



Flom Test Labs
EMI, EMC, RF Testing Experts Since 1963

toll-free: (866) 311-3268
fax: (480) 926-3598
<http://www.flomlabs.com>
info@flomlabs.com

Date: November 30, 2006

Federal Communications Commission
Via: Electronic Filing

Attention: Authorization & Evaluation Division

Applicant: RISG USA, Inc.
Equipment: R100-Prox
FCC ID: UKS-R100PR125
FCC Rules: 15C

Gentlemen:

On behalf of the Applicant, enclosed please find Application Form 731, Engineering Test Report and all pertinent documentation, the whole for approval of the referenced equipment as shown.

Filing fees are attached.

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

Sincerely yours,

Hoosamuddin S. Bandukwala, Lab Director

enclosure(s)
cc: Applicant
HSB/wb

Flom Test Labs
3356 N. San Marcos Place, Suite 107
Chandler, Arizona 85225-7176
(866) 311-3268 phone, (480) 926-3598 fax

FCC ID: UKS-R100PR125
MFA p0690001, d06b0042



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- a) Application Form
- b) Test Report (if applicable)
- c) Filing Fees
- d) Copy of Original Grant
- e) Expository Statement and/or letter by Applicant
- f) Photos (if applicable)
- g) Label Drawing (if changes have been made)

We trust the same is in order. Should you need any further information, kindly contact the writer who is authorized to act as agent.

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Transmitter Certification

of

FCC ID: UKS-R100PR125

Model: R100-Prox

to

Federal Communications Commission

Rule Part(s) 15C

Date of report: November 30, 2006

On the Behalf of the Applicant:

RISG USA, Inc.

At the Request of:

P.O.

RISG USA, Inc.
103 Barrows Way
Folsom, CA 95630

Attention of:

R. Dale Williams
916-355-1293
Email: rwilliams@receptor.net

Supervised by:

Hoosamuddin S. Bandukwala, Lab Director

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Email: rwilliams@receptor.net

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List of Exhibits

(FCC **Certification** (Transmitters) - Revised 9/28/98)

Applicant: RISG USA, Inc.

FCC ID: UKS-R100PR125

By Applicant:

1. Letter of Authorization
2. Confidentiality Request: 0.457 And 0.459
3. Identification Drawings, 2.1033(c)(11)
 - Label
 - Location of Label
 - Compliance Statement
 - Location of Compliance Statement
4. Photographs, 2.1033(c)(12)
5. Documentation: 2.1033(c)
 - (3) User Manual
 - (9) Tune Up Info
 - (10) Schematic Diagram
 - (10) Circuit Description
 - Block Diagram
 - Parts List
 - Active Devices
7. MPE/SAR Report

By M.F.A. Inc.:

- A. Testimonial & Statement of Certification

The Applicant has been cautioned as to the following:

15.21 Information to the User.

The users manual or instruction manual for an intentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

15.27(a) Special Accessories.

Equipment marketed to a consumer must be capable of complying with the necessary regulations in the configuration in which the equipment is marketed. Where special accessories, such as shielded cables and/or special connectors are required to enable an unintentional or intentional radiator to comply with the emission limits in this part, the equipment must be marketed with, i.e. shipped and sold with, those special accessories. However, in lieu of shipping or packaging the special accessories with the unintentional or intentional radiator, the responsible party may employ other methods of ensuring that the special accessories are provided to the consumer, without additional charge.

Information detailing any alternative method used to supply the special accessories for a grant of equipment authorization or retained in the verification records, as appropriate. The party responsible for the equipment, as detailed in § 2.909 of this chapter, shall ensure that these special accessories are provided with the equipment. The instruction manual for such devices shall include appropriate instructions on the first page of text concerned with the installation of the device that these special accessories must be used with the device. It is the responsibility of the user to use the needed special accessories supplied with the equipment.

Table of Contents

Rule	Description	Page
2.1033(c)(14)	Rule Summary	2
	Standard Test Conditions and Engineering Practices	3
	Expository Statement for Permissive Changes	4
2.1033(c)	General Information Required	5
2.1046(a)	RF Power Output (Radiated)	7
	Radiated Unintentional Emissions	9

Required information per ISO/IEC Guide 25-1990, paragraph 13.2:

a) **Test Report**

b) Laboratory: M. Flom Associates, Inc.
 (FCC: 31040/SIT) 3356 N. San Marcos Place, Suite 107
 (Canada: IC 2044) Chandler, AZ 85225

c) Report Number: d06b0042

d) Client: RISG USA, Inc.
 103 Barrows Way
 Folsom, CA 95630

e) Identification: R100-Prox
 FCC ID: UKS-R100PR125
 EUT Description: 125khz Proximity Card Reader

f) EUT Condition: Not required unless specified in individual tests.

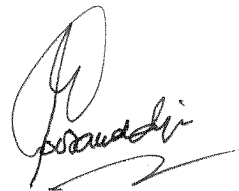
g) Report Date: November 30, 2006
 EUT Received:

h, j, k): As indicated in individual tests.

i) Sampling method: No sampling procedure used.

l) Uncertainty: In accordance with MFA internal quality manual.

m) Supervised by:



Hoosamuddin S. Bandukwala, Lab Director

n) Results: The results presented in this report relate only to the item tested.

o) Reproduction: This report must not be reproduced, except in full, without written permission from this laboratory.

Accessories used during testing:

Type	Quantity	Manufacturer	Model	Serial No.	FCC ID
------	----------	--------------	-------	------------	--------

Sub-part

2.1033(c)(14):

Test and Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2, Sub-part J, Sections 2.947, 2.1033(c), 2.1041, 2.1046, 2.1047, 2.1079, 2.1051, 2.1053, 2.1055, 2.1057 and the following individual Parts:

- _____ 21 - Domestic Public Fixed Radio Services
- _____ 22 - Public Mobile Services
- _____ 22 Subpart H - Cellular Radiotelephone Service
- _____ 22.901(d) - Alternative technologies and auxiliary services
- _____ 23 - International Fixed Public Radio communication services
- _____ 24 - Personal Communications Services
- _____ 74 Subpart H - Low Power Auxiliary Stations
- _____ 80 - Stations in the Maritime Services
- _____ 80 Subpart E - General Technical Standards
- _____ 80 Subpart F - Equipment Authorization for Compulsory Ships
- _____ 80 Subpart K - Private Coast Stations and Marine Utility Stations
- _____ 80 Subpart S - Compulsory Radiotelephone Installations for Small Passenger Boats
- _____ 80 Subpart T - Radiotelephone Installation Required for Vessels on the Great Lakes
- _____ 80 Subpart U - Radiotelephone Installations Required by the Bridge-to-Bridge Act
- _____ 80 Subpart V - Emergency Position Indicating Radio Beacons (EPIRB'S)
- _____ 80 Subpart W - Global Maritime Distress and Safety System (GMDSS)
- _____ 80 Subpart X - Voluntary Radio Installations
- _____ 87 - Aviation Services
- _____ 90 - Private Land Mobile Radio Services
- _____ 94 - Private Operational-Fixed Microwave Service
- _____ 95 Subpart A - General Mobile Radio Service (GMRS)
- _____ 95 Subpart C - Radio Control (R/C) Radio Service
- _____ 95 Subpart D - Citizens Band (CB) Radio Service
- _____ 95 Subpart E - Family Radio Service
- _____ 95 Subpart F - Interactive Video and Data Service (IVDS)
- _____ 97 - Amateur Radio Service
- _____ 101 - Fixed Microwave Services

Standard Test Conditions And Engineering Practices

A2LA

"A2LA has accredited Flom Test Labs, Inc. Chandler, AZ for technical competence in the field of Electrical Testing. The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO 17025:2005 'General Requirements for the Competence of Testing and Calibration Laboratories' and any additional program requirements in the identified field of testing."

Please refer to www.a2la.org for current scope of accreditation.

Certificate Number: **2152.01**

Expository Statement

Permissive Change

Applicant: RISG USA, Inc.

FCC ID: UKS-R100PR125

The applicant has made design changes/improvements to the originally FCC approved equipment.

Data contained herein confirms that a Permissive Change to the unit has been effected and that the performance of the unit is at or better than the levels originally reported to the commission.

The following changes/improvements have been made as per attached letter of Explanation:

(none)

List of General Information Required for Certification

In Accordance with FCC Rules and Regulations,
Volume II, Part 2 and to

15C

Sub-part 2.1033

(c)(1): **Name and Address of Applicant:**

RISG USA, Inc.
103 Barrows Way
Folsom, CA 95630

Manufacturer:

RISG USA, Inc.
2405 S. Broadway
Santa Ana, Ca. 92707

(c)(2): **FCC ID:**

UKS-R100PR125

Model Number:

R100-Prox

(c)(3): **Instruction Manual(s):**

Please see attached exhibits

(c)(4): **Type of Emission:**

(c)(5): **Frequency Range, MHz:**

0.125

(c)(6): **Power Rating, Watts:**

_____ Switchable

_____ Variable

_____ x N/A

FCC Grant Note:

(c)(7): **Maximum Power Rating, Watts:**

DUT Results:

Passes _____ x _____

Fails _____

Subpart 2.1033 (continued)

(c)(8): Voltages & currents in all elements in final RF stage, including final transistor or solid-state device:

Collector Current, A	=	per manual
Collector Voltage, Vdc	=	per manual
Supply Voltage, Vdc	=	5.0-16.0

(c)(9): **Tune-Up Procedure:**

Please see attached exhibits

(c)(10): **Circuit Diagram/Circuit Description:**

Including description of circuitry & devices provided for determining and stabilizing frequency, for suppression of spurious radiation, for limiting modulation and limiting power.

Please see attached exhibits

(c)(11): **Label Information:**

Please see attached exhibits

(c)(12): **Photographs:**

Please see attached exhibits

(c)(13): **Digital Modulation Description:**

 Attached Exhibits
 x N/A

(c)(14): **Test and Measurement Data:**

Follows

Name of Test: RF Power Output (Radiated)

Specification: 47 CFR 15.209

Test Equipment: As per attached page

Measurement Procedure (Radiated)

1. The EUT was placed on an open-field site and its radiated field strength at a known distance was measured by means of a spectrum analyzer. Equivalent loading was calculated from the equation $P_t = (E \times R)^2 / 49.2$ watts, where $R = 3m$.
2. Measurement accuracy is ± 1.5 dB.
3. Correction factor (CF) = Transducer correction factor(Tcf) + Distance correction factor(Dcf) + Cable correction factor (Ccf) . CF = (16.4 + (-99.00) + 0.0) = -82.6

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

Measurement Results

g06b0143: 2006-Nov-28 Tue 16:08:00

State: 2:High Power

Ambient Temperature: 23°C \pm 3°C

Amps Mode:

Frequency Emission, MHz	Meter, dBuV/m	Ant CF, dB	Cable CF, dB	Distance CF, dB	Total CF, dB	Calc, dBuV/m @300m	Limit dBuV/m @300m	Margin dB
0.128555	87.6	16.4	0	-99.0	-82.6	5.0	18.75	13.75

Name of Test: Radiated Spurious Emissions

Specification: 47 CFR 15.209

Test Equipment: As per attached page

Measurement Procedure (Radiated)

1. The EUT was placed on an open-field site and its radiated field strength at a known distance was measured by means of a spectrum analyzer. Equivalent loading was calculated from the equation $P_t = (E \times R)^2 / 49.2$ watts, where $R = 3m$.
2. Measurement accuracy is ± 1.5 dB.
3. Correction factor (CF) = Transducer correction factor(Tcf) + Distance correction factor(Dcf) + Cable correction factor (Ccf) . CF = (16.0 + (-99.00) + 0.0) = -83.0

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

Measurement Results

g06b0143: 2006-Nov-28 Tue 16:08:00

State: 2:High Power

Ambient Temperature: 23°C \pm 3°C

Amps Mode:

Frequency Emission, MHz	Meter, dBuV/m	Ant CF, dB	Cable CF, dB	Distance CF, dB	Total CF, dB	Calc, dBuV/m @300m	Limit dBuV/m @300m	Margin dB
0.256000	61.40	16.0	0	-99.0	-83	-21.60	9.375	30.975

Name of Test: Radiated Unintentional Emissions

Specification:

- 15.109: Radiated Interference Limits
- 15.209: Radiated Emission Limits; General Requirements
- 15.33: Frequency Range of Radiated Measurements

Guide: ANSI C63.4-2005

Test Equipment: See attached test setup

Test Configuration of EUT:

1. The equipment was installed in a typical system and configured in accordance with the manufacturer's instructions. It was also operated in a manner which is representative of the typical usage for the EUT.
2. The equipment and I/O cable(s) were re-arranged to maximize each emission. For each change in configuration, the system was rotated through 360°. The antenna height was changed from one to six meters. Both horizontal and vertical polarization scans were used. The worst case is here reported.
3. For EUTs normally operated on top of a table, tests were performed with the EUT on a rotating non-conducting table top of size 1.0 by 1.5 meters, approximately 1.0 meter above the ground plane.
4. EUTs normally placed on the floor, tests were performed with the EUT on a rotating non-conducting platform, approximately 15 cm above the ground plane.

Test Procedure:

1. For AC powered equipment, the EUT was connected to the Public Utility Power Line through a Line Impedance Stabilization Network (LISN), (50 μ H).
2. The test configuration consisted of the aforementioned equipment and peripherals, using ANSI C63.4-2005.
3. Radiation emission tests were performed on all possible combinations.
4. Measurements were made with the EUT:
 - A. POWERED ON and awaiting data input/output (quiescent mode)
 - B. Receiving/sending data in a typical operation.
5. Each emission was maximized by varying the mode of operation, where applicable.

Name of Test: Radiated Unintentional Emissions (Continued)

Measurement Distance, Meter = 3
 Height Above Ground, Meters = 0.8
 Spectrum Searched = Per 47 CFR 15.33
 Resolution Bandwidth, kHz = 120
 Worst Case = Vertical
 System Sensitivity, dBm = -130
 Search Antennas = See Test Setup
 Post Detector Video Filters Used = Indicated BY "Q.P."

All Measurements Were Performed Automatically Using:

- a. HP 85685A, option K40, Sunol turntable with HPIB controls.
- b. HP 85685A, option K42, (EMCO #1053) antenna positioning tower with pneumatic and HPIB controls.

Sample Calculation:

$$\begin{aligned}
 &\text{Emission Frequency, MHz} = 40.012359 \\
 &\text{Level} = \text{Log}_{10}^{-1} \left(\frac{17.63 + 15.11}{20} \right) \\
 &\text{Level, } \mu\text{V/m @ 3m} = 43.35
 \end{aligned}$$

		Test Equipment			
Asset	Description		s/n	Last Cal	Cal Due
Per ANSI C63.4-1992/2000 Draft, 10.1.4					
(as applicable)					
Transducer					
x	i00326	EMCO 6507 1KHz-50MHz	8812-1144	Jan-07	Jan-09
x	i00088	EMCO 3109-B 25MHz-300MHz	2336	Oct-05	Oct-07
x	i00089	Apriel 2001 200MHz-1GHz	001500	Oct-05	Oct-07
Amplifier					
	i00028	HP 8449A	2749A00121	Dec-05	Dec-06
Spectrum Analyzer					
	i00029	HP 8563E	3213A00104	Jan-06	Jan-07
x	i00033	HP 85462A	3625A00357	Oct-05	Oct-06

Microphone, Antenna Port, and Cabling

Microphone _____ Cable Length _____ Meters
 Antenna Port Terminated _____ Load _____ Antenna Gain _____
 All Ports Terminated by Load _____ Peripheral _____

Test Setup Photos:

Radiated Unintentional Emissions

State:



Name of Test: Radiated Unintentional Emissions

Measurement Results
47 CFR 15.109(a) Class A Radiated Limits

Frequency of Emission, MHz	Field Strength, $\mu\text{V}/\text{m}$ @ 10m	Field Strength, $\mu\text{V}/\text{m}$ @ 3m
30 - 88	90	284
88 - 216	150	474
216 - 960	210	664
Above 960	300	949

Frequency Emission, MHz	Level, dBuV	@ m	C.F., dB	CALC. $\mu\text{V}/\text{m}$	@ m
40.012359	17.63	3	15.11	43.35	3
44.012000	20.98	3	15.17	64.19	3
48.020000	21.25	3	15.02	65.09	3
52.015000	21.97	3	14.06	63.31	3
56.012000	25.78	3	12.11	78.43	3
72.002000	27.56	3	12.06	95.72	3
320.034000	19.25	3	19.44	86	3
327.659000	17.69	3	20.87	84.72	3

All other emissions in the required measurement range were more than 20 dB below the required limits.



Performed by:

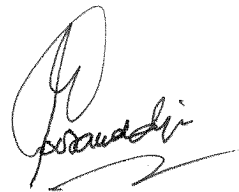
Michael Boysel

END OF TEST REPORT

<p style="text-align: center;">Testimonial and Statement of Certification</p>
--

This is to Certify:

1. **That** the application was prepared either by, or under the direct supervision of, the undersigned.
2. **That** the technical data supplied with the application was taken under my direction and supervision.
3. **That** the data was obtained on representative units, randomly selected.
4. **That**, to the best of my knowledge and belief, the facts set forth in the application and accompanying technical data are true and correct.



Certifying Engineer:

Hoosamuddin S. Bandukwala, Lab Director