



Appendix B

RF Test Data for BT LE (Conducted Measurement)

Product Name: Car diagnostics device

Test Model: F500

HVIN: F500

Environmental Conditions

Temperature:	23.1° C
Relative Humidity:	52.3%
ATM Pressure:	100.0 kPa
Test Engineer:	Monkey Li
Supervised by:	Li huan



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B.1 DTS Bandwidth

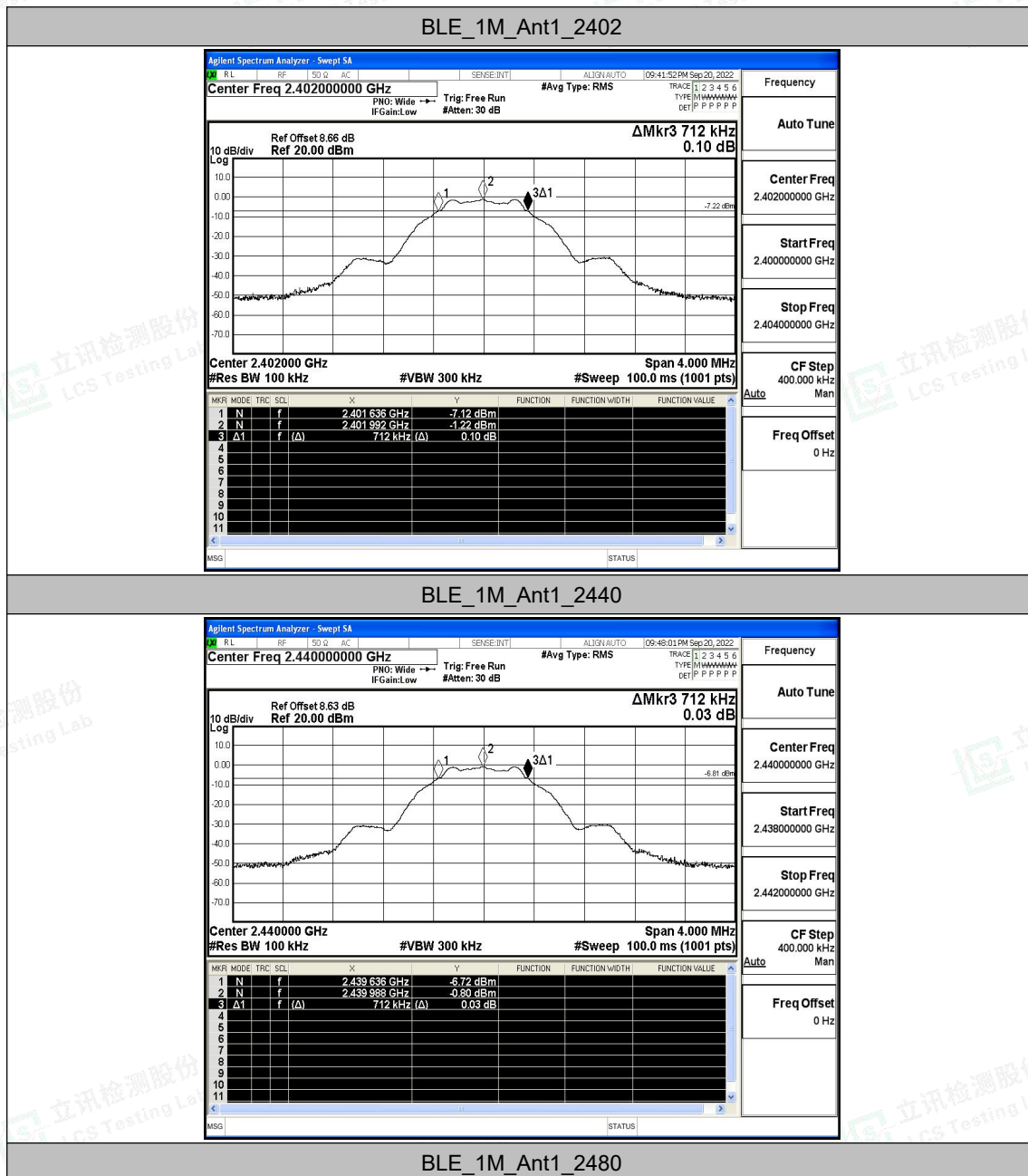
Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.712	2401.636	2402.348	0.5	PASS
		2440	0.712	2439.636	2440.348	0.5	PASS
		2480	0.712	2479.640	2480.352	0.5	PASS





Test Graphs

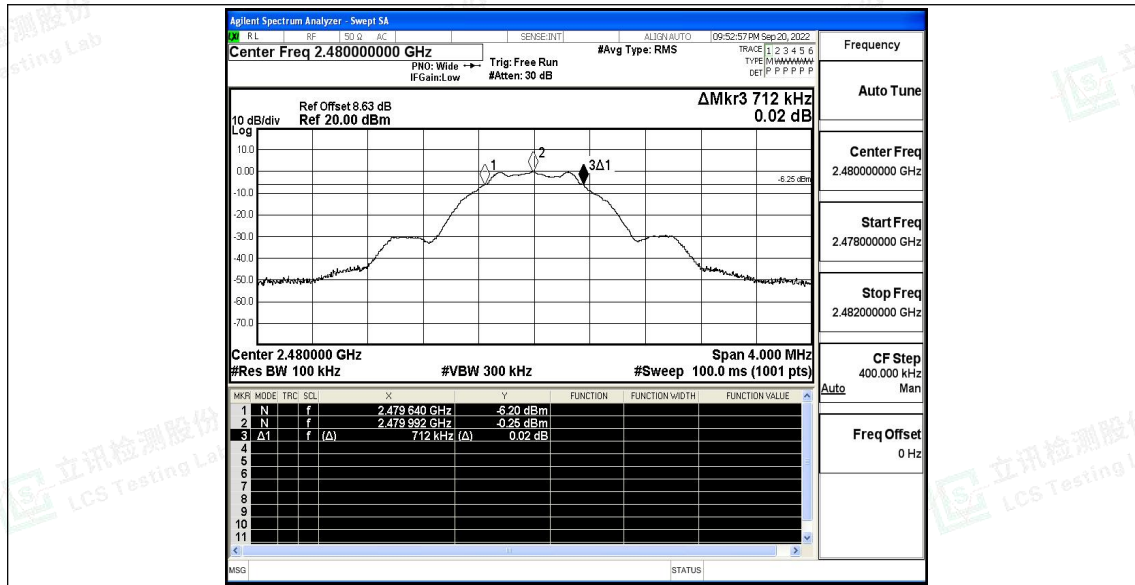


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B.2 Occupied Channel Bandwidth

Test Result

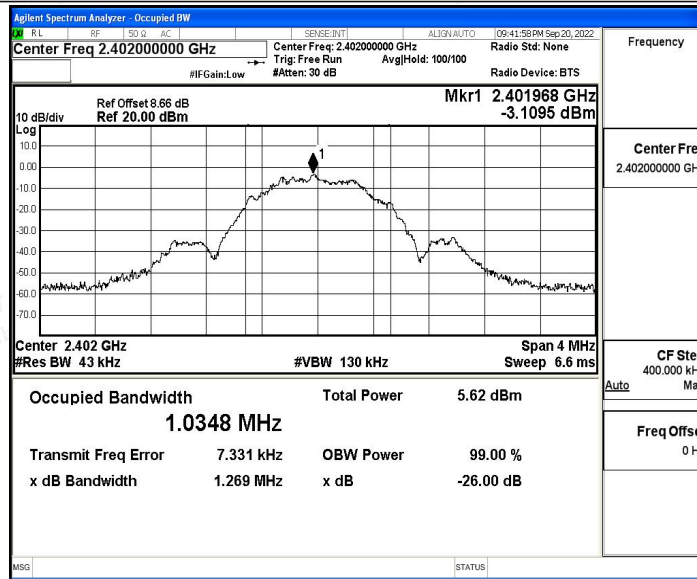
TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0348	2401.4899	2402.5247	---	---
		2440	1.0327	2439.4899	2440.5226	---	---
		2480	1.0323	2479.4912	2480.5235	---	---



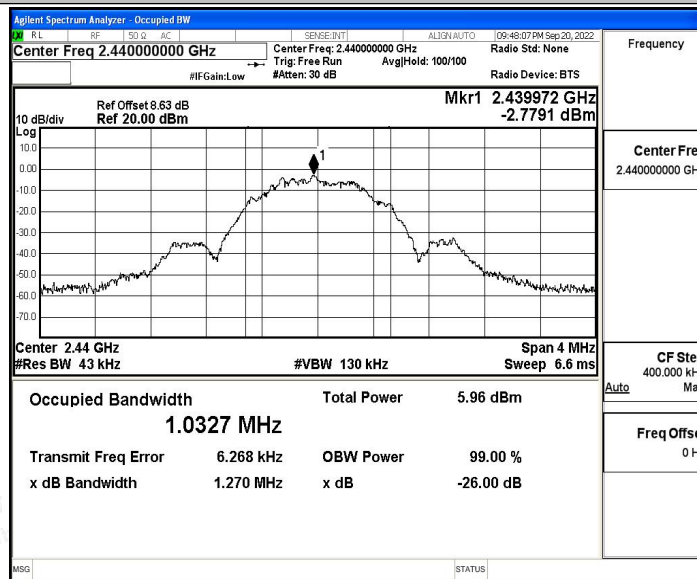


Test Graphs

BLE_1M_Ant1_2402

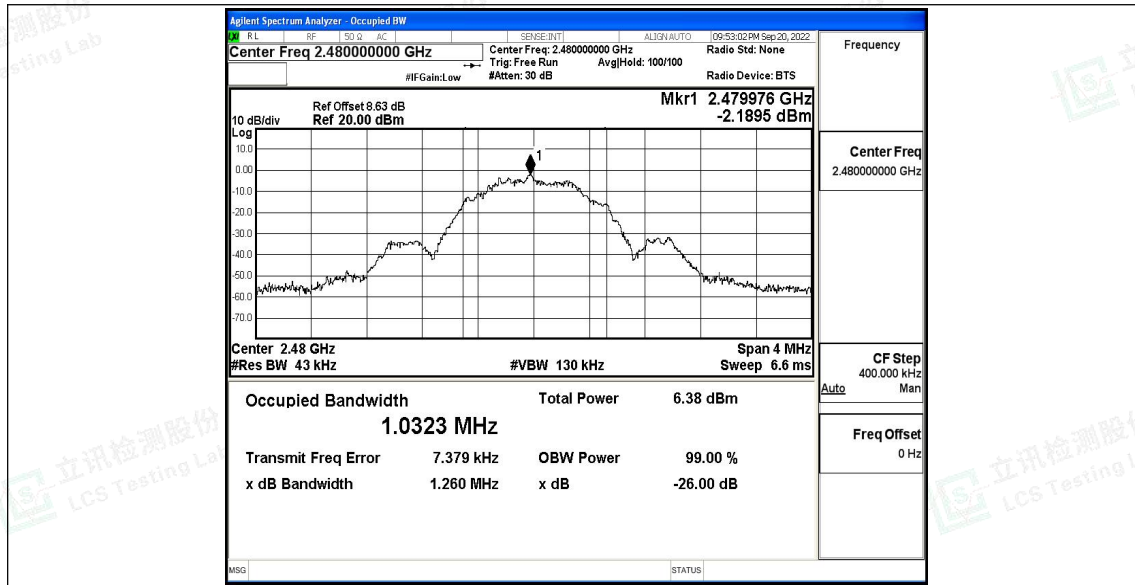


BLE_1M_Ant1_2440



BLE_1M_Ant1_2480





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B.3 Maximum conducted output power and e.i.r.p.

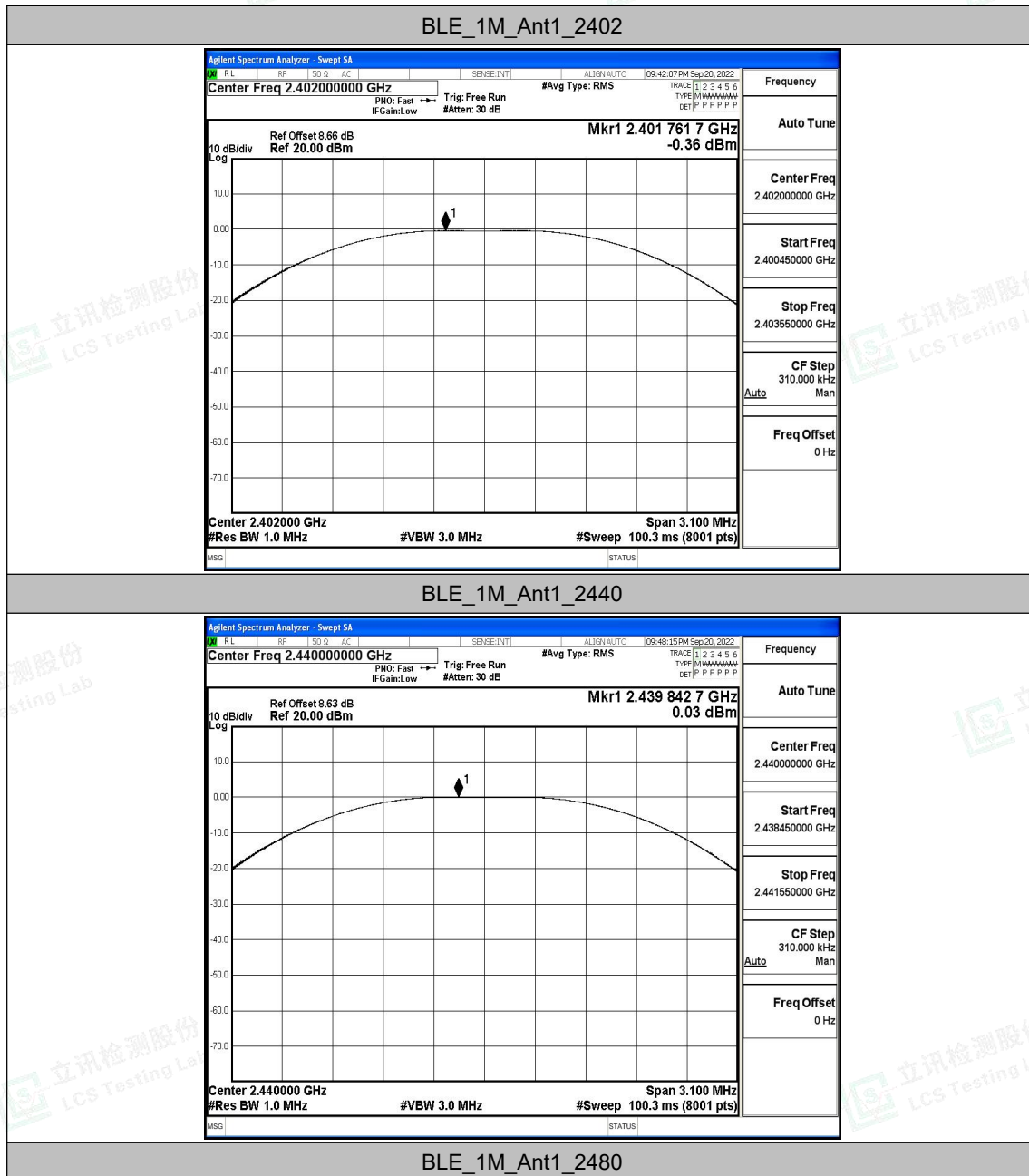
Test Result

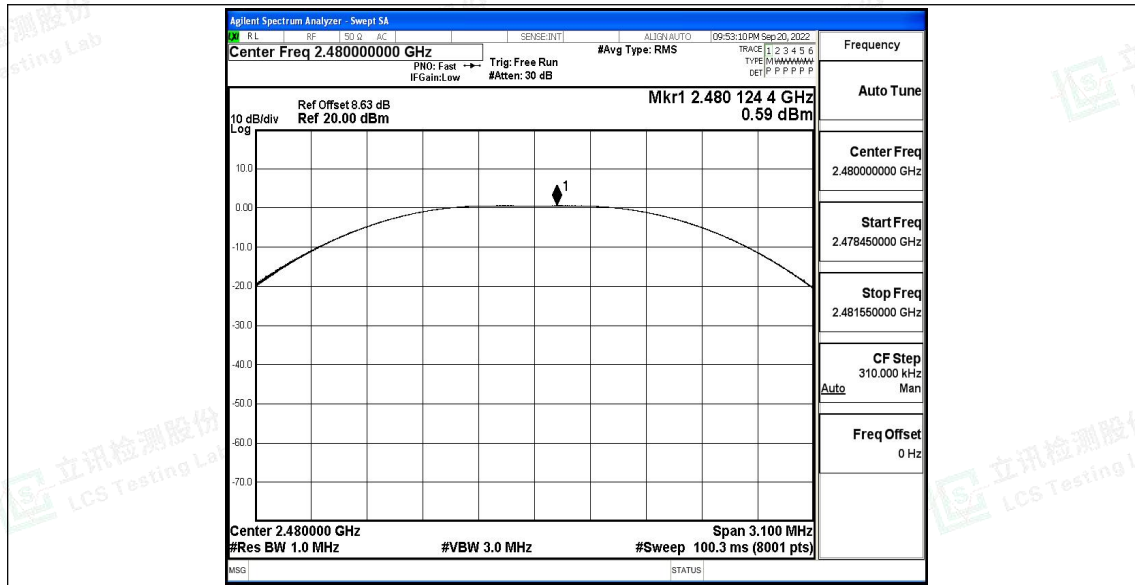
TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Antenna Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
BLE_1M	Ant1	2402	-0.36	≤30	2.99	2.63	≤36	Pass
		2440	0.03	≤30	2.99	3.02	≤36	Pass
		2480	0.59	≤30	2.99	3.58	≤36	Pass





Test Graphs







B.4 Maximum power spectral density

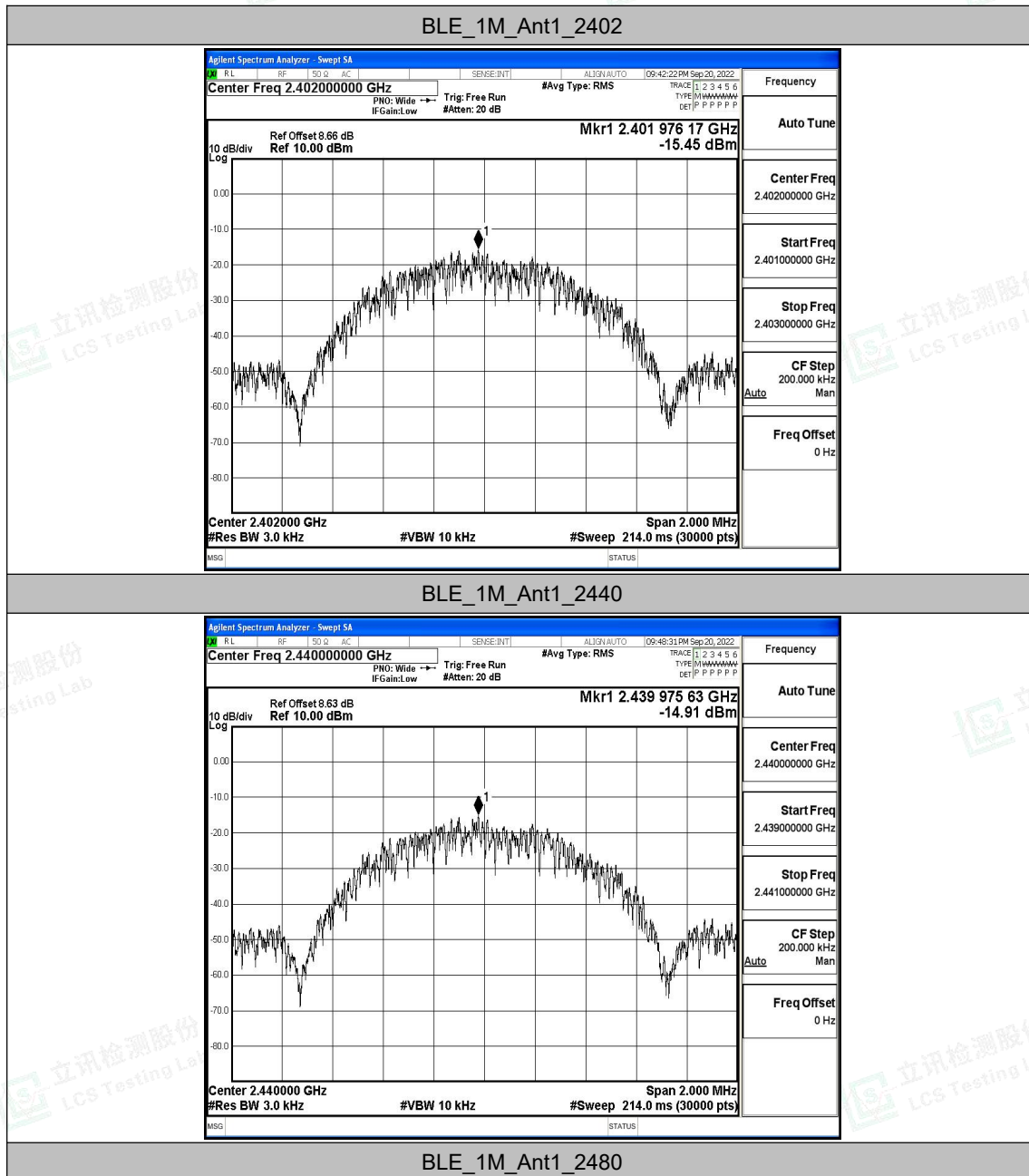
Test Result

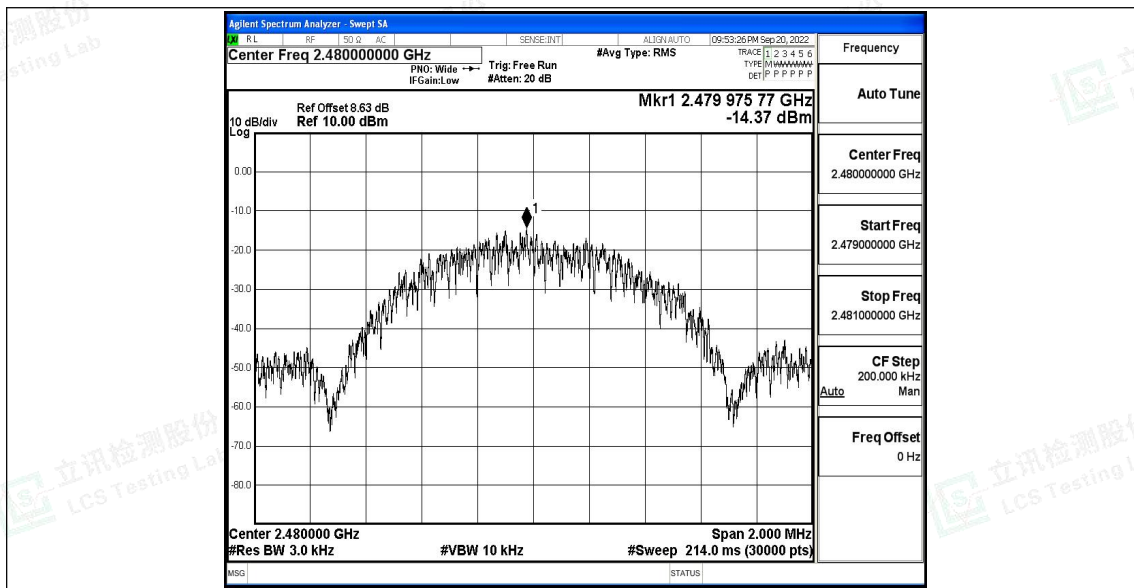
TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-15.45	≤8.00	PASS
		2440	-14.91	≤8.00	PASS
		2480	-14.37	≤8.00	PASS





Test Graphs







B.5 Band edge measurements

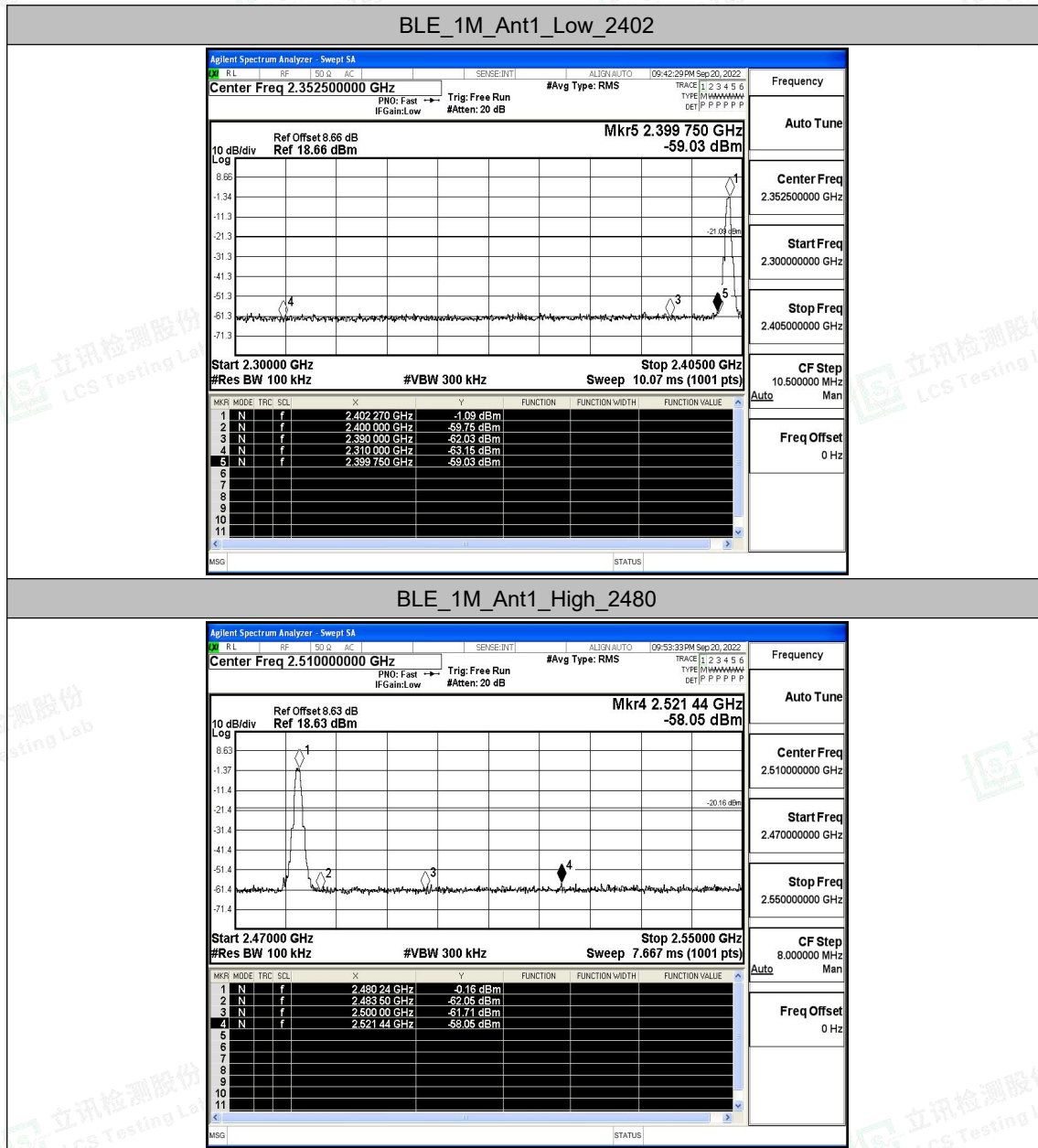
Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.09	-59.03	≤ -21.09	PASS
		High	2480	-0.16	-58.05	≤ -20.16	PASS





Test Graphs



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B.6 Conducted Spurious Emission

Test Result

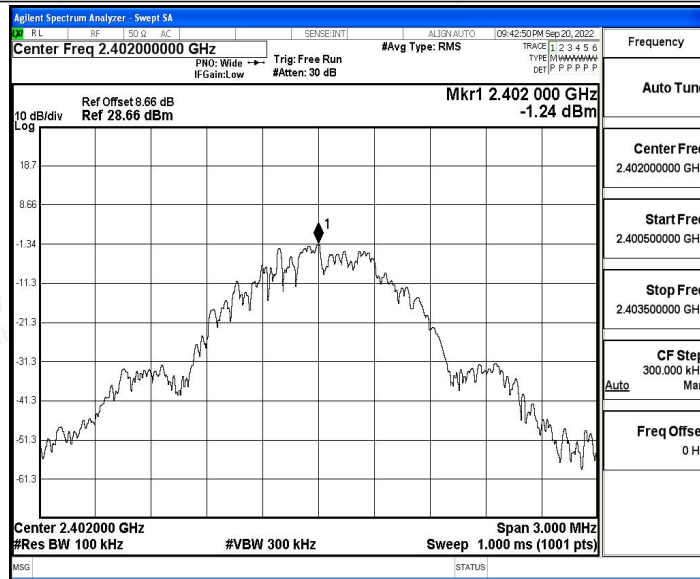
TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-1.24	-1.24	---	PASS
			30~1000	-1.24	-60.34	≤-21.24	PASS
			1000~26500	-1.24	-46.11	≤-21.24	PASS
		2440	Reference	-0.79	-0.79	---	PASS
			30~1000	-0.79	-60.94	≤-20.79	PASS
			1000~26500	-0.79	-46.41	≤-20.79	PASS
		2480	Reference	-1.13	-1.13	---	PASS
			30~1000	-1.13	-59.88	≤-21.13	PASS
			1000~26500	-1.13	-46.19	≤-21.13	PASS



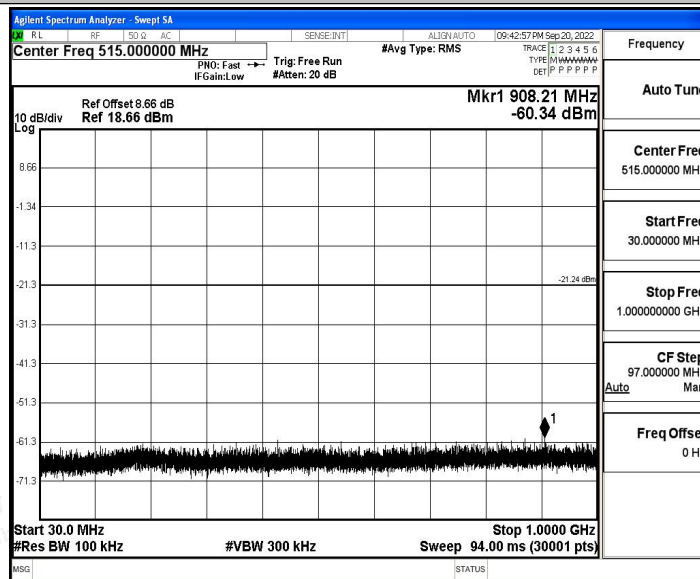


Test Graphs

BLE_1M_Ant1_2402_0~Reference

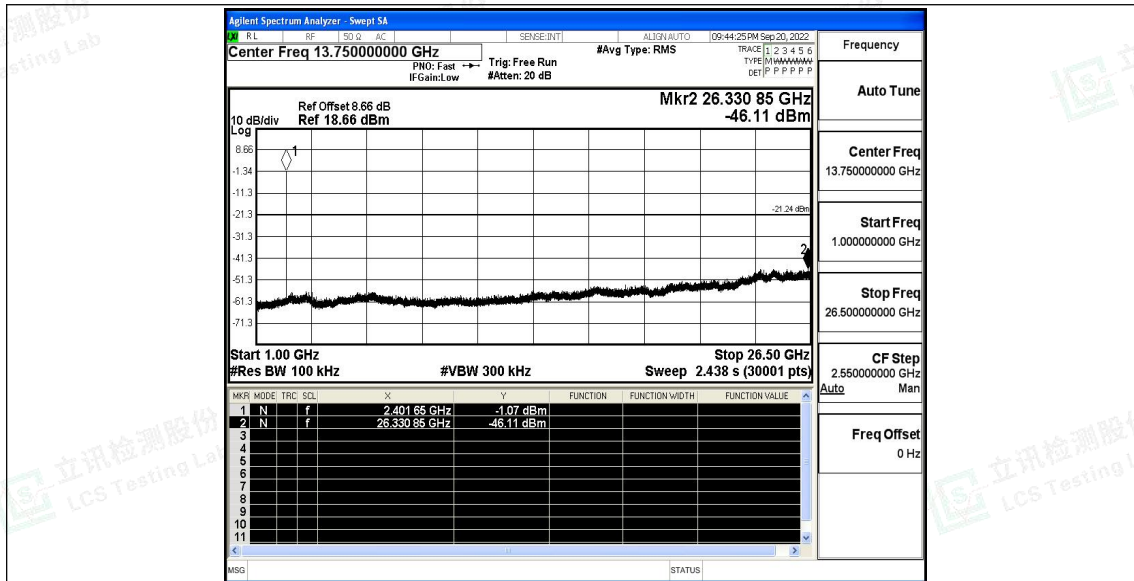


BLE_1M_Ant1_2402_30~1000

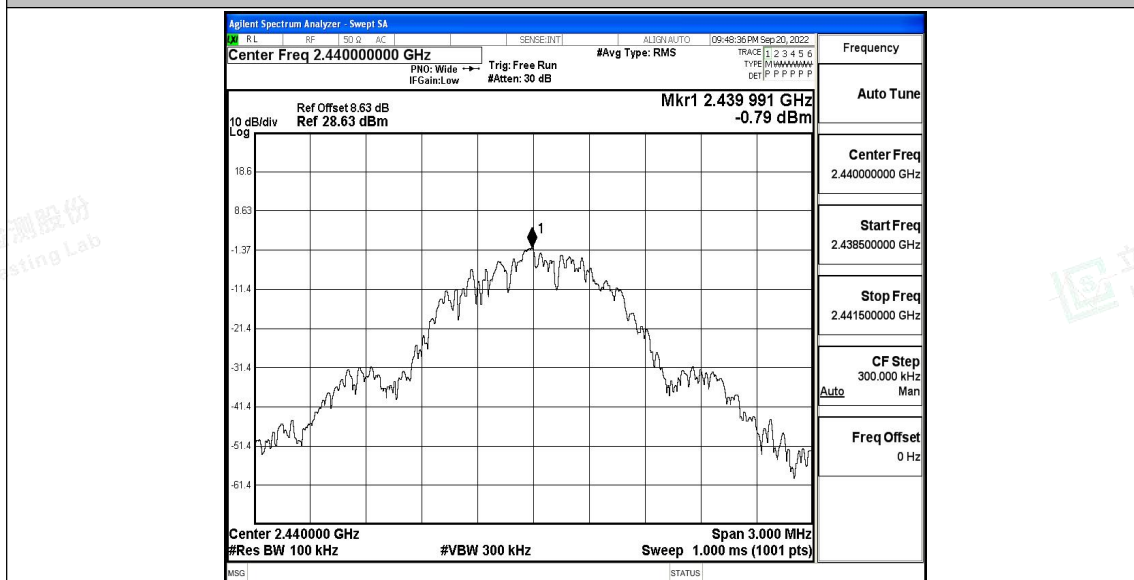


BLE_1M_Ant1_2402_1000~26500





BLE_1M_Ant1_2440_0~Reference



BLE_1M_Ant1_2440_30~1000

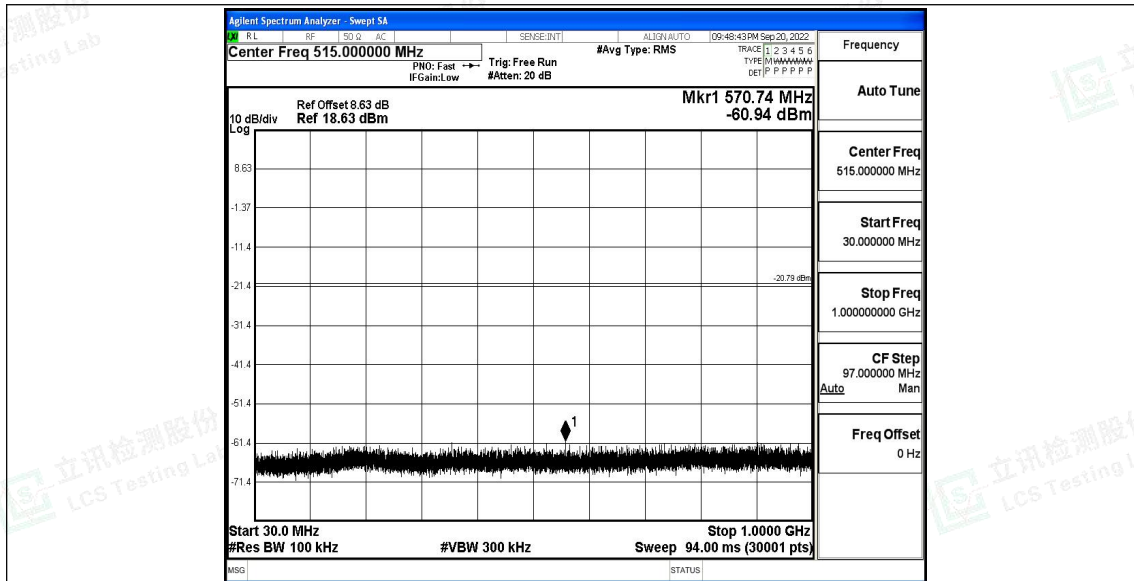


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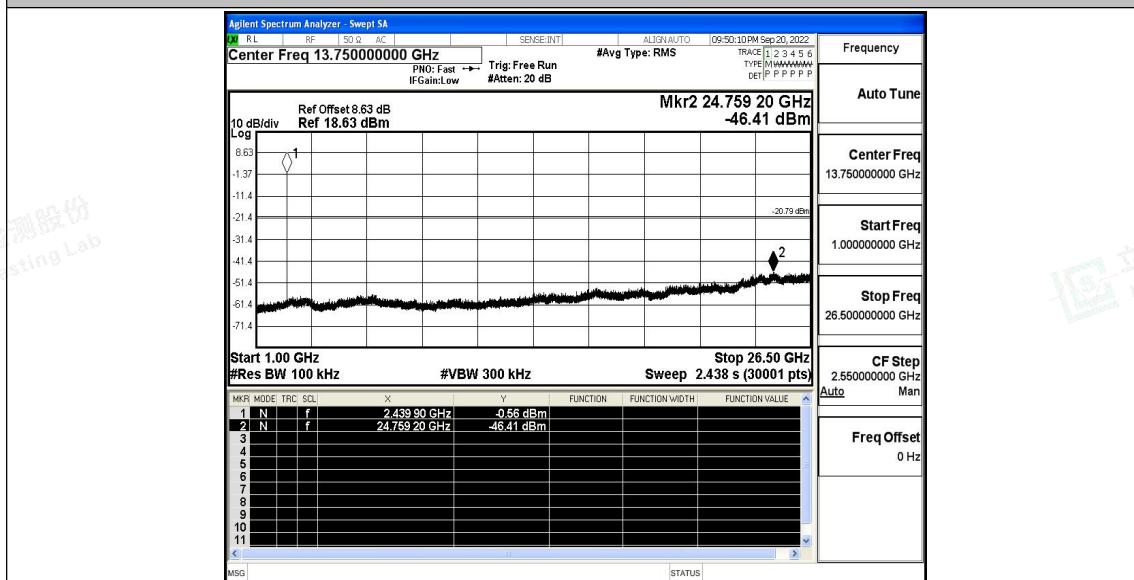
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BLE_1M_Ant1_2440_1000~26500



BLE_1M_Ant1_2480_0~Reference

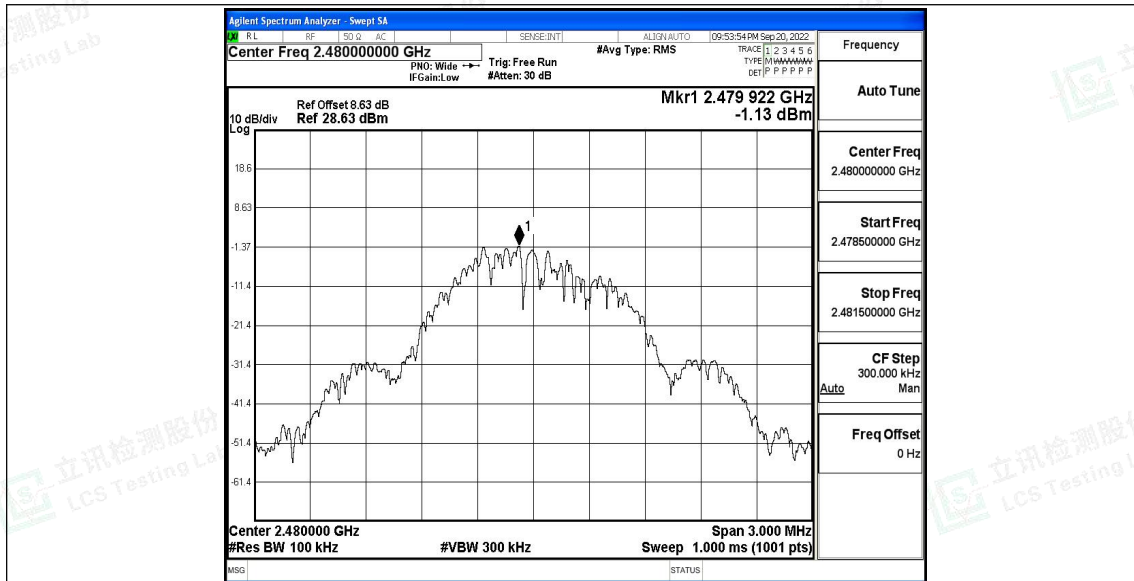


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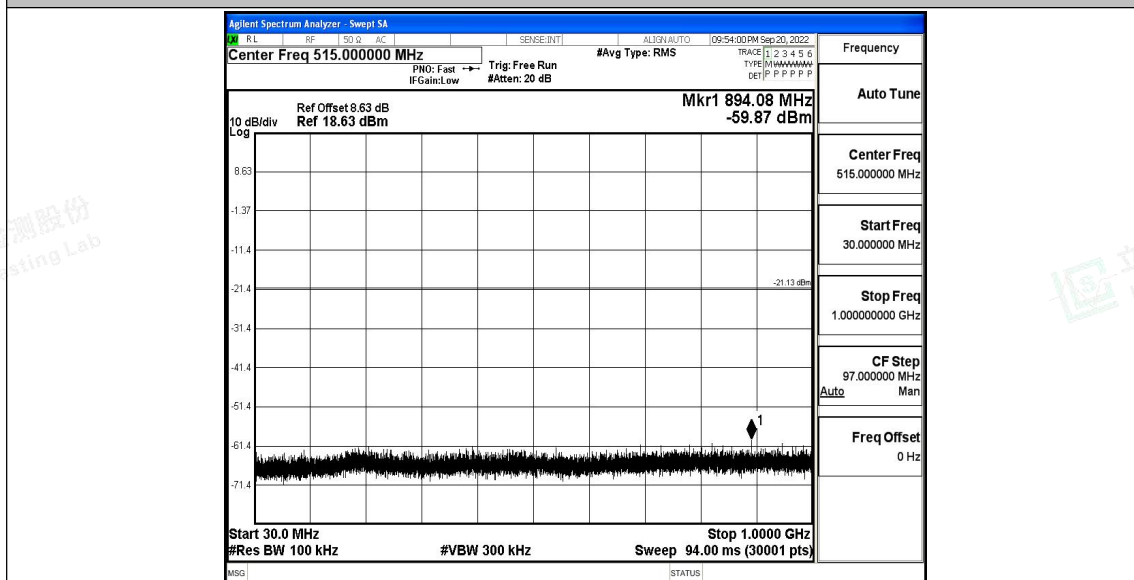
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BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

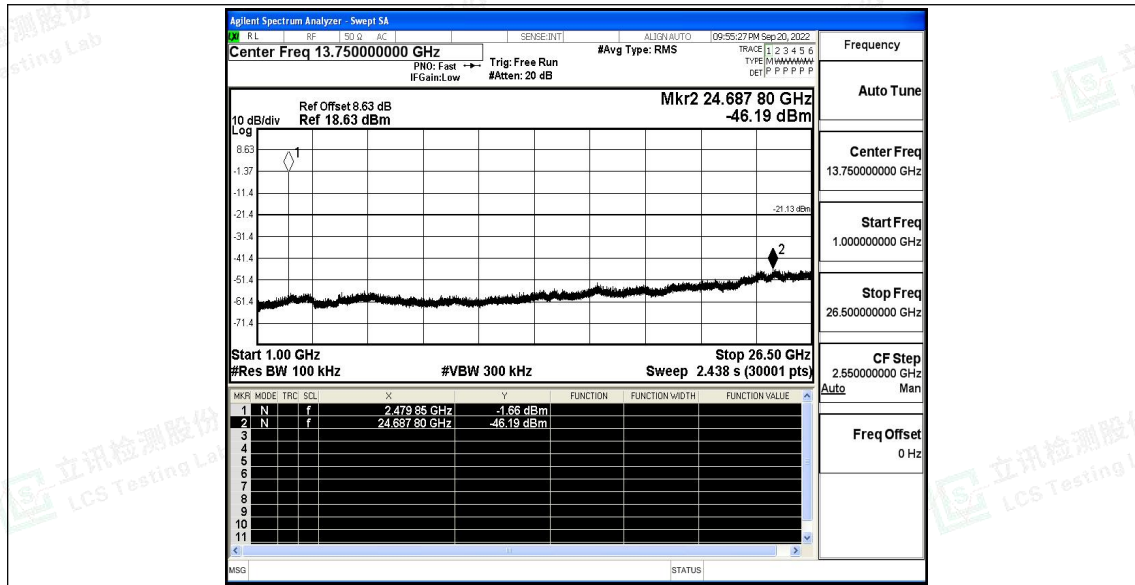


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B.7 Duty Cycle

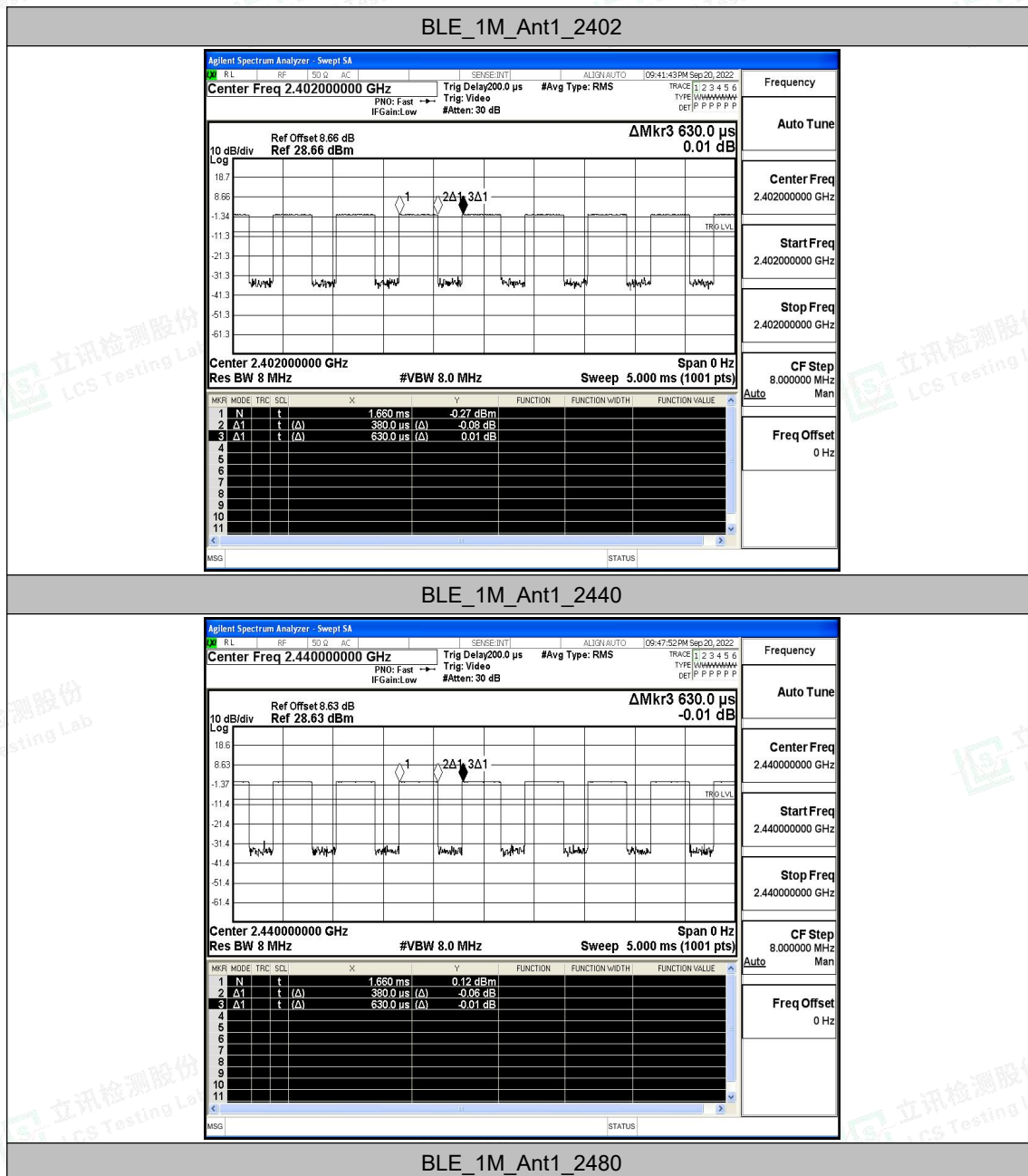
Test Result

TestMode	Antenna	Channel	ON Time [ms]	Period [ms]	X	DC [%]	1/T
BLE_1M	Ant1	2402	0.38	0.63	0.6032	60.32	2.63
		2440	0.38	0.63	0.6032	60.32	2.63
		2480	0.38	0.63	0.6032	60.32	2.63





Test Graphs

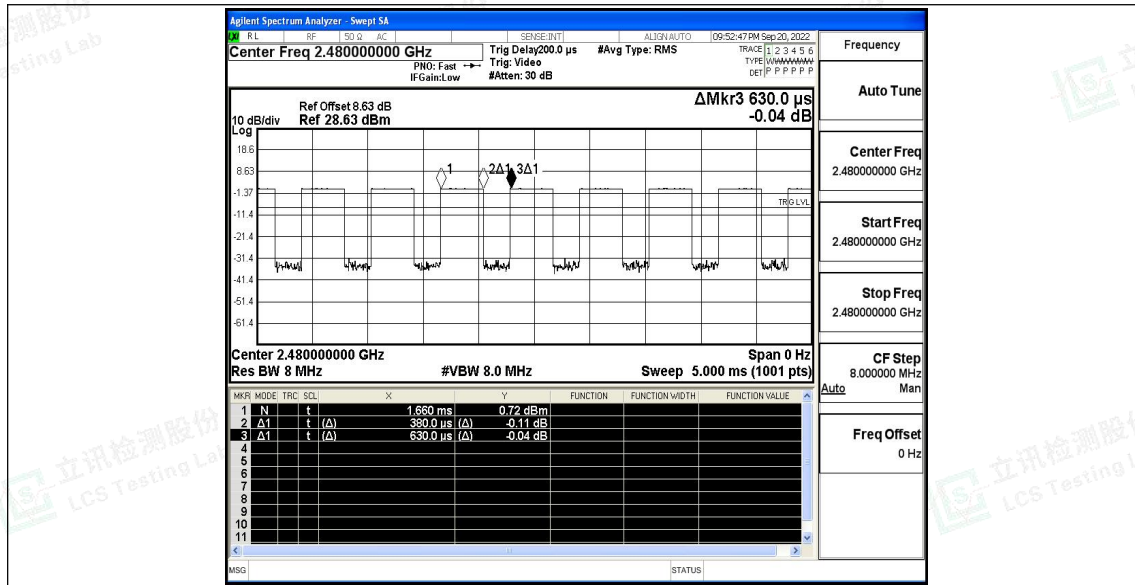


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B.8 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-57.27	≤-41.20	37.93	≤54	PASS
				AV	2389.775	-56.7	≤-41.20	38.50	≤54	PASS
				AV	2390.000	-56.81	≤-41.20	38.39	≤54	PASS
				Peak	2310.000	-51.95	≤-21.20	43.25	≤74	PASS
				Peak	2311.235	-48	≤-21.20	47.20	≤74	PASS
				Peak	2390.000	-50.31	≤-21.20	44.89	≤74	PASS
		High	2480	AV	2483.500	-53.12	≤-41.20	42.08	≤54	PASS
				AV	2483.520	-53.12	≤-41.20	42.08	≤54	PASS
				AV	2500.000	-56.74	≤-41.20	38.46	≤54	PASS
				Peak	2483.500	-48.59	≤-21.20	46.61	≤74	PASS
				Peak	2496.400	-46.64	≤-21.20	48.56	≤74	PASS
				Peak	2500.000	-48.83	≤-21.20	46.37	≤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.



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Test Graphs



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