PCN Number:	20170627002	PCN Date:	June 29, 2017
Title:	Qualification of NFME as additional Assembly and Test Site for Select Devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Sept 29, 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 is pleased to announce the Qualification of NFME as additional Assembly and Test 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
HANA	HNT	THA	Ayutthaya
NFME	**NFM**	**CHN**	**Chongchuan**

Material Differences:

	HANA	NFME
Mount compound	400180	A-03
Mold compound	450179	R-27

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:

Assembly Site		
HANA	Assembly Site Origin (22L)	ASO: HNT
NFME	Assembly Site Origin (22L)	ASO: NFM

Sample product shipping label (not actual product label)

ASSEMBLY SITE CODES: HANA = H, NFME = E

Product Affected: Group 1

DRV5011ADDBZR	DRV5023BIQDBZR	DRV5032ZEDBZR	DRV5053PAQDBZT
DRV5011ADDBZT	DRV5023BIQDBZT	DRV5032ZEDBZT	DRV5053RAQDBZR
DRV5012ADDBZR	DRV5023FAQDBZR	DRV5033AJQDBZR	DRV5053RAQDBZT
DRV5013ADEDBZR	DRV5032AJDBZR	DRV5033AJQDBZT	DRV5053VAQDBZR
DRV5013ADQDBZR	DRV5032AJDBZT	DRV5033FAQDBZR	DRV5053VAQDBZT
DRV5013AGQDBZR	DRV5032AKDBZR	DRV5053CAQDBZR	DRV5055BDBZR
DRV5013AGQDBZT	DRV5032FADBZR	DRV5053CAQDBZT	PDRV5011ADDBZR
DRV5013BCQDBZR	DRV5032FADBZT	DRV5053EAQDBZR	PDRV5032AJDBZR
DRV5013BCQDBZT	DRV5032FBDBZR	DRV5053EAQDBZT	PDRV5032FBDBZR
DRV5013FAQDBZR	DRV5032FBDBZT	DRV5053OAQDBZR	PDRV5032FCDBZR
DRV5023AJQDBZR	DRV5032FCDBZR	DRV5053OAQDBZT	PDRV5032ZEDBZR
DRV5023AJQDBZT	DRV5032FCDBZT	DRV5053PAQDBZR	PDRV5055BDBZR

Qualification Report

Qualify Second Source Assembly Site for 3DBZ Package for MDBU Hall Sensors

Approve Date 21-Jun-2017

Product Attributes

Attributes	Qual Device: DRV5013ADQDBZR	QBS Product Reference: DRV5013ADQDBZ	QBS Process Reference: SN84002PAP	QBS Package Reference: LM4040C50IDBZR	QBS Package Reference: LM4040D30IDBZR	QBS Package Reference: TLV431AIDBZR
Assembly Site	NFM-NANTONG FUJITSU	HANA THAILAND	TITL	NFME	NFME	NFME
Package Family	SOT23 (DBZ); 1.3 X 2.92 MM	SOT	HTQFP	SOT	SOT	SOT
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	DMS5	DM5	SFAB	SFAB	SFAB
Wafer Process	LBC8	LBC8	LBC8	JI2	JI2	OI

- QBS: Qual By Similarity
- Qual Device DRV5013ADQDBZR is qualified at LEVEL1-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DRV5013ADQDBZR	QBS Product Reference: DRV5013ADQDBZ	QBS Process Reference: SN84002PAP
AC	Autoclave 121C	96 Hours	3/231/0	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	3/2400/0
FLAM	Flammability (IEC 695-2-2)	--	-	-	-
FLAM	Flammability (UL 94V-0)	--	-	-	-
FLAM	Flammability (UL-1694)	--	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0
HBM	ESD - HBM	1500 V	-	1/3/0	-
CDM	ESD - CDM	1500 V	-	1/3/0	-
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-	-
LI	Lead Fatigue	Leads	-	-	-
LI	Lead Pull to Destruction	Leads	-	-	-
LU	Latch-up	(per JESD78)	-	1/18/0	1/6/0
PD	Physical Dimensions	--	3/30/0	-	-
SD	Solderability	Pb-Free	3/66/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	1/77/0	3/231/0
WBP	Bond Strength	Wires	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: LM4040C50IDBZR	QBS Package Reference: LM4040D30IDBZR	QBS Package Reference: TLV431AIDBZR
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	1/77/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	1/30/0	1/30/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-
FLAM	Flammability (IEC 695-2-2)	--	1/5/0	1/5/0	1/5/0
FLAM	Flammability (UL 94V-0)	--	1/5/0	1/5/0	1/5/0
FLAM	Flammability (UL-1694)	--	1/5/0	1/5/0	1/5/0

HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	1/77/0
HBM	ESD - HBM	1500 V	-	-	-
CDM	ESD - CDM	1500 V	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	1/77/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	1/77/0	1/77/0	1/77/0
LI	Lead Fatigue	Leads	1/22/0	1/22/0	1/22/0
LI	Lead Pull to Destruction	Leads	1/22/0	1/22/0	1/22/0
LU	Latch-up	(per JESD78)	-	-	-
PD	Physical Dimensions	--	1/5/0	1/5/0	1/5/0
SD	Solderability	Pb-Free	1/22/0	1/22/0	1/22/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	1/77/0
WBP	Bond Strength	Wires	1/76/0	1/76/0	1/76/0
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	1/76/0

- 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

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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