



RF MEASUREMENT REPORT

FCC ID: 2ALS8-KS0011
Applicant: Ninebot (Changzhou) Tech Co., Ltd.
Product: Segway KickScooter
Model No.: P100SU
Brand Name: Segway
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (Section 15.247)
Result: Complies
Test Date: 2022-06-06 ~ 2022-06-21

Reviewed By:

Vincent Yu

Approved By:

Robin Wu



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.10-2013. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
2205RSU039-U1	Rev. 01	Initial Report	2022-06-23	Valid

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1. General Information

1.1. Applicant

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, Changwu Mid Road 18#, Wujin Dist., Changzhou, Jiangsu, China

1.2. Manufacturer

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, Changwu Mid Road 18#, Wujin Dist., Changzhou, Jiangsu, China

1.3. Testing Facility

☒	Test Site – MRT Suzhou Laboratory Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China Laboratory Accreditations A2LA: 3628.01 CNAS: L10551 FCC: CN1166 ISED: CN0001 VCCI: ☐ R-20025 ☐ G-20034 ☐ C-20020 ☐ T-20020 ☐ R-20141 ☐ G-20134 ☐ C-20103 ☐ T-20104
☐	Test Site – MRT Shenzhen Laboratory Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China Laboratory Accreditations A2LA: 3628.02 CNAS: L10551 FCC: CN1284 ISED: CN0105
☐	Test Site – MRT Taiwan Laboratory Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) Laboratory Accreditations TAF: L3261-190725 FCC: 291082, TW3261 ISED: TW3261

1.4. Product Information

Product Name	Segway KickScooter
Model No.	P100SU
EUT Identification No.	20220526Sample#09 (For Radiated Test) 20220424Sample#06 (For Conducted Test)
Bluetooth Specification	V4.1 single mode for BLE
NFC Specification	13.56MHz
Antenna Information	Refer to Section 1.5
Accessories	
Li-ion Battery Pack	Model No.: NCDF4825B Charging Voltage: 54.6VDC Capacity: 47.2VDC, 23Ah, 1086Wh
Remark: The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	

1.5. Radio Specification

Bluetooth Frequency	2402 ~ 2480MHz
Channel Number	40
Type of modulation	GFSK
Data Rate	1Mbps
Antenna Type	PCB Antenna
Antenna Gain	-1.26dBi

Note: For other features of this EUT, test report will be issued separately.

1.6. Working Frequencies

Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz
03	2408 MHz	04	2410 MHz	05	2412 MHz
06	2414 MHz	07	2416 MHz	08	2418 MHz
09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz
15	2432 MHz	16	2434 MHz	17	2436 MHz
18	2438 MHz	19	2440 MHz	20	2442 MHz
21	2444 MHz	22	2446 MHz	23	2448 MHz
24	2450 MHz	25	2452 MHz	26	2454 MHz
27	2456 MHz	28	2458 MHz	29	2460 MHz
30	2462 MHz	31	2464 MHz	32	2466 MHz
33	2468 MHz	34	2470 MHz	35	2472 MHz
36	2474 MHz	37	2476 MHz	38	2478 MHz
39	2480 MHz	--	--	--	--

2. Test Configuration

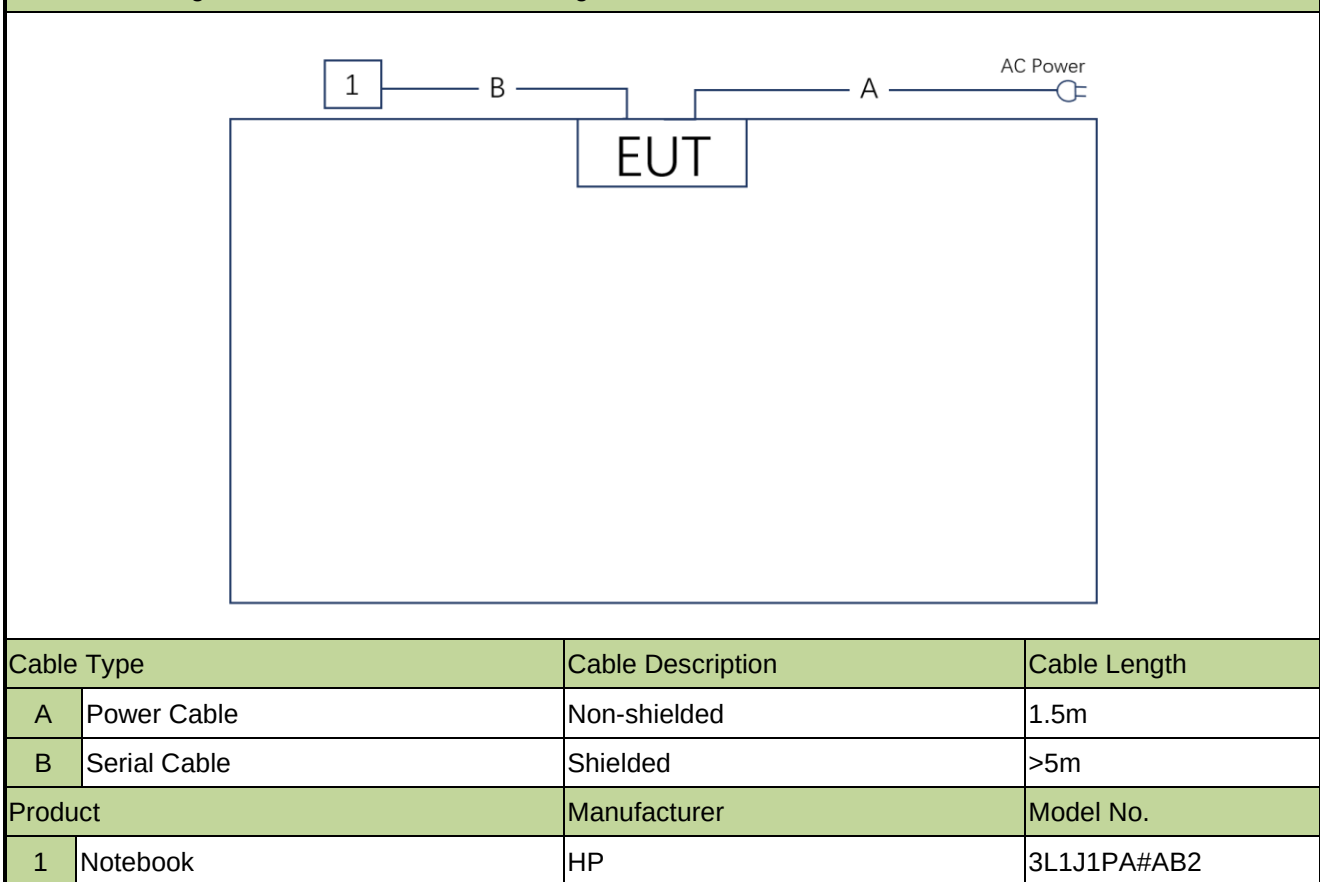
2.1. Test Mode

Mode 1: Transmit by BLE-1Mbps

2.2. Test System Connection Diagram

The device was tested per the guidance ANSI C63.10-2013 was used to reference the appropriate EUT setup for radiated emissions testing and AC line conducted testing.

Connection Diagram – Radiated Emission testing & AC Conducted Emissions



2.3. Test Software

The test utility software used during testing was “nRFgo Studio”, and the version was 1.12.1.1992.

2.4. Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15.247
- KDB 558074 D01v05r02
- ANSI C63.10-2013

2.5. Test Environment Condition

Ambient Temperature	15 ~ 35°C
Relative Humidity	20 ~75%RH

3. Antenna Requirements

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the device is **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

4. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/12/29	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2022/9/16	WZ-AC1
Preamplifier	Agilent	83017A	MRTSUE06076	1 year	2022/11/12	WZ-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2022/8/5	WZ-AC1
Anechoic Chamber	TDK	WZ-AC1	MRTSUE06212	1 year	2023/4/21	WZ-AC1
Thermohygrometer	testo	608-H1	MRTSUE06403	1 year	2022/6/28	WZ-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE06607	1 year	2022/12/29	WZ-AC1
Thermohygrometer	testo	Testo 608-H1	MRTSUE11039	1 year	2022/11/11	WZ-AC1
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2022/10/28	WZ-AC1
Horn Antenna	ETS	3117	MRTSUE06257	1 year	2022/9/25	WZ-AC1
Horn Antenna	Schwarzbeck	BBHA 9170	MRTSUE06597	1 year	2022/12/1	WZ-AC1
Band Reject Filter	WI	WRCJV8-2350-2400-2483.5-2533.5-40SS	MRTSUE06156	1 year	2022-07-21	WZ-AC1
High Pass Filter	/	3-18GHz	MRTSUE06334	1 year	2023-01-27	WZ-AC1
Two-Line V-Network	R&S	ENV216	MRTSUE06002	1 year	2023/6/4	WZ-SR2
Shielding Room	MIX-BEP	WZ-SR2	MRTSUE06215	5 years	2026/12/20	WZ-SR2
Thermohygrometer	testo	608-H1	MRTSUE06404	1 year	2022/6/28	WZ-SR2
Four-Line V-Network	R&S	ENV432	MRTSUE06615	1 year	2022/10/13	WZ-SR2
EMI Test Receiver	R&S	ESR3	MRTSUE06909	1 year	2022/11/1	WZ-SR2
USB Power Sensor	Keysight	U2021XA	MRTSUE06446	1 year	2023/6/4	WZ-SR5
Signal Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2023/4/6	WZ-SR5
Thermohygrometer	testo	608-H1	MRTSUE06402	1 year	2022/6/28	WZ-SR5
Shielding Room	HUAMING	WZ-SR5	MRTSUE06442	N/A	N/A	WZ-SR5
Signal Analyzer	Keysight	N9010B	MRTSUE06457	1 year	2022/6/24	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11076	1 year	2022/06/08	WZ-SR5
				1 year	2023/06/09	WZ-SR5
Attenuator	MVE	MVE2213	MRTSUE11085	1 year	2022/06/08	WZ-SR5
				1 year	2023/06/09	WZ-SR5

Software	Version	Function
EMI V3	V 3.0.0	EMI Test Software
Controller_MF 7802	2.03C	RE Antenna&turntable
BenchVue Power Meter	2018.1	Power
Agilent Power Analyze	V R03.09.00	Power

5. Measurement Uncertainty

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 9kHz~150kHz: 3.74dB 150kHz~30MHz: 3.44dB
Radiated Disturbance
Measurement Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): Horizontal: 30MHz~300MHz: 5.04dB 300MHz~1GHz: 4.95dB 1GHz~40GHz: 6.40dB Vertical: 30MHz~300MHz: 5.24dB 300MHz~1GHz: 6.03dB 1GHz~40GHz: 6.40dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.78dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.13dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.15dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 0.28%

6. Test Result

6.1. Summary

FCC Section(s)	Test Description	Test Condition	Verdict
15.247(a)(2)	6dB Bandwidth	Conducted	Pass
15.247(b)(3)	Output Power		Pass
15.247(e)	Power Spectral Density		Pass
15.247(d)	Band Edge / Out-of-Band Emissions		Pass
15.205 15.209	General Field Strength (Restricted Bands and Radiated Emission)	Radiated	Pass
15.207	AC Conducted Emissions 150kHz - 30MHz	Line Conducted	Pass

Remark:

The analyzer plots shown in this section were all taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables and attenuators used as part of the system to connect the EUT to the analyzer at all frequencies of interest.

6.2. 6dB Bandwidth Measurement

6.2.1. Test Limit

The minimum 6dB bandwidth shall be at least 500 kHz.

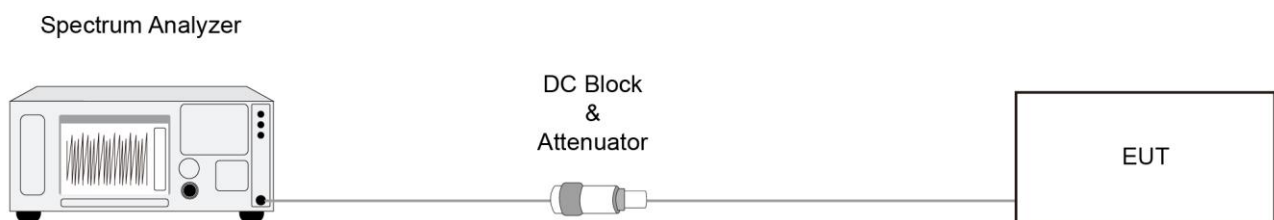
6.2.2. Test Procedure

ANSI C63.10-2013 - Section 11.8

6.2.3. Test Setting

1. The Spectrum's automatic bandwidth measurement capability was used to perform the 6dB bandwidth measurement. The "X" dB bandwidth parameter was set to $X = 6$. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. Set RBW = 100 kHz
3. $VBW \geq 3 \times RBW$
4. Detector = Peak
5. Trace mode = Max hold
6. Sweep = Auto couple
7. Allow the trace to stabilize

6.2.4. Test Setup



6.2.5. Test Result

Refer to Appendix A.2.

6.3. Output Power Measurement

6.3.1. Test Limit

The maximum output power shall be less 1 Watt (30dBm).

The conducted output power limit specified in paragraph FCC Part 15.247(b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. If transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs FCC Part 15.247(b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

6.3.2. Test Procedure

ANSI C63.10-2013 - Section 11.9.1.3

ANSI C63.10-2013 - Section 11.9.2.3.2

6.3.3. Test Setting

Method PKPM1 (Peak Power Measurement of Signals with DTS BW $\leq$ 50MHz)

Peak power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The pulse sensor employs a VBW = 50MHz so this method was only used for signals whose DTS bandwidth was less than or equal to 50MHz.

Average Power Measurement

Average power measurements were performed only when the EUT was transmitting at its maximum power control level using a broadband power meter with a pulse sensor. The power meter implemented triggering and gating capabilities which were set up such that power measurements were recorded only during the ON time of the transmitter.

6.3.4. Test Setup



6.3.5. Test Result

Refer to Appendix A.3.

6.4. Power Spectral Density Measurement

6.4.1. Test Limit

The maximum permissible power spectral density is 8dBm in any 3 kHz band.

The same method of determining the conducted output power shall be used to determine the power spectral density.

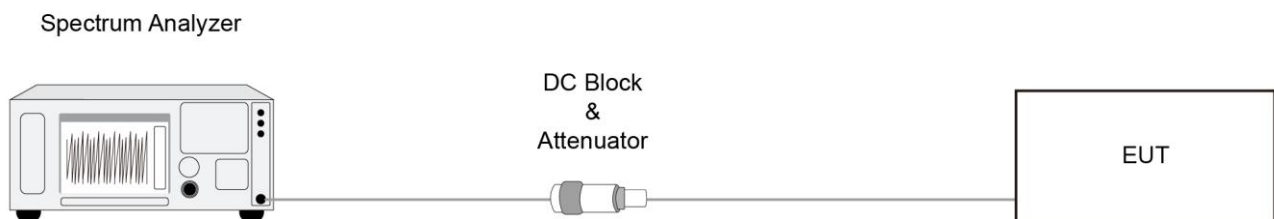
6.4.2. Test Procedure

ANSI C63.10-2013 Section 11.10.2

6.4.3. Test Setting

1. Analyzer was set to the center frequency of the DTS channel under investigation
2. Span = 1.5 times the DTS channel bandwidth
3. RBW = 3kHz
4. VBW = 10kHz
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Trace was allowed to stabilize

6.4.4. Test Setup



6.4.5. Test Result

Refer to Appendix A.4.

6.5. Conducted Band Edge and Out-of-Band Emissions Measurement

6.5.1. Test Limit

The limit for out-of-band spurious emissions at the band edge is 20dB below the fundamental emission level, as determined from the in-band power measurement of the DTS channel performed in a 100 kHz bandwidth per the PSD procedure.

6.5.2. Test Procedure

ANSI C63.10-2013 - Section 11.11

6.5.3. Test Settling

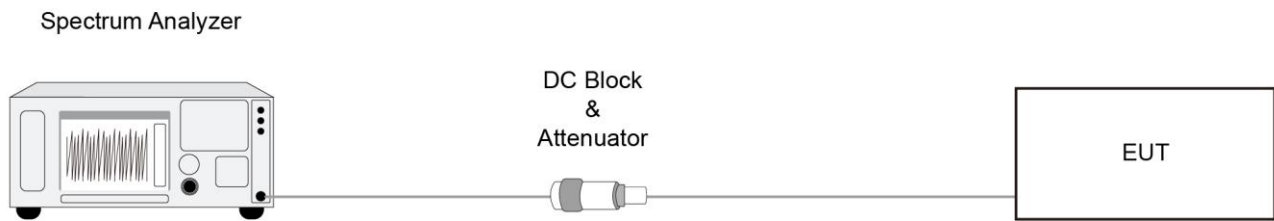
Reference level measurement

1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW $\geq 3 \times$ RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

Emission level measurement

1. Set the center frequency and span to encompass frequency range to be measured
2. RBW = 100kHz
3. VBW = 300kHz
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

6.5.4. Test Setup



6.5.5. Test Result

Refer to Appendix A.5.

6.6. Radiated Spurious Emission Measurement

6.6.1. Test Limit

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47 CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.6.2. Test Procedure

ANSI C63.10-2013 - Section 11.11 & 11.12

ANSI C63.10-2013 - Section 6.3 (General Requirements)

ANSI C63.10-2013 - Section 6.4 (Standard test method below 30MHz)

ANSI C63.10-2013 - Section 6.5 (Standard test method above 30MHz to 1GHz)

ANSI C63.10-2013 - Section 6.6 (Standard test method above 1GHz)

6.6.3. Test Setting

Table 1 - RBW as a function of frequency

Frequency	RBW
9 ~ 150 kHz	200 ~ 300 Hz
0.15 ~ 30 MHz	9 ~ 10 kHz
30 ~ 1000 MHz	100 ~ 120 kHz
> 1000MHz	1MHz

Quasi-Peak Measurements below 1GHz

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. Span was set greater than 1MHz
3. RBW = as specified in Table 1
4. Detector = CISPR quasi-peak
5. Sweep time = auto couple
6. Trace was allowed to stabilize

Peak Measurements above 1GHz

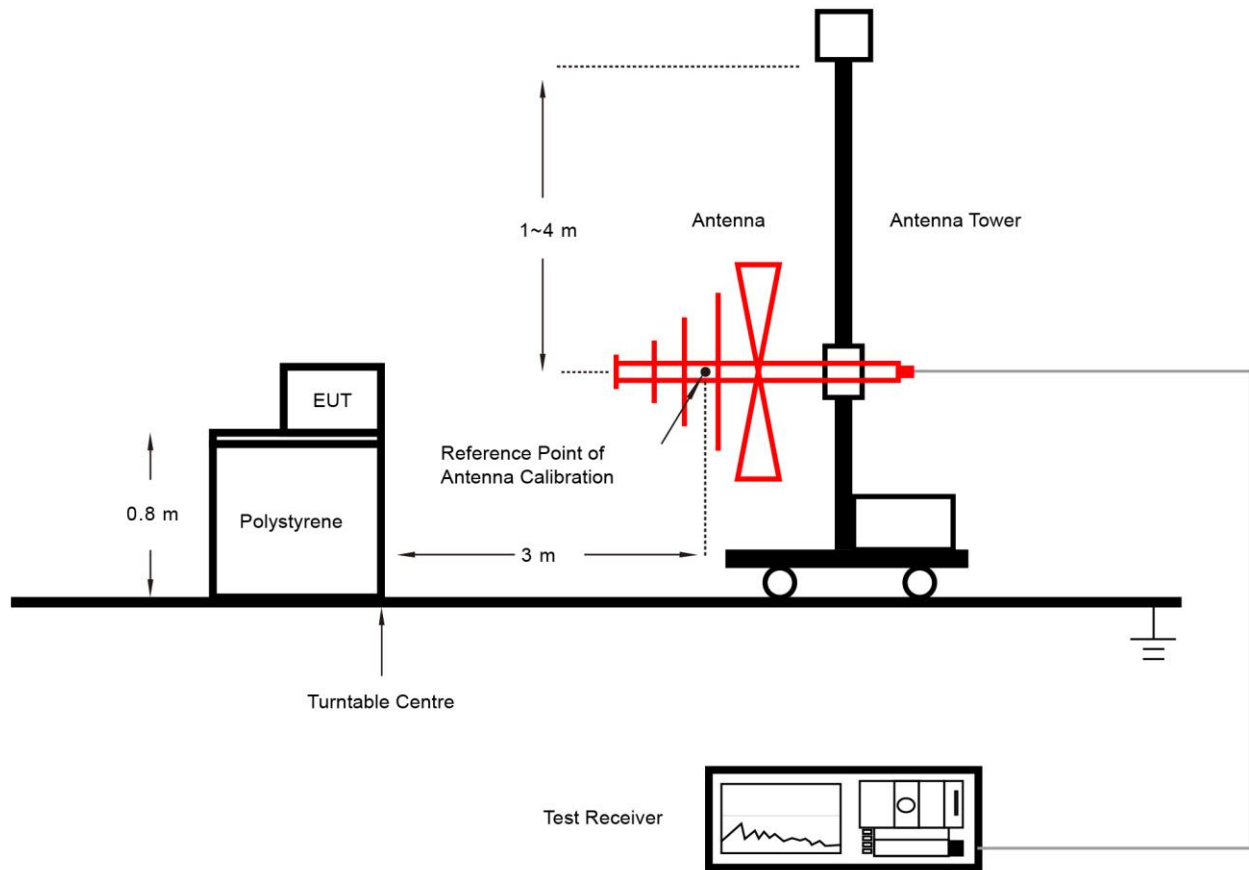
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

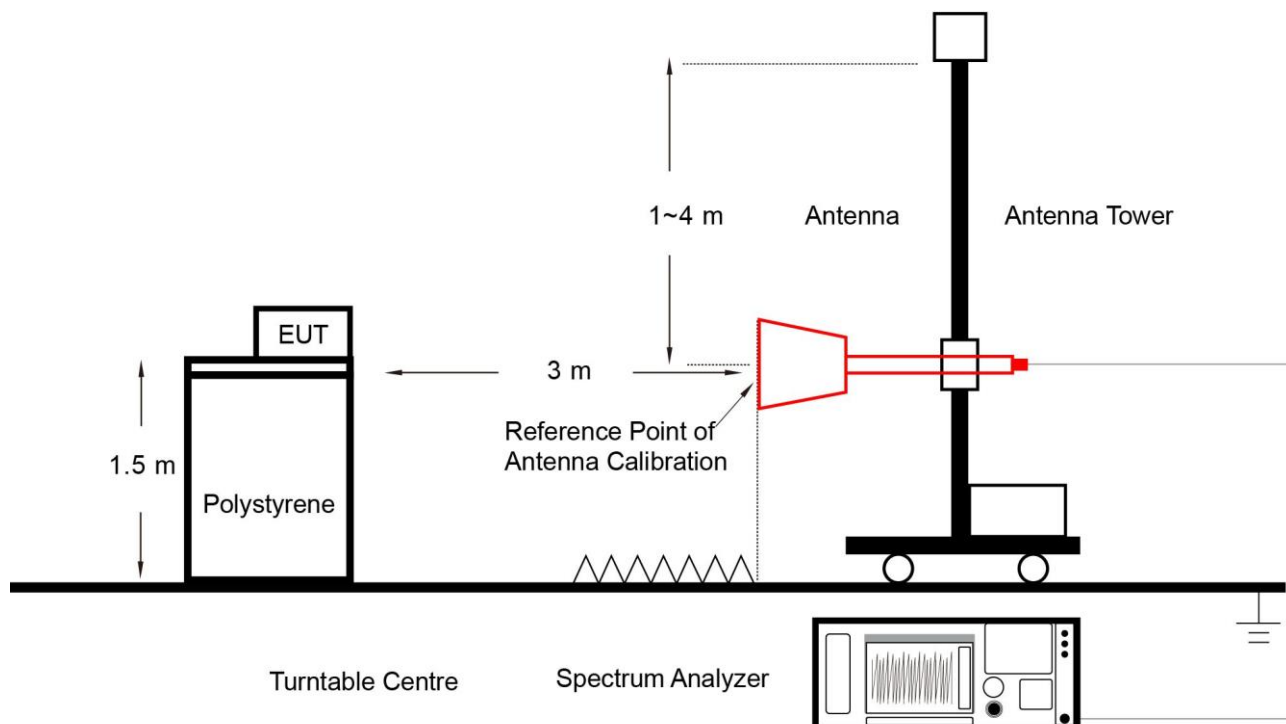
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4. Detector = Peak
5. Sweep time = auto
6. Trace mode = max hold
7. Trace was allowed to stabilize

6.6.4. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



6.6.5. Test Result

Refer to Appendix A.6.

6.7. Radiated Restricted Band Edge Measurement

6.7.1. Test Limit

For 15.205 requirement:

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (GHz)
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(²)
13.36 - 13.41	--	--	--

All out of band emissions appearing in a restricted band as specified in Section 15.205 of the Title 47CFR must not exceed the limits shown in Table per Section 15.209.

FCC Part 15 Subpart C Paragraph 15.209		
Frequency [MHz]	Field Strength [uV/m]	Measured Distance [Meters]
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

6.7.2. Test Procedure

ANSI C63.10-2013 Section 6.3 & 6.6 & 11.13

6.7.3. Test Setting

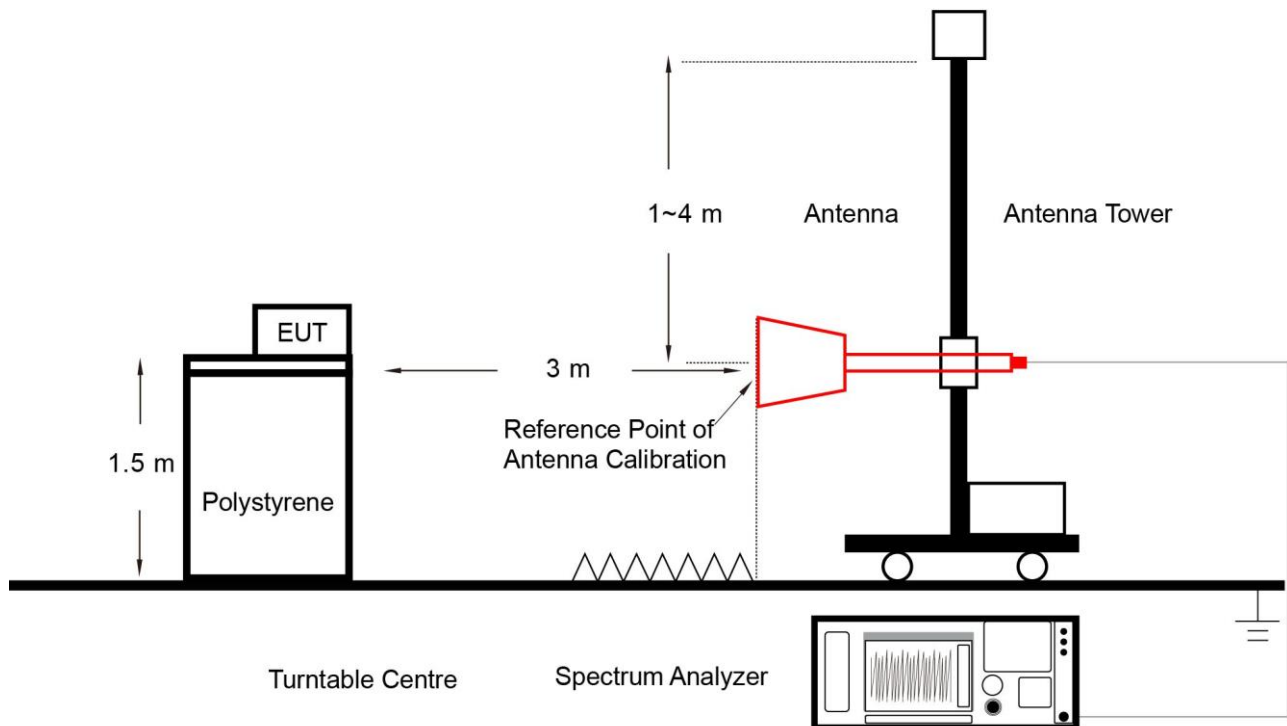
Peak Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Field Strength Measurements

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW $\geq 1/T$
4. As an alternative, the instrument may be set to linear detector mode. Ensure that video filtering is applied in linear voltage domain (rather than in a log or dB domain). Some instruments require linear display mode in order to accomplish this. Others have a setting for Average-VBW Type, which can be set to "Voltage" regardless of the display mode
5. Detector = Peak
6. Sweep time = auto
7. Trace mode = max hold
8. Allow max hold to run for at least 50 times (1/duty cycle) traces

6.7.4. Test Setup



6.7.5. Test Result

Refer to Appendix A.7.

6.8. AC Conducted Emissions Measurement

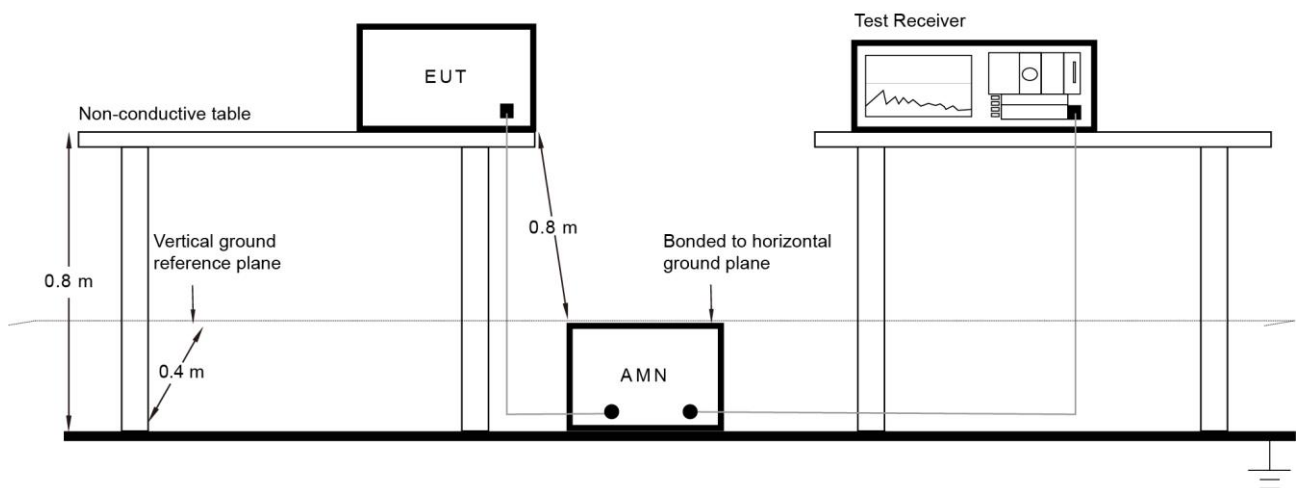
6.8.1. Test Limit

FCC Part 15 Subpart C Paragraph 15.207 Limits		
Frequency (MHz)	QP (dBuV)	AV (dBuV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.8.2. Test Setup



6.8.3. Test Result

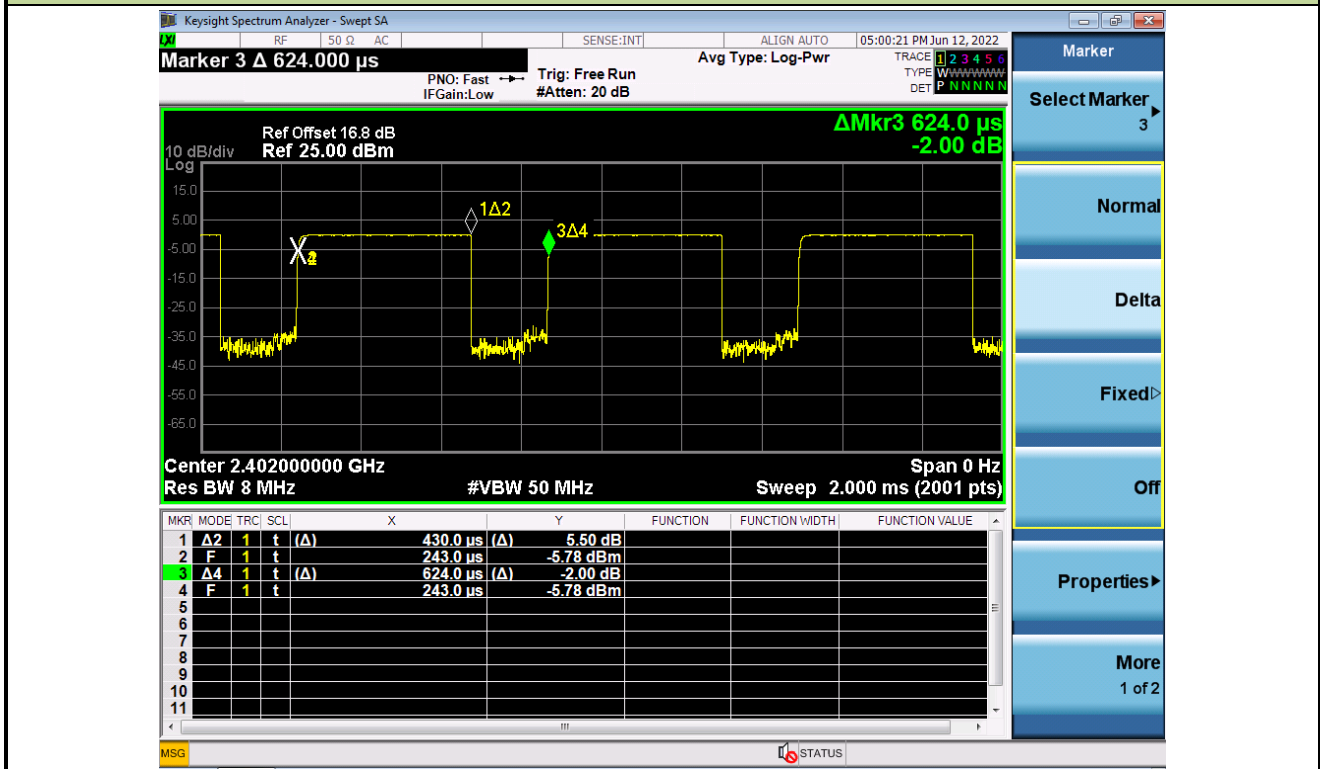
Refer to Appendix A.8.

Appendix A - Test Result

A.1 Duty Cycle Test Result

Test Site	WZ-SR5	Test Engineer	Bruce Wang
Test Date	2022/06/12		

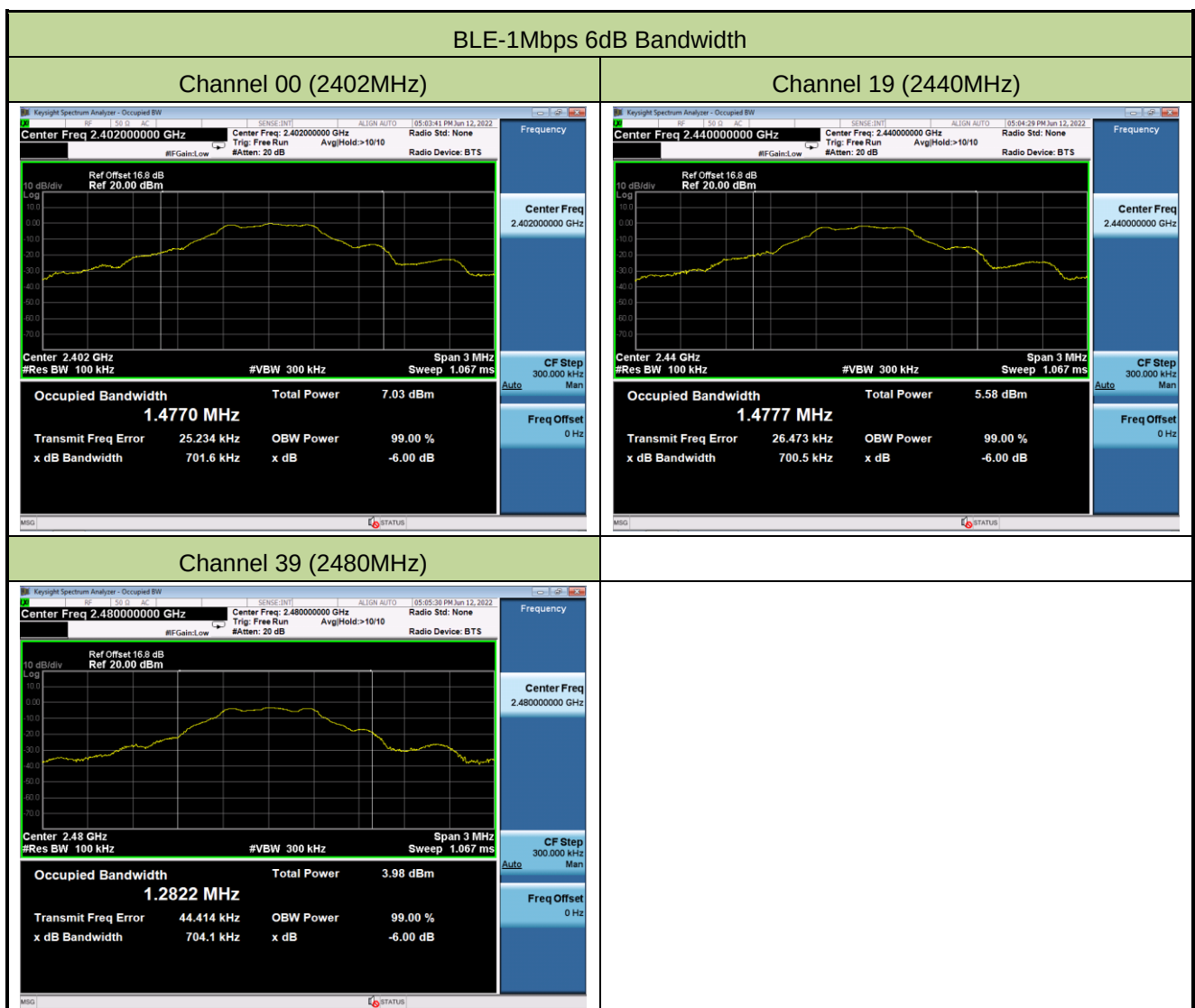
Test Mode	Duty Cycle
BLE-1Mbps	68.91%
Duty Cycle (T = Transmission Duration)	
BLE-1Mbps (T = 430.0µs)	



A.2 6dB Bandwidth Test Result

Test Site	WZ-SR5	Test Engineer	Bruce Wang
Test Date	2022/06/12		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
BLE	1Mbps	00	2402	0.7016	≥ 0.5
BLE	1Mbps	19	2440	0.7005	≥ 0.5
BLE	1Mbps	39	2480	0.7041	≥ 0.5



A.3 Output Power Test Result

Test Site	WZ-SR5	Test Engineer	Bruce Wang
Test Date	2022/06/12		

Test Result of Peak Output Power

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	0.46	≤ 30.00	Pass
BLE	1Mbps	19	2440	-0.85	≤ 30.00	Pass
BLE	1Mbps	39	2480	-1.93	≤ 30.00	Pass

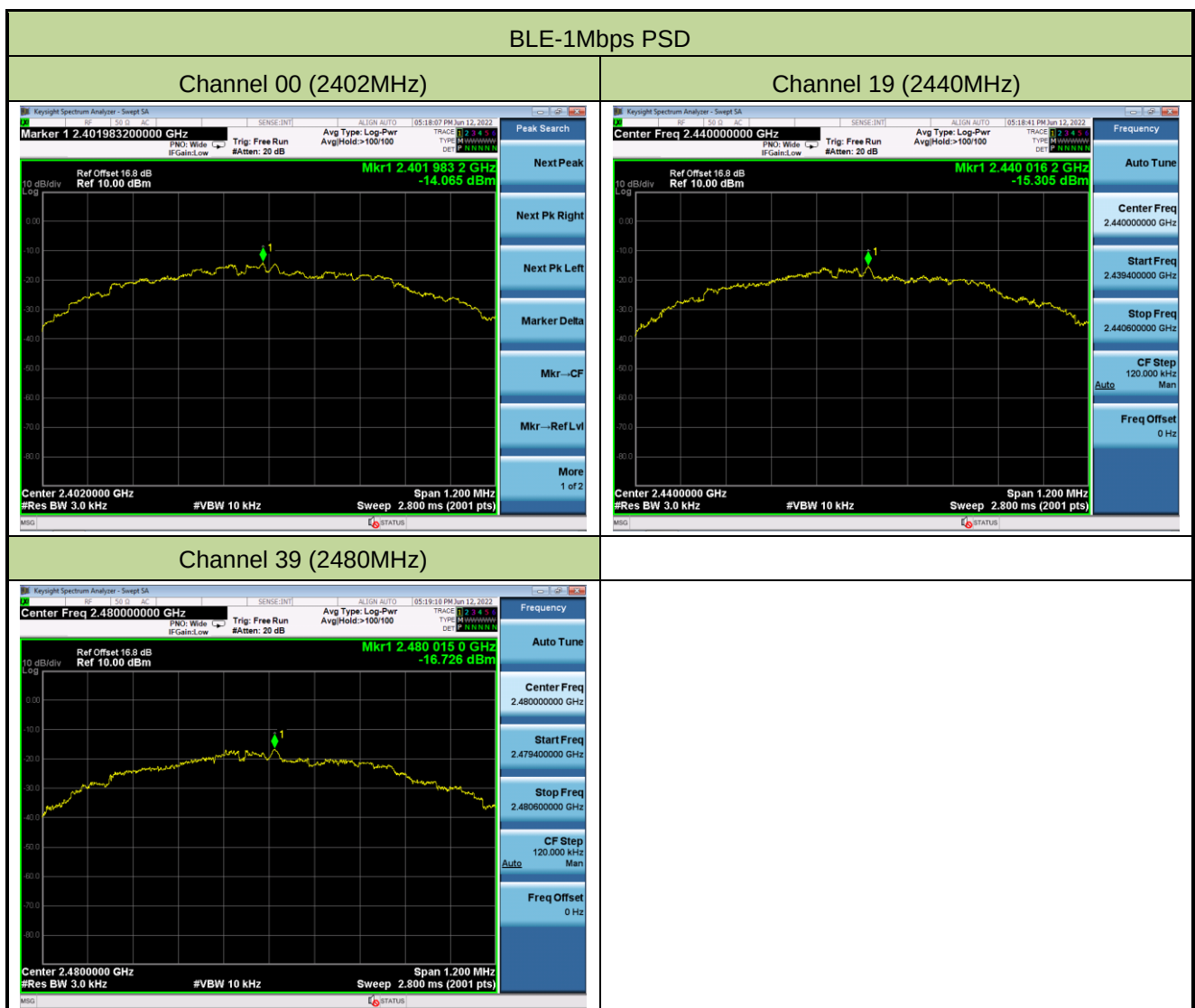
Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Average Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	-0.37	≤ 30.00	Pass
BLE	1Mbps	19	2440	-1.87	≤ 30.00	Pass
BLE	1Mbps	39	2480	-3.24	≤ 30.00	Pass

A.4 Power Spectral Density Test Result

Test Site	WZ-SR5	Test Engineer	Bruce Wang
Test Date	2022/06/12		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	PSD Result (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
BLE	1Mbps	00	2402	-14.065	≤ 8.00	Pass
BLE	1Mbps	19	2440	-15.305	≤ 8.00	Pass
BLE	1Mbps	39	2480	-16.726	≤ 8.00	Pass



A.5 Conducted Band Edge and Out-of-Band Emissions Test Result

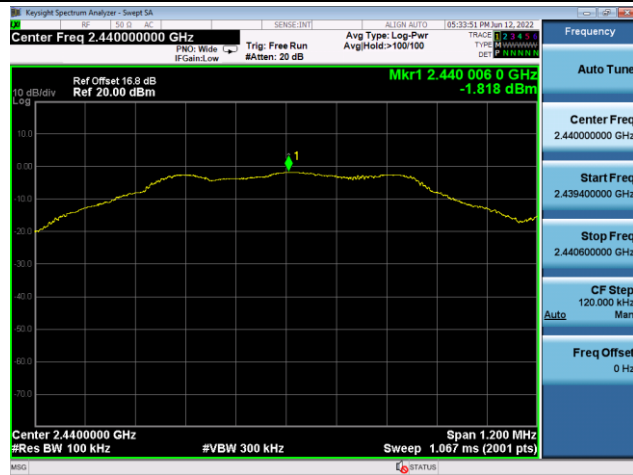
Test Site	WZ-SR5	Test Engineer	Bruce Wang
Test Date	2022/06/12		

Test Mode	Data Rate / Mbps	Channel No.	Frequency (MHz)	Limit (dBc)	Result
BLE	1	00	2402	20	Pass
BLE	1	19	2440	20	Pass
BLE	1	39	2480	20	Pass

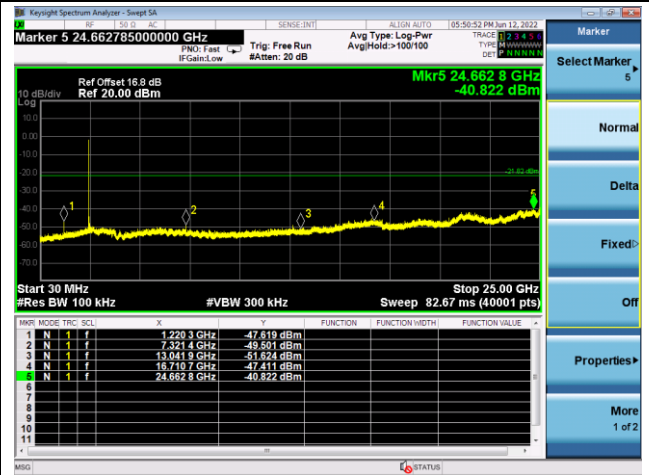


Channel 19 (2440MHz)

100kHz PSD Reference Level



Spurious Emission 30MHz ~ 25GHz

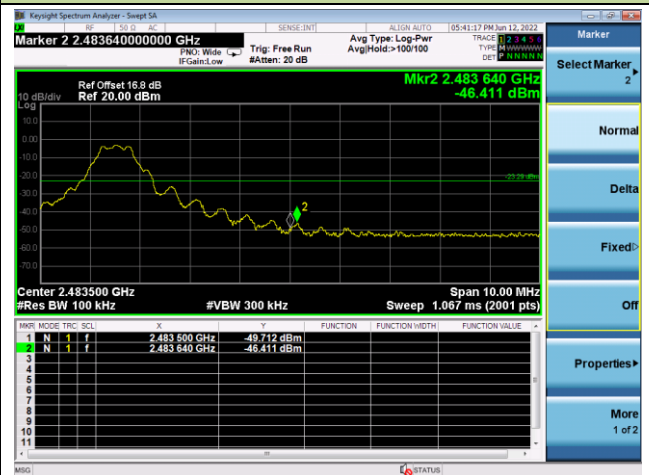


Channel 39 (2480MHz)

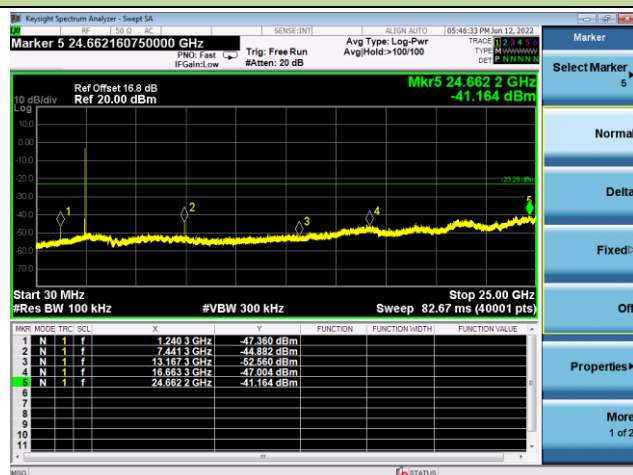
High Band Edge



High Band Edge



Spurious Emission 30MHz ~ 25GHz



A.6 Radiated Spurious Emission Test Result

Test Site	WZ-AC1	Test Engineer	Carl Jiang
Test Date	2022/06/06	Test Mode	BLE-1Mbps
Remark	1. Average measurement was not performed if peak level lower than average limit. 2. Other frequency was 20dB below limit line within 1-18GHz, there is not show in the report.		

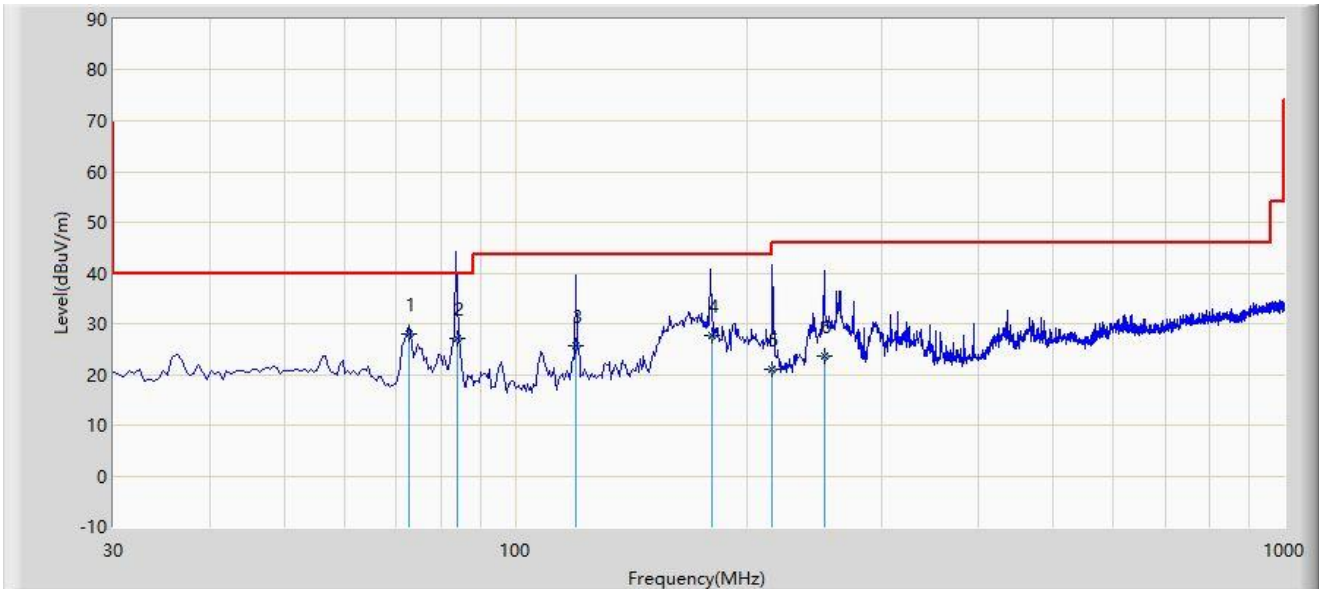
Test Channel	Frequency (MHz)	Reading Level (dBμV)	Factor (dB/m)	Measure Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector	Polarization
01	4799.5	47.9	3.1	51.0	74.0	-23.0	Peak	Horizontal
	4802.9	31.9	3.1	35.0	54.0	-19.0	Average	Horizontal
	10860.0	35.9	12.8	48.7	74.0	-25.3	Peak	Horizontal
	12169.0	35.2	12.2	47.4	74.0	-26.6	Peak	Horizontal
	4799.5	43.9	3.1	47.0	74.0	-27.0	Peak	Vertical
	10919.5	35.4	12.7	48.1	74.0	-25.9	Peak	Vertical
	12203.0	36.1	12.2	48.3	74.0	-25.7	Peak	Vertical
19	4876.0	47.7	3.2	50.9	74.0	-23.1	Peak	Horizontal
	7315.5	41.1	8.1	49.2	74.0	-24.8	Peak	Horizontal
	12067.0	36.3	12.2	48.5	74.0	-25.5	Peak	Horizontal
	4876.0	44.7	3.2	47.9	74.0	-26.1	Peak	Vertical
	7324.0	40.4	8.0	48.4	74.0	-25.6	Peak	Vertical
	11497.5	35.5	12.8	48.3	74.0	-25.7	Peak	Vertical
39	4961.0	43.7	3.5	47.2	74.0	-26.8	Peak	Horizontal
	7443.0	41.9	8.1	50.0	74.0	-24.0	Peak	Horizontal
	11650.5	36.6	12.1	48.7	74.0	-25.3	Peak	Horizontal
	4961.0	44.4	3.5	47.9	74.0	-26.1	Peak	Vertical
	7439.3	38.6	8.1	46.7	54.0	-7.3	Average	Vertical
	7443.0	43.4	8.1	51.5	74.0	-22.5	Peak	Vertical
	12152.0	35.8	12.1	47.9	74.0	-26.1	Peak	Vertical

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m)

Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier Gain (dB)

The Result of Radiated Emission below 1GHz:

Site: WZ-AC1	Test Date: 2022/06/08 - 17:44
Limit: FCC_Part15.209_RE(3m)	Engineer: Charles Zhang
Probe: VULB 9168_25-2000MHz	Polarity: Horizontal
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	72.680	27.962	12.600	-12.038	40.000	15.362	QP
2		83.920	27.141	14.580	-12.859	40.000	12.562	QP
3		119.600	25.577	10.280	-17.923	43.500	15.297	QP
4		179.900	27.718	11.360	-15.782	43.500	16.358	QP
5		215.800	21.019	6.554	-22.481	43.500	14.465	QP
6		252.130	23.577	7.180	-22.423	46.000	16.397	QP

Note 1: " * ", means this data is the worst emission level.

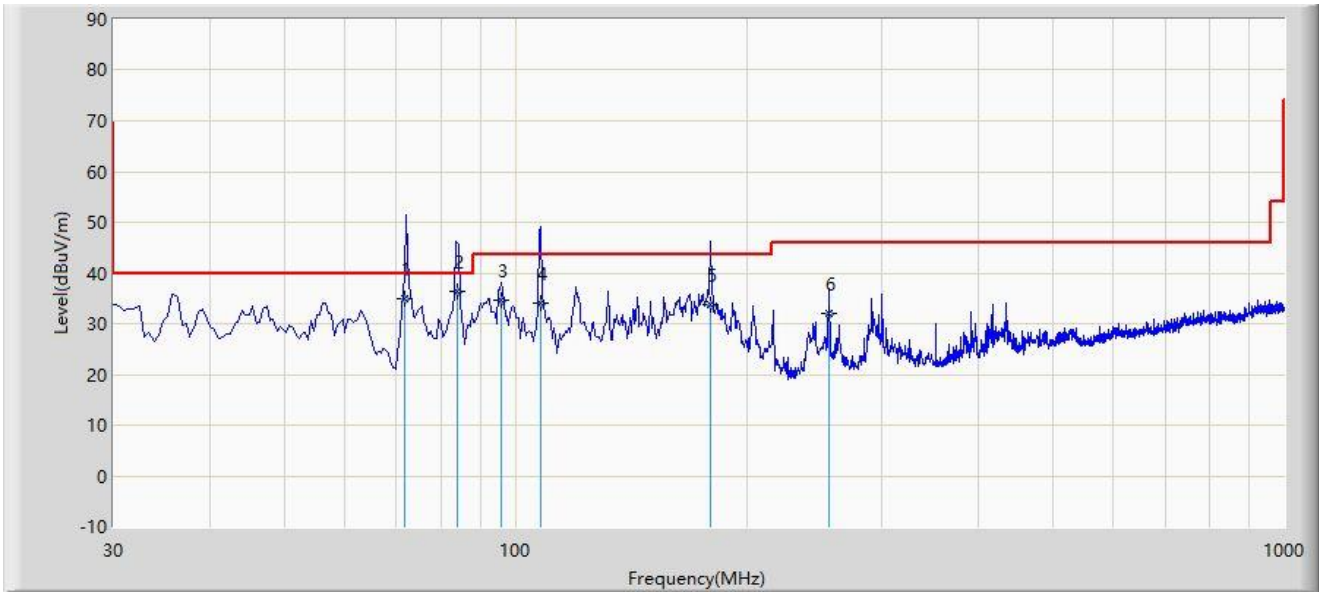
Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value.

Therefore, the data is not presented in the report.

Site: WZ-AC1	Test Date: 2022/06/08 - 17:43
Limit: FCC_Part15.209_RE(3m)	Engineer: Charles Zhang
Probe: VULB 9168_25-2000MHz	Polarity: Vertical
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		71.870	34.950	19.420	-5.050	40.000	15.530	QP
2	*	83.880	36.469	23.900	-3.531	40.000	12.570	QP
3		95.960	34.773	22.310	-8.727	43.500	12.463	QP
4		108.000	34.164	20.020	-9.336	43.500	14.144	QP
5		179.400	33.672	17.240	-9.828	43.500	16.432	QP
6		255.525	32.118	15.620	-13.882	46.000	16.498	QP

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

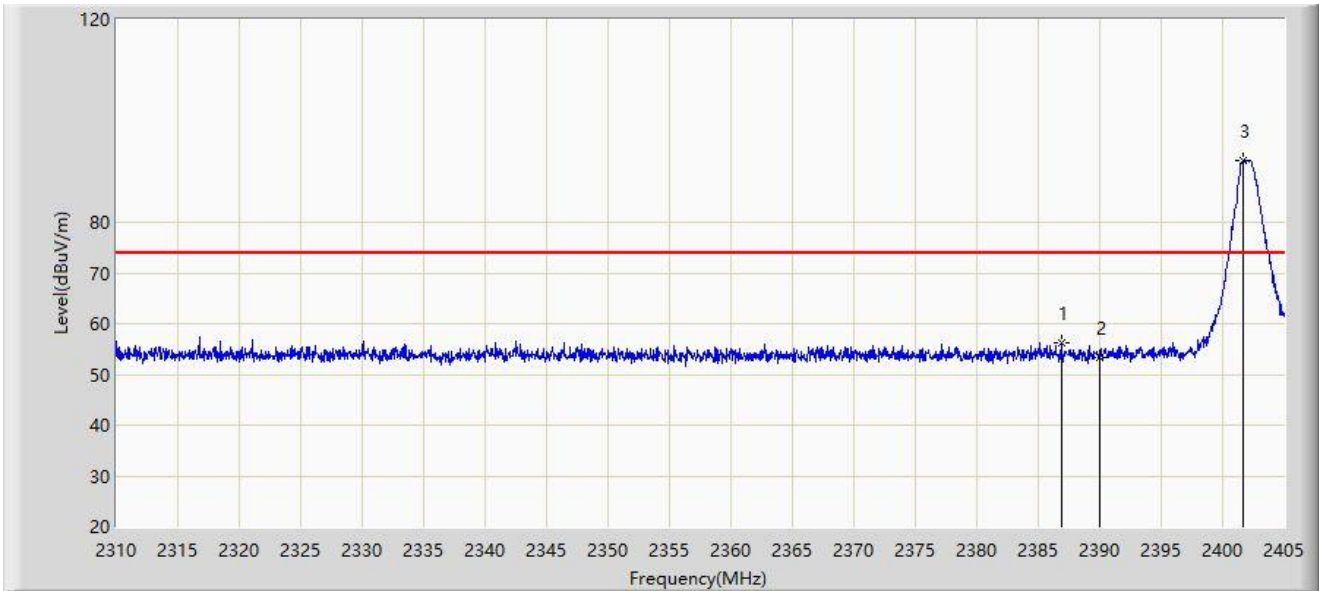
Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: The amplitude of radiated emissions (frequency range from 9kHz to 30MHz and 18GHz to 25GHz) is that proximity to ambient noise, which also are attenuated more than 20 dB below the permissible value.

Therefore, the data is not presented in the report.

A.7 Radiated Restricted Band Edge Test Result

Site: WZ-AC1	Test Date: 2022/06/06 - 21:42
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



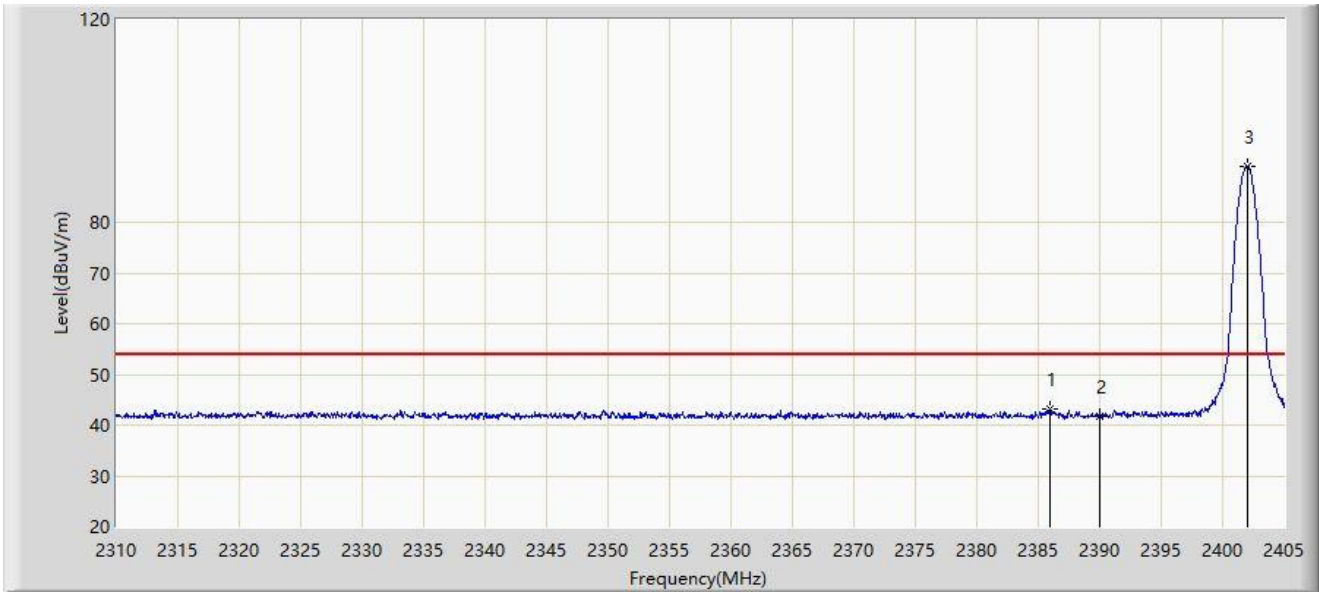
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2386.855	56.278	25.757	-17.722	74.000	30.520	PK
2		2390.000	53.324	22.798	-20.676	74.000	30.526	PK
3		2401.722	92.209	61.651	N/A	N/A	30.558	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 21:51
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



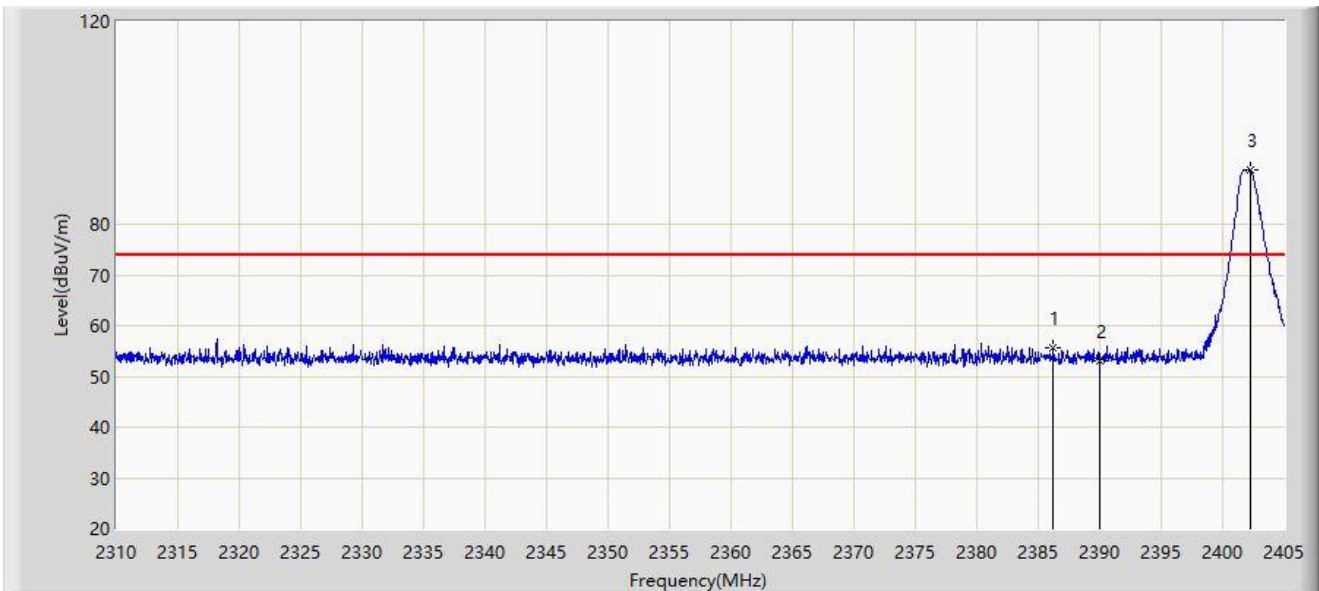
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2385.952	43.113	12.594	-10.887	54.000	30.519	AV
2		2390.000	41.878	11.352	-12.122	54.000	30.526	AV
3		2402.008	91.020	60.461	N/A	N/A	30.559	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 21:53
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



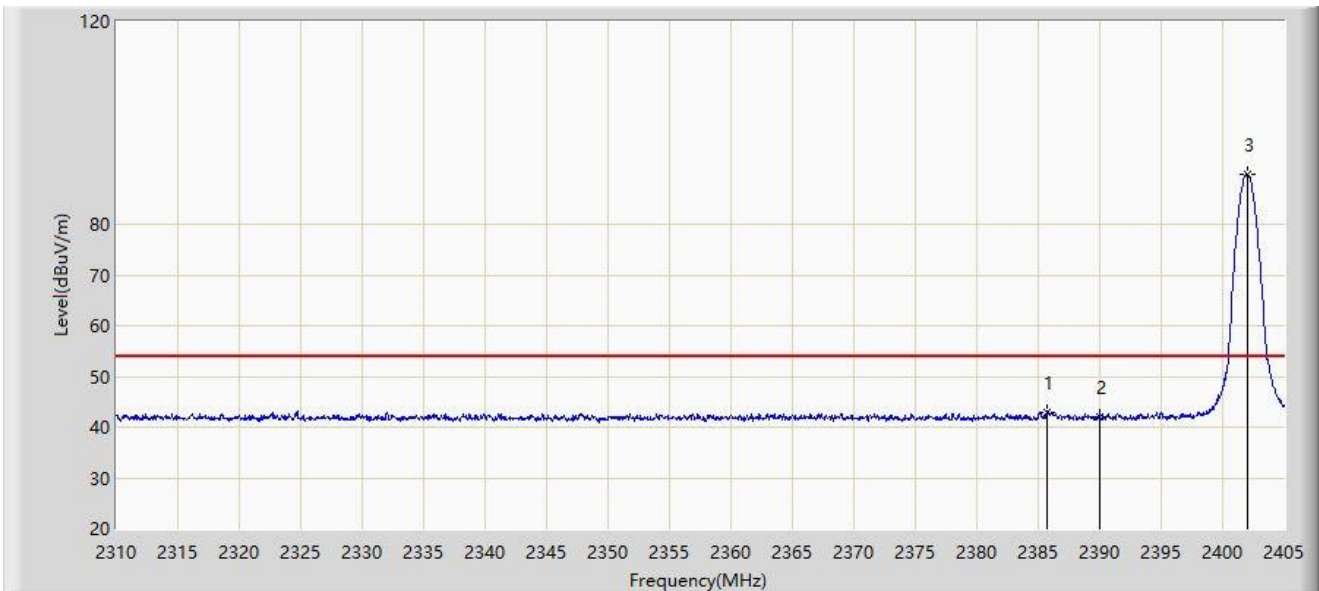
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2386.190	55.752	25.233	-18.248	74.000	30.519	PK
2		2390.000	53.160	22.634	-20.840	74.000	30.526	PK
3		2402.292	90.691	60.132	N/A	N/A	30.559	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 21:54
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



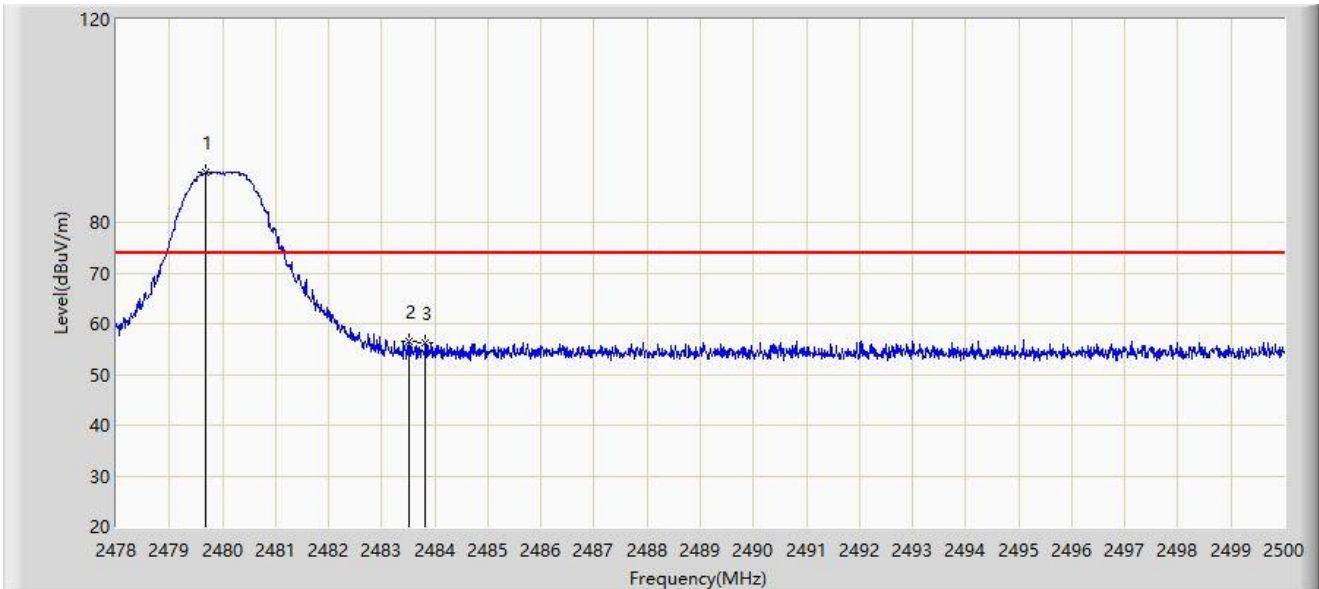
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2385.715	42.882	12.363	-11.118	54.000	30.518	AV
2		2390.000	42.079	11.553	-11.921	54.000	30.526	AV
3		2402.008	89.829	59.270	N/A	N/A	30.559	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 21:58
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2480MHz	



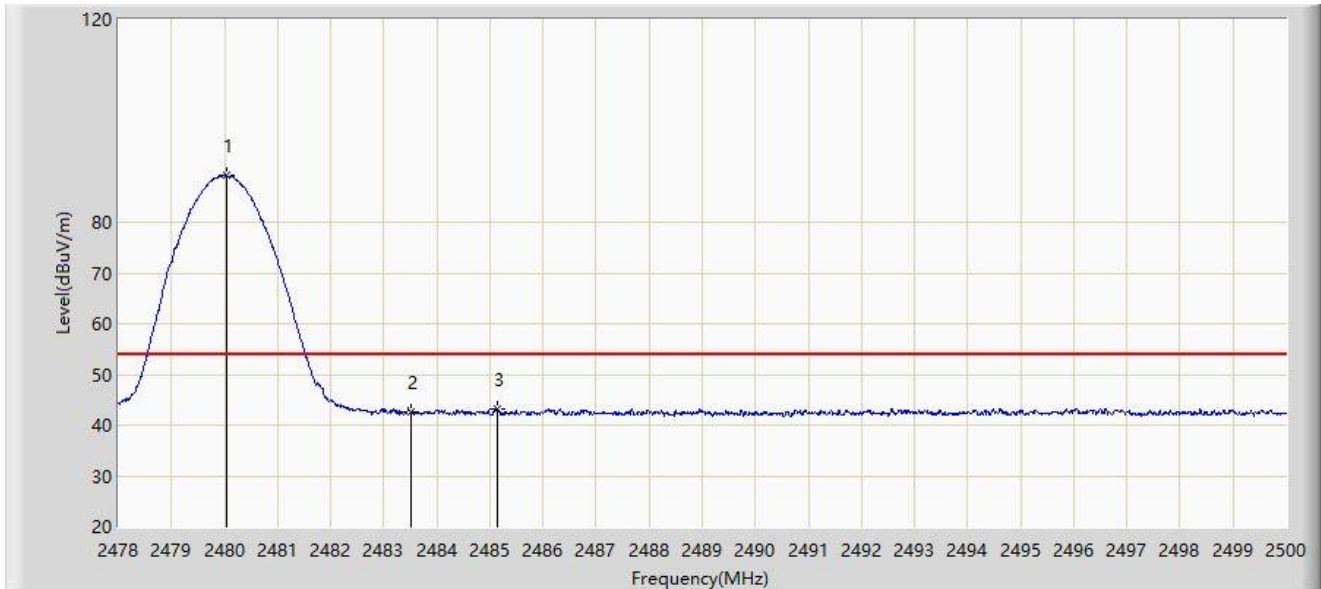
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.672	89.882	59.181	N/A	N/A	30.702	PK
2	*	2483.500	56.503	25.800	-17.497	74.000	30.704	PK
3		2483.830	56.090	25.386	-17.910	74.000	30.703	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 22:00
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Horizontal
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2480MHz	



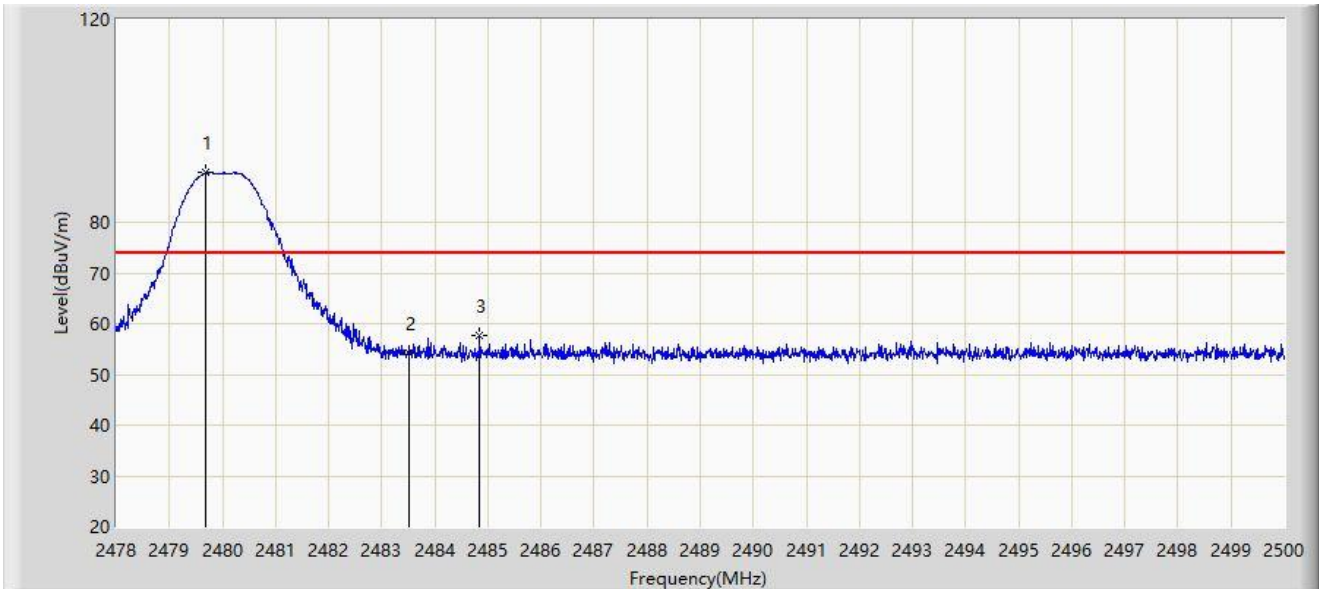
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2480.046	89.152	58.451	N/A	N/A	30.701	AV
2		2483.500	42.504	11.801	-11.496	54.000	30.704	AV
3	*	2485.139	43.238	12.534	-10.762	54.000	30.704	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 22:02
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2480MHz	



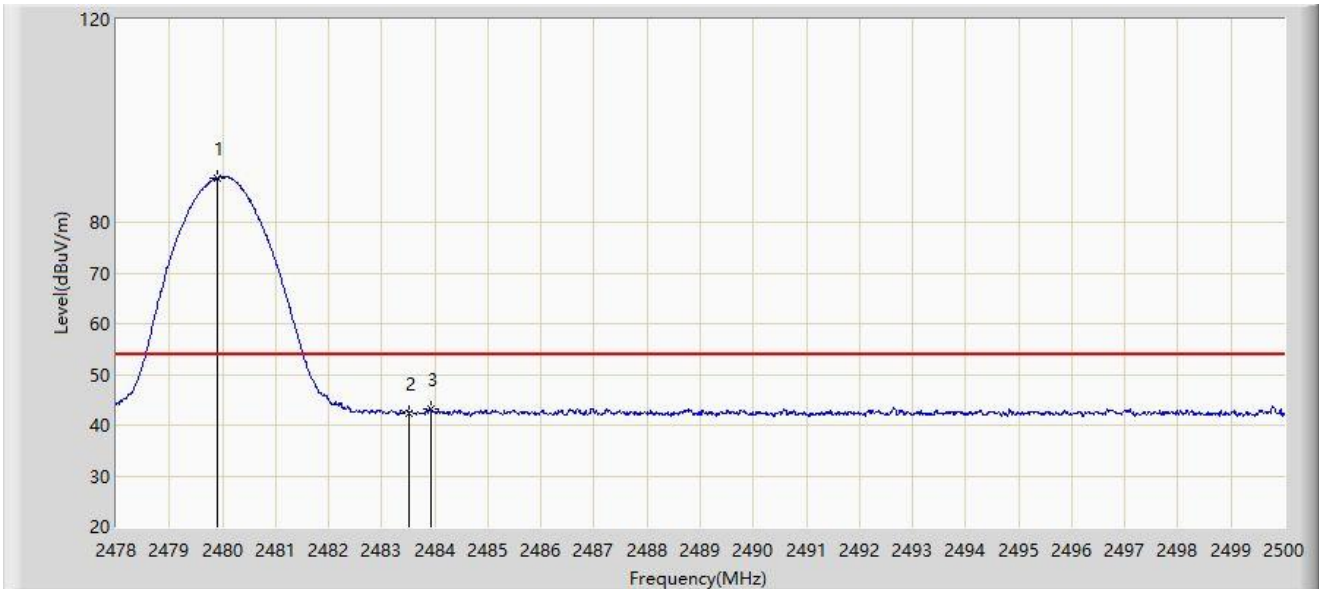
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.683	89.759	59.058	N/A	N/A	30.702	PK
2		2483.500	54.305	23.602	-19.695	74.000	30.704	PK
3	*	2484.842	57.560	26.856	-16.440	74.000	30.705	PK

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Site: WZ-AC1	Test Date: 2022/06/06 - 22:04
Limit: FCC_Part15.209_RE(3m)	Engineer: Carl Jiang
Probe: BBHA9120D_1167_1-18GHz	Polarity: Vertical
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1		2479.914	88.815	58.114	N/A	N/A	30.701	AV
2		2483.500	42.413	11.710	-11.587	54.000	30.704	AV
3	*	2483.918	43.237	12.533	-10.763	54.000	30.704	AV

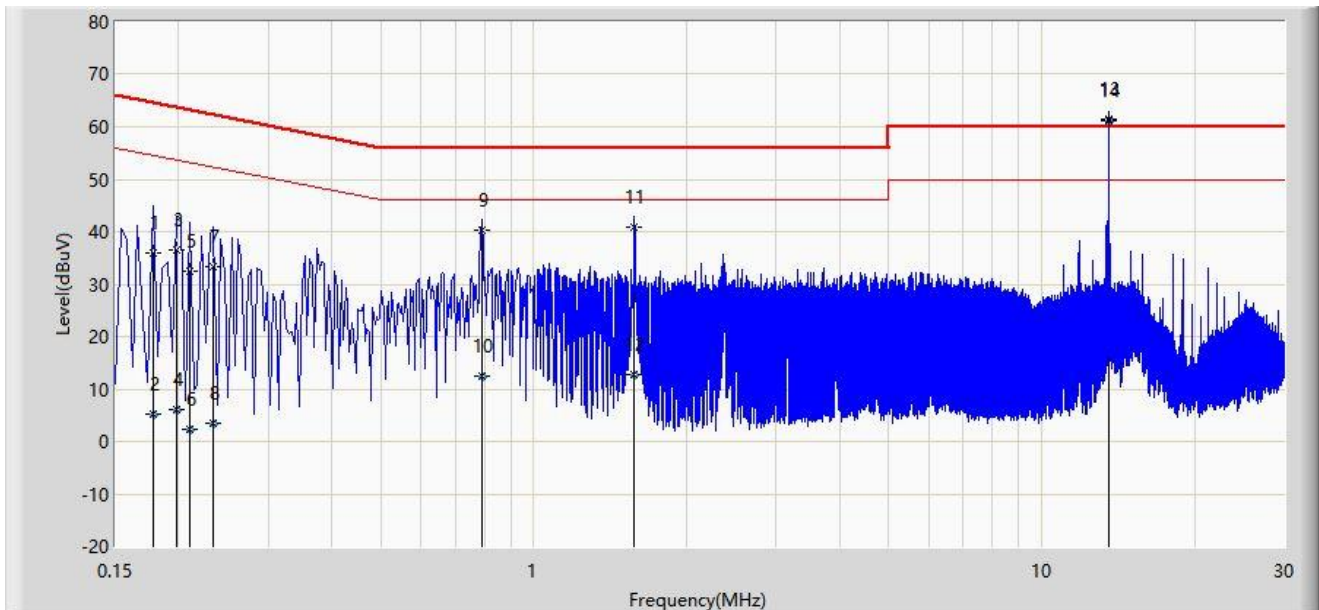
Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB/m).

Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

A.8 AC Conducted Emissions Test Result

Site: WZ-SR2	Test Date: 2022/06/09
Temperature: 24.1°C	Humidity: 57.9%
Limit: FCC_Part15.207_CE_AC Power	Engineer: Alin Zhou
Probe: ENV216_101683_Filter Off_C	Polarity: Line
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1		0.178	35.969	25.925	-28.609	64.578	10.044	QP
2		0.178	5.259	-4.785	-49.319	54.578	10.044	AV
3		0.198	36.499	26.456	-27.195	63.694	10.043	QP
4		0.198	6.160	-3.883	-47.534	53.694	10.043	AV
5		0.210	32.373	22.329	-30.832	63.205	10.044	QP
6		0.210	2.445	-7.599	-50.761	53.205	10.044	AV
7		0.234	33.199	23.150	-29.108	62.307	10.049	QP
8		0.234	3.604	-6.445	-48.702	52.307	10.049	AV
9		0.790	40.308	30.124	-15.692	56.000	10.184	QP
10		0.790	12.444	2.260	-33.556	46.000	10.184	AV
11		1.578	40.740	30.486	-15.260	56.000	10.255	QP
12		1.578	12.898	2.643	-33.102	46.000	10.255	AV
13		13.558	61.545	50.686	N/A	N/A	10.859	QP
14	*	13.558	61.254	50.395	N/A	N/A	10.859	AV

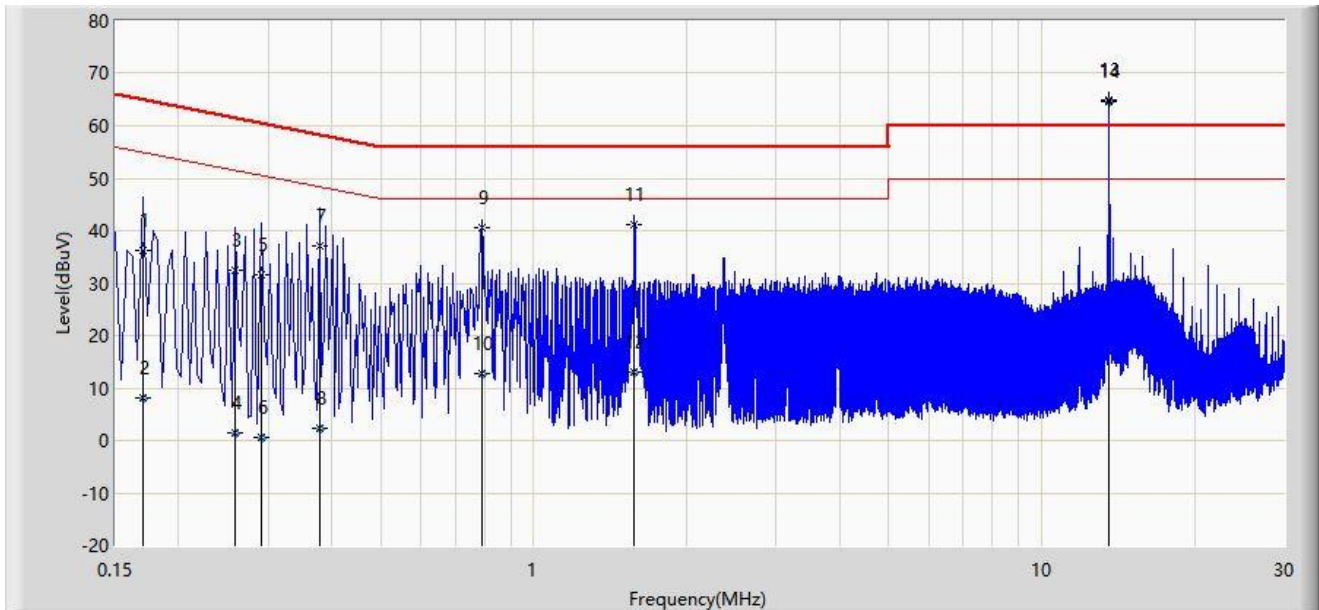
Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dB μ V) = Reading Level (dB μ V) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Note 4: It is authenticated that the points (13,14) are NFC signals, so we can't take them as a reference.

Site: WZ-SR2	Test Date: 2022/06/09
Temperature: 24.1°C	Humidity: 57.9%
Limit: FCC_Part15.207_CE_AC Power	Engineer: Alin Zhou
Probe: ENV216_101683_Filter Off_C	Polarity: Neutral
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz	



No	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1		0.170	36.244	25.890	-28.716	64.960	10.354	QP
2		0.170	7.979	-2.376	-46.982	54.960	10.354	AV
3		0.258	32.381	22.042	-29.114	61.496	10.340	QP
4		0.258	1.579	-8.760	-49.916	51.496	10.340	AV
5		0.290	31.499	21.154	-29.025	60.524	10.345	QP
6		0.290	0.541	-9.804	-49.984	50.524	10.345	AV
7		0.378	37.134	26.775	-21.189	58.323	10.360	QP
8		0.378	2.458	-7.901	-45.865	48.323	10.360	AV
9		0.790	40.677	30.243	-15.323	56.000	10.434	QP
10		0.790	12.729	2.295	-33.271	46.000	10.434	AV
11		1.578	41.097	30.598	-14.903	56.000	10.499	QP
12		1.578	13.128	2.629	-32.872	46.000	10.499	AV
13		13.558	64.868	53.738	N/A	N/A	11.130	QP
14	*	13.558	64.580	53.450	N/A	N/A	11.130	AV

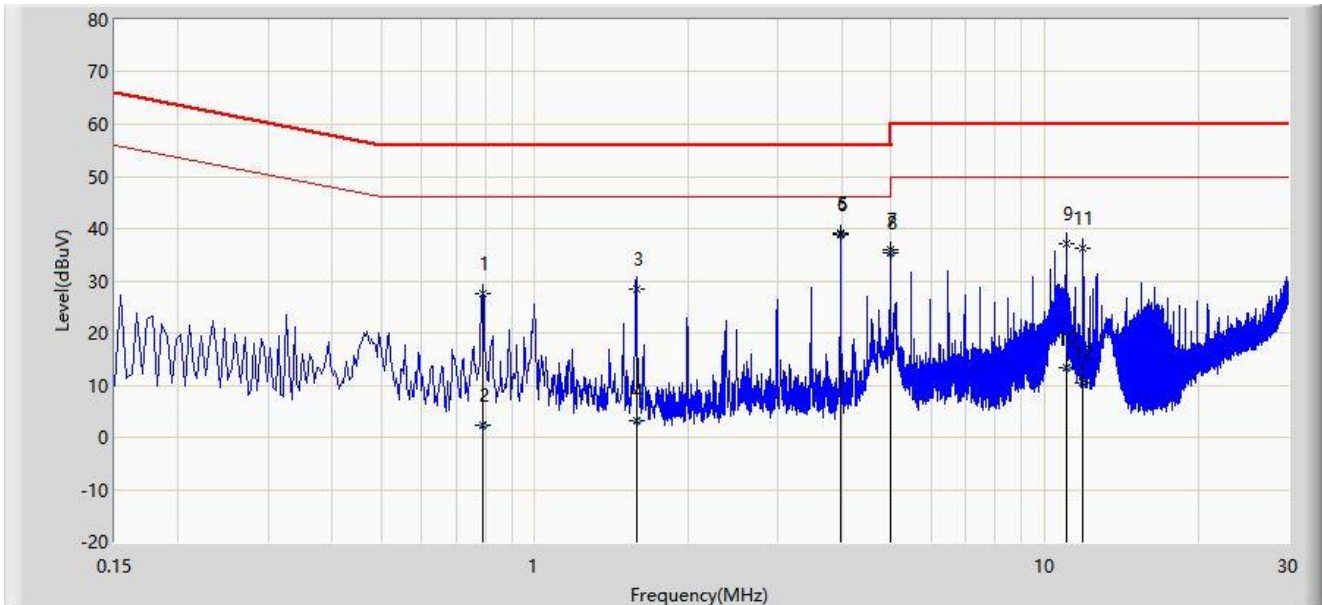
Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Note 4: It is authenticated that the points (13,14) are NFC signals, so we can't take them as a reference.

Site: WZ-SR2	Test Date: 2022/06/21
Limit: FCC_Part15.207_CE_AC Power	Engineer: Alin Zhou
Probe: ENV216_101683_Filter Off_C	Polarity: Line
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz, NFC Antenna Port Terminated	



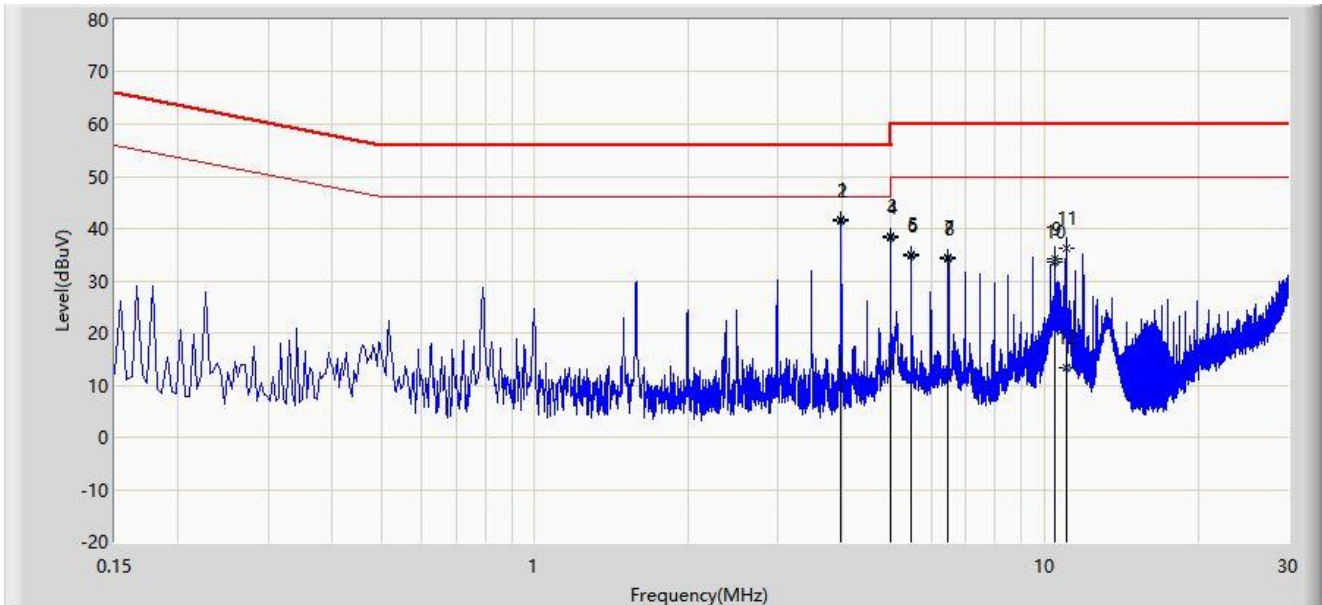
No	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1		0.790	27.616	17.432	-28.384	56.000	10.184	QP
2		0.790	2.371	-7.813	-43.629	46.000	10.184	AV
3		1.582	28.335	18.080	-27.665	56.000	10.255	QP
4		1.582	3.197	-7.058	-42.803	46.000	10.255	AV
5		3.982	39.187	28.623	-16.813	56.000	10.564	QP
6	*	3.982	38.830	28.266	-7.170	46.000	10.564	AV
7		4.978	36.048	25.342	-19.952	56.000	10.707	QP
8		4.978	35.495	24.788	-10.505	46.000	10.707	AV
9		11.062	37.150	26.276	-22.850	60.000	10.873	QP
10		11.062	13.324	2.451	-36.676	50.000	10.873	AV
11		11.850	36.193	25.324	-23.807	60.000	10.869	QP
12		11.850	10.426	-0.443	-39.574	50.000	10.869	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Site: WZ-SR2	Test Date: 2022/06/21
Limit: FCC_Part15.207_CE_AC Power	Engineer: Alin Zhou
Probe: ENV216_101683_Filter Off_C	Polarity: Neutral
EUT: Segway KickScooter	Power: AC 120V/60Hz
Test Mode: Transmit by BLE at 2402MHz, NFC Antenna Port Terminated	



No	Mark	Frequency (MHz)	Measure Level (dBμV)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV)	Factor (dB)	Type
1		3.982	41.764	30.954	-14.236	56.000	10.810	QP
2	*	3.982	41.344	30.534	-4.656	46.000	10.810	AV
3		4.982	38.647	27.689	-17.353	56.000	10.957	QP
4		4.982	38.256	27.299	-7.744	46.000	10.957	AV
5		5.478	34.954	23.977	-25.046	60.000	10.976	QP
6		5.478	34.654	23.678	-15.346	50.000	10.976	AV
7		6.474	34.411	23.398	-25.589	60.000	11.014	QP
8		6.474	34.090	23.077	-15.910	50.000	11.014	AV
9		10.458	34.251	23.121	-25.749	60.000	11.130	QP
10		10.458	33.587	22.457	-16.413	50.000	11.130	AV
11		11.062	36.306	25.176	-23.694	60.000	11.130	QP
12		11.062	13.474	2.344	-36.526	50.000	11.130	AV

Note 1: " * ", means this data is the worst emission level.

Note 2: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB).

Note 3: Factor (dB) = Cable Loss (dB) + LISN Factor (dB).

Appendix B - Test Setup Photograph

Refer to “2205RSU039-UT” file.

Appendix C - EUT Photograph

Refer to “2205RSU039-UE” file.

The End
