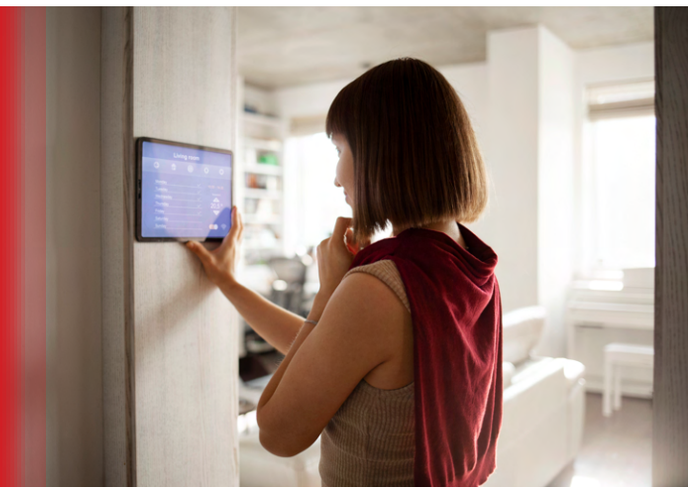
VEST **Your Partner in Innovation**
Embedded Solutions

NXP Gold Partner

VEST HMI Development Kits

VEST, a leading provider of embedded solutions, offers a comprehensive suite of Human Machine Interface (HMI) Development Kits designed to accelerate customer product development. These kits are available with either a 7-inch or 10.1-inch capacitive touchscreen display.



High Brightness / Sunlight Readable

Rich Multimedia

Efficient CPU

Robust Security Features

ABOUT OUR **PRODUCT**

VEST HMI (Human Machine Interface) Development Kits empower developers to create cutting-edge HMIs leveraging the robust NXP i.MX8M processors (i.MX8M Plus and i.MX8M Mini). These high-performance processors, featuring the ARM® A53 Core, deliver exceptional multimedia capabilities, enabling stunning 3D and 2D graphics on displays ranging from compact 4-inch panels to large 4K displays via HDMI. With extensive experience designing for harsh operating environments, VEST ensures its products meet stringent IP65/67 (water/dust) and IK08 (impact resistance) standards for touch panels, along with other critical requirements, including sunlight readability. VEST also provides customized graphical user interface (GUI) design and software UI/application development services using Qt, React JS, Android, and LVGL.

Prepare for the future with our forthcoming Next Generation Contactless HMI, integrating microphone arrays with Voice Intelligent Technology powered by deep learning speech recognition and mmWave 60GHz radar sensing.

VEST HMI Development Kits are ideally suited for a wide range of applications, including:

- Industrial Automation Displays
- Video/Audio Conferencing
- Advanced Human Machine Interface Applications
- Point of Sale, Digital Signage, Smart Retail, and Smart City Solutions
- Point of Care and Medical Devices
- Test and Measurement Instruments (including portable formats)
- Industry 4.0 Automation

Key Features

- Rich multimedia capabilities, including dual display support with the i.MX8M Plus
- Integrated 10W audio amplifier with plug-and-play speaker driver
- Support for key industrial protocols, including NXP Real Time Edge software (i.MX8M Plus), OPC-UA, Modbus, and CAN Bus
- Versatile camera interface via MIPI CSI, supporting a range of resolutions.
- Interface for future-ready contactless HMI functionalities, including voice intelligence technology and mmWave (60GHz) sensing

Support

debian Qt SMARC module

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	VEST i.MX8M Mini Dev Kit (NXP iMX8M Mini)	VEST i.MX8M Plus Dev Kit (NXP iMX8M Plus)
CPU Details		
CPU	Up to 4x Cortex-A53 @ 1.8GHz, Cortex-M4 @ 400 MHz	Up to 4x Cortex-A53 @ 1.8GHz, Cortex-M7 @ 800 MHz
GPU	GC Nano Ultra for 3D Acceleration, GC 320 for 2D Acceleration	16 GLOPS (high precision) OpenGL ES 3.1/3.0, Vulkan, Open CL™ 1.2FP, Open VG™ 1.1
NPU		NPU operating at up to 2.3 TOPS
Memory		
Memory	2GB 32-bit LPDDR4-3000	2GB 32-bit LPDDR4-3000
Storage	16GB eMMC 5.1	16GB eMMC 5.1
External Storage	Micro SD 3.0 Socket Push-Push	Micro SD 3.0 Socket Push-Push
Operating System/Driver		
BSP	Yocto Linux, Debian, and Android	Yocto Linux, Debian and Android
Driver	Omni Vision OV5640 camera	NXP Real-Time Edge Software LI-IMX715-MIPI Camera, Optimom 2.0, Optimom 1.5
Multimedia		
Video Encoder	1080p60, H.264, VP8	1080p60, H.264 / H.265
Video Decoder	1080p60, H.264 / H.265, VP9, VP8	1080p60 HEVC, H.264 / H.265, VP9, VP8
Camera	1x MIPI CSI	2x MIPI CSI (4 lane each), 2x ISP
Audio	Headphone Jack with microphone input, header for Speaker L&R up to 10W / channel into 8 ohm load	
Display and Touch	LVDS connector with backlight for LCD Panel, I2C Touch Connector	LVDS connector with backlight for LCD Panel, I2C Touch Connector, HDMi 2.0a TX
Panel		
Size	7" or 10.1"	7" or 10.1"
Technology	TFT (IPS)	TFT (IPS)
Resolution	1024 x 600 / 1280 x 800	1024 x 600 / 1280 x 800
Luminance	400 nits to 1200 nits	400 nits to 1200 nits
View Angle (H/V)	170 / 170	170 / 170
Multi-Touch Point	10	10
Connectivity		
Wireless	Dual Band WiFi 802.11a/b/g/n/ac 2x2 MIMO + Bluetooth 5.2	
Networking	10/100/1000 BaseT RJ45 Ethernet with PoE	1x 10/100/1000 BaseT RJ45 Ethernet with PoE, 1x 10/100/1000 BaseT RJ45 Ethernet with PoE and TSN Support
USB	1x USB2.0/3.0 Type C with PD, 2x USB 2.0/3.0 Type A, 1x USB 2.0 Type A	
Serial Communication	RS485 with 120 ohm Termination (default) or RS232, 2x CAN FD, 3x UART	
I/O Expansion	M.2 KeyB (4-lane 1x MIPI CSI < 2x I2C, 2x UART, 2x SPI, GPIO) M.2 KeyB (LVDS 4/8 Lane default or MIPI DSI (4 lane), 2x I2C, 2x UART) PCIe M.2 Key E 2230 (1 Lane PCIe Gen3.0, USB, SDIO, I2S, UART, GPIO)	
Debugging & Programming	2x Debug-UART Header, 2.45mm Pitch 5pin header, JTAG-1.27mm Pitch 2x5 Pin Header	
Buttons and Indicators	1x Power Button, 1x Force Recovery, 1x System Reset, LEDs for PoE operation, LEDs for USB Operation	
Power	PoE (25W/channel), USB-C (60w)	
Physical		
Form Factor	180mm x 120mm (including SMARC SOM)	
Operating Temperature	Commercial / Industrial (optional)	
Ordering Information		
Part No	VEH8MM0700SMX (7")	VEH8MP0700SMX (7")
	VEH8MM1000SMX (10.1")	VEH8MP1000SMX (10.1")

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