



SnpExpert 2020.01.h2

Release Notes

1. OVERVIEW

SnpExpert provides a quick way to explore S-parameters for SI engineers to understand the electrical characteristics of interconnects, connectors, packages, and systems. It offers comprehensive plotting functions in frequency and time domains. Crosstalk analysis is made easier with quick victim and aggressor setup and built-in PSXT, ILD, ICR, and ICN. COM analysis is also supported. Built-in compliance for various high-speed standards allows quick compliance checks. 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. It provides an accurate way to perform dielectric constant (Dk) and loss tangent (Df) extraction over a wide range of laminate materials. S-parameter quality such as passivity, causality, and reciprocity can be quickly checked and corrected.

The Release Notes cover the following releases:

SnpExpert 2020.01.h2

Release Date: Feb 9, 2021

The Release Notes present the latest information about SnpExpert Version 2020.01.h2 in the following sections:

- [Supported Operating Systems](#)
- [New Features and Enhancements in SnpExpert 2020.01](#)
- [New Features and Enhancements in SnpExpert 2020.01.h1](#)
- [New Features and Enhancements in SnpExpert 2020.01.h2](#)

2. SUPPORTED OPERATING SYSTEMS

SnpNext 2020.01.h2 is available on both 64-bit Windows and Linux. Obtain the appropriate binary executable files for your operating system. The supported platforms for this release include:

- Windows 7 SP1
- Windows 8.1 KB2999226 or above
- Windows 10

3. NEW FEATURES AND ENHANCEMENTS IN SnpNEXT 2020.01

SnpNext 2020.01 provides new features and enhancements as described in the following sections.

- TOD feature:

Support batch TOD with python script.

Support fixture S-Parameter with multi-port de-embedding.

- Support template plot with single-ended compare.

- Dk/Df Extraction feature:

Add Multipole.

Support abort simulation progress.

Support configuration of number of iterations.

Support setting stop frequency of Dk/Df extraction based Optimization.

- Quality Metrics feature:

Support batch enforcement.

Support configuration of VF convergence conditions.

Optimize Quality Check.

Optimize S-parameter quality enforcement algorithm.

- Improve the calculation accuracy of USB Type C.
- Add USB 4.0 Gen3 protocol analysis related function.
- Support 802.3ck COM calculation.
- Support RLGC template for S-parameters with more than 4 ports.
- Optimize De-skew related function and flow.
- Optimize delay and skew calculator flow. If the S-parameter has been Auto Diff, you don't need to Auto Diff again before calculating delay&skew.
- Adjust some 802.3 protocol's mask name in automotive compliance.
- Support CEI_56G_MR_PAM4 and 802.3 100GBASE-CR4 in automotive compliance.

4. NEW FEATURES AND ENHANCEMENTS IN SnpEXPERT 2020.01.H1

SnpExpert 2020.01.h1 provides new features and enhancements as described in the following sections.

- Template Plot: Curve by Curve function with curve color saved..
- Eye diagram:
 - Support exporting calculated values.
 - Optimize calculation speed.
- Support Python scripts to dealing with batch S-parameter to Y-parameter.
- Supports unified setting of X-axis and Y-axis in Grid Plot.
- Template Plot:
 - Support setting A-axis.
 - Optimize the display of single-ended icons.

- Support Abort function in COM calculation.
- No red dot in TDR plot by default.
- Optimize Dk/Df function:
The map exported by Optimization Based in Dk/Df Extraction, the path supports customization; the path is customized by General Options under File.
Improve accuracy.
- Add NEXT and FEXT buttons right below All RL and ALL IL under grid tab.
- Improve RX/TX grouping function in crosstalk analysis, RX end can be set as victim.
- The calculation of ILD_RMS does not limit Compliance
- Optimize custom compliance expression.
- Update COM Library.

5. NEW FEATURES AND ENHANCEMENTS IN SnpEXPERT 2020.01.H2

SnpExpert 2020.01.h2 provides new features and enhancements as described in the following sections.

- Add multiple new Compliances.
- Allow empty Thru S-parameter in Template Plot with Multi S4P .
- Support windowing setting in TDR to be applied to multiple source files.
- Apply axis setting to all plots in Template Plot .
- Support command line to view the frequency domain and time domain Skew curve .
- Support setting S-parameters one by one in COM.
- Port Reorder: Support dragging to adjust port order.

- Improve the unable frequency range of TOD.
- Improve the accuracy of the DK/DF parameter extraction.
- Interface display optimization:
 - (1) Marker table display;
 - (2) Legend display;
 - (3) Halve S-Parameter matrix interface.
- Add four templates.

6. LEGAL NOTICE

The source code used in SnpExpert comprises both Open Source and proprietary software components.

The Open Source components used in SnpExpert are:

- Qt 5.13.2
This software uses the Qt library, a multiplatform C++ GUI toolkit from Trolltech. See <http://www.trolltechcom/qt/> for more information.
- QtXlsx 0.3
This software uses the Qt library, a multiplatform C++ GUI toolkit from Trolltech. See <http://www.trolltechcom/qt/> for more information.
- GCC 4.8.2
cpp (GCC): Copyright (C) 2003 Free Software Foundation, Inc.
- MPFR 2.4.2
MPFR is free. It is distributed under the GNU Lesser General Public License (GNU Lesser GPL), version 3 or later (2.1 or later for MPFR versions until 2.4.x). The library has been registered in France by the Agence de Protection des Programmes under the number

IDDN FR 001 120020 00 R P 2000 000 10800, on 15 March 2000. This license guarantees your freedom to share and change MPFR, to make sure MPFR is free for all its users.

Unlike the ordinary General Public License, the Lesser GPL enables developers of non-free programs to use MPFR in their programs.

- **MPC 0.8.1**

The library is built upon and follows the same principles as GNU MPFR. It is written by Andreas Enge, Mickaël Gastineau, Philippe Théveny and Paul Zimmermann and is distributed under the GNU Lesser General Public License, either version 3 of the licence, or (at your option) any later version (LGPLv3+). The GNU MPC library has been registered in France by the Agence pour la Protection des Programmes on 2003-02-05 under the number IDDN FR 001 060029 000 R P 2003 000 10000.

- **GMP 4.3.2**

The GMP Announcements mailing list is a read-only list for announcements regarding the GNU Multiple Precision Library (GMP).

- **Boost 1.72**

Boost C++ Libraries <http://www.boost.org> is licensed under the `Boost Software License V1` <http://www.boost.org/users/license.html>

- **CGAL 4.9**

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- **FFTW 3.3.4**

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- **Python 3.7.6**

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- **Inno Setup 6.0.4**

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