001. Why Analog?

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June 11, 2021

Introduction

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Do we still need analog design?

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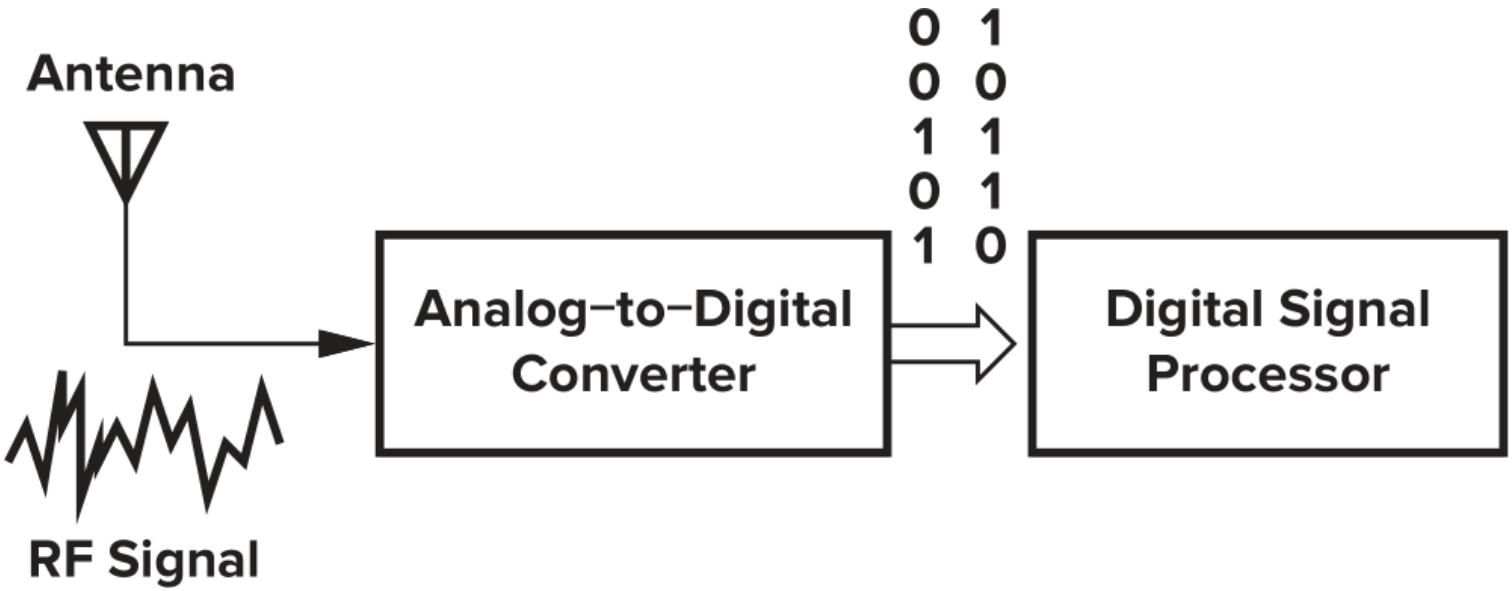

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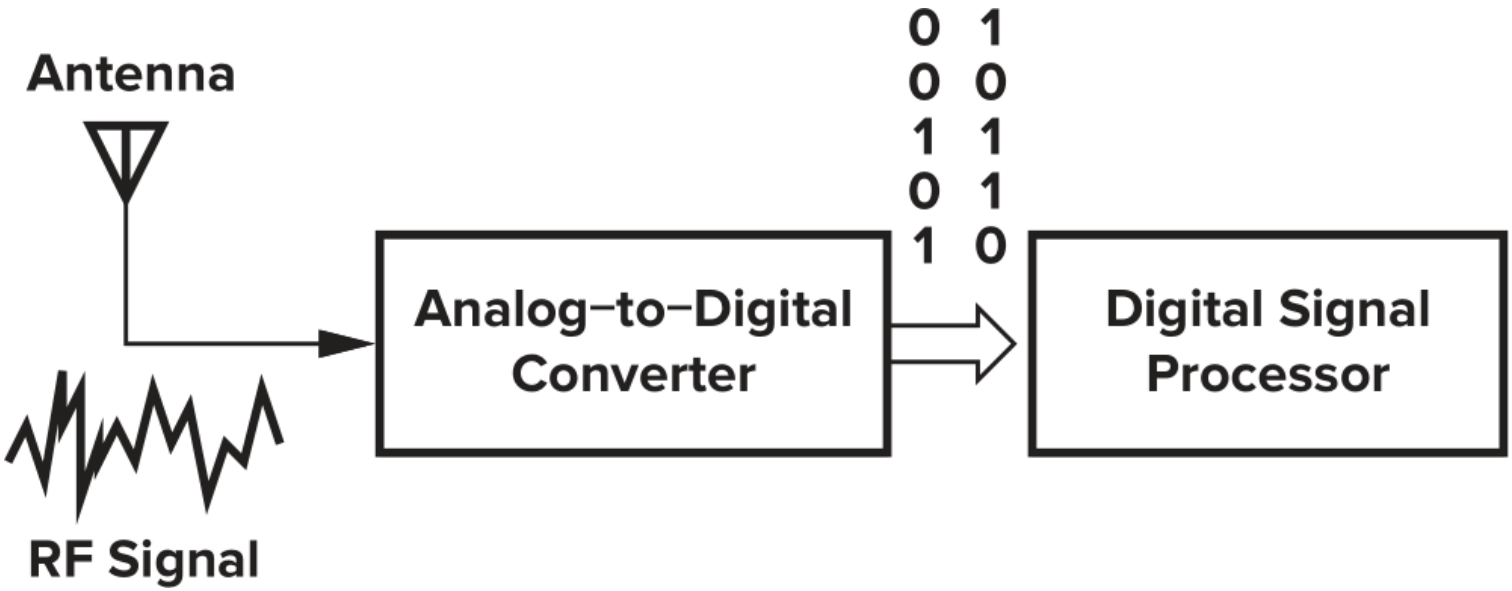

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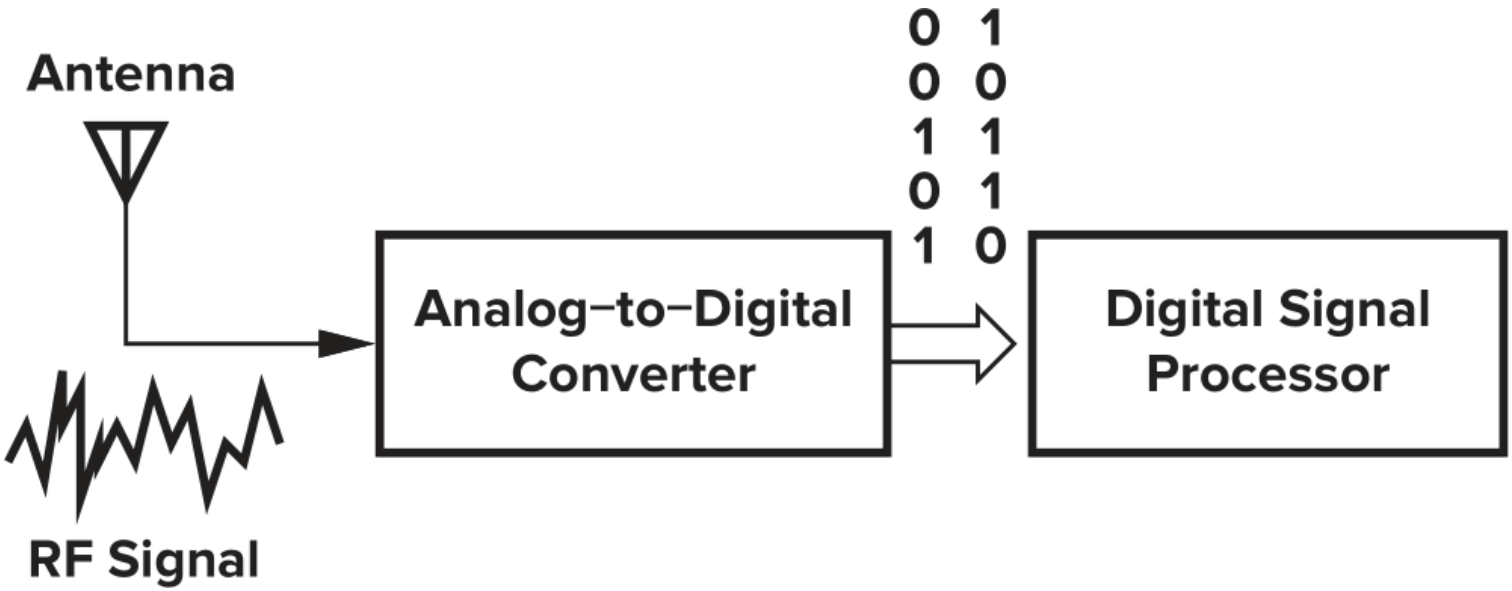

- *Processing* is preferably carried out in digital domain.
- *Sensing* still needs to be carried out in analog domain and demands high performance design.

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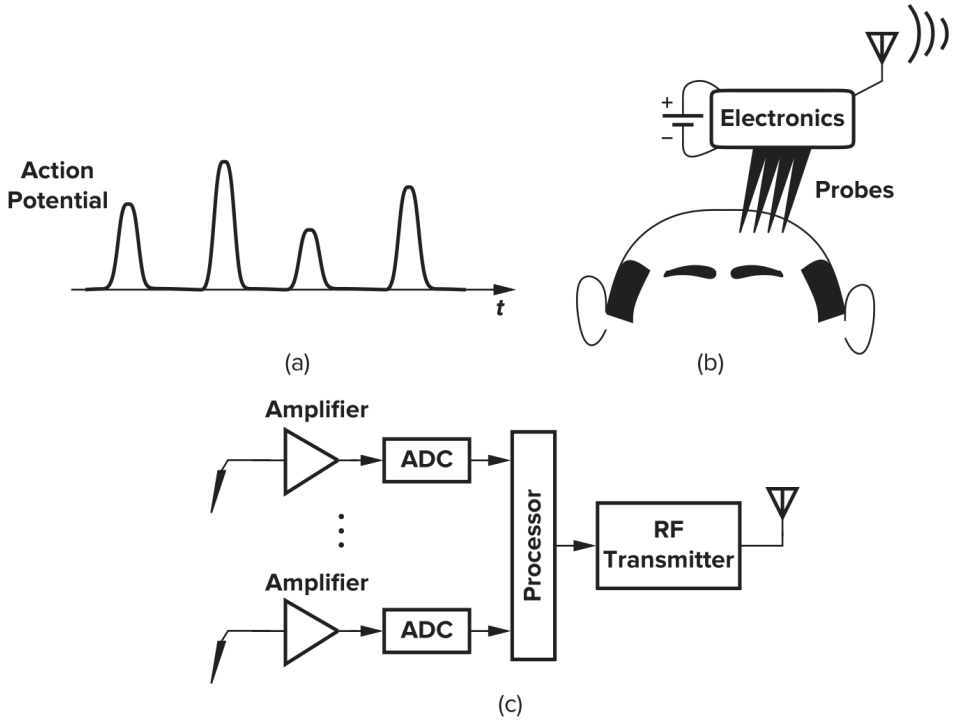

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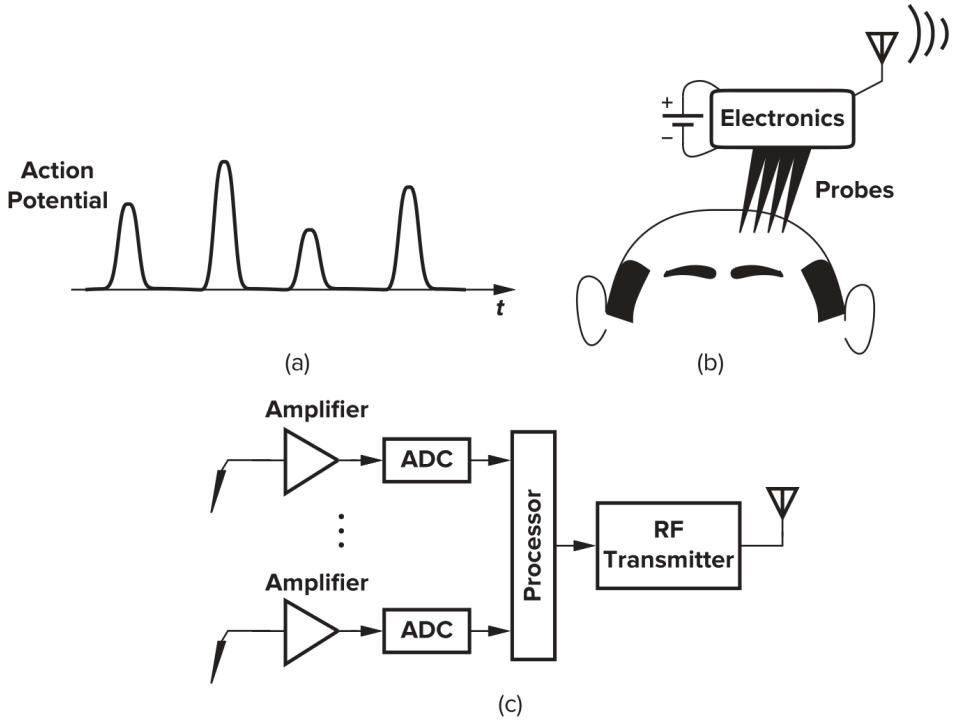

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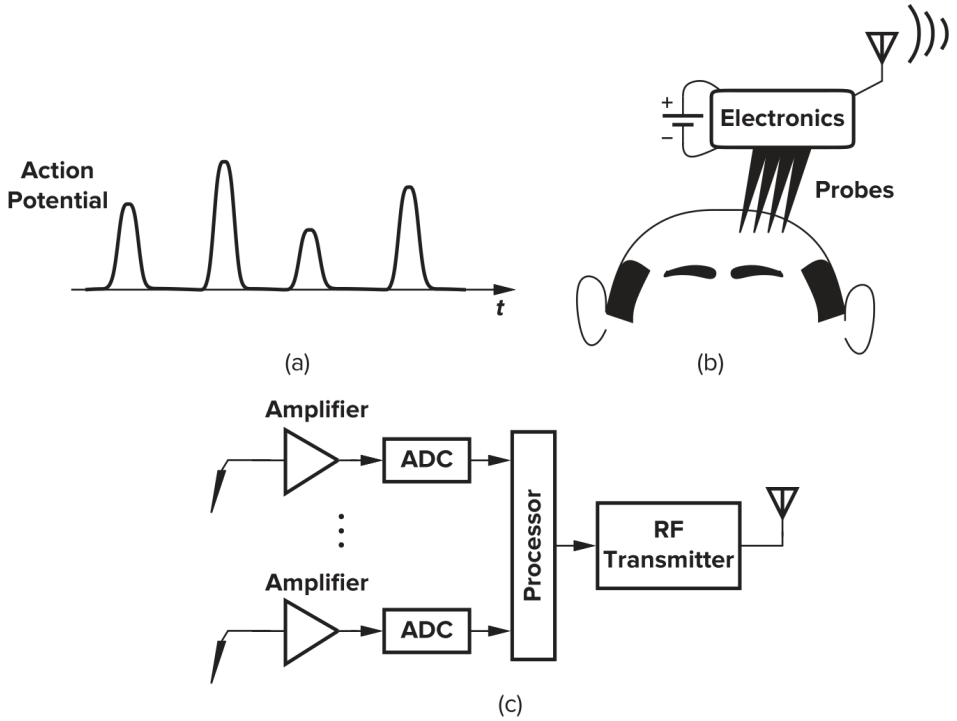

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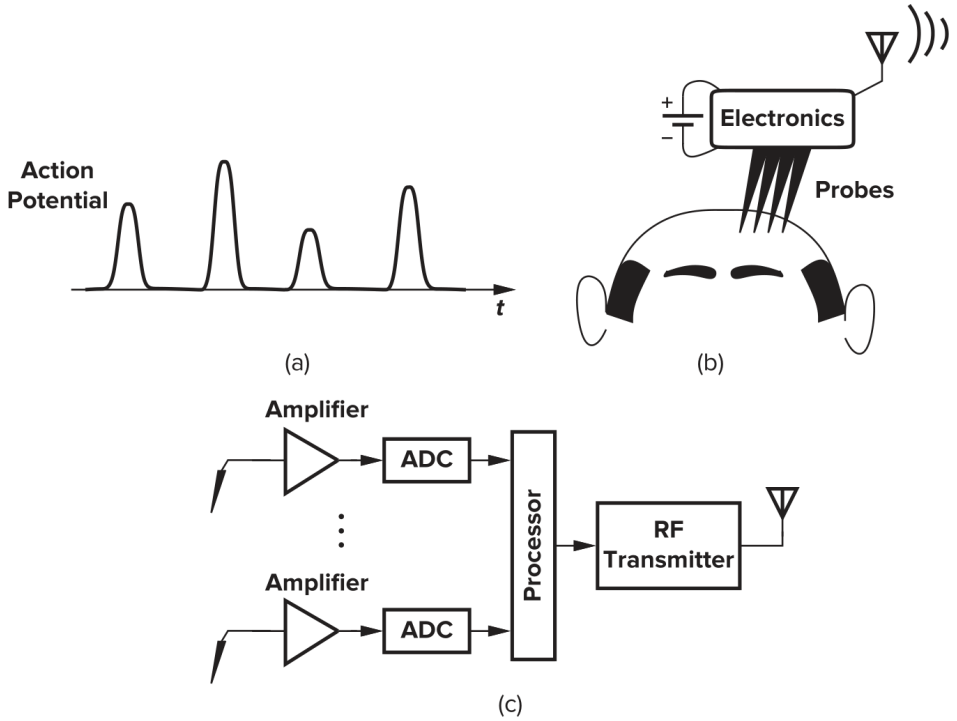

Needs low power circuits which incorporated with analog design:

- to permit the use of a small battery for days or weeks;
- to minimize the rise in the chip's temperature, which could otherwise damage the patients's tissue.

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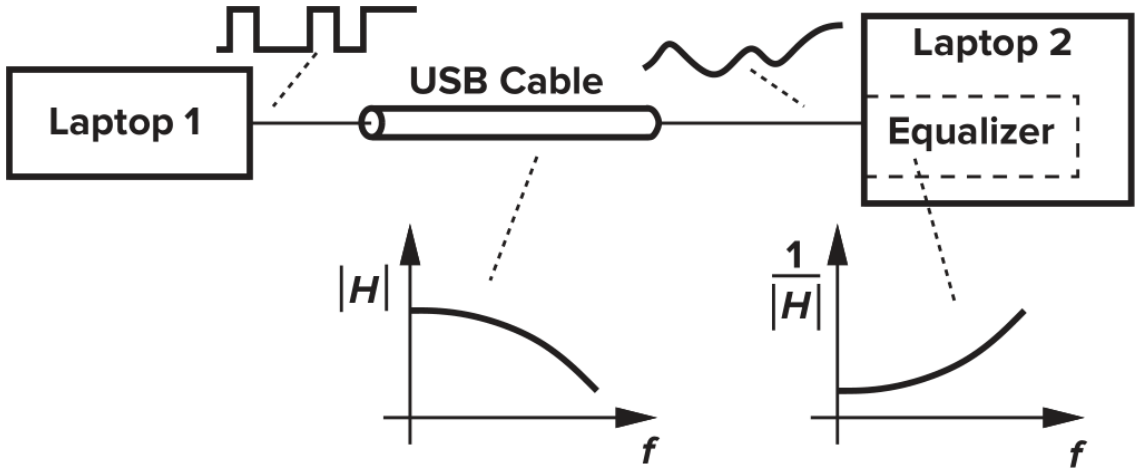

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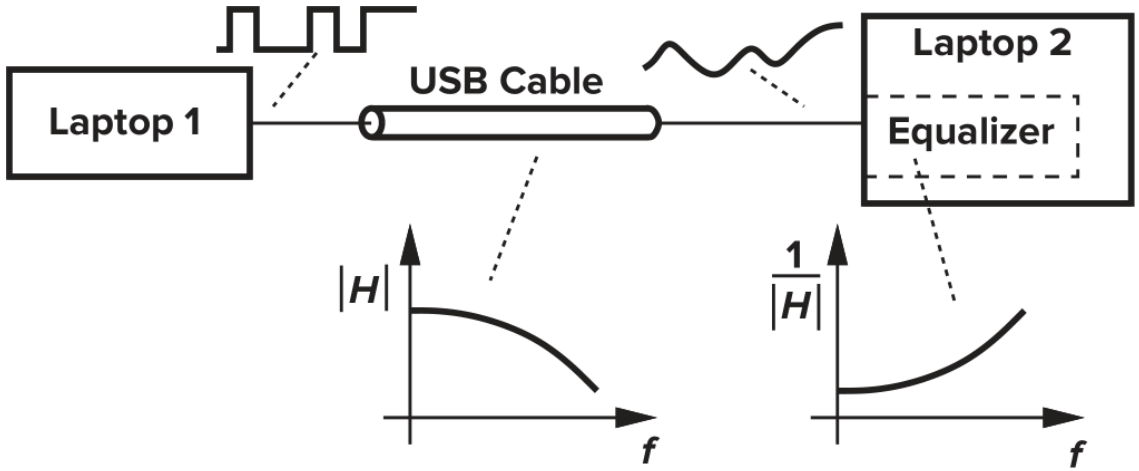

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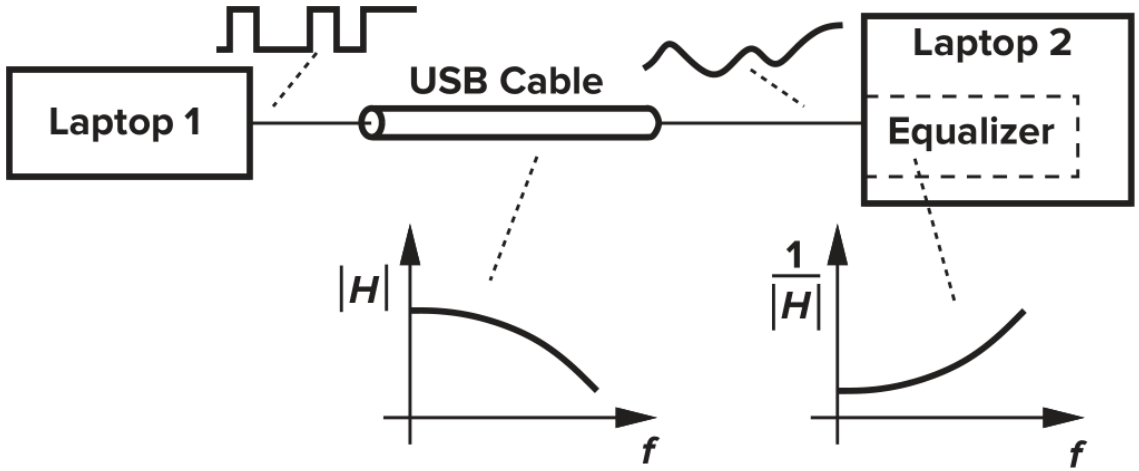

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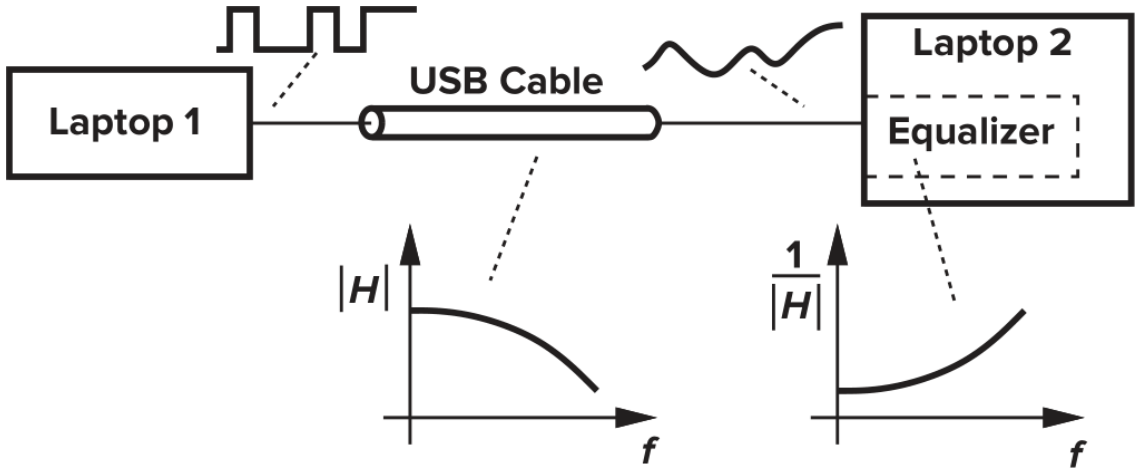

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- We need to use an analog equalizer instead of an ADC to save energy @ large bps.

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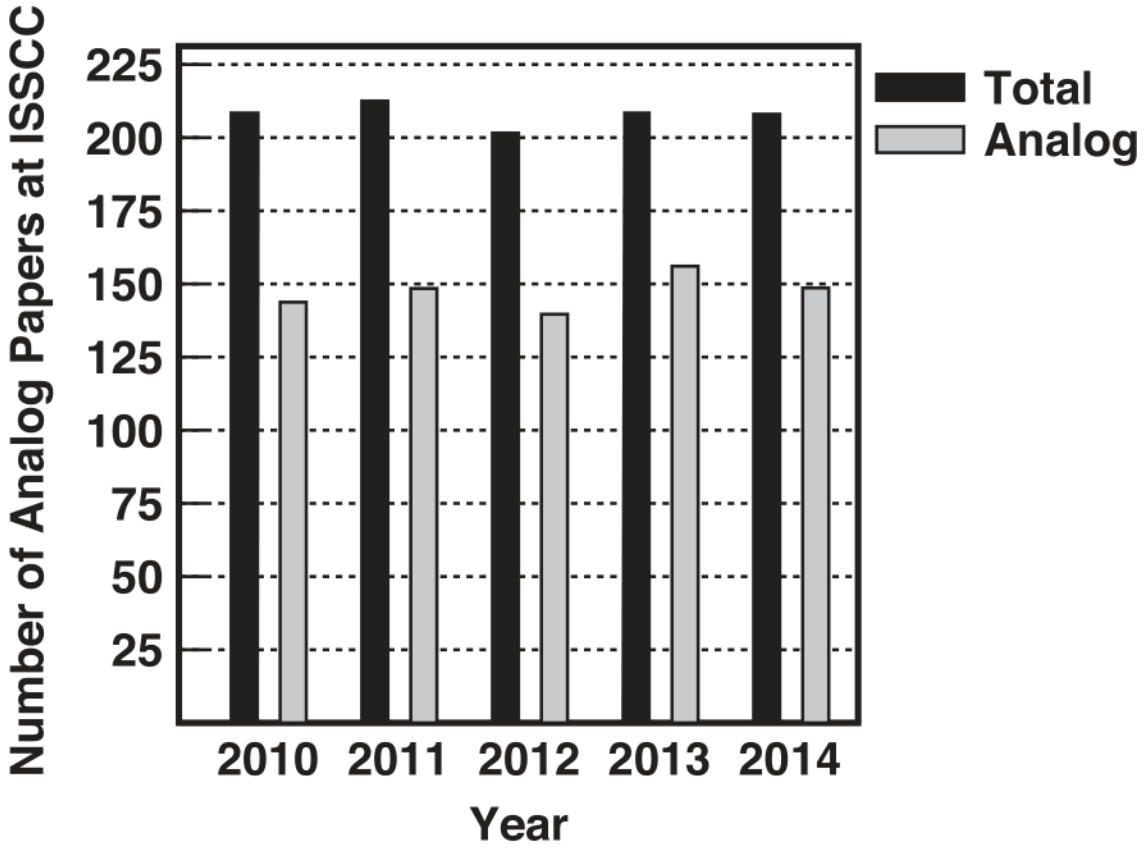

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However, starting an analog design will encounter with lots of problems causing by the scaling down in modern technology.

Thank you!