Standards Council of Canada
Accredited Laboratory
Scope of Accreditation 75

Conseil canadien des normes
Laboratoire accrédité
Portée d'accréditation 75

TM

Test Report:	4W27178.1
Applicant:	Desa Specialty LLC P.O. Box 90004, 2901 Industrial Avenue, Bowling Green, KY. 42102, USA
Equipment Under Test: (EUT)	400TX Door Chime Transmitter
FCC ID:	BJ4-400TX
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:	30 July 2004
Total Number of Pages:	16

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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: 30 July 2004
Chris Maidens, EMC Specialist

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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 transmit at predetermined intervals.
(3) The EUT is battery powered.

Test Conditions:

Indoor Temperature: 24° C
Humidity: 48 %

Outdoor Temperature: 27° C
Humidity: 58%

Section 2. Equipment Under Test

General Equipment Information

Manufacturer:	Desa Specialty LLC
Company Number:	3984A
Model No.:	400TX
Serial No.:	None
Date Received In Laboratory:	July 28, 2004
Nemko Identification No.:	Item no. 1
Test Voltage	12V (single battery powered)
Frequency Range (*or fixed frequency*):	315 MHz, Fixed
Field Strength (*distance*):	67.7dBuV/m @ 3m
Occupied Bandwidth (99% BW):	22.3kHz
Type of Modulation:	PCM
Emission Designator (TRC-43:)	22K3L1D

Section 3. Transmission Requirements

Para. No.: 15.231(a)

Test Performed By: Chris Maidens	**Date of Test: July 29, 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.

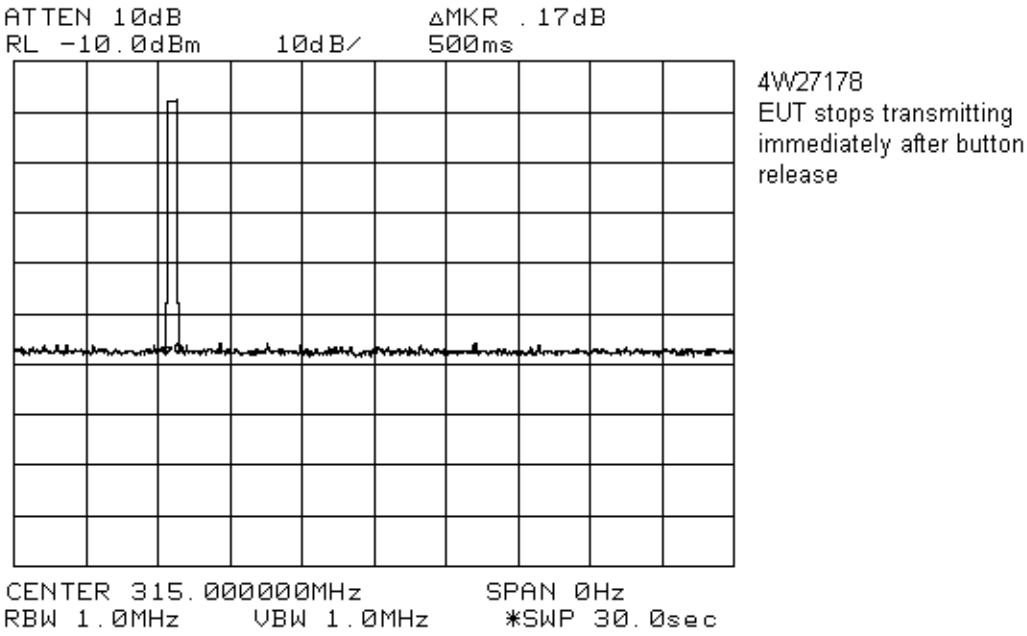
15.231(a)(4) Intentional radiators, which are employed for radio control purposes during emergencies involving fire, security of goods, and safety of life, when activated to signal an alarm, may operate during the pendency of the alarm.

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)	N/A – The EUT does not transmit voice, video or data.
15.231(a)(1):	Complied – Instantaneously shuts off upon release of button
15.231(a)(2):	N/A- The EUT is not activated automatically
15.231(a)(3):	N/A – The EUT does not periodically transmit at predetermined intervals
15.231(a)(4):	N/A – The EUT is not used for radio control purposes for emergency including fire, security or safety of life.



Section 4. Radiated Emissions

Para. No.: 15.231(b)

Test Performed By: Chris Maidens	**Date of Test: July 29, 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

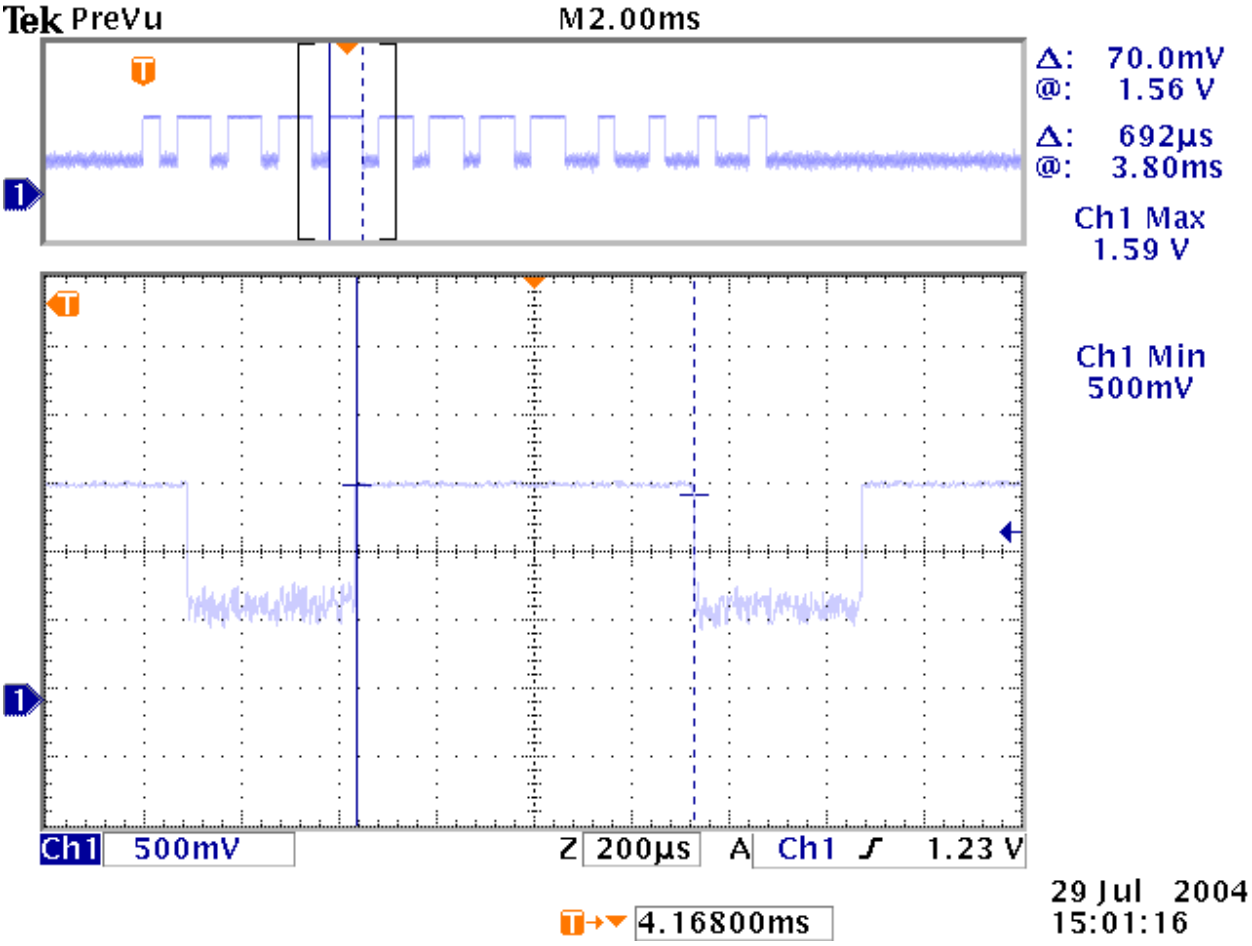
Restricted Band Limits		
Frequency (MHz)	**Field Strength (μV/m @ 3m)**	**Field Strength (dBμV/m @ 3m)**
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

Test Results: Complied

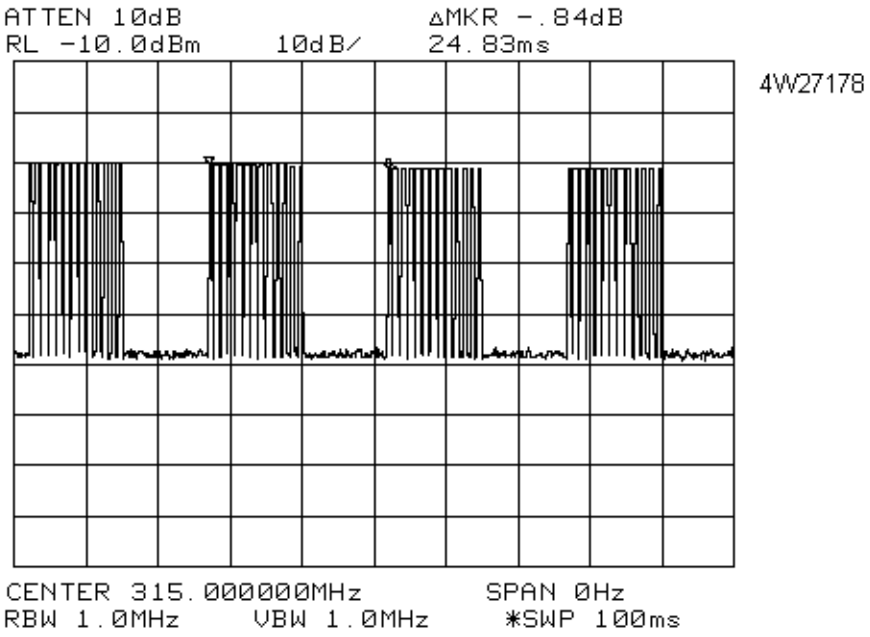
Test Data: As per attached tabulated data.

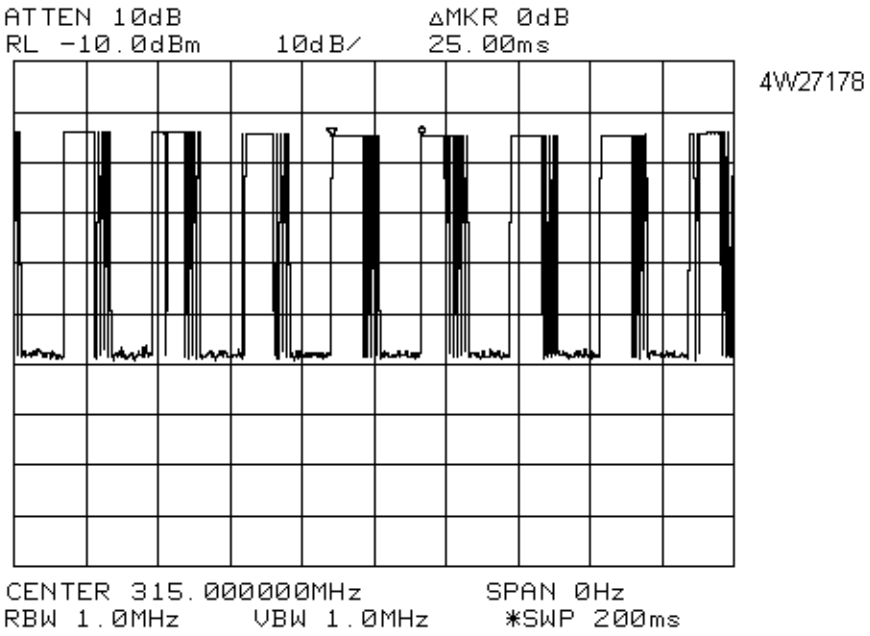
Radiated Emissions Test Data:

Test Date: July 29, 2004											
Engineer's Name: Chris Maidens											
Temperature (C°): 27							Humidity : 58 %				
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	V	49.2	19.1	0	-8.2	2.3	62.4	75.6	13.2	None
315.0000	ED3	H	54.5	19.1	0	-8.2	2.3	67.7	75.6	7.9	None
630.0000	LP2	V	35.3	20.9	0	-8.2	3.1	51.1	55.6	4.5	None
630.0000	LP2	H	32.0	21.3	0	-8.2	3.1	48.2	55.6	7.4	None
945.0000	LP2	V	81.5	23.7	55.0	-8.2	4.0	46.0	55.6	9.6	500-1000
945.0000	LP2	H	83.5	24.6	55.0	-8.2	4.0	48.9	55.6	6.7	500-1000
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, no emissions were detected above 945MHz. 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 a fresh new 12volt battery..										



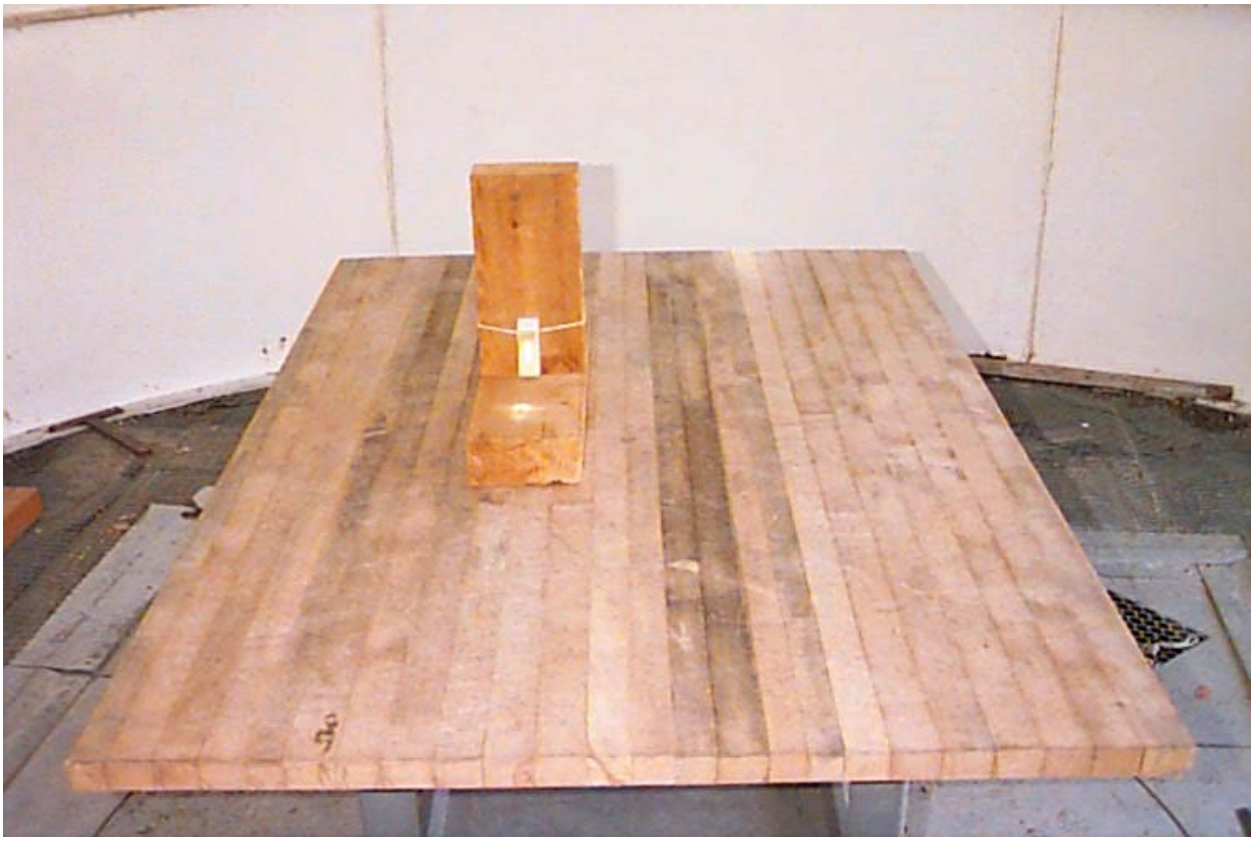
692 µSec Pulse





692uSec x 56 pulses =38.75mSec
Duty Cycle = 20Log(38.75/100) = -8.2dB

Radiated Emission Setup photo:



Section 5. Occupied Bandwidth

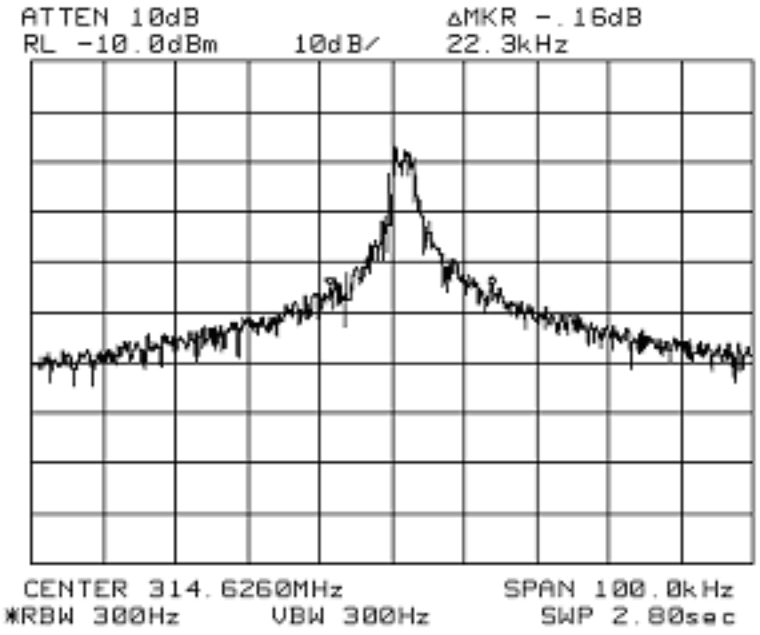
Para. No.: 15.231(c)

Test Performed By: Chris Maidens	**Date of Test: July 29, 2004**

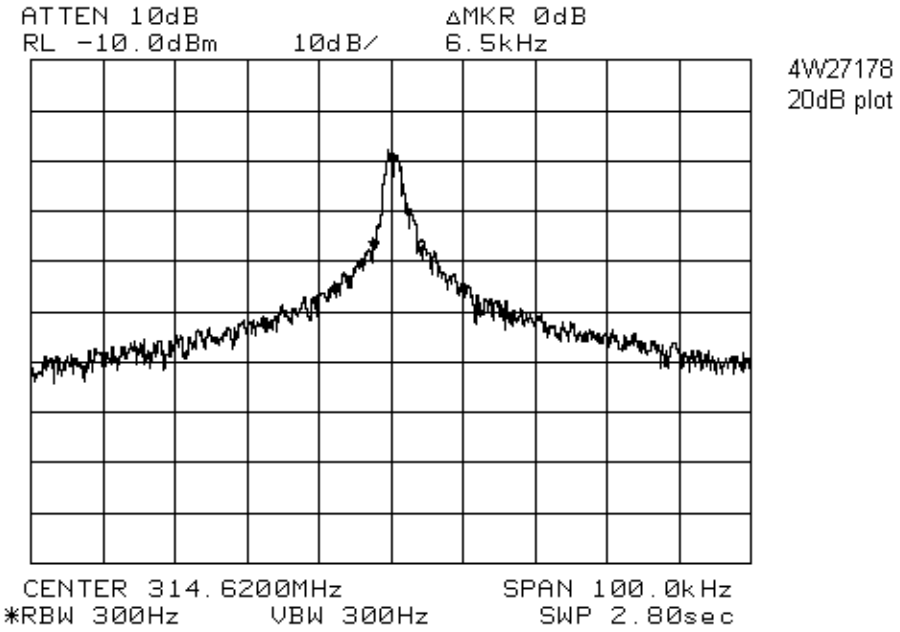
Minimum Standard: 15.231(c) The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points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

Test Results: Complied

Test Data: See attached graphs.



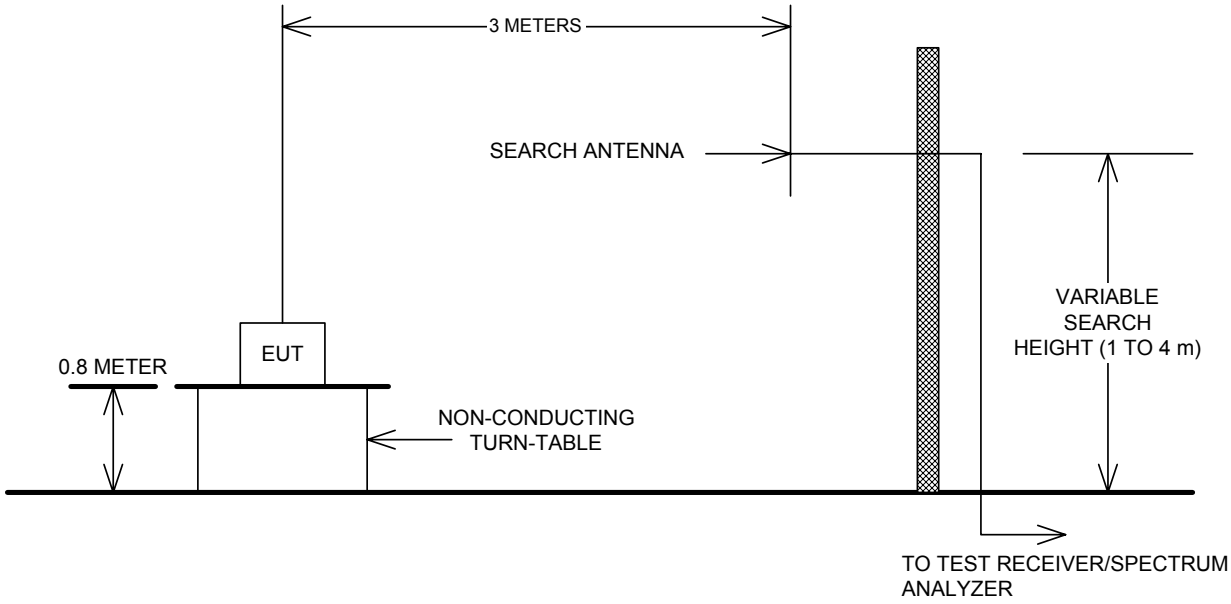
4W27178
99% occ. BW



4W27178
20dB plot

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	June 28/04	June 28/05
1 Year	Dipole Antenna Set	EMCO #1	3121C	FA000814	April 21/04	April 21/05
1 Year	Horn Antenna #1	EMCO	3115	FA000649	Dec. 18/03	Dec. 18/04
1 Year	Log Periodic Antenna #2	EMCO	3148	FA001355	May. 05/04	May. 05/05
COU	500MHz to 1GHz Amplifier	Miteq	AM-4A-0510	FA001495	COU	COU
1 Year	1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	June. 18/04	June. 18/05
1 Year	2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	June. 18/04	June. 18/05

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