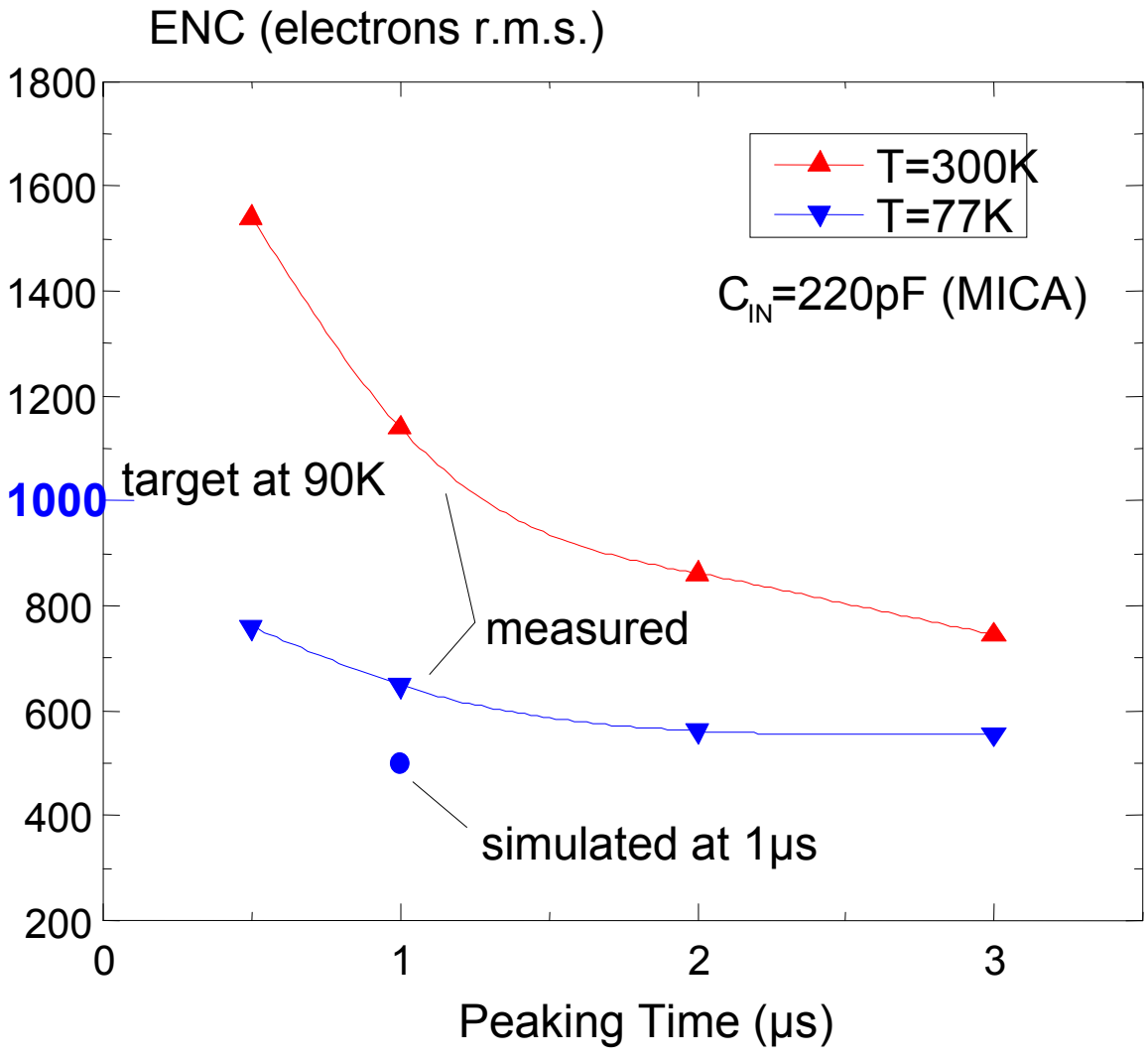
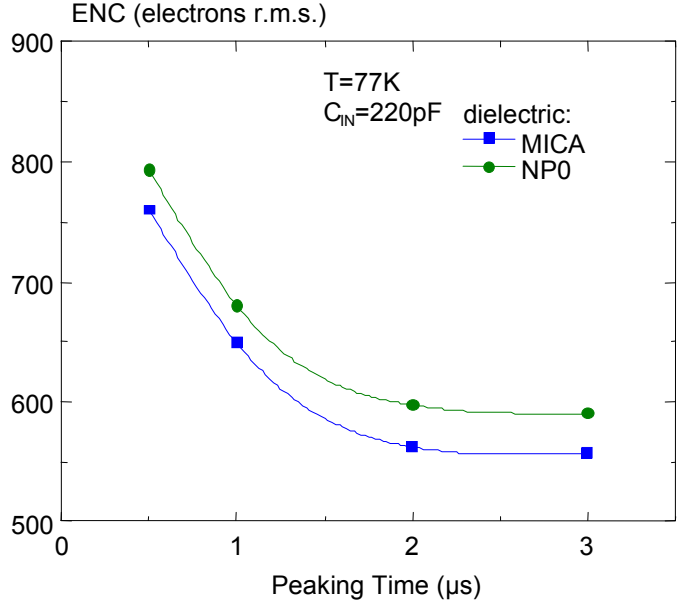


Layout Detail

Input Line
L ~ 1 mm
W = 3.5 μm
(M3 + M4)
R ~ 11 O

Input MOSFET
L = 270 nm
W = 10 mm
(50μm x 200)
g_m ~ 40 mS (25 O)



Measurements include:

- **input line parasitic resistance ~11O**
  - **~ 350 e⁻ at 77 K**
  - **addressed in next revision**
- **C_{IN} dielectric noise (not present with wire)**
  - **~ 100 e⁻ at 77 K**

$$dENC \approx \sqrt{2kTC_{IN}tg\delta}$$

$$\approx \begin{cases} 210\,e^- & \text{for NPO} \\ 100\,e^- & \text{for MICA} \end{cases}$$