

# EMC TEST REPORT (Class B)

**REGULATORY MODEL NUMBER: 25239** 

**REPORT NUMBER: TAO09075** 

ISSUED DATE: June 19, 2009

Applicant: LSI Corp

6145-D NORTHBELT PKY, NOR CROSS, GA 30071, USA

Manufacturer: LSI Corp

6145-D NORTHBELT PKY, NOR CROSS, GA 30071, USA

Has been tested by Inventec Corp. (Taoyuan) EMC Labs and was found to comply with the EMC requirement on the basis of

### **Technical Standard**

FCC CFR 47 Part 15 Class B RFI
CISPR 22 : 2005 RFI
Canadian ICES-003 RFI

Receipt date of EUT: May 26, 2009

Date of testing: May 26, 2009 ~ June 04, 2009

**NVLAP Approved Signatory** 

Jane Lin EMC Lab Manager

Inventec Corp. (Taoyuan) EMC Labs

NVLAP LAB CODE: 200140-0

The test results in this report only apply to the tested sample.

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#### 1. PRODUCT INFORMATION

### 1.1. PRODUCT DESCRIPTION

Trade Name: LSI

Regulatory Model Number: 25239

Part Number: L2-25239-04A Serial Number: SV91700051

Equipment Type: ITE

Equipment Category: PCI-E SAS HBA Card

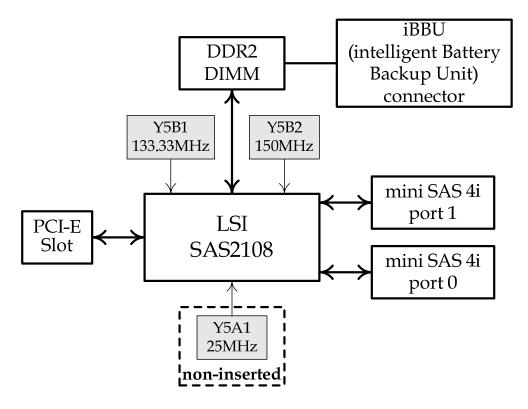
**EUT Condition: DVT** 

#### 1.2. PRODUCT FEATURE

A summary of features as follows:

- > SAS and SATA2 adapter
- ➤ PCI-E 2.0 compliant for ×8 lane slots
- > Two internal, mini SAS 4i SAS/SATA2 connectors
- > 512MB on-board DDR2-800 cache
- PCI low profile form factor compliant
- Connection to attached iBBU (intelligent Battery Backup unit)

#### 1.3. CIRCUIT BLOCK DIAGRAM



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#### 2. TEST INFORMATION

### 2.1. SUMMARY OF TEST RESULTS

The worst data was found as following:

Standard	Test Item	Test Result	Remarks
	Conduction Emission		The worst emission frequency is <u>0.929</u> MHz
Part 15 Class B	( ' )	r ASS	And minimum passing margin is <u>-5.94</u> dB at <u>Neutral</u> , <u>Average</u>
CISPR22: 2005			The worst emission frequency is <u>124.99</u> MHz at <u>Vertical</u>
Canadian	Radiation Emission	PASS	And minimum passing margin is <u>-3.43</u> dB, <u>Quasi-Peak</u>
ICES-003	(Mode 1)	T A33	Height of antenna is <u>1.0</u> m
Class B			Angle of turntable is <u>308</u> deg.

### 2.2. TEST MODE & EUT COMPONEMTS DESCRIPTION

Regulatory Model Number: 25239 (in HOST)

Description	Mode 1
EUT, PCI-E SAS HBA Card	No. 1
HOST, Server System	No. 2
- System Board	No. 3
- CPU	No. 4
- DIMM	No. 5~6
- SAS HDD	No. 7~14
- Power Supply	No. 15

Components internal to the EUT in HOST system chassis for the tested configuration are listed in the table as below:

do below.						
No.	Description	Manufacturer	Model/Part Number	Serial Number		
1	PCI-E SAS HBA Card (FW: 2.0.03-0616)	IESC	L2-25239-04A	SV91700051		
2	Server System	HP	HSTNS-2116	CN784600G5		
3	System Board	HP	1395T2100202	QT8AMQ3088		
4	CPU (2.5GHz/1333MHz)	Intel	Xeon E5420 (Quad Core)	N/A		
5	DIMM (512MB)	SAMSUNG	MT395T6553EZ4-CE65	RB8294KTHWR0BW		
6	DIMM (512MB)	SAMSUNG	MT395T6553EZ4-CE65	RB8294KTHWR0BX		
7	3.5" SAS HDD #1 (73GB)	Seagate	ST373454SS	3KP3MZ30		
8	3.5" SAS HDD #2 (73GB)	Seagate	ST373454SS	3KP3MZ3N		
9	3.5" SAS HDD #3 (73GB)	Seagate	ST373454SS	3KP05XR8		
10	3.5" SAS HDD #4 (73GB)	Seagate	ST373454SS	3KP0764J		
11	3.5" SAS HDD #5 (73GB)	Seagate	ST373454SS	3KP0853X		
12	3.5" SAS HDD #6 (73GB)	Seagate	ST373454SS	3KP08RNS		
13	3.5" SAS HDD #7 (73GB)	Seagate	ST373454SS	3KP08RPD		
14	3.5" SAS HDD #8 (73GB)	Seagate	ST373454SS	3KP08RSH		
15	Power Supply (660W)	DELTA	HSTNS-PD05	ATZD0836895076		

#### 2.2.1. EUT OPERATING CONDITIONS

The EUT should exercise software the same as below during test.

- ➤ Run the program "H" pattern on host server. This program is used to exercise the EUT writing and reading data to all of disk drivers.
- ➤ Run the smasher.exe on host server. This program is used to exercise the EUT with providing data access as will as writing/reading data to all of disk drivers.

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# 2.3. TEST SETUP

### 2.3.1. CABLING CONFIGURATION

Qty	From	То	Model/Part Number	Description	Connector
1	HOST (HSTNS-2116)	DM-1414	N/A	1.3m, shielded (Braid)	Shielded
4	HOST (HSTNS-2116)	F12-UF	E177865-F	1.8m, shielded (Braid)	Shielded
1	HOST (HSTNS-2116)	HSTND-2101-G	E193793	1.8m, shielded (Braid)	Shielded
1	HOST (HSTNS-2116)	AC source	E90165	1.8m, unshielded	Unshielded
2	HOST (HSTNS-2116)	DGS-1024D (HUB)	1074E	4.575m, unshielded, twisted pair	Unshielded

#### 2.3.2. TEST METHODOLOGY

- A. Both conducted and radiated tests were performed according to the following methods and procedures:
- ➤ ANSI C63.4: 2003 Methods of Measurement of Radio-Noise Emissions for Low Voltage Electrical and Electronic Equipment in the range of 9kHz to 40GHz.
- CISPR 22

Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment.

- FCC CFR 47 Part 15 Federal Communications Commission Radio Frequency Devices.
- Canadian ICES-003 Implementation and Interpretation off the Interference-Causing Equipment Standard for Digital Apparatus
- B. Description of departing from standard test method & any other specific: NONE

### 2.3.3. MODIFICATIONS IMPLEMENTED FOR COMPLIANCE

No modifications were made to the equipment under test by Test Laboratory.

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#### 2.3.4. TECHNICAL BASIC FOR COMPLIANCE

It was examined to the following sections of the standards FCC CFR 47 Part 15, Canadian ICES-003 and CISPR 22 underlying the basic requirements of the EMC directive 2004/108/EC.

### 2.3.5. RELATED SUBMITTAL(S) NOTES

- A. The results relate only to the items tested.
- B. The report must not be used by the Server to claim product certification, approval or endorsement by NVLAP or any agency of the federal government.
- C. There are no related submittals to this file.

#### 2.3.6. TEST CONDITION

#### 2.3.6.1 Test of Radiation Emission

The measurement range of radiation emission, which is from 30MHz to 12.5GHz, was investigated. The readings of frequency 30MHz to 1000MHz are measured with a resolution bandwidth of 120kHz according to the methods defines in ANSI C63.4: 2003 and above 1000MHz shall be performed using a minimum resolution bandwidth of 1MHz defines in FCC 15.35(b). The EUT was placed on a metallic stand, 0.8 meter above the ground plane, as shown in section 4.5.

The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

#### 2.3.6.2 Test of Conducted Emission

Conducted emissions were measured from 0.15MHz to 30MHz with a resolution bandwidth of 9kHz and return leads of the EUT according to the methods defines in ANSI C63.4: 2003.

The EUT was placed on a nonmetallic stand in a shielded room, 0.8 meter above the ground plane, as shown in section 3.5. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum conducted emissions.

### 2.4. TEST FACILITY

The Inventec Corp. (Taoyuan) EMC labs' open area test site located at: 14, 5 Lin, Hsin-feng Li, Tachi, Taoyuan, Taiwan, Republic of China. The Lab has a turntable with a diameter at maximum 2 meters and can measure ITE products at the 3 and 10 meters of antenna distance.

A site description and calibration report to ANSI C63.4 is available upon request. It is authorized for testing ITE devices by NVLAP, NEMKO, TAF (BSMI) and VCCI.

EMC Laboratory Accreditation:

BSMI EMI Testing Lab: SL2-IN-E-0009

NVLAP Lab Code: 200140-0

Nemko ELA No. 127

VCCI Registration No. R-349, C-362, T185 (TAO Test Site)

R-350, C-363, T320 (TA2 Test Site)

TAF Accreditation No. 1119

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### 3. CONDUCTION EMISSION MEASUREMENT

### 3.1. TEST LIMIT, FCC CFR 47 PART 15 Class B/CISPR 22 Class B

Frequency	Limit [dB(μV)]			
(MHz)	Quasi-Peak	Average		
0.15 ~ 0.50	66 ~ 56*	56 ~ 46*		
0.50 ~ 5	56	46		
5 ~ 30	60	50		

Note: 1. \* Decreases with the logarithm of the frequency.

- 2. The lower limit shall apply at the transition frequency.
- 3. The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

# 3.2. TEST INSTRUMENTS

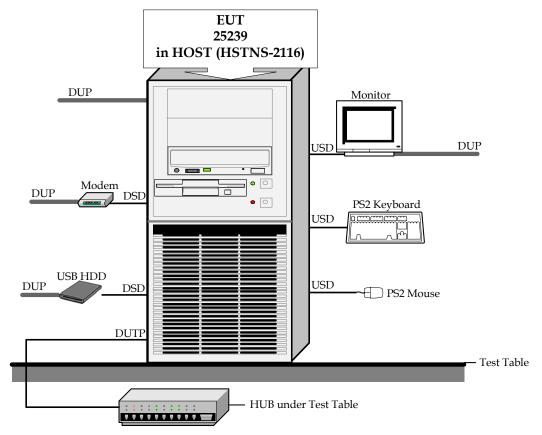
Name	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	Rohde & Schwarz	ESIB 40	100108	18-Jun-2008	09-Jun-2009
LISN (for HOST)	EMCO	3825/2	9405-2196	10-Mar-2009	04-Mar-2010
LISN (for Peripheral)	EMCO	3825/2	1416	10-Mar-2009	04-Mar-2010
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	0357.8810.54	18-Nov-2008	16-Nov-2009
Terminator x 3 (50 ohms)		N/A	N/A	10-Mar-2009	04-Mar-2010
RF Cable		N/A	N/A	05-Mar-2009	04-Mar-2010
EMI Test Program		EMI 3 (Ver. D)	N/A	N/A	N/A

### 3.3. SUPPORT TEST PERIPHERALS

Name	Manufacturer	Model/Part Number	Serial Number	ID or DoC
HOST	HP	HSTNS-2116	CN784600G5	DoC
Monitor	COMPAQ	MV900	904GA19EC186	DoC
PS2 Mouse	Logitech	M-S34	LC84650158	DZL211029
PS2 Keyboard	COMPAQ	KB-9965	B0A090NGAM10VA	DoC
Modem	ACEEX	DM-1414	0202003559	IFAXDM1414
USB HDD	TeraSys	F12-UF	A0100215-2A10036	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0008	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0009	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0001	DoC
HUB	D-link	DGS-1024D	DRC5368000357	DoC

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### 3.4. BLOCK DIAGRAM OF CONNECTION BETWEEN EUT AND TEST PERIPHERAL



Legend:

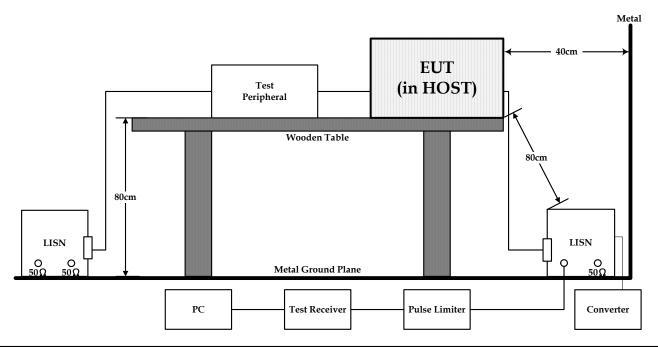
USD = Undetachable Shielded Data cable

DSD = Detachable Shielded Data cable

DUP = Detachable Unshielded Power cord

DUTP = Detachable Unshielded Twisted Pair cable

#### 3.5. BLOCK DIAGRAM OF TEST SETUP



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### 3.6. TEST DATA

Data Log : O3906041	Date of Test: Jun 04, 2009	Tested By: Sean Chen
EUT: 25239 (in HOST)	Test Mode: Mode 1	Main: 120V/60Hz
Temperature (°C): 25	Humidity (%): 82	Frequency Range: 0.15MHz~30MHz

Freq.	Reading	Correction	Conducted	Ave.	Ave.	QP	QP	Phase	PK/
(MHz)	Level	Factor	Emission	Limit	Delta	Limit	Delta		QP/
	dΒμV	dB	dΒμV	dB(μV)	dB	dB(μV)	dB		AV
0.207	43.86	9.93	53.79	53.32	N/A	63.32	-9.53	L1	QP
0.207	33.89	9.93	43.82	53.32	-9.5	63.32	N/A	L1	AV
0.276	33.89	9.94	43.83	50.93	N/A	60.93	-17.1	L1	QP
0.276	23.51	9.94	33.45	50.93	-17.48	60.93	N/A	L1	AV
0.31	31.36	9.95	41.31	49.97	N/A	59.97	-18.66	L1	QP
0.31	31.07	9.95	41.02	49.97	-8.95	59.97	N/A	L1	AV
0.929	30.42	9.89	40.31	46	N/A	56	-15.69	L2	QP
0.929	30.17	9.89	40.06	46	-5.94	56	N/A	L2	AV
1.548	29.76	10	39.76	46	N/A	56	-16.24	L2	QP
1.548	29.21	10	39.21	46	-6.79	56	N/A	L2	AV
2.168	28.29	10.1	38.39	46	N/A	56	-17.61	L2	QP
2.168	27.79	10.1	37.89	46	-8.11	56	N/A	L2	AV
7.716	30.58	10.22	40.8	50	N/A	60	-19.2	L1	QP
7.716	20.98	10.22	31.2	50	-18.8	60	N/A	L1	AV
16.468	37.04	10.37	47.41	50	N/A	60	-12.59	L1	QP
16.468	29.14	10.37	39.51	50	-10.49	60	N/A	L1	AV

#### Remark:

- 1. Peak, Ave. and QP signifies the measurement detector used for performing measurements.
- 2. Negative number in the margin column indicates the amount (in dB) that the recorded emission is below the limit.
- 3. L1 indicates the live of phase line, L2 denotes the neutral line.

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### 3.7. CALCULATION

- 1. Freq. (MHz), means Conducted Emission frequency.
- 2. Reading Level ( $dB\mu V$ ), means the reading of Analyzer or Test Receiver.
- 3. Correction Factor (dB), means the value of LISN Loss add Cable Loss.
- 4. Conducted Emission (dB $\mu$ V), means the values of Reading Level add CF added. CE=RL+CF
- 5. Ave. Limit (dBµV), means Limit stated in Standard.
- 6. Ave. Delta (dB), Reading in reference to Limit. AD=CE AL

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#### 4. RADIATION EMISSION MEASUREMENT

### 4.1. TEST LIMIT, CISPR 22 Class B

Frequency (MHz)	Distance (Meter)	Field Strength dB(μV/m)
30 ~ 230	10	30
230 ~ 1000	10	37

Note: 1. The lower limit shall apply at the transition frequency.

### TEST LIMIT, FCC CFR 47 Part 15 Class B

Frequency	Distance	Field Strength
(MHz)	(Meter)	dB(μV/m)
Above 1000	3	54

Note: 1. The lower limit shall apply at the transition frequency.

#### 4.2. TEST INSTRUMENTS

Name	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due
Receiver	Rohde & Schwarz	ESIB 40	100108	18-Jun-2008	09-Jun-2009
Bilog Antenna	Schaffner	CBL6112B	2675	25-May-2009	12-May-2010
Horn Antenna	Com-Power	AH-118	071000	05-Sep-2008	30-Aug-2009
Amplifier (under 1G)	Hewlett Packard	8447D	2443A04003	08-Jul-2008	30-Jun-2009
Amplifier (above 1G)	Agilent	8449B	3008A01651	14-Oct-2008	06-Oct-2009
OATS	Inventec (Taoyuan)	TAO Site	N/A	25-Nov-2008	24-Nov-2010
RF Cable x 2	SUCOFLEX	104	N/A	08-Jul-2008	30-Jun-2009
RF Cable		N/A	N/A	05-Mar-2009	04-Mar-2010
EMI Test Program		EMI 3 (Ver. D)	N/A	N/A	N/A

### 4.3. SUPPORT TEST PERIPHERALS

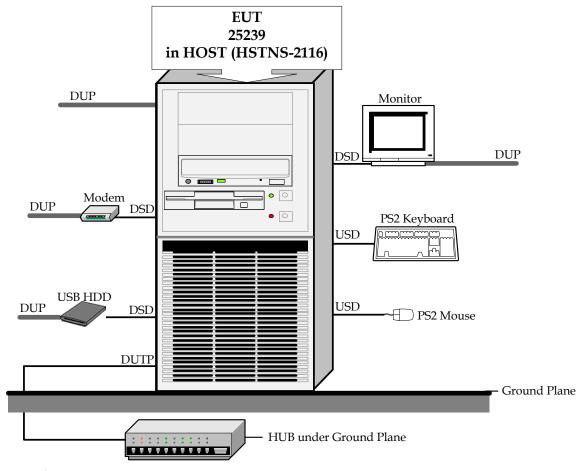
Name	Manufacturer	Model/Part Number	Model/Part Number Serial Number	
HOST	HP	HSTNS-2116	CN784600G5	DoC
Monitor	HP	HSTND-2101-G	CNG82107DC	BEJLH2065H
PS2 Mouse	Logitech	M-S34	LC84650158	DZL211029
PS2 Keyboard	COMPAQ	KB-9965	B0A090NGAM10VA	DoC
Modem	ACEEX	DM-1414	0202003559	IFAXDM1414
USB HDD	TeraSys	F12-UF	A0100215-2A10036	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0008	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0009	DoC
USB HDD	TeraSys	F12-UF	A0100215-2CJ0001	DoC
HUB	D-link	DGS-1024D	DRC5368000357	DoC

<sup>2.</sup> Additional provisions may be required for cases where interference occurs.

<sup>2.</sup> Additional provisions may be required for cases where interference occurs.

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### 4.4. BLOCK DIAGRAM OF RADIATION BETWEEN EUT AND TEST PERIPHERAL



Legend:

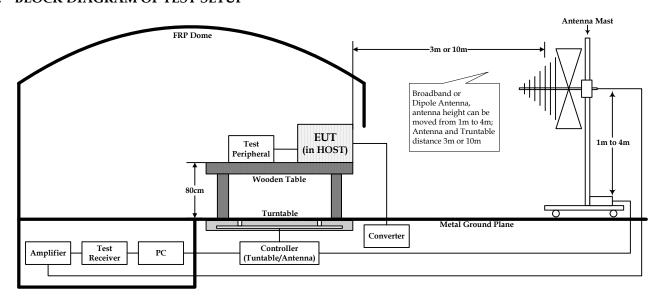
USD = Undetachable Shielded Data cable

DSD = Detachable Shielded Data cable

DUP = Detachable Unshielded Power cord

DUTP = Detachable Unshielded Twisted Pair cable

# 4.5. BLOCK DIAGRAM OF TEST SETUP



Address: 255, Jen-Ho Road Sec.2 Tachi, Taoyuan, Taiwan, R.O.C.

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### 4.6. TEST DATA

Data Log : O2906031	Date of Test: Jun 03, 2009	Tested By: Sean Chen
EUT: 25239 (in HOST)	Test Mode: Mode 1	Main: 110V/60Hz
Temperature (°C): 28	Humidity (%): 65	Frequency Range: 30MHz~1000MHz

Freq.	Reading	Total	Field	Limit	Delta	Ant.	Antenna	Table	PK/
(MHz)	dΒμV	Factor	Strength			Pol.	Height	Ang.	QP
		(dB/m)	dBμV/m	dB(μV/m)	dB		(cm)	(deg)	
33.98	32.03	-9.34	22.69	30	-7.31	V	100	0	QP
45.81	41.82	-15.52	26.3	30	-3.7	V	100	358	QP
55.41	40.85	-18.67	22.18	30	-7.82	V	100	211	QP
124.99	40.12	-13.55	26.57	30	-3.43	V	100	308	QP
159.99	41.43	-14.93	26.5	30	-3.5	V	100	341	QP
239.99	44.39	-13.34	31.05	37	-5.95	Н	382	10	QP
400.64	36.89	-7.54	29.35	37	-7.65	Н	208	284	QP
599.99	34.83	-2.73	32.1	37	-4.9	Н	143	332	QP
666.65	30.54	-2.09	28.45	37	-8.55	V	313	285	QP
1000	28.29	2.23	30.52	37	-6.48	V	163	294	QP

#### Remark:

- 1. Negative number in the margin column indicates the amount (in dB) that the recorded emission is below the limit.
- 2. V means in Vertical Antenna Polarization, H means in Horizontal, and PK means in Peak, QP means in Quasi-Peak.
- 3. Compliance testing performed at 110 Vac has been determined to be representative of what world be measured at 120 Vac.

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Data Log : O1906031	Date of Test: Jun 03, 2009	Tested By: Sean Chen
EUT: 25239 (in HOST)	Test Mode: Mode 1	Main: 110V/60Hz
Temperature (°C): 28	Humidity (%): 65	Frequency Range: Above 1000MHz

Freq.	Reading	Total	Field	Limit	Delta	Ant.	Antenna	Table	PK/
(MHz)	dΒμV	Factor	Strength			Pol.	Height	Ang.	AV
		(dB/m)	dBμV/m	$dB(\mu V/m)$	dB		(cm)	(deg)	
1500.14	46.49	-7.86	38.63	54	-15.37	Н	100	234	AV
2000.14	39.49	-3.73	35.76	54	-18.24	Н	178	65	AV
2196.32	47.22	-3.72	43.5	54	-10.5	Н	100	19	AV
2500.13	44.44	-3.69	40.75	54	-13.25	Н	100	164	AV
3000	48	-2.61	45.39	54	-8.61	Н	103	324	AV
5000.13	39.31	2.42	41.73	54	-12.27	V	100	199	AV
6000	40.42	3.25	43.67	54	-10.33	Н	103	355	AV
7500.13	34.67	9.25	43.92	54	-10.08	V	100	176	AV
9000.03	36.72	8.46	45.18	54	-8.82	Н	100	202	AV

# Remark:

- 1. Negative number in the margin column indicates the amount (in dB) that the recorded emission is below the limit.
- 2. V means in Vertical Antenna Polarization, H means in Horizontal, and PK means in Peak, AV means in Average.
- 4. Compliance testing performed at 110 Vac has been determined to be representative of what world be measured at 120 Vac.

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#### 4.7. CALCULATION

The field strength is calculated by adding the Total Factor to the receiver or analyzer reading to determine the resultant field strength.

The Total Factor is determined by adding the antenna factor and the loss of the cables connection the antenna to the receiver.

Front-end amplifier gain - if any - is accounted for in the receiver reading.

The basic equation with a sample calculation is as follows:

 $FS (dB\mu V/m) = RA (dB\mu V) + TF (dB/m)$ 

The sum of Total Factor is measured mean Antenna Factor, Cable Loss Factor and Amplifier Gain TF = AF + CL - AG

FS = Field Strength

AF = Antenna Factor

CL = Cable Loss Factor

RA = Receiver Amplitude

AG = Amplifier Gain

The difference between Field Strength and Test Limit, Delta (dB) = FS - Limit [dB( $\mu$ V/m)]

Assume a receiver reading of 22dBµV is obtained.

The Antenna factor of 7.4dB and a cable loss factor of 1.1dB are added to yield 8.5dB Total Factor.

The Calculated Field Strength is the sum of  $22 + 8.5 = 30.5 dB\mu V/m$ .

All values are listed as dB, either referenced to  $1\mu V$  or  $1\mu V/m$ .

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# 5. UNCERTAINTY OF EMI TEST SITE

Conducted Disturbances from 150kHz to 30 MHz

Source of Uncertainty	Value (dB)	Probability distribution	ui(y)
Receiver reading	0.1	normal k=1	0.100
Attenuation: AMN-Receiver	0.5	normal k=2	0.250
AMN voltage division factor	1.2	normal k=2	0.600
Receiver corrections:			
Sine wave voltage	1.0	normal k=2	0.500
Pulse amplitude response	1.5	Rectangular	0.866
Pulse repetition rate response	1.5	Rectangular	0.866
Noise floor proximity	0.0	Rectangular	0.000
Mismatch(-): AMN-Receiver	-0.036	U-shaped	-0.026
Receiver VRC	0.091	-	
AMN VRC	0.046	-	
AMN impedance	-2.7	Triangular	-1.102
Measurement System Repeatability	0.009	normal k=1	0.009
(previous assessment of $S(q_{k})$ from 15 repeats)			
Combined Standard Uncertainty		normal k=1	1.843
Expanded Uncertainty (Total Uncertainty @95% min. Confidence level)		normal k=2	3.69

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Radiated Measurement (Bi-Log Antenna) frequency range 30MHz to 1000MHz

Source of Uncertainty	Value (dB)	Probability distribution	u <sub>i</sub> (y)
Receiver reading	0.1	normal k=1	0.100
Attenuation: Antenna-Receiver	0.5	normal k=2	0.250
Bi-Log antenna factor	1.5	normal k=2	0.750
Receiver corrections:			
Sine wave voltage	1.0	normal k=2	0.500
Pulse amplitude response	1.5	Rectangular	0.866
Pulse repetition rate response	1.5	Rectangular	0.866
Noise floor proximity	0.5	normal k=2	0.250
Mismatch(-): Antenna-Receiver	-0.267	U-shaped	-0.189
Receiver VRC	0.091	-	
Antenna VRC	0.333	-	
Bi-Log antenna corrections:			
AF frequency interpolation	0.3	Rectangular	0.173
AF height deviations	0.3	Rectangular	0.173
Directivity difference at 10m	1.0	Rectangular	0.577
Phase center location at 10m	0.3	Rectangular	0.173
Cross-polarization	0.9	Rectangular	0.520
Balance	0.0	Rectangular	0.000
Site corrections:			
Site imperfections	4.0	Triangular	1.633
Separation distance at 10m	0.1	Rectangular	0.058
Table height at 10m	0.1	normal k=2	0.050
Measurement System Repeatability	0.009	normal k=1	0.009
(previous assessment of $S(q_{k})$ from 15 repeats)			
Combined Standard Uncertainty 10m		normal k=1	2.418
Expanded Uncertainty 10m (Total Uncertainty @95% min. Confidence level)		normal k=2	4.84

Measurement uncertainty result and comparison with the test method standards:  $U_{lab}$  is less than or equal to  $U_{cispr}$  as defined in CISPR 16-4-2 table 1.

Therefore compliance is deemed to occur as no measured disturbance exceeds the disturbance limit and the uncertainty of Inventec lab ( $U_{lab}$ ) is less than the allowed industry standard value ( $U_{CISPR}$ ).

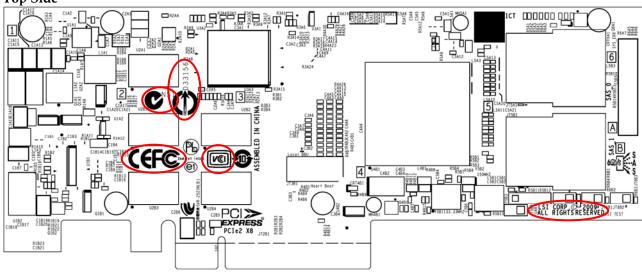
Review of our Uncertainty  $U_{lab}$  indicates it is well below that allowed in the CISPR standards (CISPR 22 and CISPR 16-4-2) demonstrating our laboratory good control.

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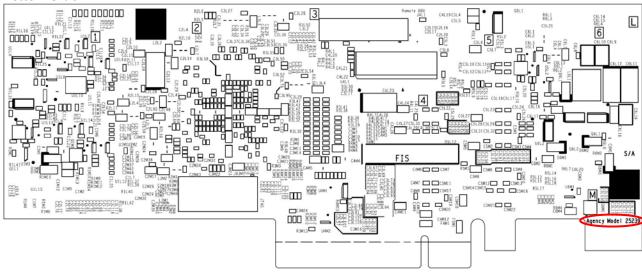
### 6. PRODUCT LABELING

### 6.1. ID LABEL SPECIFICATION

### Top Side



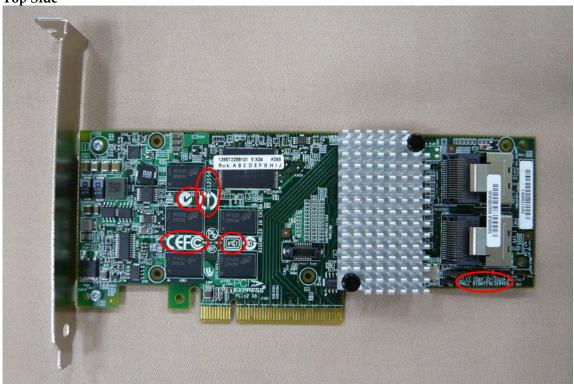
### **Bottom Side**



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# 6.2. LOCATION OF THE LABEL ON EUT

Top Side







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# 7. PHOTOGRAPHS

**Front View of Radiated Test** 



**Rear View of Radiated Test** 



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# Front View of Conducted Test



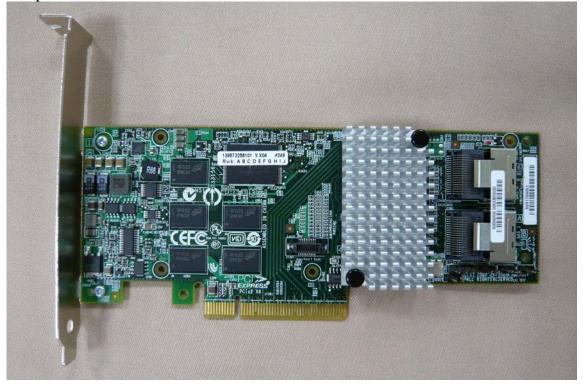
**Side View of Conducted Test** 







**Component Side of EUT** 



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# **Bottom Side of EUT**

