

| No | Features | Production FW v3.2 |
|----|--|--------------------|
| 1 | GBT/Reception of clock and TTC data | Yes |
| 2 | IPBus v2.7 | Yes |
| 3 | CombinedTTC/Data to all FEX slots + ROD + OtherHUB | Yes |
| 4 | Readout Ctrl Data from ROD (spec 0.8) | Yes |
| 5 | ROD Automatic PowerUp Sequence | No |
| 6 | IBERT controlled via IPBus registers | Yes |
| 7 | EyeScan controlled via IPBus registers | Yes |
| 8 | FELIX Back-pressure | Yes |
| 9 | Privileged Readout bit | No |
| 10 | CRC mechanism (CombinedTTC/Data + ReadoutCtrl) | Yes |
| 11 | TTC Emulator (fixed) | Yes |
| 12 | Fixed latency (HUB in slots #1 and #2) | Yes |

Additional notes:

- (1) Privileged Readout bit is grounded
- (2) GBT machinery can be reset via the IPBUS register (gt_control_array(0).reset_master)
- (3) Design built with Vivado 2020.2 (but there is a magic trick for IPBUS)
- (4) IPBUS controlled update (update from Dave)
- (5) New register (counters) added to monitor the MGT resets. Modifications are made in two xml files: L1CaloHUB.xml and L1CaloHUB_gt.xml
- (6) Update which might eliminate the occasional CRC errors
- (7) ROD Automatic PowerUp Sequence is bypassed (Manual Mode Only)