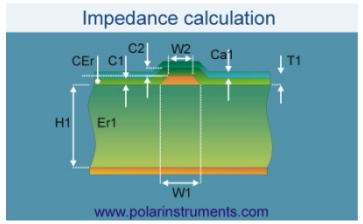

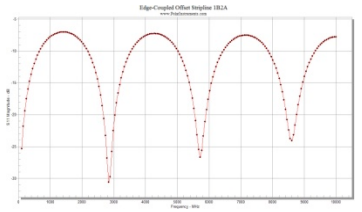

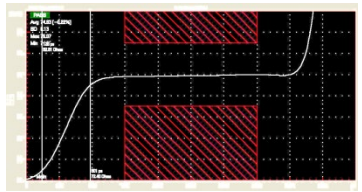

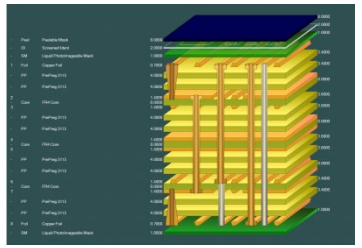

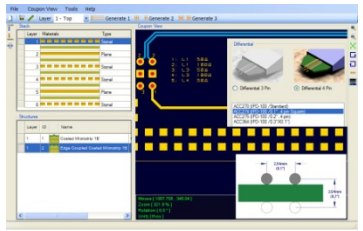

Speedstack 2021 Preview

Richard Attrill – January 2021 (Rev 1)

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Introducing Speedstack 2021

Welcome to a preview of Speedstack 2021.

We have introduced a number of new features that have been requested through our Polarcare software maintenance service.

If you would like to have a web-based demonstration please contact your local Polar office, details are shown on the last slide of this presentation.

Please note: the Speedstack units have been set to Mils in the following screen grabs

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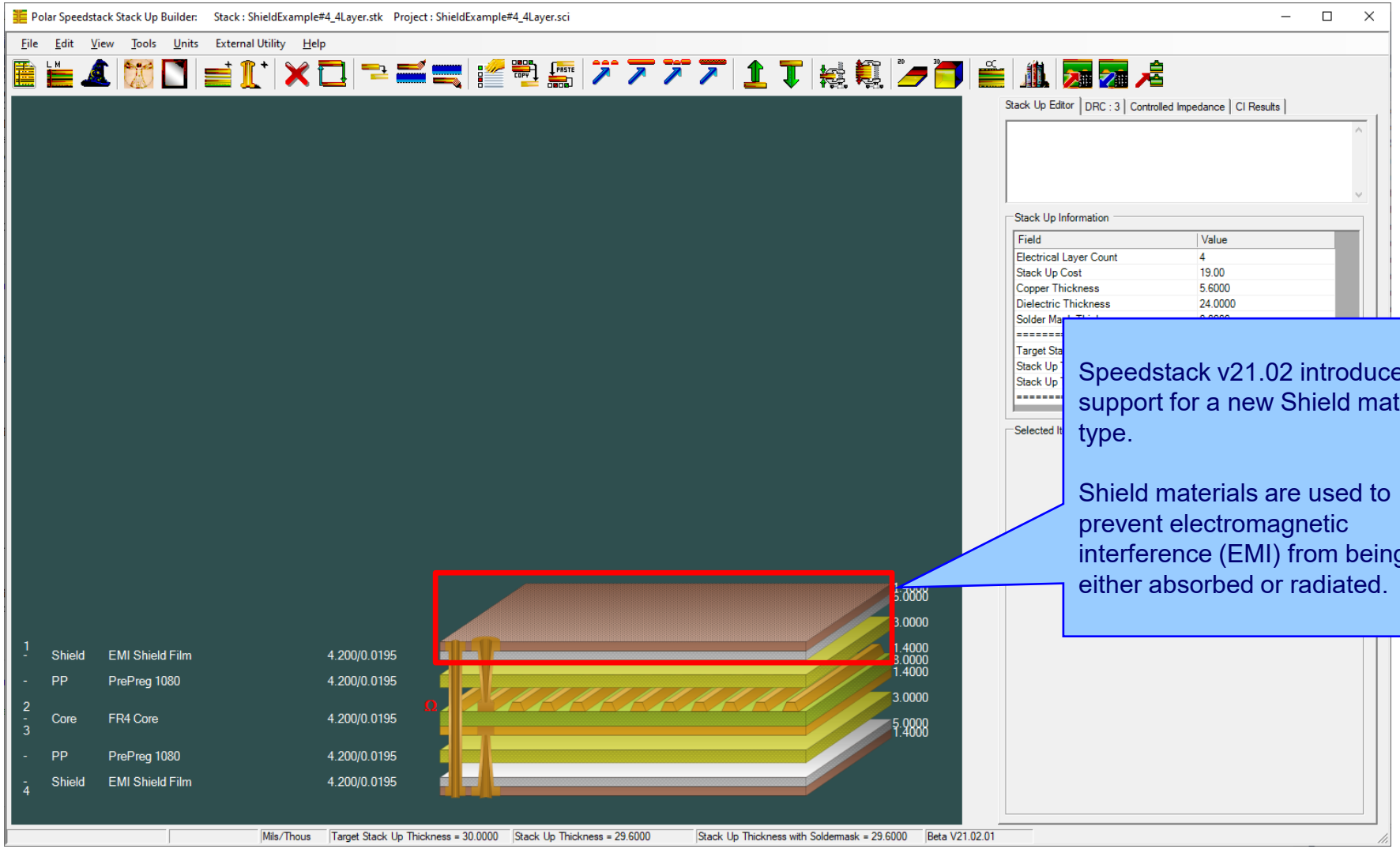
New Shield material



Speedstack v21.02 introduces support for a new Shield material type.

Shield materials are used to prevent electromagnetic interference (EMI) from being either absorbed or radiated.

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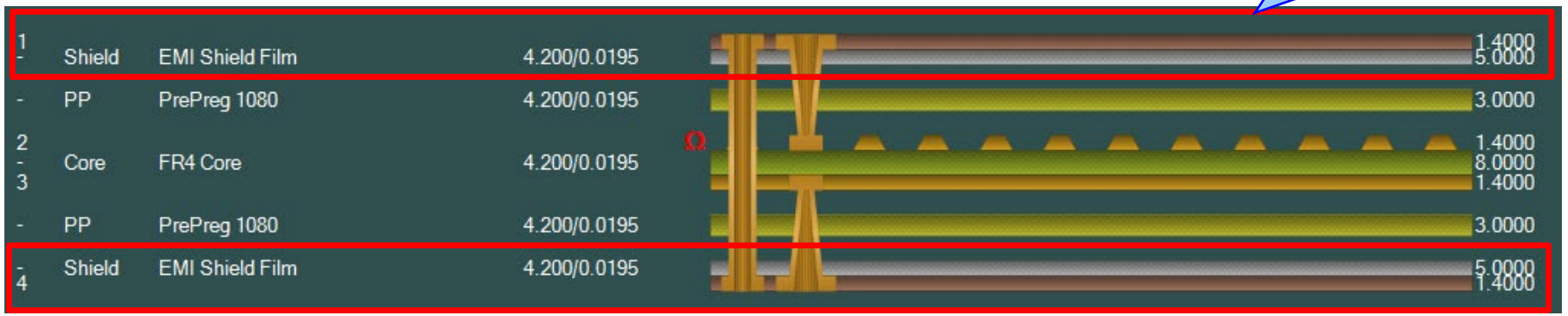
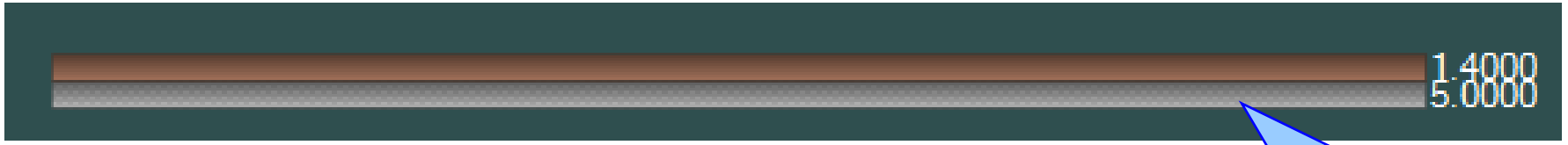
New Shield material

Shields are typically applied to the outer layer(s) of the stack up





They consist of a shield layer (brown) and dielectric adhesive (silver)

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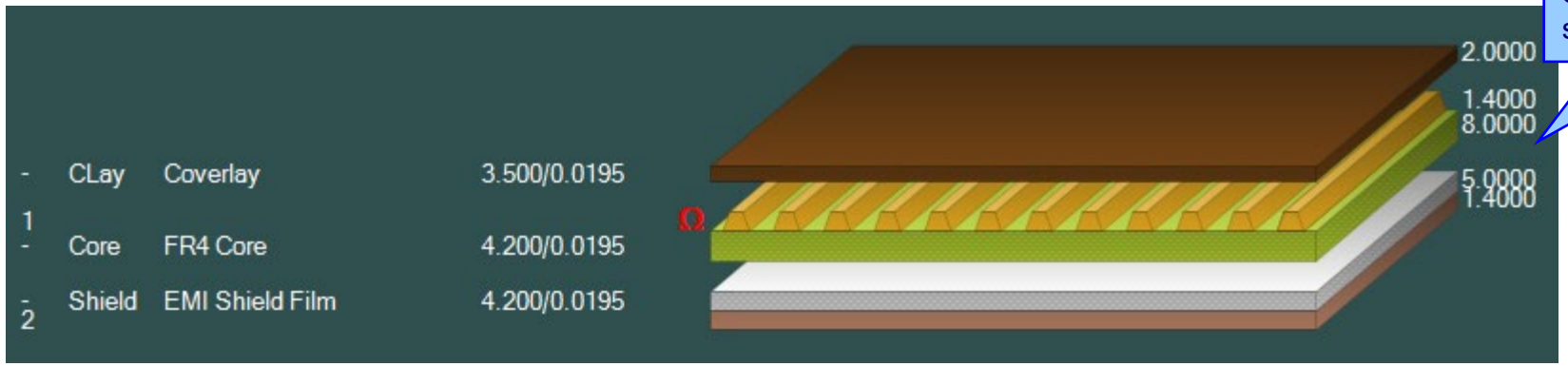
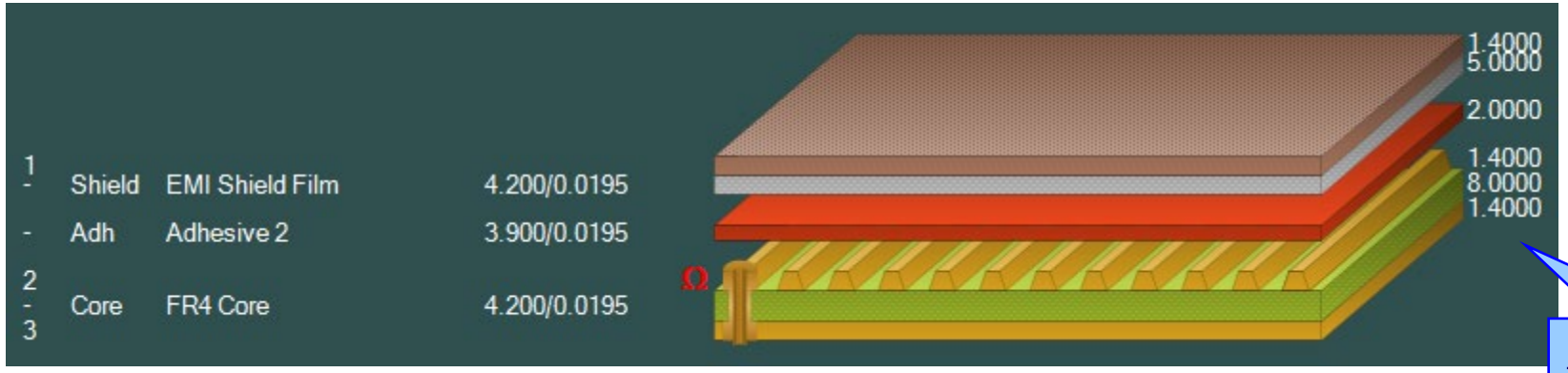
Shield material examples

Example #1
Single-sided core, coverlay above trace, shield below





Example #2
Double-sided core, adhesive and shield above

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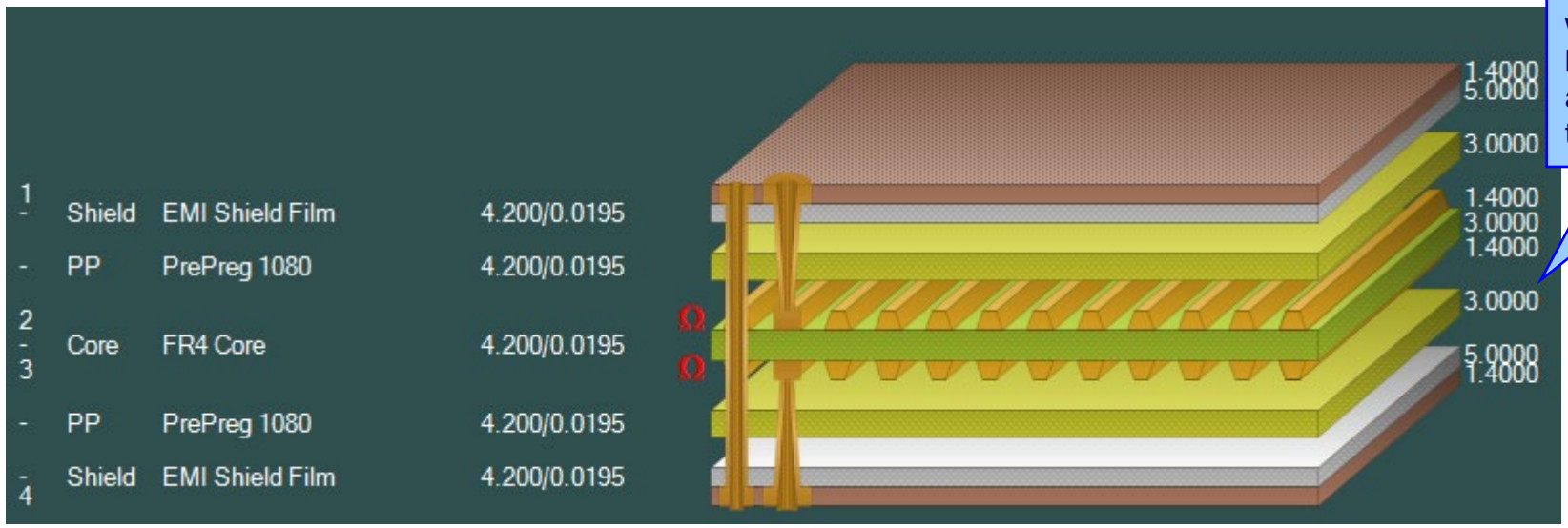
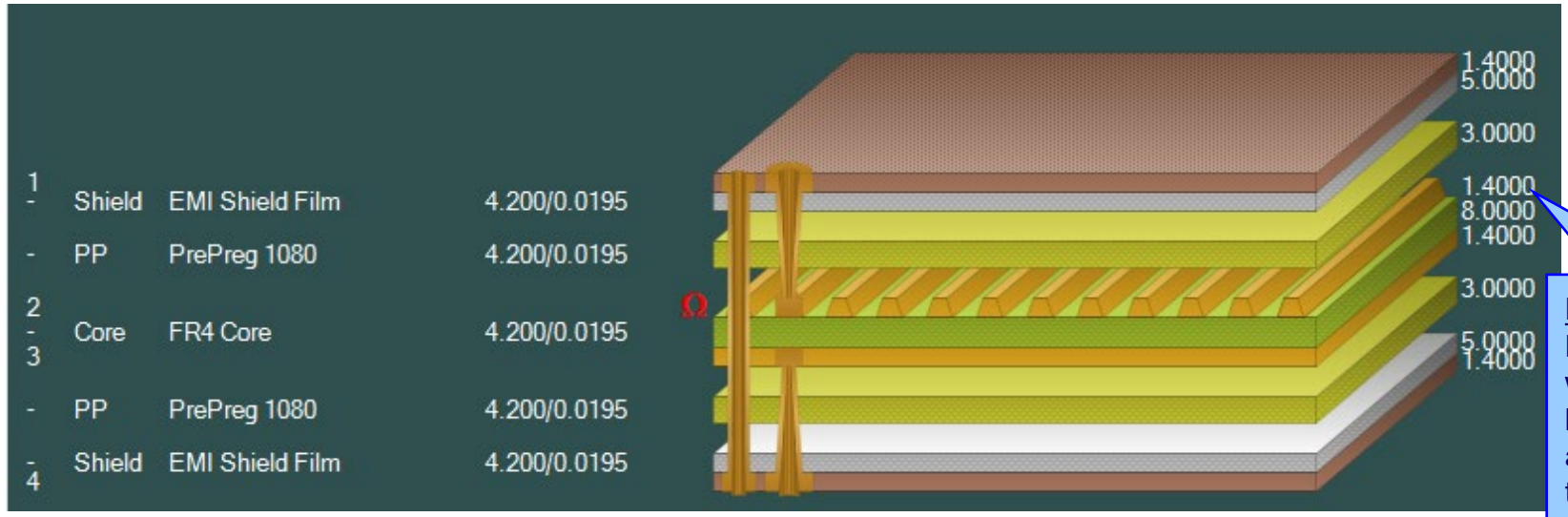
Shield material examples



Example #3
Double-sided core with two signal trace layers with shield above and below trace layers



Example #4
Double-sided core with one signal trace layer with shield above and below trace layers

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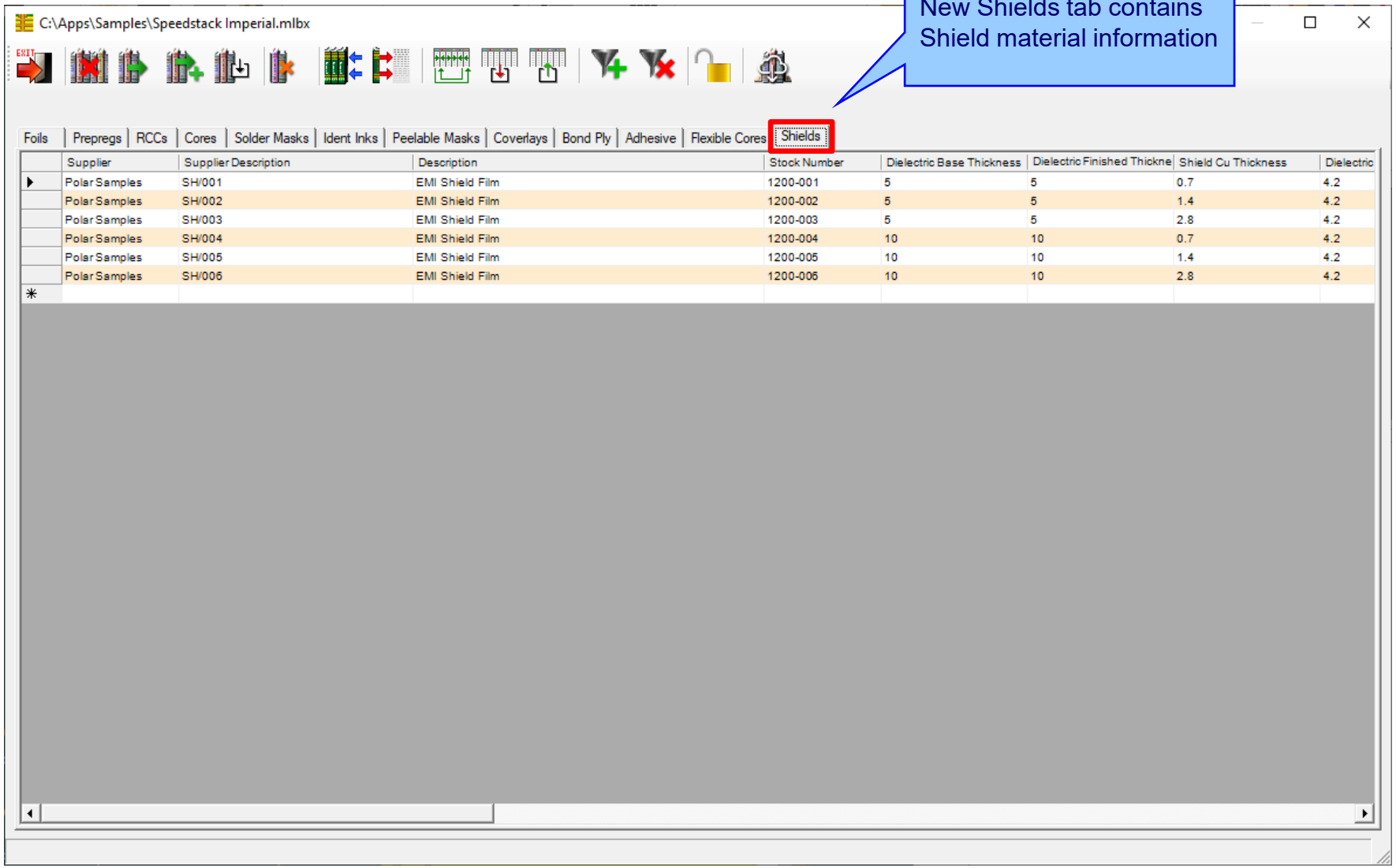
Material library enhancements



Supplier	Supplier Description	Description	Stock Number	Dielectric Base Thickness	Dielectric Finished Thickne	Shield Cu Thickness	Dielectric
Polar Samples	SH/001	EMI Shield Film	1200-001	5	5	0.7	4.2
Polar Samples	SH/002	EMI Shield Film	1200-002	5	5	1.4	4.2
Polar Samples	SH/003	EMI Shield Film	1200-003	5	5	2.8	4.2
Polar Samples	SH/004	EMI Shield Film	1200-004	10	10	0.7	4.2
Polar Samples	SH/005	EMI Shield Film	1200-005	10	10	1.4	4.2
Polar Samples	SH/006	EMI Shield Film	1200-006	10	10	2.8	4.2

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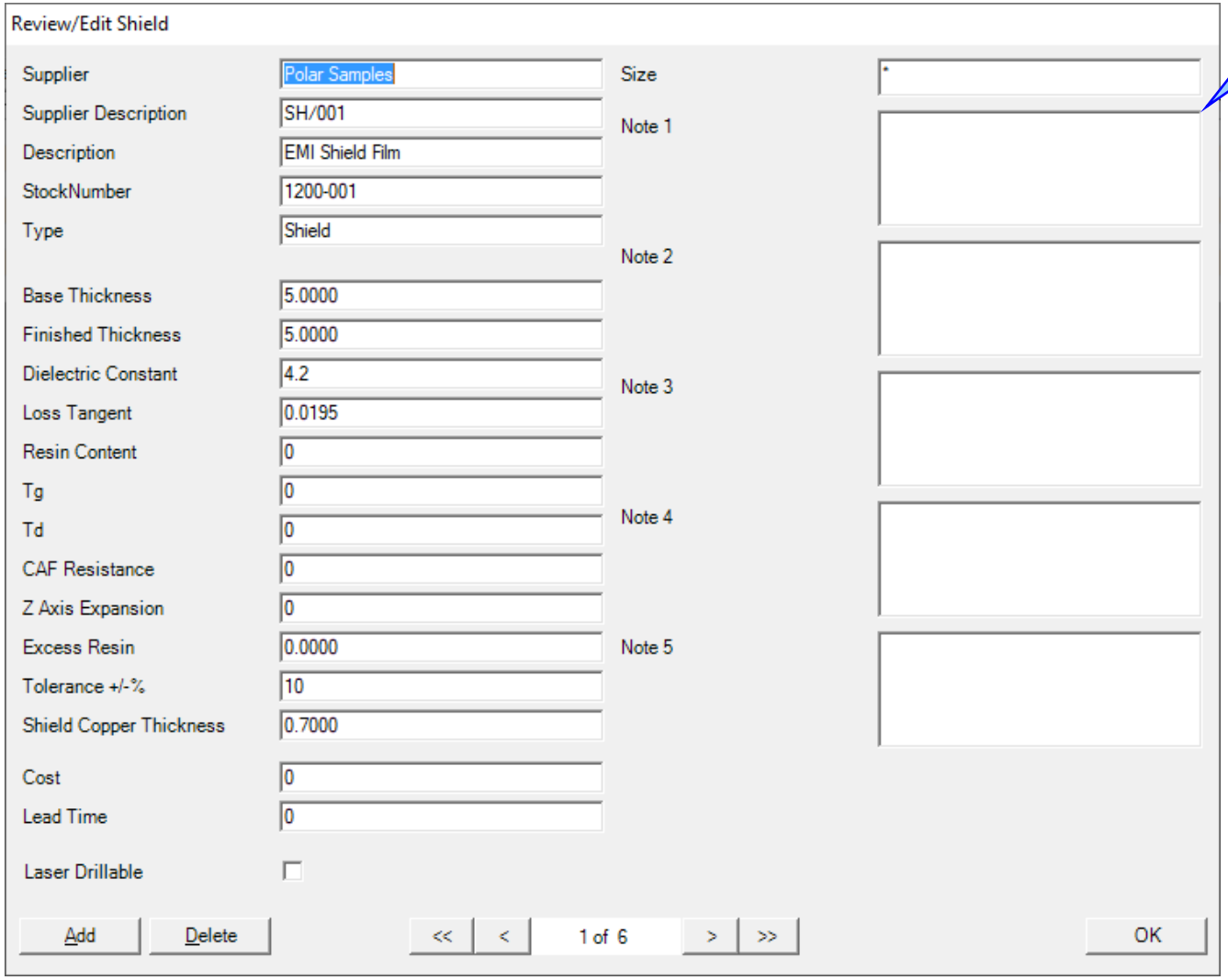
Material library enhancements



Material library Edit Shield dialog

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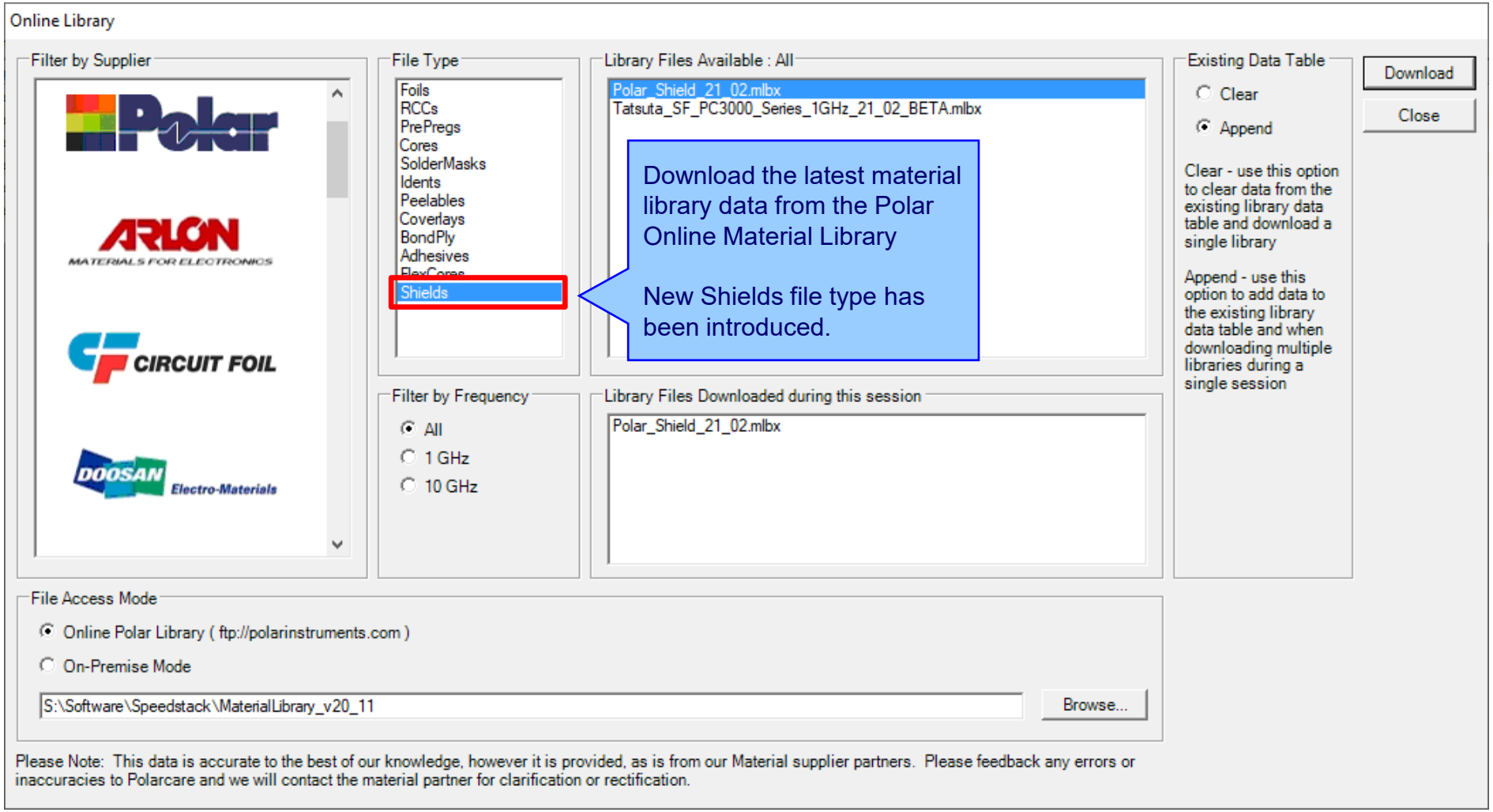
Online Library enhanced to support Shield materials



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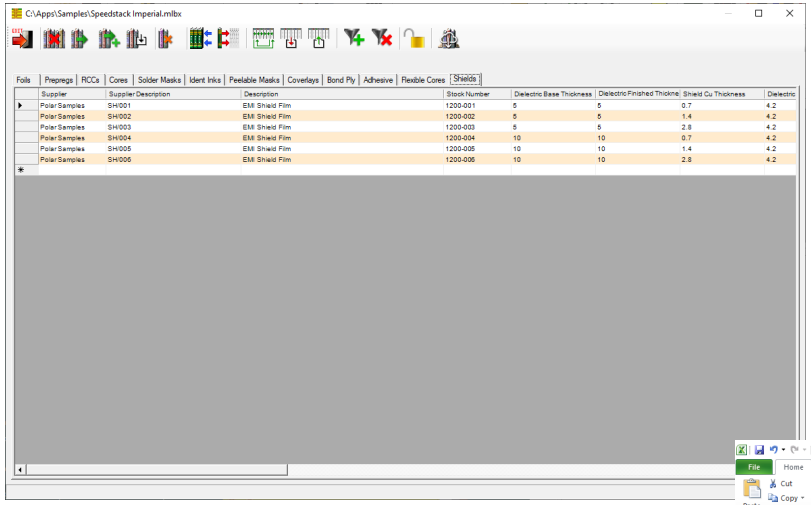
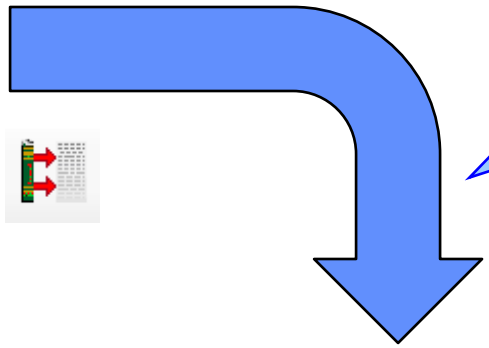
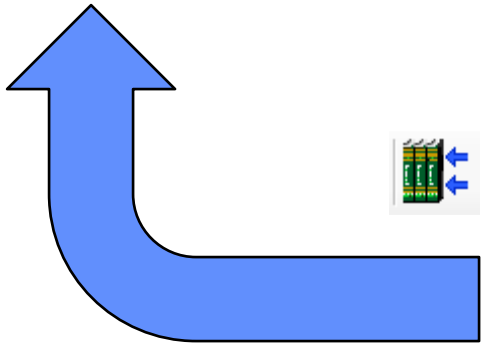
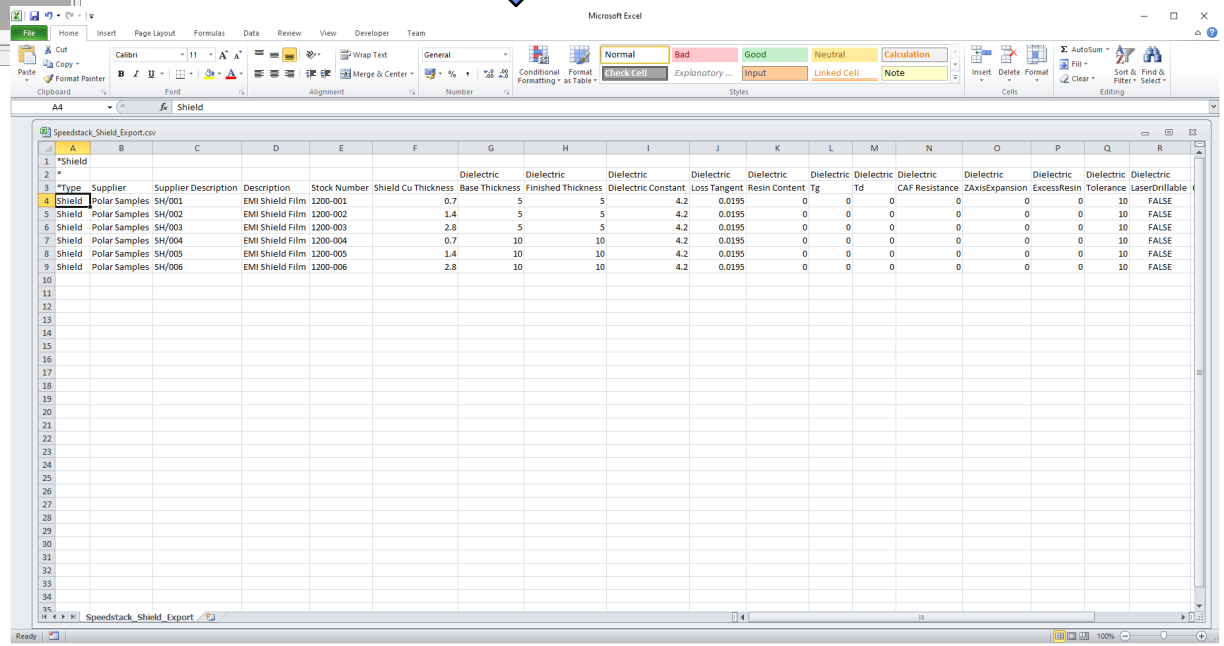
Export / Import Shield library to Excel





It is possible to export / import Shield library data with 3rd party tools like Excel





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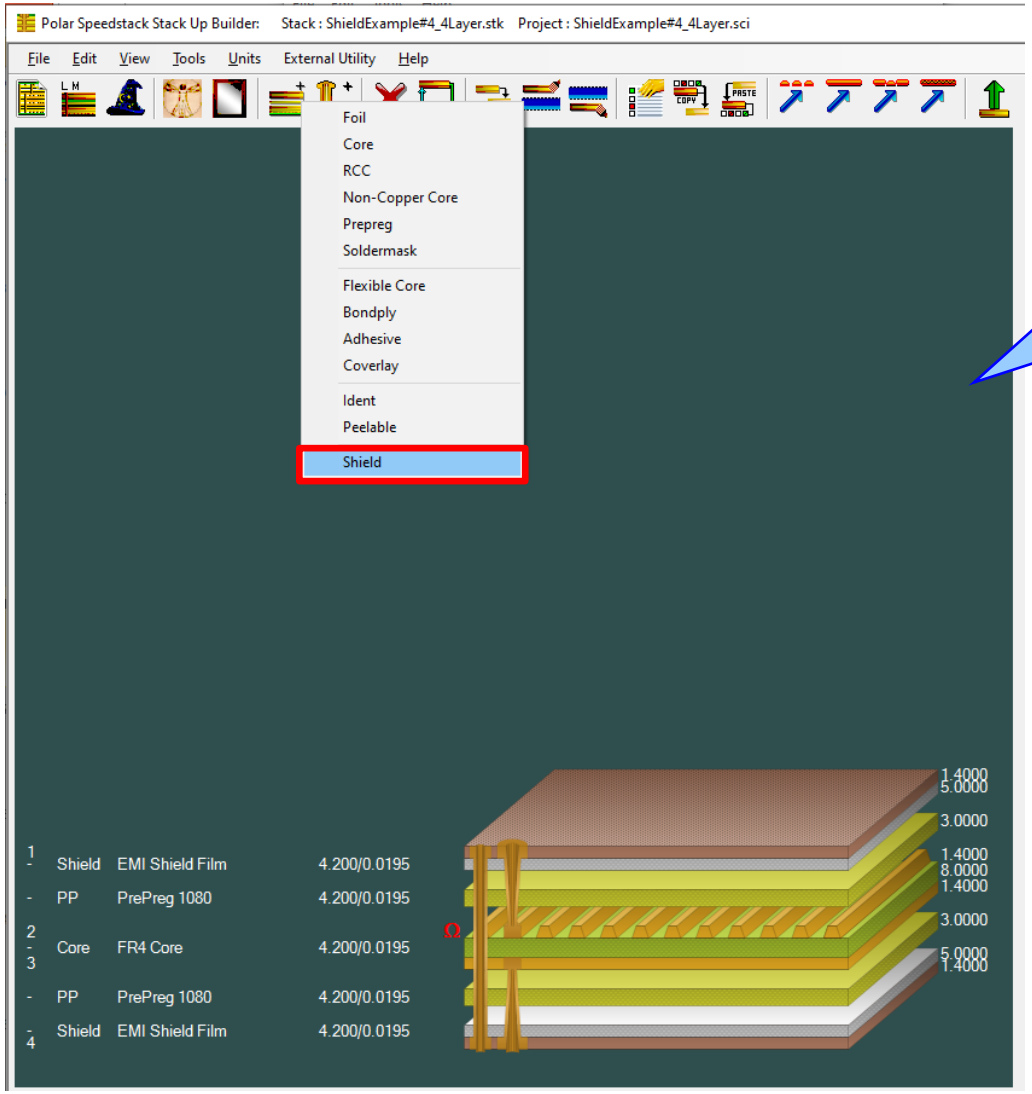
Stack up editor enhancements



Stack Up editor enhancements:

Shield material options to add, delete, swap, move up, move down, symmetry and set properties

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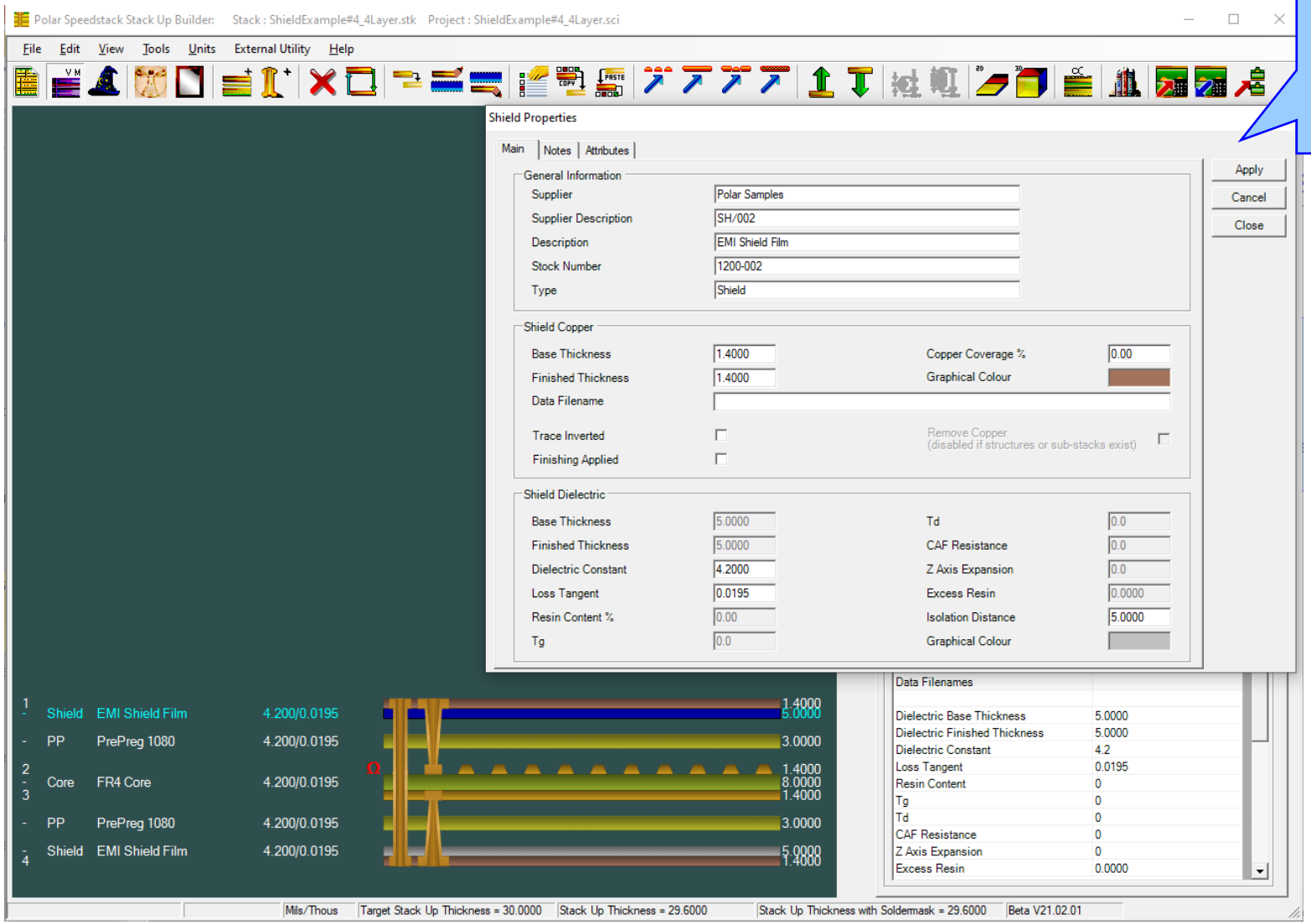
Shield properties



View and customise the Shield properties. Useful in 'what-if' scenarios

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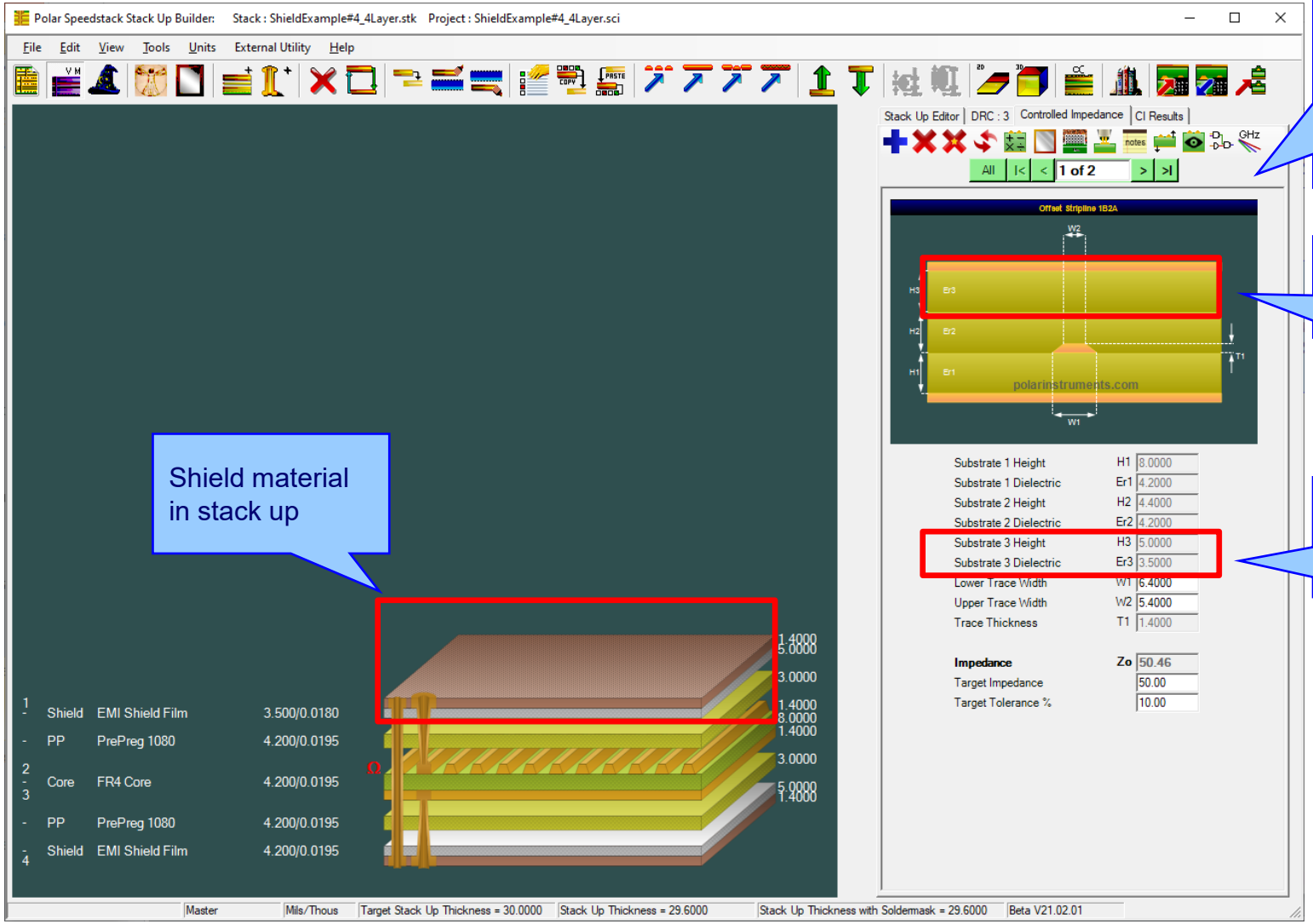
Controlled impedance and insertion loss calculations



Shield material in stack up

Impedance and insertion calculations support the new Shield material type.

Shield material region of structure.

Shield adhesive height / thickness dimension and dielectric constant.

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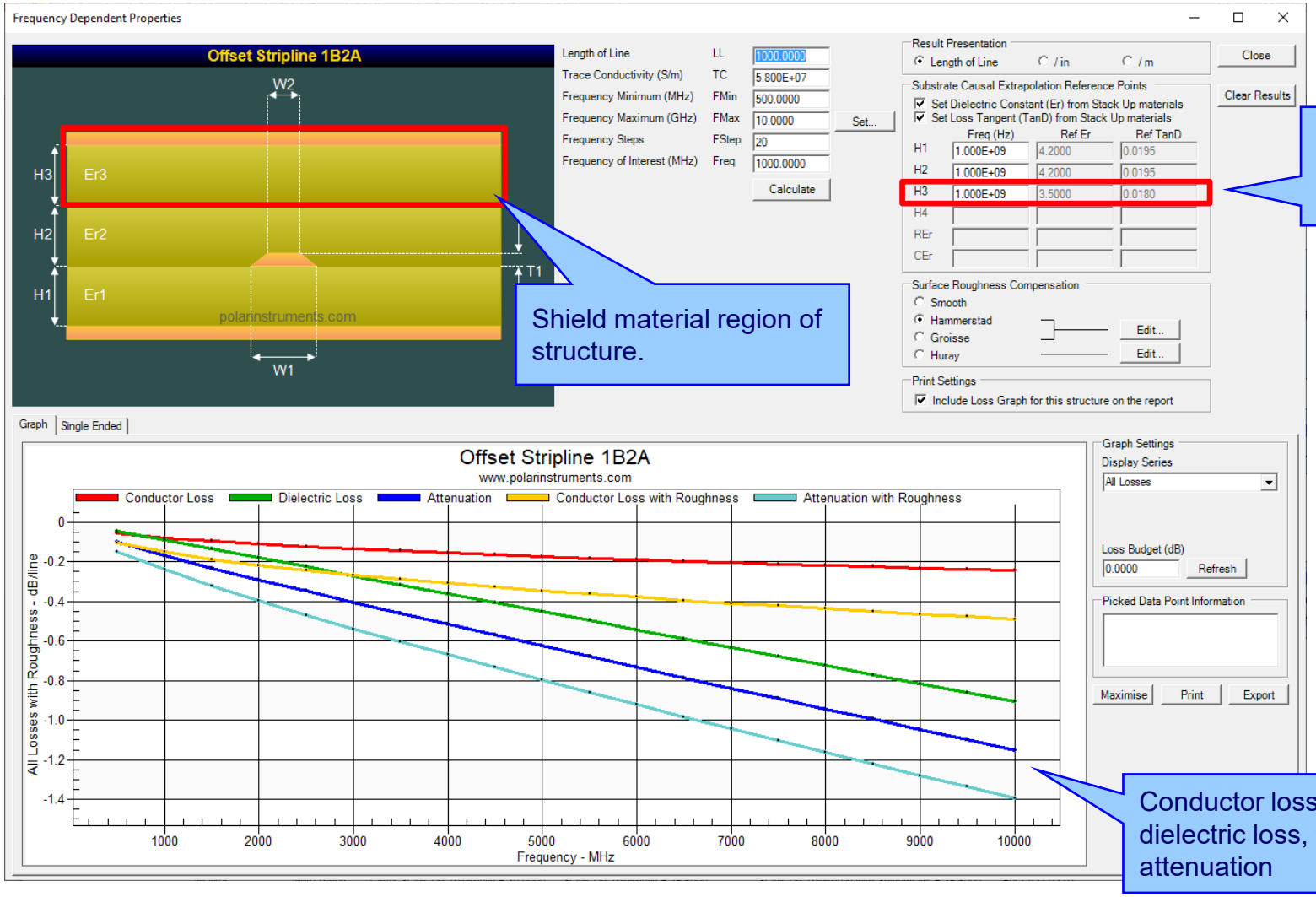
Controlled impedance and insertion loss calculations



Shield material region of structure.

Shield adhesive dielectric constant / loss tangent.

Conductor loss, dielectric loss, total attenuation

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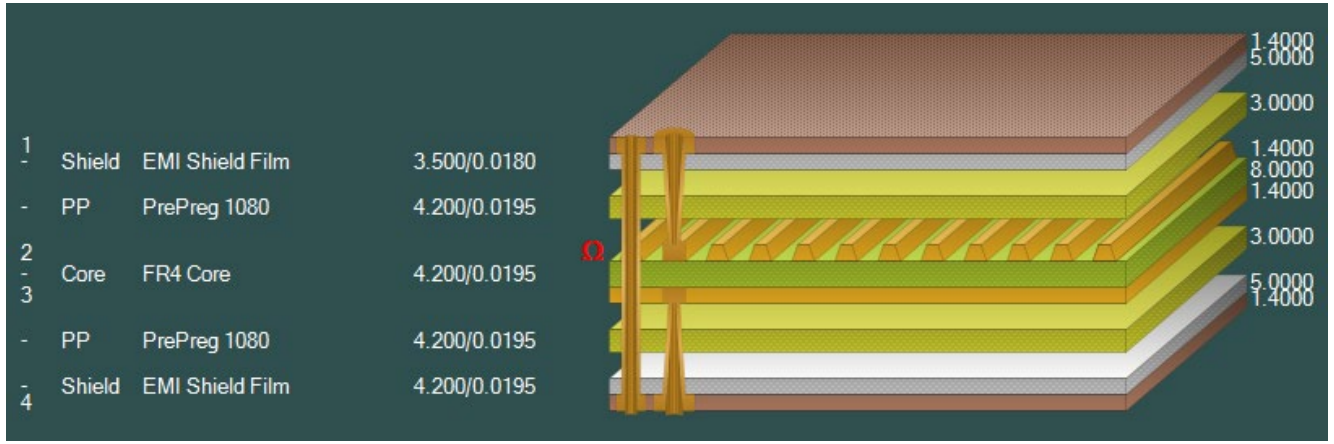
Controlled impedance and insertion loss calculations

Please note: Speedstack is capable of supporting many shield types for stack up design and documentation. However, it is important to use the correct type of shield material for controlled impedance and insertion loss applications. They are often designated by the shield vendor as 'for high speed signal transmission applications'.



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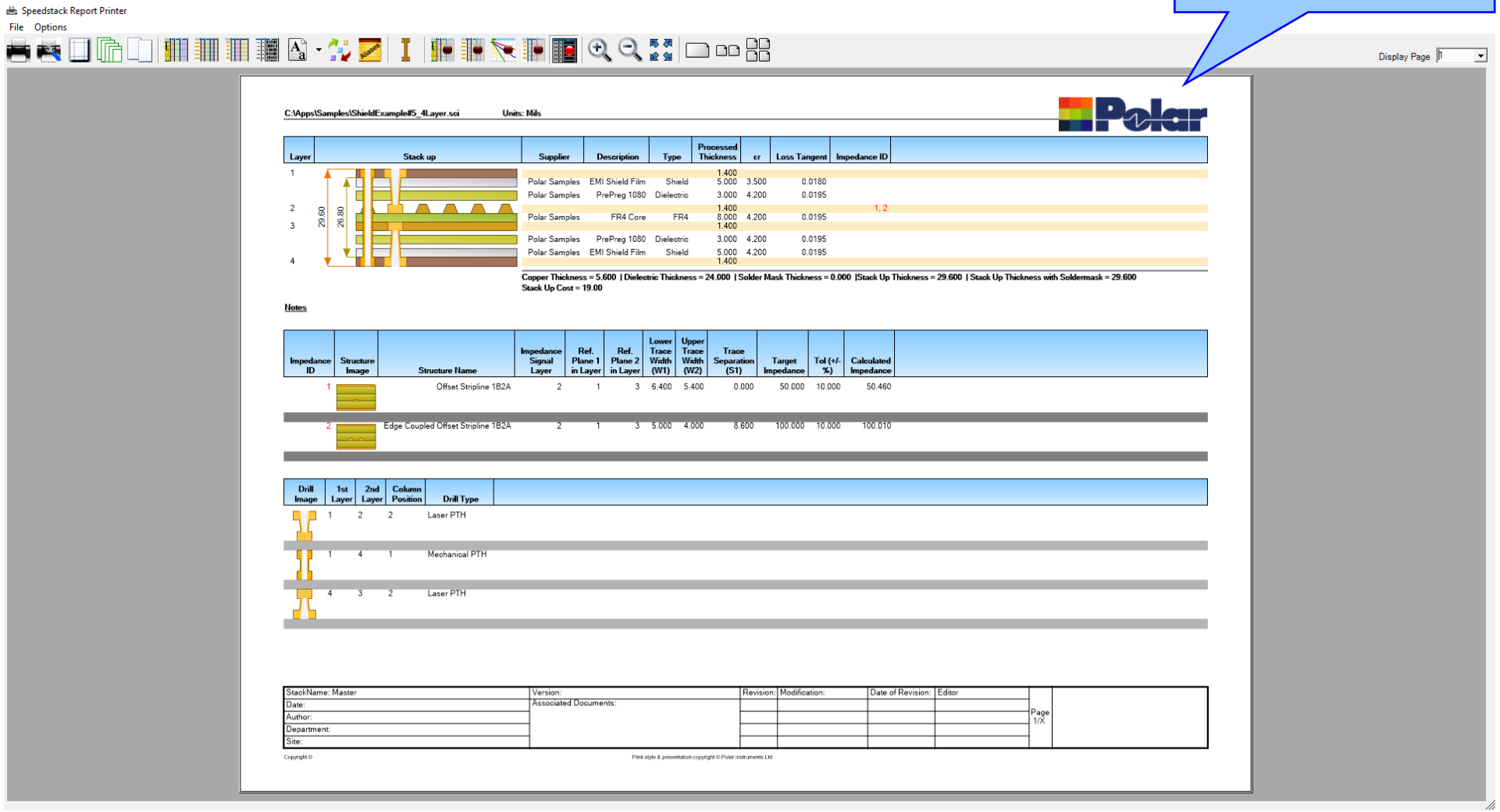
Technical report enhancements

Technical report showing shield materials



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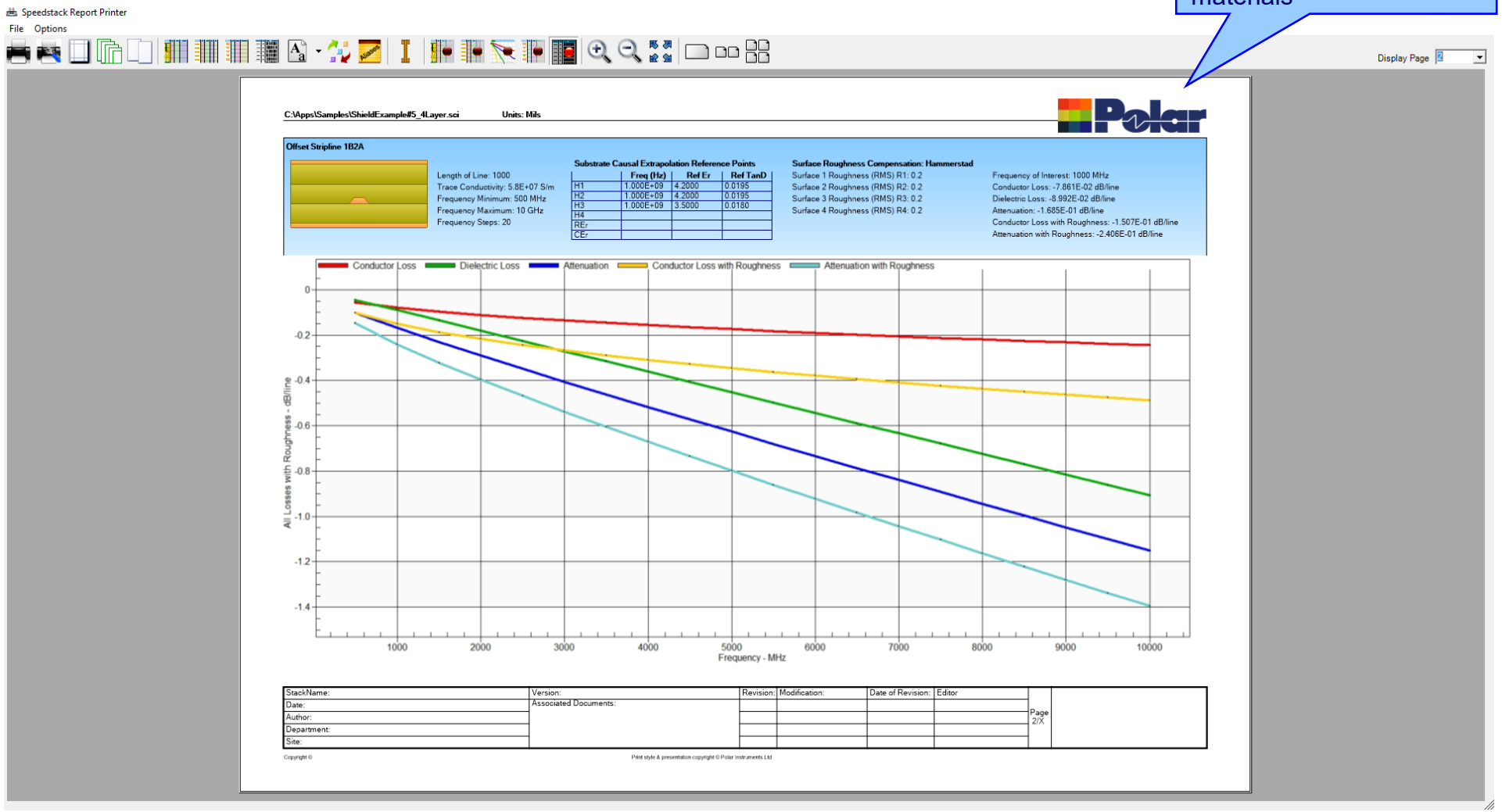
Technical report enhancements

Insertion loss report supporting shield materials



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Import / Export enhancements

The following Import / Export options have been updated to support the new shield material introduced with Speedstack 2021:

- XML STKX v20.00 and SSX v10.00 import / export options
- CSV export option
- Gerber / DXF export option

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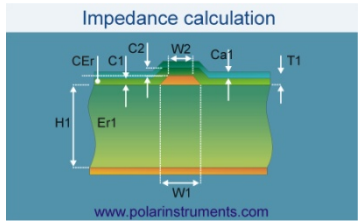

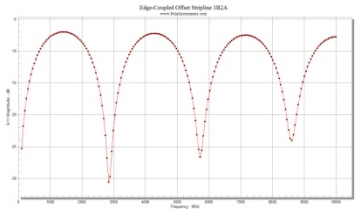

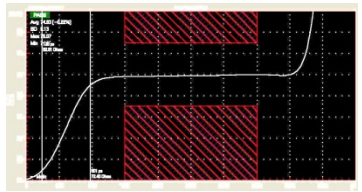

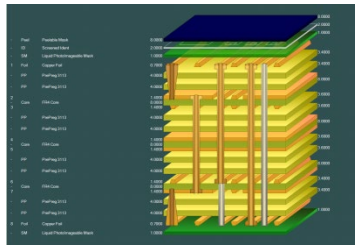

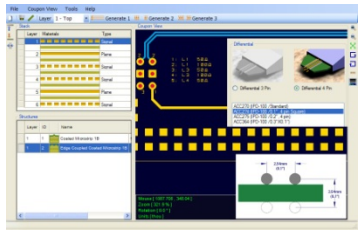

Thank you for viewing this Speedstack 2021 preview. If you have questions we would be delighted to help you. Your local contact information is contained on the following slide

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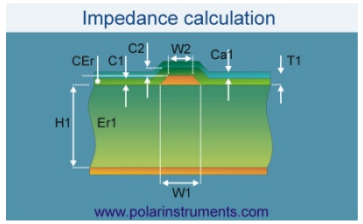

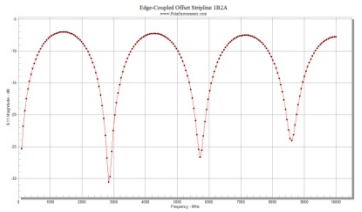

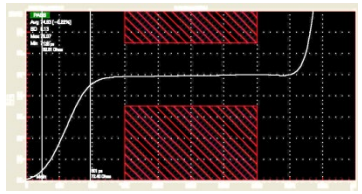

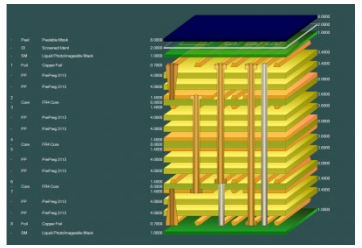

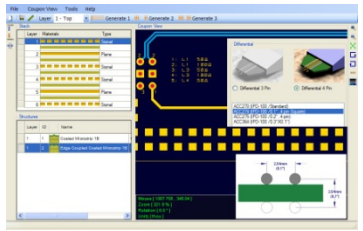

For more information:

Contact Polar now:	**Phone**
USA / Canada / Mexico	
Geoffrey Hazelett	**(503) 356 5270**
Asia / Pacific	
Terence Chew	**+65 6873 7470**
UK / Europe	
Neil Chamberlain	**+44 23 9226 9113**
Germany / Austria / Switzerland	
Hermann Reischer	**+43 7666 20041-0**

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