Reporting Power Metrics

After power analysis, you can view the design data and analysis results in the graphical user interface (GUI) for visual debugging. You can also generate power metric reports by using the `report_metrics -power` command. By default, the power metrics report is generated in a list format. To view this report in a table format, use the `-table` option.

Alternatively, use the `report_power` command to report power metrics in a traditional format with a detailed breakdown of the power consumption from each power group across different power components, such as internal, switching, and leakage power. The supported power groups are defined in Table 1.

Table 1 Power groups

Power groups	Definition
I/O pad	Cells from the pad cell group in the library
Memory	Cells from the memory group in the library
Black box	Cells with no functional description in the library
Clock network	Cells in the clock network, excluding I/O pad cells
Register	Latches and flip-flops driven by the clock network
Sequential	Latches and flip-flops clocked by signals that are not in the clock network
Combinational	Nonsequential cells

The generated power report is derived from the PrimePower RTL results. The following example reports internal, switching, leakage, and total power metrics for different power groups.

```
rtl_shell> report_power

****************************************
Report : report_power
      -rtl
Design : compile
****************************************
                        Internal  Switching  Leakage    Total
Power Group             Power     Power      Power      Power   (     %)
------------------------------------------------------------------------
clock_network           1.326e-06 0.000e+00 0.000e+00 1.326e-06 (18.95%)
register                1.652e-07 7.760e-08 5.445e-08 2.972e-07 ( 4.25%)
combinational           2.458e-06 2.202e-06 7.127e-07 5.373e-06 (76.80%)
sequential              0.000e+00 0.000e+00 0.000e+00 0.000e+00 ( 0.00%)
memory                  0.000e+00 0.000e+00 0.000e+00 0.000e+00 ( 0.00%)
io_pad                  0.000e+00 0.000e+00 0.000e+00 0.000e+00 ( 0.00%)
black_box               0.000e+00 0.000e+00 0.000e+00 0.000e+00 ( 0.00%)
```

You can also get RTL-based power metrics to trace back to the RTL code by using the `get_metrics` command. For more information about RTL-based metrics, see *Generating RTL-Based Metrics*.