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)

MADE IN: Malaysia
2DC: 2Q:
MSL 2 /260C/1 YEAR SEAL DT
MSL 1 /235C/UNLIM 03/29/04
OPT:
ITEM: 39
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

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	-	-	-
	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

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