Eight Discipline Report (8D Report)

To: **Customer**	8D report No.: **CPG1205**
From:：**Chicony Power Technology**	RMA claim No.: **N/A**
CC：	Chicony Power P/N: **A015R008L**
	Customer P/N:**A9T80-60008**
Submit date: **2016/12/12**	Product description: **15W**
Receive date: **2016/12/09**	Defect D/C or Lot No.: **161017**
Subject：No power*2pcs, (生產 / 焊錫不良/soldering issue , One is R10 poor soldering, 零件 / Diose, another one is BD1 shorted)	

D1.) 問題解決成員:Use Team Approach

主持者 (Team Leader)：**Cf Liu**

內部成員 (Internal Team Members):

CQS: Cecilia Sun

QE: Nono Chen

MFG: Alan Zhu

PE: Kefang Zheng

IE: Yansong Tong

ME: Hai He

RD: Mark Meng

Sales: Leo Lo

SQE: Wing Xie

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.)

2016/12/05 Customer feedback that 3pcs adapters can not power on.
And customer send 2pcs out of the 3pcs to CPT for analysis.
Below are SN of the returned adapters:
No.1: 16101701AYC1
No.2: 1610170GSPC1

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. Customer send 2 out of these 3 defect adapters to Chicony for analysis.

Date:2016/12/06

2. **Check the stock and no stock of this model in CPT when CPT received the customer's complain.**

Date:2016/12/06

3. **50K PSU made now in our production line do not have the same issue. And IPQC do sampling check online for 10K, no same issue happens.**

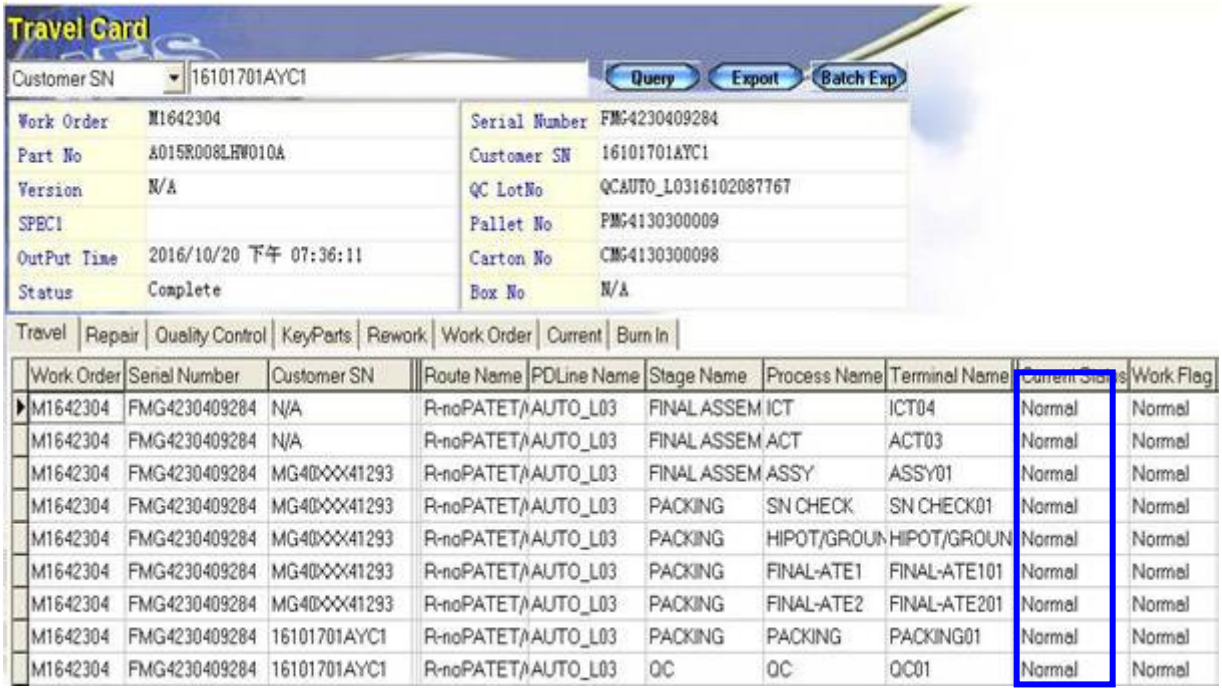
Date:2016/12/13

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.**)**

➢ Analysis for SN: 16101701AYC1

1. **By tracking the SN in our SFCS, this adapter passed all the test stations in the production line.**



Travel Card

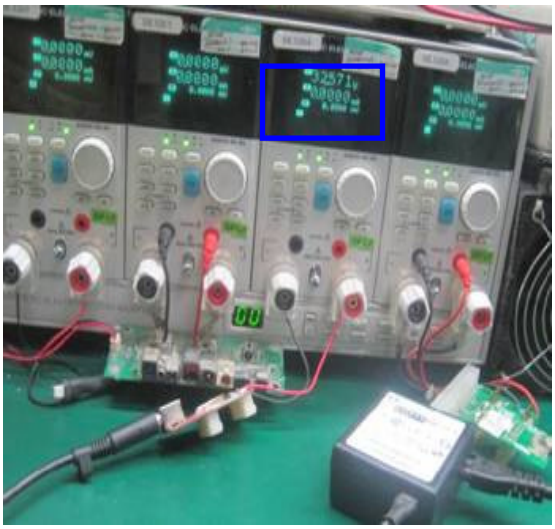
Customer SN: 16101701AYC1 — Query | Export | Batch Exp

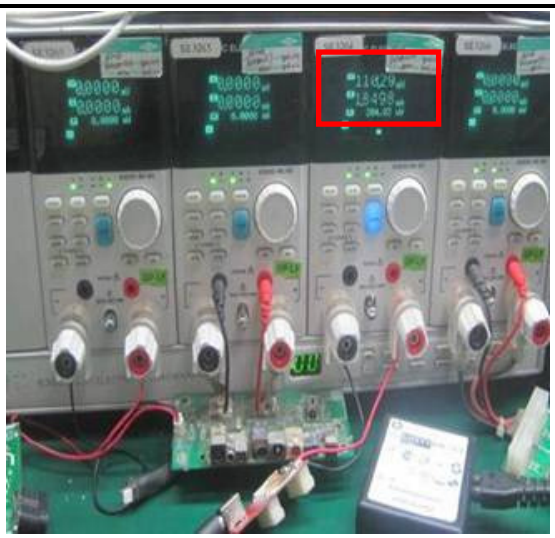
Work Order	M1642304	Serial Number	FMG4230409284
Part No	A015R008LHW010A	Customer SN	16101701AYC1
Version	N/A	QC LotNo	QCAUTO_L0316102087767
SPEC1		Pallet No	PMG4130300009
OutPut Time	2016/10/20 下午 07:36:11	Carton No	CMG4130300098
Status	Complete	Box No	N/A

Travel | Repair | Quality Control | KeyParts | Rework | Work Order | Current | Burn In

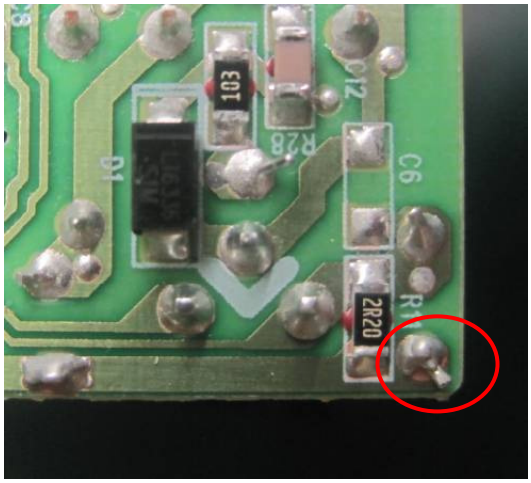
Work Order	Serial Number	Customer SN	Route Name	PDLine Name	Stage Name	Process Name	Terminal Name	Current Status	Work Flag
M1642304	FMG4230409284	N/A	R-noPATET/N	AUTO_L03	FINAL ASSEM	ICT	ICT04	Normal	Normal
M1642304	FMG4230409284	N/A	R-noPATET/N	AUTO_L03	FINAL ASSEM	ACT	ACT03	Normal	Normal
M1642304	FMG4230409284	MG40XXX41293	R-noPATET/N	AUTO_L03	FINAL ASSEM	ASSY	ASSY01	Normal	Normal
M1642304	FMG4230409284	MG40XXX41293	R-noPATET/N	AUTO_L03	PACKING	SN CHECK	SN CHECK01	Normal	Normal
M1642304	FMG4230409284	MG40XXX41293	R-noPATET/N	AUTO_L03	PACKING	HIPOT/GROUN	HIPOT/GROUN	Normal	Normal
M1642304	FMG4230409284	MG40XXX41293	R-noPATET/N	AUTO_L03	PACKING	FINAL-ATE1	FINAL-ATE101	Normal	Normal
M1642304	FMG4230409284	MG40XXX41293	R-noPATET/N	AUTO_L03	PACKING	FINAL-ATE2	FINAL-ATE201	Normal	Normal
M1642304	FMG4230409284	16101701AYC1	R-noPATET/N	AUTO_L03	PACKING	PACKING	PACKING01	Normal	Normal
M1642304	FMG4230409284	16101701AYC1	R-noPATET/N	AUTO_L03	QC	QC	QC01	Normal	Normal

2. **Test this adapter, it can power on with No Load and not power on with Full Load.**

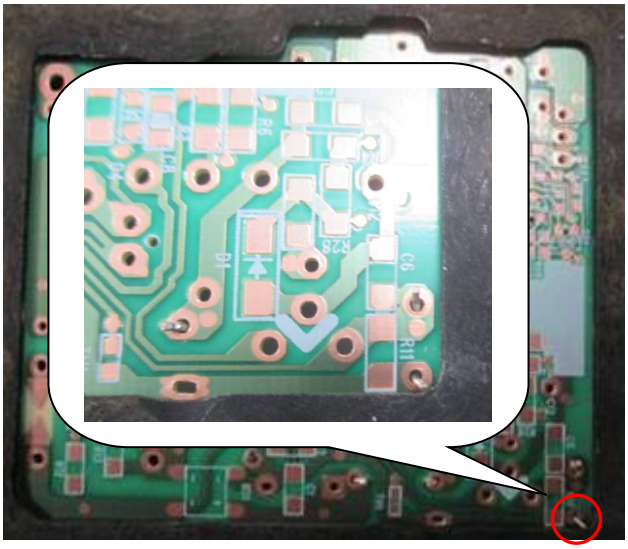


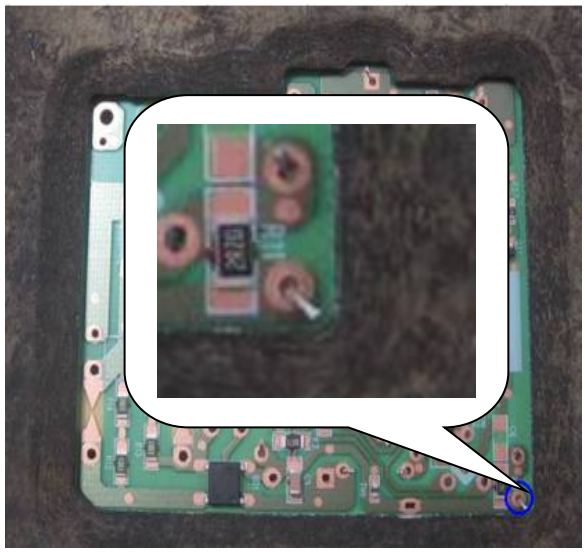


3. **To open the case, observe the soldering side and the component side. Seen from the soldering side, one pin of R10 is poor soldering.**



4. **Check all the carriers of this model, there're total 80 sets carriers. Each set has 6 holes to carry PCBA. And we found one hole out of these 80 sets carriers is worse than others .(Refer to the below pictures)**

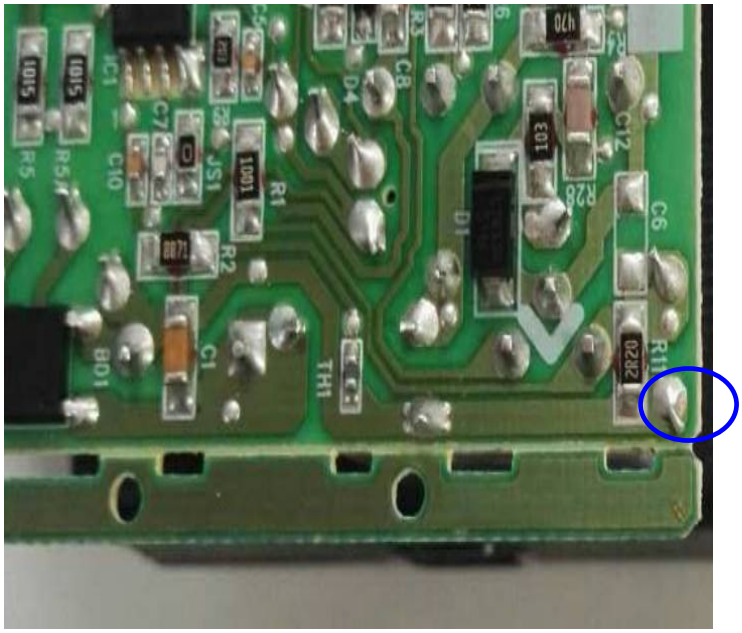




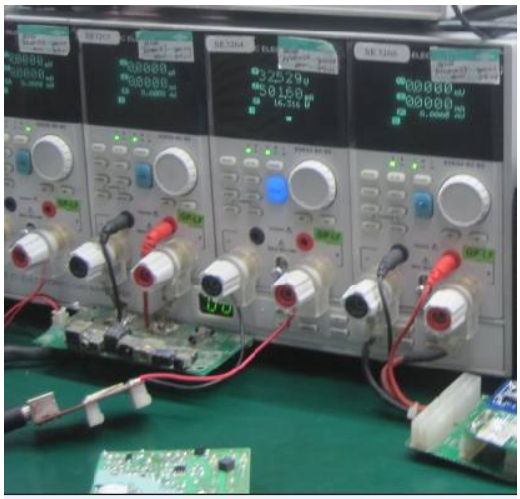
NG *OK*

As the above NG picture shown, R10 is very closed to the edge of the carrier. There's possibility to cause R10 poor soldering with the worse carrier due to the shadow effect.

To use the carriers of the production line to run the adapters of this mode one day and no soldering defect found and only 1pc like below picture.



5. Re-solder the R10, and this unit can power on.



6. During our production line, the pin of R10 was attached the soldering, so it can pass our process and flow out.
7. Check our IPQC sampling record after wave soldering and there's no such defect happened before in the record.

   Till now, the shipment of this model(A9T80-60008) is 7186.4k and there's only 1pc defect return(including Mpa return and field return) due to R10 poor soldering, the defect rate is 0.14DPPM .

   So it's a random case.

➢ Analysis for SN: 1610170GSPC1

8. By tracking the SN in our SFCS, this adapter passed all the test stations in the production line.

Travel Card

Customer SN 1610170GSPC1 Query Export Batch Exp

Work Order	M1642305	Serial Number	FMG4230529205
Part No	A015R008LHW010A	Customer SN	1610170GSPC1
Version	N/A	QC LotNo	QCAUTO_L0316102287892
SPEC1		Pallet No	PMG4130300003
OutPut Time	2016/10/22 下午 02:29:42	Carton No	CMG4230400344
Status	Complete	Box No	N/A

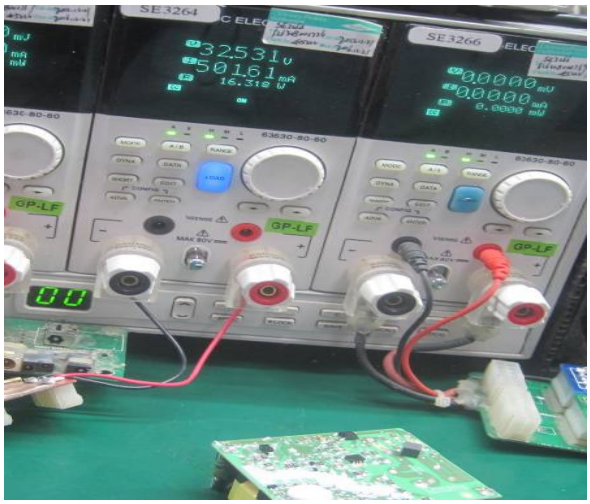
Travel | Repair | Quality Control | KeyParts | Rework | Work Order | Current | Burn In

Work Order	Serial Number	Customer SN	Route Name	PDLine Name	Stage Name	Process Name	Terminal Name	Current Status	Work Flag
M1642305	FMG4230529205	N/A	R-noPATET/I	AUTO_L03	FINAL ASSEM	ICT	ICT04	Normal	Normal
M1642305	FMG4230529205	N/A	R-noPATET/I	AUTO_L03	FINAL ASSEM	ACT	ACT03	Normal	Normal
M1642305	FMG4230529205	MG40XXX31156	R-noPATET/I	AUTO_L03	FINAL ASSEM	ASSY	ASSY01	Normal	Normal
M1642305	FMG4230529205	MG40XXX31156	R-noPATET/I	AUTO_L03	PACKING	SN CHECK	SN CHECK01	Normal	Normal
M1642305	FMG4230529205	MG40XXX31156	R-noPATET/I	AUTO_L03	PACKING	HIPOT/GROUN	HIPOT/GROUN	Normal	Normal
M1642305	FMG4230529205	MG40XXX31156	R-noPATET/I	AUTO_L03	PACKING	FINAL-ATE1	FINAL-ATE101	Normal	Normal
M1642305	FMG4230529205	MG40XXX31156	R-noPATET/I	AUTO_L03	PACKING	FINAL-ATE2	FINAL-ATE201	Normal	Normal
M1642305	FMG4230529205	1610170GSPC1	R-noPATET/I	AUTO_L03	PACKING	PACKING	PACKING01	Normal	Normal
M1642305	FMG4230529205	1610170GSPC1	R-noPATET/I	AUTO_L03	QC	QC	QC01	Normal	Normal

9. Test this adapter, it can not power on.

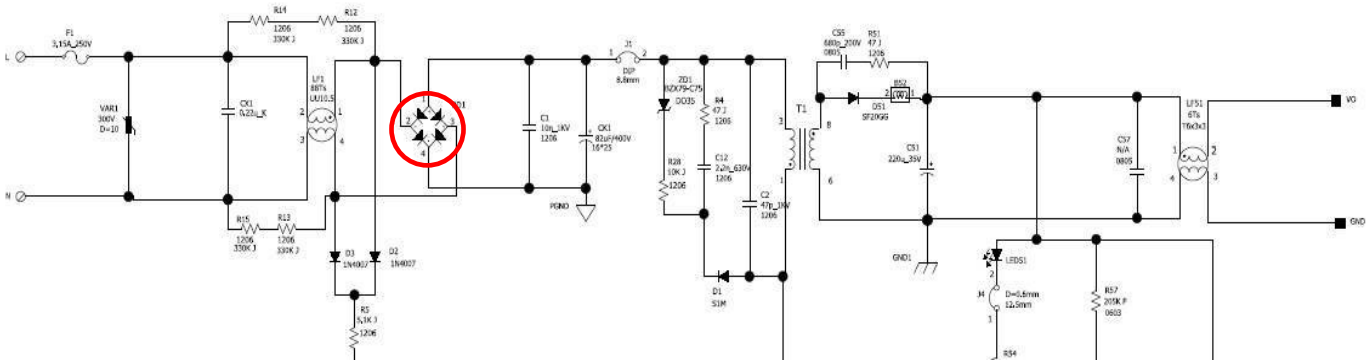
10. To open the case, observe the soldering side and the component side. There's no defect on both sides. And measure the related components, BD1 is short(as below picture). And F1 is open.

11. **Replace the defect components with good ones, it can power on. And after B/I for 24hrs, it can power on.**



12. **Schematic Analysis**

When BD1 is short, and F1 open, then it will cause the adapter no power.



➢ Conclusion:

No.1: 16101701AYC1

R10 poor soldering caused the adapter no power.

No.2: 1610170GSPC1

BD1 short caused the adapter no power.

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. **For the NO.1 sample:**

ME modify one hole of the worse carrier by polishing the carrier around R10, to avoid R10 poor soldering. ***(Please kindly refer to the partial enlarged pictures in D4-4)***

Before ***After***

Owner: Hai He **Due date:2016/12/10**

2. **For the NO.2 sample:**

Send the defect component to vendor for further analysis.

BD1: 411TD1KN106PJYLF, Vendor: LITE ON

Vendor's conclusion: Burn mark can be observed on the failed dies after sample decaped, it was suspected that the electrical over stress impact caused the failure in application.

Detail FA is as attachment.

FA16998 CPT(SZ) TD1KN DC6B31 sho

Owner: Wing Xie **Due date:2016/12/19**

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)

Defined in D5.
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**.)**
1. Introduce the action parallelly to the similar models by checking all the carriers, make sure the carriers are ok. **Owner:Hai He Due date:2016/12/12** **2. ME buy off the carriers by measuring the dimension of one location for each carrier and now all the locations of each carrier should be measured.** **Owner:Hai He Due date:2016/12/12**
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.**)**
CQS: Cecilia Sun QE: Nono Chen MFG: Alan Zhu PE: Kefang Zheng ME: Hai He **IE: Yansong Tong RD: Mark Meng Sales: Leo Lo SQE: Wing Xie**

Signature **Team Leader**:	**Cf_Liu**
	Name – Title
Signature by Approver:	**Roy_Tsai**
	Name-Title