**OH2 Board Design Requirements**

**9 April 2019**

1. Parts from the original OH design retain the same numbers.
2. U40 replaces three ASICs U2, U3, U4. U40 is powered from the 1.2V (former 1.5V power).
3. U35 (SN74LVC1G07DBVR) has been modified: 1 is “NC” and 2 is “A”.
4. P8 replaces four optical parts U10, U22, U26, U27.
5. U25 EPROM is removed.
6. P1 is removed. 12 differential pairs from P1 are rerouted from the FPGA (U1) to U40.
7. U5 is removed.
8. U15 is removed. The outputs of U12…U21 are now directly connected to the FPGA (U1).
9. 108 differential VFATxDyN/P (x=1..12, y=1..8) pairs from the FPGA (U1) to P5 and P6 remain unchanged.
10. U9, U11, U23, U24, U32, U30, U31, U29 are removed.
11. U34 is replaced with U37.
12. U39 and U41 are added to distribute differential clocks and data to P5 and P6. It is very desirable to keep the lengths of all 24 output pairs from U39 and U41 about the same.
13. U42 is added.
14. Switch SW3 is removed. Switches SW4 and SW5 are added.