Eight Discipline Report (8D Report)

To:	8D report No.:
From:：	RMA claim No.:
CC：	Chicony Power P/N: **N025A001Q-CT01**
	Customer P/N:
Submit date: **2020/09/30**	Product description:
Receive date: **2020/09/30**	
Subject：SCP 損壞 Rsense 導致定電流輸出異常. [SCP, 電阻]	

D1.) 問題解決成員:Use Team Approach

主持者 (Team Leader)：

內部成員 (Internal Team Members):

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.)

經過 SCP 測試後，量測 LED 輸出電流會略低，
隨著 SCP 次數，增加最後 LED 會沒輸出

D3.)內部或客戶的暫時解決辦法及實施日期:Implement and Verify Containment Action:

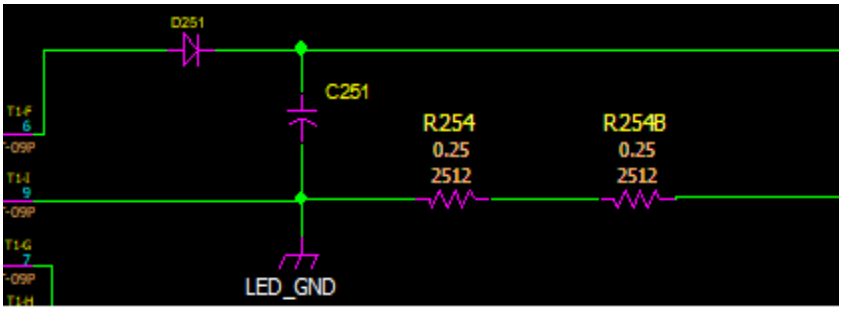
(Note: Internal / external containment action effectiveness and date.**)**

1. **FAE of CPT got this PSU from customer for further analysis.**
2. **CPT send 1pc PSU to customer for exchange.**

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.**)**

輸出短路後, sense 電阻瞬間有 pulse 電流通過,
且 sense 電阻為 LED 的 CC function, pulse 電流使其阻抗上升, LED 輸出電流會下降



經實驗 5sec/on, 5sec/off, 輸出電流 0.399A 在 2.1 小時會無輸出,
將 R254/R254B 取下量測為 265mohm/4.81Kohm

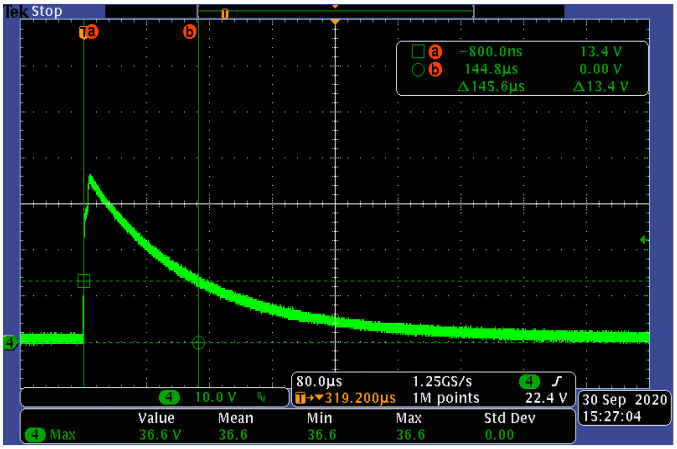
0.399 / 0hr
0.3863 / 1hr
0.3699 / 2hr
no output/2.1hr
265mΩ / 4.81kΩ

確認 sense 電阻使用厚膜電阻, 抵抗 surge current 能力較差, SCP 多測幾次會使阻抗上升

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**)**

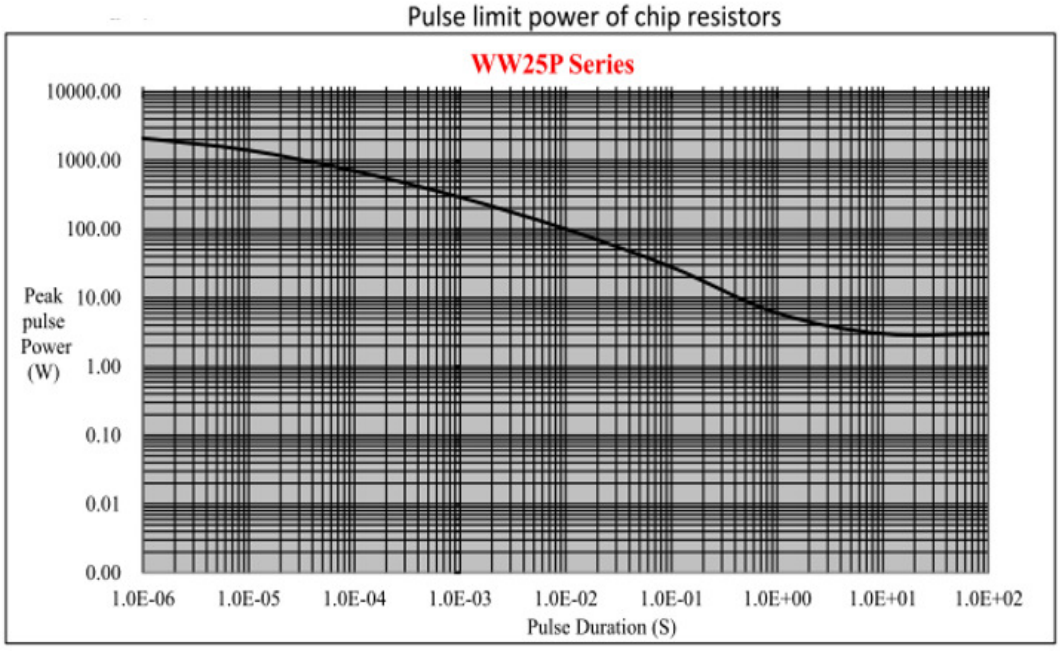
將 R254/254B 改使用金屬膜電阻, 量測 SCP 時兩端電壓



比對供應商 surge curve 進行確認:

1. convert triangular wave form to rectangular wave form as below formula
peak voltage about 36.6v, 0.368 x36.6v = 13.46v at t = 145.6us
2. calculate pulse power = 13.46v x 13.46v / 0.5 (0.25R x 2 in series) = 363w at t = 145.6us
so each WW25P should withstand 363w/2 = 181.5w at t = 145.6us
3. check WW25P single pulse chart which can withstand about 600w at 145.6us
600W at 100℃ rated 64.7%= 388.2W
loading rate = 181.5w/388.2w = 46.75%. Judge is safe.

Part number	0.000001	0.00001	0.0001	0.001	0.01	0.1	1	10	100	sec
Single	2100	1400	**700**	**290**	**100**	**28**	**6**	**3**	**3**	watt



導入金屬膜電阻後，取 2pcs 驗證以 SCP 條件 5sec/on, 5sec/off 連續測試 >72hr pass

22:00	0.4024 / 01hr	0.4017 / 01hr
09:00	0.4022 / 12hr	0.4016 / 12hr
10:00	0.4022 / 13hr	0.4015 / 13hr
11:00	0.4022 / 14hr	0.4016 / 14hr
12:00	0.4021 / 15hr	0.4015 / 15hr
13:00	0.4021 / 16hr	0.4015 / 16hr
14:00	0.4021 / 17hr	0.4015 / 17hr
15:00	0.4021 / 18hr	0.4015 / 18hr
16:00	0.4021 / 19hr	0.4015 / 19hr
17:00	0.4021 / 20hr	0.4015 / 20hr
18:00	0.4021 / 21hr	0.4015 / 21hr
19:00	0.4021 / 22hr	0.4015 / 22hr
20:00	0.4021 / 23hr	0.4016 / 23hr
21:00	0.4021 / 24hr	0.4016 / 24hr
09:00	0.4033 / 24hr	0.4019 / 24hr
10:00	0.4024 / 25hr	0.4016 / 25hr
11:00	0.4022 / 26hr	0.4014 / 26hr
12:00	0.4021 / 27hr	0.4014 / 27hr
13:00	0.4021 / 28hr	0.4014 / 28hr
14:00	0.4021 / 29hr	0.4014 / 29hr
15:00	0.402 / 30hr	0.4014 / 30hr
16:00	0.4021 / 31hr	0.4014 / 31hr
17:00	0.4021 / 32hr	0.4014 / 32hr
18:00	0.4021 / 33hr	0.4014 / 33hr
19:00	0.4021 / 34hr	0.4014 / 34hr
20:00	0.4021 / 35hr	0.4014 / 35hr
21:00	0.4021 / 36hr	0.4015 / 36hr
22:00	0.4021 / 37hr	0.4015 / 37hr
09:00	0.4021 / 48hr	0.4015 / 48hr
10:00	0.4021 / 49hr	0.4014 / 49hr
11:00	0.4021 / 50hr	0.4015 / 50hr
12:00	0.4021 / 51hr	0.4015 / 51hr
13:00	0.402 / 52hr	0.4014 / 52hr
14:00	0.4021 / 53hr	0.4014 / 53hr
15:00	0.402 / 54hr	0.4011 / 54hr
16:00	0.402 / 55hr	0.4011 / 55hr
17:00	0.4019 / 56hr	0.4011 / 56hr
18:00	0.4018 / 57hr	0.4011 / 57hr
19:00	0.4019 / 58hr	0.4011 / 58hr
20:00	0.4019 / 59hr	0.4011 / 59hr
21:00	0.4019 / 60hr	0.4011 / 60hr
22:00	0.4019 / 61hr	0.4011 / 61hr
09:00	0.402 / 72hr	0.4011 / 72hr
10:00	0.402 / 73hr	0.4011 / 73hr
11:00	**0.4019 / PASS**	**0.4011 / PASS**

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**.)**
有高能量測項的電阻 R254/254B 應避免使用厚膜電阻改使用金屬膜電阻
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！！！

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