



RF EXPOSURE REPORT

For

Quanzhou Tesunho Electronics Co., Ltd

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FCC ID: 2AKS9TM981

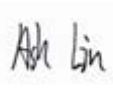
Report Type:	Product Name:
Original Report	Mobile PoC Radio
Report Number:	2507W20891E-RF-03
Report Date:	2025-12-17
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2507W20891E-RF-03	R1V1	2025-12-17	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product Name:	Mobile PoC Radio
Tested Model:	TM981
Multiple Model(s):	TM982, TM983
Power Supply:	DC 12V
Frequency Range:	2.4G WIFI: 2412-2462MHz WCDMA Band 2: 1850-1910 MHz(TX), 1930-1990MHz(RX) WCDMA Band 4: 1710-1755 MHz(TX), 2110-2155MHz(RX) WCDMA Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 2: 1850-1910 MHz(TX), 1930-1990MHz(RX) LTE Band 4: 1710-1755 MHz(TX), 2110-2155MHz(RX) LTE Band 5: 824-849 MHz(TX), 869-894 MHz(RX) LTE Band 12: 699-716 MHz (TX), 729-746 MHz (RX) LTE Band 13: 777-787 MHz (TX), 746-756 MHz (RX) LTE Band 14: 788-798 MHz (TX), 758-768 MHz (RX) LTE Band 66: 1710-1780 MHz(TX), 2110-2200 MHz(RX) LTE Band 71: 663-698 MHz(TX), 617-652 MHz(RX)
Modulation Technique:	2.4G WIFI: 802.11b:DSSS 802.11g/n:OFDM WCDMA: BPSK(Uplink), HSDPA:QPSK(Uplink), HSUPA:QPSK(Uplink), HSPA+:16QAM(Uplink) LTE: QPSK, 16QAM
EUT Received Status:	Good
<i>Note:</i> 1. The test model is identify with the series model except for the model name, please refer to declaration letter for more detail. 2. The EUT supplied by the applicant was received on 2025-08-18.	

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN1384.

FCC1.1307(b)(1) & §2.1091 – MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to FCC §1.1307(b)(1) & §2.1091, 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.

Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
0.3-1.34	614	1.63	*(100)	30
1.34-30	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;
According to §1.1307(b)(1) & §2.1091 RF exposure is calculated.

Calculated Formulary:

$$S = \frac{PG}{4\pi R^2}$$

Predication of MPE limit at a given distance

$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm²);

P = power input to the antenna (in appropriate units, e.g., mW);

G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain;

R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{\text{limit},i}} \leq 1$$

Calculated Data:**For 2.4G WIFI**

Mode	Frequency (MHz)	★Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
2.4G WIFI	2412-2462	1.0	1.26	19	79.43	20	0.0199	1

For 1#Antenna

Mode	Frequency (MHz)	★Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
WCDMA B2	1850-1910	2.6	1.82	23	199.53	20	0.0722	1
WCDMA B4	1710-1755	2.1	1.62	24	251.19	20	0.0810	1
WCDMA B5	824-849	1.4	1.38	24	251.19	20	0.0690	0.5493
LTE B2	1850-1910	2.6	1.82	25	316.23	20	0.1145	1
LTE B4	1710-1755	2.1	1.62	24	251.19	20	0.0810	1
LTE B5	824-849	1.4	1.38	25	316.23	20	0.0868	0.5493
LTE B12	699-716	-1.5	0.71	25	316.23	20	0.0445	0.4660
LTE B13	777-787	-1.2	0.76	26	398.11	20	0.0601	0.5180
LTE B14	788-798	-0.6	0.84	26	398.11	20	0.0690	0.5253
LTE B66	1710-1780	2.1	1.62	25	316.23	20	0.1020	1
LTE B71	663-698	-2.6	0.55	25	316.23	20	0.0346	0.442

Note: 1. The Tune-up output power and Antenna Gain was declared by the Manufacturer.

Simultaneous transmission:

2.4G WIFI and WCDMA/LTE CAN transmissions simultaneously, the worst case is

$$\sum_i \frac{S_i}{S_{\text{limit},i}} \leq 1$$

$$= S_{2.4G \text{ WIFI}} / S_{\text{limit-2.4GWIFI}} + S_{\text{LTE B5}} / S_{\text{limit-LTE B5}}$$

$$= 0.0199/1 + 0.0868/0.5493$$

$$= 0.0199 + 0.1580$$

$$= 0.1779 < 1$$

Result: The device meets MPE at distance 20cm.

For 2#Antenna

Mode	Frequency (MHz)	★Antenna Gain		★Tune-up Output Power		Evaluation Distance (cm)	Power Density (mW/cm ²)	MPE Limit (mW/cm ²)
		(dBi)	(numeric)	(dBm)	(mW)			
WCDMA B2	1850-1910	4.42	2.77	23	199.53	20	0.1098	1
WCDMA B4	1710-1755	4.21	2.64	24	251.19	20	0.1317	1
WCDMA B5	824-849	2.43	1.75	24	251.19	20	0.0874	0.5493
LTE B2	1850-1910	4.42	2.77	25	316.23	20	0.1740	1
LTE B4	1710-1755	4.21	2.64	24	251.19	20	0.1317	1
LTE B5	824-849	2.43	1.75	25	316.23	20	0.1101	0.5493
LTE B12	699-716	0.79	1.20	25	316.23	20	0.0755	0.4660
LTE B13	777-787	1.48	1.41	26	398.11	20	0.1113	0.5180
LTE B14	788-798	1.69	1.48	26	398.11	20	0.1169	0.5253
LTE B66	1710-1780	4.21	2.64	25	316.23	20	0.1658	1
LTE B71	663-698	0.54	1.12	25	316.23	20	0.0707	0.442

Note: 1. The Tune-up output power and Antenna Gain was declared by the Manufacturer.

Simulatneous transmission:

2.4G WIFI and WCDMA/LTE CAN transmissions simultaneously, the worst case is

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

$$= S_{2.4G\ WIFI} / S_{limit-2.4GWIFI} + S_{LTE\ B14} / S_{limit-LTE\ B14}$$

$$= 0.0199 / 1 + 0.1169 / 0.5253$$

$$= 0.0199 + 0.2225$$

$$= 0.2424 < 1$$

Result: The device meets MPE at distance 20cm.

EUT PHOTOGRAPHS

Please refer to the attachment 2507W20891E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2507W20891E-RF-INP EUT INTERNAL PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk “★”.
2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.
3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95% confidence interval.
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6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

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