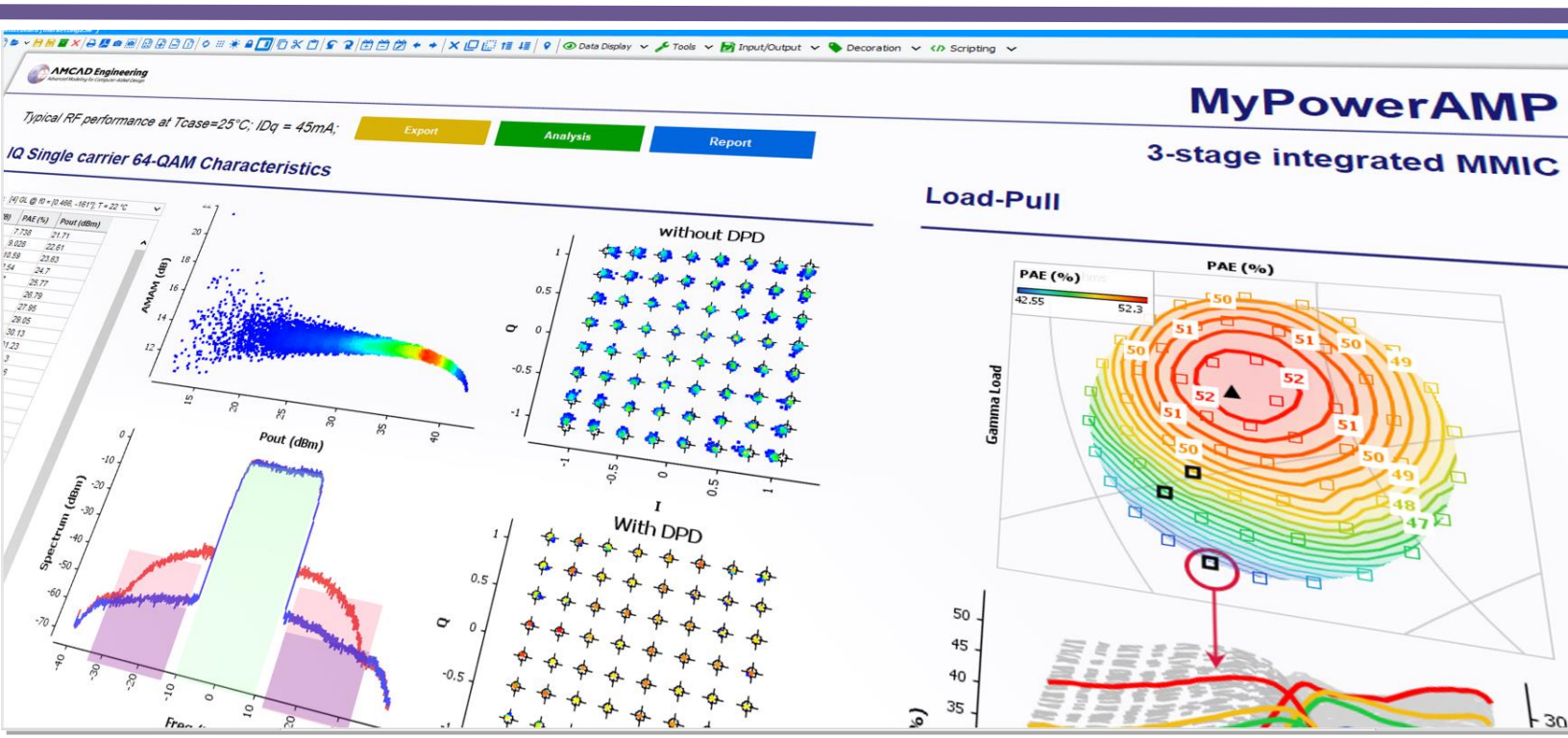
Leverage your data successfully

WHITEBOARD



Whiteboard

Introduction

Whiteboard is a tool needed by engineers and their team or customers to analyze and leverage the data generated by their **measurement setups or simulation software.**

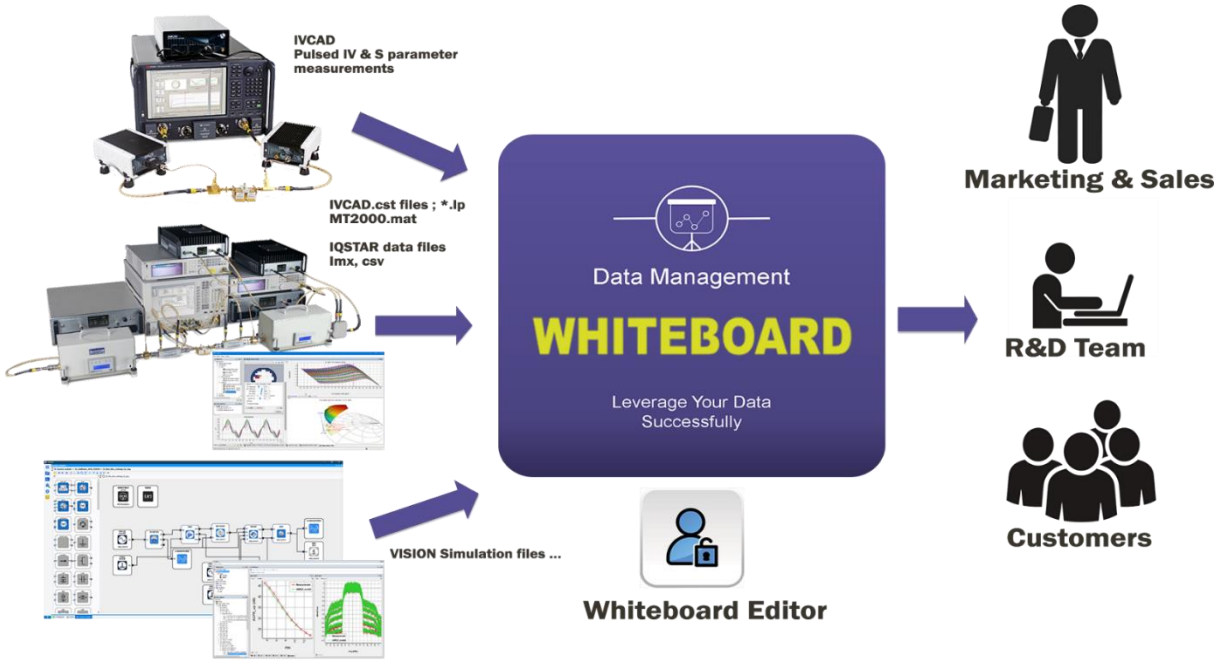
A data analysis software must help engineers work on different data to arrange the information **efficiently**, explain the behavior of the device under test **clearly**, present the measurement report to their customers **properly** and extract needed information to make **rational conclusions** about their product.

Common problems met by engineers when trying to analyze measurement or simulation data:

- Available visualization tools are not complete with supporting their data analysis needs.
- Efficient bridges are not available between the different commercial CAD tools and measurement platforms.
- In-house developments to complete their data analysis require advanced programming skills or a specific development team.
- There is a lack of standardization in the data analysis, which reduce the efficiency of the group.
- Multiple interfaces and workspaces increase the debugging and internal support time.
- Time is wasted in manipulating the data rather than analyzing it.
- Existing visualization tools do not support company growth in terms of licensing.
- Application Engineers spend most of their time generating reports than developing products.
- Reports need to be redone at each design iteration or measurement work.
- Static reports or datasheets only display a small portion of available information and increase the end customer support time.

To solve these common problems, the Whiteboard offers the following key features:

- Customized Data analysis templates
- Advanced data post-processing tools
- Data import & export functionalities from / to 3rd party solutions
- Management of measurement or simulation report for the end users



The Whiteboard software Suite is offered with the following options, and each module addresses different needs.

- Whiteboard Editor
- Scripting Add-on
- Deployment add-on
- Whiteboard Viewer
- Free workspace Viewer

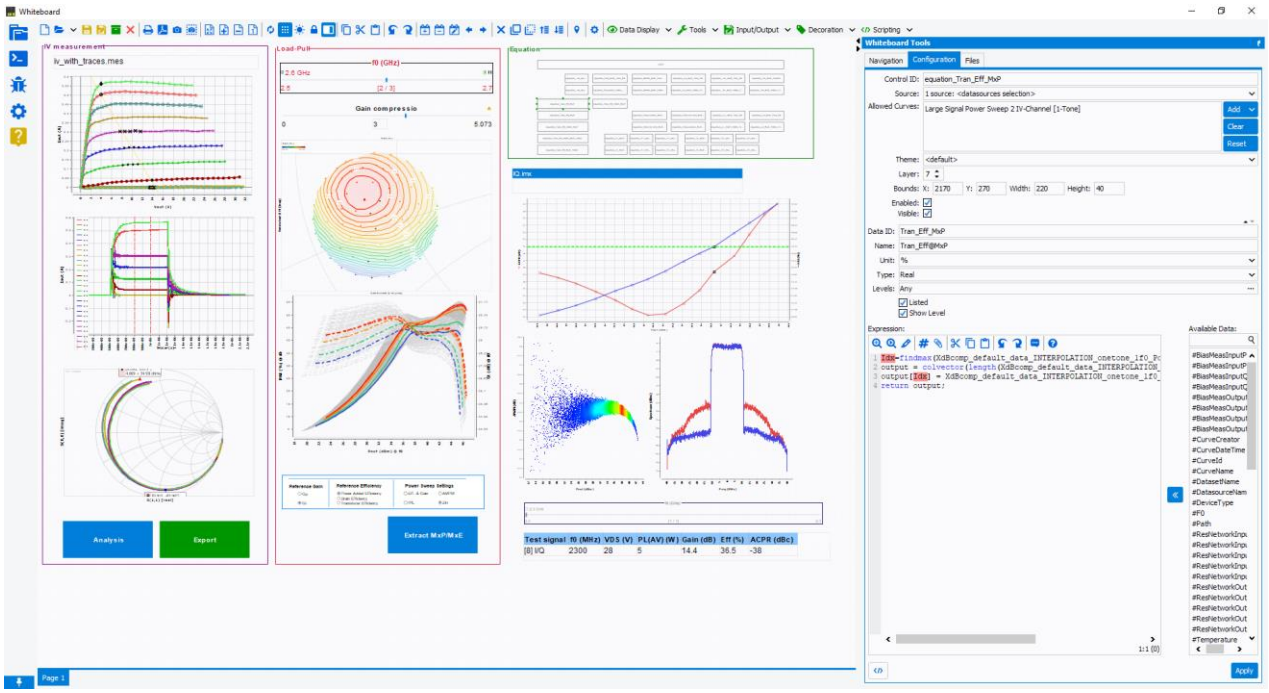
Whiteboard Editor

The Whiteboard Editor WHIT-10 module allows engineers to develop their ideal data analysis templates.

If in your workflow :

- You struggle with the limitation of your visualization Tool.
- You need to switch between different interfaces with different tools for different file formats.
- You need to manipulate multiple files to analyze some information.
- The number of graphs and displayed parameters is limited.
- You want to adjust your workspace to explore more in-depth the results obtained.
- You want to be more creative in the manner of presenting your results.

Then, the Whiteboard Editor is for you. This one allows the development of flexible data analysis templates tailored for your needs. It allows adjusting the visualization parameters and contains the necessary controls to make the interface more user-friendly and easier to read.



The Whiteboard supports different measurement data in several formats given by IVCAD, IQSTAR, or third-party measurement platforms. You can easily display

- S-Parameters
- Nested frequency and Power measurement sweeps
- Modulated Signal measurements for different parameters

- Load Pull data to design matching circuits

Defaults graphs are proposed according to the file formats and the data content. Drag on drop the chart frame, and pre-optimized figures are then displayed.

When using simulation tools such as VISION or third-party RF simulators, data files can be multidimensional with customized parameters. Because of the potentially unlimited number of dimensions explored during the simulation work, the Whiteboard is an unrivaled tool when both flexibility and performance are needed to extract the files' core information.

If it's important to display the behavior of the design or the device under multiple conditions, the Whiteboard data illustration is based on a "Parent-Child" structure. This characteristic allows each control (*Graph, Tables, Wafer, Filters*…) to use data from either the input file or another control.

Using a multipage structure, the analysis tool offers the possibility to arrange the workspace in dedicated sections for an enhanced user experience. The data can be displayed in different formats:

- Graphs (XY, Polar, Smith Charts, 2D and 3D)
- Tables
- Equations
- Pictures

Multiple controls are available to navigate through the data and extract desired parameters:

- *Filters* allow displaying curves at specific conditions like frequency, date, temperature…
- *Converters* allow converting specific curve types (S-parameters, Power Sweep, Video-Bandwidth, Modulated Power Sweep...) into "Generic" ones to compare data from different sources.
- *Mergers* allow merging multiple curves type in one.
- Extractors allow extracting curve values at specific conditions (Pout level, Pin level, Gain compression, ACPR level ...) through an interpolation process.
- *Stackers* allow stacking multiple curves to generate 3D graphs.

The user has full control of each graph's position, and size and the interface can be enhanced with explanatory text, banners, and images to make the analysis experience clearer and more user-friendly.

Scripting

The WHIT10 Whiteboard Editor can be empowered using the SCRPT scripting module.

The scripting Add-on was developed for advanced users who are willing to customize their interface and templates beyond what is available with the configuration panel.

Common limitations that are reported by engineers who are configuring their visualization tool are:

- Limited equation editors
- The need to use external software to run advanced post-processing calculations.
- Lack of automatization process in the display configuration

The scripting mode enhances the whiteboard solution with a script editor where all the Whiteboard functions used to configure the workspace are made available to customize. Therefore, complete flexibility of the configuration can be automated by script. On top of that, a list of useful controls is made available to initiate different scripts, among them:

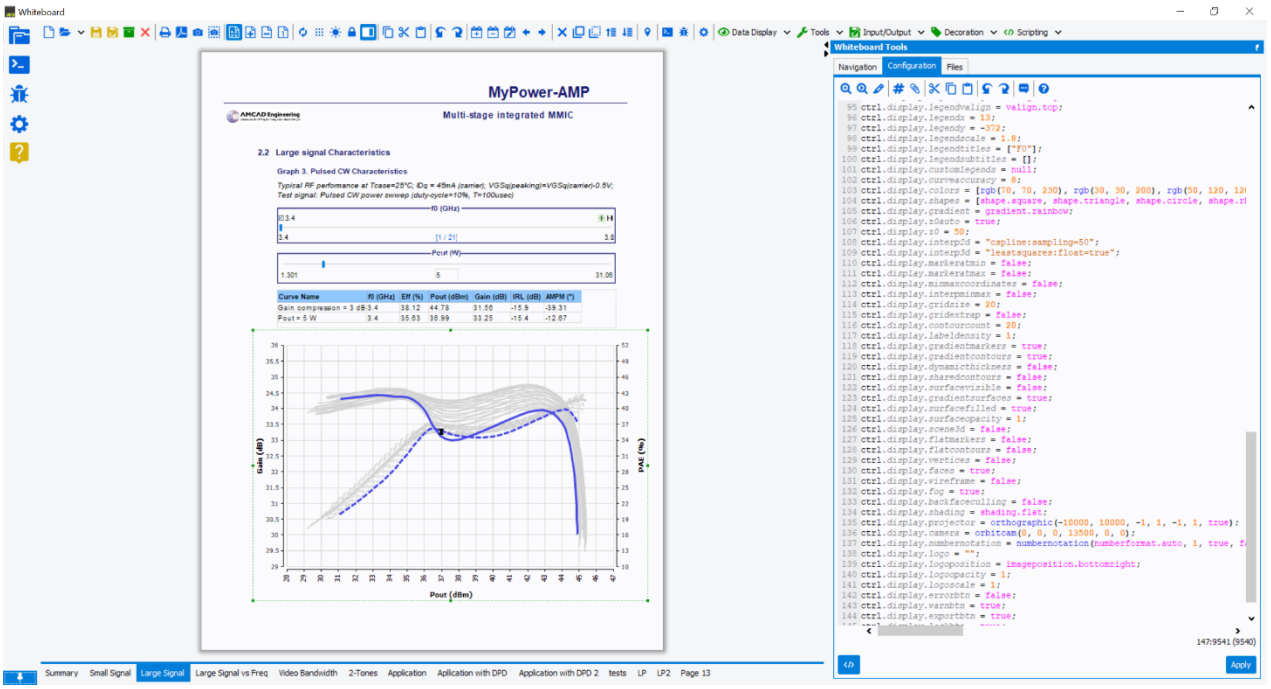
- Radio buttons
- Edited text field
- Buttons
- Check box

The script editor supports syntax coloring, autocompletes functions as you type. It also highlights matching braces, allows for code folding, and has additional features to help develop scripts more quickly. Error messages and output are shown in the log window, displayed inside the script editor.

Deployment

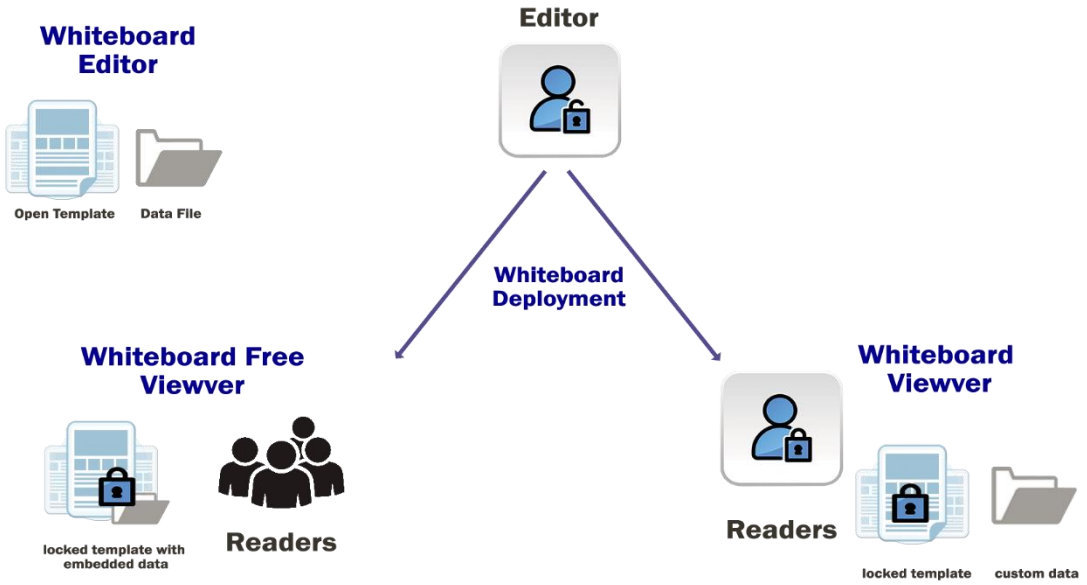
The Deployment add-on of the Whiteboard, WHIT11, was specifically developed to help users facing issues like:

- Lack of standardization of the data analysis process inside a given group of users.
- Limited numbers of available licenses of the software
- Time wasting in generating reports for colleagues and customers.
- Different iterations to provide static reports to support customer requests.



When the WHIT10 Whiteboard Editor generates a new iteration of the template, the WHIT11 Deployment tool helps the user share its personalized template among colleagues to standardize the data analysis process within its company or with customers in the format of an interactive report.

This option offers a competitive tool that supports a company's growth by providing the right means to complete the work and provides a flexible solution in a timely manner.



This feature is not available when using other third-party RF commercial simulators which have not been designed to support this particular need.

The Whiteboard Deployment option allows generating a workspace to be shared within the company or with a group of users while allowing access to interactive data analysis controls and even to load other data source files.

Two Deployment options are possible with this module:

- Whiteboard Viewer
- Free workspace Viewer

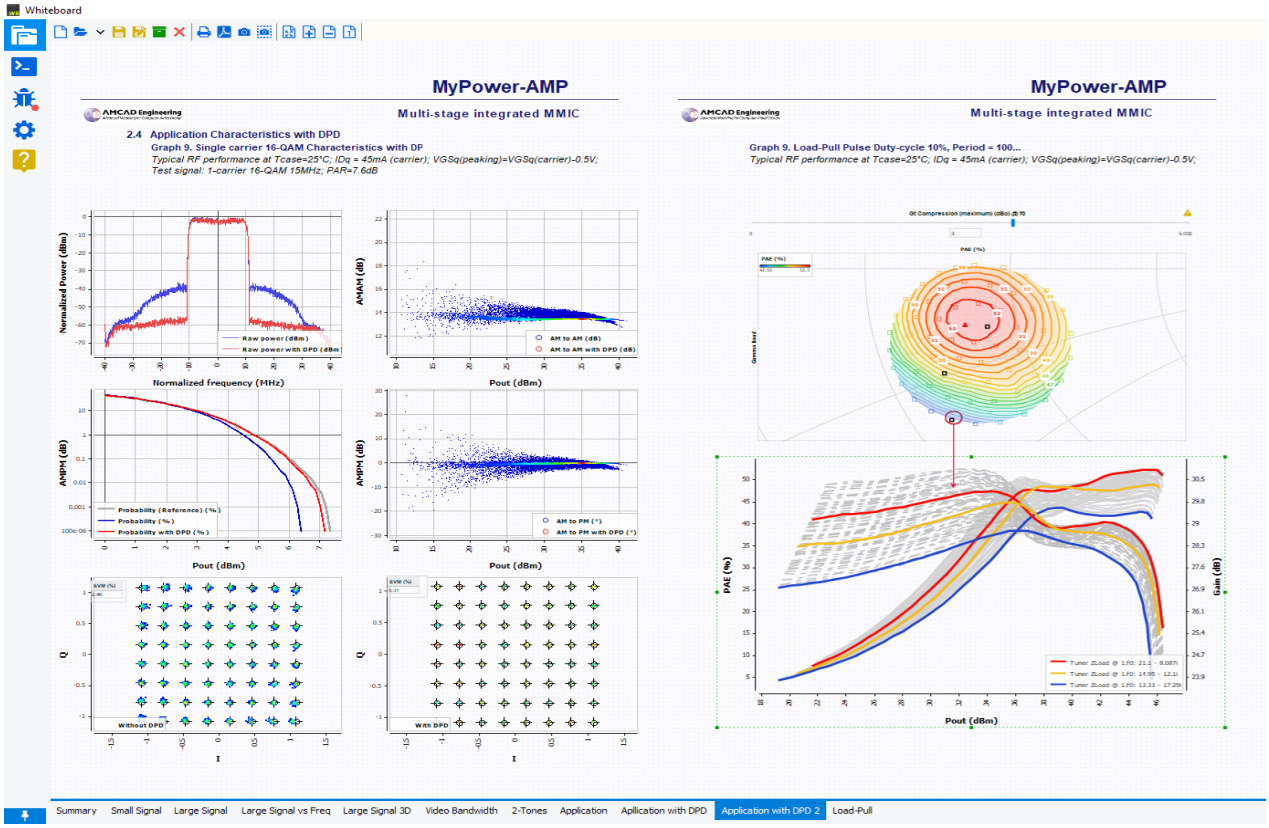
Whiteboard Viewer

The WHIT20 Whiteboard Viewer enables the opening of WHIT10 templates delivered through the WHIT11 Deployment tool.

By generating a customized template, the editor provides an enhanced team experience when using the company's data. He also decreases the time wasted by his team in managing the data because the post-processing template is already qualified and ready to be used by the group.

The deployed Whiteboard Viewers are multiple copies of the workspace. The number of copies is managed directly by the editor.

By sharing all the interface's interactive capabilities applicable to an unlimited number of data files given by a simulator or a measurement bench, the team experience is greatly improved as the viewer tool streamlines everyone's data workflows.



Different templates can be developed to respond to the need of each group in the company. Therefore, the Whiteboard Editor with Deployment options can address multiple needs within the same corporation:

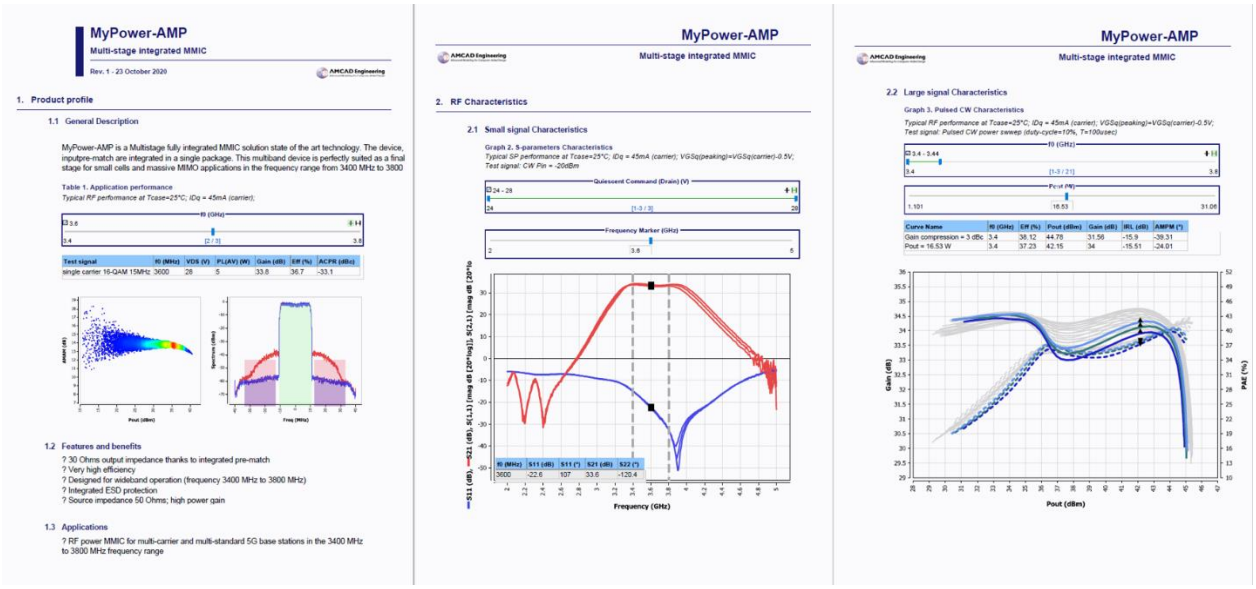
- Standardize data processing.
- Extract the core value of the information from the company's database.
- Improve the team coordination.
- Offer an internal flexible solution.
- Sustain the growth of the company by offering a robust software solution.

Free Workspace Viewer

The WHIT30 Free Workspace Viewer, delivered through the WHIT11 Deployment tool, enables the opening of WHIT10 templates associated with specific data files. The end reader does not need any particular license of the Whiteboard.

Application and Marketing engineers usually aim to generate data reports. Then, they want to share these reports within the company and with their end customers to promote their product specifications because of the latest performances, but they are facing some issues:

- Multiple measurement iterations lead to multiple reports and datasheets.
- Static documents lead to multiple questions from customers to see the results for different and new operating conditions.
- The spread of information is limited if the reader requires a specific license to open the file.
- 50% of their time, on average, is spent collecting the data for their customers rather than doing their core activity.



For these reasons, AMCAD engineering developed the WHIT30 Free Workspace Viewer module.

This one offers interactive measurement reports that enable their customers to change some conditions and see the impact of this new condition on the device's performance. This interactivity is more efficient than asking for a new version of a static document.

In addition, it is possible to generate report templates, where a simple selection of the data file populates all the graphs and tables in the final report with the new values. This way, the application engineer can spend more time on his work, and the colleagues and customers can have access to all needed data to appreciate the end product.

Note: Contrary to the WHIT20 viewer module, the data in the WHIT30, Free Workspace Viewer, is hardcoded inside the interactive report. The reader will not be allowed to change the original data. He will only be able to tune the parameters made available by the editor to refresh the different graphics and tables.

Whiteboard Options Configuration

Modules	Workspace Create/open /save *.iw files	Open *.iwx Workspace	Save *.iwx Workspace	Import data files	Write Scripts	Execute Scripts	Requires license	Prerequisite
WHIT10 : Whiteboard Editor	✓	✓ *		✓		✓**	✓	
WHIT11: deployment Add-on			✓				✓	WHIT10
WHIT20: Whiteboard Viewer	X	✓		✓		✓	✓	
WHIT30: Workspace Free Viewer	X	✓		X		✓		
SCRPT: Scripting Add-on					✓	✓	✓	WHIT10

*: Whiteboard editor opens deployed workspace in viewer mode only.

**: Scripts can be executed only for the deployed workspace (*.iwx files)

LICENSE TYPE

The software license is provided in the form of a node-locked perpetual license attached to a USB Key. This USB Key can be used on different computers. This formula offers a flexible solution when the software needs to be shared among different users within a small design team.

The software license is provided in the form of a floating license installed on the server of the company. This solution is more secure when a larger design team needs to share the licenses for a given number of seats. Costs about 30% more than node-locked perpetual license

When companies need to optimize their cash flow, a rental program is also proposed based on a 3-, 6-, or 12-month period. For a 12-month program, Costs are about 1/3 of a perpetual license, including support.

MAINTENANCE

AMCAD Engineering considers maintenance a critical asset for its customers to provide a premium assistance program for one year from the date of delivery. After this initial period, you will be kindly invited to extend this maintenance through a support agreement.

Three different maintenance programs are available:

- One-year maintenance and support agreement
- Two-year maintenance and support agreement
- Three-year maintenance and support agreement

With ongoing customer support, this maintenance program keeps your software version up to date so that you can benefit from all the improvements and fixes available with the latest release.

AMCAD Engineering
Advanced Modeling for Computer-Aided Design