**HF API Documentation**

This documentation aims to provide guidelines to use Filpal EDS HF integration API to query schematic design parameters, run simulation, capture design responses and update the parameters, to facilitate third-party integration as well as for academic research purpose. The requirements and setups will be provided as follows.

**Requirements**

HF API can be called by Python or C# programming language. The python version currently supported should be Python 3.7 to 3.10. Required external python libraries are:

* pythonnet 3.0.1
* numpy 1.24.2

To install, kindly use “pip” command as follows:

pip install pythonnet==3.0.1, numpy==1.24.2

Or one can install from the *requirements.txt* as follows:

pip install -r requirements.txt

**API Functions**

**Load Design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Function** | load\_design (design\_path: string) | | |
| **Description** | Open the design from the given path. | | |
| **Input** | design\_path | string | Path to the design file. |
| **Output** | ifunc\_output | object | Returns an object contains:   * Component object (dict): Design’s parameters * Simulation result object (dict): Design’s responses * Message Handler object (dict): Operation status * Design object (dict): Design information * App Environment (dict): HF information |

**Update Design**

|  |  |  |  |
| --- | --- | --- | --- |
| **Function** | update\_design (variable\_list: list) | | |
| **Description** | Update design’s parameters with a list of variables containing name and value. | | |
| **Input** | variable\_list | list | List of variables to be updated. |
| **Output** | ifunc\_output | object | Returns an object contains:   * Simulation result object (dict): Design’s responses * Message Handler object (dict): Operation status * Design object (dict): Design information |