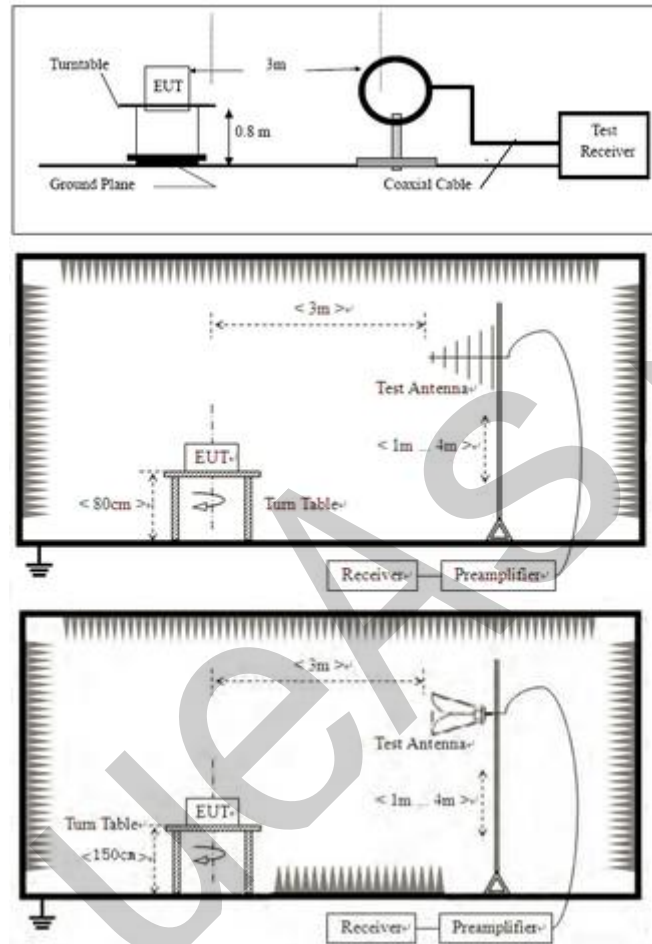


5.2 BLOCK DIAGRAM OF TEST SETUP



5.3 PROCEDURE

- For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

- h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
- j. Repeat above procedures until all frequencies measured was complete.

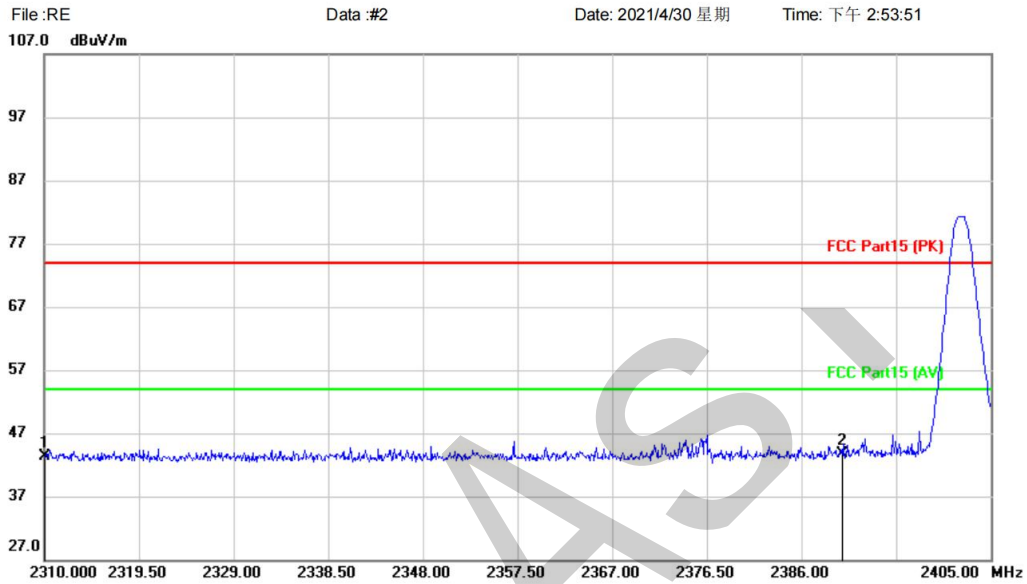
Remark 1: $Level = Read\ Level + Cable\ Loss + Antenna\ Factor - Preamp\ Factor$

Remark 2: For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

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[TestMode: TX]; [Polarity: Vertical]

Radiated Emission Measurement



Site	Polarization: Vertical	Temperature:
Limit: FCC Part15 (PK)	Power: AC120V/60Hz	Humidity: %
EUT: Wireless Rechargeable Silent Mouse	Distance: 3m	
M/N: TK-MS001		
Mode: TX-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	cm	degree	Comment
1		2310.000	47.94	-4.61	43.33	74.00	-30.67	peak		
2	*	2390.000	47.88	-4.27	43.61	74.00	-30.39	peak		

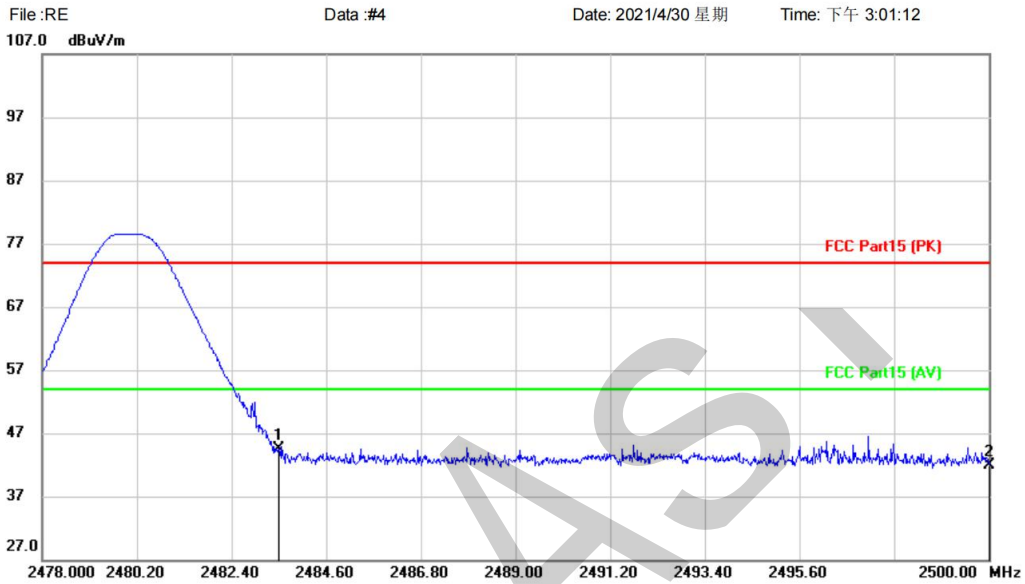
*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

[TestMode: TX]; [Polarity: Vertical]

Radiated Emission Measurement



Site Polarization: **Vertical** Temperature:
 Limit: FCC Part15 (PK) Power: AC120V/60Hz Humidity: %
 EUT: Wireless Rechargeable Silent Mouse Distance: 3m
 M/N: TK-MS001
 Mode: TX-H
 Note:

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1	*	2483.500	48.28	-3.84	44.44	74.00	-29.56	peak			
2		2500.000	45.77	-3.78	41.99	74.00	-32.01	peak			

*:Maximum data x:Over limit !:over margin

<Reference Only

Test Result: Pass

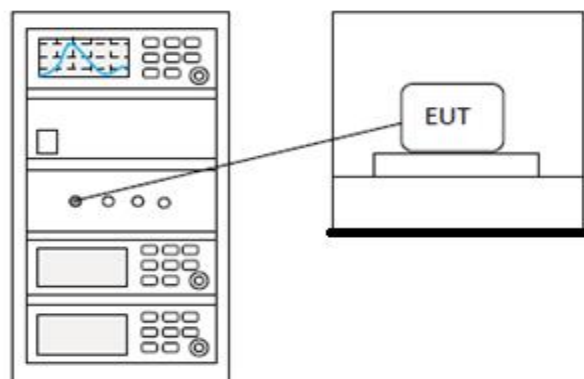
6 CONDUCTED SPURIOUS EMISSIONS

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.6 & Section 11.11
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

6.1 LIMITS

Limit:	<p>In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).</p>
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6.2 BLOCK DIAGRAM OF TEST SETUP



6.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

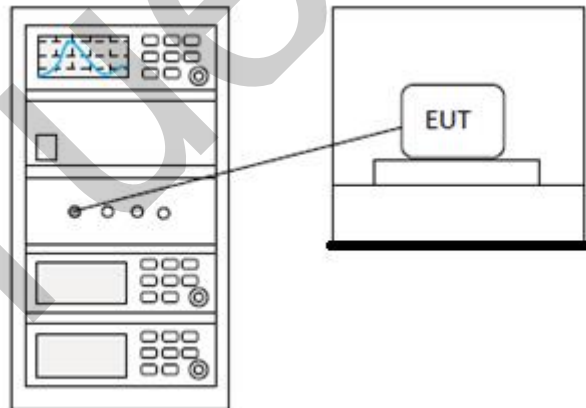
7 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

7.1 LIMITS

Limit: $\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission

7.2 BLOCK DIAGRAM OF TEST SETUP



7.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

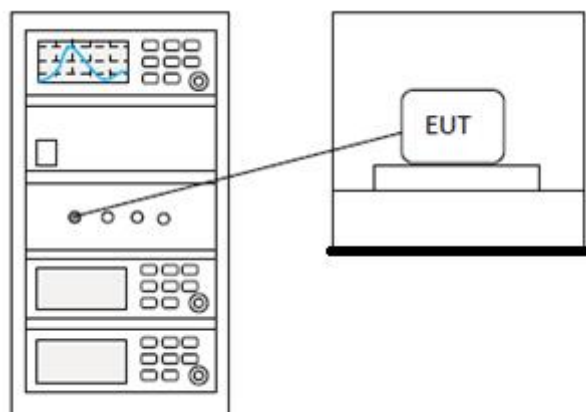
8 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

8.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥ 50 hopping channels
	0.25 for $25 \leq$ hopping channels < 50
	1 for digital modulation
2400-2483.5	1 for ≥ 75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

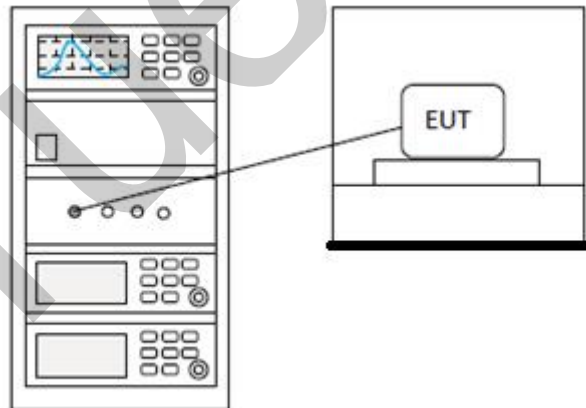
9 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25°C
Humidity	60%

9.1 LIMITS

Limit:	≥ 500 kHz
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9.2 BLOCK DIAGRAM OF TEST SETUP



9.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

10 APPENDIX

10.1 APPENDIX : DTS BANDWIDTH

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.524	2401.740	2402.264	≥ 0.5	PASS
		2442	0.504	2441.756	2442.260	≥ 0.5	PASS
		2480	0.504	2479.752	2480.256	≥ 0.5	PASS

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Test Graphs



10.2 APPENDIX : OCCUPIED CHANNEL BANDWIDTH**Test Result**

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE	Ant1	2402	0.96206	2401.497	2402.459	---	PASS
		2442	0.93286	2441.527	2442.460	---	PASS
		2480	0.91428	2479.546	2480.460	---	PASS

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Test Graphs



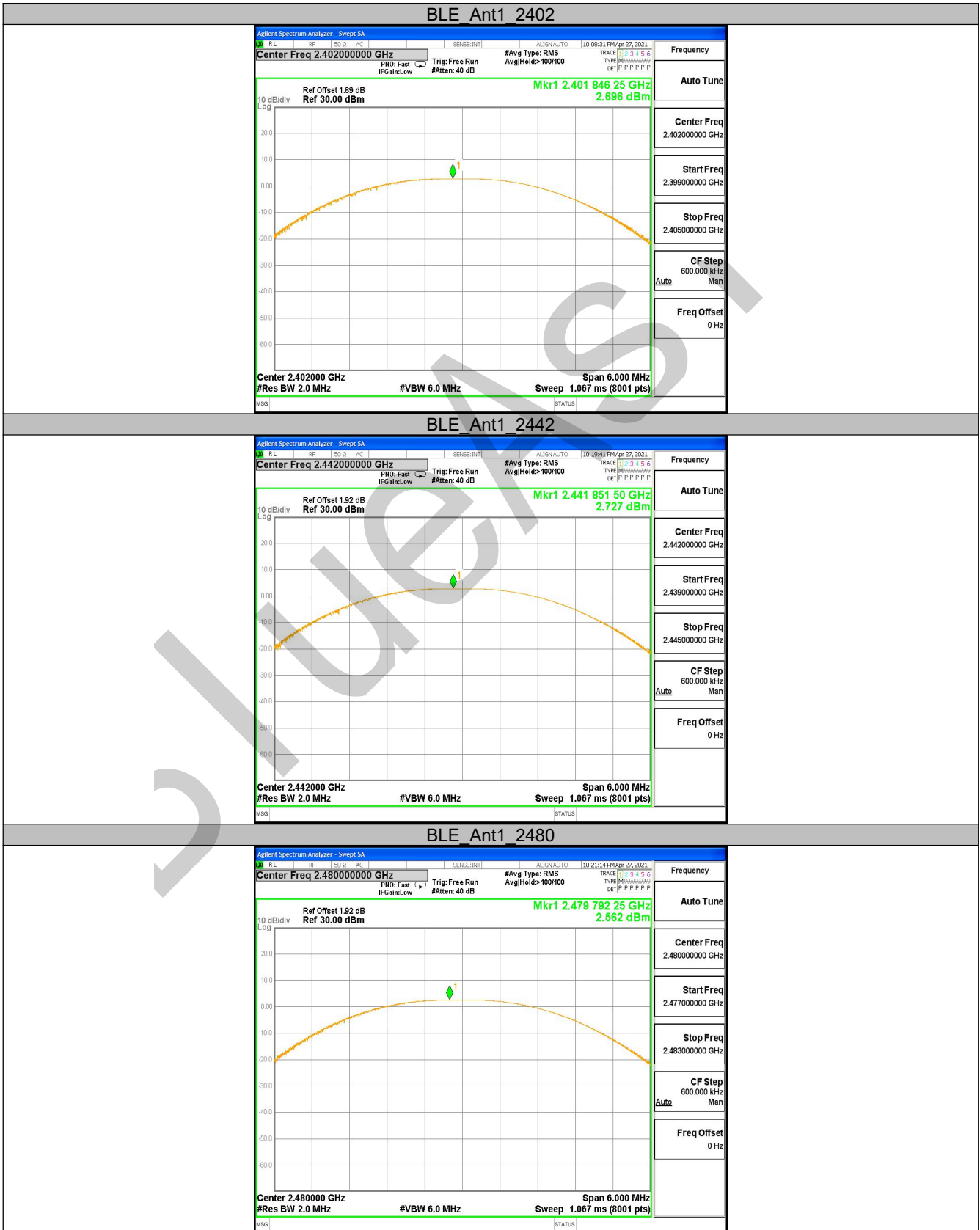
10.3 APPENDIX : MAXIMUM CONDUCTED OUTPUT POWER

Test Result

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	2.7	<=30	PASS
		2442	2.73	<=30	PASS
		2480	2.56	<=30	PASS

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Test Graphs



10.4 APPENDIX : MAXIMUM POWER SPECTRAL DENSITY**Test Result**

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE	Ant1	2402	-4.04	<=8	PASS
		2442	-4.04	<=8	PASS
		2480	-4.01	<=8	PASS

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Test Graphs



10.5 APPENDIX : BAND EDGE MEASUREMENTS

Test Result

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	Low	2402	1.85	-48.36	<=-18.15	PASS
		High	2480	1.74	-46.34	<=-18.26	PASS

Test Graphs

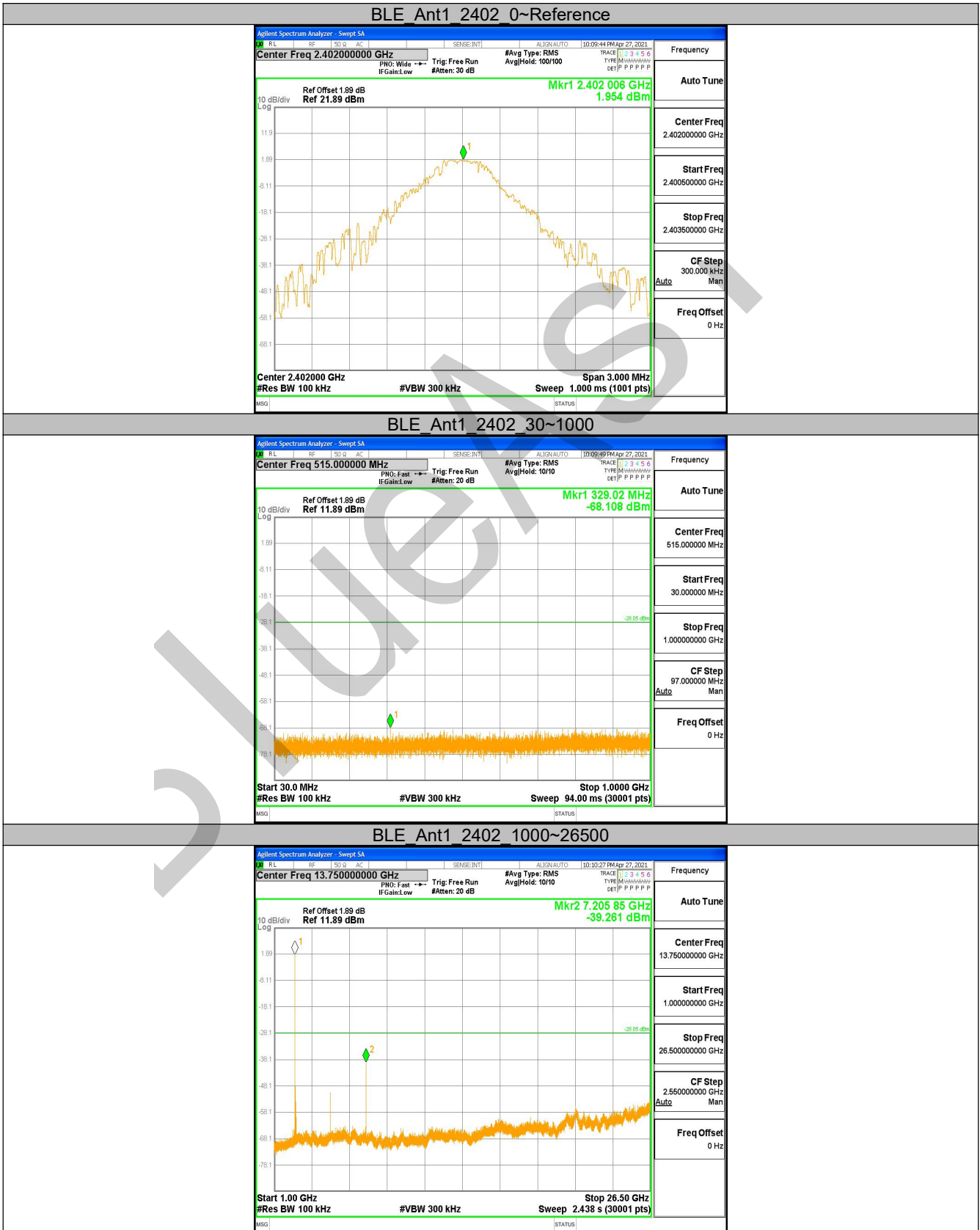


10.6 APPENDIX : CONDUCTED SPURIOUS EMISSION

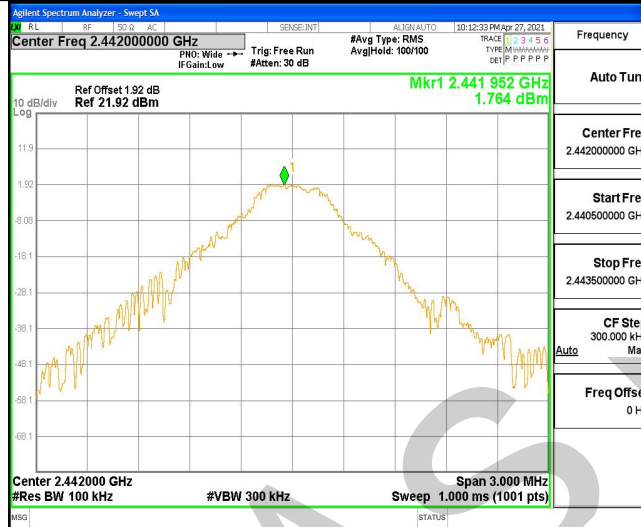
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE	Ant1	2402	Reference	1.95	1.95	---	PASS
			30~1000	1.95	-68.11	<=-28.05	PASS
			1000~26500	1.95	-39.26	<=-28.05	PASS
		2442	Reference	1.76	1.76	---	PASS
			30~1000	1.76	-67.82	<=-28.24	PASS
			1000~26500	1.76	-38.17	<=-28.24	PASS
		2480	Reference	1.70	1.70	---	PASS
			30~1000	1.70	-67.71	<=-28.3	PASS
			1000~26500	1.70	-44.55	<=-28.3	PASS

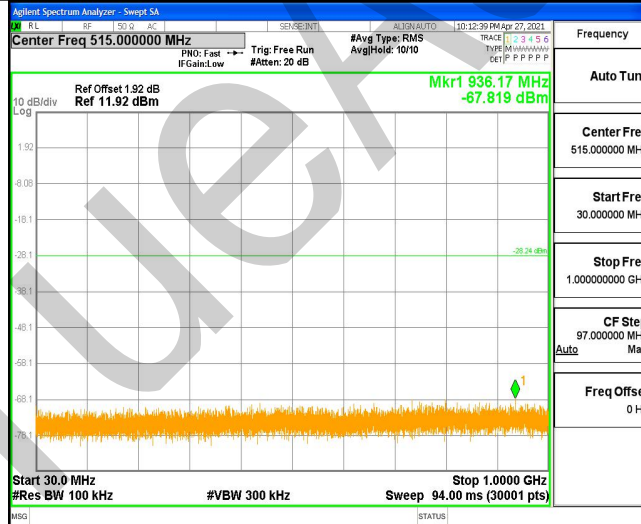
Test Graphs



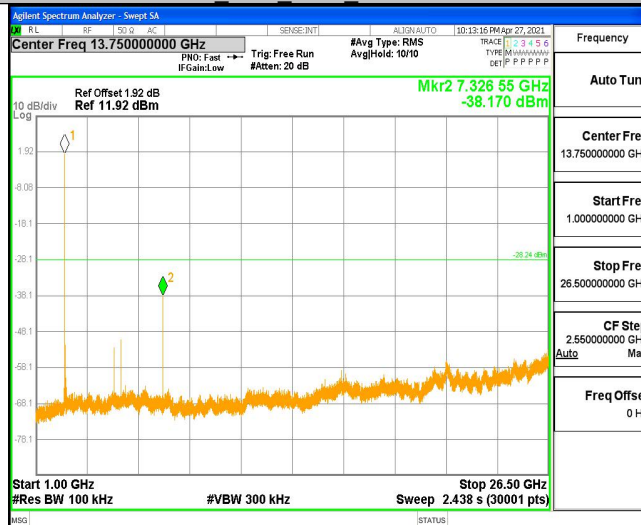
BLE Ant1_2442_0~Reference



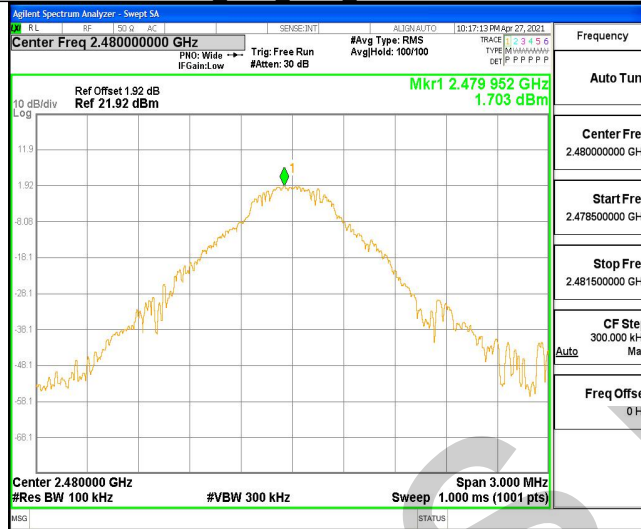
BLE Ant1_2442_30~1000



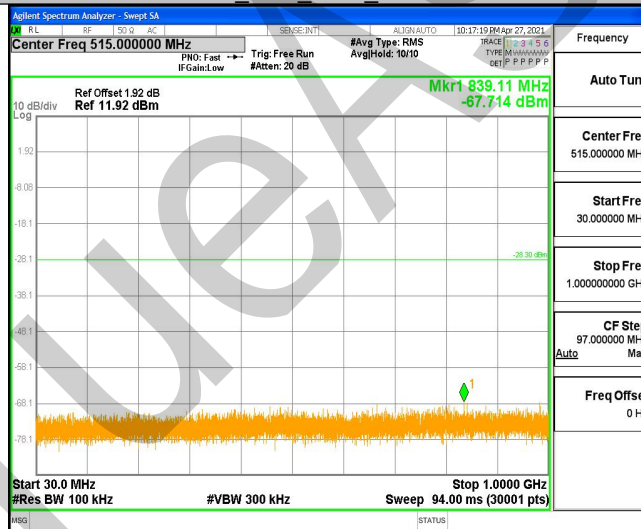
BLE Ant1_2442_1000~26500



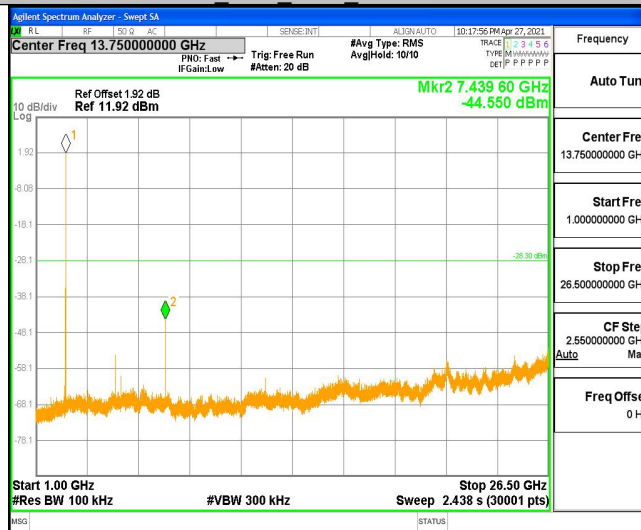
BLE Ant1 2480 0~Reference



BLE Ant1 2480 30~1000

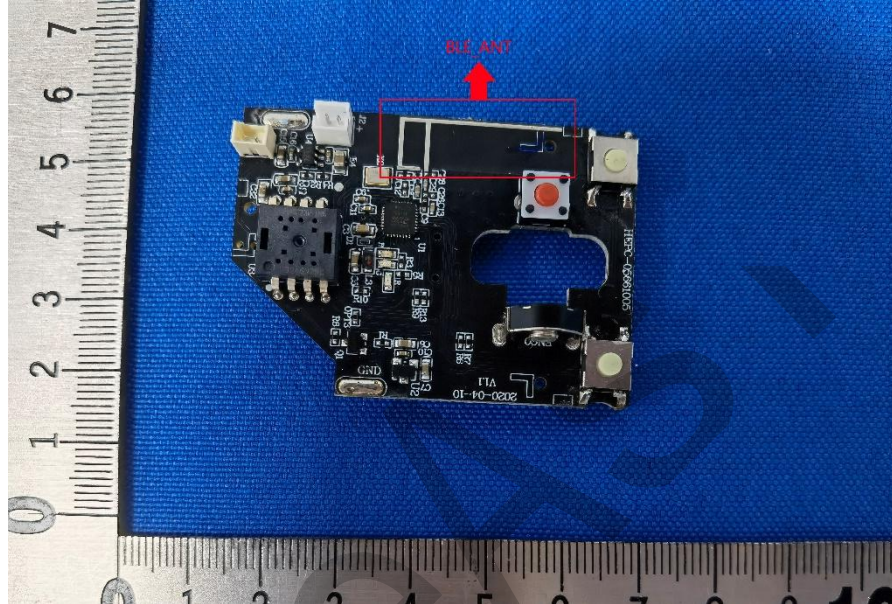


BLE Ant1 2480 1000~26500

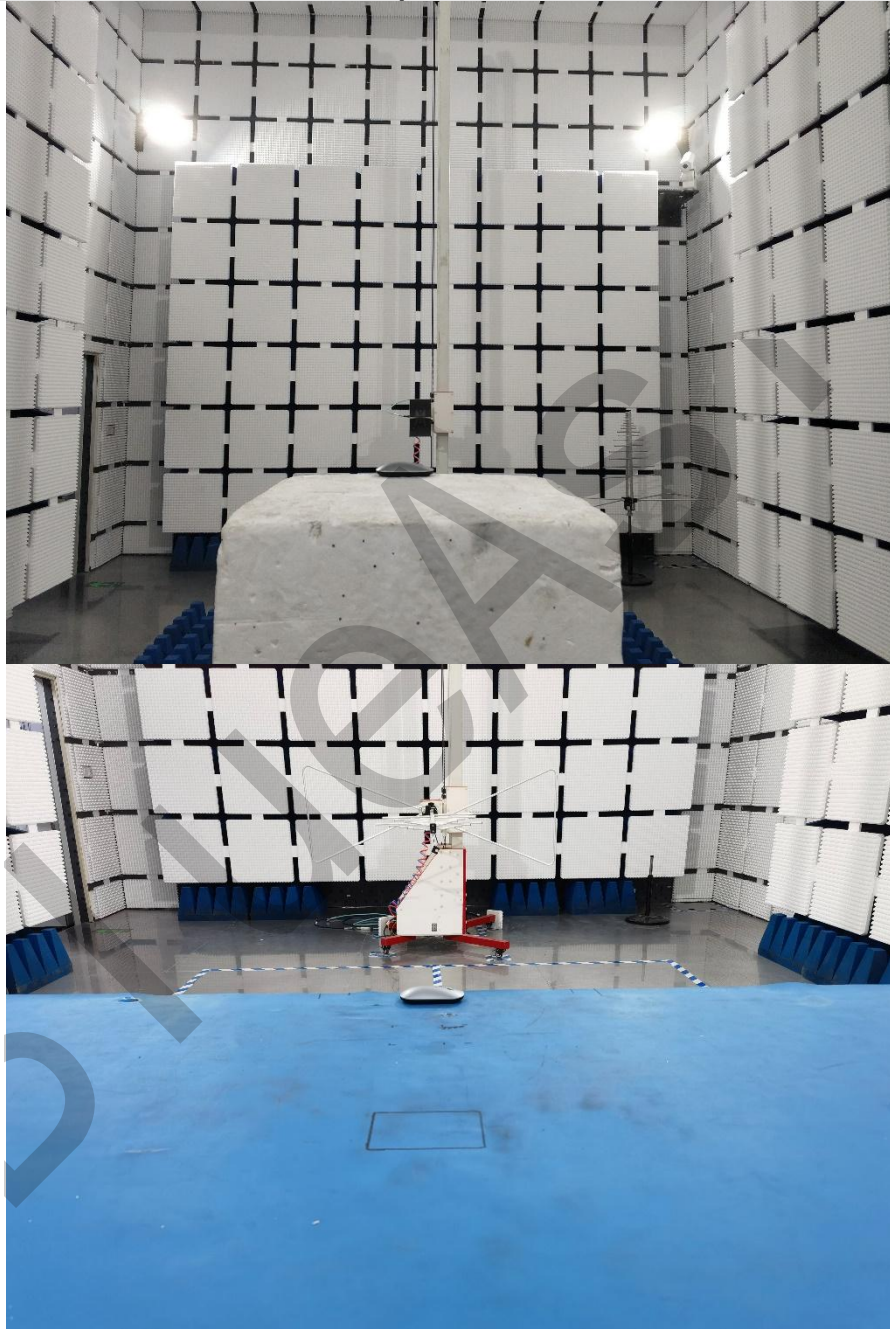


APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Antenna Requirement



Radiated Spurious Emissions



APPENDIX B: PHOTOGRAPHS OF EUT

Reference to the test report No. BLA-EMC-202104-A5902

----END OF REPORT----

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