

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.