




RADIO EXPOSURE TEST REPORT

FCC ID : 2AXJ4X60V3
Equipment : AX3000 Whole Home Mesh Wi-Fi 6 System
Brand Name : tp-link
Model Name : Deco X60 , Deco W6000
Applicant : TP-Link Corporation Limited
Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Manufacturer : TP-Link Corporation Limited
Room 901, 9/F. , New East Ocean Centre, 9 Science Museum Road, Tsim Sha Tsui, Kowloon, Hong Kong
Standard : 47 CFR Part 2.1091

The product was received on Mar. 02, 2021, and testing was started from Mar. 11, 2021 and completed on Apr. 16, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1091 and shown compliance with the applicable technical standards.

The test results in this variant report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.


Approved by: Cliff Chang

Sporton International Inc. Hsinchu Laboratory
No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FA122333-01	01	Initial issue of report	May 06, 2021



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
2	-	Exposure evaluation	PASS	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Sam Chen

Report Producer: Sandy Chuang



1 General Description

1.1 EUT General Information

RF General Information			
Evaluation Mode	Frequency Range (MHz)	Operating Frequency (MHz)	Modulation Type
2.4GHz WLAN	2400-2483.5	2412-2462	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) VHT: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
5GHz WLAN	5150-5250 5250-5350 5725-5850	5180-5250 5250 5745-5825	802.11a/n: OFDM (BPSK, QPSK, 16QAM, 64QAM) 802.11ac: OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM) 802.11ax: OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)

1.2 Antenna Information

Ant.	Port		Brand	Model Name	Type	Connector	Gain (dBi)	
	2.4GHz	5GHz					2.4GHz	5GHz
1	1	2	TP-Link	3101502756	PCB	I-PEX	1.93	0.90
2	2	1	TP-Link	3101502757	PCB	I-PEX	1.94	0.97
3	-	4	TP-Link	3101503632	PCB	I-PEX	-	0.97
4	-	3	TP-Link	3101503633	PCB	I-PEX	-	0.88

Note 1: The above information was declared by manufacturer.

Note 2:

For WLAN 2.4GHz, 11b/g/n/ax/VHT mode:

Port 1 and Port 2 could transmit/receive simultaneously.

For WLAN 5GHz, 11a/n/ac/ax mode (4TX/4RX):

Port 1, Port 2, Port 3 and Port 4 could transmit/receive simultaneously.



1.3 Table for EUT Supports Functions

Function
AP Router
Mesh

1.4 Table for Multiple Listing

The model names in the following table are all refer to the identical product.

Model Name	Description
Deco X60	There is nothing different of two models, just for different marketing use.
Deco W6000	

Note 1: From the above models, model: Deco X60 was selected as representative model for the test and its data was recorded in this report.

Note 2: The above information was declared by manufacturer.

1.5 Accessories

Accessories				
No.	Equipment Name	Brand Name	Model Name	Rating
1	Adapter	TP-Link	T120200-2B4	Input: 100-240V~ 50/60Hz, 0.8A Output: 12V, 2A

1.6 Table for Class II Change

This product is an extension of original one reported under Sporton project number: FA122333.

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Adding 5GHz band 2 (bandwidth 160MHz) for this device.	Maximum Permissible Exposure Report

Note: Maximum Permissible Exposure of 2.4GHz Band and 5GHz Band 1/4 are based on original test report.



1.7 Testing Location

Testing Location Information

Test Lab. : Sporton International Inc. Hsinchu Laboratory

Hsinchu ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

(TAF: 3787) TEL: 886-3-656-9065 FAX: 886-3-656-9085

Test site Designation No. TW3787 with FCC.

Conformity Assessment Body Identifier (CABID) TW3787 with ISED.



2 Maximum Permissible Exposure

2.1 Limit of Maximum Permissible Exposure

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	*(100)	<6
3.0-30	1842/f	4.89/f	*(900/f ²)	<6
30-300	61.4	0.163	1.0	<6
300-1500	-	-	f/300	<6
1500-100,000	-	-	5	<6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1500	-	-	f/1500	<30
1500-100,000	-	-	1.0	<30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

2.2 MPE Calculation Method

The MPE was calculated at 20 cm to show compliance with the power density limit.

The following formula was used to calculate the Power Density:

$$E \text{ (V/m)} = \frac{\sqrt{30 \times P \times G}}{d} \qquad \text{Power Density: } Pd \text{ (W/m}^2\text{)} = \frac{E^2}{377}$$

E = Electric field (V/m)

P = RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$Pd = \frac{30 \times P \times G}{377 \times d^2}$$



2.3 Calculated Result and Limit

Exposure Environment: General Population / Uncontrolled Exposure

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)
2.4G;G1D	1.94	29.87	31.81	0.50	32.31	1.70216	20	0.33863	1.00000
5.2G;D1D	0.97	28.93	29.90	0.50	30.40	1.09648	20	0.21814	1.00000
5.3G;D1D	0.97	21.83	22.80	0.50	23.30	0.21380	20	0.04253	1.00000
5.8G;D1D	0.97	28.62	29.59	0.50	30.09	1.02094	20	0.20311	1.00000

Simultaneous Transmission Analysis Mode: WLAN 2.4GHz + WLAN 5GHz

Mode	DG (dBi)	Power (dBm)	EIRP (dBm)	Tolerance (dB)	Tune-up EIRP (dBm)	Tune-up EIRP (W)	Distance (cm)	S (mW/cm ²)	S Limit (mW/cm ²)	Ratio (S/Limit)
2.4G;G1D	1.94	29.87	31.81	0.50	32.31	1.70216	20	0.33863	1.00000	0.33863
5.2G;D1D	0.97	28.93	29.90	0.50	30.40	1.09648	20	0.21814	1.00000	0.21814
									Sum Ratio	0.55677
									Ratio Limit	1

Note: The above antenna gain was declared by manufacturer.

—————THE END—————