


REV.	Description	Date
S00	102A-199075 增加 ADP-65DW Y2G 與 ADP-65DW Y2E 做成系列	09/19'19
S01	102A-19A015 ADD ADP-65DW X2E/X2G/Z2E/Z2G MODEL NAME	10/03'19
S02	102A-206008 ITEM 7. Over Current Protection Remark 部分 原始內容：110Vac/220Vac OCP is 4.1A~5.6A, 不計算 CPK 修正為：110Vac/220Vac OCP SPEC is 4.1A~5.6A。 不計算 CPK。	06/05'20
00	102A-208075 ADD NEW MODEL FOR ADP-65DW ZZD. 102A-208053 ADD ADP-65DW X2L/Y2L/Z2L/ X2M/Y2M/Z2M/MODEL NAME Release mass production spec	08/17/20
01	102A-215078 ADD MODEL ADP-65DW X2R/Y2R/Z2R	05/27'21
02	102A-21A225 ADD MODEL ADP-65DW EBA/ZBA/WBA/YCA	10/28'21
03	102A-21C116 ADD MODEL ADP-65DW EBAEA/EBAEB/EBAEC/ EBAED/EBAEE	12/17'21
04	102A-225021 ADD MODEL ADP-65DW EBAEF	05/10'22
05	102A-225145 ADD MODEL ADP-65DW Y2S,Y2T,X2S,X2T,Z2S,Z2T	05/19'22
06	102A-232059 ADD MODEL: ADP-65DW Y2E5, ADP-65DW X2E5, ADP-65DW X2L5, ADP-65DW Y2L5	02/08'23
07	102A-244019 ADD MODEL ADP-65DW ZBB 102A-244020 ADD MODEL ADP-65DW ZBC	04/08'24

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## MODEL LIST

ADP-65DW Y2E	ADP-65DW Y2G	ADP-65DW X2E	ADP-65DW X2G
ADP-65DW Z2E	ADP-65DW Z2G	ADP-65DW X2L	ADP-65DW X2M
ADP-65DW Y2L	ADP-65DW Y2M	ADP-65DW Z2L	ADP-65DW Z2M
ADP-65DW Z2D	ADP-65DW X2R	ADP-65DW Y2R	ADP-65DW Z2R
ADP-65DW EBA	ADP-65DW ZBA	ADP-65DW WBA	ADP-65DW YCA
ADP-65DW EBAEA	ADP-65DW EBAEB	ADP-65DW EBAEC	ADP-65DW EBAED
ADP-65DW EBAEE	ADP-65DW EBAEF	ADP-65DW X2S	ADP-65DW X2T
ADP-65DW Y2S	ADP-65DW Y2T	ADP-65DW Z2S	ADP-65DW Z2T
ADP-65DW Y2E5	ADP-65DW X2E5	ADP-65DW X2L5	ADP-65DW Y2L5
ADP-65DW ZBB	ADP-65DW ZBC		

### 1. 測試注意事項內容，未經工程師許可，不可任意變更。

Test Notice contents shall not be CHANGED or revised without engineer permission.

### 2. 此測試規格用於主線測試，所有項目均需被測試，因設備或線速限制無法全數測試時，需測試 worst case, QC 需按抽樣標準測試所有 ITEM 不可只測試主線測試項目。

The production line shall perform all or worst test ITEMS/conditions, and QC shall follow the sampling plan to perform all ITEMS/conditions not just the worst condition as production did.

### 3. 測試注意事項：


- 所有 ATS 測試時，須偵測 CONNECTOR 端之電壓。
- Acoustic noise 測試須熱機 20 minute。
- EMI 測試須熱機 20 minute。
- 所有測試外掛 1000uF 系統電容，要掛在治具上。

### 4. 燒錄 IC：N/A

### 5. 小板(小板名稱)動態測試：N/A

### 6. 手調測試站：

- VR 調整測試條件如下：N/A

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b. **Full Load Test:** 檢查滿載輸出是否符合規格

c. **Min. Load Test:** 檢查輕載輸出是否符合規格

d. **OTP Test :** Load Condition : 3.42A

NTC31 多並聯一顆 10 ohm 電阻,檢查輸出電壓是否 shutdown 或 Latch off.

e. **OVP Test :** Load Condition : 0A

短路 R135,檢查輸出電壓是否小於 27V, OVP 動作模式為 Latch off.

f. **LED 狀態:** 無 LED

g. **AC On/Off:** Power supply 連續開關機 On= 3 秒, Off= 3 秒, 5 次後, 必須無損壞情形。(必加項目)

## 7.Function test (ATS) procedure :

### Input Specification Table:

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	137 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

### Output Specification Table:

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	18.5	20.5	19
Loading (Amp)	0A	3.42A	3.42A

Test ITEM	Vin	Load	Spec	Remark
Inrush Current	264V/63Hz;	3.42A	No damage	Cold /Hot start
Turn On Time	100V/50Hz 240V/50Hz	3.42A	≤ 3s	不計算 CPK
Hold up Time	100V/50Hz	3.42A	≥5ms	
Rise Time	100V/50Hz 240V/50Hz	3.42A	<40ms	From 10 to 90% voltage, monotonic
Power saving requirement	100V/50Hz 230V/50Hz	18W 11W 3W 1.65W 1.5W	<21W <14W <5W <3W <2.2W	Warm up 30 min



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Test ITEM	Vin	Load	Spec	Remark
		1W 0.25W	<1.6W <0.45W	
Line Regulation	90/264V 47/63Hz	3.42A	18.5~20.5V	不計算 Cpk
Line Regulation	90/264V 47/63Hz	0A	18.5~20.5V	不計算 Cpk
Ripple & Noise	90V/47Hz 264V/63Hz	3.42A	≤300mVp-p	0.1uF//10uF 20MHz bandwidth in oscilloscope. AMB:25°C
Surge Load	100V/50Hz 240V/50Hz	Output 3.42A to 4.1A, 1s/1s	Vo >18V	AMB:25°C
Sync Dynamic	90V/47Hz 264V/63Hz	output 0.05A to 3.42A slew rate is 2.5A/us ,frequency is 100Hz and 100KHz	18.05~20.5V	
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. Load Turn on then short	Auto-recovery	
Over Current Protection	90V/47Hz 264V/63Hz	3.42A	OCP is 4.1-5.4A Auto-recovery	110Vac/220Vac OCP SPEC is 4.1A~5.6A。 不計算 CPK。
Input Current	100V /50Hz	3.42A	Iin, max <1.5A	
Full Load Efficiency	100V/ 50Hz 240V / 50Hz	3.42A	>83.5%	Cold
Average Efficiency	115V/60Hz 230V/50Hz	25%, 50%, 75% & 100% Load	>85%	Cold
Pin at No Load	115V/60Hz 230V/50Hz	No Load	≤0.21W	輸出端不可接到負載
10% Load	115V/60Hz 230V/50Hz	0.342A	>79%	Warm up 30 min
Capacitive Load	100V/50Hz	3.42A		
Peak load	100V/50Hz 240V/50Hz	Output 3.42A to 6.84A 18ms/2ms	Vo>17	不計算 CPK

Note 1: After completes required DVT test matrix, identifies and selects the worst case condition for the Production MTR. It is not required that all test conditions be tested. Example: If worst case condition for Output Ripple is minimum input voltage and maximum dc load, then that is the test condition to be used.

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## 8.Safety

### 8.1Hi-POT test :

8.1.1 RIMARY to SECONDARY use 3000+10% Vac test , (上昇時間: DC=1Sec, AC=0.1Sec) °

Test time=1sec ° Arcing current=3mA

Hi-Limit current=10mA ° Lo-Limit current=0.01mA °

8.1.2 Arcing sense level=5

### 8.2Insulation Resistance (IR) test :

The insulation resistance shall be not less than **30M** ohms after application of **500Vdc/10mA** for **1 minute**.

### 8.3Earth Grounding test :

N/A

### 8.4Leakage current :

Y cap no more than 220pF.

Leakage current no more than 20uA(max) at 240Vac/50Hz.for delta product line.

### 8.5EMI and RFI:

(1)Wall mount 用插座測試, DC 線不可與 AC 線接觸,

(2) 依下圖 1 所示使用 2m 長 AC 延長線, AC 線按法規規章自然下垂於地板

(3) 詳細擺設如下圖 2 示意, EMI 冷機 under 4dB"



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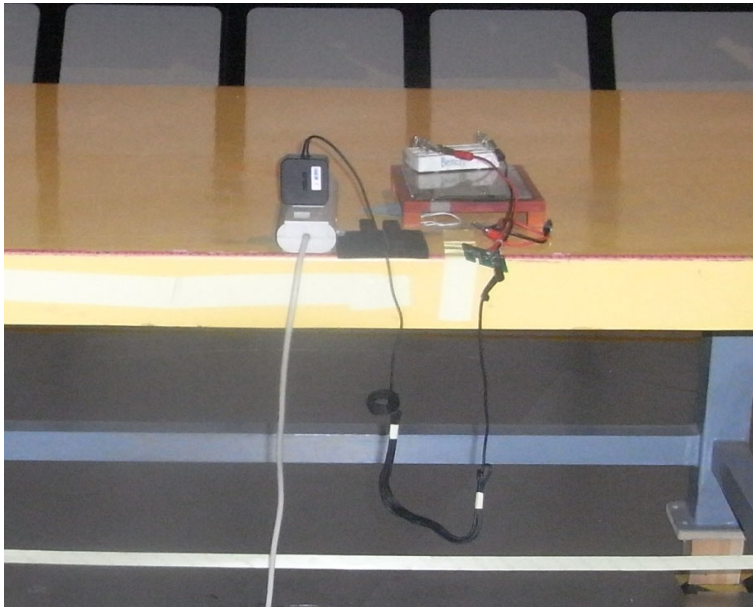
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(圖一)



(圖二)

(4) Wall mount 機種直接插 LISN 測試.測試方法如件:



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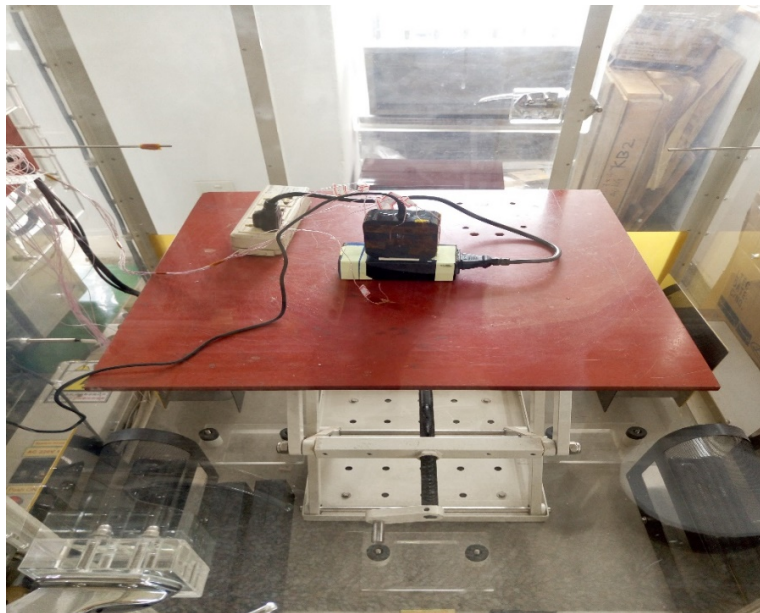
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吳和諺

### 8.6 Thermal Test:

Follow ASUS 架設方式&製具&粗線 Thermal wire,測試環境如下圖所示.



### 9. Burn-in 測試作業規範

Follow Delta Standard burn in condition.


### 10. I2C 測試作業規範：N/A

### 11. FRU Data Barcode Read/Write 測試作業規範：N/A

### 12. Loop/Gain 測試作業規範

Disturbance voltage setting 1.77V, parallel 1000uF system cap at output.

### 13. ESD 測試作業規範

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Don't need to add 10% margin, only test as below

±15KV air discharge performance criterion B.

±12KV air discharge performance criterion A.

±8KV contact discharge performance criterion A.

#### 14. Mechanical 包裝測試條件：請參照台達規範 10000-0089

##### (1) Drop Test

###### a. 條件

Carton weight

~25kg, 高度 60cm

26~50, 高度 45cm

51~75, 高度 35cm

76~100, 高度 30cm

###### b. 紙箱測試順序

以紙箱之 1 個稜角/3 個稜線/6 個面，每次落下試驗可取任一稜角(傾斜角不得超過 10 度)

###### c. 試驗步驟如下

Step1. 垂直落下此角 (Corner 2-3-5)

Step2. 由此角引申之最小稜線 (Edge 3-5)

Step3. 由此角引申之次長稜線 (Edge 2-5)

Step4. 由此角引申之最長稜線 (Edge 2-3)

Step5. 最小的面 (Front 5)

Step6. 相對的最小面 (Rear 6)

Step7. 次小的面 (Right 2)

Step8. 相對的次小面 (Left 4)

Step9. 最大的面 (Bottom 3)

Step10. 相對的最大面 (Top 1)

##### (2) Vibration Test

###### a. 條件

頻率 5 Hz, 振幅 20 mm, 時間 5 Min.

頻率 10 Hz, 振幅 5 mm, 時間 5 Min.



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頻率 15 Hz, 振幅 2.2 mm, 時間 5 Min.

頻率 20 Hz, 振幅 1.25 mm, 時間 5 Min.

\* 包裝測試後判定標準:

(1) Drop Test --- 產品 --- 外觀無損壞, 輸出正常, Hi-Pot 測試無不良.

--- 包材 --- 外箱可變形, 隔板潰縮移位不可大於同方向紙箱內尺寸之 4%,  
產品自身之單體包裝 (PE Bag, 彩盒, 吸塑盒.....) 不得有變形及破損.

(2) Vibration Test --- 產品 --- 外觀無損壞, 輸出正常, Hi-Pot 測試無不良, 包裝材料無損壞.

\* 如果參考機種已完成包裝測試, 則不需重新測試.



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