# SolidRun

**Do Your Thing**

SolidRun's HummingBoard™:

# SR-HummingBoard-MX6

(ARM-Cortex-A9)

56mm

85mm

**RoHS COMPLIANT** | **Pb lead-free** | **CE**
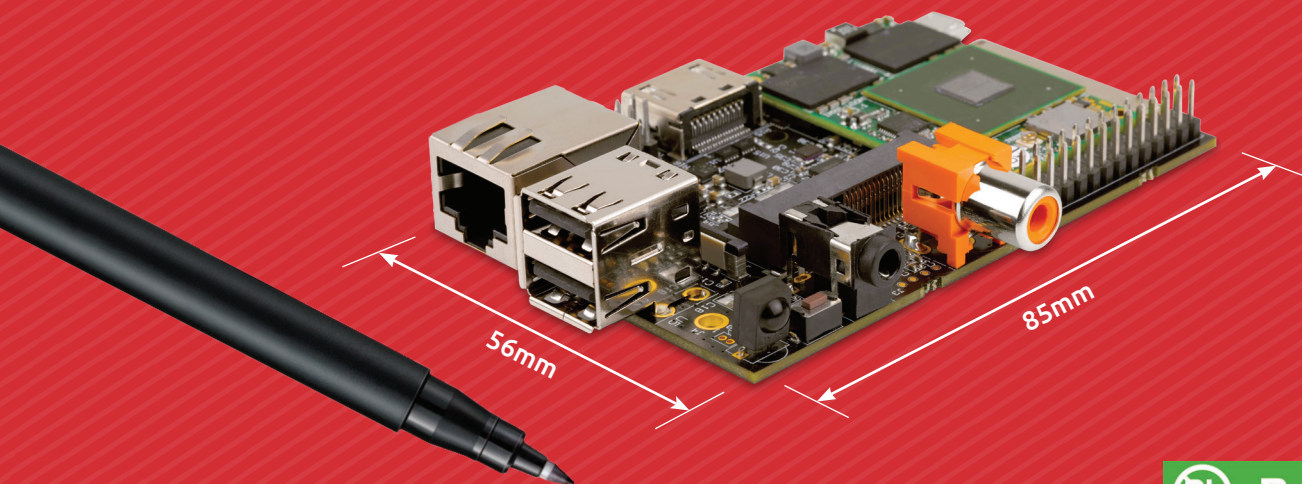
## Product Design Advantages

> Reduce design risk

> Fast time to market

> Off-the-shelf components

> Wide processing range

## Standard Compatibility Support

> ARM-Cortex-A9 with NEON

> Comprehensive I/O

> Linux & Android

> Wide application set

## All the power you want – All the reliability you need

With the industry's best Price Power Performance Ratio (P$^3$R), the HummingBoard offers 1 GHz per core, has a proven SoC and wide scalability. Its compatibility with standard ARMv7 CPU power, HardFP and neon Linux packages means it has the widest support for standard ARM binary software packages without the need to recompile them, and the absence of any moving parts makes it long-lasting. Built to comply with both commercial and industrial standards of embedding, the HummingBoard is composed of only the highest quality components.

| | HummingBoard-i1 | HummingBoard-i2 | HummingBoard-i2eX | HummingBoard-i4 |
|---|---|---|---|---|
| System On Chip | i.MX6 Solo | i.MX6 Dual Lite | i.MX6 Dual | i.MX6 Quad |
| **Core** | | | | |
| Processor Core | Single core ARM A9 | Dual Lite core ARM A9 | Dual core ARM A9 | Quad core ARM A9 |
| Processor Speed | 1GHz (up to 1.2GHz) | 1GHz (up to 1.2GHz) | 1GHz (up to 1.2GHz) | 1GHz (up to 1.2GHz) |
| Graphics Processing Unit | Vivante GC880 | Vivante GC880 | Vivante GC2000 | Vivante GC2000 |
| 3D GPU Support | OpenGL ES1.1/2.0 | OpenGL ES1.1/2.0 | OpenGL\|ES 1.1/2.0, Quad Shader | OpenGL\|ES 1.1/2.0, Quad Shader |
| Memory | 32 bit, 512MB DDR3 @ 800Mbps | 64 bit, 1GB DDR3 @ 800Mbps | 64 bit, 1GB DDR3 @1066Mbps | 64 bit, 2GB DDR3 @1066Mbps |
| **Connectivity (PHY on Module)** | | | | |
| Wired Network | 10/100 Mbps | 10/100 Mbps | 10/100/1000 Mbps* | 10/100/1000 Mbps* |
| WiFi | Optional | Optional | Optional | ✓ |
| Bluetooth | Optional | Optional | Optional | ✓ |
| **I/O Expansion (IC/Connector on Carrier)** | | | | |
| HDMI 1080p with CEC | 1.4, 3D support | 1.4, 3D support | 1.4, 3D support | 1.4, 3D support |
| LVDS Display Out | ✗ | ✗ | ✓ | ✓ |
| UHS-1 Micro SD Interface | ✓ | ✓ | ✓ | ✓ |
| Powered USB 2.0 | 2 | 2 | 2 | 2 |
| Powered Internal USB 2.0 | ✗ | ✗ | 2 | 2 |
| Audio Out | PWM Mono Out | PWM Mono Out | Analog Stereo Out and MIC In | Analog Stereo Out and MIC In |
| Camera Interface Port | 2 Lane MIPI CSI - 2 | 2 Lane MIPI CSI - 2 | 2 Lane MIPI CSI - 2 | 4 Lane MIPI CSI - 2 |
| mSATA II | ✗ | ✗ | ✓ | ✓ |
| PCI-Express 2.0 | ✗ | ✗ | ✓ | ✓ |
| GPIO Header | UART, 8 GPIO, SPI with 2CS, I2C ** | UART, 8 GPIO, SPI with 2CS, I2C ** | UART, 8 GPIO, SPI with 2CS, I2C ** | UART, 8 GPIO, SPI with 2CS, I2C ** |
| S/PDIF Output | ✓ | ✓ | ✓ | ✓ |
| RTC with Backup Battery | ✗ | ✗ | ✓ Battery provided seperately | ✓ Battery provided seperately |
| **OS Support** | | | | |
| Linux | ✓ | ✓ | ✓ | ✓ |
| Android | ✗ | ✓ | ✓ | ✓ |
| XBMC | ✓ | ✓ | ✓ | ✓ |
| **Mechanical and Electronic Specifications** | | | | |
| Main Voltage | 5V | 5V | 5V | 5V |
| Dimensions (W x L) | 85mm x 56mm | 85mm x 56mm | 85mm x 56mm | 85mm x 56mm |

(*) 1000Mbps link is limited to 470Mbps actual bandwidth due to internal chip busses limitation.
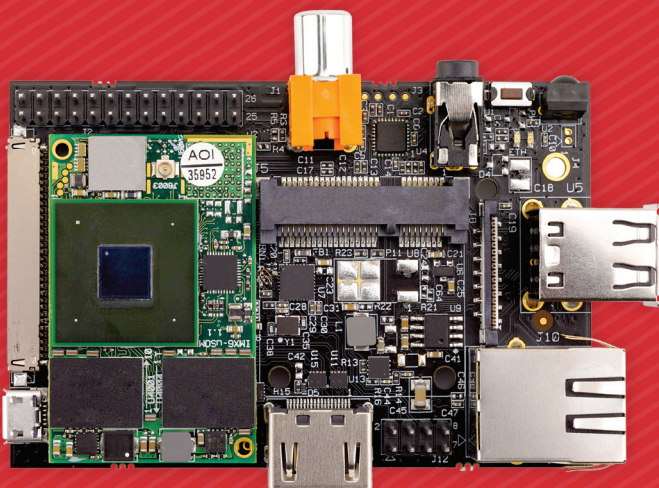
(**) Other functions are available via i.MX6 pin muxing.
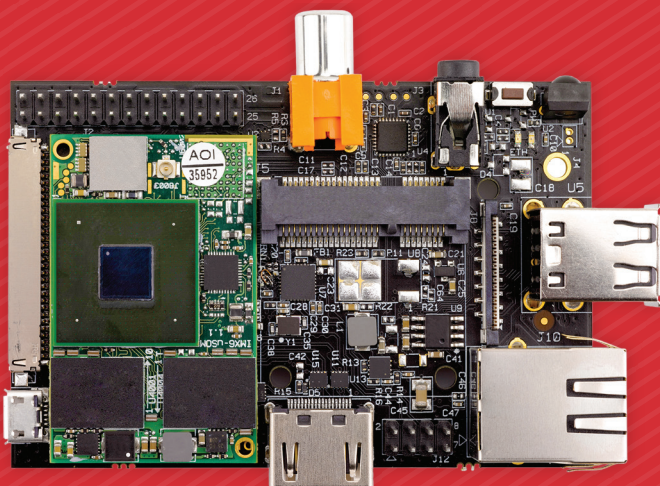
# Applications

› Fleet Control
› Smart Home
› Digital Signage
› Medical Usages
› Agriculture Control
› Machine Control
› Gaming
And much more...

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| UHS-1 Micro SD Interface | ✓ | ✓ | ✓ |
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| mSATA II | ✗ | ✗ | ✓ |
| PCI-Express 2.0 | ✗ | ✗ | ✓ |
| GPIO Header | UART, 8 GPIO, SPI with 2CS, I2C ** | UART, 8 GPIO, SPI with 2CS, I2C ** | UART, 8 GPIO, SPI with 2CS, I2C ** |
| S/PDIF Output | ✓ | ✓ | ✓ |
| RTC with Backup Battery | ✗ | ✗ | ✓ Battery provided seperately |
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