

Fury-Q8™: Tablet-Ready Single Board Computer NXP i.MX 8M Cortex-A53 & M4 ARM Processors

Based on the NXP™ i.MX 8M processor, In-Hand created the Fury-Q8™ single board computer (SBC). The Fury-Q8 is a standalone SBC, offering a processor with memory, wireless interfaces, GPS, sensors, display drive, touchscreen interface, battery charging, Ethernet, and more on a single printed circuit board.

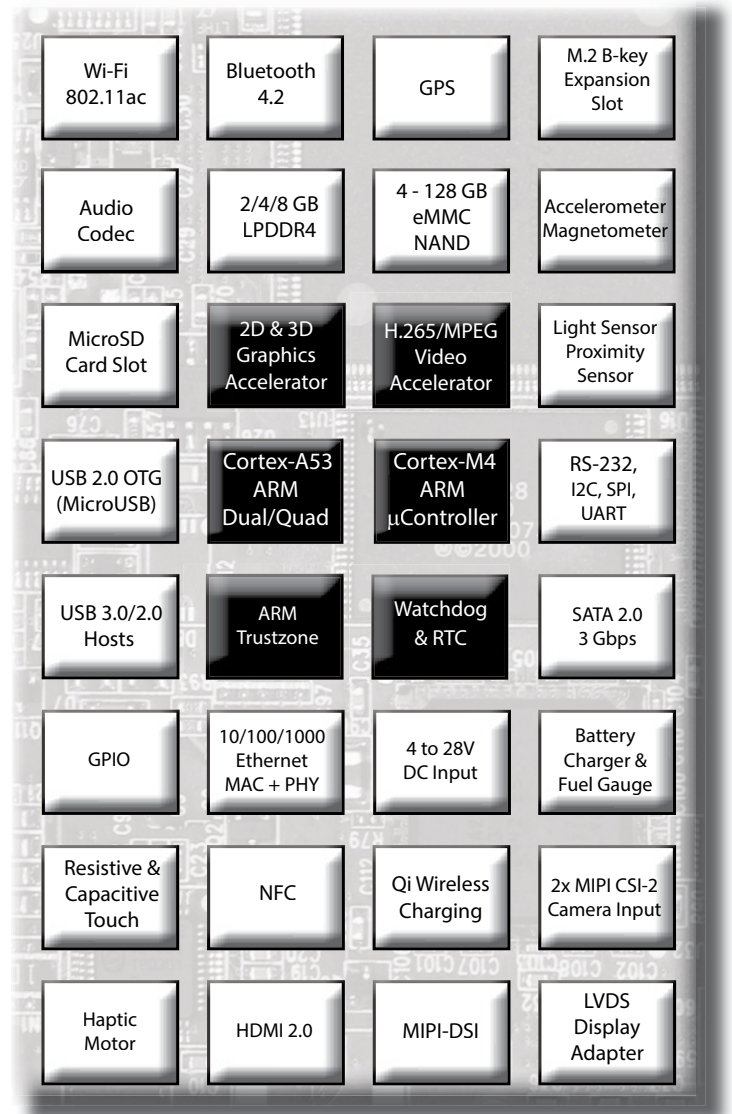
The Fury-Q8 is ideal for embedded applications that require local processing power, complex operating systems, or high performance graphics. Examples include medical, military, and industrial tablet/handheld devices, remote unmanned vehicle controllers, HMI front ends for equipment, instrumentation, and more. OpenCL support enables the graphics processor for general purpose computing.

Android and Linux board support packages enable precise application control of the Fury-Q8 A53 cores. Source code is available for full operating system customization. Inquire about Windows Embedded, VxWorks, and RTOS for the M4 core.

To secure your product, InHand offers its SecuritySmart™ suite of hardware and software technologies. Including tamper detection, secure boot, geographic-based operation, encryption, authentication, and secure erase, SecuritySmart™ simplifies the development of secure, trusted devices.

Remote software, firmware, and configuration setting updates may be facilitated using InHand's UpdateSmart™ technology. The timing, delivery mechanism, and specific units being updated are under full client control at all times.

The commercial off-the-shelf (COTS) Fury-Q8 SBC is highly configurable and can be incorporated into a wide range of devices without modification. InHand's engineering services can create Modified COTS or custom solutions to meet exact product requirements.



- ♦ Single board computer - no carrier needed
- ♦ NXP™ i.MX 8M processor: Dual and Quad
- ♦ Complete set of tablet peripherals and interfaces
- ♦ SecuritySmart technologies lock down your system
- ♦ COTS and Modified COTS options
- ♦ Tablet and human-machine interface applications
- ♦ Long life cycle: 5+ years

PRELIMINARY

InHand Fury-Q8™ Specifications (preliminary)

Processor	NXP i.MX 8M Cortex-A53 Quad or Dual, plus Cortex-M4 microcontroller. Industrial grade. Multimedia support: 2D, 3D & encode/decode HW acceleration; OpenGL, OpenCL, Vulkan, OpenVG, 4Kp60 HEVC/H.265 main decode. VC-1, DivX/Xvid, 1080p60 MPEG-2/4 decode up
RAM	2, 4, or 8 GB DDR4 (32-bit)
Mass Storage	eMMC NAND, 4 - 128 GB; microSD card slot; SATA; SPI NOR
Ethernet	10/100/1000 Ethernet MAC+PHY
Wireless	802.11 b/g/n/ac; Bluetooth 4.2 (BLE and Classic); u.FL connector for plug-in antenna LTE cellular modem via M.2 expansion slot; Near Field Communications (NFC) TBD
Global Positioning	On-board module with GPS, Galileo, GLONASS, and BeiDou support
USB	1 USB 2.0 OTG; 1 or 3 USB 3.0/2.0 Hosts (depending on whether hub is installed)
Audio	Audio codec; stereo speaker drive; audio line-in and line-out headers; digital mic-in
Dedicated Serial	RS-232 (4-wire), UART (4-wire), I2C, SPI
Expansion Slot	M.2 B-key (intended for cellular modems). Additional M.2 E-key TBD (intended for Wi-Fi/Bluetooth)
Camera/Video-Input	2 MIPI-CSI interface (each 4-lane)
Display Output	MIPI-DSI (4-lane) up to 1920x1080 @ 60 Hz; HDMI 2.0 up to 4K; simultaneous displays supported; LCD back-light drive circuitry with dimming; MIPI-DSI and LVDS to 1920x1200 via build option.
Touchscreen	Projected-capacitance supported via I2C; on-board resistive touchscreen controller (4/5 wire)
Sensors	Accelerometer; magnetometer; barometer; temperature sensor; ambient light sensor; proximity sensor
Haptic feedback	On-board motor
Other interfaces	The following are available via headers, depending on processor IOMUX configuration. Not all listed interfaces may be available simultaneously. GPIO x16; UART; I2C; SPI; SDHC; PWM; S/PDIF; I2S
Security	ARM TrustZone, Cryptographic Acceleration and Assurance Module (CAAM), true random number generator, High Assurance Boot, hardware watchdog, real time clock, InHand SecuritySmart™, other TBD
Battery Support	On-board Lithium ion battery charger and fuel gauge; connectors for two batteries
DC Power	Main power: 4 to 28V DC input (barrel jack or header); RTC: 3.3V coin cell
Operating System	Android Nougat 7 or later; Linux 4.9 or later; Contact InHand about VxWorks and Windows availability

Ordering Information

Part Number	Description
FQ8-DP-01	Fury-Q8 development platform: quad core, 4 GB DRAM, 32 GB flash, 7" LCD with touch screen
FQ8-9SBC-4420	Fury-Q8 SBC: quad core, 4 GB LPDDR4, 32 GB flash
FQ8-9SBC-2420	Fury-Q8 SBC: dual core, 4 GB LPDDR4, 32 GB flash

Call or email for pricing, availability, and additional configurations.

Contact Information

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InHand Electronics, Inc. is an original design manufacturer of single board computers and rugged handhelds for original equipment manufacturers. InHand offers commercial off-the-shelf (COTS) computing platforms and modified COTS design services for custom electronic and Internet of Things (IoT) product solutions. InHand's products are used in a variety of markets including: military, healthcare, industrial, and instrumentation. Products feature industry-leading processor technologies from NXP, Texas Instruments, Intel and Marvell; Android, Linux, VxWorks, Ubuntu, Microsoft, and various RTOS operating systems; and communications technologies such as cellular, Wi-Fi, personal area network, and Ethernet. InHand's engineering design services include: system, hardware, software, and packaging; support services include: product manufacturing, program management, manufacturing test development, and supply chain. InHand is an ITAR registered company. InHand products are designed and assembled in the USA.



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