



Eight Discipline Report (8D Report)

To: 8D report No.:
 From: : Chicony power Technology RMA claim No.: N/A
 CC : N/A Chicony P/N: A090A098P
 Customer P/N:
 Submit date: 2017/09/12 Product description: 90W adapter
 Receive date: 2017/09/29 Defect D/C or Lot No.:
 Subject : ESD Fail * 1pc

D1.) 問題解決成員: Use Team Approach

主持者 (Team Leader) : Brian Chen, Cf Liu

內部成員 (Internal Team Members):

CQS	Cecilia Sun
MFG	Alan Zhu
IPQC/QE	Nono Chen
PE	Qing_Ye
IE	Aimee_Li
RD	Brian_Chen

外部成員 (External Team Member):

N/A

D2.) 問題說明: Problem Description:

(Note: Use who, what, when, where, why, how, how many to specify the Customer's problem.)

We got feedback from customer Q on Sep. 12th 2017 that there are 1pc defect adapter.

The adapter is shut down when test ESD.

CPT P/N: A090A098P-HW01

Defect S/N: WGRGKX1HH8804P

Defect D/C: 1707

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. Bring the defect adapter back for TPE RD engineer's analysis.

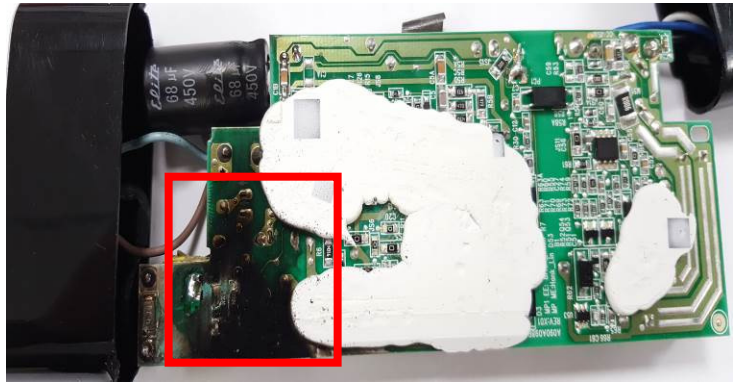
Owner: TPE RD Date: 2017/9/29

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. Defect Symptom Verification:

2.1 Open case to check solder surface, and there had burn mark on the location of RX1,RX2.



2.2 Then measure each component, and found

(1) RX1 & RX2 has already died.



(2) The trace which connects RX1 and LF2 has broken.



(3) The resistance value of RK is abnormal. (original is 470 ohm)



(4) The fuse has opened.

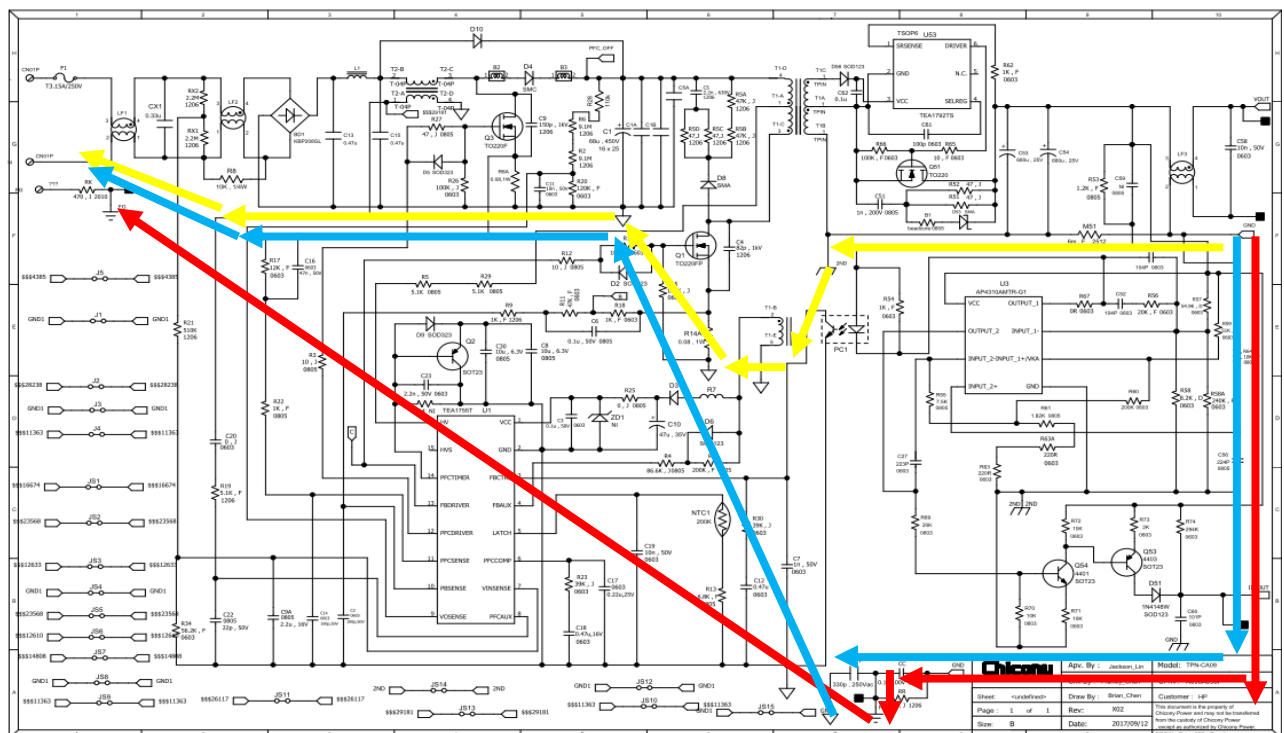


2.3 Static electricity has many release routes as below.

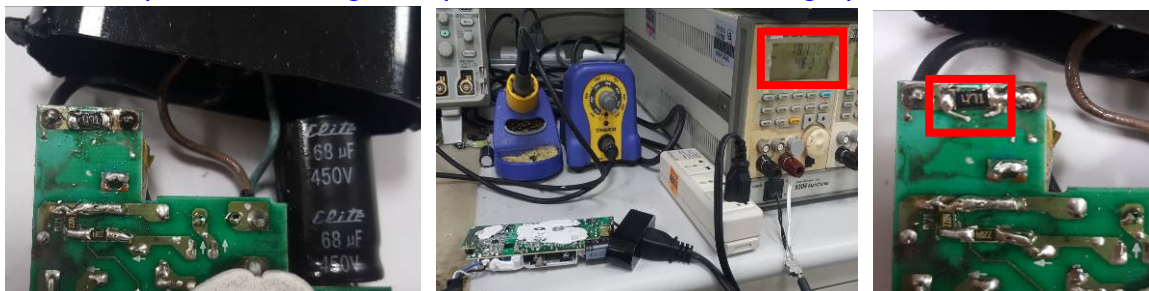
- a. Main route 1(red)
- b. other route 2(yellow)
- c. other route 3(blue)

The ESD has several routes to discharge, most of the energy discharge by route1 (red) and route 3(blue). Then residual energy discharge by route 2(yellow).

On the other hand, the red path will go through RK. If RK occurs abnormal by ESD, the main energy will flow other route. Therefore, it may cause damage to RX1,2.



2.4 We repair this damage adapter and simulate discharge pin on RK, then retest ESD item.



2.5 After retest ESD, the results can be meet HP criterion. In addition, the stage of A090A098P-HW01 is DVT1, and then DQA verification can also meet specification.

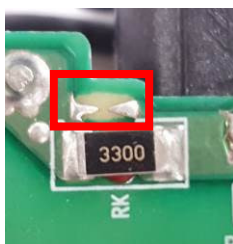
The test results about DQA and retest sample which add discharge pin are as below.

	Discharge	Polarity	Test Level					
			1	2	3	4	5	6
			± 2KV	± 4KV	± 8KV	± 15KV	± 20KV	± 25KV
DQA	Air	Positive	Pass	Pass	Pass	Pass	Pass	
		Negative	Pass	Pass	Pass	Pass	Pass	
Add		Positive	Pass	Pass	Pass	Pass	Pass	Pass
discharge pin		Negative	Pass	Pass	Pass	Pass	Pass	Pass

D5.)改善措施: improvement measure:

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

It will change layout to add discharge pin of RK, the discharge pin as below



Owner: EE and CQS

Date: 2017/9/29

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)

Due date :2017.10.18

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.)



QIT members and IPQC will continue trace this issue day by day.

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 all QIT members.

Signature Team Leader:

Name – Title

Signature by Approver:

Name-Title