



TEST REPORT

47 CFR FCC Part 15 Subpart B (Class B)

Radio Frequency Devices – Unintentional Radiators – Limits and methods of measurement

ANSI C63.4: 2009

American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

Report Reference No.....: TRE1307004501 R/C:89404

FCC ID.....: BBP-PRSP201NW1

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Wenliang Li

Date of issue.....: July 19, 2013

Testing Laboratory Name: **Shenzhen Huatongwei International Inspection Co., Ltd**

Address.....: Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China

Testing location/ procedure: Full application of Harmonised standards
 Partial application of Harmonised standards
 Other standard testing methods

Applicant's name.....: **RICOH Co., LTD.**

Address.....: 810 Shimoimaizumi, Ebina City, Kanagawa-Pref., 243-0460 Japan

Test specification:

Standard: **47 CFR FCC Part 15 Subpart B (Class B) ANSI C63.4: 2009**

Non-standard test method.....: /

Test Report Form No.....: HTWEMCFCC_1A

TRF Originator.....: Shenzhen Huatongwei International Inspection Co., Ltd

Master TRF.....: Dated 2006-06

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Test item description: Printer

Trade Mark: RICOH

Model/Type reference.....: SP 201Nw

Listed Model.....: SP 200Nw

Ratings.....: AC 120V/60Hz 8A 900W

Result.....: **Positive**

EMC -- TEST REPORT

Test Report No. : TRE1307004501	July 19,2013 Date of issue
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Equipment under Test : Printer

Model / Type : SP 201Nw

Listed Model : SP 200Nw

Applicant : RICOH Co., LTD.

Address : 810 Shimoimaizumi,Ebina City, Kanagawa-Pref., 243-0460 Japan

Manufacturer : RICOH Co., LTD.

Address : 3-6, Naka-magome 1-Chome Ohta-ku,Tokyo 143-8555 Japan

Test Result according to the standards on page 4:	Positive
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The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following standards:

[47 CFR FCC Part 15 Subpart B \(Class B\)](#) Radio Frequency Devices – Unintentional Radiators – Limits and methods of measurement.

[ANSI C63.4: 2009](#) American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.

2. SUMMARY

2.1. General Remarks:

Date of receipt of test sample	:	July 08, 2013
Testing commenced on	:	July 08, 2013
Testing concluded on	:	July 19, 2013

2.2. Equipment under Test

Power supply system utilised

Power supply voltage	:	<input type="radio"/> 230V / 50 Hz	<input type="radio"/> 115V / 60Hz
		<input type="radio"/> 12 V DC	<input type="radio"/> 24 V DC
		<input checked="" type="radio"/> Other (specified in blank below)	

AC 120V/60Hz

2.3. Short description of the Equipment under Test (EUT)

The EUT is a laser printer.

Model Difference: They are similar, except refill tone and sale country.

1. There is a WIFI module in SP 201Nw and SP 200Nw.
2. SP 201Nw and SP 200Nw are similar, but different from the tone box which does not affect EMC .

Unless otherwise indicated, all tests were conducted on SP 201Nw.

Tests performed on SP 201Nw were considered to be representative of SP 200Nw.

2.4. EUT operation mode

The equipment under test was operated during the measurement under the following conditions:

Test program (customer specific)

Emissions tests.....: 47 CFR FCC Part 15 Subpart B (Class B) and ANSI C63.4 2009, searching for the highest disturbance.
--

2.5. EUT configuration

1) Equipment under test

Kind of equipment	Manufacturer	Model name	Serial number	Remarks
EUT	RICOH	SP 201Nw	LM146170008	/

2) Highest Frequency Generated or Used in The Device or on Which the Device Operates (MHz)

Kind of equipment	Mode name	Operates Frequency	Remark
EUT	SP 201Nw	480MHz	USB

3) Supporting equipment

Kind of equipment	Manufacturer	Model name	Serial number	Remarks
Notebook 1	LENOVO	ThinkPad X201i	R8-7DYTX 10/11	For EMI
Access point	TP-Link	TL-WR745N	12C29521826	

4) Cables Used

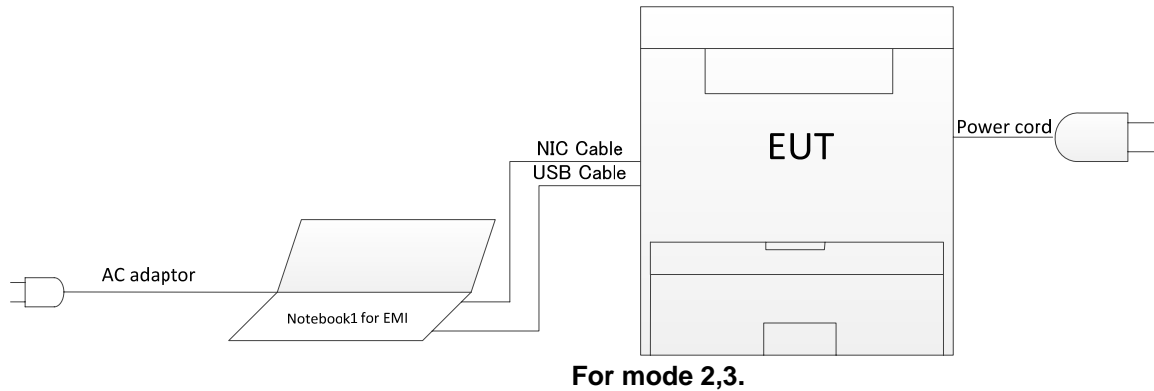
	Cable Name	Length	Shielded	Maker	Remarks
1	USB Cable	2m	YES	RICOH	
2	NIC Cable	3m	No	Black Box	
3	Power Cable	1.5m	No	Volex	

5)Operating modes:

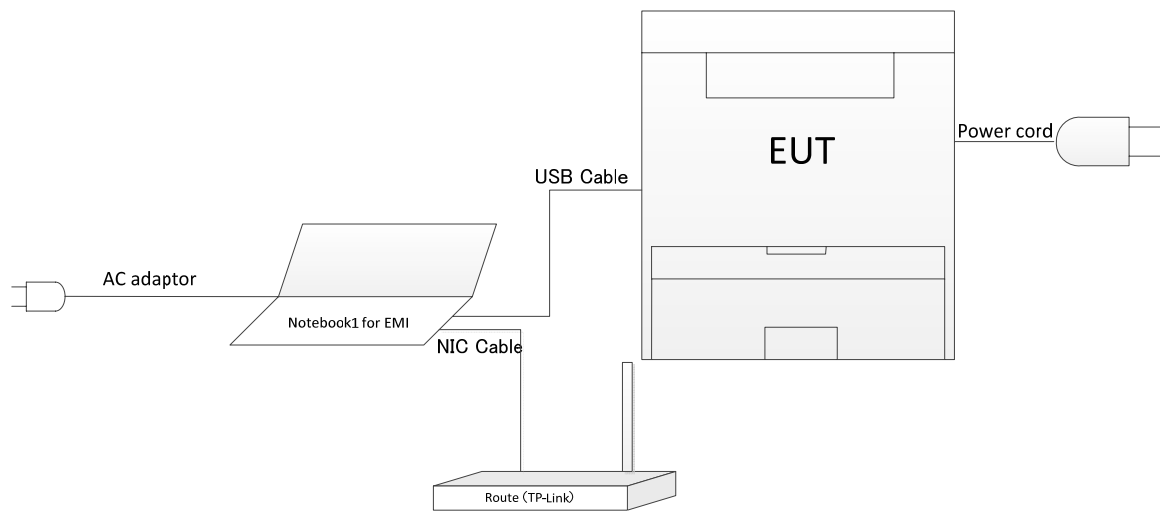
No.	Operating modes	Remarks
1	Standby	
2	NIC Print	
3	USB Print	
4	WIFI Print	

6)EUT Setup:

SP 201Nw machine system config



For mode 2,3.



For mode 1,4

2.6. EUT configuration

1. The printer with WLAN function, The functions of the EUT listed as below:

	Test Standards	Reference Report
	FCC Part 15 Subpart B	TRE1307004501
WLAN 802.11b/g/n	FCC Part 15 Subpart C	TRE1307004502
MPE REPORT	FCC Per 47 CFR 2.1091(b)	TRE1307004503

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Huatongwei International Inspection Co., Ltd
Keji Nan No.12 Road, Hi-tech Park, Shenzhen, China
Phone: 86-755-26715686 Fax: 86-755-26748089

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories, Date of Registration: Mar. 01, 2012. Valid time is until Feb. 28, 2015.

A2LA-Lab Cert. No. 2243.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing. Valid time is until Sept. 30, 2013.

FCC-Registration No.: 662850

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 662850, Renewal date June. 01, 2012, valid time is until Jun. 01, 2015.

IC-Registration No.: 5377A

The 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377A on Jan. 25, 2011, valid time is until Jan. 24, 2014.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

VCCI

The 3m Semi-anechoic chamber (12.2m×7.95m×6.7m) and Shielded Room (8m×4m×3m) of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-292. Date of Registration: Dec. 24, 2012. Valid time is until Dec. 23, 2015.

Main Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-2726. Date of Registration: Dec. 20, 2012. Valid time is until Dec. 19, 2015.

Telecommunication Ports Conducted Interference Measurement of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-1837. Date of Registration: May 07, 2013. Valid time is until May 06, 2016.

DNV

Shenzhen Huatongwei International Inspection Co., Ltd. has been found to comply with the requirements of DNV towards subcontractor of EMC and safety testing services in conjunction with the EMC and Low voltage Directives and in the voluntary field. The acceptance is based on a formal quality Audit and follow-ups according to relevant parts of ISO/IEC Guide 17025 (2005), in accordance with the requirements of the DNV

Laboratory Quality Manual towards subcontractors. Valid time is until Aug. 24, 2016.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	<u>15-35 ° C</u>
Humidity:	<u>30-60 %</u>
Atmospheric pressure:	<u>950-1050mbar</u>

3.4. Test Description

Emission Measurement		
Radiated Emission	47 CFR FCC Part 15 Subpart B Class B ANSI C63.4 2009	PASS
Conducted Disturbance	47 CFR FCC Part 15 Subpart B Class B ANSI C63.4 2009	PASS

Remark: The measurement uncertainty is not included in the test result.

3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.65dB	(1)
Radiated Emission	1G~2G	5.16dB	(1)
Conducted Disturbance	0.15~30 MHz	3.42dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

3.6. Equipments Used during the Test

Radiated Emission					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	ULTRA-BROADBAND ANTENNA	Rohde & Schwarz	HL562	100015	2012/10/27
2	EMI TEST RECEIVER	Rohde & Schwarz	ESI 26	100009	2012/10/27
3	RF TEST PANEL	Rohde & Schwarz	TS / RSP	335015/ 0017	2012/10/27
4	TURNTABLE	ETS	2088	2149	2012/10/27
5	ANTENNA MAST	ETS	2075	2346	2012/10/27
6	EMI TEST SOFTWARE	Rohde & Schwarz	ESK1	N/A	2012/10/27
7	Double-Ridged-Waveguide Horn Antenna	Rohde & Schwarz	HF906	100039	2012/10/27
8	Semi-anechoic chamber	ETS-LINDGREN	AJ 593 HTW	N/A	2012/10/27

Conducted Disturbance					
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	Rohde & Schwarz	ESCS30	100038	2012/10/27
2	Artificial Mains	Rohde & Schwarz	ESH2-Z5	100028	2012/10/27
3	Artificial Mains	Rohde & Schwarz	ESH3-Z5	100040	2012/10/27
4	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100044	2012/10/27
5	EMI Test Software	Rohde & Schwarz	ESK1	N/A	2012/10/27
6	3# shielded room	ETS-LINDGREN	RFD-100	2406	N/A

The Cal.Interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. Radiated Emission

For test instruments and accessories used see section 3.6.

4.1.1. Description of the test location

Test location: Shielded room No. 4

4.1.2. Limits of disturbance

Frequency (MHz)	Distance (Meters)	Field Strengths Limits (dB μ V/m)	
30 ~ 88	3	40	
88~216	3	43.5	
216 ~ 960	3	46	
960-1000	3	54	
1000-2000	3	74(PK)	54(AV)

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

(2) Distance refers to the distance in meters between the test instrument antenna and the closest point of any part of the E.U.T.

(3)The highest frequency of the internal sources of the EUT is 480MHz, so the measurement was made up to 2 GHz.

4.1.3. Description of the test set-up

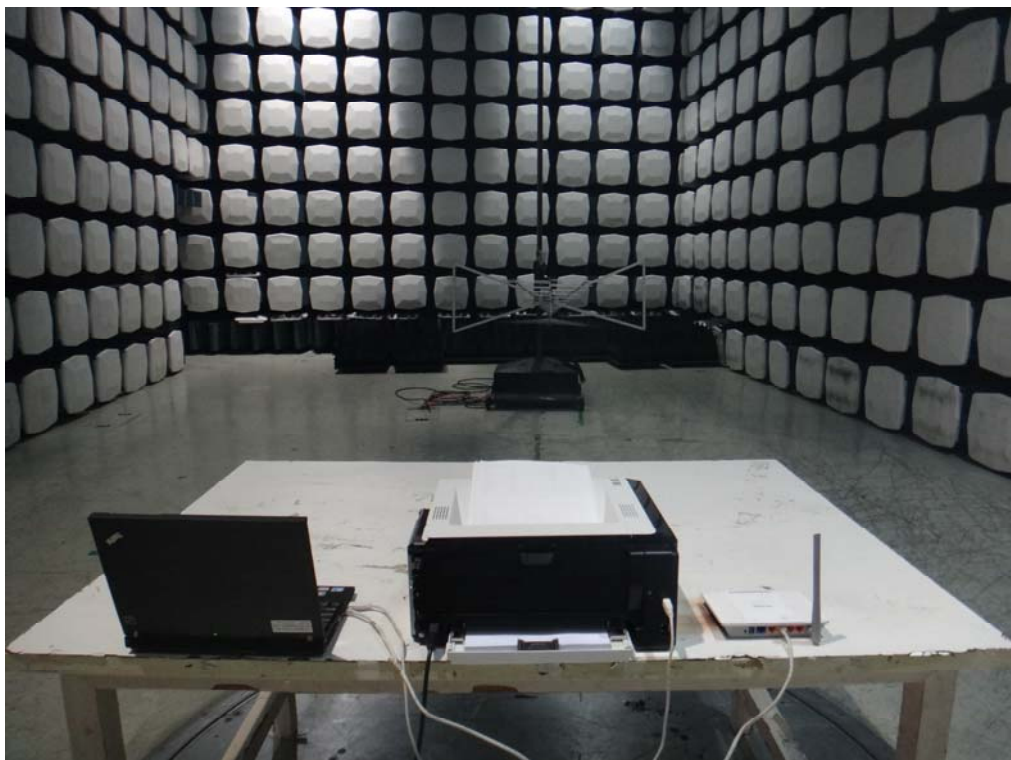
4.1.3.1. Operating Condition

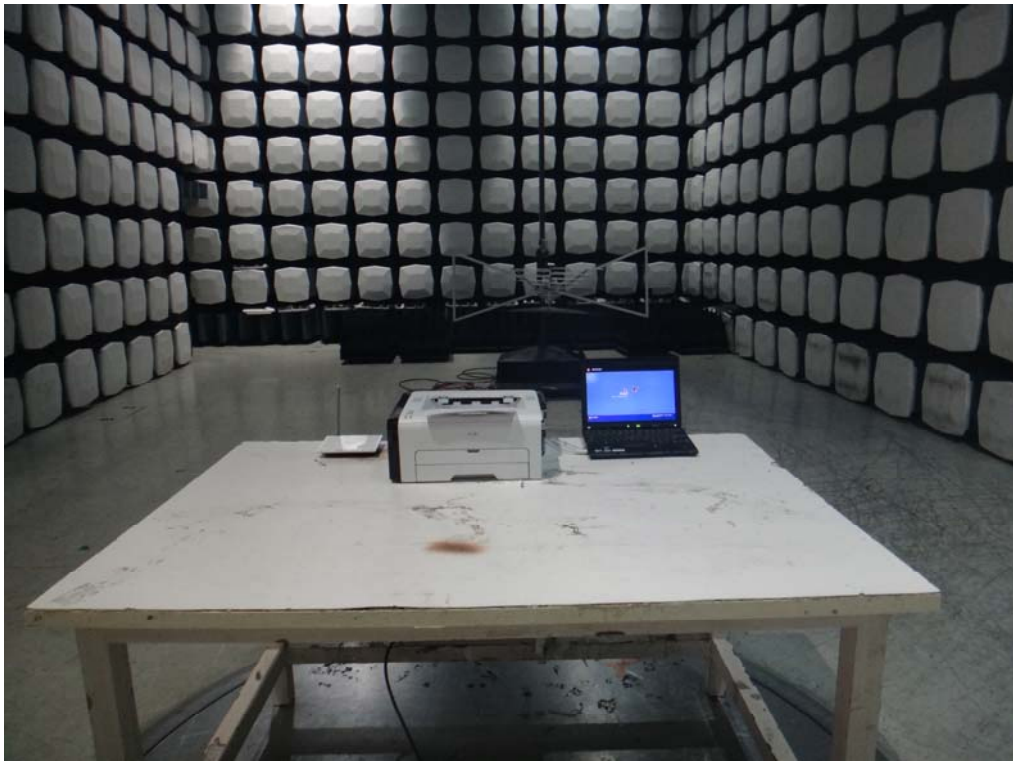
The EUT is set to work that shall be carried out respectively Standby, Print, ADF Copy, Scan, FAX Tx, FAX Rx modes on different motor, Stepping motor and DC motor during the test and the results of the maximum emanation are recorded.

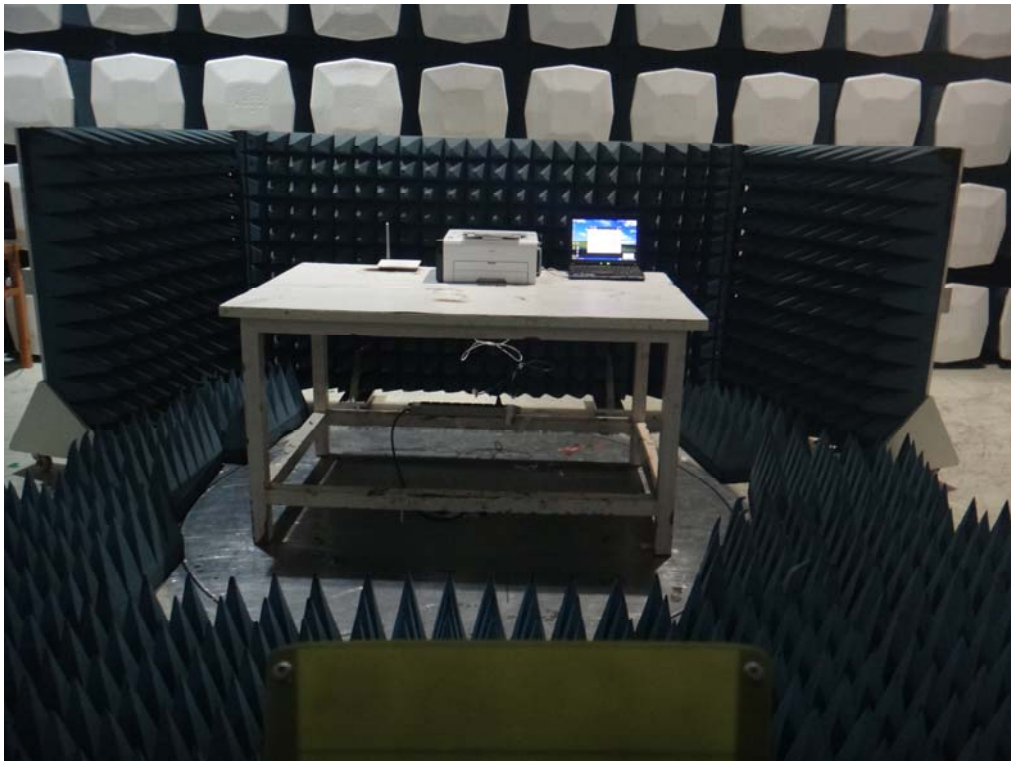
4.1.3.2. Test Configuration and Procedure

Test is carried out in Semi-Anechoic Chamber. EUT is placed on a nonmetal table which is 0.8 meter above a grounded turntable. EUT is set 3 meters away from the center of receiving antenna. The turntable can rotate 360 degrees to determine the azimuth of the maximum emission level and then the antenna can move up and down from 1 to 4 meter to find out the maximum emission level. Both horizontal and vertical polarizations of the antenna are set on the test.

4.1.3.3. Photos of the test set-up







4.1.4. Test result

The requirements are **Fulfilled**

Band Width: 120 KHz

Frequency Range: 30MHz to 1000MHz

Band Width: 1MHz

Frequency Range: 1G-2G

The average measurement was not performed when the peak measured data under the limit of average detection.

Remarks: The limits are kept. For detailed results, please see the following page(s).

Margin=limit-level

Level=read value+transducer

Transducer=antenna factor+pre-amplifier factor+cable loss (with 6db attenuator)

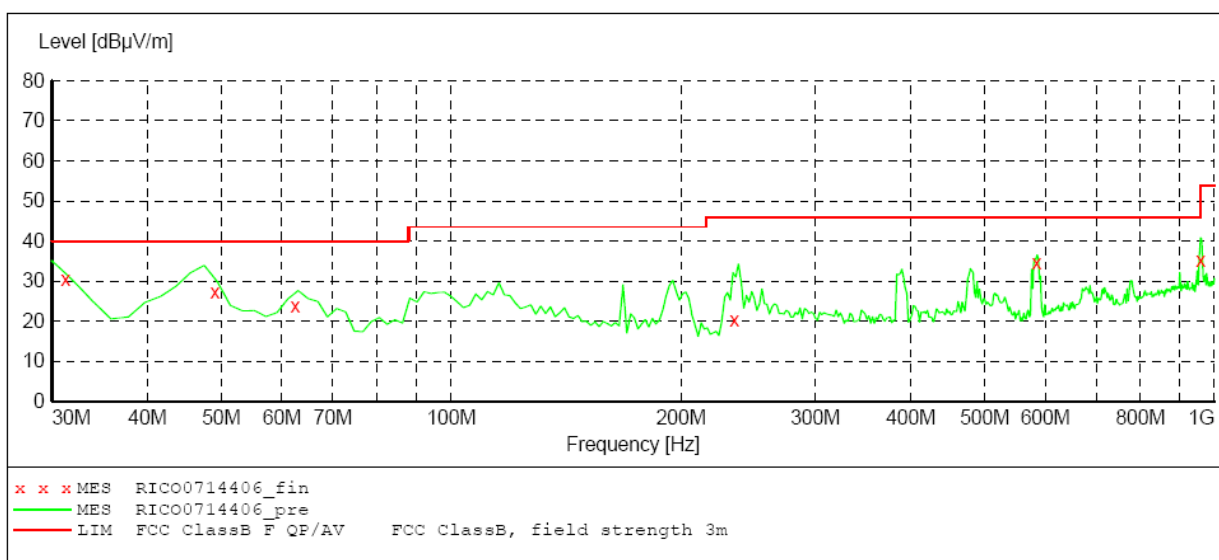
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 11:07:02AM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714406_fin"

7/14/2013 11:14AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
31.260000	30.40	-10.7	40.0	9.6	QP	100.0	125.00	VERTICAL
49.080000	27.30	-20.5	40.0	12.7	QP	100.0	189.00	VERTICAL
62.520000	23.60	-23.0	40.0	16.4	QP	150.0	262.00	VERTICAL
235.020000	20.40	-17.6	46.0	25.6	QP	100.0	168.00	VERTICAL
585.180000	34.70	-11.0	46.0	11.3	QP	100.0	136.00	VERTICAL
960.000000	35.30	-4.1	46.0	10.7	QP	100.0	123.00	VERTICAL

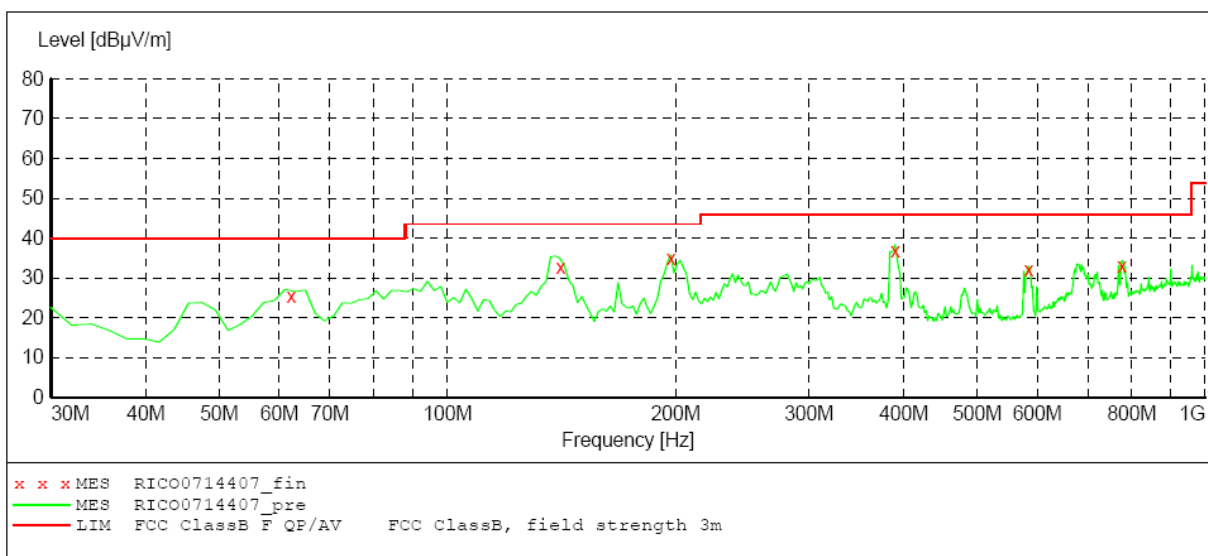
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 11:14:41AM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714407_fin"

7/20/2013 2:35PM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
62.220000	25.40	-23.1	40.0	14.6	QP	249.0	181.00	HORIZONTAL
141.180000	32.70	-20.1	43.5	10.8	QP	142.0	206.00	HORIZONTAL
197.280000	34.90	-19.8	43.5	8.6	QP	150.0	194.00	HORIZONTAL
390.120000	36.80	-13.8	46.0	9.2	QP	100.0	92.00	HORIZONTAL
585.180000	32.00	-11.0	46.0	14.0	QP	292.0	133.00	HORIZONTAL
776.760000	33.00	-6.8	46.0	13.0	QP	101.0	231.00	HORIZONTAL

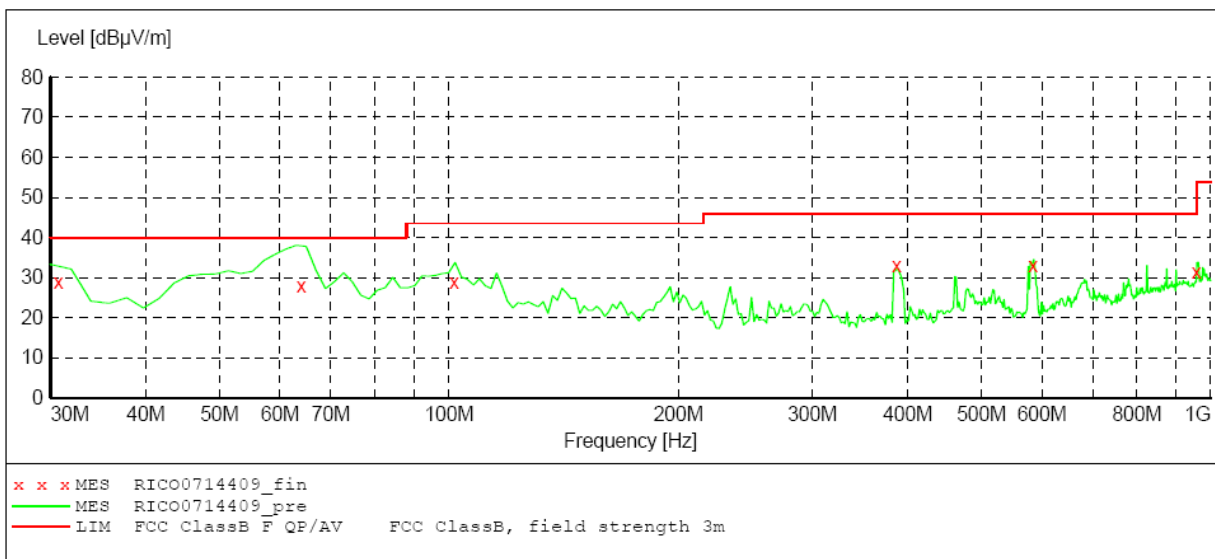
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 11:39:45AM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714409_fin"

7/14/2013 11:47AM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
30.720000	28.70	-10.4	40.0	11.3	QP	101.0	77.00	VERTICAL
64.020000	28.00	-22.7	40.0	12.0	QP	147.0	283.00	VERTICAL
101.580000	28.70	-18.4	43.5	14.8	QP	100.0	50.00	VERTICAL
387.120000	33.00	-13.9	46.0	13.0	QP	129.0	207.00	VERTICAL
584.820000	32.80	-11.0	46.0	13.2	QP	100.0	173.00	VERTICAL
957.120000	31.40	-4.3	46.0	14.6	QP	128.0	159.00	VERTICAL

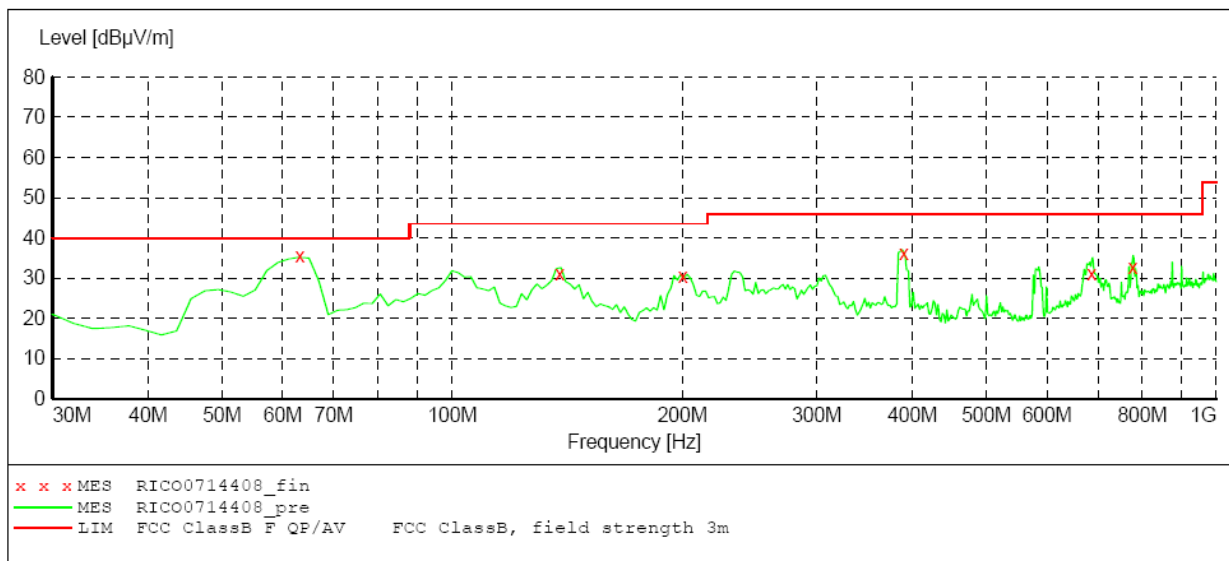
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 11:30:56AM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714408_fin"

7/14/2013 11:39AM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
63.240000	35.60	-22.9	40.0	4.4	QP	268.0	182.00	HORIZONTAL
138.360000	31.10	-19.8	43.5	12.4	QP	250.0	188.00	HORIZONTAL
200.400000	30.30	-19.6	43.5	13.2	QP	150.0	150.00	HORIZONTAL
390.120000	36.00	-13.8	46.0	10.0	QP	100.0	99.00	HORIZONTAL
687.120000	31.00	-7.7	46.0	15.0	QP	100.0	215.00	HORIZONTAL
777.240000	32.50	-6.8	46.0	13.5	QP	99.0	240.00	HORIZONTAL

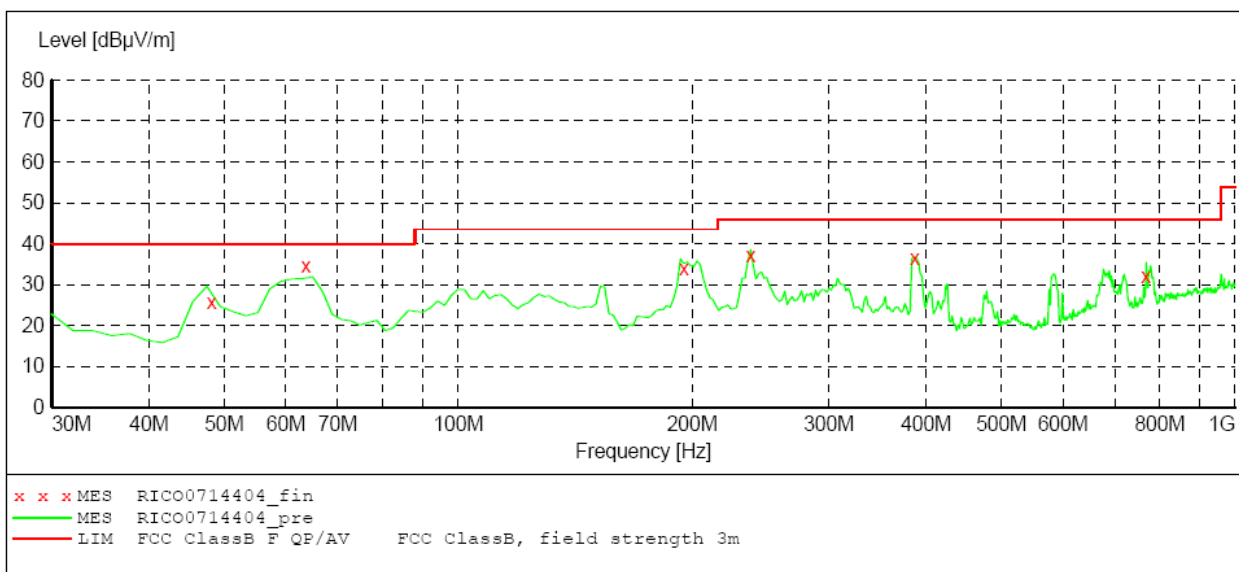
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 10:10:02AM

SCAN TABLE: "test Field(30M-1G)OP"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714404_fin"

7/14/2013 10:24AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
48.180000	25.70	-20.1	40.0	14.3	QP	350.0	10.00	HORIZONTAL
63.720000	34.70	-22.7	40.0	5.3	QP	250.0	180.00	HORIZONTAL
195.420000	34.00	-20.0	43.5	9.5	QP	100.0	193.00	HORIZONTAL
237.960000	37.10	-17.4	46.0	8.9	QP	99.0	186.00	HORIZONTAL
387.120000	36.30	-13.9	46.0	9.7	QP	100.0	83.00	HORIZONTAL
767.640000	32.10	-7.2	46.0	13.9	QP	100.0	199.00	HORIZONTAL

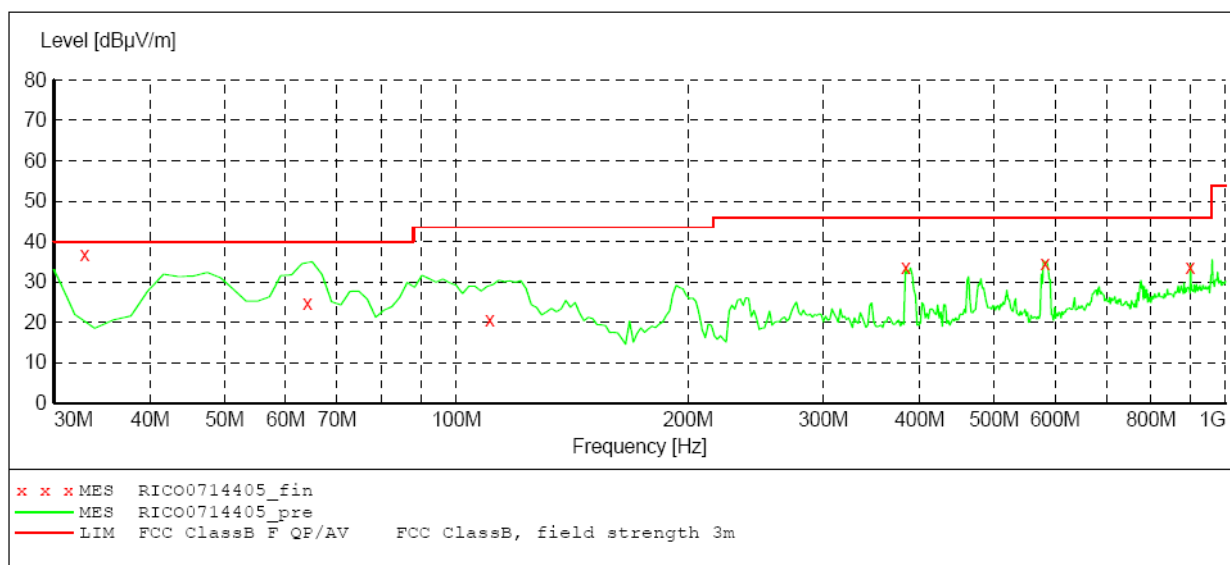
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 10:25:13AM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714405_fin"

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
32.880000	36.80	-11.5	40.0	3.2	QP	100.0	249.00	VERTICAL
64.080000	24.70	-22.7	40.0	15.3	QP	150.0	291.00	VERTICAL
110.640000	20.60	-18.1	43.5	22.9	QP	100.0	32.00	VERTICAL
383.880000	33.60	-14.1	46.0	12.4	QP	122.0	188.00	VERTICAL
582.960000	34.70	-11.1	46.0	11.3	QP	100.0	163.00	VERTICAL
900.000000	33.50	-4.8	46.0	12.5	QP	100.0	168.00	VERTICAL

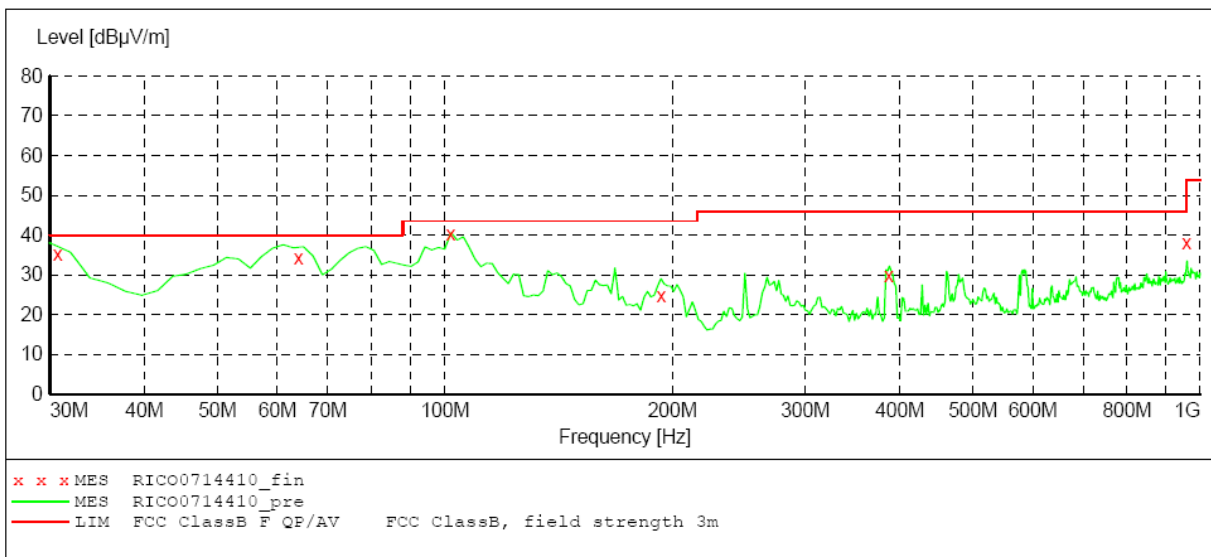
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: Wifi Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 12:36:41PM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714410_fin"

7/14/2013 12:43PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
30.720000	35.20	-10.4	40.0	4.8	QP	100.0	154.00	VERTICAL
64.020000	34.30	-22.7	40.0	5.7	QP	150.0	257.00	VERTICAL
101.880000	40.10	-18.4	43.5	3.4	QP	100.0	110.00	VERTICAL
193.500000	24.60	-20.2	43.5	18.9	QP	100.0	293.00	VERTICAL
387.120000	29.80	-13.9	46.0	16.2	QP	100.0	229.00	VERTICAL
960.000000	37.90	-4.1	46.0	8.1	QP	100.0	151.00	VERTICAL

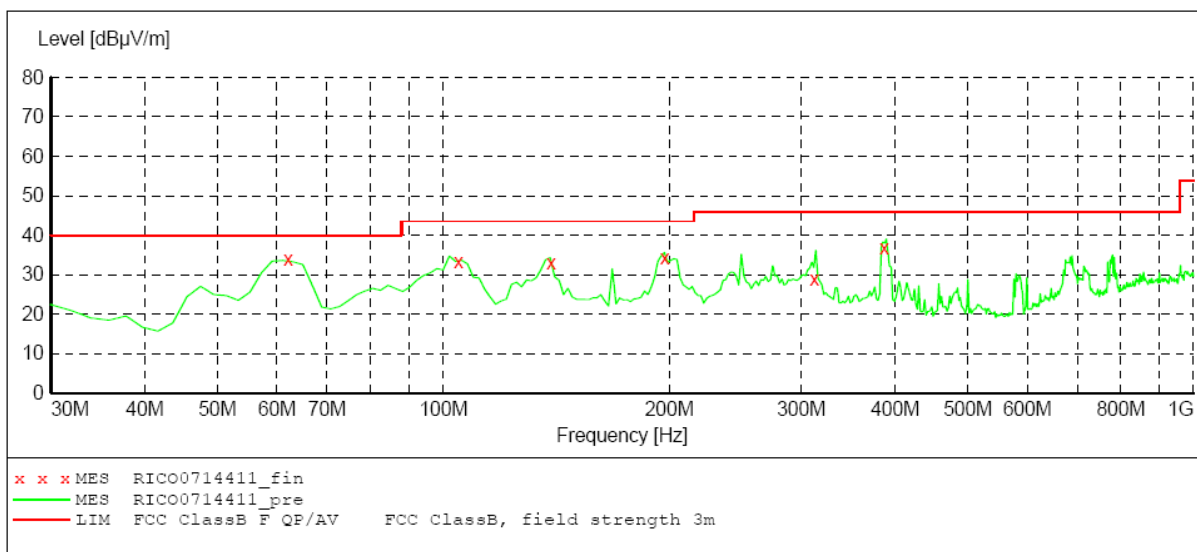
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: Wifi Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 12:44:13PM

SCAN TABLE: "test Field(30M-1G)OP"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
30.0 MHz	1.0 GHz	60.0 kHz	QuasiPeak	1.0 s	120 kHz	HL562 201106



MEASUREMENT RESULT: "RICO0714411_fin"

7/14/2013 12:55PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
62.160000	34.00	-23.1	40.0	6.0	QP	279.0	191.00	HORIZONTAL
104.760000	33.20	-18.3	43.5	10.3	QP	250.0	193.00	HORIZONTAL
139.200000	32.90	-19.9	43.5	10.6	QP	264.0	0.00	HORIZONTAL
197.280000	34.30	-19.8	43.5	9.2	QP	100.0	162.00	HORIZONTAL
312.300000	28.80	-14.7	46.0	17.2	QP	101.0	0.00	HORIZONTAL
387.120000	36.80	-13.9	46.0	9.2	QP	100.0	323.00	HORIZONTAL

Above 1G

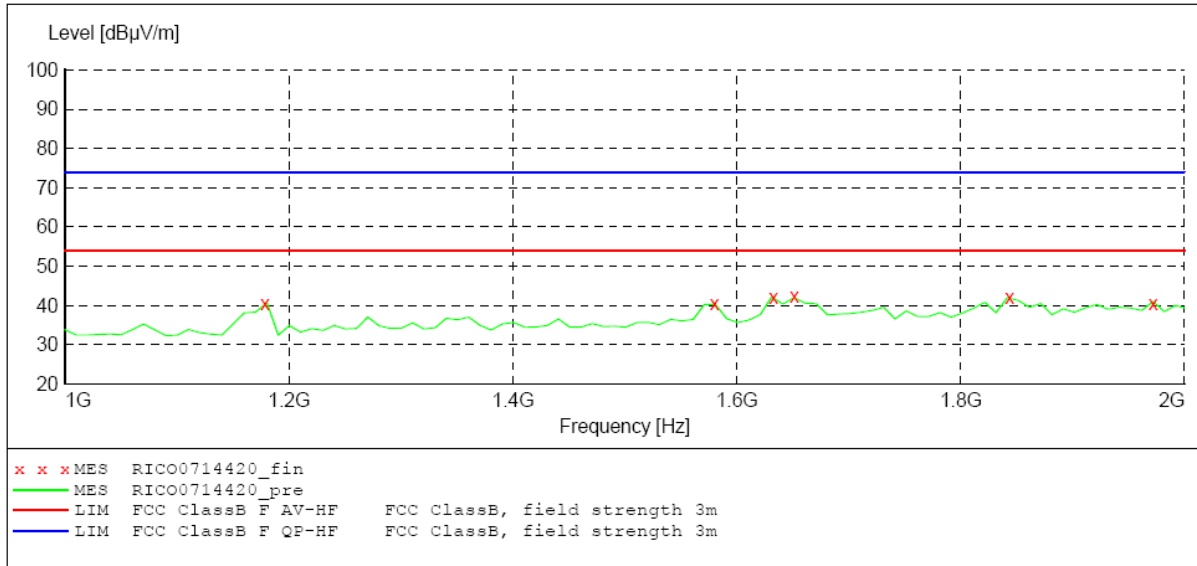
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 1:40:21PM

SCAN TABLE: "test Field(1G-18G)AV"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714420_fin"

8/13/2013 9:59AM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
1179.500000	40.00	-3.5	54.0	14.0	PK	100.0	206.00	HORIZONTAL
1580.000000	39.90	-3.0	54.0	14.1	PK	100.0	64.00	HORIZONTAL
1635.000000	31.20	-2.8	54.0	22.8	PK	100.0	49.00	HORIZONTAL
1651.500000	31.20	-2.0	54.0	22.8	PK	100.0	206.00	HORIZONTAL
1855.000000	30.90	-0.6	54.0	23.1	PK	100.0	269.00	HORIZONTAL
1972.000000	39.90	-0.2	54.0	14.1	PK	100.0	159.00	HORIZONTAL

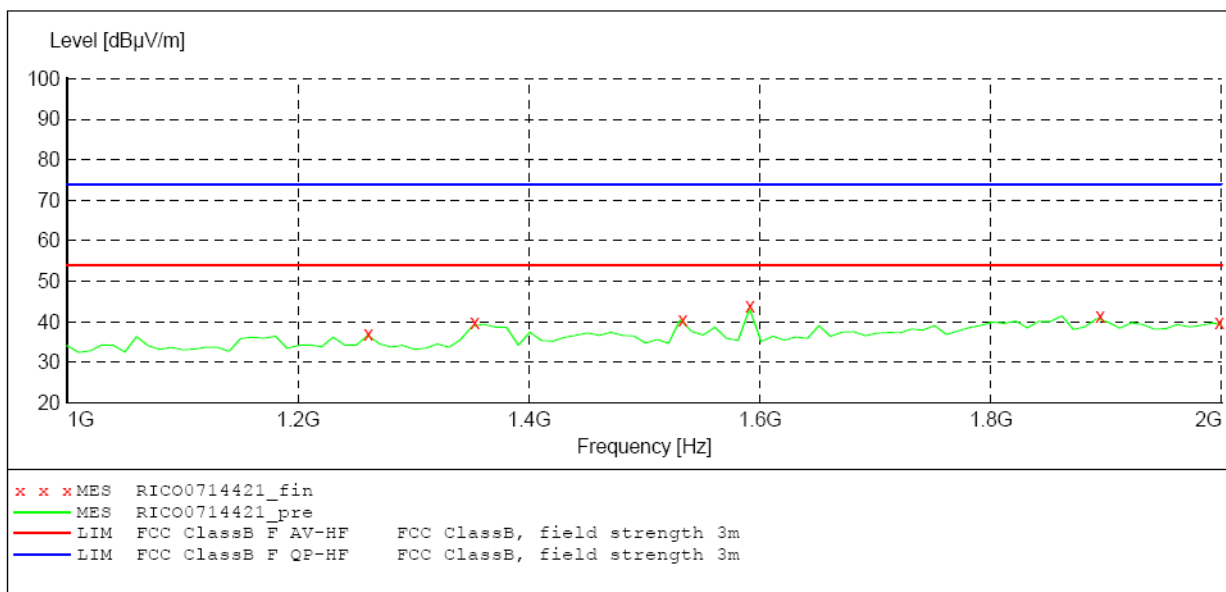
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 1:48:18PM

SCAN TABLE: "test Field(1G-18G)AV"

Start Frequency	Stop Frequency	Step Width	Field Strength(30M-1G)	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	500.0 kHz	Average	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714421_fin"

8/13/2013 10:02AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1265.500000	37.10	-3.4	54.0	16.9	PK	100.0	229.00	VERTICAL
1362.000000	39.50	-3.0	54.0	14.5	PK	100.0	152.00	VERTICAL
1533.000000	40.00	-2.8	54.0	14.0	PK	100.0	59.00	VERTICAL
1598.000000	43.60	-2.4	54.0	10.4	PK	100.0	32.00	VERTICAL
1897.000000	40.10	-2.0	54.0	13.9	PK	100.0	247.00	VERTICAL
1998.000000	39.80	-0.2	54.0	14.2	PK	100.0	115.00	VERTICAL

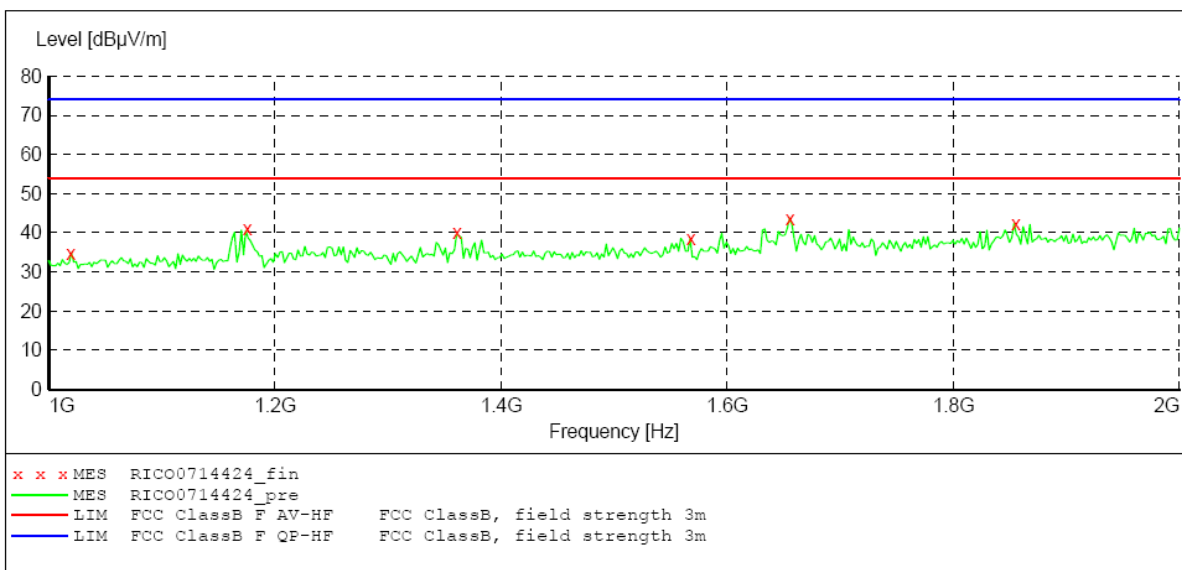
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 2:27:02PM

SCAN TABLE: "test Field(1G-18G)AV"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714424_fin"

7/14/2013 2:33PM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
1019.000000	34.20	-3.7	54.0	19.8	PK	100.0	35.00	HORIZONTAL
1161.500000	40.10	-3.6	54.0	13.9	PK	100.0	200.00	HORIZONTAL
1343.500000	39.80	-3.3	54.0	14.2	PK	100.0	260.00	HORIZONTAL
1579.000000	38.40	-2.6	54.0	15.6	PK	100.0	205.00	HORIZONTAL
1631.500000	42.90	-2.2	54.0	11.1	PK	100.0	201.00	HORIZONTAL
1853.000000	41.60	-0.7	54.0	12.4	PK	100.0	261.00	HORIZONTAL

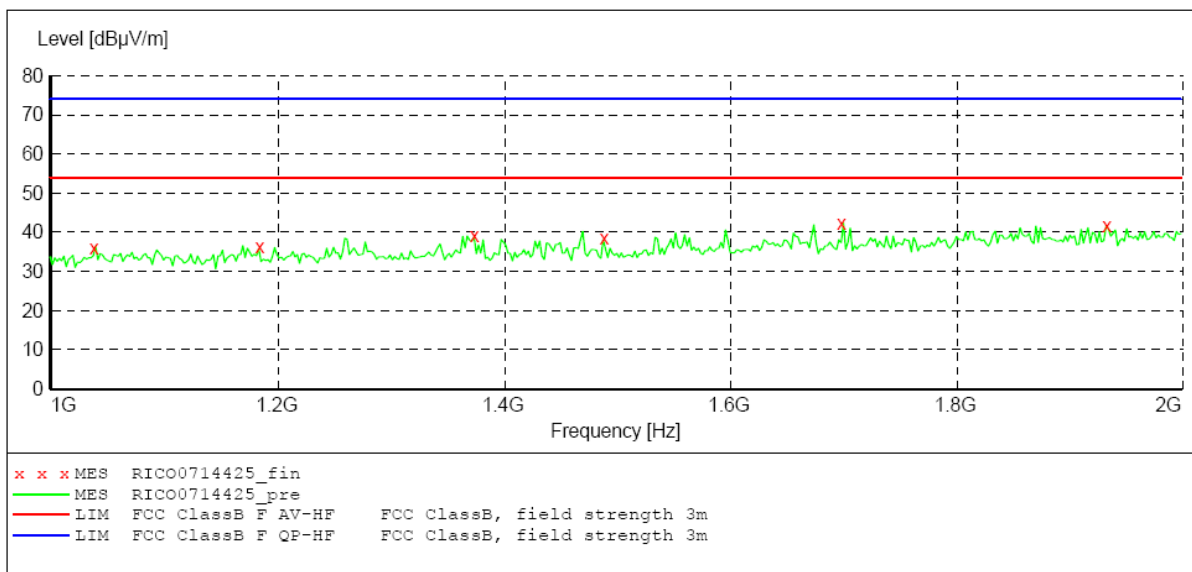
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 2:34:33PM

SCAN TABLE: "test Field(1G-18G)AV"

Short Description:		Field Strength(30M-1G)					Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
Frequency	Frequency	Width					
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011	



MEASUREMENT RESULT: "RICO0714425_fin"

7/14/2013 2:40PM

Frequency	Level	Transd	Limit	Margin	Det.	Height	Azimuth	Polarization
MHz	dBµV/m	dB	dBµV/m	dB		cm	deg	
1043.000000	35.60	-3.7	54.0	18.4	PK	100.0	201.00	VERTICAL
1183.000000	36.20	-3.5	54.0	17.8	PK	100.0	143.00	VERTICAL
1381.500000	39.50	-3.3	54.0	14.5	PK	100.0	254.00	VERTICAL
1492.000000	38.70	-3.2	54.0	15.7	PK	100.0	240.00	VERTICAL
1702.000000	42.30	-1.6	54.0	11.7	PK	100.0	99.00	VERTICAL
1945.500000	41.50	-0.1	54.0	12.5	PK	100.0	287.00	VERTICAL

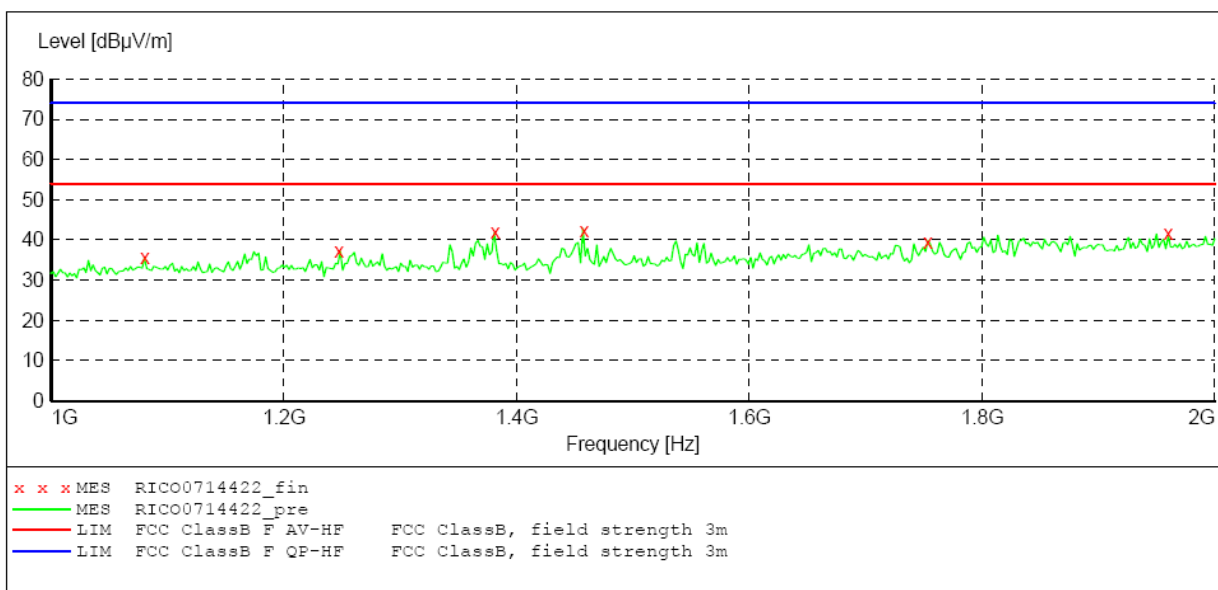
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 2:04:18PM

SCAN TABLE: "test Field(1G-18G)AV"

Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714422_fin"

7/14/2013 2:11PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1080.500000	35.80	-3.6	54.0	18.2	PK	100.0	2.00	VERTICAL
1254.000000	37.40	-3.5	54.0	16.6	PK	100.0	235.00	VERTICAL
1381.500000	40.90	-3.3	54.0	13.1	PK	100.0	260.00	VERTICAL
1451.500000	41.10	-3.2	54.0	12.9	PK	100.0	219.00	VERTICAL
1755.500000	39.10	-1.3	54.0	14.9	PK	100.0	279.00	VERTICAL
1964.500000	41.30	0.0	54.0	12.7	PK	100.0	282.00	VERTICAL

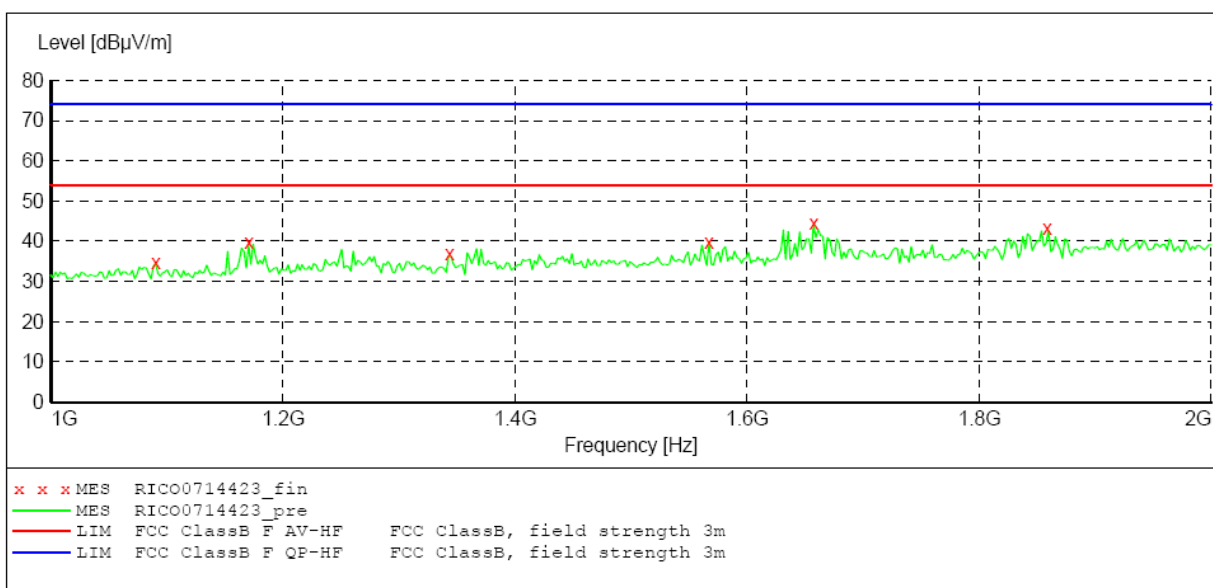
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 2:13:37PM

SCAN TABLE: "test Field(1G-18G)AV"

Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714423_fin"

7/14/2013 2:19PM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1079.500000	34.50	-3.6	54.0	19.5	PK	100.0	117.00	HORIZONTAL
1170.500000	39.80	-3.5	54.0	14.2	PK	100.0	196.00	HORIZONTAL
1343.500000	36.40	-3.3	54.0	17.8	PK	100.0	262.00	HORIZONTAL
1560.500000	39.30	-2.7	54.0	14.7	PK	100.0	202.00	HORIZONTAL
1657.500000	44.20	-2.0	54.0	9.8	PK	100.0	199.00	HORIZONTAL
1867.500000	41.90	-0.6	54.0	12.1	PK	100.0	258.00	HORIZONTAL

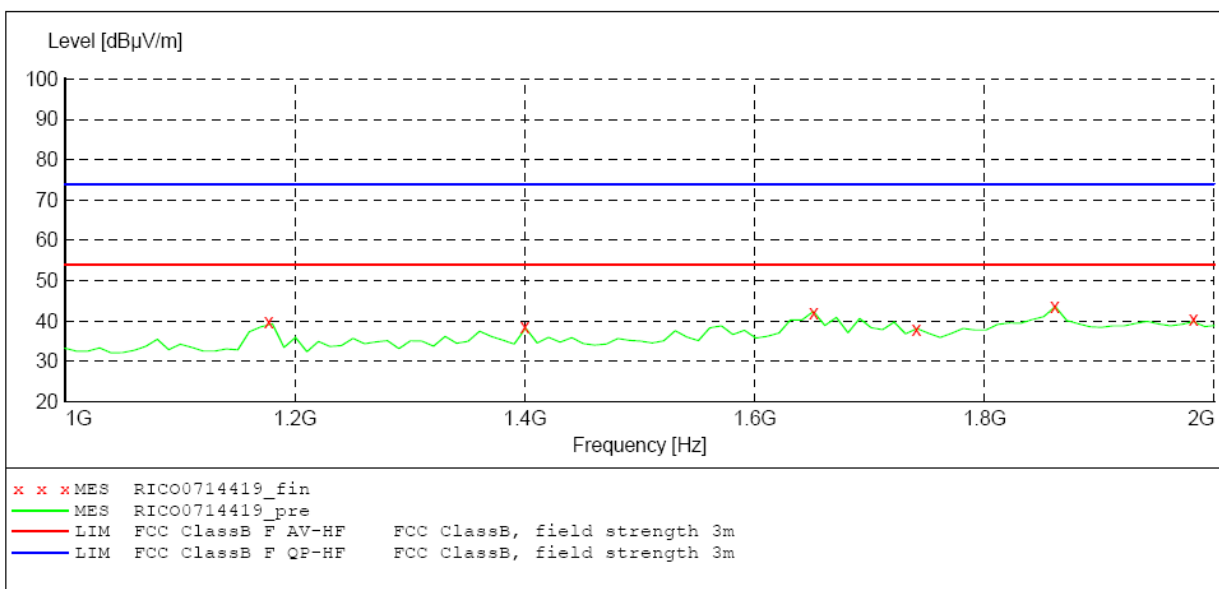
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO., LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: Wifi Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 1:29:23PM

SCAN TABLE: "test Field(1G-18G)AV"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width	Average	1.0 s	1 MHz	HF906 2011
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714419_fin"

8/13/2013 9:55AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1170.500000	39.90	-3.5	54.0	14.1	PK	100.0	195.00	HORIZONTAL
1400.000000	38.60	-3.2	54.0	15.4	PK	100.0	269.00	HORIZONTAL
1631.500000	41.20	-2.2	54.0	12.8	PK	100.0	174.00	HORIZONTAL
1752.000000	38.20	-2.0	54.0	15.8	PK	100.0	58.00	HORIZONTAL
1874.500000	42.80	-0.5	54.0	11.2	PK	100.0	214.00	HORIZONTAL
1984.000000	39.90	-0.3	54.0	14.1	PK	100.0	28.00	HORIZONTAL

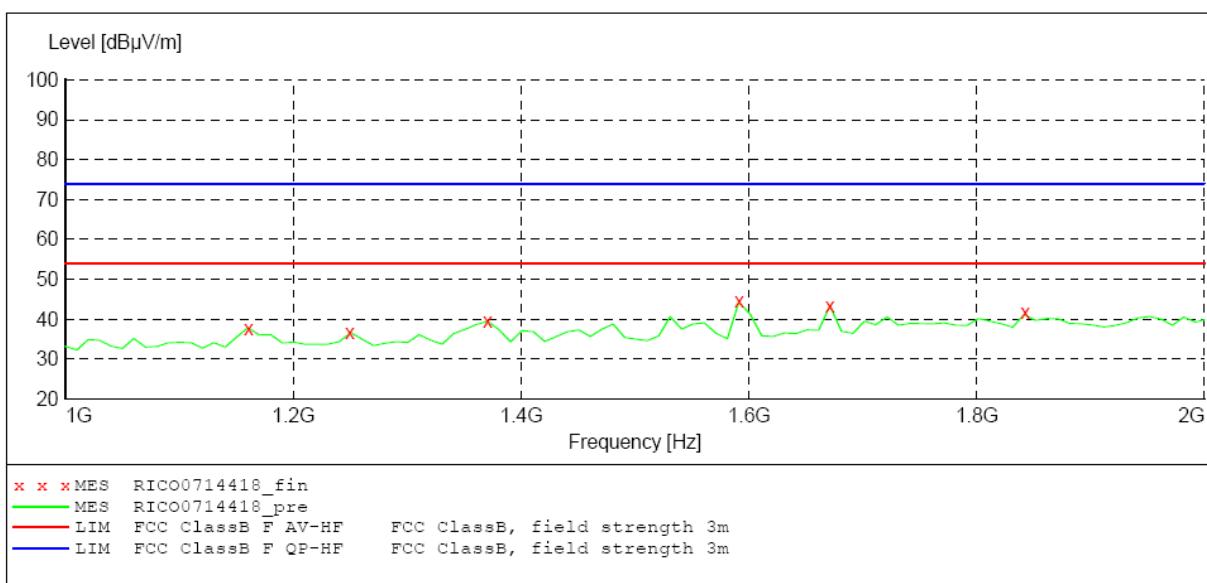
SHENZHEN HUATONGWEI INTERNATIONAL INSPECTION CO.,LTD

RADIATED EMISSION TEST FCC PART 15B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: Wifi Print
 Test Site: 3M CHAMBER
 Operator: Jerome Luo
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 1:16:04PM

SCAN TABLE: "test Field(1G-18G)AV"

Short Description:		Field Strength(30M-1G)				
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
1.0 GHz	18.0 GHz	500.0 kHz	Average	1.0 s	1 MHz	HF906 2011



MEASUREMENT RESULT: "RICO0714418_fin"

8/13/2013 9:52AM

Frequency MHz	Level dBµV/m	Transd dB	Limit dBµV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
1169.500000	38.60	-3.5	54.0	15.4	PK	100.0	72.00	VERTICAL
1249.500000	36.40	-3.2	54.0	17.6	PK	100.0	128.00	VERTICAL
1368.100000	39.30	-2.7	54.0	14.7	PK	100.0	336.00	VERTICAL
1598.000000	43.50	-2.4	54.0	10.5	PK	100.0	308.00	VERTICAL
1689.200000	42.80	-2.2	54.0	11.2	PK	100.0	318.00	VERTICAL
1824.200000	40.60	-1.6	54.0	13.4	PK	100.0	345.00	VERTICAL

4.2. Conducted Disturbance

For test instruments and accessories used see section 3.6.

4.2.1. Description of the test location

Test location: Shielded room No. 3

4.2.2. Limits of disturbance

Limit of Conducted Disturbance at Mains Ports (Class B)

Frequency Range (MHz)	Limits (dBuV)	
	Quasi-Peak	Average
0.150~0.500	66~56	56~46
0.500~5.000	56	46
5.000~30.000	60	50

Note: (1) The tighter limit shall apply at the edge between two frequency bands.

4.2.3. Description of the test set-up

4.2.3.1. Operating Condition

The EUT is set to work that shall be carried out respectively Standby, Print, ADF Copy, Scan, FAX Tx, FAX Rx modes during the test and the results of the maximum emanation are recorded.

4.2.3.2. Test Procedure

EUT is placed on a nonmetal table 0.8 meter above the grounded reference plane. The power line of the EUT is connected to the LISN which is connected to receiver by coaxial line, and then disturbance signals of the neutral line and live line can be detected by the receiver.

4.2.3.3. Photos of the test set-up





4.2.4. Test result

The requirements are **Fulfilled**

Band Width: 9 KHz

Frequency Range: 150 KHz to 30MHz

Remarks: The limits are kept. For detailed results, please see the following page(s).

Margin=limit-level

Level=read value+transducer

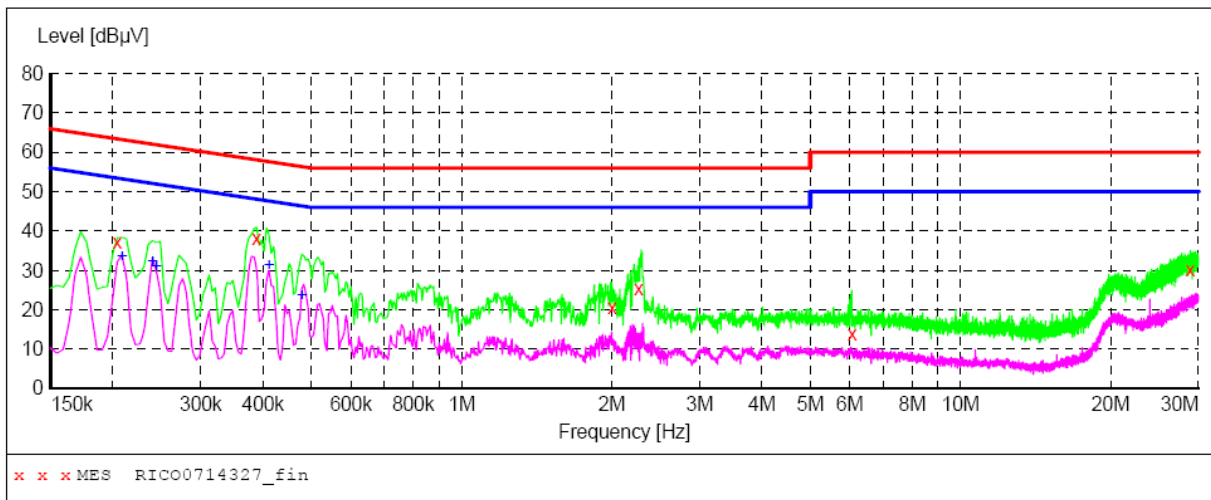
Transducer=insertion loss of LISN+cable loss+insertion loss of pulse limiter

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:32:38PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714327_fin"

7/14/2013 4:35PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.204000	37.30	10.2	63	26.1	QP	N	GND
0.388500	38.20	10.3	58	19.9	QP	N	GND
2.004000	20.70	10.2	56	35.3	QP	N	GND
2.265000	25.50	10.2	56	30.5	QP	N	GND
6.067500	14.00	10.2	60	46.0	QP	N	GND
28.900500	30.30	10.6	60	29.7	QP	N	GND

MEASUREMENT RESULT: "RICO0714327_fin2"

7/14/2013 4:35PM

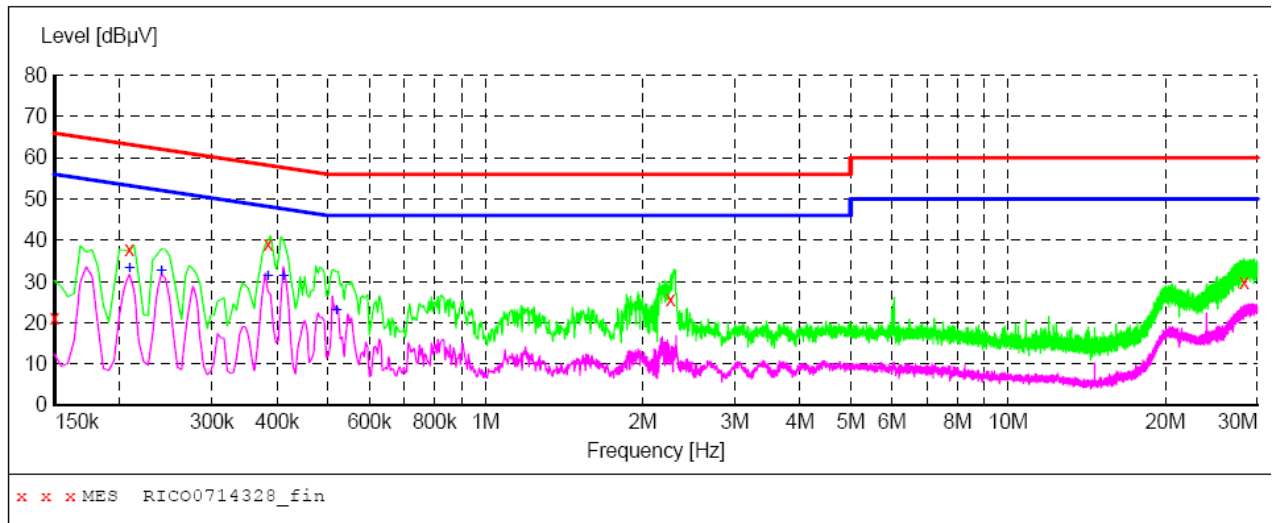
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.208500	33.50	10.2	53	19.8	AV	N	GND
0.240000	32.50	10.2	52	19.6	AV	N	GND
0.244500	31.10	10.2	52	20.8	AV	N	GND
0.411000	31.30	10.4	48	16.3	AV	N	GND
0.478500	23.80	10.4	46	22.6	AV	N	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: STANDBY
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:35:37PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714328_fin"

7/14/2013 4:38PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	21.30	10.2	66	44.7	QP	L1	GND
0.208500	37.70	10.2	63	25.6	QP	L1	GND
0.384000	39.20	10.3	58	19.0	QP	L1	GND
2.260500	25.70	10.2	56	30.3	QP	L1	GND
28.302000	29.80	10.6	60	30.2	QP	L1	GND

MEASUREMENT RESULT: "RICO0714328_fin2"

7/14/2013 4:38PM

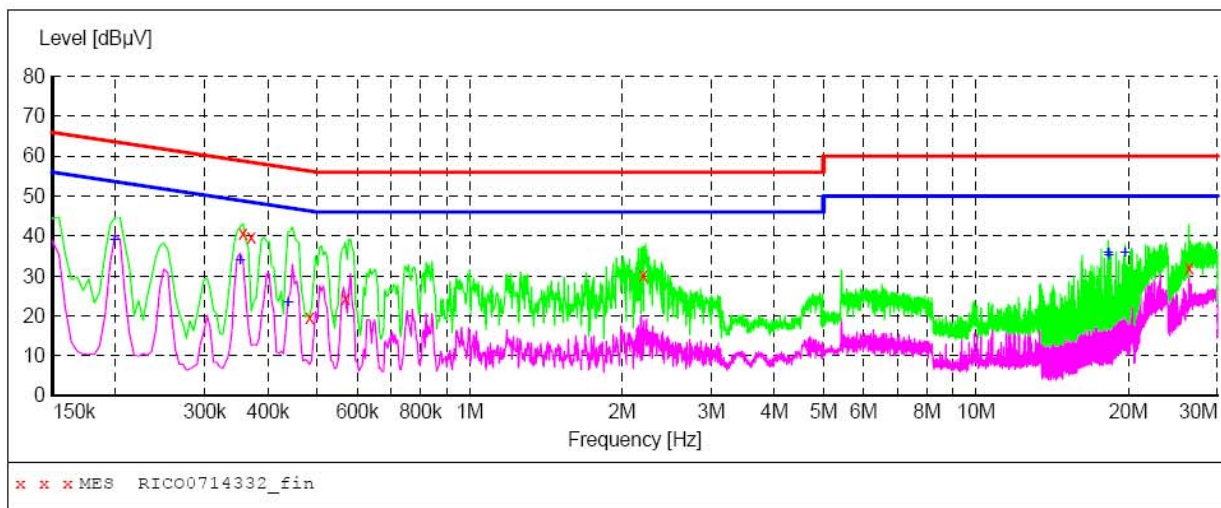
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.208500	33.40	10.2	53	19.9	AV	L1	GND
0.240000	32.60	10.2	52	19.5	AV	L1	GND
0.384000	31.30	10.3	48	16.9	AV	L1	GND
0.411000	31.30	10.4	48	16.3	AV	L1	GND
0.519000	23.10	10.4	46	22.9	AV	L1	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:59:07PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714332_fin"

7/14/2013 5:01PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.357000	40.80	10.3	59	18.0	QP	L1	GND
0.370500	39.70	10.3	59	18.8	QP	L1	GND
0.483000	19.60	10.4	56	36.7	QP	L1	GND
0.568500	24.40	10.3	56	31.6	QP	L1	GND
2.202000	30.30	10.2	56	25.7	QP	L1	GND
26.376000	32.10	10.6	60	27.9	QP	L1	GND

MEASUREMENT RESULT: "RICO0714332_fin2"

7/16/2013 10:35AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.199000	39.00	10.2	54	15.0	AV	L1	GND
0.352500	33.90	10.3	49	15.1	AV	L1	GND
0.438000	23.30	10.4	47	23.8	AV	L1	GND
18.244500	36.00	10.4	50	14.0	AV	L1	GND
18.303000	35.30	10.4	50	14.7	AV	L1	GND
19.707000	35.80	10.4	50	14.2	AV	L1	GND

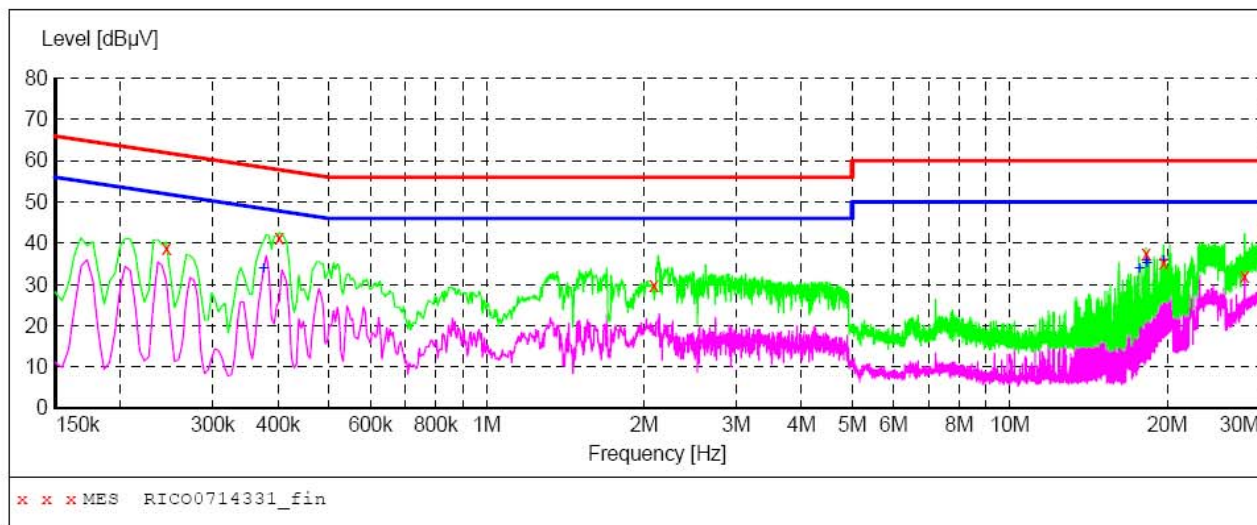
Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: NIC PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:56:19PM

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714331_fin"

7/14/2013 4:58PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.244500	38.90	10.2	62	23.0	QP	N	GND
0.402000	41.40	10.3	58	16.4	QP	N	GND
2.089500	29.70	10.2	56	26.3	QP	N	GND
18.244500	37.40	10.4	60	22.6	QP	N	GND
19.711500	35.30	10.4	60	24.7	QP	N	GND
28.122000	32.20	10.6	60	27.8	QP	N	GND

MEASUREMENT RESULT: "RICO0714331_fin2"

7/14/2013 4:58PM

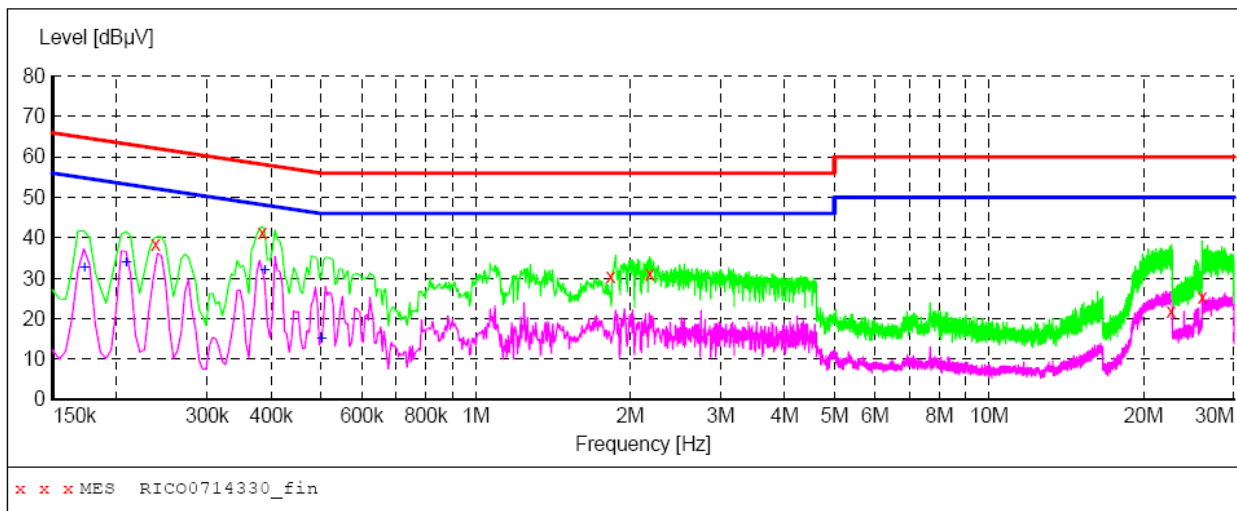
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.375000	34.00	10.3	48	14.4	AV	N	GND
17.695500	33.90	10.4	50	16.1	AV	N	GND
18.244500	35.90	10.4	50	14.1	AV	N	GND
18.303000	35.20	10.4	50	14.8	AV	N	GND
19.707000	35.80	10.4	50	14.2	AV	N	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:47:02PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714330_fin"

7/16/2013 10:32AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.238000	38.50	10.2	62	23.5	QP	N	GND
0.384000	41.30	10.3	58	16.9	QP	N	GND
1.833000	30.60	10.2	56	25.4	QP	N	GND
2.184000	31.00	10.2	56	25.0	QP	N	GND
22.650000	21.70	10.5	60	38.3	QP	N	GND
26.052000	25.20	10.6	60	34.8	QP	N	GND

MEASUREMENT RESULT: "RICO0714330_fin2"

7/16/2013 10:31AM

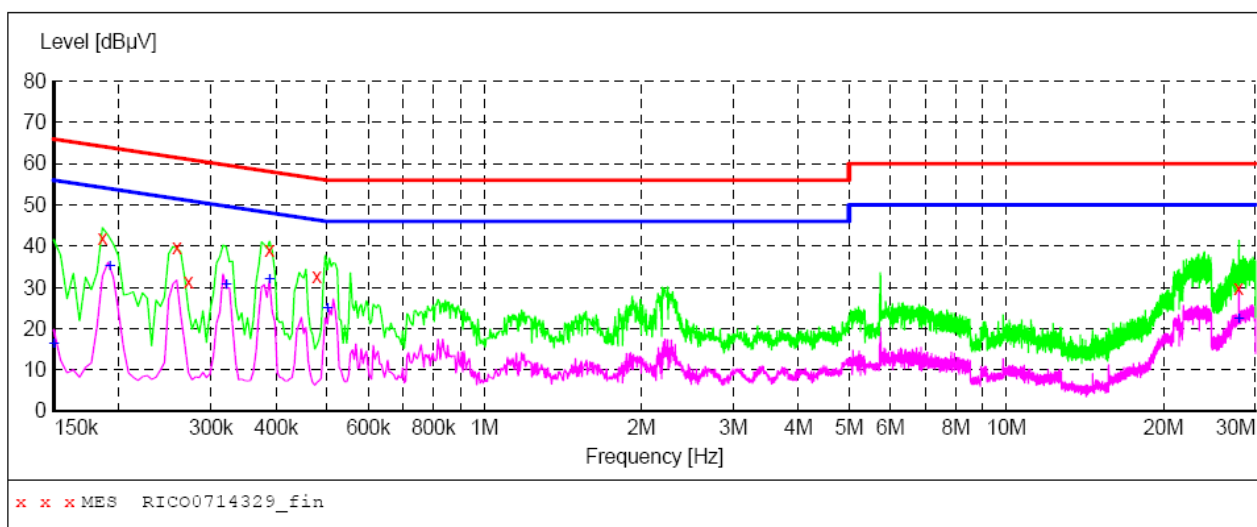
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.173000	32.80	10.2	54	21.2	AV	N	GND
0.208500	34.10	10.2	53	18.9	AV	N	GND
0.388500	32.00	10.3	48	16.1	AV	N	GND
0.501000	15.10	10.4	46	30.9	AV	N	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: USB PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 4:43:03PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714329_fin"

7/16/2013 10:27AM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.186000	41.80	10.2	64	22.2	QP	L1	GND
0.258000	39.70	10.2	62	22.3	QP	L1	GND
0.271500	31.40	10.2	61	29.7	QP	L1	GND
0.388500	39.20	10.3	58	18.9	QP	L1	GND
0.478500	32.80	10.4	56	23.6	QP	L1	GND
27.865500	29.90	10.6	60	30.1	QP	L1	GND

MEASUREMENT RESULT: "RICO0714329_fin2"

7/16/2013 10:28AM

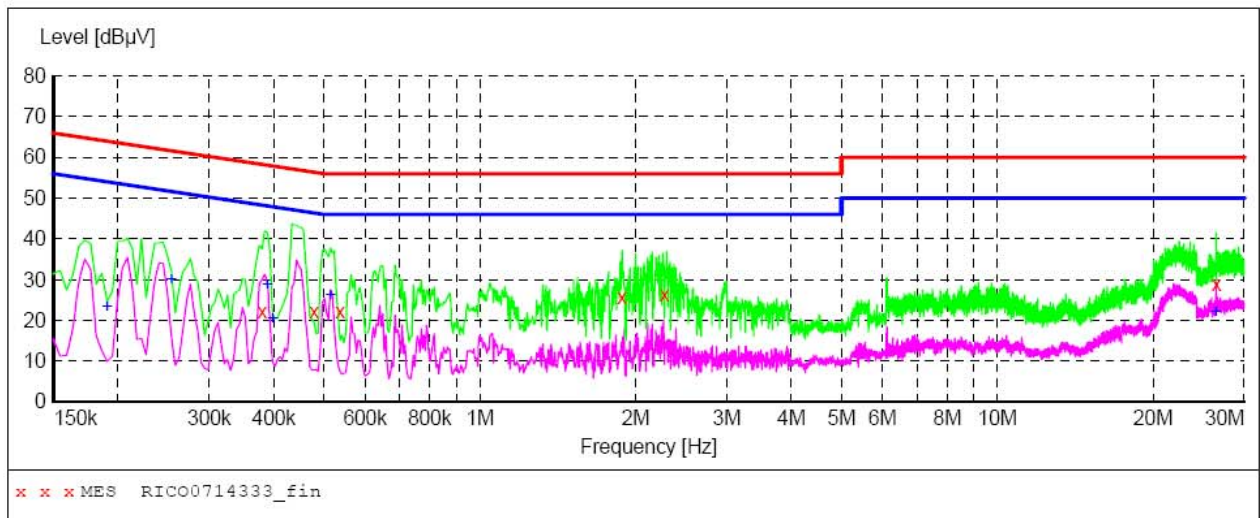
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.150000	16.50	10.2	56	39.5	AV	L1	GND
0.192000	35.10	10.2	53	17.9	AV	L1	GND
0.321000	30.90	10.3	50	18.8	AV	L1	GND
0.388500	32.00	10.3	48	16.1	AV	L1	GND
0.501000	24.90	10.4	46	21.1	AV	L1	GND
27.906000	22.40	10.6	50	27.6	AV	L1	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: WIFI PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 5:20:23PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714333_fin"

7/14/2013 5:21PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.379500	22.00	10.3	58	36.3	QP	L1	GND
0.478500	22.00	10.4	56	34.4	QP	L1	GND
0.537000	22.00	10.3	56	34.0	QP	L1	GND
1.882500	25.60	10.2	56	30.4	QP	L1	GND
2.274000	26.30	10.2	56	29.7	QP	L1	GND
26.502000	28.90	10.6	60	31.1	QP	L1	GND

MEASUREMENT RESULT: "RICO0714333_fin2"

7/14/2013 5:21PM

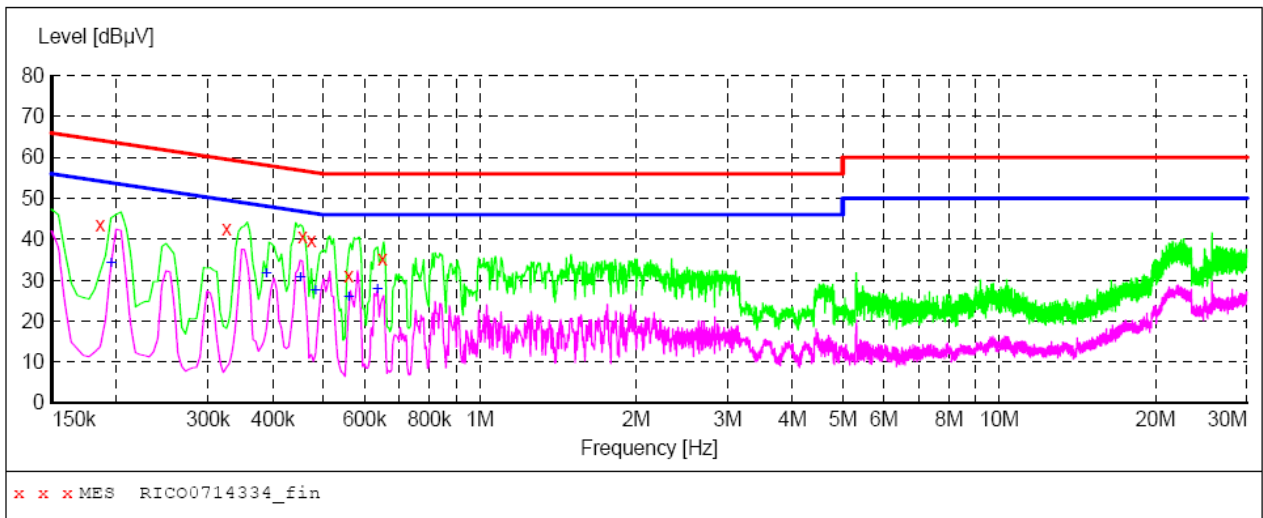
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.190500	23.30	10.2	54	30.7	AV	L1	GND
0.253500	30.20	10.2	52	21.4	AV	L1	GND
0.388500	28.90	10.3	48	19.2	AV	L1	GND
0.397500	20.60	10.3	48	27.3	AV	L1	GND
0.514500	26.20	10.4	46	19.8	AV	L1	GND
26.475000	22.10	10.6	50	27.9	AV	L1	GND

Shenzhen Huatongwei International Inspection CO.,Ltd

Voltage Mains Test FCC PART 15 B

EUT: SP 201Nw
 Manufacturer: RICOH
 Operating Condition: WIFI PRINT
 Test Site: 3# SHIELDED ROOM
 Operator: MINGHUA.FAN
 Test Specification: AC 120V/60Hz
 Comment:
 Start of Test: 7/14/2013 / 5:22:29PM

SCAN TABLE: "Voltage (9K-30M)FIN"
 Short Description: 150K-30M Voltage



MEASUREMENT RESULT: "RICO0714334_fin"

7/14/2013 5:31PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.186000	43.70	10.2	64	20.5	QP	N	GND
0.325500	42.50	10.3	60	17.1	QP	N	GND
0.456000	40.60	10.4	57	16.2	QP	N	GND
0.474000	39.80	10.4	56	16.6	QP	N	GND
0.559500	31.20	10.3	56	24.8	QP	N	GND
0.649500	35.10	10.2	56	20.9	QP	N	GND

MEASUREMENT RESULT: "RICO0714334_fin2"

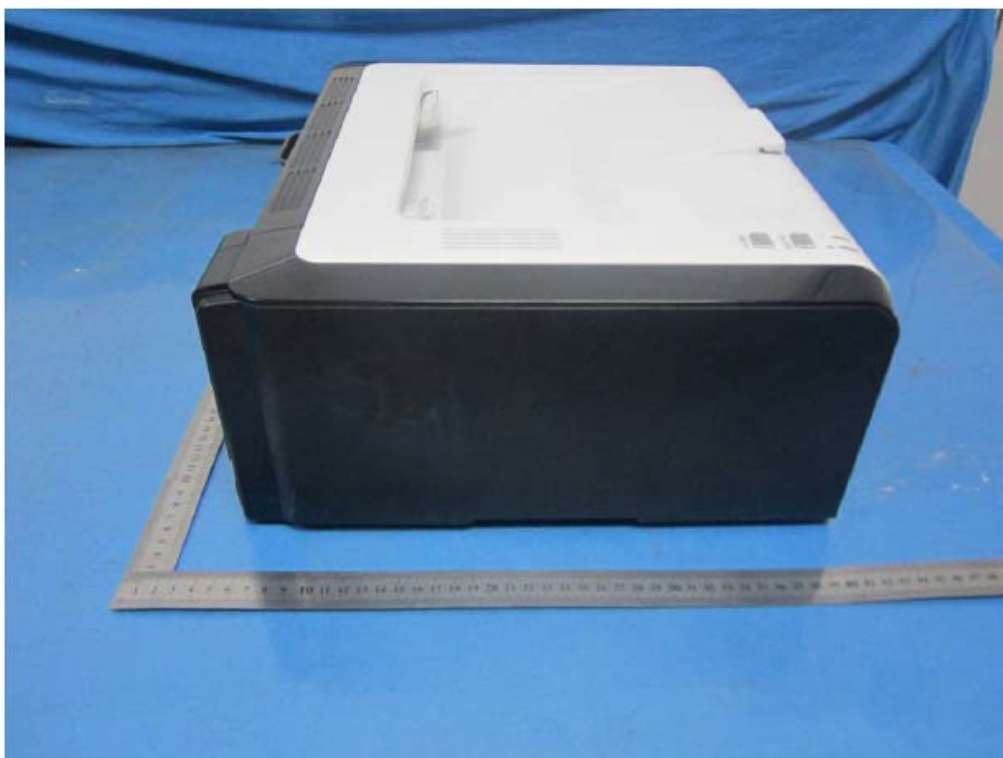
7/14/2013 5:33PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.195000	34.40	10.2	54	19.4	AV	N	GND
0.388500	31.70	10.3	48	16.4	AV	N	GND
0.451500	30.70	10.4	47	16.1	AV	N	GND
0.483000	27.60	10.4	46	18.7	AV	N	GND
0.559500	26.00	10.3	46	20.0	AV	N	GND
0.635500	27.80	10.3	46	18.2	AV	N	GND

5. External and Internal Photos of the EUT

5.1. External photos of the EUT



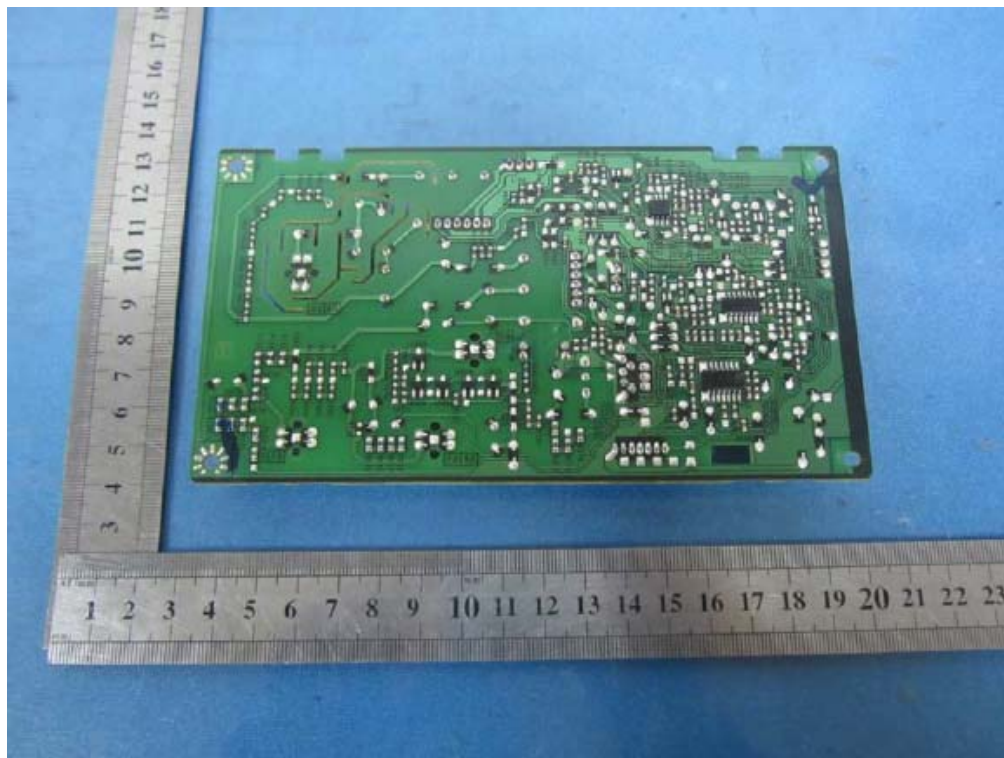
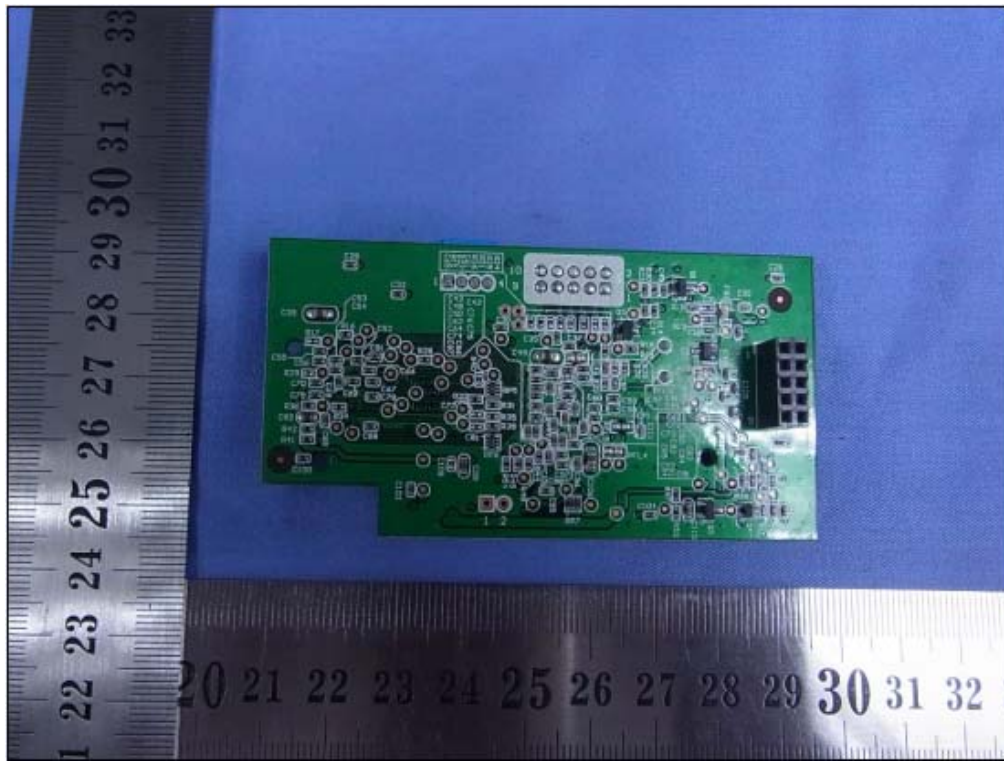


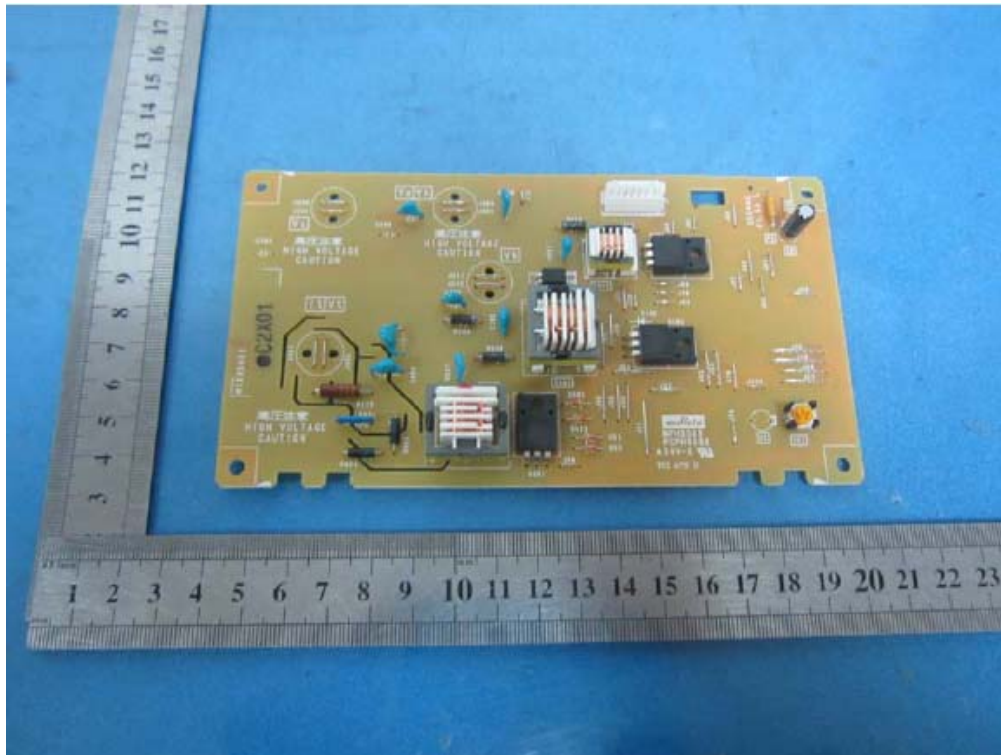
5.2. Internal photos of the EUT

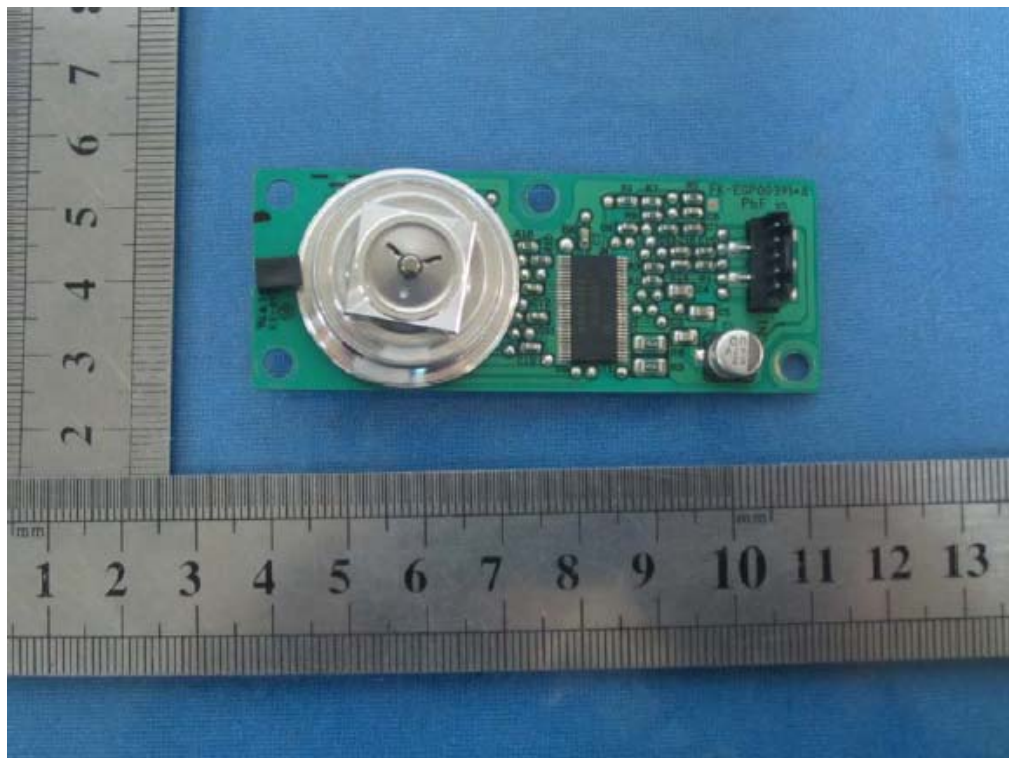
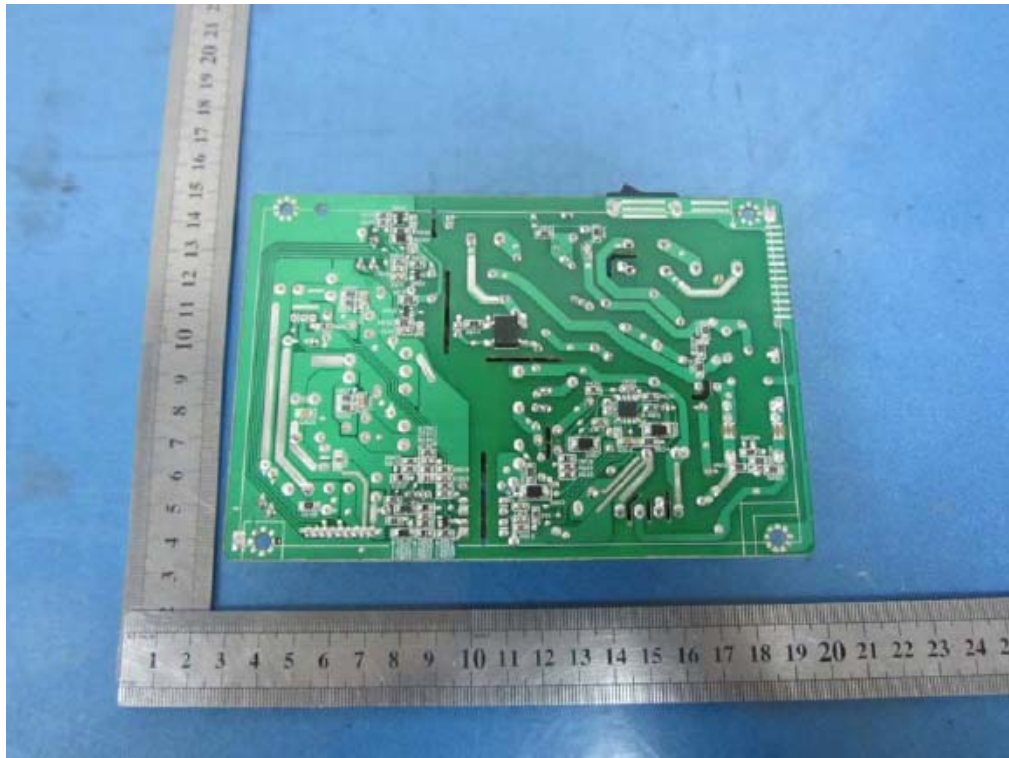


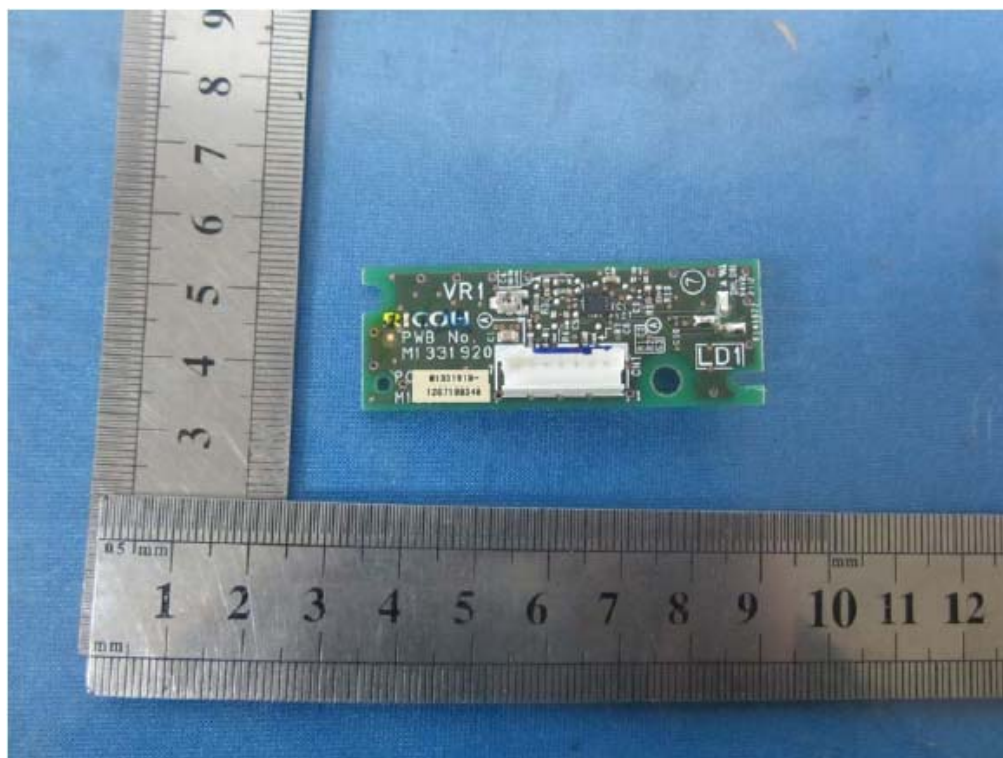
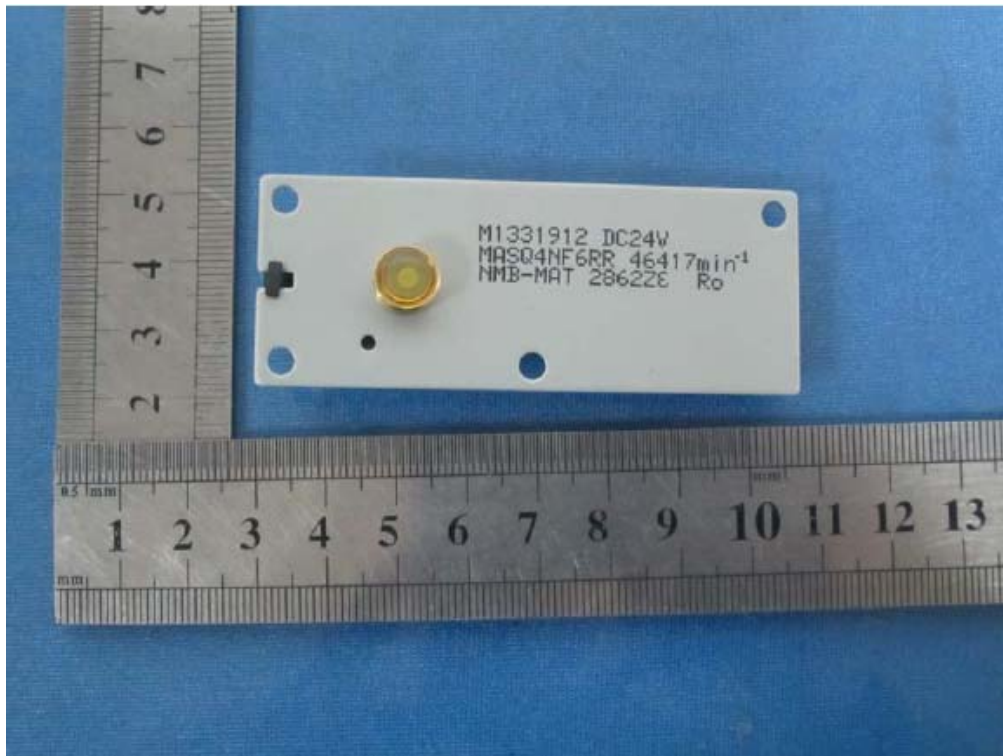


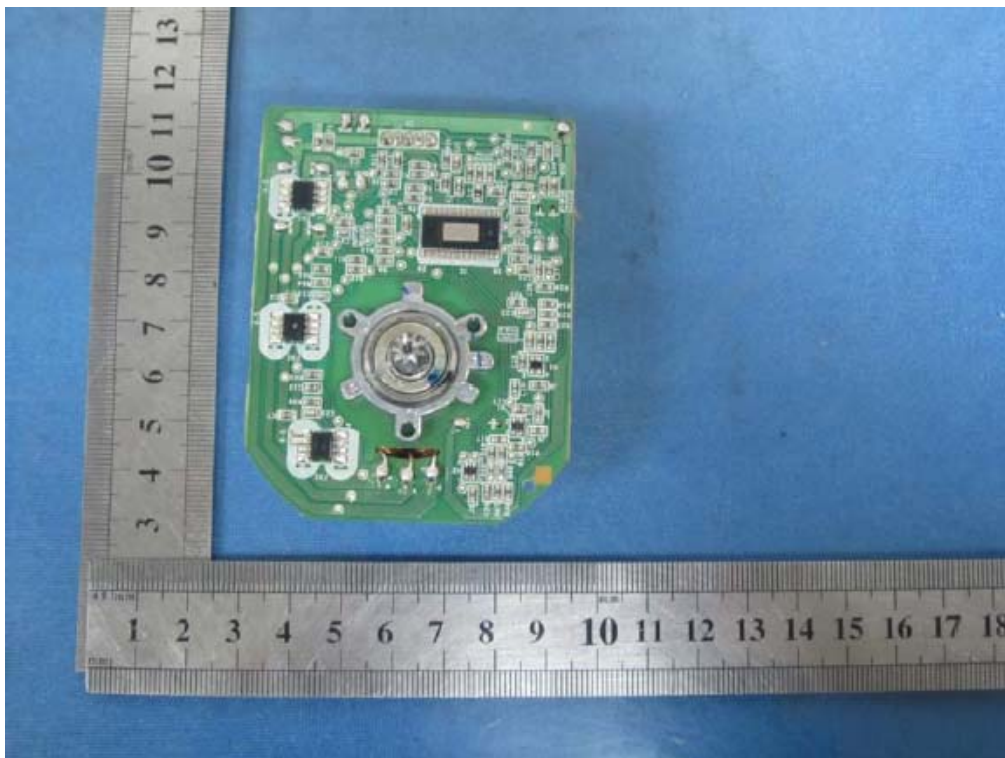
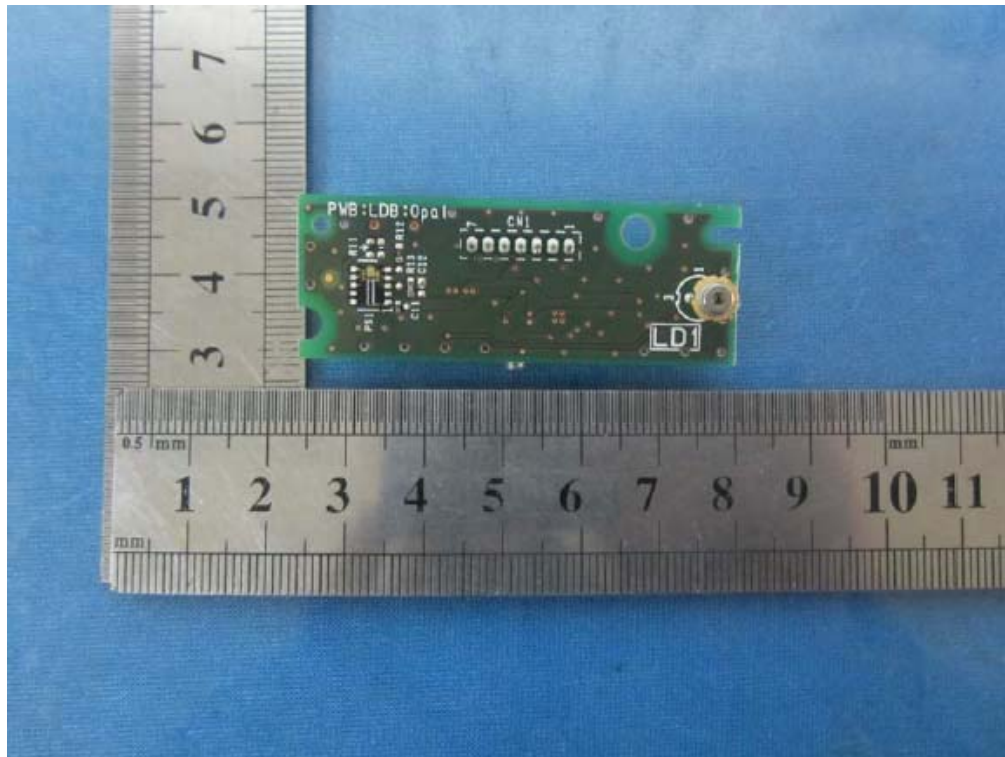




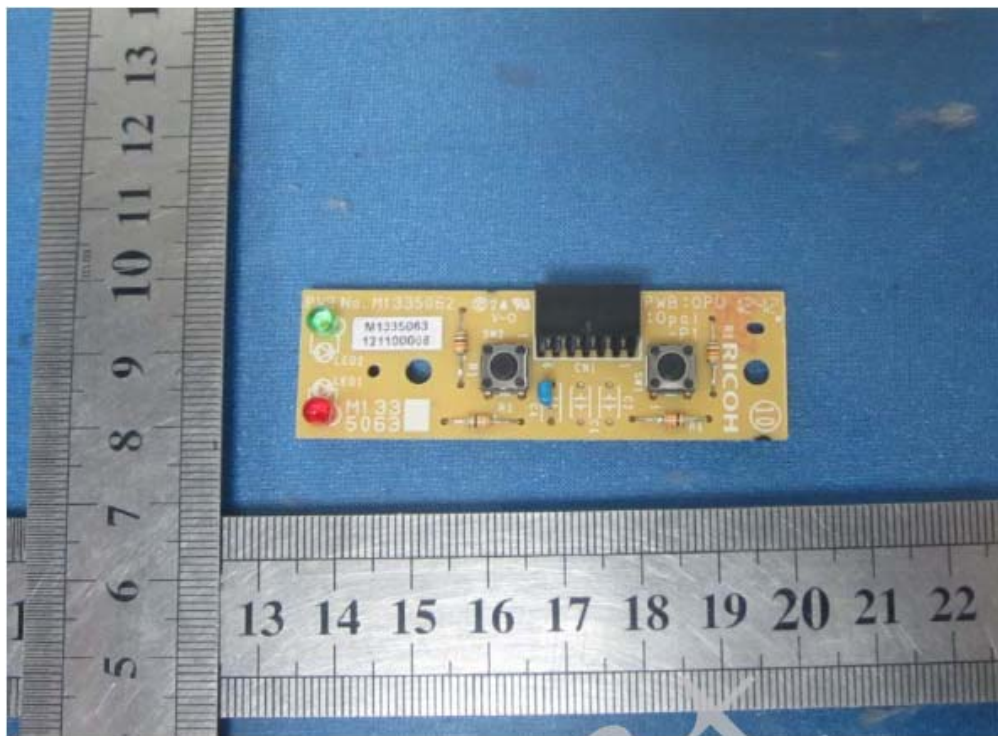




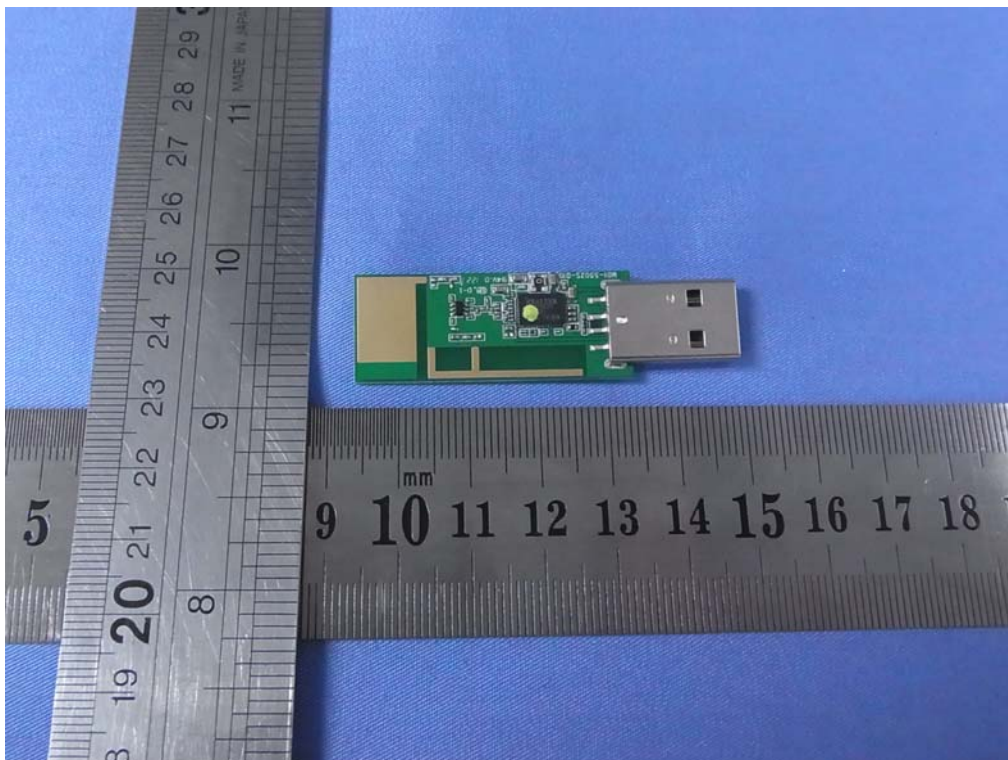
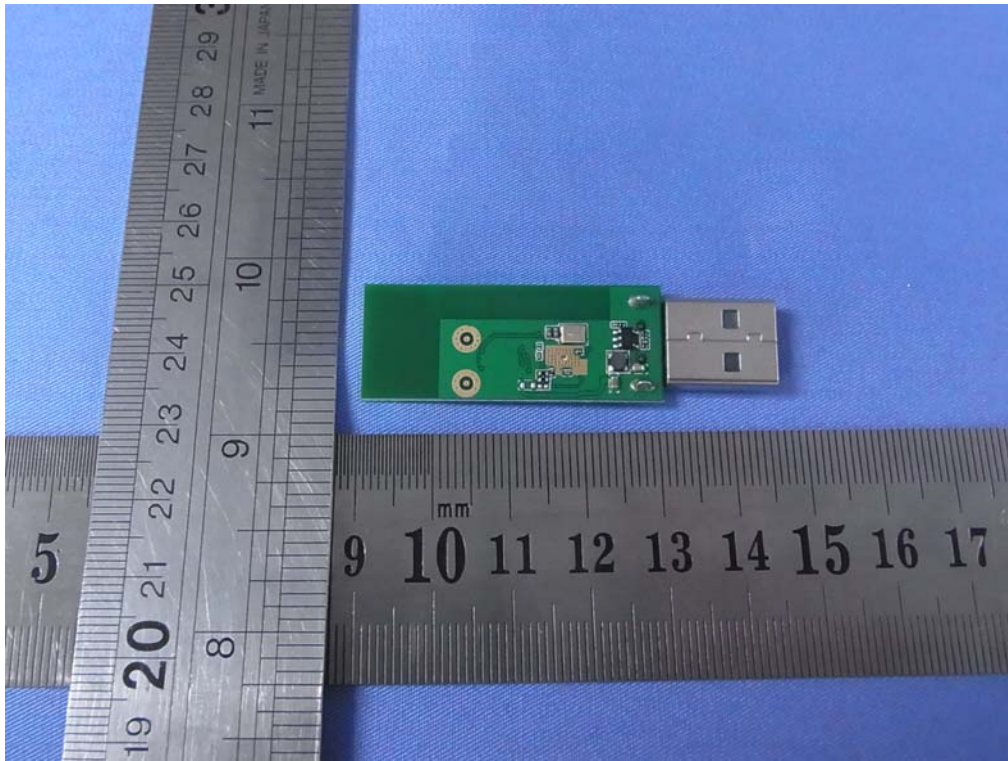












.....End of Report.....