PCN Number:	20240723009.1	**PCN Date:**	July 24, 2024
Title:	Qualification of RFAB as an additional Wafer Fab site option for select HPA07 devices		
Customer Contact:	Change Management Team	**Dept:**	Quality Services
Proposed 1st Ship Date:	October 22, 2024	**Sample requests accepted until:**	August 23, 2024*

***Sample requests received after August 23, 2024 will not be supported.**

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Material
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Process
☐	Assembly Materials	☐	Part number change	☒	Wafer Fab Site
☐	Mechanical Specification	☐	Test Site	☒	Wafer Fab Material
☒	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the addition of RFAB as an additional Wafer Fab site option for the products listed in the "Product Affected" section of this document.

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**New Fab Site**	**Process**	**Wafer Diameter**
AIZU	HPA07	200 mm	RFAB	HPA07	300 mm

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

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
AIZU	CU2	JPN	Aizuwakamatsu-shi
RFAB	**RFB**	**USA**	**Richardson**

Sample product shipping label (not actual product label):

Product Affected:

OPA376AID	OPA376AIDCKR	OPA376AIDRG4	OPA377AIDCKT
OPA376AIDBVR	OPA376AIDCKRG4	OPA377AID	OPA377AIDR
OPA376AIDBVRG4	OPA376AIDCKT	OPA377AIDBVR	TLV376IDBVR
OPA376AIDBVT	OPA376AIDCKTG4	OPA377AIDBVT	TLV376IDBVT

OPA376AIDBVTG4	OPA376AIDR	OPA377AIDCKR	TLV376IDR

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA2376AIDGKR	Qual Device: OPA2376AIDR	Qual Device: OPA2377AID	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: AMC7836IPAP	QBS Process Reference: DRV401AIRGWR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0	-	-
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	-	-	-	3/231/0	3/231/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	3/231/0	3/231/0	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	1/77/0	2/154/0	-	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	1/77/0	2/154/0
ELFR	B2	ELFR	125C	48 Hours	-	-	-	1/1000/0	2/2000/0	-	-
ESD	E2	ESD CDM	-	1000 Volts	1/3/0	-	1/3/0	-	-	1/3/0	2/6/0
ESD	E2	ESD CDM	-	200 Volts	-	-	-	-	3/9/0	-	-
ESD	E2	ESD CDM	-	250 Volts	-	-	-	2/6/0	-	-	-
ESD	E2	ESD HBM	-	1000 Volts	-	-	1/3/0	2/6/0	3/9/0	-	2/6/0

Type	#	Test Name	Condition	Duration	Qual Device: OPA2376AIDGKR	Qual Device: OPA2376AIDR	Qual Device: OPA2377AID	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: AMC7836IPAP	QBS Process Reference: DRV401AIRGWR
ESD	E2	ESD HBM	-	2500 Volts	-	-	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	4000 Volts	-	-	1/3/0	-	-	-	-
LU	E4	LU	Per JESD78	-	-	-	-	2/6/0	3/9/0	-	-
LU	E4	Latch-Up	Per JESD78	-	-	-	1/3/0	-	-	1/3/0	2/6/0[2,3]
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	-	1/30/0	1/30/0	1/30/0	1/30/0
FTY	E6	Final Test Yield	-	-	1/Pass	1/Pass	1/Pass	-	-	-	-

- QBS: Qual By Similarity
- Qual Device OPA2376AIDGKR is qualified at MSL2 260C
- Qual Device OPA2376AIDR is qualified at MSL2 260C
- Qual Device OPA2377AID is qualified at MSL2 260C

- 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/

TI Qualification ID: R-CHG-2305-068

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA376AIDR	Qual Device: OPA376AIDBVR	Qual Device: OPA376AIDCKR	Qual Device: OPA376AIDCKR	QBS Product Reference: OPA2377AID	QBS Product Reference: OPA2376AIDGKR	QBS Product Reference: OPA2376AIDR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: AMC7836IPAP	QBS Process Reference: INA231AIYFDR	QBS Process Reference: INA231BIYFDR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	-	-	-	3/231/0	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	-	-	-	3/231/0	3/231/0	-	-	-
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	-	-	-	-	-	-	-	3/231/0	3/231/0	-	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	-	-	-	3/231/0	3/231/0	-	1/77/0	2/154/0
HTOL	B1	CL (FF)	125C	1000 Hours	-	-	-	-	-	-	-	-	1/45/0	-	-	-
HTOL	B1	CL (FS)	125C	1000 Hours	-	-	-	-	-	-	-	-	1/32/0	-	-	-
HTOL	B1	CL (SF)	125C	1000 Hours	-	-	-	-	-	-	-	-	1/32/0	-	-	-
HTOL	B1	CL (SS)	125C	1000 Hours	-	-	-	-	-	-	-	-	1/45/0	-	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	-	-	1/77/0	2/154/0	-	-	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	-	-	-	-	1/77/0	1/77/0	2/154/0
ELFR	B2	ELFR	125C	48 Hours	-	-	-	-	-	-	-	1/1000/0	2/2000/0	-	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	-	-	-	-	-	1/1000/0	2/2000/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	-	-	-	-	-	-	3/66/0	3/66/0	-	-	-
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	-	-	-	-	3/60/0	3/60/0	-	1/20/0	2/40/0
ESD	E2	ESD CDM	-	1000 Volts	-	-	-	-	1/3/0	1/3/0	-	-	-	1/3/0	-	-
ESD	E2	ESD CDM	-	200 Volts	-	-	-	-	-	-	-	-	3/9/0	-	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	1/3/0	1/3/0	-	-	-	-	-	-	-	-	2/6/0
ESD	E2	ESD CDM	-	350 Volts	-	-	-	-	-	-	-	-	-	-	1/3/0	-

Type	#	Test Name	Condition	Duration	Qual Device: OPA376AIDR	Qual Device: OPA376AIDBVR	Qual Device: OPA376AIDCKR	Qual Device: OPA376AIDCKR	QBS Product Reference: OPA2377AID	QBS Product Reference: OPA2376AIDGKR	QBS Product Reference: OPA2376AIDR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: CD3232A1YFFR	QBS Process Reference: AMC7836IPAP	QBS Process Reference: INA231AIYFDR	QBS Process Reference: INA231BIYFDR
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-	-	-	-	3/9/0	3/9/0	-	-	2/6/0
ESD	E2	ESD HBM	-	2500 Volts	-	-	-	-	-	-	-	-	-	1/3/0	-	-
ESD	E2	ESD HBM	-	1500 Volts	-	-	-	-	-	-	-	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	4000 Volts	-	-	-	-	1/3/0	-	-	-	-	-	-	-
LU	E4	LU	Per JESD78	-	-	-	-	-	-	-	-	3/9/0	3/9/0	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-	1/3/0	-	-	-	-	1/3/0	1/6/0	2/12/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	-	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	2/60/0
FTY	E6	Final Test Yield	-	-	1/Pass	1/Pass	1/Pass	1/Pass	1/Pass	1/Pass	1/Pass	-	-	-	-	-

- QBS: Qual By Similarity
- Qual Device OPA376AIDR is qualified at MSL2 260C
- Qual Device OPA376AIDBVR is qualified at MSL2 260C
- Qual Device OPA376AIDCKR is qualified at MSL2 260C
- Qual Device OPA376AIDCKR is qualified at MSL2 260C

- 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
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- 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/

TI Qualification ID: R-CHG-2305-075

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