



## Appendix A

### RF Test Data for 2.4G WIFI (Conducted Measurement)

**Product Name: Smart Humidity & Temperature Sensor**

**Test Model: ShellyH&T**

#### Environmental Conditions

Temperature:	23.5 ° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	<i>kayHu</i> Kay Hu
Supervised by:	<i>LiHuan</i> Li Huan





### A.1 DTS Bandwidth

#### Test Result

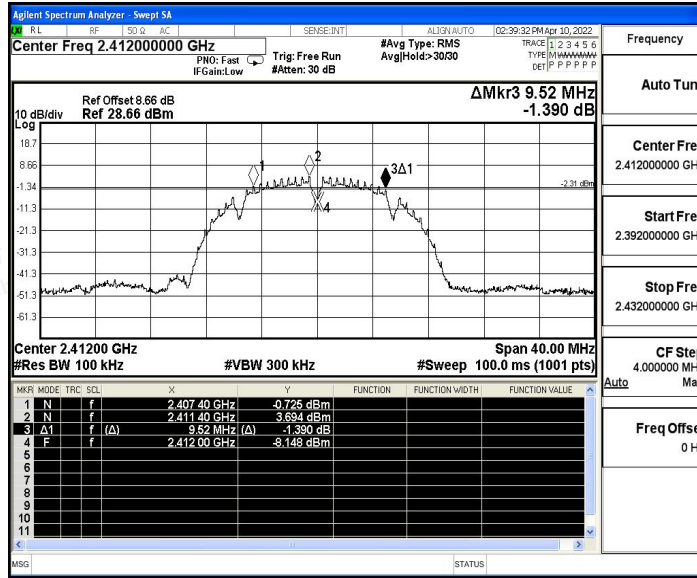
TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	9.520	2407.400	2416.920	0.5	PASS
		2437	9.520	2432.400	2441.920	0.5	PASS
		2462	10.000	2456.920	2466.920	0.5	PASS
11G	Ant1	2412	16.320	2403.760	2420.080	0.5	PASS
		2437	16.280	2428.800	2445.080	0.5	PASS
		2462	16.320	2453.760	2470.080	0.5	PASS
11N20SISO	Ant1	2412	16.520	2403.760	2420.280	0.5	PASS
		2437	16.520	2428.760	2445.280	0.5	PASS
		2462	16.560	2453.760	2470.320	0.5	PASS



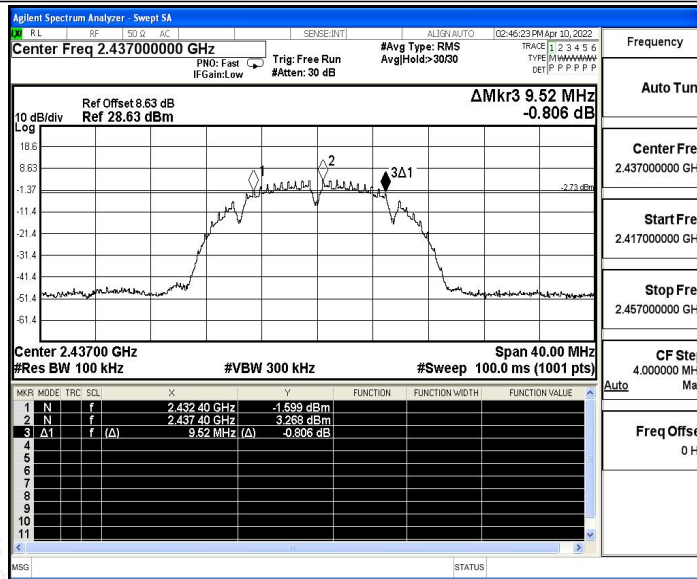


### Test Graphs

11B\_Ant1\_2412

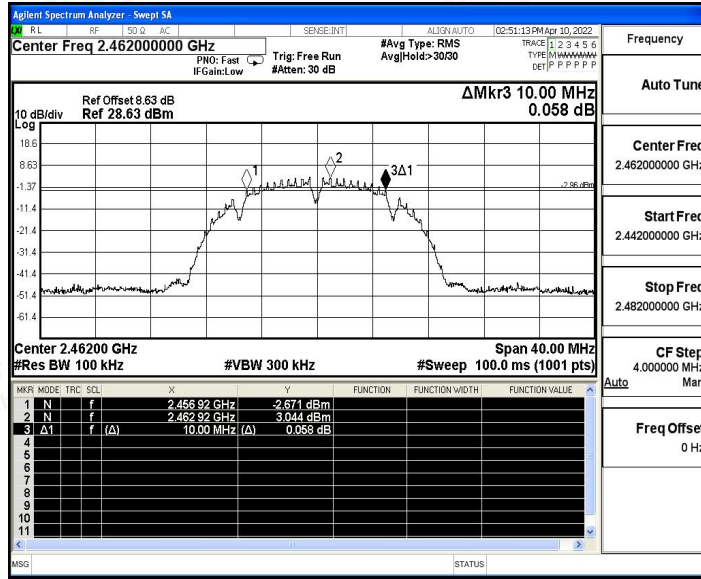


11B\_Ant1\_2437

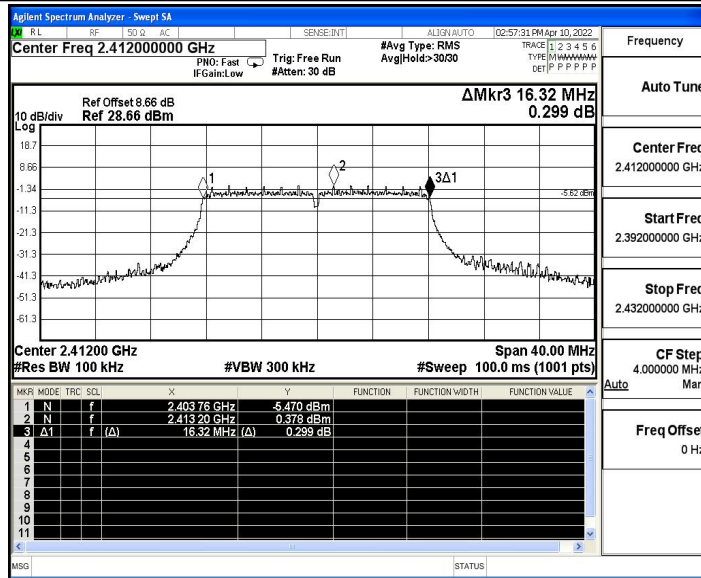


11B\_Ant1\_2462



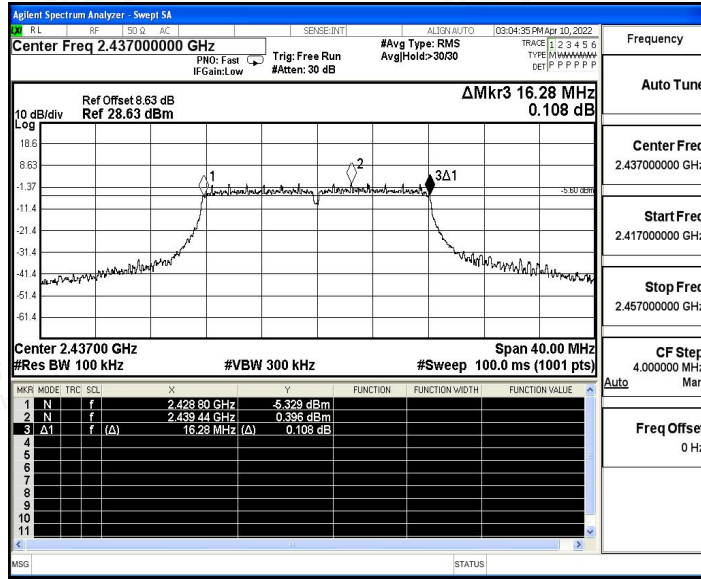


11G\_Ant1\_2412

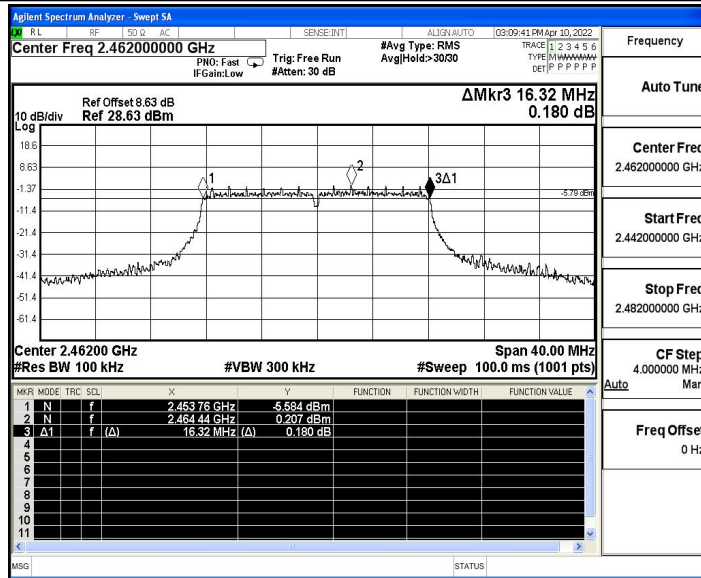


11G\_Ant1\_2437



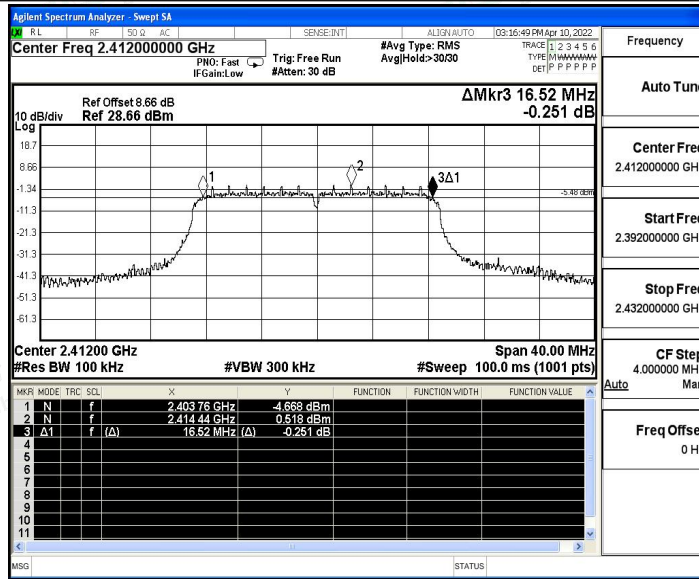


11G\_Ant1\_2462

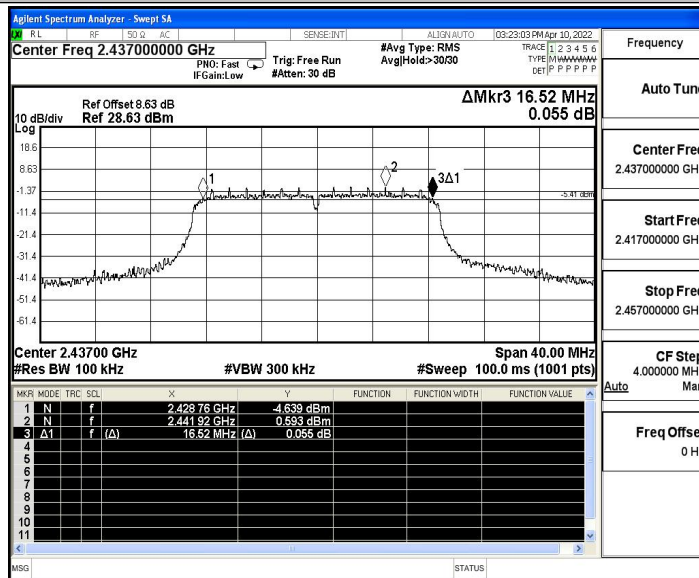


11N20SISO\_Ant1\_2412



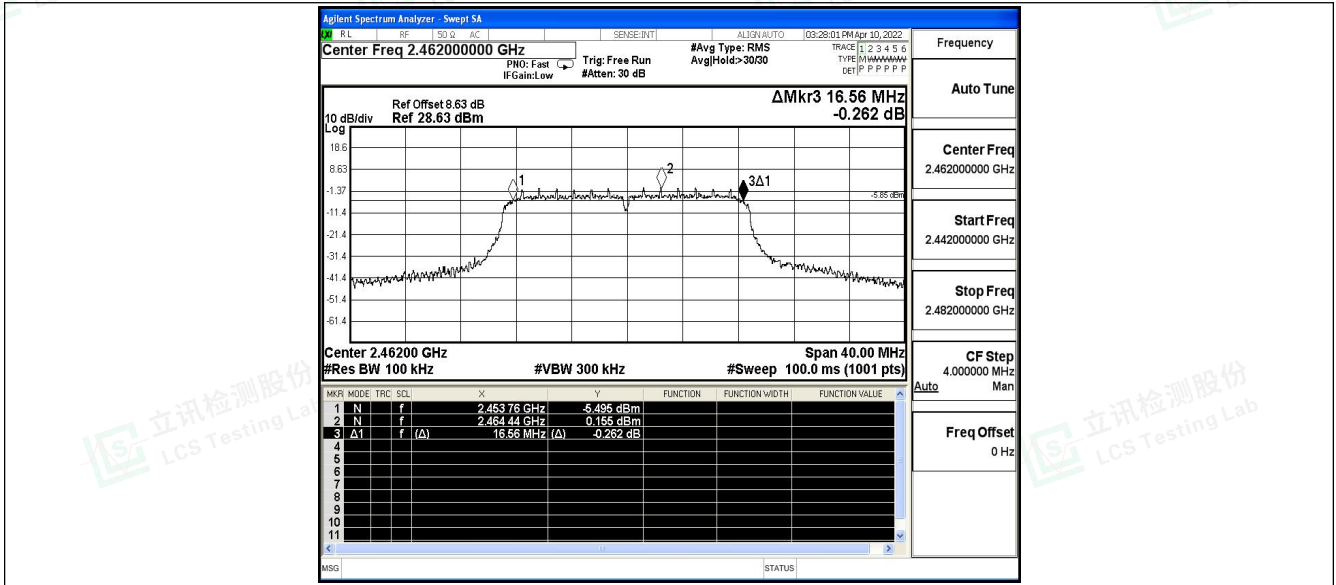


11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462







## A.2 Maximum conducted output power

### Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	15.25	≤30.00	PASS
		2437	15.13	≤30.00	PASS
		2462	14.85	≤30.00	PASS
11G	Ant1	2412	20.09	≤30.00	PASS
		2437	20.03	≤30.00	PASS
		2462	19.74	≤30.00	PASS
11N20SISO	Ant1	2412	20.06	≤30.00	PASS
		2437	20.09	≤30.00	PASS
		2462	19.65	≤30.00	PASS







### A.3 Maximum power spectral density

#### Test Result

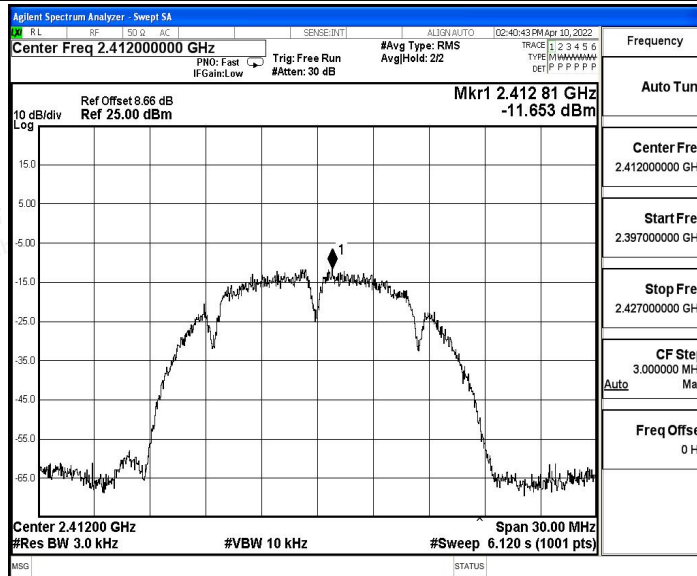
TestMode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
11B	Ant1	2412	-11.65	≤8.00	PASS
		2437	-10.57	≤8.00	PASS
		2462	-11.88	≤8.00	PASS
11G	Ant1	2412	-13.11	≤8.00	PASS
		2437	-13.16	≤8.00	PASS
		2462	-13.41	≤8.00	PASS
11N20SISO	Ant1	2412	-12.97	≤8.00	PASS
		2437	-13.37	≤8.00	PASS
		2462	-12.62	≤8.00	PASS



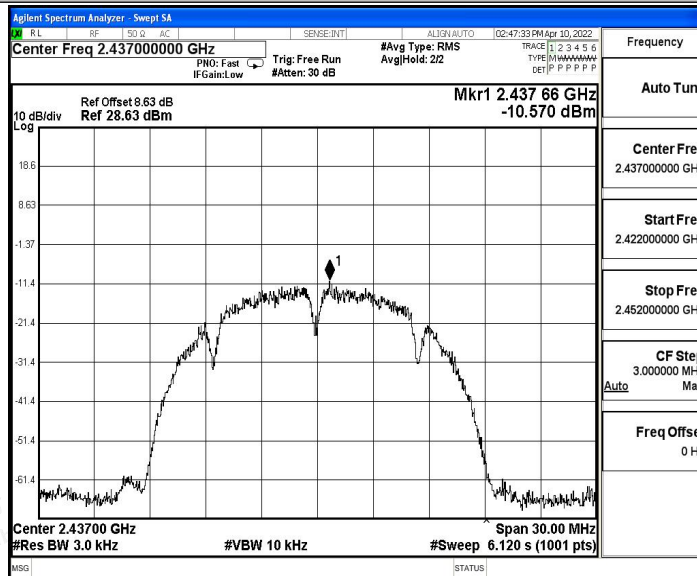


### Test Graphs

11B\_Ant1\_2412

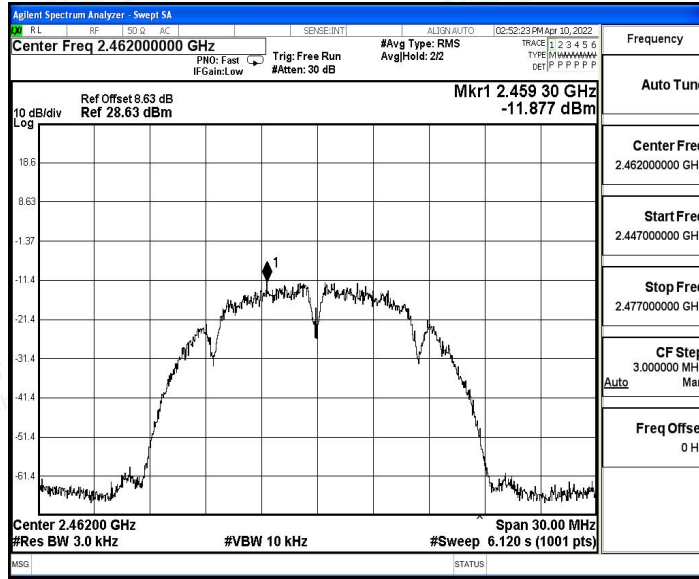


11B\_Ant1\_2437

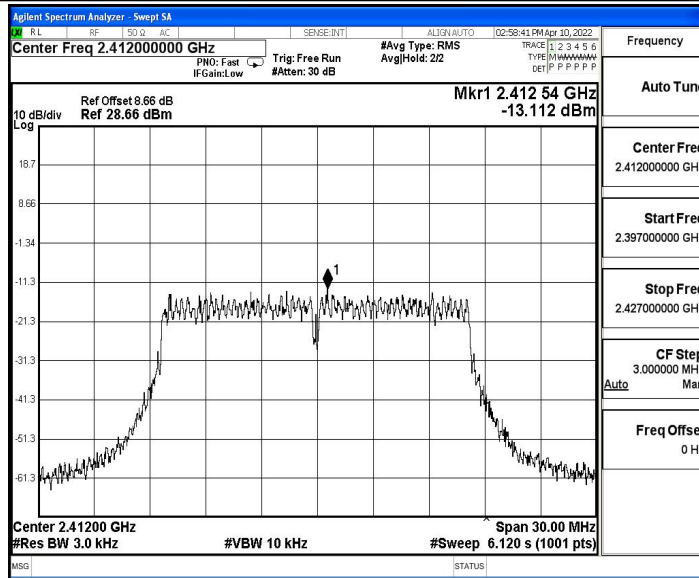


11B\_Ant1\_2462



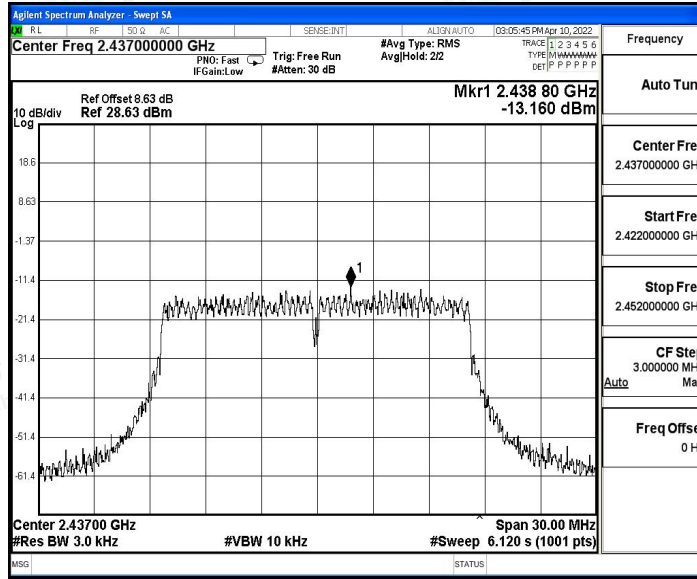


11G\_Ant1\_2412

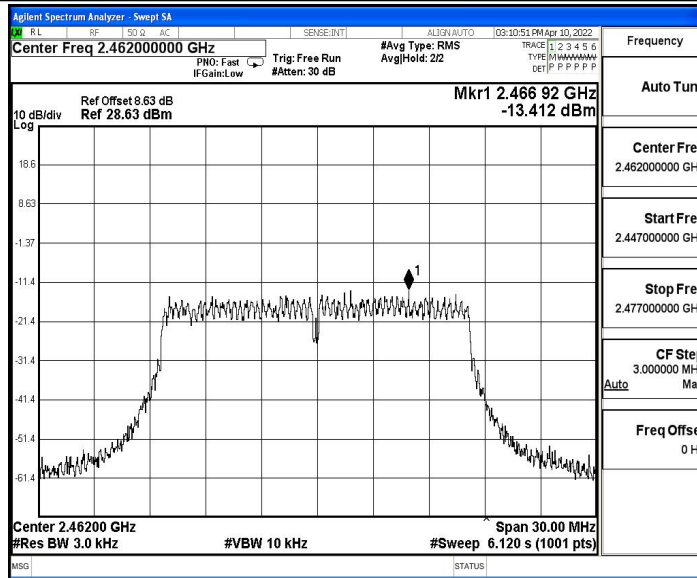


11G\_Ant1\_2437



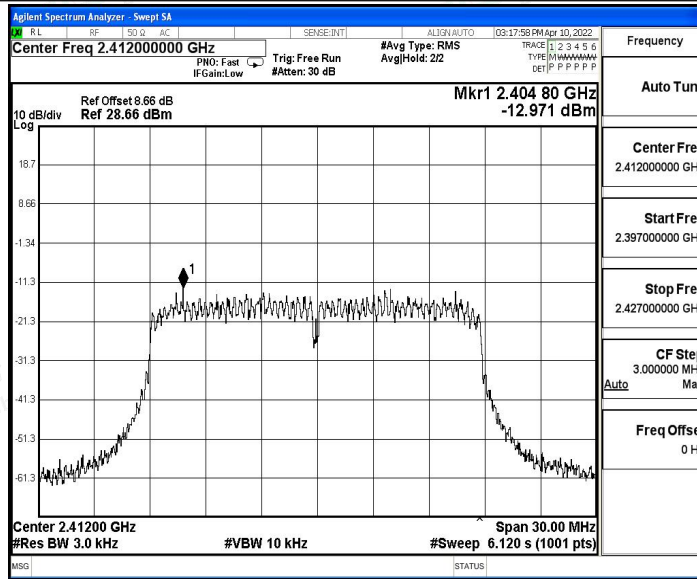


11G\_Ant1\_2462

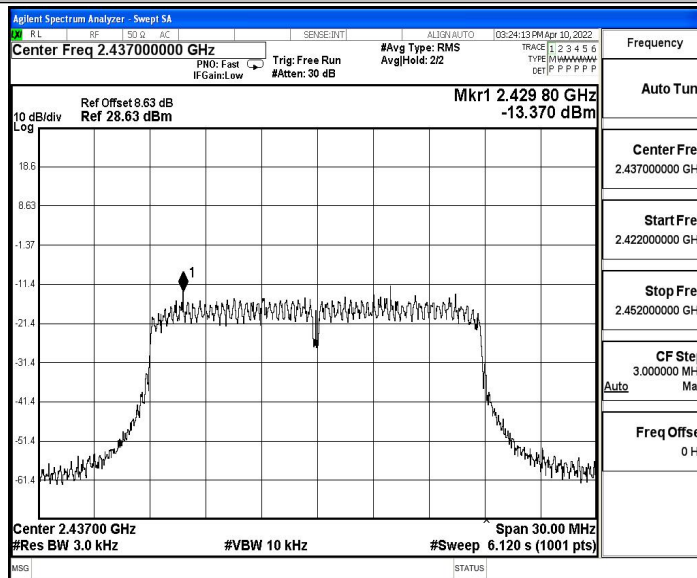


11N20SISO\_Ant1\_2412



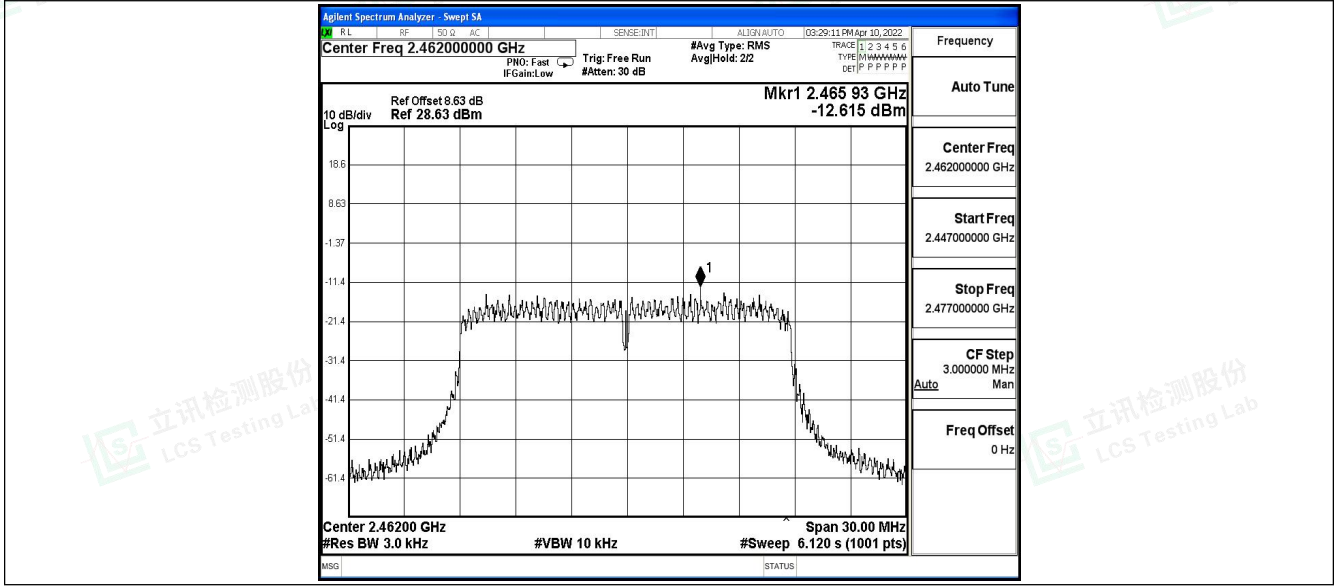


11N20SISO\_Ant1\_2437



11N20SISO\_Ant1\_2462







## A.4 Band edge measurements

### Test Result

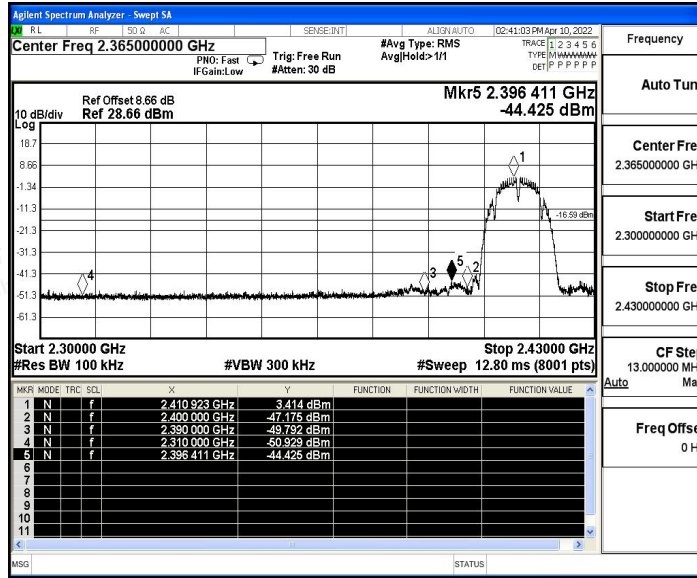
TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
11B	Ant1	Low	2412	3.41	-44.43	≤-16.59	PASS
		High	2462	2.68	-46.08	≤-17.32	PASS
11G	Ant1	Low	2412	0.43	-35.79	≤-19.57	PASS
		High	2462	0.07	-45.82	≤-19.93	PASS
11N20SISO	Ant1	Low	2412	0.51	-37.27	≤-19.49	PASS
		High	2462	0.26	-45.17	≤-19.74	PASS



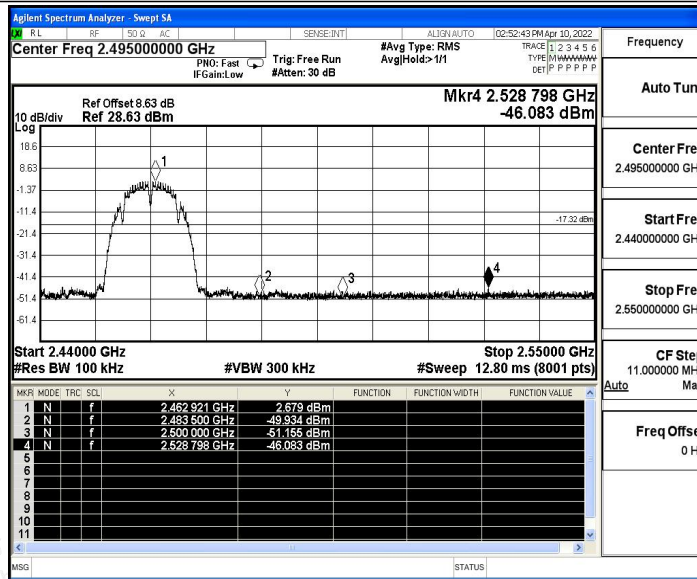


### Test Graphs

#### 11B\_Ant1\_Low\_2412



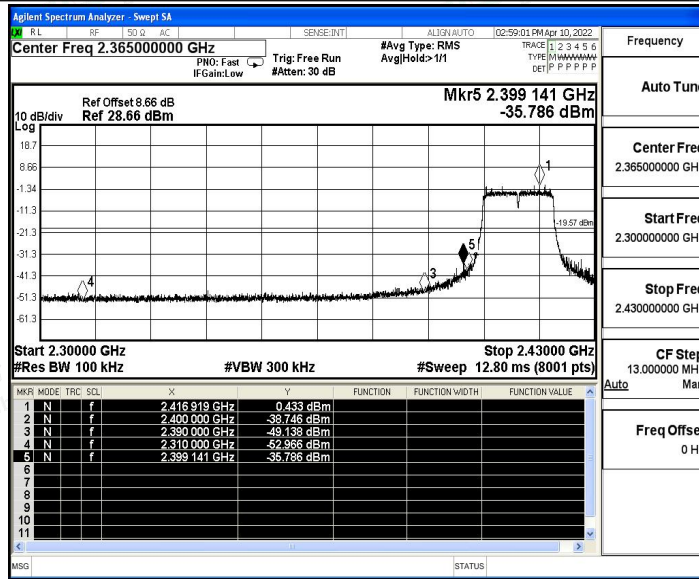
#### 11B\_Ant1\_High\_2462



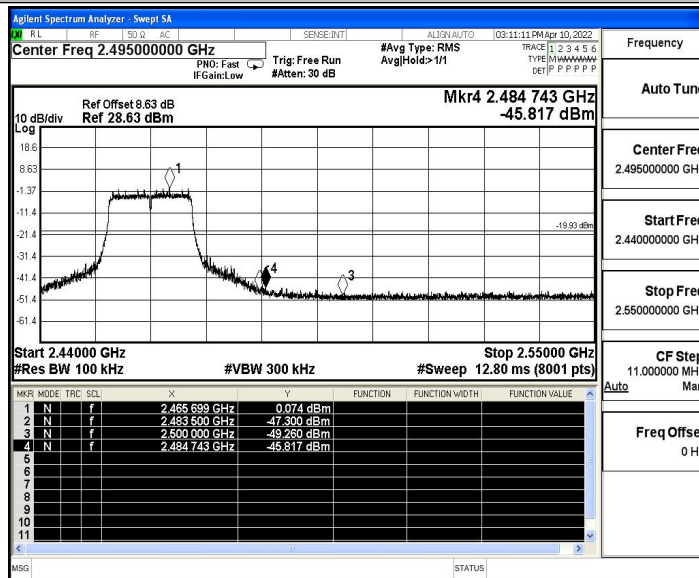
#### 11G\_Ant1\_Low\_2412





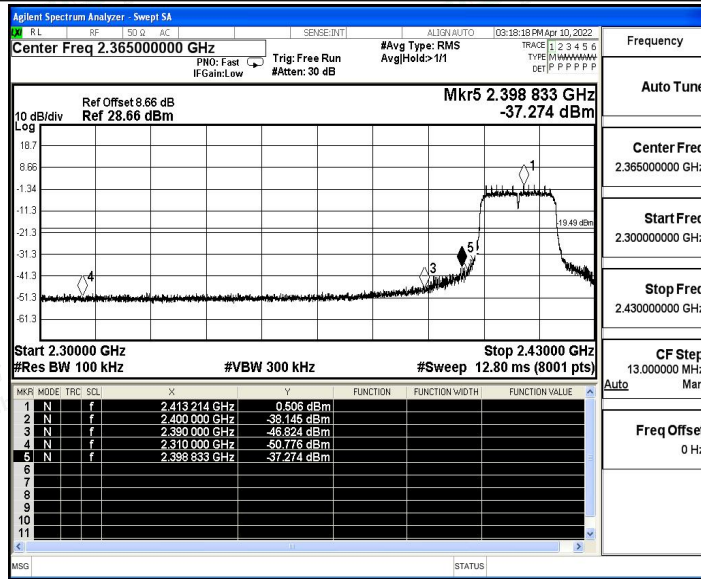


11G\_Ant1\_High\_2462

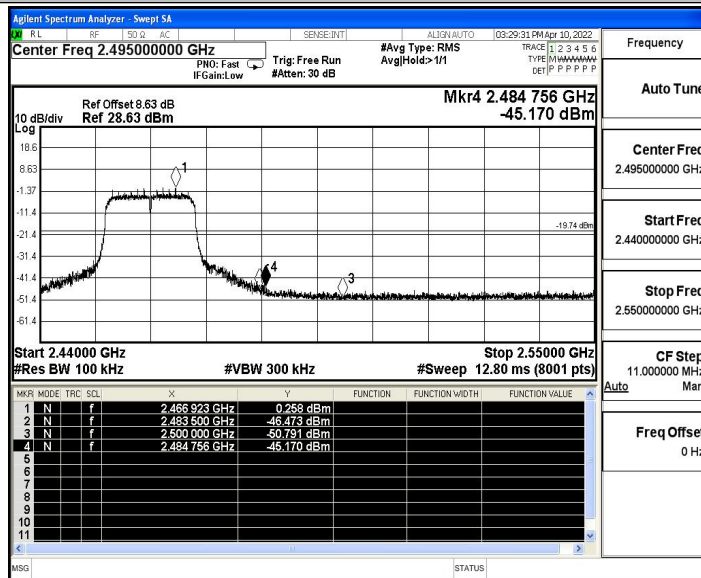


11N20SISO\_Ant1\_Low\_2412





11N20SISO\_Ant1\_High\_2462





## A.5 Conducted Spurious Emission

### Test Result

TestMode	Antenna	Channel	FreqRange [Mhz]	RefLevel [dBm]	Result [dBm]	Limit [dBm]	Verdict
11B	Ant1	2412	Reference	2.98	2.98	---	PASS
			30~1000	2.98	-60.69	≤-17.02	PASS
			1000~26500	2.98	-37.65	≤-17.02	PASS
		2437	Reference	3.44	3.44	---	PASS
			30~1000	3.44	-60.43	≤-16.56	PASS
			1000~26500	3.44	-46	≤-16.56	PASS
		2462	Reference	2.88	2.88	---	PASS
			30~1000	2.88	-59.47	≤-17.12	PASS
			1000~26500	2.88	-46.01	≤-17.12	PASS
11G	Ant1	2412	Reference	0.58	0.58	---	PASS
			30~1000	0.58	-60.51	≤-19.42	PASS
			1000~26500	0.58	-46	≤-19.42	PASS
		2437	Reference	0.30	0.30	---	PASS
			30~1000	0.30	-60.45	≤-19.7	PASS
			1000~26500	0.30	-46.58	≤-19.7	PASS
		2462	Reference	0.50	0.50	---	PASS
			30~1000	0.50	-59.61	≤-19.5	PASS
			1000~26500	0.50	-46.19	≤-19.5	PASS
11N20SISO	Ant1	2412	Reference	0.99	0.99	---	PASS
			30~1000	0.99	-59.64	≤-19.01	PASS
			1000~26500	0.99	-46.08	≤-19.01	PASS
		2437	Reference	0.77	0.77	---	PASS
			30~1000	0.77	-58.11	≤-19.23	PASS
			1000~26500	0.77	-46.37	≤-19.23	PASS
		2462	Reference	0.69	0.69	---	PASS
			30~1000	0.69	-60.04	≤-19.31	PASS
			1000~26500	0.69	-46.26	≤-19.31	PASS



Shenzhen LCS Compliance Testing Laboratory Ltd.

Add: 101, 201 Bldg A &amp; 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

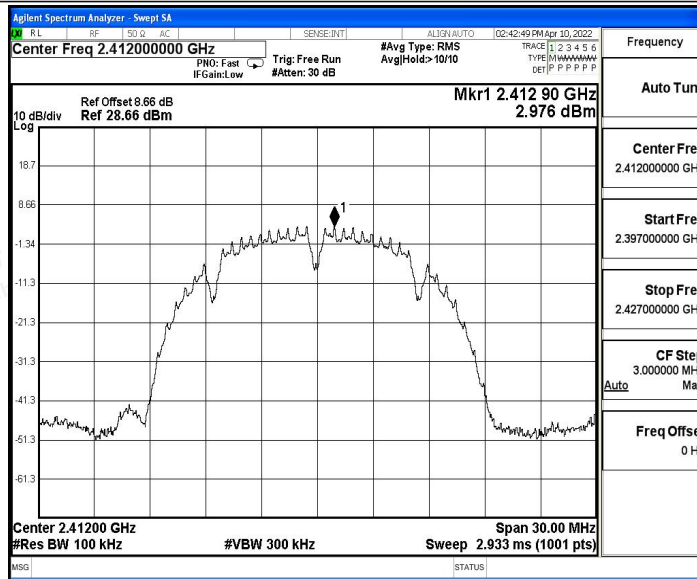
Tel: +(86) 0755-82591330 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

Scan code to check authenticity

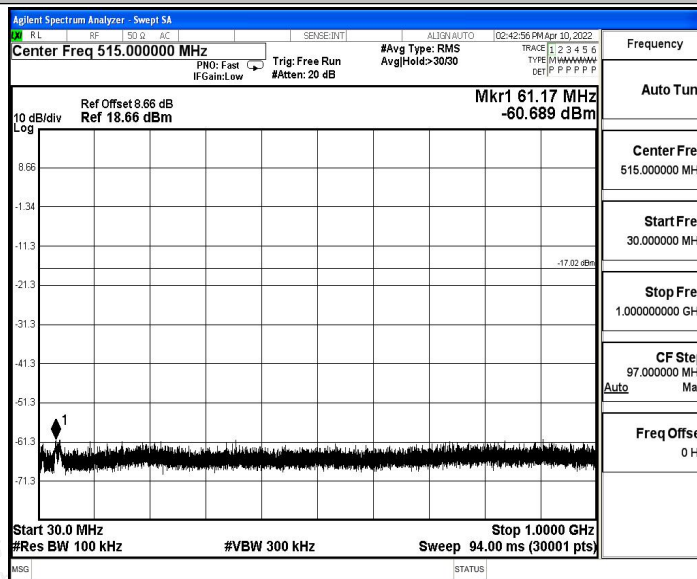


### Test Graphs

11B\_Ant1\_2412\_0~Reference

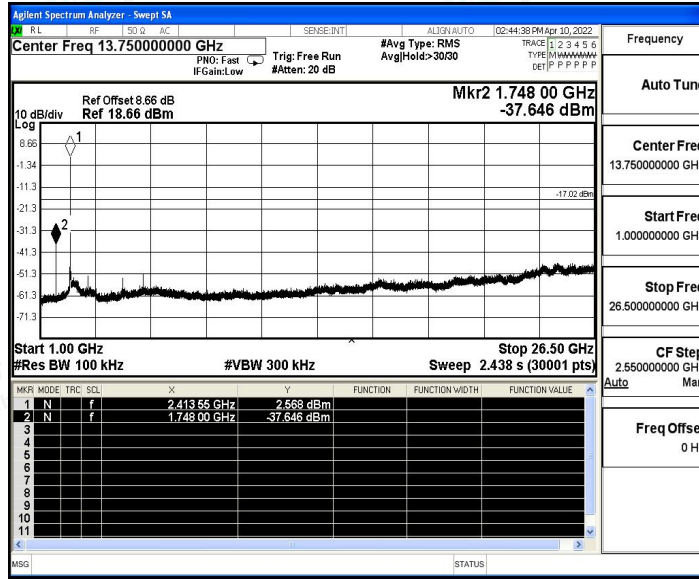


11B\_Ant1\_2412\_30~1000

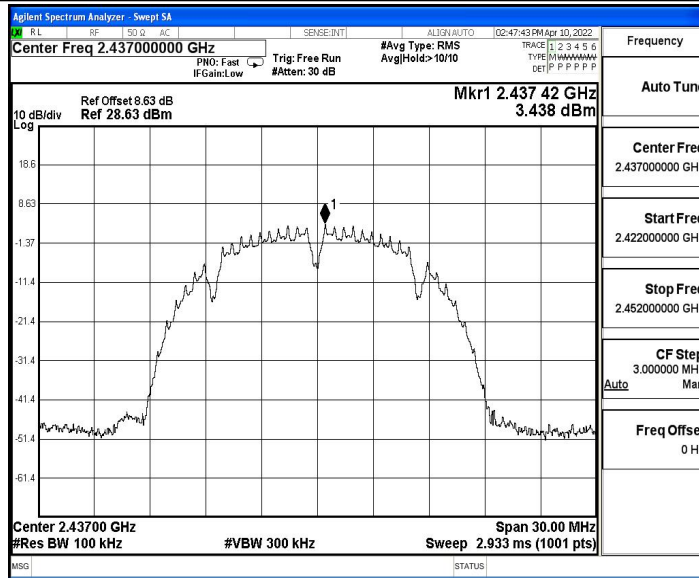


11B\_Ant1\_2412\_1000~26500



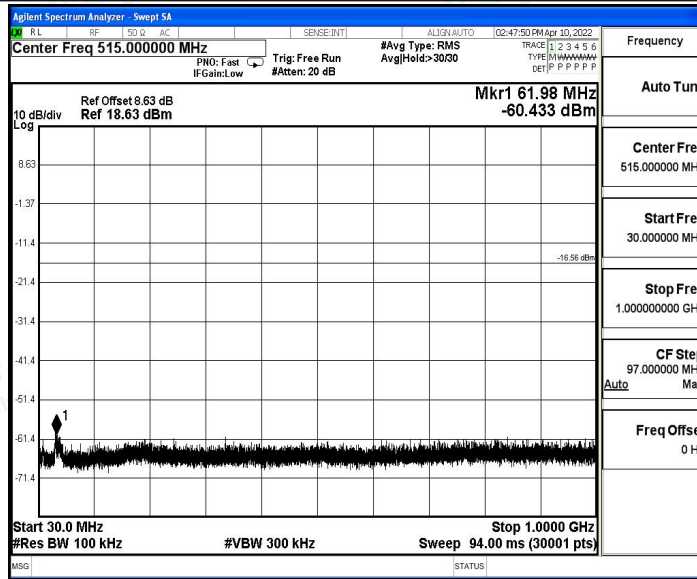


11B\_Ant1\_2437\_0~Reference

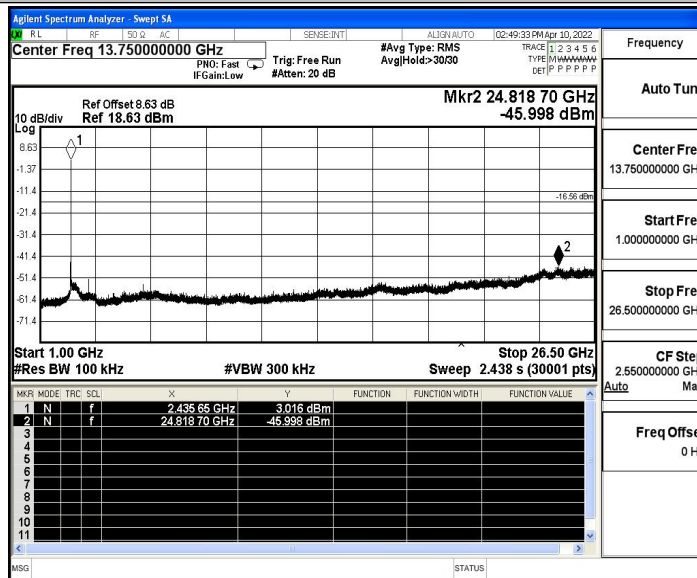


11B\_Ant1\_2437\_30~1000



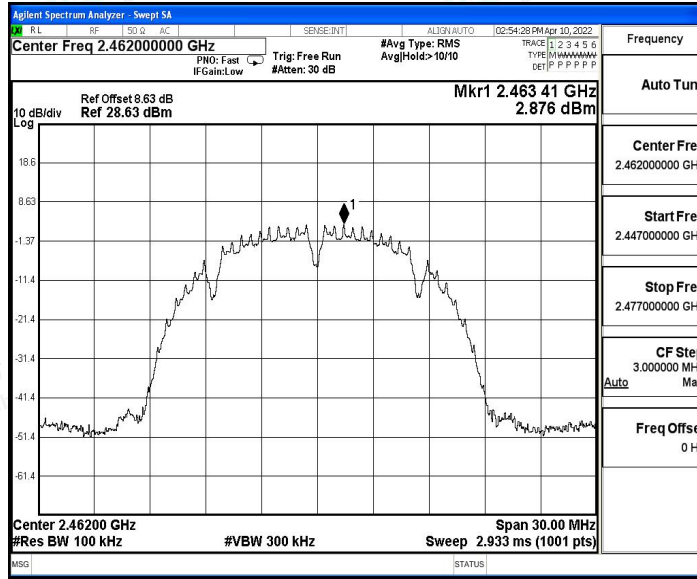


11B\_Ant1\_2437\_1000~26500

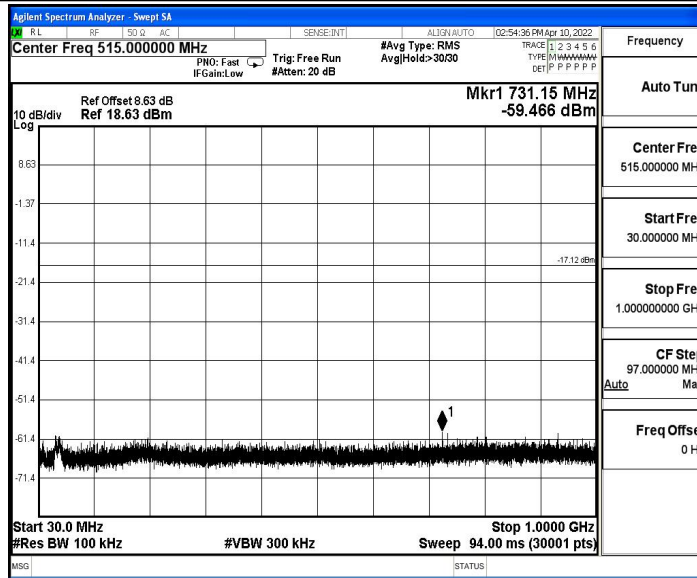


11B\_Ant1\_2462\_0~Reference



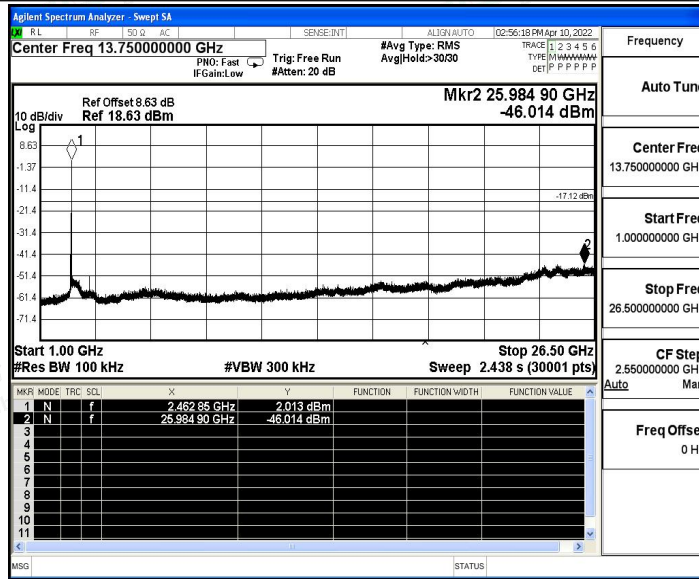


11B\_Ant1\_2462\_30~1000

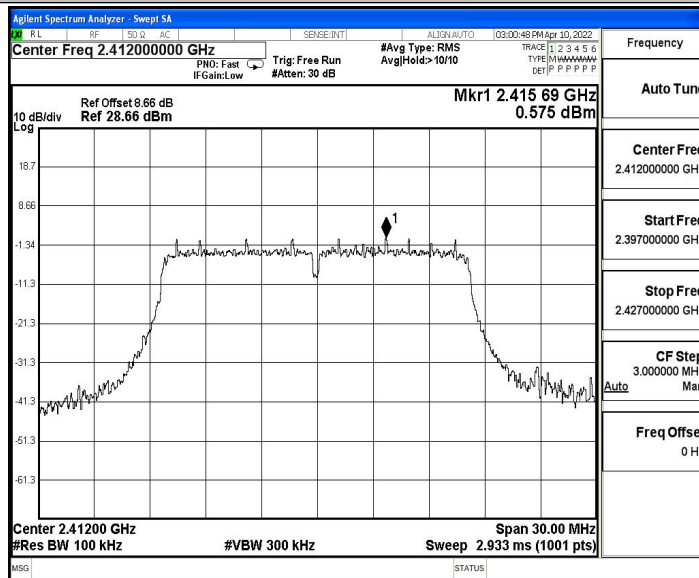


11B\_Ant1\_2462\_1000~26500





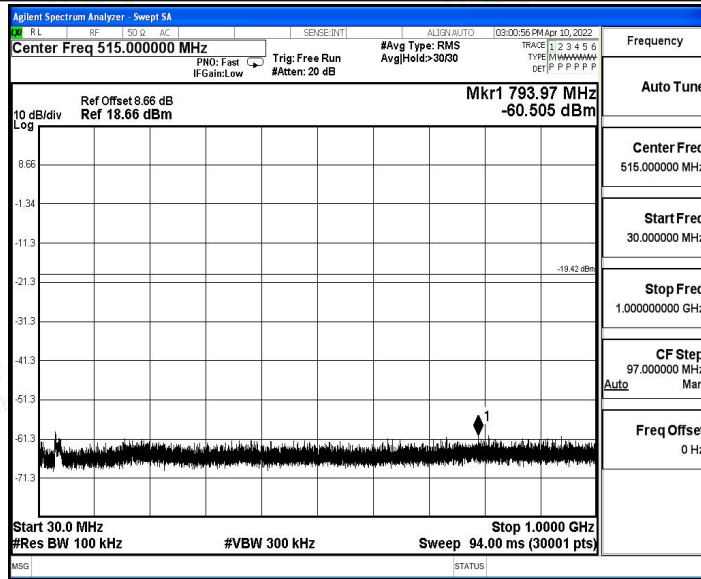
11G\_Ant1\_2412\_0~Reference



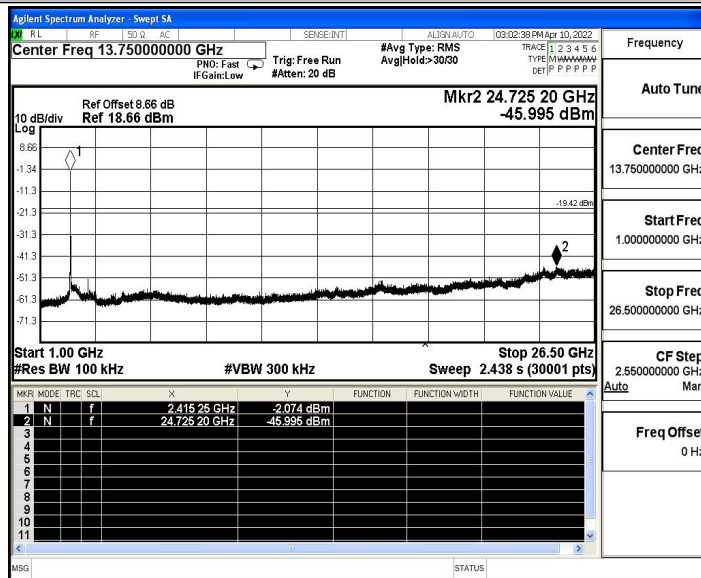
11G\_Ant1\_2412\_30~1000







11G\_Ant1\_2412\_1000~26500



11G\_Ant1\_2437\_0~Reference

