Test Report on

Netradyne Inc.
Model Name: D-215
HW Version: Rev_A
SW Version: SWI9X07Y_02.35.02.00 (SVN: 10)

Test Report Reference: 4-RC146a-2022

Date: 2022-05-11

Test Laboratory:

Beijing 7 layers Huarui Communications Technology Co., Ltd.
1F Building B, Qingdong Business Center, No.1 Chedaogou ,Haidian District
100089 Beijing, P. R. China

Chairman of the Board: Ms. Chen Min Vice Chairman of Board: Dr. Yao Bin

Phone: +86-010-68050368 *Fax: +86-010-68050370* *URL: www.7layers.cn*

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1 Administrative Data

1.1 Project Information

Project Name	D-215
Responsible for Testing	Jing Zhang
Date of Report	2022-05-11
Testing Time Frame	2022-03-25 to 2022-05-10

Note: All date and time information is reported in UTC.

1.2 Applicant Information

Company	Netradyne Inc.
Address	9191 Towne Centre Drive Suite 200, San Diego,CA 92122
Contact Person	Diane Romita
Phone	001-619-890-7048
Email	diane.romita@netradyne.com

1.3 Test Laboratory Information

The following list shows all Locations and Test Resources involved in the generation of test results:

ritt7layers, Beijing, China

Company Name	ritt7layers: Beijing 7Layers Huarui Communications Technology Co., Ltd.
Address	1F, Building B, Qingdong Business Center, No.1 Chedaogou, Haidian District Beijing China
Contact	Bin Yao
Phone	+86 10 6805 0368 ext. 103
Email	Bin.Yao@7Layers.com
Laboratory accreditation no.	CNAS: L4320

List of Test Resources

ID	Name	Responsible	Accreditation Info
1	TP092 - R&S CMW500 (NB-IOT/CAT-M）	Peibo Sun Chao Wang	CNAS: L4320
2	TP118 - COMPRION UT3	Yi Wang	CNAS: L4320

ritt7layers-C, Beijing, China

Company Name	ritt7layers-C
Address	NO.52 Huayuanbei Road, Haidian District Beijing China
Contact	Bin Yao
Phone	+86 10 6805 0368 ext. 103
Email	Bin.Yao@7Layers.com
Laboratory accreditation no.	CNAS: L4320

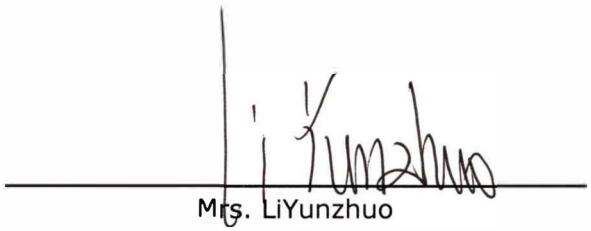
List of Test Resources

ID	Name	Responsible	Accreditation Info
3	Radiated Spurious Emissions	Bin Yao	CNAS: L4320

1.4 Signature of responsible for testing

Jing Zhang

1.5 Signature of responsible for accreditation scope



Mrs. LiYunzhuo

1.6 Revision History

Report version control			
Version	**Release date**	**Change Description**	**Version validity**
initial	2022-05-11	--	valid
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2 Test Object Data

2.1 Object Under Test (OUT) Description(s)

The following section lists all Objects Under Test (OUTs) involved during testing.

Object Under Test: D-215

Type / Model	D-215
Description	Integrated Device
Normal Temperature	25 °C
Low Temperature	-10 °C
High Temperature	55 °C
Normal Voltage	12 V
Low Voltage	10 V
High Voltage	30 V

Manufacturer:

Company	Netradyne Inc.
Address	9191 Towne Centre Drive Suite 200, San Diego,CA 92122
Contact Person	Diane Romita
Phone	001-619-890-7048
Email	diane.romita@netradyne.com

3 Results

3.1 General

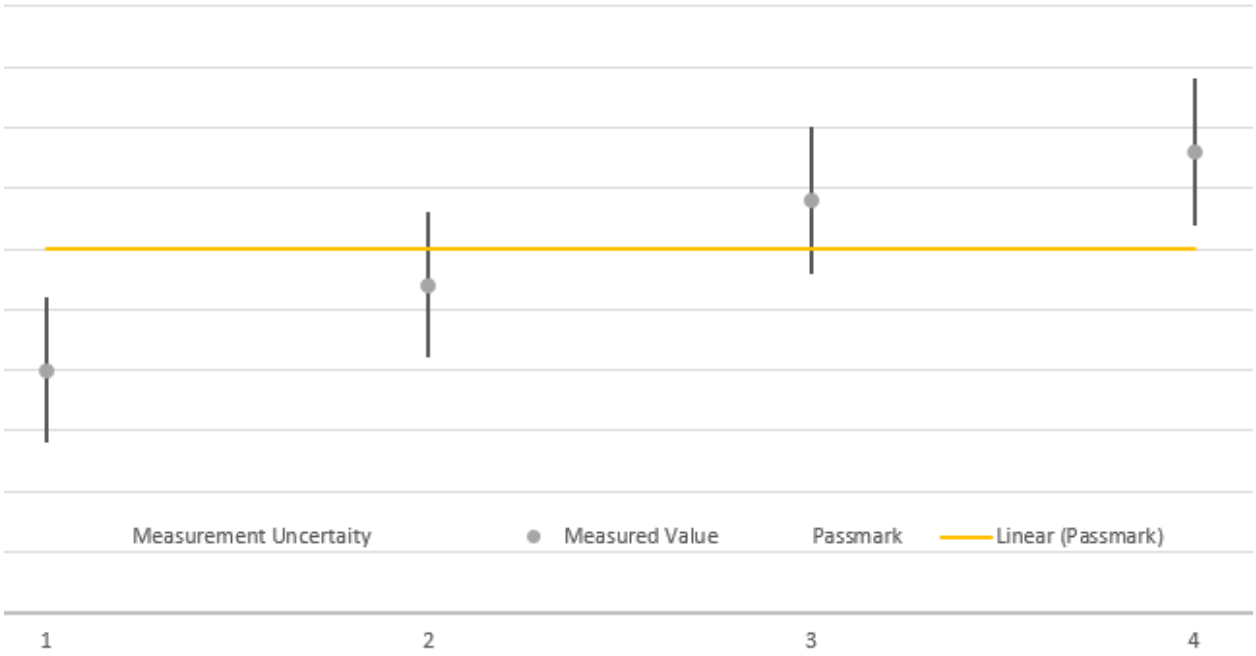
Documentation of tested devices	Available at the test laboratory.
Interpretation of the test results	The results of the inspection are described on the following pages, where 'Conformity' or 'Passed' means that the certification criteria were verified and that the tested device conforms to the applied standard. In cases where 'Declaration' is stated, the required documents are available in the manufacturer's product documentation. In cases where 'not applicable' is stated, the test case requirements are not relevant to the specific equipment implementation.
Notes	1. This report contains the abbreviated information content pertaining to services rendered. Supporting documentation not included herein is maintained and available at the test laboratory. 2. All tests are performed under environmental conditions within the requirements of the specifications. Environmental condition records are available at the test laboratory.

3.2 Measurement uncertainties

Parameter	Uncertainty
Occupied channel Bandwidth	± 5%
Radiated Emissions	30 MHz – 180 MHz: ± 4.4 dB 180 MHz – 26 GHz: ± 2.3 dB
Spurious emissions, conducted	0.2 – 1 dB (*)
Transmitter tests, conducted	0.2 – 0.7 dB (*)
Receiver tests, conducted	0.2 – 0.7 dB (*)
Frequency error, conducted	< 6 Hz (*)
Phase error, conducted	0.6° – 6° (*)
Temperature	± 0.3 °C
Humidity	± 3%
DC and low frequency voltages	± 1.5% + 2 digits
Time	± 5%
Duty Cycle	± 5%

(*) Depending on the used test resource and the performed test case the uncertainty is in the given range. Detailed documentation is available at 7layers GmbH.

The measurement uncertainties for all parameters are calculated with an expansion factor (coverage factor) k = 1.96. This means, that the true value is in the corresponding interval with a probability of 95 %.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

3.3 Applicable Quality Policies

Quality Policy	Version	Expiration Date
NAPRD03	5.40	

3.4 Applicable Test Specification(s)

Test Specification	3GPP TS 36.124
Version	V16.1.0
Description	ElectroMagnetic Compatibility (EMC) requirements for mobile terminals and ancillary equipment (Release 16)
Test Specification	3GPP TS 36.523-1
Version	V16.11.0
Description	3rd Generation Partnership Project; Technical Specification Group Radio Access Network; Evolved Universal Terrestrial Radio Access (E-UTRA) and Evolved Packet Core (EPC); User Equipment (UE) conformance specification; Part 1: Protocol conformance specification (Release 17)
Test Specification	ETSI TS 102 230-1
Version	V14.1.0
Description	Smart Cards; UICC-Terminal interface; Physical, electrical and logical test specification (Release 14)

3.5 Result Statistics

Test Specification	Total	Result Verdict					Pass ratio
		Pass	Fail	Declaration	Blocked	Performed	
3GPP TS 36.124	8	8	0	0	0	0	100.00 %
3GPP TS 36.523-1	1	1	0	0	0	0	100.00 %
ETSI TS 102 230-1	13	13	0	0	0	0	100.00 %

Note: Pass, Declaration, Performed, Fail and Inconclusive results are regarded for the pass ratio calculation.
Pass, Performed and Declaration are summarized as Pass results. Fail and Inconclusive are summarized as Fail results.
All are summarized as total count (Pass + Declaration + Performed + Fail + Inconclusive).
The pass ratio is calculated by the number of Pass results divided by the number of total results.
All other results like Error, Not Tested or Blocked are not regarded for the calculation.

3.6 Result Summary

3.6.1 Pass Results

Test Specification: 3GPP TS 36.124

Test Case Name / Description Test Condition	Category	Verdict	Date	Test Res. ID	Sample/Setup
8.2 / Radiated Emission					
Band = eFDD71, Part = idle	A	Passed	2022-03-25	TR 3	A01
Band = eFDD71, Part = traffic	A	Passed	2022-03-25	TR 3	A01
Band = eFDD66, Part = idle	A	Passed	2022-03-25	TR 3	A01
Band = eFDD66, Part = traffic	A	Passed	2022-03-25	TR 3	A01
Band = eFDD2, Part = idle	A	Passed	2022-03-25	TR 3	A01
Band = eFDD2, Part = traffic	A	Passed	2022-03-25	TR 3	A01
Band = eFDD12, Part = idle	A	Passed	2022-03-25	TR 3	A01
Band = eFDD12, Part = traffic	A	Passed	2022-03-25	TR 3	A01

Test Specification: 3GPP TS 36.523-1

Test Case Name / Description Test Condition	Category	Verdict	Date	Test Res. ID	Sample/Setup
9.1.4.2 / Identification procedure / IMEI / IMEISV requested					
Band = eFDD4, ChBW = 5 MHz	A	Passed	2022-05-10	TR 1	E01

Test Specification: ETSI TS 102 230-1

Test Case Name / Description Test Condition	Category	Verdict	Date	Test Res. ID	Sample/Setup
5.1.1 / Phase preceding Terminal power on					
	A	Passed	2022-04-21	TR 2	E01
5.1.2.2 / Phase during UICC power on: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
5.1.3.2 / Phase during Terminal power off: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-05-06	TR 2	E01
5.2.2.3 / Electrical tests on contact C1, Test 1: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
5.2.2.4 / Electrical tests on contact C1, Test 2: 1,8 V - 3 V					
Parameter = (1) 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
Parameter = (2) 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
Parameter = (3) 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01

Test Case Name / Description Test Condition	Category	Verdict	Date	Test Res. ID	Sample/Setup
Parameter = (4) 1.8V-3V (1.8V mode)	A	Passed	2022-05-10	TR 2	E01
Parameter = (5) 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
Parameter = (6) 1.8V-3V (1.8V mode)	A	Passed	2022-05-10	TR 2	E01
5.2.3.2 / Electrical tests on contact C2: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
5.2.4.2 / Electrical tests on contact C3: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01
5.2.5.3 / Electrical tests on contact C7, Test 1: 1,8 V - 3 V					
Parameter = 1.8V-3V (1.8V mode)	A	Passed	2022-04-21	TR 2	E01

4 Test Equipment Details

4.1 List of Test Equipment

The information shown below is valid for the testing time frame of this test report.

Test Resource 1: TP092 - R&S CMW500 (NB-IOT/CAT-M）
Description: Protocol Conformance Tester

Test System CMW500 of Test Resource TP092 - R&S CMW500 (NB-IOT/CAT-M）

Description: Universal Protocol Tester
Manufacturer: Rohde & Schwarz (China) Technology Co. Ltd.
Serial Number: 165455

Software Version	*Start Date*	*End Date*
CMW Base Ver. 3.7.22	2018-10-24	
KC5xx: v18.24.x, v18.12.x, v17.51.x, v17.37.x,		

Single Devices of Test System CMW500

Name	**Serial Number**	**Manufacturer**
CMW500	165455	Rohde & Schwarz (China) Technology Co. Ltd.

Event	*Execution Date*	*Next Execution*
Calibration	2020-08	2022-08

Test Resource 2: TP118 - COMPRION UT3
Description: 2G_analog

Test System SIM/ME Conformance Test System UT3 of Test Resource TP118 - COMPRION UT3

Description: SIM/ME Conformance Test System
Manufacturer: COMPRION GmbH
Serial Number:

Software Version	*Start Date*	*End Date*
IT3TestPlatform: v.7.0 UT³ Platform：V.8.0	2019-05-11	

Single Devices of Test System SIM/ME Conformance Test System UT3

Name	**Serial Number**	**Manufacturer**
Analog Probe	45166	COMPRION GmbH

Event	*Execution Date*	*Next Execution*
Calibration	2022-03	2024-04

Test Resource 3: Radiated Spurious Emissions
Description: RSE

Test System 3m Chamber of Test Resource Radiated Spurious Emissions

Description: 966
Manufacturer:
Serial Number:

Software Version	*Start Date*	*End Date*
EMC32: V.9.15.0	2017-07-23	

Single Devices of Test System 3m Chamber

Name	Serial Number	Manufacturer	
CMU200	112012	Rohde & Schwarz (China) Technology Co. Ltd.	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05
Name	**Serial Number**	**Manufacturer**	
CMW500	104178	Rohde & Schwarz (China) Technology Co. Ltd.	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05
Name	**Serial Number**	**Manufacturer**	
ESU40	100307	Rohde & Schwarz (China) Technology Co. Ltd.	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05
Name	**Serial Number**	**Manufacturer**	
HF907	100356	Rohde & Schwarz (China) Technology Co. Ltd.	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05
Name	**Serial Number**	**Manufacturer**	
NGMO1	100496	Rohde & Schwarz (China) Technology Co. Ltd.	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05
Name	**Serial Number**	**Manufacturer**	
VULB9163	9163-544	SCHWARZBECK	
	Event	*Execution Date*	*Next Execution*
	Calibration	2019-05	2022-05

5 Annex

5.1 Object Under Test (OUT) Features

All Supported Features for D-215 refer to Sierra Wireless Solutions Limited's WP7611.

5.2 Sample A01

Sample Name: A01	
Object Under Test	D-215
Description	Integrated Device
Hardware Version	Rev_A
Software Version	SWI9X07Y_02.35.02.00
Parameter Name	**Value**
IMEI	355882100147426
IMEISV	3558821001474210
Sample location	Shenzhen
Sample responsibility	Zhangjing

5.3 Sample E01

Sample Name: E01	
Object Under Test	D-215
Description	Integrated Device
Hardware Version	Rev_A
Software Version	SWI9X07Y_02.35.02.00
Parameter Name	**Value**
IMEI	355882100145525
IMEISV	3558821001455210
Sample location	Shenzhen
Sample responsibility	Zhangjing

1. Front View of EUT

2. Back View of EUT

China National Accreditation Service for Conformity Assessmen

LABORATORY ACCREDITATION CERTIFICATE

(Registration No. CNAS L4320)

Beijing 7 Layers Huarui

Communications Technology Co., Ltd.

(Legal Entity: Beijing 7 Layers Huarui Communications Technology Co., Ltd.)

E-301, No.8, Tongji South Road,

Beijing Economic-Technological Development Area, Beijing, China

is accredited in accordance with ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence to undertake the service described in the schedule attached to this certificate.

The scope of accreditation is detailed in the attached schedule bearing the same registration number as above. The schedule forms an integral part of this certificate.

Effective Date：2022-05-10

Expiry Date：2028-05-09

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is a signatory of the International Laboratory Accreditation Cooperation Mutual Recognition Arrangement (ILAC MRA) and the Asia Pacific Accreditation Cooperation Mutual Recognition Arrangement (APAC MRA).

The validity of the certificate can be checked on CNAS website at http://www.cnas.org.cn/english/findanaccreditedbody/index.shtml.

End of Test Report