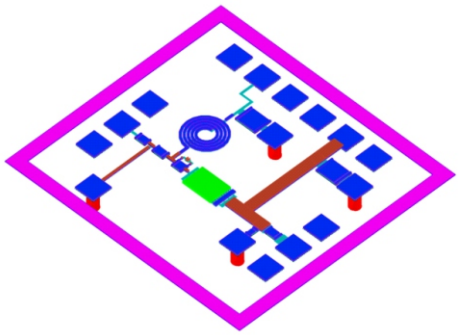
# Analog and RF Chip Design

Faraday Dynamics EDA Solutions

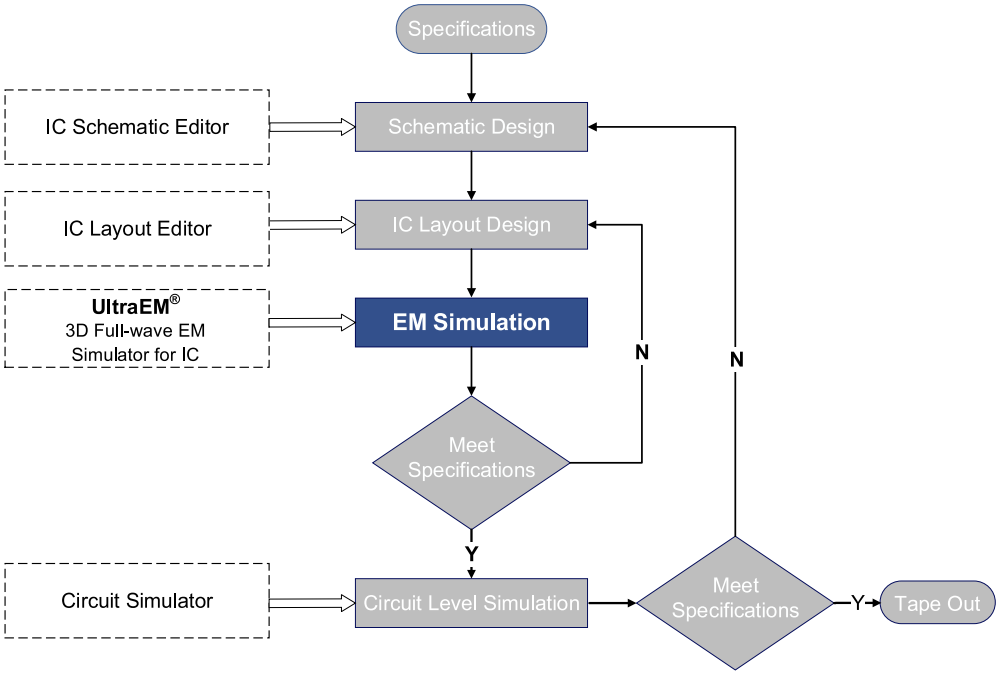
Faraday Dynamics

## Introduction

Analog/RF chip design usually follows a series of rigorous steps, including specifications, circuit design, simulation and optimization, layout design, physical verification, etc. Chip design engineers need to use professional simulation tools and device models to ensure that the design meets performance and reliability requirements. Herein, a typical Ku-band power amplifier design, as a design example, is accomplished using a design flow from Faraday Dynamics, Ltd.



## Design Flow




This example designs and optimizes a typical Ku-band power amplifier by virtue of a GaAs process, with the following specifications:

| | |
|---|---|
| Work Frequency Band | 16GHz-17GHz |
| Saturated Output Power | >26.5dBm |
| PAE | >45% |
| Return Loss | <-6dB |
| Chip Area | 1100umX1200um |


Faraday Dynamics

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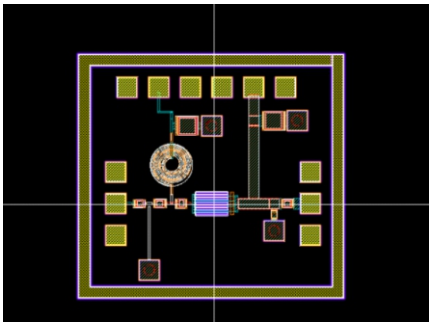
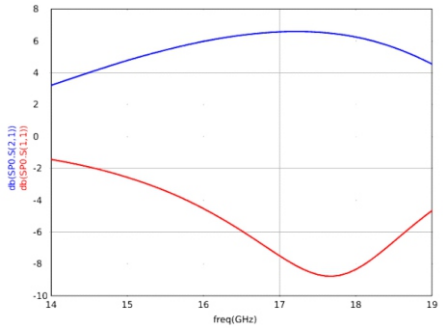
## Layout and Result

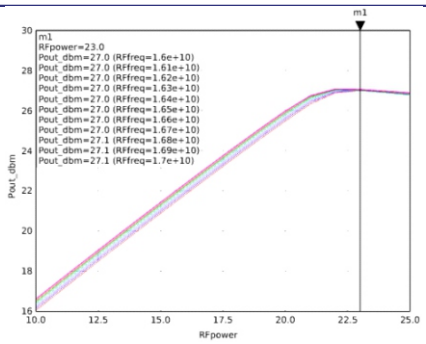
The final layout and simulation results are shown in the figures below:



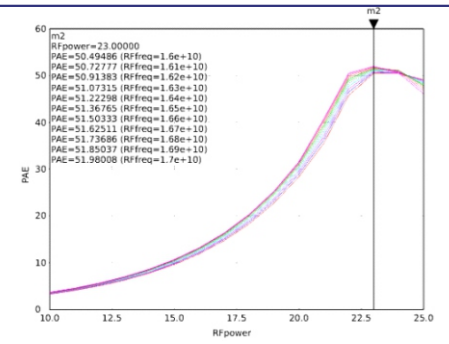
layout




S-parameters




Pout




PAE

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