

EMC TEST REPORT

Project No.	LBE20130629	Issue No.	0
Applicant	Name of organization	Samsung Electronics Co., Ltd.	
	Address	416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 443-742 Korea	
	Date of application	January 18, 2013	
EUT	Type of device	Class B personal computers and peripherals	
	Equipment authorization	☐ Declaration of Conformity ☒ Certification ☐ Verification	
	FCC ID	A3LSLM4075FW	
	Kind of product	Mono Laser MFP	
	Model No.	ProXpress M4075FW	
		Variant Model No.	ProXpress M3375FD / ProXpress M3370FD ProXpress M3875FD / ProXpress M3870FD ProXpress M3875FW / ProXpress M3870FW ProXpress M4075FR / ProXpress M4070FR
	Manufacturer	1) SAMSUNG ELECTRONICS (SHANDONG) DIGITAL PRINTING CO., LTD.(SSDP) #264209, Samsung Road, Weihai Hi-Tech IDZ Shandong Province CHINA. 2) SAMSUNG ELECTRONICS SUZHOU COMPUTER CO., LTD.(SESC) NO. 318, Fangzhou Road, Suzhou Industrial Park Jiangsu Province, China. 3) Weihai Intops Electronics Co., Ltd. Keji Road 268-1, Weihai city, Shandong Province, China. 4) Weihai Shin Heung Digital Electronics Co., Ltd. 98, Samsung Road, Weihai Hi-Tech. IDZ, Shandong Province, P.R.China.	
Applied Standards		FCC Part 15, Subpart B / ANSI C63.4-2009	
Test Period		January 23, 2013 ~ January 31, 2013	
Issue date		February 8, 2013	

Test result : Complied

The equipment under test has found to be compliant with the applied standards.
 The result is not applied the uncertainty concept.
 This mean that the result is applied the original (standard) limit.
 (Refer to the attached test result for more detail.)

Tested by : Sang Kyu Seo



Reviewed by : Tae Young Jang



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1. Report information

1.1 Revision history

No.	Revised detailed information
Issue 0	There are no revisions and this version is basic test report.

1.2 Sample calculation

1.2.1 Conducted disturbance (at 10 MHz)

- Class B limit = 60 dB μ V (Quasi-peak limit)
- Level (50 dB μ V) = Meter Reading (40.2 dB μ V) + factor (9.8 dB, AMN factor 9.7 dB + Cable loss 0.1 dB)
- Margin (10 dB) = Limit (60 dB μ V) – Level (50 dB μ V) = 10 dB below limit

1.2.2 Radiated disturbance (at 100 MHz)

- Class B limit = 30 dB μ V/m at 10 m
- Level (20 dB μ V/m)
= Meter Reading (40 dB μ V) + factor (- 20 dB (1/m), antenna factor + cable loss – amplifier gain)
- Margin (10 dB) = Limit (30 dB μ V/m) – Level (20 dB μ V/m) = 10 dB below limit

2. Summary of test results

2.1 Emission

The EUT has been tested according to the following specifications:

Applied	Test type	Applied standard	Result
☒	Conducted Disturbance (Mains Port)	FCC Part 15 Subpart B / ANSI C63.4-2009	Complied
☒	Radiated Disturbance		Complied

3. General Information

3.1 Test facility

The CS & Environment center is located on Samsung Electronics Co., Ltd. at 416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, South Korea.

All testing are performed in Semi-anechoic chambers conforming to the site attenuation Characteristics defined by ANSI C63.4, CISPR 22, 16-1 and 16-2. and Shielded rooms.

The CS & Environment center is operated as testing laboratory in accordance with the requirements of ISO/IEC 17025:2005.

4. Test Setup configuration

4.1 Test Peripherals

The cables used for these peripherals are either permanently attached by the peripheral manufacturer or coupled with an assigned cable as defined below.

The following is a listing of the EUT and peripherals utilized during the performance of EMC test:

Seq	Description	Model No.	Serial No.	Manufacturer	Fcc ID / DoC
A	Mono Laser MFP	ProXpress M4075FW	-	Samsung	EUT
B	USB Memory	SDCZ36-004G	-	SanDisk	DoC
C	Notebook Computer	NT-R580	ZNU79XN2700018H	Samsung	DoC
D	USB Memory	ThumbDrive	-	-	DoC
E	Adapter (For PC)	AD-9019S	CNBA4400215ABZ040CL6420	Delta	DoC
F	Telephone	SP-F118R	-	Samsung	DoC
G	Headset	-	-	Actto	DoC

4.2 EUT operating mode

To achieve compliance applied standard specification, the following mode(s) were made during compliance testing:

Operating Mode 1	Stand By
Operating Mode 2	ADF Copy
Operating Mode 3	ADF Scan
Operating Mode 4	USB + Network Printing

4.3 Details of Sampling

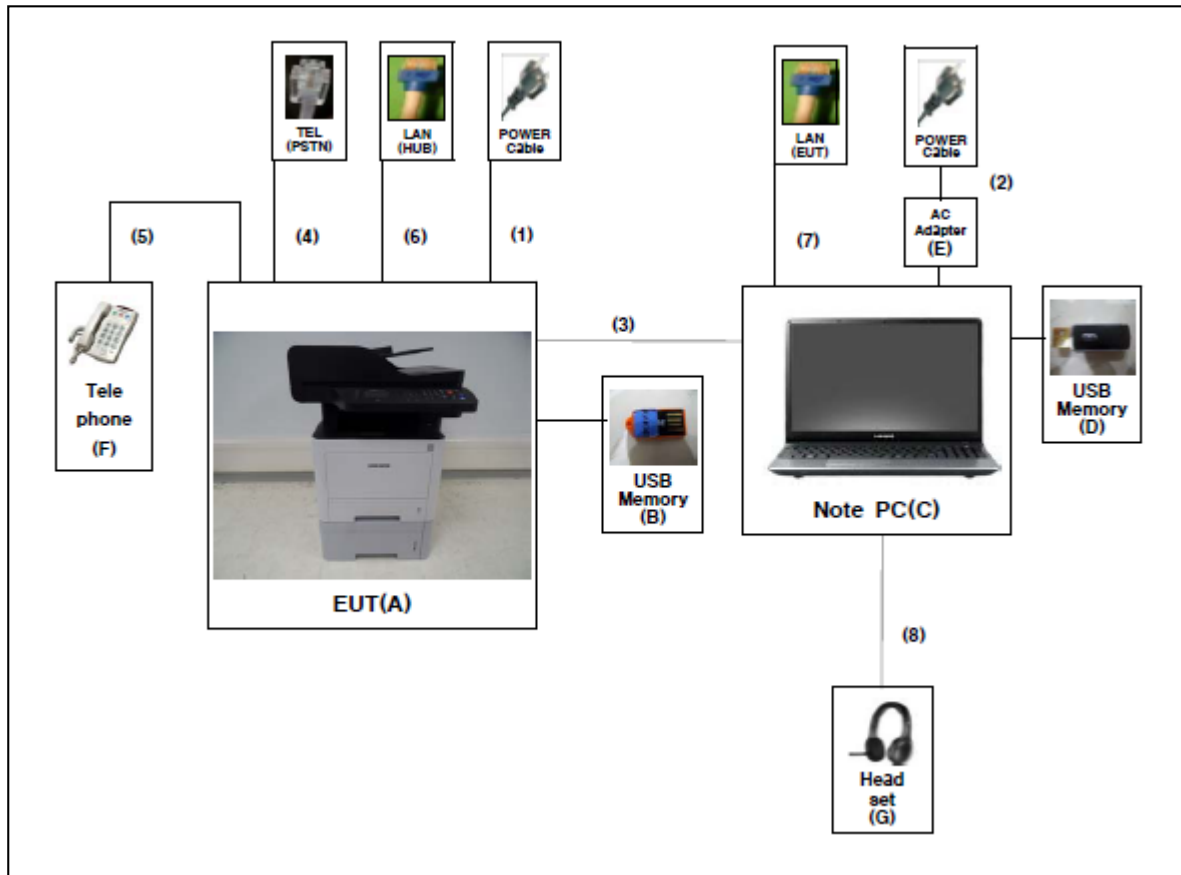
Customer selected, single unit.

4.4 Used cable description

The EUT is configured, installed, arranged and operated in a manner consistent with typical applications. Interface cables/loads/devices are connected to at least one of each type of interface port of the EUT, and where practical, each cable shall be terminated in a device typical of actual usage. The type(s) of interconnecting cables to be used and the interface port (of the EUT) to which these were connected;

No.	Connected cable	Length [m]	Shielded [Y/N]	Note
1	Power	1.8	No	For EUT
2	Power	1.8	No	For PC
3	USB	2.0	Yes	From EUT to PC
4	TEL	2.0	No	From EUT to PSTN
5	TEL	2.0	No	From EUT to PHONE
6	LAN	2.0	No	From EUT to HUB
7	LAN	2.0	No	From EUT to PC
8	Audio	1.8	No	From PC to Headset

4.5 Test arrangement



4.6 EUT Description

The following features describe EUT represented by this report:

Item	Specification and Description
Processor	A1500 (600MHz)
Standard System memory	256MB DDR3 on all configurations (default) 512MB DDR3 (option)
Resolution	Pseudo 1200 dpi
Speed	ProXpress M33**** series 33ppm ProXpress M38**** series 38ppm ProXpress M40**** series 40ppm
Paper Handling	Paper Tray(standard) 250 Sheets SCF Tray(option) 520 Sheets MP Tray 1 Sheet (33ppm) MP Tray 50 Sheets (38ppm, 40ppm)
Power Rating	110VAC ~ 127VAC, 6.5A, 50/60 Hz
Power Consumption	Power save mode : 1.1 Watts 2.3 Watts (WI-FI model) Stand by mode : 60 Watts Printing simplex : 600 Watts
Printer Language	SPL,PCL6,PS3,PCL5e, IBM Proprint, EPSON, KS, KSSM, PDF V1.7
Interfaces	USB2.0, Network, WI-FI
OS compatibility	Window XP (32/64 bit) / 2003 Server (32/64 bit) / Vista (32/64 bit) / 2008 server (32/64 bit) / 7 (32/64 bit) / 2008 Server R2 / 8 (32/64bit) Linux : RedHat Enterprise Linux WS 4, 5, 6 (32/64 bit) / Fedora 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15 (32/64 bit) / OpenSuSE 10.2, 10.3, 11.0, 11.1, 11.2, 11.3, 11.4 (32/64 bit) / Mandriva 2007, 2008, 2009, 2009.1, 2010 (32/64 bit) / Ubuntu 6.06, 6.10, 7.04, 7.10, 8.04, 8.10, 9.04, 9.10, 10.04, 10.10, 11.04 (32/64 bit) / SuSE Linux Enterprise Desktop 10, 11 (32/64 bit) / Debian 4.0, 5.0, 6.0 (32/64 bit) UNIX : Sun Solaris 9,10,11 (x86, SPARC) / HP-UX 11.0, 11i v1, 11i v2, 11i v3 (PA-RISC, Itanium) / IBM AIX 5.1, 5.2, 5.3, 5.4, 6.1, .7.1 (PowerPC) Mac OS : X10.5~10.8 Citrix Presentation Server Windows Terminal Services
Modes of Operation	USB Printing, Network Printing , WI-FI Printing
Intended Class for Emissions	Class B

4.7 Clock Frequencies

Kind of Clocks	Frequency[MHz]	Kind of Clocks	Frequency[MHz]
Main Source	12	Video	23.689 (33ppm, 38ppm)
CPU Internal	600		19.849 (40 ppm)
DDR3	384	USB Device	12
Ethernet	25	-	-

4.8 Test configuration 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.

Power source for the EUT operating was supplied by CVCF made by the Pacific Corp.

Two different types of SMPS, Dongyang, Liteon were applied during testing.

Each SMPS was installed for testing, tested and reported.

- Configuration 1 : Dongyang E&P SMPS was applied.

- Configuration 2 : LITEON SMPS was applied.

- Test Voltage : AC 120 V, 60 Hz

4.9 Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus: (According to CISPR 16-4 and UKAS Lab 34.)

4.9.1 Emission

Test type		Measurement uncertainty (C.L. 95 %, k = 2)
Conducted disturbance	Main terminal	2.90 dB
Radiated Disturbance (30 MHz ~ 1 GHz)	Horizontal	4.18 dB
	Vertical	4.47 dB
Radiated Disturbance (1 GHz ~ 6 GHz)	Horizontal	3.06 dB
	Vertical	3.03 dB

5. Results of individual test

5.1 Conducted disturbance

Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration. The EUT measured in accordance with the methods described in standards.

Limits for conducted disturbance at the mains ports of class B ITE

Frequency range Limits MHz	Resolution Bandwidth	Limits dB μ V	
		Quasi-peak	Average
0.15 to 0.50	9 kHz	66 to 56	56 to 46
0.50 to 5	9 kHz	56	46
5 to 30	9 kHz	60	50
NOTE 1 The lower limit shall apply at the transition frequency			
NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.			

5.1.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Test Receiver	R&S	ESIB 26	100288	2012-04-30	12
Two-Line V-Network	R&S	ENV216	100116	2012-10-31	12
Two-Line V-Network	R&S	ESH3-Z5	847265/028	2012-05-31	12
Test Software	R&S	EMC32	Ver 5.20.2	-	-

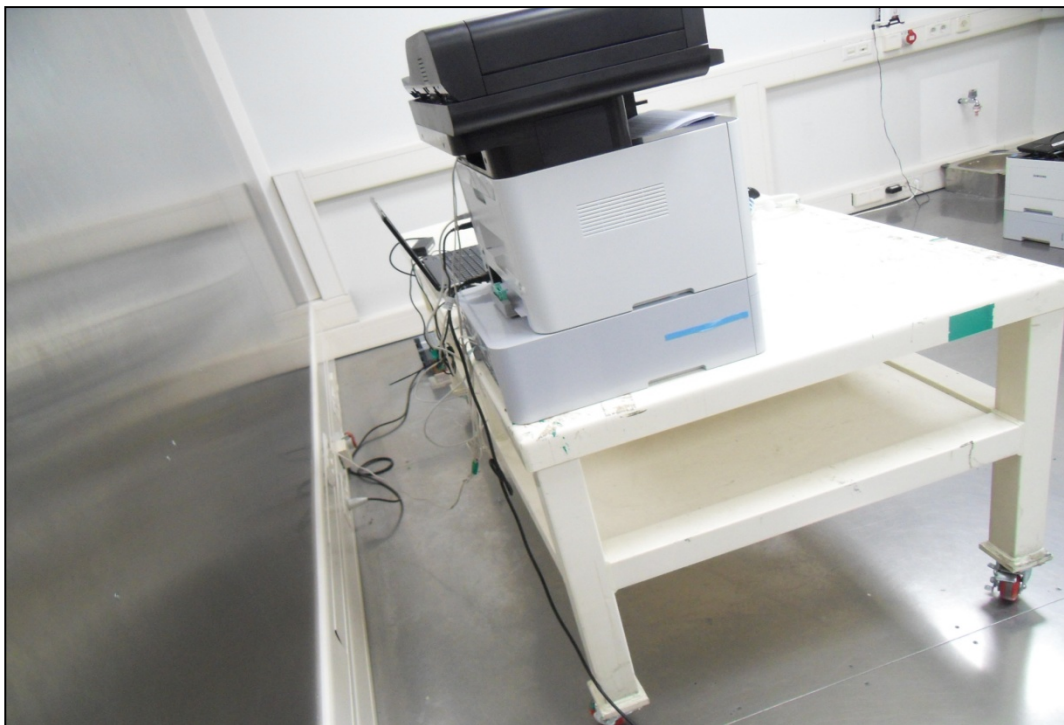
5.1.2 Temperature and humidity condition

Test date	January 28, 2013	Test engineer		Sang Kyu Seo	
Climate condition	Ambient temperature	22.2 ℃	Relative humidity		32 %
	Atmospheric pressure	102.1 kPa			
Test place	Shielded Room #1				

5.1.3 Photograph of Test Setup



Front



Rear

5.1.4 Test results (mains port)

■ Operating Mode 1.

- Stand By (Dong Yang SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

Transducer: ENV216 / Receiver-2-Line-LISN ENV216

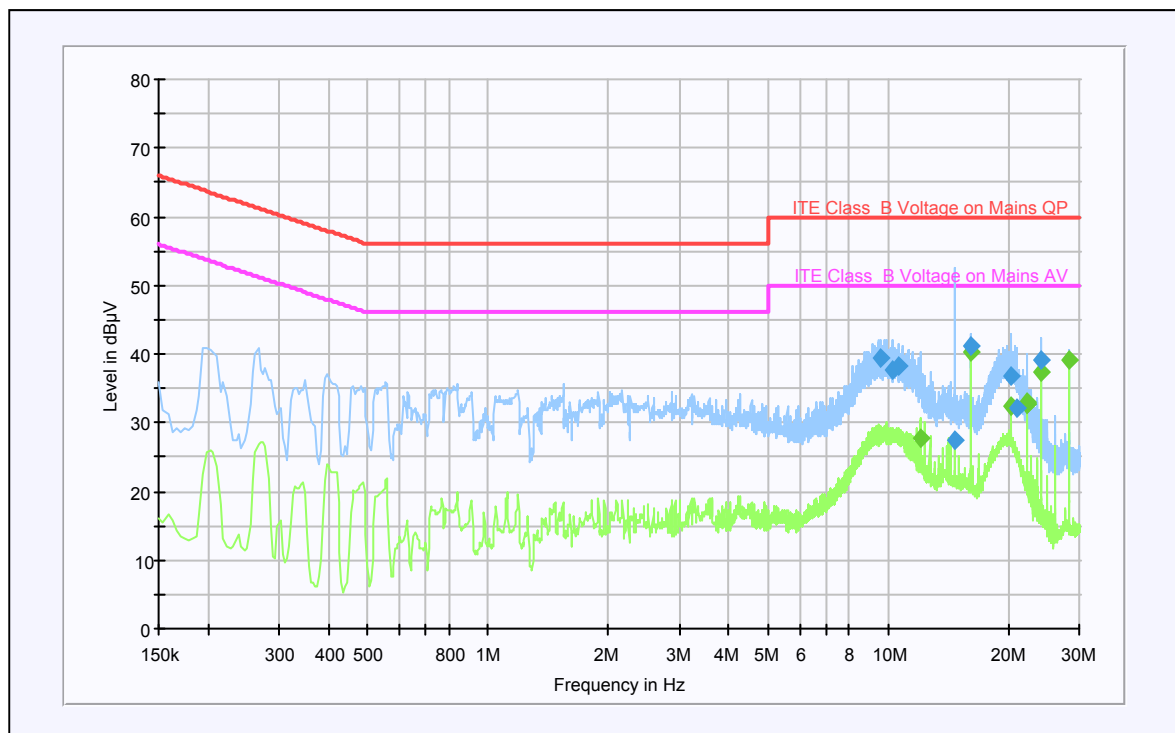
Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph



Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
9.584 000	39.4	N	9.9	20.6	60.0
10.284 000	37.6	N	9.9	22.4	60.0
10.632 000	38.2	N	9.9	21.8	60.0
14.676 000	27.5	N	10.1	32.5	60.0
16.128 000	41.2	L1	10.1	18.8	60.0
20.160 000	36.7	L1	10.2	23.3	60.0
21.016 000	32.1	L1	10.2	27.9	60.0
24.192 000	39.3	L1	10.3	20.7	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
12.048 000	27.8	N	10.0	22.2	50.0
16.128 000	40.4	L1	10.1	9.6	50.0
20.160 000	32.5	L1	10.2	17.5	50.0
22.160 000	32.9	N	10.3	17.1	50.0
22.176 000	32.6	N	10.3	17.4	50.0
22.192 000	32.6	N	10.3	17.4	50.0
24.192 000	37.3	L1	10.3	12.7	50.0
28.224 000	39.2	L1	10.3	10.8	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

- Stand By (LITEON SMPS)**Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]**

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

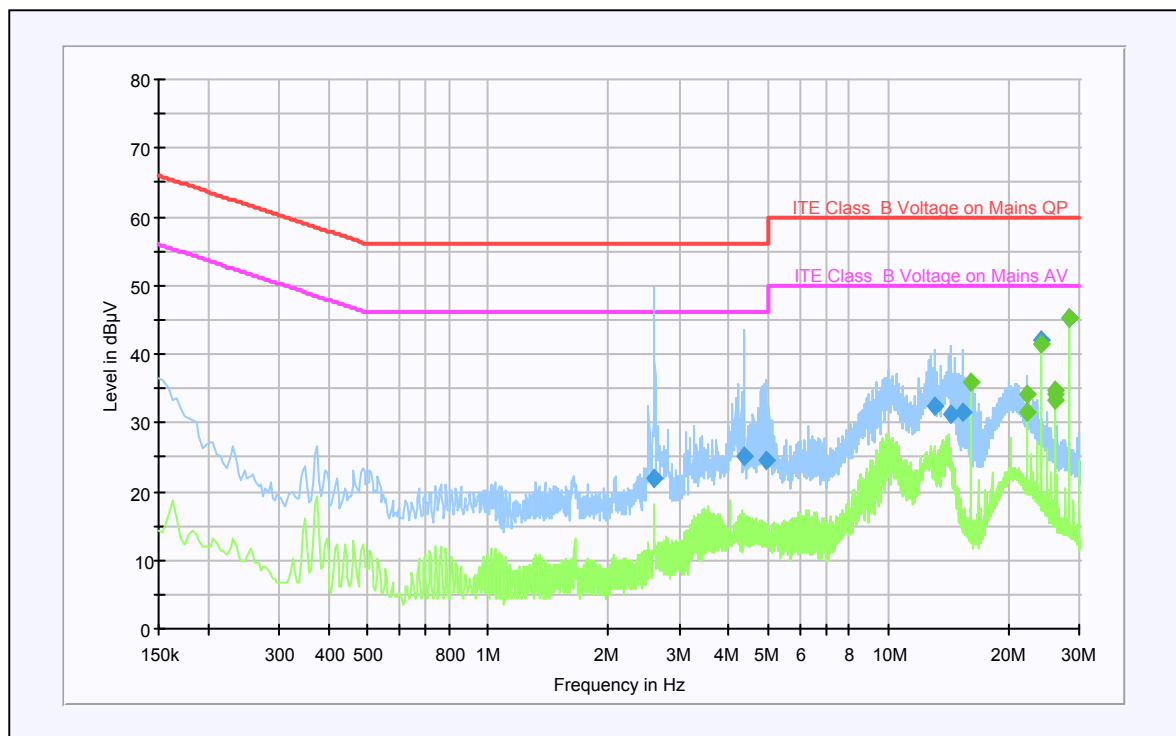
Transducer: ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph

Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.596 000	22.0	L1	9.8	34.0	56.0
4.372 000	25.2	L1	9.8	30.8	56.0
4.964 000	24.6	L1	9.8	31.4	56.0
13.040 000	32.5	L1	10.0	27.5	60.0
14.372 000	31.1	L1	10.0	28.9	60.0
15.408 000	31.4	L1	10.0	28.6	60.0
24.192 000	42.0	N	10.3	18.0	60.0
28.224 000	45.3	N	10.4	14.7	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
16.128 000	35.8	N	10.1	14.2	50.0
22.160 000	34.3	N	10.3	15.7	50.0
22.192 000	31.6	N	10.3	18.4	50.0
24.192 000	41.5	N	10.3	8.5	50.0
26.192 000	34.8	N	10.4	15.2	50.0
26.208 000	33.3	N	10.4	16.7	50.0
26.224 000	34.1	N	10.4	15.9	50.0
28.224 000	45.1	N	10.4	4.9	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

■ Operating Mode 2.

- ADF Copy (Dong Yang SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

Transducer: ENV216 / Receiver-2-Line-LISN ENV216

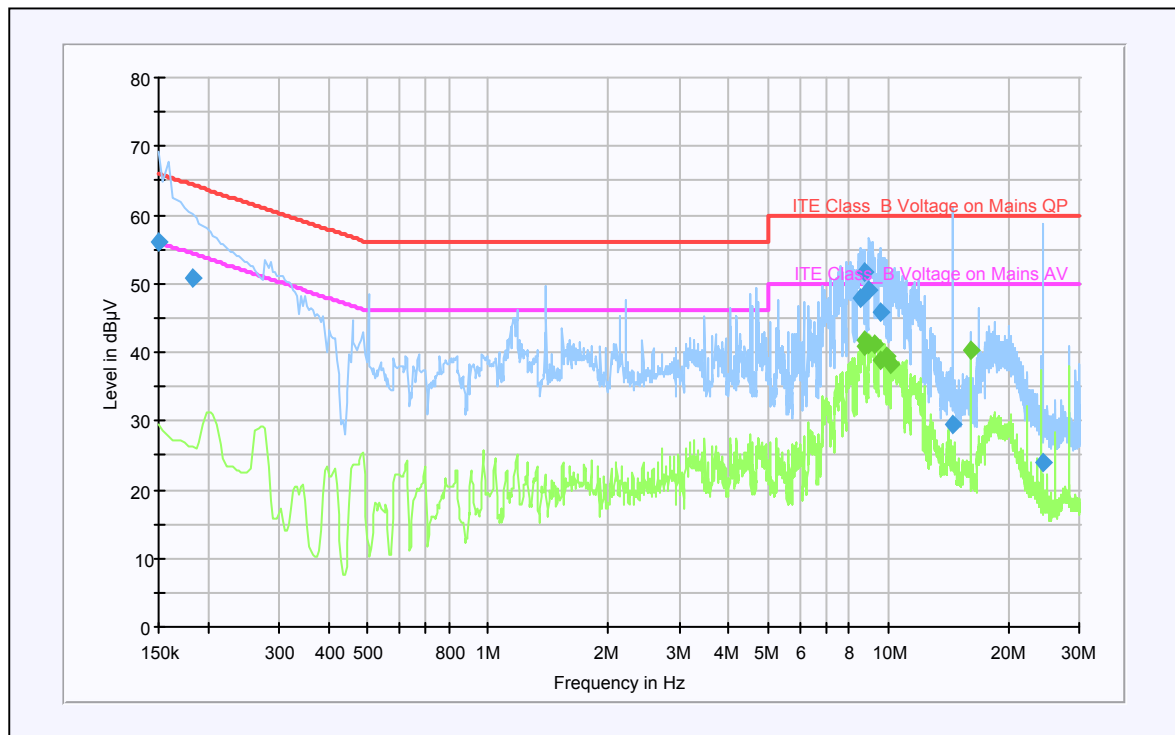
Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph



Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150 000	56.2	L1	10.4	9.8	66.0
0.182 000	50.7	L1	10.2	13.7	64.4
8.564 000	47.9	N	9.9	12.1	60.0
8.740 000	51.7	N	9.9	8.3	60.0
8.976 000	48.9	N	9.9	11.1	60.0
9.532 000	45.9	N	9.9	14.1	60.0
14.504 000	29.5	N	10.1	30.5	60.0
24.396 000	23.9	N	10.3	36.1	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
8.700 000	40.8	N	9.9	9.2	50.0
8.748 000	41.8	N	9.9	8.2	50.0
8.976 000	41.1	N	9.9	8.9	50.0
9.272 000	41.1	N	9.9	8.9	50.0
9.532 000	38.8	N	9.9	11.2	50.0
9.952 000	39.5	L1	9.9	10.5	50.0
10.164 000	38.2	L1	9.9	11.8	50.0
16.128 000	40.2	N	10.1	9.8	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

- ADF Copy (LITEON SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

Transducer: ENV216 / Receiver-2-Line-LISN ENV216

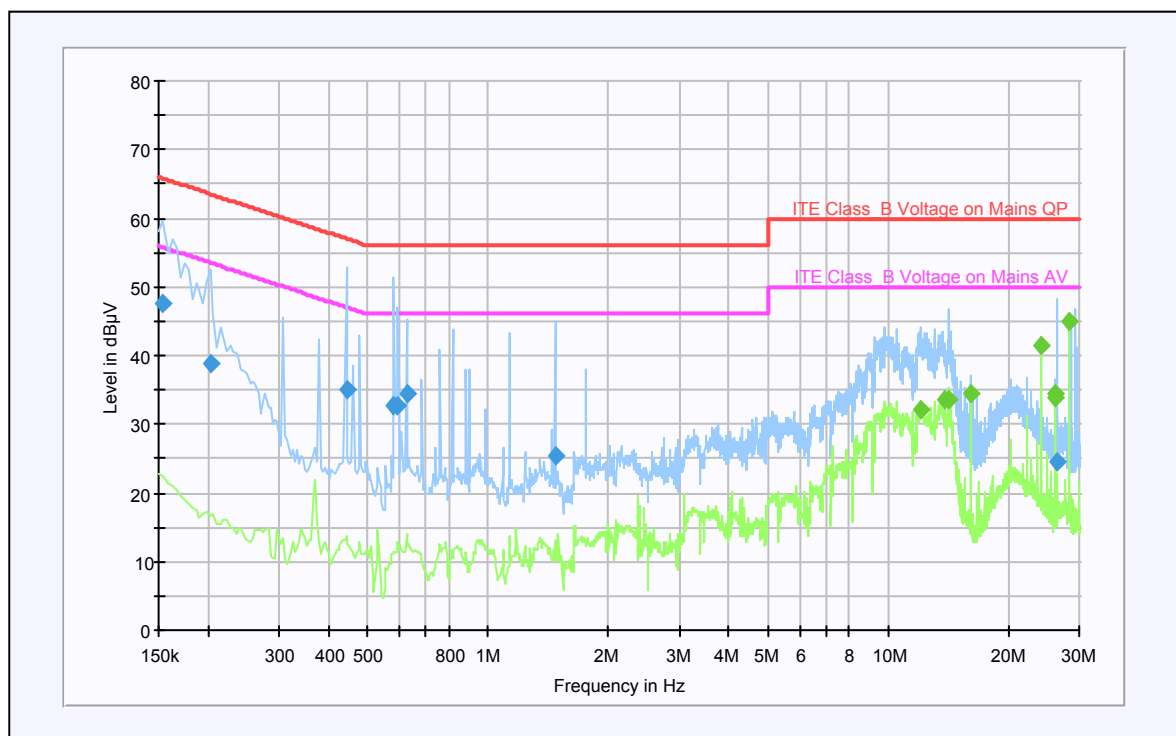
Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph



Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.154 000	47.6	N	10.0	18.2	65.8
0.202 000	39.0	N	10.0	24.5	63.5
0.442 000	35.1	N	10.1	21.9	57.0
0.582 000	32.6	N	10.1	23.4	56.0
0.594 000	32.8	N	10.1	23.2	56.0
0.626 000	34.5	N	10.1	21.5	56.0
1.468 000	25.4	N	9.9	30.6	56.0
26.408 000	24.4	N	10.4	35.6	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
12.004 000	32.1	N	10.0	17.9	50.0
13.808 000	33.6	N	10.0	16.4	50.0
14.096 000	33.6	L1	10.0	16.4	50.0
16.128 000	34.5	L1	10.1	15.5	50.0
24.192 000	41.3	N	10.3	8.7	50.0
26.192 000	34.5	N	10.4	15.5	50.0
26.224 000	33.8	N	10.4	16.2	50.0
28.224 000	45.0	N	10.4	5.0	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

■ Operating Mode 3.

- ADF Scan (Dong Yang SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

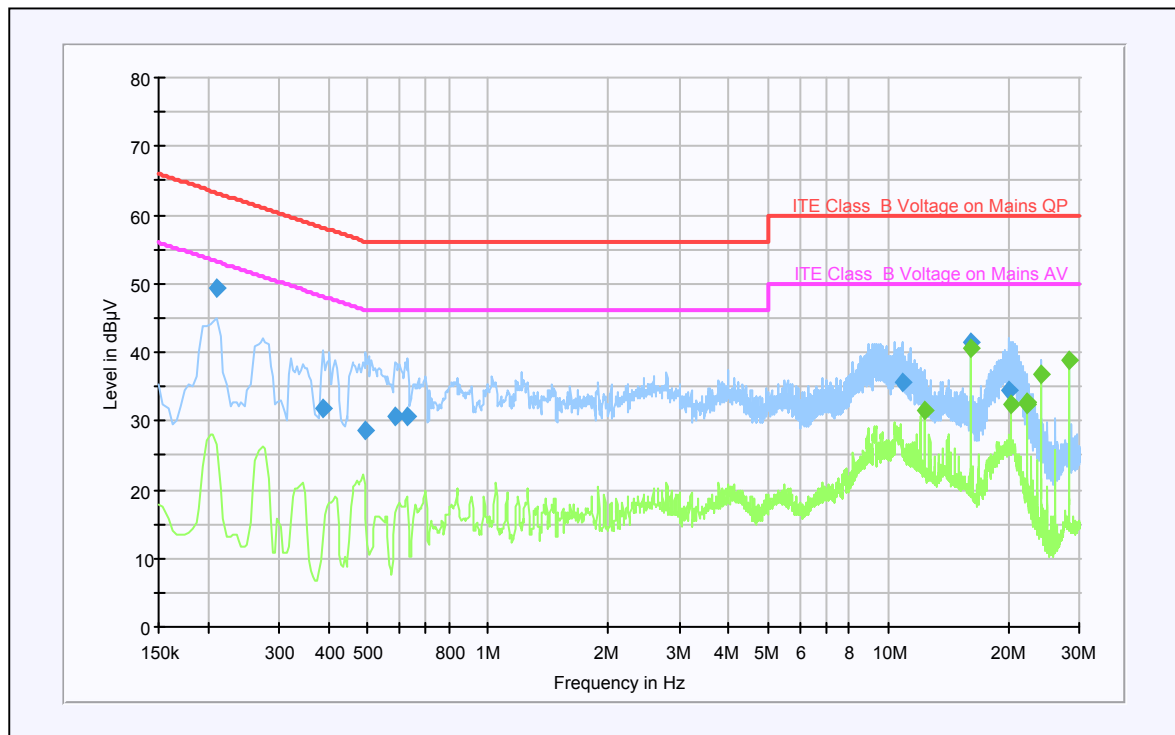
Transducer: ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph

Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.210 000	49.4	N	10.0	13.8	63.2
0.386 000	31.8	N	10.1	26.3	58.1
0.494 000	28.6	L1	10.2	27.5	56.1
0.586 000	30.7	N	10.1	25.3	56.0
0.630 000	30.7	L1	10.1	25.3	56.0
10.844 000	35.7	L1	9.9	24.3	60.0
16.128 000	41.4	L1	10.1	18.6	60.0
20.108 000	34.4	L1	10.2	25.6	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
12.368 000	31.4	N	10.0	18.6	50.0
16.128 000	40.7	L1	10.1	9.3	50.0
20.160 000	32.3	L1	10.2	17.7	50.0
22.160 000	32.7	N	10.3	17.3	50.0
22.176 000	32.4	N	10.3	17.6	50.0
22.192 000	32.7	N	10.3	17.3	50.0
24.192 000	36.8	L1	10.3	13.2	50.0
28.224 000	38.8	L1	10.3	11.2	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

- ADF Scan (LITEON SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

Transducer: ENV216 / Receiver-2-Line-LISN ENV216

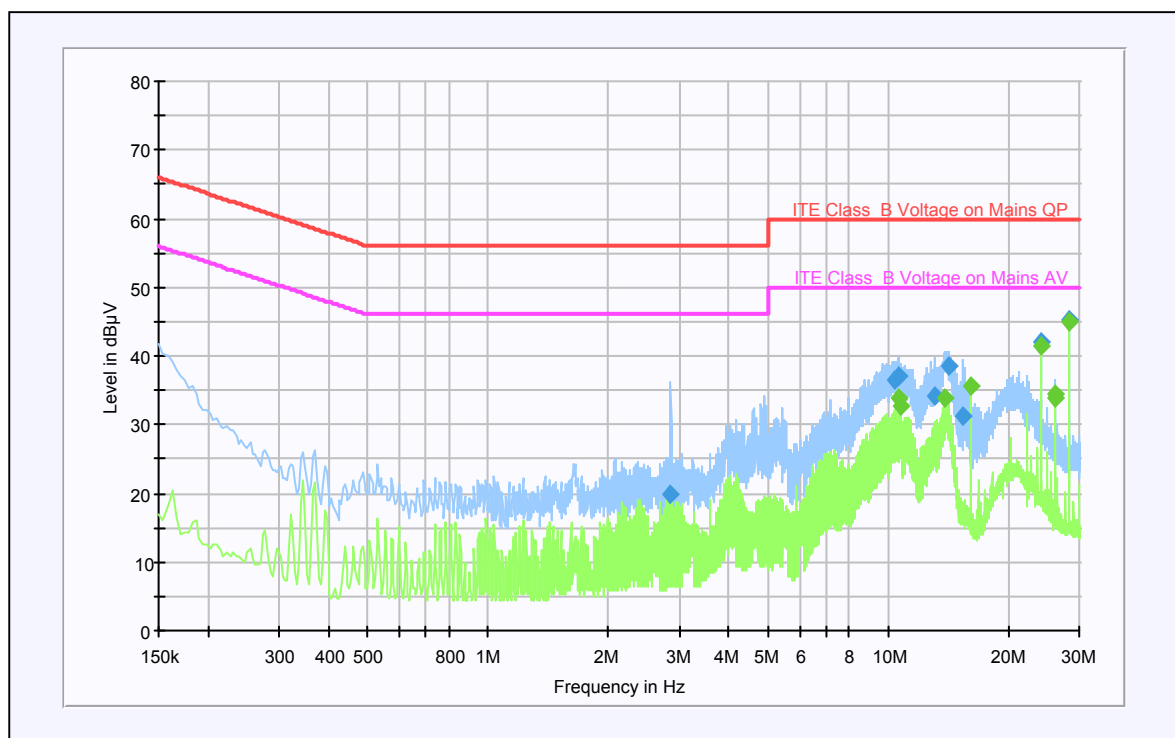
Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph



Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.860 000	19.8	L1	9.8	36.2	56.0
10.364 000	36.5	N	9.9	23.5	60.0
10.596 000	37.1	N	9.9	22.9	60.0
13.012 000	34.1	N	10.0	25.9	60.0
14.096 000	38.5	N	10.1	21.5	60.0
15.408 000	31.3	N	10.1	28.7	60.0
24.192 000	42.0	N	10.3	18.0	60.0
28.224 000	45.2	N	10.4	14.8	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
10.620 000	33.9	N	9.9	16.1	50.0
10.736 000	32.8	N	9.9	17.2	50.0
13.892 000	34.0	N	10.0	16.0	50.0
16.128 000	35.6	L1	10.1	14.4	50.0
24.192 000	41.4	N	10.3	8.6	50.0
26.192 000	34.5	N	10.4	15.5	50.0
26.224 000	33.8	N	10.4	16.2	50.0
28.224 000	45.1	N	10.4	4.9	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

■ Operating Mode 4.

- USB + Network Printing (Dong Yang SMPS)

Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

Transducer: ENV216 / Receiver-2-Line-LISN ENV216

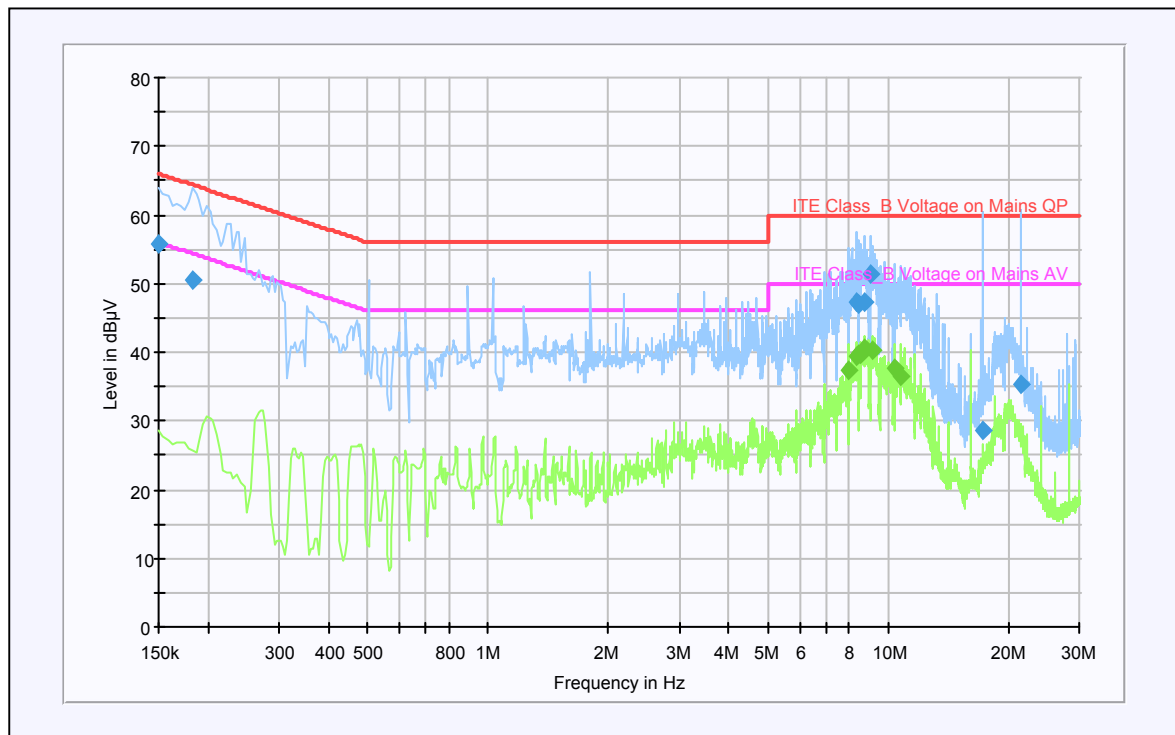
Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph



Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.150 000	55.8	N	10.4	10.2	66.0
0.182 000	50.5	N	10.2	13.9	64.4
8.340 000	47.3	L1	9.9	12.7	60.0
8.472 000	46.9	L1	9.9	13.1	60.0
8.732 000	47.4	N	9.9	12.6	60.0
9.000 000	51.4	L1	9.9	8.6	60.0
17.280 000	28.5	L1	10.1	31.5	60.0
21.580 000	35.2	L1	10.2	24.8	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
7.968 000	37.5	L1	9.8	12.5	50.0
8.340 000	39.4	L1	9.9	10.6	50.0
8.472 000	39.8	L1	9.9	10.2	50.0
8.484 000	39.6	L1	9.9	10.4	50.0
8.732 000	40.5	N	9.9	9.5	50.0
9.144 000	40.3	N	9.9	9.7	50.0
10.388 000	37.8	N	9.9	12.2	50.0
10.748 000	36.4	N	9.9	13.6	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) + Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

- USB + Network Printing (LITEON SMPS)**Hardware Setup: Voltage with ENV 2-Line-LISN - [EMI conducted]**

Subrange 1

Frequency Range: 150 kHz – 30 MHz

Receiver: ESIB

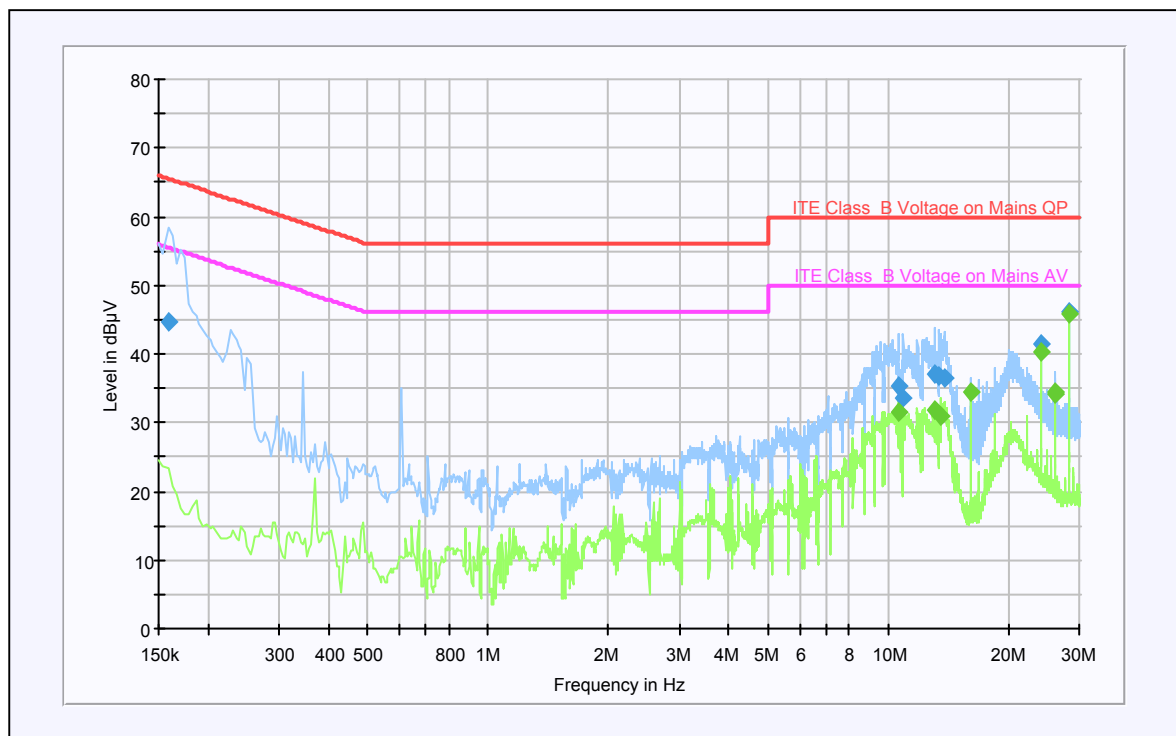
Transducer: ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: B_ENV 2-Line-LISN fin [EMI conducted]

Hardware Setup: Voltage with ENV 2-Line-LISN

Level Unit: dB μ V

Subrange	Detectors	IF Bandwidth	Meas. Time	Receiver
150 kHz – 30 MHz	Quasi Peak; Average	9 kHz	15 s	ESIB

Test Graph

Note) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

Test Results (Quasi-Peak and Average)

Quasi-peak final measurement results table

Frequency (MHz)	Quasi-Peak (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.158 000	44.7	N	10.1	20.9	65.6
10.564 000	35.2	L1	9.9	24.8	60.0
10.924 000	33.6	L1	9.9	26.4	60.0
13.128 000	37.2	N	10.0	22.8	60.0
13.444 000	36.7	N	10.0	23.3	60.0
13.808 000	36.4	L1	10.0	23.6	60.0
24.192 000	41.4	N	10.3	18.6	60.0
28.224 000	46.3	N	10.4	13.7	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
10.564 000	31.6	N	9.9	18.4	50.0
13.128 000	31.8	N	10.0	18.2	50.0
13.488 000	31.0	N	10.0	19.0	50.0
16.128 000	34.4	N	10.1	15.6	50.0
24.192 000	40.4	N	10.3	9.6	50.0
26.192 000	34.3	N	10.4	15.7	50.0
26.224 000	34.0	N	10.4	16.0	50.0
28.224 000	45.9	N	10.4	4.1	50.0

Note) Level (Quasi-Peak and/or Average) = Meter Reading (Quasi-Peak and/or Average) +
Factor (LISN Insertion Loss + Cable Loss)

Margin = Limit – Level (Quasi-Peak and/or Average)

5.2 Radiated disturbance

Of those disturbances above ($L - 20\text{dB}$), where L is the limit level in logarithmic units, record at least the disturbance levels and the frequencies of the six highest disturbances.

The following data lists the significant emission frequencies, measured levels, correction factors (for antenna and cables), orientation of table, polarization and height of antenna, the corrected reading, the limit, and the amount of margin.

All measurements were taken utilizing quasi-peak detection unless stated otherwise.

Measurements were performed at an antenna to EUT distance of 10 m and elevated between 1 m and 4 m.

Both vertical and horizontal antenna polarizations were measured.

Above GHz, peak detector function mode was used with resolution bandwidth of 1 MHz and a video bandwidth of 1 MHz.

If the peak measured value complies with the average limit, it is unnecessary to perform an average measurement.

Limits for radiated disturbance of ITE at a measuring distance of 10 m

Frequency range Limits MHz	Resolution Bandwidth	Quasi-peak Limits dB μ V/m
		Class B
30 to 230	120 kHz	30
230 to 1000	120 kHz	37
NOTE 1 The lower limit shall apply at the transition frequency		
NOTE 2 Additional provisions may be required for cases where interference occurs.		

Peak measurements were made over the changeable frequency range 1 GHz to 5 GHz in accordance with internal maximum operating frequency at a measurement distance of 3 m for the following antenna and turntable arrangements:

Antenna Height (cm)	Antenna Polarisation	Turntable position (degrees)
100 ~ 400	Horizontal, Vertical	Continuous

Above 1 GHz, peak detector function mode is used with a resolution bandwidth of 1 MHz and a video bandwidth of 1 MHz.

Limits for above 1GHz radiated disturbance of ITE at a measuring distance of 3 m

Class	Limits - dB(μV/m)	
	Peak	Average
B	74	54
Average limit 500, $20 \log 500 = 53.979 \text{ dB} \approx 54 \text{ dB}$		

Antenna height was adjusted to maximum radiated position to be parallel from EUT to antenna centre.

Measurements within 20 dB of the limit were then maximized by adjusting turntable position. Final measurements were made using a average detector.

Results checked manually; and points close to the limit line were re-measured.

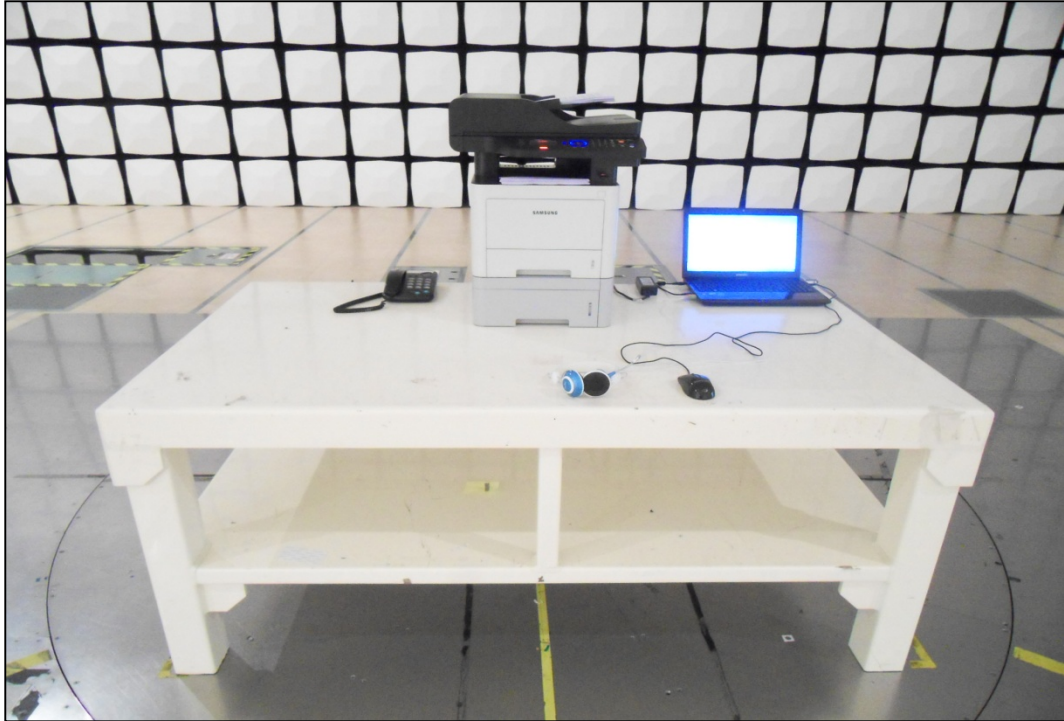
5.2.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Bilog Antenna	Schaffner	CBL6112D	22248	2012-02-16	24
Bilog Antenna	Schaffner	CBL6112D	22604	2012-04-19	24
Test receiver	R&S	ESCI	100368	2012-07-23	12
Test Receiver	R&S	ESCI	100136	2012-05-09	12
Horn Antenna	R&S	HF907	100165	2011-06-09	24
Test receiver	R&S	ESIB-26	100287	2012-04-30	12
Pre-Amplifier	R&S	SCU 18	10001	2012-05-11	12
Amplifier	Sonoma	310N	186467	2012-11-01	12
Amplifier	Sonoma	310N	273121	2012-11-14	12
RF Selector	TOYO	NS4900	-	-	-
Ant. Mast	inn-co	MA4000	-	-	-
Ant. Mast	inn-co	MA4000	-	-	-
Ant. Mast	inn-co	MA2000	-	-	-
Mast Controller	inn-co	CO2000	CO2000/544/2 3341109/L	-	-
Test Software	TOYO	EP5/RE	Ver 5.3.7	-	-

5.2.2 Temperature and humidity condition

Test date	January 23, 2013 January 31, 2013	Test engineer		Sang Kyu Seo	
Climate condition	Ambient temperature	22.1/22.5 °C	Relative humidity	45.0 / 45.2%	
	Atmospheric pressure	101.4 / 101.5 kPa	-		
Test place	10 m Semi-Anechoic Chamber				

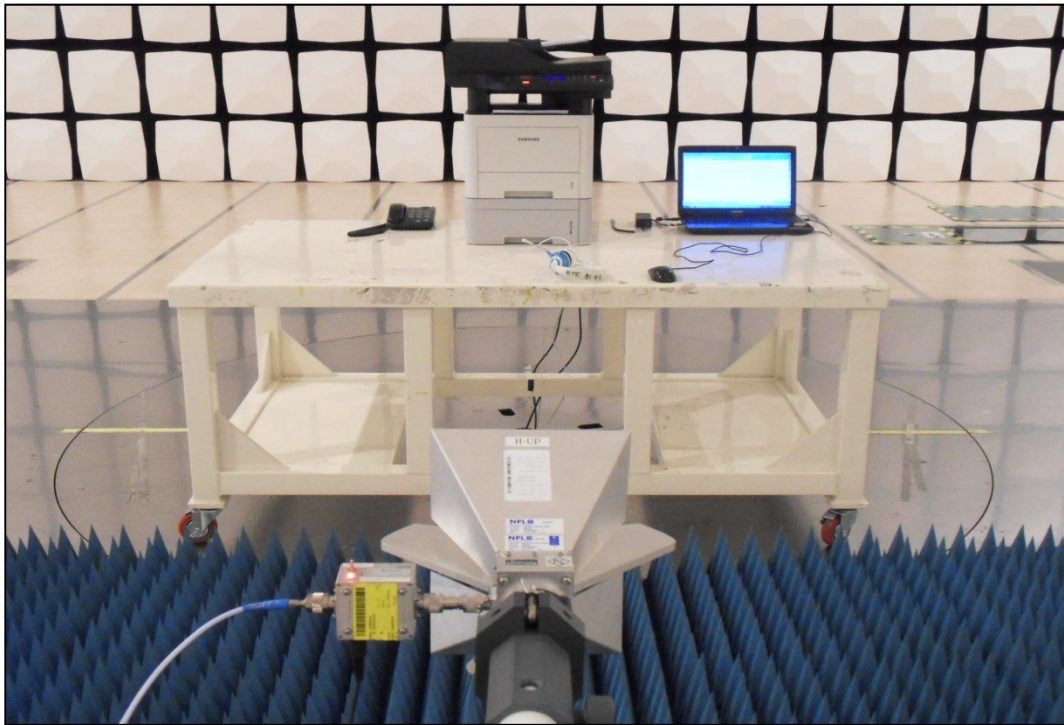
5.2.3 Photograph of Test Setup



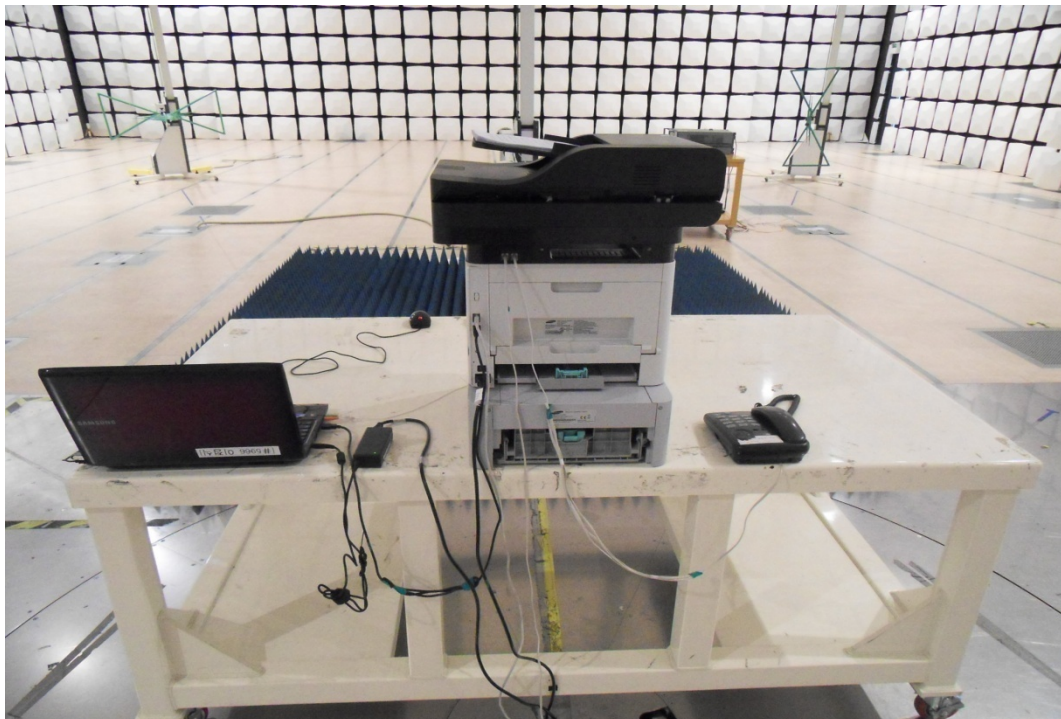
Front (Below 1GHz)



Rear (Below 1GHz)



Front (above 1GHz)



Rear (above 1GHz)

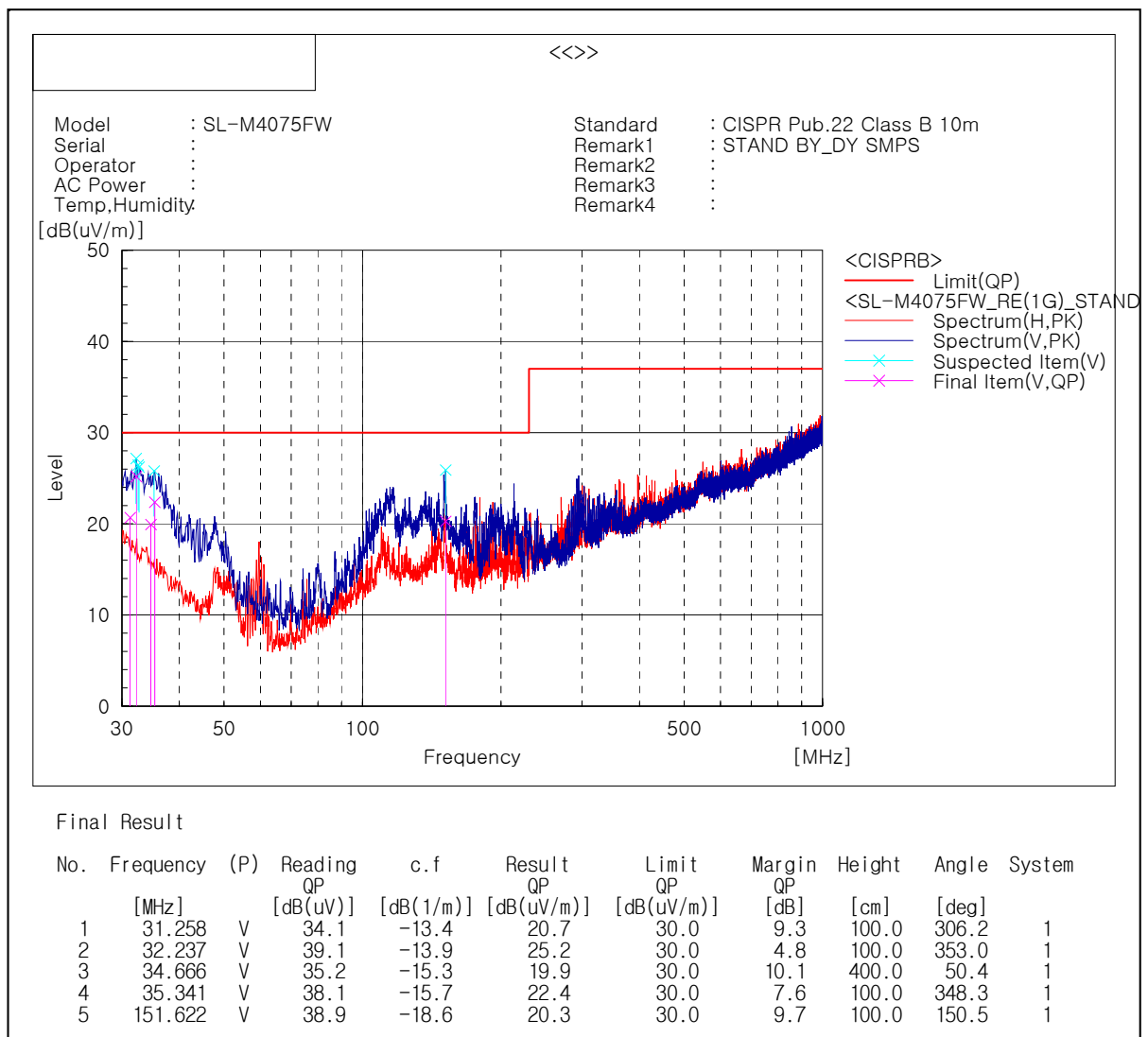
5.2.4 Test results

5.2.4.1 30 MHz to 1GHz test results

■ Operating Mode 1.

- Stand By (Dong Yang SMPS)

Test Graph and Results

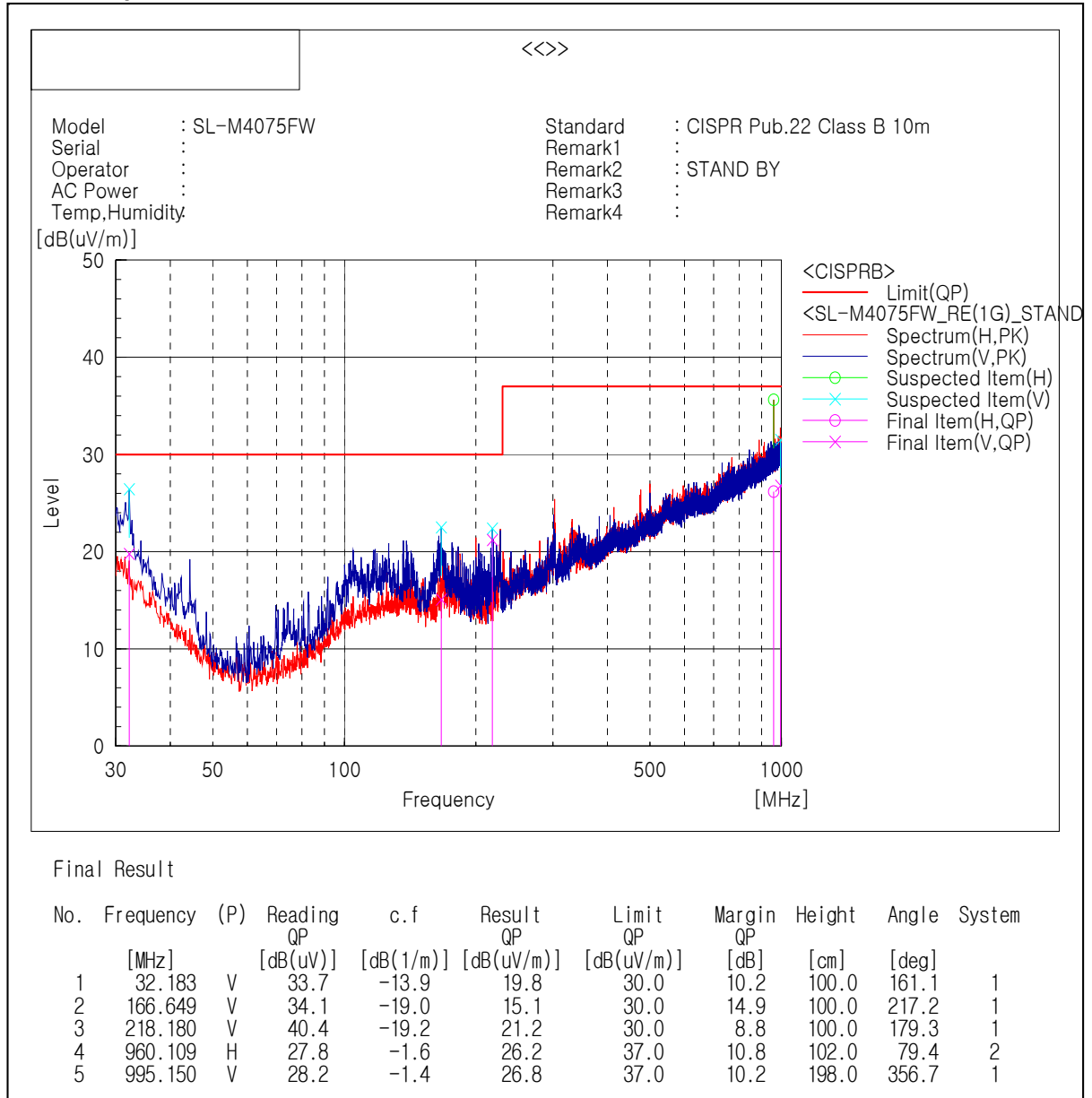


Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

- Stand By (LITEON SMPS)**Test Graph and Results**

Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

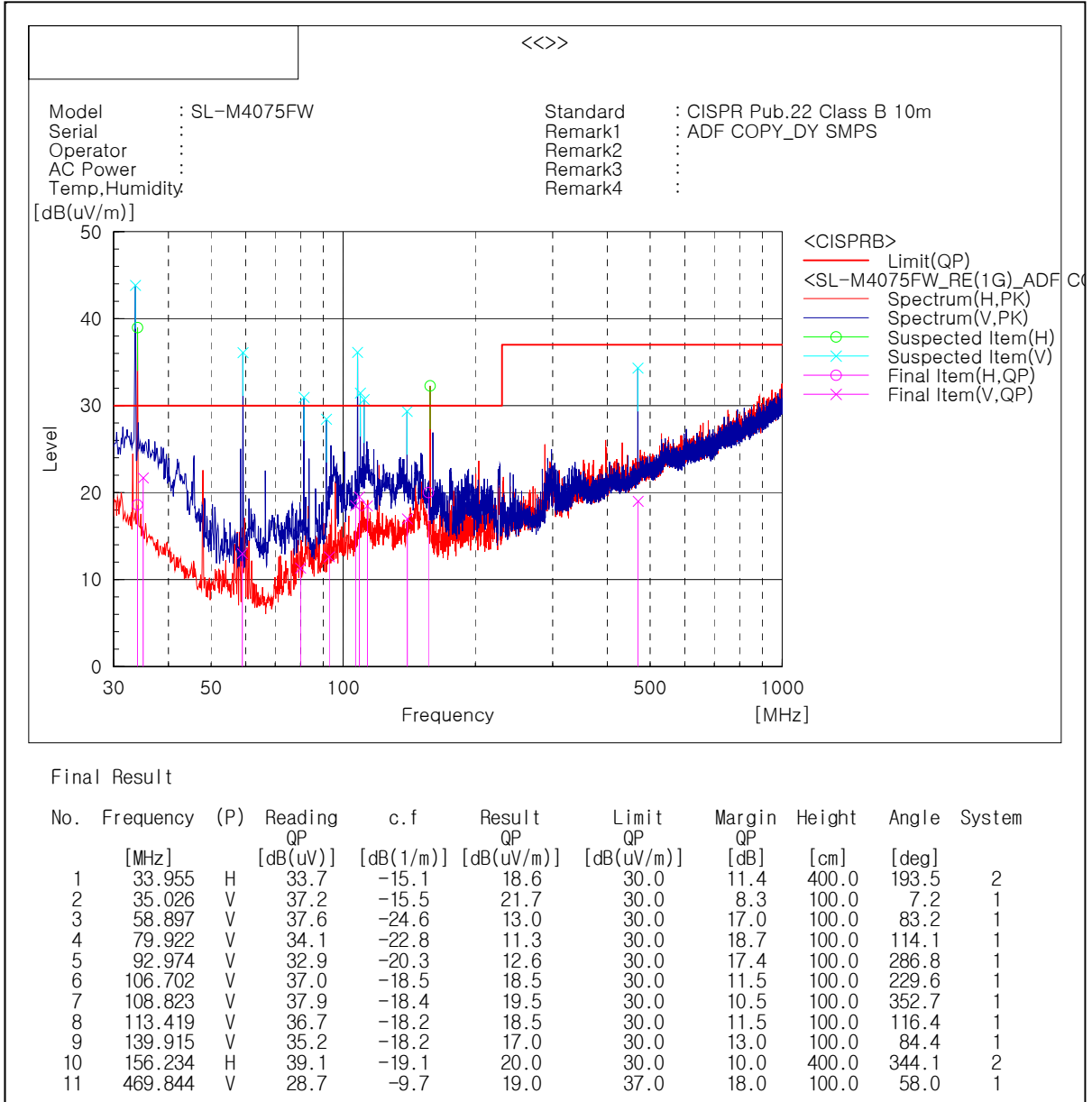
Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

■ Operating Mode 2.

- ADF Copy (Dong Yang SMPS)

Test Graph and Results



Note) Receiving antenna polarization : Horizontal and/or Vertical

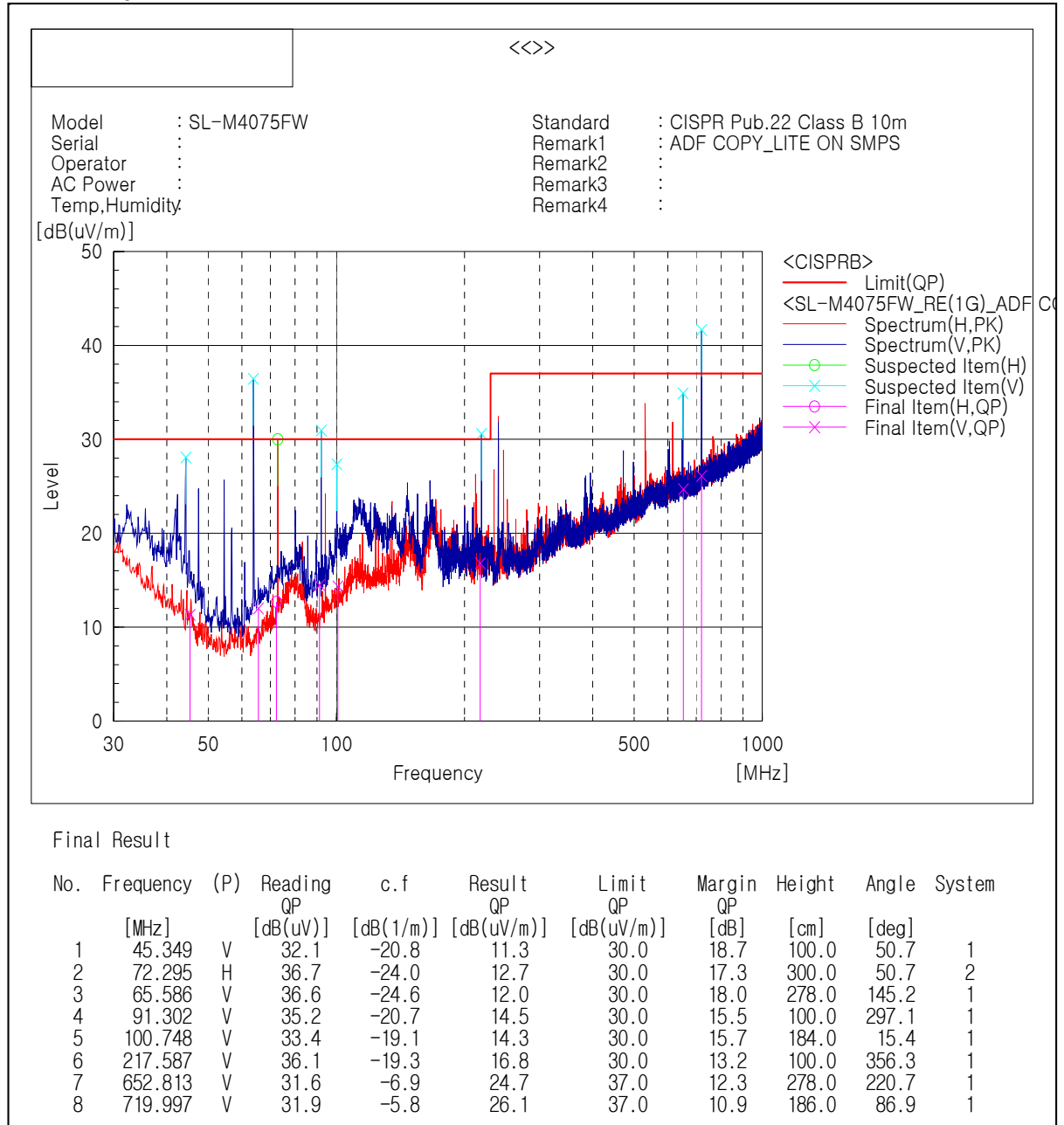
Test Distance : 10 m, Antenna Height : 1 m to 4 m

Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

- ADF Copy (LITEON SMPS)

Test Graph and Results



Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

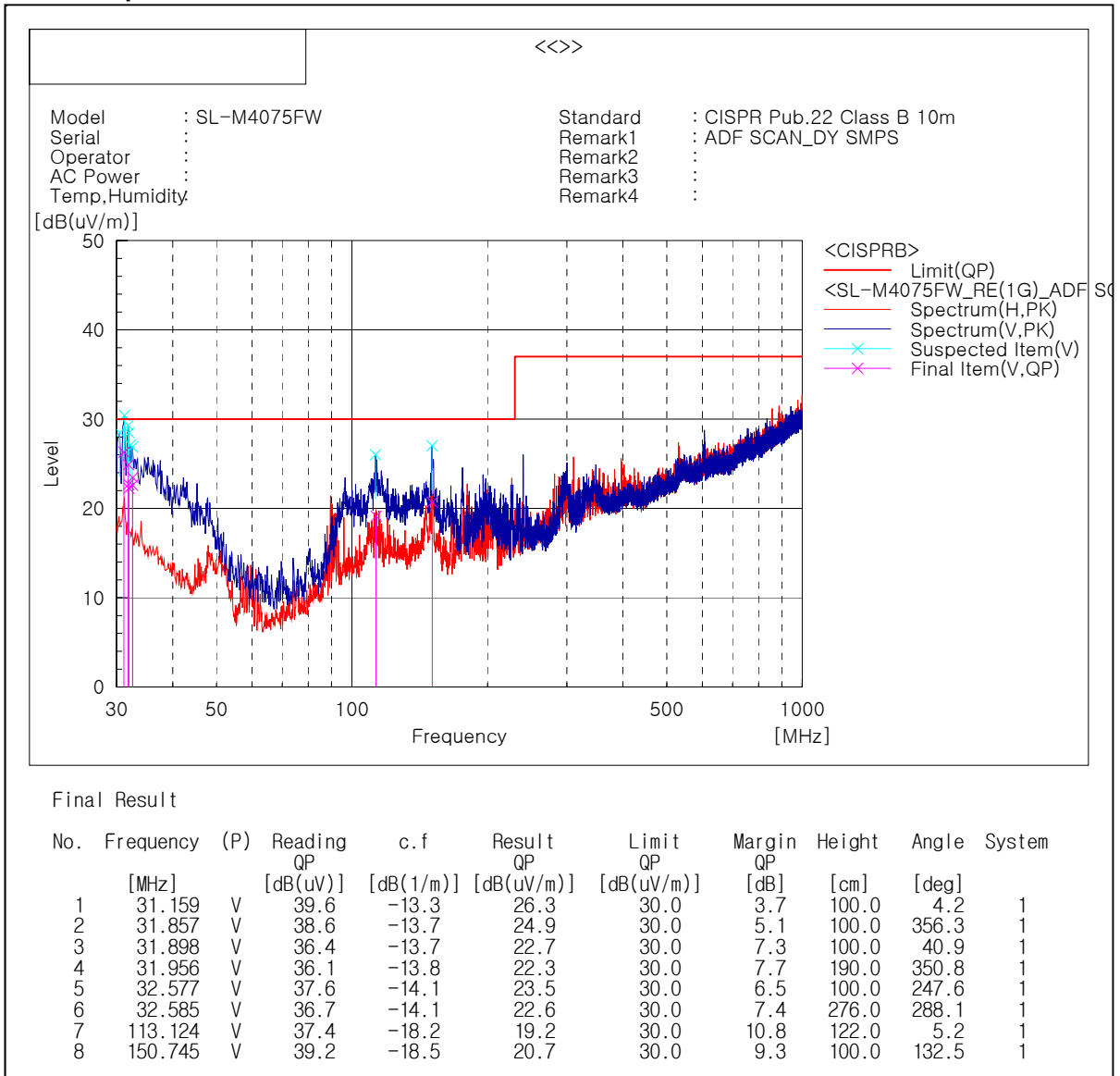
Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

■ Operating Mode 3.

- ADF Scan (Dong Yang SMPS)

Test Graph and Results

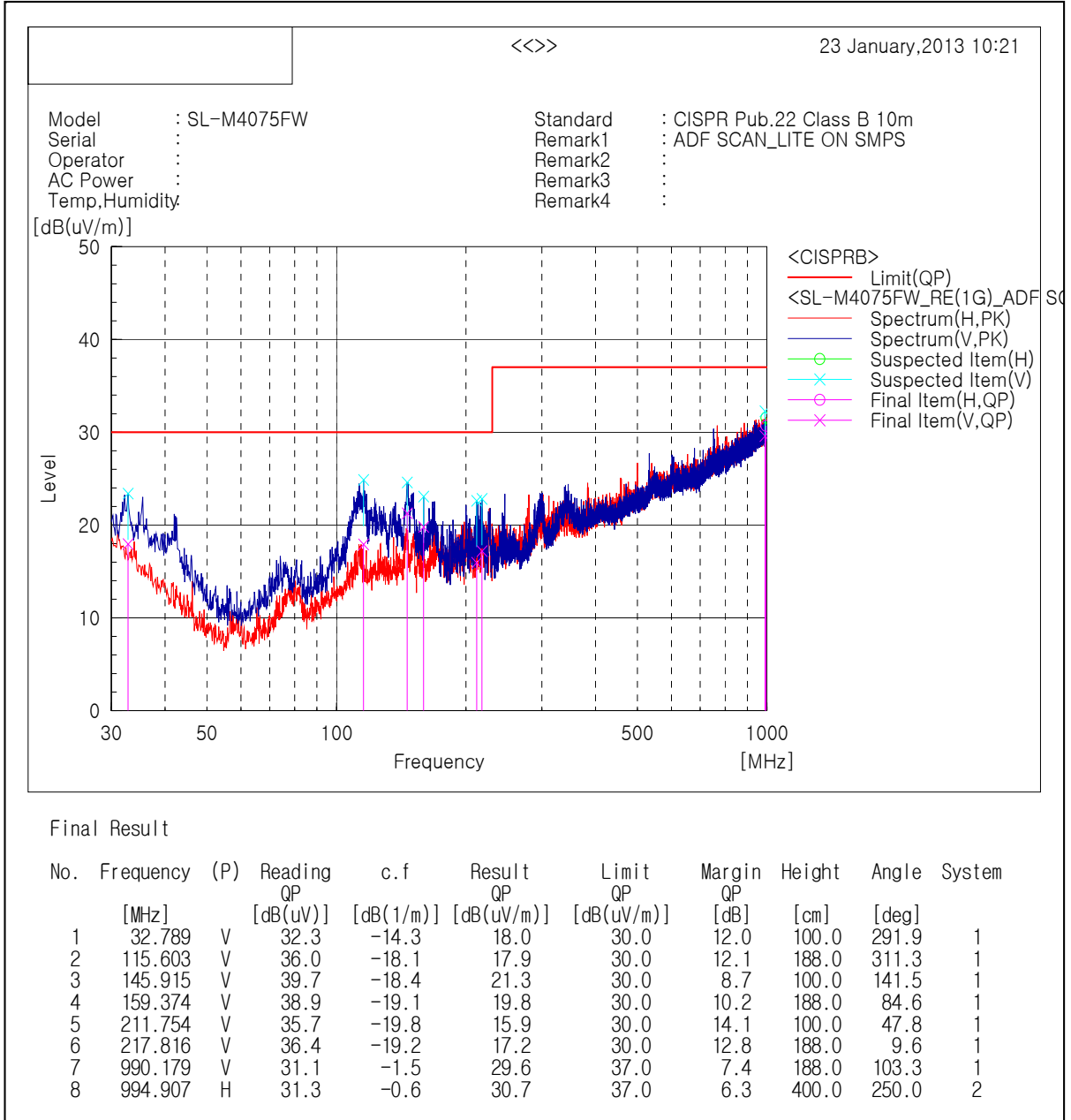


Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

- ADF Scan (LITEON SMPS)**Test Graph and Results**

Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

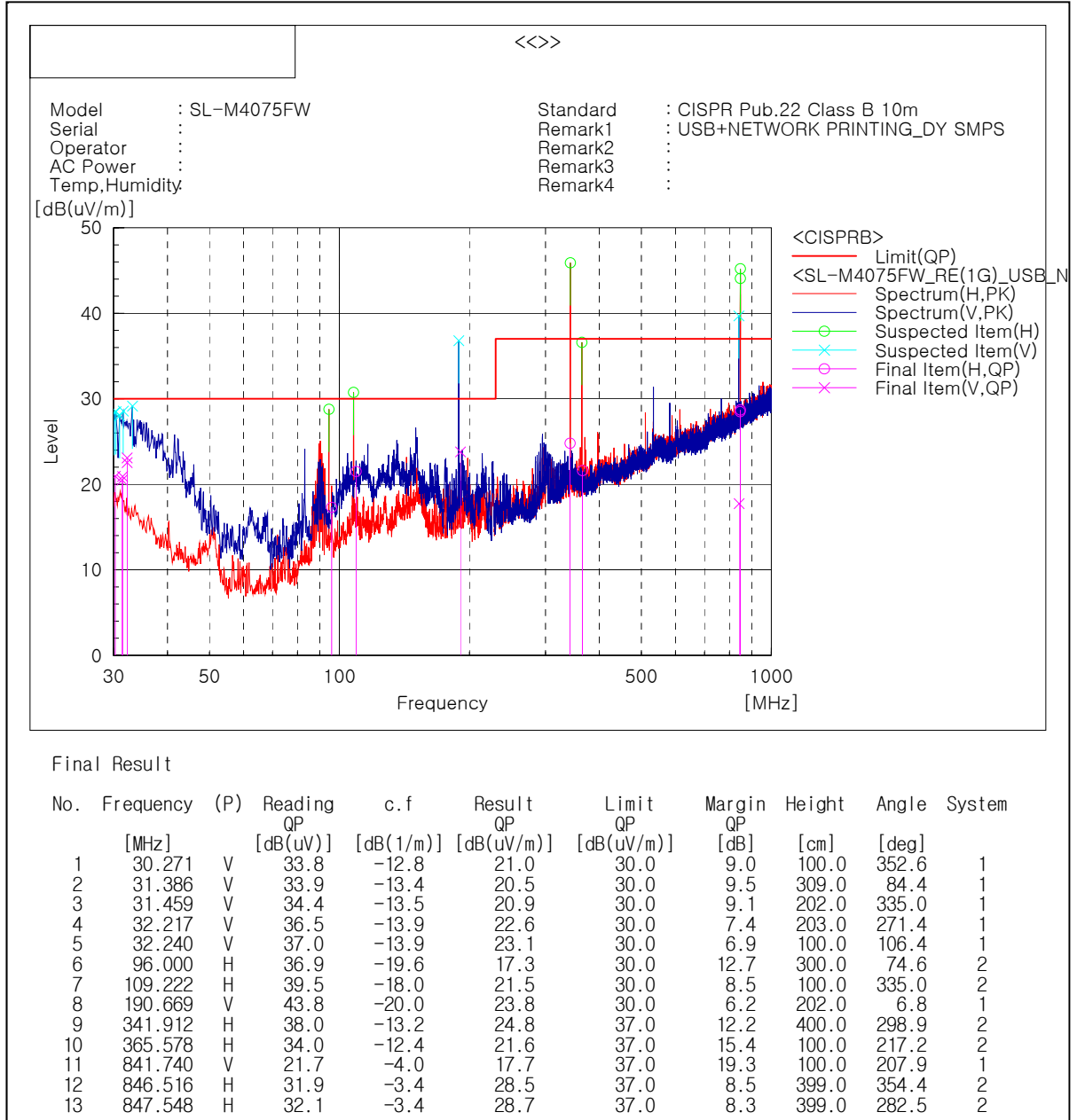
Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

■ Operating Mode 4.

- USB + Network Printing (Dong Yang SMPS)

Test Graph and Results

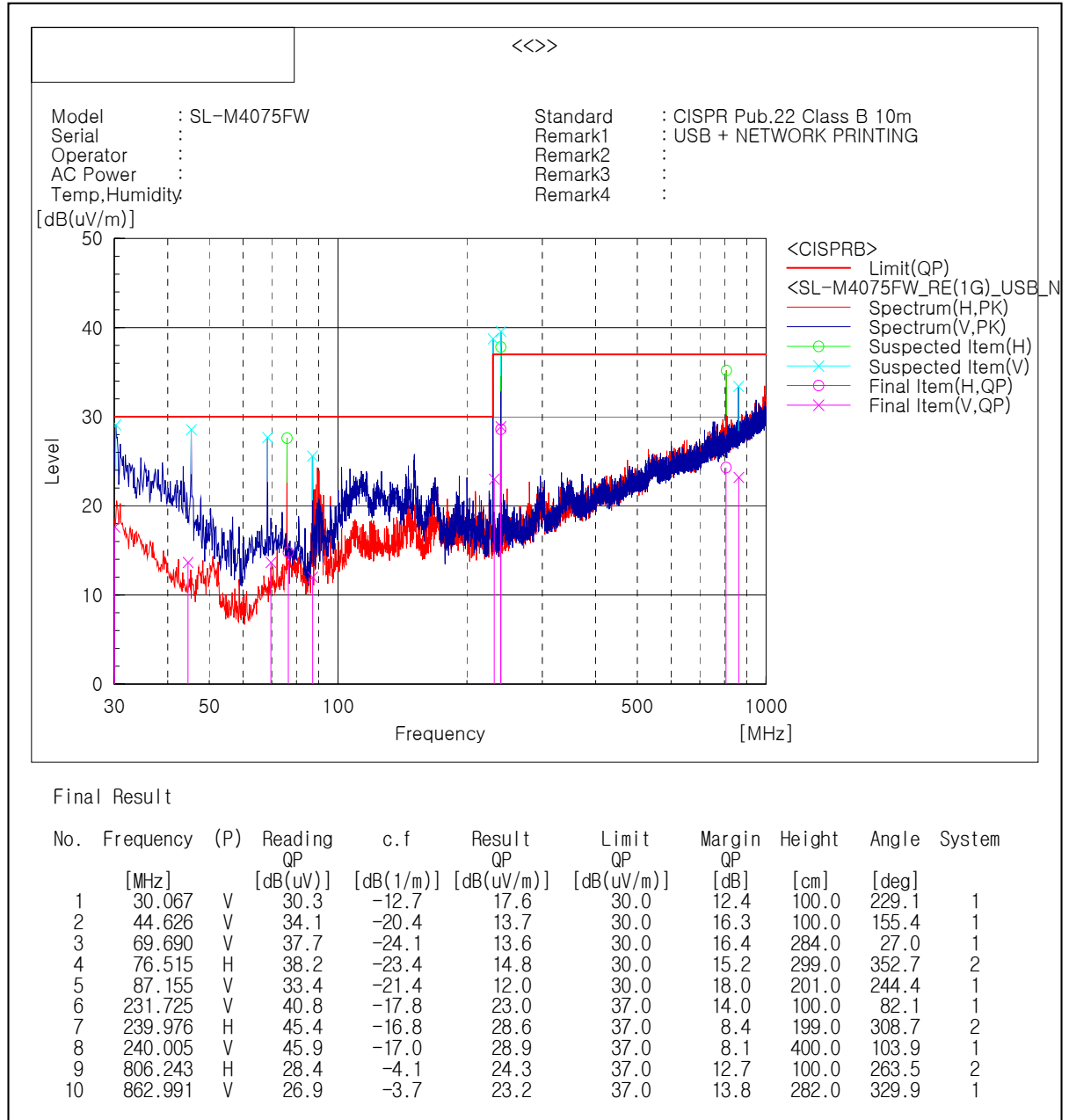


Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin QP (Quasi-Peak) = Limit - Level QP

- USB + Network Printing (LITEON SMPS)**Test Graph and Results**

Note) Receiving antenna polarization : Horizontal and/or Vertical

Test Distance : 10 m, Antenna Height : 1 m to 4 m

Level QP (Quasi-Peak) = Reading QP + Factor (Antenna Factor + Cable Loss - Amp. Gain)

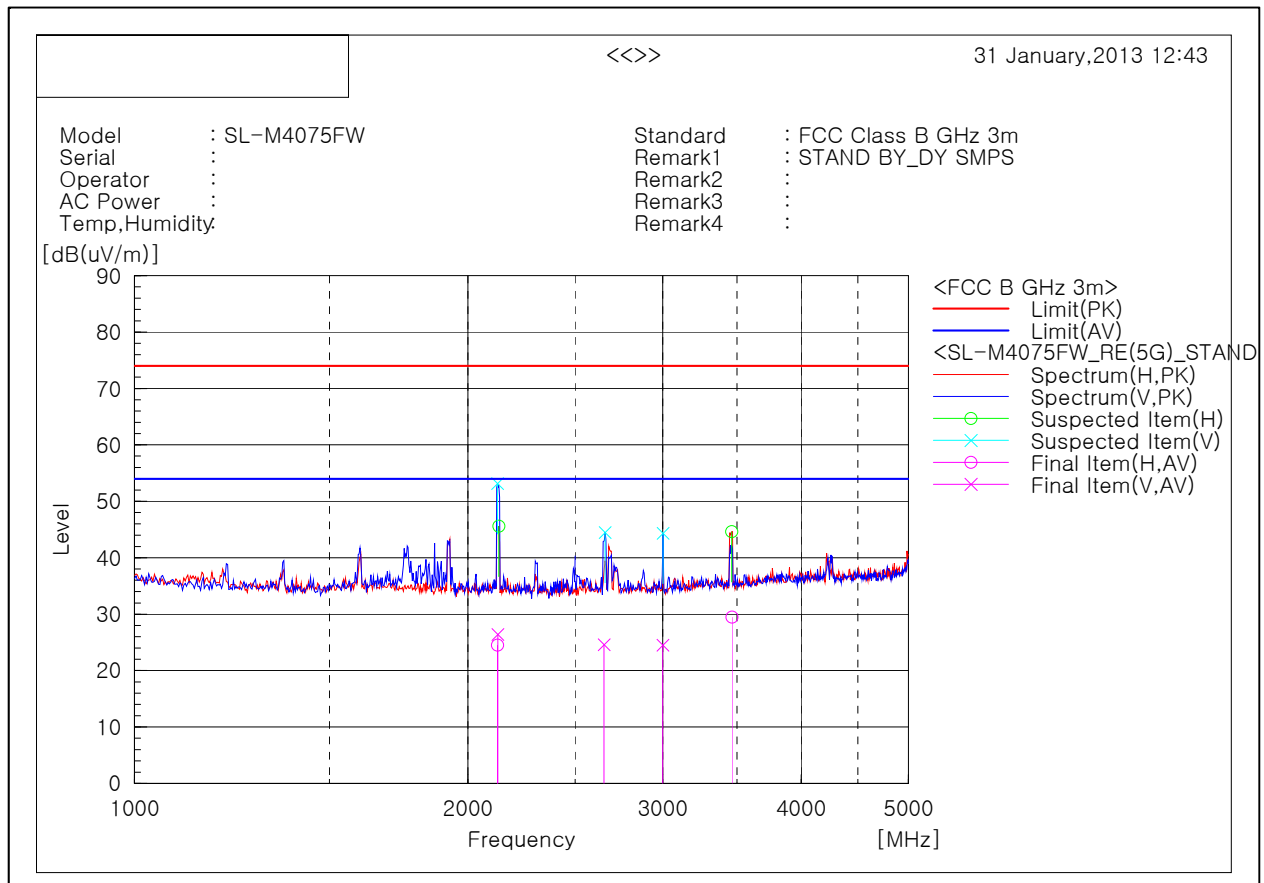
Margin QP (Quasi-Peak) = Limit - Level QP

5.2.4.2 1 GHz to 5 GHz test results

■ Operating Mode 1.

- Stand By (Dong Yang SMPS)

Test Results



Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
2127.255	V	61.4	-8.2	53.2	74	20.8	107	14.9
2133.267	H	53.8	-8.2	45.6	74	28.4	107	48.5
2660.321	V	51.7	-7.2	44.5	74	29.5	107	11.6
3001.002	V	50.3	-6.0	44.3	74	29.7	107	311
3461.924	H	48.9	-4.3	44.6	74	29.4	107	43.7

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
2126.819	H	32.7	-8.2	24.5	54	29.5	107	48.6
2128.442	V	34.6	-8.2	26.4	54	27.6	107	14.9
2655.036	V	31.8	-7.2	24.6	54	29.4	107	11.7
2999.925	V	30.5	-6.0	24.5	54	29.5	107	310.7
3463.953	H	33.8	-4.3	29.5	54	24.5	107	44.1

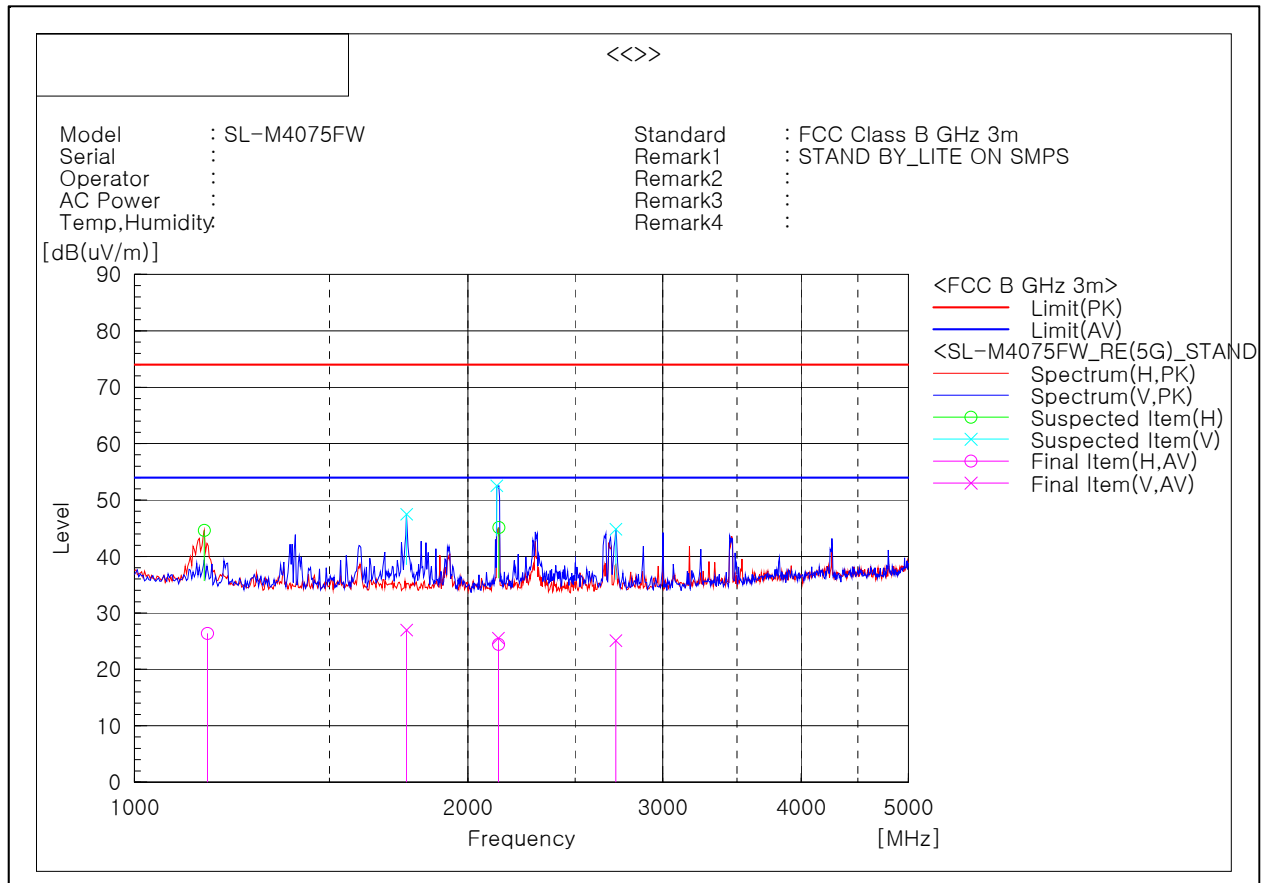
Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

- Stand By (LITEON SMPS)**Test Results**

Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1156.313	H	57.2	-12.6	44.6	74	29.4	112	291.7
1760.521	V	57.3	-9.8	47.5	74	26.5	109	357.4
2124.249	V	60.7	-8.2	52.5	74	21.5	109	359.3
2133.267	H	53.3	-8.2	45.1	74	28.9	112	300.5
2720.441	V	51.9	-7.0	44.9	74	29.1	109	299.6

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1163.482	H	39	-12.6	26.4	54	27.6	109	291.6
1760.205	V	36.8	-9.8	27.0	54	27.0	109	357.3
2130.697	V	33.7	-8.2	25.5	54	28.5	109	359.3
2131.509	H	32.6	-8.2	24.4	54	29.6	115	300.7
2720.065	V	32.1	-7.0	25.1	54	28.9	107	298.9

Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

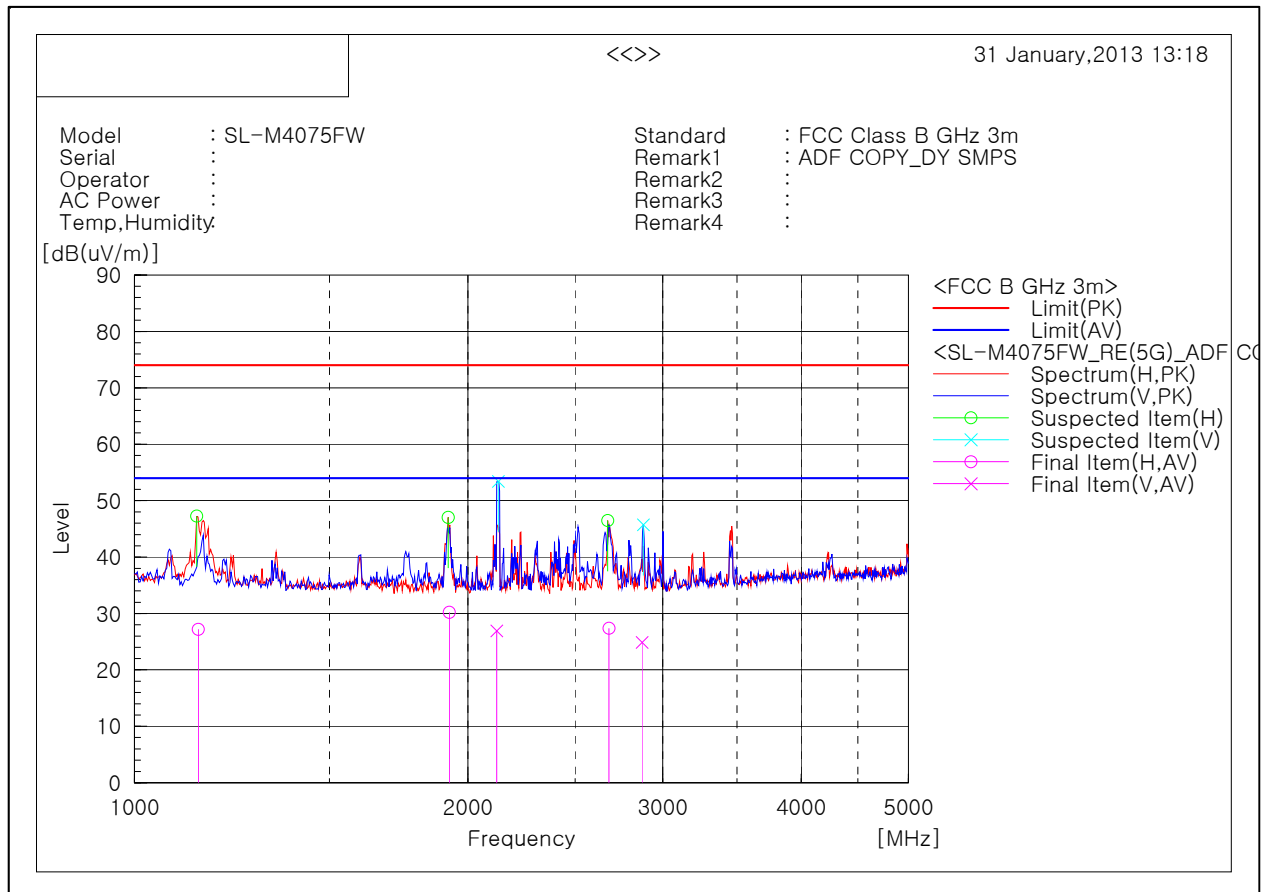
Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

■ Operating Mode 2.

- ADF Copy (Dong Yang SMPS)

Test Results



Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1138.277	H	59.9	-12.6	47.3	74	26.7	107	138.5
1919.840	H	56.0	-8.9	47.1	74	26.9	107	138.5
2130.261	V	61.6	-8.2	53.4	74	20.6	107	26.2
2675.351	H	53.6	-7.1	46.5	74	27.5	107	48.2
2880.762	V	52.2	-6.4	45.8	74	28.2	107	91.8

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1141.869	H	39.8	-12.6	27.2	54	26.8	107	138.3
1924.454	H	39.0	-8.8	30.2	54	23.8	107	138.3
2123.483	V	35.1	-8.2	26.9	54	27.1	107	26
2681.839	H	34.5	-7.1	27.4	54	26.6	107	47.9
2873.172	V	31.4	-6.5	24.9	54	29.1	107	92

Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

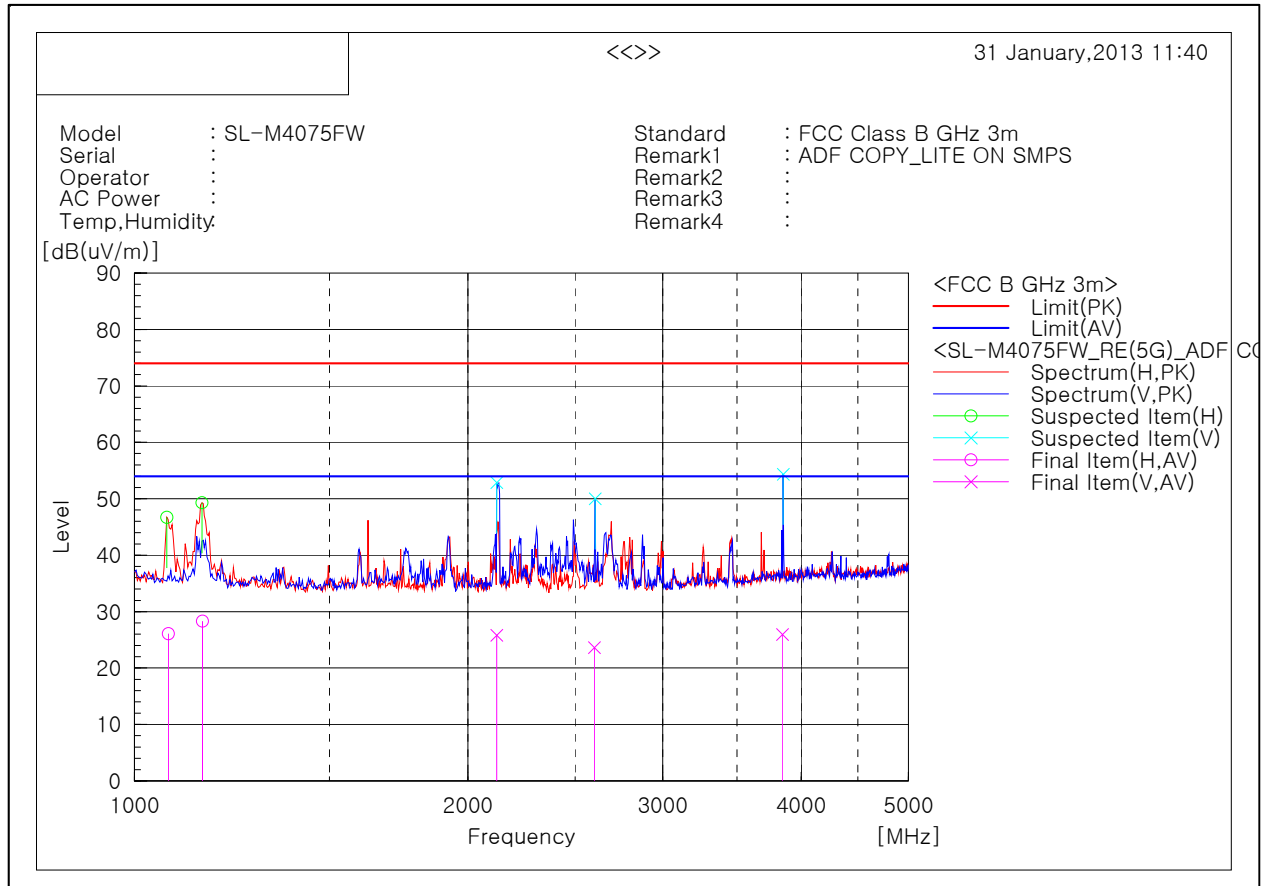
Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

■ Operating Mode 2.

- ADF Copy (LITEON SMPS)

Test Results



Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1069.138	H	59.6	-12.9	46.7	74	27.3	107	255.8
1150.301	H	61.9	-12.6	49.3	74	24.7	107	221.5
2124.249	V	61.1	-8.2	52.9	74	21.1	107	14.4
2605.211	V	57.3	-7.3	50.0	74	24.0	107	164.1
3852.706	V	57.3	-2.9	54.4	74	19.6	107	86.6

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1072.881	H	39.0	-12.9	26.1	54	27.9	107	256.2
1151.879	H	40.9	-12.6	28.3	54	25.7	107	222
2123.242	V	34.0	-8.2	25.8	54	28.2	107	14.6
2601.629	V	31.0	-7.3	23.7	54	30.3	107	163.9
3845.517	V	28.9	-2.9	26.0	54	28.0	107	86.6

Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

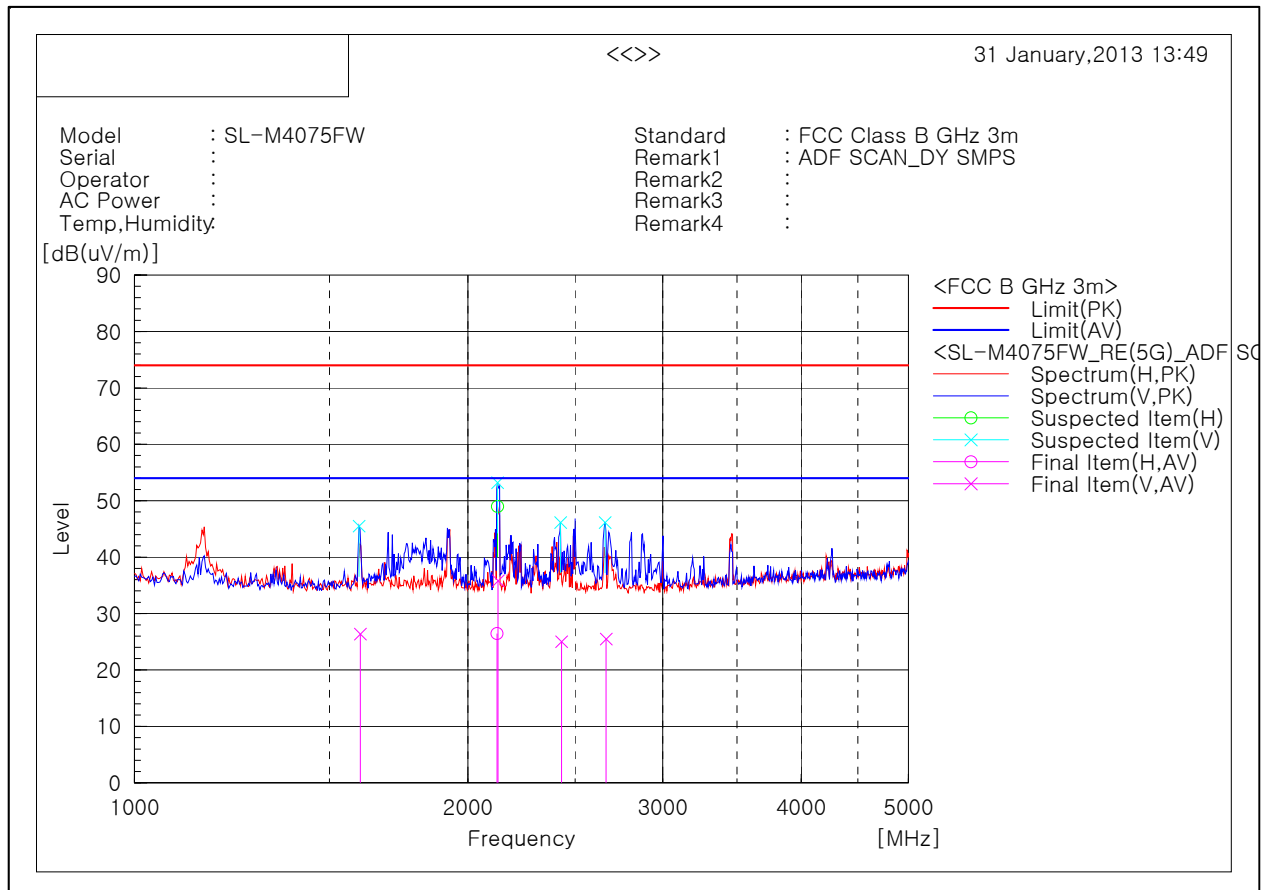
Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

■ Operating Mode 3.

- ADF Scan (Dong Yang SMPS)

Test Results



Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1595.190	V	55.7	-10.2	45.5	74	28.5	107	293.6
2127.255	V	61.4	-8.2	53.2	74	20.8	107	354.8
2127.255	H	57.2	-8.2	49.0	74	25.0	107	68.8
2424.850	V	54.0	-7.8	46.2	74	27.8	107	112.4
2660.321	V	53.3	-7.2	46.1	74	27.9	107	350

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1599.654	V	36.6	-10.2	26.4	54	27.6	107	293.5
2125.196	H	34.7	-8.2	26.5	54	27.5	107	68.8
2129.976	V	44.0	-8.2	35.8	54	18.2	107	354.4
2429.855	V	32.8	-7.8	25.0	54	29.0	107	111.9
2666.458	V	32.7	-7.2	25.5	54	28.5	107	349.8

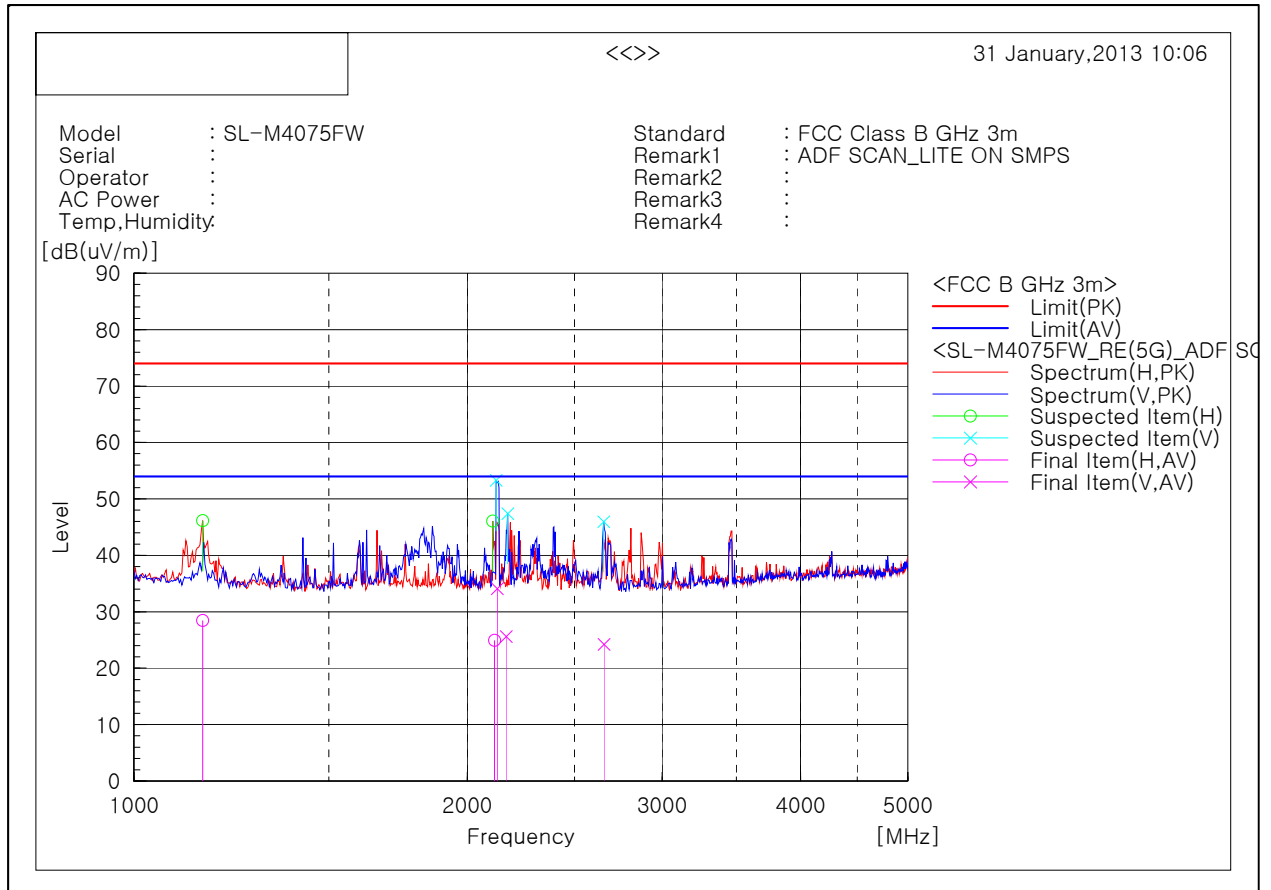
Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

- ADF Scan (LITEON SMPS)**Test Results**

Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1153.307	H	58.8	-12.6	46.2	74	27.8	107	66.2
2109.219	H	54.3	-8.2	46.1	74	27.9	107	40.2
2124.249	V	61.5	-8.2	53.3	74	20.7	107	355.8
2175.351	V	55.5	-8.1	47.4	74	26.6	107	350.2
2655.311	V	53.2	-7.2	46.0	74	28.0	107	15.4

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1153.743	H	41.0	-12.6	28.4	54	25.6	107	66.4
2116.629	H	33.1	-8.2	24.9	54	29.1	107	40.6
2128.533	V	42.3	-8.2	34.1	54	19.9	107	355.3
2168.062	V	33.7	-8.1	25.6	54	28.4	107	350.3
2657.491	V	31.5	-7.2	24.3	54	29.7	107	15.8

Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

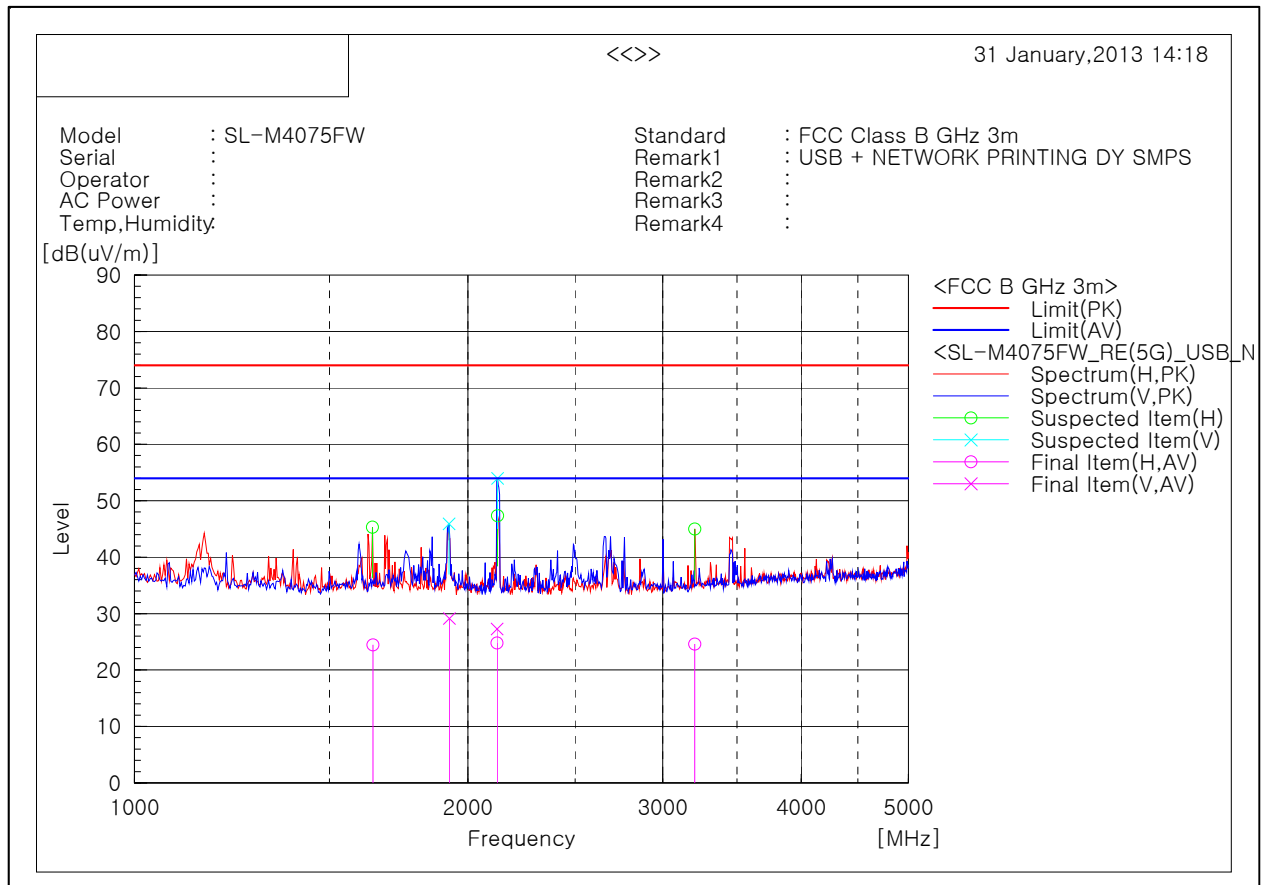
Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

■ Operating Mode 4.

- USB + Network Printing (Dong Yang SMPS)

Test Results



Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1640.281	H	55.3	-10.0	45.3	74	28.7	107	324.8
1922.846	V	54.8	-8.9	45.9	74	28.1	107	66.3
2127.255	V	62.2	-8.2	54.0	74	20.0	107	14.8
2127.255	H	55.6	-8.2	47.4	74	26.6	107	48.5
3206.413	H	50.1	-5.1	45.0	74	29.0	107	277

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1641.979	H	34.5	-10.0	24.5	54	29.5	107	324.8
1924.124	V	38.0	-8.9	29.1	54	24.9	107	66.4
2124.414	H	33.0	-8.2	24.8	54	29.2	107	48.3
2125.466	V	35.5	-8.2	27.3	54	26.7	107	14.8
3205.787	H	29.7	-5.1	24.6	54	29.4	107	277

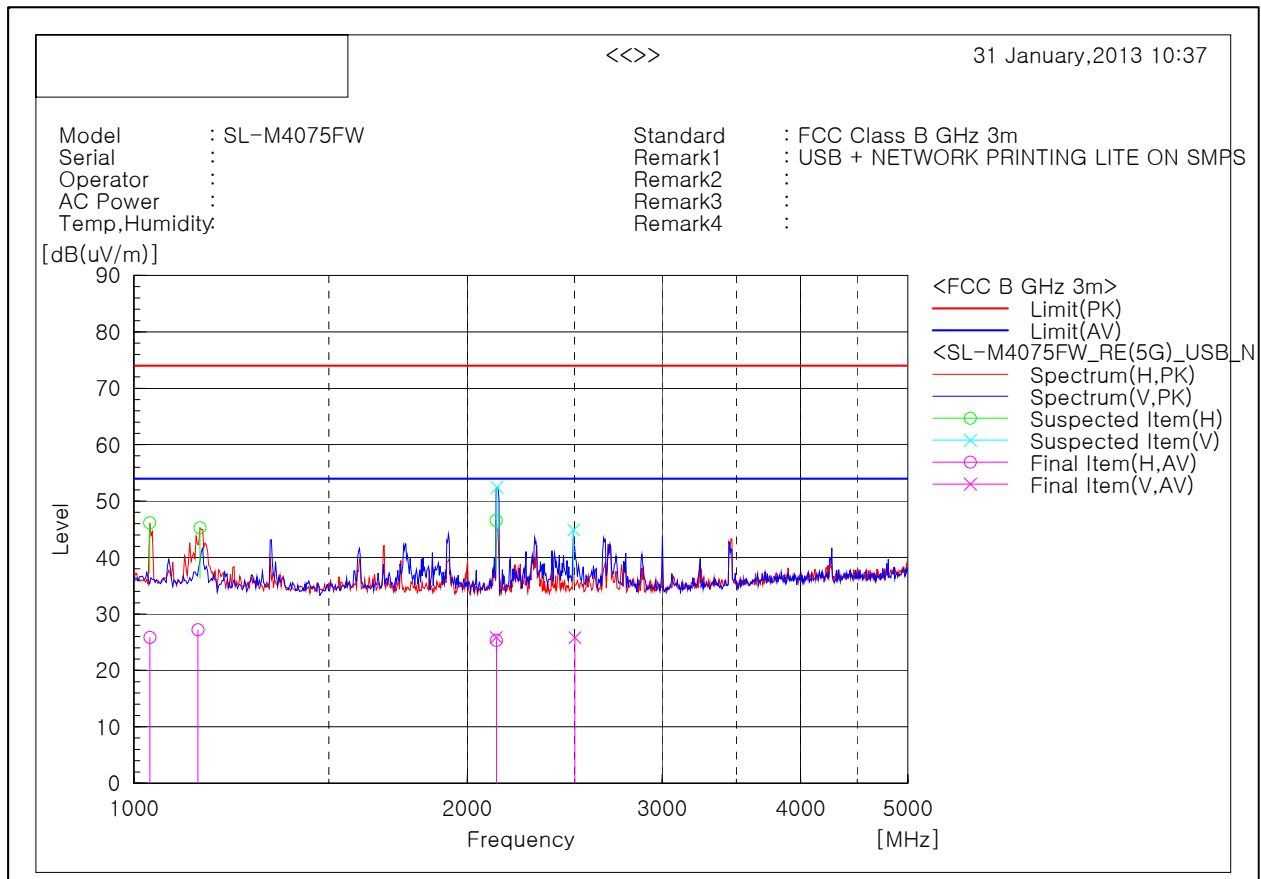
Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

- USB + Network Printing (LITEON SMPS)**Test Results**

Peak Measurement

Frequency [MHz]	POL	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin PK [dB]	Height [cm]	Angle [deg]
1033.066	H	59.2	-13.1	46.1	74	27.9	107	261
1147.295	H	57.9	-12.6	45.3	74	28.7	107	79.1
2124.249	H	54.8	-8.2	46.6	74	27.4	107	61.9
2127.255	V	60.7	-8.2	52.5	74	21.5	107	52.4
2493.988	V	52.6	-7.7	44.9	74	29.1	107	86.9

Average Measurement

Frequency [MHz]	POL	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	MarginAV [dB]	Height [cm]	Angle [deg]
1033.622	H	38.9	-13.0	25.9	54	28.1	107	261.1
1142.380	H	39.8	-12.6	27.2	54	26.8	107	79.3
2123.182	V	34.1	-8.2	25.9	54	28.1	107	52.5
2124.745	H	33.5	-8.2	25.3	54	28.7	107	62.1
2500.767	V	33.4	-7.6	25.8	54	28.2	107	86.7

Note) Receiving antenna polarization : Horizontal and Vertical

Level PK (Peak) = Reading PK (Peak) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Level AV (Average) = Reading AV (Average) + Factor (Antenna Factor + Cable Loss - Amp. Gain)

Margin PK (Peak) = Limit – Level PK (Peak)

Margin AV (Average) = Limit – Level AV (Average)

Appendix – EUT photography



Front View



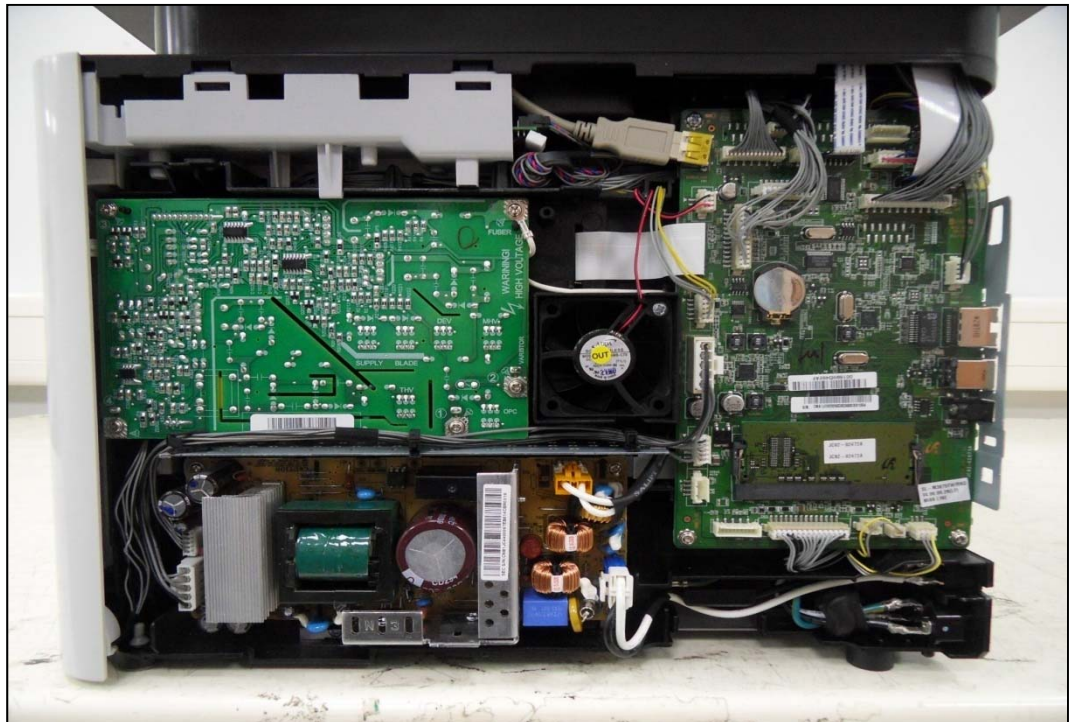
Rear View & Label location



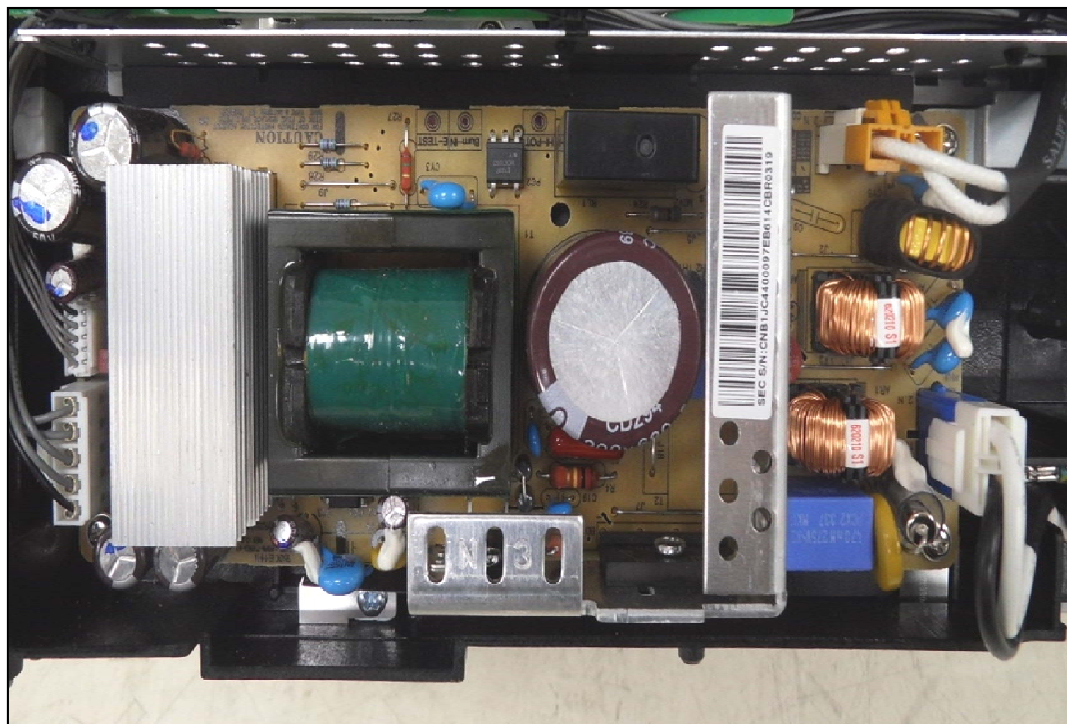
Inside View #1 (Front)



Inside View #1 (Rear)



Inside View #3(Right)

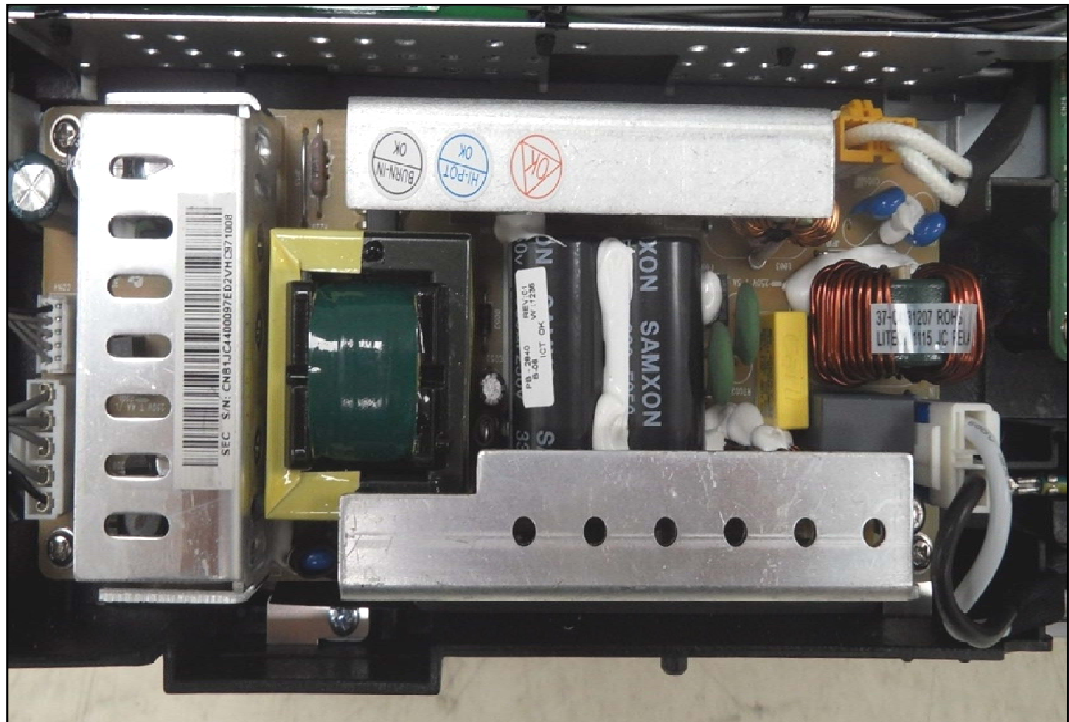


Inside View(Dong Yang SMPS)

Project No. : LBE20125898

SAMSUNG

Mono Laser MFP : ProXpress M4075FW



Inside View(LITEON SMPS)

	Model: ProXpress M4075FW	FCC ID : A3LSLM4075FW
	Volts: AC 110-127V	Contains FCC ID : A3LSPWB4319U
USOC Jack Type:RJ11C	Hertz: 50/60 Hz	This device complies with part 15 of the FCC Rules.
	Amps: 6.5A	Operation is subject to the following two conditions:
Samsung Electronics Co., Ltd. Suwon, Korea, 443-742 Place: M264	Ringer Equivalence: 0.5B	i) This device may not cause harmful interference, and
	Manufactured: FVJDKKBHJ 2011	ii) This device must accept any interference received,
M/C:xx-xxxxxFW/XAA	 3UU7 US E337632 LISTED I.T.E.	including interference that may cause undesired operation.
		Complies with Part 68, FCC Rules.
	Serial No.: FHBKBBNKJ001X	FCC Certification No.: US: A3LFA00BSLM4075FW
		This Class B digital apparatus complies with Canadian ICES-003
		Cet appareil numérique de la classe B est
		Conforme à la norme NMB-003 du Canada.
		This product complies with 21 CFR Chapter 1, subchapter J.
		Contains IC : 649E-SPWB4319U
		IC: 649E-SLM4075FW
		Made in China
		Fabriqu� en Chine REV.00

Label