

Comparison of 150 Open Spec, Hacker Friendly Single Board Computers -- Jan. 2021

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	Price (\$)	Vendor	Processor	Cores	3D GPU	MCU or AI chip	RAM	eMMC/flash	Other storage	LAN	Wireless	HDMI or DP	Camera output	USB ports	Expansion	OSes
A20-OLinuXino-Lime2	49 to 73	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	opt. 8GB or 16GB eMMC	SATA	GbE	no	yes	no	3	other	Linux, Android
A20-OLinuXino-Micro	50 to 76	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	opt. 8GB or 16GB eMMC	SATA	Fast	no	yes	no	3	other	Linux, Android
A33-OLinuXino	37 or 49	Olimex	Allwinner A33	4x A7 @ 1.2GHz	Mali-400	no	1GB	opt. 8GB NAND	no	no	no	no	yes	1	dual 40-pin	Linux, Android
A64-OLinuXino	44 to 86	Olimex	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	1GB or opt. 2GB	opt. 4GB or 16GB eMMC	no	GbE	WiFi, BT	yes	via GPIO	1	40-pin custom	Linux
Arduino Yun Rev 2	56	Arduino	Qualcomm Atheros AR9331	1x MIPS @ 400MHz	no	Atmega32 U4	64MB	16MB	no	Fast	WiFi	no	no	2	Arduino	Linux
Banana Pi BPI-F2P	NEW 63	SinoVoip	SunPlus SP7021	4x A7 @ 1GHz	no	SAM9X60 and 8051	128MB or 512MB	8GB eMMC	no	2x Fast	no	yes	yes	3	40-pin	Linux
Banana Pi BPI-F2S	58	SinoVoip	SunPlus SP7021	4x A7 @ 1GHz	no	SAM9X60 and 8051	128MB or 512MB	8GB eMMC	no	2x Fast	no	yes	yes	3	40-pin and FPGA I/O	Linux
Banana Pi BPI-M2 Berry	36	SinoVoip	Allwinner V40	4x A7	Mali-400 MP2	no	1GB	no	SATA	GbE	WiFi, BT	yes	yes	4	Pi 40	Linux, Android
Banana Pi BPI-M2 Ultra	53	SinoVoip	Allwinner R40	4x A7	Mali-400 MP2	no	2GB	8GB to 64GB eMMC	SATA	GbE	WiFi, BT	yes	no	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	no	WiFi, BT	yes	yes	1	Pi 40	Linux, Android
Banana Pi BPI-M3	68	SinoVoip	Allwinner A83T	8x A7 @ 2GHz	PowerVR SGX544 MP1	no	2GB	8GB eMMC	SATA	GbE	WiFi, BT	yes	yes	3	Pi 40	Linux, Android
Banana Pi BPI-M4	38 or 43	SinoVoip	Realtek RTD1395	4x A53	Mali-470 MP4	no	1GB or 2GB	8GB eMMC	no	Fast	WiFi, BT	yes	no	5	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	no	GbE	WiFi, BT	yes	yes	4	Pi 40	Linux, Android
Banana Pi BPI-P2 Zero/Maker	13 or 28	SinoVoip	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	8GB (Zero only)	no	Fast	WiFi, BT (only on Zero)	yes	yes	2	Pi 40	Linux, Android
Banana Pi BPI-R2	84	SinoVoip	MediaTek MT7623N	4x A7 @ 1.3GHz	Mali-450 MP4	no	2GB	8GB eMMC	SATA	4x GbE + WAN	Wifi, BT	yes	no	3	Pi 40	Linux, Android
Banana Pi BPI-R64	NEW 79	SinoVoip	MediaTek MT7622	4x A53 @ 1.35GHz	none	no	1GB	8GB eMMC	2x SATA	4x GbE + WAN	WiFi/BT	no	no	1	Pi 40	Linux
Banana Pi BPI-V2	88	SinoVoip	Realtek RTD1296	4x A53 @ 1.5GHz	Mali-T820 MP3	no	2GB	8GB to 64GB eMMC	yes	2x GbE	no	yes	no	4	Pi 40, 3x M.2	Linux, Android
BeagleBone AI	108	BeagleBoard.org	TI AM578	2x A15 @ 1.5GHz	PowerVR SGX544	PRU, 2x Cortex-M4, EVE AI chip	1GB	16GB eMMC	no	GbE	WiFi, BT	yes	no	2	Bbone	Linux
BeagleBone Black	62	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	Fast	no	yes	no	2	Bbone	Linux, Android
BeagleBone Black Wireless	71	BeagleBoard.org	TI Sitara AM3358 Octavo	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	no	WiFi, BT	yes	no	2	Bbone	Linux, Android
BeagleBone Blue	87	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	no	WiFi, BT, DSM	no	no	2	Bbone	Linux
BeagleBone Enhanced	NEW 60 to 278	Sancloud	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB or 1GB	4GB eMMC	no	GbE	WiFi/BT (some SKUs)	yes (some SKUs)	no	3	Bbone	Linux, Android
BeagleBone Green	44	SeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	Fast	no	no	no	2	Bbone, Grove	Linux, Android
BeagleBone Green Gateway	NEW 79	SeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	Fast	WiFi/BT	no	no	3	Bbone, Grove	Linux, Android
BeagleBone Green Wireless	53	SeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	no	no	WiFi, BT	no	no	5	Bbone, Grove	Linux, Android
C-Sky Dev Board	6	Hangzhou C-SKY	Nationalchip CX6605S CK610M	1x C-SKY @ 574MHz	no	no	64MB	no	no	no	no	yes	no	4	no	Linux
Chameleon96	185	Novtech, Arrow	Intel Cyclone V SE SoC	2x A9 + FPGA	Intel Video Suite for FPGA	no	512MB	no	no	no	WiFi, BT	yes	yes	3	96Boards	Linux
Coral Dev Board	130 or 170	Google	NXP i.MX8M with Edge TPU	4x -A53 @ 1.5GHz	Vivante GC7000Lite/GC7000VLX	Cortex-M4, Edge TPU	1GB or 4GB	8GB eMMC	no	GbE	WiFi, BT	yes	yes	4	Pi 40	Linux
Coral Dev Board Mini	NEW 100	Google	MediaTek 8167s	4x -A35	PowerVR GE8300	Edge TPU	2GB	8GB eMMC	no	no	WiFi/BT	yes	yes	3	Pi 40	Linux
CubieBoard6 / CubieBoard	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	no	3	other	Linux, Android
DE0-Nano-SoC Dev Kit	99	Terasic, RocketBoards.org	Cyclone V SE	2x A9 @ 952MHz + FPGA	no	no	1GB	no	no	GbE	no	no	no	2	Arduino	Linux
Developer Board 4IoT	61	Geniatech	Qualcomm Snapdragon 410E	4x A53 @ 1.2GHz	Adreno 306	no	1GB or 2GB	8GB or 16GB eMMC	no	no	WiFi, BT, GPS	no	yes	1	96Boards IE	Linux, Android, Win 10 IoT
DragonBoard 410c	68	Arrow, Qualcomm	Qualcomm Snapdragon 410	4x A53 @ 1.2GHz	Adreno 306	no	1GB	8GB eMMC	no	no	WiFi, BT	yes	yes	3	96Boards	Linux, Android
Firefly-RK3128	60	T-Firefly	Rockchip RK3128 or PX3-SE	4x A7 @ 1.3GHz	Mali-400 MP2	no	1GB	8GB NAND or eMMC	no	GbE	WiFi, BT	yes	yes	5	other	Linux, Android
Firefly-RK3288	80 or 100	T-Firefly	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760	no	2GB (4GB on Plus)	16GB to 32GB eMMC (32GB on Plus)	no	GbE	WiFi, BT	yes	yes	3	other	Linux, Android
Firefly-RK3399	149 or 209	T-Firefly	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.43GHz	Mali-T860	no	2GB to 4GB	16GB to 128GB eMMC	no	GbE	WiFi, BT	yes	yes	4	other	Linux, Android
Giant Board	55	Groboards	Microchip SAMA5D27	1x A5 @ 500MHz	no	no	128MB	no	no	opt.	opt. WiFi	no	no	1	Feather	Linux
Habanero DVK	119	8devices	Qualcomm IPQ4019	4x A7 @ 717MHz	no	no	512MB	opt. NAND and eMMC	no	5x Fast	WiFi	no	no	2	other	Linux
HummingBoard Cbi	189 or 255	SolidRun	NXP i.MX6	2x or 4x A9 @ up to 1.2 GHz	Vivante GC355	no	1GB or 2GB	8GB eMMC	via M.2	GbE	WiFi/BT, GPS	no	yes	4	Mini-PCIe, M.2	Linux, Android
HummingBoard Edge	128 to 235	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2 GHz	Vivante GC355	no	512MB to 2GB	8GB eMMC	mSATA & via M.2	GbE	opt.	yes	yes	4	Mini-PCIe	Linux, Android
HummingBoard Gate	97 to 240	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2 GHz	Vivante GC355	no	512MB to 4GB	8GB eMMC	no	GbE	opt.	yes	yes	4	Mini-PCIe, MikroBus	Linux, Android
HummingBoard Mate	NEW 135 or 150	SolidRun	NXP i.MX8M Plus Quad	4x	Vivante GC7000UL (3D), GC520L (2D)	Cortex-M7, AI chip on Plus SoC	1GB	8GB eMMC	no	GbE	opt.	yes	yes	3	Mini-PCIe, MikroBus	Linux

HummingBoard Pulse / Pulse Mini		182 to 276	SolidRun	NXP i.MX8M Dual or Quad	2x/4x -A53 @ 1.5GHz	Vivante GC7000 Lite	Cortex-M4	2GB or 3GB	8GB eMMC	via M.2	2x GbE	opt.	yes	yes	3	Mini-PCIe, M.2, MikroBus	Linux	
HummingBoard Ripple	NEW	170 or 186	SolidRun	NXP i.MX8M Mini Quad	4x -A53 @ 1.8GHz	Vivante GCNanoUltra (3D), GC320 (2D)	Cortex-M4	2GB	8GB eMMC	no	GbE	opt.	yes	yes	3	Mini-PCIe, MikroBus	Linux	
LPI SMARC PX30	NEW	125	Adlink	Rockchip PX30	4x A35	Mali-G31 MP2	no	2GB	no	no	2x GbE	no	yes	yes	5	no	Linux	
Jalapeno DVK		99	8devices	Qualcomm IPQ4018	4x A7 @ 700MHz	no	no	256MB	no	no	2x GbE	WiFi	no	no	3	other	Linux	
Khadax Edge/Edge-V		100 to 190	Khadax	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	yes	2GB or 4GB	16GB to 128GB eMMC	via M.2 (Edge-V only)	GbE (Edge-V)	WiFi, BT	yes	Edge-V only	4	MXM with FPC or Pi 40, M.2 on Edge-V	Linux, Android	
Khadax Vim1		45 or 55	Khadax	Amlogic S905X	4x A53	Mali-450 MP	no	2GB	8GB or 16GB eMMC	no	Fast	WiFi, BT	yes	no	3	40-pin custom	Linux, Android	
Khadax Vim2		80 or 100	Khadax	Amlogic S912	8x A53 @ 1.5GHz	Mali-T820 MP3	yes	2GB or 3GB	16GB or 64GB	no	GbE	WiFi, BT	yes	no	3	40-pin custom	Linux, Android	
Khadax Vim3 / Vim3L		70 (3L) or 100 to 140	Khadax	Amlogic AM311D	4x -A73 @ 2.2GHz, 2x -A53 @ 1.8GHz	Mali-G52	yes	2GB or 4GB	16GB or 32GB	via M.2	GbE	WiFi, BT	yes	yes	3	40-pin custom, M.2, PCIe	Linux, Android	
Komikan DVK		59	8devices	Realtek RTL819FS	1x MIPS @ 1GHz	none	no	128MB	empty eMMC socket	no	Fast and GbE	WiFi, BT	no	no	3	other	Linux	
LattitPanda Delta	NEW	188	DFRobot	Intel Celeron N4100	4x Gemini Lake @ 1.1 GHz/2.4GHz	Intel UHD Graphics 600	Arduino Leonardo	4GB	32GB eMMC	via M.2	GbE	WiFi/BT	yes	no	4	2x M.2	Linux, Windows	
Libre Computer Board ALL-H3-CC (Trilium)		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	no	Fast	no	yes	no	5	Pi 40	Linux, Android	
Libre Computer Board AML-S805X-AC (La Frite)		15 or 20	Libre Computer	Amlogic S805X	4x A53 @ 1.2GHz	Mali-450	no	512MB or 1GB	empty eMMC socket	no	Fast	no	yes	no	3	Pi 40	Linux, Android	
Libre Computer Board AML-S905X-CC (Le Potato)		50	Libre Computer	Amlogic S905X	4x A53	Mali-450 MP2	no	2GB	opt. 8GB to 64GB eMMC	no	Fast	no	yes	no	5	Pi 40	Linux, Android	
Lindenis V5		92 to 202	Lindenis Tech	Allwinner V5 V100	4x A7 @ 1.5GHz	no	no	1GB	no	no	GbE	opt. WiFi, BT	yes	yes	5	Pi 40	Linux	
Lindenis V336	NEW	83	Lindenis Tech	Allwinner V536	2x A7 @ 1.2GHz	no	no	1GB	eMMC socket	no	GbE	opt. WiFi, BT	yes	yes	3	no	Linux	
MaacBoard		86	Embrest (Avnet)	NXP i.MX8M	4x A53 @ 1.4GHz	Vivante GC7000Lite	Cortex-M4	2GB	opt. eMMC	no	GbE	WiFi, BT	yes	yes	3	Pi 40	Linux, Android	
MaacBoard Mini	NEW	73	Embrest (Avnet)	NXP i.MX8M Mini	4x A53 @ 1.8GHz	Vivante GCNanoUltra (3D), GC320 (2D)	Cortex-M4	2GB	opt. eMMC	no	GbE	WiFi/BT	no	yes	5	Pi 40	Linux, Android	
MYS-6ULX SBC		29 or 30	MYIR	NXP i.MX6 ULL or i.MX6 UL	1x Cortex-A7 @ 528MHz or 696MHz	no	no	256MB	256MB NAND	no	Fast	WiFi	no	no	2	other	Linux	
Nano PC-T3 Plus		70	FriendlyElec	Samsung S5P6818	8x A53 @ 1.4GHz	Mali-400 MP	no	2GB	16GB eMMC	no	GbE	WiFi, BT	yes	yes	4	other	Linux, Android	
NanoPC-T4		110	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	4GB	16GB eMMC	SATA; via M.2	GbE	WiFi, BT	yes	yes	4	M.2, Pi 40	Linux, Android	
NanoPi Duo2		18	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	no	WiFi, BT	no	yes	1	other	Linux	
NanoPi M1 Plus		38	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	1GB	8GB eMMC	no	GbE	WiFi, BT	yes	yes	3	Pi 40	Linux, Android	
NanoPi M4 / M4V2		50 or 80	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	2GB or 4GB	opt. eMMC	no	GbE	WiFi, BT	yes	yes	5	Pi 40 and other	Linux, Android	
NanoPi Fire3-LTS		35	FriendlyElec	Samsung S5P6818	8x A53 @ 1.4GHz	"3D GPU"	no	1GB	no	no	GbE	no	yes	yes	2	Pi 40	Linux, Android	
NanoPi Neo-LTS		10 or 15	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400	no	256MB or 512MB	no	no	Fast	no	no	no	2	other	Linux	
NanoPi Neo2		20	FriendlyElec	Allwinner H5	4x A53 @ 1.2GHz	Mali-450	no	512MB	no	no	GbE	no	no	no	2	other	Linux	
NanoPi Neo3	NEW	20 or 25	FriendlyElec	Rockchip RK3328	4x A53 @ 1.4GHz	Mali-450 MP2	no	1GB or 2GB	no	no	GbE	no	no	no	2	no	Linux	
NanoPi Neo4		50	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	1GB	opt. eMMC	no	GbE	WiFi, BT	yes	yes	3	Pi 40	Linux, Android	
NanoPi Neo Air-LTS		20	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	8GB eMMC	no	no	WiFi, BT	no	yes	1	other	Linux	
NanoPi Neo Plus2 V2.0		29	FriendlyElec	Allwinner H5	4x A53 @ 1.5GHz	Mali-450 MP2	no	1GB	8GB eMMC	no	GbE	WiFi, BT	no	no	2	other	Linux	
NanoPi R1 / R1S-H3		20 to 32	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB or 1GB (R1 option)	no	no	2x GbE or GbE & Fast (R1)	WiFi	no	no	2 or 3	no	Linux	
NanoPi R2S	NEW	22	FriendlyElec	Rockchip RK3328	4x A53 @ 1.4GHz	Mali-450 MP2	no	1GB	no	no	2x GbE	no	no	no	2	no	Linux	
NanoPi R4S	NEW	45 or 55	FriendlyElec	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	1GB or 4GB	no	no	2x GbE	no	no	no	3	no	Linux	
Nitrogen8M_Mini		135 to 175	Boundary Devices	NXP i.MX8M Mini	4x A53 @ 2.0GHz	GCNanoUltra	Cortex-M4	2GB	16GB eMMC	no	GbE	opt. WiFi, BT	no	yes	2	PCIe	Linux, Android	
Odroid-C1+		35	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	Opt. EMMC	no	GbE	no	yes	no	5	Pi 40	Linux, Android	
Odroid-C2		46	Hardkernel	Amlogic S905	4x A53 @ 1.5GHz	Mali-450 MP2	no	2GB	Opt. EMMC	no	GbE	no	yes	no	5	Pi 40	Linux, Android	
Odroid-C4	NEW	50	Hardkernel	Amlogic S905X3	4x A55 @ 2.0GHz	Mali-G31	no	4GB	Opt. eMMC	no	GbE	no	yes	no	5	Pi 40	Linux, Android	
Odroid-H2+	NEW	176	Hardkernel	Intel Celeron J4195	4x Gemini Lake @ 2.3 GHz	Intel UHD Graphics 600	no	4GB and up	8GB eMMC and up	SATA & via M.2	2x 2.5GbE	no	yes	no	4	M.2, other	Linux	
Odroid-H3C	NEW	65 or 75	Hardkernel	Amlogic S905X3	4x A55 @ 1.8GHz	Mali-G31	no	4GB	no	no	2x SATA (PCIe)	GbE	no	yes	no	1	no	Linux, Android
Odroid-N2+	NEW	63 or 79	Hardkernel	Amlogic S922X	4x -A73 @ 1.8GHz, 2x -A53 @ 1.9GHz	Mali-G52	no	2GB or 4GB	empty eMMC socket	no	GbE	opt.	yes	no	5	Pi 40	Linux, Android	
Odroid-XU4 / -XU4Q		49	Hardkernel	Samsung Exynos422	4x A15 @ 2GHz + 4x A7 @ 1.4GHz	Mali-T628 MP6	no	2GB	opt. eMMC	opt USB-based SATA	GbE	opt.	yes	no	3	other	Linux, Android	
Odyssey-STM32MP157C	NEW	59	Seeed	ST STM32MP157C	2x A7 @ 650MHz	no	Cortex-M4	512MB	4GB eMMC	no	GbE	WiFi/BT	no	yes	3	Pi 40, 2x Grove	Linux	
Odyssey-X86J4105800	NEW	188	Seeed	Intel Celeron J4005	2x Gemini Lake @ 2.00/2.7GHz	Intel UHD Graphics 600	Cortex-M0+	8GB	no	SATA & via M.2	2x GbE	WiFi/BT	yes	no	4	Pi 40, Arduino, 2x M.2	Linux, Windows	
Omega2 Dash		75	Onion	MediaTek MT7688	1x MIPS @ 580MHz	no	no	128MB	no	no	opt. Fast	WiFi	no	no	2	other	Linux	
Omega2 LTE		105	Onion	MediaTek MT7688	1x MIPS @ 580MHz	no	no	128MB	no	no	opt. Fast	WiFi, LTE, GNSS	no	no	1	other	Linux	
Omega2 Pro		55	Onion	MediaTek MT7688AN	1x MIPS @ 580MHz	no	no	512MB	8GB flash	no	opt.	WiFi	no	no	2	other	Linux	
Orange Pi 3		43 to 54	Shenzhen Xunlong	Allwinner H6	4x A53 @ 1.8GHz	Mali-T720 MP2	no	1GB or 2GB	0 or 8GB	no	GbE	WiFi, BT	yes	no	6	Pi 26	Linux, Android	
Orange Pi 3G-IOT		26	Shenzhen Xunlong	MediaTek MT6752	2x A7 @ 1.2GHz	Mali-400 MP1	no	512MB	4GB eMMC	no	no	WiFi, BT, 3G, GPS, FM	no	yes	2	Pi 40	Android	
Orange Pi 4		81 (4B)	Shenzhen Xunlong	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	2801S NPU on 4B	4GB	16GB eMMC (4B)	no	GbE	WiFi, BT	yes	yes	4	Pi 40, PCIe	Linux, Android	
Orange Pi 4G-IOT		45	Shenzhen Xunlong	MediaTek MT6737	4x A53	Mali-T720 MP1 GPU	no	1GB	8GB eMMC	no	no	WiFi, BT, 4G	yes	yes	4	Pi 40	Android	
Orange Pi 86		10	Shenzhen Xunlong	RDA RDA8810PL	1x A5	Vivante GC860	no	256MB	500MB NAND	no	no	WiFi, BT	no	yes	2	40-pin custom	Linux, Android	

Orange Pi Lite / Lite2		16 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	no	WiFi (also BT on Lite2)	yes	yes	3	Pi 40 or 26 (Lite2)	Linux, Android
Orange Pi One Plus		20	Shenzhen Xunlong	Allwinner H6	4x A53	Mali-T720 MP2	no	1GB	no	no	GbE	no	yes	yes	2	Pi 26	Linux, Android
Orange Pi PC / PC Plus		16 or 29	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	1GB	8GB eMMC (PC Plus only)	no	Fast	no	yes	yes	4	Pi 40	Linux, Android
Orange Pi Plus 2E		41	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	2GB	8GB eMMC	no	GbE	WiFi	yes	yes	4	Pi 40	Linux, Android
Orange Pi R1		17	Shenzhen Xunlong	Allwinner H2+	4x A7 @ 1.2GHz	Mali-400 MP2	no	256MB	no	no	2x Fast	WiFi	no	no	1	Pi 26	Linux, Android
Orange Pi R1 Plus	NEW	22	Shenzhen Xunlong	Rockchip RK3328	4x A53 @ 1.5GHz	Mali-450 MP2	no	1GB	no	no	2x GbE	no	no	no	2	no	
Orange Pi RK3399		100	Shenzhen Xunlong	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T628	no	2GB	16GB eMMC	mSATA & via mini-PCIe	GbE	WiFi, BT	yes	yes	5	Pi 40, mini-PCIe	Linux, Android
Orange Pi Zero LTS / Zero Plus		14 or 15	Shenzhen Xunlong	Allwinner H2+ or H5	4x A7 (H2+) or 4x A53 @ 1.2GHz	Mali-400 MP2 (LTS) or Mali-450 MP2	no	512MB	no	no	Fast	WiFi	no	no	2	Pi 26	Linux, Android
Orange Pi Zero2 H3 and H5		30 or 62	Shenzhen Xunlong	Allwinner H3 or H5	4x A7 (H3) or 4x A53(H5) @ 1.2GHz	Mali-400 MP2 (H3) or Mali-450 MP2 (H5)	no	512MB (H3) or 2GB (H5)	8GB eMMC	no	no	WiFi/BT	yes	yes	1	Pi 26	Linux, Android
Orange Pi Zero2	NEW	19	Shenzhen Xunlong	Allwinner H616	4x A53 @ 1.5GHz	Mali-TG31	no	512MB or 1GB	no	no	GbE	WiFi/BT	yes	no	2	Pi 26	Linux, Android
Pepper 43R / 43C		152	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	no	GbE	WiFi, BT	no	no	4	Other	Linux, Android
Pepper DVL-D		107	Gumstix	TI AM3354	1x A8 @ 800MHz	PowerVR SGX530	no	512MB	no	no	GbE	no	yes	no	4	Other	Linux, Android
Pine A64+ / A64-LTS		21 or 32	Pine64	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	1GB or 2GB	opt. eMMC on A64-LTS	no	Fast or GbE	no	yes	yes	3	Pi 40	Linux, Android
Pine H64 Model B		36 or 45	Pine64	Allwinner H6	4x A53	Mali-T720	no	2GB or 3GB	opt.	no	GbE	WiFi, BT	yes	no	2	Pi 40	Linux, Android
PineCube	NEW	30	Pine64	Allwinner S3	1x A7 @ 800MHz	no	no	128MB	no	no	Fast	WiFi	no	yes	2	Pi 26	Linux
PocketBeagle		23	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	no	no	no	no	no	no	1	other	Linux
Quantum Mini	NEW	50	Seeed	Allwinner H3	4x A7 @ 1.0GHz	Mali-400 MP2	no	512MB	16GB eMMC	no	no	WiFi/BT	no	no	3	no	Linux
Raspberry Pi Zero		5 to 25	RPI Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	no	no	yes	no	2	Pi 40	Linux
Raspberry Pi Zero W / Zero WH		10 to 25	RPI Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	no	WiFi, BT	yes	no	2	Pi 40	Linux
Raspberry Pi 3 Model A+		25	RPI Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	512MB	no	no	no	WiFi, BT	yes	yes	2	Pi 40	Linux
Raspberry Pi 3 Model B		35	RPI Trading	Broadcom BCM42837	4x A53 @ 1.2GHz	VideoCore IV	no	1GB	no	no	Fast	WiFi, BT	yes	yes	5	Pi 40	Linux
Raspberry Pi 3 Model B+		35	RPI Trading	Broadcom BCM2837B0	4x A53 @ 1.4GHz	VideoCore IV	no	1GB	no	no	GbE	WiFi/BT	yes	yes	5	Pi 40	Linux
Raspberry Pi 4 Model B		35 to 75	RPI Trading	Broadcom BCM2711	4x A72 @ 1.5GHz	VideoCore VI	no	2GB, 4GB, or 8GB	no	no	GbE	WiFi/BT	yes	yes	5	Pi 40	Linux, Win 10 IoT
ReSpeaker Core v 2.0		99	Seeed	Rockchip RK3229	4x A7 @ 1.5GHz	Mali-400MP	no	1GB	4GB eMMC	no	Fast	WiFi, BT	yes	no	4	Grove	Linux
Rico Board		89	MYIR	TI AM343x	1x A9 @ 1GHz	PowerVR SGX530	no	512MB (or 256MB or 1GB)	4GB eMMC	no	GbE	no	yes	yes	2	other	Linux
ROC-RK3308-CC		54	T-Firefly	Rockchip RK3308	4x -A35 @ 1.3GHz	no	yes	256MB	128MB NAND, 4GB eMMC	no	Fast	WiFi, BT	no	no	2	Pi 40	Linux
ROC-RK3308-CC Plus	NEW	40	T-Firefly	Rockchip RK3308	4x -A35 @ 1.3GHz	no	yes	256MB	128MB NAND, 4GB eMMC	no	2x Fast	WiFi	no	no	2	Pi 40	Linux
ROC-RK3328-CC (Renegade)		30 to 60	Libre, Firefly	Rockchip RK3328	4x A53	Mali-400 MP2	no	1GB, 2GB, 4GB	opt. eMMC	no	GbE	no	yes	yes	4	Pi 40	Linux, Android
ROC-RK3399-PC (Renegade Elite)		100	Libre, Firefly	Rockchip RK3399	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T864	no	4GB	opt. eMMC to 128GB	no	GbE w/PoE	no	yes	yes	5	other	Linux, Android
Rock64		25 to 45	Pine64	Rockchip RK3328	4x A53 @ 1.5GHz	Mali-450 MP2	no	1GB to 4GB	empty eMMC	no	GbE	no	yes	no	3	Pi 40	Linux, Android
Rock Pi 4 Models A, B, and C	NEW	39 to 75	Radxa	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T864	no	1GB, 2GB, 4GB	empty eMMC	via M.2	GbE	opt. WiFi/BT	yes	yes	5	Pi 40, M.2	Linux, Android
Rock Pi E	NEW	15 to 40	Radxa	Rockchip RK3328	4x A53 @ 1.5GHz	Mali-450 MP2	no	256MB, 512MB, 1GB, 2GB	empty eMMC	no	GbE & Fast	opt. WiFi/BT	no	no	2	Pi 40	Linux
Rock Pi N10		99 to 169	Radxa, Vamrs	Rockchip RK3399Pro	2x A72 @ 2GHz, 4x A53 @ 1.5GHz	Mali-T860	3-TOPS NPU on SoC	4GB, 6GB, or 8GB	16GB, 32GB, or 64GB	via M.2	GbE	opt. WiFi, BT	yes	yes	5	Pi 40, M.2	Linux, Android
Rock Pi S		10 to 27	Radxa	Rockchip RK3308	4x A35 @ 1.3GHz	no	no	256MB or 512MB	opt. 1GB NAND	no	Fast	opt. WiFi, BT	no	no	2	other	Linux
Rock Pi X Model B	NEW	49 to 99	Radxa	Intel Atom x5-28350	4x Cherry Trail @ 1.44 GHz/1.84GHz	Intel HD 400 Graphics	no	1GB, 2GB, or 4GB	8GB to 128GB eMMC	no	GbE	WiFi/BT	yes	no	5	Pi 40	Linux, Win 10
RockPro64		60 or 80	Pine64	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T864	no	2GB or 4GB	empty eMMC	no	GbE	opt. WiFi/BT	yes	yes	4	PCIe x4, Pi 40	Linux, Android
Seeeduno Cloud		50	SeeedStudio	Qualcomm AR9331	1x MIPS @ 400MHz	no	ATmega32 u4	64MB	64MB NAND	no	Fast	WiFi	no	no	2	Arduino, Grove	Linux
Sipeed TANG Hex	NEW	67	Sipeed	Xilinx Zynq-7020	2x A9 @ 667MHz	no	FPGA on SoC	1GB	256MB NAND	no	Fast	no	no	no	4	Pi 26	Linux
SOM-RK3399 Dev Kit		99	FriendlyElec	Rockchip RK3399	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T864	no	2GB	16GB eMMC	via M.2	GbE	WiFi, BT	yes	yes	6	M.2, mini-PCIe	Linux, Android
Stinger96	NEW	164	Shirtech	STM32MP17	2x A7 @ 650MHz	no	Cortex-M4	256MB	1GB NAND	no	GbE	NB-IOT	no	yes	2	96Boards IoT	Linux
STM32MP157A-DK1 / DK2		68 or 98	ST	STM32MP17	2x A7 @ 650MHz	no	Cortex-M4	512MB	no	no	GbE	opt. WiFi/BT (DK2)	yes	no	2	Pi 40, Arduino	Linux
Tinker Edge T	NEW	180	Asus	NXP i.MX8M	4x A53 @ 1.5GHz	Vivante GC7000Lite/GC7000VLX	Cortex-M4, Edge TPU	1GB	8GB eMMC	no	GbE	WiFi/BT	yes	yes	3	Pi 40	Linux
Tinker Board S		100	Asus	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760 GPU	no	2GB	16GB eMMC	no	GbE	WiFi, BT	yes	yes	5	Pi 40	Linux
VMARC RK3399Pro SoM Ficus2		199 to 249	Vamrs	Rockchip RK3399Pro	2x A72 @ 1.8GHz, 4x A53 @ 1.4GHz	Mali-T860	3-TOPS NPU on SoC	4GB, 6GB, 8GB	16GB, 32GB, 64GB	no	GbE and Fast	WiFi, BT	yes	yes	3	96Boards EE, PCIe, mini-PCIe	Linux, Android
Udoo Neo		50 to 65	Udoo (Seco)	NXP i.MX6 SoloX	1x A9 @ 1GHz	Vivante GC355	Cortex-M4	512MB or 1GB	no	no	Fast	opt.	yes	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	no	opt. SATA (Quad)	opt.	opt.	yes	yes	4	Arduino	Linux, Android
Udoo X86 II		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 & via M.2	GbE	WiFi, BT	yes	no	3	Arduino, other	Linux, Android
UP board		99 to 169	Aaeon	Intel Atom x5-28350	4x Cherry Trail @ 1.44 GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	no	GbE	no	yes	yes	5	Pi 40	Linux, Android
UP Core		99 to 169	Aaeon	Intel Atom x5-28350	4x Cherry Trail @ 1.44 GHz/1.92GHz	Intel HD 400	no	1GB to 4GB	16GB to 64GB eMMC	no	no	WiFi, BT	yes	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	yes	4	other	Linux, Android

UP Squared		149 to 369	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	yes	4	other	Linux, Android
Vizi-AI	NEW	199	Adlink	Intel Atom x5-E3940	4x Apollo Lake @ 1.3 GHz/1.8GHz	Intel HD Graphics 500/505	Myriad X VPU	4GB	no	no	2x GbE	no	yes	no	5	Pi 40	Linux
Wandboard		89 to 139	Wandboard.org	NXP i.MX6	1x, 2x, or 4x A9 @1GHz	Vivante GC355	no	512MB to 2GB	no	opt. SATA (Quad)	GbE	opt.	yes	yes	2	other	Linux, Android
Wandboard iMX8M-Plus	NEW	199 or 224	Wandboard.org	NXP i.MX8M Plus	4x -A53 @ 1.8GHz	Vivante GC7000UL/GCC520L	Cortex-M7, 2.3-TOPS NPU on SoC	2GB or 4GB	32GB	via M.2	GbE	WiFi/BT (4GB only)	yes	yes	4	M.2, Pi 40	Linux, Android
ZeroPi		10	FriendlyElec	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	no	GbE	opt.	no	no	2	no	Linux
Z-lum Board		99 or 119	MYIR	Xilinx Zynq-7010/7020	2x Arm @ 667MHz + FPGA	no	no	1GB	no	no	GbE	no	yes	no	2	other	Linux
Z-lum Lite		69 or 75	MYIR	Xilinx Zynq-7007S/7010	2x Arm @ 667MHz + FPGA	no	no	512MB	4GB eMMC	no	GbE	no	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 or AI chip: Only listed if user-accessible; may not include minor MCU coprocessors.

RAM: First figure is default configuration matched with price.

eMMC/flash: On-board storage of 64MB or more only – does not include microSD slot, which is available on all the SBCs.

Other storage: Mass storage via SATA, mSATA, NVMe, etc.

LAN: Refers to Ethernet; "Fast" = 10/100Mbps; "GbE" = 10/100/1000Mbps.

Wireless: 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).

Camera output: MIPI-CSI, DVP, or other cam outputs

USB ports: Refers to coastline, real-world ports only. Includes micro- and mini-USB, including power-only models, but does not include onboard USB headers

Expansion: Lists support for major expansion interfaces such as mini-PCIe, M.2, Arduino, Pi 40 (40-pin Raspberry Pi expansion), BeagleBone (BBone, dual 50x), 96Boards.org (40- and/or 60-pin), Grove, or MikroBus; "other" refers to a custom expansion interfaces, differentiated from "headers," referring to individual

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, OpenWrt etc.);

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