Nemko Test Report:	21687EUS1Rev1
Applicant:	Uniden America Corporation 181 N. Country Club Road, P.O. Box 580 Lake City, South Carolina 29560
Equipment Under Test: (E.U.T.)	BC346XT
In Accordance With:	**FCC Part 15, Subpart B and RSS 215, Issue 1** Scanning receivers
Tested By:	Nemko USA, Inc. 802 N. Kealy Lewisville, Texas 75057-3136

TESTED BY: _____ **DATE:** **01 December 2008**
David Light, Senior Wireless Engineer

APPROVED BY: _____ **DATE:** **17 December 2008**
Tom Tidwell, Telecom Direct

Number of Pages: 24

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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 215, Issue 1. Measurement procedure ANSI C63.4-2003 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".

NVLAP®
LAB CODE: 100426-0

Summary of Test Data

Name Of Test	RSS 215 Para. No.	CFR 47 Para. No.	Results
Spurious Emissions	7(i)	15.109	Complies
Powerline Conducted Emissions	RSS Gen.	15.107	Complies
Cellular Band Rejection Ratio	-	15.121(b)	Complies

Footnotes:

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

Manufacturer: Uniden America Corporation

Model No.: BC346XT

Serial No.: None

Equipment Details

Frequency Range:	25 to 1300 MHz
Number of Channels:	Dynamic – You can create up to 9,000 total conventional channels, trunked channels, and trunked system frequencies. • Channels in a conventional system contain a frequency. • Channels in a trunked system contain a talk group ID (TGID).
Power Supply Requirements:	4.5 Vdc batteries or AC adapter.
Type of Modulation;	FM, AM, NFM, WFM, FMB

Description of E.U.T.

Handheld trunk tracker scanner

Section 3. Equipment Configuration

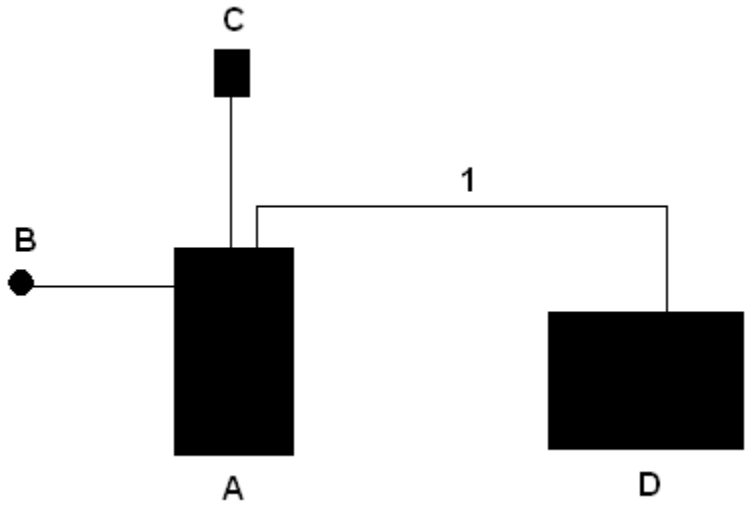
Equipment Configuration List:

Item	Description
(A)	Uniden Scanning Receiver model BC346XT (EUT)
(B)	Headphones
(C)	Laptop PC
(D)	Uniden AC adapter / Battery Charger model AD1001 (EUT)

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: 30 October 2008

Minimum Standard:

Frequency(MHz)	Field Strength (dBμV/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: 1763-1464-1484-1485-791-993-1016

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 axis to obtain worst case results.

Test Data - Radiated Emissions

Rx at 39.98

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.4	40.0	24.8	-15.2
361.2	46.0	32.7	-13.3
369.9	46.0	37.9	-8.1
391.0	46.0	31.3	-14.7
740.3	46.0	30.8	-15.2
841.6	46.0	36.0	-10.0

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.4	40.0	25.4	-14.6
112.2	43.5	21.9	-21.6
367.8	46.0	35.4	-10.6
369.9	46.0	42.0	-4.0
394.1	46.0	35.4	-10.6
740.2	46.0	33.1	-12.9
841.6	46.0	31.0	-15.0

Rx at 163.25 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.401	40.0	25.132	-14.9
367.33	46.0	39.147	-6.9
369.91	46.0	43.533	-2.5
378.14	46.0	30.75	-15.3
733.05	46.0	31.578	-14.4
740.25	46.0	32.195	-13.8

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.0	40.0	25.132	-14.9
112.2	43.5	22.028	-21.5
368.9	46.0	42.598	-3.4
369.9	46.0	44.542	-1.5
370.9	46.0	31.832	-14.2
372.5	46.0	37.162	-8.8
740.2	46.0	37.001	-9.0

Test Data - Radiated Emissions

Rx at 460.25 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.401	40.0	25.406	-14.6
369.91	46.0	44.157	-1.8
386.37	46.0	31.635	-14.4
740.25	46.0	32.27	-13.7
841.06	46.0	39.288	-6.7
995.89	46.0	31.171	-14.8

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.4	40.0	25.272	-14.7
112.2	43.5	22.577	-20.9
369.9	46.0	45.319	-0.7
377.1	46.0	36.034	-10.0
381.2	46.0	36.83	-9.2
740.2	46.0	33.832	-12.2
841.1	46.0	39.585	-6.4

Rx at 813.000 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.4	40.0	26.447	-13.6
369.9	46.0	38.018	-8.0
630.2	46.0	30.245	-15.8
737.7	46.0	30.251	-15.7
740.3	46.0	34.032	-12.0
864.7	46.0	32.74	-13.3

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.0	40.0	25.195	-14.8
128.2	43.5	21.937	-21.6
369.9	46.0	42.945	-3.1
380.2	46.0	25.412	-20.6
736.1	46.0	31.78	-14.2
740.2	46.0	35.124	-10.9
864.7	46.0	35.739	-10.3

Test Data - Radiated Emissions

Rx at 868.9875 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.4	40.0	25.628	-14.4
369.9	46.0	36.93	-9.1
488.2	46.0	26.707	-19.3
630.2	46.0	29.758	-16.2
740.3	46.0	35.376	-10.6
976.9	46.0	31.013	-15.0

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.4	40.0	25.935	-14.1
112.2	43.5	22.154	-21.3
369.9	46.0	40.889	-5.1
380.2	46.0	31.452	-14.5
740.2	46.0	36.507	-9.5
976.9	46.0	32.225	-13.8

Rx at 960.000 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.0	40.0	25.673	-14.3
369.9	46.0	39.561	-6.4
630.2	46.0	29.874	-16.1
740.3	46.0	33.932	-12.1

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
30.4	40.0	25.935	-14.1
128.2	43.5	22.154	-21.3
369.9	46.0	40.889	-5.1
372.5	46.0	31.452	-14.5
380.2	46.0	36.507	-9.5
740.2	46.0	32.225	-13.8

Rx at 1240.000 MHz

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.8	40	24.9	-15.1
360.7	47	26.6	-20.4
369.9	47	43.1	-3.9
630.2	47	30.1	-16.9
740.3	47	40.6	-6.4
859.1	47	40.4	-6.6

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
31.20	40	28.9	-11.1
128.20	40	22.7	-17.3
369.91	47	43.3	-3.7
380.19	47	26.5	-20.5
740.25	47	38.6	-8.4
859.07	47	40.2	-6.8

Test Data - Radiated Emissions

Rx Scanning all channels

Frequency MHz	FCC B Limits	Peaks H_Peaks	Peaks Margin
30.8	40.0	24.914	-15.1
360.7	46.0	26.622	-19.4
369.9	46.0	43.1	-2.9
630.2	46.0	30.123	-15.9
740.3	46.0	40.554	-5.4
859.1	46.0	40.443	-5.6

Frequency MHz	FCC B Limits	Peaks V_Peaks	Peaks Margin
31.2	40.0	28.934	-11.1
128.2	43.5	22.653	-20.8
369.9	46.0	43.252	-2.7
380.2	46.0	26.457	-19.5
740.2	46.0	38.618	-7.4
859.1	46.0	40.201	-5.8

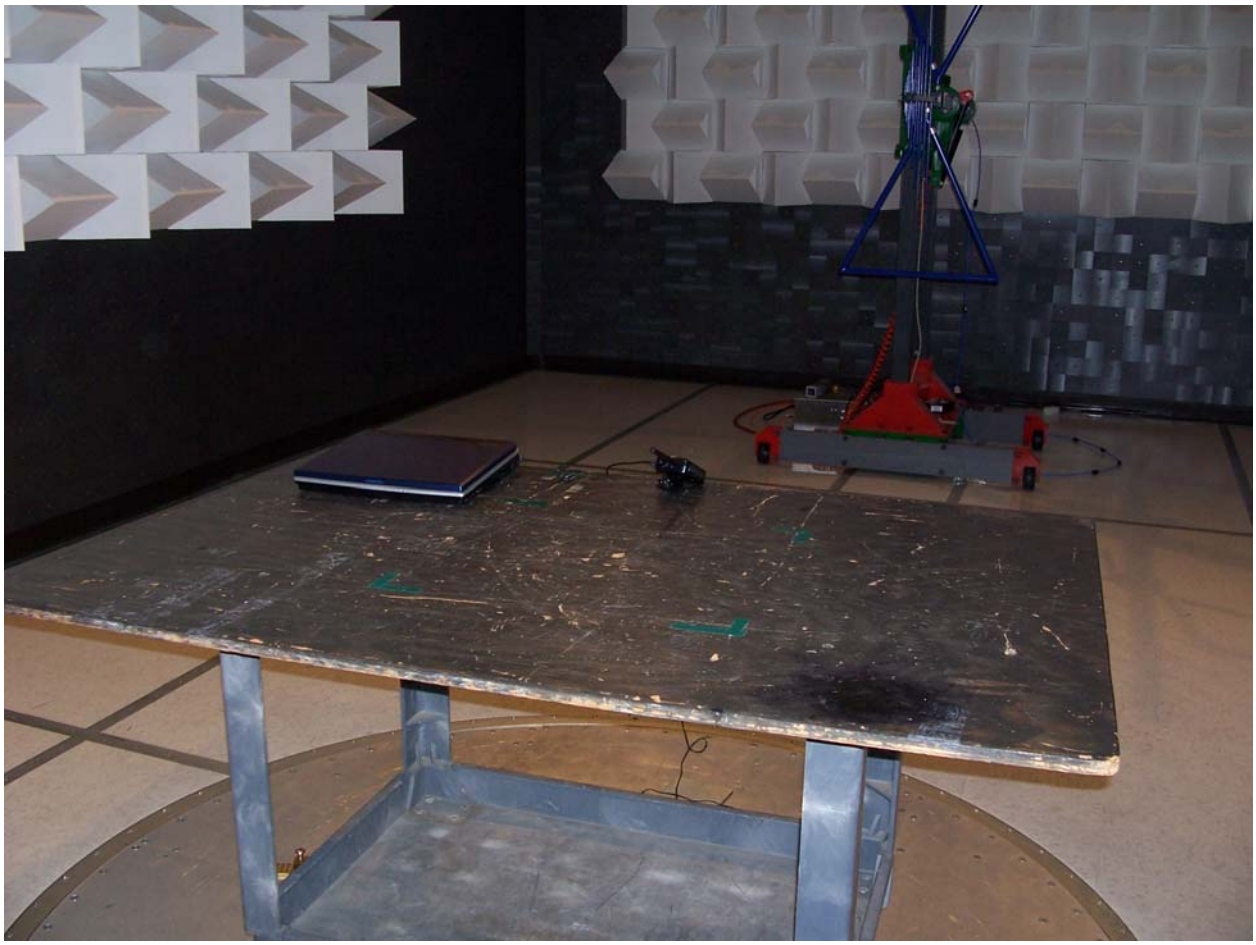
Note: The receiver was tested while locked on to the following frequencies (MHz):

30.86, 39.98, 47.66, 150.775, 163.25, 172.375, 417.2875, 460.25, 507.425, 806.0125, 813.000, 823.9875, 849.1025, 856.0125, 868.9875, 935.0125, 960.00, and 1240.000, and scanning across the entire tuning range.

The EUT was tested on three channels on each band of reception. Typical data for each band is presented.

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: 26 November 2008

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

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.

Test Results: Complies.

Measurement Data: See attached graphs.

Equipment Used: 1767-1629-545-674

Measurement Uncertainty: +/- 1.7 dB

Temperature: 21 °C

Relative Humidity: 32 %

Test Data - Powerline Conducted Emissions

Nemko
Final QP/Avg Results

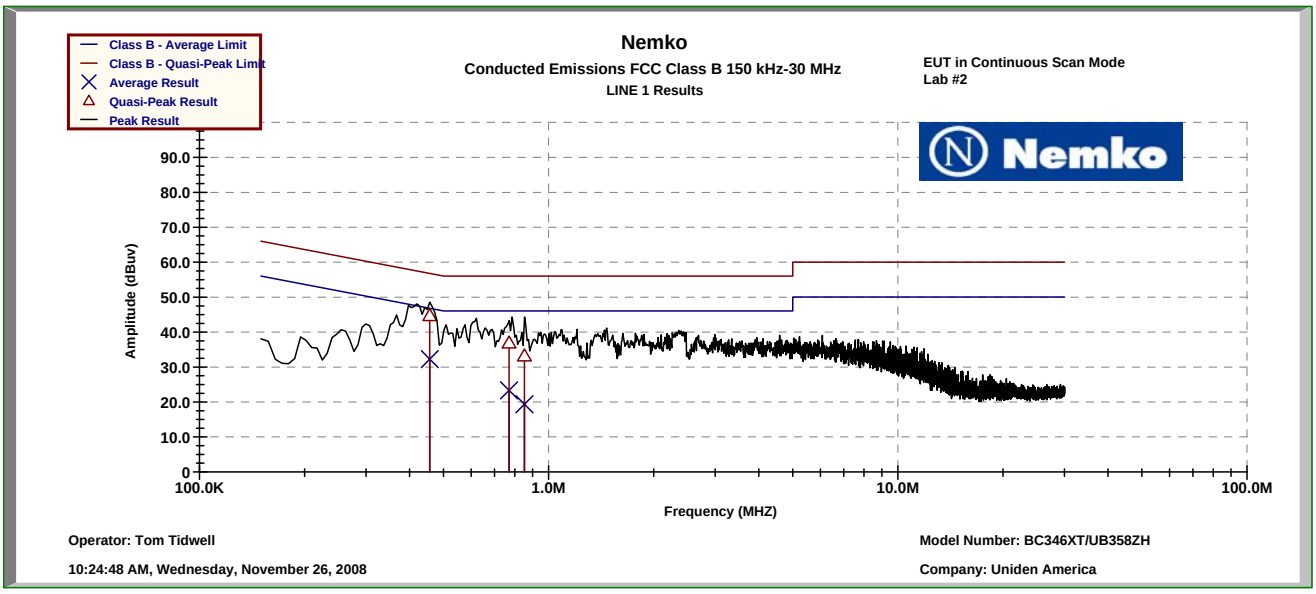
Operator: T. Tidwell
Model: BC346XT/UB358ZH
Company: Uniden America
Date: 10:31:24 AM, Wednesday, November 26, 2008

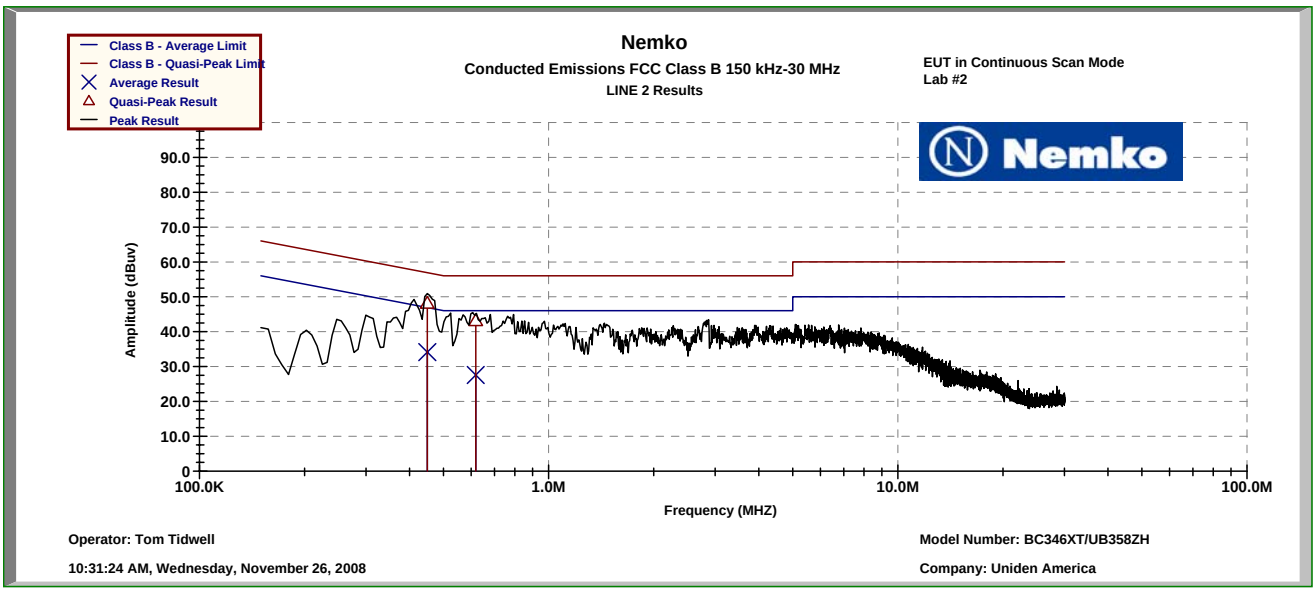
LINE 2 RESULTS

Frequency (kHz)	Class B QPk Limit (dBuV)	Class B Avg Limit (dBuV)	Avg. Measured (dBuV)	Avg. Margin (dB)	QPk Measured (dBuV)	QPk Margin (dB)
449.05	57.456	47.456	34.102	-13.354	48.117	-9.339
618.31	56	46	27.551	-18.449	43.117	-12.883

LINE 1 RESULTS

Frequency (kHz)	Class B QPk Limit (dBuV)	Class B Avg Limit (dBuV)	Avg. Measured (dBuV)	Avg. Margin (dB)	QPk Measured (dBuV)	QPk Margin (dB)
456.5	57.242	47.242	32.218	-15.024	44.678	-12.564
770	56	46	23.295	-22.705	36.852	-19.148
852.8	56	46	19.31	-26.69	33.149	-22.851


Class B - Average Limit
Class B - Quasi-Peak Limit
Average Result
Quasi-Peak Result
Peak Result
Nemko
Conducted Emissions FCC Class B 150 kHz-30 MHz
LINE 1 Results
EUT in Continuous Scan Mode
Lab #2
Nemko
Amplitude (dBuv)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
100.0K
1.0M
10.0M
100.0M
Frequency (MHZ)
Operator: Tom Tidwell
10:24:48 AM, Wednesday, November 26, 2008
Model Number: BC346XT/UB358ZH
Company: Uniden America


Class B - Average Limit
Class B - Quasi-Peak Limit
Average Result
Quasi-Peak Result
Peak Result
Nemko
Conducted Emissions FCC Class B 150 kHz-30 MHz
LINE 2 Results
EUT in Continuous Scan Mode
Lab #2
Nemko
Amplitude (dBuv)
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0
100.0K
1.0M
10.0M
100.0M
Frequency (MHZ)
Operator: Tom Tidwell
10:31:24 AM, Wednesday, November 26, 2008
Model Number: BC346XT/UB358ZH
Company: Uniden America

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.

Measurement Data: See attached data

Equipment Used: 1763-1684-1082-1083

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	70	None	NA	38
836.52	-6	70	None	NA	38
848.98	-6	60.5	859.3500	66.5	38
		59.2	1240.5000	65.2	38
		57.9	1240.5250	63.9	38
869.01	-6	60.0	865.7625	66	38
		61.0	910.4750	67	38
881.52	-6	70	None	NA	38
893.98	-6	53.8	470.3125	59.8	38
		60.6	860.2500	66.6	38
		61.4	904.3500	67.4	38
		48.6	915.6000	54.6	38
		56.8	1285.5000	62.8	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:

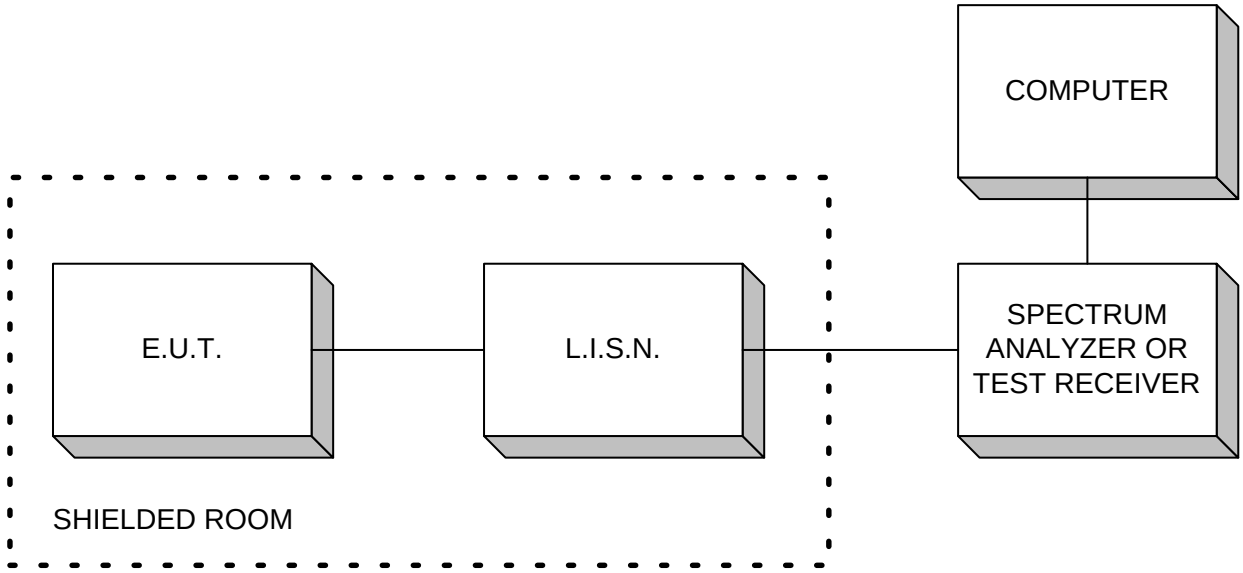
RF_{SG} – (-6 dBuV)

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:

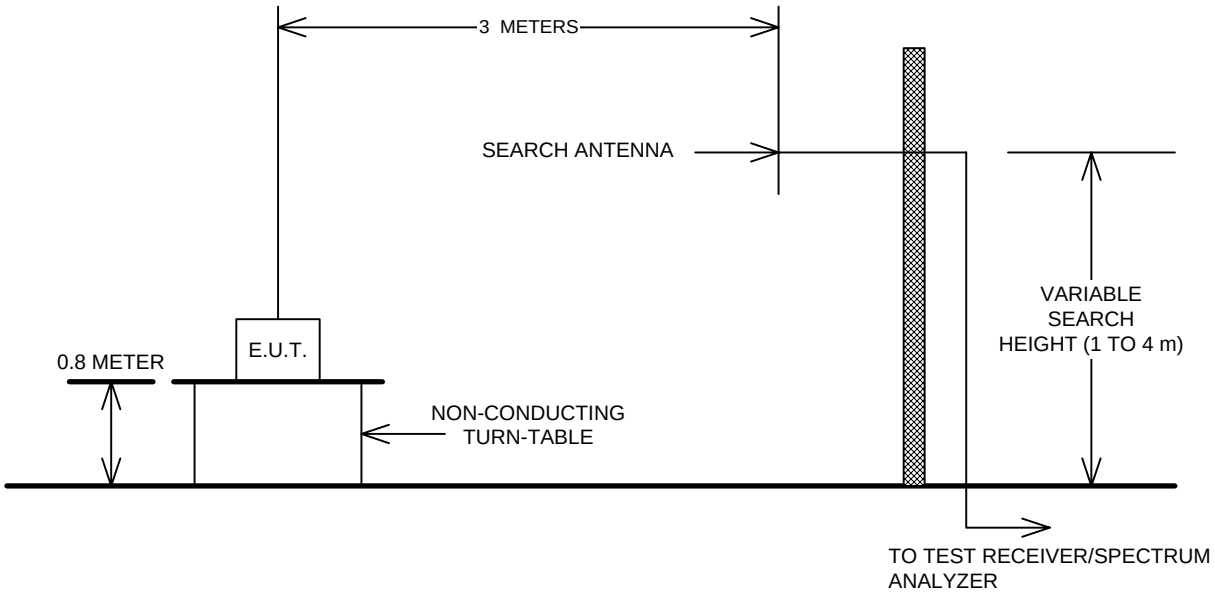
60 – (-6) = 66 dB

Section 7. Block Diagrams

Conducted Emissions



Outdoor Test Site For Radiated Emissions



Measurements are made at a distance of 3 meters on the open area test site up to 18 GHz.
The spectrum is searched at a distance of 1 meter for emissions in the range 18 GHz up to to the maximum search frequency required by 15.33(a). If emissions are detected at 1 meter measurement distance, the receive antenna is re-sited to 3 meters from the EUT and measurements are recorded.

Section 8. Test Equipment List

Nemko ID	Description	Manufacturer Model Number	Serial Number	Calibration Date	Calibration Due
1767	EMI Test Receiver	ROHDE & SCHWARZ ESIB26	837491/0002	09/20/07	09/20/09
1684	Signal Generator	R&S SMIQ03	DE24568	01/31/07	02/01/10
1082	CABLE 2m	Astrolab 32027-2-29094-72TC	N/A	CBU	N/A
1083	Cable 2m	Astrolab 32027-2-29094-72TC	N/A	CBU	N/A
1629	CABLE, 6 ft	MEGAPHASE 10311 1GVT4	N/A	CBU	N/A
545	LISN	Schwarz Beck 8120	8120350	08/05/08	08/05/09
674	LIMITER	HP 11947A	3107A02200	CBU	NA
1763	Bilog Antenna	Schaffner CBL 6111D	22926	11/04/08	11/04/09
1464	Spectrum analyzer	Hewlett Packard 8563E	3551A04428	01/24/07	01/24/09
1484	Cable	Storm PR90-010-072	N/A	05/07/08	05/07/09
1485	Cable	Storm PR90-010-216	N/A	05/07/08	05/07/09
791	PREAMP, 25dB	Nemko USA, Inc. LNA25	398	05/07/08	05/07/09
993	Horn antenna	A.H. Systems SAS-200/571	XXX	08/31/07	08/31/09
1016	Pre-Amp	HEWLETT PACKARD 8449A	2749A00159	05/07/08	05/07/09