PCN Number:	20170501000	**PCN Date:**	June 27,2017
Title:	TPS7B7701QPWRQ1 and TPS7B7702QPWPRQ1 2nd Wafer Fab resource & Roughen Leadframe change		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Dec. 27, 2017	**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 for:

1. Add RFAB as secondary Fab resource for:
   - Primary Fab: DMOS5
   - Secondary Fab: RFAB

DMOS5	RFAB
200mm	300mm

2. Change Leadframe:
   - From standard Leadframe 4221240-0001
   - To roughen Leadframe 4221240-0002
     - Implemented for both DMOS5 and RFAB

Reason for Change:

- Mitigate capacity shortage in the DMOS5 wafer site.
- Improve delamination performance

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

None

Changes to product identification resulting from this PCN:

Current

Wafer Site	Wafer site code (20L)	Wafer country code (21L)
DMOS5	DM5	USA

New

Wafer Site	Wafer site code (20L)	Wafer country code (21L)
RFAB	RFB	USA

Example shipping label (not actual product label)

Product Affected:

TPS7B7701QPWPRQ1 TPS7B7702QPWPRQ1

TI Information
Selective Disclosure

Automotive New Product Qualification Summary
(As per AEC-Q100H and JEDEC Guidelines)

TPS7B7702QPWPRQ1 RFAB Qualification
Approved 03/20/2017

Product Attributes

Attributes	Qual Device: TPS7B7702QPWPRQ1	QBS Product Reference: TPS7B7702QPWPRQ1	QBS Product Reference: TPS65320BQPWPRQ1	QBS Process References: DRV8305NEPHPQ1	QBS Package References: TPS92630QPWPRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade1	Grade 0	Grade1
Operating Temp Range	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +150°C	-40°C to +125°C
Product Function	Power Management	Power Management	Power Management	Power Management	Power Management
Wafer Fab Supplier	RFAB	DMOS5	DMOS5	RFAB	DMOS5
Die Revision	A1	A0 and A1	B0	B2	A1
Assembly Site	Taiwan	Taiwan	Taiwan	Taiwan	Taiwan
Package Type	HTSSOP	HTSSOP	HTSSOP	HTQFP	HTSSOP
Package Designator	PWP	PWP	PWP	PHP	PWP
Ball/Lead Count	16	16	14	48	16

- QBS: Qual By Similarity
- Qual Device TPS7B7702QPWPRQ1is 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: TPS7B7702QPWPRQ1	QBS Product Reference: TPS7B7702QPWPRQ1	QBS Product Reference: TPS65320BQPWPRQ1	QBS Process References: DRV8305NEPHPQ1	QBS Package References: TPS92630QPWPRQ1
Test Group A – Accelerated Environment Stress Tests											
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Auto Preconditioning	L3-260C	-	1/all/0	3/all/0	3/all/0	3/all/0
HAST	A2	JEDEC JESD22-	3	77	**Auto Biased	130C /85%	-	1/77/0	3/231/0	3/231/0	3/231/0

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: TPS7B7702QPWPRQ1	QBS Product Reference: TPS7B7702QPWPRQ1	QBS Product Reference: TPS65320BQPWPRQ1	QBS Process References: DRV8305NEPHPQ1	QBS Package References: TPS92630QPWPRQ1
		A110			HAST	RH 96 Hrs					
AC	A3	JEDEC JESD22-A102	3	77	**Auto Autoclave	121C 96 Hrs	-	1/77/0	3/231/0	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	**Auto T/C Grade 1	-65C/ +150C 500 cycles	-	1/77/0	3/231/0	-	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	**Auto T/C Grade 1	-65C/ +175C 500 cycles	-	-	-	3/231/0	-
			1	5	Bond Pull	Post TC	-	1/5/0	-	1/5/0	-
PTC	A5	JEDEC JESD22-A105	1	45	**Auto Power T/C Grade 1	-40C/ 125C, 1000 Cycles	-	1/45/0	N/A	N/A	N/A
HTSL	A6	JEDEC JESD22-A103	1	45	**Auto High Temp. Storage Life Grade 1	150C 1000 Hrs	-	1/45/0	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	**Auto High Temp. Storage Life Grade 1	175C 1000 Hrs	-	-	-	1/45/0	-
Test Group B – Accelerated Lifetime Simulation Tests											
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hrs	1/77/0	1/77/0	3/231/0	-	3/231/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	1000 Hrs	-	-	-	3/231/0	-
ELFR	B	AEC	3	800	Early Life	48	-	-	-	3/2400/0	-

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: TPS7B7702QPWPRQ1	QBS Product Reference: TPS7B7702QPWPRQ1	QBS Product Reference: TPS65320BQPWPRQ1	QBS Process References: DRV8305NEPHPQ1	QBS Package References: TPS92630QPWPRQ1
	2	Q100-008			Failure Rate, 150C	Hrs					
Test Group C – Package Assembly Integrity Tests											
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Cpk> 1.67	1/30/0	1/30/0	-	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Cpk> 1.67	1/30/0	1/30/0	-	-	-
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	>95 % Lead Coverage	-	-	-	-	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk> 1.67	-	-	-	-	3/30/0
SBS	C5	AEC Q100-010	3	50	Solder Ball Shear (Cpk>1.67)	Post HTSL/Bump	N/A	N/A	N/A	N/A	N/A
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	N/A	N/A	N/A	N/A	N/A
Test Group E – Electrical Verification Tests											
HBM	E2	AEC Q100-002	1	3	Auto ESD HBM	2000 V	1/3/0	1/3/0	-	-	-
CDM	E3	AEC Q100-011	1	3	Auto ESD CDM	500 V (all pins) 750 V (corner pins)	1/3/0	1/3/0	-	-	-
LU	E4	AEC Q100-004	1	6	Auto Latch-up	125 C	1/6/0	1/6/0	-	-	-
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk> 1.67 at Room, hot, and	3/90/0	3/90/0	-	-	-

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: TPS7B7702QPWPRQ1	QBS Product Reference: TPS7B7702QPWPRQ1	QBS Product Reference: TPS65320BQPWPRQ1	QBS Process References: DRV8305NEPHPQ1	QBS Package References: TPS92630QPWPRQ1
						cold test					

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

Ambient 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

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