RF Exposure Evaluation Report

Report No.:	RWAQ202400228E
Applicant:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Habour, No.11 Langshan Road Nanshan District, Shenzhen 518057 China
Product Name:	DMR Digital Repeater
Product Model:	TB2210-H5
Multiple Models:	N/A
Trade Mark:	Tait
FCC ID:	Q5ETB2210H5
Standards:	47 CFR §1.1310 KDB 447498 D01 General RF Exposure Guidance v06
Test Date:	2024-04-03
Test Result:	Complied
Report Date:	2024-04-08

Reviewed by: Abel Chen — Abel Chen, Project Engineer

Approved by: Jacob Kong — Jacob Kong, Manager

Prepared by:

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

NVLAP TESTING NVLAP LAB CODE 600335-0

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Announcement

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5. The information marked "#" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report. Customer model name, addresses, names, trademarks etc. are included.

Revision History

Version No.	Issued Date	Description
00	*2024-04-08*	*Original*

Contents

1 General Information

1.1 Client Information

Applicant:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Habour, No.11 Langshan Road Nanshan District, Shenzhen 518057 China
Manufacturer:	Kirisun Communication Co.,Ltd.
Address:	3rd Floor, Building A, Tongfang Information Habour, No.11 Langshan Road Nanshan District, Shenzhen 518057 China

1.2 Product Description of EUT

Sample Serial Number	6M-1 (assigned by WATC)
Sample Received Date	2024-03-08
Sample Status	Good Condition
Frequency Range	400-470 MHz
Rated Output Power#	40Watts, 35Watts, 30Watts, 25Watts, 20Watts, 15Watts, 10Watts, 5Watts
Modulation Technology	FM, 4FSK
Antenna Gain#	10dBi
Spatial Streams	SISO (1TX, 1RX)
Power Supply	AC 100-240V 50/60 Hz or DC 10.8-15.6V, 15A
Operating temperature#	-30 deg.C to +60 deg.C
Adapter Information	N/A
Modification	Sample No Modification by the test lab

1.3 Laboratory Location

World Alliance Testing & Certification (Shenzhen) Co., Ltd

No. 1002, East Block, Laobing Building, Xingye Road 3012, Xixiang street, Bao'an District, Shenzhen, Guangdong, People's Republic of China

Tel: +86-755-29691511, Email: qa@watc.com.cn

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 463912, the FCC Designation No. : CN5040.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0160.

2 RF Exposure Evaluation

2.1 Standard

According to §1.1310, radio frequency devices 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.

Table 1 to § 1.1310(e)(1)—Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(i) 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
300–1,500			f/300	<6
1,500–100,000			5	<6
(ii) Limits for General Population/Uncontrolled Exposure				
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
300–1,500			f/1500	<30
1,500–100,000			1.0	<30

f = frequency in MHz. * = Plane-wave equivalent power density.

Calculation formula:
Prediction of power density at the distance of the applicable MPE limit
$S = PG/4\pi R^2$ = power density (in appropriate units, e.g. mW/cm^2);
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:

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

2.2 Result

Radio	Frequency (MHz)	Maximum Conducted Power including Tune-up Tolerance		Maximum Antenna Gain		MPE Limit (mW/cm^2)	Min. safety separation distance (cm)
		(dBm)	(W)	(dBi)	(numeric)		
UHF	400-470	46.2	41.69	10	10	1.33	158

Note:

1. The Maximum Conducted Power including Tune-up Tolerance was declared by manufacturer.

2. The maximum allowed Antenna gain is10dBi, which provided by manufacturer.

3. To maintain compliance with the RF exposure guidelines, keep at least a 158cm distance from antenna to nearby person/body.

Result: Complied.

---End of Report---