Background

CMOS based power amplifiers have drawn lots of interest in academia and industry. Applications include smart-phones, tablets, wireless routers, biomedical devices etc to name a few. With the evolution of wireless standards towards 5G, the sub 6GHz is also attractive for future 5G systems.

Tasks

In this thesis, the task is to design a wideband CMOS power amplifier. The targeted frequency band is roughly from 2 to 6 GHz. Suitable amplifier topologies as well as output load transformation network topologies shall be investigated in order to come up with a suitable wideband amplifier configuration for this application. TSMC 65nm technology shall be employed to design the power amplifier using Cadence, Keysight ADS, and HFSS.


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