



Product/Process Change Notice

PCN # P-2107-0016

Date: 2021/8/10

Dear Customer:

Please be informed that Macronix is going to add 2nd source assembly subcontractor to backup customer original approved assembly subcontractors for 8 SOP(150mil) package products. The 2nd source assembly subcontractor is LINGSEN.

The detailed information about this change is described in the following pages. This process change has passed Macronix' qualification based on JEDEC standard, and the qualification report is attached below.

Please let us know within 30 days if your esteemed company has any questions, concerns, or requests about this change. Otherwise, it will be deemed as your esteemed company has accepted the change. Macronix follows JEDEC J-STD-046, which stipulates: ".....Lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change".

Thank you.

Macronix International Co., Ltd.

旺宏電子股份有限公司

PCN No.: P-2107-0016

Issue Date : 2021/8/10

Subject: Adding a new assembly vendor–LINGSEN for 8 SOP(150mil) package products.

Affected Macronix Part No.:

MX25L3233FM1I-08G

MX25R3235FM1IH0

MX25R3235FM1IHV

MX25R3235FM1ILO

MX25U1632FM1I02

MX25U3232FM1I02

Package type: 8 SOP(150mil) package products

Change Category : New assembly vendor

Reason of Change:

To increase 8 SOP(150mil) package assembly capacity and flexibility.

Before Change :

Assembly vendor:

1. ASECL

After Change :

Assembly vendors:

1. ASECL
2. LINGSEN

Product identification:

ASECL-assembled IC marking vendor code: X

LINGSEN-assembled IC marking vendor code: L

Assessment of Change:

1. No impact to Form, Fit, Function, Quality & Reliability.
2. LINGSEN assembled 8 SOP(150mil) package has passed Macronix' qualification based on JEDEC MSL level 3 standards, and it is also Halogen-Free, and meets the RoHS standards..
* Attached is LINGSEN assembled 8 SOP(150mil) package qualification report.
3. LINGSEN has been one of Macronix' qualified assembly vendors with good quality for a long time.

Schedule:

Sample available date: 2021/8/25

1st shipping date: 2021/9/20 (For customers who approved the PCN)



LINGSEN 8L SOP(150mil) Package Qualification Report

1. PURPOSE:

To qualify the new assembly subcontractor “LINGSEN” for 8L SOP(150mil) package.

2. PACKAGE PROFILE:

ASSEMBLY HOUSE	LINGSEN
PACKAGE	8L SOP (150 mil)
DIE SIZE	1938 x 2018 μm^2
DIE ATTACH	Sumitomo CRM-1076WA
LEAD FRAME	Copper
WIRE BOND MATERIAL	Au
MOLD COMPOUND	Sumitomo EME-G600F
LEAD FINISH	Matte Sn

3. QUALIFICATION ITEMS, TEST CONDITION AND FLOW:

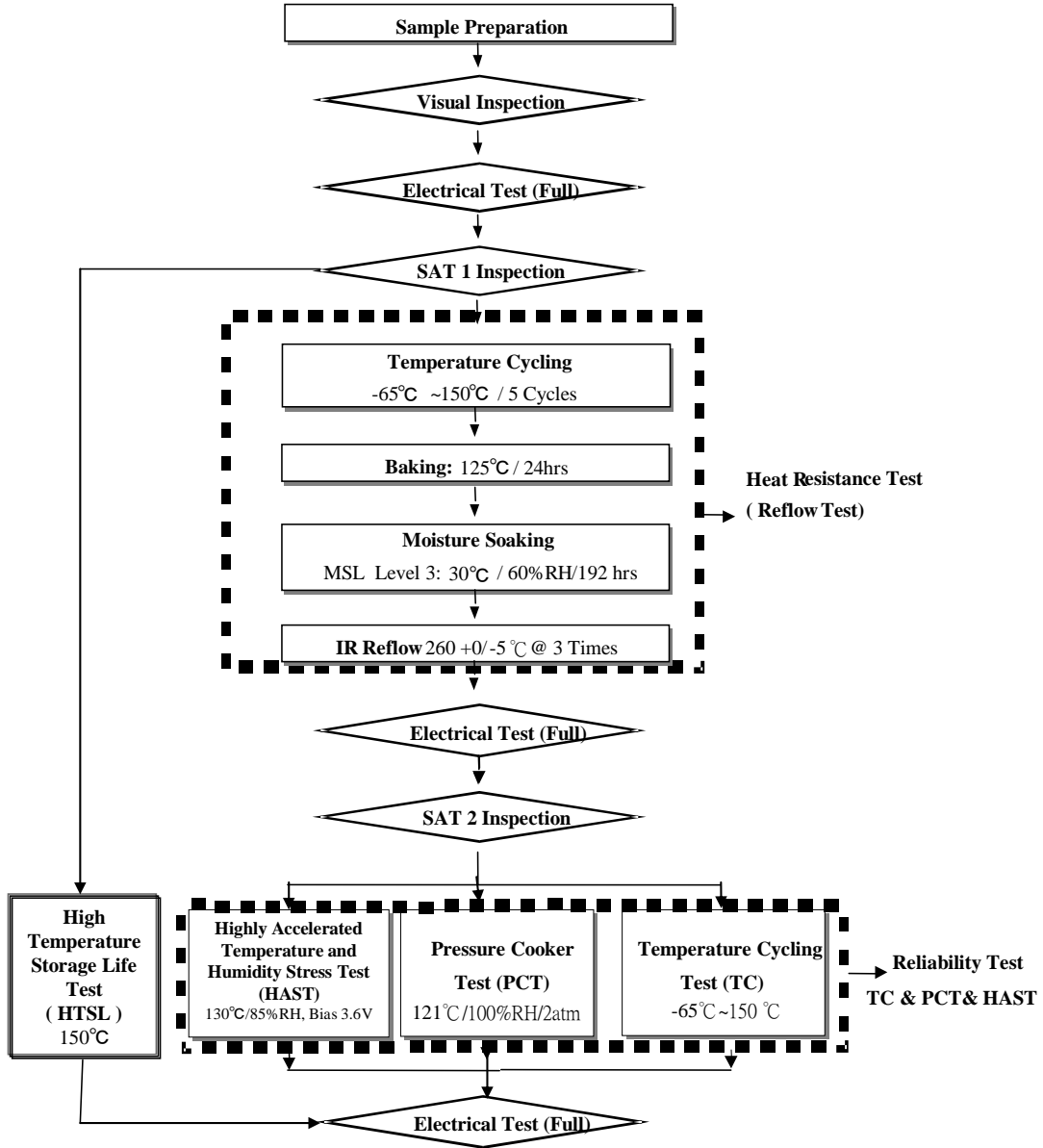
3-1. QUALIFICATION ITEMS:

Test Item	Reference	Test Condition
1. Heat Resistance Test: Reflow Test	JEDEC J-STD-020	MSL: Follow JEDEC MSL Level 3 (30°C / 60%RH, 192hrs)
2. Pressure Cooker Test	JESD22-A102	121°C / 100%RH / 2atm
3. Temperature Cycling Test	JESD22-A104	-65°C ~150°C
4. Highly Accelerated Temperature and Humidity Stress Test	JESD22-A110	130°C / 85% RH, Bias: 3.6V
5. High Temperature Storage Life Test	JESD22-A103	150°C
6. Solderability Test	JESD22-B102	<ul style="list-style-type: none"> ■ Steam aging 8hrs & Dipping Time \leq 5sec ■ Sn-Ag-Cu solder paste: 245°C ■ Sn-Pb solder paste: 235°C

*Perform SAT examination before and after Preconditioning per JESD22-A112.



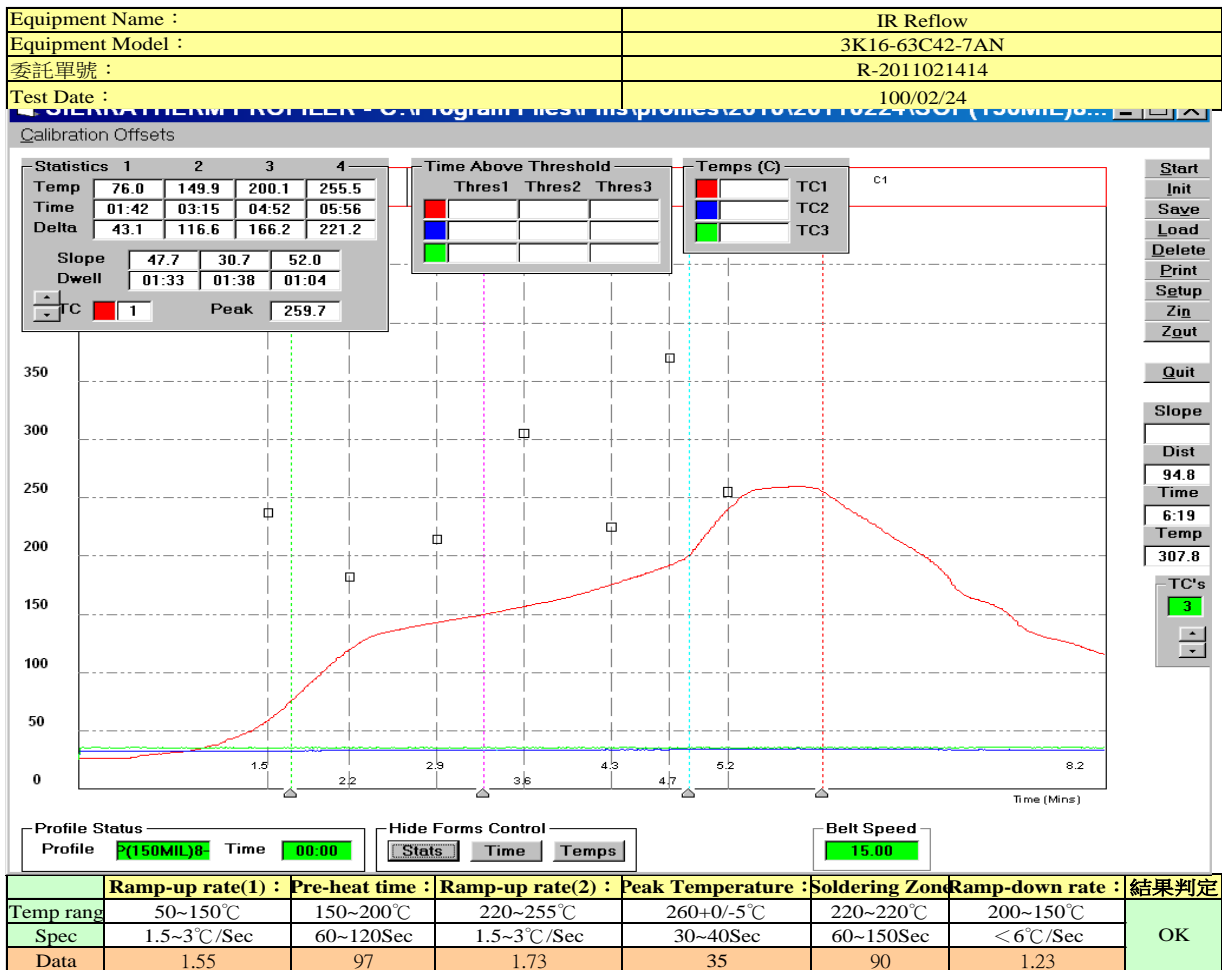
3-2. HEAT RESISTANT TEST (REFLOW TEST) AND RELIABILITY TEST FLOW





3-2-1. REFLOW PROFILE:

Ra Lab Reflow Test Data



Note 1: Subject the samples to 3 cycles of the above defined reflow conditions

Note 2: Time 25°C to peak temperature: 8 minutes max.

Note 3: The time between reflows shall be 5 minutes minimum and 40 minutes maximum.

3-2-2. CRITERIA:

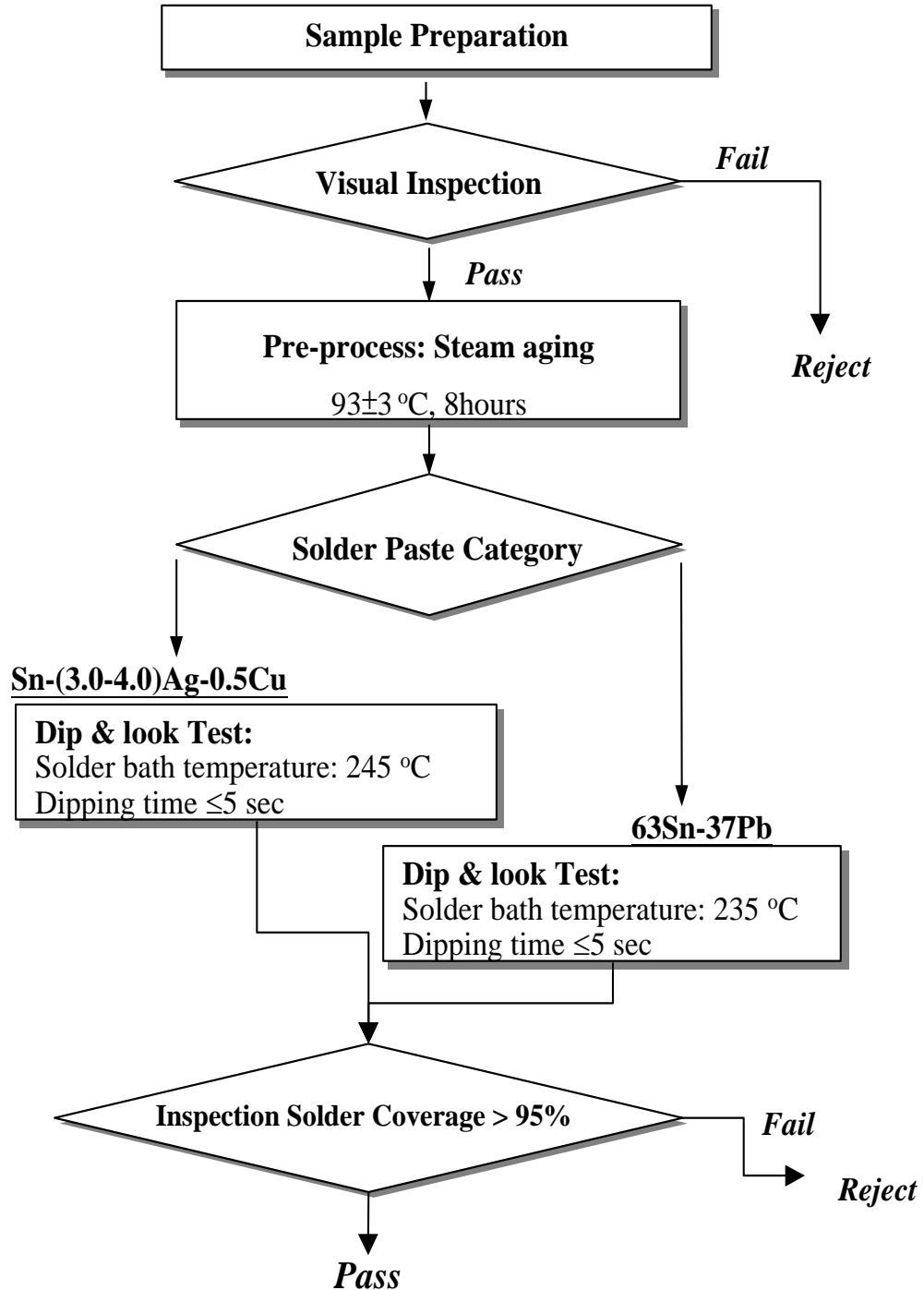
LTPD= 3%, PCT 96 hours and TC 500 cycles & HAST 96 hours & HTSL 500 hours.

3-2-3. REFERENCE SPECIFICATION:

5650-0901: ASSEMBLY RELIABILITY QUALIFICATION SPEC



3-3. SOLDERABILITY TEST FLOW





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4. RESULTS:

4-1. HEAT RESISTANCE TEST and RELIABILITY TEST RESULTS:

PRODUCT	6711		
LOT#	3E293700C1	3E293700C2	3E293700C3
DATE CODE	L1051	L1052	L1052
SAT 1	0/22	0/22	0/22
PRECON	0/250	0/250	0/250
SAT 2	0/22	0/22	0/22
PCT 96 HRS	0/77	0/77	0/77
TC 500 CYC	0/77	0/77	0/77
HAST 96 HRS	0/77	0/77	0/77
HTSL 500 HRS	0/77*		

FAIL / SAMPLE SIZE

(*: with lot #3X291400B1)

4-2. SOLDERABILITY TEST RESULTS:

Matte Sn Plating

Plating Material	Matte Sn		
Solder Paste Material	Sn-(3.0-4.0)Ag-0.5Cu		
INSPECTION	0/5	0/5	0/5

FAIL / SAMPLE SIZE

Plating Material	Matte Sn		
Solder Paste Material	63Sn-37Pb		
INSPECTION	0/5	0/5	0/5

FAIL / SAMPLE SIZE

5. CONCLUSION: PASS

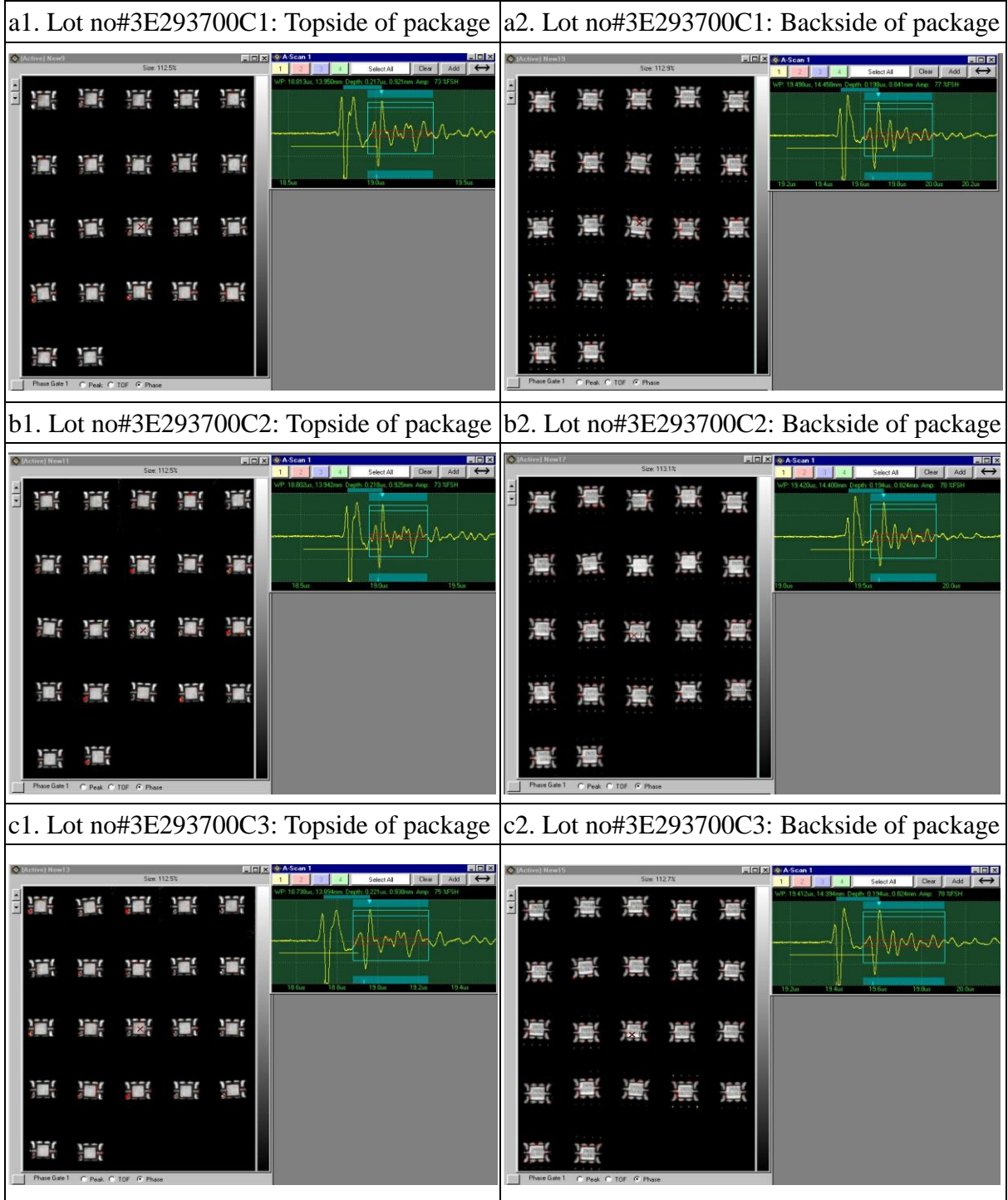


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6. ATTACHED FILE:

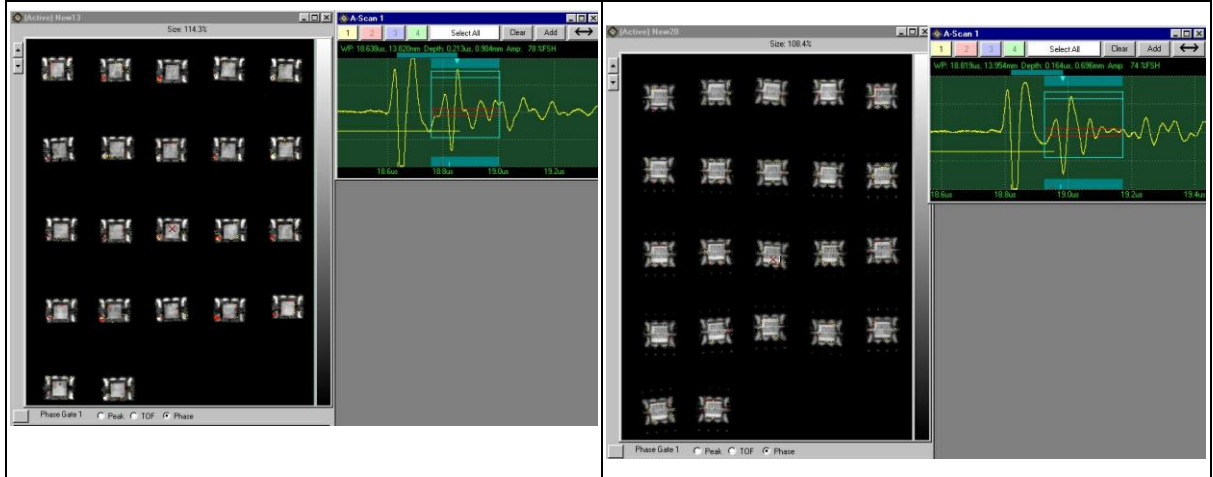
6-1. SAT PHOTO

6-1-1. BEFORE PRE-CONDITION

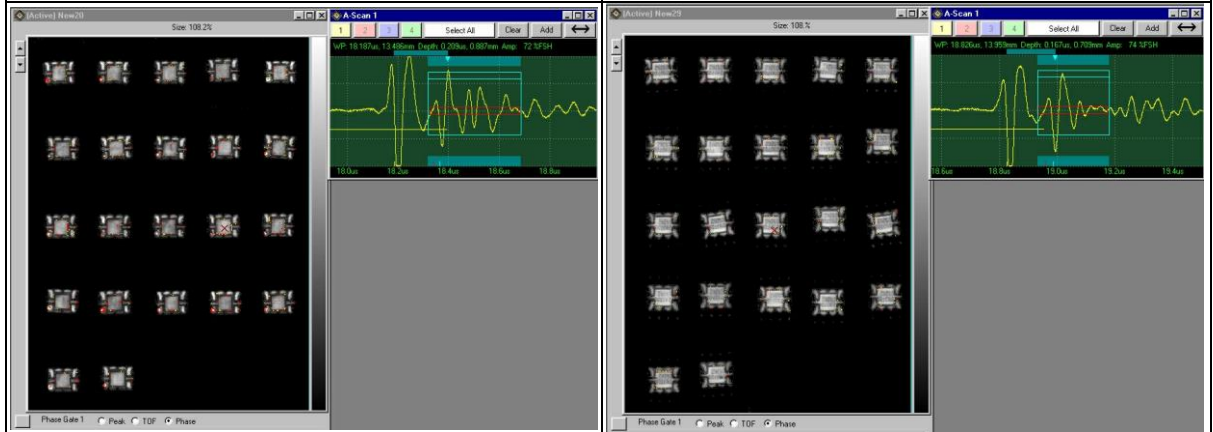


6-1-2. AFTER PRE-CONDITION

a1. Lot no#3E293700C1: Topside of package a2. Lot no#3E293700C1: Backside of package



b1. Lot no#3E293700C2: Topside of package b2. Lot no#3E293700C2: Backside of package



c1. Lot no#3E293700C3: Topside of package c2. Lot no#3E293700C3: Backside of package

