LUXSHARE ICT
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USB Type-C LRD Active Cable Test Fixture

User Manual

LUXSHARE ICT

CONTENTS

Product Name	Version	Date	Comments
USB Type-C LRD Active Cable Test Fixture Series	01	Jun.2,2021	Update

1. Introduction

This document introduces the product and electrical specifications of the USB Type-C LRD Active Cable Test Fixture.

2. Objectives

This specification provides the characteristics of USB Type-C LRD Active Cable Test Fixture and it is used to test USB Type-C LRD Active Cable. The Test Fixture is also compatible with USB 3.2 Passive cable test.

3. Product Description

3-1. USB Type-C LRD Active Cable Test Fixture

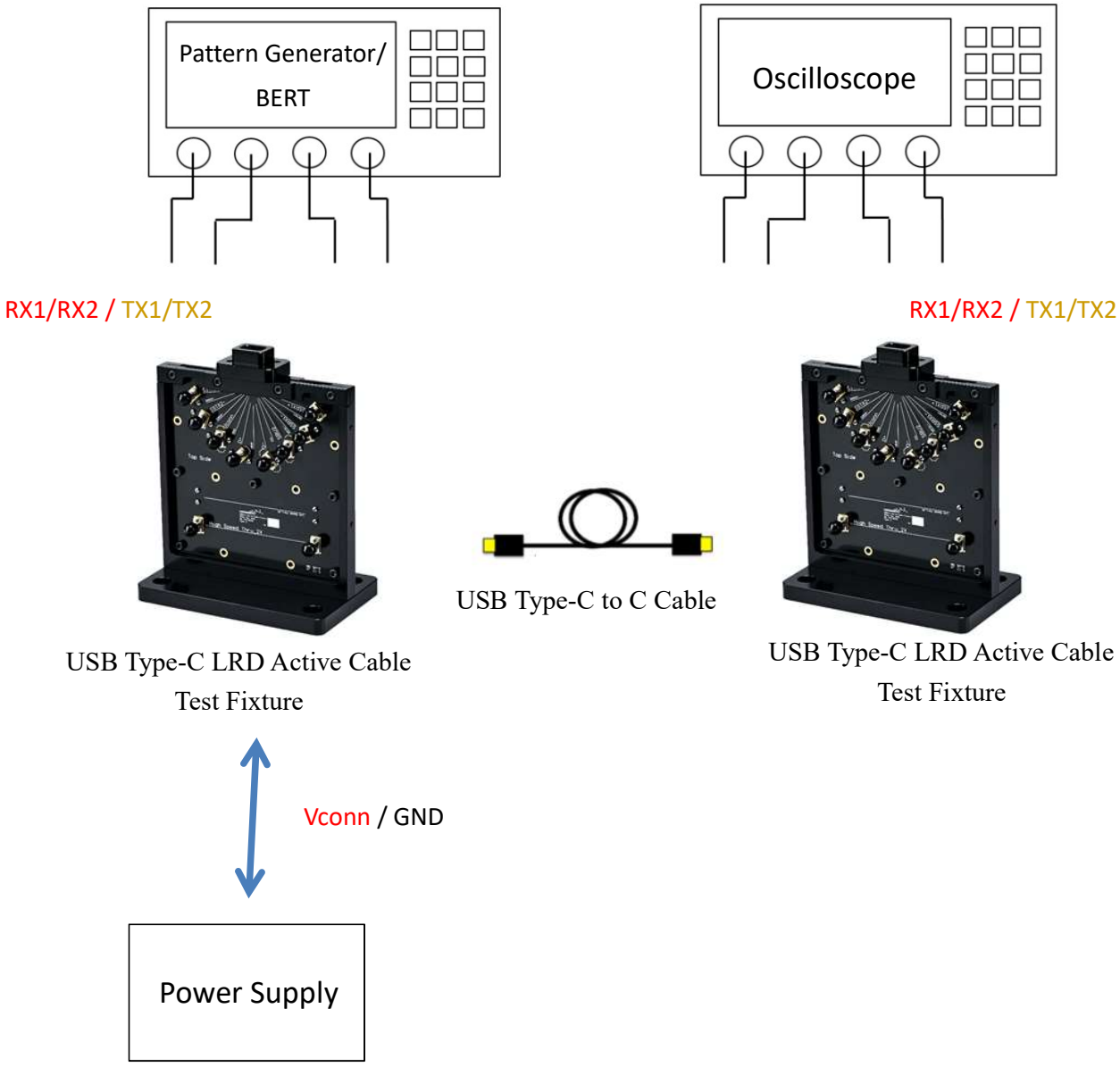
USB Type-C LRD Active Cable Test Fixture is used for USB Type-C cable compliance test.

Figure 3-1.
TFU-49R28
USB Type-C LRD Active Cable Test Fixture

4. User Models

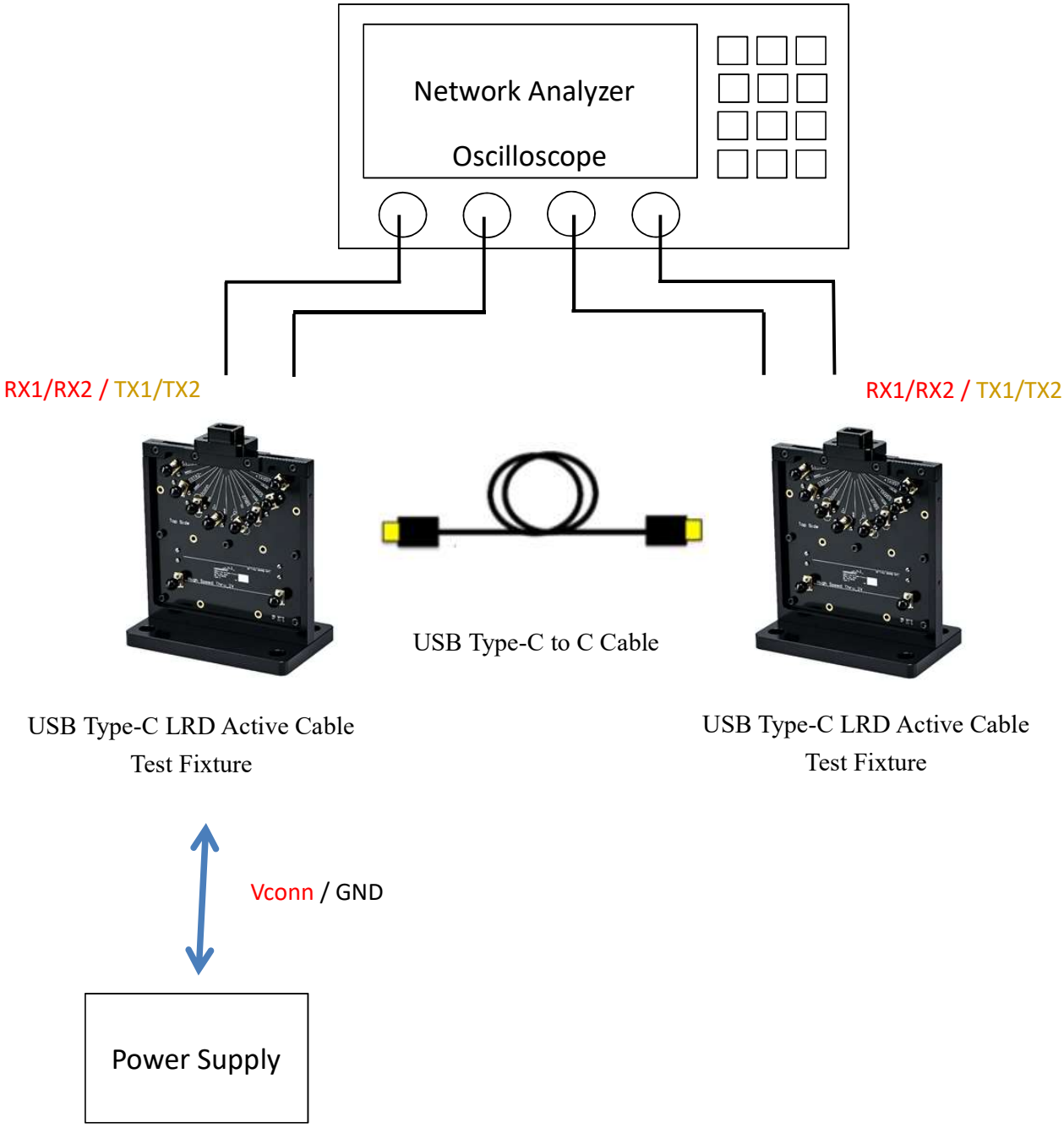
Test setup includes but not limited to the following examples:

4-1. Active Cable Eye Diagram Calibration and Test Setup



Note: Other ISI board may be required in calibration setup according to different CTS.

4-2. Active Cable Test Setup



5. USB Type-C LRD Active Cable Test Fixture Electrical Specification

Test Item	Requirements		Description	Test Equipment	Result
Single End Impedance (SMA Side)	50± 3.5 Ohm		Rise Time：40ps (20%~80%)	Keysight (E5071C-TDR) 300KHz~20GHz ENA Network Analyzer Keysight (N4433A) 200KHz~20GHz Electronic Calibration Module	50± 3.5 Ohm
Single End Impedance (PCB Side)	50± 3.5 Ohm		Rise Time：40ps (20%~80%)		50± 3.5 Ohm
Insertion Loss (Bandwidth)	High Speed	-7dB > 20GHz	Frequency Range = 10M~20GHz Number of point =2000 IFBW = 1KHz		-5.4db
	Low Speed	-7dB > 20GHz			-5.8db

6. USB Type-C LRD Active Cable Test Fixture Durability Test

Test Item	Requirements	Description	Testing Equipment	Result
Durability Test	Cycles:10000	maximum rate of 200 cycles/hours	SE Testsystems (1220S) Auto Inserting Pulling Force (Tension, Compression) Tester	No Damage

7. Reference USB Type-C Specification

1. USB Type-C Specification Release 2.0
2. Universal Serial Bus 4 (USB4) Active retiming cable electrical spec Rev. 0.7
3. Redriver based cable electrical specification Version 0.5