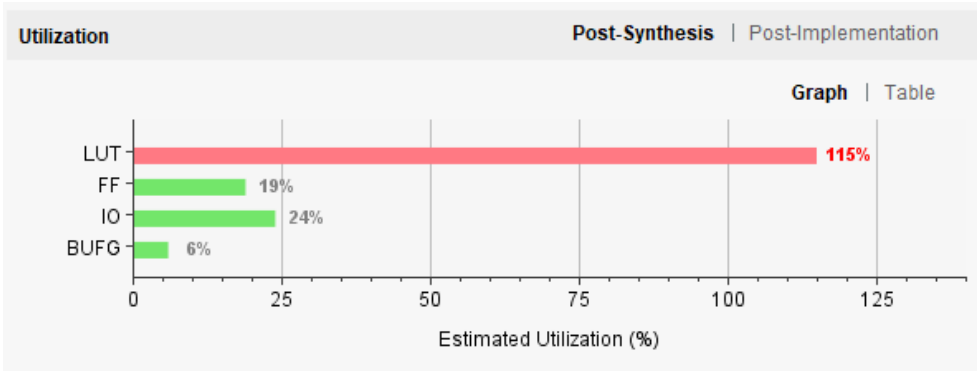
Standard NeuroMem Open Source architecture (4 clusters x 32 neurons –> 128)

(~ 480 LUT/neuron, does not fit on ZYNQ7020)

C:/Users/Guy/X_projects/NeuroMem2018/NeuroMem2018.runs/synth_1/nm_top_utilization_synth.rpt

```
30 | +-------------------------+-------+-------+-----------+--------+
31 | |        Site Type        |  Used | Fixed | Available |  Util% |
32 | +-------------------------+-------+-------+-----------+--------+
33 | | Slice LUTs*             | 60945 |     0 |     53200 | 114.56 |
34 | |   LUT as Logic          | 60945 |     0 |     53200 | 114.56 |
35 | |   LUT as Memory         |     0 |     0 |     17400 |   0.00 |
36 | | Slice Registers         | 20521 |     0 |    106400 |  19.29 |
37 | |   Register as Flip Flop | 20521 |     0 |    106400 |  19.29 |
38 | |   Register as Latch     |     0 |     0 |    106400 |   0.00 |
39 | | F7 Muxes                |  1688 |     0 |     26600 |   6.35 |
40 | | F8 Muxes                |     0 |     0 |     13300 |   0.00 |
41 | +-------------------------+-------+-------+-----------+--------+
```



FTGA NeuroMem low cost architecture (4 clusters x 32 neurons –> 128)

(~ 350 LUT/neuron, ZYNQ7020 extra 16% space available for feature extraction)

C:/Users/Guy/X_projects/FTGA_ZYNQ_7020/FTGA_ZYNQ_7020.runs/synth_1/nm_top_utilization_synth.rpt

```
30 | +-------------------------+-------+-------+-----------+-------+
31 | |        Site Type        |  Used | Fixed | Available | Util% |
32 | +-------------------------+-------+-------+-----------+-------+
33 | | Slice LUTs*             | 44870 |     0 |     53200 | 84.34 |
34 | |   LUT as Logic          | 44870 |     0 |     53200 | 84.34 |
35 | |   LUT as Memory         |     0 |     0 |     17400 |  0.00 |
36 | | Slice Registers         | 18342 |     0 |    106400 | 17.24 |
37 | |   Register as Flip Flop | 18342 |     0 |    106400 | 17.24 |
38 | |   Register as Latch     |     0 |     0 |    106400 |  0.00 |
39 | | F7 Muxes                |    24 |     0 |     26600 |  0.09 |
40 | | F8 Muxes                |     0 |     0 |     13300 |  0.00 |
41 | +-------------------------+-------+-------+-----------+-------+
```