Eight Discipline Report (8D Report)

To:

From:：Chicony power Technology

CC： N/A

Submit date: 2017/11/28

Receive date: 2017/12/11

Subject：ESD Fail * 2pc

8D report No.:

RMA claim No.: N/A

Chicony P/N: A090A098P

Customer P/N:

Product description: 90W adapter

Defect D/C or Lot No.:

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 Nov. 28th 2017 that there are 2pc defect adapter.

The adapter is shut down when test ESD.

CPT P/N: A090A098P-HW01

Defect S/N: WGRGKX2HHA00JN, WGRGKX2HHA00JH

Defect D/C: 1710

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.

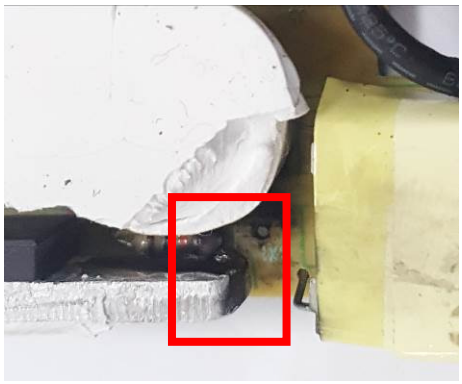
Owner: TPE RD Date: 2017/12/11

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 R28 & HS1.



2.2 Then measure each component, and found

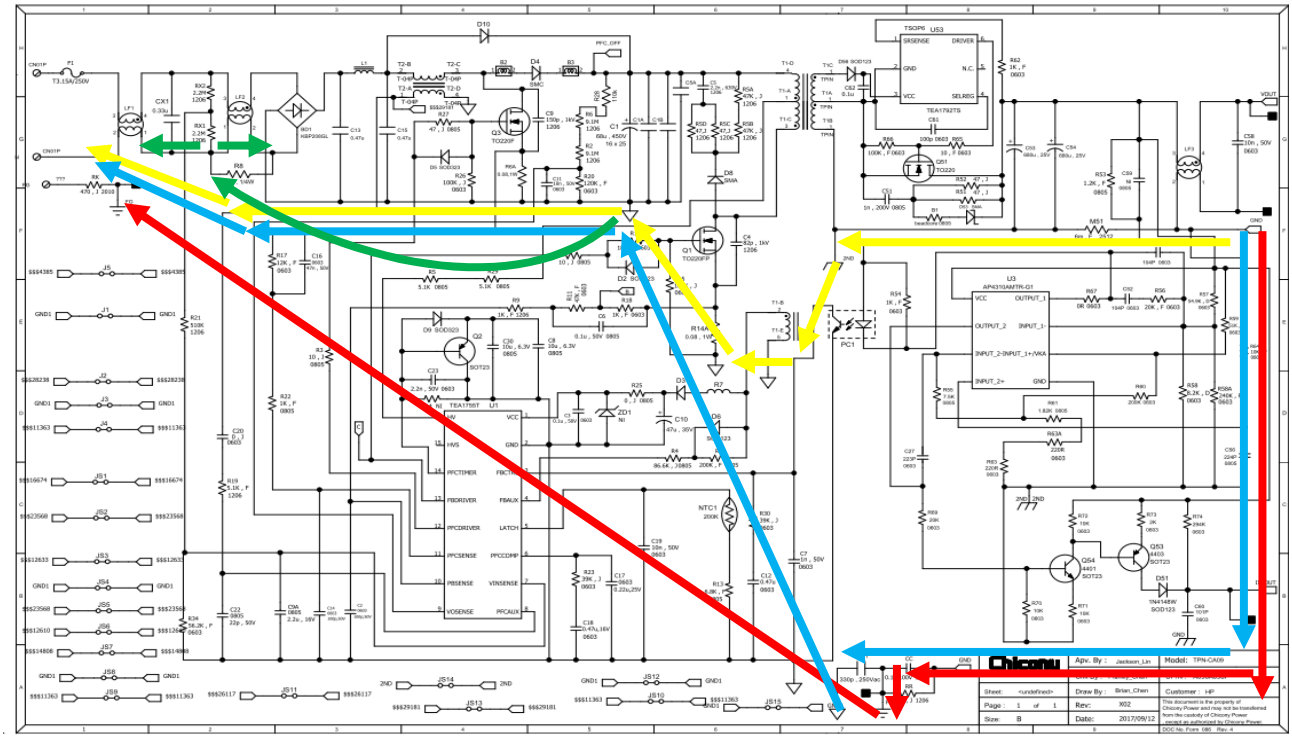
(1) R28 has already broken.

(2) Bridge has short.

(3) The fuse has opened.

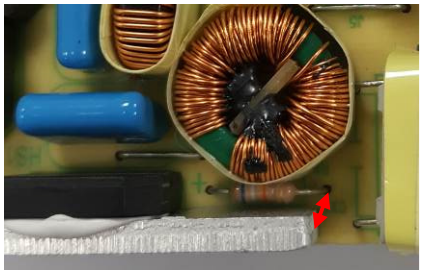
2.3 Static electricity has many release routes as below.

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



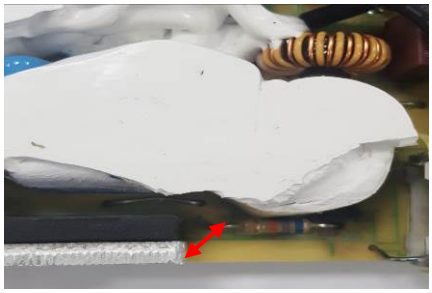
However, the HS1 connects primary ground, and the distance between HS1 & R28 is close. It may produce another abnormal route which energy flows by air as green line.

If energy flows through green route, the components of R28, bridge and fuse will damage probably. (There will occurs arcing phenomenon between HS1 & R28.)



2.4 We repair this damage adapter, then retest ESD item in Taipei DQA.
The results can meet HP criterion ±15kV, but there has damage risk which ESD energy is equal to 20kV.

2.5 In order to improve ESD design margin, we cut HS1 length to increase distance between HS1 & R28. It can prevent ESD energy from flowing by air.
(The ESD energy will not discharge from HS1 to R28.)



After HS1 changed, we retest ESD item in Taipei DQA. The result is as below.

	Discharge	Polarity	Test Level				
			1	2	3	4	5
			± 2KV	± 4KV	± 8KV	± 15KV	± 20KV
HS1 length changed	Air	Positive	Pass	Pass	Pass	Pass	Pass
		Negative	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 cut HS1 length which picture is as below

Owner: EE and CQS Date: 2017/12/15

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 :2017.12.18

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