FCC Appendix RF Test Data for BLE

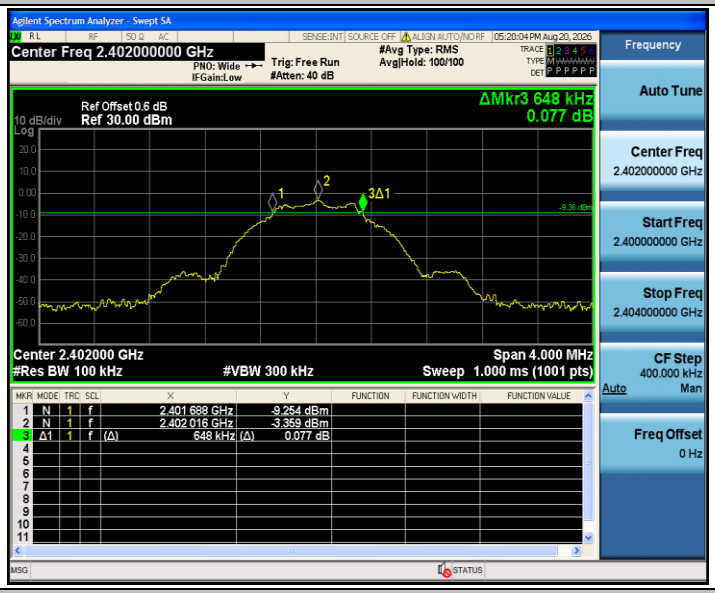
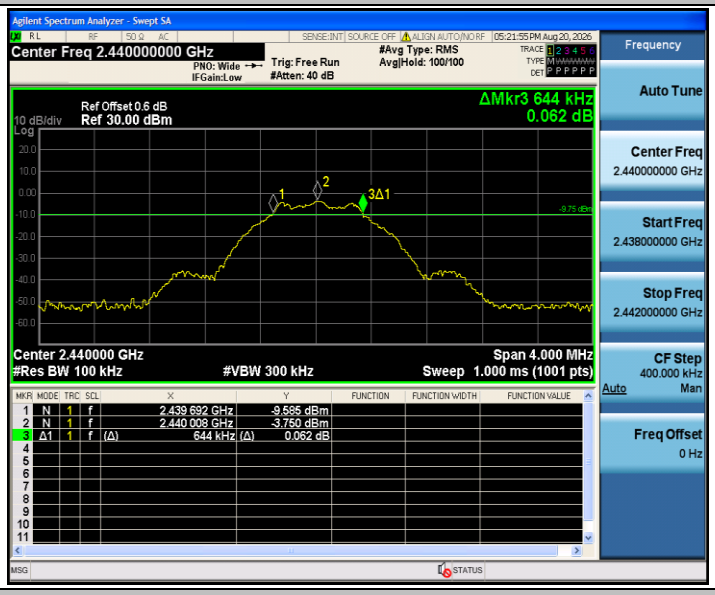
FCC ID	**:**	**2BXW7-DM03**
Company	**:**	**Shanghai Doumao Engine Technology Service Co., Ltd.**
EUT	**:**	**DOUMAO DiMi**
Model Number	**:**	**DM 03**
Report No.	**:**	**CTA26081100701**
Reviewed By	**:**	**Eric Wang**

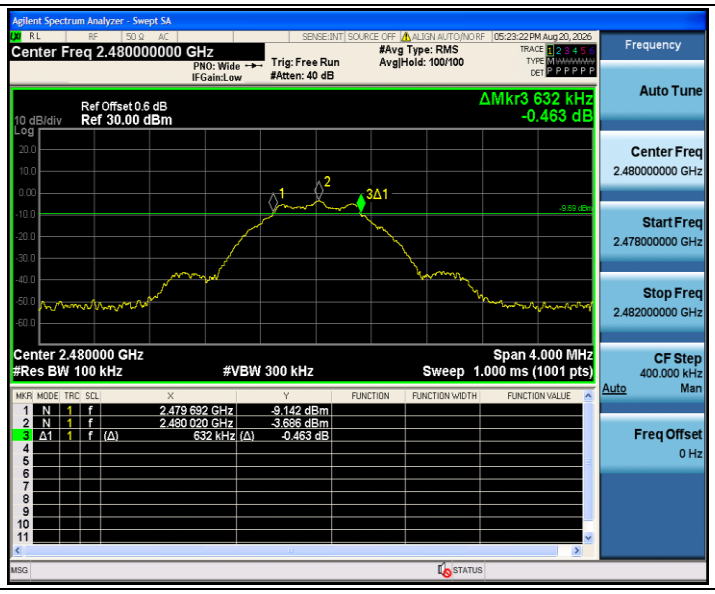
Appendix A: DTS Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.648	2401.688	2402.336	0.5	PASS
		2440	0.644	2439.692	2440.336	0.5	PASS
		2480	0.632	2479.692	2480.324	0.5	PASS

Test Graphs

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

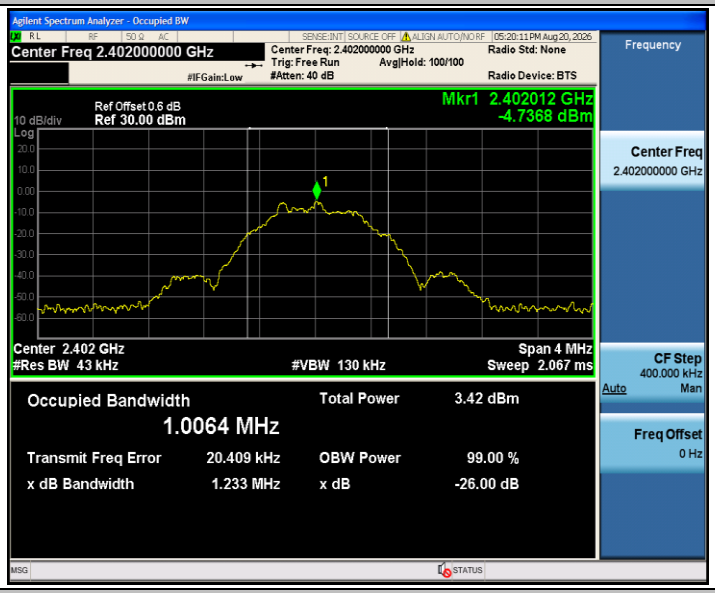
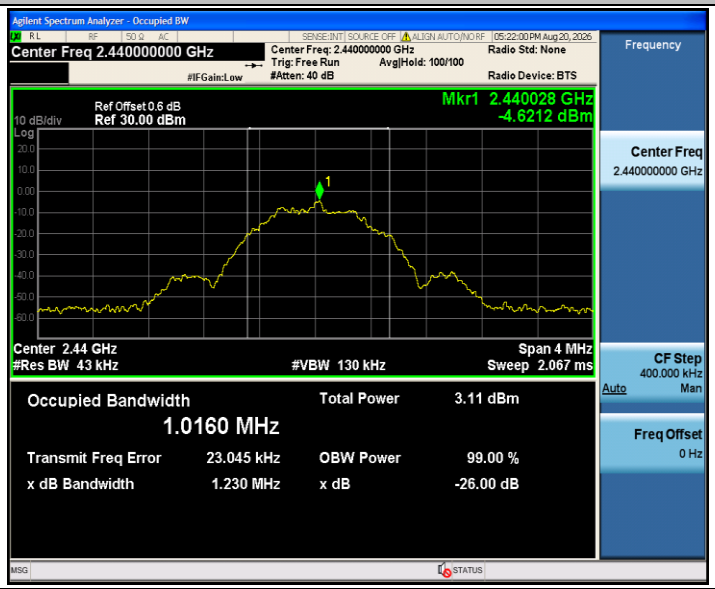

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 40 dB
#Avg Type: RMS
Avg|Hold: 100/100
05:23:22 PM Aug 20, 2026
Ref Offset 0.6 dB
10 dB/div
Ref 30.00 dBm
ΔMkr3 632 kHz
-0.463 dB
Center 2.480000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 4.000 MHz
Sweep 1.000 ms (1001 pts)
1 N 1 f 2.479 692 GHz -9.142 dBm
2 N 1 f 2.480 020 GHz -3.686 dBm
3 Δ1 1 f (Δ) 632 kHz (Δ) -0.463 dB
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.478000000 GHz
Stop Freq
2.482000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

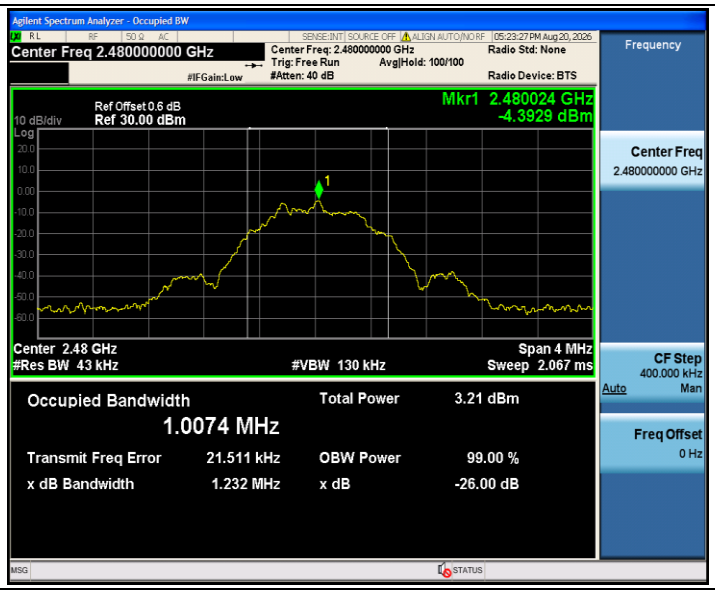
Appendix B: Occupied Channel Bandwidth

Test Result

TestMode	Antenna	Freq(MHz)	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.0064	2401.5172	2402.5236	---	---
		2440	1.0160	2439.5150	2440.5310	---	---
		2480	1.0074	2479.5178	2480.5252	---	---

Test Graphs

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Occupied BW
Center Freq 2.480000000 GHz
Center Freq: 2.480000000 GHz
Trig: Free Run
Avg|Hold: 100/100
#Atten: 40 dB
Radio Std: None
Radio Device: BTS
05:23:27 PM Aug 20, 2026
Frequency
Ref Offset 0.6 dB
10 dB/div
Ref 30.00 dBm
Log
Mkr1 2.480024 GHz
-4.3929 dBm
Center 2.48 GHz
#Res BW 43 kHz
#VBW 130 kHz
Span 4 MHz
Sweep 2.067 ms
Occupied Bandwidth
1.0074 MHz
Total Power 3.21 dBm
Transmit Freq Error 21.511 kHz
OBW Power 99.00 %
x dB Bandwidth 1.232 MHz
x dB -26.00 dB
Center Freq
2.480000000 GHz
CF Step
400.000 kHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix C: Maximum conducted output power

Test Result Peak

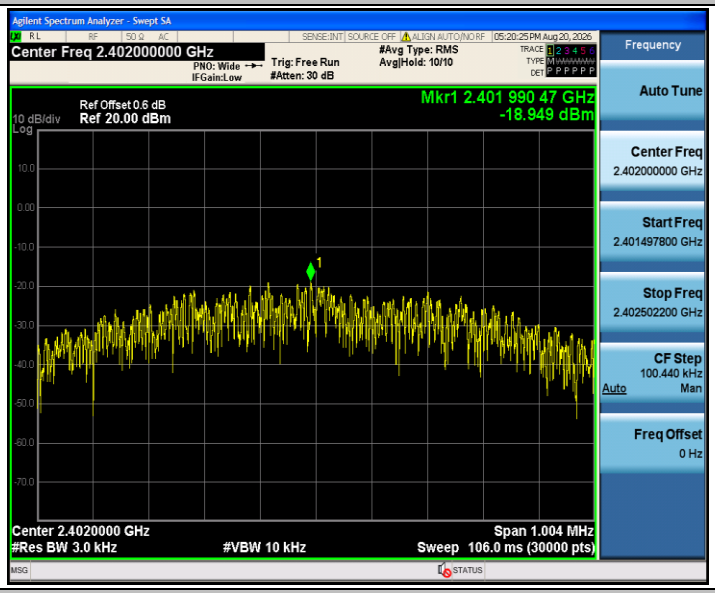
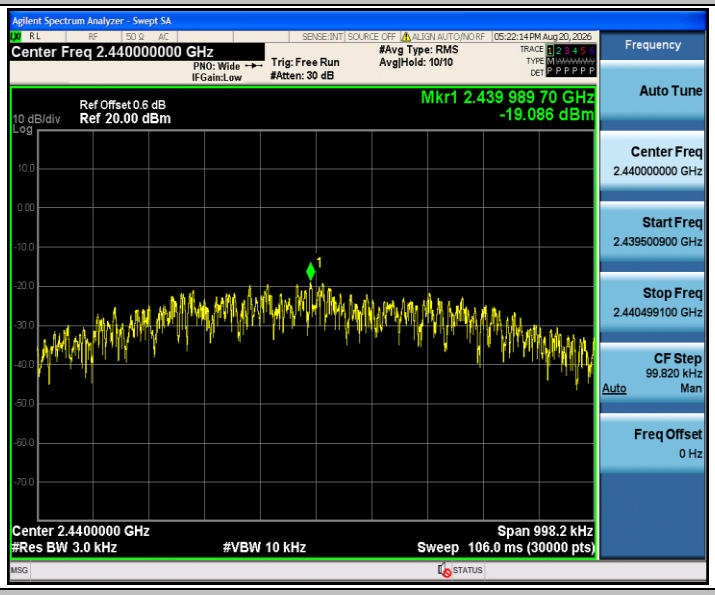
TestMode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.22	≤30	PASS
		2440	-3.30	≤30	PASS
		2480	-3.55	≤30	PASS

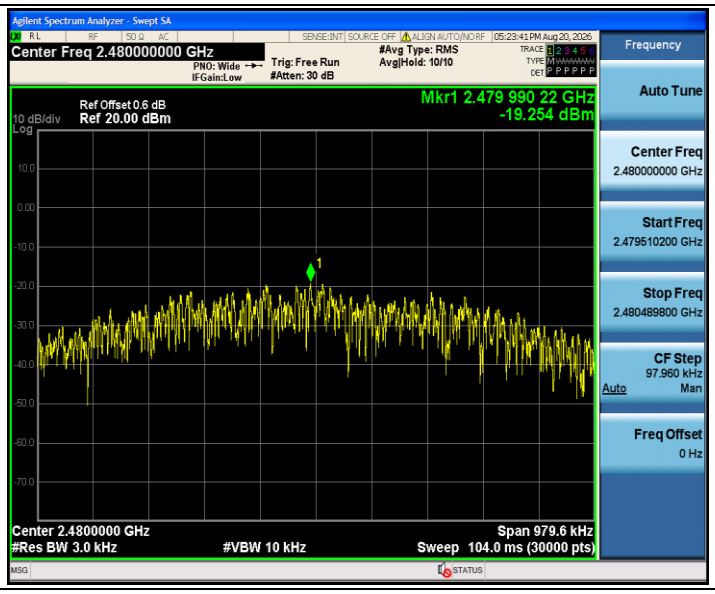
Appendix D: Maximum power spectral density

Test Result

TestMode	Antenna	Freq(MHz)	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-18.95	≤8.00	PASS
		2440	-19.09	≤8.00	PASS
		2480	-19.25	≤8.00	PASS

Test Graphs

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480

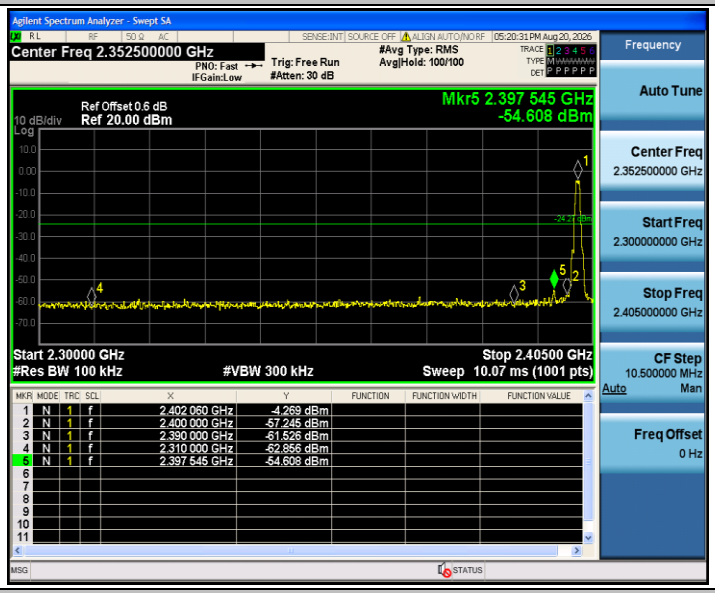
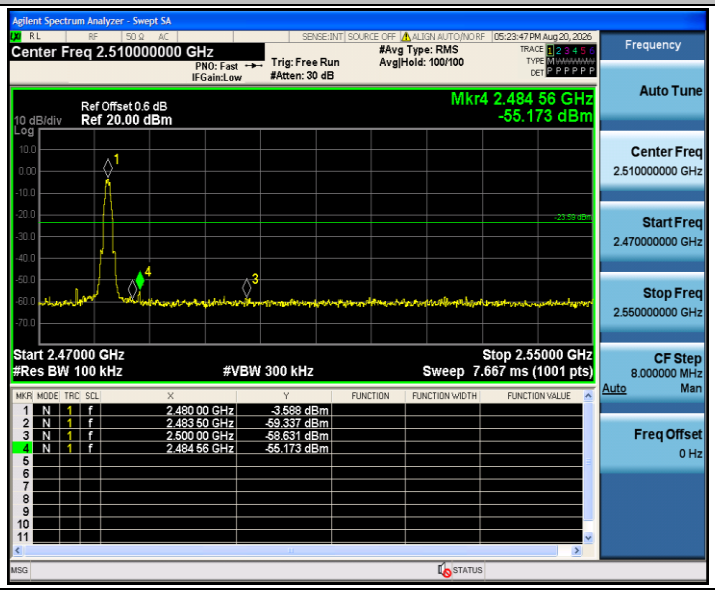

Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Wide
IFGain:Low
Trig: Free Run
#Atten: 30 dB
#Avg Type: RMS
Avg|Hold: 10/10
05:23:41 PM Aug 20, 2026
Ref Offset 0.6 dB
10 dB/div
Ref 20.00 dBm
Log
Mkr1 2.479 990 22 GHz
-19.254 dBm
Center 2.4800000 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 979.6 kHz
Sweep 104.0 ms (30000 pts)
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.479510200 GHz
Stop Freq
2.480489800 GHz
CF Step
97.960 kHz
Auto
Man
Freq Offset
0 Hz

Appendix E: Band edge measurements

Test Result

TestMode	Antenna	ChName	Freq(MHz)	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-4.27	-54.61	≤-24.27	PASS
		High	2480	-3.59	-55.17	≤-23.59	PASS

Test Graphs

BLE_1M_Ant1_Low_2402

BLE_1M_Ant1_High_2480


Appendix F: Conducted Spurious Emission

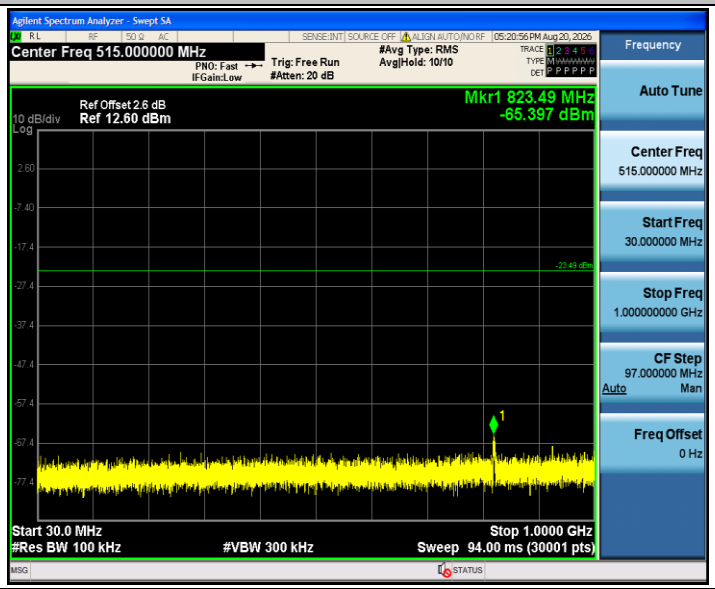
Test Result

TestMode	Antenna	Freq(MHz)	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-3.49	-3.49	---	PASS
			30~1000	-3.49	-65.4	≤-23.49	PASS
			1000~26500	-3.49	-45.55	≤-23.49	PASS
		2440	Reference	-4.81	-4.81	---	PASS
			30~1000	-4.81	-66.08	≤-24.81	PASS
			1000~26500	-4.81	-46.31	≤-24.81	PASS
		2480	Reference	-4.86	-4.86	---	PASS
			30~1000	-4.86	-66.62	≤-24.86	PASS
			1000~26500	-4.86	-46.57	≤-24.86	PASS

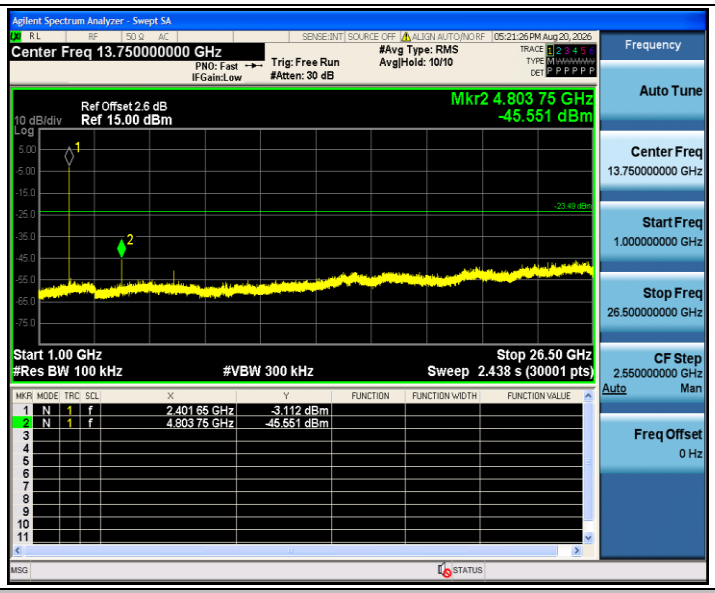
Test Graphs

BLE_1M_Ant1_2402_0~Reference

BLE_1M_Ant1_2402_30~1000

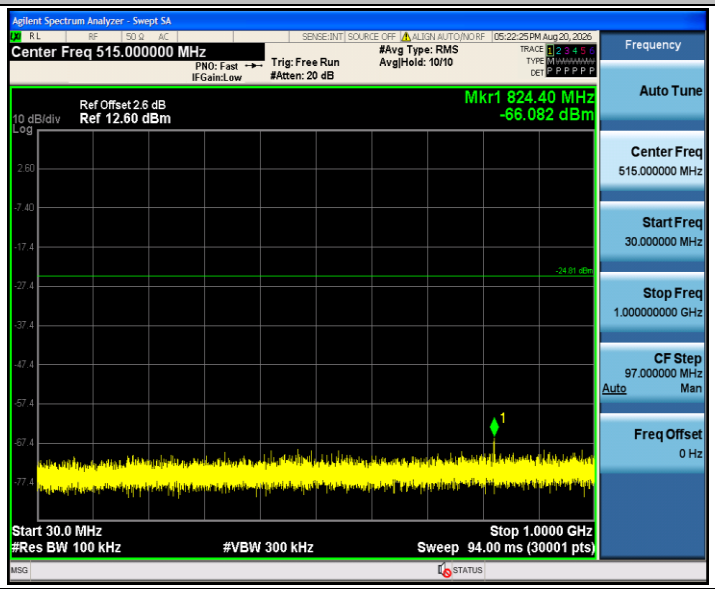


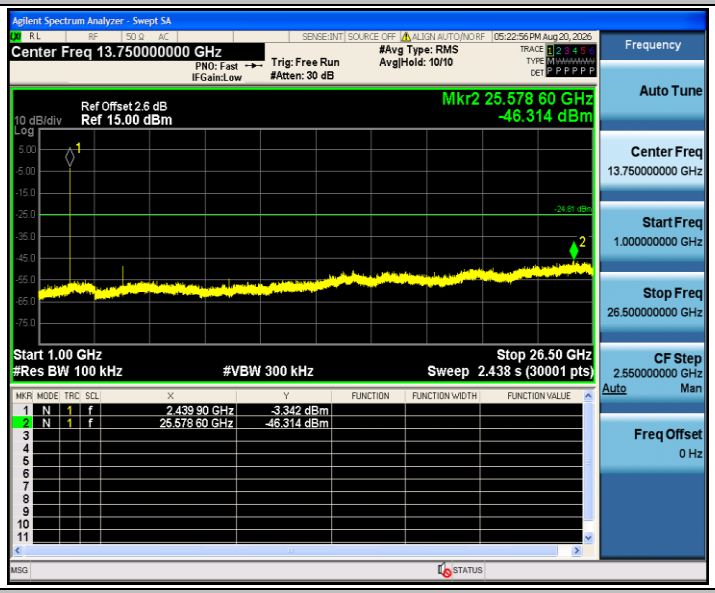
BLE_1M_Ant1_2402_1000~26500



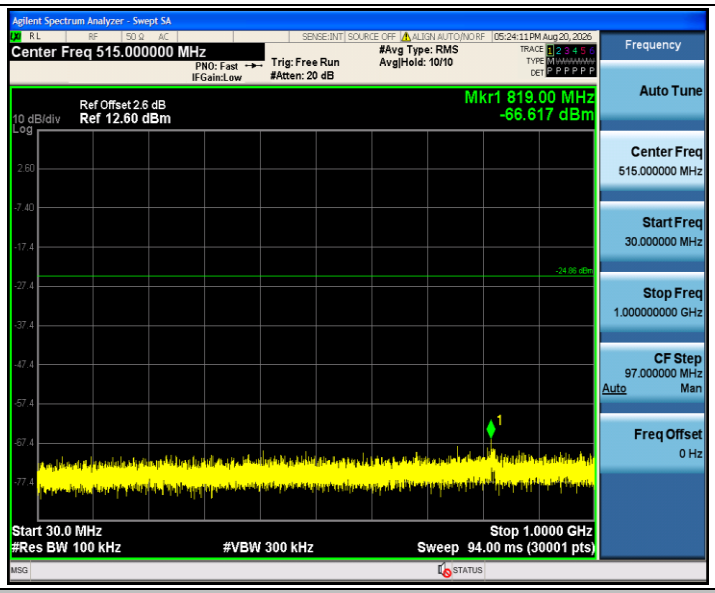
BLE_1M_Ant1_2440_0~Reference

BLE_1M_Ant1_2440_30~1000

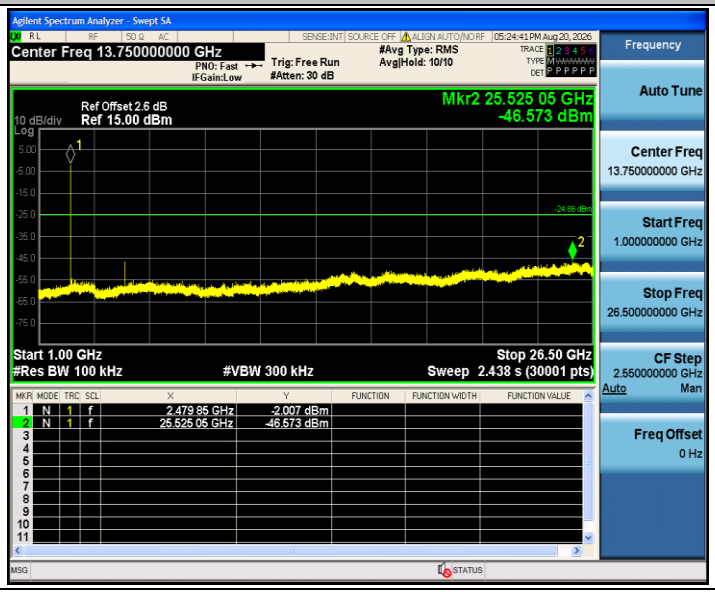


BLE_1M_Ant1_2440_1000~26500

BLE_1M_Ant1_2480_0~Reference

BLE_1M_Ant1_2480_30~1000



BLE_1M_Ant1_2480_1000~26500

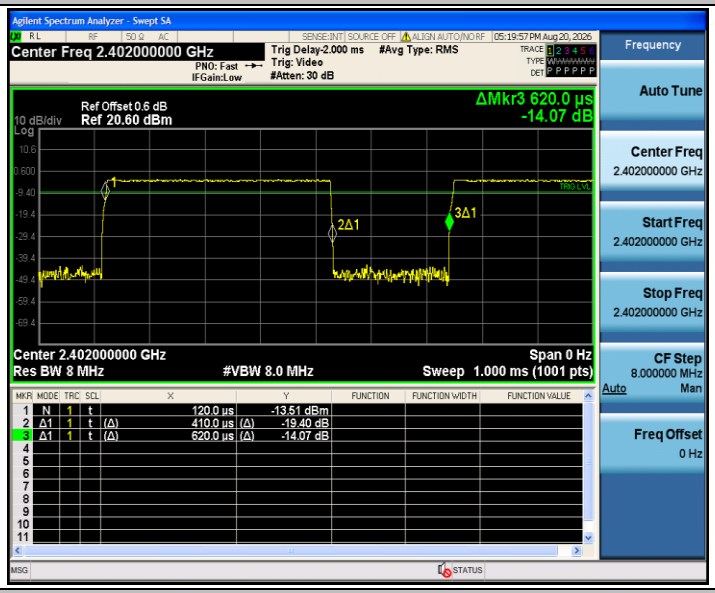
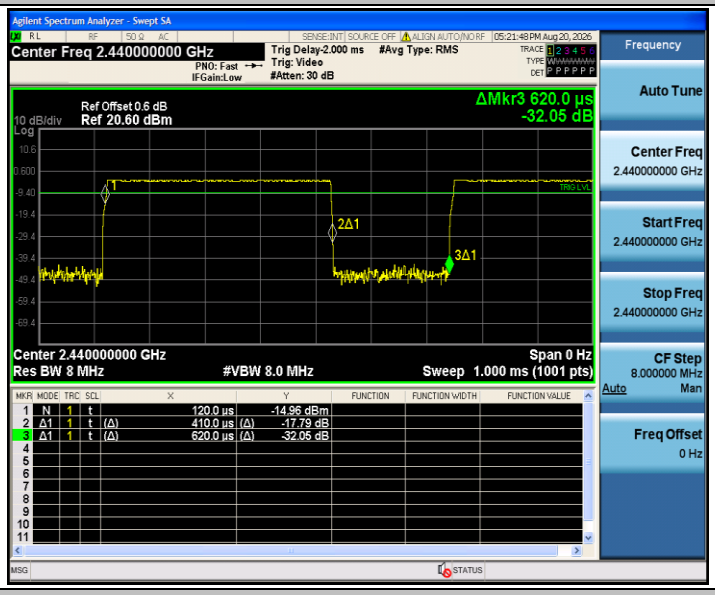


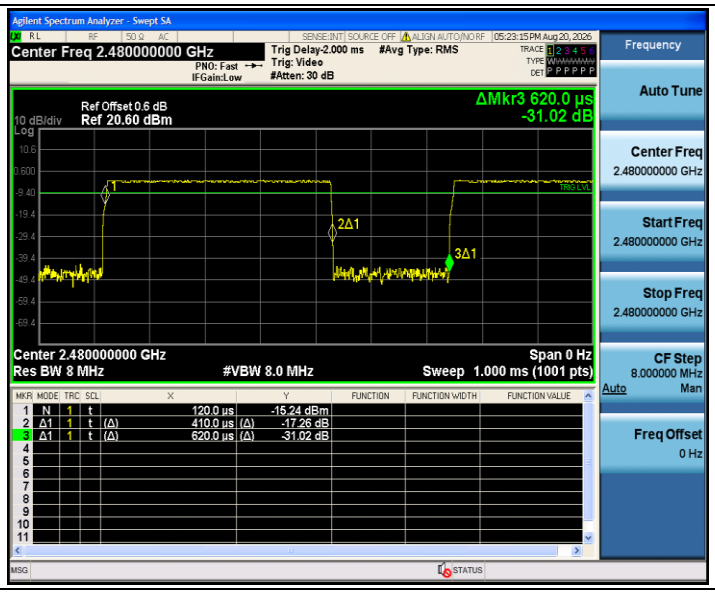
Appendix G: Duty Cycle

Test Result

TestMode	Antenna	Freq(MHz)	ON Time [ms]	Period [ms]	X	DC [%]	xFactor	Limit	Verdict
BLE_1M	Ant1	2402	0.41	0.62	0.6613	66.13	1.80	---	---
		2440	0.41	0.62	0.6613	66.13	1.80	---	---
		2480	0.41	0.62	0.6613	66.13	1.80	---	---

Test Graphs

BLE_1M_Ant1_2402

BLE_1M_Ant1_2440

BLE_1M_Ant1_2480


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.480000000 GHz
PNO: Fast
IFGain:Low
Trig Delay-2.000 ms
Trig: Video
#Avg Type: RMS
#Atten: 30 dB
05:23:15 PM Aug 20, 2026
Ref Offset 0.6 dB
10 dB/div
Ref 20.60 dBm
ΔMkr3 620.0 µs
-31.02 dB
Center 2.480000000 GHz
Res BW 8 MHz
#VBW 8.0 MHz
Span 0 Hz
Sweep 1.000 ms (1001 pts)
1 N 1 t 120.0 µs -15.24 dBm
2 Δ1 1 t (Δ) 410.0 µs (Δ) -17.26 dB
3 Δ1 1 t (Δ) 620.0 µs (Δ) -31.02 dB
Frequency
Auto Tune
Center Freq
2.480000000 GHz
Start Freq
2.480000000 GHz
Stop Freq
2.480000000 GHz
CF Step
8.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

Appendix H: Emissions in Restricted Bands

Test Result

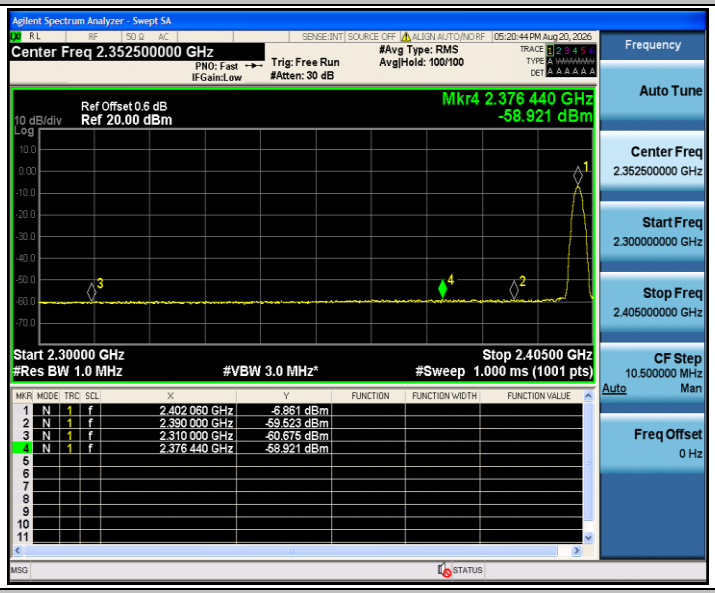
TestMode	Antenna	ChName	Freq(MHz)	Detector	Freq [MHz]	Result [dBm]	Gain [dB]	DC Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-60.68	4.97	1.80	41.29	≤54	PASS
				AV	2376.440	-58.92	4.97	1.80	43.05	≤54	PASS
				AV	2390.000	-59.52	4.97	1.80	42.45	≤54	PASS
				Peak	2310.000	-51.56	4.97	0.00	48.61	≤74	PASS
				Peak	2374.550	-49.18	4.97	0.00	50.99	≤74	PASS
				Peak	2390.000	-49.95	4.97	0.00	50.22	≤74	PASS
		High	2480	AV	2483.500	-58.28	4.97	1.80	43.69	≤54	PASS
				AV	2483.760	-57.73	4.97	1.80	44.24	≤54	PASS
				AV	2500.000	-59.5	4.97	1.80	42.47	≤54	PASS
				Peak	2483.500	-50.48	4.97	0.00	49.69	≤74	PASS
				Peak	2484.800	-47.28	4.97	0.00	52.89	≤74	PASS
				Peak	2500.000	-52.17	4.97	0.00	48.00	≤74	PASS

Note：

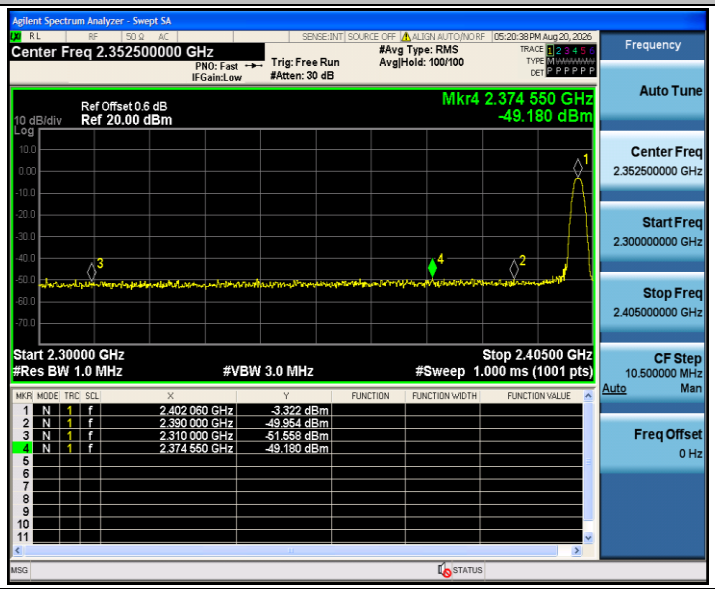
The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

Test Graphs

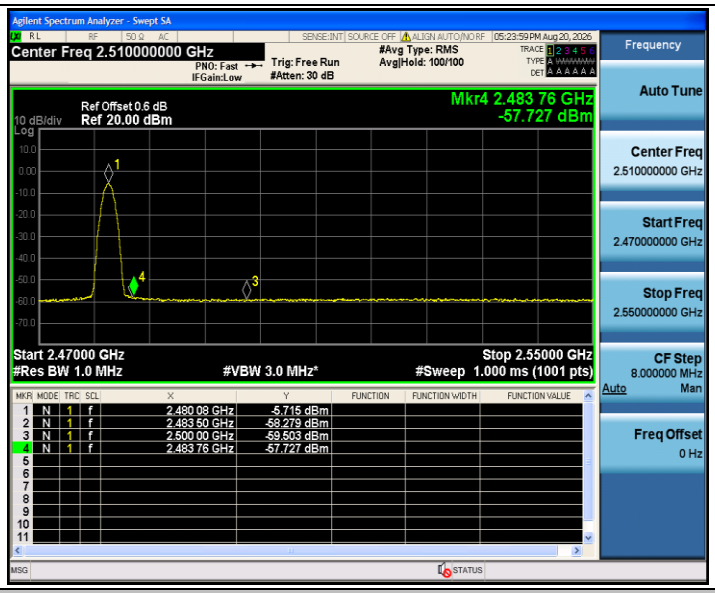
BLE_1M_Ant1_Low_2402_AV



BLE_1M_Ant1_Low_2402_Peak



BLE_1M_Ant1_High_2480_AV



BLE_1M_Ant1_High_2480_Peak