EMC TEST REPORT

Project No.	LBE20112030	**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	May 23, 2011	
EUT	**Type of device**	Class B personal computers and peripherals	
	Equipment authorization	☐ Declaration of Conformity ☒ Certification ☐ Verification	
	FCC ID	**A3LSCX4729FW**	
	Kind of product	**MONO LASER MFP**	
	Model No.	**SCX-4729FW**	
	Variant Model No.	SCX-4729FD, SCX-4728FD	
	Manufacturer	1) Samsung Electronics Co., Ltd. 259, Gongdan-Dong, Gumi-City, Gyeongsangbuk-Do, Korea 730-030 2) Samsung Electronics (Shandong) Digital Printing Co., Ltd. 264209, Samsung Road, Weihai Hi-Tech. IDZ, Shandong Province, P.R.China 3) Weihai Shin Heung Digital Electronics Co., Ltd. 98, Samsung Road, Weihai Hi-Tech. IDZ, Shandong Province, P.R.China 4) Intops : Intops (Weihai) Electronics Co., Ltd., Keji Road-268-1 , Weihai Hi-Tech,Industries Development Zone , Shandong Province , CHINA	
Applied Standards		FCC Part 15, Subpart B / ANSI C63.4-2009	
Test Period		May 23, 2011 ~ May 24, 2011	
Issue date		June 03, 2011	

Test result : **Complied**

The equipment under test has found to be compliant with the applied standards.
(Refer to the attached test result for more detail.)

Tested by : Hyun Jeong Jang	**Reviewed by :** No Cheon Park

SAMSUNG

416 Maetan 3-Dong, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do, 443-742 Korea
Tel: 82 31 277 7752, Fax: 82 31 277 7753

1. Summary of test results

1.1 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 Class B	Complied
☒	Radiated Disturbance		Complied

2. General Information

2.1 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.

3. Test Setup configuration

3.1 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:

Description	Model No.	Serial No.	Manufacturer	Fcc ID / DoC
Mono Laser MFP	SCX-4729FW	-	SAMSUNG	EUT
NOTE PC	PP18L	27182225373	DELL	DoC
Adapter	HP-OQ065B83	CN-0N2765-47890-44I-0249	DELL	DoC
USB mouse	B138	Z2I1840	SAMSUNG	DoC
Telephone	SP-F131N	-	-	-

3.2 EUT operating mode

To achieve compliance with the applied standards and/or specifications, two different SMPS which were manufactured by Shandong cowi and Dongyang E&P respectively were applied for testing, and the following mode(s) were considered and tested.

Operating Mode 1	Standby
Operating Mode 2	USB Printing(Duplex)
Operating Mode 3	Wireless Printing(Duplex)
Operating Mode 4	ADF Copy
Operating Mode 5	Scan to PC
Operating Mode 6	Fax TX

3.3 Details of Sampling

Customer selected, two units

(One with SMPS of SHANDONG Cowi and another with SMPS of DongYang E&P)

3.4 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;

Connected cable	Length [m]	Shielded [Y/N]	Note
Power	1.8	No	For EUT
Power	1.8	No	For NOTE PC
USB	1.8	Yes	From NOTE PC to EUT
Modem	1.8	No	For EUT

3.5 EUT Description

1. The following features describe EUT represented by this report:

Item	Specification and Description
Processor	CHORUS3-N(533Mhz)
Standard System memory	**128MB DDR3 SDRAM**
Resolution	True 600 x 600 dpi, addressable 1200 x 1200
Copy Quality mode	Text . scan: 600x600dpi(Optical 600x300dpi)@ ADF,Printing 600x600dpi /Photo . scan: 600x600dpi(Optical 600x600dpi)@ Platen,Printing 600x600dpi Photo . scan: 600x600dpi(Optical 300x300dpi)@ ADF,Printing 600x600dpi . scan: 1200x1200dpi(Optical 600x600dpi)@ Platen,Printing 600x600dpi
Paper Handling	250-sheet Cassette @ 80g/㎡, 1-sheet Multi Purpose Tray
Power Rating	90-135 VAC, 5.5A 50/60 Hz
Power Consumption	- Average operating mode : <350W - ready mode : <50W - Power save mode : <3.0W - off mode : <0.2W
Printer Language	GDI, PCL6
PC Interfaces	High speed USB2.0, Ethernet 10/100, 802.11 b/g/n, FAX
OS compatibility	Windows 2000/XP(32/64bits)/Vista(32/64bits)/2003 Server(32/64bits)/2008 Server(32/64bits)/7(32/64bits)/2008 Server R2(64bits) Mac OS X 10.4 ~ 10.6 RedHat Enterprise Linux WS 4, 5 (32/64 bit) Fedora 5, 6, 7, 8, 9, 10, 11, 12, 13 (32/64 bit) SuSE Linux 10.1 (32 bit) OpenSuSE 10.2, 10.3, 11.0, 11.1, 11.2 (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 (32/64 bit) SuSE Linux Enterprise Desktop 10, 11 (32/64 bit) Debian 4.0, 5.0 (32/64 bit) Sun Solaris 9,10 (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
Modes of Operation	USB Printing, ADF Scan, ADF Copy, USB Printing, Fax RX, Fax TX, Network Printing, Wireless
Intended Class for Emissions	Class B

3.6 Clock Frequencies

Kind of Clocks	Frequency [MHz]	Kind of Clocks	Frequency [MHz]
Main Source Clock	12	Video Clock	12
CPU Internal Clock	**533**	DDR3 Clock	360
USB Device Clock	12	Network	25
CIS	4	WLAN Clock	20
LSU Clock	25	-	-

3.7 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.

- **Configuration 1 : ShanDong Cowi SMPS applied**
- **Configuration 2 : DongYang SMPS applied**

The EUT was measured all testing with toner cartridge.

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

- Test Voltage : AC 120 V, 60 Hz

3.8 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.)

3.8.1 Emission

Test type		Measurement uncertainty (C.L. 95 %, k = 2)
Conducted disturbance	Main terminal	2.90 dB
Radiated Disturbance (30 MHz ~ 1 GHz)	Horizontal	4.61 dB
	Vertical	4.68 dB
Radiated Disturbance (1 GHz ~ 6 GHz)	Horizontal	3.32 dB
	Vertical	3.32 dB

4. Results of individual test

4.1 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 dBµV	
		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.			

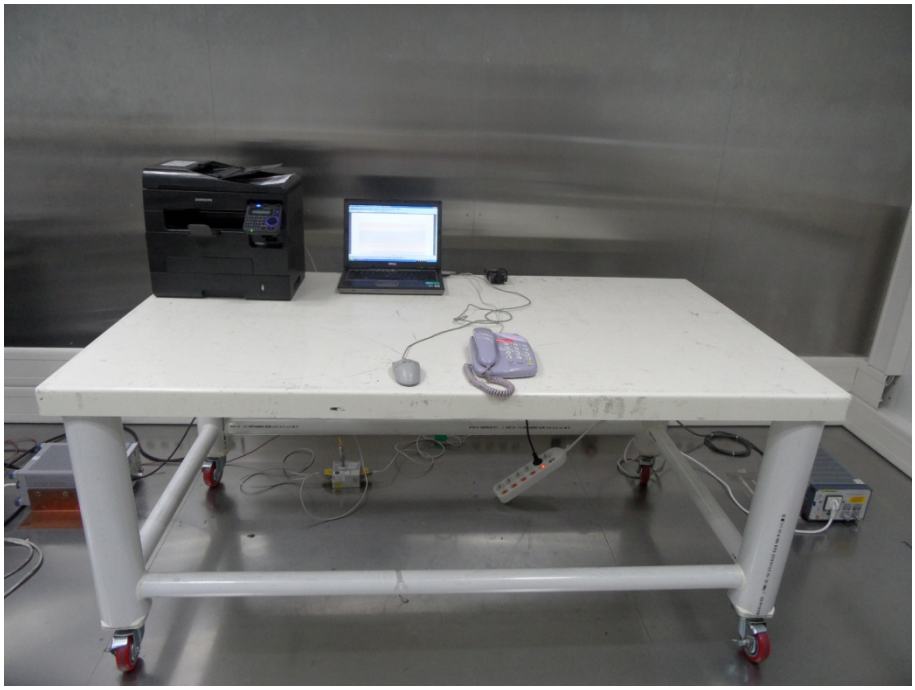
4.1.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Field strength meter	ESCI	R&S	100086	2010-12-20	12
L.I.S.N	ENV216	R&S	100117	2010-11-16	12
L.I.S.N	ESH3-Z5	R&S	831887/004	2010-07-07	12
Test Software	EMC32	R&S	Ver 5.20.1	-	-

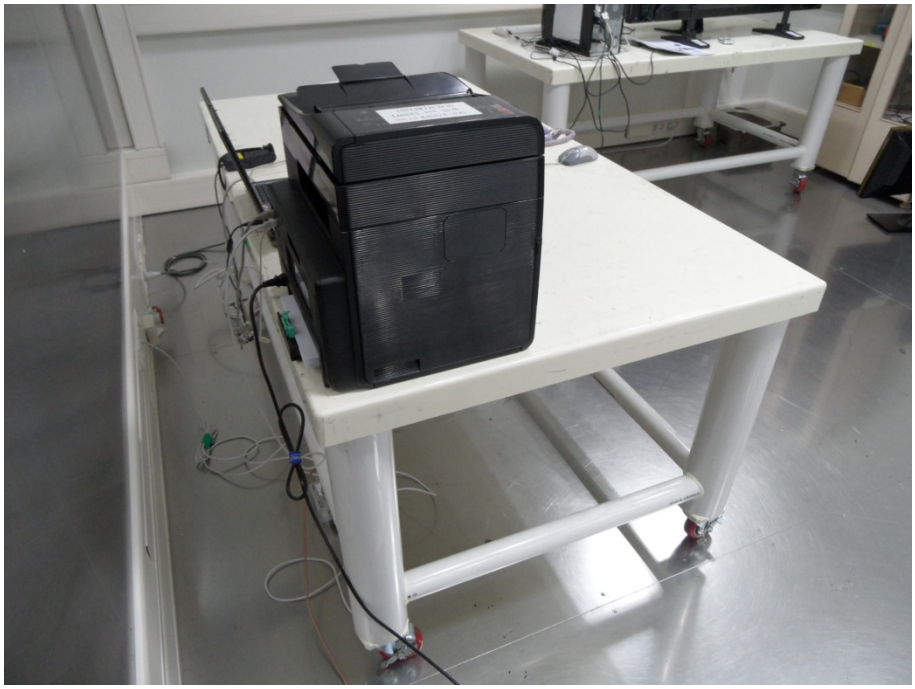
4.1.2 Temperature and humidity condition

Test date	May 24, 2011	**Test engineer**	Hyun Jeong Jang
Test place	Shielded Room #1		

4.1.3 Photograph of Test Setup



Front



Rear

4.1.4 Test results (mains port)

- **Configuration 1, Operating Mode 1 : Standby Mode**

Information

EUT Name: SCX-4729FW
Test Description: Standby
Operator Name: HJ JANG

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

Subrange 1

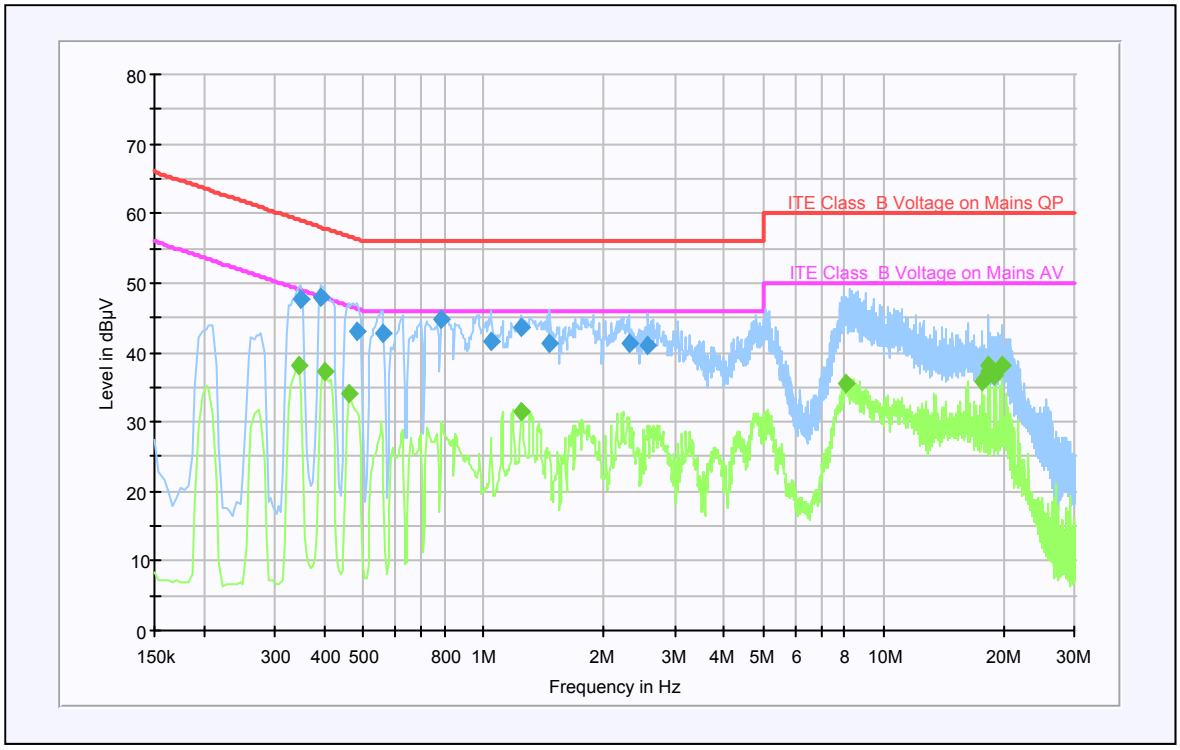
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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)
0.350 000	47.8	L1	10.1	11.2	59.0
0.390 000	47.9	L1	10.1	10.2	58.1
0.482 000	43.2	N	10.1	13.1	56.3
0.558 000	42.8	N	10.1	13.2	56.0
0.782 000	44.7	L1	10.0	11.3	56.0
1.044 000	41.5	N	9.9	14.5	56.0
1.240 000	43.6	L1	9.9	12.4	56.0
1.464 000	41.4	N	9.9	14.6	56.0
2.300 000	41.4	L1	9.8	14.6	56.0
2.580 000	41.1	L1	9.8	14.9	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.346 000	38.2	L1	10.1	10.9	49.1
0.398 000	37.4	L1	10.1	10.5	47.9
0.462 000	34.0	L1	10.1	12.7	46.7
1.240 000	31.5	N	9.9	14.5	46.0
8.084 000	35.5	L1	9.8	14.5	50.0
17.692 000	35.7	N	10.2	14.3	50.0
18.244 000	38.2	L1	10.1	11.8	50.0
18.304 000	37.2	L1	10.1	12.8	50.0
18.916 000	36.6	L1	10.1	13.4	50.0
19.708 000	38.0	N	10.2	12.0	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)

- **Configuration 1, Operating Mode 2 : USB Printing(Duplex)**

Information

EUT Name: SCX-4729FW
Test Description: USB Printing(Duplex)
Operator Name: HJ JANG

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

Subrange 1

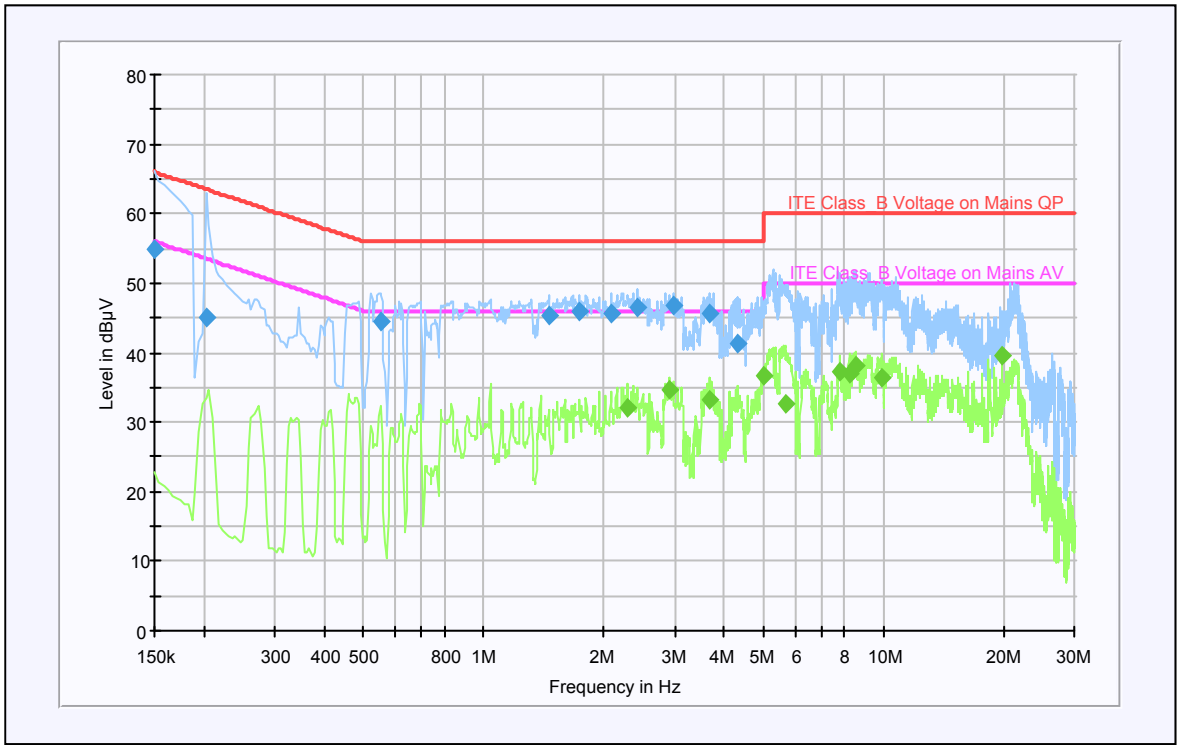
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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	55.0	N	10.4	11.0	66.0
0.202 000	45.2	L1	10.0	18.3	63.5
0.550 000	44.6	L1	10.1	11.4	56.0
1.460 000	45.5	L1	9.9	10.5	56.0
1.736 000	46.0	N	9.8	10.0	56.0
2.084 000	45.7	L1	9.8	10.3	56.0
2.432 000	46.4	L1	9.8	9.6	56.0
2.984 000	46.7	L1	9.8	9.3	56.0
3.680 000	45.7	N	9.8	10.3	56.0
4.300 000	41.4	N	9.8	14.6	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.292 000	32.0	L1	9.8	14.0	46.0
2.920 000	34.7	L1	9.8	11.3	46.0
3.680 000	33.1	N	9.8	12.9	46.0
4.996 000	36.6	N	9.8	9.4	46.0
5.660 000	32.5	L1	9.8	17.5	50.0
7.784 000	37.3	L1	9.8	12.7	50.0
8.192 000	36.9	N	9.9	13.1	50.0
8.476 000	38.2	N	9.9	11.8	50.0
9.868 000	36.3	L1	9.9	13.7	50.0
19.708 000	39.5	L1	10.1	10.5	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)

- **Configuration 1, Operating Mode 3 : Wireless Printing(Duplex)**

Information

EUT Name: SCX-4729FW
Test Description: Wireless Printing(Duplex)
Operator Name: HJ JANG

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

Subrange 1

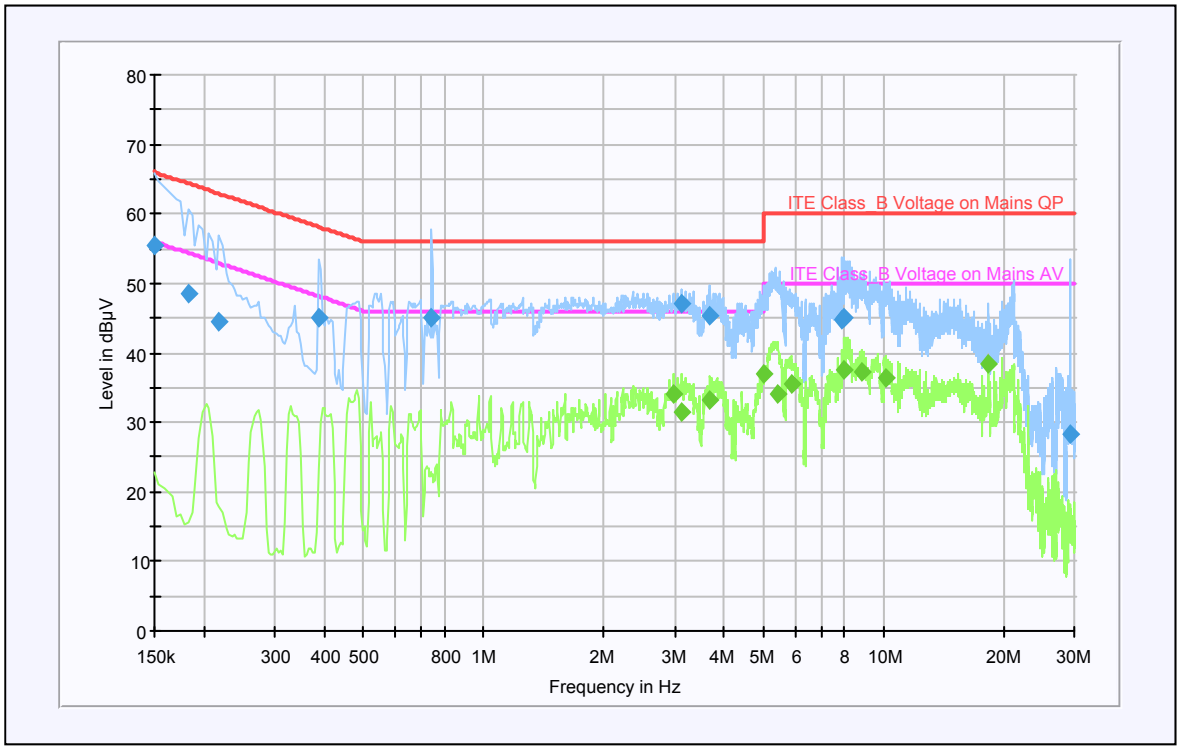
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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	55.4	N	10.4	10.6	66.0
0.182 000	48.6	N	10.2	15.8	64.4
0.218 000	44.4	L1	10.0	18.5	62.9
0.386 000	45.0	N	10.1	13.1	58.1
0.742 000	45.2	N	10.0	10.8	56.0
3.124 000	47.0	N	9.8	9.0	56.0
3.680 000	45.4	N	9.8	10.6	56.0
7.852 000	44.8	L1	9.8	15.2	60.0
7.996 000	45.1	L1	9.8	14.9	60.0
29.428 000	28.3	N	10.5	31.7	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
2.988 000	34.2	L1	9.8	11.8	46.0
3.124 000	31.6	N	9.8	14.4	46.0
3.684 000	33.1	L1	9.8	12.9	46.0
4.996 000	36.9	N	9.8	9.1	46.0
5.412 000	34.0	N	9.8	16.0	50.0
5.860 000	35.4	L1	9.8	14.6	50.0
7.996 000	37.5	L1	9.8	12.5	50.0
8.828 000	37.1	L1	9.8	12.9	50.0
10.168 000	36.5	N	9.9	13.5	50.0
18.244 000	38.4	L1	10.1	11.6	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)

- **Configuration 1, Operating Mode 4 : ADF Copy**

Information

EUT Name: SCX-4729FW
Test Description: ADF Copy
Operator Name: HJ JANG

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

Subrange 1

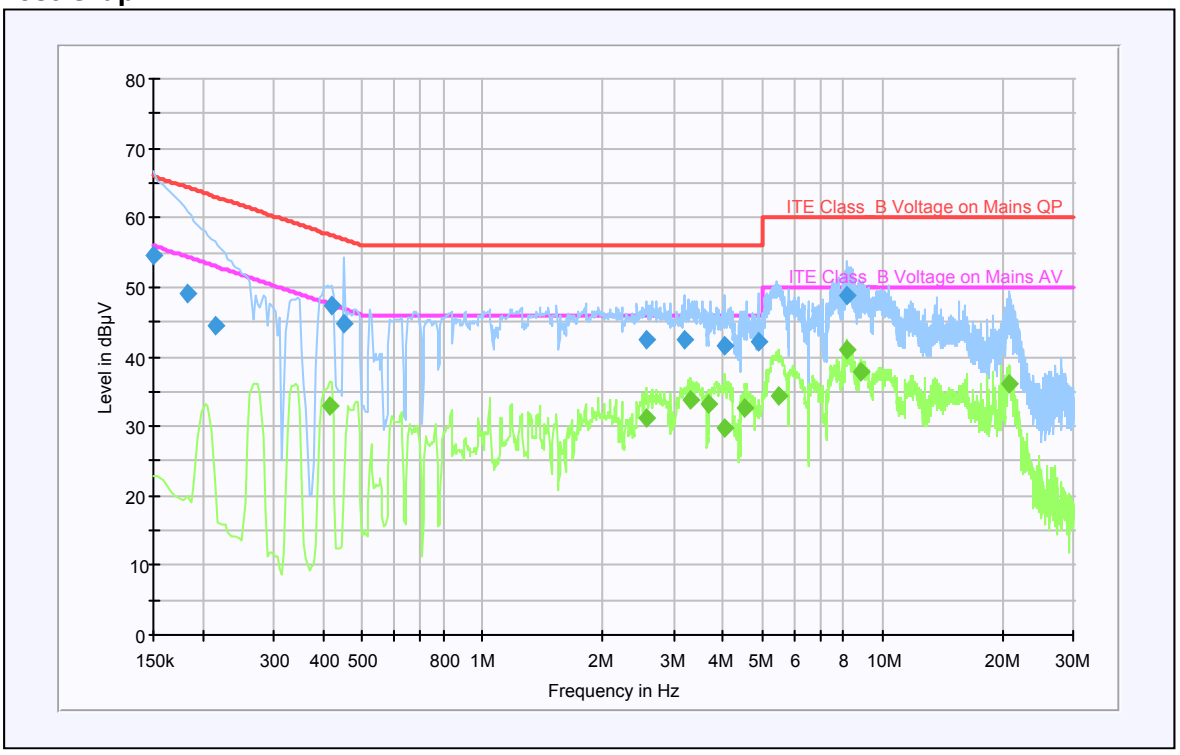
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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	54.7	N	10.4	11.3	66.0
0.182 000	49.1	N	10.2	15.3	64.4
0.214 000	44.5	N	10.0	18.5	63.0
0.418 000	47.3	L1	10.1	10.2	57.5
0.450 000	44.7	N	10.1	12.2	56.9
2.576 000	42.3	N	9.8	13.7	56.0
3.204 000	42.5	N	9.8	13.5	56.0
4.040 000	41.7	N	9.8	14.3	56.0
4.920 000	42.3	L1	9.8	13.7	56.0
8.164 000	48.8	L1	9.8	11.2	60.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.414 000	32.8	L1	10.1	14.8	47.6
2.576 000	31.1	N	9.8	14.9	46.0
3.320 000	33.8	N	9.8	12.2	46.0
3.672 000	33.2	N	9.8	12.8	46.0
4.036 000	29.9	N	9.8	16.1	46.0
4.540 000	32.5	L1	9.8	13.5	46.0
5.480 000	34.4	N	9.8	15.6	50.0
8.164 000	40.9	L1	9.8	9.1	50.0
8.864 000	38.0	L1	9.9	12.0	50.0
20.660 000	36.1	N	10.3	13.9	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)

- **Configuration 1, Operating Mode 5 : Scan to PC**

Information

EUT Name: SCX-4729FW
Test Description: Scan to PC
Operator Name: HJ JANG

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

Subrange 1

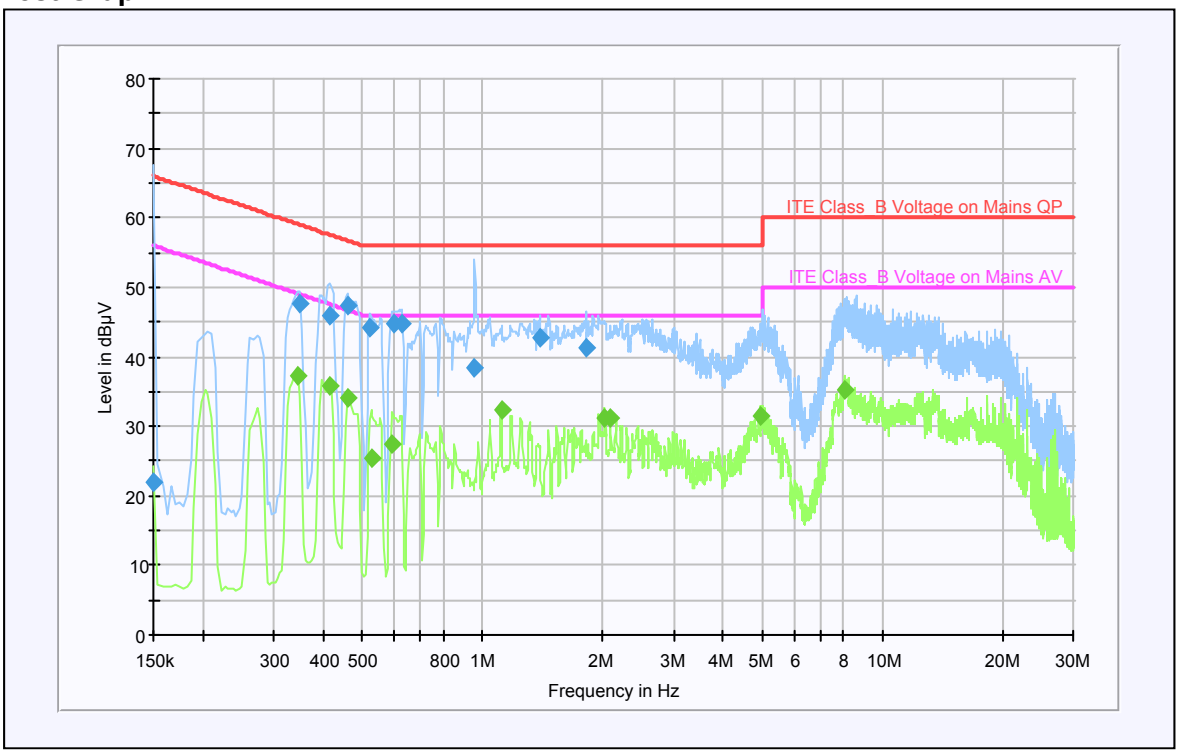
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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	21.9	L1	10.4	44.1	66.0
0.350 000	47.6	N	10.1	11.4	59.0
0.414 000	45.8	L1	10.1	11.8	57.6
0.458 000	47.3	L1	10.1	9.4	56.7
0.522 000	44.3	L1	10.1	11.7	56.0
0.602 000	44.9	L1	10.1	11.1	56.0
0.626 000	44.7	L1	10.1	11.3	56.0
0.954 000	38.5	N	9.9	17.5	56.0
1.388 000	42.6	N	9.9	13.4	56.0
1.812 000	41.3	L1	9.8	14.7	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.346 000	37.2	N	10.1	11.9	49.1
0.414 000	35.9	L1	10.1	11.7	47.6
0.458 000	33.9	L1	10.1	12.8	46.7
0.526 000	25.5	L1	10.1	20.5	46.0
0.594 000	27.3	L1	10.1	18.7	46.0
1.112 000	32.4	L1	9.9	13.6	46.0
2.020 000	31.3	L1	9.8	14.7	46.0
2.088 000	31.2	N	9.8	14.8	46.0
4.952 000	31.5	N	9.8	14.5	46.0
8.088 000	35.2	N	9.9	14.8	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)

- **Configuration 1, Operating Mode 6 : FAX TX**

Information

EUT Name: SCX-4729FW
Test Description: FAX TX
Operator Name: HJ JANG

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

Subrange 1

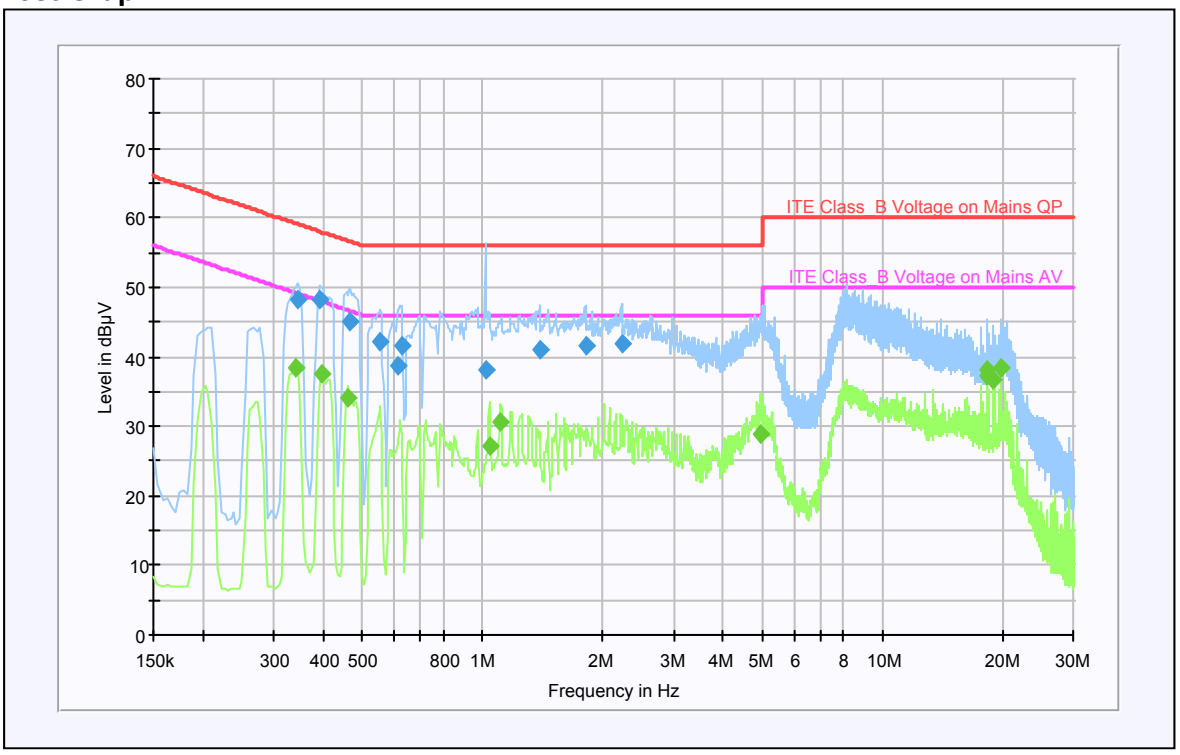
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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)
0.346 000	48.3	L1	10.1	10.8	59.1
0.390 000	48.1	N	10.1	10.0	58.1
0.466 000	45.2	L1	10.1	11.4	56.6
0.554 000	42.2	L1	10.1	13.8	56.0
0.610 000	38.8	L1	10.1	17.2	56.0
0.626 000	41.5	L1	10.1	14.5	56.0
1.016 000	38.1	N	9.9	17.9	56.0
1.388 000	41.1	L1	9.9	14.9	56.0
1.808 000	41.7	L1	9.8	14.3	56.0
2.224 000	41.8	L1	9.8	14.2	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.342 000	38.4	L1	10.1	10.8	49.2
0.394 000	37.5	N	10.1	10.5	48.0
0.458 000	34.1	L1	10.1	12.6	46.7
1.040 000	27.1	L1	9.9	18.9	46.0
1.108 000	30.7	L1	9.9	15.3	46.0
4.936 000	28.8	L1	9.8	17.2	46.0
18.244 000	38.2	L1	10.1	11.8	50.0
18.304 000	37.2	L1	10.1	12.8	50.0
18.916 000	36.7	L1	10.1	13.3	50.0
19.708 000	38.5	L1	10.1	11.5	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)

- **Configuration 2, Operating Mode 1 : Standby**

Information

EUT Name: SCX-4729FW
Test Description: Standby
Operator Name: HJ JANG

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

Subrange 1

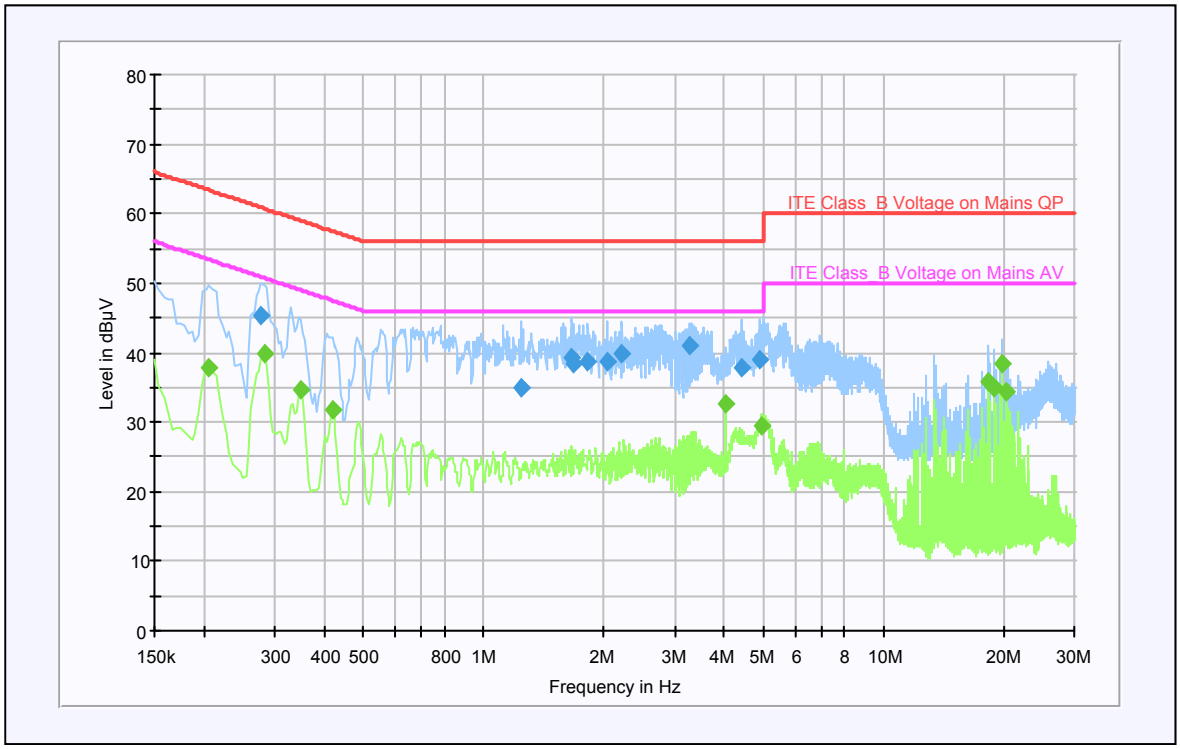
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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)
0.278 000	45.5	L1	10.1	15.4	60.9
1.240 000	35.0	N	9.9	21.0	56.0
1.664 000	39.3	N	9.8	16.7	56.0
1.684 000	38.4	N	9.8	17.6	56.0
1.824 000	38.6	L1	9.8	17.4	56.0
2.044 000	38.8	L1	9.8	17.2	56.0
2.220 000	39.8	L1	9.8	16.2	56.0
3.260 000	41.1	N	9.8	14.9	56.0
4.412 000	37.7	L1	9.8	18.3	56.0
4.888 000	38.9	N	9.8	17.1	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.206 000	37.9	L1	10.0	15.5	53.4
0.282 000	39.8	L1	10.1	11.0	50.8
0.350 000	34.7	L1	10.1	14.3	49.0
0.418 000	31.8	L1	10.1	15.7	47.5
4.032 000	32.6	N	9.8	13.4	46.0
4.968 000	29.4	L1	9.8	16.6	46.0
18.244 000	35.8	L1	10.1	14.2	50.0
18.916 000	34.8	L1	10.1	15.2	50.0
19.708 000	38.3	L1	10.1	11.7	50.0
20.260 000	34.3	L1	10.1	15.7	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)

- **Configuration 2, Operating Mode 2 : ADF Copy**

Information

EUT Name: SCX-4729FW
Test Description: ADF COPY
Operator Name: HJ JANG

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

Subrange 1

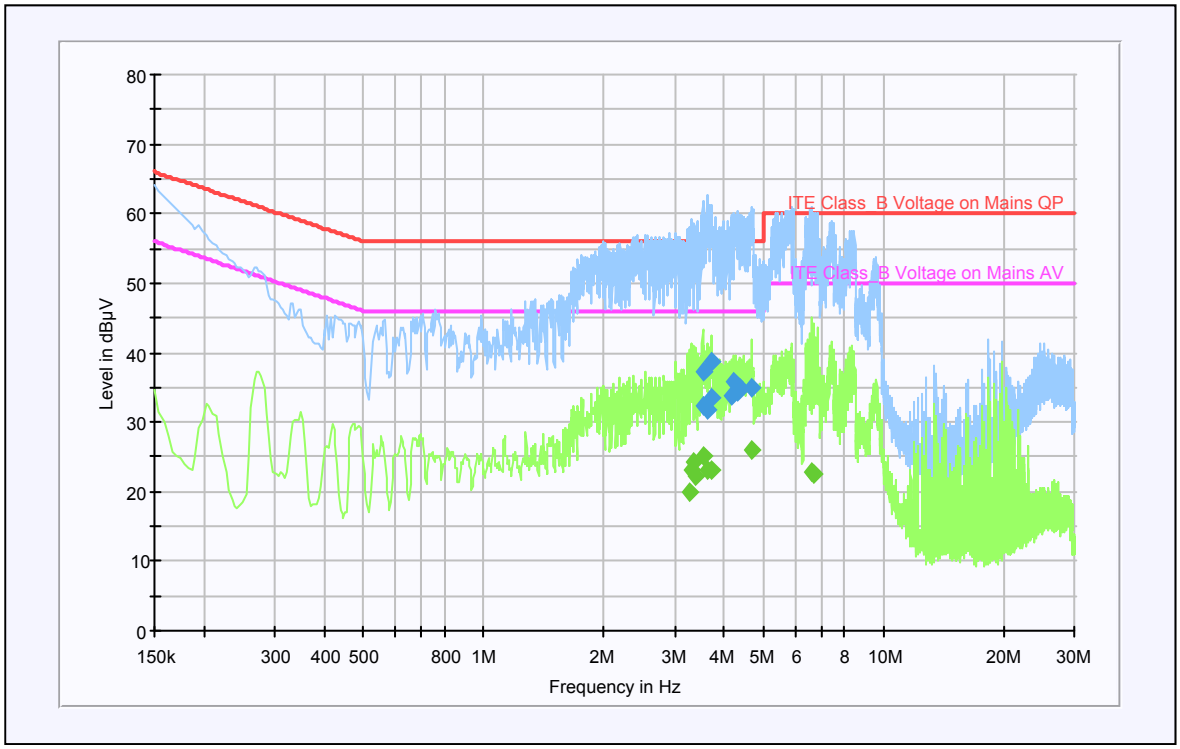
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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)
3.536 000	32.5	N	9.8	23.5	56.0
3.564 000	37.1	N	9.8	18.9	56.0
3.644 000	31.9	N	9.8	24.1	56.0
3.692 000	38.8	N	9.8	17.2	56.0
3.716 000	33.4	N	9.8	22.6	56.0
4.172 000	33.7	N	9.8	22.3	56.0
4.236 000	35.7	N	9.8	20.3	56.0
4.304 000	34.4	N	9.8	21.6	56.0
4.384 000	35.0	N	9.8	21.0	56.0
4.676 000	34.9	N	9.8	21.1	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
3.260 000	19.8	N	9.8	26.2	46.0
3.296 000	23.0	N	9.8	23.0	46.0
3.364 000	24.2	N	9.8	21.8	46.0
3.396 000	22.3	N	9.8	23.7	46.0
3.528 000	25.2	N	9.8	20.8	46.0
3.644 000	23.0	N	9.8	23.0	46.0
3.716 000	23.1	N	9.8	22.9	46.0
4.680 000	26.1	N	9.8	19.9	46.0
6.588 000	22.8	N	9.8	27.2	50.0
6.656 000	22.5	N	9.8	27.5	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)

- **Configuration 2, Operating Mode 3 : FAX TX**

Information

EUT Name: SCX-4729FW
Test Description: FAX TX
Operator Name: HJ JANG

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

Subrange 1

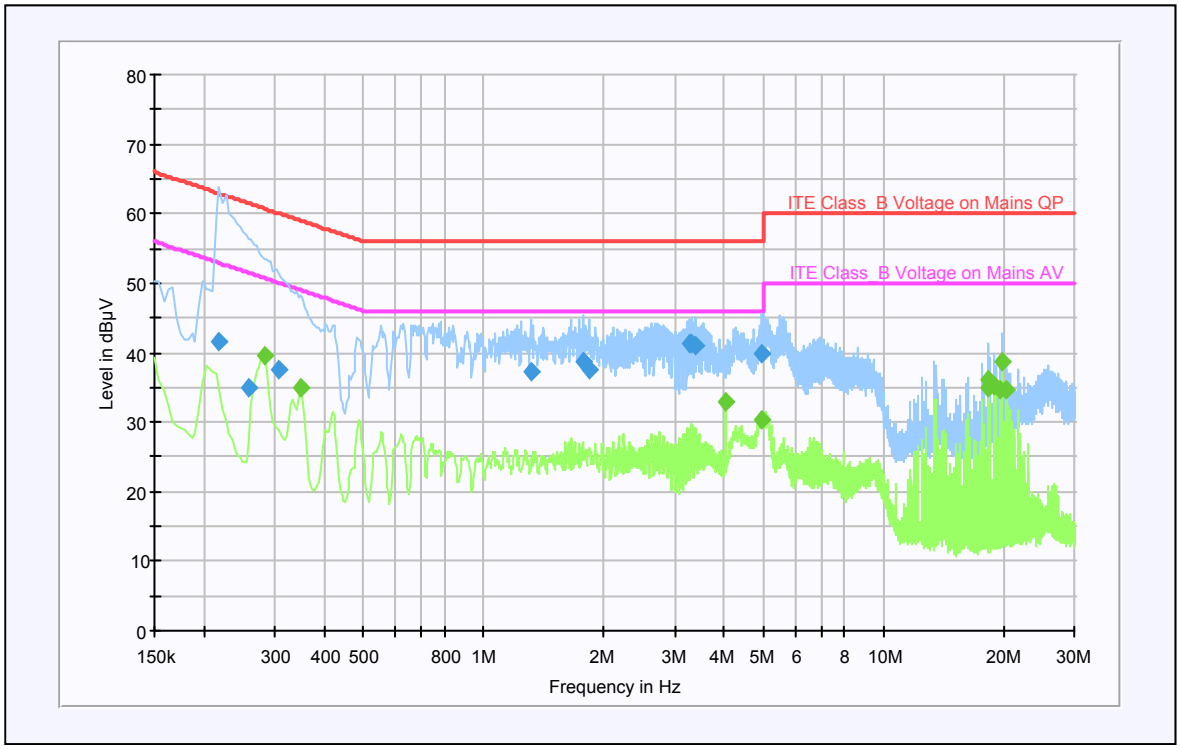
Frequency Range:	150 kHz – 30 MHz
Receiver:	ESIB 26
Transducer:	ENV216 / Receiver-2-Line-LISN ENV216

Scan Setup: FCC 15_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	QuasiPeak; Average	9 kHz	15 s	ESIB 26

Test 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)
0.218 000	41.5	L1	10.0	21.4	62.9
0.258 000	35.1	L1	10.0	26.4	61.5
0.306 000	37.5	L1	10.1	22.6	60.1
1.308 000	37.4	L1	9.9	18.6	56.0
1.768 000	38.7	N	9.8	17.3	56.0
1.840 000	37.6	N	9.8	18.4	56.0
3.256 000	41.3	L1	9.8	14.7	56.0
3.324 000	41.4	N	9.8	14.6	56.0
3.392 000	41.0	L1	9.8	15.0	56.0
4.968 000	39.8	L1	9.8	16.2	56.0

Average final measurement results table

Frequency (MHz)	Average (dB μ V)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.282 000	39.6	L1	10.1	11.2	50.8
0.350 000	35.0	L1	10.1	14.0	49.0
4.032 000	32.8	L1	9.8	13.2	46.0
4.964 000	30.3	N	9.8	15.7	46.0
18.244 000	36.0	L1	10.1	14.0	50.0
18.304 000	34.9	L1	10.1	15.1	50.0
18.916 000	35.1	L1	10.1	14.9	50.0
19.588 000	34.6	L1	10.1	15.4	50.0
19.708 000	38.6	L1	10.1	11.4	50.0
20.260 000	34.6	L1	10.1	15.4	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)

4.2 Radiated disturbance

Of those disturbances above (*L* - 20dB), 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 meters and elevated between 1 and 4 meters. Both vertical and horizontal antenna polarizations were measured.

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

Frequency range Limits MHz	Resolution Bandwidth	Quasi-peak Limits dBµV/m
		Class B
30 to 230	120 kHz	30
230 to 1 000	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 40 GHz or 5th in accordance with internal maximum operating frequency at a measurement distance of 3m for the following antenna and turntable arrangements:

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

Limits for above 1 GHz 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 dB ≒ 54 dB		

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.

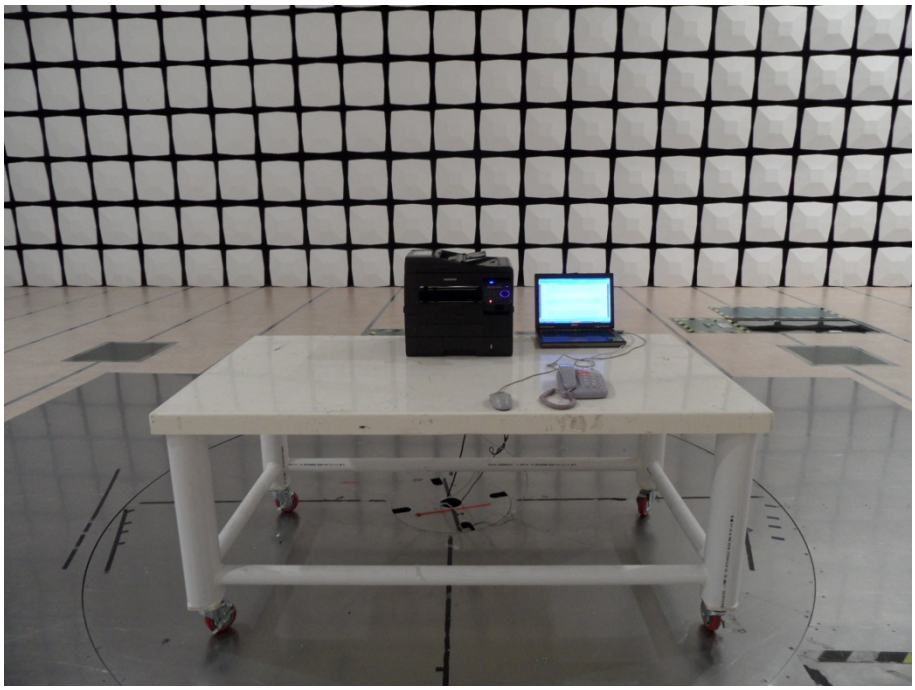
4.2.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Bilog Antenna	Schaffner	CBL6112D	22602	2010-04-21	24
Test Receiver	R&S	ESIB-26	100288	2010-06-04	12
Horn Antenna	R&S	HF907	100166	2010-01-20	24
Preamplifier	R&S	SCU18	10001	2011-05-03	12
Test Receiver	R&S	ESIB-26	100287	2010-08-17	12
Amplifier	Sonoma	310N	185861	2011-04-07	12
Amplifier	Sonoma	310N	251676	2011-04-07	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	CO2000/189/ 9271204/L	-	-
Test Software	TOYO	EP5/RE	Ver 3.10.020	-	-

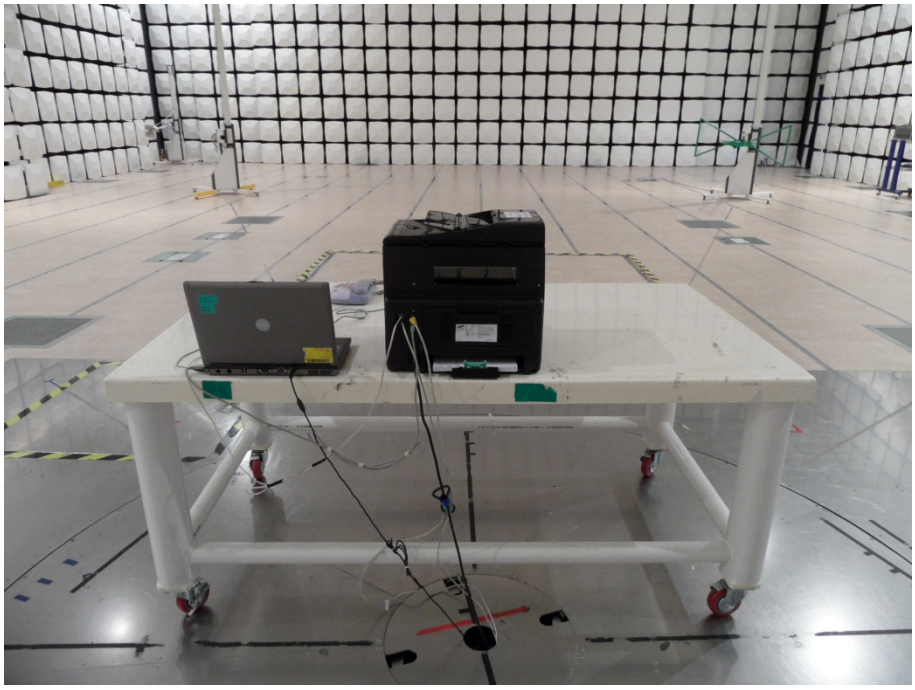
4.2.2 Temperature and humidity condition

Test date	May 23, 2011	**Test engineer**	Hyun Jeong Jang
Test place	Semi-Anechoic Chamber		

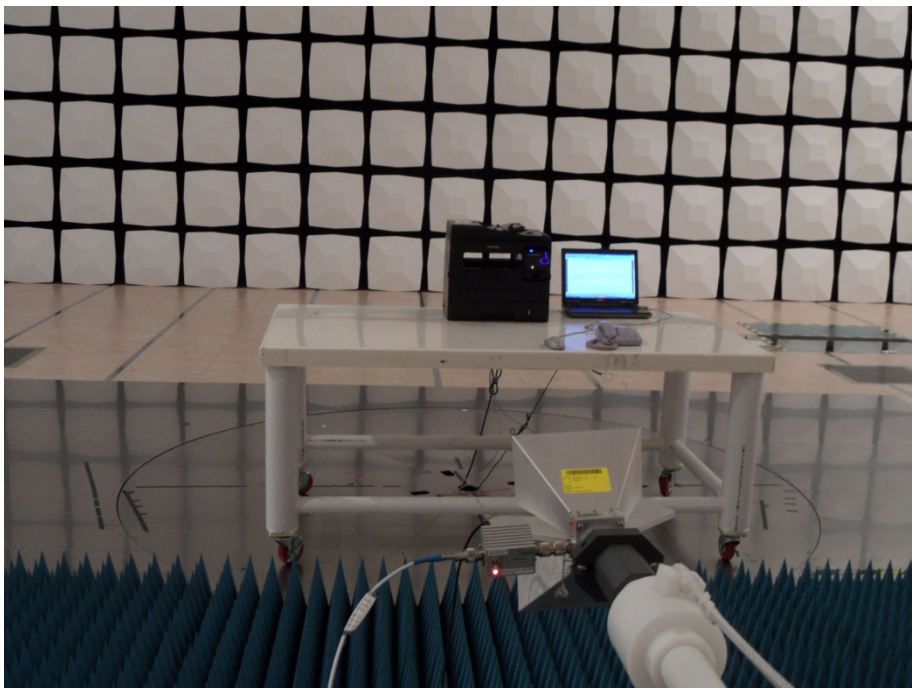
4.2.3 Photograph of Test Setup



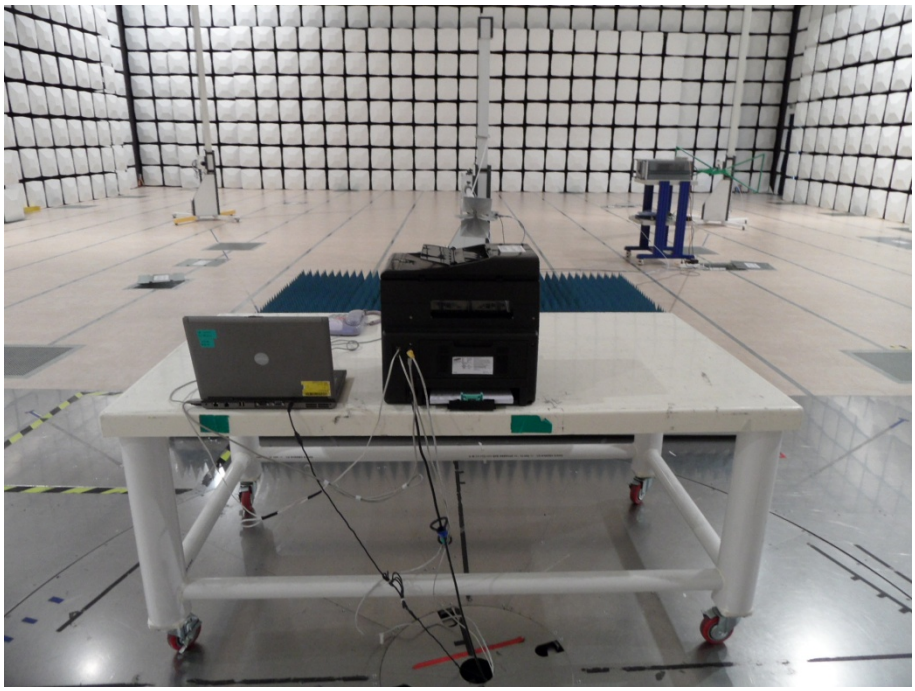
Front (below 1 GHz)



Rear (below 1 GHz)



Front (above 1 GHz)



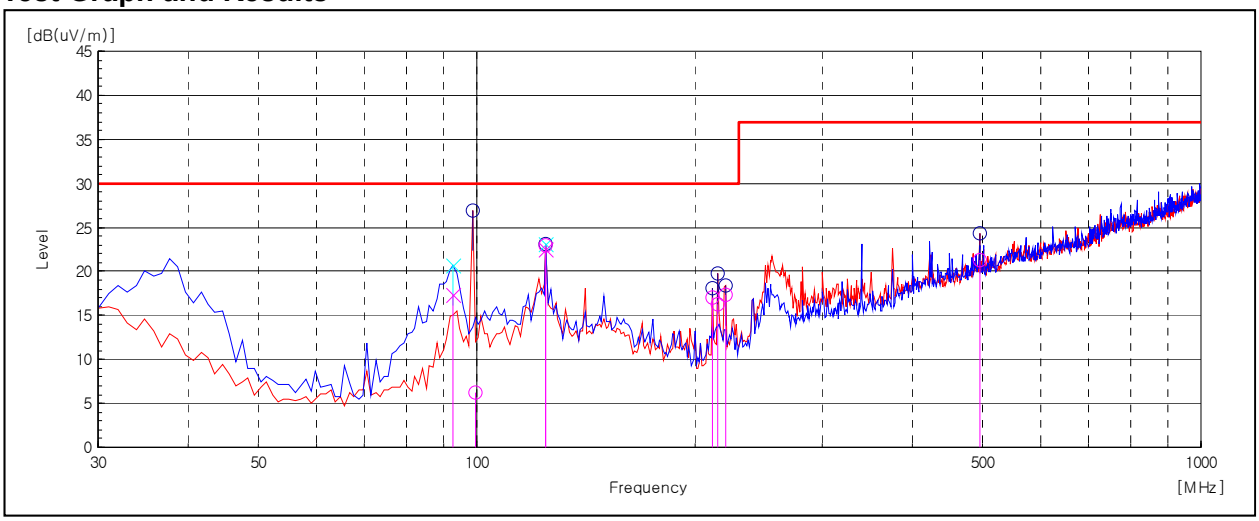
Rear (above 1 GHz)

4.2.4 Test results

4.2.4.1 30 MHz to 1GHz test results

- **Configuration 1, Operating Mode 1 : Standby**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
92.786	V	37.6	-20.2	17.4	30	12.6	238	169.9
99.668	H	25.1	-18.8	6.3	30	23.7	380	62.8
124.225	H	39.7	-16.8	22.9	30	7.1	367	348.7
124.348	V	39.3	-16.8	22.5	30	7.5	139	7.3
211.595	H	36.5	-19.4	17.1	30	12.9	265	41.8
215.459	H	35.4	-19.2	16.2	30	13.8	367	47.7
220.289	H	36.2	-18.9	17.3	30	12.7	367	0.3
494.613	H	29.4	-8.1	21.3	37	15.7	137	93.9

Note) Receiving antenna polarization : Horizontal and/or Vertical

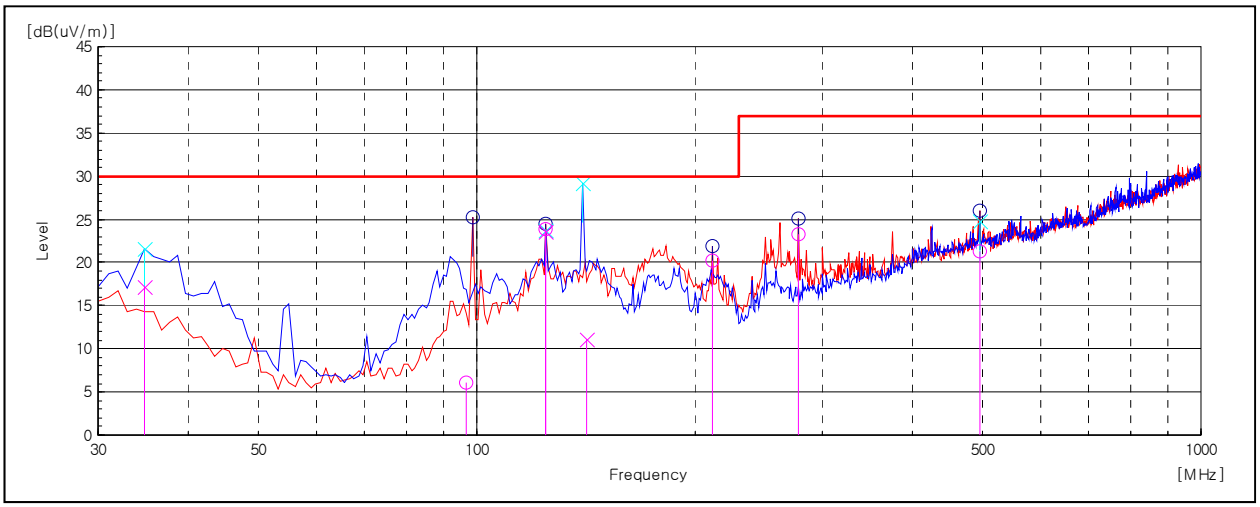
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 1, Operating Mode 2 : USB Printing(Duplex)**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
34.83	V	32.7	-15.5	17.2	30	12.8	102	281
96.635	H	25.4	-19.4	6	30	24	321	94.1
124.659	H	40.7	-16.8	23.9	30	6.1	358	358.6
124.349	V	40.3	-16.8	23.5	30	6.5	112	359.6
141.995	V	29	-17.9	11.1	30	18.9	250	301.5
211.595	H	39.6	-19.4	20.2	30	9.8	398	94.5
278.245	H	38.4	-15.1	23.3	37	13.7	349	359.6
494.613	H	29.4	-8.1	21.3	37	15.7	135	94.5

Note) Receiving antenna polarization : Horizontal and/or Vertical

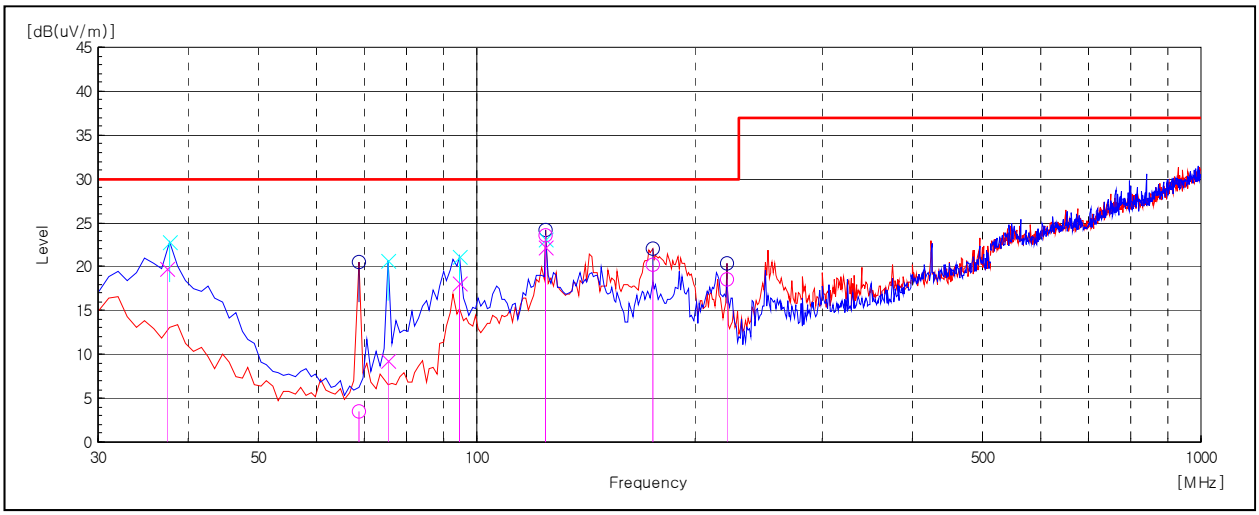
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 1, Operating Mode 3 : Wireless Printing(Duplex)**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
37.348	V	36.5	-16.8	19.7	30	10.3	114	359.6
68.637	H	27.6	-24.1	3.5	30	26.5	348	201.5
75.399	V	32.7	-23.4	9.3	30	20.7	167	357.4
94.547	V	38	-19.9	18.1	30	11.9	103	189.3
124.225	H	40.4	-16.8	23.6	30	6.4	391	359.3
124.349	V	39	-16.8	22.2	30	7.8	106	0.3
174.89	H	39.3	-19.1	20.2	30	9.8	375	73.9
221.255	H	37.4	-18.8	18.6	30	11.4	347	58

Note) Receiving antenna polarization : Horizontal and/or Vertical

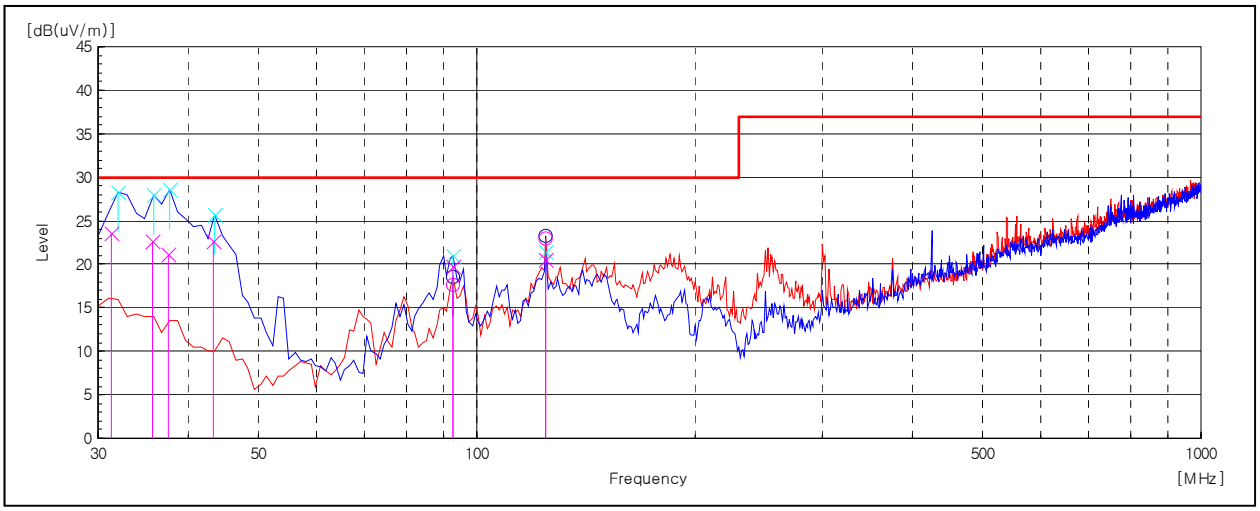
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 1, Operating Mode 4 : ADF Copy**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
31.349	V	37.2	-13.6	23.6	30	6.4	116	217
35.578	V	38.6	-15.9	22.7	30	7.3	107	201.2
37.548	V	38.1	-17	21.1	30	8.9	102	264.2
43.341	V	42.5	-19.9	22.6	30	7.4	124	314.4
92.786	V	40	-20.2	19.8	30	10.2	165	248.7
92.786	H	37.8	-20.2	17.6	30	12.4	219	189.6
124.226	H	39.7	-16.8	22.9	30	7.1	348	347.3
124.649	V	37.3	-16.8	20.5	30	9.5	251	16.2

Note) Receiving antenna polarization : Horizontal and/or Vertical

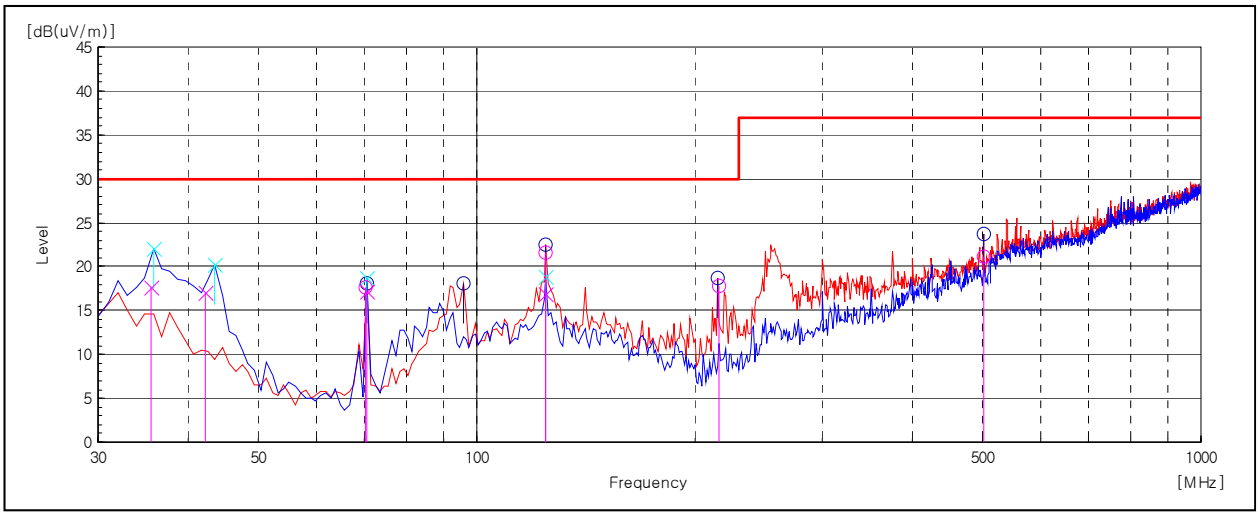
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 1, Operating Mode 5 : SCAN to PC**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBµV/m]	Factor [dB(1/m)]	Level QP [dBµV /m]	Limit [dBµV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
35.516	V	33.6	-15.9	17.7	30	12.3	106	4.2
42.157	V	36.3	-19.3	17	30	13	115	237.5
70.458	V	41.1	-23.9	17.2	30	12.8	219	0.3
70.349	H	41.5	-23.9	17.6	30	12.4	316	72
124.225	H	38.4	-16.8	21.6	30	8.4	392	312.1
124.498	V	33.7	-16.8	16.9	30	13.1	132	345.7
215.659	H	36.9	-19.1	17.8	30	12.2	297	62.9
500.409	H	29.3	-8.1	21.2	37	15.8	341	158.5

Note) Receiving antenna polarization : Horizontal and/or Vertical

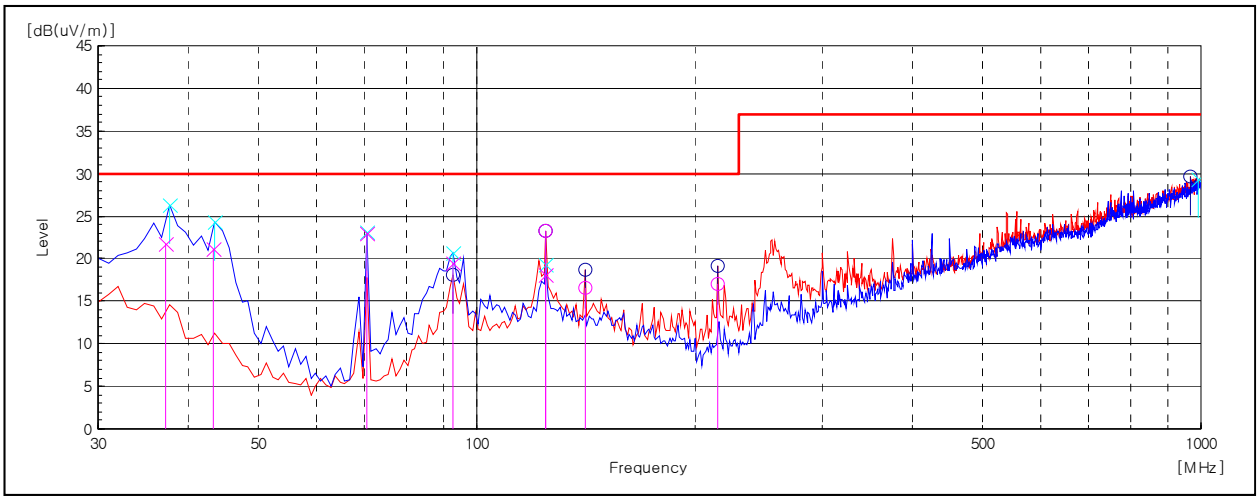
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 1, Operating Mode 6 : FAX TX**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
37.197	V	38.6	-16.8	21.8	30	8.2	103	268.7
43.326	V	41.1	-19.9	21.2	30	8.8	115	254.6
70.569	V	46.8	-23.9	22.9	30	7.1	165	32.5
92.786	V	39.7	-20.2	19.5	30	10.5	114	284.5
124.225	H	40	-16.8	23.2	30	6.8	349	359.6
124.649	V	34.9	-16.8	18.1	30	11.9	354	358.1
141.082	H	34.4	-17.8	16.6	30	13.4	129	349.5
215.459	H	36.3	-19.2	17.1	30	12.9	397	0.4

Note) Receiving antenna polarization : Horizontal and/or Vertical

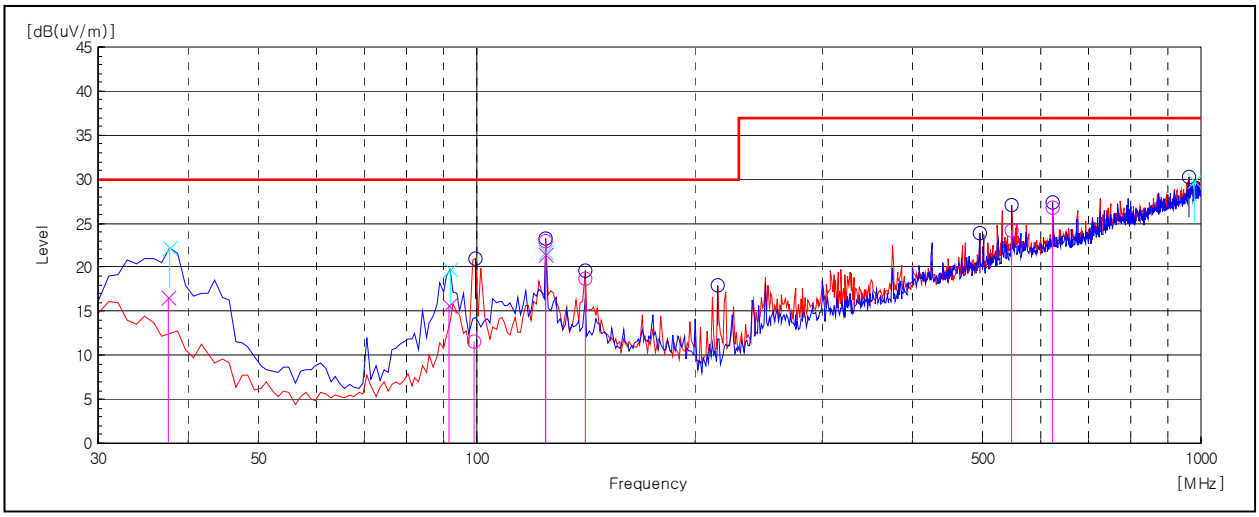
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 2, Operating Mode 1 : Standby**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
37.425	V	33.5	-16.9	16.6	30	13.4	121	0.4
91.359	V	36.2	-20.5	15.7	30	14.3	166	102
99.349	H	30.5	-18.9	11.6	30	18.4	358	359.6
124.359	H	39.7	-16.8	22.9	30	7.1	367	312.4
124.356	V	38.3	-16.8	21.5	30	8.5	110	0.6
141.082	H	36.5	-17.8	18.7	30	11.3	248	42.4
548.184	H	31	-6.8	24.2	37	12.8	103	7.6
624.465	H	32.6	-5.9	26.7	37	10.3	135	344.2

Note) Receiving antenna polarization : Horizontal and/or Vertical

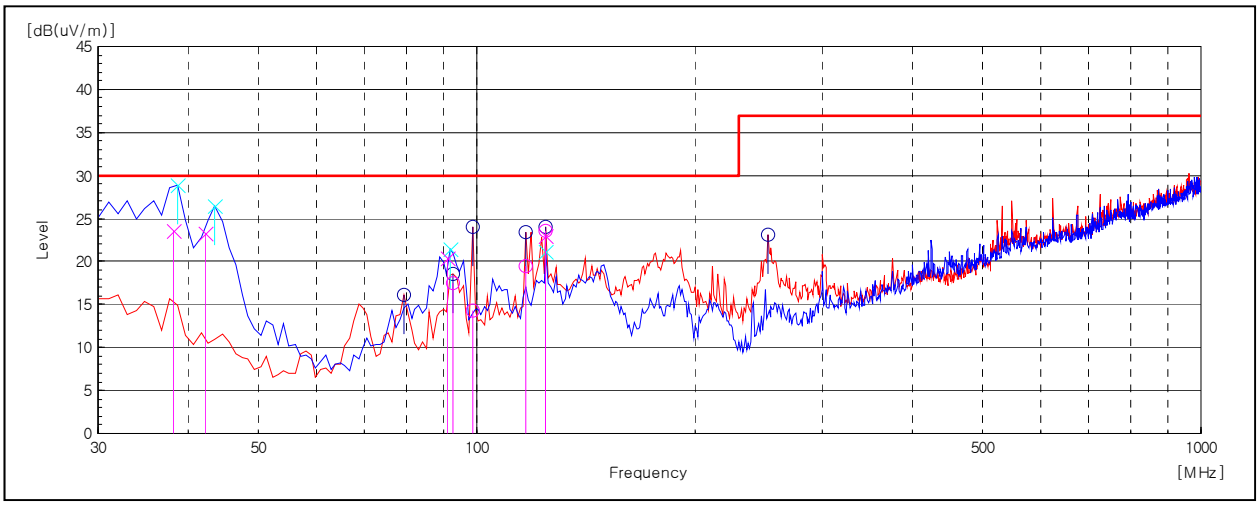
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 2, Operating Mode 2 : ADF Copy**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
38.157	V	40.8	-17.3	23.5	30	6.5	112	5.1
42.158	V	42.6	-19.3	23.3	30	6.7	102	36.5
91.258	V	41	-20.6	20.4	30	9.6	126	169.3
92.786	H	37.7	-20.2	17.5	30	12.5	347	205
98.581	H	33.3	-19	14.3	30	15.7	398	359.6
116.934	H	36.3	-16.8	19.5	30	10.5	247	31.6
124.348	H	40.4	-16.8	23.6	30	6.4	315	4.2

Note) Receiving antenna polarization : Horizontal and/or Vertical

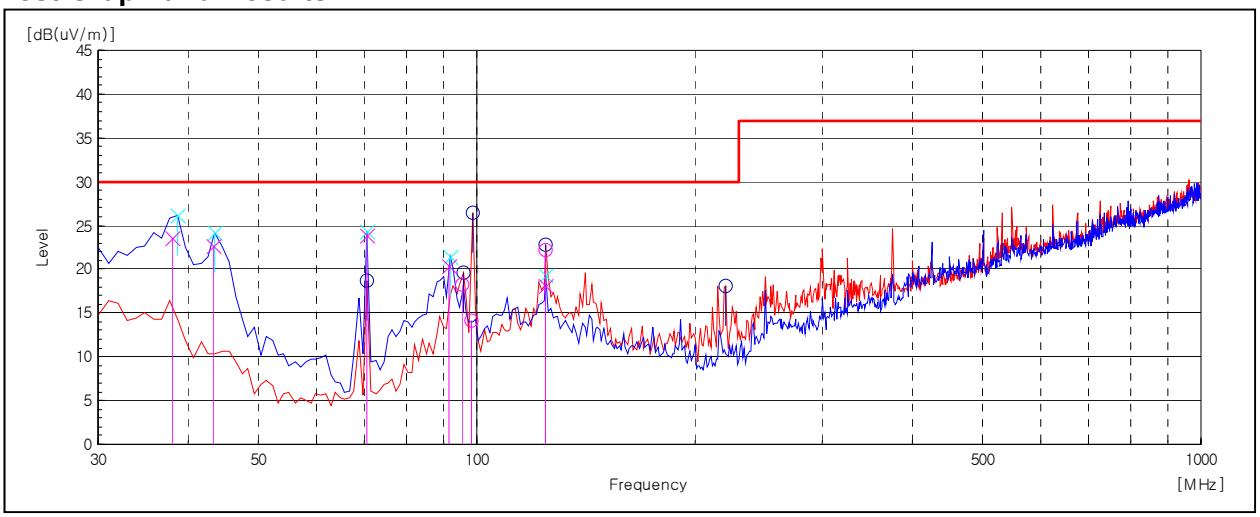
Test Distance : 10 m, Antenna Height : 1 m to 4 m

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

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

- **Configuration 2, Operating Mode 3 : FAX TX**

Test Graph and Results



Frequency [MHz]	Pol.	Reading QP [dBμV/m]	Factor [dB(1/m)]	Level QP [dBμV /m]	Limit [dBμV /m]	Margin QP [dB]	Height [cm]	Angle [deg]
37.968	V	40.8	-17.2	23.6	30	6.4	102	359.6
43.258	V	42.5	-19.9	22.6	30	7.4	112	352.2
70.459	V	47.7	-23.9	23.8	30	6.2	106	122.2
91.346	V	40.9	-20.5	20.4	30	9.6	101	217.1
95.568	H	38	-19.7	18.3	30	11.7	259	355.7
98.349	H	33.2	-19.1	14.1	30	15.9	364	9.8
124.225	H	39	-16.8	22.2	30	7.8	367	311.8
124.359	V	34.9	-16.8	18.1	30	11.9	333	359.6

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

4.2.4.2 1 GHz to 5 GHz test results

The EUT was measured up to 5 GHz because the internal maximum frequency is 533 MHz, below 1 GHz

- **Configuration 1, Operating Mode 1 : Standby**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 066.132	V	53.6	-19.3	34.3	70	35.7	50	15.7	100	69.9
1 198.397	V	58.4	-18.7	39.7	70	30.3	50	10.3	100	54.2
1 242.485	V	56.9	-18.5	38.4	70	31.6	50	11.6	100	0.3
1 494.99	H	59.1	-16.9	42.2	70	27.8	50	7.8	100	174
1 498.998	V	56	-16.8	39.2	70	30.8	50	10.8	100	0.3
1 637.275	H	55.5	-16	39.5	70	30.5	50	10.5	100	158.3

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 1, Operating Mode 2 : USB Printing(Duplex)**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 200.401	V	56.5	-18.7	37.8	70	32.2	50	12.2	100	54.8
1 472.946	H	60.6	-17.1	43.5	70	26.5	50	6.5	100	78.8
1 503.006	H	58.1	-16.8	41.3	70	28.7	50	8.7	100	174.4
1 533.066	H	53.9	-16.6	37.3	70	32.7	50	12.7	100	190.2
1 665.331	H	54.2	-15.9	38.3	70	31.7	50	11.7	100	174.4
1 969.94	V	51.7	-13.7	38	70	32.0	50	12	100	0.3

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 1, Operating Mode 3 : Wireless Printing(Duplex)**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 140.281	V	54.3	-19	35.3	70	34.7	50	14.7	100	324.3
1 200.401	V	59.5	-18.7	40.8	70	29.2	50	9.2	100	359.6
1 238.477	H	55.3	-18.5	36.8	70	33.2	50	13.2	100	143.4
1 474.95	V	55.8	-17	38.8	70	31.2	50	11.2	100	355.3
1 501.002	H	57.6	-16.8	40.8	70	29.2	50	9.2	100	190.7
1 645.291	H	54.2	-16	38.2	70	31.8	50	11.8	100	143.4

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 1, Operating Mode 4 : ADF Copy**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 104.208	V	63.1	-19.1	44	70	26	50	6	100	343.5
1 134.269	V	59	-19	40	70	30	50	10	100	277.3
1 212.425	H	60	-18.6	41.4	70	28.6	50	8.6	100	142.7
1 284.569	H	55.7	-18.3	37.4	70	32.6	50	12.6	100	0.3
1 298.597	H	55.1	-18.2	36.9	70	33.1	50	13.1	100	4.2
1 392.786	V	57.5	-17.7	39.8	70	30.2	50	10.2	100	277.3
1 503.006	H	58.8	-16.8	42	70	28.3	50	8	100	174.2
1 505.01	V	56.3	-16.8	39.5	70	30.5	50	10.5	100	114.2

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 1, Operating Mode 5 : SCAN to PC**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 018.036	H	56.7	-19.6	37.1	70	32.9	50	12.9	100	0.3
1 138.277	V	61.1	-19	42.1	70	27.9	50	7.9	100	185.1
1 200.401	V	57.8	-18.7	39.1	70	30.9	50	10.9	100	25
1 216.433	V	58.9	-18.6	40.3	70	29.7	50	9.7	100	296.8
1 362.726	H	57.9	-17.9	40	70	30	50	10	100	191.2
1 498.998	H	58	-16.8	41.2	70	28.8	50	8.8	100	191.2
1 719.439	V	54.8	-15.7	39.1	70	30.9	50	10.9	100	185.1

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 1, Operating Mode 6 : FAX TX**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 198.397	V	57.3	-18.7	38.6	70	31.4	50	11.4	100	249.1
1 198.397	H	57.1	-18.7	38.4	70	31.6	50	11.6	100	110.4
1 498.998	H	59.7	-16.8	42.9	70	27.1	50	7.1	100	174.4
1 498.998	V	56.8	-16.8	40	70	30.	50	10	100	312.4
1 735.471	H	54.2	-15.7	38.5	70	31.5	50	11.5	100	142.8
1 807.615	H	58.9	-15.4	43.5	70	26.5	50	6.5	100	94.6
1 887.776	H	55.7	-14.7	41	70	29	50	9	100	174.4

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 2, Operating Mode 1 : Standby**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 000	V	61.1	-19.7	41.4	70	28.6	50	8.6	100	351.9
1 194.389	V	59.5	-18.7	40.8	70	29.2	50	9.2	100	53.7
1 374.75	V	54.7	-17.8	36.9	70	33.1	50	13.1	100	37.9
1 507.014	H	59.8	-16.8	43	70	27	50	7	100	176.1
1 875.752	V	52.5	-14.8	37.7	70	32.3	50	12.3	100	150.6
1 957.916	V	52.9	-13.8	39.1	70	30.9	50	10.9	100	37.9

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 2, Operating Mode 2 : ADF Copy**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 118.237	H	59.4	-19.1	40.3	70	29.7	50	9.7	100	348
1 200.401	H	58.5	-18.7	39.8	70	30.2	50	10.2	100	317.4
1 202.405	V	58.1	-18.7	39.4	70	30.6	50	10.6	100	51.8
1 370.742	H	56	-17.8	38.2	70	31.8	50	11.8	100	127.4
1 498.998	V	56.6	-16.8	39.8	70	30.2	50	10.2	100	0.3
1 507.014	H	58.7	-16.8	41.9	70	28.1	50	8.1	100	158.8
1 943.888	H	54	-14	40	70	30	50	10	100	348

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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)

- **Configuration 2, Operating Mode 3 : FAX TX**

Test Results

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dBuV/m]	Factor [dB(1/m)]	Level PK [dBuV/m]	PK Limit [dBuV/m]	PK Margin [dB]	AV Limit [dBuV/m]	AV Margin [dB]	Height [cm]	Angle [deg]
1 144.289	H	58.9	-18.9	40	70	30	50	10	100	285.6
1 200.401	V	60.9	-18.7	42.2	70	27.8	50	7.8	100	56.4
1 226.453	V	58.2	-18.5	39.7	70	30.3	50	10.3	100	72.2
1 322.645	V	57.3	-18.1	39.2	70	30.8	50	10.8	100	89
1 492.986	H	59.6	-16.9	42.7	70	27.3	50	7.3	100	158.4
1 737.475	H	52.7	-15.7	37	70	33	50	13	100	142.7
1 799.599	H	56.7	-15.4	41.3	70	28.7	50	8.7	100	142.7
1 933.868	V	53.8	-14.1	39.7	70	30.3	50	10.3	100	56.4

Average Measurement

Any emissions were not tested with the average detector mode because all of Peak level was below average limit

Note1) Representative operating modes were selected by customer and any emissions that do NOT exceed Average limit were not tested with average detector mode.

Note2) 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

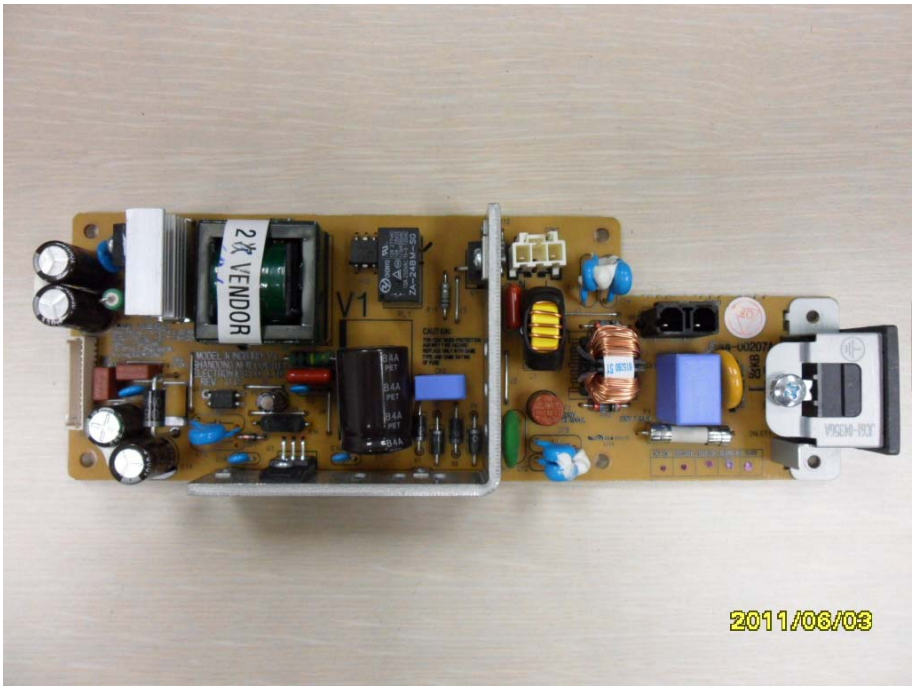
Rear View & Label location

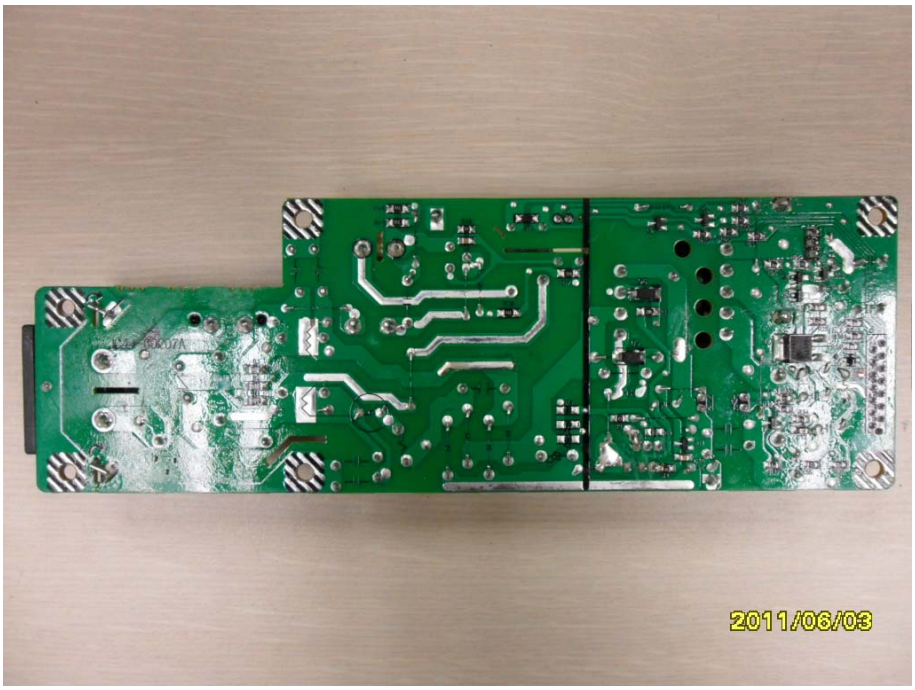
Internal View(front)

Internal View(left)

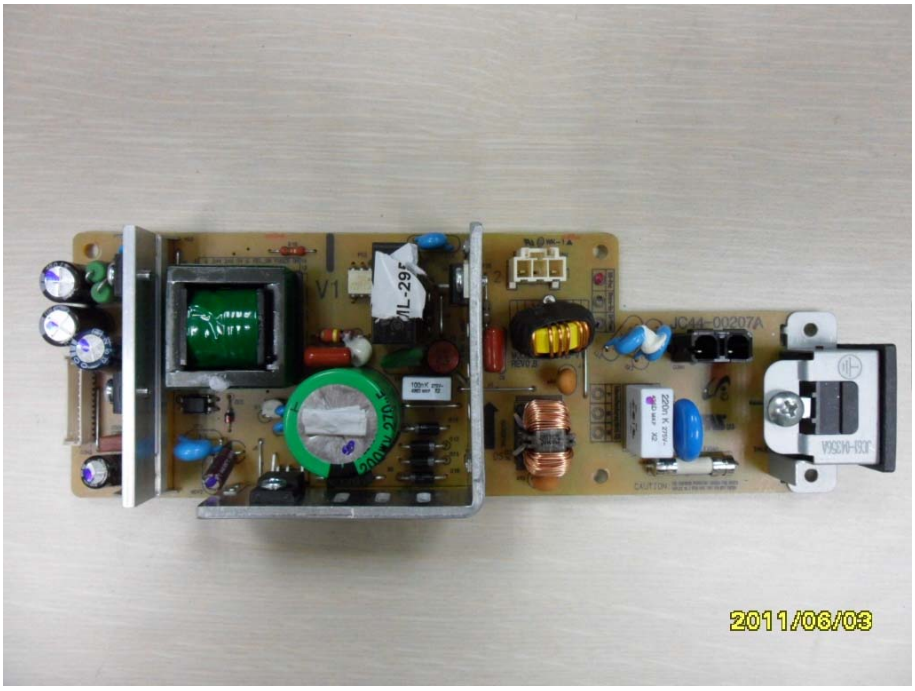
Internal View(right)

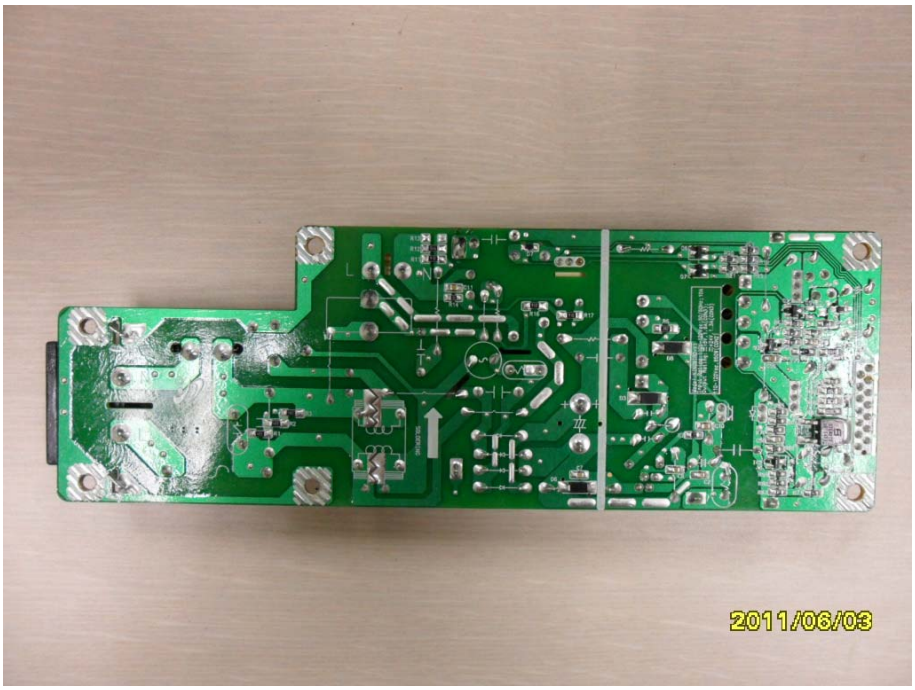
Internal View(rear)



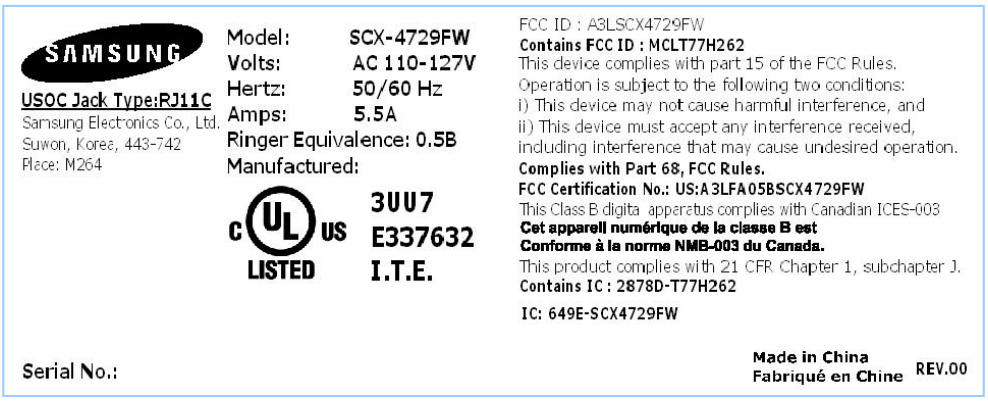


SMPS view of SHANDONG





SMPS view of DONGYANG



Label Rating