



RADIO TEST REPORT

Report No: STS2112171H02

Issued for

DZS Inc.

5700 Tennyson Parkway Suite 400 Plano Texas United States

Product Name:	Wi-Fi 6 MESH AP
Brand Name:	DZS
Model Name:	1664WC
Series Model:	N/A
FCC ID:	PJZ1664WC
Test Standard:	FCC 47CFR §2.1091

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS, all test data presented in this report is only applicable to presented test sample.





Test Report Certification

Applicant's Name..... : DZS Inc.

Address : 5700 Tennyson Parkway Suite 400 Plano Texas United States

Manufacturer's Name : TDG Technology Co., Ltd

Address : No.1 Yatai Road, Jiaxing City, Zhejiang Province, P.R.C.

Product Description

Product Name..... : Wi-Fi 6 MESH AP

Brand Name : 

Model Name : 1664WC

Series Model..... : N/A

Standards : FCC 47CFR §2.1091

This report shall not be reproduced except in full, without the written approval of STS, this document only be altered or revised by STS, personal only, and shall be noted in the revision of the document.

Date of Test..... :

Date of receipt of test item : 17 Dec. 2021

Date (s) of performance of tests : 17 Dec. 2021 ~ 18 Mar. 2022

Date of Issue..... : 18 Mar. 2022

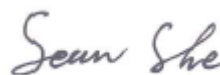
Test Result..... : **Pass**

Testing Engineer :



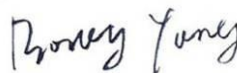
(Chris Chen)

Technical Manager :



(Sean she)

Authorized Signatory :



(Bovey Yang)





TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST FACTORY	6
2. FCC 47CFR §2.1091 REQUIREMENT	7
2.1 TEST STANDARDS	7
2.2 LIMIT	7
2.3 EUT OPERATION CONDITION	7
2.4 CLASSIFICATION	7
2.5 TEST RESULT	8



**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	18 Mar. 2022	STS2112171H02	ALL	Initial Issue





1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wi-Fi 6 MESH AP		
Brand Name			
Model Name	1664WC		
Series Model	N/A		
Model Difference	N/A		
Product Description	The EUT is Wi-Fi 6 MESH AP		
	Operation Frequency:	2.4G: 802.11b/g/n/ac/ax 20: 2412~2462 MHz 802.11n/ac/ax(40MHz):2422~2452MHz 5G: IEEE 802.11a/ n(HT20)/ac(VHT20))/ax(HE20): 5.180GHz-5.240GHz IEEE 802.11n(HT40)/ac(VHT40))/ax(HE40): 5.190GHz-5.230GHz IEEE 802.11ac(VHT80))/ax(HE80): 5.210GHz IEEE 802.11a/ n(HT20)/ac(VHT20))/ax(HE20): 5.260GHz-5.320GHz IEEE 802.11 n(HT40)/ac(VHT40))/ax(HE40): 5.270GHz-5.310GHz IEEE 802.11ac(VHT80))/ax(HE80): 5.290GHz IEEE 802.11a/ n(HT20)/ac(VHT20))/ax(HE20): 5.500GHz-5.700GHz IEEE 802.11 n(HT40)/ac(VHT40))/ax(HE40): 5.510GHz-5.670GHz IEEE 802.11ac(VHT80))/ax(HE80): 5.530GHz-5.610GHz 802.11ax (160MHz):5250~5570MHz IEEE 802.11a/ n(HT20)/ac(VHT20))/ax(HE20): 5.745GHz-5.825GHz IEEE 802.11a/ n(HT40)/ac(VHT40))/ax(HE40): 5.755GHz-5.795GHz IEEE 802.11ac(VHT80))/ax(HE80): 5.775GHz	
	Modulation Type:	802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11a(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM,64-QAM 802.11ac(OFDM): BPSK,QPSK,16-QAM,64-QAM,256-QAM 802.11ax(OFDM, OFDMA): BPSK,QPSK,16-QAM,64-QAM,256-QAM, 1024QAM	
	Antenna gain:	2.4G: ANT A: 3.7 dBi, ANT B: 3.7 dBi, MIMO A+B: 6.71 dBi 5G: ANT A: 5.8 dBi, ANT B: 5.8 dBi MIMO A+B: 8.81 dBi	
	Antenna Designation:	PIFA	



Adapter	Input: Input: 100-240V AC, 50/60Hz,0.6A Output: DC 12V 1.5A
Hardware Version	V1.0.0
Software Version	LAZV1.0.0R00

1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : A 1/F, Building B, Zhuoke Science Park, No.190 Chongqing Road, HepingShequ, Fuyong Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01





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: $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 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

Mode	Detector	Turn up Power
2.4G Wi-Fi	AV	25±1
5G Wi-Fi	AV	29±1

RF Function	Max Turn up Power (dBm)	Max Turn up Power (mW)	ANT Gain(gain of antenna in linear scale)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
2.4G Wi-Fi	26	398.11	2.344	0.186	1	0.186	Pass
5G Wi-Fi	30	1000	3.80	0.756	1	0.756	Pass

Multiple transmission:

$$2.4G\ WIFI+5G\ WIFI=0.186+0.756=0.942<1$$

Note: The Maximum power is less than the limit, complies with the exemption requirements.

※※※※※END OF THE REPORT※※※※※