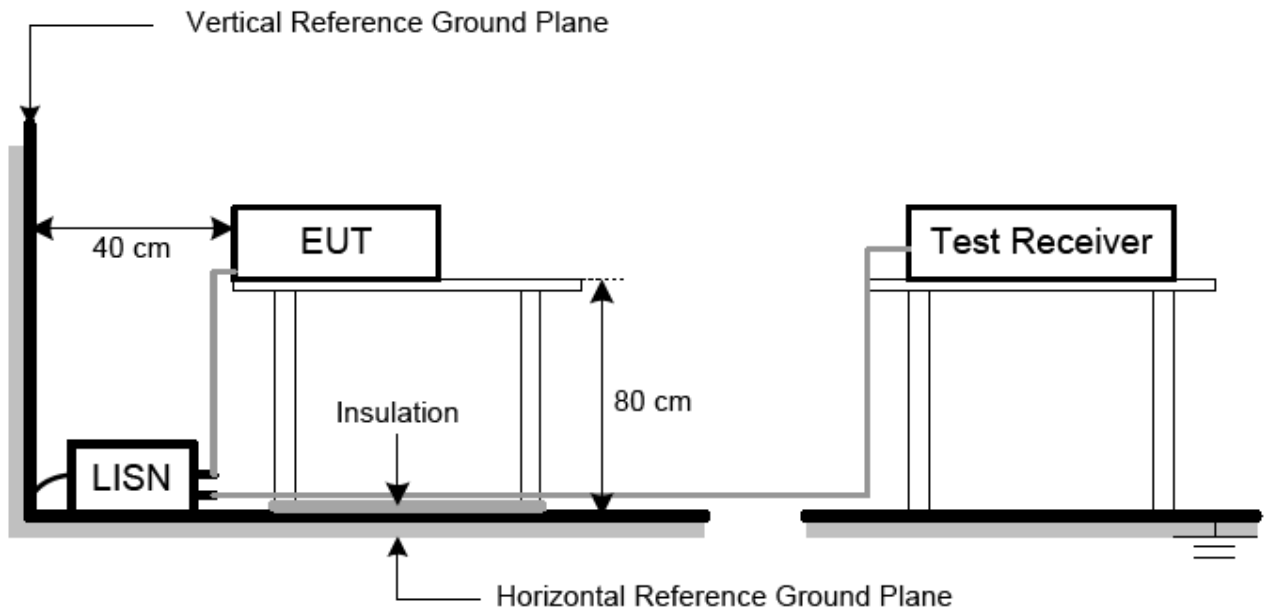
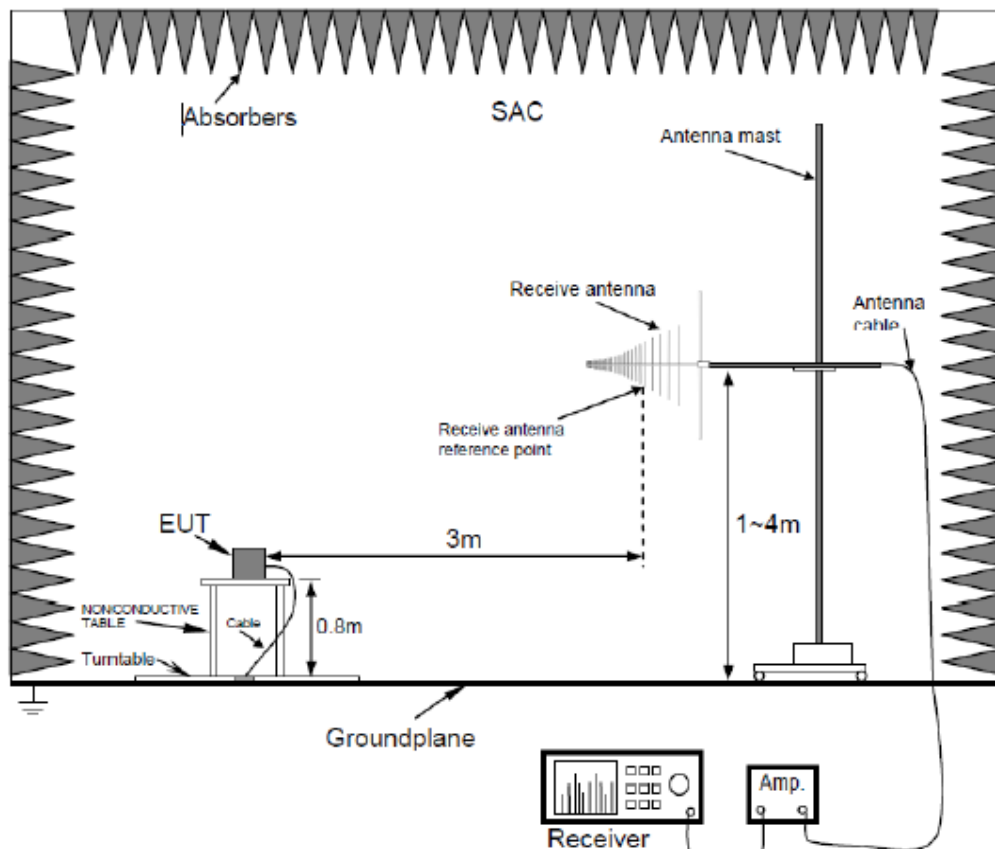


Configuration used for determination 用於特性的配置  
 EMI 特性 Electro-Magnetic interference characteristics  
 (1)Conducted Emission



(2)Radiated Emission



Conduction Character (傳導特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac
2	I/P Frequency(Hz)(輸入頻率)	60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	KH3931
2	AC Source(變頻器)	ALL POWER/APG-1005N
3	Character Standard	EN55032 CLASS B

※Character Data(特性數據) :

ITEM	QP	AV
L line	-9.0dB	-7.9dB
N line	-8.6dB	-7.7dB

※Character Waveform (特性波形) :

### EMI TEST REPORT

Organization: UNIFIVE    Operator: PS    EUT:UNS(UNB)WT3050-150035SA  
 Place: EMI    Time: 2023/6/3/08:57    Test equipment:KH3931  
 Detector: PK+AV    Test-time(ms): 30    SN: 310771  
 Limit: EN55032    Transductor(PK/AV): PK / AV    JZ: 2,14,1439  
 Remark: 100V L LOAD=3.5A(4.28R)

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
0.188	55.1	64.1	-9.0
0.242	50.3	62.0	-11.7
0.330	45.6	59.5	-13.8
0.594	39.9	56.0	-16.1
0.730	46.3	60.0	-13.7
0.190	46.1	54.0	-7.9
0.244	33.4	52.0	-18.5
0.310	34.8	50.0	-15.2
0.610	25.0	46.0	-21.0
0.650	35.6	50.0	-14.4

### EMI TEST REPORT

Organization: UNIFIVE    Operator: PS    EUT:UNS(UNB)WT3050-150035SA  
 Place: EMI    Time: 2023/6/3/09:02    Test equipment:KH3931  
 Detector: PK+AV    Test-time(ms): 30    SN: 310771  
 Limit: EN55032    Transductor(PK/AV): PK / AV    JZ: 2,14,1445  
 Remark: 100V N LOAD=3.5A(4.28R)

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
0.188	55.5	64.1	-8.6
0.240	48.7	62.1	-13.4
0.310	47.1	60.0	-12.8
0.524	40.8	56.0	-15.2
0.640	47.2	60.0	-12.8
0.186	46.6	54.2	-7.7
0.248	34.6	51.8	-17.3
0.310	36.8	50.0	-13.2
0.510	26.5	46.0	-19.5
0.610	36.3	50.0	-13.7

Conduction Character (傳導特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	KH3931
2	AC Source(變頻器)	ALL POWER/APG-1005N
3	Character Standard	EN55032 CLASS B

※Character Data(特性數據) :

ITEM	QP	AV
L line	-5.3dB	-4.4dB
N line	-5.7dB	-3.2dB

※Character Waveform (特性波形) :

### EMI TEST REPORT

Organization: UNIFIVE    Operator: PS    EUT:UNS(UNB)WT3050-150035SA  
 Place: EMI    Time: 2023/6/3/09:19    Test equipment:KH3931  
 Detector: PK+AV    Test-time(ms): 30    SN: 310771  
 Limit: EN55032    Transductor(PK/AV): PK / AV    JZ: 2,14,1453  
 Remark: 230V L LOAD=3.5A(4.28R)

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
0.170	59.7	65.0	-5.3
0.342	48.9	59.2	-10.2
0.410	47.6	57.6	-10.1
0.586	43.3	56.0	-12.7
11.125	45.2	60.0	-14.8

### EMI TEST REPORT

Organization: UNIFIVE    Operator: PS    EUT:UNS(UNB)WT3050-150035SA  
 Place: EMI    Time: 2023/6/3/09:13    Test equipment:KH3931  
 Detector: PK+AV    Test-time(ms): 30    SN: 310771  
 Limit: EN55032    Transductor(PK/AV): PK / AV    JZ: 2,14,1449  
 Remark: 230V N LOAD=3.5A(4.28R)

Start(MHz)	End(MHz)	Step(MHz)
0.150	2.000	0.002
2.000	10.000	0.010
10.000	30.000	0.025

freq(MHz)	lev(dBuV)	Lim(dBuV)	Δ(lev-Lim)
0.172	59.2	64.9	-5.7
0.230	53.3	62.4	-9.1
0.528	41.8	56.0	-14.2
0.740	40.8	56.0	-15.2
11.000	44.7	60.0	-15.3

Radiation Character (輻射特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac
2	I/P Frequency(Hz)(輸入頻率)	60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	外面實驗室 (ATT)
2	AC Source(變頻器)	外面實驗室 (ATT)
3	Character Standard	CISPR32 CLASS B

※Character Data(特性數據) :

ITEM	peak	QP
Character Result	V line	N/A
	H line	N/A

※Character Waveform (特性波形) :

File: UNOWT3050-150035SA Data: #4 Date: 2023/6/2 星期一 Time: 10:08:32

Site :ATT Radiated Emission Chamber 2 Polarization: **Vertical** Temperature: 23  
 Limit: (RE)CISPR32 class B 3m Power: AC 100V/60Hz Humidity: 52 %  
 EUT:  
 M/N: UNOWT3050-150035SA  
 Mode: FULL LOAD  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree
1	*	34.3964	40.99	-9.53	31.46	40.00	-8.54	peak	
2		74.9191	44.64	-18.67	25.97	40.00	-14.03	peak	
3		210.0482	41.52	-12.64	28.88	40.00	-11.12	peak	

\*:Maximum data x:Over limit !:over margin

File: UNOWT3050-150035SA>Data: #4 Page: 1

File: UNOWT3050-150035SA Data: #3 Date: 2023/6/2 星期一 Time: 10:07:27

Site :ATT Radiated Emission Chamber 2 Polarization: **Horizontal** Temperature: 23  
 Limit: (RE)CISPR32 class B 3m Power: AC 100V/60Hz Humidity: 52 %  
 EUT:  
 M/N: UNOWT3050-150035SA  
 Mode: FULL LOAD  
 Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
		MHz	dBuV	dB	dBuV/m	dB/m	dB	cm	degree
1		135.5062	41.26	-13.67	27.59	40.00	-12.41	peak	
2	*	209.3129	44.95	-9.86	35.09	40.00	-4.91	peak	
3		280.0237	35.78	-6.81	28.97	47.00	-18.03	peak	

\*:Maximum data x:Over limit !:over margin

File: UNOWT3050-150035SA>Data: #3 Page: 1

Radiation Character (輻射特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	外面實驗室 (ATT)
2	AC Source(變頻器)	外面實驗室 (ATT)
3	Character Standard	CISPR32 CLASS B

※Character Data(特性數據) :

ITEM	peak	QP
Character Result	V line	N/A
	H line	N/A

※Character Waveform (特性波形) :

File: UNOWT3050-150035SA Data: #1 Date: 2023/6/2 星期 Time: 10:03:25

Site :ATT Radiated Emission Chamber 2 Polarization: **Vertical** Temperature: 23  
 Limit: (RE)CISPR32 class B 3m Power: AC 230V/50Hz Humidity: 52 %  
 EUT:  
 M/N: UNOWT3050-150035SA  
 Mode: FULL LOAD  
 Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
	MHz	dBuV	dB	dBuV/m	dBm	dB	cm	degree
1	35.1278	36.50	-8.96	27.54	40.00	-12.46		peak
2	91.8163	42.18	-15.44	26.74	40.00	-13.26		peak
3 *	210.0482	43.90	-12.64	31.26	40.00	-8.74		peak

\*:Maximum data x:Over limit !:over margin

File :UNOWT3050-150035SA>Data :#1 Page : 1

File: UNOWT3050-150035SA Data: #2 Date: 2023/6/2 星期 Time: 10:05:32

Site :ATT Radiated Emission Chamber 2 Polarization: **Horizontal** Temperature: 23  
 Limit: (RE)CISPR32 class B 3m Power: AC 230V/50Hz Humidity: 52 %  
 EUT:  
 M/N: UNOWT3050-150035SA  
 Mode: FULL LOAD  
 Note:

No. Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Antenna Height	Table Degree
	MHz	dBuV	dB	dBuV/m	dBm	dB	cm	degree
1	135.0319	43.13	-13.64	29.49	40.00	-10.51		peak
2 *	213.0151	44.78	-10.34	34.44	40.00	-5.56		peak
3	239.9874	37.42	-7.44	29.98	47.00	-17.02		peak

\*:Maximum data x:Over limit !:over margin

File :UNOWT3050-150035SA>Data :#2 Page : 1

EFT Character (電子脈衝群干擾特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac/230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz / 60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	BEST EMC SOLUTION	EMCSOSIN / EFT-S4
2	AC Source(變頻器)	ALL POWER/APG-1005N

※Character Standard(特性標準) :

1	Character Standard	IEC 61000-4-4
EFT Character		
	Spec.	1KV
	O/P	Full Load
	I/P	100Vac/60Hz & 230Vac/50Hz
	Burst	15ms/300ms
	Character Duration	1 min
	Pulse Rate:	5KHz/100KHz

※Character Data(特性數據) 產品類別: Class I

Power Line	Pulse Polarity	Character Voltage	Required Criteria	Complied To Criteria(A,B,C)	Judgement
L	"+" / "-"	1KV	Criteria B	Criteria A	PASS
N	"+" / "-"	1KV	Criteria B	Criteria A	PASS
L-N	"+" / "-"	1KV	Criteria B	Criteria A	PASS
PE	"+" / "-"	1KV	Criteria B	Criteria A	PASS
L-PE	"+" / "-"	1KV	Criteria B	Criteria A	PASS
N-PE	"+" / "-"	1KV	Criteria B	Criteria A	PASS
L-N-PE	"+" / "-"	1KV	Criteria B	Criteria A	PASS

※Character Performance & Result :

- Criteria A: The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
- Criteria B: The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- Criteria C: Temporary loss of function is allowed, provided the function self recoverable or can be restored by the operation of controls

ESD Character (靜電干擾特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac/230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz / 60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	EMC-PARTNER	PRIMA /ESD61002TB
2	AC Source(變頻器)	ALL POWER/APG-1005N

※Character Standard(特性標準) :

1	Character Standard	IEC 61000-4-2:2001	
ESD Character			
Spec.	Air: ±8.0KV	Contact: ±4.0KV	
O/P	Full Load		
I/P	100Vac/60Hz & 230Vac/50Hz		
Description of Observation:	NO Abnormal Issue		
Performance Criterion:	Manufacturer (According to Standard/Manufacturer)		

※Character Data(特性數據) :

Item	Amount of Discharge	Voltage	Required Criteria	Complied To Criteria(A,B,C)	Judgement
Air Discharge	Mini 10/Point	±8.0KV	Criteria B	Criteria A	PASS
Contact Discharge	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS
Indirect Discharge(HCP)	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Front)	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Left)	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Back)	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Right)	Mini 25/Point	±4.0KV	Criteria B	Criteria A	PASS

※Character Performance & Result :

- Criteria A: The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
- Criteria B: The apparatus continues to operate as intended after test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- Criteria C: Temporary loss of function is allowed, provided the function self recoverable or can be restored by the operation of controls

Light Surge Character (雷擊特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac/230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz / 60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	EMC-PARTNER	Prima/ SUG61005TAX
2	AC Source(變頻器)	ALL POWER/APG-1005N

※Character Standard(特性標準) :

1	Character Standard	IEC 61000-4-5:1995+ A1:2001
SURGE Character		
Spec.	Line to Line ±1KV ; Line to FG ±2KV	
O/P	Full load	
I/P	100Vac/60Hz & 230Vac/50Hz	
REP.RATE	60 sec	
Description of Observation:	NO Abnormal Issue	
Performance Criterion:	Manufacturer (According to Standard/Manufacturer)	

※Character Data(特性數據) 產品類別: Class I

Character Point	Character Voltage	Polarity	Phase Angle				Required Criteria	Complied To Criteria(A,B,C)	Judgement
			0°	90°	180°	270°			
L-N	1KV	+	OK	OK	OK	OK	Criteria B	Criteria A	PASS
		-	OK	OK	OK	OK	Criteria B	Criteria A	PASS
L-GND	2KV	+	OK	OK	OK	OK	Criteria B	Criteria A	PASS
		-	OK	OK	OK	OK	Criteria B	Criteria A	PASS
N-GND	2KV	+	OK	OK	OK	OK	Criteria B	Criteria A	PASS
		-	OK	OK	OK	OK	Criteria B	Criteria A	PASS
L,N-GND	2KV	+	OK	OK	OK	OK	Criteria B	Criteria A	PASS
		-	OK	OK	OK	OK	Criteria B	Criteria A	PASS

Class II Type : Character L-N Only.

※Character Performance & Result :

- Criteria A: The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
- Criteria B: The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- Criteria C: Temporary loss of function is allowed, provided the function self recoverable or can be restored by the operation of controls



DIPS Character(周波跌落特性)

※Character Condition(特性條件):

1	I/P Voltage(Vac)(輸入電壓)	100~230Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz/60Hz
3	Output load(輸出負載)	Full load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS
6		

※Character Parameters(特性參數):

DIPS Character	
Condition :	According EN61000-4-11 ( full load and high line )
	Voltage Dips 100% Redaction 10ms/20ms ; 60% Redaction 200ms/240ms ; 30% Redaction 500 ms/600ms Voltage Interruption : ≥95% ; Redaction 5000ms/6000ms

※Character Data(特性數據):

Character Level	% UT	Reduction (%)	Duration (Periods)	Perform Criteria	Results	Judgement
0		100	0.5/1	B	Criteria A	PASS
40		60	10/12	C	Criteria B	PASS
70		30	25/30	C	Criteria A	PASS
0		100	250/300	C	Criteria B	PASS

※Character Performance & Result :

- Criteria A:** The apparatus continues to operate as intended. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance.
- Criteria B:** The apparatus continues to operate as intended after the test. No degradation of performance or loss of function is allowed below a performance level specified by the manufacturer, when the apparatus is used as intended. In some cases the performance level may be replaced by a permissible loss of performance. During the test, degradation of performance is however allowed.
- Criteria C:** Temporary loss of function is allowed, provided the function self recoverable or can be restored by the operation of controls

Radiated Radio-Frequency Electromagnetic Field Immunity Character (IEC61000-4-3) (RS特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	廠外部實驗室 (ATT特性)
2	AC Source(變頻器)	廠外部實驗室 (ATT特性)

※Character Standard(特性標準) :

O/P	Full Load
I/P	100Vac/50Hz

RS TEST DATA

Freq.Range(MHz)	RF Field Position	R.F. Field Strength	Azimuth	Perform Criteria	Results	Judgment
80MHz-1000MHz	Vertical/Horizontal	1V(rms) AM Modulated 1000Hz, 80%	Front	A	A	PASS
			Back			
			Left			
			Right			

Conducted Disturbances Induced by Radio-Frequency Field Immunity Character (IEC61000-4-6) (CS特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	廠外部實驗室 (ATT特性)
2	AC Source(變頻器)	廠外部實驗室 (ATT特性)

※Character Standard(特性標準) :

O/P	Full Load
I/P	100Vac/50Hz

CS TEST DATA

Test Ports (Mode)	Freq.Range(MHz)	Field Strength	Perform Criteria	Results	Judgment
Input/Output AC. Power Port	0.15-80MHz	3V(rms) AM Modulated 1000Hz, 80%	A	A	PASS

Power Frequency Magnetic Field Immunity Character (IEC61000-4-8) (PFMF特性)

※Character Condition(特性條件) :

1	I/P Voltage(Vac)(輸入電壓)	100Vac
2	I/P Frequency(Hz)(輸入頻率)	50Hz/ 60Hz
3	Output Load(輸出負載)	Full Load
4	Ambient Temp.(°C)(環境溫度)	25°C
5	Sample Size(取樣數)	1PCS

※Character Equipment(特性設備) :

ITEM	Equipment Item(設備)	Model No. / Manufacturer(製造商和型號)
1	頻普接收儀	廠外部實驗室 (ATT特性)
2	AC Source(變頻器)	廠外部實驗室 (ATT特性)

※Character Standard(特性標準) :

O/P	Full Load
I/P	100Vac/50Hz

Magnetic Field Immunity

Test Ports (Mode)	Frequency(Hz)	Field Strength	Perform Criteria	Results	Judgment
X Orientation	50/60	1A/m	A	A	PASS
Y Orientation			A	A	PASS
Z Orientation			A	A	PASS