



Processing gain of Direct Sequence Spread Spectrum

Product name: XI-325H 2.4GHz wireless LAN card

Tested by: Z-com, Inc.

Prepared by: Daniel Teng, Supervisor of Hardware department

TEL: (886)-3-5777364 ext.147

FAX: (886)-3-5773359

Email: daniel@zcom.com.tw

Date: Jan 26, 2002

FCC requirements: The processing gain of a direct sequence system shall be at least 10dB. The processing gain shall be determined from the ratio in dB of the signal-to-noise ratio with the system spreading code turned off to the signal-to-noise ratio with the system spreading code turned on, as measured at the demodulated output of the receiver.

This document contains theoretical calculation and test setup, procedure, measurement data and report.

Test equipment:

R&S FSEM20 spectrum analyzer

R&S SMIQ03B signal generator

Giga-tronics 8541C universal power meter

Hp8496B attenuator/110dB with 10dB step

Hp8494B attenuator/11dB with 1dB step

Hp11636BB power splitter

Notebook/PC X2

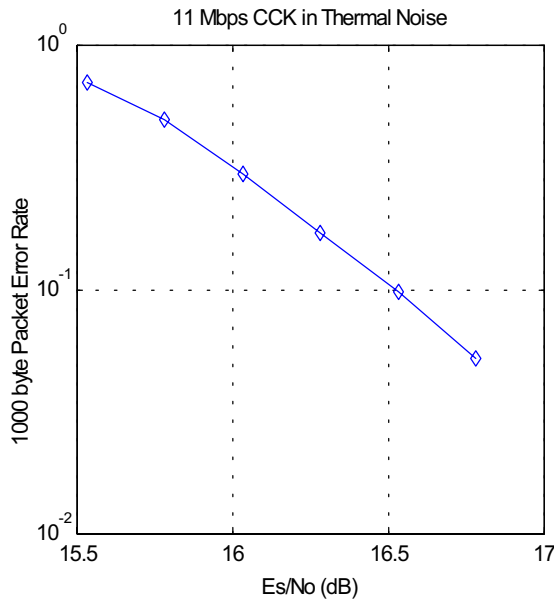
Theoretical calculation: The Processing gain is related to be jamming margin as follows:

$$G_p = \left(\frac{S}{N} \right)_{output} + \left(\frac{J}{S} \right) + L_{sys}$$

Where $BER_{reference}$ is the reference bit error ratio with its corresponding, theoretical output signal to noise ratio per symbol, $(S/N)_{output}$, (J/S) is the jamming margin(jamming signal power relative to desired signal power), and L_{sys} is the system losses.

For 5.5Mbps and 11Mbps case: The HFA3861B direct sequence spread spectrum baseband processor use CCK modulation which is a form of M-ary Orthogonal Keying. The Probability of error for generalized M-ary orthogonal signaling using coherent demodulation is given by:

$$P_e = 1 - P_{cl} = 1 - \frac{1}{\sqrt{2\pi}} \int_{-\frac{S_{01}}{N_0}}^{\infty} \left[2(1 - Q\left\{z + \sqrt{2\frac{E_b}{\eta}}\right\}) \right]^{\frac{M}{2}-1} \exp\left\{-\frac{z^2}{2}\right\} dz$$



The FER performance curve is derived by [1] as left graph:

Therefore:

$$G_p = (Es/No)_o + (J/S) + L_{sys} = 16.4 + 2.0 + (J/S)$$

and, $G_p = 18.4 + (J/S)$ must be greater than 10dB

For the case of the HFA3861B, the bit rates are 1,2, 5.5 and 11Mbps. The corresponding symbol rates are 1, 1, 1.375 and 1.375 Msps. The chip rate is always 11Mcps, so the ratio of chip rate to symbol rate is 11:1 for the 1, 2Mbps and 8:1 for 5.5, 11Mbps rates. Since the symbol rate to bit rate is less than 10 for the higher rates, we supply the theoretical processing gain and coding are utilized. This is a reasonable in that they cannot be separated in the demodulation process. If a separable FEC coding scheme were used, we would not be comfortable making this assertion.

As can be seen from the curve of figure 1, the E_s/N_0 is 16.4dB at the PER of 8%. It is well known that the E_b/N_0 of BPSK is 9.6dB for $1e-5$ BER, so therefore the coding gain of CCK over BPSK is 2.2dB. We add this to the processing gain of 9B to get 11.2dB overall processing gain for the CW jamming test.

Taking the calculation above, if the $(J/S) > -8.4$ dB then the equipment passes the CW jamming test.

For 1 and 2Mbps case, the modulation is either DBPSK or DQPSK for 1 and 2Mbps. With differential coding, there is an error extension factor of 2 which comes from the fact that if one symbol is error, then the next will be demodulated in error too. Since its phase is dependant on the change of phase from symbol to symbol. In DBPSK, this result is a simple factor of two in BER. With DQPSK, the picture is a little muddled in that a symbol error may cause one or two bit errors since two bits are carried per symbol. From the book of Fig.7.2, Viterbi, A.J. Principles of Coherent Communications, Page 192 (New York; McGraw-Hill, 1996), the E_b/N_0 of BPSK is 9.6dB. When operating DQPSK at 2Mbps, the E_b/N_0 remains essentially the same, but the E_s/N_0 goes up by 3dB. So the $(S/N)_0$ is 12.6.

Test procedure:

Obtain the simplex link shown. Perform all independent instrumentation calibration prior to this procedure. Set operating levels using fixed and variable attenuator in system to meet the following objectives:

1. Signal Power at receiver is approximately -60 dBm.
2. Signal Power at power meter between -20 and -30 dBm.
3. Use spectrum analyzer to monitor test.
4. Ensure that CW jammer generator RF output is disabled and measure the power at the power meter port using Giga-tronics 8541C power meter. This is relative power, S_r .
5. Disable TX and set CW jammer output frequency equal to the carrier frequency and enable generator output. Set reference CW jammer power level at power meter port 8.4dB below S_r .

6. Disable CW jammer and re-establish Link. FER test should be essentially error free.
7. Enable the CW jammer at the reference power level and verify that FER at the reference power level and verify that FER test indicate less than 8%.
8. Alternatively, adjust the CW jammer level to that which causes 8% FER.
9. Repeat Step 7 for uniform steps in frequency increments of 50KHz across the receiver passband with the CW jammer. In this case, the receiver passband is $\pm 8.5\text{MHz}$

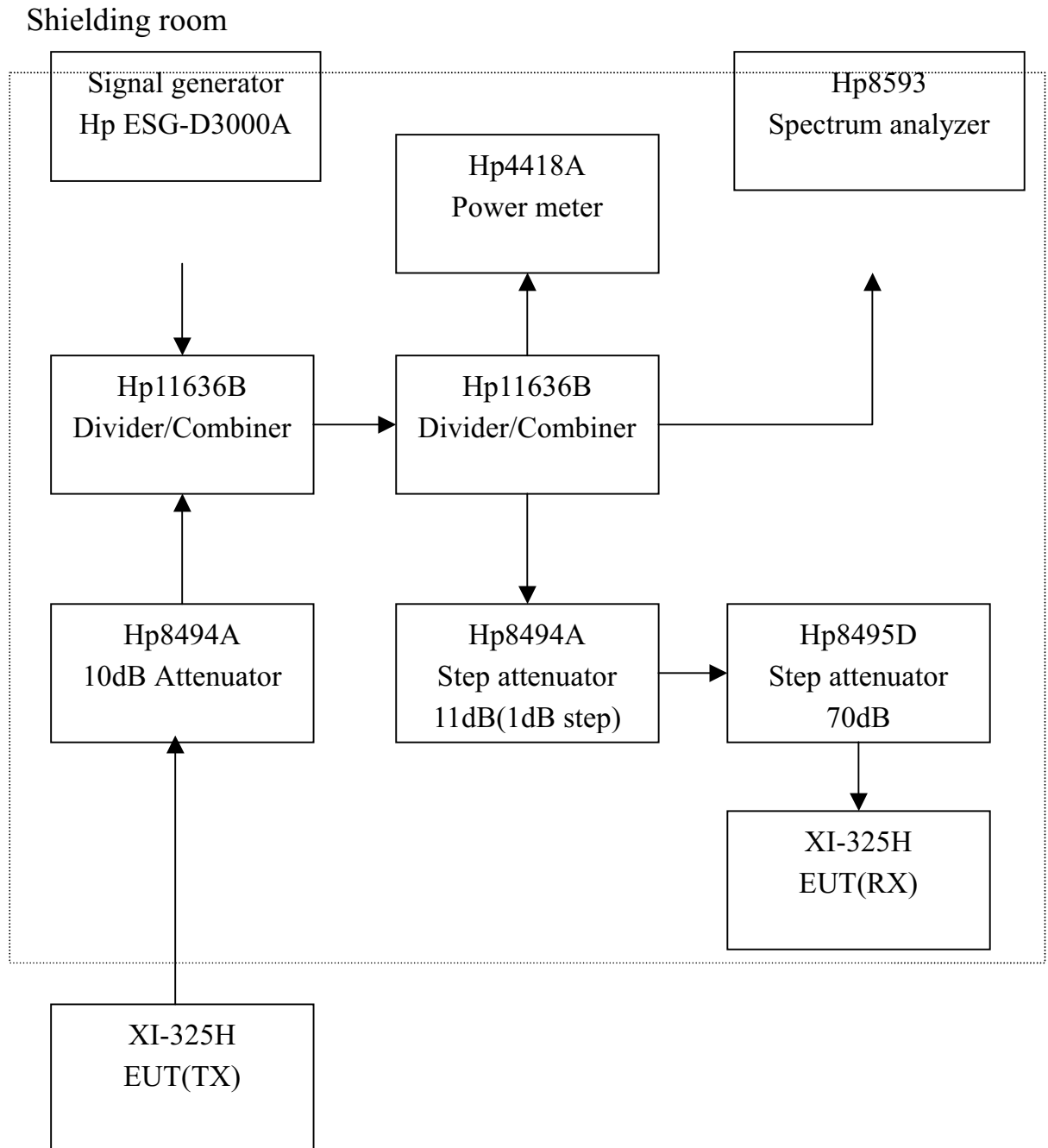
Test setup: as shown at next page

Processing gain test result summary:

Frequency channel	Frequency	Data rate (Mbps)	Gp (dB)
1	2412MHz	11	10.7
6	2437MHz	11	10.5
11	2462MHz	11	10.5

Reference

- [1]. Intersil processing gain test document (Attached file).



Processing gain test setup

11Mbps Channel 1 Processing Gain							
Gp=(S/N)o+Mj+Lsys							
Freq. (MHz)	Gp (dB)	(S/N)o (dB)	Mj = J/S (dB)	Lsys (dB)	Jammer (dBm)	Lvl (dBm)	FER
2403.50	17.700134	16.4	-0.699865773	2	-30.69986577	-30	6.1
2403.55	17.252163	16.4	-1.147837409	2	-31.14783741	-30	6.3
2403.60	17.323393	16.4	-1.076607185	2	-31.07660719	-30	7
2403.65	16.15244	16.4	-2.24756012	2	-32.24756012	-30	6.3
2403.70	15.900798	16.4	-2.499201597	2	-32.4992016	-30	4.5
2403.75	15.82352	16.4	-2.576480046	2	-32.57648005	-30	4.9
2403.80	15.897395	16.4	-2.502605418	2	-32.50260542	-30	7.4
2403.85	15.877058	16.4	-2.522942056	2	-32.52294206	-30	6.5
2403.90	16.149391	16.4	-2.250609334	2	-32.25060933	-30	7.9
2403.95	16.230337	16.4	-2.169663164	2	-32.16966316	-30	6.5
2404.00	16.741291	16.4	-1.65870899	2	-31.65870899	-30	7.1
2404.05	17.07416	16.4	-1.325839531	2	-31.32583953	-30	6.8
2404.10	16.64827	16.4	-1.751729678	2	-31.75172968	-30	7.2
2404.15	14.940987	16.4	-3.459012632	2	-33.45901263	-30	7.6
2404.20	15.459814	16.4	-2.94018637	2	-32.94018637	-30	7.1
2404.25	15.294883	16.4	-3.105116741	2	-33.10511674	-30	7.8
2404.30	15.341685	16.4	-3.058315492	2	-33.05831549	-30	7.8
2404.35	14.687632	16.4	-3.712368358	2	-33.71236836	-30	6
2404.40	14.496322	16.4	-3.903678209	2	-33.90367821	-30	7.5
2404.45	15.386609	16.4	-3.013391203	2	-33.0133912	-30	6.8
2404.50	15.09176	16.4	-3.308239967	2	-33.30823997	-30	7.2
2404.55	15.636817	16.4	-2.763182931	2	-32.76318293	-30	7.5
2404.60	14.424033	16.4	-3.975967265	2	-33.97596727	-30	7.9
2404.65	15.021588	16.4	-3.37841231	2	-33.37841231	-30	7.9
2404.70	14.66644	16.4	-3.733559692	2	-33.73355969	-30	7.7
2404.75	14.033098	16.4	-4.366902035	2	-34.36690204	-30	7.9
2404.80	13.810571	16.4	-4.589428595	2	-34.58942859	-30	7.3
2404.85	14.884411	16.4	-3.515589121	2	-33.51558912	-30	7.3
2404.90	14.450237	16.4	-3.949763458	2	-33.94976346	-30	7.3
2404.95	14.468846	16.4	-3.931153761	2	-33.93115376	-30	7.7
2405.00	14.940592	16.4	-3.459407645	2	-33.45940764	-30	7.4
2405.05	14.853674	16.4	-3.546326314	2	-33.54632631	-30	7.4
2405.10	14.899943	16.4	-3.500056782	2	-33.50005678	-30	7.5
2405.15	14.687006	16.4	-3.712993726	2	-33.71299373	-30	7.8
2405.20	14.108703	16.4	-4.291296642	2	-34.29129664	-30	7.4
2405.25	15.265461	16.4	-3.134538502	2	-33.1345385	-30	7.6
2405.30	13.948239	16.4	-4.45176111	2	-34.45176111	-30	7.9
2405.35	14.213495	16.4	-4.186504744	2	-34.18650474	-30	7.5
2405.40	14.105998	16.4	-4.294002427	2	-34.29400243	-30	7.7
2405.45	14.346563	16.4	-4.053437056	2	-34.05343706	-30	7.6
2405.50	14.264753	16.4	-4.135247405	2	-34.1352474	-30	7.6
2405.55	13.634432	16.4	-4.765568331	2	-34.76556833	-30	7.9
2405.60	14.761534	16.4	-3.638466235	2	-33.63846624	-30	7.8

2405.65	14.772391	16.4	-3.627609184	2	-33.62760918	-30	7.7
2405.70	14.345327	16.4	-4.054672532	2	-34.05467253	-30	7.6
2405.75	14.211224	16.4	-4.188775685	2	-34.18877568	-30	7.9
2405.80	14.409694	16.4	-3.990306497	2	-33.9903065	-30	7.6
2405.85	14.040362	16.4	-4.359637678	2	-34.35963768	-30	7.7
2405.90	14.167165	16.4	-4.23283484	2	-34.23283484	-30	7.7
2405.95	14.504751	16.4	-3.89524938	2	-33.89524938	-30	7.8
2406.00	14.306984	16.4	-4.093015638	2	-34.09301564	-30	7.9
2406.05	14.499389	16.4	-3.900611378	2	-33.90061138	-30	7.9
2406.10	14.577659	16.4	-3.8223411	2	-33.8223411	-30	7.6
2406.15	14.955907	16.4	-3.444092625	2	-33.44409262	-30	7.8
2406.20	14.569356	16.4	-3.830644071	2	-33.83064407	-30	7.7
2406.25	14.872432	16.4	-3.527567658	2	-33.52756766	-30	7.7
2406.30	14.120279	16.4	-4.279720893	2	-34.27972089	-30	7.9
2406.35	13.602546	16.4	-4.797453523	2	-34.79745352	-30	7.9
2406.40	14.236482	16.4	-4.163517848	2	-34.16351785	-30	7.9
2406.45	14.409309	16.4	-3.990690851	2	-33.99069085	-30	7.5
2406.50	14.193045	16.4	-4.206954691	2	-34.20695469	-30	7.9
2406.55	13.793319	16.4	-4.606681426	2	-34.60668143	-30	7.5
2406.60	14.468056	16.4	-3.931943591	2	-33.93194359	-30	7.3
2406.65	13.842221	16.4	-4.557778563	2	-34.55777856	-30	7.6
2406.70	14.794097	16.4	-3.605902566	2	-33.60590257	-30	7.9
2406.75	14.418734	16.4	-3.981266391	2	-33.98126639	-30	7.4
2406.80	15.179779	16.4	-3.220221219	2	-33.22022122	-30	7.5
2406.85	15.182901	16.4	-3.217099231	2	-33.21709923	-30	7.9
2406.90	15.217063	16.4	-3.182937422	2	-33.18293742	-30	7.7
2406.95	13.945485	16.4	-4.454515249	2	-34.45451525	-30	7.5
2407.00	13.560873	16.4	-4.839126957	2	-34.83912696	-30	7.7
2407.05	13.38855	16.4	-5.01145	2	-35.01145	-30	7.7
2407.10	13.824069	16.4	-4.575931451	2	-34.57593145	-30	7.5
2407.15	13.893352	16.4	-4.50664772	2	-34.50664772	-30	7.9
2407.20	13.820953	16.4	-4.579046734	2	-34.57904673	-30	7.9
2407.25	14.019928	16.4	-4.380072332	2	-34.38007233	-30	7.8
2407.30	13.744508	16.4	-4.655492455	2	-34.65549245	-30	7.5
2407.35	14.09476	16.4	-4.305240487	2	-34.30524049	-30	7.5
2407.40	14.010099	16.4	-4.389900883	2	-34.38990088	-30	7.9
2407.45	13.678322	16.4	-4.721678162	2	-34.72167816	-30	7.7
2407.50	14.260734	16.4	-4.139266165	2	-34.13926616	-30	7.9
2407.55	14.049053	16.4	-4.350947011	2	-34.35094701	-30	7.8
2407.60	14.15342	16.4	-4.24658001	2	-34.24658001	-30	7.9
2407.65	13.50928	16.4	-4.890719673	2	-34.89071967	-30	7.9
2407.70	13.161073	16.4	-5.238926998	2	-35.238927	-30	7.7
2407.75	13.285882	16.4	-5.114117733	2	-35.11411773	-30	7.8
2407.80	12.641775	16.4	-5.758224768	2	-35.75822477	-30	7.9
2407.85	12.608424	16.4	-5.791576169	2	-35.79157617	-30	7.5
2407.90	12.308767	16.4	-6.091233368	2	-36.09123337	-30	7.6
2407.95	12.106618	16.4	-6.29338179	2	-36.29338179	-30	7.3

2408.00	12.912035	16.4	-5.487965045	2	-35.48796505	-30	7.6
2408.05	12.433948	16.4	-5.966052265	2	-35.96605226	-30	7.9
2408.10	13.023157	16.4	-5.376843232	2	-35.37684323	-30	7.4
2408.15	12.762938	16.4	-5.637062231	2	-35.63706223	-30	7.6
2408.20	12.667615	16.4	-5.732384522	2	-35.73238452	-30	7.6
2408.25	13.398275	16.4	-5.001725253	2	-35.00172525	-30	7.9
2408.30	12.648191	16.4	-5.751808681	2	-35.75180868	-30	7.5
2408.35	13.065628	16.4	-5.334371565	2	-35.33437156	-30	7.7
2408.40	12.530756	16.4	-5.869244038	2	-35.86924404	-30	7.5
2408.45	12.539061	16.4	-5.860938863	2	-35.86093886	-30	7.5
2408.50	12.660129	16.4	-5.739870916	2	-35.73987092	-30	7.9
2408.55	11.804821	16.4	-6.595178821	2	-36.59517882	-30	7.7
2408.60	11.195825	16.4	-7.20417539	2	-37.20417539	-30	7.5
2408.65	11.207717	16.4	-7.192283424	2	-37.19228342	-30	7.6
2408.70	11.122187	16.4	-7.277813218	2	-37.27781322	-30	7.5
2408.75	12.013544	16.4	-6.386456485	2	-36.38645649	-30	7.7
2408.80	11.428572	16.4	-6.971428346	2	-36.97142835	-30	7.7
2408.85	11.589881	16.4	-6.810119413	2	-36.81011941	-30	7.8
2408.90	12.164991	16.4	-6.235008802	2	-36.2350088	-30	7.6
2408.95	12.15335	16.4	-6.246649663	2	-36.24664966	-30	7.7
2409.00	11.51878	16.4	-6.881219629	2	-36.88121963	-30	7.5
2409.05	11.911639	16.4	-6.488360915	2	-36.48836092	-30	7.9
2409.10	11.782151	16.4	-6.617849474	2	-36.61784947	-30	7.5
2409.15	11.160419	16.4	-7.239581425	2	-37.23958143	-30	7.5
2409.20	11.299537	16.4	-7.100463385	2	-37.10046339	-30	7.8
2409.25	11.600345	16.4	-6.799655004	2	-36.799655	-30	7.8
2409.30	11.15814	16.4	-7.241860399	2	-37.2418604	-30	7.9
2409.35	10.480282	16.4	-7.919718276	2	-37.91971828	-30	7.7
2409.40	10.477056	16.4	-7.922943799	2	-37.9229438	-30	7.8
2409.45	11.114985	16.4	-7.285015199	2	-37.2850152	-30	7.5
2409.50	10.99327	16.4	-7.406730103	2	-37.4067301	-30	7.6
2409.55	11.298033	16.4	-7.101967015	2	-37.10196702	-30	7.6
2409.60	11.134119	16.4	-7.265880592	2	-37.26588059	-30	7.9
2409.65	11.00937	16.4	-7.390629998	2	-37.39063	-30	7.7
2409.70	11.380592	16.4	-7.019407592	2	-37.01940759	-30	7.2
2409.75	11.295415	16.4	-7.104585148	2	-37.10458515	-30	7.9
2409.80	10.992983	16.4	-7.407017199	2	-37.4070172	-30	7.7
2409.85	11.517644	16.4	-6.882356007	2	-36.88235601	-30	7.8
2409.90	11.472376	16.4	-6.927623835	2	-36.92762383	-30	7.2
2409.95	11.391229	16.4	-7.008770894	2	-37.00877089	-30	7.5
2410.00	10.830983	16.4	-7.569017422	2	-37.56901742	-30	7.3
2410.05	10.42557	16.4	-7.974430337	2	-37.97443034	-30	7.4
2410.10	10.408931	16.4	-7.991068706	2	-37.99106871	-30	7.6
2410.15	10.789543	16.4	-7.610457428	2	-37.61045743	-30	7.7
2410.20	10.383727	16.4	-8.016273474	2	-38.01627347	-30	7.3
2410.25	10.883125	16.4	-7.516874819	2	-37.51687482	-30	7.2
2410.30	10.57446	16.4	-7.825539986	2	-37.82553999	-30	7.5

2410.35	10.928272	16.4	-7.471727611	2	-37.47172761	-30	7.4
2410.40	10.786571	16.4	-7.613428679	2	-37.61342868	-30	7.5
2410.45	11.471304	16.4	-6.928696136	2	-36.92869614	-30	7.9
2410.50	11.845989	16.4	-6.554010796	2	-36.5540108	-30	7.9
2410.55	11.172461	16.4	-7.227539491	2	-37.22753949	-30	7.6
2410.60	11.280721	16.4	-7.11927898	2	-37.11927898	-30	7.7
2410.65	11.850328	16.4	-6.549672193	2	-36.54967219	-30	7.2
2410.70	11.847952	16.4	-6.552047755	2	-36.55204775	-30	7.9
2410.75	11.383427	16.4	-7.016572994	2	-37.01657299	-30	7.6
2410.80	11.32084	16.4	-7.07915975	2	-37.07915975	-30	7.3
2410.85	11.434071	16.4	-6.965929181	2	-36.96592918	-30	8
2410.90	11.310378	16.4	-7.089621959	2	-37.08962196	-30	7.7
2410.95	11.180032	16.4	-7.219967513	2	-37.21996751	-30	7.9
2411.00	11.056498	16.4	-7.343501812	2	-37.34350181	-30	7.3
2411.05	11.007896	16.4	-7.392104147	2	-37.39210415	-30	7.8
2411.10	11.208207	16.4	-7.191793446	2	-37.19179345	-30	7.8
2411.15	11.898625	16.4	-6.501374923	2	-36.50137492	-30	7.8
2411.20	11.600742	16.4	-6.799257988	2	-36.79925799	-30	7.7
2411.25	12.117472	16.4	-6.282528315	2	-36.28252832	-30	7.8
2411.30	12.164536	16.4	-6.235464195	2	-36.23546419	-30	7.9
2411.35	11.967432	16.4	-6.43256764	2	-36.43256764	-30	7.9
2411.40	12.44547	16.4	-5.954530485	2	-35.95453049	-30	7.9
2411.45	12.315369	16.4	-6.084631489	2	-36.08463149	-30	7.9
2411.50	12.067315	16.4	-6.332684651	2	-36.33268465	-30	8
2411.55	12.208192	16.4	-6.19180776	2	-36.19180776	-30	7.9
2411.60	11.63914	16.4	-6.760859702	2	-36.7608597	-30	7.5
2411.65	12.087896	16.4	-6.312103878	2	-36.31210388	-30	7.6
2411.70	11.761712	16.4	-6.638287693	2	-36.63828769	-30	7.1
2411.75	11.46455	16.4	-6.935449508	2	-36.93544951	-30	7.8
2411.80	11.579682	16.4	-6.820318377	2	-36.82031838	-30	7.2
2411.85	11.888134	16.4	-6.511865558	2	-36.51186556	-30	7.8
2411.90	10.880519	16.4	-7.51948103	2	-37.51948103	-30	7.7
2411.95	11.403815	16.4	-6.996184789	2	-36.99618479	-30	7.9
2412.00	11.058537	16.4	-7.341462938	2	-37.34146294	-30	7.7
2412.05	11.497174	16.4	-6.902825862	2	-36.90282586	-30	7.7
2412.10	11.329965	16.4	-7.070035043	2	-37.07003504	-30	7.2
2412.15	11.414756	16.4	-6.985244004	2	-36.985244	-30	7.4
2412.20	12.118776	16.4	-6.281223559	2	-36.28122356	-30	7.6
2412.25	11.558477	16.4	-6.841522508	2	-36.84152251	-30	7.4
2412.30	11.488886	16.4	-6.91111423	2	-36.91111423	-30	7.9
2412.35	11.51411	16.4	-6.885889669	2	-36.88588967	-30	7.9
2412.40	11.631413	16.4	-6.768587437	2	-36.76858744	-30	7.3
2412.45	10.948297	16.4	-7.451703484	2	-37.45170348	-30	7.2
2412.50	11.400941	16.4	-6.999059468	2	-36.99905947	-30	7.2
2412.55	10.880164	16.4	-7.519836105	2	-37.5198361	-30	7.2
2412.60	10.576893	16.4	-7.823106727	2	-37.82310673	-30	7.2
2412.65	11.289213	16.4	-7.110786522	2	-37.11078652	-30	7.9

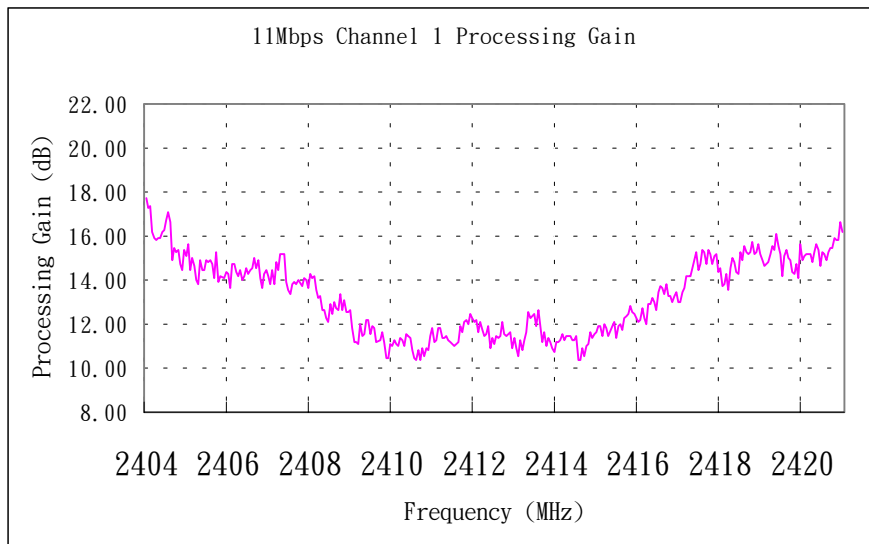
2412.70	10.825301	16.4	-7.574699329	2	-37.57469933	-30	7.3
2412.75	11.315937	16.4	-7.084063336	2	-37.08406334	-30	7.4
2412.80	11.658314	16.4	-6.741685713	2	-36.74168571	-30	7.3
2412.85	12.566638	16.4	-5.83336249	2	-35.83336249	-30	7.5
2412.90	12.262952	16.4	-6.137047621	2	-36.13704762	-30	7.4
2412.95	12.476444	16.4	-5.923556499	2	-35.9235565	-30	7.5
2413.00	11.902573	16.4	-6.49742744	2	-36.49742744	-30	7.2
2413.05	12.675765	16.4	-5.724234676	2	-35.72423468	-30	7.8
2413.10	11.91917	16.4	-6.480830421	2	-36.48083042	-30	7.9
2413.15	11.226393	16.4	-7.173606777	2	-37.17360678	-30	7.9
2413.20	11.618961	16.4	-6.781039093	2	-36.78103909	-30	7.8
2413.25	11.007556	16.4	-7.392443984	2	-37.39244398	-30	8
2413.30	11.363466	16.4	-7.036534342	2	-37.03653434	-30	7.4
2413.35	11.210371	16.4	-7.189629148	2	-37.18962915	-30	7.5
2413.40	10.888718	16.4	-7.511282044	2	-37.51128204	-30	7.5
2413.45	10.772088	16.4	-7.627911884	2	-37.62791188	-30	7.6
2413.50	11.178674	16.4	-7.221325653	2	-37.22132565	-30	7.9
2413.55	11.151631	16.4	-7.248369072	2	-37.24836907	-30	7.4
2413.60	11.2562	16.4	-7.143799989	2	-37.14379999	-30	7.9
2413.65	11.563501	16.4	-6.836498842	2	-36.83649884	-30	7.6
2413.70	11.310401	16.4	-7.089598597	2	-37.0895986	-30	7.4
2413.75	11.477558	16.4	-6.922441801	2	-36.9224418	-30	7.4
2413.80	11.421369	16.4	-6.978630869	2	-36.97863087	-30	7.8
2413.85	11.488953	16.4	-6.911046732	2	-36.91104673	-30	8
2413.90	11.259452	16.4	-7.140548047	2	-37.14054805	-30	7.7
2413.95	11.23438	16.4	-7.165619782	2	-37.16561978	-30	7.3
2414.00	11.468061	16.4	-6.93193941	2	-36.93193941	-30	7.8
2414.05	10.389783	16.4	-8.010217215	2	-38.01021721	-30	7.3
2414.10	10.323804	16.4	-8.076196064	2	-38.07619606	-30	7.7
2414.15	10.923756	16.4	-7.476243511	2	-37.47624351	-30	7.6
2414.20	10.527432	16.4	-7.872567719	2	-37.87256772	-30	7.8
2414.25	10.969404	16.4	-7.430596059	2	-37.43059606	-30	7.6
2414.30	11.115463	16.4	-7.284537412	2	-37.28453741	-30	7.4
2414.35	11.607393	16.4	-6.792607256	2	-36.79260726	-30	7.6
2414.40	11.348182	16.4	-7.051817934	2	-37.05181793	-30	7.3
2414.45	11.573184	16.4	-6.826816327	2	-36.82681633	-30	7.2
2414.50	11.670345	16.4	-6.729654632	2	-36.72965463	-30	7.7
2414.55	11.864114	16.4	-6.535886466	2	-36.53588647	-30	7.6
2414.60	11.883072	16.4	-6.516927728	2	-36.51692773	-30	7.8
2414.65	11.425249	16.4	-6.974750866	2	-36.97475087	-30	7.6
2414.70	11.977621	16.4	-6.422379195	2	-36.4223792	-30	7.6
2414.75	11.80354	16.4	-6.596460005	2	-36.59646	-30	7.7
2414.80	11.418144	16.4	-6.981856001	2	-36.981856	-30	7.8
2414.85	11.898606	16.4	-6.501394276	2	-36.50139428	-30	7.6
2414.90	12.097117	16.4	-6.302882876	2	-36.30288288	-30	7.9
2414.95	11.400457	16.4	-6.999543245	2	-36.99954325	-30	7.4
2415.00	11.887943	16.4	-6.512056906	2	-36.51205691	-30	7.4

2415.05	12.035625	16.4	-6.364374645	2	-36.36437464	-30	7.9
2415.10	11.715093	16.4	-6.684907413	2	-36.68490741	-30	7.8
2415.15	12.236718	16.4	-6.163282378	2	-36.16328238	-30	8
2415.20	12.328493	16.4	-6.071507444	2	-36.07150744	-30	7.9
2415.25	12.447023	16.4	-5.952976564	2	-35.95297656	-30	7.5
2415.30	12.861148	16.4	-5.538851879	2	-35.53885188	-30	8
2415.35	12.584426	16.4	-5.815573789	2	-35.81557379	-30	7.7
2415.40	12.467495	16.4	-5.932504521	2	-35.93250452	-30	7.6
2415.45	12.315778	16.4	-6.084221956	2	-36.08422196	-30	7.7
2415.50	12.091325	16.4	-6.308674834	2	-36.30867483	-30	8
2415.55	12.139994	16.4	-6.26000611	2	-36.26000611	-30	7.6
2415.60	12.762939	16.4	-5.637060517	2	-35.63706052	-30	7.7
2415.65	12.310106	16.4	-6.08989394	2	-36.08989394	-30	7.5
2415.70	11.961511	16.4	-6.438489077	2	-36.43848908	-30	7.9
2415.75	12.917121	16.4	-5.482878507	2	-35.48287851	-30	7.4
2415.80	12.935425	16.4	-5.464575319	2	-35.46457532	-30	7.3
2415.85	13.191612	16.4	-5.208387731	2	-35.20838773	-30	8
2415.90	13.024853	16.4	-5.375147105	2	-35.3751471	-30	7.2
2415.95	12.630182	16.4	-5.769818397	2	-35.7698184	-30	7.5
2416.00	13.431995	16.4	-4.968005411	2	-34.96800541	-30	7.4
2416.05	13.692416	16.4	-4.707583681	2	-34.70758368	-30	7.8
2416.10	13.639098	16.4	-4.760902038	2	-34.76090204	-30	7.3
2416.15	13.393802	16.4	-5.00619817	2	-35.00619817	-30	7.9
2416.20	13.852987	16.4	-4.54701329	2	-34.54701329	-30	7.5
2416.25	13.26795	16.4	-5.13204952	2	-35.13204952	-30	7.5
2416.30	13.285822	16.4	-5.114178126	2	-35.11417813	-30	7.1
2416.35	13.022103	16.4	-5.377896905	2	-35.37789691	-30	7.4
2416.40	13.275615	16.4	-5.124385421	2	-35.12438542	-30	7.6
2416.45	13.489672	16.4	-4.910328451	2	-34.91032845	-30	7.8
2416.50	12.999825	16.4	-5.400175303	2	-35.4001753	-30	7.5
2416.55	13.000284	16.4	-5.399716068	2	-35.39971607	-30	7.3
2416.60	13.411352	16.4	-4.988647902	2	-34.9886479	-30	7.6
2416.65	13.629315	16.4	-4.770685264	2	-34.77068526	-30	8
2416.70	14.209207	16.4	-4.190793403	2	-34.1907934	-30	7.8
2416.75	14.138092	16.4	-4.261908372	2	-34.26190837	-30	7.3
2416.80	14.507395	16.4	-3.892604952	2	-33.89260495	-30	7.6
2416.85	14.883769	16.4	-3.516230927	2	-33.51623093	-30	7.6
2416.90	15.241918	16.4	-3.158082431	2	-33.15808243	-30	7.6
2416.95	14.486715	16.4	-3.913284738	2	-33.91328474	-30	7.3
2417.00	14.746001	16.4	-3.653999044	2	-33.65399904	-30	7.4
2417.05	15.360608	16.4	-3.039391643	2	-33.03939164	-30	7.9
2417.10	15.303956	16.4	-3.096044264	2	-33.09604426	-30	7.3
2417.15	14.6978	16.4	-3.702200119	2	-33.70220012	-30	7.7
2417.20	15.359575	16.4	-3.040424959	2	-33.04042496	-30	7.7
2417.25	15.222284	16.4	-3.177716297	2	-33.1777163	-30	7.9
2417.30	14.712373	16.4	-3.687627435	2	-33.68762744	-30	8
2417.35	15.073883	16.4	-3.326117397	2	-33.3261174	-30	7.4

2417.40	15.20747	16.4	-3.192530032	2	-33.19253003	-30	6.8
2417.45	14.345362	16.4	-4.054638413	2	-34.05463841	-30	7.2
2417.50	14.542504	16.4	-3.857495771	2	-33.85749577	-30	7.1
2417.55	13.74454	16.4	-4.655459609	2	-34.65545961	-30	6.5
2417.60	13.802121	16.4	-4.597878708	2	-34.59787871	-30	6.4
2417.65	14.252051	16.4	-4.147949211	2	-34.14794921	-30	5.3
2417.70	13.577013	16.4	-4.822987402	2	-34.8229874	-30	7.1
2417.75	14.553708	16.4	-3.846292059	2	-33.84629206	-30	6.8
2417.80	14.984059	16.4	-3.415941108	2	-33.41594111	-30	7.5
2417.85	14.859278	16.4	-3.540721644	2	-33.54072164	-30	7.1
2417.90	14.387196	16.4	-4.012804404	2	-34.0128044	-30	6.3
2417.95	14.302431	16.4	-4.097568896	2	-34.0975689	-30	6.5
2418.00	15.26934	16.4	-3.130659698	2	-33.1306597	-30	5.8
2418.05	14.914485	16.4	-3.485514916	2	-33.48551492	-30	5.9
2418.10	15.562041	16.4	-2.837959153	2	-32.83795915	-30	6.1
2418.15	15.24106	16.4	-3.158939954	2	-33.15893995	-30	6.2
2418.20	15.181156	16.4	-3.21884434	2	-33.21884434	-30	6
2418.25	15.267699	16.4	-3.132301209	2	-33.13230121	-30	5.7
2418.30	15.69463	16.4	-2.705370495	2	-32.70537049	-30	5.8
2418.35	15.177842	16.4	-3.222158303	2	-33.2221583	-30	5.7
2418.40	15.265224	16.4	-3.134775836	2	-33.13477584	-30	7
2418.45	15.651395	16.4	-2.748604633	2	-32.74860463	-30	6.8
2418.50	15.16124	16.4	-3.238759793	2	-33.23875979	-30	6.7
2418.55	14.946294	16.4	-3.453706352	2	-33.45370635	-30	6.8
2418.60	14.658338	16.4	-3.741662258	2	-33.74166226	-30	5.9
2418.65	14.840418	16.4	-3.559581813	2	-33.55958181	-30	7.3
2418.70	15.186318	16.4	-3.213681999	2	-33.213682	-30	7.2
2418.75	15.564309	16.4	-2.835691377	2	-32.83569138	-30	7.1
2418.80	15.353045	16.4	-3.0469552	2	-33.0469552	-30	7
2418.85	16.052769	16.4	-2.347231268	2	-32.34723127	-30	6.8
2418.90	15.524686	16.4	-2.875313976	2	-32.87531398	-30	6.7
2418.95	15.187783	16.4	-3.212217355	2	-33.21221735	-30	6.8
2419.00	14.197839	16.4	-4.202161037	2	-34.20216104	-30	5.9
2419.05	15.047977	16.4	-3.352022552	2	-33.35202255	-30	6.1
2419.10	15.369355	16.4	-3.030644878	2	-33.03064488	-30	5.7
2419.15	14.99634	16.4	-3.403659706	2	-33.40365971	-30	6.1
2419.20	14.905171	16.4	-3.494828937	2	-33.49482894	-30	6.2
2419.25	14.328581	16.4	-4.071419016	2	-34.07141902	-30	6.3
2419.30	14.274342	16.4	-4.125657545	2	-34.12565754	-30	6.1
2419.35	14.716013	16.4	-3.683987067	2	-33.68398707	-30	5.8
2419.40	14.100041	16.4	-4.299958794	2	-34.29995879	-30	5.9
2419.45	15.608236	16.4	-2.791763699	2	-32.7917637	-30	6.1
2419.50	14.933031	16.4	-3.466969055	2	-33.46696906	-30	7.1
2419.55	15.111105	16.4	-3.288950035	2	-33.28895004	-30	7.3
2419.60	15.175349	16.4	-3.224651286	2	-33.22465129	-30	7.4
2419.65	15.168839	16.4	-3.231161387	2	-33.23116139	-30	7.5
2419.70	15.16338	16.4	-3.236619742	2	-33.23661974	-30	7.6

2419.75	14.808385	16.4	-3.591614698	2	-33.5916147	-30	7.1
2419.80	15.268842	16.4	-3.131158023	2	-33.13115802	-30	7.4
2419.85	15.625798	16.4	-2.774202473	2	-32.77420247	-30	5.9
2419.90	15.374607	16.4	-3.025393089	2	-33.02539309	-30	5.6
2419.95	14.601137	16.4	-3.798863326	2	-33.79886333	-30	5.8
2420.00	15.293228	16.4	-3.106772242	2	-33.10677224	-30	6.3
2420.05	15.223519	16.4	-3.176480817	2	-33.17648082	-30	6.1
2420.10	14.923095	16.4	-3.476905387	2	-33.47690539	-30	6.2
2420.15	15.243031	16.4	-3.15696856	2	-33.15696856	-30	6.3
2420.20	15.420164	16.4	-2.979835892	2	-32.97983589	-30	6.1
2420.25	15.423278	16.4	-2.976722448	2	-32.97672245	-30	6.5
2420.30	15.922087	16.4	-2.477913456	2	-32.47791346	-30	6.3
2420.35	15.778781	16.4	-2.621218739	2	-32.62121874	-30	6.4
2420.40	15.81862	16.4	-2.581379956	2	-32.58137996	-30	6.5
2420.45	16.606446	16.4	-1.793553885	2	-31.79355389	-30	6.2
2420.50	16.143294	16.4	-2.256705517	2	-32.25670552	-30	6.5

Processing Gain (dB) @20th Percentile= 11.421369



11Mbps Channel 6 Processing Gain							
Gp=(S/N)o+Mj+Lsys							
Freq. (MHz)	Gp (dB)	(S/N)o (dB)	Mj = J/S (dB)	Lsys (dB)	Jammer (dBm)	Lvl (dBm)	FER
2428.50	21.3203541	16.4	2.920354097	2	-29.2796459	-32.2	7.2
2428.55	20.68369912	16.4	2.283699117	2	-29.91630088	-32.2	6.7
2428.60	21.16739358	16.4	2.767393582	2	-29.43260642	-32.2	7.6
2428.65	21.39603463	16.4	2.996034626	2	-29.20396537	-32.2	6.5
2428.70	21.21295028	16.4	2.812950281	2	-29.38704972	-32.2	7.8
2428.75	21.48397328	16.4	3.083973284	2	-29.11602672	-32.2	7.3
2428.80	21.12971924	16.4	2.729719239	2	-29.47028076	-32.2	6.5
2428.85	20.39594933	16.4	1.995949332	2	-30.20405067	-32.2	9.7
2428.90	20.80083338	16.4	2.40083338	2	-29.79916662	-32.2	6.9
2428.95	20.89288153	16.4	2.49288153	2	-29.70711847	-32.2	7.2
2429.00	20.87563197	16.4	2.475631968	2	-29.72436803	-32.2	6.9
2429.05	20.7211042	16.4	2.321104196	2	-29.8788958	-32.2	7.9
2429.10	21.74236939	16.4	3.34236939	2	-28.85763061	-32.2	7.4
2429.15	21.15223817	16.4	2.752238167	2	-29.44776183	-32.2	7.4
2429.20	20.96607687	16.4	2.566076867	2	-29.63392313	-32.2	7
2429.25	20.88256336	16.4	2.482563359	2	-29.71743664	-32.2	6.7
2429.30	20.67565128	16.4	2.275651282	2	-29.92434872	-32.2	6.5
2429.35	20.20184954	16.4	1.801849539	2	-30.39815046	-32.2	7.6
2429.40	20.44210269	16.4	2.04210269	2	-30.15789731	-32.2	7.4
2429.45	19.91641185	16.4	1.51641185	2	-30.68358815	-32.2	7.3
2429.50	20.67403066	16.4	2.274030657	2	-29.92596934	-32.2	7.3
2429.55	20.04543964	16.4	1.64543964	2	-30.55456036	-32.2	5.3
2429.60	19.4907478	16.4	1.090747797	2	-31.1092522	-32.2	5.6
2429.65	20.33727517	16.4	1.937275168	2	-30.26272483	-32.2	6.7
2429.70	20.0104191	16.4	1.610419097	2	-30.5895809	-32.2	6.8
2429.75	19.71433653	16.4	1.314336533	2	-30.88566347	-32.2	6.7
2429.80	20.0849611	16.4	1.684961105	2	-30.5150389	-32.2	5.5
2429.85	19.2981136	16.4	0.898113597	2	-31.3018864	-32.2	7.5
2429.90	19.21769543	16.4	0.817695427	2	-31.38230457	-32.2	7.8
2429.95	18.98848451	16.4	0.58848451	2	-31.61151549	-32.2	7.6
2430.00	18.90599503	16.4	0.505995027	2	-31.69400497	-32.2	5.6
2430.05	19.40263666	16.4	1.002636663	2	-31.19736334	-32.2	6.7
2430.10	19.02821416	16.4	0.628214165	2	-31.57178584	-32.2	5.7
2430.15	18.38810884	16.4	-0.011891163	2	-32.21189116	-32.2	6.3
2430.20	18.32747956	16.4	-0.072520438	2	-32.27252044	-32.2	7.6
2430.25	18.18601631	16.4	-0.213983693	2	-32.41398369	-32.2	7
2430.30	18.2688957	16.4	-0.131104298	2	-32.3311043	-32.2	7.1
2430.35	18.14855489	16.4	-0.251445111	2	-32.45144511	-32.2	7.4
2430.40	17.86230905	16.4	-0.537690945	2	-32.73769095	-32.2	7.5
2430.45	18.08262407	16.4	-0.317375931	2	-32.51737593	-32.2	5.6
2430.50	17.26502101	16.4	-1.134978994	2	-33.33497899	-32.2	6.1
2430.55	17.81599162	16.4	-0.584008381	2	-32.78400838	-32.2	5.6
2430.60	17.50374755	16.4	-0.896252452	2	-33.09625245	-32.2	5.1

2430.65	16.80275862	16.4	-1.597241379	2	-33.79724138	-32.2	6.9
2430.70	16.46995127	16.4	-1.930048729	2	-34.13004873	-32.2	6.9
2430.75	16.24732294	16.4	-2.152677057	2	-34.35267706	-32.2	7.3
2430.80	16.33510192	16.4	-2.064898076	2	-34.26489808	-32.2	7.5
2430.85	16.22869604	16.4	-2.171303963	2	-34.37130396	-32.2	6.8
2430.90	15.89357676	16.4	-2.506423239	2	-34.70642324	-32.2	7.4
2430.95	16.29262623	16.4	-2.107373765	2	-34.30737377	-32.2	6.8
2431.00	15.92454753	16.4	-2.475452469	2	-34.67545247	-32.2	7.9
2431.05	16.43270677	16.4	-1.967293227	2	-34.16729323	-32.2	7.2
2431.10	15.89219238	16.4	-2.507807618	2	-34.70780762	-32.2	7.9
2431.15	15.47594755	16.4	-2.924052452	2	-35.12405245	-32.2	7
2431.20	15.72082931	16.4	-2.679170693	2	-34.87917069	-32.2	6.2
2431.25	15.59396289	16.4	-2.806037114	2	-35.00603711	-32.2	6.5
2431.30	15.42126898	16.4	-2.978731022	2	-35.17873102	-32.2	6.9
2431.35	14.62539557	16.4	-3.774604425	2	-35.97460443	-32.2	6.4
2431.40	15.29830099	16.4	-3.101699005	2	-35.30169901	-32.2	6.8
2431.45	15.22581071	16.4	-3.174189291	2	-35.37418929	-32.2	6.1
2431.50	14.57764123	16.4	-3.822358774	2	-36.02235877	-32.2	6.3
2431.55	15.17433727	16.4	-3.225662731	2	-35.42566273	-32.2	6.6
2431.60	14.49649354	16.4	-3.903506465	2	-36.10350646	-32.2	7
2431.65	15.16425875	16.4	-3.235741252	2	-35.43574125	-32.2	6.8
2431.70	14.57915212	16.4	-3.820847884	2	-36.02084788	-32.2	6.4
2431.75	14.2827887	16.4	-4.1172113	2	-36.3172113	-32.2	6.2
2431.80	14.6586062	16.4	-3.741393803	2	-35.9413938	-32.2	6.3
2431.85	14.41606224	16.4	-3.983937758	2	-36.18393776	-32.2	6.3
2431.90	14.12554778	16.4	-4.274452221	2	-36.47445222	-32.2	5.9
2431.95	13.23066024	16.4	-5.16933976	2	-37.36933976	-32.2	6.7
2432.00	13.2876407	16.4	-5.112359298	2	-37.3123593	-32.2	7.2
2432.05	12.88422526	16.4	-5.515774736	2	-37.71577474	-32.2	7.1
2432.10	13.00649352	16.4	-5.393506476	2	-37.59350648	-32.2	7.5
2432.15	13.10603759	16.4	-5.29396241	2	-37.49396241	-32.2	6.8
2432.20	13.21797115	16.4	-5.182028845	2	-37.38202885	-32.2	5.9
2432.25	13.03424363	16.4	-5.365756375	2	-37.56575637	-32.2	6.5
2432.30	12.63860329	16.4	-5.761396709	2	-37.96139671	-32.2	6.9
2432.35	12.51697661	16.4	-5.883023391	2	-38.08302339	-32.2	5.1
2432.40	12.69702735	16.4	-5.702972645	2	-37.90297265	-32.2	7.6
2432.45	13.16878991	16.4	-5.231210091	2	-37.43121009	-32.2	6.3
2432.50	13.17814453	16.4	-5.221855467	2	-37.42185547	-32.2	5
2432.55	12.71837561	16.4	-5.681624395	2	-37.88162439	-32.2	6.6
2432.60	12.3435808	16.4	-6.056419199	2	-38.2564192	-32.2	5.6
2432.65	12.5576858	16.4	-5.842314199	2	-38.0423142	-32.2	6.7
2432.70	12.30915857	16.4	-6.090841426	2	-38.29084143	-32.2	6.8
2432.75	12.37021666	16.4	-6.029783339	2	-38.22978334	-32.2	6.1
2432.80	11.82344556	16.4	-6.576554435	2	-38.77655444	-32.2	5.4
2432.85	11.78846473	16.4	-6.611535269	2	-38.81153527	-32.2	7
2432.90	11.67920549	16.4	-6.720794508	2	-38.92079451	-32.2	7.2
2432.95	11.42839506	16.4	-6.971604941	2	-39.17160494	-32.2	5.2

2433.00	11.53008014	16.4	-6.869919859	2	-39.06991986	-32.2	4.2
2433.05	11.91168096	16.4	-6.488319035	2	-38.68831904	-32.2	7.9
2433.10	11.87106205	16.4	-6.528937954	2	-38.72893795	-32.2	7.8
2433.15	11.63757863	16.4	-6.762421369	2	-38.96242137	-32.2	6.5
2433.20	11.80688588	16.4	-6.593114118	2	-38.79311412	-32.2	7.8
2433.25	12.02601523	16.4	-6.373984772	2	-38.57398477	-32.2	5.9
2433.30	11.88297675	16.4	-6.517023247	2	-38.71702325	-32.2	5.8
2433.35	11.83521756	16.4	-6.564782441	2	-38.76478244	-32.2	7.1
2433.40	11.64581243	16.4	-6.754187568	2	-38.95418757	-32.2	6.9
2433.45	11.821651	16.4	-6.578348999	2	-38.778349	-32.2	6.5
2433.50	11.80566239	16.4	-6.594337611	2	-38.79433761	-32.2	6
2433.55	11.8433555	16.4	-6.556644503	2	-38.7566445	-32.2	6.8
2433.60	10.96076082	16.4	-7.439239178	2	-39.63923918	-32.2	6.9
2433.65	11.39654306	16.4	-7.003456936	2	-39.20345694	-32.2	5.2
2433.70	10.62072958	16.4	-7.779270419	2	-39.97927042	-32.2	4.8
2433.75	10.91848176	16.4	-7.481518236	2	-39.68151824	-32.2	4.7
2433.80	10.74562745	16.4	-7.654372553	2	-39.85437255	-32.2	7.8
2433.85	11.23769823	16.4	-7.162301772	2	-39.36230177	-32.2	5.3
2433.90	11.41614157	16.4	-6.983858429	2	-39.18385843	-32.2	0.2
2433.95	10.86264177	16.4	-7.537358231	2	-39.73735823	-32.2	6.7
2434.00	10.27752279	16.4	-8.122477211	2	-40.32247721	-32.2	7.1
2434.05	10.85257776	16.4	-7.547422238	2	-39.74742224	-32.2	4.3
2434.10	10.5892721	16.4	-7.810727904	2	-40.0107279	-32.2	5.1
2434.15	10.92768333	16.4	-7.472316674	2	-39.67231667	-32.2	4.9
2434.20	9.612861863	16.4	-8.787138137	2	-40.98713814	-32.2	7.2
2434.25	10.20515238	16.4	-8.194847619	2	-40.39484762	-32.2	6.7
2434.30	10.7151404	16.4	-7.684859604	2	-39.8848596	-32.2	5.3
2434.35	10.33493573	16.4	-8.065064269	2	-40.26506427	-32.2	4.9
2434.40	10.38426063	16.4	-8.015739374	2	-40.21573937	-32.2	5.3
2434.45	11.08047785	16.4	-7.319522153	2	-39.51952215	-32.2	6.8
2434.50	10.64195796	16.4	-7.758042037	2	-39.95804204	-32.2	7.2
2434.55	10.26986362	16.4	-8.130136378	2	-40.33013638	-32.2	6.8
2434.60	10.01983083	16.4	-8.380169175	2	-40.58016917	-32.2	5.3
2434.65	9.562550504	16.4	-8.837449496	2	-41.0374495	-32.2	6.1
2434.70	10.33809706	16.4	-8.06190294	2	-40.26190294	-32.2	5.9
2434.75	9.779261457	16.4	-8.620738543	2	-40.82073854	-32.2	4.8
2434.80	10.18863333	16.4	-8.21136667	2	-40.41136667	-32.2	5.8
2434.85	10.24783396	16.4	-8.152166042	2	-40.35216604	-32.2	5.3
2434.90	10.00509485	16.4	-8.394905152	2	-40.59490515	-32.2	7.8
2434.95	10.5616326	16.4	-7.8383674	2	-40.0383674	-32.2	5.2
2435.00	9.51412792	16.4	-8.88587208	2	-41.08587208	-32.2	6.8
2435.05	10.33871325	16.4	-8.061286753	2	-40.26128675	-32.2	6.5
2435.10	10.58555416	16.4	-7.814445842	2	-40.01444584	-32.2	7.4
2435.15	10.71336669	16.4	-7.686633314	2	-39.88663331	-32.2	6.4
2435.20	10.42444782	16.4	-7.97555218	2	-40.17555218	-32.2	7.2
2435.25	10.04879474	16.4	-8.351205262	2	-40.55120526	-32.2	5.8
2435.30	10.23264815	16.4	-8.167351851	2	-40.36735185	-32.2	6.2

2435.35	10.75074039	16.4	-7.649259615	2	-39.84925961	-32.2	4.8
2435.40	9.992214582	16.4	-8.407785418	2	-40.60778542	-32.2	6.3
2435.45	10.12467986	16.4	-8.275320142	2	-40.47532014	-32.2	7.2
2435.50	10.0816631	16.4	-8.318336895	2	-40.5183369	-32.2	6.8
2435.55	10.48803282	16.4	-7.911967179	2	-40.11196718	-32.2	5.6
2435.60	10.02720463	16.4	-8.372795366	2	-40.57279537	-32.2	7.3
2435.65	10.72905161	16.4	-7.670948388	2	-39.87094839	-32.2	6.8
2435.70	10.62035615	16.4	-7.779643852	2	-39.97964385	-32.2	6.2
2435.75	10.39199766	16.4	-8.008002339	2	-40.20800234	-32.2	7.9
2435.80	10.86384082	16.4	-7.536159182	2	-39.73615918	-32.2	6.3
2435.85	11.09501604	16.4	-7.304983962	2	-39.50498396	-32.2	6.5
2435.90	10.83569735	16.4	-7.564302649	2	-39.76430265	-32.2	6.8
2435.95	11.25873377	16.4	-7.141266228	2	-39.34126623	-32.2	7.6
2436.00	10.79889496	16.4	-7.60110504	2	-39.80110504	-32.2	6.8
2436.05	10.19086524	16.4	-8.209134755	2	-40.40913476	-32.2	5.6
2436.10	10.86730267	16.4	-7.532697328	2	-39.73269733	-32.2	4.4
2436.15	10.90691946	16.4	-7.493080544	2	-39.69308054	-32.2	4.4
2436.20	10.70989671	16.4	-7.69010329	2	-39.89010329	-32.2	5.6
2436.25	11.17264012	16.4	-7.227359885	2	-39.42735988	-32.2	6.7
2436.30	10.9121435	16.4	-7.4878565	2	-39.6878565	-32.2	5.6
2436.35	10.2208839	16.4	-8.179116096	2	-40.3791161	-32.2	6.8
2436.40	10.30966394	16.4	-8.09033606	2	-40.29033606	-32.2	7.2
2436.45	11.02433544	16.4	-7.375664562	2	-39.57566456	-32.2	5.6
2436.50	10.67843529	16.4	-7.721564707	2	-39.92156471	-32.2	4.2
2436.55	10.33870961	16.4	-8.061290387	2	-40.26129039	-32.2	6.8
2436.60	10.77764254	16.4	-7.62235746	2	-39.82235746	-32.2	4.7
2436.65	10.27596643	16.4	-8.124033569	2	-40.32403357	-32.2	6.8
2436.70	10.39111747	16.4	-8.008882533	2	-40.20888253	-32.2	6.2
2436.75	9.980743284	16.4	-8.419256716	2	-40.61925672	-32.2	7.4
2436.80	10.73738615	16.4	-7.662613846	2	-39.86261385	-32.2	7.3
2436.85	10.55419265	16.4	-7.845807346	2	-40.04580735	-32.2	6.9
2436.90	10.47341848	16.4	-7.926581523	2	-40.12658152	-32.2	6.8
2436.95	10.49177905	16.4	-7.908220946	2	-40.10822095	-32.2	7.2
2437.00	10.67756649	16.4	-7.722433515	2	-39.92243351	-32.2	5.7
2437.05	10.04179475	16.4	-8.35820525	2	-40.55820525	-32.2	6.2
2437.10	10.23958156	16.4	-8.160418443	2	-40.36041844	-32.2	5.6
2437.15	10.16067898	16.4	-8.239321021	2	-40.43932102	-32.2	6.8
2437.20	10.45982582	16.4	-7.940174183	2	-40.14017418	-32.2	7.2
2437.25	10.59132965	16.4	-7.808670349	2	-40.00867035	-32.2	6.2
2437.30	10.96695652	16.4	-7.433043478	2	-39.63304348	-32.2	5.6
2437.35	11.24335156	16.4	-7.156648444	2	-39.35664844	-32.2	6.8
2437.40	11.4521059	16.4	-6.947894102	2	-39.1478941	-32.2	7.2
2437.45	11.52217094	16.4	-6.877829062	2	-39.07782906	-32.2	7
2437.50	10.86704112	16.4	-7.53295888	2	-39.73295888	-32.2	6.9
2437.55	10.62719231	16.4	-7.772807686	2	-39.97280769	-32.2	7.2
2437.60	10.44457956	16.4	-7.955420439	2	-40.15542044	-32.2	6.8
2437.65	10.44671961	16.4	-7.953280394	2	-40.15328039	-32.2	7.4

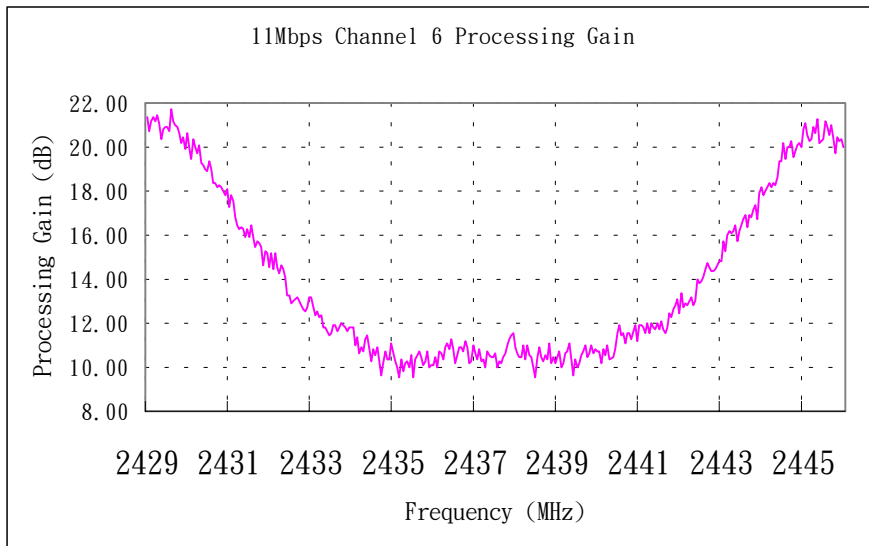
2437.70	11.02954235	16.4	-7.370457653	2	-39.57045765	-32.2	6.8
2437.75	10.34119929	16.4	-8.058800711	2	-40.25880071	-32.2	7.3
2437.80	11.04511046	16.4	-7.354889535	2	-39.55488954	-32.2	6.7
2437.85	10.52732245	16.4	-7.87267755	2	-40.07267755	-32.2	6.8
2437.90	10.44115833	16.4	-7.958841666	2	-40.15884167	-32.2	4.2
2437.95	9.543328564	16.4	-8.856671436	2	-41.05667144	-32.2	3.5
2438.00	10.46657489	16.4	-7.933425109	2	-40.13342511	-32.2	4.3
2438.05	10.91744784	16.4	-7.482552159	2	-39.68255216	-32.2	5.6
2438.10	10.46192914	16.4	-7.938070856	2	-40.13807086	-32.2	6.2
2438.15	10.26373593	16.4	-8.136264067	2	-40.33626407	-32.2	4.3
2438.20	10.50423098	16.4	-7.895769025	2	-40.09576902	-32.2	5.7
2438.25	10.40775816	16.4	-7.992241839	2	-40.19224184	-32.2	5.6
2438.30	11.09023485	16.4	-7.309765153	2	-39.50976515	-32.2	6.8
2438.35	10.20188157	16.4	-8.198118429	2	-40.39811843	-32.2	7.2
2438.40	10.49811532	16.4	-7.90188468	2	-40.10188468	-32.2	6.8
2438.45	10.21589317	16.4	-8.184106833	2	-40.38410683	-32.2	6.8
2438.50	10.48508345	16.4	-7.91491655	2	-40.11491655	-32.2	5.4
2438.55	10.76837122	16.4	-7.63162878	2	-39.83162878	-32.2	4.3
2438.60	10.00820253	16.4	-8.39179747	2	-40.59179747	-32.2	6.8
2438.65	10.20311545	16.4	-8.196884546	2	-40.39688455	-32.2	7.2
2438.70	10.604571	16.4	-7.795429	2	-39.995429	-32.2	7.1
2438.75	10.69984658	16.4	-7.700153422	2	-39.90015342	-32.2	7.3
2438.80	11.05868939	16.4	-7.341310608	2	-39.54131061	-32.2	5.2
2438.85	10.35796226	16.4	-8.042037739	2	-40.24203774	-32.2	6.8
2438.90	9.600636049	16.4	-8.799363951	2	-40.99936395	-32.2	7.2
2438.95	10.40622027	16.4	-7.993779726	2	-40.19377973	-32.2	6.8
2439.00	10.00878677	16.4	-8.391213227	2	-40.59121323	-32.2	7.2
2439.05	10.22622925	16.4	-8.17377075	2	-40.37377075	-32.2	6.8
2439.10	10.58071631	16.4	-7.819283688	2	-40.01928369	-32.2	6.5
2439.15	10.68429583	16.4	-7.715704166	2	-39.91570417	-32.2	5.6
2439.20	10.96256725	16.4	-7.437432749	2	-39.63743275	-32.2	6.2
2439.25	10.42733441	16.4	-7.97266559	2	-40.17266559	-32.2	5.6
2439.30	10.68009531	16.4	-7.719904693	2	-39.91990469	-32.2	6.8
2439.35	11.00300059	16.4	-7.396999413	2	-39.59699941	-32.2	7.6
2439.40	10.64097258	16.4	-7.759027424	2	-39.95902742	-32.2	7.2
2439.45	10.83608896	16.4	-7.563911043	2	-39.76391104	-32.2	
2439.50	10.70551113	16.4	-7.694488875	2	-39.89448887	-32.2	
2439.55	10.75085981	16.4	-7.649140191	2	-39.84914019	-32.2	
2439.60	10.21745642	16.4	-8.182543577	2	-40.38254358	-32.2	
2439.65	10.81936729	16.4	-7.580632713	2	-39.78063271	-32.2	
2439.70	10.57810895	16.4	-7.821891046	2	-40.02189105	-32.2	
2439.75	10.99382617	16.4	-7.406173833	2	-39.60617383	-32.2	
2439.80	10.39607805	16.4	-8.003921953	2	-40.20392195	-32.2	
2439.85	10.43419048	16.4	-7.965809515	2	-40.16580952	-32.2	
2439.90	10.78214264	16.4	-7.61785736	2	-39.81785736	-32.2	
2439.95	11.52070775	16.4	-6.879292225	2	-39.07929225	-32.2	
2440.00	11.87216265	16.4	-6.52783735	2	-38.72783735	-32.2	7.7

2440.05	11.48688126	16.4	-6.913118742	2	-39.11311874	-32.2	7.2
2440.10	11.54601116	16.4	-6.853988845	2	-39.05398884	-32.2	6.9
2440.15	11.08066742	16.4	-7.319332585	2	-39.51933258	-32.2	6.8
2440.20	11.56277053	16.4	-6.837229474	2	-39.03722947	-32.2	6.5
2440.25	11.50079945	16.4	-6.899200545	2	-39.09920055	-32.2	6.8
2440.30	11.29787084	16.4	-7.102129165	2	-39.30212916	-32.2	6.5
2440.35	11.6565611	16.4	-6.743438902	2	-38.9434389	-32.2	6.2
2440.40	11.8690098	16.4	-6.530990201	2	-38.7309902	-32.2	5.6
2440.45	11.21216349	16.4	-7.187836505	2	-39.38783651	-32.2	5.4
2440.50	11.94665521	16.4	-6.453344788	2	-38.65334479	-32.2	5.6
2440.55	11.92756698	16.4	-6.472433018	2	-38.67243302	-32.2	4.8
2440.60	11.82006071	16.4	-6.579939289	2	-38.77993929	-32.2	3.4
2440.65	11.54032265	16.4	-6.859677351	2	-39.05967735	-32.2	6.7
2440.70	11.98138978	16.4	-6.418610223	2	-38.61861022	-32.2	6.1
2440.75	11.57164953	16.4	-6.828350467	2	-39.02835047	-32.2	5.6
2440.80	12.01013749	16.4	-6.389862507	2	-38.58986251	-32.2	5.1
2440.85	11.83532215	16.4	-6.564677853	2	-38.76467785	-32.2	6.2
2440.90	11.76821342	16.4	-6.63178658	2	-38.83178658	-32.2	5.6
2440.95	11.96145575	16.4	-6.438544253	2	-38.63854425	-32.2	7
2441.00	11.72831179	16.4	-6.671688206	2	-38.87168821	-32.2	7.1
2441.05	12.07019825	16.4	-6.329801753	2	-38.52980175	-32.2	5.8
2441.10	11.70001618	16.4	-6.699983823	2	-38.89998382	-32.2	6.2
2441.15	11.52688002	16.4	-6.873119979	2	-39.07311998	-32.2	5.3
2441.20	11.81156863	16.4	-6.588431366	2	-38.78843137	-32.2	5.6
2441.25	12.46209146	16.4	-5.937908539	2	-38.13790854	-32.2	6.2
2441.30	12.28503724	16.4	-6.114962757	2	-38.31496276	-32.2	7.2
2441.35	12.64844453	16.4	-5.751555472	2	-37.95155547	-32.2	5.1
2441.40	12.82145781	16.4	-5.578542194	2	-37.77854219	-32.2	6.8
2441.45	13.10900215	16.4	-5.290997848	2	-37.49099785	-32.2	6.5
2441.50	12.46072678	16.4	-5.939273223	2	-38.13927322	-32.2	6.7
2441.55	13.32189689	16.4	-5.078103106	2	-37.27810311	-32.2	5.8
2441.60	12.70524494	16.4	-5.694755059	2	-37.89475506	-32.2	6.2
2441.65	12.95168455	16.4	-5.448315455	2	-37.64831545	-32.2	6.8
2441.70	12.85630184	16.4	-5.543698161	2	-37.74369816	-32.2	2.2
2441.75	13.14334029	16.4	-5.256659711	2	-37.45665971	-32.2	4.6
2441.80	12.81264963	16.4	-5.58735037	2	-37.78735037	-32.2	6.2
2441.85	13.04517883	16.4	-5.354821167	2	-37.55482117	-32.2	5.4
2441.90	13.97779593	16.4	-4.422204068	2	-36.62220407	-32.2	6.8
2441.95	13.84043035	16.4	-4.55956965	2	-36.75956965	-32.2	6.2
2442.00	13.88572743	16.4	-4.514272569	2	-36.71427257	-32.2	5.6
2442.05	14.04853624	16.4	-4.351463761	2	-36.55146376	-32.2	6.8
2442.10	14.48740833	16.4	-3.91259167	2	-36.11259167	-32.2	4.2
2442.15	14.72326403	16.4	-3.676735966	2	-35.87673597	-32.2	5.9
2442.20	14.56771326	16.4	-3.832286739	2	-36.03228674	-32.2	4.4
2442.25	14.35009229	16.4	-4.049907709	2	-36.24990771	-32.2	6.6
2442.30	14.38917002	16.4	-4.01082998	2	-36.21082998	-32.2	7.1
2442.35	14.48579349	16.4	-3.914206512	2	-36.11420651	-32.2	5.6

2442.40	14.61018984	16.4	-3.789810155	2	-35.98981016	-32.2	6.4
2442.45	14.84456765	16.4	-3.555432353	2	-35.75543235	-32.2	6.3
2442.50	14.77801988	16.4	-3.62198012	2	-35.82198012	-32.2	6.9
2442.55	15.68841938	16.4	-2.711580624	2	-34.91158062	-32.2	7.2
2442.60	15.29768629	16.4	-3.102313706	2	-35.30231371	-32.2	6.2
2442.65	15.98781044	16.4	-2.412189557	2	-34.61218956	-32.2	5.4
2442.70	16.17532598	16.4	-2.224674017	2	-34.42467402	-32.2	5.1
2442.75	16.12372101	16.4	-2.276278994	2	-34.47627899	-32.2	4.3
2442.80	16.22553838	16.4	-2.174461624	2	-34.37446162	-32.2	6.2
2442.85	16.46115612	16.4	-1.938843884	2	-34.13884388	-32.2	5.8
2442.90	15.73275123	16.4	-2.66724877	2	-34.86724877	-32.2	7.2
2442.95	16.17653207	16.4	-2.223467934	2	-34.42346793	-32.2	6.3
2443.00	16.49160627	16.4	-1.908393727	2	-34.10839373	-32.2	5.7
2443.05	16.73866004	16.4	-1.661339957	2	-33.86133996	-32.2	6.5
2443.10	16.90608159	16.4	-1.493918406	2	-33.69391841	-32.2	5.5
2443.15	16.34669532	16.4	-2.053304678	2	-34.25330468	-32.2	5.9
2443.20	16.9380038	16.4	-1.461996195	2	-33.6619962	-32.2	6.4
2443.25	16.85508876	16.4	-1.544911244	2	-33.74491124	-32.2	6.7
2443.30	17.20238711	16.4	-1.197612895	2	-33.39761289	-32.2	6.2
2443.35	17.34051431	16.4	-1.059485688	2	-33.25948569	-32.2	5.4
2443.40	16.70524684	16.4	-1.694753163	2	-33.89475316	-32.2	5.1
2443.45	17.93920109	16.4	-0.460798908	2	-32.66079891	-32.2	5.6
2443.50	18.139174	16.4	-0.260825998	2	-32.460826	-32.2	4.8
2443.55	17.79088971	16.4	-0.609110289	2	-32.80911029	-32.2	6.8
2443.60	18.02002643	16.4	-0.379973571	2	-32.57997357	-32.2	4.3
2443.65	18.32125127	16.4	-0.078748732	2	-32.27874873	-32.2	4.2
2443.70	18.16537114	16.4	-0.234628864	2	-32.43462886	-32.2	5.6
2443.75	18.4078153	16.4	0.007815298	2	-32.1921847	-32.2	6.7
2443.80	18.25539115	16.4	-0.14460885	2	-32.34460885	-32.2	7.8
2443.85	18.66858202	16.4	0.268582025	2	-31.93141798	-32.2	5.4
2443.90	19.37279882	16.4	0.972798824	2	-31.22720118	-32.2	4.9
2443.95	19.38929452	16.4	0.989294519	2	-31.21070548	-32.2	7
2444.00	20.14045189	16.4	1.740451886	2	-30.45954811	-32.2	5.6
2444.05	19.47642085	16.4	1.076420846	2	-31.12357915	-32.2	6.8
2444.10	20.01284646	16.4	1.612846461	2	-30.58715354	-32.2	5.3
2444.15	19.97004394	16.4	1.570043938	2	-30.62995606	-32.2	5.9
2444.20	20.2901801	16.4	1.890180095	2	-30.3098199	-32.2	5.2
2444.25	19.55849494	16.4	1.158494945	2	-31.04150506	-32.2	6.3
2444.30	19.8094234	16.4	1.409423396	2	-30.7905766	-32.2	4.8
2444.35	20.06176541	16.4	1.66176541	2	-30.53823459	-32.2	5.4
2444.40	20.19655335	16.4	1.796553349	2	-30.40344665	-32.2	4.7
2444.45	19.99237198	16.4	1.592371981	2	-30.60762802	-32.2	5.9
2444.50	20.78526434	16.4	2.385264336	2	-29.81473566	-32.2	7
2444.55	21.05780205	16.4	2.65780205	2	-29.54219795	-32.2	6.7
2444.60	20.58332619	16.4	2.183326186	2	-30.01667381	-32.2	4.7
2444.65	20.2679332	16.4	1.867933204	2	-30.3320668	-32.2	4.8
2444.70	20.3552649	16.4	1.955264902	2	-30.2447351	-32.2	6

2444.75	20.93139639	16.4	2.531396389	2	-29.66860361	-32.2	6.1
2444.80	20.65000713	16.4	2.250007135	2	-29.94999287	-32.2	5.9
2444.85	21.2387169	16.4	2.838716901	2	-29.3612831	-32.2	6.2
2444.90	20.21830031	16.4	1.818300315	2	-30.38169969	-32.2	7.2
2444.95	20.23765472	16.4	1.837654717	2	-30.36234528	-32.2	6.5
2445.00	20.33824726	16.4	1.938247259	2	-30.26175274	-32.2	6.7
2445.05	21.19521708	16.4	2.795217078	2	-29.40478292	-32.2	6.3
2445.10	20.95185662	16.4	2.551856623	2	-29.64814338	-32.2	6.2
2445.15	20.52302622	16.4	2.123026222	2	-30.07697378	-32.2	5.4
2445.20	21.00429811	16.4	2.604298106	2	-29.59570189	-32.2	5.2
2445.25	20.37078637	16.4	1.970786373	2	-30.22921363	-32.2	6
2445.30	19.76864469	16.4	1.368644686	2	-30.83135531	-32.2	5.6
2445.35	20.41915867	16.4	2.019158672	2	-30.18084133	-32.2	6.4
2445.40	20.26038161	16.4	1.860381614	2	-30.33961839	-32.2	6.2
2445.45	20.38920161	16.4	1.989201614	2	-30.21079839	-32.2	6.7
2445.50	20.03189878	16.4	1.631898776	2	-30.56810122	-32.2	7.3

Processing Gain (dB) @20th Percentile= 10.58927



11Mbps Channel 11 Processing Gain							
Gp=(S/N)o+Mj+Lsys							
Freq. (MHz)	Gp (dB)	(S/N)o (dB)	Mj = J/S (dB)	Lsys (dB)	Jammer (dBm)	Lvl (dBm)	FER
2453.50	23.13978437	16.4	4.739784369	2	-27.26021563	-32	7.4
2453.55	22.61365731	16.4	4.213657312	2	-27.78634269	-32	5.8
2453.60	22.69598843	16.4	4.295988426	2	-27.70401157	-32	6.2
2453.65	22.51370376	16.4	4.113703764	2	-27.88629624	-32	6.4
2453.70	22.34672664	16.4	3.946726645	2	-28.05327336	-32	6.3
2453.75	22.7655061	16.4	4.365506099	2	-27.6344939	-32	5.8
2453.80	21.86075289	16.4	3.460752895	2	-28.53924711	-32	6.5
2453.85	22.2255116	16.4	3.8255116	2	-28.1744884	-32	6.9
2453.90	22.96818187	16.4	4.568181874	2	-27.43181813	-32	7.8
2453.95	22.244431	16.4	3.844431	2	-28.155569	-32	7.2
2454.00	23.010318	16.4	4.610318003	2	-27.389682	-32	7.8
2454.05	22.85577833	16.4	4.455778331	2	-27.54422167	-32	5.8
2454.10	22.88561699	16.4	4.485616989	2	-27.51438301	-32	5.3
2454.15	22.28637351	16.4	3.886373515	2	-28.11362649	-32	6.2
2454.20	22.69822575	16.4	4.298225745	2	-27.70177425	-32	5.8
2454.25	22.35589929	16.4	3.955899287	2	-28.04410071	-32	6.2
2454.30	21.62010432	16.4	3.220104325	2	-28.77989568	-32	5.1
2454.35	21.84822409	16.4	3.448224089	2	-28.55177591	-32	6.2
2454.40	21.16224793	16.4	2.762247928	2	-29.23775207	-32	5.8
2454.45	21.63984838	16.4	3.239848378	2	-28.76015162	-32	5.8
2454.50	20.77630878	16.4	2.376308779	2	-29.62369122	-32	7.5
2454.55	20.81249007	16.4	2.41249007	2	-29.58750993	-32	6.3
2454.60	20.49684362	16.4	2.096843617	2	-29.90315638	-32	6.5
2454.65	20.21364276	16.4	1.813642757	2	-30.18635724	-32	5.8
2454.70	20.73578071	16.4	2.335780706	2	-29.66421929	-32	8.3
2454.75	20.64855152	16.4	2.248551518	2	-29.75144848	-32	6.2
2454.80	20.08717414	16.4	1.68717414	2	-30.31282586	-32	5.6
2454.85	20.3956599	16.4	1.995659897	2	-30.0043401	-32	6.8
2454.90	20.63030082	16.4	2.230300818	2	-29.76969918	-32	7.5
2454.95	19.78743702	16.4	1.38743702	2	-30.61256298	-32	6.8
2455.00	19.85414684	16.4	1.454146839	2	-30.54585316	-32	7.8
2455.05	20.50479002	16.4	2.104790023	2	-29.89520998	-32	6.5
2455.10	19.77325053	16.4	1.373250531	2	-30.62674947	-32	6
2455.15	19.33321066	16.4	0.933210663	2	-31.06678934	-32	6.8
2455.20	19.37978025	16.4	0.979780255	2	-31.02021975	-32	7
2455.25	19.02282542	16.4	0.62282542	2	-31.37717458	-32	6.5
2455.30	19.02062025	16.4	0.620620252	2	-31.37937975	-32	6.3
2455.35	19.51580382	16.4	1.115803818	2	-30.88419618	-32	6.8
2455.40	19.04959826	16.4	0.649598256	2	-31.35040174	-32	7.7
2455.45	18.02527627	16.4	-0.374723728	2	-32.37472373	-32	5.8
2455.50	17.86618613	16.4	-0.533813873	2	-32.53381387	-32	6.2
2455.55	18.67015119	16.4	0.270151192	2	-31.72984881	-32	6.8
2455.60	18.22942255	16.4	-0.170577454	2	-32.17057745	-32	5.2

2455.65	17.00087752	16.4	-1.399122483	2	-33.39912248	-32	5.6
2455.70	16.24579875	16.4	-2.154201247	2	-34.15420125	-32	6.3
2455.75	17.28618618	16.4	-1.11381382	2	-33.11381382	-32	5.8
2455.80	16.78778891	16.4	-1.612211093	2	-33.61221109	-32	6.8
2455.85	17.3252598	16.4	-1.074740203	2	-33.0747402	-32	5.2
2455.90	17.2938717	16.4	-1.106128303	2	-33.1061283	-32	6.2
2455.95	16.70797093	16.4	-1.692029066	2	-33.69202907	-32	6.4
2456.00	16.21172962	16.4	-2.188270375	2	-34.18827038	-32	5.8
2456.05	16.61498833	16.4	-1.785011669	2	-33.78501167	-32	6.2
2456.10	16.67866853	16.4	-1.721331467	2	-33.72133147	-32	5.9
2456.15	16.64640743	16.4	-1.753592573	2	-33.75359257	-32	5.8
2456.20	16.40751808	16.4	-1.992481918	2	-33.99248192	-32	6.2
2456.25	15.81684107	16.4	-2.583158926	2	-34.58315893	-32	5.6
2456.30	16.82396961	16.4	-1.576030393	2	-33.57603039	-32	4.2
2456.35	16.78213142	16.4	-1.617868583	2	-33.61786858	-32	5.1
2456.40	16.28685173	16.4	-2.113148274	2	-34.11314827	-32	6.3
2456.45	15.46770955	16.4	-2.932290447	2	-34.93229045	-32	4.9
2456.50	16.84314799	16.4	-1.556852013	2	-33.55685201	-32	5.1
2456.55	15.3735599	16.4	-3.026440096	2	-35.0264401	-32	5.8
2456.60	14.85117221	16.4	-3.548827794	2	-35.54882779	-32	6.4
2456.65	14.88411973	16.4	-3.515880272	2	-35.51588027	-32	5.9
2456.70	15.12051449	16.4	-3.279485511	2	-35.27948551	-32	5.6
2456.75	14.75877295	16.4	-3.641227045	2	-35.64122705	-32	6.1
2456.80	14.50407774	16.4	-3.895922264	2	-35.89592226	-32	7
2456.85	14.41931501	16.4	-3.980684986	2	-35.98068499	-32	6
2456.90	14.58253823	16.4	-3.817461767	2	-35.81746177	-32	5.9
2456.95	14.923457	16.4	-3.476542999	2	-35.476543	-32	5.8
2457.00	14.34860117	16.4	-4.051398826	2	-36.05139883	-32	6
2457.05	14.0454065	16.4	-4.354593496	2	-36.3545935	-32	7.5
2457.10	14.83395113	16.4	-3.566048867	2	-35.56604887	-32	7.2
2457.15	14.79098082	16.4	-3.609019181	2	-35.60901918	-32	6.8
2457.20	13.81460947	16.4	-4.585390525	2	-36.58539053	-32	7.1
2457.25	13.77809829	16.4	-4.621901712	2	-36.62190171	-32	6.3
2457.30	14.96511219	16.4	-3.434887815	2	-35.43488781	-32	5.6
2457.35	13.66274858	16.4	-4.737251422	2	-36.73725142	-32	4.5
2457.40	14.25896054	16.4	-4.141039464	2	-36.14103946	-32	6.6
2457.45	13.44853351	16.4	-4.951466487	2	-36.95146649	-32	7.4
2457.50	13.71816894	16.4	-4.681831055	2	-36.68183106	-32	7
2457.55	13.82613856	16.4	-4.573861436	2	-36.57386144	-32	7.4
2457.60	13.76351846	16.4	-4.636481538	2	-36.63648154	-32	9
2457.65	13.13241546	16.4	-5.267584544	2	-37.26758454	-32	5.3
2457.70	13.57466868	16.4	-4.825331322	2	-36.82533132	-32	5.6
2457.75	12.48048705	16.4	-5.919512948	2	-37.91951295	-32	5.2
2457.80	12.84230416	16.4	-5.55769584	2	-37.55769584	-32	5.9
2457.85	12.45590378	16.4	-5.944096225	2	-37.94409622	-32	6.2
2457.90	13.05685211	16.4	-5.34314789	2	-37.34314789	-32	7.2
2457.95	12.87606614	16.4	-5.523933864	2	-37.52393386	-32	6.7

2458.00	12.4685434	16.4	-5.931456599	2	-37.9314566	-32	6.7
2458.05	12.51902629	16.4	-5.880973708	2	-37.88097371	-32	6.7
2458.10	12.56656223	16.4	-5.833437766	2	-37.83343777	-32	6.1
2458.15	12.71636852	16.4	-5.68363148	2	-37.68363148	-32	5.7
2458.20	12.44033246	16.4	-5.959667545	2	-37.95966754	-32	7.2
2458.25	12.99024835	16.4	-5.409751654	2	-37.40975165	-32	6.6
2458.30	12.44961602	16.4	-5.950383981	2	-37.95038398	-32	6.4
2458.35	12.80889301	16.4	-5.591106986	2	-37.59110699	-32	6.6
2458.40	12.04464897	16.4	-6.355351027	2	-38.35535103	-32	5.2
2458.45	12.54850151	16.4	-5.851498491	2	-37.85149849	-32	5.6
2458.50	12.04889901	16.4	-6.35110099	2	-38.35110099	-32	5.4
2458.55	12.47528129	16.4	-5.924718708	2	-37.92471871	-32	6
2458.60	12.25211933	16.4	-6.147880669	2	-38.14788067	-32	5.7
2458.65	11.76489571	16.4	-6.635104288	2	-38.63510429	-32	6
2458.70	11.51893428	16.4	-6.88106572	2	-38.88106572	-32	5.8
2458.75	11.96073797	16.4	-6.43926203	2	-38.43926203	-32	6.2
2458.80	11.93714992	16.4	-6.462850075	2	-38.46285008	-32	7.1
2458.85	11.7837721	16.4	-6.616227897	2	-38.6162279	-32	5.6
2458.90	11.57951048	16.4	-6.820489518	2	-38.82048952	-32	4.8
2458.95	11.56871685	16.4	-6.83128315	2	-38.83128315	-32	6.7
2459.00	11.70830439	16.4	-6.691695612	2	-38.69169561	-32	7.2
2459.05	11.48399318	16.4	-6.916006824	2	-38.91600682	-32	6.8
2459.10	11.65504253	16.4	-6.744957472	2	-38.74495747	-32	6.3
2459.15	10.99861966	16.4	-7.401380336	2	-39.40138034	-32	6.5
2459.20	10.92647259	16.4	-7.473527411	2	-39.47352741	-32	7.2
2459.25	11.10942013	16.4	-7.290579865	2	-39.29057987	-32	6.6
2459.30	11.13082151	16.4	-7.269178486	2	-39.26917849	-32	4.8
2459.35	10.70960386	16.4	-7.690396141	2	-39.69039614	-32	6.8
2459.40	10.60028493	16.4	-7.799715072	2	-39.79971507	-32	5.8
2459.45	11.60110874	16.4	-6.798891258	2	-38.79889126	-32	6.3
2459.50	10.72094387	16.4	-7.679056126	2	-39.67905613	-32	5.3
2459.55	11.53177982	16.4	-6.86822018	2	-38.86822018	-32	7.2
2459.60	10.75361169	16.4	-7.646388305	2	-39.64638831	-32	6.6
2459.65	10.87910012	16.4	-7.520899879	2	-39.52089988	-32	6.5
2459.70	10.90262374	16.4	-7.497376258	2	-39.49737626	-32	6.4
2459.75	11.53209361	16.4	-6.867906395	2	-38.86790639	-32	7.2
2459.80	11.61177281	16.4	-6.78822719	2	-38.78822719	-32	6.8
2459.85	11.0559414	16.4	-7.344058604	2	-39.3440586	-32	7.1
2459.90	11.583326	16.4	-6.816674003	2	-38.816674	-32	6.8
2459.95	11.35427879	16.4	-7.04572121	2	-39.04572121	-32	5.3
2460.00	10.97454872	16.4	-7.425451283	2	-39.42545128	-32	7.7
2460.05	11.2407864	16.4	-7.159213601	2	-39.1592136	-32	4.8
2460.10	10.94451985	16.4	-7.455480149	2	-39.45548015	-32	6.2
2460.15	11.51693648	16.4	-6.883063518	2	-38.88306352	-32	5.6
2460.20	11.44500617	16.4	-6.954993829	2	-38.95499383	-32	4.6
2460.25	11.49111431	16.4	-6.908885686	2	-38.90888569	-32	6.5
2460.30	11.13382342	16.4	-7.266176582	2	-39.26617658	-32	5.5

2460.35	10.97187888	16.4	-7.428121118	2	-39.42812112	-32	6.5
2460.40	11.58535389	16.4	-6.81464611	2	-38.81464611	-32	6.3
2460.45	10.85239528	16.4	-7.547604722	2	-39.54760472	-32	6.7
2460.50	11.97035343	16.4	-6.429646567	2	-38.42964657	-32	5.4
2460.55	10.81565615	16.4	-7.584343852	2	-39.58434385	-32	5.6
2460.60	10.62238105	16.4	-7.777618946	2	-39.77761895	-32	3.6
2460.65	11.07450474	16.4	-7.32549526	2	-39.32549526	-32	5.6
2460.70	11.67326781	16.4	-6.726732188	2	-38.72673219	-32	6.1
2460.75	11.66779981	16.4	-6.732200189	2	-38.73220019	-32	5.9
2460.80	12.16572207	16.4	-6.234277928	2	-38.23427793	-32	6
2460.85	11.55491848	16.4	-6.84508152	2	-38.84508152	-32	5.8
2460.90	11.96539493	16.4	-6.434605072	2	-38.43460507	-32	4.3
2460.95	11.85958192	16.4	-6.540418077	2	-38.54041808	-32	5.2
2461.00	12.21675474	16.4	-6.183245265	2	-38.18324526	-32	5.8
2461.05	12.23633087	16.4	-6.163669135	2	-38.16366913	-32	4.7
2461.10	11.51236381	16.4	-6.887636187	2	-38.88763619	-32	5.4
2461.15	11.29725089	16.4	-7.102749105	2	-39.10274911	-32	5.2
2461.20	11.81733896	16.4	-6.58266104	2	-38.58266104	-32	4.6
2461.25	11.39523531	16.4	-7.004764687	2	-39.00476469	-32	4.8
2461.30	11.70309377	16.4	-6.696906231	2	-38.69690623	-32	4.5
2461.35	12.19851255	16.4	-6.201487449	2	-38.20148745	-32	5.8
2461.40	11.6540156	16.4	-6.745984402	2	-38.7459844	-32	5.5
2461.45	12.03863585	16.4	-6.361364149	2	-38.36136415	-32	6.4
2461.50	12.3420148	16.4	-6.057985204	2	-38.0579852	-32	6.8
2461.55	11.75624994	16.4	-6.643750057	2	-38.64375006	-32	6
2461.60	12.01596018	16.4	-6.38403982	2	-38.38403982	-32	5.8
2461.65	11.5321866	16.4	-6.867813396	2	-38.8678134	-32	6.4
2461.70	12.38575714	16.4	-6.014242861	2	-38.01424286	-32	7.5
2461.75	12.23856781	16.4	-6.161432193	2	-38.16143219	-32	7.2
2461.80	11.85335783	16.4	-6.546642171	2	-38.54664217	-32	7.8
2461.85	11.20390409	16.4	-7.196095914	2	-39.19609591	-32	6.7
2461.90	11.52568909	16.4	-6.874310908	2	-38.87431091	-32	7.6
2461.95	12.03854133	16.4	-6.361458674	2	-38.36145867	-32	6.2
2462.00	11.02063203	16.4	-7.379367965	2	-39.37936797	-32	5.8
2462.05	11.72994698	16.4	-6.670053019	2	-38.67005302	-32	6.5
2462.10	10.95276638	16.4	-7.44723362	2	-39.44723362	-32	5.7
2462.15	11.81978836	16.4	-6.580211644	2	-38.58021164	-32	5.8
2462.20	11.96851731	16.4	-6.431482694	2	-38.43148269	-32	6.2
2462.25	11.9929597	16.4	-6.407040302	2	-38.4070403	-32	6.4
2462.30	12.03797797	16.4	-6.362022031	2	-38.36202203	-32	6.2
2462.35	11.71110138	16.4	-6.68889862	2	-38.68889862	-32	5.7
2462.40	11.94627836	16.4	-6.45372164	2	-38.45372164	-32	4.5
2462.45	11.58098309	16.4	-6.819016908	2	-38.81901691	-32	6.8
2462.50	11.84344462	16.4	-6.556555376	2	-38.55655538	-32	7.4
2462.55	12.02256716	16.4	-6.377432836	2	-38.37743284	-32	6.5
2462.60	11.83339897	16.4	-6.566601035	2	-38.56660103	-32	6.3
2462.65	11.95302129	16.4	-6.446978712	2	-38.44697871	-32	6.7

2462.70	11.73044921	16.4	-6.66955079	2	-38.66955079	-32	5.8
2462.75	12.29553193	16.4	-6.104468066	2	-38.10446807	-32	5.8
2462.80	12.14866961	16.4	-6.251330394	2	-38.25133039	-32	6.8
2462.85	12.12606021	16.4	-6.273939788	2	-38.27393979	-32	5.4
2462.90	12.23062975	16.4	-6.169370254	2	-38.16937025	-32	4.8
2462.95	11.81164029	16.4	-6.588359709	2	-38.58835971	-32	5.8
2463.00	12.5225232	16.4	-5.877476803	2	-37.8774768	-32	6
2463.05	12.375859	16.4	-6.024141004	2	-38.024141	-32	6.9
2463.10	12.26687349	16.4	-6.133126511	2	-38.13312651	-32	7.3
2463.15	12.03706909	16.4	-6.362930909	2	-38.36293091	-32	5.7
2463.20	11.8762474	16.4	-6.523752597	2	-38.5237526	-32	5.9
2463.25	11.31938346	16.4	-7.080616544	2	-39.08061654	-32	6.2
2463.30	11.90419591	16.4	-6.495804088	2	-38.49580409	-32	5.6
2463.35	11.48078534	16.4	-6.919214655	2	-38.91921466	-32	6.2
2463.40	12.07627222	16.4	-6.323727781	2	-38.32372778	-32	5.2
2463.45	11.91190968	16.4	-6.488090322	2	-38.48809032	-32	6.2
2463.50	11.51599639	16.4	-6.884003606	2	-38.88400361	-32	7.5
2463.55	11.97488083	16.4	-6.425119166	2	-38.42511917	-32	6.3
2463.60	11.8352371	16.4	-6.564762901	2	-38.5647629	-32	5.8
2463.65	11.91483799	16.4	-6.485162009	2	-38.48516201	-32	6.3
2463.70	11.4364834	16.4	-6.963516596	2	-38.9635166	-32	7.9
2463.75	11.32342177	16.4	-7.076578235	2	-39.07657823	-32	6.4
2463.80	11.50790267	16.4	-6.892097333	2	-38.89209733	-32	7.2
2463.85	11.60554898	16.4	-6.794451016	2	-38.79445102	-32	5.5
2463.90	11.1202723	16.4	-7.279727704	2	-39.2797277	-32	6.9
2463.95	11.35097332	16.4	-7.049026683	2	-39.04902668	-32	6.8
2464.00	10.95499844	16.4	-7.445001563	2	-39.44500156	-32	5.5
2464.05	11.59544279	16.4	-6.804557207	2	-38.80455721	-32	5.6
2464.10	11.81829591	16.4	-6.581704092	2	-38.58170409	-32	5.3
2464.15	11.18416729	16.4	-7.215832709	2	-39.21583271	-32	6.8
2464.20	11.37684277	16.4	-7.02315723	2	-39.02315723	-32	7.5
2464.25	11.57236183	16.4	-6.827638172	2	-38.82763817	-32	5.4
2464.30	11.85554027	16.4	-6.544459726	2	-38.54445973	-32	4.5
2464.35	11.36938644	16.4	-7.030613561	2	-39.03061356	-32	6.8
2464.40	11.73835231	16.4	-6.661647688	2	-38.66164769	-32	6.4
2464.45	11.43919428	16.4	-6.96080572	2	-38.96080572	-32	6.3
2464.50	11.31393217	16.4	-7.086067827	2	-39.08606783	-32	6.2
2464.55	11.38592838	16.4	-7.014071622	2	-39.01407162	-32	6.4
2464.60	11.44663218	16.4	-6.953367824	2	-38.95336782	-32	6.8
2464.65	11.97353989	16.4	-6.426460105	2	-38.42646011	-32	5.8
2464.70	11.34423808	16.4	-7.055761917	2	-39.05576192	-32	5.2
2464.75	11.33227094	16.4	-7.067729059	2	-39.06772906	-32	5.4
2464.80	12.18891365	16.4	-6.211086351	2	-38.21108635	-32	4.3
2464.85	11.95286402	16.4	-6.447135975	2	-38.44713598	-32	5.7
2464.90	12.67272595	16.4	-5.727274052	2	-37.72727405	-32	6.8
2464.95	12.59704321	16.4	-5.802956787	2	-37.80295679	-32	6.8
2465.00	12.22192096	16.4	-6.178079043	2	-38.17807904	-32	7.2

2465.05	12.58181556	16.4	-5.818184442	2	-37.81818444	-32	6.3
2465.10	12.00206399	16.4	-6.397936006	2	-38.39793601	-32	6.5
2465.15	12.55727428	16.4	-5.842725717	2	-37.84272572	-32	6.9
2465.20	12.59937338	16.4	-5.800626622	2	-37.80062662	-32	7.1
2465.25	11.91988474	16.4	-6.480115258	2	-38.48011526	-32	7.2
2465.30	12.08641773	16.4	-6.313582267	2	-38.31358227	-32	7
2465.35	12.77813615	16.4	-5.621863854	2	-37.62186385	-32	7.4
2465.40	12.9171741	16.4	-5.482825903	2	-37.4828259	-32	6.6
2465.45	12.8288164	16.4	-5.571183602	2	-37.5711836	-32	7
2465.50	12.5178411	16.4	-5.882158895	2	-37.8821589	-32	6.5
2465.55	12.80912397	16.4	-5.59087603	2	-37.59087603	-32	7.4
2465.60	13.29067282	16.4	-5.109327177	2	-37.10932718	-32	7
2465.65	12.77019441	16.4	-5.629805585	2	-37.62980559	-32	6.8
2465.70	13.46539648	16.4	-4.934603516	2	-36.93460352	-32	7.1
2465.75	13.35875716	16.4	-5.04124284	2	-37.04124284	-32	7.1
2465.80	13.05367554	16.4	-5.346324465	2	-37.34632446	-32	6.6
2465.85	12.96414238	16.4	-5.435857616	2	-37.43585762	-32	6.7
2465.90	13.33302646	16.4	-5.066973545	2	-37.06697354	-32	6.9
2465.95	13.12270865	16.4	-5.277291345	2	-37.27729135	-32	7.2
2466.00	12.68077705	16.4	-5.719222953	2	-37.71922295	-32	7.3
2466.05	13.17030541	16.4	-5.229694588	2	-37.22969459	-32	6.9
2466.10	13.62896436	16.4	-4.77103564	2	-36.77103564	-32	6.8
2466.15	13.03304324	16.4	-5.366956762	2	-37.36695676	-32	7
2466.20	13.77048383	16.4	-4.629516168	2	-36.62951617	-32	6.7
2466.25	13.27204553	16.4	-5.127954469	2	-37.12795447	-32	6.2
2466.30	13.72438252	16.4	-4.675617481	2	-36.67561748	-32	6.5
2466.35	14.4451393	16.4	-3.954860701	2	-35.9548607	-32	7.3
2466.40	14.6837831	16.4	-3.716216901	2	-35.7162169	-32	7.8
2466.45	14.28678062	16.4	-4.113219381	2	-36.11321938	-32	6.8
2466.50	14.64160223	16.4	-3.758397775	2	-35.75839777	-32	6.3
2466.55	14.09481013	16.4	-4.305189871	2	-36.30518987	-32	7.3
2466.60	14.56144827	16.4	-3.838551728	2	-35.83855173	-32	6.6
2466.65	14.49326445	16.4	-3.906735554	2	-35.90673555	-32	6.5
2466.70	13.97152855	16.4	-4.428471445	2	-36.42847145	-32	7.3
2466.75	14.04773039	16.4	-4.352269606	2	-36.35226961	-32	7.9
2466.80	14.38498487	16.4	-4.01501513	2	-36.01501513	-32	6.6
2466.85	14.56169165	16.4	-3.838308354	2	-35.83830835	-32	7.4
2466.90	14.58308221	16.4	-3.816917792	2	-35.81691779	-32	6.2
2466.95	14.9550628	16.4	-3.4449372	2	-35.4449372	-32	6.9
2467.00	14.68750063	16.4	-3.712499365	2	-35.71249937	-32	6.8
2467.05	15.6290272	16.4	-2.770972796	2	-34.7709728	-32	6.5
2467.10	15.85485365	16.4	-2.54514635	2	-34.54514635	-32	7.3
2467.15	16.06308355	16.4	-2.336916452	2	-34.33691645	-32	5.7
2467.20	16.31304875	16.4	-2.086951252	2	-34.08695125	-32	5.8
2467.25	15.35881292	16.4	-3.041187076	2	-35.04118708	-32	5.2
2467.30	15.74630358	16.4	-2.653696417	2	-34.65369642	-32	6.1
2467.35	16.72200743	16.4	-1.677992569	2	-33.67799257	-32	6.3

2467.40	16.52187259	16.4	-1.878127413	2	-33.87812741	-32	6.4
2467.45	16.48842384	16.4	-1.911576159	2	-33.91157616	-32	7.1
2467.50	17.09427524	16.4	-1.305724764	2	-33.30572476	-32	5.8
2467.55	16.46443162	16.4	-1.935568379	2	-33.93556838	-32	6.3
2467.60	16.94141667	16.4	-1.458583331	2	-33.45858333	-32	6.5
2467.65	17.04939722	16.4	-1.350602781	2	-33.35060278	-32	7.3
2467.70	16.53004155	16.4	-1.869958449	2	-33.86995845	-32	5.9
2467.75	17.51344249	16.4	-0.886557508	2	-32.88655751	-32	5.8
2467.80	16.8081053	16.4	-1.591894704	2	-33.5918947	-32	6.3
2467.85	17.79330993	16.4	-0.606690075	2	-32.60669007	-32	6.7
2467.90	17.3793689	16.4	-1.020631098	2	-33.0206311	-32	6.5
2467.95	17.73574667	16.4	-0.66425333	2	-32.66425333	-32	7.3
2468.00	17.67816153	16.4	-0.721838467	2	-32.72183847	-32	6.2
2468.05	17.85785224	16.4	-0.542147761	2	-32.54214776	-32	5.1
2468.10	18.31613344	16.4	-0.083866559	2	-32.08386656	-32	5.5
2468.15	18.46184755	16.4	0.061847552	2	-31.93815245	-32	5.7
2468.20	18.57995627	16.4	0.179956269	2	-31.82004373	-32	6
2468.25	18.38626093	16.4	-0.013739066	2	-32.01373907	-32	5.9
2468.30	18.08199521	16.4	-0.318004792	2	-32.31800479	-32	6.1
2468.35	18.29161701	16.4	-0.108382989	2	-32.10838299	-32	7.3
2468.40	18.60331741	16.4	0.203317411	2	-31.79668259	-32	7.1
2468.45	18.19575318	16.4	-0.204246819	2	-32.20424682	-32	6.5
2468.50	18.70521173	16.4	0.305211733	2	-31.69478827	-32	6.3
2468.55	18.26976824	16.4	-0.13023176	2	-32.13023176	-32	6.1
2468.60	19.2306342	16.4	0.830634196	2	-31.1693658	-32	5.5
2468.65	19.39291511	16.4	0.992915111	2	-31.00708489	-32	5.8
2468.70	19.2163712	16.4	0.816371203	2	-31.1836288	-32	5.6
2468.75	19.59998015	16.4	1.199980149	2	-30.80001985	-32	5.7
2468.80	19.03882381	16.4	0.638823812	2	-31.36117619	-32	5.7
2468.85	19.25872391	16.4	0.858723908	2	-31.14127609	-32	5.9
2468.90	19.72214106	16.4	1.322141065	2	-30.67785894	-32	5.6
2468.95	20.56881283	16.4	2.168812831	2	-29.83118717	-32	6.1
2469.00	19.93249745	16.4	1.532497453	2	-30.46750255	-32	6.4
2469.05	20.04617872	16.4	1.646178716	2	-30.35382128	-32	6.3
2469.10	20.89449494	16.4	2.494494945	2	-29.50550506	-32	5.6
2469.15	20.95598037	16.4	2.555980365	2	-29.44401963	-32	6.4
2469.20	21.04039758	16.4	2.640397582	2	-29.35960242	-32	7.4
2469.25	21.3709326	16.4	2.970932601	2	-29.0290674	-32	6.9
2469.30	21.1445331	16.4	2.744533103	2	-29.2554669	-32	6.7
2469.35	21.02626344	16.4	2.626263436	2	-29.37373656	-32	6.7
2469.40	20.97747836	16.4	2.577478356	2	-29.42252164	-32	6.7
2469.45	21.06577397	16.4	2.665773969	2	-29.33422603	-32	7.6
2469.50	21.69840693	16.4	3.298406929	2	-28.70159307	-32	7.7
2469.55	22.09710692	16.4	3.697106922	2	-28.30289308	-32	7.1
2469.60	21.6351579	16.4	3.235157904	2	-28.7648421	-32	6.3
2469.65	21.74744159	16.4	3.347441588	2	-28.65255841	-32	6.9
2469.70	22.29135894	16.4	3.891358936	2	-28.10864106	-32	6.7

2469.75	22.4431504	16.4	4.043150395	2	-27.9568496	-32	6.5
2469.80	22.43999917	16.4	4.039999167	2	-27.96000083	-32	7.1
2469.85	21.71736368	16.4	3.317363677	2	-28.68263632	-32	7.8
2469.90	22.2326144	16.4	3.832614401	2	-28.1673856	-32	7.4
2469.95	22.16932301	16.4	3.769323011	2	-28.23067699	-32	6.5
2470.00	21.87873516	16.4	3.478735159	2	-28.52126484	-32	6.5
2470.05	22.16224085	16.4	3.762240852	2	-28.23775915	-32	7
2470.10	21.47165777	16.4	3.071657765	2	-28.92834223	-32	6.7
2470.15	22.33013546	16.4	3.930135458	2	-28.06986454	-32	6.6
2470.20	21.88383248	16.4	3.483832482	2	-28.51616752	-32	7.8
2470.25	21.58391941	16.4	3.183919408	2	-28.81608059	-32	6.9
2470.30	21.59367402	16.4	3.193674024	2	-28.80632598	-32	6.5
2470.35	41.73011733	16.4	23.33011733	2	-8.669882665	-32	6.9
2470.40	22.37364004	16.4	3.973640036	2	-28.02635996	-32	6.7
2470.45	22.19103577	16.4	3.791035772	2	-28.20896423	-32	6.3
2470.50	22.10917215	16.4	3.709172152	2	-28.29082785	-32	7.1

Processing Gain (dB) @20th Percentile= 11.673268

