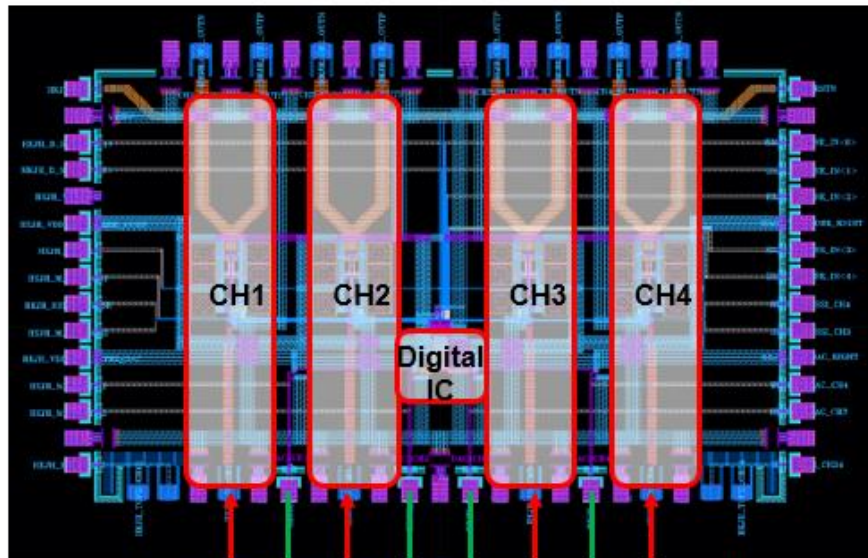


# 2022-1 Works

Samsung 28nm LPP  
4λ, 28Gbaud/λ PAM4 WDM receiver

2022.04

Electronic  
IC

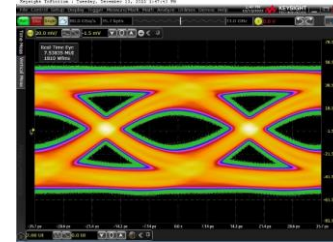


Photonic  
IC

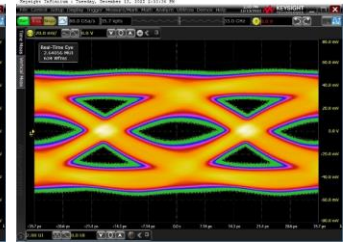


Eye diagram  
Measurement

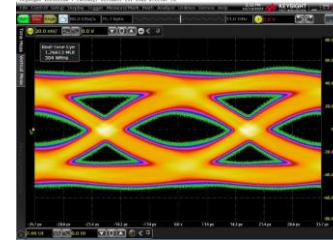
CH1



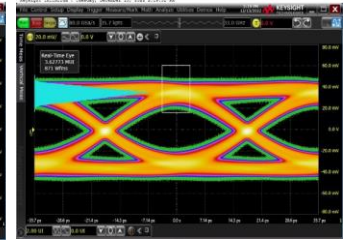
CH2



CH3



CH4



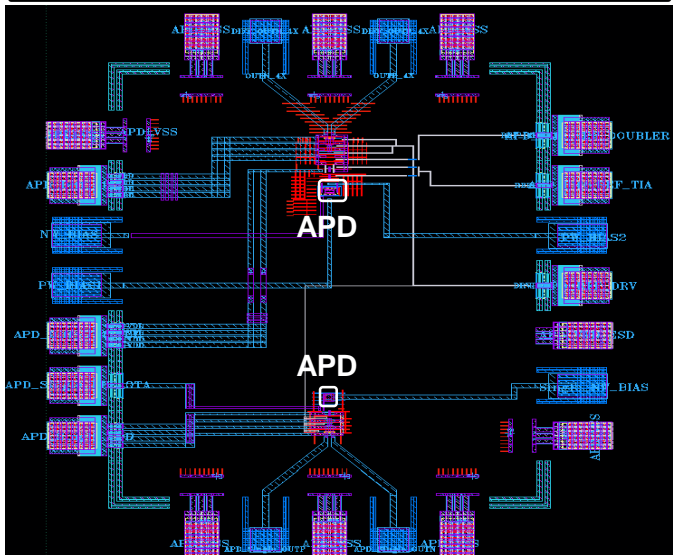
28 Gb/s, PRBS31  
Input swing =  $200\mu A_{ptp}$   
Output swing =  $100mV_{ptp}$

CH3

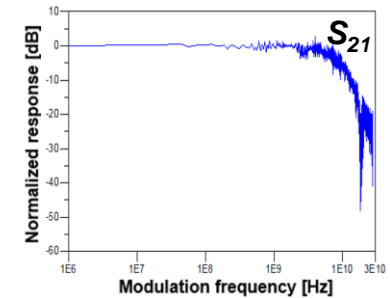
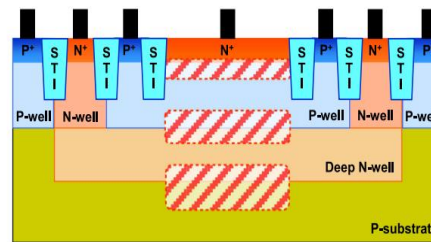
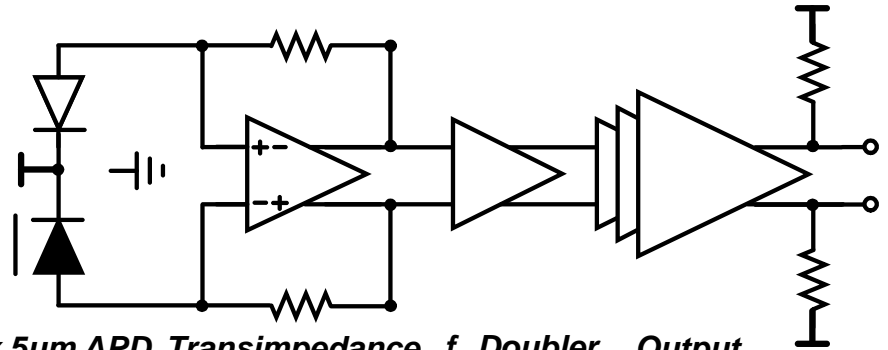
# 2022-1 Works

## Samsung 28nm LPP CMOS APD & Monolithic Optical Rx

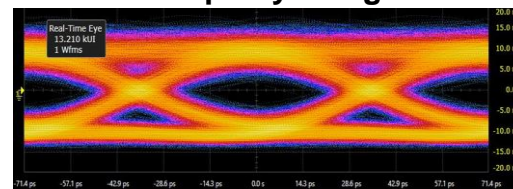
2022.07



## CMOS APD & Monolithic Optical Rx measurement



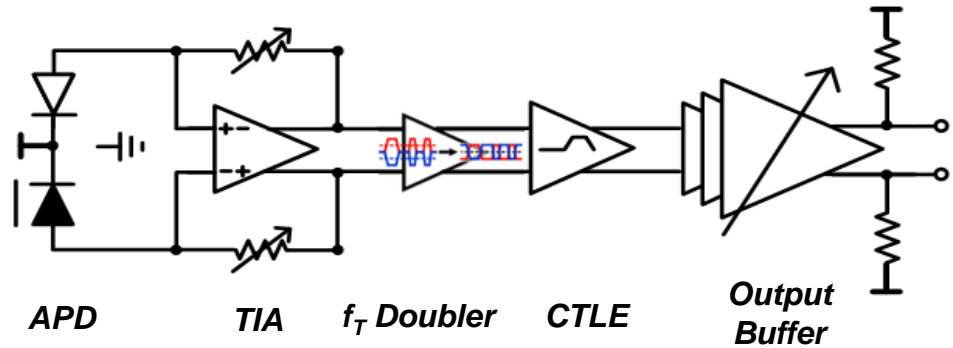
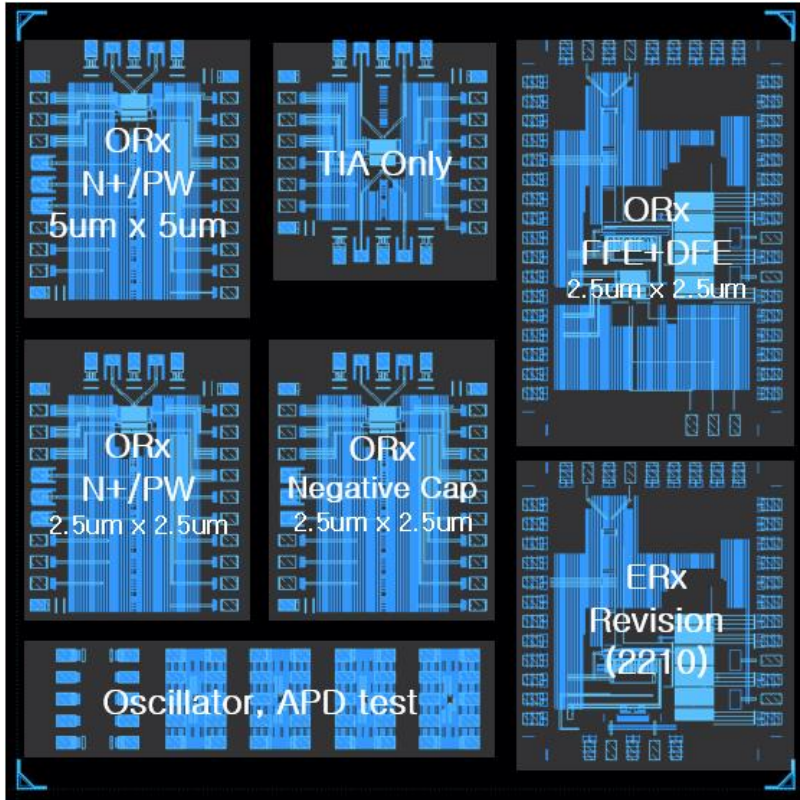
14Gbps Eye diagram



# 2022-2 Works

## Samsung 28nm LPP CMOS APD & Monolithic Optical Rx

2023.01



### Target

A 28-Gbit/s CMOS Monolithic Optical Receiver With Spatially-modulated Photodetector

### APD TYPE

- 2.5 $\mu$ m x 2.5 $\mu$ m
- 5 $\mu$ m x 5 $\mu$ m

### EQ TYPE (2.5 $\mu$ m x 2.5 $\mu$ m APD)

- Negative cap + CTLE
- CTLE
- FFE+DFE