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(71) Applicant: FUTUREWEI TECHNOLOGIES, INC.

[US/US]; 5700 Tennyson Parkway, Suite 600, Plano, Texas 75024 (US).

(72) Inventor: XU, Jie; 5700 Tennyson Parkway, Suite 600,

Plano, Texas 75024 (US).

(74) Agent: POMERENKE, Ronald M.; Vierra Magen Mar-

cus LLP, 2001 Junipero Serra Blvd., Suite 515, Daly City, California 94014 (US).

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Declarations under Rule 4.17:

— of inventorship (Rule 4.17(iv))

(54) Title: SIGNAL STRENGTH DETECTOR

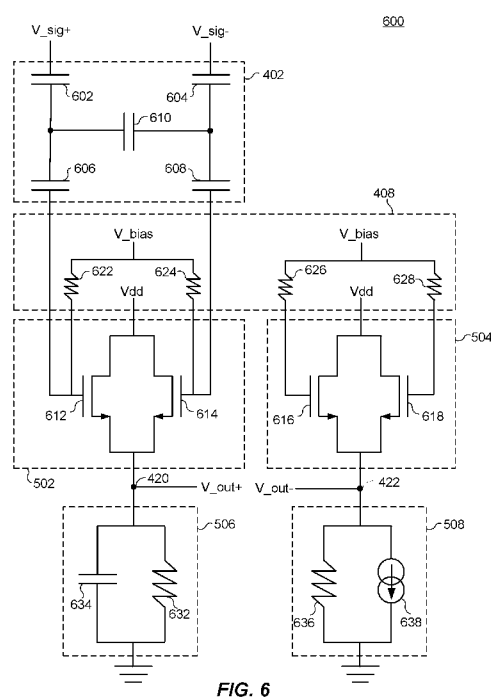


FIG. 6

(57) Abstract: The disclosure relates to technology for signal strength detection. An apparatus for detecting signal strength is disclosed. The apparatus comprises a differential sensor stage having an input and an output, a differential reference stage having an input and an output, a capacitor stage configured to couple an input signal to the input of the differential sensor stage, a biasing circuit configured to bias the differential sensor stage and the differential reference stage. The apparatus has a differential output between the output of the differential sensor stage and the output of the differential reference stage. The differential output is configured to provide a signal indicative of strength of the input signal.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

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)

G01R H03F

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

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

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	A. VOUILLOZ ET AL: "A low-power CMOS super-regenerative receiver at 1 GHz", IEEE JOURNAL OF SOLID-STATE CIRCUITS, vol. 36, no. 3, 1 March 2001 (2001-03-01), pages 440-451, XP055743230, USA ISSN: 0018-9200, DOI: 10.1109/4.910483 figures 1, 8 page 446, left-hand column, line 41 - page 447, right-hand column, line 3 -----	1-69
X	EP 1 556 968 A2 (ADVANCED MICRO DEVICES INC [US]) 27 July 2005 (2005-07-27) figures 1,2 paragraphs [0005] - [0006] paragraph [0009] paragraphs [0029] - [0044] ----- -/-	1-69



Further documents are listed in the continuation of Box C.



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Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Jespers, Michaël

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 2012/083205 A1 (MARCU CRISTIAN [US] ET AL) 5 April 2012 (2012-04-05) figures 2, 7, 11 paragraphs [0005] - [0007] paragraphs [0030] - [0036] paragraphs [0040] - [0041] paragraph [0045] -----	1-42, 44-69 43

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1556968	A2	27-07-2005	AU 2003286849 A1 25-05-2004
			DE 60314437 T2 14-02-2008
			EP 1556968 A2 27-07-2005
			JP 4318641 B2 26-08-2009
			JP 2006505197 A 09-02-2006
			KR 20050065666 A 29-06-2005
			WO 2004040795 A2 13-05-2004

US 2012083205	A1	05-04-2012	US 2012083205 A1 05-04-2012
			WO 2012047692 A1 12-04-2012
