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- (71) Applicant (for all designated States except US):
AMPHENOL CORPORATION [US/US]; 358 Hall Avenue, Wallingford Center, CT 06492-3574 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): MCNAMARA, David, M. [US/US]; 11 Pine Top Road, Amherst, NH 03031 (US). KIRK, Brian [US/US]; 11 Fernwood Lane, Amherst, NH 03031 (US).
- (74) Agent: CHEUNG HUGHES, Ling; Wolf, Greenfield & Sacks P.C., 600 Atlantic Avenue, Boston, MA 02210-2206 (US).

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[Continued on next page]

(54) Title: MEZZANINE CONNECTOR

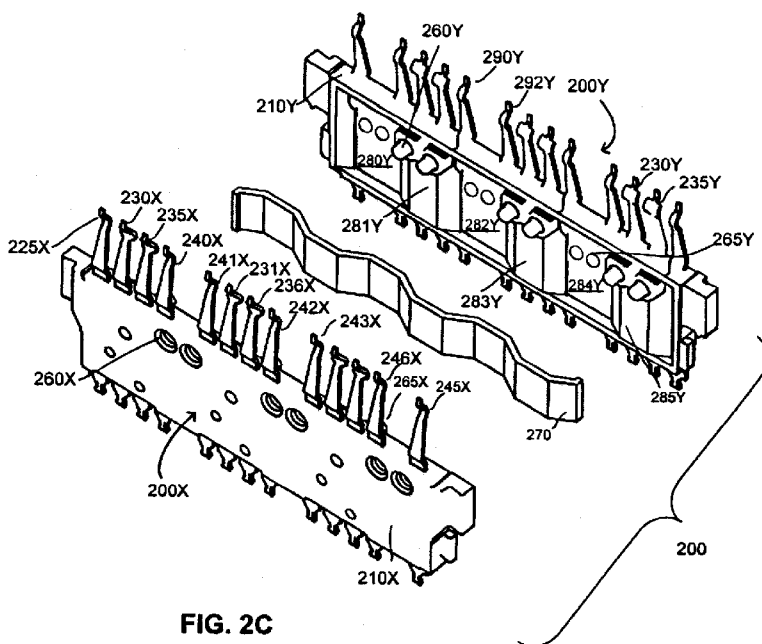


FIG. 2C

(57) Abstract: A two-piece mezzanine connector for high speed, high density signals. The connector is assembled from wafers that may be formed of identical wafer halves. The halves may have interior portions that form a channel in which a lossy member may be captured for selectively configuring the connector for high frequency performance. The lossy member may be serpentine, to both provide different spacing relative to signal and ground conductors and to provide compliance to press against ground conductors when captured between wafer halves. Instead of, or in addition to, the lossy member captured between two wafer halves, the wafer halves may each have lossy material overmolded on at least one side, so that an assembled wafer may have lossy material disposed on the outside. The wafers may have dovetail projections that are secured within dovetail channels, forming structural members of the connector.



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A. CLASSIFICATION OF SUBJECT MATTER**H01R 12/71(2011.01)i, H01R 13/648(2006.01)i**

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01R 12/71; H01R 13/648; H01R 4/66; H01R 4/48

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) & Keywords: mezzanine connector,wafer,profile,recess,region,insulative portion,channel,lossy member,serpentine,raised portion,protruding portion,dovetail-shaped cross section,beam,opening,support member,pad,solder attachment

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2002-0187688 A1 (EDWARD G. MARVIN et al.) 12 December 2002 See paragraphs [0066]-[0069], claims 1,10,13,17, and figures 1-3,9.	1-106
A	US 2009-0011645 A1 (LAURX JOHN et al.) 08 January 2009 See paragraph [0096], claims 1,16, and figure 23.	1-106
A	US 06152747A A (MCNAMARA; DAVID M.) 28 November 2000 See column 3, lines 10-11, column 6, lines 5-6, 10-12, 61-65, claims 1,2,3,8, and figures 1,13.	1-106

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

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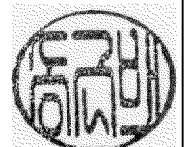
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Authorized officer

Song Geun Bae

Telephone No. 82-42-481-8688



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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 2002-0187688 A1	12.12.2002	US 6641410 B2	04.11.2003
US 2009-0011645 A1	08.01.2009	CN 101779335 A	14.07.2010
		CN 101779336 A	14.07.2010
		CN 101785148 A	21.07.2010
		US 2009-0017682 A1	15.01.2009
		US 7798852 B2	21.09.2010
		US 7867031 B2	11.01.2011
		WO 2008-156851 A2	24.12.2008
		WO 2008-156851 A3	19.02.2009
		WO 2008-156852 A2	24.12.2008
		WO 2008-156852 A3	24.12.2008
		WO 2008-156855 A2	24.12.2008
		WO 2008-156855 A3	24.12.2008
US 06152747A A	28.11.2000	AU 2000-17419 A1	13.06.2000
		WO 00-31829 A2	02.06.2000
		WO 00-31829 A3	02.06.2000