PCN Number:	20181113001.1	**PCN Date:**	Nov 14, 2018
Title:	Qualification of AMKOR P1 as an additional Assembly & Test site for select devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Feb 14, 2019	**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 AMKOR P1 as an additional Assembly & Test site for select devices. Assembly differences are as follows:

Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City
ASE Korea	ASF	KOR	Kaohsiung
Amkor P1	**AKR**	**PHL**	**Muntinlupa City**

Material differences:

	ASE Korea	Amkor P1
Mount compound	101335950	101371420
Mold Compound	101323397	101376660
Lead frame finish	NiPdAu	NiPdAu (Double side roughened)

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.

Reason for Change:

Continuity of Supply

Anticipated impact on Form, Fit, 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:

Sample Product Shipping Label (not actual product label)

Assembly Site		
ASE Korea	Assembly Site Origin (22L)	ASO: ASF
Amkor P1	Assembly Site Origin (22L)	ASO: AKR

Product Affected:

DRV8332DKD	HPA01202BDKDR	TAS5614ADKDR	TAS5631BDKDR
DRV8332DKDR	TAS5613ADKD	TAS5630BDKD	
DRV8432DKD	TAS5613ADKDR	TAS5630BDKDR	
DRV8432DKDR	TAS5614ADKD	TAS5631BDKD	

Qualification Report

Approval Date 9-Nov-2018

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DRV8432DKDR	QBS Device: TAS5424BTDKDRQ1	QBS Device: TAS5424BTDKEQ1
PC	Preconditioning	Level 4-260C	3/77/0	--	--
TC	Temperature Cycle, -65/150C	500 Cycles	3/77/0	--	--
MQ	Manufacturability (Assembly)	(per mfg. site spec.)	PASS	--	--
MSL	Moisture Sensitivity	Level 4-260C	3/12/0	--	--
YLD	FTY and Bin Summary	-	PASS	--	--
PC	Auto Preconditioning	Level 3-245C	--	3/321/0	3/398/0
HTSL	Auto High Temperature Storage Life, 150C	1000 Hours	--	3/135/0	3/135/0
HAST	Auto Biased HAST, 130C/85%RH	96 Hours	--	3/231/0	3/231/0
AC	Auto Autoclave, 121C, 2 atm	96 Hours	--	3/231/0	3/231/0
TC	Auto Temperature Cycle, -65/150C	500 Cycles	--	3/231/0	3/231/0
PTC	Auto Power Temperature Cycle, -40/105C	500 Cycles	--	1/45/0	1/45/0
WBP	Auto Post TC Bond Pull		--	PASS	PASS
MQ	Manufacturability (Auto Assembly)	(per mfg. site spec.)	--	PASS	PASS
HTOL	Auto High Temperature Operating Life, 125C	1000 Hours	--	--	3/231/0
ELFR	Auto Early Life Failure Rate, 150C	24 Hours	--	--	3/800/0
ED	Electrical Distributions	Cpk>1.67, tri-temp	--	--	3/90/0

SD	Auto Solderability	Pb / Pb-Free	--	--	1/30/0
PD	Auto Physical Dimensions	(per device drawing)	--	--	3/30/0
TPI	Thermal Path Integrity	Level 3-245C	--	--	3/36/0

- QBS: Qual by Similarity
- Qual Device DRV8432DKDR is qualified at LEVEL4-260C.
- QBS Device TAS5424BTDKDRQ1 is qualified at LEVEL3-245C.
- QBS Device TAS5424BTDKEQ1 is qualified at LEVEL3-245C.
- 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/1000 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/1000 Hours, and 170C/420 Hours.
- The following are equivalent Temperature 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.

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USA	PCNAmericasContact@list.ti.com
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