RF TEST REPORT

Product Name: Smart-hopping 1.4 GHz AP

Model Name: ITS4843D

FCC ID: PQC-4843E

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:	LGT24C104HA01
Sample Received Date:	Mar. 29, 2024
Date of Tested:	Mar. 29, 2024 –Apr. 23, 2024
Date of Issue:	Apr. 24, 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, Noerresundby, 9400 Denmark
Product Name	Smart-hopping 1.4 GHz AP
Trademark	PHILIPS
Model Name	ITS4843D
Sample Status:	Normal

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC 47CFR §2.1091	PASS

Prepared by:

Zane Shan

Zane Shan
Engineer

Approved by:

Vita Li
Technical Director

TABLE OF CONTENTS

Revision History

Rev.	Issue Date	Contents
00	Apr. 24, 2024	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Smart-hopping 1.4 GHz AP
Trademark	PHILIPS
Model Name	ITS4843D
Series Model	N/A
Model Difference	N/A
Assigned frequency range	1395–1400 MHz and 1427–1429.5 WMTS Frequency Band. Also reference Part 2.106 (2)(1) 1427-1432 MHz Medical Operations Band
Antenna Type	Metal antenna
Antenna gain	AP: Antenna 1: 2 dBi AP: Antenna 2: 2 dBi Remote antenna ANT 1: 3 dBi Remote antenna ANT 2: 3 dBi
Power Input	PoE (minimum 44V DC and 350 mA) 15.4W
Extreme Vol. Limits	AC 108V to AC 132V (Nominal 120V from PoE input)
Operation temperature	0℃ to +55℃
Test extreme Temp. Tolerance	-30℃ to +50℃
Hardware version number	N/A
Software version number	N/A

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 1395.9	Peak	15±1
CH3 1399.1	Peak	15±1
CH4 1427.9	Peak	15±1
CH6 1431.1	Peak	15±1

Antenna Gain (dBi)		
Mode	Log scale	Numeric scale
1.4GHz	3	1.995

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 1395.9	16	39.811	1.995	0.01580	0.931	Pass
CH3 1399.1	16	39.811	1.995	0.01580	0.933	Pass
CH4 1427.9	16	39.811	1.995	0.01580	0.952	Pass
CH6 1431.1	16	39.811	1.995	0.01580	0.954	Pass

※※※※※END OF THE REPORT※※※※※