

No	Features	Production FW v3.9
1	GBT/Reception of clock and TTC data	Yes
2	IPBus v2.8	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
- (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) ROD Automatic PowerUp Sequence is bypassed (Manual Mode Only)
- (7) New registers (counters) to monitor the HUB-to-HUB link and the ReadoutCtrl link. Modifications is also made in the xml file: L1CaloHUB_gt.xml
- (8) Fix to emulate the CRC errors at the clock switch (New Reset Scheme for the TX GearBox)
- (9) Fix/Update for the counters intended to monitor the MGT reset (See Note.: 5)
- (10) IP/MAC update for the HUB SN 7 and 14
- (11) IP/MAC update for the HUB SN 20