February 16, **PCN Number:** 20220202000.1 **PCN Date:** 2022 Title: Qualification of TI Malaysia as an alternate Assembly site for select devices **Customer Contact:** PCN Manager Dept: **Quality Services Estimated Sample** Date provided at **Proposed 1<sup>st</sup> Ship Date:** May 17, 2022 **Availability:** sample request **Change Type:** Assembly Site Wafer Bump Site Design **Assembly Process** Data Sheet Wafer Bump Material Part number change **Assembly Materials** Wafer Bump Process **Mechanical Specification** Test Site Wafer Fab Site Packing/Shipping/Labeling **Test Process** Wafer Fab Materials Wafer Fab Process

# **PCN Details**

## **Description of Change:**

Texas Instruments Incorporated is announcing the qualification of TI Malaysia as an additional Assembly & Final site for the devices listed below. There are no construction differences between the 2 sites.

### Reason for Change:

Supply continuity

## Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

## **Impact on Environmental Ratings**

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
	🛛 No Change	$oxed{\boxtimes}$ No Change	

## Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Taiwan	TAI	TWN	Chung Ho, New Taipei City
TI Malaysia	MLA	MYS	Kuala Lumpur

Sample product shipping label (not actual product label)





(1P) SN74LS07NSR (D) 0336 (a) 2000 (31T)LOT: 3959047MLA (4W) TKY(1T) 7523483SI2 (20L) CSO: SHE (21L) CCO:USA (22L) ASO: MLA (23L) ACO: MVC (23L) ACO: MYS

<b>Product Affected:</b>			
AMC1204BDW	ISO7760DWR	ISO7762FDW	UCC21540DWR
AMC1204BDWR	ISO7760FDW	ISO7762FDWR	UCC21541DW
AMC1204DW	ISO7760FDWR	UCC21540ADWR	UCC21541DWR
AMC1204DWR	ISO7762DW	UCC21540DW	UCC21542DWR
ISO7760DW	ISO7762DWR		·



TI Information Selective Disclosure

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

	Data Displayed as: Number of lots / Total sample size / Total falled					
Туре	Test Name / Condition	Duration	Qual Device: AMC1204QDWRQ1	QBS Product Reference: <u>AMC1204QDWRQ1</u>	QBS Process Reference: <u>AMC1200STDUBRQ1</u>	QBS Package Reference: <u>AMC1305M25QDWRQ1</u>
AC	Autoclave 121C	96 Hours	1/80/0	3/231/0	3/231/0	3/231/0
CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0	1/3/0
ED	Electrical Distribution	Cpk>1.67	1/30/0	3/90/0	3/90/0	1/30/0
ELFR	Early Life Failure Rate, 125C	24 Hours	-	3/2400/0	3/840/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	3/231/0	3/231/0	3/231/0
HBM	ESD - HBM	4000 V	-	1/3/0	-	1/3/0
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0	-
HTOL	Life Test, 150C	408 Hours	1/77/0	3/231/0	-	1/77/0
HTSL	High Temp Storage Bake 150C	1000 Hours	-	-	3/231/0	-
HTSL	High Temp Storage Bake 175C	500 Hours	1/45/0	1/77/0	-	3/231/0
LI	Lead Pull to Destruction	Leads	-	1/24/0	1/24/0	1/24/0
LU	Latch-up	Per AEC- Q100-004	-	1/6/0	-	1/6/0
PD	Physical Dimensions	Cpk>1.67	1/30/0	3/30/0	3/30/0	3/30/0
SD	Solderability	Pb	1/15/0	1/15/0	3/36/0	1/15/0
SD	Solderability	Pb Free	1/15/0	1/15/0	3/36/0	1/15/0
TC	Temperature Cycle, - 65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0
WBP	Bond Pull, Cpk>1.67	Wires	1/30/0	3/90/0	3/228/0	3/90/0
WBS	Wire Bond Shear, Cpk>1.67	Wires	1/30/0	3/90/0	3/228/0	3/90/0

- Cpk>1.67

   QBS: Qual By Similarity
   Qual Device AMC1204QDWRQ1 is qualified at LEVEL3-260C
   Device AMC1204QDWRQ1 contains multiple dies.
   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 Tl's external Web site: http://www.ti.com/



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

Туре	Test Name / Condition	Duration	Qual Device: ISO7760DW	Qual Device: ISO7760FDW	QBS Package Reference: ISO6741QDWRQ1
AC	Autoclave 121C	96 Hours	1/77/0	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	3/135/0
SD	Surface Mount Solderability	PB Solder	-	-	1/15/0
SD	Surface Mount Solderability	PB-Free Solder	-	-	1/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	3/231/0
WBP	Bond Pull	Wires	1/76/0	1/76/0	3/228/0
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	3/228/0

- QBS: Qual By Similarity
- Qual Devices ISO7760FDW and ISO7760DW are qualified at LEVEL2-260C
- Devices ISO7760DW and ISO7760FDW contains multiple dies.
- 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

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#### Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: 20210106-137645



TI Information Selective Disclosure

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

Туре	Test Name / Condition	Duration	Qual Device: <u>UCC21540DWR</u>
AC	Autoclave 121C	96 Hours	1/77/0
CDM	ESD - CDM	1500 V	1/3/0
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0
HBM	ESD - HBM	4000 V	1/3/0
HTOL	Life Test, 125C	1000 Hours	1/77/0
LU	Latch-up	(per JESD78)	1/6/0
MSL	Thermal Path Integrity, JEDEC, L2	Level 2-260C	1/12/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0
YLD	Yield Evaluation	(per mfg. Site specification)	1/Pass

<sup>-</sup> Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: 20210226-138824

<sup>-</sup> 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

<sup>-</sup> 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

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