
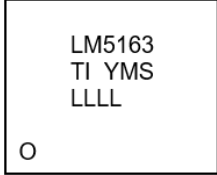


<b>PCN Number:</b>	20220922001.1A		<b>PCN Date:</b>	December 16, 2022												
<b>Title:</b>	Qualification of TI Mexico as Additional Assembly Site for Select Devices															
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services													
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Dec 23, 2022	<b>Sample Requests accepted until:</b>	Jan 16, 2023*													
*Sample requests received after Jan 16, 2023 will not be supported for additional devices includes rev A only.																
<b>Change Type:</b>																
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site											
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material											
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process											
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site											
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials											
				<input type="checkbox"/>	Wafer Fab Process											
<b>PCN Details</b>																
<b>Description of Change:</b>																
<p><b>Revision A</b> is to announce the <u>addition</u> of new devices that was not included on the original PCN notification. The new devices are highlighted and <b>bolded</b> in the device list below. The expected first shipment date for the new devices will be 90 days from this notice (Mar 16, 2023) for the newly added devices only. The proposed 1<sup>st</sup> ship date of Dec 23, 2022 still applies for the original set of devices.</p> <p>Texas Instruments Incorporated is announcing the qualification TI Mexico as an Additional Assembly Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.</p>																
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>ASESH</td> <td>ASH</td> <td>CHN</td> <td>Shanghai</td> </tr> <tr> <td><a href="#">TI Mexico</a></td> <td><a href="#">MEX</a></td> <td><a href="#">MEX</a></td> <td><a href="#">Aguascalientes</a></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	ASESH	ASH	CHN	Shanghai	<a href="#">TI Mexico</a>	<a href="#">MEX</a>	<a href="#">MEX</a>	<a href="#">Aguascalientes</a>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City													
ASESH	ASH	CHN	Shanghai													
<a href="#">TI Mexico</a>	<a href="#">MEX</a>	<a href="#">MEX</a>	<a href="#">Aguascalientes</a>													
<b>Material Differences:</b>																
	<b>ASESH</b>		<b>TI Mexico</b>													
Mount Compound	SID#EY1000063		4147858													
Mold Compound	SID#EN2000509, SID#EN20000519		4211880													
<b>Package Marking Differences:</b>																
	<b>ASESH</b>		<b>TI Mexico</b>													
Sample device (LM5163)	 <p>LM5163 TI YMS PLLLG4</p> <p>TI = TI LETTERS YM = YEAR MONTH DATE CODE LLL = ASSEMBLY LOT CODE P = SECONDARY CODE S = ASSEMBLY SITE CODE ■ = PIN 1 STRIPE</p>		 <p>LM5163 TI YMS LLLL</p> <p>TI = TI LETTERS YM = YEAR MONTH DATE CODE LLLL = ASSEMBLY LOT CODE S = ASSEMBLY SITE CODE O = PIN 1 DOT</p>													
	Pin 1 marking	Stripe		<b>Dot</b>												
<b>Reason for Change:</b>																
Continuity of Supply																

**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.

<b>RoHS</b>	<b>REACH</b>	<b>Green Status</b>	<b>IEC 62474</b>
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change

**Changes to product identification resulting from this PCN:**

Assembly Site		
ASESH	Assembly Site Origin (22L)	ASO: ASH
TI MEXICO	Assembly Site Origin (22L)	ASO: MEX

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS  
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)T0:1750

(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:**

LM5163DDAR	LMR16010PDDAR	LMR36520FADDAR	<b>LV14360PDDAR</b>
LM5164DDAR	LMR16020PDDA	LV14160PDDA	LV14360SDDA
<b>LM5164DDAT</b>	LMR16020PDDAR	LV14160PDDAR	<b>LV14360SDDAR</b>
LMR14020SDDA	LMR16030PDDA	LV14240DDA	LV14540DDA
LMR14020SDDAR	<b>LMR16030PDDAR</b>	LV14240DDAR	LV14540DDAR
LMR14030SDDA	LMR16030SDDA	LV14260PDDA	LV5164DDAR
LMR14030SDDAR	<b>LMR16030SDDAR</b>	<b>LV14260PDDAR</b>	TPS2378DDA
LMR14050SDDA	LMR36510ADDAR	LV14340DDA	TPS2378DDAR
LMR14050SDDAR	LMR36510FADDAR	LV14340DDAR	TPS2379DDA
LMR16010PDDA	LMR36520ADDAR	LV14360PDDA	TPS2379DDAR

## Qualification Report

Approve Date 09-September-2022

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

Type	#	Test Name	Condition	Duration	Qual Device: LMR16020PDDAR	Qual Device: LM5163DDAR	QBS Reference: LM5017MRX/NOPB
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0
UHA	A3	Autoclave	121C/15psig	96 Hours	3/231/0	3/231/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	3/231/0	3/231/0

HTSL	A6	High Temperature Storage Life	150C	1000 Hours	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	3/231/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	1/77/0
HTOL	B1	Life Test	150C	408 Hours	-	-	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/228/0	3/228/0	3/228/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/228/0	3/228/0	3/228/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	3/15/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	1/30/0

Type	#	Test Name	Condition	Duration	QBS Reference: <a href="#">LP2998QMRX/NOPB</a>	QBS Reference: <a href="#">DRV8251DDAR</a>	QBS Reference: <a href="#">UCC27282QDRQ1</a>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	3/231/0	3/231/0	1/77/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	3/231/0	3/231/0	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	3/231/0	1/77/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	3/135/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-
HTOL	B1	Life Test	125C	1000 Hours		1/77/0	1/77/0
HTOL	B1	Life Test	150C	408 Hours	3/231/0	-	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/90/0	3/228/0	3/228/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/90/0	3/228/0	3/228/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	3/30/0	-	1/10/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	3/90/0	3/90/0	3/90/0

**QBS: Qual By Similarity**

Qual Device LMR16020PDDAR and LM5163DDAR are qualified at MSL2 260C

Qual Device is qualified at MSL2 260C

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 TI's external Web site: <http://www.ti.com>  
 Green/Pb-free Status:  
 Qualified Pb-Free(SMT) and Green

## Qualification Report

Approve Date 11-August-2022

### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">LMR36510ADDAR</a>	QBS Reference: <a href="#">LM5017MRX/NOPB</a>	QBS Reference: <a href="#">LM5017MRX/NOPB</a>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	1/77/0	2/154/0
AC	A3	Autoclave	121C/15psig	96 Hours	1/77/0	1/77/0	2/154/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	1/77/0	2/154/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	1/77/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	1/77/0	2/154/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	1/77/0
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/228/0	1/76/0	2/152/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/228/0	1/76/0	2/152/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	1/5/0	2/10/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	1/30/0

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">LMR36510ADDAR</a>	QBS Reference: <a href="#">UCC27282QDRQ1</a>	QBS Reference: <a href="#">UCC27284QDQ1</a>
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	1/77/0	-
AC	A3	Autoclave	121C/15psig	96 Hours	1/77/0	1/77/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	1/77/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	1/77/0	-	-
HTSL	A6	High Temperature	170C	420 Hours	-	-	-

		Storage Life					
HTOL	B1	Life Test	125C	1000 Hours	-	1/77/0	1/77/0
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	3/228/0	1/30/0	1/30/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	3/228/0	1/30/0	1/30/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	1/10/0	1/30/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	3/90/0

**QBS: Qual By Similarity**

Qual Device LMR36510ADDAR is qualified at MSL2 260C

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 TI's external Web site: <http://www.ti.com/>

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 your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	<a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a>

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