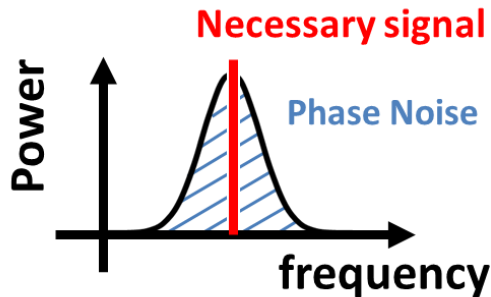


Phase Noise Measurement with Delta-Sigma TDC

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Oscillator Phase Noise



Conventional Method



- **Expensive** spectrum analyzers
- **Long** measurement time (~10seconds)

➔ **Significant test cost** ☹️

Bad influence in electronic system

- Interference in RF system
- ADC performance degradation

Important

Phase Noise Test

Proposed Method

Using simple circuit 😊

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**Delta-Sigma
Time-to-Digital Converter (TDC)**

**Low Cost , High Quality
Phase Noise Test**