

Technical Specification

of

iBERT X1 mini

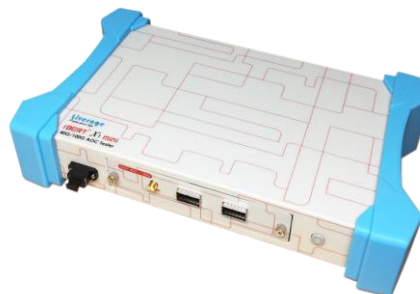
(0.1G ~ 100 Gbps BER Tester)

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1. General Description

iBERT X1 mini – 0.1G ~ 100 Gbps BER Tester is a Bit Error Rate Tester (BERT) with modularized interface which includes QSFP and SFP type cage. There are 8 transmitters and 8 receivers QSFP or 2 transmitters and 2 receivers SFP to accomplish full duplex 40G / 100Gbps or 10G / 25Gbps or 0.1G ~ 4Gbps bidirectional data link. Each transmitter and receiver provides 0.1G~4G / 10G / 25G / 28Gbps data link. It complies with 0.1G~4G / 10G / 25G / 40G / 100G Ethernet standards for QSFP and SFP. The QSFP and SFP port follows QSFP MSA and SFP MSA. User interface can individually monitor bit error rate, error count and testing type setting (timer or free run) via USB cable to connect with PC. The serial ID and Digital Diagnostics Monitor for transceiver module also be monitored in the user interface.



1.1 Features

- Hot pluggable
- Standard USB for connecting with PC. OS needs Windows XP or above and Microsoft .NET Framework 4.
- 40/100 Gbps QSFP, 0.1G~4G / 10G /25Gbps SFP interface module
- Friendly Graphic User Interface (GUI)
- 4Ch Power Meter

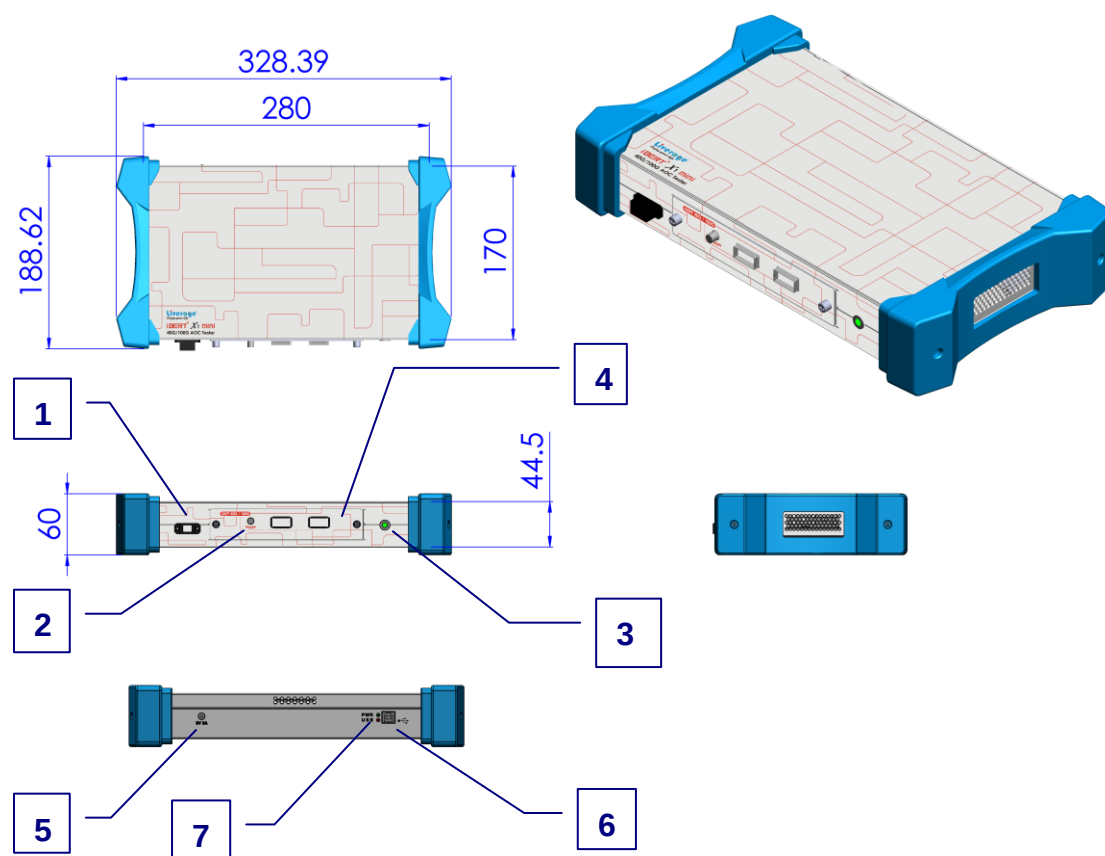
1.2 Application

- 40 / 100 Gbps QSFP AOC Qualification
- 10 / 25 Gbps SFP AOC Qualification
- 40 / 100 Gbps QSFP Qualification
- 10 / 25 Gbps SFP Qualification
- 0.1~4 Gbps SFP Qualification

2. Specification

Main Frame	
Slots	1 universal slot for installing modules
Operating Temp.	0°C ~ 50°C
Storage Temp.	-10°C ~ 70°C
Data rate	155.52Mbps 、 622.08Mbps 、 1.0625Gbps 、 1.25Gbps 、 2.2125Gbps 、 2.48832Gbps 、 4.25Gbps 、 10.3125Gbps 25.78125Gbps 、 28.05Gbps
Pattern	PRBS7 、 PRBS9 、 PRBS15 PRBS23 、 PRBS31
Power Supply	5V / 5A DC
Weight	1.3 Kg
Dimension(W x D x H)	280 x 170 x 60mm
Slot Board	
QSFP module (for 40G / 100G)	2 Standard QSFP
SFP28 module (for 10G / 25G)	2 Standard SFP28
SFP module (for 0.1G / 4G)	2 Standard SFP
SMA type (for 0.1G / 4G)	4 SMA + 1 SFP
Power Meter Port	
Input Adaptor	MPO Male / APC
SM Receiving Power Range	+5 ~ -60 dBm
MM Receiving Power Range	+5 ~ -40 dBm
Wavelength Mode	SR4 、 LR4 、 CWDM4 、 PSM4

3. Elements & Operating Instructions



1. Power Meter : 4Ch Power Meter(This adapter for MPO Female/APC) °

2. Clock Output : Clock output for Eye Diagram Scope's trigger.

3. Power Button: Power on/off.

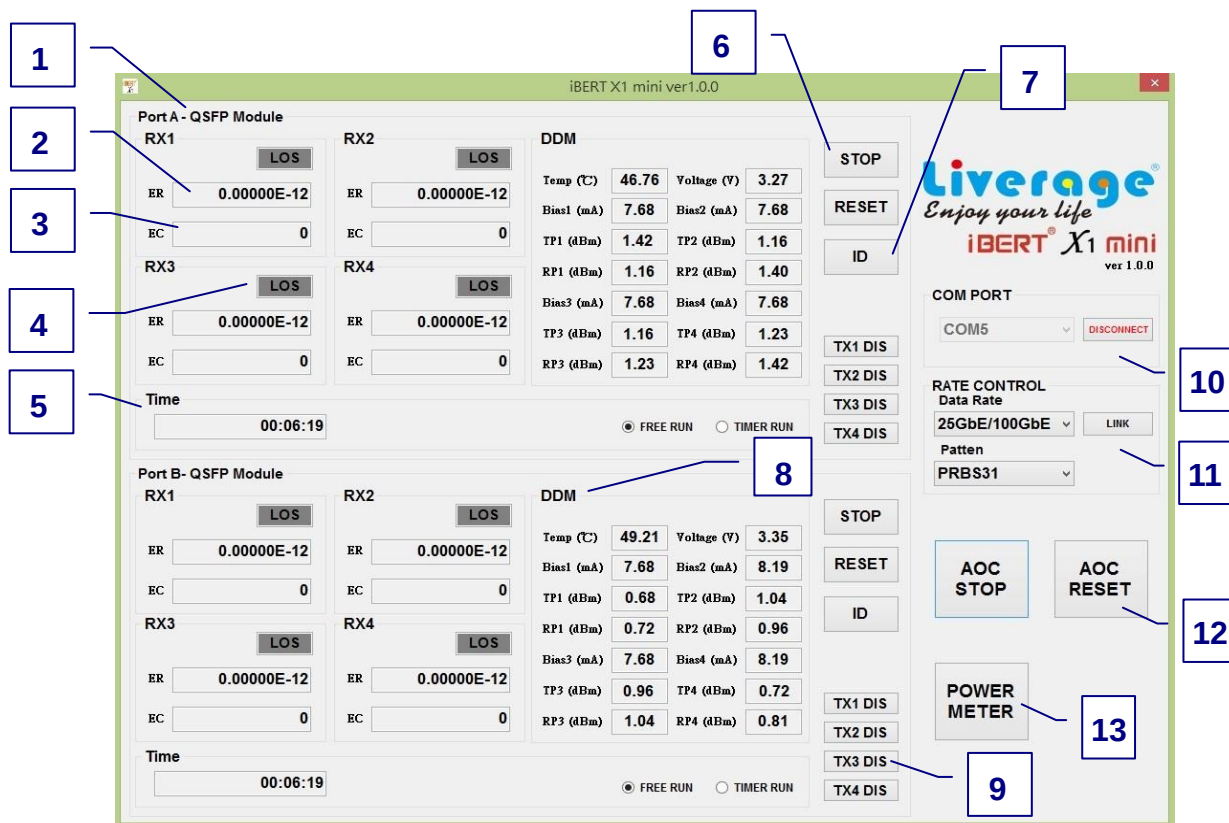
4. Slot: Slot for installing QSFP / SFP interface module.

5. Power Input: DC power input 5V / 5A.

6. USB (B Type) : USB port. Connect to host via a standard USB cable.

7. LED Status: Power on status and USB connector status.

4. Graphical User Interface (GUI)



1. Port A or Port B: Showing the plug in Module type(QSFP Module or SFP Module).

2. Error Rate : Showing the error rate of the channel.

3. Error Count: Showing the error count of the channel.

4. LOS: Showing RX LOS status. (Red : No power receiving, Grey : Power receiving)

5. Time: Free Run or Timer Run setting.

6. START/STOP and RESET

7. ID: Showing the Serial ID from transceivers.

Complies with : SFF-8472 for SFP, SFF-8436 for QSFP.

8. DDM: Showing the Digital Diagnostics data from transceivers.

Complies with : SFF-8472 for SFP, SFF-8436 for QSFP.

9. TX Disable: Turn on or off the TX Power.

10. COM PORT: COM port number of the Tester. The number is defined in host hardware manager. This COM port number MUST be selected correctly.

11. RATE CONTROL: Transmitter/Receiver data rate standards selection.

12. AOC START/ AOC STOP and AOC RESET

13. POWER METER: Four channel instant Power Meter testing.

5. Maintenance

Like any other type of electronic equipment, this iBERT should be kept away from water, high humidity, dust, electricity, and environments of extreme temperatures. Do not drop this tool on any hard surface. Internal modification of any of the iBERT components can cause a malfunction and will invalidate the manufacturer's warranty.

6. Warranty

The manufacturer warrants this product to be free of defects in workmanship and materials for a period of 1 year after purchase. This warranty is solely limited to the repair or replacement of the original parts. All other costs are the sole responsibility of the owner. This warranty does not cover any defects, damage, or deterioration due to misuse, alteration, or negligence.

7. Ordering Information:

Part Number	Description
iBERT X1 mini main S20131408888	0.1G ~100Gbps BER Tester
iBERT X1 mini main S20131408880	0.1G ~100Gbps BER Tester Without power meter
S20131438888	2-QSFP28 slot board
S20131228888	2-SFP28 slot board
S20131118888	2-SFP slot board
S20131148888	4 SMA + 1-SFP slot board
S200431001	1270/1290/1310/1330 CWDM4 ADAPTOR
S200431002	1295/1300/1305/1310 LR4 ADAPTOR

8. Service Contacts

Please contact us:

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9. Record of Revisions

Record of Revisions		
Rev.	Date	Description of Change
VER R1A	2019.04.25	New
VER R2A	2019.07.02	Modify the GUI
VER R2B	2019.12.31	Modify the Order Information
VER R3A	2020.01.05	Add Data rate
VER R4A	2020.01.22	Add Data rate
VER R4B	2020.03.12	Modify the Order Information
VER R4C	2021.03.15	Add the 4 SMA + 1-SFP slot board
VER R4D	2021.12.08	Add P/N : S20131408880