



Nemko Test Report: 1023276RUS1

Applicant: Applied Concepts, Inc.
2609 Technology Drive
Plano, Texas 75074
USA

Equipment Under Test: Stalker Patrol
(E.U.T.)

FCC ID: IBQACMI006

In Accordance With: **FCC Part 15, Subpart C**
For Operation Within The Bands 902-928 MHz,
2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz,
24075-24175 MHz Intentional Radiators Used As
Field Disturbance Sensors Excluding Perimeter
Protection Systems

Tested By: Nemko USA, Inc.
802 N. Kealy
Lewisville, Texas 75057-3136


TESTED BY:



David Light, Senior Wireless Engineer

DATE: 13 April 2011

APPROVED BY:



DATE: 2 May 2011

Number of Pages: 15

Table of Contents

SECTION 1.	SUMMARY OF TEST RESULTS	3
SECTION 2.	EQUIPMENT UNDER TEST (E.U.T.)	5
SECTION 3.	FIELD STRENGTH OF EMISSIONS	7
SECTION 4.	BLOCK DIAGRAMS	9
SECTION 5.	TEST EQUIPMENT LIST	10
ANNEX A - RESTRICTED BANDS		11
ANNEX B - RADIATED EMISSION LIMITS		13

Section 1. Summary of Test Results

Manufacturer: Applied Concepts, Inc.

Model No.: Stalker Patrol

Serial No.: EC001000

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, Paragraph 15.245 for Field Disturbance Sensors. 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.



New Submission



Production Unit



Class II Permissive Change



Pre-Production Unit

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".



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Summary Of Test Data

NAME OF TEST	PARA. NO.	RESULT
Powerline Conducted Emissions	15.207(a)	NA
Field Strength of Emissions	15.245(b)	Complies

Footnotes:

- 1) This device is battery powered.

Section 2. Equipment Under Test (E.U.T.)

General Equipment Information

Frequency Band (MHz): 24075 to 24175

Operating Frequency of Test Sample: 24125 MHz

Channel Spacing: NA

User Frequency Adjustment: None

Modulation: None(the rf signal is not modulated or pulsed)

Description of E.U.T.

Law enforcement radar for speed detection.

Modifications Incorporated in E.U.T.

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

Section 3. Field Strength of Emissions

NAME OF TEST: Field Strength of Emissions	PARA. NO.: 15.245(b)
TESTED BY: David Light	DATE: 12 April 2011

Minimum Standard:

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
902–928	500	1.6
2435–2465	500	1.6
5785–5815	500	1.6
10500–10550	2500	25.0
24075–24175	2500	25.0

Test Results:

Complies. The worst-case emission level is 134.3 dB μ V/m @ 1m at 24.1 GHz. This is 3.2 dB below the specification limit.

Test Data:

See attached table.

Above 1 GHz a spectrum analyzer and low noise amplifier are used to measure emission levels. The spectrum analyzer resolution bandwidth was set to 1 MHz and video bandwidth was 3 MHz.

In the case of handheld equipment, the E.U.T. is rotated in three planes to obtain worst-case results.

Test Data - Radiated Emissions

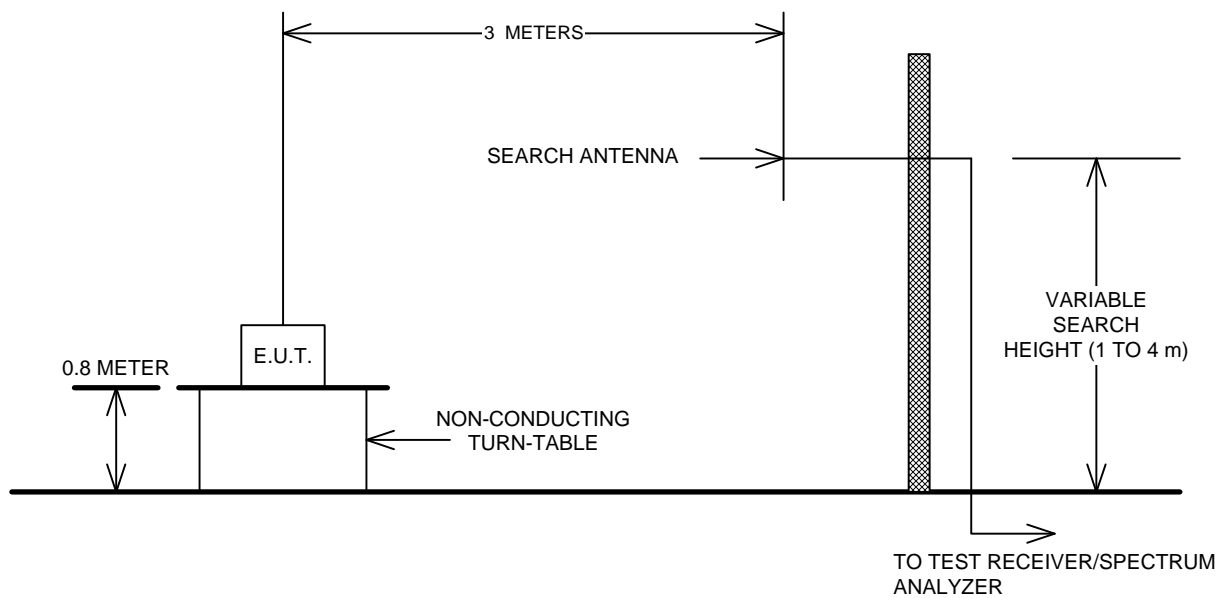
Meas. Freq (GHz)	Ant Pol (H/V)	Atten. (dB)	Meter Readin (dBuV)	Antenna Factor (dB)	Pat Los (dB)	R Gai (dB)	Corrected Readin (dBuV/m)	Spec limit (dBuV/m)	CR/S Diff (dB)	Pas Fai Unc.	Commen
24.1	V	0	90.7	40.4	3.2	0.0	134.3	137.5	-3.2	Pass	1 meter
24.1	H	0	90.5	40.4	3.2	0.0	134.1	137.5	-3.4	Pass	1 meter
48.2	V	0	51	40.5	0.0	0.0	91.5	97.5	-6.0	Pass	1 meter
48.2	H	0	46	40.5	0.0	0.0	86.5	98.5	-12.0	Pass	1 meter
72.3	V	0	55	43.7	0.0	0.0	98.7	111.5	-12.8	Pass	20 cm
72.3	H	0	55	43.7	0.0	0.0	98.7	112.5	-13.8	Pass	20 cm
96.4	V	0	57	46.4	0.0	0.0	103.4	111.5	-8.1	Pass	20 cm
96.4	H	0	57	46.4	0.0	0.0	103.4	112.5	-9.1	Pass	20 cm

The spectrum was searched from 30 MHz to 100 GHz. All emissions within 20 dB of the specification limit are reported.

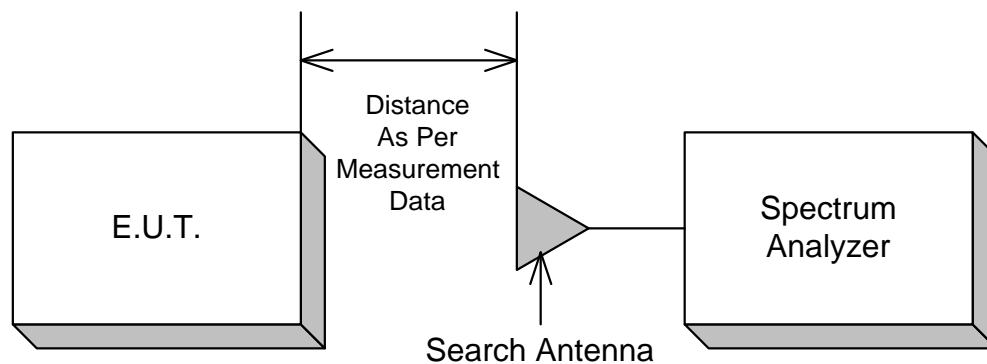
The device is battery powered (automotive). In lieu of testing with a new battery, it was tested using a 12 Vdc regulated power supply.

Section 4. Block Diagrams

Outdoor Test Site For Radiated Emissions



Indoor Measurement Setup for Emissions Above 10 GHz



Section 5. Test Equipment List

Asset	Description	Manufacturer	Model	Serial #	Last Cal	Next Cal
984	Antenna, Horn	Millitech			N/R	
985	Antenna, Horn	Millitech			N/R	
986	Harmonic Mixer	Hewlett Packard	11970V	2521A01222	05-May-2010	05-May-2011
987	Harmonic Mixer	Hewlett Packard	5356D	2521A00583	05-May-2010	05-May-2011
988	Harmonic Mixer	Hewlett Packard	11970A	2332A01929	05-May-2010	05-May-2011
989	Harmonic Mixer	Hewlett Packard	11970U	2332A00116	05-May-2010	05-May-2011
990	Antenna, Horn	Millitech			N/R	
991	Antenna, Horn	EMCO	3160-10	9704-1049	N/R	
992	Antenna, Horn	EMCO	3160-09	9705-1079	N/R	
993	Antenna, Horn	A.H. Systems	SAS-200/571	162	09-Sep-2009	09-Sep-2011
1016	Preamplifier	Hewlett Packard	8449A	2749A00159	19-Jun-2010	19-Jun-2011
1763	Antenna, Bilog	Schaffner	CBL 6111D	22926	11-Feb-2011	11-Feb-2012
1767	Receiver,	Rohde & Schwartz	ESIB26	837491/0002	01-Dec-2010	01-Dec-2011
1783	Cable Assy,	Nemko	Chamber		04-Oct-2010	04-Oct-2011
791	Pre Amplifier	Nemko, USA	Nemko, USA		19-May-2011	19-May-2012

Annex A - Restricted Bands

Section A Restricted Bands of Operation

(a) Except as shown in paragraph (d) of this section , only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.15
0.49 - 0.51	16.69475-16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425-16.80475	960-1240	7.25-7.75
3.020 - 3.026	25.5-25.67	1300-1427	8.025-8.5
4.125 - 4.128	37.5-38.25	1435-1626.6	9.0-9.2
4.17725 - 4.17775	73-74.6	1645.5-1646.5	9.3-9.5
4.20725 - 4.20775	74.8-75.2	1660-1710	10.6-12.7
6.215 - 6.218	108-121.94	1718.8-1722.2	13.25-13.4
6.31175 - 6.31225	123-138	2220-2300	14.47-14.5
8.291 - 8.294	149.9-150.05	2310-2390	15.35-16.2
8.362 - 8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625 - 8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425 - 8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29 - 12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975 - 12.52025	240-285	3345.8-3358	36.43-36.5
12.57675 - 12.57725	322-335.4	3600-4400	Above 38.6
13.36 - 13.41			

ANNEX B - RADIATED EMISSION LIMITS

Radiated Emission Limits**§15.245 Operation within the bands 902-928 MHz, 2435-2465 MHz, 5785-5815 MHz, 10500-10550 MHz and 24075-24175 MHz.**

- (a) Operation under the provision of this section is limited to intentional radiators used as field disturbance sensors, excluding perimeter protection systems.
- (b) The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency (MHz)	Field Strength Of Fundamental (millivolts/meter)	Field Strength of Harmonics (millivolts/meter)
902-928	500	1.6
2435-2465	500	1.6
5785-5815	500	1.6
10500-10550	2500	25.0
24075-24175	2500	25.0

- (1) Regardless of the limits shown in the above table, harmonic emissions in the restricted bands below 17.7 GHz, as specified in §15.205, shall not exceed the field strength limits shown in §15.209. Harmonic emissions in the restricted bands at and above 17.7 GHz shall not exceed the following field strength limits:

- (i) For field disturbance sensors designed for use only within a building or to open building doors, 25 mV/m.
- (ii) For all other field disturbance sensors, 7.5 mV/m.
- (iii) Field disturbance sensors designed to be used in motor vehicles or aircraft must include features to prevent continuous operation unless their emissions in the restricted bands fully comply with the limits given in §15.209. Continuous operation of field disturbance sensors designed to be used in farm equipment; vehicles such as fork-lifts that are intended primarily for use indoors or for very specialized operations. Or railroad locomotives, railroad cars and other equipment which travel on fixed tracks is permitted. A field disturbance sensor will be considered not to be operating in a continuous mode if its operation is limited to specific activities of limited duration (e.g. putting a vehicle in reverse gear, activating a turn signal, etc.).

§15.245, continued

- (2) Field strength limits are specified at a distance of 3 meters.
- (3) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.
- (4) The emission limits shown above are based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply.

§15.209 Radiated Emission Limits, General Requirements

- (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field Strength (millivolts/meter)	Measurement Distance (meters)
0.009-0.490	2400/F (kHz)	300
0.490-1.705	2400/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