



Test Report: 6W58614.2 Issue 2


Applicant: Exavera Technologies, Inc.
195 New Hampshire Avenue
Suite 155
Portsmouth, NH 03801

Equipment Under Test: Vera-T Staff Badge VTS-321 &
Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

In Accordance With: **FCC Part 15, Subpart C, 15.249**

Tested By: Nemko Canada Inc.
303 River Road, R.R. 5
Ottawa, Ontario K1V 1H2

Authorized By: 
Roman Kuleba, Wireless Specialist

Date: February 28, 2007

Total Number of Pages: 17

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EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

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 15.249. All tests were conducted using measurement procedure ANSI C63.4-2003. Radiated Emissions were made on an open area test site. A description of the test facility is on file with the FCC.

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”.

TESTED BY:



Xu Jin, Wireless Specialist



Jason Nixon, Telecom Specialist

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This report applies only to the items tested.

*EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322**FCC ID: T2R-VTS321*

Section 2. Summary Of Test Data

Summary Of Test Data

Name Of Test	Para. No.	Result
Radiated Emissions	15.249	Complies

Test Conditions:

Indoor Temperature: 21°C
 Humidity: 50%

Outdoor Temperature: -3°C
 Humidity: 60%

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

Section 3. General Equipment Specification

Manufacturer: Exavera Technologies

Model No.: Vera-T Staff Badge VTS-321
& Vera-T Asset Tag VTA-322

Date Received In Laboratory: Jan.4, 2006

Frequency Range: Tx: 905.3 – 925.3MHz
Rx: 905.3 – 925.3MHz

Modulation: FSK

Power Source: Battery

Note: Customer declared that Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322 have identical RF circuit and antenna. Therefore only Vera-T Staff Badge VTS-321 was tested.

*EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322**FCC ID: T2R-VTS321*

Section 4. Test results**Para. No.: 15.207(a)****Test Performed By: Jason Nixon****Date of Test: Feb 26, 2007****Minimum Standard:**

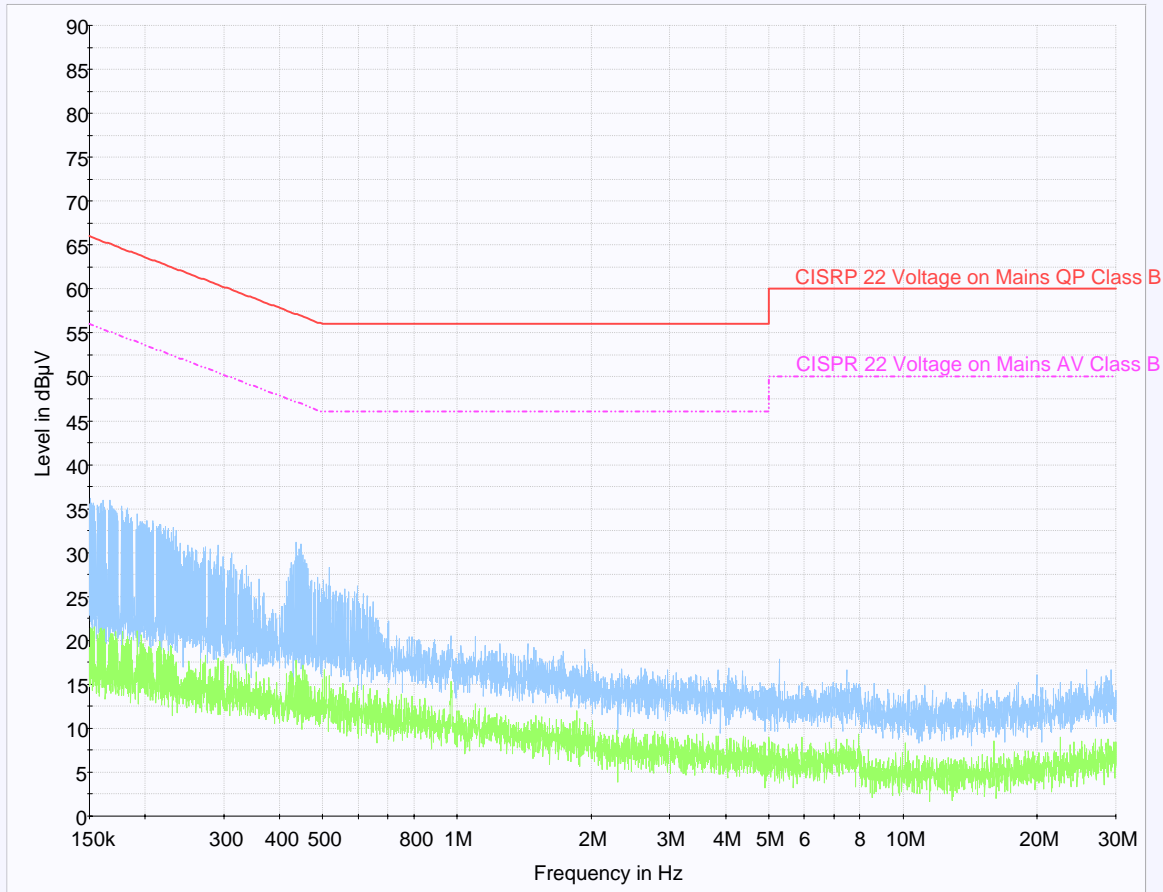
Frequency of Emission (MHz)	Maximum Powerline Conducted RF Voltage	
	Quasi-peak (dBuV)	Average(dBμV)
0.15 – 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency

Test Results: PASS**Measurement Data:** See attached graphs.

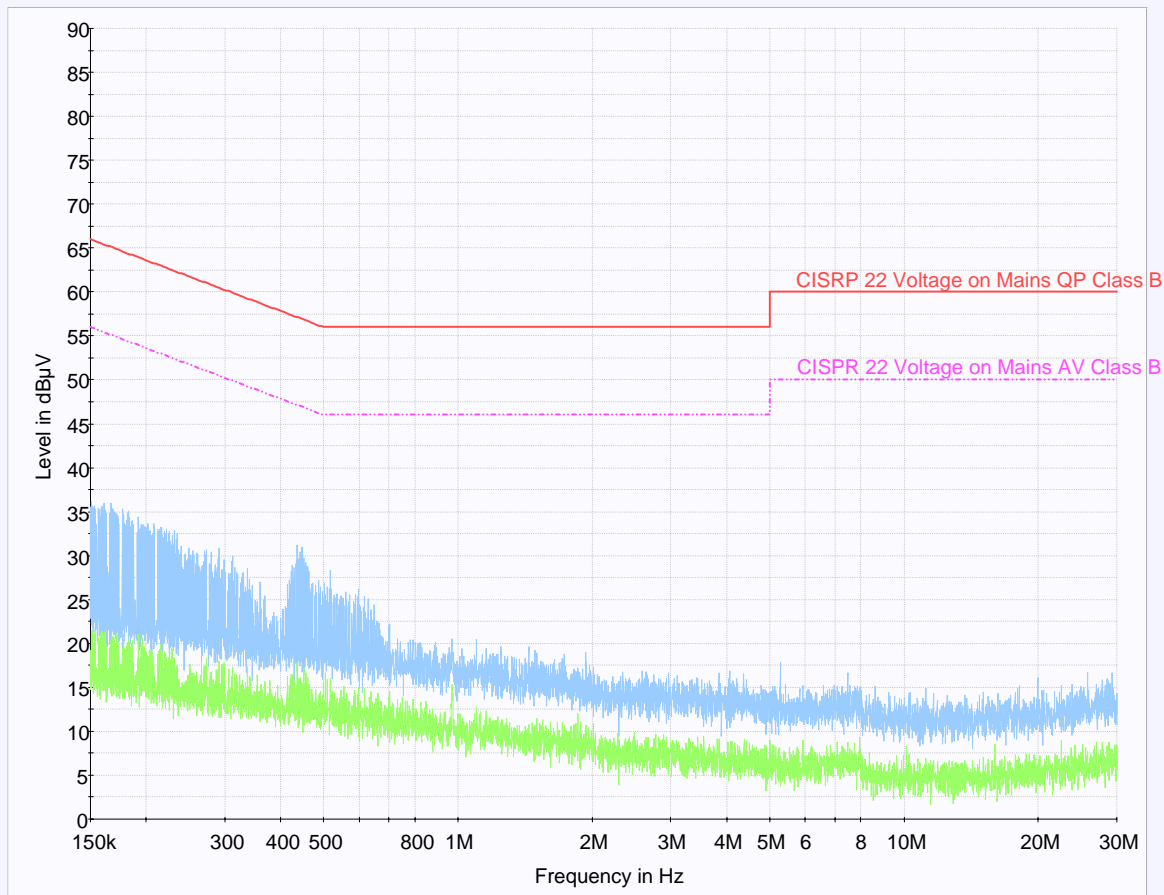
All measurements have been corrected with the cable and LISN losses using a 9kHz RBW/VBW detector.

Phase



— Peak Measurements
— Average Measurements

Neutral



— Peak Measurements
— Average Measurements

*EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322**FCC ID: T2R-VTS321*

Para. No.: 15.249**Test Performed By: Xu Jin****Date of Test: Jan 10, 2006****Minimum Standard:**

15.209&15.249

Band edge check must comply with 50dBc requirement.

Radiated Emission must comply with 15.209 general requirement

Frequency (MHz)	Field Strength (mV/m)	Field Strength (dBµV/m)
Fundamental		
902-928	50	94
Spurious out side the frequency band		
33-88	0.1	40.0
88-216	0.15	43.5
216-960	0.2	46.0
960 above	0.5	54.0

Test Results:

See graphic and data of this section.

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Radiated emission test was conducted at 3 meter at open area test site. The EUT was searched from 30MHz to the 10th harmonics, and for low, medium and high frequencies at the frequency band.

The EUT was searched for 3 orthogonal axis to determine the worst case emissions. Measurements were performed with fully charger batteries.

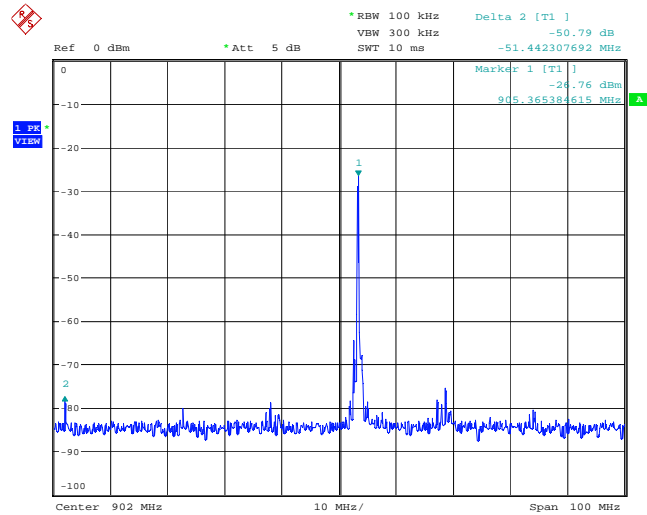
Only worst cases have been reported.

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

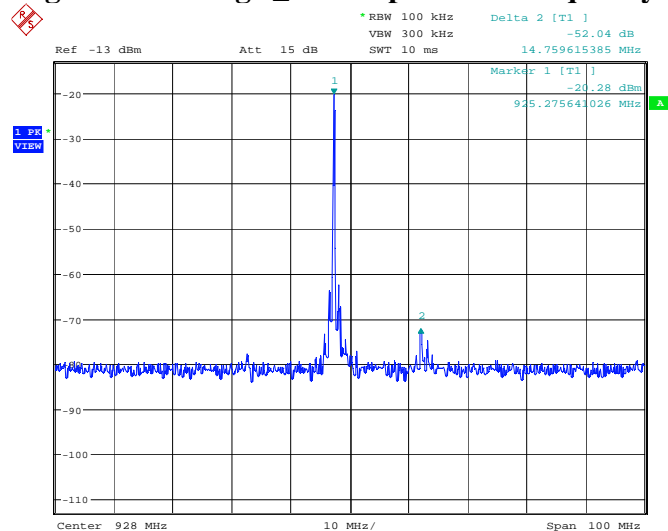
50dBc Band Edge Check

Lower Band Edge_ EUT Operation Frequency 905.3MHz



Date: 10.JAN.2006 13:56:56

Higher Band Edge_ EUT Operation Frequency 925.3MHz

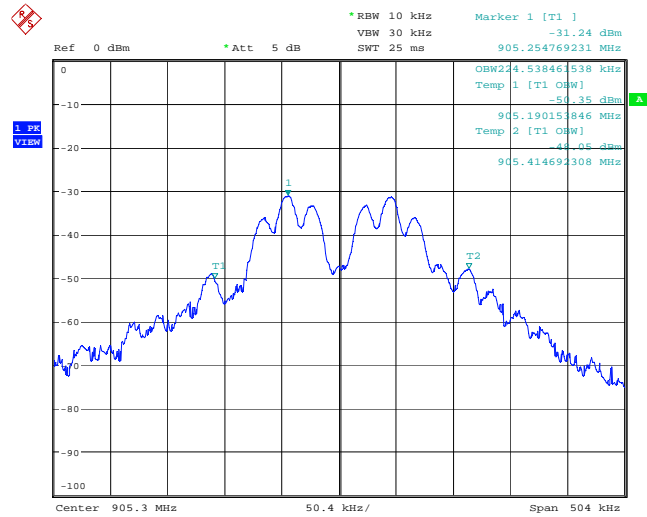


Date: 10.JAN.2006 13:52:09

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

99%Channel Bandwidth _ EUT Operation Frequency 905.3MHz



Date: 10.JAN.2006 13:59:06

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

Radiated Emissions Test Data

Test Date: Jan 13, 2006										
Engineer's Name: Xu Jin										
Tested as per: Table Top										
Temperature (C°): Indoor: 21, Outdoor: -3							Humidity %: Indoor: 50 , Outdoor: 60			
Test Distance (meters): 3							Dome: 2			
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
905.3000	LP1	H	52.1	23.7	N/A	5.8	81.6	94.0	12.4	Peak
905.3000	LP1	V	57.0	23.0	N/A	5.8	85.7	94.0	8.3	Peak
1810.6000	Horn1	V	68.3	26.7	47.9	6.3	53.4	54.0	0.6	Peak
1810.6000	Horn1	H	64.0	26.7	47.9	6.3	49.1	54.0	4.9	Peak
2715.9000	Horn1	V	65.7	29.5	59.1	6.3	42.4	54.0	11.6	Peak
2715.9000	Horn1	H	69.4	29.5	59.1	6.3	46.0	54.0	8	Peak
915.3000	LP1	H	52.4	23.8	N/A	6.3	82.5	94.0	11.5	Peak
915.3000	LP1	V	59.0	23.1	N/A	6.3	88.3	94.0	5.7	Peak
1830.6000	Horn1	V	67.5	26.8	47.9	6.3	52.7	54.0	1.3	Peak
1830.6000	Horn1	H	66.9	26.8	47.9	6.3	52.1	54.0	1.9	Peak
2745.9000	Horn1	V	68.4	29.6	59.2	6.3	45.1	54.0	8.9	Peak
2745.9000	Horn1	H	70.1	29.6	59.2	6.3	46.8	54.0	7.2	Peak
925.3000	LP1	H	56.1	23.9	N/A	6.4	86.4	94.0	7.6	Peak
925.3000	LP1	V	62.4	23.2	N/A	6.4	92.0	94.0	2	Peak
1850.6000	Horn1	V	68.2	26.9	48.0	6.3	53.4	54.0	0.6	Peak
1850.6000	Horn1	H	68.3	26.9	48.0	6.3	53.6	54.0	0.4	Peak
2775.9000	Horn1	V	64.3	29.7	59.2	6.3	41.1	54.0	12.9	Peak
2775.9000	Horn1	H	70.1	29.7	59.2	6.3	46.9	54.0	7.1	Peak
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole										
Note 2: Detector Legend: Below 1GHz, Peak detector with 100 kHz RBW, 100KHz VBW										
Above 1GHz, Peak detector with 1.0MHz RBW, 1.0MHz VBW										

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

Radiated emissions - Charging

Test Date: Feb 27, 2007										
Engineer's Name: Jason Nixon										
Tested as per: Table Top										
Temperature (C°): Outdoor: 10							Humidity %: Outdoor: 60			
Test Distance (meters): 3							Dome: 1			
Freq. (MHz)	Ant.	Pol. V/H	RCVD Signal (dBμV)	Ant. Factor (dB)	Amp. Gain (dB)	Cable Loss (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Detector
905.3000	LP1	V	54.4	23.0	N/A	3.1	80.5	94.0	13.5	Peak
905.3000	LP1	H	51.7	23.6	N/A	3.1	78.4	94.0	15.6	Peak
1810.6000	Horn2	V	67.2	27.5	49.1	4.5	50.1	54.0	3.9	Peak
1810.6000	Horn2	H	65.1	27.4	49.1	4.5	48.0	54.0	6.0	Peak
2715.9000	Horn2	V	66.5	30.0	59.8	5.9	42.7	54.0	11.3	Peak
2715.9000	Horn2	H	65.5	29.9	59.8	5.9	41.6	54.0	12.4	Peak
915.3000	LP1	V	64.7	23.0	N/A	3.2	90.9	94.0	3.1	Peak
915.3000	LP1	H	62.0	23.7	N/A	3.2	88.9	94.0	5.1	Peak
1830.6000	Horn2	V	65.9	27.5	49.1	4.6	49.0	54.0	5.0	Peak
1830.6000	Horn2	H	65.6	27.4	49.1	4.6	48.6	54.0	5.4	Peak
2745.9000	Horn2	V	74.1	30.0	59.7	5.8	50.2	54.0	3.8	Peak
2745.9000	Horn2	H	72.6	30.0	59.7	5.8	48.7	54.0	5.3	Peak
3661.2000	Horn2	V	67.4	32.5	58.5	7.0	48.4	54.0	5.6	Peak
3661.2000	Horn2	H	70.2	32.4	58.5	7.0	51.2	54.0	2.8	Peak
925.3000	LP1	V	63.9	23.1	N/A	3.2	90.2	94.0	3.8	Peak
925.3000	LP1	H	63.2	24.1	N/A	3.2	90.5	94.0	3.5	Peak
1850.6000	Horn2	V	68.7	27.5	49.1	4.7	51.8	54.0	2.2	Peak
1850.6000	Horn2	H	66.2	27.4	49.1	4.7	49.3	54.0	4.7	Peak
2775.9000	Horn2	V	70.6	30.1	59.7	6.0	46.9	54.0	7.1	Peak
2775.9000	Horn2	H	70.7	30.0	59.7	6.0	46.9	54.0	7.1	Peak
3701.2000	Horn2	V	66.6	32.5	58.4	7.0	47.7	54.0	6.3	Peak
3701.2000	Horn2	H	68.5	32.4	58.4	7.0	49.5	54.0	4.5	Peak
Note 1: Antenna Legend: BC = Biconical, BL = Bilog, LP = Log-Periodic, Horn = Horn, ED = EMCO Dipole										
Note 2: Detector Legend: Below 1GHz, Peak detector with 100 kHz RBW, 300KHz VBW										
Above 1GHz, Peak detector with 1.0MHz RBW, 3.0MHz VBW										

EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

Radiated Emissions Photos



EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322

FCC ID: T2R-VTS321

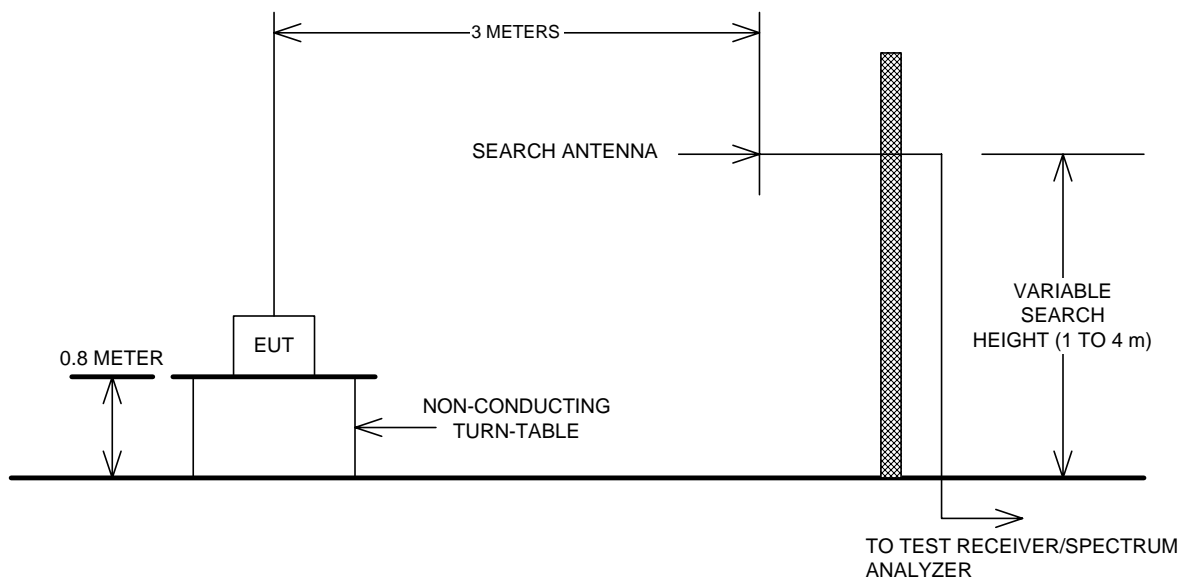


Conducted emissions

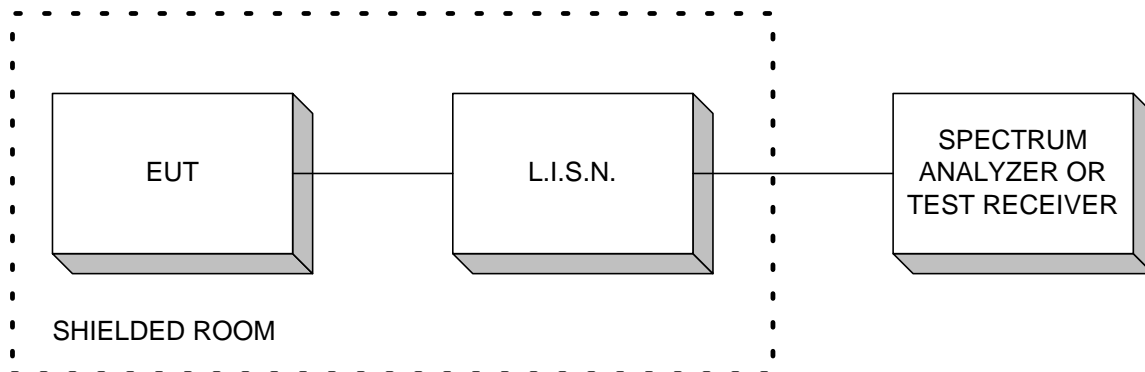


Section 5. Block Diagrams

Test Site For Radiated Emissions



Conducted Emissions



*EQUIPMENT: Vera-T Staff Badge VTS-321 & Vera-T Asset Tag VTA-322**FCC ID: T2R-VTS321*

Section 6. Test Equipment List

Equipment	Manufacturer	Model No.	Asset/Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer	Rohde & Schwarz	FSU	FA001877	May 17/05	May 17/06
Spectrum Analyzer	Hewlett-Packard	8566B	FA001309	May 18/05	May 18/06
Spectrum Analyzer Display	Hewlett-Packard	85662A	FA001309	May 18/05	May 18/06
Biconical (1) Antenna	EMCO	3109	FA000805	April 22/05	April 22/06
Log Periodic Antenna #1	EMCO	LPA-25	FA000477	Aug. 29/05	Aug. 29/06
Horn Antenna #1	EMCO	3115	FA000649	Dec. 16/05	Dec. 16/06
1.0 – 2.0 GHz Amplifier	JCA	12-400	FA001498	July 14/05	July 14/06
2.0 – 4.0 GHz Amplifier	JCA	24-600	FA001496	July 14/05	July 14/06
4.0 – 8.0 GHz Amplifier	JCA	48-600	FA001497	July 14/05	July 14/06
5.0 - 18GHz Amplifier	Narda	DWT-186N23U40	FA001409	COU	COU
Signal Generator	Rohde & Schwarz	SMR 40	FA001879	July 13/05	July 13/06
LISN	Rohde & Schwarz	ENV216	FA002023	Aug. 28/06	Aug. 28/07
Receiver/Spectrum Analyzer	Rohde & Schwarz	ESU	FA002043	Oct. 24/06	Oct. 24/07

* COU (Calibrate on Use)