

[TestMode: High Channel]; [Polarity: Vertical]

Radiated Emission Measurement

File: RE Data: #16 Date: 2020/7/13 星期 Time: 上午 10:47:51
100.0 dBuV/m



Site Polarization: **Vertical** Temperature:
Limit: FCC Part15 (PK) Power: DC3.3V Humidity: %
EUT: Bluetooth Mouse Distance: 3m
M/N: BM-130
Mode: TX-H
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		2483.500	63.45	-13.50	49.95	74.00	-24.05	peak		
2	*	2483.500	52.88	-13.50	39.38	54.00	-14.62	AVG		
3		2500.000	57.41	-13.42	43.99	74.00	-30.01	peak		
4		2500.000	43.69	-13.42	30.27	54.00	-23.73	AVG		

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

〈Reference Only

Test Result: Pass

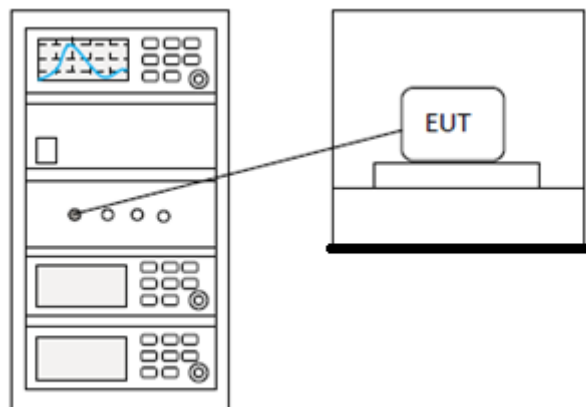
5 CONDUCTED SPURIOUS EMISSIONS

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	Eason
Temperature	26°C
Humidity	54%

5.1 LIMITS

Limit:	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)).
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5.2 BLOCK DIAGRAM OF TEST SETUP



5.3 TEST DATA

Pass: Please Refer To Appendix: For Details

BlueAsia

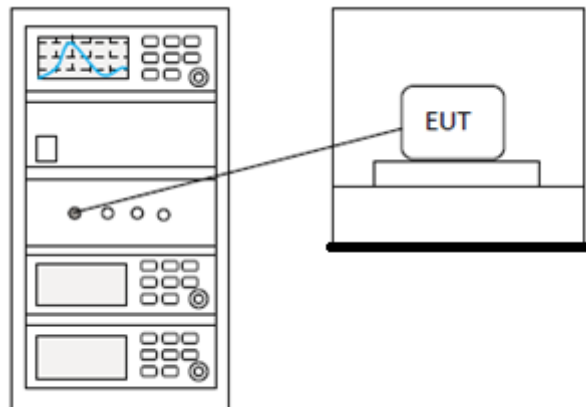
6 POWER SPECTRUM DENSITY

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	Eason
Temperature	26°C
Humidity	54%

6.1 LIMITS

Limit:	$\leq 8\text{dBm}$ in any 3 kHz band during any time interval of continuous transmission
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6.2 BLOCK DIAGRAM OF TEST SETUP



6.3 TEST DATA

Pass: Please Refer To Appendix: For Details

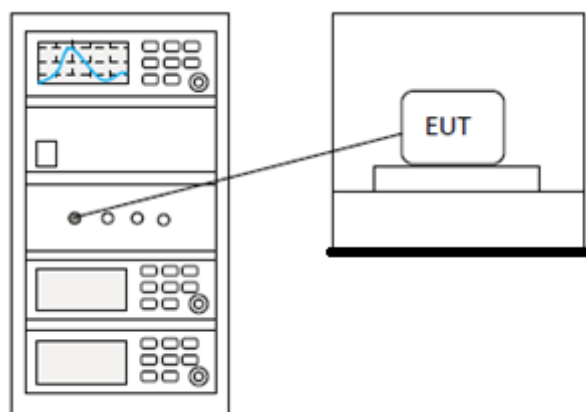
7 CONDUCTED PEAK OUTPUT POWER

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	Eason
Temperature	26°C
Humidity	54%

7.1 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

7.2 BLOCK DIAGRAM OF TEST SETUP



7.3 TEST DATA

Pass: Please Refer To Appendix: For Details

BlueAsia

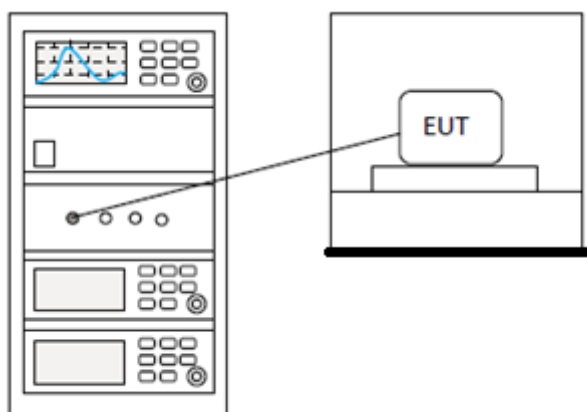
8 MINIMUM 6DB BANDWIDTH

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	Eason
Temperature	26°C
Humidity	54%

8.1 LIMITS

Limit:	≥ 500 kHz
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8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST DATA

Pass: Please Refer To Appendix: For Details

9 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

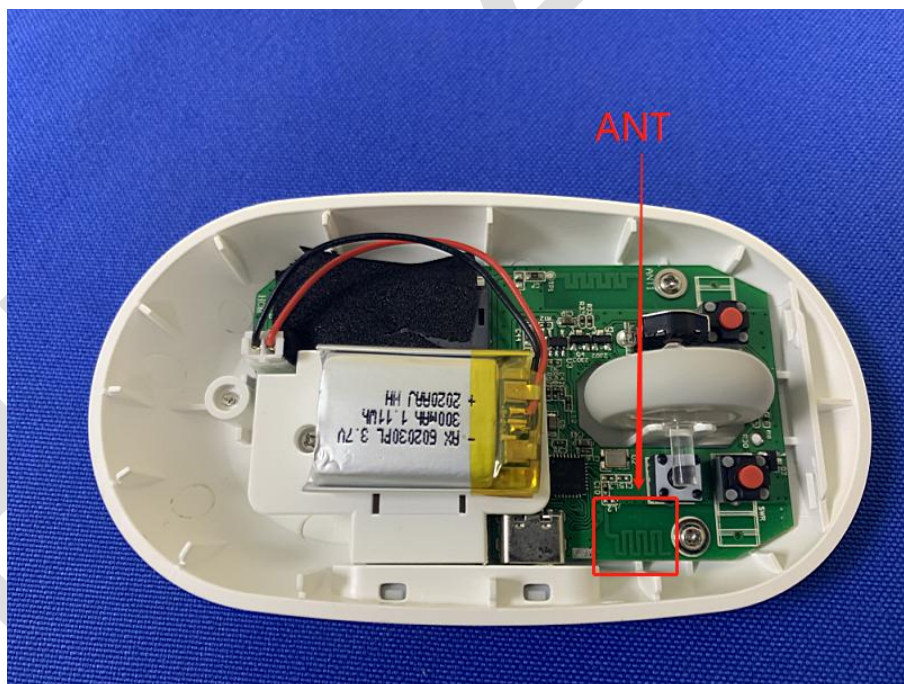
9.1 CONCLUSION

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



10 APPENDIX

10.1 APPENDIX: DTS BANDWIDTH

Test Result

TestMode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	0.808	2401.576	2402.384	≥ 0.5	PASS
		2442	0.808	2441.576	2442.384	≥ 0.5	PASS
		2480	0.812	2479.576	2480.388	≥ 0.5	PASS

Test Graphs



10.2 APPENDIX: OCCUPIED CHANNEL BANDWIDTH

Test Result

TestMode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_BT4.0	Ant1	2402	1.1043	2401.438	2402.542	---	PASS
		2442	1.0997	2441.445	2442.545	---	PASS
		2480	1.1019	2479.444	2480.546	---	PASS

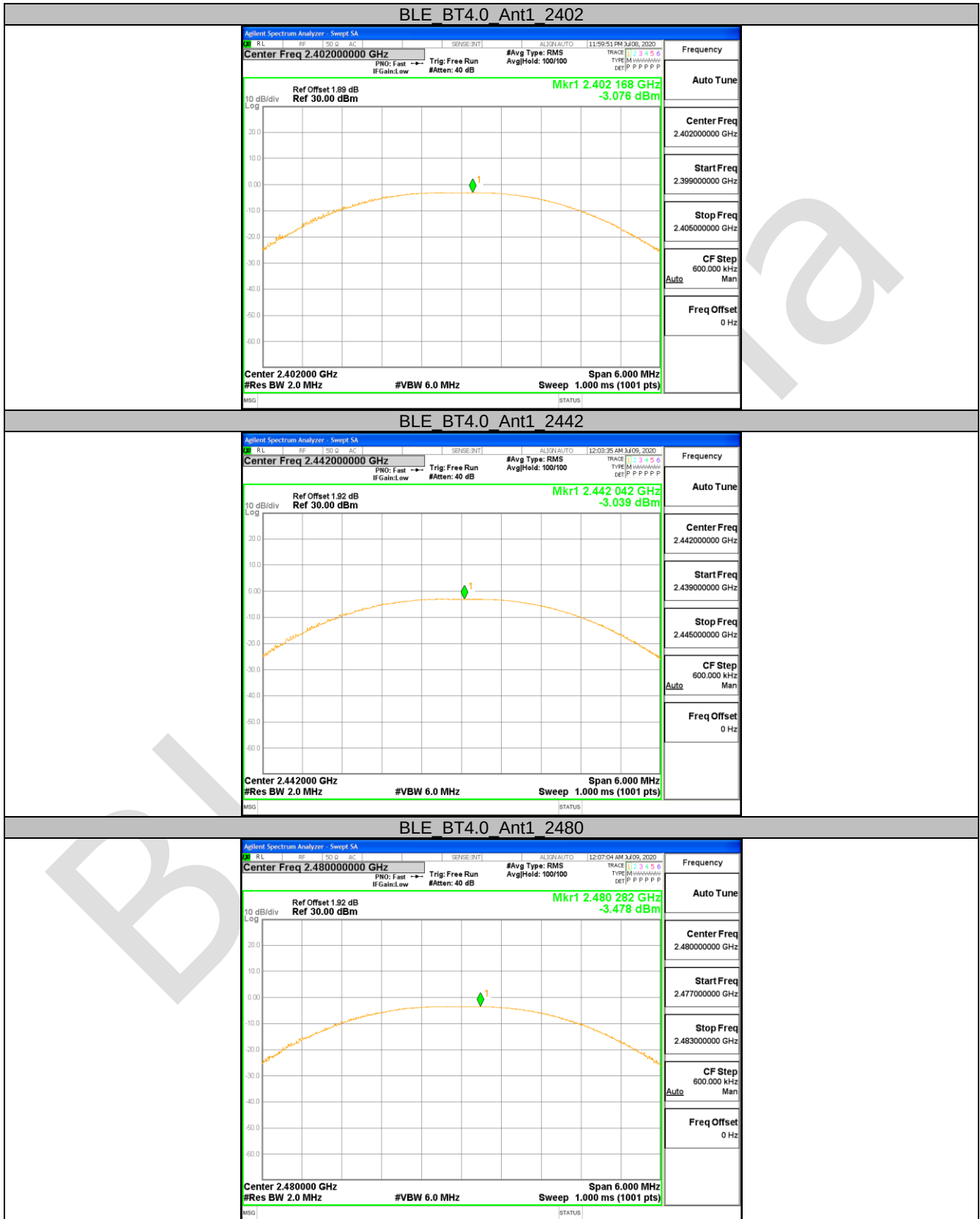
Test Graphs



10.3 APPENDIX: MAXIMUM CONDUCTED OUTPUT POWER**Test Result**

TestMode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	-3.08	<=30	PASS
		2442	-3.04	<=30	PASS
		2480	-3.48	<=30	PASS

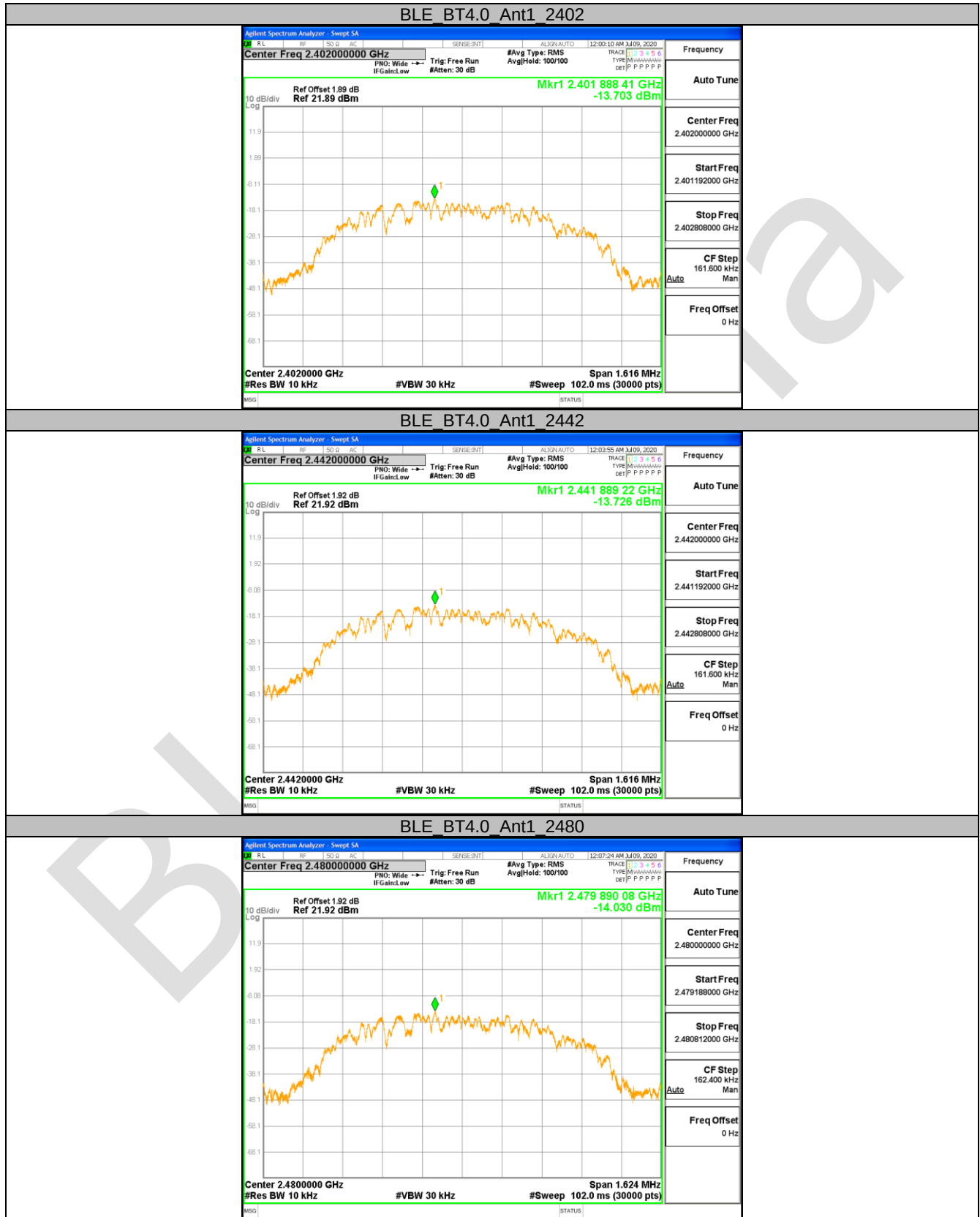
Test Graphs



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

TestMode	Antenna	Channel	Result[dBm/3-100kHz]	Limit[dBm/3kHz]	Verdict
BLE_BT4.0	Ant1	2402	-13.7	<=8	PASS
		2442	-13.73	<=8	PASS
		2480	-14.03	<=8	PASS

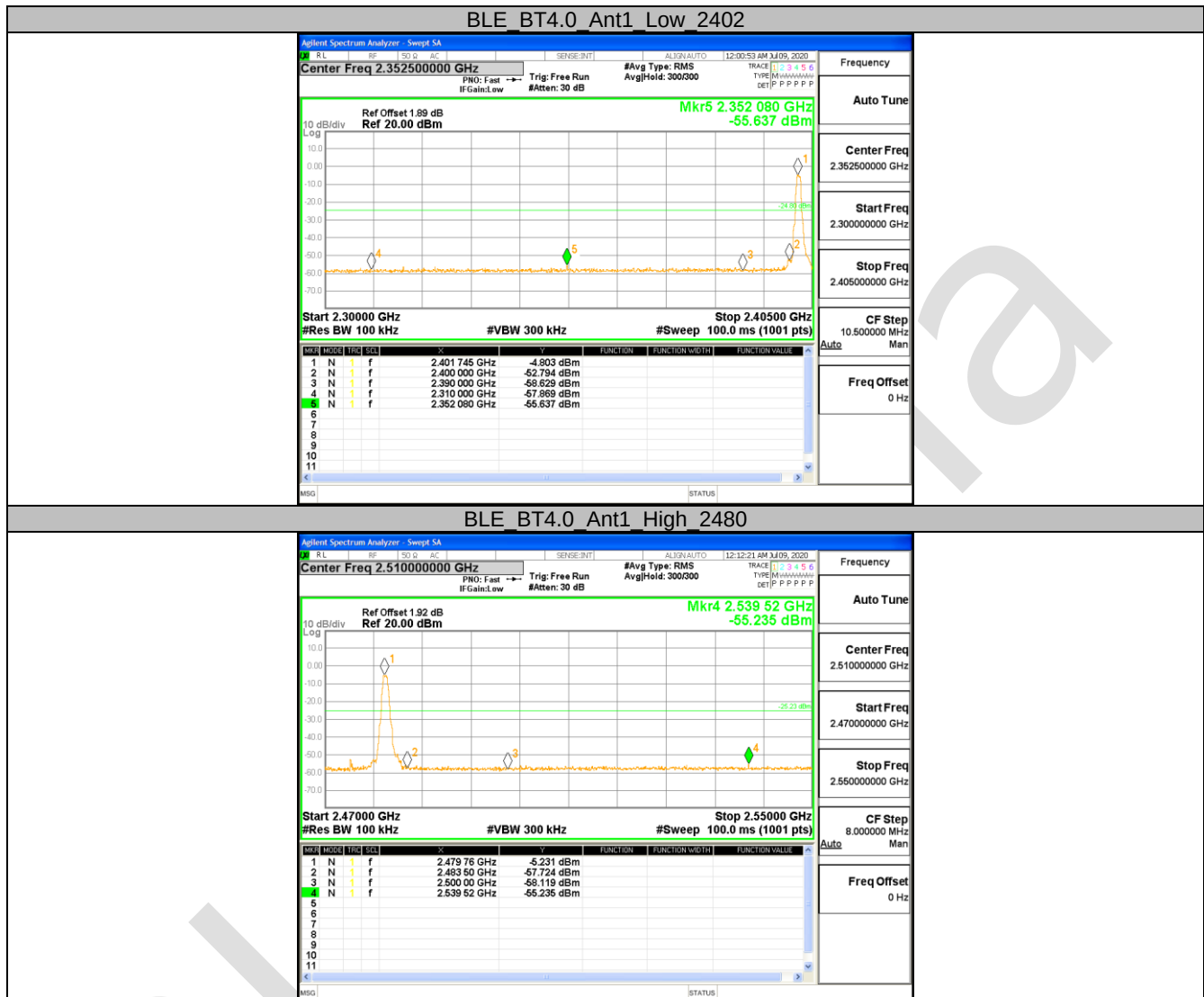
Test Graphs



10.5 APPENDIX: BAND EDGE MEASUREMENTS**Test Result**

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	Low	2402	-4.80	-55.64	<=-24.8	PASS
		High	2480	-5.23	-55.24	<=-25.23	PASS

Test Graphs

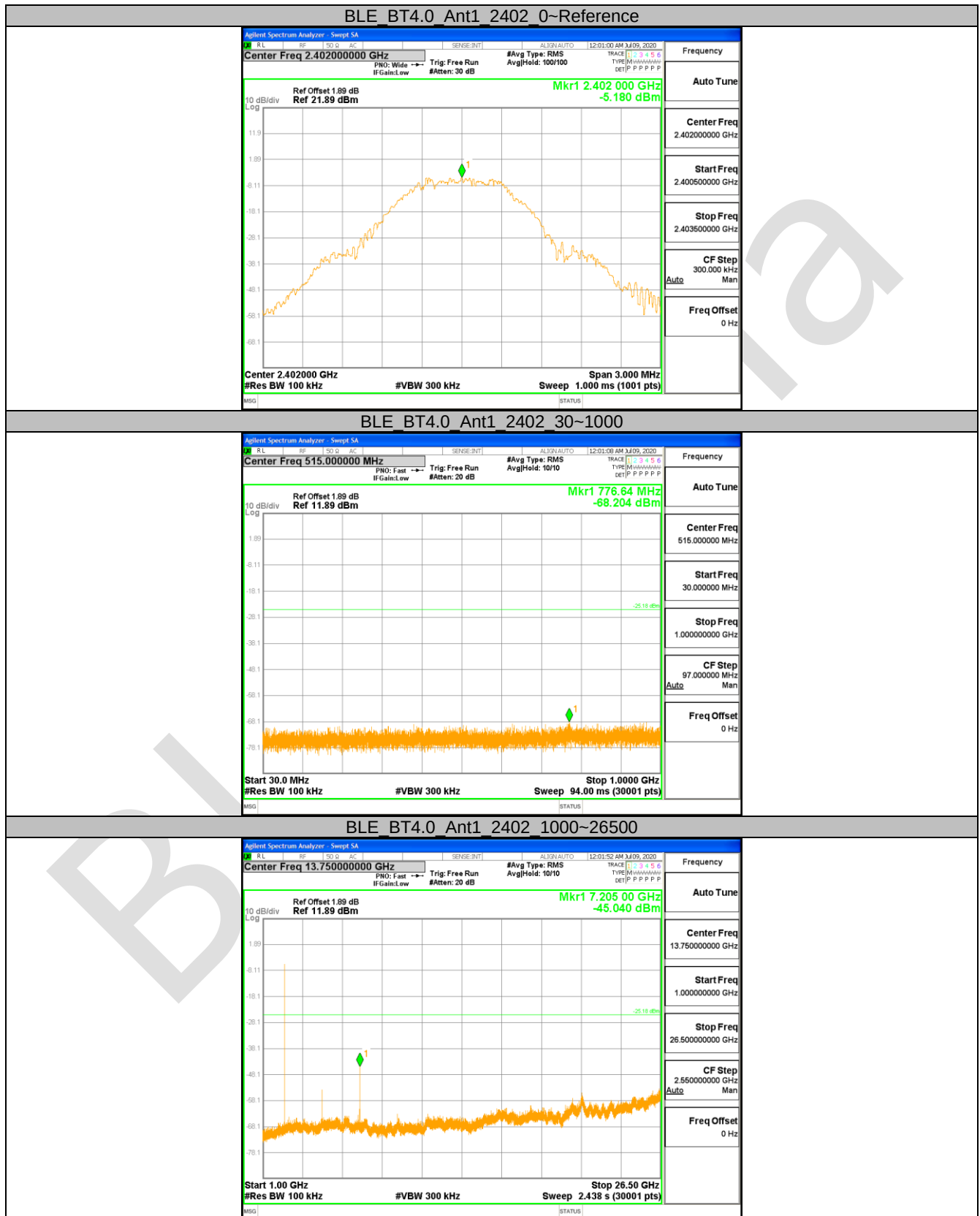


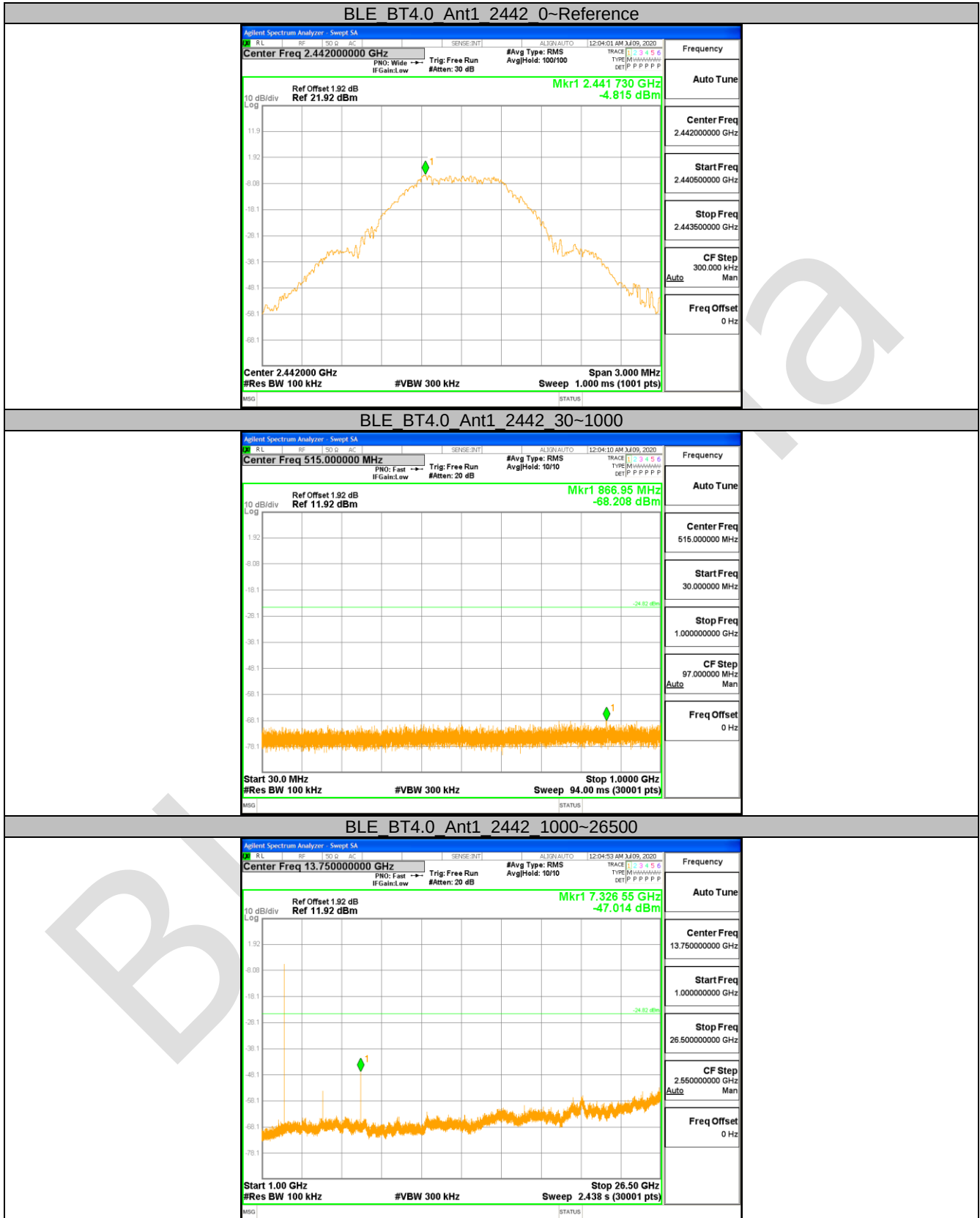
10.6 APPENDIX F: CONDUCTED SPURIOUS EMISSION

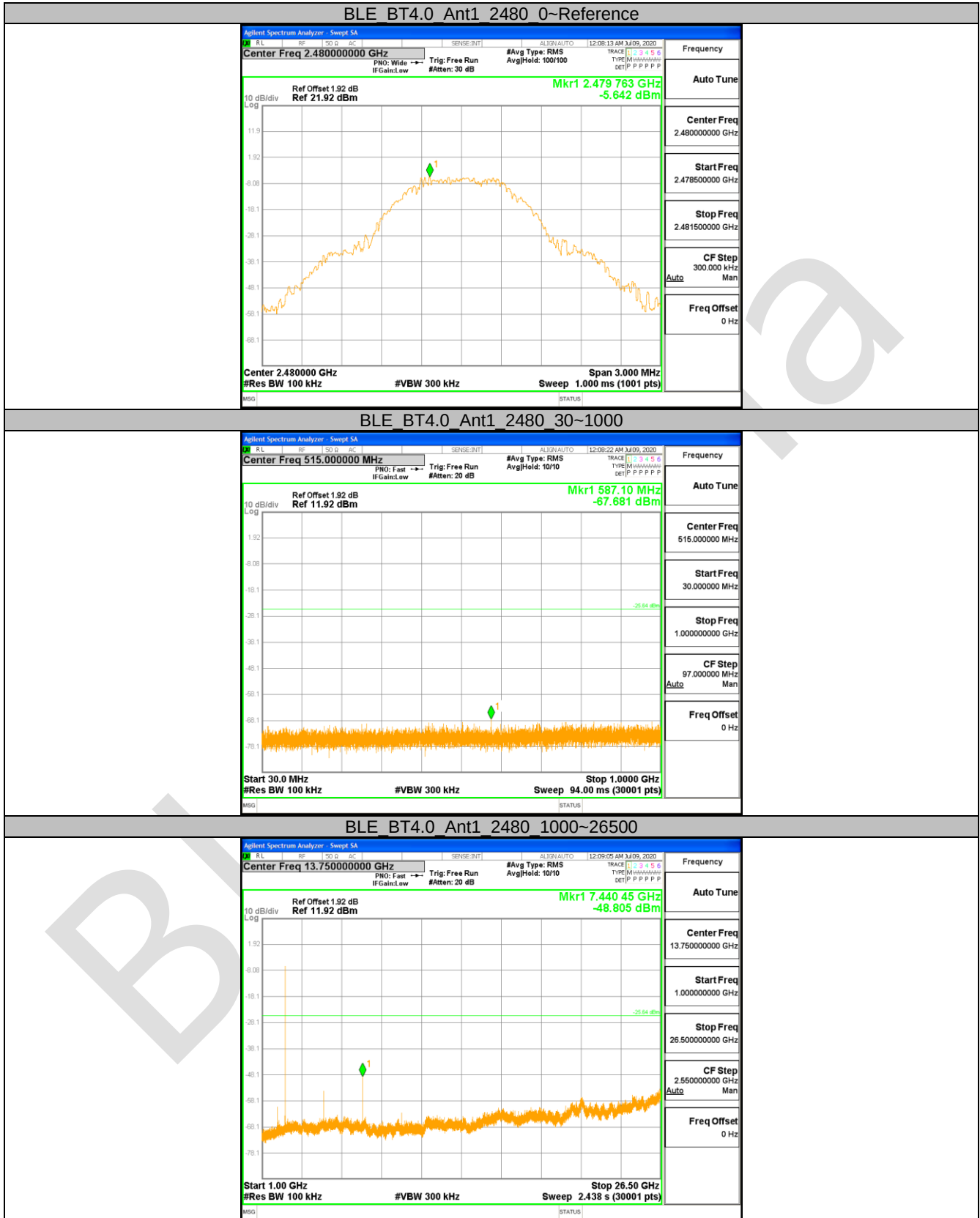
Test Result

TestMode	Antenna	Channel	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	2402	Reference	-5.18	-5.18	---	PASS
			30~1000	30~1000	-68.204	<=-25.18	PASS
			1000~26500	1000~26500	-45.04	<=-25.18	PASS
		2442	Reference	-4.82	-4.82	---	PASS
			30~1000	30~1000	-68.208	<=-24.815	PASS
			1000~26500	1000~26500	-47.014	<=-24.815	PASS
		2480	Reference	-5.64	-5.64	---	PASS
			30~1000	30~1000	-67.681	<=-25.642	PASS
			1000~26500	1000~26500	-48.805	<=-25.642	PASS

Test Graphs







APPENDIX A: PHOTOGRAPHS OF TEST SETUP

Radiated Spurious Emissions

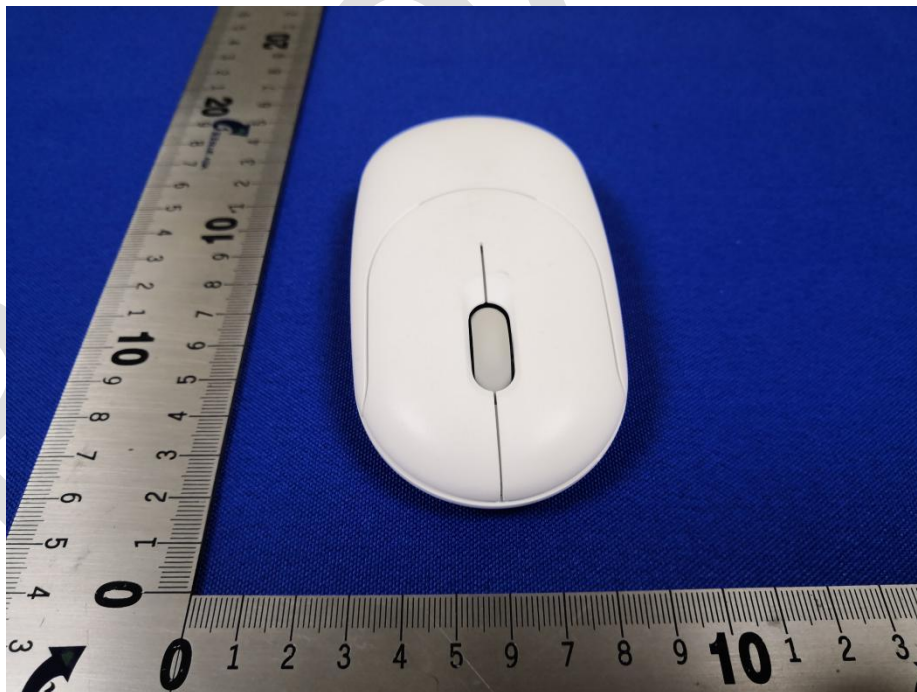


Conducted Emissions at AC Power Line (150kHz-30MHz)

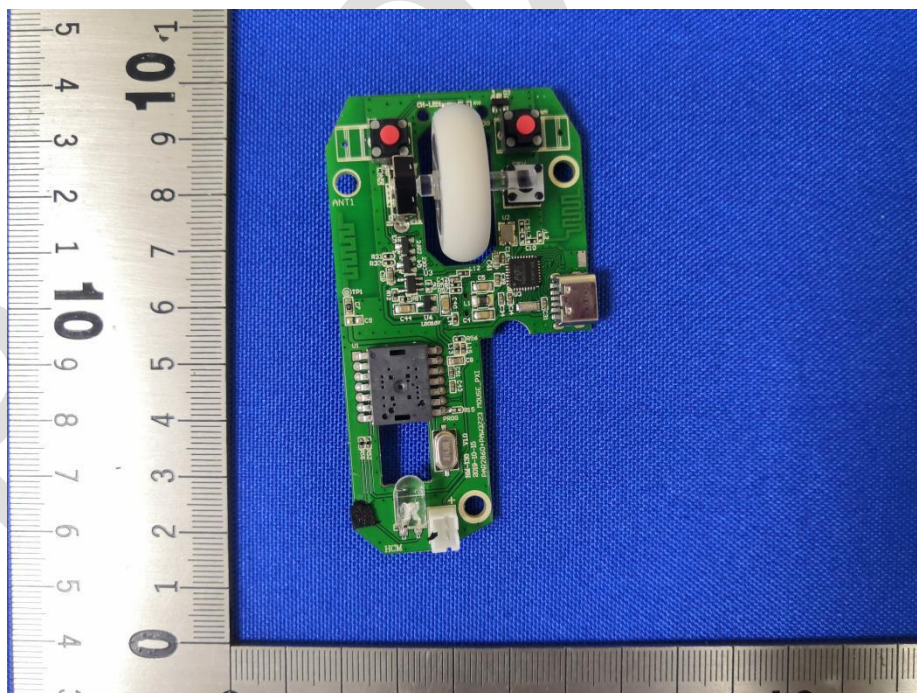
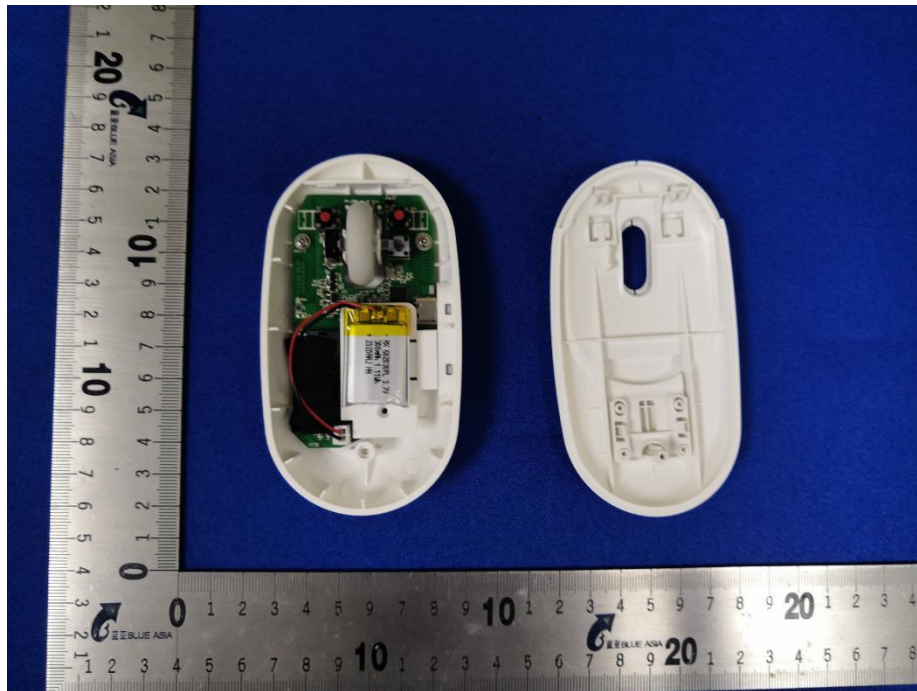


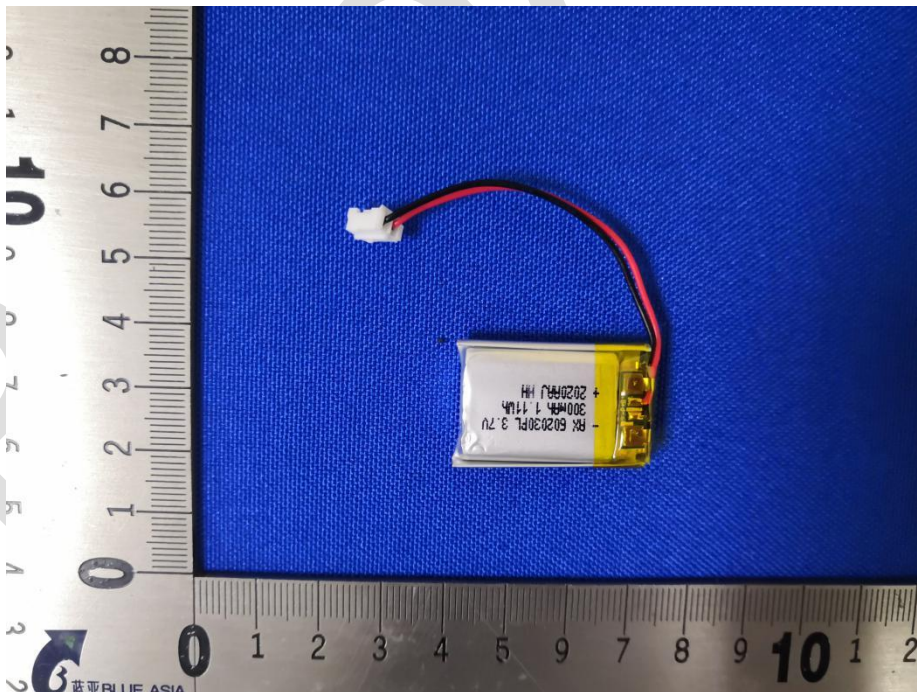
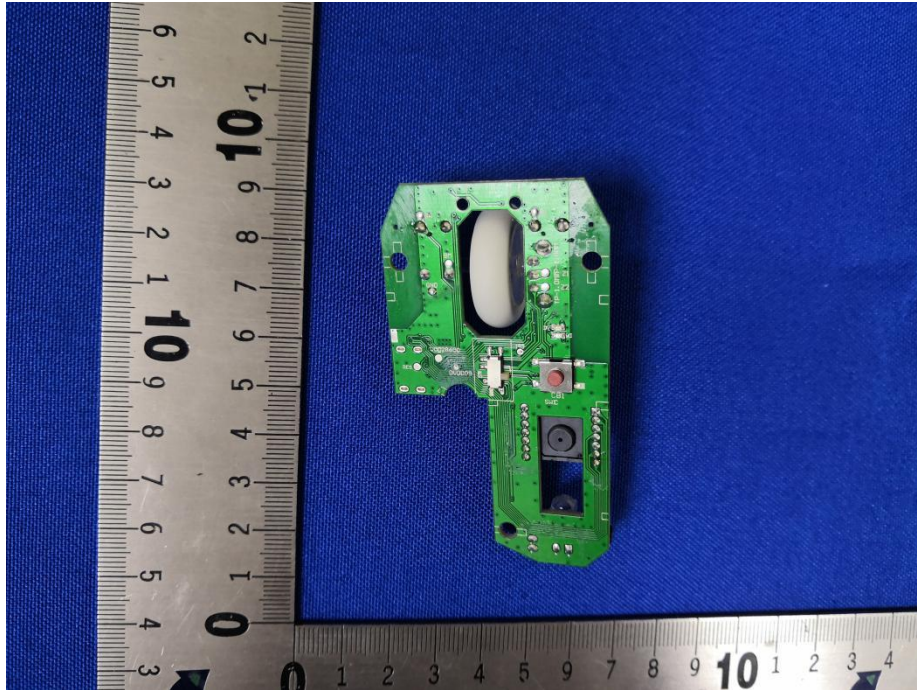
APPENDIX B: PHOTOGRAPHS OF EUT

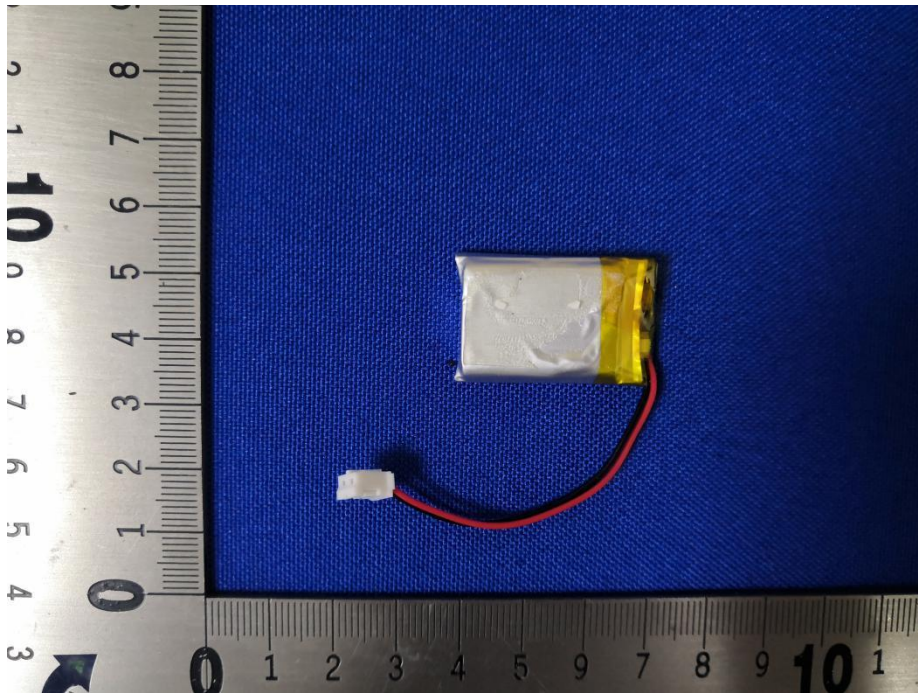












----END OF REPORT----

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