

**DTV Channel 6 Interference to FM Band Reception**

**Laboratory Test Report**

**Audiovox Noise Floor Plot and Additional Certification Tests**

**Engineers:** RMc/DL

**Date:** 1/20/98

**Printed:** 10/12/98

**PROJECT: RECEIVER CHARACTERIZATION**

**Radio Mfg.:** Audiovox                      RX # 10  
**Model No.:** AV 220 ETR  
**Serial No.:** 30901807N

**FM TESTS (TEST FREQUENCY 88.5 MHz)**

**TEST SET-UP**

**Ant. Net:** 50 Ohm output of test bed.                      **Inertion Loss:** 0 dB  
**Audio Ref:** 2.0 Vrms    **Load Impedance:** 4 Ohms  
**Controls:** Fader, Balance and Tone at detent positions.

**Test bed:** Test Bed, W/Orban Stereo Gen & Harris Exciter as Signal Source  
**Meas.:** Audio measurements made with Audio Precision as rms with 15kHz low pass filter.

**S/N RATIO - 1 kHz, 100% MOD (-50 dBm)**

MAX                      65.2 dB                      (mono with 15 kHz low pass filter)

**THD - 1kHz, 100% MOD (-50dBm)**

MONO                      0.75 %  
 STEREO                      0.74 %                      Adjusted audio level for 0 dB.

**LIMITING THRESHOLD (Audio -1dB)**

-89 dBm

**HIGH CUT THRESHOLD**

Audio: 10 kHz, L+R, 100% Mod, Pilot off  
 -3dB =                      -87 dBm

**L/R Balance**

	Left	Right	
Mono:	0	-1.88	dB
Stereo:	0	-1.56	

**SEPARATION @ -65dBm**

Freq.	L->R	R->L	
1 kHz	27	25.3	dB (W/O Pre-Emph)
10 kHz	15.9	15.8	dB (W/O Pre-Emph)

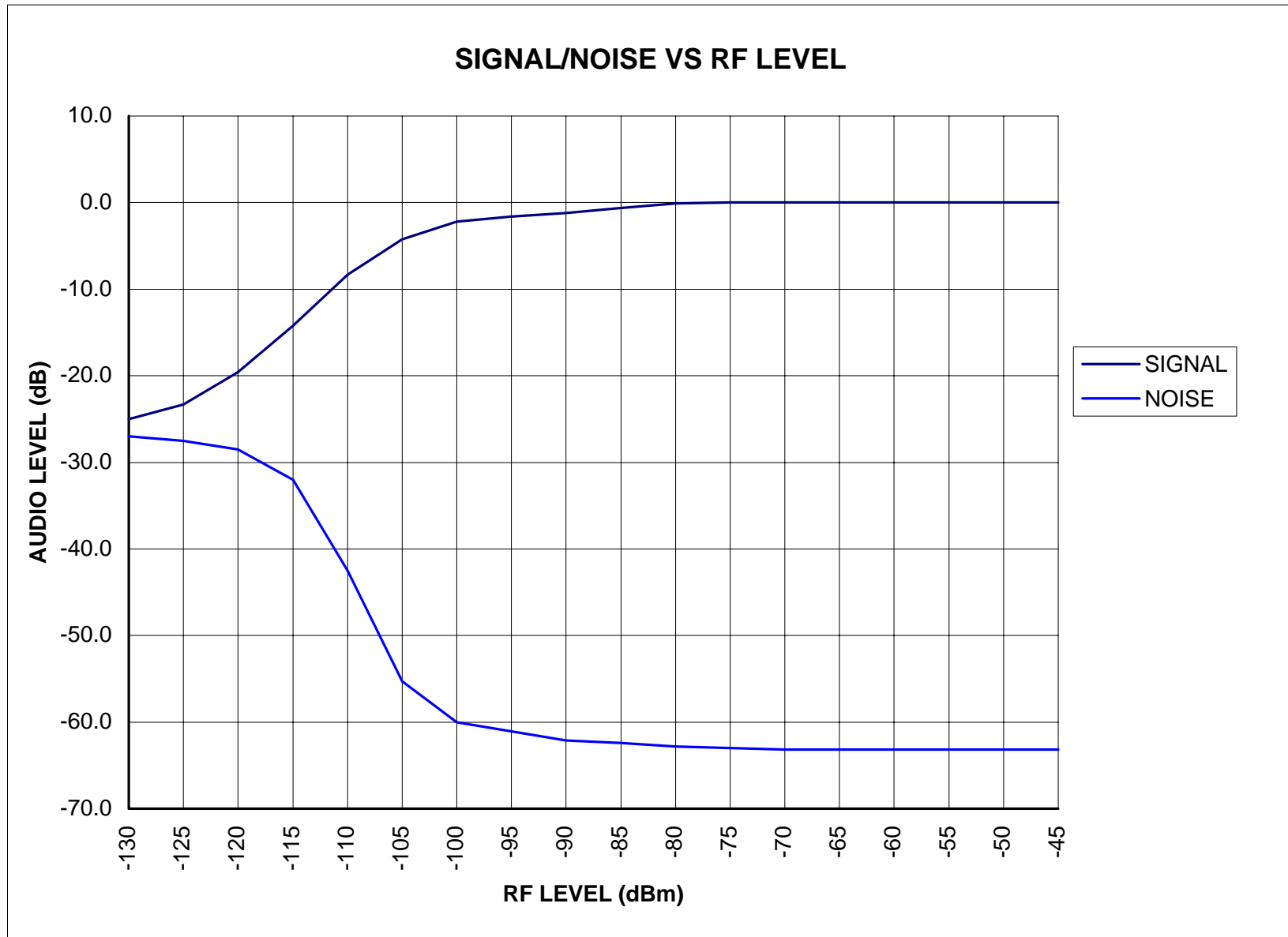
**SIGNAL, NOISE & SEPARATION VS RF LEVEL**

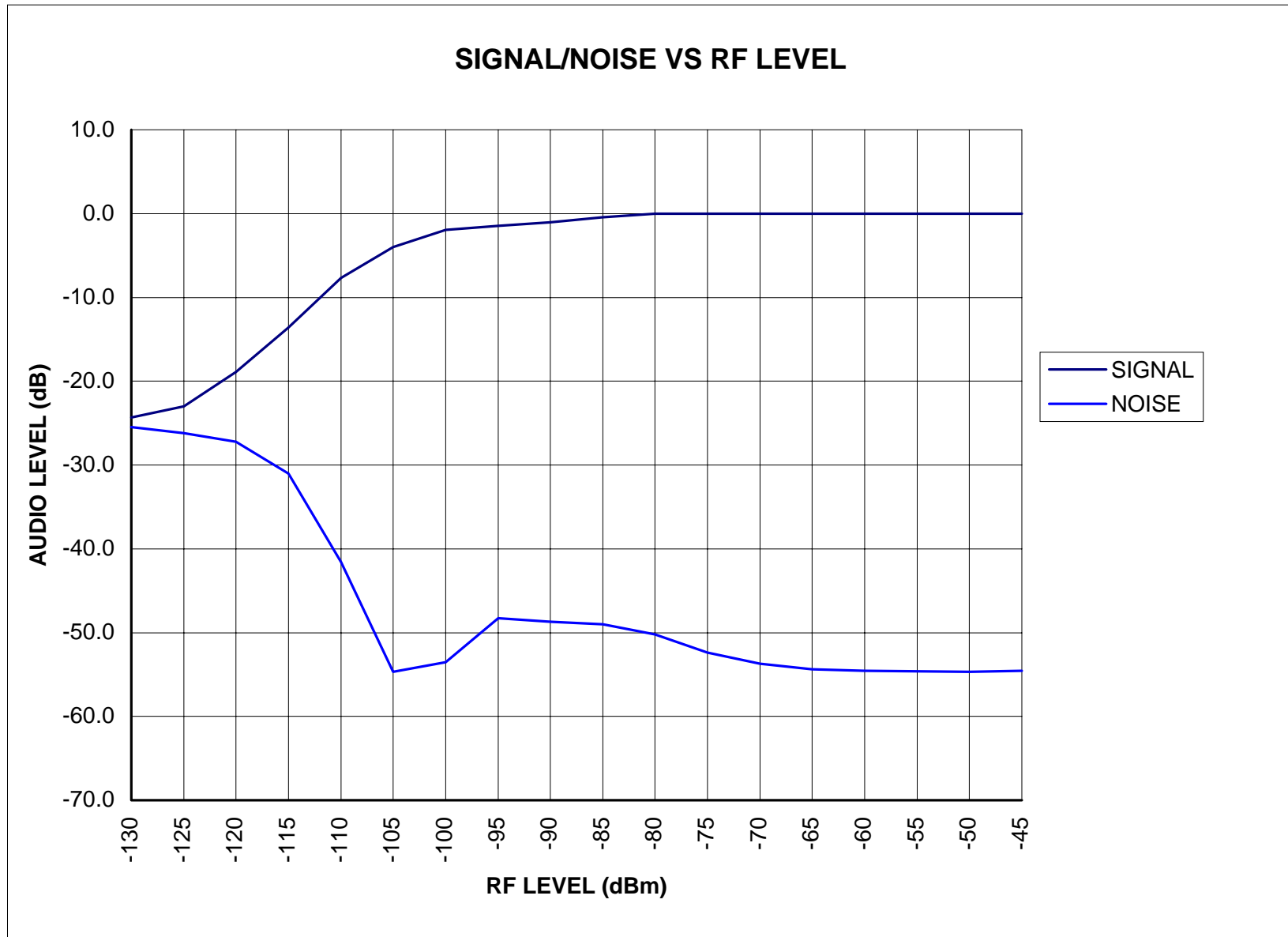
- \* Left channel used as the measurement channel for Signal and Noise data
- \* Left channel driven (L only) for separation data
- \* Audio test frequency = 1 kHz
- \* RF levels represent power into the receiver.
- \* Filt. Noise figures represent noise measurements made with a 15 kHz low pass filter to reject the pilot

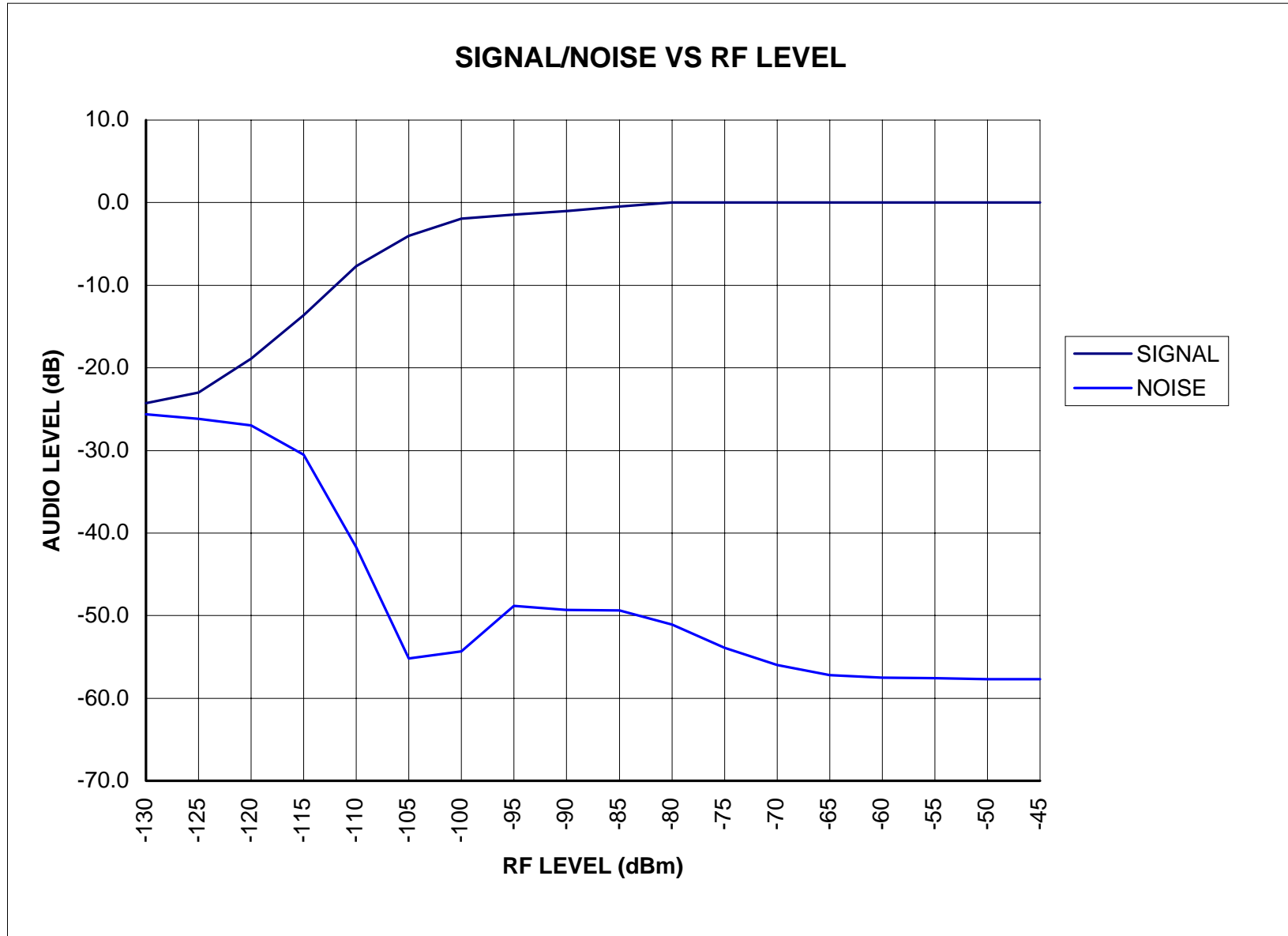
**CURVE DATA**

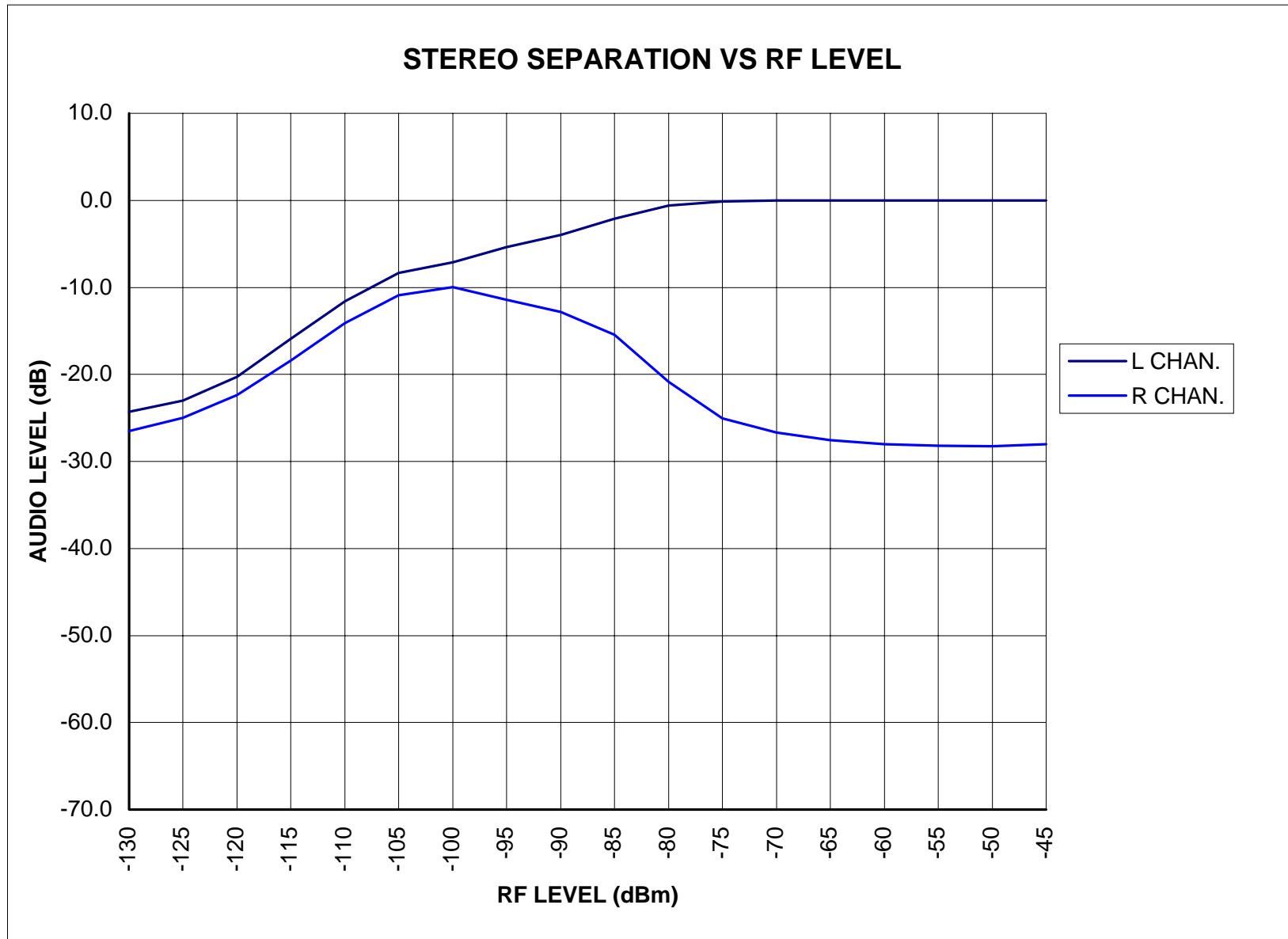
**SIGNAL, NOISE & SEPARATION VS RF LEVEL**

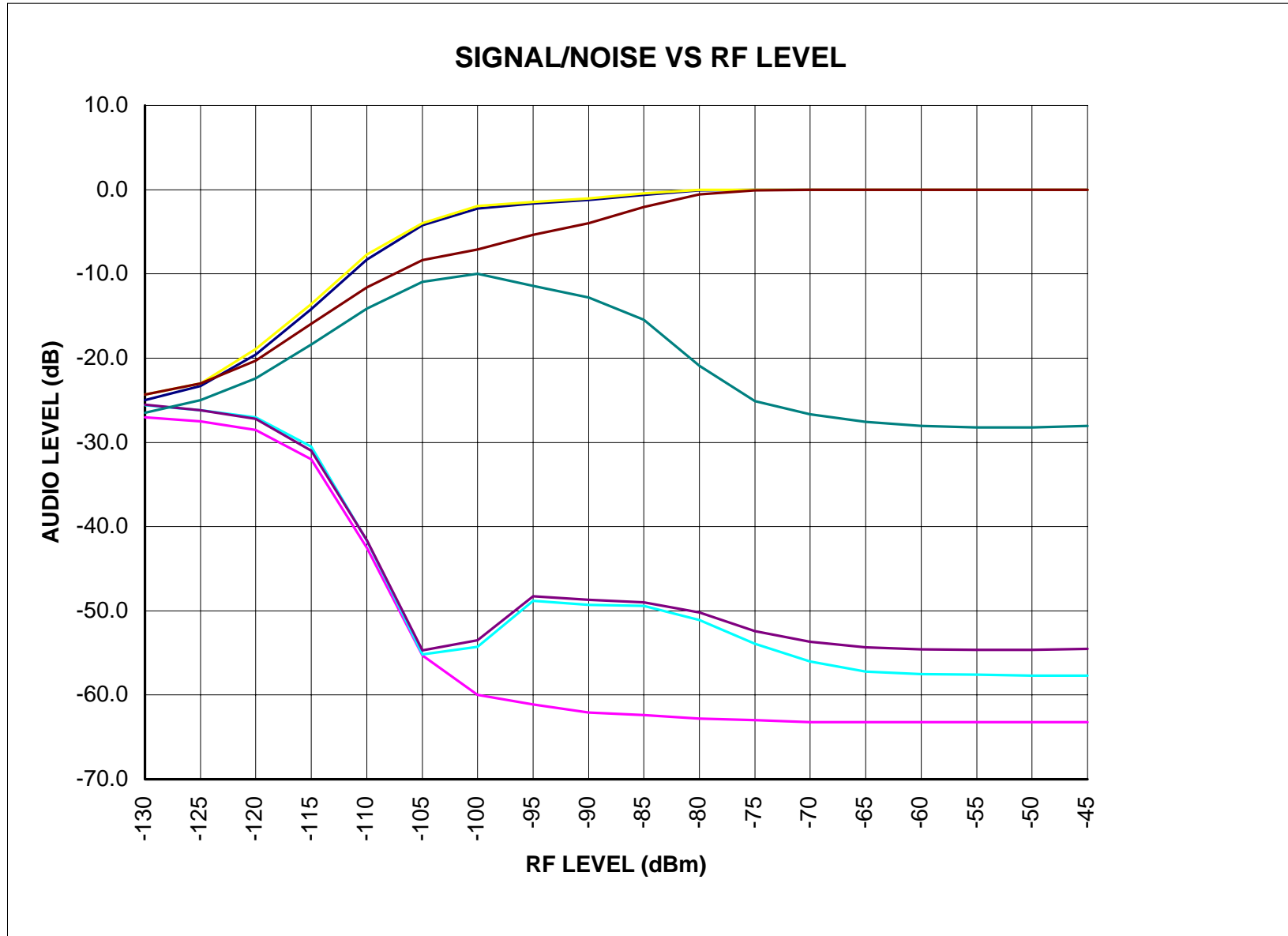
RF Level dBm	mono (L)		Stereo (L)			RF Level dBm	Separation L->R	
	Signal dB	Noise dB	Signal dB	Filt. Noise dB	Noise dB		Left dB	Right dB
-130	-25.0	-27.0	-24.3	-25.6	-25.5	-130	-24.3	-26.5
-125	-23.3	-27.5	-23.0	-26.2	-26.2	-125	-23.0	-25.0
-120	-19.6	-28.5	-18.9	-27.0	-27.2	-120	-20.3	-22.4
-115	-14.2	-32.0	-13.6	-30.5	-31.0	-115	-15.9	-18.4
-110	-8.3	-42.5	-7.7	-41.7	-41.6	-110	-11.6	-14.1
-105	-4.3	-55.3	-4.0	-55.2	-54.7	-105	-8.4	-10.9
-100	-2.2	-60.0	-1.9	-54.3	-53.5	-100	-7.1	-10.0
-95	-1.6	-61.1	-1.5	-48.8	-48.3	-95	-5.4	-11.4
-90	-1.2	-62.1	-1.0	-49.3	-48.7	-90	-4.0	-12.8
-85	-0.6	-62.4	-0.5	-49.4	-49.0	-85	-2.1	-15.4
-80	-0.1	-62.8	0.0	-51.1	-50.2	-80	-0.6	-20.9
-75	0.0	-63.0	0.0	-53.9	-52.4	-75	-0.1	-25.1
-70	0.0	-63.2	0.0	-56.0	-53.7	-70	0.0	-26.7
-65	0.0	-63.2	0.0	-57.2	-54.4	-65	0.0	-27.6
-60	0.0	-63.2	0.0	-57.5	-54.6	-60	0.0	-28.0
-55	0.0	-63.2	0.0	-57.6	-54.6	-55	0.0	-28.2
-50	0.0	-63.2	0.0	-57.7	-54.7	-50	0.0	-28.2
-45	0.0	-63.2	0.0	-57.7	-54.5	-45	0.0	-28.0

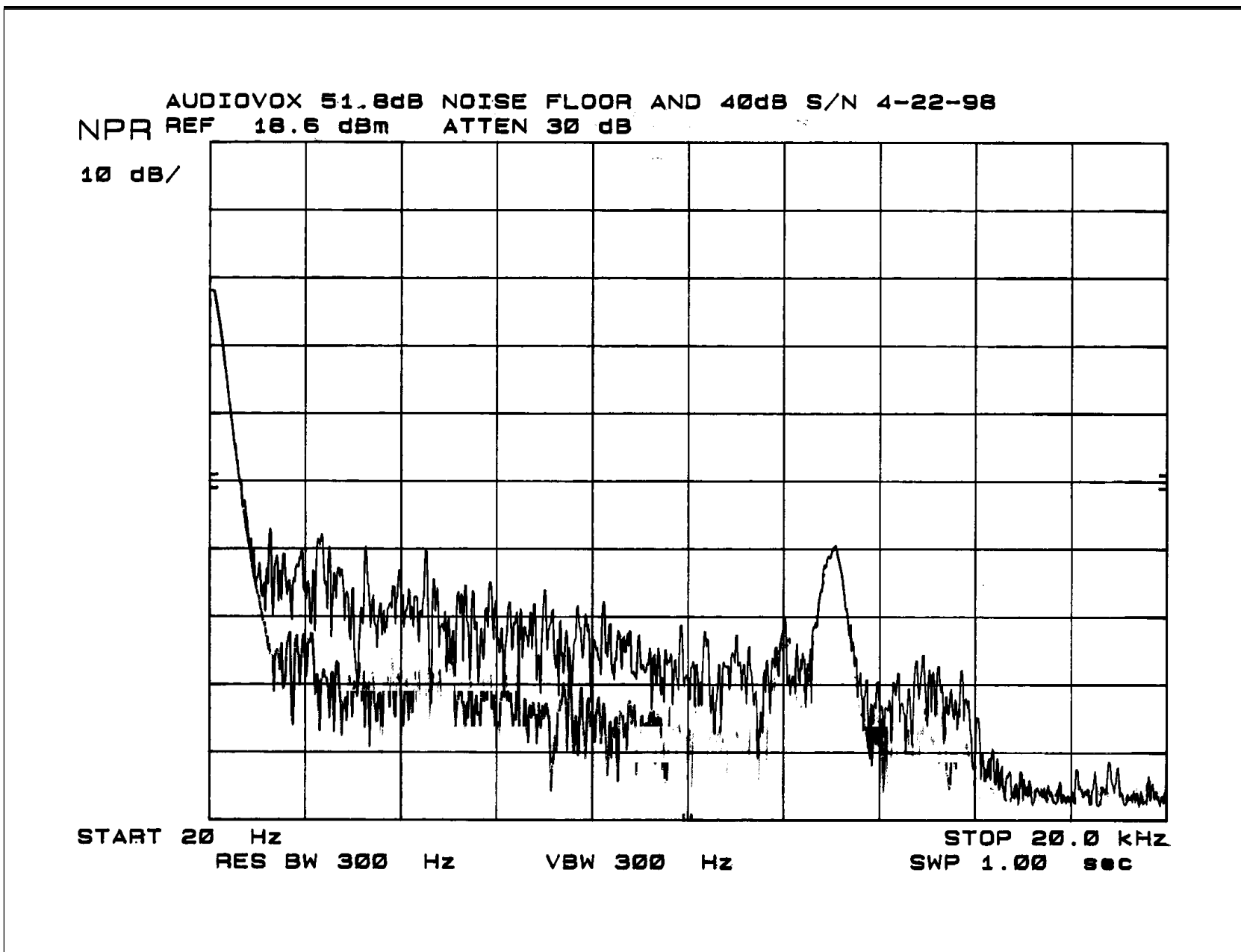








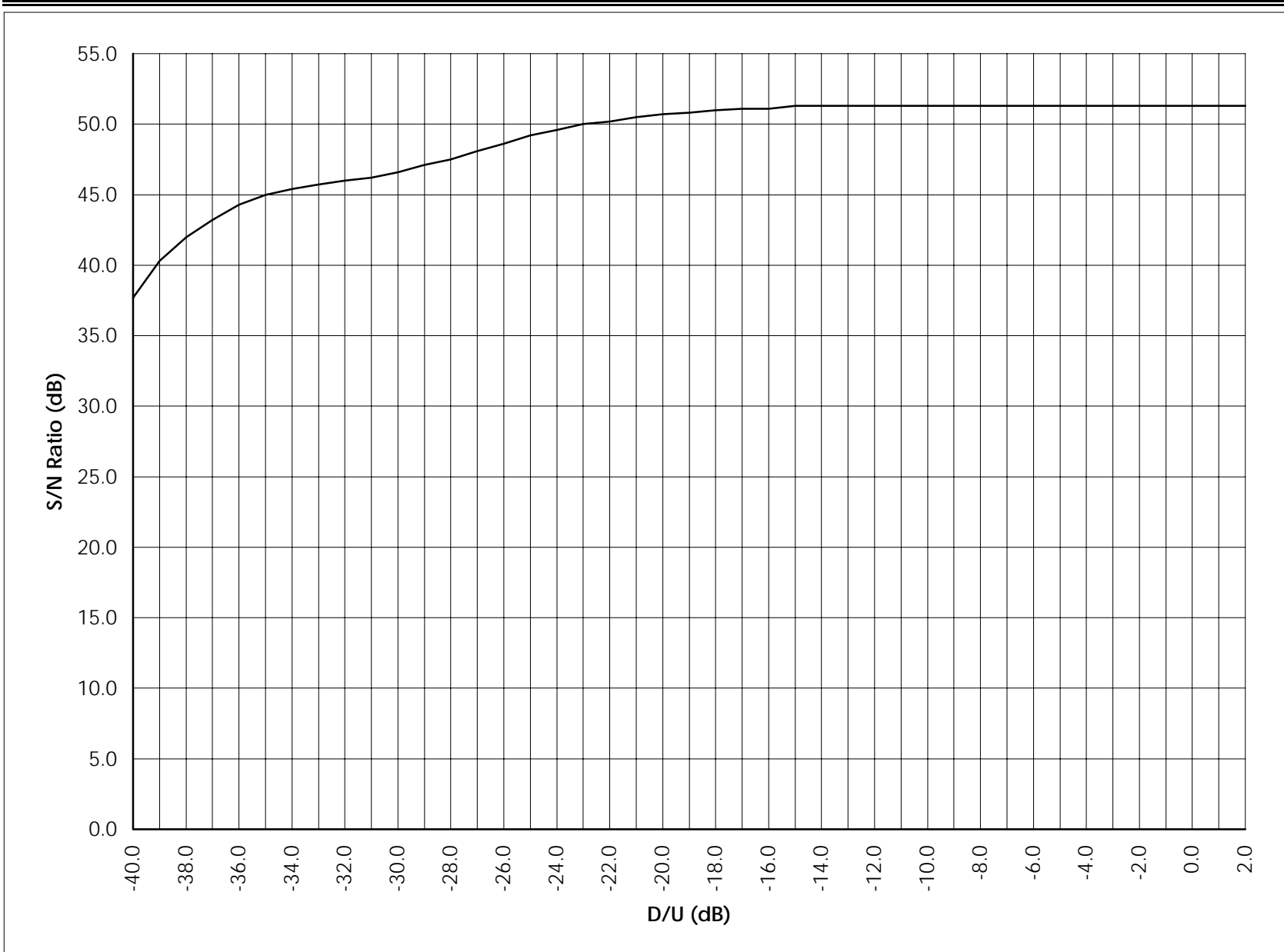




Undesired Attenuator	D/U (dB)	RADIO S/N (dB)
42	2.0	51.3
41	1.0	51.3
40	0.0	51.3
39	-1.0	51.3
38	-2.0	51.3
37	-3.0	51.3
36	-4.0	51.3
35	-5.0	51.3
34	-6.0	51.3
33	-7.0	51.3
32	-8.0	51.3
31	-9.0	51.3
30	-10.0	51.3
29	-11.0	51.3
28	-12.0	51.3
27	-13.0	51.3
26	-14.0	51.3
25	-15.0	51.3
24	-16.0	51.1
23	-17.0	51.1
22	-18.0	51.0
21	-19.0	50.8
20	-20.0	50.7
19	-21.0	50.5
18	-22.0	50.2
17	-23.0	50.0
16	-24.0	49.6
15	-25.0	49.2
14	-26.0	48.6
13	-27.0	48.1
12	-28.0	47.5
11	-29.0	47.1
10	-30.0	46.6
9	-31.0	46.2
8	-32.0	46.0
7	-33.0	45.7
6	-34.0	45.4
5	-35.0	45.0
4	-36.0	44.3
3	-37.0	43.2
2	-38.0	42.0
1	-39.0	40.3
0	-40.0	37.7

2/12/98  
 DML  
 Desired Frequency: 88.5 MHz  
 Undesired Frequency: 88.1 MHz  
 Desired Level at RX: -55.0 dBm  
 Desired at Combiner: -32.81 dBm  
 Undesired at Combiner: 7.15 dBm      0 dB Reference

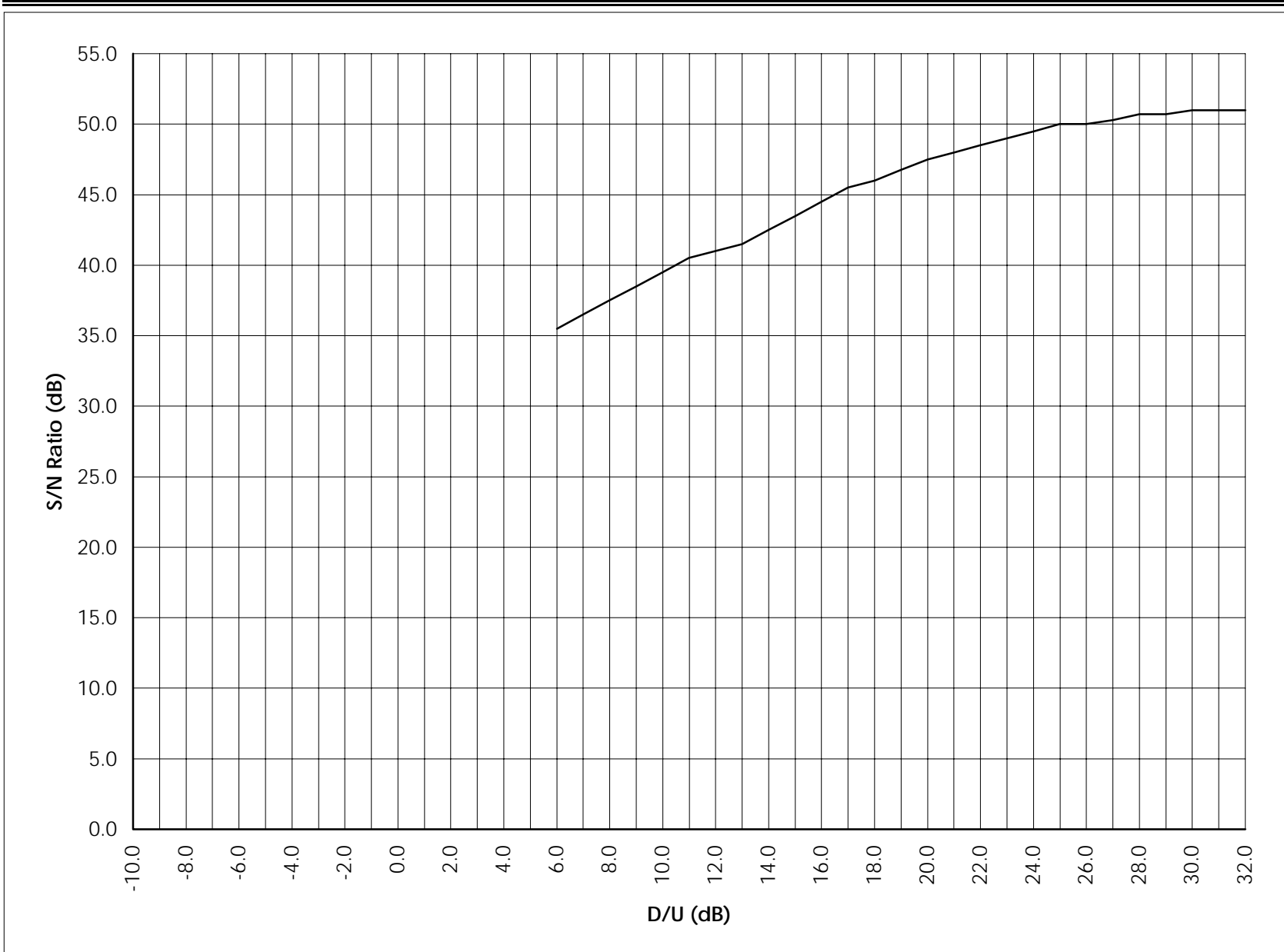
- Note(s):
- 1) The results here represent a characteristic receiver input signature based on ramping the undesired signal up in 1dB increments and recording the signal to noise ratio.
  - 2) The interfering signal is modulated with clipped pink noise at 100% modulation (no pilot).
  - 3) The measurements are made using 15 kHz low pass and CCIR filters with quasi-peak detection.



Undesired Attenuator	D/U (dB)	RADIO S/N (dB)
72	32.0	51.0
71	31.0	51.0
70	30.0	51.0
69	29.0	50.7
68	28.0	50.7
67	27.0	50.3
66	26.0	50.0
65	25.0	50.0
64	24.0	49.5
63	23.0	49.0
62	22.0	48.5
61	21.0	48.0
60	20.0	47.5
59	19.0	46.8
58	18.0	46.0
57	17.0	45.5
56	16.0	44.5
55	15.0	43.5
54	14.0	42.5
53	13.0	41.5
52	12.0	41.0
51	11.0	40.5
50	10.0	39.5
49	9.0	38.5
48	8.0	37.5
47	7.0	36.5
46	6.0	35.5
45	5.0	
44	4.0	
43	3.0	
42	2.0	
41	1.0	
40	0.0	
39	-1.0	
38	-2.0	
37	-3.0	
36	-4.0	
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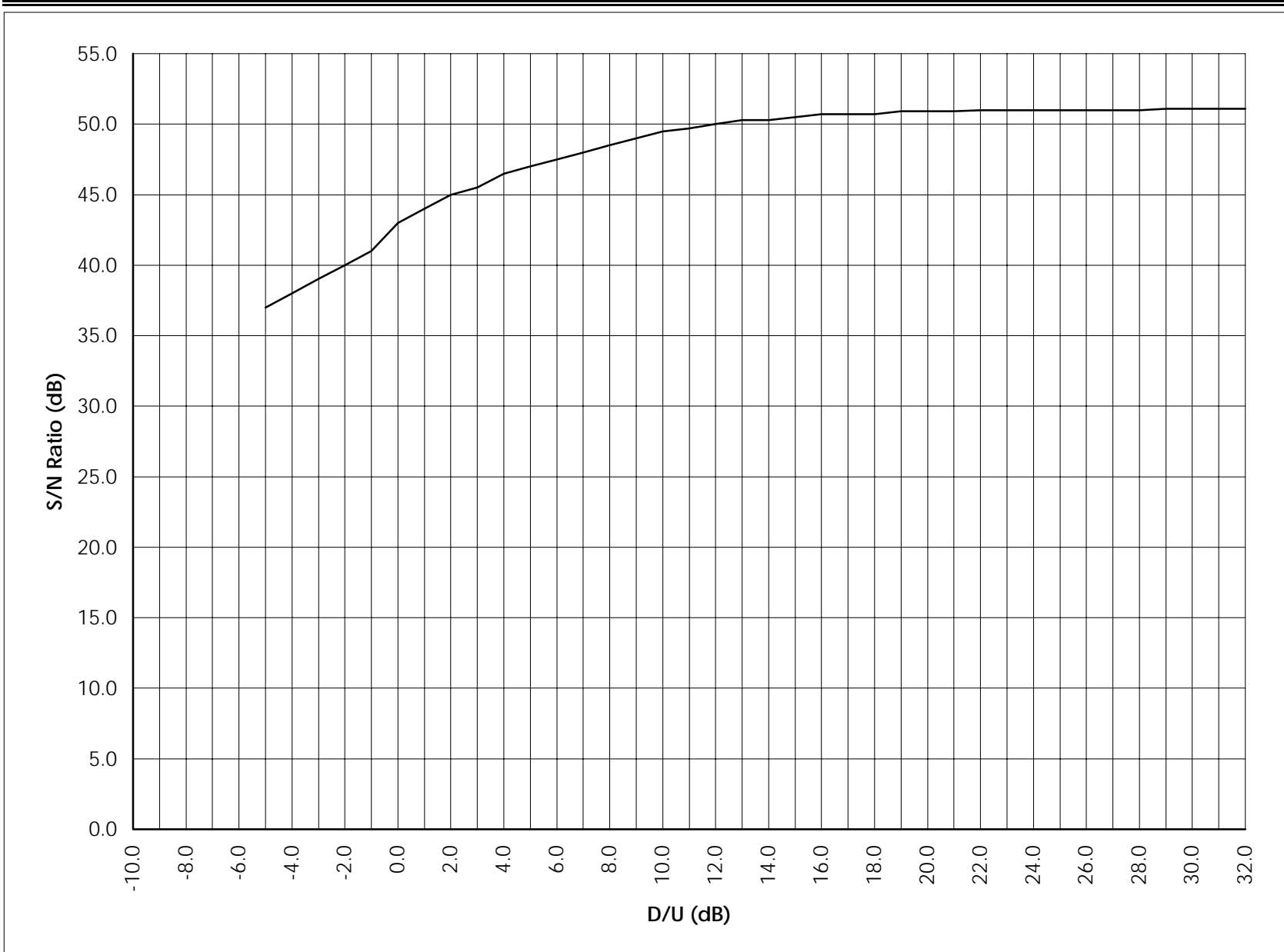
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65	25.0	51.0
64	24.0	51.0
63	23.0	51.0
62	22.0	51.0
61	21.0	50.9
60	20.0	50.9
59	19.0	50.9
58	18.0	50.7
57	17.0	50.7
56	16.0	50.7
55	15.0	50.5
54	14.0	50.3
53	13.0	50.3
52	12.0	50.0
51	11.0	49.7
50	10.0	49.5
49	9.0	49.0
48	8.0	48.5
47	7.0	48.0
46	6.0	47.5
45	5.0	47.0
44	4.0	46.5
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42	2.0	45.0
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40	0.0	43.0
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37	-3.0	39.0
36	-4.0	38.0
35	-5.0	37.0
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25	-15.0	50.8
24	-16.0	50.5
23	-17.0	50.0
22	-18.0	50.0
21	-19.0	50.0
20	-20.0	50.5
19	-21.0	50.5
18	-22.0	50.5
17	-23.0	50.5
16	-24.0	50.4
15	-25.0	50.2
14	-26.0	50.2
13	-27.0	50.0
12	-28.0	50.0
11	-29.0	49.6
10	-30.0	49.5
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5	-35.0	48.0
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