

|  | Ampsa<br>MW_V24B<br>32-bit | Ampsa<br>MW_V24A<br>32-bit | Ampsa<br>MW_V24Lu<br>32-bit |
|--|----------------------------|----------------------------|-----------------------------|
| Windows 10 / Windows 11.   | Y                          | Y                          | Y                           |
| Visual C++ 2022 MFC project; DPI aware up to 250DPI; ADW circuit files are Unicode text files.   | Y                          | Y                          | Y                           |
| Documents allowed: Ampsa circuit files (.ani).   | Y                          | Y                          | N                           |
| Documents allowed: Ampsa impedance-matching data files (.mmi).   | Y                          | Y                          | Y                           |
| Schematic views with schematic editing features.   | Y                          | Y                          | N                           |
| Artwork views; artwork editing features.   | Y                          | Y                          | N                           |
| Text editing views; text editing features.   | Y                          | Y                          | N                           |
| Exporting the MW schematic to Microwave Office™ files (.bas scripts) or to DXF files.  | Y                          | Y                          | Y                           |
| Exporting the MW artwork to Microwave Office™ files (.bas scripts) or to DXF files.  | Y                          | Y                          | N                           |
| A technology file is created for exporting DXF files (artwork) to CST Microwave Studio™.   | Y                          | Y                          | N                           |
| Exporting the MW Artwork to Sonnet® Software Files (*.son).  | Y                          | N                          | N                           |
| Analysis, optimization and tuning capabilities (The active schematic variable can be tuned if marked for optimization). The circuits elements used are assumed to be linear.   | Y                          | Y                          | N                           |
| Modelling of microstrip steps, T-junctions and crosses with S-parameters obtained from an EM simulator (S-parameter based discontinuity models).   | Y                          | N                          | N                           |
| Cascade and nodal power analysis with ideal harmonic terminations assumed for the specified class of operation (ADW FFLL power analysis; extended Cripps approach). The external fundamental-frequency load terminations are mapped to the associated intrinsic fundamental-frequency load terminations by using the MW model fitted to the transistor S-parameters. The allowable intrinsic load line area is defined by four or five //V-plane boundary lines. The intrinsic load terminations, the dynamic load lines and the intrinsic waveforms cannot be viewed in the Matching Wizard.                        | Y                          | Y                          | N                           |
| Reflection analysis. Tuning is not allowed yet with reflection analysis.   | Y                          | Y                          | N                           |
| Microstrip Module.   | Y                          | Y                          | N                           |
| Impedance-Matching Wizards (DSL T, IIM, LMT, RMT, NOI, IVI, OVI).  | Y                          | Y                          | N                           |
| Synthesis of lumped-element impedance-matching networks. Differential evolution or systematic searches are used to synthesize the solutions. The element values can be constrained.  | Y                          | Y                          | Y                           |
| Synthesis of non-commensurate distributed impedance-matching networks, with mixed lumped/distributed options. Differential evolution or systematic searches are used to synthesize the solutions. The characteristic impedances (line widths) are specified by the user, and the line lengths are the variables. A systematic search can be done for the optimum main-line characteristic impedance. Harmonic trapping is integrated into the synthesis flow.  | Y                          | Y                          | N                           |
| Synthesis of commensurate impedance-matching networks. Differential evolution or systematic searches are used to synthesize the solutions. Different lengths are allowed for main-line elements, shorted stubs, and open stubs. The line lengths are specified by the user, and the characteristic impedances (line widths) are the variables. A search can be done for the optimum main-line length. The line lengths can be set for harmonic trapping.   | Y                          | Y                          | N                           |
| The matching problem defined can be modified by adding fixed elements on the input and/or output sides of the networks to be synthesized.  | Y                          | Y                          | Y                           |
| Control over harmonic impedances when matching networks are synthesized. A Smith chart sector or a range of harmonic reactance values can be targeted at each frequency. Points, circles or circular areas can be targeted at the fundamental frequencies.   | Y                          | Y                          | Y                           |
| Synthesis of distributed networks (CMA networks) to control the transmission phase shift, as well as the match. Lossless T-networks or PI-networks are synthesized. Each shunt section in the networks synthesized can consist of a single branch, two identical branches in parallel or a resonating section. Pads are allowed for the lumped components. The synthesis is exact at a selected passband frequency. A systematic search on the design space is done for the best broadband solutions (best match). If a specific phase shift is required, the phase can be fixed when the systematic search is done. | Y                          | N                          | N                           |
| Modification and optimization of a matching network synthesized in the Analysis module. The error function used for optimization can be similar to that used during synthesis.   | Y                          | Y                          | N                           |
| The DSLT synthesis wizard can be used to synthesize the (even-mode) branches of a Wilkinson splitter. The splitter performance can be optimized by optimizing s11 and s21 of the even mode and s22 of the odd mode. The nodal dual-state analysis command (NDST) can be used to analyse and optimise the splitter in the MW. NDST commands can also be used to analyse and optimize three-port splitters with different power levels and/or phases at the output ports.  | Y                          | Y                          | N                           |
| User guides (pdf format).  | Y                          | Y                          | Y                           |
|  |                            |                            |                             |
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|  |                            |                            |                             |
| Standalone single-user license fee   | \$2 500                    | \$2 000                    | \$800                       |
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08-December-2025

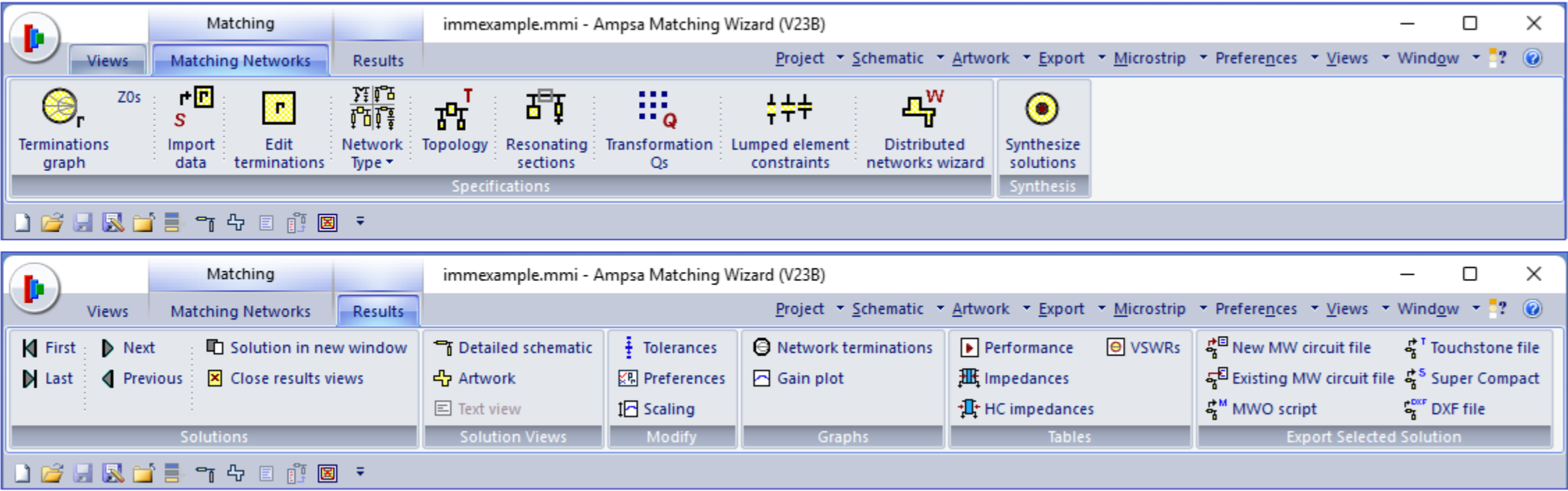
## Matching Wizard Ribbon Categories

No direct control over the intrinsic load terminations of a transistor is provided in the Matching Wizard (MW). The intrinsic load terminations, the dynamic load lines or the intrinsic voltages and currents cannot be viewed in the MW. Targets for the matching problems to be solved with the MW must be obtained by load-pull or by using a harmonic-balance simulator.

Two document types are supported in the MW. The .mmi files and the associated .hrm files define the matching problems to be solved and the specifications for the networks to be synthesized, while the .ani files are circuit files. The circuits can be modified, analysed, tuned and optimised in the Analysis module of the MW. Analysis in the Matching Wizard is linear. The harmonic terminations for the specified class of operation are assumed to be the ideal terminations for the class of operation specified. The actual harmonic terminations are not considered in the MW Analysis module.

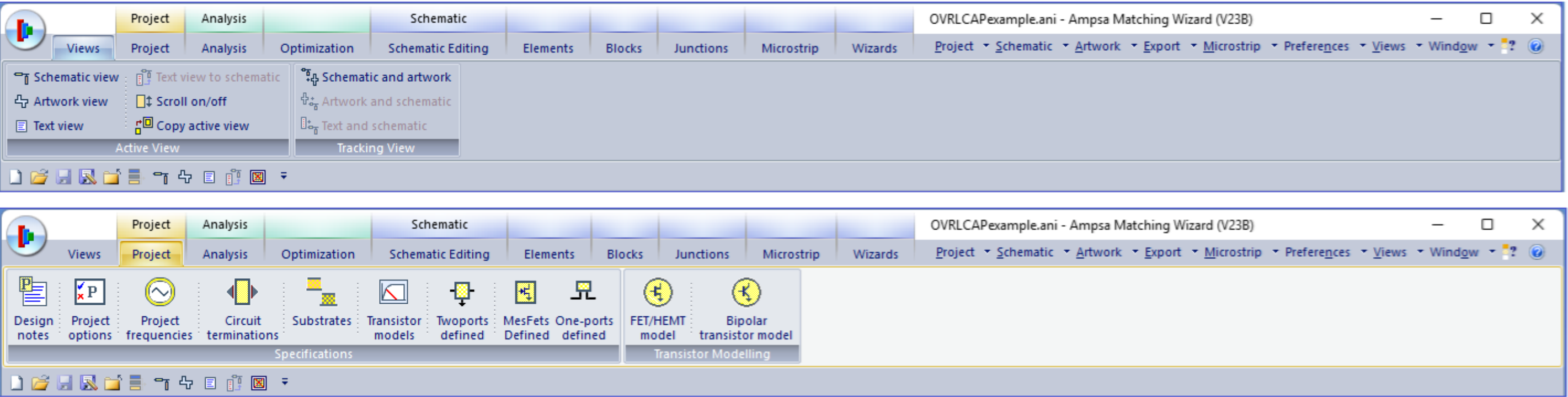
The ribbon categories and the ribbon commands provided in the Matching Wizard are shown here to provide an overview to the capabilities provided in the MW.

## Impedance-Matching Module Categories

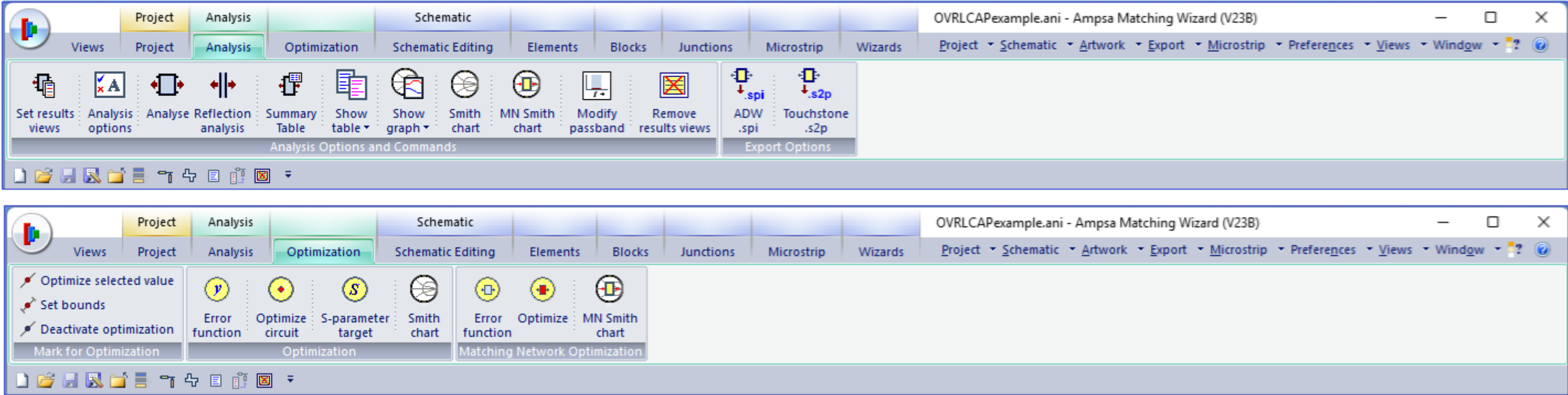


Analysis Module Categories

View and Project Categories

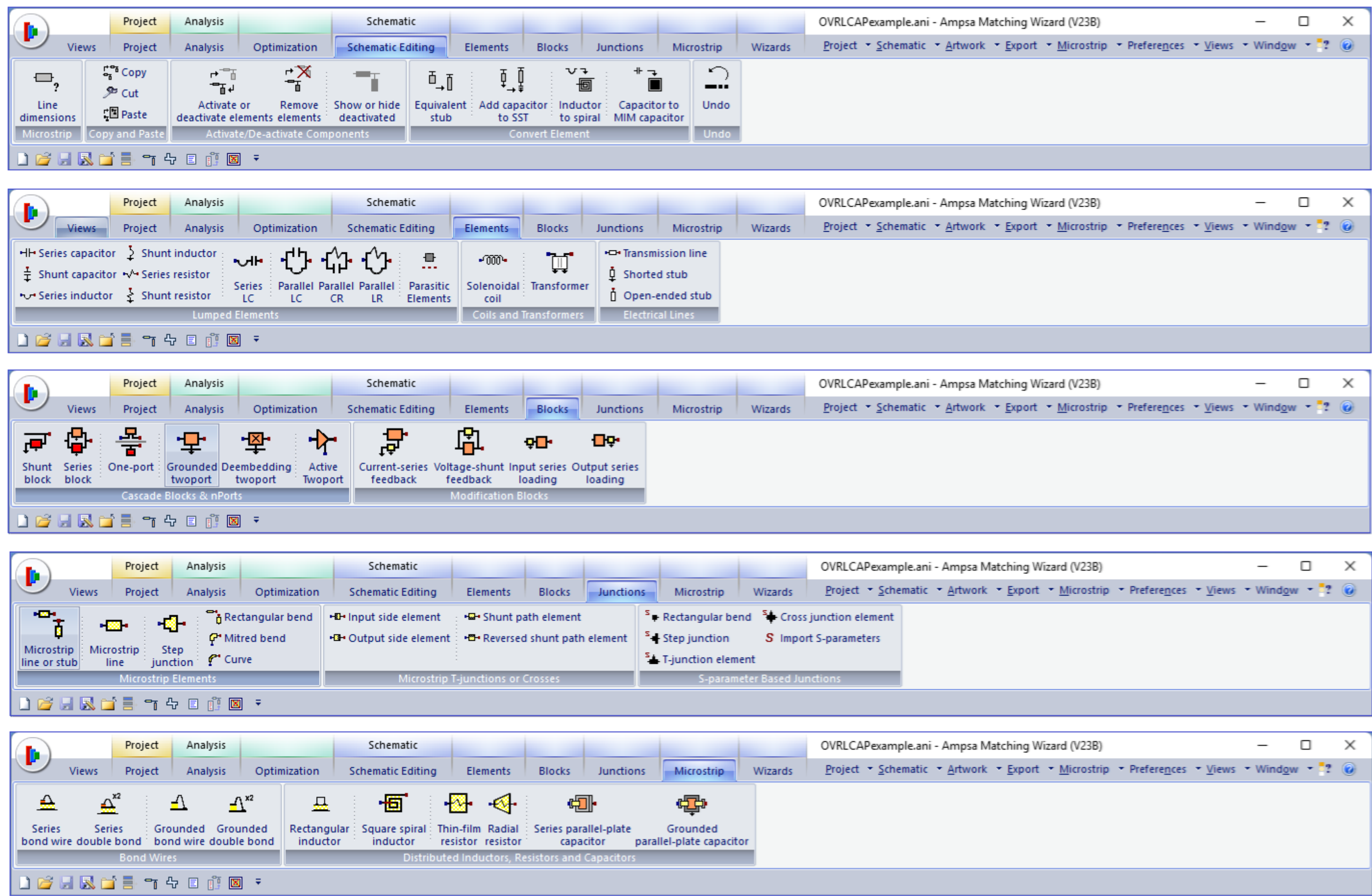


Analysis and Optimization Categories

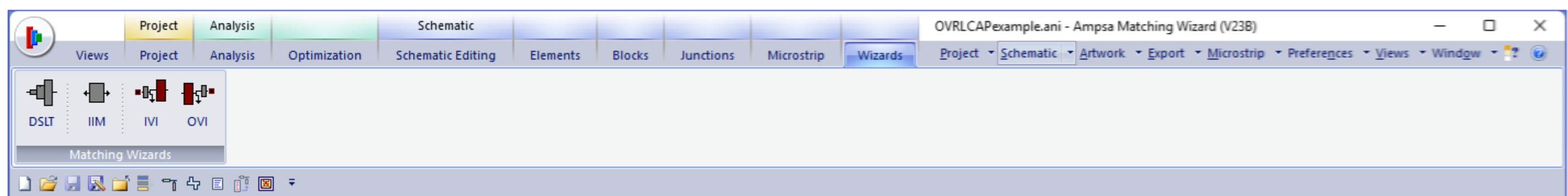




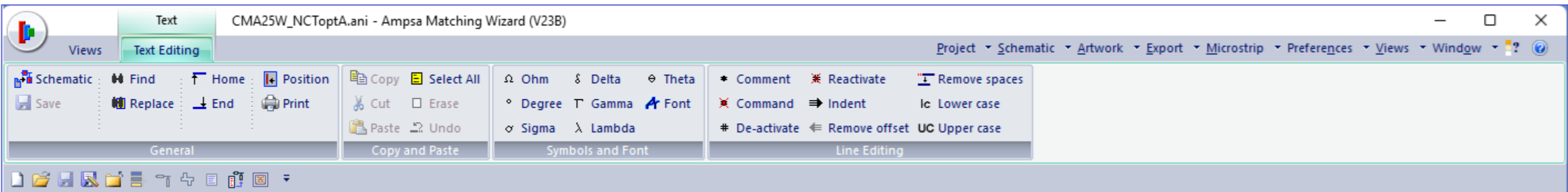
Schematic Editing Categories



Synthesis Wizards Category



Text Editing Category



Rectangular Plot and Smith Chart Categories

