



MPE Report

Report No.:STS2511194H02

Issued for

TRULY ELECTRONICS MFG., LTD

Truly industry city, shanwei guangdong, P.R.C

Product Name: WIFI/BT Module+5G

Brand Name: N/A

Model Name: TR6R851P2-M

Series Model(s): TR6R851P1-M

FCC ID: 2BOHY-851P2-M

Test Standard: FCC 47CFR §2.1091

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

**TEST REPORT**

Applicant's Name.....: TRULY ELECTRONICS MFG., LTD
Address: Truly industry city, shanwei guangdong, P.R.C
Manufacturer's Name.....: TRULY ELECTRONICS MFG., LTD
Address: Truly industry city, shanwei guangdong, P.R.C

Product Description

Product Name.....: WIFI/BT Module+5G

Brand Name: N/A

Model Name: TR6R851P2-M

Series Model(s).....: TR6R851P1-M

Test Standards: FCC 47CFR §2.1091
447498 D01 Interim General RF Exposure Guidance v06

The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the ShenZhen STS Test Services Co., Ltd.

Date of Test:

Date of receipt of test item.....: 22 Nov. 2025

Date (s) of performance of tests: 22 Nov. 2025 ~ 29 Dec. 2025

Date of Issue.....: 29 Dec. 2025

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

Testing Engineer :

Aaron Bu

(Aaron Bu)

Technical Manager :

Skylar Li

(Skylar Li)

Authorized Signatory :

Bovey Yang

(Bovey Yang)





TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST FACTORY	7
2. FCC 47CFR §2.1091 REQUIREMENT	8
2.1 TEST STANDARDS	8
2.2 LIMIT	8
2.3 TEST RESULT	9

**Revision History**

Rev.	Issue Date	Report No.	Effect Page	Contents
00	29 Dec. 2025	STS2511194H02	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	WIFI/BT Module+5G	
Brand Name	N/A	
Model Name	TR6R851P2-M	
Series Model(s)	TR6R851P1-M	
Model Difference	Only the model names are different	
Product Description	The EUT is WIFI/BT Module+5G	
	Operation Frequency:	BT / BLE: 2402~2480 MHz 2.4G WLAN: 802.11b/g/n/ax(20MHz): 2412~2462MHz 802.11n/ax(40MHz):2422~2452MHz 5.2G WLAN: 802.11a/n/ac/ax (20MHz): 5180~5240MHz 802.11n /ac/ax(40MHz):5190~5230MHz 802.11ac/ax (80MHz):5210MHz 5.3G WLAN: 802.11a/n/ac/ax (20MHz): 5260~5320MHz 802.11n /ac/ax(40MHz):5270~5310MHz 802.11ac/ax (80MHz):5290MHz 5.6G WLAN: 802.11a/n/ac/ax (20MHz): 5500~5700MHz 802.11n /ac/ax(40MHz):5510~5670MHz 802.11ac/ax (80MHz):5530~5610MHz 5.8G WLAN: 802.11a/n/ac/ax (20MHz): 5745~5825MHz 802.11n /ac/ax(40MHz):5755~5795MHz 802.11ac/ax (80MHz):5775MHz
	Modulation Type:	BT BR(1Mbps): GFSK BT EDR(2Mbps): $\pi/4$ -DQPSK BT EDR(3Mbps): 8DPSK BLE: GFSK 2.4G WLAN: 802.11b(DSSS):CCK,DQPSK,DBPSK 802.11g(OFDM):BPSK,QPSK,16-QAM, 64-QAM 802.11n(OFDM):BPSK,QPSK,16-QAM, 64-QAM 802.11ax(OFDM, OFDMA):BPSK,QPSK, 16-QAM,64-QAM,256-QAM,1024QAM 5G WLAN: 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:	BT / BLE: 2.5dBi 2.4G WLAN: ANT 1: 2.5dBi, ANT 2: 2.5dBi 5G WLAN: ANT 1: 3.5dBi, ANT 2: 3.5dBi
	Antenna Designation:	Dipole
Power Rating	Input: DC 3.3V	
Adapter	N/A	
Battery	N/A	
Hardware Version	N/A	
Software Version	N/A	



1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai 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
3.0-30	1842/f	4.89/f	*(900/f ²)
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1.34-30	824/f	2.19/f	*(180f ²)
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 TEST RESULT

Tune up

RF Function	Frequency (MHz)	Separation distance (cm)	Max Output Power (dBm)	Tune Up Power (dBm)	Max Tune Up Power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
BT	2480	20	3.99	3±1	4.00	2.5	6.50	4.467	0.0009	1	0.0009	Pass
BLE	2402	20	1.86	1±1	2.00	2.5	4.50	2.818	0.0006	1	0.0006	Pass
2.4G WLAN	2462	20	19.08	19±1	20.00	5.51	25.51	355.631	0.0708	1	0.0708	Pass
5G WLAN	5500	20	14.96	14±1	15.00	6.51	21.51	141.579	0.0282	1	0.0282	Pass

Multiple transmission:

$$2.4G\text{ WLAN} + 5G\text{ WLAN} = 0.0708 + 0.0282 = 0.099 < 1$$

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

2. The Bluetooth and WLAN can't simultaneous transmission at the same time.

3. ERP = EIRP - 2.15

※※※※※END OF THE REPORT※※※※※