

### PCN# 20200331001.1 Qualification of MIHO8 as an additional Fab site option for select devices Change Notification / Sample Request

Date: April 01, 2020

Dear TI Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

The customer should acknowledge receipt of this notification by email within **30** days of the date of receipt. Lack of acknowledgement of this notice within 30 days constitutes customer acceptance of the change.

Samples or additional data to support customer evaluation must be requested within 30 days of receipt of this notification. If samples are requested for evaluation the customer must provide evaluation results within the sample evaluation period indicated on page 3 of this notification. The Sample Evaluation Period begins on the date the customer receives samples from TI.

If the customer approved the change TI can proceed with implementation of the change. The proposed first ship date is shown on page 3.

If the customer does not approve the PCN or the approval response is not provided within the Sample Evaluation Period, TI can implement the change, but the customer may elect to place an order for unchanged product by the Last Time Buy Date for delivery by the Last Time Ship Date. TI cannot guarantee that shipments to the customer after any last time order is delivered will not include the changed material. If the customer places an order with delivery after the Last Time Shipment Date, the order may be fulfilled with changed material or any material processed to TI specifications at that future time.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Team (<u>PCN ww admin team@list.ti.com</u>). For sample requests or sample related questions, contact your field sales representative.

Sincerely, PCN Team SC Business Services

## 20200331001.1 Attachment: 1

# **Products Affected:**

The devices listed on this page are a subset of 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.

## DEVICE

BQ24780SRUYR

CUSTOMER PART NUMBER 39070396

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

				200331001.1				PCN Date: Ap				April 1, 2020	
Title:   Qualification of MIHO8 as an additional Fab site option for select devices													
Customer Contact:				PCN Manager				Dept: Qu				uality Services	
Proposed 1 <sup>st</sup> Ship Date:			Jul 1, 2020			Sample Eval Period: 180				30 Days			
Last Time Buy Date:			De	ec 1, 2020		Last Time Ship Date: Ma				ar 1, 2021			
Change Type:													
Assembly Site				Assembly Process								nbly Materials	
Design				Electrical Specification								nical Specification	
Test Site				Packing/Shipping/Labeling								Process	
Wafer Bump Site				Wafer Bump Material								Bump Process	
Wafer Fab Site			Part number change					Wafer Fab Process					
				PCN Details									
Description of Change:													
Texas Instruments is pleased to announce the qualification of its MIHO8 fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.   Current Fab Site													
Current				Wafer							ess	Wafer	
Site		Process			Diameter		Site					Diameter	
	RFAB LBC7			300 mm			MIHO8		LBC7			200 mm	
Qual details are provided in the Qual Data Section.													
Reason for Change:													
Continuity of supply													
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):													
None													
Changes to product identification resulting from this PCN:													
Current:													
Current Chip Site Chip Site			Origin Code (20L)			Chip Site Co	ountry	Со	de	e (21L)	Chip Site City		
RFAB			RFB			USA				Richardson			
New Fab Site:													
			Origin Code (20L)			Chip Site Country Code (21				e (21L)			
MIH08				Μ	H8		JPN					Ibaraki	
Sample product shipping label (not actual product label)													
INSTRUMENTS G4   MADE IN: Malaysia 20:   MSL '2 /260C/1 YEAR SEAL DT 03/29/04   OPT: 03/29/04   OPT: 39   LBL: 5A (L)T0:1750 39   Product Affected: (L) T0:1750													
BQ24780SRUYR													

### **Qualification Report**

#### Approve Date 27-Mar-2020

#### Qualification Results

#### Data Displayed as: Number of lots / Total sample size / Total failed

Test Name / Condition	Duration	Qual Device: <u>BQ24780SRUY</u>	QBS Product Reference: <u>BQ24780SRUY</u>	QBS Process Reference: <u>TPS62110RSA</u>	QBS Package Reference: <u>430F2132IRHBR</u>	QBS Package Reference: <u>TPS51285BRUKR</u>
Life Test, 140C	480 Hours	-	-	3/231/0	-	-
Early Life Failure Rate, 140C	48 Hours	-	-	3/1881/0	-	-
High Temp Storage Bake 170C	420 Hours	-	-	3/231/0		
Autoclave 121C	96 Hours	-	1/77/0	3/231/0	3/231/0	3/231/0
Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0	3/231/0	3/231/0
Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-	-
ESD - CDM	1500 V	1/3/0	-	-	-	-
ESD - HBM	4000 V	1/3/0	-	-	-	-
Latch-up	(per JESD78)	1/6/0	-	3/15/0	-	-
	Life Test, 140C Early Life Failure Rate, 140C High Temp Storage Bake 170C Autoclave 121C Temperature Cycle, -65/150C Biased HAST, 130C/85%RH ESD - CDM ESD - HBM	Life Test, 140C480 HoursEarly Life Failure Rate, 140C48 HoursHigh Temp Storage Bake 170C420 HoursAutoclave 121C96 HoursTemperature Cycle, -65/150C500 CyclesBiased HAST, 130C/85%RH96 HoursESD - CDM1500 VESD - HBM4000 V	Test Name / Condition   Duration   B024780SRUY     Life Test, 140C   480 Hours   -     Early Life Failure Rate, 140C   48 Hours   -     High Temp Storage Bake 170C   420 Hours   -     Autoclave 121C   96 Hours   -     Temperature Cycle, -65/150C   500 Cycles   -     Biased HAST, 130C/85%RH   96 Hours   -     ESD - CDM   1500 V   1/3/0     ESD - HBM   4000 V   1/3/0	Test Name / Condition   Duration   Qual Device: BQ24780SRUY   Reference: BQ24780SRUY     Life Test, 140C   480 Hours   -   -     Early Life Failure Rate, 140C   48 Hours   -   -     High Temp Storage Bake 170C   420 Hours   -   -     Autoclave 121C   96 Hours   -   1/77/0     Temperature Cycle, -65/150C   500 Cycles   -   1/77/0     Biased HAST, 130C/85%RH   96 Hours   -   -     ESD - CDM   1500 V   1/3/0   -     ESD - HBM   4000 V   1/3/0   -	Test Name / Condition   Duration   Qual Device: BQ24780SRUY   Reference: BQ24780SRUY   Reference: TPS62110RSA     Life Test, 140C   480 Hours   -   -   3/231/0     Early Life Failure Rate, 140C   48 Hours   -   -   3/1881/0     High Temp Storage Bake 170C   420 Hours   -   -   3/231/0     Autoclave 121C   96 Hours   -   1/77/0   3/231/0     Temperature Cycle, -65/150C   500 Cycles   -   1/77/0   3/231/0     Biased HAST, 130C/85%RH   96 Hours   -   -   3/231/0     ESD - CDM   1500 V   1/3/0   -   -     ESD - HBM   4000 V   1/3/0   -   -	Test Name / Condition   Duration   Qual Device: BQ24780SRUY   Reference: BQ24780SRUY   Reference: TPS82110RSA   Reference: 430F2132IRHBR     Life Test, 140C   480 Hours   -   -   3/231/0   -     Early Life Failure Rate, 140C   48 Hours   -   -   3/231/0   -     High Temp Storage Bake 170C   420 Hours   -   -   3/231/0   -     Autoclave 121C   96 Hours   -   1/77/0   3/231/0   3/231/0     Temperature Cycle, -65/150C   500 Cycles   -   1/77/0   3/231/0   3/231/0     Biased HAST, 130C/85%RH   96 Hours   -   -   -   3/231/0   -     ESD - CDM   1500 V   1/3/0   -   -   -   -     ESD - HBM   4000 V   1/3/0   -   -   -   -

- QBS: Qual By Similarity

- Qual Device BQ24780SRUY is qualified at LEVEL2-260CG

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7 eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours

- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below, or you can contact your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN ww admin team@list.ti.com

### IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES "AS IS" AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (<u>www.ti.com/legal/termsofsale.html</u>) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision

of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.