		KiwiSDR	SDRPlay RSP2	HackRF One
Architecture	SDR type	ADC samples antenna input directly. Digital downconversion (DDC) in FPGA	ADC in the baseband IC samples analog IF down-mixed by tuner IC. Bypass modes exist	ADC in the baseband IC samples analog IF down-mixed by tuner IC. Bypass modes exist
	open source HW	yes	no	yes
	open source SW	yes	host software dependent	host software dependent
	sync multi-units	no	yes	yes (5)
	TX output	no	no	yes, half-duplex
Front end	freq range	0 – 30 MHz (6)	1 kHz – 2 GHz	100 kHz – 6 GHz
	inputs	1x SMA, 1x header block	2x SMA, 1x header block (hi-Z)	1x SMA
	features	TVS protection, all inputs	2nd SMA switchable bias tee	switchable bias tee
	filtering	30 MHz LPF	2x LPF, 1x HPF, 8x BPF, MW/FM notch	1x LPF, 1x HPF
	attenuator	no	yes	no
	preamp	+20 dB, fixed	variable gain, 40 dB range	yes
	device	LTC6401-20	MSI001	RFFC5072
ADC	# bits	14	12	8
	SFDR (1)	90 dB	67 dB	48 dB
	device	LTC2248	MSI2500	MAX5864
	MSPS	66.7, fixed	variable up to 10.66	variable 8 – 20
	clock oscillator	XO, 50 ppm, trimmed via GPS	TCXO, 0.5 ppm, software trimmed	XO, 30 ppm
	ext ref in	66.7 MHz, JST (2)	24 MHz, MCX	SMA
	ext ref out	no	24 MHz, MCX	SMA
DSP	type	FPGA + software	software	software
	FPGA	Xilinx Artix-7 A35, user programmable	no	no
GPS		yes, integrated	no	no
	type	software defined		
	use	ADC clock cal, time sync		
	GPSDO	no		
	antenna input	SMA, 3.3V bias tee		
	# channels	12		
	front end part	SE4150L		
	clock oscillator	16.368 MHz, TCXO, 0.5 ppm		
	ext clock in	16.368 MHz, JST (2)		
Specs	power	5V 1.5A, 5.5/2.1mm DC jack	5V 0.17A, via USB	5V, via USB
	H W D (mm)	35 x 90 x 140	32 x 86 x 98	?, PCB is 120 x 75
Output	wide-band IF output	No, currently panadapter and audio only. Wide-band output mode suitable for use with traditional, external software under consideration	Yes, 8 bandwidths (200k – 8M) and zero IF. Panadapter and audio done in host software	Yes. Panadapter and audio done in host software
	un-demodulated IQ samples	yes, at audio bandwidth	yes	yes
	# panadapters (7)	4, full 30 MHz, 14 level zoom	host software dependent	host software dependent
	# receivers	4, 12 kHz audio bandwidth	host software dependent	host software dependent
	PHY	1x 10/100 Ethernet	1x USB 2.0 type B	1x micro USB 2.0
	protocol	web sockets, HTML5	widely supported	widely supported
UI Software (3)	Windows	all browsers except IE	SDRUno, HDSDR, SDR-Console, SDR#	HDSDR, SDR-Console, SDR#
	Linux	all browsers	CubicSDR	GQRX (GNU Radio)
	Mac	all browsers	CubicSDR	GQRX (GNU Radio)
	iOS, Android	All browsers, but marginally useful. Mobile features are in development	apps exist	apps exist
	other APIs	in development	ExtIO support	GNU Radio support
	use with other audio processing software? e.g. Fldigi, Multipsk (4)	yes	yes	yes
	Extensions / plug-ins?	Yes. Currently built-in to the web interface: WSPR, FAX, time station decoder, Loran-C, IQ display, S-meter graph, signal integrator, antenna switch controller	SDR# has a set of plug-ins.	SDR# has a set of plug-ins.
Prices (US$)		$299, $199 board only	$169 RSP2, $129 RSP1	$299
		KiwiSDR	**SDRPlay RSP2**	**HackRF One**

Notes

Version 1.1, June 2017, comments/corrections to support@kiwisdr.com

(1) SFDR depends on many factors. Consult the ADC data sheets for the full story. Fewer bits means less dynamic range, but not necessarily less sensitivity.
(2) There are pads for an (uninstalled) JST connector on the PCB.
(3) New software packages and interfaces are always being added.
(4) Usually via “virtual audio cable” (VAC) software.
(5) See: Synchronizing multiple HackRFs [RTL-SDR.com]
(6) 32 MHz with degraded performance.
(7) On the KiwiSDR “panadapter” means the waterfall display.

Sources

KiwiSDR
http://www.kiwisdr.com
https://github.com/jks-prv/Beagle_SDR_GPS

SDRPlay
http://www.sdrplay.com/docs/RSP2_Datasheet.pdf
http://www.sdrplay.com/downloads/

HackRF One
https://greatscottgadgets.com/hackrf/
https://github.com/mossmann/hackrf/wiki

Other
https://en.wikipedia.org/wiki/List_of_software-defined_radios
http://www.rtl-sdr.com/review-airspy-vs-sdrplay-rsp-vs-hackrf/

SDR comparison

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