

Appendix A

RF Test Data for BT LE (Conducted Measurement)

Product Name: Yeelight Smart RGBWW LED Bulb

Test Model: YLQPD-0024

Environmental Conditions

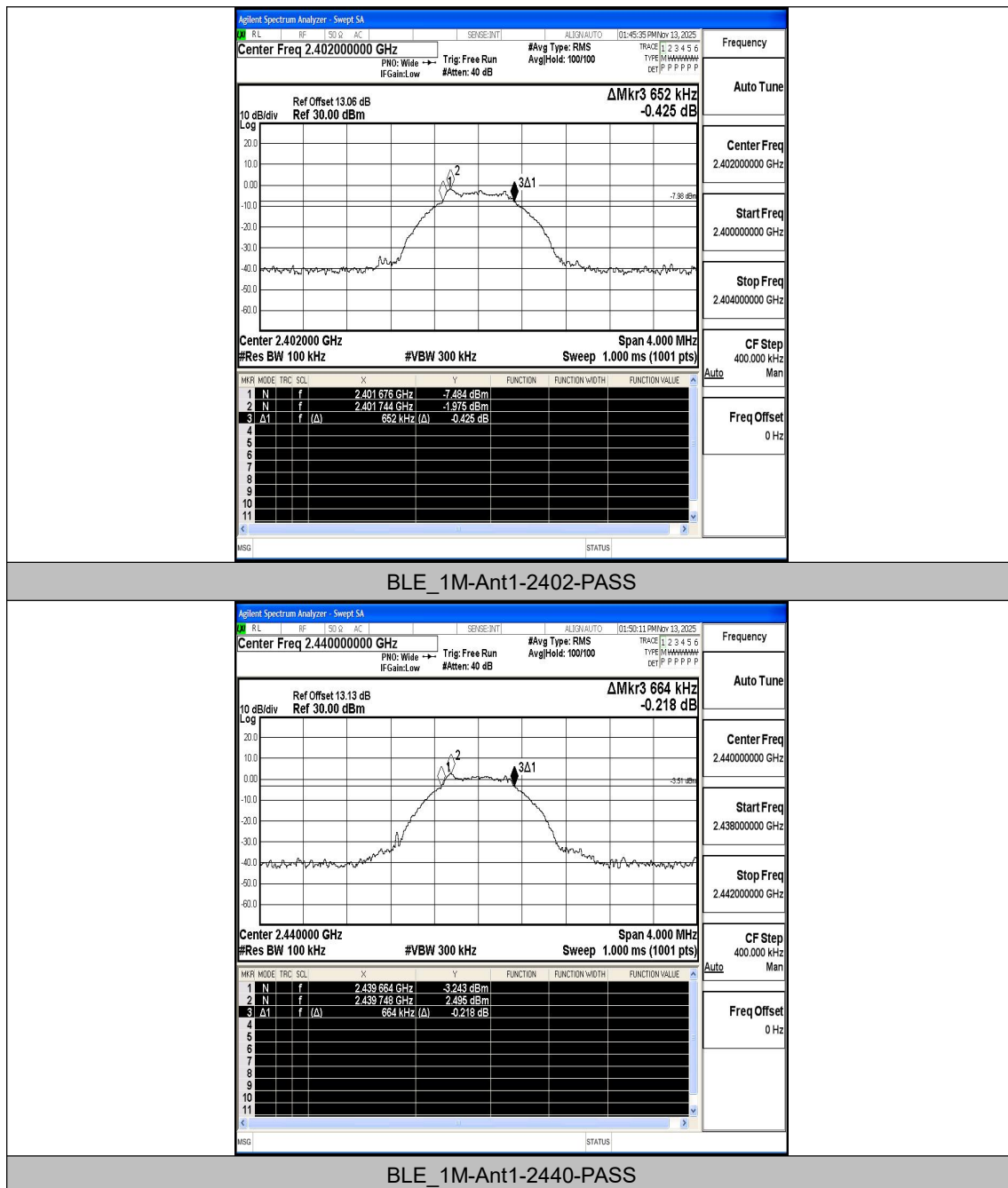
Temperature:	24.5° C
Relative Humidity:	53.1%
ATM Pressure:	100.0 kPa
Test Engineer:	Yongzhou Huang
Supervised by:	Fengliu Tang

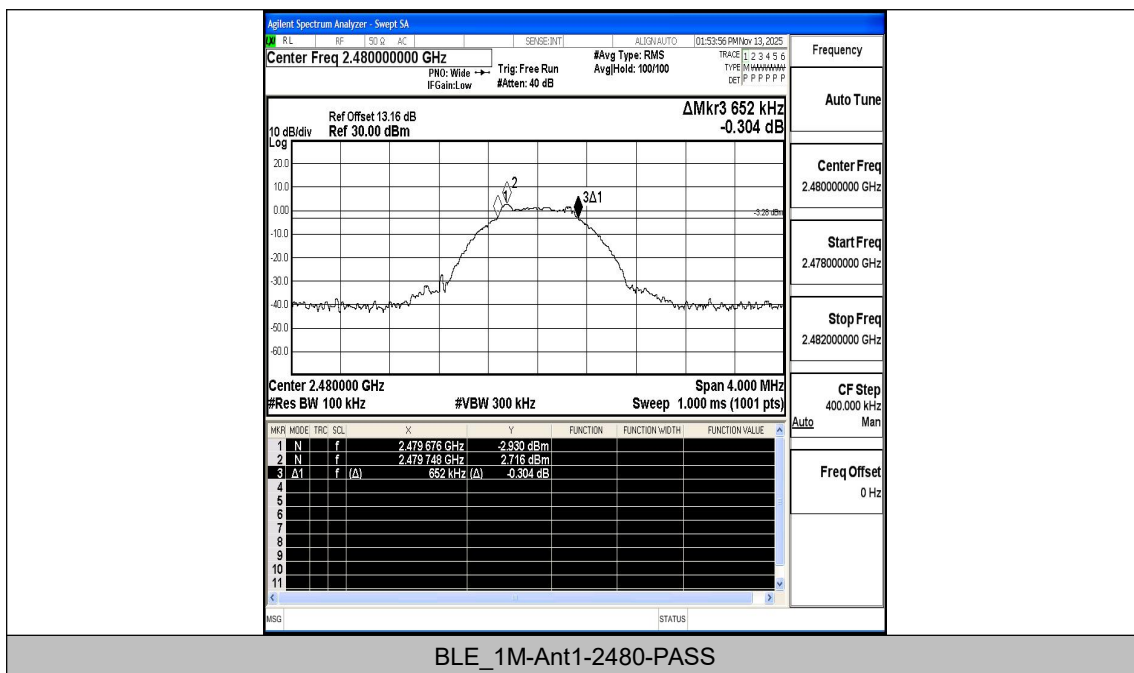
A.1 DTS Bandwidth

Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.652	2401.676	2402.328	0.5	PASS
BLE_1M	Ant1	2440	0.664	2439.664	2440.328	0.5	PASS
BLE_1M	Ant1	2480	0.652	2479.676	2480.328	0.5	PASS

Test Graphs



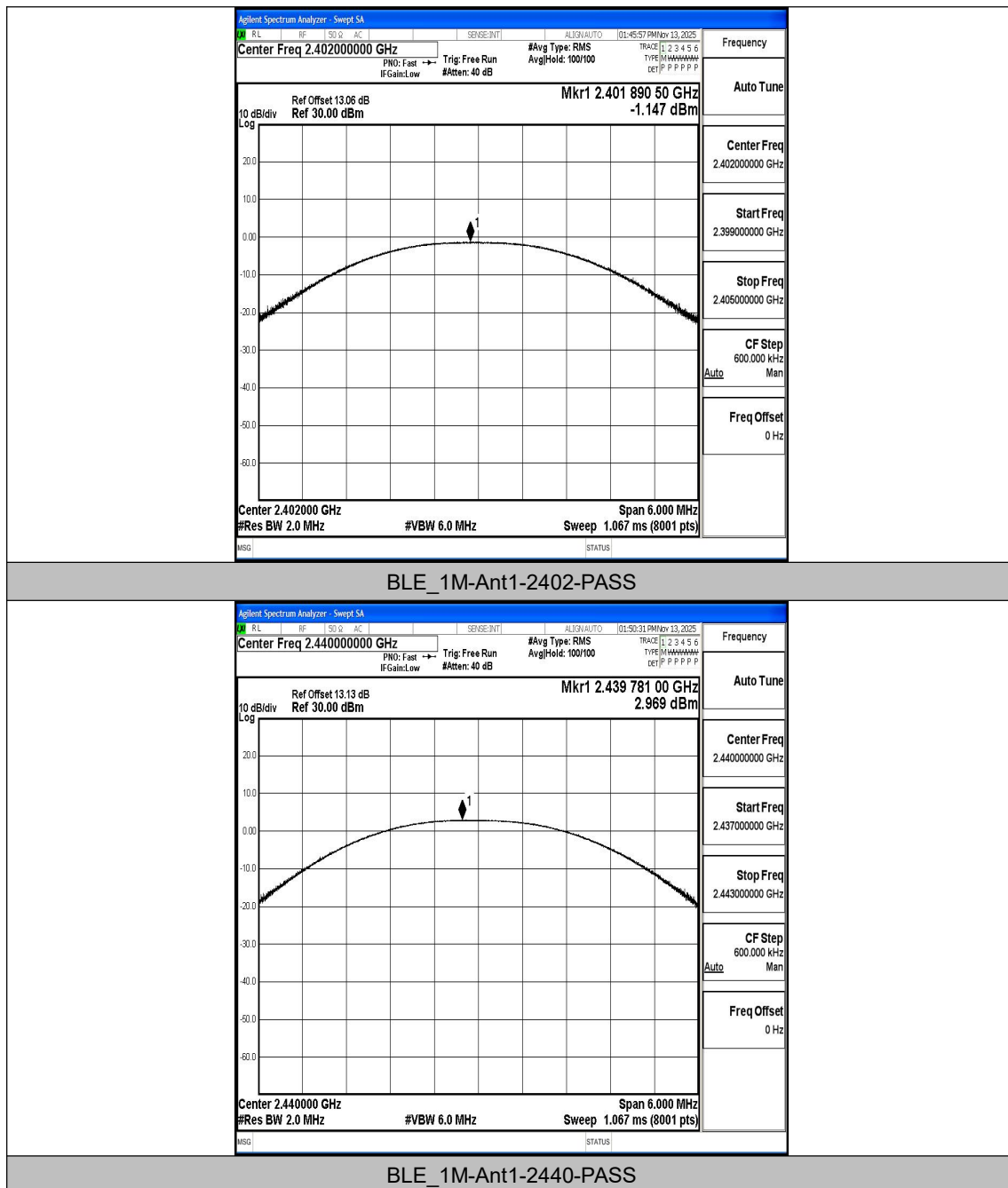


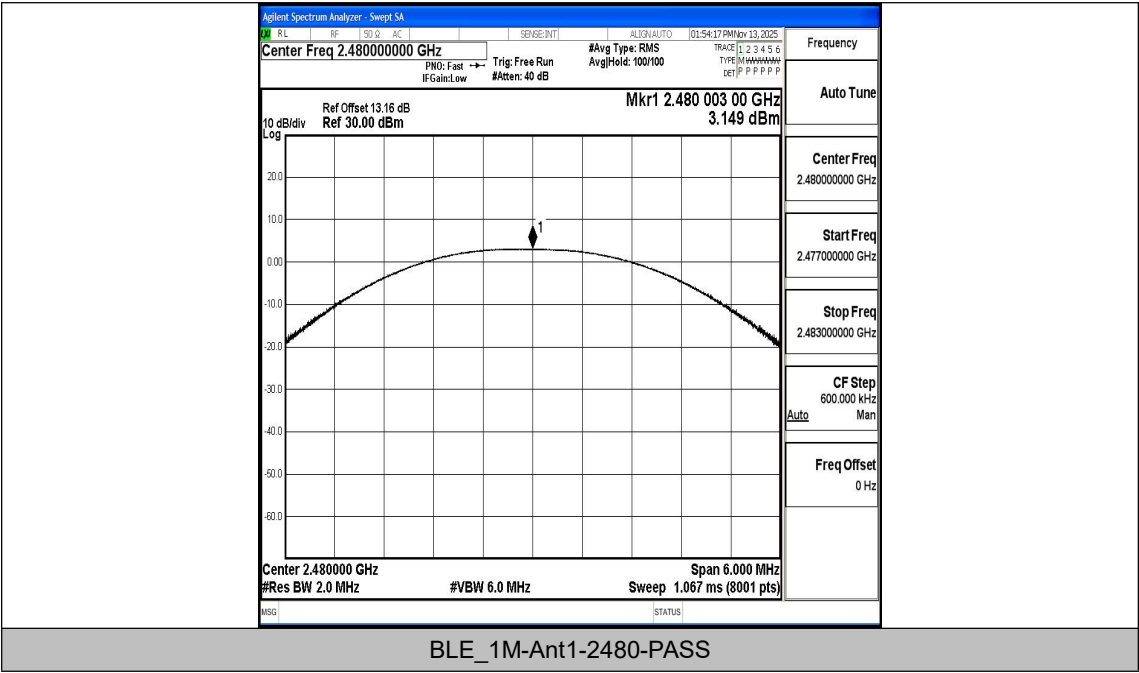
A.2 Maximum Peak conducted output power

Test Result Peak

TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-1.15	≤30	PASS
BLE_1M	Ant1	2440	2.97	≤30	PASS
BLE_1M	Ant1	2480	3.15	≤30	PASS

Test Graphs Peak



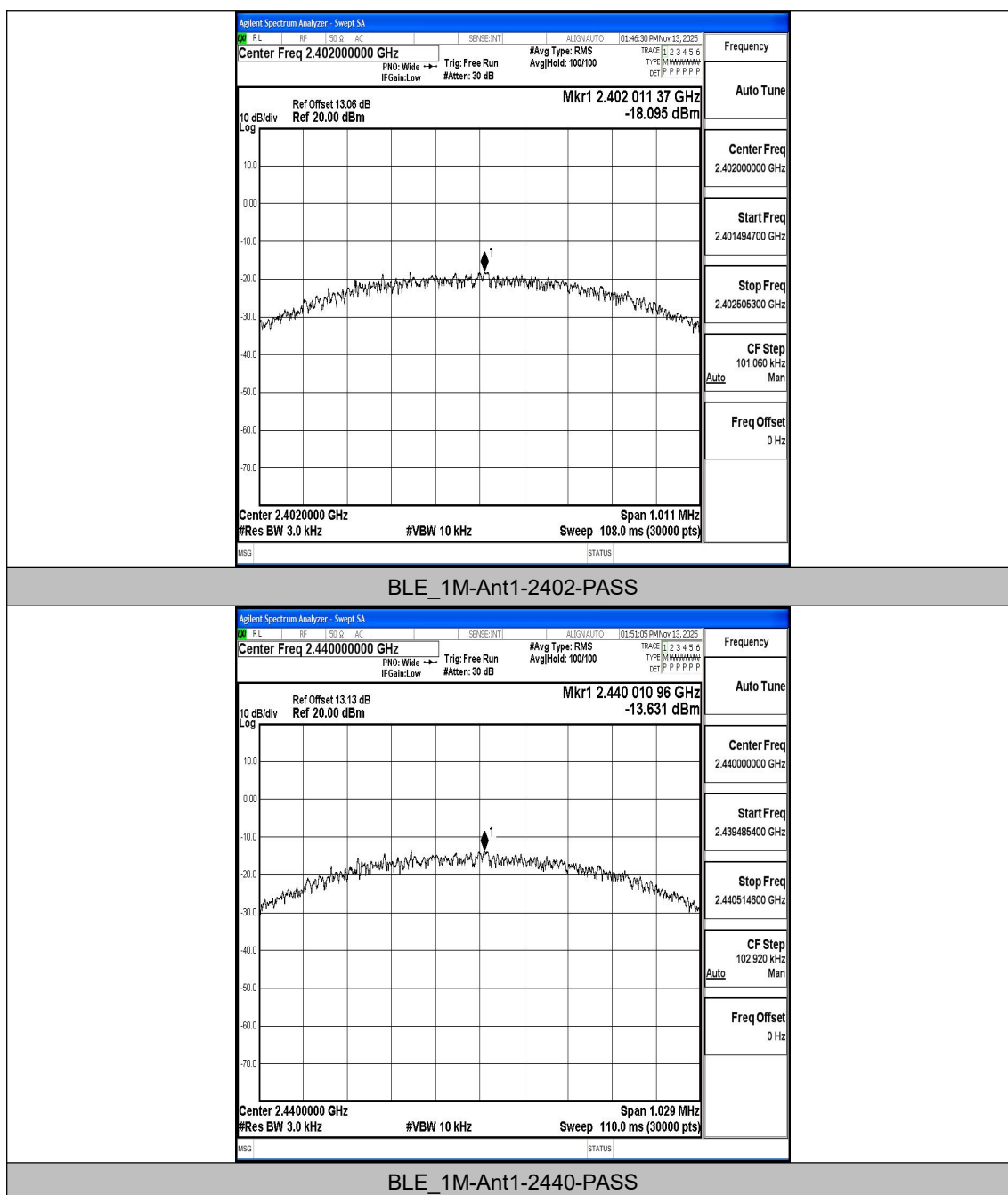


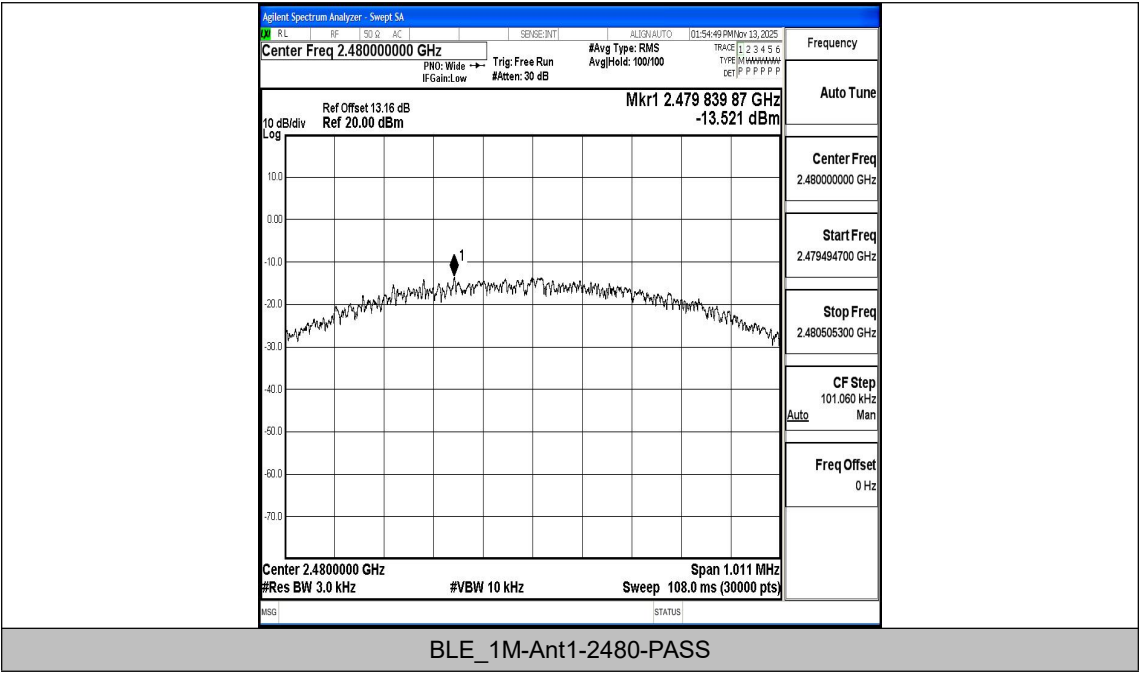
A.3 Maximum power spectral density

Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.10	≤8.00	PASS
BLE_1M	Ant1	2440	-13.63	≤8.00	PASS
BLE_1M	Ant1	2480	-13.52	≤8.00	PASS

Test Graphs



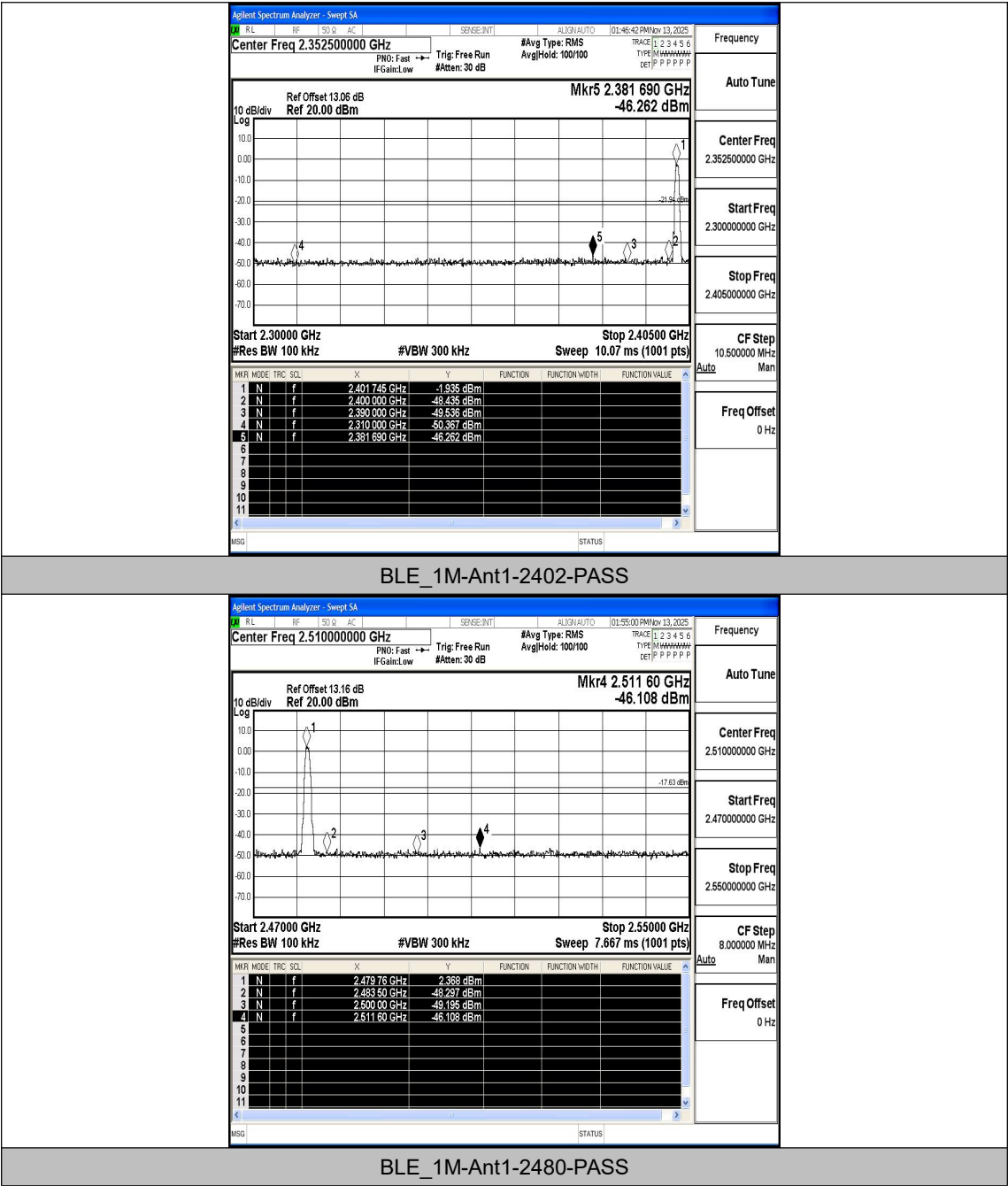


A.4 Band edge measurements

Test Result

TestMode	Antenna	Channel	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-1.94	-46.26	≤-21.94	PASS
BLE_1M	Ant1	High	2480	2.37	-46.11	≤-17.63	PASS

Test Graphs

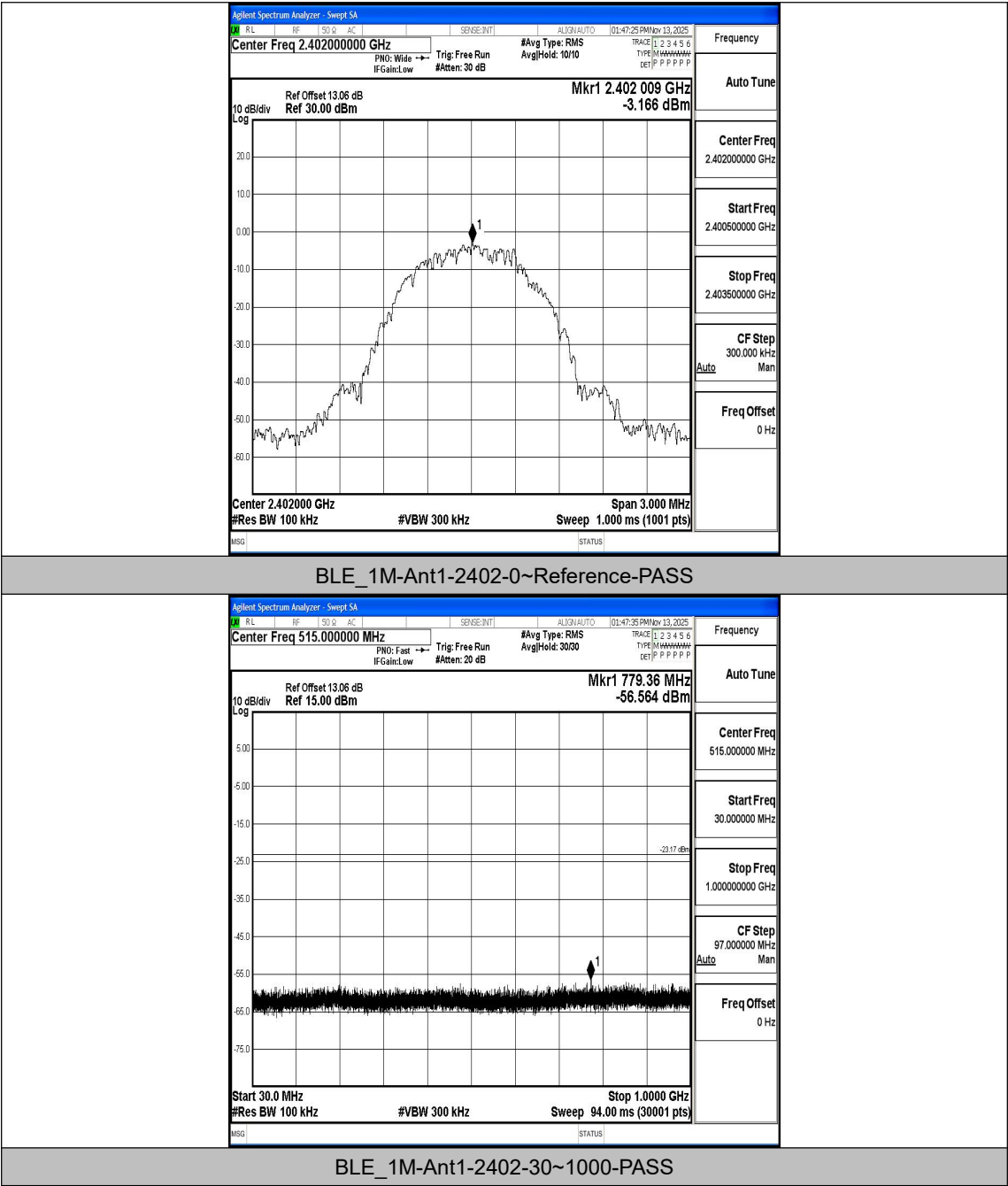


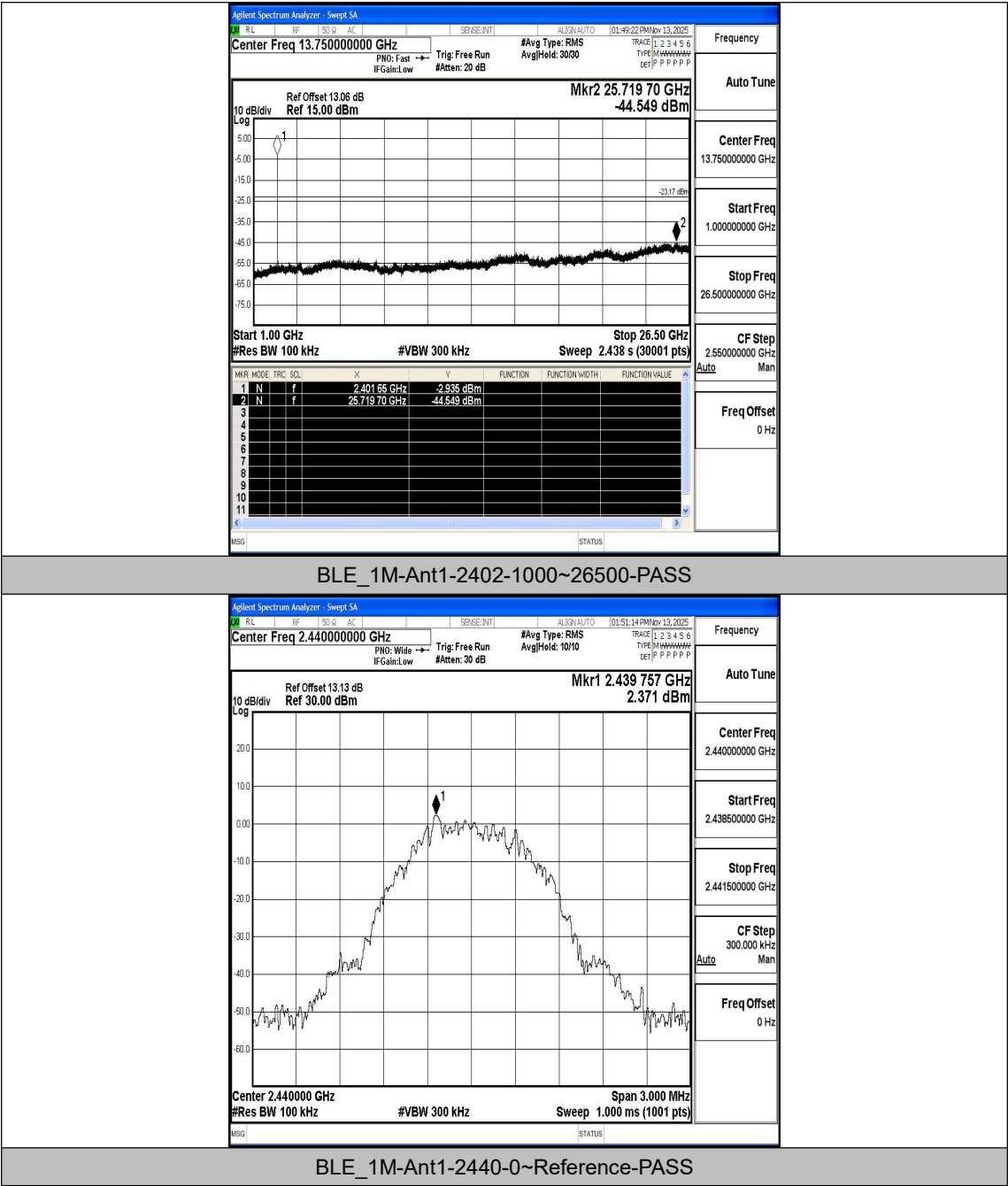
A.5 Conducted Spurious Emission

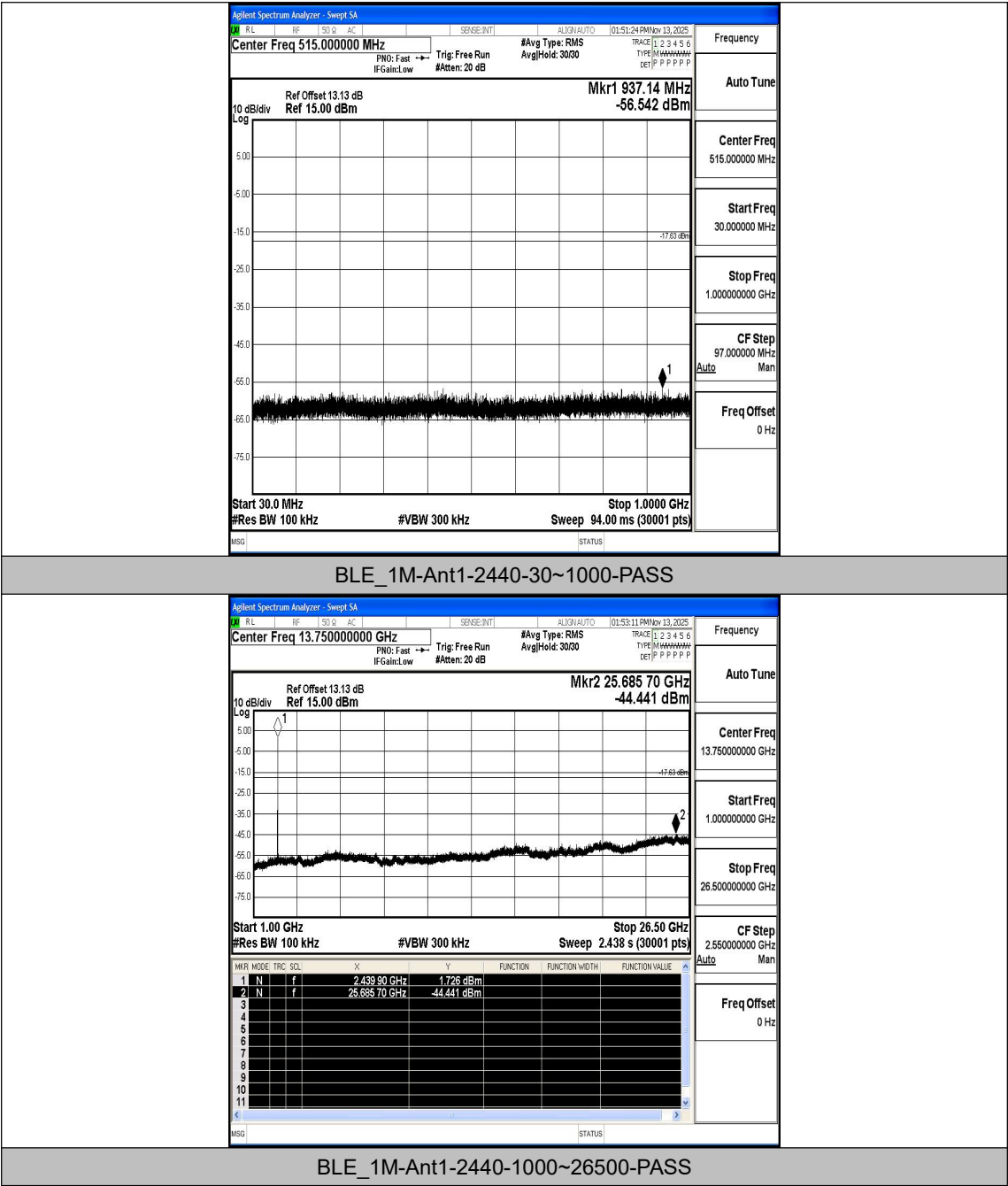
Test Result

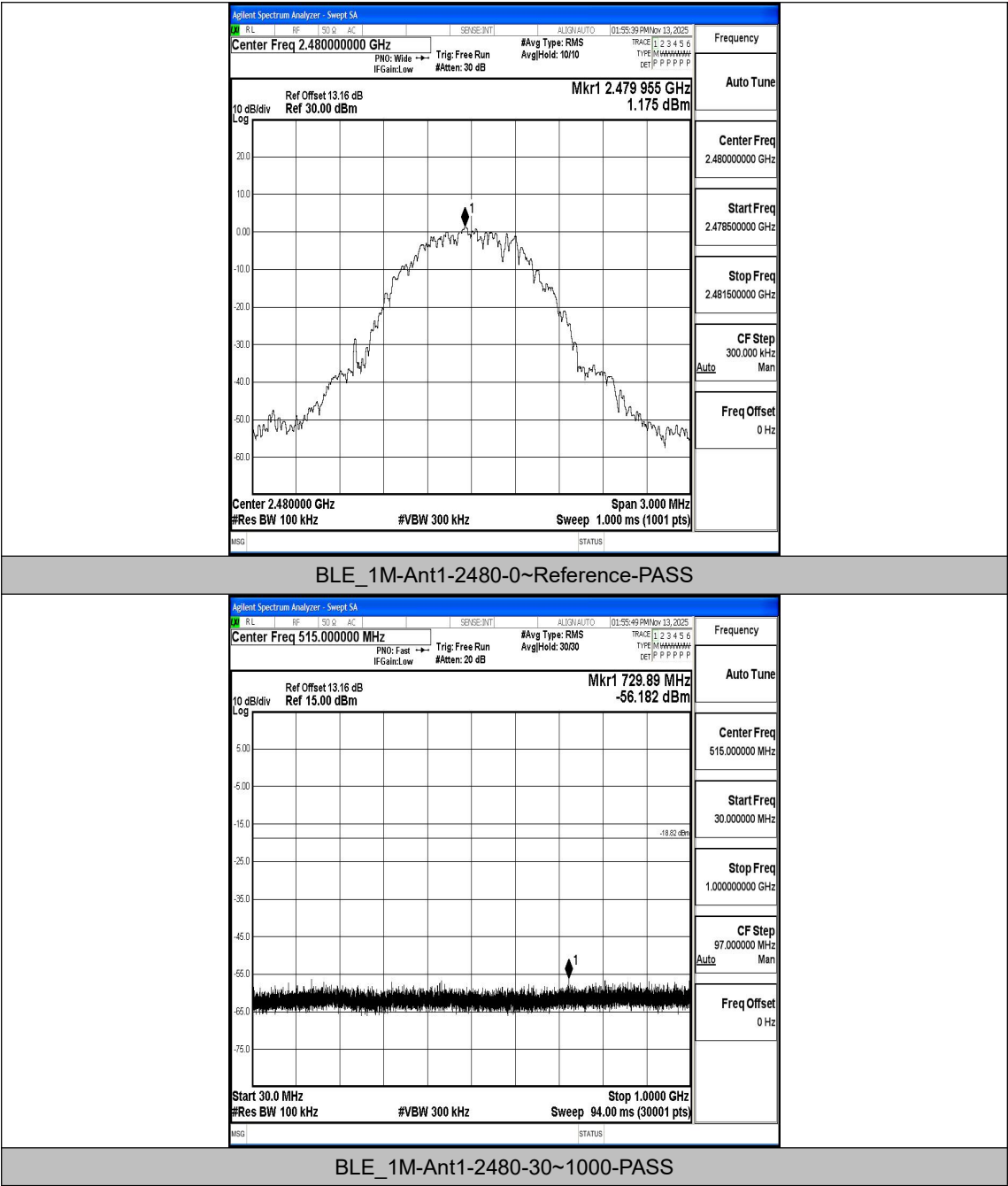
TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	0~Reference	-3.17	-3.17	---	PASS
BLE_1M	Ant1	2402	30~1000	-3.17	-56.56	≤-23.17	PASS
BLE_1M	Ant1	2402	1000~26500	-3.17	-44.55	≤-23.17	PASS
BLE_1M	Ant1	2440	0~Reference	2.37	2.37	---	PASS
BLE_1M	Ant1	2440	30~1000	2.37	-56.54	≤-17.63	PASS
BLE_1M	Ant1	2440	1000~26500	2.37	-44.44	≤-17.63	PASS
BLE_1M	Ant1	2480	0~Reference	1.18	1.18	---	PASS
BLE_1M	Ant1	2480	30~1000	1.18	-56.18	≤-18.82	PASS
BLE_1M	Ant1	2480	1000~26500	1.18	-44.53	≤-18.82	PASS

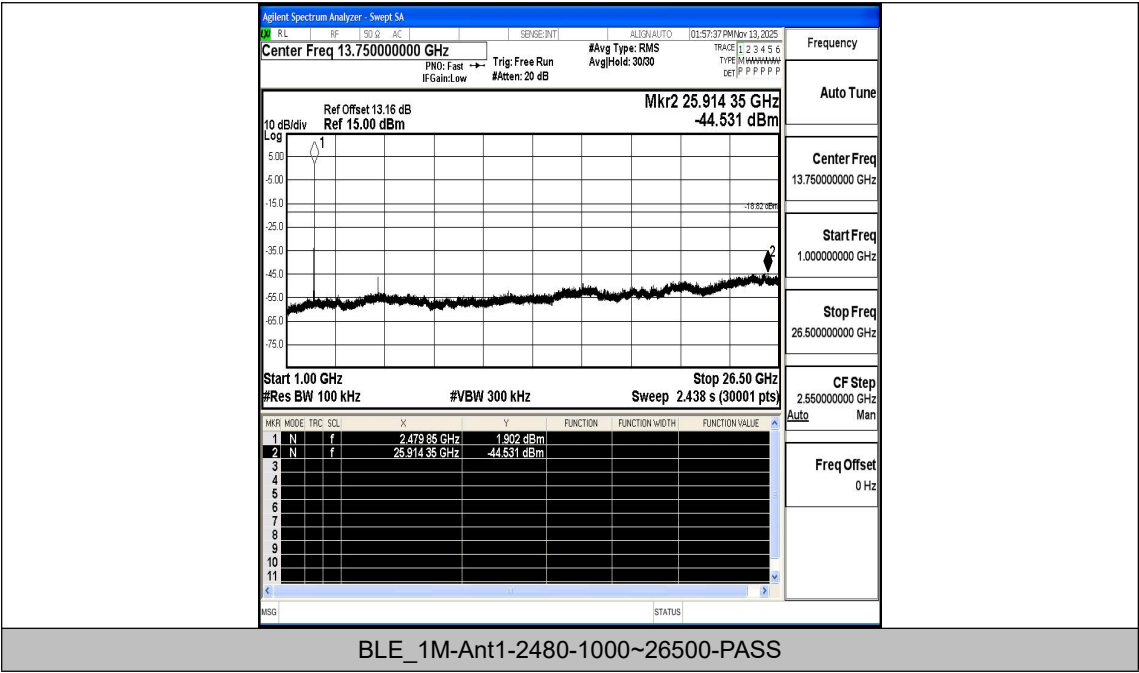
Test Graphs









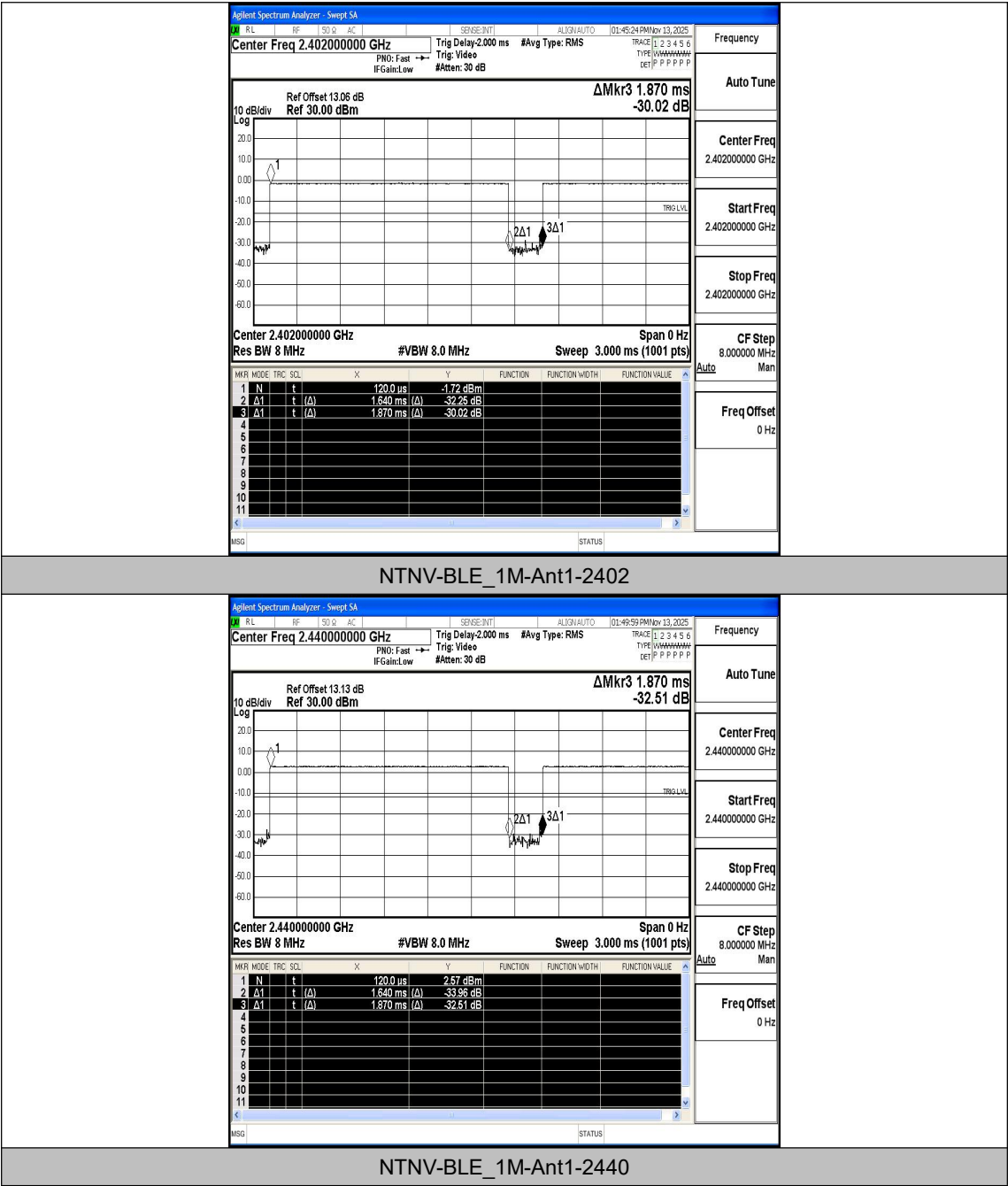


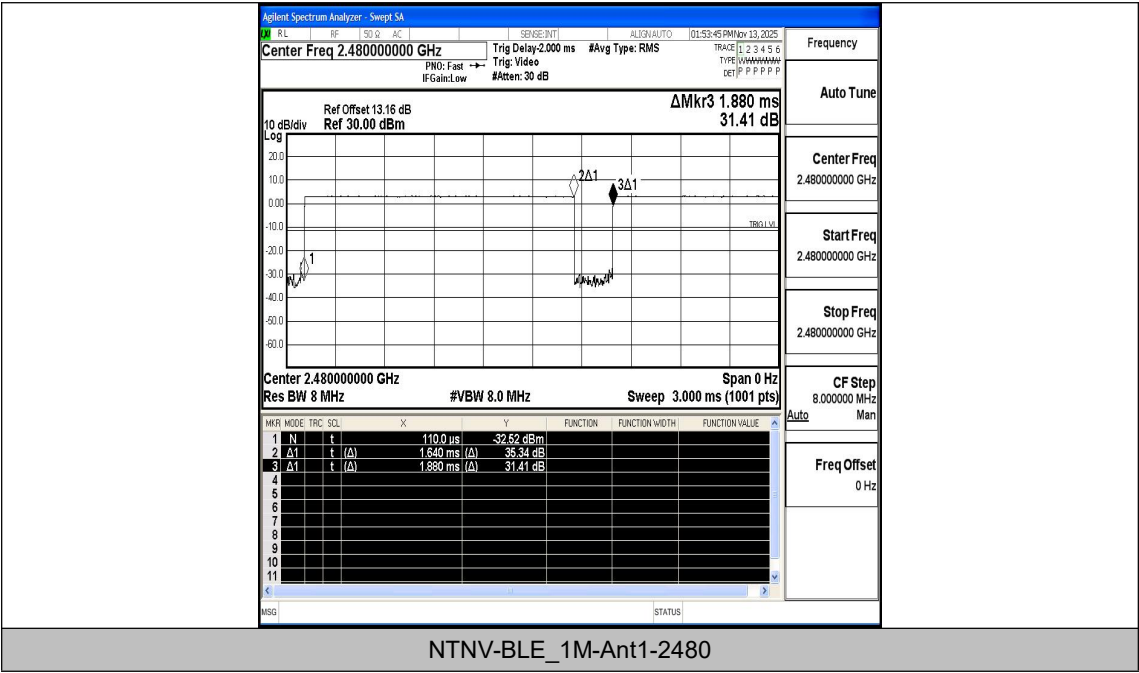
A.6 Duty Cycle

Test Result

TestMode	Antenna	Frequency[MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
BLE_1M	Ant1	2402	1.64	1.87	87.70	0.57
BLE_1M	Ant1	2440	1.64	1.87	87.70	0.57
BLE_1M	Ant1	2480	1.64	1.88	87.23	0.59

Test Graphs





A.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	Peak	2390.000	-37.38	≤-21.20	57.82	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2310.000	-38.15	≤-21.20	57.05	≤74	PASS
BLE_1M	Ant1	Low	2402	Peak	2380.325	-34.12	≤-21.20	61.08	≤74	PASS
BLE_1M	Ant1	Low	2402	AV	2390.000	-44.88	≤-41.20	50.32	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2310.000	-45.23	≤-41.20	49.97	≤54	PASS
BLE_1M	Ant1	Low	2402	AV	2384.840	-44.5	≤-41.20	50.70	≤54	PASS
BLE_1M	Ant1	High	2480	Peak	2483.500	-38.45	≤-21.20	56.75	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2500.000	-37.62	≤-21.20	57.58	≤74	PASS
BLE_1M	Ant1	High	2480	Peak	2496.400	-35.26	≤-21.20	59.94	≤74	PASS
BLE_1M	Ant1	High	2480	AV	2483.500	-44.49	≤-41.20	50.71	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2500.000	-45	≤-41.20	50.20	≤54	PASS
BLE_1M	Ant1	High	2480	AV	2483.520	-44.49	≤-41.20	50.71	≤54	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

