



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20250609000.2

**Qualification of ANA as an additional Assembly site for Select Devices
Change Notification / Sample Request**

Date: June 09, 2025

To: MOUSER PCN

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 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 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 change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team
SC Business Services

20250609000.2
Change Notification / Sample Request
Attachments

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
TDA4AL88TGAALZRQ1	NULL
TDA4VL21HGAALZRQ1	NULL
TDA4VE88TGAALZRQ1	NULL

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

PCN Number:	20250609000.2			PCN Date:	June 09, 2025
Title:	Qualification of ANA as an additional Assembly site for Select Devices				
Customer Contact:	Change Management team		Dept:	Quality Services	
Proposed 1st Ship Date:	December 06, 2025		Sample requests accepted until:	August 08, 2025	
*Sample requests received after August 08, 2025 will not be supported.					
Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Material
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of ANA (Amkor) as an additional assembly site for the list of devices below. No material differences between assembly sites.					
Reason for Change:					
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.					
RoHS		REACH		Green Status	
<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change		<input checked="" type="checkbox"/> No Change	
				IEC 62474	
				<input checked="" type="checkbox"/> No Change	
Changes to product identification resulting from this PCN:					
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City		
STATS ChipPac	SCK	KOR	Incheon		
AMKOR K4	AK4	KOR	Gwangju		
Sample product shipping label (not actual product label)					
<p> 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 </p> <p> G4 SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20L) CS0: SHE (21L) CC0: USA (22L) AS0: MLA (23L) ACO: MYS </p>					
Product Affected:					
AM6852ATGGHAALZ	TDA4AL88T5AALZRQ1.B	TDA4VE88TGAALZRQ1.B			
AM68A72ATGGHIALZQ	TDA4AL88TCAALZQ1	TDA4VE88TRAALZQ1			
AM68A72ATGGHIALZRQ	TDA4AL88TCAALZRQ1	TDA4VE88TRAALZQ1.B			
AM68A92ATGGHAALZ	TDA4AL88TGAALZQ1	TDA4VE88TRAALZRQ1			

AM68A92ATGGHIALZQ	TDA4AL88TGAALZRQ1	TDA4VE88TRAALZRQ1.B
AM68A92ATGGHIALZRQ	TDA4AL88TGAALZRQ1.B	TDA4VL21H0AALZQ1
AM68D52ATGGHAALZ	TDA4VE88N0AALZQ1	TDA4VL21H0AALZRQ1
AM68D52ATGGHAALZR	TDA4VE88N0AALZRQ1	TDA4VL21H5AALZQ1
TDA4AL44N5AALZQ1	TDA4VE88N5AALZQ1	TDA4VL21H5AALZRQ1
TDA4AL44N5AALZRQ1	TDA4VE88N5AALZRQ1	TDA4VL21H5AALZRQ1.B
TDA4AL44T5AALZQ1	TDA4VE88NGAALZQ1	TDA4VL21HCAALZQ1
TDA4AL44T5AALZRQ1	TDA4VE88NGAALZRQ1	TDA4VL21HCAALZRQ1
TDA4AL88N0AALZQ1	TDA4VE88T0AALZQ1	TDA4VL21HGAALZQ1
TDA4AL88N0AALZRQ1	TDA4VE88T0AALZRQ1	TDA4VL21HGAALZRQ1
TDA4AL88N5AALZQ1	TDA4VE88T5AALZQ1	TDA4VL21HGAALZRQ1.B
TDA4AL88N5AALZRQ1	TDA4VE88T5AALZRQ1.B	TDA4VL78N5AALZQ1
TDA4AL88NGAALZQ1	TDA4VE88T5AALZRQ1	TDA4VL78N5AALZRQ1.B
TDA4AL88NGAALZRQ1	TDA4VE88T5AALZRQ1.B	TDA4VL78N5AALZRQ1
TDA4AL88T0AALZQ1	TDA4VE88TCAALZQ1	TDA4VL78N5AALZRQ1.B
TDA4AL88T0AALZRQ1	TDA4VE88TCAALZRQ1	TDA4VL78T5AALZQ1
TDA4AL88T5AALZQ1	TDA4VE88TCAALZRQ1.B	TDA4VL78T5AALZRQ1
TDA4AL88T5AALZRQ1.B	TDA4VE88TGAALZQ1	TDA4VL78T5AALZRQ1.B
TDA4AL88T5AALZRQ1	TDA4VE88TGAALZRQ1	

Qualification Report

Automotive Qualification Summary (As per AEC-Q100 Rev. J and JEDEC Guidelines)

Approve Date 12-DECEMBER -2024

Product Attributes

Attributes	Qual Device: <u>800206AALZ</u>	QBS Product Reference: <u>791942DC2AAALF</u>	QBS Product Reference: <u>XJ721EGALF</u>	QBS Product Reference: <u>XJ721S2GAALZ</u>
Operating Temp Range (C)	-40C to 125C (Tj)	-40C to 125C (Tj)	-40C to 125C (Tj)	-40C to 125C (Tj)
Product Function	Logic	-	Logic	Logic
Wafer Fab Supplier	TSMC-F14	TSMC-F14	TSMC-F14	TSMC-F14
Assembly Site	ANA	ANA	ANA	SCK
Package Group	FCHIP	FCHIP	FCHIP	FCHIP
Package Designator	ALZ	ALF	ALF	ALZ
Pin Count	770	827	827	770

QBS: Qual By Similarity, also known as Generic Data
Qual Device 800206AALZ is qualified at MSL3 250C

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: 800205AALZ	QBS Product Reference: 791942DC2AAALF	QBS Product Reference: XJ721EGALF	QBS Product Reference: XJ721S2GAALZ
Test Group A - Accelerated Environment Stress Tests											
HAST	A2	JEDEC JESD22-A110	3	77	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	-	3/231/0	-
ACUHA	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	110C/85%RH	264 Hours	3/231/0	-	3/231/0	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-55C/125C	1000 Cycles	3/231/0	-	3/231/0	-
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	1/45/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	1/77/0	-
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	-	-	3/2400/2 ^{1,2}	-
Test Group C - Package Assembly Integrity Tests											
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	3/30/0	-	3/30/0	3/30/0
SBS	C5	AEC Q100-009	3	10	Solder Ball Shear	5 balls from a minimum of 10 devices	-	3/30/0	-	3/30/0	3/30/0
BST	C7	JESD22-B117	3	5	Bump Shear Test	20 bumps/pillars from a minimum of 5 devices. Cpk > 1.67	-	3/15/0	-	-	-
Test Group D - Die Fabrication Reliability Tests											
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDD	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E - Electrical Verification Tests											
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	1000 Volts	-	-	1/3/0	-
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	-	-	-	1/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: <u>800206AALZ</u>	QBS Product Reference: <u>791942DC2AAALE</u>	QBS Product Reference: <u>XJ721EGALE</u>	QBS Product Reference: <u>XJ721S2GAALZ</u>
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts 750 Volts (corner pins)	1/3/0 1/3/0	-	1/3/0 1/3/0	1/3/0 1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	-	-	1/6/0	1/6/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	3/90/0	-	3/90/0	3/90/0
Additional Tests											
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40C/125C	1000 Cycles 2000 Cycles (extended read)	-	1/32/0 1/32/0	-	-

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

Ambient Operating Temperature by Automotive Grade Level:

Grade 0 (or E): -40C to +150C

Grade 1 (or Q): -40C to +125C

Grade 2 (or T): -40C to +105C

Grade 3 (or I) : -40C to +85C

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

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

TI Qualification ID: R-CHG-2312-016

[1]-8D report available upon request.

[2]-8D report available upon request.

In performing change qualifications, Texas Instruments follows integrated circuit industry standards in performing defect mechanism analysis and failure mechanism-based accelerated environmental testing to ensure wafer fab process, assembly process and product quality and reliability. As encouraged by these standards, TI uses both product-specific and generic (family) data in qualifying its changes. For devices to be categorized as a 'product qualification family' for generic data purposes, they must share similar product, wafer fab process and assembly process elements. The applicability of generic data (also known at TI as Qualification by Similarity (QBS)) is determined by the Reliability Engineering function following these industry standards. Generic data is shown in the qualification report in columns titled "QBS Process" (for wafer fab process), "QBS Package" (for assembly process) and "QBS Product" (for product family).

ZVEI ID: SEM-PA-18

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI's products are provided subject to TI's Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI's provision of these resources does not expand or otherwise alter TI's applicable warranties or warranty disclaimers for TI products.