



**Nemko Test Report:** 5113RUS2


**Applicant:** University of Houston  
4800 Calhoun Road  
Houston, TX 77004  
USA

**Equipment Under Test:** U7W900  
(E.U.T.)

**In Accordance With:** **FCC Part 15, Subpart F, Paragraph 15.509**  
Ultra Wide Band Operation  
Ground Penetrating Radar


**Tested By:** Nemko USA Inc.  
802 N. Kealy  
Lewisville, TX 75057

**TESTED BY:**

  
\_\_\_\_\_  
David Light, Senior Wireless Engineer

**DATE:** 30 October 2007

**APPROVED  
BY:**

  
\_\_\_\_\_  
Mike Cantwell, Frontline Manager

**DATE:** 13 November 2007

**Total Number of Pages: 19**

**Table Of Contents**

<b>SECTION 1. SUMMARY OF TEST RESULTS</b>	<b>3</b>
<b>SECTION 2. GENERAL EQUIPMENT SPECIFICATION</b>	<b>5</b>
<b>SECTION 3. RADIATED EMISSIONS</b>	<b>7</b>
<b>SECTION 4. TEST EQUIPMENT LIST</b>	<b>16</b>
<b>ANNEX A TEST DIAGRAMS</b>	<b>17</b>

**Section 1. Summary Of Test Results**

Manufacturer: The University of Houston

Model No.: U7W900

Serial No.: Preproduction

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 FCC Part 15, Subpart F, Paragraph 15.509 for ultra wide band operation. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made with the antenna positioned on the ground screen of an open area test site with the EUT positioned on a 4 foot by 4 foot by 4 foot dry sand pit



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. NONE  
See " Summary of Test Data".



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This report applies only to the items tested.

**Summary Of Test Data**

NAME OF TEST	PARA. NO.	RESULT
Conducted Emissions	15.207	NA
Pulse Repetition Frequency	15.509	Complies
Definition of UWB	15.203(a)/15.209(a)	Complies
Radiated Emissions	15.509(d)	Complies
Radiated Emissions	15.509(e)	Complies
Peak Emission at $f_M$	15.509(f)	Complies

**Footnotes For N/A's:**

The device is battery powered.

**Section 2.        General Equipment Specification**

Frequency Range:	Single	
Operating Frequency(ies) of Sample:	163 to 877 MHz (10 dB BW)	
Tunable Bands:	Single	
20 dB Occupied Bandwidth:	1752 MHz	
User Frequency Adjustment:	None	
Integral Antenna	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

**Description of Device Tested**

The impulse GPR is a device that is intentionally designed to directionally and locally radiate very small average electromagnetic power downwards into the ground to be detected.

The developed GPR is composed of a pulse transmitter, a receiver, a transmitter antenna, a receiver antenna, and a laptop computer. Except for the computer, all the components are installed in a plastic box. Once a 12VDC power is supplied, the GPR starts to work.

**System Diagram**

Refer to separate exhibit.

**Section 3. Radiated Emissions**

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.509(d)&(e)
TESTED BY: David Light	DATE: 29 October 2007

Minimum Standard: Para no. 15.509

Limits below 960 MHz (15.209 and 15.509):

Frequency (MHz)	Field Strength Limits (microvolts/m)	Measuring RBW	Distance (Meters)
0.009-0.490	2400/F(kHz)	1 kHz	300
0.490-1.705	24000/F(kHz)	10 kHz	30
1.705-30.0	30	10 kHz	30
30-88	100	100 kHz	3
88-216	150	100 kHz	3
216-960	200	100 kHz	3

Limits above 960 MHz (15.509)

Frequency (MHz)	E.I.R.P. (dBm)	Measuring RBW	Distance (Meters)
960-1610	-65.3	1 MHz	3
1610-1990	-53.3	1 MHz	3
1990-3100	-51.3	1 MHz	3
3100-10600	-41.3	1 MHz	3
Above 10600	-51.3	1 MHz	3
1164-1240	-75.3	1 kHz	3
1559-1610	-75.3	1 kHz	3

E.I.R.P limits converted from field strength during measurements per 15.521(g)

#### Maximizing Emission Levels:

The emissions were scanned from 30 MHz to 10,000 MHz.

For measurements below 960 MHz the emissions were made using a Peak or CISPR Quasi-peak detector IF BW = 100 kHz

For Frequency above 960 MHz and outside the below frequency bands, the emissions were measured using EMI RMS detector, RBW=1MHz, VBW=10 MHz

For frequencies fall inside 1164-1240 and 1559-1610 MHz, the emissions were measured using EMI RMS Detector, RBW = 1 KHz, VBW = 1 MHz

Note: The above tests were performed with the EUT raised 18 inches from the ground as typical of its intended use. The EUT was tested in 8 positions (every 45°) over a sand pit, 1M x 1M X 1M

**Test Results:** Complies

## Measurement Data – Radiated Emissions

Radiated Emissions Data											
Complete	<u>X</u>		Job # : <u>5113</u>				Test # : <u>REHE-01</u>				
Preliminary			Page <u>1</u>				of <u>5</u>				
Client Name :	<u>University of Houston</u>										
EUT Name :	<u>Air coupled ground penetrating radar</u>										
EUT Model # :	<u>U7W900</u>										
EUT Part # :	<u>U7W900</u>										
EUT Serial # :	<u>None</u>										
EUT Config. :	<u>Elevated 18 inches above sand pit</u>										
Specification :	<u>CFR47 Part 15, Subpart B, Class B</u>										
Rod. Ant. #:			Temp. (deg. C) :	<u>24</u>		Date :	<u>10/29/07</u>				
Bicon Ant.#:	<u>760</u>		Humidity (%) :	<u>35</u>		Time :	<u>8:00</u>				
Log Ant.#:	<u>1034</u>		EUT Voltage :	<u>12</u>		Staff :	<u>D. Light</u>				
Bilog Ant.#:			EUT Frequency :	<u>dc</u>		Photo ID:	<u>na</u>				
Dipole Ant.#:			Phase:	<u>na</u>		Peak Bandwidth:	<u>100 KHz</u>				
Cable#:	<u>1522</u>		Location:	<u>DOATS</u>		Video Bandwidth:	<u>100 KHz</u>				
Preamp#:	<u>762</u>		Distance:	<u>3 m</u>		QP Bandwidth:	<u>120 KHz</u>				
Limiter#:	<u>na</u>		Barometric pressure:	<u>1016</u>							
Atten #:	<u>na</u>										
Detector#:	<u>1036</u>										
<b>Note: All measurements are Peak unless otherwise noted</b>											

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
											0 degrees
43.6	V	0	47.5	12.2	2.3	28.5	33.5	40.0	-6.5	Pass	
74.4	V	0	50.3	8.1	3.1	27.5	34.0	40.0	-6.0	Pass	
189.6	V	0	47	14.6	5.1	27.9	38.8	43.5	-4.7	Pass	
35.2	H	0	47.4	12.4	2.2	28.5	33.5	40.0	-6.5	Pass	
36.8	H	0	48	12.3	2.2	28.5	34.0	40.0	-6.0	Pass	
74.9	H	0	39	8.1	3.1	27.5	22.7	40.0	-17.3	Pass	
183	H	0	40	14.4	5.1	27.9	31.6	43.5	-11.9	Pass	
											45 degrees
38	V	0	44	12	2.2	28.5	29.7	40.0	-10.3	Pass	
42	V	0	46.4	12.1	2.3	28.5	32.3	40.0	-7.7	Pass	
43.6	V	0	46.8	12.2	2.3	28.5	32.8	40.0	-7.2	Pass	
47.7	V	0	46.5	12	2.3	28.5	32.3	40.0	-7.7	Pass	
72.3	V	0	48.8	8	3.1	27.5	32.4	40.0	-7.6	Pass	
189	V	0	46	14.6	5.1	27.9	37.8	43.5	-5.7	Pass	
35.2	H	0	46	12.4	2.2	28.5	32.1	40.0	-7.9	Pass	
40	H	0	46	12	2.3	28.5	31.8	40.0	-8.2	Pass	
50	H	0	40	11.6	2.7	27.9	26.4	40.0	-13.6	Pass	
155	H	0	30	14.3	4.7	27.8	21.2	43.5	-22.3	Pass	
178	H	0	36	14	5.1	27.9	27.2	43.5	-16.3	Pass	
207	H	0	38	15.6	5.5	27.9	31.2	43.5	-12.3	Pass	
280	H	0	35	20	6.4	27.8	33.6	46.0	-12.4	Pass	

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## Measurement Data – Radiated Emissions

Radiated Emissions Data											
Complete	<u>  X  </u>		Job # :	<u>  5113  </u>	Test # :	<u>  REHE-01  </u>					
Preliminary				Page <u>  2  </u>	of <u>  5  </u>						
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EUT Name : <u>Air coupled ground penetrating radar</u>											
EUT Model # : <u>U7W900</u>											
EUT Part # : <u>U7W900</u>											
EUT Serial # : <u>None</u>											
EUT Config. : <u>Elevated 18 inches above sand pit</u>											
Specification : <u>CFR47 Part 15, Subpart B, Class B</u>											
Reference : <u>15.509</u>											

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
											90 degrees
38	V	0	44	12	2.2	28.5	29.7	40.0	-10.3	Pass	
42	V	0	46.7	12.1	2.3	28.5	32.6	40.0	-7.4	Pass	
46.4	V	0	44.9	12.1	2.3	28.5	30.8	40.0	-9.2	Pass	
54	V	0	39.4	10.9	2.7	27.9	25.1	40.0	-14.9	Pass	
75	V	0	48.8	8.2	3.1	27.5	32.6	40.0	-7.4	Pass	
35.4	H	0	44.3	12.4	2.2	28.5	30.4	40.0	-9.6	Pass	
42	H	0	44	12.1	2.3	28.5	29.9	40.0	-10.1	Pass	
177	H	0	38	14.3	5.1	27.9	29.5	43.5	-14.0	Pass	
206	H	0	37	15.8	5.5	27.9	30.4	43.5	-13.1	Pass	
295	H	0	35	19.5	6.4	27.8	33.1	46.0	-12.9	Pass	
											135 degrees
36.8	V	0	41.4	12.3	2.2	28.5	27.4	40.0	-12.6	Pass	
41.2	V	0	45	12.1	2.3	28.5	30.9	40.0	-9.1	Pass	
46.5	V	0	44.6	12.1	2.3	28.5	30.5	40.0	-9.5	Pass	
53.1	V	0	41.7	11.1	2.7	27.9	27.6	40.0	-12.4	Pass	
75.2	V	0	42	8.2	3.1	27.5	25.8	40.0	-14.2	Pass	
265	H	0	35.2	17.8	6.2	27.9	31.3	46.0	-14.7	Pass	
35.2	H	0	43	12.4	2.2	28.5	29.1	40.0	-10.9	Pass	
40.8	H	0	44.7	12	2.3	28.5	30.5	40.0	-9.5	Pass	
48.3	H	0	38.8	11.8	2.3	28.5	24.4	40.0	-15.6	Pass	
171	H	0	38	13.9	4.7	27.8	28.8	43.5	-14.7	Pass	
											180 degrees
37.8	V	0	37.6	12.1	2.2	28.5	23.4	40.0	-16.6	Pass	
43.3	V	0	44	12.2	2.3	28.5	30.0	40.0	-10.0	Pass	
51.6	V	0	42.6	11.3	2.7	27.9	28.7	40.0	-11.3	Pass	
71	V	0	44.8	7.9	3.1	27.5	28.3	40.0	-11.7	Pass	
195	V	0	39.8	14.4	5.1	27.9	31.4	43.5	-12.1	Pass	
35.3	H	0	39	12.4	2.2	28.5	25.1	40.0	-14.9	Pass	
42	H	0	40.1	12.1	2.3	28.5	26.0	40.0	-14.0	Pass	
50.5	H	0	35.9	11.4	2.7	27.9	22.1	40.0	-17.9	Pass	
195	H		33	14.4	5.1	27.9	24.6	43.5	-18.9	Pass	

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## Measurement Data – Radiated Emissions

Radiated Emissions Data											
Complete	<u>    X    </u>		Job # :	<u>5113</u>	Test # :	<u>REHE-01</u>					
Preliminary	<u>          </u>			Page <u>3</u>	of	<u>5</u>					
Client Name :	<u>University of Houston</u>										
EUT Name :	<u>Air coupled ground penetrating radar</u>										
EUT Model # :	<u>U7W900</u>										
EUT Part # :	<u>U7W900</u>										
EUT Serial # :	<u>None</u>										
EUT Config. :	<u>Elevated 18 inches above sand pit</u>										
Specification :	<u>CFR47 Part 15, Subpart B, Class B</u>						Reference :	<u>15.509</u>			

Meas. Freq. (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
											225 degrees
38	V	0	41	12	2.2	28.5	26.7	40.0	-13.3	Pass	
44	V	0	45	12.2	2.3	28.5	31.0	40.0	-9.0	Pass	
52	V	0	44	11.3	2.7	27.9	30.1	40.0	-9.9	Pass	
40	V	0	44	12	2.3	28.5	29.8	40.0	-10.2	Pass	
85	V	0	38.4	9.6	3.5	27.4	24.1	40.0	-15.9	Pass	
195	V	0	39.5	14.4	5.1	27.9	31.1	43.5	-12.4	Pass	
32.8	H	0	33.9	12.9	2.2	28.5	20.5	40.0	-19.5	Pass	
36	H	0	39.6	12.3	2.2	28.5	25.6	40.0	-14.4	Pass	
42.1	H	0	39.8	12.2	2.3	28.5	25.8	40.0	-14.2	Pass	
50.7	H	0	32.4	11.4	2.7	27.9	18.6	40.0	-21.4	Pass	
195	H	0	38	14.4	5.1	27.9	29.6	43.5	-13.9	Pass	
											270 degrees
37	V	0	41	12.1	2.2	28.5	26.8	40.0	-13.2	Pass	
44	V	0	45	12.2	2.3	28.5	31.0	40.0	-9.0	Pass	
51	V	0	44	11.4	2.7	27.9	30.2	40.0	-9.8	Pass	
70	V	0	42	7.9	3.1	27.5	25.5	40.0	-14.5	Pass	
113	V	0	37	11.8	3.8	27.6	25.0	43.5	-18.5	Pass	
255	V	0	32.6	17.3	6.2	27.9	28.2	46.0	-17.8	Pass	
35	H	0	43	12.4	2.2	28.5	29.1	40.0	-10.9	Pass	
41.5	H	0	43.4	12.1	2.3	28.5	29.3	40.0	-10.7	Pass	
50	H	0	39.6	11.6	2.7	27.9	26.0	40.0	-14.0	Pass	
195	H	0	40	14.4	5.1	27.9	31.6	43.5	-11.9	Pass	
											315 degrees
37	V	0	40	12.1	2.2	28.5	25.8	40.0	-14.2	Pass	
44	V	0	45	12.2	2.3	28.5	31.0	40.0	-9.0	Pass	
53	V	0	42.4	11.1	2.7	27.9	28.3	40.0	-11.7	Pass	
195	V	0	36	14.4	5.1	27.9	27.6	43.5	-15.9	Pass	
35	H	0	42	12.4	2.2	28.5	28.1	40.0	-11.9	Pass	
42	H	0	42	12.1	2.3	28.5	27.9	40.0	-12.1	Pass	
52	H	0	38	11.3	2.7	27.9	24.1	40.0	-15.9	Pass	
195	H	0	39	14.4	5.1	27.9	30.6	43.5	-12.9	Pass	

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## Measurement Data – Radiated Emissions

Radiated Emissions Data											
Complete	<u>    X    </u>		Job # : <u>    5113    </u>		Test # : <u>    REHE-01    </u>						
Preliminary	<u>            </u>		Page <u>    4    </u>		of <u>    5    </u>						
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EUT Name :	<u>Air coupled ground penetrating radar</u>										
EUT Model # :	<u>U7W900</u>										
EUT Part # :	<u>U7W900</u>										
EUT Serial # :	<u>None</u>										
EUT Config. :	<u>Elevated 18 inches above sand pit</u>										
Specification :	<u>CFR47 Part 15, Subpart B, Class B</u>					Reference : <u>15.509</u>					
Meas. Freq. (MHz)	Ant. Pol. (H/V)	Det. Atten. (dB)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	Corrected Reading (dBuV/m)	Spec. limit (dBuV/m)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment
											0 degrees
320	V	0	36	18.2	6.8	27.9	33.1	46.0	-12.9	Pass	
323	V	0	37	17.6	6.8	27.9	33.5	46.0	-12.5	Pass	
800	V	0	30	17.7	11.8	27.5	32.0	46.0	-14.0	Pass	
387	H	0	33	16.2	7.4	27.7	28.9	46.0	-17.1	Pass	
445	H	0	33	17.7	8.0	27.8	30.9	46.0	-15.1	Pass	
800	H	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
											45 degrees
320	V	0	31	18.2	6.8	27.9	28.1	46.0	-17.9	Pass	
400	V	0	33	16.6	8.0	27.8	29.8	46.0	-16.2	Pass	
800	V	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
320	H	0	35	18.2	6.8	27.9	32.1	46.0	-13.9	Pass	
370	H	0	37	15.5	7.4	27.7	32.2	46.0	-13.8	Pass	
460	H	0	36.3	16.9	8.5	28.1	33.6	46.0	-12.4	Pass	
800	H	0	29	17.7	11.8	27.5	31.0	46.0	-15.0	Pass	
											90 degrees
320	V	0	29	18.2	6.8	27.9	26.1	46.0	-19.9	Pass	
400	V	0	30	16.6	8.0	27.8	26.8	46.0	-19.2	Pass	
800	V	0	29	17.7	11.8	27.5	31.0	46.0	-15.0	Pass	
320	H	0	35.6	18.2	6.8	27.9	32.7	46.0	-13.3	Pass	
400	H	0	38	16.6	8.0	27.8	34.8	46.0	-11.2	Pass	
800	H	0	30	17.7	11.8	27.5	32.0	46.0	-14.0	Pass	
											135 degrees
320	V	0	33.4	18.2	6.8	27.9	30.5	46.0	-15.5	Pass	
400	V	0	34	16.6	8.0	27.8	30.8	46.0	-15.2	Pass	
800	V	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
320	H	33		18.2	6.8	27.9	30.1	46.0	-15.9	Pass	
400	H	0	36	16.6	8.0	27.8	32.8	46.0	-13.2	Pass	
800	H	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	

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											180 degrees
320	V	0	36	18.2	6.8	27.9	33.1	46.0	-12.9	Pass	
350	V	0	35	15.4	7.4	27.7	30.1	46.0	-15.9	Pass	
400	V	0	32	16.6	8.0	27.8	28.8	46.0	-17.2	Pass	
800	V	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
320	H	0	28	18.2	6.8	27.9	25.1	46.0	-20.9	Pass	
380	H	0	32	15.7	7.4	27.7	27.4	46.0	-18.6	Pass	
420	H	0	32.5	16	8.0	27.8	28.7	46.0	-17.3	Pass	
800	H	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
											225 degrees
320	V	0	30	18.2	6.8	27.9	27.1	46.0	-18.9	Pass	
400	V	0	30	16.6	8.0	27.8	26.8	46.0	-19.2	Pass	
800	V	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
320	H	0	32	18.2	6.8	27.9	29.1	46.0	-16.9	Pass	
450	H	0	32.6	18	8.5	28.1	31.0	46.0	-15.0	Pass	
800	H	0	28.6	17.7	11.8	27.5	30.6	46.0	-15.4	Pass	
											270 degrees
320	V	0	29	18.2	6.8	27.9	26.1	46.0	-19.9	Pass	
400	V	0	30	16.6	8.0	27.8	26.8	46.0	-19.2	Pass	
800	V	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	
320	H	0	33	18.2	6.8	27.9	30.1	46.0	-15.9	Pass	
445	H	0	35	17.7	8.0	27.8	32.9	46.0	-13.1	Pass	
510	H	0	34	16.8	8.9	28.1	31.6	46.0	-14.4	Pass	
800	H	0	29	17.7	11.8	27.5	31.0	46.0	-15.0	Pass	
											315 degrees
320	V	0	31	18.2	6.8	27.9	28.1	46.0	-17.9	Pass	
445	V	0	30	17.7	8.0	27.8	27.9	46.0	-18.1	Pass	
510	V	0	31	16.8	8.9	28.1	28.6	46.0	-17.4	Pass	
800	V	0	28.7	17.7	11.8	27.5	30.7	46.0	-15.3	Pass	
320	H	0	34	18.2	6.8	27.9	31.1	46.0	-14.9	Pass	
510	H	0	34	16.8	8.9	28.1	31.6	46.0	-14.4	Pass	
800	H	0	28	17.7	11.8	27.5	30.0	46.0	-16.0	Pass	

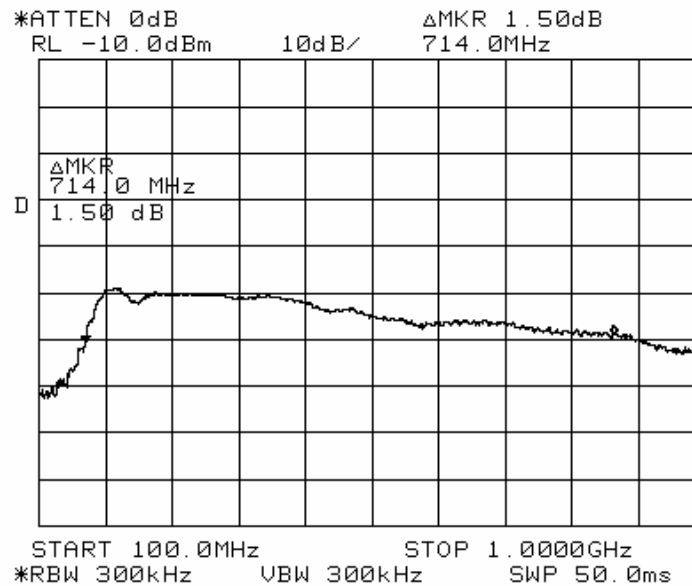
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## Measurement Data – Radiated Emissions

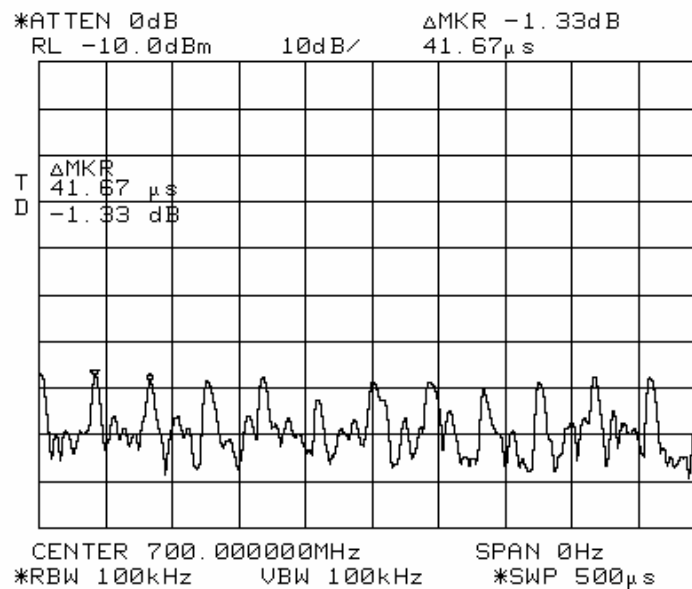
Radiated Emissions Data											
Complete _____ X _____		Job # : 5113 _____						Test # : REHE-01 _____			
Preliminary _____		Page 1 _____						of 1 _____			
Client Name :		University of Houston									
EUT Name :		Ground Coupled Radar									
EUT Model # :		U7W900									
EUT Part # :		U7W900									
EUT Serial # :		None									
EUT Config.:		Transmitting over sand pit									
Specification :		CFR 47, Paragraph 15.509						Reference : 15.209/15.509			
Rod. Ant. #:		Temp. (deg. C) :	24	Date :	10/29/07						
Bicon Ant.#:		Humidity (%) :	35	Time :	14:00						
Log Ant.#:		EUT Voltage :	12	Staff :	David Light						
Bilog Ant.#:		EUT Frequency :	dc	Photo ID:	NA						
Horn Ant.#:	993	Phase:	na								
Cable#:	1019	Location:	Sand Pit								
Preamp#:	1016	Distance:	3 Meters								
Limiter#:		Barometric pressure:	1016								
Atten #:											
Detector#:	1036										
Meas. Freq. (MHz)	Meter Reading (dBuV)	Antenna Factor (dB)	Path Loss (dB)	RF Gain (dB)	EIRP Correction	EIRP (dBm)	Spec. limit (dBm)	CR/SL Diff. (dB)	Pass Fail Unc.	Comment	
1050	34	22.7	0.2	29.8	95.2	-68.1	-65.3	-2.8	Pass		
1559	34.2	24.3	0.2	32.9	95.2	-69.4	-65.3	-4.1	Pass		
1620	34.2	24.3	1	32.9	95.2	-68.6	-53.3	-15.3	Pass		
1920	34	28.5	1	33.1	95.2	-64.8	-53.3	-11.5	Pass		
2060	33.4	28.5	1	33.1	95.2	-65.4	-51.3	-14.1	Pass		
2940	34.5	29.7	1.2	33.3	95.2	-63.1	-51.3	-11.8	Pass		
3500	33	29.7	1.2	33.3	95.2	-64.6	-41.3	-23.3	Pass		
9500	32.2	37.1	4	33.6	95.2	-55.5	-41.3	-14.2	Pass		
1167	15	22.7	0.2	29.8	95.2	-87.1	-75.3	-11.8	Pass		
1230	14	22.7	0.2	29.8	95.2	-88.1	-75.3	-12.8	Pass		
1560	18	24.3	1	32.9	95.2	-84.8	-75.3	-9.5	Pass		
1608	20	24.3	1	32.9	95.2	-82.8	-75.3	-7.5	Pass		
The spectrum was searched to 10 GHz											
The EUT was rotated and a reading taken at every 45 degrees											
Maximized emissions are reported											

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$$\text{EIRP (dBm)} = \text{Meter reading (dBuV)} + \text{AF(dB)} + \text{Path loss (dB)} - \text{Gain (dB)} - 95.2 \text{ (dB)}$$

**10 dB Bandwidth**

Markers at 163 MHz and 877 MHz

**Pulse Repetition**

**Test Setup Photographs**



**Section 4. Test Equipment List**

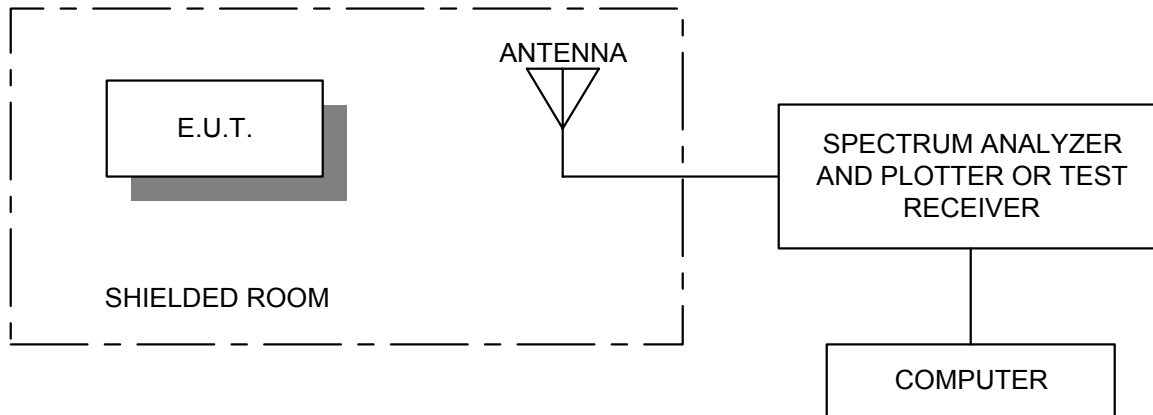
Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
760	Antenna biconical	Electro Metrics MFC-25	477	01/19/07	01/19/08
1034	ANTENNA,LP	A.H. SYSTEMS SAS-200/510	121	03/30/07	03/29/08
762	27dB GAIN PREAMP	Nemko USA, Inc. 27dB LNA	946	11/12/06	11/12/07
1522	Cable Assy, LAB 5 - D OATS	Nemko USA, Inc. Site D OATS	N/A	10/04/07	10/03/08
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/31/07	08/31/09
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	05/01/07	04/30/08
1036	SPECTRUM ANALYZER	ROHDE & SCHWARZ FSEK30	830844/006	05/26/06	05/26/08
1019	CABLE, 9.5m	Nemko USA, Inc. RG223	N/A	CBU	N/A



## **ANNEX A**

### **TEST DIAGRAMS**

**Radiated Prescan**



Test Site For Radiated Emissions

