



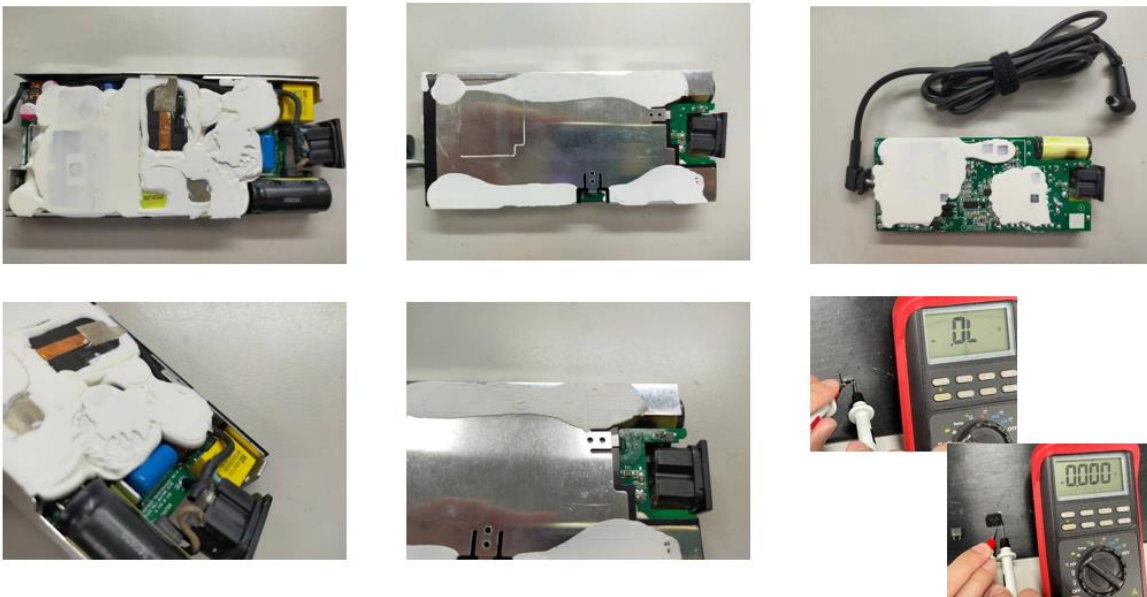
Eight Discipline Report (8D Report)

To:	8D report No.: 202206101
From: : Chicony Power Technology	RMA claim No.: N/A
CC :	Chicony Power P/N: A180A062P-AX01-X3
	Customer P/N: A20-180P1A
Submit date: 2022/6/10	Product description: 180W Adapter
Receive date: 2022/6/5	Defect D/C or Lot No.:
Subject : 客戶反饋系統驗證 ESD 測試時, PSU no power 共 3pcs	
D1.) 問題解決成員:Use Team Approach	
主持者 (Team Leader) : Cf Liu 內部成員 (Internal Team Members): <div style="text-align: center; margin-top: 10px;"> CQS: Jack Wang QE: Kitty Zhang MFG: Xiaohui Du PE: Yong Liu Sales: Justin Yu RD: Jacky Hsu </div> 外部成員 (External Team Member):	
D2.)問題說明:Problem Description:	
(Note: Use who, what, when, where, why, how, how many to specify the Customer's problem.) 2022/6/5 CPT has received 3pc no power PSU from Customer for analysis. 問題描述: 客戶測試 ESD 3pcs fail sample , 測試過程中出現聲響就沒輸出了, 測試條件 air +10KV ,次數 > 50 下 S/N:0A001-00265100141200039(D/C:2141) Version :A03 0A001-00265200124235848(D/C:2124) Version :A02 0A001-00265200124222244(D/C:2124) Version :A02	

三台樣機 覆判無輸出，外觀無異狀

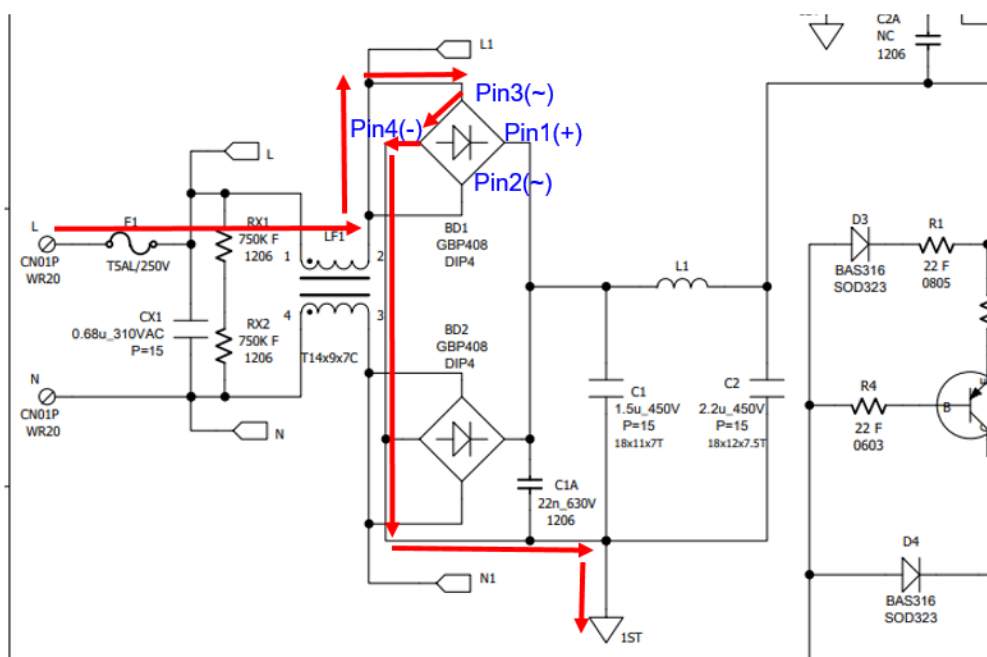


開蓋檢查內部，檢查異常位置，確認損壞元件為 F1 OPEN, BD1 Pin3(~) & 4(-) short

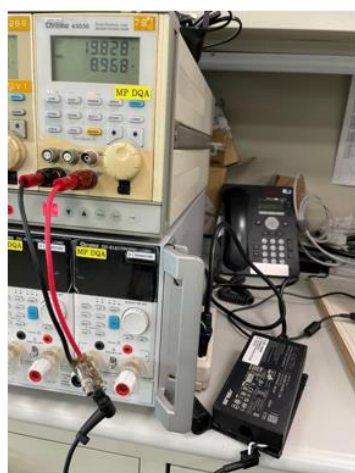


Schematic analysis

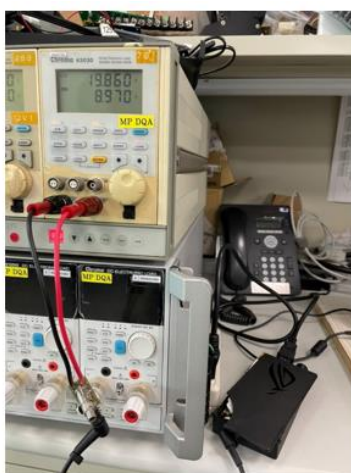
因為 BD1 Pin3(~) & 4(-) short, 導致 F1 OPEN, 造成 PSU 無電壓輸出



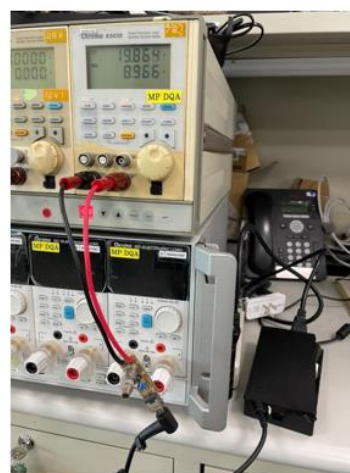
更換 BD1 & Fuse 後，Full Load 開機正常



0A001-00265200124235848



0A001-00265100141200039



0A001-00265200124222244

D3.) 內部或客戶的暫時解決辦法及實施日期: Implement and Verify Containment Action:

(Note: Internal / external containment action effectiveness and date.)

1. FAE of CPT got this PSU from Customer for further analysis.

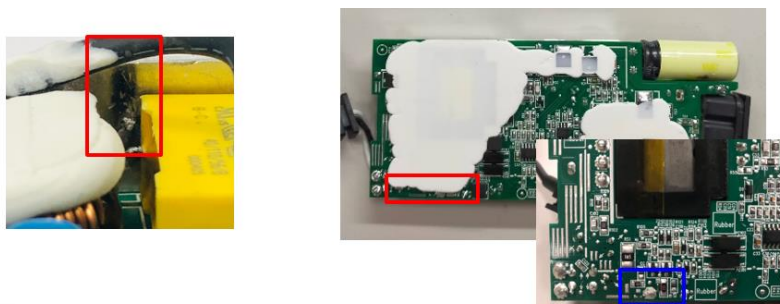
Date:2022/6/5

D4.)不良原因確認: Define and Verify Root Causes:

(Note: Identify and verify all suspect causes, which needs explain why the problem occurred.)

1. 外觀檢查及模擬異常現象

- a. 在 CX1 與 HS1 (鎖附BD1) 間有跳火痕跡
- b. 以 ESD 測試時, 發現在 CX1 與 HS1 間會有電弧產生放電路徑,
進而造成 AC 對地短路現象
- c. 檢查二次側放電pin 位置被膠覆蓋住, 可能造成預設的放電路徑被改變了, 而導致電弧發生
- d. 將二次側放電pin 覆蓋膠的區域清除, 再進行 ESD 測試即Pass



2. Verification and Comparison

Item	Test conduction	Result	Test Q'ty
1.	2次側放電pin 膠覆蓋	Fail CX1 與 HS1 間有電弧	三台
2.	2次側放電pin 沒有膠覆蓋	Pass Air 16.5KV	三台
3.	2次側放電pin 膠覆蓋 & HS1 包覆 tape	Pass Air 16.5KV	三台
4.	2次側放電pin沒有膠覆蓋 & HS1 包覆tape	Pass Air 16.5KV	三台

3. 加強對策: HS1 (鎖附BD1) 加貼 tape, 避免與CX1 間跳火短路

4. 取先前ESD 測試Pass 樣機拆解, 確認其點膠狀況:

二次側放電pin 位置沒被膠覆蓋, ESD 放電路徑可依照原先設定路徑洩放



5. 工廠端重工改善對策樣機10台, 重新驗證ESD對策, 測試結果Pass

6. 將“2次側放電pin 膠覆蓋”的樣機做靜態測試,

確認CX1與HS1之間有沒有發生電弧現象

測試方法: 將 AC 端 L & N短路, 用ESD槍在輸出 plug 端, 進行ESD Air 測試

測試數量: 10台

測試結果:

Sample	Air 8KV
1	No arc
2	No arc
3	No arc
4	No arc
5	No arc
6	No arc
7	No arc
8	No arc
9	No arc
10	No arc



7. Conclusions

從以上實驗結果, 確認移除 2 次側放電 Pin 覆蓋膠及 HS1 包覆膠布可以防止 ESD 測試時發生電弧放電的現象, 避免元件之間因跳火短路造成 BD1, Fuse 損壞而導致 PSU Adapter 無輸出, 故導入加強對策及定義 2 次側放電 Pin 點膠區域, 可改善此 ESD 故障問題。



D5.)改善措施:Corrective Action Verification:

(Note: Be make sure the corrective actions is effective in process as well as able to fix the customer complaint problem)

1. 改善對策

a. 生產時的點膠位置不可覆蓋於二次側放電pin

b. HS1 (鎖附BD1) 加貼 tape



Date:2022/06/10

D6.)改善措施實施日期:Implement Permanent Corrective Actions:

(Note: Be provide the phase-in date or lot# of corrective actions **implementation** in process)

Immediately

D7.)預防再發生措施:Prevent Recurrence:

(Note: Modified the management, operating systems, practices, and procedures to prevent recurrence for the problems as well as lessons learned cases.)

Same as D5

D8.)確認並感謝問題解決成員:Check and Congratulate the Team:

(Note: Recognize the collective efforts of the team.)

Thanks to you all ! ! !

CQS: Jack Wang QE: Kitty Zhang MFG: Xiaohui Du PE: Yong Liu Sales: Justin Yu

RD: Jacky Hsu

Signature	Cf_Liu
Team Leader:	
	Name – Title
Signature by Approver:	Wade_Lo
	Name-Title