Quick S-parameter Exploration

XPEEDIC
ACCELERATE YOUR IC DESIGN

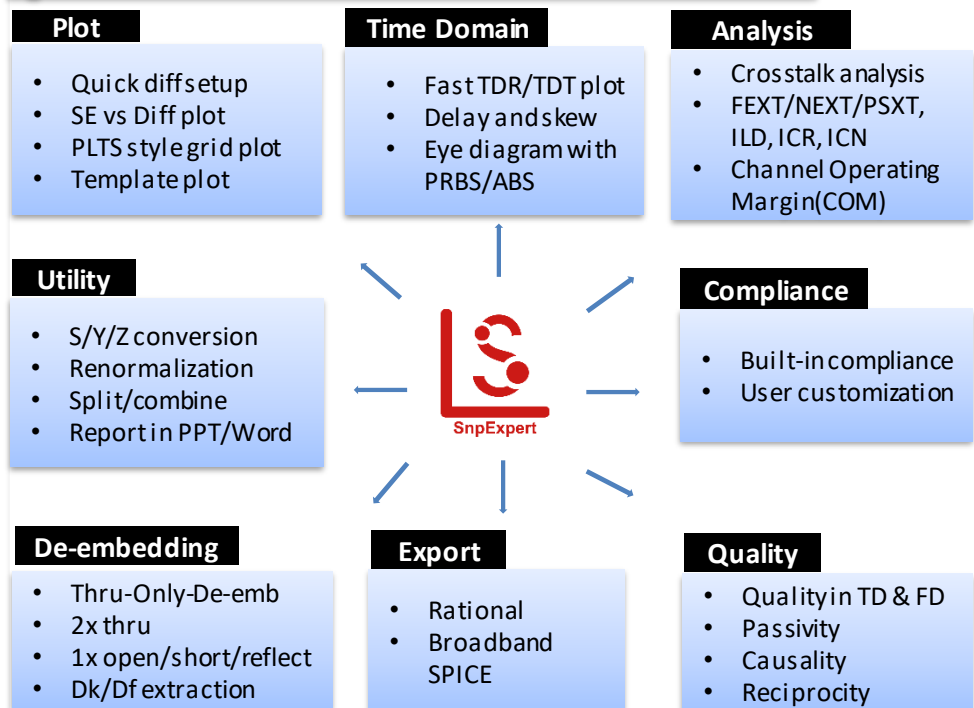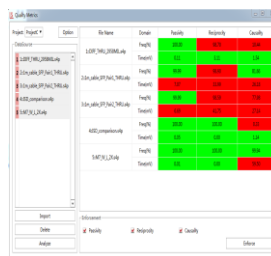**SnpExpert**

Highlights

1 SnpExpert provides a quick way to explore S-parameters for SI engineers to understand the electrical characteristics of interconnects, connectors, packages, and systems.

2 SnpExpert offers comprehensive plotting functions in frequency and time domains.

3 Crosstalk analysis is made easier with quick victim and aggressor setup and built-in PSXT, ILD, ICR and ICN. COM analysis is also supported.

4 Built-in compliance for various high-speed standards allows quick compliance check.

5 Thru-Only De-embedding (TOD) enables accurate test fixture removal with 2x thru and 1x open/short/reflect. It has been verified with IEEE P370.

6 SnpExpert provides an accurate way to perform dielectric constant (Dk) and loss tangent (Df) extraction over a wide range of laminate materials.

7 S-parameter quality such as passivity, causality and reciprocity can be quickly checked and corrected.

What can SnpExpert do?

Plot
- Quick diff setup
- SE vs Diff plot
- PLTS style grid plot
- Template plot

Time Domain
- Fast TDR/TDT plot
- Delay and skew
- Eye diagram with PRBS/ABS

Analysis
- Crosstalk analysis
- FEXT/NEXT/PSXT, ILD, ICR, ICN
- Channel Operating Margin(COM)

Utility
- S/Y/Z conversion
- Renormalization
- Split/combine
- Report in PPT/Word

Compliance
- Built-in compliance
- User customization

De-embedding
- Thru-Only-De-emb
- 2x thru
- 1x open/short/reflect
- Dk/Df extraction

Export
- Rational
- Broadband SPICE

Quality
- Quality in TD & FD
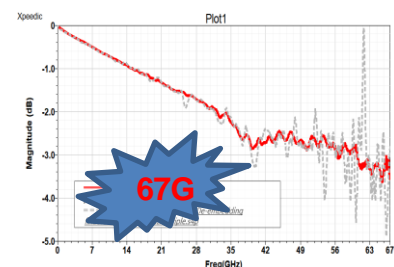- Passivity
- Causality
- Reciprocity

S-Parameter Quality
- S-parameter quality in terms of passivity, causality, reciprocity, and stability can be shown graphically.
- Reciprocity, passivity and causality check both in frequency domain and time domain.
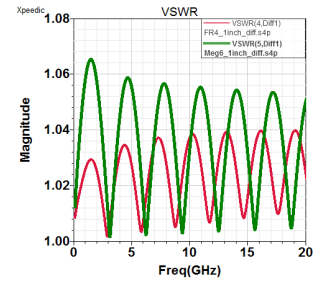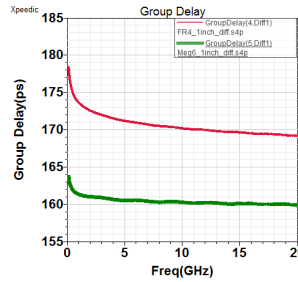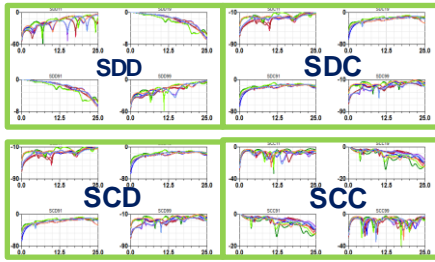- Enforce quality to generate new S-Parameters.

Thru-Only De-embedding(TOD)
- Built-in through-only de-embedding to remove fixture effect for SI applications.
- Support test fixture de-embedding with 2x thru, 1x open/short/reflect.
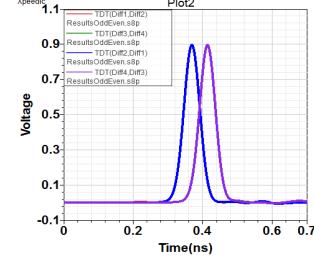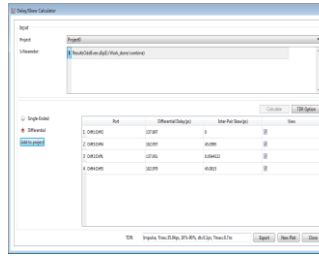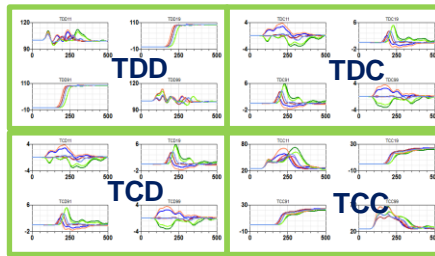- Support multiple ports system de-embedding.

Frequency-Domain Plot

S-, Y-, Z-parameter, Diff S-parameter, Group delay, VSWR, customized function plot
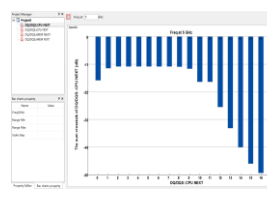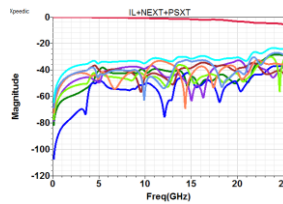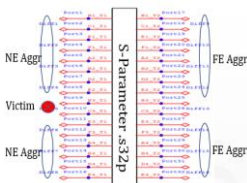

Time-Domain Plot

- TDR and TDT with step and impulse stimuli.
- Built-in delay calculator for both single-ended trace and differential pair, and skew calculator between two traces in each differential pair.
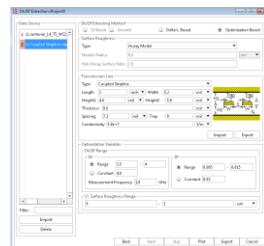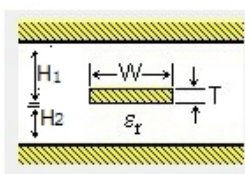

High-Speed Channel Analysis

- Built-in crosstalk plots including FEXT, NEXT, PSXT, ILD, ICN, and ICR.
- Built-in COM calculator and USB-Type C analysis.
- Built-in customized DDR crosstalk calculation.

Dk/Df Extraction

- Dk/Df extraction feature helps PCB designers to get accurate material property from measurement.
- Optimization-based method has good correlation with measurement data.

One-Click Report Generation

Easy to generate report in Word/PPT/HTML.