



Product/Process Change Notice - PCN 14_0020 Rev. C

Analog Devices, Inc. Three Technology Way Norwood, Massachusetts 02062-9106

This notice is to inform you of a change that will be made to certain ADI products (see Material Report). Any issues with this PCN or requirements to qualify the change (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: Conversion of 4x4mm body Size LFCSP Package Outlines from Punch to Sawn and Transfer of Assembly Site to Amkor Philippines.

Publication Date: 22-Dec-2014

Effectivity Date: 22-Mar-2015 *(the earliest date that a customer could expect to receive changed material)*

Revision Description:

Add Parts

Description Of Change

ADI has qualified and will be utilizing Assembly subcontractor Amkor in Philippines for 4x4mm body size LFCSP products. ADI has also qualified Amkor's standard bill of materials in a SAWN singulated leadframe. There will be no change in BOM. Pin1 indicator will be laser marked as part of the change. See attached for changes and package outline differences.

Reason For Change

Sawn LFCSP is ADI's technology direction for LFCSP. The use of ADI qualified Amkor-Philippines as an assembly site will ensure continued source of product supply. ADI's assembly subcontractors manufacture our products using Analog Devices specified manufacturing flows, process controls and monitors. This assures that our customers receive the same level of quality and reliability on products they receive from qualified ADI manufacturing locations.

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

The devices function and reliability as specified by the product datasheet will be unaffected by these changes. The Lead Foot Print Dimension will remain the same for both punch and sawn LFCSP packages

Summary of Supporting Information

Qualification has been performed per ADI0012, Procedure for Qualification of New or Revised Processes. See attached Qualification Report Summary.

Supporting Documents

Attachment 1: Type: Qualification Results Summary

ADI_PCN_14_0020_Rev_C_Qualification Summary.pdf

Attachment 2: Type: Detailed Change Description

ADI_PCN_14_0020_Rev_C_Materials and Package Configuration.pdf

Attachment 3: Type: Package Outline Drawing

For questions on this PCN, please send an email to the regional contacts below or contact your local ADI sales representatives.			
Americas:	PCN_Americas@analog.com	Europe:	PCN_Europe@analog.com
		Japan:	PCN_Japan@analog.com
		Rest of Asia:	PCN_ROA@analog.com

Appendix A - Affected ADI Models				
Existing Parts - Product Family / Model Number (267)				
AD5433 / AD5433YCPZ	AD7143 / AD7143ACPZ-1500RL7	AD7143 / AD7143ACPZ-1REEL	AD7148 / AD7148ACPZ-1500RL7	AD7148 / AD7148ACPZ-1REEL
AD7682 / AD7682BCPZ	AD7682 / AD7682BCPZRL7	AD7695 / AD71090Z	AD7695 / AD71090ZRL	AD7695 / AD71090ZRL7
AD7699 / AD7699BCPZ	AD7699 / AD7699BCPZRL7	AD7944 / AD7944BCPZ	AD7944 / AD7944BCPZ-RL7	AD7985 / AD7985BCPZ
AD7985 / AD7985BCPZ-RL7	AD7986 / AD7986BCPZ	AD7986 / AD7986BCPZ-RL7	AD8003 / AD8003ACPZ-R2	AD8003 / AD8003ACPZ-REEL
AD8003 / AD8003ACPZ-REEL7	AD8133 / AD80201Z	AD8133 / AD8133ACPZ-R2	AD8133 / AD8133ACPZ-REEL	AD8133 / AD8133ACPZ-REEL7
AD8134 / AD8134ACPZ-R2	AD8134 / AD8134ACPZ-REEL	AD8134 / AD8134ACPZ-REEL7	AD8146 / AD8146ACPZ-R2	AD8146 / AD8146ACPZ-R7
AD8146 / AD8146ACPZ-RL	AD8147 / AD8147ACPZ-R2	AD8147 / AD8147ACPZ-R7	AD8147 / AD8147ACPZ-RL	AD8148 / AD8148ACPZ-R2
AD8148 / AD8148ACPZ-R7	AD8148 / AD8148ACPZ-RL	AD8222 / AD8222ACPZ-R7	AD8222 / AD8222ACPZ-RL	AD8222 / AD8222ACPZ-WP
AD8222 / AD8222BCPZ-R7	AD8222 / AD8222BCPZ-RL	AD8222 / AD8222BCPZ-WP	AD8222 / AD8222HACPZ-WP	AD8222 / AD8222HBCPZ-WP
AD8224 / AD8224ACPZ-R7	AD8224 / AD8224ACPZ-RL	AD8224 / AD8224ACPZ-WP	AD8224 / AD8224BCPZ-R7	AD8224 / AD8224BCPZ-RL
AD8224 / AD8224BCPZ-WP	AD8224 / AD8224HACPZ-WP	AD8224 / AD8224HBCPZ-WP	AD8270 / AD8270ACPZ-R7	AD8270 / AD8270ACPZ-RL
AD8270 / AD8270ACPZ-WP	AD8295 / AD8295ACPZ-WP	AD8295 / AD8295BCPZ-WP	AD8318 / AD8318ACPZ-R2	AD8318 / AD8318ACPZ-REEL7
AD8318 / AD8318ACPZ-WP	AD8324 / AD8324ACPZ	AD8324 / AD8324ACPZ-REEL7	AD8336 / AD8336ACPZ-R7	AD8336 / AD8336ACPZ-RL
AD8336 / AD8336ACPZ-WP	AD8340 / AD8340ACPZ-REEL7	AD8340 / AD8340ACPZ-WP	AD8341 / AD8341ACPZ-REEL7	AD8341 / AD8341ACPZ-WP
AD8363 / AD8363ACPZ-R2	AD8363 / AD8363ACPZ-R7	AD8363 / AD8363ACPZ-WP	AD8368 / AD8368ACPZ-REEL7	AD8368 / AD8368ACPZ-WP
AD8375 / AD8375ACPZ-R7	AD8375 / AD8375ACPZ-WP	AD8390A / AD8390AACPZ-R2	AD8390A / AD8390AACPZ-R7	AD8390A / AD8390AACPZ-RL
AD8398 / AD8398ACPZ-R2	AD8398 / AD8398ACPZ-R7	AD8398 / AD8398ACPZ-RL	AD8426 / AD8426ACPZ-WP	AD8426 / AD8426BCPZ-WP
AD8555 / AD8555ACPZ-R2	AD8555 / AD8555ACPZ-REEL	AD8555 / AD8555ACPZ-REEL7	AD8557 / AD8557ACPZ-R2	AD8557 / AD8557ACPZ-REEL
AD8557 / AD8557ACPZ-REEL7	AD8567 / AD8567ACPZ-R2	AD8567 / AD8567ACPZ-REEL	AD8567 / AD8567ACPZ-REEL7	ADA4004-4 / ADA4004-4ACPZ-R2
ADA4004-4 / ADA4004-4ACPZ-R7	ADA4004-4 / ADA4004-4ACPZ-RL	ADA4310-1 / ADA4310-1ACPZ-R2	ADA4310-1 / ADA4310-1ACPZ-R7	ADA4310-1 / ADA4310-1ACPZ-RL
ADA4937-2 / ADA4937-2YCPZ-R2	ADA4937-2 / ADA4937-2YCPZ-R7	ADA4937-2 / ADA4937-2YCPZ-RL	ADA4938-2 / ADA4938-2ACPZ-R2	ADA4938-2 / ADA4938-2ACPZ-R7
ADA4938-2 / ADA4938-2ACPZ-RL	ADA4939-2 / ADA4939-2YCPZ-R2	ADA4939-2 / ADA4939-2YCPZ-R7	ADA4939-2 / ADA4939-2YCPZ-RL	ADCLK846 / ADCLK846BCPZ
ADCLK846 / ADCLK846BCPZ-REEL7	ADCLK946 / ADCLK946BCPZ	ADCLK946 / ADCLK946BCPZ-REEL7	ADF4252 / ADF4252BCPZ	ADF4252 / ADF4252BCPZ-R7
ADF4252 / ADF4252BCPZ-RL	ADF4360-0 / ADF4360-0BCPZ	ADF4360-0 / ADF4360-0BCPZRL	ADF4360-0 / ADF4360-0BCPZRL7	ADF4360-1 / ADF4360-1BCPZ
ADF4360-1 / ADF4360-1BCPZRL	ADF4360-1 / ADF4360-1BCPZRL7	ADF4360-1 / ADF4360-1SP1BCPZ	ADF4360-1 / ADF4360-1SP1BCPZRL	ADF4360-2 / ADF4360-2BCPZ
ADF4360-2 / ADF4360-2BCPZRL	ADF4360-2 / ADF4360-2BCPZRL7	ADF4360-3 / ADF4360-3BCPZ	ADF4360-3 / ADF4360-3BCPZRL	ADF4360-3 / ADF4360-3BCPZRL7
ADF4360-4 / ADF4360-4BCPZ	ADF4360-4 / ADF4360-4BCPZRL	ADF4360-4 / ADF4360-4BCPZRL7	ADF4360-5 / ADF4360-5BCPZ	ADF4360-5 / ADF4360-5BCPZRL
ADF4360-5 / ADF4360-5BCPZRL7	ADF4360-6 / ADF4360-6BCPZ	ADF4360-6 / ADF4360-6BCPZRL	ADF4360-6 / ADF4360-6BCPZRL7	ADF4360-7 / AD57/003Z-0RL
ADF4360-7 / AD57/008Z-0RL	ADF4360-7 / AD57/008Z-0RL7	ADF4360-7 / ADF4360-7BCPZ	ADF4360-7 / ADF4360-7BCPZRL	ADF4360-7 / ADF4360-7BCPZRL7
ADF4360-8 / ADF4360-8BCPZ	ADF4360-8 / ADF4360-8BCPZRL	ADF4360-8 / ADF4360-8BCPZRL7	ADF4360-9 / ADF4360-9BCPZ	ADF4360-9 / ADF4360-9BCPZRL
ADF4360-9 / ADF4360-9BCPZRL7	ADG1208 / ADG1208YCPZ-REEL	ADG1208 / ADG1208YCPZ-REEL7	ADG1209 / ADG1209YCPZ-REEL	ADG1209 / ADG1209YCPZ-REEL7
ADG1233 / ADG1233YCPZ-REEL	ADG1233 / ADG1233YCPZ-REEL7	ADG1234 / ADG1234YCPZ-REEL	ADG1234 / ADG1234YCPZ-REEL7	ADG1404 / ADG1404YCPZ-REEL
ADG1404 / ADG1404YCPZ-REEL7	ADG1408 / ADG1408YCPZ-REEL7	ADG1409 / ADG1409YCPZ-REEL7	ADG1412 / ADG1412YCPZ-REEL	ADG1412 / ADG1412YCPZ-REEL7
ADG1413 / ADG1413YCPZ-REEL	ADG1413 / ADG1413YCPZ-REEL7	ADG1414 / ADG1414BCPZ-REEL7	ADG1433 / ADG1433YCPZ-REEL	ADG1433 / ADG1433YCPZ-REEL7
ADG1434 / ADG1434YCPZ-REEL	ADG1434 / ADG1434YCPZ-REEL7	ADG1436 / ADG1436YCPZ-REEL	ADG1436 / ADG1436YCPZ-REEL7	ADG1438 / ADG1438BCPZ-REEL7
ADG1439 / ADG1439BCPZ-REEL7	ADG1604 / ADG1604BCPZ-REEL	ADG1604 / ADG1604BCPZ-REEL7	ADG1611 / ADG1611BCPZ-REEL	ADG1611 / ADG1611BCPZ-REEL7
ADG1612 / ADG1612BCPZ-REEL	ADG1612 / ADG1612BCPZ-REEL7	ADG1613 / ADG1613BCPZ-REEL	ADG1613 / ADG1613BCPZ-REEL7	ADG1634 / ADG1634BCPZ-REEL7
ADG1636 / ADG1636BCPZ-REEL	ADG1636 / ADG1636BCPZ-REEL7	ADG3246 / ADG3246BCPZ	ADG3246 / ADG3246BCPZ-REEL7	ADG3304 / ADG3304BCPZ-REEL
ADG3304 / ADG3304BCPZ-REEL7	ADG3308 / ADG3308BCPZ-REEL	ADG3308 / ADG3308BCPZ-REEL7	ADG659 / ADG659YCPZ	ADG659 / ADG659YCPZ-REEL7
ADG786 / ADG786BCPZ	ADG786 / ADG786BCPZ-REEL7	ADG888 / ADG888YCPZ-REEL	ADG888 / ADG888YCPZ-REEL7	ADL5310 / ADL5310ACPZ-REEL7
ADL5330 / ADL5330ACPZ-R2	ADL5330 / ADL5330ACPZ-REEL7	ADL5330 / ADL5330ACPZ-WP	ADL5331 / ADL5331ACPZ-R7	ADL5370 / ADL5370ACPZ-R7
ADL5370 / ADL5370ACPZ-WP	ADL5371 / ADL5371ACPZ-R7	ADL5372 / ADL5372ACPZ-R2	ADL5372 / ADL5372ACPZ-R7	ADL5373 / ADL5373ACPZ-R2
ADL5373 / ADL5373ACPZ-R7	ADL5373 / ADL5373ACPZ-WP	ADL5374 / ADL5374ACPZ-R2	ADL5374 / ADL5374ACPZ-R7	ADL5374 / ADL5374ACPZ-WP
ADL5380 / ADL5380ACPZ-R7	ADL5380 / ADL5380ACPZ-WP	ADL5382 / ADL5382ACPZ-WP	ADL5385 / ADL5385ACPZ-R7	ADL5385 / ADL5385ACPZ-WP
ADL5387 / ADL5387ACPZ-R2	ADL5387 / ADL5387ACPZ-R7	ADL5387 / ADL5387ACPZ-WP	ADL5390 / ADL5390ACPZ-REEL7	ADL5390 / ADL5390ACPZ-WP
ADL5604 / ADL5604ACPZ-R7	ADL5605 / ADL5605ACPZ-R7	ADL5606 / ADL5606ACPZ-R7	ADL5801 / ADL5801ACPZ-R7	ADL5802 / ADL5802ACPZ-R7
ADL5902 / ADL5902ACPZ-R2	ADL5902 / ADL5902ACPZ-R7	ADL5902 / ADL5902ACPZ-WP	ADM8832 / ADM8832ACPZ	ADM8832 / ADM8832ACPZ-REEL
ADM8832 / ADM8832ACPZ-REEL7	ADN2873 / ADN2873ACPZ	ADN2873 / ADN2873ACPZ-R7	ADN2873 / ADN2873ACPZ-RL	ADN2915 / ADN2915ACPZ

ADN8810 / ADN8810ACPZ	ADN8810 / ADN8810ACPZ-REEL7	ADP1740 / ADP1740ACPZ-0.75R7	ADP1740 / ADP1740ACPZ-1.0-R7	ADP1740 / ADP1740ACPZ-1.1-R7
ADP1740 / ADP1740ACPZ-1.2-R7	ADP1740 / ADP1740ACPZ-1.5-R7	ADP1740 / ADP1740ACPZ-1.8-R7	ADP1740 / ADP1740ACPZ-2.5-R7	ADP1741 / ADP1741ACPZ-R7
ADP1752 / ADP1752ACPZ-0.75R7	ADP1752 / ADP1752ACPZ-1.2-R7	ADP1752 / ADP1752ACPZ-1.5-R7	ADP1752 / ADP1752ACPZ-1.8-R7	ADP1752 / ADP1752ACPZ-2.5-R7
ADP1753 / ADP1753ACPZ-R7	ADP1754 / ADP1754ACPZ-1.0-R7	ADP1754 / ADP1754ACPZ-1.1-R7	ADP1754 / ADP1754ACPZ-1.2-R7	ADP1754 / ADP1754ACPZ-1.5-R7
ADP1754 / ADP1754ACPZ-1.8-R7	ADP1754 / ADP1754ACPZ-2.5-R7	ADP1755 / ADP1755ACPZ-R7	ADP5020 / ADP5020ACPZ-R7	ADP5520 / ADP5520ACPZ-R7
ADP5520 / ADP5520ACPZ-RL	ADP8860 / ADP8860ACPZ-R7			

Added Parts On This Revision - Product Family / Model Number (10)				
AD7689 / AD7689ACPZ	AD7689 / AD7689ACPZRL7	AD7689 / AD7689BCPZ	AD7689 / AD7689BCPZRL7	ADG788 / ADG788BCPZ
ADG788 / ADG788BCPZ-REEL	ADG788 / ADG788BCPZ-REEL7	ADN2872 / ADN2872ACPZ	ADN2872 / ADN2872ACPZ-R7	ADN2872 / ADN2872ACPZ-RL

Removed Parts On All Revisions - Product Family / Model Number (24)				
AD7949 / AD7949BCPZ	AD7949 / AD7949BCPZRL7	AD7949 / AD7949SCPZ-EP-R2	AD7949 / AD7949SCPZ-EP-RL7	AD8222 / AD8222HACPZ-R7
AD8222 / AD8222HACPZ-RL	AD8222 / AD8222HBCPZ-R7	AD8222 / AD8222HBCPZ-RL	AD8224 / AD8224HBCPZ-R7	AD8224 / AD8224HBCPZ-RL
AD8295 / AD8295ACPZ-R7	AD8295 / AD8295ACPZ-RL	AD8295 / AD8295BCPZ-R7	AD8295 / AD8295BCPZ-RL	AD8426 / AD8426ACPZ-R7
ADF4002 / AD57/009Z-0RL7	ADF4002 / ADF4002BCPZ	ADF4002 / ADF4002BCPZ-RL	ADF4002 / ADF4002BCPZ-RL7	ADF4153 / AD57/012Z-0RL7
ADF4153 / ADF4153BCPZ	ADF4153 / ADF4153BCPZ-RL	ADF4153 / ADF4153BCPZ-RL7	ADL5382 / ADL5382ACPZ-R7	

Appendix B - Revision History			
Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	03-Feb-2014	04-May-2014	Initial Release
Rev. A	05-May-2014	05-May-2014	Remove parts not transferring
Rev. B	13-May-2014	13-May-2014	Remove part
Rev. C	22-Dec-2014	22-Mar-2015	Add Parts

Analog Devices, Inc.

DocId:3156 Parent DocId:None Layout Rev:7

Package Dimensions

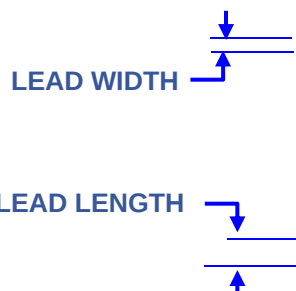
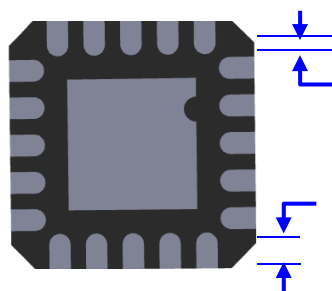
PUNCH



SAWN



Package Thickness Difference



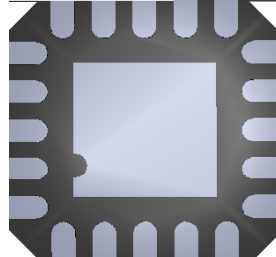
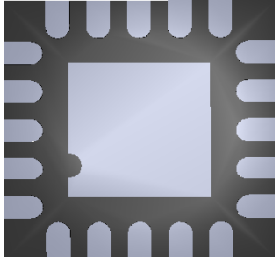
Exposed Pad, Lead Length and Lead Width dimensions remains within tolerance.

Body Size (mm)	Lead Count	Lead Pitch (mm)	Punch LFCSP POD	Sawn LFCSP POD	Exposed Pad Size (mm)
4 x 4	16	0.65	CP 16-16	CP 16-34	1.8 x 1.8
			CP 16-4	CP 16-23	2.3 x 2.3
			CP 16-10	CP 16-20	2.35 x 2.35
			CP 16-13	CP 16-26	2.5 x 2.5
	20	0.5	CP 20-1	CP 20-6	2.1 x 2.1
			CP 20-3	CP 20-7	2.3 x 2.3
			CP 20-4	CP 20-10	2.5 x 2.5
	24	0.5	CP 24-1	CP 24-10	2.1 x 2.1
			CP 24-13 CP 24-2	CP 24-14	2.3 x 2.3
			CP 24-3	CP 24-7	2.5 x 2.5

Package Outline Drawing (POD) Dimensional Analysis

Body Size (mm)	Lead Count	Punch Type LFCSP				Sawn Type LFCSP			
		POD Spec	E-Pad Size (mm SQ.)	Lead Length (mm)	Lead Width (mm)	POD Spec	E-Pad Size (mm SQ.)	Lead Length (mm)	Lead Width (mm)
4x4	16	CP 16-16	1.8 ± 0.15	0.60 ^{+0.15} _{-0.10}	0.30 ±0.05	CP 16-34	1.8 ± 0.15	0.60 ^{+0.15} _{-0.10}	0.30 ±0.05
		CP 16-4	2.3 ± 0.15	0.60 ^{+0.15} _{-0.10}	0.30 ±0.05	CP 16-23	2.3 ± 0.15	0.60 ± 0.10	0.30 ±0.05
		CP 16-10	2.35 ± 0.15	0.40 ±0.10	0.30 ±0.05	CP 16-20	2.35 ±0.10	0.40 ±0.10	0.30 ±0.05
		CP 16-13	2.5 ± 0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 16-26	2.5 ±0.10	0.40 ±0.10	0.30 ±0.05
4x4	20	CP 20-1	2.1 ± 0.15	0.60 ^{+0.15} _{-0.10}	0.23 ^{+0.07} _{-0.05}	CP 20-6	2.1 ±0.10	0.60 ±0.05	0.25 ^{+0.05} _{-0.07}
		CP 20-3	2.3 ± 0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 20-7	2.3 ± 0.15	0.40 ±0.10	0.25 ^{+0.05} _{-0.07}
		CP 20-4	2.5 ± 0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 20-10	2.5 ±0.15	0.40 ±0.10	0.25 ±0.05
4x4	24	CP 24-1	2.1 ± 0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 24-10	2.1 ±0.10	0.40 ±0.10	0.25 ^{+0.05} _{-0.07}
		CP 24-13	2.3 ±0.10	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 24-14	2.3 ±0.10	0.40 ±0.10	0.25 ^{+0.05} _{-0.07}
		CP 24-2	2.3 ±0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 24-14	2.3 ±0.10	0.40 ±0.10	0.25 ^{+0.05} _{-0.07}
		CP 24-3	2.5 ± 0.15	0.40 ±0.10	0.23 ^{+0.07} _{-0.05}	CP 24-7	2.5 ± 0.15	0.40 ±0.10	0.25 ^{+0.05} _{-0.07}
LEGEND: Tighter (Better) Standardized									

Bill of Materials and Package Configuration

Material	FROM	TO	Remarks
	Amkor - Korea	Amkor - Philippines	
Die Attach	Ablestik 8290	Ablestik 8290	Same
Wire	Au	Au	Same
Mold Compound	Sumitomo G700	Sumitomo G700	Same
Leadframe	C194	C194	Same
<u>Package:</u> Side			<u>Punch:</u> Flange <u>Sawn:</u> Square
Top			<u>Sawn:</u> • Pin 1 is Laser Marked • Square Edge
Bottom			Same Foot Print