



Product/Process Change Notice - PCN 22_0142 Rev. D

Analog Devices, Inc. One Analog Way, Wilmington, MA 01887, USA

This notice is to inform you of a change that will be made to certain ADI products (see Appendix A) that you may have purchased in the last 2 years. **Any inquiries or requests with this PCN (additional data or samples) must be sent to ADI within 30 days of publication date.** ADI contact information is listed below.

Note: Revised fields are indicated by a red field name. See Appendix B for revision history.

PCN Title:	Qualification of an Alternate Wafer Fab for High Voltage Bipolar Products (HVBIP) to Analog Devices, Inc. Wilmington MA
Publication Date:	02-Nov-2023
Effectivity Date:	12-Aug-2023 <i>(the earliest date that a customer could expect to receive changed material)</i>
Revision Description:	Remove parts.

Description Of Change:

- 1) Analog Devices is adding Analog Devices, Wilmington, MA (ADWL) as an alternate Wafer Fab site to Analog Devices Limerick, Ireland (ADLK) for High Voltage Bipolar Products.
- 2) Changed wafer diameter from 8" to 6".

Reason For Change:

This change will ensure manufacturing agility and continuity of supply.

Impact of the change (positive or negative) on fit, form, function & reliability:

There is no impact to fit, form, function, or reliability.

Summary of Supporting Information:

Qualification has been performed per Industry Standard Test Methods. See attached Qualification Results Summary.

Supporting Documents

Attachment 1: Type: Delta Qualification Matrix

[ADI_PCN_22_0142_Rev_D_Delta-Qualification-Matrix-ZVEI-5_0_1_EP200.xlsm...](#)

Attachment 2: Type: Qualification Results Summary

[ADI_PCN_22_0142_Rev_D_Qualification_Report_HVBP2_and_EP200.pdf...](#)

Note: If applicable, the device material declaration will be updated due to material change.

ADI Contact Information:

For questions on this PCN, please send an email to the regional contacts below or contact your local ADI sales representatives.

Americas:	Europe:	Japan:	Rest of Asia:
PCN_Americas@analog.com	PCN_Europe@analog.com	PCN_Japan@analog.com	PCN_ROA@analog.com

Appendix A - Affected ADI Models:

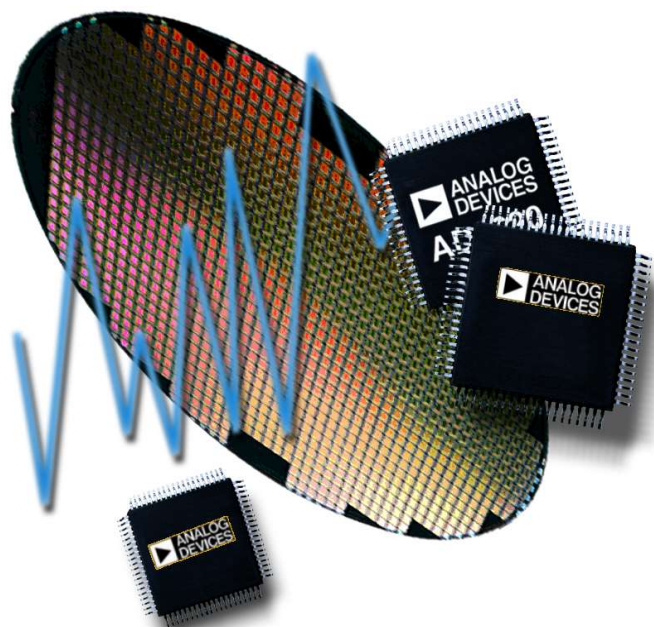
Existing Parts - Product Family / Model Number (235)

AD5760 / AD5760ACPZ	AD5760 / AD5760ACPZ-REEL7	AD5760 / AD5760BCPZ	AD5760 / AD5760BCPZ-REEL7	AD5780 / AD5780ACPZ
AD5780 / AD5780ACPZ-REEL7	AD5780 / AD5780BCPZ	AD5780 / AD5780BCPZ-REEL7	AD5780 / AD70073Z-ORL7	AD5780 / AD70074Z-0
AD5780 / AD70074Z-ORL7	AD5790 / AD5790BCPZ	AD5790 / AD5790BCPZ-RL7	AD5790 / AD70077Z-0	AD5790 / AD70077Z-ORL7
AD8226 / AD8226ARMZ	AD8226 / AD8226ARMZ-R7	AD8226 / AD8226ARMZ-RL	AD8226 / AD8226ARZ	AD8226 / AD8226ARZ-R7
AD8226 / AD8226ARZ-RL	AD8226 / AD8226BRMZ	AD8226 / AD8226BRMZ-R7	AD8226 / AD8226BRMZ-RL	AD8226 / AD8226BRZ
AD8226 / AD8226BRZ-R7	AD8227 / AD8227ARMZ	AD8227 / AD8227ARMZ-R7	AD8227 / AD8227ARMZ-RL	AD8227 / AD8227ARZ
AD8227 / AD8227ARZ-R7	AD8227 / AD8227ARZ-RL	AD8227 / AD8227BRMZ	AD8227 / AD8227BRMZ-R7	AD8227 / AD8227BRMZ-RL
AD8227 / AD8227BRZ	AD8227 / AD8227BRZ-R7	AD8276 / AD45320-CHIPS-WP	AD8276 / AD8276-CHIPS-WP	AD8276 / AD8276ARMZ
AD8276 / AD8276ARMZ-R7	AD8276 / AD8276ARMZ-RL	AD8276 / AD8276ARZ	AD8276 / AD8276ARZ-R7	AD8276 / AD8276ARZ-RL
AD8276 / AD8276BRMZ	AD8276 / AD8276BRMZ-R7	AD8276 / AD8276BRMZ-RL	AD8276 / AD8276BRZ	AD8276 / AD8276BRZ-R7
AD8276 / AD8276BRZ-RL	AD8276 / AD8276CIENA-DIE	AD8276 / ADW68276ARMZ-RL	AD8277 / AD8277ARZ	AD8277 / AD8277ARZ-R7
AD8277 / AD8277ARZ-RL	AD8277 / AD8277BRZ	AD8277 / AD8277BRZ-R7	AD8277 / AD8277BRZ-RL	AD8421 / AD45309-KGD-WP
AD8421 / AD8421-KGD-WP	AD8421 / AD8421ACPZ-R7	AD8421 / AD8421ACPZ-RL	AD8421 / AD8421ARMZ	AD8421 / AD8421ARMZ-R7
AD8421 / AD8421ARMZ-RL	AD8421 / AD8421ARZ	AD8421 / AD8421ARZ-R7	AD8421 / AD8421ARZ-RL	AD8421 / AD8421BRMZ
AD8421 / AD8421BRMZ-R7	AD8421 / AD8421BRMZ-RL	AD8421 / AD8421BRZ	AD8421 / AD8421BRZ-R7	AD8421 / AD8421BRZ-RL
AD8421 / AD8421TRMZ-EP	AD8421 / AD8421TRMZ-EP-R7	AD8421 / AD8421XCHIPS	AD8421 / AD8421XCPZ-R7	AD8422 / AD8422ACPZ-R7
AD8422 / AD8422ACPZ-RL	AD8422 / AD8422ARMZ	AD8422 / AD8422ARMZ-R7	AD8422 / AD8422ARMZ-RL	AD8422 / AD8422ARZ
AD8422 / AD8422ARZ-R7	AD8422 / AD8422ARZ-RL	AD8422 / AD8422BRMZ	AD8422 / AD8422BRMZ-R7	AD8422 / AD8422BRMZ-RL
AD8422 / AD8422BRZ	AD8422 / AD8422BRZ-R7	AD8422 / AD8422BRZ-RL	AD8422 / AD8422XCPZ-R7	AD8436 / AD8436ACPZ-R7
AD8436 / AD8436ACPZ-RL	AD8436 / AD8436ACPZ-WP	AD8436 / AD8436ARQZ	AD8436 / AD8436ARQZ-R7	AD8436 / AD8436ARQZ-RL
AD8436 / AD8436BRQZ	AD8436 / AD8436BRQZ-R7	AD8436 / AD8436BRQZ-RL	AD8436 / AD8436JCPZ-R7	AD8436 / AD8436JCPZ-RL
AD8436 / AD8436JCPZ-WP	AD8494 / AD8494ARMZ	AD8494 / AD8494ARMZ-R7	AD8494 / AD8494CRMZ	AD8494 / AD8494CRMZ-R7
AD8495 / AD8495ARMZ	AD8495 / AD8495ARMZ-R7	AD8495 / AD8495CRMZ	AD8495 / AD8495CRMZ-R7	AD8496 / AD8496ARMZ
AD8496 / AD8496ARMZ-R7	AD8496 / AD8496CRMZ	AD8496 / AD8496CRMZ-R7	AD8497 / AD8497ARMZ	AD8497 / AD8497ARMZ-R7
AD8497 / AD8497CRMZ	AD8497 / AD8497CRMZ-R7	AD8622 / AD8622ARMZ	AD8622 / AD8622ARMZ-R7	AD8622 / AD8622ARMZ-REEL
AD8622 / AD8622ARZ	AD8622 / AD8622ARZ-REEL	AD8622 / AD8622ARZ-REEL7	AD8624 / AD8624ACPZ-R2	AD8624 / AD8624ACPZ-R7
AD8624 / AD8624ACPZ-RL	AD8624 / AD8624ARUZ	AD8624 / AD8624ARUZ-RL	AD8675 / AD8675A-DF	AD8675 / AD8675ARMZ
AD8675 / AD8675ARMZ-REEL	AD8675 / AD8675ARZ	AD8675 / AD8675ARZ-REEL	AD8675 / AD8675ARZ-REEL7	AD8676 / AD8676ARMZ
AD8676 / AD8676ARMZ-REEL	AD8676 / AD8676ARZ	AD8676 / AD8676ARZ-REEL	AD8676 / AD8676ARZ-REEL7	AD8676 / AD8676BRMZ
AD8676 / AD8676BRMZ-REEL	AD8676 / AD8676BRZ	AD8676 / AD8676BRZ-REEL	AD8676 / AD8676BRZ-REEL7	ADA4000-1 / ADA4000-1ARZ
ADA4000-1 / ADA4000-1ARZ-R7	ADA4000-1 / ADA4000-1ARZ-RL	ADA4000-1 / ADA4000-1AUJZ-R7	ADA4000-1 / ADA4000-1AUJZ-RL	ADA4000-2 / ADA4000-2ARMZ
ADA4000-2 / ADA4000-2ARMZ-RL	ADA4000-2 / ADA4000-2ARZ	ADA4000-2 / ADA4000-2ARZ-R7	ADA4000-2 / ADA4000-2ARZ-RL	ADA4062-4 / ADA4062-4ACPZ-R7
ADA4062-4 / ADA4062-4ARUZ	ADA4062-4 / ADA4062-4ARUZ-RL	ADA4075-2 / ADA4075-2ACPZ-R7	ADA4075-2 / ADA4075-2ACPZ-RL	ADA4075-2 / ADA4075-2ARZ
ADA4075-2 / ADA4075-2ARZ-R7	ADA4075-2 / ADA4075-2ARZ-RL	ADA4077-2 / ADA4077-2ARMZ	ADA4077-2 / ADA4077-2ARMZ-R7	ADA4077-2 / ADA4077-2ARMZ-RL
ADA4077-2 / ADA4077-2ARZ	ADA4077-2 / ADA4077-2ARZ-R7	ADA4077-2 / ADA4077-2ARZ-RL	ADA4077-2 / ADA4077-2BRZ	ADA4077-2 / ADA4077-2BRZ-R7
ADA4077-2 / ADA4077-2BRZ-RL	ADA4077-2 / ADA4077-2TRMZ-EP	ADA4077-2 / ADA4077-2TRMZ-EP-R7	ADA4084-1 / ADA4084-1ARJZ-R2	ADA4084-1 / ADA4084-1ARJZ-R7
ADA4084-1 / ADA4084-1ARJZ-RL	ADA4084-1 / ADA4084-1ARZ	ADA4084-1 / ADA4084-1ARZ-R7	ADA4084-1 / ADA4084-1ARZ-RL	ADA4084-2 / ADA4084-2ACPZ-R7
ADA4084-2 / ADA4084-2ACPZ-RL	ADA4084-2 / ADA4084-2ARMZ	ADA4084-2 / ADA4084-2ARMZ-R7	ADA4084-2 / ADA4084-2ARMZ-RL	ADA4084-2 / ADA4084-2ARZ
ADA4084-2 / ADA4084-2ARZ-R7	ADA4084-2 / ADA4084-2ARZ-RL	ADA4084-4 / ADA4084-4ACPZ-R7	ADA4084-4 / ADA4084-4ACPZ-RL	ADA4084-4 / ADA4084-4ARUZ
ADA4084-4 / ADA4084-4ARUZ-RL	ADA4096-2 / ADA4096-2ARMZ	ADA4096-2 / ADA4096-2ARMZ-R7	ADA4096-2 / ADA4096-2ARMZ-RL	ADA4096-2 / ADA4096-2WARMZ-R7
ADA4096-2 / ADA4096-2WARMZ-RL	ADA4096-4 / ADA45301-R7	ADA4096-4 / ADA4096-4ACPZ-R7	ADA4096-4 / ADA4096-4ACPZ-RL	ADA4096-4 / ADA4096-4ARUZ
ADA4096-4 / ADA4096-4ARUZ-R7	ADA4096-4 / ADA4096-4ARUZ-RL	ADA4177-2 / ADA4177-2ARMZ	ADA4177-2 / ADA4177-2ARMZ-R7	ADA4177-2 / ADA4177-2ARMZ-RL
ADA4177-2 / ADA4177-2ARZ	ADA4177-2 / ADA4177-2ARZ-R7	ADA4177-2 / ADA4177-2ARZ-RL	ADA4177-2 / ADA4177-2CHIPS	ADA4177-4 / ADA4177-4ARUZ
ADA4177-4 / ADA4177-4ARUZ-R7	ADA4177-4 / ADA4177-4ARUZ-RL	ADA4177-4 / ADA4177-4ARZ	ADA4177-4 / ADA4177-4ARZ-R7	ADA4177-4 / ADA4177-4ARZ-RL
ADA4610-2 / ADA4610-2C-DF	ADA4610-2 / ADA4610-2C-VF	ADA4610-2 / ADA4610-2XCHIPS	ADA4898-2 / ADA4898-2YRDZ	ADA4898-2 / ADA4898-2YRDZ-R7
ADTL082 / ADTL082ARMZ	ADTL082 / ADTL082ARMZ-REEL	ADTL082 / ADTL082ARZ	ADTL082 / ADTL082ARZ-REEL	ADTL082 / ADTL082ARZ-REEL7
ADTL084 / ADTL084ARUZ	ADTL084 / ADTL084ARUZ-REEL	ADTL084 / ADTL084ARZ	ADTL084 / ADTL084ARZ-REEL	ADTL084 / ADTL084ARZ-REEL7

Appendix A - Affected ADI Models::

Removed Parts On All Revisions - Product Family / Model Number (22)

AD8275 / AD8275ARMZ	AD8275 / AD8275ARMZ-R7	AD8275 / AD8275ARMZ-RL	AD8275 / AD8275BRMZ	AD8275 / AD8275BRMZ-R7
ADA4001-2 / ADA4001-2ARZ	ADA4001-2 / ADA4001-2ARZ-R7	ADA4001-2 / ADA4001-2ARZ-RL	ADA4077-2 / AD45261-RL	ADA4096-2 / ADA4096-2ACPZ-R7
ADA4096-2 / ADA4096-2ACPZ-RL	ADA4610-2 / ADA4610-2ACPZ-R7	ADA4610-2 / ADA4610-2ACPZ-RL	ADA4610-2 / ADA4610-2ARMZ	ADA4610-2 / ADA4610-2ARMZ-R7
ADA4610-2 / ADA4610-2ARMZ-RL	ADA4610-2 / ADA4610-2ARZ	ADA4610-2 / ADA4610-2ARZ-R7	ADA4610-2 / ADA4610-2ARZ-RL	ADA4610-2 / ADA4610-2BRZ
ADA4610-2 / ADA4610-2BRZ-R7	ADA4610-2 / ADA4610-2BRZ-RL			



Reliability Report

Report Title: Qualification of HVBP2 and EP200
processes in Wilmington Wafer Fab
Site

Report Number: 20828

Revision: B

Date: 17 July 2023

Summary

This report documents the reliability qualification requirements for the release of the HVBP2 and EP200 Wafer Fabrication Process in Analog Devices Wilmington Wafer Fabrication Facility. The products listed below were selected to cover the technology being released

The products are:

- The AD8226 is a Wide Supply Range, Rail to Rail Output Instrumentation Amplifier in an 8-SOIC package.
- The AD8676 is a Ultra Precision, 36V, 2.8nV/ $\sqrt{\text{Hz}}$, Dual RRO Operational Amplifier in an 8-SOIC package.
- The ADTL084 is a JFET input amplifier ideal for various applications, including process control, industrial and instrumentation equipment, active filtering, data conversion, buffering, and power control and monitoring in a 14-SOIC-N package
- The ADA4096-2 is a 30V, Micropower, overvoltage protection, Rail-to-Rail Input/Output Amplifier in an 8-mini-SOIC package.
- The ADA4610-2 is a Low Noise, Precision, Rail-to-Rail Output, JFET Dual Operational Amplifier in a 8-SOIC package.

AECQ100 Qualification Test Methods and Summary

AEC Test Group	AEC Stress Test Name	Abbreviation	AEC Test #	Reference
Group A ACCELERATED ENVIRONMENT STRESS TESTS	Preconditioning	PC	A1	Table 2 and Table 4
	Temperature Humidity Bias or Biased-HAST	THB or HAST	A2	
	Autoclave or Unbiased HAST or Temperature Humidity (without Bias)	AC, UHST, or TH	A3	
	Temperature Cycle	TC	A4	
	Power Temperature Cycling	PTC	A5	
	High Temperature Storage Life	HTSL	A6	
Group B ACCELERATED LIFETIME SIMULATION TESTS	High Temperature Operating Life	HTOL	B1	Table 2 and Table 4
	Early Life Failure Rate	ELFR	B2	
	NVM Endurance, Data Retention, and Operational Life	EDR	B3	
Group C PACKAGE ASSEMBLY INTEGRITY TESTS	Wire Bond Shear	WBS	C1	• Test C2 (and C1 for Cu Wire) are shown in Table 4. • Tests C3-6 are qualified and controlled with inline monitors and may be viewed on-site at Analog Devices.
	Wire Bond Pull Strength	WBP	C2	
	Solderability	SD	C3	
	Physical Dimensions	PD	C4	
	Solder Ball Shear	SBS	C5	
	Lead Integrity	LI	C6	
Group D DIE FABRICATION RELIABILITY TESTS	Electromigration	EM	D1	Die Fabrication Reliability data may be viewed on-site at Analog Devices.
	Time Dependent Dielectric Breakdown	TDDDB	D2	
	Hot Carrier Injection	HCI	D3	
	Negative Bias Temperature Instability	BTI	D4	
	Stress Migration	SM	D5	
Group E ELECTRICAL VERIFICATION TESTS	Pre- and Post-Stress Electrical Test	TEST	E1	Table 5 and Table 6
	Electrostatic Discharge Human Body Model	HBM	E2	
	Electrostatic Discharge Charged Device Model	CDM	E3	
	Latch-Up	LU	E4	• For Tests E5, E6 and E7, ADI New Product Yield Analysis Testing Guidelines meet AEC Q100 requirements. • Results for Tests E7-E11 are available as applicable on a case by case basis. • Test E12 results may be viewed on-site at Analog Devices
	Electrical Distributions	ED	E5	
	Fault Grading	FG	E6	
	Characterization	CHAR	E7	
	Electromagnetic Compatibility	EMC	E9	
	Short Circuit Characterization	SC	E10	
	Soft Error Rate	SER	E11	
	Lead (Pb) Free	LF	E12	
	Process Average Test	PAT	F1	ADI New Product Yield Analysis Testing Guidelines meet AECQ100 Requirements.
	Statistical Bin/Yield Analysis	SBA	F2	
Group G CAVITY PACKAGE INTEGRITY TESTS	Mechanical Shock	MS	G1	<Applicable only for Cavity Packages>
	Variable Frequency Vibration	VFV	G2	
	Constant Acceleration	CA	G3	
	Gross/Fine Leak	GFL	G4	
	Package Drop	DROP	G5	
	Lid Torque	LT	G6	
	Die Shear	DS	G7	
	Internal Water Vapor	IWV	G8	

Die/Fab Product Characteristics

Table 1: Die/Fab Product Characteristics- <2.5um^2 Bipolar

Product Characteristics	Product(s) to be qualified				
Generic/Root Part #	AD8226	AD8676	ADTL084	ADA4610-2	ADA4096-2
Die Id	8226 0	8676 0	TL084 0	4610 2	A4096+2
Die Size (mm)	1.65 x 1.42	1.49 x 1.9	1.43 x 1.25	2.29 x 2.29	0.89 x 1.25
Wafer Fabrication Site	ADI-Wilmington	ADI-Wilmington	ADI-Wilmington	ADI-Wilmington	ADI-Wilmington
Wafer Fabrication Process	<2.5um^2 Bipolar	<2.5um^2 Bipolar	<2.5um^2 Bipolar	<2.5um^2 Bipolar	<2.5um^2 Bipolar
Die Substrate	Si	Si	Si	Si	Si
Metallization / # Layers	AlSi(1.0%)Cu(0.5%)/2	AlSi(1.0%)Cu(0.5%)/2	AlSi(1.0%)Cu(0.5%)/2	AlSi(1.0%)Cu(0.5%)/2	AlSi(1.0%)Cu(0.5%)/2
Polyimide	No	No	No	No	No
Passivation	undoped-oxide/OxyNitride	undoped-oxide/OxyNitride	undoped-oxide/OxyNitride	undoped-oxide/OxyNitride	undoped-oxide/OxyNitride

Die/Fab Test Results

Table 2A

Test Name	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
High Temperature Storage Life (HTSL)	JESD22-A103	150°C, 1,000 Hours	AD8226	Q19702.1.HS1_RES	0/77	R
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	AD8226	Q19702.1.HA1_RES	0/77	R
				Q19702.2.HA2_RES	0/77	R
				Q19702.3.HA3_RES	0/77	R
High Temperature Operating Life (HTOL)	JESD22-A108	125°C<Tj<135°C, Biased, 500 Hours	AD8226	Q19702.1.HO1_RES	0/77	R
				Q19702.2.HO2_RES	0/77	R
				Q19702.3.HO3_RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 2B

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
Early Life Failure Rate (ELFR)	B2	AEC Q100-008	Ta=125°C, 48 Hours	AD8676	Q19671.1.EL1A_RES	0/400	RH
					Q19671.1.EL1B_RES	0/400	RH
					Q19671.2.EL2A_RES	0/400	RH
					Q19671.2.EL2B_RES	0/400	RH
					Q19671.3.EL3A_RES	0/399	RH
					Q19671.3.EL3B_RES	0/400	RH
					Q19671.3.EL3C_RES	0/5	RH
High Temperature Operating Life (HTOL)	B1	JESD22-A108	125°C<Tj<135°C, Biased, 1,000 Hours	AD8676	Q19671.1.HO1_RES	0/77	RHC
					Q19671.2.HO2_RES	0/77	RHC
					Q19671.5.HO3_RES	0/77	RHC
High Temperature Storage Life (HTSL)	A6	JESD22-A103	150°C, 1,000 Hours	AD8676	Q19671.2.HS2_RES	0/77	RH
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	AD8676	Q19671.3.HA3_RES	0/77	RH
					Q19671.4.HA4_RES	0/77	RH
					Q19671.5.HA5_RES	0/77	RH

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 2C

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
High Temperature Operating Life (HTOL)	B1	JESD22-A108	125°C<Tj<135°C, Biased, 1,000 Hours	ADTL084	Q19700.1.HO1_RES	0/77	RHC
					Q19700.2.HO2_RES	0/77	RHC
					Q19700.3.HO3_RES	0/77	RHC
High Temperature Storage Life (HTSL)	A6	JESD22-A103	150°C, 2,000 Hours	ADTL084	Q19700.1.HS1_RES	0/77	RH
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	110C 85%RH 17.7 psia, Biased, 264 hours	ADTL084	Q19700.1.HA1_RES	0/77	RH
					Q19700.2.HA2_RES	0/77	RH
					Q19700.3.HA3_RES	0/77	RH

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 2D

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
High Temperature Operating Life (HTOL)	B1	JESD22-A108	125°C<Tj<135°C, Biased, 1,000 Hours	ADA4610-2	Q20515.1.HO1_RES	0/77	R
					Q20515.2.HO2_RES	0/77	R
					Q20515.3.HO3_RES	0/77	R
High Temperature Storage Life (HTSL)	A6	JESD22-A103	150°C, 1,000 Hours	ADA4610-2	Q20515.1.HS1_RES	0/77	R
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	110C 85%RH 17.7 psia, Biased, 96 hours	ADA4610-2	Q20515.1.HA1_RES	0/77	R
					Q20515.2.HA2_RES	0/77	R
					Q20515.3.HA3_RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 2E

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
Early Life Failure Rate (ELFR)	B2	AEC Q100-008	Ta=125°C, 48 Hours	ADA4096-2	Q20493.1.EL1A_RES	0/400	RH
					Q20493.2.EL1B_RES	0/400	RH
					Q20493.3.EL2B_RES	0/190	RH
					Q20493.3.EL2C_RES	0/190	RH
					Q20493.4.EL2B_RES	0/30	RH
					Q20493.5.EL3A_RES	0/160	RH
					Q20493.4.EL2C_RES	0/190	RH
					Q20493.5.EL3A_RES	0/60	RH
					Q20493.5.EL3A_RES	0/405	RH
					Q20493.5.EL3A_RES	0/405	RH
High Temperature Operating Life (HTOL)	B1	JESD22-A108	125°C<Tj<135°C, Biased, 1,000 Hours	ADA4096-2	Q19671.1.HO1_RES	0/77	RHC
					Q19671.2.HO2_RES	0/77	RHC
					Q19671.5.HO3_RES	0/77	RHC
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	ADA4096-2	Q19671.3.HA3_RES	0/77	RH
					Q19671.4.HA4_RES	0/77	RH
					Q19671.5.HA5_RES	0/77	RH
High Temperature Storage Life (HTSL)	A6	JESD22-A103	150°C, 1,000 Hours	ADA4096-2	Q20493.1.HS1 RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Package/Assembly Product Characteristics

Table 3: Package/Assembly Product Characteristics - 8-SOIC_N at ASE (AET)

Product Characteristics	Product(s) to be qualified				
Generic/Root Part #	AD8226	ADTL084	AD8676	ADA4610-2	ADA4096-2
Package	8-SOIC_N	14-SOIC_N	8-SOIC_N	8-SOIC_N	8-mini-SOIC
Body Size (mm)	4.00 x 5.00 x 1.50	4.00 x 8.75 x 1.50	4.00 x 5.00 x 1.50	4.00 x 5.00 x 1.50	3.00 x 3.00 x 0.85
Assembly Location	ASE (AET)	ASE (AET)	Amkor (AP1)	Amkor (AP1)	ASE-T
MSL/Peak Reflow Temperature(°C)	1 / 260°C	1 / 260°C	1 / 260°C	1 / 260°C	1 / 260°C
Mold Compound	Hitachi CEL 9240HF10AK	Hitachi CEL 9240HF10AK	Sumitomo G600	Sumitomo G600	Sumitomo G700
Die Attach/Underfill/TIM	Hitachi EN 4900GC conductive	Hitachi EN 4900GC conductive	Ablestik 84-1 LMISR4 conductive	Ablestik 84-1 LMISR4 conductive	Hitachi EN 4900GC conductive
Leadframe Material	Copper	Copper	Copper	Copper	Copper
Lead Finish	Matte Tin	Matte Tin	Matte Tin	Matte Tin	Matte Tin
Wire Bond Material/Diameter (mils)	Tanaka GPG-2 2N Gold / 1.00	Tanaka GPG-2 2N Gold / 1.00	2N Gold/1.2	Gold/1.0	Tanaka GPG-2 2N Gold / 0.80

Package/Assembly Test Results

Table 4A: Package/Assembly Test Results - SOIC_N at ASE (AET)

Test Name	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
High Temperature Storage Life (HTSL)	JESD22-A103	150°C, 1,000 Hours	AD8226	Q19702.1.HS1_RES	0/77	R
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	AD8226	Q19702.1.HA1_RES	0/77	R
				Q19702.2.HA2_RES	0/77	R
				Q19702.3.HA3_RES	0/77	R
Solder Heat Resistance (SHR)	J-STD-020	MSL-1	AD8226	Q19702.1.SH1_RES	0/11	R
				Q19702.2.SH2_RES	0/11	R
				Q19702.3.SH3_RES	0/11	R
Temperature Cycling (TC) ¹	JESD22-A104	-65°C/+150°C, 1,000 Cycles	AD8226	Q19702.1.TC1_RES	0/77	R
				Q19702.2.TC2_RES	0/77	R
				Q19702.3.TC3_RES	0/77	R
Unbiased HAST (UHST) ¹	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	AD8226	Q19702.1.UH1_RES	0/77	R
				Q19702.2.UH2_RES	0/77	R
				Q19702.3.UH3_RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 4B: Package/Assembly Test Results - SOIC_N at ASE (AET)

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
High Temperature Storage Life (HTSL)	A6	JESD22-A103	150°C, 2,000 Hours	ADTL084	Q19700.1.HS1_RES	0/77	RH
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	110C 85%RH 17.7 psia, Biased, 264 hours	ADTL084	Q19700.1.HA1_RES	0/77	RH
					Q19700.2.HA2_RES	0/77	RH
					Q19700.3.HA3_RES	0/77	RH
Solder Heat Resistance (SHR)	A1	J-STD-020	MSL-1	ADTL084	Q19700.1.SH1_RES	0/11	R
					Q19700.2.SH2_RES	0/11	R
					Q19700.3.SH3_RES	0/11	R
Temperature Cycling (TC) ¹	A4	JESD22-A104	-65°C/+150°C, 1,000 Cycles	ADTL084	Q19700.1.TC1_RES	0/77	H
					Q19700.3.TC2_RES	0/77	H

					Q19700.5.TC3_RES	0/77	H
Unbiased HAST (UHST) ¹	A3	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	ADTL084	Q19700.1.UH1_RES	0/77	R
					Q19700.2.UH2_RES	0/77	R
					Q19700.3.UH3_RES	0/77	R
Wire Bond Pull	C2	MIL-STD-883, M2011	Post TCT, Single Duration	ADTL084	Q19700.1.WP1_RES	0/10	R
					Q19700.2.WP2_RES	0/10	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 4C: Package/Assembly Test Results - SOIC_N at AMKOR (AP1)

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	AD8676	Q19671.3.HA3_RES	0/77	RH
					Q19671.4.HA4_RES	0/77	RH
					Q19671.5.HA5_RES	0/77	RH
Solder Heat Resistance (SHR)	A1	J-STD-020	MSL-1	AD8676	Q19671.1.SH1_RES	0/11	R
					Q19671.2.SH2_RES	0/11	R
					Q19671.3.SH3_RES	0/11	R
Temperature Cycling (TC) ¹	A4	JESD22-A104	-65°C/+150°C, 1,000 Cycles	AD8676	Q19671.5.TC3_RES	0/77	H
					Q19671.6.TC6_RES	0/77	H
					Q19671.7.TC7_RES	0/77	H
Unbiased HAST (UHST) ¹	A3	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	AD8676	Q19671.3.UH3_RES	0/77	R
					Q19671.4.UH4_RES	0/77	R
					Q19671.5.UH5_RES	0/77	R
Wire Bond Pull	WBP	MIL-STD-883, M2011	Post TCT, Single Duration	AD8676	Q19671.1.WP3_RES	0/10	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 4D: Package/Assembly Test Results - SOIC_N at AMKOR (AP1)

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	ADA4610-2	Q20515.1.HA1_RES	0/77	R
					Q20515.2.HA2_RES	0/77	R
					Q20515.3.HA3_RES	0/77	R
Solder Heat Resistance (SHR)	A1	J-STD-020	MSL-1	ADA4610-2	Q20515.1.SH1_RES	0/11	R
					Q20515.2.SH2_RES	0/11	R
					Q20515.3.SH3_RES	0/11	R
Temperature Cycling (TC) ¹	A4	JESD22-A104	-65°C/+150°C, 1,000 Cycles	ADA4610-2	Q20515.1.TC1_RES	0/77	R
					Q20515.2.TC2_RES	0/77	R
					Q20515.3.TC3_RES	0/77	R
Unbiased HAST (UHST) ¹	A3	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	ADA4610-2	Q20515.1.UH1_RES	0/77	R
					Q20515.2.UH2_RES	0/77	R
					Q20515.3.UH3_RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

Table 4E: Package/Assembly Test Results – mini-SOIC at ASE-Taiwan (AST)

Test Name	AEC #	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS	eTest Temp
Highly Accelerated Temperature and Humidity Stress Test (HAST) ¹	A2	JESD22-A110	130C 85%RH 33.3 psia, Biased, 96 Hours	ADA4096-2	Q20493.1.HA1_RES	0/77	RH
					Q20493.2.HA2_RES	0/77	RH
					Q20493.3.HA3_RES	0/77	RH
Solder Heat Resistance (SHR)	A1	J-STD-020	MSL-1	ADA4096-2	Q20493.1.SH1_RES	0/11	R
					Q20493.2.SH2_RES	0/11	R
					Q20493.3.SH3_RES	0/11	R
Temperature Cycling (TC) ¹	A4	JESD22-A104	-65°C/+150°C, 1,000 Cycles	ADA4096-2	Q20493.1.TC1_RES	0/77	R
					Q20493.2.TC2_RES	0/77	R
					Q20493.3.TC3_RES	0/77	R
Unbiased HAST (UHST) ¹	A3	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	ADA4096-2	Q20493.1.UH1_RES	0/77	R
					Q20493.2.UH2_RES	0/77	R
					Q20493.3.UH3_RES	0/77	R

¹ These samples were subjected to preconditioning at MSL 1 with 3x reflow peak temp of 260°C prior to the start of the stress test.

ESD and Latch-Up Test Results

Table 5: ESD Test Result

ESD Model	Generic/Root Part #	Package	ESD Test Spec	RC Network	Highest Pass Level	Class	eTest Temp
FICDM	AD8226	8-SOIC_N	JS-002	1Ω, Cpkg	±1250V	C3	R
HBM	AD8226	8-SOIC_N	JS-001	1.5kΩ, 100pF	±1000V	1C	R
FICDM	ADTL084	14-SOIC_N	JS-002	1Ω, Cpkg	±1250V	C3	RH
HBM	ADTL084	14-SOIC_N	JS-001	1.5kΩ, 100pF	±4000V	3A	RH
FICDM	AD8676	8-SOIC_N	JS-002	1Ω, Cpkg	±1250V	C3	RH
HBM	AD8676	8-SOIC_N	JS-001	1.5kΩ, 100pF	±2000V	2	RH
FICDM	ADA4610-2	8-SOIC_N	JS-002	1Ω, Cpkg	±1250V	C3	R
HBM	ADA4610-2	8-SOIC_N	JS-001	1.5kΩ, 100pF	±4000V	3A	R
FICDM	ADA4096-2	8-mSOIC	JS-002	1Ω, Cpkg	±1250V	C3	RH
HBM	ADA4096-2	8-mSOIC	JS-001	1.5kΩ, 100pF	±3000V	3	RH

Table 6: Latch Up Test Result

LU Test Spec	Generic/Root Part #	Passing Current	Passing Over-Voltage	Temperature (T _A)	Class	eTest Temp
JESD78	AD8226	+150ma, -150ma	+14.3V	25°C	II	R
JESD78	ADTL084	+200mA, -200mA	+24V	25°C	I	R
JESD78	AD8676	+150ma, -150ma	+24V	125°C	II	RH
JESD78	ADA4610-2	+200mA, -200mA	+24V	25°C	I	R
JESD78	ADA4096-2	+200mA, -200mA	+/-22.5V	125°C	II	RH

Approvals

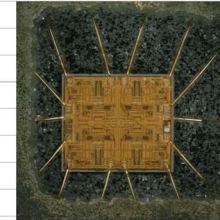
Reliability Engineer: Denis Belisle

Appendix A

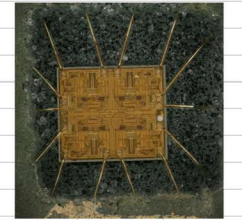
Wire Pull Results

AD8226 Wire Pull Results Post TCT

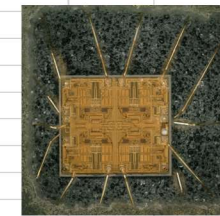
PCL-5011_ Q19700.2.TC4_RES										
Performed by: Gina Ordone										
Date performed: 11/24/2022										
Time Start:11:00										
Time End:12:30										
Unit	1		2		2		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	10.13	a-1	9.99	a-1	10.34	a-1	9.84	a-1	9.72	a-1
2	13.78	a-1	13.56	a-1	13.64	a-1	12.69	a-1	12.55	a-1
3	11.25	a-1	10.05	a-1	10.08	a-1	10.07	a-1	10.31	a-1
4	9.61	a-1	10.19	a-1	10.05	a-1	10.15	a-1	9.87	a-1
5	13.14	a-1	12.14	a-1	12.05	a-1	11.91	a-1	12.74	a-1
6	10.53	a-1	10.03	a-1	9.66	a-1	9.62	a-1	10.03	a-1
MIN	9.61		9.99		9.66		9.62		9.72	
MAX	13.78		13.56		13.64		12.69		12.74	
AVE	11.41		10.99		10.97		10.71		10.87	
STDEV	1.69		1.51		1.55		1.27		1.39	



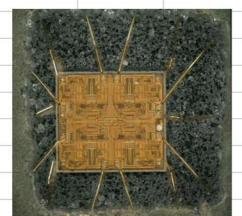
unit1_pre photo



unit2_pre photo



unit1_post photo

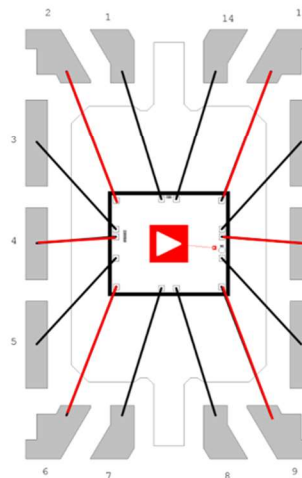
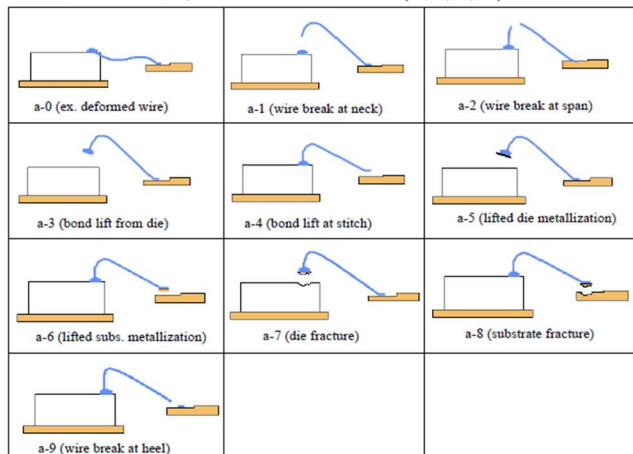


unit2_post photo

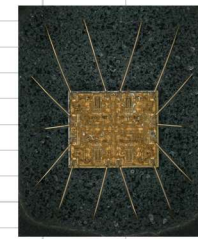
Wire Pull Test Failure Modes

Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

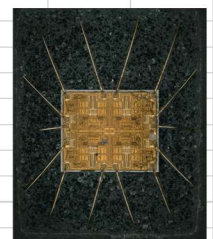
*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)



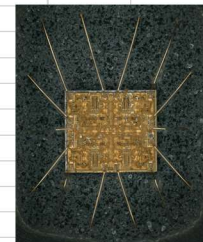
PCL-5144_Q19700.4.TC5										
Performed by: Gina Ordonez										
Date performed:1/10/2023										
Time Start:01:00										
Time End:3:00										
Unit	1		2		2		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	10.55	a-1	10.18	a-1	10.44	a-1	9.6	a-1	9.93	a-1
2	12.17	a-1	12.57	a-1	12.40	a-1	12.27	a-1	12.72	a-1
3	10.24	a-1	10.12	a-1	10.34	a-1	10.14	a-1	10.23	a-1
4	9.90	a-1	10.19	a-1	9.54	a-1	9.66	a-1	9.70	a-1
5	11.96	a-1	11.22	a-1	11.68	a-1	11.54	a-1	11.99	a-1
6	9.70	a-1	9.88	a-1	9.80	a-1	9.45	a-1	10.10	a-1
MIN	9.70		9.88		9.54		9.45		9.70	
MAX	12.17		12.57		12.40		12.27		12.72	
AVE	10.75		10.69		10.70		10.44		10.78	
STDEV	1.06		1.03		1.11		1.18		1.26	



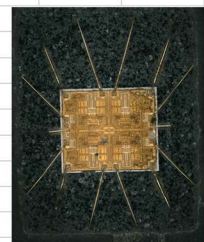
unit1_pre photo



unit2_pre photo



unit1_post photo

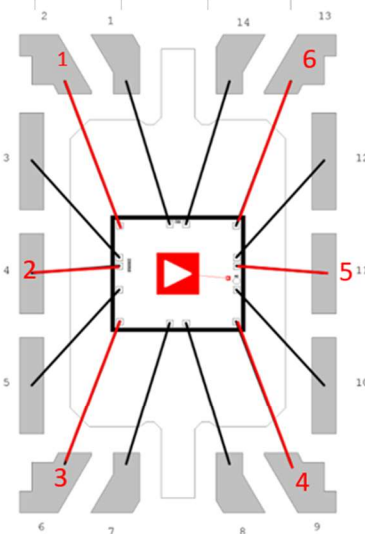
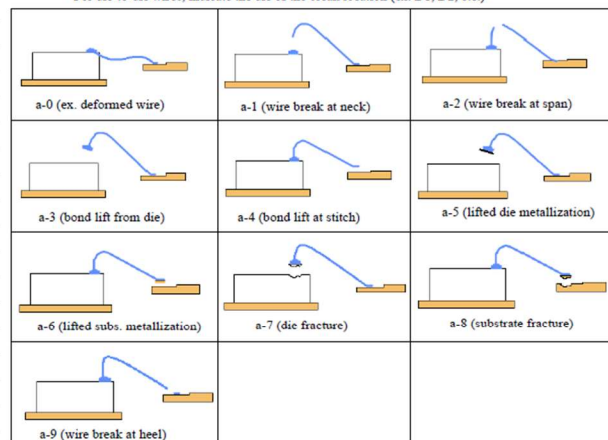


unit2_post photo

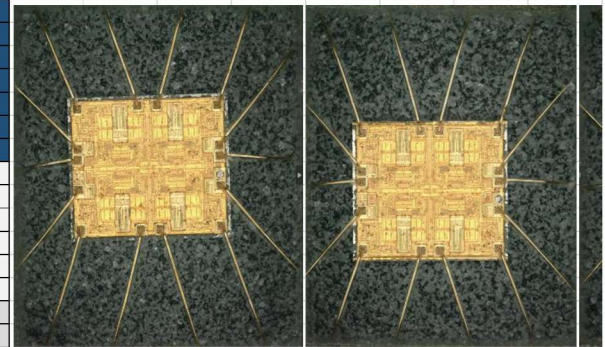
Wire Pull Test Failure Modes

Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)

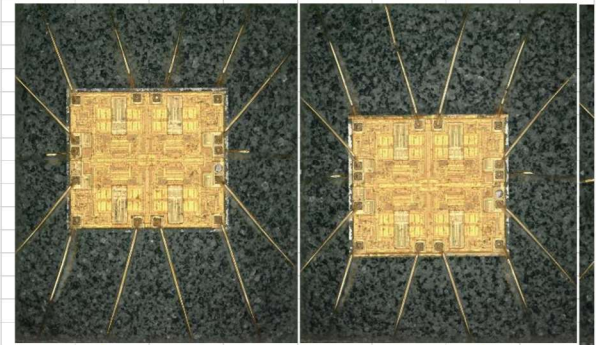


PCL-5438										
Performed by: Ervine Robea										
Date performed: 03/16/23										
Time Start: 13:00										
Time End: 13:45										
Unit	1		2		3		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	9.99	a-1	9.33	a-1	8.47	a-1	8.97	a-1	9.47	a-1
2	11.55	a-1	11.18	a-1	10.97	a-1	11.14	a-1	11.23	a-1
3	9.47	a-1	9.36	a-1	9.53	a-1	9.45	a-1	9.52	a-1
4	9.88	a-1	9.57	a-1	10.02	a-1	9.57	a-1	9.64	a-1
5	11.08	a-1	10.79	a-1	11.4	a-1	11.27	a-1	11.21	a-1
6	9.08	a-1	9.38	a-1	8.97	a-1	9.4	a-1	9.8	a-1
MIN	9.08		9.33		8.47		8.97		9.47	
MAX	11.55		11.18		11.40		11.27		11.23	
AVE	10.18		9.94		9.89		9.97		10.15	
STDEV	0.95		0.83		1.14		0.98		0.84	



PRE U1

PRE U2



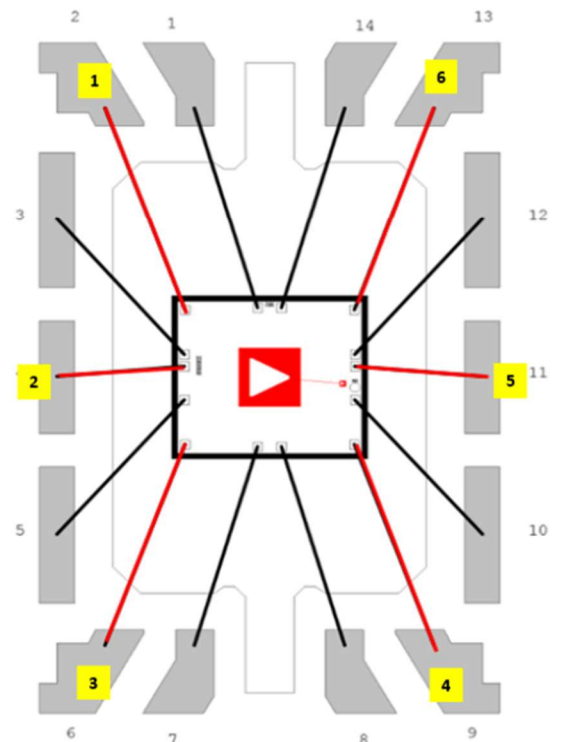
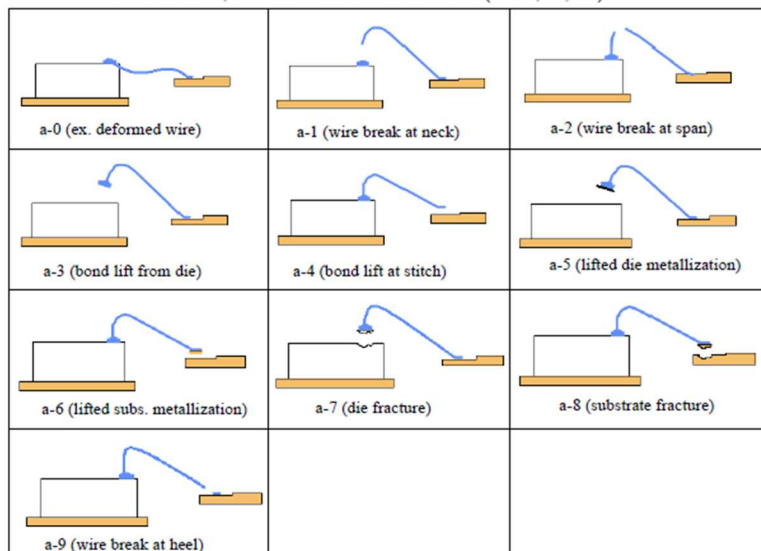
POST U1

POST U2

Wire Pull Test Failure Modes

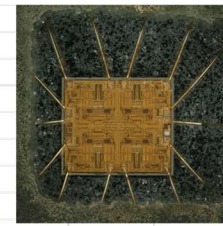
Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)

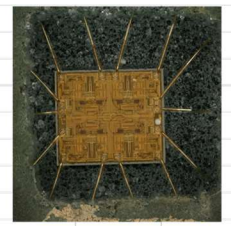


ADTL084 Post TCT Wire Pull Results

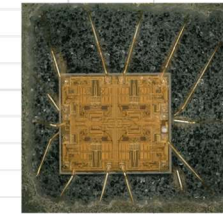
PCL-5011_ Q19700.2.TC4_RES										
Performed by: Gina Ordonez										
Date performed: 11/24/2022										
Time Start:11:00										
Time End:12:30										
Unit	1		2		2		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	10.13	a-1	9.99	a-1	10.34	a-1	9.84	a-1	9.72	a-1
2	13.78	a-1	13.56	a-1	13.64	a-1	12.69	a-1	12.55	a-1
3	11.25	a-1	10.05	a-1	10.08	a-1	10.07	a-1	10.31	a-1
4	9.61	a-1	10.19	a-1	10.05	a-1	10.15	a-1	9.87	a-1
5	13.14	a-1	12.14	a-1	12.05	a-1	11.91	a-1	12.74	a-1
6	10.53	a-1	10.03	a-1	9.66	a-1	9.62	a-1	10.03	a-1
MIN	9.61		9.99		9.66		9.62		9.72	
MAX	13.78		13.56		13.64		12.69		12.74	
AVE	11.41		10.99		10.97		10.71		10.87	
STDEV	1.69		1.51		1.55		1.27		1.39	



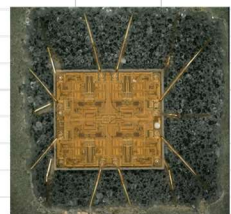
unit1_pre photo



unit2_pre photo



unit1_post photo

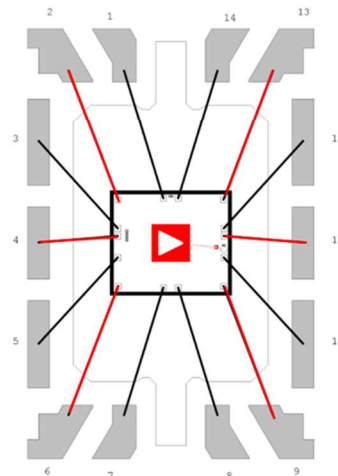
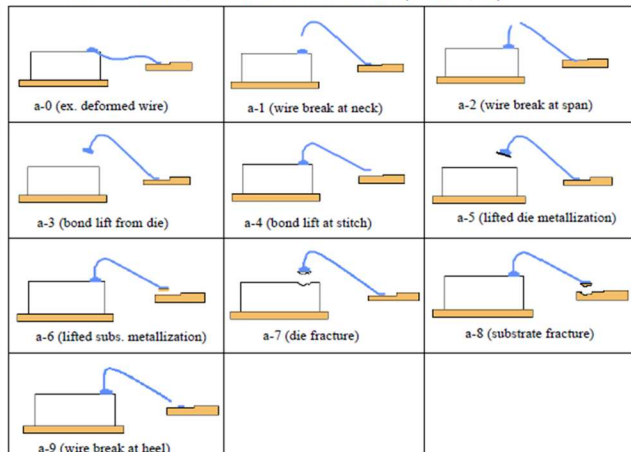


unit2_post photo

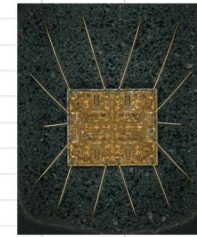
Wire Pull Test Failure Modes

Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)



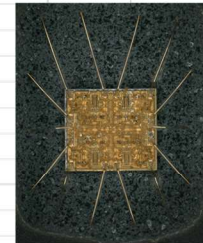
PCL-5144_Q19700.4.TC5										
Performed by: Gina Ordoneo										
Date performed:1/10/2023										
Time Start:01:00										
Time End:3:00										
Unit	1		2		2		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	10.55	a-1	10.18	a-1	10.44	a-1	9.6	a-1	9.93	a-1
2	12.17	a-1	12.57	a-1	12.40	a-1	12.27	a-1	12.72	a-1
3	10.24	a-1	10.12	a-1	10.34	a-1	10.14	a-1	10.23	a-1
4	9.90	a-1	10.19	a-1	9.54	a-1	9.66	a-1	9.70	a-1
5	11.96	a-1	11.22	a-1	11.68	a-1	11.54	a-1	11.99	a-1
6	9.70	a-1	9.88	a-1	9.80	a-1	9.45	a-1	10.10	a-1
MIN	9.70		9.88		9.54		9.45		9.70	
MAX	12.17		12.57		12.40		12.27		12.72	
AVE	10.75		10.69		10.70		10.44		10.78	
STDEV	1.06		1.03		1.11		1.18		1.26	



unit1_pre photo



unit2_pre photo



unit1_post photo

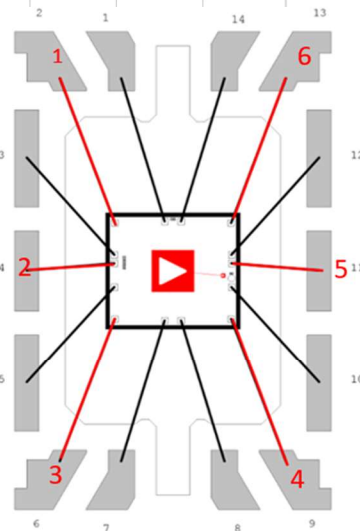
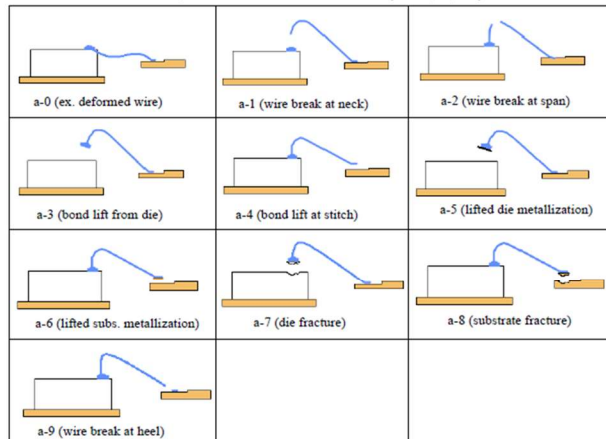


unit2_post photo

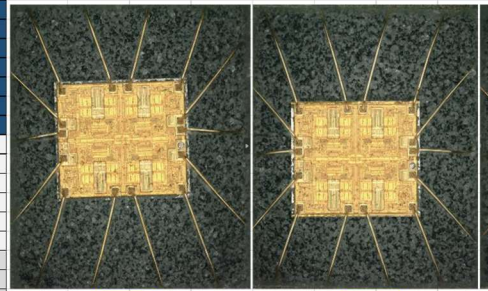
Wire Pull Test Failure Modes

Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)

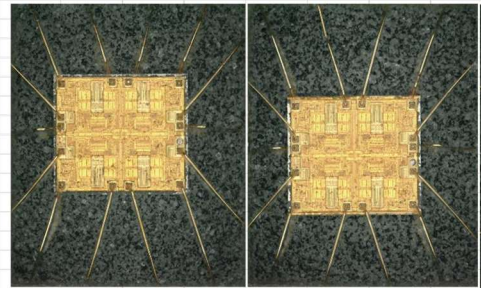


PCL-6438										
Performed by: Ervine Robea										
Date performed: 03/16/23										
Time Start: 13:00										
Time End: 13:45										
Unit	1		2		3		4		5	
Ball	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode	Pull	Mode
1	9.99	a-1	9.33	a-1	8.47	a-1	8.97	a-1	9.47	a-1
2	11.55	a-1	11.18	a-1	10.97	a-1	11.14	a-1	11.23	a-1
3	9.47	a-1	9.36	a-1	9.53	a-1	9.45	a-1	9.52	a-1
4	9.88	a-1	9.57	a-1	10.02	a-1	9.57	a-1	9.64	a-1
5	11.08	a-1	10.79	a-1	11.4	a-1	11.27	a-1	11.21	a-1
6	9.08	a-1	9.38	a-1	8.97	a-1	9.4	a-1	9.8	a-1
MIN	9.08		9.33		8.47		8.97		9.47	
MAX	11.55		11.18		11.40		11.27		11.23	
AVE	10.18		9.94		9.89		9.97		10.15	
STDEV	0.95		0.83		1.14		0.98		0.84	



PRE U1

PRE U2



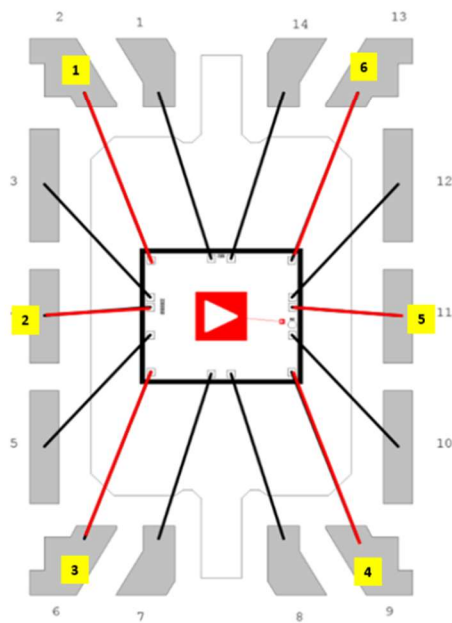
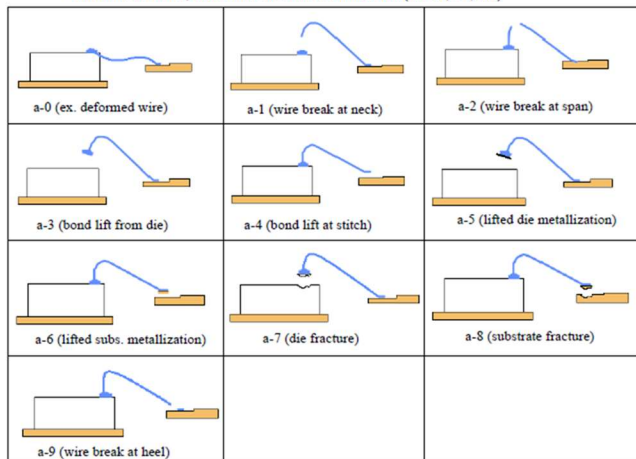
POST U1

POST U2

Wire Pull Test Failure Modes

Mode	Description
a-0	Wire damaged/broken/missing prior test, or unsuitable for test
a-1	Wire break at neckdown point (reduction of cross section due to bonding process)
a-2	Wire break at point other than neckdown
a-3	Failure in bond (interface between wire and metallization) at die*
a-4	Failure in bond (interface between wire and metallization) at substrate, package post, or other than die
a-5	Lifted metallization from die*
a-6	Lifted metallization from substrate or package post
a-7	Fracture of die*
a-8	Fracture of substrate
a-9	Wire break at neckdown point on the substrate or package post

*For die-to-die wires, indicate the die of the break location (ex. D1, D2, etc.)



Appendix B - Revision History:			
Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	04-Apr-2023	07-Jul-2023	Initial Release.
Rev. A	10-May-2023	12-Aug-2023	Add parts.
Rev. B	12-Jun-2023	12-Aug-2023	Remove parts.
Rev. C	02-Oct-2023	12-Aug-2023	Removing models ADA4096-2ACPZ-R7 & ADA4096-2ACPZ-RL. Add completed Qualification Report.
Rev. D	02-Nov-2023	12-Aug-2023	Remove parts.