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.

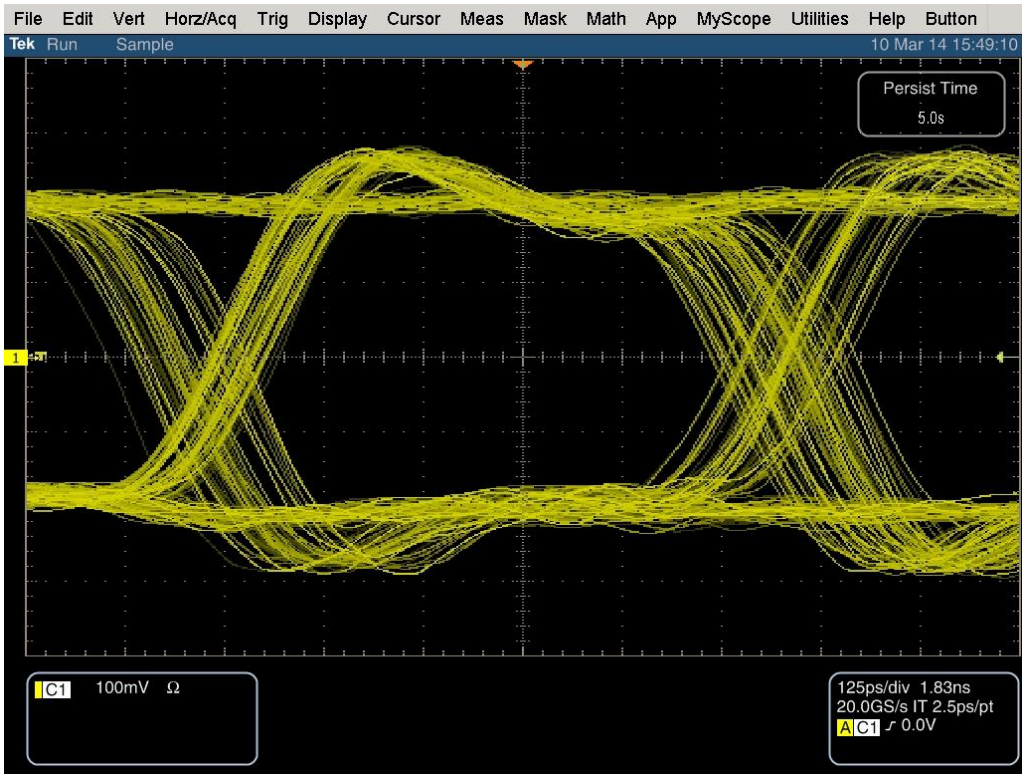

Figure 1: Eye diagram of DS90UB914A-CXEVM and DS90UB913A-CXEVM

.

Test Data taken Jan 2014

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATA SHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, regulatory or other requirements.

These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.

TI objects to and rejects any additional or different terms you may have proposed.

Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265