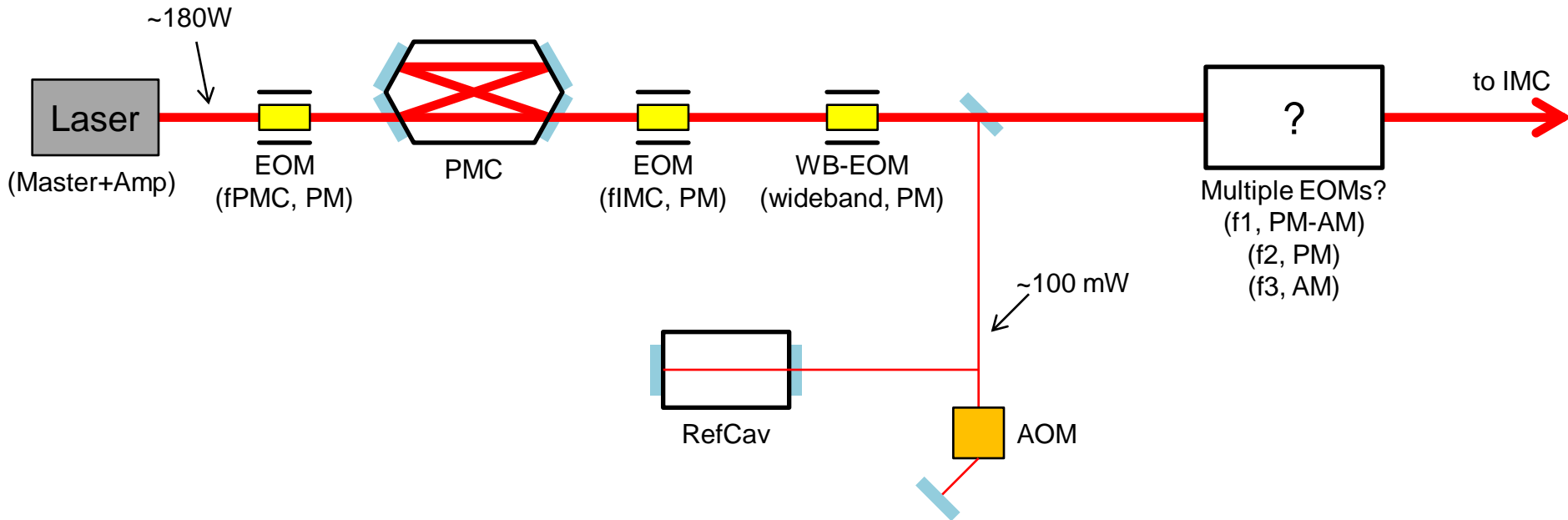


bKAGRA PSL EOM Layout



- Modulation frequencies and requirements for modulations

JGW/wiki/MIFIOOInterfaces

- Abbreviations

EOM: electro-optic modulator

PM: phase modulation

AM: amplitude modulation

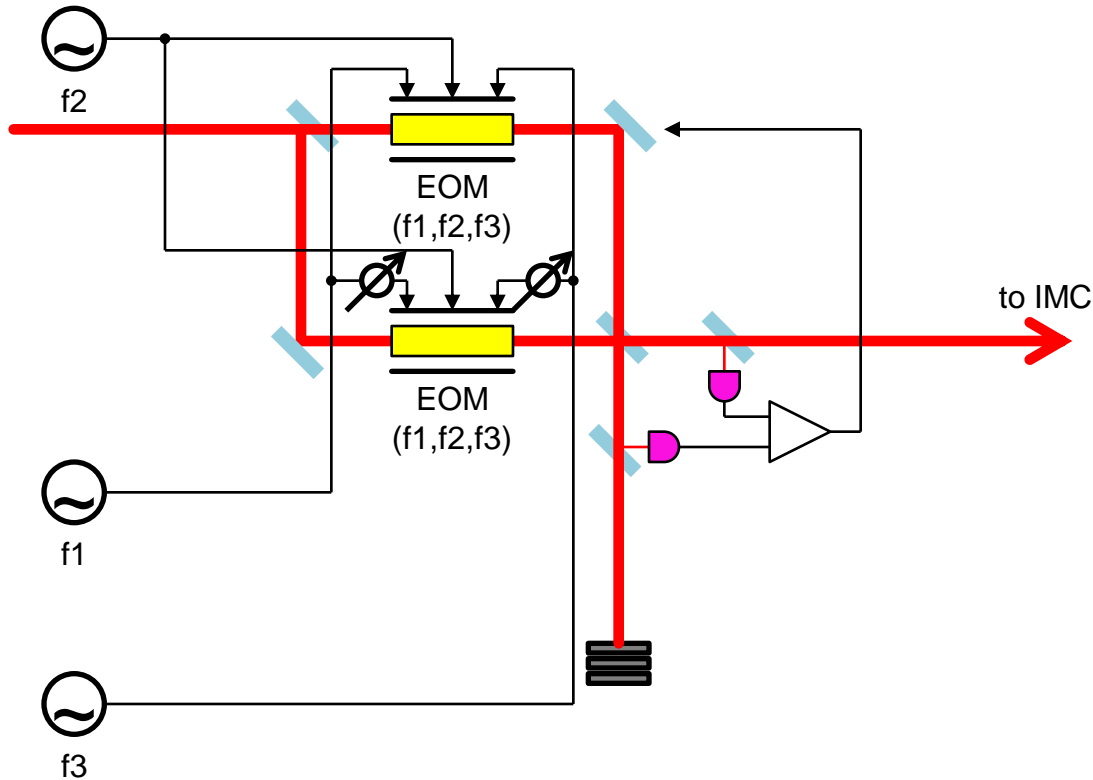
WB: wideband

Requirements for f1, f2, f3

- f1 PM and AM (ratio should be adjusted with respect to detuning)
- f2 PM only
- f3 AM only (turned off once the IFO is locked)
- Series modulation is OK
- Detailed requirements are summarized in JGWwiki/MIFIOOInterfaces

Layout 1

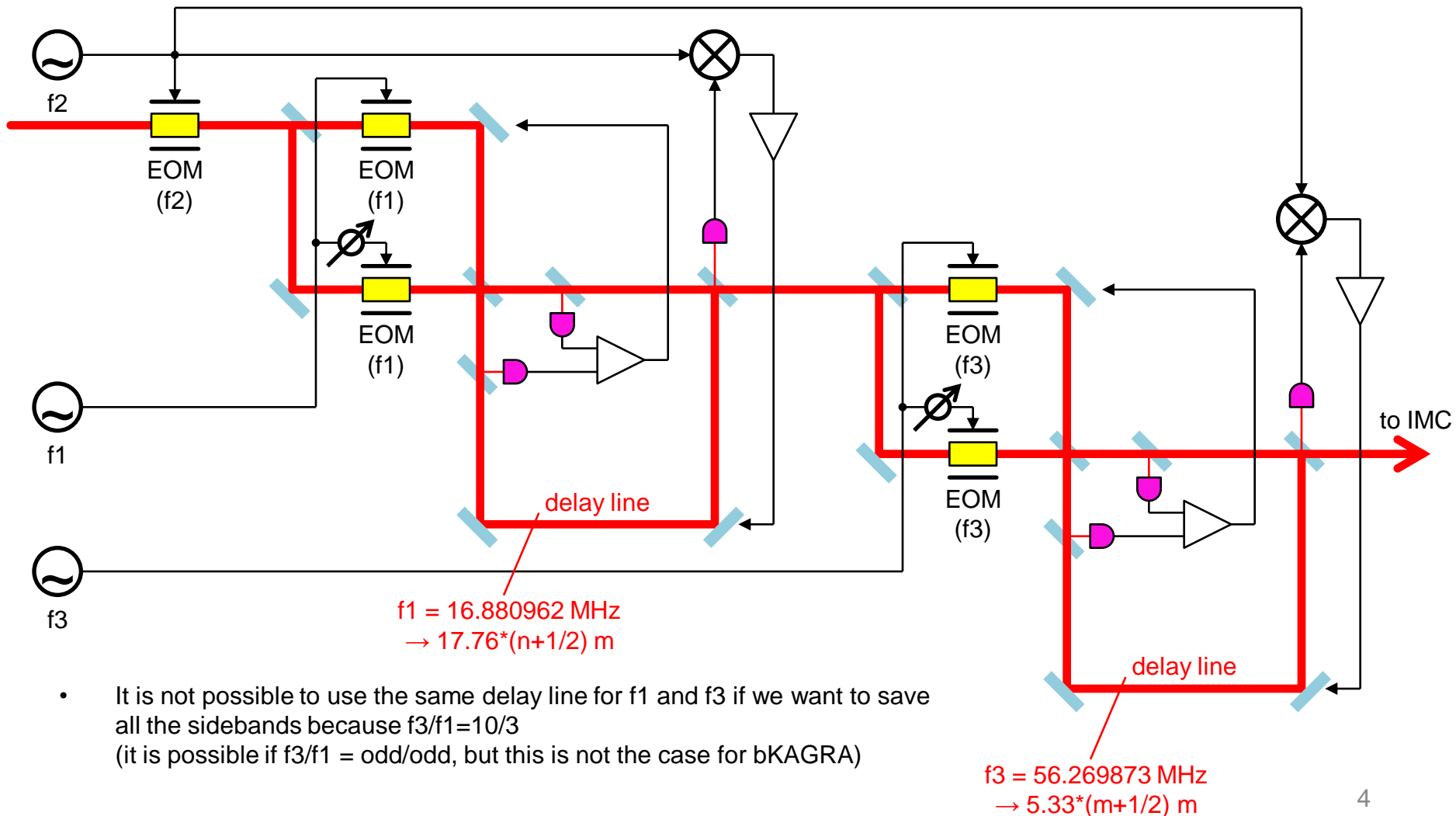
- Simple but lose half the power



Layout 2



- Saves the whole power



- It is not possible to use the same delay line for $f1$ and $f3$ if we want to save all the sidebands because $f3/f1=10/3$ (it is possible if $f3/f1 = \text{odd/odd}$, but this is not the case for bKAGRA)

Layout 3

- Simpler, but loses some f3 AM

