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Test Report:

80288-2R1TRFWL

Applicant:

WOLF STEEL LTD
9 NAPOLEON RD, BARRIE,
ONTARIO
L4M 4Y8

Apparatus:

303.8 MHz Remote Controller System – Receiver,
Model: W660-0076

FCC ID:

VA8LB010

In Accordance With:

FCC Part 15 Subpart B, 15.107 and 15.109
Unintentional Radiators

Tested By:

Nemko Canada Inc.
303 River Road
Ottawa, Ontario
K1V 1H2

Authorized By:

A handwritten signature in blue ink, appearing to read 'Jason Nixon'.

Jason Nixon, Wireless Specialist

Date:

February 25, 2008

Total Number of Pages:

12

Report Summary

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart B. Radiated tests were conducted in accordance with ANSI C63.4-2003. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

The assessment summary is as follows:

Apparatus Assessed:	303.8 MHz Remote Controller System – Receiver, Model: W660-0076
Specification:	FCC Part 15 Subpart B, 15.107 and 15.109
Compliance Status:	Complies
Exclusions:	None
Non-compliances:	None
Report Release History:	Release 1 Radiated emission was re-assessed with the final enclosure.

Author: Heng Lin, EMC/Wireless Specialist

Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025.

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Section 1 : Equipment Under Test

1.1 Product Identification

The Equipment Under Test was identified as follows:

303.8 MHz Remote Controller System – Receiver, Model: W660-0076

1.2 Samples Submitted for Assessment

The following samples of the apparatus have been submitted for type assessment:

Sample No.	Description	Part No.
5	303.8MHz Remote controller System – Receiver	ABG20S

The first samples were received on: January 15, 2008

1.3 Theory of Operation

The EUT is a part of a battery operated remote control system developed to provide remote control for gas heating appliances. The system uses one of 255 factory pre-programmed security codes. It is comprised of two main components: Transmitter and Remote Receiver.

The transmitter uses 303.8 MHz ASK-modulated signal to send ON and OFF commands to the appliance. The transmission of commands is activated by pressing buttons S1 and S2 on the face of the transmitter and it stops automatically after ~ 0.7 or 1.1 seconds (depending on the command). The remote receiver houses the microprocessor that responds to commands from the transmitter that control appliance operation.

1.4 Technical Specifications of the EUT

Receive Frequency:	303.8 MHz
Receiver Type:	Super-regenerative
Antenna Data:	Integral on PCB
Power Source:	Receiver: 4.5 VDC (3 × 1.5 VDC AA Battery)

1.5 Block Diagram of the EUT



Section 2 : Test Conditions

2.1 Specifications

The apparatus was assessed against the following specifications:

FCC Part 15 Subpart B, 15.107 and 15.109
Unintentional Radiators

2.2 Deviations From Laboratory Test Procedures

No deviations were made from laboratory test procedures.

2.3 Test Environment

All tests were performed under the following environmental conditions:

Temperature range	:	15 – 30 °C
Humidity range	:	20 - 75 %
Pressure range	:	86 - 106 kPa
Power supply range	:	+/- 5% of rated voltages

2.4 Test Equipment

Equipment	Manufacturer	Model No.	Asset/Serial No.	Next Cal.
Electro-Magnetic Interference Test Chamber	TDK	SAC-3	FA002047	May 19/08
Bilog	Sunol	JB3	FA002108	Jan. 21/09
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	Aug. 21/08
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	Aug. 21/08
Flush Mount Turntable	Sunol	FM2022	FA002082	NCR
Controller	Sunol	SC104V	FA002060	NCR
Mast	Sunol	TLT2	FA002061	NCR
Horn Antenna #2	EMCO	3115	FA000825	Jan. 30/08
Receiver/Spectrum Analyzer	Rohde & Schwarz	ESU 26	FA002043	Dec. 07/08

2.5 Measurement Uncertainty

Nemko Canada measurement uncertainty has been calculated using guidance of UKAS LAB 34:2003 and TIA-603-B Nov 7, 2002. All calculations have been performed to provide a confidence level of 95% and can be found in Nemko Canada document MU-003.

Section 3 : Observations

3.1 Modifications Performed During Assessment

No modifications were performed during assessment.

3.2 Record Of Technical Judgements

No technical judgements were made during the assessment.

3.3 EUT Parameters Affecting Compliance

The user of the apparatus could not alter parameters that would affect compliance.

3.4 Test Deleted

No Tests were deleted from this assessment.

3.5 Additional Observations

There were no additional observations made during this assessment.

Section 4 : Results Summary

This section contains the following:

FCC Part 15 Subpart B : Test Results

The column headed 'Required' indicates whether the associated clauses were invoked for the apparatus under test. The following abbreviations are used:

- N No : not applicable / not relevant.
- Y Yes : Mandatory i.e. the apparatus shall conform to these tests.
- N/T Not Tested, mandatory but not assessed. (See section 3.4 Test deleted)

The results contained in this section are representative of the operation of the apparatus as originally submitted.

4.1 FCC Part 15 Subpart C : Test Results

Part 15	Test Description	Required	Result
15.107(a) 15.109(a)	Conducted Emissions for Class B Radiated Emissions for Class B	N YES	N/A PASS

Notes:

Appendix A : Test Results

Clause 15.109(a) Radiated Emissions (unintentional radiator, Class B)

Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency of Emission (MHz)	Field Strength (microvoltsmeter)
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

Test Conditions:

Sample Number:	5	Temperature:	22 °C
Date:	February 22, 2008	Humidity:	40 %
Modification State:	0	Tester:	Heng Lin
		Laboratory:	Ottawa

Test Results: Pass (See attached table).

Additional Observations:

The Spectrum was searched from 30MHz to the 10th Harmonic.
The EUT was measured on three orthogonal axes with fresh new batteries.

All measurements were performed using a Peak Detector with 100kHz RBW/VBW below 1GHz and a 1MHz RBW/VBW above 1GHz at a distance of 3 meters.

Receiver:

Frequency MHz	Emission dBμV/m	Bandwidth kHz	Antenna height cm	Polarity	Turntable position deg	Corr. dB	Margin dB	Limit dBμV/m
135.68	17.44	120	100.47	V	1	14.69	26.06	43.5
416.60	37.03	120	100.47	V	192	18.05	8.98	46

Appendix B : Setup Photographs

Radiated Emissions Setup (Receiver):



Appendix C : Block Diagram of Test Setups

Test Site For Radiated Emissions

