

## PRODUCT / PROCESS CHANGE NOTIFICATION

### 1. PCN basic data

1.1 Company		STMicroelectronics International N.V
1.2 PCN No.		AMS/22/13792
1.3 Title of PCN		Additional tester for Test & Finishing in UTAC Thailand for LD59150 products.
1.4 Product Category		Pls refer to the product list.
1.5 Issue date		2022-11-25

### 2. PCN Team

2.1 Contact supplier	
2.1.1 Name	ROBERTSON HEATHER
2.1.2 Phone	+1 8475853058
2.1.3 Email	heather.robertson@st.com
2.2 Change responsibility	
2.2.1 Product Manager	Marcello SAN BIAGIO
2.1.2 Marketing Manager	Salvatore DI VINCENZO
2.1.3 Quality Manager	Giuseppe LISI

### 3. Change

3.1 Category	3.2 Type of change	3.3 Manufacturing Location
Equipment (EWS-FT)	New tester, or prober option or major HW changes (ex: computer), brand or model (Unknown type)	UTAC Thailand (subcon)

### 4. Description of change

	Old	New
4.1 Description	Testing platform : - Cohu ASL1K	Testing platform : - Cohu ASL1K - Teradyne Eagle ETS364
4.2 Anticipated Impact on form, fit, function, quality, reliability or processability?	No impact in terms of Form, Fit, Function, Reliability or Processability	

### 5. Reason / motivation for change

5.1 Motivation	Following Divisional Commitments towards a continuous improvement philosophy a New ETS364 Testing Platform will be used for LD59150 (both PURY and PUR version). The change takes advantage of what already qualified on the same Testing Platform for the similar LD49100xx AG series. The double testing platforms option allows a bigger testing capacity of the IC thanks to the consequent adding from single to parallel testing, that it is translated in a better Service to our Customers.
5.2 Customer Benefit	CAPACITY INCREASE

### 6. Marking of parts / traceability of change

6.1 Description	Trace Code in the Standard shipping Inner box label
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### 7. Timing / schedule

7.1 Date of qualification results	2022-10-07
7.2 Intended start of delivery	2023-01-15
7.3 Qualification sample available?	Upon Request

### 8. Qualification / Validation

8.1 Description	13792 LD59150 UTAC FT additional testing platform.pdf		
8.2 Qualification report and qualification results	Available (see attachment)	Issue Date	2022-11-25

**9. Attachments (additional documentations)**

13792 Public product.pdf  
13792 LD59150 UTAC FT additional testing platform.pdf

**10. Affected parts**

<b>10. 1 Current</b>		<b>10.2 New (if applicable)</b>
<b>10.1.1 Customer Part No</b>	<b>10.1.2 Supplier Part No</b>	<b>10.1.2 Supplier Part No</b>
	LD59150PUR	
	LD59150PURY	

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# **LD59150PURY**

## ETS364

### additional testing platform

A. Ferrigno

07/10/2022

# FT validation process

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- **Goal:** Basing on the demand for increased FT production capacity, we qualified the new tester ETS364 // 4 (Teradyne Eagle) for LD59150 device.
- **Additional Information:** The test flow using ETS364 is already qualified for others LDO like LD49100 and LD39100.
- **Method:**
  - 1<sup>st</sup> step: testing whole trial on ETS364 // 4 @AMB, COLD and HOT
  - 2<sup>nd</sup> step: testing on ASL1K @AMB, COLD and HOT the bin 1 from ETS364
  - 3<sup>rd</sup> step: testing on ASL1K @AMB, COLD and HOT rejects from ETS364x4

# ETS364x4 vs. ASL1K

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First pass on ETS364 //4:

TESTER	OPERATION	Qty in	Qty Out	Yield	BIN5	BIN6	BIN8
ETS364	FTH125	3531	3518	99.63%	0	1	12
ETS364	FTC40	3409	3402	99.79%	0	0	7
ETS364	FTR25	3504	3409	97.29%	0	0	95

Retest bin 1 on ASL1K:

TESTER	OPERATION	QTY IN	QTY IN	YIELD	BIN5	BIN6	BIN8
ASL1K	FTH125	3391	3391	100.00%	0	0	0
ASL1K	FTC40	3375	3375	100.00%	0	0	0
ASL1K	FTR25	3388	3388	100.00%	0	0	0

Retest rejects on ASL1K:

TESTER	OPERATION	QTY IN	QTY OUT	YIELD	BIN5	BIN6	BIN8
ASL1K	FTH125	13	8	61.54%	0	1	4
ASL1K	FTC40	7	3	42.86%	0	0	4
ASL1K	FTR25	95	10	10.53%	0	0	85

ETS 364 Vs ASL1K 364 →  $\Delta$ Yield : -0.6%

# Electrical distributions summary results

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ETS364 @ Ambient	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	801.001	1.04965	4.763175
Vdrop_vin (mV)	0	125	65.5	3.32	5.973896
Vdrop_vbias (mV)	0	1100	698.16	4.76	28.14006
Ibias (uA)	0	1500	952.6	67.36	2.708828
Ishutdown (uA)	0	50	0.03759	0.006327	1.980401
Ifeedback (uA)	-1	1	0.00194	0.00235	141.5688
Power good Threshold (%)	85	94	87.13	0.21	3.380952
Power good leakage (uA)	0	1	0.00128	0.000916	363.4352

ASL1K @ Ambient	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	801.01	3.1	1.61183
Vdrop_vin (mV)	0	125	47.04	4.99	3.142285
Vdrop_vbias (mV)	0	1100	926.6	7.2	8.027778
Ibias (uA)	0	1500	893.4	20.5	9.863415
Ishutdown (uA)	0	50	0.101	0.1	166.33
Ifeedback (uA)	-1	1	0.124	0.052	5.615385
Power good Threshold (%)	85	94	88.75	0.22	5.681818
Power good leakage (uA)	0	1	0.0058	0.005	66.28

# Electrical distributions summary results

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ETS364 @ Cold	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	796.87	1.597	2.686286788
Vdrop_vin (mV)	0	125	52.5	3.216	5.441542289
Vdrop_vbias (mV)	0	1100	768	5.01	22.08915502
Ibias (uA)	0	1500	628.5	90.56	2.313383392
Ishutdown (uA)	0	50	0.03	0.0043	2.325581395
Ifeedback (uA)	-1	1	0.0017	0.00134	248.3333333
Power good Threshold (%)	85	94	86.72	0.25	2.293333333
Power good leakage (uA)	0	1	0.001	0.00072	462.65

ASL1K @ Cold	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	796.9	0.67	6.417910448
Vdrop_vin (mV)	0	125	48.8	3.87	4.20327304
Vdrop_vbias (mV)	0	1100	969.5	6.88	6.322674419
Ibias (uA)	0	1500	785	22.7	10.49926579
Ishutdown (uA)	0	50	0.224	0.478	34.7113
Ifeedback (uA)	-1	1	0.118	0.01	29.4
Power good Threshold (%)	85	94	87.5	0.34	2.450980
Power good leakage (uA)	0	1	0.0056	0.005	66.29333

# Electrical distributions summary results

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ETS364 @ Hot	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	803.944	0.814	4.936937
Vdrop_vin (mV)	0	125	70.5	3.703	4.905932
Vdrop_vbias (mV)	0	1100	591.1	5.67	29.9177
Ibias (uA)	0	1500	977.05	37.23	4.682156
Ishutdown (uA)	0	50	3	0.443	2.257336
Ifeedback (uA)	-1	1	0.00185	0.0014	237.6548
Power good Threshold (%)	85	94	86.7	0.22	2.5757
Power good leakage (uA)	0	1	0.011	0.002746	120.0546

ASL1K @ Hot	limite inferiore	limite superiore	media	sigma	cpk
Vout accuracy @ 1.5A (mV)	784	816	805.4	0.781	4.524114
Vdrop_vin (mV)	0	125	67.66	8.67	2.204537
Vdrop_vbias (mV)	0	1100	876	11.36	6.57277
Ibias (uA)	0	1500	958.3	17.7	10.20151
Ishutdown (uA)	0	50	1.28	0.452	35.9292
Ifeedback (uA)	-1	1	0.12	0.014	20.95238
Power good Threshold (%)	85	94	90.57	0.32	3.5729
Power good leakage (uA)	0	1	0.0073	0.0057	58.0263

- Test program on ETS364 // 4 has robustness items versus Test program on ASL1K, doesn't show weakness items.
- The correlation on two different testers met all the criteria.



## Public Products List

Public Products are off the shelf products. They are not dedicated to specific customers, they are available through ST Sales team, or Distributors, and visible on ST.com

**PCN Title :** Additional tester for Test & Finishing in UTAC Thailand for LD59150 products.

**PCN Reference :** AMS/22/13792

**Subject :** Public Products List

Dear Customer,

Please find below the Standard Public Products List impacted by the change.

LD59150PUR	LD59150PURY	
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