RADIO TEST REPORT

Report No: STS2112238H02

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:	1764WC
Series Model:	N/A
FCC ID:	PJZ1764WC
Test Standard:	FCC 47CFR §2.1091

Shenzhen STS Test Services Co., Ltd.
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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 ..... : DZS

Model Name ..... :.. 1764WC

Series Model..... : N/A

Standards ..... : FCC 47CFR §2.1091

Date of Test.....:

Date of receipt of test item .....: 17 Dec. 2021

Date (s) of performance of tests .....: 17 Dec. 2021 ~ 21 Mar. 2022

Date of Issue.....: 21 Mar. 2022

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

Testing Engineer : Chris chen

(Chris Chen)

Technical Manager : Sean She

(Sean she)

Authorized Signatory : Bovey Yang

(Bovey Yang)

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Revision History

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00	21 Mar. 2022	STS2112238H02	ALL	Initial Issue

1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wi-Fi 6 MESH AP
Brand Name	DZS
Model Name	1764WC
Series Model	N/A
Model Difference	N/A
Product Description	The EUT is Wi-Fi 6 MESH AP

Operation Frequency:	2.4G WLAN: 802.11b/g/n/ac/ax 20: 2412~2462 MHz 802.11n/ac/ax(40MHz):2422~2452MHz 5G WLAN: 802.11a/ n(HT20)/ac(VHT20)/ax(HE20): 5.180GHz-5.240GHz 802.11n(HT40)/ac(VHT40)//ax(HE40): 5.190GHz-5.230GHz 802.11ac(VHT80)/ax(HE80): 5.210GHz 802.11a/ n(HT20)/ac(VHT20)/ax(HE20): 5.260GHz-5.320GHz 802.11 n(HT40)/ac(VHT40)/ax(HE40): 5.270GHz-5.310GHz 802.11ac(VHT80)/ax(HE80): 5.290GHz 802.11ax(HE160): 5.250GHz 802.11a/ n(HT20)/ac(VHT20)/ax(HE20): 5.500GHz-5.700GHz 802.11 n(HT40)/ac(VHT40)/ax(HE40): 5.510GHz-5.670GHz 802.11ac(VHT80)/ax(HE80): 5.530GHz-5.610GHz 802.11ax(HE160): 5.570GHz 802.11a/ n(HT20)/ac(VHT20)/ax(HE20): 5.745GHz-5.825GHz 802.11n(HT40)/ac(VHT40)/ax(HE40): 5.755GHz-5.795GHz 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 WLAN: Ant. A: 3.7dBi, Ant. B: 3.7dBi, MIMO A+B: 6.71dBi 5G WLAN: Ant. A: 5.8dBi, Ant. B: 5.8dBi, MIMO A+B: 8.81dBi

	Antenna Designation:	PIFA Antenna
Adapter	Model: RD1201500-C55-153MG Input: 100-240V AC, 50/60Hz,0.6A Output: DC 12V 1.5A	
Hardware version number	V1.0.0	
Software versionnumber	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			
0.3-3.0	614	1.63	*(100)
3.0-30	1842/f	4.89/f	*($900/f^2$)
30-300	61.4	0.163	1.0
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
0.3-1.34	614	1.63	*(100)
1.34-30	824/f	2.19/f	*($180/f^2$)
30-300	27.5	0.073	0.2
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

Mode	Detector	Turn up power(dBm)
2.4G WLAN	AV	25±1dBm
5G WLAN	AV	29±1dBm

ANT Gain (G)

2.4G WIFI: 3.7dBi (gain of antenna in linear scale=2.344)

5G WIFI: 5.8dBi (gain of antenna in linear scale=3.801)

Protocol	**Max Turn up power (dBm)**	**Max Turn up power (mW)**	**ANT Gain(gain of antenna in linear scale)**	**Power Density (mW/cm²)**	**Limit (mW/cm²)**	**Ratio**	**Result**
2.4G WIFI	26	398.107	2.344	0.186	1	0.186	Pass
5G WIFI	30	1000.00	3.801	0.756	1	0.756	Pass

Multiple transmission:

2.4G WIFI+5G WIFI=0.186+0.756=0.942＜1

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

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