



## MPS Simulation Tools to Speed Up Your Design

An unexpected pandemic has disrupted design timelines across the globe. Because design teams must work from home, manufacturers have experienced numerous product delays or even cancellations. MPS simulation tools can help users speed up their design process. By displaying a part's performance and offering debugging assistance, these tools help users select the right products. These have proven to be powerful tools for designers and application engineers. This article will briefly introduce a few of our most popular simulation tools at MPS.

### Virtual Bench

The Virtual Bench GUI software is one of our latest online design tools. It recommends suitable products for users and provides step-by-step design assistance. The simulation function is powerful, and explores all aspects of user design with high accuracy and precision (see Figure 1). Virtual Bench generates exclusive application specifications for customers, which can be viewed at any time. With the Virtual Bench tool, users can specify a design and have it quickly delivered with our one-click ordering. Click [here](#) to learn more about Virtual Bench.



Figure 1: MPS's Virtual Bench Tool Offers Precise Simulations

### MPSmart

MPSmart is a simulation tool based on a Simplis/Simetric engine. Users can simulate the performance of MPS products without having to purchase the full software package. MPSmart supports all our products, and allows the user to perform common steady state, stability, and transient simulations (see Figure 2). Click [here](#) to access the MPSmart tool.



MPM3695-100, 16V, 100A, Scalable, DC/DC Power Module with PMBus

Design Support

Sample & Buy

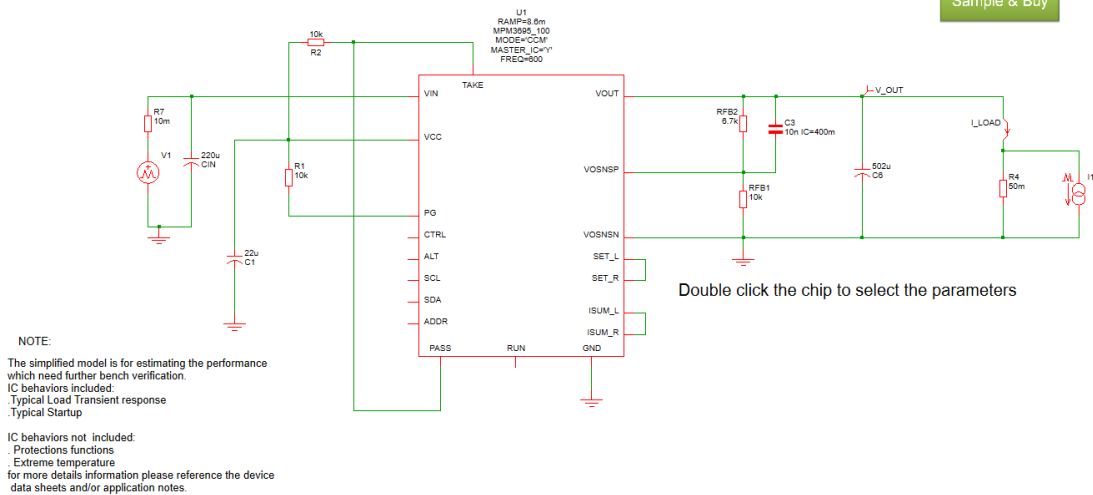


Figure 2: Using MPSmart

## DC/DC Designer

DC/DC Designer allows users to design a converter according to their specifications. With this tool, users can modify passive component values to obtain a complete analysis of converter performance (see Figure 3). These parameters include ripple, efficiency, load transient, and frequency analysis. Additionally, it provides the BOM cost and the expected PCB area. It is available online and for Windows. Click [here](#) to explore the DC/DC Designer tool.

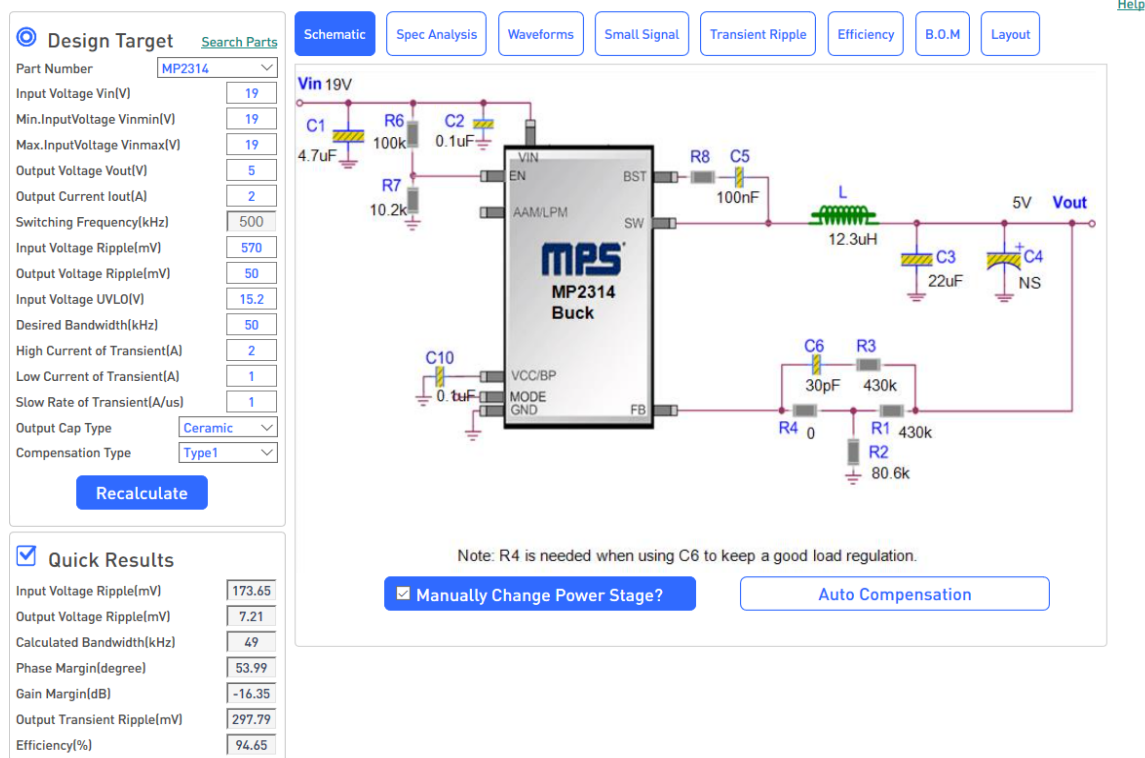


Figure 3: DC/DC Designer

## Magnetic Simulation Tool

The [magnetic simulation tool](#) simulates a magnetic field for the MagAlpha family of position sensors. This browser-based tool supports all possible magnet types and sensor-to-magnet topologies offered by the [MagAlpha family](#) (see Figure 4). All possible magnets offered with MPS's [MAG10 magnet family](#), and more, can be configured. The tool provides an effective way to evaluate the performance of sensors with different positions and different magnets, eliminating the need for trial and error. It can also be used to gauge the effect on sensor performance based on various mechanical and magnetic tolerance levels.

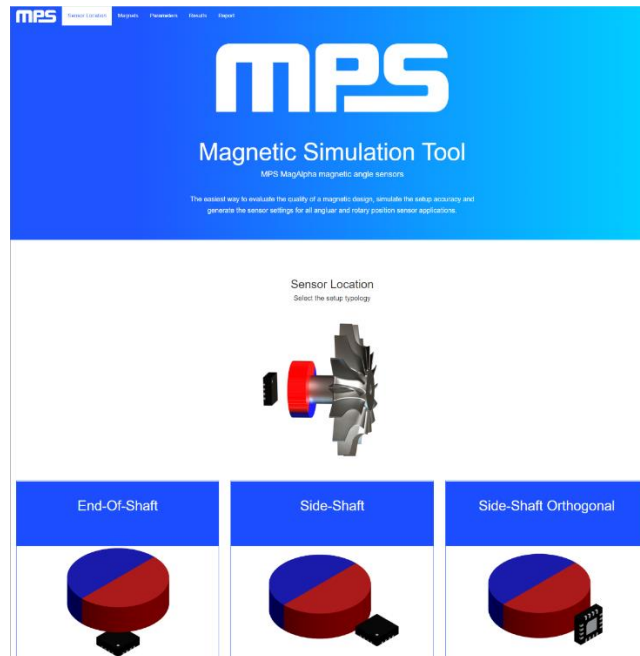


Figure 4: Magnetic Simulation Tool

## Other Tools

But it doesn't end there. In addition to our most popular tools mentioned above, MPS provides a variety of additional tools.

For example, we offer an [LLC online design tool](#) for LLC resonant circuit parameter designs (see Figure 4).

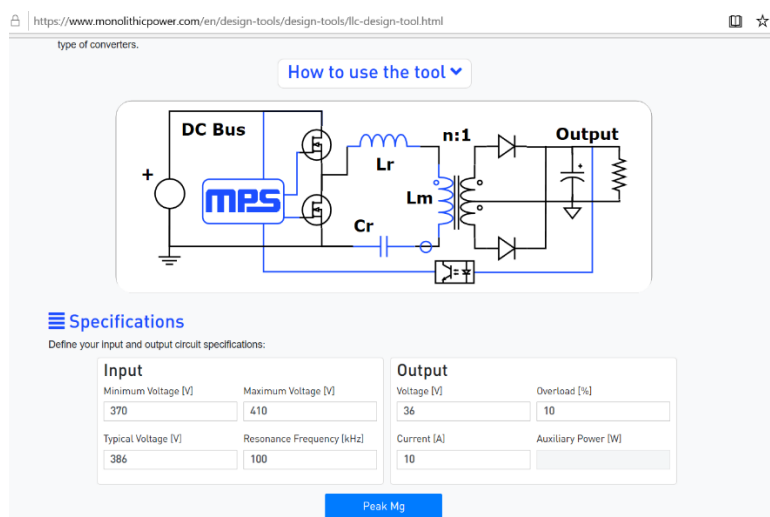


Figure 4: MPS's LLC Design Tool

We also provide SPICE models (see Figure 5).

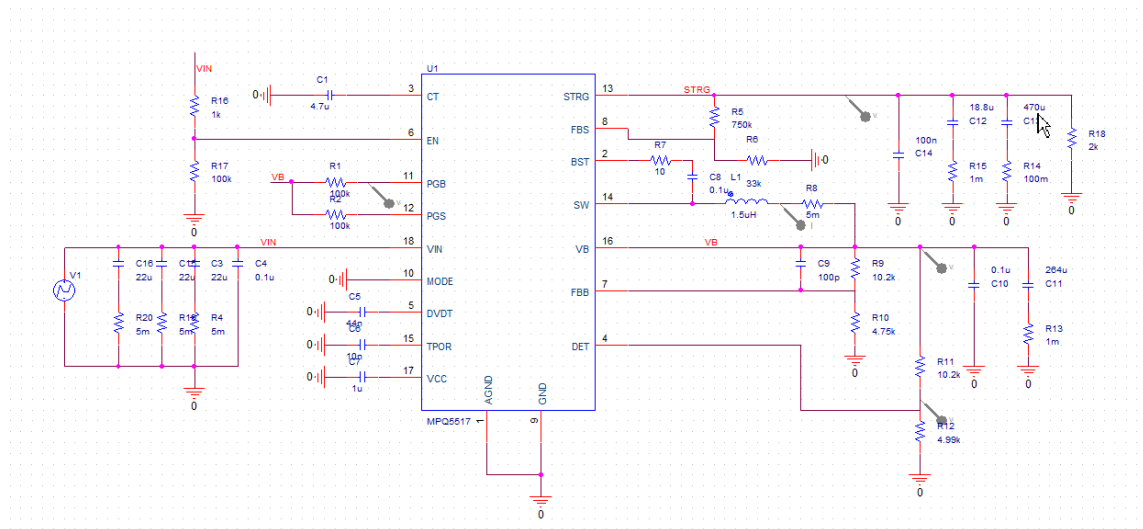


Figure 5: MPS's SPICE Models

Finally, we offer various convenient design calculators (see Figure 6).

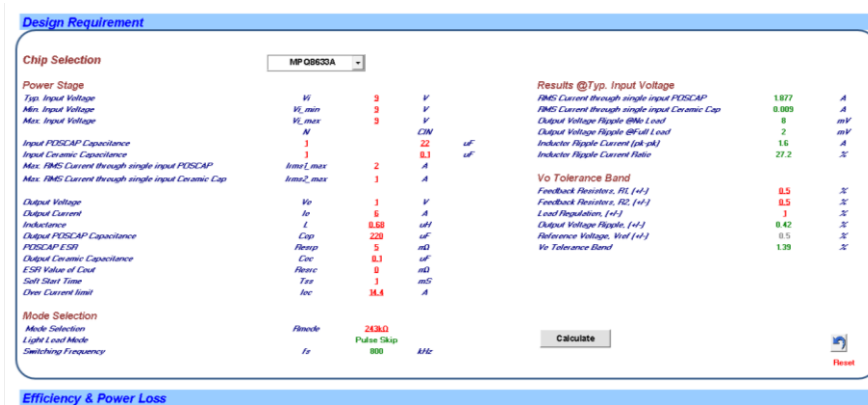


Figure 6: MPS Design Calculations

The pandemic is likely to leave a lasting effect on design processes, and has accelerated the need for virtual simulation tools. With MPS's vast suite of simulation tools, designers can effectively speed up their design efforts while ensuring design reliability and reducing design cycle times.