



**Nemko Test Report:** 54886RUS1

**Applicant:** Uniden America Corporation  
4700 Amon Carter Blvd.  
Fort Worth, TX 76155  
USA

**Equipment Under Test:  
(E.U.T.)** HomePatrol-1

**In Accordance With:** **FCC Part 15, Subpart B and RSS 135, Issue 2**  
Digital Scanner Receiver

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

**TESTED BY:**   
\_\_\_\_\_  
David Light, Senior Wireless Engineer

**DATE:** 27 July 2010

**APPROVED BY:**   
\_\_\_\_\_  
Tom Tidwell, Director of Telecom Direct

**DATE:** 02 August 2010

**Number of Pages: 20**

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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 FCC Part 15, Subpart B and RSS 135, Issue 2. Measurement procedure ANSI C63.4-2009 was used for all tests. Radiated Emissions were measured in a open Semi-anechoic chamber. A description of this 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**

<b>Name Of Test</b>	<b>RSS 135 Para. No.</b>	<b>CFR 47 Para. No.</b>	<b>Results</b>
Spurious Emissions	RSS-Gen	15.109	Complies
Powerline Conducted Emissions	RSS Gen.	15.107	Complies
Cellular Band Rejection Ratio	-	15.121(b)	Complies

**Footnotes:**



### Section 3. Equipment Configuration

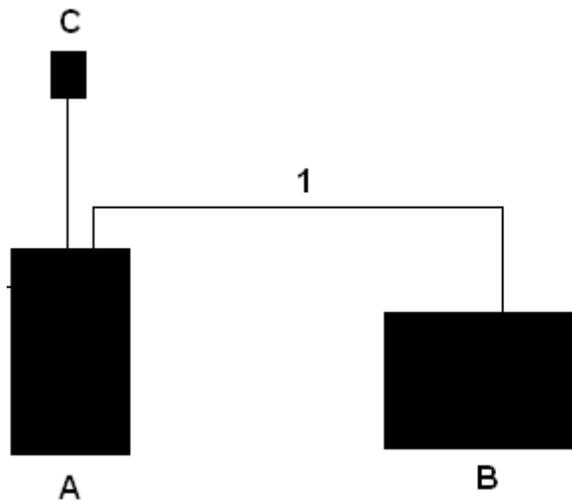
#### Equipment Configuration List:

Item	Description
(A)	Uniden Scanning Receiver (EUT)
(B)	Laptop PC
(C)	Uniden AC adapter / Battery Charger, PS-0039
	100-240VAC, 9Vdc output, 800 mA

#### Inter-connection Cables:

Item	Description
(1)	RS-232 (1 meter)

#### Diagram of the Equipment Under Test (E.U.T)



**Section 4. Radiated Emissions**

NAME OF TEST: Radiated Emissions	PARA. NO.: 15.109(a)
TESTED BY: David Light	DATE: 22 July 2010

**Minimum Standard:**

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

**Test Results:** Complies.

**Measurement Data:** See attached table.

**Equipment Used:** 1763-1484-1485-791-993-1016-1767

**Measurement Uncertainty:** +/-3.7 dB

**Temperature:** 23 °C

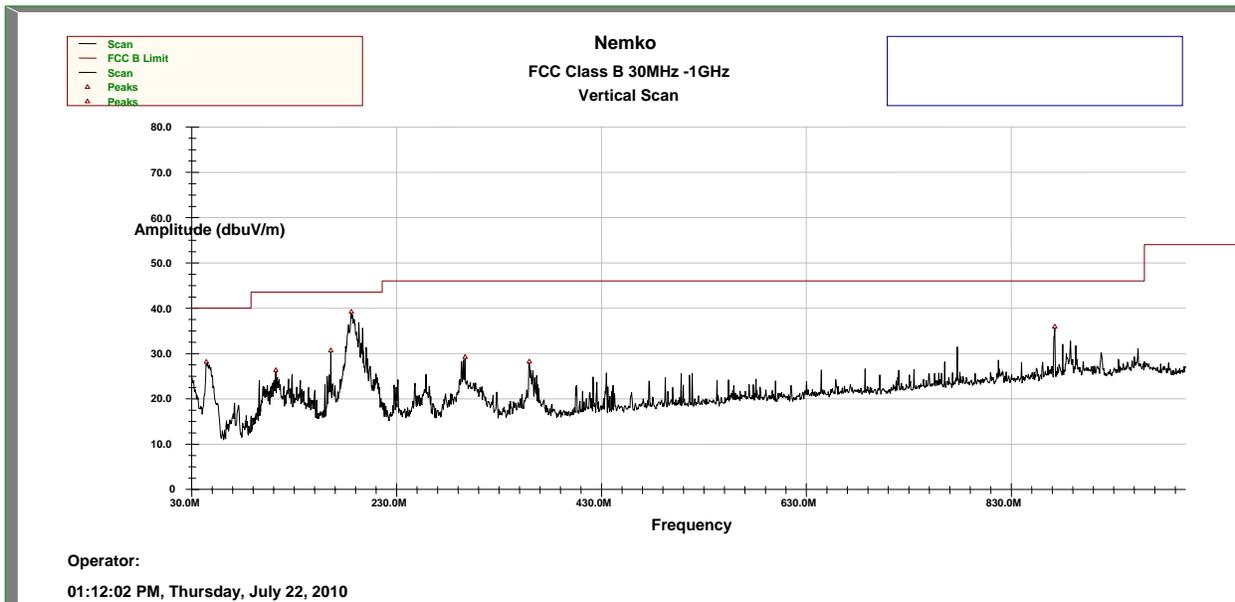
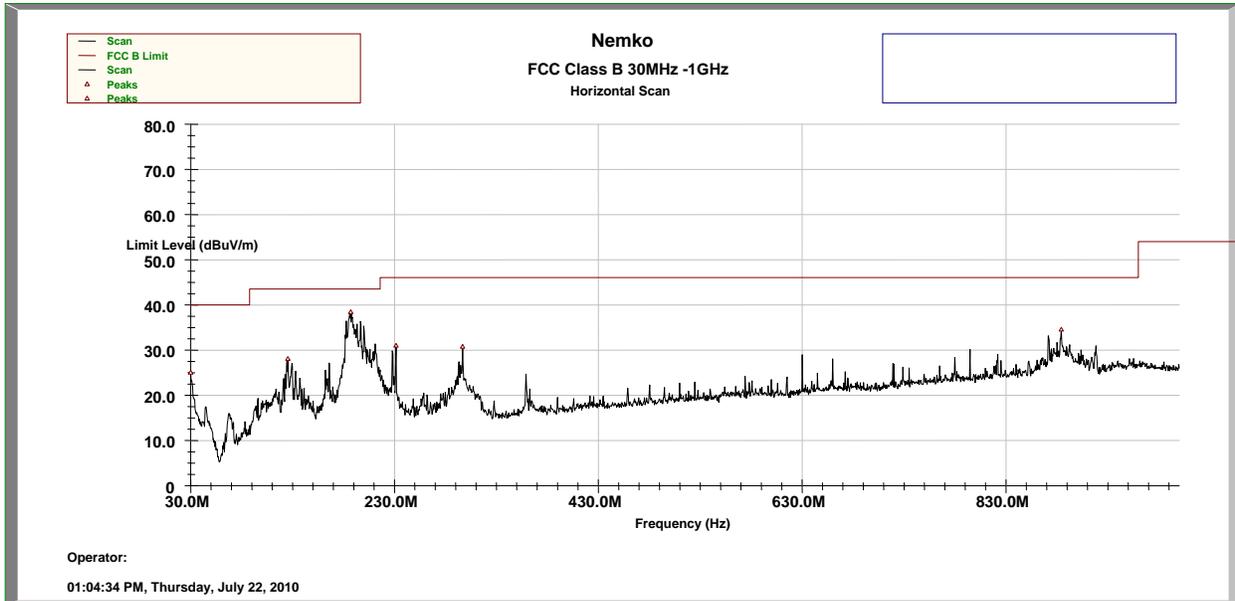
**Relative Humidity:** 45 %

**Analyzer Settings:**

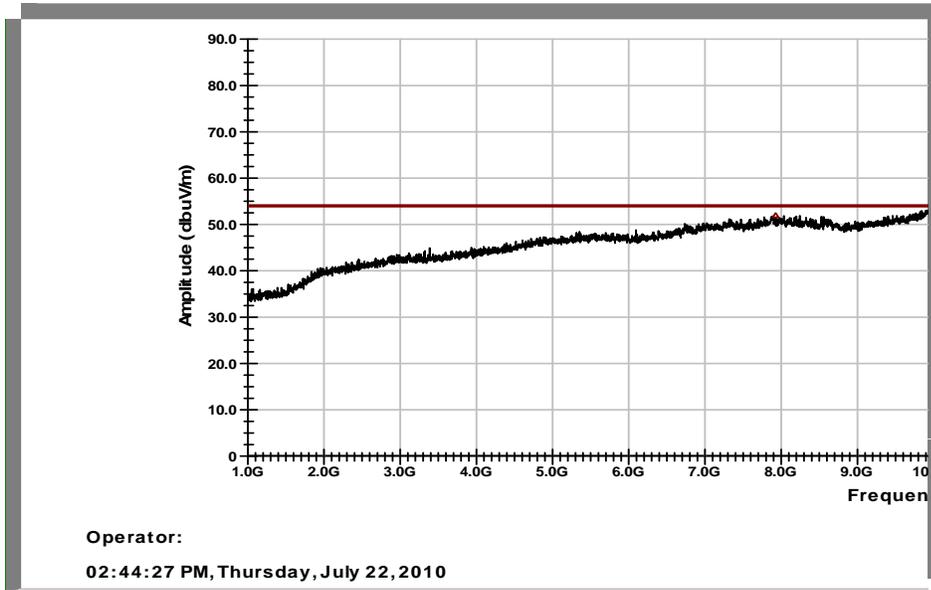
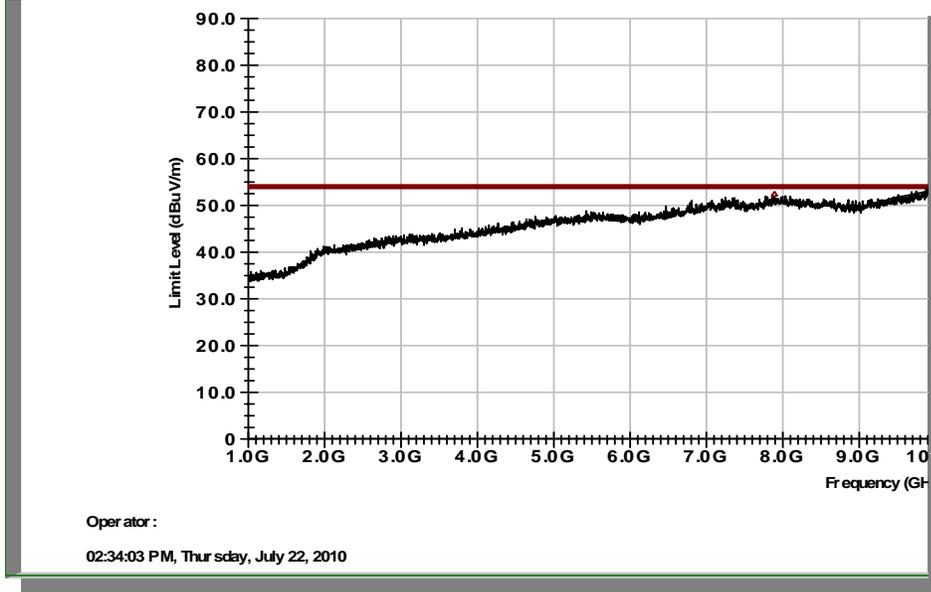
Frequency	RBW	VBW	Detector Function
<1000 MHz	100 kHz	100 kHz	Peak
>1000 MHz	1 MHz	1 MHz	Peak

Handheld equipment and equipment not designed to be mounted in any fixed orientation is tested in three orthogonal axes to obtain worst case results.

Test Data - Radiated Emissions



Test Data - Radiated Emissions



**Test Data - Radiated Emissions**

Nemko, Lewisville, TX  
FCC 3 Meter Chamber  
Final Quasi Peak Measurements

02:10:57 PM, Thursday, July 22, 2010

Frequency MHz	Limit dBuV/m	Horizontal QP	QP Margin	Vertical QP	Vertical Margin
44.77	40			15.616	-24.384
112.02	43.52			25.505	-18.015
125.31	43.52	19.493	-24.027		
165.97	43.52			18.484	-25.036
185.95	43.52			33.807	-9.713
187.09	43.52	31.424	-12.096		
231.28	46.02	17.673	-28.347		
296.97	46.02			19.875	-26.145
297.03	46.02	28.867	-17.153		
359.48	46.02			25.811	-20.209
872.30	46.02			26.242	-19.778
884.55	46.02	29.269	-16.751		

Note: The receiver was tested while scanning the entire range from 25 to 960 MHz.

The spectrum was searched from 30 MHz to 10 GHz.

Test Setup – Radiated Emissions



**Section 5. Powerline Conducted Emissions**

NAME OF TEST: Powerline Conducted Emissions	PARA. NO.: 15.107
TESTED BY: David Light	DATE: 22 July 2010

**Minimum Standard:** The RF energy fed back into the power lines shall not exceed

Frequency of Conducted Emission (MHz)	Limit (dBuV)	
	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.

**Test Results:** Complies.

**Measurement Data:** See attached graphs.

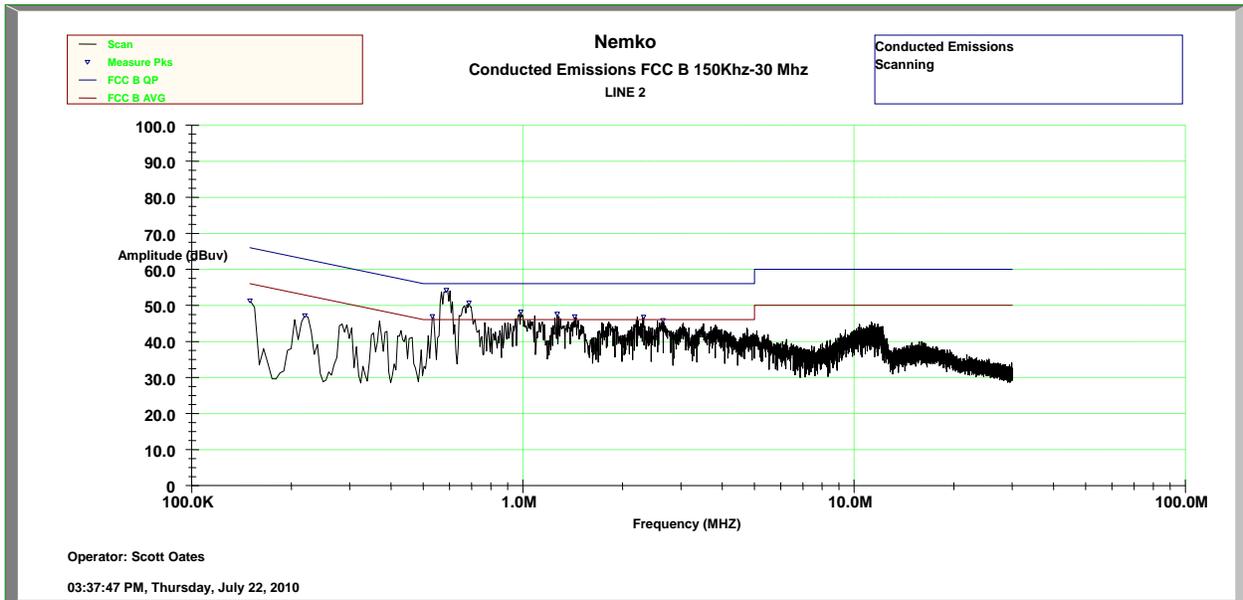
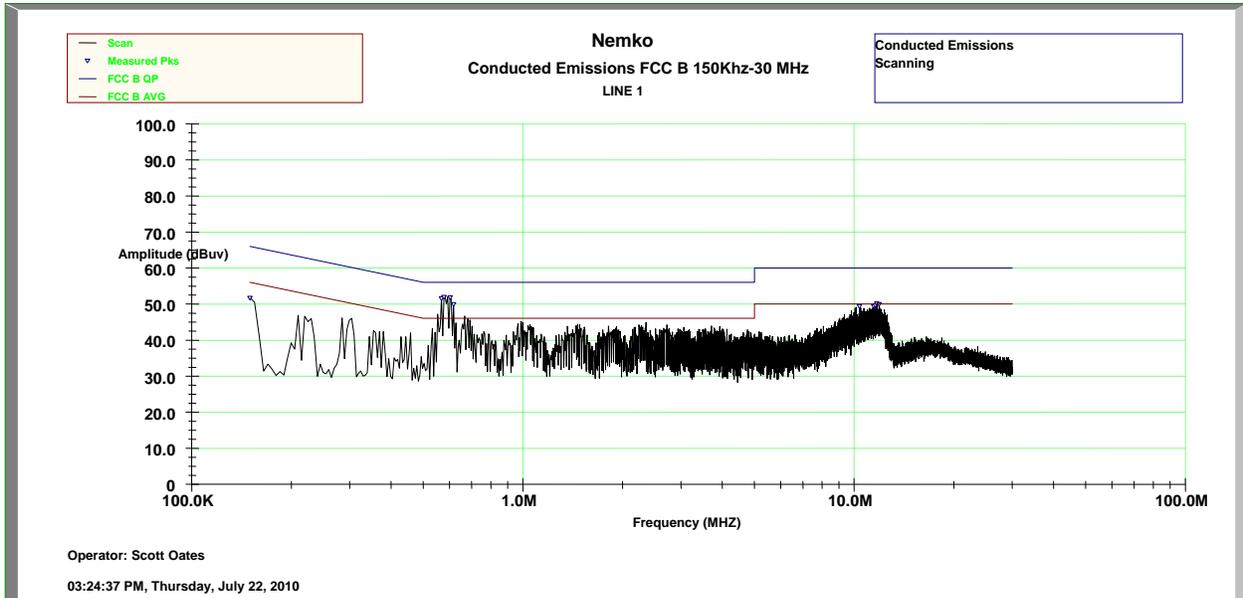
**Equipment Used:** 1767-1629-1258-674

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

**Temperature:** 21 °C

**Relative Humidity:** 32 %

Test Data - Powerline Conducted Emissions



**Test Data - Powerline Conducted Emissions**

Line 1 Final QP/AVG

Frequency	LINE 1		AVG Meas	AVG Margin	QP Meas	QP Margin
	EN55022	EN55022				
	B QP LIMIT	B AVG LIMIT				
575.93 KHz	56	46	33.664	-12.336	48.126	-7.874
581.62 KHz	56	46	34.175	-11.825	48.285	-7.715
597.62 KHz	56	46	34.738	-11.262	48.351	-7.649
606.35 KHz	56	46	33.938	-12.062	47.868	-8.132
10.449 MHz	60	50	30.33	-19.67	40.158	-19.842
11.398 MHz	60	50	31.783	-18.217	41.026	-18.974
11.536 MHz	60	50	31.784	-18.216	41.171	-18.829
11.728 MHz	60	50	32.009	-17.991	41.059	-18.941
11.929 MHz	60	50	32.117	-17.883	41.317	-18.683

Line 2 Final QP/Avg

Frequency	Line 2		AVG Meas	AVG Margin	QP Meas	QP Margin
	EN55022	EN55022				
	B QP Limit	B AVG Limit				
542.2 KHz	56	46	27.197	-18.803	41.364	-14.636
579.65 KHz	56	46	39.203	-6.797	50.935	-5.065
684.09 KHz	56	46	34.649	-11.351	46.779	-9.221
981.95 KHz	56	46	30.927	-15.073	43.139	-12.861
1.2617 MHz	56	46	27.475	-18.525	41.67	-14.33
1.4563 MHz	56	46	29.418	-16.582	41.22	-14.78
2.2895 MHz	56	46	27.927	-18.073	40.315	-15.685
2.6404 MHz	56	46	27.933	-18.067	40.181	-15.819
2.2895 MHz	56	46	27.927	-18.073	40.315	-15.685
1.4563 MHz	56	46	29.418	-16.582	41.22	-14.78
1.2617 MHz	56	46	27.475	-18.525	41.67	-14.33
981.95 KHz	56	46	30.927	-15.073	43.139	-12.861
684.09 KHz	56	46	34.649	-11.351	46.779	-9.221
579.65 KHz	56	46	39.203	-6.797	50.935	-5.065
542.2 KHz	56	46	27.197	-18.803	41.364	-14.636

Test Setup – Conducted Emissions



**Section 6. Cellular Band Rejection**

NAME OF TEST: Cellular Band Rejection	PARA. NO.: 15.121(b)
TESTED BY: David Light	DATE: 02 December 2008

**Minimum Standard:** Scanning receivers shall reject any signals from the Cellular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

**Test Results:** Complies. The image rejection ratio of signals from the Cellular Radiotelephone Service frequency bands is 67 dB or greater.

**Measurement Data:** See attached data

**Equipment Used:** 1763-1684-1082-1083-1341

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

**Temperature:** 21 °C

**Relative Humidity:** 32 %

**Test Data – Cellular Rejection**

Cellular Frequency (MHz)	Squelched Threshold (dBμV)	RF Input Level (dBμV)	Freq. Stopped on EUT (MHz)	Image Rejection Ratio (dB)	Limit (dB)
824.01	-6	62	None	NA	38
836.52	-6	62	None	NA	38
848.98	-6	61	856.2125	67	38
869.01	-6	62	None	NA	38
881.52	-6	62	856.2125	68	38
893.98	-6	62	None	NA	38

Test method: A modulated signal generator is set to each of the above cellular band frequencies. The rf output level is set to 60 dBuV (66 dB above the -6 dBuV level associated with the squelched threshold). The scanning receiver is set to scan all frequency ranges. Any image frequency that is detected by the scanning receiver is noted. The rf output of the signal generator is adjusted to achieve 12 dB SINAD on the receiver headphone output. This rf level is noted. The image rejection ratio is determined by:

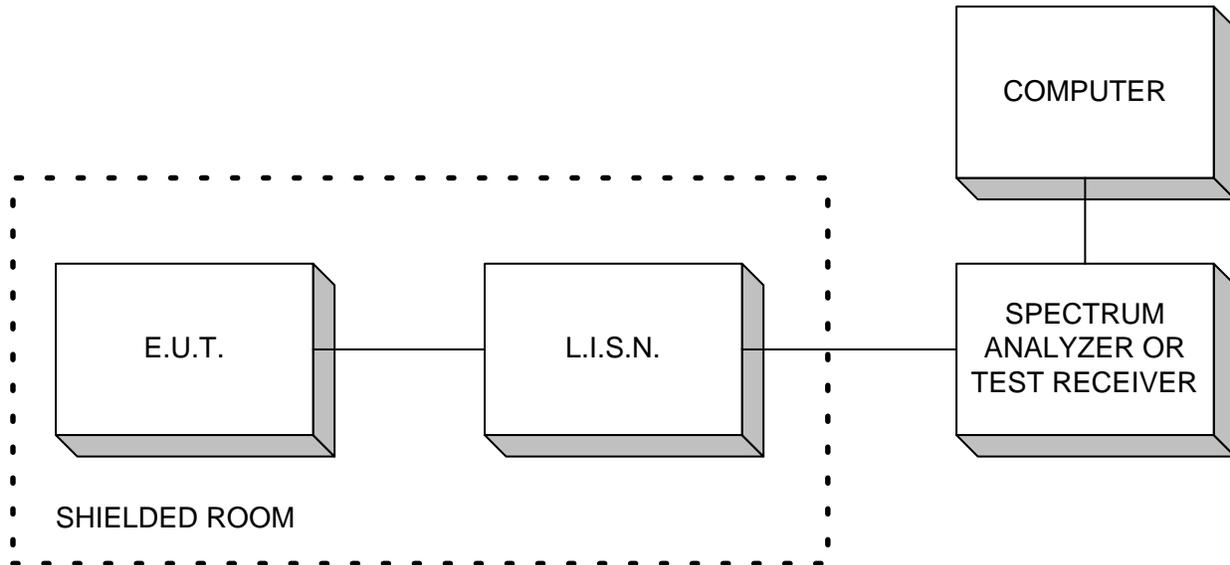
$$RF_{SG} - (-6 \text{ dBuV})$$

For example: If the rf level required to produce an image emission that causes a 12 dB SINAD response from the scanning receiver is 60 dBuV, then the image rejection ratio would be:

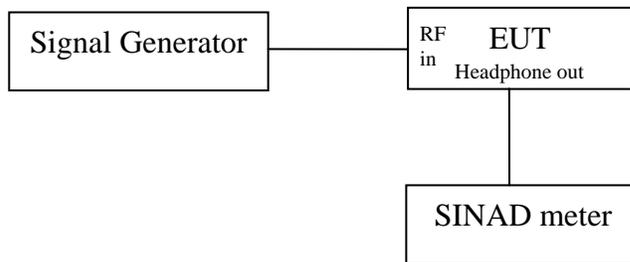
$$60 - (-6) = 66 \text{ dB}$$

### Section 7. Block Diagrams

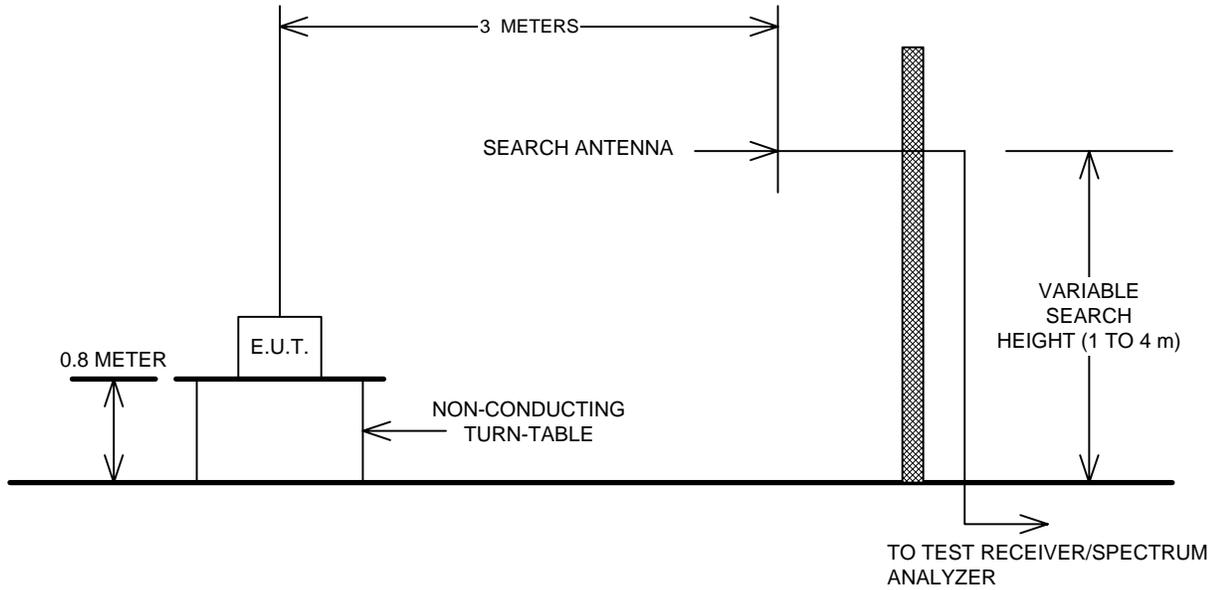
#### Conducted Emissions



#### Cellular Band Rejection



Test Site For Radiated Emissions



Measurements are made at a distance of 3 meters on the open area test site up to 10 GHz.

**Section 8. Test Equipment List**

<u>Asset Tag</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model</u>	<u>Serial #</u>
674	Limiter	Hewlett Packard	11947A	3107A02200
993	Antenna, Horn	A.H. Systems	SAS-200/571	162
1016	Preamplifier	Hewlett Packard	8449A	2749A00159
1082	Cable, 2m	Astrolab	32027-2-29094-72TC	
1083	Cable, 2m	Astrolab	32027-2-29094-72TC	
1258	LISN	EMCO	3825/2	1305
1629	Cable, 6 ft	Megaphase	10311 1GVT4	
1684	Generator, Signal	Rohde & Schwarz	SMIQ03	DE24568
1763	Antenna, Bilog	Schaffner	CBL 6111D	22926
1767	Receiver	Rohde & Schwartz	ESIB26	837491/0002
791	PreAmp	Nemko, USA		
1341	SINAD meter	Rohde & Schwarz	CMS 53	883832/018