



Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

RF Exposure MPE

Report Reference No..... : CTA26070102806

FCC ID..... : 2BOHY-TR6R851P2C

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Date of issue.....: Jul. 23, 2026

Testing Laboratory Name.....: Shenzhen CTA Testing Technology Co., Ltd.

Address.....: Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name.....: TRULY ELECTRONICS MFG., LTD

Address.....: Truly industry city shanwei Guangdong, China

Standard.....: 47CFR §1.1310

47CFR §2.1091

KDB447498 D01 General RF Exposure Guidance v06

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Test item description.....: WIFI/BT Module+5G

Trade Mark.....: N/A

Manufacturer.....: TRULY ELECTRONICS MFG., LTD

Model/Type reference.....: TR6R851P2-C

Listed Models.....: TR6R851P1-C

Ratings.....: Input: DC 3.3V

Result.....: PASS

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TEST REPORT

Equipment under Test : WIFI/BT Module+5G

Model /Type : TR6R851P2-C

Listed Models : TR6R851P1-C

Model Difference : The PCB board, circuit, structure and internal of these models are the same, only model number is different for these model. So the tests were performed on model TR6R851P2-C and the test results for the main test model can cover the listed models.

Applicant : **TRULY ELECTRONICS MFG., LTD**

Address : Truly industry city shanwei Guangdong, China

Manufacturer : **TRULY ELECTRONICS MFG., LTD**

Address : Truly industry city shanwei Guangdong, China

Test Result:	PASS
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1 TEST STANDARDS

The tests were performed according to following standards:

[ANSI C95.1-1999](#): IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

[FCC KDB 447498 D01 General RF Exposure Guidance v06](#): Mobile and Portable Device, RF Exposure, Equipment Authorization Procedures.

[FCC CFR 47 part1 1.1310](#): Radiofrequency radiation exposure limits.

[FCC CFR 47 part2 2.1091](#): Radiofrequency radiation exposure evaluation: mobile devices

2 SUMMARY

2.1 General Remarks

Date of receipt of test sample	:	Jul. 01, 2026
Testing commenced on	:	Jul. 01, 2026
Testing concluded on	:	Jul. 23, 2026

2.2 Product Description

Product Description:	WIFI/BT Module+5G
Model/Type reference:	TR6R851P2-C
Power supply:	Input: DC 3.3V
Hardware version:	V0.1
Software version:	Win 11
Testing sample ID:	CTA260701028-1# (Engineer sample) CTA260701028-2# (Normal sample)
Bluetooth BLE	
Supported type:	Bluetooth low Energy
Modulation:	GFSK
Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Channel separation:	2 MHz
Antenna type:	PIFA antenna
Antenna gain:	5.11 dBi for Antenna 1&2
Antenna type:	Diople antenna
Antenna gain:	2.5 dBi for Antenna 1&2
Bluetooth :	
Supported Type:	Bluetooth BR/EDR
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK
Operation frequency:	2402MHz~2480MHz
Channel number:	79
Channel separation:	1MHz
Antenna type:	PIFA antenna
Antenna gain:	5.11 dBi for Antenna 1&2
Antenna type:	Diople antenna
Antenna gain:	2.5 dBi for Antenna 1&2
WIFI :	
Supported type:	802.11b/802.11g/802.11n(HT20)/ax(HE20)/ 802.11n(HT40)/ax(HE40)
Modulation:	802.11b: DSSS 802.11g/802.11n(HT20)/ 802.11n(HT40): OFDM 802.11ax(HE20)/ 802.11ax(HE40): OFDMA
Operation frequency:	802.11b/802.11g/802.11n(HT20)/ax(HE20): 2412MHz~2462MHz 802.11n(HT40)/ax(HE40): 2422MHz~2452MHz
Channel number:	802.11b/802.11g/802.11n (HT20)/ax(HE20): 11 802.11n(HT40)/ax(HE40):7

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Supported partial RU configurations:	Only Support Full RU
Channel separation:	5MHz
Antenna type:	PIFA antenna
Antenna gain:	5.11 dBi for Antenna 1&2
Antenna type:	Diople antenna
Antenna gain:	2.5 dBi for Antenna 1&2
Transmit Function	only support SISO (1T1R)
WIFI	
WLAN	Supported 802.11 a/n/ac/ax
Modulation Type	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT 20/40/80: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ax HE20/40/80: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK)
Operation frequency	IEEE 802.11a:5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT20: 5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11n HT40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac VHT20: 5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11ac VHT40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ac VHT80:5210MHz,5290MHz,5530MHz,5775MHz IEEE 802.11ax HE20: 5180-5240MHz,5260-5320MHz,5500-5700MHz,5745-5825MHz IEEE 802.11ax HE40: 5190-5230MHz,5270-5310MHz,5510-5670MHz,5755-5795MHz IEEE 802.11ax HE80:5210MHz,5290MHz,5530MHz, 5610MHz,5775MHz
Channel number	4 Channels for 20MHz bandwidth(5180-5240MHz) 4 Channels for 20MHz bandwidth(5260-5320MHz) 11 Channels for 20MHz bandwidth(5500-5700MHz) 5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 2 channels for 40MHz bandwidth(5270~5310MHz) 5 Channels for 40MHz bandwidth(5510-5670MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5210MHz) 1 channels for 80MHz bandwidth(5290MHz) 2 Channels for 80MHz bandwidth(5530MHz,5610MHz) 1 channels for 80MHz bandwidth(5775MHz)
Antenna type:	PIFA antenna
Antenna gain:	5.5 dBi for Antenna 1&2
Antenna type:	Diople antenna
Antenna gain:	3.5 dBi for Antenna 1&2
Transmit Function	only support SISO (1T1R)

2.3 Special Accessories

The following is the EUT test of the auxiliary equipment provided by the laboratory:

Description	Manufacturer	Model	Technical Parameters	Certificate	Provided by
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2.4 Modifications

No modifications were implemented to meet testing criteria.

3 TEST ENVIRONMENT

3.1 Address of the test laboratory

Shenzhen CTA Testing Technology Co., Ltd.

Room 106, Building 1, Yibaolai Industrial Park, Qiaotou Community,
Fuhai Street, Bao'an District, Shenzhen, China

3.2 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 517856 Designation Number: CN1318

Shenzhen CTA Testing Technology Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA-Lab Cert. No.: 6534.01

Shenzhen CTA Testing Technology Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

ISED#: 27890 CAB identifier: CN0127

Shenzhen CTA Testing Technology Co., Ltd. has been listed by Innovation, Science and Economic Development Canada to perform electromagnetic emission measurement.

3.3 Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the Shenzhen CTA Testing Technology Co., Ltd. quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen CTA Testing Technology Co., Ltd. :

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	9KHz~30MHz	3.02 dB	(1)
Radiated Emission	30~1000MHz	4.06 dB	(1)
Radiated Emission	1~18GHz	5.14 dB	(1)
Radiated Emission	18-40GHz	5.38 dB	(1)
Conducted Disturbance	0.15~30MHz	2.14 dB	(1)
Output Peak power	30MHz~18GHz	0.55 dB	(1)
Power spectral density	/	0.57 dB	(1)
Spectrum bandwidth	/	1.1%	(1)
Radiated spurious emission (30MHz-1GHz)	30~1000MHz	4.10 dB	(1)
Radiated spurious emission (1GHz-18GHz)	1~18GHz	4.32 dB	(1)
Radiated spurious emission (18GHz-40GHz)	18-40GHz	5.54 dB	(1)
Time	/	±2%	(1)

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4 Test limit

4.1 Requirement

Limits for Maximum Permissible Exposure (MPE)/Controlled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
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

Limits for Maximum Permissible Exposure (MPE)/Uncontrolled Exposure

Frequency Range(MHz)	Electric Field Strength(V/m)	Magnetic Field Strength(A/m)	Power Density (mW/cm ²)	Averaging Time (minute)
Limits for Occupational/Controlled Exposure				
0.3 – 3.0	614	1.63	(100) *	30
3.0 – 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

F=frequency in MHz

*=Plane-wave equivalent power density

4.2 MPE Calculation Method

Predication of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S=PG/4\pi R^2$$

Where: S=power density

P=power input to antenna

G=power gain of the antenna in the direction of interest relative to an isotropic radiator

R=distance to the center of radiation of the antenna

4.3 Conducted Power Results

TestMode	Freq(MHz)	Conducted Peak Power[dBm] Antenna 1
BLE_1M	2402	-0.18
	2440	-0.09
	2480	0.41
BLE_2M	2404	-0.03
	2440	0.03
	2478	0.52

Test Mode	Freq(MHz)	Conducted Peak Power[dBm] Antenna 1
DH5	2402	-0.67
	2441	-0.11
	2480	0.33
2DH5	2402	1.40
	2441	1.55
	2480	2.07
3DH5	2402	2.09
	2441	1.67
	2480	2.45

Test Mode	Frequency[MHz]	Result [dBm] Antenna1	Result [dBm] Antenna2
11B	2412	14.04	13.91
	2437	13.77	14.33
	2462	13.85	14.49
11G	2412	13.04	12.41
	2437	13.13	12.53
	2462	12.45	12.18
11N20SISO	2412	13.16	13.35
	2437	13.00	13.50
	2462	12.61	13.19
11N40SISO	2422	13.32	13.88
	2437	12.94	13.63
	2452	12.79	13.01
11AX20SISO	2412	13.97	14.03
	2437	14.08	14.22
	2462	13.35	14.00
11AX40SISO	2422	13.52	13.87
	2437	13.46	13.98
	2452	13.01	13.53

Test Mode	Freq(MHz)	Result [dBm] Antenna1	Result [dBm] Antenna2
11A	5180	13.14	12.24
	5200	13.06	12.21
	5240	13.56	12.91
	5260	13.61	13.2
	5280	13.59	13.26
	5320	13.3	13.09
	5500	13.49	13.18
	5600	16.1	16.49
	5700	13.52	13.33
	5745	15.42	14.25
	5785	15.97	14.91
	5825	15.81	14.83
11N20SISO	5180	12.62	12.8
	5200	12.64	12.92
	5240	13.26	13.42

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	5260	13.37	13.65
	5280	13.47	13.76
	5320	13.15	13.69
	5500	13.75	12.69
	5600	13.12	12.14
	5700	14.4	12.9
	5745	13.77	14.08
	5785	14.28	14.77
	5825	14.32	14.72
	5190	12.94	11.84
11N40SISO	5230	13.57	13.46
	5270	13.82	13.69
	5310	13.53	13.6
	5510	12.39	11.76
	5550	12.31	12.12
	5670	13.31	12.73
	5755	15.61	13.86
	5795	15.81	14.28
11AC20SISO	5180	13.04	12.84
	5200	13	13.02
	5240	13.42	13.64
	5260	13.56	13.78
	5280	13.62	14.11
	5320	13.43	13.89
	5500	13.49	13.09
	5600	12.86	13.34
	5700	13.48	13.37
	5745	15.65	15.03
	5785	15.74	15.26
	5825	14.91	15.23
11AC40SISO	5190	7.69	7.97
	5230	8.09	7.97
	5270	8.32	8.53
	5310	8.06	8.33
	5510	8.36	8.1
	5550	7.12	7.23
	5670	7.39	7.47
	5755	9.62	7.86
11AC80SISO	5795	10.13	8.38
	5210	6.1	5.85
	5290	6.63	6.26
	5530	4.09	3.87
	5610	5.45	5.36
	5775	5.38	6.08
11AX20SISO	5180	9.02	9.31
	5200	8.77	9.24
	5240	9.13	9.76
	5260	9.42	10.02
	5280	9.4	10.14
	5320	9.26	10.09
	5500	9.06	8.67
	5600	8.47	7.72
	5700	9.01	8.38
	5745	8.49	8.81
	5785	9.1	9.7
	5825	9.08	9.66
11AX40SISO	5190	12.3	7.4
	5230	13.05	7.81
	5270	13.12	8.27
	5310	12.83	8.33
	5510	12.22	7.26
	5550	11.83	6.93
	5670	12.75	7.25
	5755	15	7.51
11AX80SISO	5795	14.21	7.96
	5210	10.7	5.51

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	5290	10.76	5.98
	5530	8.3	4.04
	5610	9.26	4.74
	5775	10.43	6.09

4.4 Manufacturing tolerance

Mode	Max. Peak Conducted Output Power (dBm)	Max. tune-up
BLE Antenna 1	0.52	1.0 ± 1
BR/EDR Antenna 1	2.45	3.0 ± 1
2.4GWIFI Antenna 1	14.08	15.0 ± 1
2.4GWIFI Antenna 2	14.49	15.0 ± 1
Mode	Max. Average Conducted Output Power (dBm)	Max. tune-up
5GWIFI Antenna 1	16.10	16.0 ± 1
5GWIFI Antenna 2	16.49	16.0 ± 1

4.5 Standalone MPE Result

As declared by the Applicant, the EUT is a wireless device used in a fix application, at least 20 cm from any body part of the user or nearby persons; from the maximum EUT RF output power, the minimum separation distance, $r = 20\text{cm}$, as well as the gain of the used antenna is refer to section 2.2, the RF power density can be obtained.

Modulation Type	Output power		Antenna Gain (dBi)	Antenna Gain (linear)	MPE (mW/cm^2)	MPE Limits (mW/cm^2)
	dBm	mW				
BLE Ant1	2.0	1.5849	5.11	3.2434	0.0010	1.0000
BR/EDR Ant1	4.0	2.5119	5.11	3.2434	0.0016	1.0000
2.4GWIFI Ant1	16.0	39.8107	5.11	3.2434	0.0257	1.0000
2.4GWIFI Ant2	16.0	39.8107	5.11	3.2434	0.0257	1.0000
5GWIFI Ant1	17.0	50.1187	5.5	3.5481	0.0354	1.0000
5GWIFI Ant2	17.0	50.1187	5.5	3.5481	0.0354	1.0000

Remark:

1. Output power including turn-up tolerance;
2. MPE evaluate distance is 20cm from user manual provide by manufacturer.

4.6 Multiple transmission for MPE Result

5GWIFI Ant2 MPE (Ratio)	BT Ant1 MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)
0.0354	0.0016	0.037	1.0000

2.4GWIFI Ant2 MPE (Ratio)	BT Ant1 MPE (Ratio)	simultaneous MPE (Ratio)	MPE Limits (Ratio)
0.0257	0.0016	0.0273	1.0000

Note: The multi-launch evaluation only show the worst co-location.

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5 Conclusion

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device Threshold per KDB 447498 D01v06

***** End of Report *****

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