

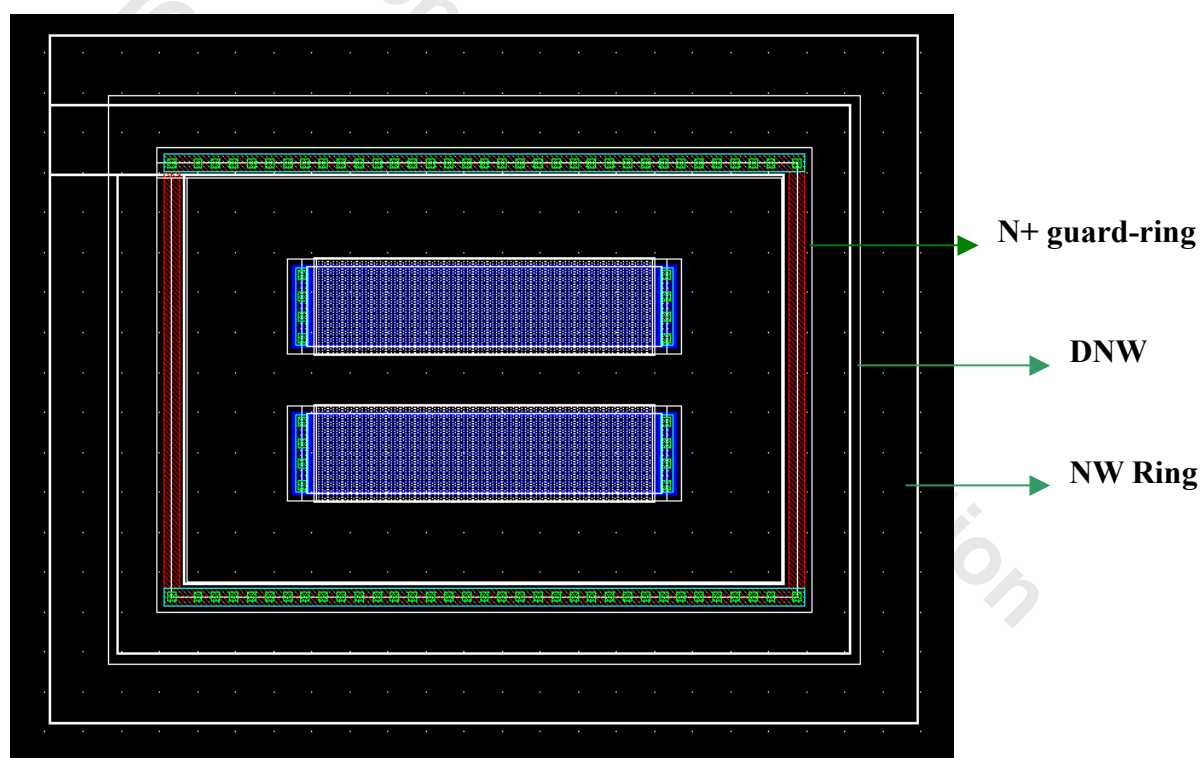
Guard-ring drawn guidelines for RF devices

1. Introduction

This document describes the guard-ring drawn guidelines for RF devices. If users choose to remove the protection guard-ring (P+/NW/DNW) from the original RF devices for devices serial/parallel configuration purpose, they still need to manually add the protection guard-ring after finished the serial/parallel configuration, *such that the LVS command files can correctly recognize the RF devices.*

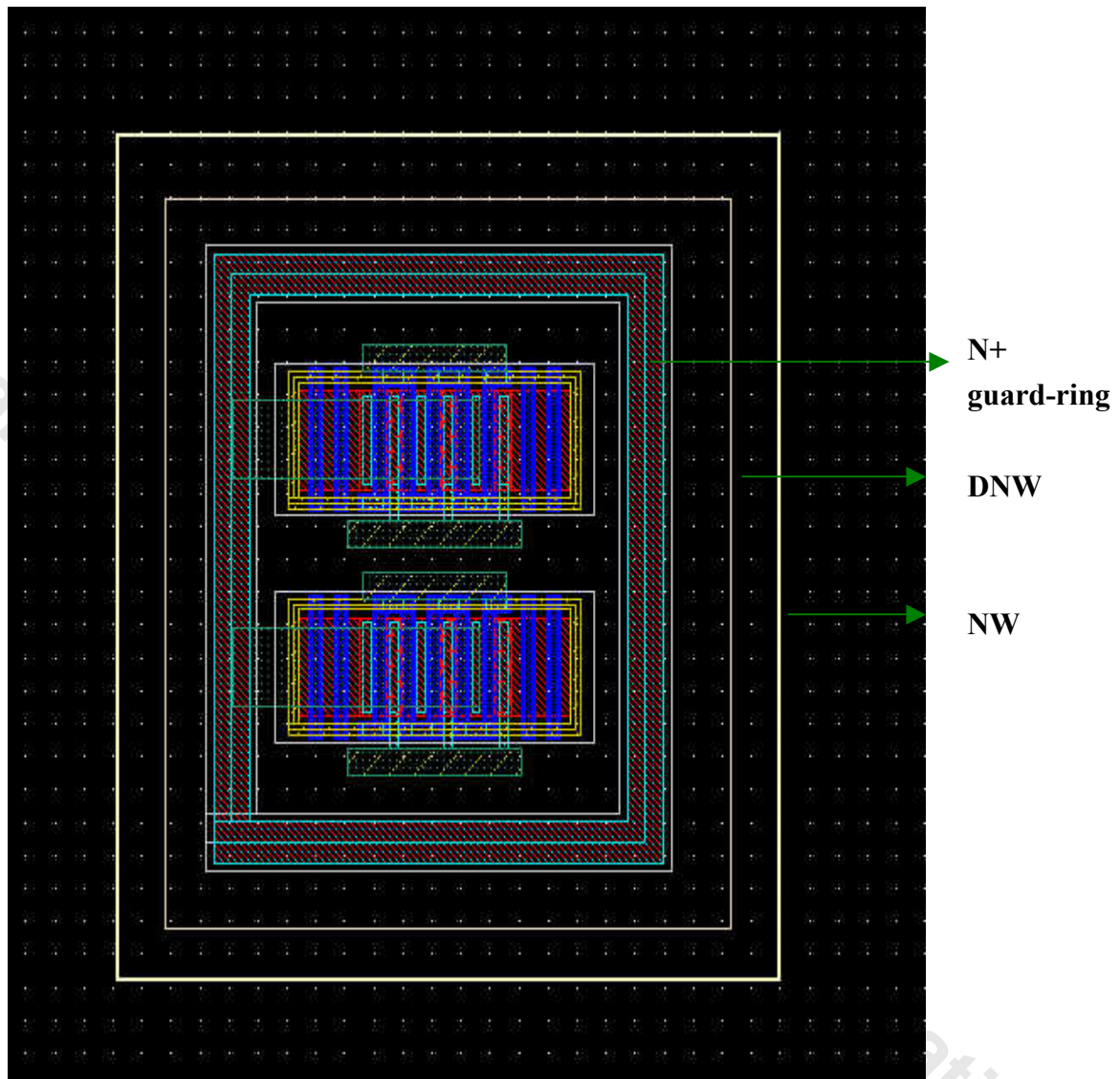
2. Guard-ring drawn guidelines

A. RF resistors



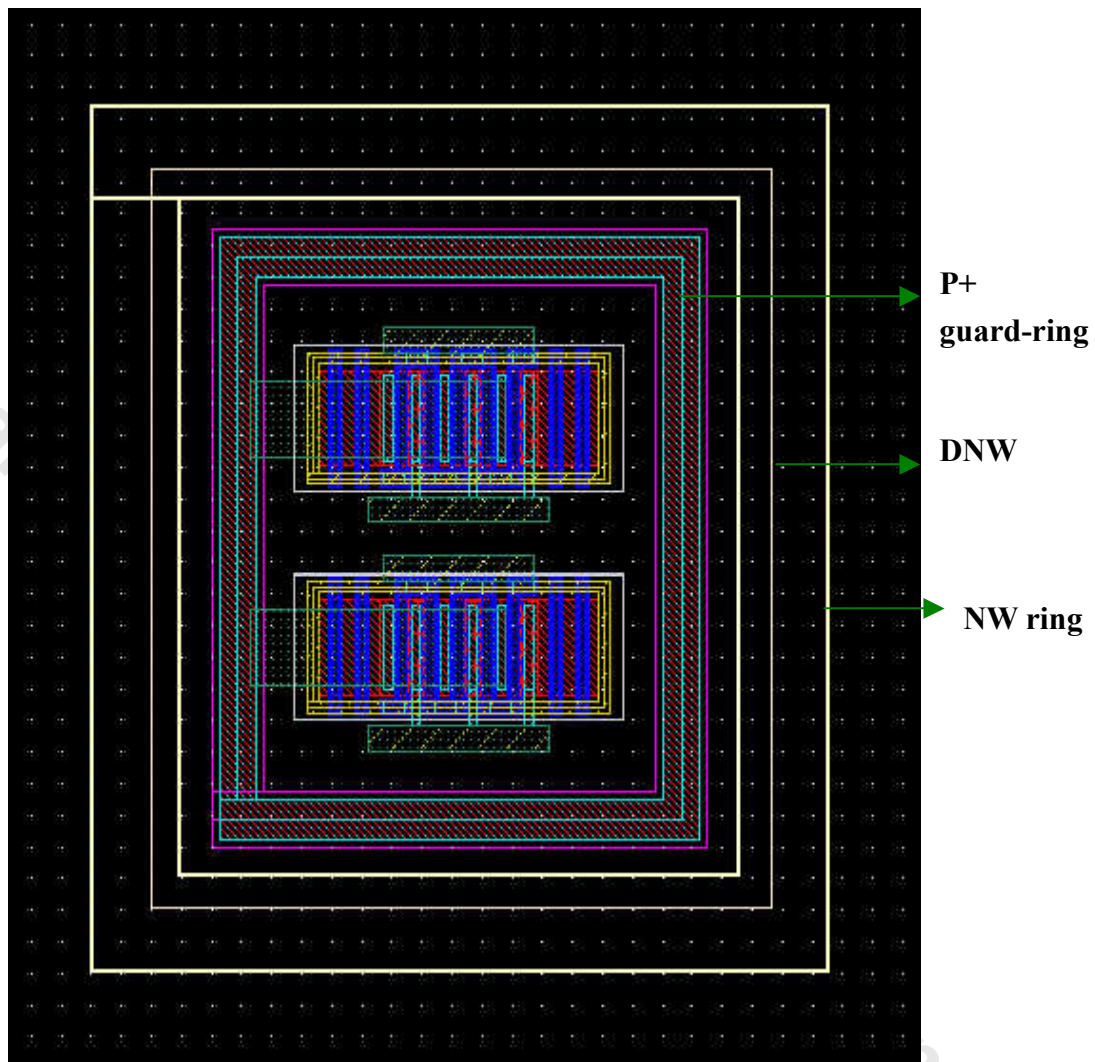
- N+ guard-ring / DNW / NW-ring have to be manually drew by users
- N+ guard-ring is the 3rd terminal of RF resistors

B. RF PMOS



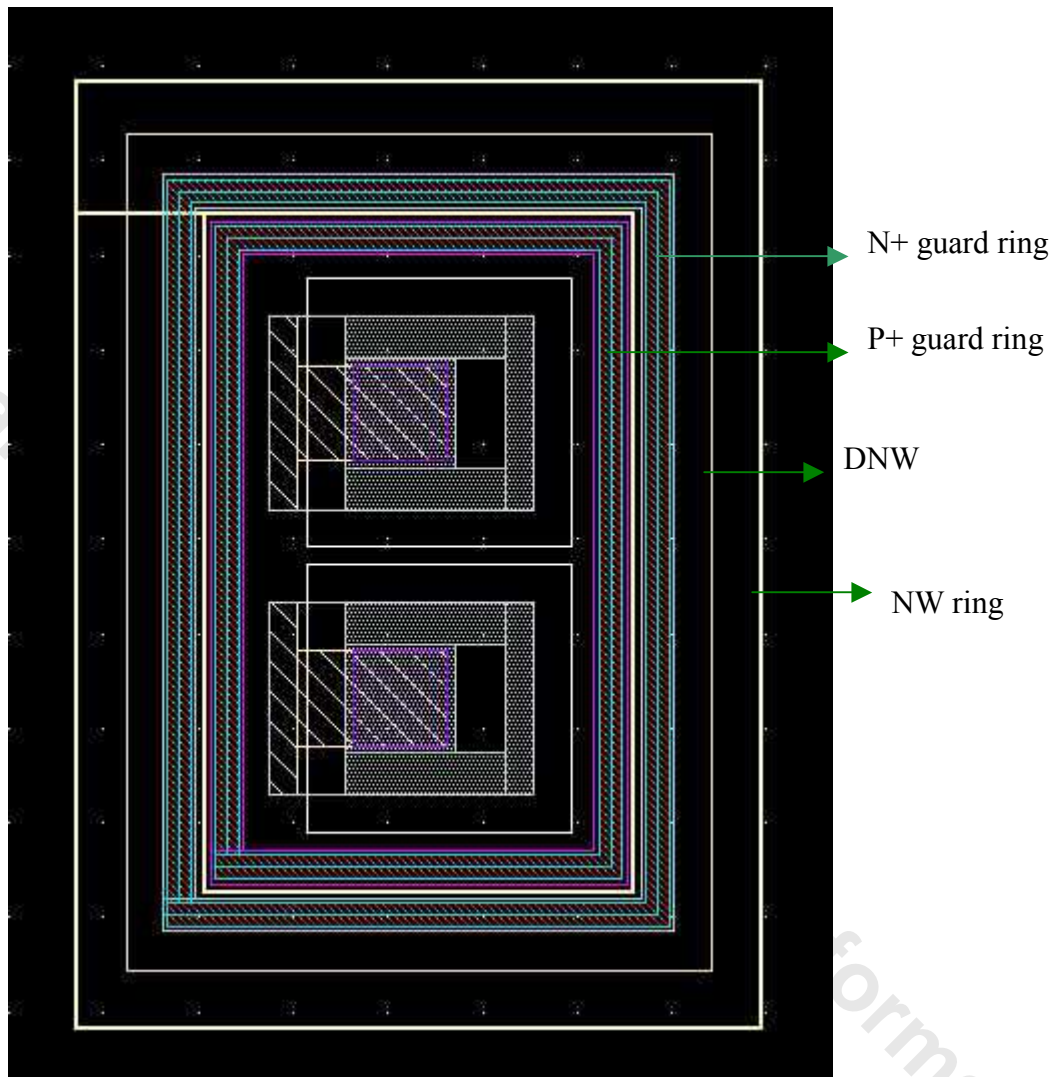
- N+ guard-ring / DNW / NW have to be manually drawn by users
- N+ guard-ring is the 'bulk' terminal for RFPMOS

C. RF NMOS



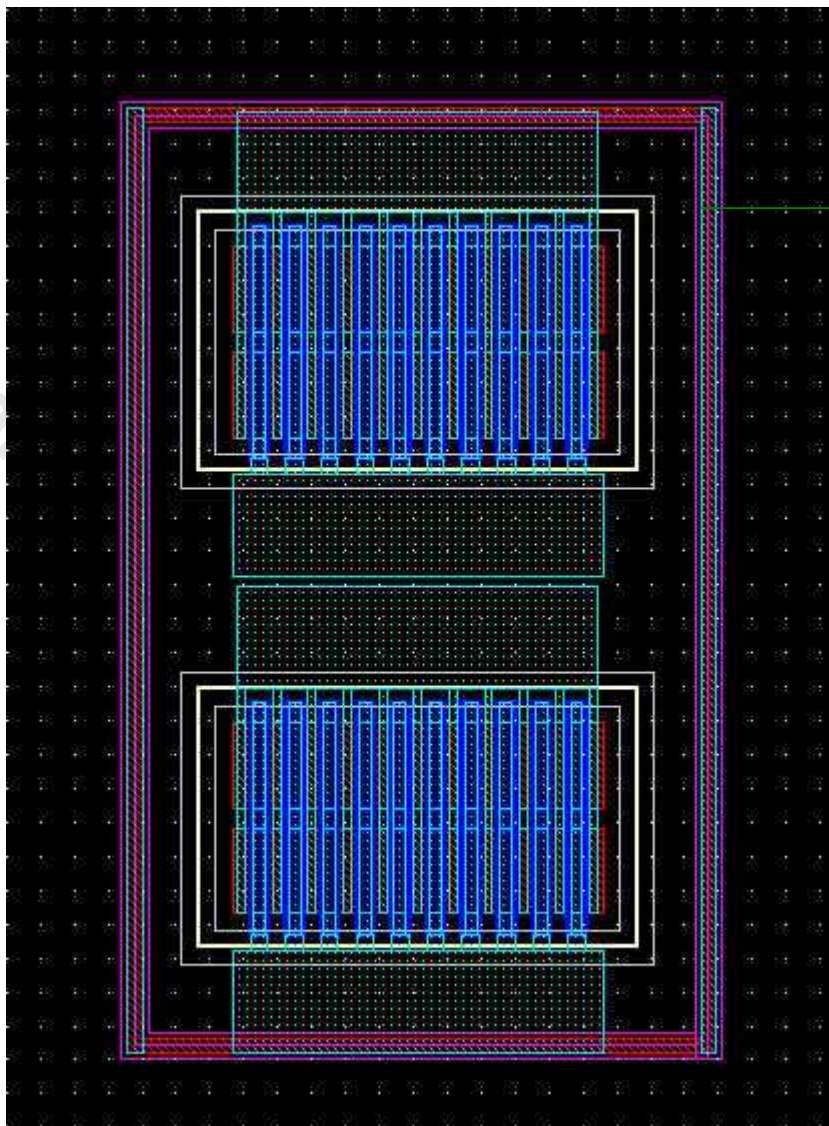
- P+ guard-ring / DNW / NW-ring have to be manually drew by users
- P+ guard-ring is the 'bulk' terminal for RFNMOS

D. MIMCAP_WOS (mimcap w/o shield)



- P+ guard-ring / N+ guard-ring / DNW / NW-ring have to be manually drew by users
- P+ guard-ring and N+ guard-ring must tie together. (LVS purpose)
- N+ guard-ring is the 'bulk' terminal of mimcap_wos device.

E. Varactor (junction/mos varactors)



P+ guard
ring

- P+ guard-ring has to be manually drew by users
- P+ guard-ring is the 3rd terminal of varactor