PCN Number:	20190802000.2	**PCN Date:**	Sept. 18, 2019
Title:	TPS92662 TITL Offload to TIPI		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	March 18, 2020	**Estimated Sample Availability:**	Date provided at sample request

Change Type:

☒	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☐	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☒	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification of TPS92662QPHPxQ1 devices at TI Philippines (TIPI) Assembly/Test site.

Description	Current A/T	Additional A/T
Assembly/Test site	TI Taiwan	TI Philippines

No change to BOM.

Reason for Change:

Maintain continuity of supply for increase in demand.

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

None.

Changes to product identification resulting from this PCN:

The product box label site origin codes will change as described below:

Current

Assembly Site	Assy site code (22L)	Assy country code (23L)
TI Taiwan	TAI	TWN

New

Assembly Site	Assy site code (22L)	Assy country code (23L)
TI Philippines	PHI	PHL

Example sample product shipping label (not actual product label):

Product Affected:

TPS92662QPHPRQ1
TPS92662QPHPTQ1

Automotive New Product Qualification Summary

(As per AEC-Q100 and JEDEC Guidelines)

Approved 30-Jan-2019

Product Attributes

Attributes	Qual Device: TPS92662QPHPQ1 PG2.0	QBS Product Reference: TPS92662QPHPQ1 PG1.0	QBS Product Reference: TPS92662QPHPQ1 PG2.0	QBS Process Reference: S0704038C0PLPR
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Power Management	Power Management	Power Management	Power Management
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB
Die Revision	A	A	B	C1
Assembly Site	TIPI (PHI)	TI TAIWAN	TI TAIWAN	TI TAIWAN
Package Type	QFP	QFP	QFP	QFP
Package Designator	PHP	PHP	PHP	PLP
Ball/Lead Count	48	48	48	128

- QBS: Qual By Similarity
- Qual Device TPS92662QPHPQ1 is qualified at LEVEL3-260C

Qualification Results

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

	Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: TPS92662QPHPQ1 PG2.0	QBS Product Reference: TPS92662QPHPQ1 PG1.0	QBS Product Reference: TPS92662QPHPQ1 PG2.0	QBS Process Reference: S0704038C0PLPR
Test Group A – Accelerated Environment Stress Tests											
	PC	A1	JESD22-113	3	As required	Preconditioning	Per MSL rating	No Fails	No Fails	No Fails	No Fails
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130/85%RH	96 Hours	3/231/0	3/231/0	-	3/231/0
	AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	3/231/0	3/231/0	-	3/231/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150	500 Cycles	3/231/0	3/231/0	1/77/0	3/231/0
	TC-BP	A4	MIL-STD883 Method 2011	1	30	Post Temp. Cycle Bond Pull	Post 500 Cycles	1/30/0	1/30/0	-	
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	1/45/0	1/45/0	1/45/0	N/A

	HTSL	A6	JEDEC JESD22-A103	3	45	High Temp. Storage Bake, 175C	500 Hours	3/231/0	3/231/0	-	3/45/0
Test Group B – Accelerated Lifetime Simulation Tests											
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	-	-	3/231/0
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	300 Hours	1/77/0	-	1/77/0	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	48 Hours	-	-	-	3/2400/0
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A	N/A	N/A
Test Group C – Package Assembly Integrity Tests											
	WBS	C1	AEC Q100-001	3	30	Bond Shear (Cpk>1.67)	Wires	3/90/0	2/60/0	1/30/0	3/90/0
	WBP	C2	MIL-STD883 Method 2011	3	30	Bond Pull (Cpk>1.67)	Wires	3/90/0	2/60/0	1/30/0	3/90/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	PbFree & Pb	1/15/0	-	3/30/0	2/30/0
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	--	3/30/0	2/60/0	1/30/0	3/90/0
	SBS	C5	AEC Q100-010	3	50	Solder Ball Shear (Cpk>1.67)	Post HTSL/Bump	N/A	N/A	-	-
	LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	Leads	-	-	-	1/22/0
Test Group D – Die Fabrication Reliability Tests											
	EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements

	NBTI	D 4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
	SM	D 5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E – Electrical Verification Tests											
	HBM	E 2	AEC Q100-002	1	3	ESD - HBM	3000 V	-	-	1/3/0	-
	CDM	E 3	AEC Q100-011	1	3	ESD - CDM	750 V/* Corner Pins	1/3/0	-	1/3/0	-
	LU	E 4	AEC Q100-004	1	6	Latch-up	(Per AEC Q100-004)	-	-	1/6/0	1/6/0
	ED	E 5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold test	3/90/0	-	3/90/0	3/90/0

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST & TC samples, as applicable.

Junction Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40°C to +150°C
Grade 1 (or Q): -40°C to +125°C
Grade 2 (or T): -40°C to +105°C
Grade 3 (or I): -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold: HTOL, ED
Room/Hot: THB / HAST, TC / PTC, HTSL, ELFR, ESD & LU
Room: AC/uHAST

Green/Pb-free Status:
Qualified Pb-Free(SMT) and Green

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