Process Change Notification

PCN Number: PCN-2017-80-P2 **PCN Notification Date:** 07/25/2018

Final PCN – Submission *Phase 2 of 2 - Cancelled

Wafer Level Chip Scale Package Probe Test Site Transfer from
Amkor Site T3 to Site T1 Location (Taiwan)

Dear Customer,

This notification is to advise you of the following change(s).

The Phase 2 of 2 portion of the Wafer Level Chip Scale Package (WLCSP) Probe Test Site Transfer from Amkor Site T3 to Amkor Site T1 location (Taiwan) has been cancelled and only affects part number WM8281ECS/R/G. If, at a later time, material associated with Phase 2 requires transfer an independent PCN (Process Change Notification) will be formally submitted.

Cirrus Logic would like to take this opportunity to thank our customers for their patience, cooperation and understanding in this respective matter. If you have any questions, please contact your Sales Representative.

Sincerely,

Quality Systems Administrator
Cirrus Logic Corporate Quality
Phone: +1(512) 851-4000

*** Special Note:** Phase 1 Completed
Phase 2 Cancelled

The Final PCN will be submitted in 2 phases.

- Phase 1 (i.e. Final PCN Submission 1 of 2) includes all material except (WM8281ECS/R/G)**.**
- ~~Phase 2 (i.e. Final PCN Submission 2 of 2) includes the remaining material (WM8281ECS/R/G).~~

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Products Affected:

The devices listed on this page are the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

Technical details of this Process / Product Change follow on the next page(s).

Title:	Wafer Level Chip Scale Package Probe Test Site Transfer from Amkor Site T3 to Site T1 Location (Taiwan)						
Customer Contact:	Local Field Sales Representative		**Phone:** (512) 851-4000		**Dept:**	Corporate Quality	
Proposed 1st Ship Date:		Nov 2017	**Estimated Sample Availability Date:**			NA	
Change Type:							
	Assembly Site		Assembly Process			Assembly Materials	
	Wafer Fab Site		Wafer Fab Process			Wafer Fab Materials	
	Wafer Bump Site		Wafer Bump Process			Wafer Bump Material	
X	Test Site		Test Process			Design	
	Electrical Specification		Mechanical Specification			Part Number	
	Packing/Shipping/Labeling		Other				
Comments:							

PCN Details

Description of Change:

Cirrus Logic is qualifying the Wafer Level Chip Scale Package (WLCSP) Probe Test Site Transfer from Amkor Site T3 to Site T1 Location (Taiwan).

Below you will find an outline of the described changes for these components:

- **Probe Test Site Change:**
  From: Amkor (T3) site location in Hsinchu County, Taiwan, R.O.C.
  To: Amkor (T1) site location in Taoyuan City, Taiwan, R.O.C.

Reason for Change:

Cirrus Logic's Wafer Level Chip Scale Package (WLCSP) Probe Test Site subcontractor – Amkor Technology Taiwan, Ltd. / Amkor Advanced Technology Taiwan, Inc. (Amkor) will transfer to their Taoyuan City site from their existing Hsinchu site by the November 2017.

Anticipated Impact on Form, Fit, Function, Quality or Reliability:

No anticipated adverse impact to the Quality and/or Reliability of said product; as the transfer site is part of an already existing Cirrus Logic qualified subcontractor Amkor Technology Taiwan, Ltd. / Amkor Advanced Technology Taiwan, Inc. (Amkor) and there are no changes to the equipment or material.

Anticipated Impact on Material Declaration:

☒ No Impact to the Material Declaration

☐ Material Declarations or Product Content reports are driven from production data and will be available following the production release.

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Product Affected:

Device	Cirrus Logic Part Number
1 (Phase 1 – Completed)	CS42L42-CWZR/B1
2 (Phase 1 – Completed)	CS43L36-CWZR/B1
3 (Phase 1 – Completed)	CS47L24-CWZR/A
4 (Phase 1 – Completed)	CS47L33-CWZR/A1
5 (Phase 1 – Completed)	CS47L85-CWZR/B
6 (Phase 1 – Completed)	CS47L89-CWZR/A1
7 (Phase 1 – Completed)	CS47L90-CWZR/A1
8 (Phase 1 – Completed)	WM1811GECS/R/K
9 (Phase 1 – Completed)	WM5102[x]ECS[x]/R/C
10 (Phase 2 – Cancelled)	~~WM8281ECS/R/G~~
11 (Phase 1 – Completed)	WM8963ECSN/R/C
12 (Phase 1 – Completed)	WM8998ECS/R/B

*** Special Note:** Phase 1 Completed
Phase 2 Cancelled

The Final PCN will be submitted in 2 phases.

- Phase 1 (i.e. Final PCN Submission 1 of 2) includes all material except (WM8281ECS/R/G)**.**
- ~~Phase 2 (i.e. Final PCN Submission 2 of 2) includes the remaining material (WM8281ECS/R/G).~~

Changes To Product Identification Resulting From This PCN:

The Cirrus Logic component symbolization on the external face of the device reflects the designated Assembly Site.

There is "NO CHANGE" to the external face of the designated components.

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Probe Test Site Qualification Plan

Purpose
Amkor Probe Test Site Transfer from T3 site location in Hsinchu County, Taiwan, R.O.C. to T1 site location in Taoyuan City, Taiwan, R.O.C.

The Equipment Platform Technology, Hardware and Software remain the same.

The below summarized information represents the overall results for the following material part numbers identified:

Device	Cirrus Logic Part Number
1 (Phase 1 – Completed)	CS42L42-CWZR/B1
2 (Phase 1 – Completed)	CS43L36-CWZR/B1
3 (Phase 1 – Completed)	CS47L24-CWZR/A
4 (Phase 1 – Completed)	CS47L33-CWZR/A1
5 (Phase 1 – Completed)	CS47L85-CWZR/B
6 (Phase 1 – Completed)	CS47L89-CWZR/A1
7 (Phase 1 – Completed)	CS47L90-CWZR/A1
8 (Phase 1 – Completed)	WM1811GECS/R/K
9 (Phase 1 – Completed)	WM5102[x]ECS[x]/R/C
10 (Phase 2 – Cancelled)	~~WM8281ECS/R/C~~
11 (Phase 1 – Completed)	WM8963ECSN/R/C
12 (Phase 1 – Completed)	WM8998ECS/R/B

The Test Equipment Correlation involves the following:

- Running the new site program with an OPEN Socket (No Unit) to ensure “All” tests fail.
  Success Criteria: Confirmed “All” tests fail with OPEN Socket
- Serializing Control (Known Good) Units and testing the material on both test platforms (Existing and New Location) at all applicable test temperatures utilizing the same load-board and test site(s). A correlation comparison will be made on “All” individual components. If there is a concern or a discrepancy exists, a bench level correlation will be performed to ensure new site meets data sheet requirements.
  Success Criteria: Confirmed critical parameter difference < 10%
- Performing Bin yield and Bin movement correlation by running samples at the existing Amkor T3 site and at new Amkor T1 site. The results from each site will be compared.
- Running (the same) sample non-continuity failures (different failing tests) and testing them at the existing site and at the new site. All units are expected to fail at the new site location.
  Success Criteria: Confirmed bad units remained bad, do not flip to Bin 1 or attributable to a known assignable cause
- Performing GR&R (Gauge Repeatability & Reproducibility)
  Success Criteria: Confirmed “All” measurements are equivalent or better at new site