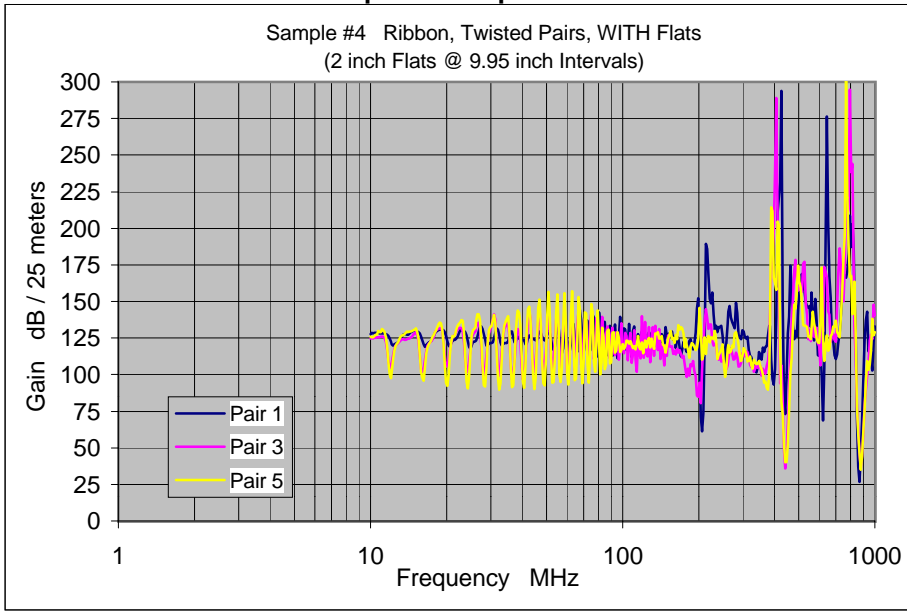
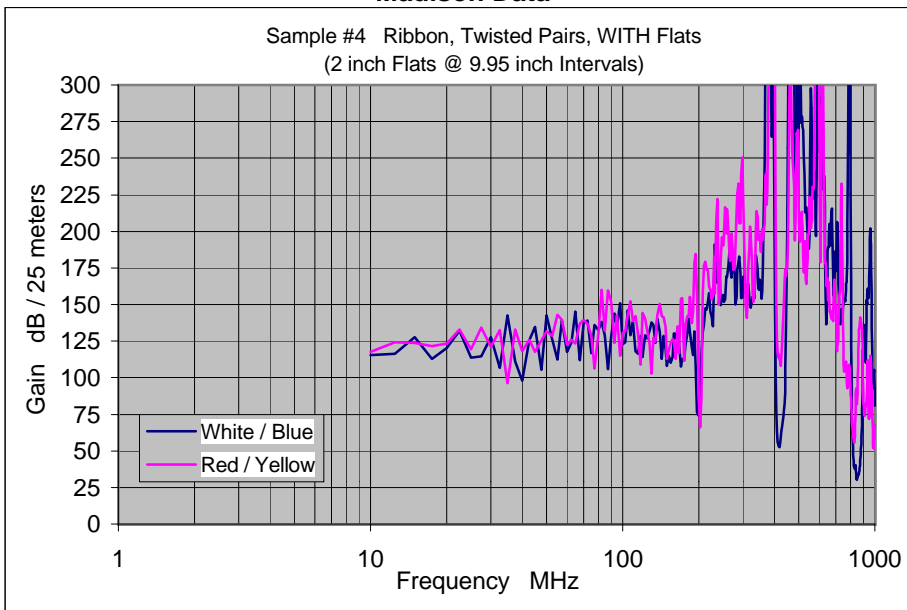


### Spectra-Strip Data

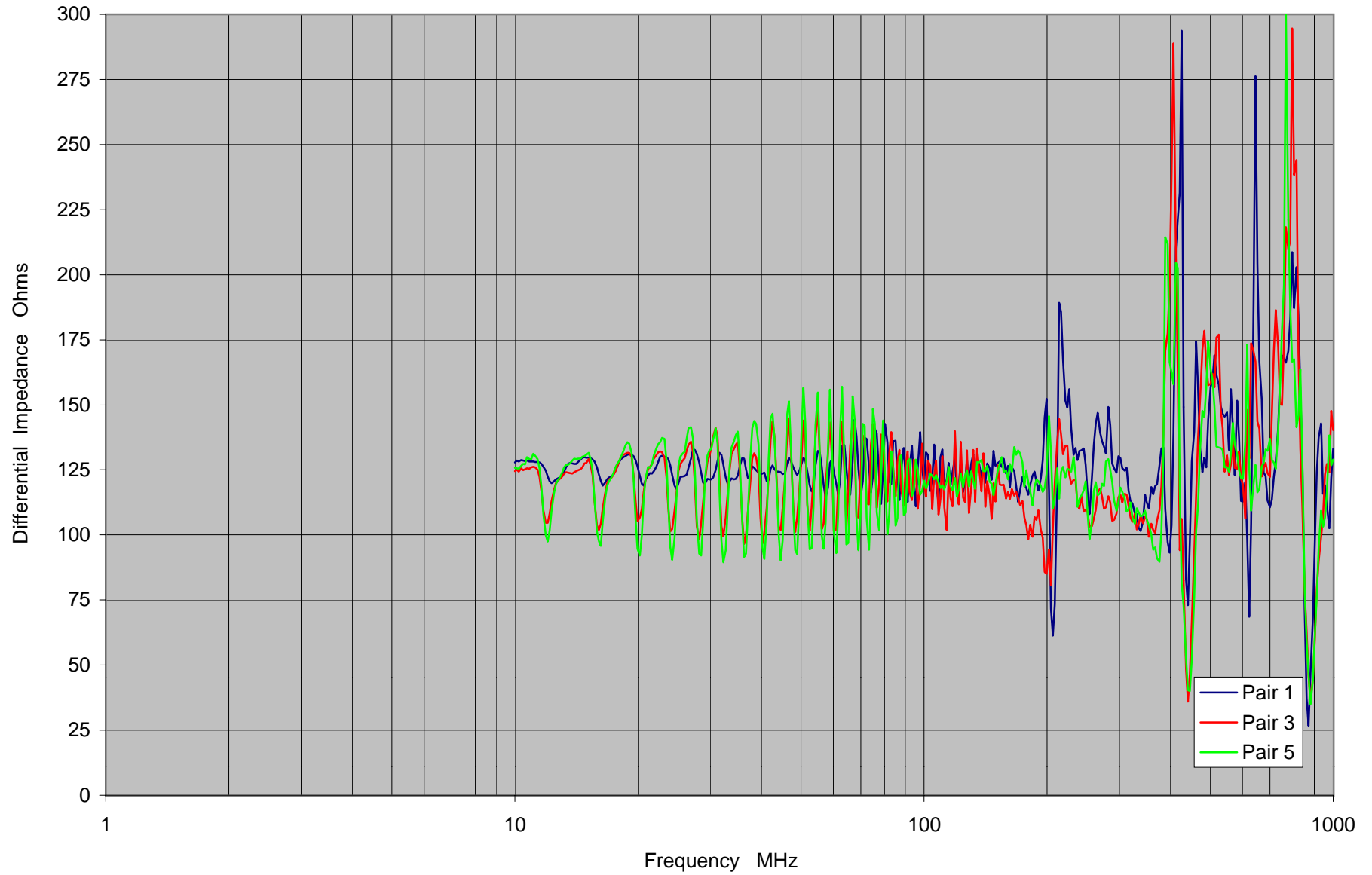


### Madison Data



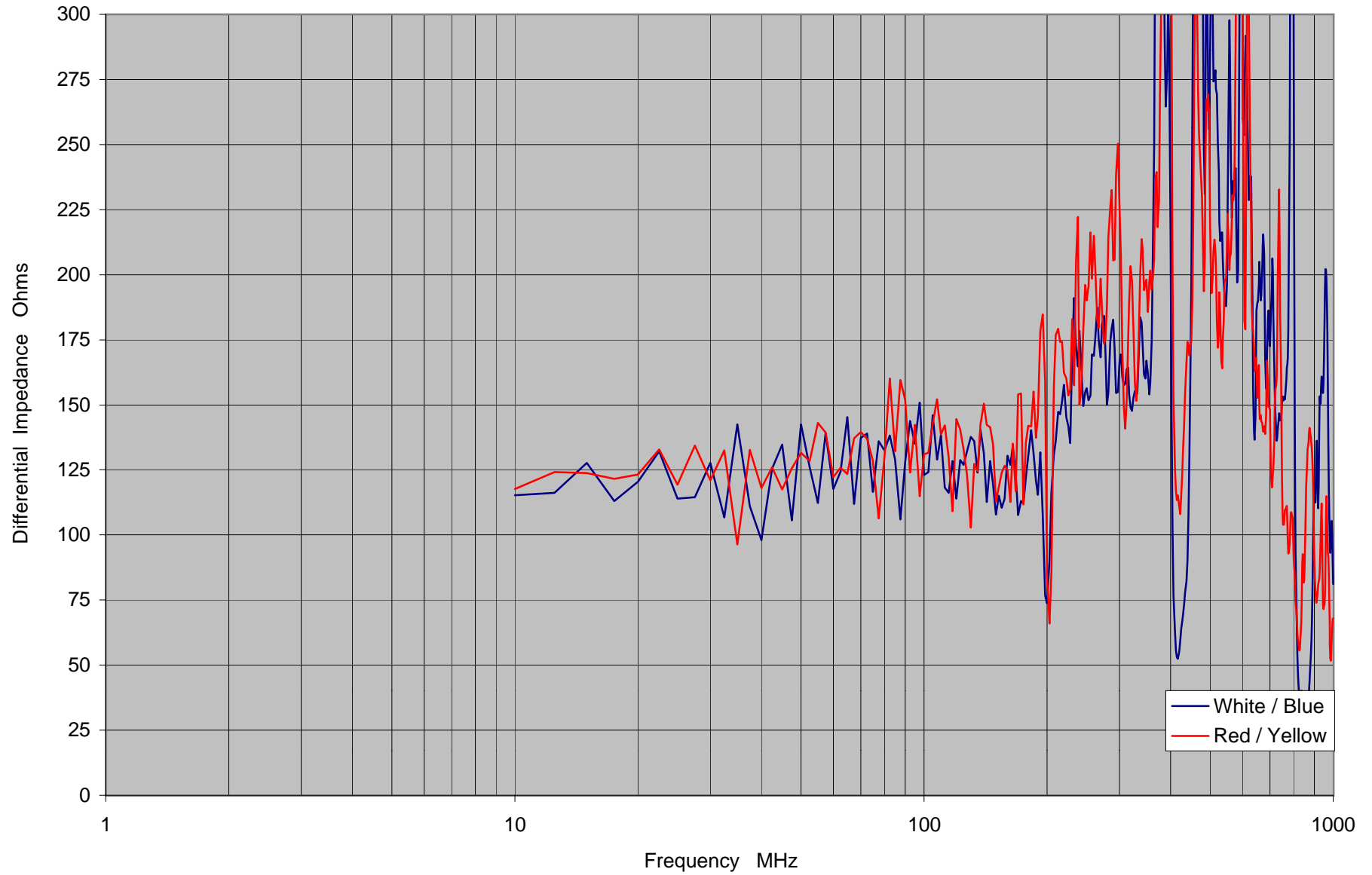
IMPEDANCE

Sample #4 Ribbon, Twisted Pairs, WITH Flats (2 inch Flats @ 9.95 inch Intervals)



IMPEDANCE

Sample #4 Ribbon, Twisted Pairs, WITH Flats (2 inch Flats @ 9.95 inch Intervals)



SAVED BY:  
TITLE:  
COMMENTS:  
DATE: 2/9/01  
TIME: 2:09 PM

Freq MHz	$2\sqrt{Z_o Z_s}$ Pair 1	$2\sqrt{Z_o Z_s}$ Pair 3	$2\sqrt{Z_o Z_s}$ Pair 5
10.00	127.91	124.60	125.84
10.12	128.60	125.10	125.64
10.23	128.27	124.43	125.43
10.35	128.74	125.63	126.57
10.47	128.56	124.95	127.26
10.59	128.35	125.34	127.17
10.72	128.52	125.63	129.85
10.84	128.29	125.50	129.20
10.96	128.18	126.10	129.23
11.09	128.26	126.11	131.26
11.22	128.09	125.97	130.49
11.35	128.11	125.01	129.17
11.48	127.90	122.28	125.58
11.61	127.39	116.73	118.36
11.75	126.24	109.46	108.05
11.89	124.67	104.66	99.93
12.02	122.40	104.67	97.49
12.16	120.54	108.21	101.67
12.30	119.95	113.04	109.25
12.45	120.60	117.24	115.93
12.59	121.35	119.80	119.50
12.74	121.77	120.75	120.97
12.88	122.13	121.55	122.17
13.03	122.95	122.57	124.05
13.18	124.27	123.51	125.95
13.34	125.97	124.10	126.88
13.49	127.25	124.02	126.98
13.65	127.66	123.79	127.57
13.80	127.54	123.68	128.59
13.96	127.36	124.12	129.31
14.13	127.36	124.56	129.14
14.29	128.12	124.83	129.32
14.45	129.02	125.32	129.38
14.62	129.65	125.92	130.02
14.79	129.94	127.50	130.30
14.96	129.71	127.62	130.87
15.14	129.65	129.25	131.59
15.31	129.55	126.69	128.99
15.49	128.99	122.80	124.64
15.67	128.22	112.79	113.44
15.85	126.04	103.82	101.36
16.03	123.17	101.89	97.74
16.22	120.77	104.24	95.83

16.41	118.97	110.30	105.09
16.60	120.08	116.05	113.94
16.79	121.28	119.82	118.71
16.98	122.08	121.29	120.69
17.18	122.30	121.81	121.81
17.38	123.15	123.02	123.64
17.58	124.56	124.42	125.79
17.78	126.32	126.15	127.38
17.99	128.11	128.26	128.37
18.20	129.20	130.02	130.08
18.41	129.82	130.78	132.29
18.62	130.34	131.15	134.39
18.84	130.90	131.57	135.62
19.05	131.09	131.55	135.15
19.28	130.84	129.92	131.38
19.50	130.21	122.83	121.78
19.72	128.80	113.31	106.64
19.95	126.29	105.28	94.65
20.18	122.71	106.82	92.13
20.42	119.71	109.89	99.63
20.65	118.96	116.75	114.18
20.89	121.44	121.55	121.89
21.13	122.86	125.34	126.25
21.38	123.71	126.25	125.91
21.63	123.61	127.27	127.05
21.88	124.49	129.41	130.70
22.13	126.15	130.58	133.31
22.39	127.97	131.74	134.81
22.65	130.11	132.07	135.62
22.91	130.38	131.72	137.29
23.17	130.10	129.62	137.01
23.44	129.84	122.50	129.01
23.71	129.06	110.25	111.85
23.99	126.76	101.30	95.35
24.27	123.10	102.31	90.39
24.55	118.92	109.50	98.91
24.83	117.58	116.20	114.29
25.12	119.91	124.51	126.62
25.41	122.33	127.29	130.15
25.70	122.45	128.65	131.38
26.00	122.71	129.52	131.92
26.30	123.31	132.49	137.03
26.61	126.02	134.63	141.17
26.92	129.32	135.73	141.32
27.23	132.84	131.96	137.20
27.54	132.73	119.20	124.56
27.86	131.16	103.40	105.86
28.18	127.88	98.37	92.89
28.51	124.00	104.52	92.05
28.84	120.01	112.48	104.68
29.17	119.73	120.94	121.62

29.51	121.60	128.09	130.45
29.85	121.41	130.28	132.55
30.20	121.43	133.34	133.09
30.55	122.16	137.78	136.81
30.90	124.87	141.25	141.00
31.26	128.49	137.84	135.14
31.62	131.59	121.76	116.46
31.99	130.84	103.40	97.96
32.36	127.13	99.45	89.53
32.73	122.03	106.69	94.13
33.11	119.70	115.90	110.42
33.50	120.61	125.10	126.35
33.88	121.73	131.10	133.52
34.28	121.36	133.02	135.98
34.67	121.49	134.64	138.36
35.08	122.94	135.70	139.78
35.48	126.30	125.31	129.15
35.89	129.45	106.53	106.22
36.31	129.37	96.48	91.59
36.73	125.32	100.04	92.90
37.15	121.99	109.22	108.85
37.58	122.94	120.51	129.52
38.02	126.28	129.26	140.99
38.46	125.82	131.31	143.72
38.90	124.83	129.96	142.71
39.36	124.05	123.43	134.73
39.81	123.48	106.49	114.44
40.27	123.63	96.78	95.19
40.74	123.92	101.22	90.75
41.21	120.67	110.64	105.27
41.69	121.21	122.64	129.59
42.17	125.50	136.52	144.72
42.66	126.82	143.58	146.58
43.15	125.34	137.88	137.06
43.65	124.33	120.08	118.01
44.16	124.40	103.13	99.55
44.67	124.23	101.87	90.15
45.19	123.41	110.30	97.81
45.71	123.73	121.71	123.44
46.24	127.27	136.90	145.78
46.77	129.56	144.86	151.33
47.32	128.39	133.08	135.01
47.86	126.04	111.01	109.15
48.42	124.39	101.25	94.18
48.98	123.13	106.67	92.56
49.54	124.40	116.38	109.32
50.12	127.38	129.46	139.58
50.70	129.80	144.05	156.64
51.29	128.61	136.28	142.77
51.88	124.48	111.81	112.05
52.48	119.13	101.50	94.56

53.09	116.69	110.68	94.79
53.70	118.92	122.75	111.03
54.33	126.73	137.28	142.13
54.95	132.23	148.61	154.79
55.59	131.58	129.67	130.99
56.23	126.21	102.21	99.82
56.89	119.23	104.39	94.69
57.54	114.39	118.98	104.70
58.21	118.14	131.38	133.62
58.88	127.62	143.20	155.83
59.57	129.02	130.09	136.37
60.26	124.38	101.55	101.27
60.95	119.63	102.11	92.93
61.66	115.47	118.02	107.39
62.37	120.86	131.52	139.92
63.10	134.41	143.35	156.93
63.83	134.48	124.34	127.76
64.57	125.79	102.74	96.32
65.31	117.69	115.75	96.89
66.07	115.43	134.10	121.03
66.83	128.49	143.60	153.22
67.61	144.34	135.66	144.94
68.39	137.88	106.86	106.57
69.18	125.42	106.66	94.04
69.98	115.30	125.69	110.19
70.79	120.63	138.16	142.64
71.61	137.24	136.18	141.86
72.44	136.88	112.02	106.57
73.28	125.96	111.74	94.33
74.13	116.30	134.68	114.33
74.99	122.56	142.69	148.35
75.86	140.84	131.11	142.74
76.74	138.97	110.46	108.78
77.62	122.64	119.78	101.69
78.52	111.98	138.52	123.08
79.43	123.93	134.10	143.96
80.35	142.64	117.75	123.04
81.28	135.65	112.88	100.25
82.22	120.42	131.63	108.24
83.18	119.44	139.46	132.16
84.14	135.92	125.97	125.68
85.11	136.18	114.93	103.60
86.10	121.93	128.15	106.64
87.10	113.37	132.75	129.83
88.10	125.68	117.04	130.72
89.13	133.39	111.22	107.67
90.16	121.78	126.76	108.66
91.20	112.75	132.09	128.38
92.26	125.86	116.34	129.13
93.33	134.39	113.34	115.01
94.41	120.24	128.88	116.96

95.50	111.07	124.83	129.03
96.61	125.85	110.12	125.02
97.72	139.59	119.68	115.43
98.86	126.14	135.16	116.88
100.00	119.19	120.29	120.87
101.16	131.74	114.69	117.83
102.33	130.73	128.62	119.57
103.51	116.96	126.51	123.32
104.71	121.47	109.80	122.83
105.93	134.67	122.52	121.33
107.15	120.17	128.60	123.07
108.39	111.84	107.93	120.34
109.65	129.82	113.86	118.07
110.92	132.81	130.18	119.21
112.20	117.89	110.54	117.41
113.50	121.36	101.98	120.65
114.82	127.64	122.82	126.24
116.14	119.32	114.16	118.70
117.49	124.11	110.95	117.16
118.85	129.48	139.99	122.01
120.23	116.43	121.45	114.65
121.62	118.85	111.67	117.43
123.03	127.86	135.88	123.51
124.45	116.49	114.26	118.48
125.89	120.44	112.58	122.79
127.35	128.98	132.46	124.88
128.82	119.46	108.32	118.68
130.32	127.72	118.86	124.52
131.83	130.95	132.65	120.57
133.35	119.11	112.64	117.63
134.90	129.50	133.26	128.08
136.46	127.42	125.79	127.78
138.04	122.03	116.69	128.80
139.64	128.02	131.39	124.54
141.25	120.11	110.77	124.45
142.89	127.55	120.59	126.59
144.54	125.63	115.33	120.39
146.22	121.13	106.20	119.62
147.91	132.36	119.95	115.20
149.62	126.47	112.83	119.66
151.36	127.60	126.77	124.80
153.11	128.18	119.28	127.42
154.88	126.10	119.11	129.85
156.68	129.42	119.39	124.10
158.49	123.62	113.98	124.94
160.32	126.50	116.54	121.36
162.18	118.16	113.74	127.32
164.06	126.03	117.76	124.34
165.96	124.49	115.12	133.78
167.88	118.69	116.59	130.80
169.82	112.59	114.08	132.47



171.79	117.11	111.55	131.46
173.78	122.24	113.04	127.95
175.79	119.27	106.74	118.52
177.83	118.13	103.73	124.85
179.89	115.51	98.41	120.27
181.97	119.32	103.91	116.99
184.08	122.93	99.30	111.33
186.21	124.32	106.93	118.55
188.36	120.31	105.81	121.39
190.55	117.09	109.51	120.63
192.75	121.70	102.14	118.91
194.98	128.51	98.87	116.62
197.24	145.02	85.81	117.96
199.53	152.38	85.04	123.60
201.84	117.35	94.45	145.65
204.17	71.73	80.59	132.05
206.54	61.30	102.69	110.17
208.93	73.46	120.08	113.44
211.35	120.68	135.59	125.69
213.80	189.22	144.55	114.01
216.27	185.71	138.55	124.06
218.78	167.42	131.08	126.22
221.31	151.55	134.42	122.04
223.87	148.89	134.32	125.50
226.46	156.00	123.41	125.09
229.09	141.10	119.63	124.30
231.74	130.86	121.20	129.98
234.42	133.46	121.24	123.33
237.14	128.86	111.66	110.72
239.88	132.33	110.13	113.70
242.66	132.48	114.85	115.11
245.47	133.32	108.95	117.07
248.31	126.95	109.64	120.62
251.19	116.08	108.86	108.23
254.10	107.95	103.28	98.40
257.04	122.05	103.45	105.02
260.02	134.71	106.30	117.00
263.03	142.90	109.69	120.30
266.07	146.87	116.38	115.23
269.15	139.27	117.86	115.95
272.27	136.10	114.65	119.71
275.42	133.98	110.15	118.70
278.61	131.46	110.70	128.19
281.84	149.10	114.82	129.06
285.10	142.07	112.41	125.09
288.40	127.43	105.39	120.52
291.74	125.66	105.74	113.26
295.12	124.01	108.13	109.33
298.54	130.33	114.57	112.93
302.00	129.61	115.50	118.14
305.49	125.62	112.56	116.64

309.03	124.72	115.82	113.93
312.61	125.85	115.41	109.02
316.23	116.97	111.16	109.87
319.89	112.79	106.73	112.44
323.59	112.07	105.01	106.46
327.34	108.30	108.12	104.25
331.13	108.08	102.01	110.28
334.97	102.65	104.27	108.57
338.84	101.50	107.44	107.03
342.77	105.43	104.57	107.62
346.74	115.52	106.95	109.31
350.75	112.31	106.04	105.79
354.81	110.17	99.25	103.76
358.92	118.32	104.28	100.30
363.08	115.63	101.85	94.35
367.28	118.87	100.72	95.18
371.53	119.60	105.67	90.93
375.84	126.81	109.46	89.73
380.19	133.25	118.86	101.62
384.59	133.54	138.59	130.17
389.04	109.94	170.58	214.37
393.55	97.25	177.49	211.80
398.11	93.27	196.77	166.31
402.72	103.80	237.84	162.58
407.38	139.21	288.96	157.94
412.10	210.19	207.81	204.66
416.87	221.35	162.47	202.53
421.70	231.41	94.06	118.63
426.58	293.74	106.25	81.29
431.52	149.16	82.46	72.86
436.52	82.95	48.65	52.86
441.57	72.93	35.91	40.42
446.68	98.06	46.56	40.07
451.86	128.30	66.48	52.09
457.09	139.64	92.78	75.91
462.38	174.35	115.49	101.63
467.73	156.33	137.52	111.56
473.15	133.61	151.48	132.38
478.63	124.10	171.14	147.64
484.17	129.74	178.39	145.27
489.78	126.09	165.48	156.53
495.45	144.30	157.54	174.45
501.19	156.81	158.15	163.63
506.99	159.73	161.87	159.71
512.86	168.97	156.69	149.17
518.80	161.49	175.84	134.03
524.81	157.61	176.90	133.54
530.88	149.45	148.11	133.44
537.03	146.64	141.07	132.69
543.25	145.47	124.34	126.04
549.54	147.07	130.59	126.01

555.90	132.70	123.02	124.37
562.34	156.11	127.10	131.25
568.85	142.01	136.51	143.07
575.44	123.12	125.88	134.92
582.10	151.58	125.48	130.92
588.84	137.06	132.08	124.83
595.66	113.08	121.56	122.01
602.56	112.91	119.46	121.50
609.54	120.49	106.43	136.09
616.59	97.71	148.05	173.01
623.73	68.54	129.43	126.13
630.96	104.53	173.67	109.39
638.26	188.72	170.43	119.51
645.65	276.34	166.59	126.85
653.13	204.48	143.54	116.35
660.69	166.74	140.91	117.64
668.34	152.13	122.48	126.37
676.08	124.04	125.90	127.76
683.91	122.62	127.73	132.77
691.83	113.15	123.85	132.33
699.84	110.67	122.25	136.96
707.95	113.64	146.52	128.86
716.14	122.24	170.36	127.91
724.44	128.31	186.39	125.41
732.82	141.26	172.40	140.20
741.31	160.58	150.38	157.14
749.89	168.93	149.93	179.09
758.58	167.55	174.09	195.78
767.36	166.14	218.20	301.51
776.25	170.61	209.55	221.00
785.23	183.11	212.86	187.66
794.33	208.71	294.59	166.62
803.53	187.11	238.22	167.56
812.83	202.82	243.97	141.37
822.24	184.34	169.77	145.78
831.76	155.17	133.27	163.55
841.40	129.41	111.97	130.00
851.14	70.56	77.68	78.35
860.99	37.27	63.07	59.35
870.96	26.64	45.80	46.16
881.05	46.84	36.43	35.10
891.25	68.16	44.64	44.21
901.57	97.16	60.01	61.41
912.01	123.97	79.59	76.35
922.57	137.43	89.99	94.98
933.25	142.79	99.05	109.40
944.06	115.79	107.15	103.18
954.99	119.23	123.29	106.79
966.05	111.21	127.22	116.39
977.24	102.74	124.17	138.30
988.55	121.98	147.64	126.76

1000.00

133.11

140.26

128.89

FREQUENCY	IMPEDANCE	
	White / Blue	Red / Yellow
10	115.27	117.65
13	116.20	124.24
15	127.67	123.84
18	113.01	121.57
20	120.40	123.20
23	132.03	132.94
25	113.88	119.41
28	114.44	134.35
30	127.73	120.97
33	106.66	132.56
35	142.51	96.28
38	110.94	132.74
40	98.01	118.00
43	125.38	125.99
45	134.65	117.53
48	105.58	125.61
50	142.54	131.54
53	126.07	128.38
55	112.37	143.05
58	139.24	139.33
60	117.74	122.29
63	124.40	125.88
65	145.27	123.32
68	111.86	137.08
70	137.31	139.45
73	138.98	136.86
75	116.58	128.44
78	136.09	106.41
80	132.50	129.98
83	138.23	160.14
85	129.01	132.14
88	105.93	159.62
90	128.19	151.77
93	143.76	123.89
95	135.04	142.37
98	150.81	114.84
100	123.04	130.96
103	124.07	131.59
105	146.04	142.86
108	129.04	152.19
110	138.14	138.60
113	118.26	142.13
115	116.24	129.84
118	128.37	109.09
120	113.98	144.51
123	128.80	140.44
125	126.98	132.89
128	132.10	123.27
130	137.60	102.84

133	136.01	127.36
135	123.88	124.59
138	140.45	142.57
140	131.30	150.52
143	112.66	142.23
145	128.50	141.41
148	119.60	134.86
150	107.91	112.88
153	114.98	118.38
155	110.42	123.92
158	113.92	126.60
160	130.41	125.03
163	126.92	112.66
165	134.40	135.03
168	123.42	116.66
170	107.64	153.98
173	112.95	154.40
175	112.10	111.73
178	122.02	135.53
180	130.47	141.98
183	140.31	141.73
185	131.29	155.16
188	120.80	137.25
190	115.41	145.71
193	131.74	178.52
195	108.10	184.66
198	76.64	158.80
200	73.78	84.22
203	90.27	65.96
205	116.36	85.57
208	130.73	156.32
210	136.28	176.84
213	147.34	179.19
215	146.44	174.16
218	151.26	174.13
220	157.65	162.34
223	145.08	160.01
225	141.85	153.66
228	135.29	155.75
230	170.11	182.90
233	191.12	157.48
235	172.20	204.96
238	164.65	222.17
240	178.52	150.13
243	165.01	155.95
245	149.52	178.44
248	154.92	196.12
250	156.47	190.16
253	151.74	195.74
255	153.54	216.27
258	169.35	198.51

260	168.89	215.03
263	175.91	201.95
265	187.42	182.78
268	174.84	179.57
270	168.30	198.39
273	181.03	185.76
275	184.20	173.68
278	170.23	175.12
280	149.89	187.64
283	154.75	214.20
285	174.10	225.81
288	179.44	232.55
290	182.74	205.41
293	171.48	205.61
295	154.48	238.43
298	154.87	250.40
300	165.95	227.32
303	169.31	207.52
305	160.60	171.27
308	157.59	149.76
310	158.00	140.75
313	163.67	151.77
315	164.37	174.21
318	154.21	189.43
320	148.92	203.24
323	147.63	197.78
325	152.74	178.91
328	155.24	158.48
330	154.60	151.64
333	154.32	157.83
335	169.40	176.02
338	183.65	199.88
340	181.55	213.64
343	173.36	209.93
345	161.58	194.08
348	160.18	196.84
350	166.93	198.11
353	161.88	185.70
355	153.94	197.47
358	158.77	201.59
360	175.26	194.19
363	204.76	198.49
365	249.95	206.13
368	331.38	236.39
370	432.15	239.45
373	496.73	218.28
375	516.57	228.36
378	480.07	268.67
380	431.31	310.28
383	388.04	344.46
385	340.10	369.98

388	287.59	380.09
390	264.62	424.85
393	278.04	455.45
395	305.95	469.30
398	286.73	439.53
400	213.84	399.07
403	147.11	300.25
405	102.71	203.08
408	76.99	153.23
410	63.35	125.96
413	55.86	117.16
415	52.90	113.48
418	52.48	115.20
420	55.18	110.96
423	59.34	108.06
425	63.86	115.08
428	66.48	122.51
430	69.76	133.47
433	73.12	141.94
435	77.81	153.98
438	82.23	166.62
440	90.07	174.17
443	106.56	173.09
445	130.61	169.04
448	161.60	172.90
450	197.04	174.53
453	256.66	188.25
455	323.22	221.60
458	325.61	276.55
460	314.05	305.30
463	319.48	315.90
465	345.53	303.57
468	396.34	269.63
470	403.80	253.94
473	341.43	245.67
475	314.31	237.83
478	329.40	230.22
480	308.17	212.80
483	248.38	193.57
485	230.99	206.96
488	264.88	240.97
490	317.07	267.41
493	311.33	263.15
495	269.28	269.24
498	255.74	260.72
500	286.27	217.89
503	323.19	196.85
505	337.43	192.97
508	306.53	198.20
510	274.23	209.12
513	275.44	213.53



515	278.50	208.53
518	271.29	203.85
520	269.38	182.04
523	250.54	172.01
525	239.80	177.54
528	220.39	193.32
530	212.92	184.19
533	216.08	167.23
535	216.32	164.02
538	206.72	174.08
540	197.10	181.23
543	191.35	198.15
545	188.28	197.34
548	187.96	198.73
550	197.09	210.96
553	220.49	223.41
555	260.90	214.08
558	297.77	201.86
560	284.11	206.55
563	244.11	208.26
565	221.87	221.44
568	226.59	230.60
570	236.13	228.69
573	233.95	231.94
575	239.56	248.98
578	240.94	292.08
580	220.39	335.02
583	196.96	328.00
585	201.63	346.50
588	236.55	348.36
590	307.62	351.22
593	431.84	389.68
595	533.55	456.83
598	452.21	457.67
600	323.49	375.52
603	259.96	285.88
605	253.50	219.20
608	270.73	182.34
610	286.39	178.92
613	291.83	211.88
615	281.43	293.42
618	263.46	397.24
620	243.07	379.94
623	228.63	307.53
625	229.46	264.66
628	237.85	247.40
630	237.72	218.48
633	218.28	189.22
635	185.27	178.77
638	155.91	178.76
640	139.75	171.76

643	136.55	162.85
645	145.51	163.17
648	166.99	168.13
650	186.21	163.51
653	189.35	152.61
655	189.47	160.18
658	196.24	165.38
660	205.02	149.09
663	199.54	144.60
665	190.18	145.95
668	192.23	143.66
670	202.32	143.10
673	211.25	140.94
675	215.55	139.76
678	207.86	141.80
680	188.54	140.26
683	168.04	138.73
685	156.23	145.70
688	157.06	161.51
690	169.98	166.89
693	184.30	157.93
695	186.26	149.10
698	177.46	149.81
700	172.58	148.08
703	178.57	134.75
705	185.06	122.89
708	194.83	118.21
710	206.27	120.44
713	201.31	123.24
715	183.77	125.86
718	164.37	136.12
720	154.15	150.44
723	147.43	155.89
725	139.93	157.42
728	136.23	160.80
730	137.54	172.49
733	140.39	195.95
735	144.16	221.77
738	146.75	232.79
740	146.03	212.19
743	144.05	185.80
745	144.12	162.79
748	147.00	139.67
750	151.29	121.33
753	153.24	109.14
755	151.53	103.89
758	151.95	104.03
760	153.10	106.93
763	152.06	109.77
765	154.28	109.61
768	159.76	110.66

770	164.44	111.09
773	165.50	104.53
775	168.00	97.63
778	179.06	92.79
780	205.92	93.30
783	252.79	96.69
785	321.81	102.42
788	413.77	108.35
790	514.32	108.75
793	561.81	107.99
795	507.98	106.37
798	401.58	99.57
800	304.41	92.44
803	225.81	88.20
805	164.48	85.63
808	121.65	80.55
810	92.84	74.59
813	73.60	69.99
815	60.95	65.64
818	52.60	61.98
820	46.83	59.49
823	42.74	57.88
825	39.89	56.56
828	38.38	55.57
830	37.96	56.37
833	38.73	59.91
835	40.28	66.80
838	40.05	77.08
840	37.40	89.41
843	33.80	92.73
845	31.21	85.81
848	30.33	81.66
850	30.73	82.84
853	31.87	89.25
855	33.05	98.77
858	33.36	108.24
860	33.42	118.41
863	33.91	127.91
865	35.13	133.01
868	36.50	134.23
870	37.85	135.69
873	40.13	139.45
875	43.54	141.17
878	47.44	139.80
880	51.19	138.64
883	54.76	136.69
885	59.50	134.92
888	67.15	132.41
890	77.64	128.55
893	90.27	123.00
895	106.14	113.30

898	118.80	100.61
900	119.42	89.88
903	113.41	83.35
905	112.39	79.55
908	120.83	76.21
910	133.47	73.95
913	136.15	74.61
915	125.11	76.55
918	113.25	78.73
920	110.33	80.70
923	119.48	82.22
925	139.03	82.80
928	153.22	85.47
930	150.98	91.43
933	150.51	98.31
935	157.02	106.40
938	160.89	112.10
940	158.90	102.31
943	155.15	83.99
945	154.53	72.96
948	158.50	71.52
950	168.19	73.22
953	180.35	73.17
955	194.53	76.73
958	202.12	89.18
960	202.00	106.10
963	198.20	114.85
965	190.18	109.80
968	178.08	99.85
970	157.55	93.57
973	134.76	91.36
975	117.42	84.94
978	106.39	73.97
980	99.60	64.84
983	94.82	57.79
985	93.16	52.75
988	96.26	51.69
990	102.60	54.90
993	105.48	59.97
995	100.05	64.59
998	89.75	67.71
1000	81.08	67.95