QST Magazine Product Reviews - Key Measurements Summary - HF-Transceivers or Receivers

Source: Product Review from QST Magazine - Many thanks to ARRL and QST Magazine for their very interesting reviews!

Sorted by 2 kHz 3rd-order dynamic range			1	2	3	4	5
Subject of measurement Band: 14 MHz	Minimum of scale	Maximum of scale	Yaesu FTdx5000D December 2010	Elecraft K3 January 2009	Elecraft K3 April 2008	Flex-5000A July 2008	Perseus SDR December 2008
Receiver							
20 kHz blocking gain compression	70 dB	140 dB	136 dB	142 dB	139 dB	123 dB	117 dB
2 kHz blocking gain compression	70 dB	141 dB	136 dB	140 dB	139 dB	123 dB	99 dB
20 kHz 3rd-order dynamic range	50 dB	110 dB	114 dB !	106 dB	103 dB	99 dB	100 dB
2 kHz 3rd-order dynamic range	50 dB	110 dB	114 dB !	103 dB	102 dB	99 dB	97 dB
20 kHz 3rd-order intercept	-40 dBm	+35 dBm	+41 dBm !	+29 dBm	+26 dBm	+35 dBm	+35 dBm
2 kHz 3rd-order intercept	-40 dBm	+35 dBm	+40 dBm !	+28 dBm	+26 dBm	+30 dBm	+35 dBm
Transmitter							
Tx-Rx turnaround time (SSB tx delay)	50 ms	10 ms	37 ms	12 ms	22 ms	29 ms	N/A
Transmit 3rd-order IMD	-20 dB	-35 dB	-43 dB *!	-29 dB	-27 dB	-34 dB	N/A
Transmit 9th-order IMD	-20dB	-70 dB	-72 dB *!	-51 dB	-53 dB	-54 dB	N/A

Sorted by 2 kHz 3rd-order dynamic range			6	7	8	9	10
Subject of measurement Band: 14 MHz	Minimum of scale	Maximum of scale	TenTec Orion-II September 2006	Icom IC-7700 October 2008	Icom IC-7600 November 2009	Icom IC-7800 V2 March 2007	Yaesu FTdx9000 July 2010
Receiver							
20 kHz blocking gain compression	70 dB	140 dB	136 dB	125 dB	122 dB	144 dB	137 dB
2 kHz blocking gain compression	70 dB	141 dB	136 dB	102 dB	102 dB	117 dB	102 dB
20 kHz 3rd-order dynamic range	50 dB	110 dB	92 dB	106 dB	106 dB	108 dB	99 dB
2 kHz 3rd-order dynamic range	50 dB	110 dB	95 dB	95 dB	88 dB	86 dB	85 dB
20 kHz 3rd-order intercept	-40 dBm	+35 dBm	+20 dBM	+35 dBm	+31 dBm	+38 dBm !	+ 28 dBm
2 kHz 3rd-order intercept	-40 dBm	+35 dBm	+21 dBm	+24 dBm	+13 dBm	+22 dBm	+ 7dBm
Transmitter							
Tx-Rx turnaround time (SSB tx delay)	50 ms	10 ms	30 ms	15 ms	13 ms	15 ms	32 ms
Transmit 3rd-order IMD	-20 dB	-35 dB	-28 dB	-28 dB	-31 dB	-32 dB	-37 dB *!
Transmit 9th-order IMD	-20dB	-70 dB	-52 dB	-53 dB	-48 dB	-52 dB	>-75 dB *!

Sorted by 2 kHz 3rd-order dynamic range			11	12	13	14	15
Subject of measurement Band: 14 MHz	Minimum of scale	Maximum of scale	TenTec Omni-VII July 2007	Icom IC-R9500 January 2008	Yaesu FTdx9000 March 2006	Yaesu FT-950 March 2008	Yaesu FT-2000D December 2007
Receiver							
20 kHz blocking gain compression	70 dB	140 dB	137 dB	144 dB !	128 dB	128 dB	136 dB
2 kHz blocking gain compression	70 dB	141 dB	134 dB	109 dB	97 dB	98 dB	87 dB
20 kHz 3rd-order dynamic range	50 dB	110 dB	91 dB	5kHz/92 dB	101 dB	95 dB	98 dB
2 kHz 3rd-order dynamic range	50 dB	110 dB	82 dB	81 dB	78 dB	71 dB	69 dB
20 kHz 3rd-order intercept	-40 dBm	+35 dBm	+11 dBM	+32 dBm	+35 dBm	+21 dBm	+26 dBm

2 kHz 3rd-order intercept	-40 dBm	+35 dBm	+6,5 dBm	-4dBm	+1 dBm	-4 dBm	-16 dBm
Transmitter							
Tx-Rx turnaround time (SSB tx delay)	50 ms	10 ms	20 ms	N/A	35 ms	25 ms	37 ms
Transmit 3rd-order IMD	-20 dB	-35 dB	-27 dB	N/A	-34 dB	-35 dB	-35 dB
Transmit 9th-order IMD	-20dB	-70 dB	-55 dB	N/A	-80 dB !	-56 dB	-65 dB

Sorted by 2 kHz 3rd-order dynamic range

			16	17	18
Subject of measurement Band: 14 MHz	Minimum of scale	Maximum of scale	Icom IC-7200 June 2009	Yaesu FT-2000 February 2007	Icom IC-7000 May 2006
Receiver					
20 kHz blocking gain compression	70 dB	140 dB	140 dB	126 dB	112 dB
2 kHz blocking gain compression	70 dB	141 dB	83 dB	92 dB	86 dB
20 kHz 3rd-order dynamic range	50 dB	110 dB	99 dB	95 dB	89 dB
2 kHz 3rd-order dynamic range	50 dB	110 dB	67 dB	64 dB	63 dB
20 kHz 3rd-order intercept	-40 dBm	+35 dBm	+23 dBm	+16 dBm	+6 dBm
2 kHz 3rd-order intercept	-40 dBm	+35 dBm	-11 dBm	-22 dBm	-27 dBm
Transmitter					
Tx-Rx turnaround time (SSB tx delay)	50 ms	10 ms	30 ms	27 ms	12 ms
Transmit 3rd-order IMD	-20 dB	-35 dB	-32 dB	-32 dB	-33 dB
Transmit 9th-order IMD	-20dB	-70 dB	-58 dB	-60 dB	-58 dB

* = Class A operation

! = below/above measurable levels

Green = excellent

Light green = good

Yellow = average

Orange = moderate

Red = poor

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Please send me an e-mail (to hans at pa1hr.nl) if you have corrections, remarks, etc.