



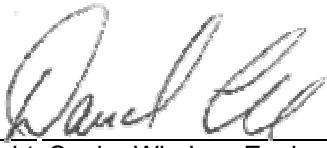
Nemko Test Report: 5113RUS2

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

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

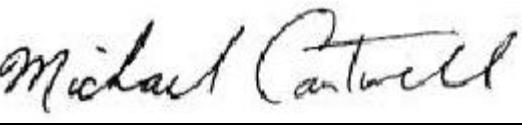
In Accordance With: **FCC Part 15, Subpart F, Paragraph 15.509**
Ultra Wide Band Operation
Ground Penetrating Radar

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

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

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

<input checked="" type="checkbox"/>	New Submission	<input type="checkbox"/>	Production Unit
<input type="checkbox"/>	Class II Permissive Change	<input checked="" 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. NONE
See "Summary of Test Data".



Nemko USA Inc. authorizes the above named company to reproduce this report provided it is reproduced in its entirety and for use by the company's employees only.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Nemko USA Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

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 Preliminary	<input checked="" type="checkbox"/>						Job #:	5113	Test #:	REHE-01		
							Page	1	of	5		
Client Name :	University of Houston											
EUT Name :	Air coupled ground penetrating radar											
EUT Model #:	U7W900											
EUT Part #:	U7W900											
EUT Serial #:	None											
EUT Config. :	Elevated 18 inches above sand pit											
Specification :	CFR47 Part 15, Subpart B, Class B				Reference : 15.509							
Rod. Ant. #:		Temp. (deg. C) :	24		Date : 10/29/07							
Bicon Ant.#:	760	Humidity (%) :	35		Time : 8:00							
Log Ant.#:	1034	EUT Voltage :	12		Staff : D. Light							
Bilog Ant.#:		EUT Frequency :	dc		Photo ID: na							
Dipole Ant.#:		Phase:	na		Peak Bandwidth: 100 KHz							
Cable#:	1522	Location:	DOATS		Video Bandwidth 100 KHz							
Preamp#:	762	Distance:	3 m		QP Bandwidth: 120 KHz							
Limiter#:	na	Barometric pressure:	1016									
Atten #:	na											
Detector#:	1036	Note: All measurements are Peak unless otherwise noted										
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		

Measurement Data – Radiated Emissions

Radiated Emissions Data

Complete Preliminary Job #: 5113 Test #: REHE-01
Page 2 of 5

Client Name : University of Houston
 EUT Name : Air coupled ground penetrating radar
 EUT Model # : U7W900
 EUT Part # : U7W900
 EUT Serial # : None
 EUT Config. : Elevated 18 inches above sand pit

Specification : CFR47 Part 15, Subpart B, Class B Reference : 15.509

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	

Measurement Data – Radiated Emissions

Radiated Emissions Data

Complete X
Preliminary _____Job #: 5113 Test #: REHE-01
Page 3 of 5

Client Name : University of Houston
 EUT Name : Air coupled ground penetrating radar
 EUT Model # : U7W900
 EUT Part # : U7W900
 EUT Serial # : None
 EUT Config. : Elevated 18 inches above sand pit

Specification : CFR47 Part 15, Subpart B, Class B Reference : 15.509

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	

..\EMCShare\AUTOMATE\DATASHTS\RADEMEV Rev C.xls Document Control #EMC DS EM RAD HFE

Measurement Data – Radiated Emissions

Radiated Emissions Data

Complete X
Preliminary _____Job #: 5113 Test #: REHE-01
Page 4 of 5

Client Name : University of Houston
 EUT Name : Air coupled ground penetrating radar
 EUT Model # : U7W900
 EUT Part # : U7W900
 EUT Serial # : None
 EUT Config. : Elevated 18 inches above sand pit

Specification : CFR47 Part 15, Subpart B, Class B Reference : 15.509

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	

Measurement Data – Radiated Emissions

Radiated Emissions Data

Complete X
Preliminary _____Job #: 5113 Test #: REHE-01
Page 5 of 5

Client Name : University of Houston
 EUT Name : Air coupled ground penetrating radar
 EUT Model # : U7W900
 EUT Part # : U7W900
 EUT Serial # : None
 EUT Config. : Elevated 18 inches above sand pit

Specification : CFR47 Part 15, Subpart B, Class B Reference : 15.509

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
											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	

..\EMCShare\AUTOMATE\DATASHTS\RADEMEV Rev C.xls Document Control #EMC DS EM RAD HFE

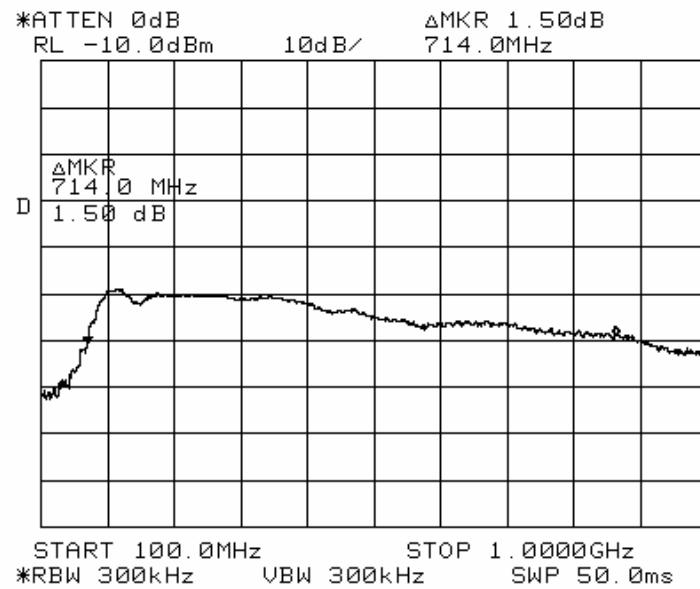
Measurement Data – Radiated Emissions

Radiated Emissions Data											
Complete Preliminary	<input checked="" type="checkbox"/>					Job #:	5113	Test #:	REHE-01		
						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											

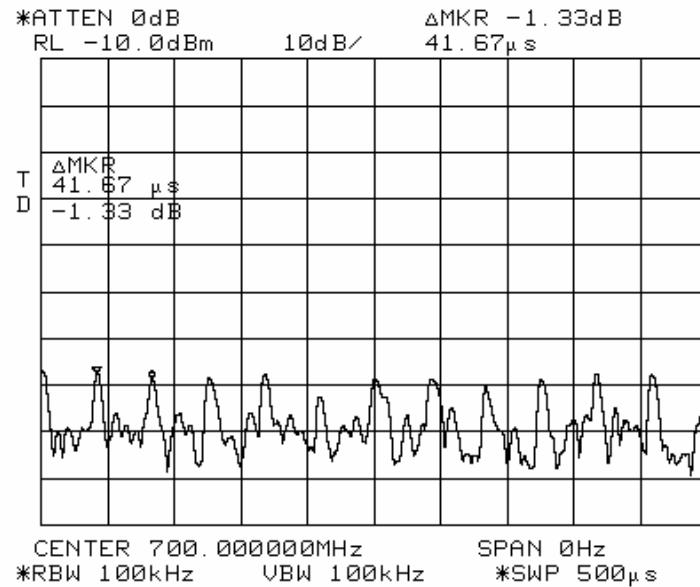
..\EMCShare\AUTOMATE\DATASHTS\RADEMEV Rev C.xls

Document Control #EMC DS EM RAD HFE

EIRP (dBm) = Meter reading (dBuV) + AF(dB) + Path loss (dB) – Gain (dB) – 95.2 (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

Nemko USA, Inc.

EQUIPMENT: U7W900

FCC PART 15, SUBPART F, Paragraph 15.509

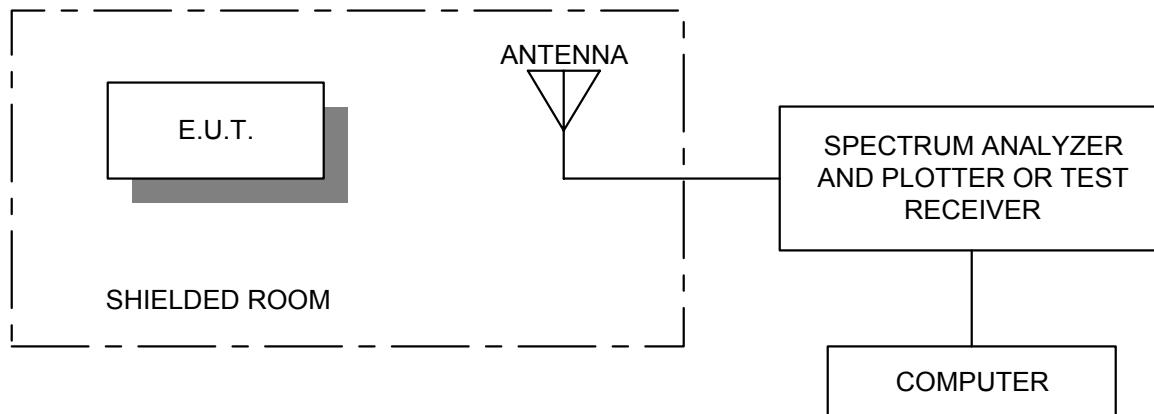
Ultra Wide Band Operation

Test Report No.: 5113RUS2

ANNEX A

TEST DIAGRAMS

Radiated Prescan



Test Site For Radiated Emissions