

Best.nr: 20101318 (huvudenhet)

## **Technical Specification**

**of**

**iBERT X1 mini**

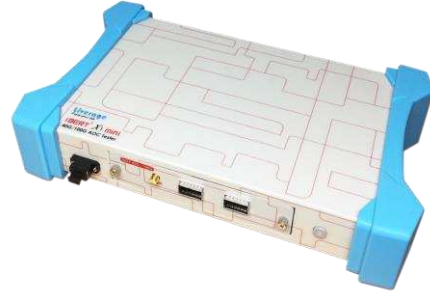
**( 0.1G ~ 100G bps BER Test)**

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## 1. General Description

iBERT X1 mini – 0.1G~100G bps BER Test 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 / 100G bps 、 10G / 25G bps 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.
- 40G /100G bps QSFP, 0.1G~4G/ 10G /25G bps SFP interface module
- Friendly Graphic User Interface ( GUI )
- 4Ch Power Meter

### 1.2 Application

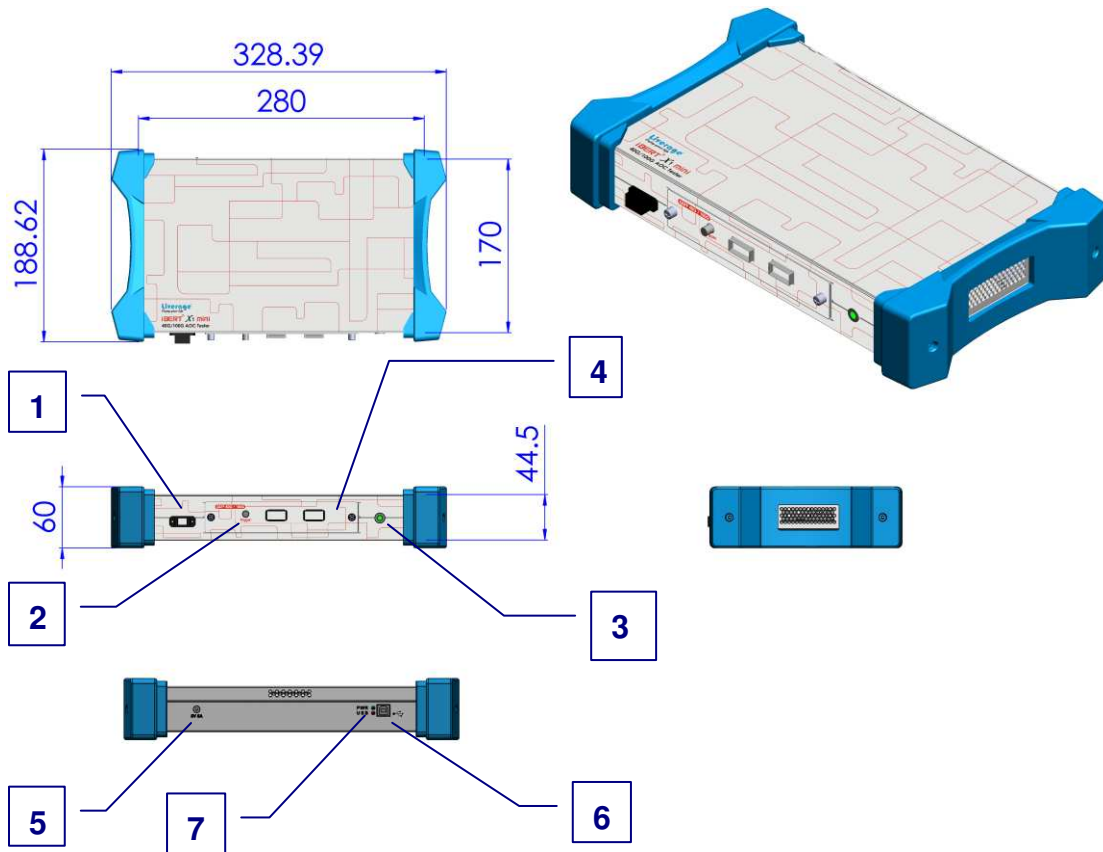
- 40 / 100 Gbps QSFP AOC Qualification
- 10 / 25 Gbps SFP AOC Qualification
- 40 / 100 Gbps QSFP Qualification
- 10 / 25 Gbps SFP Qualification
- 0.1~4Gbps SFP Qualification



## 2. Specification

| Main Frame                   |   |
|------------------------------|---|
| Slots                        | 1 universal slot<br>for installing modules  |
| Operating Temp.              | 0°C ~ 50°C  |
| Storage Temp.                | -10°C ~ 70°C  |
| Data rate                    | 155.52Mbps、622.08Mbps、<br>1.0625Gbps、1.25Gbps、2.2125Gbps、<br>2.48832Gbps、4.25Gbps、10.3125Gbps<br>25.78125Gbps、28.05Gbps |
| Pattern                      | PRBS7、PRBS9、PRBS15<br>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                  | 2 Standard QSFP   |
| SFP28 module (for 10G / 25G) | 2 Standard SFP28  |
| SFP module (for 0.1G / 4G)   | 2 Standard 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.

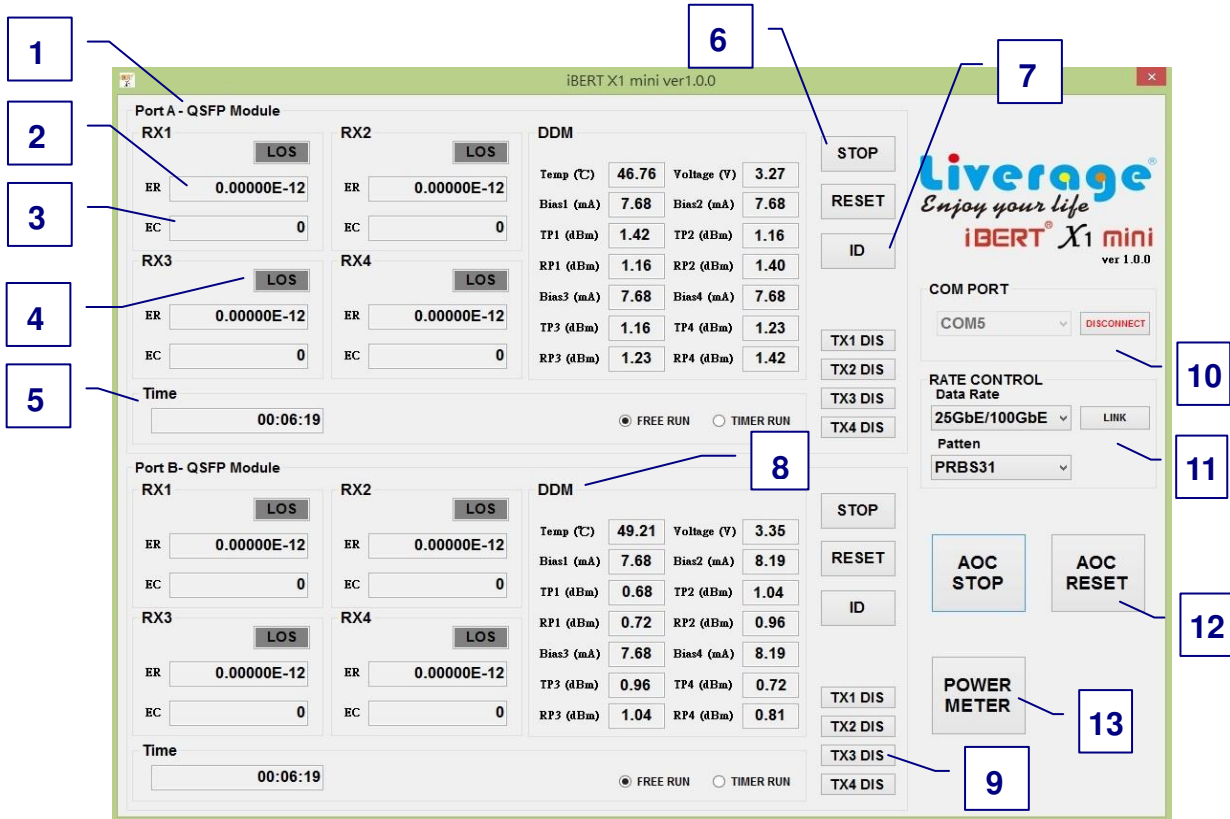
**4. Slot:** Slot for installing QSFP / SFP interface module.

**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                  |
|-------------|------------------------------|
| 20101318    | 10/25/40/100 Gbps AOC Tester |
| 20101319    | 2-QSFP slot board            |
| 20101320    | 2-SFP28 slot board           |
| 20101321    | 2-SFP slot board             |

## 8. Service Contacts

Please contact us:

**Liverage Technology Inc.**  
3F-5, No. 30 Taiyuan Street,  
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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 R3A             | 2019.12.10 | Add Data rate         |
| VER R4A             | 2020.01.22 | Add Data rate         |