Observations on 2.5G/5.0G Transmit Linearity Tests

IEEE P802.3bz 2.5/5GBASE-T Task Force

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Purpose & Summary

- Support for the proposed 2.5GBASE-T Transmit Linearity Test with Link-Partner Signal as Disturber
- Clarify elements of the Figure 126-3 Transmitter test fixture 4 for linearity measurement of 2.5GBASE-T with sine wave injected
  - Compare with Transmitter test fixture 3, where the filter characteristics are summarized in the figure and descriptive text.
  - Do we need requirements on the band pass filter included in the test fixture?

Transmitter test fixture 4

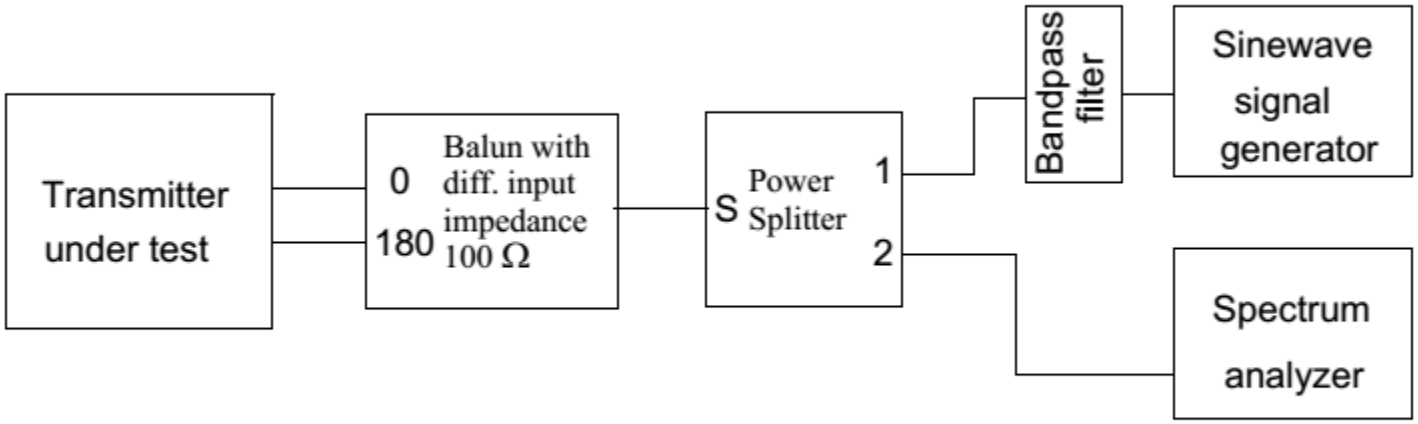
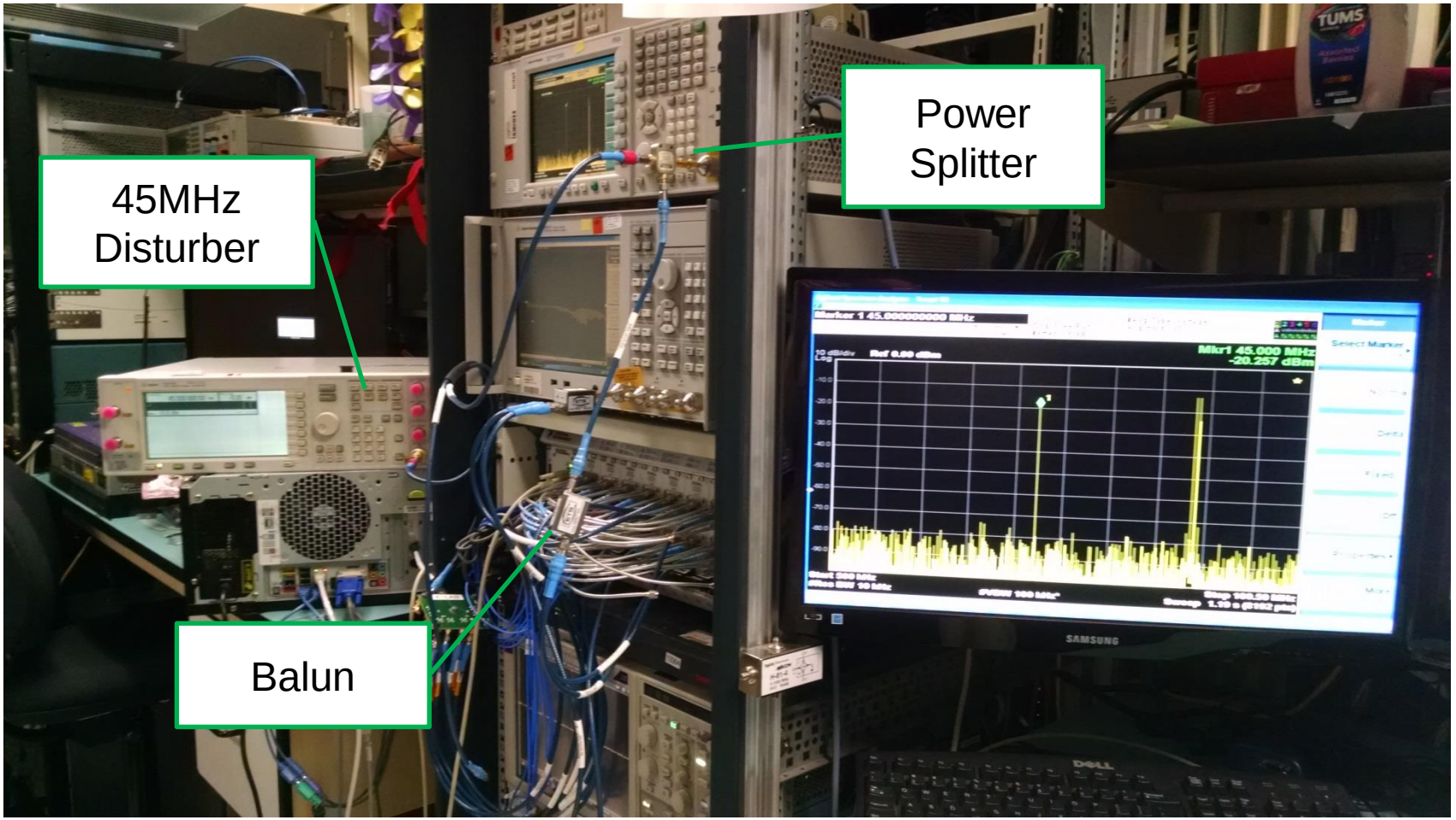
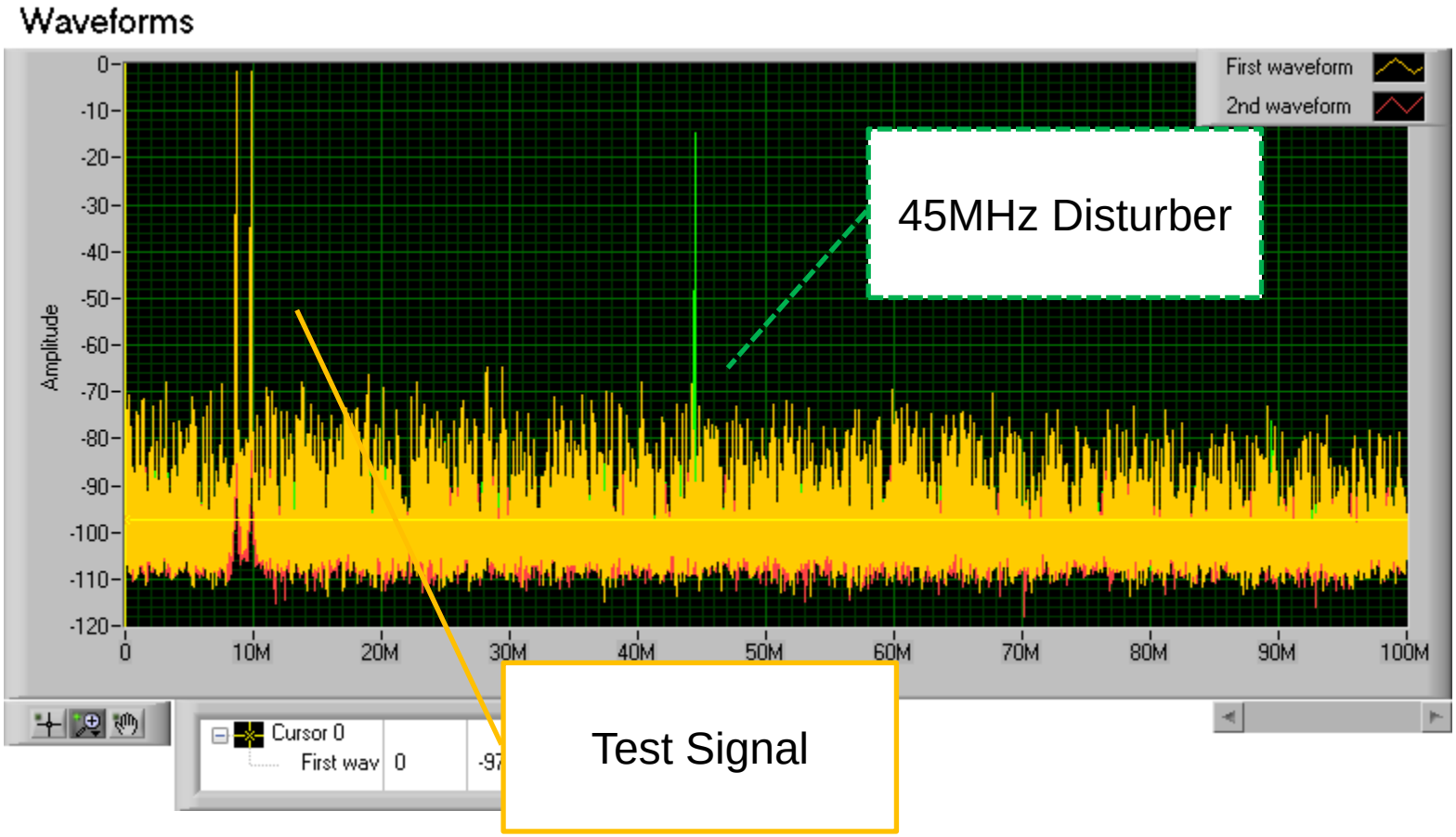


Figure 126–35—Transmitter test fixture 4 for linearity measurement of 2.5GBASE-T with sine wave injected

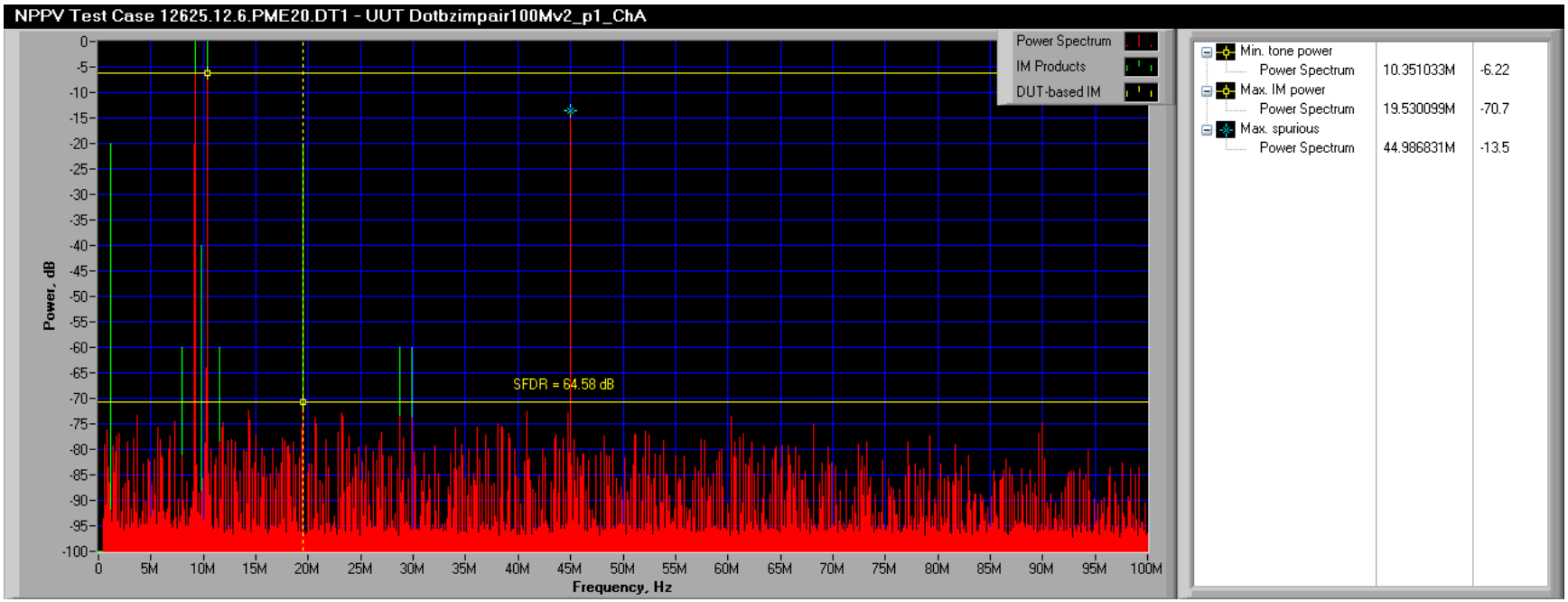
Representative Implementation



Representative Acquisition



Corresponding Measurement



The test as described is easily performed in a representative implementation.

Transmitter test fixture 3

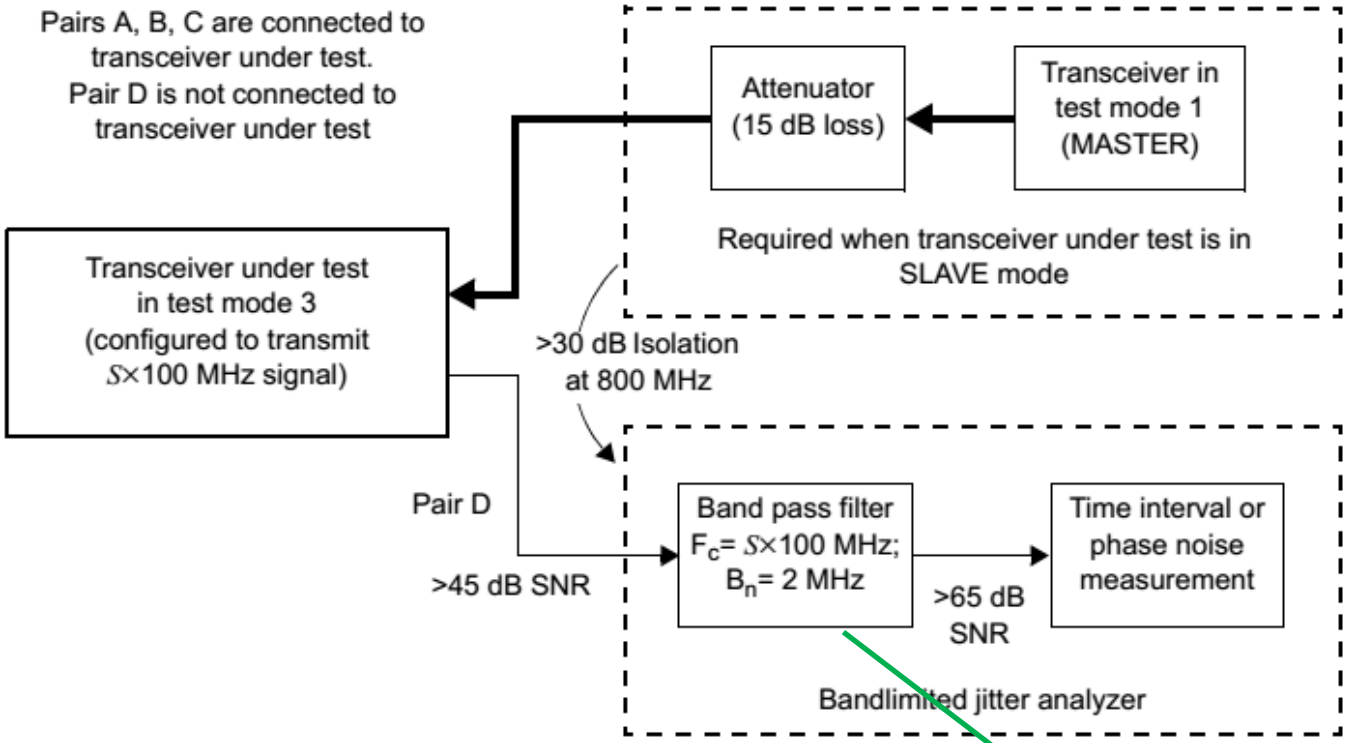


Figure 126–34—Transmitter test fixture 3 for transmitter jitter me to update)

Band pass filter characteristics

Transmitter test fixture 4

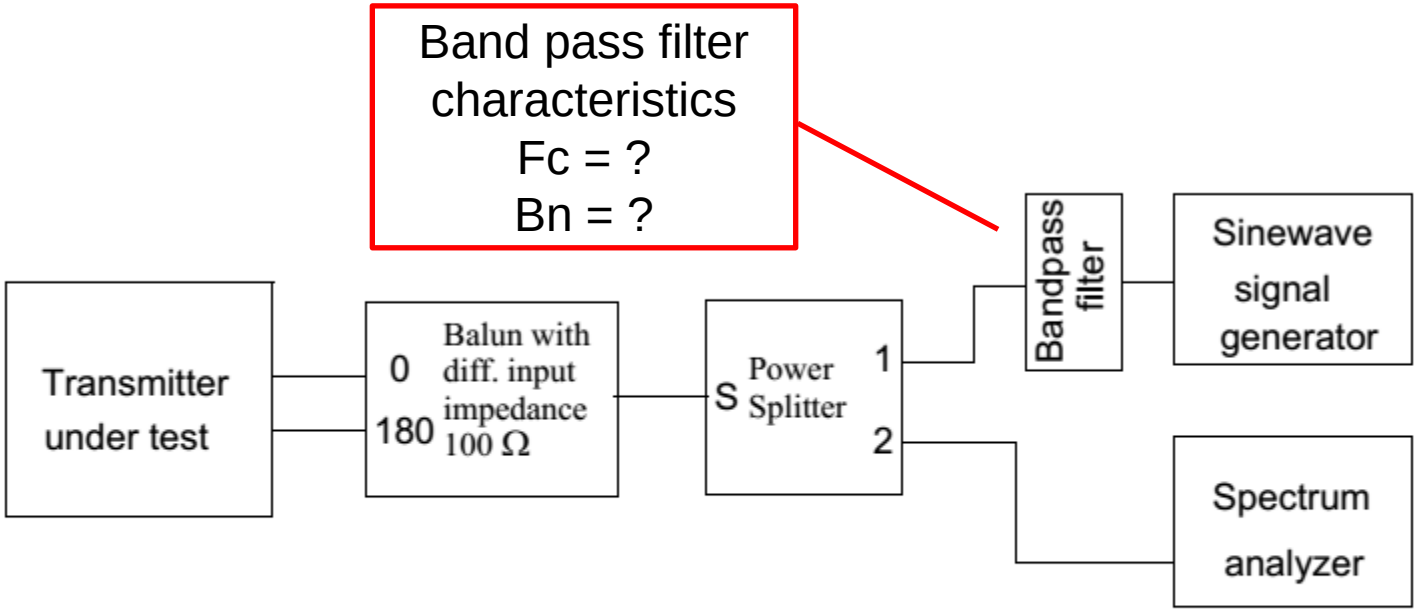


Figure 126–35—Transmitter test fixture 4 for linearity measurement of 2.5GBASE-T with sine wave injected

Do we need to define the band pass filter characteristics?

Proposed Text To Add

- Section 126.5.2.1 Test Fixtures, Page 147, Line 44
- Add the following text after Line 43
  - “The center frequency (Fc) of the band pass filter shown in Figure 126-35 is 45 MHz ± 200 kHz and the band pass filter noise bandwidth is 2 MHz ± 200 kHz.”
- Include Fc and Bn in Figure 126-35
- Opportunistic minor editorial change
  - Change “show” in Line 42 to “shown”

Thank You!