GE HARRIS
Railway Electronics

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Exhibit F
Processing Gain Test Data

Prepared By:
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Report of Measurements: Processing Gain
GE-Harris Railway Electronics Intra-Train Communications Unit

Scope:

To assess performance of the GE-Harris Railway Electronics Intra-Train Communications Unit (ITCU), part number 1002244, S/N 303 for compliance with Processing Gain per FCC Part 15.247(e)(2)

Test Setup and Procedure

A block diagram of the test setup is shown in Figure 1 below. The setup was identical to that described in a paper presented at the 7th Annual Wireless Symposium/Portable by Design Conference [(1)] and the setup was calibrated per procedures described in that paper. A standard Harris Semiconductor PCMCIA WLAN assembly, S/N 95VBB002394 was used as the DS transmitter. The system operates at a data rate of 1 Mb.

The span of measurement was chosen to be 17 MHz, that being the 3 dB bandwidth of the IF SAW filter used in the system. Initially, therefore, the frequency of the Jammer signal was set 8.5 MHz below the center frequency of the DS spectrum. The signal strength of the Jammer signal was automatically adjusted by the ATE system in 0.1 dB steps until the Bit Error Rate (BER), averaged over 10,000 blocks of data, increased to be within a window centered at 1×10^{-5} (1E-5), that being the standard BER as stipulated in IEEE802.11. The Jammer/Signal ratio was then logged, the frequency was increased by 50 kHz, and the procedure was repeated. In all, a frequency span of +/- 8.5 MHz around the DS spectrum's center frequency was covered.

The Processing Gain (PG) is related to the Jammer/Signal ratio (J/S) by the following equation:

$$\mathbf{PG\ (dB) = E_s/N_o + J/S + L_{system}}$$

where: PG = Processing Gain (dB)
E_s/N_o = Reference Symbol/Noise Power ratio (dB) needed to produce the standard BER of 1E-5
J/S = Jammer/Signal ratio (dB)
L_{system} = System Implementation Loss (dB)

In our case of 1 Mb BPSK IEEE802.11 compliant modulation, E_s/N_o = 10.3 dB. Although it can be shown that the actual System Implementation Loss exceeds 2 dB in our system, L_{system} is imputed by the FCC to be 2 dB maximum and this figure is therefore factored into the equation.

The equation used to compute Processing Gain therefore becomes:

$$\mathbf{PG\ (dB) = 10.3 + J/S + 2 = 12.3 + J/S\ (dB)}$$

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(1) Abrahams, Richard L., "Measurement of Processing Gain in a Direct Sequence WLAN Using the CW Jammer Method", Proceedings of the 7th Annual Wireless Symposium/Portable by Design Conference, San Jose CA, 2/22 through 2/26/99.

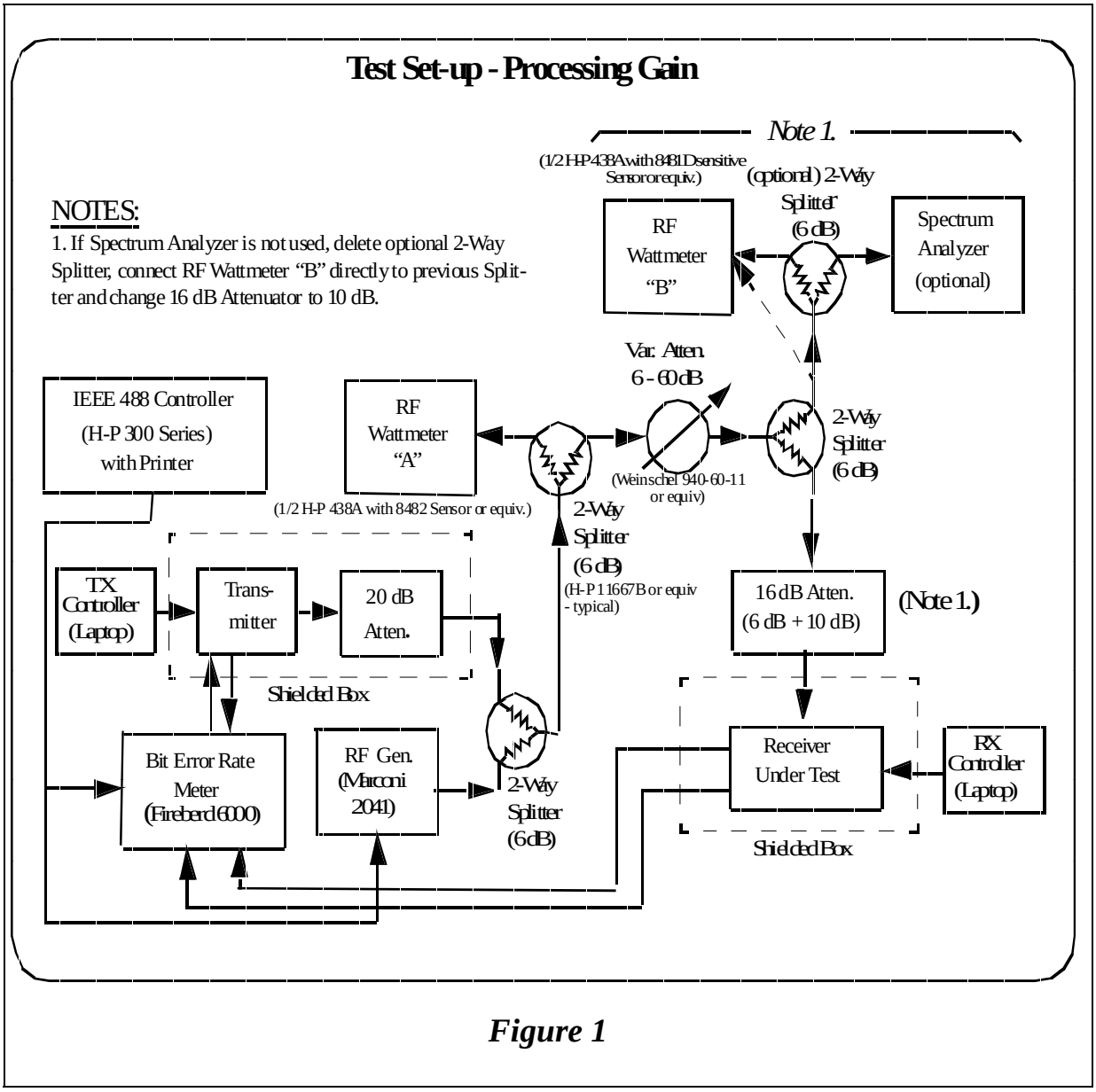

Figure 1

RESULTS:

Processing Gain was measured on three separate channels:

CH6, 2437 MHz (in the approximate center of the ISM band)
CH1, 2412 MHz (at the low end of the ISM band)
CH11, 2462 MHz (at the high end of the ISM band)

Per 15.247(e)(2), the Processing Gain was taken at the 20th percentile point of the logged data. Detailed data is presented in Appendices A through C. Compiled Processing Gain data is as follows:

CH1 ..... 12.9 dB
CH6 ..... 12.7 dB

CH11 ..... 12.8 dB

The minimum Processing Gain, as specified in FCC 15.247(e)(2), is 10 dB and the equipment therefore easily passes this requirement.

CERTIFICATION:

I hereby certify and attest that all data referenced in this Report and Measurement was personally taken by me or at my direction. To the best of my knowledge and belief, this data accurately represents the performance of the above-captioned equipment.

My credentials are a matter of record with the FCC.

Respectfully submitted,

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Chapter 1 Processing Gain Test – Pass 2

Frequency Offset (kHz)	Jammer/Signal Ratio (dB)	Processing Gain (dB)
-8500	5.0	17.3
-8450	4.9	17.2
-8400	4.9	17.2
-8350	4.8	17.1
-8300	4.8	17.1
-8250	4.7	17.0
-8200	4.6	16.9
-8150	4.3	16.6
-8100	4.0	16.3
-8050	3.9	16.2
-8000	3.6	15.9
-7950	3.5	15.8
-7900	3.4	15.7
-7850	3.4	15.7
-7800	3.6	15.9
-7750	3.7	16.0
-7700	4.0	16.3
-7650	4.1	16.4
-7600	4.1	16.4
-7550	4.1	16.4
-7500	4.1	16.4
-7450	3.9	16.2
-7400	3.9	16.2
-7350	3.7	16.0
-7300	3.7	16.0
-7250	3.6	15.9
-7200	2.8	15.1
-7150	2.7	15.0
-7100	2.7	15.0
-7050	2.8	15.1
-7000	2.8	15.1
-6950	2.8	15.1
-6900	3.5	15.8
-6850	3.5	15.8
-6800	3.6	15.9
-6750	3.6	15.9
-6700	3.6	15.9
-6650	3.6	15.9
-6600	3.5	15.8
-6550	3.4	15.7
-6500	3.2	15.5
-6450	3.0	15.3
-6400	2.8	15.1
-6350	2.7	15.0

-6300	2.6	14.9
-6250	2.7	15.0
-6200	2.9	15.2
-6150	3.2	15.5
-6100	3.5	15.8
-6050	3.8	16.1
-6000	4.0	16.3
-5950	4.2	16.5
-5900	4.5	16.8
-5850	4.6	16.9
-5800	4.7	17.0
-5750	4.7	17.0
-5700	4.7	17.0
-5650	4.5	16.8
-5600	4.5	16.8
-5550	4.5	16.8
-5500	4.5	16.8
-5450	4.5	16.8
-5400	4.7	17.0
-5350	4.9	17.2
-5300	5.0	17.3
-5250	4.9	17.2
-5200	4.8	17.1
-5150	4.5	16.8
-5100	4.1	16.4
-5050	3.7	16.0
-5000	3.2	15.5
-4950	2.8	15.1
-4900	2.4	14.7
-4850	2.3	14.6
-4800	2.3	14.6
-4750	2.3	14.6
-4700	2.6	14.9
-4650	2.9	15.2
-4600	3.2	15.5
-4550	3.6	15.9
-4500	3.8	16.1
-4450	3.8	16.1
-4400	4.0	16.3
-4350	4.0	16.3
-4300	3.9	16.2
-4250	3.7	16.0
-4200	3.5	15.8
-4150	3.3	15.6
-4100	3.1	15.4
-4050	3.0	15.3
-4000	2.8	15.1
-3950	2.7	15.0
-3900	2.8	15.1
-3850	2.8	15.1
-3800	2.9	15.2
-3750	3.0	15.3

-3700	3.0	15.3
-3650	3.1	15.4
-3600	3.1	15.4
-3550	3.1	15.4
-3500	3.1	15.4
-3450	3.0	15.3
-3400	2.8	15.1
-3350	2.7	15.0
-3300	2.7	15.0
-3250	2.7	15.0
-3200	2.8	15.1
-3150	2.9	15.2
-3100	3.0	15.3
-3050	3.3	15.6
-3000	3.4	15.7
-2950	3.5	15.8
-2900	3.5	15.8
-2850	3.4	15.7
-2800	3.2	15.5
-2750	3.1	15.4
-2700	3.0	15.3
-2650	2.8	15.1
-2600	2.6	14.9
-2550	2.5	14.8
-2500	2.4	14.7
-2450	2.4	14.7
-2400	2.5	14.8
-2350	2.6	14.9
-2300	2.8	15.1
-2250	3.0	15.3
-2200	3.1	15.4
-2150	3.2	15.5
-2100	3.2	15.5
-2050	3.1	15.4
-2000	2.9	15.2
-1950	2.7	15.0
-1900	2.4	14.7
-1850	2.1	14.4
-1800	1.9	14.2
-1750	1.8	14.1
-1700	1.9	14.2
-1650	2.0	14.3
-1600	2.3	14.6
-1550	2.7	15.0
-1500	3.0	15.3
-1450	3.3	15.6
-1400	3.4	15.7
-1350	3.4	15.7
-1300	3.3	15.6
-1250	3.1	15.4
-1200	2.9	15.2
-1150	2.8	15.1

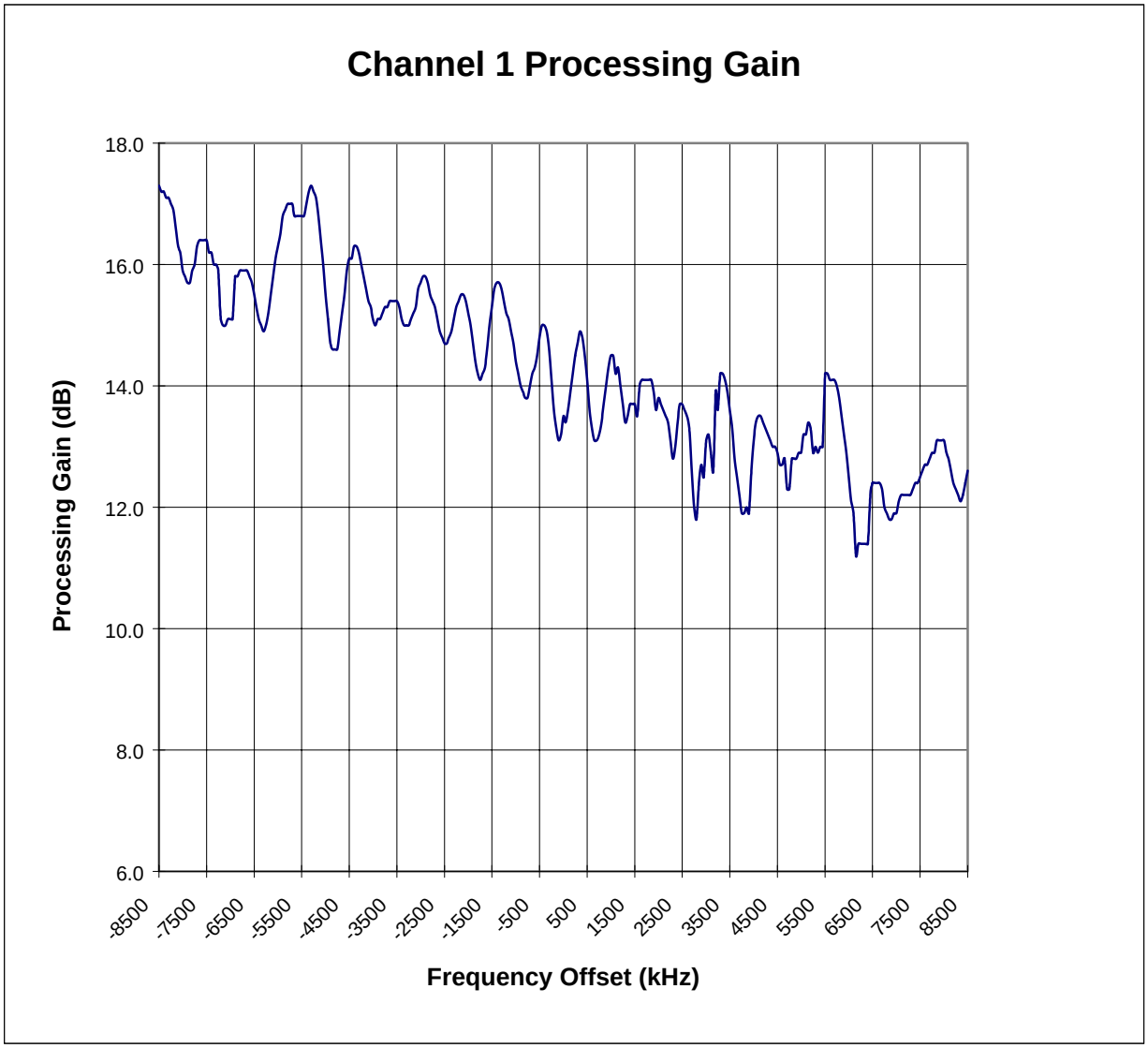
-1100	2.6	14.9
-1050	2.4	14.7
-1000	2.1	14.4
-950	1.9	14.2
-900	1.7	14.0
-850	1.6	13.9
-800	1.5	13.8
-750	1.5	13.8
-700	1.7	14.0
-650	1.9	14.2
-600	2.0	14.3
-550	2.2	14.5
-500	2.5	14.8
-450	2.7	15.0
-400	2.7	15.0
-350	2.6	14.9
-300	2.3	14.6
-250	1.8	14.1
-200	1.3	13.6
-150	1.0	13.3
-100	0.8	13.1
-50	0.9	13.2
0	1.2	13.5
50	1.1	13.4
100	1.3	13.6
150	1.6	13.9
200	1.9	14.2
250	2.2	14.5
300	2.4	14.7
350	2.6	14.9
400	2.5	14.8
450	2.2	14.5
500	1.8	14.1
550	1.3	13.6
600	1.0	13.3
650	0.8	13.1
700	0.8	13.1
750	0.9	13.2
800	1.1	13.4
850	1.4	13.7
900	1.7	14.0
950	2.0	14.3
1000	2.2	14.5
1050	2.2	14.5
1100	1.9	14.2
1150	2.0	14.3
1200	1.7	14.0
1250	1.4	13.7
1300	1.1	13.4
1350	1.2	13.5
1400	1.4	13.7
1450	1.4	13.7

1500	1.4	13.7
1550	1.2	13.5
1600	1.7	14.0
1650	1.8	14.1
1700	1.8	14.1
1750	1.8	14.1
1800	1.8	14.1
1850	1.8	14.1
1900	1.6	13.9
1950	1.3	13.6
2000	1.5	13.8
2050	1.4	13.7
2100	1.3	13.6
2150	1.2	13.5
2200	1.1	13.4
2250	0.8	13.1
2300	0.5	12.8
2350	0.7	13.0
2400	1.1	13.4
2450	1.4	13.7
2500	1.4	13.7
2550	1.3	13.6
2600	1.2	13.5
2650	1.0	13.3
2700	0.3	12.6
2750	-0.3	12.0
2800	-0.5	11.8
2850	0.1	12.4
2900	0.4	12.7
2950	0.2	12.5
3000	0.8	13.1
3050	0.9	13.2
3100	0.6	12.9
3150	0.3	12.6
3200	1.6	13.9
3250	1.3	13.6
3300	1.9	14.2
3350	1.9	14.2
3400	1.8	14.1
3450	1.6	13.9
3500	1.3	13.6
3550	1.0	13.3
3600	0.5	12.8
3650	0.2	12.5
3700	-0.1	12.2
3750	-0.4	11.9
3800	-0.4	11.9
3850	-0.3	12.0
3900	-0.4	11.9
3950	0.3	12.6
4000	0.8	13.1
4050	1.1	13.4

4100	1.2	13.5
4150	1.2	13.5
4200	1.1	13.4
4250	1.0	13.3
4300	0.9	13.2
4350	0.8	13.1
4400	0.7	13.0
4450	0.7	13.0
4500	0.6	12.9
4550	0.4	12.7
4600	0.4	12.7
4650	0.5	12.8
4700	0.0	12.3
4750	0.0	12.3
4800	0.5	12.8
4850	0.5	12.8
4900	0.5	12.8
4950	0.6	12.9
5000	0.6	12.9
5050	0.9	13.2
5100	0.9	13.2
5150	1.1	13.4
5200	1.0	13.3
5250	0.6	12.9
5300	0.7	13.0
5350	0.6	12.9
5400	0.7	13.0
5450	0.7	13.0
5500	1.9	14.2
5550	1.9	14.2
5600	1.8	14.1
5650	1.8	14.1
5700	1.8	14.1
5750	1.7	14.0
5800	1.5	13.8
5850	1.2	13.5
5900	0.9	13.2
5950	0.6	12.9
6000	0.2	12.5
6050	-0.2	12.1
6100	-0.4	11.9
6150	-1.1	11.2
6200	-0.9	11.4
6250	-0.9	11.4
6300	-0.9	11.4
6350	-0.9	11.4
6400	-0.9	11.4
6450	-0.1	12.2
6500	0.1	12.4
6550	0.1	12.4
6600	0.1	12.4
6650	0.1	12.4

6700	0.0	12.3
6750	-0.3	12.0
6800	-0.4	11.9
6850	-0.5	11.8
6900	-0.5	11.8
6950	-0.4	11.9
7000	-0.4	11.9
7050	-0.2	12.1
7100	-0.1	12.2
7150	-0.1	12.2
7200	-0.1	12.2
7250	-0.1	12.2
7300	-0.1	12.2
7350	0.0	12.3
7400	0.1	12.4
7450	0.1	12.4
7500	0.2	12.5
7550	0.3	12.6
7600	0.4	12.7
7650	0.4	12.7
7700	0.5	12.8
7750	0.6	12.9
7800	0.6	12.9
7850	0.8	13.1
7900	0.8	13.1
7950	0.8	13.1
8000	0.8	13.1
8050	0.6	12.9
8100	0.5	12.8
8150	0.3	12.6
8200	0.1	12.4
8250	0.0	12.3
8300	-0.1	12.2
8350	-0.2	12.1
8400	-0.1	12.2
8450	0.1	12.4
8500	0.3	12.6

Processing Gain (dB) = 12.9



Chapter 6 Processing Gain Test – Pass 2

Frequency Offset (kHz)	Jammer/Signal Ratio (dB)	Processing Gain (dB)
-8500	3.5	15.8
-8450	3.5	15.8
-8400	3.4	15.7
-8350	3.4	15.7
-8300	3.4	15.7
-8250	3.3	15.6
-8200	3.2	15.5
-8150	3.0	15.3
-8100	2.8	15.1
-8050	2.6	14.9
-8000	2.4	14.7
-7950	2.2	14.5
-7900	2.0	14.3
-7850	2.1	14.4
-7800	2.2	14.5
-7750	2.4	14.7
-7700	2.7	15.0
-7650	2.9	15.2
-7600	3.1	15.4
-7550	3.2	15.5
-7500	3.1	15.4
-7450	3.0	15.3
-7400	2.8	15.1
-7350	2.6	14.9
-7300	2.3	14.6
-7250	2.1	14.4
-7200	1.9	14.2
-7150	1.8	14.1
-7100	1.7	14.0
-7050	1.8	14.1
-7000	2.0	14.3
-6950	2.2	14.5
-6900	2.4	14.7
-6850	2.6	14.9
-6800	2.7	15.0
-6750	2.8	15.1
-6700	2.8	15.1
-6650	2.7	15.0
-6600	2.5	14.8
-6550	2.2	14.5
-6500	2.0	14.3
-6450	1.7	14.0
-6400	1.4	13.7
-6350	1.3	13.6
-6300	1.3	13.6
-6250	1.4	13.7
-6200	1.6	13.9
-6150	1.9	14.2

-6100	2.2	14.5
-6050	2.4	14.7
-6000	2.7	15.0
-5950	2.9	15.2
-5900	3.0	15.3
-5850	3.0	15.3
-5800	3.4	15.7
-5750	3.4	15.7
-5700	3.4	15.7
-5650	3.3	15.6
-5600	3.2	15.5
-5550	3.2	15.5
-5500	3.5	15.8
-5450	3.8	16.1
-5400	3.5	15.8
-5350	3.5	15.8
-5300	3.7	16.0
-5250	3.6	15.9
-5200	3.5	15.8
-5150	3.3	15.6
-5100	2.9	15.2
-5050	2.5	14.8
-5000	2.0	14.3
-4950	1.7	14.0
-4900	1.4	13.7
-4850	1.2	13.5
-4800	1.1	13.4
-4750	1.2	13.5
-4700	1.3	13.6
-4650	1.7	14.0
-4600	2.0	14.3
-4550	2.3	14.6
-4500	2.5	14.8
-4450	2.7	15.0
-4400	2.8	15.1
-4350	2.8	15.1
-4300	2.6	14.9
-4250	2.5	14.8
-4200	2.3	14.6
-4150	2.1	14.4
-4100	1.9	14.2
-4050	1.7	14.0
-4000	1.6	13.9
-3950	1.6	13.9
-3900	1.6	13.9
-3850	1.6	13.9
-3800	1.8	14.1
-3750	1.9	14.2
-3700	2.0	14.3
-3650	2.1	14.4
-3600	2.1	14.4
-3550	2.1	14.4

-3500	2.1	14.4
-3450	2.0	14.3
-3400	1.8	14.1
-3350	1.7	14.0
-3300	1.6	13.9
-3250	1.6	13.9
-3200	1.6	13.9
-3150	1.8	14.1
-3100	2.0	14.3
-3050	2.1	14.4
-3000	2.2	14.5
-2950	2.3	14.6
-2900	2.4	14.7
-2850	2.3	14.6
-2800	2.1	14.4
-2750	2.0	14.3
-2700	1.9	14.2
-2650	1.7	14.0
-2600	1.6	13.9
-2550	1.5	13.8
-2500	1.4	13.7
-2450	1.4	13.7
-2400	1.5	13.8
-2350	1.6	13.9
-2300	1.8	14.1
-2250	2.1	14.4
-2200	2.2	14.5
-2150	2.3	14.6
-2100	2.3	14.6
-2050	2.2	14.5
-2000	2.1	14.4
-1950	1.9	14.2
-1900	1.6	13.9
-1850	1.2	13.5
-1800	1.1	13.4
-1750	0.9	13.2
-1700	0.9	13.2
-1650	1.1	13.4
-1600	1.3	13.6
-1550	1.7	14.0
-1500	2.0	14.3
-1450	2.2	14.5
-1400	2.4	14.7
-1350	2.4	14.7
-1300	2.2	14.5
-1250	2.1	14.4
-1200	2.0	14.3
-1150	1.9	14.2
-1100	1.7	14.0
-1050	1.5	13.8
-1000	1.3	13.6
-950	1.1	13.4

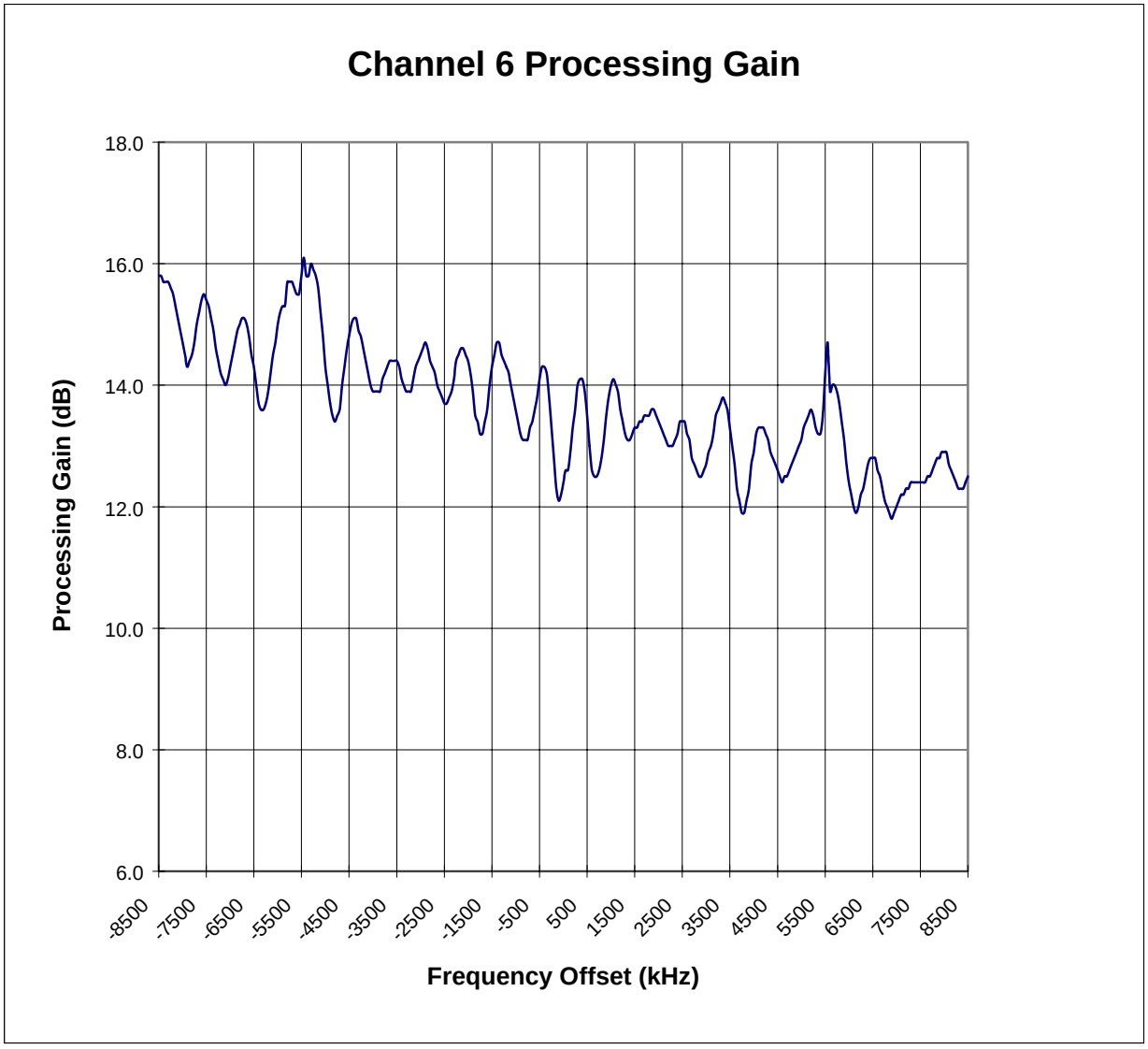
-900	0.9	13.2
-850	0.8	13.1
-800	0.8	13.1
-750	0.8	13.1
-700	1.0	13.3
-650	1.1	13.4
-600	1.3	13.6
-550	1.5	13.8
-500	1.8	14.1
-450	2.0	14.3
-400	2.0	14.3
-350	1.9	14.2
-300	1.5	13.8
-250	1.0	13.3
-200	0.5	12.8
-150	0.0	12.3
-100	-0.2	12.1
-50	-0.1	12.2
0	0.1	12.4
50	0.3	12.6
100	0.3	12.6
150	0.6	12.9
200	1.0	13.3
250	1.3	13.6
300	1.7	14.0
350	1.8	14.1
400	1.8	14.1
450	1.6	13.9
500	1.2	13.5
550	0.7	13.0
600	0.3	12.6
650	0.2	12.5
700	0.2	12.5
750	0.3	12.6
800	0.5	12.8
850	0.8	13.1
900	1.2	13.5
950	1.5	13.8
1000	1.7	14.0
1050	1.8	14.1
1100	1.7	14.0
1150	1.6	13.9
1200	1.3	13.6
1250	1.1	13.4
1300	0.9	13.2
1350	0.8	13.1
1400	0.8	13.1
1450	0.9	13.2
1500	1.0	13.3
1550	1.0	13.3
1600	1.1	13.4
1650	1.1	13.4

1700	1.2	13.5
1750	1.2	13.5
1800	1.2	13.5
1850	1.3	13.6
1900	1.3	13.6
1950	1.2	13.5
2000	1.1	13.4
2050	1.0	13.3
2100	0.9	13.2
2150	0.8	13.1
2200	0.7	13.0
2250	0.7	13.0
2300	0.7	13.0
2350	0.8	13.1
2400	0.9	13.2
2450	1.1	13.4
2500	1.1	13.4
2550	1.1	13.4
2600	0.9	13.2
2650	0.8	13.1
2700	0.5	12.8
2750	0.4	12.7
2800	0.3	12.6
2850	0.2	12.5
2900	0.2	12.5
2950	0.3	12.6
3000	0.4	12.7
3050	0.6	12.9
3100	0.7	13.0
3150	0.9	13.2
3200	1.2	13.5
3250	1.3	13.6
3300	1.4	13.7
3350	1.5	13.8
3400	1.4	13.7
3450	1.3	13.6
3500	1.0	13.3
3550	0.7	13.0
3600	0.4	12.7
3650	0.0	12.3
3700	-0.2	12.1
3750	-0.4	11.9
3800	-0.4	11.9
3850	-0.2	12.1
3900	0.0	12.3
3950	0.4	12.7
4000	0.6	12.9
4050	0.9	13.2
4100	1.0	13.3
4150	1.0	13.3
4200	1.0	13.3
4250	0.9	13.2

4300	0.8	13.1
4350	0.6	12.9
4400	0.5	12.8
4450	0.4	12.7
4500	0.3	12.6
4550	0.2	12.5
4600	0.1	12.4
4650	0.2	12.5
4700	0.2	12.5
4750	0.3	12.6
4800	0.4	12.7
4850	0.5	12.8
4900	0.6	12.9
4950	0.7	13.0
5000	0.8	13.1
5050	1.0	13.3
5100	1.1	13.4
5150	1.2	13.5
5200	1.3	13.6
5250	1.2	13.5
5300	1.0	13.3
5350	0.9	13.2
5400	0.9	13.2
5450	1.2	13.5
5500	1.9	14.2
5550	2.4	14.7
5600	1.6	13.9
5650	1.7	14.0
5700	1.7	14.0
5750	1.6	13.9
5800	1.4	13.7
5850	1.1	13.4
5900	0.8	13.1
5950	0.4	12.7
6000	0.1	12.4
6050	-0.1	12.2
6100	-0.3	12.0
6150	-0.4	11.9
6200	-0.3	12.0
6250	-0.1	12.2
6300	0.0	12.3
6350	0.2	12.5
6400	0.4	12.7
6450	0.5	12.8
6500	0.5	12.8
6550	0.5	12.8
6600	0.3	12.6
6650	0.2	12.5
6700	0.0	12.3
6750	-0.2	12.1
6800	-0.3	12.0
6850	-0.4	11.9

6900	-0.5	11.8
6950	-0.4	11.9
7000	-0.3	12.0
7050	-0.2	12.1
7100	-0.1	12.2
7150	-0.1	12.2
7200	0.0	12.3
7250	0.0	12.3
7300	0.1	12.4
7350	0.1	12.4
7400	0.1	12.4
7450	0.1	12.4
7500	0.1	12.4
7550	0.1	12.4
7600	0.1	12.4
7650	0.2	12.5
7700	0.2	12.5
7750	0.3	12.6
7800	0.4	12.7
7850	0.5	12.8
7900	0.5	12.8
7950	0.6	12.9
8000	0.6	12.9
8050	0.6	12.9
8100	0.4	12.7
8150	0.3	12.6
8200	0.2	12.5
8250	0.1	12.4
8300	0.0	12.3
8350	0.0	12.3
8400	0.0	12.3
8450	0.1	12.4
8500	0.2	12.5

Processing Gain (dB) = 12.7



Chapter 11 Processing Gain Test

Frequency Jammer/Signal Processing

Offset (kHz)	Ratio (dB)	Gain (dB)
-8500	3.7	16.0
-8450	3.7	16.0
-8400	3.7	16.0
-8350	3.7	16.0
-8300	3.7	16.0
-8250	3.7	16.0
-8200	3.5	15.8
-8150	3.4	15.7
-8100	3.2	15.5
-8050	3.0	15.3
-8000	2.7	15.0
-7950	2.5	14.8
-7900	2.4	14.7
-7850	2.3	14.6
-7800	2.4	14.7
-7750	2.6	14.9
-7700	2.9	15.2
-7650	3.1	15.4
-7600	3.3	15.6
-7550	3.4	15.7
-7500	3.4	15.7
-7450	3.2	15.5
-7400	3.1	15.4
-7350	2.8	15.1
-7300	2.6	14.9
-7250	2.3	14.6
-7200	2.1	14.4
-7150	2.0	14.3
-7100	2.0	14.3
-7050	2.0	14.3
-7000	2.2	14.5
-6950	2.4	14.7
-6900	2.6	14.9
-6850	2.8	15.1
-6800	3.0	15.3
-6750	3.0	15.3
-6700	3.0	15.3
-6650	3.0	15.3
-6600	2.8	15.1
-6550	2.4	14.7
-6500	2.3	14.6
-6450	1.9	14.2
-6400	1.7	14.0
-6350	1.5	13.8
-6300	1.5	13.8
-6250	1.5	13.8
-6200	1.7	14.0
-6150	1.9	14.2
-6100	2.3	14.6
-6050	2.6	14.9

-6000	2.8	15.1
-5950	3.1	15.4
-5900	3.3	15.6
-5850	3.5	15.8
-5800	3.6	15.9
-5750	3.6	15.9
-5700	3.5	15.8
-5650	3.4	15.7
-5600	3.2	15.5
-5550	3.3	15.6
-5500	3.7	16.0
-5450	4.0	16.3
-5400	3.5	15.8
-5350	3.6	15.9
-5300	3.7	16.0
-5250	3.8	16.1
-5200	3.8	16.1
-5150	3.5	15.8
-5100	3.3	15.6
-5050	2.9	15.2
-5000	2.3	14.6
-4950	2.0	14.3
-4900	1.7	14.0
-4850	1.4	13.7
-4800	1.3	13.6
-4750	1.3	13.6
-4700	1.5	13.8
-4650	1.7	14.0
-4600	2.1	14.4
-4550	2.4	14.7
-4500	2.7	15.0
-4450	2.9	15.2
-4400	3.0	15.3
-4350	3.0	15.3
-4300	2.9	15.2
-4250	2.7	15.0
-4200	2.5	14.8
-4150	2.3	14.6
-4100	2.1	14.4
-4050	1.9	14.2
-4000	1.8	14.1
-3950	1.8	14.1
-3900	1.8	14.1
-3850	1.9	14.2
-3800	2.0	14.3
-3750	2.1	14.4
-3700	2.2	14.5
-3650	2.4	14.7
-3600	2.4	14.7
-3550	2.4	14.7
-3500	2.4	14.7
-3450	2.3	14.6

-3400	2.1	14.4
-3350	2.0	14.3
-3300	1.9	14.2
-3250	1.8	14.1
-3200	1.8	14.1
-3150	1.9	14.2
-3100	2.1	14.4
-3050	2.3	14.6
-3000	2.4	14.7
-2950	2.5	14.8
-2900	2.5	14.8
-2850	2.4	14.7
-2800	2.3	14.6
-2750	2.2	14.5
-2700	2.1	14.4
-2650	1.9	14.2
-2600	1.8	14.1
-2550	1.7	14.0
-2500	1.7	14.0
-2450	1.6	13.9
-2400	1.7	14.0
-2350	1.9	14.2
-2300	2.1	14.4
-2250	2.3	14.6
-2200	2.5	14.8
-2150	2.6	14.9
-2100	2.6	14.9
-2050	2.6	14.9
-2000	2.4	14.7
-1950	2.2	14.5
-1900	1.9	14.2
-1850	1.5	13.8
-1800	1.3	13.6
-1750	1.2	13.5
-1700	1.2	13.5
-1650	1.2	13.5
-1600	0.9	13.2
-1550	0.6	12.9
-1500	0.3	12.6
-1450	0.5	12.8
-1400	0.2	12.5
-1350	-0.1	12.2
-1300	-0.4	11.9
-1250	0.0	12.3
-1200	-0.3	12.0
-1150	-0.6	11.7
-1100	-0.7	11.6
-1050	-0.5	11.8
-1000	-0.6	11.7
-950	-0.8	11.5
-900	0.4	12.7
-850	0.2	12.5

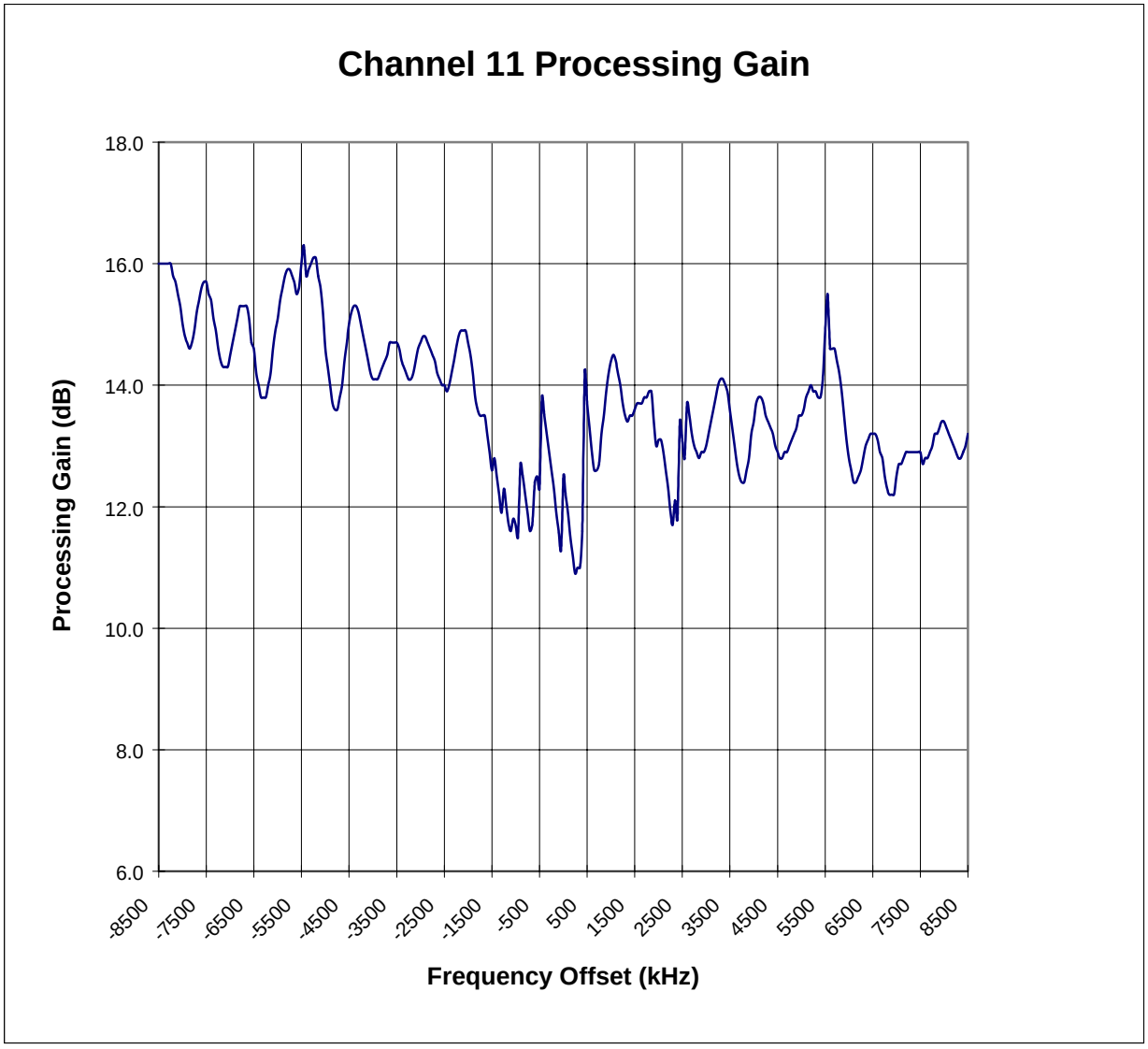
-800	-0.1	12.2
-750	-0.4	11.9
-700	-0.7	11.6
-650	-0.6	11.7
-600	0.1	12.4
-550	0.2	12.5
-500	0.0	12.3
-450	1.5	13.8
-400	1.2	13.5
-350	0.9	13.2
-300	0.6	12.9
-250	0.3	12.6
-200	0.0	12.3
-150	-0.4	11.9
-100	-0.7	11.6
-50	-1.0	11.3
0	0.2	12.5
50	-0.1	12.2
100	-0.4	11.9
150	-0.8	11.5
200	-1.1	11.2
250	-1.4	10.9
300	-1.3	11.0
350	-1.3	11.0
400	-0.7	11.6
450	1.9	14.2
500	1.4	13.7
550	1.0	13.3
600	0.6	12.9
650	0.3	12.6
700	0.3	12.6
750	0.4	12.7
800	0.9	13.2
850	1.2	13.5
900	1.6	13.9
950	1.9	14.2
1000	2.1	14.4
1050	2.2	14.5
1100	2.1	14.4
1150	1.9	14.2
1200	1.7	14.0
1250	1.4	13.7
1300	1.2	13.5
1350	1.1	13.4
1400	1.2	13.5
1450	1.2	13.5
1500	1.3	13.6
1550	1.4	13.7
1600	1.4	13.7
1650	1.4	13.7
1700	1.5	13.8
1750	1.5	13.8

1800	1.6	13.9
1850	1.6	13.9
1900	1.1	13.4
1950	0.7	13.0
2000	0.8	13.1
2050	0.8	13.1
2100	0.6	12.9
2150	0.3	12.6
2200	0.0	12.3
2250	-0.4	11.9
2300	-0.6	11.7
2350	-0.2	12.1
2400	-0.5	11.8
2450	1.1	13.4
2500	0.8	13.1
2550	0.5	12.8
2600	1.4	13.7
2650	1.2	13.5
2700	0.9	13.2
2750	0.7	13.0
2800	0.6	12.9
2850	0.5	12.8
2900	0.6	12.9
2950	0.6	12.9
3000	0.7	13.0
3050	0.9	13.2
3100	1.1	13.4
3150	1.3	13.6
3200	1.5	13.8
3250	1.7	14.0
3300	1.8	14.1
3350	1.8	14.1
3400	1.7	14.0
3450	1.6	13.9
3500	1.3	13.6
3550	1.0	13.3
3600	0.7	13.0
3650	0.4	12.7
3700	0.2	12.5
3750	0.1	12.4
3800	0.1	12.4
3850	0.3	12.6
3900	0.5	12.8
3950	0.9	13.2
4000	1.1	13.4
4050	1.4	13.7
4100	1.5	13.8
4150	1.5	13.8
4200	1.4	13.7
4250	1.2	13.5
4300	1.1	13.4
4350	1.0	13.3

4400	0.9	13.2
4450	0.7	13.0
4500	0.6	12.9
4550	0.5	12.8
4600	0.5	12.8
4650	0.6	12.9
4700	0.6	12.9
4750	0.7	13.0
4800	0.8	13.1
4850	0.9	13.2
4900	1.0	13.3
4950	1.2	13.5
5000	1.2	13.5
5050	1.3	13.6
5100	1.5	13.8
5150	1.6	13.9
5200	1.7	14.0
5250	1.6	13.9
5300	1.6	13.9
5350	1.5	13.8
5400	1.5	13.8
5450	1.8	14.1
5500	2.6	14.9
5550	3.2	15.5
5600	2.3	14.6
5650	2.3	14.6
5700	2.3	14.6
5750	2.1	14.4
5800	1.9	14.2
5850	1.6	13.9
5900	1.2	13.5
5950	0.8	13.1
6000	0.5	12.8
6050	0.3	12.6
6100	0.1	12.4
6150	0.1	12.4
6200	0.2	12.5
6250	0.3	12.6
6300	0.5	12.8
6350	0.7	13.0
6400	0.8	13.1
6450	0.9	13.2
6500	0.9	13.2
6550	0.9	13.2
6600	0.8	13.1
6650	0.6	12.9
6700	0.5	12.8
6750	0.2	12.5
6800	0.0	12.3
6850	-0.1	12.2
6900	-0.1	12.2
6950	-0.1	12.2

7000	0.2	12.5
7050	0.4	12.7
7100	0.4	12.7
7150	0.5	12.8
7200	0.6	12.9
7250	0.6	12.9
7300	0.6	12.9
7350	0.6	12.9
7400	0.6	12.9
7450	0.6	12.9
7500	0.6	12.9
7550	0.4	12.7
7600	0.5	12.8
7650	0.5	12.8
7700	0.6	12.9
7750	0.7	13.0
7800	0.9	13.2
7850	0.9	13.2
7900	1.0	13.3
7950	1.1	13.4
8000	1.1	13.4
8050	1.0	13.3
8100	0.9	13.2
8150	0.8	13.1
8200	0.7	13.0
8250	0.6	12.9
8300	0.5	12.8
8350	0.5	12.8
8400	0.6	12.9
8450	0.7	13.0
8500	0.9	13.2

Processing Gain (dB) = 12.8


Channel 11 Processing Gain
Processing Gain (dB)
18.0
16.0
14.0
12.0
10.0
8.0
6.0
-8500
-7500
-6500
-5500
-4500
-3500
-2500
-1500
-500
500
1500
2500
3500
4500
5500
6500
7500
8500
Frequency Offset (kHz)