DVF120 SoC for UCC Devices
PRODUCT BRIEF

The DVF120, a member of Synaptics' family of embedded UCC processors, is an advanced system on chip (SoC) specially designed and optimized for mid and high-end, feature-rich IP phones and terminals that require powerful processing, advanced AI capability, and 3D graphics. This chip comes with Linux® and Android™ OS, superior audio algorithms, variety of peripherals, dual displays, companion Synaptics SoC for connectivity and audio front end.

BENEFITS

► Strong computing with low power mode

► AI-enabled audio processing

► Enterprise-grade security

► System cost optimization

► Field-hardened Linux and Android SDK

► Family of processors with common SDK

APPLICATIONS

► Linux and Android-based IP terminals

► Microsoft Teams™, Zoom™, and WebEx™ terminals and associated touch controllers
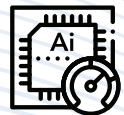
► Audio docking devices

► Advanced conferencing devices

PROVEN LINUX/ ANDROID SDK

AI ENABLED; HIGH-PERFORMANCE CPU

LOW SYSTEM COST

SECURE

FEATURES

► Quad-core Arm Cortex-A55 processor; up to 1.9 GHz per core

► Imagination™ BXE-2-32, dual-core (2 pixels per clock) GPU; clock frequency of up to 800 MHz

► Supports OpenGL® ES™ 3.2, OpenCL™ 3.0, EGL™ 1.5, Vulkan® 1.3, Android neural network (NN) API through IMGDNN AP

► 802.3 (G)MAC supports RGMII and RMII

► DDR4/DDR3/DDR3L, NAND, and eMMC 5.1 controllers

► TDM/I²S: 5 fully bidirectional interfaces with up to 16 channels each

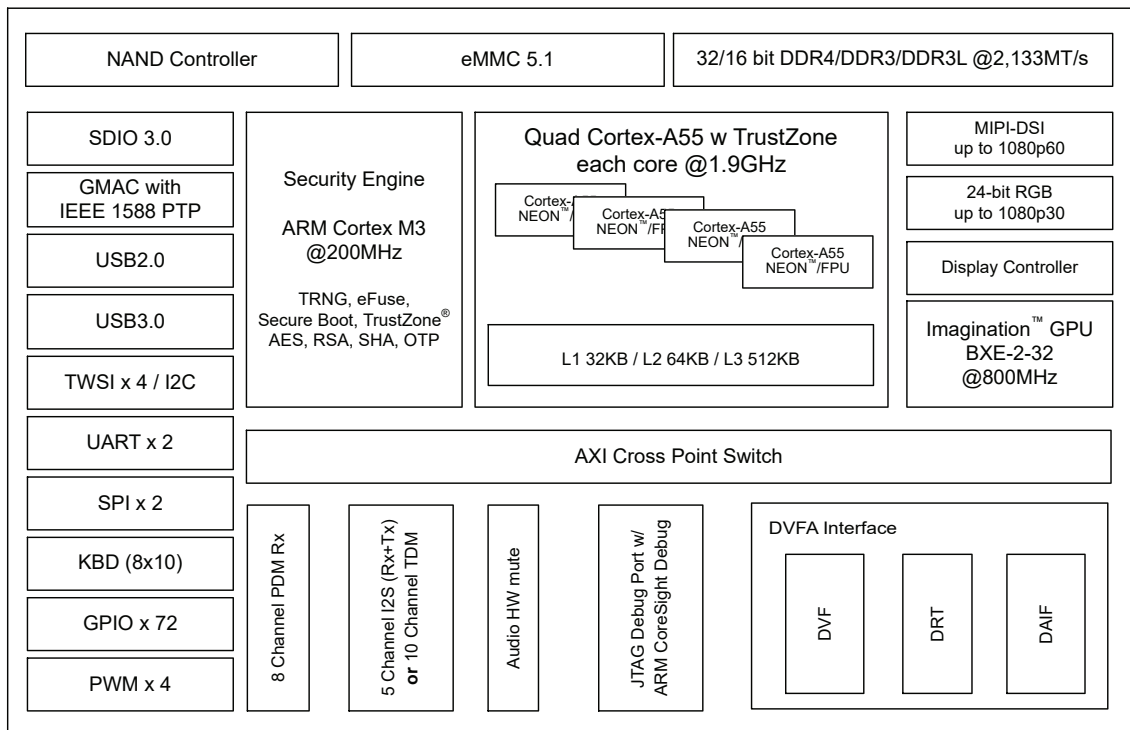► Support for up to 8 digital microphones – 4 PDM stereo interfaces

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PRODUCT BRIEF

▶ TrustZone® technology with secure boot, dedicated security processor (DSP), HSM, TEE, secure storage, on-chip anti-fuse OTP

▶ USB3.0, USB2.0 OTG, SDIO3.0, UART

▶ MIPI DSI® and RGB

▶ Dual display support

▶ 72 GPIOs

SYSTEM BLOCK DIAGRAM

| NAND Controller | eMMC 5.1 | 32/16 bit DDR4/DDR3/DDR3L @2,133MT/s |

SDIO 3.0

GMAC with IEEE 1588 PTP

USB2.0

USB3.0

TWSI x 4 / I2C

UART x 2

SPI x 2

KBD (8x10)

GPIO x 72

PWM x 4

Security Engine

ARM Cortex M3 @200MHz

TRNG, eFuse, Secure Boot, TrustZone® AES, RSA, SHA, OTP

Quad Cortex-A55 w TrustZone each core @1.9GHz

Cortex-A55 NEON™/FPU
Cortex-A55 NEON™/FPU
Cortex-A55 NEON™/FPU
Cortex-A55 NEON™/FPU

L1 32KB / L2 64KB / L3 512KB

MIPI-DSI up to 1080p60

24-bit RGB up to 1080p30

Display Controller

Imagination™ GPU BXE-2-32 @800MHz

AXI Cross Point Switch

8 Channel PDM Rx

5 Channel I2S (Rx+Tx) or 10 Channel TDM

Audio HW mute

JTAG Debug Port w/ ARM CoreSight Debug

DVFA Interface

DVF

DRT

DAIF