12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20211220001.1
Qualification of RFAB as an additional Fab site option for select ABCD6 devices
Change Notification / Sample Request

Date: December 23, 2021
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

PCN Team
SC Business Services

20211220001.1
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
INA240A1PWR	null
INA240A2PW	null
INA240A2PWR	null
INA240A1PW	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20211220001.1	**PCN Date:**	December 23, 2021
Title:	Qualification of RFAB as an additional Fab site option for select ABCD6 devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Mar 22, 2022	**Estimated Sample Availability:**	Date provided at sample request.

Change Type:

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

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of its RFAB fabrication facility as an additional Wafer Fab source for the selected devices listed in the "Product Affected" section.

Current Fab Site				Additional Fab Site			
Current Fab Site	**Process**	**Passivation**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Passivation**	**Wafer Diameter**
MAINEFAB	ABCD6	SiN	200 mm	RFAB	ABCD6	SiON	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:

Current:

Current Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
MAINEFAB	CUA	USA	South Portland

New Fab Site:

New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
RFAB	**RFB**	**USA**	**Richardson**

Sample product shipping label (not actual product label)

Product Affected:

INA240A1PW	INA240A2PW	INA240A3PW	INA240A4PW
INA240A1PWR	INA240A2PWR	INA240A3PWR	INA240A4PWR

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

Approved 02-Dec-2021

Qualification Results
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: INA240A1QPWRQ1	Qual Device: INA240A2QPWRQ1	Qual Device: INA240A3QPWRQ1	Qual Device: INA240A4QPWRQ1	QBS Product Reference: INA240A1QPWRQ1	QBS Process Reference : INA240A1EDQ1	QBS Process Reference : INA240A2EDQ1	QBS Process Reference : INA240A3EDQ1
Test Group A – Accelerated Environment Stress Tests															
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	1/77/0	-	-	-	3/231/0	1/77/0	1/77/0	1/77/0
	UHAST	A3	JEDEC JESD22-a118	3	77	Unbiased HAST 130C/85%RH	96 Hours	1/79/0	-	-	-	3/231/0	1/77/0	1/77/0	1/77/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	1000 Cycles	1/77/0	-	-	-	-	1/77/0	1/77/0	1/77/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	1820 Cycles	-	-	-	-	-	1/77/0	1/77/0	1/77/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	2000 Cycles	-	-	-	-	-	1/77/0	1/73/0	1/73/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	-	-	3/242/1*	-	-	-
	TC-WBP	A4	MIL-STD883 Method 2011	1	60	Auto Post TC Bond Pull	30 ball bonds, min. 5 units	1/5/0	-	-	1/5/0	1/5/0	1/5/0	-	-
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	N/A	N/A	-	-	-	-
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	1/45/0	-	-	-	-	-	-	-
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	1000 Hours	-	-	-	-	-	1/45/0	-	-
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	-	-	-	1/45/0	-	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: INA240A1QPWRQ1	Qual Device: INA240A2QPWRQ1	Qual Device: INA240A3QPWRQ1	Qual Device: INA240A4QPWRQ1	QBS Product Reference: INA240A1QPWRQ1	QBS Process Reference : INA240A1EDQ1	QBS Process Reference : INA240A2EDQ1	QBS Process Reference : INA240A3EDQ1
Test Group B – Accelerated Lifetime Simulation Tests														
HTOL	B1	JEDEC JESD22-A108	3	77	HTOL 150C	1000 Hours	-	-	-	-	-	1/77/0	1/77/0	1/77/0
HTOL	B1	JEDEC JESD22-A108	3	77	L/T 150C	408 Hours	1/77/0	-	-	-	2/222/0	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	L/T 150C	500 Hours	-	-	-	-	1/77/0	-	-	-
ELFR	B2	ACE Q100-008	3	800	Early Life Failure Rate 150C	48 Hours	-	-	-	-	-	1/800/0	1/800/0	1/800/0
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	N/A	N/A	N/A	3/231/0 (oplife) 1/45/0 (data Retention)	-	-	
Test Group C – Package Assembly Integrity Tests														
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	-	1/30/0	-	-	-	1/30/0	-	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	-	1/30/0	-	-	-	1/30/0	-	-	-
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb and Pb free	-	-	-	-	1/15/0 1/15/0	-	-	-

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: INA240A1QPWRQ1	Qual Device: INA240A2QPWRQ1	Qual Device: INA240A3QPWRQ1	Qual Device: INA240A4QPWRQ1	QBS Product Reference: INA240A1QPWRQ1	QBS Process Reference : INA240A1EDQ1	QBS Process Reference : INA240A2EDQ1	QBS Process Reference : INA240A3EDQ1
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	-	-	-	-	3/30/0	-	-	-
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	-	-	-	-	-	-	-	-
Test Group D – Die Fabrication Reliability Tests														
EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-	-	-	-
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-	-	-	--
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-	-	-	
NBTI	D4	-	-	-	Negative Bias Temperature Instability	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-	-	-	-
SM	D5	-	-	-	Stress Migration	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	-	-	-	-

Test Group E – Electrical Verification Tests															
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	2500 V	1/3/0	-	-	-	-	1/3/0	1/3/0	1/3/0
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	3000 V	-	-	-	-	1/3/0	-	-	-
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	4000 V	-	-	-	-	-	-	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1000 V	1/3/0	-	-	-	1/3/0	-	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1500 V	-	-	-	-	-	1/3/0	1/3/0	1/3/0
	LU	E4	AEC Q100-004	1	6	Latch-up	LU	1/6/0	-	-	-	1/6/0	1/6/0	1/6/0	1/6/0
	ED	E5	AEC Q100-009	3	30	Auto Electrical Distributions	Cpk>1.67 Room, hot, and cold test	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device INA240A3QPWRQ1 is qualified at LEVEL2-260C
- Qual Device INA240A4QPWRQ1 is qualified at LEVEL2-260C
- Qual Device INA240A2QPWRQ1 is qualified at LEVEL2-260C
- Qual Device INA240A1QPWRQ1 is qualified at LEVEL2-260C

A1 (PC): Preconditioning:
Performed for THB, Biased HAST, AC, uHAST, TC & PTC 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

*Mechanical Failure

For questions regarding this notice, e-mails can be sent to the regional contacts shown below, or you can contact your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN_ww_admin_team@list.ti.com

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