



TIDA-00133

Uncompressed Megapixel Digital Video Over Coax for Automotive CMOS Camera Systems- Test Data

This document shares the test result of the DS90UB914A-CXEVM and DS90UB913A-CXEVM serializer and deserializer. The test data shown in figure 1 illustrates the quality of the single-ended signal received by the FPD-Link III deserializer. The FPD-Link III signal is transmitted by the serializer over the shielded coax cable, and the signal quality enhanced by the built-in adaptive equalizer within the deserializer. At the same time power is inserted and transmitted over the coax cable from the deserializer to serializer. The eye diagram is measured at the CMLOUT test-point offering a view of the internally equalized signal. Note that this is a differential output. The CMLOUT test point should always be used to measure the quality of the signal for two reasons:

- 1) This includes the effect of the adaptive equalizer. For high speed data transfer over a regular cable, the signal quality deteriorates quickly with distance. On the deserializer side, there is an adaptive equalizer which tunes to the incoming frequency and refreshes signal quality to compensate for cable loss and noise picked up during transmission.
- 2) Since FPD-Link III includes a bi-directional control channel, the quality of the signal cannot be measured directly on the input pins of the deserializer.

The CMLOUT is enabled via I2C register control.



Figure 1: Eye diagram of DS90UB914A-CXEVM and DS90UB913A-CXEVM

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