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(54) **Title:** BUMPLESS BUILD-UP LAYER PACKAGE DESIGN WITH AN INTERPOSER

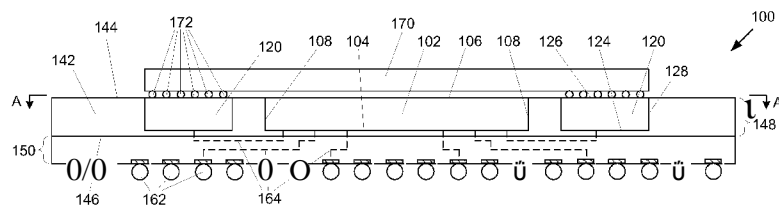


FIG. 1

(57) **Abstract:** The present disclosure relates to the field of integrated circuit package design and, more particularly, to packages using a bumpless build-up layer (BBUL) designs. Embodiments of the present description relate to the field of fabricating microelectronic packages, wherein an interposer, such as a through-silicon via interposer, may be used in a bumpless build-up layer package to facilitate stacked microelectronic components.



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## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2011/042534****A. CLASSIFICATION OF SUBJECT MATTER****HOIL 23/48(2006.01)i, HOIL 23/482(2006.01)1, H05K 3/46(2006.01)1**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

HOIL 23/48; HOIL 23/02; HOIL 23/28; HOIL 21/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: die, chip, encapsulate, interpose, stack

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2009-0294942 A1 (ERIC c. PALMER et al.) 03 December 2009 See abstract; paragraphs [0011]-[0031]; claims 13-24; and figures 1-5.	1-20
X	US 2008-0029872 A1 (SHIH-PING HSU et al.) 07 February 2008 See abstract; paragraphs [0042]-[0051]; claims 1-17; and figures 2a-4.	1-2,4-12,14-20
A	US 2003-0127737 A1 (NORIO TAKAHASHI) 10 July 2003 See abstract; paragraphs [0044]-[0049], [0065]-[0070]; claims 1-14; and figures 1-3, 8A-8D.	1-20
A	US 2006-0175695 A1 (MYUNG KIL LEE) 10 August 2006 See abstract; paragraphs [0027]-[0044]; claims 11-20; and figures 1-10.	1-20

 Further documents are listed in the continuation of Box C. See patent family annex.

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0294942 A1	03.12.2009	CN 10 198 169 1 A DE 1 12009000383 T5 JP 2011-5140 15 A JP 2011-5140 15 T KR 10-20 10-0119889 A US 8093704 B2 WO 2009- 158098 A3 WO 2009- 158098 A3	23.02.2011 21.04.2011 28.04.2011 28.04.2011 11.11.2010 10.01.2012 25.02.2010 30.12.2009
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US 2006-0 175695 A1	10.08.2006	None	