



GCK & HS Study with DHPT1.2B

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Test Setup

- EMCM with DHPT 1.2b
- Optical interface from DockBox PCB
- First experience
 - HS Links unstable @CLC 15m
- Improvements
 - Clock buffer for GCK signal at DockBox PCB
 - DC ground connection between detector module and DHE
 - Solid ground connection at kapton
 - Optimization phase relation between GCK and TRG

- GCK buffer improved slew rate from 0.3V/ns to 2V/ns
- No significant influence of GCK buffer on EYE diagram parameters
- Sporadic synchronous drop of HS links after few hours of operation
- Influence of GCK vs TRG phase on HS stability
 - Could be caused by damaged GCK line
- Part of problems were caused by damaged GCK line
- Stable operation of HS lines with and without GCK buffers

- Important improvements
 - DC ground connection
 - Solid ground connection at kapton
- HS link stability has been demonstrated with GCK buffer and without
- Sporadic loss of links of all DHPTs
- Missing knowledge about safety margin of HS link stability
 - From EYE diagram parameters link shall be very stable

DHH

- Complete production of DHH CC and DHH RTM
- Modules are fully functional
- One ATCA DHH module with 3 DHEs and one DHC installed in Tsukuba hall
- Employing UCF for interface between DHC and DHEs
 - First tests were successful
 - Complete commissioning to be done
- Second ATCA DHH prepared for shipment, paper work still to be done
- Missing item for phase 2
 - Overlapping trigger support in DHE firmware
 - DHI module
- DHI module status
 - Design : standalone module for 5-20 detectors
 - Schematic exists
 - Next step pcb layout