

Test Qualification Plan

1. SCM Correlation Data Gathering

- Loop 4 bin1 units x30
- Run 100 bin1 units on handler
- Serialize and test 10 bin1 units
- Serialize and test 5 reject units

2. Ship correlation package from SCM to SCC

3. SCC Correlation Data Gathering

- Loop 4 bin1 units x30
- Run 100 bin1 units on handler
- Test 10 already serialized bin1
- Test 5 already serialized rejects

4. SCM/SCC send data to ADGT for Data Crunching and Analysis

5. CorL8 Analysis of x30 loop /100 units handler data

- X30 loop must pass Mean Shift, Sigma Spread and CPK criteria
- 100 Bin1 Correlation units must pass Mean Shift, Sigma Spread and CPK criteria
- 10 serialized units must pass bin1 both in SCC and in SCM
- 5 serialized rejects must fail the same parameter for both SCC and SCM

6. Correlation Data Approval

- For TRB movement to Available with Condition

7. Validation lot run handled by SCC

Note: CorL8 is ADI data analysis tool.


Reject Correlation		
Unit	SCM	SCC
1	TnumX: XXXXX	TnumX: XXXXX
...	TnumX: XXXXX	TnumX: XXXXX
5	TnumX: XXXXX	TnumX: XXXXX

Bin1 Correlation		
Unit	SCM	SCC
1	Pass	Pass
...	Pass	Pass
10	Pass	Pass

Correlation Test Criteria(TST00137)	
% Mean Shift Criteria	$((\text{SCM_mean} - \text{SCC_Mean}) / (\text{Upper_Limit} - \text{Lower_Limit})) \times 100 \leq 5$
Sigma Spread Criteria	$(\text{SCC_Sigma} / \text{SCM_Sigma}) \leq 1.300000$
Cpk Criteria	If CPK to the test limits is >10, then test given automatically PASS

Test Qualification estimated Timeline

Devices	Oct, 2013 to Nov, 2013	Dec, 2013 to Apr, 2014	May, 2014
SCM Correlation Data Gathering & Shipment			
SCC Correlation Data Gathering			
Data Review and Approved by ADGT			
Validation Run/TRB Closure			

 PLANNED
 ACTUAL/ADJUSTED

Reliability Qualification Results of LFCSP package (G700/8290) Automotive Process at ATP

QUALIFICATION RESULTS OF 5X5X0.75 LFCSP			
TEST	CONDITIONS	SAMPLE SIZE	RESULTS
Highly Accelerated Stress Test (HAST)*	JEDEC <i>JESD22-A110</i>	3 x 77	Pass
Temperature Cycle (TC)*	JEDEC <i>JESD22-A104</i>	3 x 77	Pass
Autoclave (AC)*	JEDEC <i>JESD22-A102</i>	3 x 77	Pass
Solder Heat Resistance (SHR)*	<i>ADI-0049</i>	3 x 11	Pass

*These samples were subjected to preconditioning (per J-STD-020 Level 3) prior to the start of the stress test. Level 3 preconditioning consists of the following: Bake: 24 hrs @ 125°C, Soak: Unbiased Soak: 192 hrs @ 30°C, 60%RH, Reflow: 3 passes through an oven with a peak temperature of 260°C. TCT samples passed wire-pull test post 500cycles.

BILL OF MATERIALS

Generic	Material List	Wire Size	DIE ATTACH EPOXY		MOLD COMPOUND	
			FROM	TO	FROM	TO
ADV7180	ADV7180BCP32Z ADV7180BCP32Z-RL ADV7180KCP32Z ADV7180KCP32Z-RL	1.0 mil	ABLESTIK 3230	ABLESTIK 8290	SUMITOMO G770	SUMITOMO G700
ADV7182	ADV7182WBCPZ ADV7182WBCPZ-RL					
ADV7280	ADV7280BCPZ ADV7280BCPZ-M ADV7280BCPZ-M-RL ADV7280BCPZ-RL ADV7280KCPZ ADV7280KCPZ-M ADV7280KCPZ-M-RL ADV7280KCPZ-RL ADV7280WBCPZ ADV7280WBCPZ-M ADV7280WBCPZ-M-RL ADV7280WBCPZ-RL					
ADV7281	ADV7281WBCPZ ADV7281WBCPZ-M ADV7281WBCPZ-MA ADV7281WBCPZ-MA-RL ADV7281WBCPZ-M-RL ADV7281WBCPZ-RL					
ADV7282	ADV7282WBCPZ ADV7282WBCPZ-M ADV7282WBCPZ-M-RL ADV7282WBCPZ-RL AD55/055Z-0 AD55/055Z-ORL					