Refining TDECQ (continued)

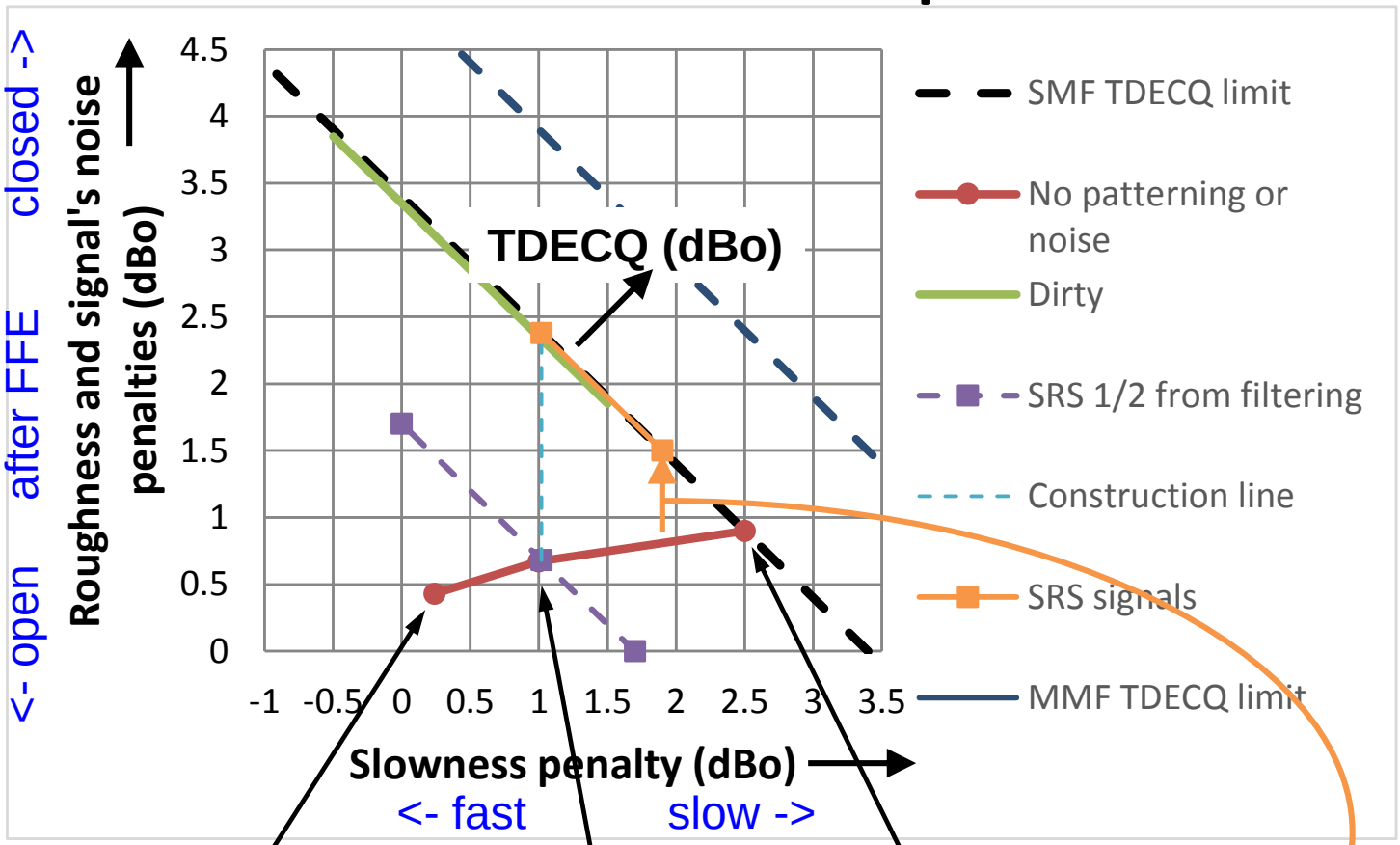
Piers Dawe

Mellanox

Not all maximum-TDECQ signals are equal

- Continuing to investigate the variety of bad signals (both in-service signals and stressed receive signals) and considering where the limits of compliance should be
- Follows dawe_3cd_01a_0318.pdf

TDECQ map



Ideal waveform

Half the SECQ from filtering

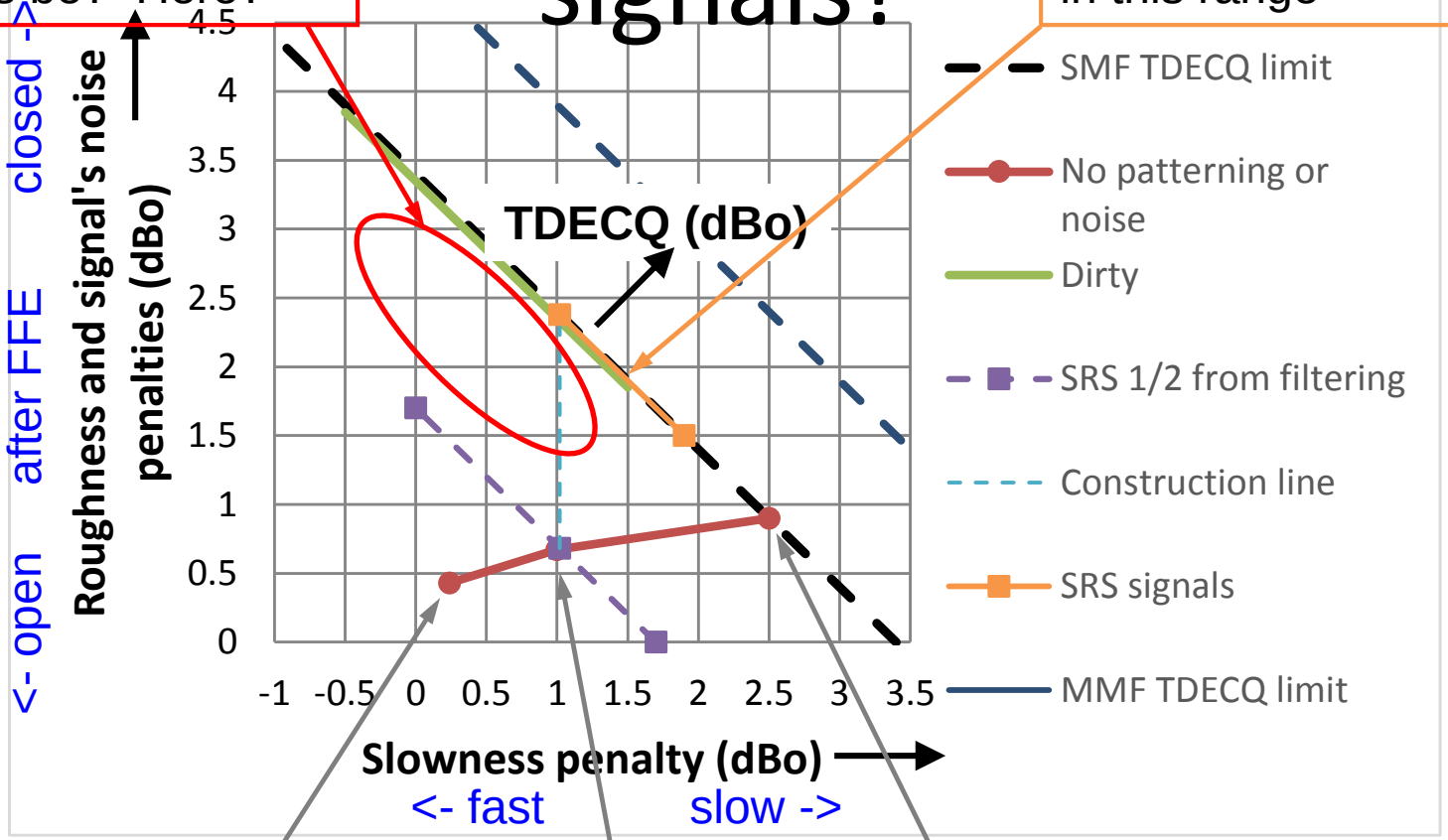
Slowest, as dawe_3cd_01a_0318 slides 2 to 5

Update from dawe_3cd_01a_0318: the SRS signal has SJ that increases its ISI

Mismatch between SRS and real signals?

Where will real poor signals be? Here?

SRS signal must be in this range



Ideal waveform

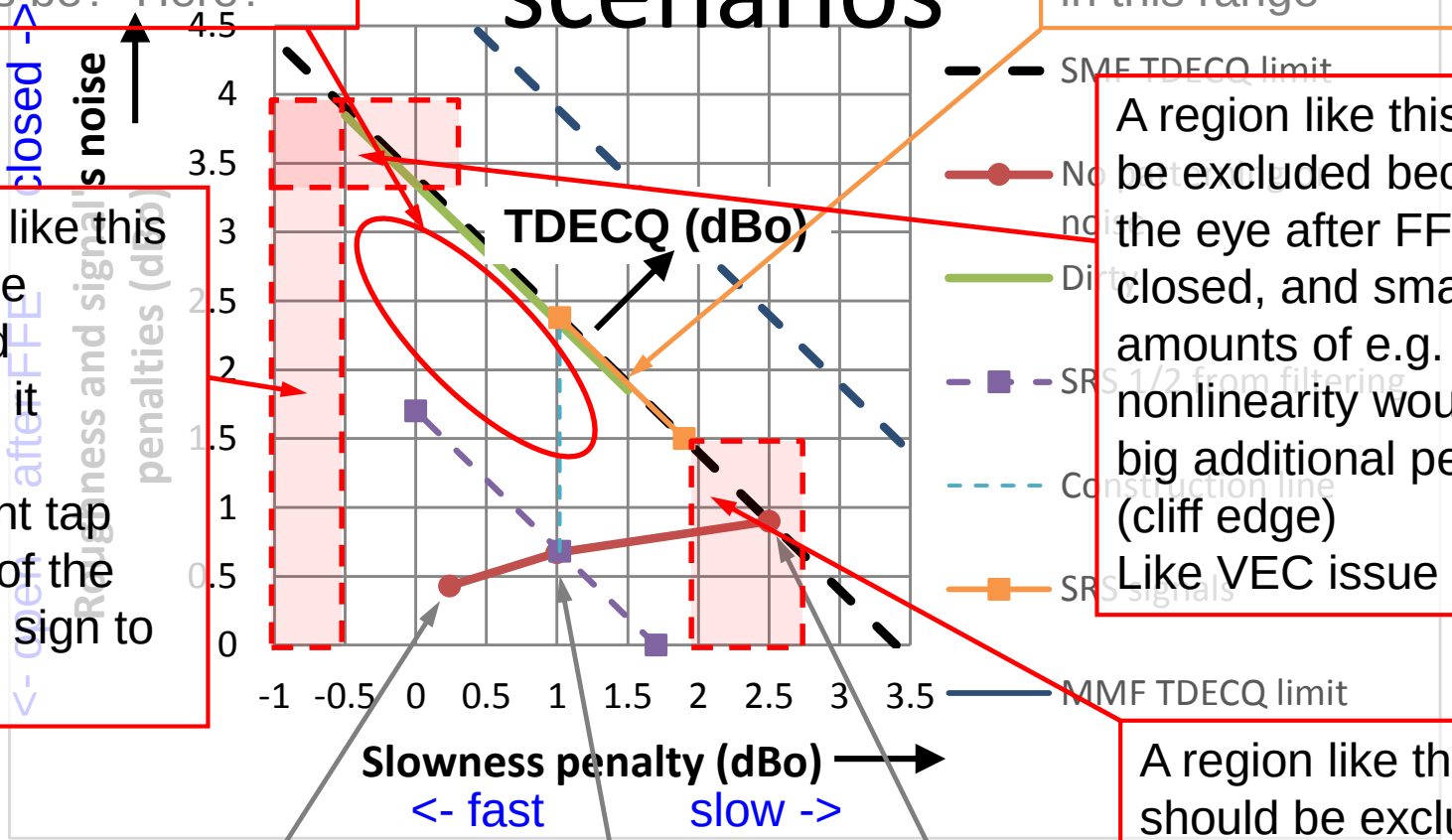
Half the SECQ from filtering

Slowest, as dawe_3cd_01a_0318 slides 2 to 5

Don't support unrealistic bad scenarios

Where will real poor signals be? Here?

SRS signal must be in this range



A region like this should be excluded because it requires significant tap weights of the opposite sign to normal

A region like this should be excluded because the eye after FFE is very closed, and small amounts of e.g. nonlinearity would cause big additional penalties (cliff edge)
Like VEC issue in C2M

A region like this should be excluded because it requires strong tap weights not useful in practice, and is not screened for in SRS

Ideal waveform

Half the SECQ from filtering

Slowest, as dawe_3cd_01a_0318 slides 2 to 5

"Exclusion" could be by giving signals in the red boxes worse TDECQ scores, or by "hard" pass-fail rules