Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report:	4W07864, Issue 2
Applicant:	Desa International Inc. P.O. Box 90004, 2901 Industrial Avenue, Bowling Green, KY. 42102, USA
Equipment Under Test: (EUT)	6031-TX
FCC ID:	BJ4-60WRC31TX
In Accordance With:	**FCC Part 15, Subpart C, 15.231**
Tested By:	Nemko Canada Inc. 303 River Road, R.R. 5 Ottawa, Ontario K1V 1H2
Authorized By:	Kevin Carr, EMC/EMI/Wireless Specialist
Date:	10 March 2004
Total Number of Pages:	17

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Section 1. Summary of Test Results

General

All measurements are traceable to national standards.

These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15, Subpart C. All tests were conducted using measurement procedure ANSI C63.4-1992. Radiated emissions are made on an open area test site. A description of the test facility is on file with the FCC.

THIS TEST REPORT RELATES ONLY TO THE ITEM(S) TESTED.

THE FOLLOWING DEVIATIONS FROM, ADDITIONS TO, OR EXCLUSIONS FROM THE TEST SPECIFICATIONS HAVE BEEN MADE.
See " Summary of Test Data".

TESTED BY: _____ DATE: 10 March 2004
Daxesh Thakker, Wireless Test Engineer

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Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada.
The tests included in this report are within the scope of this accreditation.

Summary Of Test Data

Name of Test	Para. Number	Results
Transmission Requirements	15.231(a)	Complied
Radiated Emissions	15.231(b)	Complied
Occupied Bandwidth	15.231(c)	Complied
Frequency Tolerance	15.231(d)	N/A (1)
Periodic Alternate Field Strength Requirements	15.231(e)	N/A (2)
Power line Conducted Emissions	15.207	N/A (3)

Justification of N/A's

(1) The EUT does not operate in the frequency range of 40.66 – 40.70 MHz.
(2) The EUT does not periodically transmission at predetermined intervals.
(3) The EUT is battery powered.

Test Conditions:

Indoor Temperature: 24° C
Humidity: 2 %

Outdoor Temperature: 18° C
Humidity: 7 %

Section 2. Equipment Under Test

General Equipment Information

Manufacturer:	Desa International Inc.
Company Number:	3984A
Model No.:	6031-TX
Serial No.:	None
Date Received In Laboratory:	February 12, 2004
Nemko Identification No.:	Item no. 4 & 5
Test Voltage	1.5 volts x 2 batteries = 3.0 volts Total
Frequency Range (*or fixed frequency*):	315 MHz, Fixed
Field Strength (*distance*):	68.1dBuV/m @ 3m
Occupied Bandwidth (99% BW):	30 KHz
Type of Modulation:	PCM
Emission Designator (TRC-43:)	30K0L1D

ATTESTATION: I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all the applicable test conditions specified in the departmental standards and all of the requirements of the standard have been met.

Signature: 

Date: **10 March 2004**

Name and Title: **Daxesh Thakker, Wireless Test Engineer**

Section 3. Transmission Requirements

Para. No.: 15.231(a)

Test Performed By: Daxesh Thakker	**Date of Test: March 3, 2004**

Minimum Standard:

15.231(a) Continuous transmissions such as voice, video or data transmissions are not permitted.

15.231(a)(1) A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds after being released.

15.231(a)(2) A transmitter activated automatically shall cease transmission within 5 seconds of activation.

15.231(a)(3) Periodic transmissions at regular pre-determined intervals are not permitted. However polling or supervisory transmissions to determine system integrity of transmitters used in security or safety applications are allowed if the periodic rate of transmission does not exceed one transmission of not more than one second duration per hour for each transmitter.

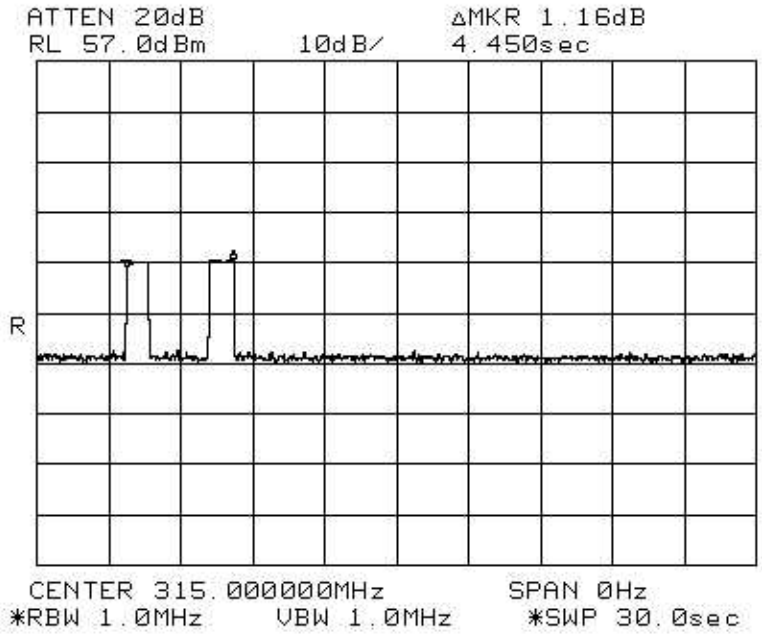
15.231(a)(4) Intentional radiators, which are employed for radio control purposes during emergencies involving fire, security, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm.

Test Results: Complied

Test Data: Compliance was determined by verification of technical specifications and a functional test on the equipment.

Rationale for Compliance with Transmission Requirements

15.231(a)(1):	N/A – The EUT does not transmit voice, video or data and is not manually operated.
15.231(a)(2):	Complied - 4.45 seconds
15.231(a)(3):	N/A – The EUT does not periodically transmit at predetermined intervals
15.231(a)(4):	N/A – The EUT does not operate during the interval of the alarm condition.



4.45 sec ON time

Section 4. Radiated Emissions

Para. No.: 15.231(b)

Test Performed By: Daxesh Thakker	**Date of Test: March 3, 2004**

Minimum Standard:

Fundamental Frequency (MHz)	Field Strength of Fundamental (μV/m @ 3m)	Field Strength of Spurious Emissions (μV/m @ 3m)
40.66 - 40.70	2,250	225
70-130	1, 250	125
130-174	1,250 to 3,750*	125 to 375
174-260 (note 1)	3,750	375
260-470 (note 1)	3,750 to 12,500*	375 to 1,250
Above 470	12,500	1,250

Restricted Band Limits		
Frequency (MHz)	**Field Strength (μV/m @ 3m)**	**Field Strength (dBμV/m @ 3m)**
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

Test Results: Complied

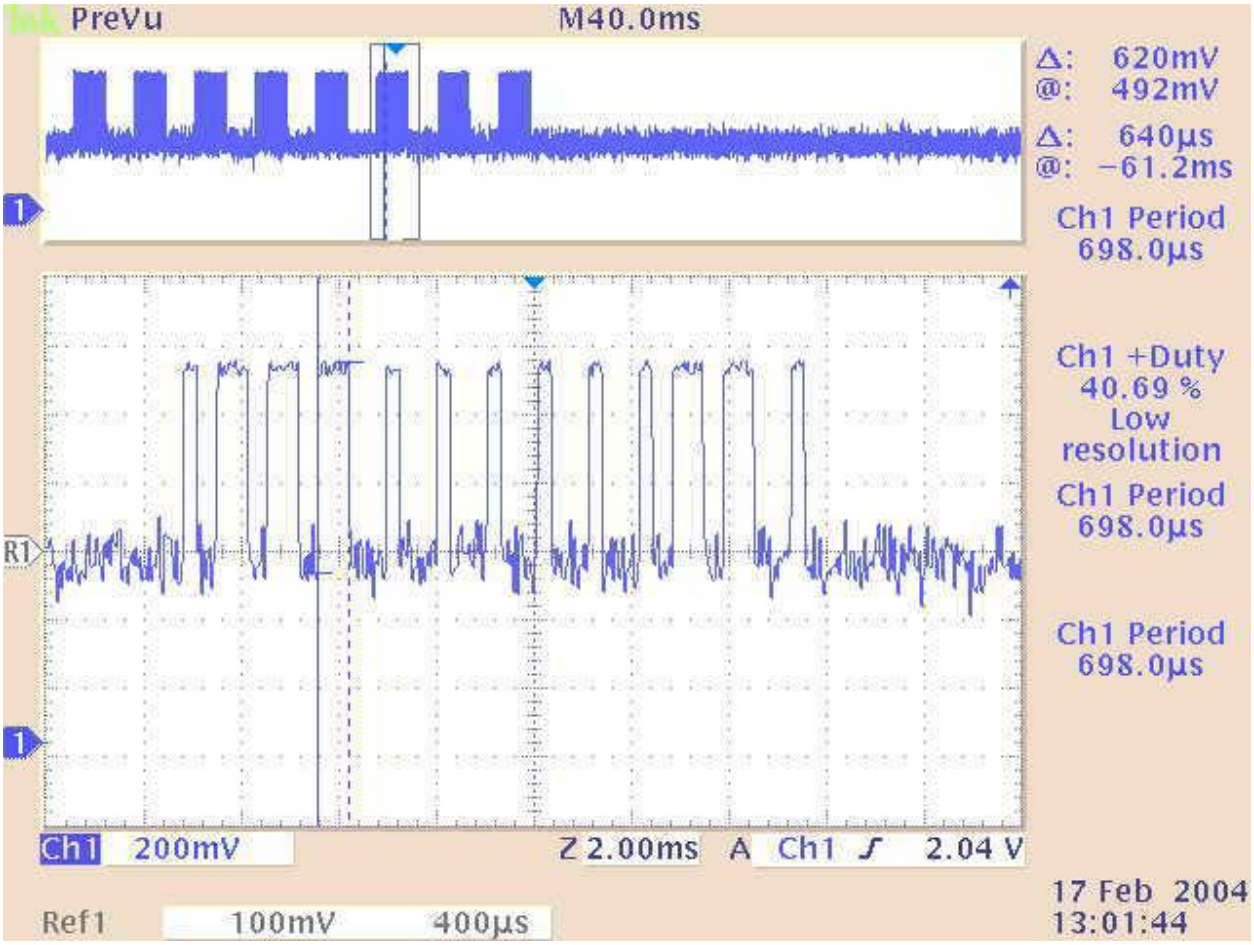
Test Data: As per attached tabulated data.

Test Date: 3-Mar-04	
Engineer's Name: Daxesh Thakker	
Temperature (C°): 18	Humidity : 7 %
Tested as per Table Top	
Test Distance (meters): 3	Range: A

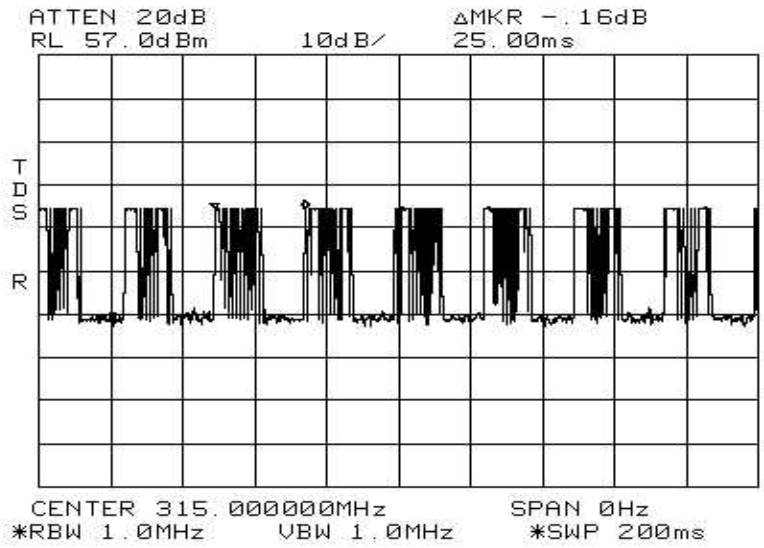
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBµV)	Ant. Factor (dB)	Amp. Gain (dB)	Duty Cycle Corr. (-dB)	Cable Loss (dB)	Field Strength (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Amp.
315.0000	ED3	H	52.9	19.1	--	-9.5	2.3	64.8	75.6	10.8	--
315.0000	ED3	V	56.2	19.1	--	-9.5	2.3	68.1	75.6	7.5	--
630.0000	LP1	H	32.8	20.2	--	-9.5	3.1	46.6	55.6	9.0	--
630.0000	LP1	V	34.8	20.0	--	-9.5	3.1	48.3	55.6	7.3	--
945.0000	LP1	H	31.2	24.6	--	-9.5	4.0	50.3	55.6	5.3	--
945.0000	LP1	V	28.1	23.8	--	-9.5	4.0	46.4	55.6	9.2	--
1260.0000	Horn2	H	66.5	26.6	46.5	-9.5	3.2	40.2	54.0	13.8	1-2GHz
1260.0000	Horn2	V	71.5	26.6	46.5	-9.5	3.2	45.2	54.0	8.8	1-2GHz
1575.0000	Horn2	H	63.8	28.6	46.3	-9.5	3.4	39.9	54.0	14.1	1-2GHz
1575.0000	Horn2	V	70.3	28.2	46.3	-9.5	3.4	46.1	54.0	7.9	1-2GHz
1890.0000	Horn2	H	58.4	29.0	46.3	-9.5	4.0	35.5	55.6	20.1	1-2GHz
1890.0000	Horn2	V	61.7	28.5	46.3	-9.5	4.0	38.3	55.6	17.3	1-2GHz
2205.0000	Horn2	H	67.2	28.9	55.5	-9.5	4.4	35.5	54.0	18.5	2-4GHz
2205.0000	Horn2	V	63.2	28.9	55.5	-9.5	4.4	31.4	54.0	22.6	2-4GHz
2520.0000	Horn2	H	64.6	29.8	56.4	-9.5	6.1	34.6	55.6	21.0	2-4GHz
2520.0000	Horn2	V	63.4	30.0	56.4	-9.5	6.1	33.6	55.6	22.0	2-4GHz
2835.0000	Horn2	H	63.5	29.9	56.3	-9.5	5.8	33.4	54.0	20.6	2-4GHz
2835.0000	Horn2	V	61.5	30.1	56.3	-9.5	5.8	31.6	54.0	22.4	2-4GHz
3150.0000	Horn2	H	61.6	31.0	56.2	-9.5	6.9	33.8	55.6	21.8	2-4GHz
3150.0000	Horn2	V	57.4	31.0	56.2	-9.5	6.9	29.6	55.6	26.0	2-4GHz

Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole

Notes:	All emissions to the 10th harmonic were searched. Receiver bandwidth of 100KHz was used below 1GHz & 1MHz bandwidth above 1GHz. In both cases a peak detector was used. Emissions were measured at the Ottawa Facility. The EUT was tested with two fresh new batteries of 1.5 volts each.



640 µSec Pulse



640 uSec x 13 pulses = 8.32 mSec
DUTY CYCLE = 20Log (8.32/25) = - 9.5 dB

Radiated Emission Setup photo:

Section 5. Occupied Bandwidth

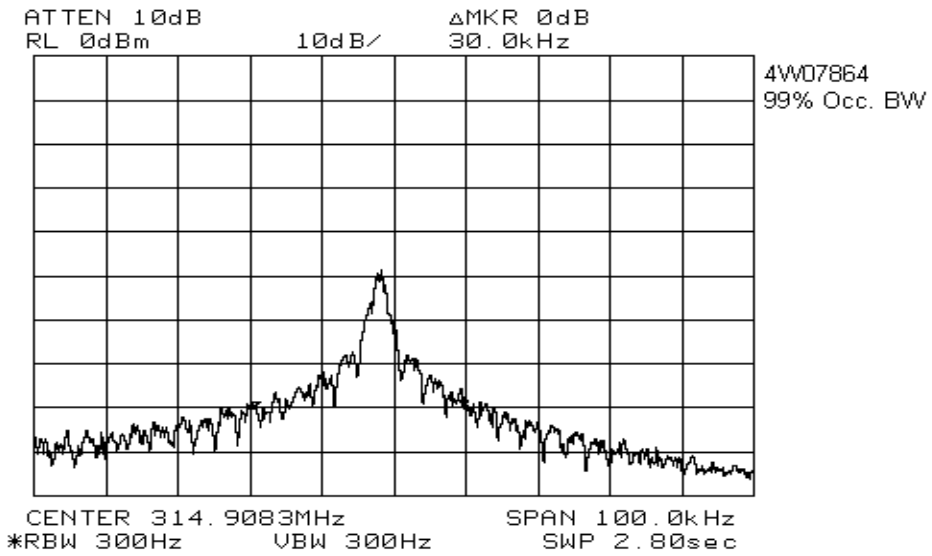
Para. No.: 15.231(c)

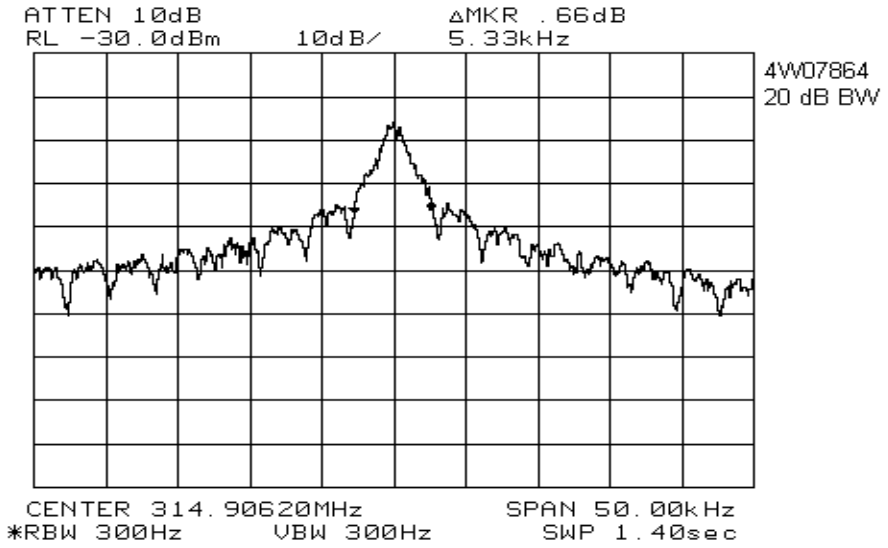
Test Performed By: Daxesh Thakker	**Date of Test: March 3, 2004**

Minimum Standard: 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Test Results: Complied

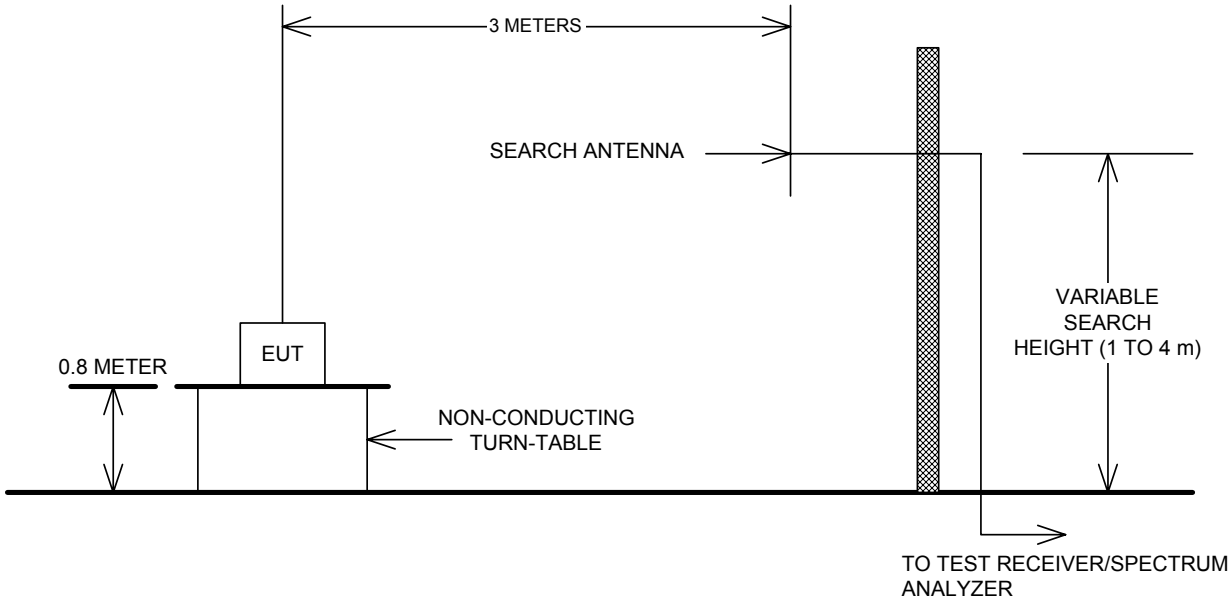
Test Data: See attached graph.


ATTEN 10dB
RL 0dBm
10dB/
ΔMKR 0dB
30.0kHz
4W07864
99% Occ. BW
CENTER 314.9083MHz
SPAN 100.0kHz
*RBW 300Hz
VBW 300Hz
SWP 2.80sec


ATTEN 10dB
RL -30.0dBm
10dB/
ΔMKR .66dB
5.33kHz
4W07864
20 dB BW
CENTER 314.90620MHz
SPAN 50.00kHz
*RBW 300Hz
VBW 300Hz
SWP 1.40sec

Section 6. Block Diagram

Outdoor Test Site For Radiated Emissions



The spectrum was searched up to the 10th harmonic of the fundamental frequency of operation.

Section 7. Test Equipment List

CAL Cycle	Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
1 Year	Spectrum Analyzer	Hewlett-Packard	8564E	FA001367	May. 13/03	May. 13/04
1 Year	Dipole Antenna Set	EMCO #1	3121C	FA000814	May. 09/03	May. 09/04
1 Year	Horn Antenna #2	EMCO	3115	FA000825	Dec. 10/03	Dec. 10/04
1 Year	Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Sept. 02/03	Sept. 02/04
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June. 18/03	June. 18/04
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June. 18/03	June. 18/04

Note: N/A = Not Applicable, NCR = No Cal Required, COU = CAL On Use, OUT = Out For CAL/Repair