IEEE 802.3bs
- TDECQ updated results over published waveforms -

802.3bs SMF ad hoc, 8th August 2017

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Background

- Keysight kindly make available their <u>beta</u> SW (P.05.70.534) release for TDECQ.

  - This implements for the first time the iterative optimization process which is described into '121.8.5.3 TDECQ measurement method'.

- For this we re-run it over [published](#) ad-hoc waveforms.

Application of Keysight updated algorithm (1)

Considered [Corbeil](#) waveform (¾ Baud rate reference RX filter bandwidth).
TDECQ [dB,5xT/2] = 4.3dB (calculated by Lumentum with SW Version P.05.61.23).
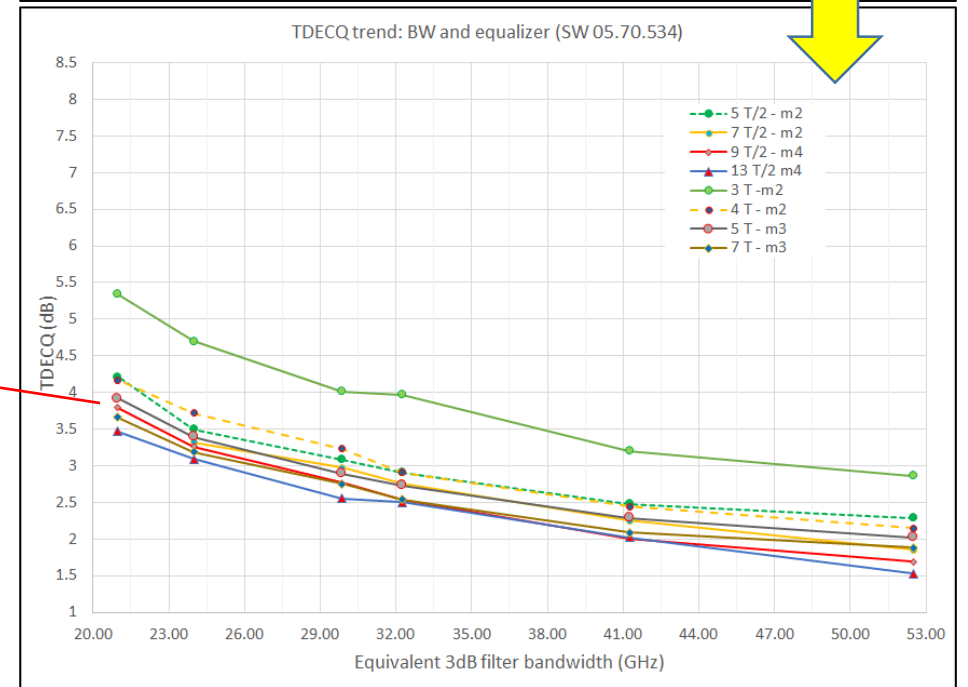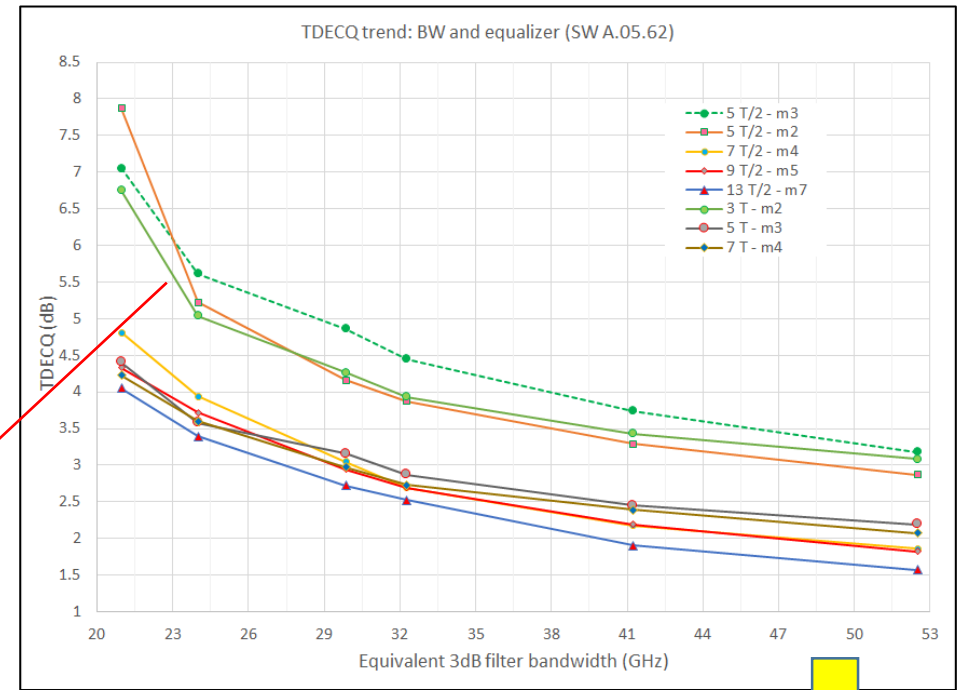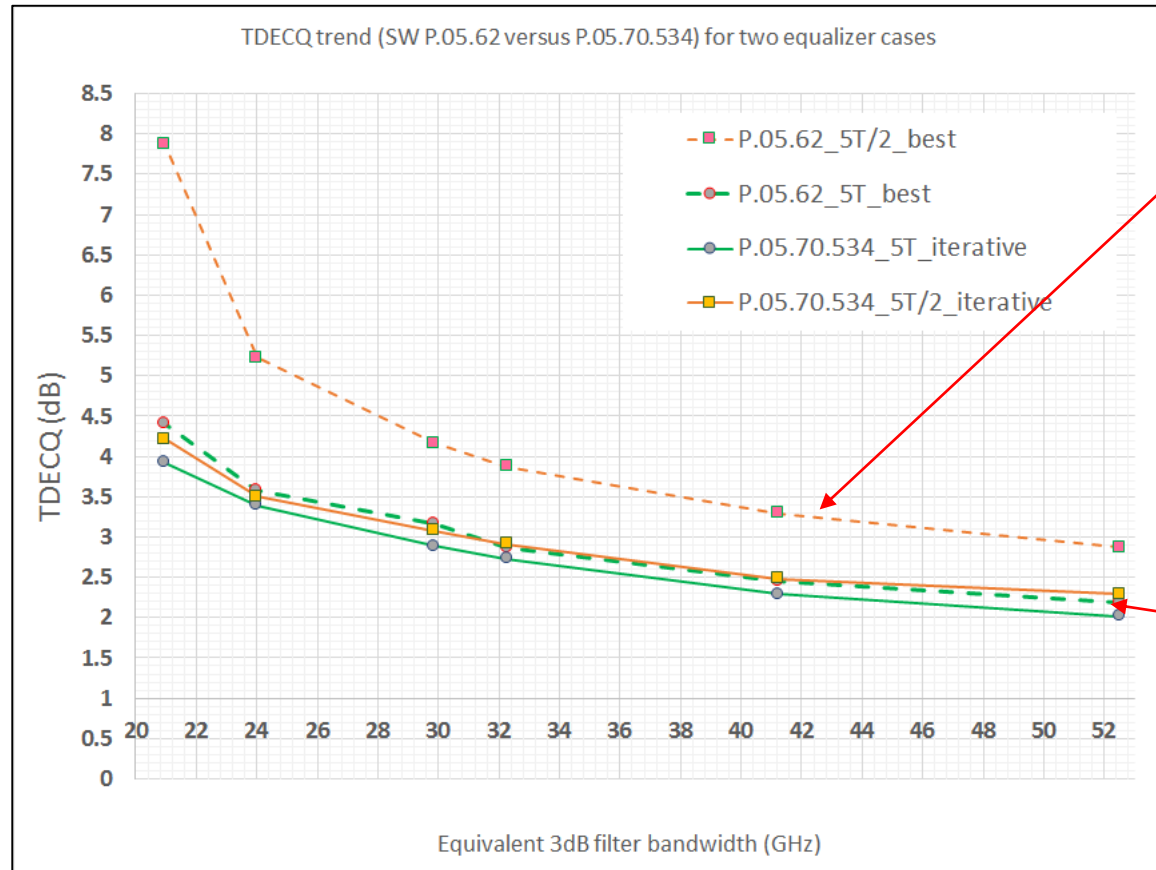
With SW 05.70.534 iterative optimization process:
- **TDECQ [dB,5xT] = 2.82dB** (left eye).
- **TDECQ [dB,5xT/2] = 3.08dB** (right eye) -> there's more than 1.2dB TDECQ improvement considering same equalizer !

Received waveform
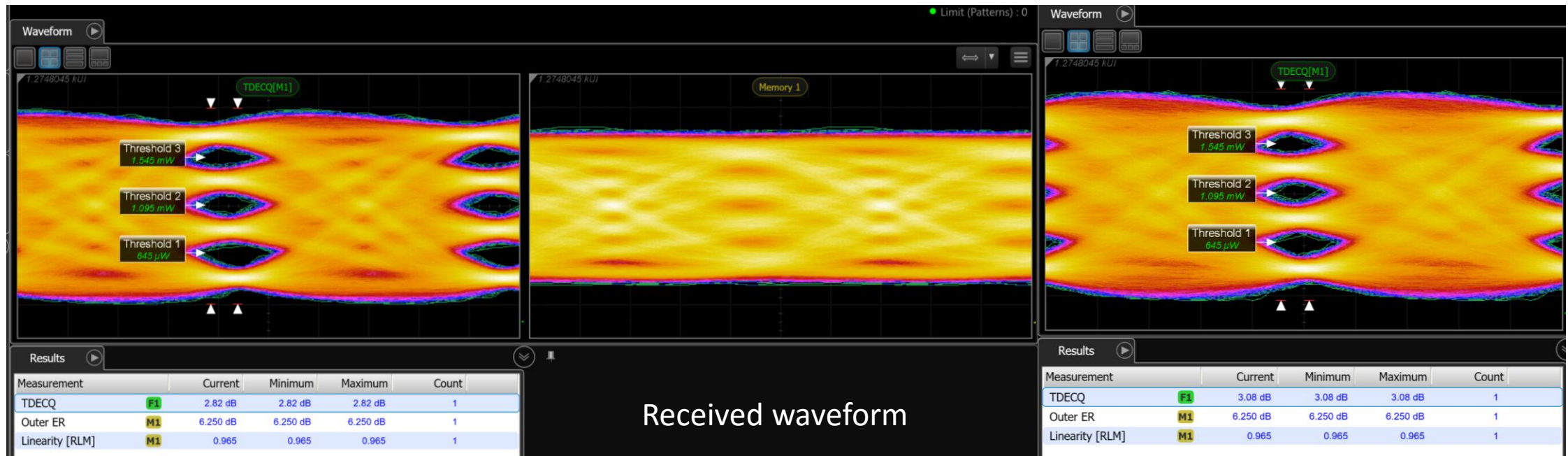
Application of updated algorithm (2)

Applied over [Mazzini](#) waveforms (different RX filter bandwidth), previously calculated with SW Version, P.05.62.

Comments

- Keysight TDECQ <u>beta</u> SW (P.05.70.534) has been tested over IEEE published waveforms.
  - Observed good improvement for short equalizers cases.
  - Measured almost same TDECQ slope versus reference receiver bandwidth, when the reference IEEE equalizer (5T) is considered.

- Plan is to keep ahead testing TDECQ and provide results over other available hardware/software platforms.

THANK YOU

TDECQ trend (SW P.05.62 versus P.05.70.534) for two equalizer cases

- P.05.62_5T_best
- P.05.70.534_5T_iterative

0.8dB

TDECQ trend: BW and equalizer

- 5 T/2 - m3
- 5 T/2 - m2
- 7 T/2 - m4
- 9 T/2 - m5
- 13 T/2 - m7
- 3 T - m2
- 5 T - m3
- 7 T - m4

0.9 dB