

8D REPORT

Part 1 : 客訴資料 (Issue information)

客戶名稱 Customer	CLOUD NETWORK TECHNOLOGY SINGAPORE PTE.LTD 終端：韓國客戶	收件日 Receiving date	2019/10/07
客訴編號 Issue number	8E191000014	客戶料號 Customer part number	NA
業務 Sales	楊雲肖	樣本數 Return samples	As below
機種 Model	19-137/R6GHBHC/S1906/2T(HFX)	批號 Lot number	190821/190822/190907
料號 Part number	S10B015513	批量 Lot size	2019/08/30 交貨156000
製造日期碼 Production date	NA	不良率 Defective rate	30%

Date:

(客訴日期) Date receive by EL:	(4D 回覆日期) 4D sent out:	(8D 回覆日期) 8D send out:	(第一次修改) 1 st revised:	(第二次修改) 2 nd revised:	(結案日期) Closed by customer
2019/10/07	2019/10/07				

Part 2 : 報告內容 (Report Content)

D1: ESTABLISH TEAMS (組成小組)

業務 (Sales):	楊雲肖
技術單位 (Technology):	戴祐岱、徐文政
產線 (Production):	吳昱璿、吳建原
品保 (QA):	吳聲明、宋育齡

D2: PROBLEM DESCRIPTION (問題敘述)

19-137/R6GHBHC/S1906/2T(HFX) 8月至今出貨156K，為單機1pcs 用量，終端客戶的客戶發現偏紅色差，客戶廠內擺擺測反查10台機/批，發現廠內上件後30%偏紅，30%偏藍，客戶告知其電路生產未發生任何變更
From Aug. 2019 till now, EL had delivered 156K pcs of “19-137/R6GHBHC/S1906/2T(HFX)” to End Customer. (Whole 156K pcs are loaded as a set for 1 Final Product.) End customer had found and reported the abnormalities of its color – Tend to RED. After 100% inspected the past 10 batches, 30% of the mounted devices were identified as “Tend to RED” and another 30% of the mounted units were identified as “Tend to Blue”. Customer insist that they do not have any change on their production.

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2.1 樣本確認 (Sample Verification)

客戶提供 2 PCB

Customer provided 2 PCBs.

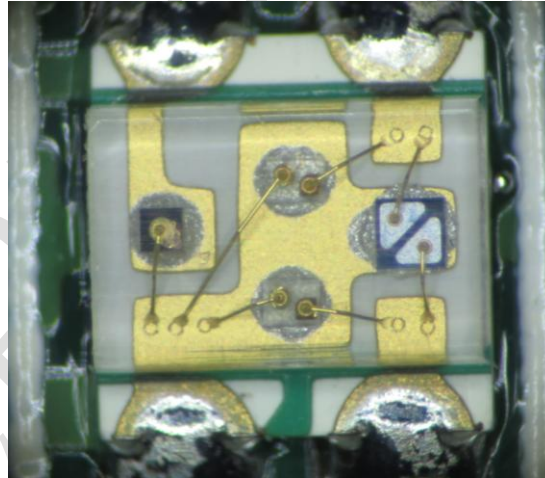
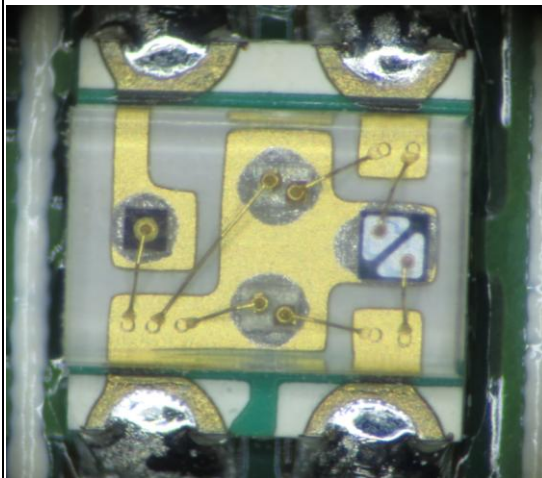


分析-外觀確認 Defect Analysis – Appearance Inspection

正常，無受損 The appearance of the returned units were normal.

PCB 1

PCB 2



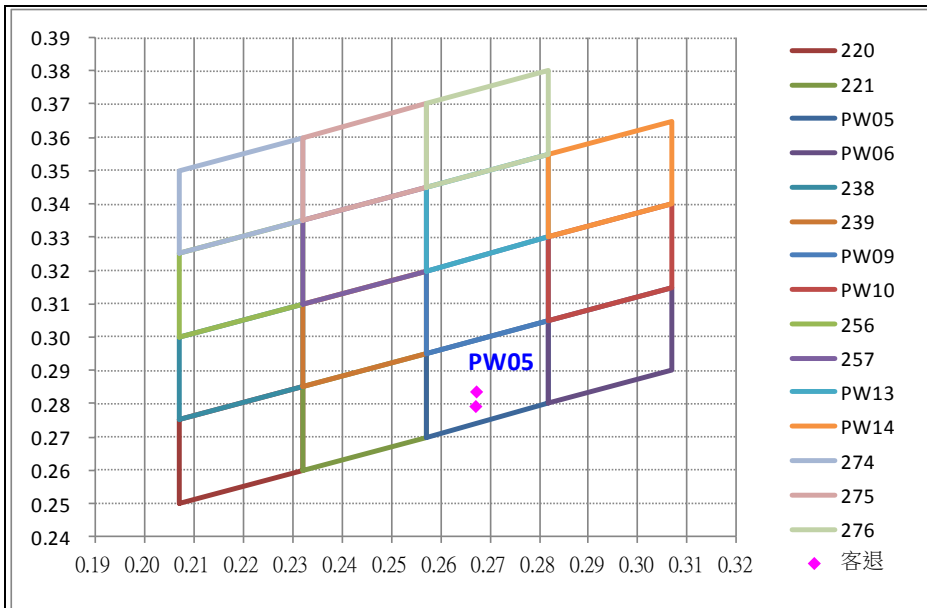
分析-電性確認 Defect Analysis – Electrical Characteristics Test

板上 LED 拆解下做光電性測試，結果符合相同出貨等級。 Unmounted the LEDs and followed with Electrical Characteristics Test。 The results were normal and conformed to its Product Spec.

Test Condition	R@7mA			G@7mA			B@5mA		
	IV(mcd)	λ_d (nm)	VF(V)	IV(mcd)	λ_d (nm)	VF(V)	IV(mcd)	λ_d (nm)	VF(V)
PCB 1	43.9	620.6	1.87	119.6	530.3	2.93	19.5	467.7	2.84
PCB 2	43.9	620.7	1.87	121.2	529.8	2.92	19.9	468.1	2.88

Test Condition	混光R/G/B @7 / 7 / 5mA		
	IV(mcd)	CIE_x	CIE_y
PCB 1	180.7	0.2671	0.2791
PCB 2	182.8	0.2672	0.2835

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DATASHEET
SMD • B
19-137/R6GHBHC/S1906/2T

EVERLIGHT

Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
S1	180.0	225.0	mcd	R6 : IF=7.0mA
S2	225.0	285.0		GH : IF=7.0mA
T1	285.0	360.0		BH : IF=5.0mA

R6

Bin Code	Min.	Max.	Unit	Condition
N	28.5	45.0	mcd	IF=7.0mA
P	45.0	72.0		

GH

Bin Code	Min.	Max.	Unit	Condition
R	112.0	180.0	mcd	IF=7.0mA
S	180.0	285.0		

BH

Bin Code	Min.	Max.	Unit	Condition
LA	14.5	22.5	mcd	IF=5.0mA
MA	22.5	36.0		

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Bin Range Of Dom. Wavelength

R6

Bin Code	Min.	Max.	Unit	Condition
1	616	632	nm	I _F =7.0mA

GH

Bin Code	Min.	Max.	Unit	Condition
1	515	535	nm	I _F =7.0mA

BH

Bin Code	Min.	Max.	Unit	Condition
1	460	475	nm	I _F =5.0mA

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Code	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V _F	R6	1.6	----	2.2	V	R6 : I _F =7mA
		GH	2.5	----	3.3		GH : I _F =7mA
		BH	2.4	----	3.2		BH : I _F =5mA

Note:

1. Tolerance of Luminous Intensity: ±11%
2. Tolerance of Forward Voltage: ±0.10V
3. Tolerance of Dominant Wavelength: ±1nm

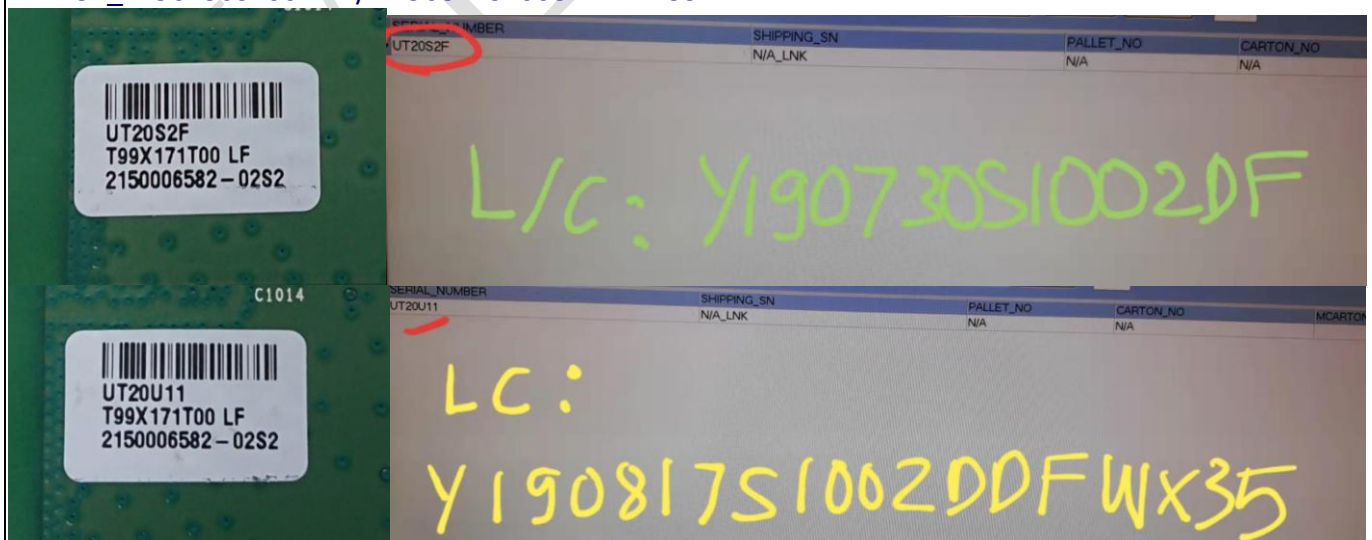
【出貨記錄查詢 Shipping Record Confirmation】

➤ 客戶反饋 2 片偏紅不良板上 LOT code，經客戶查詢屬於

EL LOT_Y190730S1002DF / Y190817S1008DDFWX35

According to the LOT code of 2 issued PCBs (Tend to RED), we can retrieve the Lot Info. as

“EL LOT_Y190730S1002DF / Y190817S1008DDFWX35”



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- 客戶提供 SMT 生產記錄 LOT_Y190730S1002DF / Y190817S1008DDFWX35 上件時間是接續生產。
According to customer provided SMT records, the Lot Y190730S1002DF & Y190817S1008DDFWX35 were consecutive production Lots.

2019-10-08 16:50:07 Record Counts: 23									
JS19137R6GHBHC Start Date: 2019-09-24 07:40 End Date: 2019-10-26 12:00									
KP_NO	WO	TR_SN	D/C	L/C	ADD_QTY	EXT_QTY	START_TIME	END_TIME	
JS19137R6GHBHC	002150006582	U19090702322	D190817	LY190817S1002DDFWX35	2000	0	2019-09-24 12:05:56	2019-09-24 14:23:49	
JS19137R6GHBHC	002150006582	U19082205180	190730	Y190730S1002DF	2000	0	2019-09-24 14:23:54	2019-09-25 03:51:49	
JS19137R6GHBHC	002150006582	U19090702299	D190817	LY190817S1002DDFWX35	2000	0	2019-09-25 03:51:55	2019-09-25 14:45:04	
JS19137R6GHBHC	002150006582	U19090702325	D190818	LY190818S1001DDFWX35	2000	2000	2019-09-25 14:45:09	2019-09-25 21:52:10	
JS19137R6GHBHC	002150006582	U19090702325	D190818	LY190818S1001DDFWX35	2000	0	2019-09-27 01:34:52	2019-09-27 09:56:02	
JS19137R6GHBHC	002150006582	U19090702316	D190817	LY190817S1002DDFWX35	2000	0	2019-09-27 09:56:06	2019-09-28 01:43:08	

- 經查詢 EL 出貨系統 LOT_Y190730S1002DF 有 2 捲 PW05 色塊物料 According to EL's shipping records, there were 2 reels of CIE "PW05" included in the Lot "Y190730S1002DF".

LOT_Y190730S1002DF → 出貨色塊 included CIE 221 / 239 / PW05

E	F	H	I	J
LOTNO	LFLOTNO	QUANT	CAT	HUE
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	從 A 到 Z 排序(S)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	從 Z 到 A 排序(O)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	依色彩排序(I)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	清除 "HUE" 的篩選(C)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	依色彩篩選(I)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	文字篩選(F)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	☒ (全選)		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	☒ #221		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	☒ #239		
Y190730S1002DFFX35	e=EL2D-10-EL2D.la	☒ #PW05		

混光色塊
Included CIE

LOT_Y190817S1008DDFWX35 → 出貨色塊 included CIE 257 / 275

E	F	H	I	J
LOTNO	LFLOTNO	QUANT	CAT	HUE
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	從 A 到 Z 排序(S)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	從 Z 到 A 排序(O)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	依色彩排序(I)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	清除 "HUE" 的篩選(C)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	依色彩篩選(I)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	文字篩選(F)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	☒ (全選)		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	☒ #257		
Y190817S1002DDFWX35	e=EL2D-10-EL2D.la	☒ #275		

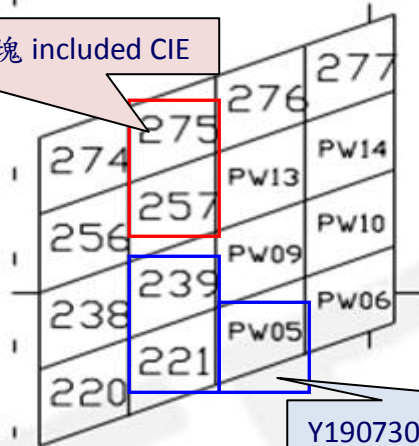
混光色塊
Included CIE

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分析結論 Conclusions :

- 客退品經分析確認光電性均屬 PW05 色塊。Customer returned units were all identified as CIE "PW05".
- 客戶反饋不良板 LOT_Y190730S1002DF 有 2 捲 PW05 色塊物料，且依客戶系統查詢 LOT_Y190730S1002DF / Y190817S1008DDFWX35 上件時間是接續生產，因此可確定為客戶使用 PW05 色塊物料生產板子，造成與 275 色塊所生產板子發光顏色相較為偏紅。According to EL's shipping records, there were 2 reels of CIE "PW05" included in the reported Lot "Y190730S1002DF". And besides, according to customer provided SMT records, the Lot Y190730S1002DF & Y190817S1008DDFWX35 were consecutive production Lots. So that we can confirm the "Tend to RED" issue was came from the comparisons between the PCBs that mounted with CIE "PW05" & CIE "275".

Y190817S1008DDFWX35 出貨色塊 included CIE



Y190730S1002DF 出貨色塊 included CIE

- EL 產品出貨前分光分色作業 100%自動機台測試分 BIN，分 BIN 物料全程 Barcode 條碼管控，可有效防止同一捲袋內有不同 BIN 別的物料。Currently, EL has the Automatic Binning System which can 100% filter/classify the requested bins. It is strictly Barcode controlled to prevent the different bins from being collected/packaged into the same reel.

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【EL 分光分色管控 EL's Binning Control】

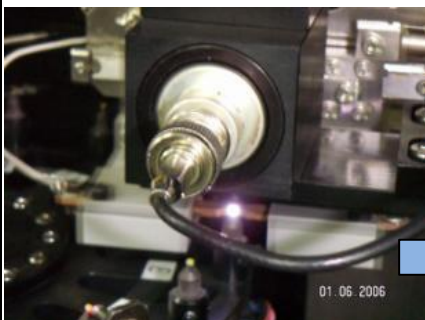
AT Test



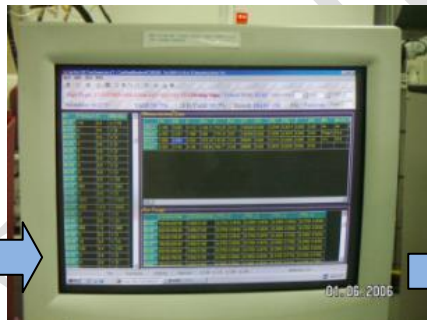
測試
Test

測試儀判定
Classify by Tester

落 BIN
Bin Collector



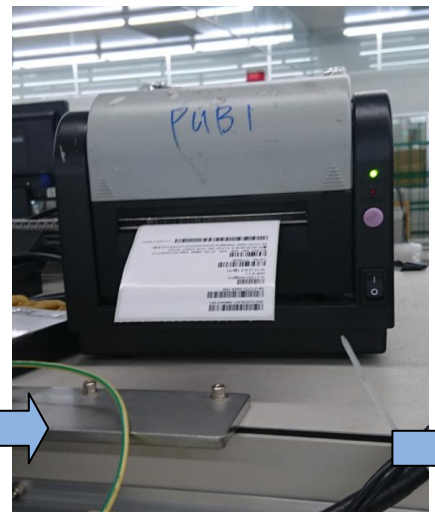
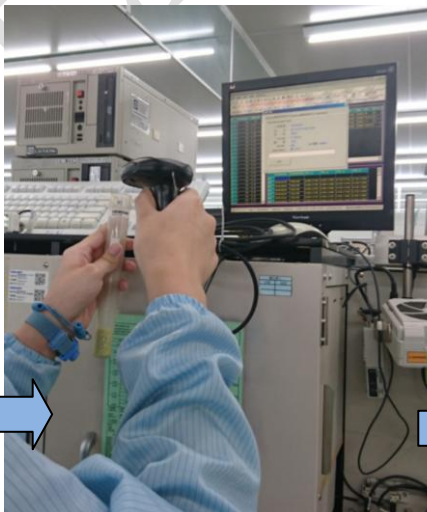
取落 BIN 管
Remove the Tube



刷 BIN 管 barcode
Read the Tube's Barcode



BIN 等級標籤
Bin Label



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BIN 管內材料倒入料袋 Collet the units with bags.

→貼上 BIN 管標籤 Adhere its Bin Label



TP 包裝



刷 AT 來料標籤 barcode

Read the received AT Label/Barcode

(It will alarm if the Info. is not conformed.)

設備系統核對機種/等級→不符 Alarm

System Confirm the Barcode Info.



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包裝入料帶

Loaded the units into the carrier tape

**D3: CHECK INVENTORY (庫存對策)**

Date checked (處理時間) NA

Action/Disposition (處理過程) NA

D4: CAUSE ANALYSIS (真因)

4.2 Root Cause (真正的因素)

NA

D5: CORRECTIVE ACTION AND RECOMMENDATION (改善對策及建議)

5. 1 Corrective Action To Root Cause (真因之改善對策及建議)

NA

D6: IMPLEMENT CORRECTIVE ACTIONS (執行改善對策並驗證有效性)

6.1 Corrective Action To Root Cause : (真因之執行改善對策並驗證有效性)

NA

D7: PREVENT RECURRENCE (系統預防對策)Is FMEA revision required/是否需修改 FMEA? ☒ No; ☐ Yes, FMEA document No.: _____Is Control Plan revision required/是否需修改 Control Plan? ☒ No; ☐ Yes, CP document No.: _____Is SOP revision required/是否需修改 SOP? ☒ No; ☐ Yes, SOP document No.: _____Is SPEC of Process revision required/是否需修改制規? ☒ No; ☐ Yes, SPEC document No.: _____**D8: CONGRATULATE (小組確認對策及效果)**

Champion (指導員): 林育霖(經理) / 傅聖樺(副理)

Team Leader (負責人): 吳昱璿

Members (小組成員): 吳聲明、宋育齡、吳建原、戴祐岱、徐文政

CUSTOMER COMMENT (客戶意見)

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☐ Satisfaction (滿意)☐ Dissatisfaction (不滿意)

Dissatisfaction Reason and Suggestion : (不滿意理由及意見)