From F6CIS_03/Nov/2019 preliminary Main RX NPR test results (Owner FTDX-101D : F6IRA/ SN = 9H060004)

Setup : W&G RS-25 + adapter 75/50Ω, Mini-Circuits LPA + 28dBm, Anzac 3dB coupler, Marconi 2024 sig gen, HP attenuators, coaxial cables with 100% shielding. W&G SMP-34.

WARNING _ there is no indication of overload on this transceiver ; this transceiver stops working at +25.5dBm input...

Process VA7OJ => NPR = Ptot - BWR - MDS where BWR = 10 log BRF/BIF

PTOT is the noise loading which causes the DUT audio output to increase by 3 dB over the reading with the RF input terminated in 50Ω

P_{TOT} USB: 3 kHz roofing filter, 2.4 kHz DSP. P_{TOT} CW: 600 Hz roofing filter, 500 Hz DSP. BSF = bandstop filter. BLF = band-limiting filter.

I found less than 0.2 dB difference between the Main RX and the Sub RX.

(Note: Tests have been made between two FTDX-101D with very close results : F6IRA SN = 9H060004 and F6CIS SN= 9F030064)

MDS at 3dB S+N/N, CW, roofing filter 600Hz, DSP 500Hz

IPO = ON MDS at 3dB	DUT	BSF kHz	BLF kHz	IPO = ON VC tuning OFF = 0 VC tuning = 1	MDS dBm 3dB S+N/N	Ptot dBm Nfl+3dB	BWR dB	NPR dB		
	FTDX-101D	1248	60/ 1296	0	-128	-15.3	34	78.7		
				1	Not possible as VC tuning is not active					
		2438	60/ 2600	0	-127	-11.8	37	78.2		
				1	Not possible as VC tuning stop up to 2000kHz					
		3886	60/ 4100	0	-125.7	-7.9	39	78.8		
				1	-125.8	-1.3	39	85.5		
		5340	316/ 8160	0	-125.8	-7.3	42	76.5		
				1	Not possible as VC tuning is not active					
		7600	316/ 8160	0	-124.7	-4.1	42	78.6		
				1	Not possible as VC tuning stop up to 7300kHz...					

MDS at 3dB S+N/N, CW, roofing filter 600Hz, DSP 500Hz

LNA 1= ON MDS at 3dB	DUT	BSF kHz	BLF kHz	LNA-1 = ON VC tuning OFF = 0 VC tuning = 1	MDS dBm 3dB S+N/N	Ptot dBm Nfl+3dB	BWR dB	NPR dB		
	FTDX-101D	1248	60/ 1296	0	-137	-24.6	34	78.4		
				1	Not possible as VC tuning is not active					
		2438	60/ 2600	0	-136.5	-20.3	37	79.2		
				1	Not possible as VC tuning stop up to 2000kHz					
		3886	60/ 4100	0	-135	-16	39	80		
				1	-134.8	-7.1	39	88.7		
		5340	316/ 8160	0	-135.8	-15.8	42	78		
				1	Not possible as VC tuning is not active					
		7600	316/ 8160	0	-134.8	-13.1	42	79.7		
				1	Not possible as VC tuning stop up to 7300kHz...					

MDS at 3dB S+N/N, CW, roofing filter 3000Hz, DSP 2400Hz

IPO = ON MDS at 3dB	DUT	BSF kHz	BLF kHz	IPO = ON VC tuning OFF = 0 VC tuning = 1	MDS dBm 3dB S+N/N	Ptot dBm Nfl+3dB	BWR dB	NPR dB		
	F T D X - 1 0 1 D	1248	60/ 1296	0	-120	-15.3	27.1	77.6		
				1	Not possible as VC tuning is not active					
		2438	60/ 2600	0	-122	-11.8	30.2	80		
				1	Not possible as VC tuning stop up to 2000kHz					
		3886	60/ 4100	0	-119.6	-7.9	32.3	79.4		
				1	-120	-1.3	32.3	86.4		
		5340	316/ 8160	0	-121	-7.3	35.1	78.6		
				1	Not possible as VC tuning is not active					
		7600	316/ 8160	0	-119	-4.1	35.1	79.8		
				1	Not possible as VC tuning stop up to 2000kHz					

MDS at 3dB S+N/N, CW, roofing filter 3000Hz, DSP 2400Hz

LNA 1= ON MDS at 3dB	DUT	BSF kHz	BLF kHz	LNA-1 = ON VC tuning OFF = 0 VC tuning = 1	MDS dBm 3dB S+N/N	Ptot dBm Nfl+3dB	BWR dB	NPR dB		
	F T D X - 1 0 1 D	1248	60/ 1296	0	-130	-24.6	27.1	78.2		
				1	Not possible as VC tuning is not active					
		2438	60/ 2600	0	-129.4	-20.3	30.2	78.9		
				1	Not possible as VC tuning stop up to 2000kHz					
		3886	60/ 4100	0	-130	-16	32.3	81.7		
				1	-129.8	-7.1	32.3	90.4		
		5340	316/ 8160	0	-130	-15.8	35.1	79.5		
				1	Not possible as VC tuning is not active					
		7600	316/ 8160	0	-128	-13.1	35.1	79.8		
				1	Not possible as VC tuning stop up to 7300kHz…					

Reference: A. Farson VA7OJ/AB4OJ, Noise Power Ratio (NPR)Testing of HF Receivers. https://www.ab4oj.com/test/docs/npr_test.pdf