

RF Exposure Evaluation Report

Product : Smart Projector
Trade mark : TOUMEI
Model/Type reference : See section 3.2
Serial Number : N/A
Report Number : EED32Q81846704
FCC ID : 2BCE6-Q7
Date of Issue : Dec. 30, 2024
Test Standards : 47 CFR Part 1.1307
47 CFR Part 1.1310
47 CFR Part 2.1091
47 CFR Part 2.1093
KDB 447498 D04 Interim General RF
Exposure Guidance v01
Test result : PASS

Prepared for:

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502, Building A, Jinke Industrial Park, No.310, Wuhe Dadao, Luhua
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1 Version

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3 General Information

3.1 Client Information

Applicant:	SHENZHEN TOUMEI TECHNOLOGY CO., LTD
Address of Applicant:	502, Building A, Jinke Industrial Park, No.310, Wuhe Dadao, Luhui Community Guanhu Street, Longhua District, Shenzhen, China
Manufacturer:	SHENZHEN TOUMEI TECHNOLOGY CO., LTD
Address of Manufacturer:	502, Building A, Jinke Industrial Park, No.310, Wuhe Dadao, Luhui Community Guanhu Street, Longhua District, Shenzhen, China
Factory:	SHENZHEN TOUMEI TECHNOLOGY CO., LTD
Address of Factory:	502, Building A, Jinke Industrial Park, No.310, Wuhe Dadao, Luhui Community Guanhu Street, Longhua District, Shenzhen, China

3.2 General Description of EUT

Product Name:	Smart Projector
Model No.:	Q7, Q1, Q2, Q3, Q4, Q5, Q6, Q8, Q9, Q10, Q11, Q12, Q5-GTV, Q6-GTV, Q7-GTV, Q8-GTV, Q9-GTV, A1, A2, A3, A5, A6, A7, A8, A9, A10, F1, F2, F3, F5, F6, F7, F8, F9, F10, D1, D2, D3, D5, D6, D7, D8, D9, D10
Test Model No.:	Q7
Trade mark:	TOUMEI

3.3 Product Specification subjective to this standard

Frequency Range:	BLE: 2402MHz~2480MHz 2.4G Wi-Fi: IEEE 802.11b/g/n(HT20): 2412MHz to 2462MHz IEEE 802.11n(HT40)/ax(HE40): 2422MHz to 2452MHz 5G Wi-Fi: U-NII-1: 5150-5250MHz U-NII-3:5745-5825MHz
Modulation Type:	BLE: GFSK 2.4G Wi-Fi: IEEE for 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE for 802.11g :OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11n(HT20 and HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE for 802.11ax(HE20 and HE40) : OFDM (1024QAM, 256QAM, 64QAM, 16QAM,QPSK,BPSK) 5G Wi-Fi: IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20/HT40): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ac(VHT20/VHT40): OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM) IEEE 802.11ax(HE20/HE40): OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM,1024QAM)
Test Power Grade:	Default
Test Software of EUT:	Adb.exe
Antenna Type:	FPC Antenna
Antenna Gain:	BLE: 2.75dBi 2.4G Wi-Fi: 2.75dBi 5G Wi-Fi: U-NII-1: 2.86 dBi U-NII-3: 3.28 dBi

Power Supply:	Adapter	AC 110V
Sample Received Date:	Nov. 29, 2024	
Sample tested Date:	Nov. 29, 2024 to Dec. 17, 2024	
Remark: Company Name and Address shown on Report, the sample(s) and sample Information was/ were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified. Model No.: Q7, Q1, Q2, Q3, Q4, Q5, Q6, Q8, Q9, Q10, Q11, Q12, Q5-GTV, Q6-GTV, Q7-GTV, Q8-GTV, Q9-GTV, A1, A2, A3, A5, A6, A7, A8, A9, A10, F1, F2, F3, F5, F6, F7, F8, F9, F10, D1, D2, D3, D5, D6, D7, D8, D9, D10 Only the model Q7 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, with difference being color of appearance, model name and sales platform.		

3.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Building C, Hongwei Industrial Park Block 70, Bao'an District, Shenzhen, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164

3.5 Deviation from Standards

None.

3.6 Abnormalities from Standard Conditions

None.

3.7 Other Information Requested by the Customer

None.

4 SAR Evaluation

4.1 RF Exposure Compliance Requirement

4.1.1 Limits

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold Pth (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). Pth is given by Formula

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and ERP20cm is per Formula (B.1).

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

4.1.2 Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

4.1.3 EUT RF Exposure Evaluation

For Stand alone:

BLE:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio
@2.4GHz	20	-0.25	2.7500	0.35	1.0839	3060	0.0004

2.4G Wi-Fi:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@2.4GHz	20	3.98	2.7500	4.58	2.8708	3060	0.0009	Pass

5G Wi-Fi:

Frequency (MHz)	Estimation distance (cm)	Max. Conducted Output power (dBm)	Antenna Gain (dBi)	ERP (dBm)	ERP (mW)	Limit (mW)	MPE ratio	Result
@5GHz	20	-0.05	2.8600	0.66	1.1641	3060	0.0004	Pass

Note:

- ① EIRP=conducted power+antenna gain;
- ② $ERP = EIRP - 2.15$;
- ③ $EIRP(dBm) = \text{Field strength of the fundamental signal}(dBuV/m@3m) - 95.23$;
- ④ $ERP(mW) = 10^{(ERP(dBm)/10)}$;
- ⑤ The estimation distance is 20cm;
- ⑥ The test data please refer to the report of EED32Q81846701, EED32Q81846702, EED32Q81846703 and only the worst case data was recorded in the report.

For Simultaneous Transmission:

As MPE ratio (2.4G Wi-Fi+5G Wi-Fi)=0.0009+0.0004=0.0013 < 1,
it's deemed to fulfil the RF exposure requirement.

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.

*** End of Report ***