Microsemi Corporation: 3717

December 1, 2017

Product/Process Change Notification No: 3717

Change Classification: Major; Design; Transition

Subject

VSC8489YJU-11, VSC8489YJU-14, VSC8489YJU-15, VSC8490YJU-11, VSC8490YJU-14, VSC8491YJU-11, VSC8491YJU-14 Design Update

Description of Change

A silicon design change has been implemented for the products listed in this notification. The silicon design has changed from revision C to D. As a result of this transition, the following changes apply:

- The revision C devices will be discontinued with a last order date of June 1, 2018 and a last shipment date of December 1, 2018.
- All devices scheduled for shipment after March 1, 2018 must be booked as non-cancelable non-returnable (NCNR). Acceptance of last-time-buy orders is subject to product availability and done at the discretion of Microsemi Corporation. Every effort will be made to fulfill these orders. Pricing and minimum order quantities (MOQ) for the affected devices may change at Microsemi's discretion.
- The complete transition to the revision D devices will occur once the inventory of revision C devices has been depleted.

The ordering part numbers for revision D are listed in the following table.

Current Revision (C)	New Revision (D)
VSC8489YJU-15	VSC8489YJU-16
VSC8489YJU-11, VSC8489YJU-14	VSC8489YJU-17
VSC8490YJU-11, VSC8490YJU-14	VSC8490YJU-17
VSC8491YJU-11, VSC8491YJU-14	VSC8491YJU-17

Reason for Change

Microsemi has implemented design changes to address design considerations for out-of-sync (OOS) IEEE 1588v2 timestamp operation.

Application Impact

As a result of the change from revision C to D, an extended device revision identification has been added at device 0x1E address 0x01D4 that contains a value of 0x1 where prior revisions contained a value of 0x0. Due to changes to the IEEE 1588 circuitry, the register at device 0x1E address 0x9003 returns the value 0x21 (VERSION_CODE) in the revision D silicon. Customers are encouraged to ensure that this change will have no impact on customer software.

To maintain software backwards compatibility, the device revision number in device 0x1E address 0x0001 bits 3:0 is unchanged from revision C. Microsemi software backwards compatibility testing using revision D devices passed with an application stack compiled with selected PHY API versions from v4.67 and beyond with the VTSS_ARCH_VENICE_C compile flag set. Because recent customer feedback indicated some projects did not include the compiler flag, additional testing without the flag is still ongoing at Microsemi. Similar to revision C, revision D is not supported in PHY API versions prior to v4.67, such as the v4.4x branch. Microsemi highly recommends that customers migrate to the latest API release for optimal device performance.

Additional information regarding IEEE 1588 timestamp operation is included in ENT-AN1242, available on our website under the VSC8489, VSC8490, and VSC8491 product pages (listed on https://www.microsemi.com/products/ethernet-solutions/10g-ethernet-phys).

Method of Identifying Changed Product

Revision D devices are identified by the appropriate device markings listed in the previous table. In addition, software may identify the device revision using registers device 0x1E address 0x01D4 or device 0x1E address 0x9003.

Products Affected by this Change

VSC8489YJU-11, VSC8489YJU-14, VSC8489YJU-15, VSC8490YJU-11, VSC8490YJU-14, VSC8491YJU-11, VSC8491YJU-14

Production Shipment Schedule

Revision D is qualified for production shipments.

Qualification Data

The revision D datasheets, qualification reports, and material composition declarations are available on the Microsemi web site at www.microsemi.com.

Samples Availability

Revision D samples are available now.

Contact Information

If you have further questions related to this topic, contact Microsemi's technical support at ENT.quality@microsemi.com.

Regards,

Microsemi Corporation

Any projected dates in this PCN are based on the most current product information at the time this PCN is being issued, but they may change due to unforeseen circumstances. For the latest schedule and any other information, please contact your local Microsemi Sales Office, the factory contact shown above, or your local distributor.

Microsemi
Power Matters.

Microsemi Corporate Headquarters
One Enterprise, Aliso Viejo,
CA 92656 USA
Within the USA: +1 (800) 713-4113
Outside the USA: +1 (949) 380-6100
Fax: +1 (949) 215-4996
Email: sales.support@microsemi.com
www.microsemi.com

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