Eight Discipline Report (8D Report)

To:	8D report No.:
From:：**Chicony Power Technology**	RMA claim No.: **N/A**
CC：	Chicony Power P/N: **A065RP31P-AX01**
	Customer P/N: **0A001_00896900**
Submit date:	Product description: **65W PD**
Receive date: **2022/3/31**	Defect D/C or Lot No.:
Subject：客戶告知有 A03 版本有 1pcs 單體，搭配系統 ISN 測試，與 A02 版本樣機的測試結果有差異。(ISN, 電阻, ESD)	

D1.) 問題解決成員:Use Team Approach

主持者 (Team Leader)：**Edward Ho**

內部成員 (Internal Team Members):

RD: Eric Wu

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.)

2022/ 客戶告知:

客戶告知有 A03 版本有 1pcs 單體，搭配系統 ISN 測試，與 A02 版本樣機的測試結果有差異。

Sample : A065RP31P-AX01 / Version :A02

S/N:050204760

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

Date:2022

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 查詢記錄無異常,系統查詢如下：

Travel Card

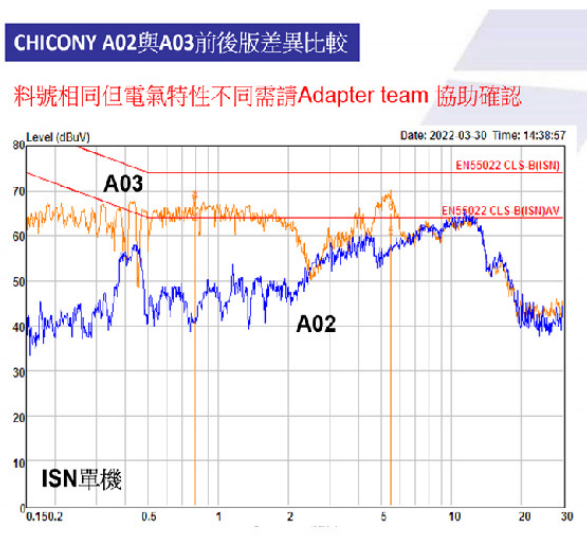
Customer SN: 0A001-00896900050204760 | Query | Export | Batch Exp

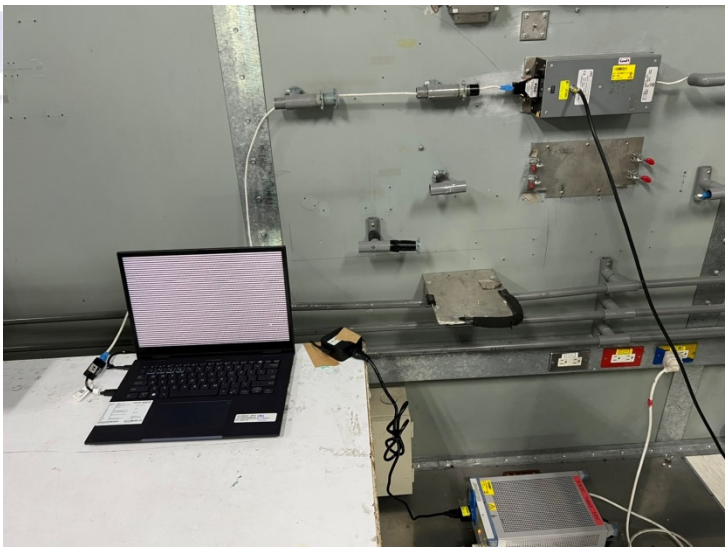
Work Order	MBK50506	Serial Number	MBK5050608013
Part No	A065RP31PAX01A2	Customer SN	0A001-00896900050204760
Version	N/A	QC LotNo	QCCPCQ_L0520121284284
SPEC1		Pallet No	PMK5050600004
OutPut Time	2020/12/12 下午 06:38:43	Carton No	CMK5050600095
Status	Complete	Box No	N/A

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

Work Orde	Serial Num	Cust	Cus	Ver	Route Name	PDLine I	Stage Name	Process Name	Terminal Name	Ass	Current Status	Work Flag
MBK50506	MBK50506	N/A	N/A	N/A	Assy-AutoLin	CPCQ_L	FINAL ASSE	ICT	ICT03		Normal	Normal
MBK50506	MBK50506	N/A	N/A	N/A	Assy-AutoLin	CPCQ_L	FINAL ASSE	ACT	ACT04		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	FINAL ASSE	ASSY	ASSY01		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	FINAL ASSE	PRE-ATE	PRE-ATE03		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	SN CHECK	SN CHECK02		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	HIPOT/GROUN	HIPOT/GROUN		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	FINAL-ATE1	FINAL-ATE101		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	FINAL-ATE2	FINAL-ATE201		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	FINAL-ATE3	FINAL-ATE301		Normal	Normal
MBK50506	MBK50506	MK3	N/A	N/A	Assy-AutoLin	CPCQ_L	PACKING	PACKING	PACKING03		Normal	Normal
MBK50506	MBK50506	0A0(	N/A	N/A	Assy-AutoLin	CPCQ_L	QC	QC	QC01		Normal	Normal
MBK50506	MBK50506	0A0(	N/A	N/A	Assy-AutoLin	CPCQ_L	SHIPPING	SHIPPING	SHIPPING01		Normal	Normal

2. 客戶告知有 A03 版本有 1pcs 單體，搭配系統 ISN 測試，與 A02 版本樣機的測試結果有差異。





ISN – Adapter With PC Only(立德)

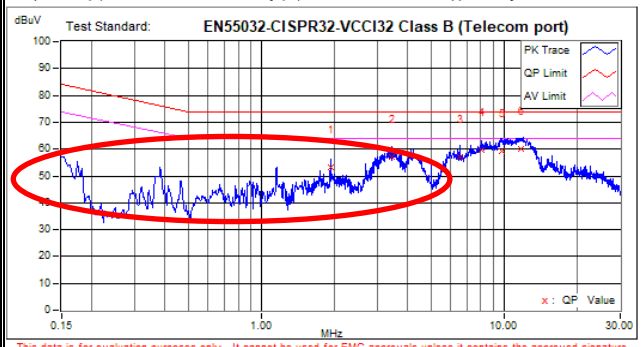
3. ISN Test with PC only (A02 版本與 A03 版本比較)

A02 比 A03 版本 ISN 測試明顯偏低

A02_050204760(電量 4%)

Brand / Model : A065RP31P
Test Mode : LAN 1Gbps , Traffic
Power Source : AC 230V/50Hz
Remark : with system,Burnin(2D/3D/CPU/RAM/Sound,100% loading) , PC only , Battery(4%)
Sample No. A02
Tested by : FOX CHANG

Location: HY - Conduction 1 Date: 2022/4/12 Time: 下午 01:35:15 Phase: X1
Temperatuer (C): 23 Humidity (%): 74 Approved by:

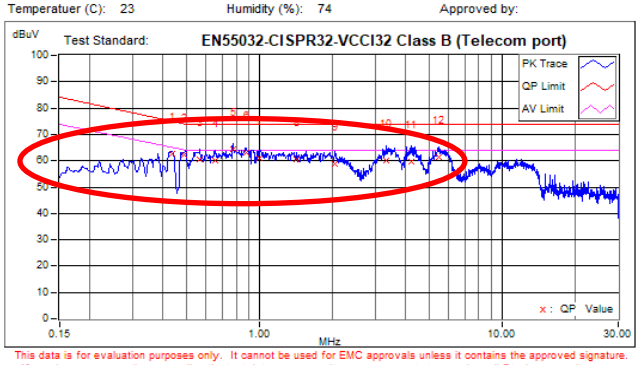


	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	Notes
1	1.91800	9.35	43.71	41.58	53.06	50.93	74.00	64.00	-20.94	-13.07	
2	3.45400	9.28	47.91	43.36	57.19	52.64	74.00	64.00	-16.81	-11.36	
3	6.53000	9.25	47.71	43.42	56.96	52.67	74.00	64.00	-17.04	-11.33	
4	8.06600	9.25	50.24	45.32	59.49	54.57	74.00	64.00	-14.51	-9.43	
5	9.73000	9.26	50.06	44.98	59.32	54.24	74.00	64.00	-14.68	-9.76	
+6	11.74200	9.29	50.99	45.86	60.28	55.15	74.00	64.00	-13.72	-8.85	

A03(電量 4%)

Brand / Model : A065RP31P
Test Mode : LAN 1Gbps , Traffic
Power Source : AC 230V/50Hz
Remark : with system,Burnin(2D/3D/CPU/RAM/Sound,100% loading) , PC only , Battery(4%)
Sample No. A03
Tested by : FOX CHANG

Location: HY - Conduction 1 Date: 2022/4/12 Time: 下午 01:39:22 Phase: X1
Temperatuer (C): 23 Humidity (%): 74 Approved by:



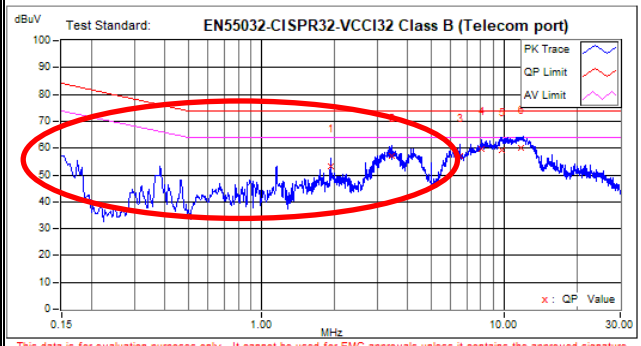
	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	Notes
1	0.43599	9.61	53.09	46.67	62.70	56.28	75.14	65.14	-12.44	-8.86	
2	0.48829	9.58	52.62	44.71	62.20	54.29	74.20	64.20	-12.00	-9.91	
3	0.56600	9.55	50.97	43.22	60.52	52.77	74.00	64.00	-13.48	-11.23	
4	0.65800	9.52	50.40	45.30	59.92	54.82	74.00	64.00	-14.08	-9.18	
+5	0.77400	9.48	54.72	50.33	64.20	59.81	74.00	64.00	-9.80	-4.19	
6	0.87580	9.46	53.51	45.40	62.97	54.86	74.00	64.00	-11.03	-9.14	
7	0.99712	9.44	51.68	45.23	61.12	54.67	74.00	64.00	-12.88	-9.33	

ISN 差異與系統電池電量無關

A02_050204760(電量 4%)

Brand / Model : A065RP31P
Test Mode : LAN 1Gbps , Traffic
Power Source : AC 230V/50Hz
Remark : with system,Burnin(2D/3D/CPU/RAM/Sound,100% loading) , PC only , Battery(4%)
Sample No. A02
Tested by : FOX CHANG

Location: HY - Conduction 1 Date: 2022/4/12 Time: 下午 01:35:15 Phase: X1
Temperatuer (C): 23 Humidity (%): 74 Approved by:

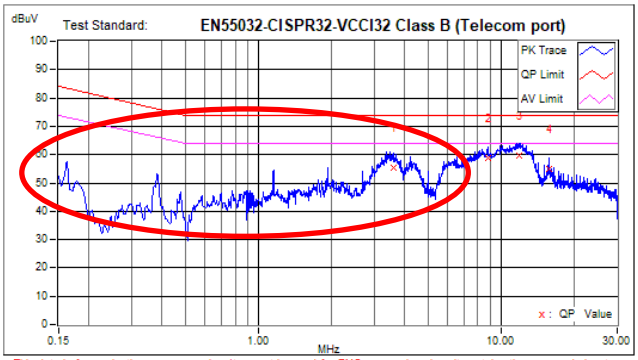


	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	Notes
1	1.91800	9.35	43.71	41.58	53.06	50.93	74.00	64.00	-20.94	-13.07	
2	3.45400	9.28	47.91	43.36	57.19	52.64	74.00	64.00	-16.81	-11.36	
3	6.53000	9.25	47.71	43.42	56.96	52.67	74.00	64.00	-17.04	-11.33	
4	8.06600	9.25	50.24	45.32	59.49	54.57	74.00	64.00	-14.51	-9.43	
5	9.73000	9.26	50.06	44.98	59.32	54.24	74.00	64.00	-14.68	-9.76	
+6	11.74200	9.29	50.99	45.86	60.28	55.15	74.00	64.00	-13.72	-8.85	

A02_050204760 (電量 17%)

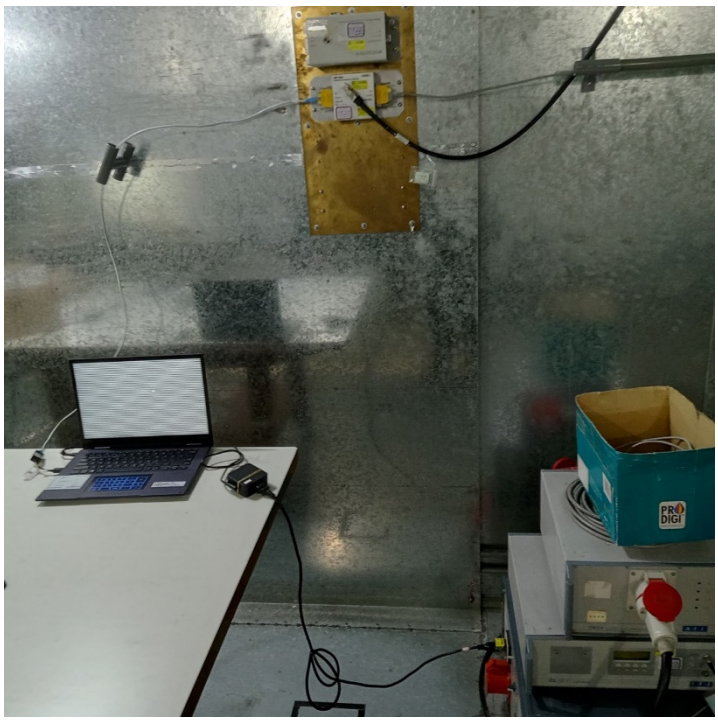
Brand / Model : A065RP31P
Test Mode : LAN 1Gbps , Traffic
Power Source : AC 230V/50Hz
Remark : with system,Burnin(2D/3D/CPU/RAM/Sound,100% loading) , PC only , Battery(17%)
Sample No. A02
Tested by : FOX CHANG

Location: HY - Conduction 1 Date: 2022/4/12 Time: 下午 02:03:34 Phase: X1
Temperatuer (C): 23 Humidity (%): 74 Approved by:



	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	Notes
1	3.58600	9.28	46.24	40.51	55.52	49.79	74.00	64.00	-18.48	-14.21	
2	8.83000	9.26	49.57	44.72	58.83	53.98	74.00	64.00	-15.17	-10.02	
+3	11.87800	9.29	50.38	45.48	59.67	54.77	74.00	64.00	-14.33	-9.23	
4	15.74200	9.35	45.65	42.11	55.00	51.46	74.00	64.00	-19.00	-12.54	

4. ISN – Adapter With PC Only(中研)



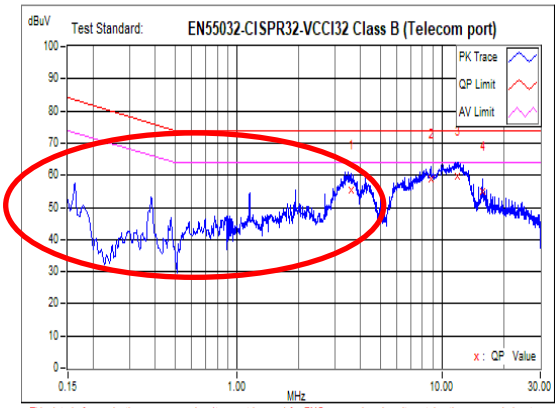
5. ISN Test with PC only (立德、中研 LAB 比較)

客退品(版本 A02) ,在立德和中研 LAB 測試 ISN 結果波形差異不大。

A02_050204760(立德)

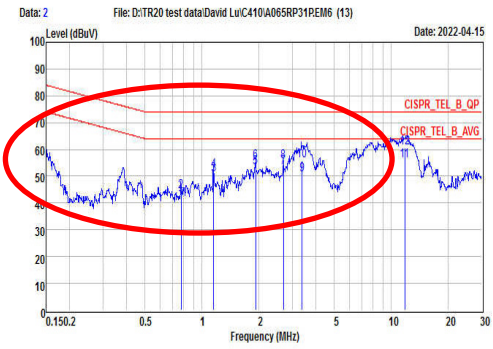
Brand / Model : A065RP31P
Test Mode : LAN 1Gbps , Traffic
Power Source : AC 230V/50Hz
Remark : with system,Burnin(2D/3D/CPU/RAM/Sound,100% loading) , PC only , Battery(17%)
Sample No. A02
Tested by : FOX CHANG

Location: HY - Conduction 1 Date: 2022/4/12 Time: 下午 02:03:34 Phase: X1
Temperatuer (C): 23 Humidity (%): 74 Approved by:



	Frequency	Corr. Factor	Reading dBuV		Emission dBuV		Limit dBuV		Margins dB		Notes
No.	MHz	dB	QP	AV	QP	AV	QP	AV	QP	AV	Notes
1	3.58600	9.28	46.24	40.51	55.52	49.79	74.00	64.00	-18.48	-14.21	
2	8.83000	9.26	49.57	44.72	58.83	53.98	74.00	64.00	-15.17	-10.02	
+3	11.87800	9.29	50.38	45.48	59.67	54.77	74.00	64.00	-14.33	-9.23	
4	15.74200	9.35	45.65	42.11	55.00	51.46	74.00	64.00	-19.00	-12.54	

A02_050204760(中研)



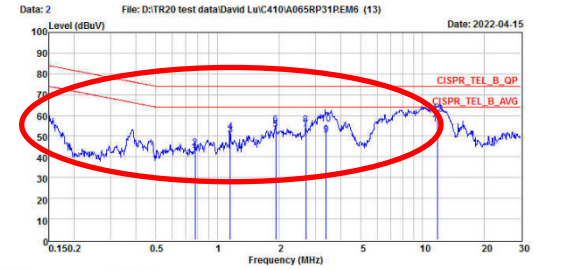

```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(23%)
                : A02 , 客人
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.774	41.05	9.76	31.29	64.00	-22.95	LINE	Average
2	0.774	44.12	9.76	34.36	74.00	-29.88	LINE	QP
3	1.153	50.50	9.73	40.77	64.00	-13.50	LINE	Average
4	1.153	51.98	9.73	42.25	74.00	-22.02	LINE	QP
5	1.920	53.08	9.71	43.37	64.00	-10.92	LINE	Average
6	1.920	55.26	9.71	45.55	74.00	-18.74	LINE	QP
7	2.688	53.32	9.71	43.61	64.00	-10.68	LINE	Average
8	2.688	55.43	9.71	45.72	74.00	-18.57	LINE	QP
9	3.378	50.47	9.73	40.74	64.00	-13.53	LINE	Average
10	3.378	55.60	9.73	45.87	74.00	-18.40	LINE	QP
11	11.750	55.66	9.85	45.81	64.00	-8.34	LINE	Average
12	11.750	60.64	9.85	50.79	74.00	-13.36	LINE	QP

6. ISN Test with PC only (A02_AC Cable 2Pin、3Pin 比較)

客退品(版本 A02)，使用 AC Cable 2Pin 與 3Pin，測試結果波形差異不大。

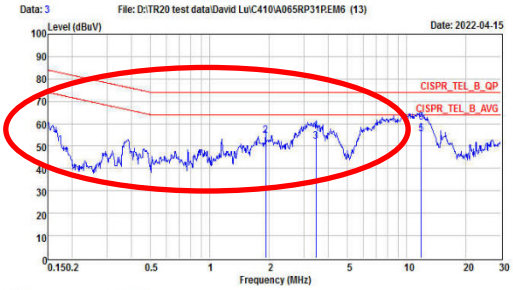
A02 050204760(AC Cable 3Pin)




```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(23%)
                : A02 , 客人
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.774	41.05	9.76	31.29	64.00	-22.95	LINE	Average
2	0.774	44.12	9.76	34.36	74.00	-29.88	LINE	QP
3	1.153	50.50	9.73	40.77	64.00	-13.50	LINE	Average
4	1.153	51.98	9.73	42.25	74.00	-22.02	LINE	QP
5	1.920	53.08	9.71	43.37	64.00	-10.92	LINE	Average
6	1.920	55.26	9.71	45.55	74.00	-18.74	LINE	QP
7	2.688	53.32	9.71	43.61	64.00	-10.68	LINE	Average
8	2.688	55.43	9.71	45.72	74.00	-18.57	LINE	QP
9	3.378	50.47	9.73	40.74	64.00	-13.53	LINE	Average
10	3.378	55.60	9.73	45.87	74.00	-18.40	LINE	QP
11	11.750	55.66	9.85	45.81	64.00	-8.34	LINE	Average
12	11.750	60.64	9.85	50.79	74.00	-13.36	LINE	QP

A02 050204760(AC Cable 2Pin)



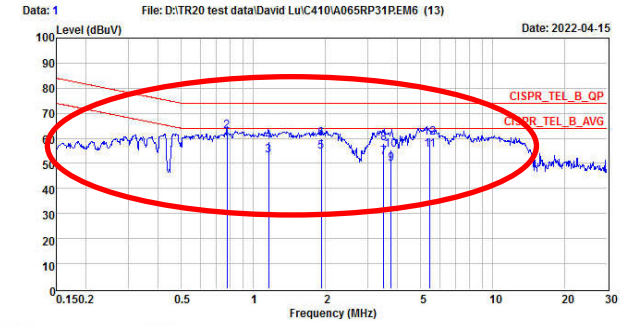

```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(26%)
                : A02 , 客人
                : 2pin
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	1.921	52.42	9.71	42.71	64.00	-11.58	LINE	Average
2	1.921	54.76	9.71	45.05	74.00	-19.24	LINE	QP
3	3.454	52.12	9.73	42.39	64.00	-11.88	LINE	Average
4	3.454	56.91	9.73	47.18	74.00	-17.09	LINE	QP
5	11.820	55.48	9.85	45.63	64.00	-8.52	LINE	Average
6	11.820	60.54	9.85	50.69	74.00	-13.46	LINE	QP

7. ISN Test with PC only (A04_AC Cable 2Pin、3Pin 比較)

樣機(版本 A04) _使用 AC Cable 2Pin 與 3Pin 的測試結果波形有差異。

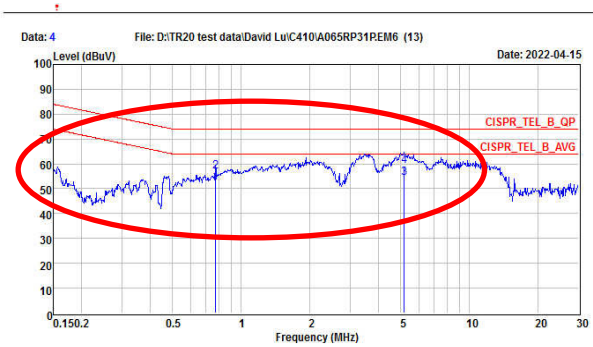
A04_220216703 (AC Cable 3Pin)




```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(19%)
                : A04 , 202216703
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.774	58.27	9.76	48.51	64.00	-5.73	LINE	Average
2	0.774	62.82	9.76	53.06	74.00	-11.18	LINE	QP
3	1.154	53.34	9.73	43.61	64.00	-10.66	LINE	Average
4	1.154	58.76	9.73	49.03	74.00	-15.24	LINE	QP
5	1.922	54.68	9.71	44.97	64.00	-9.32	LINE	Average
6	1.922	59.81	9.71	50.10	74.00	-14.19	LINE	QP
7	3.498	52.48	9.73	42.75	64.00	-11.52	LINE	Average
8	3.498	57.90	9.73	48.17	74.00	-16.10	LINE	QP
9	3.753	49.69	9.73	39.96	64.00	-14.31	LINE	Average
10	3.753	55.29	9.73	45.56	74.00	-18.71	LINE	QP
11	5.456	55.25	9.77	45.48	64.00	-8.75	LINE	Average
12	5.456	60.07	9.77	50.30	74.00	-13.93	LINE	QP

A04_220216703 (AC Cable 2Pin)



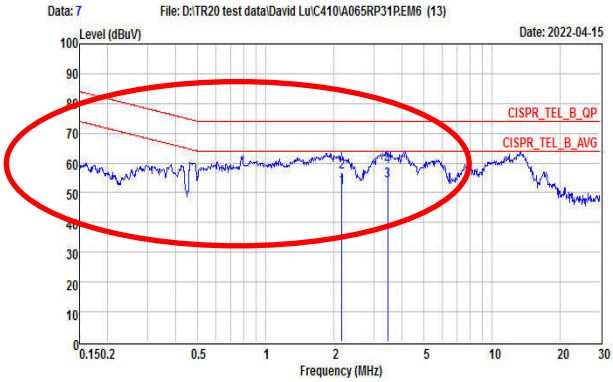

```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(28%)
                : A04 , 202216703
                : 2pin
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.773	52.32	9.76	42.56	64.00	-11.68	LINE	Average
2	0.773	57.00	9.76	47.24	74.00	-17.00	LINE	QP
3	5.166	54.34	9.76	44.58	64.00	-9.66	LINE	Average
4	5.166	59.19	9.76	49.43	74.00	-14.81	LINE	QP

8. ISN Test with PC only (FG 浮接模擬失效狀況)

將 A04 版本的樣機 FG 線浮接，與客退品(A02 版本)比較, ISN 測試結果波形差異不大。

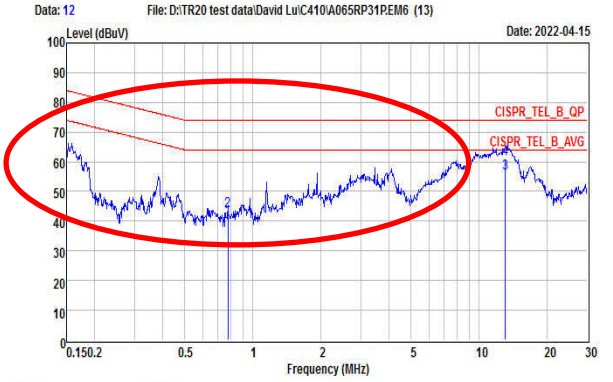
A04_150225447




```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(26%)
                : A04 , 150225447
                : 3pin
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	2.167	51.51	9.70	41.81	64.00	-12.49	LINE	Average
2	2.167	56.75	9.70	47.05	74.00	-17.25	LINE	QP
3	3.454	53.76	9.73	44.03	64.00	-10.24	LINE	Average
4	3.454	58.62	9.73	48.89	74.00	-15.38	LINE	QP

A04_150225447, Cancel FG 線

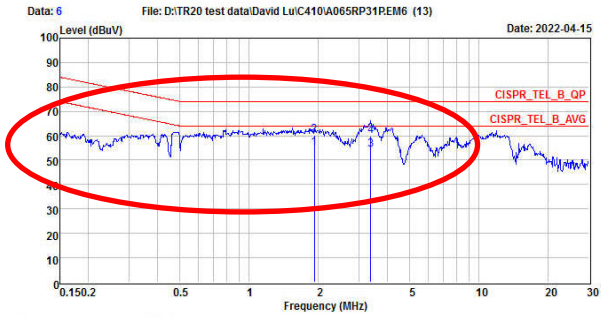



```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(17%)
                : A04 , 150225447
                : 3pin
                : Del FG
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.775	40.97	9.76	31.21	74.00	-33.03	LINE	QP
2	0.775	43.40	9.76	33.64	74.00	-30.60	LINE	Peak
3	13.026	56.09	9.87	46.22	64.00	-7.91	LINE	Average
4	13.026	61.00	9.87	51.13	74.00	-13.00	LINE	QP

將第 2 台 A04 的樣機 FG 線浮接，與客退品(A02 版本)比較，ISN 測試結果波形差異不大

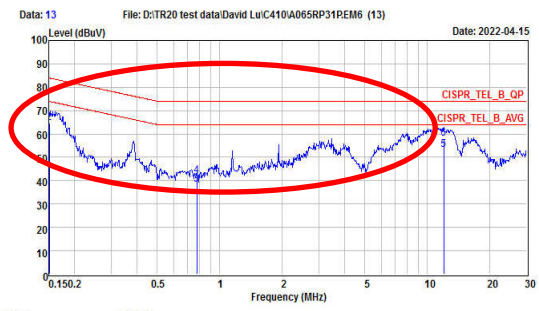
A04_150225064




```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(27%)
                : A04 , 150225064
                : 3pin
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	1.918	54.99	9.71	45.28	64.00	-9.01	LINE	Average
2	1.918	60.09	9.71	50.38	74.00	-13.91	LINE	QP
3	3.381	54.17	9.73	44.44	64.00	-9.83	LINE	Average
4	3.381	59.71	9.73	49.98	74.00	-14.29	LINE	QP

A04_150225064, Cancel FG 線




```
Site            : TR20
Condition       : CISPR_TEL_B_QP ISN_T800_CAT5 LINE
Power           : 230V/50Hz
Operator        : David Lu T25 H63 P1010
EUT&Model       : A065RP31P
Test_Mode       : LAN 1Gbps , Traffic
Exerciser_Program: With System
Memo            : BurnIn(2D/3D/CPU/RAM/sound,100% Loading)
                : Battery(25%)
                : A04 , 150225064
                : 3pin
                : Del FG
```

	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB		
1	0.151	57.61	10.23	47.38	73.95	-16.34	LINE	Average
2	0.151	64.52	10.23	54.29	83.95	-19.43	LINE	QP
3	0.775	38.47	9.76	28.71	64.00	-25.53	LINE	Average
4	0.775	41.86	9.76	32.10	74.00	-32.14	LINE	QP
5	11.996	53.17	9.85	43.32	64.00	-10.83	LINE	Average
6	11.996	58.02	9.85	48.17	74.00	-15.98	LINE	QP

9. A02 版本樣機分析

步驟:

1.確認 FG 線有沒有浮接 ➔沒有浮接，參考圖 1。

2.確認 FG 線到 SGND 有沒有 1K ohm 阻抗 ➔電阻 Open，參考圖 2。

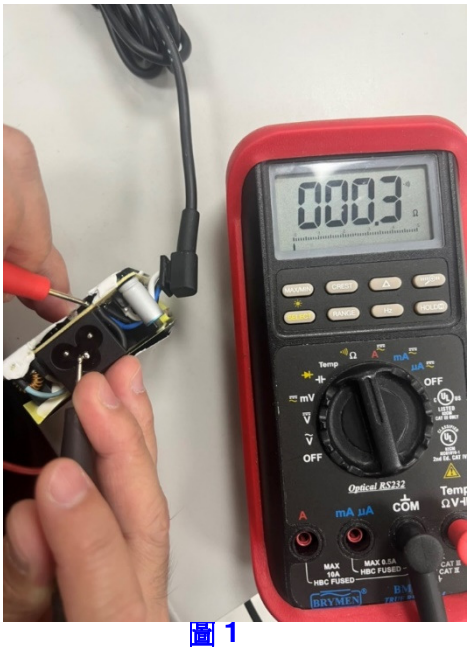
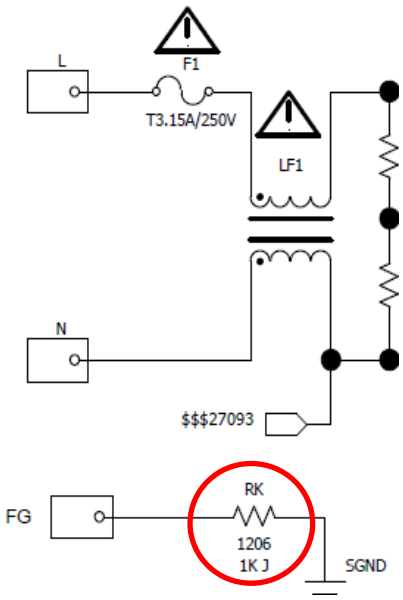


圖 1

圖 2



步驟:

3.量測 RK 電阻阻值 ➔電阻 Open，參考圖 3。

4.確認 RK 電阻吃錫狀況 ➔兩端端點吃錫良好，請參考圖 4、5。

5.RK 電阻經放大鏡檢視後發現,絲印部份(0)有缺口,請參考圖 6，不良電阻送廠商分析原因。

圖 1

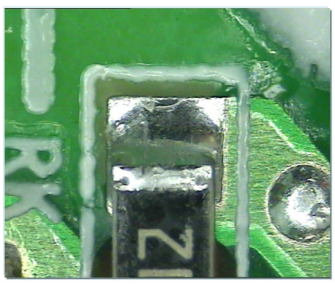


圖 2

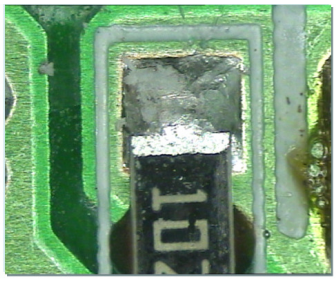


圖 3

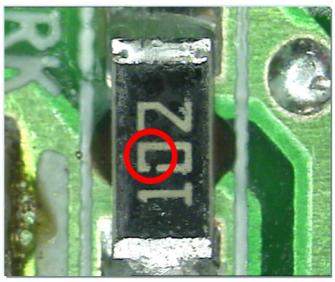


圖 4

10. RK 不良品電阻分析結果

不良品經廠商分析結果如下:

1.量測 RK 電阻阻值 Open。

2.電阻本體有燒毀現象,判定為過載燒毀。

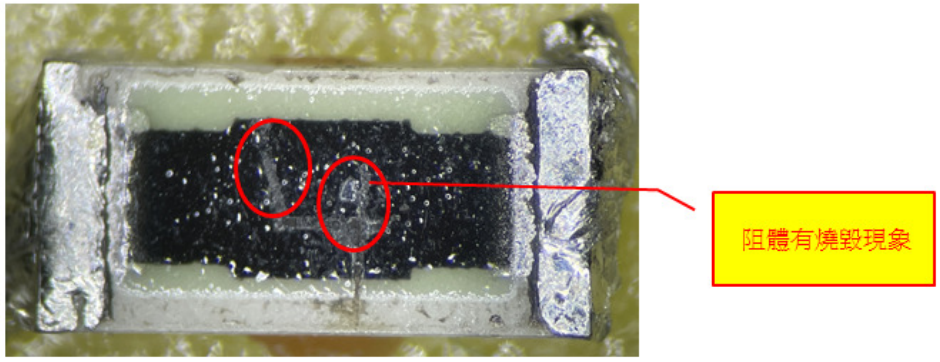
3.廠商分析報告請參考附件。

ASUS Brick Type
65W PD Adapter I

3.2 電性分析： 取不良品使用電錶量測阻值，確認阻值皆OPEN。

Sample	SPEC.	R-value(Ω)	Judge
1	1KΩ,±5%	OPEN	NG

3.3 Decap分析：去除保護層，確認內部有燒毀痕跡，故判定為過載燒毀，造成阻值OPEN。



11. Hi POT 測試

Hi-POT 測試 ： 測試時間 60s，RK 電阻廠商是大毅，阻值沒有變化。

項目	電壓(測試時間 60s)	RK阻值(原始 =1.033K)
Primary to F.G	1500Vac	1.034K
Primary to Secondary	3000Vac	1.035K
Primary to F.G	2000Vac	1.034K
Primary to Secondary	3500Vac	1.034K
Primary to F.G	2500Vac	1.035K
Primary to Secondary	4000Vac	1.034K
Primary to F.G	3000Vac	1.034K
Primary to Secondary	4500Vac	1.034K
Primary to F.G	3500Vac	1.034K
Primary to Secondary	5000Vac(Fail)	1.035K
Primary to F.G	4000Vac	1.035K
Primary to F.G	4500Vac	1.035K
Primary to F.G	5000Vac(機器極限)	1.036K

項目	電壓(測試時間 60s)	RK阻值(原始 =1.033K)
Primary to F.G	5000Vac (連測5次)	1.036K
		1.036K
		1.036K
		1.036K
		1.036K
Primary to Secondary	4500Vac (連測5次)	1.036K
		1.036K
		1.036K
		1.036K
		1.036K

12. ESD 測試

ESD 測試 ： 大毅 1/4W 電阻，經 ESD(Air ±16.5KV) 測試 3000 次後，結果如下:

16.5K ESD

ESD:1~1000下	
次數(輸入電壓)	RK的阻值(原始阻值998ohm)
±50下(110V)	937
±50下(220V)	926
±50下(110V)	918
±50下(220V)	919
±50下(110V)	911
±50下(220V)	916
±50下(110V)	916
±50下(220V)	923
±50下(110V)	928
±50下(220V)	926

ESD:2001~3000下	
次數(輸入電壓)	RK的阻值
±50下(110V)	1035
±50下(220V)	1039
±50下(110V)	1058
±50下(220V)	1072
±50下(110V)	1079
±50下(220V)	1095
±50下(110V)	1109
±50下(220V)	1131
±50下(110V)	1145
±50下(220V)	1158

ESD:1001~2000下	
次數(輸入電壓)	RK的阻值
±50下(110V)	930
±50下(220V)	937
±50下(110V)	945
±50下(220V)	953
±50下(110V)	965
±50下(220V)	980
±50下(110V)	987
±50下(220V)	990
±50下(110V)	1008
±50下(220V)	1012

➢ **結論：**

4/13 結論(BV LAB)

1.從 ISN 測試:A02 版本樣機比 A03 版本樣機測試結果明顯偏低。

2.從交叉比對結果:ISN 測試與系統電池電量無關。

4/18 結論(中研 LAB)

1.使用 AC Cable 2pin 測試,客退品(A02 版本)量測結果沒有差異,但 A04 版本樣機測試結果和 A02 客退品測試結果差不多,認為客退品(A02 版本)的 FG 路徑上有零件損壞。

2.A04 版本的 2 台樣機，將 FG 線浮接模擬失效狀況,測試結果與 A02 客退品的 ISN 測試結果相同。

3.客退品(A02 版本)分析結果為 RK 電阻損壞,造成 FG 線 Open,導致客退品(A02 版本)的 ISN 測試結果和 A03 有所差異。

5/03 結論

1.不良 RK 電阻廠商分析，廠商分析結果確認內部有燒毀痕跡，故判定為過載燒毀。

2.Hi-Pot 測試後,RK 電阻(廠商:TA-I)阻值無變化。

3.ESD 測試後,RK 電阻(廠商:TA-I)阻值有變化,但沒有發生 Open 現象。

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**)**
Date:
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**

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