### EMC TEST REPORT

for

### GLOBTEK, INC.

### Switching Adapter

Model Number : GT-81083-0404-AUS-X.X-ZZZ GT-81083-0506-AUS-X.X-ZZZ GT-81083-0509-AUS-X.X-ZZZ GT-81083-0513-AUS-X.X-ZZZ GT-81083-0404-AEU-X.X-ZZZ GT-81083-0506-AEU-X.X-ZZZ GT-81083-0509-AEU-X.X-ZZZ GT-81083-0513-AEU-X.X-ZZZ GT-81083-0404-X.X-ZZZ GT-81083-0506-X.X-ZZZ GT-81083-0509-X.X-ZZZ GT-81083-0513-X.X-ZZZ X.X is subtracted from output voltage in 0.1 increments; ZZZ is either W2-NA/Japan, W2E-Euro, W2U-UK, W2A-Australia, W2K-Korean, W2C-China.

Prepared for : GLOBTEK, INC.
Address : 186 VETERANS DRIVE, NORTHVALE, N.J. 07647 U.S.A.
Prepared By : NS Technology Co., Ltd.
Address : Chenwu Industrial Zone, Houjie Town, Dongguan City,
Guangdong, China
Tel: 86-769-85935656

Supplement to Report Number: NSE-V0604036Project No.: NSE-E08082368Date of Test: Aug. 13, 2008Date of Report: Aug. 15, 2008

Fax: 86-769-85991080



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## NS Technology Co., Ltd.

Applicant:	GLOBTEK, INC.						
Address:	186 VETERANS DRIVE	, NORTHVALE, N.J.	07647 U.S.A.				
Manufacturer:	Dee Van Electronics (She						
Address:	The 5 <sup>th</sup> Industrial District, Gongming, Bao An District Shenzhen,						
	Guangdong 518106 P.R.		,				
E.U.T:	Switching Adapter						
Model Number: GT-81083-0404-AUS-X.X-ZZZ GT-81083-0506-AUS-X.X-ZZZ							
	GT-81083-0509-AUS-X.2	X-ZZZ GT-81083-0	513-AUS-X.X-ZZZ				
	GT-81083-0404-AEU-X.	X-ZZZ GT-81083-0	0506-AEU-X.X-ZZZ				
	GT-81083-0509-AEU-X.2	X-ZZZ GT-81083-0	513-AEU-X.X-ZZZ				
	GT-81083-0404-X.X-ZZZ	Z GT-81083-0	)506-X.X-ZZZ				
	GT-81083-0509-X.X-ZZZ	Z GT-81083-0	)513-X.X-ZZZ				
	X.X is subtracted from ou						
	ZZZ is either W2-NA/Jap		-UK, W2A-Australia,				
	W2K-Korean,W2C-China	ì.					
Trade Name:	GlobTek; Inc.	Serial No.:					
Date of Receipt:	Aug. 12, 2008	Date of Test:	Aug. 13, 2008				
Test Specification:	EN 55022:2006 Class B						
	CISPR 22:2005 Class B						
	EN 61000-3-2:2006						
	EN 61000-3-3:1995+A1:2001+A2:2005						
	EN 55024:1998+A1:2001+A2:2003						
	CISPR 24:1997+A1:2001+A2:2002 - EN 61000-4-2:1995+A1:1998+A2:2001						
	-EN 61000-4-2:1995+A1:1998+A2:2001 -EN 61000-4-3:2002+A1:2002						
	-EN 61000-4-3:2002+A1:2002 EN 61000-4-4: 2004						
	-EN 61000-4-5:1995+A1:2001 -EN 61000-4-6:1996+A1:2001						
	-EN 61000-4-8:1993+A1:2001						
	-EN 61000-4-11: 20						
	The equipment under test		pliance with the				
Test Result:	requirements of the standa		phanee with the				
	requirements of the stand	ards appried.					
		Issue Dat	e: Aug. 15, 2008				
Tested by:	Reviewed by:		Approved by:				
	T 11		1 1.0				
Mart	Trementh	L _	alaulor				
	Daniel		/0				
Mark / Engineer	Iceman Hu / Super	visor	Steven Lee / Manager				
Other Aspects:							
Amendment Purpose	for Switching Adapter as fo	llows: Only change th	ne applicant,				
manufacturer, trade r	ame, model No. and so on	h base on the report N	SE-V0604036.				
Abbreviations: OK/P=passed		*	equipment under tested				
-	single evaluation of one sample of						
1	written approval of NS Technolo	•	, , , , , , , , , , , , , , , , , , ,				

### **1. GENERAL PRODUCT INFORMATION**

1.1. Product Function

Refer to Technical Construction Form and User Manual.

1.2. Description of Device (EUT)

Description	:	Switching Adapter
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
System Input Voltage	:	100V~240V, 50/60Hz
Rated Current	:	0.2A
DC Line	:	Unshielded, Undetachable 1.8m

#### 1.3. Difference between Model Numbers

*Notes:* The model numbers are different only for the output and input. But the PCB boards are identical.

#### 1.4. Independent Operation Modes

The basic operation modes are:

- 1.4.1. Full Load
- 1.4.2. Half Load
- 1.4.3. No Load



### 2. TEST SITES

2.1. Test Facilities		
EMC Lab	:	Certificated by TUV Rheinland, Germany. Date of registration: July 28, 2003
		Certificated by FCC, USA Registration No.: 897109 Date of registration: October 10, 2003
		Certificated by VCCI, Japan Registration No.: R-1798 & C-1926 Date of registration: January 30, 2004
		Certificated by CNAL, CHINA Registration No.: L1744 Date of registration: November 25, 2004
		Certificated by Intertek ETL SEMKO Registration No.: TMP-013 Date of registration: June 11, 2005
		Certificated by TUV/PS, Hong Kong Date of registration: December 1, 2005
Name of Firm	:	NS Technology Co., Ltd.
Site Location	:	Chenwu Industrial Zone, Houjie Town, Dongguan City, Guangdong, China



#### 2.2. List of Test and Measurement Instruments

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100199	Mar.20,08	Mar.20,09
L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	100071	Mar.20,08	Mar.20,09
L.I.S.N.#2(AUX)	Rohde & Schwarz	ESH3-Z5	100317	Mar.20,08	Mar.20,09

2.2.1. For conducted emission at the mains terminal test

2.2.2. For radiated emission test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Test Receiver	Rohde & Schwarz	ESCS30	100340	Mar.20,08	Mar.20,09
Spectrum Analyzer	HP	8593E	3448U00806	Mar.20,08	Mar.20,09
Amplifier	Agilent	8447D	2944A10488	May 2,08	May 2,09
Bilog Antenna	EMCO	3142B	00022050	May 2,08	May 2,09

2.2.3. For harmonic current emissions and voltage fluctuations/flicker test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Analyzer	California Instrument	PACS-1	72134	Apr.8,08	Apr.8,09
Voltage Source	California Instrument	5001ix-400	55194	Apr.8,08	Apr.8,09

2.2.4. For electrostatic discharge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
ESD Generator	HAEFELY	PESD1610	H301530	Apr.8,08	Apr.8,09

2.2.5. For radio frequency electromagnetic field immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Signal Generator	HP	8648A	3426A01263	Apr.8,08	Apr.8,09
Amplifier	A&R	500A100	17034	May 2,08	May 2,09
Amplifier	A&R	100W/1000M1	17028	May 2,08	May 2,09
Isotropic Field Monitor	A&R	FM2000	16829	May 2,08	May 2,09
Isotropic Field Probe	A&R	FP2000	16755	May 2,08	May 2,09
Biconic Antenna	EMCO	3108	9507-2534	May 2,08	May 2,09
Log-periodic Antenna	A&R	AT1080	16812	May 2,08	May 2,09

2.2.6. For electrical fast transient/burst immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EFT Generator	HAEFELY	PEFT4010	150546	Apr.8,08	Apr.8,09
EFT Coupling Clamp	HAEFELY	IP4A	150407	Apr.8,08	Apr.8,09

2.2.7. For surge immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Surge Controller	HAEFELY	PSURGE8000	150336	Apr.8,08	Apr.8,09
Surge Impulse Module	HAEFELY	PIM100	150007	Apr.8,08	Apr.8,09
Surge Coupling Module	HAEFELY	PCD100	149870	Apr.8,08	Apr.8,09



2.2.8. For injected currents susceptibility test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Signal Generator	HP	8648A	3426A01263	Apr.8,08	Apr.8,09
Amplifier	HAEFELY	PAMP250	149594	May 2,08	May 2,09
CDN	Luthi	L-801M2/M3	2015	May 2,08	May 2,09

2.2.9. For power frequency magnetic field immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Magnetic Field Tester	HAEFELY	MAG100.1	150579	May 2,08	May 2,09

2.2.10.For voltage dips and short interruptions immunity test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
DIPS Tester	HAEFELY	PLINE 1610	150370	Apr.8,08	Apr.8,09



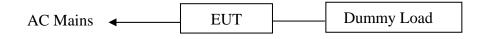
### 3. TEST SET-UP AND OPERATION MODES

### 3.1. Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted accordingly in reference to the Operating Instructions.

### 3.2. Block Diagram of Test Set-up

System Diagram of Connections Between EUT and Simulators



(EUT: Switching Adapter)

- 3.3. Test Operation Mode and Test Software Refer to Test Setup in clause 4 & 5.
- 3.4. Special Accessories and Auxiliary Equipment None.
- 3.5. Countermeasures to Achieve EMC Compliance None.



### 4. EMISSION TEST RESULTS

#### 4.1. Conducted Emission at the Mains Terminals Test

RESULT	:	Pass
Test procedure	:	CISPR 22:2005 Class B
Frequency range	:	0.15~30MHz
Test Site	:	Shielded Room
Limits	:	CISPR 22:2005 Class B

#### **Test Setup**

Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz, AC 100V/60Hz
Operation Mode	:	Full Load / Half Load / No Load

The EUT was put on a wooden table which was 0.8metre high above the ground and connected to the AC mains through a Artificial Mains Network (A.M.N). The mains lead in excess of 1 m separating the EUT from the AMN was folded back and forth parallel to the lead so as to form a bundle with a length of 0.3m to 0.4m.

The EUT was kept 0.4m from any other earthed conducting surface. Both sides of AC line were checked to find out the maximum conducted emission levels according to the test procedure during conducted emission test.

The bandwidth of the test receiver (R&S ESCS30) was set at 9KHz.

The frequency range from 150 KHz to 30 MHz was investigated.

The test data of the worst case condition(s) was reported on the following page. All the scanning waveform were attached within Appendix I.



### **Test Data**

EUT:	Switching Adapter	Temperature:	24°C
M/N:	GT-81083-0506-1.0-W2E	Humidity:	54%
Test Mode:	Full Load	Test Engineer:	Mark
Input Voltage:	AC 230V/50Hz	_	

Conducted Emission at The Mains Terminals					
Frequency	]	Reading (dBµ	V)	Limit (	dBµV)
(MHz)	Quasi-Peak	Average	Ports	Quasi-Peak	Average
0.19	51.4	43.6	Neutral	64.0	54.0
0.26	48.5	39.3	Neutral	61.4	51.4
0.32	47.7	38.6	Neutral	59.7	49.7
0.46	50.7	36.3	Neutral	56.7	46.7
0.72	48.2	34.1	Neutral	56.0	46.0
1.55	48.7	34.8	Neutral	56.0	46.0
0.19	47.8	37.6	Line	64.0	54.0
0.32	44.1	33.4	Line	59.7	49.7
0.74	46.3	33.7	Line	56.0	46.0
1.65	47.2	34.2	Line	56.0	46.0
2.57	43.0	35.4	Line	56.0	46.0
4.95	40.9	35.6	Line	56.0	46.0



### **Test Data**

EUT:	Switching Adapter	Temperature:	24°C
M/N:	GT-81083-0506-1.0-W2E	Humidity:	54%
Test Mode:	Full Load	Test Engineer:	Mark
Input Voltage:	AC 100V/60Hz	_	

Conducted Emission at The Mains Terminals					
Frequency	]	Reading (dBµ	V)	Limit (	dBµV)
(MHz)	Quasi-Peak	Average	Ports	Quasi-Peak	Average
0.20	43.1	33.3	Neutral	63.6	53.6
0.38	43.7	31.6	Neutral	58.3	48.3
0.44	44.1	33.6	Neutral	57.1	47.1
0.87	38.1	27.9	Neutral	56.0	46.0
2.65	39.3	30.1	Neutral	56.0	46.0
4.66	36.3	26.4	Neutral	56.0	46.0
0.19	44.3	31.4	Line	64.0	54.0
0.37	42.6	29.7	Line	58.5	48.5
0.45	43.3	30.2	Line	56.9	46.9
0.89	39.3	25.9	Line	56.0	46.0
2.74	37.4	28.4	Line	56.0	46.0
4.61	35.5	23.9	Line	56.0	46.0

- Notes: 1. The above data and the following graph were recorded for the tests on the mains terminals.
  - 2. Test uncertainty:  $\pm$ 1.99dB at a level of confidence of 95%.



#### 4.2. Radiated Emission Test

RESULT	:	Pass
Test procedure	:	CISPR 22:2005 Class B
Frequency range	:	30~1000MHz
Test Site	:	966 Chamber
Limits	:	CISPR 22:2005 Class B

Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz, AC 100V/60Hz
Operation Mode	:	Full Load / Half Load / No Load

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The measuring antenna moved up and down to find out the maximum emission level. It moved from 1 to 4 m for horizontal and vertical polarizations. The broadband antenna (calibrated by dipole antenna) was used as a receiving antenna.

The bandwidth setting on the test receiver (R&S TEST RECEIVER ESCS30) was 120 KHz.

The EUT was tested in Chamber Site.

The test data of the worst case condition(s) was reported on the following pages. All the scanning waveform were attached within Appendix II.



### **Test Data**

EUT	: 5	Switching A	Adapter	Temperature :	ure : 25°C		
Model No.	: GT-	81083-050	6-1.0-W2E	Humidity : 55%			
Test Mode	:	Full lo	ad	Test Engineer :	Mark		
Input Voltag	ge:	AC 230V/	/50Hz				
Frequency	Antenna	a Cable	Meter Reading	ng Emission Level	Over	Limits	
	Factor	Loss	Horizontal	Horizontal	Limits		
MHz	dB	dB	dBµV	dBµV/m	dB	$dB\mu V/m$	
58.130	9.51	1.08	20.67	31.26	-8.74	40.00	
138.640	10.16	1.82	19.85	31.83	-8.17	40.00	
174.530	11.80	2.08	18.72	32.60	-7.40	40.00	
198.780	12.33	2.24	20.22	34.79	-5.21	40.00	
286.080	14.61	2.76	17.16	34.53	-12.47	47.00	
349.130	15.81	3.12	16.67	35.66	-11.34	47.00	

Remark: The worst emission was detected at **198.780MHz** with corrected signal level of **34.79dB\muV/m**(Limit was **40.00 dB\muV/m**) when the antenna was at **Horizontal** polarization and at **1.9m** high, the turn table was at **147°**.

Frequency	Antenna	Cable	Meter Reading	Emission Level	Over	Limits
	Factor	Loss	Vertical	Vertical	Limits	
MHz	dB	dB	dBµV	dBµV/m	dB	$dB\mu V/m$
46.490	12.65	0.95	19.21	32.81	-7.19	40.00
61.040	9.34	1.11	24.41	34.86	-5.14	40.00
85.290	10.39	1.37	17.76	29.52	-10.48	40.00
201.690	12.40	2.24	14.75	29.39	-10.61	40.00
286.080	14.61	2.76	7.72	25.09	-21.91	47.00
337.490	15.64	3.06	7.41	26.11	-20.89	47.00

Remark: The worst emission was detected at **61.040MHz** with corrected signal level of **34.86dBµV/m** (Limit was **40.00 dBµV/m**) when the antenna was at **Vertical** polarization and at **1.2m** high, the turn table was at **56°**.

Notes: 1. All readings were Quasi-Peak values.

- 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading
- 3.0  $^\circ\,$  was the table front facing the antenna. Degree was calculated from 0  $^\circ\,$  clockwise facing the antenna.
- 4. Test uncertainty:  $\pm$ 4.76dB at a level of confidence of 95%.



### **Test Data**

EUT	:	Switching A	Adapter	Temperature :	25°C		
Model No.	: GT	-81083-050	6-1.0-W2E	Humidity :	55%	/ )	
Test Mode	:	Full lo	ad	Test Engineer :	Mark		
Input Voltag	ge:	AC 100V	/60Hz				
Frequency	Anteni Facto		Meter Readi Horizontal	U	Over Limits	Limits	
MHz	dB	dB	dBµV	dBµV/m	dB	dBµV/m	
59.100	9.39	1.10	20.18	30.67	-9.33	40.00	
116.330	10.32	1.65	20.74	32.71	-7.29	40.00	
153.190	11.26	5 1.89	20.82	33.97	-6.03	40.00	
196.840	12.28	2.23	19.06	33.57	-6.43	40.00	
288.990	14.67	2.76	16.14	33.57	-13.43	47.00	
349.130	15.87	3.12	13.24	32.23	-14.77	47.00	

Remark: The worst emission was detected at **196.840MHz** with corrected signal level of **33.57dB\muV/m**(Limit was **40.00 dB\muV/m) when the antenna was at Horizontal** polarization and at **2.0m** high, the turn table was at **155°**.

Frequency	Antenna	Cable	Meter Reading	Emission Level	Over	Limits
	Factor	Loss	Vertical	Vertical	Limits	
MHz	dB	dB	dBµV	dBµV/m	dB	$dB\mu V/m$
43.580	14.17	0.93	17.30	32.40	-7.60	40.00
61.040	9.34	1.11	23.41	33.86	-6.14	40.00
85.290	10.39	1.37	17.93	29.69	-10.31	40.00
162.890	11.60	1.98	14.30	27.88	-12.12	40.00
198.780	12.33	2.24	13.63	28.20	-11.80	40.00
284.140	14.57	2.73	7.42	24.72	-22.28	47.00

Remark: The worst emission was detected at **61.040MHz** with corrected signal level of **33.86dBµV/m** (Limit was **40.00 dBµV/m**) when the antenna was at **Vertical** polarization and at **1.3m** high, the turn table was at **48°**.

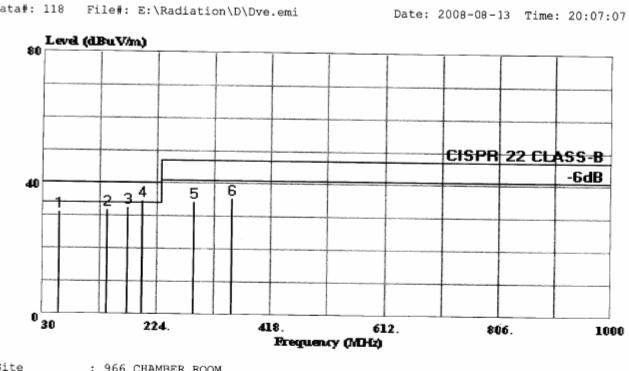
Notes: 1. All readings were Quasi-Peak values.

- 2. Emission Level = Antenna Factor + Cable Loss + Meter Reading
- 3. 0  $\,^\circ\,$  was the table front facing the antenna. Degree was calculated from 0  $\,^\circ\,$  clockwise facing the antenna.
- 4. Test uncertainty:  $\pm$ 4.76dB at a level of confidence of 95%.



Data#: 118

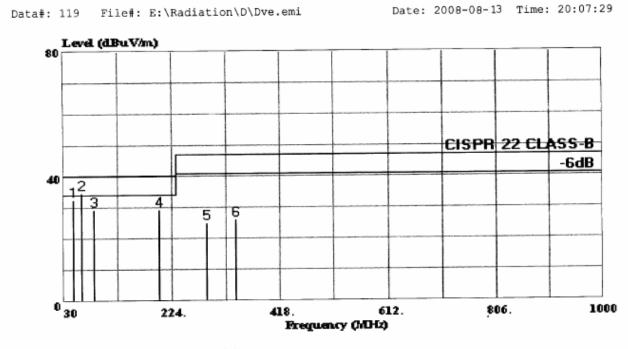
Chenwu Industrial Zone, Houjie Town, Dongguan, Guangdong, China Tel:0769-85935656 Fax:0769-85991080 www.nsemcsafety.com



	:	966 CHAMBER ROOM
Condition	:	CISPR 22 CLASS-B 3m 3142B HORIZONTAL
		Switching Adapter
		AC 230V/50Hz
M/N	:	GT-81083-0506-1.0-W2E
Test Engineer	:	Mark
Comment	:	Temp:25'C Humi:55%
Memo	:	Full load
		Ant high:1.9m Table angle:147'

	F	req	Level	Over Limit	Limit Line	Read Level	Factor	Cable Loss	Probe Factor
	1	MRz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1 2 3 4 5 6	58.: 138.0 174.5 198.7 286.0 349.3	540 530 780 080		-8.74 -8.17 -7.40 -5.21 -12.47 -11.34	40.00 40.00 40.00 40.00 47.00 47.00	20.67 19.85 18.72 20.22 17.16 16.67	10.59 11.98 13.88 14.57 17.37 18.99	1.08 1.82 2.08 2.24 2.76 3.12	9.51 10.16 11.80 12.33 14.61 15.87

Chenwu Industrial Zone, Houjie Town,Dongguan, Guangdong,China Tel:0769-85935656 Fax:0769-85991080 www.nsemcsafety.com



	966 CHAMBER ROOM
	CISPR 22 CLASS-B 3m 3142B VERTICAL
	Switching Adapter
Power :	AC 230V/50Hz
M/N :	GT-81083-0506-1.0-W2E
Test Engineer:	Mark
Comment :	Temp:25'C Humi:55%
Memo :	Full load
:	Ant high:1.2m Table angle:56'

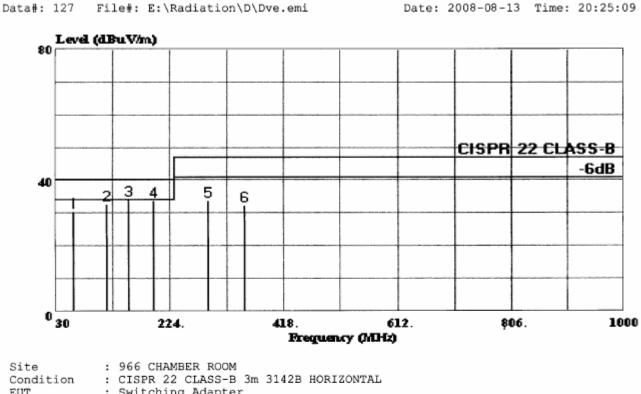
	Freq	Level	Over Limit	Limit Line		Factor		Probe Factor
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1 2 ! 3 4 5 6	46.490 61.040 85.290 201.690 286.080 337.490	34.86 29.52 29.39 25.09	-7.19 -5.14 -10.48 -10.61 -21.91 -20.89	40.00 40.00 40.00 47.00 47.00	19.21 24.41 17.76 14.75 7.72 7.41	14.64 17.37	0.95 1.11 1.37 2.24 2.76 3.06	12.65 9.34 10.39 12.40 14.61 15.64



File#: E:\Radiation\D\Dve.emi

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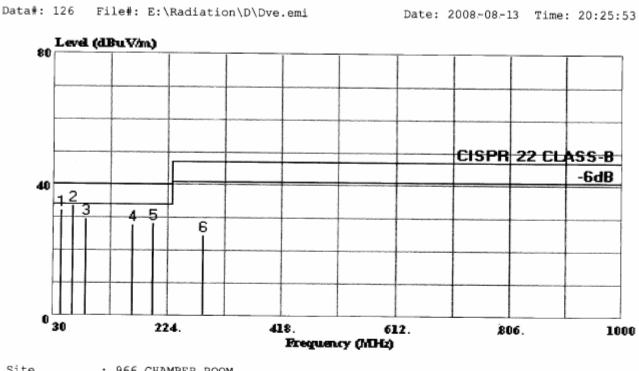
Date: 2008-08-13 Time: 20:25:09



N 8 9 V		200 Ollinimmit Hooli
Condition	:	CISPR 22 CLASS-B 3m 3142B HORIZONTAL
EUT	:	Switching Adapter
Power	:	AC 100V/60Hz
M/N	:	GT-81083-0506-1.0-W2E
Test Enginee:	с:	Mark
Comment	:	Temp:25'C Humi:55%
Memo	:	Full load
	:	Ant high:2.0m Table angle:155'
		-

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Cable Loss	Probe Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1 2 3 4 5 6	59.100 116.330 153.190 196.840 288.990 349.130		-9.33 -7.29 -6.03 -6.43 -13.43 -14.77	40.00 40.00 40.00 40.00 47.00 47.00	20.18 20.74 20.82 19.06 16.14 13.24	10.49 11.97 13.15 14.51 17.43 18.99	1.10 1.65 1.89 2.23 2.76 3.12	9.39 10.32 11.26 12.28 14.67 15.87

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Site	:	966 CHAMBER ROOM
Condition	:	CISPR 22 CLASS-B 3m 3142B VERTICAL
		Switching Adapter
Power	:	AC 100V/60Hz
M/N	:	GT-81083-0506-1.0-W2E
Test Engineer	:	Mark
Comment	:	Temp:25'C Humi:55%
Memo	:	Full load
	:	Ant high:1.3m Table angle:48'

	Freq	Level	Over Limit	Limit Line	Read Level	Factor	Cable Loss	Probe Factor
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB
1 2 3 4 5 6	43.580 61.040 85.290 162.890 198.780 284.140	29.69 27.88 28.20	-7.60 -6.14 -10.31 -12.12 -11.80 -22.28	40.00 40.00 40.00 40.00 40.00 40.00	17.30 23.41 17.93 14.30 13.63 7.42	15.10 10.45 11.76 13.58 14.57 17.30	0.93 1.11 1.37 1.98 2.24 2.73	14.17 9.34 10.39 11.60 12.33 14.57



4.3. Harmonic Current Emissions on AC Mains Test

RESULT	:	Pass
Test procedure	:	EN 61000-3-2:2006
Measured harmonics	:	$1 \sim 40$ th
Limits	:	EN 61000-3-2:2006

There is no need for Harmonics test to be performed on this product(rated power is less than 75W) in accordance with EN 61000-3-2:2006.

For further details, please refer to Clause 7 of EN 61000-3-2:2006 which states:

"For the following categories of equipment, limits are not specified in this edition of the standard:

- equipment with a rated power of 75W or less, other than lighting equipment."
- 4.4. Voltage Fluctuations and Flicker on AC Mains Test

RESULT	:	Pass
Test procedure	:	EN 61000-3-3:1995+A1:2001+A2:2005
Limits	:	EN 61000-3-3:1995+A1:2001+A2:2005

There is no need for Flicker test to be performed on this product in accordance with EN 61000-3-3:1995+A1:2001+A2:2005.

For further details, please refer to Clause 6.1 of EN 61000-3-3:1995+A1:2001+A2:2005

which states:

"For voltage changes caused by manual switching, equipment is deemed to comply without further testing if the maximum r.m.s. input current (including inrush current) evaluated over each 10 ms half-period zero-crossings does not exceed 20 A, and the supply current after inrush is within a variation band of 1.5A."



### 5. IMMUNITY TEST RESULT

### 5.1. Electrostatic Discharge Immunity Test

RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-2:1995+A1:1998+A2:2001
Test specification	:	+/-4.0kV(Contact discharge)
		+/-8.0kV(Air discharge)
Number of discharges	:	$\geq$ 10(Air discharge for single polarity discharge)
		$\geq$ 25 (Contact discharge for single polarity discharge)
Polarity	:	Positive/Negative
Performance criterion	:	В

### **Test Setup**

Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

#### Table 1: Electrostatic Discharge Immunity Test Result

Discharge Location		Type of discharge	Result
Slot	2 points	Air	Pass
LED	2 points	Air	Pass
Output Port (GND)	1 point	Contact	Pass
НСР	4 points	Contact	Pass
VCP	4 points	Contact	Pass

Remark: 1. No obvious change of function was found after test.

2. Discharge should be considered on Contact and Air and Horizontal Coupling Plane (HCP) and Vertical Coupling Plane (VCP).



5.2. Radio Frequency Electromagnetic Field Immunity Test

RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-3:2002+A1:2002
Performance criterion	:	А
Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The EUT was set 3 m away from the transmitting antenna which was mounted on an antenna tower. Both horizontal and vertical polarization of the antenna were set on test. Each of the four sides of EUT must be faced this transmitting antenna and measured individually.

In order to judge the EUT performance, a CCD camera was used to monitor EUT screen.

	canning conditions were as follow adition of Test	ws: Remarks
2. 3. 4.	Field Strength Radiated Signal Scanning Frequency Sweeping time of radiated Dwell Time	3 V/m (Severity Level 2) Modulated 80 - 1000 MHz 0.0015 decade/s 1.5 Sec.

Position	Modulated signal	Test level	Step	Result
Front				Pass
Right	AM 80% IKHz	3 V/m	1%	Pass
Rear			1 /0	Pass
Left				Pass

Remark: The EUT was operated as intended during and after the test.



RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-4: 2004
Pulseform	:	Tr/Th=5/50ns
Repetition Frequency	:	5kHz
Test Duration	:	60s
Performance criterion	:	В
Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

The EUT and its simulators were placed 0.8m high above the ground reference plane which was a min. 2m\*2m metallic sheet with 0.65mm minimum thickness. This reference ground plane shall project beyond the EUT by at least 0.1m on all sides and the minimum distance between EUT and all other conductive structure, except the ground plane beneath the EUT, shall be more than 0.5m.

#### 1. For input and AC power ports:

The EUT was connected to the power mains by using a coupling device which coupled the EFT interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration of the test can't less than 2 mains.

Coupling Ports		Coupling Voltage	Inject Method	Result
	L	+/-1kV		Pass
AC Power Ports	N	+/-1kV	Direct	Pass
	L, N	+/-1kV	-	Pass

Table 3: Electrical Fast Transient/Burst Immunity Test Result

Remark: No obvious change of function was found after test.



#### 5.4. Surge Immunity Test

RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-5:1995+A1:2001
Pulseform	:	Tr/Td=1.2/50us
Test Duration	:	60s
Performance criterion	:	В
Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

 $2\,\Omega$  effective output impedance of the generator was used for L-N test.  $12\,\Omega$  effective output impedance of the generator was used for L-PE,N-PE test.

5 positive and 5 negative (polarity) tests were applied successively synchronized to the voltage phase  $0^{\circ}$ ,  $90^{\circ}$ ,  $180^{\circ}$ ,  $270^{\circ}$  to L-N respectively. The repetition rate was 1 per minute during test.

1. For input and AC power ports:

The EUT was connected to the power mains by using a coupling device which coupled the surge interference signal to AC power lines. Both polarities of the test voltage should be applied during compliance test and the duration was 1 minute.

- 2. For signal lines and control lines ports: None.
- 3. For DC input and DC output power ports: None.

#### Table 4: Surge Immunity Test Result

Coupling Ports		Coupling Voltage	Coupling Phase / Result			
		Coupling Voltage	0°	90°	180°	270°
AC power ports	L-N	+/-1kV	Pass	Pass	Pass	Pass

Remark: No obvious change of function was found after test.



#### 5.5. Injected Currents Susceptibility Test

RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-6:1996+A1:2001
Test specification	:	3V(r.m.s) unmodulated,1kHz sinusoidal signal,
		AM 80%, 0.15MHz ~ 80MHz
Performance criterion	:	А
Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

The EUT were placed on an insulating support 0.1m high above a ground reference plane. CDN (coupling and decoupling device) was placed on the ground plane about 0.3m from EUT. Cables between CDN and EUT were as short as possible, and their height above the ground reference plane were between 30 and 50 mm (where possible).

The frequency range was swept from 150KHz to 80MHz using 3V signal level, and with the disturbance signal 80% amplitude modulated with a 1KHz sine wave.

The rate of sweep shall not exceed  $1.5*10^{-3}$  decades/s. Where the frequency was swept incrementally, the step size shall not exceed 1% of the start and thereafter 1% of the preceding frequency value.

Coupling ports	Voltage (r.m.s)	Modulation	Freq. step	Dwell time	Coupling method	Result
AC power ports	3V		1%	1.5s	CDN	Pass
DC power ports	/	1kHz	/	/	EM Clamp	/
Signal/control	/	AM 80%	/	/	EM Clamp	/

Table 5: Injected Currents Susceptibility Test Result

Remark: The EUT was operated as intended during and after the test.



### 5.6. Power Frequency Magnetic Field Immunity Test

RESULT	:	Pass
Test procedure	:	CISPR 24:1997+A1:2001+A2:2002
Basic standard	:	EN 61000-4-8:1993+A1:2001
Test specification	:	1 A/m
Performance criterion	:	A
Test Setup		
Date of test	:	Aug. 13, 2008
Model No.	:	GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
Input Voltage	:	AC 230V/50Hz
Operation Mode	:	Full Load
Temperature	:	24°C
Humidity	:	54%

The EUT was subjected to the test magnetic field by using the induction coil of standard dimensions (1m\*1m). The induction coil then was rotated by 90° in order to expose the EUT to the test field with different orientations.

Table 6: Power	Frequency	Magnetic	Field I	mmunity	Test Result
	riequency	mugnetie	I IUIU I	minunity	rest result

Test Level	Testing Duration			Result
1A/m	5 mins	Х	А	Pass
1A/m	5 mins	Y	А	Pass
1A/m	5 mins	Z	А	Pass

Remark: The EUT was operated as intended during and after the test.



5.7. Voltage Dips and Short Interruptions Immunity Test

Pass
CISPR 24:1997+A1:2001+A2:2002
EN61000-4-11: 2004
0%UT / 0.5P, Criterion: B
70%UT / 25P, Criterion: C
0%UT / 250P, Criterion: C
Aug. 13, 2008
GT-81083-0506-1.0-W2E, GT-81083-0513-W2E
AC 230V/50Hz
Full Load
24°C
54%

The interruptions was introduced at selected phase angles with specified duration. Recorded any degradation of performance.

Test Level % UT	Voltage Dips & Short Interruptions % UT	Duration (in period)	Criterion	Result
0	100	0.5P	В	PASS
70	30	25P	С	PASS
0	100	250P	С	PASS

Table 7: Voltage Dips and Short Interruptions Immunity Test Result

Remark: No obvious change of function was found after test.



### 6. PHOTOGRAPHS OF TEST SET-UP

6.1.Set-up for conducted emission at the mains terminals test



6.2.Set-up for radiated emission test





- 6.3.Set-up for electrostatic discharge immunity test

6.4.Set-up for radio frequency electromagnetic field immunity test





6.5.Set-up for electrical fast transient/burst immunity test



### 6.6.Set-up for surge immunity test





### 6.7.Set-up for injected currents susceptibility test



6.8.Set-up for power frequency magnetic field immunity test





6.9.Set-up for voltage dips and short interruptions immunity test





### 7. PHOTOGRAPHS OF THE EUT

Figure 1 General Appearance of the EUT



Figure 2 General Appearance of the EUT





Figure 3 General Appearance of the PCB Model No.: GT-81083-0506-1.0-W2E



Figure 4 General Appearance of the PCB Model No.: GT-81083-0506-1.0-W2E





Figure 5 General Appearance of the PCB Model No.: GT-81083-0513-W2E



**Figure 6** General Appearance of the PCB Model No.: GT-81083-0513-W2E

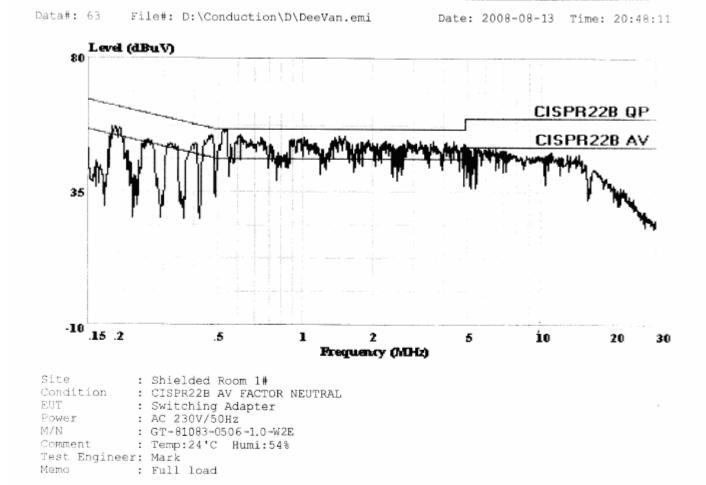




# **APPENDIX I**

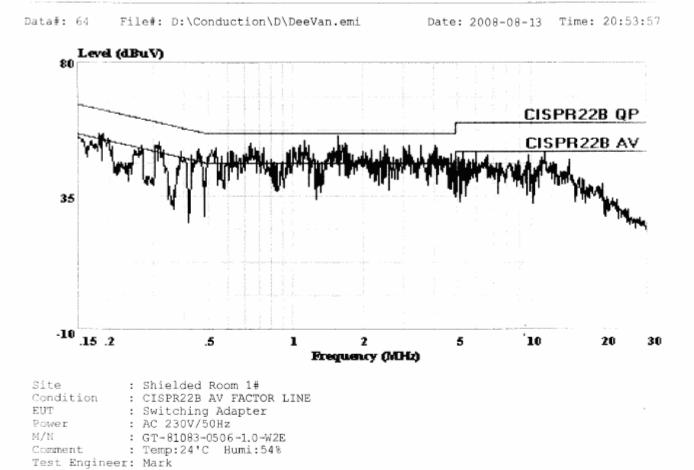


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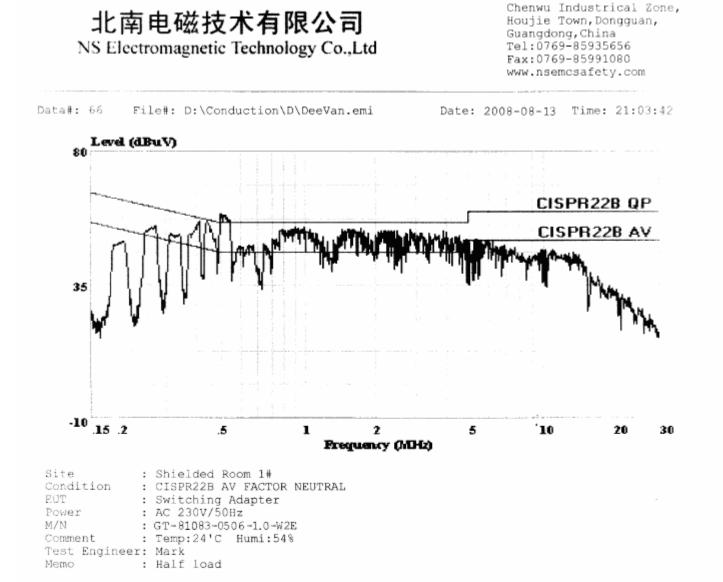
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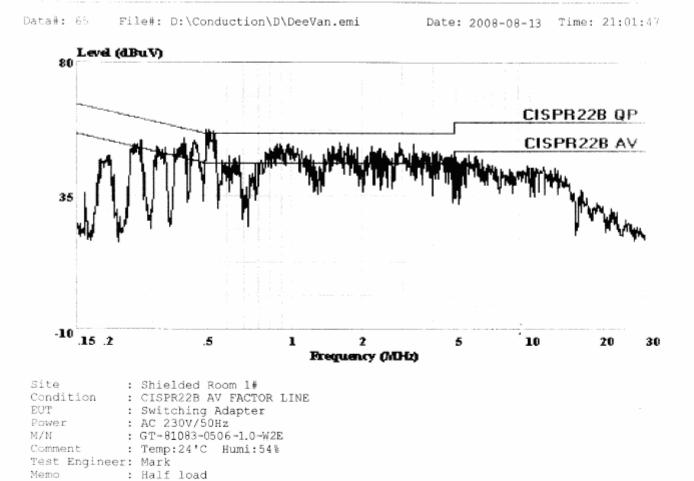
Memo

: Full load

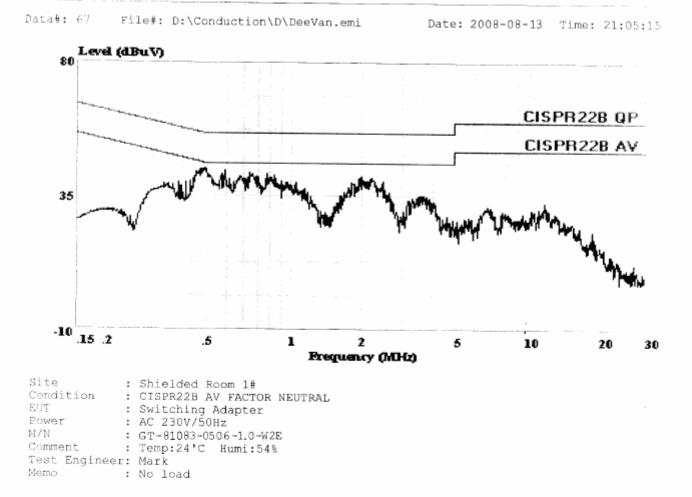




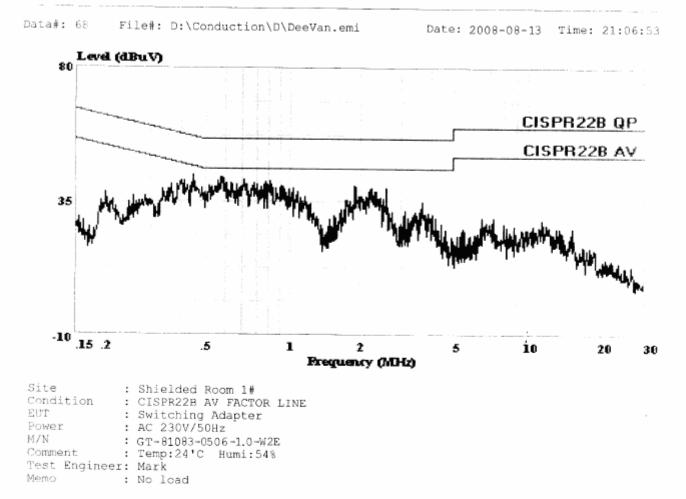
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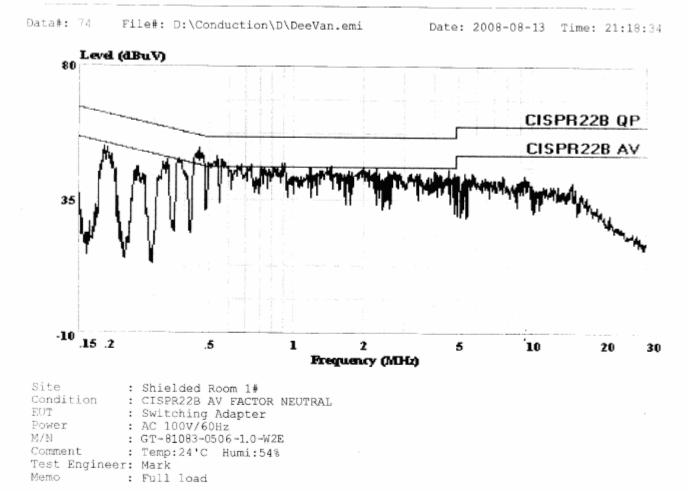
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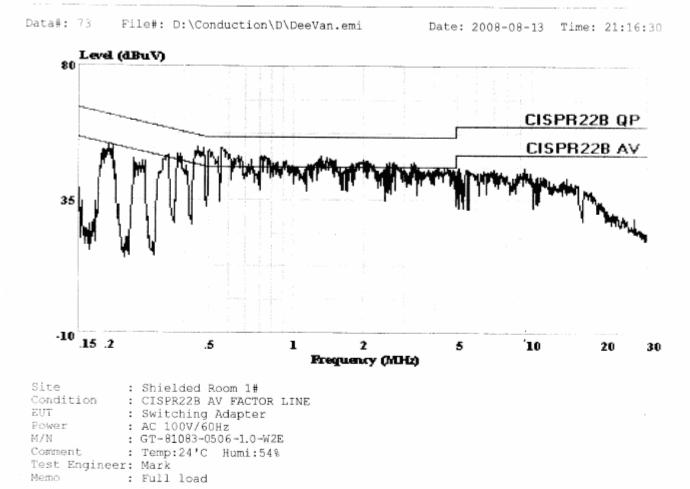






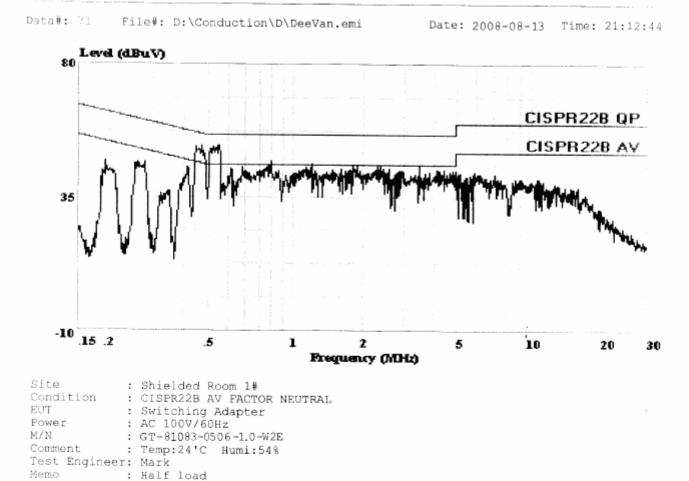


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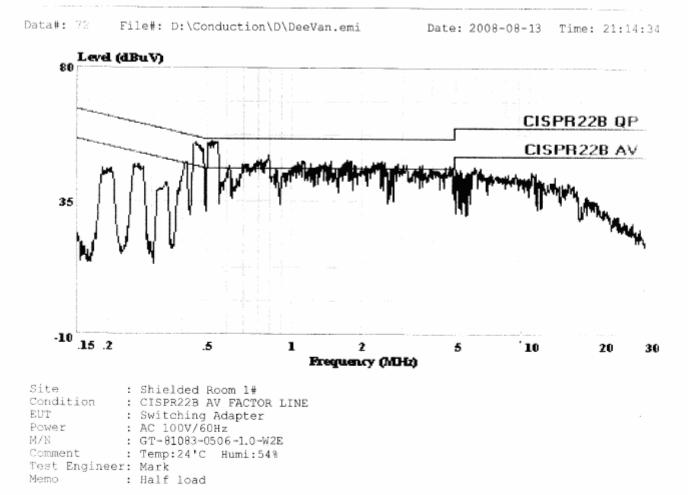


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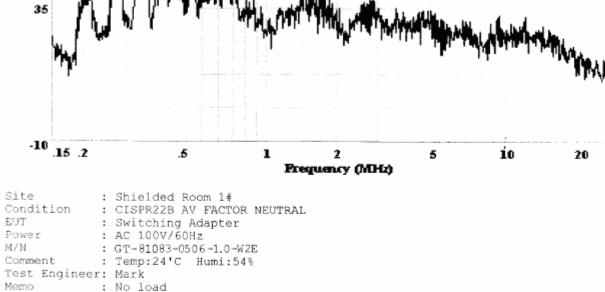


北南电磁技术有限公司 Houjie Town, Dongguan, Guangdong, China NS Electromagnetic Technology Co.,Ltd Tel:0769-85935656 Fax:0769-85991080 www.nsemcsafety.com File#: D:\Conduction\D\DeeVan.emi Data#: 70 Date: 2008-08-13 Time: 21:10:38 Level (dBuV) 80 CISPR228 QP CISPR22B AV

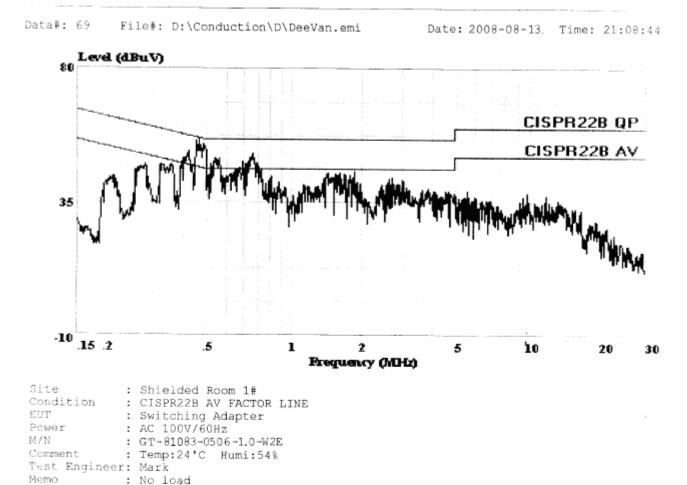
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1

2

Frequency (MHz)

5

10

20

30



-10 .15 .2

M/N

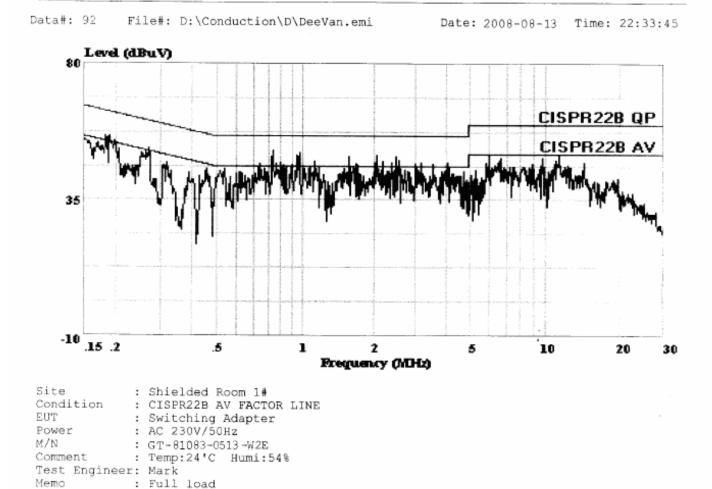
.5

Site : Shielded Room 1# Condition : CISPR22B AV FACTOR NEUTRAL EUT : Switching Adapter Power : AC 230V/50Hz

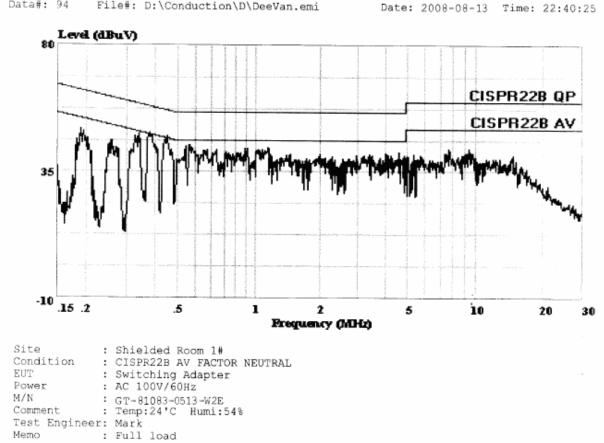
M/N : GT-81083-0513-W2E Comment : Temp:24'C Humi:54%

Test Engineer: Mark Memo : Full load

Chenwu Industrical Zone,

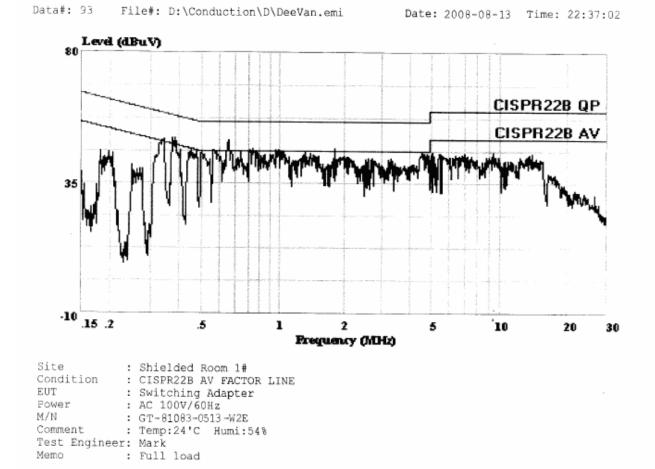








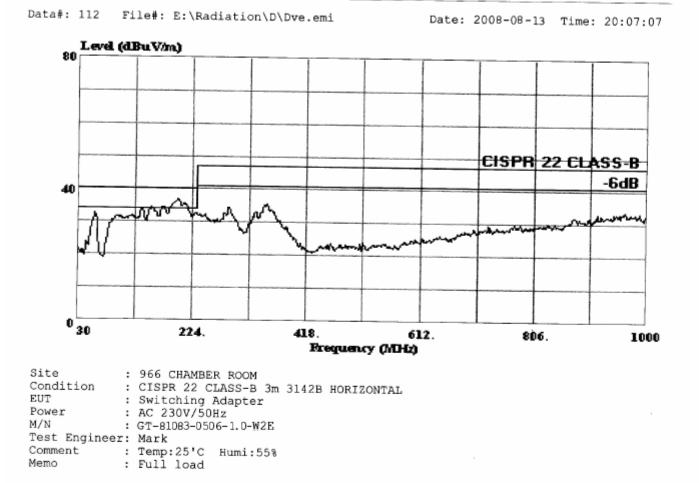
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# **APPENDIX II**

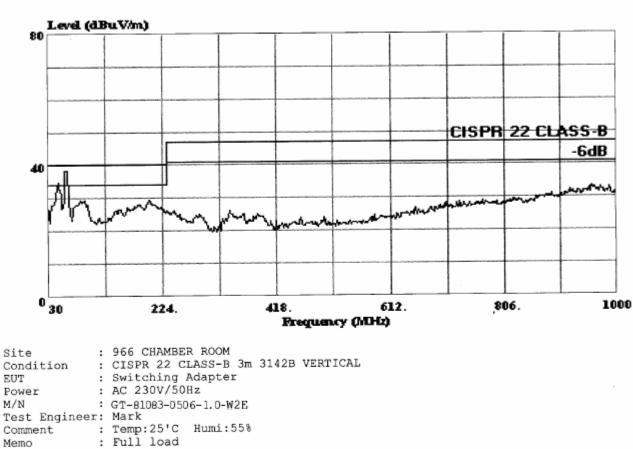






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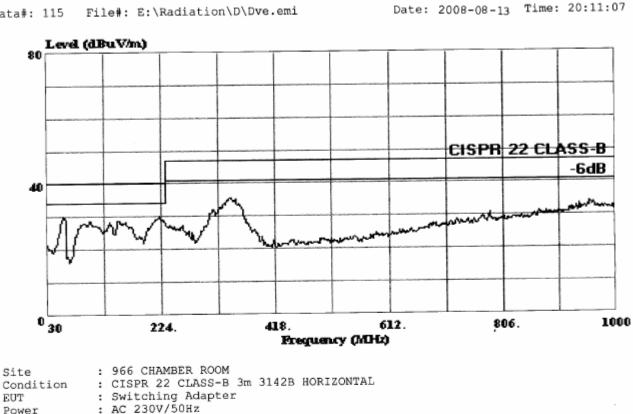
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### File#: E:\Radiation\D\Dve.emi Data#: 115

: AC 230V/50Hz : GT-81083-0506-1.0-W2E Test Engineer: Mark : Temp:25'C Humi:55% Comment : Half load

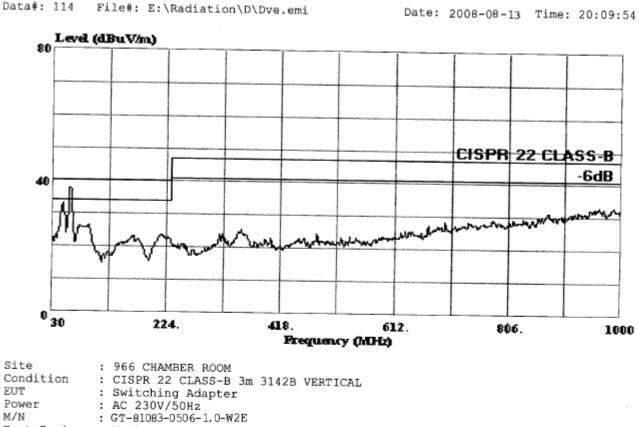
M/N

Memo



Data#: 114

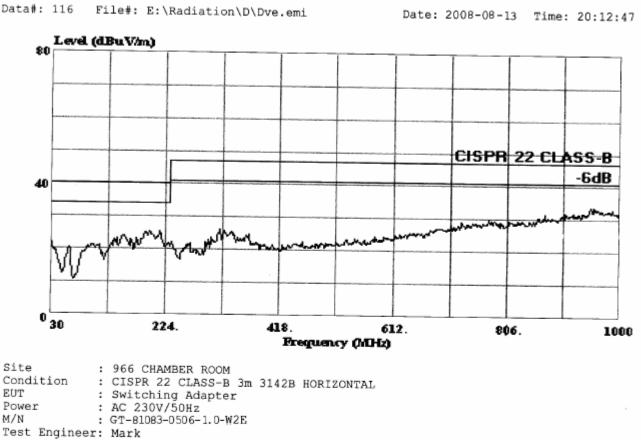
Chenwu Industrial Zone, Houjie Town, Dongguan, Guangdong, China Tel:0769-85935656 Fax:0769-85991080 www.nsemcsafety.com



Power M/N Test Engineer: Mark Comment : Temp:25'C Humi:55% Memo : Half load



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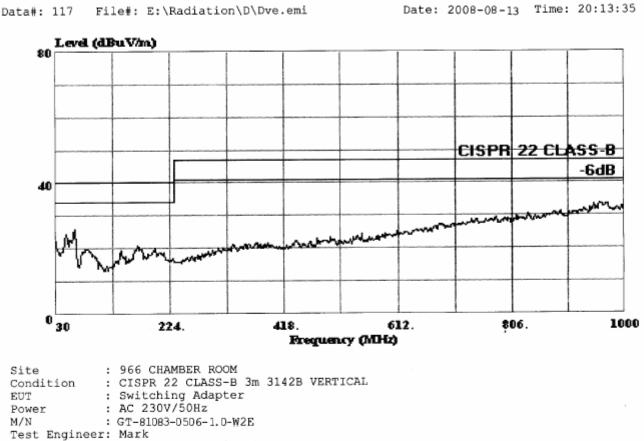
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Memo	:	No load	

### : No load

Data#: 116



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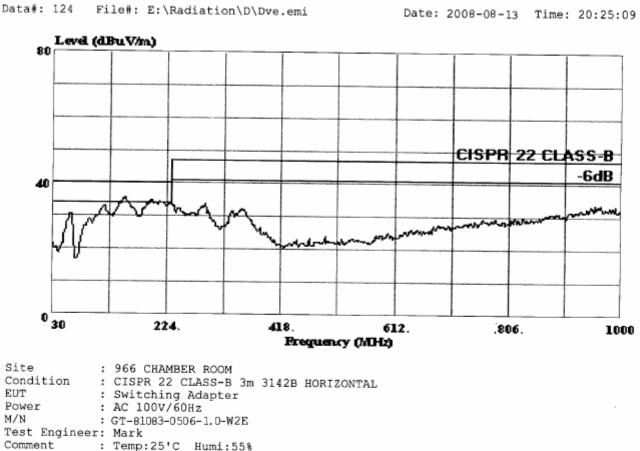


Comment : Temp:25'C Humi:55%





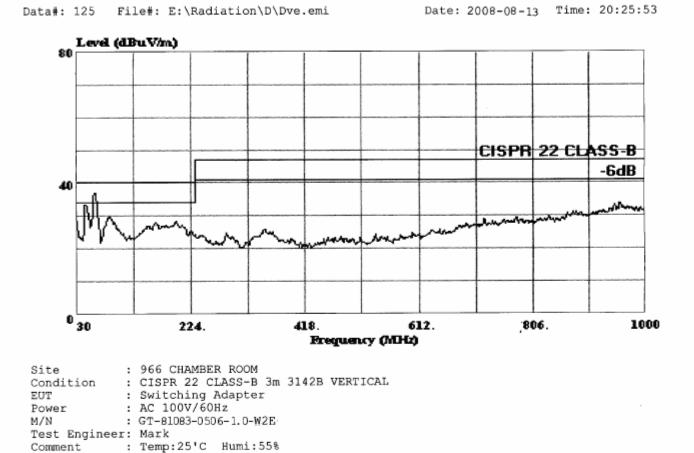
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Memo : Full load



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Memo

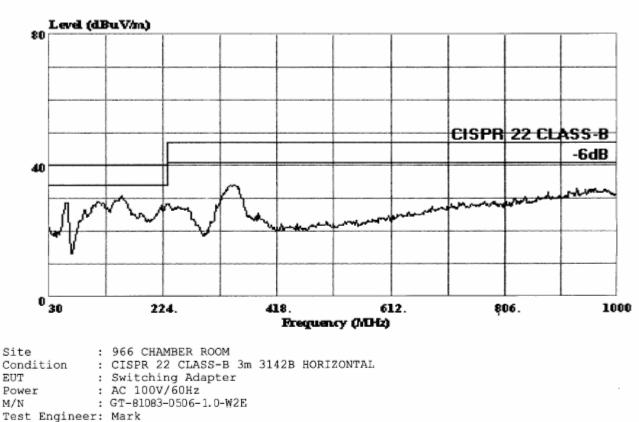
: Full load



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Date: 2008-08-13 Time: 20:22:22



Comment : Temp:25'C Humi:55%

Memo : Half load

Data#: 123

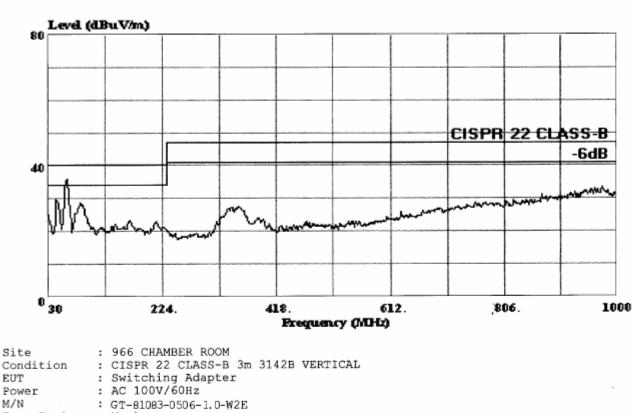


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Data#: 122

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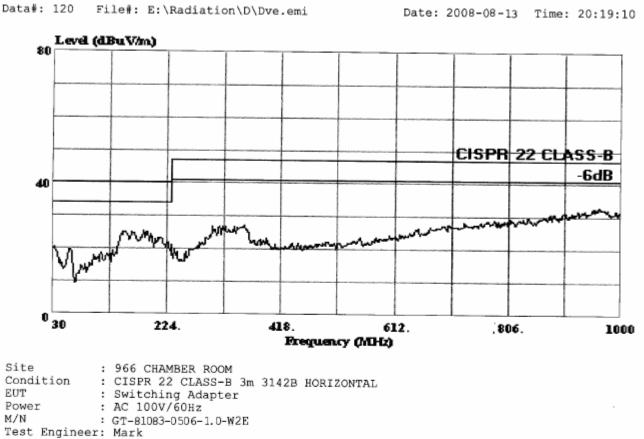
Date: 2008-08-13 Time: 20:21:46



### M/N Test Engineer: Mark

Comment : Temp:25'C Humi:55% : Half load Memo

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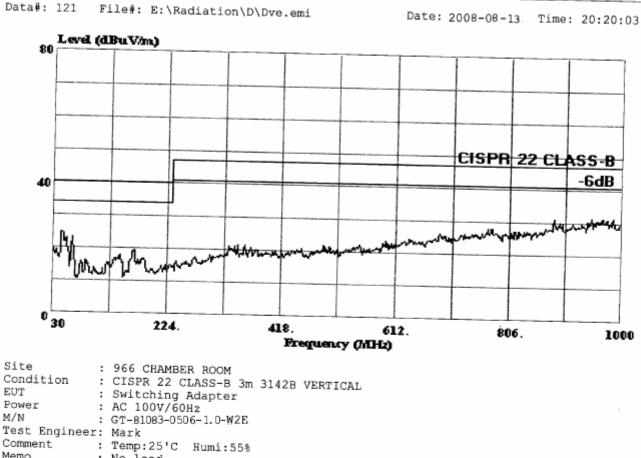


Comment	:	Temp:25'C	Humi:55%
Memo	:	No load	

: No load



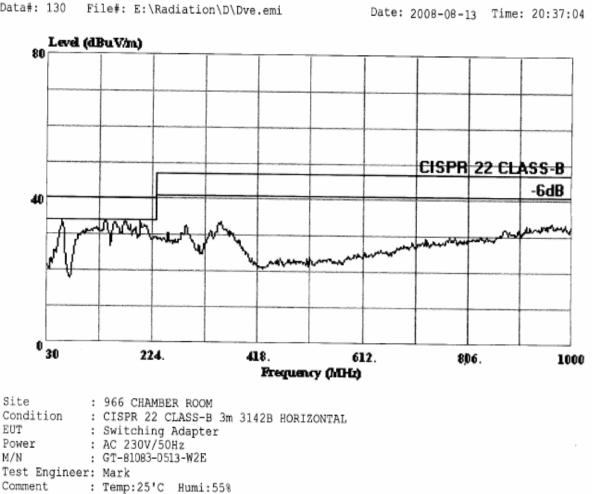
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