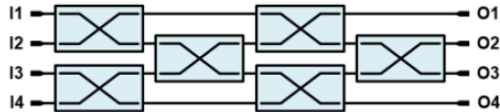
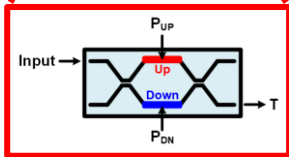
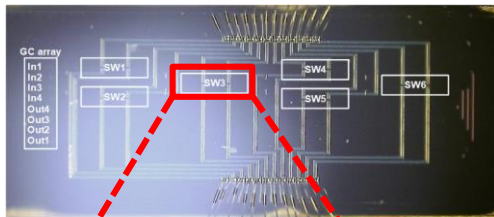


# Bias Controller for Si Optical Switch Fabrics

## Target PIC

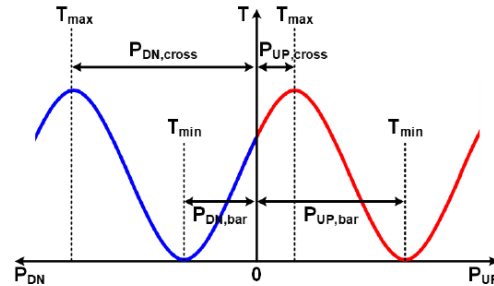


< Spanke-Benes optical switch fabrics >

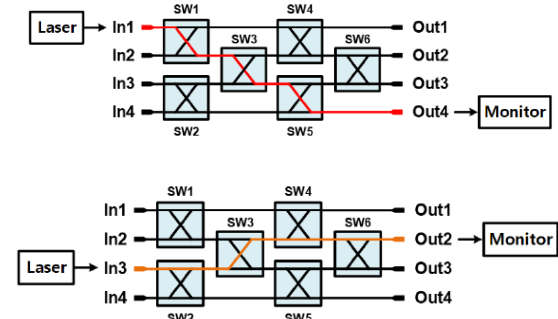


< Chip microphotograph >

## Calibration scheme

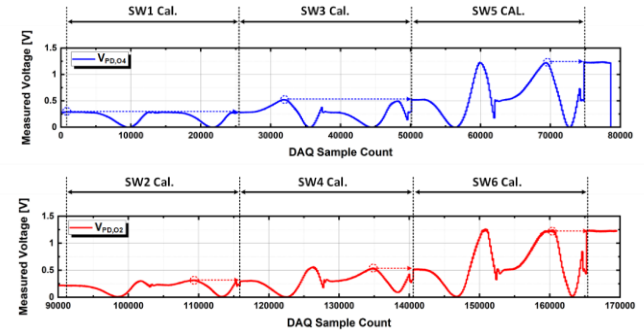
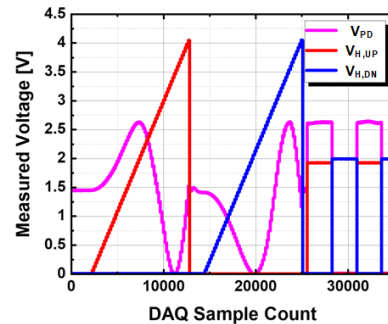


➤ Power efficient heater selection



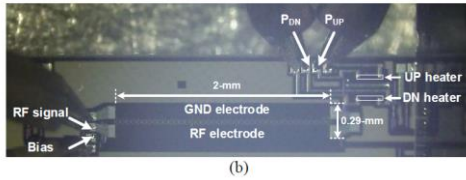
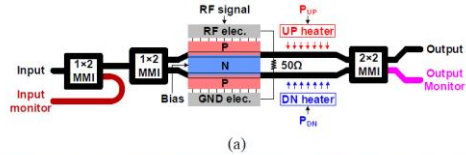
➤ Sequential calibration can be done

## Measurement

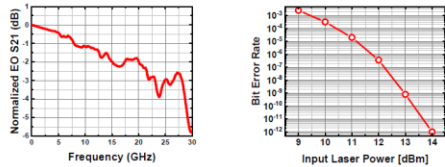
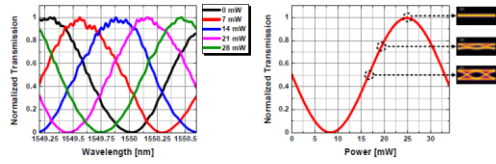


# Bias Controller for Si MZM

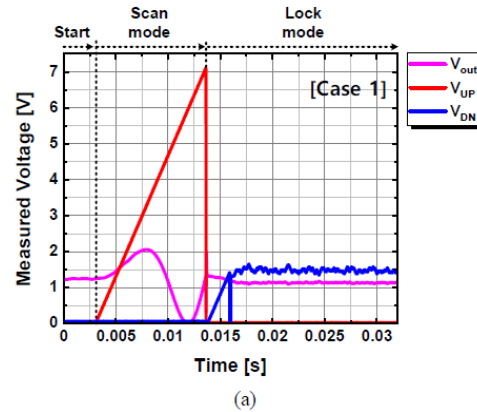
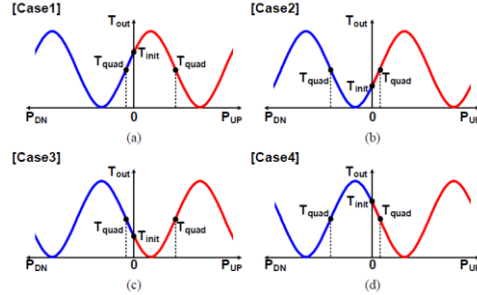
## Target PIC



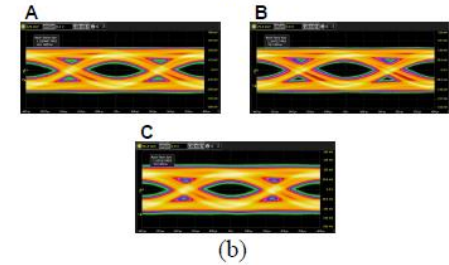
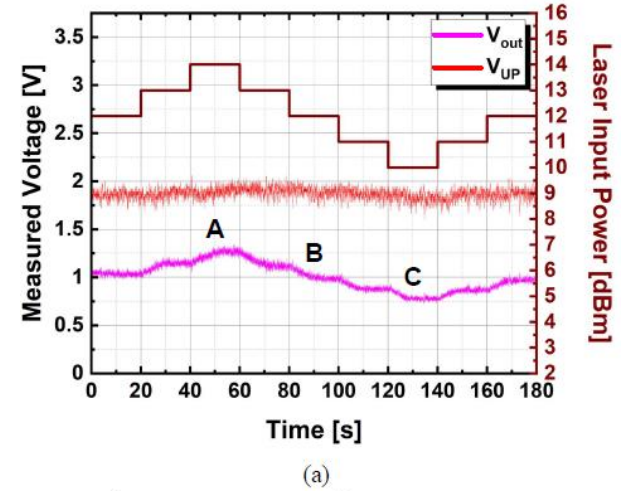
## < Si single push-pull MZM >



## Calibration scheme



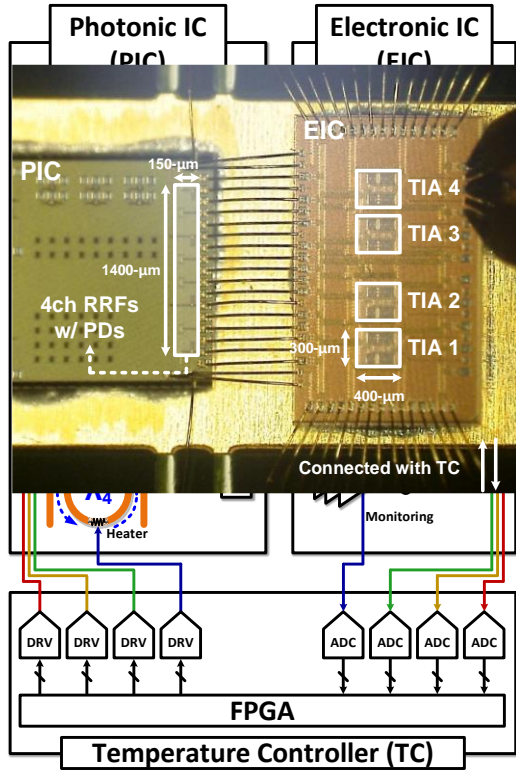
## Measurement



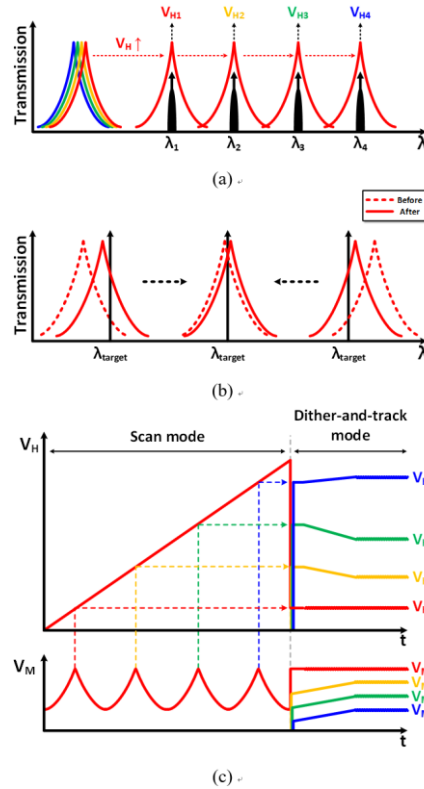
Laser Input Power [dBm]

# Temperature controller for RRF based WDM Rx

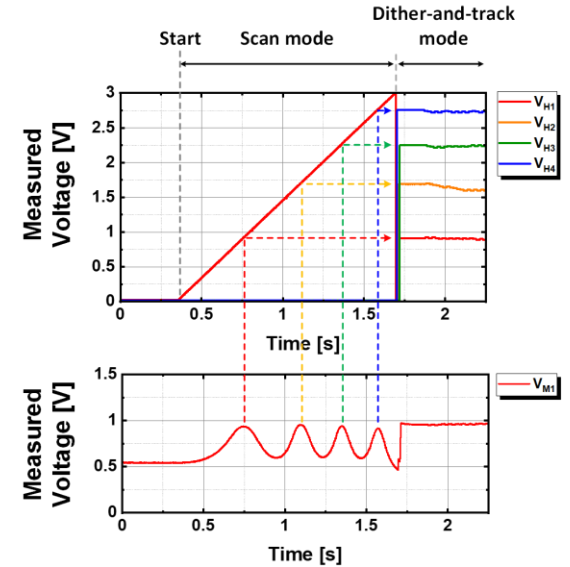
## Designed Chip



## Calibration scheme



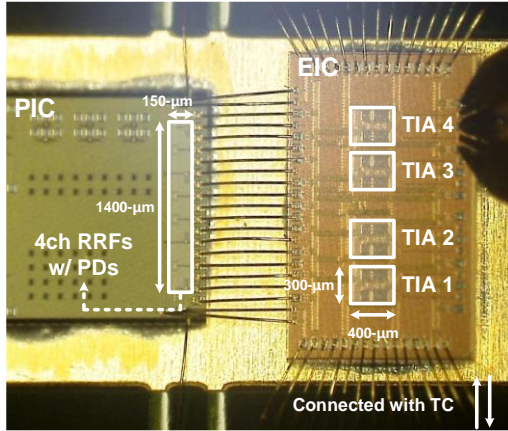
## Measurement



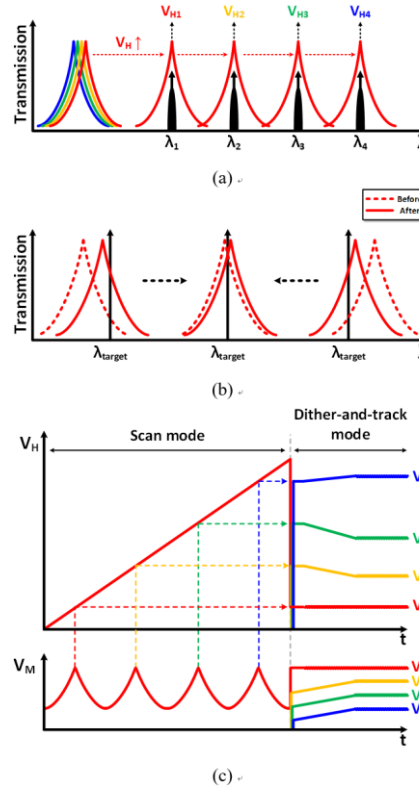
➤ Initial calibration

# Temperature controller for RRF based WDM Rx

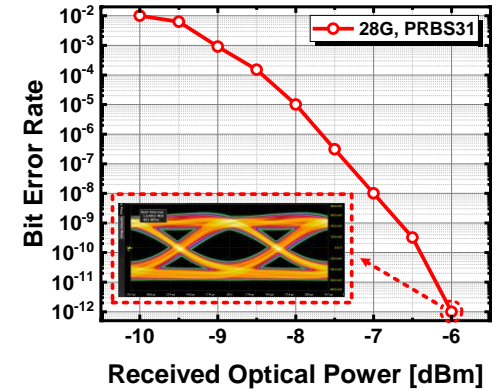
## Designed Chip



## Calibration scheme



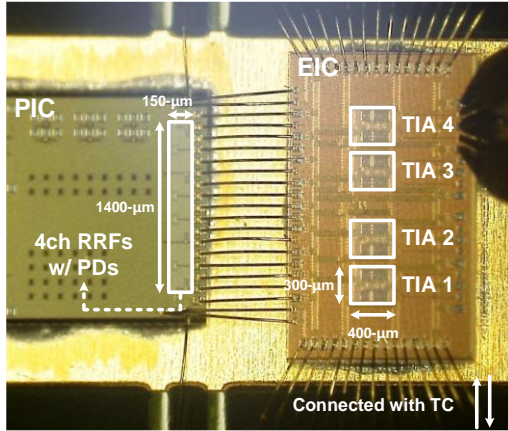
## Measurement



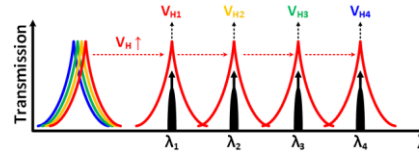
➤ ORx performance

# Temperature controller for RRF based WDM Rx

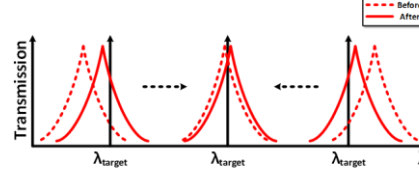
## Designed Chip



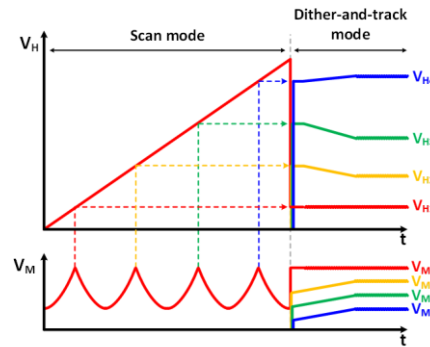
## Calibration scheme



(a)

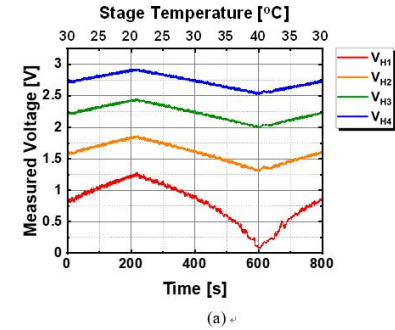


(b)

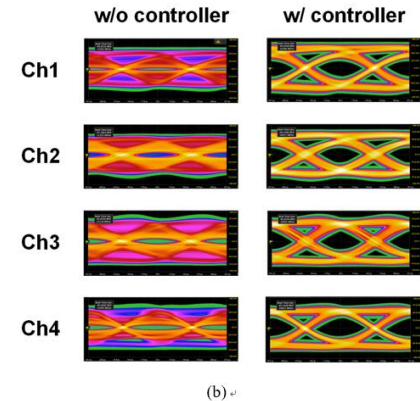


(c)

## Measurement



(a)

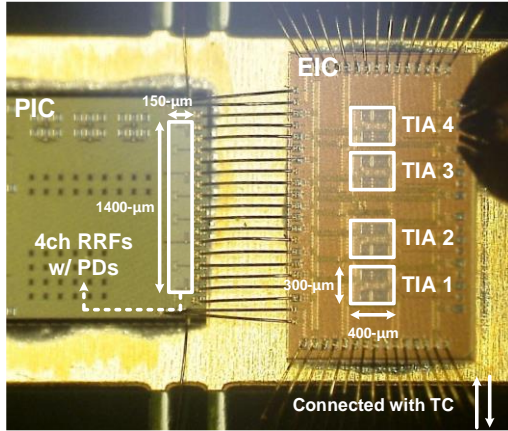


(b)

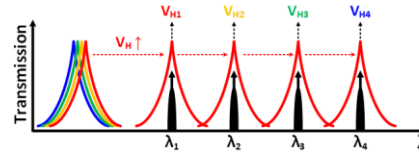
➤ Thermal stress test

# Temperature controller for RRF based WDM Rx

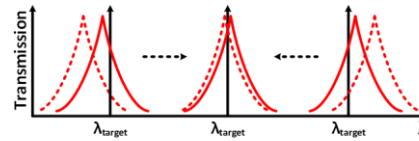
## Designed Chip



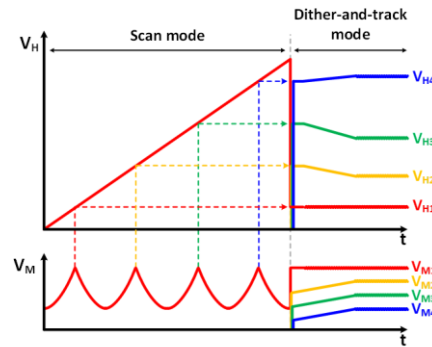
## Calibration scheme



(a)

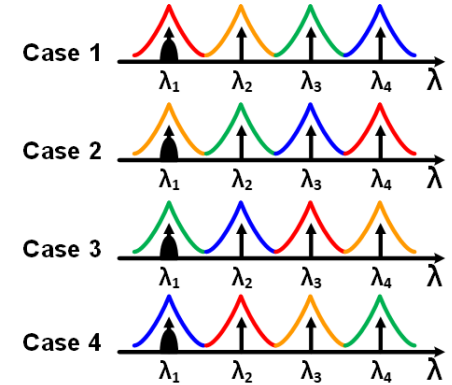


(b)

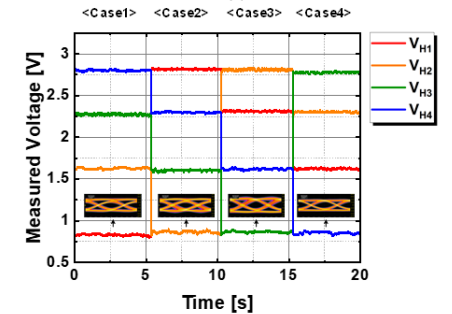


(c)

## Measurement



(a)



(b)

➤ WDM reconfiguration