Process Change Notification Form

PCN Number:	PCN_0292
Date of Notification:	February 12, 2010
Cirrus Logic P/N(s):	CS48520-CQZ(R), CS48540-CQZ(R), CS48540-DQZ(R), CS48560-CQZ(R), CS48560-DQZ(R), CS48DV2A-CQZ(R)
Date ACN Effective:	June 19, 2010 Samples available date March 19, 2010
Reason for Change:	☒ Design /New Rev. ☒ Fab Site ☐ Fab Process ☐ Additional Fab Source ☐ Assembly Site ☐ Assembly Process ☐ Additional Assembly Source ☐ Other (specify) The fabrication site is transferring this process from one site to another. The current site will no longer maintain this technology process.
Description of Change:	☐ Fix errata ☐ Yield enhancement ☐ Fix known bug ☐ Performance Improvement ☒ Other Chartered Semiconductor (now Global Foundries) is transferring the fabrication process used for these devices from Fab 6 to Fab 5. Cirrus will transfer these devices to Fab 5 with an optical shrink to improve manufacturability / capacity.
Cirrus Logic P/N Change:	☐ Yes, New Part Number: ☒ No
Pack Mark Change:	☒ Yes ☐ No ***If Yes, briefly explain:*** Silicon revision identifier will change from **B0** to **C0**. Fab identifier will change from **RG** to **CC** **RG**WA**B0**xxyyww to **CC**WA**C0**xxyyww *[Any Fab, Assembly, or Design changes results in pack mark changes, please provide detail]*

Lot Effective Date:	1009 *[Contact the area sales representative for availability of samples if applicable]*
Quality & Reliability impact:	Qualification Data: ☒ Required ☐ Not Required ***se page below***

Datasheet Change Required?	☐ Yes ☒ No If Yes, briefly explain: Note may remove auto grade
Software Change Required?	☐ Yes ☒ No If Yes, briefly explain:

RELIABILITY QUALIFICATION REPORT

Reliability Report: QRR100202

Subject/Purpose:

This is to qualify the 0.16/0.18 um process node process manufactured at Chartered Semiconductor Fab 5 (CC) in the Pb-free 48, 128 and 144LQFP packages at Siliconware (Taiwan) by similarity.

APPROVALS:

Rod Boutwell

Reliability Engineering

Results:

Qualification successful.

STATUS:

Complete - Pass

Stress	Conditions	Method	Duration	Lot	Results (Fail/Sample)
ELFR	125 °C	JESD22-A108	48 Hours	1	0/704
QJ1779 (Similarity)	3.5 Volts				
QJ1868 (Similarity)	1.95 Volts		48 Hours	2	0/792
QJ1897	Dynamic				
			48 Hours	3	0/810

Background Information:

Part #: CS495304 **Rev:** D0 **Fab:** Chartered Fab 5 (CC) **Lead Finish:** Pb-free

Package: 128LQFP **Assembly:** Siliconware (Taiwan)

Reliability Report: QRR100202

Stress	Conditions	Method	Duration	Lot	Results (Fail/sample)
HTOL	125 °C	JESD22-A108	48 Hours	1	0/77
QJ1779 (Similarity)	3.5 Volts		500 Hours	1	0/77
QJ1782 (Similarity)	1.95 Volts		1000 Hours	1	0/77
QJ1897	Dynamic				
			48 Hours	2	0/77
			500 Hours	2	0/77
			1000 Hours	2	0/77
			500 Hours	3	0/77
ESD Machine Model	25 °C	JESD22-A115	50 Volts	1	0/3
QJ1779 (Similarity)			100 Volts	1	0/3
			150 Volts	1	0/3
ESD Human Body Model	25 °C	JESD22-A114	500 Volts	1	0/3
QJ1779 (Similarity)			1000 Volts	1	0/3
			1500 Volts	1	0/3
			2000 Volts	1	0/3
Latch-Up VDD	85 °C	JESD78	5.25 Volts	1	0/6
QJ1779 (Similarity)			2.85 Volts	1	0/6
Latch-Up I/O	85 °C	JESD78	+/-200 mA	1	0/6
QJ1779 (Similarity)					
Precondition MSL-3	24HR 125 °C Bake	JESD22-A113	Precondition	1	0/231
QJ1778 (Similarity)	192HR 30°C/60%RH Soak				
QJ1780 (Similarity)	3 pass 260 °C Convection		Precondition	2	0/231
QJ1781 (Similarity)	reflow				
			Precondition	3	0/231
HAST	130 °C	JESD22-A110	96 Hours	1	0/77
QJ1778 (Similarity)	85 %RH				
	1.95 Volts				
	3.5 Volts				
THB	85 °C	JESD22-A101	500 Hours	1	0/77
QJ1780 (Similarity)	85 %RH		1000 Hours	1	0/77
QJ1781 (Similarity)	1.95 Volts				
	3.5 Volts		500 Hours	2	0/77
			1000 Hours	2	0/76

Background Information:

Part #: CS495304 **Rev:** D0 **Fab:** Chartered Fab 5 (CC) **Lead Finish:** Pb-free

Package: 128LQFP **Assembly:** Siliconware (Taiwan)

Reliability Report: QRR100202

Stress	Conditions	Method	Duration	Lot	Results (Fail/sample)
Temperature Cycle cond. C	-65 °C	JESD22-A104	500 Cycles	1	0/77
QJ1778 (Similarity)	+150 °C				
QJ1780 (Similarity)	air to air		500 Cycles	2	0/77
QJ1781 (Similarity)					
			500 Cycles	3	0/77
Tomography (CSAM)		J-STD-035	Post Temp Cycle	1	0/11
QJ1778 (Similarity)					
QJ1780 (Similarity)			Post Temp Cycle	2	0/11
QJ1781 (Similarity)					
			Post Temp Cycle	3	0/11
Autoclave/PPOT	121 °C	JESD22-A102	96 Hours	1	0/77
QJ1778 (Similarity)	15 psig				
QJ1780 (Similarity)	100% R.H.		96 Hours	2	0/77
QJ1781 (Similarity)					
			96 Hours	3	0/77
Solderability	93 °C steam aging	JESD22-B102	Solderability	1	0/15
QJ1778 (Similarity)	8 Hours				
QJ1780 (Similarity)	245 °C solder bath		Solderability	2	0/15
QJ1781 (Similarity)	5 Seconds				
			Solderability	3	0/15
HTSL (High Temp Storage Life)	150 °C	JESD22-A103	500 Hours	1	0/77
QJ1778 (Similarity)			1000 Hours	1	0/77
QJ1780 (Similarity)					
QJ1781 (Similarity)			500 Hours	2	0/77
			1000 Hours	2	0/77
			500 Hours	3	0/77
			1000 Hours	3	0/77

Background Information:

Part #: CS495304 **Rev:** D0 **Fab:** Chartered Fab 5 (CC) **Lead Finish:** Pb-free

Package: 128LQFP **Assembly:** Siliconware (Taiwan)

Cirrus Logic PCN administrator: _____ Cirrus Logic - Customer Quality Digitally signed by Cirrus Logic - Customer Quality DN: cn=Cirrus Logic - Customer Quality, c=US, ou=Cirrus Logic Austin, email=customer_quality@cirrus.com Reason: All signatures on file Date: 2010.02.18 10:11:23 -06'00' _____

Acknowledgement of Receipt of Notice:

Does customer waive PCN Effective Date? ☐ **YES** ☐ **NO**

Company Name: _____

Name (please print)**:** _____ **Title:** _____

Signature: _____ **Date:** _____

Customer Representative is to obtain the customer acknowledgement/signature and return this notification to Cirrus Logic Corp. Quality, attn: PCN administrator at fax number (512) 851-4656

NOTE: Lack of acknowledgement within 30 days of the date of notice, constitutes acceptance of change. (Reference JEDEC Industry Standard: JESD-46)