

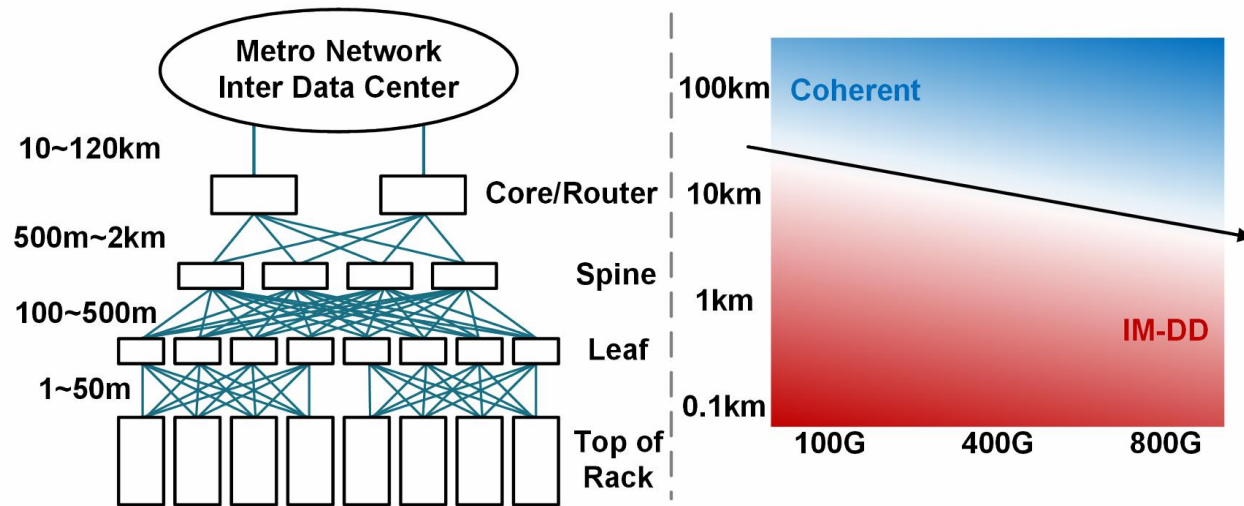
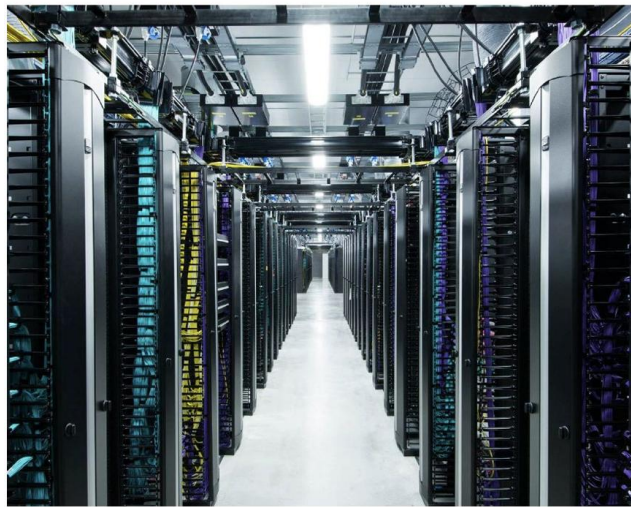
2026 Workshop

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Dept. of Electrical and Electronic Engineering
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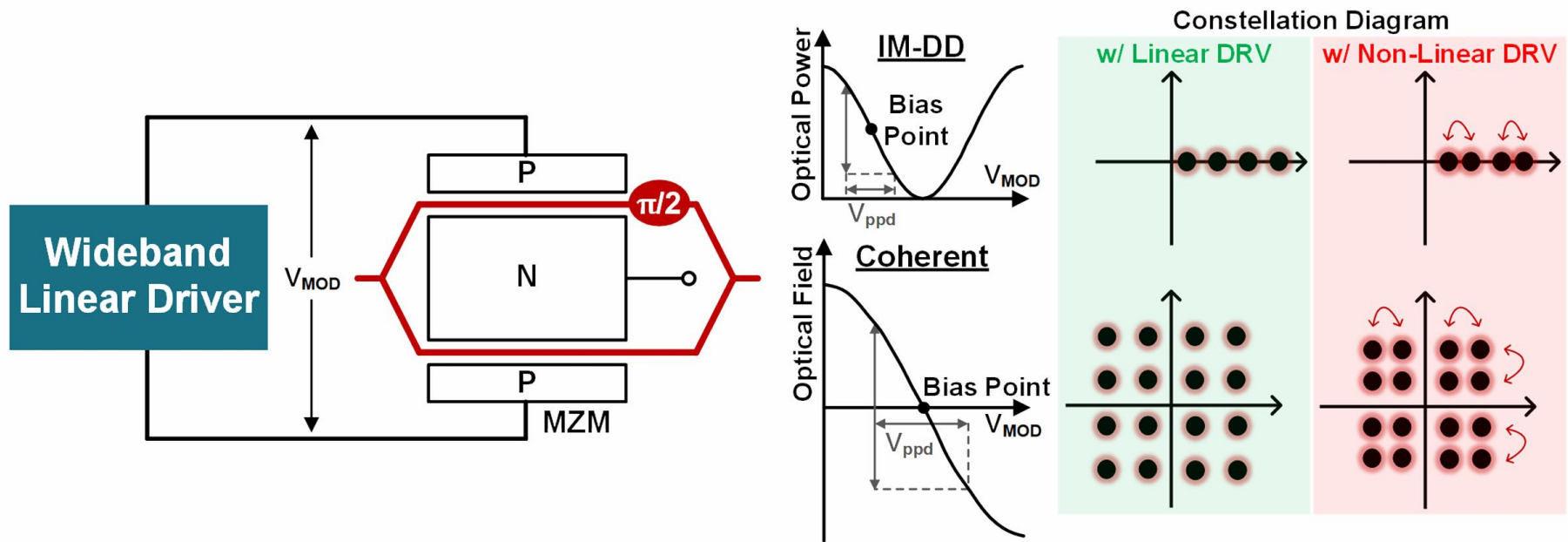
2025 Works

- Increasing data rates calls for 1.6T-3.2T optical modules
- $\geq 400\text{-Gb/s}/\lambda$ is critical for the realization of such link
- Coherent technologies gradually extend to data centers



2025 Works

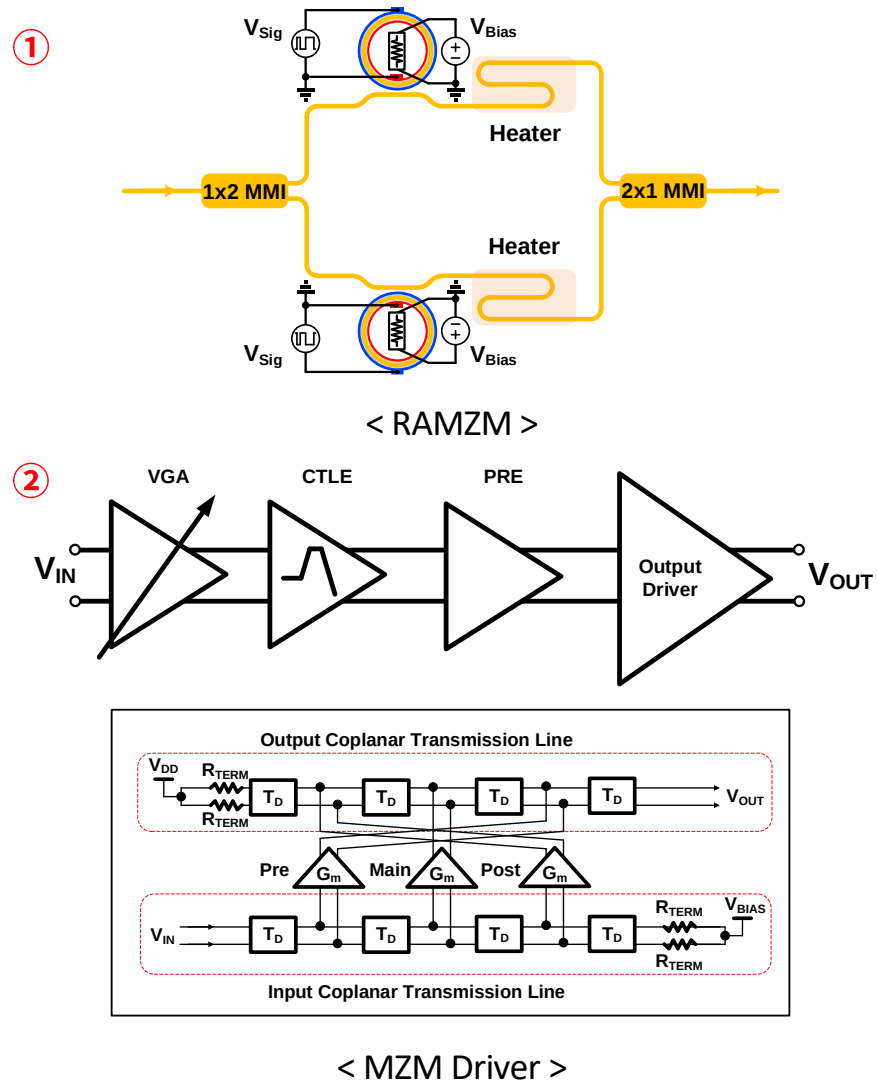
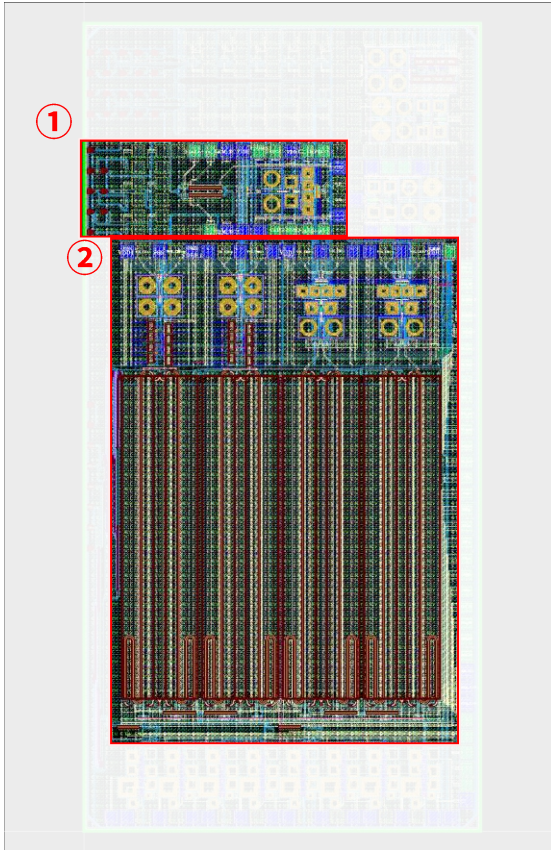
- Coherent E-O modulation requires larger drive voltage
- Higher-order data modulation necessitates good linearity



2025 Works

Globalfoundries 45nm SPCLO

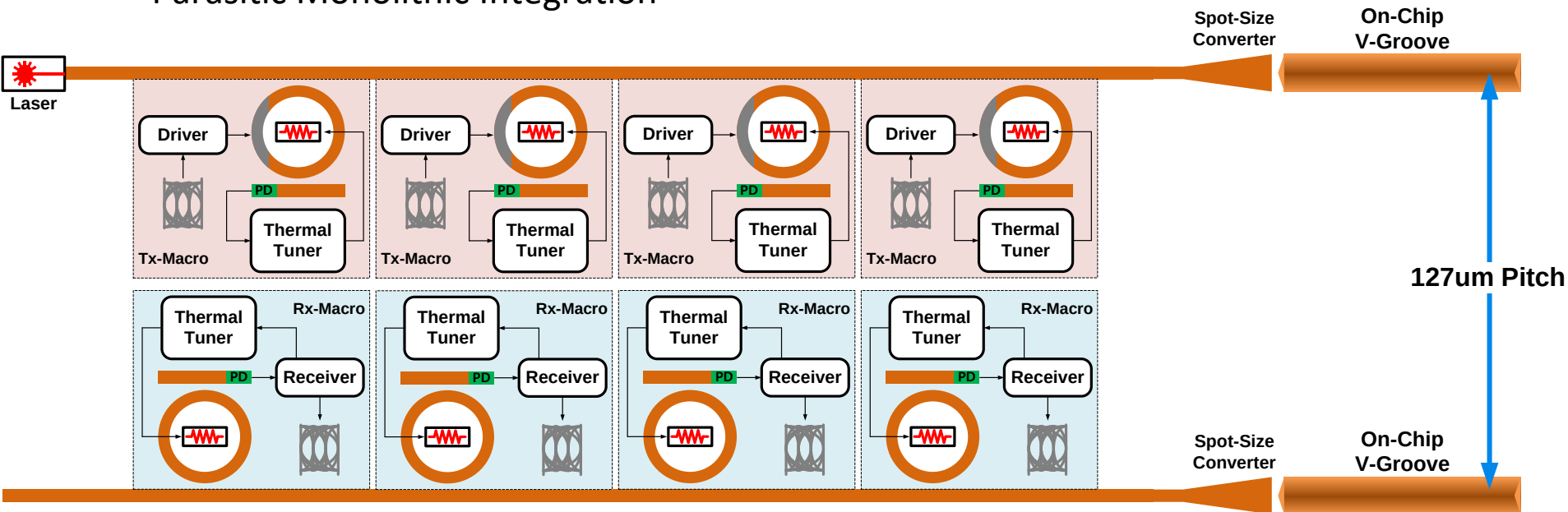
- Coherent Tx



- CML Driver / Waveguide FFE
- IQ-MZM / RAMZM

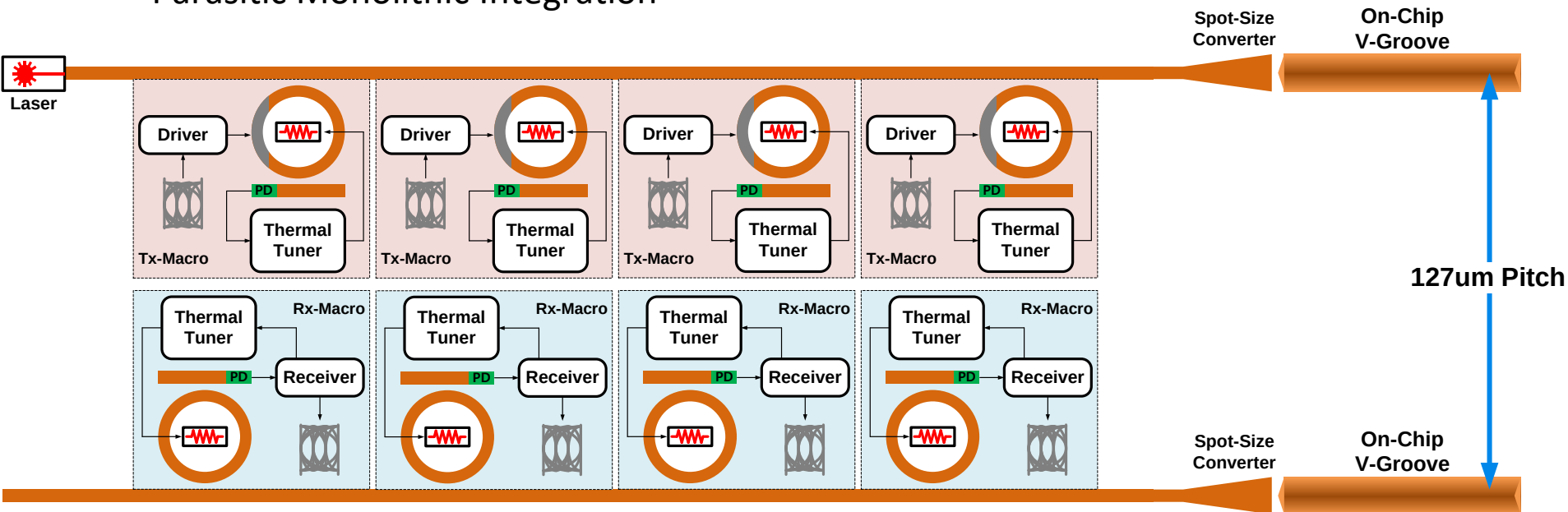
2025 Works

- Co-packaged Optics for “Dense Shoreline Bandwidth”
 - WDM Optical Transceiver
 - Fine Pitch V-groove
 - On-chip PIC Automatic Calibration
 - Parasitic Monolithic Integration



2025 Works

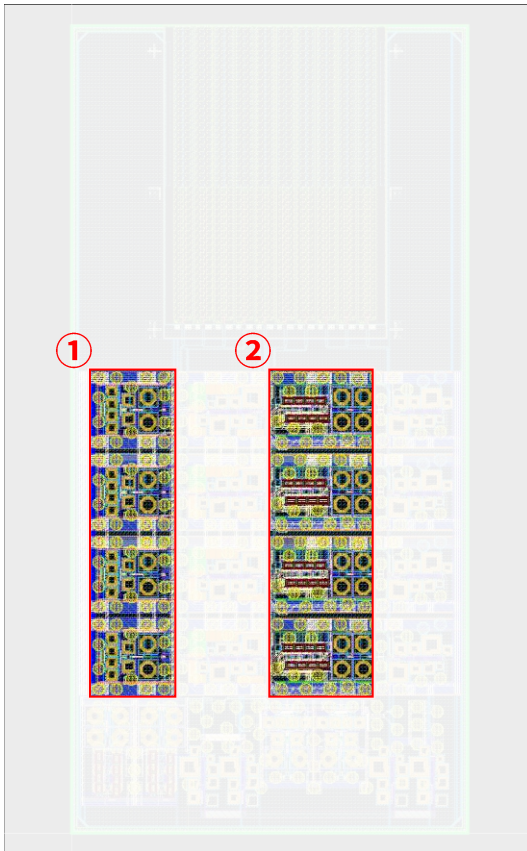
- Co-packaged Optics for “Dense Shoreline Bandwidth”
 - WDM Optical Transceiver ← **MRM Driver**
 - Fine Pitch V-groove
 - On-chip PIC Automatic Calibration
 - Parasitic Monolithic Integration



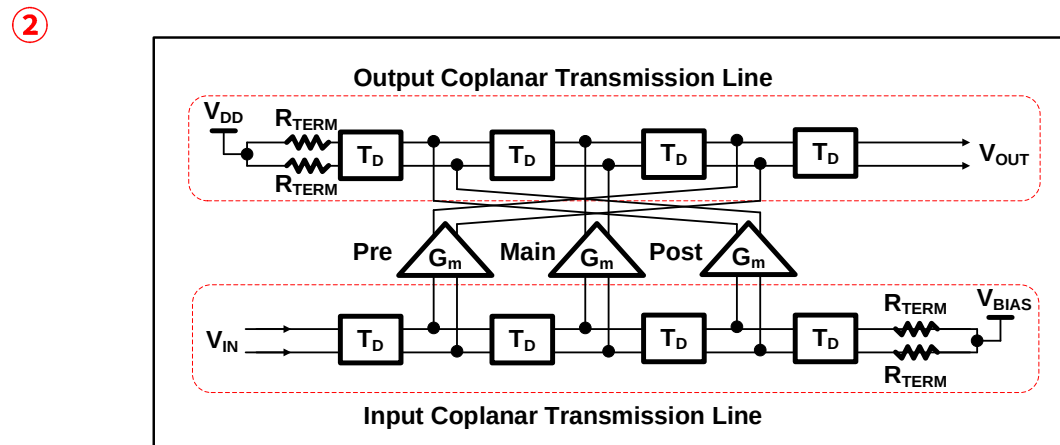
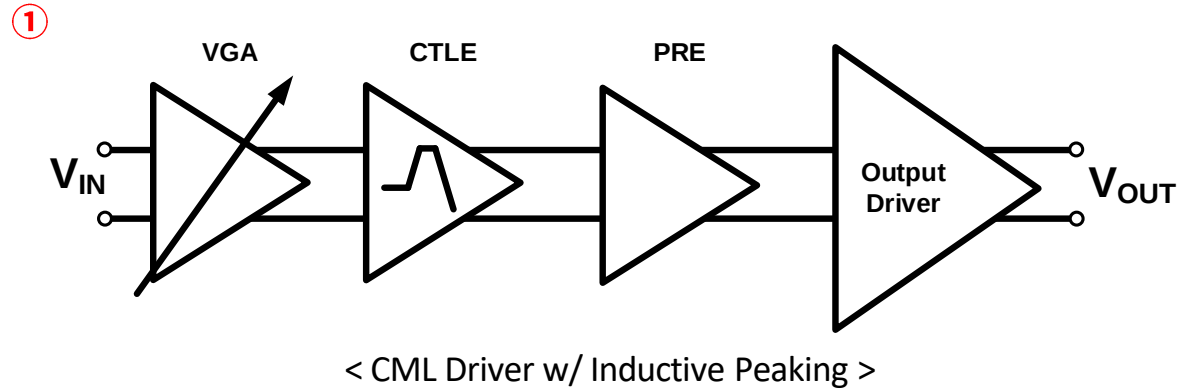
2025 Works

Globalfoundries 45nm SPCLO

- 2*4- λ WDM Tx



➤ CML Driver / Waveguide FFE



2026 Milestone



Q'1

- AMF MTO (~3/1)



Q'2

- 예심/졸업
- GF45 Revision
 - MRM Temp. Con
 - Driver BW Push
 - CRR / RAMZM..
- 5월 WB Die 수령
- 6월 Bump Die 수령



Q'3

- GF45 MTO(~10월)
- WB/Bump Die 실험

Q'4

- 차년도 농사..



Q'3

MP1900A / N1000A 도입 예정

➤ PIC

- MRM Temp. Control in Monolithic CMOS
- RAMZM Feasibility, High Speed Calibration
- TWMZM Fabrication

➤ EIC

- Driver BW Push / THD Improve
- Data Path Implementation