

— ST Confidential —

# STi7105 update



2009

ST confidential

# SW Milestone contents

Title	Features (Linux & OS21)
M1	<p><b>Audio/Video decode, AV sync</b> (Robustness not guaranteed)</p> <p>32 bits OS21 &amp; STLinux2.3</p> <p>Demux: DVB, PES (for A/V decode), section filtering, raw TS with indexing for HDD recording, descrambling, multiple stream inputs.</p> <p>Video: MPEG2, H264 , SD &amp; HD support in all formats, (un-optimized), channel change (robustness not guaranteed), dual decode &amp; display (ED+SD and HD+SD). ATSC Stream Decoded &amp; Display (may not support some corner case streams).</p> <p>Analog out: CVBS and Y/C (PAL/SECAM/NTSC),RGB and YUV, YPbPr (480p, 576p, 720p, 1080i)</p> <p>HDMI: compliance to standards for Video, Audio 2ch PCM, Info frame (CEC not supported)</p> <p>Graphics: all composition use cases supported, all type of layer, functional blitter (capture plan not supported)</p> <p>Audio: MPEG1/2, DD5.1, MP3, AAC-LC, HE-AAC, <b>DD+ 5.1, WAV, AIFF, LPCM, Beep tone</b>, All postprocessing,SPDIF Pass Through (MPEG, DTS, DD) and main decoded downmix or multichannel analog output simultaneously , Standard peripherals: pio, uart, i2c, Ethernet. , Tuner support: 288, 899, 900, 362.</p>
M2	<p><b>M1 + fixes + new features</b></p> <p>Demux: Full API testing.</p> <p>Video: VC1, DivX, Xvid, Mpeg4p2, AVS, Adobe Flash 7/8 support(FLV1, VP6) , Aspect ratio &amp; frame rate conversion, resize, trick-modes, error recovery, PIP, I frame decode.</p> <p>VBI:, WSS, VPS , HDMI output : compliant with standards on all modes.</p> <p>Analog output : compliant with standards on all modes , Graphics: antiflicker, anti flutter, antialiasing. Close Caption DVR support in STAPI drivers.</p> <p>Audio decoders: WMA( Standard, Professional), Smartcard, SCART. <b>AS4933 – Australian HD – bilevel sync support</b>, Low power mode: active standby for Audio. Front ends: STv0297D/J/E QAM/FEC Cable, STv0372/373/374 VSB/QAM, Dual Tuner support for 6110 or 6130 with 900 demod, Tuner support for 6100 + 289 QPSK concurrent with 900 , STTUNER_ADV, STC .</p>

Green font indicates that the feature is covered in the release, Blue font indicates it will be covered in the subsequent release.

# SW Milestone contents

Title	Features (Linux & OS21)
M3	HD&SD DEI, IQI, CGMS , DVP, Support of capture plan : HD Display capture and down-conversion for concurrent HD and SD output of the main composition, NOR flash boot(Os21/Linux).
M4	CEC, Bug fixes
M4.1	Cut3 support , SPIBoot (OS21), 1080P support : YPrPb ( 24/25/30), HDMI ( 50/30/60)
M5	Beta1.: Transcoding (HE-AAC to DTS, DD+ to DD), SATA, Ref Board Support,, Subtitle, Teletext , Dual tuner support , DVO Basic Support and Bug fixes.
M5.1	Bug fixes
M5.2	Include NAND ECC firmware fix + NAND boot w/ remapper + Baseline IPSTB + Low power (Linux)
M5.3	Bug fixes
M5.4	DVO full support, IPSTB with clock recovery, Audio Description.

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# Certifications

- Dolby Digital 2-channel, DD+ 2-channel, DD 5.1 channel and DDCO certification obtained
- SRS TruVolume (version includes Noise Manager) certification obtained.
- DivX certified
- Macrovision certified

# Boards

- ▣ Reference design board (STi7105-HDK):
  - ▣ Prototype board:
    - ▣ Revision 1.2 is current.

# STi7105-HDK : H264-HD DVR

## 7105 HD platform

Dual NIM, 2\*USB2.0, Ethernet, HDMI, eSata

Secured NOR Flash up to 64 128 Mbytes (Linux Support)

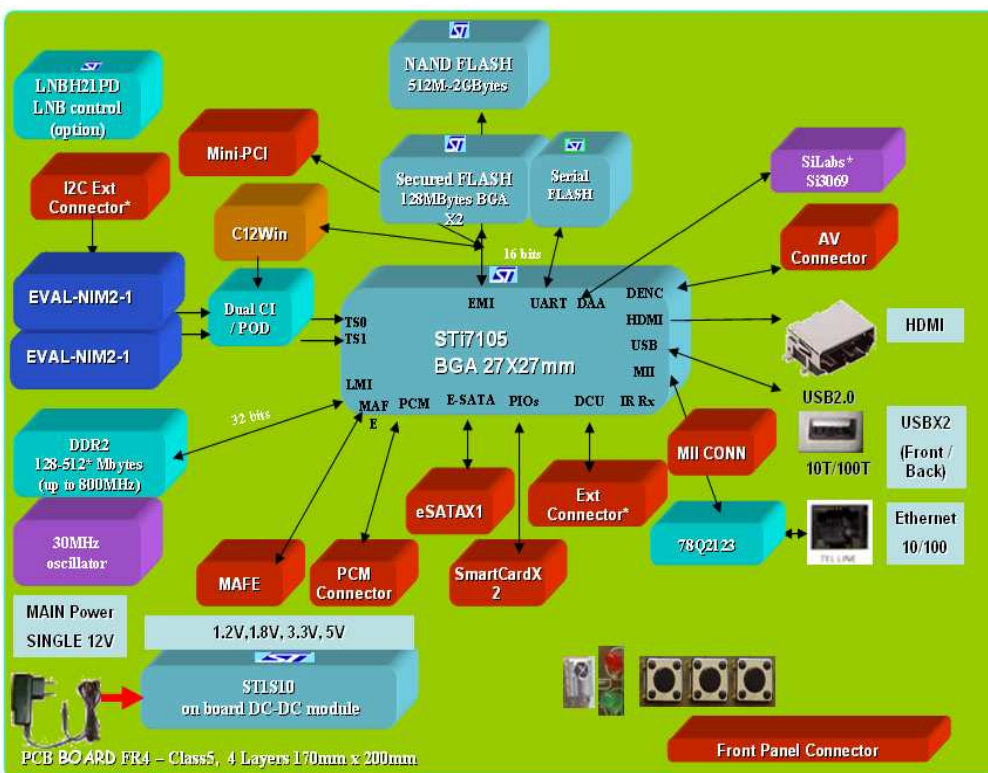
NAND flash

DDR2 up to 512 Mbytes

Mini PCI interface

AV interfaces on daughter board

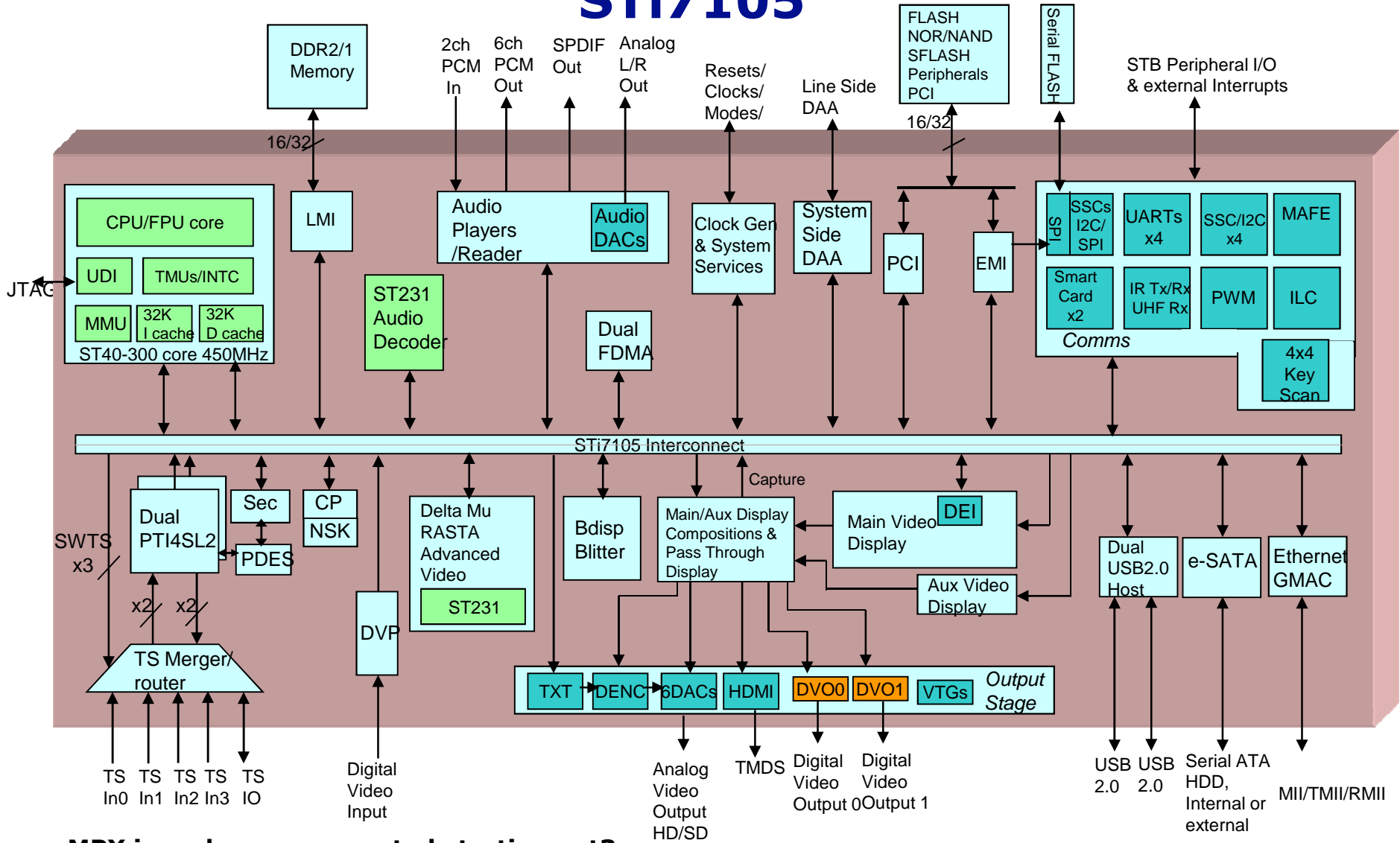
for customisation per market, STV6417/18/19/40



Commercial Product  
STI7105-HDK12ZC

# Key Features

# STi7105



**MPX is no longer supported starting cut3**



# STi7105 Description 1/2

- ❏ Single chip HD/SD advanced decoder IC for STB
- ❏ ST40-300 Applications CPU, 32KI, 32KD caches – 450MHz
- ❏ Single 16/32bits DDR1/DDR2 Local Memory Interface (up to 400MHz)
- ❏ “Delta” Video Decoder with ST231 programmable CPU core. MPEG2, H264, VC-1/WM9 SD and HD Advanced Video Decoding. Provides flexibility to support other codecs e.g. DivX, XviD, H263 encode/decode. AVS-SD decode capable.
- ❏ Dual SD or HD+SD Decoding (MPEG2/H264/VC-1/WMV9) and PIP/Mosaic capable.
- ❏ MPEG2 SD/HD de-blocking and de-ringing
- ❏ ST231 CPU based Audio Decoder. MPEG1 I/II, MP3, Dolby Digital/DD+, MPEG4 AAC/AAC+ audio decoding.
- ❏ Dual video display pipelines, high quality H & V reformatting/resizing with sample rate conversion/filtering. Motion/detail adaptive de-interlacing on the main display.
- ❏ Main (HD/ED/SD up to 1080p60) and Aux (SD) display compositions,
- ❏ 3 graphics planes with H &V resize, CLUT and anti-flicker filtering, 2D graphics blitter.

# STi7105 Description 2/2

- ❏ 6 x 10bits DACs for HD/SD component and composite analog video output HDMI interface with HDCP copy protection
- ❏ Integrated Stereo Audio DAC, Independent SPDIF output
- ❏ Multi-stream transport stream de-multiplexing,
- ❏ DVB/DES/T-DES/AES/Multi-2/ICAM2.2 descrambling
- ❏ Dual USB 2.0 Host ports
- ❏ PCI Interface
- ❏ Integrated 10/100/300 Ethernet MAC, Wake-on-LAN, MII up to 300Mbits/sec
- ❏ Interfacing and Boot from parallel NOR, NAND or Serial NOR FLASH
- ❏ Single SATA /e-SATA port. HDD attachment via e-SATA, EMI or USB.
- ❏ Advanced security - Secure control words, Code authentication, JTAG locking, Network/DVR copy protection, SVP, VGS, DTCP-IP, MS-DRM, MSTV.
- ❏ SD/HD Digital Video Input (16bits) and dual SD/HD Digital Video Outputs (16bits and 24bits)
- ❏ 27x27 PBGA.