In one aspect, a measurement system is disclosed that includes a source of microwave radiation having one or more wavelengths capable of penetrating through a visibly opaque obstruction, e.g., a wall. The source can be movably positioned on one side of the obstruction for illuminating thereof. The system can further include a microwave reflecting element disposed on another side of the obstruction, where the reflecting element is capable of reflecting at least a portion of the radiation transmitted through the obstruction. A plurality of radiation sensors are positioned relative to the obstruction so as to differentially detect at least a portion of the reflected radiation transmitted through the obstruction so as to determine a position of the source relative to the reflective element.
**INTERNATIONAL SEARCH REPORT**

**A CLASSIFICATION OF SUBJECT MATTER**

**IPC(8) - G01S 13/00 (2007.01)**

**USPC - 342/22**

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) - G01S 13/00 (2007 01)**

**USPC - 342/22**

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)

USPTO EAST System (US, USPG-PUB, EPO, DERWENT), PATBASE

**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</th>
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</table>

**Further documents are listed in the continuation of Box C**

**D**

**Date of the actual completion of the international search**

07 September 2007

**Date of mailing of the international search report**

20 MAR 2008

Name and mailing address of the ISA/JS

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