

849 NW State Road 45
Newberry, FL 32669 USA
Phone: 888.472.2424 or 352.472.5500
Fax: 352.472.2030
Email: info@timcoengr.com
Website: www.timcoengr.com

FCC PART 15 B SUBPART B RECEIVER TEST REPORT

| | |
|-----------------------------|---|
| Applicant | RF TECHNOLOGY PTY. LTD. |
| Address | ABN 14 131 764 148 Unit 46, Thornleigh Technology Park 7 Sefton Road Thornleigh NEW SOUTH WALES 2120 AUSTRALIA |
| FCC ID | KRER800C |
| Product Description | RECEIVER |
| Date Sample Received | 9/6/2011 |
| Date Tested | 10/7/2011 |
| Tested By | Nam Nguyen |
| Approved By | Mario R. de Aranzeta |
| Report Number | 2072UT11TestReport.doc |
| Test Results | <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL |

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**





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GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results relate only to the items tested.

Summary

The device under test does:

- fulfill the general approval requirements as identified in this test report
- not fulfill the general approval requirements as identified in this test report

Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.



Certificate # 0955-01

I attest that the necessary measurements were made, under my supervision, at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669



Authorized Signatory Name:

Mario de Aranzeta C.E.T.
Compliance Engineer/ Lab. Supervisor

Date: 10/10/11

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REPORT SUMMARY

| | |
|--------------------|--|
| Disclaimer | The test results only relate to the item tested. |
| Applicable Rule(s) | Pt 15.109, Pt 15.107, ANSI C63.4: 2003 |
| Related Report | None |

TEST ENVIRONMENT

| | |
|----------------------------------|--|
| Test Facility | Timco Engineering, Inc. 849 NW State Road 45 Newberry, FL 32669 USA. |
| Test Condition in the laboratory | Temperature: 26°C Relative humidity: 50% |

TEST SETUP SUMMARY

| | |
|---------------------------------------|--|
| Test Setup Diagram/ Description | The DUT was placed on the turntable per setup per ANSI C63.4: 2003. A test set up photo is provided for clarification. |
| Deviation from the standard/procedure | No deviation |
| Modification of DUT | No modification |

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DUT SPECIFICATION

| | |
|-----------------------------------|---|
| DUT Description | RECEIVER |
| FCC ID | KRER800C |
| DUT Power Source | <input type="checkbox"/> 110–120Vac/50– 60Hz |
| | <input type="checkbox"/> DC Power |
| | <input checked="" type="checkbox"/> Battery Operated Exclusively |
| Test Item | <input type="checkbox"/> Prototype |
| | <input checked="" type="checkbox"/> Pre-Production |
| | <input type="checkbox"/> Production |
| Type of Equipment | <input type="checkbox"/> Fixed |
| | <input type="checkbox"/> Mobile |
| | <input checked="" type="checkbox"/> Portable |
| Laboratory Test Conditions | Temperature: 26°C Humidity: 55% |
| Modifications to DUT: | <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes (explanation below) |

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TEST EQUIPMENT LIST

| Device | Manufacturer | Model | Serial Number | Cal/Char Date | Due Date |
|---------------------------------------|---------------------|---------------|--------------------------|----------------------|-----------------|
| 3-Meter Semi-Anechoic Chamber | Panashield | N/A | N/A | Listed 5/10/10 | 5/10/12 |
| AC Voltmeter | HP | 400FL | 2213A14499 | CAL 6/12/11 | 6/12/13 |
| Antenna: Active Loop | ETS-Lindgren | 6502 | 00062529 | CAL 9/23/10 | 9/23/12 |
| Antenna: Passive Loop | EMC Test Systems | EMCO 6512 | 9706-1211 | CAL. 10/1/09 | 10/2/11 |
| Frequency Counter | HP | 5385A | 2730A03025 | CAL 8/17/11 | 8/17/13 |
| Hygro-Thermometer | Extech | 445703 | 0602 | CAL 6/15/11 | 6/15/13 |
| Modulation Analyzer | HP | 8901A | 3435A06868 | CAL 7/18/11 | 7/18/13 |
| Digital Multimeter | Fluke | FLUKE-77 | 35053830 | CAL 9/9/11 | 9/9/13 |
| Analyzer Tan Tower Preamplifier | HP | 8449B-H02 | 3008A00372 | CAL 11/21/09 | 11/21/11 |
| Analyzer Tan Tower Quasi-Peak Adapter | HP | 85650A | 3303A01690 | CAL 11/22/09 | 11/22/11 |
| Analyzer Tan Tower RF Preselector | HP | 85685A | 3221A01400 | CAL 11/21/09 | 11/21/11 |
| Analyzer Tan Tower Spectrum Analyzer | HP | 8566B Opt 462 | 3138A07786 3144A20661 | CAL 11/24/09 | 11/24/11 |
| Temperature Chamber | Tenney Engineering | TTRC | 11717-7 | CHAR 4/25/10 | 4/25/12 |
| Antenna | ETS | 3117 | 41534 | 9/22/2010 | 9/22/2012 |
| Antenna | Electro metrics | LPA-25 | 1122 | 5/04/2011 | 5/04/2013 |
| Antenna | Electro metrics | BIA-25 | 1171 | 1/15/2010 | 1/15/2012 |

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TEST PROCEDURES

Power line conducted Emission: The test procedure used was ANSI C63.4-2003. The spectrum was scanned from 0.15 to 30 MHz.

Radiation Interference: The test procedure used was ANSI C63.4-2003 using a spectrum analyzer with a preselector. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The video bandwidth was always greater than or equal to the RBW.

The frequency was scanned from 30 MHz to 1.0 GHz. When an emission was found, the table was rotated to produce the maximum signal strength. The DUT was measured in three (3) orthogonal planes when necessary.

Formula Of Conversion Factors: The field strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dB μ V) to the antenna correction factor supplied by the antenna manufacturer plus the coax loss. The antenna correction factors are stated in terms of dB. The gain of the preselector was accounted for in the spectrum analyzer meter reading.

Example:

$$\begin{array}{lllll}
 \text{Freq (MHz)} & \text{Meter Reading} & + \text{ACF} & + \text{CL} & = \text{FS} \\
 33 & 20 \text{ dB}\mu\text{V} & + 10.36 \text{ dB/m} & +0.40 \text{ dB} & = 30.76 \text{ dB}\mu\text{V/m} @ 3\text{m}
 \end{array}$$

ANSI C63.4-2003 Measurement Procedures: The unit under test was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and verticals planes.

ANSI STANDARD C63.4-2003 12.1.1.1 SUPERREGENERATIVE RECEIVER: A Signal Generator was set to the unit under test operating frequency. An un-Modulated continuous wave (CW) signal was radiated at the super regenerative receiver operating frequency to cohere the characteristic broadband emissions from the receiver.

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RADIATED SPURIOUS EMISSIONS

Rules Part No.: 15.109

Requirements:

| Frequency MHz | Limits |
|---------------|---------------------------------------|
| 30 – 88 | 40.0 dB μ V/m measured @ 3 meters |
| 88 – 216 | 43.5 dB μ V/m measured @ 3 meters |
| 216 – 960 | 46.0 dB μ V/m measured @ 3 meters |
| Above 960 | 54.0 dB μ V/m measured @ 3 meters |

Test Data:

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dB μ V | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dB μ V/m | Margin dB |
|---------------------|------------------------|--------------------------|---------------|--------------|------------------------|-----------------------------|-----------|
| 896.0 | 851.00 | 12.4 | V | 1.93 | 22.83 | 37.16 | 8.84 |
| 896.0 | 851.00 | 15.5 | H | 1.93 | 22.83 | 40.26 | 5.74 |
| 896.0 | 1,702.00 | 8.5 | H | 2.66 | 29.68 | 40.84 | 13.16 |
| 896.0 | 1,702.00 | 8.9 | V | 2.66 | 29.68 | 41.24 | 12.76 |
| 896.0 | 2,553.00 | 8.6 | V | 3.29 | 32.67 | 44.56 | 9.44 |
| 896.0 | 2,553.00 | 10.9 | H | 3.29 | 32.67 | 46.86 | 7.14 |
| 896.0 | 3,404.00 | 6.6 | V | 3.96 | 33.14 | 43.70 | 10.30 |
| 896.0 | 3,404.00 | 7.3 | H | 3.96 | 33.14 | 44.40 | 9.60 |
| 896.0 | 4,255.00 | 6.5 | V | 4.63 | 33.90 | 45.03 | 8.97 |
| 896.0 | 4,255.00 | 6.9 | H | 4.63 | 33.90 | 45.43 | 8.57 |
| 919.5 | 874.50 | 12.3 | H | 1.94 | 23.25 | 37.49 | 8.51 |
| 919.5 | 874.50 | 12.7 | V | 1.94 | 23.25 | 37.89 | 8.11 |
| 919.5 | 1,749.00 | 8.5 | H | 2.70 | 30.04 | 41.24 | 12.76 |
| 919.5 | 1,749.00 | 8.6 | V | 2.70 | 30.04 | 41.34 | 12.66 |
| 919.5 | 2,623.50 | 8.8 | V | 3.34 | 32.77 | 44.91 | 9.09 |
| 919.5 | 2,623.50 | 10.8 | H | 3.34 | 32.77 | 46.91 | 7.09 |
| 919.5 | 3,498.00 | 7.9 | V | 4.05 | 33.10 | 45.05 | 8.95 |
| 919.5 | 3,498.00 | 8.7 | H | 4.05 | 33.10 | 45.85 | 8.15 |
| 919.5 | 4,372.50 | 7.5 | V | 4.69 | 33.90 | 46.09 | 7.91 |
| 919.5 | 4,372.50 | 9.4 | H | 4.69 | 33.90 | 47.99 | 6.01 |
| 949.0 | 904.00 | 13.1 | V | 1.95 | 23.72 | 38.77 | 7.23 |
| 949.0 | 904.00 | 16.2 | H | 1.95 | 23.72 | 41.87 | 4.13 |

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Test Data Continued:

| Tuned Frequency MHz | Emission Frequency MHz | Meter Reading dB μ V | Ant. Polarity | Coax Loss dB | Correction Factor dB/m | Field Strength dB μ V/m | Margin dB |
|---------------------|------------------------|--------------------------|---------------|--------------|------------------------|-----------------------------|-----------|
| 949.0 | 1,808.00 | 14.8 | H | 2.74 | 30.41 | 47.95 | 6.05 |
| 949.0 | 1,808.00 | 15.9 | V | 2.74 | 30.41 | 49.05 | 4.95 |
| 949.0 | 2,712.00 | 8.3 | V | 3.39 | 32.87 | 44.56 | 9.44 |
| 949.0 | 2,712.00 | 9.7 | H | 3.39 | 32.87 | 45.96 | 8.04 |
| 949.0 | 3,616.00 | 8.1 | V | 4.13 | 33.25 | 45.48 | 8.52 |
| 949.0 | 3,616.00 | 9.7 | H | 4.13 | 33.25 | 47.08 | 6.92 |
| 949.0 | 4,520.00 | 6.7 | H | 4.75 | 33.90 | 45.35 | 8.65 |
| 949.0 | 4,520.00 | 6.9 | V | 4.75 | 33.90 | 45.55 | 8.45 |

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POWER LINE CONDUCTED INTERFERENCE

Rules Part No.: Part 15.107

Requirements:

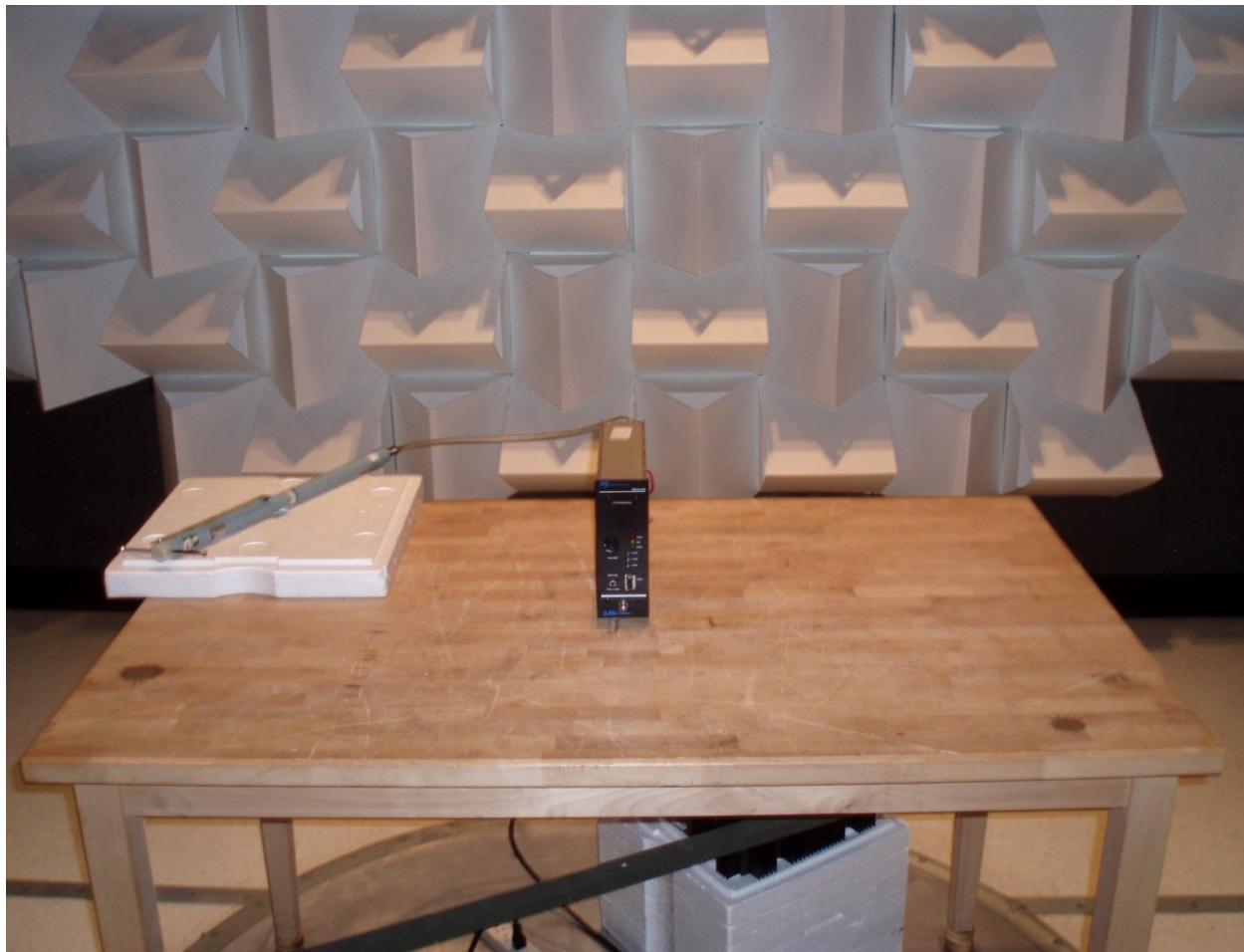
| Frequency (MHz) | Quasi Peak Limits (dB μ V) | Average Limits (dB μ V) |
|--------------------|-----------------------------------|--------------------------------|
| 0.15 – 0.5 | 66 – 56 * | 56 – 46 * |
| 0.5 – 5.0 | 56 | 46 |
| 5.0 – 30 | 60 | 50 |

* Decrease with logarithm of frequency

Test Data: Not applicable. Battery operated device.

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RADIATED EMISSIONS TEST SETUP PHOTO



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