

# I<sup>2</sup>C signal analysis in the HDMI interface

## Outline

The HDMI (High-Definition Multimedia Interface) standard is based on the DVI (Digital Visual Interface) standard. The HDMI standard has addressed the requirements for a next generation visual interface adapted by non PC applications such as DVD players or STB.

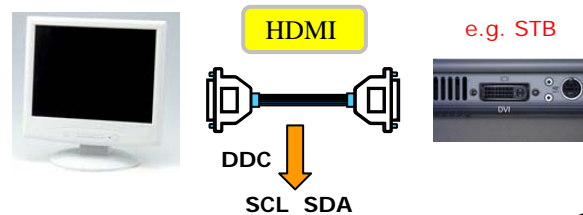
Just like DVI standard, HDMI contains a signal to exchange information among connected devices in addition to the visual signal. This signal is called DDC (Display Data Channel) and the I<sup>2</sup>C standard was selected for this purpose.

The I<sup>2</sup>C bus trigger/analysis function of the DLM2000/DL9000 can be used for the analysis of this signal.

### □ DDC signal data analysis (via physical signal)

The content of the DDC data can be verified from the physical signal using the I<sup>2</sup>C bus function of the DLM2000/DL9000.

□ Evaluation of the signal integrity affected by cable capacitance  
The I<sup>2</sup>C bus function of the DLM2000/DL9000 offers start , address or data content trigger conditions. This functionality is suitable for evaluation of signal integrity affected by cable extension.



DL9000 Series



DLM2000 Series

## Features

### Mixed Signal Oscilloscope DLM2000 Series

- Number of input channels: 4 ch analog or 3 ch analog+ 8-bit logic
- Max. sampling speed: 2.5 GS/s
- BW: 200 MHz to 500 MHz
- Max. memory length: 125 Mpoints
- Serial Bus Analysis functions: I<sup>2</sup>C, SPI, CAN, LIN, UART

### Digital Oscilloscope DL9000 Series

- Number of input channels: 4 ch
- Max. sampling speed: 10 GS/s
- BW: 500 MHz to 1.5 GHz
- Max. memory length: 6.25 MW
- Serial Bus Analysis functions: I<sup>2</sup>C, SPI, FlexRay, CAN, LIN, UART

□ Signal can be triggered based on address pattern or data pattern of the I<sup>2</sup>C.

□ Two different busses can be analyzed simultaneously.

□ The I<sup>2</sup>C bus analysis function offers simultaneous observation on data pattern and the corresponding physical signal.

□ Use of the GO/NO-GO function offers immediate signal integrity evaluation against criteria defined by reference signal.

