

FCC RF Exposure Exemption report

for

Refrigerant Leak Detector

Model No.: DRX3

FCC ID: 2ALHRDRX3

of

Applicant: Fieldpiece Instruments, Inc

Address: 1636 WEST COLLINS AVE ORANGE, CA 92867 USA

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634



Report No.: W6M22407-23621-EE



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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

Laboratory disclaimer-

1. The test results of this test report relate exclusively to the item tested as specified in 1.5.
2. The test report may only be reproduced or published in full.
3. Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.
4. Antenna gain is provided by applicant and laboratory issue relevant data and results.

Tester:

October 05, 2024

Ken Kang

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

October 05, 2024

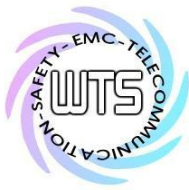
Kevin Wang

Date

WTS

Name

Signature



Worldwide Testing Services(Taiwan) Co., Ltd.

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1.2 Testing laboratory

1.2.1 Location

10m OATS

No.5-1, Lishui, Shuang Sing Village, Wanli Dist.,
New Taipei City 207, Taiwan (R.O.C.)

Xizhi Lab

No. 99, Sec. 1, Balian Rd., Xizhi Dist.,
New Taipei City 221032, Taiwan (R.O.C.)

Worldwide Testing Services (Taiwan) Co., Ltd.
6F., No. 58, Ln. 188, Ruiguang Rd., Neihu Dist.,
Taipei City 114, Taiwan (R.O.C.)
Tel: 886-2-6606-8877

1.2.2 Details of accreditation status

Accredited testing laboratory

FCC filed test laboratory Reg. No.: TW1072, TW1140, TW1146, TW1477, TW0037

Industry Canada filed test laboratory Reg. No.: 20037, 31634

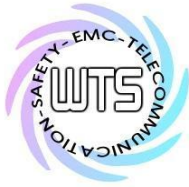
Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name:	./.
Accredited no.:	./.
Street:	./.
Town:	./.
Country:	./.

1.3 Application details

Approval holder

Name:	Fieldpiece Instruments, Inc
Street:	1636 WEST COLLINS AVE ORANGE,
Town:	CA 92867
Country:	USA



Worldwide Testing Services(Taiwan) Co., Ltd.

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Manufacturer: (if applicable)

Name: CHY FIREMATE CO., LTD.
Street: No.3 Sheng-Li 1st Street, Xintian Village, Rende District,
Town: Tainan City,
Country: Taiwan R.O.C.

Application details

Date of receipt of test item: September 06, 2024

Date of test: from September 09, 2024 to September 26, 2024

1.4 General information of Test item

Type of test item: Refrigerant Leak Detector

Model no.: DRX3

Multi-listing model no.: ./.

Brand name: Fieldpiece

Power supply: Battery 6Vd.c.

Type of antenna: PCB antenna

Antenna gain: -0.38 dBi

Technical data:

Mode	Channel	Conducted Power (dBm)
BLE 1M	Ch 0 : 2402 MHz	4.22
	Ch 19 : 2440 MHz	4.37
	Ch 39 : 2480 MHz	4.57

Operation modes: Duplex

Modulation type: GFSK

Sample no.: #01

Special statement: ./.

Classification:

Fixed Device	☐
Mobile Device (Human Body distance > 20cm)	☐
Portable Device (Human Body distance < 20cm)	☒

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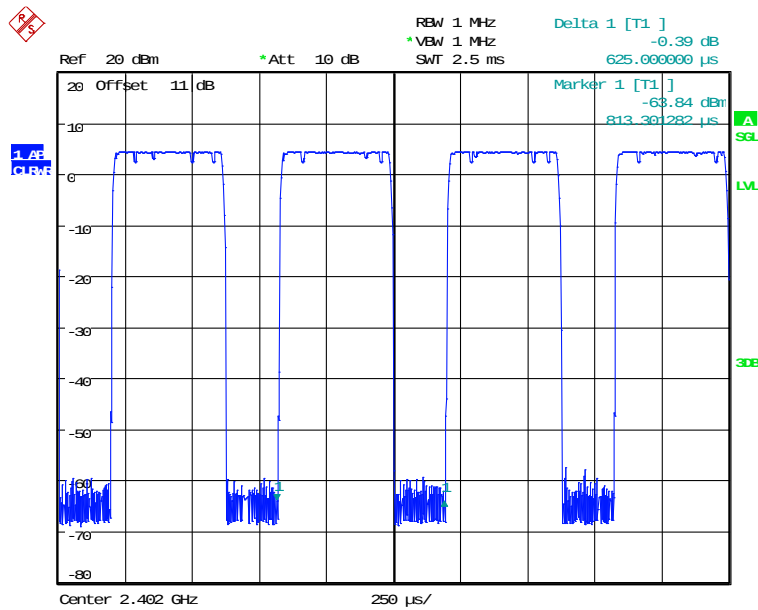
FCC ID: 2ALHRDRX3

1.5 Duty cycle and factor

The duty factor is computed as $[10 \log (1 / D)]$, where D is the duty cycle.

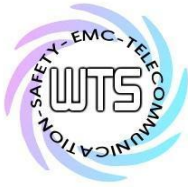
Mode	T _{on} (ms)	T _{on} +T _{off} (ms)	Duty cycle (%)	1/T - VBW (kHz)
BLE 1M	0.44471	0.625	71.15%	2.25

Duty cycle plot



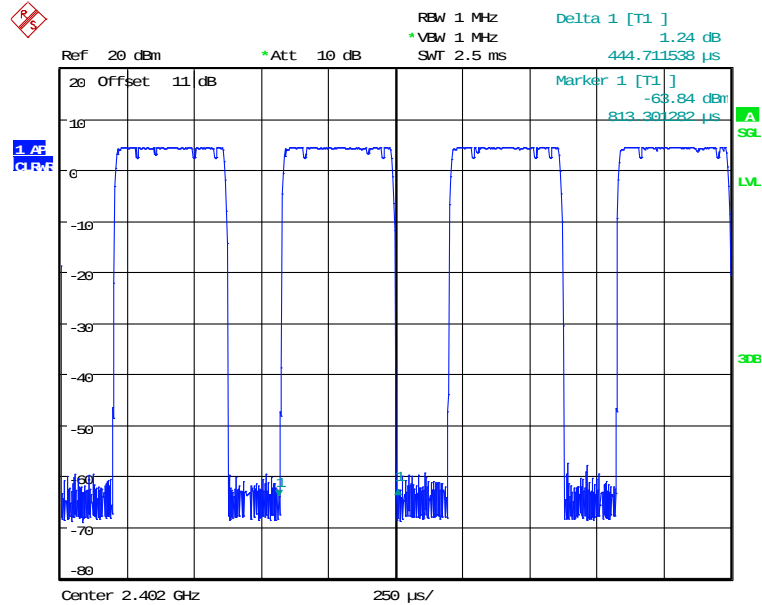
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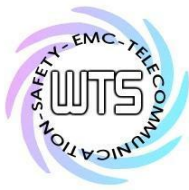
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1.6 Test standards

47 CFR FCC Part 2.1093

447498 D04 Interim General RF Exposure Guidance v06



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2 Test configuration

2.1 Test environment

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Extreme conditions parameters: ./.

2.2 Measurement uncertainty

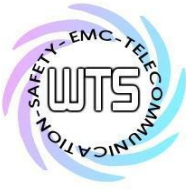
Test item Name	Uncertainty
Estimation Result of Uncertainty of Conducted Output Power Measurement (Peak Output Power (transmitter))	Expanded Uncertainty : 1.64 dB

The decision rule is: Measurement uncertainty is not included in the calculation of test results.

2.3 Test Equipment List

Max Output Power

Code No.	Test equipment	Mode No.	Serial No.	Brand	Cal. Date	Next Cal. Date
ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2024/2/16	2025/2/15
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2024/3/7	2025/3/6
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2024/2/16	2025/2/15
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	HUBER+SUHNER	2024/2/16	2025/2/15



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3 Exemption calculation

1-mW Test Exemption

The maximum power is 4.57 dBm (0.0029mW)

$$0.0029\text{mW} \leq 1\text{mW}$$

The device is qualify for simultaneous transmission SAR exemption.