

DTV Channel 6 Interference to FM Band Reception

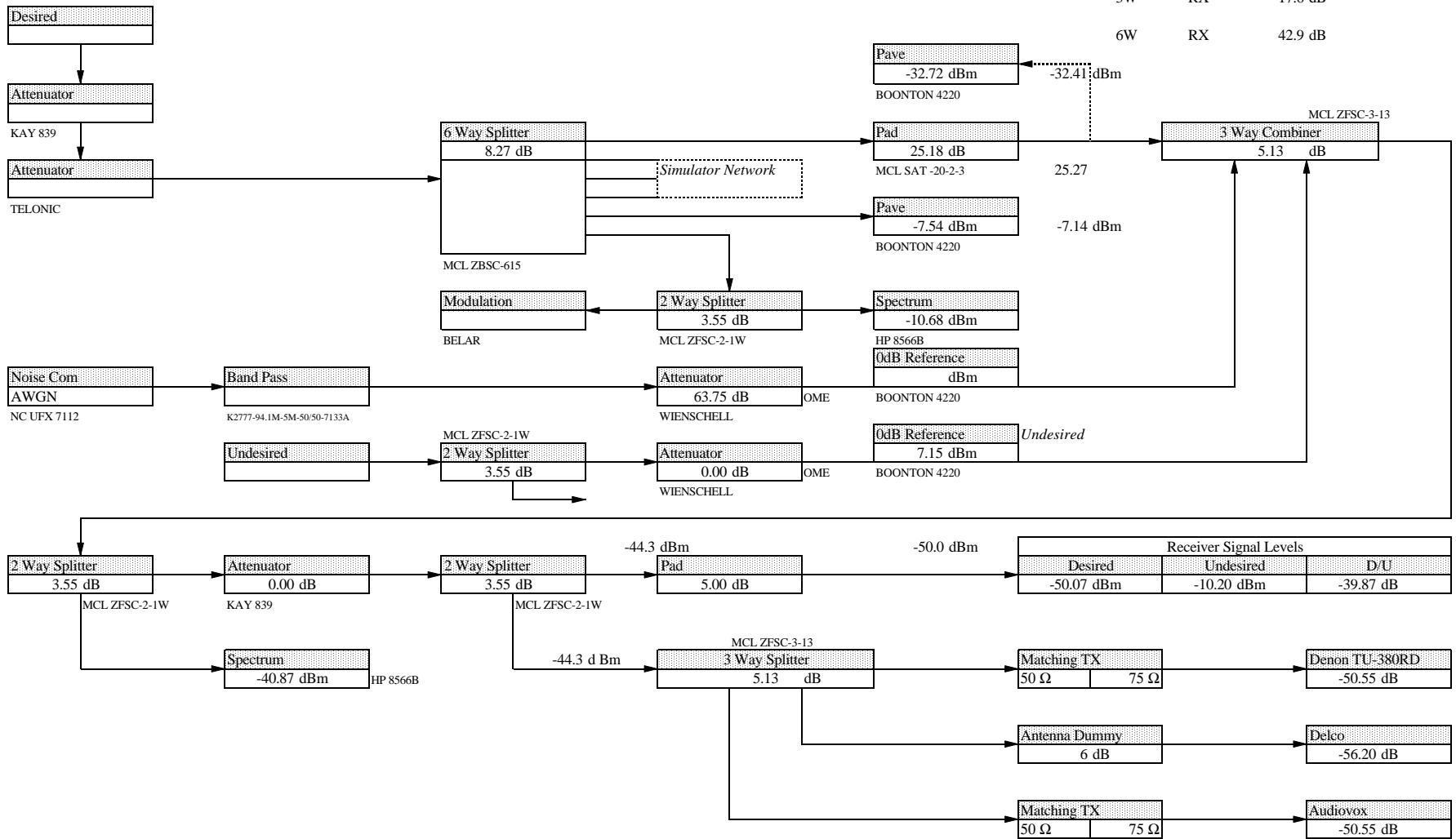
Laboratory Test Report

Narrowband Noise Sensitivity Test Results

Digital Radio Test Laboratory

Center Frequency: 88.5 MHz
 Characteristic Impedance: 50 Ω Unless indicated.

From	To	
6W	3W	25.3 dB
3W	RX	17.6 dB
6W	RX	42.9 dB



Center Frequency (MHz)	Interfering		ATTN @45 dB S/N (Stereo)						
	Signal from Carrier (kHz)	Interfering Signal (MHz)	Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)	
88.5	-266	88.234	18.3	12.0	25.5	26.0	56.0	44.5	
	-228	88.272	5.0	12.0	24.5	34.8	43.3	30.5	
	-190	88.310	49.5	15.0	63.0	40.5	76.8	66.8	
	-152	88.348	40.5	44.3	51.0	42.3	54.8	51.5	
	-114	88.386	76.0	53.5	83.5	42.0	83.3	81.5	
	-76	88.424	53.3	48.0	61.0	56.5	58.0	58.0	
	-38	88.462	85.5	80.0	89.0	87.3	86.0	86.0	
	0	88.500	67.0	60.5	68.0	66.5	67.0	66.0	
	38	88.538	85.0	80.5	86.5	84.0	86.3	83.0	
	76	88.576	53.8	47.0	56.5	52.8	57.5	55.0	
	114	88.614	64.5	47.0	72.8	32.5	77.5	77.8	
	152	88.652	23.0	33.3	32.5	25.5	43.5	47.5	
	190	88.690	29.3	12.0	39.8	17.8	60.0	68.0	
	228	88.728	0.0	12.0	5.5	7.8	26.0	37.3	
	266	88.766	0.0	11.0	8.5	1.3	42.3	56.5	
	-19	88.481	73.3	66.3	66.3	74.5	72.8	73.3	52.0
	19	88.519	71.8	71.8	66.3	73.0	69.0	72.5	50.5

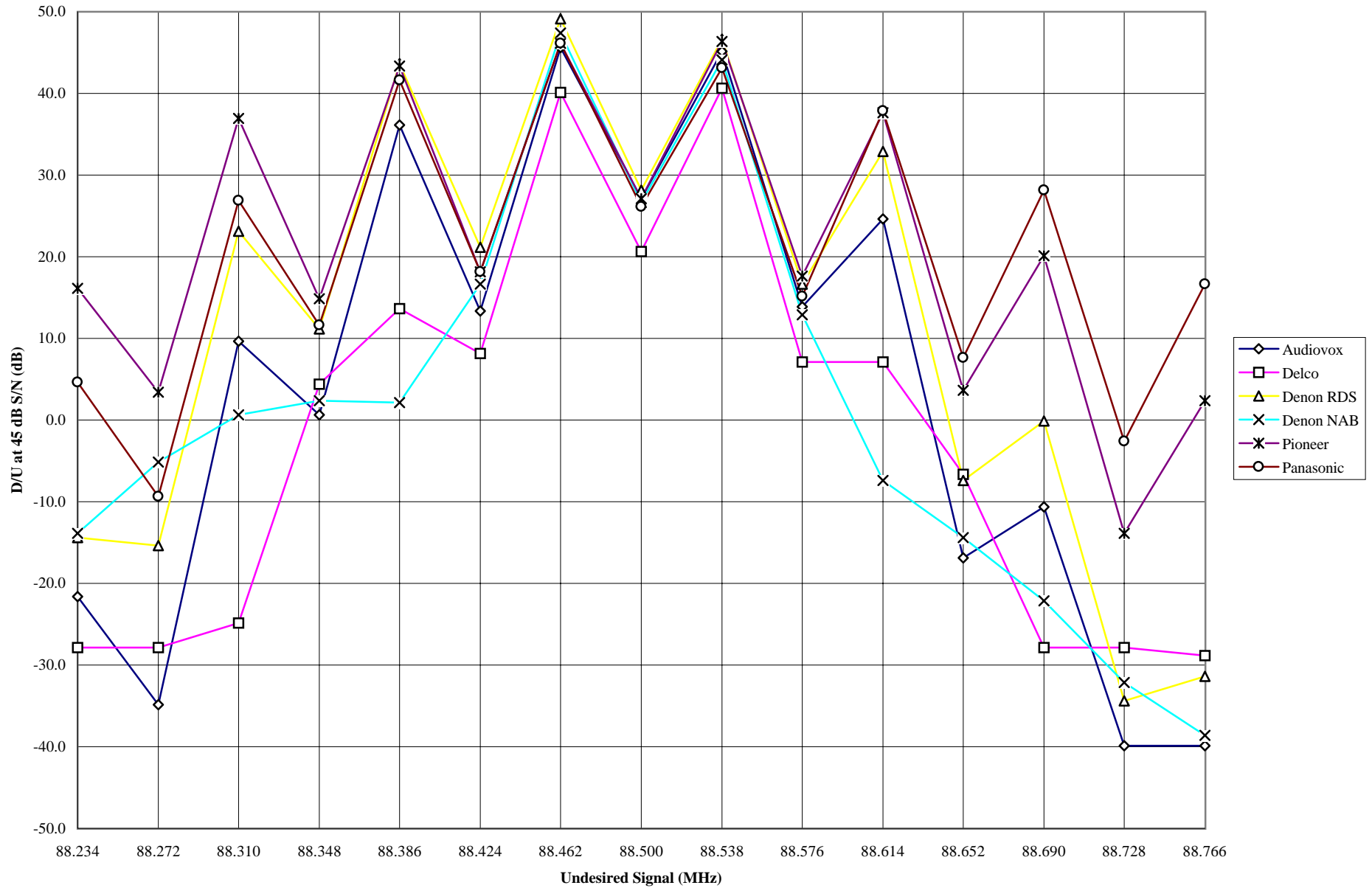
Center Frequency (MHz)	Interfering Signal from Carrier (kHz)	Interfering Signal (MHz)	D/U @45 dB S/N (Stereo)					
			Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)
88.5	-266	88.234	0.0	0.0	0.0	25.8	21.0	23.5
	-228	88.272	0.0	1.0	17.5	34.5	29.5	30.3
	-190	88.310	16.3	13.0	28.5	40.5	29.3	39.3
	-152	88.348	29.8	43.5	36.0	42.3	39.0	42.5
	-114	88.386	34.3	49.3	39.8	42.0	41.8	41.5
	-76	88.424	37.0	46.5	40.8	41.8	39.0	42.0
	-38	88.462	39.8	44.3	41.0	42.5	39.8	43.5
	0	88.500	66.3	59.5	65.8	65.8	66.3	65.0
	38	88.538	39.0	40.0	38.8	38.5	40.3	38.8
	76	88.576	36.5	46.0	36.3	37.0	39.8	38.0
	114	88.614	23.8	45.3	29.5	32.5	38.0	36.5
	152	88.652	3.0	33.0	18.0	25.5	31.0	33.3
	190	88.690	0.0	2.5	2.8	17.8	24.5	30.0
	228	88.728	0.0	0.0	0.0	10.0	14.5	19.3
	266	88.766	0.0	0.0	0.0	2.5	10.0	26.0
	-19	88.481	54.0	46.0	53.8	47.5	49.5	43.5
	19	88.519	51.3	46.0	53.0	47.0	50.0	44.8

Shaded cells indicate where a 0.25 dB increase in interference caused a non linear increase in noise.

Center Frequency (MHz)	Interfering Signal from Carrier (kHz)	Interfering Signal (MHz)	D/U @45 dB S/N (Stereo)					
			Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)
88.5	-266	88.234	-21.6	-27.9	-14.4	-13.9	16.1	4.6
	-228	88.272	-34.9	-27.9	-15.4	-5.1	3.4	-9.4
	-190	88.310	9.6	-24.9	23.1	0.6	36.9	26.9
	-152	88.348	0.6	4.4	11.1	2.4	14.9	11.6
	-114	88.386	36.1	13.6	43.6	2.1	43.4	41.6
	-76	88.424	13.4	8.1	21.1	16.6	18.1	18.1
	-38	88.462	45.6	40.1	49.1	47.4	46.1	46.1
	0	88.500	27.1	20.6	28.1	26.6	27.1	26.1
	38	88.538	45.1	40.6	46.6	44.1	46.4	43.1
	76	88.576	13.9	7.1	16.6	12.9	17.6	15.1
	114	88.614	24.6	7.1	32.9	-7.4	37.6	37.9
	152	88.652	-16.9	-6.6	-7.4	-14.4	3.6	7.6
	190	88.690	-10.6	-27.9	-0.1	-22.1	20.1	28.1
	228	88.728	-39.9	-27.9	-34.4	-32.1	-13.9	-2.6
	266	88.766	-39.9	-28.9	-31.4	-38.6	2.4	16.6
	-19	88.481	33.4	26.4	34.6	32.9	33.4	12.1
	19	88.519	31.9	26.4	33.1	29.1	32.6	10.6

Best Case S/N at -55 dBm Signal Level

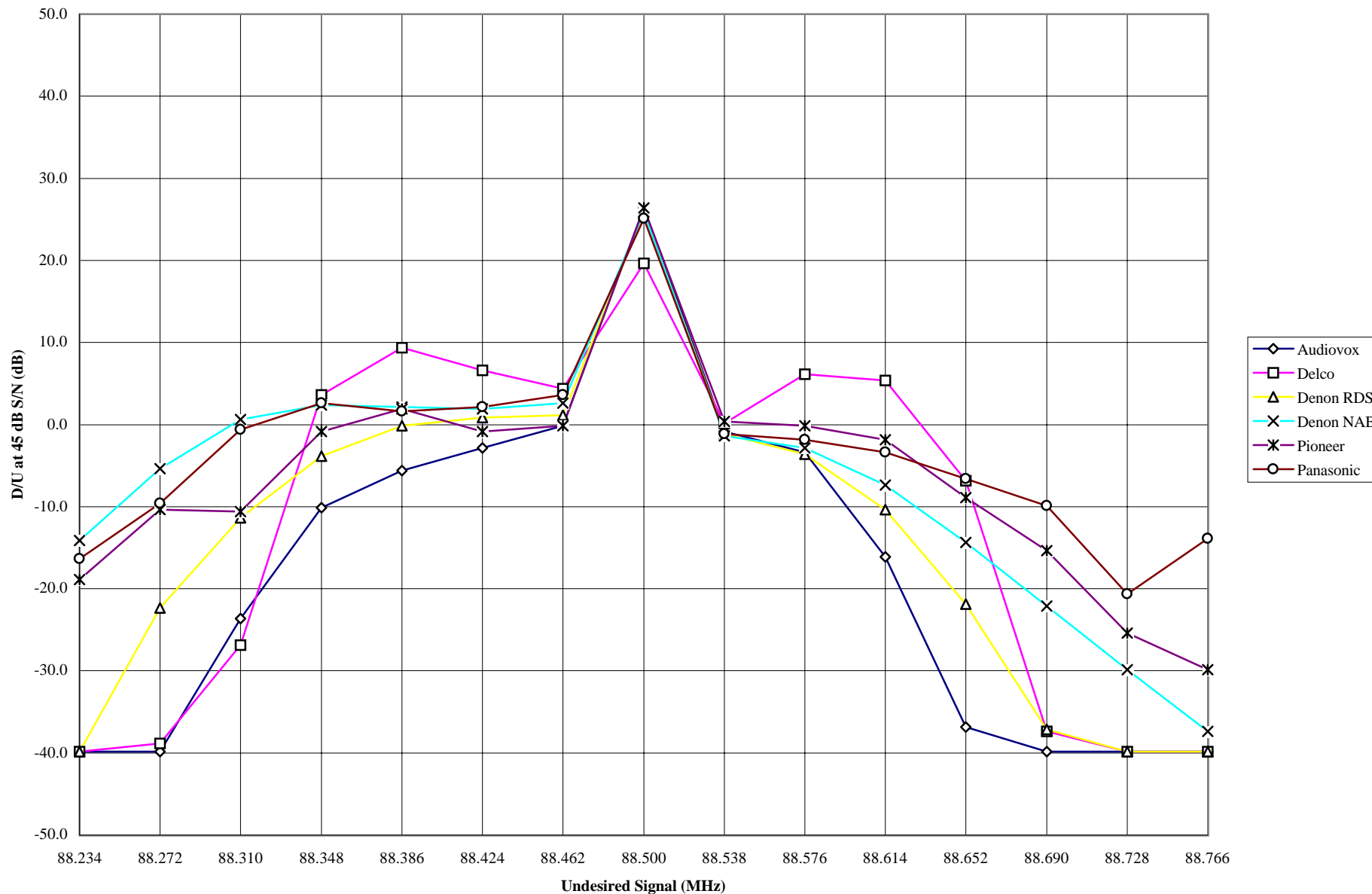
Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)
51.5	49.2	51.0	57.0	58.8	57.7



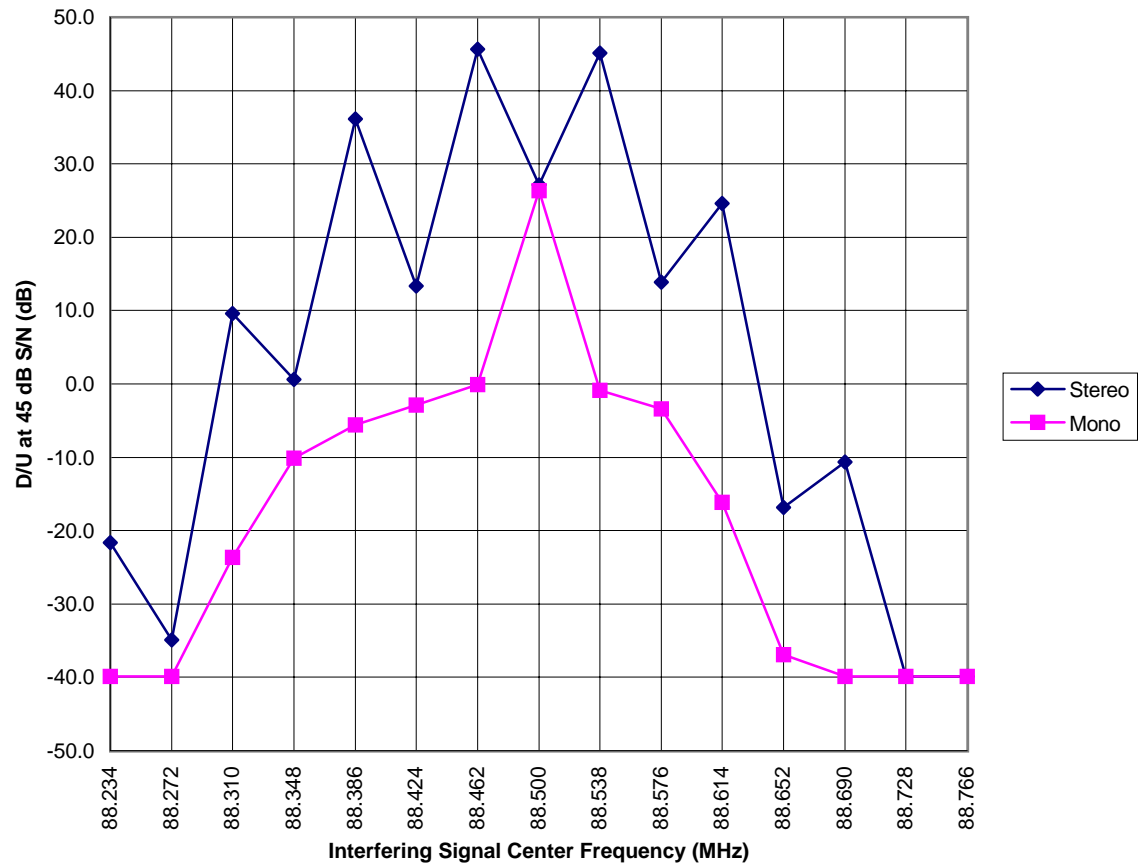
Center Frequency (MHz)	Interfering Signal from Carrier (kHz)	Interfering Signal (MHz)	D/U @45 dB S/N (Mono)					
			Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)
88.5	-266	88.234	-39.9	-39.9	-39.9	-14.1	-18.9	-16.4
	-228	88.272	-39.9	-38.9	-22.4	-5.4	-10.4	-9.6
	-190	88.310	-23.6	-26.9	-11.4	0.6	-10.6	-0.6
	-152	88.348	-10.1	3.6	-3.9	2.4	-0.9	2.6
	-114	88.386	-5.6	9.4	-0.1	2.1	1.9	1.6
	-76	88.424	-2.9	6.6	0.9	1.9	-0.9	2.1
	-38	88.462	-0.1	4.4	1.1	2.6	-0.1	3.6
	0	88.500	26.4	19.6	25.9	25.9	26.4	25.1
	38	88.538	-0.9	0.1	-1.1	-1.4	0.4	-1.1
	76	88.576	-3.4	6.1	-3.6	-2.9	-0.1	-1.9
	114	88.614	-16.1	5.4	-10.4	-7.4	-1.9	-3.4
	152	88.652	-36.9	-6.9	-21.9	-14.4	-8.9	-6.6
	190	88.690	-39.9	-37.4	-37.1	-22.1	-15.4	-9.9
	228	88.728	-39.9	-39.9	-39.9	-29.9	-25.4	-20.6
	266	88.766	-39.9	-39.9	-39.9	-37.4	-29.9	-13.9
	-19	88.481	14.1	6.1	13.9	7.6	9.6	3.6
	19	88.519	11.4	6.1	13.1	7.1	10.1	4.9

Best Case S/N at -55 dBm Signal Level

Audiovox (dB)	Delco (dB)	TU-380RD (dB)	TU-680NAB (dB)	Pioneer (dB)	Panasonic (dB)
53.4	49.7	63.5	67.5	63.7	62.1



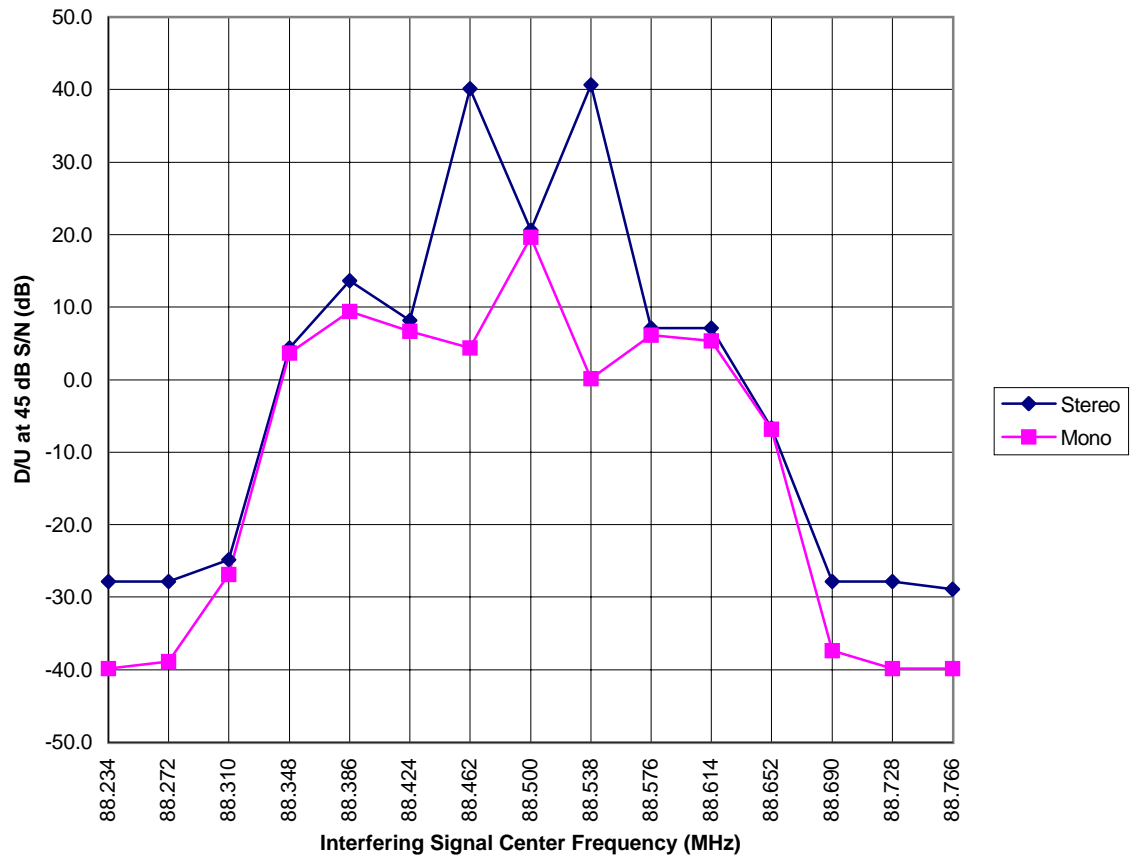
Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	-21.6	-39.9
	-228	88.272	-34.9	-39.9
	-190	88.310	9.6	-23.6
	-152	88.348	0.6	-10.1
	-114	88.386	36.1	-5.6
	-76	88.424	13.4	-2.9
	-38	88.462	45.6	-0.1
88.5	0	88.500	27.1	26.4
	38	88.538	45.1	-0.9
	76	88.576	13.9	-3.4
	114	88.614	24.6	-16.1
	152	88.652	-16.9	-36.9
	190	88.690	-10.6	-39.9
	228	88.728	-39.9	-39.9
	266	88.766	-39.9	-39.9
	-19	88.481	33.4	14.1
	19	88.519	31.9	11.4



Best Case S/N
 Stereo (dB) **51.5**
 Mono (dB) **53.4**

Local Oscillator: 99.20018 MHz

Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	-27.9	-39.9
	-228	88.272	-27.9	-38.9
	-190	88.310	-24.9	-26.9
	-152	88.348	4.4	3.6
	-114	88.386	13.6	9.4
	-76	88.424	8.1	6.6
	-38	88.462	40.1	4.4
88.5	0	88.500	20.6	19.6
	38	88.538	40.6	0.1
	76	88.576	7.1	6.1
	114	88.614	7.1	5.4
	152	88.652	-6.6	-6.9
	190	88.690	-27.9	-37.4
	228	88.728	-27.9	-39.9
	266	88.766	-28.9	-39.9
	-19	88.481	26.4	6.1
	19	88.519	26.4	6.1



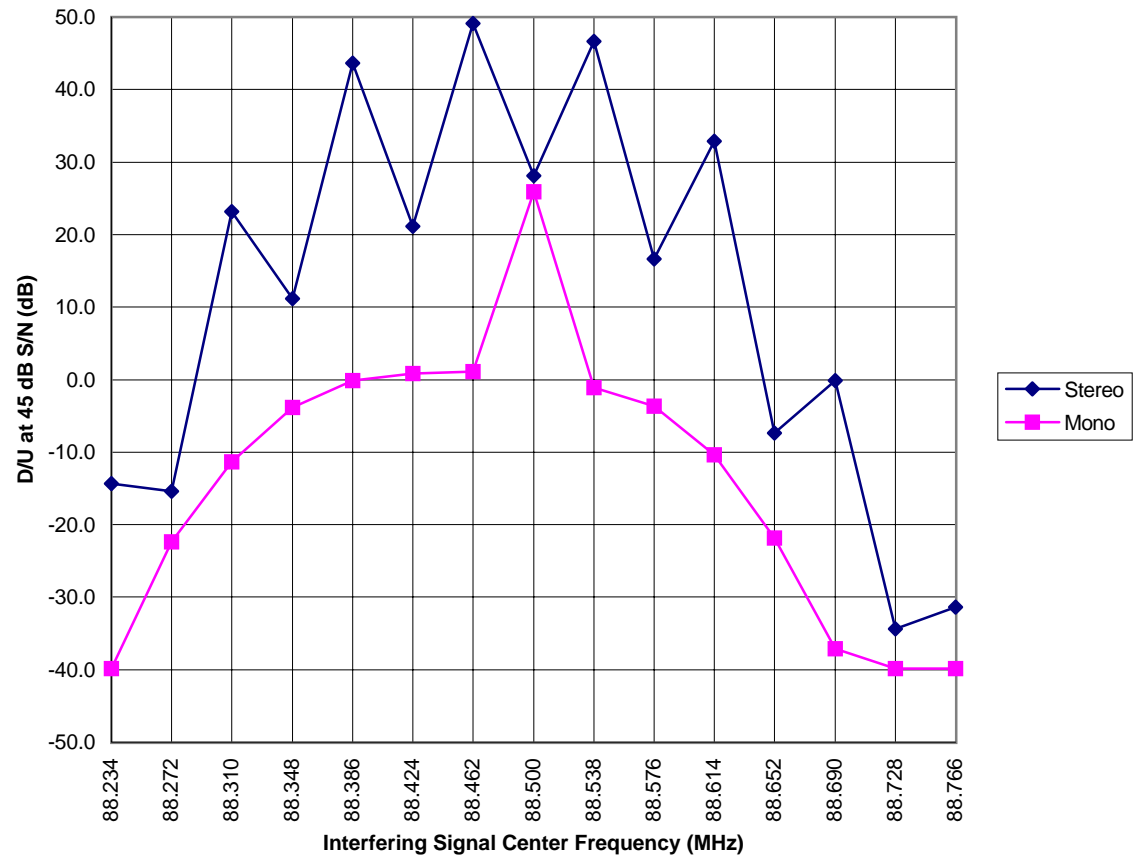
Best Case S/N
 Stereo (dB): 49.2
 Mono (dB): 49.7

Local Oscillator: 99.19880 MHz

Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	-14.4	-39.9
	-228	88.272	-15.4	-22.4
	-190	88.310	23.1	-11.4
	-152	88.348	11.1	-3.9
	-114	88.386	43.6	-0.1
	-76	88.424	21.1	0.9
	-38	88.462	49.1	1.1
88.5	0	88.500	28.1	25.9
	38	88.538	46.6	-1.1
	76	88.576	16.6	-3.6
	114	88.614	32.9	-10.4
	152	88.652	-7.4	-21.9
	190	88.690	-0.1	-37.1
	228	88.728	-34.4	-39.9
	266	88.766	-31.4	-39.9
	-19	88.481	34.6	13.9
	19	88.519	33.1	13.1

Best Case S/N
 Stereo (dB) Mono (dB)
51 63.5

Local Oscillator: 99.19780 MHz

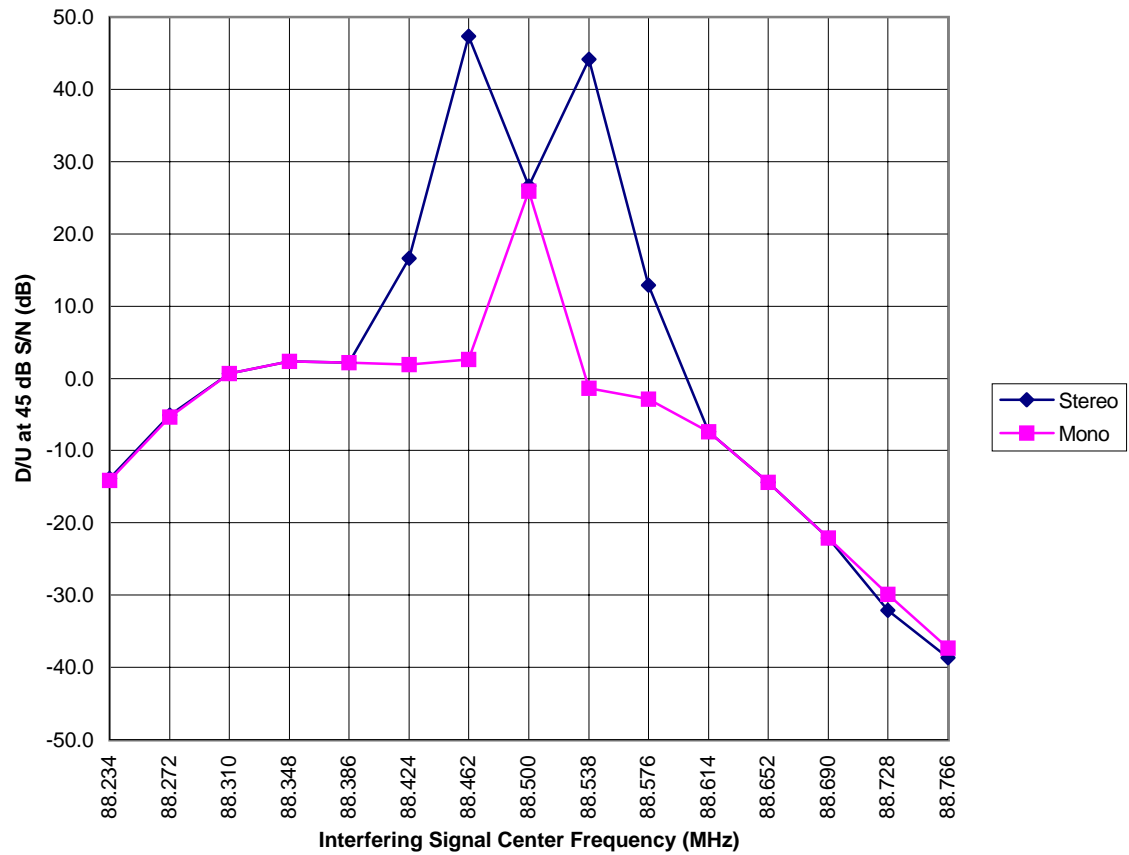


Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	-13.9	-14.1
	-228	88.272	-5.1	-5.4
	-190	88.310	0.6	0.6
	-152	88.348	2.4	2.4
	-114	88.386	2.1	2.1
	-76	88.424	16.6	1.9
	-38	88.462	47.4	2.6
88.5	0	88.500	26.6	25.9
	38	88.538	44.1	-1.4
	76	88.576	12.9	-2.9
	114	88.614	-7.4	-7.4
	152	88.652	-14.4	-14.4
	190	88.690	-22.1	-22.1
	228	88.728	-32.1	-29.9
	266	88.766	-38.6	-37.4
	-19	88.481	32.9	7.6
	19	88.519	29.1	7.1

Best Case S/N

Stereo (dB)	Mono (dB)
57.0	67.5

Local Oscillator: 99.20120 MHz

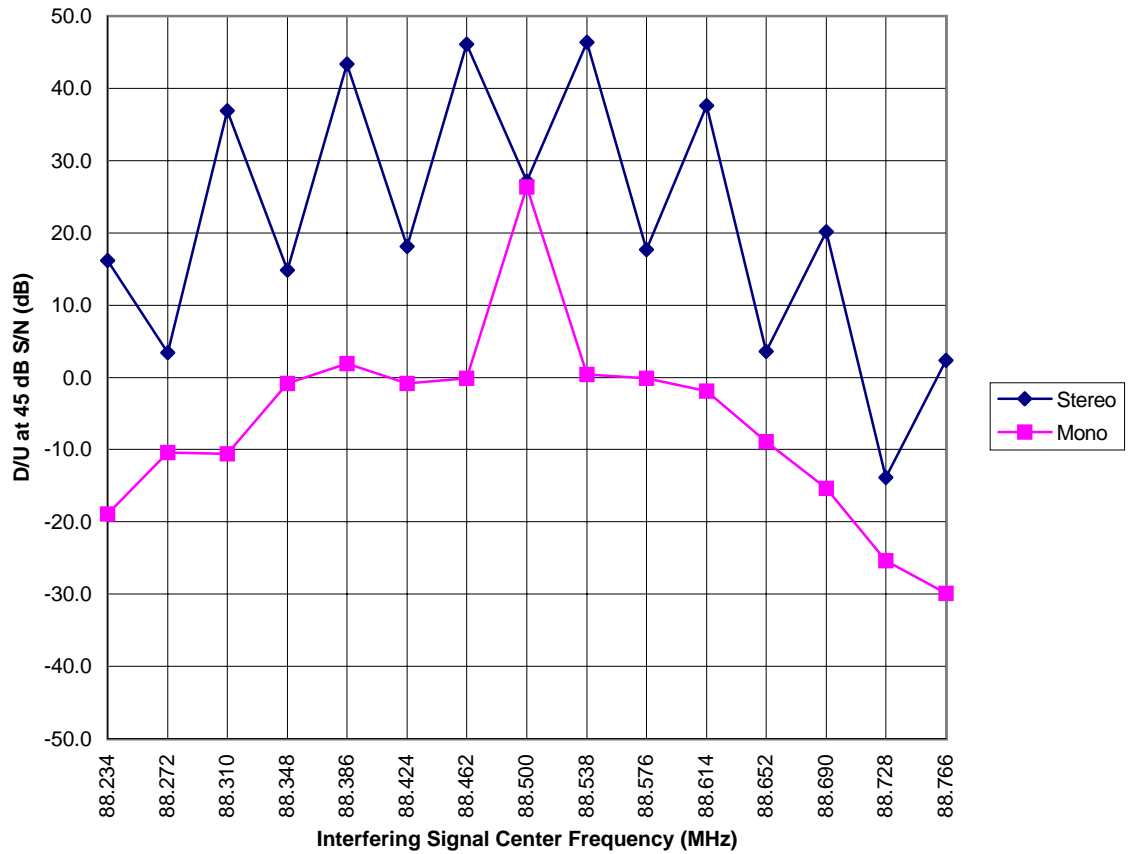


Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	16.1	-18.9
	-228	88.272	3.4	-10.4
	-190	88.310	36.9	-10.6
	-152	88.348	14.9	-0.9
	-114	88.386	43.4	1.9
	-76	88.424	18.1	-0.9
	-38	88.462	46.1	-0.1
88.5	0	88.500	27.1	26.4
	38	88.538	46.4	0.4
	76	88.576	17.6	-0.1
	114	88.614	37.6	-1.9
	152	88.652	3.6	-8.9
	190	88.690	20.1	-15.4
	228	88.728	-13.9	-25.4
	266	88.766	2.4	-29.9
	19	88.519	9.9	4.9
	-19	88.481	11.6	5.6

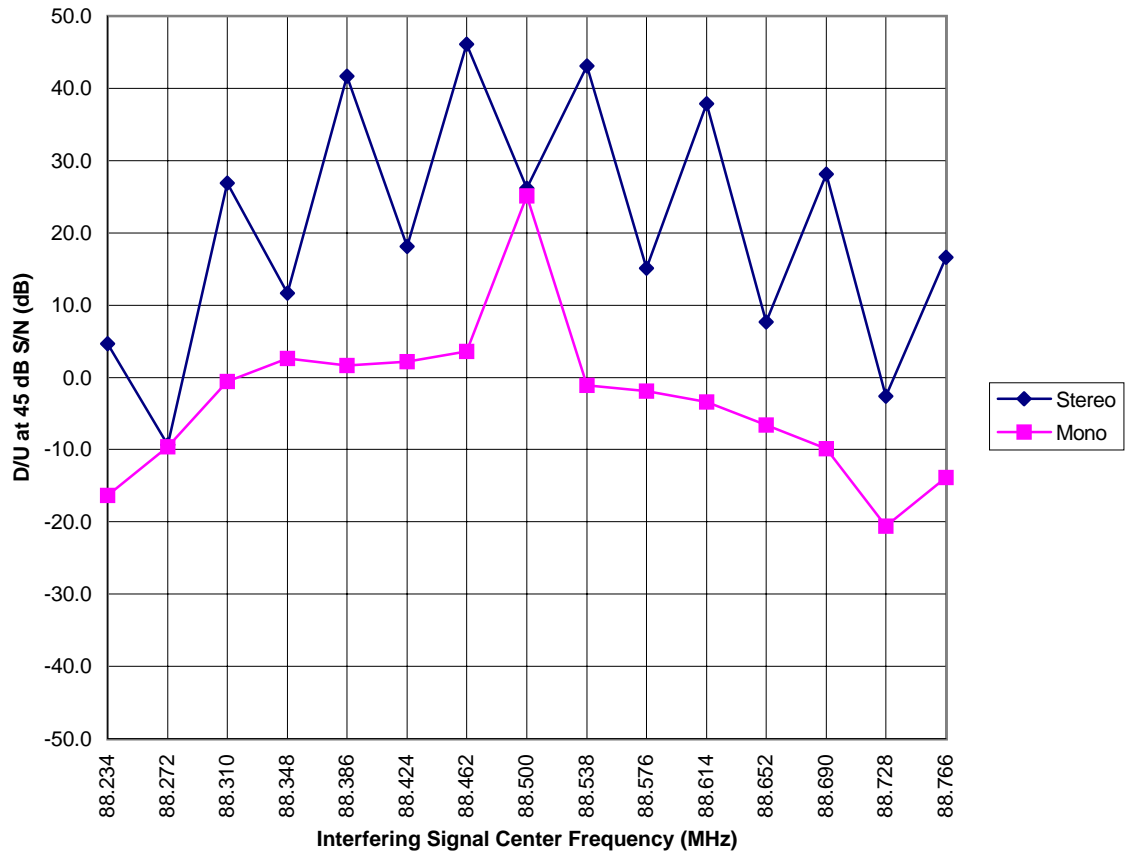
Best Case S/N

Stereo (dB)	Mono (dB)
58.8	63.7

Local Oscillator: 99.19986 MHz



Desired Frequency (MHz)	Interferer (kHz)	Interferer (MHz)	D/U at 45 dB S/N	
			Stereo (dB)	Mono (dB)
	-266	88.234	4.6	-16.4
	-228	88.272	-9.4	-9.6
	-190	88.310	26.9	-0.6
	-152	88.348	11.6	2.6
	-114	88.386	41.6	1.6
	-76	88.424	18.1	2.1
	-38	88.462	46.1	3.6
88.5	0	88.500	26.1	25.1
	38	88.538	43.1	-1.1
	76	88.576	15.1	-1.9
	114	88.614	37.9	-3.4
	152	88.652	7.6	-6.6
	190	88.690	28.1	-9.9
	228	88.728	-2.6	-20.6
	266	88.766	16.6	-13.9
	19	88.519	12.1	3.6
	-19	88.481	10.6	4.9



Best Case S/N

Stereo (dB)	Mono (dB)
57.7	62.1

Local Oscillator: 99.27336 MHz