

Title (en)  
ASYMMETRIC MEMBRANE CMUT DEVICES AND FABRICATION METHODS

Title (de)  
CMUT-BAUELEMENTE MIT ASYMMETRISCHER MEMBRAN UND HERSTELLUNGSVERFAHREN

Title (fr)  
DISPOSITIFS CMUT A MEMBRANE ASYMETRIQUE ET LEURS METHODES DE FABRICATION

Publication  
**EP 1725343 A2 20061129 (EN)**

Application  
**EP 05725443 A 20050311**

Priority

- US 2005008259 W 20050311
- US 55208204 P 20040311
- US 2005003898 W 20050207
- US 5367205 A 20050207
- US 2005006474 W 20050228
- US 6800505 A 20050228
- US 6812905 A 20050228
- US 2005006408 W 20050228

Abstract (en)  
[origin: WO2005087391A2] Asymmetric membrane capacitive micromachined ultrasonic transducer ("cMUT") devices and fabrication methods are provided. In a preferred embodiment, a cMUT device according to the present invention generally comprises a membrane having asymmetric properties. The membrane can have a varied width across its length so that its ends have different widths. The asymmetric membrane can have varied flex characteristics due to its varied width dimensions. In another preferred embodiment, a cMUT device according to the present invention generally comprises an electrode element having asymmetric properties. The electrode element can have a varied width across its length so that its ends have different widths. The asymmetric electrode element can have different reception and transmission characteristics due to its varied width dimensions. In another preferred embodiment, a mass load positioned along the membrane can alter the mass distribution of the membrane. Other embodiments are also claimed and described.

IPC 8 full level  
**B06B 1/02** (2006.01)

CPC (source: EP)  
**B06B 1/0292** (2013.01); **G01N 29/2406** (2013.01)

Citation (search report)  
See references of WO 2005087391A2

Cited by  
GB2459866A; GB2459866B

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

Designated extension state (EPC)  
AL BA HR LV MK YU

DOCDB simple family (publication)  
**WO 2005087391 A2 20050922; WO 2005087391 A3 20060427; EP 1725343 A2 20061129**

DOCDB simple family (application)  
**US 2005008259 W 20050311; EP 05725443 A 20050311**