

XX T972

XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXX T972
XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXX T972(T962X2) XXXXXXXXXXXX ARM Cortex A55 1.98GHZ
XXXXXXXXXX	Penta Core ARM Mail-450
XXXXXXXXXX	DDR4 2GB/4GB (XXXXXXXXXXXX)
XXXX	16GB eMMC (XXXXXXXXXXXXXXXXXXXX 128GB XXXXX SD/USB)
XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXX Android 9.0
XX	
CODEC XXXXXXXX/XXXXXXXX	<p>-Amlogic Video Engine (AVE-10) XXX</p> <p>4Kx2K@75fps</p> <ul style="list-style-type: none"> <li>- XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX / XXXXXXX</li> <li>-XXXXXXXXXX VP9 2-10 XXXXXXX 8Kx4K@24fps XXXXX 4Kx2K@60fps</li> <li>-H.265 HEVC MP-10@L5.1 XXXXXXX 8Kx4K@24fps XXXXX 4Kx2K@60fps</li> <li>-XXXXXXXXXX AVS2-P2 XXXXXXX 4Kx2K@60fps</li> <li>-H.264 AVC HP@L5.1 XXXXXXX 4Kx2K@30fps</li> <li>-H.264 MVC XXXXXXX 1080P@60fps</li> <li>-MPEG-4 ASP@L5 XXXXXXX 1080P@60fps (ISO-14496)</li> <li>-WMV/VC-1 SP/MP/AP XXXXXXX 1080P@60fps</li> <li>-AVS-P16(AVS) /AVS-P2 XXXXXXX JiZhun XXXXXXX 1080P@60fps</li> <li>-MPEG-2 MP/HL XXXXXXX 1080P@60fps (ISO-13818)</li> <li>-MPEG-1 MP/HL XXXXXXX 1080P@60fps (ISO-11172)</li> <li>-XXXXXXXXXXXX 8/9/10 XXXXXXX 1080P@60fps</li> <li>- XXX</li> <li>-XX MJPEG XXX JPEG (ISO/IEC-10918)</li> <li>-XXXXXXXXXXXXXXXXXXXX JPEG XXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX</li> <li>-XXXXXXXXXXXXXXXXXXXX *.mkv,*.wmv,*.mpg, *.mpeg, *.dat, *.avi, *.mov, *.iso, *.mp4, *.rm XXX *.jpg</li> </ul>
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XXXXXXXXXXXXXXXXXXXXXXXXXXXX	<p>XXXXXXXX MP3, AAC, WMA, RM, FLAC, Ogg, Dolby DTS Audio XXXXXXXXXXXXXXXXXXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX 7.1/5.1</p> <p>VAD XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX AEC XXXXXXX</p> <p>XXXXXX TDM/PCM/I2S XXXXXXX 3 XXXXXXX XXXXXXXXXXXXXXX TDM/PCM XXXXXXX 384kHz x32XXXX x 8ch</p> <p>XXXXXX 96kHzx 32XXXX x 32ch XXXXXXXXXXXXXXX I2S XXXXXXX 384kHz x 32XXXX x 8ch</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX PDM XXXXXXX CIC, LPF XXX HPF XXXXXXXXXXXXXXXXXXXXXXX XXX</p> <p>XXXX DMIC XXXXXXX 8 XXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX SPDIF/IEC958 XXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX L/R 2 XXXXXXX XXXXXXXXXXXXXXXXXXXXXXX L/R 2 XXXXXXX</p> <p>XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXX I2S PCM</p> <p>XXXXXX Audio EQ/DRC XXXXXXXXXXXXXXXXXXXXXXX</p>
XXXXXXXXXXXXXXXXXXXXXXXXXXXX	<p>HD MPEG1/2/4, H.265/HEVC, HD AVC/VC-1, RM/RMVB, Xvid/DivX3/4/5/6, RealVideo8/9/10</p>
XXXXXXXXXXXXXXXXXXXX	<p>Avi/Rm/Rmvb/Ts/Vob/Mkv/Mov/ISO/wmv/asf/flv/dat/mpg/mpeg</p>
XXXXXXXXXXXXXXXXXXXX	<p>MP3/WMA/AAC/WAV/OGG/DDP/TrueHD/HD/FLAC/XXXX</p>
XXXXXXXXXXXXXXXXXXXX	<p>HD JPEG/BMP/GIF/PNG/TIFF</p>
XXXXXXXXXXXX	

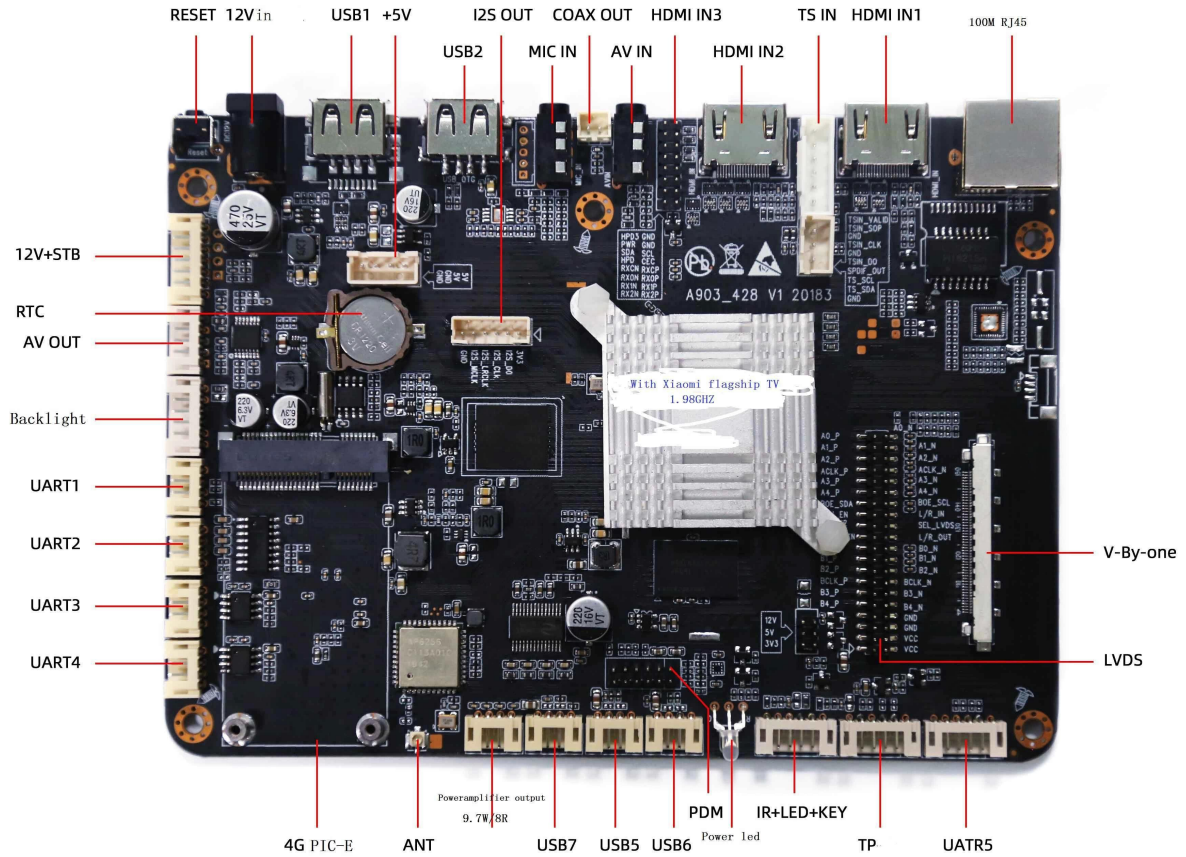
1 \* LVDS 40pin 2.0  
 1 \* V-By-one  
 HDMI\*3  
 4 \* 2.5. 10W8Ω@2  
 \*1 10M/100M RJ45  
 2.4G WIFIBT (WiFi 2.4G/5G)  
 PCIE(4)x1  
 USB OTG \* 1  
 USB\*4  
 \*2, 6 \* 2.0  
 \*1, 7pin 2.0 LED  
 \*4  
 \*1  
 \*1

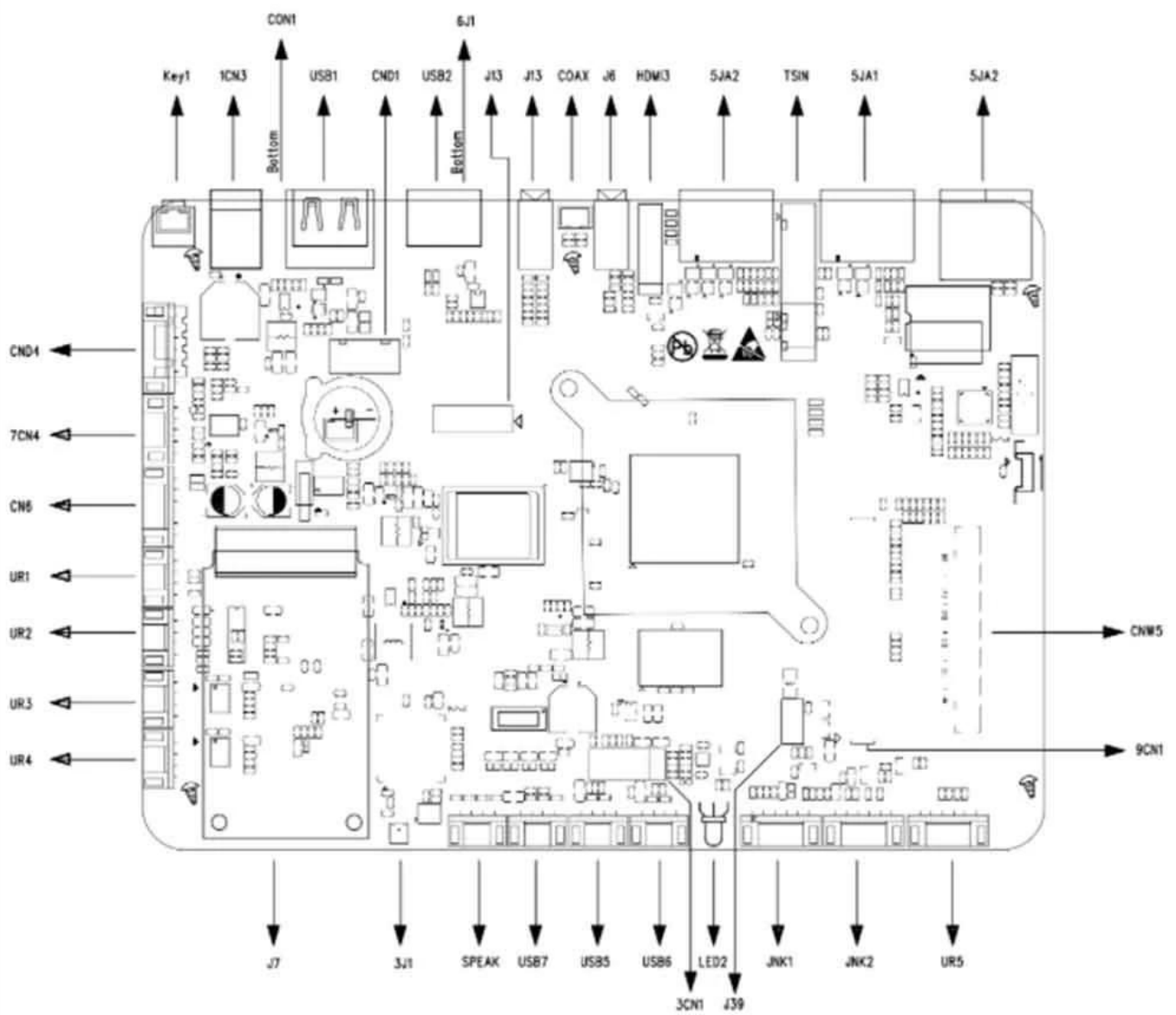
1\*3.5  
 1 \* LVDS 40pin 2.0 8bit / 10bit  
 1 \* V-By-one  
 HDMI\*3  
 4 \* 2.5. 10W8Ω@2  
 \*1 10M/100M RJ45  
 2.4G WIFIBT (WiFi 2.4G/5G)  
 PCIE(4)x1  
 USB OTG \* 1  
 USB\*4  
 \*2, 6 \* 2.0  
 \*1, 7pin 2.0 LED  
 \*4  
 \*1  
 \*1

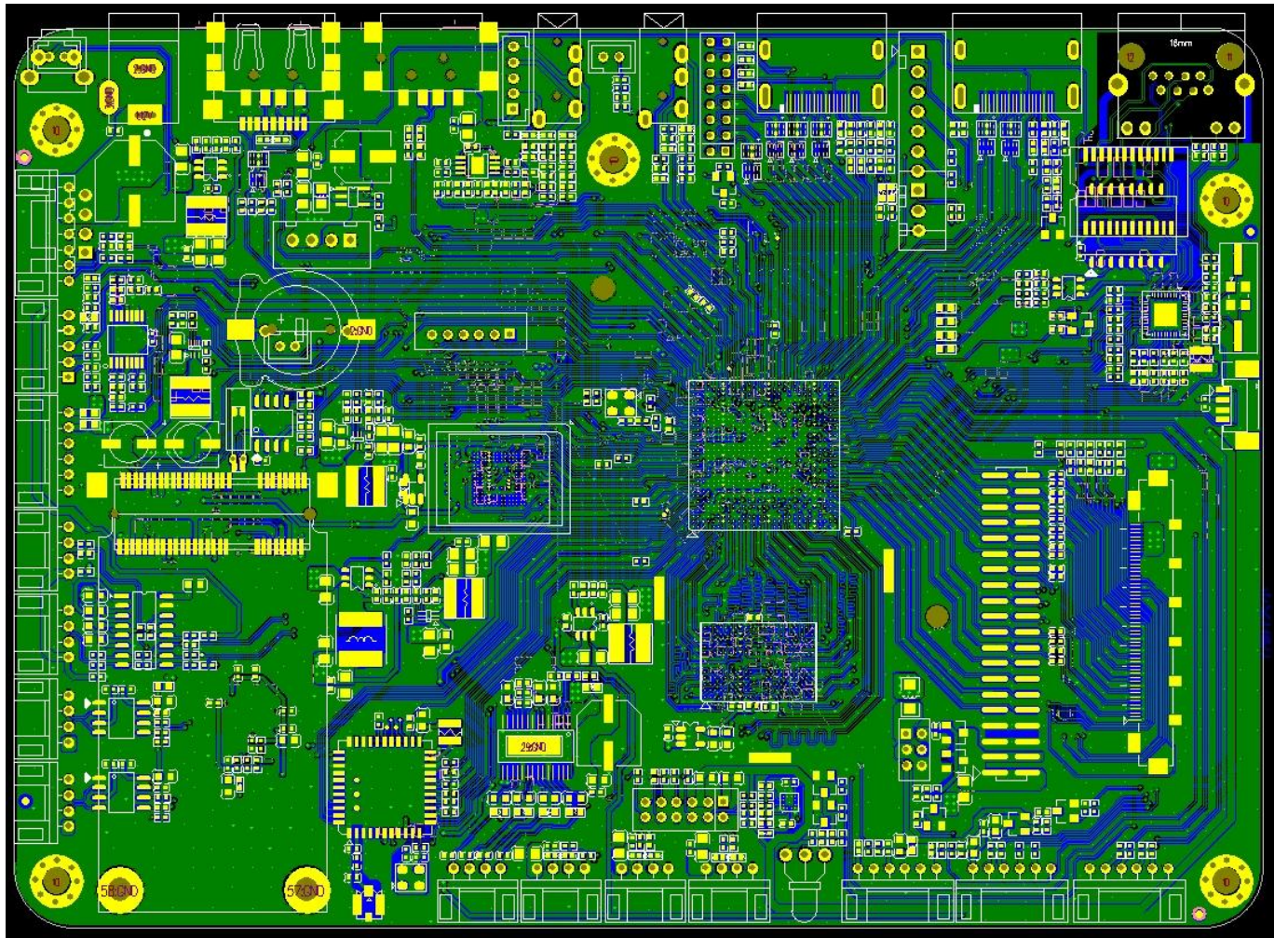
USB2.0

STB, 5VSB, 5V, 12V, 12 \* 2.0  
 12V / 4pin 2.54 12V / 2.5DC

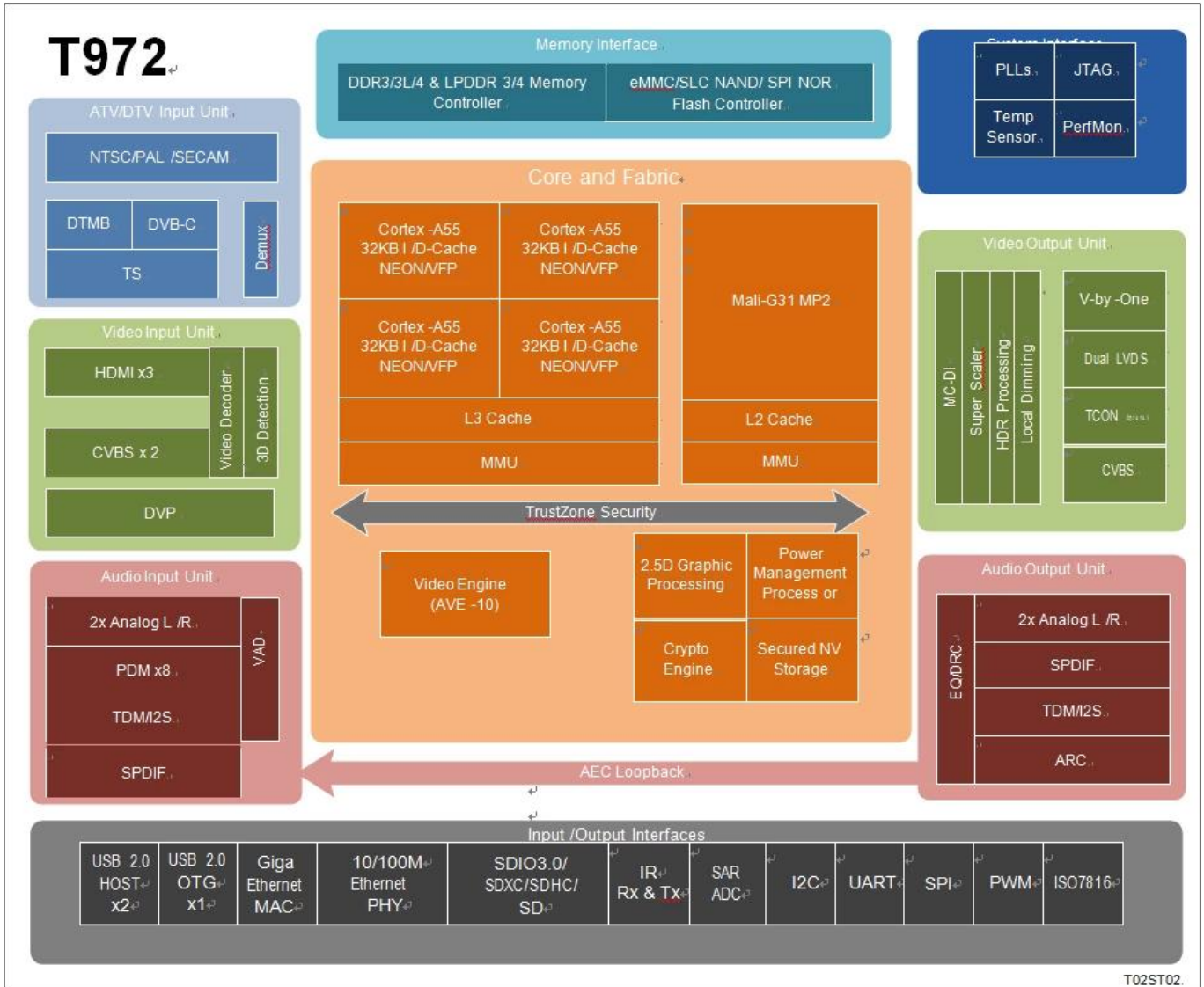
# ONENUTS











**T972** 支持 4K/4K 超高清视频，支持 HDR 高动态范围视频，支持 8K/4K 超高清视频。CPU 采用 quad-core Cortex-A55，支持 L3 缓存。GPU 采用 Mali-G31 MP2，支持 OpenGL ES 3.2, Vulkan 1.1, OpenCL 2.0。支持 2.5D 图形处理。支持 CPU 和 GPU 的 TrustZone Security。支持 Video Engine (AVE-10)。支持 Audio Input Unit (2x Analog L/R, PDM x8, TDM/2S, SPDIF, VAD) 和 Audio Output Unit (EQ/DRC, 2x Analog L/R, SPDIF, TDM/2S, ARC)。支持 Video Input Unit (HDMI x3, CVBS x2, DVP, Video Decoder, 3D Detection) 和 Video Output Unit (MC-DI, Super Scaler, HDR Processing, Local Dimming, V-by-One, Dual LVDS, TCON, CVBS)。支持 Memory Interface (DDR3/3L/4 & LPDDR 3/4 Memory Controller, eMMC/SLC NAND/ SPI NOR Flash Controller)。支持 Custom Interfaces (PLLs, JTAG, Temp Sensor, PerfMon)。支持 Input/Output Interfaces (USB 2.0 HOST x2, USB 2.0 OTG x1, Giga Ethernet MAC, 10/100M Ethernet PHY, SDIO3.0/SDXC/SDHC/SD, IR Rx & Tx, SAR ADC, I2C, UART, SPI, PWM, ISO7816)。

**Amlogic Video Engine (AVE-10)**  
 支持 CPU Cortex-A55 和 CODEC 的 AVE-10 4K2K Trusted Video Path (TVP) DRM。支持 MVC, MPEG-1/2/4, VC-1/WMV, AVS, AVS2, RealVideo, MJPEG, H.264, H265-10, VP9-10 和 JPEG。支持 HDR10, HDR10+, HLG, Technicolor Prime HDR, BT.2020/ BT.2100。

Amlogic T972 3D 240Hz HDR, 8K P2P 12bit TCON CEDS, CHPI, CMPI iSP.

Amlogic T972 HDMI 2.1 3D 240Hz HDR CVBS 2 HDMI HDCP 1.4/2.2 HDR 4K2K Amlogic T972 ATV NTSC, PAL SECAM DTV DTMB (TS) demux

Amlogic T972 DVB Common Descrambler 1.0 DES, Triple DES (TDES/3DES) AES ISO7816

Amlogic T972 CPU Voice Activity Detection (VAD)

Amlogic T972 SoC MIC PDM, TDM I2S 8 10/100/1000M Ethernet MAC RGMII, 10/100M Ethernet PHY, USB 2.0 SDIO 3.0, eMMC 5.0, SLC NAND SDIO / SD, UART, I2C, SPI PWM IR Blaster QoS

Amlogic T972 DRAM SecureOS, Linux GNU/GCC Android tool chain AMLOGIC

Amlogic T972 ARM Cortex-A55 ARMv8.2 L3 TrustZone QoS CoreSight

Amlogic T972 3 ARM Mali-G31 MP2 4 EE 2x 4 (EE) OpenGL ES 3.2, Vulkan 1.1 OpenCL 2.0

Amlogic T972 2.5D bitblt (ROP) 4:2:0, 4:2:2 4:4:4

( ) 8/16/24/32  
( )  
( )

( )  
( ) AES ( ) 128/256 ( ) 16 ( ) ECB, CBC ( )  
CTR  
( ) DES/3DES ( ) ECB ( ) CBC ( ) 64 ( ) DES ( ) 192  
( ) 3DES  
( ) DVB-CSA ( )  
( ) (TRNG) ( ) SHA-1/SHA-2

**CODEC** ( )/( )

Amlogic Video Engine (AVE-10) ( ) 4Kx2K@75fps  
( )/( )  
( ) VP9 2-10 ( ) 8Kx4K@24fps ( ) 4Kx2K@60fps  
H.265 HEVC MP-10@L5.1 ( ) 8Kx4K@24fps ( ) 4Kx2K@60fps  
( ) AVS2-P2 ( ) 4Kx2K@60fps  
H.264 AVC HP@L5.1 ( ) 4Kx2K@30fps  
H.264 MVC ( ) 1080P@60fps  
MPEG-4 ASP@L5 ( ) 1080P@60fps (ISO-14496)  
WMV/VC-1 SP/MP/AP ( ) 1080P@60fps  
AVS-P16(AVS) /AVS-P2 ( ) JiZhun ( ) 1080P@60fps  
MPEG-2 MP/HL ( ) 1080P@60fps (ISO-13818)  
MPEG-1 MP/HL ( ) 1080P@60fps (ISO-11172)  
RealVideo 8/9/10 ( ) 1080P@60fps  
( )  
MJPEG ( ) JPEG ( ) (ISO/IEC-10918)  
( ) JPEG ( ) ( )  
( ) \*.mkv,\*.wmv,\*.mpg, \*.mpeg, \*.dat, \*.avi, \*.mov, \*.iso, \*.mp4, \*.rm ( ) \*.jpg

**Amlogic TruLife** ( ) **9**

( ) HDR10/10, HLG, Technicolor Prime HDR  
( ) 3D  
( )  
( )  
( )  
( ) (VOF)  
( ) SuperScaler ( ) LTI, CTI,  
( )  
( )  
3D LUT ( ) 17x17x17 ( ) 4913 ( )  
( )  
( ) HSL ( )  
( )/( )/( )/( )  
( )  
( ) : ( ) 2 ( ) 2 ( )  
( ) HDR ( )  
( )



**Display LCD**

V-By-One 8 channels 1, 2, 4 channels 4Kx2K 60Hz  
LVDS 1920x1080 60Hz  
mini-LVDS (1 channel 6 lanes)/(2 channels 3 lanes) HD/FHD  
1920x1080Hz  
CEDS/CHPI/CMPI/iSP 12 UHD  
UHD TCON 4Kx2K 60Hz  
3 channels LCD  
Dithering LCD

**Video Input**

3x HDMI 2.1 Dynamic HDR, ARC, HDCP 1.4 /2.2, 4Kx2K@60  
2x CVBS 480i/576i  
CVBS (PAL/NTSC)  
ITU 601/656 RGB565 8 bits, CCIR656, CCIR601, YUV422, YCbCr422

**Audio Input**

MP3, AAC, WMA, RM, FLAC, Ogg, Dolby DTS Audio  
7.1/5.1  
VAD AEC  
TDM/PCM/I2S 3 channels TDM/PCM 384kHz x32bits x 8ch  
96kHz x 32bits x 32ch I2S 384kHz x 32bits x 8ch  
PDM CIC, LPF HPF DMIC  
8 channels  
SPDIF/IEC958  
L/R 2 channels L/R 2 channels  
I2S PCM  
Audio EQ/DRC

**Video Output**

NTSC, NTSC-J, PAL-BG, PAL-DK1, PAL-I, PAL-DK, PAL-M, PAL-N, SE- CAM-DK2,  
SECAM-DK3, SECAM-L ATV  
BTSC, A2, EIA-J NICAM  
V-chip  
DTMB/DVB-C/ DTV  
Build-in VIF demodulator IF

**Storage DTV**

3x Transport stream (TS) demux  
PWM, I2C SPI  
ISO 7816

**Memory**

DRAM 32 4GB  
JEDEC DDR3-2133 /DDR3L-2133 /DDR4-2666 /LPDDR3-2133  
/LPDDR4-3200 SDRAM  
SDSC/SDHC/SDXC SDIO 1 4  
2.x/3.x/4.x DS/HS UHS-I SDR104  
eMMC 1/4/8

5.0 HS400 SLC NAND OTP 4K

IEEE 802.3 10/100/1000M MAC RGMII PHY 10/100M WiFi/IEEE802.11 USB SDIO Bluetooth USB UART WIFI BT

I/O USB I/O USB 2.0 USB OTG UART I2C PWMs SPI IR-blaster SAR ADC 10 4 IO DMA 24 MHz ICE/JTAG

CPU, DRAM PLL I/O 1.8V 3.3V

(TEE) Trustzone OTP DRAM RNG Trusted Video Path (TVP) SecureOS IO

FCBGA, 19 x 19, 0.65, RoHS

Amlogic T972

Amlogic T972 4K, HDR

Amlogic T972

Wi-Fi

HDMI USB

Bluetooth

Amlogic

T972

Android Linux

DIY

Amlogic T972

Amlogic T972