

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 1 of 8

1 Cover Page

RF MPE REPORT

Application No.:	KSCR2309001731AT
FCC ID:	2BD4BK021091
Applicant:	PROSE Technologies, LLC
Address of Applicant:	550 Clark Drive ,Mount Olive, NJ 07828
Manufacturer:	PROSE Technologies, LLC
Address of Manufacturer:	550 Clark Drive ,Mount Olive, NJ 07828
Factory:	1.PROSE Technologies (Suzhou) Co., Ltd 2.PROSE Technologies India Pvt. Ltd.
Address of Factory:	1.No. 6, Shen'an Road, Dianshanhu, Kunshan, Jiangsu, China 2.Block A, Horizon Industrial Park, Off MIDC Phase II, Landmark:- Next to Hyundai Construction Co (I) Pvt Ltd Chakan, Pune-410501
Equipment Under Test (EUT):	
EUT Name:	Fiber Optical Repeater Remote Unit
Model No.:	HPRU-P-46-D77-64F-10, HPRU-P-XX-D77-XX-XX
*	Please refer to page 2 of this report which indicates which model was actually tested and which were electrically identical.
Trade mark:	PROSE
Standard(s) :	FCC Rules 47 CFR §2.1091 KDB447498 D01 General RF Exposure Guidance v06
Date of Receipt:	2023-09-25
Date of Test:	2023-10-15 to 2023-12-31
Date of Issue:	2024-03-11
Test Result:	Pass*

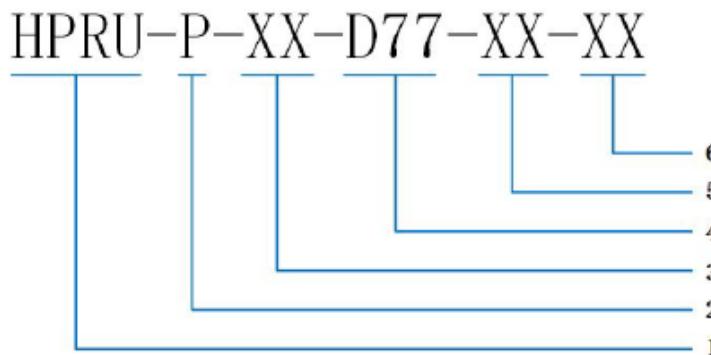
* In the configuration tested, the EUT complied with the standards specified above.

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 30 days only.

The detail difference description as below:



1. HPRU: blade Fiber Optical Repeater Remote Unit, second generation.
2. XX: transmission power level, unit dBm; The value ranges from 33 to 46.
3. N77: represents 3GPP operating band, the Repeater contain N77;
4. XX: represents the ANT port connector type; example, 64F, NF, etc.
5. XX: represents customer code, example, 01HW, 10, 11NA. etc.

*Except that the power level, connector type and customer code deviation, are identical with the original product as follows: the same appearance and same EMC and safety characteristics.

Declaration of EUT Family Grouping:

There are series models mentioned in this report and they are the Identical in electrical and electronic characters. Only the model HPRU-P-46-D77-64F-10 was tested since their differences were the model number and appearance.

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 3 of 8

Revision Record			
Version	Description	Date	Remark
00	Original	2024-03-11	/

Authorized for issue by:			
Tested By		 Cloud Peng	
		Cloud Peng /Project Engineer	
Approved By		 Terry Hou	
		Terry Hou /Reviewer	

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 4 of 8

2 Contents

	Page
1 Cover Page	1
2 Contents	4
3 General Information.....	5
3.1 General Description of E.U.T.	5
3.2 Technical Specifications.....	5
3.3 Test Location.....	6
3.4 Test Facility	6
4 Test Standards and Limits.....	7
4.1 FCC Radiofrequency radiation exposure limits:.....	7
5 Measurement and Calculation.....	8
5.1 Maximum transmit power	8
5.2 MPE Calculation.....	8



Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 5 of 8

3 General Information

3.1 General Description of E.U.T.

Power supply:	AC 120V
---------------	---------

3.2 Technical Specifications

Frequency Band:	5GNR N77:3700MHz to 3840MHz 5GNR N77:3840MHz to 3980MHz
Antenna Type:	External antenna
Antenna Gain:	12 dBi for 3700MHz to 3840MHz (Provided by manufacturer) 12 dBi for 3840MHz to 3980MHz (Provided by manufacturer)
Modulation Type:	5G NR: CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM
MIMO:	2*2 MIMO
Temperature Range:	-40°C to 55°C

Note:

The antenna gain value is provided by the customer. The test lab will not be responsible for wrong test result due to incorrect information about antenna gain values.



Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 6 of 8

3.3 Test Location

All tests were performed at:

Compliance Certification Services (Kunshan) Inc.

No.10 Weiye Rd, Innovation park, Eco&Tec, Development Zone, Kunshan City, Jiangsu, China.

Tel: +86 512 5735 5888 Fax: +86 512 5737 0818

No tests were sub-contracted.

Note:

1.SGS is not responsible for wrong test results due to incorrect information (e.g., max. internal working frequency, antenna gain, cable loss, etc) is provided by the applicant. (If applicable).

2.SGS is not responsible for the authenticity, integrity and the validity of the conclusion based on results of the data provided by applicant. (If applicable).

3. Sample source: sent by customer.

3.4 Test Facility

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

- **A2LA**

Compliance Certification Services (Kunshan) Inc. is accredited by the American Association for Laboratory Accreditation (A2LA). Certificate No. 2541.01.

- **FCC**

Compliance Certification Services (Kunshan) Inc. has been recognized as an accredited testing laboratory. Designation Number: CN1172.

- **ISED**

Compliance Certification Services (Kunshan) Inc. has been recognized by Innovation, Science and Economic Development Canada (ISED) as an accredited testing laboratory. Company Number: 2324E

- **VCCI**

The 3m and 10m Semi-anechoic chamber and Shielded Room of Compliance Certification Services (Kunshan) Inc. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-20134, R-11600, C-11707, T-11499, G-10216 respectively.

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 7 of 8

4 Test Standards and Limits

4.1 FCC Radiofrequency radiation exposure limits:

According to §1.1310, the limit for general population/uncontrolled exposures

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
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
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

Compliance Certification Services (Kunshan) Inc.

CCSEM-TRF-001 Rev. 02 Sep 01, 2023

Report No.: KSCR230900173102

Page: 8 of 8

5 Measurement and Calculation

5.1 Maximum transmit power

The Power Data is based on the RF Test Report KSCR230900173101

5.2 MPE Calculation

According to the formula $S=P*G/4\pi R^2$, we can calculate S which is MPE.

Note:

1)P (mW)

2)R = distance to the center of radiation of antenna (in centimeter)

Test Mode	Frequency Band (MHz)	Max E.I.R.P	Turn up E.I.R.P	Operation Distance	Power Density	Limit of Power Density	Ratio (Power Density/Limit)	Result
		(dBm)	(dBm)	R(cm)	(mW/cm ²)	S(mW/cm ²)		
5G NR	3700 ~ 3840	61.23	62.00	505	0.4945	1	0.4945	Pass
5G NR	3840 ~ 3980	61.00	62.00	505	0.4945	1	0.4945	Pass

Simultaneous transmission:

Test Mode	Wireless Configure	Tune Up EIRP (dBm)	Power Density S at R = 1010 cm (mW/cm ²)	Limit of Power Density S(mW/cm ²)	Ratio (Power Density/Limit)	Limit
5G NR	3700 ~ 3840	62.00	0.4945	1	0.9890	1
5G NR	3840 ~ 3980	62.00	0.4945	1		

Note:

(1) The EUT can support four band simultaneous transmitted.

According to the KDB447498 section 7.2 determine the device is exclusion from SAR test.

--End of the Report--