



Appendix B

RF Test Data for BT LE(Conducted Measurement)

Product Name: bluetooth headset

Test Model: A2 Pro

Environmental Conditions

Temperature:	23.8° C
Relative Humidity:	52.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Jay Luo
Supervised by:	Nick Peng





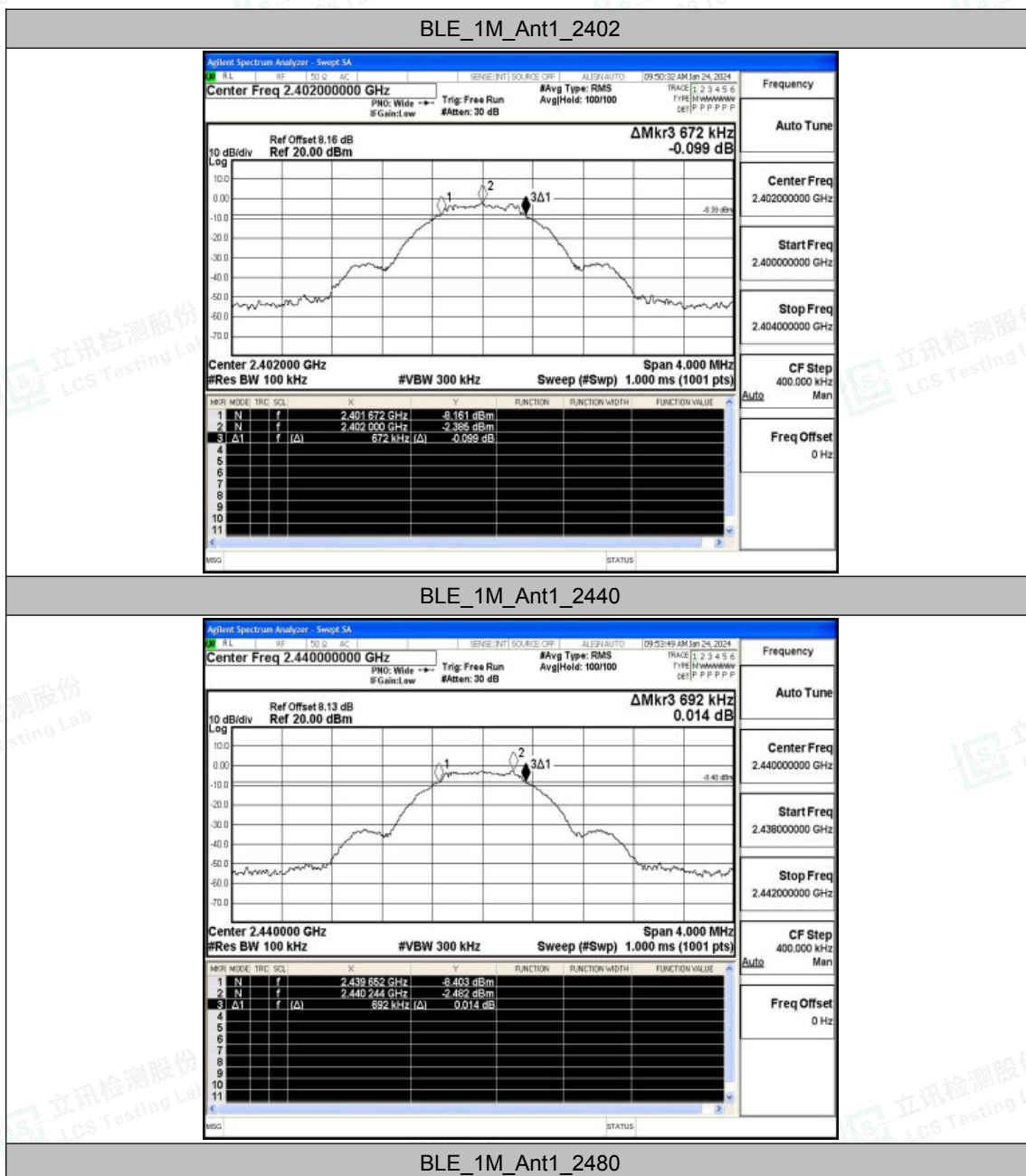
B.1 DTS Bandwidth

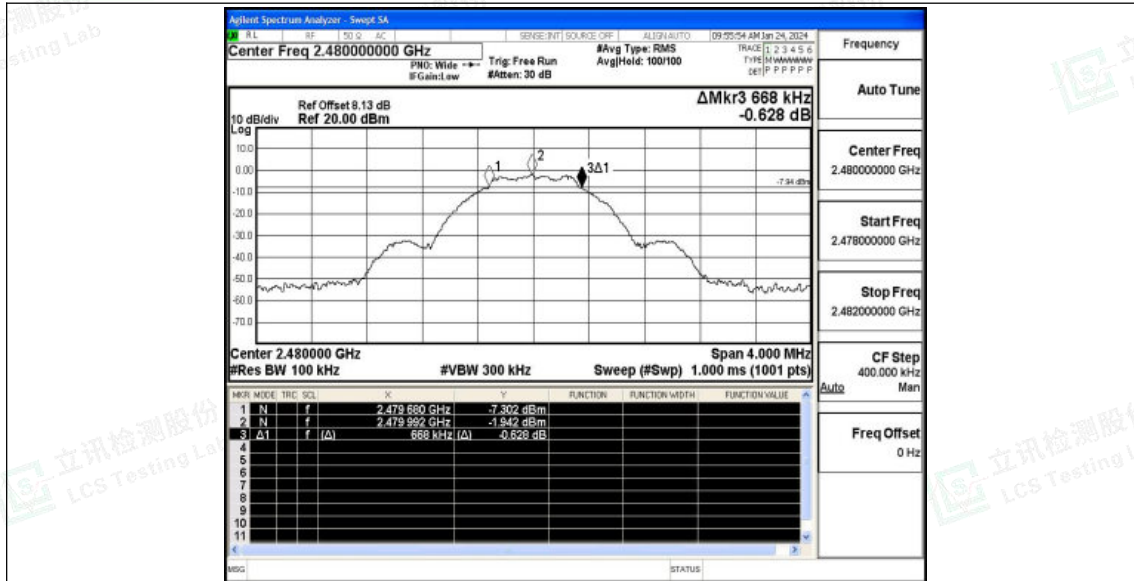
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.672	2401.672	2402.344	0.5	PASS
		2440	0.692	2439.652	2440.344	0.5	PASS
		2480	0.668	2479.680	2480.348	0.5	PASS
BLE_2M	Ant1	2402	1.240	2401.356	2402.596	0.5	PASS
		2440	1.148	2439.444	2440.592	0.5	PASS
		2480	1.272	2479.336	2480.608	0.5	PASS

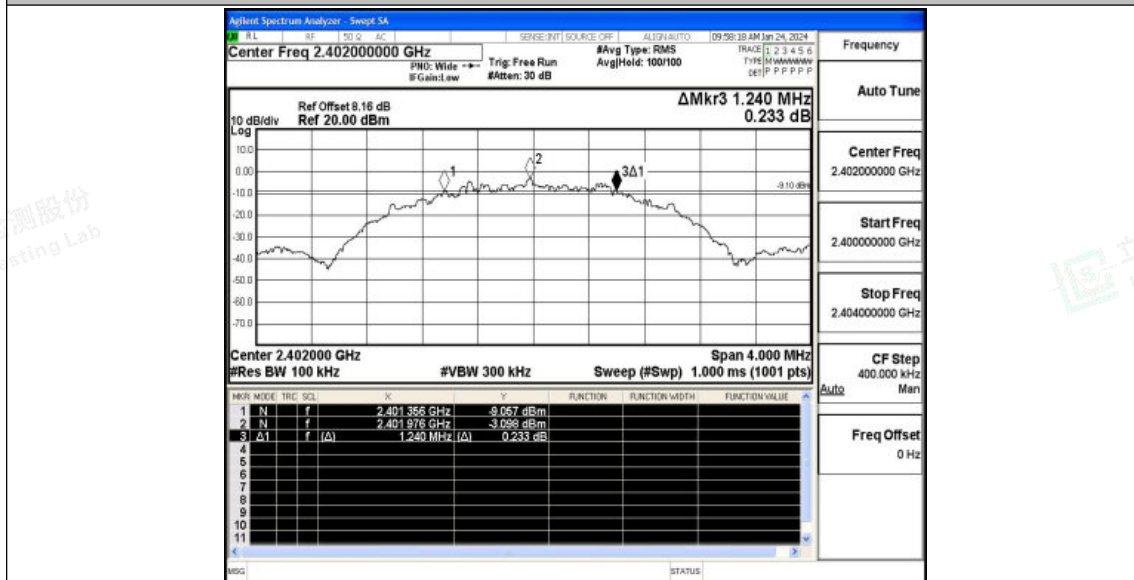


Test Graphs



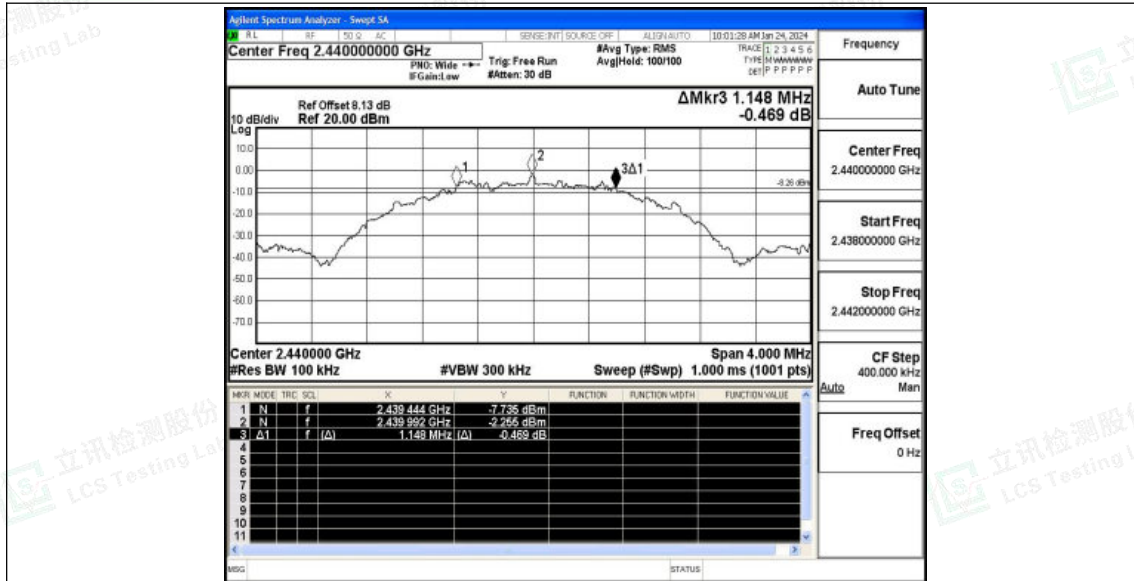


BLE_2M_Ant1_2402

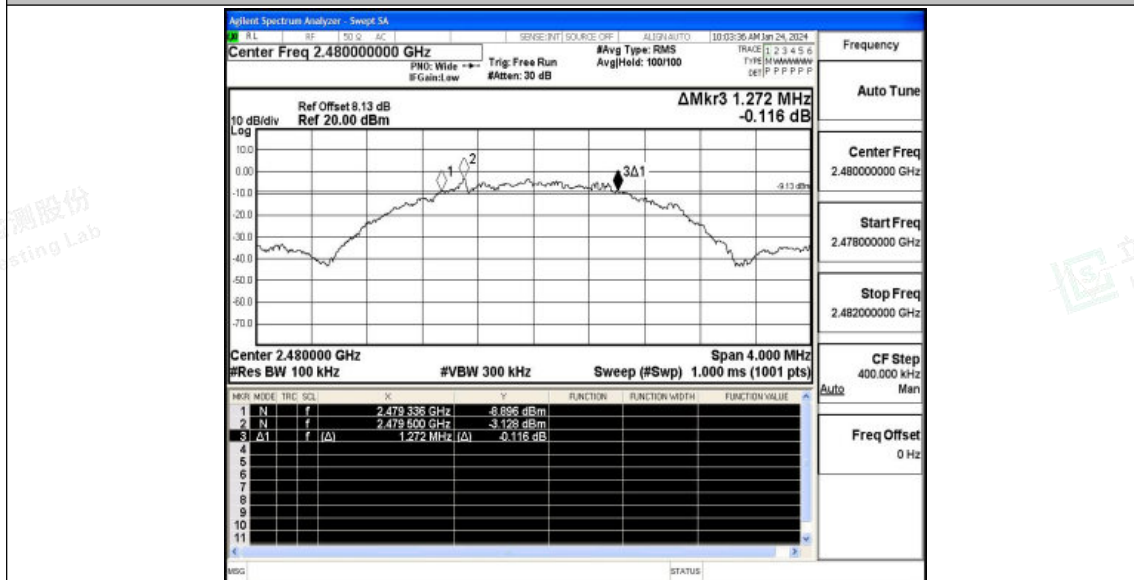


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.2 Maximum conducted output power

Test Result

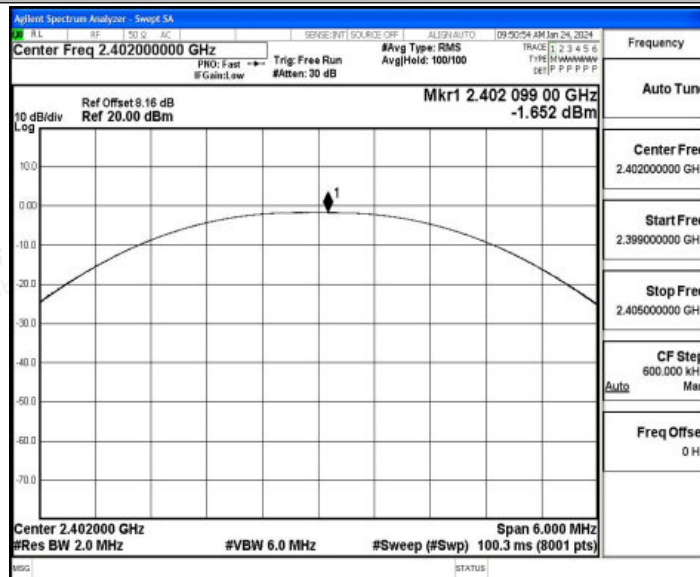
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.65	≤30	PASS
		2440	-1.41	≤30	PASS
		2480	-1.15	≤30	PASS
BLE_2M	Ant1	2402	-1.74	≤30	PASS
		2440	-1.49	≤30	PASS
		2480	-1.23	≤30	PASS



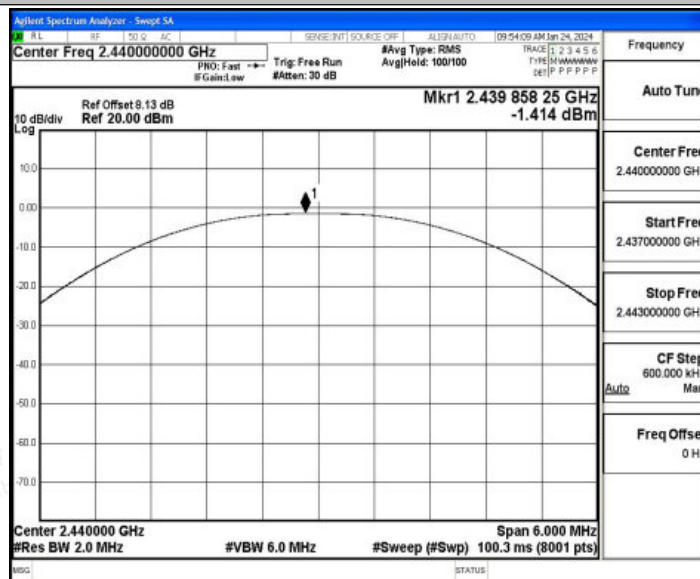


Test Graphs

BLE_1M_Ant1_2402

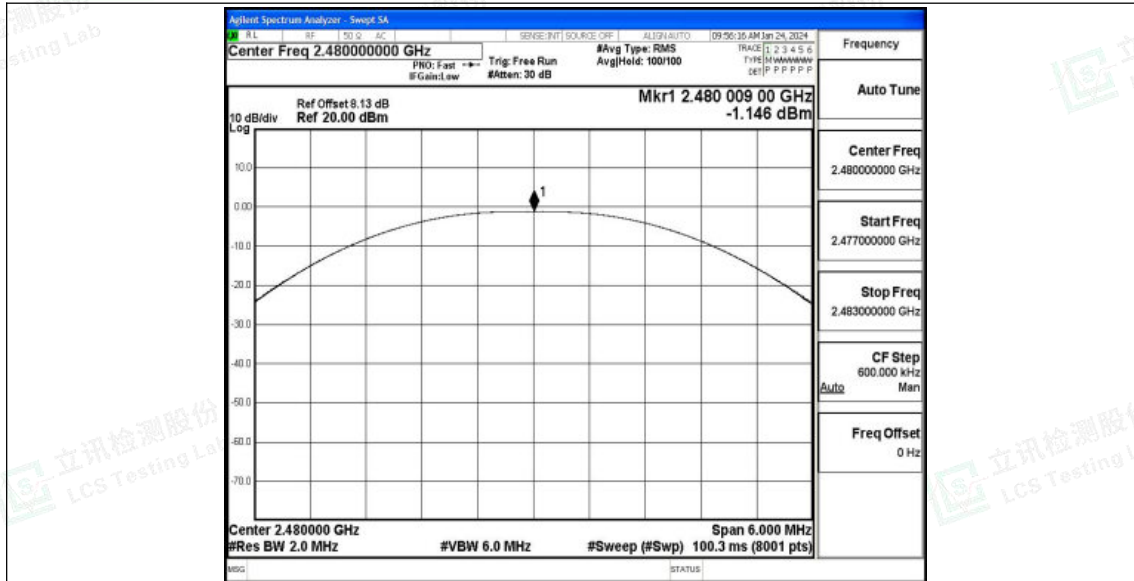


BLE_1M_Ant1_2440

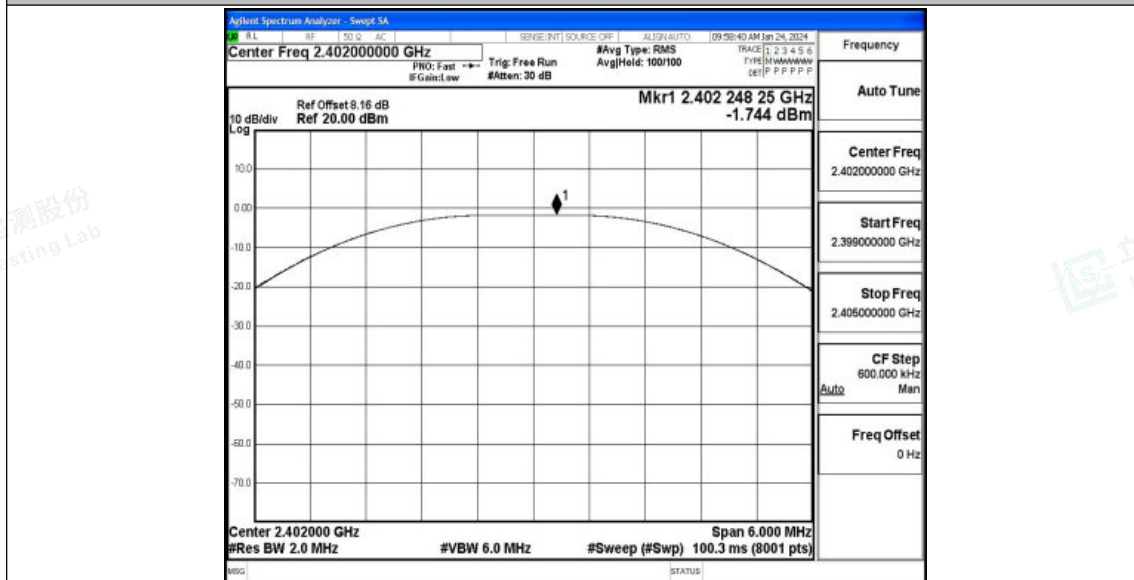


BLE_1M_Ant1_2480



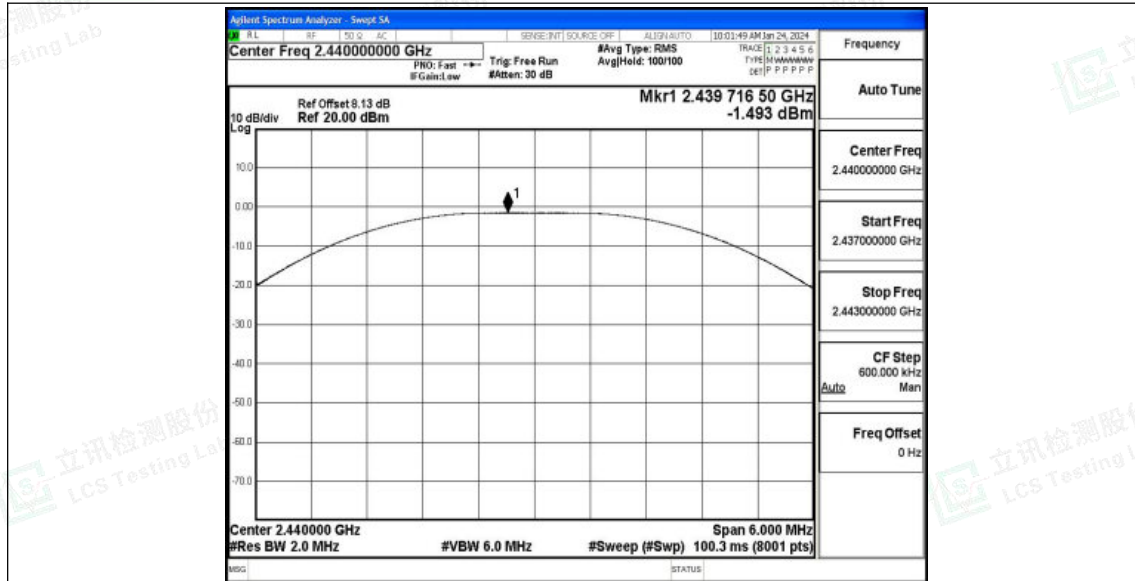


BLE_2M_Ant1_2402

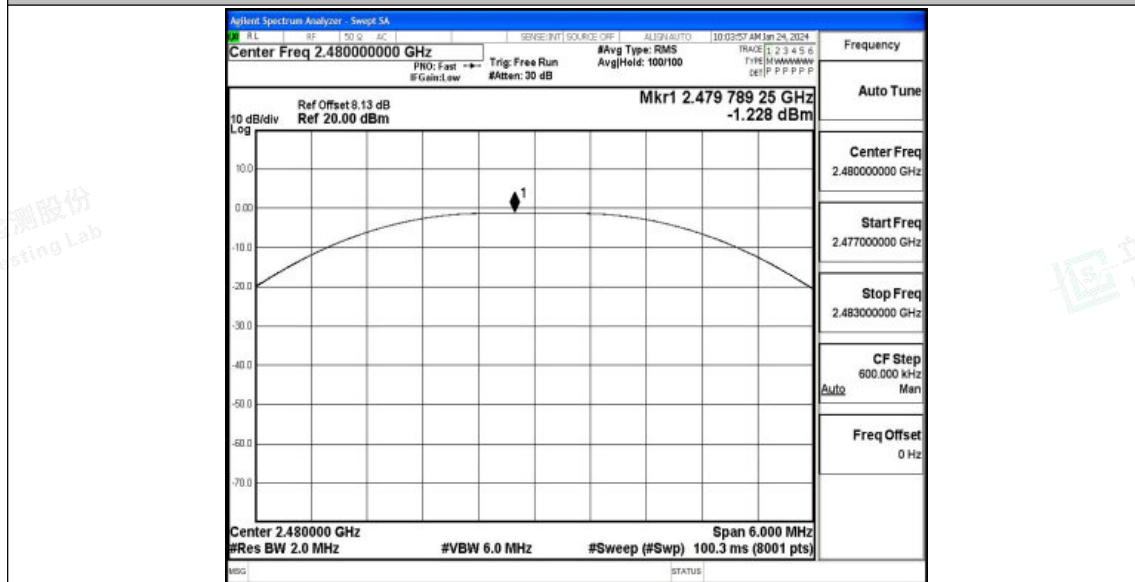


BLE_2M_Ant1_2440





BLE_2M_Ant1_2480





B.3 Maximum power spectral density

Test Result

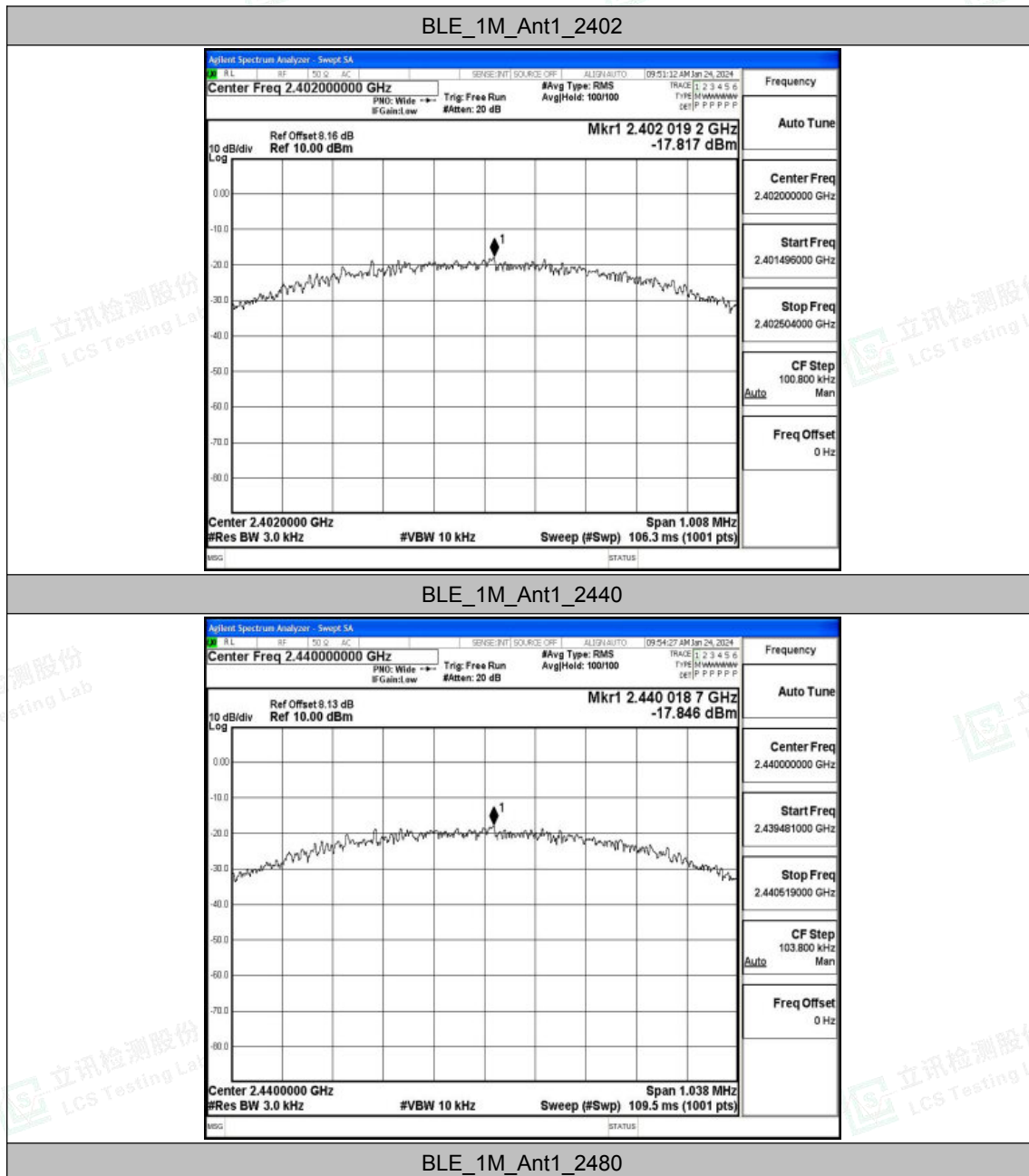
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-17.82	≤8.00	PASS
		2440	-17.85	≤8.00	PASS
		2480	-17.64	≤8.00	PASS
BLE_2M	Ant1	2402	-20.83	≤8.00	PASS
		2440	-20.73	≤8.00	PASS
		2480	-20.56	≤8.00	PASS





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Test Graphs



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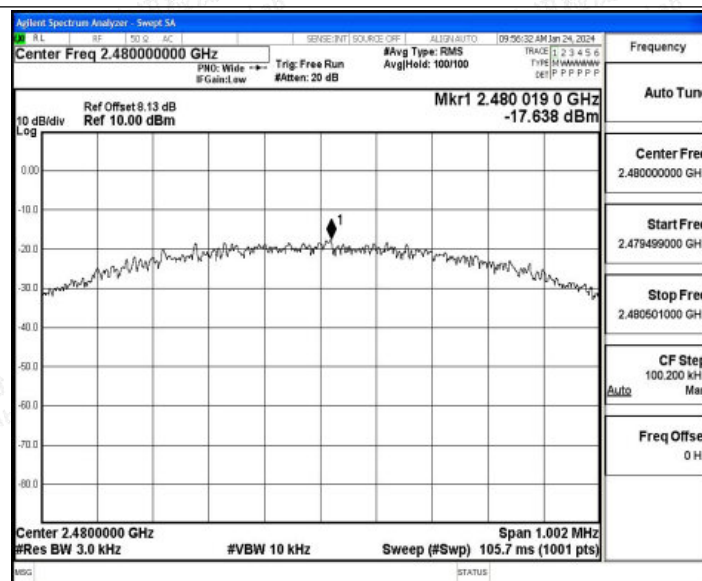
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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

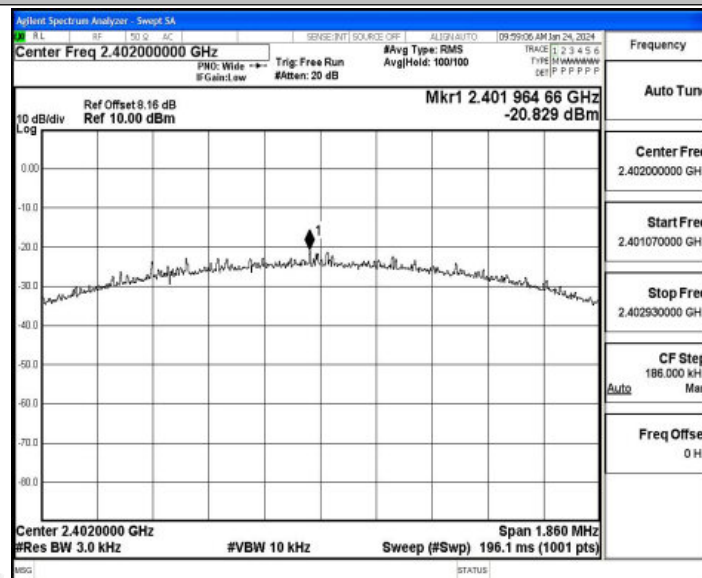
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BLE_2M_Ant1_2402

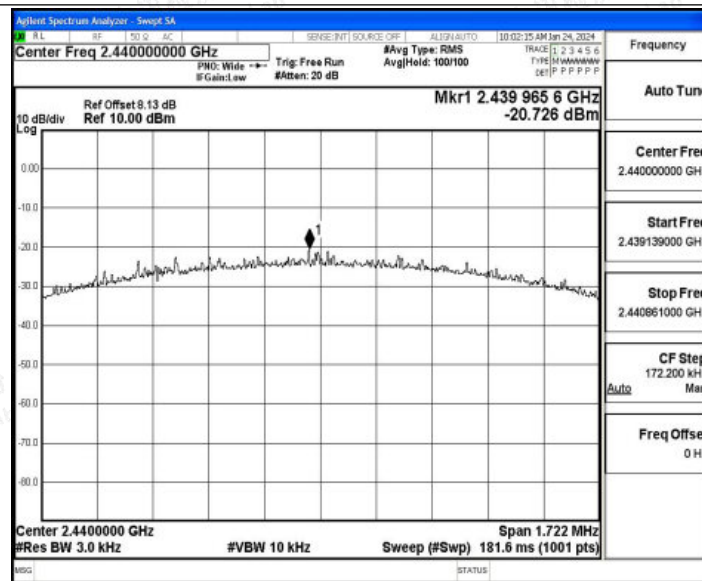


BLE_2M_Ant1_2440

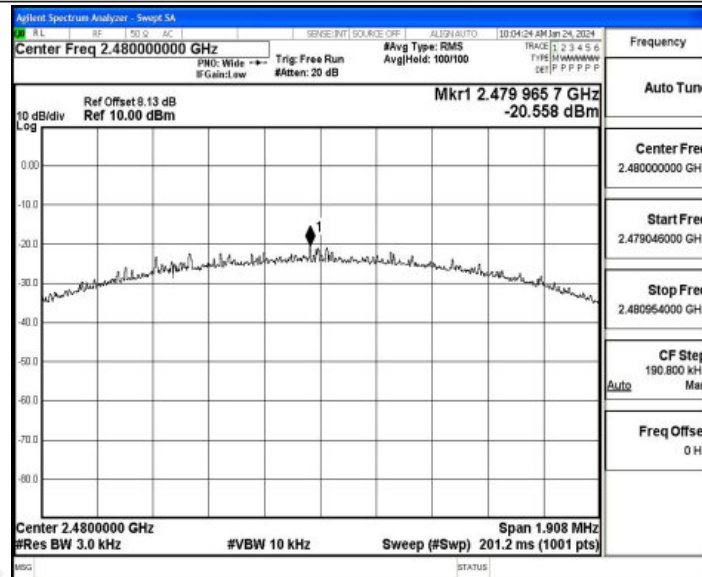




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BLE_2M_Ant1_2480





B.4 Band edge measurements

Test Result

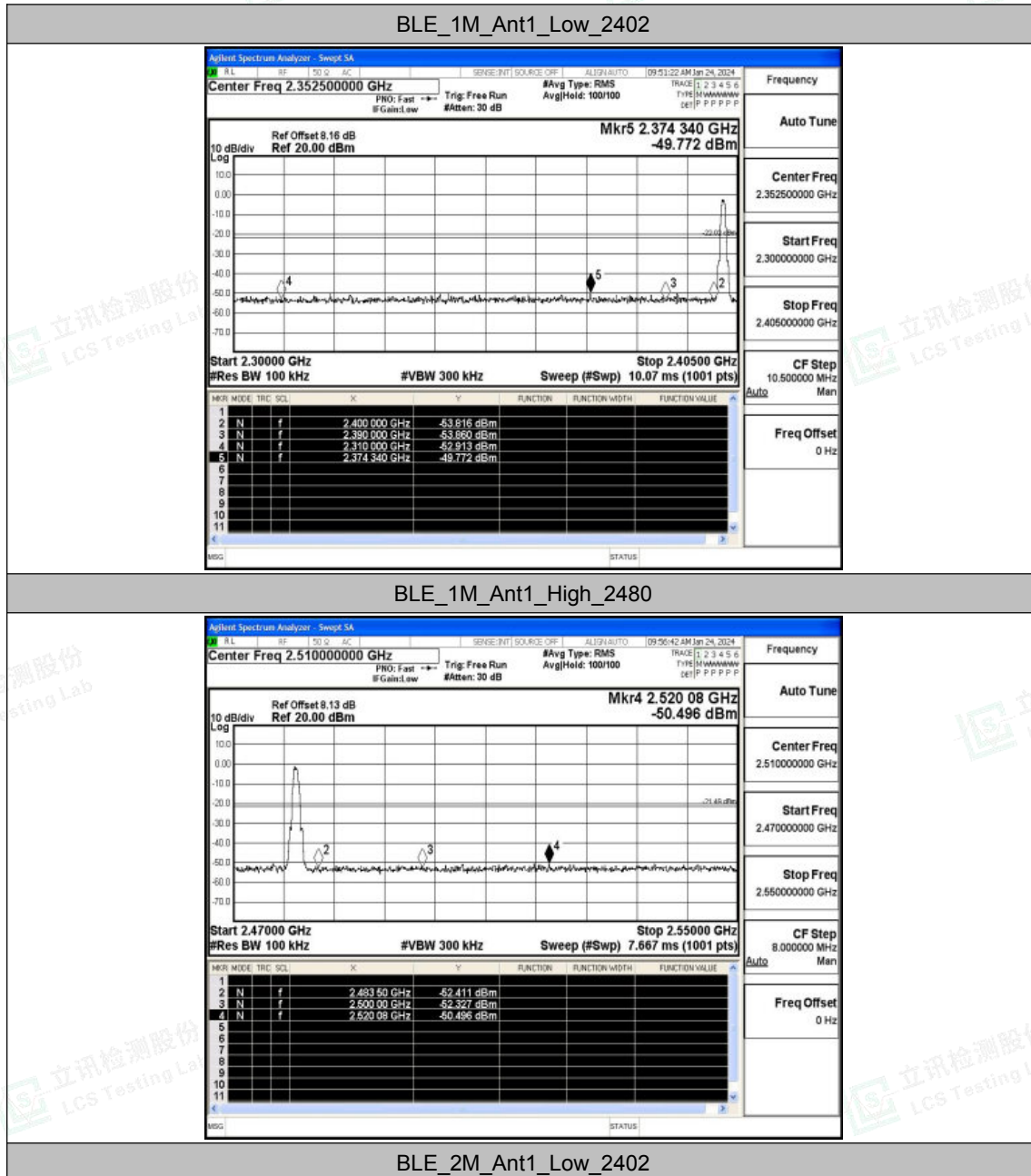
TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-2.02	-49.77	≤-22.02	PASS
		High	2480	-1.49	-50.5	≤-21.49	PASS
BLE_2M	Ant1	Low	2402	-3.70	-36.89	≤-23.7	PASS
		High	2480	-1.95	-50.01	≤-21.95	PASS





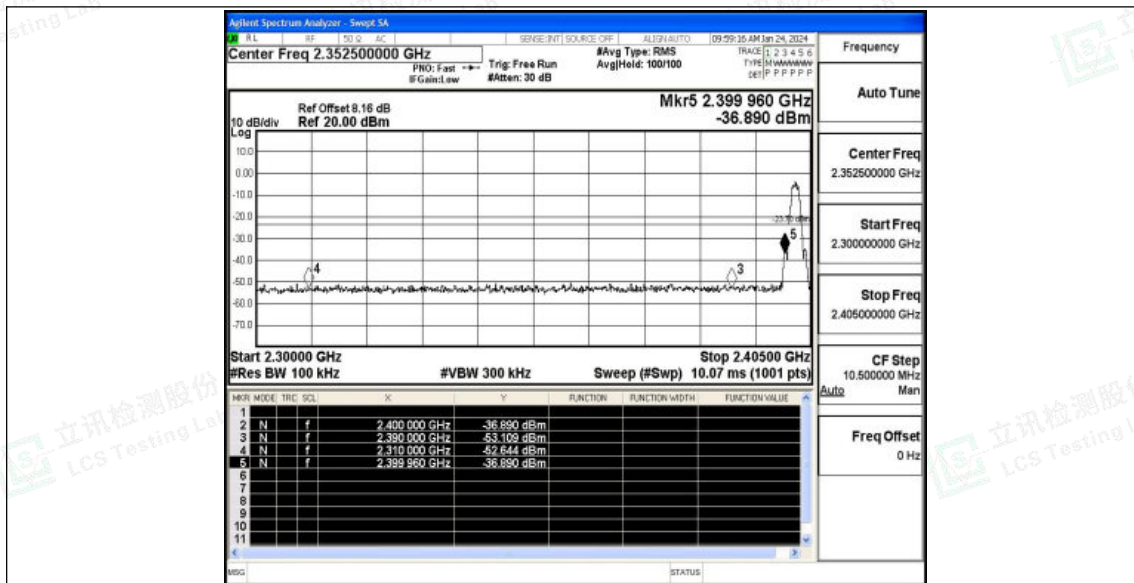
LCSA04112EB

Test Graphs

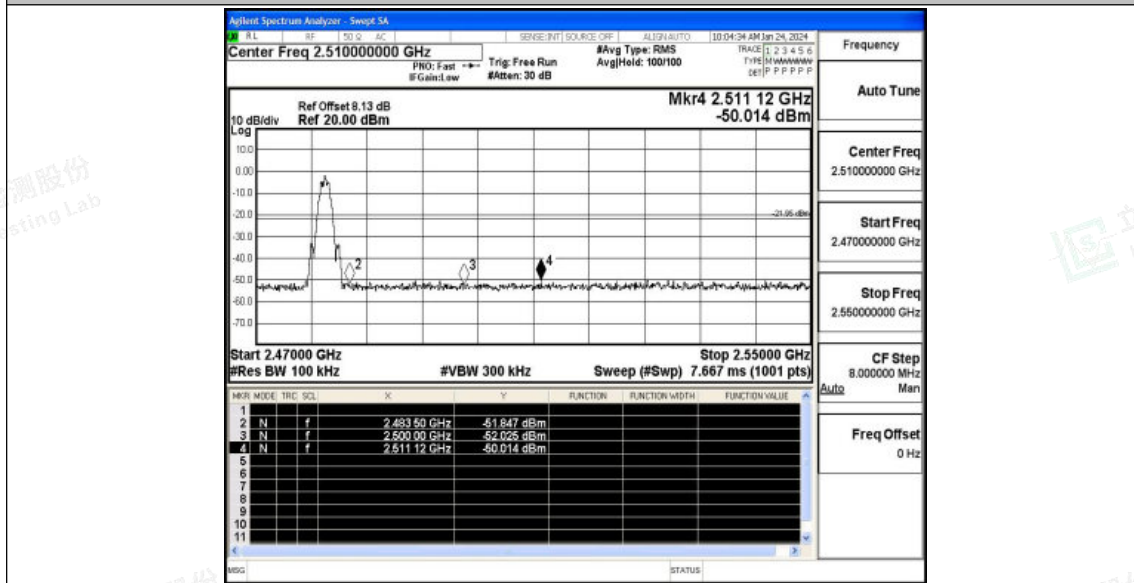




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BLE_2M_Ant1_High_2480





B.5 Conducted Spurious Emission

Test Result

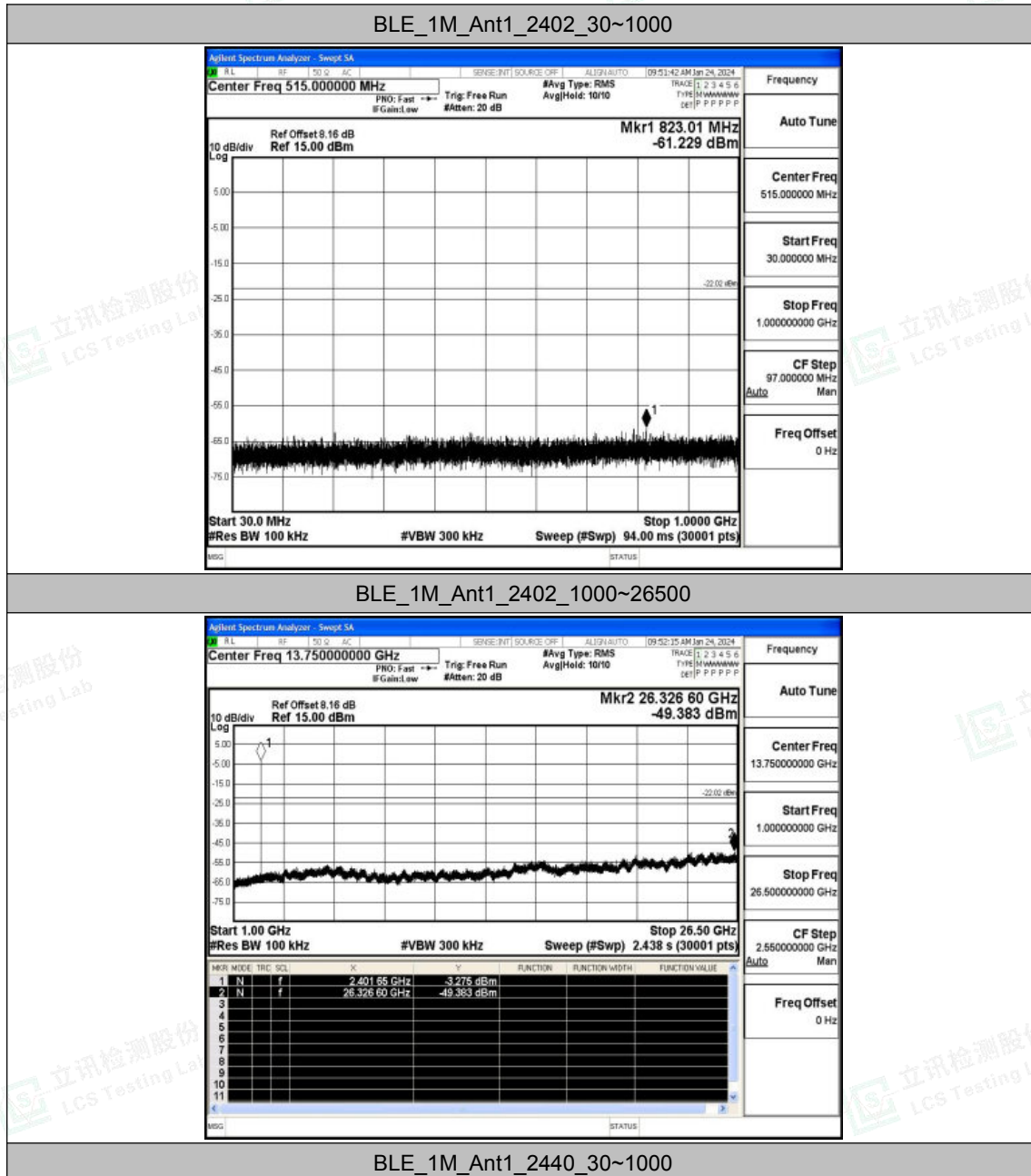
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	30~1000	-2.02	-61.23	≤-22.02	PASS
			1000~26500	-2.02	-49.38	≤-22.02	PASS
		2440	30~1000	-1.70	-61.26	≤-21.7	PASS
			1000~26500	-1.70	-48.82	≤-21.7	PASS
		2480	30~1000	-1.49	-62.32	≤-21.49	PASS
			1000~26500	-1.49	-49.31	≤-21.49	PASS
BLE_2M	Ant1	2402	30~1000	-3.70	-62	≤-23.7	PASS
			1000~26500	-3.70	-49.5	≤-23.7	PASS
		2440	30~1000	-3.69	-60.94	≤-23.69	PASS
			1000~26500	-3.69	-48.44	≤-23.69	PASS
		2480	30~1000	-1.95	-61.52	≤-21.95	PASS
			1000~26500	-1.95	-48.9	≤-21.95	PASS





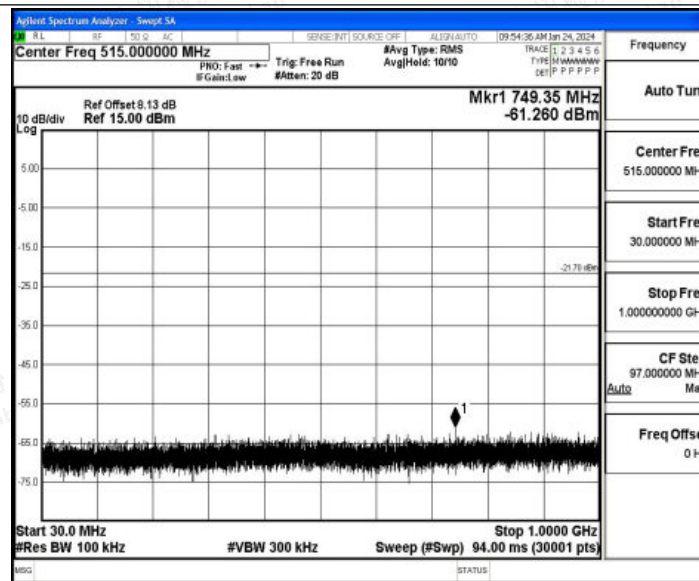
LCSA04112EB

Test Graphs

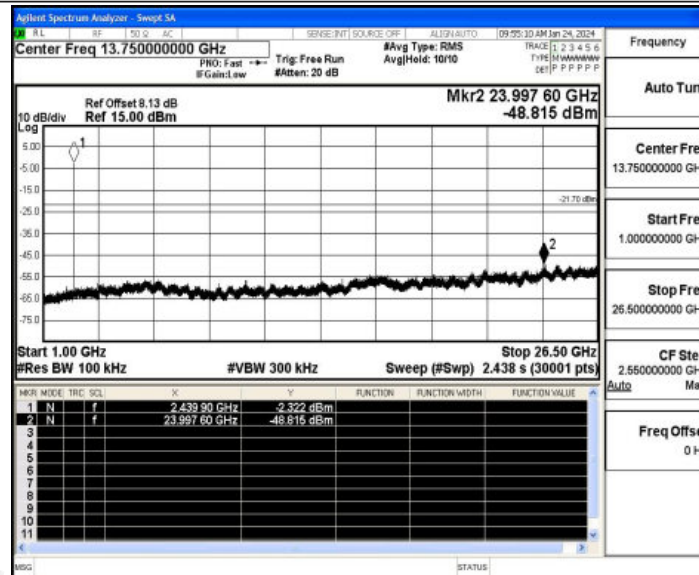




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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_30~1000



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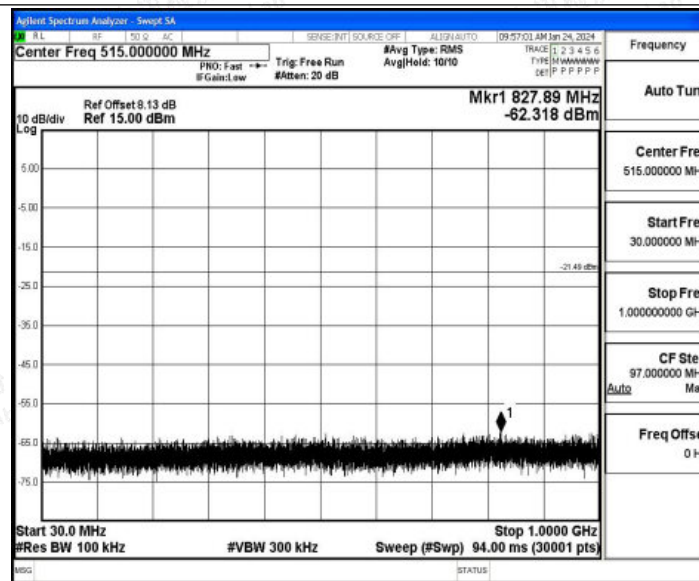
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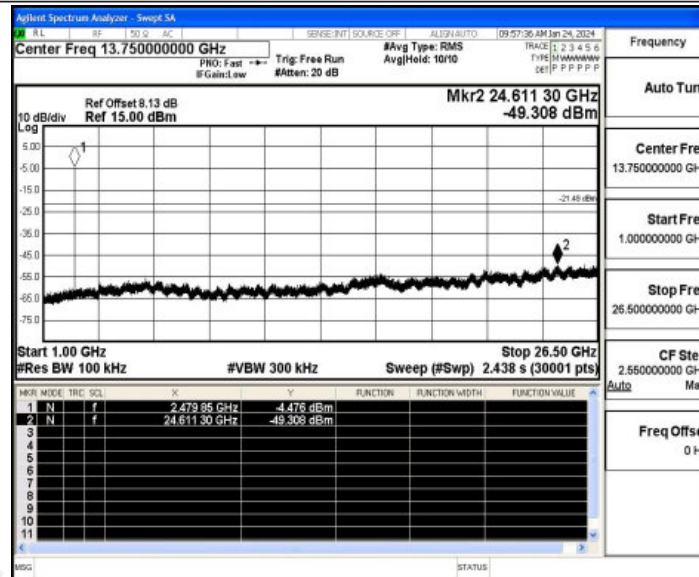
Scan code to check authenticity



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BLE_1M_Ant1_2480_1000~26500



BLE_2M_Ant1_2402_30~1000



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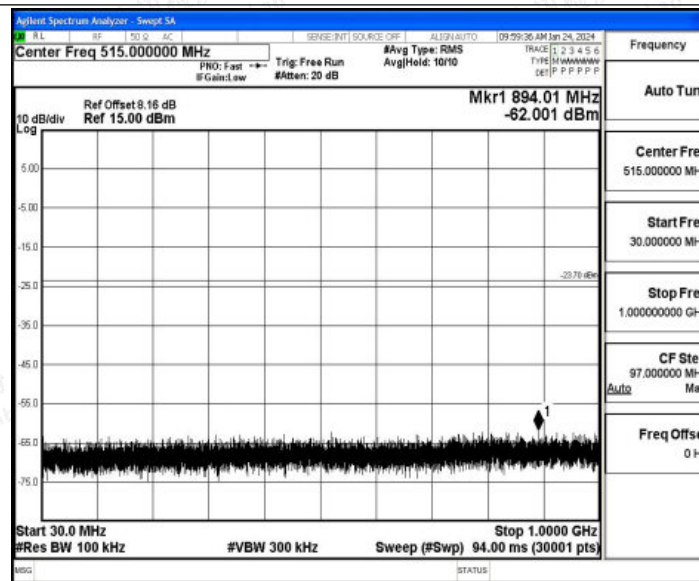
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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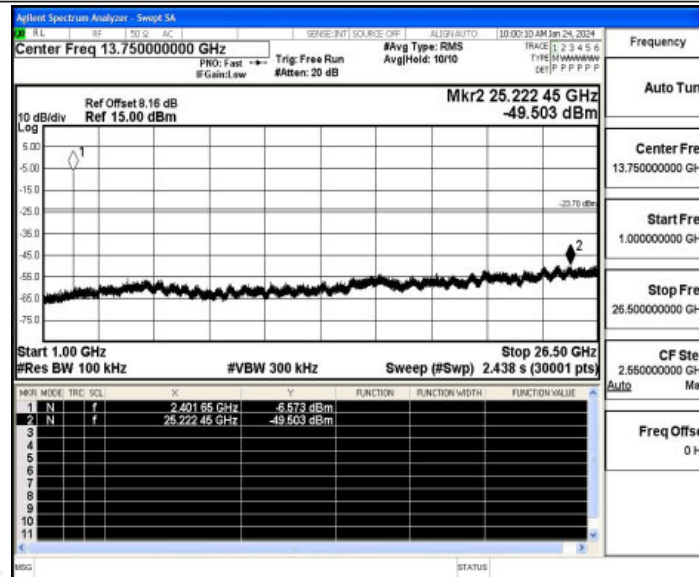
Scan code to check authenticity



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BLE_2M_Ant1_2402_1000~26500



BLE_2M_Ant1_2440_30~1000

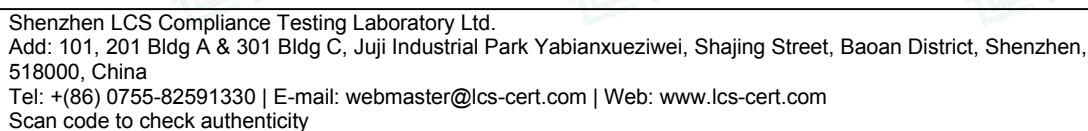
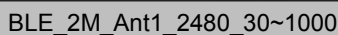
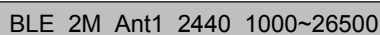


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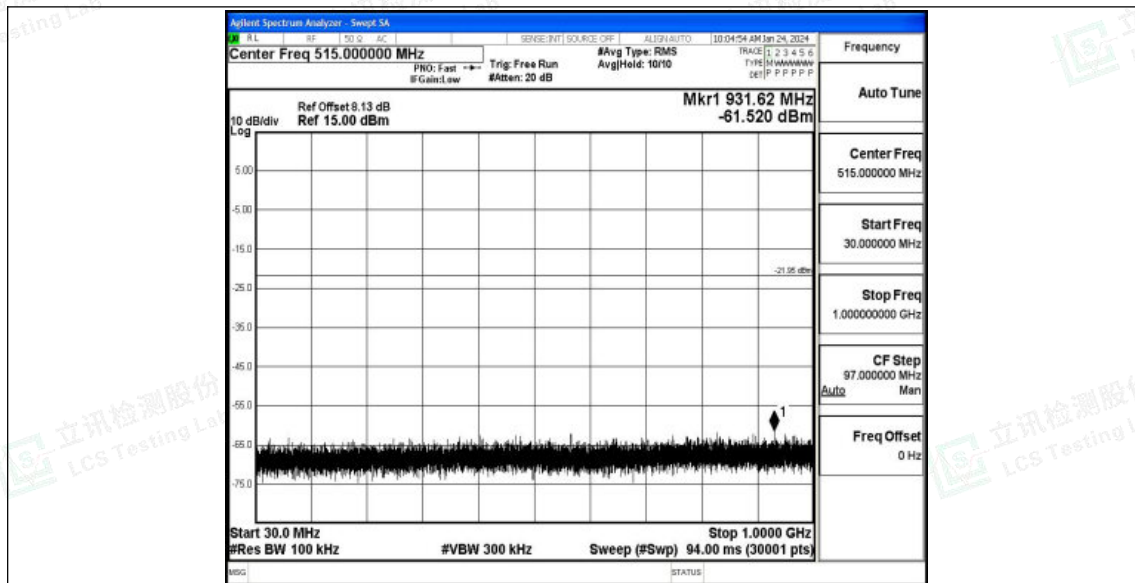
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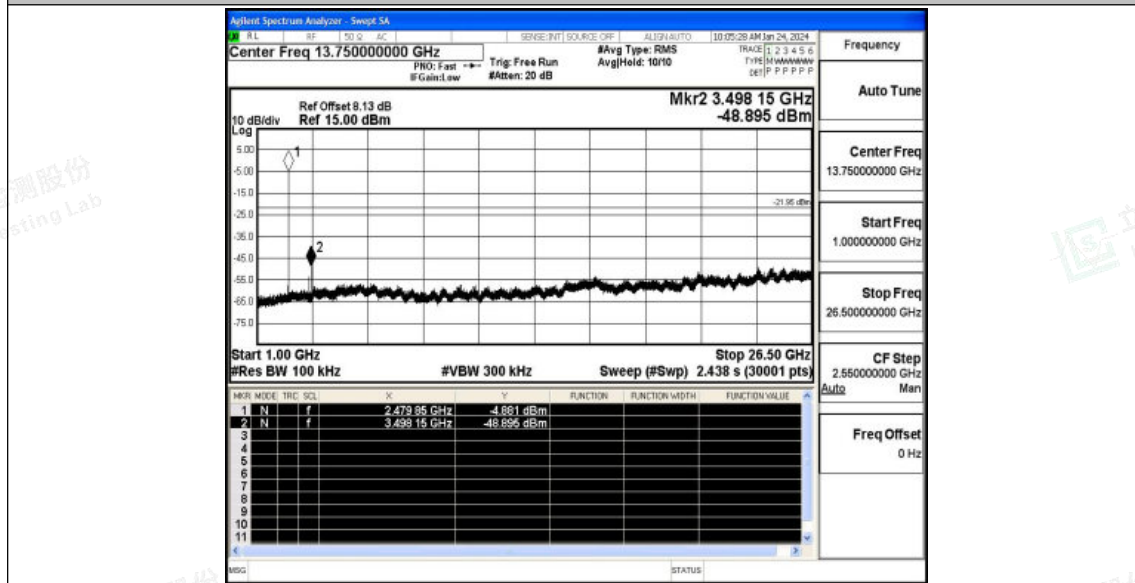




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BLE_2M_Ant1_2480_1000~26500



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Reference level measurement

Test Result

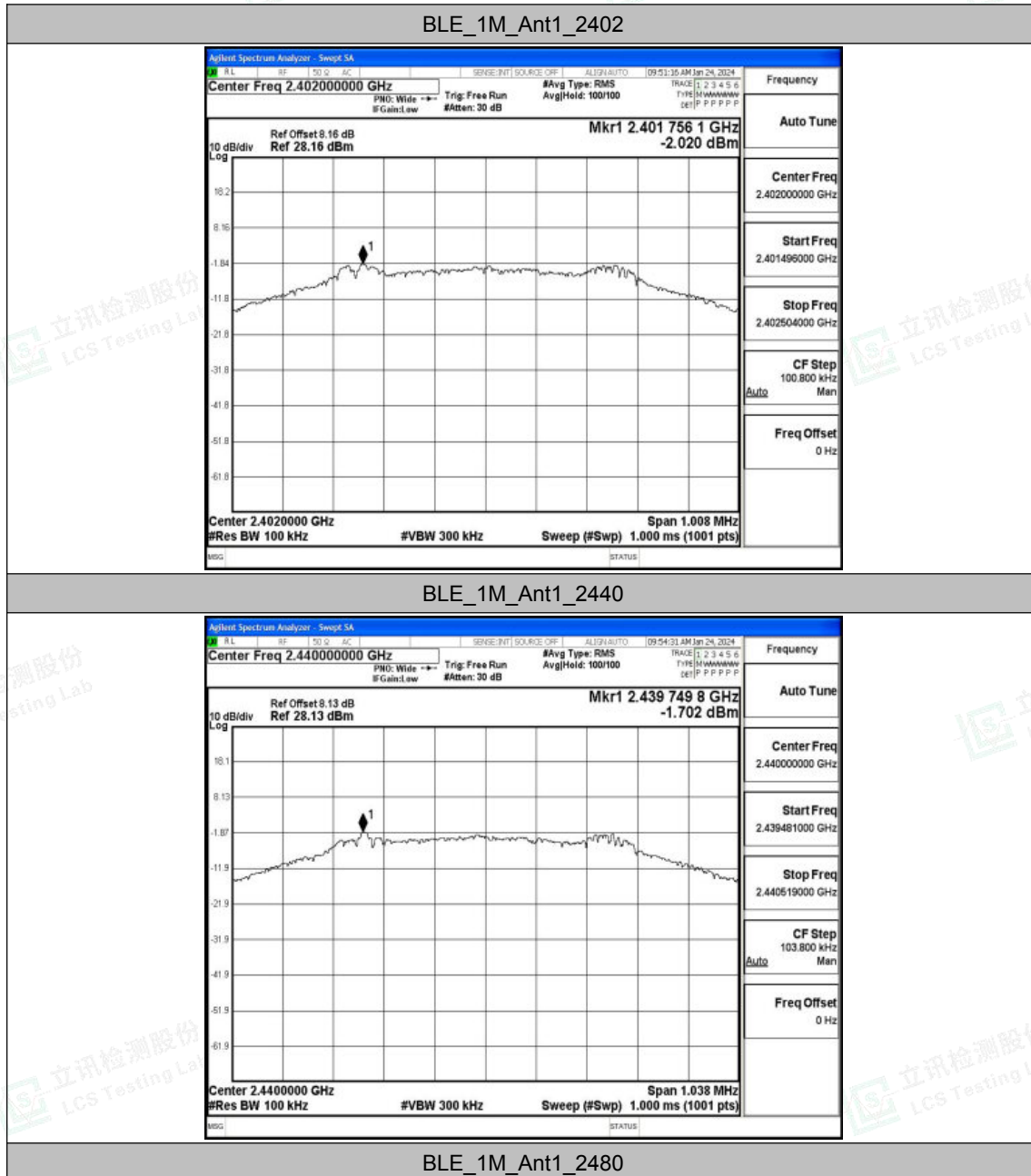
TestMode	Antenna	Freq(MHz)	Max.Point[MHz]	Result[dBm]
BLE_1M	Ant1	2402	2401.76	-2.02
		2440	2439.75	-1.70
		2480	2479.74	-1.49
BLE_2M	Ant1	2402	2401.51	-3.70
		2440	2439.96	-3.69
		2480	2480.00	-1.95





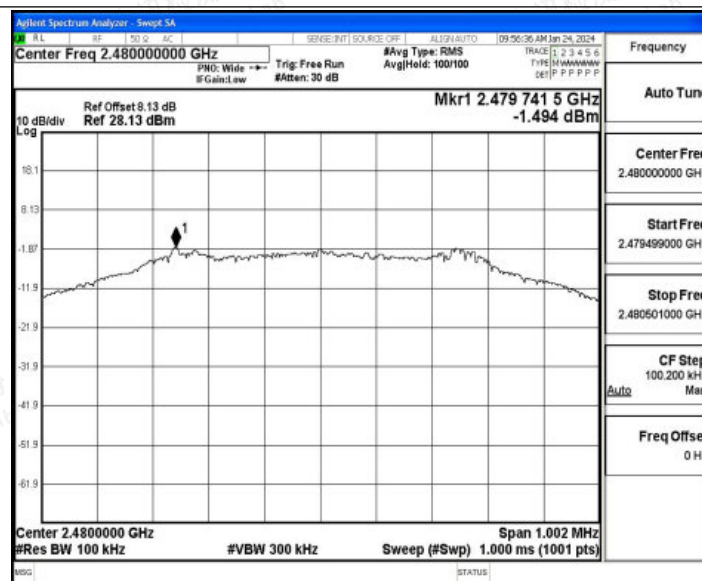
LCSA04104112EB

Test Graphs

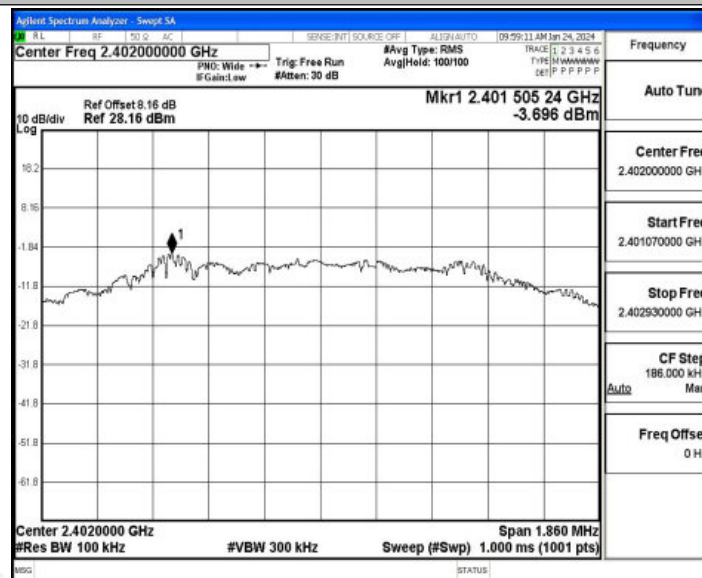




LCSA04112EB



BLE_2M_Ant1_2402

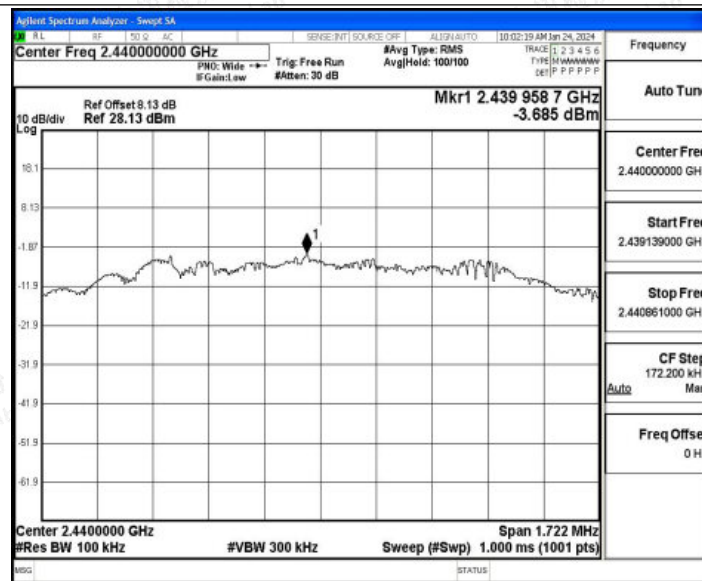


BLE_2M_Ant1_2440

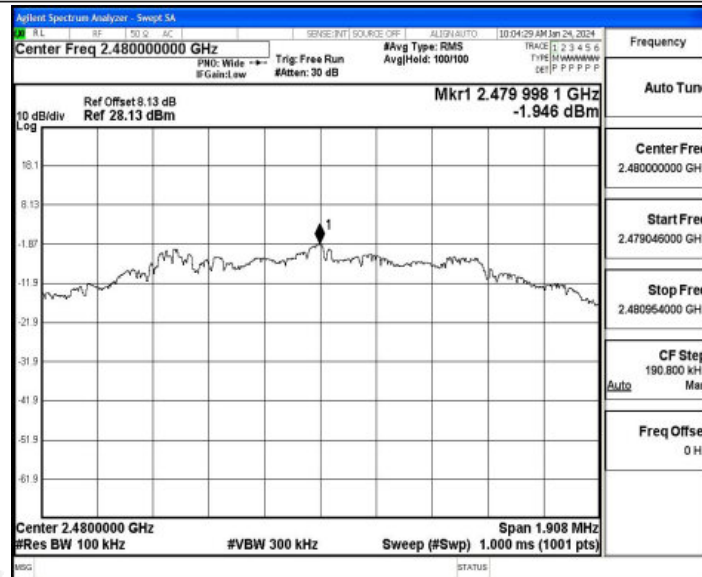




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BLE_2M_Ant1_2480





B.6 Duty Cycle

Test Result

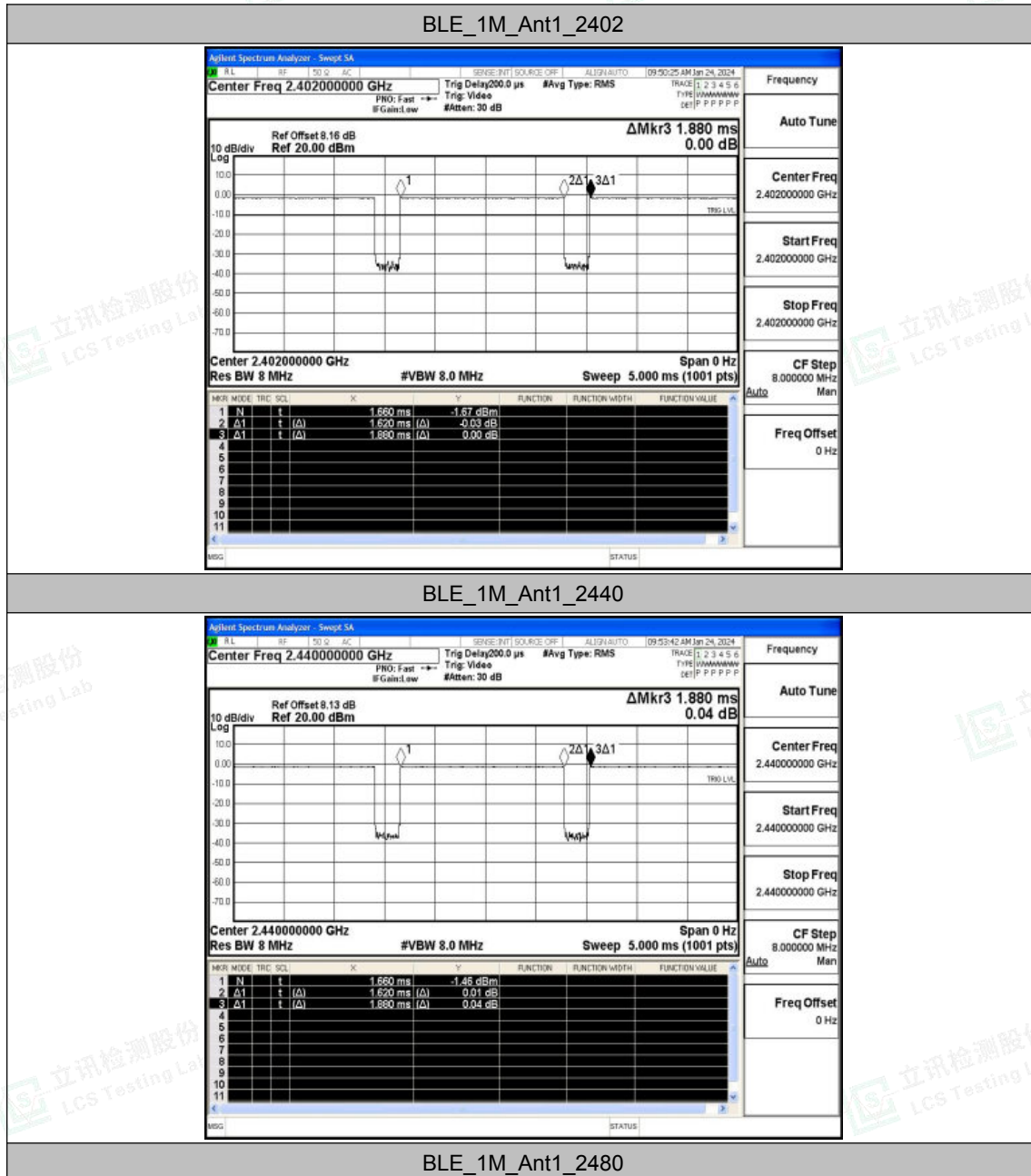
TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]	1/T Factor[dB]
BLE_1M	Ant1	2402	1.62	1.88	86.17	0.65	0.62
		2440	1.62	1.88	86.17	0.65	0.62
		2480	1.62	1.88	86.17	0.65	0.62
BLE_2M	Ant1	2402	0.82	1.25	65.60	1.83	1.22
		2440	0.82	1.25	65.60	1.83	1.22
		2480	0.82	1.25	65.60	1.83	1.22





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Test Graphs



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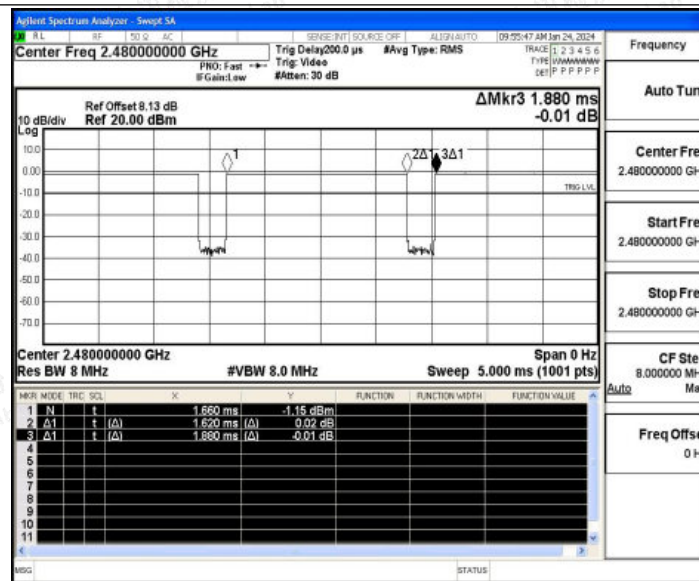
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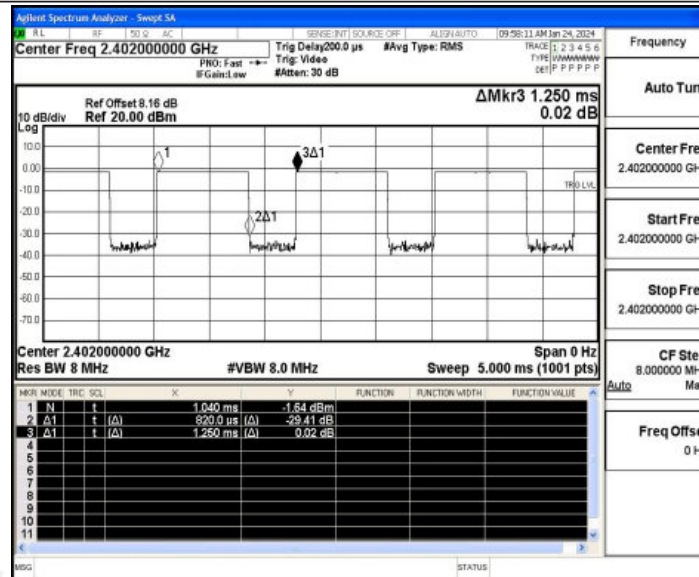
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BLE_2M_Ant1_2402



BLE_2M_Ant1_2440



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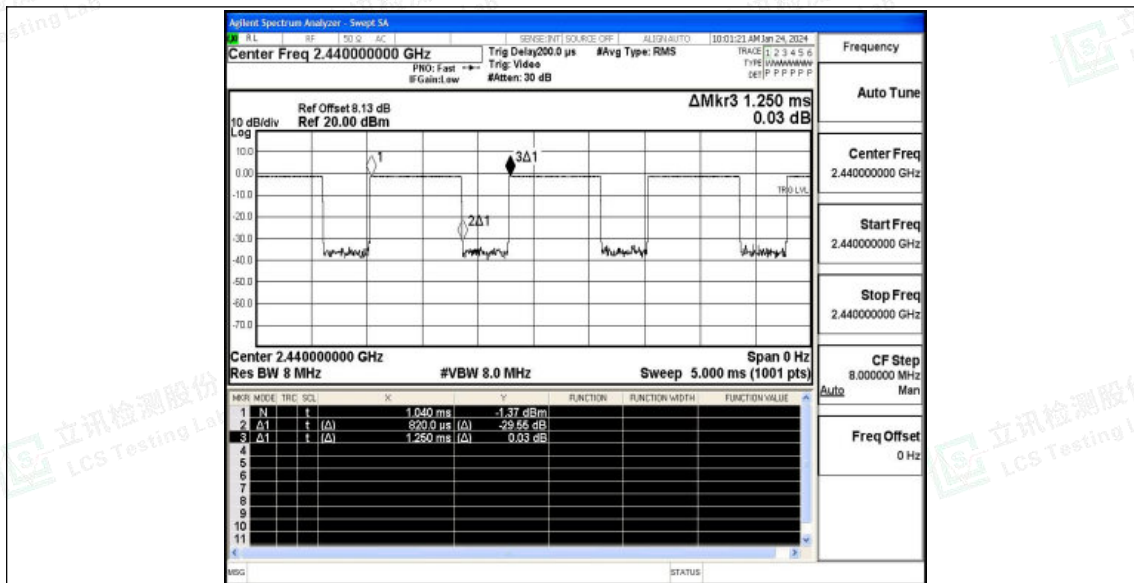
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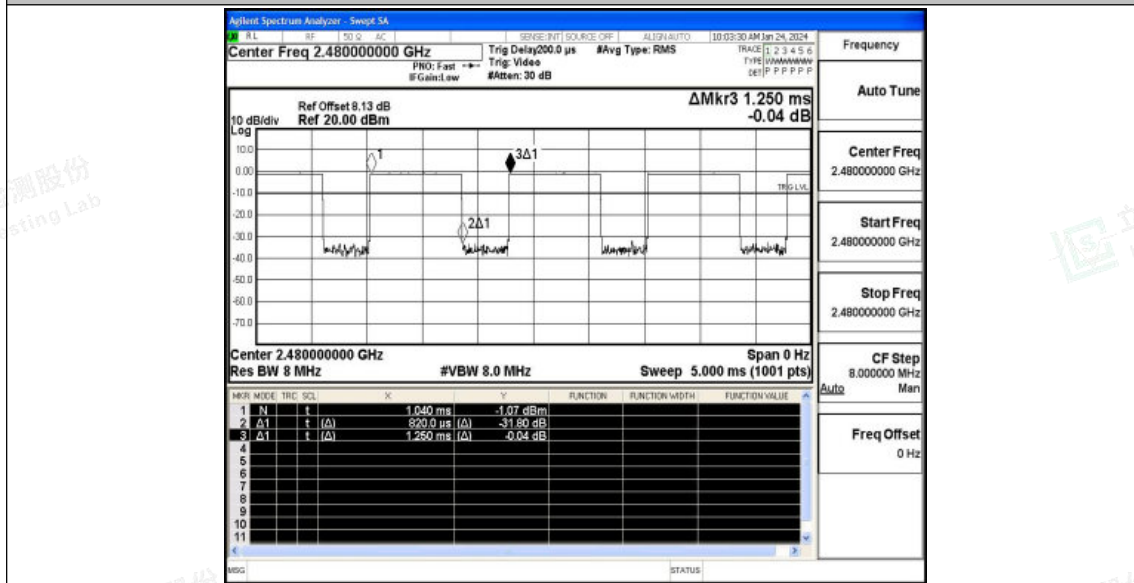
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BLE_2M_Ant1_2480



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B.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y[MHz]	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-49.52	≤-41.20	45.68	≤54	PASS
				AV	2374.130	-48.25	≤-41.20	46.95	≤54	PASS
				AV	2390.000	-49.07	≤-41.20	46.13	≤54	PASS
				Peak	2310.000	-42.86	≤-21.20	52.34	≤74	PASS
				Peak	2330.660	-39.06	≤-21.20	56.14	≤74	PASS
				Peak	2390.000	-41.78	≤-21.20	53.42	≤74	PASS
		High	2480	AV	2483.500	-48.55	≤-41.20	46.65	≤54	PASS
				AV	2498.720	-48.1	≤-41.20	47.10	≤54	PASS
				AV	2500.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2483.500	-41.09	≤-21.20	54.11	≤74	PASS
				Peak	2489.840	-38.9	≤-21.20	56.30	≤74	PASS
				Peak	2500.000	-41.97	≤-21.20	53.23	≤74	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-48.56	≤-41.20	46.64	≤54	PASS
				AV	2377.490	-47.27	≤-41.20	47.93	≤54	PASS
				AV	2390.000	-48.34	≤-41.20	46.86	≤54	PASS
				Peak	2310.000	-40.79	≤-21.20	54.41	≤74	PASS
				Peak	2389.460	-39.02	≤-21.20	56.18	≤74	PASS
				Peak	2390.000	-42.4	≤-21.20	52.80	≤74	PASS
		High	2480	AV	2483.500	-47.9	≤-41.20	47.30	≤54	PASS
				AV	2496.000	-47.21	≤-41.20	47.99	≤54	PASS
				AV	2500.000	-47.83	≤-41.20	47.37	≤54	PASS
				Peak	2483.500	-40.7	≤-21.20	54.50	≤74	PASS
				Peak	2497.280	-39.69	≤-21.20	55.51	≤74	PASS
				Peak	2500.000	-40.88	≤-21.20	54.32	≤74	PASS

Note:

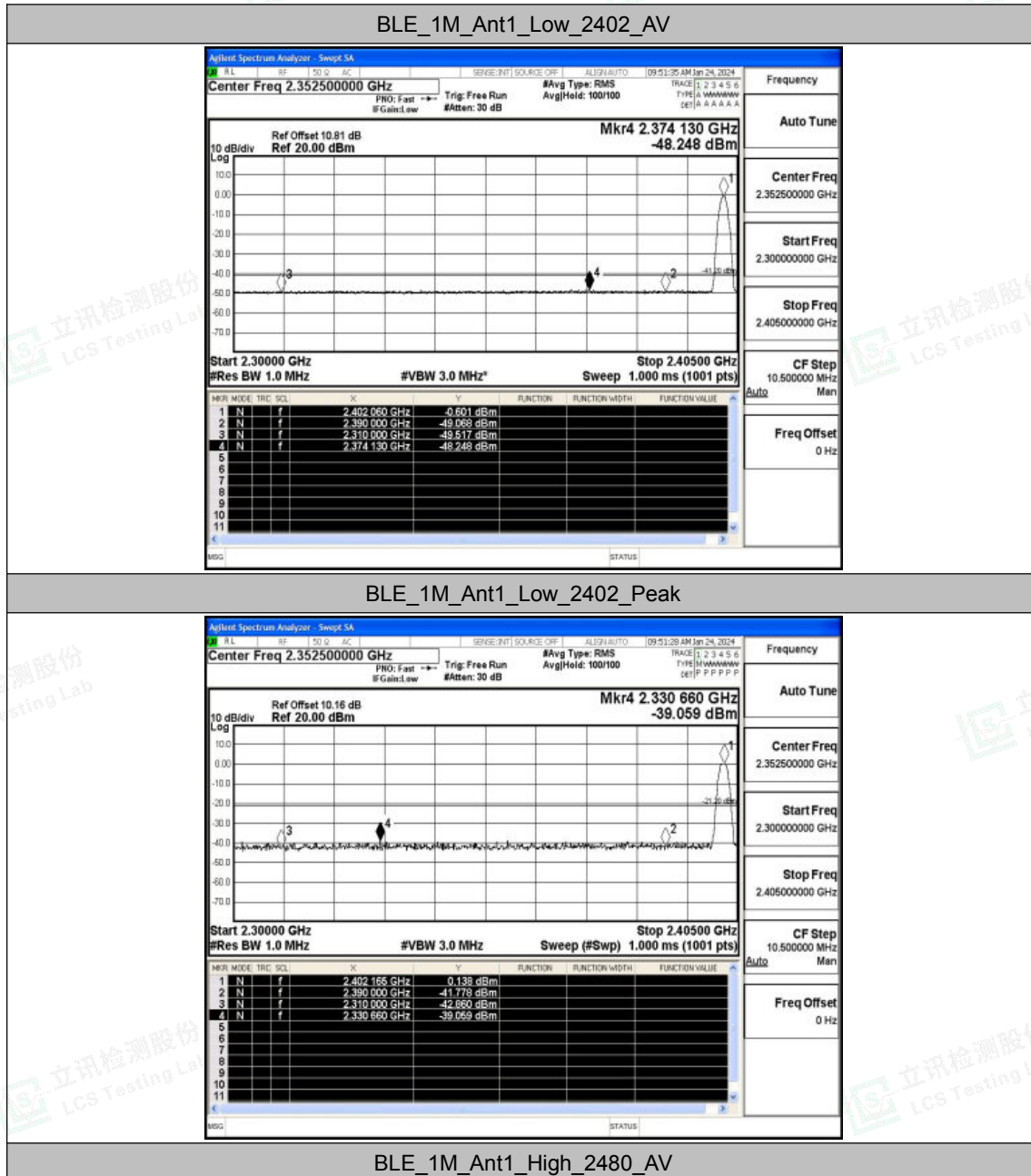
1. The Antenna Gain is compensated in the graph. The Correction Factor is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.





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Test Graphs



Shenzhen LCS Compliance Testing Laboratory Ltd.

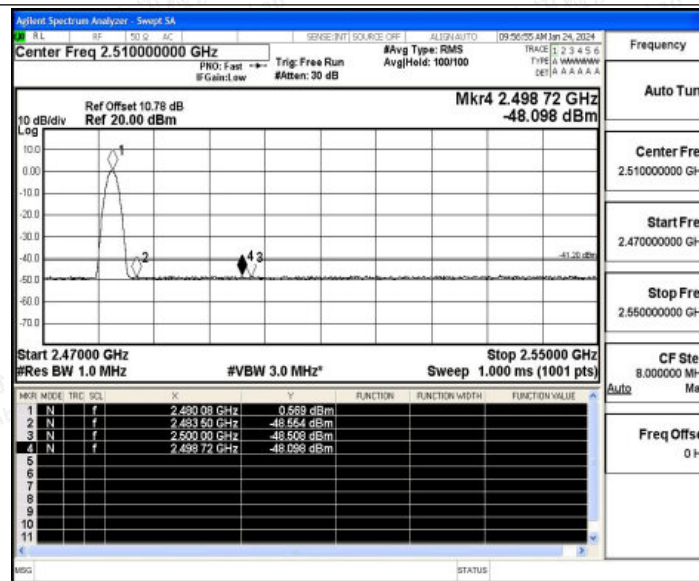
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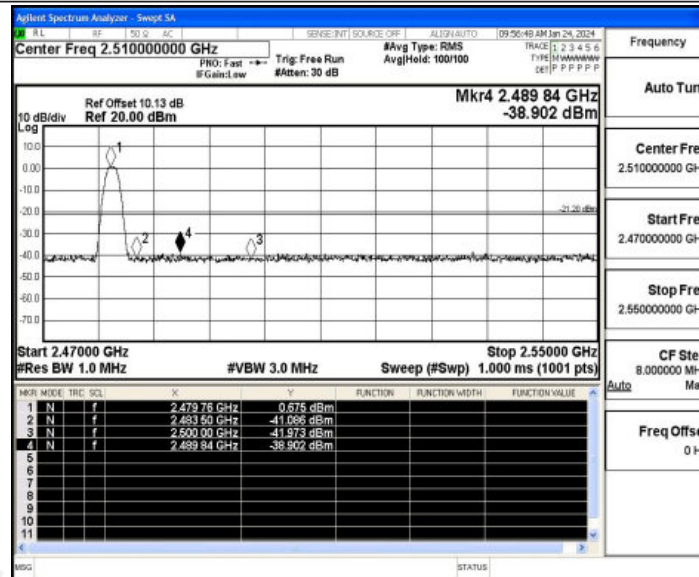
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BLE_1M_Ant1_High_2480_Peak



BLE_2M_Ant1_Low_2402_AV



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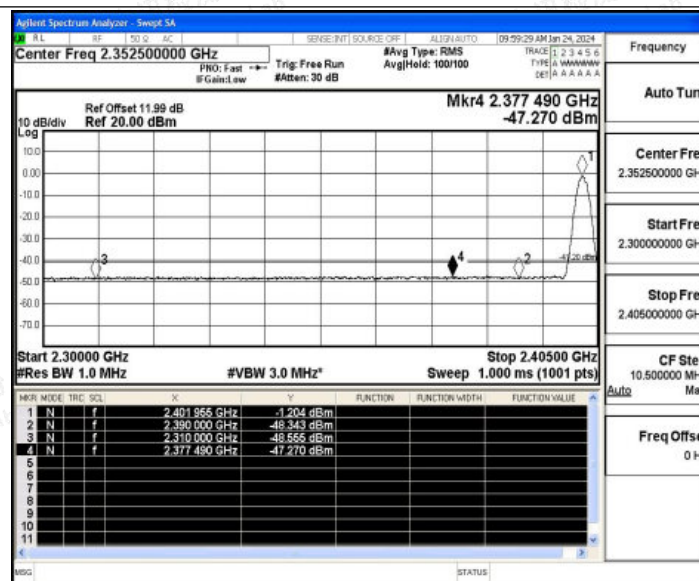
Add: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China

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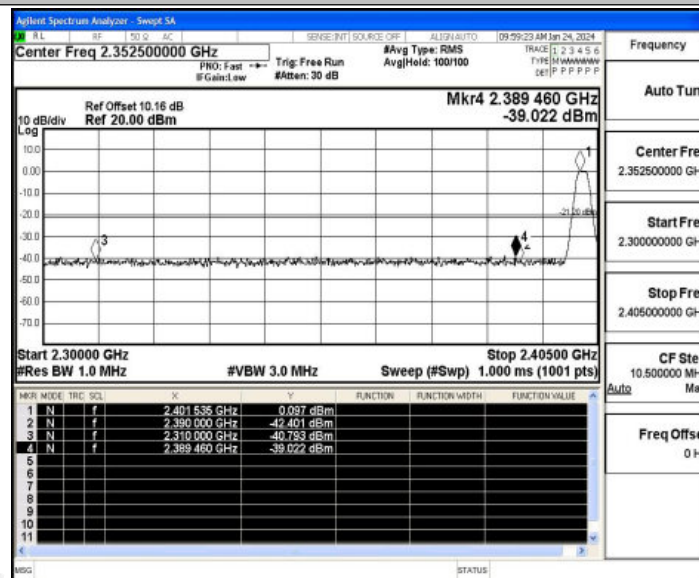
Scan code to check authenticity



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BLE_2M_Ant1_Low_2402_Peak

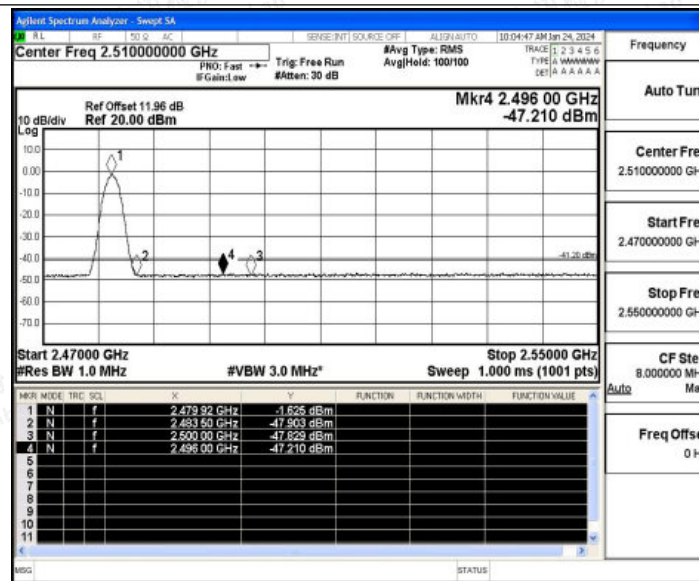


BLE_2M_Ant1_High_2480_AV





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BLE_2M_Ant1_High_2480_Peak

