





FCC Test Report FCC ID: 2BPQH-RDRGRK

Product: Rugged Single Gang Reader

Trade Name: ProdataKey, Inc

Model Number: RDRGRK

Family Model: N/A

Report No.: S25052206513001

Issue Date: Jun 10, 2025

Prepared for

ProdataKey,Inc

67 W 13490 S Suite 300, Draper, UT 84020, USA

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

No. 24 Xinfa East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China

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(Project Engineer)



Report No.: S25052206513001

(Manager)

TEST RESULT CERTIFICATION

Applicant's name:	ProdataKey,Inc						
Address:	: 67 W 13490 S Suite 300, Draper, UT 84020, USA						
Manufacturer's Name:							
Address:	Floor 5, Building 20, North district, Liuxiandong Industrial Park, Xili, Nanshan district, Shenzhen, China						
Product description							
Product name:	Rugged Single Gang Reader						
Model and/or type reference :	RDRGRK						
Test Sample number:	S250522065014						
results show that the equipment un applicable only to the tested sample. This report shall not be reproduced. Technology Co., Ltd., this documen Ltd., personnel only, and shall be n	een tested by Shenzhen NTEK Testing Technology Co., Ltd., and the test der test (EUT) is in compliance with the FCC requirements. And it is e identified in the report. I except in full, without the written approval of Shenzhen NTEK Testing it may be altered or revised by Shenzhen NTEK Testing Technology Co. oted in the revision of the document. I conly to the tested sample identified in this report.						
Date (s) of performance of tests	: May. 24, 2025 ~ Jun. 10, 2025						
Date of Issue	: Jun. 10, 2025						
Test Result	Pass						
Prepared By: Joe Yan	Reviewed : Approved : Alex Li By : Aaron Cheng By : Alex Li						

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(Supervisor)







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Revision History

Report No.	Version	Description	Issued Date
S25052206513001	Rev.01	Initial issue of report	Jun 10. 2025

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1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission							
Standard	Test Item	FCC Rules	Limit	Judgment	Remark		
	Conducted Emission	§15.207	Class B	PASS			
FCC part 15C	Radiated Emission	§15.209	Class B	PASS			
ANSI C63.10:2013	ANTENNA APPLICATION	§15.203	/	PASS			
	20dB bandwidth	§15.215	/	PASS			

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

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1.1 FACILITIES AND ACCREDITATIONS

All measurement facilities used to collect the measurement data are located at

No. 24 Xinfa East Road, Xiangshan Community, Xinqiao Street, Baoan District, Shenzhen, Guangdong, People's Republic of China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

1.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

CAB identifier:CN0074

FCC- Accredited Test Firm Registration Number: 463705.

Designation Number: CN1184

A2LA-Lab. The Certificate Registration Number is 4298.01

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for

the competence of testing and calibration laboratories.

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).

Name of Firm : Shenzhen NTEK Testing Technology Co., Ltd.

Site Location : No. 24 Xinfa East Road, Xiangshan Community, Xingiao Street, Baoan

District, Shenzhen, Guangdong, People's Republic of China.

1.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $\mathbf{y} \pm \mathbf{U}$, where expended uncertainty \mathbf{U} is based on a standard uncertainty multiplied by a coverage factor of $\mathbf{k=2}$, providing a level of confidence of approximately $\mathbf{95}$ %.

No.	Item	Uncertainty
1	Conducted Emission Test	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%
8	Occupied Bandwidth	±4.7dB
9	All emissions,radiated(9 KHz ~ 30MHz)	±2.52

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2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Product Feature and Specification				
Equipment	Rugged Single Gang Reader			
Trade Name	ProdataKey, Inc			
FCC ID	2BPQH-RDRGRK			
Model No.	RDRGRK			
Family Model	N/A			
Model Difference	N/A			
Operating Frequency	125KHz			
Modulation Technique	FSK			
Antenna Type	Induction coil			
Power supply	☑DC supply: Input: DC 12V ±10%,150mA			
Tower supply	Adapter supply:			
Output	N/A			
Battery	N/A			
HW Version	N/A			
SW Version	N/A			

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2.1.1 DESCRIPTION OF TEST MODES

EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

EUT Exercise

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

Test Cases					
Test Item	Data Rate/ Modulation				
AC Conducted Emission	Mode 1: Working				
Radiated Test Cases	Mode 1: Working				
RF Conducted Emission	Mode 1: Working				

(*)EUT can only access the specified load, can not adjust the size of the load

Carrier Frequency and Channel list:

Channel	Frequency(MHz)	
1	0.125	

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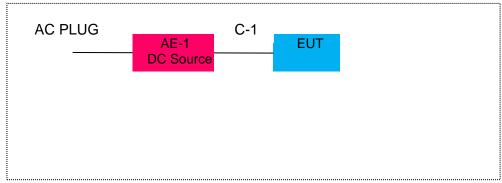




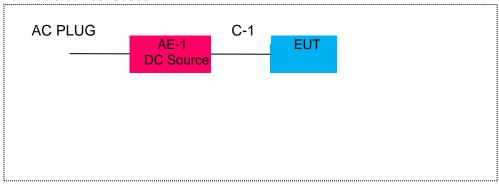


2.2 DESCRIPTION OF TEST SETUP

For AC Conducted Emission Mode



For Radiated Test Cases



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2.3 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	DC source	PS-6005D	20170402923	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
C-1	Power Cable	NO	NO	90cm	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in <code>FLength_</code> column.
- (3) "YES" means "shielded" "with core"; "NO" means "unshielded" "without core".

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2.4 MEASUREMENT INSTRUMENTS LIST

Radiation& Conducted Test equipment

· ualatic	na Conducted i	cot equipinent					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4440A	MY41000130	2025.04.24	2026.04.23	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY53280244	2025.04.16	2026.04.15	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2025.04.17	2026.04.16	1 year
4	Test Receiver	R&S	ESPI7	101318	2025.04.17	2026.04.16	1 year
5	Bilog Antenna	ETS	3142E	00214344	2024.06.01	2027.05.30	3 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2024.04.26	2027.04.25	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2024.05.12	2027.05.11	3 year
8	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2024.05.17	2027.05.16	3 year
9	LF Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
10	MXG Vector Signal Generator	Agilent	N5182A	MY47070317	2025.04.17	2026.04.16	1 year
11	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2023.05.06	2026.05.05	3 year
12	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2023.05.06	2026.05.05	3year
13	High and Low Temperature Box	WEISS	WT 20/40 EMC Simpac	58226119460 030	2024.05.30	2027.05.29	3year

AC Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2025.04.17	2026.04.16	1 year
2	LISN	R&S	ENV216	101313	2025.04.16	2026.04.15	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2025.04.16	2026.04.15	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2024.04.26	2027.04.25	3 year
5	Test Cable (9KHz-30MHz)	N/A	C01	N/A	2023.05.06	2026.05.05	3 year
6	Test Cable (9KHz-30MHz)	N/A	C02	N/A	2023.05.06	2026.05.05	3 year
7	Test Cable (9KHz-30MHz)	N/A	C03	N/A	2023.05.06	2026.05.05	3 year

Note:

- 1.We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list
- 2. Each piece of equipment is scheduled for calibration once a year except the Test Cable& Aux Equipment which is scheduled for calibration every 3 years.

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3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

EDEOLIENCY (MH-7)	li	mit
FREQUENCY (MHz)	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

ne following table is the setting of the receiver			
Receiver Parameters	Setting		
Attenuation	10 dB		
Start Frequency	0.15 MHz		
Stop Frequency	30 MHz		
IF Bandwidth	9 kHz		

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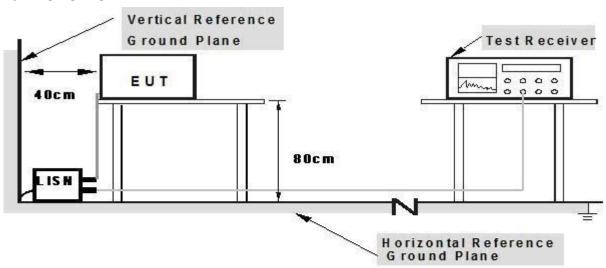




3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

3.1.3 TEST SETUP



Note: 1.Support units were connected to second LISM.

2.Both of LISMs (AMM) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of **2.3** Unless otherwise a special operating condition is specified in the follows during the testing.

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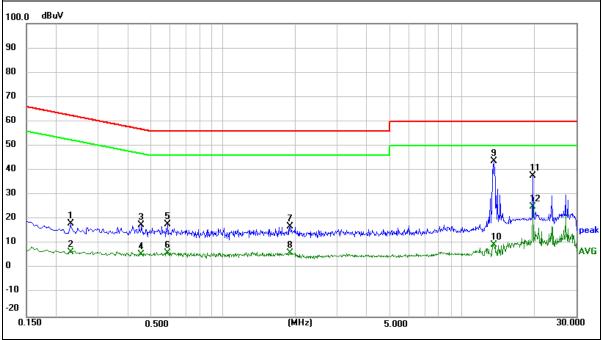
3.1.5 TEST RESULTS

EUT: Rugged Single Gang Reader		Model Name :	RDRGRK
Temperature : 26 ℃		Relative Humidity:	54%
Pressure :	1010hPa	Phase :	+
Test Voltage :	DC 12V from DC Source AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Domork
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.2300	0.2300 8.02 10.11		18.13	62.45	-44.32	Peak
0.2300	-3.66	10.11	6.45	52.45	-46.00	AVG
0.4540	7.17	10.56	17.73	56.80	-39.07	Peak
0.4540	-4.98	10.56	5.58	46.80	-41.22	AVG
0.5860	7.24	10.84	18.08	56.00	-37.92	Peak
0.5860	-4.71	10.84	6.13	46.00	-39.87	AVG
1.9060	3.49	13.51	17.00	56.00	-39.00	Peak
1.9060	-7.28	13.51	6.23	46.00	-39.77	AVG
13.5780	33.81	10.01	43.82	60.00	-16.18	Peak
13.5780	-0.56	10.01	9.45	50.00	-40.55	AVG
19.7420	27.58	10.06	37.64	60.00	-22.36	Peak
19.7420	15.06	10.06	25.12	50.00	-24.88	AVG

Remark:

- All readings are Quasi-Peak and Average values.
 Factor = Insertion Loss + Cable Loss.



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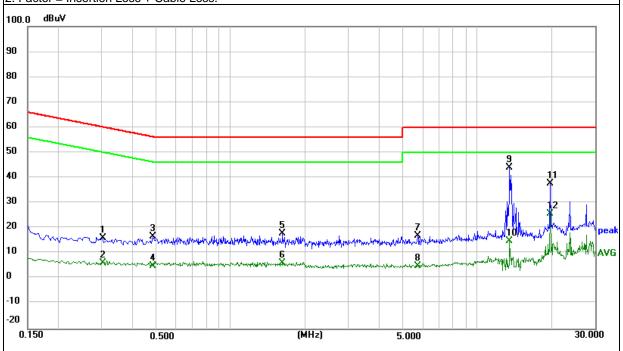


-			_
EUT:	Rugged Single Gang Reader	Model Name :	RDRGRK
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	-
Test Voltage :	DC 12V from DC Source AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.3020	5.88	10.20	16.08	60.19	-44.11	Peak
0.3020	-4.02	10.20	6.18	50.19	-44.01	AVG
0.4820	6.27	10.63	16.90	56.30	-39.40	Peak
0.4820	-5.51	10.63	5.12	46.30	-41.18	AVG
1.6220	5.08	12.90	17.98	56.00	-38.02	Peak
1.6220	-6.65	12.90	6.25	46.00	-39.75	AVG
5.7260	7.19	9.75	16.94	60.00	-43.06	Peak
5.7260	-4.81	9.75	4.94	50.00	-45.06	AVG
13.5500	33.93	10.03	43.96	60.00	-16.04	Peak
13.5500	5.02	10.03	15.08	50.00	-34.95	AVG
19.7420	27.79	10.04	37.83	60.00	-22.17	Peak
19.7420	15.58	10.04	25.62	50.00	-24.38	AVG

Remark

- 1. All readings are Quasi-Peak and Average values.
- 2. Factor = Insertion Loss + Cable Loss.



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3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table 15.209(a):

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

15.205 Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

Notes:

- (1) Measurement was performed at an antenna to the closed point of EUT distance of meters.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) Only spurious frequency is permitted to locate within the Restricted Bands specified in provision of 15.205, and the emissions located in restricted bands also comply with 15.209 limit.
- (4) The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector

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3.2.2 TEST PROCEDURE

Test Arrangement for Radiated Emissions up to 1 GHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna (Blow 30M, use loop antenna), and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency below 1GHz.

Test Arrangement for Radiated Emissions above 1 GHz.

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at ar accredited chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Use the following receiver/spectrum analyzer settings:

Span = wide enough to fully capture the emission being measured

RBW=200Hz for 9KHz to 150KHz,

RBW=9kHz for 150KHz to 30MHz,

RBW=120KHz for 30MHz to 1GHz

VBW ≥ 3*RBW

Sweep = auto

Detector function = QP

Trace = max hold

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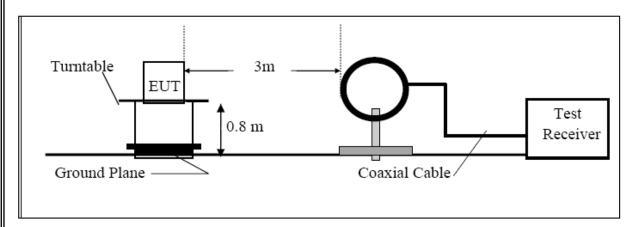




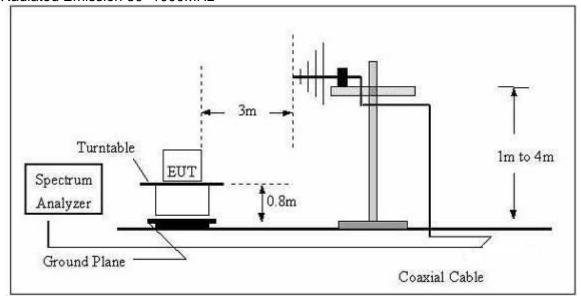


3.2.3 TEST SETUP

For Radiated Emission Test Set-Up, Frequency Below 30MHz



For Radiated Emission 30~1000MHz



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3.2.4 TEST RESULTS

TEST RESULTS (9KHz~30MHz)

EUT:	Rugged Single Gang Reader	Model Name.:	RDRGRK
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Power:	DC 12V
Test Mode :	Mode 1	Polarization :	X

Frequency	Ant.Pol.	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
0.089	X	44.85	108.616	-63.77	Avg
0.125	Х	66.35	105.667	-39.32	Avg
0.617	Х	27.73	71.799	-44.07	Avg
0.936	Х	40.60	68.179	-27.58	QP
2.578	Х	42.01	69.542	-27.53	QP
15.639	Х	42.28	69.542	-27.26	QP

Note:

Below 30MHz, Pre-test the X, Y, Z axis to find X axis is worst case, so only record X axis test data.

- X: Field strength which this device generates since the position of the coil and loop antenna differ by 0 degrees.
- Y: Field strength which this device generates since the position of the cooil and loop antenna differ by 90 degrees.
- Z: Field strength which this device generates since the position of the coil and loop antenna differ by 180 degrees

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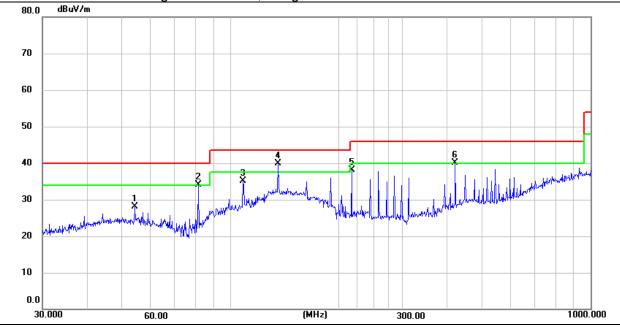
TEST RESULTS (30MHz ~1000MHz)

EUT:	Rugged Single Gang Reader	Model Name. :	RDRGRK
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Power:	DC 12V
Test Mode :	Mode 1	Polarization:	Horizontal

Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Н	54.0710	8.59	19.50	28.09	40.00	-11.91	QP
Н	81.2116	20.27	13.87	34.14	40.00	-5.86	QP
Н	108.2665	17.20	17.91	35.11	43.50	-8.39	QP
Н	135.5061	25.41	14.57	39.94	43.50	-3.52	QP
Н	216.7828	19.75	18.29	38.04	46.00	-7.96	QP
Н	420.5803	16.81	23.33	23.33	46.00	-5.86	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



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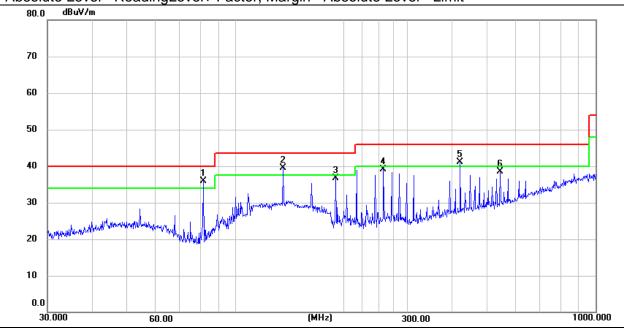


EUT:	Rugged Single Gang Reader	Model Name.:	RDRGRK
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Power:	DC 12V
Test Mode:	Mode 1	Polarization:	Vertical

Polar	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(H/V)	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	81.2116	21.94	13.87	35.81	40.00	-4.19	QP
V	135.5061	24.95	14.57	39.52	43.50	-3.98	QP
V	189.7384	19.43	17.19	36.62	43.50	-6.88	QP
V	257.4221	19.58	19.60	39.18	46.00	-6.82	QP
V	420.5803	17.86	23.33	41.19	46.00	-4.81	QP
V	543.2741	12.95	25.46	38.41	46.00	-7.59	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



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₽. BANDWIDTH TEST

4.1 TEST PROCEDURE

- 1). The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
- 2). The 20dB bandwidth Set value:

RBW = 1%-5% of occupied bandwidth VBW=3*RBW

- 3). Measured the spectrum width with power higher than 20dB below carrier.
- 4.2 TEST SETUP

EUT	SPECTRUM		
	ANALYZER		

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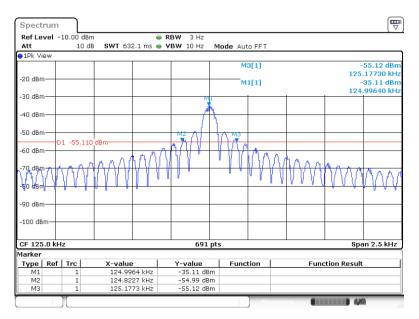




4.3 TEST RESULT

EUT:	Rugged Single Gang Reader	Model Name.:	RDRGRK
Temperature:	24 ℃	Relative Humidity:	54%
Pressure:	1010 hPa	Test Mode :	Mode 1
Test Power:	DC 12V		

-20dB Bandwidth- a single frequency (Hz)	F∟ (kHz)	F _H (kHz)	Note:F _L >110kHz,F _H < 495kHz, compliance with the Restricted
354.6	124.8227	125.1773	bands requirements according to Part 15.205



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5. ANTENNA APPLICATION

5.1 Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible partyshall be used with the device.

5.2 Result

Tho	CLIT	antonna	ic I	Induction	coil antonna	It comply with	the ctandare	Iroquiromont
i ne	$ \cup$ \cup \cup	antenna	18 1	ınaucııon	con antenna	it combiv with	ine sianoaic	requirement

END REPORT

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