

PCN Number:	20201022000.1A	PCN Date:	Jan. 15, 2021
Title:	Qualification of TIPI as an additional Assembly site for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Jan 27, 2021	Estimated Sample Availability:	Date Provided at Sample request
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 A is to announce the addition of new devices that were not included on the original PCN notification. These new devices are included under Group 2 in the Product affected section. The expected first shipment date for these new devices will be 90 days from this notice (**April 15, 2021**) for these newly added devices only. The proposed 1st ship date of Jan 27, 2021 still applies for the original set of devices.

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> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <p>A63A</p> <p style="text-align: center;">○</p> </div> <p>○ = PIN 1 INDICATOR</p> <p>BACKSIDE SYMBOL</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <p>0YML</p> </div> <p>YM = YEAR MONTH DATE CODE L = LAST DIGIT LOT CODE 0 = ORIENTATION DOT</p>	<p>TOPSIDE SYMBOL</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 5px auto;"> <p style="text-align: center;">* * * * *</p> <p style="text-align: center;">A63A</p> <p style="text-align: center;">* * * * *</p> </div> <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.
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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: 29

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

OPT:
ITEM: 39
LBL: 5A (L) TO: 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	LP2980AIM5-5.0/NOPB	LP2985AIM5-3.3/NOPB	LP5907MFX-1.8/NOPB
LM321MFX/NOPB	LP2980AIM5X-3.0/NOPB	LP2985AIM5-5.0/NOPB	LP5907MFX-2.5/NOPB
LMC7101AIM5/NOPB	LP2980AIM5X-3.3/NOPB	LP2985AIM5X-3.3/NOPB	LP5907MFX-2.8/NOPB
LMC7101AIM5X/NOPB	LP2980AIM5X-5.0/NOPB	LP2985AIM5X-5.0/NOPB	LP5907MFX-2.85/NOPB
LMC7101BIM5/NOPB	LP2980IM5-3.0/NOPB	LP2985IM5-3.3/NOPB	LP5907MFX-2.9/NOPB
LMC7101BIM5X/NOPB	LP2980IM5-3.3/NOPB	LP2985IM5-5.0/NOPB	LP5907MFX-3.0/NOPB
LMC7101BIM5X/S7002311	LP2980IM5-5.0/NOPB	LP2985IM5X-3.3/NOPB	LP5907MFX-3.1/NOPB
LP2980AIM5-3.0/NOPB	LP2980IM5X-3.0/NOPB	LP2985IM5X-5.0/NOPB	LP5907MFX-3.2/NOPB
LP2980AIM5-3.3/NOPB	LP2980IM5X-3.3/NOPB	LP5907MFX-1.2/NOPB	LP5907MFX-3.3/NOPB
LP2980AIM5-3.3/S7002302	LP2980IM5X-5.0/NOPB	LP5907MFX-1.5/NOPB	LP5907MFX-4.5/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	-	-
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, LP5907MFX-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

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