Comparison of 81 open-spec, hacker friendly SBCs -- June, 2016

Note: This table accompanies HackerBoards.com's 2016 Hacker Boards Survey located at http://hackerboards.com/2016-survey-of-open-spec-hacker-friendly-sbcs. Click each SBC's "Product" name in the table below for more details at either HackerBoards.com or the vendor's product page.

Product	Price ($)	Vendor	Processor	Cores	3D GPU	MCU	RAM	Storage	LAN	Wireless	HDMI or DP-out	USB ports	Expansion	OSes
86Duino Zero	39	DMP	Vortex86EX	1x x86 @ 300MHz	no	no	128MB	no	Fast	no	no	1	headers	Linux
A20-OlinuXino-Lime	37	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	512MB	SATA	Fast	no	yes	3	other	Linux, Android
A20-OlinuXino-Lime2-EMMC	61	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	512MB	4GB eMMC	GbE	no	yes	3	other	Linux, Android
A20-OlinuXino-Micro	61	Olimex	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	opt. 4GB NAND	Fast	no	yes	3	other	Linux, Android
Andromeda Box Edge	75	Marvell, Arrow	Marvell IAP140	4x A53 @ 1.2GHz	Vivante GC7000UL	no	1GB	8GB eMMC	no	WiFi, BT	yes	3	96Boards	Brillo
Arduino Industrial 101	39	Arduino Srl	Qualcomm AR9331	1x MIPS @ 400MHz	no	ATmega32u4	64MB	no	Fast	WiFi	no	1	Arduino	OpenWrt
Arduino Yún Mini	60	Arduino Srl	Qualcomm AR9331	1x MIPS @ 400MHz	no	ATmega32u4	64MB	no	opt.	WiFi	no	opt.	Arduino	OpenWrt
Arduino Tian	99	Arduino Srl	Qualcomm AR9432	1x MIPS @ 560MHz	no	SAMD21G18	64MB	no	yes	WiFi, BT	no	1	Arduino	OpenWrt
Arndale Octa	199	InSignal, Pyrustek	Samsung Exynos 5420	4x A15 @ 1.8GHz + 4x A7 @ 1.3GHz	Mali-T628	no	3GB	opt. EMMC	Fast	opt.	yes	2	other	Linux, Android
Banana Pi M2	58	SinoVoip	Allwinner A31	4x A7 @ 1GHz	PowerVR SGX544 MP2	no	1GB	no	GbE	WiFi, BT	yes	4	Pi 40	Linux, Android
Banana Pi M2+	37	SinoVoip	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	1GB	8GB eMMC	GbE	WiFi, BT	yes	2	Pi 40	Linux, Android
Banana Pi M3	70	SinoVoip	Allwinner A83T	8x A7 @ 2GHz	PowerVR SGX544 MP1	no	2GB	8GB eMMC, SATA	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
Banana Pro	48	LeMaker	Allwinner A20	2x A7 @ 1GHz	Mali-400 MP2	no	1GB	SATA	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
BeagleBone Black	48	BeagleBoard.org	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	yes	2	Bbone	Linux, Android
BeagleBone Green	39	SeeedStudio	TI Sitara AM3358	1x A8 @ 1GHz	PowerVR SGX530	PRU	512MB	4GB eMMC	Fast	no	no	2	Bbone, Grove	Linux, Android
BeagleBone Green Wireless	45	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
Chip	9	Next Thing	Allwinner R8	1x A8 @ 1GHz	Mali-400	no	512MB	4GB eMMC	no	WiFi, BT	opt.	2	other	Linux
CloudBit	60	LittleBits	Freescale i.MX233	1x ARM9 @ 454MHz	no	no	64MB	4GB microSD	no	WiFi	no	0	LittleBits	Linux
Creator CI40	156	Imagination Tech.	Imagination CXT200	2x MIPS @ 550MHz	no	no	256MB	512MB NAND	Fast	WiFi, BT	no	1	Pi 40, MikroBus	Linux, OpenWrt, Brillo
Cubieboard3	86	Cubieboard.org	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	2GB	opt. NAND or TSD, SATA	Fast	WiFi, BT	yes	3	other	Linux, Android
Cubieboard4	125	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	99	Cubieboard.org	Allwinner H8	8x A7 @ 2GHz	PowerVR SGX544MP1	no	2GB	SATA	GbE	WiFi, BT	yes	3	other	Linux, Android
DPT-Board	56	DPTechnics	Qualcomm AR9331	1x MIPS @ 400MHz	no	no	64MB	no	2x Fast	WiFi	no	2	other	OpenWrt
DragonBoard 410c	75	Qualcomm, Arrow	Qualcomm Snapdragon 410	4x A53 @ 1.2GHz	Adreno 306	no	1GB	8GB eMMC	no	WiFi, BT	yes	3	96Boards	Linux, Android
Firefly FirePrime	99	Firefly	Rockchip RK3128	4x A7 @ 1.3GHz	Mali-400 MP2	no	1GB or 2GB (S+)	8GB NAND (eMMC on S+)	GbE	WiFi, BT	yes	5	other	Linux, Android
Firefly-RK3288	159	Firefly	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760	no	2GB (4GB on Plus)	16GB eMMC (32GB on Plus)	GbE	WiFi, BT	yes	3	other	Linux, Android
Firefly-RK3288 Reload	189	Firefly	Rockchip RK3288	4x A17 @ 1.8GHz	Mali-T760	no	2GB	16GB eMMC, SATA	GbE	WiFi, BT	yes	4	other	Linux, Android
Galileo Gen 2	56	Intel	Intel Quark X1000	1x x86 @ 400MHz	no	no	256MB	no	Fast	no	no	2	Arduino, mini-PCIe	Linux
Gizmo 2	189	AMD, GizmoSphere	AMD G-Series GX210HA	2x x86 @ 1GHz	Radeon 800	no	1GB	mSATA, 2X SATA	GbE	no	yes	6	5x PCIe	Linux
HiKey	75 (99 with 2GB)	LeMaker, 96Boards.org	HiSilicon Kirin 6220	8x A53 @ 1.2GHz	Mali-450 MP4	no	1GB or 2GB	8GB eMMC	no	WiFi, BT	no	3	96Boards	Linux, Android
HobbitBoard	69	Wandboard.org	NXP I.MX6 UL	1x A7 @ 528MHz	no	no	256MB	4GB eMMC	Fast	WiFi, BT	no	2	MikroBus	Brillo
HummingBoard-Base	70 (with Solo)	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2GHz	Vivante GC355	no	512MB to 2GB	no	GbE	opt.	yes	2	other	Linux, Android

Board	Price	Vendor	SoC	CPU	GPU	Co-proc	RAM	Storage	Ethernet	Wireless	Video	USB	Expansion	OS
HummingBoard-Pro	85 (with Solo)	SolidRun	NXP i.MX6	1x/2x/4x A9 @ up to 1.2GHz	Vivante GC355	no	512MB to 2GB	mSATA	GbE	opt.	yes	2	Mini-PCIe	Linux, Android
HummingBoard-Edge	102 (with Solo)	SolidRun	NXP i.MX6	1x/2x/4x ARM @ up to 1.2GHz	Vivante GC355	no	512MB to 4GB	4GB eMMC, mSATA, M.2	GbE	opt.	yes	4	Mini-PCIe	Linux, Android
HummingBoard-Gate	70 (with Solo)	SolidRun	NXP i.MX6	1x/2x/4x ARM @ up to 1.2GHz	Vivante GC355	no	512MB to 4GB	no	GbE	opt.	yes	4	Mini-PCIe, MikroBus	Linux, Android
Inforce 6410Plus	143	Inforce	Qualcomm Snapdragon 600	4x A15 @ 1.7GHz	Adreno 320	no	2GB	4GB eMMC, SATA	GbE	WiFi, BT	yes	3	other	Linux, Android
Intel Edison Kit for Arduino	87	Intel	Intel "Tangier" Atom	2x x86 @ 500MHz + Quark	no	Quark	1GB	4GB eMMC	no	WiFi, BT	no	2	Edison 70-pin, Arduino	Linux
LeMaker Guitar	45	LeMaker	Actions S500	4x A9 @ 1.6GHz	PowerVR SGX544	no	1GB or 2GB	8GB eMMC	Fast	WiFi, BT	yes	3	Pi 40	Linux, Android
LinkIt Smart 7688	13	SeeedStudio, MediaTek	MediaTek MT7688AN	1x MIPS @ 580MHz	no	opt. ATmega32U4	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		Linux, Android
MarsBoard AM335x	75	HaoYu, MarsBoard.org	TI AM3358	1x A8 @ 1GHz	PowerVR SGX530	no	512MB	4GB eMMC	Fast	no	yes	2	Bbone	Linux, Android
MarsBoard RK3066	58	HaoYu, MarsBoard.org	Rockchip RK3066	2x A9 @ 1.6GHz	Mali-400	no	1GB	4GB eMMC	Fast	no	yes	5	other	Linux, Android
MarsBoard RK3066 Pro	140	HaoYu, MarsBoard.org	Rockchip RK3066	2x A9 @ 1.6GHz	Mali-400	no	1GB	4GB eMMC	Fast	no	yes	5	Arduino	Linux, Android
MinnowBoard Max Turbot	140	Intel, ADI, Minnowboard.org	Intel Atom E3826	2x x86 @ 1.46GHz	Intel HD Graphics	no	2GB	SATA	GbE	no	yes	2	other	Linux, Android
NanoPC-T3	60	FriendlyARM	Samsung S5P6818	8x A53 @ 1.4GHz	Mali-400 MP	no	1GB or 2GB	8GB eMMC	GbE	WiFi, BT	yes	5	other	Linux, Android
NanoPi M1	11	FriendlyARM	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB or 1GB	no	Fast	no	yes	3	Pi 40	Linux
NanoPi M2	25	FriendlyARM	Samsung S5P4418	4x A9 @ 1.4GHz	"3D GPU"	no	1GB	no	GbE	no	yes	3	Pi 40	Linux
NanoPi M3	35	FriendlyARM	Samsung S5P6818	8x A53 @ 1.4GHz	Mali-400 MP	no	1GB	no	GbE	WiFi, BT	yes	3	Pi 40	Linux, Android
NanoPi2 Fire	23	FriendlyARM	Samsung S5P4418	4x A9 @ 1.4GHz	"3D GPU"	no	1GB	no	GbE	no	yes	2	Pi 40	Linux, AndroiD
Odroid-C0	27	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	opt. EMMC	no	no	yes	5	Pi 40	Linux, Android
Odroid-C1+	32	Hardkernel	Amlogic S805	4x A5 @ 1.5GHz	Mali-450	no	1GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android
Odroid-C2	40	Hardkernel	Amlogic S905	4x A53 @ 2GHz	Mali-450 MP2	no	2GB	Opt. EMMC	GbE	no	yes	5	Pi 40	Linux, Android
Odroid-XU4	74	Hardkernel	Samsung Exynos5422	4x A15 @ 2GHz + 4x A7 @1.4GHz	Mali-T628 MP6	no	2GB	opt. SATA	GbE	opt.	yes	3	other	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 One	10	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.2GHz	Mali-400 MP2	no	512MB	no	Fast	no	yes	2	Pi 40	Linux, Android
Orange Pi PC / PC Plus	15	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	Mali-400 MP2	no	1GB	opt. (8GB eMMC on Plus)	Fast	no	yes	4	Pi 40	Linux, Android
Orange Pi Plus2 / Pluse2E	49	Shenzhen Xunlong	Allwinner H3	4x A7 @ 1.6GHz	PowerVR SGX544 MP2	no	2GB	8GB eMMC, SATA	GbE	WiFi	yes	5	Pi 40	Linux, Android
Parallella	99	Adapteva	Zilinx Zynq-7020/7010	2x A7 @ 667MHz + FPGA	no	no	1GB	no	GbE	no	yes	2	other	Linux
pcDuino Lite / Lite WiFi	29	LinkSprite	Allwinner A10	1x A8 @ 1GHz	Mali-400	no	512MB	opt. 2GB (Lite WiFi)	Fast	opt. WiFi	yes	0	Arduino	Linux
pcDuino3 Nano / Nano Lite	40	LinkSprite	Allwinner A20	2x A7 @ 1GHz	Mali-400	no	1GB	4GB flash, SATA	GbE	no	yes	3	Arduino	Linux, Android
pcDuino8 Uno	49	LinkSprite	Allwinner H8	8x A7 @ 2GHz	PowerVR SGX544	no	1GB	no	GbE	no	yes	2	Arduino	Linux, Android
Pine A64	15	Pine64	Allwinner A64	4x A53 @ 1.2GHz	Mali-400 MP2	no	512MB to 2GB		Fast or GbE	no	yes	3	Pi 40	Linux, Android
PixiePro	100	Code	NXP i.MX6 Quad	4x A9 @ 1GHz	Vivante GC355	no	2GB	SATA	opt.	WiFi, BT, etc.	yes	3	opt. PCIe	Linux
Radxa Rock Lite / Rock Pro	59	Radxa	Rockchip RK3188	4x A9 @ 1.6GHz	Mali-400	no	1GB or 2GB	4GB or 8GB NAND	Fast	WiFi (BT on Pro)	yes	3	other	Linux, Android
Radxa Rock 2 Square	129	Radxa	Rockchip RK3288	4x A17 @ 1.6GHz	Mali-T764	no	2GB or 4GB	16GB or 32GB eMMC, SATA	GbE	WiFi, BT	yes	4	other	Linux, Android
Raspberry Pi Zero	14	Rpi Trading	Broadcom BCM2835	1x A8 @ 1GHz	VideoCore IV	no	512MB	no	no	no	yes	2	Pi 40	Linux

Name	Price	Vendor	Processor	Cores	3D GPU	MCU	RAM	Storage	LAN	Wireless	HDMI or DP-out	USB ports	Expansion	OSes
Raspberry Pi 2 Model B	35	Rpi Trading	Broadcom BCM2836	4x A7 @ 900MHz	VideoCore IV	no	1GB	no	Fast	no	yes	5	Pi 40	Linux
Raspberry Pi 3 Model B	35	Rpi Trading	Broadcom BCM43437	4x A53 @ 1.2GHz	VideoCore IV	no	1GB	no	Fast	WiFi, BT	yes	5	Pi 40	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
RioTboard	79	Newark, RioTboard.org	NXP i.MX6 Solo	1x A9 @ 1GHz	Vivante GC355	Kinetis K20	1GB	4GB eMMC	GbE	no	yes	5	other	Linux, Android
Roseapple Pi	50	Roseapplepi.org	Actions S500	4x A9 @ 1.6GHz	PowerVR SGX544	no	256MB	4GB eMMC	Fast	no	yes	4	Pi 40	Linux, Android
SAMA5D4 Xplained	94	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
Snickerdoodle	62	Krtkl	Xilinx Zynq-7010/7020	2x A9 @ 667MHz + FPGA	no	STM32	512MB or 1GB	no	opt.	WiFi, BT	opt.	1	opt. Arduino	Linux
Udoo Neo	50	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	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
USB Armory	130	Inverse Path	NXP i.MX53	1x A8 @ 800MHz	no	no	512MB	no	no	no	no	1	headers	Linux
Wandboard	79	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	MYIR	Xilinx Zynq-7010/7020	2x ARM @ 667MHz + FPGA	no	no	1GB	no	GbE	no	yes	2	other	Linux

NOTES	
Price:	Based on lowest price found at publication date, rounded to dollar, and based on standard default (typically lowest) RAM, flash, and processor option listed first in chart and blurbs. Does not include options or pertain to higher end optional SKUs. Price ranges can be found in the brief SBC descriptions in our survey articles.
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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