

Comparison of 136 Open Spec, Hacker Friendly Single Board Computers -- Jan. 2020

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		Price (\$)	Vendor	Processor	Cores	3D GPU	MCU	RAM	Storage	LAN	Wireless	HDMI or DP	USB ports	Expansion	OSes
<a href="#">A20-OLinXino-Lime2</a>		44 to 67	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	Opt. 8GB to 16GB eMMC or 8GB NAND; SATA	GbE	no	yes	3	other	Linux, Android
<a href="#">A20-OLinXino-Micro</a>		45 to 69	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	opt. 4GB or 16GB NAND or eMMC	Fast	no	yes	3	other	Linux, Android
<a href="#">A33-OLinXino</a>		33 or 44	Olimex	Allwinner A33	4x A7 @ 1.2GHz	Mali-400	no	1GB	opt. 8GB NAND	no	no	no	1	dual 40-pin	Linux, Android
<a href="#">A64-OLinXino</a>		40 to 78	Olimex	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	1GB or opt. 2GB	opt. 4GB or 16GB eMMC	GbE	WiFi, BT	yes	1	40-pin custom	Linux
<a href="#">Arduino Yun Rev 2</a>		59	Arduino	Qualcomm Atheros AR9331	1x MIPS @ 400MHz	no	Atmega32U4	64MB	16MB	Fast	WiFi	no	2	Arduino	Linux
<a href="#">Atomic Pi</a>		28	DLI	Intel Atom x5-Z8350	4x @ 1.9GHz	Intel HD 400	no	2GB	16GB eMMC	GbE	WiFi, BT	yes	2	other	Linux, Win10
<a href="#">Avenger96</a>	<b>NEW</b>	130	Arrow	STM32MP157	2x A7 @ 650MHz	Vivante	Cortex-M4	1GB	8GB	GbE	WiFi, BT	yes	3	96Boards Ext.	Linux
<a href="#">Banana Pi BPI-F2S</a>	<b>NEW</b>	58	SinoVoip	SunPlus SP7021	4x A7 @ 1GHz	no	SAM9X60 and 8051	128MB or 512MB	8GB eMMC	2x Fast	no	yes	3	40-pin and FPGA I/O	Linux
<a href="#">Banana Pi BPI-M2 Berry</a>		36	SinoVoip	Allwinner V40	4x A7	Mali-400 MP2	no	1GB	SATA	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-M2 Ultra</a>		53	SinoVoip	Allwinner R40	4x A7	Mali-400 MP2	no	2GB	8GB to 64GB eMMC; SATA	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-M2 Zero</a>		23	SinoVoip	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	WiFi, BT	yes	1	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-M3</a>		60	SinoVoip	Allwinner A83T	8x A7 @ 2GHz	PowerVR SGX544 MP1	no	2GB	8GB eMMC, SATA	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-M4</a>	<b>NEW</b>	38	SinoVoip	Realtek RTD1395	4x A53	Mali-470 MP4	no	1GB	8GB eMMC	Fast	WiFi, BT	yes	5	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-M64</a>		68	SinoVoip	Allwinner A64	4x A53 @ 1.2GHz	Mali-450 MP2	no	2GB	8GB to 64GB eMMC	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-P2 Zero/Maker</a>		13 to 34	SinoVoip	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	8GB (Zero only)	Fast	WiFi, BT (only on Zero)	yes	2	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-R2</a>		84	SinoVoip	MediaTek MT7623N	4x A7 @ 1.3GHz	Mali-450 MP4	no	2GB	8GB eMMC	4x GbE + WAN	Wifi, BT	yes	3	Pi 40	Linux, Android
<a href="#">Banana Pi BPI-W2</a>		88	SinoVoip	Realtek RTD1296	4x A53 @ 1.5GHz	Mali-T820 MP3	no	2GB	8GB to 64GB eMMC	2x GbE	no	yes	4	Pi 40, 3x M.2	Linux, Android
<a href="#">BeagleBone AI</a>	<b>NEW</b>	118	BeagleBoard.org	TI AM578	2x A15 @ 1.5GHz	PowerVR SGX544	PRU & 2x Cortex-M4	1GB	16GB eMMC	GbE	WiFi, BT	yes	2	Bbone	Linux
<a href="#">BeagleBone Black</a>		62	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	yes	2	Bbone	Linux, Android
<a href="#">BeagleBone Black Wireless</a>		71	BeagleBoard.org; Octavo	TI Sitara AM3358	1x A8 @ 1GHz	SGX530	PRU	512MB	4GB eMMC	no	WiFi, BT	yes	2	Bbone	Linux, Android
<a href="#">BeagleBone Blue</a>		74	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	WiFi, BT, GPS, DSM	no	2	Bbone	Linux
<a href="#">BeagleBone Green</a>		44	SeeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	no	2	Bbone, Grove	Linux, Android
<a href="#">BeagleBone Green Wireless</a>		53	SeeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	WiFi, BT	no	5	Bbone, Grove	Linux, Android
<a href="#">C-Sky Dev Board</a>		6	Hangzhou C-SKY	Nationalchip GX6605S CK610M	1x C-SKY @ 574MHz	no	no	64MB	no	no	no	yes	4	no	Linux

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<a href="#">Chameleon96</a>		136	Novtech, Arrow	Intel Cyclone V SE SoC	2x A9 + FPGA	Intel Video Suite for FPGA	no	512MB	no	no	WiFi, BT	yes	3	96Boards	Linux
<a href="#">Coral Dev Board</a>		150	Google	NXP i.MX8M with Edge TPU	4x -A53 @ 1.5GHz	Vivante GC7000Lite/GC7000VL	Cortex-M4	1GB	8GB eMMC	GbE	WiFi, BT	yes	4	Pi 40	Linux
<a href="#">CubieAIO-S700</a>		139	Cubieboard.org	Actions S700	4x A53	Mali-450 MP4	no	2GB	8GB eMMC, SATA	GbE	WiFi, BT	yes	7	other	Linux, Android
<a href="#">Cubieboard4</a>		117	Cubieboard.org	Allwinner A80	4x A15 @ 2GHz + 4x A7 @ 1.3GHz	PowerVR G6230	no	2GB	8GB eMMC	GbE	WiFi, BT	yes	5	other	Linux, Android
<a href="#">Cubieboard5</a>		119	Cubieboard.org	Allwinner H8	8x A7 @ 2GHz	PowerVR SGX544MP1	no	2GB	SATA	GbE	WiFi, BT	yes	3	other	Linux, Android
<a href="#">CubieBoard6 / A427</a>		89 or 99	Cubieboard.org	Actions S500 / Actions S700	4x A9 / 4x A53	PowerVR SGX544 / Mali-450 MP4	no	2GB	8GB eMMC, SATA	Fast	WiFi, BT	yes	3	other	Linux, Android
<a href="#">DE0-Nano-SoC Dev Kit</a>		99	Terasic, RocketBoards.org	Cyclone V SE	2x A9 @ 952MHz + FPGA	no	no	1GB	no	GbE	no	no	2	Arduino	Linux
<a href="#">Developer Board 4loT</a>	<b>NEW</b>	55	Geniatech	Qualcomm Snapdragon 410E	4x A53 @ 1.2GHz	Adreno 306	no	1GB or 2GB	8GB or 16GB eMMC	no	WiFi, BT, GPS	no	1	96Boards IE	Linux, Android, Win 10 IoT
<a href="#">DragonBoard 410c</a>		75	Arrow, Qualcomm	Qualcomm Snapdragon 410	4x A53 @ 1.2GHz	Adreno 306	no	1GB	8GB eMMC	no	WiFi, BT	yes	3	86Boards	Linux, Android
<a href="#">Edge TPU Developer Board</a>		129	Bitmain	Sophon BM1880	2x A53 @ 1.5GHz plus BM1880 TCU	no	750MHz RISC-V	1GB	8GB eMMC	GbE	WiFi, BT	no	4	96Boards	Linux
<a href="#">Firefly-RK3128 / PX3-SE</a>		60	Firefly	Rockchip RK3128 or PX3-SE	4x A7 @ 1.3GHz	Mali-400 MP2	no	1GB	8GB NAND or eMMC	GbE	WiFi, BT	yes	5	other	Linux, Android
<a href="#">Firefly-RK3288</a>		119 or 189	Firefly	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760	no	2GB (4GB on Plus)	16GB to 32GB eMMC (32GB on Plus)	GbE	WiFi, BT	yes	3	other	Linux, Android
<a href="#">Firefly-RK3399</a>		149 or 209	Firefly	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.43GHz	Mali-T860	no	2GB to 4GB	16GB to 128GB eMMC	GbE	WiFi, BT	yes	4	other	Linux, Android
<a href="#">Giant Board</a>	<b>NEW</b>	50	Groboards	Microchip SAMA5D27	1x A5 @ 500MHz	no	no	128MB	no	opt.	opt. WiFi	no	1	Feather	Linux
<a href="#">Habanero DVK</a>	<b>NEW</b>	119	8devices	Qualcomm IPQ4019	4x A7 @ 717MHz	no	no	512MB	opt. NAND and eMMC	5x Fast	WiFi	no	2	other	Linux
<a href="#">HummingBoard CBI</a>		189 or 255	SolidRun	NXP i.MX6	2x or 4x A9 @ up to 1.2 GHz	Vivante GC355	no	1GB or 2GB	8GB eMMC, M2	GbE	WiFi/BT, GPS	no	4	Mini-PCIe, M.2	Linux, Android
<a href="#">HummingBoard Edge</a>		112 to 262	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2 GHz	Vivante GC355	no	512MB to 2GB	8GB eMMC, mSATA, M.2	GbE	opt.	yes	4	Mini-PCIe	Linux, Android
<a href="#">HummingBoard Gate</a>		97 to 242	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2 GHz	Vivante GC355	no	512MB to 4GB	8GB eMMC	GbE	opt.	yes	4	Mini-PCIe, MikroBus	Linux, Android
<a href="#">HummingBoard Pro</a>		97 to 177	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2 GHz	Vivante GC355	no	512MB to 2GB	8GB eMMC; mSATA	GbE	opt.	yes	2	Mini-PCIe	Linux, Android
<a href="#">HummingBoard Pulse / Pulse Mini</a>	<b>NEW</b>	182 to 276	SolidRun	NXP i.MX8M Dual or Quad	2x/4x -A53 at up to 1.5GHz	Vivante GC7000 Lite	Cortex-M4	2GB to 4GB	8GB eMMC; M.2	2x GbE	opt.	yes	3	Mini-PCIe, M.2	Linux
<a href="#">Jalapeno DVK</a>		99	8devices	Qualcomm IPQ4018	4x A7 @ 700MHz	no	no	256MB	no	2x GbE	WiFi	no	3	other	Linux
<a href="#">Khadas Edge/Edge-V</a>		100 to 230	Khadas	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	yes	2GB or 4GB	16GB to 128GB eMMC	GbE (Edge-V)	WiFi, BT	yes	4	MXM with FPC or Pi 40 with M.2 (Edge-V)	Linux, Android
<a href="#">Khadas Vim1</a>		45 or 55	Khadas	Amlogic S905X	4x A53	Mali-450 MP	no	2GB	8GB or 16GB eMMC	Fast	WiFi, BT	yes	3	40-pin custom	Linux, Android
<a href="#">Khadas Vim2</a>		80 to 120	Khadas	Amlogic S912	8x A53 @ 1.5GHz	Mali-T820 MP3	yes	3GB	32GB	GbE	WiFi, BT	yes	3	40-pin custom	Linux, Android
<a href="#">Khadas Vim3 / Vim3L</a>	<b>NEW</b>	50 (3L) or 100 to 140	Khadas	Amlogic AM311D	4x -A73 @ 2.2GHz, 2x -A53 @ 1.8GHz	Mali-G52	yes	2GB or 4GB	16GB or 32GB	GbE	WiFi, BT	yes	3	40-pin custom, M.2, PCIe	Linux, Android
<a href="#">Komikan DVK</a>		59	8devices	Realtek RTL819FS	1x MIPS @ 1GHz	none	no	129MB	empty eMMC socket	Fast and GbE	WiFi, BT	no	3	other	Linux

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<a href="#">LeMaker Guitar</a>		69	LeMaker	Actions S500	4x A9 @ 1.6GHz	PowerVR SGX544	no	1GB or 2GB	8GB eMMC	Fast	WiFi, BT	yes	3	Pi 40	Linux, Android
<a href="#">Libre Computer Board ALL-H3-CC (Tritium)</a>		15 to 30	Libre Computer	Allwinner H2+, H3, or H5	4x A7 or A53	Mali-400 MP2 or Mali 450 MP4	no	512MB, 1GB, or 2GB	no	Fast	no	yes	5	Pi 40	Linux, Android
<a href="#">Libre Computer Board AML-S805X-AC (La Frite)</a>		20 or 25	Libre Computer	Amlogic S805X	4x A53 @ 1.2GHz	Mali-450	no	512MB or 1GB	empty eMMC socket	Fast	no	yes	3	Pi 40	Linux, Android
<a href="#">Libre Computer Board AML-S905X-CC (Le Potato)</a>		35 or 45	Libre Computer	Amlogic S905X	4x A53	Mali-450 MP2	no	1GB or 2GB	opt. 8GB to 64GB eMMC	Fast	no	yes	5	Pi 40	Linux, Android
<a href="#">Lindenis V5</a>		86 to 202	Lindenis Tech	Allwinner V5 V100	4x A7 @ 1.5GHz	no	no	1GB	no	GbE	opt. WiFi, BT	yes	5	Pi 40	Linux
<a href="#">LinkIt Smart 7688</a>		15 or 18	SeeedStudio, MediaTek	MediaTek MT7688AN	1x MIPS @ 580MHz	no	opt. ATmega32U4	128MB	32MB	no	WiFi	no	2	opt. Arduino and Grove	OpenWrt
<a href="#">LinkSprite Acadia V3</a>		119	LinkSprite	NXP i.MX6 Quad	4x A9 @ 1.2GHz	Vivante GC355	no	1GB	SATA	GbE	no	yes	3	Arduino	Linux, Android
<a href="#">LinkSprite Arches</a>		95	LinkSprite	Allwinner A80	4x A15 @ 2GHz + 4x A7 @ 1.3GHz	PowerVR G6230	no	2GB	8GB eMMC	GbE	WiFi, BT	yes	3	other	Linux, Android
<a href="#">MaaxBoard</a>	<b>NEW</b>	76	Embest (Avnet)	NXP i.MX8M	4x A53 @ 1.4GHz	Vivante GC7000Lite	Cortex-M4	2GB	opt. up to 16GB eMMC	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
<a href="#">MYS-6ULX SBC</a>		29 or 30	MYIR	NXP i.MX6 ULL or i.MX6 UL	1x Cortex-A7 @ 528MHz or 696MHz,	no	no	256MB	256MB NAND	Fast	WiFi	no	2	other	Linux
<a href="#">Nano PC-T3 Plus</a>		70	FriendlyElec	Samsung S5P6818	8x A53 @ 1.4GHz	Mali-400 MP	no	2GB	16GB eMMC	GbE	WiFi, BT	yes	4	other	Linux, Android
<a href="#">NanoPC-T4</a>		110	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	4GB	16GB eMMC	GbE	WiFi, BT	yes	4	M.2, Pi 40	Linux, Android
<a href="#">NanoPi Duo2</a>		20	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	WiFi, BT	no	1	other	Linux
<a href="#">NanoPi K1 Plus</a>		35	FriendlyElec	Allwinner H5	4x A53 @ 1.4GHz	Mali-450	no	2GB	opt. eMMC	GbE	WiFi	yes	4	Pi 40	Linux
<a href="#">NanoPi M1 Plus</a>		38	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	1GB	8GB eMMC	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
<a href="#">NanoPi M4 / M4V2</a>	<b>NEW</b>	50 or 70	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	2GB or 4GB	opt. eMMC	GbE	WiFi, BT	yes	5	Pi 40 and other	Linux, Android
<a href="#">Nano Pi Fire3-LTS</a>		30	FriendlyElec	Samsung S5P6818	8x A53 @ 1.4GHz	"3D GPU"	no	1GB	no	GbE	no	yes	2	Pi 40	Linux, Android
<a href="#">NanoPi Neo-LTS</a>		10 or 15	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400	no	256MB or 512MB	no	Fast	no	no	2	other	Linux
<a href="#">NanoPi Neo2-LTS / Neo2 Black</a>	<b>NEW</b>	20	FriendlyElec	Allwinner H5	4x A53 @ 1.2GHz	Mali-450	no	512MB	no	GbE	no	no	2	other	Linux
<a href="#">NanoPi Neo4</a>		50	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T628	no	1GB	opt. eMMC	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
<a href="#">NanoPi Neo Air-LTS</a>		20	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	8GB eMMC	no	WiFi, BT	no	1	other	Linux
<a href="#">NanoPi Neo Plus2 V2.0</a>	<b>NEW</b>	29	FriendlyElec	Allwinner H5	4x A53 @ 1.5GHz	Mali-450 MP2	no	1GB	8GB eMMC	GbE	WiFi, BT	no	2	other	Linux
<a href="#">NanoPi R1 / R1S-H3 / R1S-H5</a>	<b>NEW</b>	20 to 39	FriendlyElec	Allwinner H3 or H5	4x A7 or A53 @ 1.2GHz	Mali-400 or -450 MP2	no	512MB or 1GB (R1 option)	8GB eMMC on R1 1GB model	2x GbE or GbE & Fast (R1)	WiFi	no	2 or 3	no	Linux
<a href="#">Nitrogen8M_Mini</a>		135 to 175	Boundary Devices	NXP i.MX8M Mini	4x A53 @ 2.0GHz	GCNanoUltra	Cortex-M4	2GB	16GB	GbE	opt. WiFi, BT	no	2	PCIe	Linux, Android
<a href="#">Odroid-C0</a>		30	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	opt. EMMC	no	no	yes	5	Pi 40	Linux, Android
<a href="#">Odroid-C1+</a>		35	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android

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<a href="#">Odroid-C2</a>		46	Hardkernel	Amlogic S905	4x A53 @ 1.5GHz	Mali-450 MP2	no	2GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android
<a href="#">Odroid-H2</a>		176	Hardkernel	Intel Celeron J4195	4x Gemini Lake @ 2.3GHz	Intel UHD Graphics 600	no	4GB and up	8GB eMMC and up; M.2, SATA	2x GbE	no	yes	4	M.2, other	Linux
<a href="#">Odroid-N2</a>		60 or 70	Hardkernel	Amlogic S922X	4x -A73 @ 1.8GHz, 2x -A53 @ 1.9GHz	Mali-G52	no	2GB or 4GB	empty eMMC socket	GbE	opt.	yes	5	Pi 40	Linux, Android
<a href="#">Odroid-XU4 / -XU4Q</a>		49	Hardkernel	Samsung Exynos5422	4x A15 @ 2GHz + 4x A7 @ 1.4GHz	Mali-T628 MP6	no	2GB	opt. SATA	GbE	opt.	yes	3	other	Linux, Android
<a href="#">Omega2 Dash</a>	<b>NEW</b>	69	Onion	MediaTek MT7688	1x MIPS @ 580MHz	no	no	128MB	no	opt. Fast	WiFi	no	2	other	Linux
<a href="#">Omega2 LTE</a>	<b>NEW</b>	99	Onion	MediaTek MT7688	1x MIPS @ 580MHz	no	no	128MB	no	opt. Fast	WiFi, LTE, GNSS	no	1	other	Linux
<a href="#">Omega2 Pro</a>		49	Onion	MediaTek MT7688AN	1x MIPS @ 580MHz	no	no	512MB	8GB flash	opt.	WiFi	no	2	other	Linux
<a href="#">Orange Pi 2G-IOT</a>		10	Shenzhen Xunlong	RDA RDA8810PL	1x A5	Vivante GC860	no	256MB	500MB NAND	no	WiFi, BT	no	2	Pi 40	Linux, Android
<a href="#">Orange Pi 3</a>		30 to 40	Shenzhen Xunlong	Allwinner H6	4x A53 @ 1.8GHz	Mali-T720 MP2	no	1GB or 2GB	0 or 8GB	GbE	WiFi, BT	yes	6	Pi 26	Linux, Android
<a href="#">Orange Pi 3G-IOT</a>		20 or 25	Shenzhen Xunlong	MediaTek MT6572	2x A7 @ 1.2GHz	Mali-400 MP1	no	256MB or 512MB	512MB or 4GB eMMC	no	WiFi, BT, 3G, GPS, FM	no	2	Pi 40	Android
<a href="#">Orange Pi 4</a>	<b>NEW</b>	50 to 70	Shenzhen Xunlong	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	no	4GB and up	opt. 16GB eMMC	GbE	WiFi, BT	yes	4	Pi 40, PCIe	Linux, Android
<a href="#">Orange Pi 4G-IOT</a>		45	Shenzhen Xunlong	MediaTek MT6737	4x A53	Mali-T720 MP1 GPU	no	1GB	8GB eMMC	no	WiFi, BT, 4G	yes	4	Pi 40	Android
<a href="#">Orange Pi i96</a>		9	Shenzhen Xunlong	RDA RDA8810PL	1x A5	Vivante GC860	no	256MB	500MB NAND	no	WiFi, BT	no	2	40-pin custom	Linux, Android
<a href="#">Orange Pi Lite / Lite2</a>		12 or 25	Shenzhen Xunlong	Allwinner H3 or H6 (Lite2)	4x A7 @ 1.2GHz or 4x -A53	Mali-400 MP2 or Mali-T720 MP2	no	512MB or 1GB	no	no	WiFi (also BT on Lite2)	yes	3	Pi 40 or 26 (Lite2)	Linux, Android
<a href="#">Orange Pi One Plus</a>		20	Shenzhen Xunlong	Allwinner H6	4x A53	Mali-T720 MP2	no	1GB	no	GbE	no	yes	2	Pi 26	Linux, Android
<a href="#">Orange Pi PC / PC Plus</a>		15 or 24	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	1GB	8GB eMMC (PC Plus only)	Fast	no	yes	4	Pi 40	Linux, Android
<a href="#">Orange Pi PC 2</a>		20	Shenzhen Xunlong	Allwinner H5	4x A53	Mali-450 MP2	no	1GB	no	GbE	no	yes	4	Pi 40	Linux, Android
<a href="#">Orange Pi Plus 2E</a>		42	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	2GB	8GB eMMC	GbE	WiFi	yes	4	Pi 40	Linux, Android
<a href="#">Orange Pi R1</a>		14	Shenzhen Xunlong	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	256MB	no	2x Fast	WiFi	no	1	Pi 26	Linux, Android
<a href="#">Orange Pi RK3399</a>		89	Shenzhen Xunlong	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T628	no	2GB	16GB eMMC; mSATA sockets	GbE	WiFi, BT	yes	5	Pi 40, mini-PCIe	Linux, Android
<a href="#">Orange Pi Zero H2+, Zero Plus2, H3, Zero Plus2 H5</a>		9, 23, 24	Shenzhen Xunlong	Allwinner H2+, H3 or H5	4x A7 (H2+/H3) or 4x A53	Mali-400 MP2 or Mali-450 MP2	no	256MB/512MB (H2+) or 512MB	8GB eMMC (H3/H5)	Fast (H2+ only)	WiFi (BT on H3/H5 only)	yes (H3/H5 only)	1 (H3/H5) or 2 (H2+)	Pi 26	Linux, Android
<a href="#">Pepper 43R / 43C</a>		169	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	GbE	WiFi, BT	no	4	Other	Linux, Android
<a href="#">Pepper DVI-D</a>		119	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	GbE	no	yes	4	Other	Linux, Android
<a href="#">Pine A64+ / A64-LTS</a>		15 to 32	Pine64	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	512MB to 2GB	opt. eMMC on A64-LTS	Fast or GbE	no	yes	3	Pi 40	Linux, Android
<a href="#">Pine H64 Model B</a>		36 or 45	Pine64	Allwinner H6	4x A53	Mali-T720	no	2GB or 3GB	opt.	GbE	WiFi, BT	yes	2	Pi 40	Linux, Android

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<a href="#">PocketBeagle</a>		23	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	no	no	no	no	1	other	Linux
<a href="#">Raspberry Pi Zero</a>		5 to 25	Rpi Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	no	yes	2	Pi 40	Linux
<a href="#">Raspberry Pi Zero W / Zero WH</a>		10 to 25	Rpi Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	WIFI, BT	yes	2	Pi 40	Linux
<a href="#">Raspberry Pi 3 Model A+</a>		25	Rpi Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	512MB	no	no	WIFI, BT	yes	2	Pi 40	Linux
<a href="#">Raspberry Pi 3 Model B</a>		35	Rpi Trading	Broadcom BCM42837	4x A53 @ 1.2GHz	VideoCore IV	no	1GB	no	Fast	WIFI, BT	yes	5	Pi 40	Linux
<a href="#">Raspberry Pi 3 Model B+</a>		35	Rpi Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	1GB	no	GbE	WIFI/BT	yes	5	Pi 40	Linux
<a href="#">Raspberry Pi 4 Model B</a>	<b>NEW</b>	35 to 55	Rpi Trading	Broadcom BCM2711	4x A72 @ 1.5GHz	VideoCore VI	no	1GB to 4GB	no	GbE	WIFI/BT	yes	5	Pi 40	Linux, Win 10 IoT
<a href="#">ReSpeaker Core v.2.0</a>		99	Seeed	Rockchip RK3229	4x A7 @ 1.5GHz	Mali-400MP	no	1GB	4GB eMMC	Fast	WIFI, BT	yes	4	Grove	Linux
<a href="#">Rico Board</a>		99	MYIR	TI AM437x	1x A9 @ 1GHz	PowerVR SGX530	no	512MB (or 256MB or 1GB)	4GB eMMC	GbE	no	yes	2	other	Linux
<a href="#">ROC-RK3308-CC</a>	<b>NEW</b>	40	Firefly	Rockchip RK3308	4x -A35 @ 1.3GHz	no	yes	128MB to 512MB	128MB to 256MB NAND; 4GB to 128GB eMMC	Fast	WIFI, BT	no	2	Pi 40	Linux
<a href="#">ROC-RK3328-CC (Renegade)</a>		35 to 80	Firefly, Libre	Rockchip RK3328	4x A53	Mali-400 MP2	no	1GB, 2GB, 4GB	opt. eMMC	GbE	no	yes	4	Pi 40	Linux, Android
<a href="#">ROC-RK3399-PC (Renegade Elite)</a>		89	Firefly, Libre	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	4GB	opt. eMMC to 128GB	GbE w/PoE	no	yes	5	other	Linux, Android
<a href="#">Rock64</a>		25 to 45	Pine64	Rockchip RK3328	4x A53 @ 1.5GHz	Mali-450 MP2	no	1GB to 4GB	empty eMMC	GbE	no	yes	3	Pi 40	Linux, Android
<a href="#">Rock Pi 4</a>	<b>NEW</b>	39 to 75	Radxa	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T864	no	1GB, 2GB, 4GB	empty eMMC	GbE	opt. WIFI/BT	yes	5	Pi 40, M.2	Linux, Android
<a href="#">Rock Pi N10</a>	<b>NEW</b>	99 to 169	Radxa, Vamrs	Rockchip RK3399Pro	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	no	4GB, 6GB, or 8GB	16GB, 32GB, or 64GB	GbE	opt. WiFi, BT	yes	5	Pi 40, M.2	Linux, Android
<a href="#">Rock Pi S</a>	<b>NEW</b>	10 to 24	Radxa	Rockchip RK3308	4x A35 @ 1.3GHz	no	no	256MB or 512MB	opt. 1GB NAND	Fast	opt. WiFi, BT	no	2	other	Linux
<a href="#">RockPro64</a>		60 or 80	Pine64	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T864	no	2GB or 4GB	empty eMMC	GbE	opt. WIFI/BT	yes	4	PCIe x4, Pi 40	Linux, Android
<a href="#">Rock960 Model B</a>		139	Vamrs	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.43GHz	Mali-T864	no	4GB	32GB eMMC; opt. M.2	no	WIFI, BT	yes	3	96Boards; opt. M.2	Linux, Android
<a href="#">Rock960 Model C</a>		69 or 79	Vamrs	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.43GHz	Mali-T864	no	1GB or 2GB	empty eMMC; opt. M.2	no	WIFI, BT	yes	3	96Boards; opt. M.2	Linux, Android
<a href="#">Seeeduino Cloud</a>		50	SeeedStudio	Qualcomm AR9331	1x MIPS @ 400MHz	no	ATmega32u4	64MB	64MB NAND	Fast	WiFi	no	2	Arduino, Grove	Linux
<a href="#">SOM-RK3399 Dev Kit</a>	<b>NEW</b>	120	FriendlyElec	Rockchip RK3399	2x A72 @ 1.8GHz; 4x A53 @ 1.4GHz	Mali-T864	no	2GB	16GB eMMC	GbE	WIFI, BT	yes	6	M.2, mini-PCIe	Linux, Android
<a href="#">STM32MP157A-DK1 / DK2</a>	<b>NEW</b>	69 or 99	ST	STM32MP1	2x A7 @ 650MHz	no	Cortex-M4	4GB	no	GbE	opt. WIFI, BT (DK2)	yes	2	Pi 40, Arduino	Linux
<a href="#">Tinker Board S</a>		90	Asus	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760 GPU	no	2GB	16GB eMMC	GbE	WIFI, BT	yes	5	Pi 40	Linux
<a href="#">VMARC RK3399Pro SoM Ficus2</a>	<b>NEW</b>	199 to 249	Vamrs	Rockchip RK3399Pro	2x A72 @ 1.8GHz; 4x A53 @ 1.4GHz	Mali-T860	no	4GB, 6GB, 8GB	16GB, 32GB, 64GB	GbE and Fast	WIFI, BT	yes	3	96Boards EE, PCIe, mini-PCIe	Linux, Android
<a href="#">Udoo Neo</a>		50 to 65	Udoo (Seco)	NXP i.MX6 SoloX	1x A9 @ 1GHz	Vivante GC355	Cortex-M4	512MB or 1GB	no	Fast	opt.	yes	2	Arduino	Linux, Android
<a href="#">Udoo Quad/Dual/Dual Basic</a>		99 to 135	Udoo (Seco)	NXP i.MX6 Dual/Quad	2x/4x A9 @ 1GHz	Vivante GC355	SAM3X8E (-M3)	1GB	opt. SATA (Quad)	opt.	opt.	yes	4	Arduino	Linux, Android

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<a href="#">Udoo X86</a>		174 or 267	Udoo (Seco)	Celeron N3160	4x Braswell @ 2.24GHz	Intel Gen 8-LP GPU	Intel Curie (Quark SE)	4GB	32GB eMMC; SATA 3; M.2	GbE	WiFi, BT	yes	3	Arduino, other	Linux, Android
<a href="#">UP board</a>		99 to 169	Aaeon	Intel Atom x5-Z8350	4x Cherry Trail @ 1.44 GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	GbE	no	yes	5	Pi 40	Linux, Android
<a href="#">UP Core</a>		99 to 169	Aaeon	Intel Atom x5-Z8350	4x Cherry Trail @ 1.44 GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	no	WiFi, BT	yes	1	Pi 40	Linux, Android
<a href="#">Up Core Plus</a>		149 to 329	Aaeon	Intel Atom x5-E3930/E3940, x7-E3950	4x Apollo Lake @ 1.3GHz to 2.0GHz	Intel HD Graphics 500/505	no	2GB to 8GB	32GB to 128GB eMMC, SATA	opt.	WiFi, BT	yes	4	other	Linux, Android
<a href="#">UP Squared</a>		149 to 339	Aaeon	Intel Celeron N3350	2x Apollo Lake @ 1.1 GHz/2.4GHz	Intel Gen9 HD 500/505	no	2GB or 8GB	32GB to 128GB eMMC, SATA	2x GbE	no	yes	4	other	Linux, Android
<a href="#">Wandboard</a>		89 to 149	Wandboard.org	NXP i.MX6	1x, 2x, or 4x A9 @1GHz	Vivante GC355	no	512MB to 2GB	opt. SATA (Quad)	GbE	opt.	yes	2	other	Linux, Android
<a href="#">ZeroPi</a>	<b>NEW</b>	10	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	GbE	opt.	no	2	no	Linux
<a href="#">Z-turn Board</a>		99 to 119	MYIR	Xilinx Zynq-7010/7020	2x ARM @ 667MHz + FPGA	no	no	1GB	no	GbE	no	yes	2	other	Linux
<a href="#">Z-turn Lite</a>		69 or 75	MYIR	Xilinx Zynq-7007S/7010	2x ARM @ 667MHz + FPGA	no	no	512MB	4GB eMMC	GbE	no	no	1	other	Linux

NOTES	
<b>Price:</b>	Based on lowest prices found at publication date, rounded to US dollar, with ranges indicating different models or different processor and memory configurations, but not other options. The ranges are based only the lowest price site, not a range of retail outlets.
<b>Vendor:</b>	Primary vendor and, if promoted by vendor, a separate manufacturer. May not include all entities involved, or necessarily name of sponsored open source project/website.
<b>Processor/Cores:</b>	Clock rates may be max. limits. References to A7, A9, A53 (64-bit) etc. refer to Arm Cortex SoCs.
<b>3D GPU:</b>	Only listed if GPU has 3D acceleration.
<b>MCU:</b>	Only listed if user-accessible; may not include minor MCU coprocessors.
<b>RAM:</b>	First figure is default configuration matched with price.
<b>Storage:</b>	This column only shows on-board storage. It does not include microSD slot, which is available on all the SBCs.
<b>LAN:</b>	Refers to Ethernet; "Fast" = 10/100Mbps; "GbE" = 10/100/1000Mbps.
<b>Wireless:</b>	Lists only WiFi and Bluetooth, although some have others (see brief descriptions in our survey articles).
<b>HDMI or DP-out:</b>	Refers to real-world, coastline DDI, HDMI and/or DisplayPort; others may also be present (e.g. LVDS, RGB, MIPI-DSI, VGA).
<b>USB ports:</b>	Refers to coastline, real-world ports only. Includes micro- and mini-USB, including power-only models, but does not include onboard USB interfaces
<b>Expansion:</b>	Lists support for major expansion interfaces such as mini-PCIe, Arduino, Pi 40 (40-pin Raspberry Pi expansion), BeagleBone (BBone, dual 50x), 96Boards.org (40- and 60-pin), Grove, or MikroBus; "other" refers to a custom expansion interface, differentiated from "headers," referring to individual interfaces.
<b>OSes:</b>	Linux-based OSes preloaded on device, available for download, or available from linked 3rd party site; Linux means any full featured Linux (Ubuntu, Fedora, Yocto Project, Debian, OpenWrt etc.);

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