

## Product Change Notification - S200000010 - JAON-14FRVC158

**Date:** 03 Aug 2017  
**Product Category:** Clock and Timing - Clock and Data Distribution  
**Notification subject:** CCB 1737.11 Final Notice: Release to production of listed Micrel Clock and Timing product type manufactured with the S2 process technology to Microchip Fab.  
**Notification text:** **PCN Status:**  
 Final Notification

Note: This final PCN only pertains to the products listed in this PCN. Additional final PCNs may be issued for this combination of product type and process technology.

**Microchip Parts Affected:**

Please open the attachments found in the attachments field below labeled as PCN\_ \_Affected\_CP.N.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and . Is).

**Description of Change:**

Release to production of listed Micrel Clock and Timing product type manufactured with the S2 process technology to Microchip Fab.

NOTE: Please review the FAQ linked [here](#) for additional information about this change.

**Pre Change:**

Fabricated at Micrel fabrication site (San Jose, CA, USA) using 6 inch wafers.

**Post Change:**

Fabricated at Microchip fabrication site using 8 inch wafers.

**Pre and Post Change Summary:**

	Pre Change	Post Change
<b>Fab Site</b>	Micrel fabrication site (San Jose, CA, USA)	Microchip fabrication site
<b>Wafer Size</b>	6 inch wafers	8 inch wafers

**Impacts to Data Sheet:**

None

**Reason for Change:**

To improve productivity with the closure of the Micrel fab as part of the integration of Micrel and Microchip.

**Change Implementation Status:**

In Progress

**Estimated First Ship Date:**

As identified for each CPN listed in the attached parts list.

**Summary Time Table of notable events to date:**

	September 2015					-	November 2016					-	July 2017				August 2017				
orkweek	36	37	38	39	40		44	45	46	47		27	28	29	30	31	32	33	34	35	
Initial PCN Issue Date	X																				

CYER-31JLEX869																			
Qual Report Available							X												
JAON-14FRVC158																			
Final PCN Issue Date													X						
JAON-14FRVC158-S200000010																			
Estimated First Ship Date																			As listed in the attached parts list

**Markings to Distinguish Revised from Unrevised Devices:**

Traceability code and shipping label see [FAQ](#).

**Revision History:**

**September 1, 2015:** Issued initial notification as PCN number [CYER-31JLEX869](#).

**November 4, 2016:** Issued intermediate notification as PCN number [JAON-14FRVC158](#). Attached the Qualification Report. Revised the estimated first ship date (EFSD) to inform that the EFSD will be revealed in the final PCN.

**July 19, 2017:** Issued final notification as PCN number JAON-14FRVC158-S200000010 for listed Micrel s Clock and Timing products manufactured with the S2 process technology. Provided estimated first ship date (EFSD) for each CPN listed in the attached parts list.

**August 3, 2017:** Re-issued final notification to revise the affected CPN e cel file.

The change described in this PCN does not alter Micrel s or Microchip s current regulatory compliance regarding the material content of the applicable products.

**Attachment(s):**

- [PCN\\_JAON-14FRVC158-S200000010\\_Affected CPN.pdf](#)
- [PCN\\_JAON-14FRVC158-S200000010\\_Qual Report.pdf](#)
- [PCN\\_JAON-14FRVC158-S200000010\\_Affected CPN.xls](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

**Terms and Conditions:**

If you wish to change your product/process change notification (PCN) profile please log on to our website at <http://www.microchip.com/PCN> sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

To opt out of future offer or information emails (other than product change notification emails), click here to go to [microchipDIRECT](#) and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

JAON-14FRVC158-S200000010 - CCB 1737.11 Final Notice: Release to production of listed Micrel Clock and Timing product type manufactured with the S2 process technology to Microchip Fab.

Affected Catalog Part Numbers (CPN)

<b>PCN_JAON-14FRVC158-S200000010</b>	
<b>CATALOG_PART_NBR</b>	<b>Estimated First Ship Date (EFSD)</b>
SY89833LMG	August 30, 2017
SY89833LMG-TR	August 30, 2017
SY89847UMG	August 02, 2017
SY89847UMG-TR	August 30, 2017



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: JAON-14FRVC158-S200000010**

**Date**  
**October 11, 2016**

**Qualification of Microchip 8 inch Fabrication site for Micrel products  
manufactured with the S2 Process Technology.**

PART NUMBER	PACKAGE TYPE	ASSEMBLY LOCATION	FAB LOCATION	PROCESS NAME
SY100EP111UTG 2D801-035	TQFP_32L	AMKOR PHILIPPINES	MICROCHIP FAB-2 TEMPE AZ.	S2

## DIE QUALIFICATION RESULTS

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	168 HR Rej/ss	500 HR Rej/ss	1000 HR Rej/ss	COMMENTS
<b>HTOL</b> High Temperature Operating Life Test	JESD22, Method 108	1624	V216389217.000	0/77	0/77	0/77	
	Ta = + 125°C	1626	V216307756.110	0/77	0/76	0/76	
	Vcc = +3.3V	1626	V216429648.000	0/77	0/77	0/77	

### ELECTROSTATIC DISCHARGE

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	STRESS	RESULT Rej/ss	COMMENTS
<b>ESD-HBM</b> Human Body Model ATE Test @ Room +25C	R= 1500 Ohms C= 100 pF 1X +/- Voltage	1609	V216389217.000	+/-1500V	0/3	Note: ESD ratings are device specific. All Products qualified on the 8" Micrel process technologies will have the same or better ESD and Latch-up performance as the 6" San Jose Products.
<b>ESD-CDM</b> Charged Device Model ATE Test @ Room +25C	JESD22-C101 1X +/- Voltage	1609	V216389217.000	+/-1500V	0/3	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	STRESS	RESULT Rej/ss	COMMENTS
<b>LATCH-UP</b>	JESD-78 TA = +25°C	1609	V216389217.000	I/O LU O/V LU	0/6 0/6	Same as 6 inch

PACKAGE QUALIFICATION RESULTS					
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	Rej/ss	COMMENTS
<b>Level 2 Pre-conditioning Flow</b>  Use samples to perform PPOT/HAST/TCY	<b>JESD22-A113</b>  Use samples to	1624	V216389217.000	0/340	
		1626	V216307756.110	0/310	
		1626	V216429648.000	0/360	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	96 HR Rej/ss	COMMENTS
<b>PRESSURE POT</b>  <b>With Level 2 Pre-conditioning</b> Tpeak + 260°C 3X Reflow	<b>JESD22-A102</b>  Ta = +121°C/100%RH  15 PSIG	1624	V216389217.000	0/77	
		1626	V216307756.110	0/77	
		1626	V216429648.000	0/77	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	96 HR Rej/ss	COMMENTS
<b>HAST</b>  <b>With Level 2 Pre-conditioning</b>  Tpeak + 260°C 3X Reflow	<b>JESD22-A110 (BIASED)</b>  Ta= +130°C/85%RH  Vcc = +1.2V	1624	V216389217.000	0/77	
		1626	V216307756.110	0/77	
		1626	V216429648.000	0/77	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	500 CY Rej/ss	COMMENTS
<b>TEMP CYCLE</b>  <b>With Level 2 Pre-conditioning</b> Tpeak + 260°C 3X Reflow	<b>JESD22-A104</b>  Ta = -65°C / +150°C	1624	V216389217.000	0/77	
		1626	V216307756.110	0/77	
		1626	V216429648.000	0/77	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	1000 HR Rej/ss	COMMENTS
<b>HTSL</b>  <b>High Temperature Storage Life</b>	<b>JESD22-A103</b>  Ta = +150°C	1624	V216389217.000	0/76	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	500 HR Rej/ss	COMMENTS
<b>HTSL</b>  <b>High Temperature Storage Life</b>	<b>JESD22-A103</b>  Ta = +175°C	1624	V216389217.000	0/76	
		1626	V216307756.110	0/45	
		1626	V216429648.000	0/45	
<b>FLAMMABILITY</b>	UL-94V-0  Certified	All mold compounds used by Micrel meet this standard. See the UL website on-line list of material flammability certifications. Micrel requires a Certificate of Compliance from the assembly house and we verify the certifications on the web.			