Radio-Frequency Integrated Circuits

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1 Introduction

This is the material for an introductory radio-frequency integrated circuits course. The contents are derived from (Razavi 2011) and (Darabi 2020); these two books are an excellent introduction into this topic and are highly recommended!

It is assumed that readers are familiar with the contents of this Analog Circuit Design course.

> **!** Important
>
> All course material (source code of this document, Jupyter notebooks for calculations, Xschem circuits, etc.) is made publicly available on GitHub (follow this link) and shared under the Apache-2.0 license.
> Please feel free to submit pull requests to fix typos or add content! If you want to discuss something that is not clear, please open an issue.
> The production of this document would be impossible without these (and many more) great open-source software products: `VS Code`, `Quarto`, `Pandoc`, `TexLive`, `Jupyter Notebook`, `Python`, `Xschem`, `ngspice`, `CACE`, `pygmid`, `schemdraw`, `Numpy`, `Scipy`, `Matplotlib`, `Pandas`, `Git`, `Docker`, `Ubuntu`, `Linux`, …

Darabi, Hooman. 2020. *Radio Frequency Integrated Circuits and Systems*. 2nd edition. Cambridge University Press.
Razavi, Behzad. 2011. *RF Microelectronics*. 2nd edition. Pearson.