



RF MEASUREMENT REPORT

FCC ID: 2ALS8-OP0002
Applicant: Ninebot (Changzhou) Tech Co., Ltd.
Product: Segway Gokart Game Kit
Model No.: PI1401
Brand Name: Segway
FCC Classification: Digital Transmission System (DTS)
FCC Rule Part(s): Part 15 Subpart C (Section 15.247)
Result: Complies
Received Date: 2023-06-27
Test Date: 2023-07-06 ~ 2023-09-22

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
2306RSU045-U2	V01	Initial Report	2023-10-24	Valid

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1. General Information

1.1. Applicant

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, No.18, Changwu Mid Rd, Wujin Dist., Changzhou, Jiangsu, China.

1.2. Manufacturer

Ninebot (Changzhou) Tech Co., Ltd.

16F-17F, Block A, Building 3, No.18, Changwu Mid Rd, Wujin Dist., Changzhou, Jiangsu, China.

1.3. Testing Facility

<input checked="" type="checkbox"/>	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: <input type="checkbox"/> R-20025 <input type="checkbox"/> G-20034 <input type="checkbox"/> C-20020 <input type="checkbox"/> T-20020
	<input type="checkbox"/> R-20141 <input type="checkbox"/> G-20134 <input type="checkbox"/> C-20103 <input type="checkbox"/> T-20104
<input type="checkbox"/>	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
<input type="checkbox"/>	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: 3261
	FCC: 291082, TW3261 ISED: TW3261

1.4. Product Information

Product Name	Segway Gokart Game Kit
Model No.	PI1401
EUT Identification No.	20230627Sample#07 (For conducted testing) 20230627Sample#09 (For radiated testing)
SRD Specification	2402 ~ 2480MHz
Bluetooth Specification	BLE (1Mbps only)
Antenna Information	Refer to section 1.7
Operating Temperature	-10°C ~ +50°C
Accessories	
Rechargeable Li-ion Battery	Model: YJ123333D Capacitance: 1500mAh / 5.55Wh Rated Voltage: 3.7V
Note: 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 under Test

Bluetooth Specification	
Frequency Range	2402 ~ 2480MHz
Channel Number	40
Type of modulation	GFSK
Data Rate	1Mbps

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	--	--	--	--

1.7. Antenna Details

Antenna Type	Frequency Band (GHz)	T _x Paths	Max Antenna Gain (dBi)
Bluetooth Antenna			
Onboard PCB Antenna	2402 ~ 2480	1	-1.26
2.4GHz SRD Antenna			
Onboard PCB Antenna	2402 ~ 2480	1	2.88

Test Configuration

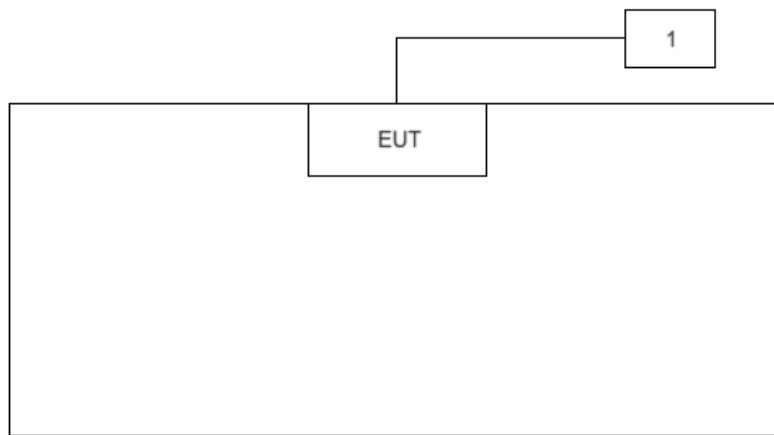
2.1. Test Mode

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



Product		Manufacturer	Model No.
1	Notebook	HP	445R G6

2.3. Test Software

The test utility software used during testing was “nRFgo Studio.exe”, 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

2. 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.

3. Measuring Instrument

Instrument	Manufacturer	Model No.	Asset No.	Cali. Interval	Cali. Due Date	Test Site
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2023-12-28	SIP-AC1
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2023-12-22	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2023-11-01	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06620	1 year	2023-11-27	SIP-AC1
Preamplifier	EMCI	EMC001330	MRTSUE06643	1 year	2024-01-12	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2023-07-30	SIP-AC1
				1 year	2024-07-13	SIP-AC1
Loop Antenna	Schwarzbeck	FMZB 1519 B	MRTSUE06937	1 year	2024-02-26	SIP-AC1
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2023-10-10	SIP-AC3
Signal Analyzer	Keysight	N9010B	MRTSUE06603	1 year	2023-10-25	SIP-AC3
Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2023-07-30	SIP-AC3
				1 year	2024-07-14	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06619	1 year	2023-11-01	SIP-AC3
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2024-01-12	SIP-AC3
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06646	1 year	2023-08-16	SIP-AC3
				1 year	2024-08-04	SIP-AC3
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2023-12-22	SIP-AC3
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2023-11-27	SIP-AC3
Signal Analyzer	Keysight	N9030B	MRTSUE06395	1 year	2024-06-29	SIP-TR1
USB Power Sensor	Keysight	U2021XA	MRTSUE06596	1 year	2023-08-23	SIP-TR1
				1 year	2024-07-31	SIP-TR1
Thermohygrometer	testo	608-H1	MRTSUE11022	1 year	2023-11-01	SIP-TR1

Software	Version	Function
EMI V3	V 3.0.0	EMI Test Software
Controller_MF 7802BS	1.02	RE Antenna & Turntable
Agilent Power Analyzer/Agilent Power Panel	V R03.09.00	Power

4. Decision Rules and Measurement Uncertainty

4.1. Decision Rules

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4: 2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

4.2. 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
The maximum measurement uncertainty is evaluated as: 9kHz~150kHz: 3.58dB 150kHz~30MHz: 3.20dB
Radiated Emission Measurement
The maximum measurement uncertainty is evaluated as: Coaxial: 9kHz~30MHz: 2.61dB Coplanar: 9kHz~30MHz: 2.62dB Horizontal: 30MHz~200MHz: 3.79dB 200MHz~1GHz: 3.91dB 1GHz~40GHz: 4.99dB Vertical: 30MHz~200MHz: 4.06dB 200MHz~1GHz: 5.21dB 1GHz~40GHz: 4.90dB
Spurious Emissions, Conducted
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.2dB
Output Power
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 1.4dB
Power Spectrum Density
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.2dB
Occupied Bandwidth
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 2.7%

5. Test Result

5.1. 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	N/A

Notes:

- 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.
- For radiated emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.
- "N/A" means that this item is not applicable, and the detail information refer to relevant section.

5.2. 6dB Bandwidth Measurement

5.2.1. Test Limit

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

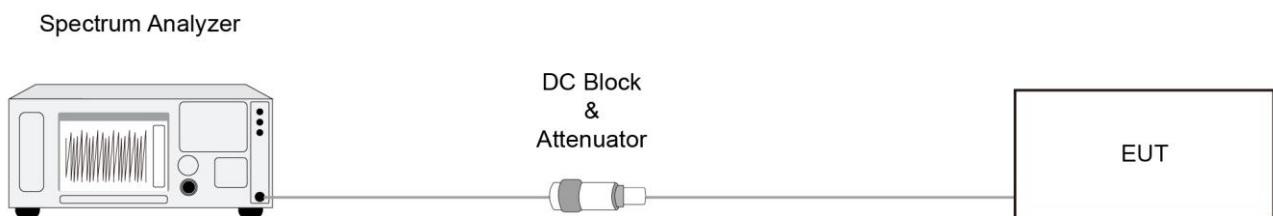
5.2.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.8

5.2.3. 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

5.2.4. Test Setup



5.2.5. Test Result

Refer to Appendix A.2.

5.3. Output Power Measurement

5.3.1. 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.

5.3.2. Test Procedure

ANSI C63.10 - 2013 - Section 11.9.1.3

ANSI C63.10 - 2013 - Section 11.9.2.3.2

5.3.3. Test Setting

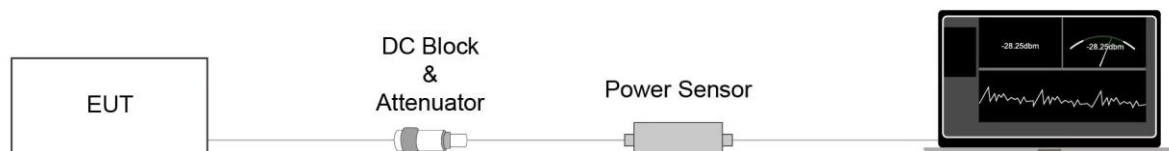
Method PKPM1 (Peak Power Measurement of Signals with DTS BW \leq 50MHz)

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.

5.3.4. Test Setup



5.3.5. Test Result

Refer to Appendix A.3.

5.4. Power Spectral Density Measurement

5.4.1. 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.

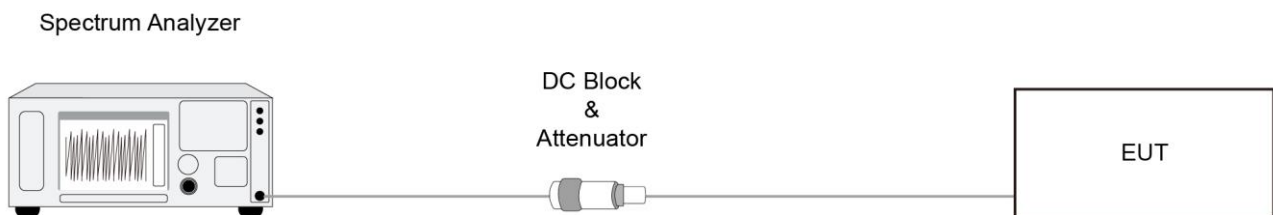
5.4.2. Test Procedure

ANSI C63.10-2013 Section 11.10.2

5.4.3. 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

5.4.4. Test Setup



5.4.5. Test Result

Refer to Appendix A.4.

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

5.5.1. 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.

5.5.2. Test Procedure

ANSI C63.10-2013 - Section 11.11

5.5.3. Test Setting

Reference level measurement

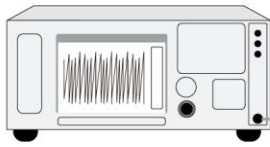
1. Set instrument center frequency to DTS channel center frequency
2. Set the span to ≥ 1.5 times the DTS bandwidth
3. Set the RBW = 100 kHz
4. Set the VBW $\geq 3 \times$ RBW
5. Detector = peak
6. Sweep time = auto couple
7. Trace mode = max hold
8. Allow trace to fully stabilize

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

5.5.4. Test Setup

Spectrum Analyzer



DC Block
&
Attenuator



5.5.5. Test Result

Refer to Appendix A.5.

5.6. Radiated Spurious Emission Measurement

5.6.1. 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

5.6.2. 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)

5.6.3. 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

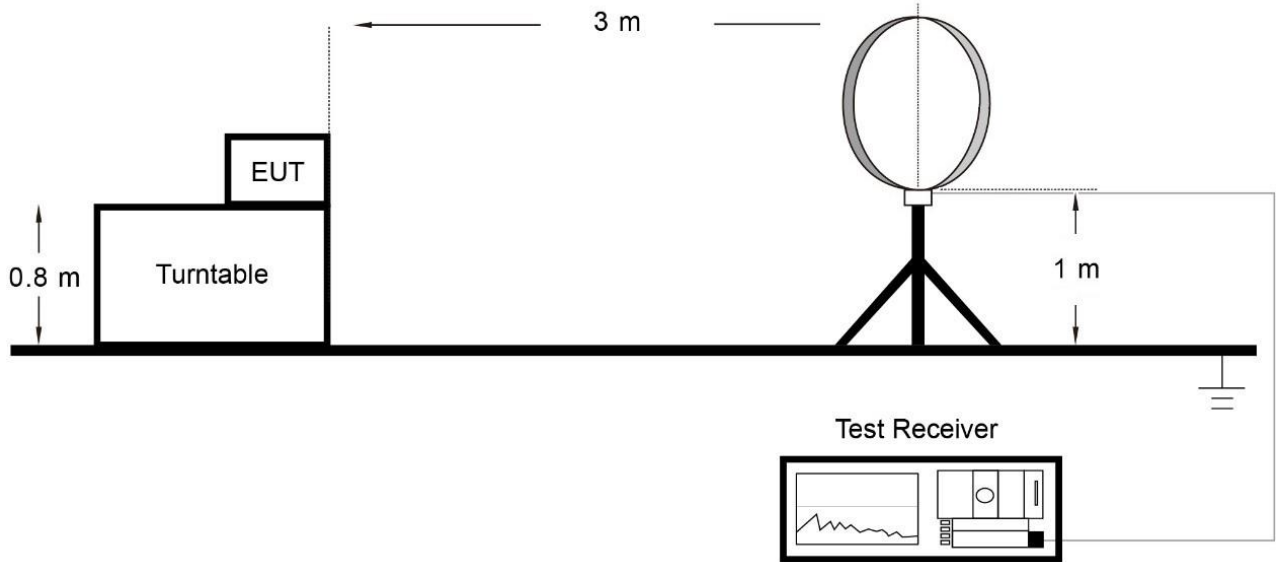
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

Average Measurements above 1GHz (Method VB)

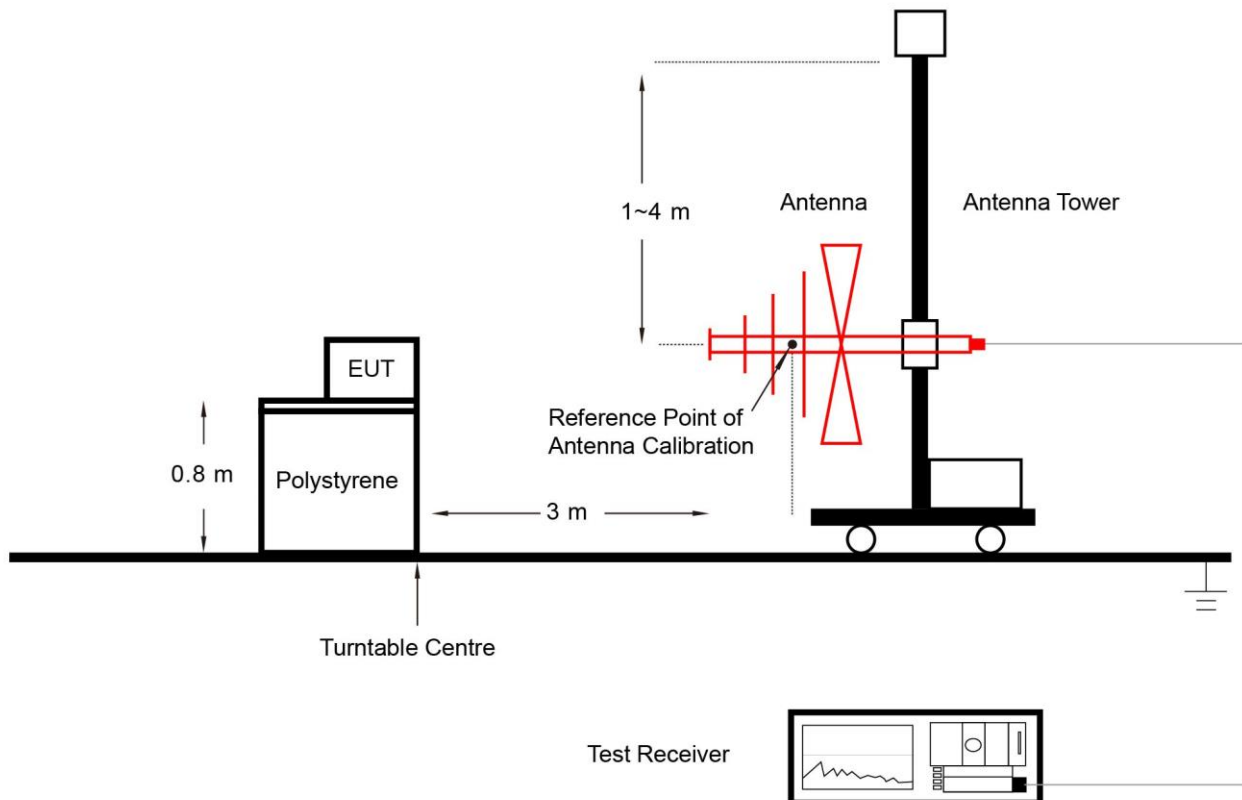
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW; If the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW = 10 Hz.
If the EUT duty cycle is $< 98\%$, set VBW $\geq 1/T$. T is the minimum transmission duration.
4.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

5.6.4. Test Setup

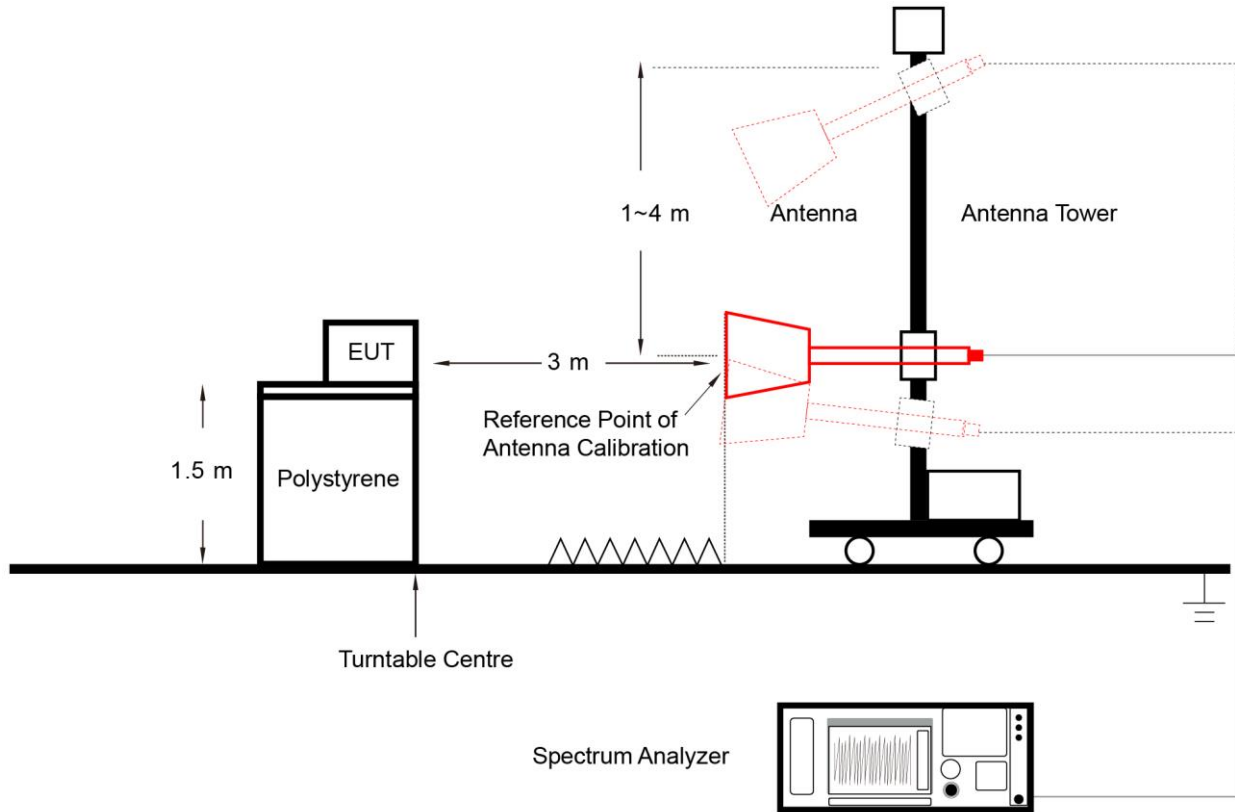
Below 30MHz Test Setup:



Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.6.5. Test Result

Refer to Appendix A.6.

5.7. Radiated Restricted Band Edge Measurement

5.7.1. 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

5.7.2. Test Procedure

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

5.7.3. Test Setting

Peak Field Strength Measurements

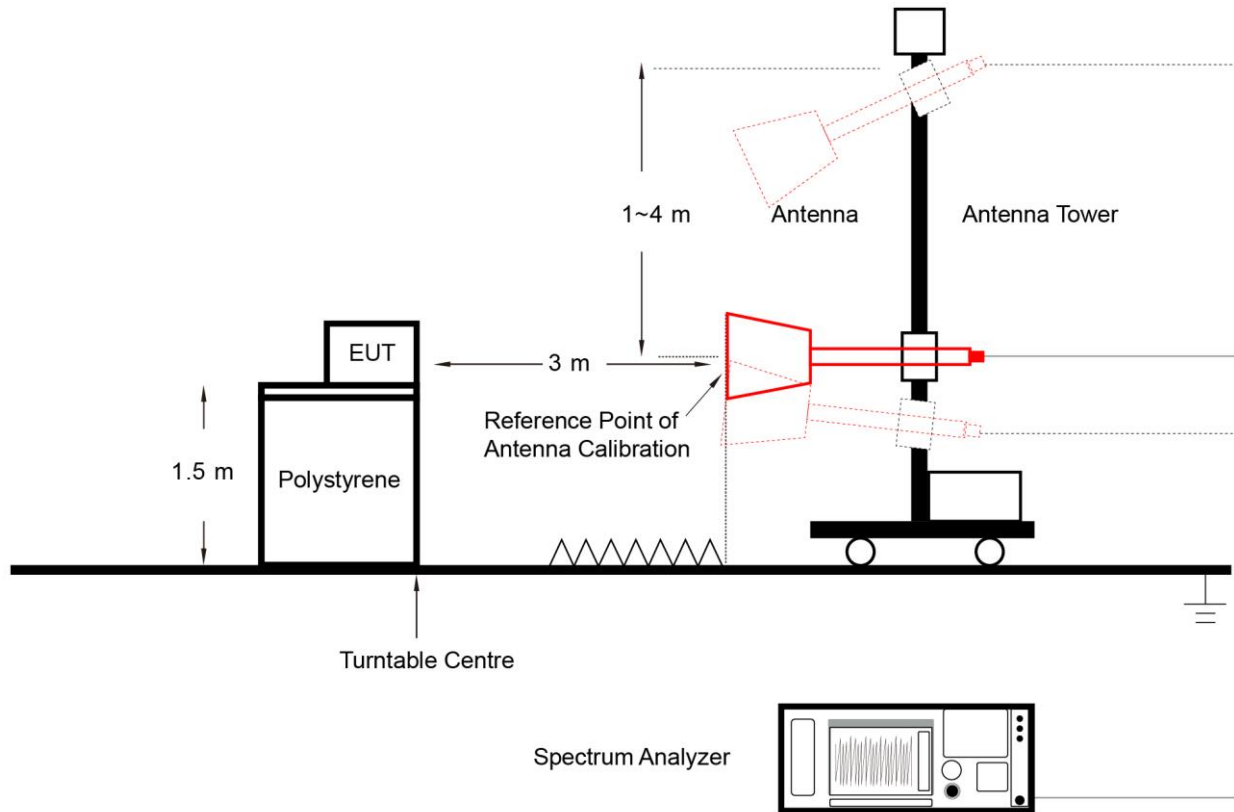
1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = 1MHz
3. VBW = 3MHz
4. Detector = peak
5. Sweep time = auto couple
6. Trace mode = max hold
7. Trace was allowed to stabilize

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

5.7.4. Test Setup



5.7.5. Test Result

Refer to Appendix A.7.

5.8. AC Conducted Emissions Measurement

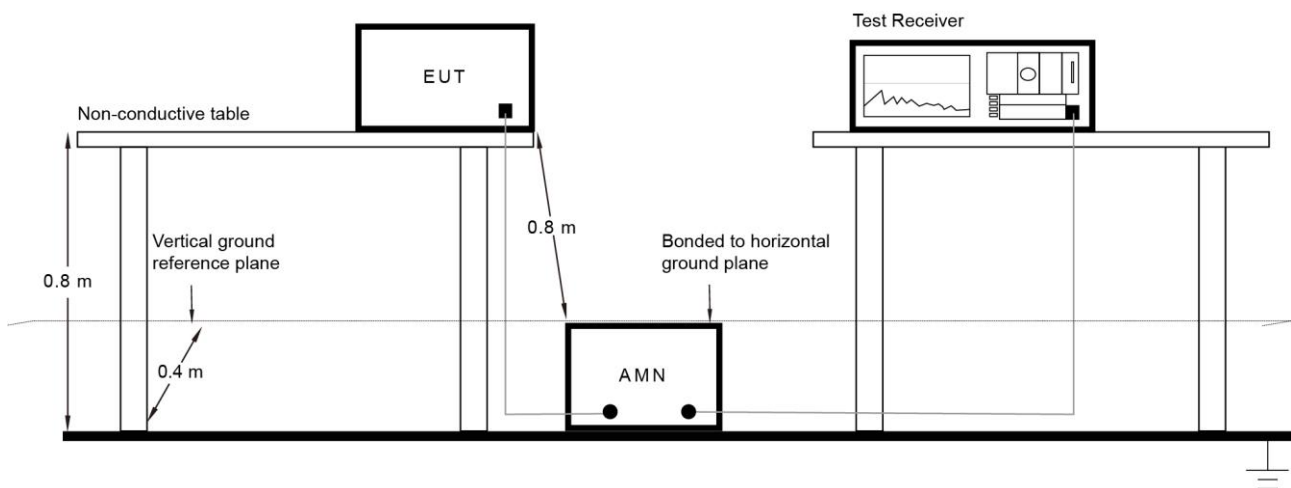
5.8.1. Test Limit

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.

5.8.2. Test Setup



5.8.3. Test Result

The EUT is powered by battery, so this item is not applicable.

Appendix A - Test Result

A.1 Duty Cycle Test Result

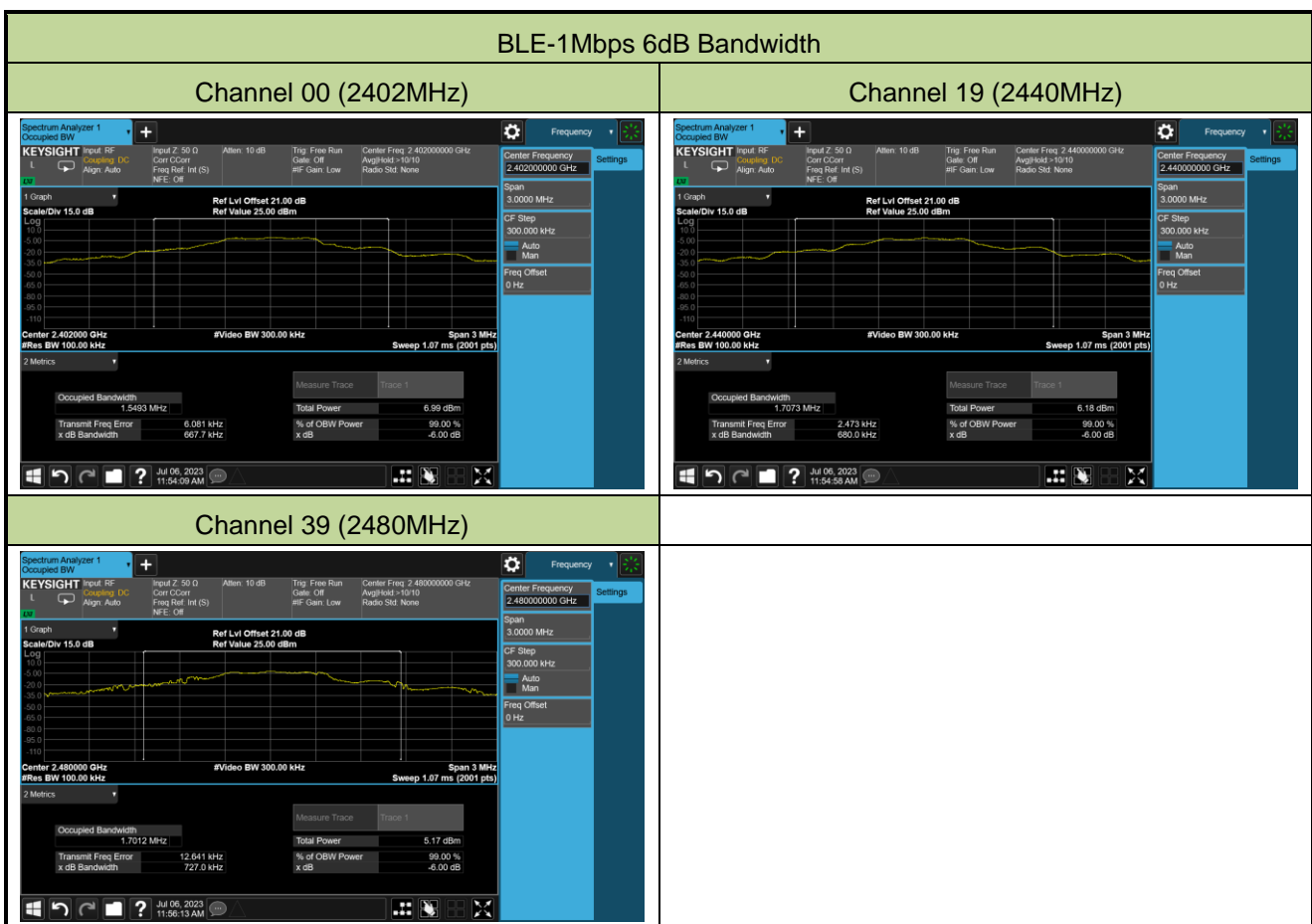
Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-07-06		

Test Mode	Duty Cycle																																								
BLE-1Mbps	68.71%																																								
Duty Cycle (T = Transmission Duration)																																									
BLE-1Mbps (T = 430.9 μ s)																																									
<p>The screenshot displays a Keysight Spectrum Analyzer interface. The main display shows a square wave signal with a period of approximately 627.134 μs and a pulse width of 430.9 μs, resulting in a duty cycle of 68.71%. The signal is centered at 2.402200000 GHz with a video bandwidth of 50 MHz. The marker table at the bottom shows the following data:</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Trace</th> <th>Scale</th> <th>X</th> <th>Y</th> <th>Function</th> <th>Function Width</th> <th>Function Value</th> </tr> </thead> <tbody> <tr> <td>Δ2</td> <td>1</td> <td>1</td> <td>(A)</td> <td>430.9 μs (A)</td> <td>3.676 dB</td> <td></td> <td></td> </tr> <tr> <td>F</td> <td>1</td> <td>1</td> <td></td> <td>681.7 μs</td> <td>-5.909 dBm</td> <td></td> <td></td> </tr> <tr> <td>Δ4</td> <td>1</td> <td>1</td> <td>(A)</td> <td>627.134 μs (A)</td> <td>-2.376 dB</td> <td></td> <td></td> </tr> <tr> <td>F</td> <td>1</td> <td>1</td> <td></td> <td>681.7 μs</td> <td>-5.909 dBm</td> <td></td> <td></td> </tr> </tbody> </table>		Mode	Trace	Scale	X	Y	Function	Function Width	Function Value	Δ2	1	1	(A)	430.9 μs (A)	3.676 dB			F	1	1		681.7 μs	-5.909 dBm			Δ4	1	1	(A)	627.134 μs (A)	-2.376 dB			F	1	1		681.7 μs	-5.909 dBm		
Mode	Trace	Scale	X	Y	Function	Function Width	Function Value																																		
Δ2	1	1	(A)	430.9 μs (A)	3.676 dB																																				
F	1	1		681.7 μs	-5.909 dBm																																				
Δ4	1	1	(A)	627.134 μs (A)	-2.376 dB																																				
F	1	1		681.7 μs	-5.909 dBm																																				

A.2 6dB Bandwidth Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-07-06		

Test Mode	Data Rate	Channel No.	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (MHz)
BLE	1Mbps	00	2402	0.6677	≥ 0.5
BLE	1Mbps	19	2440	0.6800	≥ 0.5
BLE	1Mbps	39	2480	0.7270	≥ 0.5



A.3 Output Power Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-07-06		

Test Result of Peak Output Power

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Peak Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	1.64	≤ 30.00	Pass
BLE	1Mbps	19	2440	1.36	≤ 30.00	Pass
BLE	1Mbps	39	2480	0.40	≤ 30.00	Pass

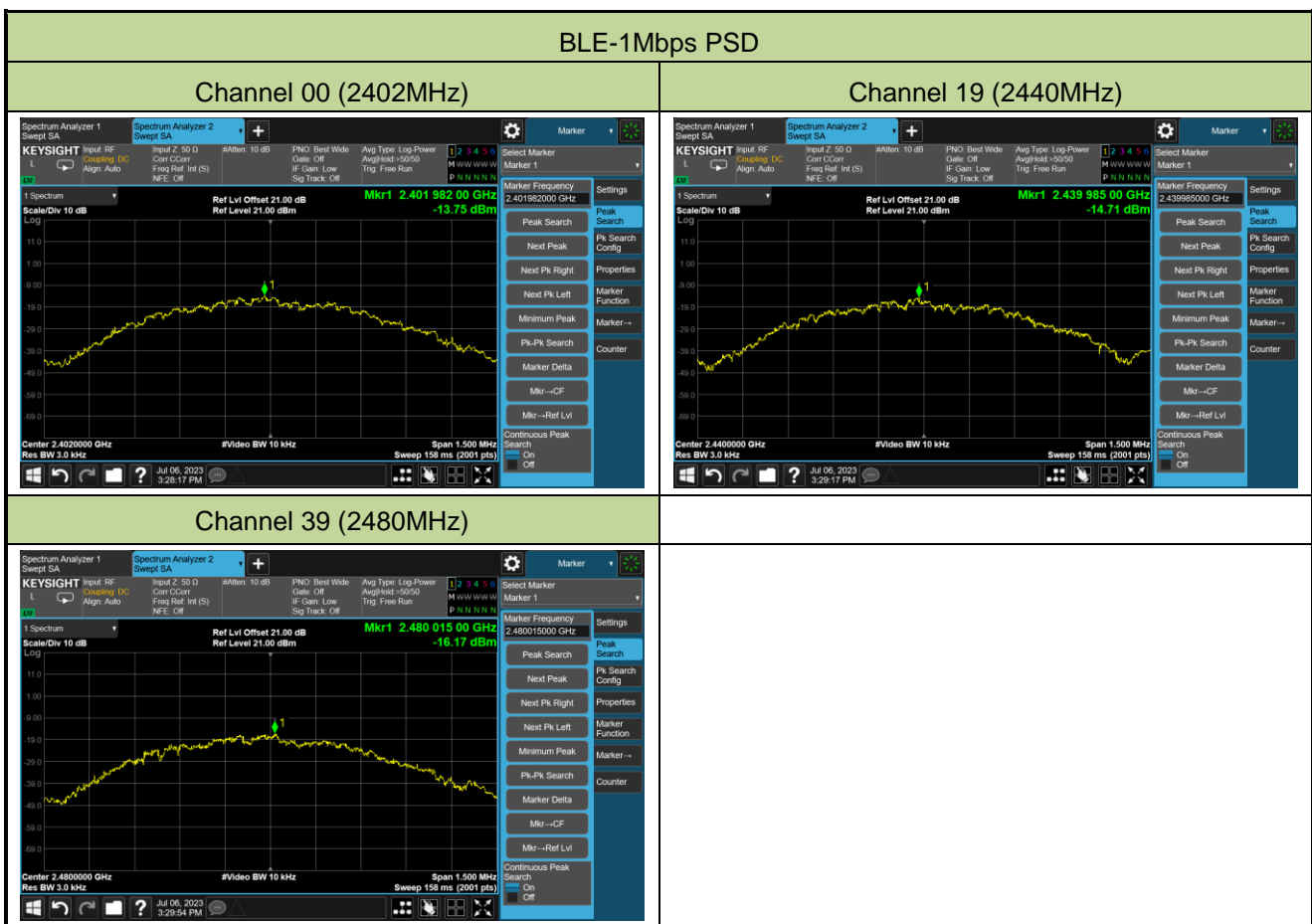
Test Result of Average Output Power (Reporting Only)

Test Mode	Data Rate	Channel No.	Frequency (MHz)	Average Power (dBm)	Limit (dBm)	Result
BLE	1Mbps	00	2402	-0.26	≤ 30.00	Pass
BLE	1Mbps	19	2440	-0.94	≤ 30.00	Pass
BLE	1Mbps	39	2480	-2.30	≤ 30.00	Pass

A.4 Power Spectral Density Test Result

Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-07-06		

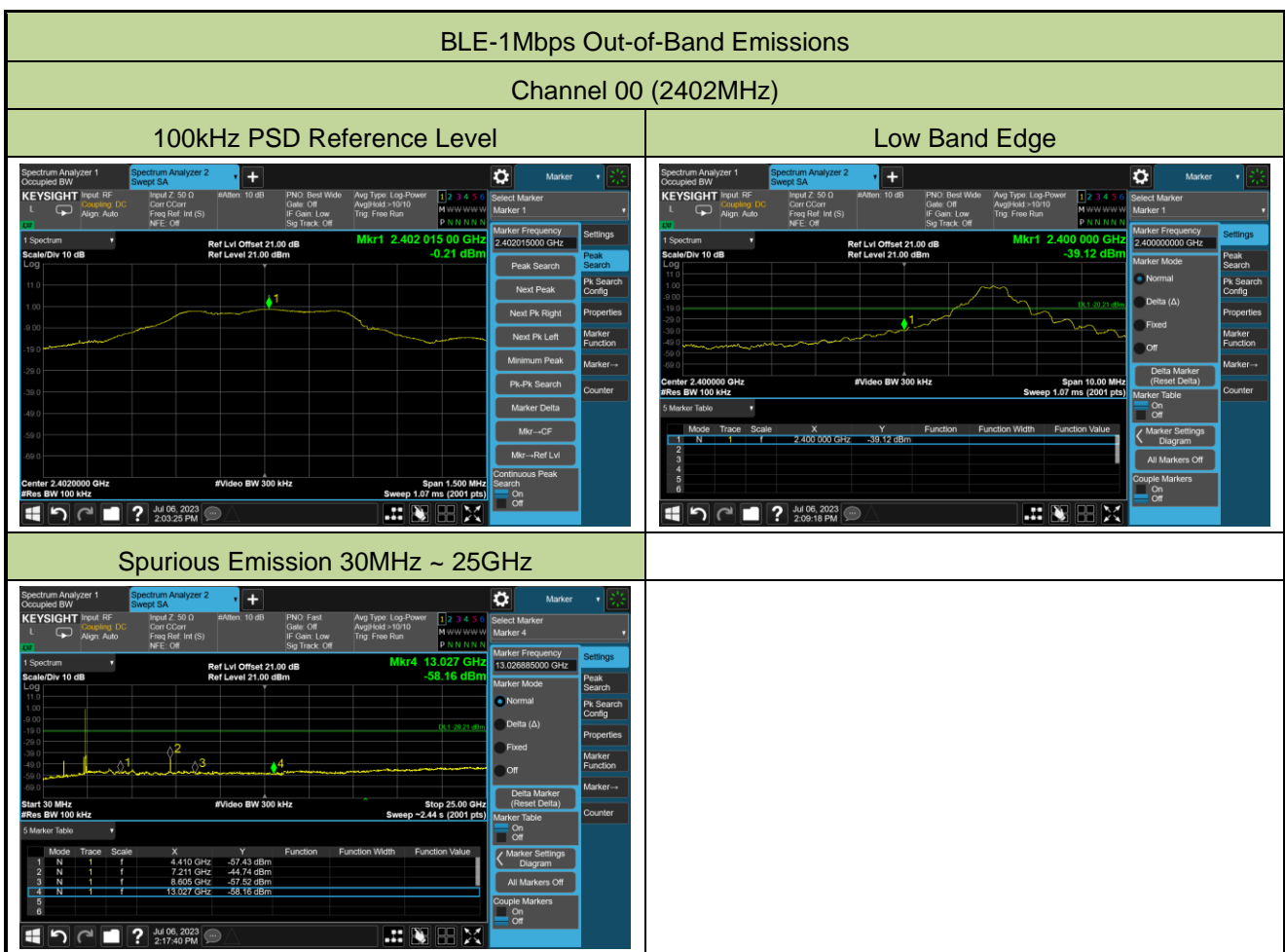
Test Mode	Data Rate	Channel No.	Frequency (MHz)	PSD Result (dBm / 3kHz)	Limit (dBm / 3kHz)	Result
BLE	1Mbps	00	2402	-13.75	≤ 8.00	Pass
BLE	1Mbps	19	2440	-14.71	≤ 8.00	Pass
BLE	1Mbps	39	2480	-16.17	≤ 8.00	Pass



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

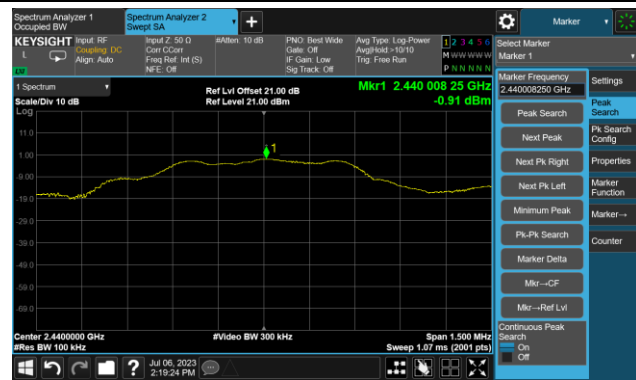
Test Site	SIP-TR1	Test Engineer	Alisa Deng
Test Date	2023-07-06		

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

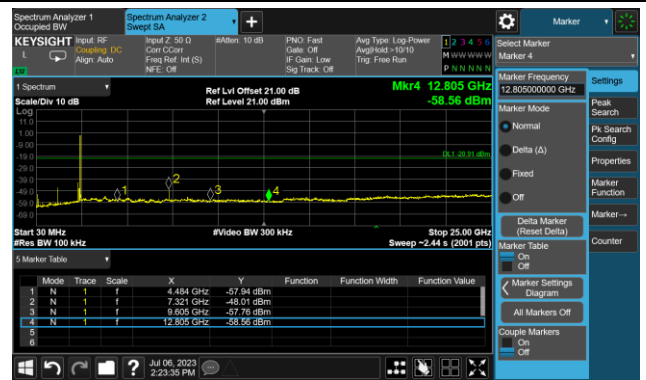


Channel 19 (2440MHz)

100kHz PSD Reference Level

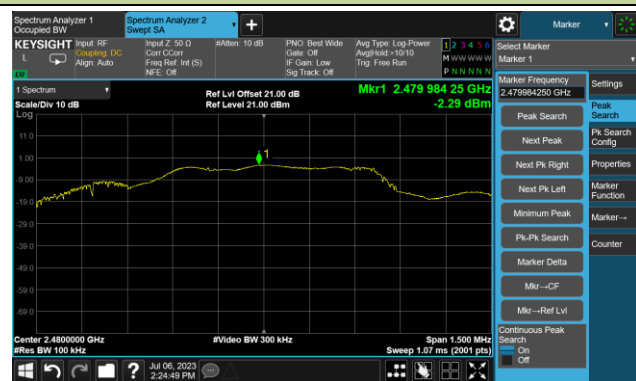


Spurious Emission 30MHz ~ 25GHz

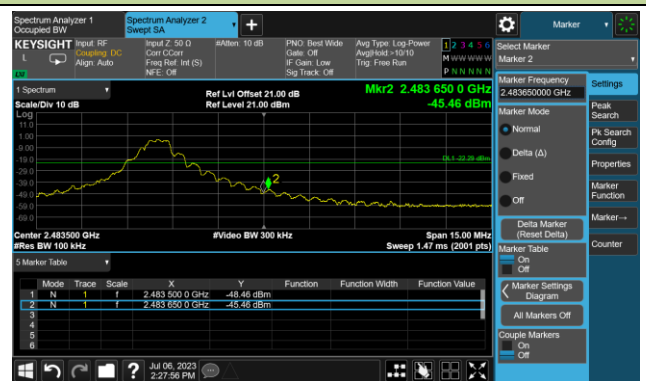


Channel 39 (2480MHz)

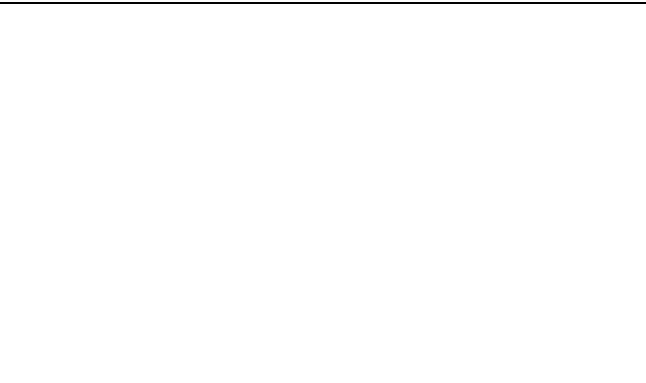
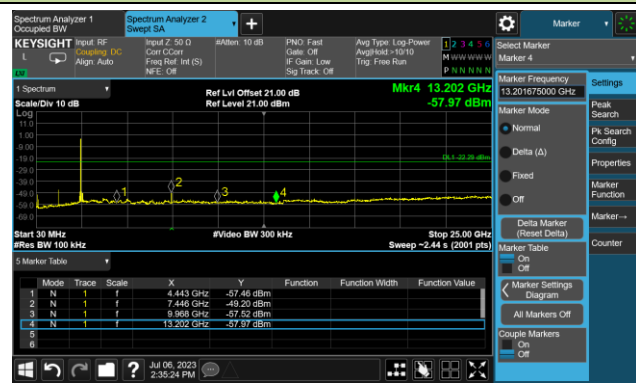
100kHz PSD Reference Level



High Band Edge



Spurious Emission 30MHz ~ 25GHz



A.6 Radiated Spurious Emission Test Result

Test Site	SIP-AC3	Test Engineer	Barry Wu
Test Date	2023-09-13	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.		

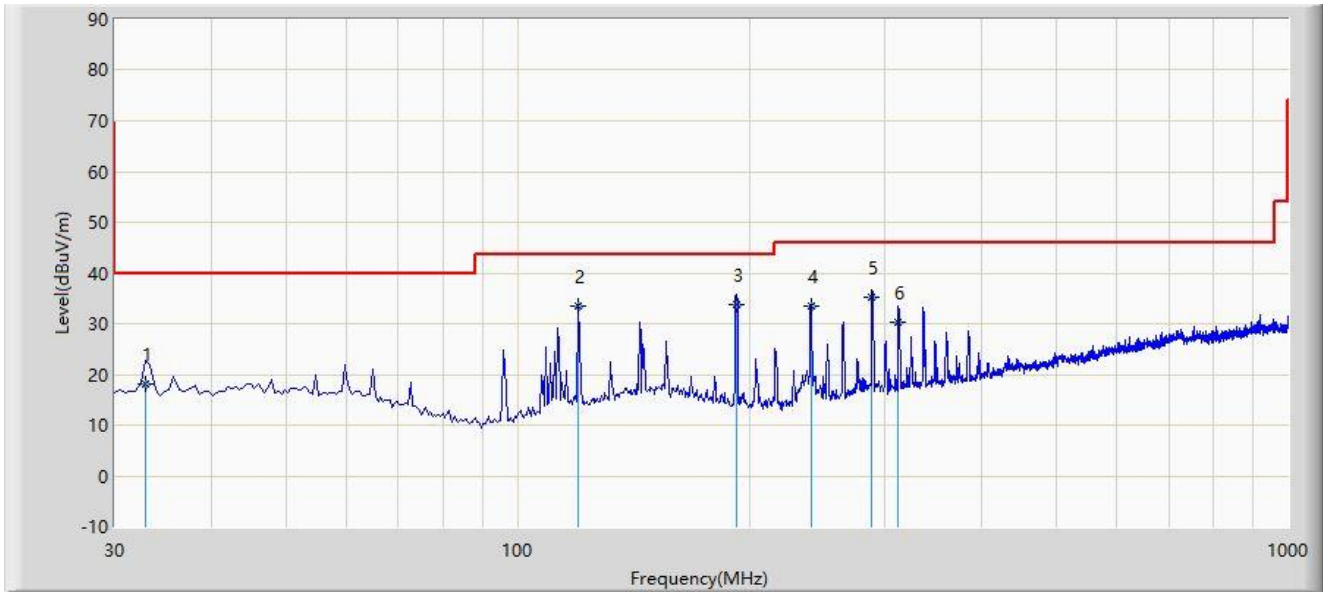
Test Channel	Frequency (MHz)	Reading Level (dB μ V)	Factor (dB/m)	Measure Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Detect or	Polarization
00	4808.0	54.8	-7.8	47.0	74.0	-27.0	Peak	Horizontal
	11429.5	47.8	-1.5	46.3	74.0	-27.7	Peak	Horizontal
	15713.5	46.2	4.8	51.0	74.0	-23.0	Peak	Horizontal
	4808.0	55.7	-7.8	47.9	74.0	-26.1	Peak	Vertical
	11421.0	48.7	-1.5	47.2	74.0	-26.8	Peak	Vertical
	15662.5	45.5	4.3	49.8	74.0	-24.2	Peak	Vertical
19	4876.0	57.2	-7.5	49.7	74.0	-24.3	Peak	Horizontal
	7315.0	60.6	-5.1	55.5	74.0	-18.5	Peak	Horizontal
	7315.5	56.4	-5.2	51.2	54.0	-2.8	AV	Horizontal
	11523.0	48.9	-1.5	47.4	74.0	-26.6	Peak	Horizontal
	4876.0	53.6	-7.5	46.1	74.0	-27.9	Peak	Vertical
	7324.0	64.3	-5.3	59.0	74.0	-15.0	Peak	Vertical
	7324.0	58.8	-5.3	53.5	54.0	-0.5	AV	Vertical
	15909.0	45.5	5.2	50.7	74.0	-23.3	Peak	Vertical
39	4961.0	57.4	-7.6	49.8	74.0	-24.2	Peak	Horizontal
	7443.0	57.7	-4.8	52.9	74.0	-21.1	Peak	Horizontal
	7443.0	53.1	-4.8	48.3	54.0	-5.7	AV	Horizontal
	15926.0	45.9	5.1	51.0	74.0	-23.0	Peak	Horizontal
	4961.0	55.7	-7.6	48.1	74.0	-25.9	Peak	Vertical
	7443.0	57.1	-4.8	52.3	74.0	-21.7	Peak	Vertical
	7443.0	49.7	-4.8	44.9	54.0	-9.1	AV	Vertical
	11820.5	49.1	-1.8	47.3	74.0	-26.7	Peak	Vertical

Note: Measure Level (dB μ V/m) = Reading Level (dB μ V) + 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: SIP-AC1	Time: 2023-09-22
Limit: FCC_Part15.209_RSE(3m)	Engineer: Justin Guo
Probe: VULB 9168_00998_25-2000MHz	Polarity: Horizontal
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1		32.910	18.076	1.100	-21.924	40.000	16.976	QP
2		120.012	33.414	17.800	-10.086	43.500	15.614	QP
3	*	192.424	33.736	18.900	-9.764	43.500	14.836	QP
4		240.529	33.369	17.300	-12.631	46.000	16.069	QP
5		288.057	35.306	17.100	-10.694	46.000	18.206	QP
6		311.785	30.169	11.500	-15.831	46.000	18.669	QP

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

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

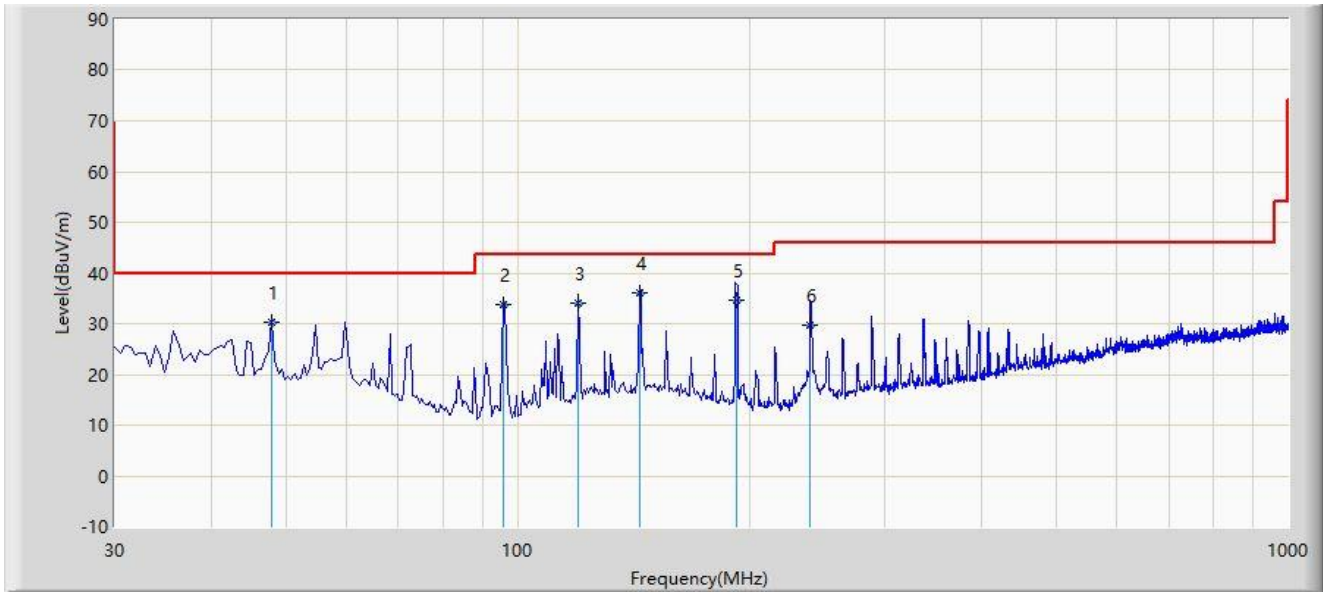
Note 3: Factor (dB/m) = Cable Loss (dB) + Antenna Factor (dB/m).

Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: 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: SIP-AC1	Time: 2023-09-22
Limit: FCC_Part15.209_RSE(3m)	Engineer: Justin Guo
Probe: VULB 9168_00998_25-2000MHz	Polarity: Vertical
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2480MHz	



No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1		47.945	30.245	12.200	-9.755	40.000	18.045	QP
2		95.960	33.625	20.900	-9.875	43.500	12.726	QP
3		120.017	34.114	18.500	-9.386	43.500	15.614	QP
4	*	144.319	36.088	17.800	-7.412	43.500	18.288	QP
5		192.434	34.536	19.700	-8.964	43.500	14.836	QP
6		240.005	29.644	13.600	-16.356	46.000	16.044	QP

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

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

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

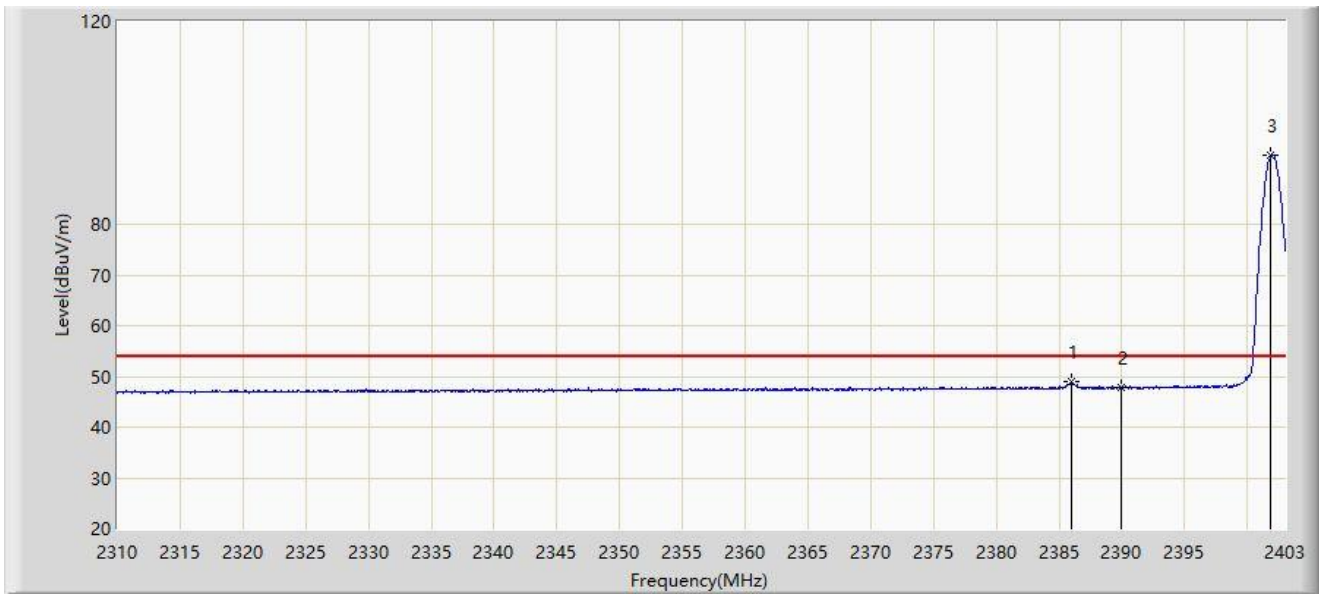
Note 4: Quasi-Peak measurement was not performed when peak measure level was lower than the quasi-peak limit.

Note 5: 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: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2402MHz	



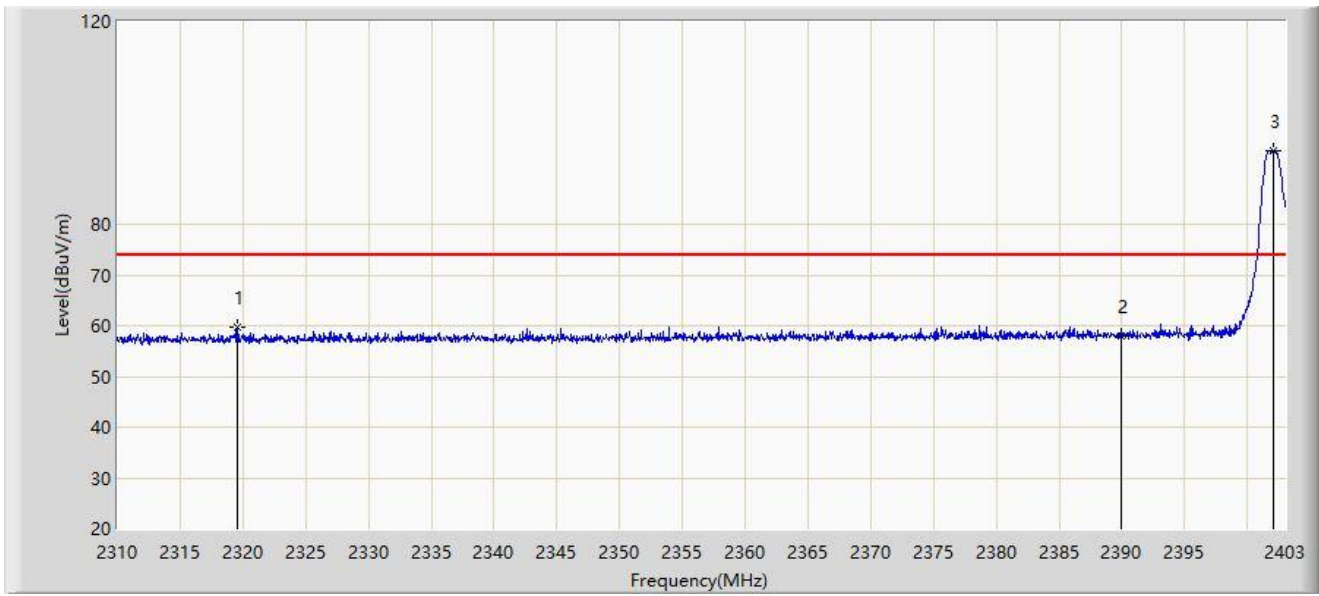
No	Mark	Frequency (MHz)	Measure Level (dBμV/m)	Reading Level (dBμV)	Margin (dB)	Limit (dBμV/m)	Factor (dB/m)	Type
1	*	2385.935	48.841	16.826	-5.159	54.000	32.015	AV
2		2390.000	47.744	15.721	-6.256	54.000	32.023	AV
3		2401.884	93.484	61.447	N/A	N/A	32.038	AV

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: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2402MHz	



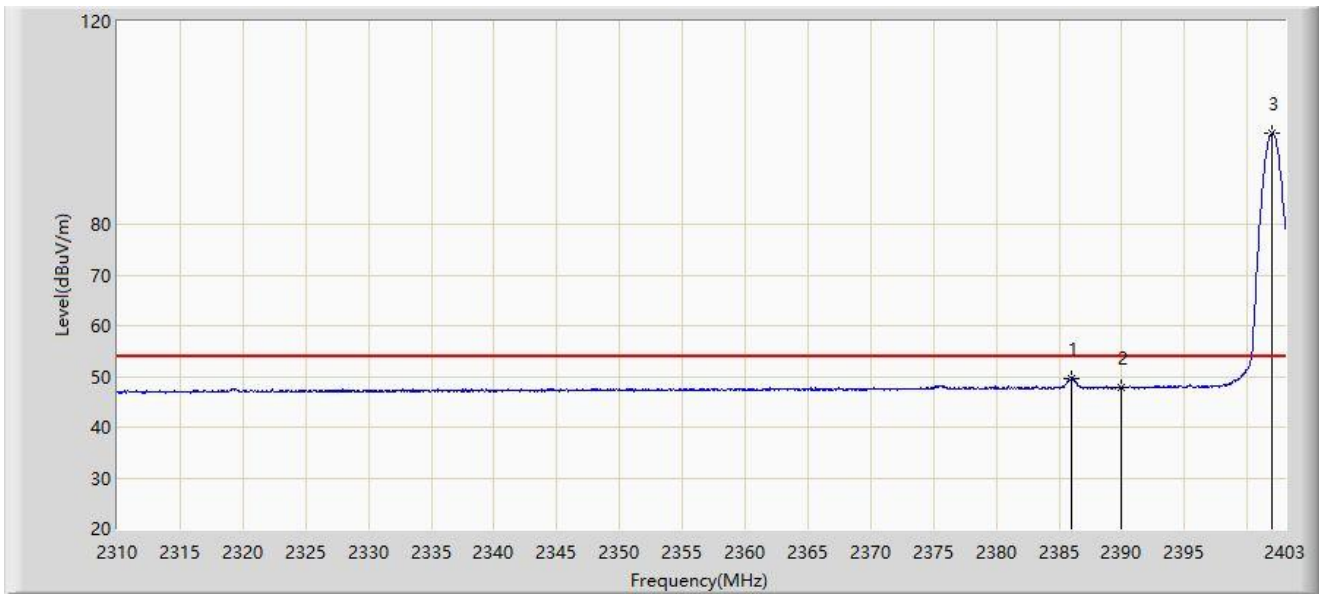
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1	*	2319.579	59.638	28.039	-14.362	74.000	31.599	PK
2		2390.000	58.030	26.007	-15.970	74.000	32.023	PK
3		2402.070	94.447	62.409	N/A	N/A	32.037	PK

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Vertical
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2402MHz	



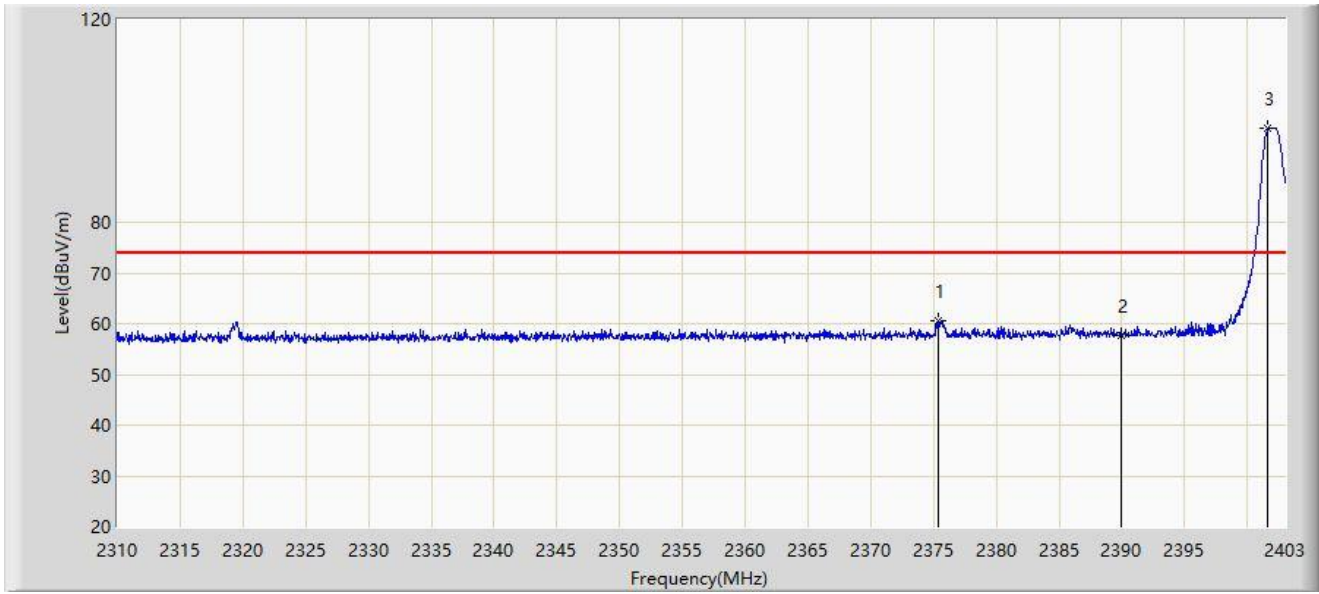
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1	*	2386.028	49.710	17.695	-4.290	54.000	32.015	AV
2		2390.000	47.775	15.752	-6.225	54.000	32.023	AV
3		2401.930	97.858	65.820	N/A	N/A	32.038	AV

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Vertical
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2402MHz	



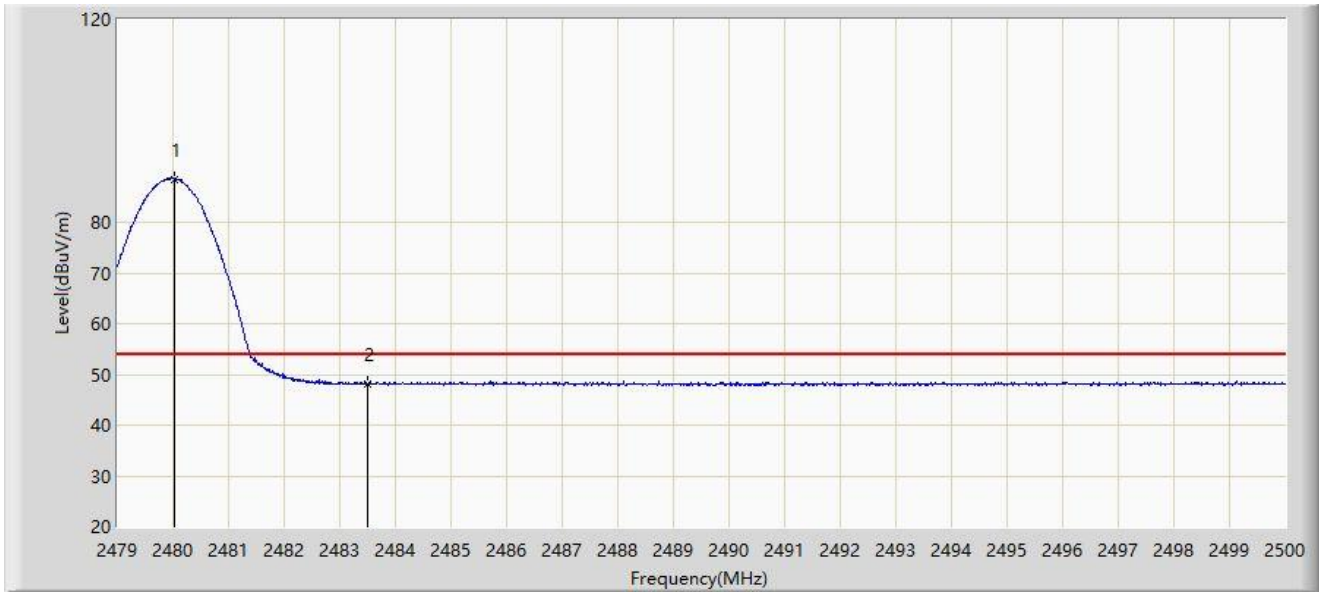
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1	*	2375.333	60.646	28.657	-13.354	74.000	31.989	PK
2		2390.000	57.821	25.798	-16.179	74.000	32.023	PK
3		2401.652	98.584	66.547	N/A	N/A	32.037	PK

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2480MHz	



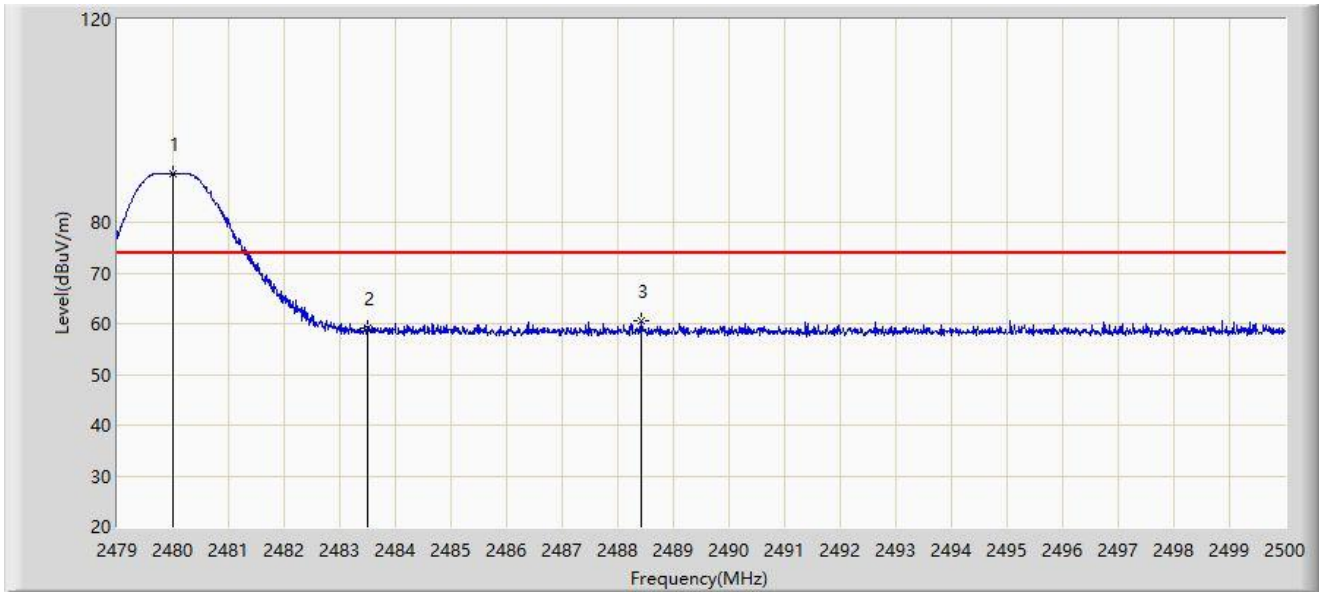
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1		2480.029	88.525	56.243	N/A	N/A	32.282	AV
2	*	2483.500	48.125	15.825	-5.875	54.000	32.300	AV

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Horizontal
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2480MHz	



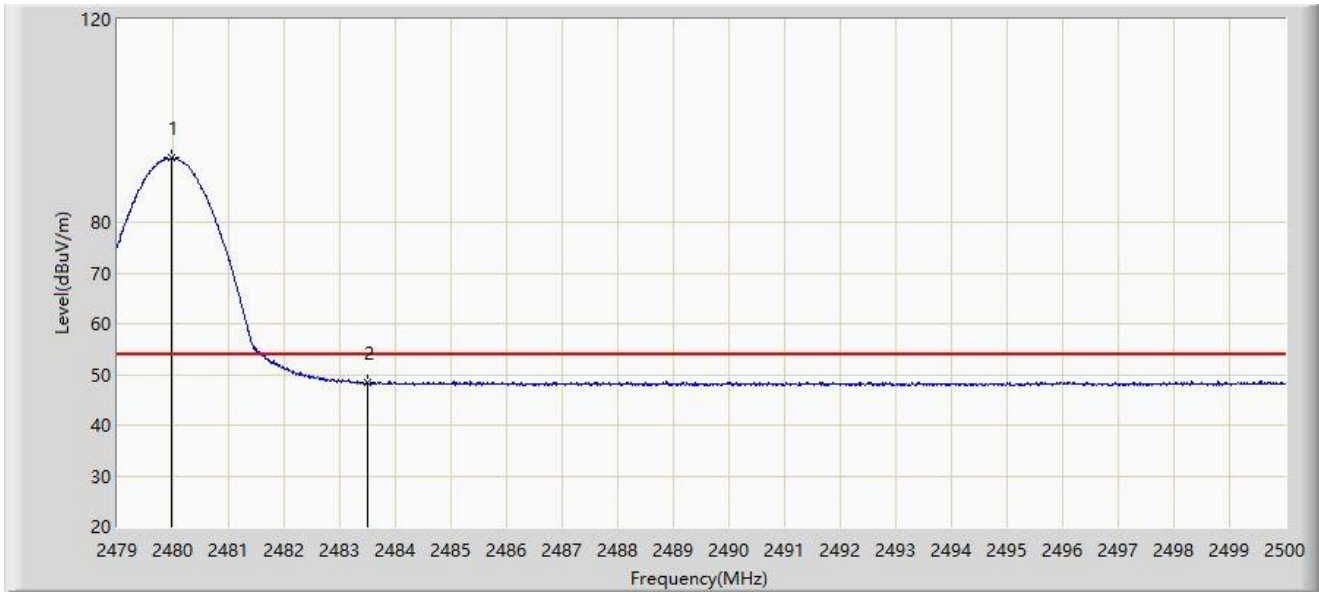
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1		2479.998	89.423	57.141	N/A	N/A	32.282	PK
2		2483.500	59.147	26.847	-14.853	74.000	32.300	PK
3	*	2488.429	60.643	28.317	-13.357	74.000	32.326	PK

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Vertical
EUT: Segway Gokart Game Kit	Power: By Computer
Test Mode: Transmit by BLE at 2480MHz	



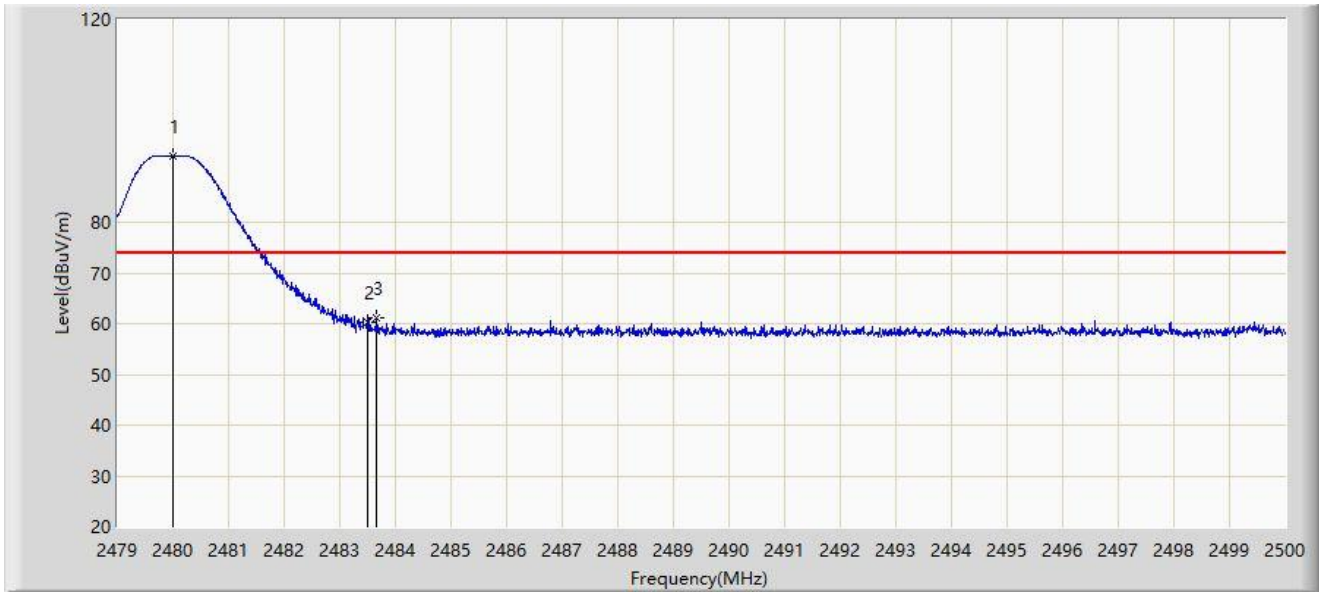
No	Mark	Frequency (MHz)	Measure Level (dB μ V/m)	Reading Level (dB μ V)	Margin (dB)	Limit (dB μ V/m)	Factor (dB/m)	Type
1		2479.966	92.622	60.340	N/A	N/A	32.282	AV
2	*	2483.500	48.293	15.993	-5.707	54.000	32.300	AV

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

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

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

Site: SIP-AC3	Test Date: 2023-09-13
Limit: FCC_2.4G_RE(3m)	Engineer: Barry Wu
Probe: HF907_102861_1-18GHz	Polarity: Vertical
EUT: Segway Gokart Game Kit	Power: By Computer
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		2479.998	93.005	60.723	N/A	N/A	32.282	PK
2		2483.500	60.395	28.095	-13.605	74.000	32.300	PK
3	*	2483.662	61.186	28.885	-12.814	74.000	32.301	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).

Appendix B - Test Setup Photograph

Refer to "2306RSU045-UT" file.

Appendix C - EUT Photograph

Refer to "2306RSU045-UE" file.

_____ The End _____