RF TEST REPORT

Product Name: Philips Smart-hopping 2.0 Access Point 1.4GHz

Model Name: ITS867216A

FCC ID: PQC-867216A

Issued For	:	Philips Medical Systems North America Co. 222 Jacobs Street Cambridge Massachusetts United States 02141
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:	LGT24C169HA01
Sample Received Date:	Mar. 29, 2024
Date of Tested:	Mar. 29, 2024 –Apr. 22, 2024
Date of Issue:	Apr. 22, 2024

TEST REPORT CERTIFICATION

Applicant	Philips Medical Systems North America Co.
Address	222 Jacobs Street Cambridge Massachusetts United States 02141
Manufacturer	RTX A/S
Address	Stroemmen 6 DK-9400 Noerresundby Denmark
Product Name	Philips Smart-hopping 2.0 Access Point 1.4GHz
Trademark	PHILIPS
Model Name	ITS867216A
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR §2.1091	PASS

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Approved by:

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Technical Director

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Revision History

Rev.	Issue Date	Contents	Description of Revision
00	Dec. 06, 2022	LGT22K037H01	Original Report
01	Apr. 22, 2024	LGT24C169HA01	Update the report to add new remote antennas (Model:RTX3466)

Note:

Original:

Update new remote antennas:

Table for new remote antennas

Antenna Name	Model Name	Antenna Type	Connector	Gain (dBi)
Smart-hopping 2.0 Remote Antenna 1.4 GHz	RTX3466	metal antenna	N/A	3

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

<table>
<tr><td>Product Name</td><td colspan="3">Philips Smart-hopping 2.0 Access Point 1.4GHz</td></tr>
<tr><td>Brand Name</td><td colspan="3">PHILIPS</td></tr>
<tr><td>Model Name</td><td colspan="3">ITS867216A</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 Access Point
<table>
<tr><td>Operation Frequency:</td><td colspan="2">1.4GHz: 1390-1400 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>Access Point ANT 1: 1 dBi
Access Point ANT 2: 1 dBi
Remote antenna ANT 1: 3 dBi
Remote antenna ANT 2: 3 dBi</td></tr>
<tr><td>BLE</td><td>0 dBi</td></tr>
<tr><td rowspan="2">Antenna Designation:</td><td>1.4GHz</td><td>Access Point: metal antenna
Remote antenna: metal antenna</td></tr>
<tr><td>BLE</td><td>metal antenna</td></tr>
</table></td></tr>
<tr><td>Power input</td><td colspan="3">DC 48V from LAN Port</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

<table>
<tr><td>Company Name:</td><td>Shenzhen LGT Test Service Co., Ltd.</td></tr>
<tr><td>Address:</td><td>Room 205, Building 13, Zone B, Chen Hsong Industrial Park, No.177 Renmin West Road, Jinsha Community, Kengzi Street, Pingshan New District, Shenzhen, China</td></tr>
<tr><td rowspan="3">Accreditation Certificate</td><td>A2LA Certificate No.: 6727.01</td></tr>
<tr><td>FCC Registration No.: 746540</td></tr>
<tr><td>CAB ID: CN0136</td></tr>
</table>

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 2.0 E-WMTS		
CH11 1391.452	Peak	15±1
CH12 1393.180	Peak	15±1
CH13 1394.908	Peak	15±1
CH19 1433.697	Peak	15±1
CH18 1431.969	AV	10±1
SH 1.0 WMTS		
CH1 1395.8977	AV	12±1
CH4 1427.8979	AV	12±1
CH6 1431.0965	AV	11±1
SH 2.0 WMTS		
CH14 1428.513	AV	11±1
CH16 1430.241	AV	9±1
CH18 1428.513	AV	9±1
BLE		
2440	Peak	6±1

Antenna Gain (dBi)		
Mode	Log scale	Numeric scale
1.4GHz	3	1.995
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 2.0 E-WMTS						
CH11 1391.452	16	39.811	1.995	0.01580	0.928	Pass
CH12 1393.180	16	39.811	1.995	0.01580	0.929	Pass
CH13 1394.908	16	39.811	1.995	0.01580	0.930	Pass
CH19 1433.697	16	39.811	1.995	0.01580	0.956	Pass
CH18 1431.969	11	12.589	1.995	0.00500	0.955	Pass
SH 1.0 WMTS						
CH1 1395.8977	13	19.953	1.995	0.00792	0.931	Pass
CH4 1427.8979	13	19.953	1.995	0.00792	0.952	Pass
CH6 1431.0965	12	15.849	1.995	0.00629	0.954	Pass
SH 2.0 WMTS						
CH14 1428.513	12	15.849	1.995	0.00629	0.952	Pass
CH16 1430.241	10	10.000	1.995	0.00397	0.953	Pass
CH18 1428.513	10	10.000	1.995	0.00397	0.952	Pass
BLE						
2440	7	5.012	1	0.001	1	Pass

The max MPE of BLE & 1.4GHz simultaneous transmission:

0.005(BLE) + 0.01580 (1.4GHz) = 0.01630 ＜ 1

※※※※※END OF THE REPORT※※※※※