

MEASUREMENT REPORT

ETSI EN 300 440 V2.2.1 WLAN 802.11a/n/ac

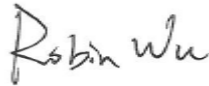
Applicant: Escape bv
Address: Ter Heidelaan 50A, 3200 Aarschot, Belgium
Product: Portable Indoor/Outdoor Wireless Speaker System
Model No.: Escape P6 AIR
Brand Name: ESCAPE
Standards: EN 300 440 V2.2.1 (2018-07) Clause 4.2.4 & 4.3.5
AS/NZS 4268: 2017 Clause 6.4 & 7.2
Result: Complies
Test Date: August 04 ~ 06, 2020

Reviewed By:



Kevin Guo

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.

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
2005RSU005-E4	Rev. 01	Initial Report	02-10-2021	Valid

Note: This device integrated a module which has been certified, this report only evaluated the “Transmitter Spurious Emissions” and “Receiver Spurious Emissions” test items.

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1. General Information

1.1. Applicant

Escape bv

Ter Heidelaan 50A, 3200 Aarschot, Belgium

1.2. Manufacturer

Escape bv

Ter Heidelaan 50A, 3200 Aarschot, Belgium

1.3. Testing Facility

<input checked="" type="checkbox"/>	<p>Test Site – MRT Suzhou Laboratory</p> <p>Laboratory Location (Suzhou - Wuzhong) D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China</p> <p>Laboratory Location (Suzhou - SIP) 4b Building, Liando U Valley, No.200 Xingpu Rd., Shengpu Town, Suzhou Industrial Park, China</p> <p>Laboratory Accreditations</p> <table border="0" style="width: 100%;"> <tr> <td>A2LA: 3628.01</td> <td>CNAS: L10551</td> </tr> <tr> <td>FCC: CN1166</td> <td>ISED: CN0001</td> </tr> <tr> <td colspan="2">VCCI: R-20025, G-20034, C-20020, T-20020</td> </tr> </table>	A2LA: 3628.01	CNAS: L10551	FCC: CN1166	ISED: CN0001	VCCI: R-20025, G-20034, C-20020, T-20020	
A2LA: 3628.01	CNAS: L10551						
FCC: CN1166	ISED: CN0001						
VCCI: R-20025, G-20034, C-20020, T-20020							
<input type="checkbox"/>	<p>Test Site – MRT Shenzhen Laboratory</p> <p>Laboratory Location (Shenzhen) 1G, Building A, Junxiangda Building, Zhongshanyuan Road West, Nanshan District, Shenzhen, China</p> <p>Laboratory Accreditations</p> <table border="0" style="width: 100%;"> <tr> <td>A2LA: 3628.02</td> <td>CNAS: L10551</td> </tr> <tr> <td>FCC: CN1284</td> <td>ISED: CN0105</td> </tr> </table>	A2LA: 3628.02	CNAS: L10551	FCC: CN1284	ISED: CN0105		
A2LA: 3628.02	CNAS: L10551						
FCC: CN1284	ISED: CN0105						
<input type="checkbox"/>	<p>Test Site – MRT Taiwan Laboratory</p> <p>Laboratory Location (Taiwan) No. 38, Fuxing 2nd Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)</p> <p>Laboratory Accreditations</p> <table border="0" style="width: 100%;"> <tr> <td>TAF: L3261-190725</td> <td></td> </tr> <tr> <td>FCC: 291082, TW3261</td> <td>ISED: TW3261</td> </tr> </table>	TAF: L3261-190725		FCC: 291082, TW3261	ISED: TW3261		
TAF: L3261-190725							
FCC: 291082, TW3261	ISED: TW3261						

1.4. Feature of Equipment under Test

Product Name:	Portable Indoor/Outdoor Wireless Speaker System
Model No.:	Escape P6 AIR
Brand Name:	ESCAPE
Wi-Fi Specification:	802.11a/b/g/n/ac
Bluetooth Specification:	Bluetooth v4.0 (Single mode for BR/EDR)

1.5. Product Specification Subjective to this Report

Frequency Range:	802.11a/n-HT20/ac-VHT20: 5745~5825MHz 802.11n-HT40/ac-VHT40: 5755~5795MHz 802.11ac-VHT80: 5775MHz
Channel Number:	802.11a/n-HT20/ac-VHT20: 5 802.11n-HT40/ac-VHT40: 2 802.11ac-VHT80: 1
Type of Modulation:	802.11a/n/ac: OFDM
Data Rate	802.11a: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 150Mbps 802.11ac: up to 433.3Mbps
Antenna Type:	PIFA Antenna
Antenna Gain:	3.00dBi

Note 1: For other features of this EUT, test report will be issued separately.

Note 2: Above antenna information (antenna type and gain) was provided by applicant.

1.6. Operation Frequency / Channel List

802.11a/n-HT20/ac-VHT20

Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745 MHz	153	5765 MHz	157	5785 MHz
161	5805 MHz	165	5825 MHz	--	--

802.11n-HT40/ac-VHT40

Channel	Frequency	Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz	--	--

802.11ac-VHT80

Channel	Frequency	Channel	Frequency	Channel	Frequency
155	5775 MHz	--	--	--	--

1.7. Standards Applicable for Testing

The EUT complies with the requirements of ETSI EN 300 440 V2.2.1 Clause 4.2.4 & 4.3.5 and AS/NZS 4268: 2017 Clause 6.4 & 7.2.

2. Test Configuration of Equipment under Test

2.1. Test Mode

Test Mode
Mode 1: Transmit by 802.11a (6Mbps)
Mode 2: Transmit by 802.11n-HT20 (MCS0)
Mode 3: Transmit by 802.11n-HT40 (MCS0)
Mode 4: Transmit by 802.11ac-VHT20 (MCS0)
Mode 5: Transmit by 802.11ac-VHT40 (MCS0)
Mode 6: Transmit by 802.11ac-VHT80 (MCS0)
Mode 7: Receive by 802.11a
Mode 8: Receive by 802.11n-HT20
Mode 9: Receive by 802.11n-HT40
Mode 10: Receive by 802.11ac-VHT20
Mode 11: Receive by 802.11ac-VHT40
Mode 12: Receive by 802.11ac-VHT80

2.2. Description of Test Software

The test utility software used during testing was "Tera term", and the version was "V4.85".

2.1. Test Environment Condition

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

3. Test Summary

Clause EN 300440	Test Parameter	Result (Pass/Fail)	Remark
4.2.4	Transmitter Unwanted Emissions	Pass	--
4.3.5	Receiver Spurious Emissions	Pass	--

Note: For radiated spurious emission test, every axis (X, Y, Z) was also verified. The test results shown in the following sections represent the worst-case emissions.

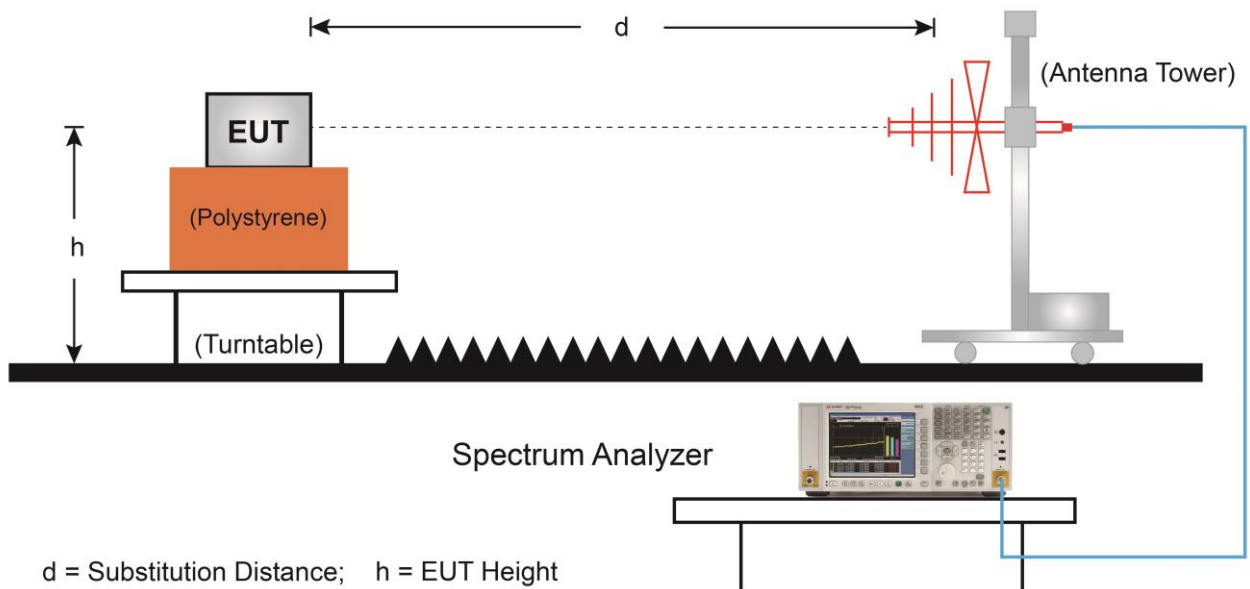
4. Transmitter Spurious Emissions

4.1. Limit

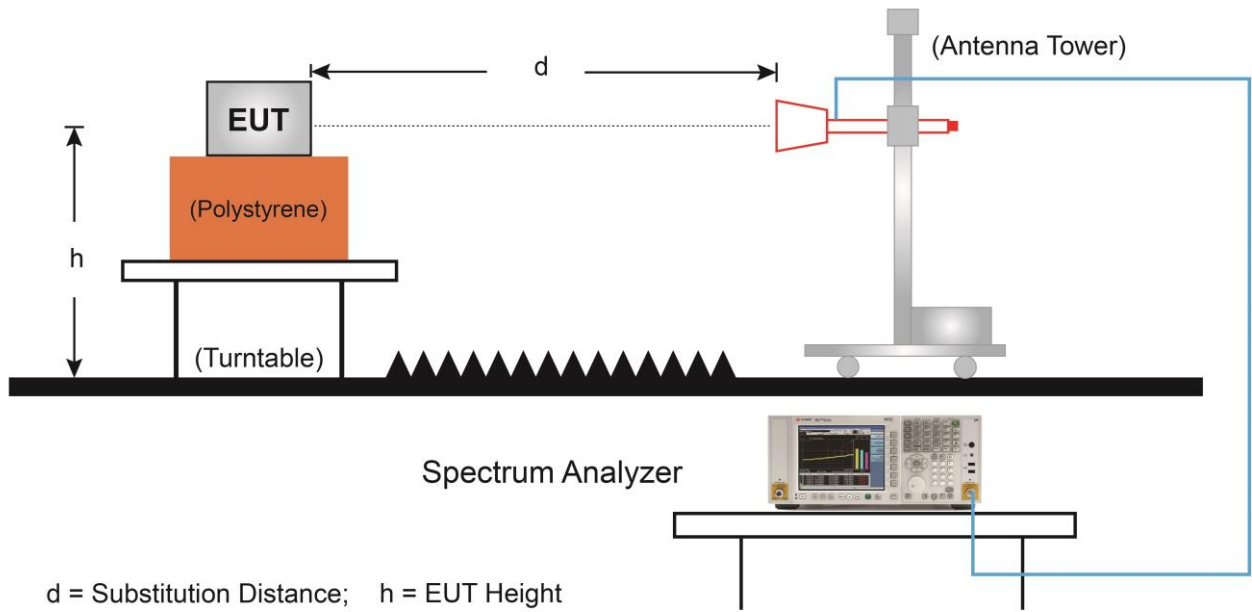
Radiated Spurious Emissions for Transmitter			
State	47 MHz to 74 MHz 87.5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other frequencies ≤1000 MHz	Frequencies >1000 MHz
Operating	4 nW	250 nW	1 uW
Standby	2 nW	2 nW	20 nW

4.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



4.3. Test Procedure

Refer to EN 300 440 V2.2.1 (2018-07) Clause 4.2.4.3.3.

4.4. Test Result

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11a

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	62.5	-84.8	20.9	-63.9	-54.0	-9.9	Peak	Horizontal
	720.2	-100.0	33.7	-66.3	-54.0	-12.3	Peak	Horizontal
	63.0	-85.7	21.8	-63.9	-54.0	-9.9	Peak	Vertical
	827.9	-103.1	34.9	-68.2	-54.0	-14.2	Peak	Vertical
	7604.5	-55.2	7.3	-47.9	-30.0	-17.9	Peak	Horizontal
	9882.5	-56.8	8.3	-48.5	-30.0	-18.5	Peak	Horizontal
	7111.5	-55.8	6.7	-49.1	-30.0	-19.1	Peak	Vertical
	9381.0	-57.3	8.4	-48.9	-30.0	-18.9	Peak	Vertical
165	62.5	-88.3	20.9	-67.4	-54.0	-13.4	Peak	Horizontal
	720.2	-101.1	33.7	-67.4	-54.0	-13.4	Peak	Horizontal
	65.0	-85.0	22.0	-63.0	-54.0	-9.0	Peak	Vertical
	515.9	-99.0	29.7	-69.3	-54.0	-15.3	Peak	Vertical
	8463.0	-55.9	7.8	-48.1	-30.0	-18.1	Peak	Horizontal
	11200.0	-55.6	8.7	-46.9	-30.0	-16.9	Peak	Horizontal
	8259.0	-55.8	7.6	-48.2	-30.0	-18.2	Peak	Vertical
	9772.0	-57.4	8.7	-48.7	-30.0	-18.7	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11n-HT20

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	65.0	-87.9	20.7	-67.2	-54.0	-13.2	Peak	Horizontal
	720.2	-100.5	33.7	-66.8	-54.0	-12.8	Peak	Horizontal
	64.0	-83.8	21.8	-62.0	-54.0	-8.0	Peak	Vertical
	515.9	-98.4	29.7	-68.7	-54.0	-14.7	Peak	Vertical
	7196.5	-55.6	6.4	-49.2	-30.0	-19.2	Peak	Horizontal
	8565.0	-55.8	7.6	-48.2	-30.0	-18.2	Peak	Horizontal
	8437.5	-55.7	7.7	-48.0	-30.0	-18.0	Peak	Vertical
	11242.5	-56.9	9.3	-47.6	-30.0	-17.6	Peak	Vertical
165	62.5	-85.1	20.9	-64.2	-54.0	-10.2	Peak	Horizontal
	720.2	-100.4	33.7	-66.7	-54.0	-12.7	Peak	Horizontal
	62.5	-84.1	21.8	-62.3	-54.0	-8.3	Peak	Vertical
	515.9	-98.6	29.7	-68.9	-54.0	-14.9	Peak	Vertical
	8412.0	-48.6	7.9	-56.5	-30.0	-18.6	Peak	Horizontal
	9857.0	-48.9	8.4	-57.2	-30.0	-18.9	Peak	Horizontal
	8497.0	-48.7	7.7	-56.4	-30.0	-18.7	Peak	Vertical
	11030.0	-48.3	9.0	-57.3	-30.0	-18.3	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11n-HT40

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
151	62.5	-87.8	20.9	-66.9	-54.0	-12.9	Peak	Horizontal
	720.2	-102.7	33.7	-69.0	-54.0	-15.0	Peak	Horizontal
	73.3	-86.8	24.4	-62.4	-54.0	-8.4	Peak	Vertical
	515.9	-98.4	29.7	-68.7	-54.0	-14.7	Peak	Vertical
	8531.0	-56.4	7.5	-48.9	-30.0	-18.9	Peak	Horizontal
	11234.0	-56.7	9.3	-47.4	-30.0	-17.4	Peak	Horizontal
	8726.5	-57.1	8.2	-48.9	-30.0	-18.9	Peak	Vertical
	11931.0	-56.4	9.7	-46.7	-30.0	-16.7	Peak	Vertical
159	62.1	-88.8	21.0	-67.8	-54.0	-13.8	Peak	Horizontal
	720.2	-100.5	33.7	-66.8	-54.0	-12.8	Peak	Horizontal
	65.0	-83.6	22.0	-61.6	-54.0	-7.6	Peak	Vertical
	515.9	-98.9	29.7	-69.2	-54.0	-15.2	Peak	Vertical
	9840.0	-55.2	8.1	-47.1	-30.0	-17.1	Peak	Horizontal
	11480.5	-56.6	9.4	-47.2	-30.0	-17.2	Peak	Horizontal
	9313.0	-57.1	8.1	-49.0	-30.0	-19.0	Peak	Vertical
	11438.0	-56.6	9.2	-47.4	-30.0	-17.4	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT20

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	62.1	-85.7	21.0	-64.7	-54.0	-10.7	Peak	Horizontal
	720.2	-100.7	33.7	-67.0	-54.0	-13.0	Peak	Horizontal
	87.9	-96.2	34.6	-61.6	-54.0	-7.6	Peak	Vertical
	515.9	-99.1	29.7	-69.4	-54.0	-15.4	Peak	Vertical
	7290.0	-55.8	6.2	-49.6	-30.0	-19.6	Peak	Horizontal
	8446.0	-56.3	7.8	-48.5	-30.0	-18.5	Peak	Horizontal
	8845.5	-57.3	8.3	-49.0	-30.0	-19.0	Peak	Vertical
	11191.5	-56.3	8.9	-47.4	-30.0	-17.4	Peak	Vertical
165	62.5	-87.2	20.9	-66.3	-54.0	-12.3	Peak	Horizontal
	720.2	-99.9	33.7	-66.2	-54.0	-12.2	Peak	Horizontal
	71.8	-87.9	23.7	-64.2	-54.0	-10.2	Peak	Vertical
	515.9	-98.6	29.7	-68.9	-54.0	-14.9	Peak	Vertical
	8480.0	-56.6	7.7	-48.9	-30.0	-18.9	Peak	Horizontal
	11259.5	-56.9	9.3	-47.6	-30.0	-17.6	Peak	Horizontal
	8582.0	-56.4	7.8	-48.6	-30.0	-18.6	Peak	Vertical
	9755.0	-56.9	8.5	-48.4	-30.0	-18.4	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT40

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
151	62.1	-88.1	21.0	-67.1	-54.0	-13.1	Peak	Horizontal
	720.2	-100.8	33.7	-67.1	-54.0	-13.1	Peak	Horizontal
	72.3	-87.6	24.0	-63.6	-54.0	-9.6	Peak	Vertical
	515.9	-98.7	29.7	-69.0	-54.0	-15.0	Peak	Vertical
	8437.5	-56.6	7.9	-48.7	-30.0	-18.7	Peak	Horizontal
	11234.0	-57.2	9.3	-47.9	-30.0	-17.9	Peak	Horizontal
	9678.5	-56.8	8.3	-48.5	-30.0	-18.5	Peak	Vertical
	11157.5	-56.3	9.3	-47.0	-30.0	-17.0	Peak	Vertical
159	62.1	-89.1	21.0	-68.1	-54.0	-14.1	Peak	Horizontal
	720.2	-100.1	33.7	-66.4	-54.0	-12.4	Peak	Horizontal
	62.1	-86.8	21.8	-65.0	-54.0	-11.0	Peak	Vertical
	89.8	-94.3	33.7	-60.6	-54.0	-6.6	Peak	Vertical
	8556.5	-56.4	7.6	-48.8	-30.0	-18.8	Peak	Horizontal
	9857.0	-57.0	8.4	-48.6	-30.0	-18.6	Peak	Horizontal
	8709.5	-56.4	8.1	-48.3	-30.0	-18.3	Peak	Vertical
	11973.5	-55.8	9.9	-45.9	-30.0	-15.9	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT80

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
155	66.0	-87.9	20.7	-67.2	-54.0	-13.2	Peak	Horizontal
	720.2	-101.5	33.7	-67.8	-54.0	-13.8	Peak	Horizontal
	87.9	-96.1	34.6	-61.5	-54.0	-7.5	Peak	Vertical
	515.9	-98.1	29.7	-68.4	-54.0	-14.4	Peak	Vertical
	8828.5	-57.2	8.2	-49.0	-30.0	-19.0	Peak	Horizontal
	11548.5	-56.1	9.7	-46.4	-30.0	-16.4	Peak	Horizontal
	8556.5	-56.6	7.8	-48.8	-30.0	-18.8	Peak	Vertical
	12823.5	-57.6	10.8	-46.8	-30.0	-16.8	Peak	Vertical

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

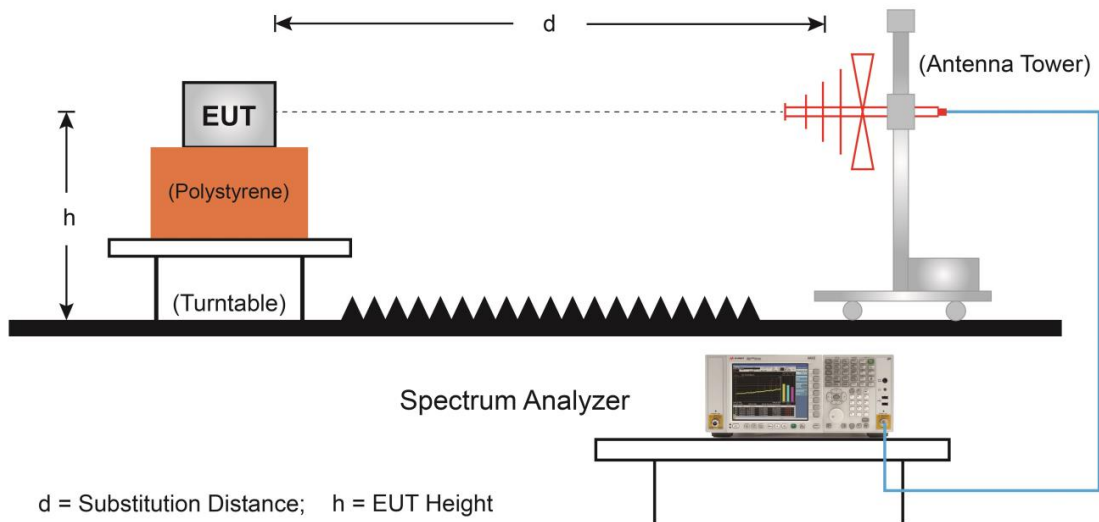
5. Receiver Spurious Emissions

5.1. Limit

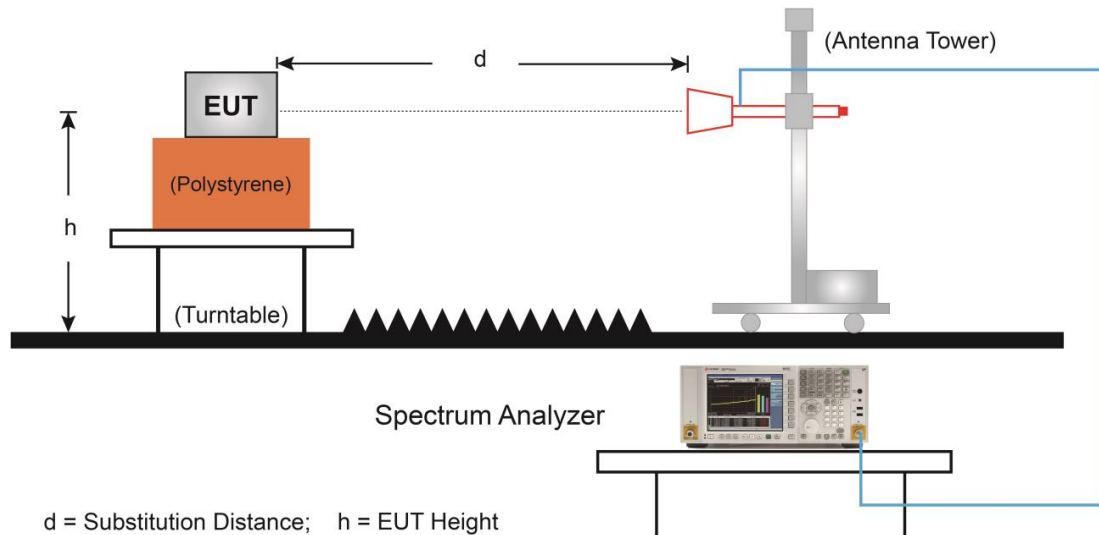
The power of any spurious emission shall not exceed 2 nW in the range 25 MHz to 1 GHz and shall not exceed 20 nW on frequencies above 1 GHz.

5.2. Test Setup

Below 1GHz Test Setup:



Above 1GHz Test Setup:



5.3. Test Procedure

Refer to EN 300 440 V2.2.1 (2018-07) Clause 4.3.5.3.3.

5.4. Test Result

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11a

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	68.4	-90.2	20.8	-69.4	-57.0	-12.4	Peak	Horizontal
	513.5	-99.6	30.6	-69.0	-57.0	-12.0	Peak	Horizontal
	68.4	-88.1	22.9	-65.2	-57.0	-8.2	Peak	Vertical
	281.4	-88.8	25.8	-63.0	-57.0	-6.0	Peak	Vertical
	1918.0	-47.9	-6.6	-54.5	-47.0	-7.5	Peak	Horizontal
	2878.5	-51.9	-3.2	-55.1	-47.0	-8.1	Peak	Horizontal
	1918.0	-49.9	-6.4	-56.3	-47.0	-9.3	Peak	Vertical
	2878.5	-50.7	-3.2	-53.9	-47.0	-6.9	Peak	Vertical
165	50.4	-93.8	25.8	-68.0	-57.0	-11.0	Peak	Horizontal
	718.7	-100.5	33.7	-66.8	-57.0	-9.8	Peak	Horizontal
	55.2	-87.0	20.7	-66.3	-57.0	-9.3	Peak	Vertical
	365.3	-89.6	26.6	-63.0	-57.0	-6.0	Peak	Vertical
	1918.0	-48.8	-6.6	-55.4	-47.0	-8.4	Peak	Horizontal
	2878.5	-52.7	-3.2	-55.9	-47.0	-8.9	Peak	Horizontal
	1918.0	-49.3	-6.4	-55.7	-47.0	-8.7	Peak	Vertical
	2878.5	-51.0	-3.2	-54.2	-47.0	-7.2	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11n-HT20

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	57.2	-88.4	21.5	-66.9	-57.0	-9.9	Peak	Horizontal
	859.6	-101.2	34.3	-66.9	-57.0	-9.9	Peak	Horizontal
	70.8	-87.6	23.5	-64.1	-57.0	-7.1	Peak	Vertical
	264.4	-87.3	23.9	-63.4	-57.0	-6.4	Peak	Vertical
	1918.0	-47.3	-6.6	-53.9	-47.0	-6.9	Peak	Horizontal
	2878.5	-53.0	-3.2	-56.2	-47.0	-9.2	Peak	Horizontal
	1918.0	-49.9	-6.4	-56.3	-47.0	-9.3	Peak	Vertical
	2878.5	-51.1	-3.2	-54.3	-47.0	-7.3	Peak	Vertical
165	68.4	-89.8	20.8	-69.0	-57.0	-12.0	Peak	Horizontal
	365.3	-97.7	27.2	-70.5	-57.0	-13.5	Peak	Horizontal
	124.9	-92.3	24.6	-67.7	-57.0	-10.7	Peak	Vertical
	414.5	-95.2	27.4	-67.8	-57.0	-10.8	Peak	Vertical
	1918.0	-48.4	-6.6	-55.0	-47.0	-8.0	Peak	Horizontal
	3847.5	-52.6	-1.4	-54.0	-47.0	-7.0	Peak	Horizontal
	1918.0	-47.9	-6.4	-54.3	-47.0	-7.3	Peak	Vertical
	2878.5	-51.7	-3.2	-54.9	-47.0	-7.9	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11n-HT40

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
151	77.7	-89.2	19.1	-70.1	-57.0	-13.1	Peak	Horizontal
	515.9	-100.5	30.7	-69.8	-57.0	-12.8	Peak	Horizontal
	61.1	-87.7	21.5	-66.2	-57.0	-9.2	Peak	Vertical
	368.7	-89.8	26.5	-63.3	-57.0	-6.3	Peak	Vertical
	1892.5	-46.1	-7.8	-53.9	-47.0	-6.9	Peak	Horizontal
	3541.5	-54.3	-1.8	-56.1	-47.0	-9.1	Peak	Horizontal
	1918.0	-47.7	-6.4	-54.1	-47.0	-7.1	Peak	Vertical
	2878.5	-50.1	-3.2	-53.3	-47.0	-6.3	Peak	Vertical
159	74.2	-87.7	19.9	-67.8	-57.0	-10.8	Peak	Horizontal
	515.9	-99.6	30.7	-68.9	-57.0	-11.9	Peak	Horizontal
	61.6	-87.4	21.6	-65.8	-57.0	-8.8	Peak	Vertical
	417.9	-95.2	27.5	-67.7	-57.0	-10.7	Peak	Vertical
	1918.0	-47.8	-6.6	-54.4	-47.0	-7.4	Peak	Horizontal
	2870.0	-53.4	-3.2	-56.6	-47.0	-9.6	Peak	Horizontal
	1918.0	-48.1	-6.4	-54.5	-47.0	-7.5	Peak	Vertical
	3150.5	-53.5	-2.8	-56.3	-47.0	-9.3	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT20

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
149	74.7	-88.6	19.8	-68.8	-57.0	-11.8	Peak	Horizontal
	515.9	-100.2	30.7	-69.5	-57.0	-12.5	Peak	Horizontal
	79.6	-91.4	28.3	-63.1	-57.0	-6.1	Peak	Vertical
	313.1	-90.7	25.7	-65.0	-57.0	-8.0	Peak	Vertical
	1918.0	-47.3	-6.6	-53.9	-47.0	-6.9	Peak	Horizontal
	3363.0	-53.2	-3.2	-56.4	-47.0	-9.4	Peak	Horizontal
	2878.5	-50.3	-3.2	-53.5	-47.0	-6.5	Peak	Vertical
	3363.0	-53.2	-3.5	-56.7	-47.0	-9.7	Peak	Vertical
165	72.8	-88.8	20.1	-68.7	-57.0	-11.7	Peak	Horizontal
	515.9	-101.0	30.7	-70.3	-57.0	-13.3	Peak	Horizontal
	72.8	-88.7	24.2	-64.5	-57.0	-7.5	Peak	Vertical
	368.7	-89.7	26.5	-63.2	-57.0	-6.2	Peak	Vertical
	2921.0	-53.8	-2.9	-56.7	-47.0	-9.7	Peak	Horizontal
	3354.5	-53.7	-3.1	-56.8	-47.0	-9.8	Peak	Horizontal
	1918.0	-47.9	-6.4	-54.3	-47.0	-7.3	Peak	Vertical
	2878.5	-50.0	-3.2	-53.2	-47.0	-6.2	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT40

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
151	74.7	-88.0	19.8	-68.2	-57.0	-11.2	Peak	Horizontal
	156.6	-94.4	22.8	-71.6	-57.0	-14.6	Peak	Horizontal
	73.3	-87.7	24.4	-63.3	-57.0	-6.3	Peak	Vertical
	312.1	-89.5	25.8	-63.7	-57.0	-6.7	Peak	Vertical
	2768.0	-52.1	-3.8	-55.9	-47.0	-8.9	Peak	Horizontal
	3363.0	-52.6	-3.2	-55.8	-47.0	-8.8	Peak	Horizontal
	2878.5	-50.2	-3.2	-53.4	-47.0	-6.4	Peak	Vertical
	3533.0	-54.2	-2.0	-56.2	-47.0	-9.2	Peak	Vertical
159	74.2	-87.7	19.9	-67.8	-57.0	-10.8	Peak	Horizontal
	515.9	-99.6	30.7	-68.9	-57.0	-11.9	Peak	Horizontal
	61.6	-87.4	21.6	-65.8	-57.0	-8.8	Peak	Vertical
	417.9	-95.2	27.5	-67.7	-57.0	-10.7	Peak	Vertical
	2878.5	-52.8	-3.2	-56.0	-47.0	-9.0	Peak	Horizontal
	3465.0	-54.1	-2.1	-56.2	-47.0	-9.2	Peak	Horizontal
	1918.0	-47.2	-6.4	-53.6	-47.0	-6.6	Peak	Vertical
	3354.5	-53.7	-3.3	-57.0	-47.0	-10.0	Peak	Vertical

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

Test Site	SIP-AC2	Test Engineer	Tyler Yuan
Test Date	2020/08/04~2020/08/06	Test Mode	802.11ac-VHT80

Channel	Frequency (MHz)	Reading Level (dBm)	Substitution Factor (dB)	Measure Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Polarization
155	60.1	-90.9	21.0	-69.9	-57.0	-12.9	Peak	Horizontal
	75.7	-88.0	19.6	-68.4	-57.0	-11.4	Peak	Horizontal
	62.1	-87.3	21.8	-65.5	-57.0	-8.5	Peak	Vertical
	111.3	-91.5	27.0	-64.5	-57.0	-7.5	Peak	Vertical
	2878.5	-53.3	-3.2	-56.5	-47.0	-9.5	Peak	Horizontal
	3363.0	-52.5	-3.2	-55.7	-47.0	-8.7	Peak	Horizontal
	2878.5	-50.4	-3.2	-53.6	-47.0	-6.6	Peak	Vertical
	3227.0	-53.5	-2.7	-56.2	-47.0	-9.2	Peak	Vertical

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

6. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Radio Frequency	1×10^{-7}
RF power (conducted)	1.5 dB
Radiated emission of transmitter, valid to 26,5 GHz	6 dB
Radiated emission of transmitter, valid between 26,5 GHz and 66 GHz	8 dB
Radiated emission of receiver, valid to 26,5 GHz	6 dB
Radiated emission of receiver, valid between 26,5 GHz and 66 GHz	8 dB
Temperature	1 °C
Humidity	5 %
Voltage (dc)	1 %
Voltage (ac, < 10 kHz)	2 %

7. List of Measuring Instrument

Transmitter Spurious Emissions and Receiver Spurious Emissions (WZ-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	MRTSUE06001	1 year	2022/01/04
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06558	1 year	2021/07/23
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB 9168	MRTSUE06172	1 year	2021/08/08
Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06023	1 year	2021/09/27
Microwave System Amplifier	Agilent	83017A	MRTSUE06076	1 year	2021/11/14
Thermal Hygrometer	testo	608-H1	MRTSUE06403	1 year	2021/07/26
Anechoic Chamber	TDK	Chamber-AC1	MRTSUE06212	1 year	2021/04/30

Transmitter Spurious Emissions and Receiver Spurious Emissions (WZ-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
MXE EMI Receiver	Keysight	N9038A	MRTSUE06125	1 year	2021/07/02
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB 9162	MRTSUE06022	1 year	2021/05/26
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9120D	MRTSUE06171	1 year	2021/10/25
Broadband Coaxial Preamplifier	Schwarzbeck	BBV 9718	MRTSUE06176	1 year	2021/11/14
Thermal Hygrometer	Minggao	ETH529	MRTSUE06170	1 year	2021/12/08
Anechoic Chamber	RIKEN	Chamber-AC2	MRTSUE06213	1 year	2021/04/30

Transmitter Spurious Emissions and Receiver Spurious Emissions (SIP-AC1)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06645	1 year	2021/08/30
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06610	1 year	2021/08/30
Preamplifier	EMCI	EMC051845S E	MRTSUE06600	1 year	2021/11/12
Thermal Hygrometer	testo	608-H1	MRTSUE06620	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC1	MRTSUE06554	1 year	2021/12/24

Transmitter Spurious Emissions and Receiver Spurious Emissions (SIP-AC2)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06613	1 year	2021/07/02
MXA Signal Analyzer	Keysight	N9020B	MRTSUE06604	1 year	2021/09/26
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06646	1 year	2021/08/30
Horn Antenna	Schwarzbeck	BBHA9120D	MRTSUE06648	1 year	2021/11/26
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06599	1 year	2021/11/26
Preamplifier	EMCI	EMC051845SE	MRTSUE06644	1 year	2021/11/12
Preamplifier	EMCI	EMC184045SE	MRTSUE06602	1 year	2021/10/13
Thermal Hygrometer	testo	608-H1	MRTSUE06624	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC2	MRTSUE06781	1 year	2021/12/24

Transmitter Spurious Emissions and Receiver Spurious Emissions (SIP-AC3)

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTSUE06612	1 year	2021/07/02
EXA Signal Analyzer	Keysight	N9010B	MRTSUE06559	1 year	2021/07/23
Loop Antenna	Schwarzbeck	FMZB 1519	MRTSUE06025	1 year	2021/11/08
Bilog Period Antenna	Schwarzbeck	VULB9168	MRTSUE06647	1 year	2021/08/08
Double Ridged Horn Antenna	R&S	HF907	MRTSUE06611	1 year	2021/09/13
Horn Antenna	Schwarzbeck	BBHA9170	MRTSUE06598	1 year	2021/11/26
Preamplifier	EMCI	EMC012645SE	MRTSUE06642	1 year	2022/01/15
Preamplifier	EMCI	EMC184045SE	MRTSUE06641	1 year	2022/01/15
Thermal Hygrometer	testo	608-H1	MRTSUE06622	1 year	2021/12/03
Anechoic Chamber	RIKEN	SIP-AC3	MRTSUE06782	1 year	2021/12/24

Software	Version	Function
EMI Software	V3	EMI Test Software

The End

Appendix A - Test Setup Photograph

Refer to "2005RSU005-ET" file.

Appendix B - EUT Photograph

Refer to "2005RSU005-EE" file.