PCN Number:	20170927001-002	**PCN Date:**	Oct. 3, 2017

Title:	Qualify New Assembly Material set for Selected Device(s)

Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Apr 01, 2018	**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 is pleased to announce the qualification of new assembly material set for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows:

Material	Current	Proposed
Mount compound	4042500, 4208458	4211470
Mold compound	4205694	4209640

Reason for Change:

Continuity of supply.

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

None.

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	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:

None.

Product Affected:

ISO7220AQDRQ1	ISO7221CQDRQ1	ISO7240CFQDWRQ1
ISO7221AQDRQ1	ISO721QDRQ1	ISO7231CQDWRQ1
ISO7241CQDWRQ1	ISO7242CQDWRQ1	ISO722QDRQ1

Qualification Plan

BCB site change from Amkor K4 to TIEM as well as BOM change to latest approved ISO BOM

(Qualification Target date: Apr 01, 2018)

Product Attributes

Attributes	Qual Device: ISO7220AQDRQ1	Qual Device: ISO7221AQDRQ1	Qual Device: ISO7241CQDWRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Interface	Interface	Interface
Assembly Site	TAI	TAI	TAI
Package Type	SOIC	SOIC	SOIC
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DFAB	DFAB	DFAB
Wafer Process ID	LBC4	LBC4	LBC4

- QBS: Qual By Similarity
- Qual Devices ISO7241CQDWRQ1, ISO7220AQDRQ1, and ISO7221AQDRQ1 are qualified at LEVEL3-260C
- Device ISO7241CQDWRQ1, ISO7221AQDRQ1, and ISO7220AQDRQ1 contains multiple dies

Qualification Plan
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: ISO7220AQDRQ1	Qual Device: ISO7221AQDRQ1	Qual Device: ISO7241CQDWRQ1
Test Group A – Accelerated Environment Stress Tests									
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	Level 3-260C	-	TBD	TBD
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/77/TBD	3/77/TBD
AC	A3	JEDEC JESD22-A102	3	77	Autoclave	96 Hours	-	3/77/TBD	3/77/TBD
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temp Cycle, -65/150C	500 Cycles	-	3/77/TBD	3/77/TBD
TC-WBP	A4	MIL-STD883 Method 2011	1	50	Post Temp Cycle Bond Pull	Wires	-	1/5/TBD	1/5/TBD
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	N/A
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake	175C(500 Hours)	-	1/45/TBD	1/45/TBD

Type	#	Test Spec	Min Lot Qty	SS/ Lot	Test Name / Condition	Duration	Qual Device: ISO7220AQDRQ1	Qual Device: ISO7221AQDRQ1	Qual Device: ISO7241CQDWRQ1
Test Group B – Accelerated Lifetime Simulation Tests									
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 140C	480 Hours	-	3/77/TBD	3/77/TBD
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	3/800/TBD	-
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A	N/A
Test Group C – Package Assembly Integrity Tests									
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	1/30/TBD	1/30/TBD	1/30/TBD
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	1/30/TBD	1/30/TBD	1/30/TBD
SD	C3	JEDEC JESD22-B102	1	15	Solderability	Pb-Free	-	1/15/TBD	1/15/TBD
SD	C3	JEDEC JESD22-B102	1	15	Solderability	Pb	-	1/30/TBD	1/30/TBD
PD	C4	JEDEC JESD22-B100 and B108	3	10	Auto Physical Dimensions	Cpk>1.67	-	3/10/TBD	3/10/TBD
LI	C6	JEDEC JESD22-B105	1	20	Lead Pull to destruction	Leads	-	1/22/TBD	1/22/TBD
Test Group E – Electrical Verification Tests									
ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	-	3/30/TBD	3/30/TBD

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
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