# Beam Monitor Readout

Requirements Information:

- Table of available detectors and their signal needs (Fatima has this)
- Table of instrument requirements (the instrument requirements affect the choice of readout)

| INSTRUMENT REQUIREMENT	TARGET DETECTOR	RATE	RESOLUTION	EVENT/ HISTOGRAM	RADIATION	POSITION	CO-LOCATED RESOURCES	ETC.
LoKi 1								
LoKi 2								
Etc.								

Potential Options for Beam Monitor Readout:

OPTION	DESCRIPTION	PROs	CONs
Standalone	As shown by Steven	Exists! Potentially high bandwidth output link	Requires full control box Independent output link to EF
Tallin	Integrated Timing receiver and EPIC IOC based on Xilinx Zynq card	Standard ESS solution Cheap!	Low bandwidth Limited connectivity.
Tallin++	Enhanced hardware based on Tallin firmware but with dedicated data output path.	Would be designed for the job	Some hardware development. Probably not for early instruments.
Assister	A generic Front End modules connected to the instrument Master Rack by fibres running along the beamline (could be rings)	Cheap (installation?) High Bandwidth. Rad Hard? Integrated with main readout.	Vulnerable networking JIT
Commercial	???	Off the shelf	Integration (Not supported by DGR) Performance?

DIKON 13 Beam Monitors – Scott Kolya
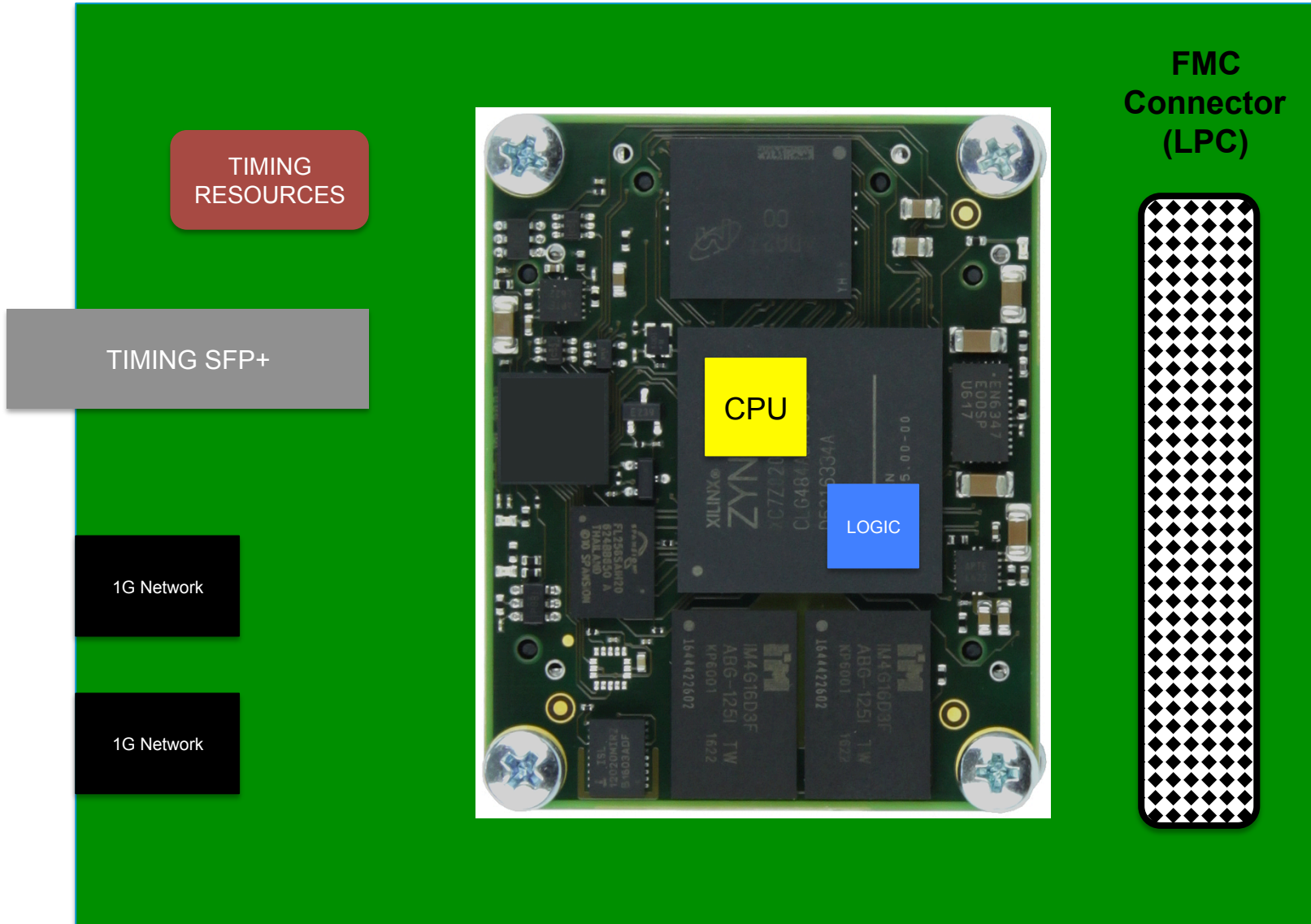
Assister / Tallinn++ ??
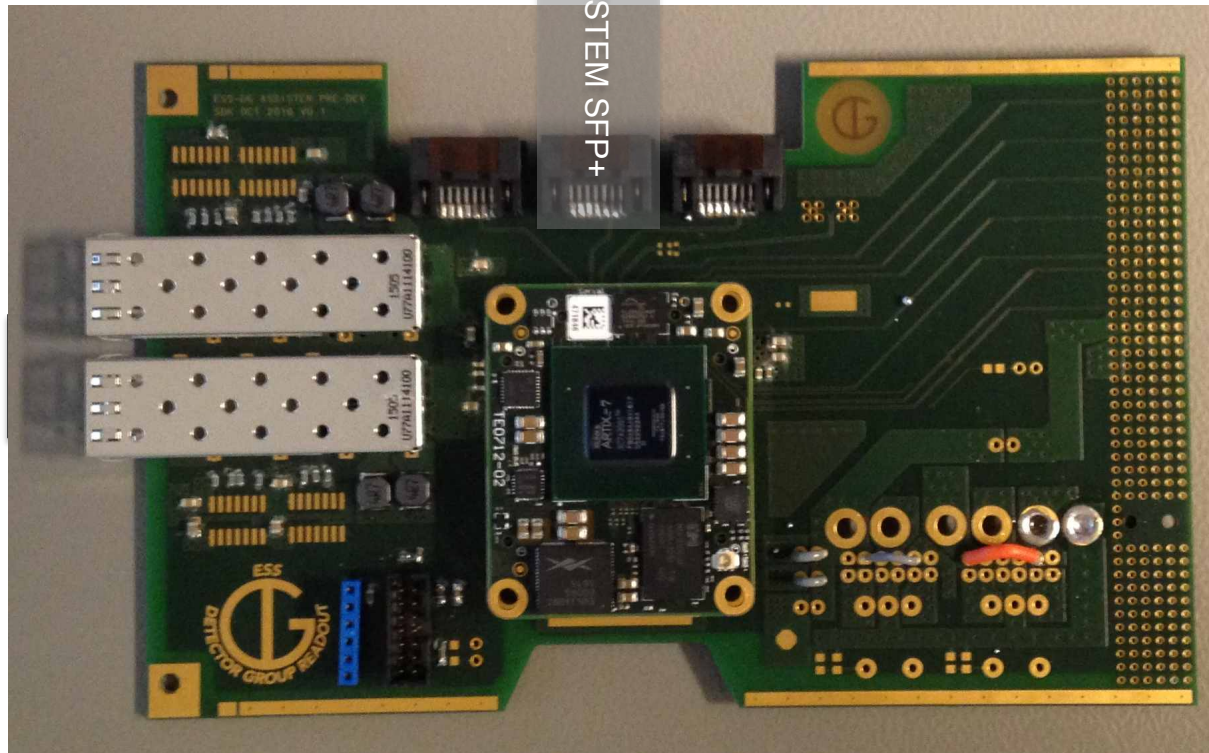
TIMING SYSTEM SFP+

EXPANSION
CONECTOR
FOR
ASICS
ADC
ETC