TEST REPORT

Report No..... :	CHTW25040005
Project No ..... :	SHT2402053801W
FCC ID ..... :	**2AE6C-ER9100U1**
Applicant's name..... :	**Shenzhen Excera Technology Co., Ltd.**
Address..... :	201, Building B, Tongfang Information Habour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China
Product Name ..... :	**Digital Repeater**
Trade Mark..... :	EXCERA
Model No..... :	ER9100 U1
Listed Model(s) ..... :	-
Standard ..... :	**FCC CFR Title 47 Part 2.1091**
Date of receipt of test sample……...:	2024/11/1
Date of testing……..:	2024/11/7- 2024/11/12, 2024/12/11- 2024/12/30
Date of issue……...:	2025/8/14
Result.....……...:	**PASS**

Compiled by (Position+Printed name+Signature). :	File administrator	Xiaodong Zhao	Xiaodong Zhao
Supervised by (Position+Printed name+Signature). :	Project Engineer	Caspar Chen	Caspar Chen
Approved by (Position+Printed name+Signature). :	RF Manager	Xu Yang	Xu Yang

Testing Laboratory Name ..... :	**Shenzhen Huatongwei International Inspection Co., Ltd.**
Address..... :	Building 7, Baiwang Idea Factory, No.1051, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong, China

Test Report Form No. ..... :	R0066
Test Report Form(s) Originator..... :	Shenzhen Huatongwei International Inspection Co., Ltd.
Master TRF ..... :	Dated 2025-07

Contents

1 TEST STANDARDS AND REPORT VERSION

1.1. Test standard

The tests were performed according to following standards:

FCC 47 Part 2.1091: Radiofrequency radiation exposure evaluation: mobile devices.

FCC 47 Part 1.1310: Radiofrequency radiation exposure limits.

FCC 47 Part 1.1307(b): Actions that may have a significant environmental effect, for which Environmental Assessments (EAs) must be prepared.

KDB 447498 D04 Interim General RF Exposure Guidance v01: Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies

1.2. Report revised information

Revised No.	Date of issued	Description
N/A	2025-08-14	Original

2 SUMMARY

2.1 Client information

Applicant:	Shenzhen Excera Technology Co., Ltd.
Address:	201, Building B, Tongfang Information Habour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China
Manufacturer:	Shenzhen Excera Technology Co., Ltd.
Address:	201, Building B, Tongfang Information Habour, No.11 Langshan Road, Nanshan District, Shenzhen 518057, P.R.China

2.2 Product description

Main unit information:	
Product name:	Digital Repeater
Trade mark:	EXCERA
Model No.:	ER9100 U1
Listed model(s):	-
Power supply:	AC 110V from Adapter
Hardware version:	D
Software version:	R1.6.06D

2.3 Radio Specification Description *1

PMR		
Operation Band:	400MHz~470MHz	
Rated Output Power:	☒ High Power 45W	☒ Low Power 5W
Modulation Type:	Analog Voice:	FM
	Digital Voice/Digital Data:	4FSK
Channel Separation	Analog Voice:	12.5kHz
	Digital Voice/Digital Data:	12.5kHz

2.4 Testing laboratory information

Laboratory Name	Shenzhen Huatongwei International Inspection Co., Ltd.	
Laboratory Location	Building 7, Baiwang Idea Factory, No.1051, Songbai Road, Yangguang Community, Xili Subdistrict, Nanshan District, Shenzhen, Guangdong, China	
Connect information:	Tel: 400-963-0755 E-mail: cs@szhtw.com.cn http://www.szhtw.com.cn	
Qualifications	Type	Accreditation Number
	FCC Test Firm Registration Number	762235
	FCC Designation Number	CN1181

3 TEST CONDITIONS AND RESULTS

4.1. Limit

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

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)
(A) Limits for Occupational/Controlled Exposures				
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
300–1500	-	-	f/300	6
1500–100,000	-	-	5	6
(B) 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

Note: f = frequency in MHz

EVALUATION METHOD

Transmission formula: **$Pd = (Pout*G)/(4*pi*r^2)$**

Where

Pd = power density in mW/cm^2, **Pout** = output power to antenna in mW, **G** = gain of antenna in linear scale;

Pi = 3.1416, **R** = distance between observation point and center of the radiator in cm

TEST RESULT

☒ **Passed** ☐ **Not Applicable**

Radio Type	Frequency (MHz)	Conducted Average Power (dBm)*	Maximum Tune-up (dBm)	Duty Cycle	Antenna Gain (dBi)	r (m)	Power Density (mW/cm2)	Limit (mW/cm2)
PMR	400.0125	47.00	47.30	50%	3.5	0.60	1.329	1.333
PMR	400.0125	47.00	47.30	50%	0	0.41	1.271	1.333
PMR	400.0125	47.00	47.30	50%	-3.5	0.27	1.309	1.333

Note:

1) r is the distance from observation point to the antenna which is declared by the applicant.
2) *: refer to the RF report.

If the gain of the antenna is 3.5dBi, the separation distance is at least 0.60m from body and the antenna, so meet this standard requirement.

4 EXTERNAL AND INTERNAL PHOTOS

Refer to the test report No.: CHTW25030043