



Cypress Semiconductor Corporation, 198 Champion Court, San Jose, CA 95134. Tel: (408) 943-2600

PRODUCT CHANGE NOTIFICATION

PCN: PCN162804

Date: July 21, 2016

Subject: Qualification of Minor Mask Revision for Select Automotive PSoC 1 Products

To: JAMIE PEDERSON
DIGIKEY
digiKey.supplierInfo@digikey.com

Change Type: Minor

Description of Change:

Cypress has qualified a new mask revision for select automotive grade PSoC 1 products. This mask revision will improve Hot Carrier Injection (HCI) performance of certain applications utilizing UART or USB protocols in the Internal Main Oscillator (IMO) of the device. Refer to the Erratum in Appendix A containing details on the problem statement, trigger conditions, and possible containment actions.

Functionality and specifications remain unchanged from the original design. This change will be applicable to select automotive grade PSoC 1 products manufactured at the Cypress Minnesota Incorporated (CMI) fab in Bloomington, MN.

Benefit of Change:

The design changes provide improved immunity to HCI degradation, specifically for the Internal Main Oscillator (IMO) circuit.

Affected Part Numbers: 38

Affected Parts: See attached 'Affected Parts List' file for the parts affected by this notice.

Qualification Status:

New mask revision has been qualified through a series of tests documented in the Qualification Test Plan (QTP) 151103. This qualification report can be found as an attachment to this notification.

Sample Status:

Qualification samples are not built ahead of time for the part numbers affected by this change. Sample requests for products will be built to order and subject to standard lead times. Please contact your Sales Representative as soon as possible, but within 30 days of the date of this PCN, to place any sample orders.

Approximate Implementation Date:

The new mask revision will be implemented upon customer approval.

Anticipated Impact:

This mask revision will improve performance of devices in some applications that use UART or USB protocols within the Internal Main Oscillator (IMO) of the device. Products manufactured with the new mask revision are completely compatible with existing product from a functional, parametric, and quality performance perspective.

Cypress also recommends that customers take this opportunity to review these changes against current application notes, system design considerations and customer environment conditions to assess impact (if any) to their application.

Method of Identification:

Cypress maintains traceability of product to wafer level, including wafer fabrication location, through the lot number marked on the package. The mask revision letter is marked on the top of the package (refer to attachment).

Response Required:

Please provide your approval of this minor mask revision. For additional information regarding this change, contact your local sales representative or contact the PCN Administrator at pcn_adm@cypress.com.

Sincerely,

Cypress PCN Administration

Appendix A

ERRATUM

This section describes the Erratum for the selected automotive grade PSoC 1 families. The information in this section describes hardware issues associated with Silicon Revision A.

Contact your local Cypress sales representative if you have questions.

SELECTED AUTOMOTIVE GRADE PSoC 1 QUALIFICATION STATUS

Product Status: In Production

ERRATUM SUMMARY

This summary defines the Erratum applicability to selected automotive grade PSoC 1 devices.

1. The Internal Main Oscillator (IMO) frequency parameter (FIMO245V) may increase over a period of time during usage in the field and exceed the maximum spec limit of 24.96 MHz.

PROBLEM DEFINITION

When the device has been operating at 4.75 V to 5.25 V for a cumulatively long duration in the field, the IMO Frequency may slowly increase over the duration of usage in the field and eventually exceed the maximum spec limit of 24.96 MHz. This may affect applications that are sensitive to the max value of IMO frequency, such as those using UART communication and result in a functional failure.

The expected failure rate is highly dependent on the application use and conditions. Approximate expected failure rate is 300-3000ppm over 6 months to 5 years of powered on operation.

TRIGGER CONDITION(S)

The above issue may be observed on some devices if the following conditions exist:

1. Application is using the device internal main oscillator instead of an external oscillator.
2. Application is using UART/USB communications
3. The Application Vcc voltage is > 3.6V

WORKAROUNDS

Operating the device with the power supply voltage range of 3.0 V to 3.6 V, would avoid the degradation of IMO Frequency beyond the max spec limit of 24.96 MHz.

FIX STATUS

A new revision of the silicon (Rev C), with a fix for this issue, is now available.

Item	Mktg P/N	Sample Availability
1	CY8C24894-24LFXA	Available to order, subject to lead time
2	CY8C24894-24LFXAT	Available to order, subject to lead time
3	CY8CTMA120-56LFXA	Available to order, subject to lead time
4	CY8CTMA120-56LFXAT	Available to order, subject to lead time
5	CY8CTMA120-56LWXA	Available to order, subject to lead time
6	CY8CTMA120-56LWXAT	Available to order, subject to lead time
7	CY8CTMG120-56LFXA	Available to order, subject to lead time
8	CY8CTMG120-56LFXAT	Available to order, subject to lead time
9	CG7806AA	Available to order, subject to lead time
10	CG7806AAT	Available to order, subject to lead time
11	CG8002AA	Available to order, subject to lead time
12	CG8002AAT	Available to order, subject to lead time
13	CP7487AT	Available to order, subject to lead time
14	CP7487ATT	Available to order, subject to lead time
15	CP7488AT	Available to order, subject to lead time
16	CP7488ATT	Available to order, subject to lead time
17	CP7488CT	Available to order, subject to lead time
18	CP7488CTT	Available to order, subject to lead time
19	CP7598AT	Available to order, subject to lead time
20	CP7598ATT	Available to order, subject to lead time
21	CP7709AT	Available to order, subject to lead time
22	CP7709ATT	Available to order, subject to lead time
23	CP7709BT	Available to order, subject to lead time
24	CP7709BTT	Available to order, subject to lead time
25	CP7709CT	Available to order, subject to lead time
26	CP7709CTT	Available to order, subject to lead time
27	CP7709DT	Available to order, subject to lead time
28	CP7709DTT	Available to order, subject to lead time
29	CP7709HT	Available to order, subject to lead time
30	CP7709HTT	Available to order, subject to lead time
31	CP7709IT	Available to order, subject to lead time
32	CP7709ITT	Available to order, subject to lead time
33	CP7914AT	Available to order, subject to lead time
34	CP7914ATT	Available to order, subject to lead time
35	CP7915AT	Available to order, subject to lead time
36	CP7915ATT	Available to order, subject to lead time
37	CP7915CT	Available to order, subject to lead time
38	CP7915CTT	Available to order, subject to lead time