



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20220503002.1A**

**Qualification of new die revision/datasheet updates, updated BOM option in TAI, additional Assembly site in MLA**

**Change Notification / Sample Request**

**Date:** October 12, 2022

**To:** TOKYO ELECTRON DEVICE (DSTR) PCN

**Revision A** is to announce the addition of new devices that were not included on the original PCN notification.

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If additional data is required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team ([PCN ww admin team@list.ti.com](mailto:PCN_admin_team@list.ti.com)). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team  
SC Business Services

**20220503002.1A**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
AMC1311DWV	null
AMC1311BDWV	null
AMC1300DWV	null

Technical details of this Product Change follow on the next page(s).

<b>PCN Number:</b>	20220503002.1A	<b>PCN Date:</b>	October 12, 2022
<b>Title:</b>	Qualification of new die revision/datasheet updates, updated BOM option in TAI, additional Assembly site in MLA		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Aug 4, 2022	<b>Sample requests accepted until:</b>	Nov 12, 2022*

**\*Sample requests received after Nov 12, 2022 will not be supported.**

Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input checked="" 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 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

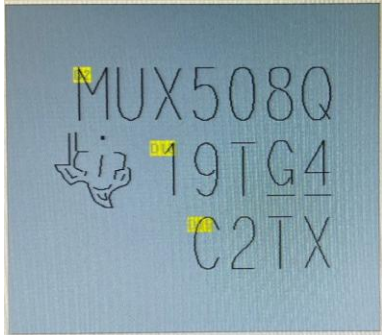
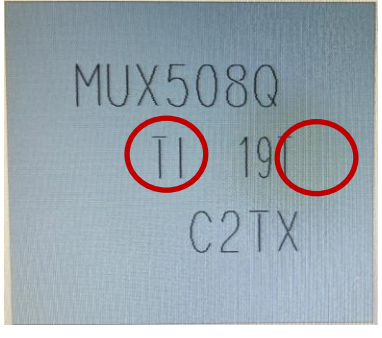
#### Description of Change:

**Revision A** is to announce the addition of new devices that were not included on the original PCN notification. These new devices are highlighted and **bolded** in the device list below. The expected first shipment date for these new devices will be 90 days from this notice for these newly added devices only.

Texas Instruments is pleased to announce the qualification of a silicon revision with datasheet updates, a BOM update in TAI, and new Assembly site in MLA.

BOM/Assembly options are as follows:

	<b>TAI Current</b>	<b>TAI New</b>	<b>MLA</b>
Bond wire diameter composition, diameter	Au, 0.96 mil	1mil PCC Die- > LF .96mil Au Die- > Die	1mil PCC Die- > LF .96mil Au Die- > Die

	<b>Current Device Symbolization</b>	<b>New Device Symbolization</b>
**ECAT	Include Value	Remove
TI Bug	Include	Replace with "TI" text
Example		

\*\* - Not all devices necessarily have ECAT information included in the symbolization, but for the ones that do, this information will be removed.

The design change was implemented to improve EMI, tighten the POR specification and increase the CMTI capabilities.

The datasheet number will be changing:

Product Family	Current Datasheet Number	New Datasheet Number
AMC1311	SBAS786B	<a href="#">SBAS786C</a>
AMC1311 (SN201811022)	SBAS952	<a href="#">SBAS952A</a>
TLA7312	SBASA89	<a href="#">SBASA89A</a>

The product datasheet(s) is being updated as summarized below:

## AMC1311

### 4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision B (May 2020) to Revision C (February 2022)	Page
• Changed pin names: VIN to IN, VOUTP to OUTP and VOUTN to OUTN.....	4
• Changed $C_{IO}$ from ~1 pF to ~1.5 pF.....	7
• Merged $V_{OS}$ specs for $4.5V \leq VDD1 \leq 5.5V$ and $3.0V \leq VDD1 \leq 5.5V$ ranges into one (AMC1311B-Q1 only).....	9
• Changed VDD1 DC PSRR from -65 dB (typical) to -80 dB (typical).....	9
• Changed CMTI from 75 kV/ $\mu$ s (minimum), 140 kV/ $\mu$ s (typical) to 100 kV/ $\mu$ s (minimum), 150kV/ $\mu$ s (typical) (AMC1311B-Q1 only).....	9
• Changed VDD1 <sub>UV</sub> (VDD1 falling) from 1.75 V / 2.53 V / 2.7 V to 2.4 V / 2.6 V / 2.8 V (minimum / typical / maximum).....	9
• Changed <i>Typical Application</i> section.....	22
• Added <i>Input Filter Design</i> section.....	24
• Added <i>Differential to Single-Ended Output Conversion</i> section.....	24
• Changed <i>Layout</i> section.....	27

## AMC1311 (SN201811022)

### 4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision * (June 2019) to Revision A (May 2022)	Page
• Changed $C_{IO}$ from ~1 pF to ~1.5 pF.....	6
• Changed VDD1 DC PSRR from -65 dB (typical) to -80 dB (typical).....	8
• Changed VDD1 <sub>UV</sub> (VDD1 falling) from 1.75 V / 2.53 V / 2.7 V to 2.4 V / 2.6 V / 2.8 V (minimum / typical / maximum).....	8

## TLA7312

#### 4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

##### Changes from Revision \* (December 2020) to Revision A (March 2022)

Page

• Updated typical application image on front page.....	1
• Changed high-side power supply recommended minimum value from 4.5 V to 3 V.....	4
• Corrected $V_{Clipping}$ unit from mV to V.....	4
• Added file numbers to <i>Safety-Related Certifications</i> table.....	7
• Merged $V_{OS}$ specs for $4.5V \leq VDD1 \leq 5.5V$ and $3.0V \leq VDD1 \leq 5.5V$ ranges into one.....	8
• Changed CMTI from 75 kV/ $\mu$ s (minimum), 140 kV/ $\mu$ s (typical) to 100 kV/ $\mu$ s (minimum), 150kV/ $\mu$ s (typical).....	8
• Changed $VDD1_{UV}$ ( $VDD1$ falling) from 1.75 V / 2.53 V / 2.7 V to 2.4 V / 2.6 V / 2.8 V (minimum / typical / maximum).....	8
• Corrected high-side and low-side supply labels in <i>Recommended Layout</i> figure .....	22
• Added <i>Tape and Reel Information</i> .....	26

#### 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
<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:

##### Die Rev:

Current

New

Die Rev [2P]	Die Rev [2P]
A	B

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

Sample product shipping label (not actual product label)



(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:				
AMC1300BDWV	AMC1311BDWV	AMC1311DWV	SN201811022DWVR	
AMC1300DWV	AMC1311BDWVR	AMC1311DWVR	TLA7312DWVR	



TI Information  
Selective Disclosure

## Automotive New Product Qualification Summary (As per AEC-Q100 and JEDEC Guidelines)

**Q100H/Q006 Grade 1 AMC1311CQDWVRQ1 - 4-die MCM RISO LBC8LVISO MIHO-8 fab -  
Hybrid Wires - Offload to MLA  
Approve Date 25-Apr-2022**

### Product Attributes

Attributes	Qual Device: AMC1311CQDWVRQ1	QBS Process Reference: INA210BQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1	QBS Process Reference: ISO7741FQDWQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range	-40 to +125 C	-40 to +125 C	-40 to +125 C	-40 to +125 C
Product Function	Signal Chain	Signal Chain	Signal Chain	Interface
Wafer Fab Supplier	AIZU, MIHO	AIZU	AIZU	MIHO
Die Revision	A, B	D	C	A
Assembly Site	MLA	NFME	NFME	TAI
Package Type	SOIC	SOT	SOT	SOIC
Package Designator	DWV	DCK	DCK	DW
Ball/Lead Count	8	6	6	16

- QBS: Qual By Similarity
- Qual Device AMC1311CQDWVRQ1 is qualified at LEVEL3-260C
- Device AMC1311CQDWVRQ1 contains multiple dies.

**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: <u>AMC1311CQDWV</u> <u>RQ1</u>	QBS Process Reference: <u>INA210BQDCKR</u> <u>Q1</u>	QBS Process Reference: <u>INA215AQDCKR</u> <u>Q1</u>	QBS Process Reference: <u>ISO7741FQDW</u> <u>Q1</u>
<b>Test Group A – Accelerated Environment Stress Tests</b>										
PC	A 1	JEDEC J-STD-020 JESD2 2-A113	3	77	Automotive Preconditioning Level 2	Level 2-260C	-	-	3/948/0	3/1304/0
PC	A 1	JEDEC J-STD-020 JESD2 2-A113	3	77	Automotive Preconditioning Level 3	Level 3-260C	3/0/0	-	-	-
HAST	A 2	JEDEC JESD2 2-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0	3/231/0
AC	A 3	JEDEC JESD2 2-A102	3	77	Autoclave 121C	96 Hours	-	-	3/231/0	3/231/0
UHAST	A 3	JEDEC JESD2 2-A102	3	77	Auto Unbiased Hast 130C/85%RH	96 Hours	3/77/0	-	-	-
TC	A 4	JEDEC JESD2 2-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	3/231/0	-
PTC	A 5	JEDEC JESD2 2-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A	-	-	-
HTSL	A 6	JEDEC JESD2 2-A103	1	45	High Temp Storage Bake 175C	500 Hours	3/135/0	-	1/45/0	3/231/0

Test Group B – Accelerated Lifetime Simulation Tests											
HTOL	B1	JEDEC JESD22-A108	3	77	Auto High Temp Operating Life Grade 1	150C(408 Hours); VCC max	1/77/0	-	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	-	-	3/231/0	3/231/0	
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	-	-	3/2400/0	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	Auto Wire Bond Shear	Wires	3/30/0	-	1/30/0	3/228/0	
WBP	C2	MIL-STD883 Method 2011	1	30	Auto Wire Bond Pull	Wires	3/30/0	-	1/30/0	3/228/0	
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb-free	1/15/0	-	-	-	-
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb	1/15/0	-	-	-	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Auto Physical Dimensions	Cpk>1.67	3/10/0	-	-	-	-
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	Leads	1/24/0	-	-	-	-



Test Group D – Die Fabrication Reliability Tests											
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	-	-	-	-
Test Group E – Electrical Verification Tests											
HBM	E2	AEC Q100-002	1	3	Auto ESD HBM	4000V	1/3/0	1/3/0	-	-	-
CDM	E3	AEC Q100-011	1	3	Auto ESD CDM	1500V	1/3/0	1/3/0	-	-	1/3/0
LU	E4	AEC Q100-004	1	6	Latch-up	(per AEC-Q100-004)	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	9/270/0	-	-	3/90/0

Additional Tests											
-			-	-	Bond Pull, over ball	Minimum of 5 devices, 30 wires Cpk>1.67	3/30/0	-	-	-	-
-			-	-	Bond Pull, over stitch	Minimum of 5 devices, 30 wires Cpk>1.67	3/30/0	-	-	-	-
FLAM			-	-	Flammability	Method A - UL94 V-0	1/5/0	-	-	-	-
FLAM			-	-	Flammability	Method B - IEC 695-2-2	1/5/0	-	-	-	-
FLAM			-	-	Flammability	Method C - UL 1694	1/5/0	-	-	-	-
MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	Pass	-	Pass	Pass	Pass
MQ			-	-	Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	-	-	-	-
MSL			-	-	Thermal Path Integrity	L3-260C	3/12/0	-	-	-	-

**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

TI Qualification ID: 20210423-139757

For questions regarding this notice, e-mails can be sent to the 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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