

Motivation

For the attachment of the sensor node that sends information to 10000 things (1000 times number of population), the node needs to be small size and maintenance free (battery less).

Originality

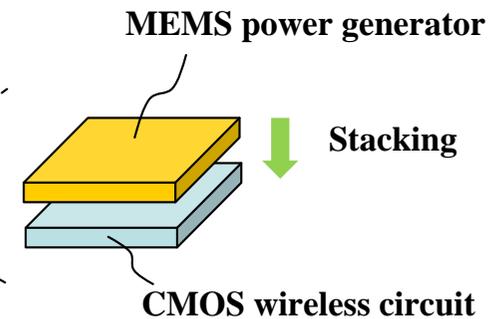
Using MEMS process that forms thick film at low temperature, MEMS power generator can be stacked on LSI. All digital wireless circuits operate with ultra-low power consumption since analog circuits are not needed.

Impact

Huge number of sensor nodes distributed in living environment act as the ambient intelligence, which realizes new services that helps us on demand without user's consciousness.

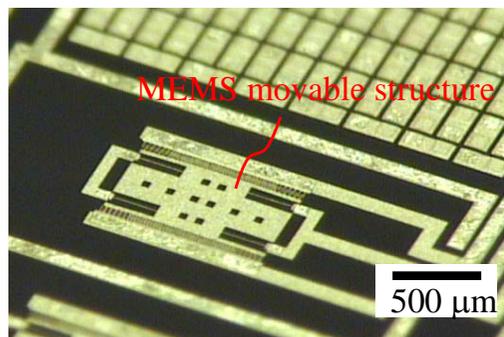
Ultra-small sensor node for ambient intelligence

Huge number of sensor nodes distributed in living environment collect various information.

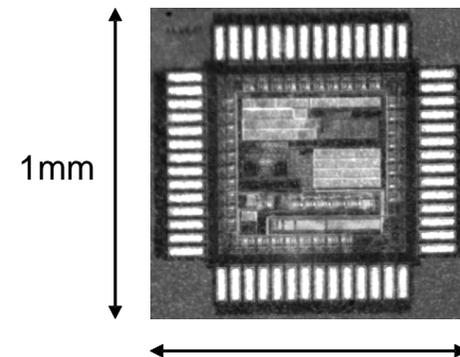


Sensor nodes are required to be ultra small.

Nano-watt-level hardware enabling ultra-small node



MEMS power generator fabricated by low-temperature thick-film process



All digital wireless circuit chip

