NXP low-power 3D HDMI transmitter TDA19988 in TFBGA64

Deliver 3D full HD in mobile apps with HDMI 1.4a transmitter

This advanced transmitter enhances mobile phones, DSCs, DVCs, and tablet PCs by providing 3D full HD up to 1080p, "x.v.Color", and CEC — at unprecedented power savings, size and cost.

Key features

▸ 3D frame packing, side by side, top-bottom, up to 1080p
▸ 60 mW power consumption in 720p 50/60 Hz
▸ <20 µW power consumption in standby mode
▸ "x.v.Color" support, including Adobe RGB
▸ Embedded CEC without external oscillator
▸ HDCP 1.4
▸ RGB, YCbCr, DDR, ITU656 support
▸ Two I²S-bus audio input channels, one SPDIF channel
▸ Software drivers
▸ TFBGA64 package (4.5 x 4.5 x 0.95 mm, 64 balls)

Key benefits

▸ HD ready and Full HD 1080p 3D solution
▸ Extremely low power
▸ Optimized BoM
▸ Flexible design-in for easy system integration
▸ Fast time-to-market
▸ Smallest available package with full 24-bit RGB interface

Applications

▸ Mobile phones
▸ Tablet PCs
▸ Digital still cameras (DSCs)
▸ Digital video cameras (DVCs)
▸ Docking stations

This HDMI 1.4a transmitter, optimized for use in mobile applications, is already in mass production with major mobile phone manufacturers, using platforms from Qualcomm, Texas Instruments (OMAP), and Mediatek. Available in a TFBGA package that measures only 4.5 x 4.5 x 0.95 mm, it delivers best-in-class footprint with a full 24-bit RGB interface. For added convenience, it is HDMI, HDCP, and CEC certification compliant.
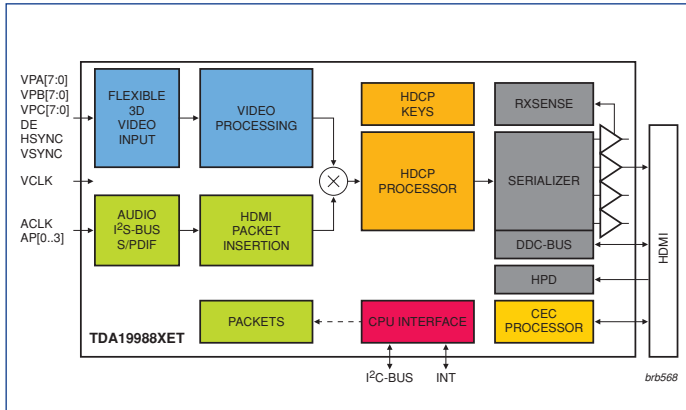
Development tools

The development kit includes an evaluation board and a standard schematic and layout, as well as Android and standard drivers with example applications.
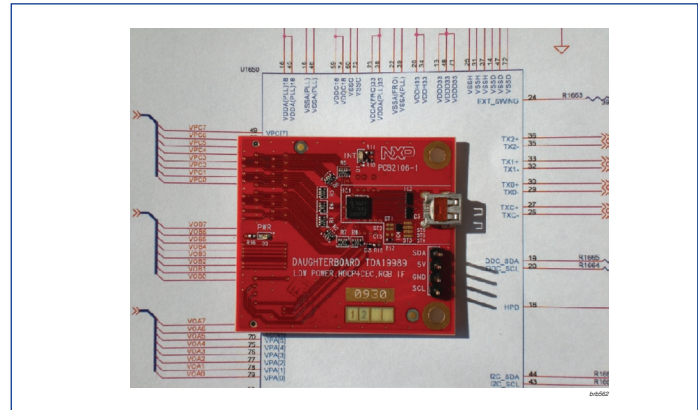
Authorized Test Center (ATC)

NXP's ATC laboratory, located in Caen, France, qualifies and certifies devices according to HDMI, HDCP, and CEC requirements.
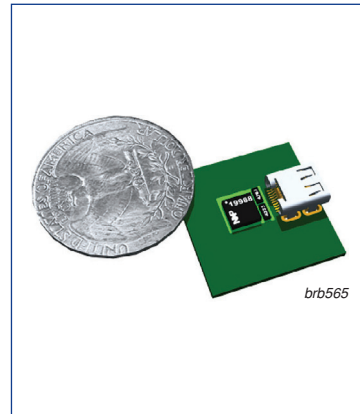
TDA19988xET block diagram

brb568

Evaluation tool includes an evaluation board and a standard schematic and layout, as well as Android and standard drivers with example applications
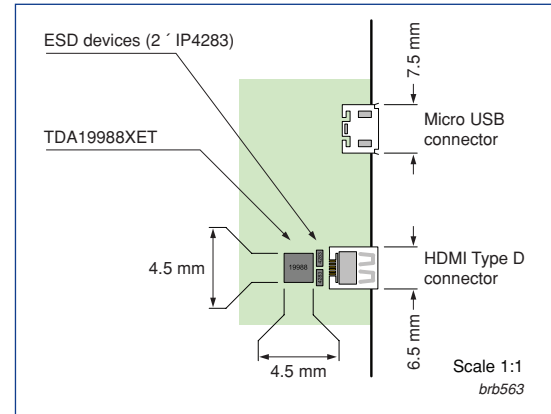

brb562

Use cases: smartphone, camcorder, table PC, camera

brb567

The TFBGA version is the smallest package available with a full 24-bit RGB interface

brb565

Sample TDA19988xET application

ESD devices (2 ´ IP4283)

TDA19988XET

7.5 mm

Micro USB connector

4.5 mm

HDMI Type D connector

4.5 mm

6.5 mm

Scale 1:1

brb563

Type number	Description	Package
TDA19988AET	NXP HDMI 1.4a transmitter with HDCP encryption engine	TFBGA64 (4.5 x 4.5 x 0.95 mm, 64 balls)
TDA19988BET	NXP HDMI 1.4a transmitter without HDCP encryption engine	TFBGA64 (4.5 x 4.5 x 0.95 mm, 64 balls)

HDMI