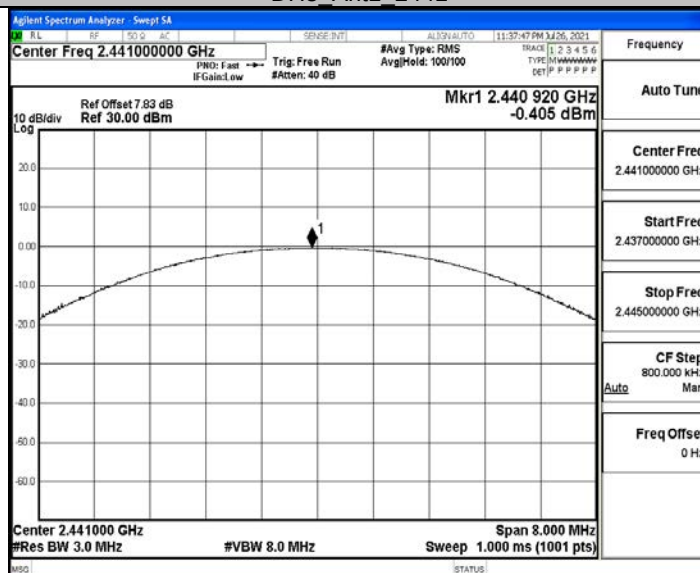


Test Graphs

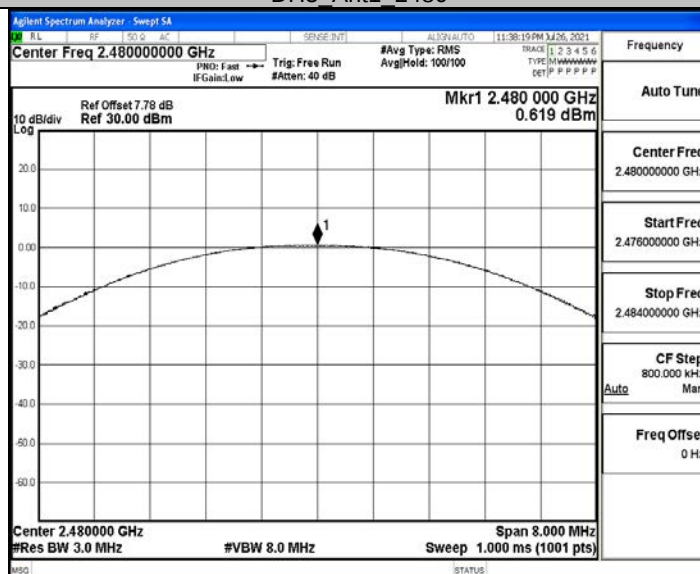
DH5_Ant1_2402



DH5_Ant1_2441

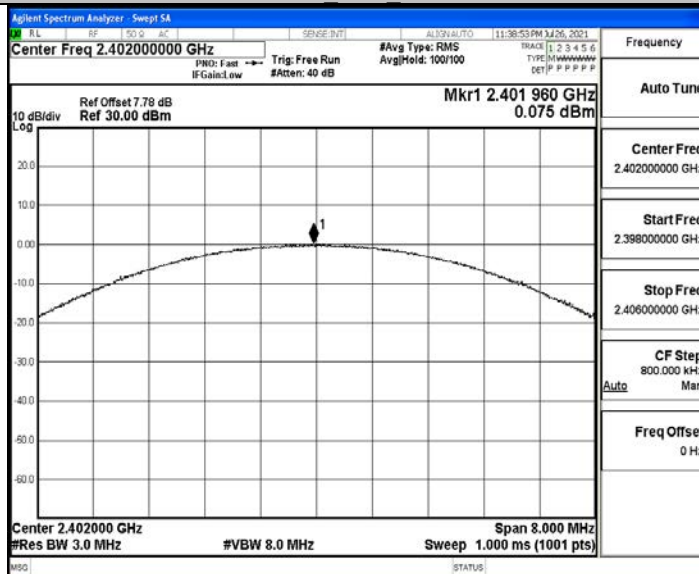


DH5_Ant1_2480

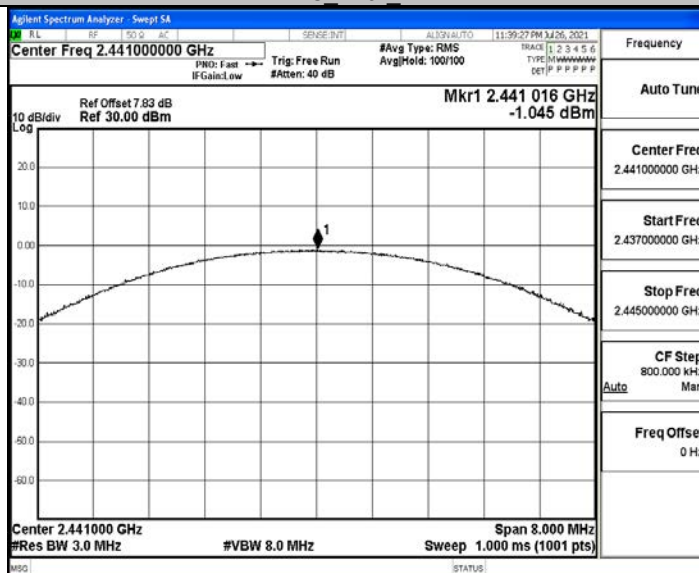




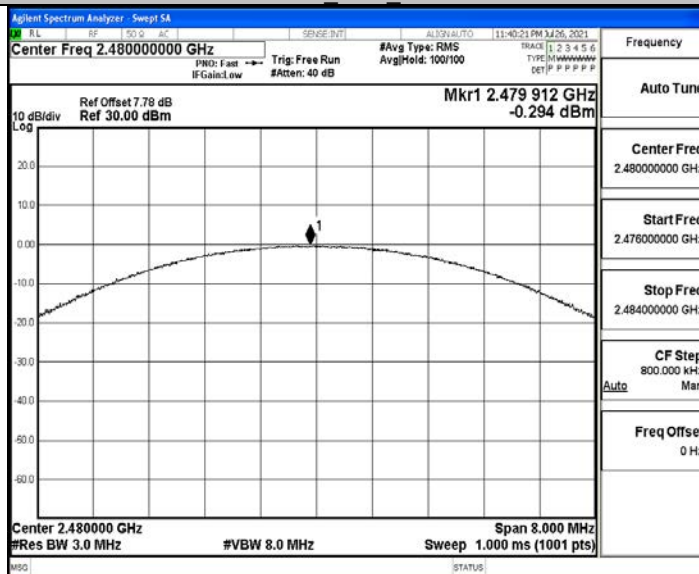
2DH5_Ant1_2402



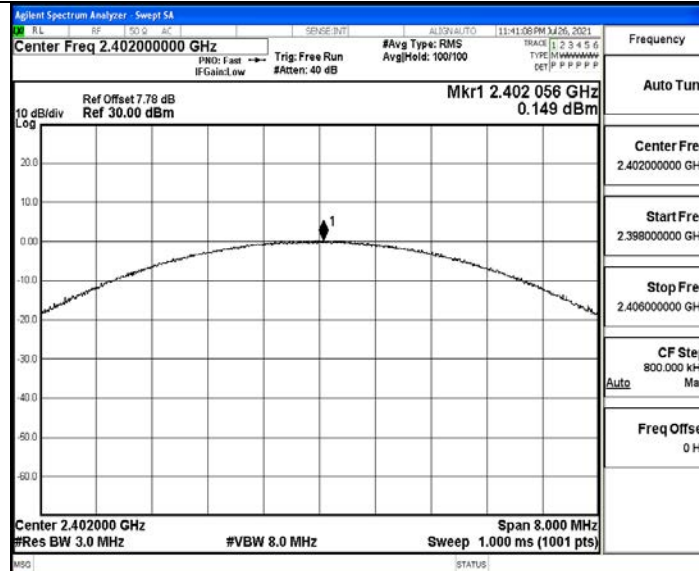
2DH5_Ant1_2441



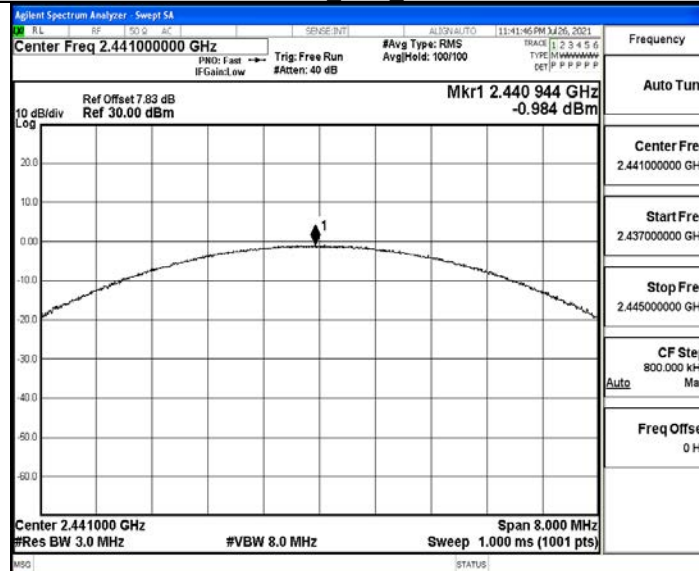
2DH5_Ant1_2480



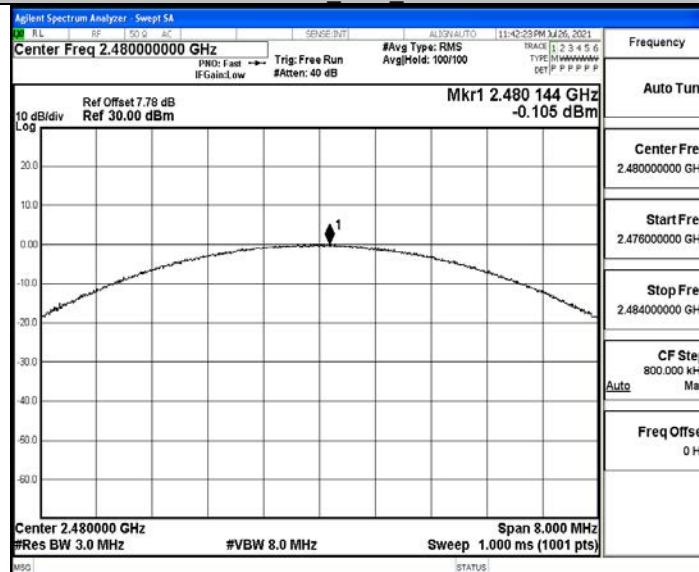
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



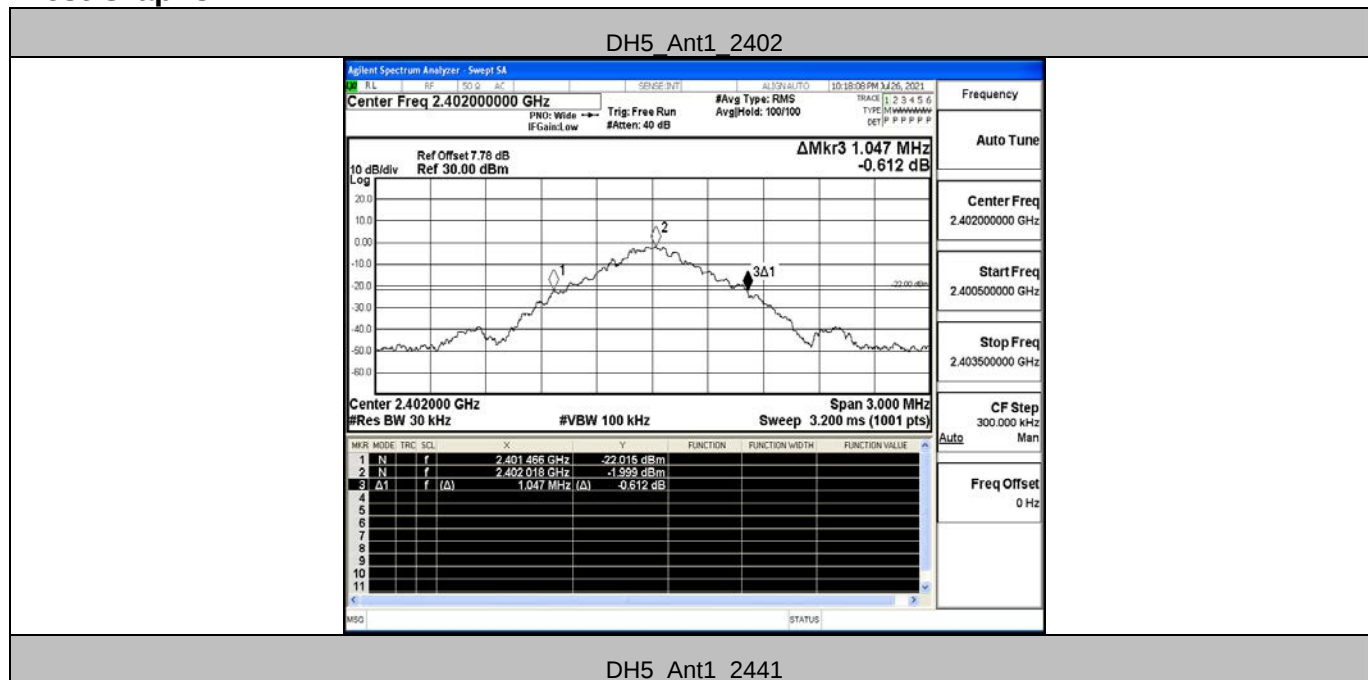


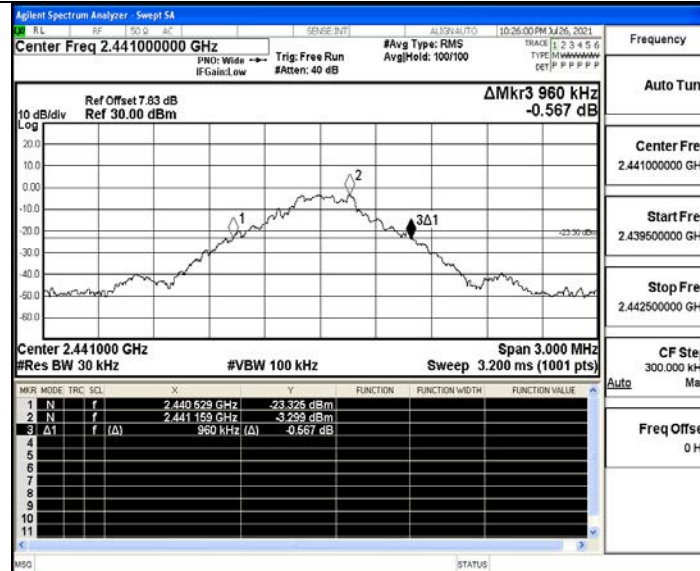
A.2 20dB Bandwidth

Test Result

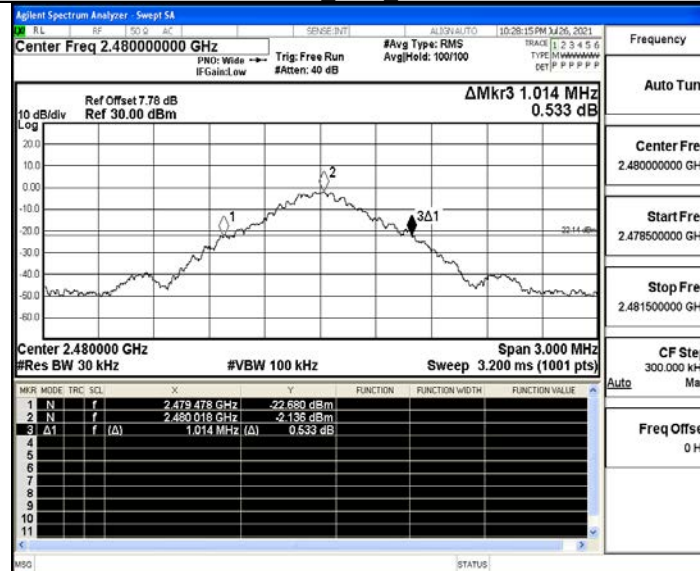
TestMode	Antenna	Channel	20db EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	1.047	2401.466	2402.513	---	PASS
		2441	0.960	2440.529	2441.489	---	PASS
		2480	1.014	2479.478	2480.492	---	PASS
2DH5	Ant1	2402	1.290	2401.364	2402.654	---	PASS
		2441	1.317	2440.343	2441.660	---	PASS
		2480	1.317	2479.337	2480.654	---	PASS
3DH5	Ant1	2402	1.281	2401.364	2402.645	---	PASS
		2441	1.299	2440.352	2441.651	---	PASS
		2480	1.353	2479.319	2480.672	---	PASS

Test Graphs

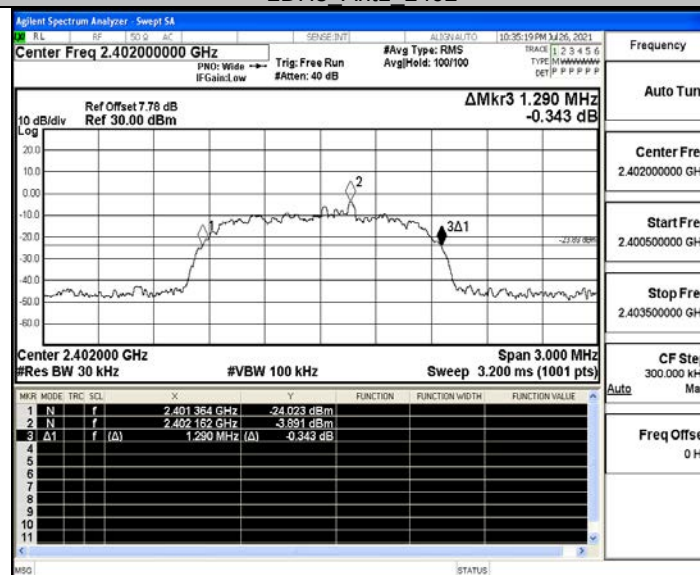




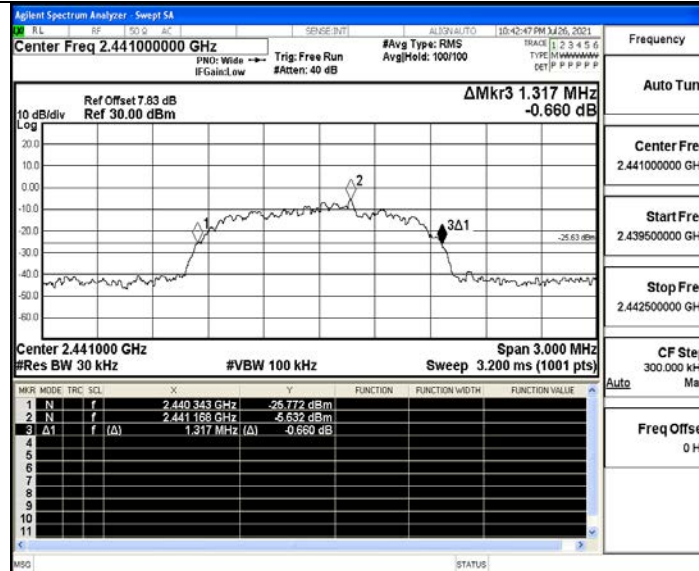
DH5_Ant1_2480



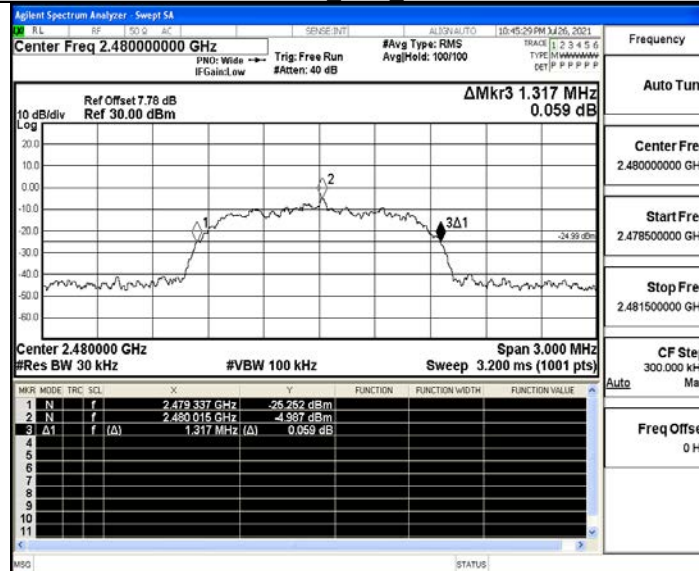
2DH5_Ant1_2402



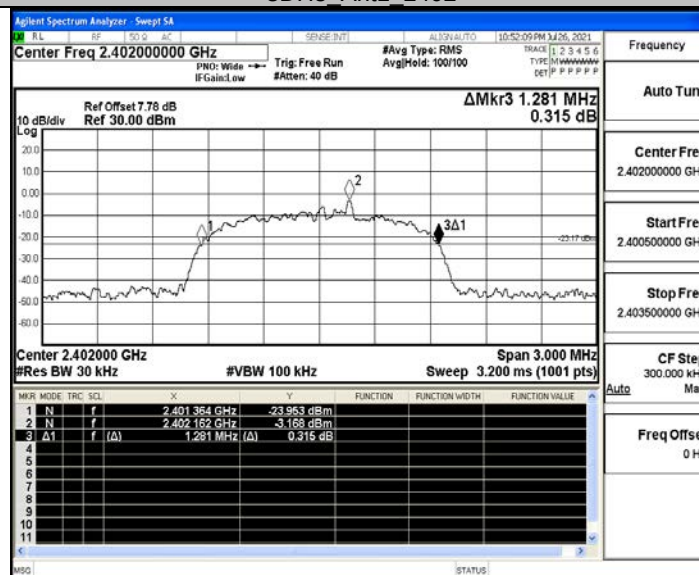
2DH5_Ant1_2441



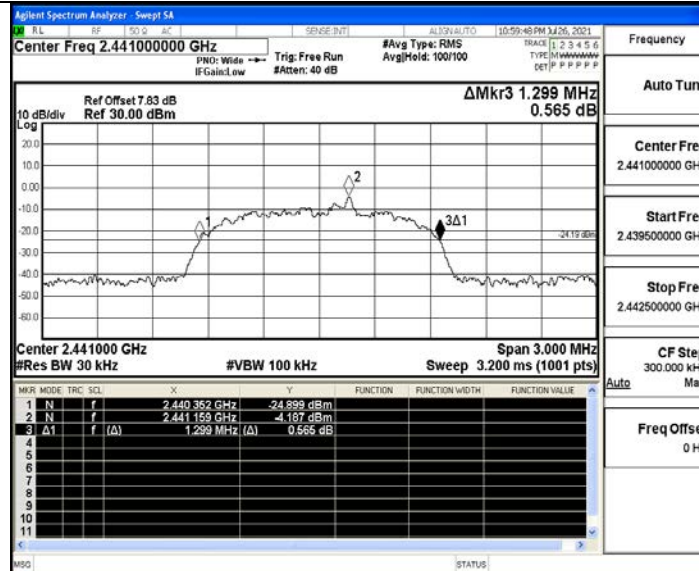
2DH5_Ant1_2480



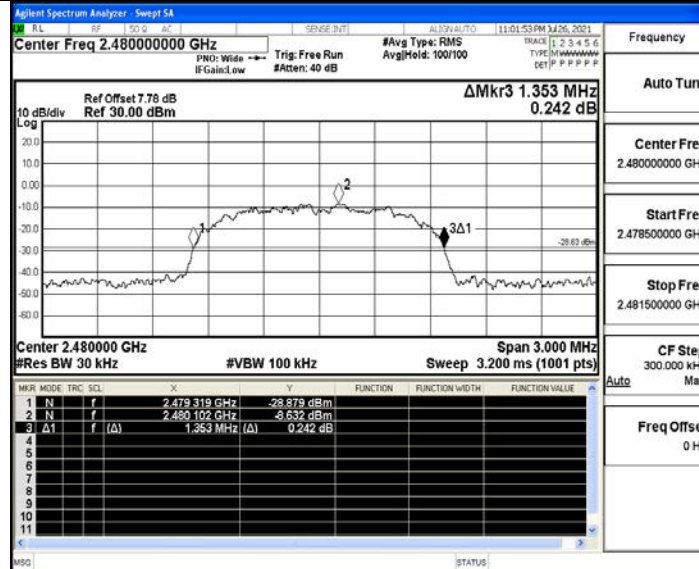
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



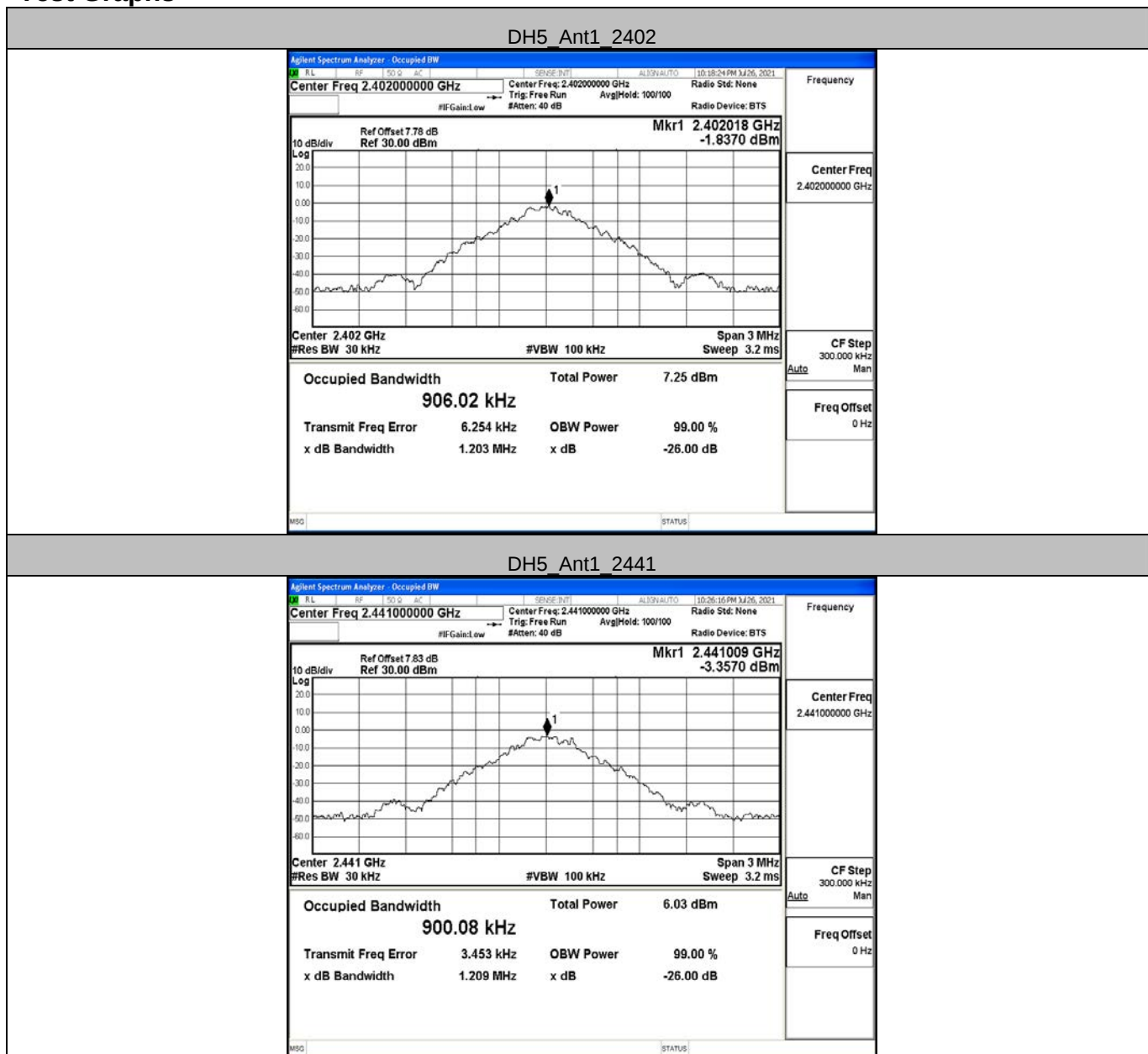


A.3 Occupied Bandwidth

Test Result

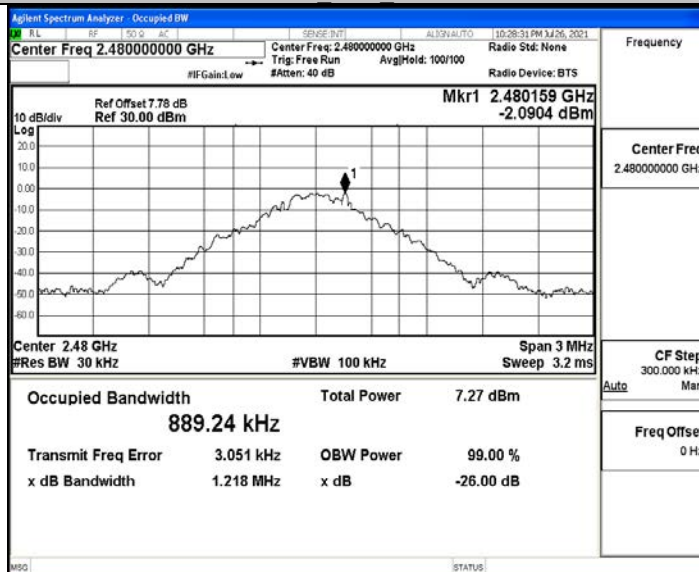
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
DH5	Ant1	2402	0.90602	2401.553	2402.459	---	PASS
		2441	0.90008	2440.553	2441.453	---	PASS
		2480	0.88924	2479.558	2480.448	---	PASS
2DH5	Ant1	2402	1.1778	2401.409	2402.587	---	PASS
		2441	1.2003	2440.400	2441.600	---	PASS
		2480	1.2002	2479.398	2480.598	---	PASS
3DH5	Ant1	2402	1.1913	2401.409	2402.600	---	PASS
		2441	1.2076	2440.392	2441.599	---	PASS
		2480	1.2091	2479.391	2480.600	---	PASS

Test Graphs

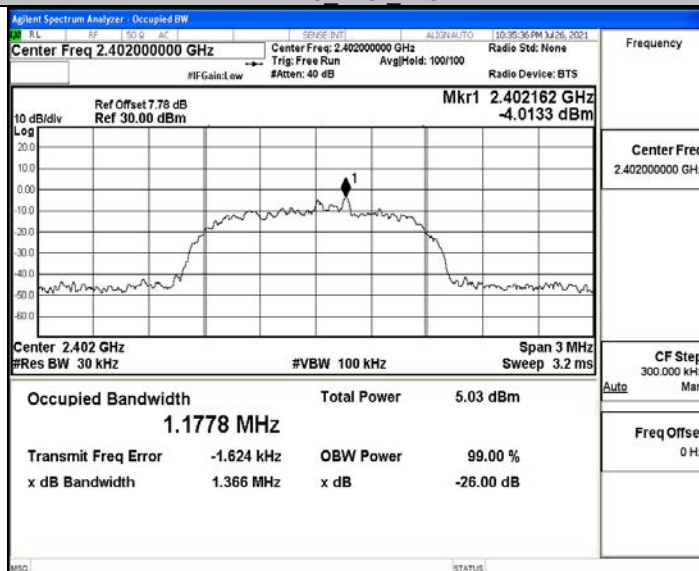




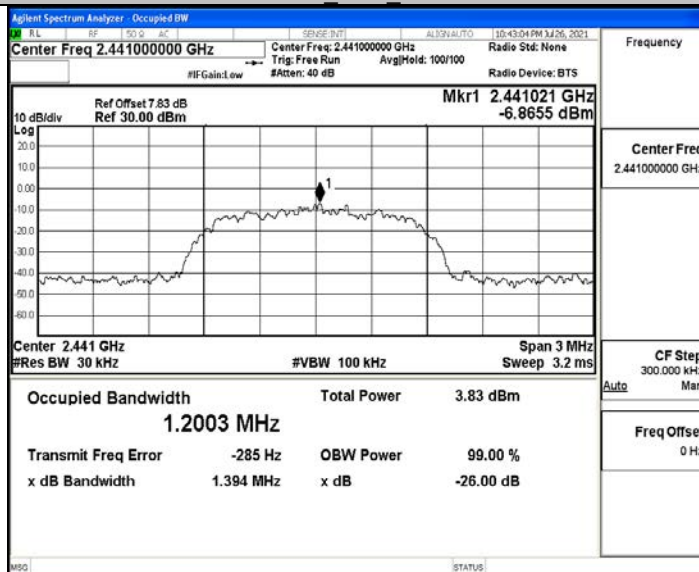
DH5 Ant1 2480



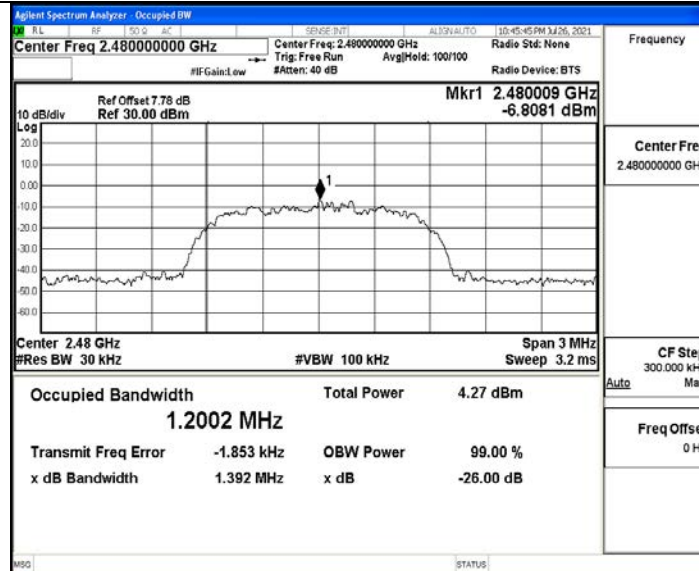
2DH5 Ant1 2402



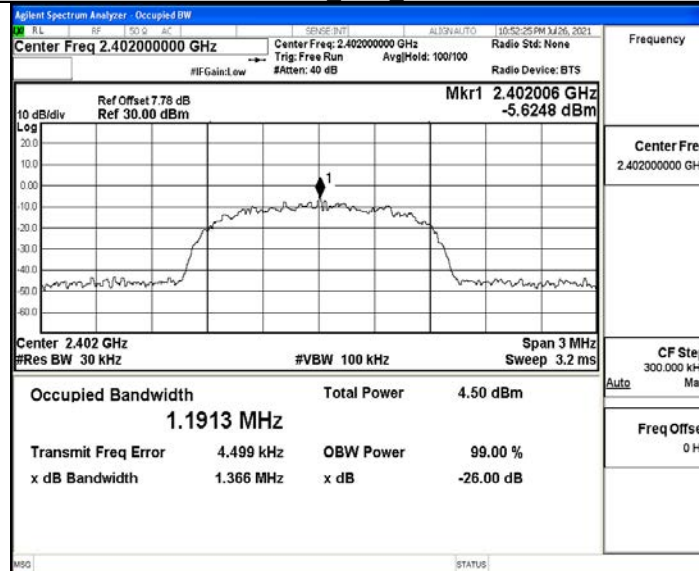
2DH5 Ant1 2441



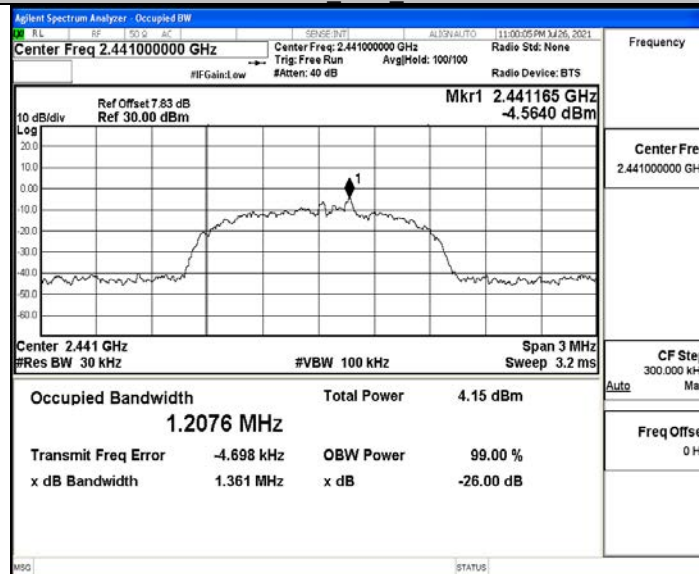
2DH5 Ant1 2480



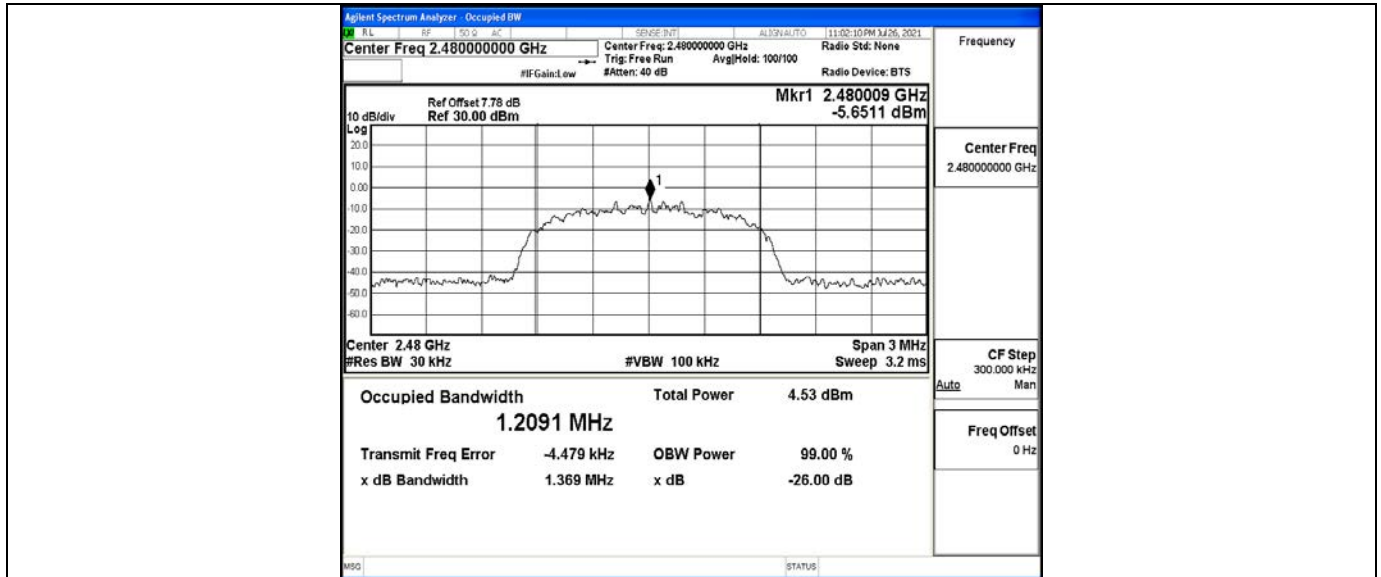
3DH5_Ant1_2402



3DH5_Ant1_2441



3DH5_Ant1_2480



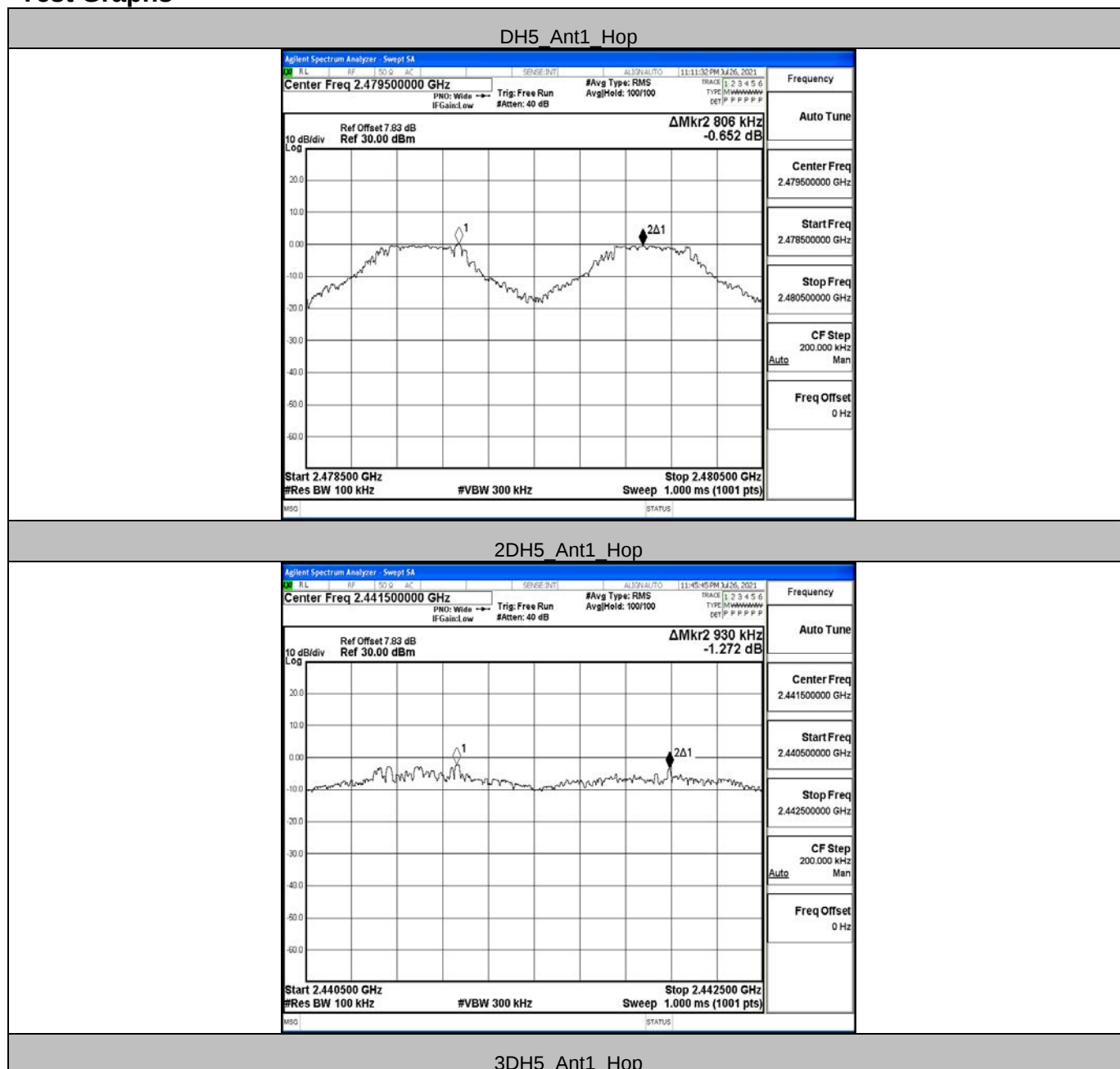


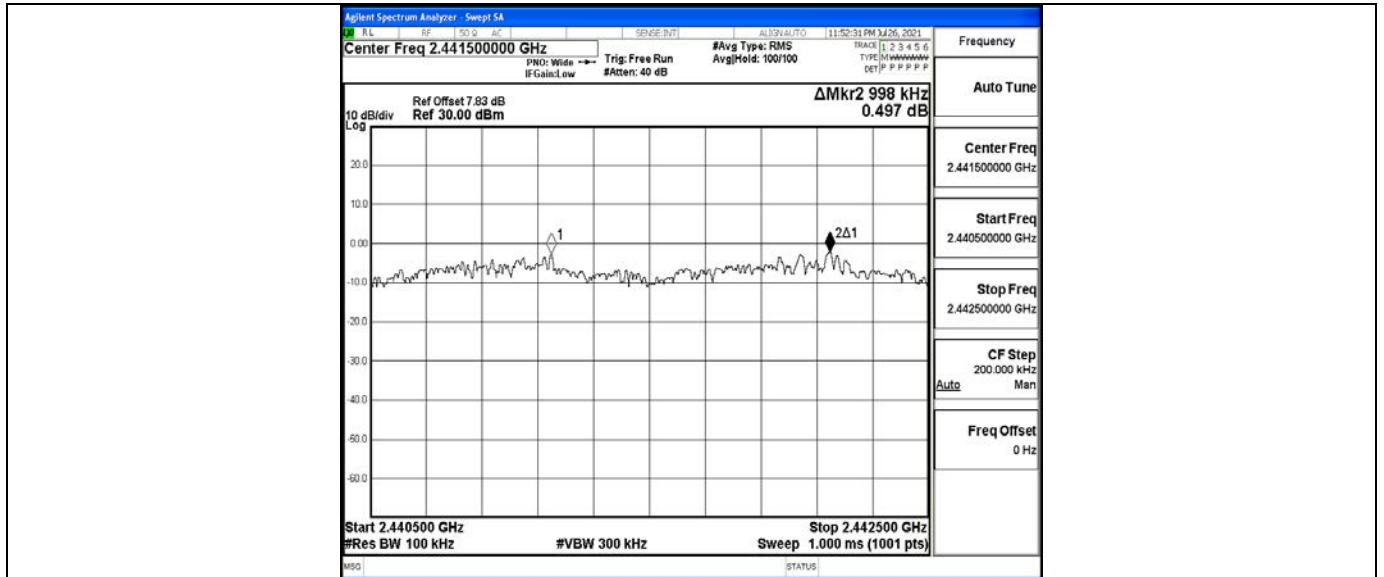
A.4 Carrier Frequency Separation

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
DH5	Ant1	Hop	0.806	≥0.698	PASS
2DH5	Ant1	Hop	0.93	≥0.878	PASS
3DH5	Ant1	Hop	0.998	≥0.902	PASS

Test Graphs







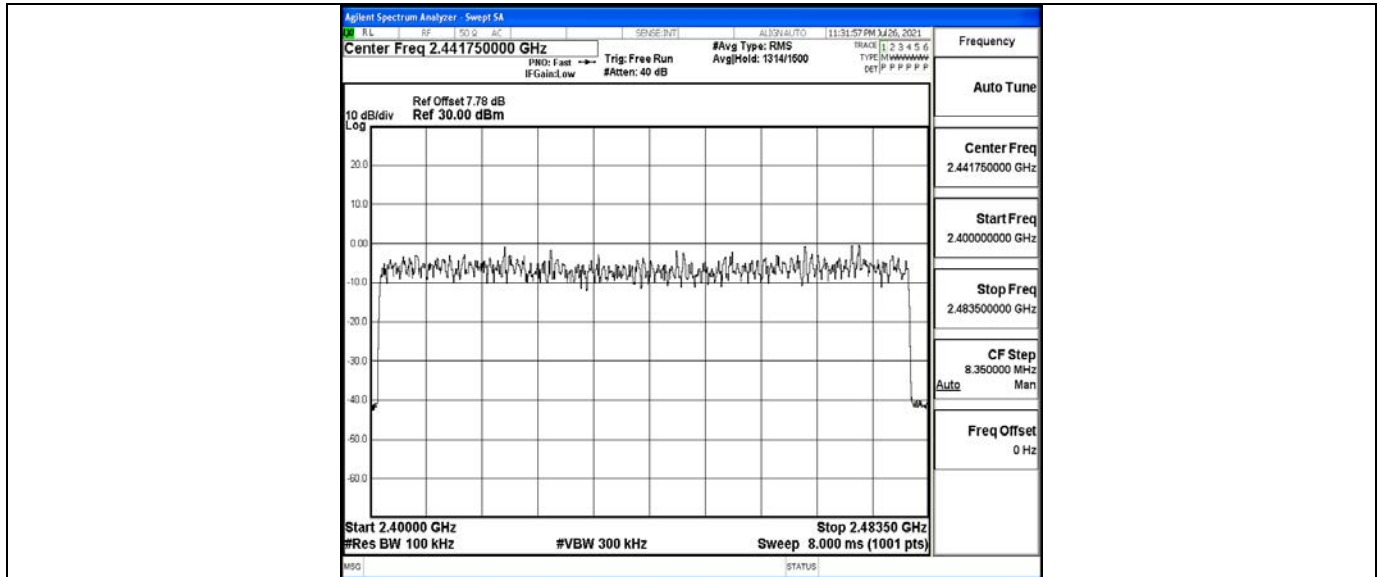
A.5 Hopping Channel Number

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





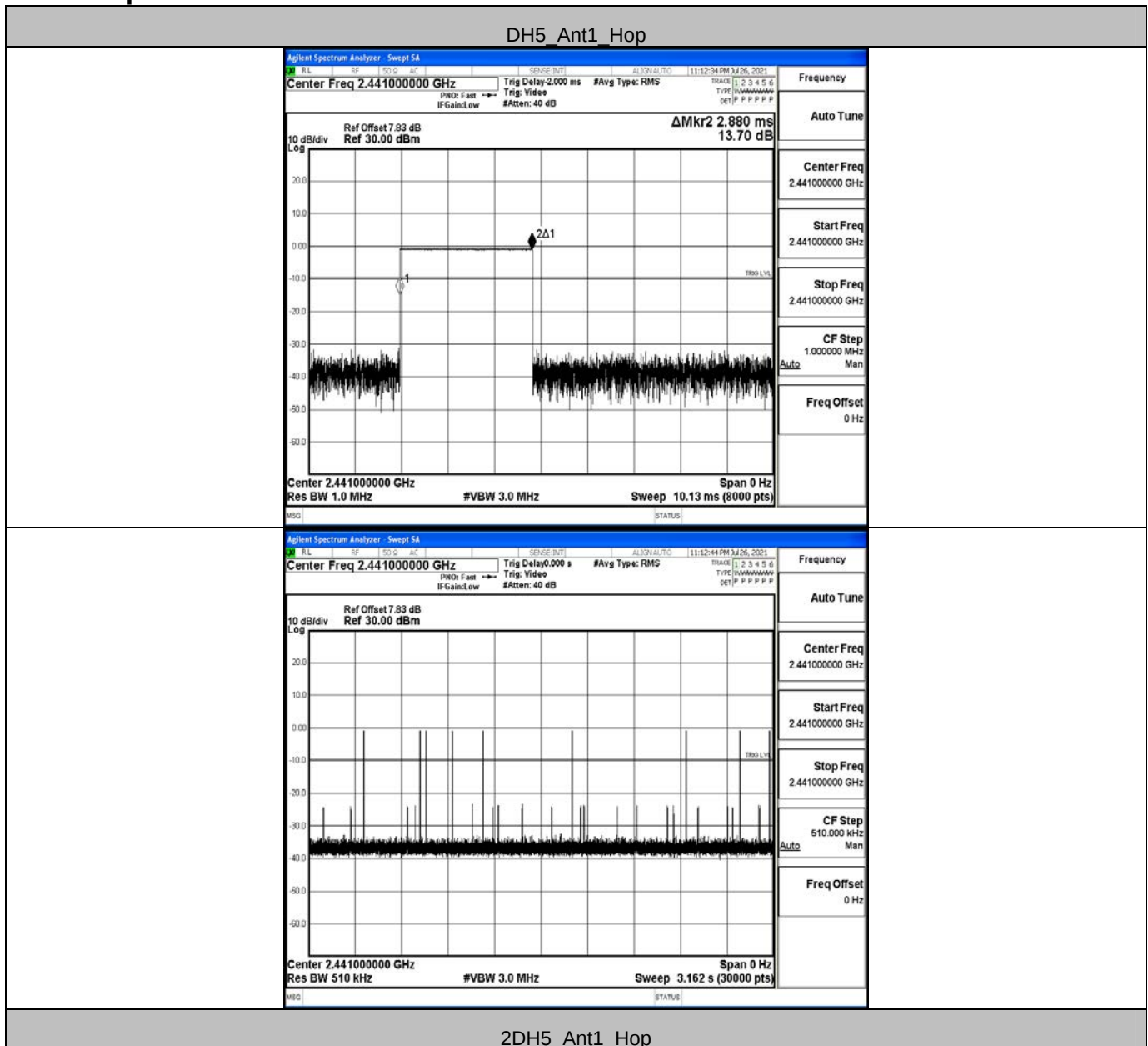


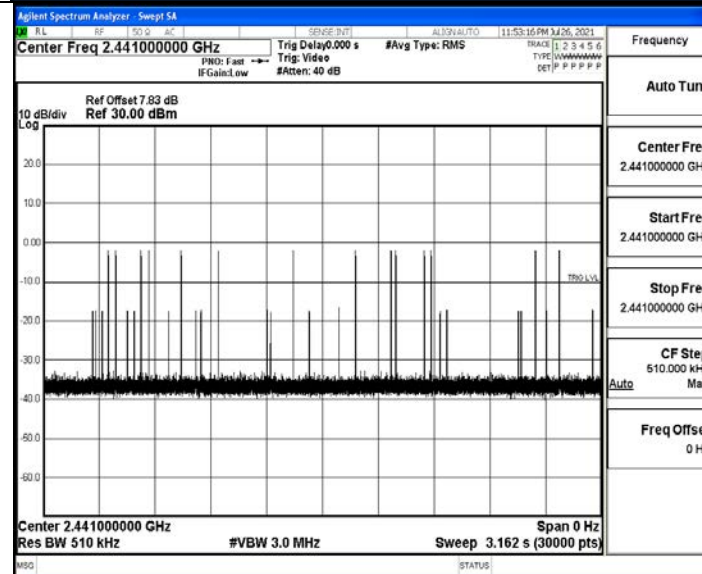
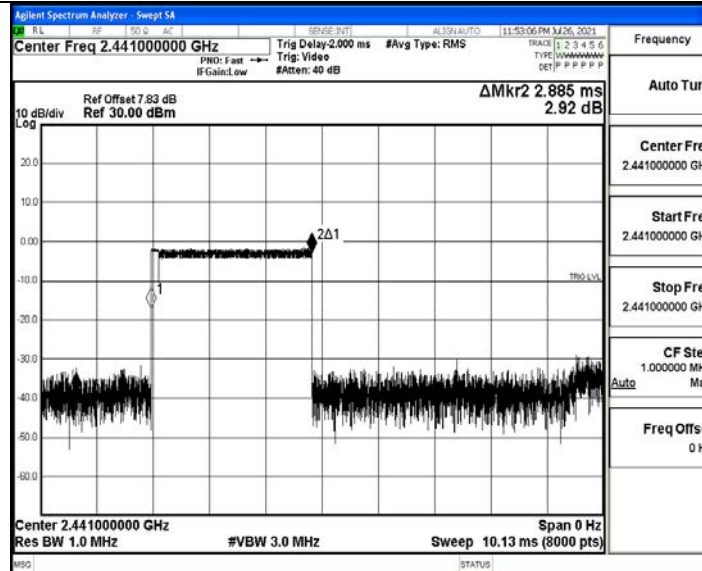
A.6 Dwell Time

Test Result

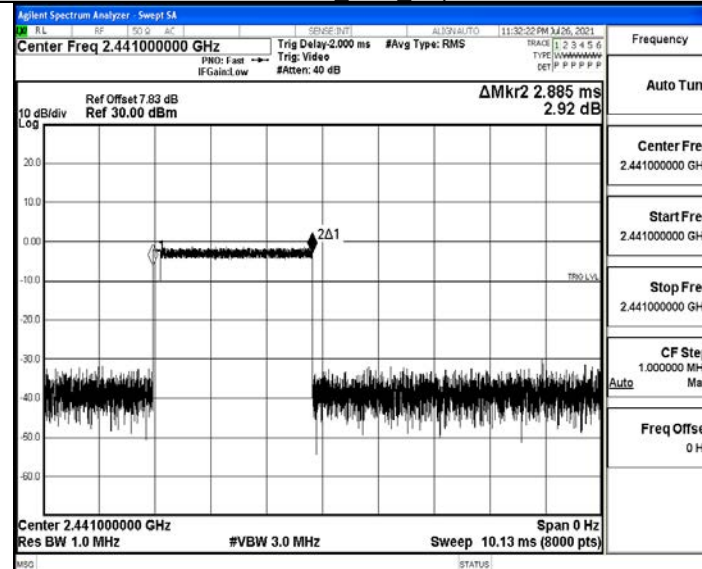
TestMode	Antenna	Channel	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH5	Ant1	Hop	2.88	110	0.317	≤0.4	PASS
2DH5	Ant1	Hop	2.89	110	0.317	≤0.4	PASS
3DH5	Ant1	Hop	2.89	120	0.346	≤0.4	PASS

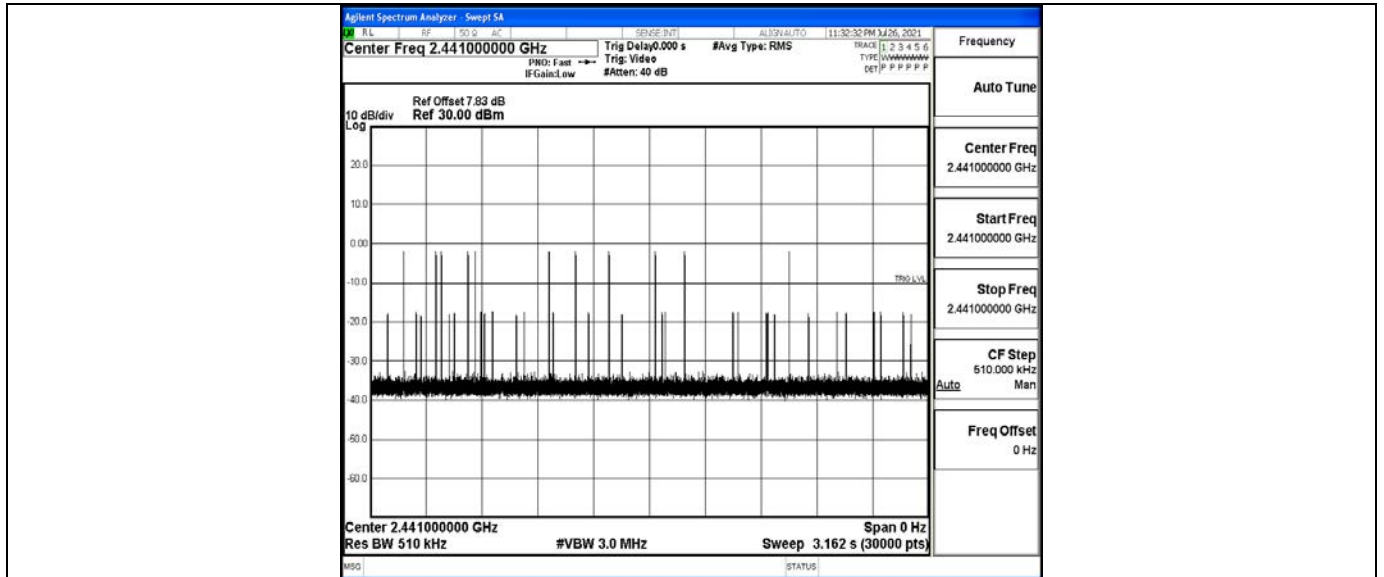
Test Graphs





3DH5_Ant1_Hop







A.7 RF Conducted Spurious Emissions

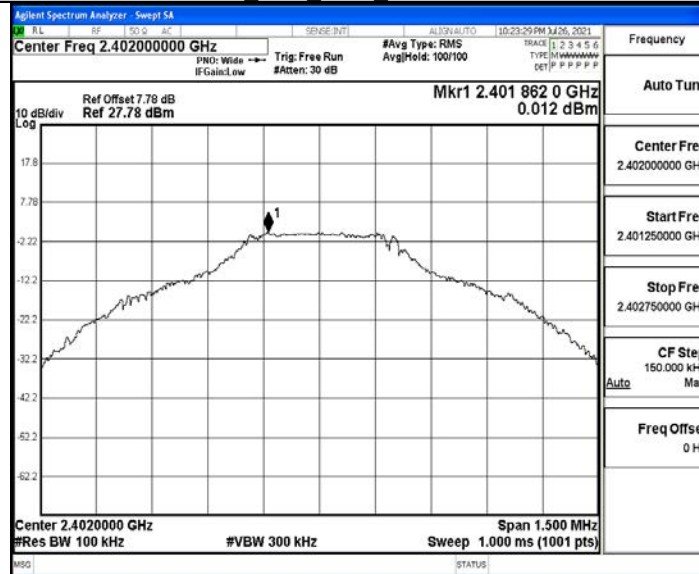
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	2402	Reference	0.01	0.01	---	PASS
			30~1000	0.01	-57.76	≤-19.99	PASS
			1000~26500	0.01	-46.94	≤-19.99	PASS
		2441	Reference	-1.46	-1.46	---	PASS
			30~1000	-1.46	-58.29	≤-21.46	PASS
			1000~26500	-1.46	-46.17	≤-21.46	PASS
		2480	Reference	0.14	0.14	---	PASS
			30~1000	0.14	-56.92	≤-19.86	PASS
			1000~26500	0.14	-47	≤-19.86	PASS
2DH5	Ant1	2402	Reference	-2.03	-2.03	---	PASS
			30~1000	-2.03	-57.75	≤-22.03	PASS
			1000~26500	-2.03	-47.22	≤-22.03	PASS
		2441	Reference	-2.29	-2.29	---	PASS
			30~1000	-2.29	-58.84	≤-22.29	PASS
			1000~26500	-2.29	-47.7	≤-22.29	PASS
		2480	Reference	-1.58	-1.58	---	PASS
			30~1000	-1.58	-57.64	≤-21.58	PASS
			1000~26500	-1.58	-46.44	≤-21.58	PASS
3DH5	Ant1	2402	Reference	-4.13	-4.13	---	PASS
			30~1000	-4.13	-57.23	≤-24.13	PASS
			1000~26500	-4.13	-46.96	≤-24.13	PASS
		2441	Reference	-2.86	-2.86	---	PASS
			30~1000	-2.86	-58.02	≤-22.86	PASS
			1000~26500	-2.86	-47.22	≤-22.86	PASS
		2480	Reference	-3.53	-3.53	---	PASS
			30~1000	-3.53	-58.42	≤-23.53	PASS
			1000~26500	-3.53	-48.03	≤-23.53	PASS

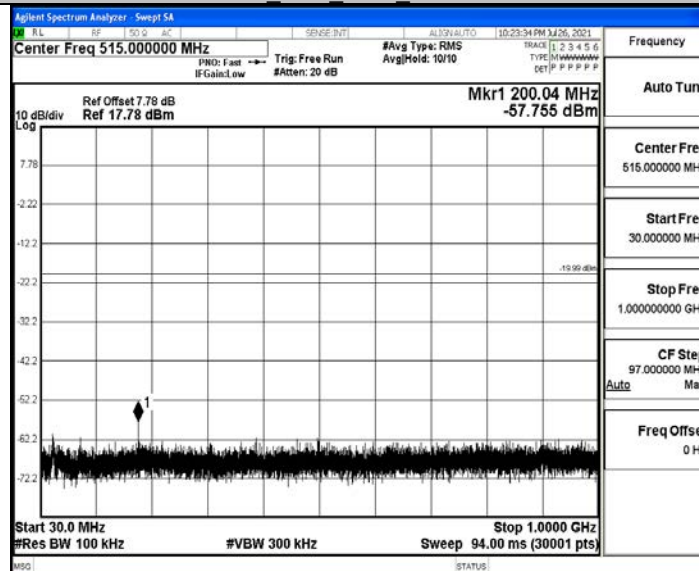


Test Graphs

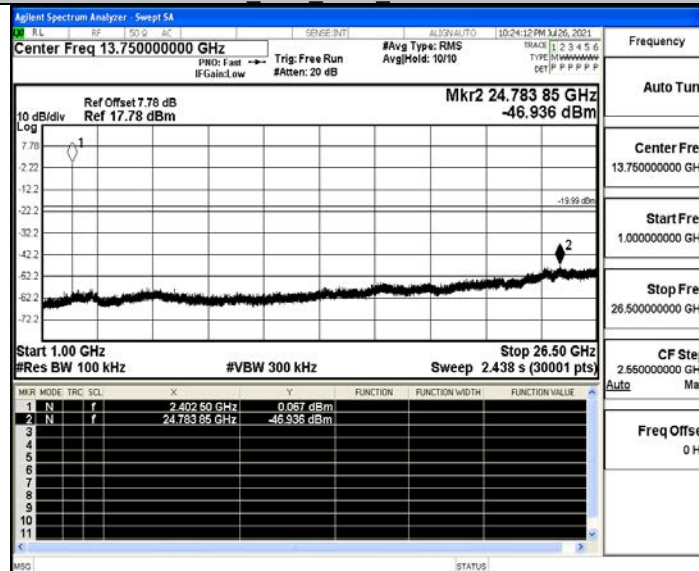
DH5_Ant1_2402_0-Reference



DH5_Ant1_2402_30-1000

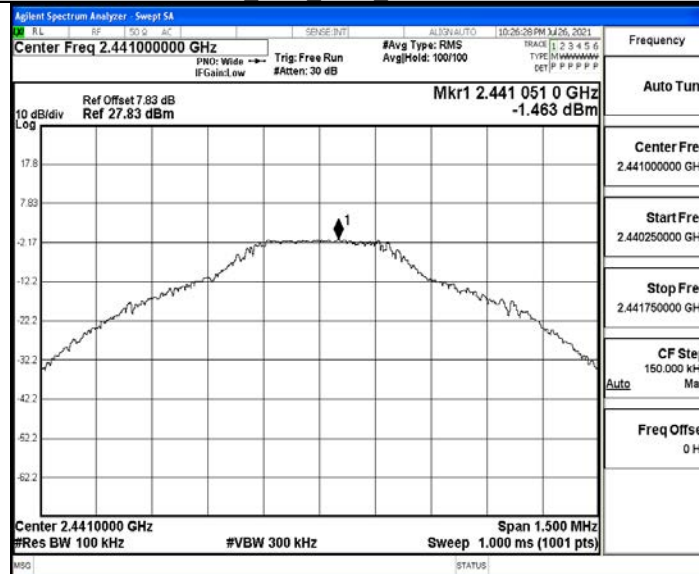


DH5_Ant1_2402_1000-26500

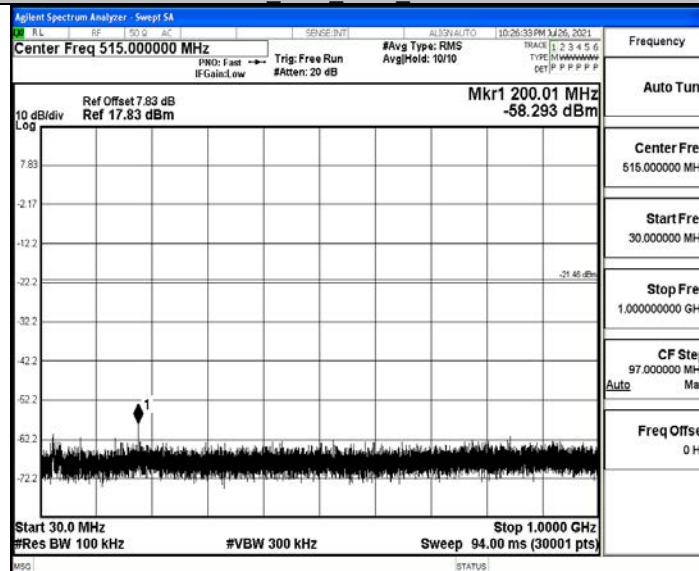




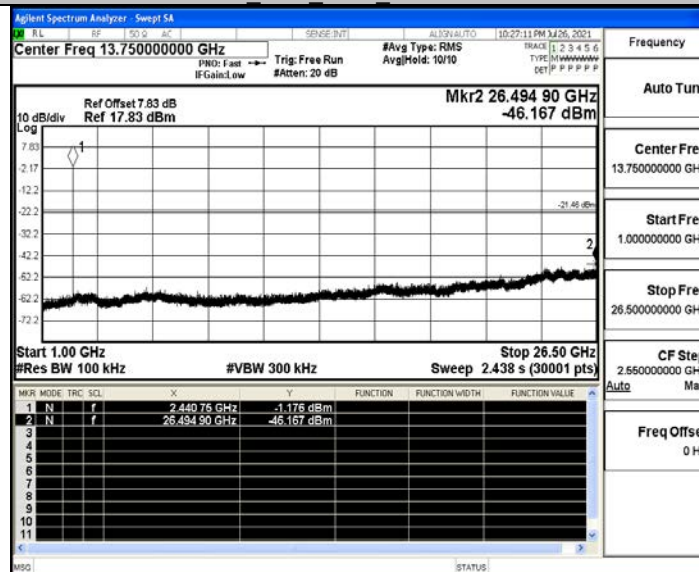
DH5_Ant1_2441_0-Reference



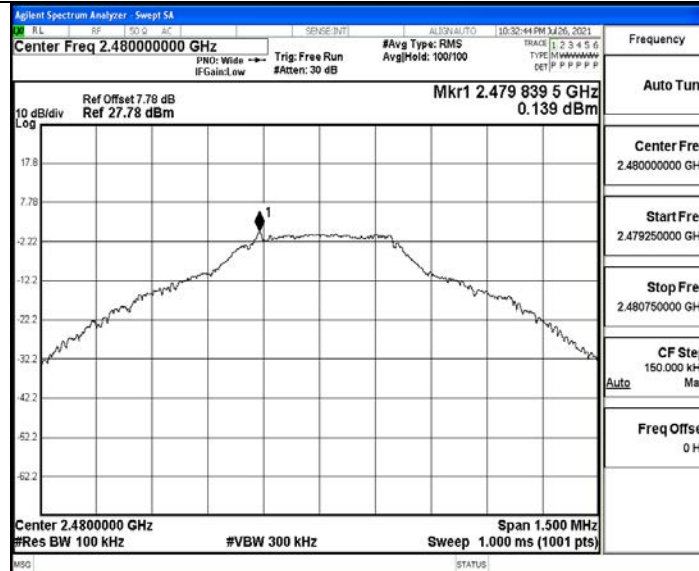
DH5_Ant1_2441_30-1000



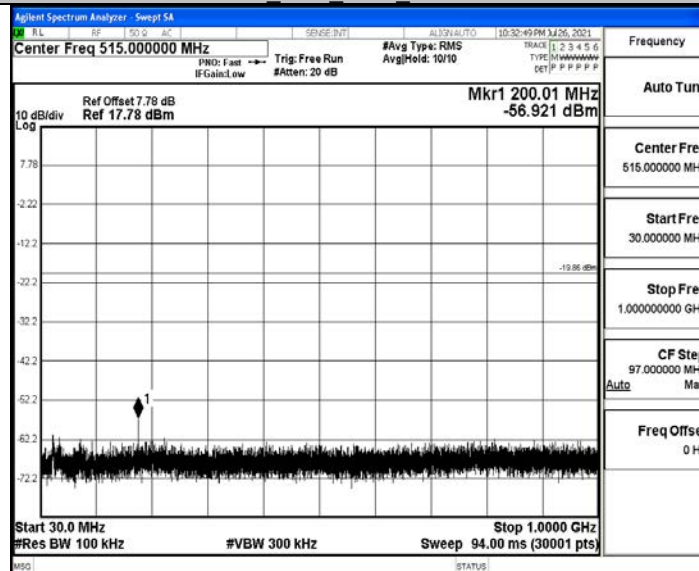
DH5_Ant1_2441_1000-26500



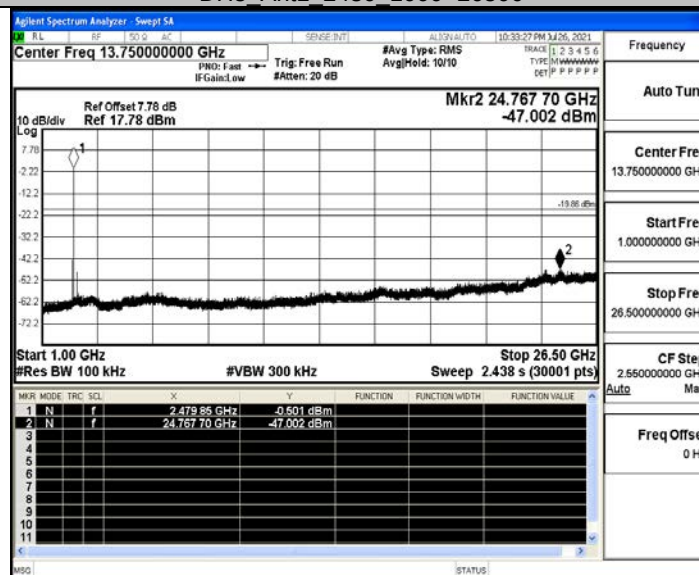
DH5_Ant1_2480_0-Reference



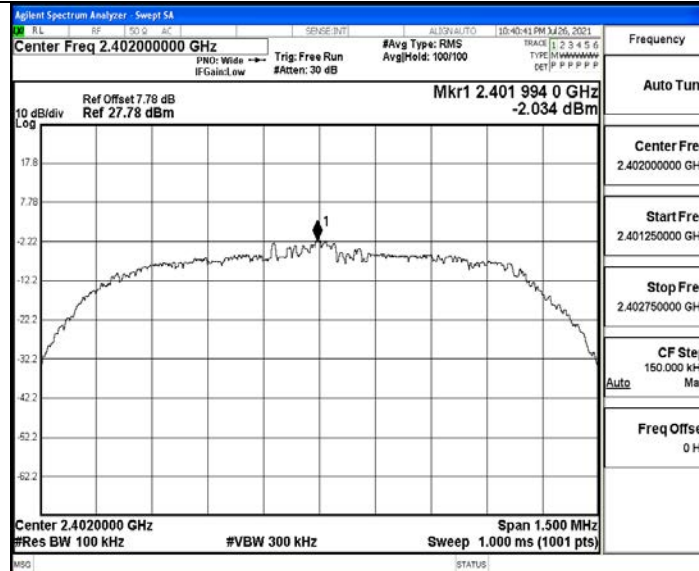
DH5_Ant1_2480_30~1000



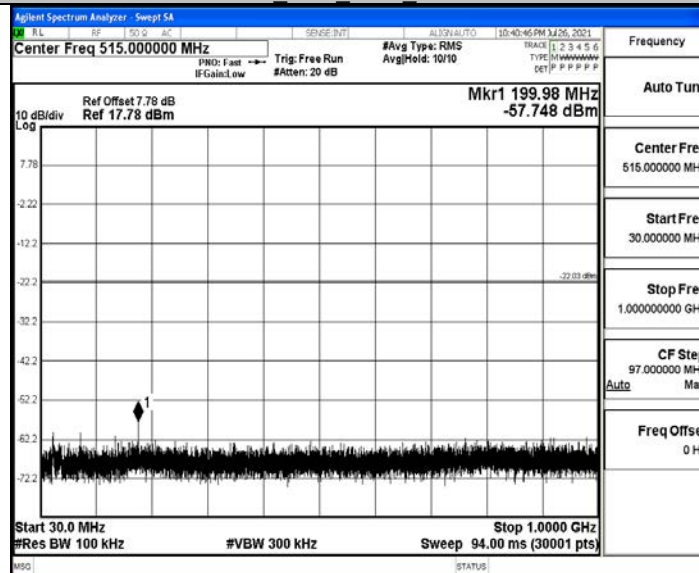
DH5_Ant1_2480_1000~26500



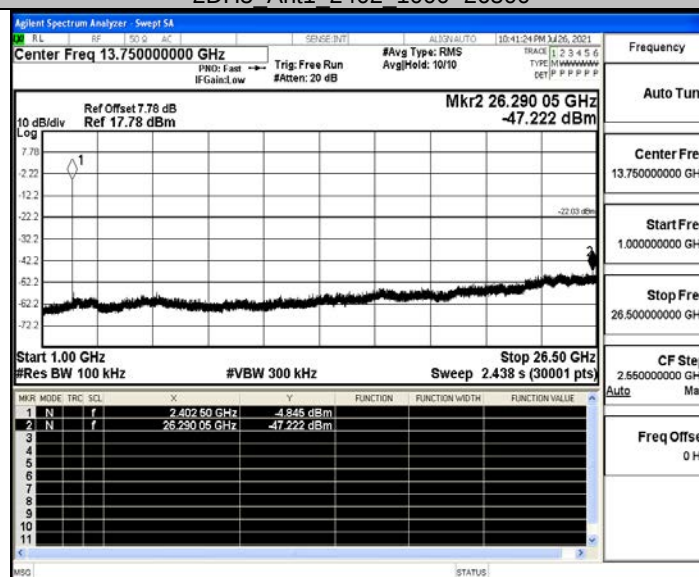
2DH5_Ant1_2402_0~Reference



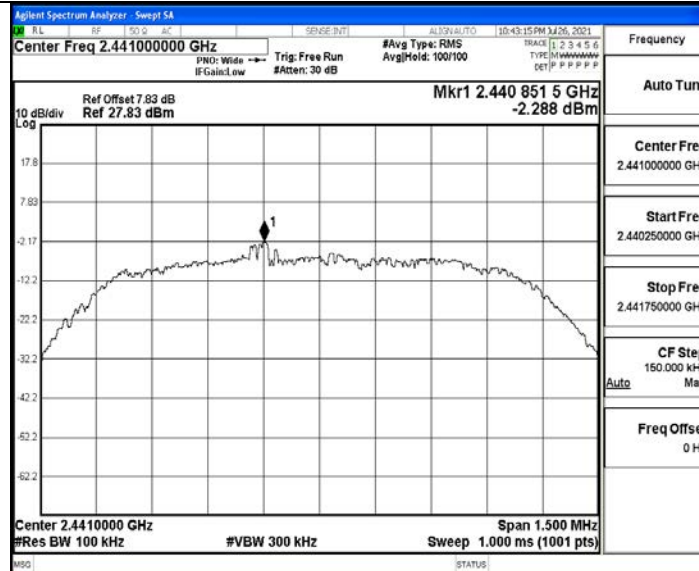
2DH5_Ant1_2402_30~1000



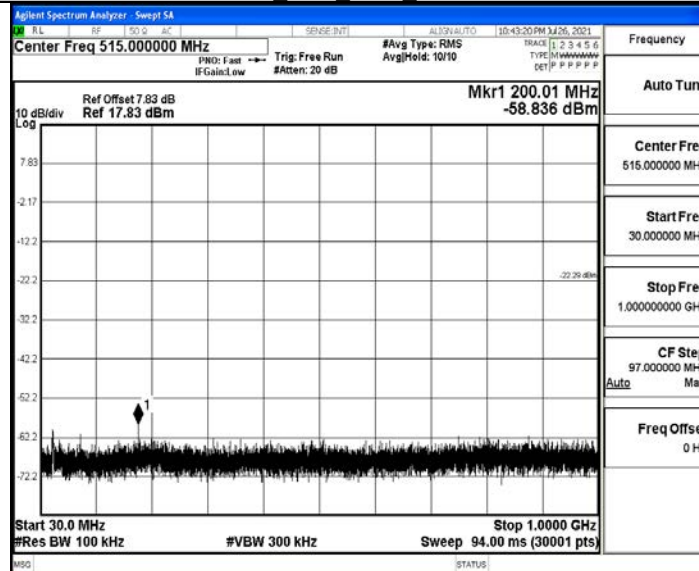
2DH5_Ant1_2402_1000~26500



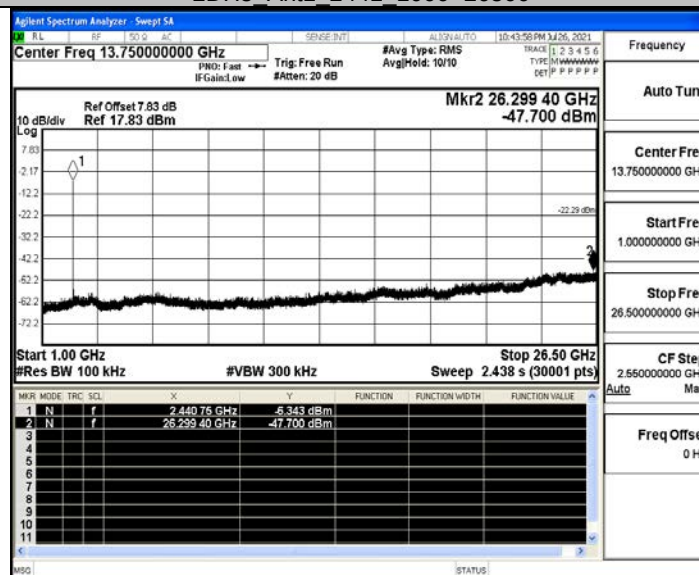
2DH5_Ant1_2441_0~Reference



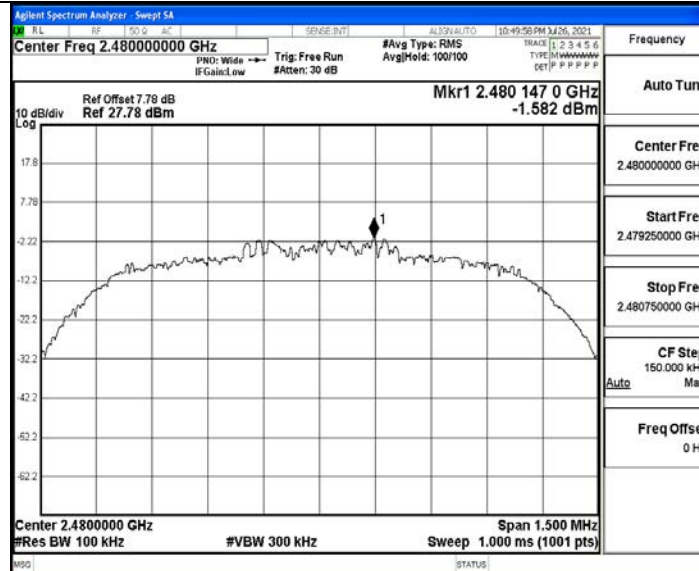
2DH5 Ant1 2441 30~1000



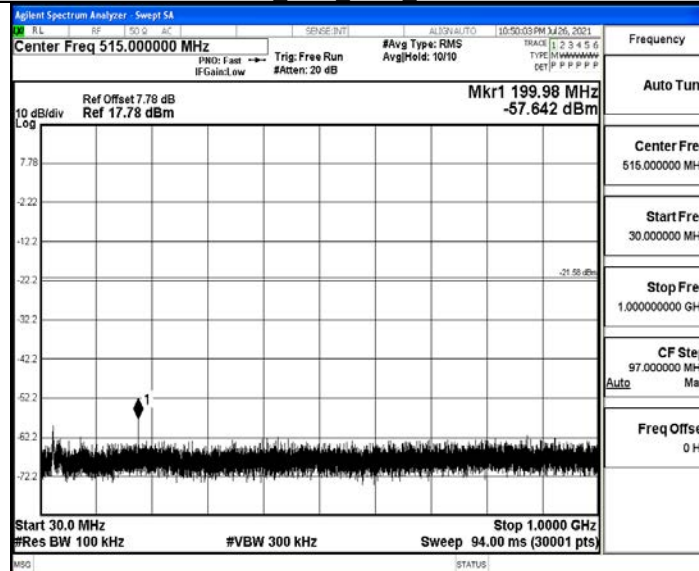
2DH5 Ant1 2441 1000~26500



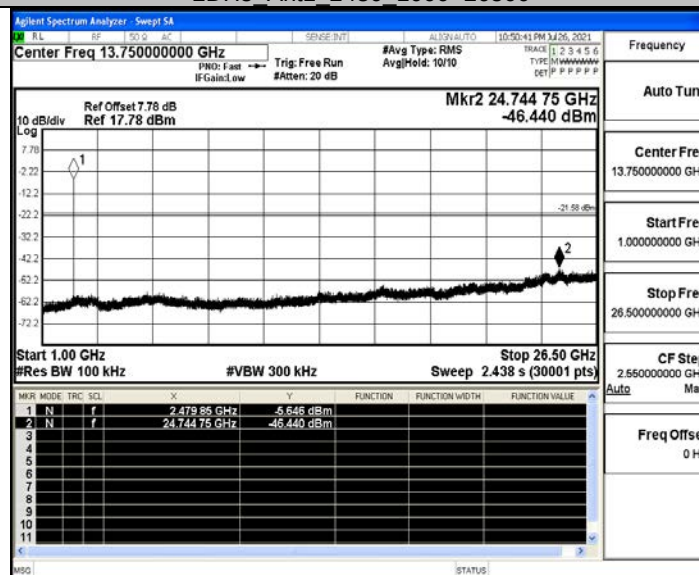
2DH5 Ant1 2480 0~Reference



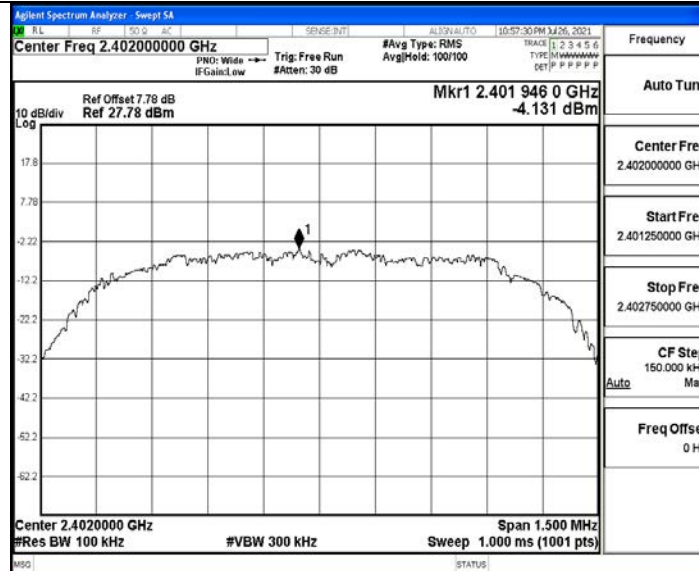
2DH5 Ant1 2480 30~1000



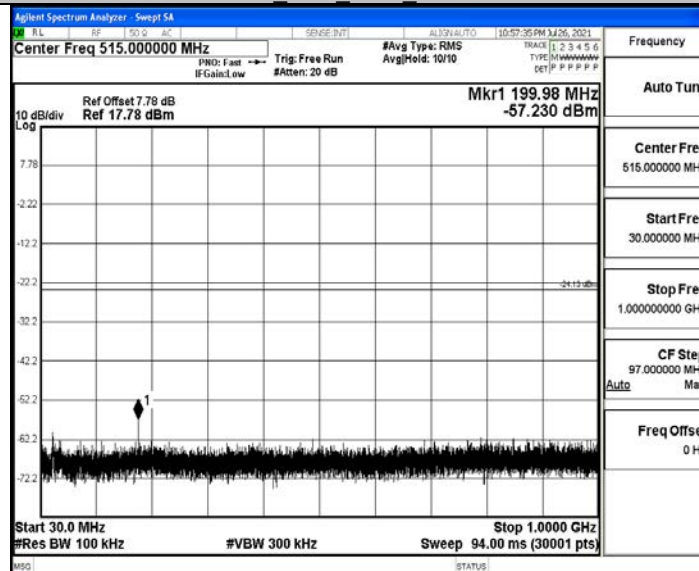
2DH5 Ant1 2480 1000~26500



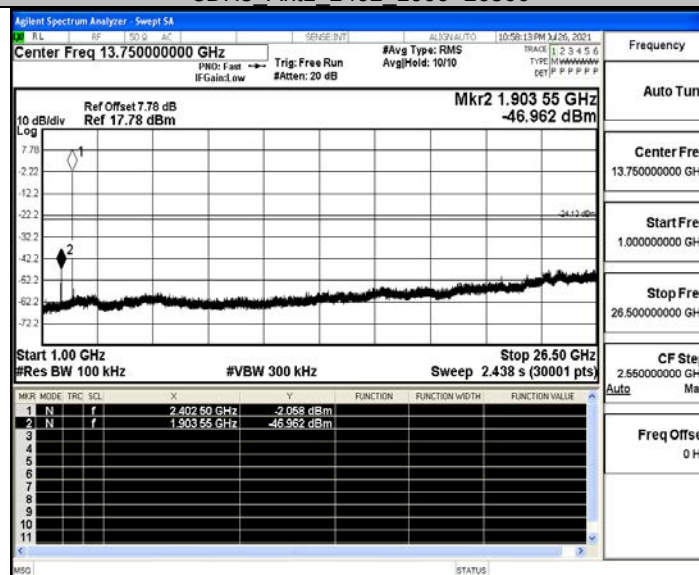
3DH5 Ant1 2402 0~Reference



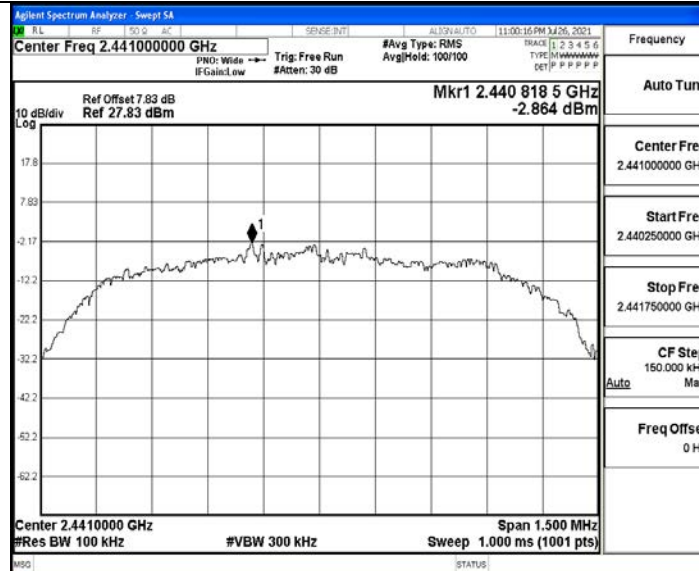
3DH5_Ant1_2402_30~1000



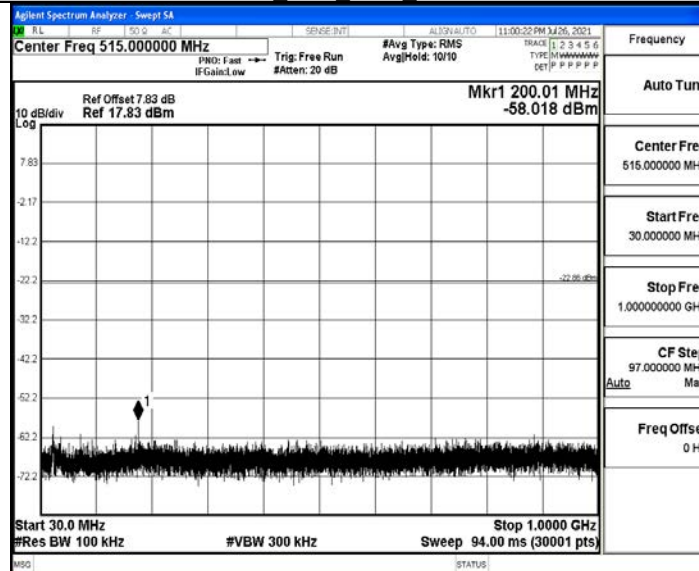
3DH5_Ant1_2402_1000~26500



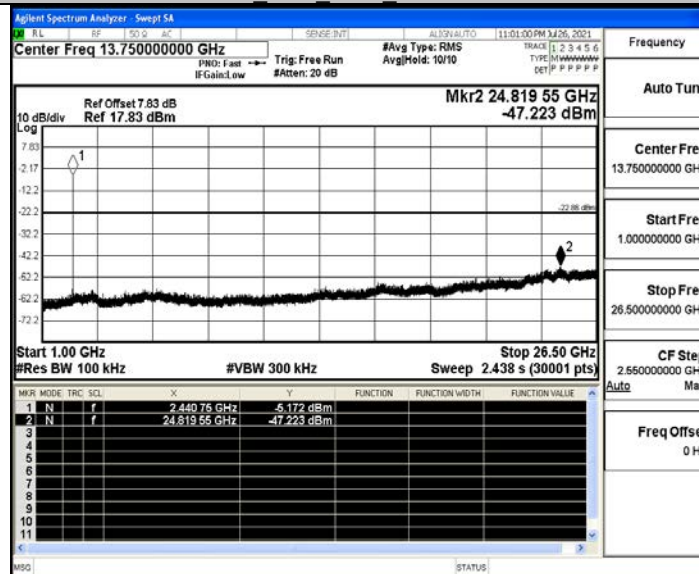
3DH5_Ant1_2441_0~Reference



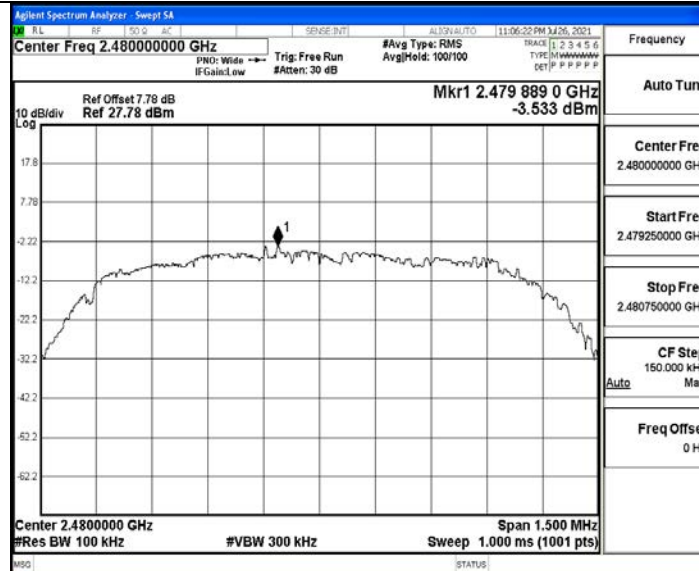
3DH5 Ant1 2441 30~1000



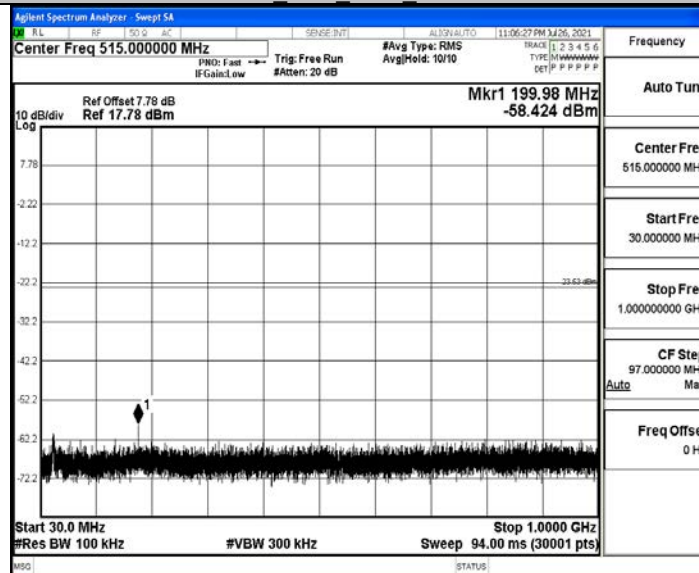
3DH5 Ant1 2441 1000~26500



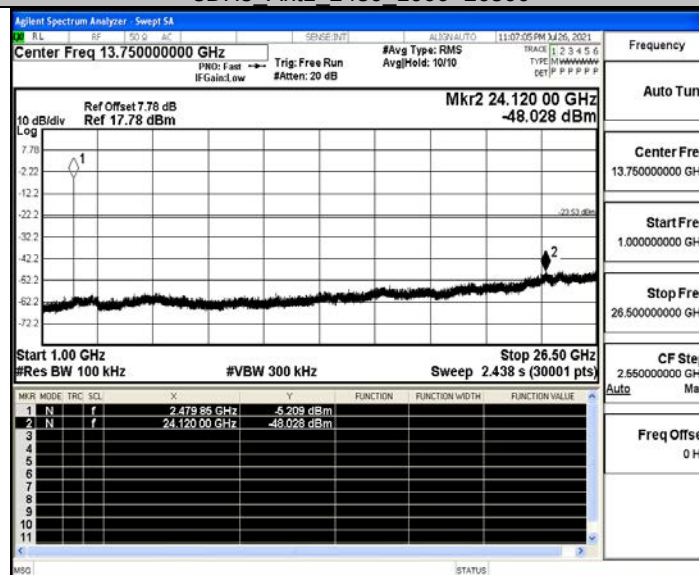
3DH5 Ant1 2480 0~Reference



3DH5 Ant1 2480 30~1000



3DH5 Ant1 2480 1000~26500





A.8 Band-edge for RF Conducted Emissions

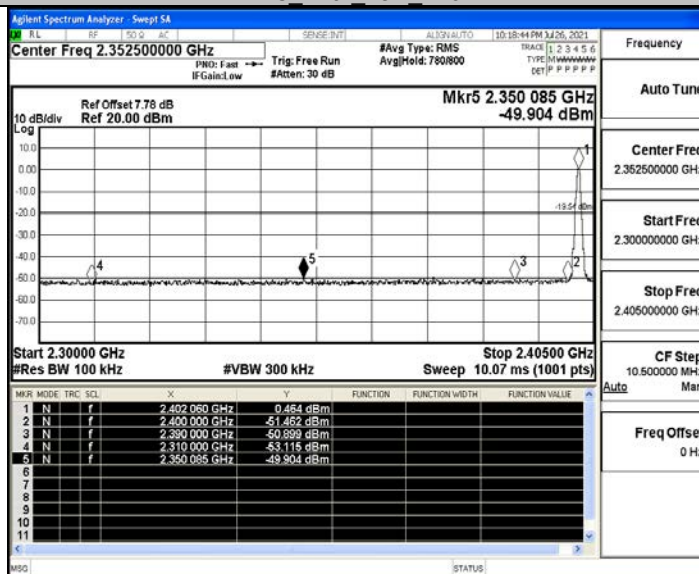
Test Result

TestMode	Antenna	ChName	Channel	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
DH5	Ant1	Low	2402	0.46	-49.9	≤ -19.54	PASS
		High	2480	0.14	-48.68	≤ -19.86	PASS
		Low	Hop_2402	0.32	-49.79	≤ -19.68	PASS
		High	Hop_2480	0.73	-47.52	≤ -19.27	PASS
2DH5	Ant1	Low	2402	-1.07	-49.1	≤ -21.07	PASS
		High	2480	-1.26	-48.75	≤ -21.26	PASS
		Low	Hop_2402	-5.36	-49.23	≤ -25.36	PASS
		High	Hop_2480	-0.90	-47.92	≤ -20.9	PASS
3DH5	Ant1	Low	2402	-1.24	-49.19	≤ -21.24	PASS
		High	2480	-1.38	-47.61	≤ -21.38	PASS
		Low	Hop_2402	-4.49	-49.16	≤ -24.49	PASS
		High	Hop_2480	-2.03	-48.42	≤ -22.03	PASS

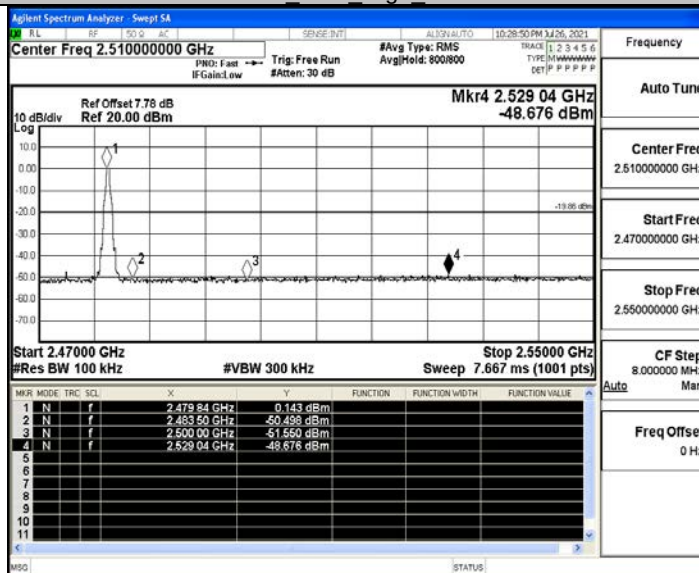


Test Graphs

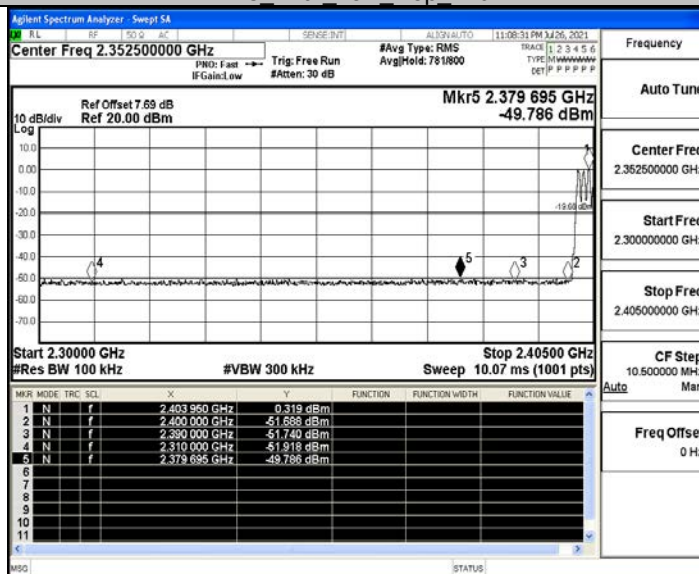
DH5_Ant1_Low_2402



DH5_Ant1_High_2480

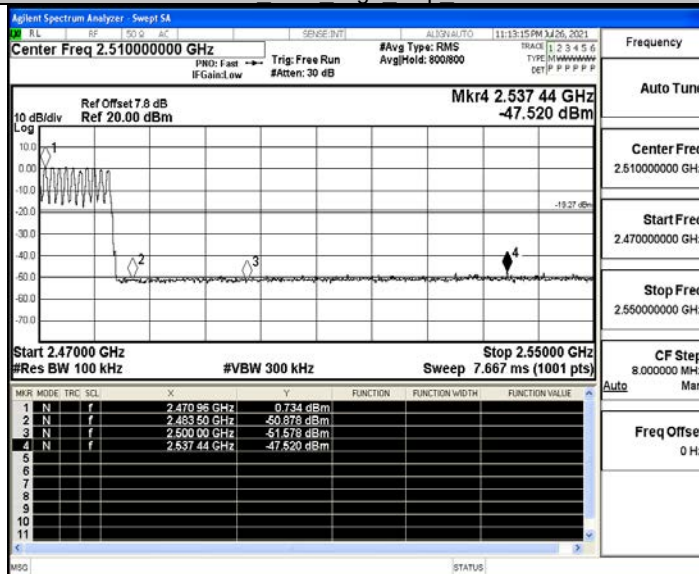


DH5_Ant1_Low_Hop_2402

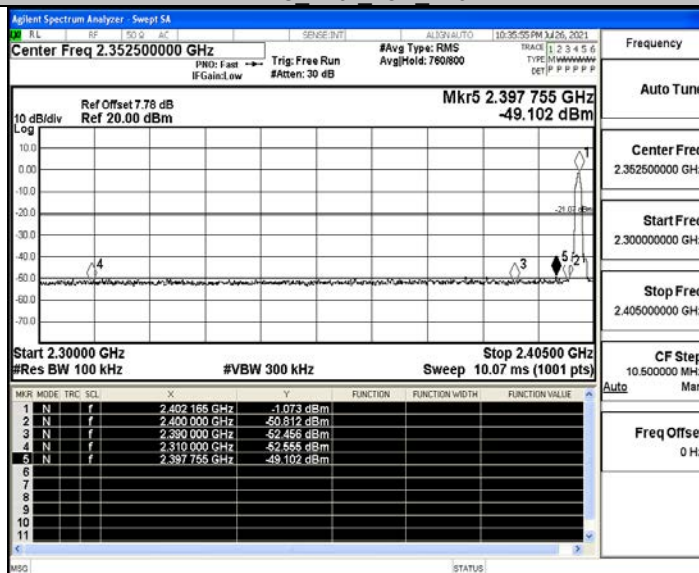




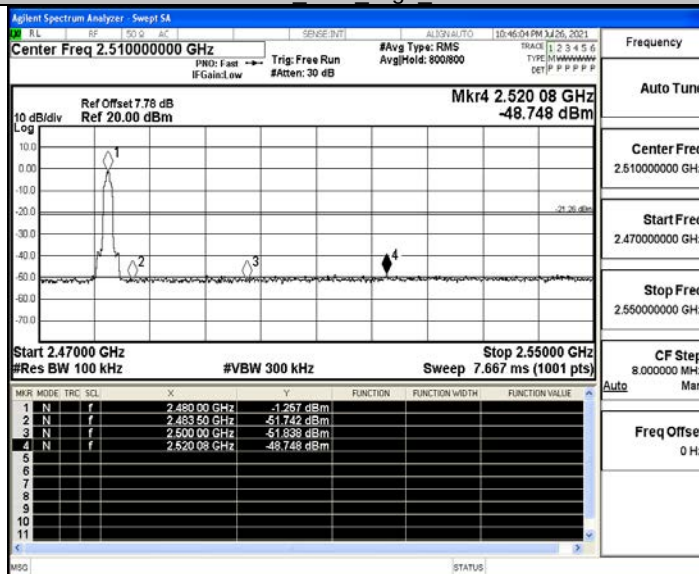
DH5 Ant1 High Hop 2480



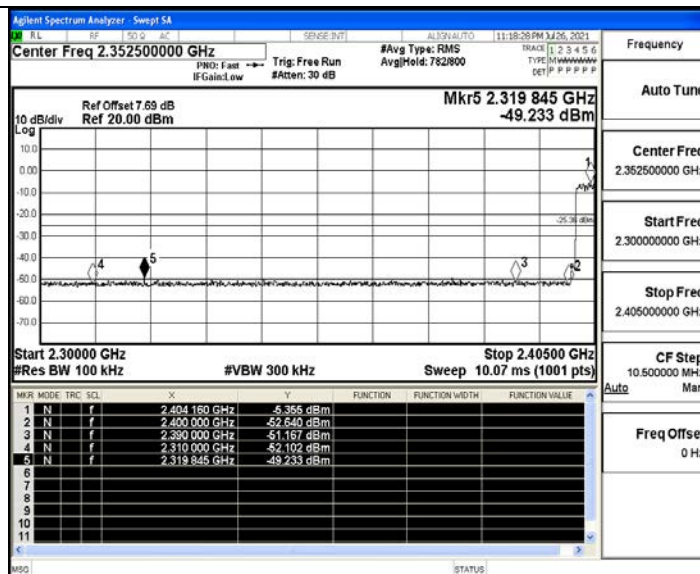
2DH5 Ant1 Low 2402



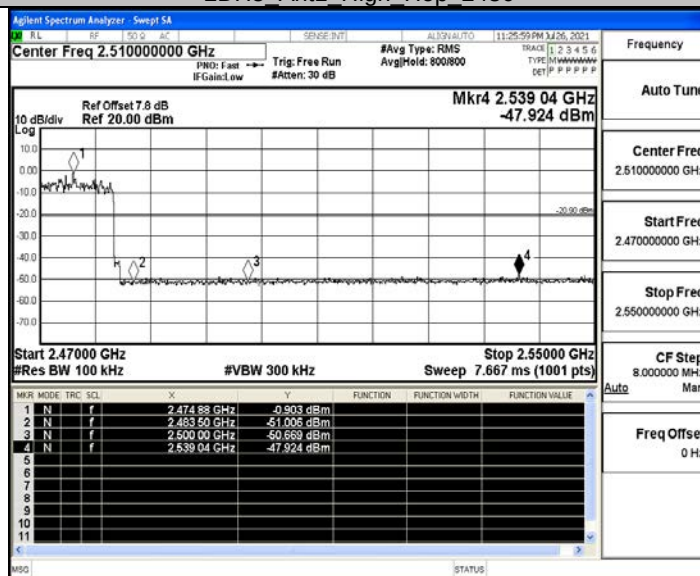
2DH5 Ant1 High 2480



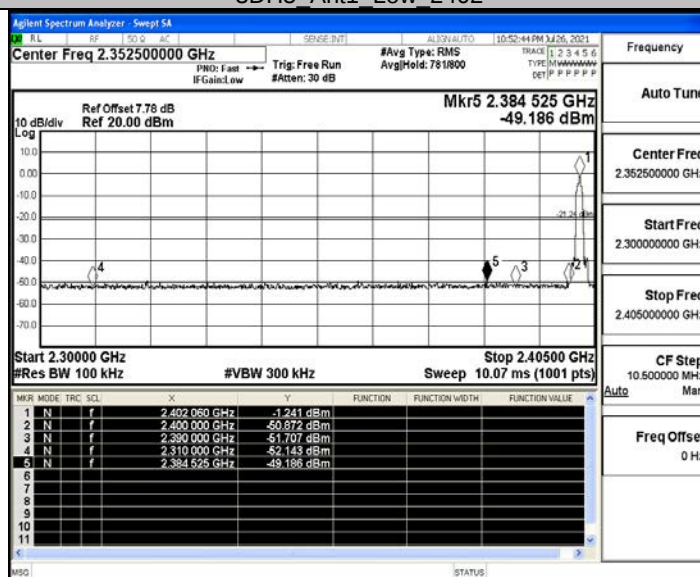
2DH5 Ant1 Low Hop 2402



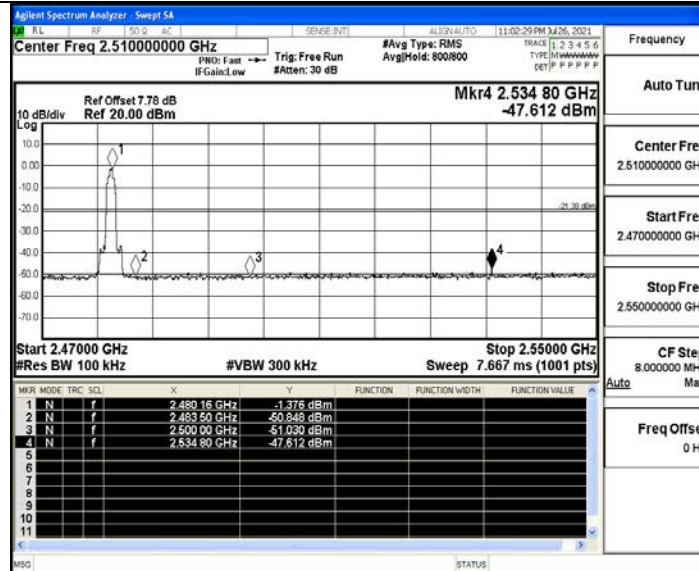
2DH5 Ant1 High Hop 2480



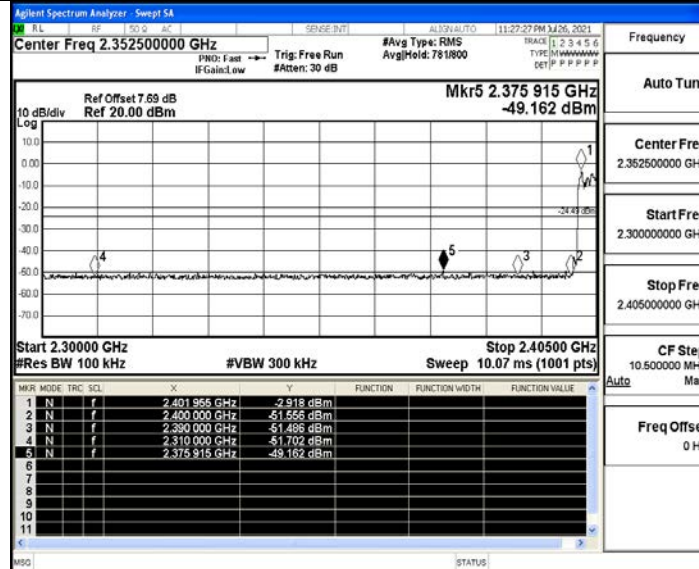
3DH5 Ant1 Low 2402



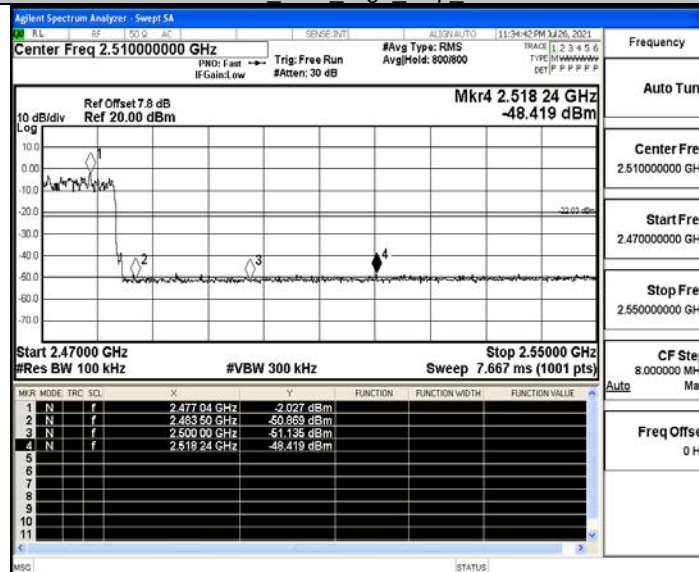
3DH5 Ant1 High 2480



3DH5 Ant1 Low Hop 2402



3DH5 Ant1 High Hop 2480





A.9 Restrict-band band-edge measurements

Test Result

TestMode	Antenna	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict	
DH5	Ant1	Low	2402	AV	2310.000	-48.93	≤-41.20	46.27	≤54	PASS
				AV	2387.150	-48.42	≤-41.20	46.78	≤54	PASS
				AV	2390.000	-48.44	≤-41.20	46.76	≤54	PASS
				Peak	2310.000	-40.37	≤-21.20	54.83	≤74	PASS
				Peak	2389.040	-37.73	≤-21.20	57.47	≤74	PASS
				Peak	2390.000	-40.12	≤-21.20	55.08	≤74	PASS
		High	2480	AV	2483.500	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2483.520	-47.84	≤-41.20	47.36	≤54	PASS
				AV	2500.000	-47.96	≤-41.20	47.24	≤54	PASS
				Peak	2483.500	-39.62	≤-21.20	55.58	≤74	PASS
				Peak	2496.080	-37.25	≤-21.20	57.95	≤74	PASS
				Peak	2500.000	-39.97	≤-21.20	55.23	≤74	PASS
2DH5	Ant1	Low	2402	AV	2310.000	-48.94	≤-41.20	46.26	≤54	PASS
				AV	2389.460	-48.4	≤-41.20	46.80	≤54	PASS
				AV	2390.000	-48.55	≤-41.20	46.65	≤54	PASS
				Peak	2310.000	-39.97	≤-21.20	55.23	≤74	PASS
				Peak	2373.395	-37.95	≤-21.20	57.25	≤74	PASS
				Peak	2390.000	-41.42	≤-21.20	53.78	≤74	PASS
		High	2480	AV	2483.500	-47.91	≤-41.20	47.29	≤54	PASS
				AV	2498.960	-47.83	≤-41.20	47.37	≤54	PASS
				AV	2500.000	-47.97	≤-41.20	47.23	≤54	PASS
				Peak	2483.500	-38.61	≤-21.20	56.59	≤74	PASS
				Peak	2493.120	-37.85	≤-21.20	57.35	≤74	PASS
				Peak	2500.000	-38.48	≤-21.20	56.72	≤74	PASS
3DH5	Ant1	Low	2402	AV	2310.000	-48.97	≤-41.20	46.23	≤54	PASS
				AV	2388.830	-48.4	≤-41.20	46.80	≤54	PASS
				AV	2390.000	-48.52	≤-41.20	46.68	≤54	PASS
				Peak	2310.000	-40.87	≤-21.20	54.33	≤74	PASS
				Peak	2372.030	-38.01	≤-21.20	57.19	≤74	PASS
				Peak	2390.000	-40.94	≤-21.20	54.26	≤74	PASS
		High	2480	AV	2483.500	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2483.520	-47.75	≤-41.20	47.45	≤54	PASS
				AV	2500.000	-47.96	≤-41.20	47.24	≤54	PASS
				Peak	2483.500	-40.25	≤-21.20	54.95	≤74	PASS
				Peak	2495.920	-38.17	≤-21.20	57.03	≤74	PASS



				Peak	2500.000	-39.63	≤ -21.20	55.57	≤ 74	PASS
--	--	--	--	------	----------	--------	---------------	-------	-----------	------

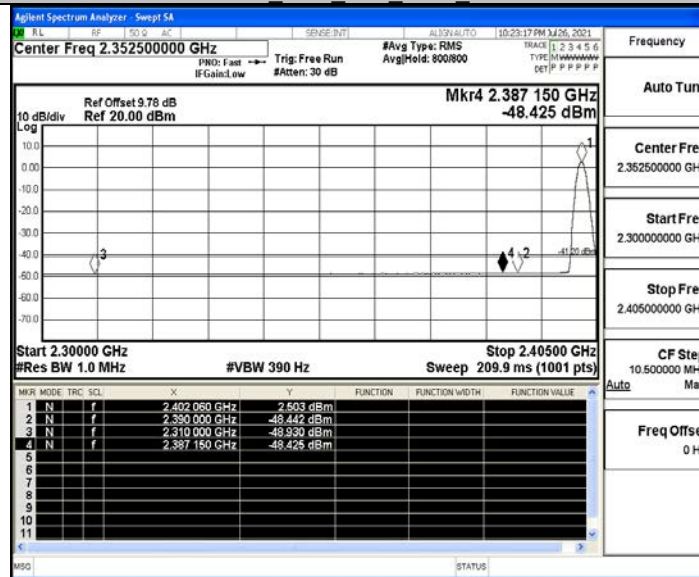
Note :

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.

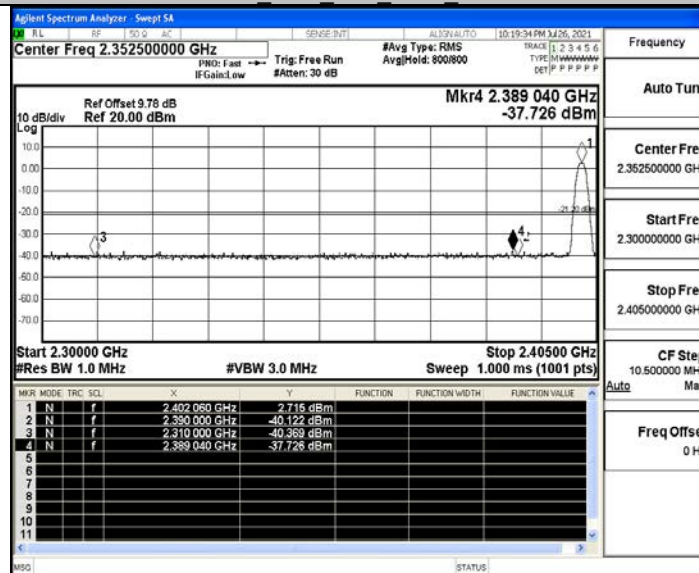


Test Graphs

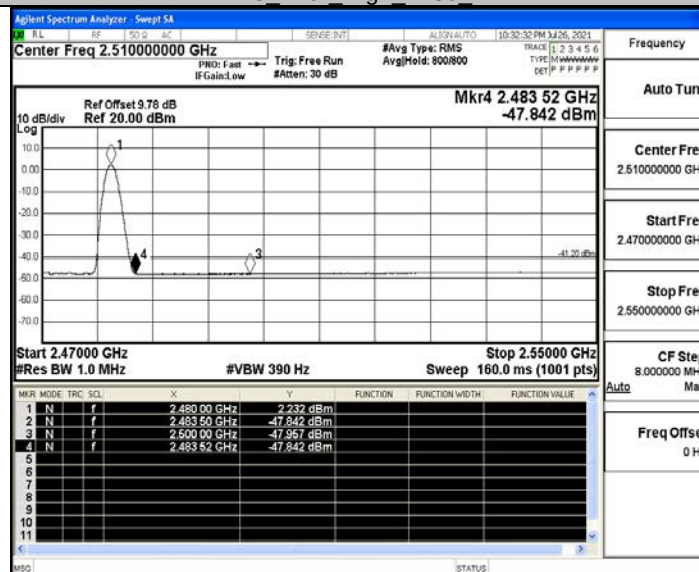
DH5 Ant1 Low 2402 AV



DH5 Ant1 Low 2402 Peak

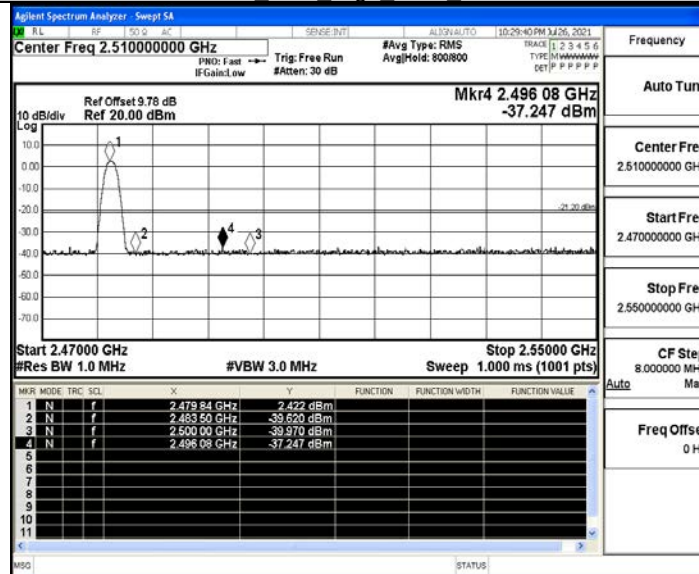


DH5 Ant1 High 2480 AV

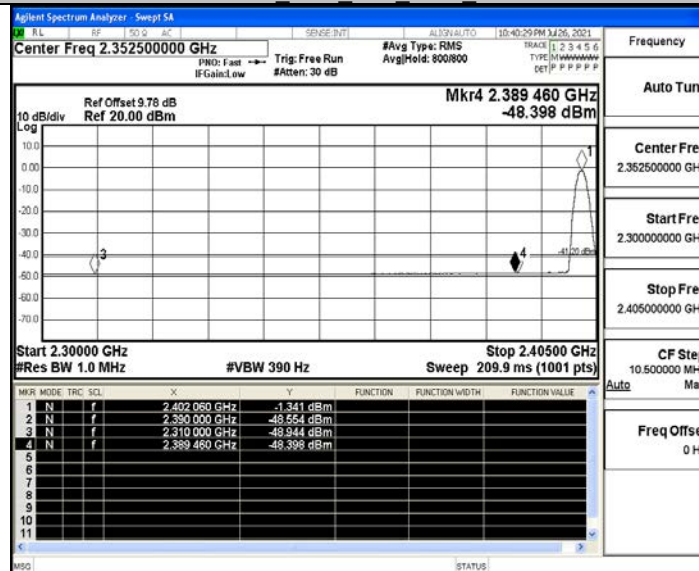




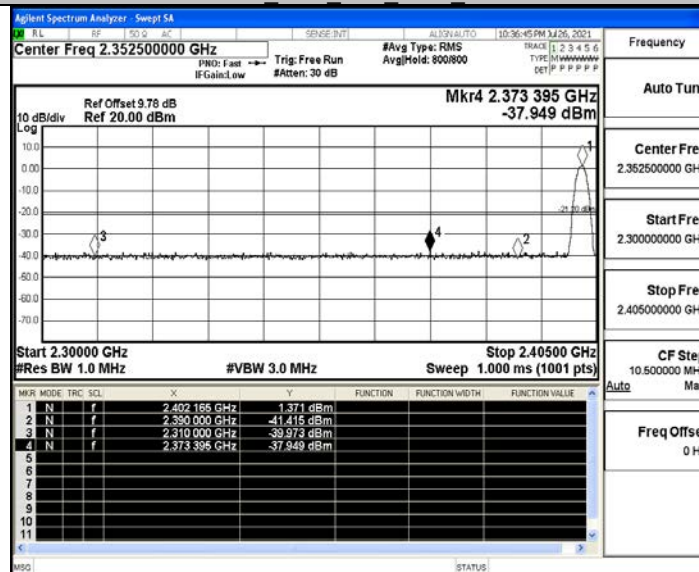
DH5 Ant1 High 2480 Peak



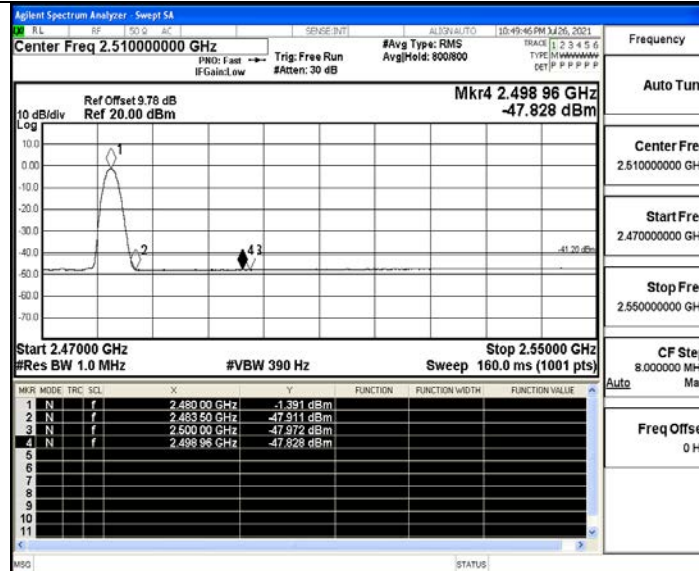
2DH5 Ant1 Low 2402 AV



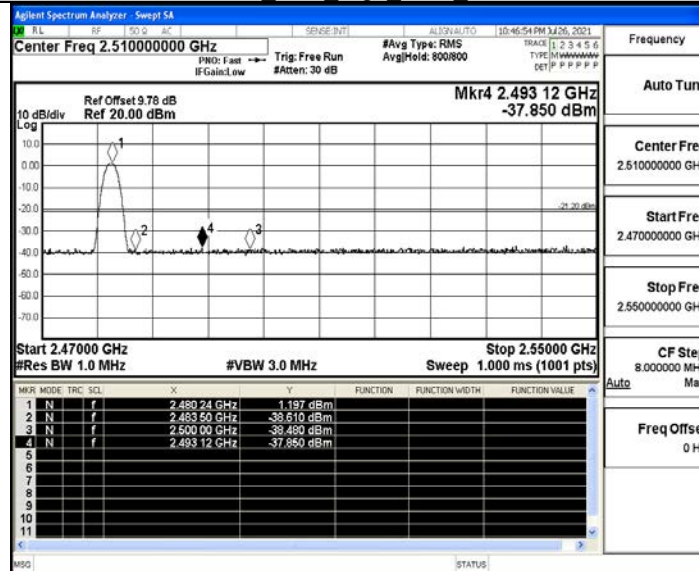
2DH5 Ant1 Low 2402 Peak



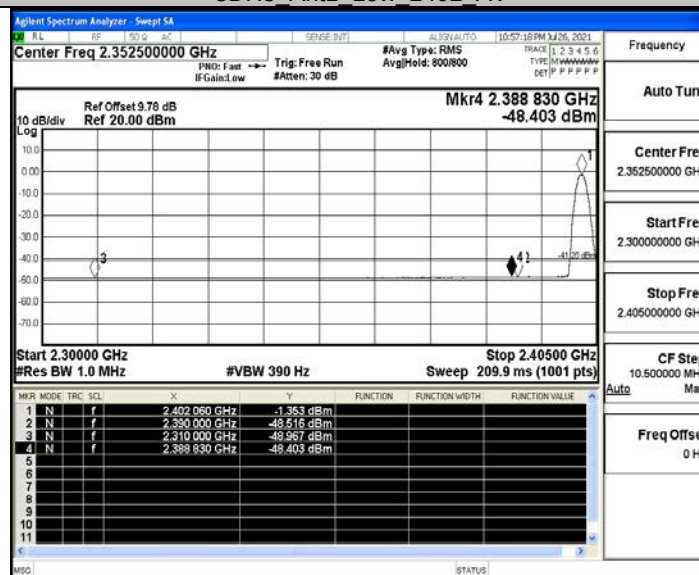
2DH5 Ant1 High 2480 AV



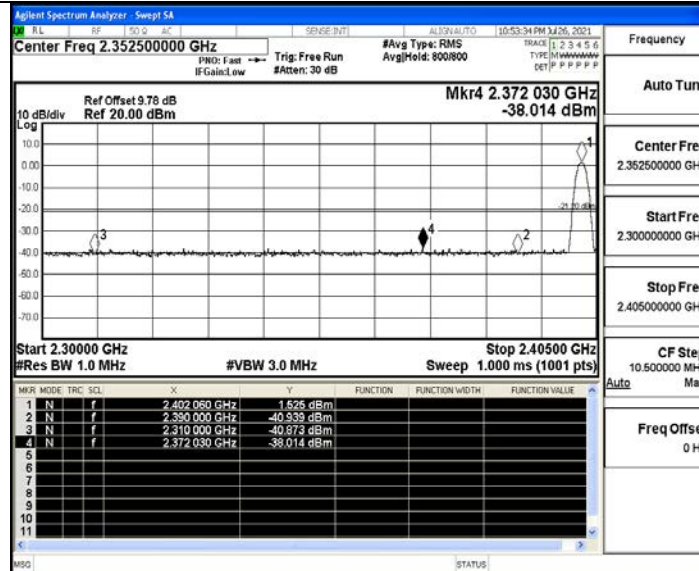
2DH5 Ant1 High 2480 Peak



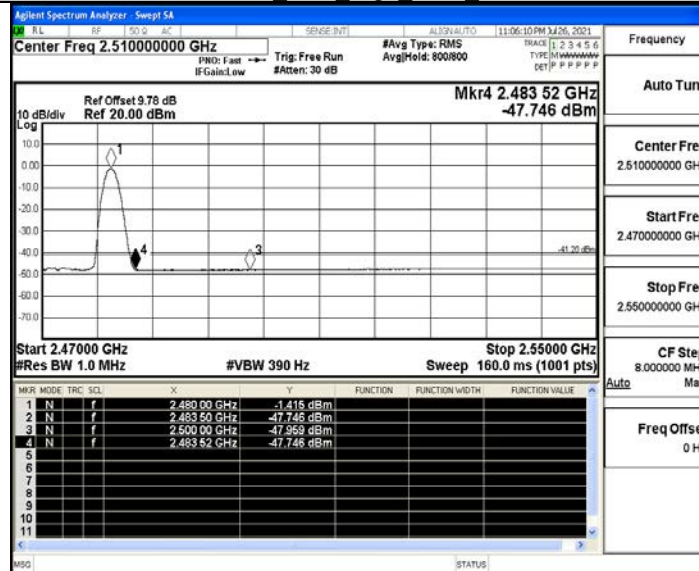
3DH5 Ant1 Low 2402 AV



3DH5 Ant1 Low 2402 Peak



3DH5 Ant1 High 2480 AV



3DH5 Ant1 High 2480 Peak

