



Eight Discipline Report (8D Report)

To: customer
From: Chicony Power Technology
CC : N/A

8D report No.: CPCQ20221208
RMA claim No.: N/A
Chicony P/N: A120A055P-MD01-03
Customer P/N:
Submit date: 2022/12/09
Product description: 120W adapter
Receive date: 2022/12/07
Defect D/C or Lot No.: 2022/03
Subject : AC 過壓, bulk cap damage, Fuse open, smoking [電容, Fuse, OVP]

D1.) 問題解決成員: Use Team Approach

主持者 (Team Leader) : Henry_Zhang

內部成員 (Internal Team Members):

CQS	Sunny_Dang
MFG	Ice_Liu
IPQC/QE	BL_Zhang
PE	XP_Zhao
IE	Hunter_Liao
SQE	Shuang_Tan

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.)

2022/12/05, customer feedback 120W Adapter smoking(冒煙)*1pc.

CPT P/N: A120A055P-MD01-03

Defect S/N: S930403501C5403M09002437

Defect D/C: 2022/03/11



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.)

Send failed adapter to Chicony Power(TPE) for further analysis.

Date: 2022.12.07

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. SFCS record

根據退回產品 S/N:,查詢廠內 SFCS 記錄正常.

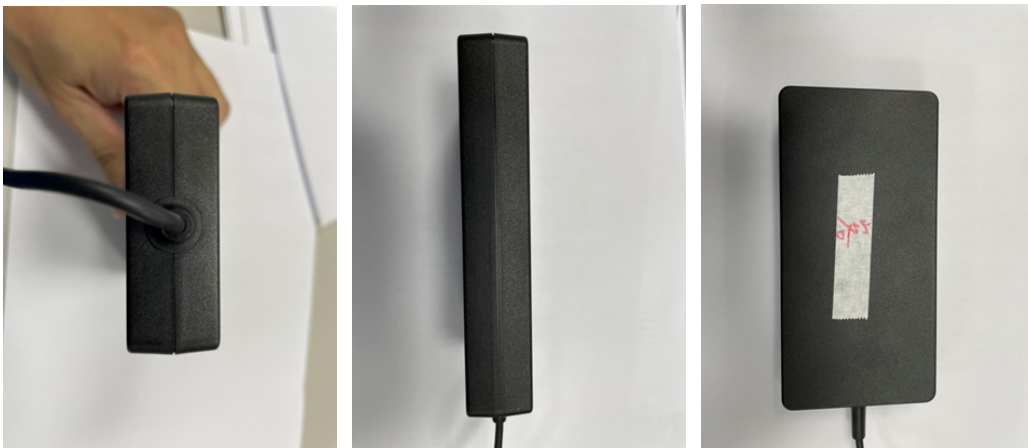
According to the returned adapter S/N, query SFCS record. – no abnormality was found.

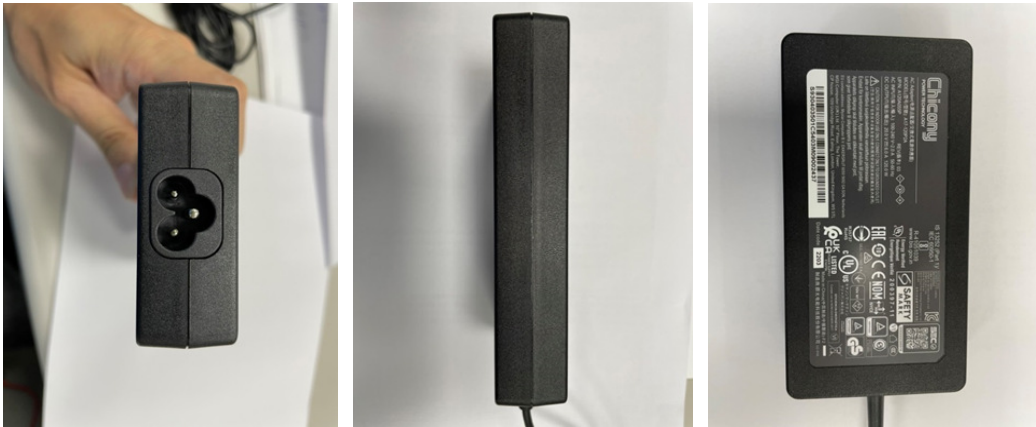
出貨序號	S930403501C5403M0900243		<input type="checkbox"/> 欄寬自動調整					
生產條碼	MBM09C0502799	客戶名稱						
工單	MBM09C05	途程名稱	AutoLine_ACT					
工單類型		生產線別	CPCQ_L12					
料號	A120A055PMD0103	規格						
機種		狀態	PASS complete					
版本	N/A	下道工序						
客戶序號1	S930403501C5403M09002437	客戶序號2	N/A					
包裝作業資訊			出貨作業資訊					
彩盒號	N/A	客戶						
箱號	CPM09C0500431	保固期						
機板號	PM09C0500015	出貨地						
流程	維修	抽驗	重工	物料	錫膏	銅板	刮刀	組裝物料
生產條碼	工單	料號	客戶	生產線別	制程	狀態		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L12	ICT	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L12	ACT	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L12	PRE-ATE	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L05	SN CHECK	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L05	HIPOT/GR...	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L05	FINAL-ATE1	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L05	FINAL-ATE2	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L05	PACKING	OK		
MBM09C0502799	MBM09C05	A120A055PMD0103		CPCQ_L12	QC	OK		

2. Power on test

2.1.檢查 adapter 外觀無異常,如下圖:

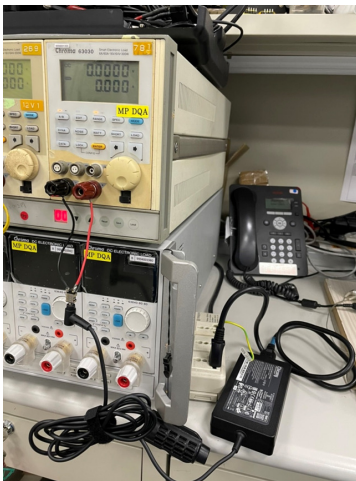
The appearance of the adapter is normal.





2.2.通電測試確認為 adapter 無輸出,如下圖:

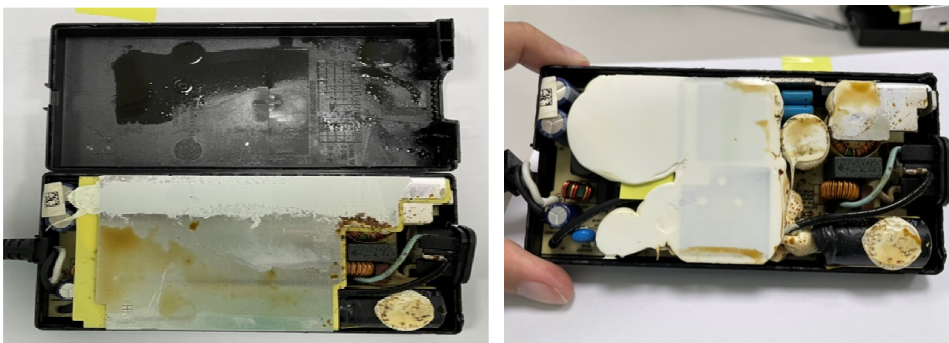
The power test confirms that the adapter has no power.

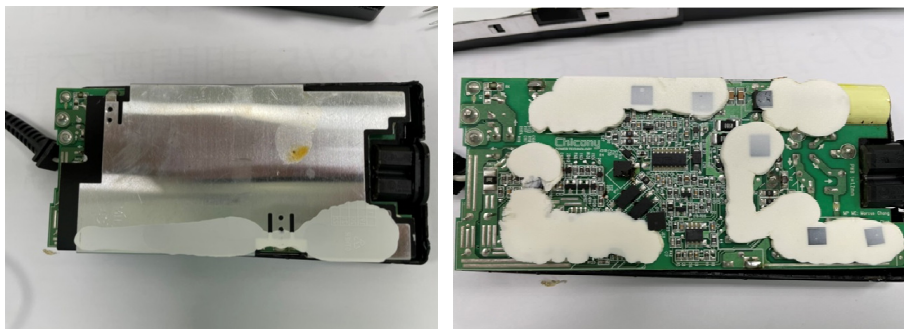


3. Failure analysis

3.1.將 adapter 開殼,發現電解液流出,如下圖:

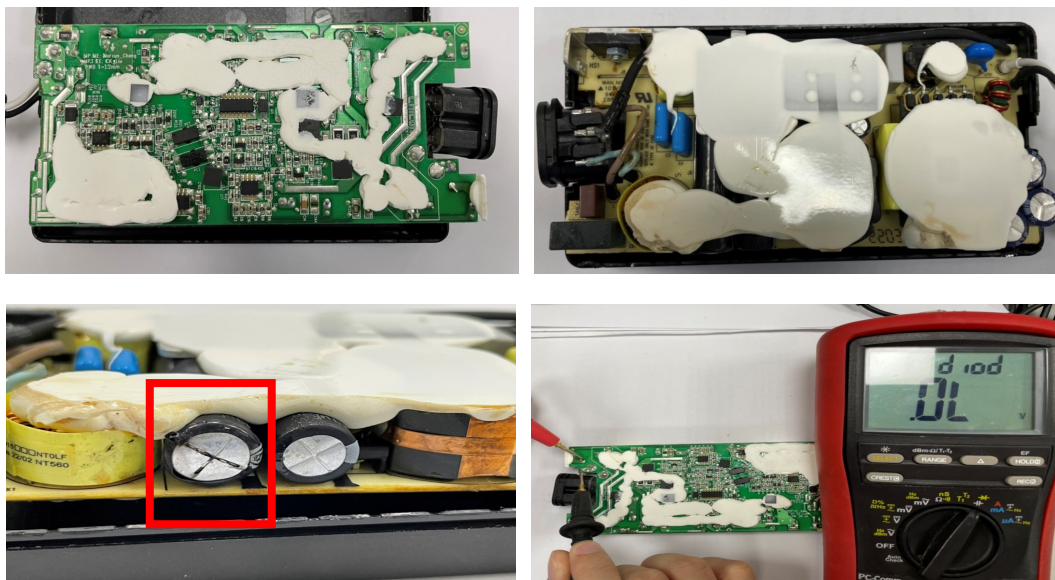
Open case, the case and the shielding have traces of electrolyte.





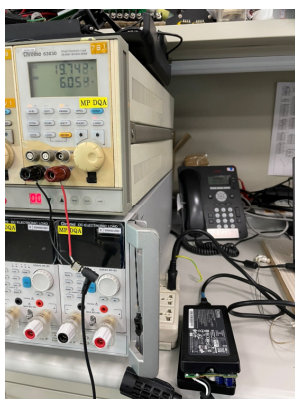
3.2.取下防護罩,觀察到 CK1 Bulge,量測發現 Fuse open.疑似外部異常能量造成 CK1 fail & Fuse open.如下圖:

Remove the shielding, CK1 Bulge was observed and Fuse open was found. Suspected external abnormal energy caused CK1 fail & Fuse open.



3.3.更換 CK1 & Fuse 後 B/I 4hrs 產品正常輸出.如下圖:

After replacing CK1 & Fuse, B/I 4hrs, the output of adapter is normal.



4. Simulation test(CK1).

輸入電壓 Input voltage:AC440V

通電後約 1 秒後冒煙開蓋與 RMA 樣機失效零件一樣 CK1 & Fuse open.測試結果 430Vac 約 30sec 後冒煙後無輸出 Fail(如下影片),開蓋後與 RMA 品一樣大電容防爆動作,Fuse open.

After the adapter is powered on about 1 second, it smoke and no output after about 30sec (as shown in the following video). Open case, CK1 bulge& Fuse open is found to be the same as the failed parts of the returned unit.



692158223.361797.mp4

綜上所述:經模擬實驗結果,懷疑外部異常能量造成 CK1 防爆孔動作後 Fuse 啟動保護.故不排除產品應用時承受異常應用條件導致產品早期失效的可能.

Conclusion: The simulation results showed that Fuse protection was activated after CK1 failed caused by suspected external abnormal energy. Therefore, the possibility of early product failure due to abnormal application conditions cannot be ruled out.

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)

Send failed CK1 to the vendor for analysis.

Material:201D0MZ6490EZBHF

SPEC:EC 49u 450V M 105 2KH 10x50 P 5

Vendor:ELITE

Owner: ELITE

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)

2022.12.09

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: Henry_Zhang

Name - Title

Signature by Approver: Roy_Tsai

Name-Title