



# RADIO TEST REPORT

Test Report No.: 10031824S-A

**Applicant** : Fuji Xerox Co., Ltd.  
**Type of Equipment** : Dell C2665dnf Color Laser Multifunction Printer  
**Model No.** : Dell C2665dnf  
**FCC ID** : 2AAPEC2665DNF  
**Test regulation** : FCC Part15 Subpart C: 2013  
**Test result** : Complied

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3. This sample tested is in compliance with the limits of the above regulation.
4. The test results in this test report are traceable to the national or international standards.
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**Date of test:** July 9 to 17, 2013

**Tested by:** H. Shirasawa  
Hikaru Shirasawa  
Engineer of WiSE Japan,  
UL Verification Service

**Approved by :** T. Imamura  
Toyokazu Imamura  
Leader of WiSE Japan,  
UL Verification Service



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13-EM-F0429



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## **SECTION 1: Customer information**

Company Name : Fuji Xerox Co., Ltd.  
Address : 9-7-3 Akasaka, Minato-ku, Tokyo, 107-0052, Japan  
Telephone Number : +81-45-755-5111  
Facsimile Number : +81-45-224-0611  
Contact Person : Shinichi Sakai

## **SECTION 2: Equipment under test (E.U.T.)**

### **2.1 Identification of E.U.T.**

Type of Equipment : Dell C2665dnf Color Laser Multifunction Printer  
Model Number : Dell C2665dnf  
Serial Number : CN-0G9FRC-71971-334-U017  
Rating : AC110-127V, 50/60Hz  
Country of Mass-production : China  
Condition of EUT : Production prototype  
(Not for Sale: This sample is equivalent to mass-produced items.)  
Size : 439 x 530 x 558 (Width x Length x Height (mm)), 32.6kg  
Receipt Date of Sample : July 8, 2013  
Modification of EUT : No modification by the test lab.

### **2.2 Product description**

Model: Dell C2665dnf (referred to as the EUT in this report) is a Dell C2665dnf Color Laser Multifunction Printer.

Clock frequency(ies) in the system : 27.12MHz

<Radio part>

Equipment type : Transceiver  
Frequency of operation : 13.56MHz  
Type of modulation : ASK  
Antenna type : Loop  
Antenna connector type : None  
ITU code : A1D  
Operation temperature range : -20 to +70 deg.C.  
Card type : MIFARE classic-1k, MIFARE classic-4k, MIFARE ultralight

FCC 15.31 (e)

The RFID transmitter is provided the stable voltage (DC3.3V) from the host device.

Therefore, this EUT complies with the requirement.

FCC 15.203

The equipment and its antenna comply with this requirement since the antenna is built in the equipment and it cannot be replaced by end users.

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## **SECTION 3: Test specification, procedures & results**

### **3.1 Test specification**

Test specification : FCC Part 15 Subpart C: 2013, final revised on June 11, 2013 and effective July 11, 2013  
Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators  
Section 15.207 Conducted limits  
Section 15.209 Radiated emission limits, general requirements  
Section 15.215 Additional provisions to the general radiated emission limitations  
Section 15.225 Operation within the band 13.110-14.010MHz

\* The revision on June 11, 2013 does not affect the test specification applied to the EUT.

The EUT has been tested for compliance with FCC Part 15 Subpart B by the customer.

### **3.2 Procedures & Results**

Item	Test Procedure	Specification	Remarks	Deviation	Worst Margin	Results
Conducted emission	ANSI C63.4:2009 7. AC powerline conducted emission measurements	FCC 15.207	-	N/A	1.0dB Freq.: 13.56000MHz Detector: Average Phase: N	Complied
Electric field strength of Fundamental emission	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.225 (a)	Radiated	N/A	69.0dB Polarization: Vertical	Complied
Electric field strength of Spurious emission (within the 13.110-14.010MHz band)	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.225 (b)(c)	Radiated	N/A	46.1dB Freq.: 13.110MHz Polarization: Horizontal Freq.: 14.010MHz Polarization: Horizontal & Vertical	Complied
Electric field strength of Spurious emission (outside of the 13.110-14.010MHz band)	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.209 FCC 15.225 (d)	Radiated	N/A	0.6dB Freq.: 827.16MHz Polarization: Horizontal	Complied
20dB bandwidth	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.215 (c)	Radiated	N/A	-	-
Frequency tolerance	ANSI C63.4:2009 13. Measurement of intentional radiators	FCC 15.225 (e)	Radiated	N/A	-	Complied

Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

### **3.3 Addition to standard**

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	ANSI C63.4:2009 13. Measurement of intentional radiators, RSS-Gen 4.6.1	RSS-Gen 4.6.1	Radiated	-	-

Note: UL Japan's Work Procedures No. 13-EM-W0420 and 13-EM-W0422

\* Other than above, no addition, exclusion nor deviation has been made from the standard.

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### 3.4 Uncertainty

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Item	Frequency range	No.1 SAC <sup>*1</sup> /SR <sup>*2</sup> (±)	No.2 SAC/SR (±)	No.3 SAC/SR (±)
Conducted emission (AC Mains) AMN/LISN	150kHz-30MHz	3.6 dB	3.6 dB	3.5 dB
Radiated emission (Measurement distance: 3m)	9kHz-30MHz	3.7 dB	3.7 dB	3.6 dB
	30MHz-300MHz	4.9 dB	5.1 dB	4.9 dB
	300MHz-1GHz	5.0 dB	5.2 dB	4.9 dB

\*1: SAC=Semi-Anechoic Chamber

\*2: SR= Shielded Room is applied besides radiated emission

#### Conducted emission test

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

#### Radiated emission test

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

#### Frequency tolerance

Frequency (Normal condition) Measurement uncertainty for this test was: (±)  $7.9 \times 10^{-8}$ .

Frequency (Extreme condition) Measurement uncertainty for this test was: (±)  $7.9 \times 10^{-8}$ .

#### Other tests

Bandwidth Measurement uncertainty for this test was: (±) 5.4%

### 3.5 Test location

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JAB Accreditation No. : RTL02610

	FCC Registration No.	IC Registration No.	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Maximum measurement distance
<input type="checkbox"/> No.1 Semi-anechoic chamber	697847	2973D-1	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input type="checkbox"/> No.2 Semi-anechoic chamber	697847	2973D-2	20.6 x 11.3 x 7.65	20.6 x 11.3	10m
<input checked="" type="checkbox"/> No.3 Semi-anechoic chamber	697847	2973D-3	12.7 x 7.7 x 5.35	12.7 x 7.7	5m
<input type="checkbox"/> No.4 Semi-anechoic chamber	-	-	8.1 x 5.1 x 3.55	8.1 x 5.1	-
<input type="checkbox"/> No.1 Shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input type="checkbox"/> No.2 Shielded room	-	-	6.8 x 4.1 x 2.7	6.8 x 4.1	-
<input checked="" type="checkbox"/> No.3 Shielded room	-	-	6.3 x 4.7 x 2.7	6.3 x 4.7	-
<input type="checkbox"/> No.4 Shielded room	-	-	4.4 x 4.7 x 2.7	4.4 x 4.7	-
<input checked="" type="checkbox"/> No.5 Shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-
<input type="checkbox"/> No.6 Shielded room	-	-	7.8 x 6.4 x 2.7	7.8 x 6.4	-

### 3.6 Test setup, Data of test & Test instruments

Refer to APPENDIX 1 to 3.

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## **SECTION 4: Operation of E.U.T. during testing**

### **4.1 Operating mode**

The EUT exercise program used during testing was designed to exercise the various system components in a manner similar to typical use.

<b>Test item</b>	<b>Operating mode</b>	<b>Tested frequency</b>
All items	Transmitting	13.56MHz

Power settings: Setting is controlled by the firmware and cannot be changed.  
Software: ESS-FW Ver. SI29 (201307040655) (for Radiated emission / Conducted emission tests)  
ARI3000 Operation Program Ver.1.02 (Test fixture tests)

The carrier level and noise levels were confirmed with and without Card, and the test was made with the condition that has the maximum noise.

Combinations of the worst case

<b>Test item</b>	<b>Conducted emission</b>	<b>Radiated emission (Carrier)</b>	<b>Radiated emission (Below 30MHz)</b>	<b>Radiated emission (Above 30MHz)</b>
-	With Card (MIFARE classic-1k)	Without Card	Without Card	With Card (MIFARE classic-1k)

**Justification:** The system was configured in typical fashion (as customer would normally use it) for testing.

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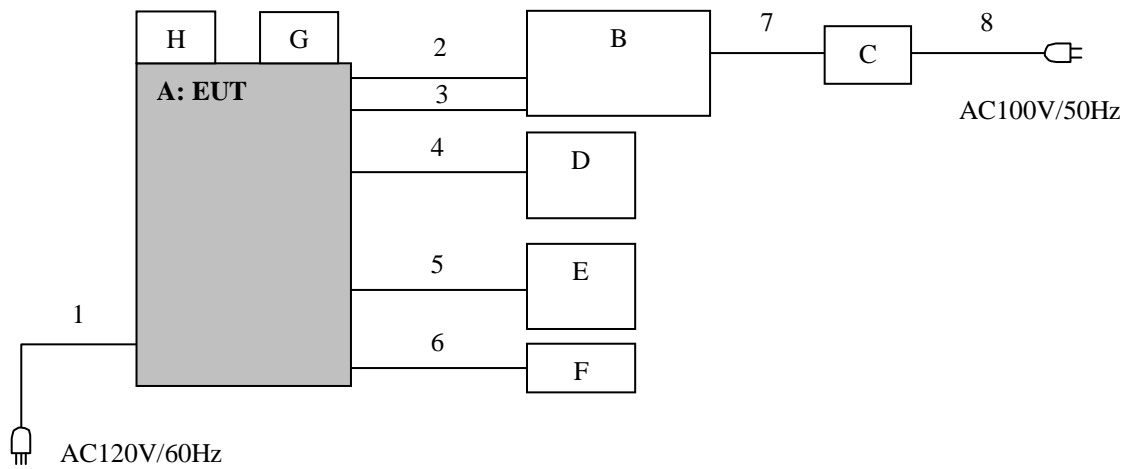
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## 4.2 Configuration and peripherals



\*Cabling and setup were taken into consideration and test data was taken under worse case conditions.

### Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remark
A	Dell C2665dnf Color Laser Multifunction Printer	Dell C2665dnf	CN-0G9FRC-719 71-334-U017	FUJIXEROX	EUT
B	Laptop Computer	ThinkPad T61(7661-CB9)	L3-K0721 07/10	lenovo	-
C	AC adapter	02K6757	-	IBM	-
D	Phone	SS-01	A02-0905JP	Kashimura	-
E	Modem	ME3314B	6K07040	OMRON	-
F	USB memory	USM4GL-W	-	SONY	-
G	Wireless Adapter	WPA5151	CN-0PA624N-71 971-252-P019	DELL	-
H	Card	MIFARE classic-1k	-	-	-

### List of cable used

No.	Item	Length (m)	Shield	Remark
1	AC	2.0	Unshielded	-
2	LAN	1.5	Unshielded	-
3	USB	2.0	Shielded	-
4	TEL (Phone)	1.5	Unshielded	-
5	TEL (Line)	3.0	Unshielded	-
6	USB	3.0	Shielded	-
7	DC	1.7	Unshielded	-
8	AC	1.9	Unshielded	-

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## **SECTION 5: Conducted emission**

### **5.1 Operating environment**

The test was carried out in a shielded room.

Temperature : Refer to APPENDIX 2.  
Humidity : Refer to APPENDIX 2.

### **5.2 Test configuration**

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 0.8m above the conducting ground plane. The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity. The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT was aligned and was flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from LISN. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane.

Each EUT current-carrying power lead was individually connected through a LISN to the input power source. Photographs of the set up are shown in Appendix 1.

### **5.3 Test conditions**

Frequency range : 0.15 - 30MHz  
EUT position : Table top

### **5.4 Test procedure**

The AC Mains Terminal Continuous disturbance Voltage had been measured with the EUT within a Shielded room. The EUT was connected to a Line Impedance Stabilization Network (LISN).

An overview sweep with peak detection has been performed.

The measurements had been performed with a quasi-peak detector and if required, a CISPR average detector.

The conducted emission measurements were made with the following detection of the test receiver.

Detection Type : Quasi-Peak/ CISPR-Average  
IF Bandwidth : 9kHz

### **5.5 Results**

Summary of the test results : Pass

Refer to APPENDIX 2.

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## **SECTION 6: Radiated emission (Fundamental and Spurious emission)**

### **6.1 Operating environment**

The test was carried out in a semi-anechoic chamber.

Temperature : Refer to APPENDIX 2.  
Humidity : Refer to APPENDIX 2.

### **6.2 Test configuration**

EUT was placed on a platform of nominal size, 1m by 1.5m, raised 0.8m above the conducting ground plane. The table is made of Styrofoam and covered with polyvinyl chloride. That has very low permittivity. I/O cables that were connected to the peripherals were bundled in center. They were folded back and for the forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. Photographs of the set up are shown in Appendix 1.

### **6.3 Test conditions**

Frequency range : 9kHz - 1GHz  
Test distance : 3m  
EUT position : Table top

### **6.4 Test procedure**

The Radiated Electric Field Strength intensity has been measured with a ground plane and at a distance of 3m  
Frequency: From 9kHz to 30MHz at distance 3m

The EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for vertical polarization (antenna angle: 0deg.to 360deg.) and horizontal polarization. Drawing of the antenna direction is shown in Figure 2.

Frequency: From 30MHz to 1GHz at distance 3m (Refer to Figure 1).

The measuring antenna height was varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field intensity.

The measurements were performed for both vertical and horizontal antenna polarization.

Measurements were performed with QP, PK, and AV detector.

The radiated emission measurements were made with the following detector function of the test receiver.

	9kHz to 90kHz & 110kHz to 150kHz	90kHz to 110kHz	150kHz to 490kHz	490kHz to 30MHz	30MHz to 1GHz
Detector Type	PK/AV	QP	PK/AV	QP	QP
IF Bandwidth	200Hz	200Hz	9kHz	9kHz	120kHz
Measuring antenna	Loop antenna				Biconical (30-299.99MHz) Logperiodic (300MHz-1GHz)

\* FCC 15 Section 15.31 (f)(2) (9kHz-30MHz)

9kHz – 490kHz [Limit at 3m]= [Limit at 300m]-40log (3[m]/300[m])

490kHz – 30MHz [Limit at 3m]= [Limit at 30m]-40log (3[m]/30[m])

### **6.5 Results**

Summary of the test results : Pass

Refer to APPENDIX 2.

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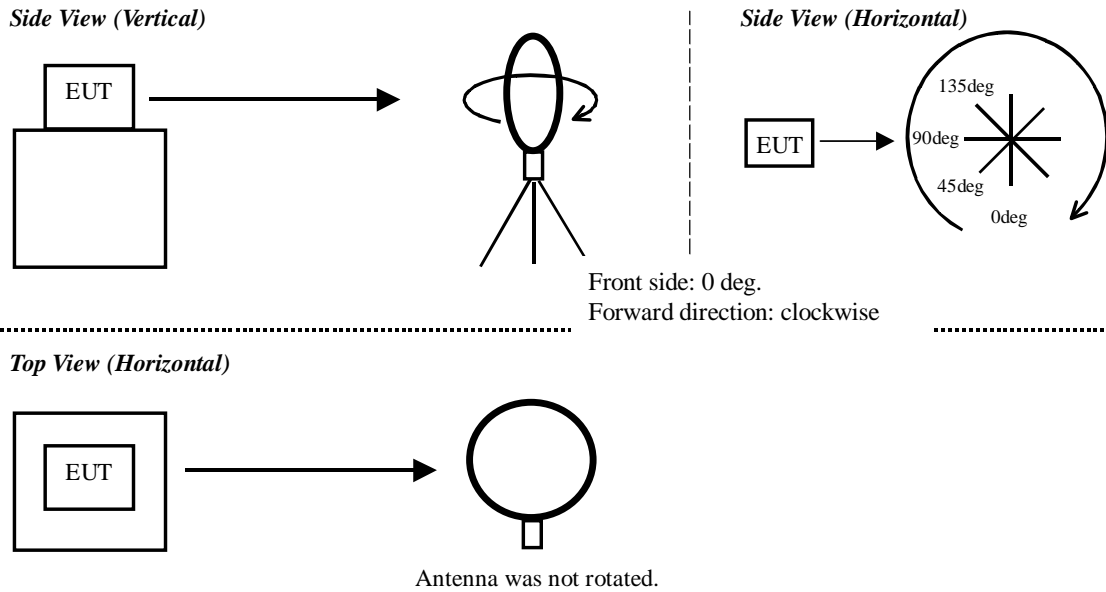
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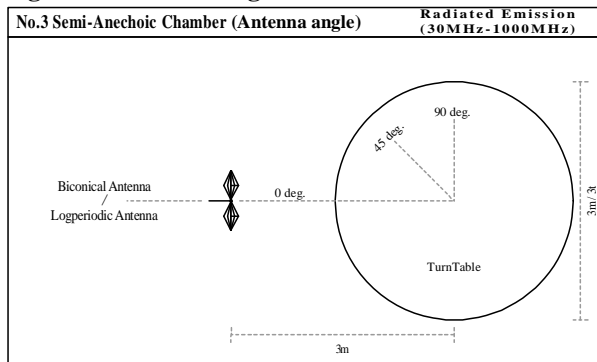
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**Figure 1. Direction of the Loop Antenna**



**Figure 2. Antenna angle**



**SECTION 7: 20dB bandwidth & Occupied bandwidth (99%)**

**Test procedure**

The test was measured with a spectrum analyzer using a test fixture.

Summary of the test results: Pass  
Refer to APPENDIX 2.

**SECTION 8: Frequency tolerances**

**Test procedure**

The test was measured with a spectrum analyzer using a test fixture.  
The temperature test was started after the temperature stabilization time of 30 minutes.  
The test was begun from 50 deg.C and the temperature was lowered each 10 deg.C.

Summary of the test results: Pass  
Refer to APPENDIX 2.

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## **Contents of APPENDIXES**

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Conducted emission  
Radiated emission  
Frequency tolerance  
Bandwidth

### **APPENDIX 2: Test instruments**

Test instruments

### **APPENDIX 3: Photographs of test setup**

Conducted emission  
Radiated emission  
Pre-check of the worst case

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# DATA OF CONDUCTED EMISSION TEST

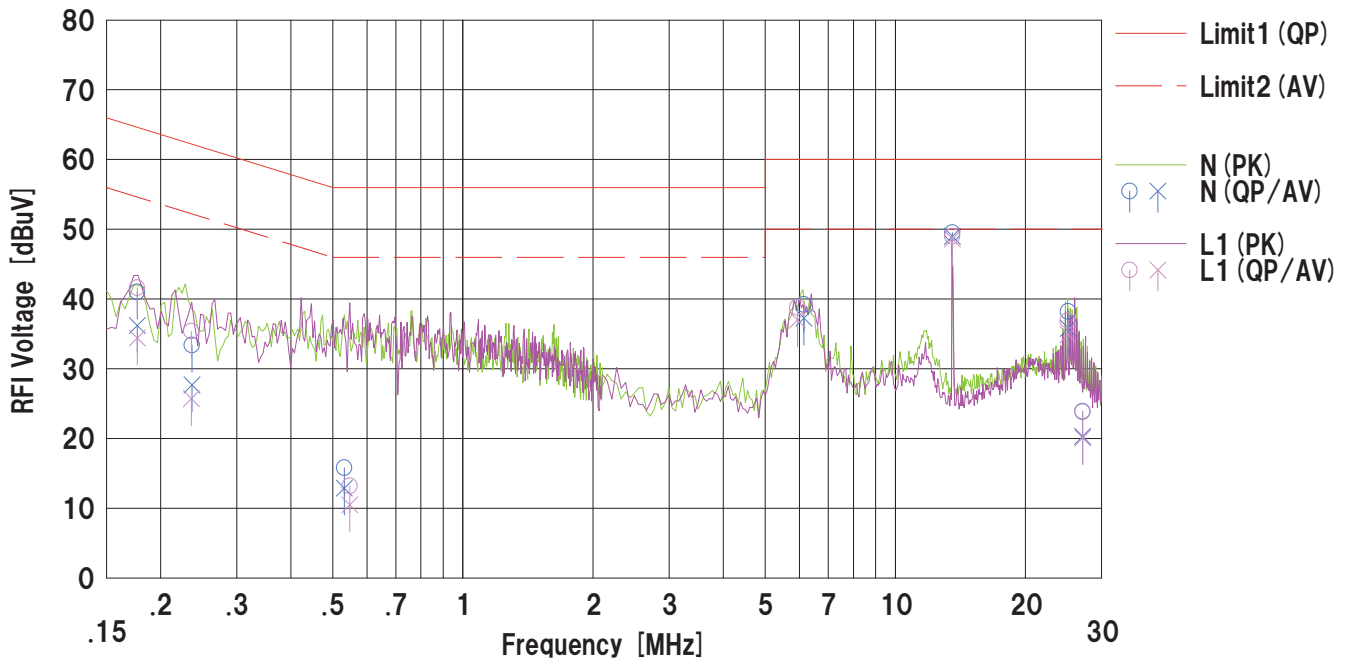
UL Japan, Inc. Shonan EMC Lab. No.3 Shielded Room  
Date : 2013/07/11

Company : Fujixerox Co.,Ltd.  
Kind of EUT : Dell C2665dnf Color Laser Multifunction Printer  
Model No. : Dell C2665dnf  
Serial No. : CN-OG9FRC-71971-334-U017  
Remarks : Card:MIFARE Classic-1k

Mode : Transmitting 13.56MHz  
Order No. : 10031824S  
Power : AC120V/60Hz  
Temp./Humi. : 27deg.C/49%RH

Limit1 : FCC 15C (15.207) QP  
Limit2 : FCC 15C (15.207) AV

Engineer : Shinichi Takano



No.	Freq. [MHz]	Reading		C.Fac [dB]	Results		Limit		Margin		Phase	Comment
		<QP>	<AV>		<QP>	<AV>	<QP>	<AV>	<QP>	<AV>		
		[dBuV]	[dBuV]		[dBuV]	[dBuV]	[dB]	[dB]	[dB]	[dB]		
1	0.17667	28.3	23.5	12.7	41.0	36.2	64.6	54.6	23.6	18.4	N	
2	0.23630	20.7	15.0	12.7	33.4	27.7	62.2	52.2	28.8	24.5	N	
3	0.53223	3.1	0.2	12.7	15.8	12.9	56.0	46.0	40.2	33.1	N	
4	6.14376	26.2	24.3	13.0	39.2	37.3	60.0	50.0	20.8	12.7	N	
5	13.56000	36.2	35.7	13.3	49.5	49.0	60.0	50.0	10.5	1.0	N	
6	25.10630	24.5	22.1	13.7	38.2	35.8	60.0	50.0	21.8	14.2	N	
7	27.12000	10.1	6.5	13.8	23.9	20.3	60.0	50.0	36.1	29.7	N	
8	0.17673	28.9	21.7	12.7	41.6	34.4	64.6	54.6	23.0	20.2	L1	
9	0.23561	22.7	13.0	12.7	35.4	25.7	62.2	52.2	26.8	26.5	L1	
10	0.54777	0.5	-2.2	12.7	13.2	10.5	56.0	46.0	42.8	35.5	L1	
11	5.93764	25.8	24.0	13.0	38.8	37.0	60.0	50.0	21.2	13.0	L1	
12	13.56000	35.7	35.3	13.3	49.0	48.6	60.0	50.0	11.0	1.4	L1	
13	25.07872	23.2	21.2	13.7	36.9	34.9	60.0	50.0	23.1	15.1	L1	
14	27.12000	10.0	6.3	13.8	23.8	20.1	60.0	50.0	36.2	29.9	L1	

## Data of Electric field strength of Fundamental emission and Spurious emission within the band: FCC15.225(a)(b)(c)

UL Japan, Inc.  
Shonan EMC Lab. No.3 Semi-Anechoic Chamber

Company:	Fujixerox Co., Ltd	Regulation:	FCC Part15 SupartC 15.225
Equipment:	Dell C2665dnf Color Laser Multifunction Printer	Test Distance:	3m
Model:	Dell C2665dnf	Date:	July 9, 2013      July 10, 2013
Sample No.:	CN-0G9FRC-71971-334-U017	Temperature:	22deg.C      25deg.C
Power:	DC120V/60Hz	Humidity:	66% RH      66% RH
Mode:	Transmitting 13.56MHz	ENGINEER:	Hikaru Shirasawa      Shinichi Takano

Remarks: : Card: None , Vertical polarization (antenna angle) of the worst case: 45deg

### Fundamental emission

No.	FREQ [MHz]	Test Receiver Reading		Antenna Factor [dB/m]	LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT (3m) [dBuV/m]	MARGIN	
		Hor [dBuV]	Ver [dBuV]				Hor [dBuV/m]	Ver [dBuV/m]		Hor [dB]	Ver [dB]
1	13.560	58.4	61.9	18.9	6.3	32.2	51.4	54.9	123.9	72.5	69.0

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]

Field strength of 13.553MHz to 13.567MHz Limit(3m) = 83.9dBuV/m + 40log 30m/3m  
= 123.9dBuV/m (FCC15.225(a))

### Spurious emission within the band

No.	FREQ [MHz]	Test Receiver Reading		Antenna Factor [dB/m]	LOSS [dB]	AMP GAIN [dB]	RESULT		LIMIT (3m) [dBuV/m]	MARGIN	
		Hor [dBuV]	Ver [dBuV]				Hor [dBuV/m]	Ver [dBuV/m]		Hor [dB]	Ver [dB]
1	13.110	30.4	30.2	18.9	6.3	32.2	23.4	23.2	69.5	46.1	46.3
2	13.410	30.6	30.8	18.9	6.3	32.2	23.6	23.8	80.5	56.9	56.7
3	13.553	43.8	47.3	18.9	6.3	32.2	36.8	40.3	90.4	53.6	50.1
4	13.567	44.8	48.2	18.9	6.3	32.2	37.8	41.2	90.4	52.6	49.2
5	13.710	30.4	30.7	18.9	6.3	32.2	23.4	23.7	80.5	57.1	56.8
6	14.010	30.4	30.4	18.9	6.3	32.2	23.4	23.4	69.5	46.1	46.1

Calculation:Result[dBuV/m]=Reading[dBuV]+Ant.Fac[dB/m]+Loss(Cable+ATT)[dB]-Gain(AMP)[dB]

Field strength frequencies

- Fc±7kHz:13.553MHz to 13.567MHz
- Fc±150kHz:13.410MHz to 13.710MHz
- Fc±450kHz:13.110MHz to 14.010MHz
- Fc = 13.56MHz

Limits (3m)

- 13.410MHz to 13.553MHz and 13.567MHz to 13.710MHz : 50.4dBuV/m + 40log30m/3m = 90.4dBuV/m (FCC15.225(b))
- 13.110MHz to 13.410MHz and 13.710MHz to 14.010MHz : 40.5dBuV/m + 40log30m/3m = 80.5dBuV/m (15.225(c))
- Below 13.110MHz and Above 14.010MHz : 29.5dBuV/m + 40log30m/3m = 69.5dBuV/m (FCC15.225(d)and FCC15.209)

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**Radiated Emission**

UL Japan, Inc.  
Shonan EMC Lab., No.3 Semi-Anechoic Chamber

Company: Fujixerox Co., Ltd  
Equipment: Dell C2665dnf Color Laser Multifunction Printer  
Model: Dell C2665dnf  
Sample No.: CN-0G9FRC-71971-334-U017  
Power: DC120V/60Hz  
Mode: Transmitting 13.56MHz  
EUT axis: Below 30MHz, Card: None  
Above 30MHz, Card: MIFARE classic-1k

Regulation: FCC Part15 SupartC 15.225  
Test Distance: 3m  
Date: July 9, 2013 July 10, 2013  
Temperature: 22deg.C 25deg.C  
Humidity: 66% RH 66% RH  
ENGINEER: Hikaru Shirasawa Shinichi Takano

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg.]	Remark
Hori.	27.12	QP	30.5	19.0	6.5	32.2	23.8	69.5	45.7	-	165	
Hori.	40.68	QP	45.5	14.3	6.6	32.2	34.2	40.0	5.8	320	359	
Hori.	54.24	QP	31.1	9.6	6.7	32.2	15.2	40.0	24.8	400	189	
Hori.	67.80	QP	49.0	6.8	6.5	32.1	30.2	40.0	9.8	253	181	
Hori.	81.36	QP	40.0	6.7	7.5	32.1	22.1	40.0	17.9	213	196	
Hori.	94.92	QP	42.6	9.2	7.4	32.1	27.1	43.5	16.4	170	186	
Hori.	108.48	QP	42.0	11.4	7.2	32.1	28.5	43.5	15.0	285	184	
Hori.	122.04	QP	48.6	13.1	7.2	32.1	36.8	43.5	6.7	141	190	
Hori.	125.00	QP	47.3	13.4	7.2	32.1	35.8	43.5	7.7	230	190	
Hori.	135.60	QP	34.0	14.2	7.4	32.1	23.5	43.5	20.0	201	198	
Hori.	515.28	QP	45.5	17.7	9.5	32.0	40.7	46.0	5.3	190	194	
Hori.	800.04	QP	43.6	20.9	10.6	31.6	43.5	46.0	2.5	131	233	
Hori.	827.16	QP	45.0	21.2	10.6	31.4	45.4	46.0	<b>0.6</b>	138	236	
Vert.	27.12	QP	29.8	19.0	6.5	32.2	23.1	69.5	46.4	-	124	Antenna angle: 45deg
Vert.	40.68	QP	44.2	14.3	6.6	32.2	32.9	40.0	7.1	100	147	
Vert.	54.24	QP	36.1	9.6	6.7	32.2	20.2	40.0	19.8	100	86	
Vert.	67.80	QP	50.7	6.8	6.5	32.1	31.9	40.0	8.1	100	238	
Vert.	81.36	QP	41.8	6.7	7.5	32.1	23.9	40.0	16.1	100	254	
Vert.	94.92	QP	41.8	9.2	7.4	32.1	26.3	43.5	17.2	100	359	
Vert.	108.48	QP	45.0	11.4	7.2	32.1	31.5	43.5	12.0	100	99	
Vert.	122.04	QP	53.3	13.1	7.2	32.1	41.5	43.5	2.0	100	237	
Vert.	125.00	QP	51.2	13.4	7.2	32.1	39.7	43.5	3.8	100	284	
Vert.	135.60	QP	36.3	14.2	7.4	32.1	25.8	43.5	17.7	100	343	
Vert.	800.04	QP	41.0	20.9	10.6	31.6	40.9	46.0	5.1	113	305	
Vert.	827.16	QP	39.1	21.2	10.6	31.4	39.5	46.0	6.5	106	48	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Δ AF) - Gain(Amplifier)

\*Other frequency noises omitted in this report were not seen or have enough margin (more than 20dB)

**Data of Frequency Tolerance: FCC 15.225(e)**

UL Japan, Inc.  
Shonan EMC Lab. No.5 Shield room

Company: Fujixerox Co., Ltd  
Equipment: Dell C2665dnf Color Laser Multifunction Printer  
Model: Dell C2665dnf  
Sample No.: CN-0G9FRC-71971-334-U017  
Power: DC120V/60Hz  
Mode: Transmitting 13.56MHz

Regulation: FCC Part15 SupartC 15.225  
Date: July 17, 2013  
Temperature: 26deg.C  
Humidity: 50%RH  
ENGINEER: Shinichi Takano

**Temperature Variation: 50deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560050	0.000050	0.00037	0.01
after 2minutes	13.56	13.560044	0.000044	0.00032	0.01
after 5minutes	13.56	13.560044	0.000044	0.00032	0.01
after 10minutes	13.56	13.560045	0.000045	0.00033	0.01

**Temperature Variation: 40deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560073	0.000073	0.00054	0.01
after 2minutes	13.56	13.560057	0.000057	0.00042	0.01
after 5minutes	13.56	13.560057	0.000057	0.00042	0.01
after 10minutes	13.56	13.560057	0.000057	0.00042	0.01

**Temperature Variation: 30deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560100	0.000100	0.00074	0.01
after 2minutes	13.56	13.560082	0.000082	0.00060	0.01
after 5minutes	13.56	13.560082	0.000082	0.00060	0.01
after 10minutes	13.56	13.560082	0.000082	0.00060	0.01

**Temperature Variation: 20deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560130	0.000130	0.00096	0.01
after 2minutes	13.56	13.560111	0.000111	0.00082	0.01
after 5minutes	13.56	13.560111	0.000111	0.00082	0.01
after 10minutes	13.56	13.560110	0.000110	0.00081	0.01



**Data of Frequency Tolerance: FCC 15.225(e)**

UL Japan, Inc.  
Shonan EMC Lab. No.5 Shield room

Company: Fujixerox Co., Ltd  
Equipment: Dell C2665dnf Color Laser Multifunction Printer  
Model: Dell C2665dnf  
Sample No.: CN-0G9FRC-71971-334-U017  
Power: DC120V/60Hz  
Mode: Transmitting 13.56MHz

Regulation: FCC Part15 SupartC 15.225  
Date: July 17, 2013  
Temperature: 26deg.C  
Humidity: 50%RH  
ENGINEER: Shinichi Takano

**Temperature Variation: 10deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560153	0.000153	0.00113	0.01
after 2minutes	13.56	13.560139	0.000139	0.00103	0.01
after 5minutes	13.56	13.560139	0.000139	0.00103	0.01
after 10minutes	13.56	13.560139	0.000139	0.00103	0.01

**Temperature Variation: 0deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560166	0.000166	0.00122	0.01
after 2minutes	13.56	13.560161	0.000161	0.00119	0.01
after 5minutes	13.56	13.560160	0.000160	0.00118	0.01
after 10minutes	13.56	13.560161	0.000161	0.00119	0.01

**Temperature Variation: -10deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560157	0.000157	0.00116	0.01
after 2minutes	13.56	13.560164	0.000164	0.00121	0.01
after 5minutes	13.56	13.560164	0.000164	0.00121	0.01
after 10minutes	13.56	13.560165	0.000165	0.00122	0.01

**Temperature Variation: -20deg.C**

Test Conditions	Original Frequency (MHz)	Measured Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560116	0.000116	0.00086	0.01
after 2minutes	13.56	13.560142	0.000142	0.00105	0.01
after 5minutes	13.56	13.560142	0.000142	0.00105	0.01
after 10minutes	13.56	13.560143	0.000143	0.00105	0.01

## Data of Frequency Tolerance: FCC 15.225(e)

UL Japan, Inc.  
Shonan EMC Lab. No.5 Shield room

Company: Fujixerox Co., Ltd  
Equipment: Dell C2665dnf Color Laser Multifunction Printer  
Model: Dell C2665dnf  
Sample No.: CN-0G9FRC-71971-334-U017  
Power: DC120V/60Hz  
Mode: Transmitting 13.56MHz

Regulation: FCC Part15 SupartC 15.225  
Date: July 16, 2013  
Temperature: 26deg.C  
Humidity: 52%RH  
ENGINEER: Hikaru Shirasawa

**Input Voltage:AC102V (85%)**  
**Temperature Variation: 20deg.C**

Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560110	0.000110	0.00081	0.01
after 2minutes	13.56	13.560100	0.000100	0.00074	0.01
after 5minutes	13.56	13.560099	0.000099	0.00073	0.01
after 10minutes	13.56	13.560099	0.000099	0.00073	0.01

**Input Voltage:AC138V (115%)**  
**Temperature Variation: 20deg.C**

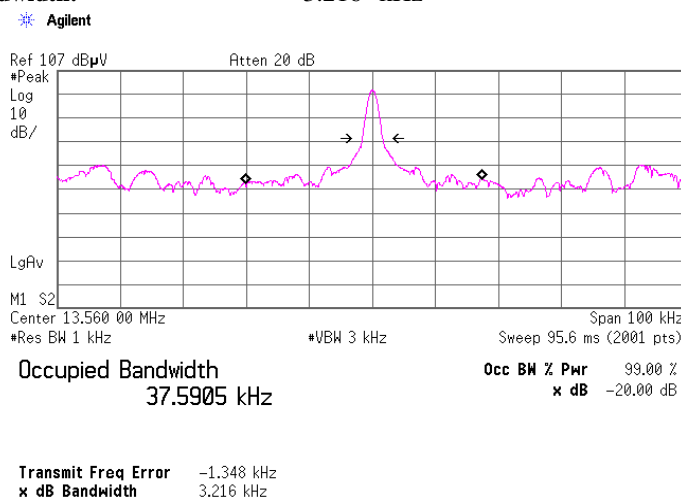
Test Conditions	Original Frequency (MHz)	Measure Frequency (MHz)	Frequency Error (MHz)	Frequency Tolerance (%)	Limit (%)
startup	13.56	13.560100	0.000100	0.00074	0.01
after 2minutes	13.56	13.560099	0.000099	0.00073	0.01
after 5minutes	13.56	13.560089	0.000089	0.00065	0.01
after 10minutes	13.56	13.560099	0.000099	0.00073	0.01

## 20dB bandwidth & 99% Occupied bandwidth: FCC 15.215 / RSS-Gen

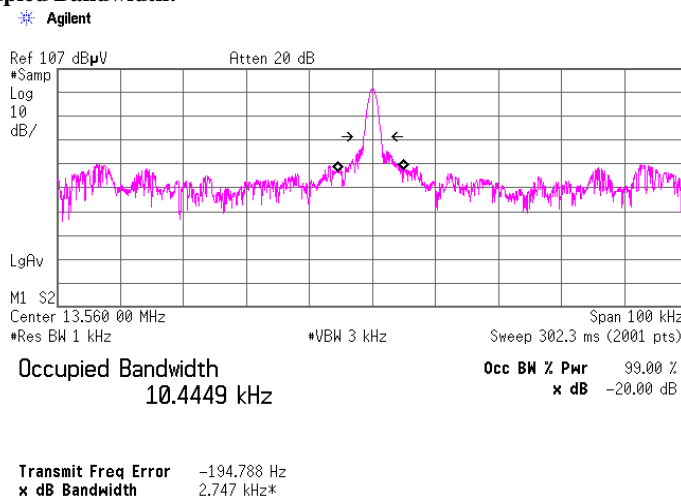
UL Japan, Inc.  
Shonan EMC Lab. No.5 Shield room

Company:	Fujixerox Co., Ltd	Regulation:	FCC Part15 Subpart C 15.215
Equipment:	Dell C2665dnf Color Laser Multifunction Printer	Date:	July 16, 2013
Model:	Dell C2665dnf	Temperature:	26deg.C
Sample No.:	CN-0G9FRC-71971-334-U017	Humidity:	52%RH
Power:	DC120V/60Hz	ENGINEER:	Hikaru Shirasawa
Mode:	Transmitting 13.56MHz		

**20dB Bandwidth:** 3.216 kHz



**99% Occupied Bandwidth:** 10.445 kHz



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## APPENDIX 2 Test Instruments

### EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
SAF-03	Pre Amplifier	SONOMA	310N	290213	RE	2013/02/12 * 12
SAT6-06	Attenuator	JFW	50HF-006N	-	RE	2013/02/12 * 12
SBA-03	Biconical Antenna	Schwarzbeck	BBA9106	91032666	RE	2012/10/08 * 12
SCC-C1/C2/C3/C4/C5/C10/SRSE-03	Coaxial Cable&RF Selector	Fujikura/Fujikura/Suhner/Suhner/Suhner/Suhner/TOYO	8D2W/12DSFA/141PE/141PE/141PE/141PE/NS4906	-/0901-271 (RF Selector)	RE	2013/04/03 * 12
SLA-03	Logperiodic Antenna	Schwarzbeck	UHALP9108A	UHALP 9108-A 0901	RE	2012/10/08 * 12
SOS-05	Humidity Indicator	A&D	AD-5681	4062518	RE	2013/02/27 * 12
STR-06	Test Receiver	Rohde & Schwarz	ESCI	101259	RE,CE,TF	2013/02/27 * 12
SJM-11	Measure	PROMART	SEN1935	-	RE,CE	-
SAEC-03(NSA)	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	RE	2013/07/09 * 12
COTS-SEMI-1	EMI Software	TSJ	TEPTO-DV(RE,CE, RFLMF)	-	RE,CE	-
SLP-02	Loop Antenna	Rohde & Schwarz	HFH2-Z2	100218	RE	2012/10/31 * 12
SAT6-07	Attenuator	JFW	50HF-006N	-	RE	2013/02/12 * 12
SCC-C9/C10/SRSE-03	Coaxial Cable&RF Selector	Suhner/Suhner/TOYO	RG223U/141PE/NS4906	-/0901-271 (RF Selector)	CE	2013/04/03 * 12
SLS-05	LISN	Rohde & Schwarz	ENV216	100516	CE(AE)	2013/02/25 * 12
SLS-02	LISN	Rohde & Schwarz	ENV216	100512	CE(EUT)	2013/02/21 * 12
SAT3-05	Attenuator	JFW	50HF-003N	-	CE	2013/02/12 * 12
SOS-06	Humidity Indicator	A&D	AD-5681	4062118	CE,TF	2013/03/07 * 12
STM-01	Terminator	TME	CT-01 BP	-	CE	2013/01/16 * 12
SSA-03	Spectrum Analyzer	Agilent	E4448A	MY48250152	TF	2013/01/08 * 12
SFC-01	Microwave Counter	Agilent	53151A	US40511493	TF	2013/03/26 * 12
SCH-01	Temperature and Humidity Chamber	Espec	PL-1KT	14020837	TF	2013/04/17 * 12
SSP-01	Search Probe	Nisshin Electric	NSP-01	-	TF	-
SOS-09	Humidity Indicator	A&D	AD-5681	4061484	TF	2013/03/07 * 12

The expiration date of the calibration is the end of the expired month .  
As for some calibrations performed after the tested dates , those test equipment have been controlled by means of an unbroken chains of calibrations .

All equipment is calibrated with valid calibrations . Each measurement data is traceable to the national or international standards .

Test Item :

- CE: Conducted emission ,
- RE: Radiated emission ,
- TF: Test Fixture tests