

Case No. : <u>CTA24072303302</u>	
Ambient Condition: <u>24</u> °C, <u>52</u> %RH	
According Standard: ■Part15C	
Test Date: <u>2024.7.5</u>	Test Engineer: <u>Lushan Kong</u>

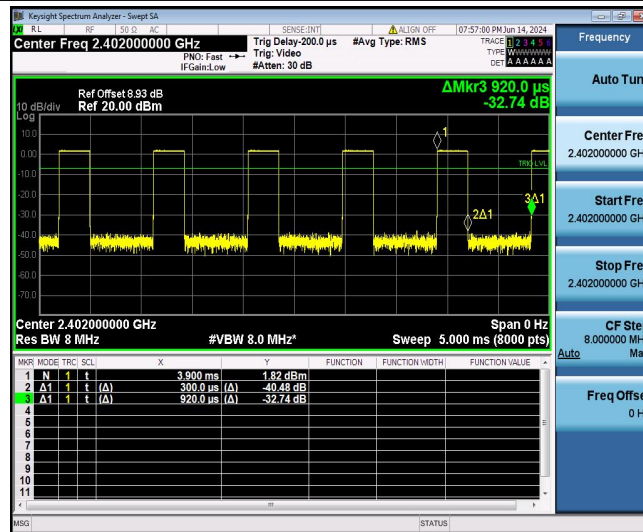
Appendix A.1: Duty Cycle

Test Result

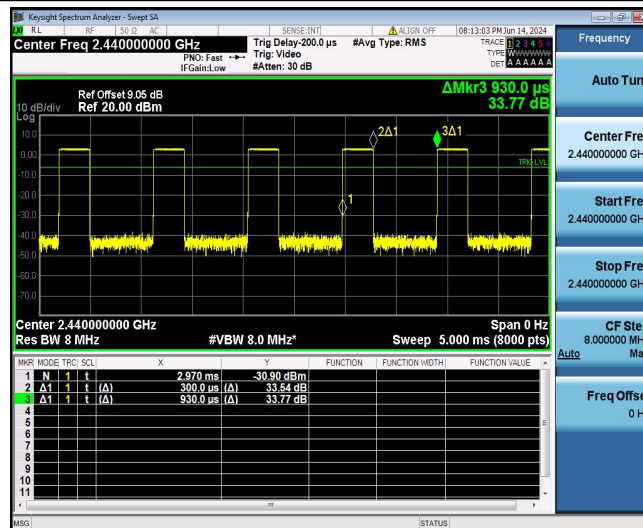
TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	Duty Cycle Factor[dB]	1/T Factor[KHz]
BLE	Ant1	2402	0.30	0.92	0.3261	32.61	4.87	3.33
		2440	0.30	0.93	0.3226	32.26	4.91	3.33
		2480	0.30	0.92	0.3261	32.61	4.87	3.33

Test Graphs

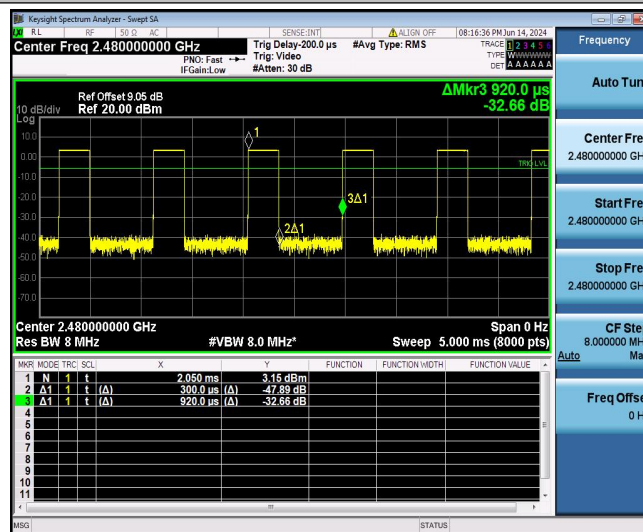
BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.2: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.652	2401.652	2402.304	0.5	PASS
		2440	0.644	2439.652	2440.296	0.5	PASS
		2480	0.640	2479.664	2480.304	0.5	PASS

Test Graphs

BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.3: Occupied Channel Bandwidth

Test Result

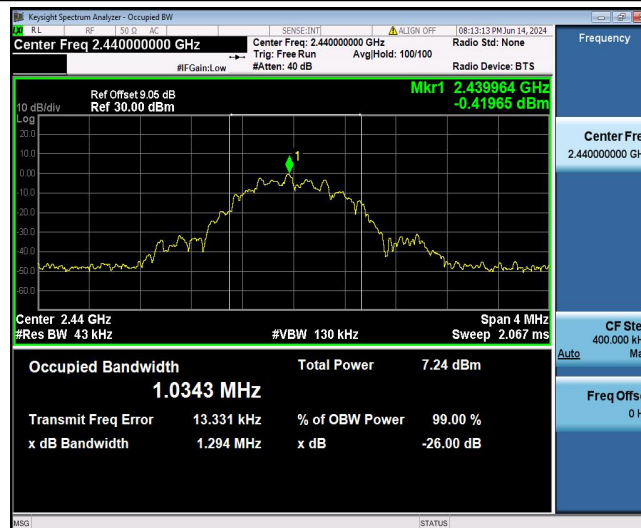
TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]
BLE	Ant1	2402	1.0450	2401.4890	2402.5340
		2440	1.0343	2439.4962	2440.5305
		2480	1.0362	2479.4816	2480.5178

Test Graphs

BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480



Appendix A.4: Maximum conducted output power

Test Result Peak

TestMode	Antenna	Frequency [MHz]	Peak Power[dBm]	Conducted Limit[dBm]	Antenna Gain [dBi]	EIRP [dBm]	EIRP Limit[dBm]	Verdict
BLE	Ant1	2402	13.33	≤30	3.37	16.7	≤36	PASS
		2440	13.87	≤30	3.37	17.24	≤36	PASS
		2480	13.28	≤30	3.37	16.65	≤36	PASS

Appendix A.5: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-6.04	≤8.00	PASS
		2440	-4.89	≤8.00	PASS
		2480	-4.40	≤8.00	PASS

Note:

1. The Duty Cycle Factor and RBW Factor is compensated in the graph.

Test Graphs

BLE_Ant1_2402



BLE_Ant1_2440



BLE_Ant1_2480

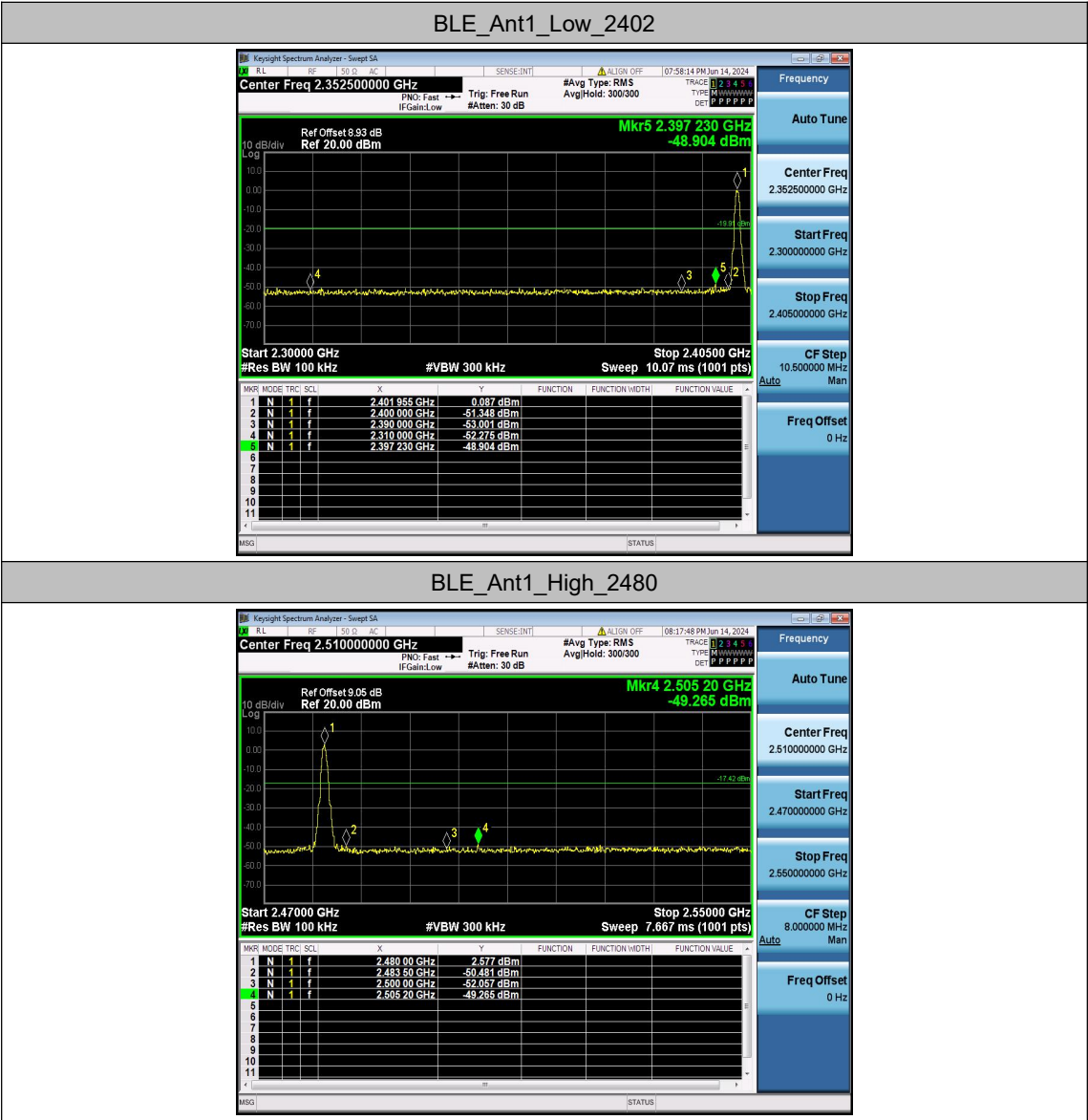


Appendix A.6: Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	Low	2402	0.09	-48.9	≤-19.91	PASS
		High	2480	2.58	-49.27	≤-17.42	PASS

Test Graphs



BLE_Ant1_High_2480

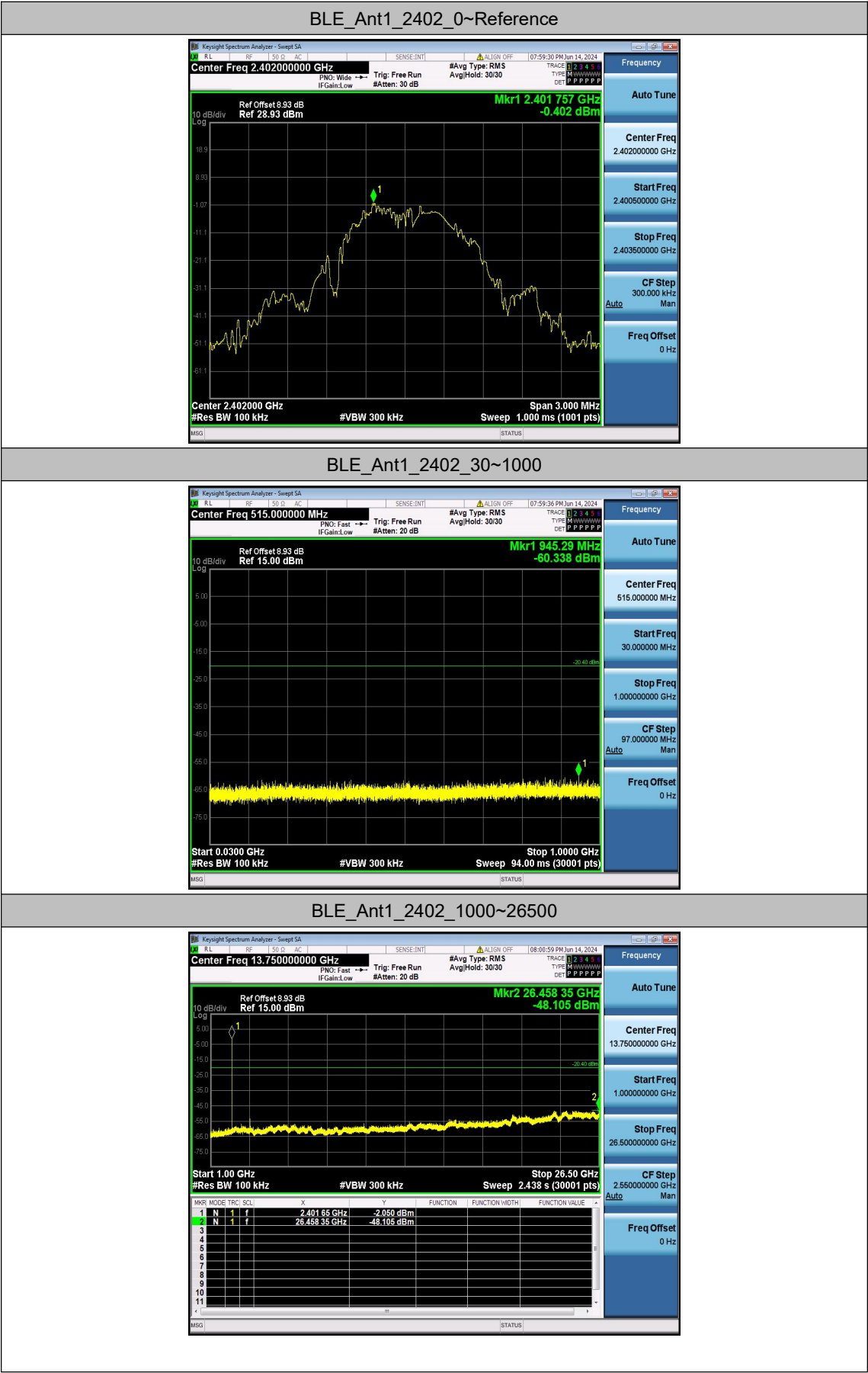
Frequency
Auto Tune
Center Freq 2.510000000 GHz
Start Freq 2.470000000 GHz
Stop Freq 2.550000000 GHz
CF Step 8.000000 MHz
Auto
Freq Offset 0 Hz

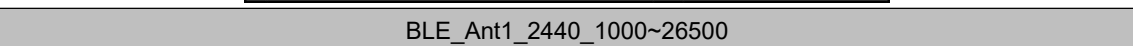
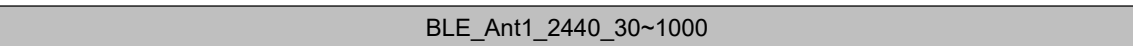
Appendix A.7: Conducted Spurious Emission

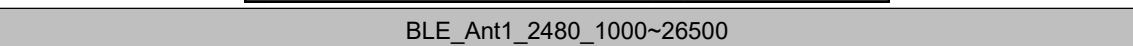
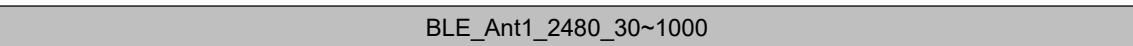
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	-0.40	-0.40	---	PASS
			30~1000	-0.40	-60.34	≤ -20.4	PASS
			1000~26500	-0.40	-48.11	≤ -20.4	PASS
		2440	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-61	≤ -18.66	PASS
			1000~26500	1.34	-47.23	≤ -18.66	PASS
		2480	Reference	2.37	2.37	---	PASS
			30~1000	2.37	-60.02	≤ -17.63	PASS
			1000~26500	2.37	-47.59	≤ -17.63	PASS

Test Graphs







Appendix A.8: Emissions in Restricted Bands

Test Result

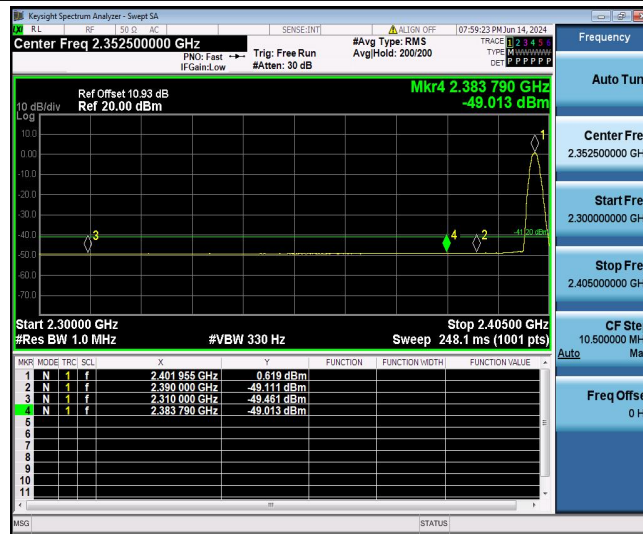
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE	Ant1	Low	2402	AV	2310.000	-49.46	≤-41.20	45.74	≤54	PASS
				AV	2383.790	-49.01	≤-41.20	46.19	≤54	PASS
				AV	2390.000	-49.11	≤-41.20	46.09	≤54	PASS
				Peak	2310.000	-42.4	≤-21.20	52.80	≤74	PASS
				Peak	2374.550	-38.37	≤-21.20	56.83	≤74	PASS
				Peak	2390.000	-42.26	≤-21.20	52.94	≤74	PASS
		High	2480	AV	2483.500	-47.5	≤-41.20	47.70	≤54	PASS
				AV	2483.520	-47.5	≤-41.20	47.70	≤54	PASS
				AV	2500.000	-48.51	≤-41.20	46.69	≤54	PASS
				Peak	2483.500	-40.11	≤-21.20	55.09	≤74	PASS
				Peak	2495.920	-38.27	≤-21.20	56.93	≤74	PASS
				Peak	2500.000	-41.8	≤-21.20	53.40	≤74	PASS

Note:

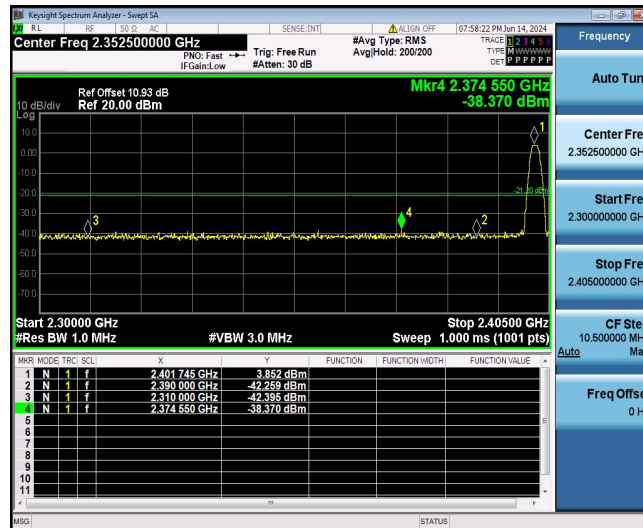
1. The Antenna Gain is compensated in the graph.
2. The Duty Cycle Factor and RBW Factor is compensated in the graph.
3. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

BLE_Ant1_Low_2402_AV



BLE_Ant1_Low_2402_Peak



BLE_Ant1_High_2480_AV

