

Leveraging IEEE P802.3cw Specification Approach for IEEE P802.3dj

IEEE P802.3dj TF Meeting

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Intro

- **This presentation looks at IEEE P802.3cw**
 - **IEEE P802.3cw was addressing 400GBASE-ZR, 16QAM Signaling**
 - **It defined a “EVM reference receiver” at a top level**
- **For more information on IEEE P802.3cw see <https://www.ieee802.org/3/cw/index.html>.**
- **PAR for project withdrawn.**

IEEE P802.3cw “EVM Reference Receiver”

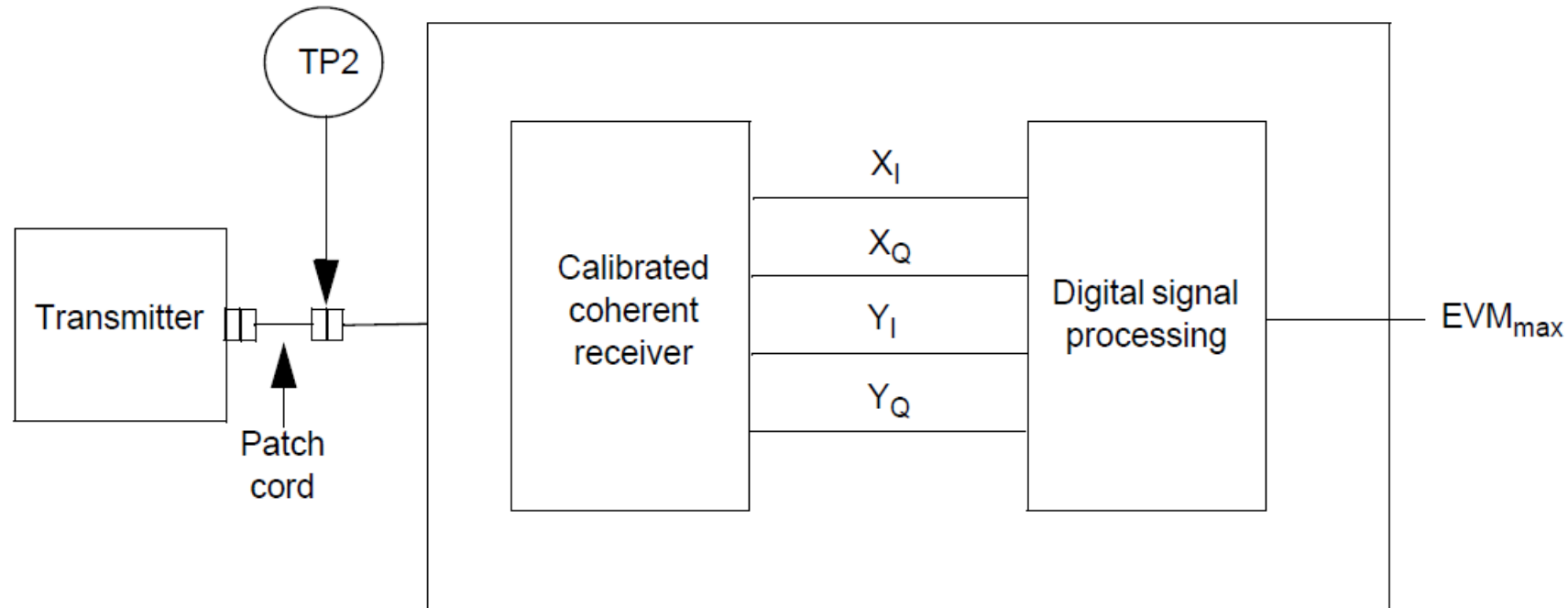


Figure 156-9—EVM reference receiver

- **Fig 156-10** defined the “calibrated coherent rx”
- **Fig 156-11** defined the “offline digital signal processing”

IEEE P802.3cw Calibrated Coherent Receiver

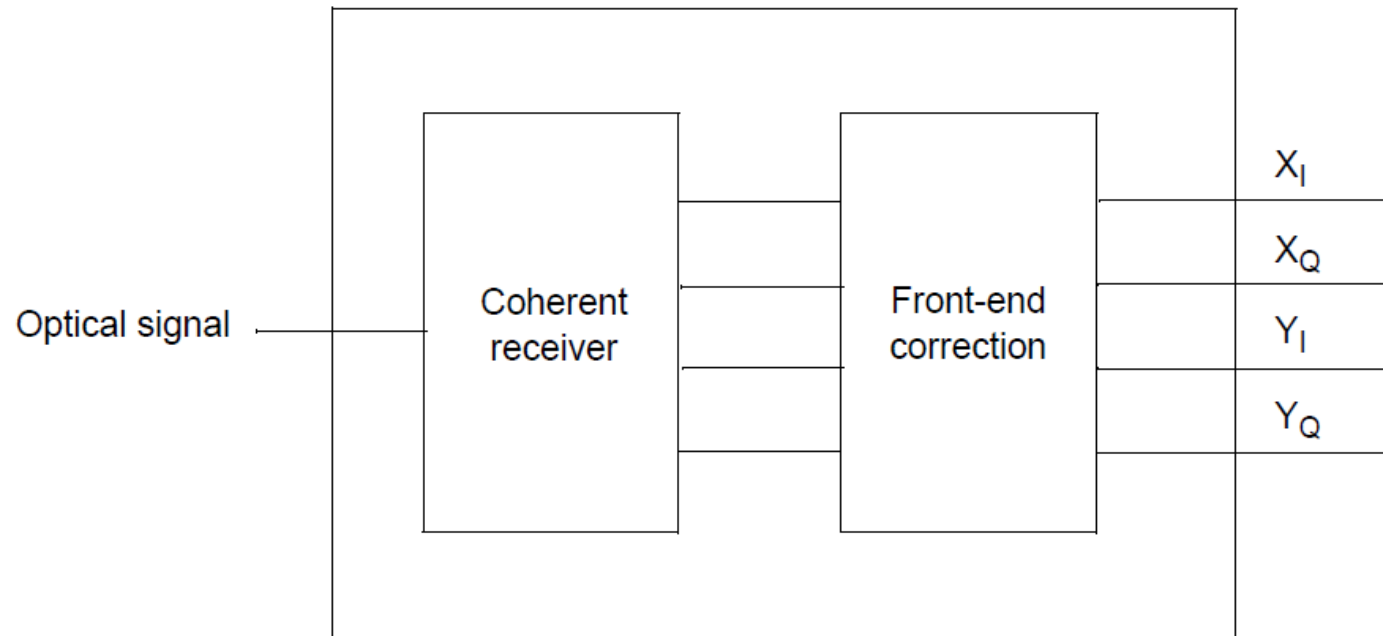


Figure 156–10—Calibrated coherent receiver

- **Specifications –**
- Coherent Rx generates four digitized data streams representing the baseband of two orthogonal polarizations of the optical input signal.
- The front-end correction removes impairments of the realized hardware implementation of the coherent receiver.
- The coherent receiver
 - has a bandwidth of at least 30 GHz.
 - The ENOB and sampling rate of the digitizers have at least 4 bits (from 10 MHz to 29.9 GHz) and at least 1.15 times the signaling rate.

IEEE P802.3cw Offline Processing



Figure 156–11— Offline digital signal processing

- **Each block above was specified in the draft**

Going Forward

- IEEE P802.3cw specification approach can be leveraged for whatever TQM methodology is adopted
 - This will allow editor to create outline / text to be completed
 - This presentation does not represent any TQM proposal.
- Suggest the following nomenclature to minimize confusion:
 - CW Fig 156-9: EVM Reference Receiver > TQM Test Configuration
 - CW Fig 156-9 : Calibrated Coherent Receiver remains the same
 - CW Fig 156-9 : Digital Signal Processing > DSP or Offline Process
 - CW Fig 156-10 : Coherent Receiver > Reference Rx
 - CW Fig 156-10 : Front-end connection remains the same
 - Fig 156-11: Offline Processing to be defined by adopted TQM methodology
- Each block requires additional details
- Regardless of the TQM methodology selected, it is critical to agree on a single well-defined reference receiver.