RF TEST REPORT

Product Name: Smart-hopping 1.4GHz USB AP

Model Name: RTX3300

FCC ID: T7HRTX3300

Issued For : RTX HONG KONG LTD

8TH FL CORPORATION SQUARE, 8 LAM LOK ST., KOWLOON BAY, HK.

Issued By : Shenzhen LGT Test Service Co., Ltd.

Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China

Report Number:	LGT23B032H01
Sample Received Date:	Feb. 16, 2023
Date of Tested:	Feb. 16, 2023 –Feb. 28, 2023
Date of Issue:	May. 16, 2023

The test report is effective only with both signature and specialized stamp. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report only apply to the tested sample.

TEST REPORT CERTIFICATION

Applicant	RTX HONG KONG LTD
Address	8TH FL CORPORATION SQUARE, 8 LAM LOK ST., KOWLOON BAY, HK.
Manufacturer	RTX HONG KONG LTD
Address	8TH FL CORPORATION SQUARE, 8 LAM LOK ST., KOWLOON BAY, HK.
Product Name	Smart-hopping 1.4GHz USB AP
Trademark	PHILIPS
Model Name	RTX3300
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR §2.1091	PASS

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Revision History

Rev.	Issue Date	Contents
00	May. 16, 2023	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td colspan="3">Smart-hopping 1.4GHz USB AP</td></tr>
<tr><td>Brand Name</td><td colspan="3">PHILIPS</td></tr>
<tr><td>Model Name</td><td colspan="3">RTX3300</td></tr>
<tr><td>Series Model</td><td colspan="3">N/A</td></tr>
<tr><td>Model Difference</td><td colspan="3">N/A</td></tr>
<tr><td>Product Description</td><td colspan="3">The EUT is Smart-hopping 1.4GHz USB AP
<table>
<tr><td>Operation Frequency:</td><td colspan="2">1.4GHz: 1395-1400 MHz, 1427-1435 MHz
BLE: 2402-2480 MHz</td></tr>
<tr><td>Modulation Type:</td><td colspan="2">1.4GHz: GFSK, DBPSK, DQPSK, D8PSK
BLE: GFSK</td></tr>
<tr><td rowspan="2">Antenna gain:</td><td>1.4GHz</td><td>ANT 1: 1 dBi
ANT 2: 1 dBi</td></tr>
<tr><td>BLE</td><td>0 dBi</td></tr>
<tr><td rowspan="2">Antenna Designation:</td><td>1.4GHz</td><td>F PCB</td></tr>
<tr><td>BLE</td><td>chip antenna</td></tr>
</table></td></tr>
<tr><td>Power input</td><td colspan="3">USB DC 5V</td></tr>
<tr><td>Hardware Version</td><td colspan="3">N/A</td></tr>
<tr><td>Software Version</td><td colspan="3">N/A</td></tr>
</table>

1.2 TEST FACTORY

Company Name:	Shenzhen LGT Test Service Co., Ltd.
Address:	Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China
Accreditation Certificate	A2LA Certificate No.: 6727.01
	FCC Registration No.: 746540
	CAB ID: CN0136

2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.
Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula: $Pd = (Pout * G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.

2.3 EUT OPERATION CONDITION

EUT was enabled to transmit and receive at lowest, middle and highest channels.

2.4 CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. Warning statement to the user for keeping at least 20cm or more separation distance from the antenna should be included in the User manual. So, this device is classified as Mobile device.

2.5 TEST RESULT

Turn up

Frequency (MHz)	Detector	Turn up Power (dBm)
SH 1.0 WMTS		
CH1 1395.8977	AV	18±1
CH4 1427.8979	AV	15±1
CH6 1431.0965	AV	15±1
SH 2.0 WMTS		
CH14 1428.513	AV	15±1
CH16 1430.241	AV	15±1
CH18 1428.513	AV	15±1
BLE		
2440	Peak	6±1

Antenna Gain (dBi)		
Mode	Log scale	Numeric scale
1.4GHz	1	1.259
BLE	0	1

Protocol	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain (numeric scale)	Power Density (mW/cm^2)	Limit (mW/cm^2)	Result
SH 1.0 WMTS						
CH1 1395.8977	19	79.433	1.259	0.01989	0.931	Pass
CH4 1427.8979	16	39.811	1.259	0.00997	0.952	Pass
CH6 1431.0965	16	39.811	1.259	0.00997	0.954	Pass
SH 2.0 WMTS						
CH14 1428.513	16	39.811	1.259	0.00997	0.952	Pass
CH16 1430.241	16	39.811	1.259	0.00997	0.953	Pass
CH18 1428.513	16	39.811	1.259	0.00997	0.952	Pass
BLE						
2440	7	5.012	1	0.00100	1	Pass

The max MPE of BLE & 1.4GHz simultaneous transmission:

0.001(BLE) + 0.0199(1.4GHz) = 0.0209 ＜ 1

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