



## Eight Discipline Report (8D Report)

To:	8D report No.:
From: : <b>Chicony Power Technology</b>	RMA claim No.: <b>N/A</b>
CC :	Chicony Power P/N: <b>A180AP01Q-FW01</b>
	Customer P/N: <b>PK37A019500</b>
Submit date: <b>2023/6/28</b>	Product description: <b>180W PD</b>
Receive date: <b>2023/6/16</b>	Defect D/C or Lot No.:
<b>Subject : 客戶反饋搭配系統測試 RE, 在 61MHz 頻段 margin 不足</b>	
<b>D1.) 問題解決成員: Use Team Approach</b>	
<p>主持者 (Team Leader) : <b>Cf Liu</b></p> <p>內部成員 (Internal Team Members):</p> <p style="text-align: center;"><b>CQS: Jack Wang</b></p> <p style="text-align: center;"><b>QE: Kitty Zhang</b></p> <p style="text-align: center;"><b>MFG: Xiaohui Du</b></p> <p style="text-align: center;"><b>PE: Yong Liu</b></p> <p style="text-align: center;"><b>Sales: Gordon Wang</b></p> <p style="text-align: center;"><b>RD: Chris Wu</b></p> <p>外部成員 (External Team Member):</p>	
<b>D2.) 問題說明: Problem Description:</b>	
(Note: Use <b>who, what, when, where, why, how, how many</b> to specify the Customer's problem.)	
<p><b>2023/6/16 仁寶告知目前 10M 場地 30MHz~1GHz 的輻射測試在低頻 30MHz~230MHz 之間會看到 power noise, 拔掉電源會降下去。</b></p> <p><b>其中在 61MHz 的 peak 較高, Qp 抓起來會沒達到客戶 spec (Qp -4dB 以下), 如下圖所示。傳導測項則是 pass。</b></p> <p><b><a href="https://fr.mw/FRANCNCH713174002G">https://fr.mw/FRANCNCH713174002G</a></b></p>	



**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. 從客戶端拿到了樣機並做進一步分析
2. 將一台 **EMI RE** 好的樣機給客戶進行更換

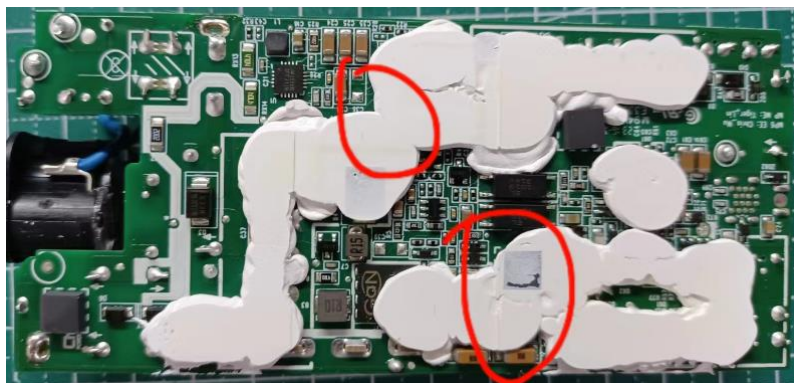
Date:2023/6/19

**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.)

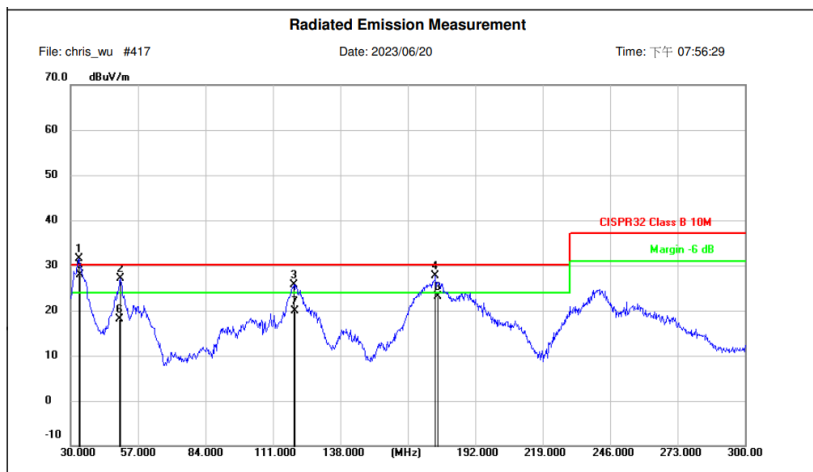
1. 透過追蹤我們**SFCS**中的**SN (FRANCNCH713174002G)**，該樣機通過了生產線中的所有測試站。
2. 在群電內部實驗室測試此樣機的**EMI RE**，發現在**50MHz**頻段確實比較差。
3. 打開外殼，觀察元件面跟鋅錫面，元件面及鋅錫面看起來無異常，且鋅接面鋅接良好

但有發現鋅錫面點膠未按照生產注意事項點膠，以至於紅圈處(**AHB circuit**與**PFC circuit**；一次側與二次側)的膠有連起來，導致**EMI\_RE**變差。

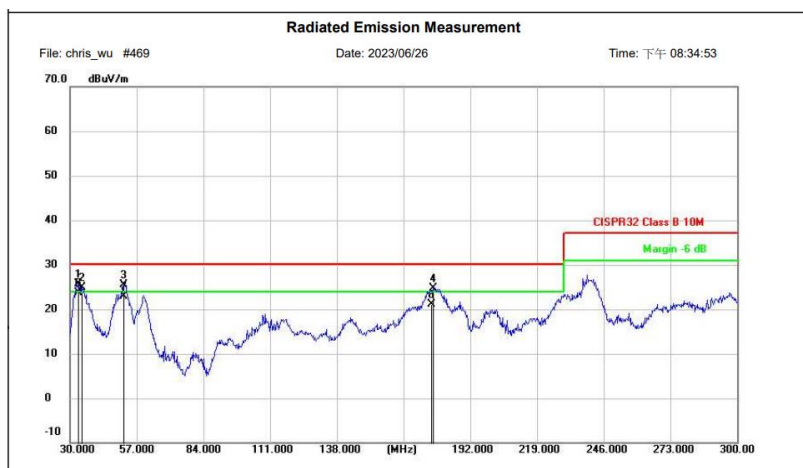


4. 將紅圈處的膠挖起來再進行驗證，EMI\_RE 50MHz頻段約好2~3dB PK

Before:



After:



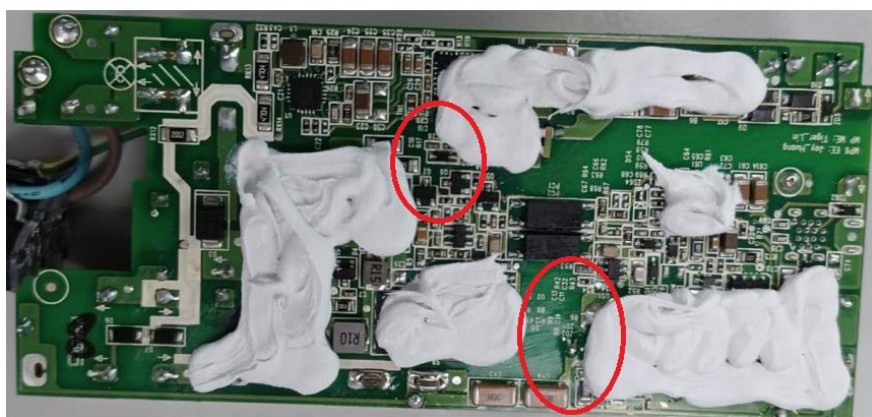
➤ 結論:

1. 透過上述分析，我們得出結論主要是膠與零件相連在一起便增加了零件間的耦合強度又因為膠連到的地方為紅框處這 2 個地方，1).AHB circuit 與 PFC circuit ； 2).一次側與二次側， 這 2 個地方的切換頻率相差約 1 倍使得這個切換開關雜訊被這個增大的耦合強度耦合到外部造成 EMI 變差。

**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. 把紅圈處的膠挖掉後再用Dummy load驗證EMI\_RE在頻段約50MHz可看到有明顯降低
2. 要求工廠務必按照生產注意事項裡的點膠方式作業



Date:2023/06/28

**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: Gordon Wang**

**RD: Chris Wu**

<b>Signature</b>	<b>Cf_Liu</b>
<b>Team Leader:</b>	
	Name – Title
<b>Signature by Approver:</b>	<b>Wade_Lo</b>
	Name-Title