

# USB3.0 Cable Assembly Standard Test Fixture Solution

Version 1.2

## Introduction:

Litek Technologies USB3.0 cable test solution provides you with a fast and easy way to verify your USB3.0 cable to meet Compliance Test Specification. This solution integrates both precision test fixture and TpNA software tested with Network Analyzer (NA) and Time Domain Reflectometry (TDR) and let engineers see the interaction between time and frequency domain.

The TpNA USB3.0 Engine can be easily used to control NA and TDR, following Compliance Test specification to test Insertion Loss, Near End Noise, Far End Noise, Impedance and Skew automatically. It also outputs an Excel report file immediately that enables engineers to get a complete, fast and accurate test result and thus allowing quickly troubleshooting and design improvements.



## Test Parameters:

1. Insertion Loss: NA 100MHz~7.5GHz
2. Near End Noise (NEN): NA 100MHz~7.5GHz
3. Far End Noise (FEN): NA 100MHz~7.5GHz
4. SCD21 (Diff to Common): NA 100MHz~7.5GHz
5. Cable Impedance: TDR Tr=200ps (10%~90%)
6. Connector Impedance: TDR Tr=50ps (20%~80%)
7. Delay: TDR Tr=200ps
8. Intra-pair skew: TDR Tr=50ps, 15ps/m



## Features:

1. Good Impedance match:  $100\Omega \pm 5\Omega$ .
2. Short Trace Length: meet USB3.0 spec.
3. Fast Rise Time: Less than 50 ps.
4. Low Intra pair skew:  $\pm 2$ ps.
5. Low Loss design: Less than 3 dB @5GHz.
6. Support both Type A and Type B.
7. Integrate TpNA Test Software and Fixture.

## Standard USB3.0 cable test set:

ID	Description	Quantity	Remark
1	USB3.0 Type A test fixture	2	USB3-AR03AM
2	USB3.0 Type B test fixture	1	USB3-BR03AM
3	USB3.0 Micro B test fixture	1	USB3-MR03AM
4	2X TRL Calibration Kit	1	USB3-CK03BM
5	RG-223 SMA coaxial cable	8	Coax-30CM
6	SMA quick adaptor	10	SMA(F-QM)
7	TpNA for USB3.0	1	TpNA-USB3

## Recommended Instrument:

Network Analyzer: Agilent PNA series (N5230A)

Agilent ENA series (E5071C)

Time Domain Reflectometry: Tek DSA8200

Agilent 86100C

## References:

USB <http://www.usb.org/>

Tektronix <http://www.tek.com>

Agilent <http://www.agilent.com/>

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## LiTek Other Products:

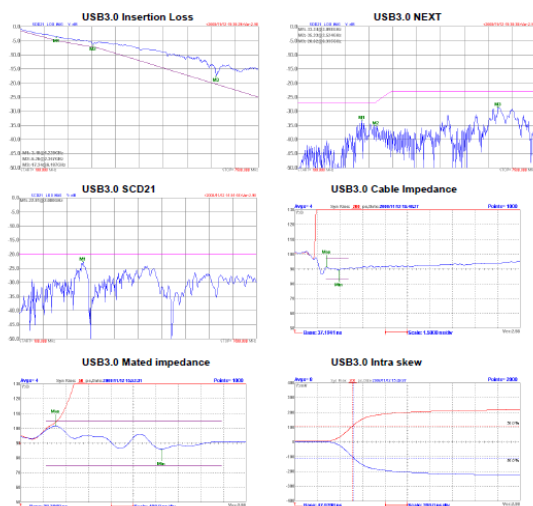
HDMI 1.4、Displayport、SATA、SAS、MiniSAS、InfiniBand、CX4、PCI-Express、DVI....

## USB3.0 Option products:

- USB3-AP01A: USB3.0 Type A plug test fixture.
- USB3-BP01A: USB3.0 Type B Plug test fixture.
- USB3-MP01AM: USB3.0 Type Micro A/B plug test fixture.
- TpNA for USB3.0 Software.



## USB3.0 Option products:



## Contact LiTek:

Taiwan: 4F-3, No. 18, Huannan Rd., Pingzhen City, Taoyuan County 32448, Taiwan Tel: +886-3-4951851 Fax: +886-3-4951841

李文福 經理 Leo Lee [leo@litektw.com](mailto:leo@litektw.com) Cell Phone: +886-922330325

China: 901R Shencai Building Fuyong Boulevard Fuyong Town Baoan District Shenzhen Guangdong

洪瑋駿 經理 Thomas Hung [thomas@litektw.com](mailto:thomas@litektw.com) Cell Phone: +86-13823201991