

FCC RADIO TEST REPORT FCC ID: 2BPQH-RDRGRK

Product: Rugged Single Gang Reader

Trade Mark: ProdataKey, Inc.

Model Name: RDRGRK

Family Model: N/A

Report No.: S25052206513002

Issue Date: Jun 10, 2025

Prepared for

ProdataKey,Inc

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

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name	. :	ProdataKey,Inc
------------------	-----	----------------

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

Manufacturer's Name: Sebury Technology Co., Ltd

Address Floor 5, Building 20, North district, Liuxiandong Industrial

Park, Xili, Nanshan district, Shenzhen, China

Product description

Product name Rugged Single Gang Reader

Trade Mark: ProdataKey, Inc

Model and/or type reference: RDRGRK

Family Model: N/A

Test Sample number: \$250522065014 Standards FCC Part15.225

Test procedure ANSI C63.10-2013

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date of Issue...... Jun. 10, 2025

Test Result....:

Prepared . (Project Engineer) Reviewed : Approved : Approved By: (Supervisor)

(Manager)

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Revision History

Report No.	Version	Description	Issued Date
S25052206513002	Rev.01	Initial issue of report	Jun 10. 2025





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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.225)							
Standard Section	Test Item	Judgment	Remark				
15.207	Conducted Emission	Pass					
15.205(a) 15.209 15.225(abcd)	Radiated Spurious Emission	Pass					
15.225 15.215(c)	20dB Bandwidth	Pass					
15.225(e)	Frequency Tolerance	Pass					
15.203	Antenna Requirement	Pass					

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.



1.1 TEST FACILITY

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.

Site Description

CNAS-Lab. : The Certificate Registration Number is L5516.

IC-Registration The Certificate Registration Number is 9270A.

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, Xinqiao Street,

Baoan District, Shenzhen, Guangdong, People's Republic of

China.

1.2 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

Equipment	Rugged Single Gang Reader
Trade Mark	ProdataKey, Inc
Model Name	RDRGRK
Family Model	N/A
Model Difference	N/A
Product Description	The EUT is a Rugged Single Gang Reader Operation Frequency: 13.56MHz Modulation Type: ASK Number Of Channel 1CH. Antenna Designation: Induction coil
Adapter	N/A
Battery	N/A
Power supply	DC 12V ±10%,150mA
HW Version	N/A
SW Version	N/A

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.





2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

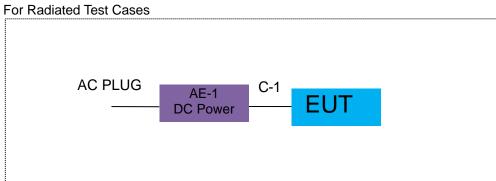
Pretest Mode	Description
Mode 1	TX-13.56MHz

For Radiated Emission			
Final Test Mode	Description		
Mode 1	TX-13.56MHz		

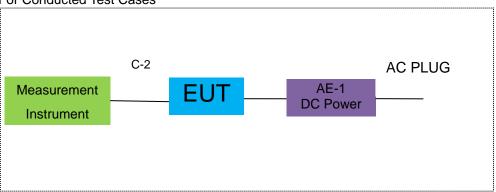




2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



For Conducted Test Cases



Note:1.The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.





._____

2.4 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

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.
- For detachable type I/O cable should be specified the length in cm in <code>FLength_</code> column.





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2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

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

70 00	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.





3. ANTENNA REQUIREMENT

3.1 STANDARD 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 party shall be used with the device.

3.2 EUT ANTENNA

The EUT	antenna is permanent	attached	antenna.	It compl	ly with	the stand	dard	requiren	nent.





4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

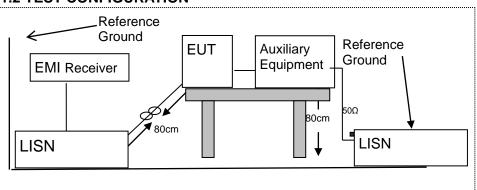
4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

Frague poy/MHz)	Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average	
0.15-0.5	66-56*	56-46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

Note: 1. *Decreases with the logarithm of the frequency

- 2. The lower limit shall apply at the transition frequencies
- 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.1.2 TEST CONFIGURATION



4.1.3 TEST PROCEDURE

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- 3. Connect EUT 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.
- 4. 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 40cm long.
- 5. 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.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item –EUT Test Photos.





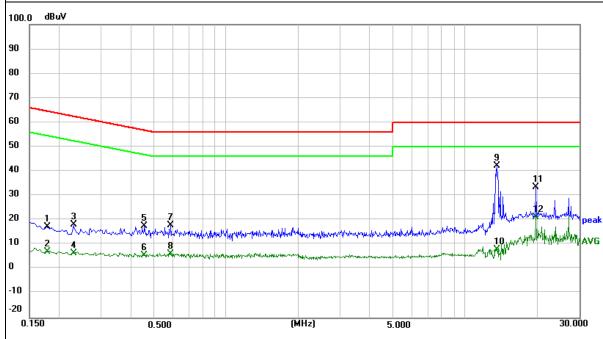


4.1.4 TEST RESULT

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

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Damadı
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1780	7.40	10.00	17.40	64.58	-47.18	Peak
0.1780	-2.81	10.00	7.19	54.58	-47.39	AVG
0.2300	8.02	10.11	18.13	62.45	-44.32	Peak
0.2300	-3.58	10.11	6.53	52.45	-45.92	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	-4.73	10.84	6.11	46.00	-39.89	AVG
13.5780	32.31	10.01	42.32	60.00	-17.68	Peak
13.5780	-2.06	10.01	7.95	50.00	-42.05	AVG
19.7420	23.58	10.06	33.64	60.00	-26.36	Peak
19.7420	11.06	10.06	21.12	50.00	-28.88	AVG

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







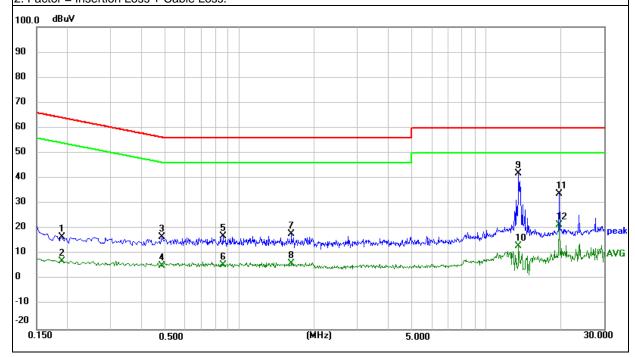


EUT:	Rugged Single Gang Reader	Model Name :	RDRGRK
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1010hPa	Phase :	-
Test Voltage :	DC 12V from DC Source AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Damauk
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.1900	6.94	9.95	16.89	64.04	-47.15	Peak
0.1900	-2.76	9.95	7.19	54.04	-46.85	AVG
0.4820	6.27	10.63	16.90	56.30	-39.40	Peak
0.4820	-5.13	10.63	5.50	46.30	-40.80	AVG
0.8540	5.61	11.41	17.02	56.00	-38.98	Peak
0.8540	-5.71	11.41	5.70	46.00	-40.30	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
13.5500	31.93	10.03	41.96	60.00	-18.04	Peak
13.5500	3.02	10.03	13.05	50.00	-36.95	AVG
19.7420	23.79	10.04	33.83	60.00	-26.17	Peak
19.7420	11.58	10.04	21.62	50.00	-28.38	AVG

Remark:

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







4.2 RADIATED EMISSION MEASUREMENT

4.2.1 Radiated Emission Limits (FCC 15.209)

Frequencies (MHz)	Field Strength (micorvolts/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

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).
- (3) 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.

According to FCC Part15.205, Restricted bands

MHz	MHz	GHz
16.42-16.423	399.9-410	4.5-5.15
16.69475-16.69525	608-614	5.35-5.46
16.80425-16.80475	960-1240	7.25-7.75
25.5-25.67	1300-1427	8.025-8.5
37.5-38.25	1435-1626.5	9.0-9.2
73-74.6	1645.5-1646.5	9.3-9.5
74.8-75.2	1660-1710	10.6-12.7
123-138	2200-2300	14.47-14.5
149.9-150.05	2310-2390	15.35-16.2
156.52475-156.52525	2483.5-2500	17.7-21.4
156.7-156.9	2690-2900	22.01-23.12
162.0125-167.17	3260-3267	23.6-24.0
167.72-173.2	3332-3339	31.2-31.8
240-285	3345.8-3358	36.43-36.5
322-335.4	3600-4400	(2)
	16.42-16.423 16.69475-16.69525 16.80425-16.80475 25.5-25.67 37.5-38.25 73-74.6 74.8-75.2 123-138 149.9-150.05 156.52475-156.52525 156.7-156.9 162.0125-167.17 167.72-173.2 240-285	16.42-16.423 399.9-410 16.69475-16.69525 608-614 16.80425-16.80475 960-1240 25.5-25.67 1300-1427 37.5-38.25 1435-1626.5 73-74.6 1645.5-1646.5 74.8-75.2 1660-1710 123-138 2200-2300 149.9-150.05 2310-2390 156.52475-156.52525 2483.5-2500 156.7-156.9 2690-2900 162.0125-167.17 3260-3267 167.72-173.2 3332-3339 240-285 3345.8-3358

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.225)

- (a)The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters, equal to 124dBuV/m at 3 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters, equal to 90.5dBuV/m at 3 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters, equal to 80.5dBuV/m at 3 meters...
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.







Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz And above 1GHz,
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

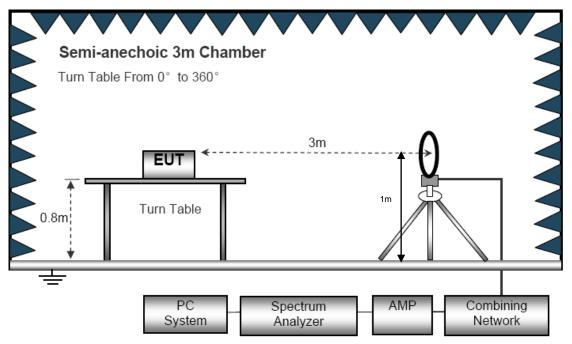
No deviation



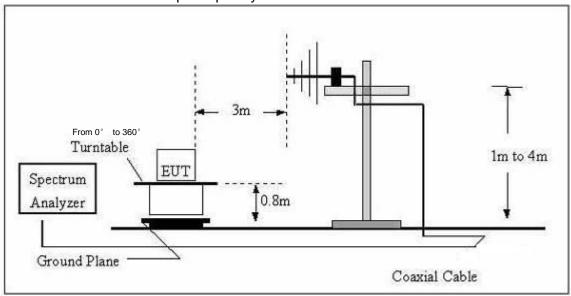


4.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



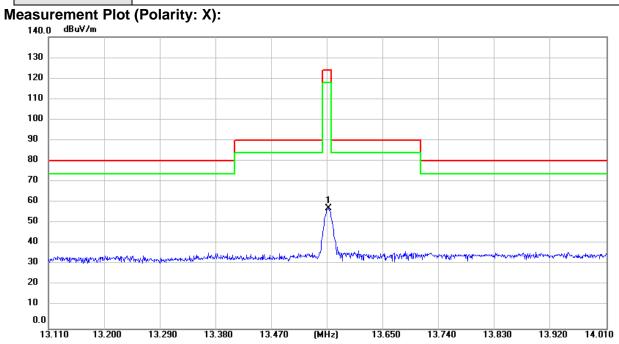






4.2.5 TEST RESULTS (BELOW 30MHz)

EUT:	Rugged Single Gang Reader	Model Name. :	RDRGRK	
-		Relative	F 40/	
Temperature :	20 ℃	Humidtity:	54%	
Pressure :	1010 hPa	Test Voltage :	DC 12V	
Test Mode :	TX-13.56MHz			



Measurement Result:

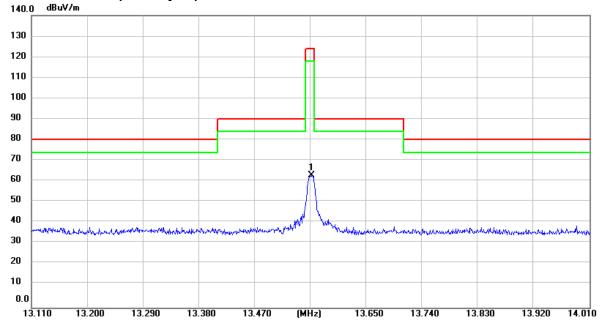
Freq.	Pre-scan Level MaxPeak	Final Test Level MaxPeak	Limit MaxPeak	Margin	Polar
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
13.5628	58.86	58.86	124	-65.14	Х











Measurement Result:

•	i itosuit.					
	Freq.	Pre-scan Level MaxPeak	Final Test Level MaxPeak	Limit MaxPeak	Margin	Polar
	(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
	13.5609	64.87	64.87	124	-59.13	Υ

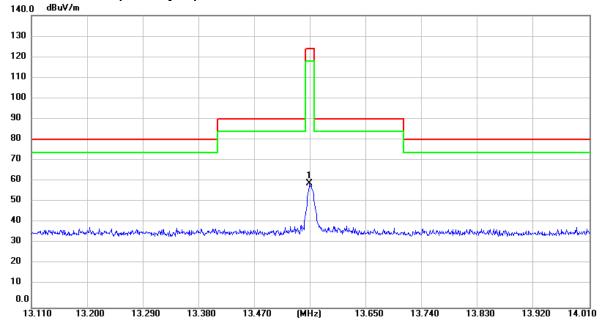
.











Measurement Result:

Freq.	Pre-scan Level MaxPeak	Final Test Level MaxPeak	Limit MaxPeak	Margin	Polar
(MHz)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dB)	
13.5591	59.88	59.88	124	-64.12	Z







Spurious emissions at 9KHz~13.110MHz & 14.010MHz~30MHz

Frequency(MHz)	Ant.Pol.	Emission	Limits	Margin	Remark
		Level			
		(dBuV/m)	(dBuV/m)	(dB)	
0.159	Х	46.14	103.576	-57.44	Avg
0.326	Х	47.29	97.340	-50.05	Avg
0.712	Χ	48.19	70.555	-22.37	Avg
0.913	Χ	40.50	68.395	-27.90	QP
2.587	Х	43.42	69.542	-26.12	QP
16.574	Χ	43.13	69.542	-26.41	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





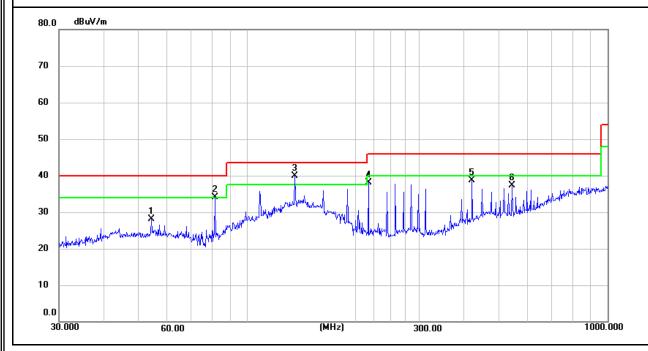


4.2.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

EUT :	Rugged Single Gang Reader	Model Name :	RDRGRK
Temperature :	22 ℃	Relative Humidity:	54%
Pressure :	1010 hPa	Test Voltage :	DC 12V
Test Mode :	TX	Polarization :	Horizontal

Freq.	Reading	Factor	Measurement	Limit	Over	Detector
(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector
54.0710	8.59	19.50	28.09	40.00	-11.91	QP
81.2116	20.27	13.87	34.14	40.00	-5.86	QP
135.5061	25.41	14.57	39.98	43.50	-3.52	QP
216.7828	19.75	18.29	38.04	46.00	-7.96	QP
420.5803	15.31	23.33	38.64	46.00	-7.36	QP
543.2740	11.89	25.46	37.35	46.00	-8.65	QP

Remark: Factor = Antenna Factor + Cable Loss.



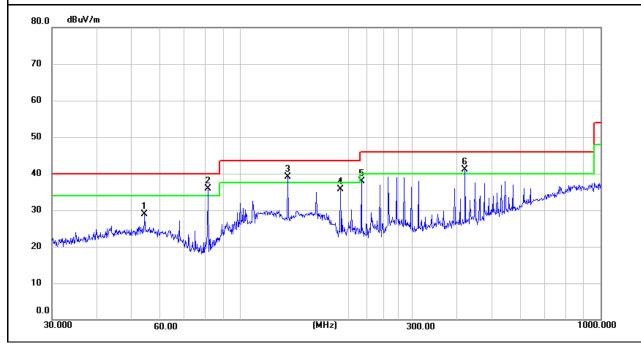




EUT:	Rugged Single Gang Reader	Model Name :	RDRGRK
Temperature :	24.3 ℃	Relative Humidity:	55%
Pressure :	1010 hPa	Test Voltage :	DC 12V
Test Mode :	TX	Polarization :	Vertical

Freq.	Reading	Factor	Measurement	Limit	Over	Detector
(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector
54.2610	9.37	19.51	28.88	40.00	-11.12	QP
81.2116	21.94	13.87	35.81	40.00	-4.19	QP
135.5061	24.45	14.57	39.02	43.50	-4.48	QP
189.7384	18.43	17.19	35.62	43.50	-7.88	QP
216.7828	19.61	18.29	37.90	46.00	-8.10	QP
420.5803	17.86	23.33	41.19	46.00	-4.81	QP

Remark: Factor = Antenna Factor + Cable Loss.









5. BANDWIDTH TEST

5.1 TEST PROCEDURE

- 1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
- 2. 20dB Bandwidth the resolution bandwidth of 1 kHz and the video bandwidth of 1 kHz were used.
- 3. Measured the spectrum width with power higher than 20dB below carrier.

5.2 DEVIATION FROM STANDARD

15.215

(c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated

FCC Part15.225

Operation within the band 13.110 - 14.010MHz

5.3 TEST SETUP

EUT	SPECTRUM
	ANALYZER



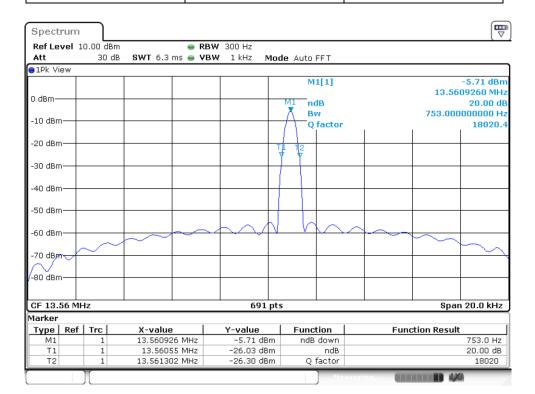




5.4 TEST RESULTS

EUT:	Rugged Single Gang Reader	Model Name :	RDRGRK
Temperature :	26 ℃	Relative Humidity:	54%
Pressure :	1020 hPa	Test Power :	DC 12V
Test Mode :	TX		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (kHz)
CH01	13.56	0.753







Certificate #4298.01

6. FREQUENCY TOLERANCE

6.1 Requirement:

Test FCC Part15.225

Requirement:

Test Method: ANSI C63.10 : 2013

Requirement: The frequency tolerance of the carrier signal shall be maintained

within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests

shall be performed using a new battery.

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.

2.Set EUT as normal operation

3.Set SPA Center Frequency = fundamental frequency, RBW, VBW= 10kHz, Span

=100kHz.

4.Set SPA Max hold. Mark peak.







Test Result

Power Supply	Temperature (°C)	Measured Frequency (MHz)	Frequency Error (MHz)	Result (ppm)	Part 15.225 Limit
	-20	13.56082	0.000820985	60.54	+/- 0.01%(100ppm)
DC 26.4V	20	13.56061	0.000608421	44.87	+/- 0.01%(100ppm)
	50	13.56078	0.000776295	57.25	+/- 0.01%(100ppm)
	-20	13.56111	0.001109183	81.80	+/- 0.01%(100ppm)
DC 12V	20	13.56093	0.000926	68.29	+/- 0.01%(100ppm)
	50	13.56113	0.001134065	83.63	+/- 0.01%(100ppm)
	-20	13.56087	0.000871354	64.26	+/- 0.01%(100ppm)
DC 21.6V	20	13.56086	0.000862178	63.58	+/- 0.01%(100ppm)
	50	13.56076	0.000756892	55.82	+/- 0.01%(100ppm)

END REPORT