

PCN Number:	20220131001.1		PCN Date:	February 18, 2022	
Title:	Qualification of new Fab site (AIZU) and TI Malaysia as an additional Assembly site for select devices				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	May 18, 2022		Estimated Sample Availability:	Date provided at sample request	
Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Site
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of new Fab site (AIZU) and TI Malaysia as an additional Assembly site for select devices as listed below in the product affected section.					
Current Fab Site			Additional Fab Site		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter
DP1DM5	HPA07	200mm	AIZU	HPA07	200mm
Assembly Site material differences:					
	TI Taiwan	TI Malaysia			
Leadframe finish	NiPdAu	NiPdAu (Roughened top side)			
Qual details are provided in the Qual Data Section.					
Reason for Change:					
Continuity of Supply					
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):					
None					
Impact on Environmental Ratings					
Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.					
RoHS	REACH	Green Status	IEC 62474		
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change		
Changes to product identification resulting from this PCN:					

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DP1DM5	DM5	USA	Dallas
AIZU	CU2	JPN	Aizuwakamatsu-shi

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Taiwan	TAI	TWN	Chung Ho
TI Malaysia	MLA	MYS	Kuala Lumpur

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 20:
 MSL 2 /260C/1 YEAR SEAL DT
 MSL 1 /235C/UNLIM 03/29/04
 OPT: 39
 ITEM: LBL: 5A (L)TO:1750
 (1P) SN74LS07NSR
 (Q) 2000 (D) 0336
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483SI2
 (P)
 (2P) REV: (V) 0033317
 (20L) CSO: SHE (21L) CCO: USA
 (22L) ASO: MLA (23L) ACO: MYS

Group 1 Product Affected: Fab site only

AMC1305F25DW	AMC1305F25DWR	AMC1305M25DW	AMC1305M25DWR
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Group 2 Product Affected: Fab site and Assembly site

AMC1305L25DW	AMC1305L25DWR	AMC1305M05DW	AMC1305M05DWR
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Qualification Data

Approve Date 22-Dec-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>AMC1305M05DWR</u>	QBS Product Reference: <u>AMC1305M05QDWRQ1</u>	QBS Process Reference: <u>AMC1305M25QDWRQ1</u>
-	Auto Wire Bond Shear - Die 1 and 2	Minimum of 5 devices, 30 wires Cpk>1.67	-	-	3/90/0
-	Auto Wire Bond Shear.	Minimum of 5 devices, 30 wires Cpk >1.67	-	1/30/0	-
-	Automotive L3 Powerpad Moisture Sensitivity	Level 3-260C	-	-	-
-	Bond Pull - Die 1 and 2	Minimum of 5 devices, 30 wires Cpk>1.67	-	-	3/90/0
AC	Autoclave 121C	96 Hours	-	-	3/231/0
CDM	ESD - CDM - Q100	1500 V	-	-	1/3/0

Type	Test Name / Condition	Duration	Qual Device: <u>AMC1305M05DWR</u>	QBS Product Reference: <u>AMC1305M05QDWRQ1</u>	QBS Process Reference: <u>AMC1305M25QDWRQ1</u>
ED	Auto Electrical Distributions	Cpk>1.67	-	-	3/90/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	12/2505/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HBM	ESD - HBM - Q100	4000 V	-	-	1/3/0
HTOL	Life Test, 125C	1000 Hours	-	-	-
HTOL	Life Test, 150C	408 Hours	-	-	3/231/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	1/45/0
LI	Lead Pull	To Destruction	-	-	1/24/0
LU	Latch-up	(Per AEC-Q100-004)	-	-	1/6/0
PC	Automotive Preconditioning Level 2	Level 2-260C	-	-	-
PC	Automotive Preconditioning Level 3	Level 3-260C	-	-	3/960/0
PD	Auto Physical Dimensions	Cpk>1.67	-	-	-
SD	Surface Mount Solderability	Pb	-	-	-
SD	Surface Mount Solderability	Pb Free	-	-	1/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0
TC-BP	Post TC Bond Pull	Wires	-	-	1/30/0
WBP	Auto Wire Bond Pull	Cpk>1.67	-	1/30/0	-
WBS	Auto Wire Bond Shear	Cpk>1.67	-	-	-
YLD	FTY and Bin Summary	-	1/Pass	-	-

Type	Test Name / Condition	Duration	QBS Process Reference: <u>INA210BQDCKRQ1</u>	QBS Process Reference: <u>INA215AQDCKRQ1</u>	QBS Package Reference: <u>AMC1305M25QDWRQ1</u>
-	Auto Wire Bond Shear - Die 1 and 2	Minimum of 5 devices, 30 wires Cpk>1.67	-	-	-
-	Auto Wire Bond Shear.	Minimum of 5 devices, 30 wires Cpk >1.67	-	-	3/90/0
-	Automotive L3 Powerpad Moisture Sensitivity	Level 3-260C	-	-	3/36/0
-	Bond Pull - Die 1 and 2	Minimum of 5 devices, 30 wires Cpk>1.67	-	-	-

Type	Test Name / Condition	Duration	QBS Process Reference: <u>INA210BQDCKRQ1</u>	QBS Process Reference: <u>INA215AQDCKRQ1</u>	QBS Package Reference: <u>AMC1305M25QDWRQ1</u>
AC	Autoclave 121C	96 Hours	-	3/231/0	3/231/0
CDM	ESD - CDM - Q100	1500 V	1/3/0	-	1/3/0
ED	Auto Electrical Distributions	Cpk>1.67	9/270/0	-	1/30/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
HBM	ESD - HBM - Q100	4000 V	1/3/0	-	1/3/0
HTOL	Life Test, 125C	1000 Hours	-	3/231/0	-
HTOL	Life Test, 150C	408 Hours	-	-	1/77/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	1/45/0	3/231/0
LI	Lead Pull	To Destruction	-	-	1/24/0
LU	Latch-up	(Per AEC-Q100-004)	1/6/0	-	1/6/0
PC	Automotive Preconditioning Level 2	Level 2-260C	-	3/948/0	-
PC	Automotive Preconditioning Level 3	Level 3-260C	-	-	3/1344/0
PD	Auto Physical Dimensions	Cpk>1.67	-	-	3/30/0
SD	Surface Mount Solderability	Pb	-	-	1/15/0
SD	Surface Mount Solderability	Pb Free	-	-	1/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0
TC-BP	Post TC Bond Pull	Wires	-	1/30/0	1/30/0
WBP	Auto Wire Bond Pull	Cpk>1.67	-	1/30/0	3/90/0
WBS	Auto Wire Bond Shear	Cpk>1.67	-	1/30/0	-
YLD	FTY and Bin Summary	-	-	-	-

- QBS: Qual By Similarity

- Qual Device AMC1305M05DWR is qualified at LEVEL3-260C

- Device AMC1305M05DWR contains multiple dies.

- 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

Qualification Data

Approve Date 24-Aug-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: <u>AMC1305L25DWR</u>	QBS Product Reference: <u>AMC1305L25QDWRQ1</u>	QBS Process Reference: <u>AMC1305M25QDWRQ1</u>
PC	Preconditioning Level 2	Level 2-260C	-	-	-
PC	Preconditioning Level 3	Level 3-260C	-	1/80/0	3/960/0
CHAR	Electrical Characterization	(per datasheet parameters)	-	1/30/0	3/90/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
AC	Autoclave 121C	96 Hours	-	-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	3/231/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	1/45/0
HTOL	Life Test, 125C	1000 Hours	-	-	-
HTOL	Life Test, 150C	408 Hours	-	-	3/231/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	3/2400/0
HBM	ESD - HBM	4000 V	-	1/3/0	1/3/0
CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0
LU	Latch-up	Per JESD78	-	1/6/0	1/6/0
WBP	Bond Pull	Minimum of 5 devices, 30 wires Cpk >1.67	-	1/30/0	3/90/0
WBS	Bond Shear	Minimum of 5 devices, 30 wires Cpk >1.67	-	1/30/0	3/90/0

Type	Test Name / Condition	Duration	QBS Process Reference: <u>INA215AQDCKRQ1</u>	QBS Package Reference: <u>AMC1305M25QDWRQ1</u>
PC	Preconditioning Level 2	Level 2-260C	3/948/0	-
PC	Preconditioning Level 3	Level 3-260C	-	4/1344/0
CHAR	Electrical Characterization	(per datasheet parameters)	-	1/30/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
HTSL	High Temp Storage Bake 175C	500 Hours	1/45/0	3/231/0

Type	Test Name / Condition	Duration	QBS Process Reference: <u>INA215AQDCKRQ1</u>	QBS Package Reference: <u>AMC1305M25QDWRQ1</u>
HTOL	Life Test, 125C	1000 Hours	3/231/0	-
HTOL	Life Test, 150C	408 Hours	-	1/77/0
ELFR	Early Life Failure Rate, 125C	48 Hours	3/2400/0	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-
HBM	ESD - HBM	4000 V	-	1/3/0
CDM	ESD - CDM	1500 V	-	1/3/0
LU	Latch-up	Per JESD78	-	1/6/0
WBP	Bond Pull	Minimum of 5 devices, 30 wires Cpk >1.67	1/30/0	3/90/0
WBS	Bond Shear	Minimum of 5 devices, 30 wires Cpk >1.67	1/30/0	3/90/0

- QBS: Qual By Similarity
 - Qual Device AMC1305L25DWR is qualified at LEVEL3-260C
 - Device AMC1305L25DWR contains multiple dies.
 - 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

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