


REV.	Description	Date
S00	SPEC ISSUE (NEW MODEL)	02/26/2024
S01	102A-243128 CHANGE Item 3, 6, 10 add 19.5V SPEC & Item 7, 8, 9, 10 add 15W power saving SPEC Item 3(k) add CC pin SPEC	03/12/2024
S02	102A-243279 Change Item 3, 6, 10 19.5V current to 9.48A Change Item 7, 8, 9, 10 ripple & noise SPEC	04/08/2024
S03	102A-244161 Change Item 3(j) test condition	04/17/2024
S04	102A-245069 Change Item 10 19.5V, 20V SPEC & Item 13 Burn-in SPEC	05/09/2024
S05	102A-245246 Change Item 7 350W to 330W	05/24/2024

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MODEL LIST

ADP-350BB BA			
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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.

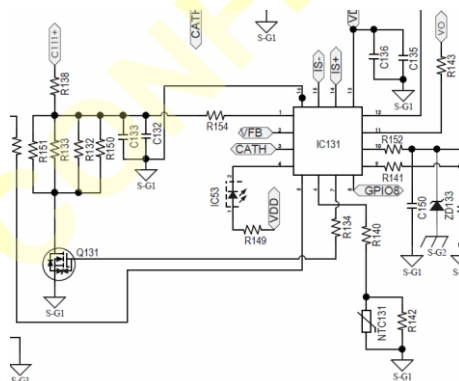
2.此測試規格用於主線測試,所有項目均需被測試,因設備或線速限制無法全數測試時,需測試 worst case, QC 需按抽樣標準做抽樣測試.

The production line shall perform all or worst test ITEMS/conditions, and QC shall follow the sampling plan to perform the sampling test.

3.測試注意事項：


- 功能測試時，電子負載不需設定 Von 點。
- 所有 ATS 測試時，須偵測 CONNECTOR 端之電壓。
- 在測試及崩應時，治具上各組輸出須有加系統電容。
- ID 辨識完成後才可進行抽載及變電壓，因此測試程序需調整為開機後才進行 LOADING。
- Loop Gain 測試：測試時需在輸出端並聯系統電容(100uF/100V)

將線路中的 R138 換成 20ohm 電阻，由該 20ohm 電阻進行 loop gain 之量測，線路如下所示:

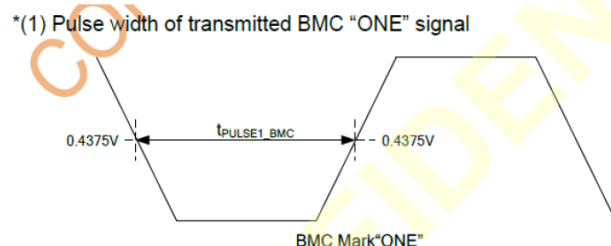


圖二 . Loop Gain 測試方式

Loop/Gain 測試作業規範: Phase margin > 45deg, Gain margin > 12dB

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- f. 音測試以 Sound Quality(客人規格)為主
內部驗證條件定義為:
測試條件:輸入電壓: 110V/220V,輸出電壓/電流: 48V/0~6.78A;36V/0~6.44A;28V/0~7.8A, 20V/ 0~9.3A, 19.5V/9.5A (20~20kHz 30db)
- g. AC ON-OFF 測試時, 不需設定 Von, 以對應電壓滿載電流做測試。
- h. Auto restart 測試時, 測試電流設定值為對應電壓滿載電流。
- i. ISN follow DELL request, 需有 1kohm 電阻, 廠內以 under 0dB 以上進行。
- j. 表面溫升測試條件: 考量輸入線材壓降, 輸入電壓調整為 93V/60Hz, 並使用指定粗線進行測試, 環境溫度 35 度 C, 搭配 18mm 木板且不架高, 測試 5 個面(上 前 後 左 右), 側面 Case 溫升需小於 48 度, 頂部 Case 溫升需小於 55 度, 底部 Case 溫升需小於 60 度
- k. 三溫測試時需測試 CC pin 電壓, 規格定義為: 1.4V~1.8V
- l. CC pin pulse width 測試 : 此 tpulse1_bmc 於 0.4375V level 時需符合 1.4uS ~ 1.8uS 範圍內。



4.燒錄 IC :

4.1 Firmware 燒錄


此機種 IC 入料即已燒好 FW,無需再燒錄

4.2 PSID 燒錄

ADP-330JB BA 燒錄 PSID,請參考本章節燒錄說明.

4.2.1 此機種需燒錄 PSID,於流完線貼完 LABEL 後燒錄.

4.2.2 燒錄 IC 之 Location Name=IC131,各 Model Name 使用之 IC 種類與對照之 DELL P/N 與 INI File 內容如下表,其中 CheckSum 需與 BOM 中 IC131 之 CRC 相符,IC131 的 Description 中 "+" 後方由 0~9 或 A~F 組成的 4~6 位字元既為 CRC,在下表中以 4~6 位的 "*" 為代表.另採用 OB IC 的機種 INI

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的 ModelName 資訊須改為 INI 檔之 Delta P/N.在下表中以 10 位的”*”來代表.

MODEL NAME	Dell PN	Vender PN	Vender	INI File
ADP-330JB BA	XXXXXX	WT6678F-UG16AWT	Weltrend	[FAMILY] CheckSum=**** PN=XXXXXX


EE 需編輯燒錄檔 INI 上傳 SAP 申請料號,並將料號附加於 BOM 表中.產線作業人員得於上線前按照 BOM 表所列之料號於 PLM 下載燒錄檔 INI 以進行燒錄作業.燒錄檔內容如下表格所示:

4.2.3 燒錄內容規則與範例如下表格說明:

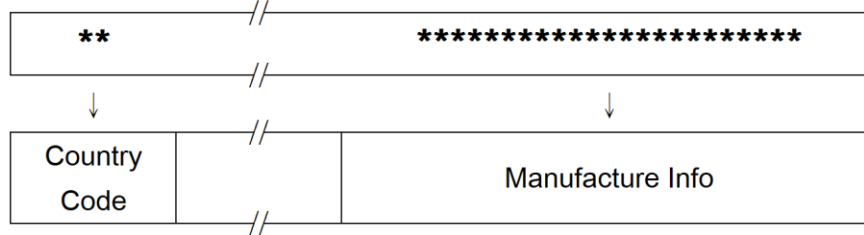
Table Contents of ID Chip

The contents of the ID memory chip are described in the table below.

Field	Byte Length	Example
Country Code	2	** (See Barcode Printing Format DELTA DOC:10000-0173-3d)
Manufacture Info	21	***** (See Barcode Printing Format DELTA DOC:10000-0173-3d)
Total	23	

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EXAMPLE OF CONTENTS




Note that there will be no spaces in between the characters. The spaces shown are for clarification purposes only.

Field	Description
Country Code	2 Digit Bar code that will contain the country of Origin ISO code. See below for detail explanation. 標示來自 LABEL 條碼的前 2 個 ASCII 字符,為產地 ISO 代碼.範例共列了 2 個*,每個*可為 0~9 或 A~Z 的任一字,全部取決於條碼資訊. 有關條碼的格式與資訊請參考 DELTA DOC:10000-0173-3d
Manufacture	21 Digit Bar code that will contain the DELL Part Number, supplier identification code, date of manufacture, unique sequence number and part revision. See below for detail explanation. 標示來自 LABEL 條碼的 21 個 ASCII 字符,其中包含 DELL part number/Vender 識別碼/生產日期/唯一序列號/零件版本.範例共列了 21 個*,每個*可為 0~9 或 A~Z 的任一字,全部取決於條碼資訊. 有關條碼的格式與資訊請參考 DELTA DOC:10000-0173-3d

5.小板(小板名稱)動態測試：N/A

6.手調測試站：

- Full Load Test**：檢查滿載輸出是否符合規格。
- Min. Load Test**：檢查輕載輸出是否符合規格。
- OTP Test**：Load Condition：19.5V/9.5A, 20V/9.3A, 28V/7.8A, 36V/6.44A, 48V/6.78A。
測試方法：短路 NTC131，檢查輸出電壓是否 shutdown and Latch off。
- OVP Test**：Load Condition：19.5V/9.5A, 20V/9.3A, 28V/7.8A, 36V/6.44A, 48V/6.78A。

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測試方法：短路 IC51，5 秒後檢查輸出電壓是否介於下面表格，OVP 動作模式為 Latch off。

Parameter Description	Min	Typ	Max	Units
Output Over Voltage				Volts
+48VDC	50.0		56.0	Volts
+36VDC	40.0		46.0	Volts
+28VDC	30.0		36.0	Volts
19.5VDC/+20VDC	22.0		26.0	Volts

LED 狀態： 開機後 LED 必須亮燈，關機後須放電且 LED 會自動熄滅。

e. AC On/Off：

Power supply 連續開關機 On= 3 秒，Off= 1 秒，5 次後，必須無損壞情形。

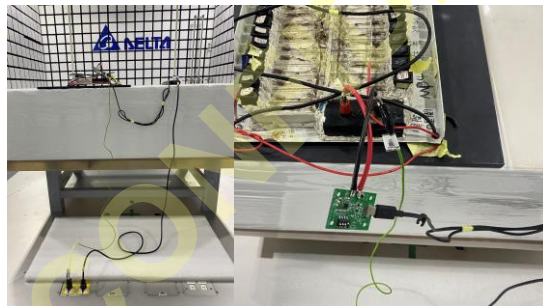
f. Safety(EMC, RFI ,EMI, Thermal) and Efficiency follow below output condition：

19.5V/9.5A, 20V/9.3A, 28V/7.8A, 36V/6.44A, 48V/6.78A。


g. DIP TEST ITEM NO DAMAGE。

h. EMI use low line warm up，於 DQA 階段中 BU-head 同意以 6db 進行判定。

i. RFI 測試方式 AC 線與負載直放 follow outside lab,於 DQA 階段中 BU-head 同意以 6db 進行判定，測試時 DELL logo 朝上



圖三 . RFI 測試擺放方式。及 EMI 與 RFI 等相關測試要使用偉銓治具測試。

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7.Function test (ATS) procedure : (48VDC)

Input Specification Table :

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	132 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

Output Specification Table :

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	46.75	50.65	48.7
Loading (Amp)	0A	6.78A	6.78A

Test ITEM	Vin	Load	Spec	Remark
Line Regulation	90V/47Hz 264V/63Hz	No load Full load	46.75~50.65V	
Load/Combine Regulation	90V/47Hz 264V/63Hz	No load Half load Full load	46.75~50.65V	
Ripple & Noise	90V/47Hz 264V/63Hz	No load Full load	<450mVp-p	Parallel 0.1uF ceramic Cap and 10uF Aluminum Cap 以常溫為判定標準
Overshoot Voltage	90V/47Hz 264V/63Hz	No load~Full load	< 50.65V	
Sync Dynamic	90V/47Hz 264V/63Hz	No load~Full load	Overshoot <4.8V Undershoot<4.8V	S/R: 2.5A/uS, Freq: 50Hz/100Hz/1kHz System Cap: 100uF
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. and Max. Load Turn on then short	Latch after SCP 10 second	N/A
Over Current Protection	90V/47Hz 264V/63Hz	Full load - Trip	9A< OCP <11A LATCH	
Input Current	90V/47Hz 180V/50Hz	Full load	<4.8A <2.4A	
Harmonic Current Power Factor	115V/60Hz 230V/50Hz	Full load	0.95	由於PF值台跟台差異，此 item不須計CPK PF 於 Bench 熱機



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Test ITEM	Vin	Load	Spec	Remark
				30mins, 規格以 0.93 判定。
Average Efficiency	115V/60Hz 230V/50Hz	25%, 50%, 75% & 100% Load	>87%(for 產線測試) >89%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Full load Efficiency	100V/60Hz	Full load	>87%(for 產線測試) >88%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Pin at standby Load	115V/60Hz 230V/50Hz	0.25W 0.5W 1W 2W 5W 10W 15W 20W	>33% >48% >64% >74% >83% >83% >83% >83%	因需使用積分模式做測 試, ATS 不進行測試, 以 BENCH 測試結果做判定
Peak Load	90V/47Hz 264V/63Hz	6.78A~8.39A	>43.9V	Band width : 20MHz S/R: 2.5A/uS, 36S/4S
Transient Load	90V/47Hz 264V/63Hz	6.78A~9.2A	>43.9V	Band width: 20MHz S/R: 2.5A/uS, 9mS/1mS
Capacitive Load	90V/47Hz 264V/63Hz	Full load	Plugging a live AC Adapter into the system capacitance shall not cause the adapter to shut down.	Parallel 100uF Cap on output
Output rise time	90V/47Hz 264V/63Hz	6.78A	<150ms	Measure output 10%~90% Output voltage to 48V
Output discharge time	90V/47Hz 264V/63Hz	6.78A	<275ms	Measure output 10%~90% Output voltage to 19.5V



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8.Function test (ATS) procedure : (36VDC)

Input Specification Table :

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	132 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

Output Specification Table :

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	35.04	37.96	36.5
Loading (Amp)	0A	6.44A	6.44A

Test ITEM	Vin	Load	Spec	Remark
Line Regulation	90V/47Hz 264V/63Hz	No load Full load	35.04~37.96V	
Load/Combine Regulation	90V/47Hz 264V/63Hz	No load Half load Full load	35.04~37.96V	
Ripple & Noise	90V/47Hz 264V/63Hz	No load Full load	<450mVp-p	Parallel 0.1uF ceramic Cap and 10uF Aluminum Cap 以常溫為判定標準
Overshoot Voltage	90V/47Hz 264V/63Hz	No load~Full load	< 37.96V	
Sync Dynamic	90V/47Hz 264V/63Hz	No load~Full load	Overshoot <3.6V Undershoot<3.6V	S/R: 2.5A/uS, Freq: 50Hz/100Hz/1kHz System Cap: 100uF
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. and Max. Load Turn on then short	Latch after SCP 10 second	N/A
Over Current Protection	90V/47Hz 264V/63Hz	Full load - Trip	8A< OCP <11A LATCH	
Harmonic Current Power Factor	115V/60Hz 230V/50Hz	Full load	0.95	由於PF值台跟台差異，此 item不須計CPK PF 於 Bench 熱機 30mins，規格以0.93 判定。
Average Efficiency	115V/60Hz	25%, 50%, 75%	>87%(for 產線測試)	Cold for 產線測試



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Test ITEM	Vin	Load	Spec	Remark
	230V/50Hz	& 100% Load	>89%(for Bench test)	100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Full load Efficiency	100V/60Hz	Full load	>87%(for 產線測試) >88%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Pin at standby Load	115V/60Hz 230V/50Hz	0.25W 0.5W 1W 2W 5W 10W 15W 20W	>33% >48% >64% >74% >83% >83% >83% >83%	因需使用積分模式做測試, ATS 不進行測試, 以 BENCH 測試結果做判定
Peak Load	90V/47Hz 264V/63Hz	6.44A~7.4A	>32.9V	Band width : 20MHz S/R: 2.5A/uS, 36S/4S
Transient Load	90V/47Hz 264V/63Hz	6.44A~8.24A	>32.9V	Band width: 20MHz S/R: 2.5A/uS, 9mS/1mS
Capacitive Load	90V/47Hz 264V/63Hz	Full load	Plugging a live AC Adapter into the system capacitance shall not cause the adapter to shut down.	Parallel 100uF Cap on output
Output rise time	90V/47Hz 264V/63Hz	6.44A	<150ms	Measure output 10%~90% Output voltage to 36V
Output discharge time	90V/47Hz 264V/63Hz	6.44A	<275ms	Measure output 10%~90% Output voltage to 19.5V



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9.Function test (ATS) procedure : (28VDC)

Input Specification Table :

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	132 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

Output Specification Table :

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	27.65	29.36	28.5
Loading (Amp)	0A	7.8A	7.8A

Test ITEM	Vin	Load	Spec	Remark
Line Regulation	90V/47Hz 264V/63Hz	No load Full load	27.65~29.36V	
Load/Combine Regulation	90V/47Hz 264V/63Hz	No load Half load Full load	27.65~29.36V	
Ripple & Noise	90V/47Hz 264V/63Hz	No load Full load	<450mVp-p	Parallel 0.1uF ceramic Cap and 10uF Aluminum Cap 以常溫為判定標準
Overshoot Voltage	90V/47Hz 264V/63Hz	No load~Full load	< 29.36V	
Sync Dynamic	90V/47Hz 264V/63Hz	No load~Full load	Overshoot <2.8V Undershoot<2.8V	S/R: 2.5A/uS, Freq: 50Hz/100Hz/1kHz System Cap: 100uF
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. and Max. Load Turn on then short	Latch after SCP 10 second	N/A
Over Current Protection	90V/47Hz 264V/63Hz	Full load - Trip	10A< OCP <13A LATCH	
Harmonic Current Power Factor	115V/60Hz 230V/50Hz	Full load	0.95	由於PF值台跟台差異，此 item不須計CPK PF 於 Bench 熱機 30mins，規格以0.93 判定。
Average Efficiency	115V/60Hz 230V/50Hz	25%, 50%, 75% & 100% Load	>87%(for 產線測試) >89%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test，以 BENCH



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MODEL NO. :
ADP-350BB SERIES

Date	Drawn	Design (EE)	Design (ME)	DOCUMENT NAME. :	REV.
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Test ITEM	Vin	Load	Spec	Remark
				測試結果做判定
Full load Efficiency	100V/60Hz	Full load	>87%(for 產線測試) >88%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Pin at standby Load	115V/60Hz 230V/50Hz	0.25W 0.5W 1W 2W 5W 10W 15W 20W	>33% >48% >64% >74% >83% >83% >83% >83%	因需使用積分模式做測 試, ATS 不進行測試, 以 BENCH 測試結果做判定
Peak Load	90V/47Hz 264V/63Hz	7.8A~8.88A	>25.7V	Band width : 20MHz S/R: 2.5A/uS, 36S/4S
Transient Load	90V/47Hz 264V/63Hz	7.8A~9.88A	>25.7V	Band width: 20MHz S/R: 2.5A/uS, 9mS/1mS
Capacitive Load	90V/47Hz 264V/63Hz	Full load	Plugging a live AC Adapter into the system capacitance shall not cause the adapter to shut down.	Parallel 100uF Cap on output
Output rise time	90V/47Hz 264V/63Hz	7.8A	<150ms	Measure output 10%~90% Output voltage to 28V
Output discharge time	90V/47Hz 264V/63Hz	7.8A	<275ms	Measure output 10%~90% Output voltage to 19.5V



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10. Function test (ATS) procedure : (20VDC)

Input Specification Table :

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	132 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

Output Specification Table :

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	19.69	20.91	20.3
Loading (Amp)	0A	9.3A	9.3A

Test ITEM	Vin	Load	Spec	Remark
Line Regulation	90V/47Hz, 264V/63Hz	No load Full load	19.69~20.91V	
Load/Combine Regulation	90V/47Hz 264V/63Hz	No load Half load Full load	19.69~20.91V	
Ripple & Noise	90V/47Hz 264V/63Hz	No load Full load	<300mVp-p	Parallel 0.1uF ceramic Cap and 10uF Aluminum Cap 以常溫為判定標準
Overshoot Voltage	90V/47Hz 264V/63Hz	No load~Full load	< 20.91V	
Sync Dynamic	90V/47Hz 264V/63Hz	No load~Full load	Overshoot <2V Undershoot<2V	S/R: 2.5A/uS, Freq: 50Hz/100Hz/1kHz System Cap: 100uF
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. and Max. Load Turn on then short	Latch after SCP 10 second	N/A
Over Current Protection	90V/47Hz 264V/63Hz	Full load - Trip	11A< OCP <14A LATCH	
Harmonic Current Power Factor	115V/60Hz 230V/50Hz	Full load	0.95	由於PF值台跟台差異，此 item不須計CPK PF 於 Bench 熱機 30mins，規格以0.93 判定。
Average Efficiency	115V/60Hz 230V/50Hz	25%, 50%, 75% & 100% Load	>86%(for 產線測試) >89%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test，以 BENCH



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Test ITEM	Vin	Load	Spec	Remark
				測試結果做判定
Full load Efficiency	100V/60Hz	Full load	>86%(for 產線測試) >88%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Pin at standby Load	115V/60Hz 230V/50Hz	0.15W 0.25W 0.5W 1W 2W 5W 10W 15W 20W	Pin<300mW >52% >62% >66% >75% >83% >83% >83%	因需使用積分模式做測 試, ATS 不進行測試, 以 BENCH 測試結果做判定
Peak Load	90V/47Hz 264V/63Hz	9.3A~10.48A	>18.3V	Band width : 20MHz S/R: 2.5A/uS, 36S/4S
Transient Load	90V/47Hz 264V/63Hz	9.3A~11.67A	>18.3V	Band width: 20MHz S/R: 2.5A/uS, 9mS/1mS
Capacitive Load	90V/47Hz 264V/63Hz	Full load	Plugging a live AC Adapter into the system capacitance shall not cause the adapter to shut down.	Parallel 100uF Cap on output
Output rise time	90V/47Hz 264V/63Hz	9.3A	<150ms	Measure output 10%~90% Output voltage to 20.3V
Output discharge time	90V/47Hz 264V/63Hz	9.3A	<275ms	Measure output 10%~90% Output voltage to 19.5V



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11. Function test (ATS) procedure : (19.5VDC)

Input Specification Table :

INPUT VOLTAGE	MINIMUM	MAXIMUM	NOMINAL(RATED)
LOW RANGE	90 VAC	132 VAC	100 VAC
HIGH RANGE	180V AC	264V AC	240V AC

Output Specification Table :

OUTPUT	MINIMUM	MAXIMUM	NOMINAL(RATED)
Voltage (Vdc)	18.53	20.48	19.5
Loading (Amp)	0A	9.5A	9.5A

Test ITEM	Vin	Load	Spec	Remark
Line Regulation	90V/47Hz, 264V/63Hz	No load Full load	18.53~20.48V	
Load/Combine Regulation	90V/47Hz 264V/63Hz	No load Half load Full load	18.53~20.48V	
Ripple & Noise	90V/47Hz 264V/63Hz	No load Full load	<300mVp-p	Parallel 0.1uF ceramic Cap and 10uF Aluminum Cap 以常溫為判定標準
Overshoot Voltage	90V/47Hz 264V/63Hz	No load~Full load	< 20.48V	
Sync Dynamic	90V/47Hz 264V/63Hz	No load~Full load	Overshoot <2V Undershoot<2V	S/R: 2.5A/uS, Freq: 50Hz/100Hz/1kHz System Cap: 100uF
Short Circuit Protection	90V/47Hz 264V/63Hz	Min. and Max. Load Turn on then short	Latch after SCP 10 second	N/A
Over Current Protection	90V/47Hz 264V/63Hz	Full load - Trip	11A< OCP <14A LATCH	
Harmonic Current Power Factor	115V/60Hz 230V/50Hz	Full load	0.95	由於PF值台跟台差異，此 item不須計CPK PF 於 Bench 熱機 30mins，規格以0.93 判定。
Average Efficiency	115V/60Hz 230V/50Hz	25%, 50%, 75% & 100% Load	>86%(for 產線測試) >89%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test，以 BENCH



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Test ITEM	Vin	Load	Spec	Remark
				測試結果做判定
Full load Efficiency	100V/60Hz	Full load	>86%(for 產線測試) >88%(for Bench test)	Cold for 產線測試 100V burn-in 20~30min for Bench test, 以 BENCH 測試結果做判定
Pin at standby Load	115V/60Hz 230V/50Hz	No load (plug out) 0.15W 0.25W 0.5W 1W 2W 5W 10W 15W 20W	Pin<150mW Pin<300mW >52% >62% >66% >75% >83% >83% >83% >83%	因需使用積分模式做測 試, ATS 不進行測試, 以 BENCH 測試結果做判定
Peak Load	90V/47Hz 264V/63Hz	9.5A~10.48A	>17.5V	Band width : 20MHz S/R: 2.5A/uS, 36S/4S
Transient Load	90V/47Hz 264V/63Hz	9.5A~11.67A	>17.5V	Band width: 20MHz S/R: 2.5A/uS, 9mS/1mS
Capacitive Load	90V/47Hz 264V/63Hz	Full load	Plugging a live AC Adapter into the system capacitance shall not cause the adapter to shut down.	Parallel 100uF Cap on output

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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12. Bench 需抽測一台Dynamic matrix，客規測試條件10Hz, 50Hz, 100Hz, 500Hz, 1kHz, 5kHz, 10kHz，10%~95% duty。

13. Safety

13.1 Hi-POT test：

(L/N 短路) to (Vo/GND/CC pin 短路) use 3000+10% Vac test，Between AC input and secondary AC 3kV，test time 1 minute，and cut off current shall be less than 10mA

Hi-pot1 AC 3kV，test time 1s. Hi-pot2 DC 4242V，test time 1s. In production line

(上昇時間：DC=1Sec，AC=0.1Sec)。

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

Hi-pot arcing sense level=5。

13.2 Insulation Resistance (IR) test：

PRIMARY to SECONDARY use 500Vdc test；Insulation resistance limit：>30M ohm。

13.3 Leakage current test：264Vac/50Hz <=50uA。


13.4 Surface Temp. test：

表面溫升測試環境需按照 safety 測試 thermal 之規範，於 AMB 35 度之 chamber 下進行。此條件是 for 安規測試，並作為絕對溫度判定。若要測試 delta T，則 follow ES 測試條件，輸入電壓 100VAC/60Hz，環境溫度 25 度 C。

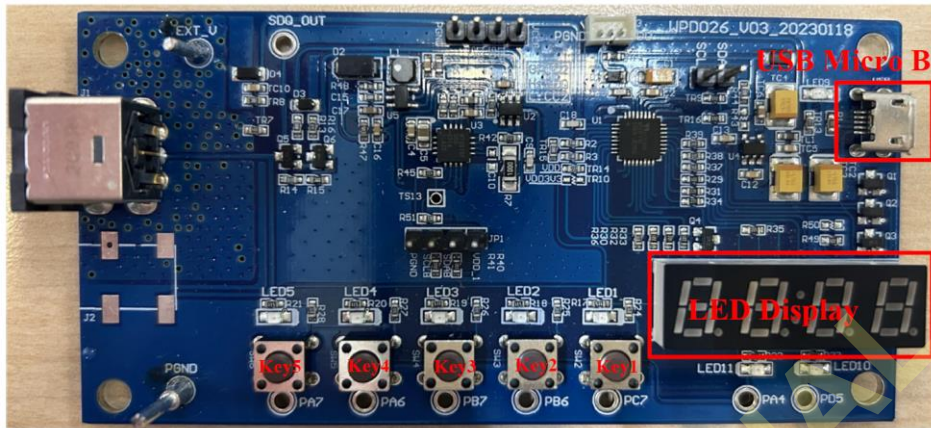
14. Burn-in 測試作業規範：

Burn in 時間: 使用各電壓滿載進行 6HR，因 19.5V 與 20V 瓦數相同，使用 20V 進行。

20V: 9.5A, 28V: 7.8A, 36V: 6.44A, 48V: 6.78A

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15. 測試治具對應按鍵:




Key1: 19.5V, Key2: 20V, Key3: 28V, Key4: 36V, Key5: 48V

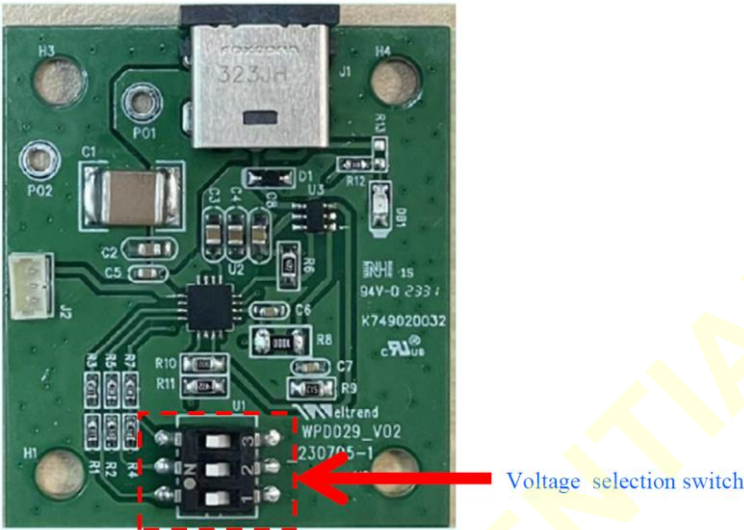
AVS mode 說明:

- AVS (Mid) – AVS 中間電壓值
- AVS (Max) – AVS 電壓最大值
- AVS (Min) – AVS 電壓最小值
- AVS++ (調升 100mV) 、AVS-- (調降 100mV)

Key 5	Key 4	Key 3	Key 2	Key 1	
				X	19.5V
			X		20V
		X			28V
	X				36V
X					48V
	X		X		AVS (Mid)
X		X			AVS (Max)
		X		X	AVS (Min)
X	X				AVS ++
			X	X	AVS --

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16. Burn-in 治具對應按鍵:



V1: 19.5V, V2: 20V, V3: 28V, V4: 36V, V5: 48V
使用說明:需要切到 48V(V5),把指撥 JP1,2 的位置撥到 ON 位置。

	JP3	JP2	JP1
V1	ON	ON	ON
V2	ON	ON	
V3	ON		ON
V4	ON		
V5		ON	ON
V6		ON	
V7			ON
V8			



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