PCN Number:	20181108001.2	**PCN Date:**	Nov 27, 2018
Title:	Qualification of MIHO8 as an additional Wafer Fab Site option for select devices in LBC8LV Technology		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	May 27, 2019	**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 MIHO8 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**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DP1DM5	LBC8LV	200mm	MIHO8	LBC8LV	200 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
DP1DM5	DM5	USA	Dallas

New Fab Site:

New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
MIHO8	**MH8**	**JPN**	**Ibaraki**

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC:
2Q:
MSL 2 /260C/1 YEAR
MSL 1 /235C/UNLIM
SEAL DT
03/29/04
OPT:
ITEM:
39
LBL: 5A (L)TO:1750
G4
(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T)LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P)
(2P) REV:
(20L) CSO: SHE
(22L) ASO: MLA
(V) 0033317
(21L) CCO:USA
(23L) ACO: MYS

Product Affected:

ISO7741FQDWQ1	ISO7741FQDWRQ1	ISO7741QDWQ1	ISO7741QDWRQ1

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)
Approved 10-Sep-2018

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: ISO7741QDWQ1	QBS Product Reference: ISO7741FQDWQ1	QBS Package Reference: ISO5851DW_Q1 (B0)
Test Group A – Accelerated Environment Stress Tests										
	PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	Level 2-260C	Pass	Pass	Pass
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	-
	AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	3/231/0	2/154/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	2/154/0
	TC-BP	A4	MIL-STD883 Method 2011	1	60	Post Temp Cycle Bond Pull, -65/150C	Wires	1/3/0	1/5/0	-
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	3/231/0	-
Test Group B – Accelerated Lifetime Simulation Tests										
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	3/231/0	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	168	1/80/0	-	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	6/2654/0	-
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-
Test Group C – Package Assembly Integrity Tests										
	WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	1/76/0	3/228/0	2/152/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	Wires	1/76/0	3/228/0	2/152/0

	Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: ISO7741QDWQ1	QBS Product Reference: ISO7741FQDWQ1	QBS Package Reference: ISO5851DW_Q1 (B0)
	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	-	-
	TDDB	D2	JESD35	-	-	Time Dependent 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	-	-
Test Group E – Electrical Verification Tests										
	HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	7000 V	1/3/0	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	2500 V	1/3/0	-	-
	LU	E4	AEC Q100-004	1	6	Latch-up	Per AEC Q100-004	1/6/0	1/6/0	-
	ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67	1/30/0	3/90/0	-

- QBS: Qual By Similarity
- Qual Device ISO7741QDWQ1 is qualified at LEVEL2-260C
- Device ISO7741QDWQ1 contains multiple dies.

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

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)
Approved 14-Sep-2018

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: ISO7741FQDWQ1	QBS Product Reference: ISO7741FQDWQ1	QBS Package Reference: ISO5851DW Q1(B0)
	Test Group A – Accelerated Environment Stress Tests									
	PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	Level 2-260C	-	Pass	Pass
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	-
	AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	-	3/231/0	2/154/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	2/154/0
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 175C	500 Hours	-	3/231/0	-
	Test Group B – Accelerated Lifetime Simulation Tests									
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	3/231/0	-
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0	-
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A	-	-
	Test Group C – Package Assembly Integrity Tests									
	WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	1/76/0	3/228/0	2/152/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	Wires	1/76/0	3/228/0	2/152/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Free Solder	-	-	1/15/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability	Pb Solder	-	-	1/15/0
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	-	3/30/0
	Test Group D – Die Fabrication Reliability Tests									
	EM	D1	JESD61	-	-	Electromigration	-	Completed Per Process Technology Requirements	-	-
	TDDB	D2	JESD35	-	-	Time Dependent 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	-	-
	Test Group E – Electrical Verification Tests									
	HBM	E2	AEC Q100-002	1	3	ESD - HBM	6000 V	1/3/0	-	-
	CDM	E3	AEC Q100-011	1	3	ESD - CDM	2000 V	1/3/0	-	-
	LU	E4	AEC Q100-004	1	6	Latch-up	Per AEC Q100-004	1/6/0	1/6/0	-
	ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67	1/30/0	3/90/0	2/60/0

- QBS: Qual By Similarity
- Qual Device ISO7741FQDWQ1 is qualified at LEVEL2-260C
- Device ISO7741FQDWQ1 contains multiple dies.

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

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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

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
Japan	PCNJapanContact@list.ti.com