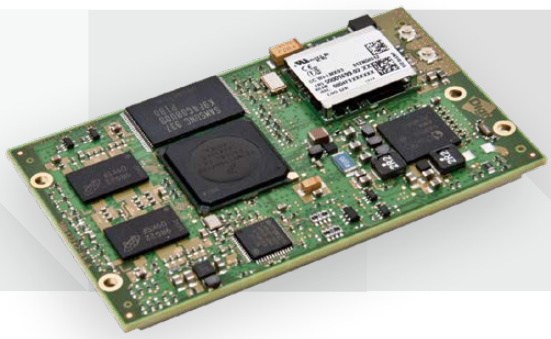
HIGH-END CORE MODULES WITH WIRED AND WIRELESS NETWORK CONNECTIVITY



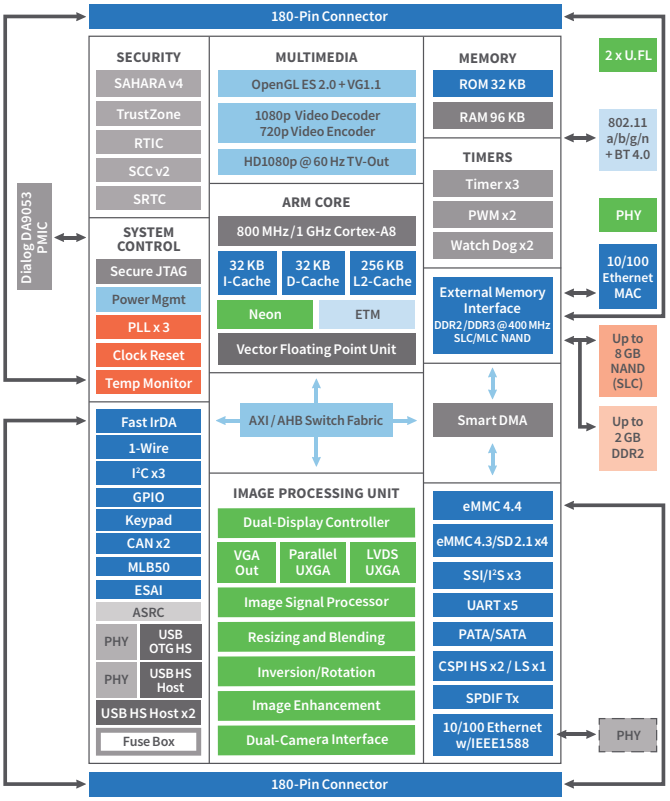
DIGI CONNECTCORE i.MX53 / Wi-i.MX53

High-end Cortex-A8 System-on-Module solution delivers industry-leading performance, low-power operation, and fully integrated 802.11a/b/g/n + Ethernet networking

The network-enabled ConnectCore for i.MX53 module family is a highly integrated and future-proof System-on-Module (SoM) solution based on the new Freescale® i.MX53 application processor. It offers a high-performance 1 GHz ARM® Cortex™-A8 core, wired and wireless connectivity options, powerful 1080p/720p video encoding/decoding capabilities and a complete peripheral set.

The ConnectCore for i.MX53 family builds on the successful ConnectCore for i.MX51 modules by providing a form factor compatible option with significantly improved processing, memory, video and connectivity capabilities. It is a scalable and energy-efficient module family, ideal for medical devices, security/surveillance equipment, industrial applications and digital signage.

BLOCK DIAGRAM



BENEFITS

- High-performance 32-bit System-on-Module
- Long-term product availability solution
- Single and dual 10/100 Mbit Ethernet networking
- Pre-certified 802.11a/b/g/n Wi-Fi interface
- High-performance 2D/3D Graphics Processing Unit
- Hardware video processing with 1080p decoding
- Low-emission design with FCC Class B compliance
- ZigBee, cellular and satellite connectivity options
- Industrial operating temperature support

RELATED PRODUCTS


ConnectCore® 6


ConnectCore® 6 SBC


ConnectCard™ for i.MX28


ConnectCore® for i.MX51


Development Kits

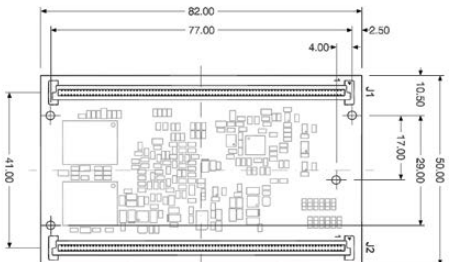
SPECIFICATIONS	ConnectCore® i.MX53 | ConnectCore® Wi-i.MX53
PROCESSOR	
PROCESSOR MODEL	Freescale® i.MX53 (i.MX535/i.MX537)
SPEED GRADES	800/1000 MHz
CORE TYPE	ARM® Cortex™-A8
CACHE MEMORY	32k L1 I-Cache, 32k L1 D-Cache, 256k L2-Cache (unified)
INTERNAL RAM	128 KB (secure/non-secure)
VECTOR FLOATING POINT	Yes
NEON MEDIA ACCELERATION	Yes
MEMORY	
FLASH	Up to 8 GB NAND flash
RAM	Up to 2 GB DDR2
DEBUG	
SECURE JTAG	Yes
ETM/ETB	Yes
POWER MANAGEMENT	
POWER MODES	Run, Wait, Stop, Low-power screen refresh
WAKE-UP EVENTS	GPIO, keypad, RTC (day/time of day), SD card/USB cable insertion, battery/charger attach
DYNAMIC VOLTAGE AND FREQUENCY SCALING	Yes
BACKLIGHT DRIVERS	3
BATTERY MANAGEMENT	Yes
REAL-TIME CLOCK	
BATTERY BACKUP (EXTERNAL)	Yes
SECURITY	
HARDWARE ENCRYPTION/DECRYPTION	AES, DES/3DES, RC4, C2; RSA, ECC; MD5, SHA-1/224/256
RANDOM NUMBER GENERATOR	Yes
RUN TIME INTEGRITY CHECKER	Yes
SECURE RAM (INTERNAL)	Yes
FUSE BOX (E-FUSES)	64 Bits (application-specific use)
PHYSICAL TAMPER DETECTORS	Yes
TIMERS	
GENERAL PURPOSE TIMER	32-bit up-counter with clock source selection; 2 input capture channels; 3 output compare channels, forced compare
ENHANCED PERIODIC INTERRUPT TIMER	32-bit down-counter with clock source selection; Set-and-forget/free-running modes; Precision interrupt generation
WATCHDOG	Yes
THERMAL MANAGEMENT	
TEMPERATURE MONITOR	On-chip sensor, precision 0 to 135°C ±5°C; Software support for thermal-aware Dyamic Frequency and Voltage Scaling (DFVS)
CONNECTIVITY	
UART	Up to 3 channels with bit rates up to 4 MHz, IrDA 1.0 support
IRDA INFRARED	Medium InfraRed (0.576/1.152 Mbps), Fast InfraRed (4 Mbps)
CAN	CAN 2.0b, up to 2 channels, up to 1 Mbps each (available on i.MX537 variant)
CSPI	Master and slave mode; Bit rate up to 25 Mbps (master)
ECSPI	Up to 2 eCSPI channels, master and slave mode; Bit rates up to 66.5 Mbps (master)
I2C	Up to 3 channels, master/slave (7-/10-bit addressing); All: Standard (100 kbps) and fast (400 kbps) mode
SD/SDIO/MMC/EMMC	Up to 4 ports, 1-/4-/8-bit modes; MMC: Up to 416 Mbps (8-bit mode), SD/SDIO: Up to 200 Mbps (4-bit mode) eMMC 4.4: Ultra high speed, up to 832 Mbps
P-ATA	Up to 66 MB/s data rate ; PIO mode (0,1,2,3,4), multi-word DMA mode (0,1,2), Ultra DMA mode (0,1,2,3,4,5)
SATA	SATA II, up to 1.5 Gbps
USB 2.0 HIGH-SPEED	Up to 3 USB 2.0 High-Speed Host ports, one with integrated PHY; Up to 1 USB 2.0 OTG port with integrated PHY
MEDIA LOCAL BUS (MLB)	MOST (Media Oriented Systems Transport) interface, up to 50 Mbps
1-WIRE	Yes
ISO 7816 (SIM/SMART CARD)	Yes

SPECIFICATIONS	ConnectCore® i.MX53	ConnectCore® Wi-i.MX53
CONNECTIVITY - CONTINUED		
KEYPAD	8x8 keypad matrix	
PWM	2	
ADC (10-BIT)	Up to 4 channels	
GPIO	Up to 128 GPIOs	
EXTERNAL MEMORY BUS	16-bit data/28-bit address in non-multiplexed address/data mode 16-bit or 32-bit data/28-bit address in multiplexed address/data mode	
MULTIMEDIA		
CAMERA	Two parallel camera ports, up to 20-bit, up to 120 MHz peak	
DISPLAY	5 interfaces available - with total rate of all interfaces up to 180 Mpixels/sec, 24 bpp Up to 2 displays can be driven simultaneously (screen refresh) Concurrent asynchronous access to 2 additional devices, e.g. display controllers and smart displays Parallel: 2 24-bit display ports, up to 165 Mpixels/sec, e.g. UXGA @ 60 Hz LVDS: 1 port up to 165 Mpixels/sec or 2 ports up to 85 Mpixels/sec, e.g. WXGA @ 60 Hz 1 TV-out/VGA port, up to 150 Mpixels/sec, e.g. 1080p60	
IMAGE PROCESSING UNIT	Image enhancements, video/graphics combining, resizing, rotation/inversion, color conversion/correction	
VIDEO PROCESSING UNIT	MPEG-4, H.263, H.264, MPEG-2, VC-1, DivX, RV10, MJPEG; 1080p30 decode, 720p30 encode	
GPU (2D/3D)	33 million triangles/sec, 200 million pixels/sec raw; OpenVG 1.0, OpenGL ES Common Profile v1.0/v1.1/Direct3D Mobile, OpenGL ES Profile v2.0	
TOUCHSCREEN INTERFACE (4-WIRE)	Yes	
SPDIF (TX)	Yes	
I^2S/AC97/SSI	Up to 3 channels	
ESAI	Multi-channel digital audio, up to 1.4 Mbps each channel	
ASRC	Yes	
ETHERNET		
PHYSICAL LAYER	10/100Base-T	
DATA RATES	10/100 Mbps, auto-sensing	
DUPLEX MODE	Full or half duplex, auto-sensing	
IEEE 1588	Yes, primary interface only (available on i.MX537 variant)	
POWER OVER ETHERNET (802.3AF)		
POWER OVER ETHERNET	Development board ready for 802.3af PoE application kit (sold separately)	
WIRELESS LAN		
STANDARD	N/A	802.11a/b/g/n (2.4/5 GHz)
ANTENNA CONNECTORS	N/A	2 x U.FL
DUAL DIVERSITY	N/A	Yes
FREQUENCY BANDS	N/A	2.412 - 2.484 GHz; 4.900 - 5.850 GHz
DATA RATES	N/A	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps 802.11n: 6.5, 13, 19.5, 26, 39, 52, 58.5, 65 Mbps (MCS 0-7)
MODULATION	N/A	DBPSK, DQPSK, CCK, BPSK, QPSK, 16-QAM, 64-QAM
802.11N FEATURES	N/A	A-MPDU / A-MSDU, PSMP, MTBA, STBC, Greenfield Preamble, RIFS
TRANSMIT POWER (±2 DBM)	N/A	802.11b: 17 dBm typical; 802.11g/n: 15 dBm typical; 802.11a: 12 dBm typical
SECURITY	N/A	WEP, WPA-PSK/WPA2-Personal, WPA/WPA2 Enterprise, 802.11i
QOS	N/A	WMM, WMM-PS, 802.11e
ROAMING ENHANCEMENTS	N/A	802.11k/r
EXTENDED RANGE (802.11N)	N/A	Yes
RADIO CERTIFICATIONS	N/A	USA, Canada, EU, Japan
POWER REQUIREMENTS[1]		
TYPICAL / IDLE	700 mA @ 3.75 V / 200 mA @ 3.75 V	

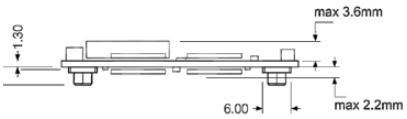
1 Baseline power consumption based on standard use case without WLAN and Ethernet. See Hardware Reference Manual for more detailed information.
2 Contact your local distributor or Digi sales office for details.

SPECIFICATIONS	ConnectCore® i.MX53	ConnectCore® Wi-i.MX53
MECHANICAL		
DIMENSIONS (L X W X H)	82 mm x 50 mm x 6.5 mm	82 mm x 50 mm x 8 mm
MODULE CONNECTORS	2 x 180-pin board-to-board connectors, 0.8 mm pitch (Mating connector FCI P/N 61083-184409LF or similar)	
ENVIRONMENTAL		
OPERATING TEMPERATURE	-40°C to +85°C (i.MX537 variant, 800 MHz); -20°C to +70°C (i.MX535 variant, 1 GHz)	
STORAGE TEMPERATURE	-40° C up to +85° C (-40° F to +185° F)	
RELATIVE HUMIDITY	5% to 90% (non-condensing)	
TEMPERATURE / CLIMATE TESTS	IEC 60068-2-1 (Ab/Ad Cold: 16 h with -40°C), IEC 60068-2-2 (Bb/Bd: Dry heat: 16 h with +85°C), IEC 60068-2-78 (Damp heat steady state: 16h with +40°C and 93%rH)	
VIBRATION / SHOCK TESTS	IEC 60068-2-6 Method Fc, IEC 60068-2-64 Method Fh, IEC 60068-2-27 Method Ea	
REGULATORY APPROVALS		
FCC PART 15 CLASS B	Yes	
FCC PART 15 SUB C SECTION 15.247	Yes	
IC RSS-210 ISSUE 5 SECTION 6.2.2(O)	Yes	
EN55022:2006 CLASS B	Yes	
ICES-003, CLASS B	Yes	
VCCI, CLASS B	Yes	
EN55024:1998 +A1:2001, A2:2003	Yes	
EN61000-3-2:2006	Yes	
EN61000-3-3:1995 +A1:2001, A2:2005	Yes	
EN60950-1:2001 (UL60950-EQUIVALENT)	Yes	
CSA C22.2, NO. 60950	Yes	
WARRANTY		
PRODUCT WARRANTY	3 years	

BOTTOM View



SIDE View



PART NUMBERS	DESCRIPTION
CC-WMX-KD69-VK	ConnectCore Wi-i.MX53 module, 1 GHz, 512 MB Flash, 512 MB RAM, 2x Ethernet, 802.11abgn, single pack
CC-WMX-KD69-VM	ConnectCore Wi-i.MX53 module, 1 GHz, 512 MB Flash, 512 MB RAM, 1x Ethernet, 802.11abgn, single pack
CC-WMX-KD69-VM-B	ConnectCore Wi-i.MX53 module, 1 GHz, 512 MB Flash, 512 MB RAM, 1xEthernet, 802.11abgn, 25-piece bulk pack
CC-WMX-KD79-VK	ConnectCore Wi-i.MX53 module, 1 GHz, 512 MB Flash, 1 GB RAM, 2x Ethernet, 802.11abgn, single pack
CC-WMX-KD79-VK-B	ConnectCore Wi-i.MX53 module, 1 GHz, 512 MB Flash, 1 GB RAM, 2x Ethernet, 802.11abgn, 25-piece bulk pack
CC-MX-LD6A-ZM	ConnectCore i.MX53 module, 800 MHz, 1 GB Flash, 512 MB RAM, 1x Ethernet, Industrial Temp, single pack
CC-MX-LD79-ZK	ConnectCore i.MX53 module, 800 MHz, 512 MB Flash, 1 GB RAM, 2x Ethernet, Industrial Temp, single pack

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Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
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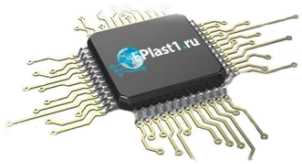
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)
Факс: 8 (812) 320-02-42
Электронная почта: org@eplast1.ru
Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.