OpenPICs WP3

Agenda - Part I (start 14:00)

1. **Last meeting's action points**
2. **Progress and issues to be raised per partner**
   a. **TU/e**
   b. **Smart Photonics**
   c. **Bright Photonics**
   d. **Effect Photonics**
   e. **Technobis**
3. **Summary**

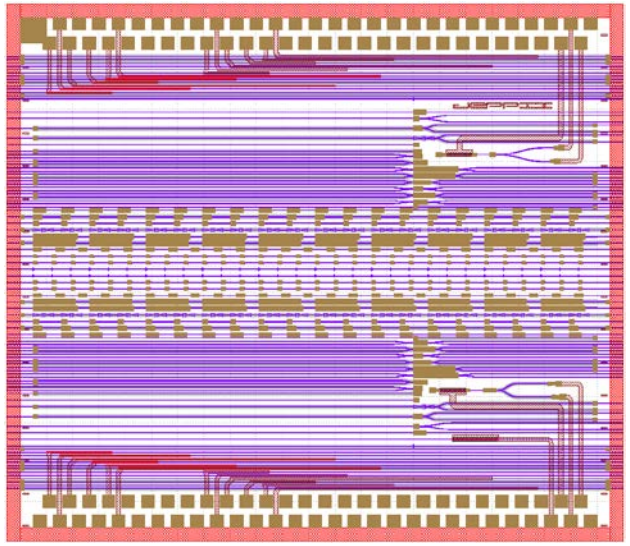
Action Points

Nr.	Description	Responsible
1.	**SP17/SP18 WG loss** Ronald will send data on WG losses in SP17/SP18 due to metal on top to Rui. Rui will compare that with Smart foundry data.	Rui, Ronald (24 April)
2.	**OpenPICs administration** Kevin will contact Karin to exchange information with project partners on writing hours and financial reporting	Kevin (CW 13)
3.	**List of Report/Milestones** List quantifiable criteria for corresponding report/milestones assigned to the main lead	Milestone leads (24 April)
4.	**AWG specification on process** Generate systematic simulation results showing effect of tolerances from multiple factors on AWG performance	Ronald (backlog)
5	**RF Line specification** Generate systematic simulation results showing tolerances on 2-layer RF line performance	Weiming (backlog)
6	**Meeting approves of List of Reports/Milestones**	
7	**BB Test cell Pad layout** Note: SP20 follows Technobis IPPS pad layout. Planned: adapt to PixApp layout in next SP Effect notes: keep test structures simple to avoid problems during interpretation of measurement results	

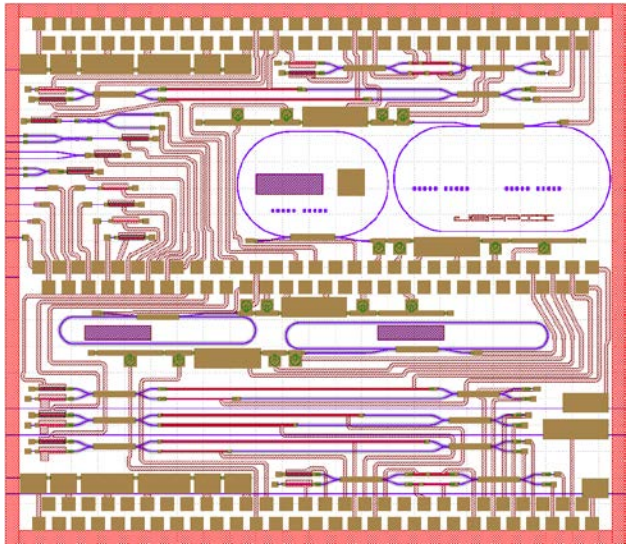
SP 20 – BB Test Cells

- Cell 1 and 2 with test structures
- Cell 1 focuses on optical measurements, insertion loss + OFDR
- Cell 2 focuses on electrical measurements, wafer-level testing
- PixApp pad layout implemented in the end due to space constraints
- Improvements on cell design in next iterations foreseen

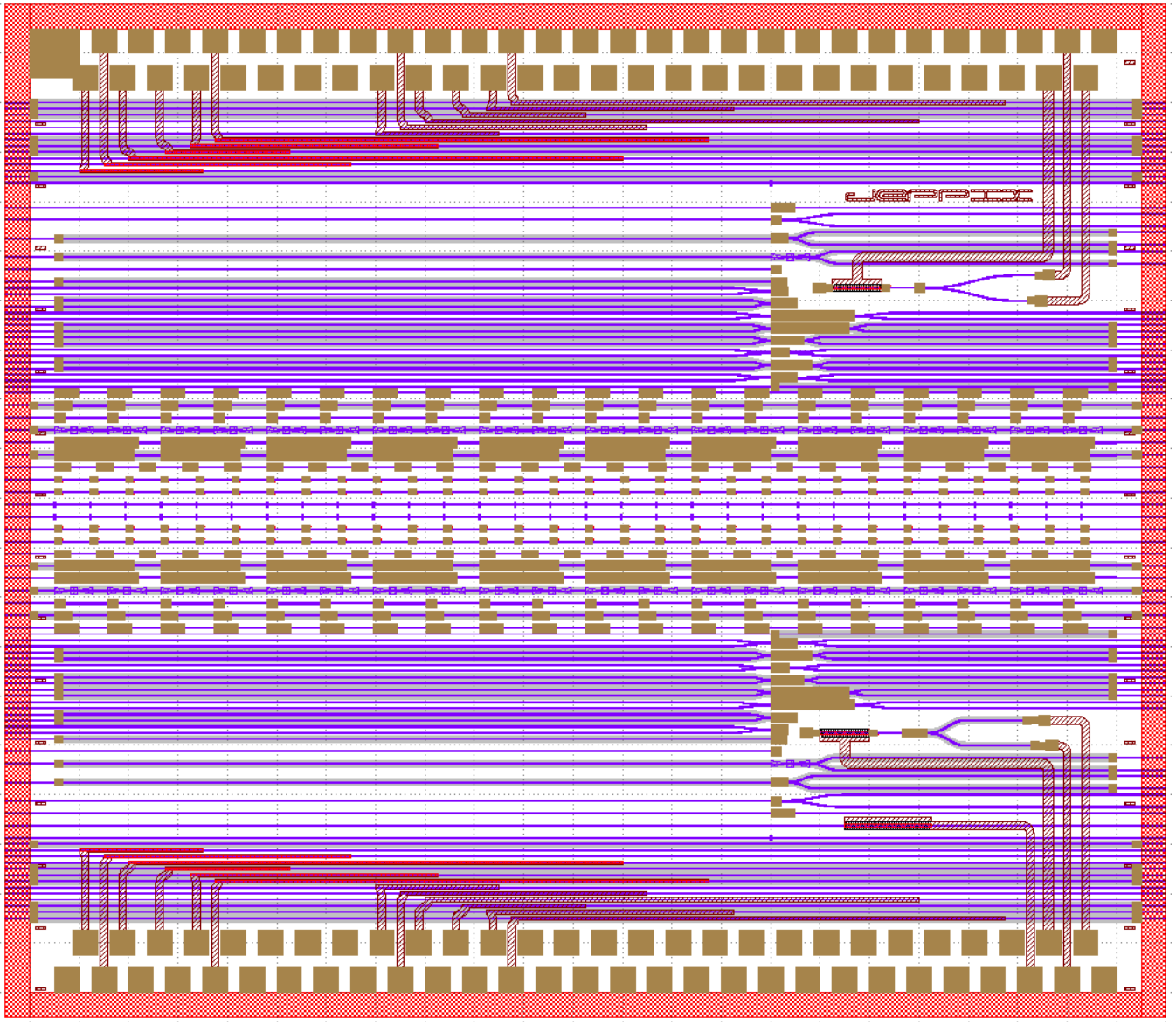
Cell 1



Cell 2

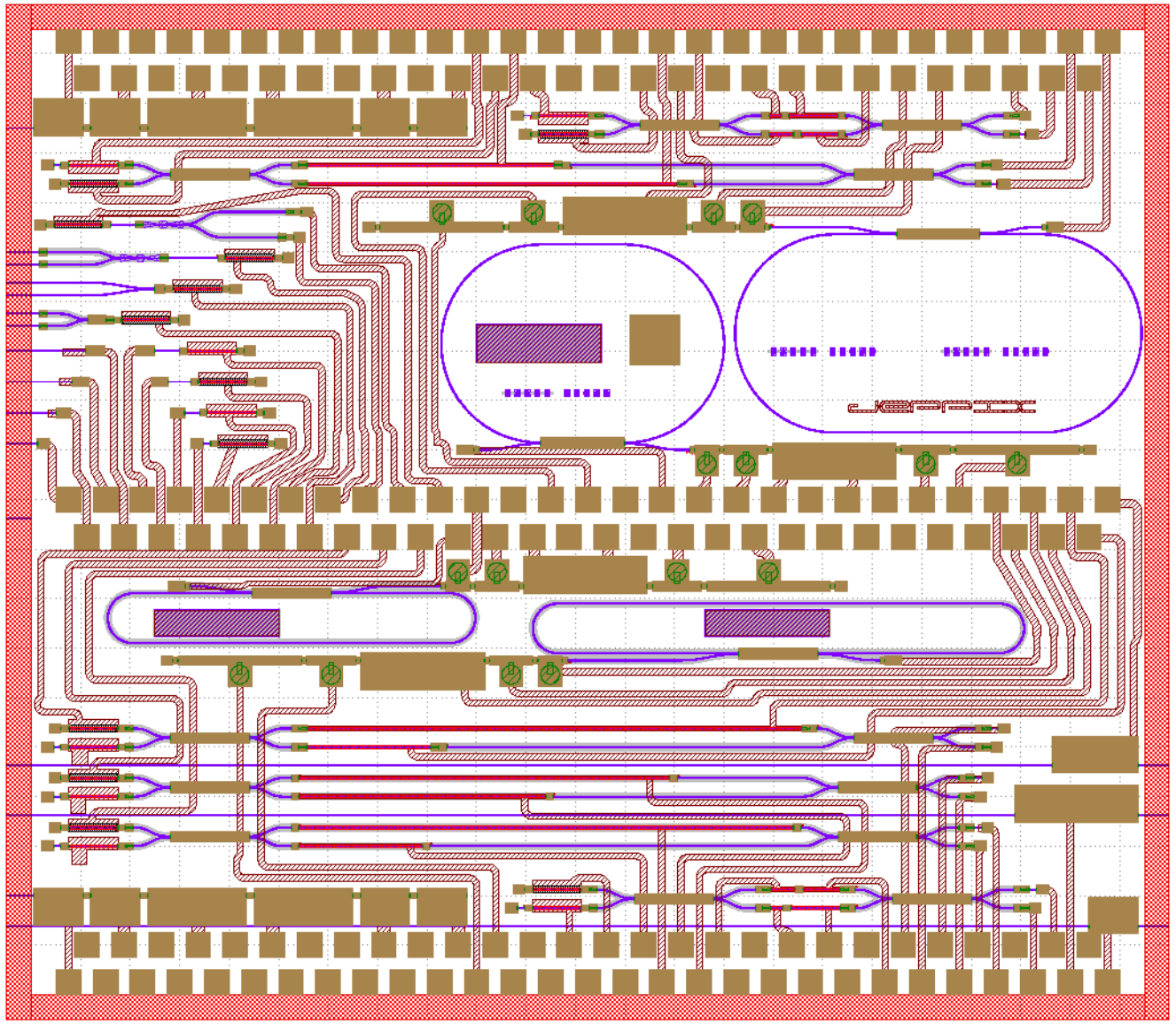


SP 20 – BB Test Cell 1



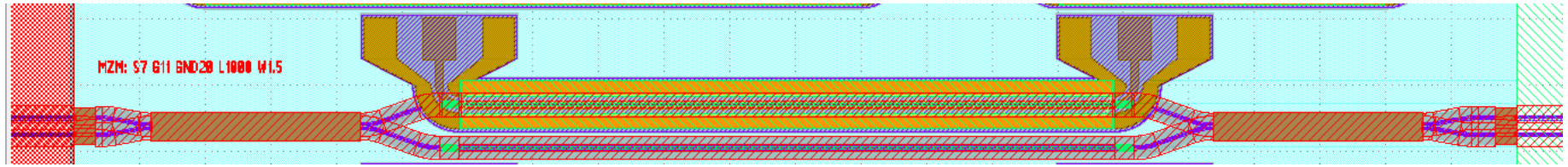
- Insertion Loss EOPM
- Insertion Loss Metal on top of WG
- MMI insertion loss
- MMI reflections
- MIR reflections
- WG crossing
- Shallow-Deep transition reflections
- Shallow-Deep transition insertion loss
- Isolation section insertion loss
- WG cross insertion loss
- MMI imbalance

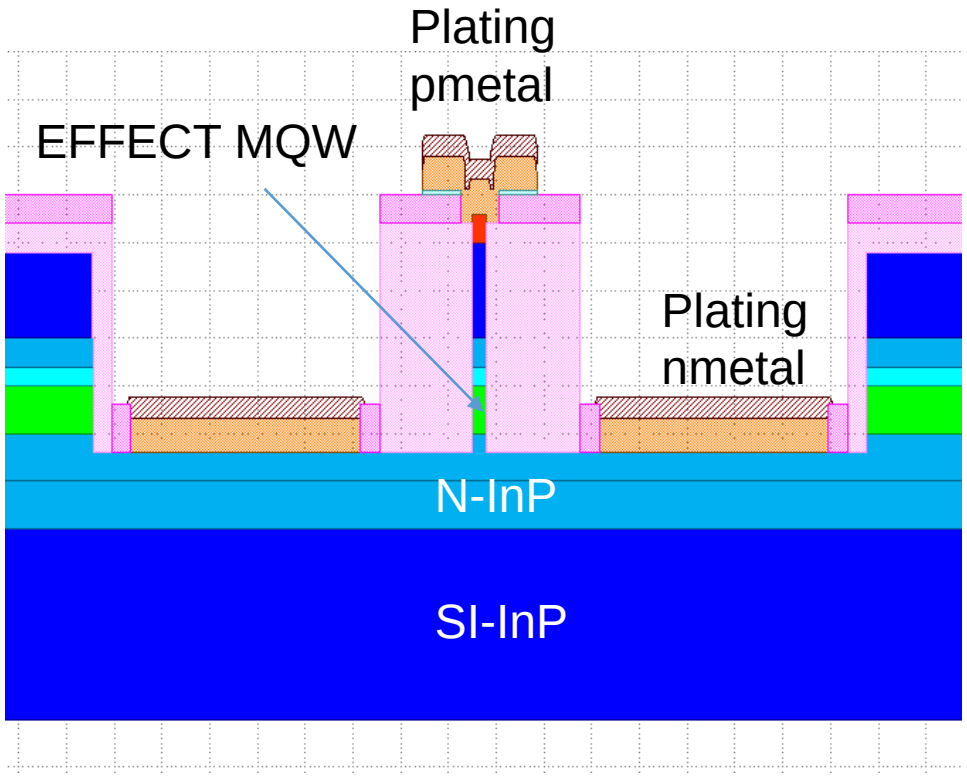
SP 20 – BB Test Cell 2



- Spectral gain structure
- SOA gain, saturation structure
- EOPM efficiency
- Current injection phase efficiency
- MMI imbalance, electrical + optical
- Ring resonator loss measurement
- PIN PD responsivity
- CD SEM for WG opening

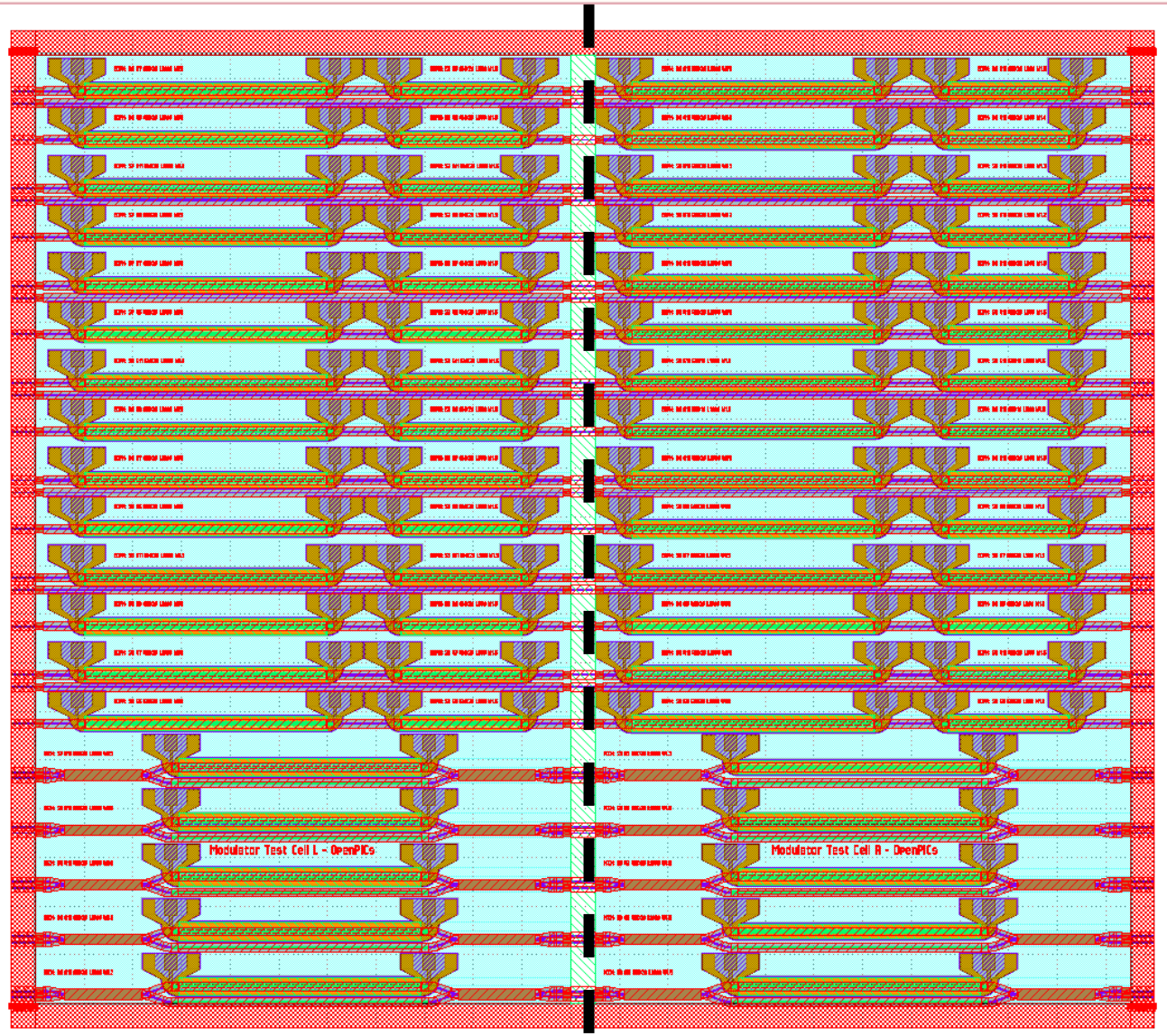
Modulator test structures





- CPW design of electrode
- Separation of p and n metal
- Plating
- Semi-insulating substrate
- MQW core from EFFECT
- L = 1 mm → 2.5 V half-wave at 2nd regime

Modulator test structures



Nominal:
- sig-gap-gnd: (9-11-20) µm
- wg: 1.5 µm

Transmission line parameter tests
- Sig x gap matrix: [5,6,7,8,9] x [5,7,9,11]
- Gnd: 10,15,20,25
- Wg: 1.2, 1.3, 1.4, 1.5

MZ Modulators
- Wg: 1.2, 1.3, 1.4, 1.5 µm
- Sig: 5, 7, 9, 11 µm
- gap: 5, 7, 9, 11 µm

Next period

- Al-MQW design for modulator and laser
- RF line specifications and requirements
- Documentation + report/milestone writing

Agenda - Part II (start 15:00)

1. **Last meeting's action points**
2. **Progress and issues to be raised per partner**
   a. **TU/e**
   c. **Bright Photonics**
   d. **Phoenix**
3. **Summary**

Action Points

Nr.	Description	Responsible
1.	**Execution flow and data model** Ask Smart if they are interested in implementation of such a data structure system.	Weiming (24 April)
2	**Execution flow and data model** Formal description and list of requirements and initial draft of data model (according to WP3.4.EF1).	Marcel lead (May 2017)
3	**DRC** Each partner contributes to a joint list, containing DRCs	Everyone (24 April)
4	**DRC** Ask smart to contribute to the DRC list	Weiming (24 April)
5	**PDAFlow** Jan and Rino will soon start working part time in Eindhoven on PDAFLow template. Action needed to imput first example building block	Xaveer (24 April)