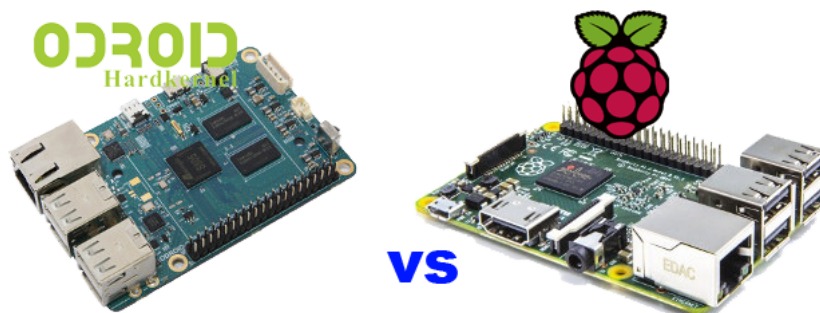


## Odroid C1 vs Raspberry Pi 2









The Raspberry Pi 2 Model B board was released in February 2015, with the ODROID-C1 available since December 2014. Both systems have similar specifications and price point, making time for hobbyists looking to build small form computers, servers, monitoring stations - the list goes on.

With both machines boasting a quad core processor, 1GB RAM, Ethernet, and four USB ports, the question remains - which is better?

Here at Lilliput Direct we've decided to compare both in order to find out the differences, and which one may be more suitable to a particular application.



	<b>Hardkernel ODROID C1</b>	<b>The Verdict</b>	<b>Raspberry Pi 2 Model B</b>	<b>Conclusion</b>
Processor	Amlogic S805 quad core Cortex A5 @ 1.5 GHz (Overclockable to 1.7 GHz or more)	←	Broadcom BCM2836 quad core Cortex A7 @ 900 MHz (Overclockable to 1.1GHz or more)	Despite the architecture advantage for Cortex A7 (1.9 DMIPS/MHz) against Cortex A5 (1.57 DMIPS/MHz), the frequency difference means ODROID-C1 has the edge here
Video Decoder	Unknown IP. 1080p (60Hz??) video decoding for H.264, H.265, MPEG2, MPEG4, VC1, Xvid, Divx. 720p decoding for RealMedia1080p video encoding	←	VideoCore IV 1080p30 video decoding for H.264, MPEG2* and VC1* 1080p video encoding (H.264)* Extra license required	ODROID-C1 supports more codecs, and codec licenses are included
RAM	1GB DDR3 @ 792MHz	←	1GB LPDDR2 @ 400 MHz	Same amount of RAM, but ODROID-C1 is clocked at twice the speed.. However, LPDDR2 will consume less power than DDR3.
Storage	eMMC module socket for 8GB/64GB Toshiba eMMC, or 16GB/32GB Sandisk iNAND Extreme, and micro SD slot (UHS-1 SD models supported)	←	micro SD card slot	At equivalent cost, ODROID-C1 and RPI 2 should have the same performance, but ODROID-C1 also supports higher performance SD cards, and eMMC modules
Ethernet	Gigabit Ethernet (Realtek RTL8211F)	←	10/100M (USB to Ethernet chipset)	Gigabit Ethernet vs Fast Ethernet, and the R PI does so via USB, so the USB bandwidth is shared with USB storage and Ethernet.
USB	4x USB 2.0 host ports, 1x micro USB OTG (that cannot be used for power)	→	4x USB 2.0 host ports, 1x micro USB for power	Draw. If you need OTG, ODROID-C1 is the winner. If you'd rather use a USB power adapter, RPI 2 is better. ODROID-C1 can also be powered via a USB adapter, but this requires some soldering
Video	micro HDMI (without CEC)	→	HDMI (with CEC), Composite (AV)	RPI2 adds composite, and standard HDMI ports may make it more convenient to use (no special micro HDMI cable needed)

Audio	Via HDMI		Via HDMI and AV jack	ODROID-C1 lacks a stereo output jack
I/Os and other peripherals	19 GPIOs, 2x I2C, 1x SPI, 2x UART, 2x ADC. Extra debug port. (UART) RTC clock IR Receiver		26 GPIOs, 1x UART (debugging), 1x SPI, 2x I2C, PCM/I2S, 2x PWM CSI (camera serial interface) and DSI (display serial interface).	I'll give the win to RPI 2 here, as it features more I/Os, but if you need ADC then ODROID-C1 is better, or you need an add-on board for RPI 2
Power	5V via DC jack. Typical power consumption: 0.5A @ 5V		5V via micro USB Typical power consumption: 0.8A @ 5V	Typical power consumption may not mean much, but from the numbers released by each company, ODROID-C1 seems to consume less power. However when USB devices are connected this is sure to increase
Linux Support	Ubuntu 14.04 with XBMC/Kodi		Raspbian, Snappy Ubuntu Core, OpenELEC, RaspBMC, Pidora	Linux distributions listed on the download sections of R-Pi and Hardkernel.  RPI 2 has more choices, but both support hardware video decoding and 3D graphics acceleration. Other unofficial distributions are also supported. For example Snappy Ubuntu Core for ODROID-C1 is coming.
Android Support	Android 4.4.2		N/A. At least no image worth talking about.	For Android go with ODROID-C1, at least for now. I'm sure Android for RPI 2 will be released soon-ish.
Windows Support	N/A		Windows 10 IoT will be available for RPI 2	For Windows go with RPI 2. This is a special version of Windows for Internet of Things applications, not the "full Windows 10 desktop experience"
Community	Very active community on ODROID-C1 forums and #odroid IRC channel.		Largest community so far for a development board. Mostly on Raspberry Pi Forums.	Both boards have active support forums and communities but the Raspberry Pi has the edge in this regard. Being globally recognised and reported on as the first low cost computer gives it the edge on the ODroid
Documentation, source code and hardware files.	Documentation can be found on ODROID-C1 Wiki. Schematics are available in PDF format, autocad files too, as well as Amlogic S805 datasheet. No PCB layout or gerber files.		Documentation is available viaeLinux RPI Wiki. The schematics are available in PDF format only, and, AFAIK, the PCB layout and gerber files are not available. Broadcom BCM2835 datasheet has been release, and should be nearly identical to BCM2836, except the CPU part.	-
Results:	<b>6</b>		<b>5</b>	

It's a close race but the ODroid C1 does show itself to be slightly better than the Raspberry Pi 2 in a base hardware comparison.

The ODROID-C1 board has more CPU processing power than RPI 2, it will perform much better to move data between a USB drive to the network (probably 2 to 3 times faster) than Ethernet, and is the only board to currently support Android when comparing these two.

ODROID-C1 is potentially better as a media player, as it supports more codecs (with license fees already paid), including H.265, and I understand it also support 1080p60 video deco BCM2836 is limited to 1080p30. The latter point is not that critical as many videos are recorded at 24 to 30 fps.

The Raspberry Pi 2 on the other hand has a larger community, officially supports Windows 10 (and it's free), features more I/Os and connectors including I2S and MIPI CSI and DSI as an AV jack with composite and stereo audio signals which are missing on ODROID-C1.

Because of the community support available Raspberry Pi may be better suited to 'newbies' looking to dip their toes in the micro computer market. Advanced users will benefit from available to the ODroid board

Both boards have their pros and cons, and you have to think about your particular application(s) to select the board that matches your requirements the best, but both are exceptio ODroid have the slight technical edge.

There are no products to list in this category.