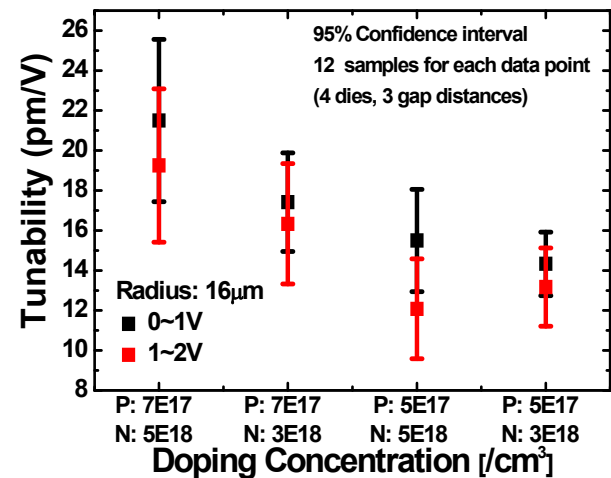
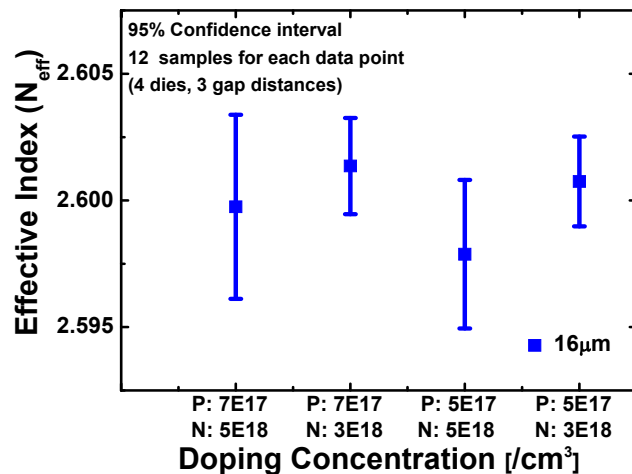
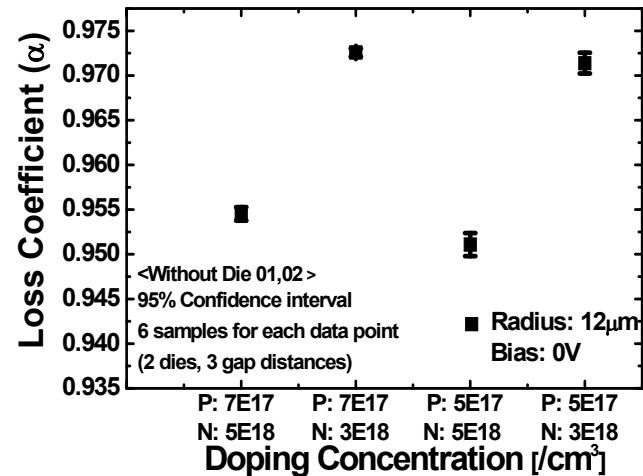
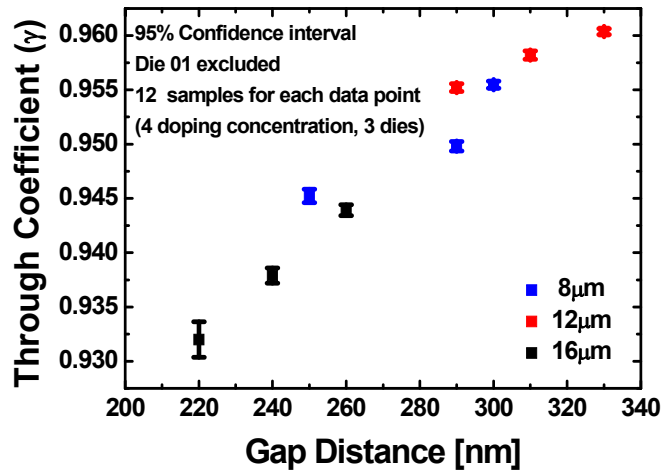


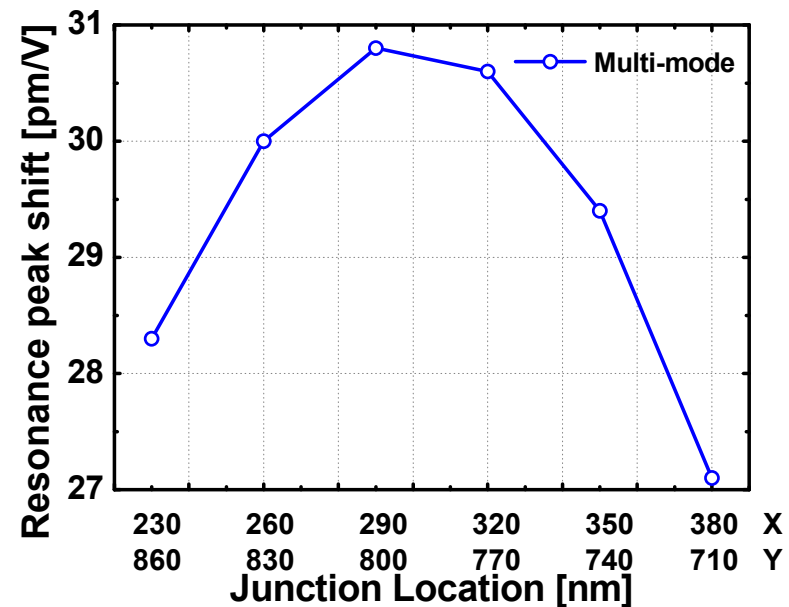
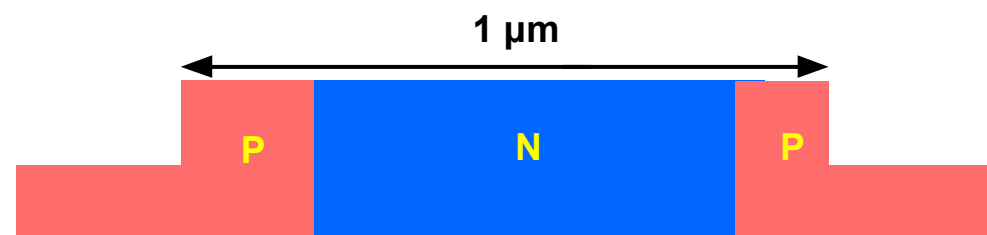
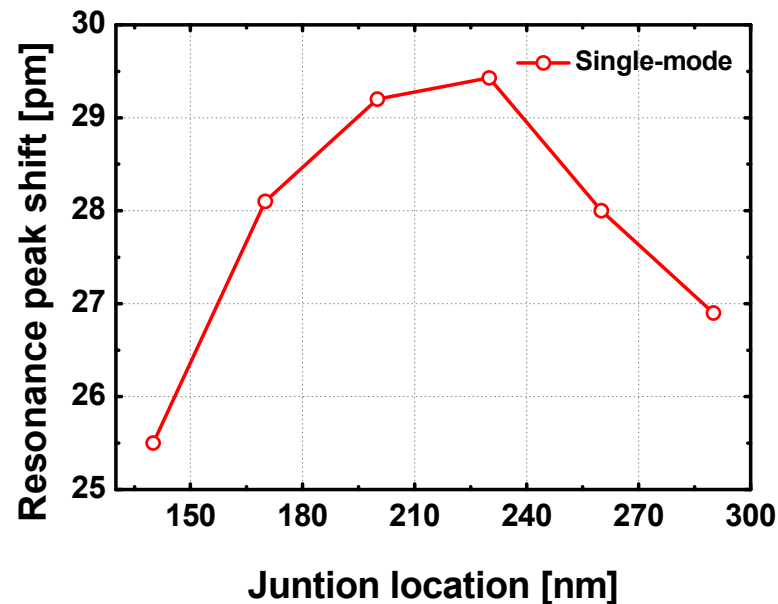
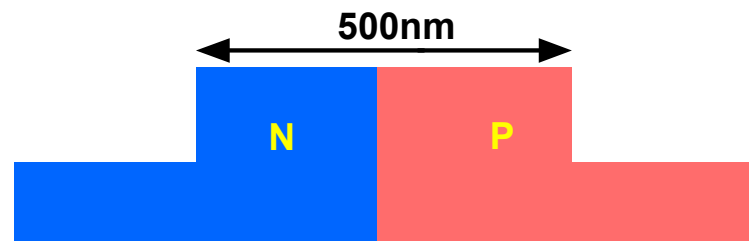
Process Variation of Si MRM

- Fabricated by IHP-PIC (SG25PIC)
- Measured parameter: α , γ , n_{eff} , tunability



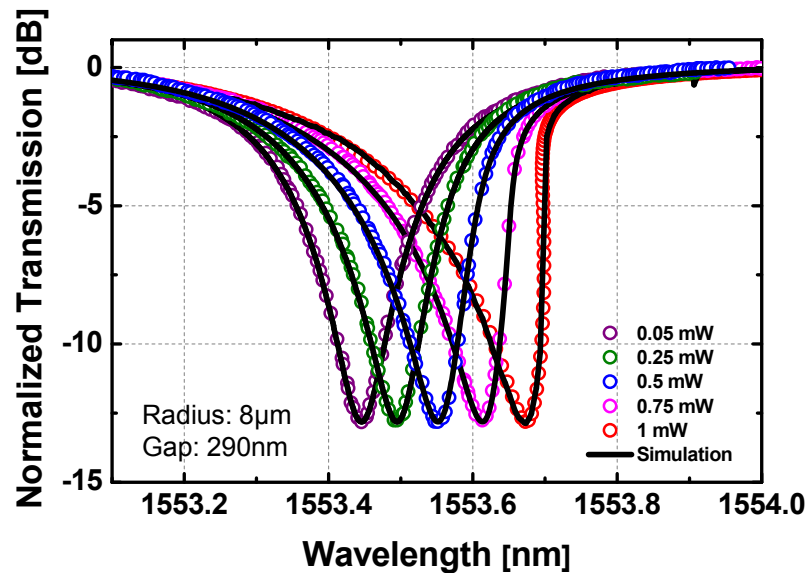
Junction Optimization in Si MRM

- PN junction optimization for better efficiency (single-mode, multi-mode WG)
- Optimized junction location for single & multi-mode
 - Mode peak covered 30nm by both P-type semiconductor

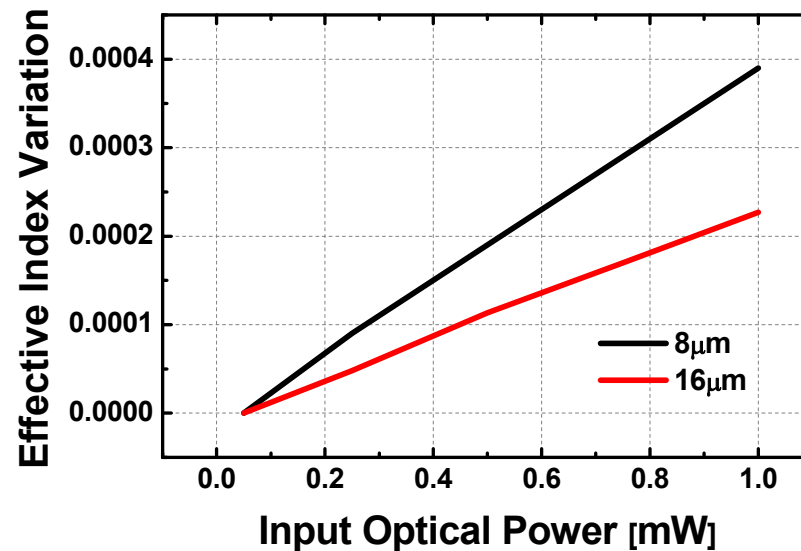


Self-Heating Effect in Si MRM

- Self-heating effect was modeled by energy inside the ring
- Self-heating thermal coefficient (R)
 - Doping concentration, ring radius, Q-factor
- P: $7 \times 10^{18} (/cm^{-3})$, N: $5 \times 10^{17} (/cm^{-3})$



Comparison between Model & Measurement



Comparison for different ring radius