

KALYPSO satellite meeting

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5th Mini-Workshop on Longitudinal Diagnostics for FELs

19-20 November 2015 DESY Hamburg

KALYPSO satellite meeting

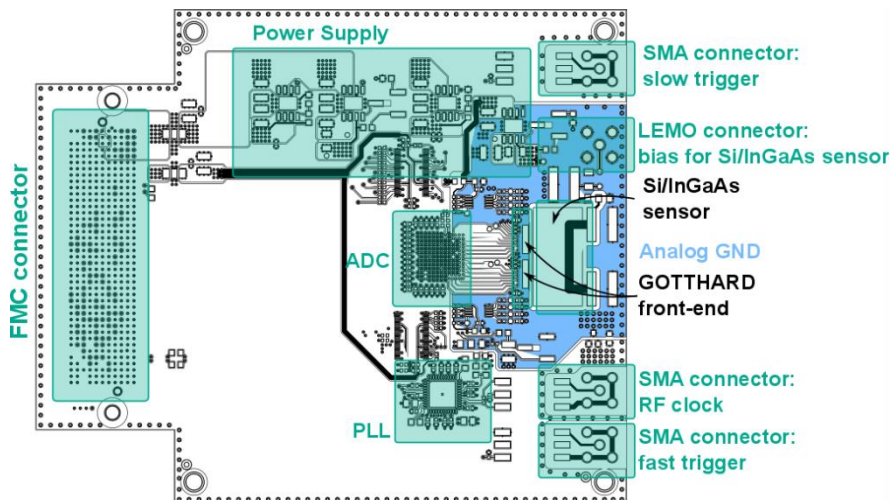
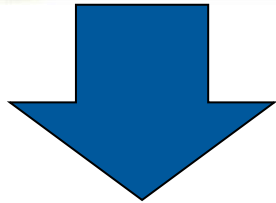
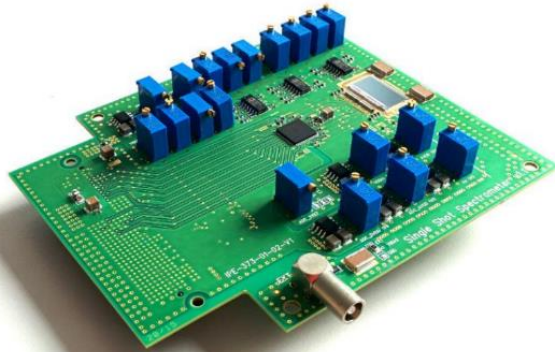
KALYPSO → fast linear array for EO single shot longitudinal beam diagnostic

KALYPSO v1.1 → 1 Mfps @ 256 pixels

Collaboration between KIT, DESY, Lodz University of Technology (PL)

Successfully tested:

- ✓ DESY (XFEL) → InGaAs detector
- ✓ KIT (ANKA) → Si + InGaAs detectors
- ✓ ELBE (TELBE) → Si detector



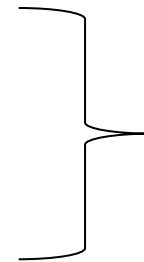
KALYPSO v2.0 → 2.7 Mfps @ 256 pixels

- Improve the noise conditions
- 16 analog output
- Fast readout system @ 50MHz
- Reduced logic circuits
- Reduced signals handshaking


→ Rota's talk

KALYPSO satellite meeting - minutes

- ❑ Review of the final version of the KALYPSO
 - ❑ Modification to improve the compatibility DESY handshaking (one diode missing)
 - ❑ Fast KALYPSO operating @ 5.4 Mfps → by pitch adapter → expected huge noise from sensor – Gotthard connections.
 - ❑ ASICs re-design a fast Gotthard operating up to 20 Mfps
 - ❑ Tasks:
 - ❑ LODZ → I2C → FPGA firmware
 - ❑ KIT → Gotthard + Readout → FPGA firmware
- ❑ Number of system to be produced, KALYPSO V2.0 (final version):
 - ❑ XFEL → # 5 (# 2 Si + # 3 InGaAs)
 - ❑ ANKA → # 4 (# 2 Si + 2 InGaAs)
 - ❑ ELBE → # 2 Si detectors



Total: 11 KALYPSO systems

KALYPSO satellite – production schedule

- ❑ Final **KALIPSO V2.0** PCBs → fast modification, will be submitted → next week (27 November)
- ❑ PCB will be available for SMD + Gotthard assemblee (# 3 first systems)→ 07 December
- ❑ Gotthard test (on PCB) + eventually reworking → 14 December
- ❑ Sensor assembly on KALYPSO + wire-bonding → 21 December - beginning next year
- ❑ Electrical and laser tests → January - February
- ❑ Dedicated meeting to find a common characterization method

Possible bottle-neck → wire-bonding ?