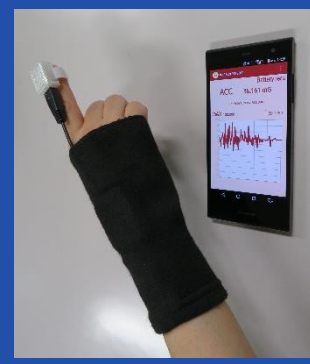
NTT AT

MEMS/Micro-fabricated Product
High-Sensitivity Accelerometer

For Wide Range of Applications, from Daily Life to Advanced Science and Technologies such as IoT, structural monitoring and robotics

High-Sensitivity Accelerometer

High-Sensitivity Accelerometer, which can detect ultra-low accelerations, is developed. Innovative device design combined with advanced microfabrication technology enables substantial noise reduction.



Application to mentoring finger tip micro-movement

Features

POINT 1
Microfabrication

MEMS accelerometer *1,2 is manufactured by advanced microfabrication technology developed by NTT laboratory.

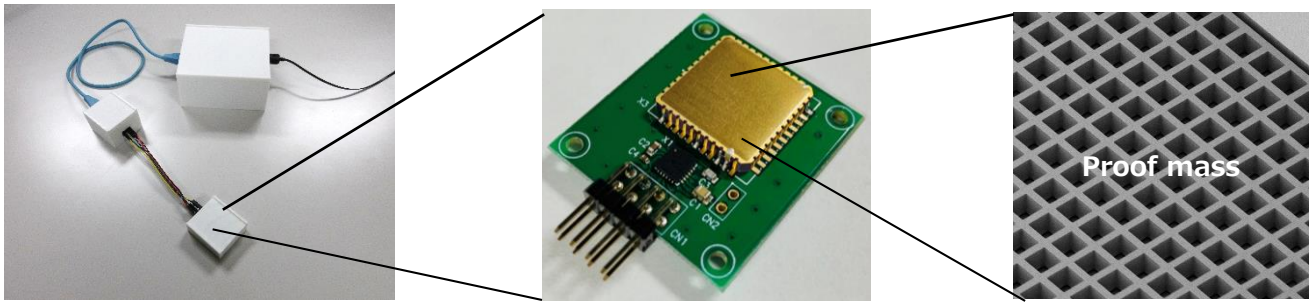
POINT 2
Noise Reduction

Optimal design of mechanical structure realized high sensitivity and low noise.

POINT 3
Flexible Customization

We will provide not only sensor chips, but also packages and modules on customers' requests.

Sensor Module



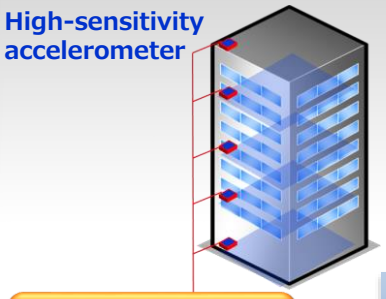
*1. MEMS = Microelectromechanical Systems.
*2. Japan Patent 5831905 (with Tokyo Institute of Technology) and Japan Patent 6044041 (with The University of Tokyo) are granted for parts of the technologies.

Applications

Infrastructure/Machine health monitoring, trouble prediction/prevention, human body monitoring, etc.

Building structural health monitoring

To observe long-term degradation
(such as slanted, twisted)



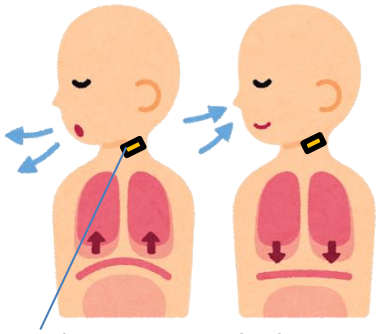
Data Collection and analysis → Visualization of the building health

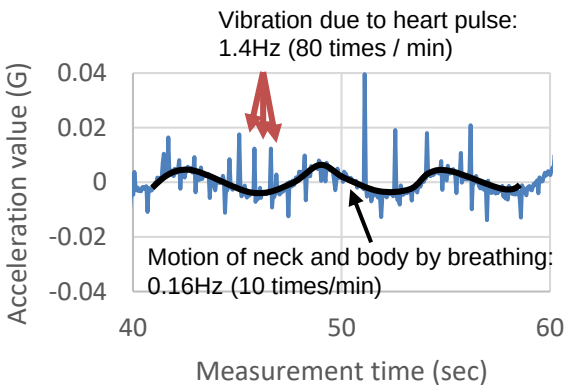
Piping health monitoring

To observe long-term degradation such as clogged pipeline by observing the change of the natural vibration

Data Collection and analysis → Prediction of the clogged pipeline and degradation

【Example : Heart rate and breathing motion】

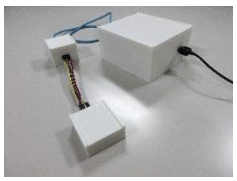




Specifications

Gravity range	+/- 2 G	+/- 4G
Axis	Z direction	
Module noise density (@BW = 220 Hz)	< 20 μG/√Hz	< 40 μG/√Hz
Band width (-3 dB)	~500 Hz	
Operating voltage	3.0 V – 3.6 V	
Supply current (@Sampling = 500Hz)	< 1 mA	
Interface	I^2C, SPI	

Test module (wired)



Test module (BLE connection)

- Specifications may differ depending on the operating and environmental conditions.
- Features and specification may be subject to change without notice.
- Catalog descriptions: as of January, 2020

For more information
E-mail: nano-sales@ml.ntt-at.co.jp
https://www.ntt-at.com/product/high-sensitivity_mems_accelerometer/

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