

TEST REPORT

FCC ID.	2A8GG-Q3
Test Report No.	TCT220822E042
Date of issue	Oct. 11, 2022
Testing laboratory	SHENZHEN TONGCE TESTING LAB
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China
Applicant's name	SHENZHEN SAGAMOBILE CO., LTD.
Address	RM.12A Benyuan Building, No.6015, Shennan Rd., Futian district, Shenzhen, China
Manufacturer's name	SHENZHEN SAGAMOBILE CO., LTD.
Address	RM.12A Benyuan Building, No.6015, Shennan Rd., Futian district, Shenzhen, China
Standard(s)	FCC CFR Title 47 Part 1.1307
Product Name	Portable Projector
Trade Mark	SUREWHEEL
Model/Type reference	Q3
Rating(s)	AC 120V/60Hz
Date of receipt of test item	Aug. 22, 2022
Date (s) of performance of test	Aug. 22, 2022 - Oct. 11, 2022
Tested by (+signature)	Rleo LIU
Check by (+signature)	Beryl ZHAO
Approved by (+signature) :	Tomsin



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1. General Product Information

1.1. EUT description

Product Name	Portable Projector
Model/Type reference	Q3
Sample Number	TCT220822E020-0101
Operation Frequency	For BT/BLE: 2402MHz~2480MHz For 2.4G WIFI: 2412MHz~2462MHz (802.11b/802.11g/802.11n(HT20)) 2422MHz~2452MHz (802.11n(HT40)) For 5G WIFI: 5180MHz~5240MHz, 5745MHz~5825MHz
Modulation Type	For BT: GFSK, $\pi/4$ -DQPSK, 8DPSK For BLE: GFSK For 2.4G WIFI: DSSS(802.11b), OFDM (802.11g/802.11n) For 5G WIFI: 256QAM, 64QAM, 16QAM, BPSK, QPSK
Antenna Type	Internal Antenna
Antenna Gain	For BT/BLE: 5.98dBi For 2.4G WIFI/5G WIFI: 5dBi
Rating(s)	AC 120V/60Hz

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

None.

2. General Information

2.1. Test environment and mode

Item	Normal condition
Temperature	+25°C
Voltage	AC 120V/60Hz
Humidity	56%
Atmospheric Pressure:	1008 mbar
Test Mode:	
Engineering mode:	Keep the EUT in continuous transmitting by select channel

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.
3. For conducted measurements (Output Power, 20dB Occupied Bandwidth, Carrier Frequencies Separation, Hopping Channel Number, Dwell Time, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

3. Facilities and Accreditations

3.1. Facilities

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

- FCC - Registration No.: 645098
SHENZHEN TONGCE TESTING LAB
Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1
SHENZHEN TONGCE TESTING LAB
CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict,

Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

4. Test Results and Measurement Data

According to §1.1307(b), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

Remark: 1)

Mode	Frequency (MHz)	Max. Power (dBm)	Tune up Power (dBm)	Max. Tune up Power (dBm)	Max. Tune up Power (mW)	Numeric antenna gain(dBi)
BT	2480	9.41	9±1	10	10.00	3.96
BLE(1M)	2440	8.01	8±1	9	7.94	3.96
BLE(2M)	2440	9.43	9±1	10	10.00	3.96
2.4G WIFI	2412	19.33	19±1	20	100.00	3.16
5G WIFI Band 1	5200	10.27	10±1	11	12.59	3.16
5G WIFI Band 3	5745	5.52	5±1	6	3.98	3.16

2) For mobile or fixed location transmitters, no SAR consideration applied. The minimum separation generally be used is at least 20cm, even if the calculation indicate that the MPE distance would be lesser.

Calculation

$$\text{Given } E = \sqrt{\frac{30 \times P \times G}{d}} \quad \& \quad S = \frac{E^2}{3770}$$

Where
 E = Field Strength in Volts / meter
 P = Power in Watts
 G =Numeric antenna gain
 d =Distance in meters
 S =Power Density in milliwatts / square centimeter

Substituting the MPE safe distance using $d=20\text{cm}$ into above equation.

Yields:

$$S=0.000199 \times P \times G$$

Mode	Power(mW)	numeric antenna gain	Power density(mW/cm ²)	Limit(mW/cm ²)	Result
BT	10.00	3.96	0.007880	1.0	PASS
BLE(1M)	7.94	3.96	0.006257		
BLE(2M)	10.00	3.96	0.007880		
2.4G WIFI	100.00	3.16	0.062884		
5G WIFI Band 1	12.59	3.16	0.007917		
5G WIFI Band 3	3.98	3.16	0.002503		

Simultaneous Transmission

Mode	Power density	Limit	Result
BT + 2.4G WIFI	0.070764	1.0	PASS
BT + 5G WIFI	0.015797		

(For mobile or fixed location transmitters, the maximum power density is 1.0 mW/cm² even if the calculation indicates that the power density would be larger.)

*******END OF REPORT*******