

<b>PCN Number:</b>	20200109002.2		<b>PCN Date:</b>	Jan 20, 2020	
<b>Title:</b>	Qualification of AIZU as an additional Fab Site option for select CMOS9T devices				
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>		<b>Dept:</b>	Quality Services	
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Jul 20, 2020	<b>Estimated Sample Availability:</b>	Date provided at sample request.		
<b>Change Type:</b>					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		

### PCN Details

#### Description of Change:

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

Current Sites			Additional Sites		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
MAINEFAB	CMOS9T	200mm	AIZU	CMOS9T	200mm

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

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

##### New Fab Site

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

Sample product shipping label (not actual product label)



MADE IN: Malaysia  
2DC: 20:

MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

OPT:  
ITEM: 39  
**LBL: 5A (L)T0:1750**





(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483S12  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CCO:USA  
(22L) AS0: MLA (23L) ACO: MYS

#### Product Affected Group:

LP8860AQVFPRQ1	LP8860DQVFPRQ1	LP8860GQVFPRQ1	LP8860LQVFPRQ1
LP8860BQVFPRQ1	LP8860EQVFPRQ1	LP8860HQVFPRQ1	LP8860NQVFPRQ1
LP8860CQVFPRQ1	LP8860FQVFPRQ1	LP8860JQVFPRQ1	LP8860RQVFPRQ1

## Automotive New Product Qualification Summary

(As per AEC-Q100 and JEDEC Guidelines)

### CMOS9T LP8860 Dual source-Maine to Aizu

Approve Date 20-December-2019

#### 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: LP8860AQVFPRQ1	QBS Process Reference LDC1612QDNTQ1	QBS Package Reference PLP8860QVFPRQ1
<b>Test Group A – Accelerated Environment Stress Tests</b>									
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	30	Post Temp. Cycle Bond Pull	Wires	-	1/30/0	1/30/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	N/A	NA
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp. Storage Bake, 150C	1000 Hours	-	1/77/0	1/45/0
<b>Test Group B – Accelerated Lifetime Simulation Tests</b>									
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	1/77/0	3/231/0	3/231/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	24 Hours	-	3/2400/0	-
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	--	N/A	N/A	-
<b>Test Group C – Package Assembly Integrity Tests</b>									
WBS	C1	AEC Q100-001	1	30	Bond Shear (Cpk>1.33, Ppk>1.67)	Wires	1/30/0	--	-
WBS	C1	AEC Q100-001	1	30	Bond Shear (Cpk>1.67)	Wires	1/30/0	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	1/30/0	-	-
SD	C3	JEDEC JESD22-B102	1	15	Solderability (>95% Lead Coverage)	Pb & Pb-Free	-	Pass	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	--	-	Pass	-
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	Leads	-	-	-
<b>Test Group D – Die Fabrication Reliability Tests</b>									
EM	D1	JESD61	-	-	Electromigration	--	Completed Per Process Technology Requirements	-	-
TDDb	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	--	Completed Per Process Technology Requirements	-	-
HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	--	Completed Per Process Technology Requirements	-	-
NBTI	D4	-	-	-	Negative Bias Temperature Instability	--	Completed Per Process Technology Requirements	-	-
SM	D5	-	-	-	Stress Migration	--	Completed Per Process Technology Requirements	-	-
<b>Test Group E – Electrical Verification Tests</b>									
HBM	E2	AEC Q100-002	1	3	ESD - HBM	2000 V	1/3/0	-	-
CDM	E3	AEC Q100-011	1	3	ESD - CDM	1500 V	1/3/0	-	-
LU	E4	AEC Q100-004	1	6	Latch-up	(Per AEC Q100-004)	1/6/0	-	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	1/30/0	-	-
<b>Additional Tests</b>									
MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	Pass	-	-
MQ			-	-	Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	-	-

**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

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