

Short Press release on LCoS HDTV

The microsystems group TFCG/IMEC at the University of Gent has developed a large area High Definition Television (HDTV) prototype based on Liquid Crystal on Silicon (LCoS) light valves. This work is carried out in collaboration with the Taiwanese company TMDC.

The LCoS HDTV is most suited for multimedia and DVD home-theater applications.

The R&D work consisted of the following development:

WXGA LCoS light valve

A 0.7" WXGA CMOS backplane was designed with an 11- μ m pixel size. The backplane can operate in native DVD compatible WXGA (1280*768), as well as in standard XGA (1024*768).

Digital video interface board

A digital interface board based on a XILINX FPGA was designed and built enabling the appropriate driving of the LCoS backplanes from standard digital video sources.

VAN liquid crystal cell assembly

A 3 μ m vertically aligned liquid crystal cell assembly technology using an-organic alignment layers was adopted enabling high contrast ratios and fast video response.

Color management

A compact color management unit was used for a 3-valve full color projection set-up.

A photo of a WXGA projected video is shown hereafter.



Industrialization

Mass production for consumer applications will be done by *TMDC*

Design and prototype work will be carried out by a *University of Gent – IMEC spin off company*

Acknowledgement

The Microsystems group TFCG wants to thank TMDC and the European Commission for their financial support of the LCoS R&D work.