Seminar - 2025 Research

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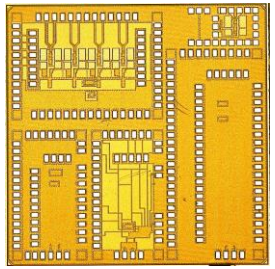
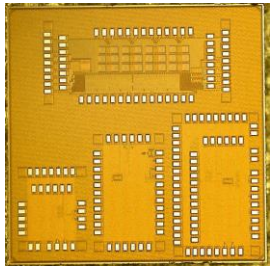
Dept. of Electrical and Electronic Engineering
Yonsei University

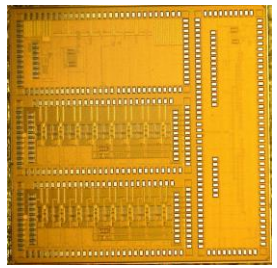
2025 Chip Timeline



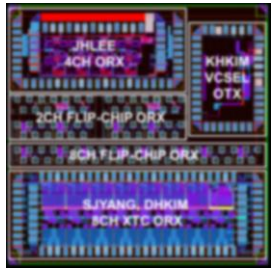
SEC2404
Flipchip Test
2507 Meas.



SEC2411
4λ DWDM Rx
2504 Meas.

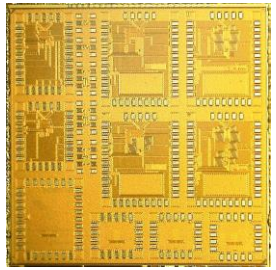


SEC2501
8λ WDM Rx
2509 Meas.

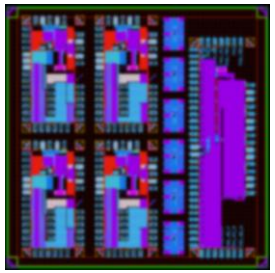


SEC2601
8λ DWDM Rx

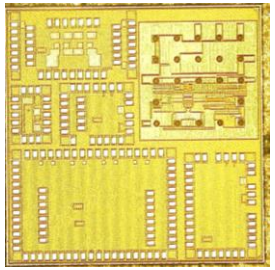
2404 — **2407** — **2411** — **2501** — **2505** — **2601**



SEC2407
Si APD Rx
2502 Meas.

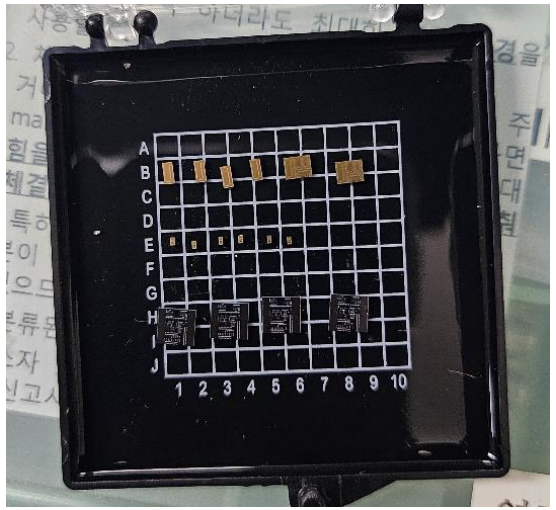


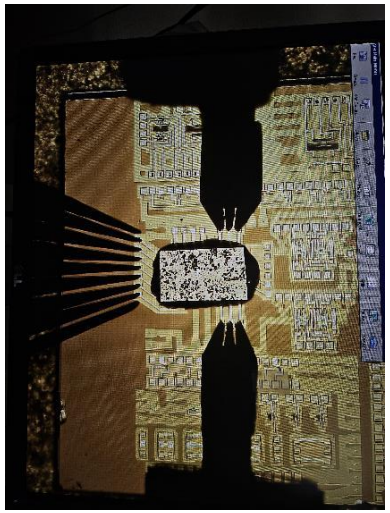
SEC2411
Si APD Rx
DWDM Tx
2508 Meas.

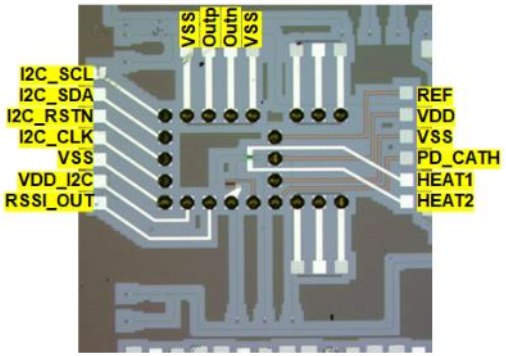


SEC2505
Flipchip Test
LC Osc.

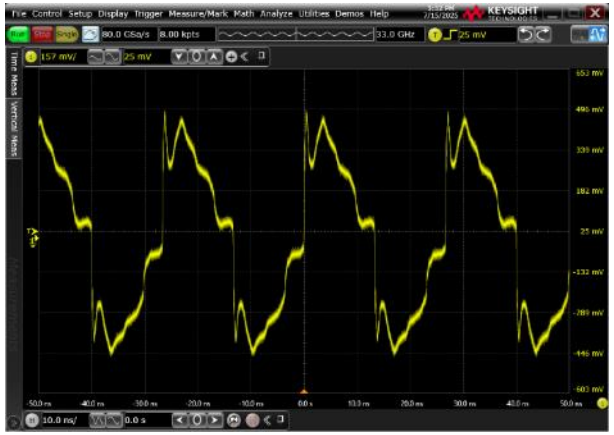
Flipchip Test



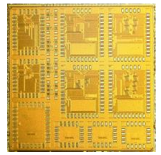




30cm? 300cm?



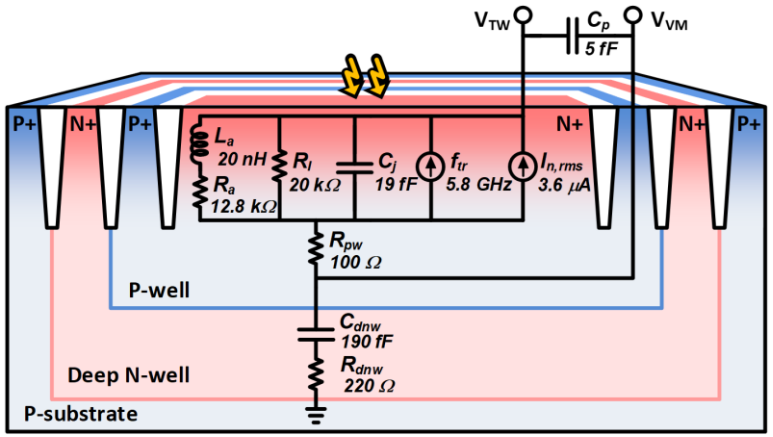
~40MHz



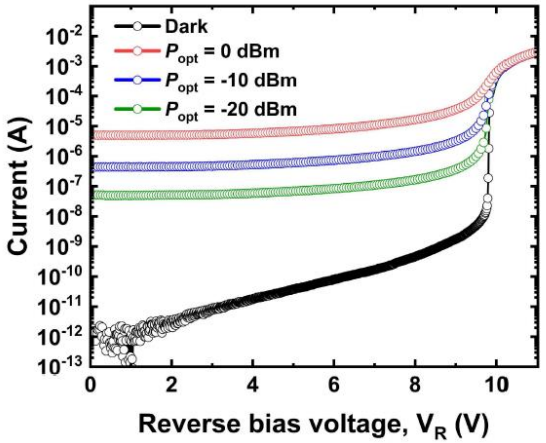
SEC2407
Si APD Rx
2502 Meas.

Si APD Receiver

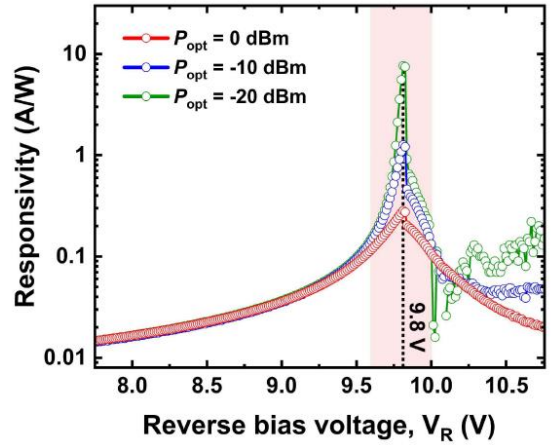
Si APD



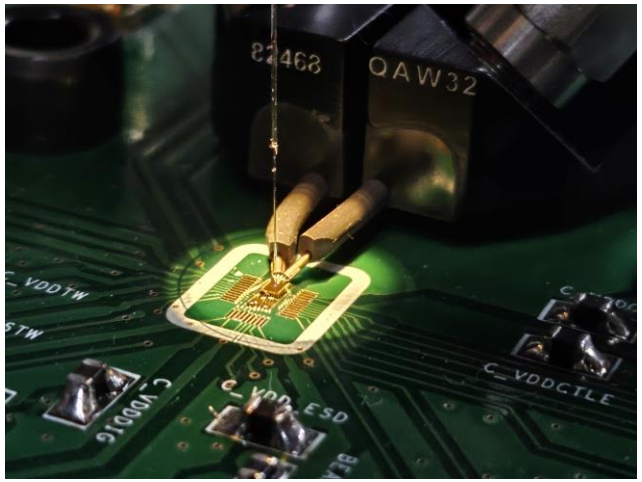
I-V Curve



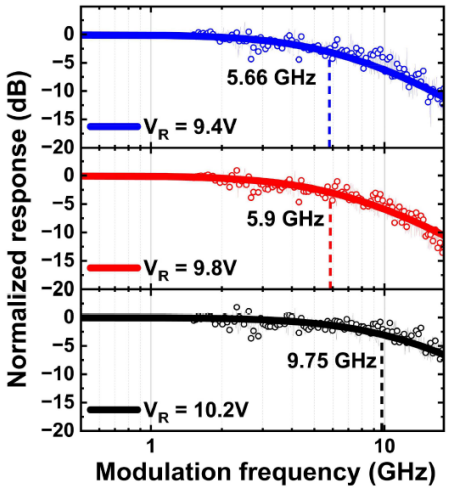
Responsivity



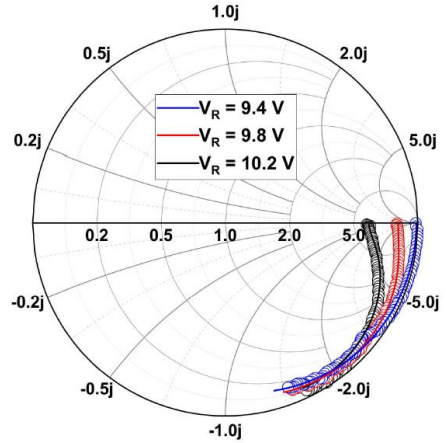
Measurement

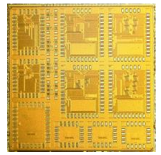


E-O Response



Reflection Coefficient

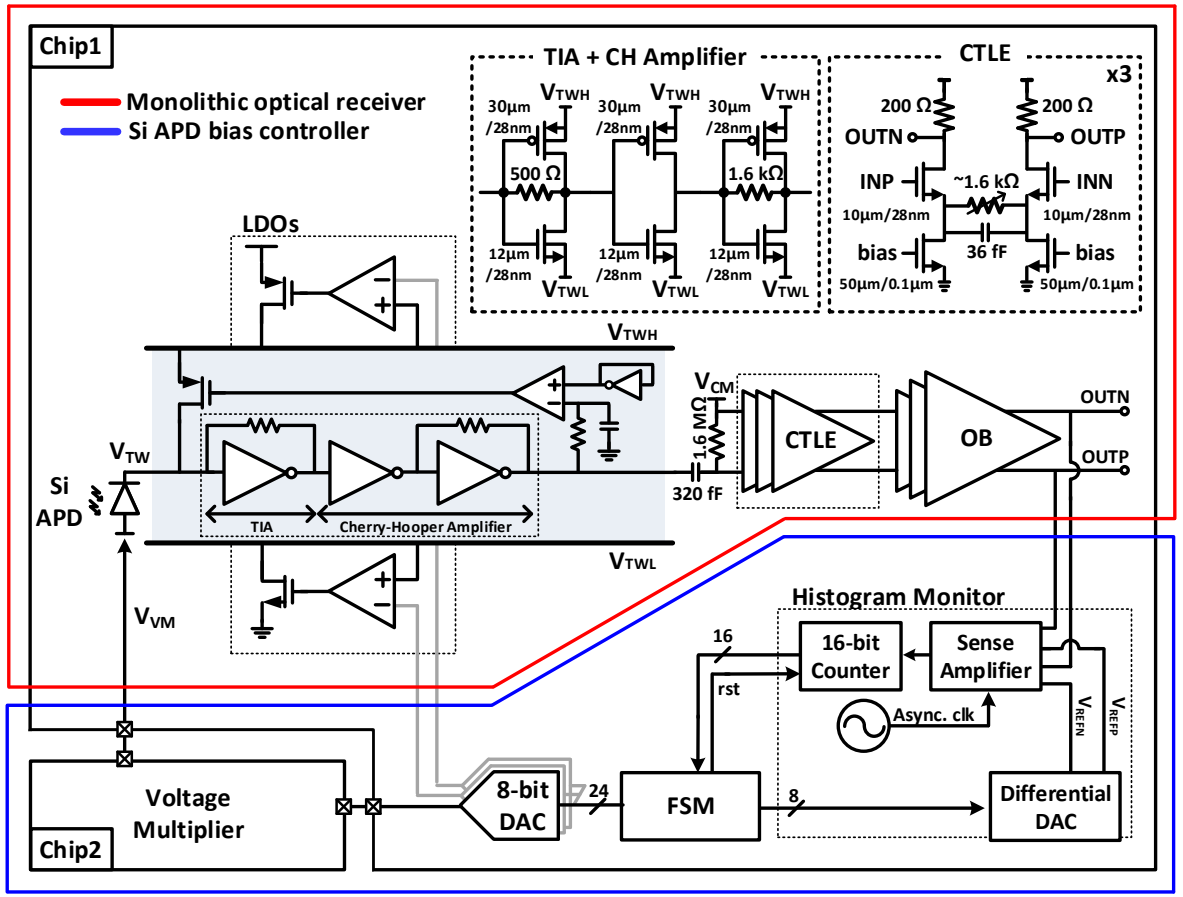




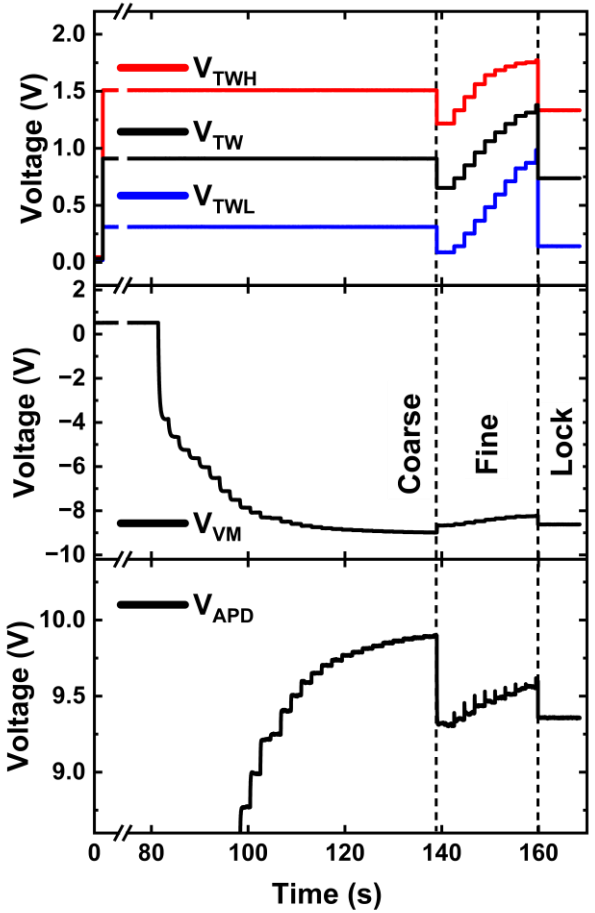
SEC2407
Si APD Rx
2502 Meas.

Si APD Receiver

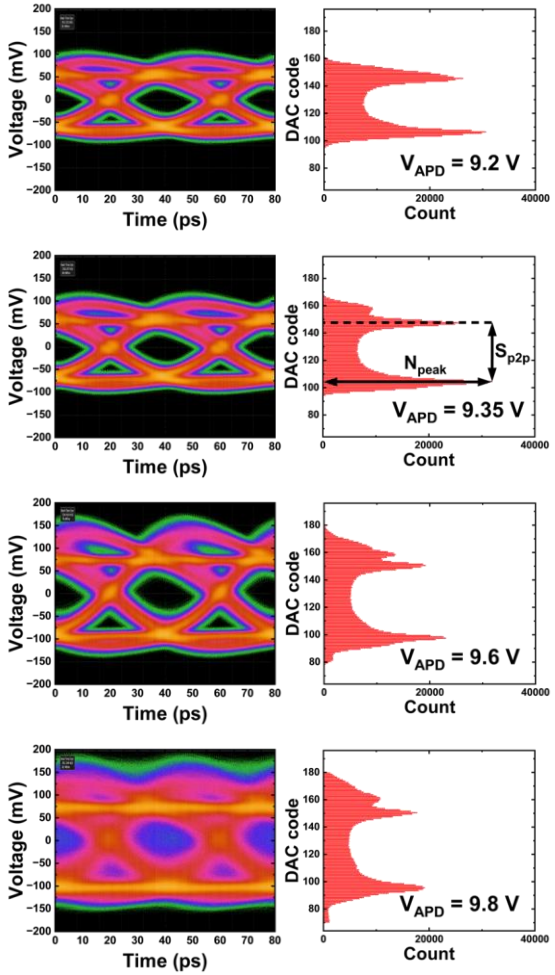
Monolithic Receiver w/ Si APD Bias Controller

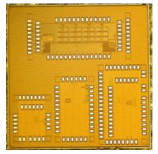


Controller Operation



Eye diagram/Histogram

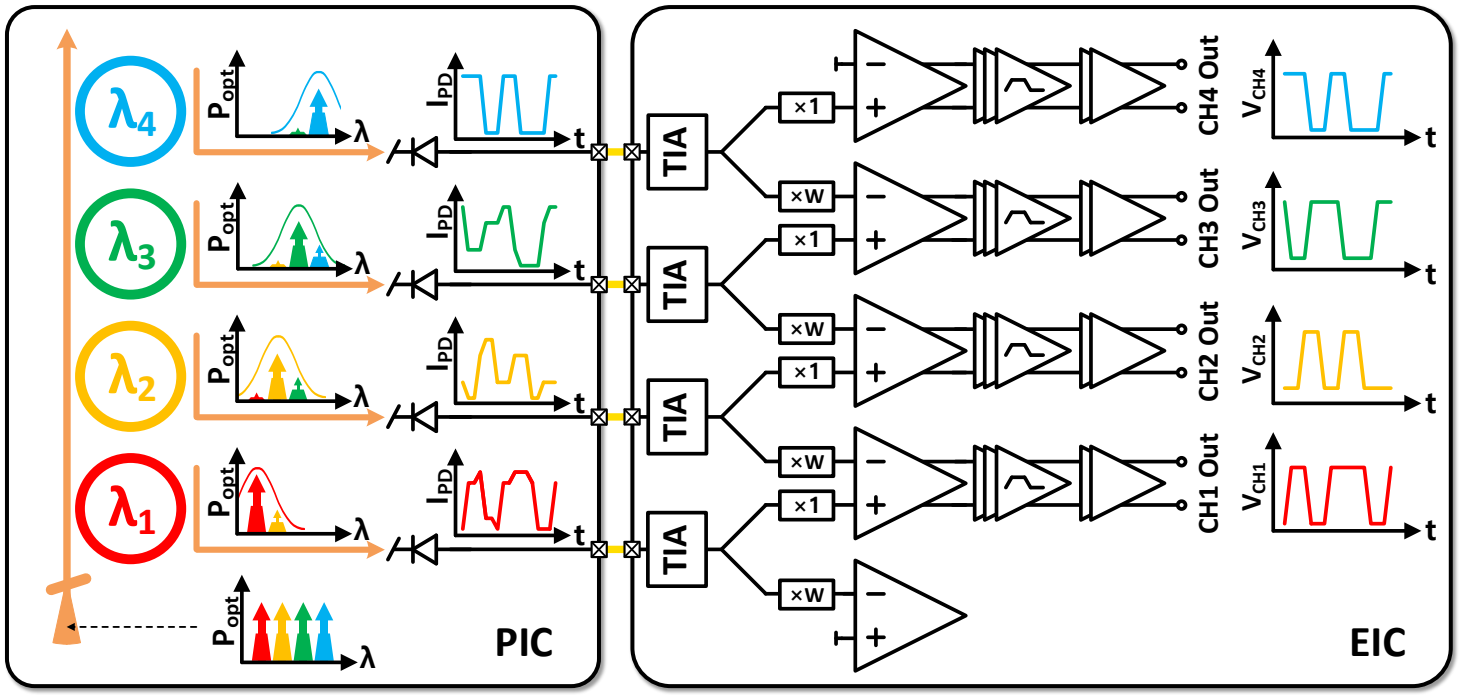




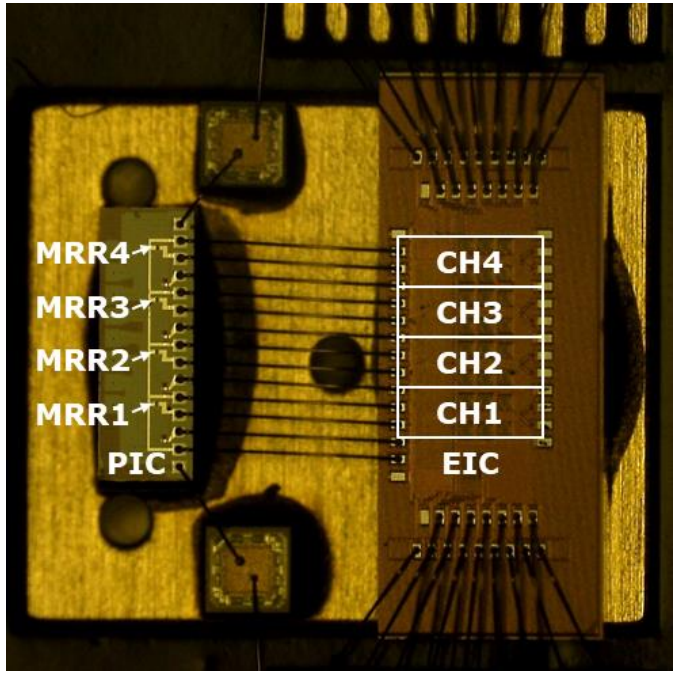
SEC2411
4λ DWDM Rx
2504 Meas.

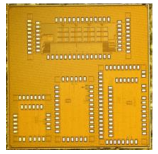
DWDM Receiver - XTC

Top Block Diagram



Chip Photo

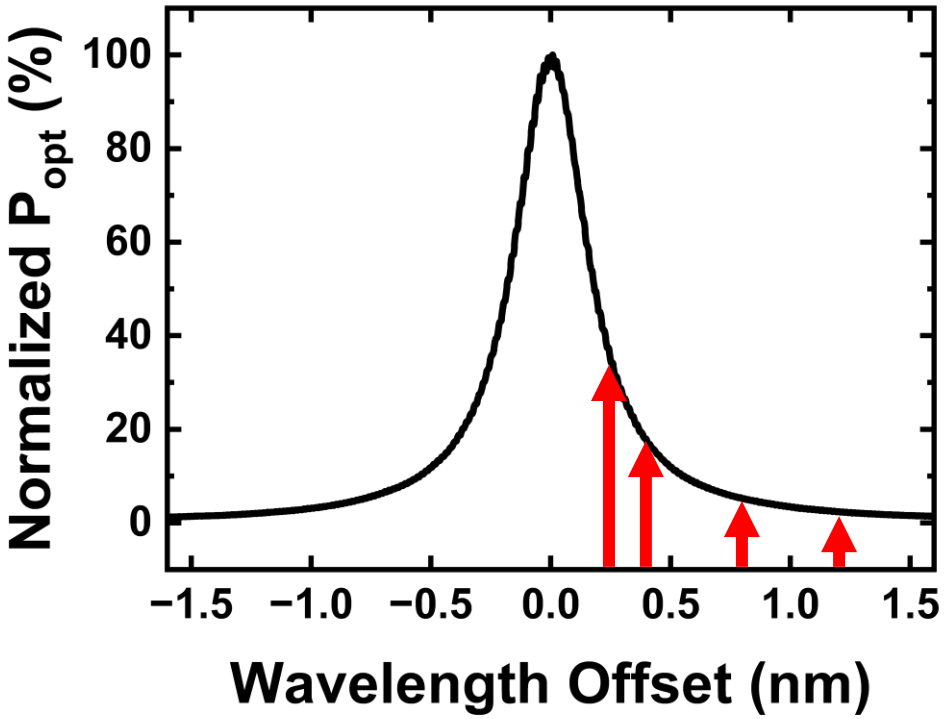




SEC2411
4λ DWDM Rx
2504 Meas.

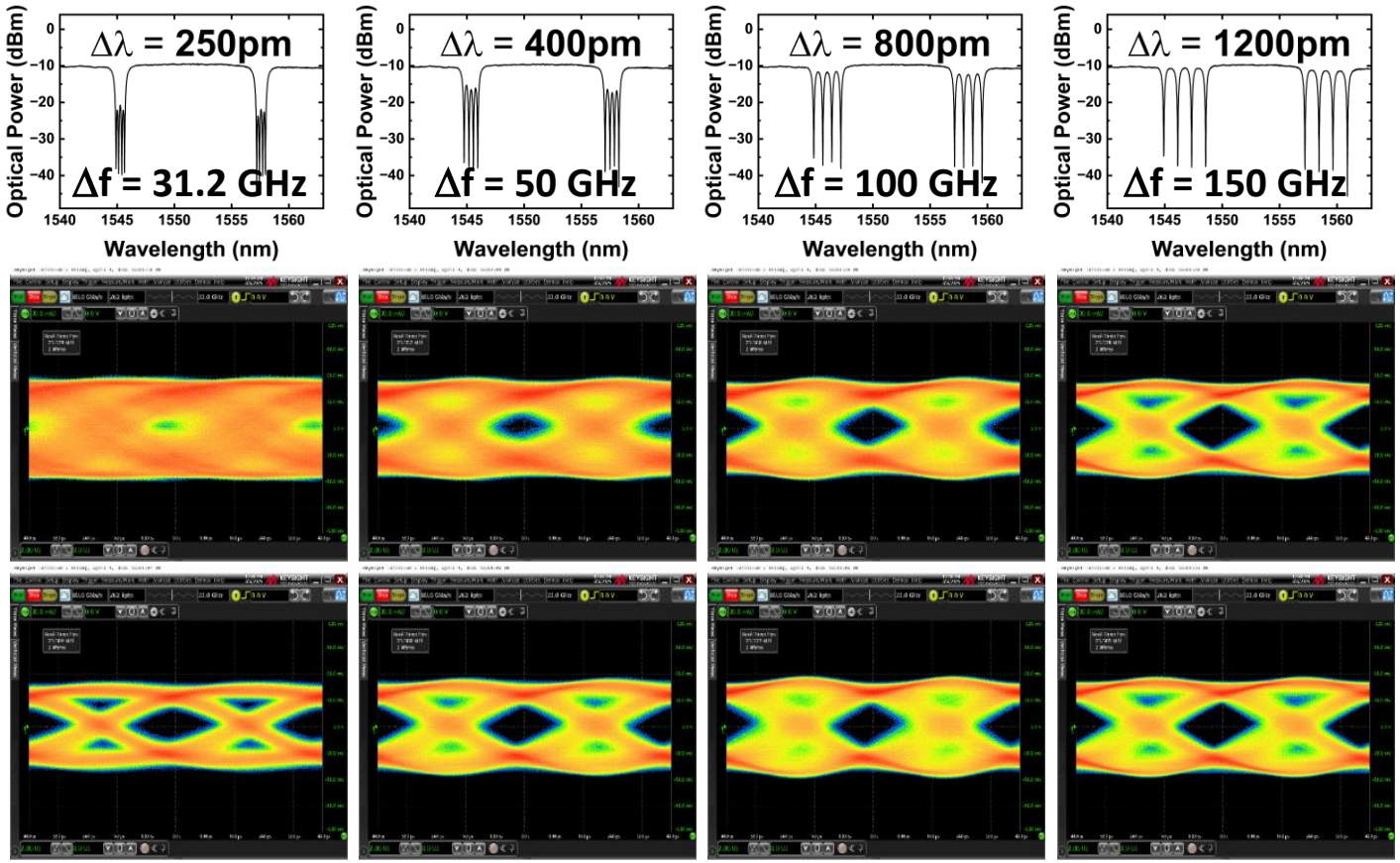
DWDM Receiver - XTC

MRR Characteristics



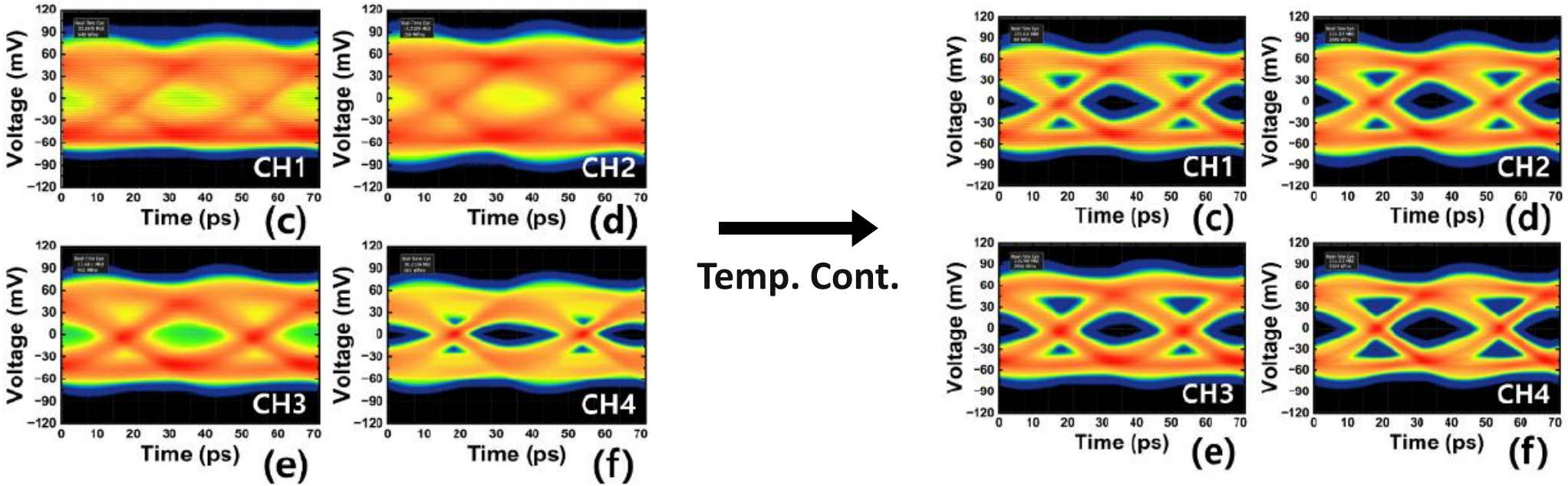
- MRR BW: 23 GHz (185 pm)
- MRR FSR: 12.29 nm

Various Channel Spacing



- Data: -3 dBm, 25 Gbps, PRBS15

DWDM Receiver – Temp. Cont.



Temperature Variation: 5°C,
Channel Spacing: 0.25nm
Datarate: 28Gbps