802.3ak Amplitude Measurement

- Comment Summary
  - Current Definition is too loose
  - Define the measurement pattern
  - Define using mean

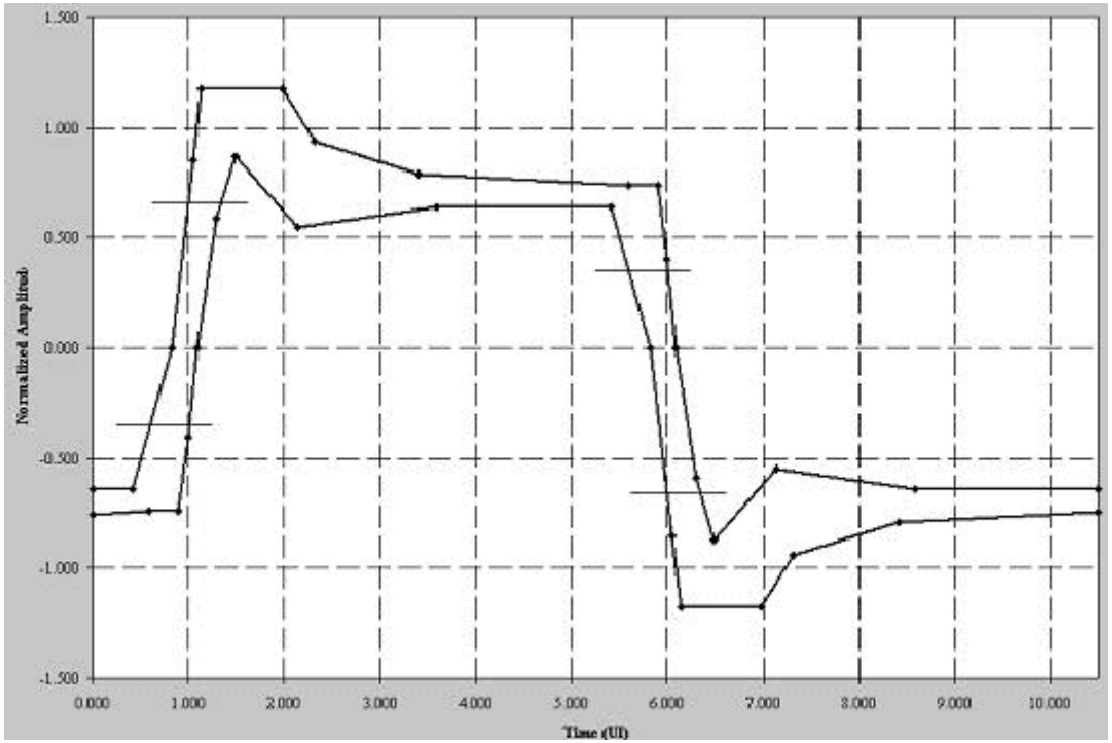
Current Definition

Transmitter maximum differential peak-to-peak output voltage shall be less than 1200 mVp-p. The minimum differential peak-to-peak output voltage shall be greater than 800 mVp-p. The maximum difference between any two lanes' differential peak-to-peak output voltage shall be less than or equal to 150mVpp. See Figure 54–4 *[below; prz]* for an illustration of definition of differential peak-to-peak output voltage.

Pattern

Problem/Remedy:

- The pattern is *not* defined.
  ➔ Use the same pattern as for the Template test



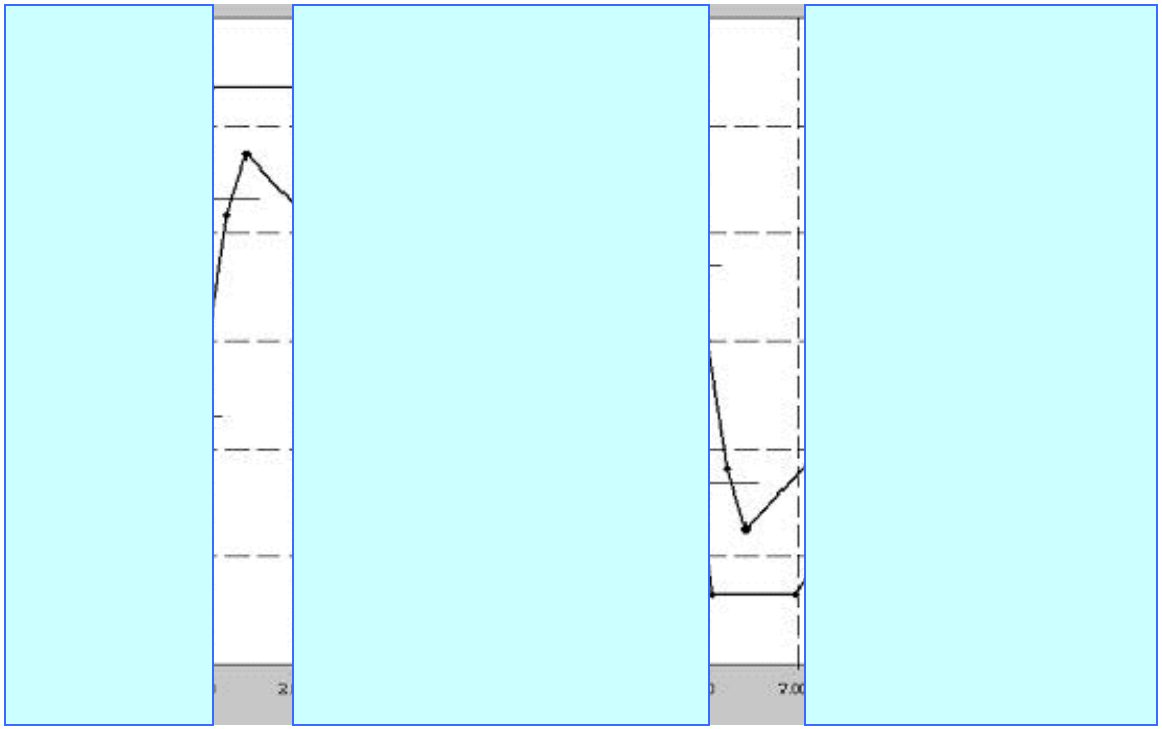
Area 1 (smallest change)

Problem/Remedy:

- The measurement BW is not defined.
  That is, a 20GHz oscillation might grossly overshoot the amplitude and fail a device – that is not reasonable given such oscillation is not getting anywhere on the cable.

➔ Use mean value over the indicated horizontal area of the UI

(a new algorithm to implement, but the result is very close to D4.1)



Area 2
(Easiest to implement measurement)

Problem/Remedy:

- The measurement BW is not defined.
  That is, a 20GHz oscillation might grossly overshoot the amplitude and fail a device – that is not reasonable given such oscillation is not getting anywhere on the cable.

➔ Use mean value over the indicated horizontal area of the UI
(This matches OMA algorithm; exists already)