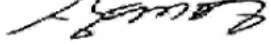
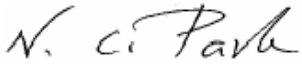
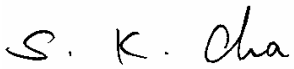
EMC Test Report

According to FCC Part 15 Subpart B

Project No.		**LBE050566**
Equipment under Test		
	Address	516229, Chen Jiang town, Huizhou City, Guangdong Province, China
	Product Name	**Compact Component System**
	Model Name	**CA-HXD7**
	Manufacturer	SAMSUNG ELECTRONICS HUIZHOU CO., LTD
	Brand Name	JVC
	Variant Model	See Page 3
	FCC ID	A3LHXD7
Date of Test		March 22 ~ 23, 2005
Issued Date		March 24, 2005

	Name/Position	Signature
Tested by	Tae Young, Jang Test Engineer	
Reviewed by	No Cheon, Park Manager of EMC Lab.	
Authorized by	Seung Kyu, Cha Chief of EMC Lab.	

1. This test reports does not constitute an endorsement by NIST/NVLAP or U.S Government.
2. This test report is to certify that the tested device properly complies with the requirements of FCC Rules and Regulations Part 15 Subpart B Unintentional Radiators.
   All tests necessary to show compliance to the requirements were and these results met the specifications requirement.

This laboratory is registered by the NIST/NVLAP, U.S.A.
The test reported herein have been performed in accordance with its terms of registration.

NVLAP LAB CODE 200623-0

Table of Contents

1. General Information

1.1 Basic Information related Product

Applicant	SAMSUNG ELECTRONICS HUIZHOU CO., LTD
Model name	CA-HXD7
Applicant Address	516229, Chen Jiang town, Huizhou City, Guangdong Province, China
Contact Person	Oh Won, Seo
Kind of product	**Compact Component Syetem**
Valiant list	None
Manufacturer	SAMSUNG ELECTRONICS HUIZHOU CO., LTD

1.2 Detail Information related Product

Specification

Item(s)	Description
Power Supply	AC 120V, 60Hz
Power consumption	160W/210VA
USB	USB Version 1.1
Dimension	175 mm x 373 mm x 389 mm

1.3 Operating Mode and Condition

The system was configured for testing in typical fashion use. Cables were attached to each of the available I/O Ports. Where applicable, peripherals were attached to the I/O cables. The mode of operation utilized for testing was selected to best simulate typical EUT use.

- USB Streaming

1.4 Equipment Modifications

No equipment modifications were required.

1.5 Test Configuration

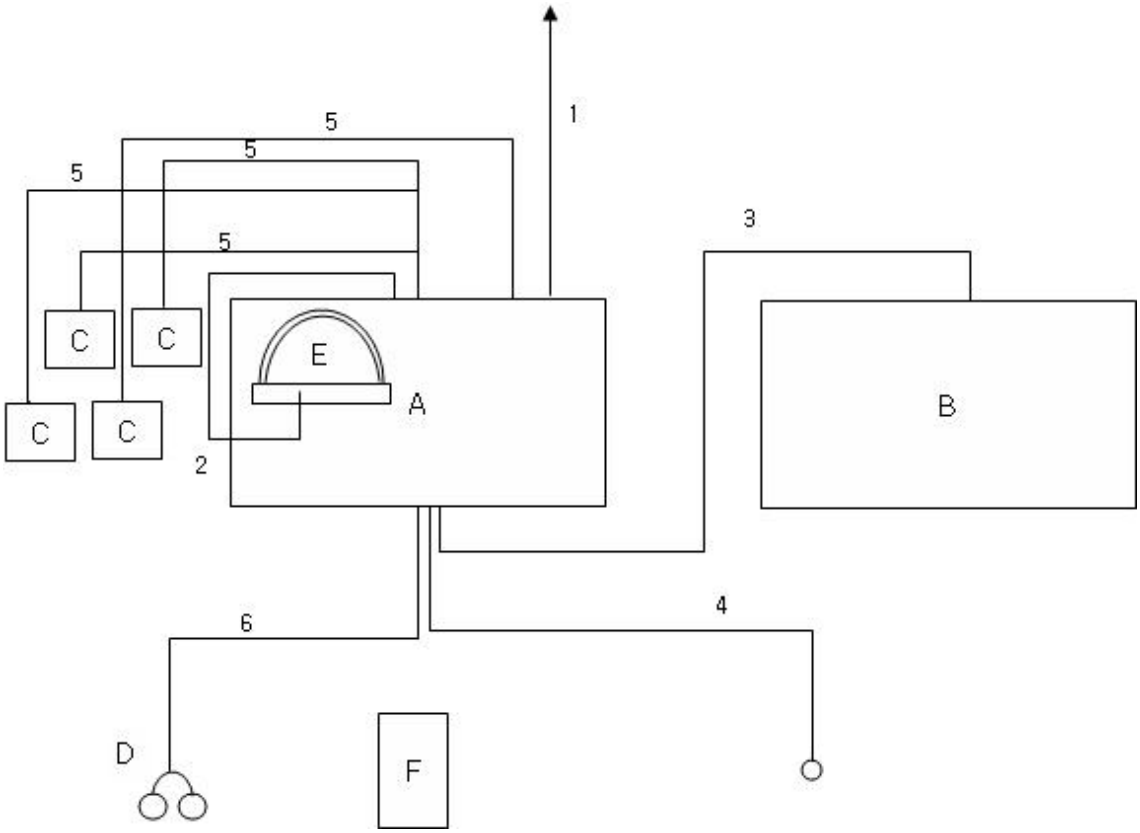
Used EUT and Peripherals

Seq	Device	Model Name	Serial #	Maker	FCC ID
A	Audio Systems	CA-HXD7	-	JVC	A3LAT50L6
B	Note PC	X15	BA68-02276A20	SAMSUNG	DoC
C	Speaker	PSFS6102	-	SAMSUNG	-
D	Head Phone	-	-	SAMSUNG	-
E	Loop Antenna	-	-	JVC	-
F	Remote Controller	-	-	JVC	-

Port Description

	Connect Cable	Length [m]	Shielded [Y/N]	Remark
1	Power	1.5	No	to the Mains
2	Ant 1 in	1.5	Yes	To the SG
3	USB	1.5	Yes	To the PC
4	AUX	1.5	Yes	Not termination
5	Speaker	1.5	No	To the Speaker
6	Headphone	1.5	No	To The Headphone

Block Diagram



1.6 Applied Standards

List

Applied Standards	Test Procedure
FCC Part15 Subpart B	ANSI C63.4 : 2003

1.7 Test Facility

General Information

The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1, 16-2.

This EMC Testing Lab. is accredited by Korea Laboratory Accreditation Scheme(KOLAS) which signed the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) for the above test item(s) and test method(s).

This Lab. is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:1998.

Accreditation and Listing

Uncertainty

(According to NAMAS Pub.NIS81)

Test Item	Expanded Uncertainty
Conducted Emission	±1.64
Radiated Emission	±5.09

2. Summary of Test Results

Result : PASS

The equipment under test(EUT) has been found to comply with the applied standards.

Test Name		Applied Standard	Result
Electromagnetic Emission Test			
3.1	Conducted Emission	FCC Part15 Subpart B	Complied
3.2	Radiated Emission	FCC Part15 Subpart B	Complied

3. Description of Individual Tests

3.1 Conducted Emission

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	March 23, 2005
	Climate Condition	Ambient Temperature : 20.5℃ Relative Humidity : 38%
	Test Place	Shield Room #5

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
L.I.S.N	ESH3-Z5	R&S	100261	2005-07-23	12
Test Software	EP5CE	TOYO	None	N/A	N/A
Spectrum Analyzer	E7405A	Agilent	US4110272	2005-08-26	12
Field strength meter	ESS-30	R&S	844661/005	2006-01-11	12
RF Relais Matrix	PSU	R&S	861206/024	N/A	N/A

EUT Test Setup

The EUT was set up as per normal use on a wooden table 0.4m from a vertical ground reference plane, at least 0.8m from other conduction surfaces and 0.8m from the LISN.

See photo.

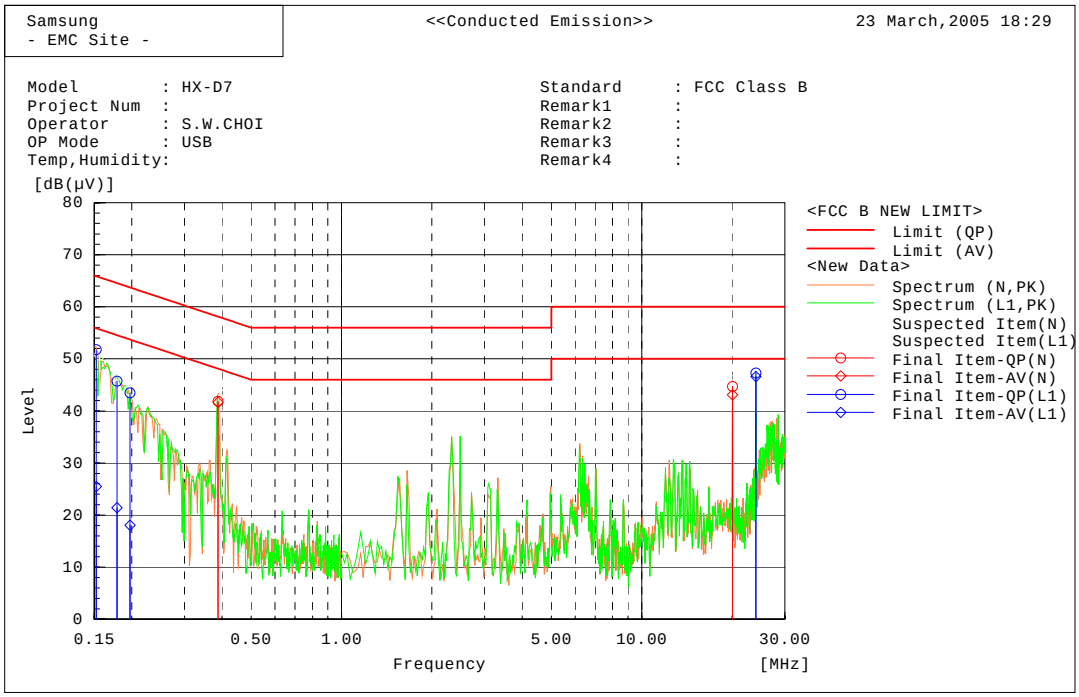
Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

Test Data

■ Operating Mode : USB Streaming

[Graph and Data]



Final Result

--- N Phase ---

No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	0.38751	41.6	41.5	0.2	41.8	41.7	58.1	48.1	16.3	6.4
2	20.072	43.7	42.1	1.0	44.7	43.1	60.0	50.0	15.3	6.9

--- L1 Phase ---

No.	Frequency [MHz]	Reading QP [dB(µV)]	Reading AV [dB(µV)]	c.f [dB]	Result QP [dB(µV)]	Result AV [dB(µV)]	Limit QP [dB(µV)]	Limit AV [dB(µV)]	Margin QP [dB]	Margin AV [dB]
1	0.1523	51.7	25.4	0.1	51.8	25.5	65.9	55.9	14.1	30.4
2	0.17854	45.7	21.3	0.1	45.8	21.4	64.6	54.6	18.9	33.2
3	0.1973	43.4	18.0	0.1	43.5	18.1	63.7	53.7	20.2	35.7
4	24.0015	46.6	45.9	0.7	47.3	46.6	60.0	50.0	12.7	3.4

3.2 Radiated Emission

Test Information		
	Test Engineer	Tae Young, Jang
	Test Date	March 22, 2005
	Climate Condition	Ambient Temperature : 26.5℃ Relative Humidity : 21%
	Test Place	10m Semi-anechoic Chamber

Test Equipments

Equipment	Modal Name	Manufacturer	Serial No.	Calibration	
				Next Date	Interval
RF Selector	NS4900	TOYO	0303-015	N/A	N/A
Biconilog Antenna	6112B	SCHAFFNER	2766	2005-07-06	12
Mast Controller	HD2000	HD	HD20000902027	N/A	N/A
Test Software	EP5RET	TOYO	None	N/A	N/A
Test Software	EP5RE	TOYO	None	N/A	N/A
TV Signal Generator	PM5418-TDSI	PHILIPS	LO627116	2006-01-28	12
Spectrum Analyzer	E7405A	Agilent	MY42000052	2005-08-26	12
EMI Test Receiver	ESCS30	R&S	839809/002	2005-04-28	12

EUT Test Setup

EUT is positioned at 3m from antenna at the center of the table in the semi-anechoic chamber.

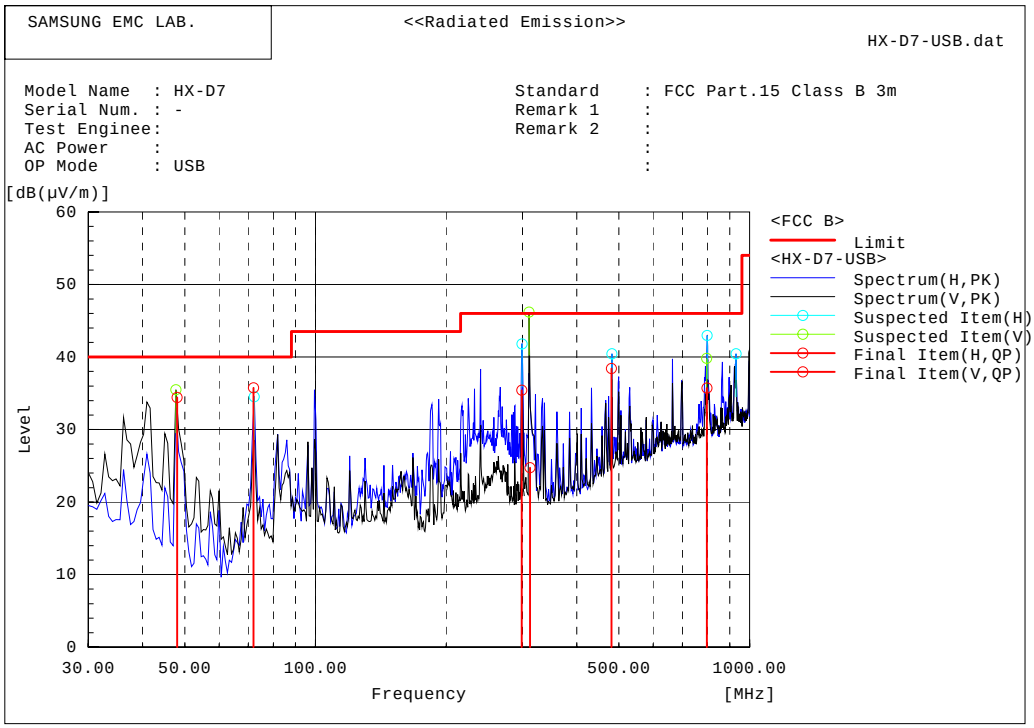
All unused ports were terminated into characteristic loads.

Test Result

Measurement Results	Pass The measured emissions of the EUT have found to be below the specified limits.

Test Data (Local Oscillator)

■ Operating Mode : USB Streaming



Final Result

--- Horizontal Polarization (QP)---

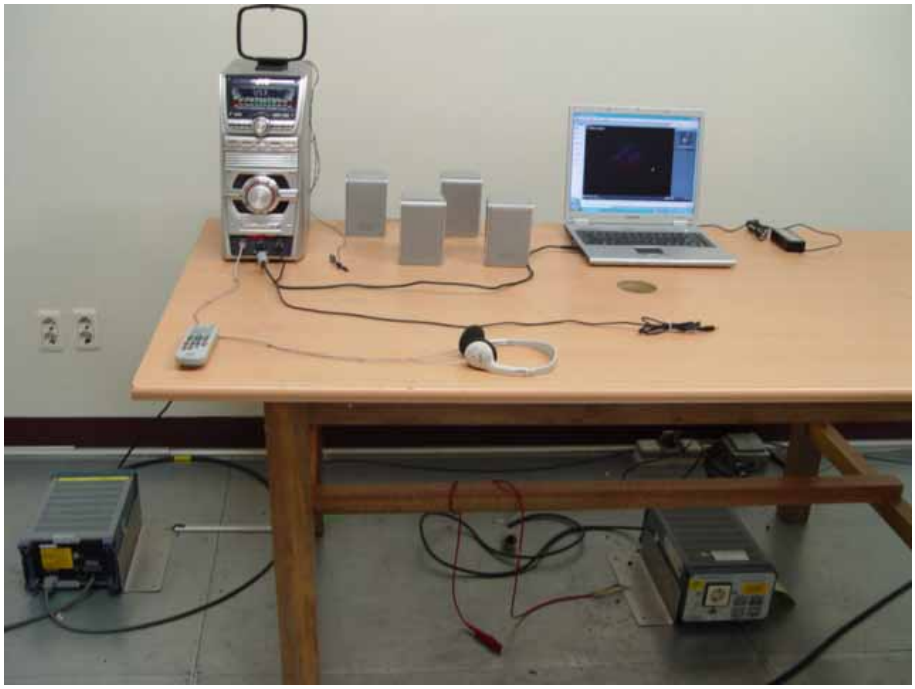
No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	797.595	34.2	1.5	35.7	46.0	10.3	
2	298.907	43.3	-7.9	35.4	46.0	10.6	
3	72.005	55.5	-19.7	35.8	40.0	4.3	
4	480.775	41.7	-3.3	38.4	46.0	7.6	

--- Vertical Polarization (QP)---

No.	Frequency [MHz]	Reading [dB(μV)]	c.f [dB(1/m)]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]	Remark
1	312.040	32.3	-7.6	24.7	46.0	21.3	
2	48.002	51.3	-16.9	34.4	40.0	5.6	

4. Appendix A

4.1 Test Photography



Picture 1. Conducted Emission(Front View)

Picture 1. Conducted Emission(Side View)

Picture 3. Radiated Emission (Front View)

Picture 4. Radiated Emission (Rear View)

4.2 EUT Photography

Picture 5. EUT (front view)

Picture 6. EUT (rear view)