

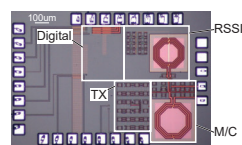
# RF/Analog Circuits and Integrated MEMS for IoT

**Nano Sensing Unit, FIRST  
Applied Electronics Research Core**

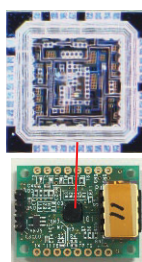
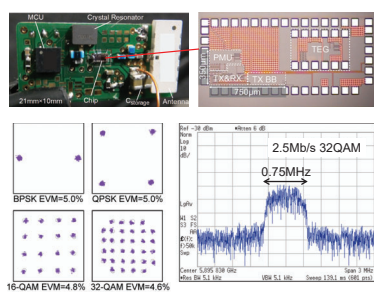
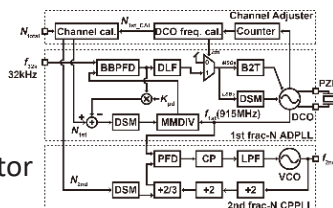
<http://ateal.jp/>

- Ultra Low Power ( $<1\mu\text{W}$ ) RF/Analog Circuits
- High Sensitivity ( $< \mu\text{G}$ ) MEMS Accelerometer
- Low Power ( $<1 \mu\text{W}$ ) AI Chips for Time Series Data Processing
- Low Noise Synthesizer, Small Atomic Clock
- Cow Monitoring System

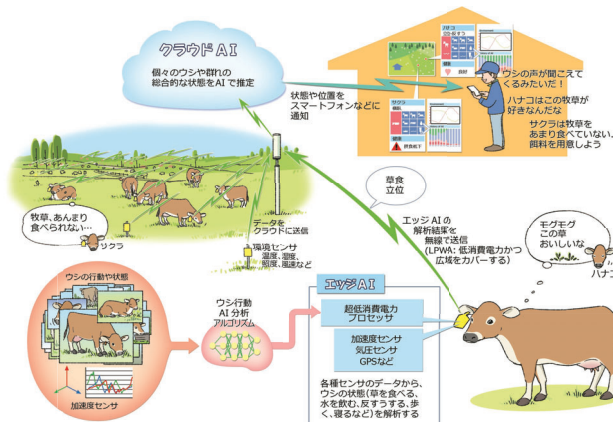
Integrated Circuit  
& RF Technology



# Low Noise Synthesizer Exploiting Piezo Resonator

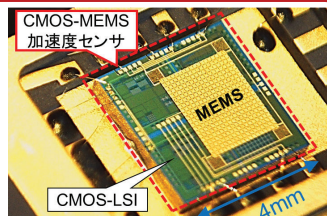
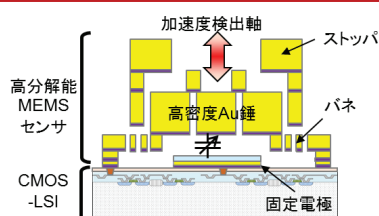


## Agriculture & Husbandry



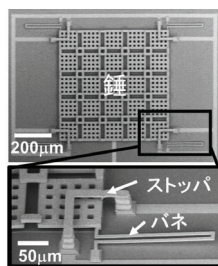
### Edge-AI Device fo

**MEMS**  
**Accelerometer**  
With micro-G  
Resolution

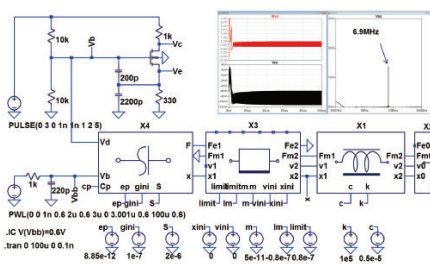


Integrated CMOS-MEMS

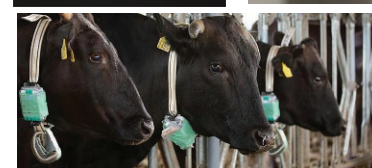
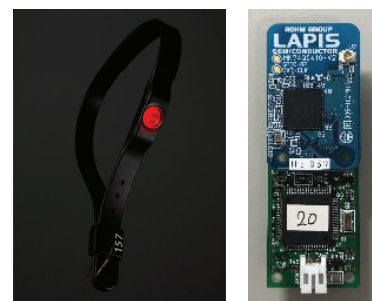
## Energy Harvesting Device



## MEMS Accelerometer



CMOS-MEMS Co-Design



## Medical & Health Care