

The World Leader in High Performance Signal Processing Solutions

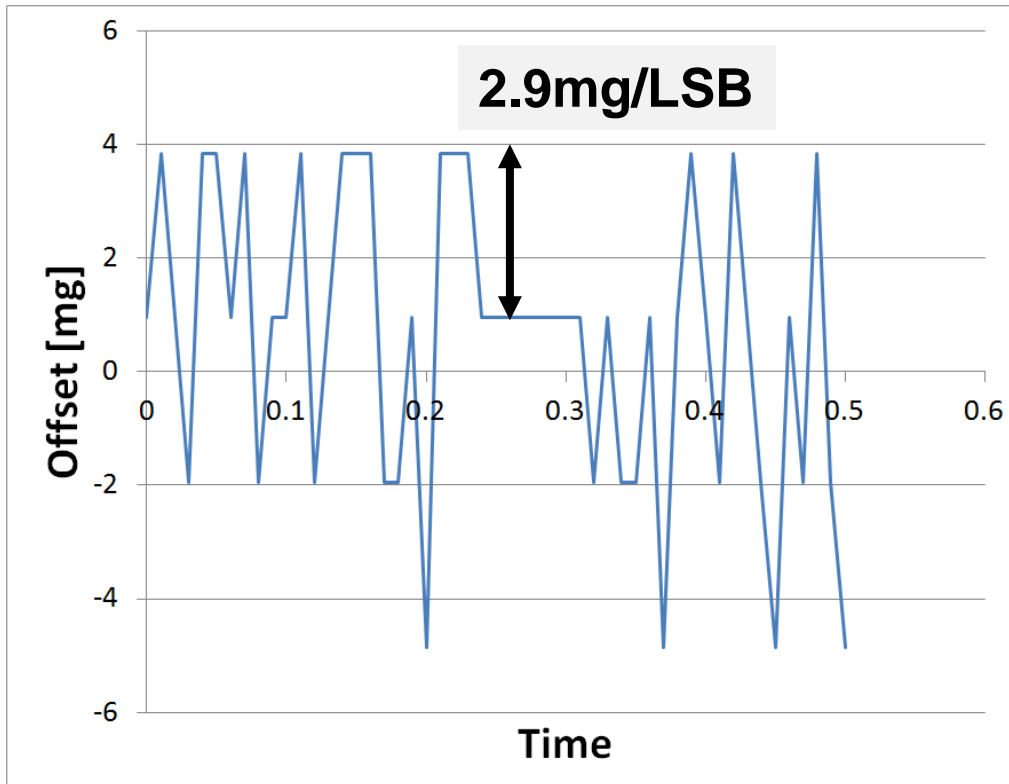


# Oversampling and Averaging Technique to Improve Resolution

# Oversampling and Averaging Technique to Improve Resolution 1/2

Example:

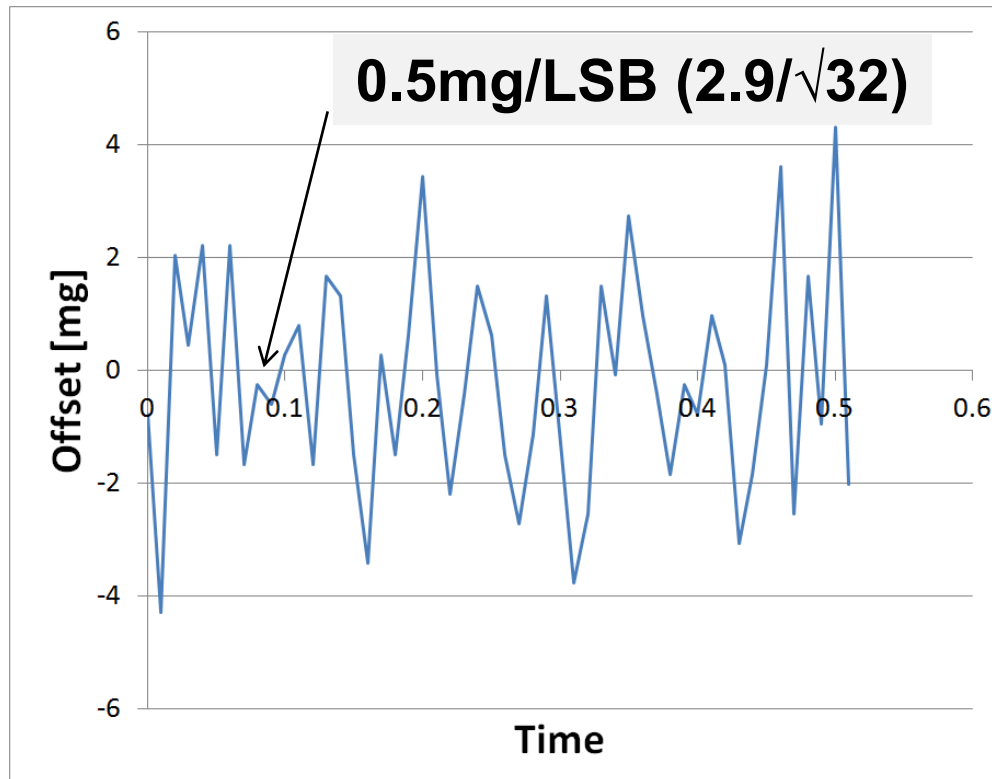
- Sensor scale factor: 2.9mg/LSB
- Sensor Data Rate 100Hz
- **Raw Data** (No Oversampling / Averaging) → ODR=100Hz



# Oversampling and Averaging Technique to Improve Resolution 2/2

Example:

- Sensor scale factor: 2.9mg/LSB
- Sensor Data Rate 3200Hz
- **32x Oversampling / Averaging @ $\mu$ C  $\rightarrow$  ODR=100Hz**



Output signal is still noisy  
(=same ODR, BW)  
**but**  
the resolution is greatly  
improved