

Product / Process Change Notice

PCN No.: Q000-PCN-PA202105-01

Date: 2021-05-19.

<p>Change Title: <u>Add Greatek assembly and testing site at Tou-Fen factory</u></p> <p>Change Classification: <input checked="" type="checkbox"/> Major <input type="checkbox"/> Minor</p> <p>Change item: <input type="checkbox"/> Design <input type="checkbox"/> Raw Material <input type="checkbox"/> Wafer FAB <input checked="" type="checkbox"/> Package Assembly <input checked="" type="checkbox"/> Testing <input type="checkbox"/> Others: _____</p>			
<p>Affected Product(s) :</p> <p>The affected part no. list, please refer to the Table 1 for more information.</p>			
<p>Description of Change(s) :</p> <p>Nuvoton's assembly and testing subcontractor, GREATEK Technology Inc., adds one new factory to expand manufacture capacity of assembly and testing. The new factory is qualified site by Nuvoton for assembly and testing process.</p> <p><u>New site</u></p> <p>Toufen factory (No.9 , ZhuongMin Road ,Toufen, Miaoli, Taiwan(R.O.C.)).</p>			
<p>Reason for Change(s) :</p> <p>To increase manufacturing capacity and flexibility and to have multiple manufacturing routes.</p>			
<p>Impact of Change(s) : (positive & negative)</p> <p>Form: No change.</p> <p>Fit: No change.</p> <p>Function: No change.</p> <p>Reliability: No concern. (Passed qualification.)</p>			
<p>Qualification Plan/ Results :</p> <p>Passed the qualification of assembly packages and testing machines correlation, please refer to appendix A~B for the detailed report.</p>			
<p>Implementation Plan :</p> <p>1. This PCN is the formal announcement of the site change in process.</p> <p>2. Nuvoton is ready to execute this PCN immediately after customer approval. Therefore, if customer approval is obtained prior to the implementation date, Nuvoton will make this PCN effective right afterwards.</p> <p><input type="checkbox"/> Date Code: _____ onward <input type="checkbox"/> Lot No.: _____ onward <input type="checkbox"/> Implemented date: <u>Jun. 20, 2021 (scheduled)</u></p>			
Originator:	H.Y. Lai / Q100	Approval:(QRA Director)	C.H. Shen/ Q000
Contact for Questions & Concerns	<p>Name: <u>HYLai</u> TEL: <u>886-3-5770066 (ext. 31226)</u> FAX: <u>886-3-5792673.</u></p> <p>Address: <u>No.4, Creation Rd. III Science-Based Industrial Park Hsinchu, Taiwan, R.O.C..</u></p> <p>E-mail: <u>hylai0@nuvoton.com.</u></p>		

Customer Comments:

Note: Please sign this notice, and return to **Nuvoton** contact window within **30** days. If no response is received within **30** days, this Change Request will be assumed to meet your approval.

<input type="checkbox"/> Approval	<input type="checkbox"/> Disapproval	<input type="checkbox"/> Conditional Approval: _____.
Date: _____	Dept. name: _____	Person in charge: _____.

Follow-up and Tracing:

A. copies to

FAB : Integration _____ _____ _____ _____ _____.

Test / Product: _____ _____ _____ _____ _____.

Design/ Marketing: _____ _____ _____ _____ _____.

Production control/ Others: _____ _____ _____ _____ _____.

B. Changes:

1. Document / Test program:

Document No/ test program	Document name/ test program name	version		responsibor	Completed date	Remark
		before	after			
NA	NA	NA	NA	NA	NA	NA

Verified by: _____.

Table 1: Affected part lists

Part No.	Part No.	Part No.	Part No.
FP6491	M251ZC2AE	NAU88L11YG	NM1243Y
FP6492	M253ZE3AE	NAU88L21IG	NM1244Y
I2360YYI	ML51TD1AE	NCIG064Q32	NM18100Y
I3600YYI	N18108Y	NCT3610Y	NM18105Y
M030GTC1AE	N32F030X	NCT3807A0YX	NM18108Y
M032TC1AE	NAU8223YG	NCT3808A0YX	TF5102Y
M058ZDE	NAU88C10YG	NM1200ZBAE	TF5103Y

Appendix A: Greatek management introduction report

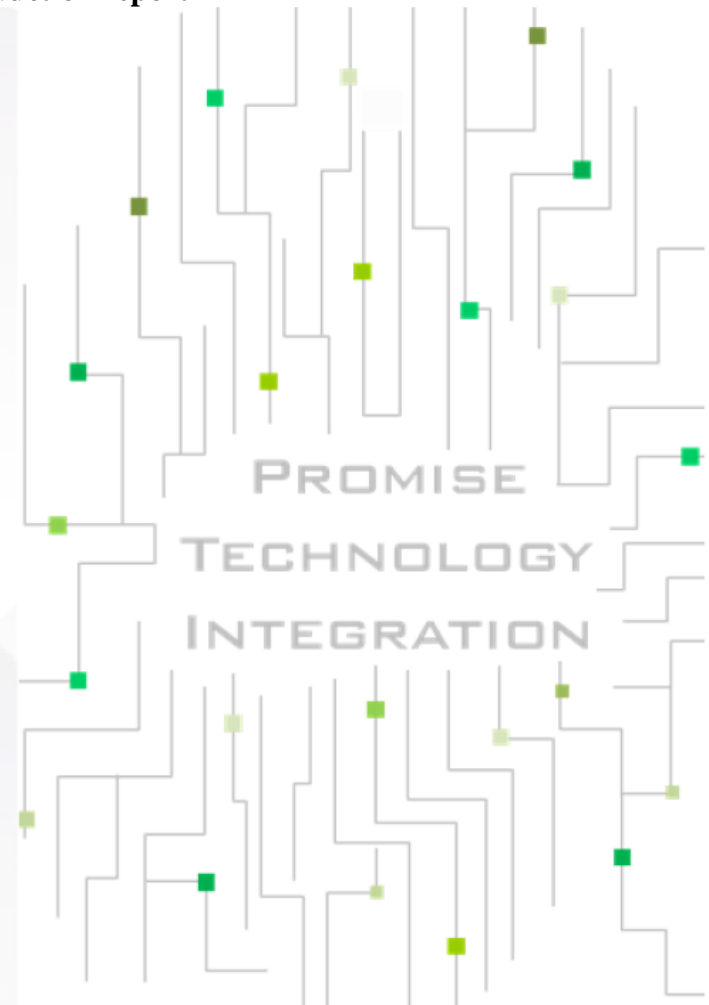


超豐電子股份有限公司
GREATEK ELECTRONICS INC.

Greatek Management Introduction

Purpose :

Product Management & Engineering of Site3 unify with Site1/2



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Content

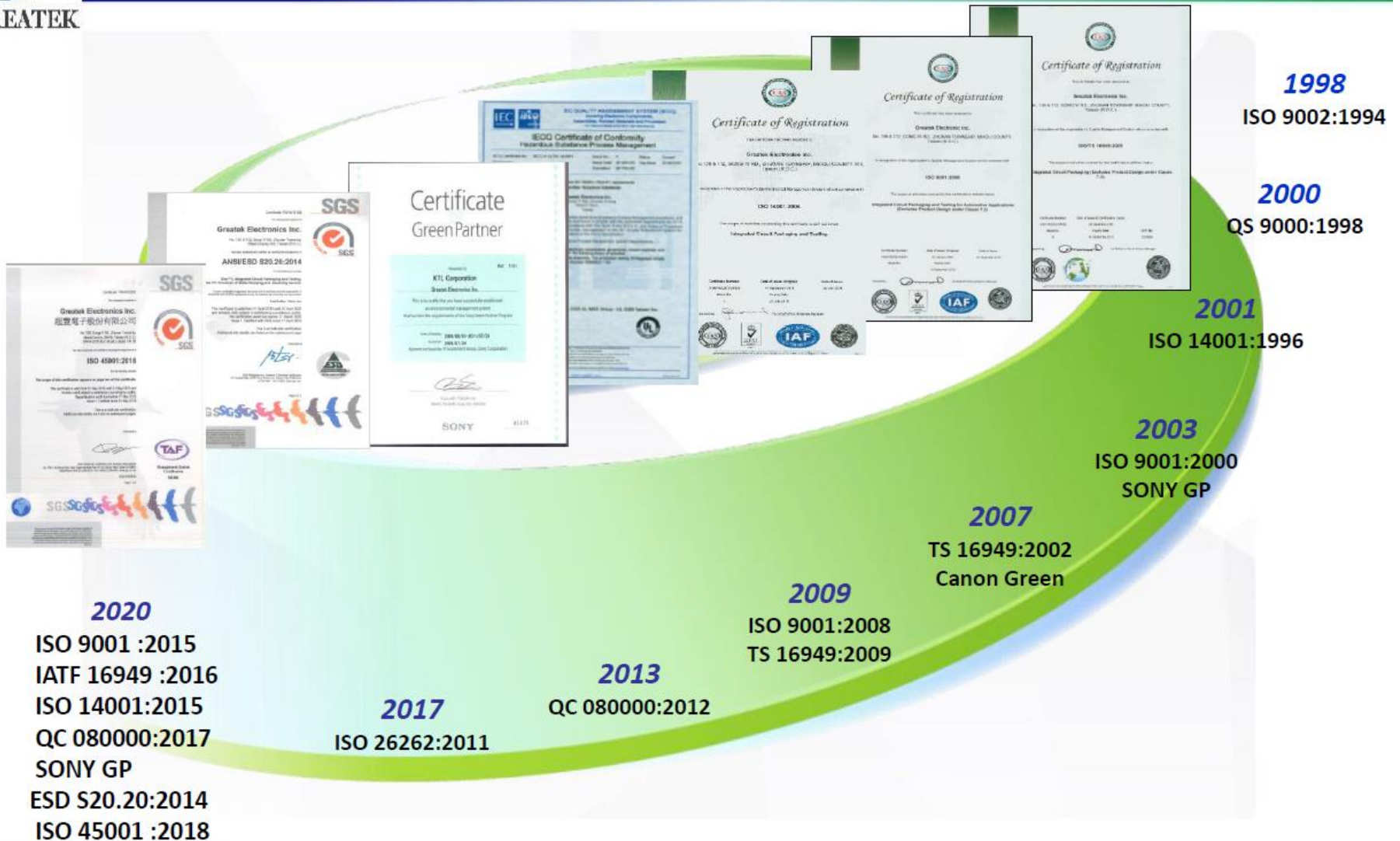
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	As Is (Gong-Yi, Site 1)	As Is (Gong-Yi, Site 2)	To Be (Toufen, Site 3)
1. GTK Certificate	o	o	o
2. Quality Management System	Management review : CIP review / KPI review / Yield and Cycle Time review Same E-system : SPC / Maintenance / Material / GP / Calibration / OPL		
3.Clean Room & ESD Control	Same control method		
4.Training Management System	Use Same Qualification Certificate System		
5. Production Management System	Same control rule, Recipe and material and tools are all controlled by barcode system.		
6. 4M Analysis Summary	o	o	o



GTK Certificate Milestones

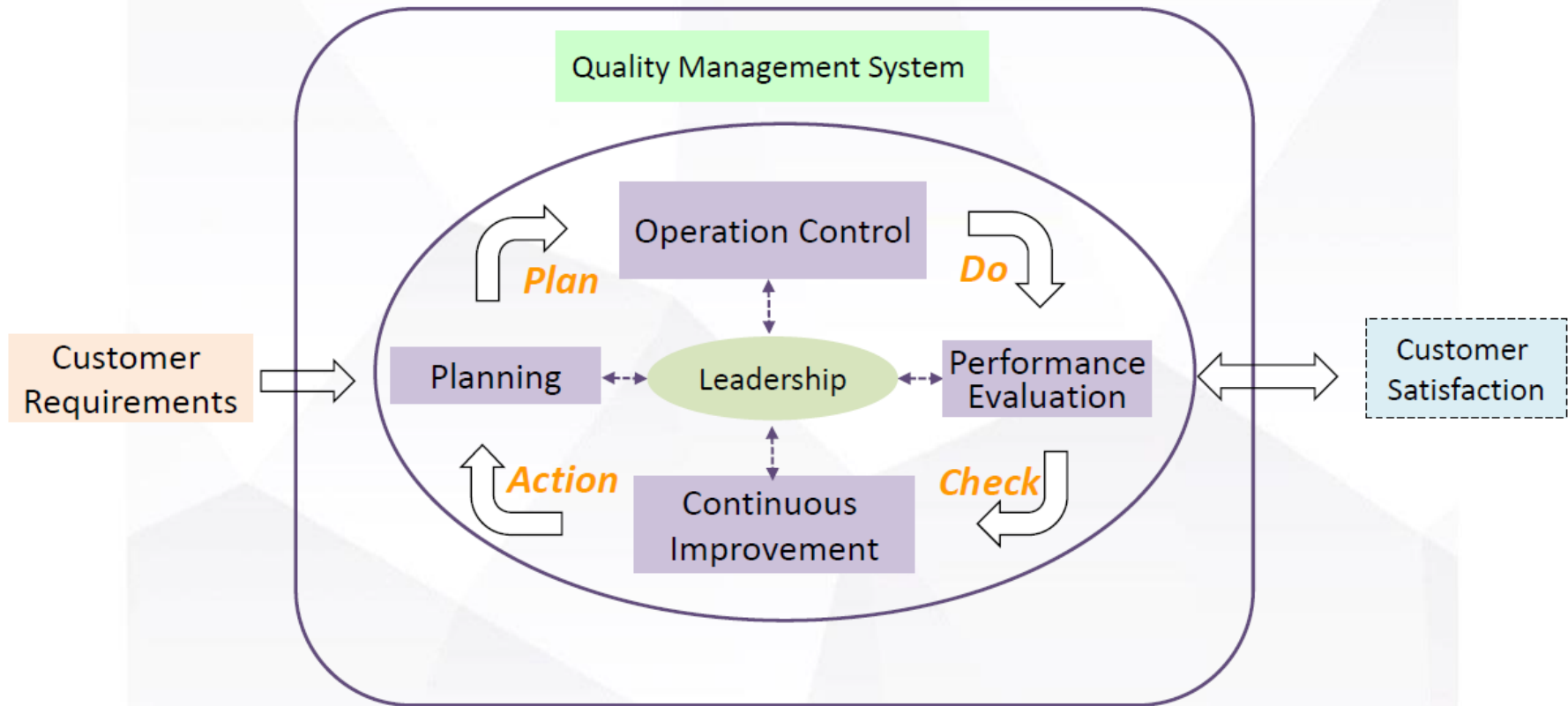
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Quality Management System

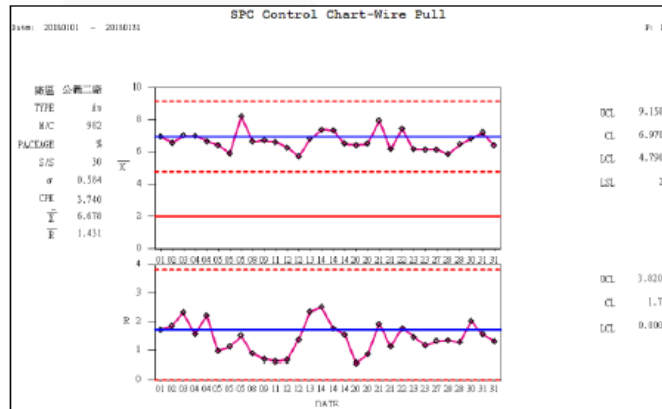
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☐ ISO 9001 / IATF 16949



Management review : Bi-annually
 CIP review : Quarterly
 KPI review : Monthly
 Yield and Cycle Time review : Weekly

1. SPC System



2. Machine Preventive Maintenance System

保養資料處理

機台編號: S-001 周期(月): 12
 保養日期: 20120424 時段: 08:00~12:00 工程師人員: 8137 蕭首孝
 保養人工號: 5096 吳柏鴻 S/O編號: MI-00-211-03-D QA人員: 85053 尹之華

Y 正常	(年) 1.旋轉軸使用長度大於7mm	10
Y 正常	(年) 2.之軸潤滑	
Y 正常	(年) 3.X軸潤滑	
Y 正常	(年) 4.Y軸潤滑	
Y 正常	(年) 5.AIR FILTER清潔/更換	
Y 正常	(年) 6.工作平台平整度14 μm/m	2
Y 正常	(年) 7.備案尺寸	
X 暫不停機	(年) 8.離子風扇探針	
X 暫不停機	O 9.	
X 暫不停機	O 10.	
X 暫不停機	O 11.	
X 暫不停機	O 12.	
X 暫不停機	O 13.	
X 暫不停機	O 14.	
X 暫不停機	O 15.	
X 暫不停機	O 16.	
X 暫不停機	O 17.	
X 暫不停機	O 18.	
X 暫不停機	O 19.	
X 暫不停機	O 20.	

存檔 印表 回上一畫面 回主畫面

3. Calibration Control System

校驗進度查詢

日期: 201206 (YYYYMM) 廠區: H 只需輸入一碼, 公機二廠請輸入H 外校否: N Y/N

※於「實校日期」後點選二下即可開啟「校驗紀錄表」

管理單位	儀器名稱	校驗編號	預校日期	實校日期	校驗者	備註
H520	海標尺150MM	H52031043	06/11/2011	06/04/2011	Rita	
H510	冰箱-40°C(N001)	H51051044	06/11/2011	06/04/2011	Rita	新購入
H520(FT)	測試機(H3TMT67)	H52031471	06/11/2011	06/04/2011	Eli	
H520(FT)	測試機(H3TMT92)	H52031475	06/11/2011	06/04/2011	Eli	
H520(FT)	測試機(H3TMT69)	H52031473	06/11/2011	06/04/2011	Eli	
H520(FT)	測試機(H3TMT54)	H5203944	06/11/2011	06/04/2011	Eli	
H520(FT)	測試機(H3TMT55)	H5203945	06/11/2011	06/04/2011	Eli	
H510	冰箱-40°C(N0.02)	H5105683	06/11/2011	06/04/2011	Rita	新購
H520(FT)	測試機(H3TMT91)	H52031474	06/11/2011	06/04/2011	Eli	
H520(FT)	測試機(H3TMT68)	H52031472	06/11/2011	06/04/2011	Eli	

應校驗儀器件數: 142 待校件數: 0 逾期未校件數: 0 達成率: 100.00 %

4.OPL system

OPL - 結案 - Lotus Notes

編號	名稱	類別	關聯客戶	文件編號/案號
3179-SAMSUNG-DOC		04	SAMSUNG	OPL-201310001
HWIC-L20140115	DIE CRACK DUE TO DIE EJE/CNA	101		OPL-201401001
C200-20140101	WRONG BONDING	NA	103	OPL-201401002
AALGR14002	NO AALGR14002 SUBCON.GINA	102		OPL-201401003
AALGR14003	成型站作業人員利用氣槍清潔轉N/A	102		OPL-201402001
SAMSUNG-001	OPL FOR SEMICONDUCTOR :05	100		OPL-201402002
CIP40225	OPL -FOR PGL	NA	104	OPL-201403001
IBM-001	SMT REFLOW STRESS FROM NA	105		OPL-201403002
AALGR14004	NO AALGR14004 SUBCON.GINA	102		OPL-201403003
AALGR14005	NO AALGR14005 SUBCON.GINA	102		OPL-201403004
AALGR14006	OP手動貼WAFFER-ID LABEL轉 NA	102		OPL-201403005
CFRGL0201	PGL X316 DIE CRACK ISSUE	NA	104	OPL-201403006
MP1407	DATE CODE RESTRICTION	NA	106	OPL-201403007
WNC-001	WNC_DIE BOND FILLET HEIG NA	107		OPL-201404001

5. Material FIFO Management System

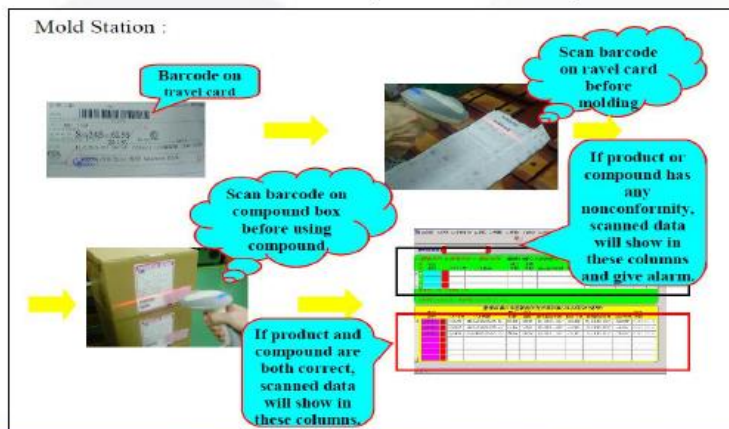


6. GP System (Control ICP & MSDS Report)

GP系統

類別	供應商	品名	噸次	到期	DOCM別	MSDS到期
▼原料						
	Ablestik(Herkel)	Epoxy	46	2015/07/08	V0401	2015/11/016
	ASM	Lead Frame	7	2015/12/24	V0115	2015/11/025
	Haesung(Samsung MDS)	Lead Frame	3	2015/12/04	V0111	2015/07/10
	HENKEL	錫膏	15	2015/09/12	V0402	2016/09/17
	HERAEUS	Du wire	2	2015/07/07	V0310	2016/08/14
	Hitachi	錫膏	2	2015/10/13	V0210	2015/11/005
	M.K(Korea)	Bonding wire	3	2015/10/22	V0305	2015/11/05
	NIPPON	Du wire	2	2015/01/05	V0311	2016/09/09
	NITTO	Film	11	2015/08/28	V0208	2016/01/14

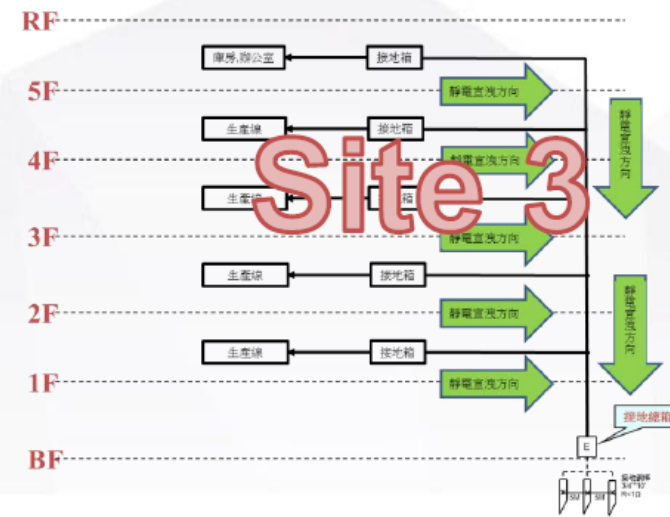
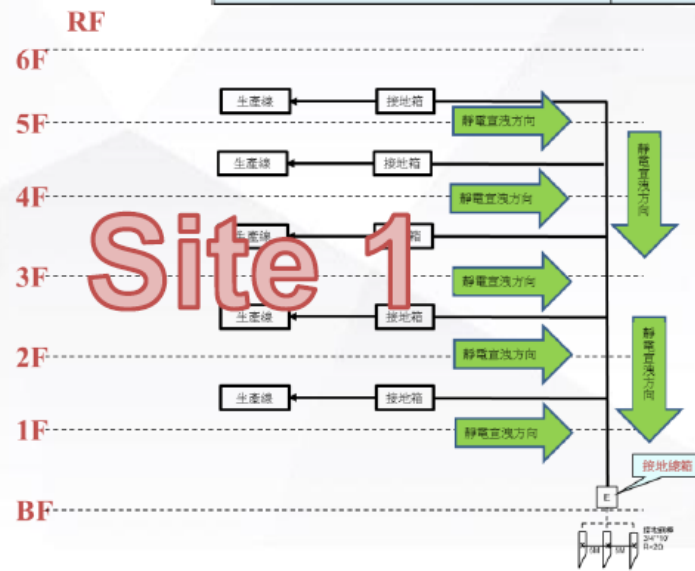
7. Material Control by Barcode System



Clean Room & ESD Control--All With Same Criteria

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Control Item	Criteria	Monitor Frequency	Measurement Instrument
Work surface	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Quarterly	Height resistivity meter
ESD Footwear	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Enter Clean Room	Height resistivity meter
Wrist Strap	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Enter working area	Height resistivity meter
Conductive Floor	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Quarterly	Height resistivity meter
Work Chair	$< 1 \times 10^9 \Omega$	Quarterly	Height resistivity meter
Ion Fan	Decay time	Monthly	Charge Plate Monitor
	Balance Voltage		
Product (Material) Shelf	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Quarterly	Height resistivity meter
Trolley	$1 \times 10^4 \sim 1 \times 10^9 \Omega$	Quarterly	Height resistivity meter
Equipment Grounding	$< 1 \Omega$	Monthly	Multi-meter
Under-floor ESD Network	$< 1 \Omega$	Annually	Grounded resistivity meter



ESD criteria meets ANSI S20.20.

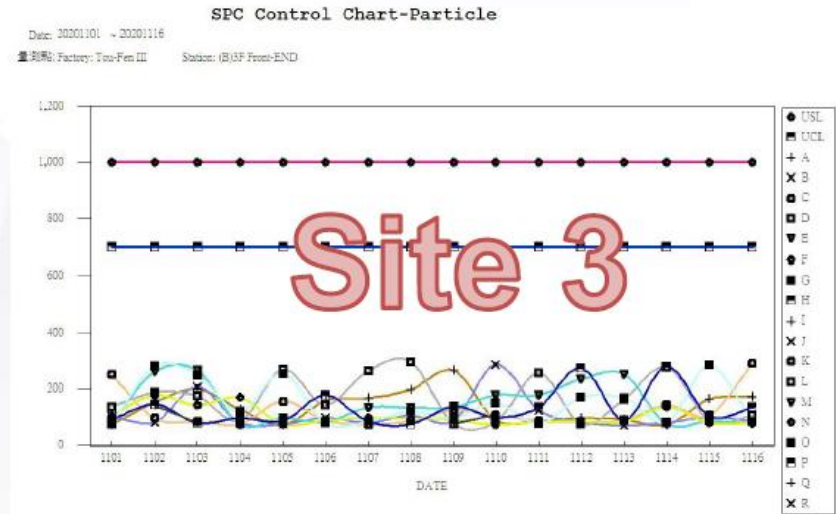
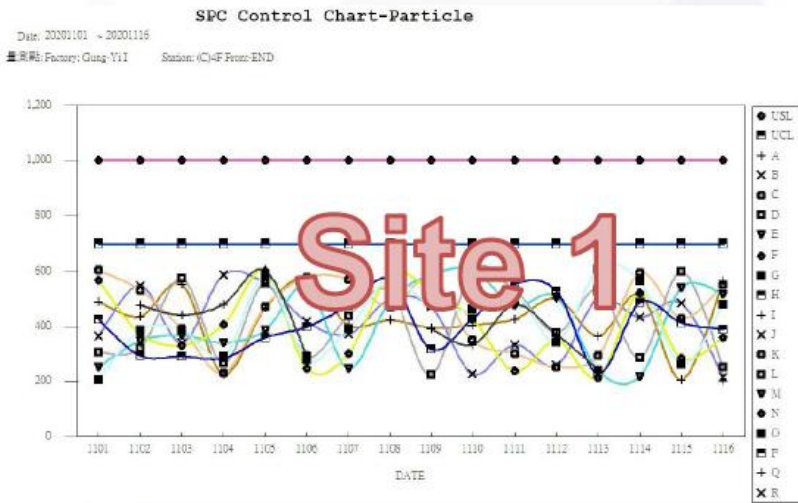


Clean Room & ESD Control

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Station	Factor	Spec. Limit	Alarm Limit
Clean Room	Particle Volume	<1000 *1	> 700 *1

*1:particle q'ty ,size above over 0.5 μm

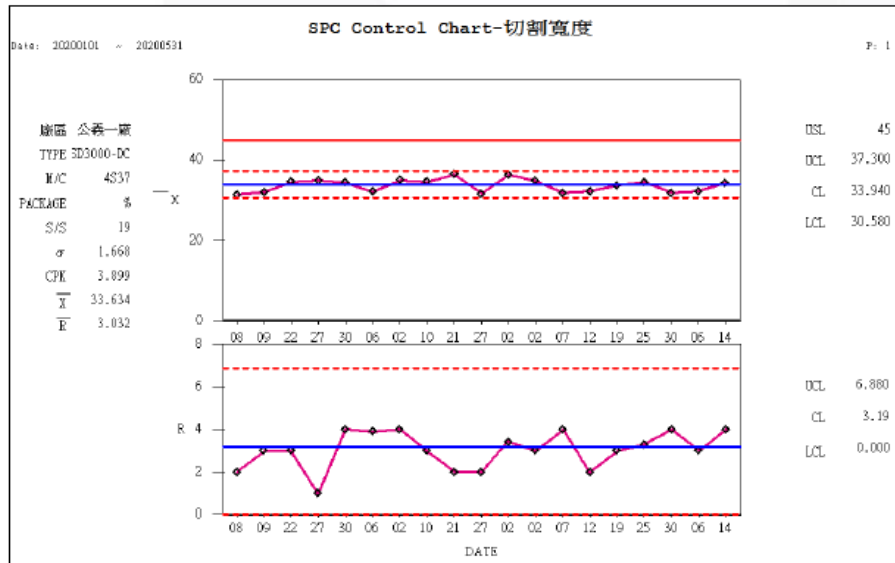




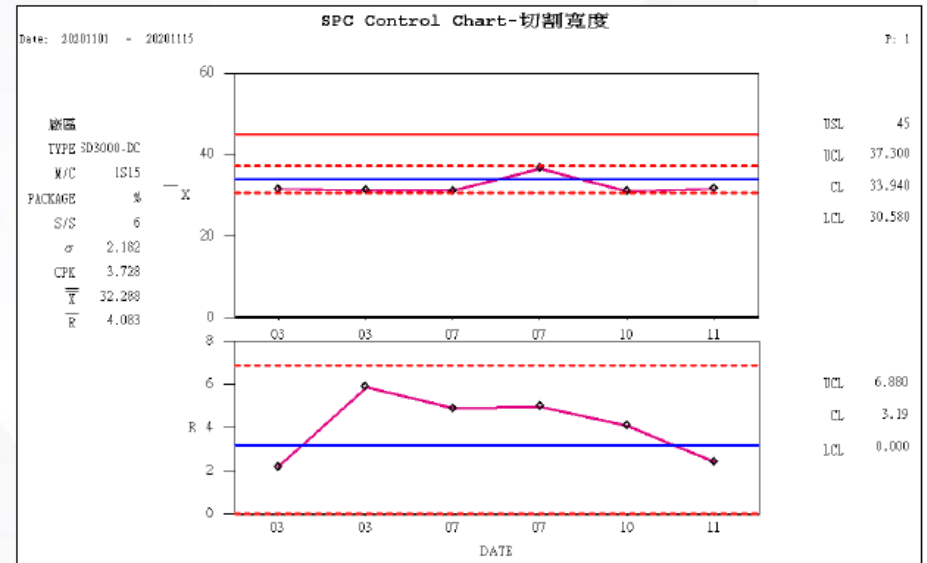
SPC

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Kerf width



Site 1



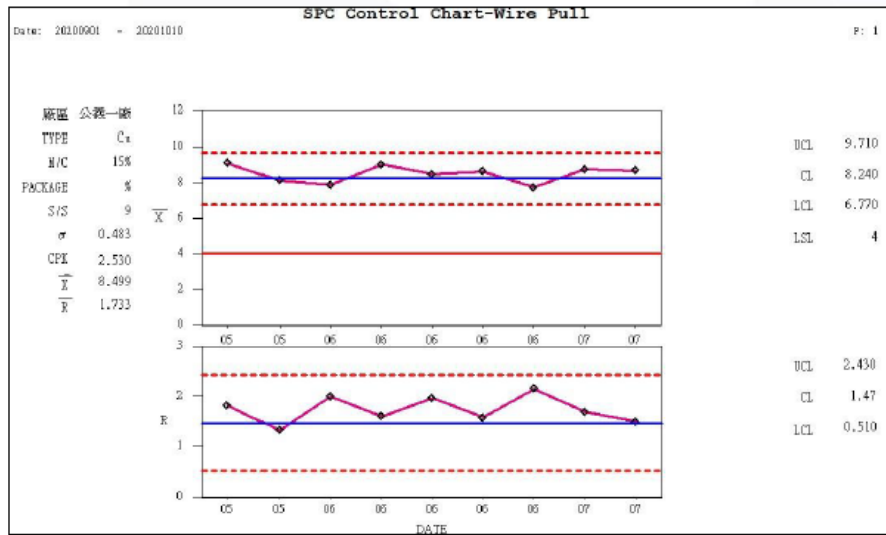
Site 3



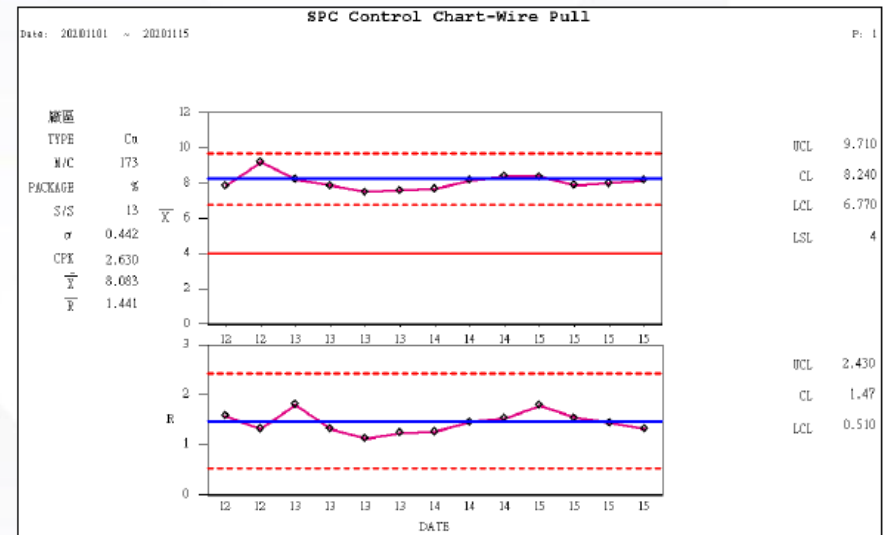
SPC

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Wire pull

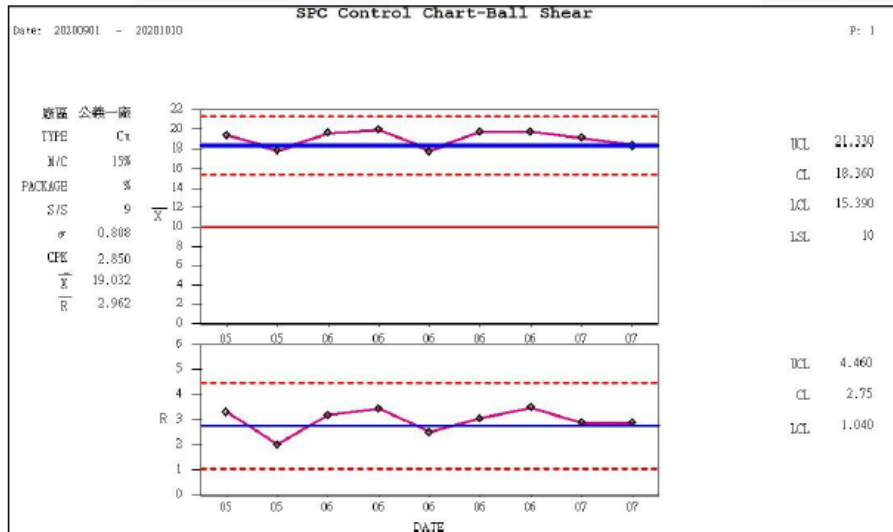


Site 1

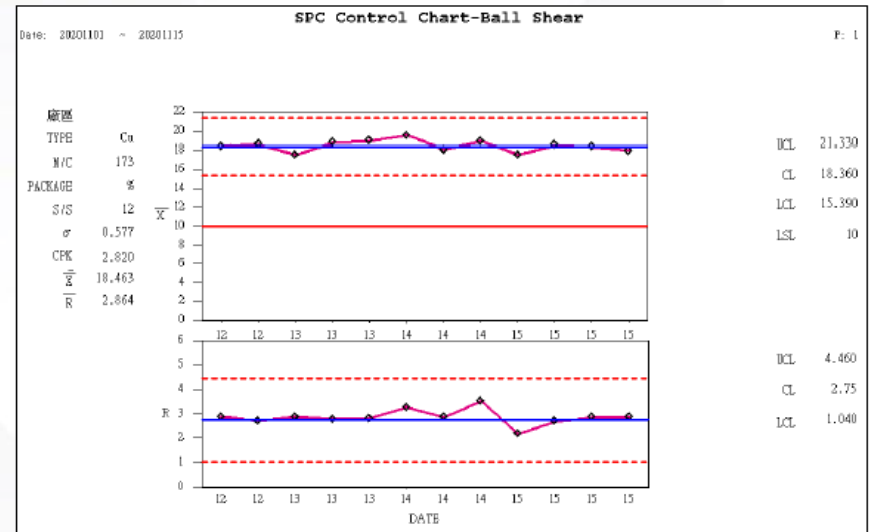


Site 3

Ball shear

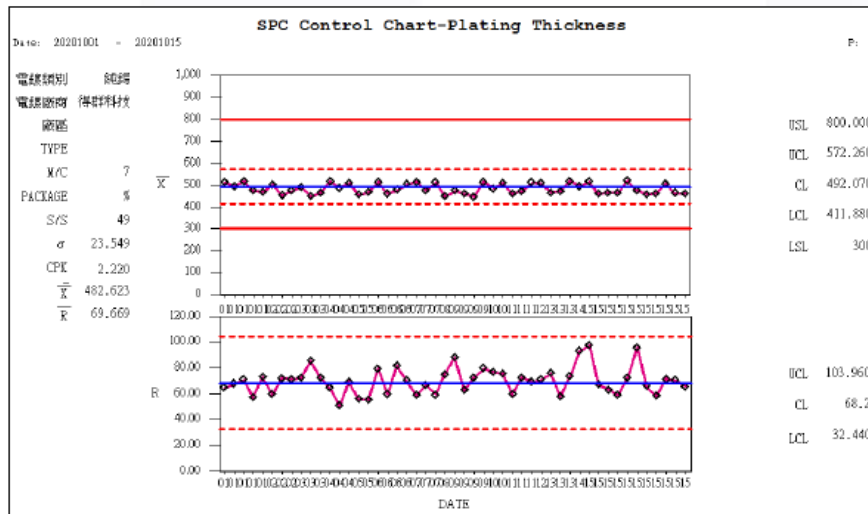


Site 1

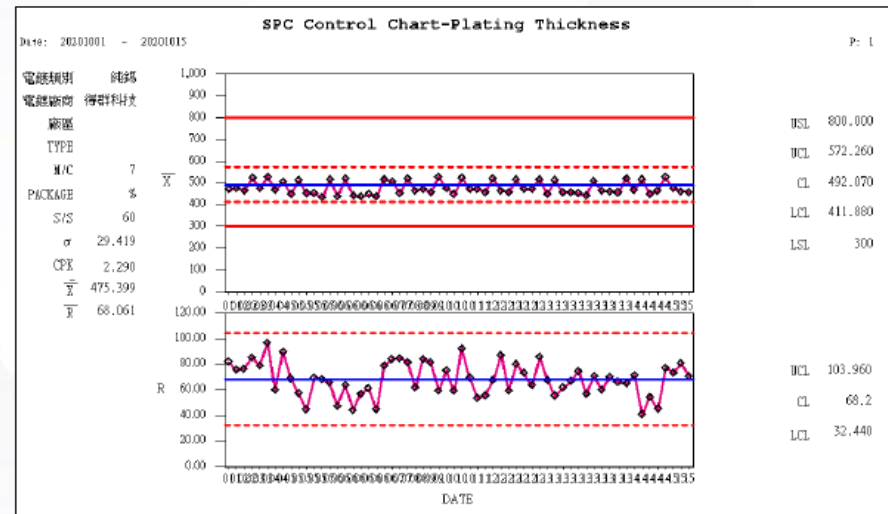


Site 3

Plating thickness



Site 1

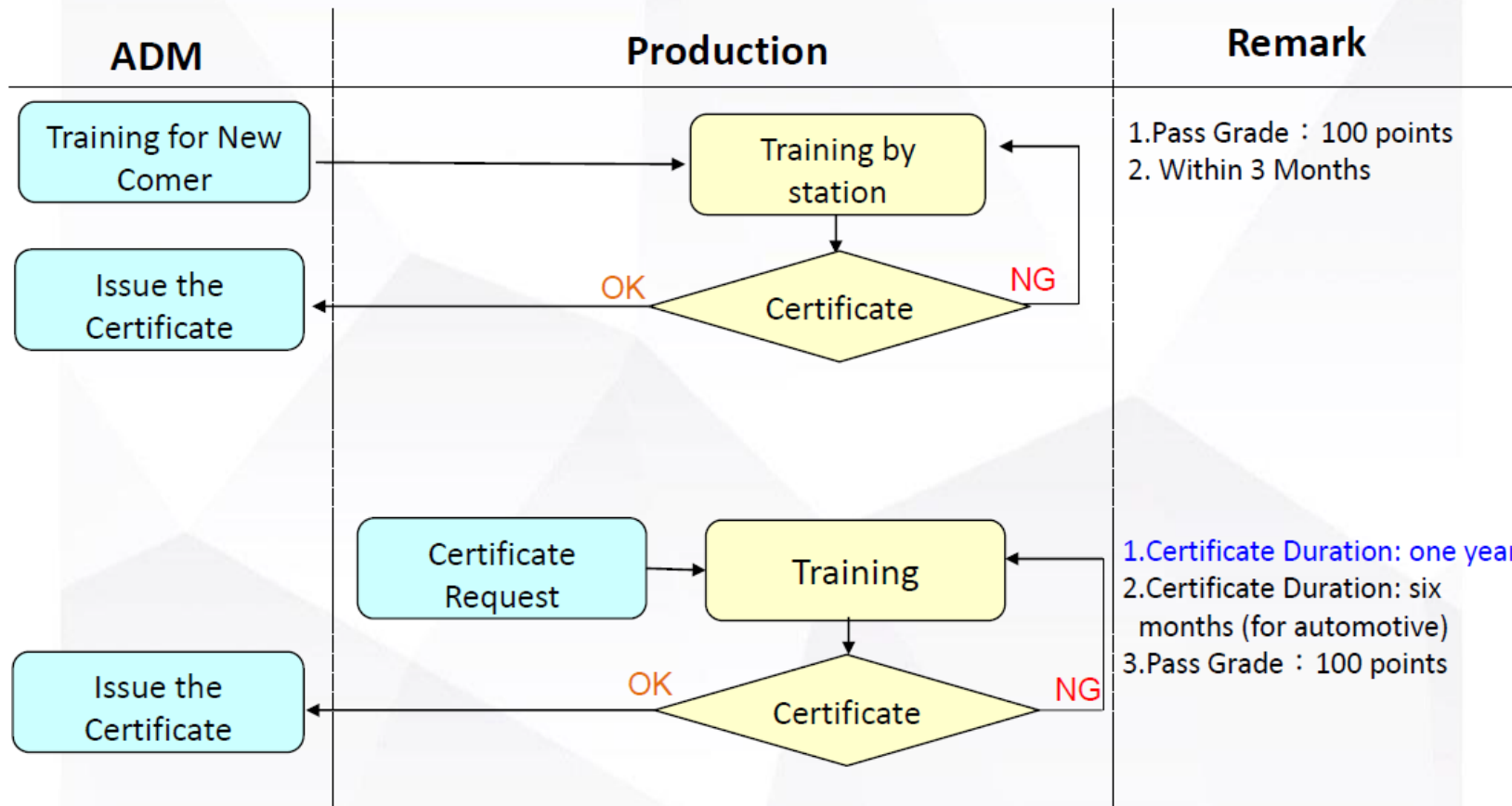


Site 3



Training Management - Certificate Flow

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Qualification Certificate System

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Issue Notice by E-mail

請黃 [redacted] 簽核作業人員認證 [redacted]
showtan 收件者: [redacted]
 此訊息附有數位簽章。

[請點選此處，以連結申請單，謝謝。](#)

Recording on system

一般作業人員認證

登錄帳號: **ga/Greatek** 評鑑日: 2017/07/28

部門	H530製一部二廠	班別	C A(E,G,常日班),B(F,H班) C(I,K班),D(J,L班)
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認證人員:

通過	工號	姓名	職稱	班別	站別碼	說明	上次認證日/ 吊銷日	筆試 成績	實作 成績	認證 類別
通過	85034	賴碧貞	領	C	230-1	ESEC機台	2016/08/05	100	100	重
通過	950479	風春梅	技	C	230-3	三目視	2016/08/05	100	100	重
通過	950572	李憶華	技	C	230-1	ESEC機台	2016/08/05	100	100	重

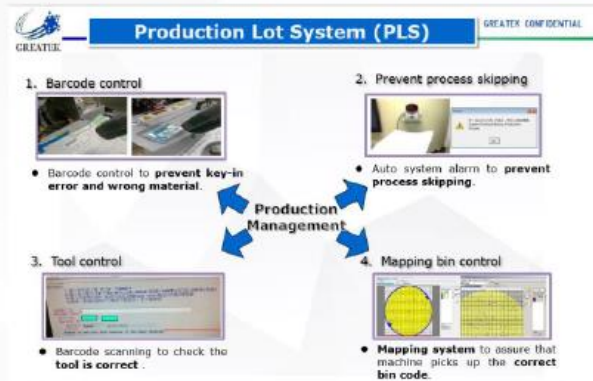
To issue the Qualified Work Badge



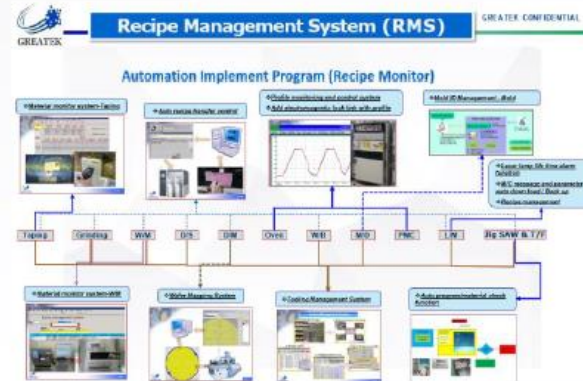
No allow production if no certification (by system control)

Production Management System

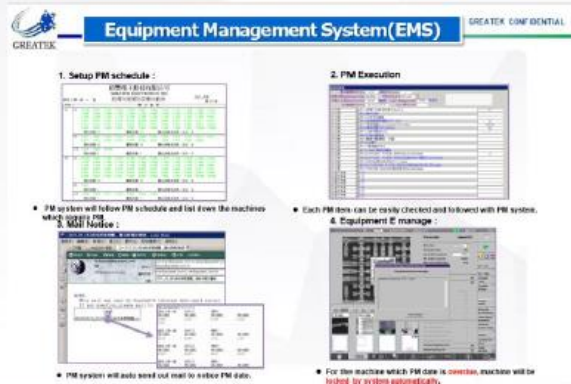
1. Production Lot System



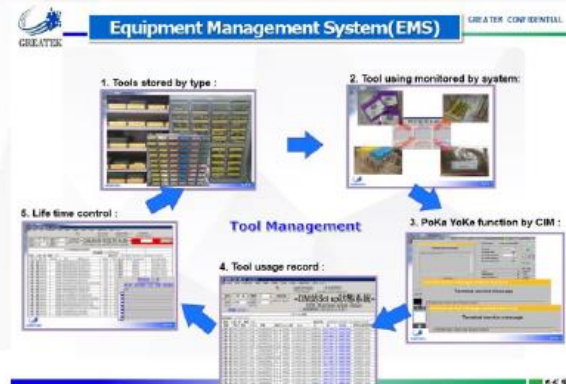
2. Recipe Management System



3. Equipment Management System



4. Tool & Material Management System



4M Analysis (QFN for P1 & P3)

Front End

Back End

Process Name		Gung-Yi Plant I	Toufen Plant
Wafer IQC	Man	Qualification by Spec. QI-00-001	Qualification by Spec. QI-00-001
	Machine	High Power Microscope	High Power Microscope
	Material	-	-
	Method	Follow Spec. QI-00-001	Follow Spec. QI-00-001
Wafer Grinding	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	8540 / 8560 / 8761	8560 / 8761
	Material	-	-
	Method	Follow Spec. OI-00-190	Follow Spec. OI-00-190
Laser Grooving	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	DFL7161	DFL7161
	Material	Diso Hogomax003	Diso Hogomax003
	Method	Follow Spec. OI-00-240	Follow Spec. OI-00-240
Wafer Saw	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	DFD6361 / DFD6560	DFD6560
	Material	-	-
	Method	Follow Spec. OI-00-210	Follow Spec. OI-00-210
Die Mounting	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	Besi 2100	Besi 2100
	Material	Follow BOM (Lead Frame / Epoxy / Film)	Follow BOM (Lead Frame / Epoxy / Film)
	Method	Follow Spec. OI-00-220	Follow Spec. OI-00-220
Wire Bond	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	KNS Procu-LA	KNS Procu-LA
	Material	Follow BOM (Cap / Wire)	Follow BOM (Cap / Wire)
	Method	Follow Spec. OI-00-230	Follow Spec. OI-00-230

Process Name		Gung-Yi Plant I	Toufen Plant
Molding	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	TOWA	TOWA
	Material	Compound	Compound
	Method	Follow Spec. OI-00-310	Follow Spec. OI-00-310
Marking	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	EO-SY2002	EO-SY2002
	Material	-	-
	Method	Follow Spec. OI-00-325	Follow Spec. OI-00-325
Singulation	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	FMS3040	FMS3040
	Material	Leadframe	Leadframe
	Method	Follow OI-00-537	Follow OI-00-537
T/R L/S	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	Micro Vision 996M series ISMECA series	ICOS T740 ISMECA series
	Material	-	-
	Method	Follow OI-00-726	Follow OI-00-726
Packing (tray)	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	JF-325	JF-325
	Material	-	-
	Method	Follow OI-00-720	Follow OI-00-720

4M Analysis (L/F Base for P1 & P2)

Front End

Process Name		Gung-Yi Plant I	Gung-Yi Plant II
Wafer IQC	Man	Qualification by Spec. QH00-001	Qualification by Spec. QH00-001
	Machine	High Power Microscope	High Power Microscope
	Material	-	-
	Method	Follow Spec. QH00-001	Follow Spec. QH00-001
Wafer Grinding	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	850 / 8540 / 8560 / 8761	841 / 850 / 8560
	Material	-	-
	Method	Follow Spec. OH00-190	Follow Spec. OH00-190
Laser Grooving	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	DFL7161	DFL7161
	Material	Diso Hogomax003	Diso Hogomax003
	Method	Follow Spec. OH00-240	Follow Spec. OH00-240
Wafer Saw	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	DFD641 / DFD651 / DFD6340 / DFD6361 / DFD6560	DFD640 / DFD641 / DFD651 / DFD6361 / DFD6560
	Material	-	-
	Method	Follow Spec. OH00-210	Follow Spec. OH00-210
Die Mounting	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	Best 2007 / 2008 / 2100	Best 2007 / 2008 / 2100
	Material	Follow BOM (Lead Frame / Epoxy / Film)	Follow BOM (Lead Frame / Epoxy / Film)
	Method	Follow Spec. OH00-220	Follow Spec. OH00-220
Wire Bond	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	ESEC 3100 / 3200 KNS Probu / ProCu-LA	ESEC 3100 / 3200 KNS Probu
	Material	Follow BOM (Cap / Wire)	Follow BOM (Cap / Wire)
	Method	Follow Spec. OH00-230	Follow Spec. OH00-230

Back End

		Gung-Yi Plant I	Gung-Yi Plant II
Molding	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	TOWA Y series	TOWA Y series
	Material	Compound	Compound
	Method	Follow Spec. OH00-310	Follow Spec. OH00-310
Marking	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	EO-SY2002	EO-SY2002
	Material	-	-
	Method	Follow Spec. OH00-325	Follow Spec. OH00-325
T/F	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	GMM CP150 / SU51	GMM CP150 / SU51
	Material	Leadframe	Leadframe
	Method	Follow OH00-520	Follow OH00-520
T/R L/S	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	Microvision 996 series	Microvision 996 series
	Material	-	-
	Method	Follow OH00-726	Follow OH00-726
Packing (tray)	Man	Qualification by Spec. AD-00-104	Qualification by Spec. AD-00-104
	Machine	JF-325	JF-325
	Material	-	-
	Method	Follow OH00-720	Follow OH00-720

PACKAGE QUALIFICATION REPORT

Assembly company : Greatek Electronics Inc.

Package : QFN 320 5x5 mm (Toufen site)

Package Material : Green

Wire Bonding Material : Cu

Test Vehicle: QFN32 5x5x0.8 mm

RA ENGINEER : MYTsai

RA MANAGER : LWKe

SUMMARY

The QFN 32 5x5x0.8mm, package was passed the qualification tests.
A summary of the test result was as follows:

I. ENVIRONMENTAL STRESS TEST

<u>Test items</u>	<u>defect/ sample size</u>
☒. Pre-condition Test	: 0/597
☒. Pressure Cooker Test	: 0/231
☒. Temperature Cycle Test	: 0/231
☒. Highly Temp. Storage Life Test	: 0/231
☒. Temperature Humidity Bias	: 0/135

II. PACKAGE ASSEMBLY INTEGRITY TESTS

<u>Test items</u>	<u>Result</u>
☒. Ball Shear (10 balls/lot x 3 lots)	Cpk= 3.17
☒. Wire Pull (10 wires/lot x 3 lots)	Cpk= 3.12

Results of the life tests and environmental tests as well as the methods used on **QFN32** product are described in

Publication Release Date: May. 2021 - 2 -

CONTENT

I. ENVIRONMENTAL TEST

A. Introduction

1. Pre-condition Test
2. Pressure Cooker Test (PCT)
3. Temperature Cycle Test (TCT)
4. High Temp. Storage Life Test (HTSL)
5. Temperature Humidity Bias (THB)

B. Test Results

1. Pre-condition Test
2. Pressure Cooker Test (PCT)
3. Temperature Cycle Test (TCT)
4. Highly Temp. Storage Life Test (HTSL)
5. Temperature Humidity Bias (THB)

I. ENVIRONMENTAL TESTS OF PROCEDURE

A. Introduction

1. Pre-condition Test

1.1 SCOPE

Pre-condition Test is to measure the resistance of SMD (Surface Mount Devices) to the storage environment at the customer site and to thermal stress created by IR reflow or Vapor Phase Reflow.

1.2 TEST CONDITION

- Step 1: TCT (-65°C/150°C, 5 cycles)
- Step 2: Bake (125°C, 24 hours)
- Step 3: Soak (30°C/60%RH, 192 hours)
- Step 4: IR reflow (260 °C), 3 Passes.

1.3 SAT COFIRMATION: To confirm delamination, cracking, popcorn.

Criteria: IPC/JEDEC J-STD-020

1.4 IR REFLOW PROFILE (FOR IPC/JEDEC J-STD-020)

2. Pressure Cooker Test (PCT)

2.1 SCOPE

PCT is to evaluate the device resistance to moisture penetration.

2.2 TEST CONDITION

Ta = 121°C, RH = 100%, Td = 96 Hrs. 2 ATM, (JESD22-A102-A)

3. Temperature Cycle Test (TCT)

3.1 SCOPE

TCT is to evaluate the resistance of device to environmental temperature change.

3.2 TEST CONDITION

-65°C / 15min, transfer time 1min, +150 °C/15min, 500 cycles.

MIL-STD-883E, Method 1010, Condition "C". JESD22-A104

4. Highly Temp. Storage Life Test (HTSL)

4.1 SCOPE

The purpose of this test is to determine the effect on solid state electronic devices of storage at elevated temperature without electrical stress applied.

4.2 Test condition:

Temperature: 150°C, Time: 1000hrs
(JESD22-A103-C)

5. Temperature Humidity Bias (THB)

5.1 SCOPE

THB test is to measure the moisture resistance of plastic encapsulated circuit.

5.2 TEST CONDITION

Temp = 85°C, Humidity = 85%RH, Td = 1000 hrs.

(Reference: JESD22-A101)

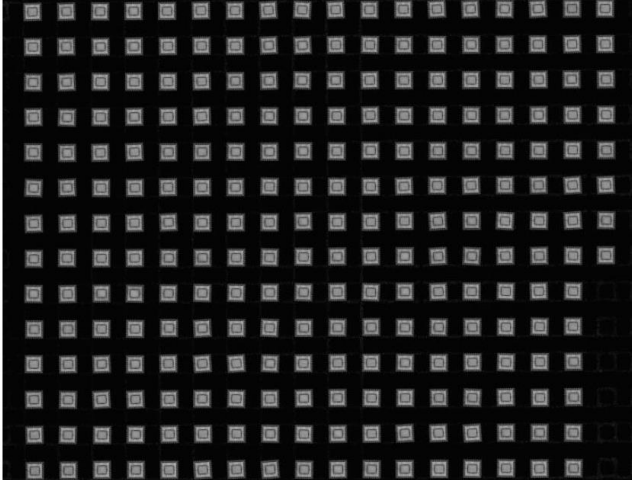
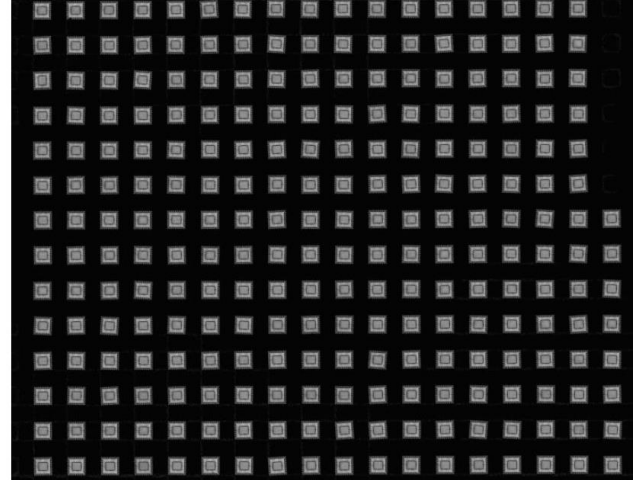
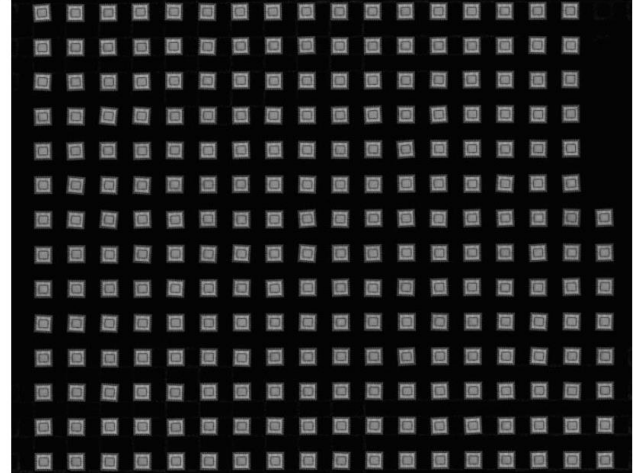
B. Test Results

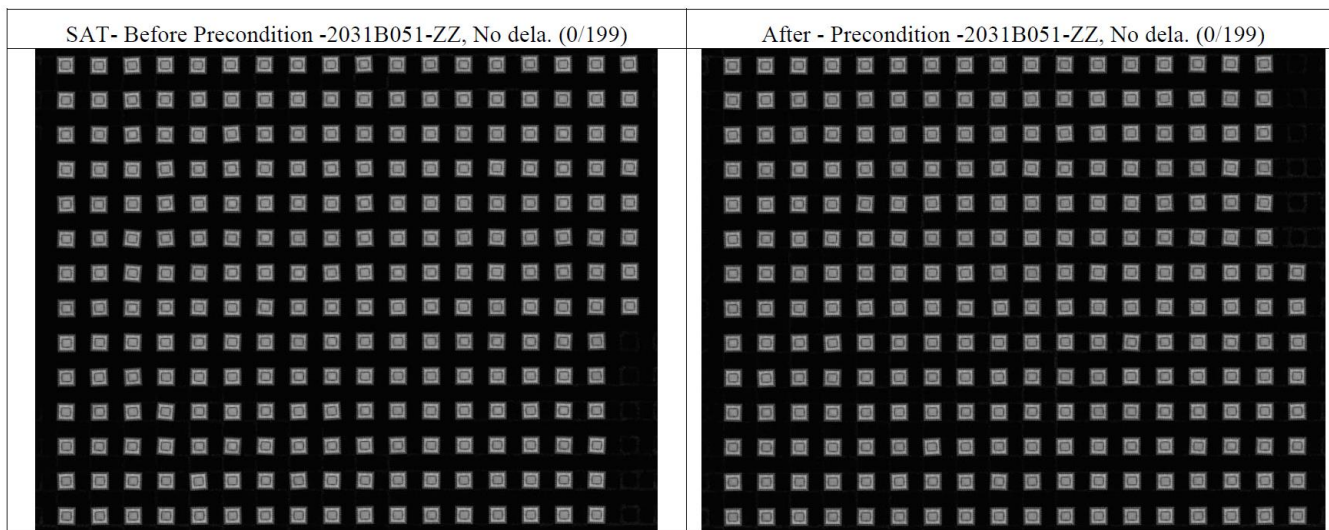
1.1 Pre-condition Test

*Criteria: Acc/Rej = 0/1.

Run	Lot No	SAT After Pre-condition	
		SCAN	Electric Result
#1	2031B051-ZV	0/199	0/199
#2	2031B051-ZW	0/199	0/199
#3	2031B051-ZZ	0/199	0/199

1.2 SAT confirmation

SAT- Before Precondition -2031B051-ZV, No Dela.(0/199)	SAT-After Precondition -2031B051-ZV, No dela. (0/199)
	
SAT- Before Precondition -2031B051-ZW, No dela. (0/199)	After Precondition -2031B051-ZW, No dela. (0/199)
	



2. Pressure Cooker Test (PCT)

Run	Lot No	168 hrs	Remark
#1	2031B051-ZV	0/77	Pass
#2	2031B051-ZW	0/77	Pass
#3	2031B051-ZZ	0/77	Pass

*Criteria : Acc/Rej = 0/1.

3. Temperature Cycle Test (TCT)

Run	Lot No	1000 cycles	Remark
#1	2031B051-ZV	0/77	Pass
#2	2031B051-ZW	0/77	Pass
#3	2031B051-ZZ	0/77	Pass

*Criteria : Acc/Rej = 0/1.

4. Highly Temp. Storage Life Test (HTSL)

Run	Lot No	1000 hrs	Remark
#1	2031B051-ZV	0/77	Pass
#2	2031B051-ZW	0/77	Pass
#3	2031B051-ZZ	0/77	Pass

*Criteria : Acc/Rej = 0/1.

5. Temperature Humidity Bias (THB)

Run	Lot No	1000 Hrs	Remark
#1	2031B051-ZV	0/45	Pass
#2	2031B051-ZW	0/45	Pass
#3	2031B051-ZZ	0/45	Pass

*Criteria: Acc/Rej = 0/1.