

Bachelor-Thesis

Analysis of E-Field in Resonator in 0.13um SiGe BiCMOS Technology

The development of THz technology has made many applications including imaging, sensing and wireless communications possible. This thesis is based on a project generating THz signal with the integration of graphene on SiGe BiCMOS technology. Graphene is recently discovered to have high nonlinearity at THz frequency range. Higher order of harmonics can be generated by applying E field on the order of 10kV/cm to graphene.

The generation of high E-field in sub-THz frequency poses a major challenge. The objective of this thesis is to investigate the structure and value of LC of a resonator to improve the E-field generated by this resonator.

Requirement:

- Good English skills
- Basic knowledge of theory of electromagnetic field

Career Prospects in the following areas:

- Communication
- Hardware design

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