EMC TEST REPORT

Project No.	LBE20101341	**Issue No.**	1
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	October 23, 2010	
EUT	**Type of device**	Class B digital devices, peripherals	
	Equipment authorization	☐ Declaration of Conformity ☒ Certification ☐ Verification	
	FCC ID	**A3LSCX4833FR**	
	Kind of product	**MONO LASER MFP**	
	Model No.	**SCX-4833FR**	
		Variant Model No.	**SCX-4835FR**
	Manufacturer	**Samsung Electronics Co., Ltd.** 259, Gongdan-Dong, Gumi-City, Gyeongsangbuk-Do, Korea 730-030 **Samsung Electronics (Shandong) Digital Printing Co.Ltd** (264209) SAMSUNG ROAD HI-TECH IDZ, WEIHAI, CHINA **Weihai Shin Heung Digital Electronics Co., Ltd.** 98, Samsung Road, Weihai Hi-Tech. IDZ, Shandong Province, P.R.China **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 C63.4-2003	
Test Period		October 23, 2010 ~ November 09, 2010	
Issue date		November 12, 2010	

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 : Ho Jin Choi

Reviewed by : No Cheon Park

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SAMSUNG

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1. Summary of test results

1.1 Emission

The EUT has been tested according to the following specifications:

Applied	Test type	Applied standard	Result	Remarks
☒	Conducted Disturbance (Mains Port)	FCC Part 15 Subpart B	Complied	Meets Class B Limit
☒	Radiated Disturbance		Complied	Meets Class B Limit

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-4833FR	-	Samsung	A3LSCX 4833FR
Notebook PC	PP18L	29359007709	Dell	DoC
D/DOCK	PD01X	CN-0H026-48643-83K-2196	Dell	DoC
USB Mouse	MOARUO	0827010043	Primax Electronics	DoC
Headphone	COV903		COSY	DoC
Telephone	SP-F209K	KKAY413543T	Samsung	DoC

3.2 EUT operating mode

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

Operating Mode 1	Standby
Operating Mode 2	USB Print (Duplex)
Operating Mode 3	Network Print (Duplex)
Operating Mode 4	P1284 Print (Duplex)
Operating Mode 5	DADF Copy Print
Operating Mode 6	Scan to USB
Operating Mode 7	Scan to PC
Operating Mode 8	Fax transmission
Operating Mode 9	Fax receiving

3.3 Details of Sampling

Customer selected, single unit.

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
USB	1.8	Yes	From Notebook PC to Mouse
Ethernet	5.0	No	From EUT to HUB
P1284	1.8	Yes	For EUT to Notebook PC
Headphone	1.8	No	From Notebook PC to Headphone
TEL	20.0	No	From EUT to K/P system
TEL	2.0	No	From EUT to Telephone

3.5 EUT Description

The following features describe EUT represented by this report:

Item	Specification and Description
Processor	CHORUS4(600Mhz)
Standard System memory	256MB DDR2 SDRAM
Resolution	True 600x600dpi (Addressible 1200dpi support)
Copy Quality mode	Text : Scan 300 x 300 dpi, Print: 600 x 600 dpi (Platen, ADF) Mixed : Scan 300 x 300 dpi, Print: 600 x 600 dpi (Platen, ADF)· Photo : Scan 300 x 300 dpi, Print: 600 x 600 dpi (ADF) Scan 600 x 600 dpi, Print: 1200 x 1200 dpi (Platen)
Paper Handling	Paper Tray(standard) 250 Sheets MP Tray 50sheets
Power Rating	110~127 VAC, 5A, 50/60 Hz
Power Consumption	Power save mode : 9 Watts Printing mode: MAX. 600 Watts
Printer Language	PCL6/PS3
PC Interfaces	USB2.0, NW, FAX
OS compatibility	Windows 2000/XP (32/64 bits) /Vista (32/64 bits) /2003 Server (32/64 bits) /2008 Server(32/64 bits) /7 (32/64 bits) /2008 Server R2 Various Linux OS:Fedora Core 4, 5, 6,Fedora 7, 8, 9, 10, 11, 12, RedHat Enterprise Linux WS 4, 5, SuSE 10.0, 10.1 openSuSE 10.2, 10.3, 11.0, 11.1, 11.2 SuSE Linux Enterprise Desktop 10, 11 Debian 4.0, 5.0 Ubuntu 5.04, 5.10, 6.04, 6.10, 7.04, 7.10, 8.04, 8.10, 9.04, 9.10 Mandriva 2005LE, 2006, 2007, 2007.1 2008, 2008.1, 2009, 2009.1 Mac OS 10.3 ~ 10.6
Modes of Operation	USB Printing, ADF Scan, ADF Copy, 1200dpi Printing, Fax RX, Fax TX, Network Printing
Intended Class for Emissions	Class B

3.6 Clock Frequencies

Kind of Clocks	Frequency[MHz]	Kind of Clocks	Frequency[MHz]
Main Source	12	Video	18.993
CPU Internal	600	USB Device	12
DDR2 Clock	166	CIS	4.16

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.

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

The EUT was measured all testing with toner cartridge.

Two different types of SMPS, Liteon, Dongyang were applied during testing.
Each SMPS was installed for testing, tested and reported.

- **Configuration 1 : Liteon SMPS was applied.**
- **Configuration 2 : Dongyang SMPS was applied.**

- 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	3.00 dB
	10/100 Base LAN	2.80 dB
	1000 Base LAN	2.80 dB
	Tel Line	2.80 dB
Radiated Disturbance (30 MHz ~ 1 GHz)	Horizontal	4.95 dB
	Vertical	4.99 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 A ITE

Frequency range Limits MHz	Resolution Bandwidth	Limits dB(μV)	
		Quasi-peak	Average
0,15 to 0,50	9 kHz	79	66
0,50 to 30	9 kHz	73	60
NOTE The lower limit shall apply at the transition frequency			

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

Frequency range Limits MHz	Resolution Bandwidth	Limits dB(μV)	
		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.			

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0,15 MHz to 30 MHz for class A equipment

Frequency range Limits MHz	Resolution Bandwidth	Voltage limits dB(μV)		Current limits dB(μA)	
		Quasi-peak	Average	Quasi-peak	Average
0,15 to 0,50	9 kHz	97 to 87	84 to 74	53 to 43	40 to 30
0,50 to 30	9 kHz	87	74	43	30
NOTE 1 The limits decrease linearly with the logarithm of the frequency in the range 0,15 MHz to 0,5 MHz. NOTE 2 The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 0.15 kΩ to the telecommunication port under test (conversion factor is 20 log10 150 / I = 44 dB).					

Limits of conducted common mode (asymmetric mode) disturbance at telecommunication ports in the frequency range 0,15 MHz to 30 MHz for class B equipment

Frequency range Limits MHz	Resolution Bandwidth	Voltage limits dB(µV)		Current limits dB(µA)	
		Quasi-peak	Average	Quasi-peak	Average
0,15 to 0,50	9 kHz	84 to 74	74 to 64	40 to 30	30 to 20
0,50 to 30	9 kHz	74	64	30	20

NOTE 1 The limits decrease linearly with the logarithm of the frequency in the range 0,15 MHz to 0,5 MHz.
NOTE 2 The current and voltage disturbance limits are derived for use with an impedance stabilization network (ISN) which presents a common mode (asymmetric mode) impedance of 0.15kΩ to the telecommunication port under test (conversion factor is 20 log10 150/l = 44 dB).

4.1.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Measuring receiver	ESCI	R&S	100086	2009-11-19	12
Artificial mains network	ENV216	R&S	100117	2009-11-11	12
Artificial mains network	ESH3-Z5	R&S	831887/004	2010-07-06	12
ISN	ISN T400A	TESEQ	25663	2009-10-30	12
ISN	ISN T200A	TESEQ	25719	2009-10-29	12
Test software	EMC32	R&S	Ver 4.40.	N/A	N/A

4.1.2 Temperature and humidity condition

Test date	Nov 03, 2010	**Test engineer**	Ho Jin Choi
Test place	Shielded Room #1		

4.1.3 Photograph of Test Setup

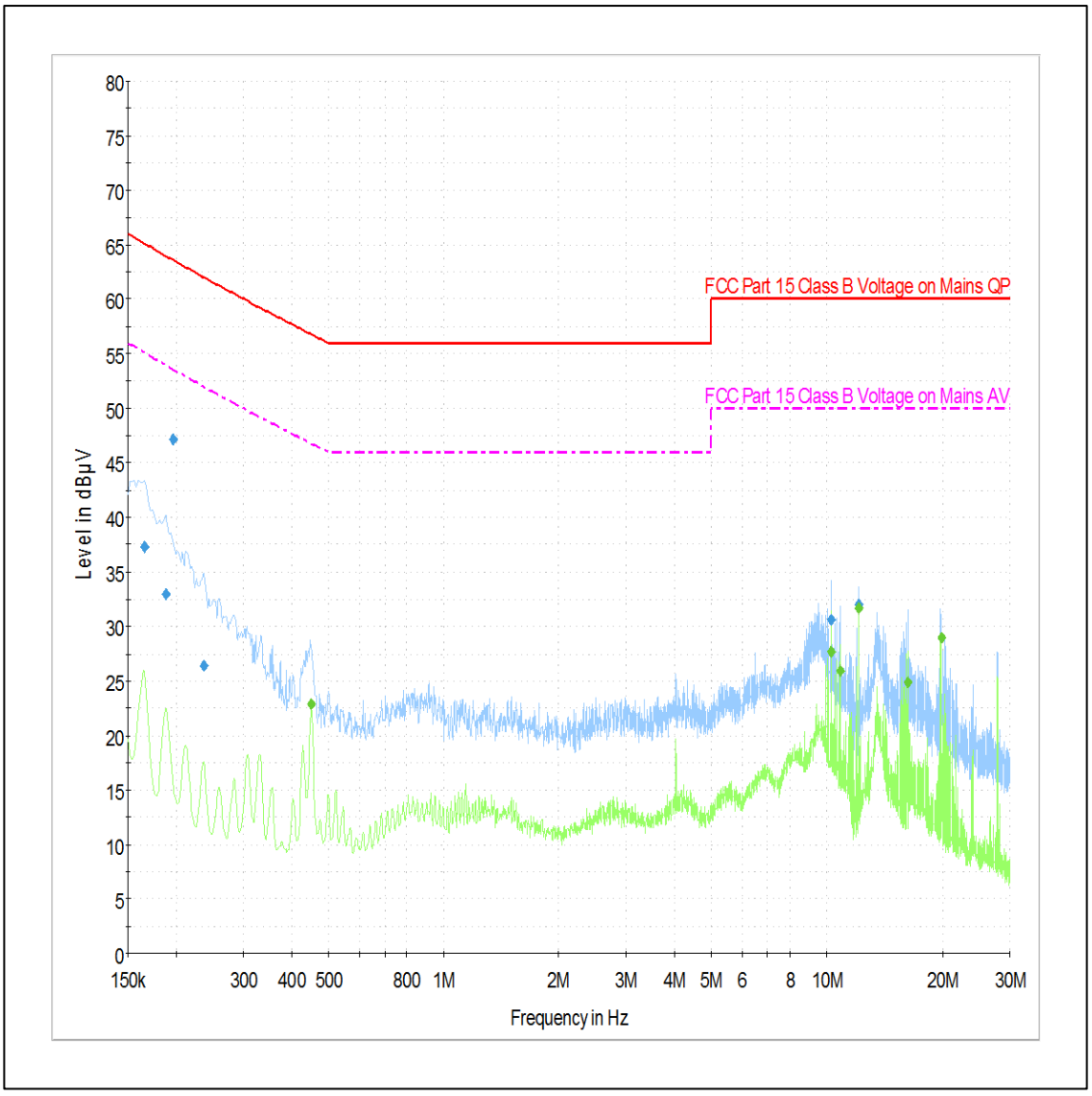
Front

Rear

4.1.4 Test results (mains port)

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

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)

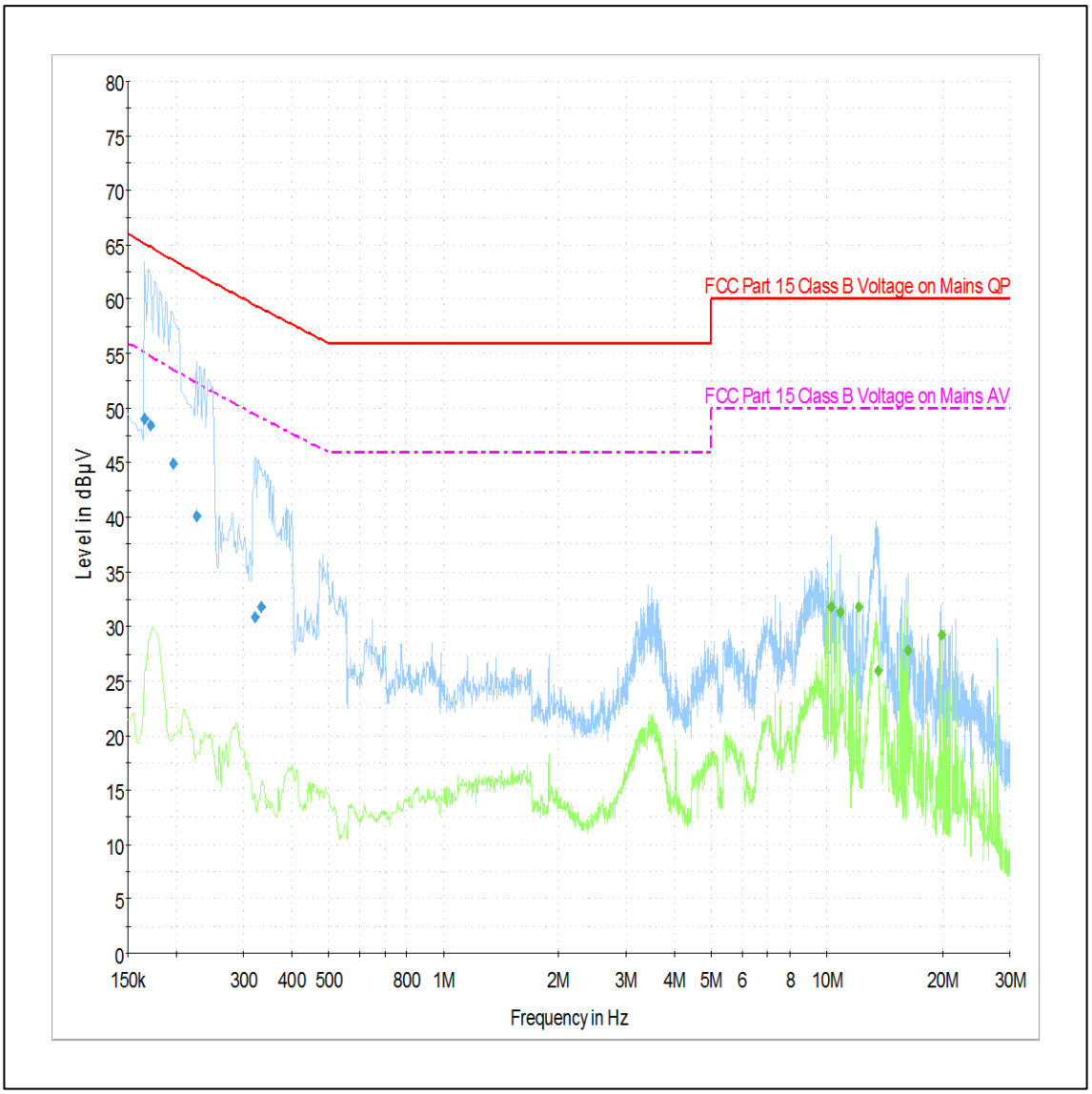
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.166	37.3	9.0	L1	9.7	27.8	65.1
0.188	32.9	9.0	L1	9.7	31.1	64
0.196	47.2	9.0	N	9.7	16.4	63.6
0.236	26.4	9.0	L1	9.7	35.6	62
10.244	30.6	9.0	L1	9.8	29.4	60
12.096	32.1	9.0	N	9.9	27.9	60

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.452	22.9	9.0	L1	9.7	23.8	46.8
10.244	27.7	9.0	L1	9.8	22.3	50
10.796	25.9	9.0	L1	9.9	24.1	50
12.096	31.6	9.0	N	9.9	18.4	50
16.228	24.9	9.0	L1	10	25.1	50
19.904	29	9.0	N	10	21	50

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 Print**

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)

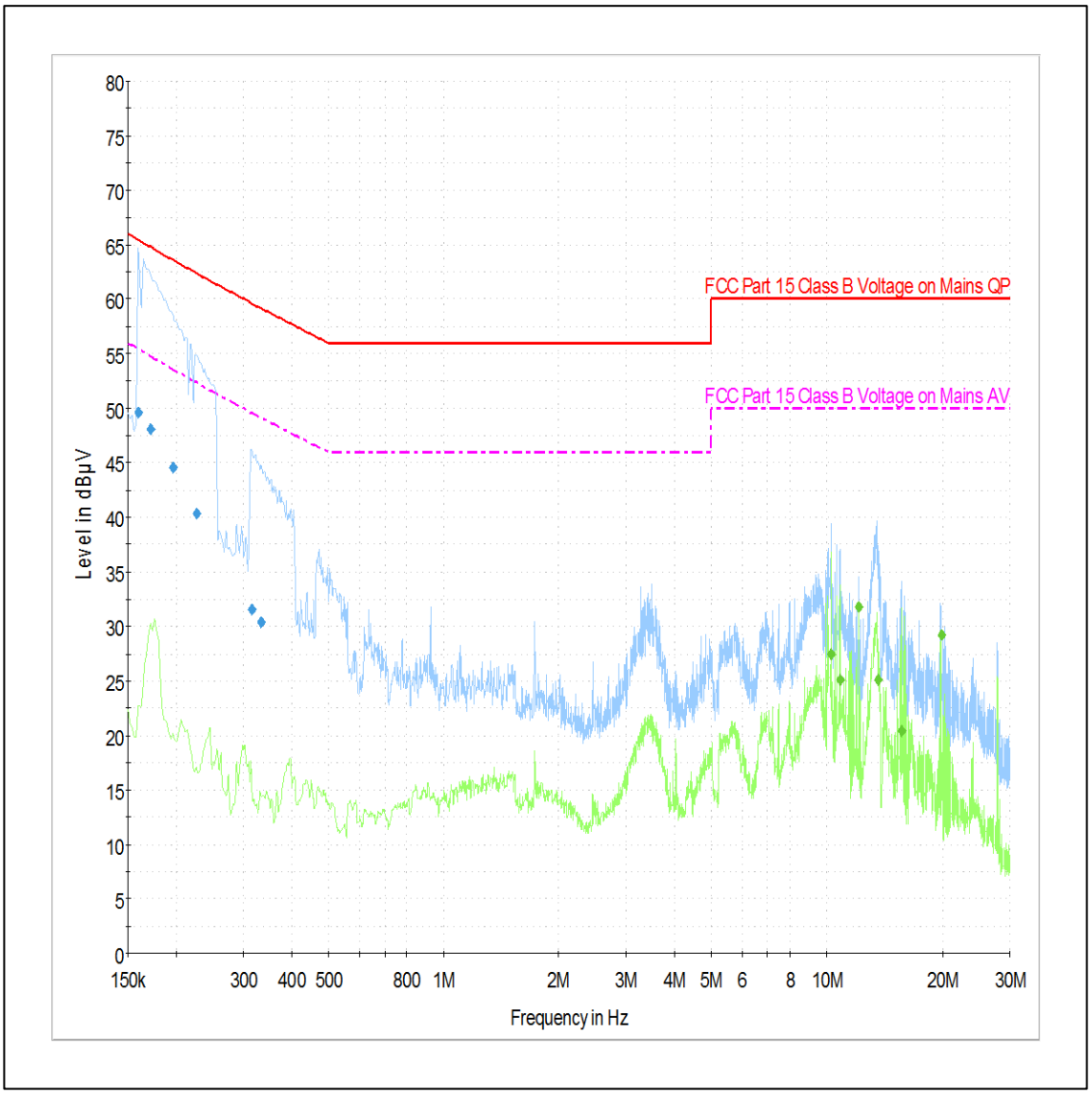
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.166	49.1	9.0	L1	9.7	16	65.1
0.172	48.5	9.0	L1	9.7	16.3	64.8
0.196	45	9.0	L1	9.7	18.7	63.6
0.226	40.1	9.0	N	9.7	22.3	62.4
0.322	30.9	9.0	L1	9.7	28.6	59.5
0.334	31.8	9.0	L1	9.7	27.4	59.2

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	31.8	9.0	N	9.8	18.2	50
10.796	31.3	9.0	L1	9.9	18.7	50
12.096	31.8	9.0	L1	9.9	18.2	50
13.604	26	9.0	N	9.9	24	50
16.228	27.8	9.0	N	9.9	22.2	50
19.904	29.2	9.0	N	10	20.8	50

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 : Network Print**

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)

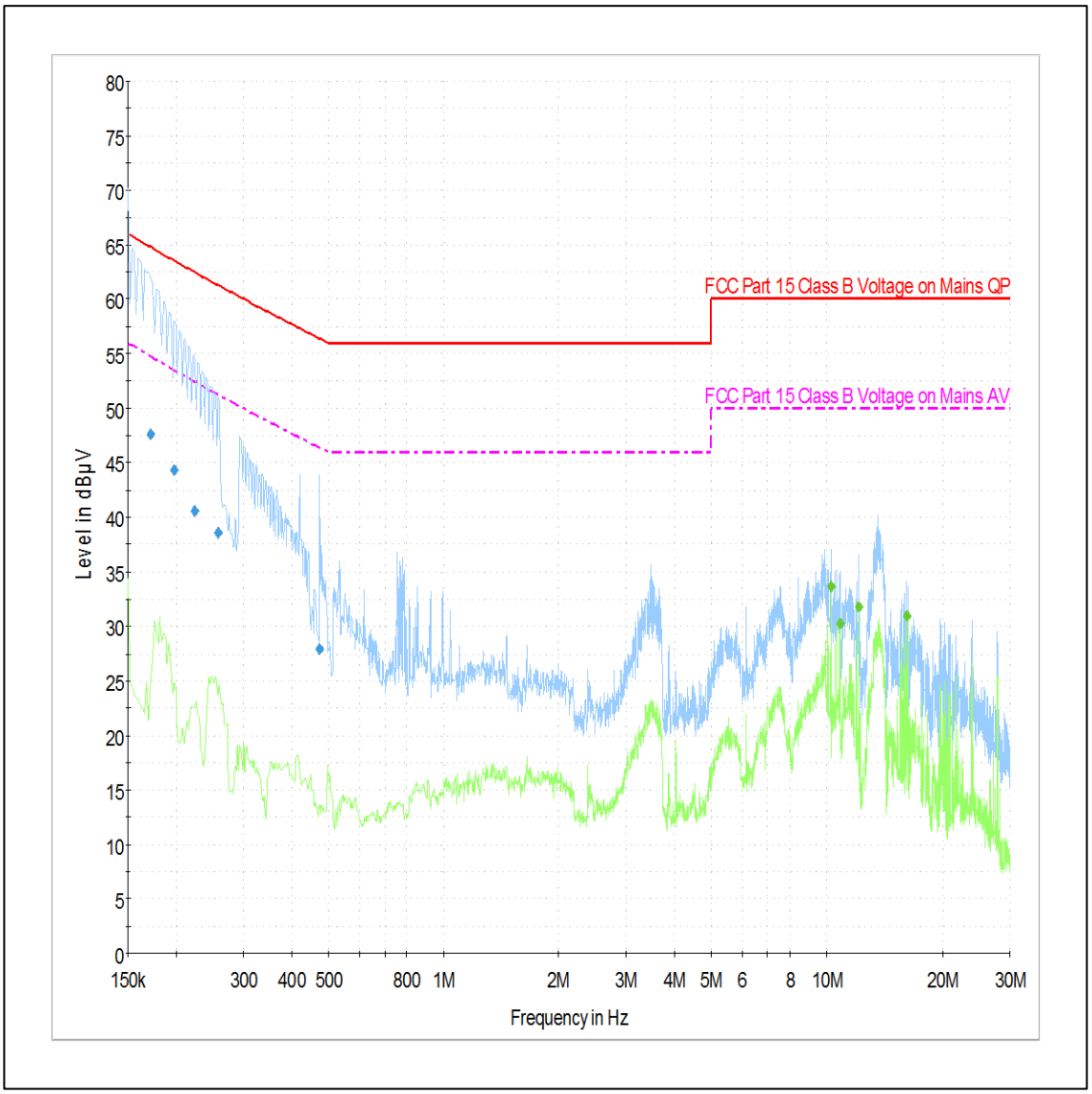
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.16	49.6	9.0	L1	9.7	15.8	65.4
0.172	48.1	9.0	L1	9.7	16.7	64.8
0.196	44.6	9.0	L1	9.7	19	63.6
0.226	40.4	9.0	L1	9.7	22	62.4
0.316	31.5	9.0	L1	9.7	28.1	59.6
0.334	30.4	9.0	L1	9.7	28.8	59.2

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	27.5	9.0	L1	9.8	22.5	50
10.796	25.1	9.0	L1	9.9	24.9	50
12.096	31.8	9.0	N	9.9	18.2	50
13.556	25.1	9.0	N	9.9	24.9	50
15.62	20.4	9.0	L1	9.9	29.6	50
19.904	29.2	9.0	N	10	20.8	50

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 : Copy Print**

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)

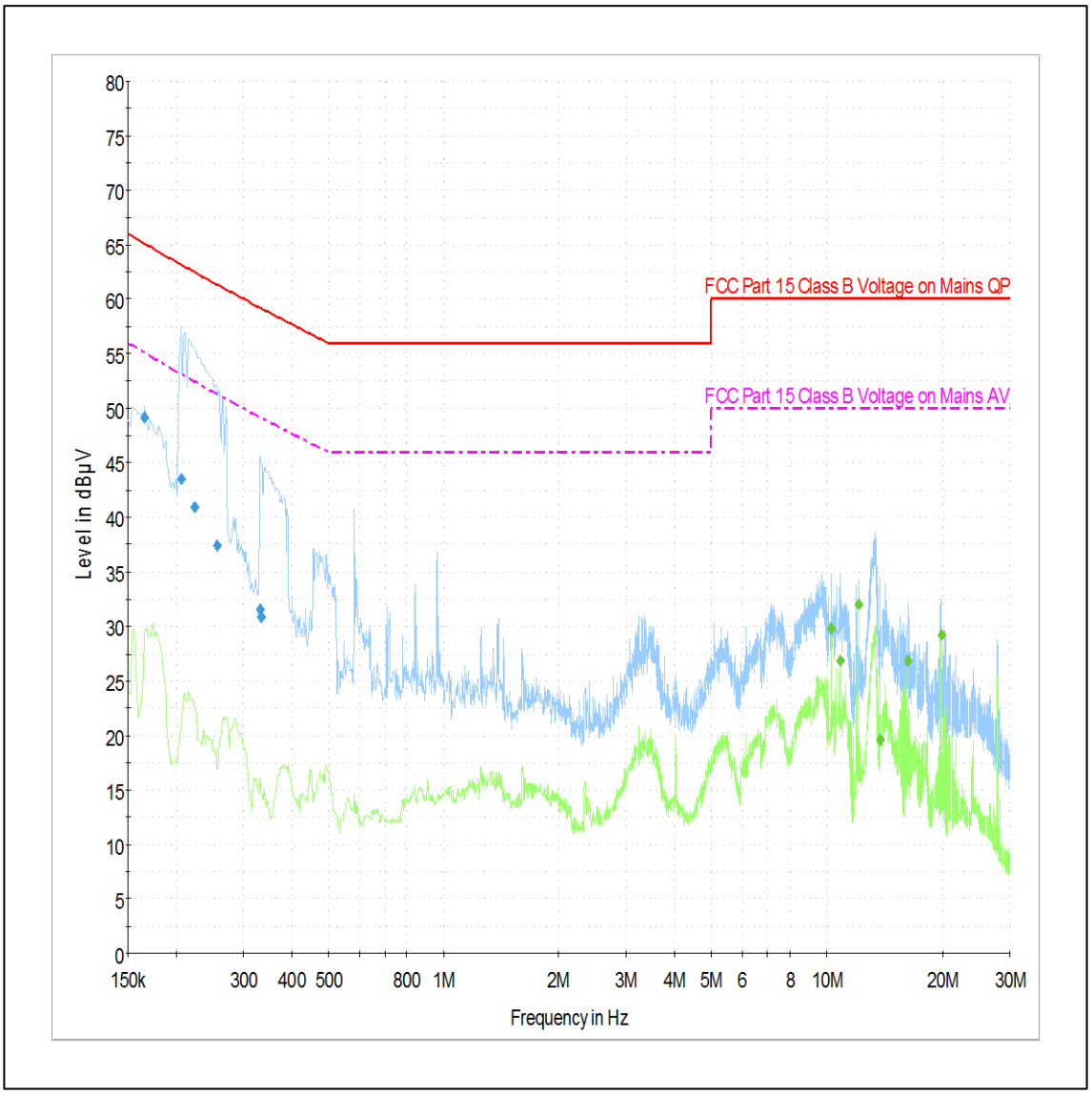
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.172	47.7	9.0	N	9.7	17.1	64.8
0.198	44.4	9.0	L1	9.7	19.2	63.5
0.224	40.5	9.0	N	9.7	22	62.5
0.258	38.6	9.0	L1	9.7	22.7	61.3
0.474	28	9.0	N	9.7	28.4	56.4

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	33.6	9.0	L1	9.8	16.4	50
10.796	30.3	9.0	L1	9.9	19.7	50
12.096	31.8	9.0	N	9.9	18.2	50
16.168	30.9	9.0	N	9.9	19.1	50

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 : P1284 Print**

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)

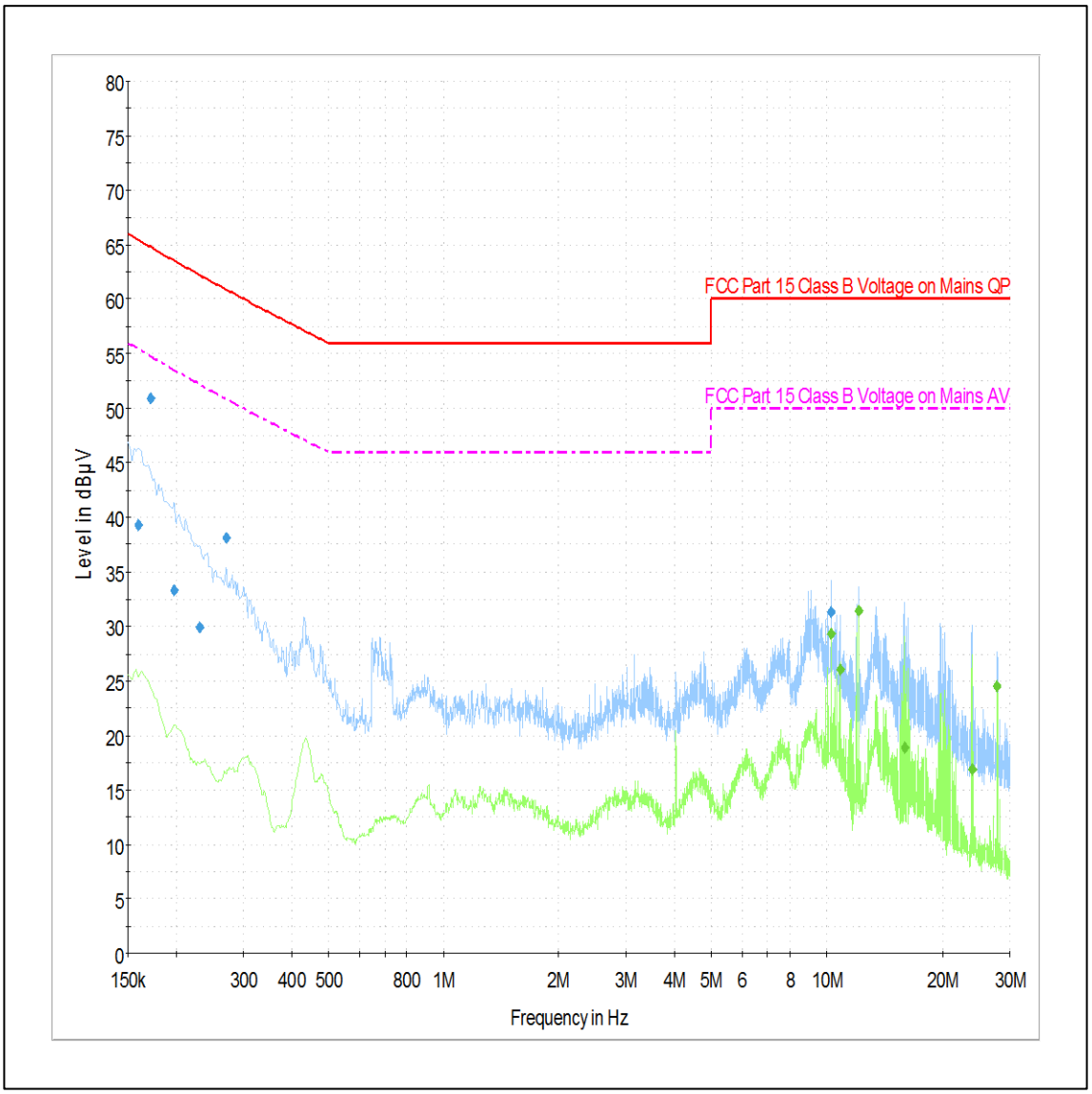
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.166	49.1	9.0	L1	9.7	16	65.1
0.206	43.5	9.0	L1	9.7	19.7	63.2
0.224	40.9	9.0	L1	9.7	21.6	62.5
0.256	37.4	9.0	L1	9.7	24	61.4
0.332	31.6	9.0	L1	9.7	27.6	59.2
0.334	30.9	9.0	L1	9.7	28.3	59.2

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	29.8	9.0	N	9.8	20.2	50
10.796	26.9	9.0	L1	9.9	23.1	50
12.096	32	9.0	L1	9.9	18	50
13.728	19.6	9.0	L1	9.9	30.4	50
16.228	26.9	9.0	N	9.9	23.1	50
19.904	29.2	9.0	N	10	20.8	50

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 : Scan to USB Print**

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)

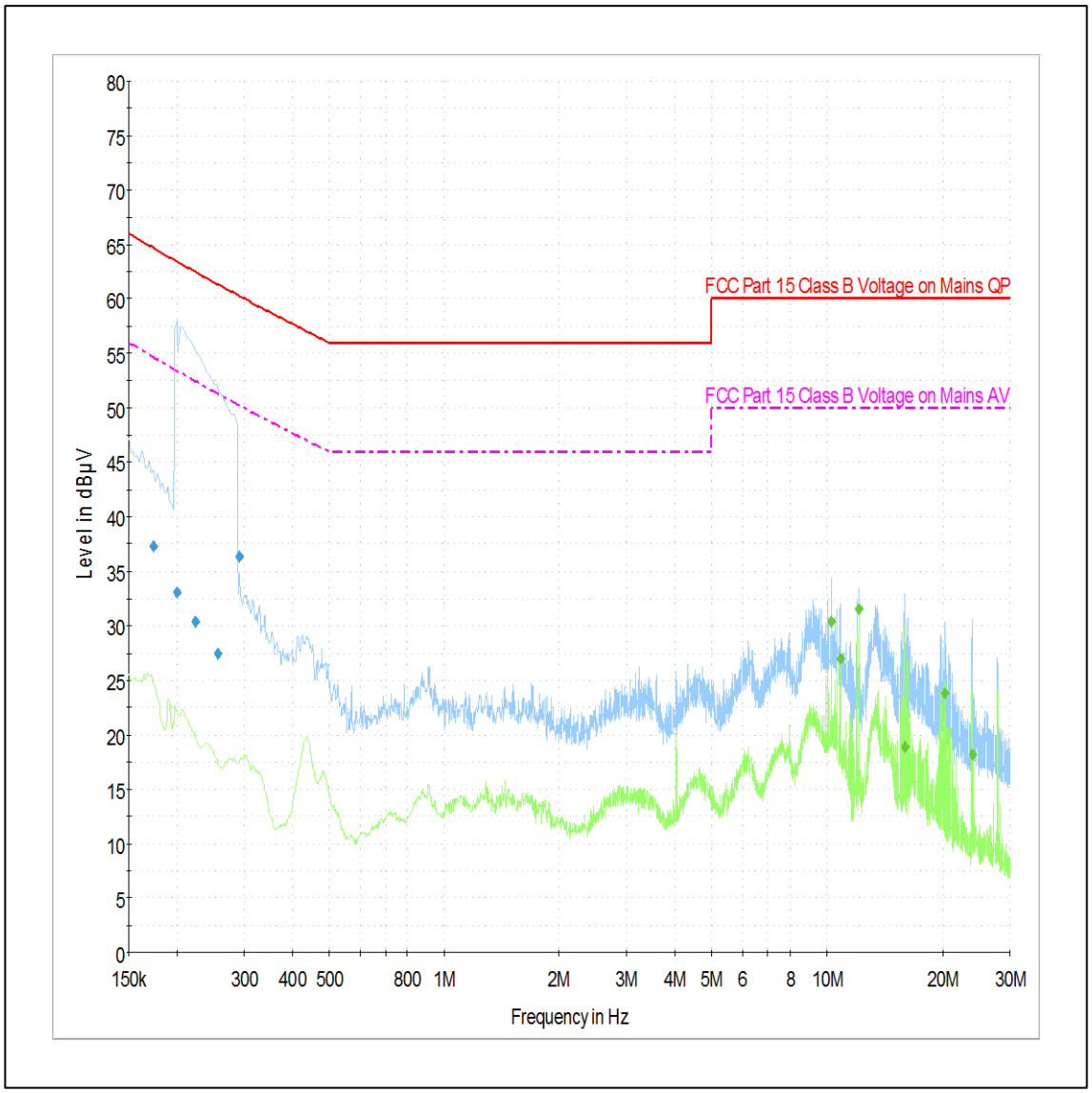
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.16	39.3	9.0	L1	9.7	26.1	65.4
0.172	51	9.0	L1	9.7	13.8	64.8
0.198	33.4	9.0	L1	9.7	30.2	63.5
0.23	29.9	9.0	L1	9.7	32.4	62.3
0.27	38.1	9.0	N	9.7	22.8	60.9
10.244	31.4	9.0	L1	9.8	28.6	60

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	29.4	9.0	L1	9.8	20.6	50
10.796	26.1	9.0	N	9.8	23.9	50
12.096	31.5	9.0	L1	9.9	18.5	50
15.884	18.9	9.0	N	9.9	31.1	50
23.876	16.9	9.0	N	10.1	33.1	50
27.752	24.5	9.0	N	10.2	25.5	50

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 7 : Scan to PC**

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)

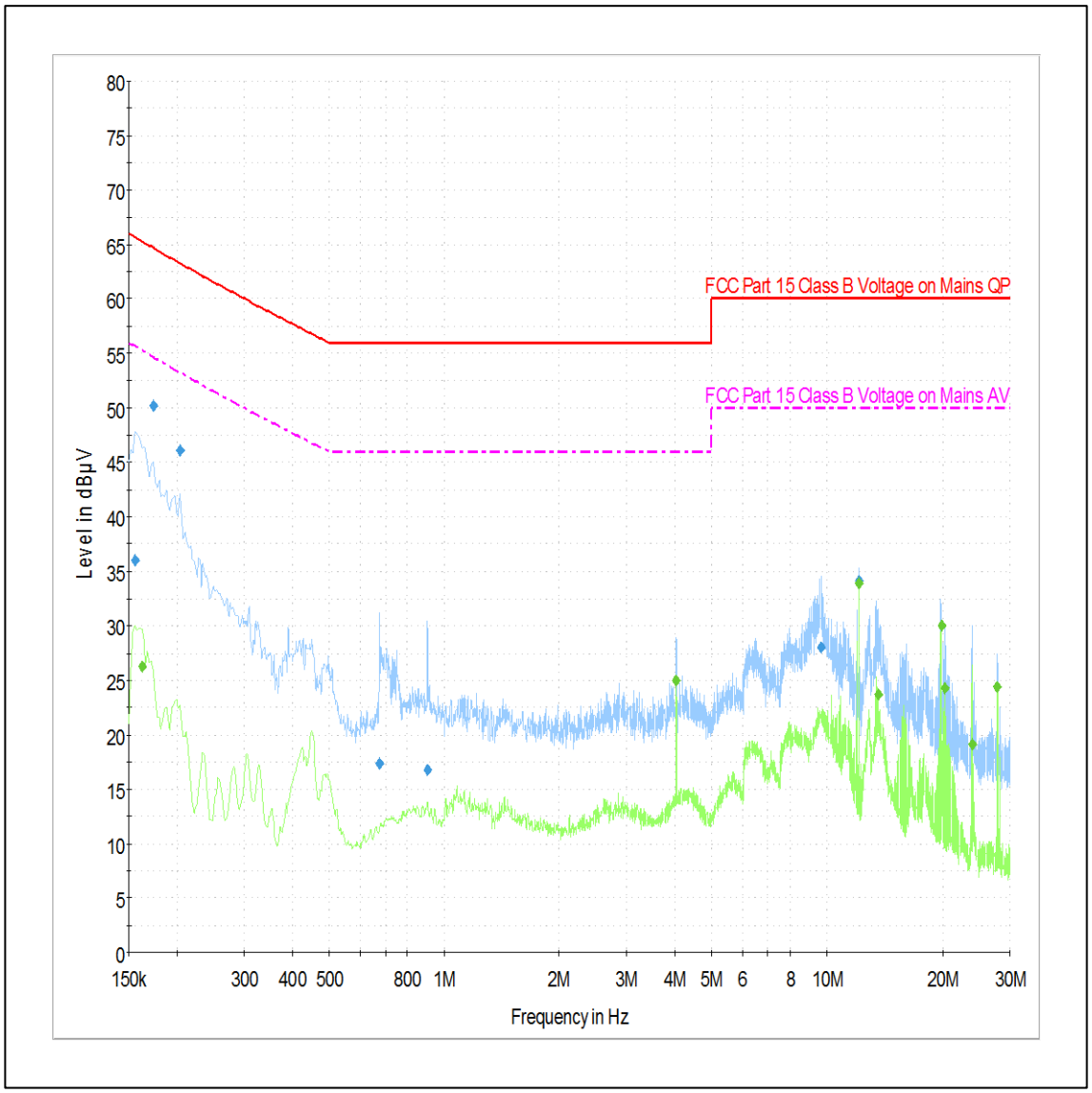
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.174	37.3	9.0	N	9.7	27.4	64.7
0.2	33.1	9.0	N	9.7	30.4	63.5
0.224	30.4	9.0	N	9.7	32.1	62.5
0.256	27.4	9.0	N	9.7	34	61.4
0.292	36.4	9.0	N	9.7	23.9	60.3

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
10.244	30.3	9.0	N	9.8	19.7	50
10.796	27	9.0	N	9.8	23	50
12.096	31.5	9.0	L1	9.9	18.5	50
15.884	18.9	9.0	N	9.9	31.1	50
20.26	23.8	9.0	N	10	26.2	50
23.876	18.2	9.0	N	10.1	31.8	50

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 8 : Fax Tx**

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)

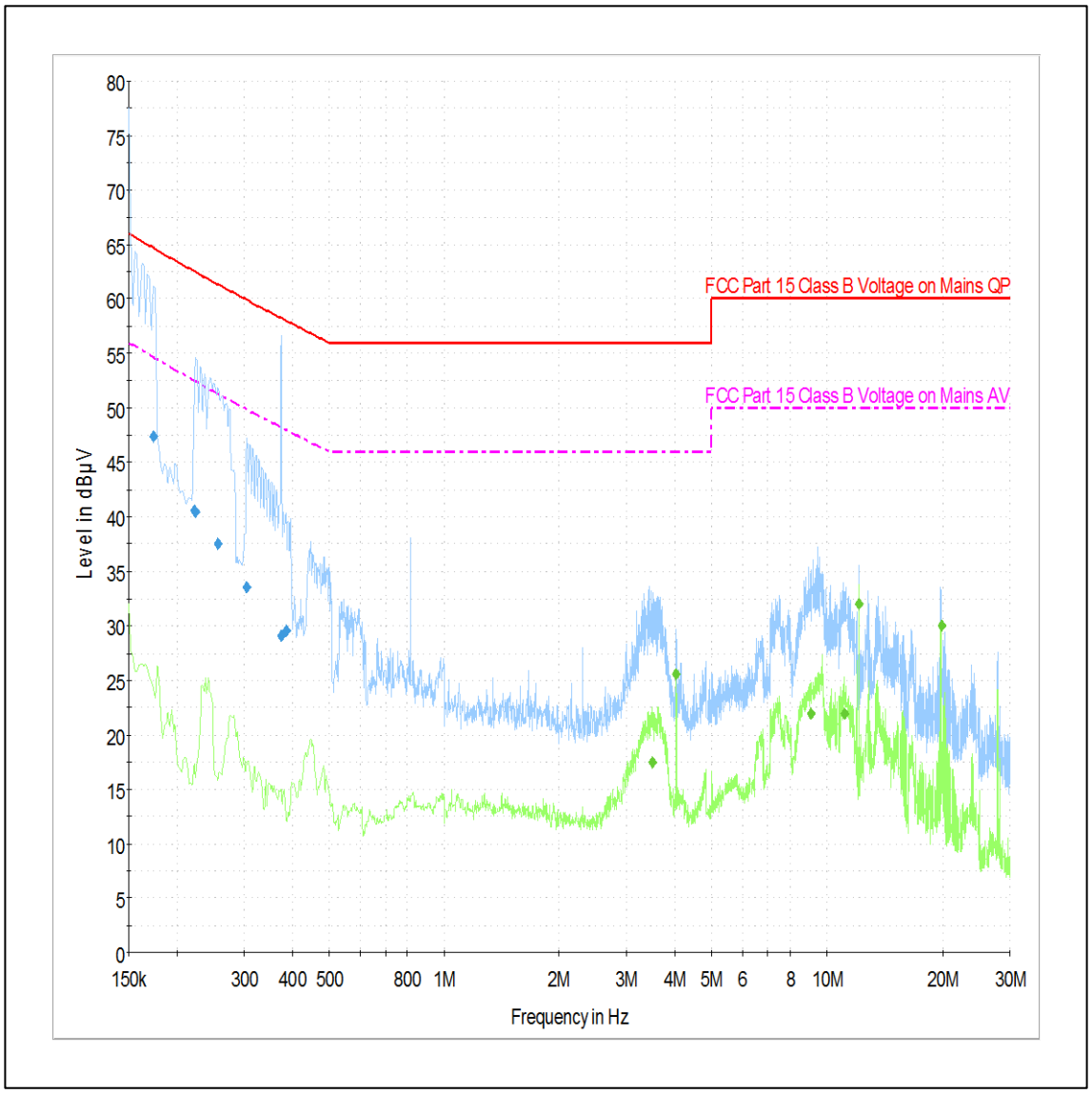
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.156	36	9.0	N	9.7	29.6	65.6
0.174	50.2	9.0	N	9.7	14.5	64.7
0.204	46.2	9.0	N	9.7	17.1	63.3
0.678	17.3	9.0	L1	9.7	38.7	56
0.904	16.8	9.0	N	9.7	39.2	56
9.608	28	9.0	L1	9.8	32	60
12.096	34.1	9.0	N	9.9	25.9	60

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.162	26.3	9.0	N	9.7	29	55.3
4.032	25	9.0	L1	9.7	21	46
12.096	33.9	9.0	L1	9.9	16.1	50
13.604	23.7	9.0	N	9.9	26.3	50
19.904	30	9.0	N	10	20	50
20.26	24.2	9.0	N	10	25.8	50
23.876	19.1	9.0	N	10.1	30.9	50
27.752	24.4	9.0	N	10.2	25.6	50

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 9 : Fax-Rx**

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)

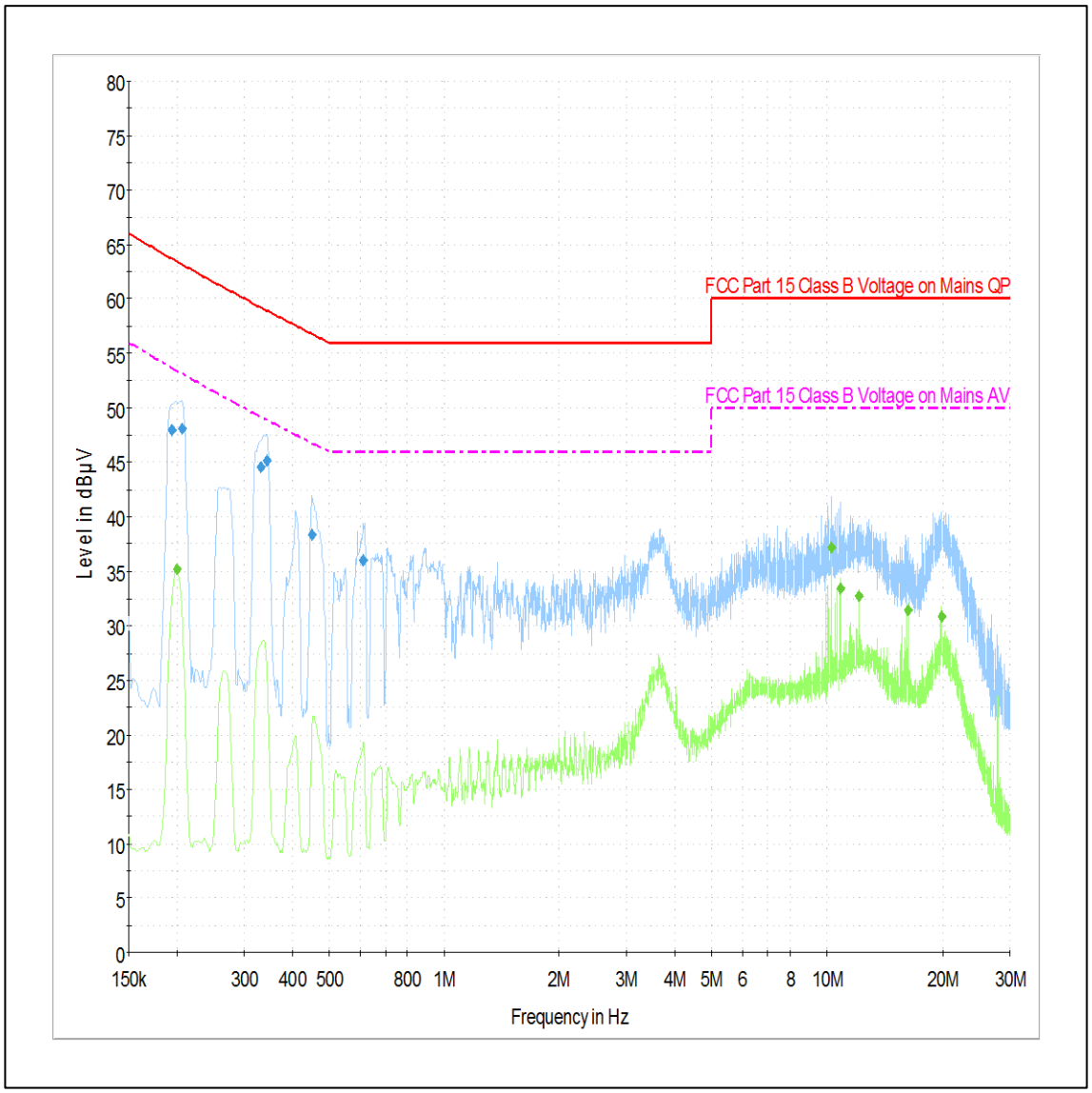
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.174	47.4	9.0	N	9.7	17.3	64.7
0.222	40.6	9.0	N	9.7	21.9	62.6
0.224	40.5	9.0	N	9.7	22	62.5
0.256	37.6	9.0	L1	9.7	23.8	61.4
0.304	33.6	9.0	L1	9.7	26.4	59.9
0.374	29.1	9.0	L1	9.7	29.2	58.3
0.386	29.5	9.0	N	9.7	28.5	58

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
3.48	17.5	9.0	L1	9.7	28.5	46
4.032	25.6	9.0	L1	9.7	20.4	46
9.068	21.9	9.0	N	9.8	28.1	50
11.084	21.9	9.0	L1	9.9	28.1	50
12.096	32	9.0	N	9.9	18	50
19.904	30	9.0	N	10	20	50

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**

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)

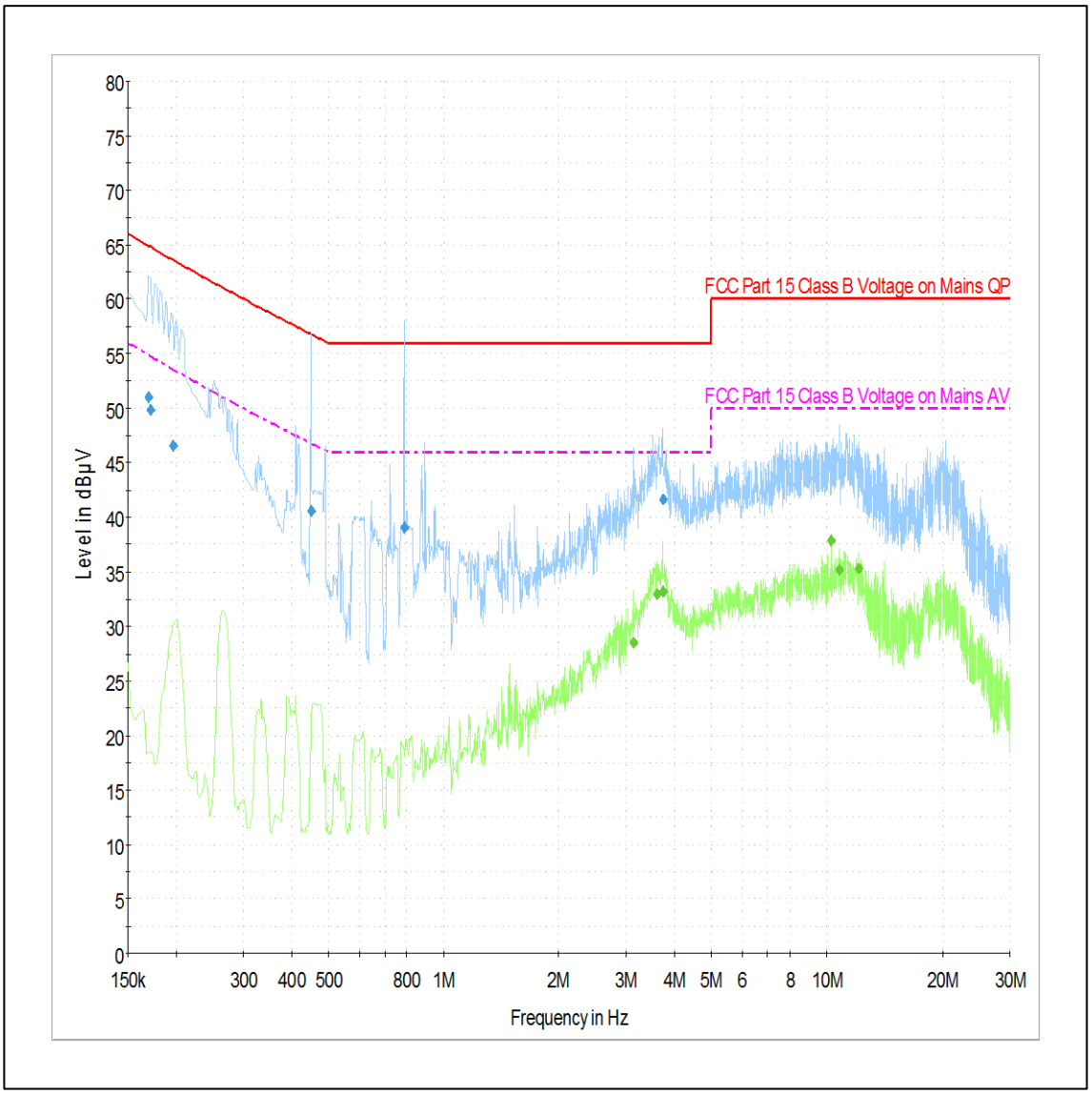
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.194	48	9.0	N	9.7	15.7	63.7
0.206	48.1	9.0	N	9.7	15.1	63.2
0.332	44.6	9.0	N	9.7	14.6	59.2
0.344	45.2	9.0	N	9.7	13.8	58.9
0.45	38.4	9.0	N	9.7	18.4	56.8
0.614	36	9.0	N	9.7	20	56

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.2	35.2	9.0	N	9.7	18.2	53.4
10.244	37.2	9.0	L1	9.8	12.8	50
10.796	33.5	9.0	L1	9.9	16.5	50
12.096	32.7	9.0	L1	9.9	17.3	50
16.228	31.4	9.0	N	9.9	18.6	50
19.856	30.8	9.0	N	10	19.2	50

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 : USB Print**

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)

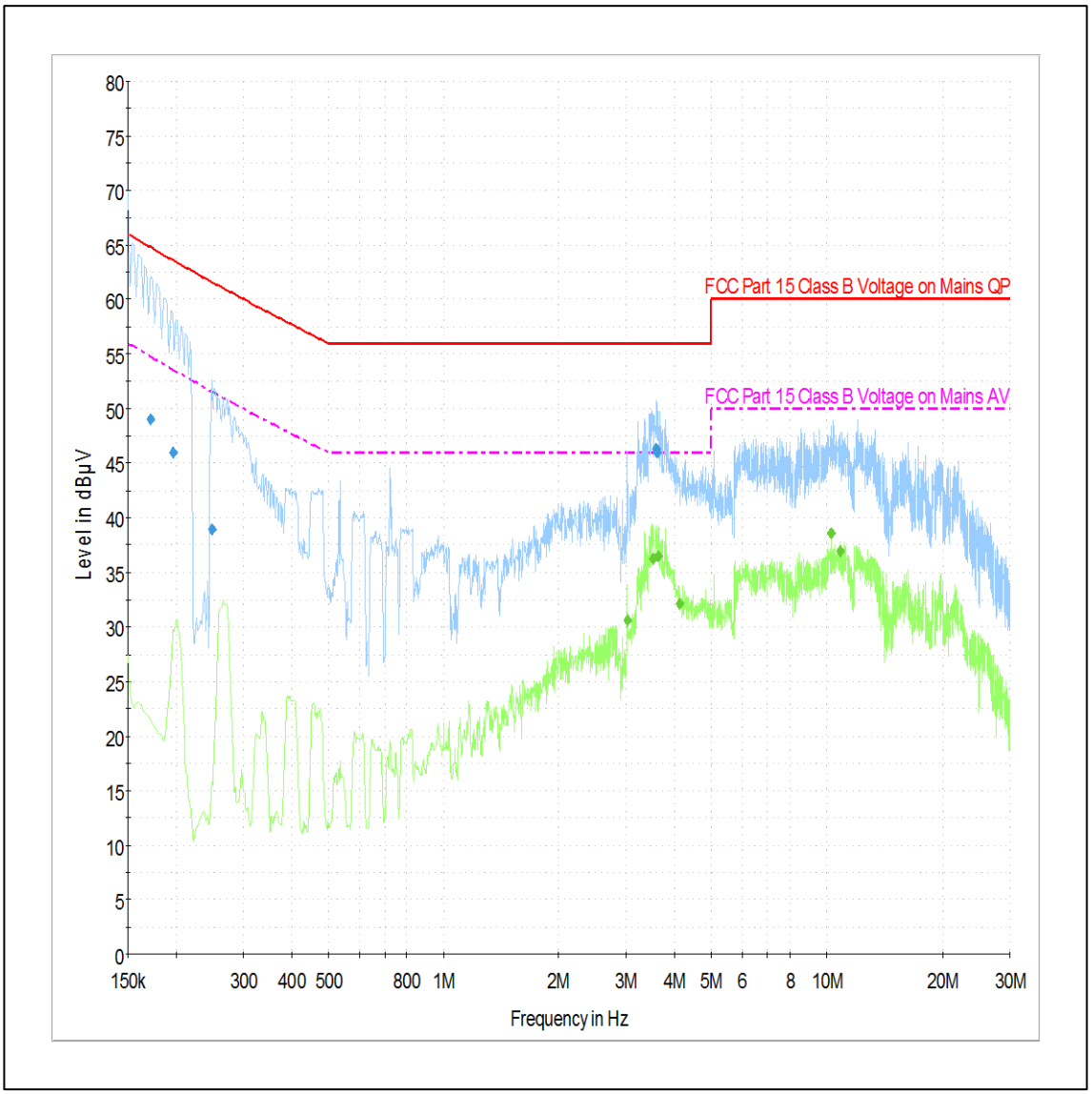
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.17	51	9.0	L1	9.7	13.9	64.9
0.172	49.8	9.0	L1	9.7	14.9	64.8
0.196	46.6	9.0	N	9.7	17.1	63.6
0.45	40.6	9.0	L1	9.7	16.2	56.8
0.788	39.1	9.0	L1	9.7	16.9	56
3.728	41.6	9.0	L1	9.7	14.4	56

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
3.12	28.5	9.0	N	9.7	17.5	46
3.592	33	9.0	N	9.7	13	46
3.724	33.2	9.0	L1	9.7	12.8	46
10.244	37.9	9.0	N	9.8	12.1	50
10.732	35.2	9.0	N	9.8	14.8	50
12.096	35.3	9.0	L1	9.9	14.7	50

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 4 : Copy Print**

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)

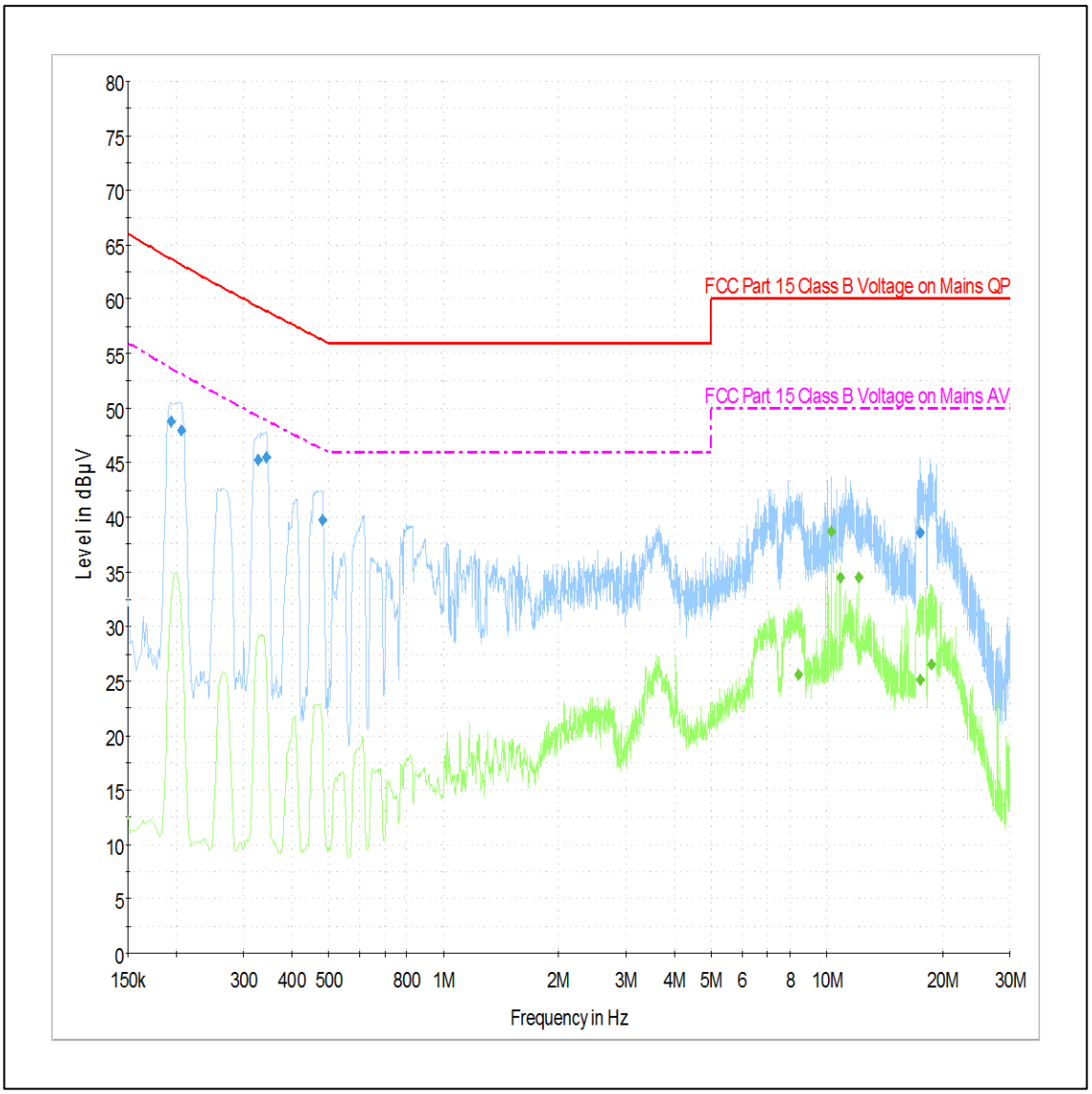
Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.172	49	9.0	N	9.7	15.8	64.8
0.196	46	9.0	L1	9.7	17.6	63.6
0.248	39	9.0	N	9.7	22.6	61.6
3.58	46.3	9.0	L1	9.7	9.7	56
3.604	46	9.0	L1	9.7	10	56

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
3.016	30.6	9.0	N	9.7	15.4	46
3.508	36.3	9.0	L1	9.7	9.7	46
3.62	36.5	9.0	L1	9.7	9.5	46
4.128	32.2	9.0	L1	9.7	13.8	46
10.244	38.6	9.0	N	9.8	11.4	50
10.796	37	9.0	N	9.8	13	50

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 8 : Fax-Tx**

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)

Frequency [MHz]	Quasi-Peak [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
0.194	48.8	9.0	N	9.7	14.9	63.7
0.206	48	9.0	N	9.7	15.2	63.2
0.328	45.3	9.0	N	9.7	14	59.3
0.344	45.5	9.0	N	9.7	13.4	58.9
0.482	39.8	9.0	N	9.7	16.5	56.3
17.44	38.6	9.0	L1	10	21.4	60

Frequency [MHz]	Average [dBuV]	Bandwidth [kHz]	Line	Factor [dB]	Margin [dB]	Limit [dBuV]
8.38	25.6	9.0	N	9.8	24.4	50
10.244	38.7	9.0	N	9.8	11.3	50
10.796	34.5	9.0	N	9.8	15.5	50
12.096	34.4	9.0	L1	9.9	15.6	50
17.48	25.1	9.0	L1	10	24.9	50
18.648	26.6	9.0	N	10	23.4	50

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 dB(μV/m)	
		Class A	Class B
30 to 230	120 kHz	40	30
230 to 1000	120 kHz	47	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 1GHz to 40GHz 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	**Horizontal, Vertical**	**Continuous**

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

Class	Limits - dB(μV/m)	
	Peak	Average
A	**80**	**60**
B	**74**	**54**
Average limit 500, 20 log 500 = 53.979 dB ≒ 54 dB		

Antenna height was adjusted to 100 cm 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.

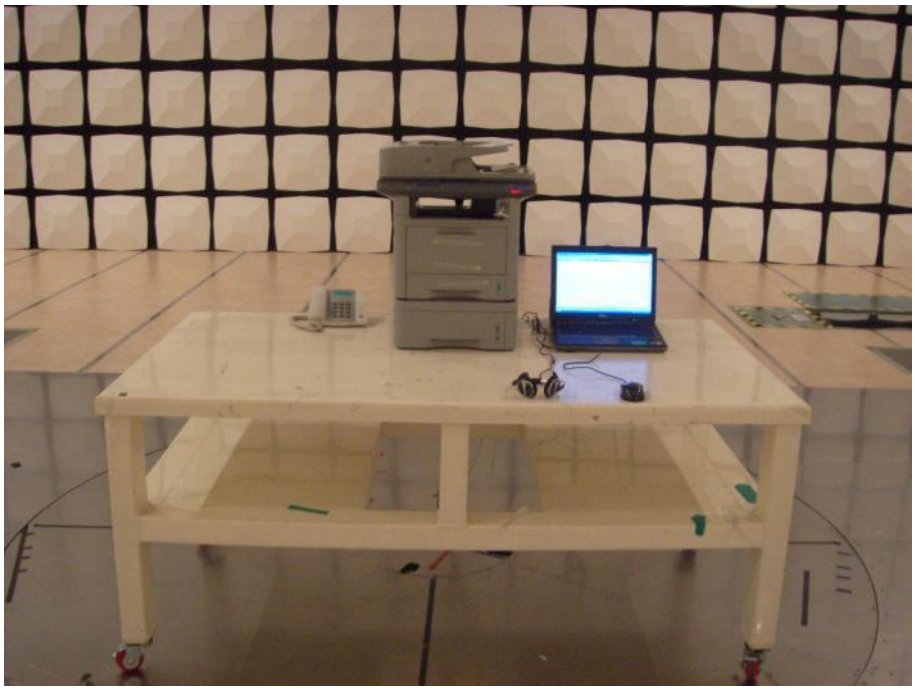
4.2.1 Test instrumentation

Test instrumentation	Model name	Manufacturer	Serial or Firmware (No./Ver.)	Calibration	
				Date	Interval (Month)
Bi-con Antenna	CBL6112D	Schaffner	22602	2010-04-21	24
Bi-con Antenna	CBL6112D	Schaffner	22604	2010-04-21	24
Horn Antenna	R&S	HF907	100016	2009-04-27	24
EMI Receiver	ESIB-26	R&S	100288	2010-06-04	12
EMI Receiver	ESIB-26	R&S	100147	2010-08-17	12
Amplifier	310N	Agilent	185861	2010-01-28	12
Amplifier	310N	Agilent	251676	2010-01-28	12
Preamplifier	R&S	SCU_F018_G35_ ASF42_CNN(F)	10001	2010-04-19	12
Antenna Mast	MA4000	INN CO	-	N/A	N/A
Antenna Mast	MA4000	INN CO	-	N/A	N/A
Antenna Mast	MA2000	INN CO	-	N/A	N/A
Mast Controller	CO2000	INN CO	-	N/A	N/A
Test software	EP5/RE	TOYO	VER 3.1.20	N/A	N/A
RF Selector	NS4900	TOYO	-	N/A	N/A

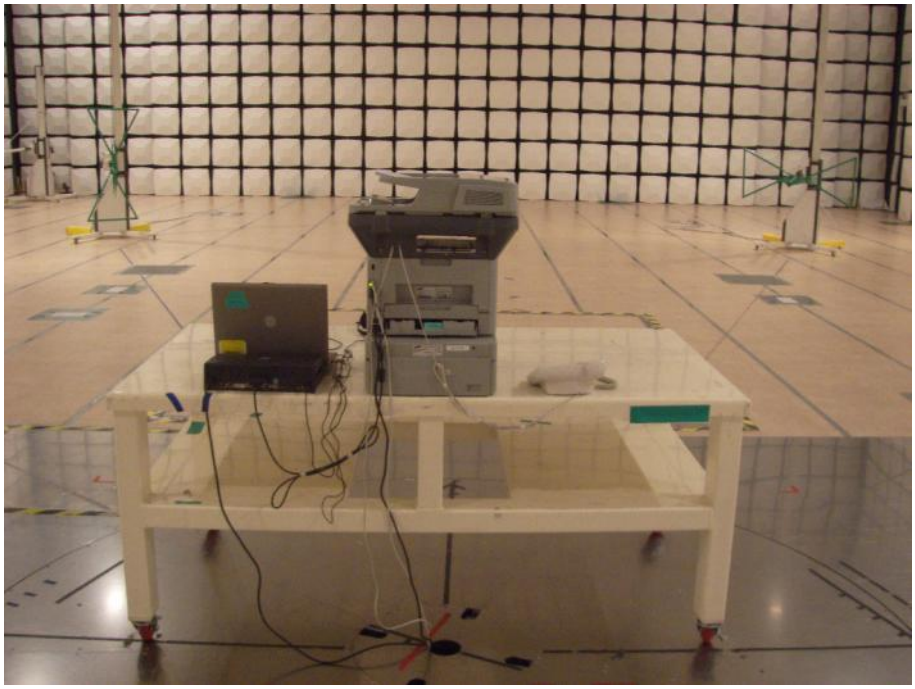
4.2.2 Temperature and humidity condition

Test date	October 23, 2010 November 09, 2010	**Test engineer**	Ho Jin Choi
Test place	Semi-Anechoic Chamber		

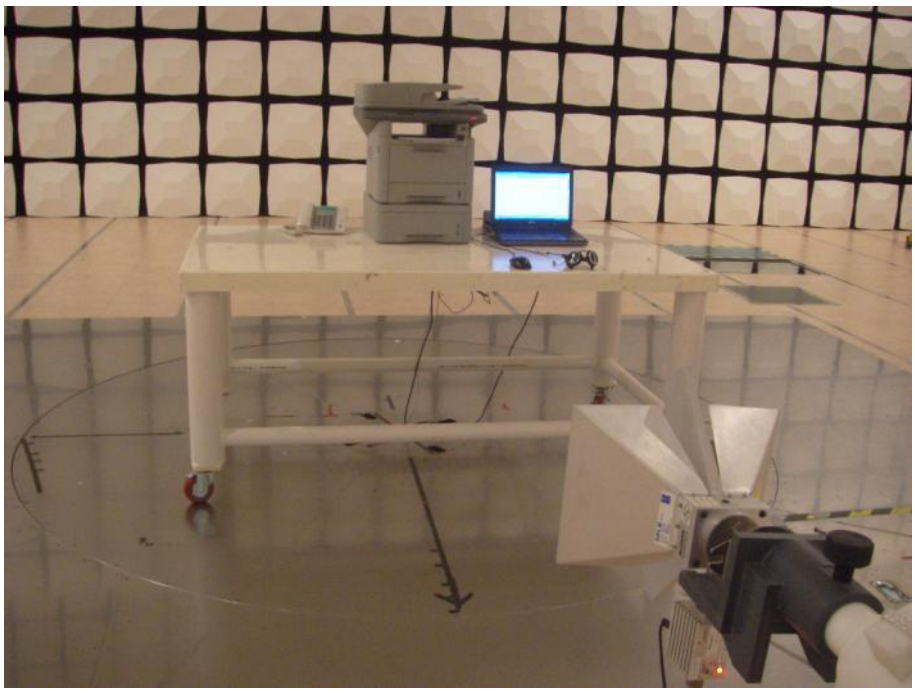
4.2.3 Photograph of Test Setup



Front



Rear



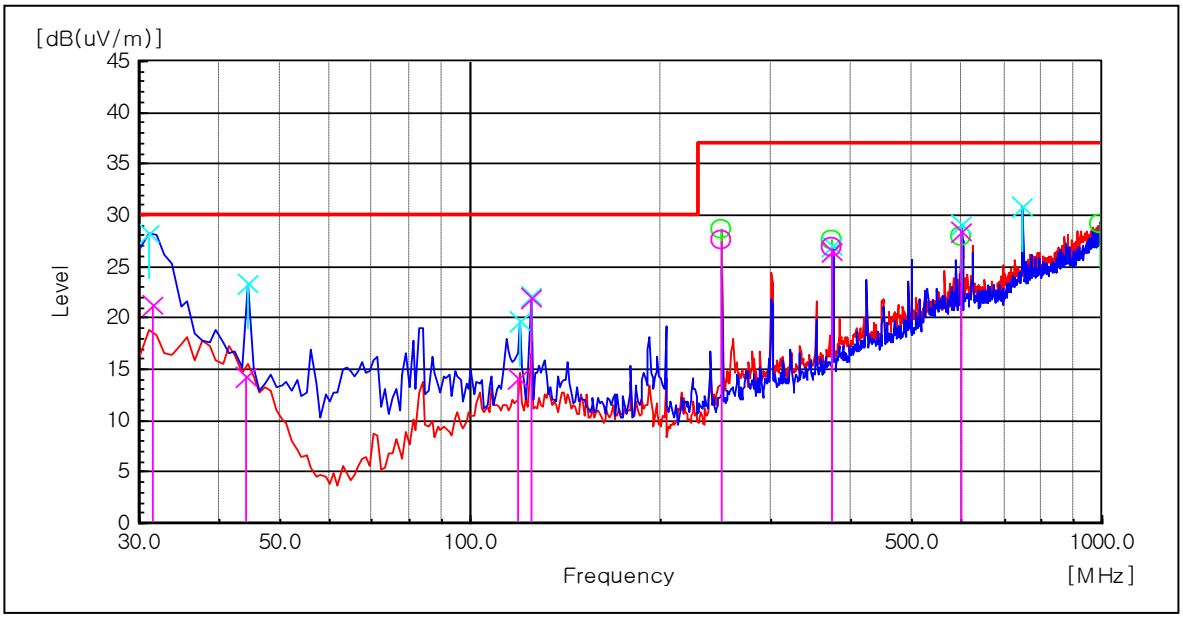
Front (above 1GHz)

4.2.4 Test results

4.2.4.1 Below 1GHz results

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

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
31.47	V	32.7	-11.4	21.3	30	8.7	105	257
44.26	V	35.0	-20.7	14.3	30	15.7	226	246
118.82	V	31.7	-17.6	14.1	30	15.9	101	355
124.78	V	39.5	-17.6	21.9	30	8.1	102	130.3
250.23	H	43.0	-15.5	27.5	37	9.5	367	79
374.16	H	38.8	-12.0	26.8	37	10.2	325	328.9
374.25	V	38.0	-11.5	26.5	37	10.5	397	76.8

Note) Receiving antenna polarization : Horizontal and/or Vertical

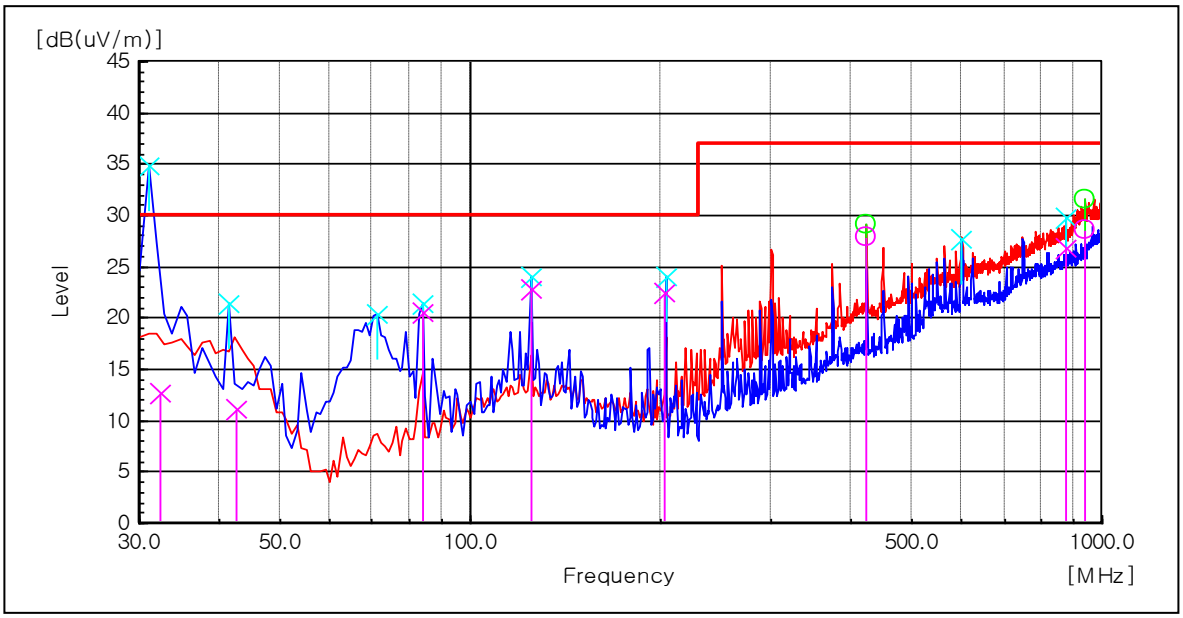
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
32.348	V	25.1	-12.3	12.8	30	17.2	102	147.5
42.578	V	30.9	-19.8	11.1	30	18.9	105	183.1
84.248	V	43.1	-22.6	20.5	30	9.5	101	271
124.784	V	40.4	-17.6	22.8	30	7.2	158	112.9
203.254	V	42	-19.5	22.5	30	7.5	135	355.3
424.615	H	37.9	-10	27.9	37	9.1	102	187.1
874.329	V	29.7	-2.9	26.8	37	10.2	110	70.7
938.524	H	29.6	-1	28.6	37	8.4	364	68.7

Note) Receiving antenna polarization : Horizontal and/or Vertical

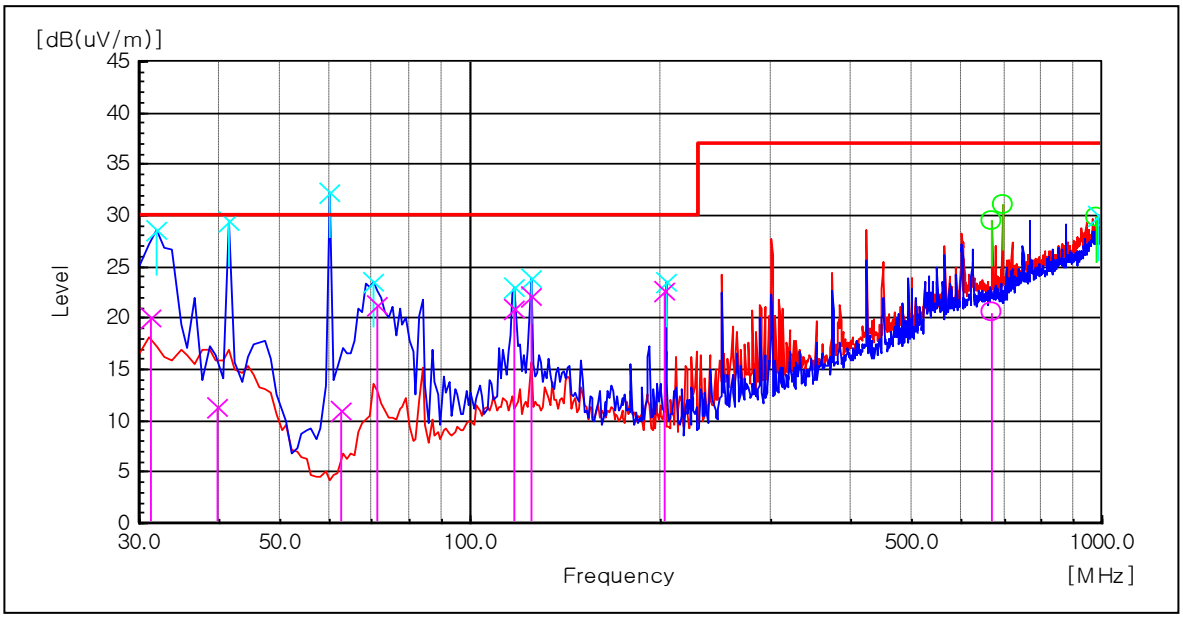
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 : Network Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
31.35	V	31.4	-11.3	20.1	30	9.9	102	211
39.81	V	29.6	-18.3	11.3	30	18.7	297	200
62.34	V	36.0	-25.0	11.0	30	19.0	221	95
71.12	V	45.6	-24.4	21.2	30	8.8	104	36
117.41	V	38.5	-17.6	20.9	30	9.1	101	282.1
124.78	V	39.8	-17.6	22.2	30	7.8	375	59
203.36	V	42.1	-19.5	22.6	30	7.4	110	8.4
670.21	H	26.7	-6.1	20.6	37	16.4	357	0.3

Note) Receiving antenna polarization : Horizontal and/or Vertical

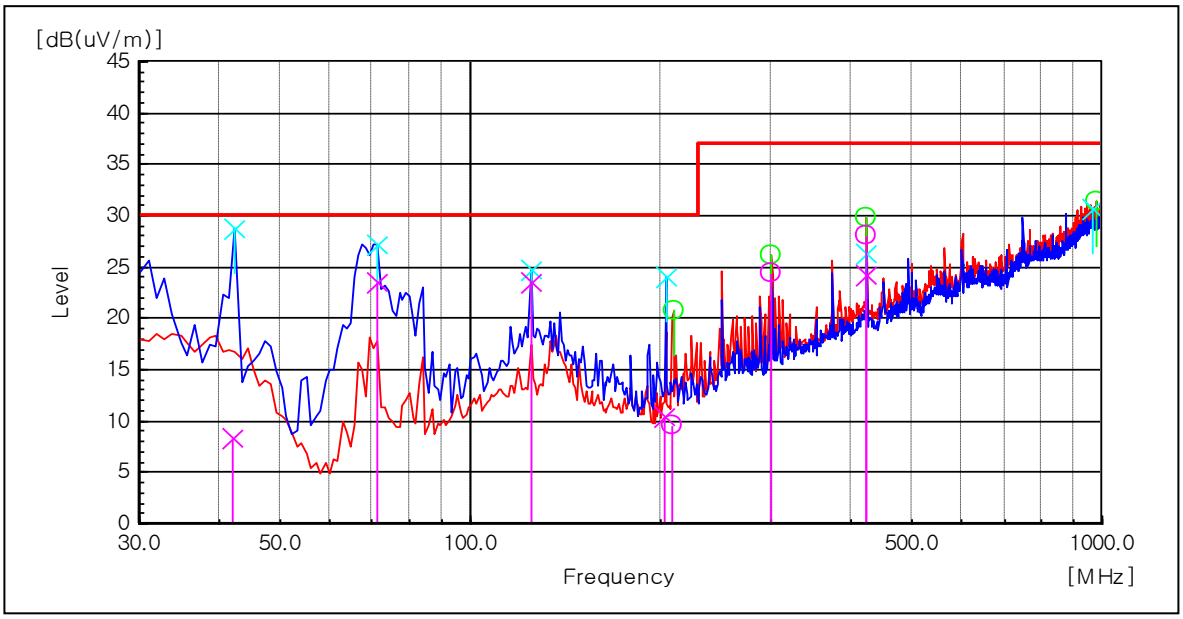
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 : Copy Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
42.27	V	28.1	-19.7	8.4	30	21.6	385	247
71.35	V	48.0	-24.4	23.6	30	6.4	112	36
124.78	V	41.1	-17.6	23.5	30	6.5	102	55
203.83	V	29.9	-19.4	10.5	30	19.5	101	4.5
209.13	H	29.5	-19.9	9.6	30	20.4	394	298.9
300.27	H	39.0	-14.6	24.4	37	12.6	108	213.2
424.65	V	34.2	-9.9	24.3	37	12.7	364	0.3
424.68	H	38.1	-10.0	28.1	37	8.9	110	248.6

Note) Receiving antenna polarization : Horizontal and/or Vertical

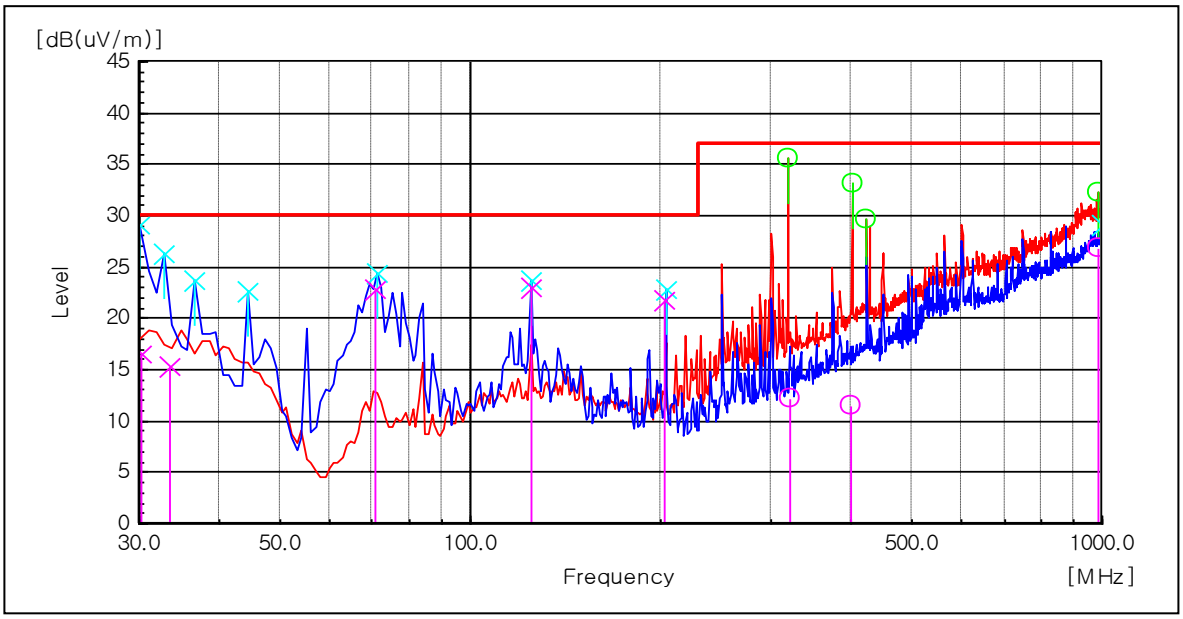
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 : P1284 Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
30.25	V	26.8	-10.2	16.6	30	13.4	241	148
33.56	V	28.9	-13.5	15.4	30	14.6	294	166
71.02	V	47.3	-24.4	22.9	30	7.1	102	32
124.78	V	40.6	-17.6	23.0	30	7.0	274	43.3
203.21	V	41.3	-19.5	21.8	30	8.2	105	260.6
320.35	H	25.9	-13.7	12.2	37	24.8	244	43.7
401.39	H	22.3	-10.8	11.5	37	25.5	298	43.7
988.66	H	27.6	-0.8	26.8	37	10.2	115	132.1

Note) Receiving antenna polarization : Horizontal and/or Vertical

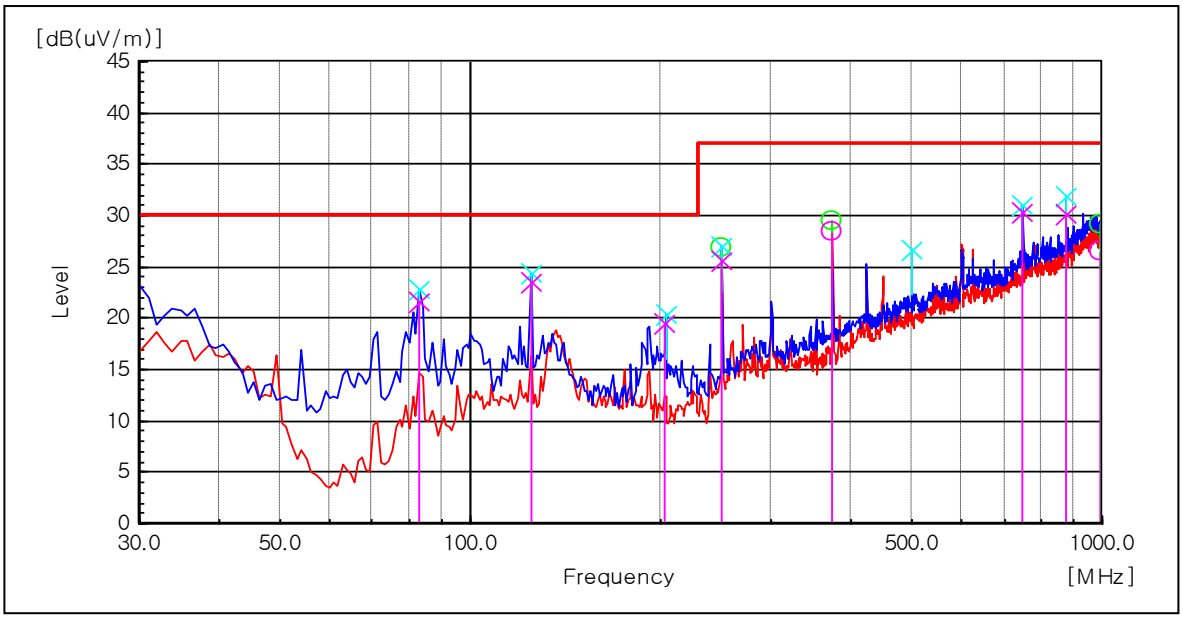
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 : Scan to USB Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
83.35	V	44.3	-22.7	21.6	30	8.4	102	5
124.78	V	41.1	-17.6	23.5	30	6.5	125	123
203.26	V	39.1	-19.5	19.6	30	10.4	106	318
250.15	V	41.3	-15.7	25.6	37	11.4	259	359.6
374.25	H	40.4	-12.0	28.4	37	8.6	104	52.3
749.35	V	34.5	-4.2	30.3	37	6.7	101	143.1
874.35	V	33.1	-2.9	30.2	37	6.8	109	88.9
991.54	H	27.2	-0.7	26.5	37	10.5	398	194.2

Note) Receiving antenna polarization : Horizontal and/or Vertical

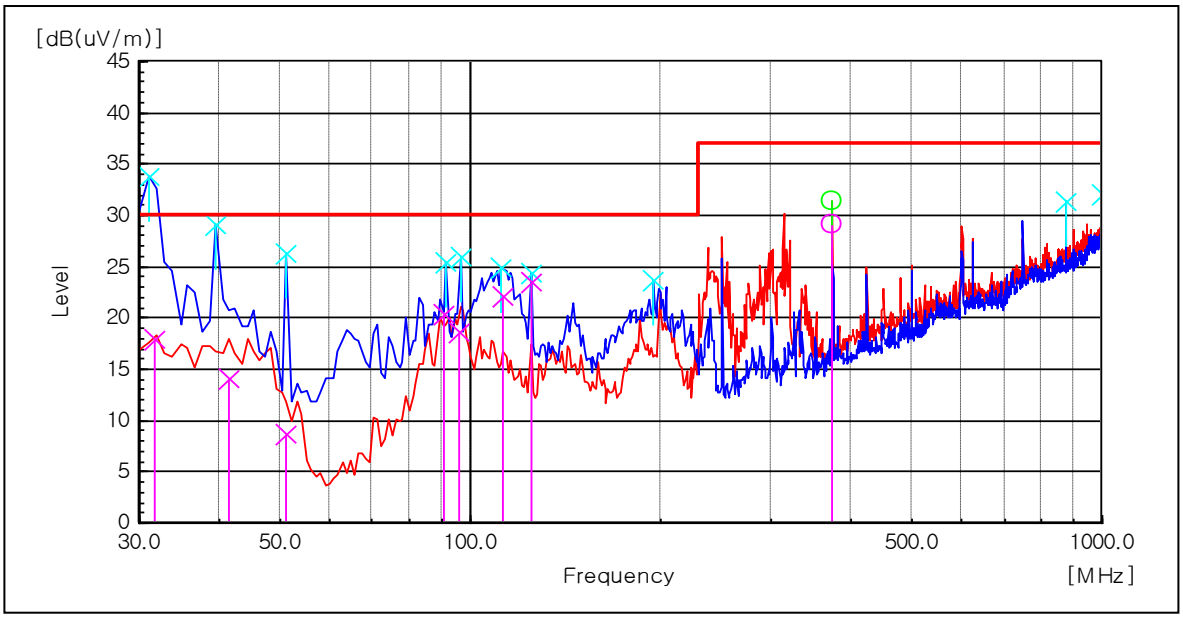
Test Distance : 10m, Antenna Height : 1 to 4 meters

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

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

- **Configuration 1, Operating Mode 7 : Scan to PC**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
31.70	V	29.7	-11.7	18.0	30	12.0	389	152
41.51	V	33.4	-19.3	14.1	30	15.9	394	152
51.13	V	32.3	-23.5	8.8	30	21.2	247	229
91.15	V	41.5	-21.1	20.4	30	9.6	365	80.9
96.29	V	38.6	-19.9	18.7	30	11.3	399	80.9
112.35	V	40.1	-17.9	22.2	30	7.8	101	41.8
124.78	V	41.1	-17.6	23.5	30	6.5	103	95.2
374.23	H	41.2	-12.0	29.2	37	7.8	105	12.6

Note) Receiving antenna polarization : Horizontal and/or Vertical

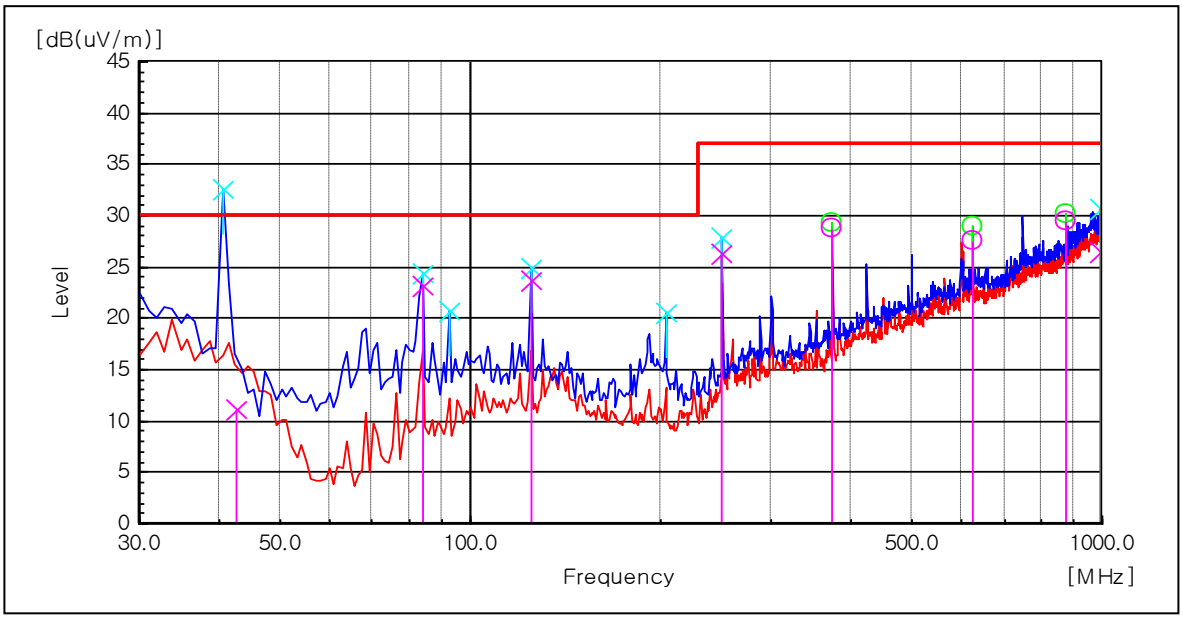
Test Distance : 10m, Antenna Height : 1 to 4 meters

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

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

- **Configuration 1, Operating Mode 8 : Fax Tx**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
42.76	V	31.0	-19.9	11.1	30	18.9	102	247
84.35	V	45.8	-22.6	23.2	30	6.8	106	271
124.78	V	41.4	-17.6	23.8	30	6.2	112	113
250.12	V	42.1	-15.7	26.4	37	10.6	105	359.6
374.35	H	40.7	-12.0	28.7	37	8.3	104	10.7
624.77	H	33.6	-6.0	27.6	37	9.4	101	355.8
874.27	H	32.2	-2.7	29.5	37	7.5	125	139.5
995.65	V	26.9	-0.4	26.5	37	10.5	379	245.8

Note) Receiving antenna polarization : Horizontal and/or Vertical

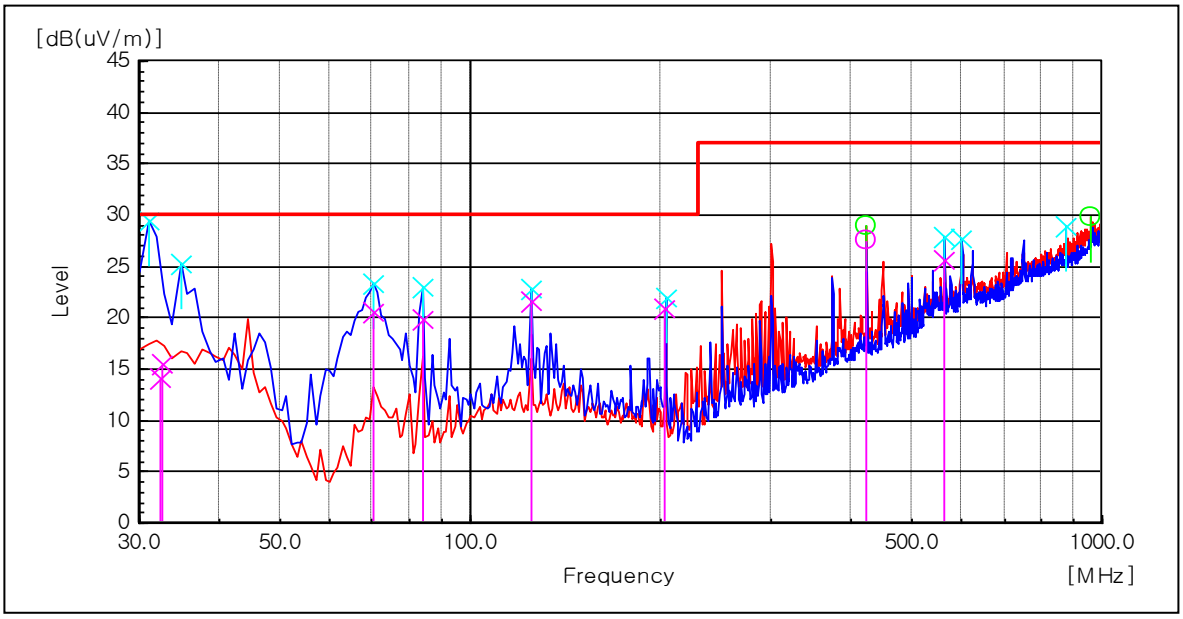
Test Distance : 10m, Antenna Height : 1 to 4 meters

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

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

Configuration 1, Operating Mode 9 : Fax-Rx

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
32.50	V	27.9	-12.4	15.5	30	14.5	102	242
32.45	V	26.5	-12.4	14.1	30	15.9	115	246
70.35	V	45.1	-24.5	20.6	30	9.4	268	60
84.28	V	42.4	-22.6	19.8	30	10.2	103	242.7
124.78	V	39.2	-17.6	21.6	30	8.4	106	49.7
203.68	V	40.3	-19.4	20.9	30	9.1	138	4.8
424.39	H	37.6	-10.0	27.6	37	9.4	187	244.4
563.65	V	32.6	-6.9	25.7	37	11.3	237	303.1

Note) Receiving antenna polarization : Horizontal and/or Vertical

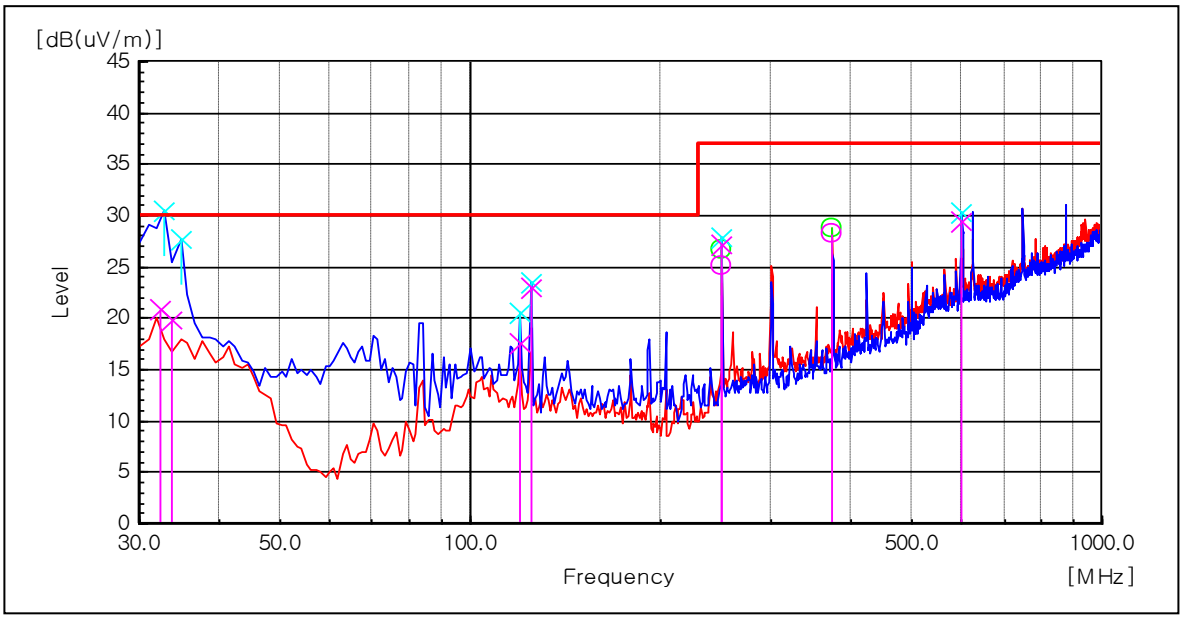
Test Distance : 10m, Antenna Height : 1 to 4 meters

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]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
32.29	V	33.3	-12.3	21.0	30	9.0	101	296
33.80	V	33.6	-13.7	19.9	30	10.1	101	278
119.58	V	35.2	-17.6	17.6	30	12.4	115	359
124.78	V	40.6	-17.6	23.0	30	7.0	102	106
250.13	V	42.9	-15.7	27.2	37	9.8	128	4.8
250.13	H	40.6	-15.5	25.1	37	11.9	397	104.1
374.35	H	40.3	-12.0	28.3	37	8.7	271	326.5
598.20	V	36.1	-6.6	29.5	37	7.5	229	7.9

Note) Receiving antenna polarization : Horizontal and/or Vertical

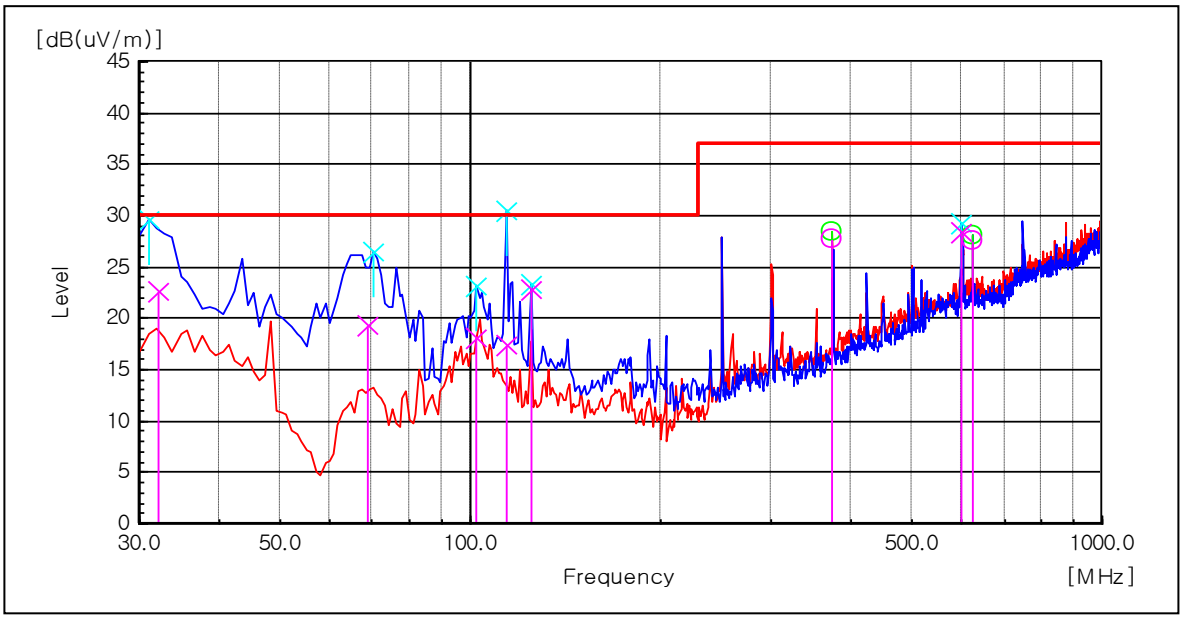
Test Distance : 10m, Antenna Height : 1 to 4 meters

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 : USB Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
32.101	V	34.8	-12.1	22.7	30	7.3	103	312.8
68.797	V	43.9	-24.6	19.3	30	10.7	223	76.4
114.036	V	35.3	-17.8	17.5	30	12.5	151	262.3
102.445	V	36.9	-18.8	18.1	30	11.9	226	0.3
124.661	V	40.5	-17.6	22.9	30	7.1	114	87.1
374.838	H	39.7	-12	27.7	37	9.3	106	261.3
600.016	V	35.1	-6.6	28.5	37	8.5	379	0.3
624.465	H	33.6	-6	27.6	37	9.4	236	149.7

Note) Receiving antenna polarization : Horizontal and/or Vertical

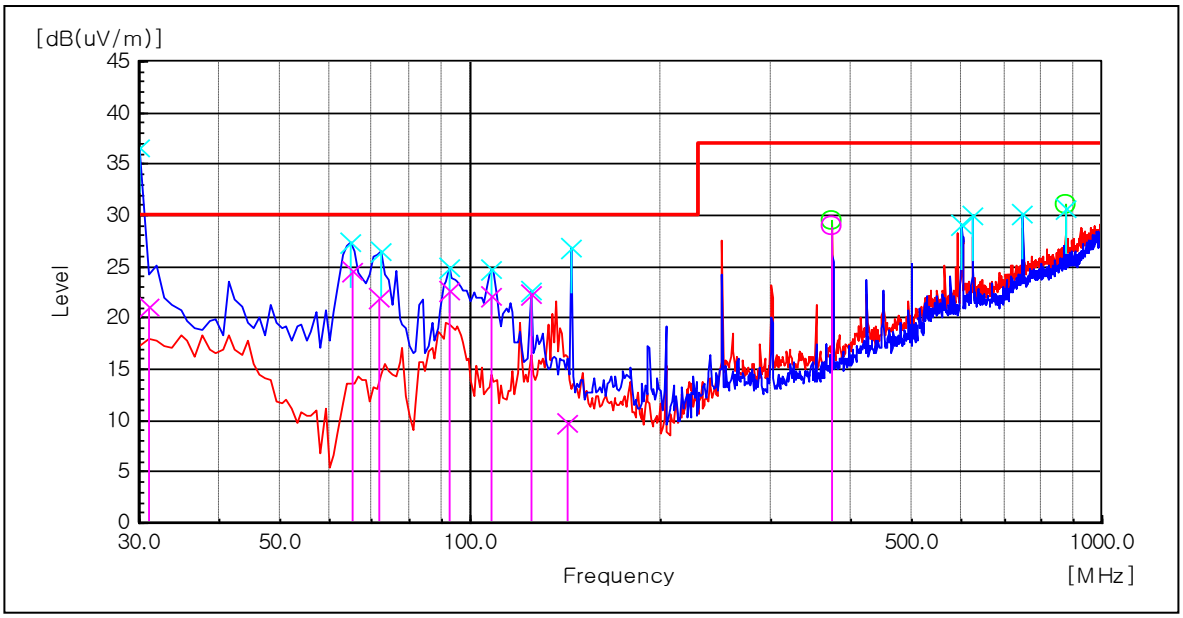
Test Distance : 10m, Antenna Height : 1 to 4 meters

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

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

- **Configuration 2, Operating Mode 4 : Copy Print**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
31.11	V	32.2	-11.1	21.1	30	8.9	112	248
65.06	V	49.5	-24.9	24.6	30	5.4	261	0
71.67	V	46.3	-24.4	21.9	30	8.1	357	72
92.79	V	43.3	-20.7	22.6	30	7.4	279	359.6
108.24	V	40.3	-18.2	22.1	30	7.9	349	318.7
124.66	V	39.9	-17.6	22.3	30	7.7	221	35.1
142.97	V	28.0	-18.3	9.7	30	20.3	397	1.1
374.84	H	40.9	-12.0	28.9	37	8.1	106	68.6

Note) Receiving antenna polarization : Horizontal and/or Vertical

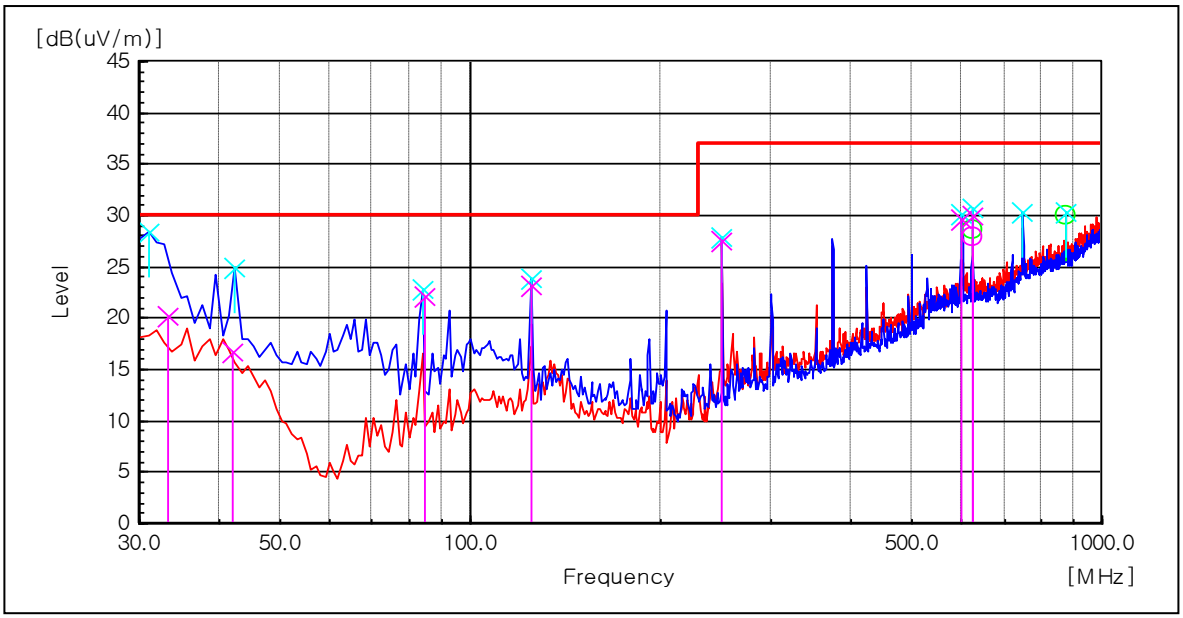
Test Distance : 10m, Antenna Height : 1 to 4 meters

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

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

- **Configuration 2, Operating Mode 8 : Fax-Tx**

Test Graph and Results



Frequency [MHz]	(P)	Reading QP [dB(uV)]	Factor [dB(1/m)]	Level QP [dB(uV/m)]	Limit [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
33.29	V	33.4	-13.2	20.2	30	9.8	102	279
42.25	V	36.3	-19.6	16.7	30	13.3	229	159
84.68	V	44.7	-22.5	22.2	30	7.8	102	235
124.78	V	40.8	-17.6	23.2	30	6.8	111	41.8
250.23	V	43.2	-15.7	27.5	37	9.5	105	2.9
600.27	V	36.2	-6.6	29.6	37	7.4	267	3
624.65	V	35.8	-5.8	30.0	37	7.0	264	41.2
624.35	H	33.9	-6.0	27.9	37	9.1	109	192.2

Note) Receiving antenna polarization : Horizontal and/or Vertical

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

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

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

4.2.4.2 Above 1GHz results

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

Peak Measurement

Frequency [MHz]	(P)	Reading PK [dB(uV)]	Factor [dB(1/m)]	Level PK [dB(uV/m)]	Limit [dB(uV/m)]	Margin [dB]	Height [cm]	Angle [deg]
1665.33	V	62.2	-9.5	52.7	74	21.3	100	79
1661.32	H	61.2	-9.5	51.7	74	22.3	100	64
2410.82	V	53.1	-3.3	49.8	74	24.2	100	142
2402.81	H	51.8	-3.4	48.4	74	25.6	100	96

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1664.52	H	31.7	-9.5	22.2	54	31.8	100	65
1667.65	V	31.1	-9.5	21.6	54	32.4	100	81
2404.59	H	27.8	-3.4	24.4	54	29.6	100	98
2412.66	V	25.8	-3.3	22.5	54	31.5	100	143

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 Print**

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]
1577.15	V	60.9	-10.3	50.6	74	23.4	100	232.9
1661.32	H	62.9	-9.5	53.4	74	20.6	100	74
1665.33	V	62.0	-9.5	52.5	74	21.5	100	42.4
1829.66	V	60.0	-8.2	51.8	74	22.2	100	355.8

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1579.33	V	38.4	-10.3	28.1	54	25.9	100	234
1662.43	H	35.7	-9.5	26.2	54	27.8	100	76
1663.52	V	34.8	-9.5	25.3	54	28.7	100	44
1831.26	V	35.9	-8.1	27.8	54	26.3	100	357

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 : Network Print**

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]
1661.32	H	60.3	-9.5	50.8	74	23.2	100	62
1665.33	V	60.9	-9.5	51.4	74	22.6	100	284
2410.82	V	53.0	-3.3	49.7	74	24.3	100	141
2410.82	H	51.1	-3.3	47.8	74	26.2	100	94
2466.93	H	54.5	-2.9	51.6	74	22.4	100	174.5

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1663.96	H	32.4	-9.5	22.9	54	31.1	100	64
1667.33	V	54.7	-9.5	45.2	54	8.8	100	287
2413.53	H	27.8	-3.3	24.5	54	29.5	100	95
2414.39	V	26.5	-3.3	23.2	54	30.8	100	143
2468.92	H	26.6	-2.9	23.7	54	30.3	100	174.5

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 : Copy Print**

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]
1661.32	V	62.0	-9.5	52.5	74	21.5	100	332
1661.32	H	61.1	-9.5	51.6	74	22.4	100	157
2406.81	V	52.1	-3.4	48.7	74	25.3	100	142
2402.81	H	50.6	-3.4	47.2	74	26.8	100	94

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1663.55	V	36.2	-9.5	26.7	54	27.3	100	334
1662.65	H	36.7	-9.5	27.2	54	26.8	100	159
2404.32	H	28.0	-3.4	24.6	54	29.4	100	96
2407.24	V	28.8	-3.4	25.4	54	28.6	100	144

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 : P1284 Print**

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]
1661.32	V	62.6	-9.5	53.1	74	20.9	100	63
1661.32	H	60.6	-9.5	51.1	74	22.9	100	63
2406.81	V	51.9	-3.4	48.5	74	25.5	100	141
2406.81	H	51.7	-3.4	48.3	74	25.7	100	94

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1663.25	V	36.2	-9.5	26.7	54	27.3	100	65
1664.25	H	37.4	-9.5	27.9	54	26.1	100	64
2409.24	V	31.6	-3.4	28.2	54	25.8	100	143
2408.13	H	31.0	-3.4	27.6	54	26.4	100	96

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 : Scan to USB**

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]
1661.66	V	63.9	-12.6	51.3	74	22.7	100	84
1661.32	V	60.9	-9.5	51.4	74	22.6	100	4
1665.33	H	60.5	-9.5	51.0	74	23.0	100	114
2402.81	H	47.8	-3.4	44.4	74	29.6	100	97

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1663.54	V	32.3	-9.5	22.8	54	31.2	100	333
1663.52	H	29.9	-9.5	20.4	54	33.6	100	17
2404.33	V	27.6	-3.4	24.2	54	29.8	100	143
2404.34	H	26.9	-3.4	23.5	54	30.5	100	95

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 7 : Scan to PC**

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]
1657.32	H	62.3	-9.6	52.7	74	21.3	100	63
1661.32	V	61.5	-9.5	52.0	74	22.0	100	63
2398.80	H	51.4	-3.4	48.0	74	26.0	100	94
2406.81	V	52.9	-3.4	49.5	74	24.5	100	142

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1659.33	H	34.3	-9.6	24.7	54	29.3	100	64
1663.96	V	31.9	-9.5	22.4	54	31.6	100	64
2399.64	H	24.6	-3.4	21.2	54	32.8	100	96
2407.00	V	26.6	-3.4	23.2	54	30.8	100	143

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 8 : Fax-Tx**

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]
1665.33	H	58.4	-9.5	48.9	74	25.1	100	357
1665.33	V	62.2	-9.5	52.7	74	21.3	100	268
2402.81	V	52.8	-3.4	49.4	74	24.6	100	142
2410.82	H	51.4	-3.3	48.1	74	25.9	100	95

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1667.36	V	34.1	-9.5	24.6	54	29.4	100	267
1667.36	H	32.0	-9.5	22.5	54	31.5	100	355
2404.33	V	24.8	-3.4	21.4	54	32.6	100	144
2412.66	H	33.0	-3.3	29.7	54	24.3	100	96

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 9 : Fax-Rx**

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]
1657.32	V	61.2	-9.6	51.6	74	22.4	100	126
1657.32	H	61.0	-9.6	51.4	74	22.6	100	79
2410.82	V	52.7	-3.3	49.4	74	24.6	100	142
2398.80	H	51.7	-3.4	48.3	74	25.7	100	94

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1659.84	V	33.1	-9.6	23.5	54	30.5	100	128
1659.56	H	32.1	-9.6	22.5	54	31.5	100	80
2412.46	V	27.5	-3.3	24.2	54	29.8	100	143
2399.97	H	29.0	-3.4	25.6	54	28.4	100	96

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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**

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]
1324.65	V	64.7	-12.7	52.0	74	22.0	100	63
1665.33	V	62.5	-9.5	53.0	74	21.0	100	316
1745.49	V	61.1	-8.9	52.2	74	21.8	100	63
1825.65	V	60.8	-8.2	52.6	74	21.4	100	15

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1326.83	V	37.5	-12.6	24.9	54	29.1	100	64
1663.53	V	35.7	-9.5	26.2	54	27.8	100	318
1747.19	V	34.2	-8.8	25.4	54	28.6	100	64
1827.62	V	32.8	-8.2	24.6	54	29.4	100	17

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 : USB Print**

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]
1577.15	V	62.0	-10.3	51.7	74	22.3	100	268
1657.32	V	62.6	-9.6	53.0	74	21.0	100	127
1665.33	H	62.3	-9.5	52.8	74	21.2	100	15
1741.48	H	60.9	-8.9	52.0	74	22.0	100	63

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1577.15	V	62.0	-10.3	51.7	74	22.3	100	268
1657.32	V	62.6	-9.6	53.0	74	21.0	100	127
1665.33	H	62.3	-9.5	52.8	74	21.2	100	15
1741.48	H	60.9	-8.9	52.0	74	22.0	100	63

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 4 : Copy Print**

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]
1244.49	V	63.4	-13.4	50.0	74	24.0	100	153
1665.33	V	59.7	-9.5	50.2	74	23.8	100	58
1665.33	H	60.9	-9.5	51.4	74	22.6	100	356
1749.50	V	58.4	-8.8	49.6	74	24.4	100	11

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1246.35	V	40.5	-13.3	27.2	54	26.8	100	155
1667.37	H	34.1	-9.5	24.6	54	29.4	100	357
1668.99	V	33.8	-9.5	24.3	54	29.7	100	60
1751.49	V	35.2	-8.8	26.4	54	27.6	100	12

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 8 : Fax-Tx**

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]
1665.33	V	62.7	-9.5	53.2	74	20.8	100	110
1665.33	H	61.0	-9.5	51.5	74	22.5	100	357
1745.49	V	62.1	-8.9	53.2	74	20.8	100	158
1825.65	V	60.1	-8.2	51.9	74	22.1	100	4

Average Measurement

Frequency [MHz]	(P)	Reading AV [dB(uV)]	Factor [dB(1/m)]	Level AV [dB(uV/m)]	Limit [dB(uV/m)]	Margin AV [dB]	Height [cm]	Angle [deg]
1666.32	H	33.9	-9.5	24.4	54	29.6	100	359
1668.35	V	34.2	-9.5	24.7	54	29.3	100	112
1747.35	V	34.4	-8.8	25.6	54	28.4	100	159
1827.36	V	34.4	-8.2	26.2	54	27.8	100	6

Note1) Any emissions that do NOT exceed average limit were not tested with average detector mode.

Note2) Receiving antenna polarization : Horizontal and Vertical

Level P K(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 1 – EUT photography

Front View

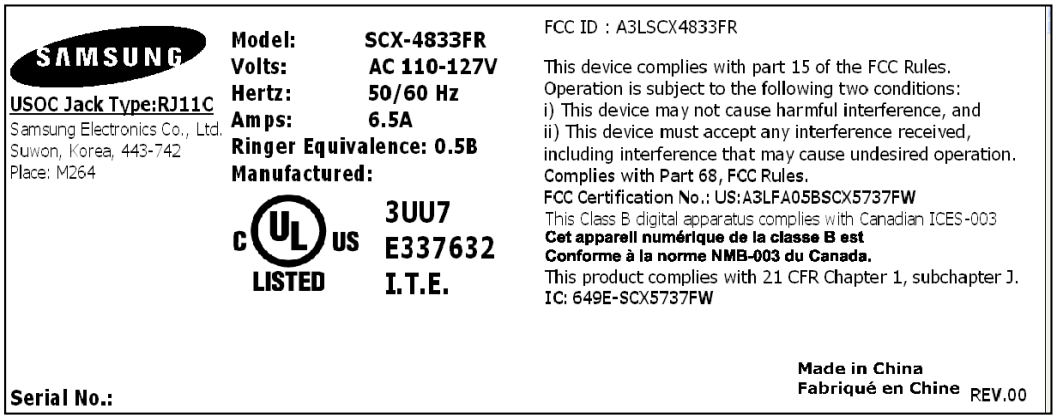
Rear View

Right View

Left View

Left inside View

Right inside View



Label