

SECTION 1

Test Reports of Immunity

(EN55024/2010)

EN61000-4-2/2009
(EN 301 489-1 V1.9.2 <9.3>)
Electrostatic Discharge Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : From June.22 through June.29 of 2016
Temperature : 26℃
Humidity : 58%
Atom. Pressure : 1017hPa
Testing Place : Kyocera Document Solutions CE Test Room
Power Input : AC230V, 50Hz
Tested by : Shinya Fujimoto 藤本 真也

This test was applied as follows.

<i>Voltage</i>	<i>Discharging method</i>	<i>Criteria</i>	<i>Result</i>
±4.0kV	Contact discharge	B	Pass
±8.0kV	Air discharge	B	Pass
±4.0kV	Indirect discharge	B	Pass

Test equipment used:

ESD Generator : ESS-200AX (Noise Laboratory Co., Ltd.)
ESD Gun : TC-815D (Noise Laboratory Co., Ltd.)

Electrostatic Discharge Immunity Test

Model : ECOSYS P3060dn

(Test Date : 2016.August.)

◎Operation Mode

1. Stand by
2. LAN Print
3. USB Print

◎Discharge Method

- C : Contact Discharge
A : Air Discharge
V : Discharge into VCP

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No.	Discharged parts	Mode	Method	Result
	●Printer			
01	Handle	1, 2, 3, 4	C, A	Worked Normal
02	Connector for LAN Port Line	1, 2, 3, 4	C, A	Worked Normal
03	Connector for USB Port Line	1, 2, 3, 4	C, A	Worked Normal
04	Fixing Mount for AC Inlet	1, 2, 3, 4	C, A	Worked Normal
05	Fixing Mount for Modular Connector	1, 2, 3, 4	C, A	Worked Normal
06	Metallic Parts for Bypass	1, 2, 3, 4	C, A	Worked Normal
07	Metallic Parts in Inner Tray	1, 2, 3, 4	C, A	Worked Normal
08	Screws for top side	1, 2, 3, 4	C, A	Worked Normal
09	Screws for left side	1, 2, 3, 4	C, A	Worked Normal
10	Screws for right side	1, 2, 3, 4	C, A	Worked Normal
11	Screws for back side	1, 2, 3, 4	C, A	Worked Normal
12	Metallic cover for back side	1, 2, 3, 4	C, A	Worked Normal
13	Inner metallic parts in bypass part	1	C, A	Worked Normal
14	Inner metallic parts inside front cover (*opened)	1	C, A	Worked Normal
15	Inner metallic parts in paper cassettes	1	C, A	Worked Normal
	●Paper Feeder			
16	Screws for Right Side	1, 2, 3, 4	C, A	Worked Normal
17	Screws for Left Side	1, 2, 3, 4	C, A	Worked Normal
18	Screws for back side	1, 2, 3, 4	C, A	Worked Normal
19	Screws for Top side	1	C, A	Worked Normal
20	Inner metallic parts in paper cassettes	1	C, A	Worked Normal

No.	*Indirect Discharge	Mode	Method	Result
01	Front Side	1, 2, 3, 4	V	Worked Normal
02	Rear Side	1, 2, 3, 4	V	Worked Normal
03	Left Side	1, 2, 3, 4	V	Worked Normal
04	Right Side	1, 2, 3, 4	V	Worked Normal

EN61000-4-4/2012
(*EN 301 489-1 V1.9.2 <9.4>*)

Electrical Fast Transient/Burst Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : 3 August, 2016

Temperature : 25°C

Humidity : 55%

Atom. Pressure : 1014hPa

Testing Place : Kyocera Document Solutions CE Test Room

Power Input : AC230V, 50Hz

Tested by : Shinya Fujimoto

藤本真也

This test was applied as follows.

		<i>Voltage</i>	<i>Duration</i>	<i>Criteria</i>	<i>Result</i>
E.U.T. Power Line	PE	±1.0kV, 5kHz	1 min.	B	Pass
	L				
	N				
Communication Line		±0.5kV, 5kHz	1 min.	B	Pass

Test equipment used:

EFT/B Test System : FNS-AX3-A16B (Noise Laboratory Co., Ltd.)

EFT/B Immunity Test

Model : ECOSYS P3060dn

(Test Date: 2016.August.)

	Power Supply Port			Communication Port	*Remarks
	PE	L1	L2		
1. Standby	Worked normal	Worked normal	Worked normal	LAN Cable/USB Cable/Modular Cable	
2. USB Print	Worked normal	Worked normal	Worked normal	Worked normal	
3. LAN Print	Worked normal	Worked normal	Worked normal	Worked normal	

EN61000-4-5/2006
(EN 301 489-1 V1.9.2 <9.8>)
Surge Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : 2 August, 2016

Temperature : 25°C

Humidity : 55%

Atom. Pressure : 1016hPa

Testing Place : Kyocera Document Solutions CE Test Room

Power Input : AC230V, 50Hz

Tested by : Shinya Fujimoto

藤本真也

This test was applied as follows.

		<i>Voltage</i>	<i>Degree</i>	<i>Criteria</i>	<i>Result</i>
E.U.T. Power Line	L1-L2	±1.0kV	0°, 90°, 270°	B	Pass
	L1-PE	±2.0kV			Pass
	L2-PE	±2.0kV			Pass

Test equipment used:

Surge Test System : LSS-F02C1 (Noise Laboratory Co., Ltd.)

Surge Immunity Test

Model: ECOSYS P3060dn

(Test Date : 2016.August.)

Mode : (1) Standby

Coupling	Surge Voltage	Phase		
		0 deg	90 deg	270 deg
L1 - L2	± 500V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L1 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L2 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>

Mode : (2) LAN Print

Coupling	Surge Voltage	Phase		
		0 deg	90 deg	270 deg
L1 - L2	± 500V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L1 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L2 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>

Mode : (3) USB Print

Coupling	Surge Voltage	Phase		
		0 deg	90 deg	270 deg
L1 - L2	± 500V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L1 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
L2 - PE	±1000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>
	±2000V	<i>Worked normal</i>	<i>Worked normal</i>	<i>Worked normal</i>

EN61000-4-11/2004
(EN 301 489-1 V1.9.2 <9.7>)
Voltage Dips, Short Interruption
and Voltage Variation Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : From July.1 through July.6 of 2016
Temperature : 24℃
Humidity : 52%
Atom. Pressure : 1012hPa
Testing Place : Kyocera Document Solutions CE Test Room
Power Input : AC230V, 50Hz
Tested by : Shinya Fujimoto 藤本真也

This test was applied as follows.

	<i>Reduction</i>	<i>Term</i>	<i>Criteria</i>	<i>Result</i>
Voltage Dips	100%	0.5c/s	B	Pass
	30%	25c/s	C	Pass
Short Interruptions	100%	250c/s	C	Pass

Test equipment used:

Voltage Dip Simulator : VDS-220SB (Noise Laboratory Co., Ltd.)

Voltage Dips & Short Interruptions Test

Model: ECOSYS P3060dn

(Test Date : 2016.July.)

Mode : (1) Standby

	<i>Reduction</i>	<i>Term</i>	<i>Criteria</i>	<i>Result</i>	<i>Remarks</i>
Vol. Dips	100%	0.5c/s	B	<i>Pass</i>	<i>*Worked Normal</i>
	30%	25c/s	C	<i>Pass</i>	<i>*Worked Normal</i>
Short Int.	100%	250c/s	C	<i>Pass</i>	<i>*Maked Reset</i>

Mode : (2) LAN Print

	<i>Reduction</i>	<i>Term</i>	<i>Criteria</i>	<i>Result</i>	<i>Remarks</i>
Vol. Dips	100%	0.5c/s	B	<i>Pass</i>	<i>*Worked Normal</i>
	30%	25c/s	C	<i>Pass</i>	<i>*Worked Normal</i>
Short Int.	100%	250c/s	C	<i>Pass</i>	<i>*Maked Reset</i>

Mode : (3) Sleep

	<i>Reduction</i>	<i>Term</i>	<i>Criteria</i>	<i>Result</i>	<i>Remarks</i>
Vol. Dips	100%	0.5c/s	B	<i>Pass</i>	<i>*Worked Normal</i>
	30%	25c/s	C	<i>Pass</i>	<i>*Worked Normal</i>
Short Int.	100%	250c/s	C	<i>Pass</i>	<i>*Maked Reset</i>

Mode : (4) OFF Mode

	<i>Reduction</i>	<i>Term</i>	<i>Criteria</i>	<i>Result</i>	<i>Remarks</i>
Vol. Dips	100%	0.5c/s	B	<i>Pass</i>	<i>*Worked Normal</i>
	30%	25c/s	C	<i>Pass</i>	<i>*Worked Normal</i>
Short Int.	100%	250c/s	C	<i>Pass</i>	<i>*Maked Reset</i>

EN61000-4-3/2006+A1/2008+A2/2010 + ENV50204/1996
(EN 301 489-1 V1.9.2 <9.2>)

Radiated RF Electromagnetic Field Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : 8 August, 2016

Temperature : 26°C

Humidity : 59%

Atom. Pressure : 1016hPa

Testing Place : Kyocera Document Solutions Tamaki Factory

Power Input : AC230V, 50Hz

Tested by : Shinya Fujimoto

藤本真也

This test was applied as follows.

<i>Frequency</i>	<i>Polarity</i>	<i>RF Level</i>	<i>Criteria</i>	<i>Result</i>
80~1000 MHz 1400~2700 MHz	Vertical	3V/m, 80%, 1kHz AM Modulation	A	Pass
	Horizontal			Pass
900±5 MHz	Vertical	3V/m, 100%, 1kHz Frequency 200Hz Duty Cycle 50% PulseMod.	A	Pass
	Horizontal			Pass

We tested at Tamaki EMC Laboratory of KYOCERA Document Solutions Tamaki Factory

Test equipment used : See the attached documents for details.

Radiated RF Electromagnetic Field Immunity Test

Model: ECOSYS P3060dn

(Test Date : 2016.August.)

Mode : (1) LAN Print

<i>Test Face</i>	<i>Polar.</i>	<i>Result</i>	<i>Remarks</i>
Front	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Right	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Rear	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Left	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	

Mode : (1) USB Print

<i>Test Face</i>	<i>Polar.</i>	<i>Result</i>	<i>Remarks</i>
Front	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Right	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Rear	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	
Left	Vertical	<i>EUT worked normal.</i>	
	Horizontal	<i>EUT worked normal.</i>	

EN 301 489-1 V1.9.2 <9.2>
Radiated RF Electromagnetic Field
Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

This test was applied as follows.

<i>Frequency</i>	<i>Polarity</i>	<i>RF Level</i>	<i>Criteria</i>	<i>Result</i>
1400~2700 MHz	Vertical	3V/m, 80%, 1kHz AM Modulation	A	Pass
	Horizontal			Pass

We entrusted this test to Labotech International Co. Ltd

See the attached documents for details.

Test equipment used : See the attached documents for details.

EN61000-4-6/2009
(EN 301 489-1 V1.9.2 <9.5>)
Conducted RF Electromagnetic Field
Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : 9 August, 2016

Temperature : 26°C

Humidity : 58%

Atom. Pressure : 1019hPa

Testing Place : Kyocera Document Solutions Tamaki Factory

Power Input : AC230V, 50Hz

Tested by : Shinya Fujimoto

藤本真也

This test was applied as follows.

<i>Frequency</i>	<i>RF Level</i>	<i>Criteria</i>	<i>Result</i>
E.U.T. Power Line Communication Line	0.15~80 MHz 3V/m, 80%, 1kHz AM Modulation	A	Pass

We tested at Tamaki EMC Laboratory of KYOCERA Document Solutions Tamaki Factory.

Test equipment used : See the attached documents for details.

Conducted RF Electromagnetic Field Immunity Test

Model : ECOSYS P3060dn

(Test Date: 2016.August.)

<i>Tested Port</i>	<i>Coupling</i>	<i>Operation Mode</i>	<i>Result</i>	<i>Remarks</i>
AC Power Cord for Printer	CDN M3	LAN Print	<i>EUT worked normal.</i>	
LAN Cable	EM Clamp	LAN Print	<i>EUT worked normal.</i>	
USB Cable	EM Clamp	USB Print	<i>EUT worked normal.</i>	

EN61000-4-8/2010

Power-Frequency Magnetic Field Immunity Test

<i>Equipment</i>	<i>Model</i>	<i>Serial No.</i>
Printer	ECOSYS P3060dn	Z9T6500001
Paper Feeder	PF-320	NUR6507786
	PF-320	NUR6507183
	PF-320	NUR6507766
	PF-320	NUR6507763
	PF-3100	ZQT6700012
Paper Feeder Base	PB-325	NYV6601798
Printer NIC	IB-50	TEST-1
	IB-51	TEST-1
	IB-32B	TEST-1
HDD	HD-6	TEST-1
	HD-7	TEST-1
Wireless Network Unit	IB-36	TEST-1

Date : 9 August, 2016

Temperature : 26°C

Humidity : 58%

Atom. Pressure : 1019hPa

Testing Place : Kyocera Document Solutions Tamaki Factory

Power Input : AC230V, 50Hz

Tested by : Shinya Fujimoto

藤本真也

This test was applied as follows.

<i>Frequency</i>	<i>Level</i>	<i>Criteria</i>	<i>Result</i>
50 Hz	1 A/m	A	Pass

We tested at Tamaki EMC Laboratory of KYOCERA Document Solutions Tamaki Factory.

Test equipment used : See the attached documents for details.

Power-Frequency Magnetic Field Immunity Test

Model : ECOSYS P3060dn

(Test Date: 2016.August.)

<i>Polarization</i>	<i>Operation Mode</i>	<i>Result</i>	<i>Remarks</i>
X	LAN Print	<i>EUT worked normal.</i>	
Y	LAN Print	<i>EUT worked normal.</i>	
Z	LAN Print	<i>EUT worked normal.</i>	

List of Tests and Measurement Equipment

『Test Clause』

EN61000-4-3/ENV50204
EN61000-4-6

: Radiated RF Electromagnetic Field Immunity Test
: Conducted RF Electromagnetic Field Immunity Test

<i>Equipment</i>	<i>Type</i>	<i>Manufacturer</i>	<i>Serial No.</i>
RF Signal Generator	HP8648B	Hewlett Packard	3642U01646
RF Power Amplifier	757LCB	Kalmas Engineering	8289-1
Amplifier Interface	IF-488	Kalmas Engineering	8289-2
Power Reflection Meter	NRT	Rohde&Schwarz	825490 / 003
Power Head	NAP-Z5	Rohde&Schwarz	847424 / 027
Field Sensor	HI-4422	Comtest International	96168
O/E Converter	HI-4413P	Comtest International	800—9205
Bilog Antenna	CBL6140	Schaffner Chase EMC	1107
Pulse Generator	2416A	Pragmatic Instruments	818314 820344
Current Sensor Probe	CSP9160	Schaffner Chase EMC	1059
Millivolt Meter	URV55	Rohde&Schwarz	846100 / 028
Insertion Unit	URV5-Z4	Rohde&Schwarz	848566 / 018
Spectrum Analyzer	HP8568B	Hewlett Packard	2517A01396
EM Injection Clamp	T/EM-801-23mm	Fisher Custom Communication	102
Decoupling Network	T/EM-DCN-23mm	Fisher Custom Communication	313
Calibration Fixture	T/EM-801-CF-23mm	Fisher Custom Communication	338
CDN	TCDN-801-M3-32	Fisher Custom Communication	9851
CDN	TCDN-801-S25	Fisher Custom Communication	9850
CDN(Calibration tools)	TCDN-801-150-50	Fisher Custom Communication	9852, 9853

『Test Clause』

EN61000-4-8 : Power-Frequency Magnetic Field Immunity Test

(MFP/Printer : A3 Model)

<i>Equipment</i>	<i>Type</i>	<i>Manufacturer</i>	<i>Serial No.</i>
Immunity Test System	*Handmade	---	---
Coupling Clamp	*Not used	---	---
Magnetic Field Coil	*Handmade	---	---

(MFP/Printer : A4 Model)

<i>Equipment</i>	<i>Type</i>	<i>Manufacturer</i>	<i>Serial No.</i>
Conducted immunity test system	BEST Plus 1	SCHAFFNER	199848-001SC
Magnetic field coil	INA 702	SCHAFFNER	199815-004SC
Coupling clamp	CDN126	SCHAFFNER	130

★ECOSYS P3060dn (EN55024)

◎EUT

Equipment	Model	S/N	System		Manufacturer
			A	B	
Printer	ECOSYS P3060dn	Z9S6500001	●	●	Kyocera Document
Paper Feeder	PF-320	NUR6507786	●		Kyocera Document
		NUR6507183	●		
		NUR6507766	●		
		NUR6507763	●		
	PF-3100	ZQT6700012		●	Kyocera Document
Printer NIC	IB-50	TEST-1	●		Kyocera Document
	IB-32	TEST-1		●	Kyocera Document
	IB-36	TEST-1	●	●	Kyocera Document
PC	Vostro 1200	29904650925	●	●	DELL
HUB	CentreCOM GS908XL	007613G101300195 E1	●	●	BUFFALO

◎Operation Modes

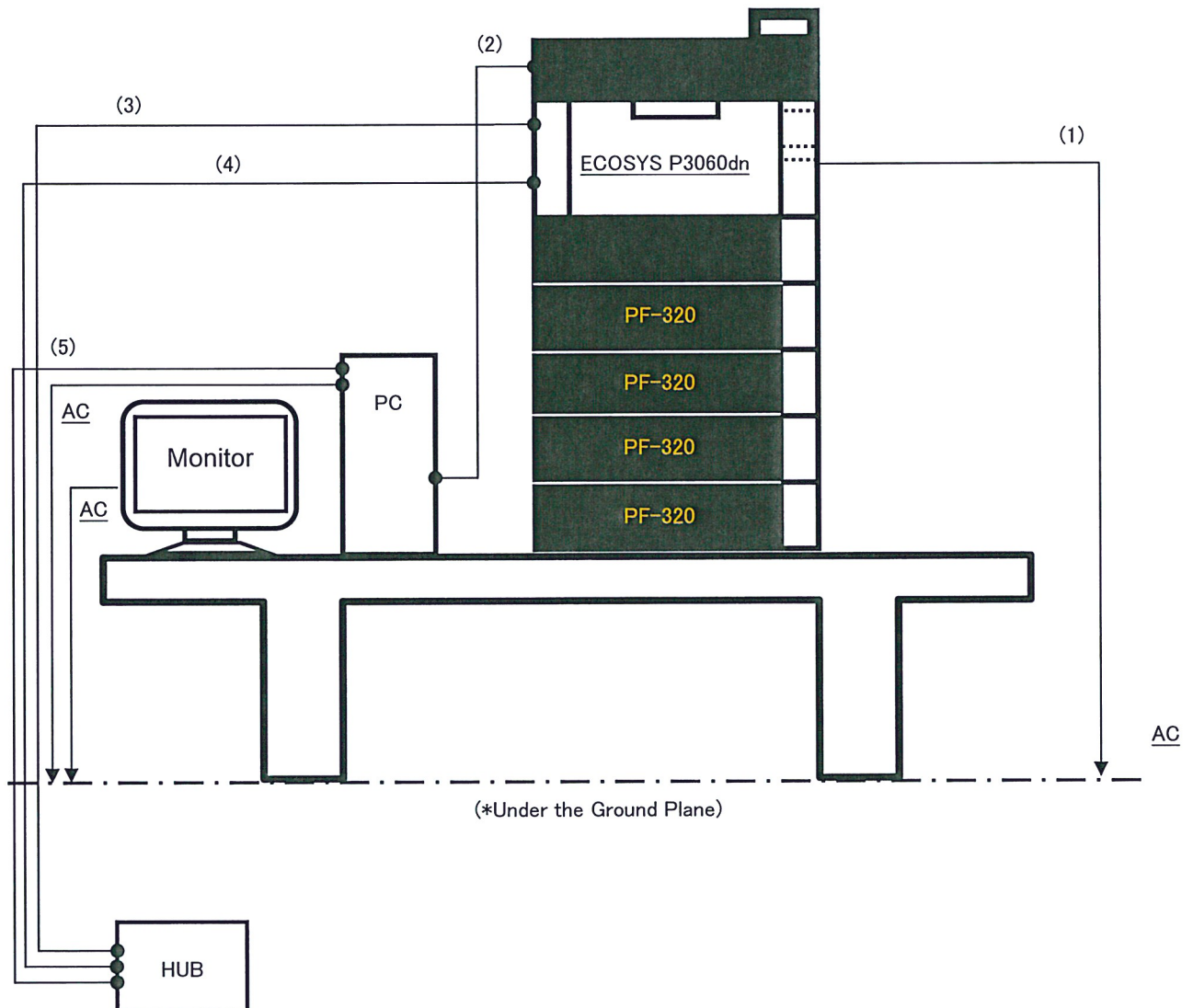
No.	Operation Mode	System	Rad.RF	CON.RF	Power Frequency
①	LAN Print (On Board)	A	○	○	○
②	USB Print	B	○	○	---

◎Connected Cable / Cord

No.	Cable / Cord	Length	Core	Shielded	Connector
1	Printer Power Cord	2.5 m	---	---	Resinous
2	USB Cable	5 m	---	○	Metallic
3	LAN Cable(On Board) for Printer	10m	---	○	Metallic
4	LAN Cable(Optional) for Printer	10m	---	○	Metallic
5	LAN Cable for PC	1m	---	○	Metallic
6	Parallel Cable	1 m	---	○	Metallic
7	PC Power Cord	2.5m	---	---	Resinous
8	Monitor Power Cord	2.5m	---	---	Resinous

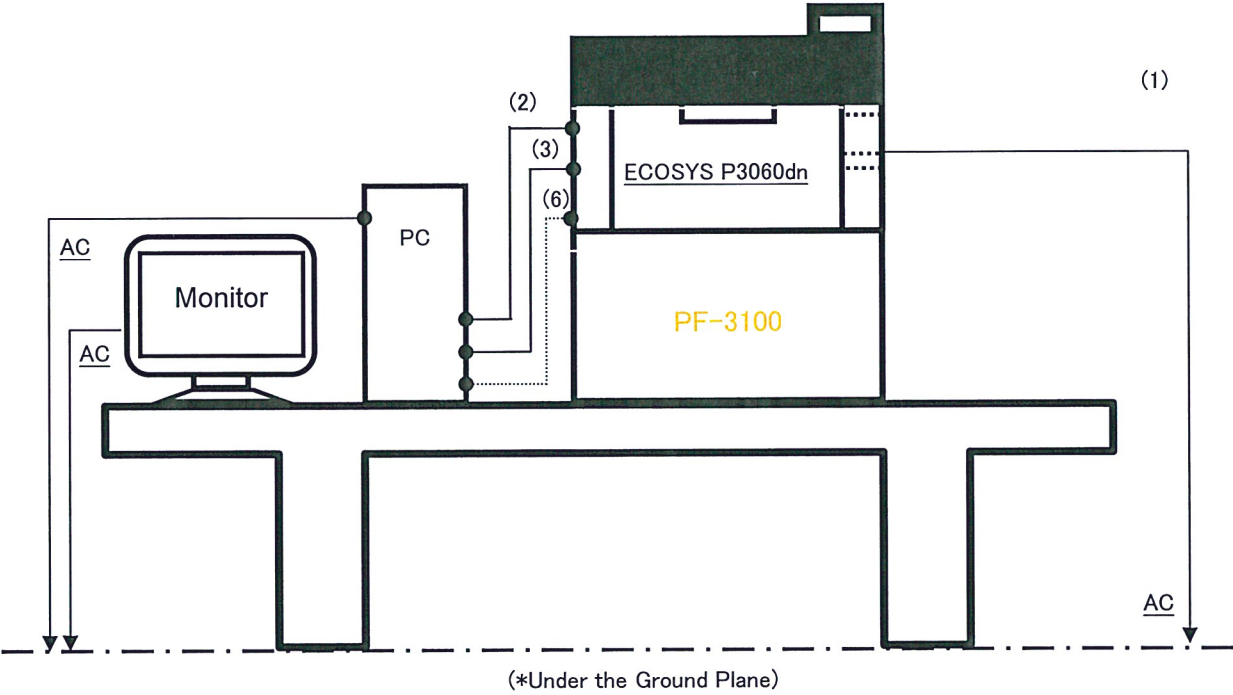
©Equipment Connection Figure

System A



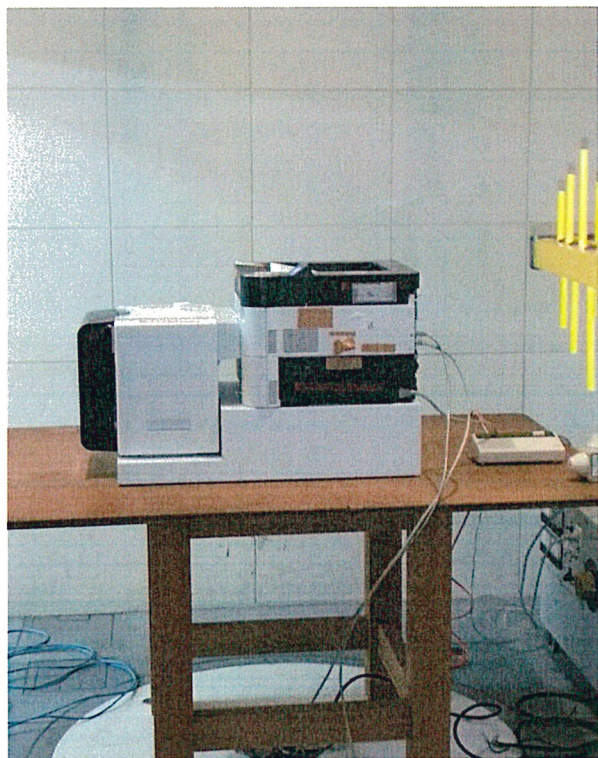
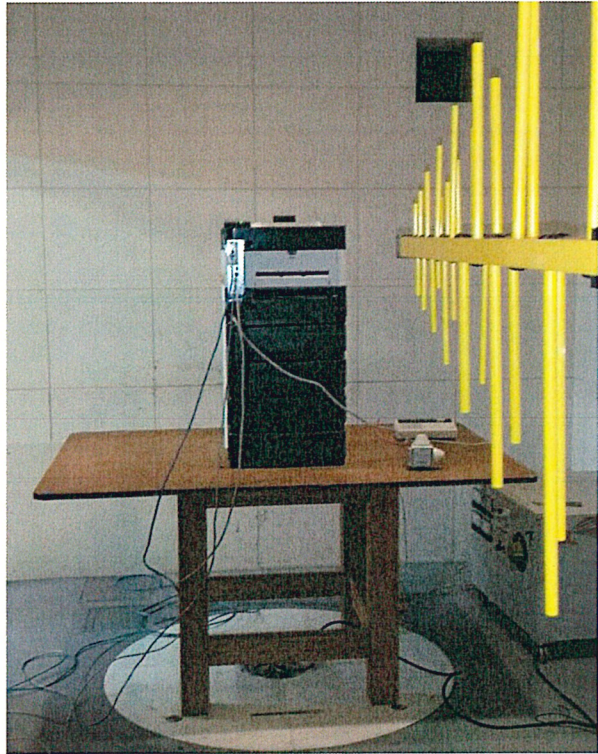
©Equipment Connection Figure

System B



Photograph of Tested Device Configuration

(Radiated RF Electromagnetic Field Immunity Test)



Photograph of Tested Device Configuration

(Conducted RF Electromagnetic Field Immunity Test)

