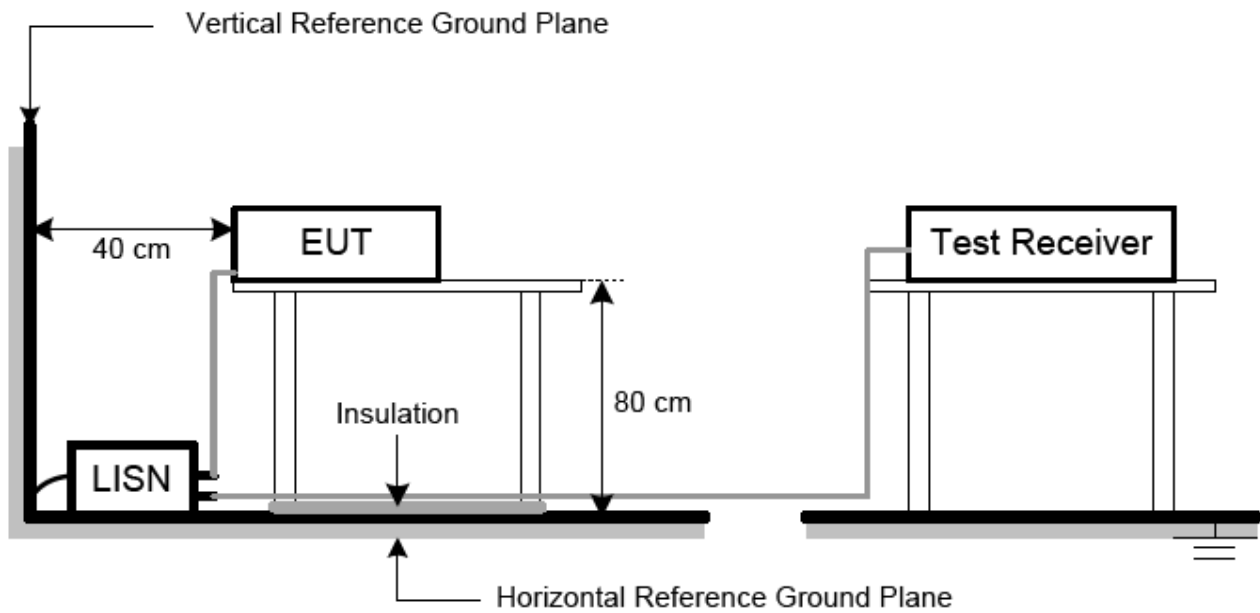


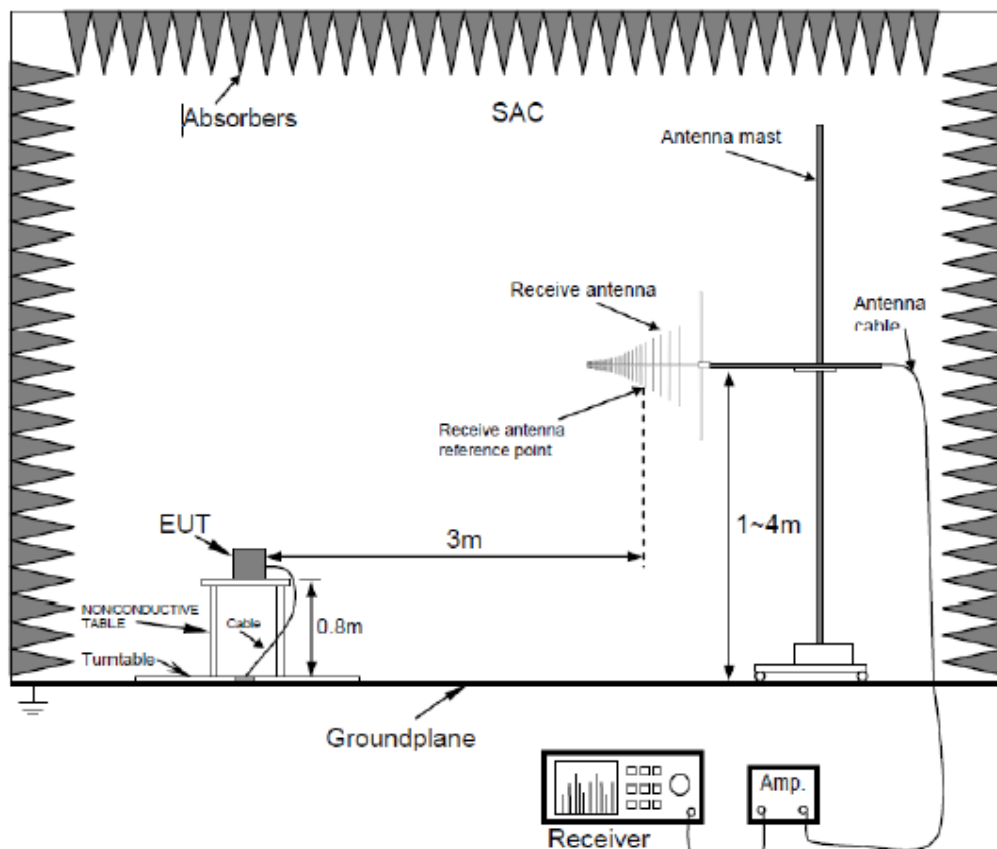
Configuration used for determination 用於特性的配置

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

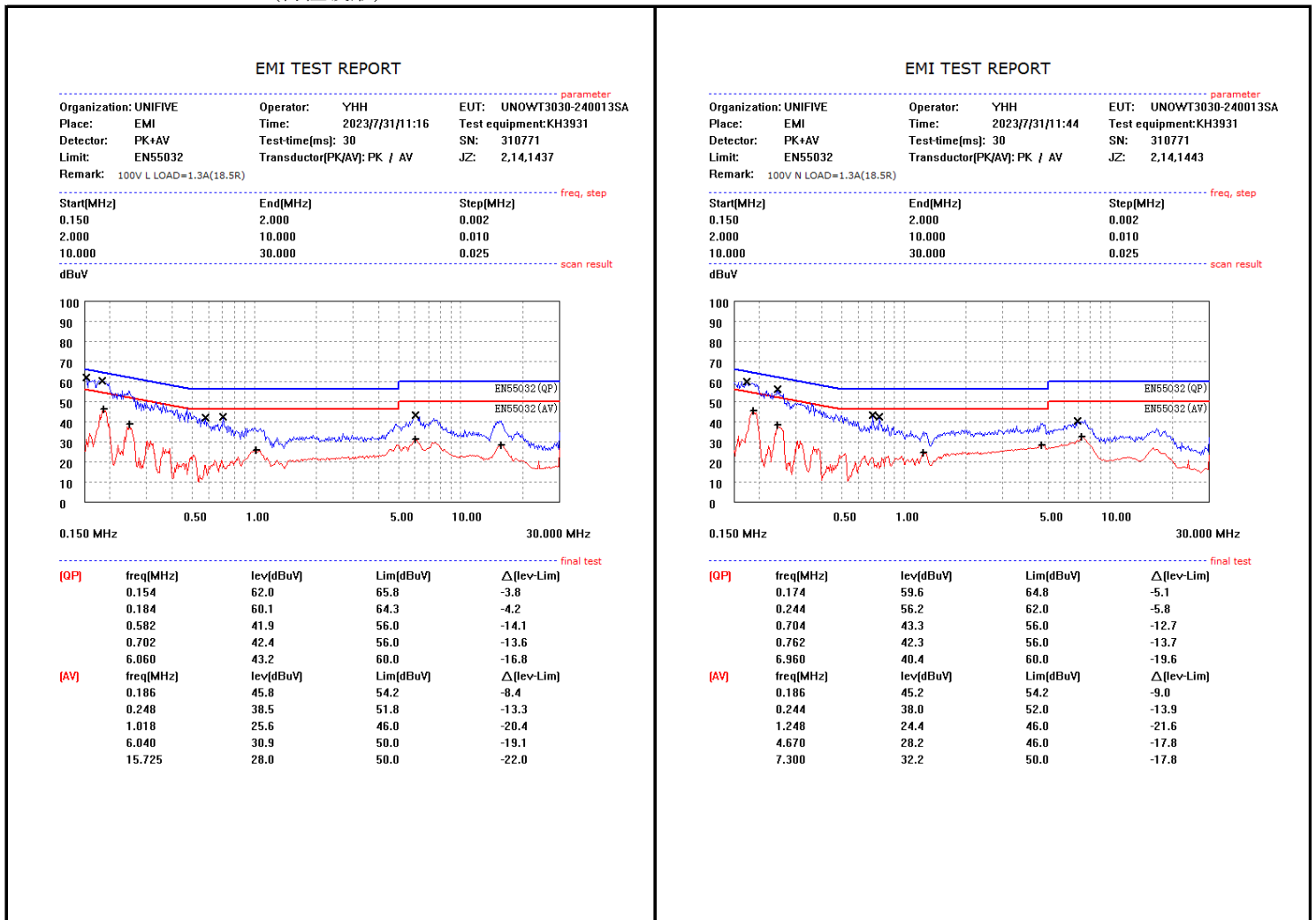
### ※Character Equipment(特性設備):

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	-3.8dB	-8.4dB
N line	-5.1dB	-9.0dB

### ※Character Waveform (特性波形):



## 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

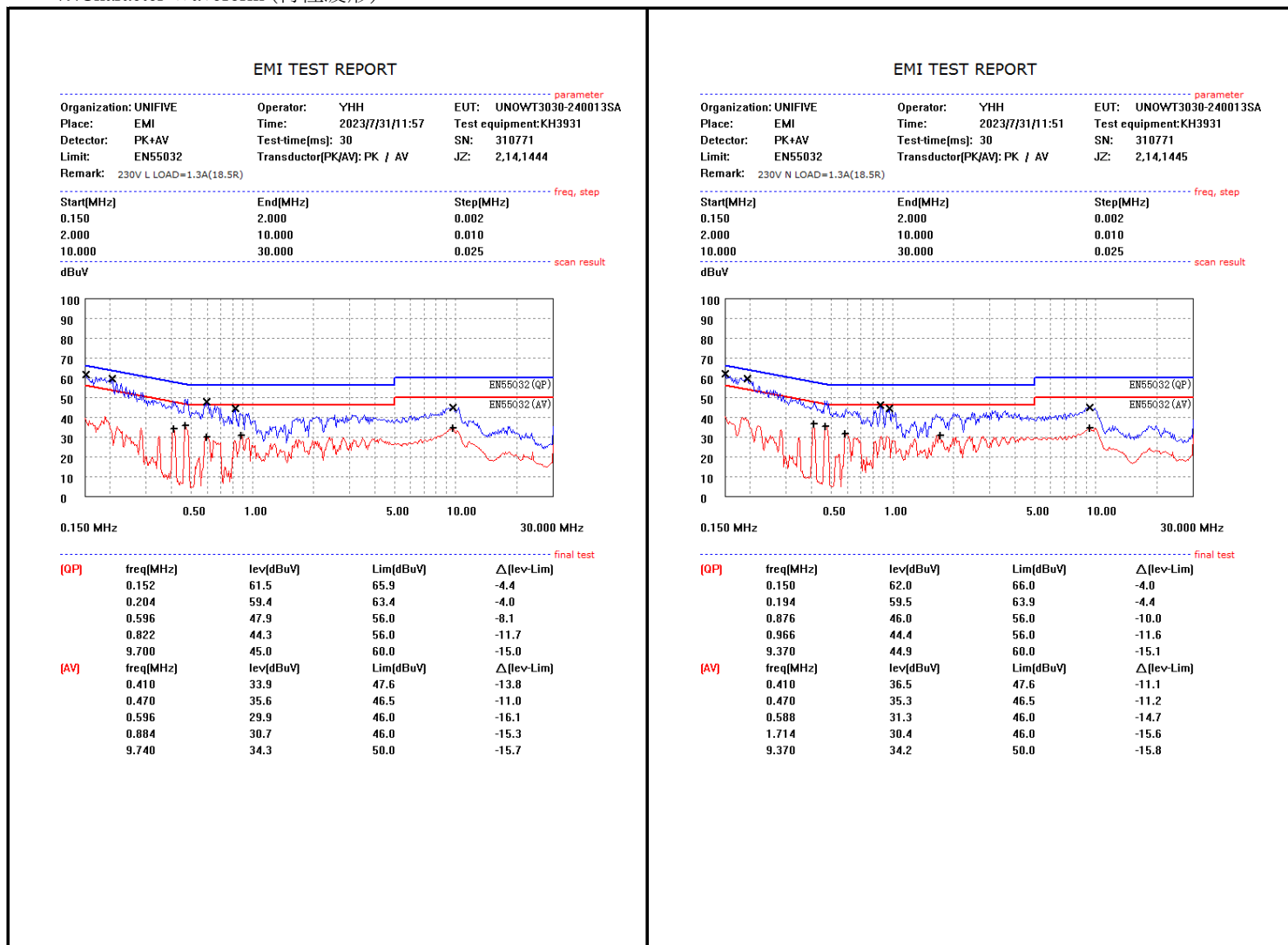
※Character Equipment(特性設備):

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	-4.0dB	-11.0dB
N line	-4.0dB	-11.1dB

※Character Waveform (特性波形):



## 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

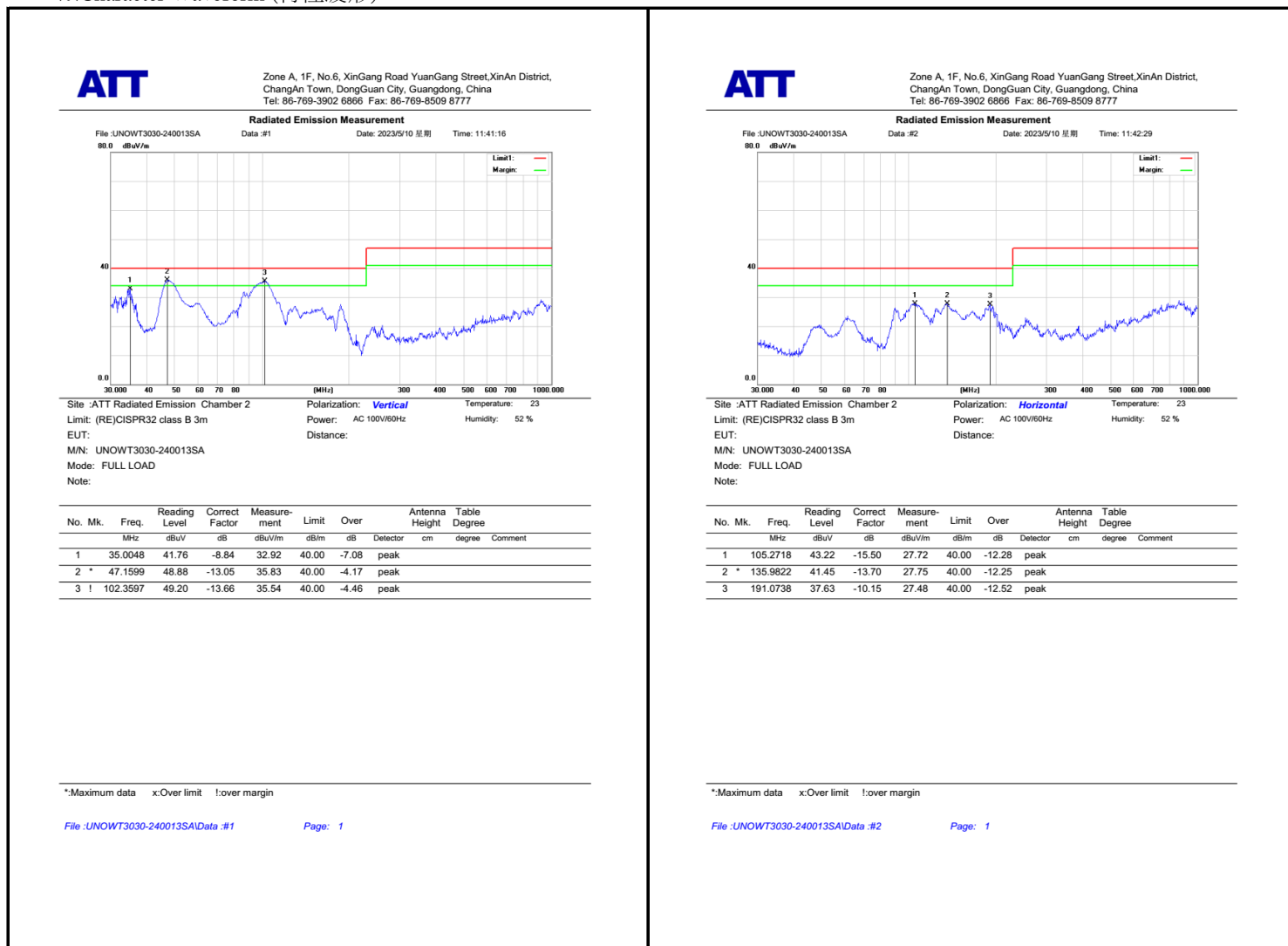
### ※Character Equipment(特性設備):

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	-4.17dB
	H line	-12.25dB

### ※Character Waveform (特性波形):



## 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	-3.53dB
	H line	-13.34dB

### ※Character Waveform (特性波形):

ATT

Zone A, 1F, No.6, XinGang Road YuanGang Street,XinAn District,  
ChangAn Town, DongGuan City, Guangdong, China  
Tel: 86-769-3902 6866 Fax: 86-769-8509 8777

Radiated Emission Measurement

File :UNOWT3030-240013SA

Data :#4

Date: 2023/5/10 星期

Time: 11:46:38

80.0 dBuV/m

Site :ATT Radiated Emission Chamber 2

Polarization: **Vertical**

Temperature: 23

Limit: (RE)CISPR32 class B 3m

Power: AC 230V/50Hz

Humidity: 52 %

EUT:

Distance:

M/N: UNOWT3030-240013SA

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	*	35.0048	45.31	-8.84	36.47	40.00	-3.53	peak	
2		86.2001	45.17	-11.93	33.24	40.00	-6.76	peak	
3		104.1701	45.50	-13.69	31.81	40.00	-8.19	peak	

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

File :UNOWT3030-240013SAData :#4

Page: 1

ATT

Zone A, 1F, No.6, XinGang Road YuanGang Street,XinAn District,  
ChangAn Town, DongGuan City, Guangdong, China  
Tel: 86-769-3902 6866 Fax: 86-769-8509 8777

Radiated Emission Measurement

File :UNOWT3030-240013SA

Data :#3

Date: 2023/5/10 星期

Time: 11:45:30

80.0 dBuV/m

Site :ATT Radiated Emission Chamber 2

Polarization: **Horizontal**

Temperature: 23

Limit: (RE)CISPR32 class B 3m

Power: AC 230V/50Hz

Humidity: 52 %

EUT:

Distance:

M/N: UNOWT3030-240013SA

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		89.5899	43.41	-17.46	25.95	40.00	-14.05	peak	
2	*	120.6991	39.18	-12.52	26.66	40.00	-13.34	peak	
3		193.0945	35.22	-10.11	25.11	40.00	-14.89	peak	

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

File :UNOWT3030-240013SAData :#3

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: $\pm 8.0KV$	Contact: $\pm 4.0KV$
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	$\pm 8.0KV$	Criteria B	Criteria A	PASS
Contact Discharge	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS
Indirect Discharge(HCP)	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Front)	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Left)	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Back)	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS
Indirect Discharge(VCP Right)	Mini 25/Point	$\pm 4.0KV$	Criteria B	Criteria A	PASS

## ※Character Performance &amp; 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

## 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 $\pm 1KV$ ; Line to FG $\pm 2KV$	
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 &amp; 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
2	AC Source(變頻器)	廠外部實驗室

※Character Standard(特性標準)：

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
2	AC Source(變頻器)	廠外部實驗室

※Character Standard(特性標準)：

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
2	AC Source(變頻器)	廠外部實驗室

※Character Standard(特性標準)：

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