BF7264B SGMII Solution

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Feature:

The BF7264B is an SGMII analyzer and offers other protocol analyzer options like eMMC5, NAND flash, SD3, SD4 or MIPI D-PHY(DSI, CSI) as its predecessor.

Specifications:

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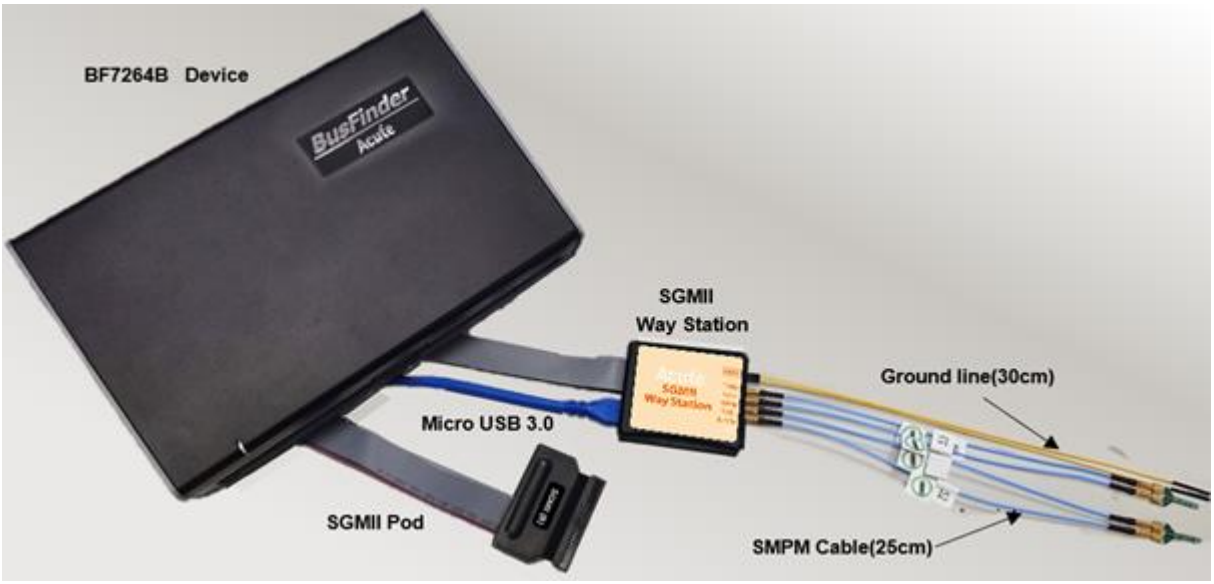
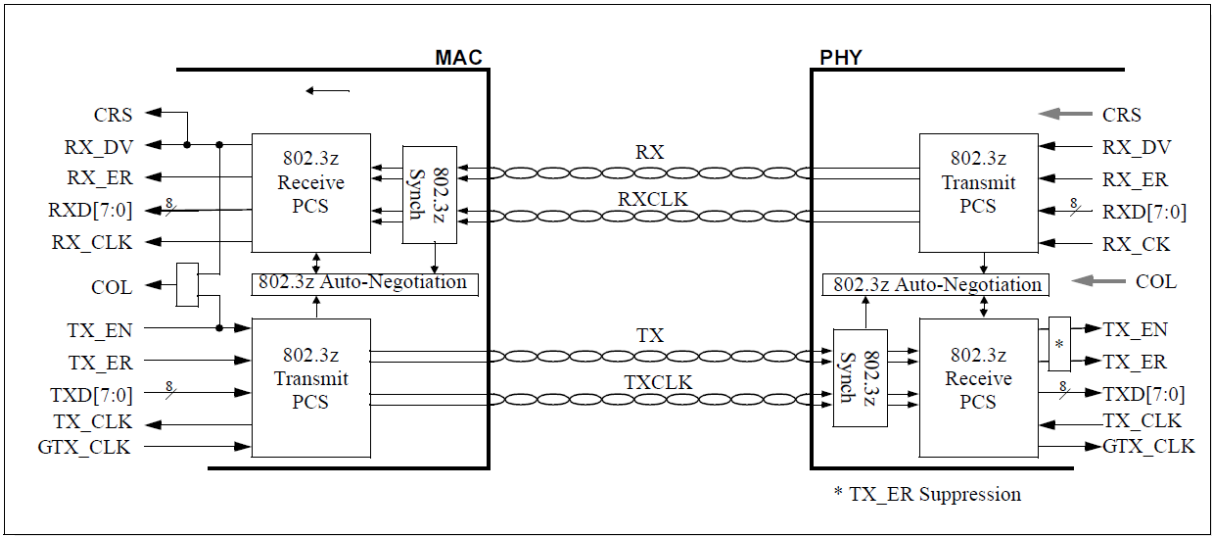
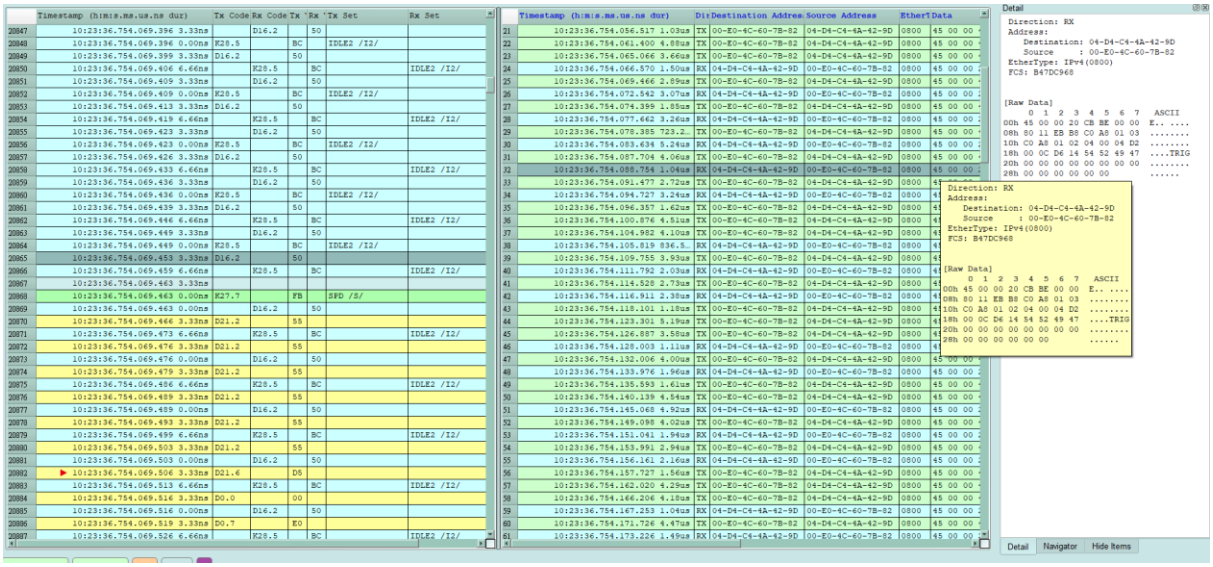
1. **BF7264B, 32Gb RAM, SGMII Probes**

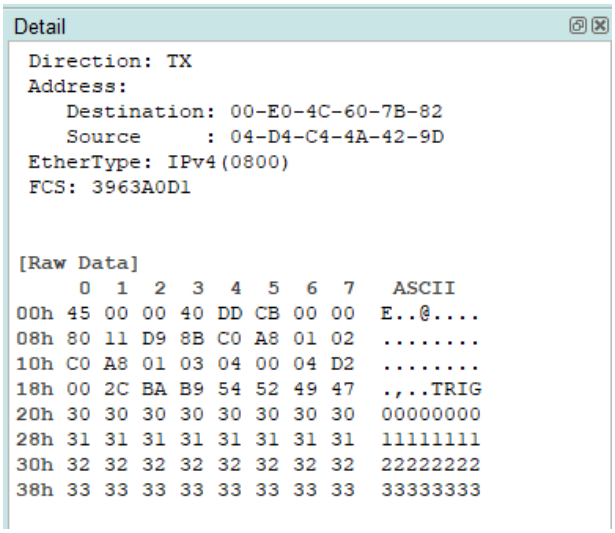


2. **Supports 1000/100/10Mbps SGMII:**
   Data signals operate at 1.25 Gbaud and the clocks operate at 625 MHz (a DDR interface).



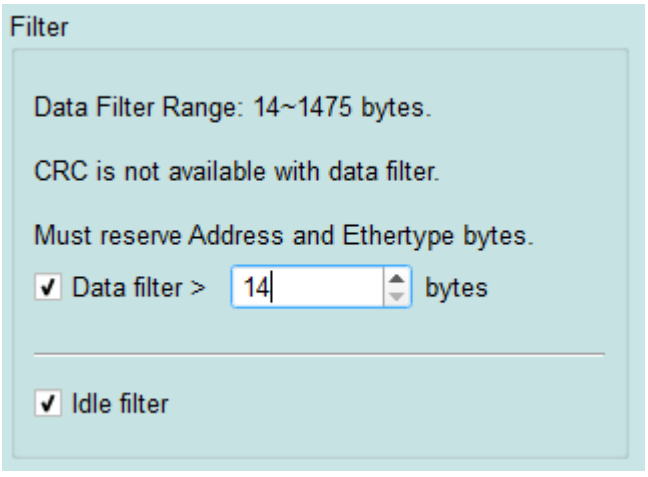
3. **Can simultaneously display PCS(PHY) or GMII(MAC) protocol packet data in tabular form, including command parsing.**



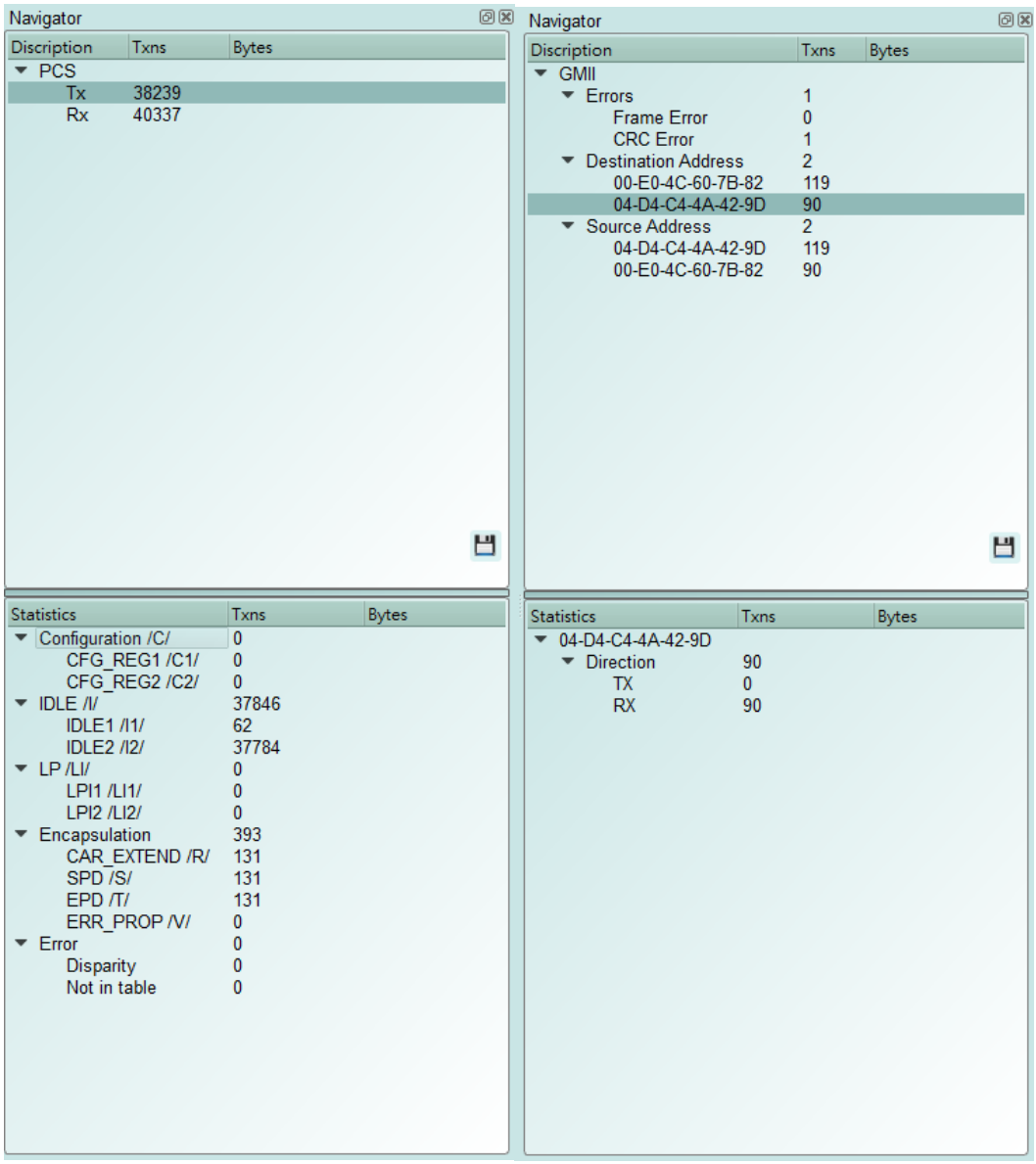


4. **Use 32Gb RAM as the buffer to stream all Way Station data into the SSD/HDD.**

5. **“Data Filter” & “Idle Filter” filter unwanted data and idle to save memory.**



6. **“Search” searches specific data.**
7. **“CRC Packet” displays and counts CRC**
8. **D-PHY command statistics include numbers of packets, individual command, different data length, and errors**



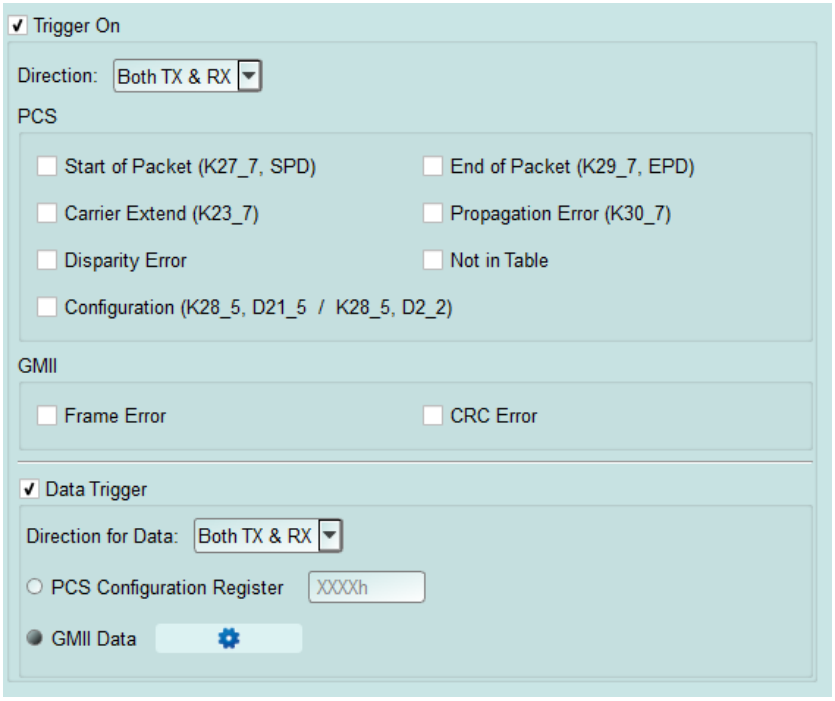
9. SGMII command trigger

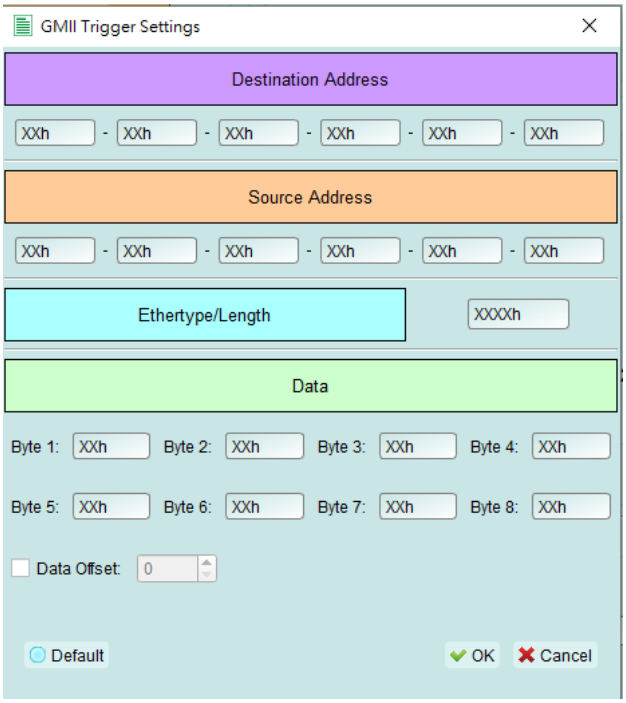
a. Trigger parameters include commands and data in order to cover all kinds of packets.

b. GMII & PCS Packet

c. Trigger CRC Error, Frame Error, Propagation Error, Start of Packet, End of Packet, Carrier Extend, Configuration.

d. The Trigger-Out port is to trigger a DSO to capture waveforms

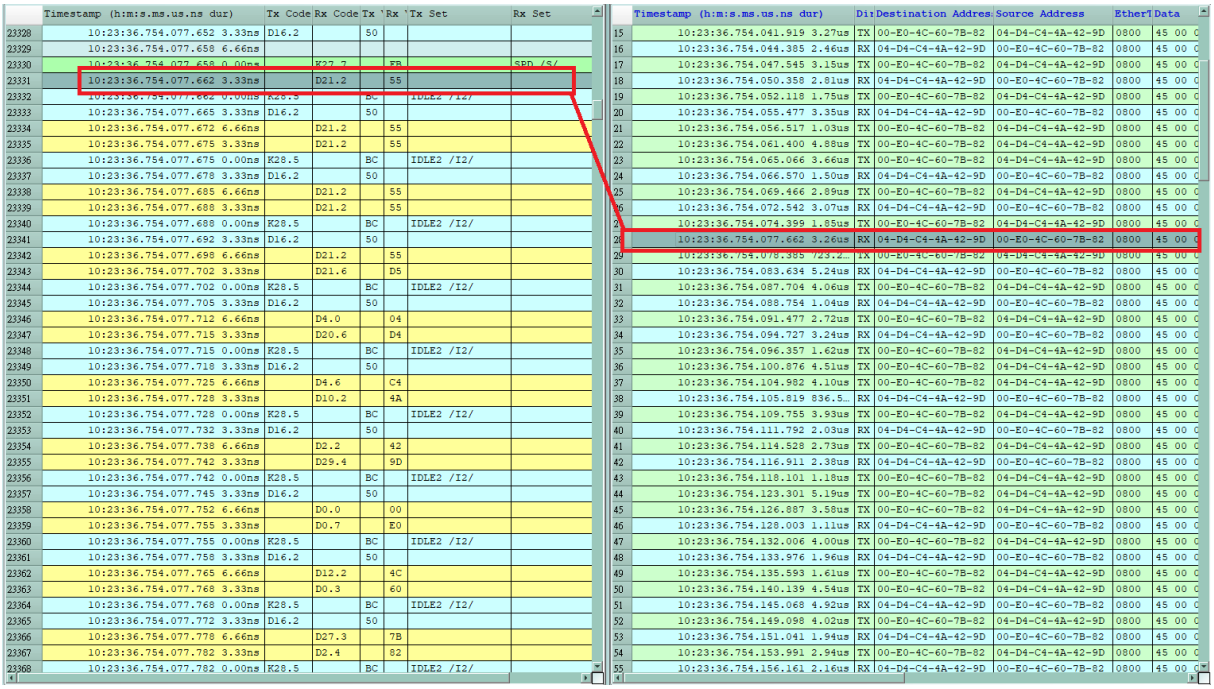




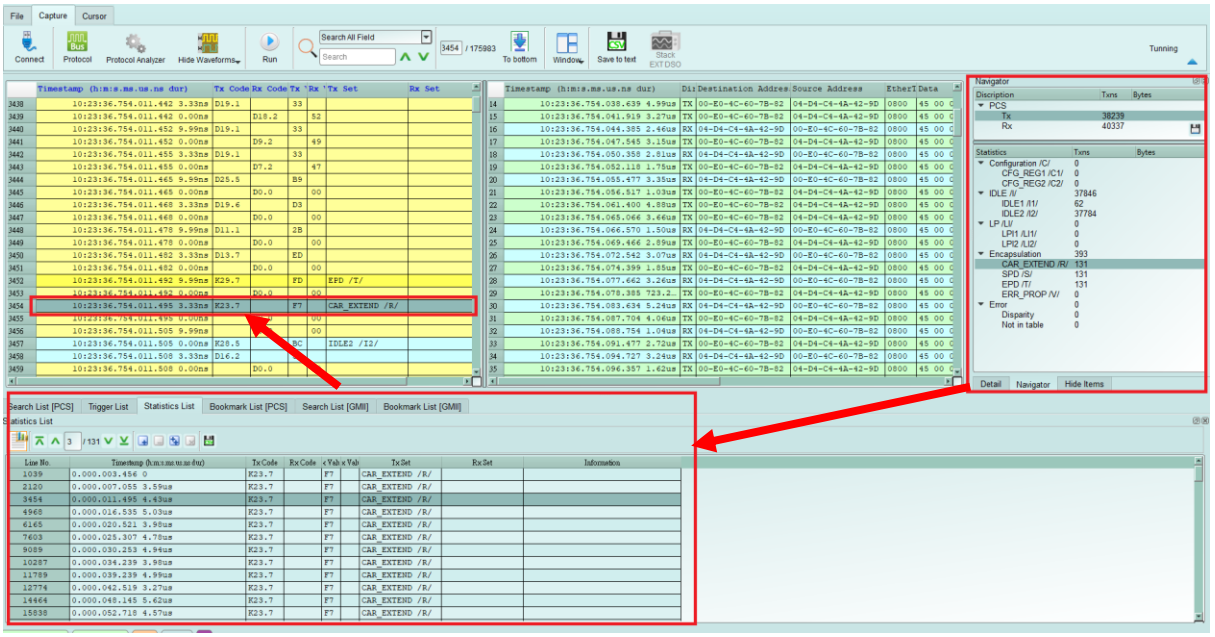
9. Advanced usage of the report area

a. Dual report correlation: PCS and GMII reports are related to each other. Double-click to track the corresponding data in another report area.

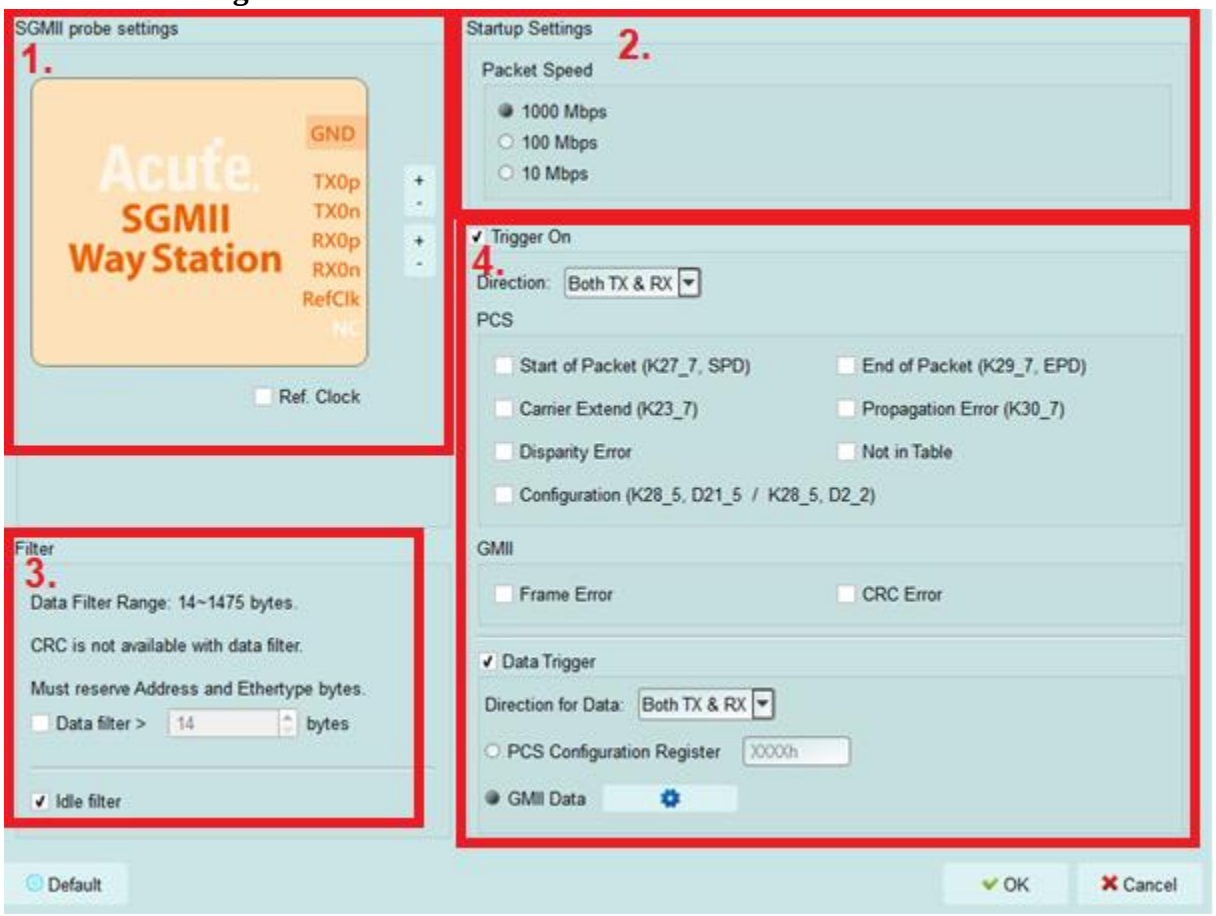
ex: Click the PCS area report to link to the GMII corresponding report.



b. Statistics list: Quickly categorize and track the location of data with statistical functions.



10. SGMII settings



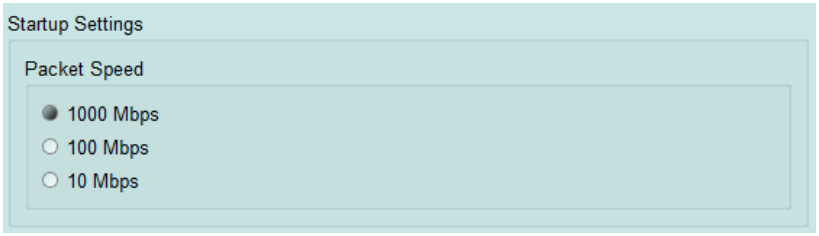
1. **SGMII way station settings:** Exchange p, n of the same Lane,
2. **Startup Settings:** It needs to be set the mode of the ethernet packet speed at the moment of capturing data.
3. **Trigger On:** Can set GMII/PCS packets, CRC Error, Frame Error, Propagation Error, Start of Packet, End of Packet, Carrier Extend, Configuration, Disparity Error, Configuration, Not in Table trigger settings.
4. **Filter:** After opening Data Filter or Idle Filter, Data Filter will filter out the data behind the packet greater than the set value and Idle Filter will filter out the Idle packet to save memory while recording.

FAQ

1. **What SGMII speed is supported, any limitation for differential ports?**
   A: Support SGMII 1Gbps、100Mbps、10Mbps，Ports: TXp、TXn、RXp、RXn、Ref.Clk。
2. **Will the signal quality be affected during measurement?**
   A: The measurement of the external instrument will inevitably have some load effect. We use the SMPM Coaxial Cable connection to reduce the interference of the object to be measured and improve the signal quality.
3. **Is Tx supported?**
   A: No
4. **Precautions during measurement**

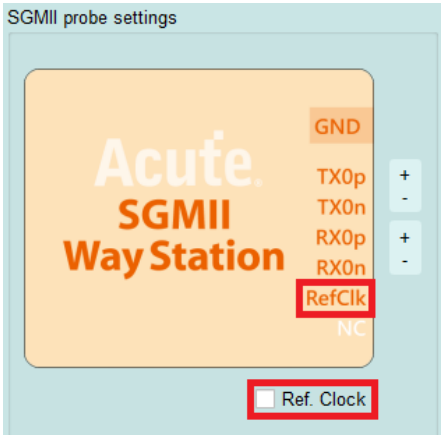
   a. Startup Settings:

   SGMII supports different packet speeds. If the initial speed is not set correctly, the data volume will be 10 times or 100 times, which will make the analysis result abnormal. Besides, if a Speed Config packet appears during the capture process, the Config packet will be used as the new packet sending speed.



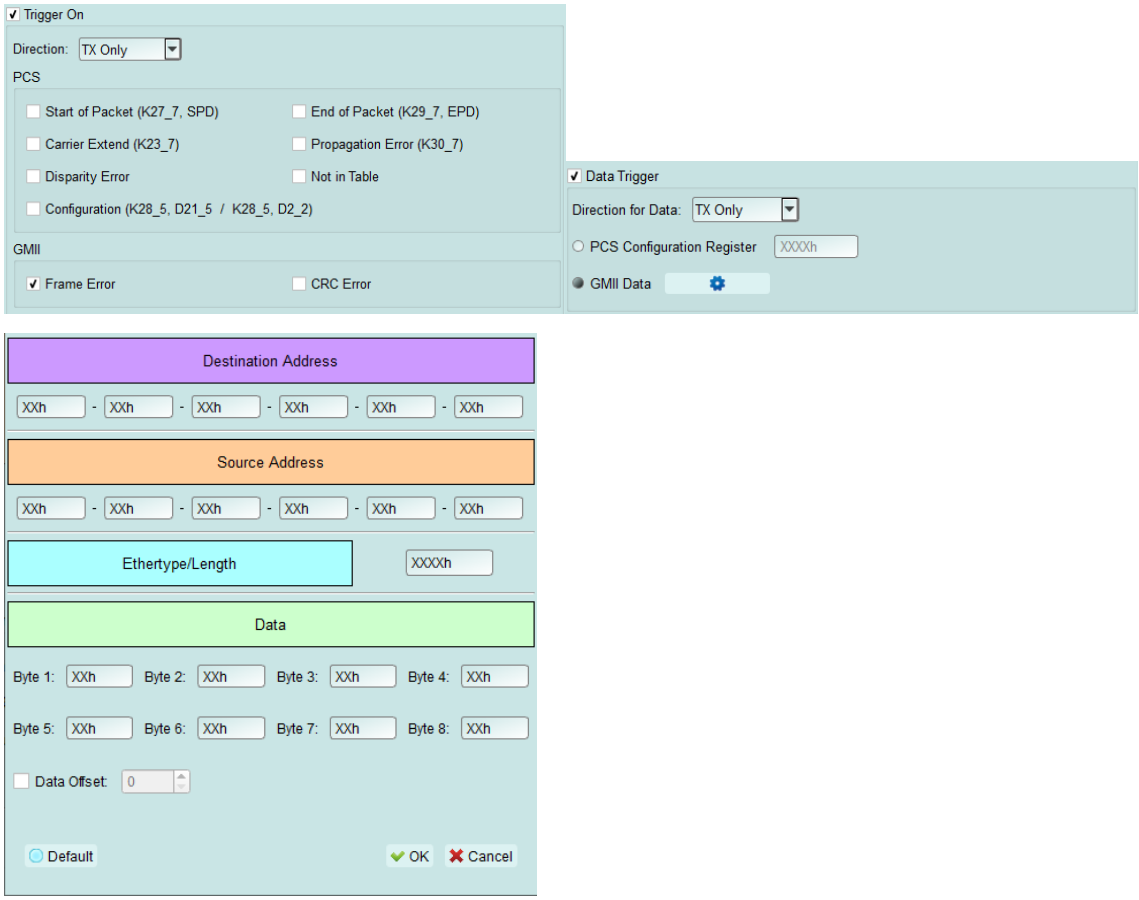
   b. Reference clock setting method:

   Since SGMII signals are 8b/10b encoding, it can be analyzed normally without connecting the Reference clock during measurement. Ref. clock can also provide by external signal. You can access the Ref Clk port from the SGMII Way Station below, and select Ref. Clock.



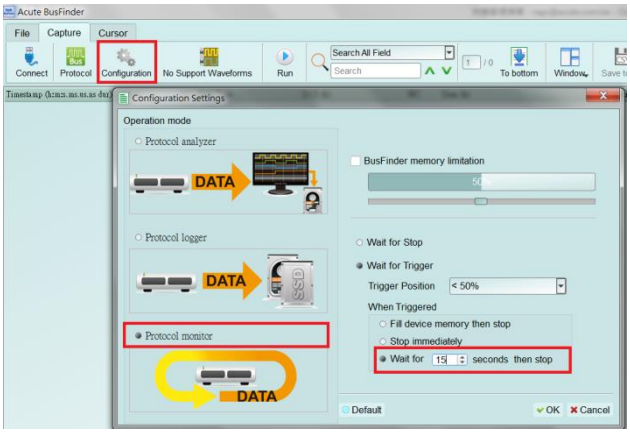
5. **Can I specify a PCS, GMII packet as the trigger point function?**

A: You can specify specific PCS, GMII packet or Error to trigger.



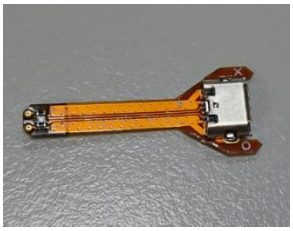
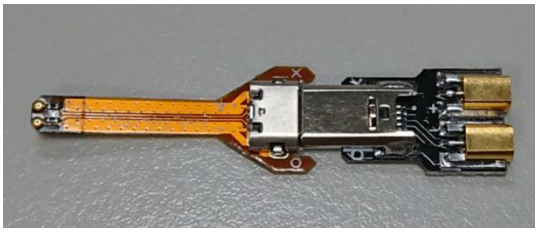
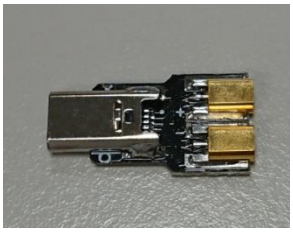
6. Is it possible to set a PCS, GMII starting point, and specify how much time to capture Data?

A: You can set the starting condition to the trigger item and adjust to the data monitor mode in the working mode menu. And specify the length of acquisition time.



Probe and test object connection

With End-Tip connection:

<table>
<tr><td colspan="3">Components</td></tr>
<tr><td rowspan="2">End-tip (FPC)</td><td rowspan="2">  </td><td>Combined</td></tr>
<tr><td rowspan="2">  </td></tr>
<tr><td>End-Tip Connector(FPC)</td><td>  </td></tr>
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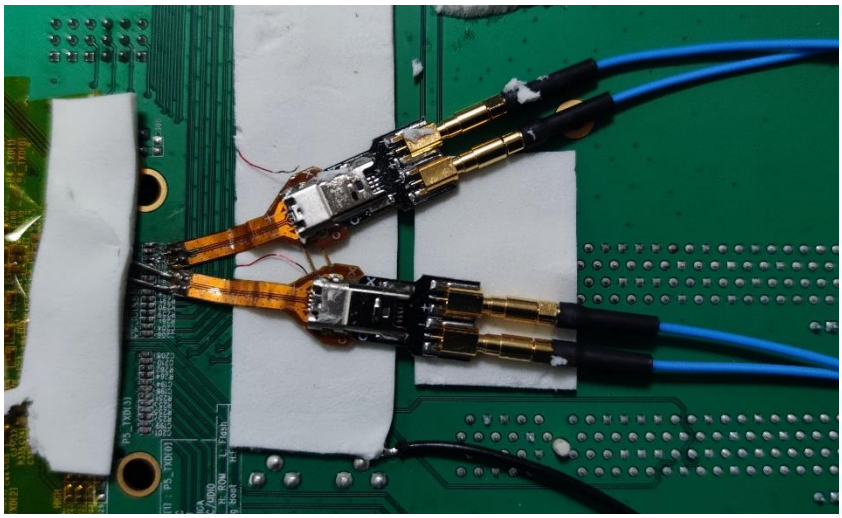
The resistance on the end-tip(FPC) is 250ohm。

Pin connection

For SGMII way station USB3.0 connection, please plug in the bottom one.

End-tip Connection:



Way Station connection