Abstract: Exemplary embodiments provide a self-powered wireless gas sensor system and a method for gas sensing using the system. The system can be used to detect and constantly track a presence of various gases including hydrogen, ozone and/or any hydrocarbon gas, and remotely transmit the sensing signal. The system can include a low power gas sensor that consumes less than about 30 nano-watts of power. As a result, the system can detect the presence of hydrogen at about 10 ppm. The sensor can also provide a fast response time of about 1-2 seconds. In various embodiments, the system can be physically small and packaged with all components assembled as a single compact unit.
Date of publication of the international search report:
2 October 2008
INTERNATIONAL SEARCH REPORT

A  CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G01N 7/00 (2008.04)
USPC - 73/31.05

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)
IPC (8) - G01N 7/00 (2008.04)
USPC - 73/31.05

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 73/23 31.31 05,31 06, 204/424,429

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PUBWEST (PGP,USPT,USOC,EPAB,JPAB) - Terms - nano pico watt gas sensor Pbrida seconds ZnO Pt Pd Au Ag Ni Ti nanowatt picowatt power

Google - hydrogen Sensor ZnO (Pt OR Pd OR Au OR Ag OR Ni OR Ti), gas sensor nano-watt, Nanowatt chemical vapor detection

C  DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No</th>
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</table>

FURTHER DOCUMENTS ARE LISTED IN THE CONTINUATION OF BOX C

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Special categories of cited documents

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

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Date of the actual completion of the international search
18 July 2008 (18 07 2008)

Date of mailing of the international search report
25 JUL 2008

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Form PCT/ISA/210 (second sheet) (April 2007)