

PCN Number:	20201022000.1B	PCN Date:	March 16, 2022
Title:	Qualification of TIPI as an additional Assembly site for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Change Type:			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
		<input type="checkbox"/>	Wafer Bump Site
		<input type="checkbox"/>	Wafer Bump Material
		<input type="checkbox"/>	Wafer Bump Process
		<input type="checkbox"/>	Wafer Fab Site
		<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Wafer Fab Process

PCN Details

Description of Change:

Revision B is to remove select devices in the Product Affected Section (in bold characters with ~~strikethrough~~) and highlighted in yellow. These devices were inadvertently added and not affected by this change.

Texas Instruments Incorporated is announcing the qualification TIPI (TI Philippines Inc.) as Additional Assembly Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.

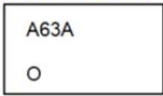
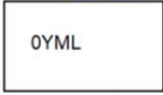

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City
TIEMA	CU6	MYS	Melaka
HANA	HNT	THA	Ayutthaya
TI Philippines	PHI	PHL	Baguio City

Group 1 Device:

Material Differences

	TIEMA	TIPI
Mount compound	8075531	8095733
Mold compound	8097131	4222198
Wire Type	Au	Cu
Lead Finish	Matte Sn	NiPdAu

Marking Differences



TIEMA	TI Philippines
<p>TOPSIDE SYMBOL</p>  <p>O = PIN 1 INDICATOR</p> <p>BACKSIDE SYMBOL</p>  <p>YM = YEAR MONTH DATE CODE L = LAST DIGIT LOT CODE O = ORIENTATION DOT</p>	<p>TOPSIDE SYMBOL</p>  <p>■ = PIN 1 STRIPE (MARKED) **** = BINARY DATECODE</p>

Group 2 Device:

Material Differences:

	HANA	TIPI
Mount compound	400180	4207123
Mold compound	450207	4222198
Wire Type	Au	Cu
Lead Finish	NiPdAu	NiPdAu

Pin 1 Marking Differences:

HANA	TI Philippines
 <p>O = PIN 1 INDICATOR **** = BINARY DATE CODE</p>	 <p>█ = PIN 1 STRIPE **** = BINARY DATE CODE</p>

Reason for Change:

Continuity of supply.

- 1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties
- 2) Maximize flexibility within our Assembly/Test production sites.
- 3) Cu is easier to obtain and stock

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Anticipated impact on Material Declaration

<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI Eco-Info website . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.
--------------------------	---------------------------------------	-------------------------------------	---

Changes to product identification resulting from this PCN:

Assembly Site		
TIEMA	Assembly Site Origin (22L)	ASO: CU6
HANA	Assembly Site Origin (22L)	ASO: HNT
TIPI	Assembly Site Origin (22L)	ASO: PHI

Sample product shipping label (not actual product label)



MADE IN: Malaysia
2DC: 2Q:

MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

OPT:
ITEM: 39
LBL: 5A (L)T0:1750





(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Group 1 Product Affected:		
LM321MF/NOPB	LP2980IM5-3.0/NOPB	LP5907MFX-1.2/NOPB
LM321MFX/NOPB	LP2980IM5-3.3/NOPB	LP5907MFX-1.5/NOPB
LMC7101AIM5/NOPB	LP2980IM5-5.0/NOPB	LP5907MFX-1.8/NOPB
LMC7101AIM5X/NOPB	LP2980IM5X-3.0/NOPB	LP5907MFX-2.5/NOPB
LMC7101BIM5/NOPB	LP2980IM5X-3.3/NOPB	LP5907MFX-2.8/NOPB
LMC7101BIM5X/NOPB	LP2980IM5X-5.0/NOPB	LP5907MFX-2.85/NOPB
LMC7101BIM5X/S7002311	LP2985AIM5-3.3/NOPB	LP5907MFX-2.9/NOPB
LP2980AIM5-3.0/NOPB	LP2985AIM5-5.0/NOPB	LP5907MFX-3.0/NOPB
LP2980AIM5-3.3/NOPB	LP2985AIM5X-3.3/NOPB	LP5907MFX-3.1/NOPB
LP2980AIM5-3.3/S7002302	LP2985AIM5X-5.0/NOPB	LP5907MFX-3.2/NOPB
LP2980AIM5-5.0/NOPB	LP2985IM5-3.3/NOPB	LP5907MFX-3.3/NOPB
LP2980AIM5X-3.0/NOPB	LP2985IM5-5.0/NOPB	LP5907MFX-4.5/NOPB
LP2980AIM5X-3.3/NOPB	LP2985IM5X-3.3/NOPB	
LP2980AIM5X-5.0/NOPB	LP2985IM5X-5.0/NOPB	
Group 2 Product Affected:		
TS5A3157DBVR	TS5A3159DBVR	TS5A3159DBVT
TS5A3157DBVRG4	TS5A3159DBVRG4	TS5A3159DBVTG4

Group 1 Qualification Report

Approve Date 22-Sep-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>LM321MFX/NO</u> <u>PB</u>	Qual Device: <u>LP2985AIM550</u> <u>NO</u>	Qual Device: <u>LP5907MF</u> <u>X-</u> <u>4.5/NOPB</u>	QBS Package Reference: <u>TLV1805QDBVR</u> <u>Q1</u>	QBS Package Reference: <u>TPS2051CDB</u> <u>VR</u>	QBS Package Reference: <u>TPS76933DB</u> <u>VR</u>
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	-	-
ED	Electrical Characterization, side by side	(per datasheet limits)	Pass	Pass	Pass	Pass	-	-
HAS T	Biased HAST, 130C/85%RH	192 Hours (for information)	-	-	-	3/231/0	-	-
HAS T	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	-	-
HTO L	Life Test, 125C	1000 Hours	-	-	-	3/231/0	-	-
HTS L	High Temp Storage Bake 150C	1000 Hours	-	3/231/0	-	-	-	-
HTS L	High Temp Storage Bake 175C	1000 Hours	-	-	-	3/231/0	-	-

Type	Test Name / Condition	Duration	Qual Device: <u>LM321MFX/NO</u> <u>PB</u>	Qual Device: <u>LP2985AIM550</u> <u>NO</u>	Qual Device: <u>LP5907MF</u> <u>X-</u> <u>4.5/NOPB</u>	QBS Package Reference: <u>TLV1805QDBVR</u> <u>Q1</u>	QBS Package Reference: <u>TPS2051CDB</u> <u>VR</u>	QBS Package Reference: <u>TPS76933DB</u> <u>VR</u>
SD	Solderability	Pb Free	-	-	-	1/15/0	3/66/0	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0	3/228/0

- QBS: Qual By Similarity
 - Qual Devices LM321MFX/NOPB, LP5907MF-4.5/NOPB, LP2985AIM550NO are qualified at LEVEL1-260CG
 - 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 0.7eV : 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

Group 2 Qualification Report

Approve Date 20-Oct-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>TS5A3159DBVR</u>	QBS Package Reference: <u>TPS76933DBVR</u>
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/230/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0
SD	Solderability	8 Hours Steam Age	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	3/228/0

- QBS: Qual By Similarity
 - Qual Device TS5A3159DBVR is qualified at LEVEL1-260C
 - 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 0.7eV : 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 your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com

Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@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 (www.ti.com/legal/termsofsale.html) 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.