



**Nemko**

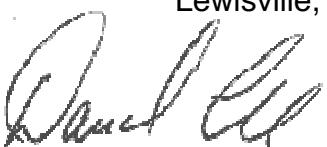
**Nemko Test Report:** 3017RUS1

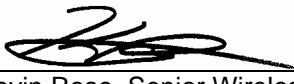
**Applicant:** STEMCO LP  
300 Industrial Blvd.  
Longview, Texas 75604  
USA

**Equipment Under Test:** Active AirBat  
**(E.U.T.)**

**In Accordance With:** **FCC Part 15, Subpart C, 15.247**  
Digital Transmission System Transmitter

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

**TESTED BY:**   
\_\_\_\_\_  
David Light, Senior Wireless Engineer **DATE:** 01 February 2007

**APPROVED BY:**   
\_\_\_\_\_  
Kevin Rose, Senior Wireless Engineer **DATE:** 01 February 2007

**Number of Pages:** 31

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**Section 1. Summary of Test Results**

Manufacturer: STEMPCO, LLP

Model No.: Active AirBat

Serial No.: None

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 15.247 for Digital Transmission Systems. 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.

<input checked="" type="checkbox"/>	New Submission	<input checked="" type="checkbox"/>	Production Unit
<input type="checkbox"/>	Class II Permissive Change	<input type="checkbox"/>	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 (2)
Minimum 6 dB Bandwidth	15.247(a)(2)	Complies (1)
Maximum Peak Power Output	15.247(b)(3)	Complies (1)
Spurious Emissions	15.247(d) / 15.205	Complies (1)
Peak Power Spectral Density	15.247(e)	Complies (1)

**Footnotes:**

- 1) All measurements were made radiated using the signal substitution method.  
The device has an integral antenna
- 2) This device is battery powered.

**Section 2. Equipment Under Test (E.U.T.)****General Equipment Information**

**Frequency Band (MHz):** 902-928      2400-2483.5      5725-5850  
   

**Operating Frequency of Test Sample:** 2404 to 2478 MHz

**Channel Spacing:** 1 MHz

**User Frequency Adjustment:** Software controlled

**Description of EUT**

2.4 GHz DSSS transmitter used to monitor tire pressure in automotive industry.

**Nemko USA, Inc.**

*EQUIPMENT:* Active AirBat

FCC PART 15, SUBPART C  
Digital Transmission Systems  
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### **Section 3. Occupied Bandwidth**

NAME OF TEST: Occupied Bandwidth	PARA. NO.: 15.247(a)(2)
TESTED BY: David Light	DATE: 01 February 2007

**Test Results:** Complies.

**Measurement Data:** See 6 dB BW plot

Measured 6 dB bandwidth: 880 kHz Max  
Channel Separation: 1 MHz

**Test Conditions:** 55 %RH  
23 °C

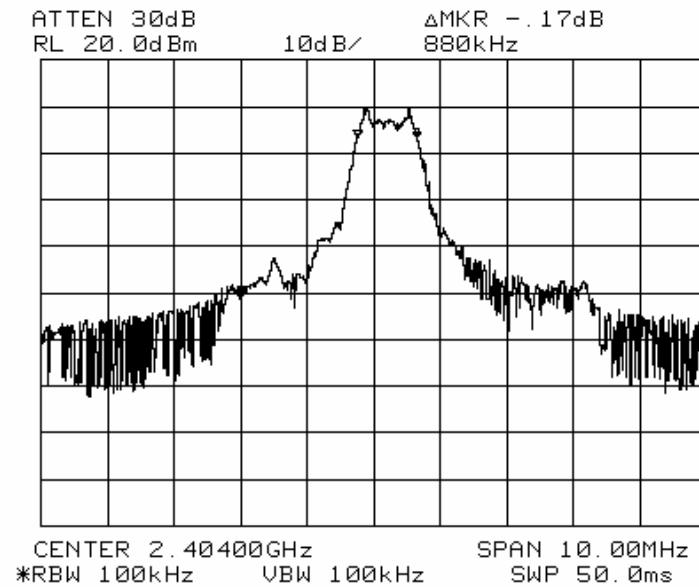
**Measurement Uncertainty:**  $\pm 1 \times 10^{-7}$  ppm

**Test Equipment Used:** 1464-1484-1485-1016-993

**Test Data – Occupied Bandwidth**

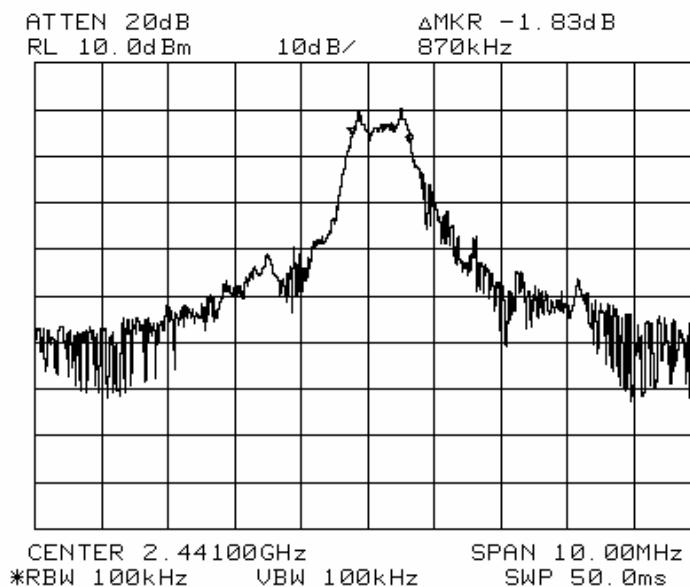
6 dB Bandwidth

Low channel



6dB Bandwidth

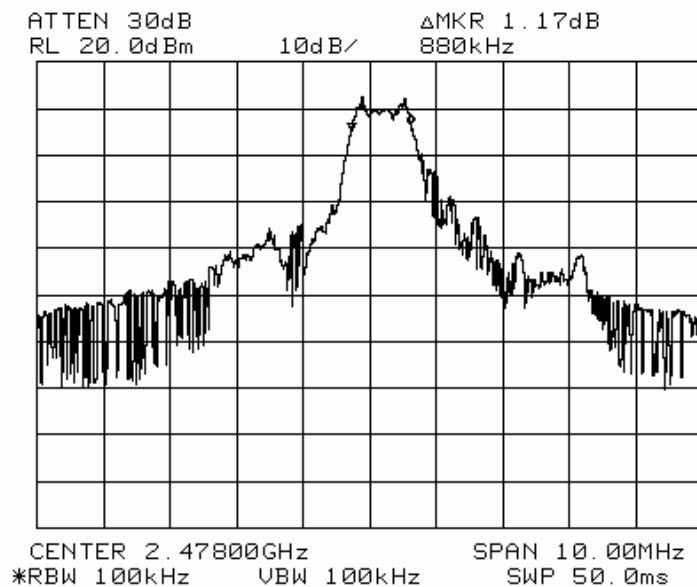
Mid channel



**Test Data – Occupied Bandwidth**

6 dB Bandwidth

High channel



**Section 4. Maximum Peak Output Power**

NAME OF TEST: Maximum Peak Output power	PARA. NO.: 15.247(b)(3)
TESTED BY: David Light	DATE: 01 Febräuay 2007

**Test Results:** Complies.**Measurement Data:**

Frequency (MHz)	Meter Reading (dBm)	Substitution Level (dBm)	Pre-Amp Gain (dB)	Substitution Antenna Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
2404	-5.5	-3.4	32.8	7.8	4.4	36.0	-31.6
2441	-7.7	-5.6	32.8	7.8	2.2	36.0	-33.8
2478	-5.5	-3.4	32.8	7.8	4.4	36.0	-31.6

**Antenna Gain:** 3 dBi max**Calculated Conducted Power:** 1.4 dBm (1.38 mW)**Analyzer Settings:** RBW=VBW=1 MHz**Test Conditions:** 55 %RH  
22 °C**Measurement Uncertainty:** +/-1.7 dB**Test Equipment Used:** 1464-1484-1485-1016-993

- For battery powered equipment, the device was tested with a fresh battery per 15.31(e).
- The device was tested on three channels per 15.31(l).
- This test was performed radiated.

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*EQUIPMENT:* Active AirBat

FCC PART 15, SUBPART C  
Digital Transmission Systems  
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**Section 5. Radiated Emissions**

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.247 (d)
TESTED BY: David Light	DATE: 01 February 2007

**Test Results:** Complies.**Measurement Data:** See attached table.**Test Conditions:** 55 %RH  
23 °C**Measurement Uncertainty:** +/-1.7 dB**Test Equipment Used:** 1464-1484-1485-1016-993-1082-759-1195-791**Notes:**

- The EUT was tested on three orthogonal axis'
- The device was tested from 30 MHz to the tenth harmonic of the highest fundamental frequency per 15.33
- The device was tested on three channels per 15.31(l).
- All emissions within 20 dB of the specification limit are reported per 15.31(o).

RBW=VBW=100 kHz below 1000 MHz  
RBW=VBW=1 MHz above 1000 MHz (Peak)

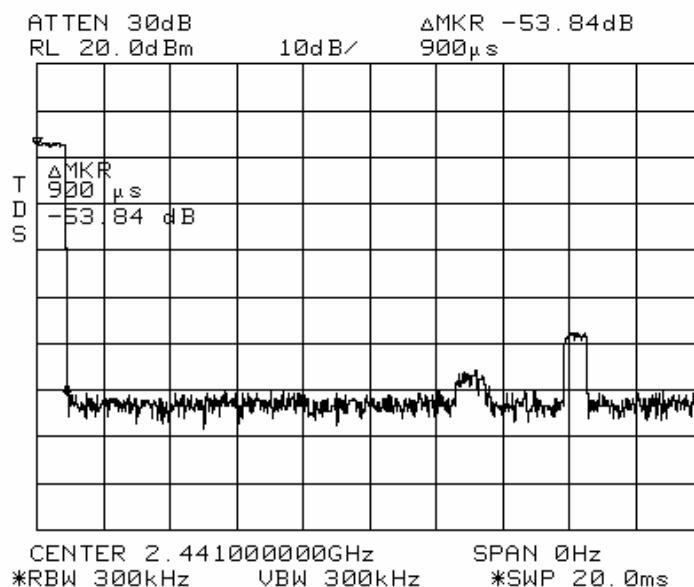
**Duty Cycle Calculation:**

Duty Cycle =  $20 \log (TX\ ON/100\ mS) = 20 \log (0.9/100) = -40.9\ dB$

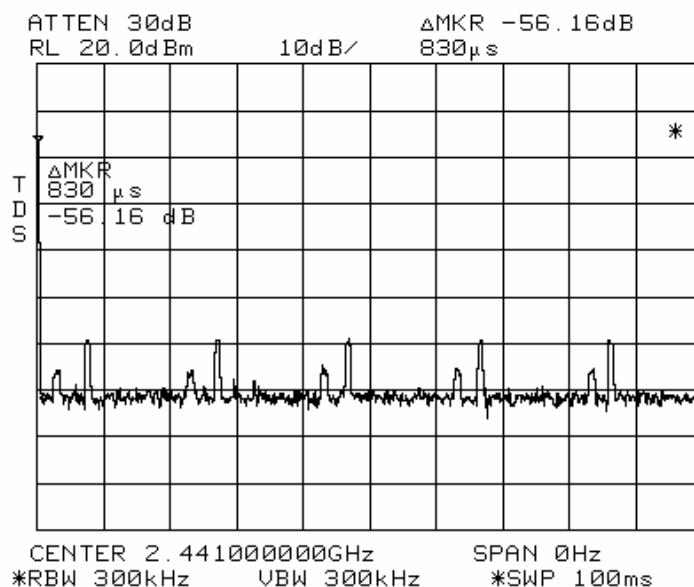
Refer to attached plot(s)

**Duty Cycle**

Pulse width

900  $\mu$ s**Duty Cycle Calculation**

1 pulse in 100 mS

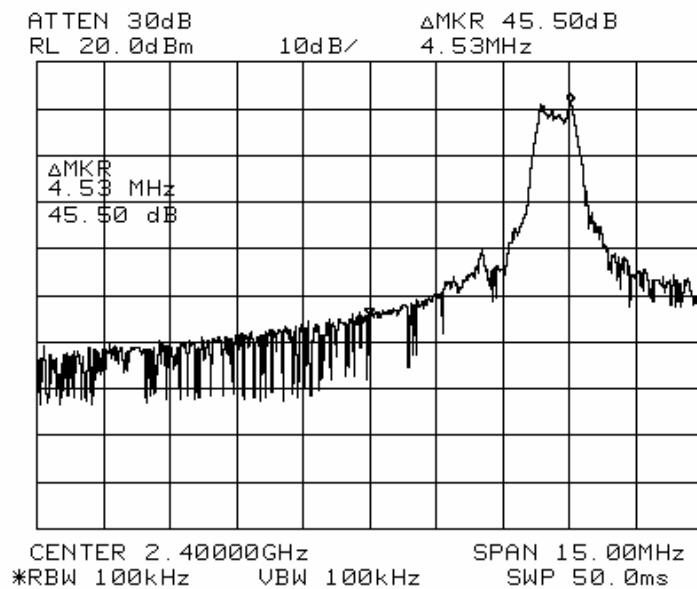
 $DC (dB) = 20 \log (Time On/100 mS)$  $-40.9 dB = 20 \log (0.9/100)$ 

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Digital Transmission Systems  
Test Report No.: 3017RUS1

**Lower band Edge**



**Radiated Emissions**

## Low Channel

<b>Measurement Data:</b>			Reading listed by order taken.			Test Distance:			3 Meters		
#	Freq MHz	Rdng dB $\mu$ V	Cable Duty	Cable	Pre-A	Horn	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	4808.000	66.0	+1.0	+3.2	-32.5	+33.1	+0.0	70.8	74.0	-3.2	Vert
	Peak		+0.0								
2	4808.000	66.0	+1.0	+3.2	-32.5	+33.1	+0.0	29.9	54.0	-24.1	Vert
	Average		-40.9								
3	7212.000	48.0	+1.2	+3.9	-32.1	+35.8	+0.0	56.8	74.0	-17.2	Vert
	Peak		+0.0								
4	7212.000	48.0	+1.2	+3.9	-32.1	+35.8	+0.0	15.9	54.0	-38.1	Vert
	Average		-40.9								
5	9616.000	46.0	+1.1	+4.7	-35.8	+37.1	+0.0	53.1	74.0	-20.9	Vert
	Peak		+0.0								
6	9616.000	46.0	+1.1	+4.7	-35.8	+37.1	+0.0	12.2	54.0	-41.8	Vert
	Average		-40.9								
7	4808.000	67.5	+1.0	+3.2	-32.5	+33.1	+0.0	72.3	74.0	-1.7	Horiz
	Peak		+0.0								
8	4808.000	67.5	+1.0	+3.2	-32.5	+33.1	+0.0	31.4	54.0	-22.6	Horiz
	Average		-40.9								
9	7212.000	48.7	+1.2	+3.9	-32.1	+35.8	+0.0	57.5	74.0	-16.5	Horiz
	Peak		+0.0								
10	7212.000	48.7	+1.2	+3.9	-32.1	+35.8	+0.0	16.6	54.0	-37.4	Horiz
	Average		-40.9								
11	9616.000	44.5	+1.1	+4.7	-35.8	+37.1	+0.0	51.6	74.0	-22.4	Horiz
	Peak		+0.0								
12	9616.000	44.5	+1.1	+4.7	-35.8	+37.1	+0.0	10.7	54.0	-43.3	Horiz
	Average		-40.9								

**Radiated Emissions**

## Mid Channel

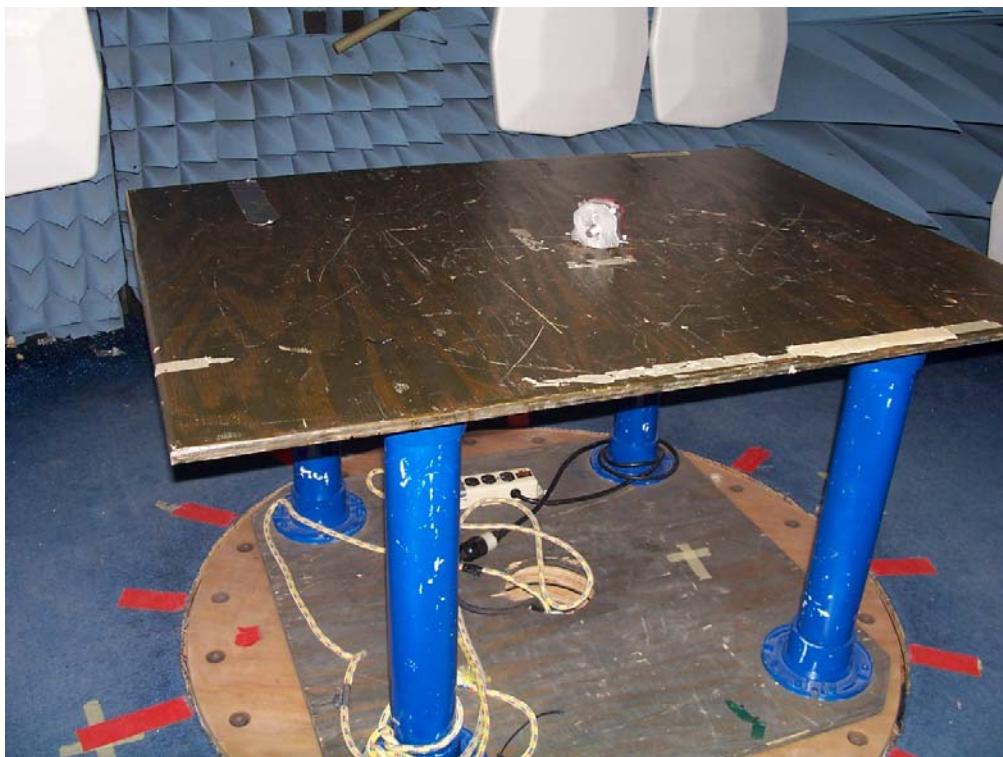
Measurement											
Data:		Reading listed by order taken.			Test Distance:			3 Meters			
#	Freq MHz	Rdng dB $\mu$ V	Cable dB	Cable dB	Pre-A dB	Horn dB	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	4882.000 Peak	54.7 +0.0	+1.0	+3.3	-32.6	+33.4	+0.0	59.8	74.0	-14.2	Horiz
2	4882.000 Average	54.7 -40.9	+1.0	+3.3	-32.6	+33.4	+0.0	18.9	54.0	-35.1	Horiz
3	7323.000 Peak	47.2 +0.0	+1.2	+4.0	-32.3	+35.8	+0.0	55.9	74.0	-18.1	Horiz
4	7323.000 Average	47.2 -40.9	+1.2	+4.0	-32.3	+35.8	+0.0	15.0	54.0	-39.0	Horiz
5	9764.000 Peak	49.2 +0.0	+1.1	+4.9	-36.1	+37.2	+0.0	56.3	74.0	-17.7	Horiz
6	9764.000 Average	49.2 -40.9	+1.1	+4.9	-36.1	+37.2	+0.0	15.4	54.0	-38.6	Horiz
7	4882.000 Peak	58.0 +0.0	+1.0	+3.3	-32.6	+33.4	+0.0	63.1	74.0	-10.9	Vert
8	4882.000 Average	58.0 -40.9	+1.0	+3.3	-32.6	+33.4	+0.0	22.2	54.0	-31.8	Vert
9	7323.000 Peak	48.3 +0.0	+1.2	+4.0	-32.3	+35.8	+0.0	57.0	74.0	-17.0	Vert
10	7323.000 Average	48.3 -40.9	+1.2	+4.0	-32.3	+35.8	+0.0	16.1	54.0	-37.9	Vert
11	9764.000 Peak	42.2 +0.0	+1.1	+4.9	-36.1	+37.2	+0.0	49.3	74.0	-24.7	Vert
12	9764.000 Average	42.2 -40.9	+1.1	+4.9	-36.1	+37.2	+0.0	8.4	54.0	-45.6	Vert

**Radiated Emissions**

## High Channel

<b>Measurement Data:</b>			Reading listed by order taken.				Test Distance:				3 Meters	
#	Freq MHz	Rdng dB $\mu$ V	Cable Duty dB	Cable dB	Pre-A dB	Horn dB	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant	
1	2483.500 Peak	67.3	+0.8 +0.0	+2.3 Band edge	-32.8	+29.0	+0.0	66.6	74.0	-7.4	Horiz	
2	2483.500 Average	67.3	+0.8 -40.9	+2.3 Band edge	-32.8	+29.0	+0.0	25.7	54.0	-28.3	Horiz	
3	4956.000 Peak	58.8	+1.0 +0.0	+3.3 Band edge	-32.6	+33.6	+0.0	64.1	74.0	-9.9	Horiz	
4	4956.000 Average	58.8	+1.0 -40.9	+3.3 Band edge	-32.6	+33.6	+0.0	23.2	54.0	-30.8	Horiz	
5	7434.000 Peak	48.0	+1.2 +0.0	+4.1 Band edge	-32.5	+35.9	+0.0	56.7	74.0	-17.3	Horiz	
6	7434.000 Average	48.0	+1.2 -40.9	+4.1 Band edge	-32.5	+35.9	+0.0	15.8	54.0	-38.2	Horiz	
7	9912.001 Peak	44.7	+1.1 +0.0	+5.0 Band edge	-35.7	+37.2	+0.0	52.3	74.0	-21.7	Horiz	
8	9912.001 Average	44.7	+1.1 -40.9	+5.0 Band edge	-35.7	+37.2	+0.0	11.4	54.0	-42.6	Horiz	
9	2483.500 Peak	70.7	+0.8 +0.0	+2.3 Band edge	-32.8	+29.0	+0.0	70.0	74.0	-4.0	Vert	
10	2483.500 Average	70.7	+0.8 -40.9	+2.3 Band edge	-32.8	+29.0	+0.0	29.1	54.0	-24.9	Vert	
11	4956.000 Peak	51.7	+1.0 +0.0	+3.3 Band edge	-32.6	+33.6	+0.0	57.0	74.0	-17.0	Vert	
12	4956.000 Average	51.7	+1.0 -40.9	+3.3 Band edge	-32.6	+33.6	+0.0	16.1	54.0	-37.9	Vert	
13	7434.000 Peak	45.5	+1.2 +0.0	+4.1 Band edge	-32.5	+35.9	+0.0	54.2	74.0	-19.8	Vert	
14	7434.000 Average	45.5	+1.2 -40.9	+4.1 Band edge	-32.5	+35.9	+0.0	13.3	54.0	-40.7	Vert	
15	9912.001 Peak	45.3	+1.1 +0.0	+5.0 Band edge	-35.7	+37.2	+0.0	52.9	74.0	-21.1	Vert	
16	9912.001 Average	45.3	+1.1 -40.9	+5.0 Band edge	-35.7	+37.2	+0.0	12.0	54.0	-42.0	Vert	

**Radiated Photographs**



**Nemko USA, Inc.**

*EQUIPMENT:* Active AirBat

FCC PART 15, SUBPART C  
Digital Transmission Systems  
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## **Section 6. Peak Power Spectral Density**

NAME OF TEST: Peak Power Spectral Density	PARA. NO.: 15.247(e)
TESTED BY: David Light	DATE: 01 February 2007

**Test Results:** Complies.

**Measurement Data:** See attached data..

**Test Conditions:** 55 %RH  
23 °C

**Measurement Uncertainty:** +/-1.7 dB

**Test Equipment Used:** 1464-1484-1485-1016-993

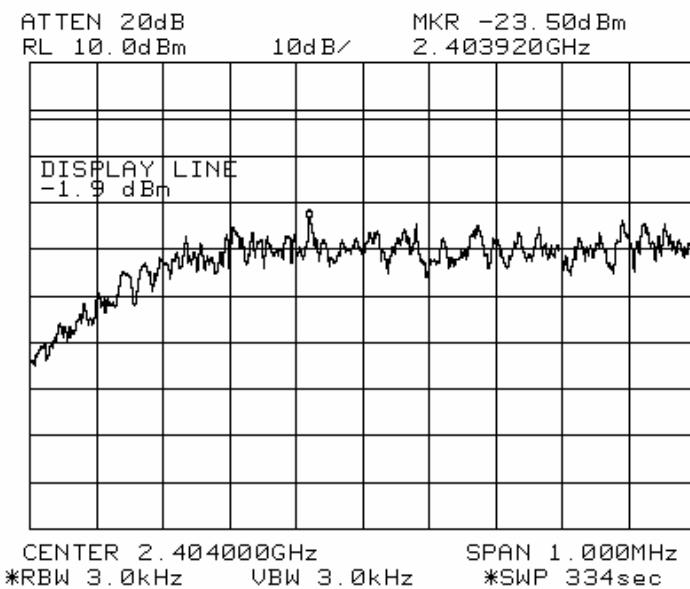
- The device was tested on three channels per 15.31(l).
- This test was performed radiated.

## Peak Power Spectral Density

## Spectral Density

## Low Channel

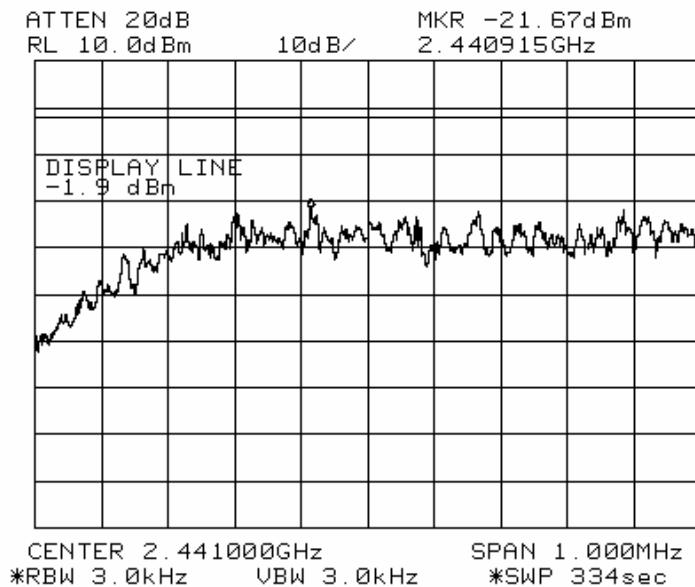
Display line ar  $-1.9$  dBm =  $+8$  dBm EIRP



## Spectral Density

## Mid Channel

Display line ar  $-1.9$  dBm =  $+8$  dBm EIRP



## Nemko USA, Inc.

**EQUIPMENT:** Active AirBat

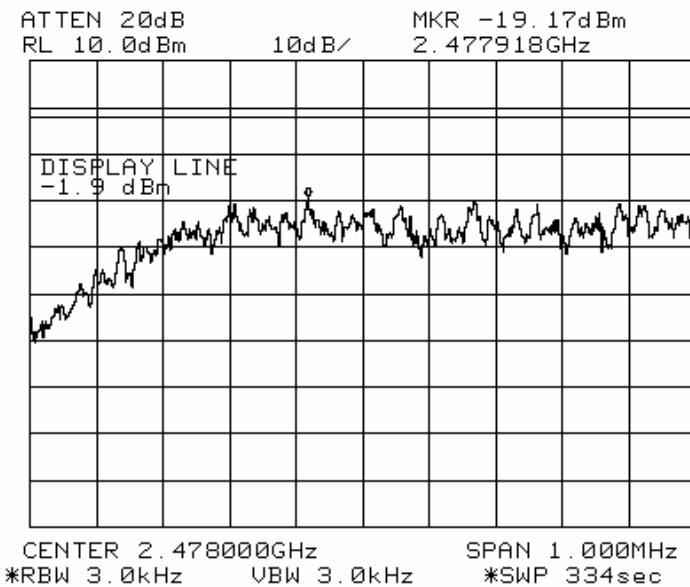
FCC PART 15, SUBPART C  
Digital Transmission Systems  
Test Report No.: 3017RUS1

## Peak Power Spectral Density

## Spectral Density

## High channel

Display line ar -1.9 dBm = +8 dBm EIRP



**Section 7. Test Equipment List**

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/24/07	01/24/09
1484	Cable	Storm PR90-010-072	N/A	10/02/06	10/02/07
1485	Cable	Storm PR90-010-216	N/A	10/02/06	10/02/07
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/01/05	08/02/07
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	04/20/06	04/20/07
759	ANTENNA, LOG PERIODIC	A.H. SYSTEMS SAS-200/510	556	02/13/06	02/13/07
1195	ANTENNA,BICONICAL	A.H. SYSTEMS SAS-200/542	235	02/10/06	02/10/07
791	PREAMP, 25dB	Nemko USA, Inc. LNA25	398	04/20/06	04/20/07
1482	Band Pass Filter	K & L 11SH10-4000/T12000-0/0	2	Cal B4 Use	N/A

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*EQUIPMENT:* Active AirBat

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Digital Transmission Systems  
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## **ANNEX A - TEST DETAILS**

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.207(a)
---	----------------------

**Minimum Standard:** §15.207 Conducted limits.

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 mH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

Frequency of Conducted Emission (MHz)	Limit (dBmV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

\* Decreases with the logarithm of the frequency.

(b) The limit shown in paragraph (a) of this section shall not apply to carrier current systems operating as intentional radiators on frequencies below 30 MHz. In lieu thereof, these carrier current systems shall be subject to the following standards:

(1) For carrier current systems containing their fundamental emission within the frequency band 535-1705 kHz and intended to be received using a standard AM broadcast receiver: no limit on conducted emissions.

(2) For all other carrier current systems: 1000 mV within the frequency band 535-1705 kHz, as measured using a 50 mH/50 ohms LISN.

(3) Carrier current systems operating below 30 MHz are also subject to the radiated emission limits as provided in §15.205 and §§15.209, 15.221, 15.223, 15.225 or 15.227, as appropriate.

(c) Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provision for, the use of battery chargers which permit operating while charging, AC adaptors or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

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*EQUIPMENT:* Active AirBat

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NAME OF TEST: Occupied Bandwidth

PARA. NO.: 15.247(a)(2)

**Minimum Standard:** The minimum 6 dB bandwidth shall be at least 500 kHz

NAME OF TEST: Maximum Peak Output Power

PARA. NO.: 15.247(b)(3)

**Minimum Standard:** The maximum peak output power shall not exceed 1 watt.

If transmitting antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Systems operating in the 2400-2483.5 MHz band that are used exclusively for fixed, point to point operation may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum peak output power is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceed 6 dBi.

Systems operating in the 5725 – 5850 MHz band that are used exclusively for fixed, point-to-point operation may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter peak output power.

**Direct Measurement Method For Detachable Antennas:**

If the antenna is detachable, a peak power meter is used to measure the power output with the transmitter operating into a 50 ohm load. The dBi gain of the antenna(s) employed shall be reported.

**Substitution Antenna Method for Integral Antennas:**

The peak field strength of the carrier is measured in a worst-case configuration with a RBW > 5 times the occupied bandwidth of the transmitted waveform. For cases where the RBW of the test instrument is not sufficient, the power is measured using a peak power meter instead of the spectrum analyzer.

The RBW of the spectrum analyzer shall be set to a value greater than the measured 6 dB occupied bandwidth of the E.U.T.

**Number of channels tested:**

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

NAME OF TEST: Occupied Bandwidth

PARA. NO.: 15.247(a)(2)

**Minimum Standard:** Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

**Method Of Measurement:**

The spectrum analyzer is set as follows:

RBW = VBW = 100 kHz.

Span: Sufficient to display 6 dB bandwidth

LOG dB/div.: 10 dB

Sweep: Auto

**Number of channels tested:**

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

NAME OF TEST: Spurious Emissions(conducted)	PARA. NO.: 15.247(d)
---	----------------------

**Minimum Standard:** In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits. Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:

Frequency (MHz)	Field Strength ( $\mu$ V/m @ 3m)	Field Strength (dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

**THE SPECTRUM IS SEARCHED TO THE 10th HARMONIC OF THE HIGHEST FREQUENCY GENERATED IN THE EUT.**

**Method Of Measurement:**30 MHz - 10th harmonic plot

RBW: 100 kHz

VBW: 300 kHz

Sweep: Auto

Display line: -20 dBc

Lower Band Edge

RBW: At least 1% of span/div.

VBW: &gt;RBW

Span: As necessary to display any spurious at band edge.

Sweep: Auto

Center Frequency: 902 MHz, 2400 MHz, or 5725 MHz

Marker: Peak of fundamental emission

Marker Δ: Peak of highest spurious level below center frequency.

Upper Band Edge

RBW: At least 1% of span/div.

VBW: &gt;RBW

Span: As necessary to display any spurious at band edge.

Sweep: Auto

Center Frequency: 928 MHz, 2483.5 MHz, or 5850 MHz

Marker: Peak of fundamental emission

Marker Δ: Peak of highest spurious level above center frequency.

Number of channels tested:

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

**NAME OF TEST:** Radiated Spurious Emissions**PARA. NO.:** 15.247(c)

**Minimum Standard:** In any 100kHz bandwidth outside the frequency band in which the transmitter is operating, emissions shall be at least 20 dB below the fundamental emission or shall not exceed the following field strength limits:

**Emissions falling in the restricted bands of 15.205 shall not exceed the following field strength limits:**

Frequency (MHz)	Field Strength ( $\mu$ V/m @ 3m)	Field Strength (dB @ 3m)
30 - 88	100	40.0
88 - 216	150	43.5
216 - 960	200	46.0
Above 960	500	54.0

**THE SPECTRUM WAS SEARCHED TO THE 10th HARMONIC**

**15.205 Restricted Bands**

MHz	MHz	MHz	GHz
0.09-0.11	16.42-16.423	399.9-410	4.5-5.25
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.125-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	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	1718		

Number of channels tested:

Tuning range	Number of channels tested	Channel location in band
1 MHz or less	1	middle
1 to 10 MHz	2	top and bottom
more than 10 MHz	3	top, middle, bottom

**NAME OF TEST:** Transmitter Power Density**PARA. NO.:** 15.247(d)

**Minimum Standard:** The transmitted power density averaged over any 1 second interval shall not be greater than +8 dBm in any 3 kHz bandwidth.

**Method Of Measurement:** The spectrum analyzer is set as follows:

RBW: 3 kHz  
VBW: >3 kHz  
Span: => measured 6 dB bandwidth  
Sweep: Span(kHz)/3 (i.e. for a span of 1.5 MHz the sweep rate is 1500/3 = 500 sec.  
LOG dB/div.: 2 dB

**Note:** For devices with spectrum line spacing =< 3 kHz, the RBW of the analyzer is reduced until the spectral lines are resolved. The measurement data is normalized to 3 kHz by summing the power of all the individual spectral lines within a 3 kHz band in linear power units.

**For Devices With Integral Antenna:**

For devices with non-detachable antennas, the received field strength is peaked and the spectrum analyzer is set as above. The peak emission level is then measured and converted to a field strength by adding the appropriate antenna factor and cable loss. This field strength is then converted to an equivalent isotropic radiated power using the same method as described for Peak Power output.

Number of channels tested:

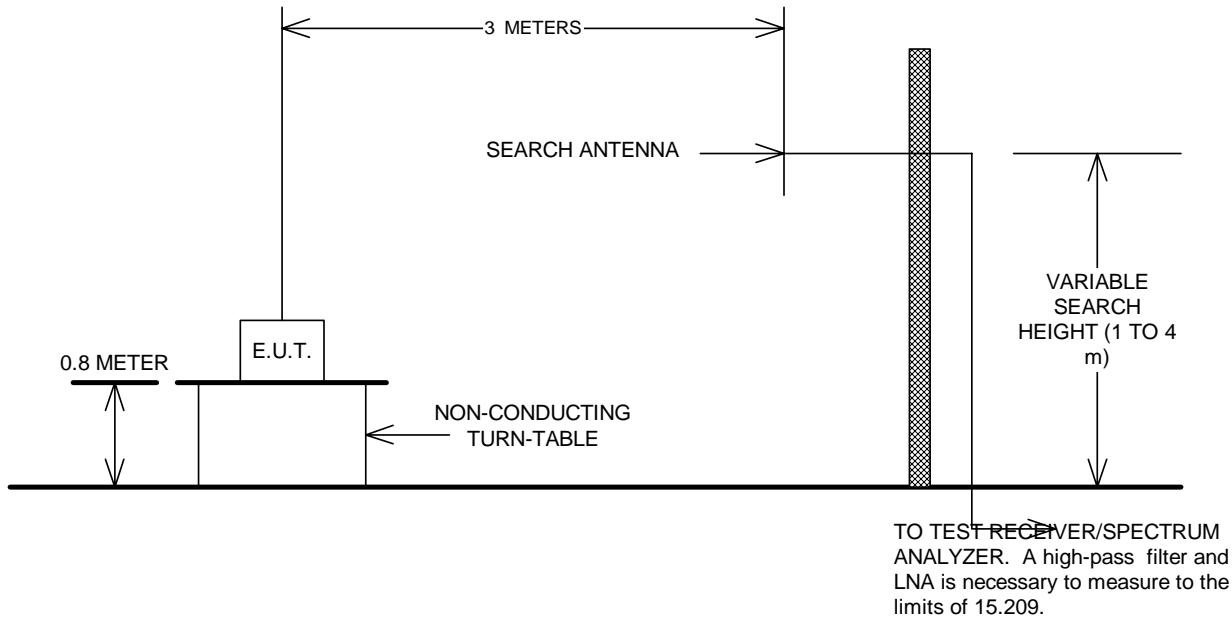
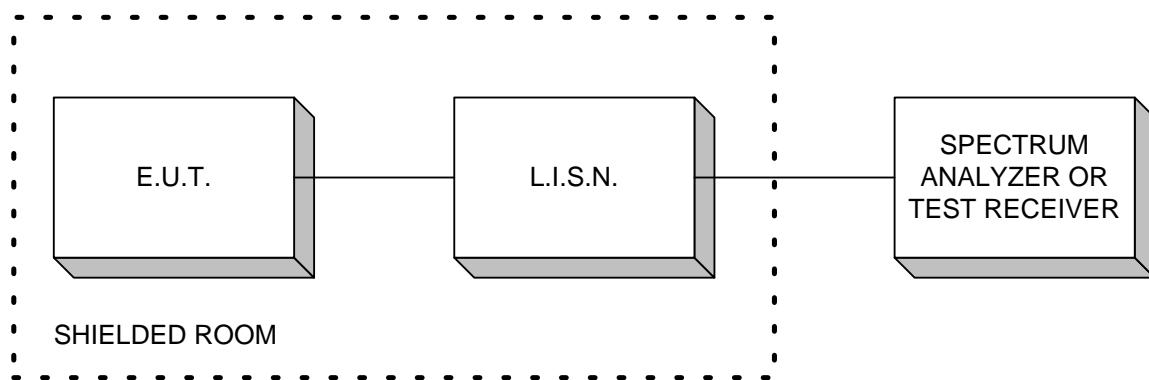
<b>Tuning Range</b>	<b>Number Of Channels Tested</b>	<b>Channel Location In Band</b>
1 MHz or Less	1	Middle
1 to 10 MHz	2	Top And Bottom
More Than 10 MHz	3	Top, Middle, Bottom

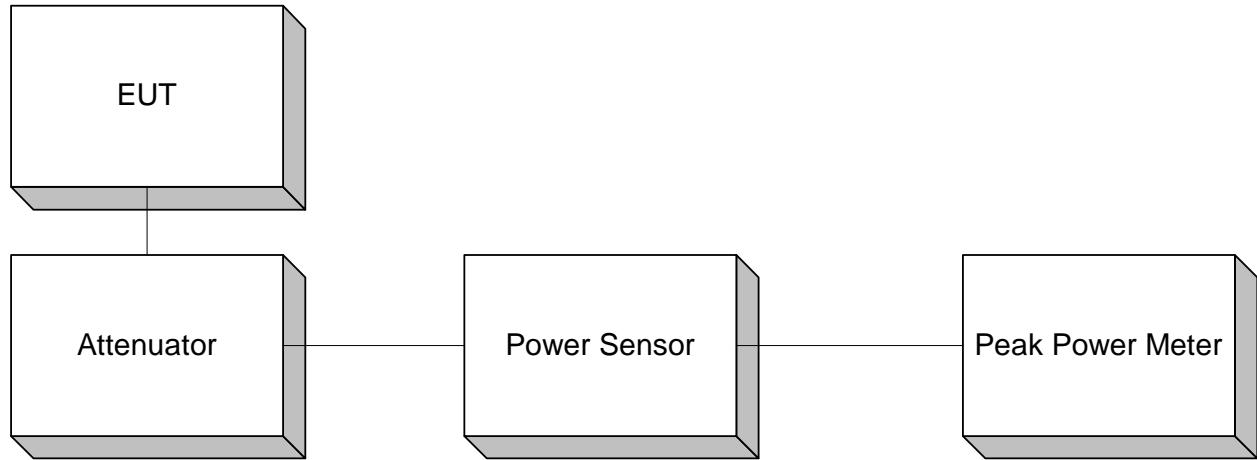
**Nemko USA, Inc.**

*EQUIPMENT:* Active AirBat

FCC PART 15, SUBPART C  
Digital Transmission Systems  
Test Report No.: 3017RUS1

**ANNEX B - TEST DIAGRAMS**

**Test Site For Radiated Emissions****Conducted Emissions**

**Peak Power At Antenna Terminals**

Note: A spectrum analyzer may be substituted for Peak Power Meter given that the measurement bandwidth is sufficient to capture the 6 dB bandwidth of the transmitter.

**Minimum 6 dB Bandwidth  
Peak Power Spectral Density  
Spurious Emissions (conducted)**