FCC EMC TEST REPORT

Authorized under **D**eclaration **o**f **C**onformity

according to

47 CFR FCC Rules and Regulations Part 15 Subpart B, Class B Digital Device

Equipment: ADSL2/2+ Router

Model No. : Vigor 2710e, Vigor 2711ue, Vigor 2712e,

Vigor 2712ue, Vigor 122

Filing Type: Declaration of Conformity

Applicant : DrayTek Corp.

No. 26, Fushing Rd., Hukou, Hsinchu Industrial Park,

Hsinchu, 303, Taiwan

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SPORTON International Inc.

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-327-3456 FAX: 886-3-327-0973

Report No.: FD642105

Table of Contents

VERIFICATION OF COMPLIANCE	′
1. General Description of Equipment under Test	
1.1. Applicant	
1.2. Manufacturer	
1.3. Basic Description of Equipment under Test	
1.4. Feature of Equipment under Test	
1.5. Modification of EUT	
2. Test Configuration of Equipment under Test	
2.1. Test Manner	
2.2. Description of Test System	4
2.3. Connection Diagram of Test System for Radiated Emission	
3. Test Software	6
4. General Information of Test	-
4.1. Test Facility	
4.2. Uncertainty of Test Site	
4.3. Test Voltage	
4.4. Standard for Methods of Measurement	-
4.5. Test in Compliance with	
4.6. Frequency Range Investigated	
5. Conducted Emissions Measurement	8
5.1. Test Procedures	8
5.2. Typical Test Setup Layout of AC Powerline Conducted Emissions	
5.3. Test Result of AC Powerline Conducted Emission	10
6. Radiated Emission Measurement	12
6.1. Test Procedures	12
6.2. Test Result of Radiated Emission for Below 1GHz	1
6.3. Test Result of Radiated Emission for Above 1GHz	17
7. List of Measuring Equipment Used	19
Appendix A. Test Photos	
Appendix B. Photographs of EUT	

TEL: 886-3-327-3456 FAX: 886-3-327-0973 Issued Date : Oct. 14, 2016

Report No. : FD642105

Report Version : 01

History of this test report

Report No. : FD642105

Report No.	Version	Description	Issued Date
FD642105	Rev. 01	Initial issue of report	Oct. 14, 2016

SPORTON International Inc. Page Number : ii

TEL: 886-3-327-3456 Issued Date : Oct. 14, 2016 FAX: 886-3-327-0973

Report Version : 01

Verification No.: FD642105

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VERIFICATION OF COMPLIANCE

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according to

47 CFR FCC Rules and Regulations Part 15 Subpart B, Class B Digital Device

Equipment : ADSL2/2+ Router

Model No. : Vigor 2710e, Vigor 2711ue, Vigor 2712e,

Vigor 2712ue, Vigor 122

Applicant : DrayTek Corp.

No. 26, Fushing Rd., Hukou, Hsinchu Industrial Park,

Hsinchu, 303, Taiwan

I HEREBY CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in ANSI C63.4 - 2014 and the energy emitted by this equipment were passed CISPR PUB. 22 and FCC Part 15 Subpart B in both radiated and conducted emission Class B limits.

The product sample received on Apr. 29, 2016 and completely tested on <u>Oct. 03, 2016</u> at SPORTON International Inc. LAB.

William Li / Supervisor





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SPORTON International Inc.

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

SPORTON International Inc. Page Number : 1 of 20

TEL: 886-3-327-3456 Issued Date : Oct. 14, 2016

1. General Description of Equipment under Test

1.1. Applicant

DrayTek Corp.

No. 26, Fushing Rd., Hukou, Hsinchu Industrial Park, Hsinchu, 303, Taiwan

1.2. Manufacturer

Same as 1.1

1.3. Basic Description of Equipment under Test

Equipment : ADSL2/2+ Router

Model No. : Vigor 2710e, Vigor 2711ue, Vigor 2712e, Vigor 2712ue, Vigor 122

Report No.: FD642105

Trade Name : DrayTek

RJ45 (Floating) Cable *3 : Non-Shielded, 1 m

Power Supply Type : From Adapter (Switching)

AC Power Cord : Wall-Mount, 2 pin
DC Power Cable : Non-Shielded, 1.5 m

The maximum operating frequency: 133 MHz

1.4. Feature of Equipment under Test

Accessories	Spec.					
AC Adapter	Brand: AC Adapter / 2ABB012F US Input: 100-240Vac, 50-60Hz, 0.35A Output: 12Vdc, 1.0A					

1.5. Modification of EUT

Model No.	4port LAN 10/100TX (4xRJ45)	Single LAN 10/100TX (1xRJ45)	WAN ADSL	12VDC 1A
Vigor 2710e	V		V	V
Vigor 2711ue	V		٧	V
Vigor 2712e		V	٧	V
Vigor 2712ue		V	V	V
Vigor 122		V	V	V

 SPORTON International Inc.
 Page Number
 : 2 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. The EUT has been associated with supporting units and peripherals pursuant to ANSI C63.4-2014 and configuration operated in a manner which tended to maximize its emission characteristics in a typical application.

Report No.: FD642105

b. The equipment under test were performed the following test modes:

Test Items	Description of test modes						
	Mode 1. Vigor 2710e, Upright: LAN100M						
AC Conducted	Mode 2. Vigor 2710e, Lying: LAN10M						
Emission	Mode 3. Vigor 122, Upright: LAN100M						
	cause "mode 1" generated the worst test result; it was reported as final data.						
Radiated	Mode 1. Vigor 2710e, Upright: LAN100M						
Emissions	Mode 2. Vigor 2710e, Lying: LAN10M						
< below 1GHz >	Mode 3. Vigor 122, Upright: LAN100M						
< below 1GHz >	cause "mode 1" generated the worst test result; it was reported as final data.						
Radiated	Mode 1. Vigor 2710e, Upright: LAN100M						
Emissions	Mode 2. Vigor 2710e, Lying: LAN10M						
< above 1GHz >	cause "mode 1" generated the worst test result; it was reported as final data.						

a. Frequency range investigated: Conduction 150 kHz to 30 MHz, Radiation 30 MHz to 2,000 MHz.

 SPORTON International Inc.
 Page Number
 : 3 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

2.2. Description of Test System

< Conduction and Radiation for Below 1GHz >

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description
For L	ocal				
1	PC	Lenovo	C61	DoC	RJ45 Cable, Non-Shielded, 1.0m
2	LCD Monitor"19"	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
3	Keyboard	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
4	Mouse	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m
5	Printer (DJ400)	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
For F	Remote				
-	PC	Lenovo	C61	DoC	RJ45 Cable, Non-Shielded, 20m
-	LCD Monitor"19"	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
-	Keyboard	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
-	Mouse	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m

Report No.: FD642105

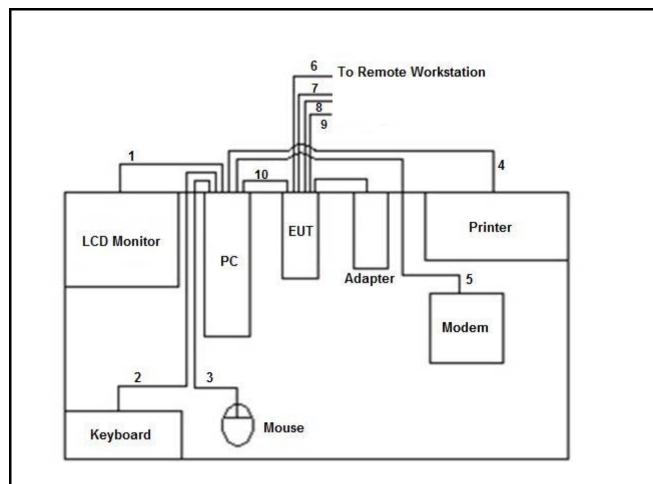
< Radiation for Above 1GHz >

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description
For L	ocal				
1	PC	HP	Z230	DoC	RJ45 Cable, Non-Shielded, 1.0m
2	LCD Monitor"24"	DELL	2408WFPB	DoC	D-SUB Cable, D-Shielded, 1.8m
3	Keyboard	DELL	SK-8175	DoC	USB Cable, AL-F-Shielded, 1.8m
4	Mouse	DELL	MOC5UO	DoC	USB Cable, AL-F-Shielded, 1.8m
5	Printer (DJ400)	HP	C2642A	B94C2642X	LPT Cable, D-Shielded, 1.2m
6	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m
For F	Remote				
-	PC	Lenovo	C61	DoC	RJ45 Cable, Non-Shielded, 20m
-	LCD Monitor"19"	DELL	E198WFPF	DoC	D-SUB Cable, D-Shielded, 1.8m
-	Keyboard	Lenovo	KU-0225	DoC	USB Cable, AL-F-Shielded, 1.8m
-	Mouse	Lenovo	M-U0025-O	DoC	USB Cable, AL-F-Shielded, 1.8m

 SPORTON International Inc.
 Page Number
 : 4 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

2.3. Connection Diagram of Test System for Radiated Emission



Report No. : FD642105

- 1. The D-SUB cable is connected from the support unit 2 to the support unit 1.
- 2. The USB cable is connected from the support unit 3 to the support unit 1.
- 3. The USB cable is connected from the support unit 4 to the support unit 1.
- 4. The LPT cable is connected from the support unit 5 to the support unit 1.
- 5. The RS-232 cable is connected from the support unit 6 to the support unit 1.
- 6. The RJ45 cable is connected from EUT to remote workstation.
- 7-9. Engineering setup connection.
- 10. The RJ45 cable is connected from EUT to the support unit 1.

 SPORTON International Inc.
 Page Number
 : 5 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

3. Test Software

An executive programs, "BurnInTest.exe" under WIN 7, which generates a complete line of continuously repeating "H" pattern was used as the test software.

Report No.: FD642105

The programs were executed as follows:

- a. Turn on the power of all equipment.
- b. The PC reads the test program from the hard disk drive and runs it.
- c. The PC sends "H" pattern to the monitor, and the monitor displays "H" patterns on the screen.
- d. The PC sends "H" messages to the printer, and then the printer prints them on the paper.
- e. The PC sends signal messages to the modem.
- f. Repeat the steps from c to e.

During the test, the program was executed:

- Executed "PING.exe" to link with the remote workstation to maintain the connection via RJ45 cable by EUT.

SPORTON International Inc.Page Number: 6 of 20TEL: 886-3-327-3456Issued Date: Oct. 14, 2016

4. General Information of Test

4.1. Test Facility

Test Site: SPORTON INTERNATIONAL INC.

Test Site Location : No. 3, Ln. 238, Kangle St., Neihu Dist., Taipei City, Taiwan (R.O.C.)

Report No.: FD642105

TEL: 886-2-2631-5551 FAX: 886-2-2631-9740

Test Site No. : CO01-NH, OS01-NH

Test Site Location : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-327-3456 FAX: 886-3-327-0973

Test Site No. : 03CH04-HY

4.2. Uncertainty of Test Site

Test Items	Test Site No.	Uncertainty	Remark
Conducted Emissions	CO01-NH	± 2.6dB	Confidence levels of 95%
Radiated Emissions below 1GHz	OS01-NH	± 2.8dB	Confidence levels of 95%
Radiated Emissions above 1GHz	03CH04-HY	± 4.7dB	Confidence levels of 95%

4.3. Test Voltage

AC 120V / 60Hz

4.4. Standard for Methods of Measurement

ANSI C63.4-2014

The test configuration, test modes and test software used in this test report are designated by the applicant.

4.5. Test in Compliance with

CISPR PUB. 22 and FCC Part 15 Subpart B

4.6. Frequency Range Investigated

- a. Conducted emission test: from 150 kHz to 30 MHz
- b. Radiated emission test: from 30 MHz to 2,000 MHz
 - The test distance of radiated emission test from antenna to EUT is 10 M (from 30MHz~1GHz).
 - The test distance of radiated emission test from antenna to EUT is 3 M (from 1GHz~2GHz).

 SPORTON International Inc.
 Page Number
 : 7 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

5. Conducted Emissions Measurement

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in ANSI C63.4 Section 7. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meter above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

Report No.: FD642105

5.1. Test Procedures

- a. The EUT was warmed up for 15 minutes before testing started.
- b. The EUT was placed on a desk 0.8 meter height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meter from any other grounded conducting surface.
- c. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- d. Connect Telecommunication port to ISN (Impedance Stabilization Network).
- e. All the support units are connect to the other LISN.
- f. The LISN provides 50 ohm, coupling impedance for the measuring instrument.
- g. The CISPR states that a 50 ohm, 50 microhenry LISN should be used.
- h. Both sides of AC line were checked for maximum conducted interference.
- i. The frequency range from 150 kHz to 30 MHz was searched.
- j. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

 SPORTON International Inc.
 Page Number
 : 8 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

5.2. Typical Test Setup Layout of AC Powerline Conducted Emissions

- a. AMN is 80 cm from the EUT and at least 80 cm from other units and other metal planes.
- b. EUT is connected to one artificial mains network (AMN).
- c. All other units of a system are powered from a second AMN. A multiple outlet strip can be used for multiple mains cords.

Report No.: FD642105

- d. Rear of EUT to be flushed with rear of table top.
- e. Peripherals shall be placed at a distance of 10 cm from each other and from the controller, except for the monitor which, if this is an acceptable installation practice, shall be placed directly on the top of the controller.
- f. If cables, which hang closer than 40 cm to the horizontal metal ground plane, cannot be shortened to appropriate length, the excess shall be folded back and forth forming a bundle 30 cm to 40 cm long.
- g. Mains cords and signal cables shall be positioned for their entire lengths, as far as possible, at 40 cm from the vertical reference plane.
- h. Cables of hand operated devices, such as keyboards, mice, etc. shall be placed as for normal usage.

 SPORTON International Inc.
 Page Number
 : 9 of 20

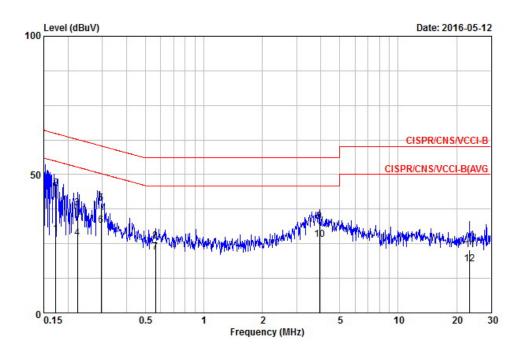
 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

5.3. Test Result of AC Powerline Conducted Emission

Test Mode	Mode 1	Test Site No.	CO01-NH					
Test Frequency	0.15 MHz ~ 30 MHz	Test Engineer	Willy					
Temperature	25 ℃	Relative Humidity	55 %					
Note: 1. Corrected I	Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level							
2. All emissions not reported here are more than 10 dB below the prescribed limit.								
■ The test was passed at the minimum margin that marked by the frame in the following data								

Report No.: FD642105

Line



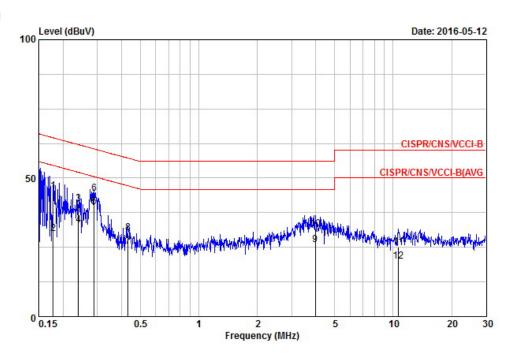
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.173	28.62	-26.20	54.81	18.46	10.06	0.10	AVERAGE
2	0.173	44.95	-19.87	64.81	34.79	10.06	0.10	QP
3	0.223	37.81	-24.89	62.70	27.66	10.05	0.10	QP
4	0.223	27.15	-25.55	52.70	17.00	10.05	0.10	AVERAGE
5	0.296	39.47	-20.90	60.37	29.33	10.04	0.10	QP
6	0.296	31.70	-18.67	50.37	21.56	10.04	0.10	AVERAGE
7	0.564	21.80	-24.20	46.00	11.65	10.05	0.10	AVERAGE
8	0.564	26.01	-29.99	56.00	15.86	10.05	0.10	QP
9	3.943	33.08	-22.92	56.00	22.77	10.11	0.20	QP
10	3.943	26.62	-19.38	46.00	16.31	10.11	0.20	AVERAGE
11	23.387	22.75	-37.25	60.00	11.93	10.52	0.30	QP
12	23 387	17 71	-32 29	50 00	6 89	10 52	0.30	AVERAGE

 SPORTON International Inc.
 Page Number
 : 10 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

Report No.: FD642105

Neutral



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.178	45.24	-19.35	64.59	34.66	10.48	0.10	QP
2	0.178	29.85	-24.74	54.59	19.27	10.48	0.10	AVERAGE
3	0.240	40.84	-21.25	62.08	30.26	10.48	0.10	QP
4	0.240	33.19	-18.90	52.08	22.61	10.48	0.10	AVERAGE
5 @	0.289	39.52	-11.02	50.54	28.94	10.48	0.10	AVERAGE
6	0.289	44.45	-16.09	60.54	33.87	10.48	0.10	QP
7	0.433	25.40	-21.80	47.20	14.82	10.48	0.10	AVERAGE
8	0.433	30.12	-27.08	57.20	19.54	10.48	0.10	QP
9	3.985	25.84	-20.16	46.00	15.11	10.53	0.20	AVERAGE
10	3.985	31.71	-24.29	56.00	20.98	10.53	0.20	QP
11	10.676	25.04	-34.96	60.00	14.15	10.67	0.22	QP
12	10.676	20.08	-29.92	50.00	9.19	10.67	0.22	AVERAGE

 SPORTON International Inc.
 Page Number
 : 11 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

6. Radiated Emission Measurement

Radiated emissions from 30 MHz to 2,000 MHz were measured with a bandwidth of 120 kHz for 30 MHz to 1000 MHz and 1 MHz for above 1GHz according to the methods defines in ANSI C63.4 Section 8. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

Report No.: FD642105

6.1. Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set at 3m(above 1GHz) and 10m(below 1GHz) from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. The FCC Part 15.109 (g) permit parties seeking to authorize a digital device to choose to demonstrate that the device complies with either the Part 15 standards or the international standards found in Publication 22 of the International Special Committee on Radio Interference (CISPR)
- i. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

 SPORTON International Inc.
 Page Number
 : 12 of 20

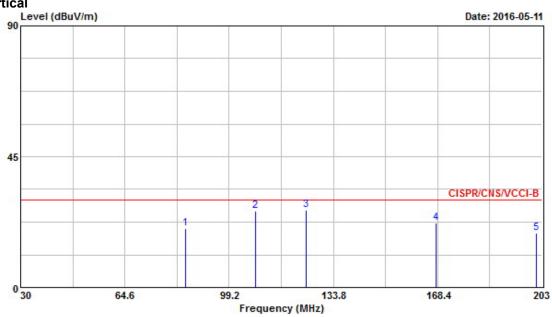
 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

6.2. Test Result of Radiated Emission for Below 1GHz

Test mode	Mode 1	Test Site No.	OS01-NH				
Test frequency	30 MHz ~ 1000 MHz	Test Engineer	Louis				
Temperature	25 ℃	Relative Humidity	56 %				
Note: 1. Emission le	evel $(dB\mu V/m) = 20 \log Emission level (dB \mu V/m)$	vel (μV/m)					
2. Corrected F	Reading: Antenna Factor + Attenua	tor + Cable Loss + Re	ad Level – Preamp Factor				
= Level							
■ The test was passed at the minimum margin that marked by the frame in the following data							

Report No.: FD642105

Vertical

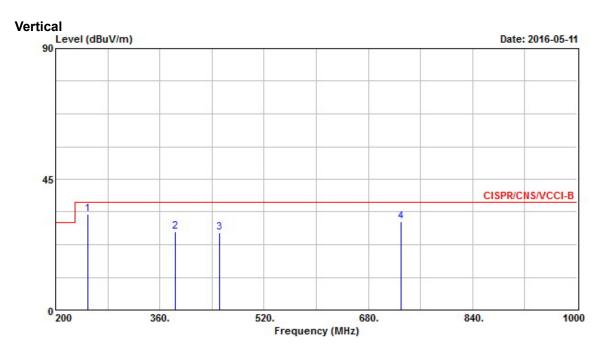


						Antenna		-			Table
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		Cm	deg
1	84.670	20.24	-9.76	30.00	33.48	12.60	1.41	27.25	Peak		
2	108.020	26.28	-3.72	30.00	35.11	16.79	1.58	27.20	QP		
3 @	124.800	26.53	-3.47	30.00	34.70	17.25	1.72	27.14	Peak	100	185
4	167.880	22.28	-7.72	30.00	32.36	14.89	2.01	26.98	Peak		
5	201.100	18.78	-11.22	30.00	29.00	14.40	2.24	26.86	Peak		

 SPORTON International Inc.
 Page Number
 : 13 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

Report No.: FD642105



			Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	249.600	33.05	-3.95	37.00	39.91	17.43	2.47	26.76	Peak		
2	384.000	26.91	-10.09	37.00	30.47	20.43	3.30	27.29	Peak		
3	452.000	26.64	-10.36	37.00	28.66	22.19	3.56	27.77	Peak		
4	729.600	30.28	-6.72	37.00	27.32	26.58	4.58	28.20	Peak		

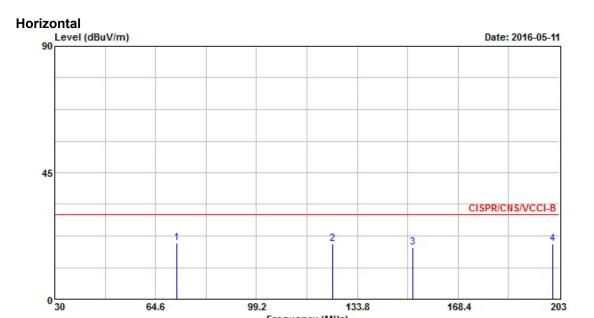
 SPORTON International Inc.
 Page Number
 : 14 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

64.6

Report No.: FD642105

203



Frequency (MHz)

133.8

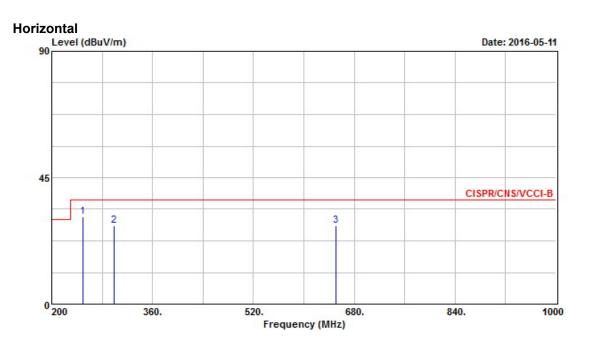
168.4

			Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	71.870	19.94	-10.06	30.00	34.42	11.46	1.32	27.26	Peak		
2	125.320	19.57	-10.43	30.00	27.74	17.25	1.72	27.14	Peak		
3	152.830	18.44	-11.56	30.00	28.24	15.32	1.91	27.03	Peak		
4	200.750	19.65	-10.35	30.00	29.87	14.40	2.24	26.86	Peak		

99.2

SPORTON International Inc. Page Number : 15 of 20 TEL: 886-3-327-3456 Issued Date : Oct. 14, 2016

Report No.: FD642105



			Over	Limit	Read	Antenna	Cable	Preamp		Ant	Table
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark	Pos	Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	249.600	31.15	-5.85	37.00	38.01	17.43	2.47	26.76	Peak		
2	298.400	28.00	-9.00	37.00	33.52	18.24	2.90	26.66	Peak		
3	650.400	28.02	-8.98	37.00	26.78	25.32	4.17	28.25	Peak		

 SPORTON International Inc.
 Page Number
 : 16 of 20

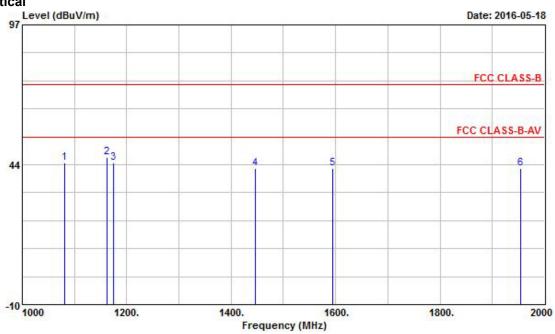
 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

6.3. Test Result of Radiated Emission for Above 1GHz

Test mode	Mode 1	Test Site No.	03CH04-HY								
Test frequency	1 GHz ~ 6 GHz	Test Engineer	OU YEN LIANG								
Temperature	23 ℃	Relative Humidity	53 %								
Note: 1. Emission le	evel $(dB\mu V/m) = 20 \log Emission level (dB \mu V/m)$	vel (μV/m)									
2. Corrected Reading: Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level											
■ The test was pass	■ The test was passed at the minimum margin that marked by the frame in the following data										

Report No.: FD642105

Vertical



			Over	Limit	Read	Antenna	Preamp	Cable	Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	***
1	1082.000	44.11	-29.89	74.00	50.30	24.82	34.00	2.98			Peak
2	1163.000	46.26	-27.74	74.00	52.03	25.05	33.90	3.08	100	177	Peak
3	1175.000	44.21	-29.79	74.00	49.91	25.05	33.86	3.11			Peak
4	1446.000	42.11	-31.89	74.00	46.43	25.77	33.52	3.44			Peak
5	1595.000	42.24	-31.76	74.00	46.06	25.96	33.41	3.63			Peak
6	1954.000	41.95	-32.05	74.00	45.08	26.17	33.35	4.05			Peak

 SPORTON International Inc.
 Page Number
 : 17 of 20

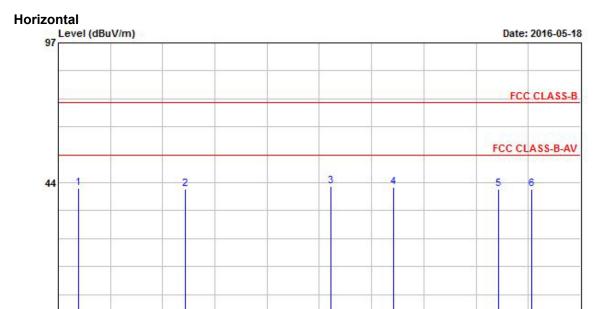
 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

-10 1000

1200.

Report No.: FD642105

2000



1400.

			Over	Limit	Read	Antenna	Preamp	Cable	Ant	Table	
	Freq	Level	Limit	Line	Level	Factor	Factor	Loss	Pos	Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	-
1	1038.000	41.28	-32.72	74.00	47.74	24.69	34.07	2.92			Peak
2	1243.000	41.01	-32.99	74.00	46.33	25.23	33.76	3.21			Peak
3	1522.000	42.00	-32.00	74.00	45.96	25.92	33.42	3.54			Peak
4	1642.000	41.62	-32.38	74.00	45.34	25.99	33.40	3.69			Peak
5	1843.000	40.88	-33.12	74.00	44.21	26.11	33.37	3.93			Peak
6	1906.000	41.10	-32.90	74.00	44.30	26.14	33.35	4.02		222	Peak

Frequency (MHz)

1600.

1800.

 SPORTON International Inc.
 Page Number
 : 18 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

7. List of Measuring Equipment Used

< Conducted Emission >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	KEYSIGHT	N8038A	MY54130031	20Hz ~ 8.4GHz	Apr. 14, 2016	Conduction
Receiver	KLISIGITI	110030A	101134130031	20112 ~ 0.4G112	Apr. 14, 2010	(CO01-NH)
LISN	SCHAFFNER	NNB41	06/10024	9kHz ~ 30MHz	Dec. 14, 2015	Conduction
LISIN	SCHAFFINER	ININD4 I	06/10024	9KHZ ~ SUIVIHZ	Dec. 14, 2015	(CO01-NH)
LICN	KVODITCII	KNIM 407	0.4040.45	Old In 20MI	NCD	Conduction
LISN	KYORITSU	KNW-407	8-1010-15	9kHz ~ 30MHz	NCR	(CO01-NH)
Power Filter	CORCOM	MR12030	N/A	30A*2	NCR	Conduction
Power Filler	CORCOIVI	WR 12030	IN/A	30A Z	NCR	(CO01-NH)
DE Cable CON	Cubaar Cuitzarland	DC222/LI	CD004	Oklia 20Mila	Dog 10 2015	Conduction
RF Cable-CON	Suhner Switzerland	RG223/U	CB004	9kHz ~ 30MHz	Dec. 10, 2015	(CO01-NH)

Report No.: FD642105

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

< Radiated Emission below 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Open Area Test Site	SPORTON	OATS-10	OS01-NH	30MHz ~ 1GHz 10m	Jul. 25, 2015	Radiation (OS01-NH)
Amplifier	HP	8447D	2944A06292	0.1MHz ~ 1.3GHz	Apr. 22, 2016	Radiation (OS01-NH)
Receiver	R&S	ESCI	100497	9kHz ~ 3GHz	May 04, 2016	Radiation (OS01-NH)
Bilog Antenna With 5dB Attenuator	TESEQ & EMCI	CBL6112C	2738	30MHz ~ 2GHz	Apr. 30, 2016	Radiation (OS01-NH)
Turn Table	EMCO	1060-1.211	9507-1805	0 ~ 360 degree	NCR	Radiation (OS01-NH)
Antenna Mast	EMCO	1051-1.2	9503-1876	1m ~ 4m	NCR	Radiation (OS01-NH)
RF Cable-R10m	BELDEN	RG8/U	CB001	30MHz ~ 1GHz	Nov. 05, 2015	Radiation (OS01-NH)

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

 SPORTON International Inc.
 Page Number
 : 19 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016

< Radiated Emission above 1GHz >

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	R&S	ESU-26	100422/026	20Hz ~ 26.5GHz	Sep. 03, 2015	Radiation (03CH04-HY)
Amplifier	Agilent	8449B	3008A02326	1GHz ~ 26.5GHz	Sep. 07, 2015	Radiation (03CH04-HY)
Horn Antenna	SCHWARZBECK	BBHA9120	BBHA9120D1130	1GHz ~ 18GHz	Sep. 25, 2015	Radiation (03CH04-HY)
Turn Table	Chaintek	3000	MF7802056	0 ~ 360 degree	NCR	Radiation (03CH04-HY)
Antenna Mast	MF	MF-7802	MF780208163	1m ~ 4m	NCR	Radiation (03CH04-HY)
RF Cable-HIGH	SUHNER	SUCOFLEX 106	CB069-HF	1GHz ~ 26GHz	Nov. 06, 2015	Radiation (03CH04-HY)

Report No.: FD642105

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

 SPORTON International Inc.
 Page Number
 : 20 of 20

 TEL: 886-3-327-3456
 Issued Date
 : Oct. 14, 2016



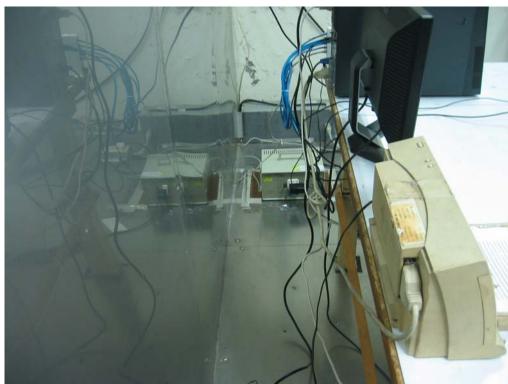


Appendix A. Test Photos

1. Photographs of Conducted Emissions Test Configuration



Front view



Rear view

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-327-0973 Page No. : A1 of A4

Report Version

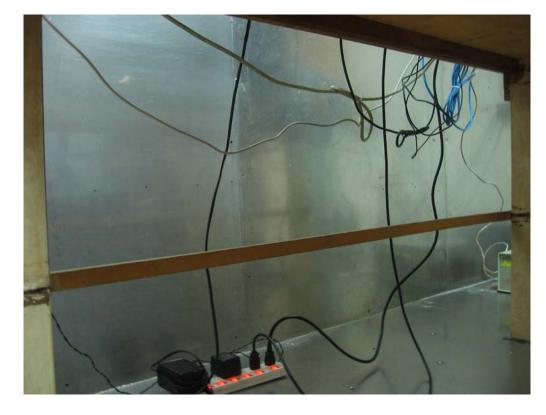
: Rev. 01

Report No. : FD642105





Report No. : FD642105



Side view

SPORTON INTERNATIONAL INC. Page No. : A2 of A4
TEL: 886-3-327-3456 Report Version : Rev. 01

FAX: 886-3-327-0973





2. Photographs of Radiated Emissions Test Configuration

For radiated emissions below 1GHz



Report No. : FD642105

Front view



Rear view

SPORTON INTERNATIONAL INC. Page No. : A3 of A4
TEL: 886-3-327-3456 Report Version : Rev. 01

FAX: 886-3-327-0973

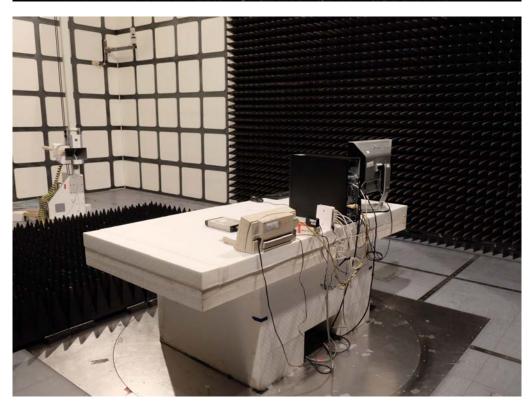


CE EMC TEST REPORT Report No. : FD642105

For radiated emissions above 1GHz



Front view



Rear view

SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-327-0973 Page No. : A4 of A4

Report Version

: Rev. 01



APPENDIX B. Photographs of EUT

Vigor 2710e





TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B1 of B8
Report Version : Rev. 01







TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B2 of B8 Report Version : Rev. 01







TEL: 886-3-327-3456 FAX: 886-3-327-0973



Vigor 122





TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B4 of B8
Report Version : Rev. 01



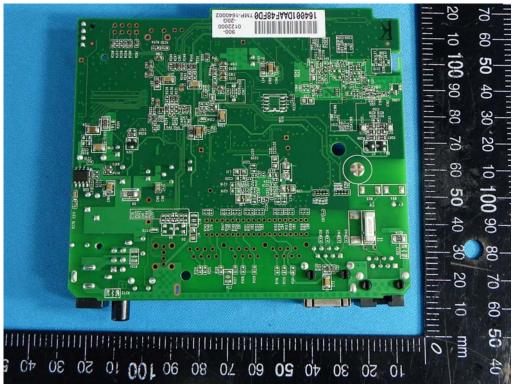




TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B5 of B8 Report Version : Rev. 01

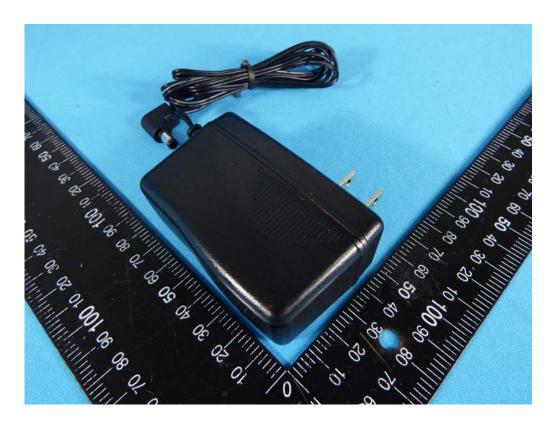






TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B6 of B8
Report Version : Rev. 01







TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B7 of B8 Report Version : Rev. 01





SPORTON International Inc.

TEL: 886-3-327-3456 FAX: 886-3-327-0973 PAGE NUMBER : B8 of B8
Report Version : Rev. 01