Technical Compliance Statement

For the following information **Ref. File No.: C1M1606177**

Product	:	Printer
FCC ID	:	BBP-PRSP220NW1
Model Number	:	SP 220Nw
Brand Name	:	RICOH
Applicant	:	Ricoh Company Ltd.
Manufacturer	:	RICOH Co., Ltd.
Standards	:	47 CFR FCC Part 15 Subpart B:2015 (Class B Limit)

We hereby certify that the above product has been tested by us and complied with the FCC official limits. The test was performed according to the procedures mentioned in ANSI C63.4-2014. The test data and results are issued on the test report no. **EM-F160427**.

Signature

Allen Wang/Assistant General Manager
Date: 2016. 07. 19

Testing Laboratory
1724

NVLAP Lab Code 200077-0

Test Laboratory:
AUDIX Technology Corporation, EMC Department
NVLAP Lab Code: 200077-0
FCC OET Designation: TW1004 & TW1090
Web Site: www.audixtech.com

The statement is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.

TEST REPORT FOR FCC
for
Ricoh Company Ltd.
Printer
Model No.: SP 220Nw
Brand: RICOH
FCC ID: BBP-PRSP220NW1

Prepared for : Ricoh Company Ltd.
810 Shimoimaizumi, Ebina City,
Kanagawa-Pref., 243-0460 Japan

Prepared by : AUDIX Technology Corporation
EMC Department
No. 53-11, Dingfu, Linkou Dist.,
New Taipei City 244, Taiwan.

Tel : (02) 2609-9301, 2609-2133
Fax : (02) 2609-9303

File Number	:	C1M1606177 (ACS Ref. No.: ACS16Q0644)
Report Number	:	EM-F160427
Date of Test	:	2016. 06. 21 ~ 07. 15
Date of Report	:	2016. 07. 19

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TEST REPORT

Applicant	:	Ricoh Company Ltd.
Manufacturer	:	RICOH Co., Ltd.
EUT Description	:	Printer
FCC ID	:	BBP-PRSP220NW1

(A) Model No.	:	SP 220Nw
(B) Serial No.	:	M046M300001
(C) Brand	:	RICOH
(D) Power Supply	:	AC 120V, 60Hz
(E) Test Voltage	:	AC 120V, 60Hz

Rules of Compliance and Measurement Standards:
47 CFR FCC Part 15 Subpart B:2015
ANSI C63.4:2014

The device described above was tested by AUDIX Technology Corporation, to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart B with the provisions of sections 15.107 and 15.109 Class B limits both conducted and radiated emissions.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only and which shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test : 2016. 06. 21 ~ 07. 15 Date of Report : 2016. 07. 19

Producer : Patty yu
(Patty Yu/Administrator)

Signatory : Allen Wang
(Allen Wang/Assistant General Manager)

1. DESCRIPTION OF VERSION

Edition No.	Date of Revision	Revision Summary	Report Number
0	2016. 07. 19	Original Report.	EM-F160427

2. SUMMARY OF STANDARDS AND RESULTS

2.1. Description of Standards and Results

The EUT has been tested according to the applicable standards as referenced below.

EMISSION			
Description of Test Item	**Standard**	**Limits**	**Results**
Powerline Conducted Emission Measurement	47 CFR FCC Part 15 Subpart B:2015	Class B	PASS
Radiated Emission Measurement	47 CFR FCC Part 15 Subpart B:2015	Class B	PASS

3. GENERAL INFORMATION

3.1. Description of Device (EUT)

Description	:	Printer
FCC ID	:	BBP-PRSP220NW1
Model Number	:	SP 220Nw
Serial Number	:	M046M300001
Brand	:	RICOH
Applicant	:	Ricoh Company Ltd. 810 Shimoimaizumi, Ebina City, Kanagawa-Pref., 243-0460 Japan
Manufacturer	:	RICOH Co., Ltd. 3-6, Naka-magome 1-Chome Ohta-ku, Tokyo 143-8555 Japan
Max. Working Frequency	:	532MHz
WLAN Module	:	CastleNet, RTL8188CTV, FCC ID: RK9-RTL8188CTV
USB Cable	:	Shielded, Detachable, 1.8m
AC Power Cord	:	Unshielded, Detachable, 1.8m (3C)
Date of Receipt of Sample	:	2016. 06.07
Date of Test	:	2016. 06. 21 ~ 07. 15

Remark：

The EUT is a Printer which input/output ports provided as follows:

Back View:

(1) One AC In Port
(2) One USB Port
(3) One Ethernet Port

3.2. Tested Supporting System Details

3.2.1. Support Peripheral Unit

No.	Product	Brand	Model No.	Serial No.	Approval
1	PC System	DELL	D09M	8BLJYBX	By DoC
2	Monitor	Lenovo	LT2452P	VNA9XVX	By DoC
3	USB Keyboard	DELL	KB212-B	CN-05V23T-71581-2 8H-013K	By DoC
4	Mouse	DELL	MO71KC	406012044	By DoC
5	I-POD Player	APPLE	A1204	4H722TJRVTE	By DoC
Partner System					
1	AP Server	D-Link	Di-624	F34U177001195	FCC ID: KA2DI624D2
2	Notebook PC	HP	TPN-Q110	5CD2104T9D	FCC ID: PD92230BNH

3.2.2. Cable List

No.	Cable Description Of The Above Support Units
1	LAN Cable: Unshielded, Detachable, 1.8m AC Power Cord: Unshielded, Detachable, 1.8m
2	D-Sub Cable: Shielded, Detachable, 1.8m, Bonded two ferrite cores AC Power Cord: Unshielded, Detachable, 1.8m
3	USB Cable: Shielded, Undetachable, 1.8m
4	USB Cable: Shielded, Undetachable, 1.8m
5	USB Cable: Shielded, Undetachable, 1.0m
Partner System	
1	LAN Cable: Unshielded, Detachable, 10m
2	LAN Cable: Unshielded, Detachable, 10m AC Power Cord: Unshielded, Detachable, 1.2m

3.3. Description of Test Facility

Name of Firm	:	**AUDIX Technology Corporation** **EMC Department** No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan
Test Location & Facility	:	**No. 3 Shielded Room &** **No. 8 Open Area Test Site &** **No. 2 Semi-Anechoic Chamber** No. 67-4, Dingfu, Linkou Dist., New Taipei City 244, Taiwan
NVLAP Lab. Code	:	200077-0
TAF Accreditation No	:	1724
FCC OET Designation	:	TW1004 & TW1090

3.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	±3.5dB
Radiation Test	30MHz~1000MHz	±4.3dB
	1GHz~6GHz	±4.8dB
	6GHz~18GHz	±4.8dB

Remark：Uncertainty = $ku_c(y)$

4. POWERLINE CONDUCTED EMISSION MEASUREMENT

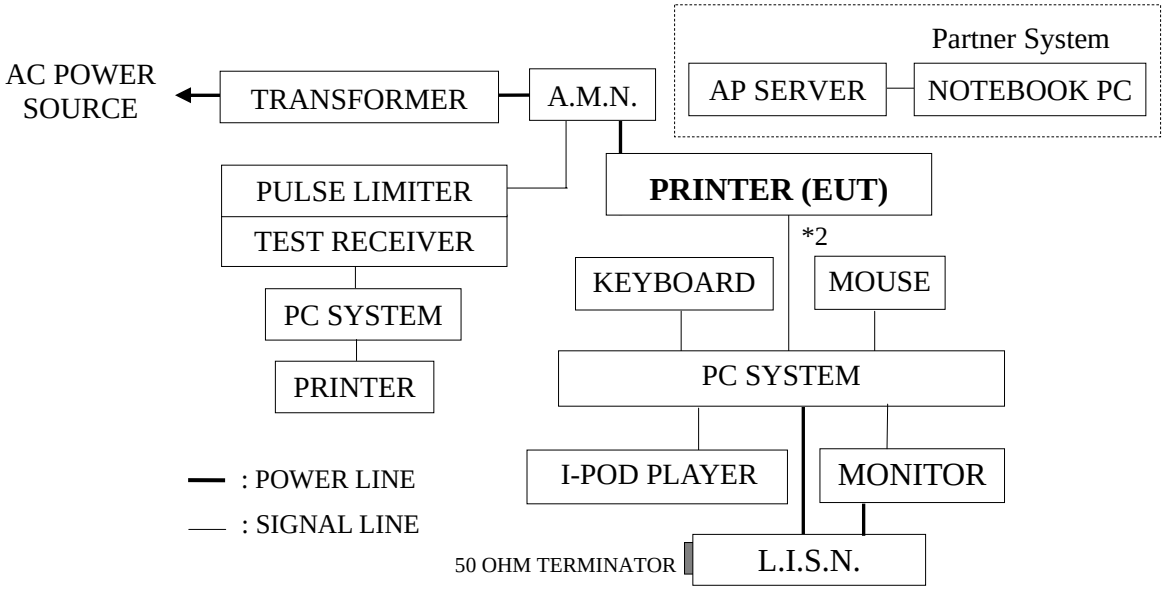
4.1. Test Equipment

The following test equipments are used during the powerline conducted emission measurement：(No. 3 Shielded Room)

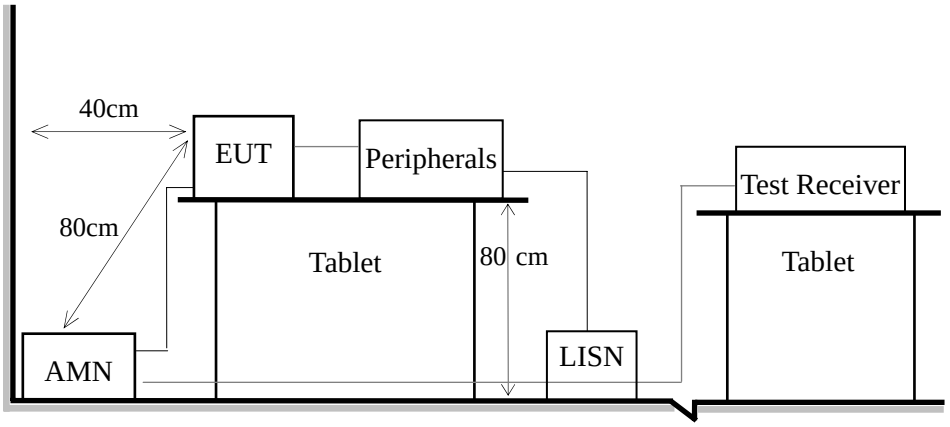
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Test Receiver	R&S	ESR3	101772	2016. 01. 29	1 Year
2.	A.M.N.	Kyoritsu	KNW-244C	8-1373-5	2016. 04. 01	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-1370-9	2016. 02. 26	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	100041	2016. 01. 17	1 Year

4.2. Block Diagram of Test Setup

4.2.1. AC Main Port



4.2.2. Shielded Room Setup Diagram



4.3. Powerline Conducted Emission Limit (FCC§15.107, Class B)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dBμV	56 ~ 46 dBμV
500kHz ~ 5MHz	56 dBμV	46 dBμV
5MHz ~ 30MHz	60 dBμV	50 dBμV

Remark 1.: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.: The lower limit applies at the band edges.

4.4. Operating Condition of EUT

EUT Exercise Program and Condition	
Operating System	Windows 7 of PC System
Standby	This mode is turn on the power in standby status.
USB Print	This mode is concerned with the USB printing function of EUT whereby the document will be printed form PC through the RICOH test software.
NIC (LAN) Print	This mode is concerned with the LAN printing function of EUT whereby the document will be printed form PC through the RICOH test software.
Wifi Print	This mode is concerned with the Wifi printing function of EUT and with the wireless AP whereby the document will be printed form notebook PC through the RICOH test software.
The other peripheral devices were driven and operated in turn during all testing.	

4.5. Test Procedure

The EUT was placed on the table which was above the ground by 80cm and its power cord connected to the AC mains through an Artificial Mains Network (A.M.N.). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.) Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.4:2014 during conducted measurement.

The bandwidth of the R&S Test Receiver ESR3 was set at 9 kHz.

The frequency range from 150kHz to 30MHz was pre-scanned with a peak detector.

The all final readings from test receiver were measured with Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

4.6. Powerline Conducted Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

The EUT with following modes was measured during this section testing and all the test results are listed in next pages.

EUT：Printer Model No.：SP 220Nw

Test Date：2016. 06. 21 Temperature：24℃ Humidity：54%

The details of test modes are as follows：

Mode	Operating Mode	Reference Test Data No.	
		Neutral	Line
1	Standby Mode	# 2	# 1
2	USB Print Mode	# 6	# 5
3	NIC (LAN) Print Mode	# 4	# 3
4	WIFI Print	# 8	# 7

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

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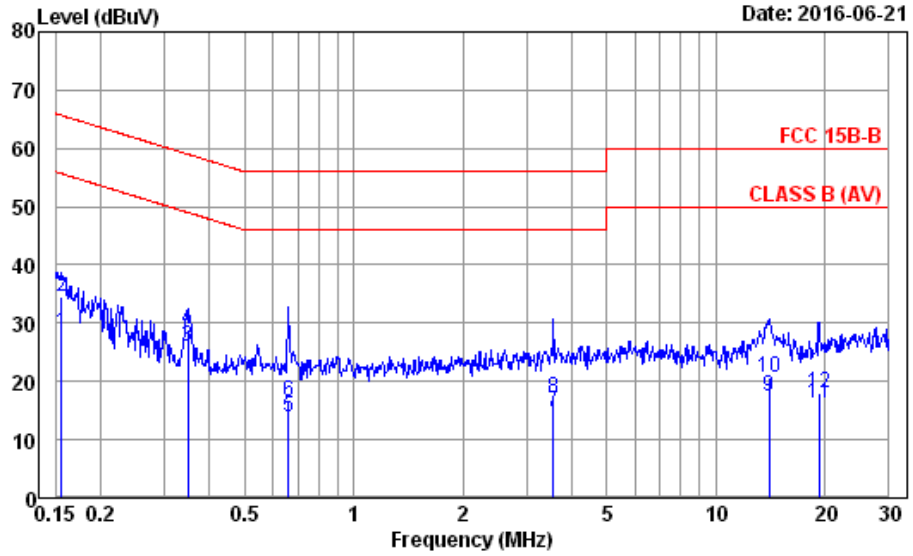

Site no. : No.3 Shielded Room Data no. : 2
Condition : KNW-244C 8-1373-5 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 24°C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : STANDBY

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.156	0.13	0.03	9.88	18.30	28.34	55.69	27.35	Average
2	0.156	0.13	0.03	9.88	24.47	34.51	65.69	31.18	QP
3	0.348	0.11	0.02	9.86	15.96	25.95	49.00	23.05	Average
4	0.348	0.11	0.02	9.86	18.84	28.83	59.00	30.17	QP
5	0.661	0.12	0.02	9.86	3.88	13.88	46.00	32.12	Average
6	0.661	0.12	0.02	9.86	6.61	16.61	56.00	39.39	QP
7	3.565	0.21	0.06	9.86	4.71	14.84	46.00	31.16	Average
8	3.565	0.21	0.06	9.86	7.07	17.20	56.00	38.80	QP
9	13.989	0.56	0.14	9.91	6.69	17.30	50.00	32.70	Average
10	13.989	0.56	0.14	9.91	9.95	20.56	60.00	39.44	QP
11	19.224	0.72	0.17	9.94	5.29	16.12	50.00	33.88	Average
12	19.224	0.72	0.17	9.94	7.12	17.95	60.00	42.05	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

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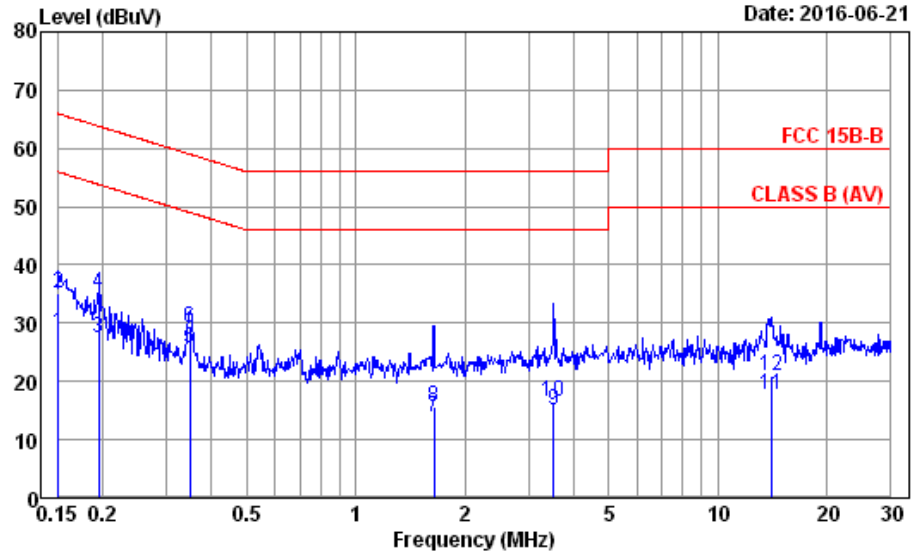

Site no. : No.3 Shielded Room Data no. : 1
Condition : KNW-244C 8-1373-5 LISN Phase : LINE
Limit : FCC 15B-B
Env. / Ins. : 24*C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : STANDBY

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.151	0.11	0.03	9.88	18.45	28.47	55.96	27.49	Average
2	0.151	0.11	0.03	9.88	25.00	35.02	65.96	30.94	QP
3	0.195	0.10	0.02	9.86	17.35	27.33	53.80	26.47	Average
4	0.195	0.10	0.02	9.86	25.03	35.01	63.80	28.79	QP
5	0.348	0.09	0.02	9.86	15.74	25.71	49.00	23.29	Average
6	0.348	0.09	0.02	9.86	19.38	29.35	59.00	29.65	QP
7	1.645	0.15	0.03	9.86	3.76	13.80	46.00	32.20	Average
8	1.645	0.15	0.03	9.86	5.48	15.52	56.00	40.48	QP
9	3.509	0.22	0.06	9.86	4.83	14.97	46.00	31.03	Average
10	3.509	0.22	0.06	9.86	6.44	16.58	56.00	39.42	QP
11	14.138	0.52	0.14	9.91	7.16	17.73	50.00	32.27	Average
12	14.138	0.52	0.14	9.91	10.45	21.02	60.00	38.98	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

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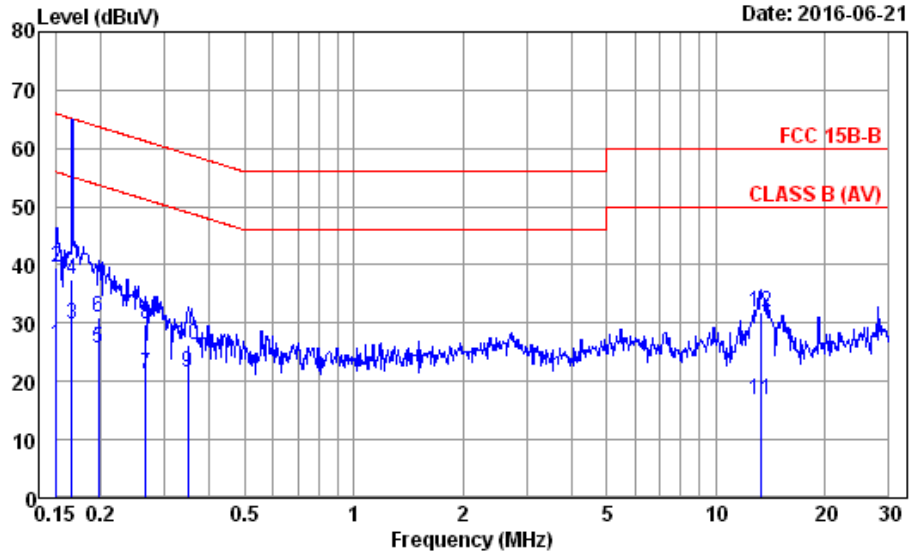

Site no. : No.3 Shielded Room Data no. : 6
Condition : KNW-244C 8-1373-5 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 24°C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : USB PRINT

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.151	0.13	0.03	9.88	16.16	26.20	55.96	29.76	Average
2	0.151	0.13	0.03	9.88	29.60	39.64	65.96	26.32	QP
3	0.167	0.12	0.03	9.87	19.87	29.89	55.12	25.23	Average
4	0.167	0.12	0.03	9.87	27.52	37.54	65.12	27.58	QP
5	0.198	0.11	0.02	9.86	15.84	25.83	53.71	27.88	Average
6	0.198	0.11	0.02	9.86	20.87	30.86	63.71	32.85	QP
7	0.266	0.11	0.02	9.86	11.29	21.28	51.25	29.97	Average
8	0.266	0.11	0.02	9.86	19.97	29.96	61.25	31.29	QP
9	0.348	0.11	0.02	9.86	11.42	21.41	49.00	27.59	Average
10	0.348	0.11	0.02	9.86	16.16	26.15	59.00	32.85	QP
11	13.337	0.54	0.13	9.90	6.39	16.96	50.00	33.04	Average
12	13.337	0.54	0.13	9.90	21.20	31.77	60.00	28.23	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

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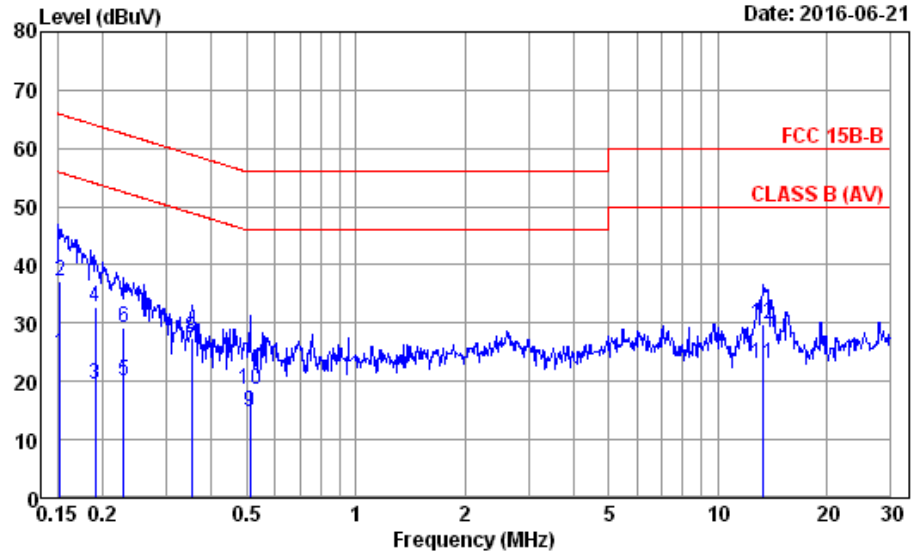

Site no. : No.3 Shielded Room Data no. : 5
Condition : KNW-244C 8-1373-5 LISN Phase : LINE
Limit : FCC 15B-B
Env. / Ins. : 24*C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : USB PRINT

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.152	0.11	0.03	9.88	14.86	24.88	55.87	30.99	Average
2	0.152	0.11	0.03	9.88	27.28	37.30	65.87	28.57	QP
3	0.191	0.10	0.02	9.86	9.62	19.60	53.98	34.38	Average
4	0.191	0.10	0.02	9.86	22.74	32.72	63.98	31.26	QP
5	0.229	0.10	0.02	9.86	10.11	20.09	52.48	32.39	Average
6	0.229	0.10	0.02	9.86	19.22	29.20	62.48	33.28	QP
7	0.352	0.09	0.02	9.86	15.85	25.82	48.91	23.09	Average
8	0.352	0.09	0.02	9.86	17.58	27.55	58.91	31.36	QP
9	0.510	0.10	0.02	9.85	4.71	14.68	46.00	31.32	Average
10	0.510	0.10	0.02	9.85	8.72	18.69	56.00	37.31	QP
11	13.337	0.52	0.13	9.90	12.48	23.03	50.00	26.97	Average
12	13.337	0.52	0.13	9.90	19.18	29.73	60.00	30.27	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
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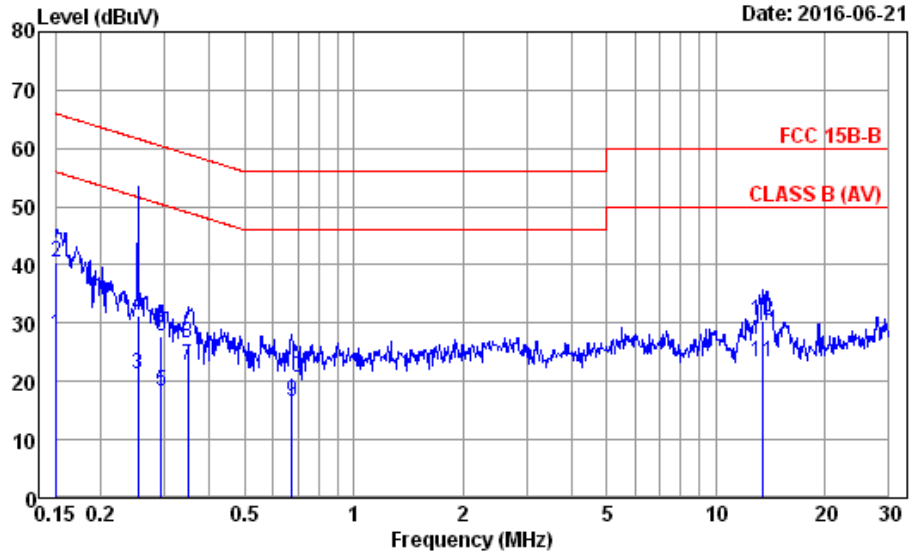

Site no. : No.3 Shielded Room Data no. : 4
Condition : KNW-244C 8-1373-5 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 24°C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : NIC PRINT

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.151	0.13	0.03	9.88	18.15	28.19	55.96	27.77	Average
2	0.151	0.13	0.03	9.88	30.49	40.53	65.96	25.43	QP
3	0.253	0.11	0.02	9.86	11.36	21.35	51.64	30.29	Average
4	0.253	0.11	0.02	9.86	21.19	31.18	61.64	30.46	QP
5	0.294	0.11	0.02	9.86	8.42	18.41	50.41	32.00	Average
6	0.294	0.11	0.02	9.86	17.69	27.68	60.41	32.73	QP
7	0.348	0.11	0.02	9.86	12.72	22.71	49.00	26.29	Average
8	0.348	0.11	0.02	9.86	16.60	26.59	59.00	32.41	QP
9	0.675	0.12	0.02	9.86	6.50	16.50	46.00	29.50	Average
10	0.675	0.12	0.02	9.86	10.62	20.62	56.00	35.38	QP
11	13.479	0.54	0.13	9.90	12.82	23.39	50.00	26.61	Average
12	13.479	0.54	0.13	9.90	19.70	30.27	60.00	29.73	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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E-mail: emc@audixtech.com

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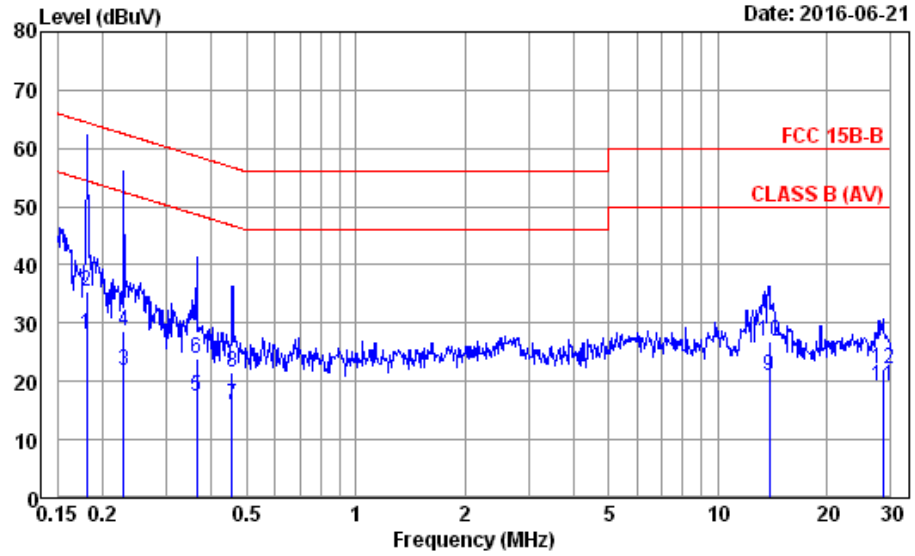


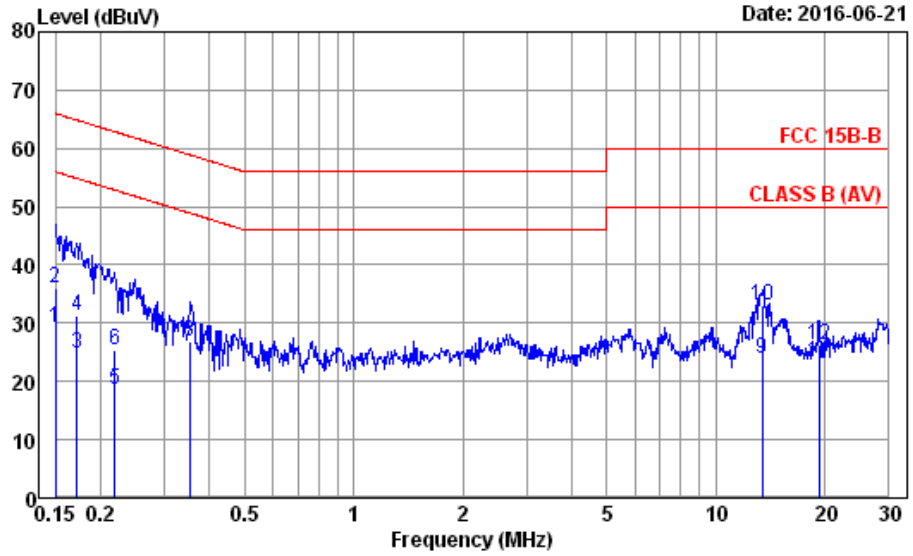

```
Site no.      : No.3 Shielded Room          Data no.   : 3
Condition     : KNW-244C 8-1373-5           LISN Phase : LINE
Limit         : FCC 15B-B
Env. / Ins.   : 24*C / 54%  ESR3 (101772)   Engineer   : Fate
EUT           : SP 220Nw
Power Rating  : 120Vac / 60Hz
Test Mode     : NIC PRINT
```

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.181	0.10	0.02	9.87	18.15	28.14	54.46	26.32	Average
2	0.181	0.10	0.02	9.87	25.40	35.39	64.46	29.07	QP
3	0.229	0.10	0.02	9.86	11.80	21.78	52.48	30.70	Average
4	0.229	0.10	0.02	9.86	18.52	28.50	62.48	33.98	QP
5	0.363	0.09	0.02	9.86	7.55	17.52	48.65	31.13	Average
6	0.363	0.09	0.02	9.86	13.97	23.94	58.65	34.71	QP
7	0.456	0.09	0.02	9.85	6.10	16.06	46.76	30.70	Average
8	0.456	0.09	0.02	9.85	11.55	21.51	56.76	35.25	QP
9	13.841	0.52	0.14	9.91	10.32	20.89	50.00	29.11	Average
10	13.841	0.52	0.14	9.91	16.35	26.92	60.00	33.08	QP
11	28.603	0.55	0.20	9.98	8.38	19.11	50.00	30.89	Average
12	28.603	0.55	0.20	9.98	11.38	22.11	60.00	37.89	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

Data: 8 File: D:\test-data\Report\2016\C1M1606XXX\C1M1606177-C-D.EM6 (10)



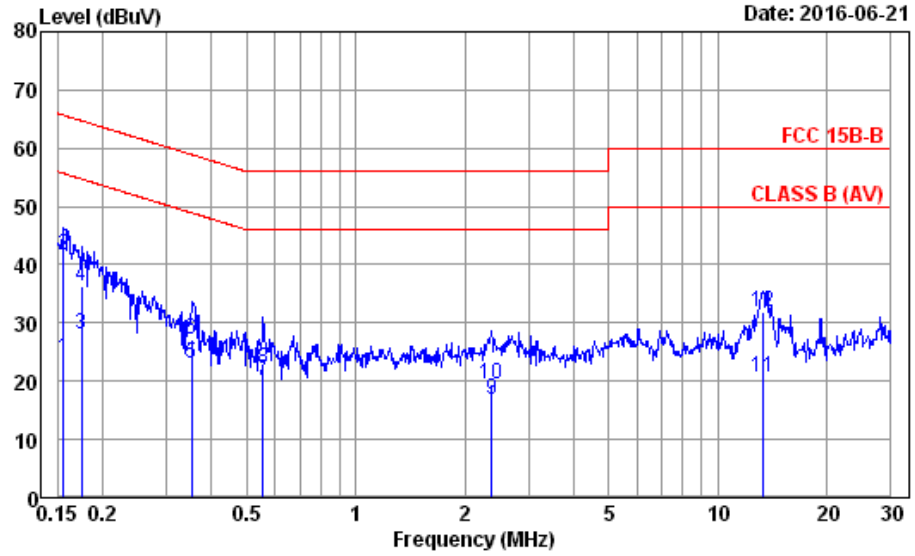
Site no. : No.3 Shielded Room Data no. : 8
Condition : KNW-244C 8-1373-5 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 24°C / 54% ESR3 (101772) Engineer : Fate
EUT : SP 220Nw
Power Rating : 120Vac / 60Hz
Test Mode : WIFI PRINT

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.150	0.13	0.03	9.88	19.06	29.10	55.99	26.89	Average
2	0.150	0.13	0.03	9.88	25.94	35.98	65.99	30.01	QP
3	0.172	0.12	0.03	9.87	14.72	24.74	54.86	30.12	Average
4	0.172	0.12	0.03	9.87	21.21	31.23	64.86	33.63	QP
5	0.219	0.11	0.02	9.86	8.69	18.68	52.88	34.20	Average
6	0.219	0.11	0.02	9.86	15.31	25.30	62.88	37.58	QP
7	0.352	0.11	0.02	9.86	16.12	26.11	48.91	22.80	Average
8	0.352	0.11	0.02	9.86	17.01	27.00	58.91	31.91	QP
9	13.408	0.54	0.13	9.90	13.43	24.00	50.00	26.00	Average
10	13.408	0.54	0.13	9.90	22.49	33.06	60.00	26.94	QP
11	19.224	0.72	0.17	9.94	12.39	23.22	50.00	26.78	Average
12	19.224	0.72	0.17	9.94	15.36	26.19	60.00	33.81	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

Data: 7 File: D:\test-data\Report\2016\C1M1606XXX\C1M1606177-C-D.EM6 (10)




```
Site no.      : No.3 Shielded Room          Data no.   : 7
Condition     : KNW-244C 8-1373-5           LISN Phase : LINE
Limit         : FCC 15B-B
Env. / Ins.   : 24*C / 54%  ESR3 (101772)   Engineer   : Fate
EUT           : SP 220Nw
Power Rating  : 120Vac / 60Hz
Test Mode     : WIFI PRINT
```

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.156	0.11	0.03	9.88	13.80	23.82	55.69	31.87	Average
2	0.156	0.11	0.03	9.88	31.71	41.73	65.69	23.96	QP
3	0.175	0.10	0.02	9.87	17.99	27.98	54.72	26.74	Average
4	0.175	0.10	0.02	9.87	26.34	36.33	64.72	28.39	QP
5	0.352	0.09	0.02	9.86	12.93	22.90	48.91	26.01	Average
6	0.352	0.09	0.02	9.86	17.26	27.23	58.91	31.68	QP
7	0.555	0.10	0.02	9.85	10.06	20.03	46.00	25.97	Average
8	0.555	0.10	0.02	9.85	12.31	22.28	56.00	33.72	QP
9	2.371	0.18	0.05	9.86	6.65	16.74	46.00	29.26	Average
10	2.371	0.18	0.05	9.86	9.29	19.38	56.00	36.62	QP
11	13.337	0.52	0.13	9.90	10.04	20.59	50.00	29.41	Average
12	13.337	0.52	0.13	9.90	21.22	31.77	60.00	28.23	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

5. RADIATED EMISSION MEASUREMENT

5.1. Test Equipment

The following test equipment was used during radiated disturbance measurement:

5.1.1. For 30MHz-1000MHz Frequency (At No. 8 Open Area Test Site)

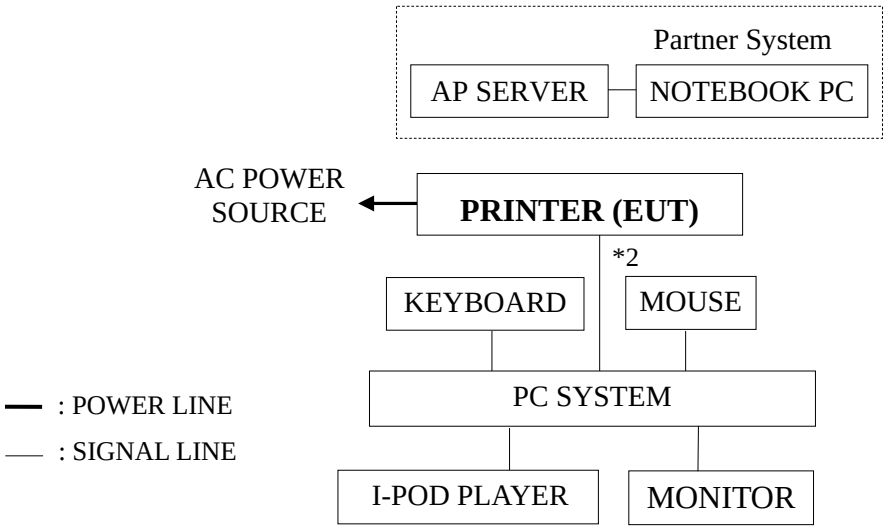
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Spectrum Analyzer	Agilent	N9010A-507	MY51250907	2016. 04. 15	1 Year
2	Test Receiver	R&S	ESCI	100556	2016. 06. 29	1 Year
3	Amplifier	HP	8447D	2944A06891	N.C.R.	N.C.R.
4	Biconical Antenna	ETC	MCTD 0286	BC14N02010	2016. 02. 26	1 Year
5	Log-Periodic Dipole Array Antenna	ETC	MCTD 2856	LP14N02012	2016. 02. 26	1 Year

5.1.2. For Above 1GHz Frequency (At No. 2 Semi-Anechoic Chamber)

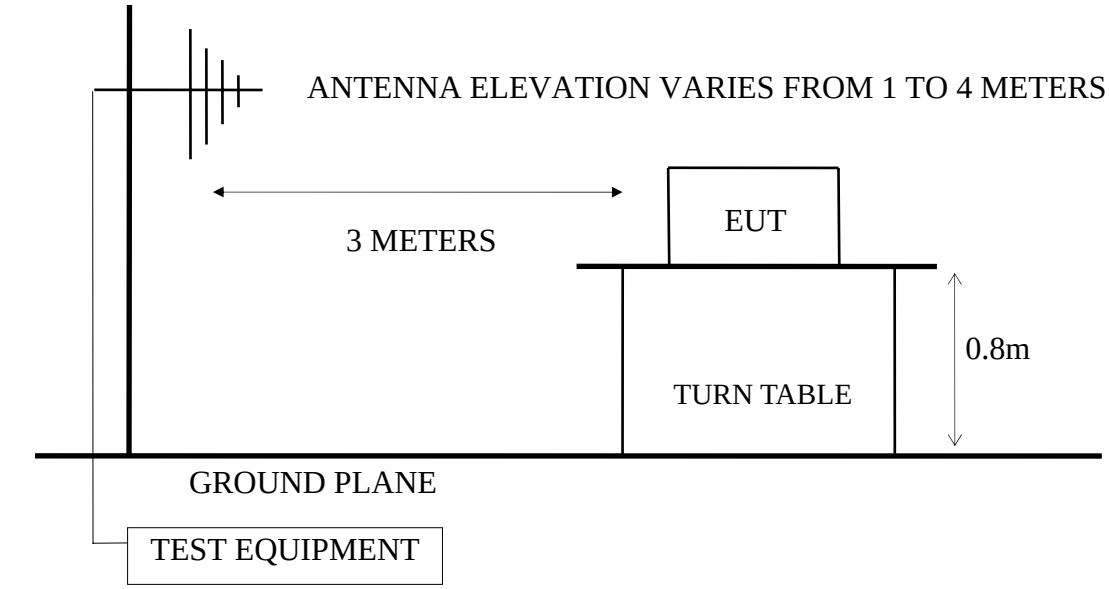
Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1	Spectrum Analyzer	Agilent	N9010A-526	MY48031076	2015. 09. 24	1 Year
2	Amplifier	Agilent	8449B	3008A02681	2016. 03. 24	1 Year
3	Horn Antenna	EMCO	3115	9112-3775	2016. 05. 13	1 Year

5.2. Block Diagram of Test Setup

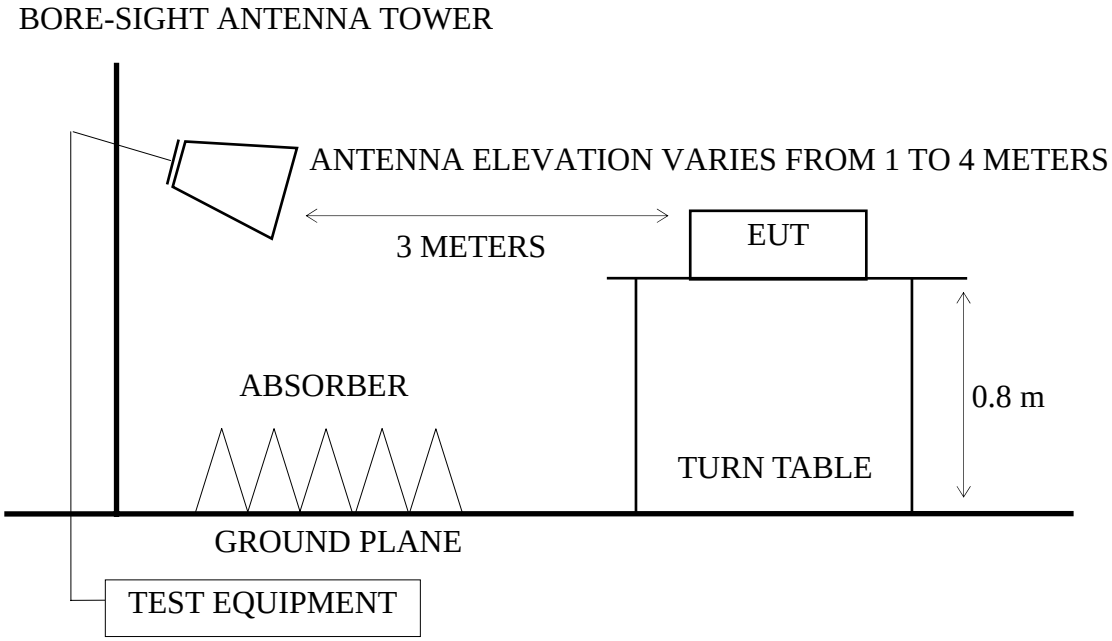
5.2.1. Block Diagram of connection between EUT and simulators



5.2.2. Open Area Test Site Setup Diagram for 30-1000MHz



5.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



5.3. Radiation Emission Limit

(FCC§15.109, Class B)

All emanations from receiver, shall not exceed the level of field strengths specified below:

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS	
MHz	Meters	μV/m	dBμV/m
30 ~ 88	3	100	40.00
88 ~ 216	3	150	43.52
216 ~ 960	3	200	46.02
Above 960	3	500	73.98 (PK)
Above 960	3	500	53.98 (AV)

Remark： (1) Emission level (dBμV/m) = 20 log Emission level (μV/m)

(2) The tighter limit applies at the edge between two frequency bands.

5.4. Operating Condition of EUT

Same as powerline conducted measurement which is listed in 4.4., except the test set up replaced by section 5.2.

5.5. Test Procedure

5.5.1. For Frequency Range 30MHz-1000MHz, which measurement was at Open Area Test Site:

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set to 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna could be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna was used as receiving antenna. Both horizontal and vertical polarization of the antenna was set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4:2014 on radiated measurement.

The bandwidth of the R&S Test Receiver ESCI was set at 120 kHz.

The frequency range from 30MHz to 1000MHz was pre-scanned with Peak detector and all the final readings of measurement were with Quasi-Peak detector.

5.5.2. For Frequency Range above 1GHz, which measurement was at Semi-Anechoic Chamber:

The EUT and its simulators were placed on a turn table which was 0.8 meter above ground. The portion of the test volume that was obstructed by absorber placed on the floor (30cm maximum). The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set to 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna could be moved up and down between 1 to 4 meters to find out the maximum emission level. A calibrated Horn Antenna was used as a receiving antenna. Both horizontal and vertical polarizations of the antenna were set on measurement, and both average and peak emission level were recorded form spectrum analyzer. In order to find the maximum emission level, all the interface cables were manipulated according to ANSI C63.4:2014 on radiated measurement.

The resolution bandwidth of Agilent Spectrum Analyzer N9010A-526 was set at 1MHz.

The frequency range above 1GHz was checked and all final readings of measurement were with Peak and Average detector.

5.6. Radiated Emission Measurement Results

PASSED. All emissions not reported below are too low against the prescribed limits.

For 30MHz~1000MHz frequency range：

The EUT with following modes was measured during radiated testing and all the test data are listed in section 5.6.1.

EUT：Printer Model No.：SP 220Nw

Test Date：2016. 07. 15 Temperature：24℃ Humidity：62%

The details of test modes are as follows：

Mode	Operating Mode	Reference Test Data No.	
		Horizontal	Vertical
1	Standby Mode	# 4	# 3
2	USB Print Mode	# 6	# 5
※3	**NIC (LAN) Print Mode**	**# 2**	**# 1**
4	WIFI Print	# 8	# 7

(※mode for maximum detected emission)

For Above 1GHz frequency range

The EUT with following modes was measured during radiated testing and all the test data are listed in section 5.6.2.

EUT：Printer Model No.：SP 220Nw

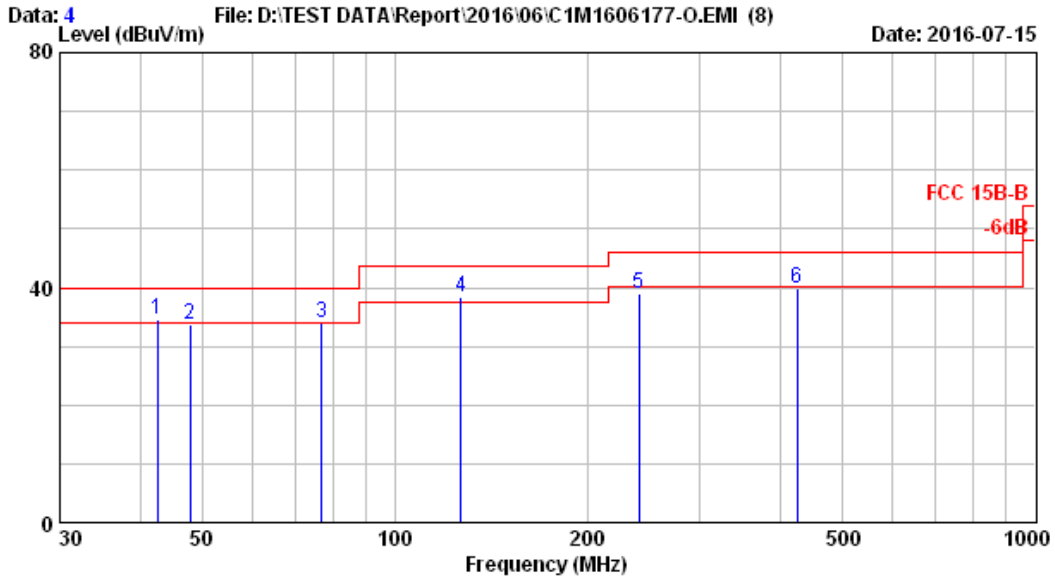
Test Date：2016. 07. 1 Temperature：28℃ Humidity：66%

The details of test modes are as follows：

Mode	Operating Mode	Reference Test Data No.	
		Horizontal	Vertical
1	Standby Mode	# 4	# 3
2	USB Print Mode	# 6	# 5
3	NIC (LAN) Print Mode	# 2	# 1
4	WIFI Print	# 8	# 7

5.6.1. 30 - 1000MHz Frequency Range Radiated Disturbance Measurement Results at Open Area Test Site:

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

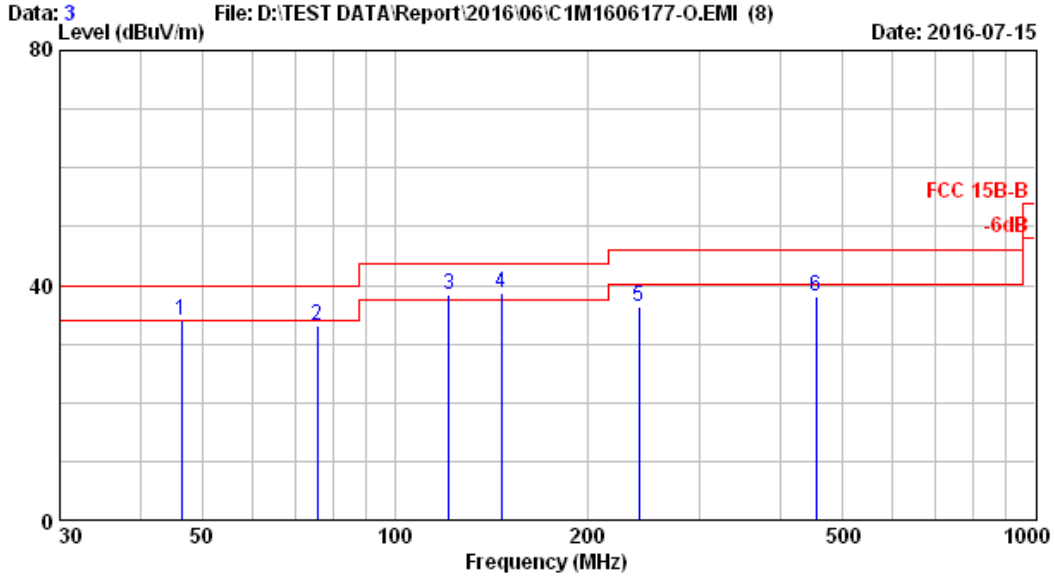


Site no. : OATS NO.8 Data no. : 4
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : STANDBY

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	42.591	17.89	1.02	15.59	34.49	40.00	5.51	QP
2	47.855	17.02	1.08	15.63	33.73	40.00	6.27	QP
3	76.958	15.32	1.40	17.30	34.02	40.00	5.98	QP
4	126.958	17.25	1.86	19.32	38.43	43.52	5.09	QP
5	240.592	23.48	2.77	12.63	38.89	46.02	7.13	QP
6	425.919	17.06	3.76	18.93	39.75	46.02	6.27	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

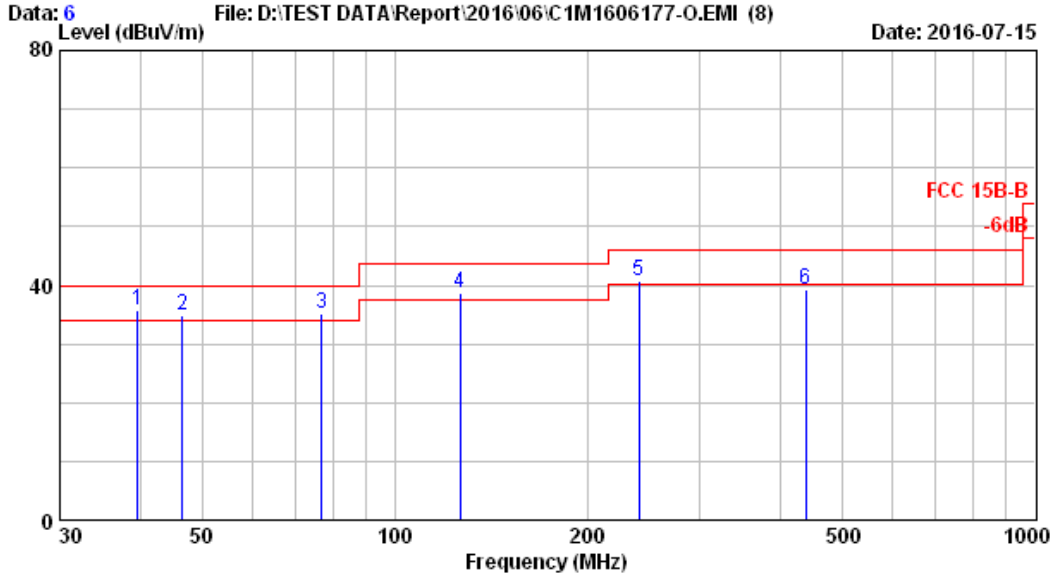



```
Site no.      : OATS NO.8                    Data no.   : 3
Dis. / Ant.   : 3m   MCTD 0286/2856 10/12    Ant. pol.  : VERTICAL
Limit         : FCC 15B-B
Env. / Ins.   : 24*C / 62% ESCI (556)        Engineer   : Gary Tsai
EUT  M/N      : SP 220Nw
Power Rating  : 120Vac/60Hz
Test Mode     : STANDBY
```

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	46.520	17.38	1.07	15.63	34.08	40.00	5.92	QP
2	75.695	15.32	1.38	16.39	33.10	40.00	6.90	QP
3	121.636	17.05	1.82	19.65	38.51	43.52	5.01	QP
4	146.593	17.83	2.03	18.85	38.71	43.52	4.81	QP
5	240.593	23.48	2.77	10.02	36.27	46.02	9.75	QP
6	455.819	17.67	3.90	16.48	38.05	46.02	7.97	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

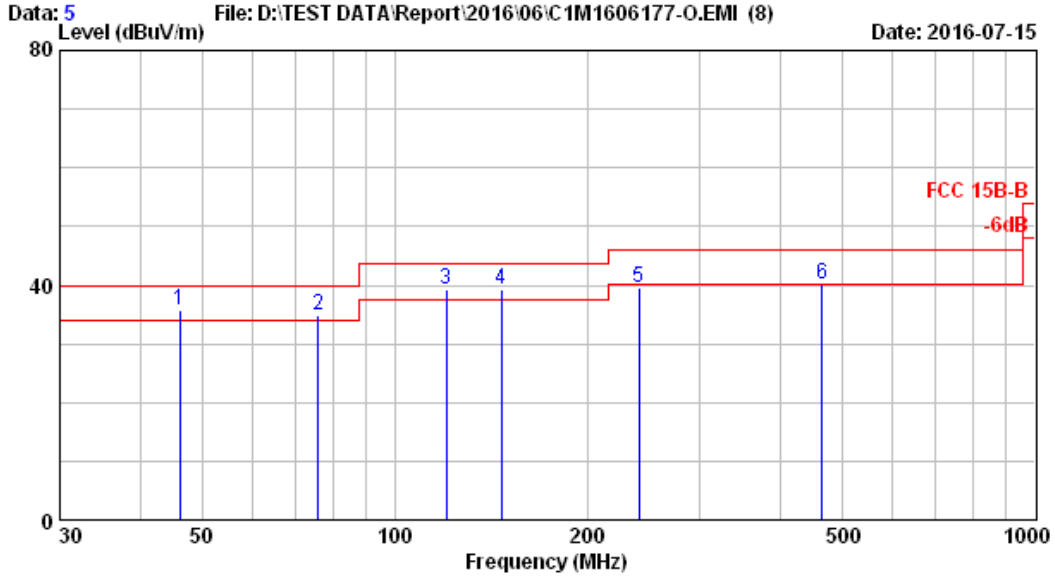


Site no. : OATS NO.8 Data no. : 6
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : USB Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	39.686	18.10	0.98	16.56	35.64	40.00	4.36	QP
2	46.593	17.34	1.07	16.36	34.76	40.00	5.24	QP
3	76.953	15.32	1.40	18.36	35.08	40.00	4.92	QP
4	126.595	17.25	1.86	19.63	38.74	43.52	4.78	QP
5	240.599	23.48	2.77	14.62	40.88	46.02	5.14	QP
6	438.593	17.31	3.82	18.24	39.36	46.02	6.66	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

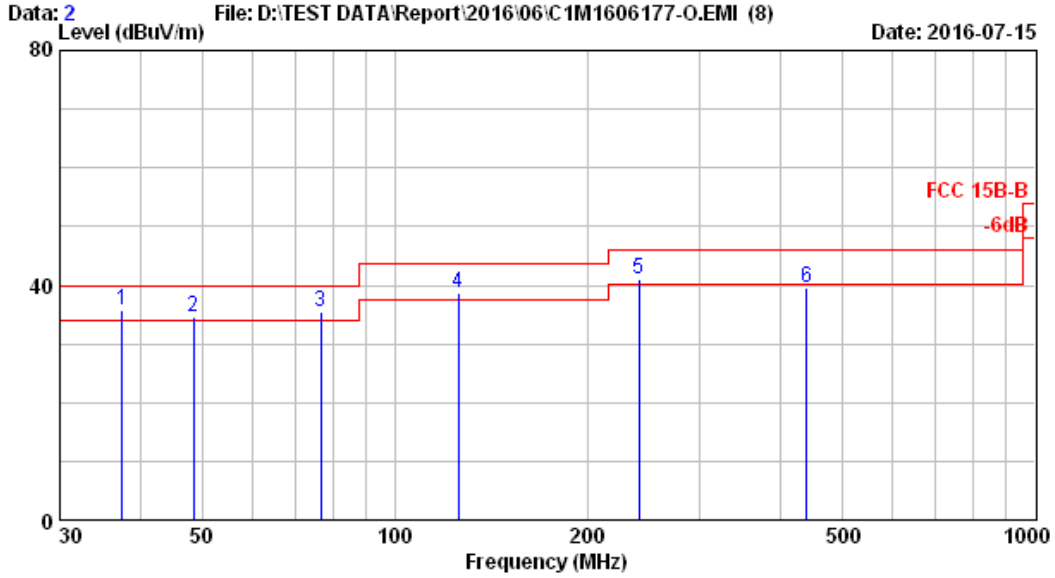


Site no. : OATS NO.8 Data no. : 5
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : VERTICAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : USB Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	46.182	17.47	1.06	17.17	35.70	40.00	4.30	QP
2	75.985	15.32	1.39	18.23	34.94	40.00	5.06	QP
3	120.595	17.01	1.81	20.39	39.21	43.52	4.31	QP
4	146.593	17.83	2.03	19.35	39.22	43.52	4.30	QP
5	240.894	23.48	2.77	13.35	39.61	46.02	6.41	QP
6	465.328	17.85	3.95	18.36	40.16	46.02	5.86	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com



Site no. : OATS NO.8 Data no. : 2
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : NIC Print

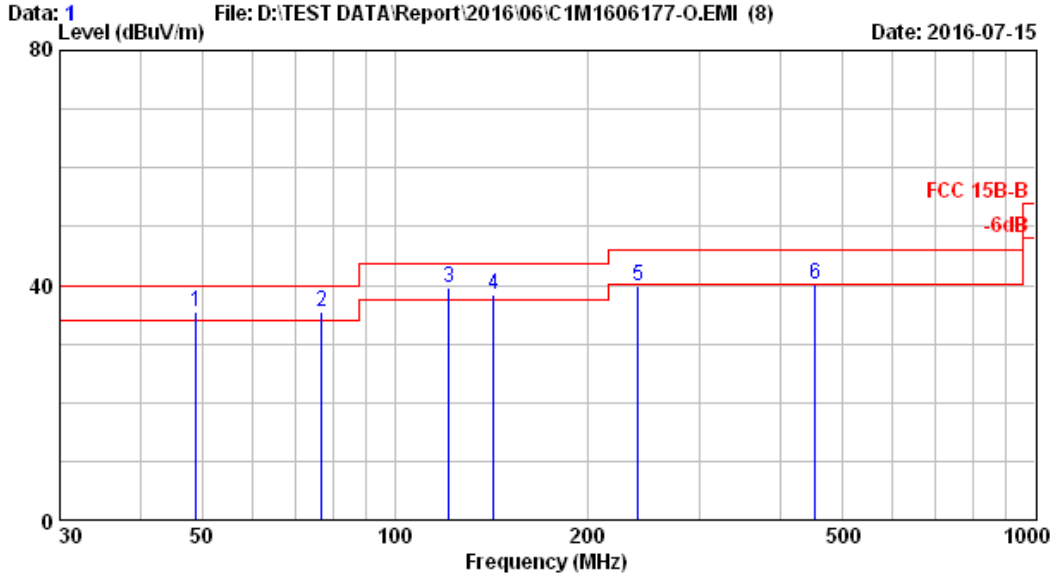
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	37.496	19.20	0.95	15.63	35.77	40.00	4.23	QP*
2	48.592	16.79	1.09	16.66	34.54	40.00	5.46	QP
3	76.593	15.32	1.39	18.63	35.35	40.00	4.65	QP
4	125.630	17.20	1.85	19.63	38.68	43.52	4.84	QP
5	240.594	23.48	2.77	14.63	40.89	46.02	5.13	QP
6	439.866	17.34	3.83	18.29	39.45	46.02	6.57	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

3. The worst emission is detected at 37.496MHz with corrected signal level of 35.77dBµV/m (limit is 40.00dBµV/m) when the antenna is at horizontal polarization and is at 4.0m high and the turn table is at 12°.

4. 0°was the table front facing the antenna. Degree is calculated from 0°clockwise facing the antenna.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

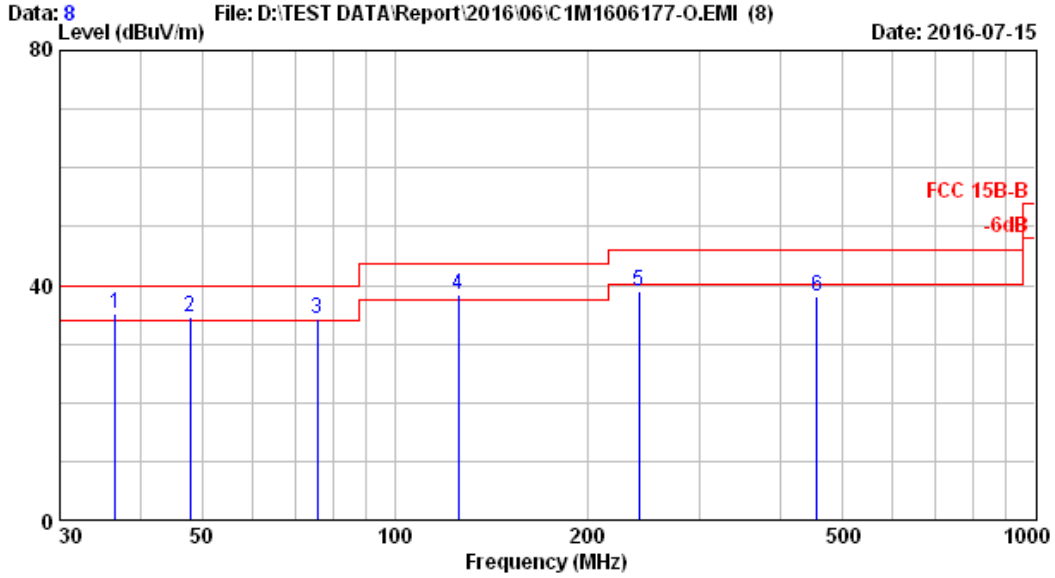


Site no. : OATS NO.8 Data no. : 1
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : VERTICAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : NIC Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	48.915	16.75	1.09	17.59	35.43	40.00	4.57	QP
2	76.922	15.32	1.40	18.64	35.36	40.00	4.64	QP
3	121.626	17.05	1.82	20.66	39.52	43.52	4.00	QP *
4	142.591	17.78	2.00	18.59	38.37	43.52	5.15	QP
5	239.865	23.44	2.77	13.57	39.78	46.02	6.24	QP
6	453.629	17.64	3.89	18.59	40.13	46.02	5.89	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.
3. The worst emission is detected at 121.626MHz with corrected signal level of 39.52dBµV/m (limit is 43.52dBµV/m) when the antenna is at vertical polarization and is at 1.0m high and the turn table is at 72°.
4. 0°was the table front facing the antenna. Degree is calculated from 0°clockwise facing the antenna.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com

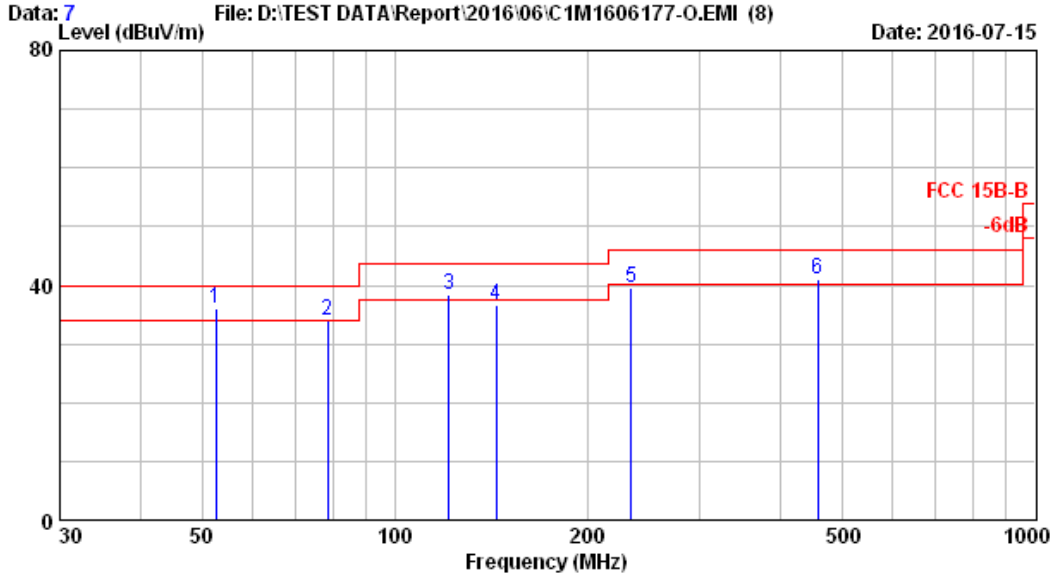


Site no. : OATS NO.8 Data no. : 8
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : WiFi Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	36.591	19.66	0.93	14.59	35.18	40.00	4.82	QP
2	47.855	17.02	1.08	16.59	34.69	40.00	5.31	QP
3	75.850	15.32	1.39	17.55	34.26	40.00	5.74	QP
4	125.635	17.20	1.85	19.35	38.40	43.52	5.12	QP
5	240.599	23.48	2.77	12.63	38.88	46.02	7.14	QP
6	456.928	17.69	3.91	16.35	37.96	46.02	8.06	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu ,Linkou Dist., New Taipei City,
244 , Taiwan, R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
E-mail: emc@audixtech.com



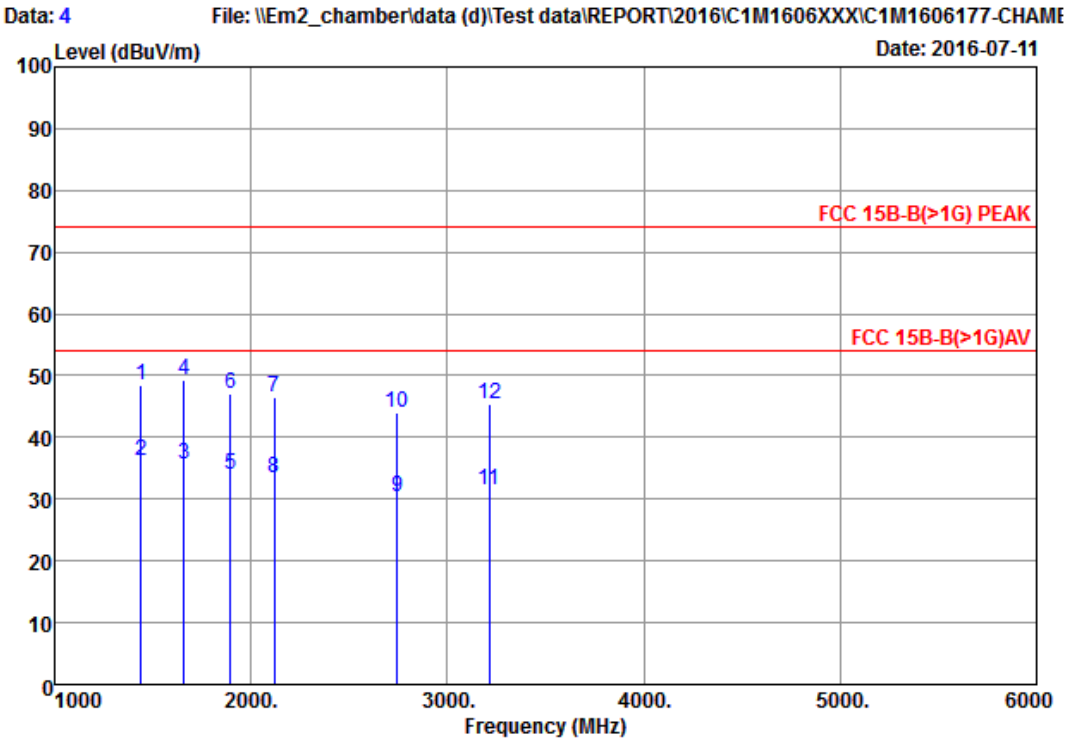
Site no. : OATS NO.8 Data no. : 7
Dis. / Ant. : 3m MCTD 0286/2856 10/12 Ant. pol. : VERTICAL
Limit : FCC 15B-B
Env. / Ins. : 24*C / 62% ESCI (556) Engineer : Gary Tsai
EUT M/N : SP 220Nw
Power Rating : 120Vac/60Hz
Test Mode : WiFi Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	52.620	16.21	1.13	18.59	35.93	40.00	4.07	QP
2	78.592	15.33	1.42	17.35	34.10	40.00	5.90	QP
3	121.650	17.05	1.82	19.63	38.49	43.52	5.03	QP
4	144.291	17.80	2.01	16.89	36.70	43.52	6.82	QP
5	234.197	23.14	2.73	13.55	39.42	46.02	6.60	QP
6	458.620	17.72	3.92	19.35	40.99	46.02	5.03	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

5.6.2. Above 1GHz Frequency Range Radiated Emission Measurement Results at Semi-Anechoic Chamber

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com



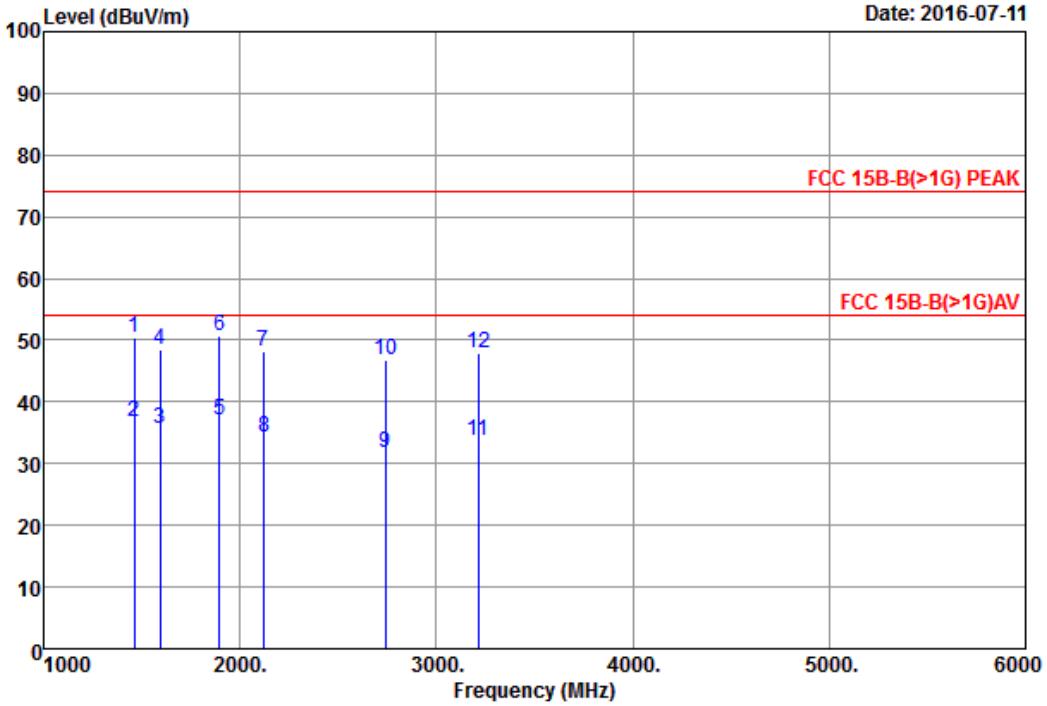
Site no. : Audix No.2 Chamber Data no. : 4
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : Standby

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	1440.000	25.83	5.65	35.90	52.78	48.36	73.98	25.62	Peak
2	1440.820	25.83	5.65	35.90	40.60	36.18	53.98	17.80	Average
3	1659.540	26.74	6.33	35.60	38.23	35.70	53.98	18.28	Average
4	1660.000	26.74	6.33	35.60	51.78	49.25	73.98	24.73	Peak
5	1894.920	27.84	7.10	35.36	34.48	34.06	53.98	19.92	Average
6	1895.000	27.84	7.10	35.36	47.63	47.21	73.98	26.77	Peak
7	2120.000	28.40	7.57	35.22	45.89	46.64	73.98	27.34	Peak
8	2120.782	28.40	7.57	35.22	32.63	33.38	53.98	20.60	Average
9	2743.322	29.72	8.22	35.06	27.54	30.42	53.98	23.56	Average
10	2745.000	29.72	8.22	35.06	41.21	44.09	73.98	29.89	Peak
11	3214.186	31.11	8.76	34.90	26.39	31.36	53.98	22.62	Average
12	3215.000	31.11	8.76	34.90	40.30	45.27	73.98	28.71	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com

Data: 3 File: \\Em2_chamber\data (d)\Test data\REPORT\2016\C1M1606XXX\C1M1606177-CHAME



Site no. : Audix No.2 Chamber Data no. : 3
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : VERTICAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : Standby

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1460.000	25.85	5.70	35.87	54.72	50.40	73.98	23.58	Peak
2	1460.840	25.85	5.70	35.86	41.16	36.85	53.98	17.13	Average
3	1594.310	26.40	6.12	35.68	38.84	35.68	53.98	18.30	Average
4	1595.000	26.43	6.12	35.68	51.52	48.39	73.98	25.59	Peak
5	1894.760	27.84	7.10	35.36	37.38	36.96	53.98	17.02	Average
6	1895.000	27.84	7.10	35.36	51.22	50.80	73.98	23.18	Peak
7	2120.000	28.40	7.57	35.22	47.44	48.19	73.98	25.79	Peak
8	2122.289	28.40	7.57	35.21	33.50	34.26	53.98	19.72	Average
9	2738.702	29.72	8.22	35.07	28.90	31.77	53.98	22.21	Average
10	2740.000	29.72	8.22	35.06	44.04	46.92	73.98	27.06	Peak
11	3214.399	31.11	8.76	34.90	28.69	33.66	53.98	20.32	Average
12	3215.000	31.11	8.76	34.90	43.01	47.98	73.98	26.00	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com

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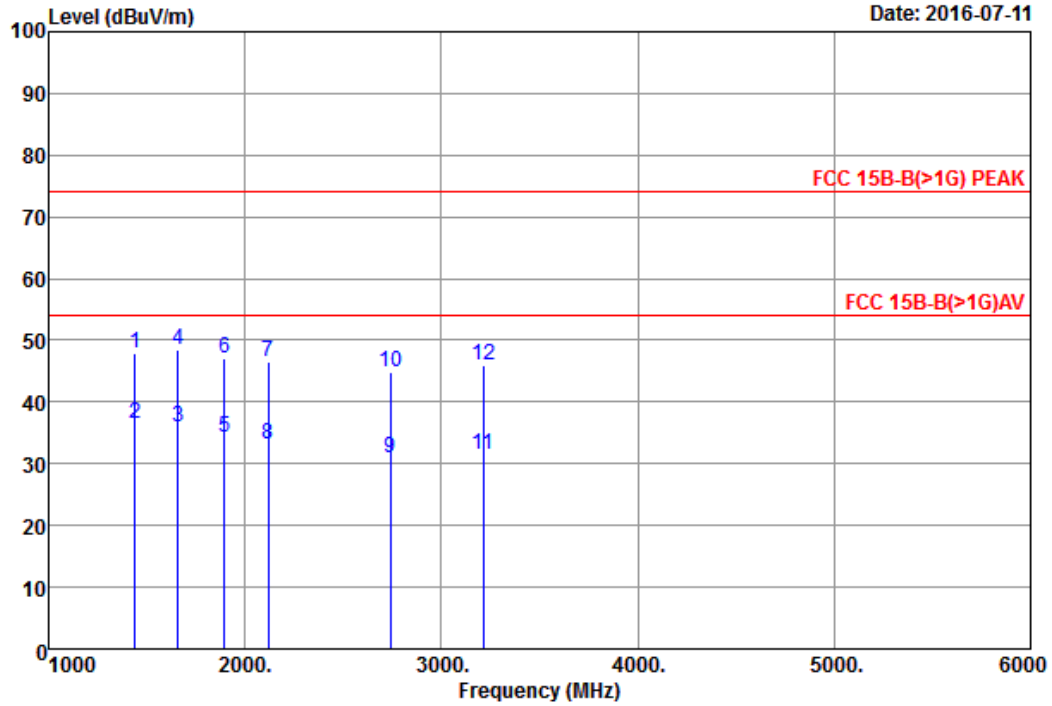
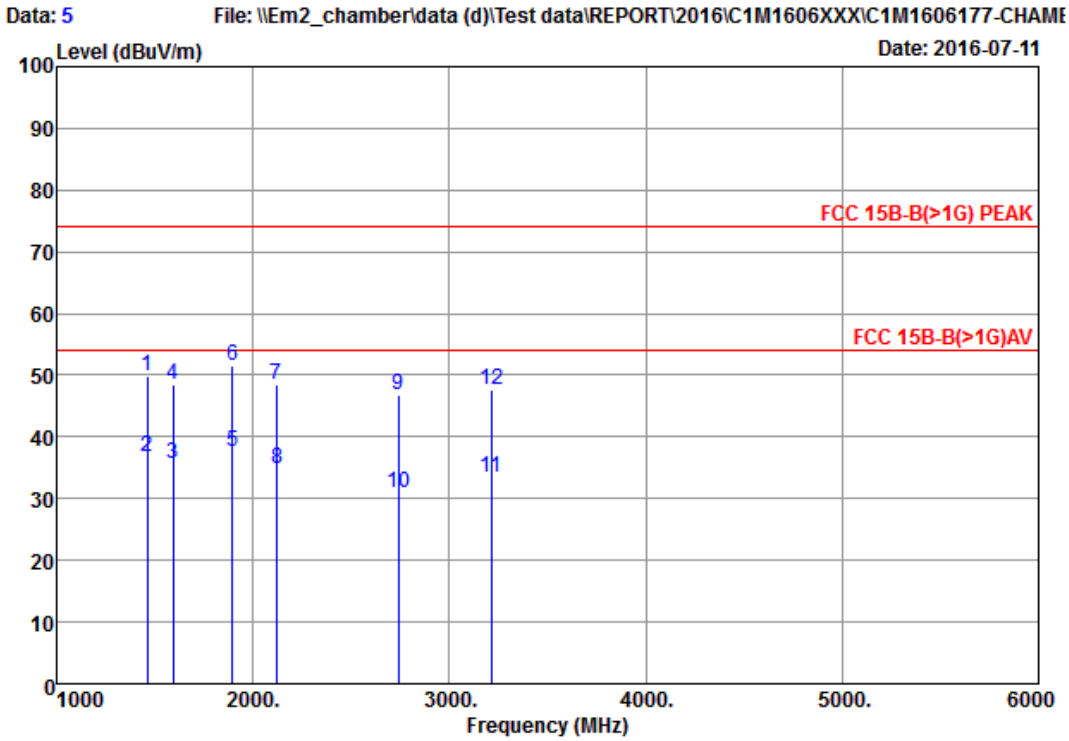


Site no. : Audix No.2 Chamber Data no. : 6
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : USB Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1440.000	25.83	5.65	35.90	52.35	47.93	73.98	26.05	Peak
2	1440.580	25.83	5.65	35.90	40.90	36.48	53.98	17.50	Average
3	1659.720	26.74	6.33	35.60	38.44	35.91	53.98	18.07	Average
4	1660.000	26.74	6.33	35.60	51.05	48.52	73.98	25.46	Peak
5	1894.120	27.84	7.10	35.36	34.69	34.27	53.98	19.71	Average
6	1895.000	27.84	7.10	35.36	47.48	47.06	73.98	26.92	Peak
7	2120.000	28.40	7.57	35.22	45.68	46.43	73.98	27.55	Peak
8	2120.537	28.40	7.57	35.22	32.46	33.21	53.98	20.77	Average
9	2739.600	29.72	8.22	35.06	27.98	30.86	53.98	23.12	Average
10	2740.000	29.72	8.22	35.06	41.92	44.80	73.98	29.18	Peak
11	3214.587	31.11	8.76	34.90	26.64	31.61	53.98	22.37	Average
12	3215.000	31.11	8.76	34.90	40.98	45.95	73.98	28.03	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com



Site no. : Audix No.2 Chamber Data no. : 5
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : VERTICAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : USB Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1460.000	25.85	5.70	35.87	54.14	49.82	73.98	24.16	Peak
2	1460.220	25.85	5.70	35.86	41.17	36.86	53.98	17.12	Average
3	1594.720	26.40	6.12	35.68	38.83	35.67	53.98	18.31	Average
4	1595.000	26.43	6.12	35.68	51.54	48.41	73.98	25.57	Peak
5	1894.630	27.84	7.10	35.36	37.91	37.49	53.98	16.49	Average
6	1895.000	27.84	7.10	35.36	51.88	51.46	73.98	22.52	Peak
7	2120.000	28.40	7.57	35.22	47.60	48.35	73.98	25.63	Peak
8	2121.859	28.40	7.57	35.21	34.12	34.88	53.98	19.10	Average
9	2740.000	29.72	8.22	35.06	43.84	46.72	73.98	27.26	Peak
10	2741.774	29.72	8.22	35.06	28.17	31.05	53.98	22.93	Average
11	3214.934	31.11	8.76	34.90	28.44	33.41	53.98	20.57	Average
12	3215.000	31.11	8.76	34.90	42.74	47.71	73.98	26.27	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com

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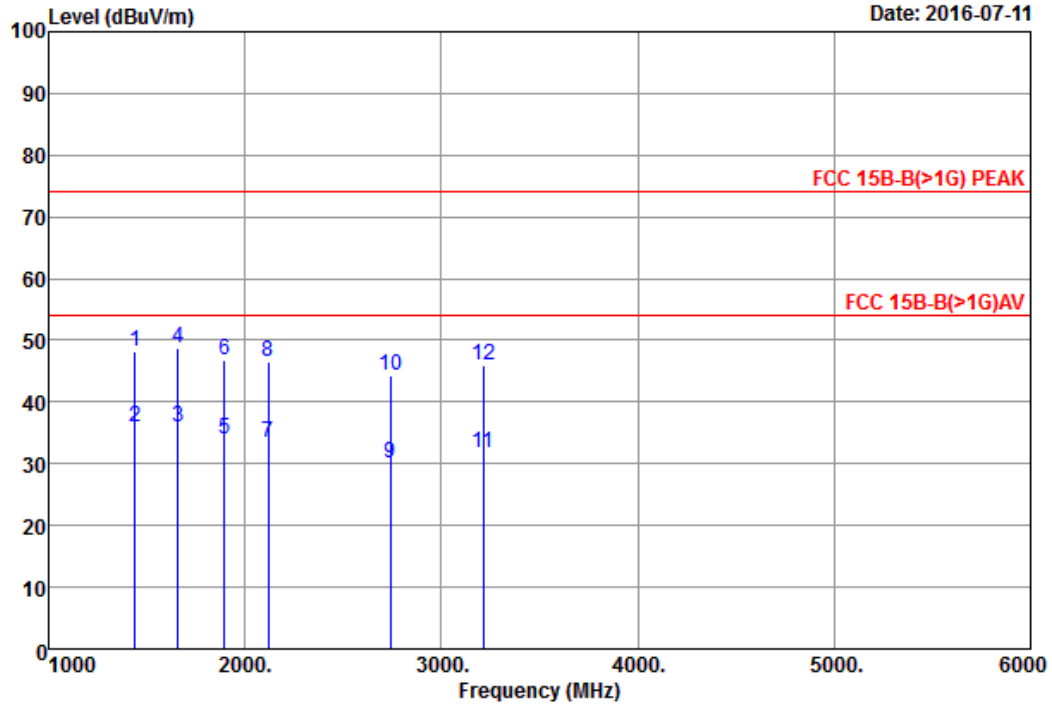
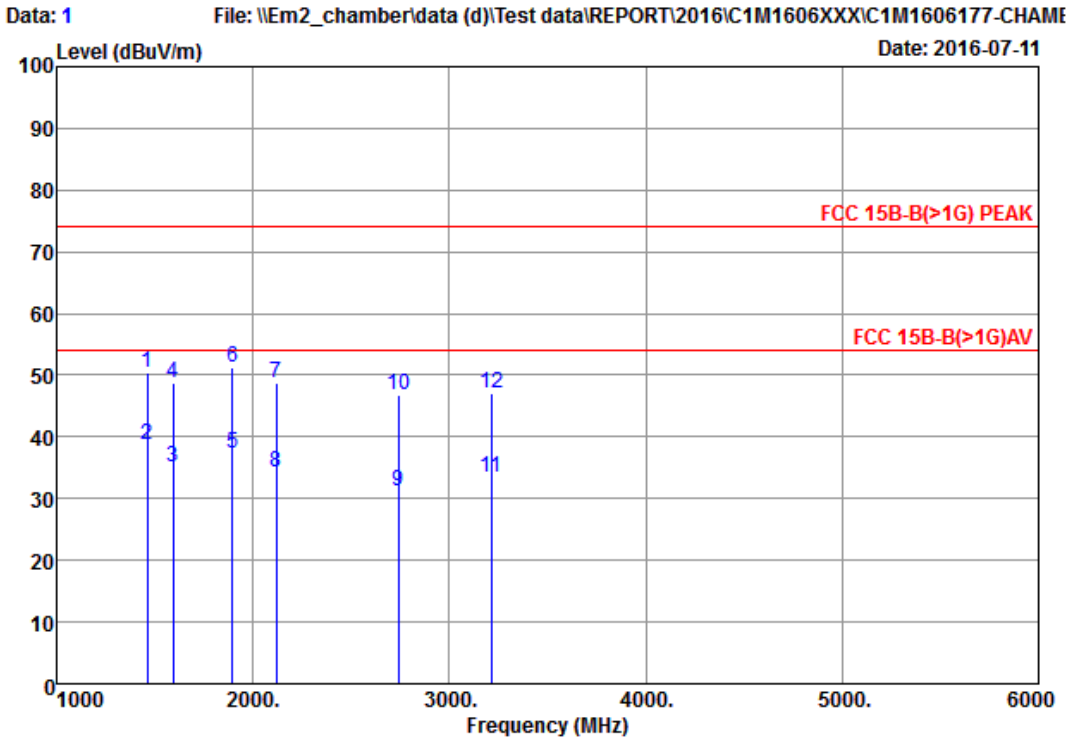


Site no. : Audix No.2 Chamber Data no. : 2
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : NIC Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1440.000	25.83	5.65	35.90	52.52	48.10	73.98	25.88	Peak
2	1440.210	25.83	5.65	35.90	40.32	35.90	53.98	18.08	Average
3	1659.870	26.74	6.33	35.60	38.37	35.84	53.98	18.14	Average
4	1660.000	26.74	6.33	35.60	51.25	48.72	73.98	25.26	Peak
5	1894.360	27.84	7.10	35.36	34.28	33.86	53.98	20.12	Average
6	1895.000	27.84	7.10	35.36	47.33	46.91	73.98	27.07	Peak
7	2119.679	28.40	7.57	35.22	32.72	33.47	53.98	20.51	Average
8	2120.000	28.40	7.57	35.22	45.76	46.51	73.98	27.47	Peak
9	2739.315	29.72	8.22	35.07	27.30	30.17	53.98	23.81	Average
10	2740.000	29.72	8.22	35.06	41.41	44.29	73.98	29.69	Peak
11	3214.205	31.11	8.76	34.90	26.75	31.72	53.98	22.26	Average
12	3215.000	31.11	8.76	34.90	40.93	45.90	73.98	28.08	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com



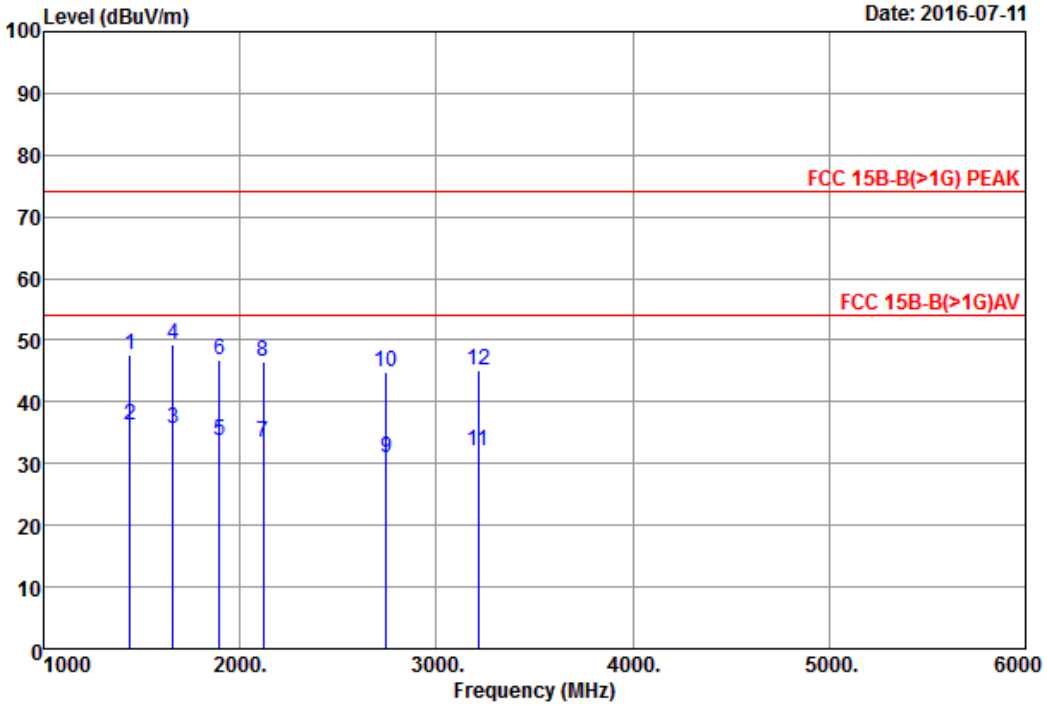
Site no. : Audix No.2 Chamber Data no. : 1
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : VERTICAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : NIC Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1460.000	25.85	5.70	35.87	54.60	50.28	73.98	23.70	Peak
2	1460.330	25.85	5.70	35.86	42.89	38.58	53.98	15.40	Average
3	1594.280	26.40	6.12	35.68	38.33	35.17	53.98	18.81	Average
4	1595.000	26.43	6.12	35.68	51.75	48.62	73.98	25.36	Peak
5	1894.880	27.84	7.10	35.36	37.69	37.27	53.98	16.71	Average
6	1895.000	27.84	7.10	35.36	51.64	51.22	73.98	22.76	Peak
7	2120.000	28.40	7.57	35.22	47.92	48.67	73.98	25.31	Peak
8	2120.701	28.40	7.57	35.22	33.48	34.23	53.98	19.75	Average
9	2739.636	29.72	8.22	35.06	28.41	31.29	53.98	22.69	Average
10	2740.000	29.72	8.22	35.06	43.95	46.83	73.98	27.15	Peak
11	3214.928	31.11	8.76	34.90	28.56	33.53	53.98	20.45	Average
12	3215.000	31.11	8.76	34.90	42.22	47.19	73.98	26.79	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

AUDIX Technology Corp. EMC Department
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com

Data: 8 File: \\Em2_chamber\data (d)\Test data\REPORT\2016\C1M1606XXX\C1M1606177-CHAME



Site no. : Audix No.2 Chamber Data no. : 8
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : HORIZONTAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : WIFI Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1440.000	25.83	5.65	35.90	52.05	47.63	73.98	26.35	Peak
2	1440.870	25.83	5.65	35.90	40.68	36.26	53.98	17.72	Average
3	1659.540	26.74	6.33	35.60	38.12	35.59	53.98	18.39	Average
4	1660.000	26.74	6.33	35.60	51.79	49.26	73.98	24.72	Peak
5	1894.830	27.84	7.10	35.36	34.03	33.61	53.98	20.37	Average
6	1895.000	27.84	7.10	35.36	47.21	46.79	73.98	27.19	Peak
7	2119.626	28.40	7.57	35.22	32.72	33.47	53.98	20.51	Average
8	2120.000	28.40	7.57	35.22	45.89	46.64	73.98	27.34	Peak
9	2744.519	29.72	8.22	35.06	28.09	30.97	53.98	23.01	Average
10	2745.000	29.72	8.22	35.06	41.93	44.81	73.98	29.17	Peak
11	3214.468	31.11	8.76	34.90	27.01	31.98	53.98	22.00	Average
12	3215.000	31.11	8.76	34.90	40.10	45.07	73.98	28.91	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

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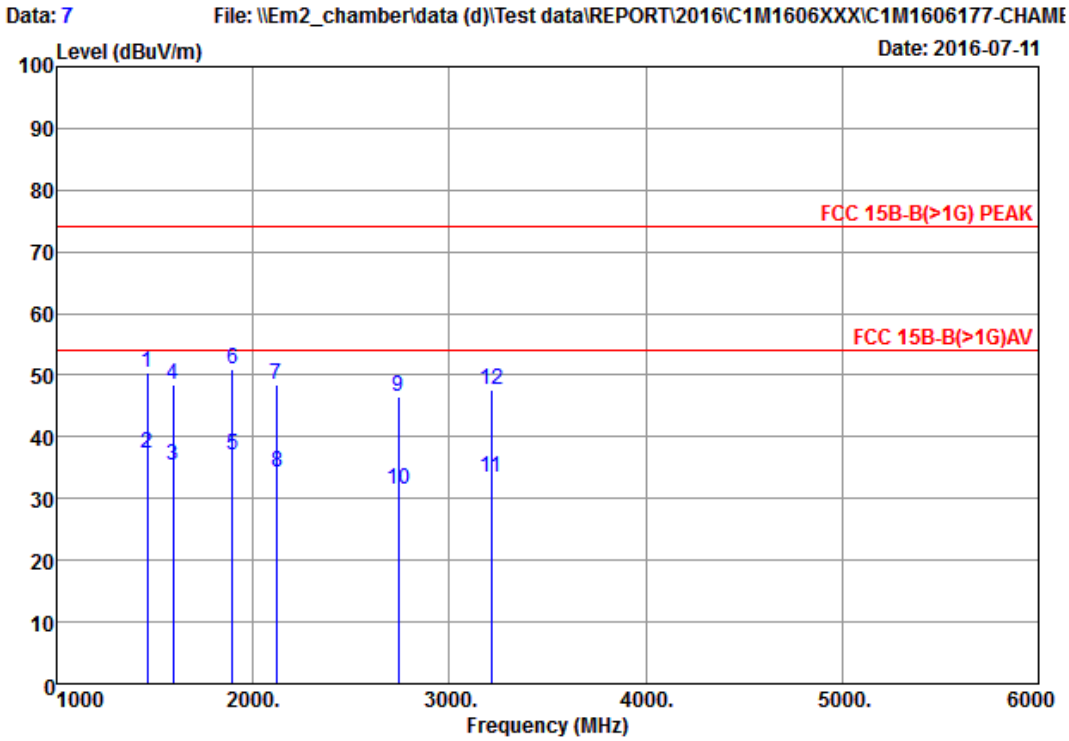
No.53-11, Dingfu, Linkou Dist., New Taipei City,
244 Taiwan R.O.C.
Tel: +886-2-26092133 Fax: +886-2-26099303
Email: emc@audixtech.com



Site no. : Audix No.2 Chamber Data no. : 7
Dis. / Ant. : 3m HORN3115-3775 Ant. pol. : VERTICAL
Limit : FCC 15B-B(>1G) PEAK
Env. / Ins. : 28*C / 66% N9010A (076) Engineer : Edward_lin
EUT : SP 200Nw
Power Rating : 120Vac/60Hz
Test Mode : WIFI Print

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	PREAMP Gain (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1460.000	25.85	5.70	35.87	54.63	50.31	73.98	23.67	Peak
2	1460.520	25.85	5.70	35.86	41.71	37.40	53.98	16.58	Average
3	1594.420	26.40	6.12	35.68	38.59	35.43	53.98	18.55	Average
4	1595.000	26.43	6.12	35.68	51.61	48.48	73.98	25.50	Peak
5	1894.420	27.84	7.10	35.36	37.36	36.94	53.98	17.04	Average
6	1895.000	27.84	7.10	35.36	51.29	50.87	73.98	23.11	Peak
7	2120.000	28.40	7.57	35.22	47.70	48.45	73.98	25.53	Peak
8	2121.031	28.40	7.57	35.22	33.47	34.22	53.98	19.76	Average
9	2740.000	29.72	8.22	35.06	43.57	46.45	73.98	27.53	Peak
10	2741.162	29.72	8.22	35.06	28.60	31.48	53.98	22.50	Average
11	3214.529	31.11	8.76	34.90	28.51	33.48	53.98	20.50	Average
12	3215.000	31.11	8.76	34.90	42.67	47.64	73.98	26.34	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Preamp Gain + Reading.
2. The emissions not reported are 20 dB lower than the specified limit.

6. DEVIATION TO TEST SPECIFICATIONS

【NONE】