L698x family: Additional testing platform ETS364 beside SZ M3650 in Final Test MUAR (MALAYSIA)

FT validation process

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- **PCI10449 : Additional tester for Test & Finishing in Muar for selected Automotive grade products in TSSOP16 package assembled in Amkor**

- **New testing platform TERADYNE ETS364 (as additional testing platform beside SZ M3650)**

L6986/ L6986TR (UAF5),
L6986F/ L6986FTR (UAQ6)
L6985F/ L6985FTR (UAQ7)

WHAT:
Please be informed that we are going to introduce in Final Test MUAR (MALAYSIA) a new testing platform on L698x family products, UAF5 / UAQ6 / UAQ7 lines. New testing platform is ETS364 (TERADYNE) as additional testing platform beside SZ M3650.

WHY:
Capacity and Service improvement

WHO:
L698x family. See list of CP for details.

WHEN:
Validation data already available on UAF5 A6986 Test Vehicle (Automotive Grade version)
Intended start of delivery: UAF5 and UAQ6: Sept 17 – UAQ7 Oct17

WHERE:
Final test: ST Muar (MALAYSIA)

UAF5 Muar FT additional testing platform: Validation summary report

Shierly Yee - Ivan Verra
Operation and AMG/GPA Product Engineering Department

Issued on: August 2017

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Overview

❑ GOAL

Based on the requested demand for increased FT production capacity we develop a new testing solution based on a different ATE

❑ATE

- ✓ standard tester SZ Advantest M36x0 (testing cluster // by2)
- ✓ additional tester Teradyne Eagle ETS364 (testing cluster // by4)

❑FT Validation Process

- ✓ Robustness/Endurance Check
- ✓ FT comparison analysis btw SZ and ETS on 3 different lot (qty 8.3kpcs)

FT validation process: Method

- 3 different assy lots for a total amount of 8.3Kpcs
- Flow of validation:
  - All the parts are tested using the old and new platform alternatively
    - ✓ @amb temp
  - Collect testing data
  - Retest on new/old equipment
    - ✓ @amb temp
  - Collecting testing data to correlate:
    - ✓ screening efficiency (good and bad)
    - ✓ parametric alignment

Equipment qualification

Test / Evaluation	Test Conditions / Parameters	Target	Result
Spike analysys	Each pin is monitored during tp flow	no spikes over the Absolute Maximum Ratig voltages	Pass
Reliability and repeatibility	300 loops on golden sample on all sites	100% bin1 + no kill unit + cpk > 1.67	Pass
Endurance and robustness	25 loops + 1000 loops + 25 loops	ABS ((mean1 - mean2) / (USL - LSL)) <5%	Pass

mean1: avg of 1st 25 loops
mean2: avg of 2nd 25 loops

FT lot validation

LotID	Diffusion	Trace Code	Lot Qty	AMB Yield	
				SZ (old)	ETS (new)
9972711E0A	V562298W	7B716845	1500	99.80%	99.87%
9972711E0B	V562298W	7B716845	1500	99.33%	99.33%
9972711F01	V5626T19	7B720379	5364	99.57%	99.57%

Final Yield mismatch <1%