LeCroy UWBTracer External Trigger Option

LeCroy’s UWBTracer is capable of generating an external signal when it detects a user specified WiMedia protocol level event on its receive antenna. (Note: A WiMedia PHY is used in Certified Wireless USB.) This allows the analyzer to be used in conjunction with an oscilloscope such as the LeCroy SDA 11000 Serial Data Analyzer for over the air testing. The UWBTracer protocol analyzer can be used to send a trigger signal to the Oscilloscope in real-time when specific frame types or protocol errors are detected.

To setup the analyzer to generate an external trigger out Pulse High signal when a WiMedia data frame is detected, follow the steps below:

1. Connect the blue TRIG-IN/TRIG-OUT BNC Y-cable to the EXT/DATA connection on the analyzer.
2. Connect the Trigger-Out leg of the Y cable to the Trigger in BNC connector on the oscilloscope.

Figure 1: Rear Panel of UWBTracer Protocol Analyzer

Figure 2: TRIG-IN/TRIG-OUT BNC Y-cable

Connect the blue TRIG-IN/TRIG-OUT BNC Y-cable to the EXT/DATA connection on the analyzer. Connect the Trigger-Out leg of the Y cable to the Trigger in BNC connector on the oscilloscope.
In the UWBTracer application, select **Recording Options** from the Setup menu. Choose **Event Trigger** in the General Recording options. Click on the **Recording Rules Tab**. Click **New Event** and select **WiMedia Frame Type > Data** from the popup menu (figure 3).

![Recording Options](image)

**Figure 3: UWBTracer Recording Rules > New Event Menu**

Drag the **Data Event** to the Sequence 0 portion of the Recording Rules window. Double click on the **Data Event** to open the **Event Properties**. In the Actions Tab, check the **Pulse High** radio button and Check the **Trigger Analyzer** check box. Close the window and click **OK** (figure 4).

![Event Properties](image)

**Figure 4: Set up External trigger option in the Event Properties dialog.**

With the UWBTracer analyzer connected to the oscilloscope, click the **record** button to start recording. The analyzer will display **Trigger?** in the program tray.

![Program Tray](image)

Once a data frame is detected, the analyzer will change the program tray message to **Triggered!** and send an output signal with a Pulse High format through the output ports on the back of the UWBTracer analyzer. Pulse High is the default format. Pulse High causes the analyzer to transmit a 5-volt, 40-nanosecond signal. Other signal modulation schemes are available. When configured correctly, this will cause the oscilloscope to trigger and capture the first detected WiMedia data frame.