

Comparison of 122 Open Spec, Hacker Friendly Single Board Computers -- January 2019

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Product	Price (\$)	Vendor	Processor	Cores	3D GPU	MCU	RAM	Storage	LAN	Wireless	HDMI or DP-out	USB ports	Expansion	OSes
A20-OLinuCino-Lime2	51 or 63	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	Opt. 4GB eMMC; SATA	GbE	no	yes	3	other	Linux, Android
A20-OLinuCino-Micro	63 or 74	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	opt. 4GB NAND	Fast	no	yes	3	other	Linux, Android
A33-OLinuCino	41 or 50	Olimex	Allwinner A33	4x A7 @ 1.2GHz	Mali-400	no	1GB	opt. 4GB NAND	no	no	no	1	dual 40-pin	Linux, Android
A64-OLinuCino	46 to 86	Olimex	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	1GB	4GB (opt. 16GB eMMC)	GbE	WiFi, BT	yes	1	40-pin custom	Linux
Arduino Yun Rev 2	59	Arduino	Qualcomm Atheros AR9331	1x MIPS @ 400MHz	no	Atmega32U4	64MB	16MB	Fast	WiFi	no	2	Arduino	Linux
Banana Pi BPI-M2 Berry	36	SinoVoip	Allwinner V40	4x A7	Mali-400 MP2	no	1GB	SATA	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
Banana Pi BPI-M2 Magic	28	SinoVoip	Allwinner A33	4x A7	Mali-400 MP2	no	512MB	8GB eMMC (opt. up to 64GB)	no	Wifi, BT	no	2	Pi 40	Linux, Android
Banana Pi BPI-M2 Ultra	56	SinoVoip	Allwinner R40	4x A7	Mali-400 MP2	no	2GB	8GB to 64GB eMMC; SATA	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
Banana Pi BPI-M2 Zero	23	SinoVoip	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	WiFi, BT	yes	1	Pi 40	Linux, Android
Banana Pi BPI-M3	99	SinoVoip	Allwinner A83T	8x A7 @ 2GHz	PowerVR SGX544 MP1	no	2GB	8GB eMMC, SATA	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
Banana Pi BPI-M64	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
Banana Pi BPI-R2	90	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
Banana Pi BPI-W2	93	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
BeagleBone Black	55	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	yes	2	Bbone	Linux, Android
BeagleBone Black Wireless	69	BeagleBoard.org; Octavo	TI Sitara AM3358	1x A8 @ 1GHz	SGX530	PRU	512MB	4GB eMMC	no	WiFi, BT	yes	2	Bbone	Linux, Android
BeagleBone Blue	80	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	WiFi, BT, GPS, DSM	no	2	Bbone	Linux
BeagleBone Green	44	SeeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	no	2	Bbone, Grove	Linux, Android
BeagleBone Green Wireless	53	SeeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	WiFi, BT	no	5	Bbone, Grove	Linux, Android
Bubblegum-96	89	uCRobotics	Actions S900	4x A53 @ 1.8GHz	PowerVR G6230	no	2GB	8GB eMMC	no	WiFi, BT	yes	3	96Boards	Linux, Android
C-Sky Dev Board	6	Hangzhou C-SKY	Nationalchip GX6605S CK610M	1x C-SKY @ 574MHz	no	no	64MB	no	no	no	yes	4	no	Linux
Chameleon96	145	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
CloudBit Starter Kit	65	LittleBits	Freescall i.MX233	1x ARM9 @ 454MHz	no	no	64MB	4GB microSD	no	WiFi	no	0	LittleBits	Linux
CubieAIQ-S700	139	Cubieboard.org	Actions S700	4x A53	Mali-450 MP4	no	2GB	8GB eMMC, SATA	GbE	WiFi, BT	yes	7	other	Linux, Android
Cubieboard4	130	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
Cubieboard5	105	Cubieboard.org	Allwinner H8	8x A7 @ 2GHz	PowerVR SGX544MP1	no	2GB	SATA	GbE	WiFi, BT	yes	3	other	Linux, Android
CubieBoard6/7	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
DE0-Nano-SoC Dev Kit	99	Terasic, RocketBoards.org	Cyclone V SE	2x A9 @ 952MHz + FPGA	no	no	1GB	no	GbE	no	no	2	Arduino	Linux

DragonBoard 410c	75	Arrow, Qualcomm	Qualcomm Snapdragon 410	4x A53 @ 1.2GHz	Adreno 306	no	1GB	8GB eMMC	no	WiFi, BT	yes	3	86Boards	Linux, Android
DragonBoard 820c	199	Arrow, Qualcomm	Snapdragon 820E	4x Kyro (2x 2.36GHz, 2x 1.6GHz)	Adreno 530	no	3GB	32GB UFS	GbE	WiFi/BT, GPS	yes	3	96Boards	Linux
Firefly-PX3-SE	60	Firefly	Rockchip PX3-SE	4x A7 @ 1.3GHz	Mali-400 MP2	no	1GB	8GB eMMC	GbE	WiFi, BT	yes	5	other	Linux, Android
Firefly-RK3128	60	Firefly	Rockchip RK3128	4x A7 @ 1.3GHz	Mali-400 MP2	no	1GB	8GB NAND	GbE	WiFi, BT	yes	5	other	Linux, Android
Firefly-RK3288	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
Firefly-RK3288_Reload	159	Firefly	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760	no	2GB	16GB eMMC, SATA	GbE	WiFi, BT	yes	4	other	Linux, Android
Firefly-RK3399	149 to 259	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
Firefly-RQ-ROC3328-CC	35 to 80	Firefly, Libre	Rockchip RK3328	4x A53	Mali-400 MP2	no	1GB to 4GB	opt. eMMC	GbE	no	yes	4	Pi 40	Linux, Android
HummingBoard_CBI	189 or 255	SolidRun	NXP i.MX6	2x or 4x A9 @ up to 1.2GHz	Vivante GC355	no	1GB or 2GB	8GB eMMC, M2	GbE	WiFi/BT, GPS	no	4	Mini-PCIe, M.2	Linux, Android
HummingBoard_Edge	112 to 255	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2GHz	Vivante GC355	no	512MB to 2GB	8GB eMMC, mSATA, M.2	GbE	opt.	yes	4	Mini-PCIe	Linux, Android
HummingBoard_Gate	97 to 247	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2GHz	Vivante GC355	no	512MB to 4GB	8GB eMMC	GbE	opt.	yes	4	Mini-PCIe, MikroBus	Linux, Android
HummingBoard-Pro	97 to 177	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2GHz	Vivante GC355	no	512MB to 2GB	8GB eMMC, mSATA	GbE	opt.	yes	2	Mini-PCIe	Linux, Android
HummingBoard-Pulse	182 to 253	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
Khadass Edge / Edge-V / Edge-1S	99 to 299	Khadass	Rockchip RK3399 or RK3399Pro (1S)	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	yes	2GB or 4GB	16GB to 128GB eMMC	GbE (V and 1S)	WiFi, BT	yes	4	MXM with FPC or Pi 40	Linux, Android
Khadass Vim1	55 or 70	Khadass	Amlogic S905X	4x A53	Mali-450 MP	no	2GB	8GB or 16GB eMMC	Fast	WiFi, BT	yes	3	40-pin custom	Linux, Android
Khadass Vim2	120	Khadass	Amlogic S912	8x A53 @ 1.5GHz	Mali-T820 MP3	yes	3GB	32GB	GbE	WiFi, BT	yes	3	40-pin custom	Linux, Android
La Frite	10 or 15	Libre Computer	Amlogic S805X	4x A53 @ 1.2GHz	Mali-450	no	512MB or 1GB	opt. 8GB eMMC	Fast	no	yes	3	Pi 40	Linux, Android
LeMaker Guitar	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
Le Potato	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
Lindenis V5	73	Lindenis Tech	Allwinner V5 V100	4x A7 @ 1.5GHz	no	no	1GB	opt. 8GB eMMC	GbE	opt. WiFi, BT	yes	5	Pi 40	Linux
Linkit Smart 7688	15 or 18	SeeedStudio, MediaTek	MediaTek MT7688AN	1x MIPS @ 580MHz	no	opt. ATmega32L4	128MB	32MB	no	WiFi	no	2	opt. Arduino and Grove	OpenWrt
LinkSprite Acadia V3	119	LinkSprite	NXP i.MX6 Quad	4x A9 @ 1.2GHz	Vivante GC355	no	1GB	SATA	GbE	no	yes	3	Arduino	Linux, Android
LinkSprite Arches	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
MediaTek X20 Dev Board	199	ArcherMind, MediaTek	MediaTek Helio X20	2x A72 @ 2.5GHz + 4x A53 @ 1.95GHz + 4x A53 @ 1.4GHz	Mali-T880	no	2GB	8GB eMMC	no	WiFi, BT	yes	3	96Boards	Android
MinnowBoard Turbot Dual-Core / Dual-Ethernet Dual-Core	197 or 171	Silicom, Minnowboard.org	Intel Atom E3826	2x x86 @ 1.46GHz	Intel HD Graphics	no	2GB	SATA	GbE opt 2x	opt.	yes	2	other	Linux, Android
MinnowBoard Turbot Quad-Core / Dual-Ethernet Quad-Core	190 or 196	Silicom, Minnowboard.org	Intel Atom E3826 or E3845	2x or 4x x86 @ 1.46GHz or 1.91GHz	Intel HD Graphics	no	2GB	SATA	GbE opt 2x	opt.	yes	2	other	Linux, Android
MYS-GULX SBC	29 or 32	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
Nano PC-T3 Plus	75	FriendlyARM	Samsung S5P6818	8x A53 @ 1.4GHz	Mali-400 MP	no	2GB	16GB eMMC	GbE	WiFi, BT	yes	4	other	Linux, Android
NanoPC-T4	110	FriendlyARM	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
NanoPi A64	20	FriendlyARM	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	1GB	no	GbE	no	yes	2	Pi 40	Linux, Android
NanoPi Duo / Duo2	13 or 20	FriendlyARM	Allwinner H2+ or H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	256MB or 512MB	no	no	WiFi, BT	no	1	other	Linux

NanoPi K1 Plus	35	FriendlyARM	Allwinner H5	4x A53 @ 1.4GHz	Mali-450	no	2GB	opt. eMMC	GbE	WiFi	yes	4	Pi 40	Linux
NanoPi M1 Plus	38	FriendlyARM	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	1GB	8GB eMMC	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
NanoPi M4	65 or 95	FriendlyARM	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
Nano Pi Fire3-LTS	35	FriendlyARM	Samsung S5P6818	8x A53 @ 1.4GHz	"3D GPU"	no	1GB	no	GbE	no	yes	2	Pi 40	Linux, Android
NanoPi Neo	13 or 15	FriendlyARM	Allwinner H3	4x A7 @ 1.2GHz	Mali-400	no	256MB or 512MB	no	Fast	no	no	2	other	Linux
NanoPi Neo2-LTS	20 or 30	FriendlyARM	Allwinner H5	4x A53 @ 1.2GHz	Mali-450	no	512MB or 1GB	no	GbE	no	no	2	other	Linux
NanoPi Neo4	45	FriendlyARM	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T628	no	1GB	opt. eMMC	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
NanoPi Neo Air	28 or 39	FriendlyARM	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	8GB or 32GB eMMC	no	WiFi, BT	no	1	other	Linux
NanoPi Neo Plus2	33 or 42	FriendlyARM	Allwinner H5	4x A53 @ 1.5GHz	Mali-450 MP2	no	512MB or 1GB	8GB eMMC	GbE	WiFi, BT	no	2	other	Linux
Odroid-C0	30	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	opt. EMMC	no	no	yes	5	Pi 40	Linux, Android
Odroid-C1+	35	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android
Odroid-C2	46	Hardkernel	Amlogic S905	4x A53 @ 1.5GHz	Mali-450 MP2	no	2GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android
Odroid-H2	160 and up	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
Odroid-XU4 / -XU4Q	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
Omega2 Pro	49	Onion	MediaTek MT7688AN	1x MIPS @ 580MHz	no	no	512MB	8GB flash	opt.	WiFi	no	2	other	Linux
Orange Pi 2G-IOT	13	Shenzhen Xunlong	RDA RDA8810PL	1x A5	Vivante GC860	no	256MB	500MB NAND	no	WiFi, BT	no	2	Pi 40	Linux, Android
Orange Pi 3G-IOT	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
Orange Pi 4G-IOT	45	Shenzhen Xunlong	MediaTek MT6737	4x A53	Mali-T720 MP1 GPU	no	1GB	8GB eMMC	no	WiFi, BT, 4G	yes	4	Pi 40	Android
Orange Pi i96	9	Shenzhen Xunlong	RDA RDA8810PL	1x A5	Vivante GC860	no	256MB	500MB NAND	no	WiFi, BT	no	2	40-pin custom	Linux, Android
Orange Pi Lite	12	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	WiFi	yes	3	Pi 40	Linux, Android
Orange Pi Lite2	25	Shenzhen Xunlong	Allwinner H6	4x A53	Mali-T720 MP2	no	1GB	no	no	WiFi, BT	yes	3	Pi 26	Linux, Android
Orange Pi One Plus	20	Shenzhen Xunlong	Allwinner H6	4x A53	Mali-T720 MP2	no	1GB	no	GbE	no	yes	2	Pi 26	Linux, Android
Orange Pi PC / PC Plus	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
Orange Pi PC 2	20	Shenzhen Xunlong	Allwinner H5	4x A53	Mali-450 MP2	no	1GB	no	GbE	no	yes	4	Pi 40	Linux, Android
Orange Pi 99:99lus2E	42	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	2GB	8GB eMMC	GbE	WiFi	yes	4	Pi 40	Linux, Android
Orange Pi Prime	36	Shenzhen Xunlong	Allwinner H5	4x A53	Mali-450 MP2	no	2GB	no	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
Orange Pi R1	14	Shenzhen Xunlong	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	256MB	no	2x Fast	WiFi	no	1	Pi 26	Linux, Android
Orange Pi RK3399	109	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
Orange Pi Win Plus	37	Shenzhen Xunlong	Allwinner A64	4x A53	Mali-400 MP2	no	2GB	Opt. eMMC	GbE	WiFi, BT	yes	5	Pi 40	Linux, Android
Orange Pi Zero H2+, Plus2 Zero H3, Plus2 Zero H5	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	Pi 26	Linux, Android
OSD3358-SM-RED	199	Octavo Systems	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	16GB eMMC	GbE	no	yes	5	Bbone	Linux

Parallella	127 or 159	Adapteva	Zilinx Zynq-7020/7010	2x A7 @ 667MHz + FPGA	no	no	1GB	no	GbE	no	yes	2	other	Linux
Pepper 43R / 43C	169	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	GbE	WiFi, BT	no	4	Other	Linux, Android
Pepper DVI-D	119	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	GbE	no	yes	4	Other	Linux, Android
PICO-PLiMX7	99	Wandboard.org	NXP i.MX7	2x A7 @ 1GHz	no	Cortex-M4	512MB	4GB eMMC	Fast	WiFi, BT	no	2	RPI 40	Android Things
PICO-PLiMX8M	139 to 299	Wandboard.org	NXP i.MX8M Quad	4x A53 @ 1.3GHz	Vivante GC7000Lite	Cortex-M4	1GB to 4GB	8GB or 16GB eMMC	GbE	WiFi, BT	yes	3	Rpi 40	Linux, Android
Pine A64 / A64-LTS	15 to 32	Pine64	Allwinner A64 (R18 on A64-LTS)	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
PocketBeagle	24	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	no	no	no	no	1	other	Linux
Raspberry Pi Zero	5 to 25	Rpi Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	no	yes	2	Pi 40	Linux
Raspberry Pi Zero W / Zero WH	10 to 29	Rpi Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	WiFi, BT	yes	2	Pi 40	Linux
Raspberry Pi 3 Model A+	25	Rpi Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	512MB	no	no	WiFi, BT	yes	2	Pi 40	Linux
Raspberry Pi 3 Model B	35	Rpi Trading	Broadcom BCM42837	4x A53 @ 1.2GHz	VideoCore IV	no	1GB	no	Fast	WiFi, BT	yes	5	Pi 40	Linux
Raspberry Pi 3 Model B+	35	Rpi Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	1GB	no	GbE	WiFi/BT	yes	5	Pi 40	Linux
Renegade Elite (ROC-RK3399-PC)	100	Libre Computer	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
ReSpeaker Core v.2.0	99	Seeed	Rockchip RK3229	4x A7 @ 1.5GHz	Mali-400MP	no	1GB	4GB eMMC	Fast	WiFi, BT	yes	4	Grove	Linux
Rico Board	99	MYIR	TI AM437x	1x A9 @ 1GHz	PowerVR SGX530	no	512MB (or 256MB or 1GB)	4GB eMMC	GbE	no	yes	2	other	Linux
Rock64	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
RockPro64	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
Rock960	99 or 139	Vamrs	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.43GHz	Mali-T864	no	2GB or 4GB	16GB or 32GB eMMC; opt. M.2	no	WiFi, BT	yes	3	96Boards; opt. M.2	Linux, Android
SAMA5D4 Xplained	149	Newark, Atmel	Atmel SAMA5D4	1x A5 @ 528MHz	no	no	512MB	512MB NAND	Fast	no	yes	3	Arduino	Linux
Seeeduino Cloud	70	SeeedStudio	Qualcomm AR9331	1x MIPS @ 400MHz	no	ATmega32u4	64MB	64MB NAND	Fast	WiFi	no	2	Arduino, Grove	Linux
Sophon BM1880 EDB	129	Bilmain	Sophon BM1880	2x A53 @ 1.5GHz plus BM1880 TCU	no	750MHz RISC-V	1GB	8GB eMMC	GbE	WiFi, BT	no	4	96Boards	Linux
Tinker Board S	85	Asus	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760 GPU	no	2GB	16GB eMMC	GbE	WiFi, BT	yes	5	Pi 40	Linux
Tritium (E114ALL-H3-CC)	25 to 40	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
Udoo Neo	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
Udoo Quad/Dual/Dual Basic	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
Udoo X86	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
UP board	99 to 209	Aaeon	Intel Atom x5-Z8350	4x Cherry Trail @ 1.44GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	GbE	no	yes	5	Pi 40	Linux, Android
UP Core	99 to 169	Aaeon	Intel Atom x5-Z8350	4x Cherry Trail @ 1.44GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	no	WiFi, BT	yes	1	Pi 40	Linux, Android
Up Core Plus	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
UP Squared	149 to 339	Aaeon	Intel Celeron N3350	2x Apollo Lake @ 1.1GHz/2.4GHz	Intel Gen9 HD 500/505	no	2GB or 8GB	32GB to 128GB eMMC, SATA	2x GbE	no	yes	4	other	Linux, Android
Wandboard	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

Z-turn Board	99 to 119	MYIR	Xilinx Zynq-7010/7020	2x ARM @ 667MHz + FPGA	no	no	1GB	no	GbE	no	yes	2	other	Linux
Z-turn Lite	69 or 75	MYIR	Xilinx Zynq-7007S/7010	2x ARM @ 667MHz + FPGA	no	no	512MB	4GB eMMC	GbE	no	no	1	other	Linux

NOTES	
Price:	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.
Vendor:	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.
Processor/Cores:	Clock rates may be max. limits. References to A7, A9, A53 (64-bit) etc. refer to ARM Cortex SoCs.
3D GPU:	Only listed if GPU has 3D acceleration.
MCU:	Only listed if user-accessible; may not include minor MCU coprocessors.
RAM:	First figure is default configuration matched with price.
Storage:	This column only shows on-board storage. It does not include microSD slot, which is available on all the SBCs.
LAN:	Refers to Ethernet; "Fast" = 10/100Mbps; "GbE" = 10/100/1000Mbps.
Wireless:	Lists only WiFi and Bluetooth, although some have others (see brief descriptions in our survey articles).
HDMI or DP-out:	Refers to real-world, coastline DDI, HDMI and/or DisplayPort; others may also be present (e.g. LVDS, RGB, MIPI-DSI, VGA).
USB ports:	Refers to coastline, real-world ports only. Includes micro- and mini-USB, including power-only models, but does not include onboard USB interfaces.
Expansion:	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.
OSes:	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, etc.); OpenWrt includes lightweight, OpenWrt Linux-based Linino.
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