



FCC Test Report

FCC ID: YGB-DV111SMP

Computer Peripheral

Report No. : TB-FCC110046
Applicant : SHUOYING DIGITAL SCIENCE&TECHNOLOGY(CHINA) Co., Ltd
Equipment Under Test (EUT)
EUT Name : DV
Model No. : 111SMP
Serial No. : Not supplied by client
Brand Name : Not supplied by client
Receipt Date : 2010-12-25
Test Date : 2010-12-26 to 2011-01-09
Issue Date : 2011-01-10
Standards : FCC Part 15: 2009, Subpart B, Class B
Test Method : ANSI C63.4-2003
Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC requirements

Test/Witness Engineer : 

Approved& Authorized : 

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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1. General Information About EUT

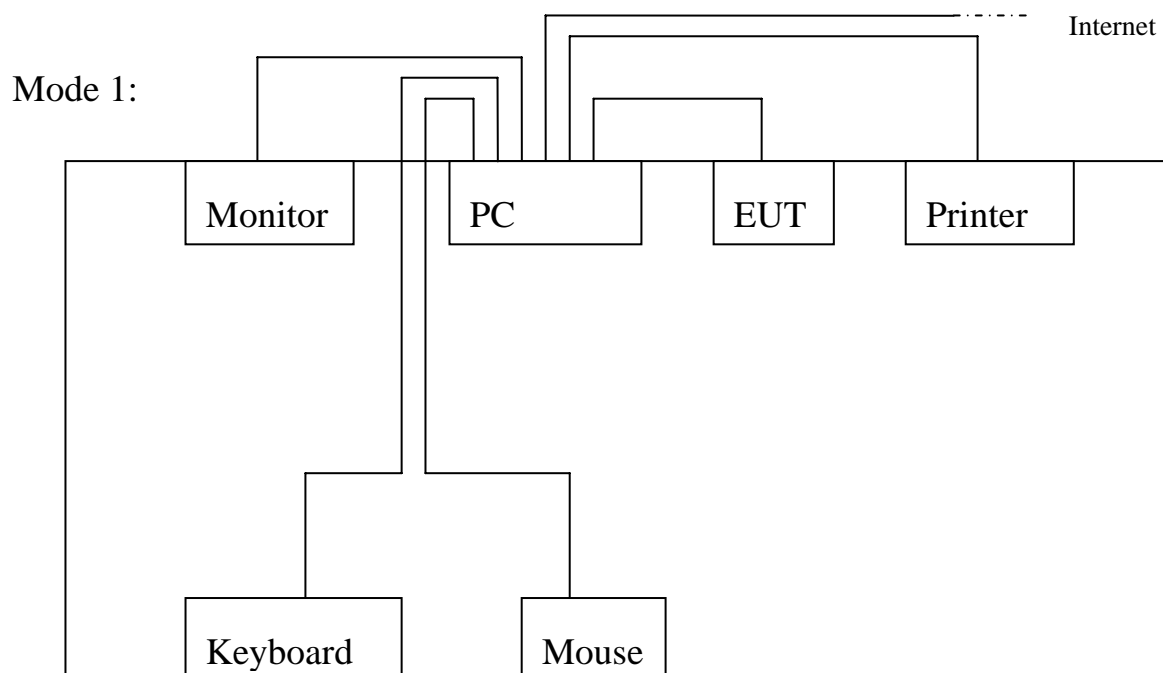
1.1 Client Information

Applicant	:	SHUOYING DIGITAL SCIENCE&TECHNOLOGY(CHINA) Co., Ltd.
Address	:	NO.187, 5 th Binhai Road, Binhai Industrial Park, Economic and technological Development Zone, Wenzhou, Zhejiang, China
Manufacturer	:	SHUOYING DIGITAL SCIENCE&TECHNOLOGY(CHINA) Co., Ltd.
Address	:	NO.187, 5 th Binhai Road, Binhai Industrial Park, Economic and technological Development Zone, Wenzhou, Zhejiang, China

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	DV
Model No.	:	111SMP
Serial No.	:	Not supplied by client
Model difference	:	N/A
Power Supply	:	DC 4.5V (3*AAA batteries)
Connecting I/O Port(s)	:	Please refer to the User's Manual
Note: For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.		

1.3 Block Diagram Showing the Configuration of System Tested



Mode 2&Mode 3

EUT

1.4 Description of Support Units

Name	Model	S/N	Manufacturer	Used “√”
Printer	HP1505n	VNF3G06957	HP	√
LCD Monitor	E170Sc	----	DELL	√
PC	OPTIPLEX380	----	DELL	√
Keyboard	L100	U01C	DELL	√
Mouse	M-UARDEL7	----	DELL	√

1.5 Description of Test Mode

Mode	Description
Mode 1	Download Mode
Mode 2	Video Record
Mode 3	Play back

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of the EUT operation mode, and so the conducted and radiated emission data of bellow only showed the worst case.

1.6 Test Facility

The tests were performed at:

Anbotek Compliance Laboratory Limited

1/F., 1/Build, SEC Industrial Park, No.4 Qianhai Road, Nanshan District, Shenzhen China

Tel: 86-755-26066365 Fax: 86-755-26014772

At the time of testing, the Laboratory is accredited. It is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 752021.

The test report was fulfilled by Shenzhen Toby Technology Co., Ltd. Shenzhen Toby Technology Co., Ltd. is assumed full responsibility for the accuracy and completeness of these measurements results.

2. Test Summary

FCC Part15, Subpart B				
Section	Test Method	Test Item	Limit	Judgment
15.109	ANSI C63.4:2003	Radiated Emission (9KHz to 30MHz)	Class B	PASS
15.107	ANSI C63.4:2003	Conducted Emission (9KHz to 30MHz)	Class B	PASS
Note: N/A is an abbreviation for Not Applicable.				

3. Conducted Emission Test

3.1 Test Standard and Limit

3.1.1 Test Standard

FCC Part 15.107

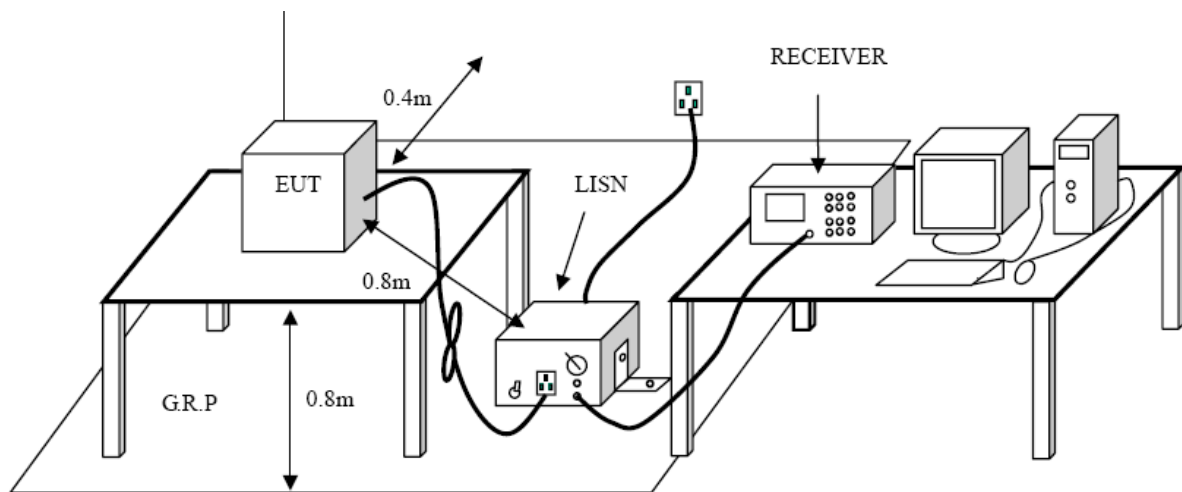
3.1.2 Test Limit

Conducted Emission Test Limit

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak Level	Average Level
0.15~0.5	66 ~ 56 *	56 ~ 46 *
0.5~5.0	56.00	46.00
5.0~30.0	60.00	50.00

Notes: (1) *Decreasing linearly with logarithm of the frequency.
 (2) The lower limit shall apply at the transition frequencies.

3.2 Test Setup



3.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance.

The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

For the actual test configuration, please refer to the EUT test Photos.

3.4 Deviation

The test is no deviation from the standard.

3.5 Test Equipment Used

Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100627	2010-06-21	2011-06-21
L.I.S.N	ROHDE& SCHWARZ	ENV216	100055	2010-06-21	2011-06-21
L.I.S.N	SCHWARZBEC K	NSLK8127		2010-06-21	2011-06-21

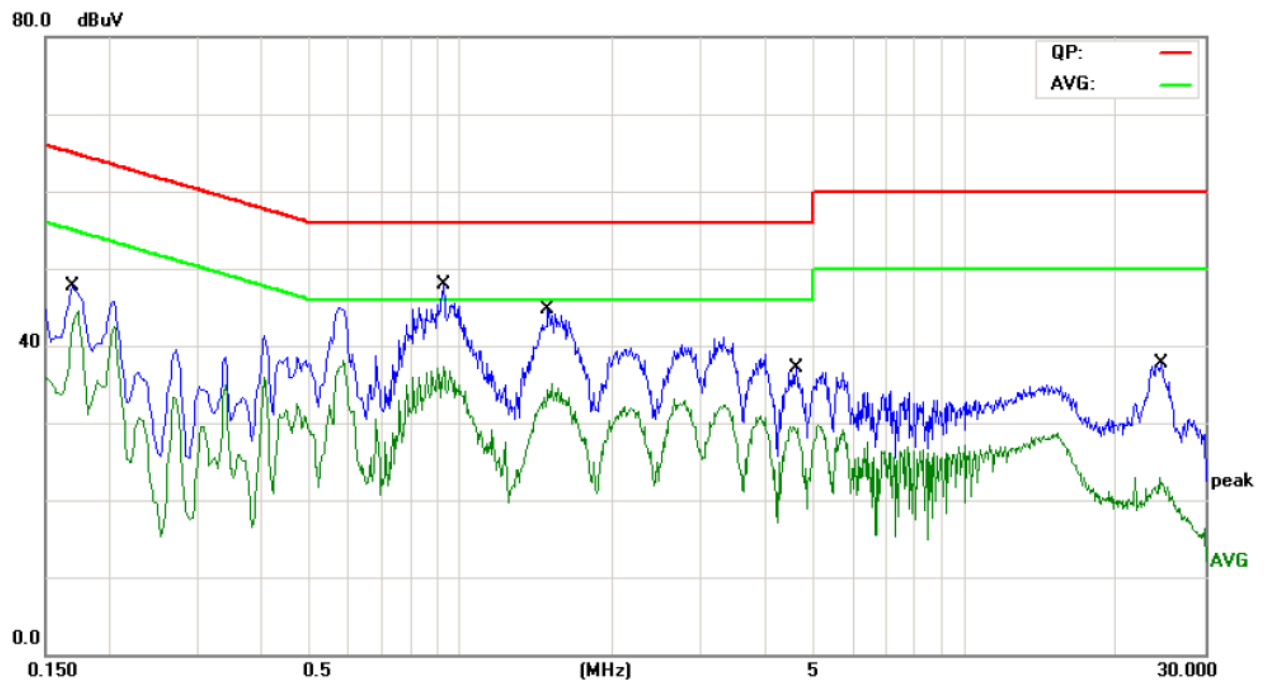
3.6 EUT Operating Mode

Please refer to the description of test mode.

3.7 Test Data

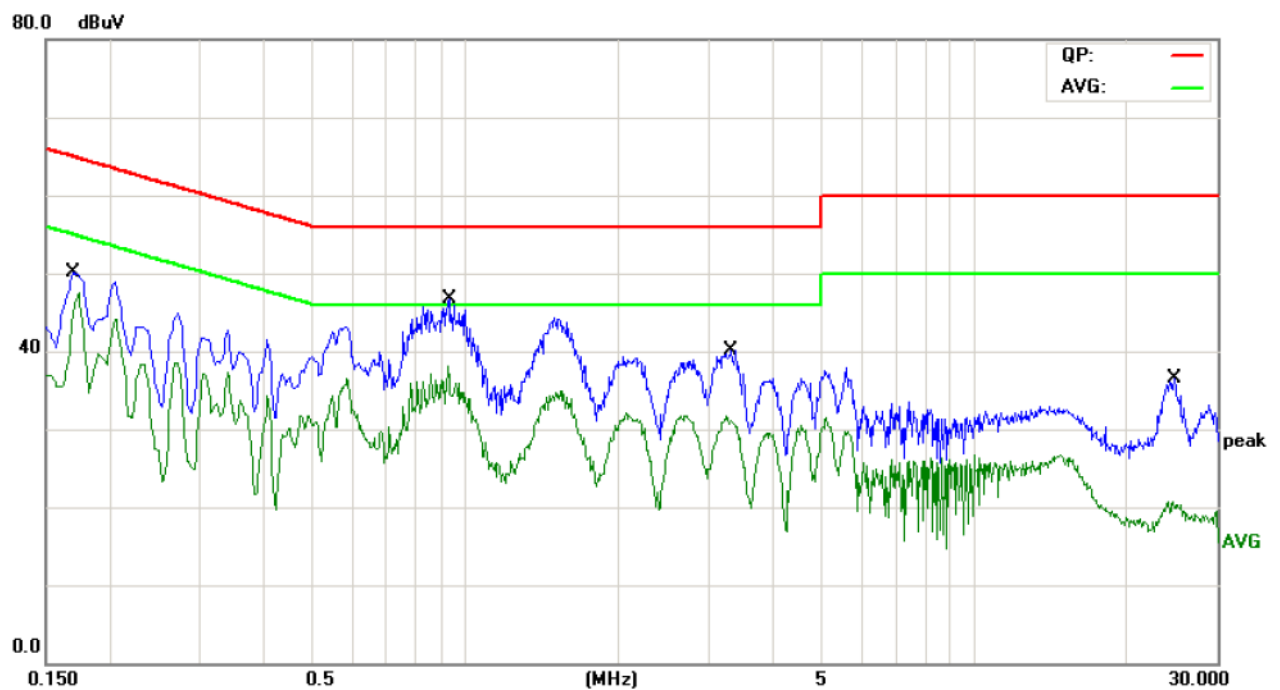
Please see the next page.

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Terminal	Line		
Test Voltage :	AC 120 V / 60Hz		
Test Mode :	Mode 1: Download		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1700	38.66	10.67	49.33	64.96	-15.63	QP	
2	*	0.1700	35.83	10.67	46.50	54.96	-8.46	AVG	
3		0.9260	33.60	9.36	42.96	56.00	-13.04	QP	
4		0.9260	28.03	9.36	37.39	46.00	-8.61	AVG	
5		1.4900	30.85	9.32	40.17	56.00	-15.83	QP	
6		1.4900	25.08	9.32	34.40	46.00	-11.60	AVG	
7		4.6299	23.00	9.43	32.43	56.00	-23.57	QP	
8		4.6299	19.73	9.43	29.16	46.00	-16.84	AVG	
9		24.5300	14.97	10.16	25.13	60.00	-34.87	QP	
10		24.5300	3.43	10.16	13.59	50.00	-36.41	AVG	

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Terminal	Neutral		
Test Voltage :	AC 120 V / 60Hz		
Test Mode :	Mode 1: Download		



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1700	38.68	10.67	49.35	64.96	-15.61	QP	
2	*	0.1700	35.75	10.67	46.42	54.96	-8.54	AVG	
3		0.9300	32.50	9.36	41.86	56.00	-14.14	QP	
4		0.9300	26.77	9.36	36.13	46.00	-9.87	AVG	
5		3.3340	25.77	9.39	35.16	56.00	-20.84	QP	
6		3.3340	21.09	9.39	30.48	46.00	-15.52	AVG	
7		24.7180	19.30	10.23	29.53	60.00	-30.47	QP	
8		24.7180	8.02	10.23	18.25	50.00	-31.75	AVG	

4. Radiated Emission Test

4.1 Test Standard and Limit

4.1.1 Test Standard

FCC Part 15.109

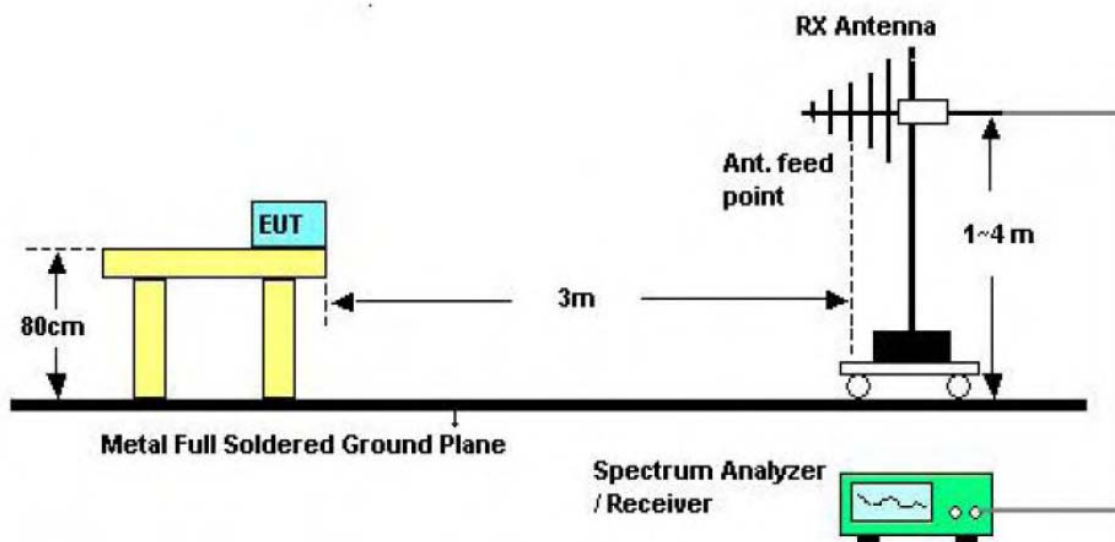
4.1.2 Test Limit

Radiated Emission Limit

Frequency (MHz)	Field Strength (dBuV/m)	Measurement Distance (meters)
30~88	40	3
88~216	43.5	3
216~960	46	3
Above 960	54	3

Note: Emission Level(dBuV/m)=20log Emission Level(uV/m)

4.2 Test Setup



30MHz to 1000MHz Test Setup

4.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency from 30MHz up to 1GHz.
- (2) The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The height of the equipment or of the substitution antenna shall be 0.8m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- (4) The initial step in collecting radiated emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- (6) For more details, please refer to the EUT Test Photos.

4.4 Deviation

The test is no deviation from the standard.

4.5 Test Equipment

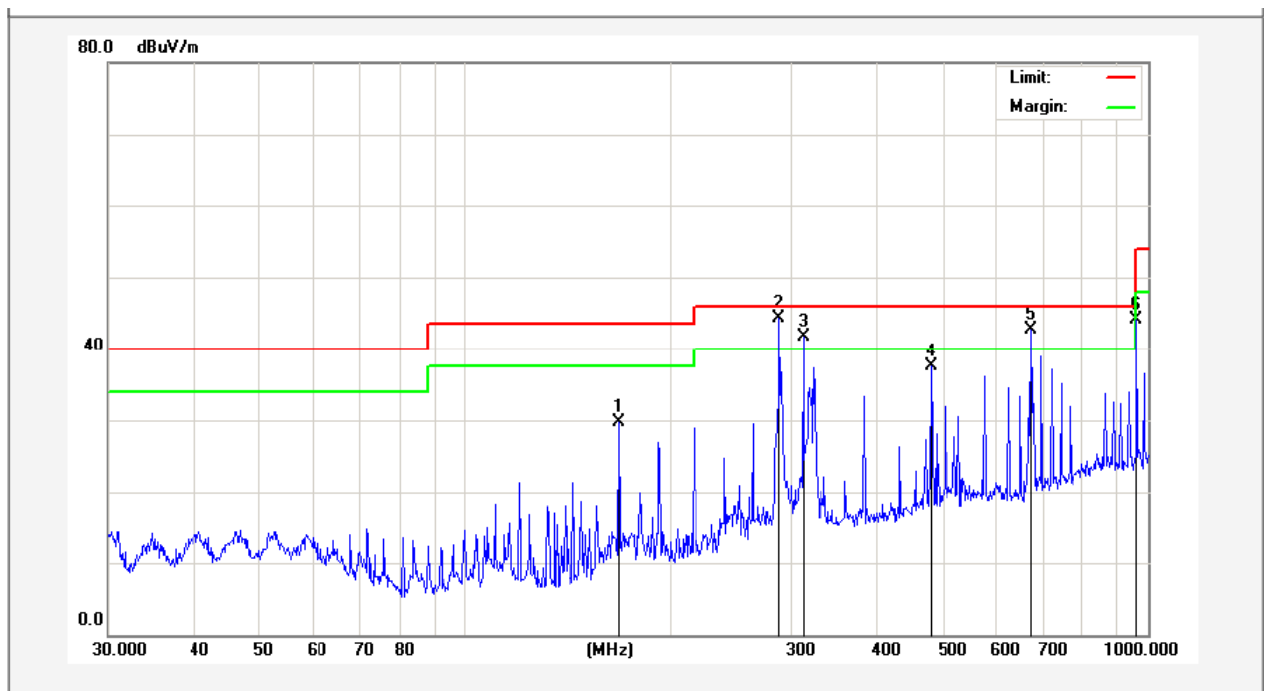
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Date
Spectrum Analyzer	Agilent	E7405A	MY45114970	2010-06-21	2011-06-21
Pre-Amplifier	CD	PAM0203	804203	2010-06-21	2011-06-21
RF Switch	CD	RSU-M3	RSU-M3	2010-06-21	2011-06-21
Trilog Broadband Antenna	SCHWARZBEC K	VULB9163	345	2010-06-21	2011-06-21
Coaxial Cable	SCHWARZBEC K	RG214-N-8	11065	2010-06-21	2011-06-21
Broadband Preamplifier 0.5-18GHz	SCHWARZBECK	BBV9718	9718-148	2010-06-21	2011-06-21
Horn Antenna	SCHWARZBEC K	BBHA9120D	667	2010-06-21	2011-06-21
Coaxial Cable	SCHWARZBEC K	AK9513	9513-10	2010-06-21	2011-06-21
Coaxial Cable	SCHWARZBEC K	AK9515H	9515-10	2010-06-21	2011-06-21

4.6 EUT Operating Condition

Please refer to the description of test mode.

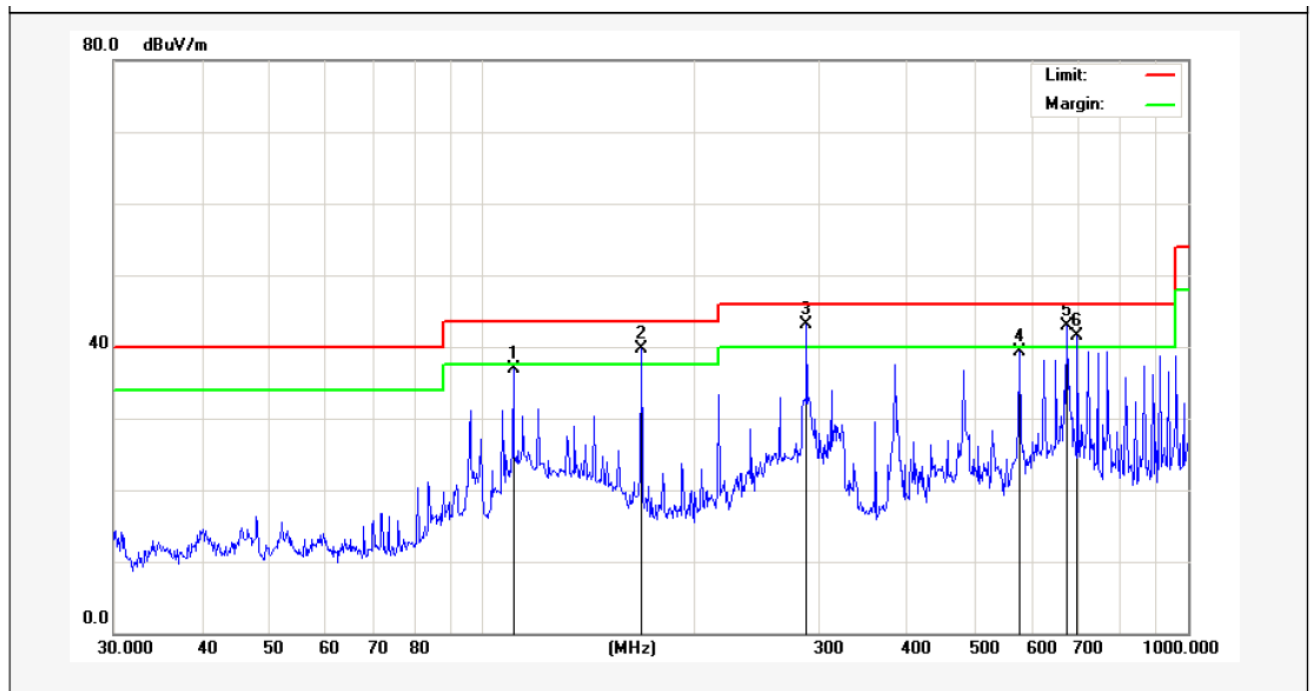
4.7 Test Data

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	AC 120 V / 60Hz		
Antenna. Pol:	Horizontal		
Test Mode :	Mode 1: Download		



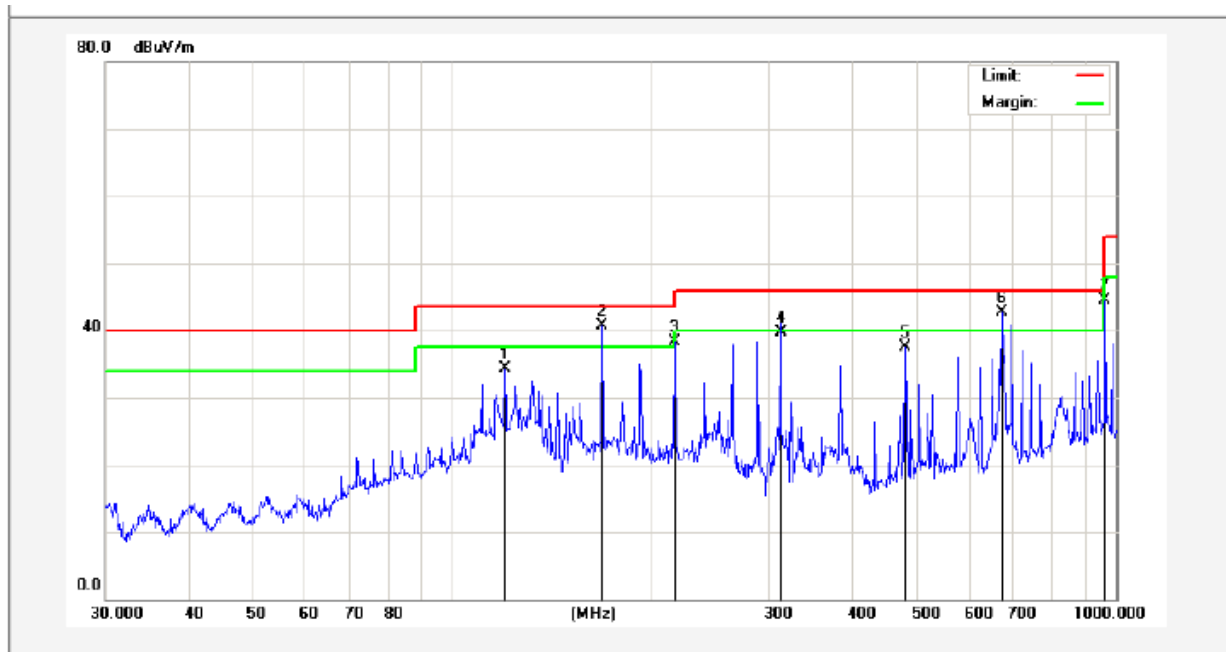
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	167.8242	60.92	-31.23	29.69	43.50	-13.81	peak			
2	287.9904	70.87	-26.50	44.37	46.00	-1.63	peak			
3	312.1792	66.39	-24.71	41.68	46.00	-4.32	peak			
4	480.5276	57.32	-19.90	37.42	46.00	-8.58	peak			
5	672.8444	58.94	-16.30	42.64	46.00	-3.36	peak			
6	962.1622	55.03	-11.02	44.01	54.00	-9.99	peak			

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	AC 120 V / 60Hz		
Antenna. Pol:	Vertical		
Test Mode :	Mode 1: Download		



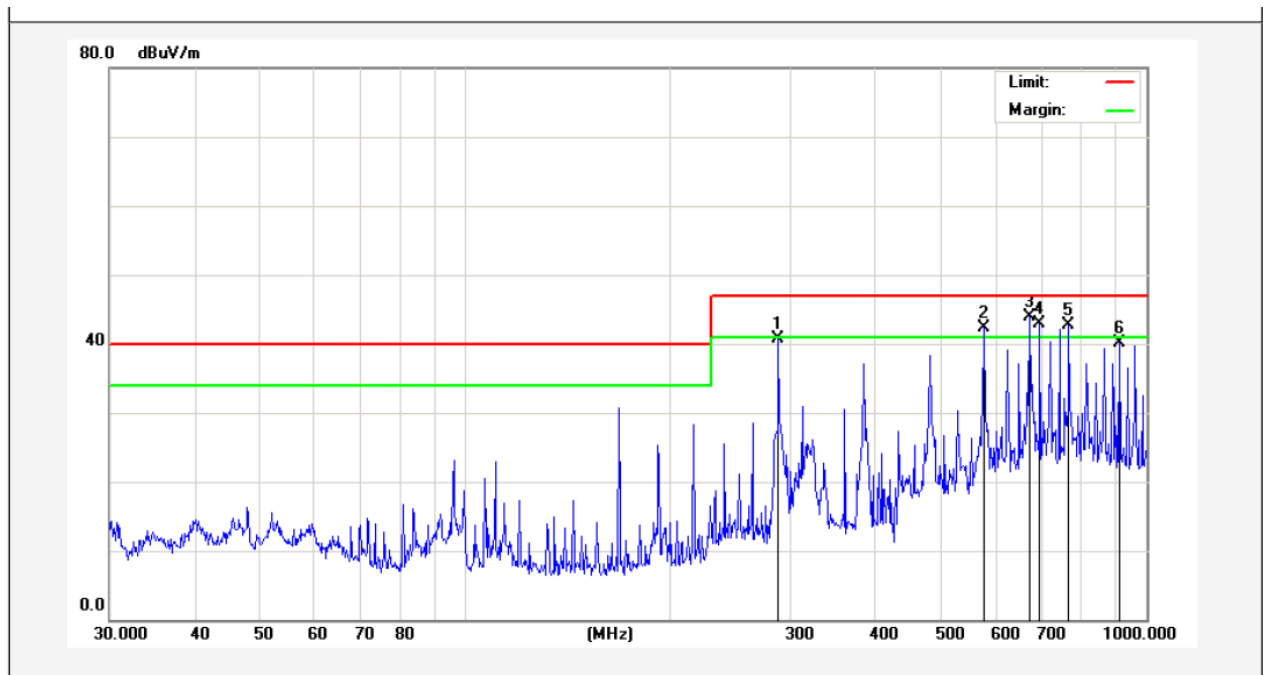
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	110.5687	61.38	-24.39	36.99	43.50	-6.51	peak			
2	167.8240	65.92	-26.23	39.69	43.50	-3.81	peak			
3	287.9904	66.65	-23.50	43.15	46.00	-2.85	peak			
4	576.6443	56.66	-17.28	39.38	46.00	-6.62	peak			
5	672.8444	58.63	-15.76	42.87	46.00	-3.13	peak			
6	696.8567	56.90	-15.46	41.44	46.00	-4.56	peak			

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	DC 4.5V		
Antenna. Pol:	Horizontal		
Test Mode :	Mode 2: Video Record		



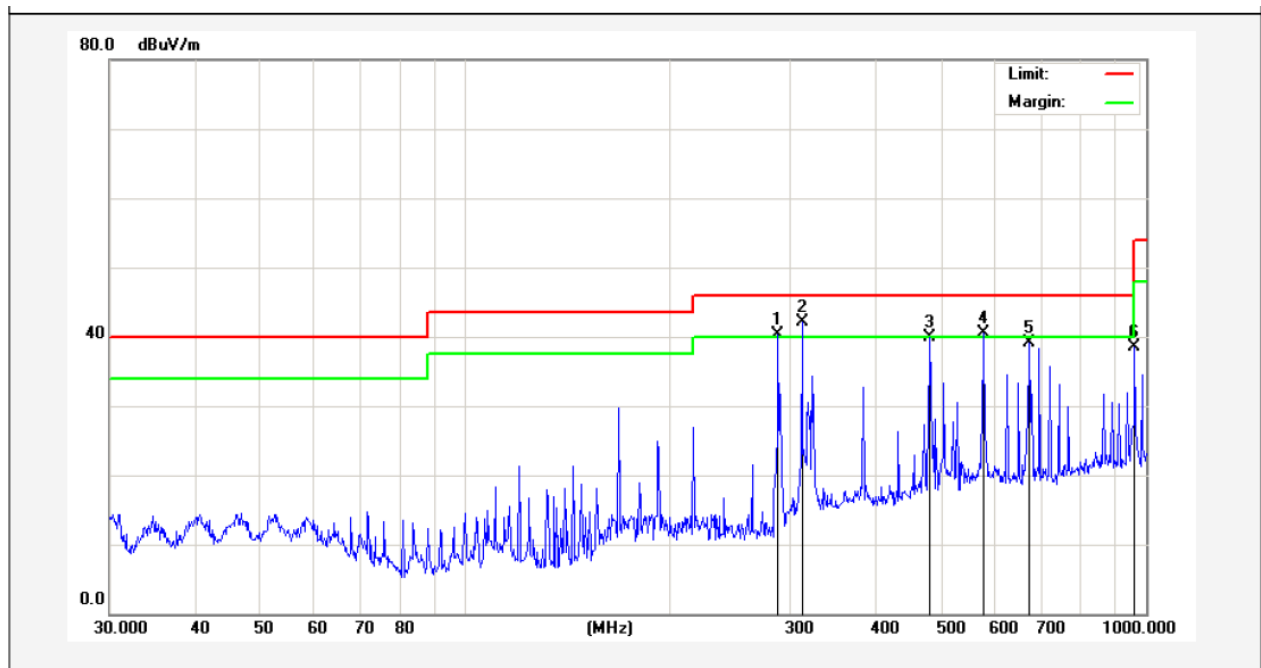
No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	119.8555	64.36	-30.03	34.33	43.50	-9.17	peak			
2	167.8240	71.92	-31.23	40.69	43.50	-2.81	peak			
3	216.0240	67.09	-28.78	38.31	46.00	-7.69	peak			
4	312.1792	64.39	-24.71	39.68	46.00	-6.32	peak			
5	480.5276	57.32	-19.90	37.42	46.00	-8.58	peak			
6	672.8444	58.94	-16.30	42.64	46.00	-3.36	peak			
7	962.1621	55.53	-11.02	44.51	54.00	-9.49	peak			

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	DC 4.5V		
Antenna. Pol:	Vertical		
Test Mode :	Mode 2: Video Record		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	287.9904	64.15	-23.50	40.65	47.00	-6.35	peak			
2	576.6443	59.66	-17.28	42.38	47.00	-4.62	peak			
3	672.8444	59.63	-15.76	43.87	47.00	-3.13	peak			
4	696.8567	58.40	-15.46	42.94	47.00	-4.06	peak			
5	768.7481	56.20	-13.49	42.71	47.00	-4.29	peak			
6	912.8619	50.70	-10.54	40.16	47.00	-6.84	peak			

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	DC 4.5V		
Antenna. Pol:	Horizontal		
Test Mode :	Mode 3: Play Back		



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/)	Over Limit (dB)	Detector	Height (cm)	degree (deg)	Remark
1	287.9904	66.87	-26.50	40.37	46.00	-5.63	peak			
2	312.1792	66.89	-24.71	42.18	46.00	-3.82	peak			
3	480.5276	59.82	-19.90	39.92	46.00	-6.08	peak			
4	576.6443	59.32	-18.81	40.51	46.00	-5.49	peak			
5	672.8444	55.44	-16.30	39.14	46.00	-6.86	peak			
6	962.1622	49.53	-11.02	38.51	54.00	-15.49	peak			

E.U.T :	DV	Model Name :	111SMP
Temperature :	26°C	Relative Humidity :	51 %
Test Voltage :	DC 4.5V		
Antenna. Pol:	Vertical		
Test Mode :	Mode 3: Play Back		

