



RF MEASUREMENT REPORT

Applicant: Ninebot (Changzhou) Tech Co., Ltd.
Address: 16F-17F, Block A, Building 3, Changwu Mid Road 18#,
Wujin Dist., Changzhou, Jiangsu, China
Product: Segway eKickScooter ZT3 Pro
Model No.: 051801E, 051801D, 051801A
Brand Name: Segway
Standards: EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.9 & 4.3.2.10
Result: Complies
Received Date: 2024-07-08
Test Date: 2024-07-30

Reviewed By:

Vincent Yu

Approved By:

Robin Wu



The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

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Revision History

Report No.	Version	Description	Issue Date	Note
2407RSU022-E2	V01	Initial Report	2024-08-02	Valid

Note: The BT module (Model No.: NB-BT100) used in this device is certified. This report is based on the module report (Report No.: 2311RSU069-E3) and only performed the spot-check testing on “Transmitter Unwanted Emissions in the Spurious Domain” and “Receiver Spurious Emissions” .

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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: 3261 FCC: 291082, TW3261 ISED: TW3261

1.4. Product Information

Product Name	Segway eKickScooter ZT3 Pro
Model No.	051801E, 051801D, 051801A
Serial No.	1K1EA2427P0058
Brand Name	Segway
Rated Input	53.6VDC, 1.3A
Bluetooth Specification	BR/EDR/BLE(1M/2M)
Accessory	
AC Adapter	Model: NBW54D601D3D01 Input: 100-240V ~ 50-60Hz 2.5A MAX Output: 53.6VDC 3.9A MAX
Notes:	
1. The information of EUT was provided by the manufacturer, and the accuracy of the information shall be the responsibility of the manufacturer.	
2. The models are only the running speed different. As required by the manufacturer, we select Model No.: 051801E for testing in this report.	

1.5. Radio Specification under Test

Frequency Range	2402 ~ 2480MHz
Channel Number	40
Type of Modulation	GFSK
Data Rate	1Mbps & 2Mbps
Antenna Type	PCB Antenna
Antenna Gain	0.79dBi

1.6. Working Frequencies

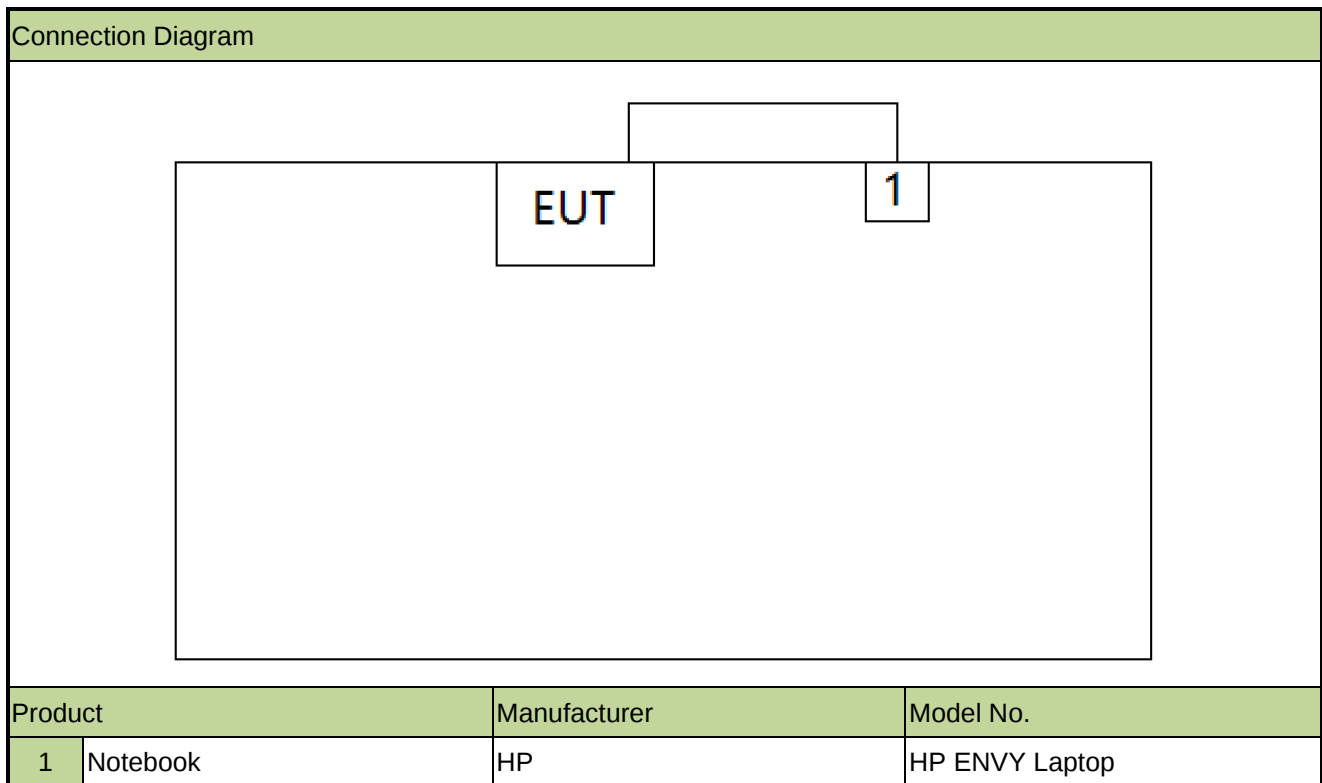
Channel	Frequency	Channel	Frequency	Channel	Frequency
00	2402 MHz	01	2404 MHz	02	2406 MHz
03	2408 MHz	04	2410 MHz	05	2412 MHz
06	2414 MHz	07	2416 MHz	08	2418 MHz
09	2420 MHz	10	2422 MHz	11	2424 MHz
12	2426 MHz	13	2428 MHz	14	2430 MHz
15	2432 MHz	16	2434 MHz	17	2436 MHz
18	2438 MHz	19	2440 MHz	20	2442 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
Mode 2: Transmit by BLE-2Mbps
Mode 3: Receive by BLE-1Mbps
Mode 4: Receive by BLE-2Mbps

2.2. Test System Connection Diagram



2.3. Test Software

The test utility software used during testing was "sscom.exe", and the version was 5.13.1.

2.4. Test Environment Condition

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

3. Measuring Instrument

Instrument Name	Manufacturer	Model No.	Asset No.	Cali. Interval	Cal. Due Date	Test Site
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2024-12-21	SIP-AC1
Thermohygrometer	testo	608-H1	MRTSUE06616	1 year	2024-10-28	SIP-AC1
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06645	1 year	2025-07-05	SIP-AC1
EMI Test Receiver	R&S	ESR3	MRTSUE06185	1 year	2024-12-17	SIP-AC1
Signal Analyzer	Keysight	N9010B	MRTSUE07028	1 year	2024-10-23	SIP-AC2
Thermohygrometer	testo	608-H1	MRTSUE06622	1 year	2024-11-03	SIP-AC2
TRILOG Antenna	Schwarzbeck	VULB 9168	MRTSUE06647	1 year	2025-06-15	SIP-AC2
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2024-12-21	SIP-AC2
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06648	1 year	2024-10-21	SIP-AC2

Software	Version	Function
e3	230711	RE & CE
Controller_MF 7802BS	1.02	RE Antenna & Turntable

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 measurement uncertainty levels have been estimated for tests performed on the apparatus: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

Parameter	Uncertainty
All Emissions, Radiated	6 dB
Temperature	3 °C
Humidity	5 %
DC and Low Frequency Voltages	3 %
Time	5 %

5. Test Result

5.1. Summary

Standard Clause	Test Parameter	Verdict
4.3.2.9	Transmitter Unwanted Emissions in the Spurious Domain	Pass
4.3.2.10	Receiver Spurious Emissions	Pass

5.2. Transmitter Unwanted Emissions in the Spurious Domain Measurement

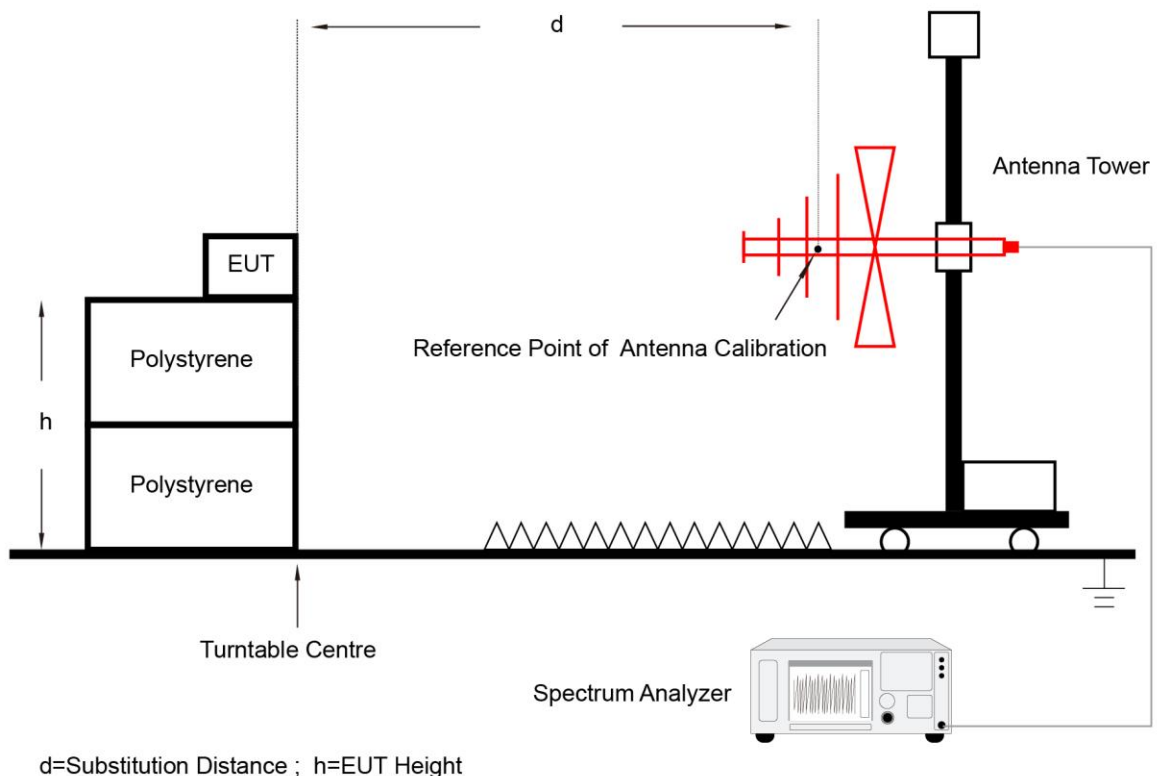
5.2.1. Test Limit

These limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.

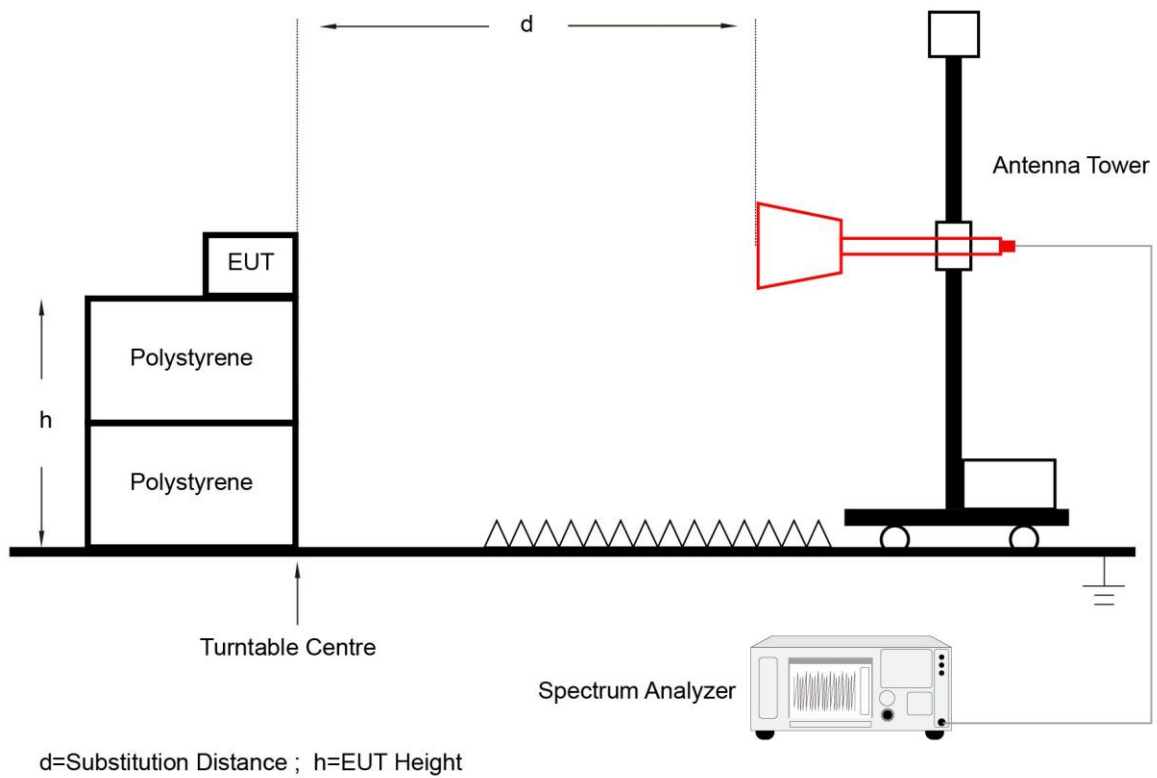
Transmitter Limits for Spurious Emissions		
Frequency Range	Maximum Power	Bandwidth
30 MHz to 47 MHz	-36dBm	100 kHz
47 MHz to 74 MHz	-54dBm	100 kHz
74 MHz to 87,5 MHz	-36dBm	100 kHz
87,5 MHz to 118 MHz	-54dBm	100 kHz
118 MHz to 174 MHz	-36dBm	100 kHz
174 MHz to 230 MHz	-54dBm	100 kHz
230 MHz to 470 MHz	-36dBm	100 kHz
470 MHz to 694 MHz	-54dBm	100 kHz
694 MHz to 1 GHz	-36dBm	100 kHz
1 GHz to 12,75 GHz	-30dBm	1 MHz

5.2.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.2.3. Test Procedure

Refer to EN 300 328 V2.2.2 (2019-07) Clause 5.4.9.2.2.

5.2.4. Test Result

Test Site	SIP-AC1 & SIP-AC2	Test Engineer	Barry Wu
Test Date	2024-07-30	Test Mode	BLE-1Mbps

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
00	176.8	-100.8	29.3	-71.5	-54.0	-17.5	Peak	Horizontal
	724.8	-105.0	34.6	-70.4	-54.0	-16.4	Peak	Horizontal
	67.8	-98.3	26.4	-71.9	-54.0	-17.9	Peak	Vertical
	812.8	-105.1	35.5	-69.6	-54.0	-15.6	Peak	Vertical
	7459.0	-62.6	10.8	-51.8	-30.0	-21.8	Peak	Horizontal
	10871.2	-63.6	16.0	-47.6	-30.0	-17.6	Peak	Horizontal
	7095.9	-62.1	10.3	-51.8	-30.0	-21.8	Peak	Vertical
	11444.6	-65.4	17.8	-47.6	-30.0	-17.6	Peak	Vertical
39	174.8	-98.4	29.5	-68.9	-54.0	-14.9	Peak	Horizontal
	727.8	-104.3	34.5	-69.8	-54.0	-15.8	Peak	Horizontal
	67.8	-99.1	26.4	-72.7	-54.0	-18.7	Peak	Vertical
	805.5	-104.9	35.5	-69.4	-54.0	-15.4	Peak	Vertical
	7081.8	-62.6	10.3	-52.3	-30.0	-22.3	Peak	Horizontal
	10911.1	-64.2	16.2	-48.0	-30.0	-18.0	Peak	Horizontal
	7943.1	-63.6	12.1	-51.5	-30.0	-21.5	Peak	Vertical
	11531.5	-64.9	17.7	-47.2	-30.0	-17.2	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: For emission below 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

For emission above 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) -

Pre_Amplifier Gain (dB)

Note 3: Test Distance "d" = 3m, Test height "h" = 1.5m

Test Site	SIP-AC1 & SIP-AC2	Test Engineer	Barry Wu
Test Date	2024-07-30	Test Mode	BLE-2Mbps

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
00	67.8	-98.4	24.0	-74.4	-54.0	-20.4	Peak	Horizontal
	177.0	-100.3	29.3	-71.0	-54.0	-17.0	Peak	Horizontal
	94.7	-106.6	31.1	-75.5	-54.0	-21.5	Peak	Vertical
	792.6	-106.6	35.5	-71.1	-54.0	-17.1	Peak	Vertical
	8283.8	-63.5	12.1	-51.4	-30.0	-21.4	Peak	Horizontal
	11114.4	-63.8	16.9	-46.9	-30.0	-16.9	Peak	Horizontal
	7733.9	-63.0	11.1	-51.9	-30.0	-21.9	Peak	Vertical
	11448.1	-65.3	17.9	-47.4	-30.0	-17.4	Peak	Vertical
39	175.2	-99.7	29.4	-70.3	-54.0	-16.3	Peak	Horizontal
	705.5	-105.1	34.8	-70.3	-54.0	-16.3	Peak	Horizontal
	99.7	-105.8	31.2	-74.6	-54.0	-20.6	Peak	Vertical
	757.5	-105.4	35.5	-69.9	-54.0	-15.9	Peak	Vertical
	7349.7	-62.0	10.5	-51.5	-30.0	-21.5	Peak	Horizontal
	10918.2	-64.1	16.2	-47.9	-30.0	-17.9	Peak	Horizontal
	7262.8	-62.9	10.8	-52.1	-30.0	-22.1	Peak	Vertical
	11949.8	-64.7	17.3	-47.4	-30.0	-17.4	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: For emission below 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

For emission above 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) -

Pre_Amplifier Gain (dB)

Note 3: Test Distance "d" = 3m, Test height "h" = 1.5m

5.3. Receiver Spurious Emissions Measurement

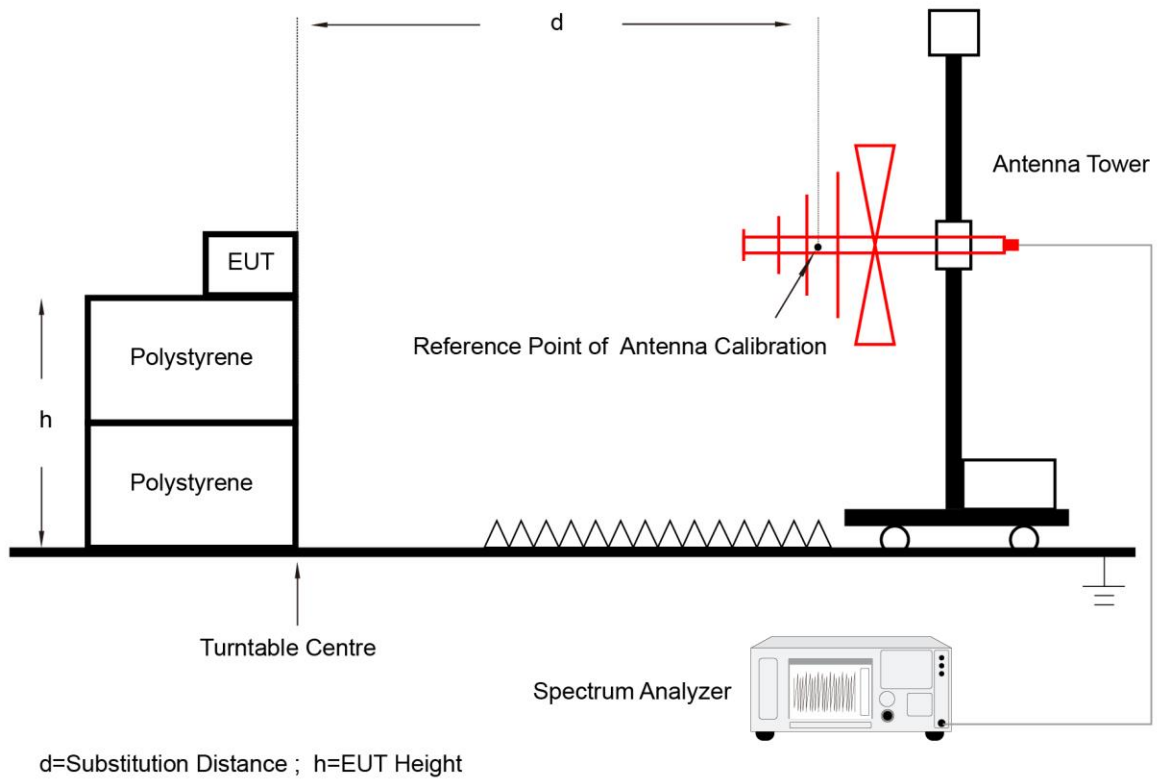
5.3.1. Test Limit

These limits are ERP for emissions up to 1 GHz and EIRP for emissions above 1 GHz.

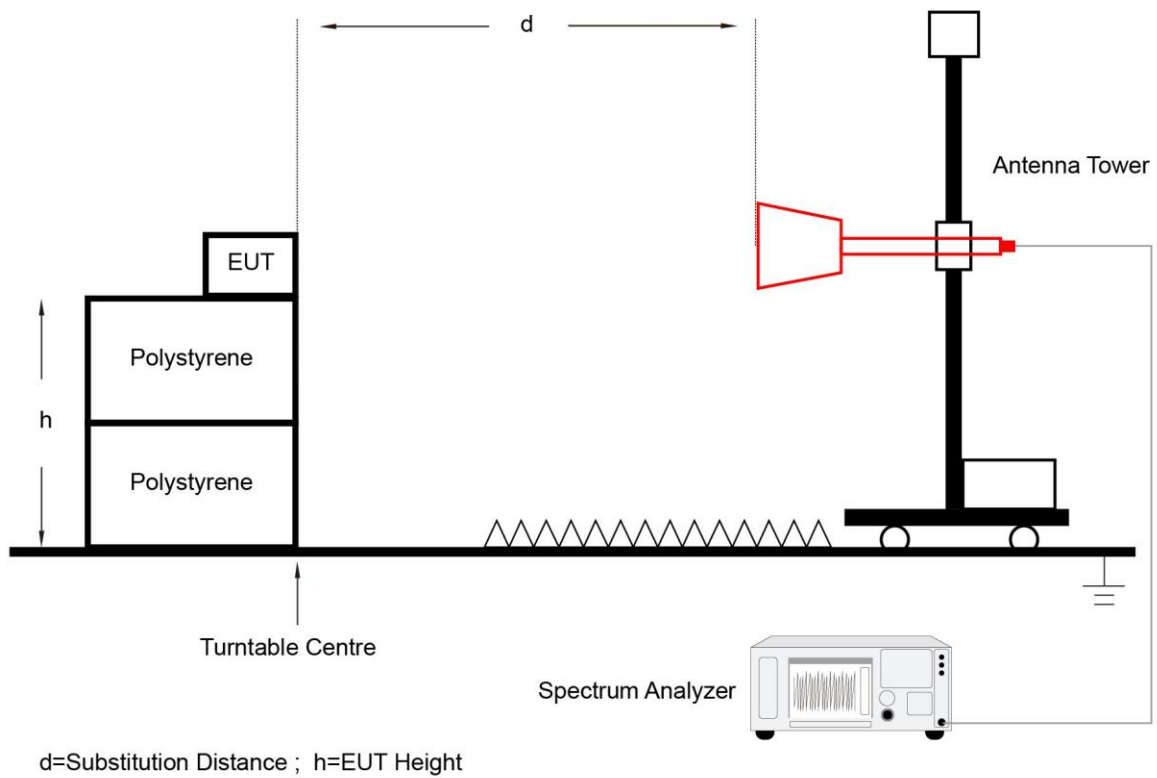
Spurious emissions limits for receivers		
Frequency Range	Maximum Power	Measurement bandwidth
30 MHz to 1 GHz	-57dBm	100 kHz
1 GHz to 12.75 GHz	-47dBm	1 MHz

5.3.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.3.3. Test Procedure

Refer to EN 300 328 V2.2.2 (2019-07) Clause 5.4.10.2.2.

5.3.4. Test Result

Test Site	SIP-AC1 & SIP-AC2	Test Engineer	Barry Wu
Test Date	2024-07-30	Test Mode	BLE-1Mbps

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
00	161.0	-96.0	28.9	-67.1	-57.0	-10.1	Peak	Horizontal
	882.3	-105.7	35.8	-69.9	-57.0	-12.9	Peak	Horizontal
	159.4	-101.2	28.0	-73.2	-57.0	-16.2	Peak	Vertical
	937.2	-105.9	37.1	-68.8	-57.0	-11.8	Peak	Vertical
	2982.2	-58.1	-0.4	-58.5	-47.0	-11.5	Peak	Horizontal
	5527.3	-60.7	5.3	-55.4	-47.0	-8.4	Peak	Horizontal
	1921.2	-56.7	-2.4	-59.1	-47.0	-12.1	Peak	Vertical
	4839.9	-60.6	4.0	-56.6	-47.0	-9.6	Peak	Vertical
39	162.6	-95.5	29.1	-66.4	-57.0	-9.4	Peak	Horizontal
	978.5	-105.3	37.4	-67.9	-57.0	-10.9	Peak	Horizontal
	645.8	-105.4	33.6	-71.8	-57.0	-14.8	Peak	Vertical
	938.2	-106.0	37.2	-68.8	-57.0	-11.8	Peak	Vertical
	1920.0	-54.7	-2.8	-57.5	-47.0	-10.5	Peak	Horizontal
	3462.8	-58.9	0.5	-58.4	-47.0	-11.4	Peak	Horizontal
	2310.1	-57.6	-0.9	-58.5	-47.0	-11.5	Peak	Vertical
	4628.4	-60.6	3.5	-57.1	-47.0	-10.1	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: For emission below 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

For emission above 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) -

Pre_Amplifier Gain (dB)

Note 3: Test Distance "d" = 3m, Test height "h" = 1.5m

Test Site	SIP-AC1 & SIP-AC2	Test Engineer	Barry Wu
Test Date	2024-07-30	Test Mode	BLE-2Mbps

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
00	161.5	-96.1	29.0	-67.1	-57.0	-10.1	Peak	Horizontal
	835.7	-105.1	35.9	-69.2	-57.0	-12.2	Peak	Horizontal
	742.0	-106.3	35.1	-71.2	-57.0	-14.2	Peak	Vertical
	939.8	-105.9	37.2	-68.7	-57.0	-11.7	Peak	Vertical
	1920.0	-55.4	-2.8	-58.2	-47.0	-11.2	Peak	Horizontal
	4616.7	-60.0	3.5	-56.5	-47.0	-9.5	Peak	Horizontal
	1920.0	-56.1	-2.4	-58.5	-47.0	-11.5	Peak	Vertical
	5167.7	-61.1	5.1	-56.0	-47.0	-9.0	Peak	Vertical
39	163.1	-95.5	29.1	-66.4	-57.0	-9.4	Peak	Horizontal
	948.4	-106.7	37.3	-69.4	-57.0	-12.4	Peak	Horizontal
	598.3	-106.0	33.5	-72.5	-57.0	-15.5	Peak	Vertical
	961.5	-106.0	37.3	-68.7	-57.0	-11.7	Peak	Vertical
	1920.0	-53.8	-2.8	-56.6	-47.0	-9.6	Peak	Horizontal
	5653.0	-60.7	5.7	-55.0	-47.0	-8.0	Peak	Horizontal
	2284.3	-57.5	-0.4	-57.9	-47.0	-10.9	Peak	Vertical
	5745.8	-61.7	6.1	-55.6	-47.0	-8.6	Peak	Vertical

Note 1: Measure Level (dBm) = Reading Level (dBm) + Substitution Factor (dB)

Note 2: For emission below 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) - 2.15 (dB)

For emission above 1GHz:

Substitution Factor (dB) = Cable Loss (dB) + Space Attenuation (dB) - Antenna Gain (dBi) -
Pre_Amplifier Gain (dB)

Note 3: Test Distance "d" = 3m, Test height "h" = 1.5m

Appendix A - Test Setup Photograph

Refer to “2407RSU022-ET” file.

Appendix B - EUT Photograph

Refer to “2407RSU022-EE” file.

_____ The End _____