125 Technology Parkway
Norcross, Georgia, US 30092

July 5, 2005

Manufacturer:	**LXE Inc. 125 Technology Parkway Norcross, GA 30092-2913**
LXE Project:	**05-029**
Equipment Under Test:	**6730**
Testing Performed By:	**LXE Inc.**
Scope of Testing:	**FCC Part 15, Subpart C**
Section of Standard:	**15.207 - Conducted Emissions**
Test Initiated:	**July 5, 2005**
Test Completed:	**July 5, 2005**

Report Prepared By: _____

Cyril A. Binnom Jr.
EMI/EMC Engineer

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1.0 INTRODUCTION

1.1 Equipment Under Test

The equipment under test is the LXE Model 6730 Access Point, which is an OEM version of the Cisco Systems AIR-AP1200.

1.2 Scope

To demonstrate conformance with the US Code of Federal Regulations (CFR): Title 47, Part 15, Radio Frequency Devices, Subpart C, Intentional Radiators and detail the results of testing performed on the LXE Model 6730.

1.3 Purpose

Testing was performed to evaluate the 6730 conducted emissions performance in accordance with 47 CFR § 15.207.

1.4 Relevant Standards and References

The following standards were used to evaluate the EUT:

1 - ANSI C63.4-1992: Method of Measurements of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the 9KHz to 40GHz

2 - US Code of Federal Regulations (CFR): Title 47, Part 15, Radio Frequency Devices, Subpart C, Intentional Radiators (October 2001).

1.5 Applicability of Standards

The EUT was considered to be an intentional radiator that connects to AC power lines indirectly, according to the definition given in (CFR): Title 47, Part 15, Radio Frequency Devices. Subpart C, Intentional Radiators Sec. 15.207(d).

2.0 TEST FACILITIES/RESOURCES

2.1 Location

All testing was performed at test facilities located at the following address:

LXE, Inc.
An Electromagnetic Sciences Company
125 Technology Parkway
Norcross, GA US 30092-2993
Tel: (770) 447-4224
Fax: (770) 447-6928

2.1.1 Radiated Emissions

The Open Area Test Site (OATS) is located in the center of the rooftop of the building. The roof is located at a height of approximately 8 meters above the ground. The 3 meters radiated emissions test site is an open, flat area (open area) test site approximately 6.2m x 9.2m in dimension. All reflecting objects including test personnel lie outside the perimeter of the ellipse. The 3 meters test site ground plane is made of a 1/4" metal screen mesh which extends 2 meters past the mast and EUT. The ground plane has no gaps with linear dimensions that are greater than 1/10 of a wavelength at the highest frequency of measurement (about 3 cm at 1000MHz). Material of the ground plane, comprised of individual 1/4" metal screen mesh rolls, were soldered at the seams with gaps smaller than 1/10 of the wavelength. The ground plane is connected to the earth ground by ground rods. All wiring is done at floor level around the test site periphery. The radiated emissions test setup is shown in figure 2.1-1.

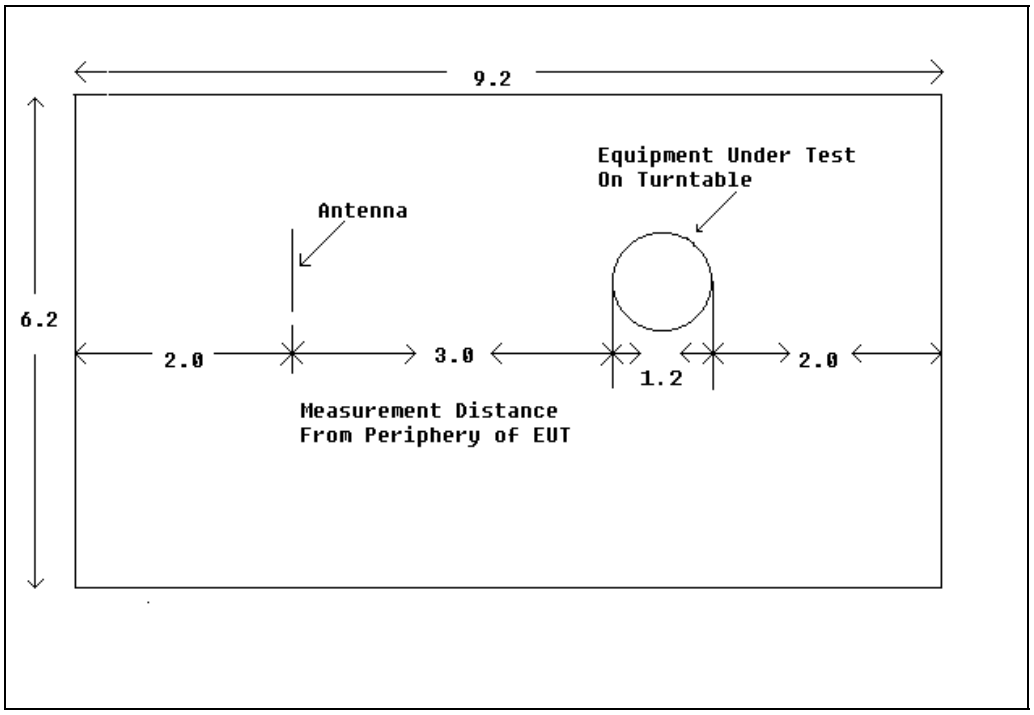

FIGURE 2.1-1 OPEN AREA TEST SITE

2.1.2 Conducted Emissions

The conducted emissions test site is a Double Electrically Isolated (DEI) shielded screen room located in the engineering lab. An approximately 3.1 m wide x 2.2 m deep x 2.4 m high shielded screen room was used to perform AC powerline conducted emissions tests. The DEI shielded screen room provides the maximum shielding performance available in a "hear-through, see-through" structure. The DEI shielded screen room is made of 360 degrees double shielded copper screen sheets and is manufactured by Lindgren RF Enclosures, model 14-2/2-0, serial 8147. The use of copper results in unusually good shielding effectiveness in the higher planewave and microwave frequencies. The DEI shielded screen room archives over 120dB of shielding effectiveness from 14KHz to 1GHz. Power for the shielded room is filtered (Lindgren RF Enclosures, P/N 250946, rated 125/250 VAC, 60A, 50/60 Hz). All wiring is done at the wall around the shielded screen room and is electrically bonded to earth ground by a ground rod.

The Line Impedance Stabilization Networks is an EMCO model 3810/2. The LISN housing is electrically bonded to the conducting plane. The equipment under test for tabletop testing is placed on a nonconductive table of nominal size, 1m by 1.5m, raised 80cm above the conducting ground plane and 0.8m minimum from the cases of the LISN. The AC powerline emissions test setup is shown in figure 2.1-2.

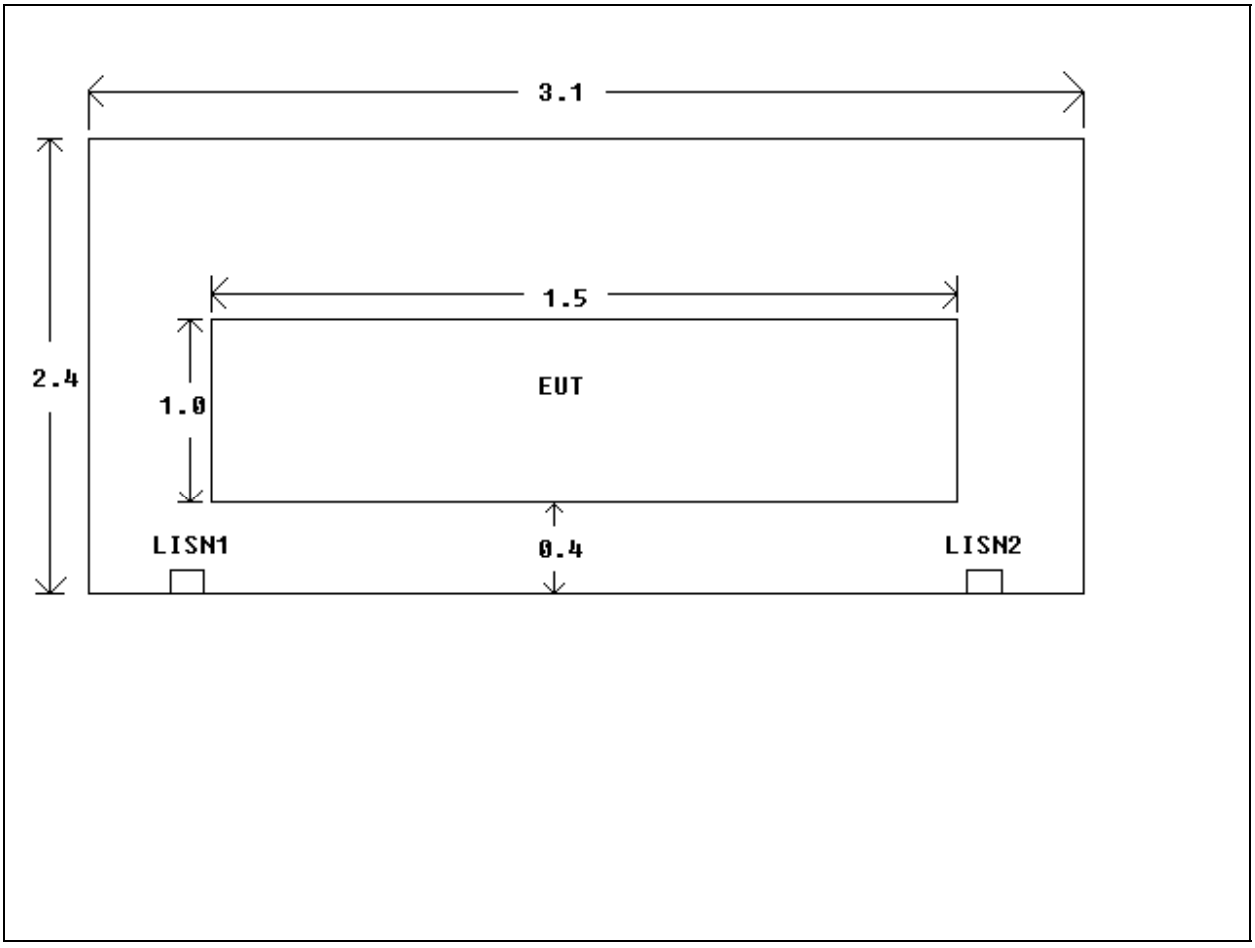

Figure 2.1.2 Conducted Emissions Screen Room

2.2 Test Equipment

Table 2.2-1 lists all test and support equipment

TABLE 2.2-1 TEST AND SUPPORT EQUIPMENT

Cal #	Manufacturer:	Equipment Type:	Model #:	Serial #	Recal Date:
53	Hewlett Packard	Spectrum Analyzer	8563E	3304A00657	6/20/06
62	Compliance Design, Inc.	Antenna, Dipole	B1000	265	4/12/06
202	Hewlett Packard	Amp, .01-26.5 GHz	83006A	3104A00543	4/7/06
229	Electro-Metrics	Antenna	RGA-60	6166	5/25/06
230	EMCO	LISN	3810/2NM	9505-1024	4/11/06
515	Tensor	Antenna, Biconical	4104	2157	4/12/06
232	Electro-Metrics	Antenna, Biconical	BIA-25	1165	4/12/06
514	EMCO	Antenna, Log Periodic	3146	9102-3046	5/02/06
234	EMCO	Antenna, Log Periodic	3146	9011-2946	6/8/06
238	Hewlett Packard	Spectrum Analyzer	8591A	3131A02254	5/27/06
239	LXE	Pre-Amp	20-1000GHz	001	6/01/06
451	LXE	RF Cables (High Freq. Double)	7015/6986	MFR-57500	3/11/06
452	EMCO	Mast, Antenna, Mini	2075	PN399235	N/A
453	EMCO	Turntable	2065	PN399230	N/A
448		18" RTNC to N RF Cable	154401-0001	N/A	4/26/06
449		18" RTNC to N RF Cable		N/A	4/26/06
99998	Lindgren Enclosure	RF Enclosure	14-2/2-0	8147	N/A

3.0 TEST METHODOLOGY

3.1 Test Description

US Code of Federal Regulations (CFR): Title 47, Part 15, Radio Frequency Devices, Subpart C, Intentional Radiators (October 2001), was the guiding document for this test.

The EUT was configured and connected to satisfy its functional requirements and represent good installation practices. The EUT laid flat on a non-conductive table measuring 1.5 meters x 1.0 meters x .8 meters. The equipment under test was positioned at 0.8 meters above the ground plane and 0.8 meters minimum from the LISN, which is electrically bonded to the conducting plane. AC main input power cables in excess 1m were folded back and forth to form a bundle 30cm to 40cm in length.

3.2 System Configuration

The EUT was configured in a typical manner and evaluated to obtain a worst-case configuration, which consisted of an active 6730. The software used during testing, entitled AP/BR Compliance Testing Interface" was used to monitor the EUT's performance. This program exercised both communication ports as well as the computer hardware to establish a fully operational unit.

3.3 Test Procedure

For the conducted emissions tests, measurements were made over the frequency range of 150 kHz to 30MHz. Radiated measurements were made with the Spectrum Analyzer's resolution bandwidth set to 9KHz and video bandwidth set to 30kHz.

TABLE 3.3-1: EMISSION LIMITS

Emission Type	*Frequency Range (MHz)*	*Quasi-Peak limit (dB uV)*	*Average limit (dB uV)*
Conducted Power Line	0.15 to .50	66 to 56	56 to 46
	.5 to 5.0	56	46
	5.0 to 30.0	60	50

Detector Function: The HP Spectrum Analyzer with Quasi-Peak detectors and average detector modes are in accordance with ANSI C63.2. All test equipment is calibrated annually or in accordance with the manufacturer's specification.

3.4 Support Equipment

The EUT was configured using the support equipment given in table 3.4-1 below.

TABLE 3.4-1 EUT CONFIGURATION

Diagram #	Description	Manufacturer	Model/Part #	Serial #	FCC ID
1(EUT)	DSSS Wireless Access Point	LXE	6730 AP	VDF0619Q1M6	KDZLXE6730M
2	Ferrite	Steward	N/A	N/A	N/A.
3	AC Adapter	Cisco Systems	PSA18U-480C	D059038	NONE

3.5 System Block Diagram

Device numbers in block diagram refer to diagram numbers in table 3.4-1 above:

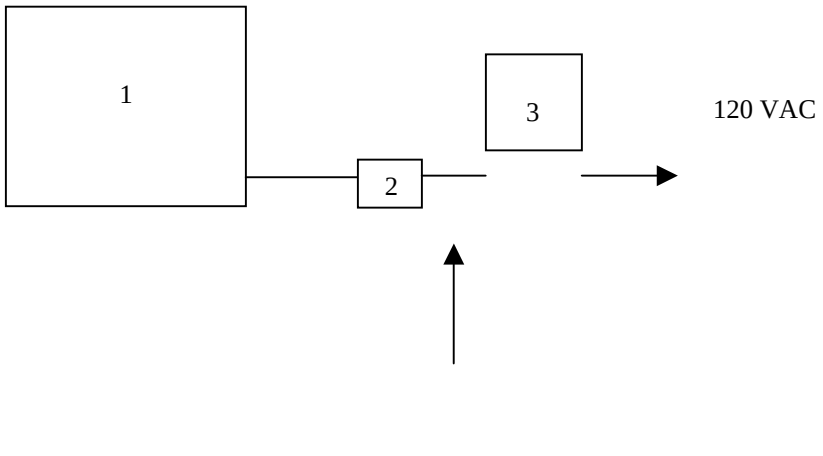

Figure 3.5-1: EUT Set up configuration

3.6 Test Set-up Photographs

3.6.1 Radiated Emissions

NOT APPLICABLE

3.6.2 Conducted Emissions

4.0 Test Results

4.1 Conducted Emissions

The EUT was found to comply with requirements called out under FCC 15.207 Subpart C for conducted emissions. Tabulated conducted emissions data is reported in data tables 4.1-1 below:

FCC Part 15 Data Form 4.1-1

FCC PART 15 CONDUCTED EMISSIONS

DATE: July 5, 2005
EUT: 6730
MODEL #: _____
EUT VOLTAGE: 120 VAC/60 Hz √ 48 VDC _____ OTHER: _____
TYPE OF TEST:

CONDUCTED EMISSIONS

QUASI-PEAK

Frequency (MHz)	Corrected Reading (dBuV)		Limits (dBuV)	Margin (dB)	
	L1	L2		L1	L2
1.169	39.3	38.0	56	16.7	18.0
1.55	31.0	30.3	56	25.0	25.7
2.34	35.2	33.3	56	20.8	22.7
2.752	36.9	35.1	56	19.1	20.9

AVERAGE

Frequency (MHz)	Corrected Reading (dBuV)		Limits (dBuV)	Margin (dB)	
	L1	L2		L1	L2
1.169	38.8	37.8	46	7.2	8.2
1.55	30.7	29.3	46	15.3	16.7
2.34	34.6	32.7	46	11.4	13.3
2.752	36.6	34.8	46	9.4	11.2

Corrected Reading (dBuV) = Uncorrected Reading (dBuV) + Cable Loss + LISN Loss (dB)
Cable Loss + LISN Loss = 2db
Sample Calculation: 37.3 + 2.00 = 39.3
Margin: 56 – 39.3 = 16.7

Comments: _____

Testing Performed By: _____
Cyril A. Binnom Jr.

√ Based on the above results, The EUT meets the FCC Part 15.207 conducted emission limits.

_____ Due to the absence of an input AC power port, this test was deemed unnecessary. EUT is DC powered.

5.0 Conclusion

The product(s) covered by this report has been tested and found to comply with the requirements called out in FCC Part 15 Subpart C Section 15.207.

Prepared by:

Cyril A. Binnom Jr.
EMI/EMC Approvals Engineer
LXE, Inc.
Date: July 5, 2005