DISPLAYPORT AUX

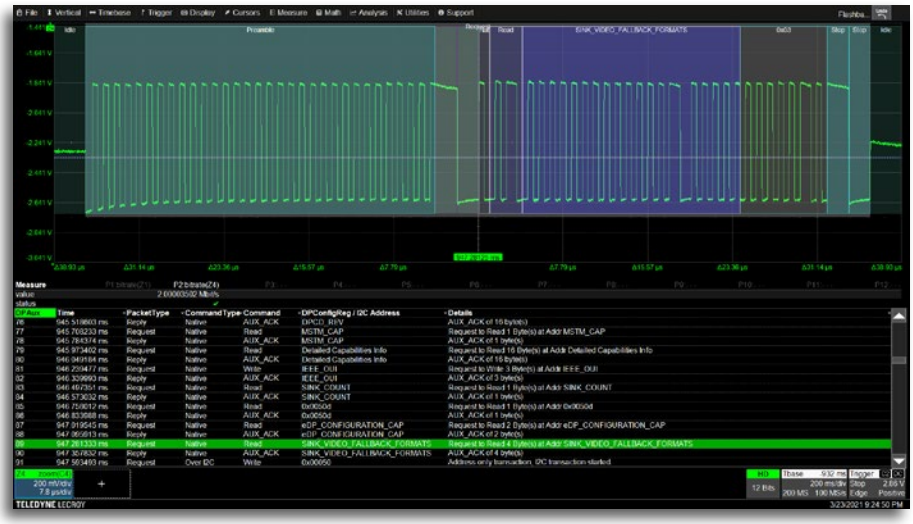
Key Features

DisplayPort 2.0 , 1.4, and eDP (Embedded DisplayPort) Standards

Decodes DisplayPort AUX Reads and Writes

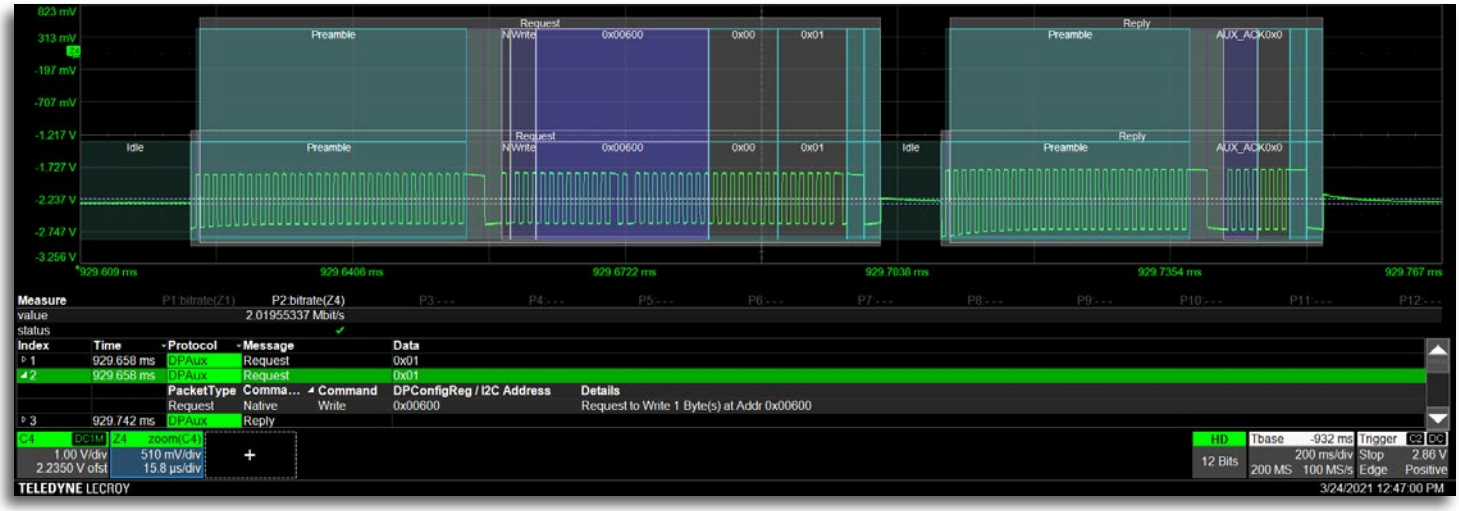
Native and I²C AUX Channel Transactions

Use Standalone or with USB-PD TDME for DisplayPort over USB-C® testing



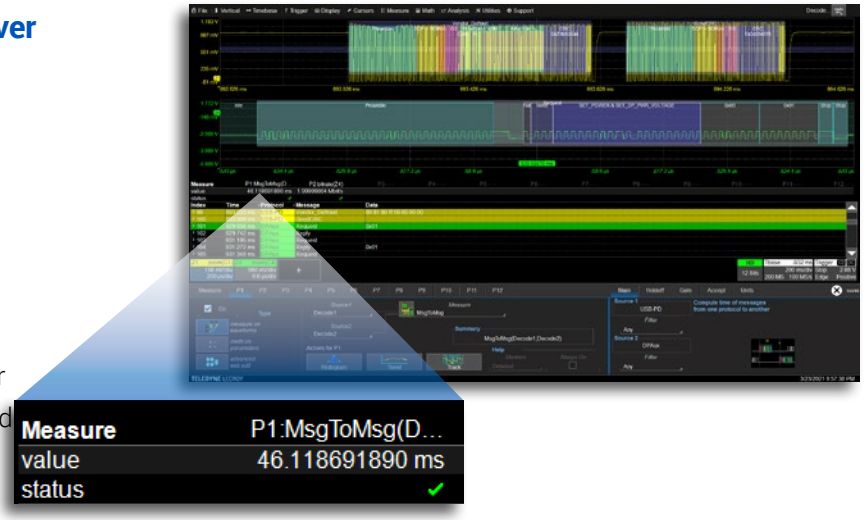
Interactive Protocol Table

Simply click on the DPAUX packet of interest in the protocol table to create a zoom window of the waveform with color coded overlay showing the packet type, command, AUX register address, and message details.



Use with USB-PD TDME for DisplayPort over USB Type-C®

DPAUX DME can be used as standalone for Standard DP connector or eDP designs; or along with USB-PD TDME to analyze timing between the DisplayPort AUX (SBU lines) and USB-PD (CC lines) in a DisplayPort over USB-C design. Msg-Msg timing measurements can be used to debug system interoperability issues caused by improper timing between USB-PD Alt Mode transactions and DisplayPort AUX link training.



DPAUX D and DPAUX DME	
Definition	
Source and Protocol Setup	Select Source (Decode Input), Protocol (DPAux).
Trigger Capability	
Format	No Triggering on DisplayPort AUX. If used with USB-PD, use USB-PD Triggering to trigger on DisplayPort 'Alt Mode' transactions.
Decode + Search Capability	
Format	Hexadecimal or Symbolic DisplayPort AUX Transaction Decode.
Decode Setup	Select Source, View (Hexidecimal or Symbolic), Probing (AUX-P, AUX-N, or Differential), Reply Timeout, and Decode Threshold Levels.
Decode Input	Any analog Channel, Memory, Math, or Digital trace.
# of Decodes	Up to four buses may be decoded at one time. In addition, zooms can be displayed (with decoded information).
Location	Overlaid on acquired DATA waveform, on Grid.
Visual Aid	Color Coding of Idle, Preamble, Packet Type, Command Type (Read/Write), DP Configuration Registor or I2C Address, and Command Register Data, Stop.
Table Configure, Export Table	Display up to 20 rows of decoded information for up to four different protocols or decodes in time order in a single table. Displayed information includes Index, Timestamp, and other various protocol-specific information. Table permits scrolling, touch to zoom, export to .csv file, and special display of long data or other patterns.
Pattern Search	Search for previous or next: Index, Packet Type, Command Type, Command, DPCConfigReg/I2C Address.

DPAUX DME Only	
Measure / Graph Capability	
Timing Measurements	**Message to Analog, Analog to Message, Message to Message, ΔMessage Time** (identical message on same decoder), Time@Message (time from trigger). Serial Message may be defined by "ID =" (where applicable) and user-defined DATA with condition <=, <, =, >, >=, <>, IN RANGE, or OUT OF RANGE in any location in up to 2048 bits of data. Analog Signal may be defined by Slope (pos, neg), Level (abs or %) with Hysteresis setting. Holdoff may be set on the Analog Signal by either Time or Events (up to 1000) to preclude unwanted measurements.
Eye Diagram Capability	
Setup	Create up to four simultaneous Eye Diagrams (one per Serial Decoder) of the physical layer signal(s). Eye Style selectable as color- or analog-persisted. Eye Saturation adjustable from 0 to 100%.
Eye Parameters	Eye Height, Eye Width, (Number of) Mask Hits.
Eye Mask	Create a custom Mask using the free Teledyne LeCroy MaskMaker software utility. Store custom masks for later recall and use.
Failure Indication and Location	"Mask Failure Indication ON or OFF (ON = indicated with a red circle). Mask Failure Location trace waveform displayed and interactive with Eye Mask failure table. Supports STOP trigger on Mask Failure.