

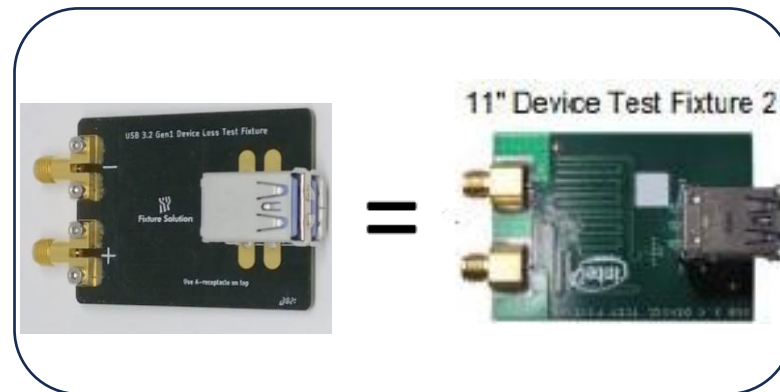
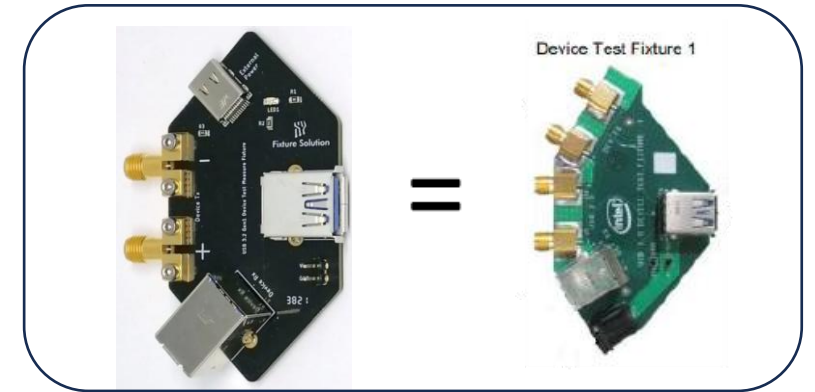
USB3.2 Gen1 Tx & Rx A-B Test Topologies

V10

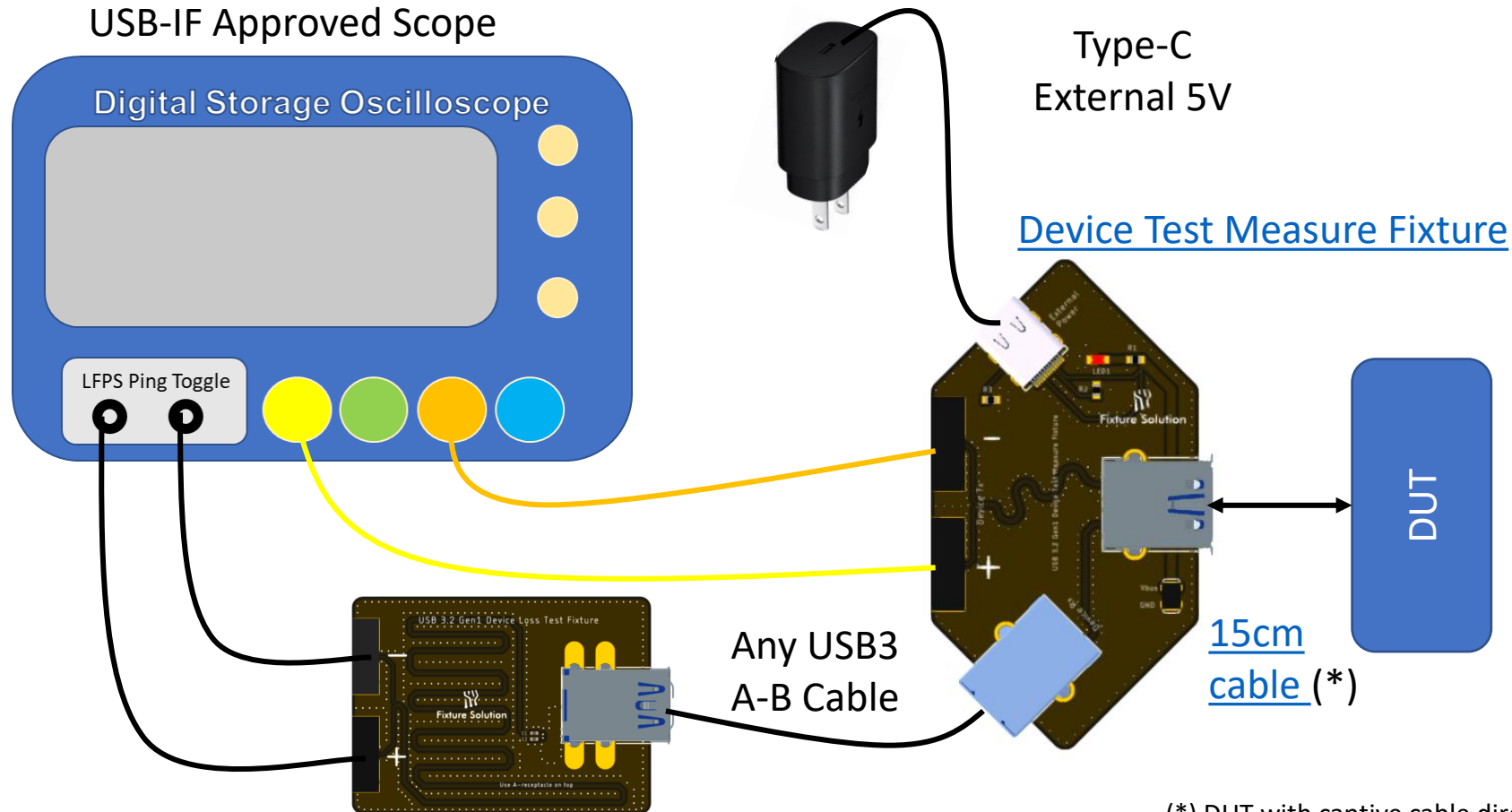


USB3.2 Gen1 Device Upstream Tx

- 1) Setup Topology based on [USB 3.0 Electrical Test Fixture Topology | USB-IF](#)
- 2) Covers TX LFPS, Data EYE, CLK Switch, JTF and Jitter (short and long channel), SSC from [USB 3.2 Electrical Compliance Test Specification](#)
- 3) Use [USB3.2 Gen1 Device Measurement Fixture](#)
- 4) Use short cable between Device Measurement fixture and DUT
 - 1) [15cm Standard-B](#)
 - 2) [15cm Micro-B](#)
- 5) For PING LFPS Toggle use [USB3.2 Gen1 Device Loss Fixture \(11" PCB trace\)](#)



USB3.2 Gen1 Device Upstream Tx Topology

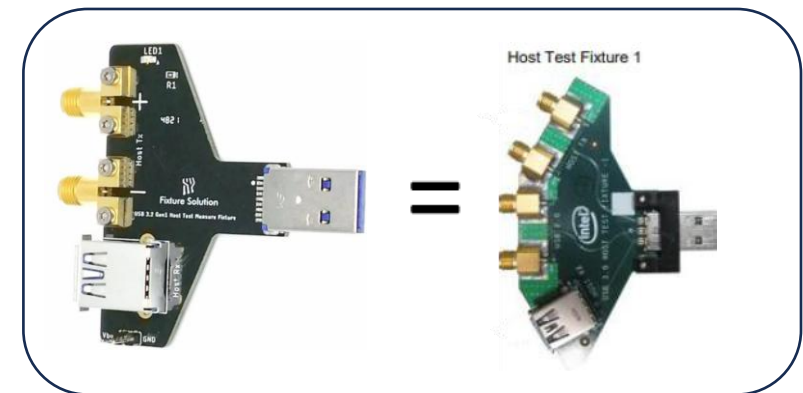
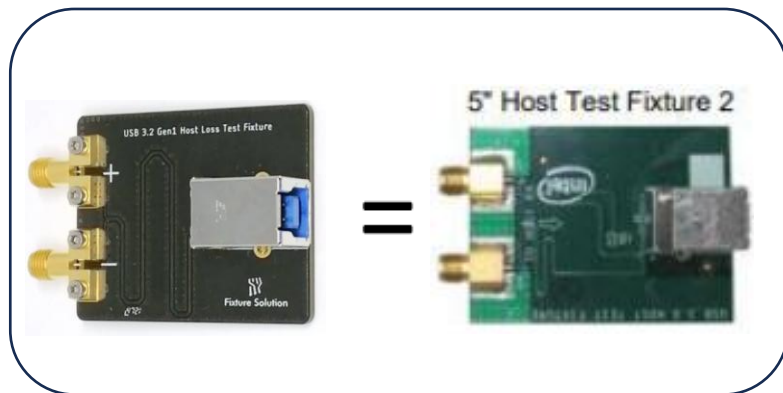


USB3.2 Gen1 Device Loss Fixture (11" PCB trace)

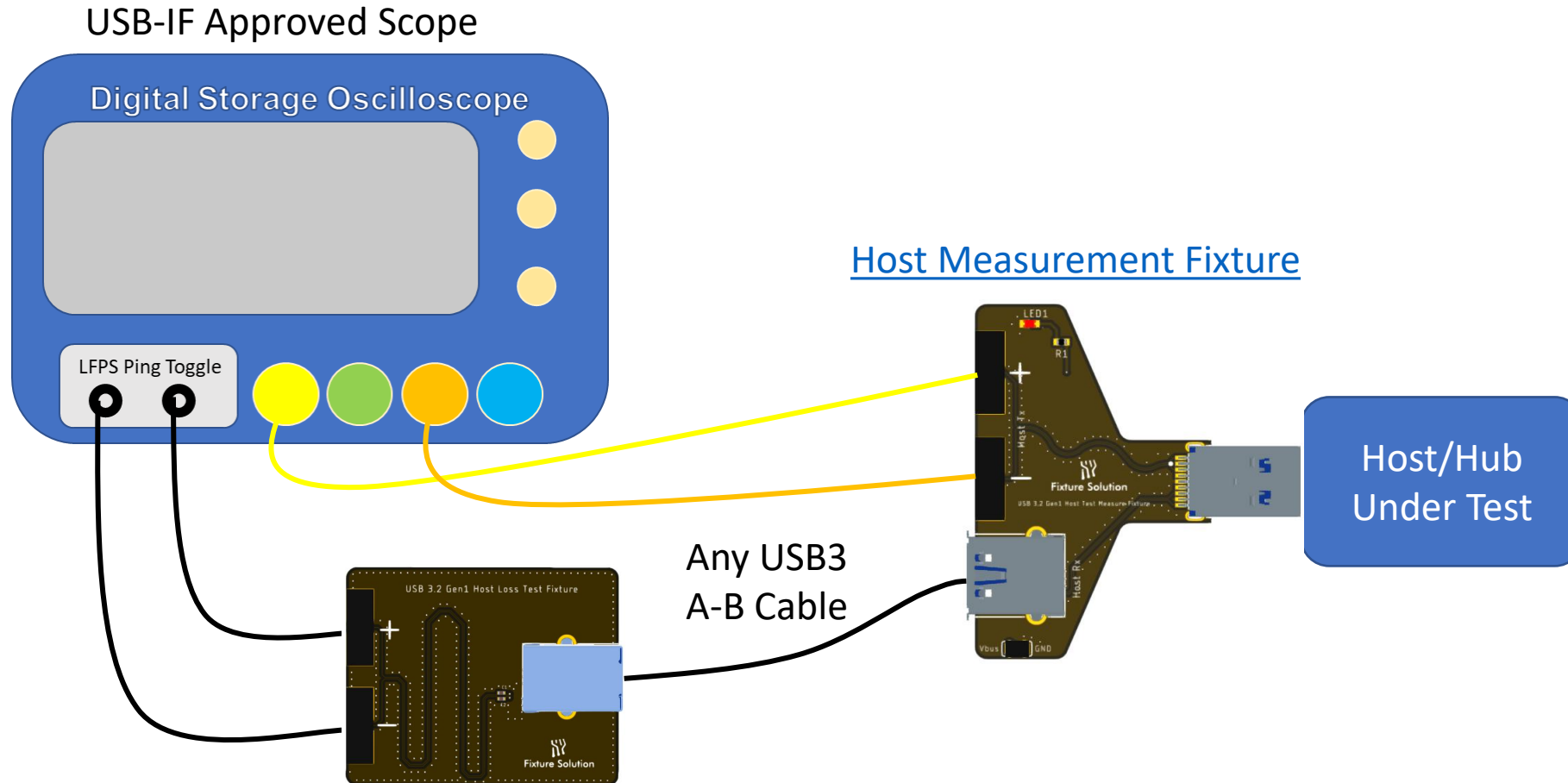
(*) DUT with captive cable directly connect to device measure fixture

USB3.2 Gen1 Host/Hub Downstream Tx

- 1) Setup Topology based on [USB 3.0 Electrical Test Fixture Topology | USB-IF](#)
- 2) Covers TD.1.1, TD.1.3 (short and long channel), TD.1.6 from [USB 3.2 Electrical Compliance Test Specification](#)
- 3) Use [USB3.2 Gen1 Host Measurement Fixture](#)
- 4) For PING LFPS Toggle use [USB3.2 Gen1 Host Loss Fixture \(5" PCB trace\)](#)



USB3.2 Gen1 Host/Hub Downstream Tx Topology

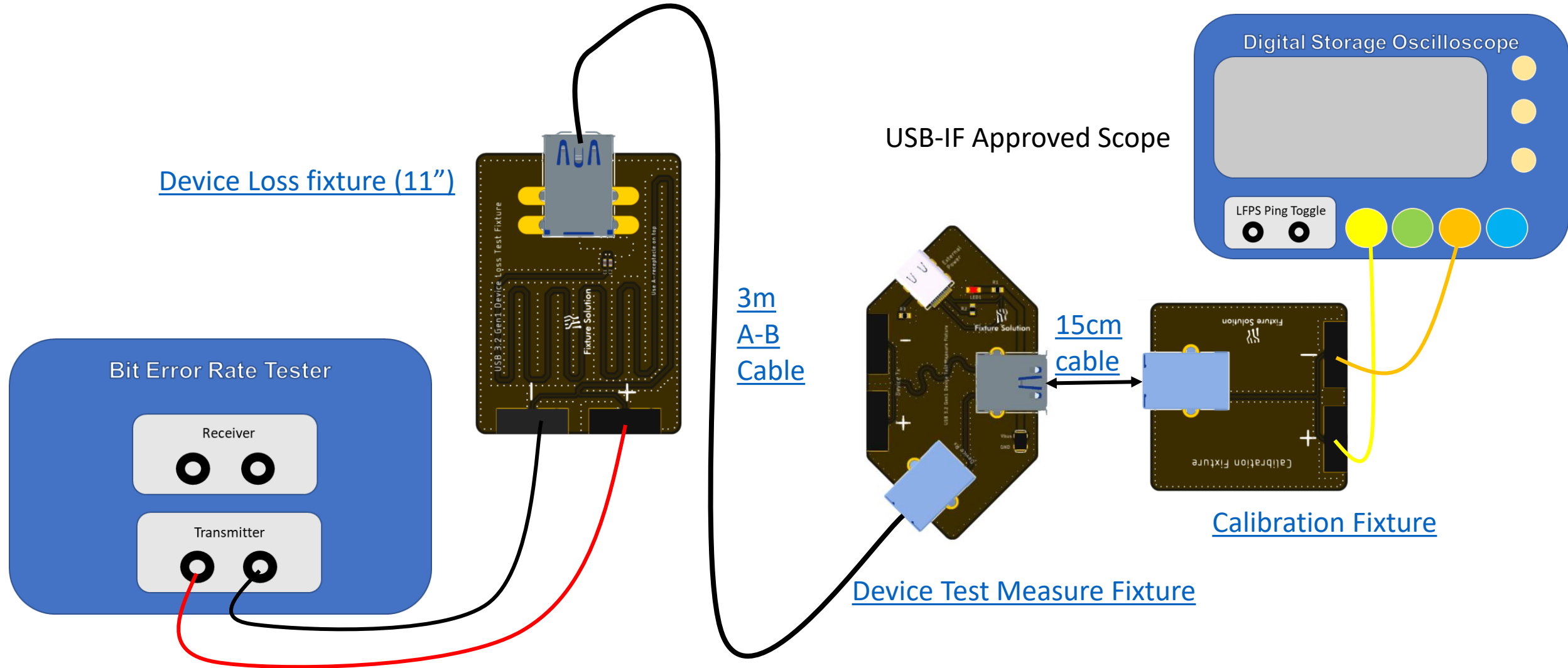


USB3.2 Gen1 Host Loss Fixture (5" PCB trace)

USB3.2 Gen1 Device Upstream Rx Test

- 1) Setup Topology based on [USB 3.0 Electrical Test Fixture Topology | USB-IF](#)
- 2) Covers Gen1 Rx testing [USB 3.2 Electrical Compliance Test Specification](#)
- 3) Use [USB3.2 Gen1 Device Measurement Fixture](#) (long channel)
- 4) Use [USB3.2 Device Short Channel](#) (short channel)
- 5) Use short cable between Device Measurement fixture and DUT
 - 1) [15cm Standard-B](#)
 - 2) [15cm Micro-B](#)
- 6) Use [USB3.2 Gen1 Device Loss Fixture \(11" PCB trace\)](#)
- 7) Use [USB3.2 Gen1 Calibration Fixture](#)
- 8) If DUT have Standard-B receptacle use [300cm USB 3.1 Gen1 Standard B-Plug – A-plug](#)
- 9) If DUT have Micro-B receptacle use [100cm USB 3.1 Gen1 Standard B-Plug – A-plug](#)
- 10) If DUT have captive cable use [15cm USB 3.1 Standard B-Plug – A-plug](#)

USB3.2 Gen1 Device Rx Calibration



USB-IF Approved
Generator & BERT

USB3.2 Gen1 Device Rx Long Channel Jitter Tolerance test

USB-IF Approved
Generator & BERT

Bit Error Rate Tester

Receiver

Transmitter

Device Test Measure Fixture

Device Loss fixture (11")

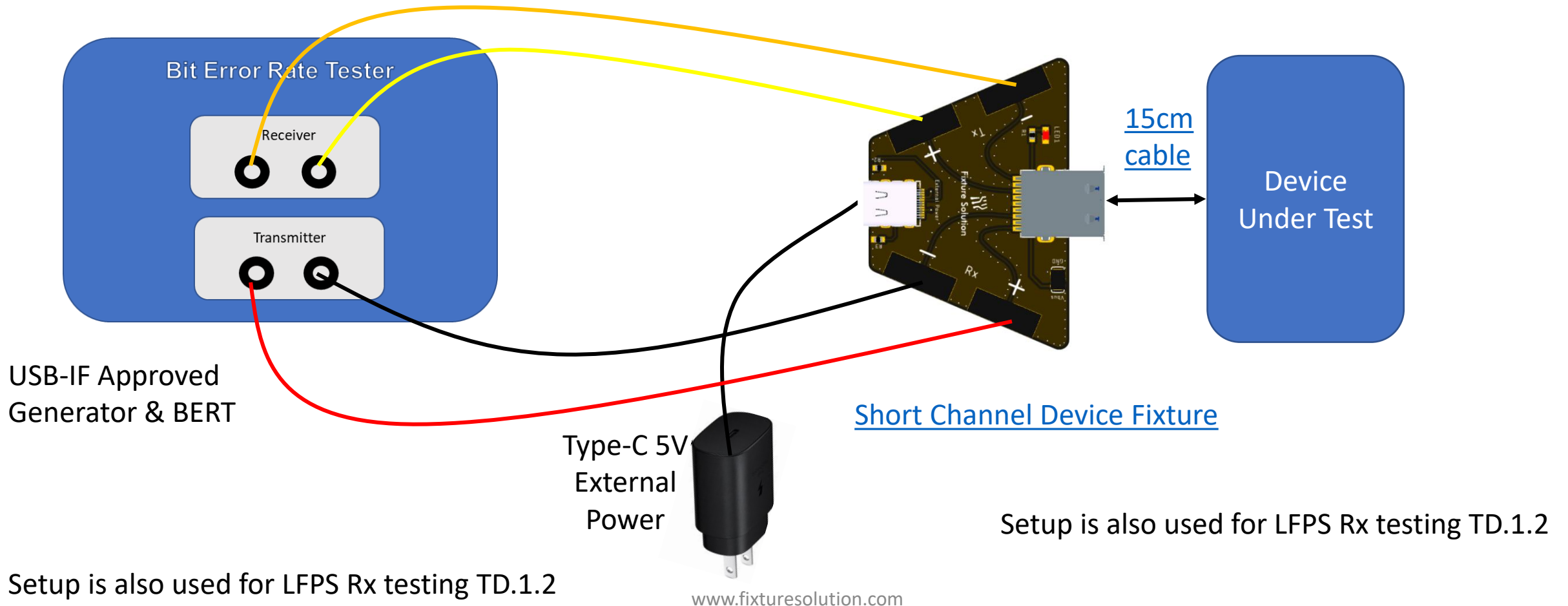
15cm
cable

Device
Under Test

Type-C 5V
External
Power

- 3m A-B Cable -> DUT with Std B-Receptacle
- 1m A-B Cable -> DUT with micro B-Receptacle
- 15cm A-B Cable -> DUT have captive cable

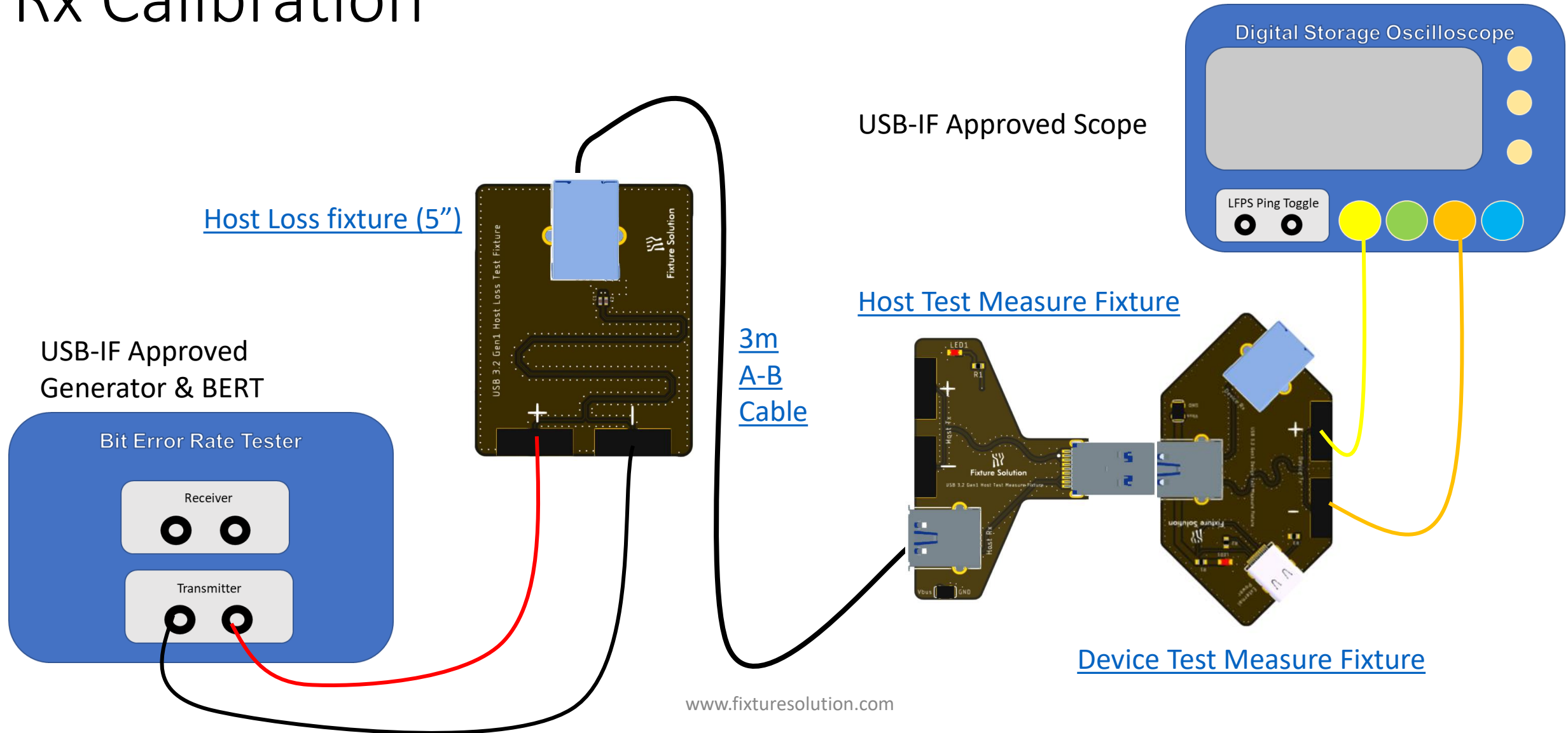
USB3.2 Gen1 Device Rx Short Channel Jitter Tolerance test



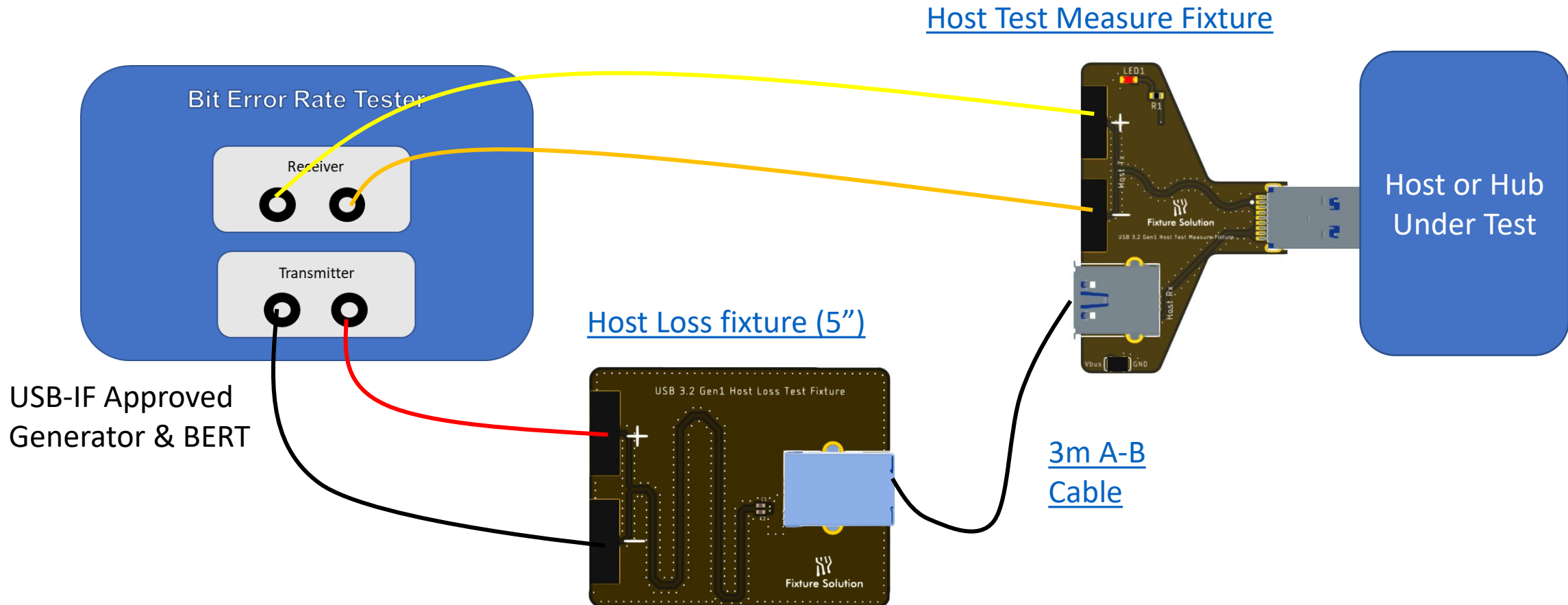
USB3.2 Gen1 Host/Hub Downstream Rx Test

- 1) Setup Topology based on [USB 3.0 Electrical Test Fixture Topology | USB-IF](#)
- 2) Covers Gen1 Rx testing [USB 3.2 Electrical Compliance Test Specification](#)
- 3) Use [USB3.2 Gen1 Host Measurement Fixture](#) (long channel)
- 4) Use [USB3.2 Host Short Channel Fixture](#) (short channel)
- 5) Use [USB3.2 Gen1 Host Loss Fixture \(5" PCB trace\)](#)
- 6) Use [USB3.2 Gen1 Device Measurement Fixture](#)
- 7) If DUT have Standard-B receptacle use [300cm USB 3.1 Gen1 Standard B-Plug – A-plug](#)

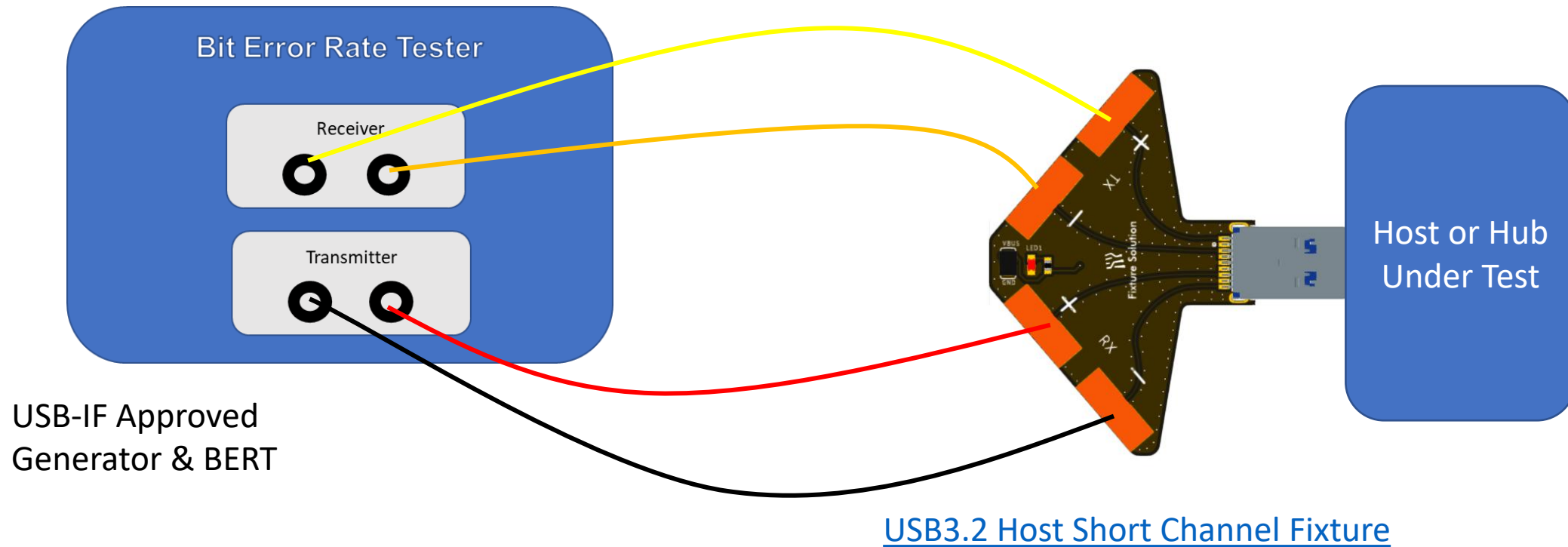
USB3.2 Gen1 Host/Hub Downstream Rx Calibration



USB3.2 Gen1 Host/Hub Downstream Rx Long Channel Jitter Tolerance test



USB3.2 Gen1 Host Rx Short Channel Jitter Tolerance test



Setup is also used for LFPS Rx testing TD.1.2