

# Export Plot configuration: JSON Format

We use [matplotlib v3.1.3](#) for our plot generation. The plot report is configured using JSON. The top level `global` applies global configuration. It currently supports a limited subset of the [rcParams](#): `font_size`, `font_family`, `agg_path_chunksize`. Future versions will support all rcParams keys. The `global["plot_options"]` can be used to configure plot options for all series. This is convenient if you want to apply an option to all series without having to define it for each one.

`plot_options` can also be defined at the `plots` level, which will apply to each series within a plot, or at the `series` level, which will apply to a specific series. All `plot_options` (global, plot, and series) are merged together when plotting each series, with the `series` `plot_options` having the highest precedence, then plot, then global. The `plot_options` at any level supports all matplotlib [Line2D properties](#).

You may define the `plots_hspace` as part of the `page` object to control horizontal spacing between all of the plots on a page. This can be used to control the spacing when there are overlap issues. We recommend starting with a value of 1, exporting a small amount of data, and then increasing or decreasing the value to achieve the desired results.

You may define the `height_ratio` as part of the `plot` object to control how much vertical space it takes up. Defaults to a value of 1.

Any option may be omitted entirely and a default value will be used.

Below is an example JSON plot config file. Note that `pages` and `plots` are JSON arrays which implies the generated pages and plots are ordered accordingly.

```
{
  "global": {
    "plot_options": {
      "linewidth": 0.3,
      "marker": "d",
      "markersize": 3
    },
    "font_size": 10,
    "font_family": "monospace",
    "agg_path_chunksize": 10000
  },
  "pages": [
    {
      "plots": [
        {
```

```
"title": "1st plot on page 1",
"series": [
  {
    "mnemonic": "oci.dau.boxrack.power.PS01.m1curoutp",
    "plot_options": {"marker": "x"}
  }
],
"plot_options": { "color": "red" },
"y_min": -5,
"y_max": 5
}
]
},
{
  "plots_hspace": 1.2,
  "plots": [
    {
      "title": "2 plots on page 2",
      "height_ratio": 2,
      "series": [
        {
          "mnemonic": "oci.dau.dauc.Tlm.Red_BdTemp3",
          "plot_options": {
            "color": "r"
          }
        },
        {
          "mnemonic": "oci.dau.dauc.Tlm.Blue_BdTemp3",
          "plot_options": {
            "color": "b"
          }
        }
      ]
    }
  ],
  "height_ratio": 1,
  "series": [
    {
      "mnemonic": "oci.dau.ddc.FPGA.CcdOpMode",
      "plot_options": {
        "color": "k"
      }
    }
  ]
}
```

```
    }  
  }  
]  
}  
]  
}  
]  
}
```

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