



**Gewinn und Antennenfaktor für kurze Messentfernung**  
**Gain and Antenna Factor for short Measuring Distances**

Frequency	Gain(Iso.) Farfield	Ant.-Fact k Farfield	gi (10 m) Tip	k (10m) Tip	gi (3m) Tip	k (3m) Tip	gi (1m) Tip	k (1m) Tip
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m	dBi	dB/m
60.0	0.01	5.78	-0.99	6.77	-2.95	8.74	-6.92	12.70
65.0	4.00	2.48	3.00	3.48	1.04	5.44	-2.93	9.41
70.0	4.46	2.66	3.46	3.66	1.50	5.63	-2.47	9.59
75.0	5.68	2.04	4.68	3.04	2.72	5.01	-1.25	8.97
80.0	5.68	2.60	4.68	3.60	2.72	5.57	-1.25	9.53
85.0	7.19	1.62	6.24	2.56	4.37	4.44	0.54	8.27
90.0	7.56	1.75	6.67	2.64	4.88	4.43	1.18	8.13
95.0	7.76	2.01	6.91	2.87	5.20	4.58	1.61	8.16
100.0	7.63	2.59	6.82	3.40	5.17	5.05	1.70	8.52
105.0	8.21	2.44	7.43	3.21	5.85	4.79	2.48	8.17
110.0	8.34	2.71	7.60	3.45	6.08	4.96	2.81	8.24
115.0	8.02	3.42	7.31	4.13	5.84	5.59	2.65	8.78
120.0	7.91	3.90	7.23	4.58	5.81	5.99	2.71	9.10
125.0	8.49	3.67	7.83	4.32	6.47	5.69	3.46	8.70
130.0	8.85	3.65	8.22	4.28	6.90	5.60	3.96	8.53
135.0	8.88	3.94	8.27	4.56	6.99	5.84	4.12	8.71
140.0	8.61	4.53	8.02	5.12	6.78	6.37	3.98	9.17
145.0	8.76	4.69	8.19	5.26	6.99	6.46	4.25	9.19
150.0	8.63	5.11	8.08	5.66	6.91	6.83	4.25	9.49
155.0	8.71	5.32	8.18	5.85	7.04	6.98	4.44	9.59
160.0	8.73	5.58	8.21	6.09	7.11	7.19	4.57	9.74
165.0	8.77	5.80	8.26	6.31	7.19	7.38	4.69	9.88
170.0	8.39	6.44	7.90	6.93	6.85	7.97	4.42	10.41
175.0	8.24	6.85	7.76	7.32	6.74	8.34	4.35	10.73
180.0	8.59	6.74	8.12	7.20	7.13	8.20	4.78	10.54
185.0	8.61	6.96	8.16	7.41	7.18	8.38	4.89	10.68
190.0	8.72	7.08	8.28	7.52	7.33	8.46	5.08	10.71
195.0	8.88	7.14	8.45	7.57	7.52	8.50	5.30	10.72
200.0	8.70	7.54	8.28	7.96	7.37	8.87	5.21	11.03
210.0	8.27	8.40	7.87	8.80	6.99	9.67	4.89	11.77
220.0	8.74	8.33	8.36	8.71	7.53	9.54	5.51	11.56
230.0	9.08	8.37	8.71	8.74	7.90	9.55	5.94	11.51
240.0	8.97	8.86	8.62	9.21	7.84	9.98	5.95	11.87
250.0	8.35	9.83	8.01	10.17	7.26	10.92	5.43	12.75
260.0	8.49	10.03	8.16	10.36	7.44	11.08	5.66	12.86
270.0	8.73	10.12	8.41	10.43	7.72	11.13	6.00	12.85
280.0	9.05	10.11	8.74	10.42	8.07	11.10	6.38	12.78
290.0	8.97	10.49	8.68	10.79	8.02	11.44	6.40	13.07
300.0	8.66	11.11	8.37	11.39	7.74	12.02	6.15	13.61
320.0	8.96	11.36	8.69	11.63	8.09	12.23	6.58	13.74
340.0	9.24	11.61	8.99	11.86	8.43	12.42	6.99	13.85
360.0	8.85	12.50	8.61	12.74	8.07	13.27	6.71	14.64
380.0	8.82	12.99	8.59	13.22	8.08	13.73	6.78	15.04
400.0	9.24	13.02	9.02	13.24	8.53	13.73	7.27	14.99
420.0	9.53	13.15	9.32	13.37	8.85	13.84	7.63	15.06
440.0	9.06	14.03	8.86	14.23	8.40	14.68	7.23	15.86
460.0	8.97	14.50	8.78	14.70	8.34	15.13	7.21	16.27
480.0	8.91	14.93	8.73	15.12	8.31	15.54	7.22	16.63
500.0	9.34	14.86	9.16	15.04	8.77	15.43	7.72	16.48
520.0	8.38	16.16	8.21	16.33	7.82	16.72	6.80	17.74



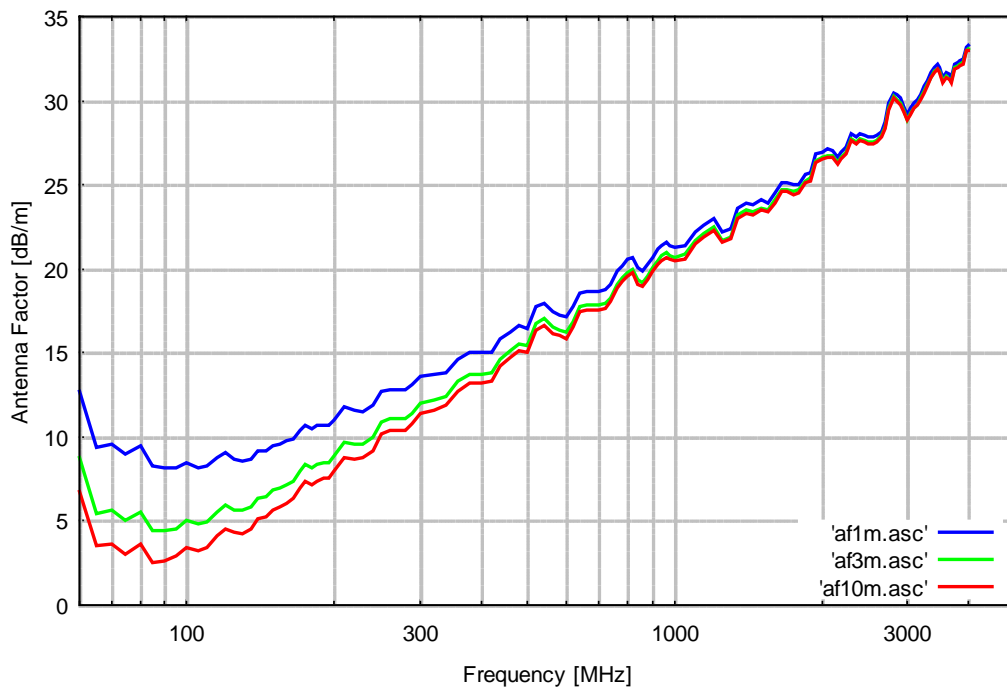
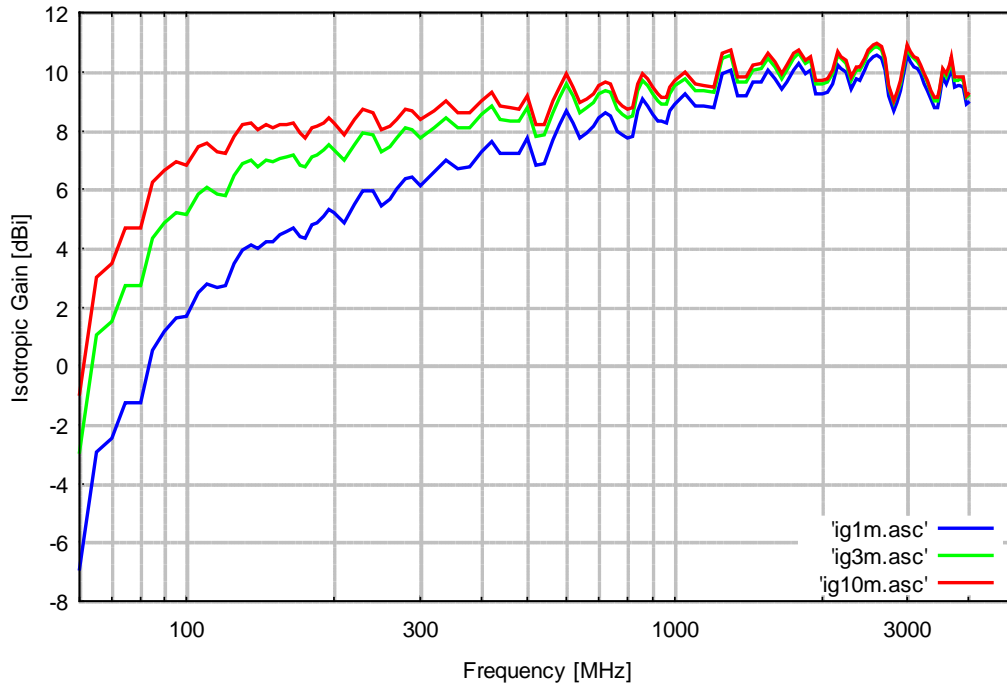
Frequency	Gain(Iso.) Farfield	Ant.-Fact k Farfield	gi (10 m) Tip	k (10m) Tip	gi (3m) Tip	k (3m) Tip	gi (1m) Tip	k (1m) Tip
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m	dBi	dB/m
540.0	8.37	16.50	8.21	16.66	7.84	17.03	6.86	18.01
560.0	9.15	16.03	8.99	16.19	8.63	16.55	7.68	17.51
580.0	9.63	15.86	9.48	16.01	9.12	16.36	8.19	17.30
600.0	10.07	15.72	9.92	15.86	9.58	16.21	8.67	17.11
620.0	9.65	16.42	9.50	16.56	9.17	16.90	8.29	17.78
640.0	9.08	17.27	8.94	17.41	8.61	17.73	7.75	18.59
660.0	9.21	17.41	9.07	17.54	8.76	17.85	7.92	18.69
680.0	9.40	17.47	9.27	17.60	8.96	17.91	8.15	18.72
700.0	9.67	17.45	9.54	17.58	9.25	17.88	8.46	18.67
720.0	9.80	17.57	9.67	17.70	9.38	17.99	8.59	18.78
740.0	9.70	17.90	9.57	18.03	9.29	18.31	8.52	19.08
760.0	9.13	18.71	9.01	18.83	8.73	19.10	7.99	19.84
780.0	8.94	19.12	8.82	19.24	8.56	19.50	7.84	20.22
800.0	8.84	19.44	8.72	19.56	8.46	19.82	7.74	20.54
820.0	8.87	19.63	8.76	19.74	8.50	19.99	7.81	20.69
840.0	9.72	18.99	9.61	19.10	9.35	19.35	8.66	20.05
860.0	10.07	18.84	9.96	18.95	9.72	19.19	9.05	19.86
880.0	9.88	19.23	9.77	19.34	9.53	19.58	8.86	20.25
900.0	9.56	19.75	9.46	19.85	9.22	20.09	8.58	20.73
920.0	9.33	20.16	9.23	20.27	8.99	20.51	8.35	21.15
940.0	9.25	20.43	9.15	20.53	8.92	20.76	8.30	21.38
960.0	9.23	20.63	9.13	20.73	8.90	20.96	8.28	21.58
980.0	9.58	20.47	9.48	20.56	9.27	20.78	8.67	21.37
1000.0	9.82	20.40	9.72	20.50	9.51	20.71	8.91	21.31
1050.0	10.09	20.55	10.00	20.64	9.79	20.85	9.22	21.42
1100.0	9.67	21.38	9.58	21.46	9.39	21.66	8.84	22.21
1150.0	9.62	21.81	9.54	21.90	9.35	22.08	8.83	22.60
1200.0	9.57	22.23	9.49	22.32	9.30	22.50	8.78	23.02
1250.0	10.69	21.47	10.61	21.55	10.43	21.72	9.94	22.22
1300.0	10.82	21.68	10.74	21.76	10.56	21.94	10.07	22.43
1350.0	9.90	22.93	9.83	23.00	9.66	23.17	9.19	23.64
1400.0	9.88	23.27	9.81	23.33	9.65	23.49	9.21	23.93
1450.0	10.30	23.15	10.23	23.22	10.07	23.38	9.63	23.82
1500.0	10.33	23.41	10.26	23.48	10.10	23.64	9.66	24.08
1550.0	10.69	23.33	10.63	23.40	10.48	23.55	10.06	23.96
1600.0	10.40	23.90	10.34	23.97	10.19	24.12	9.77	24.53
1650.0	9.99	24.58	9.93	24.64	9.79	24.78	9.40	25.17
1700.0	10.26	24.56	10.20	24.63	10.06	24.77	9.67	25.16
1750.0	10.67	24.41	10.61	24.47	10.47	24.61	10.08	25.00
1800.0	10.82	24.50	10.76	24.56	10.63	24.69	10.27	25.05
1850.0	10.48	25.09	10.42	25.14	10.29	25.27	9.93	25.63
1900.0	10.58	25.21	10.52	25.27	10.39	25.40	10.03	25.76
1950.0	9.77	26.25	9.71	26.31	9.58	26.44	9.22	26.80
2000.0	9.77	26.47	9.72	26.52	9.60	26.64	9.26	26.98
2050.0	9.84	26.61	9.79	26.67	9.67	26.79	9.33	27.12
2100.0	10.12	26.54	10.07	26.60	9.95	26.72	9.61	27.05
2150.0	10.72	26.15	10.67	26.20	10.55	26.32	10.21	26.65
2200.0	10.59	26.48	10.54	26.53	10.43	26.64	10.12	26.94
2250.0	10.44	26.82	10.39	26.87	10.28	26.98	9.97	27.29
2300.0	9.87	27.58	9.82	27.63	9.71	27.74	9.40	28.05
2350.0	10.21	27.43	10.16	27.48	10.05	27.59	9.74	27.90
2400.0	10.20	27.62	10.15	27.67	10.04	27.78	9.73	28.09
2450.0	10.50	27.51	10.45	27.55	10.34	27.66	10.03	27.97
2500.0	10.79	27.39	10.75	27.43	10.65	27.53	10.37	27.81



Frequency MHz	Gain(Iso.) Farfield dBi	Ant.-Fact k Farfield dB/m	gi (10 m) Tip dBi	k (10m) Tip dB/m	gi (3m) Tip dBi	k (3m) Tip dB/m	gi (1m) Tip dBi	k (1m) Tip dB/m
2550.0	10.95	27.40	10.91	27.44	10.81	27.54	10.53	27.82
2600.0	11.02	27.50	10.98	27.54	10.88	27.64	10.60	27.92
2650.0	10.90	27.78	10.86	27.83	10.76	27.93	10.48	28.21
2700.0	10.48	28.37	10.44	28.41	10.34	28.51	10.06	28.79
2750.0	9.60	29.41	9.56	29.45	9.46	29.55	9.18	29.83
2800.0	9.07	30.09	9.03	30.14	8.93	30.24	8.65	30.52
2850.0	9.36	29.96	9.32	30.00	9.23	30.09	8.98	30.34
2900.0	9.72	29.75	9.68	29.79	9.59	29.88	9.34	30.13
2950.0	10.31	29.30	10.27	29.35	10.18	29.44	9.93	29.69
3000.0	10.98	28.78	10.94	28.82	10.85	28.91	10.60	29.16
3050.0	10.73	29.18	10.69	29.21	10.60	29.31	10.35	29.56
3100.0	10.56	29.49	10.52	29.53	10.43	29.62	10.18	29.87
3150.0	10.50	29.68	10.46	29.73	10.37	29.82	10.12	30.07
3200.0	10.29	30.03	10.25	30.07	10.16	30.16	9.91	30.42
3250.0	9.99	30.47	9.95	30.51	9.86	30.60	9.61	30.85
3300.0	9.76	30.83	9.72	30.87	9.63	30.96	9.38	31.21
3350.0	9.40	31.32	9.37	31.36	9.28	31.44	9.06	31.66
3400.0	9.15	31.70	9.12	31.73	9.03	31.81	8.81	32.04
3450.0	9.15	31.83	9.12	31.86	9.03	31.94	8.81	32.17
3500.0	9.46	31.64	9.43	31.68	9.34	31.76	9.12	31.98
3550.0	10.15	31.07	10.12	31.11	10.03	31.19	9.81	31.42
3600.0	9.95	31.39	9.92	31.43	9.83	31.51	9.61	31.74
3650.0	10.24	31.22	10.21	31.26	10.12	31.34	9.90	31.57
3700.0	10.54	31.05	10.51	31.08	10.42	31.16	10.20	31.38
3750.0	9.84	31.86	9.81	31.90	9.72	31.98	9.50	32.20
3800.0	9.85	31.96	9.82	32.00	9.73	32.08	9.51	32.31
3850.0	9.87	32.06	9.84	32.09	9.75	32.17	9.53	32.40
3900.0	9.84	32.20	9.81	32.24	9.72	32.32	9.50	32.54
3950.0	9.23	32.92	9.20	32.96	9.11	33.04	8.89	33.26
4000.0	9.29	32.97	9.26	33.01	9.17	33.09	8.95	33.31



**Bezugspunkt: Spitze**  
**Reference Point: Tip**





Frequency	Gain(Iso.) Farfield	Ant.-Fact k Farfield	gi (10 m) Center	k (10m) Center	gi (3m) Center	k (3m) Center
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m
60.0	0.01	5.78	-0.50	6.29	-1.60	7.38
65.0	4.00	2.48	3.49	2.99	2.39	4.09
70.0	4.46	2.66	3.95	3.18	2.85	4.27
75.0	5.68	2.04	5.17	2.56	4.07	3.65
80.0	5.68	2.60	5.17	3.12	4.07	4.21
85.0	7.19	1.62	6.73	2.08	5.75	3.06
90.0	7.56	1.75	7.16	2.15	6.28	3.02
95.0	7.76	2.01	7.40	2.37	6.62	3.15
100.0	7.63	2.59	7.31	2.91	6.62	3.60
105.0	8.21	2.44	7.93	2.71	7.32	3.33
110.0	8.34	2.71	8.10	2.95	7.56	3.48
115.0	8.02	3.42	7.81	3.62	7.34	4.10
120.0	7.91	3.90	7.73	4.07	7.32	4.48
125.0	8.49	3.67	8.34	3.82	8.00	4.16
130.0	8.85	3.65	8.72	3.77	8.44	4.06
135.0	8.88	3.94	8.78	4.05	8.54	4.29
140.0	8.61	4.53	8.53	4.61	8.34	4.80
145.0	8.76	4.69	8.70	4.75	8.56	4.89
150.0	8.63	5.11	8.59	5.15	8.50	5.24
155.0	8.71	5.32	8.69	5.34	8.64	5.39
160.0	8.73	5.58	8.73	5.58	8.72	5.59
165.0	8.77	5.80	8.78	5.79	8.80	5.77
170.0	8.39	6.44	8.42	6.41	8.48	6.35
175.0	8.24	6.85	8.28	6.80	8.37	6.71
180.0	8.59	6.74	8.64	6.68	8.77	6.56
185.0	8.61	6.96	8.68	6.89	8.83	6.73
190.0	8.72	7.08	8.80	7.00	8.98	6.81
195.0	8.88	7.14	8.97	7.05	9.17	6.85
200.0	8.70	7.54	8.80	7.44	9.04	7.20
210.0	8.27	8.40	8.39	8.28	8.67	7.99
220.0	8.74	8.33	8.88	8.19	9.22	7.85
230.0	9.08	8.37	9.23	8.22	9.60	7.85
240.0	8.97	8.86	9.14	8.68	9.55	8.27
250.0	8.35	9.83	8.53	9.64	8.98	9.20
260.0	8.49	10.03	8.69	9.83	9.17	9.35
270.0	8.73	10.12	8.94	9.91	9.45	9.39
280.0	9.05	10.11	9.27	9.89	9.81	9.36
290.0	8.97	10.49	9.20	10.26	9.77	9.69
300.0	8.66	11.11	8.90	10.86	9.50	10.27
320.0	8.96	11.36	9.22	11.10	9.86	10.46
340.0	9.24	11.61	9.52	11.33	10.20	10.65
360.0	8.85	12.50	9.14	12.20	9.86	11.48
380.0	8.82	12.99	9.12	12.69	9.88	11.93
400.0	9.24	13.02	9.55	12.71	10.33	11.93
420.0	9.53	13.15	9.85	12.83	10.66	12.03
440.0	9.06	14.03	9.39	13.70	10.22	12.87
460.0	8.97	14.50	9.31	14.16	10.16	13.31
480.0	8.91	14.93	9.26	14.58	10.14	13.71
500.0	9.34	14.86	9.70	14.50	10.60	13.60
520.0	8.38	16.16	8.74	15.80	9.66	14.88
540.0	8.37	16.50	8.74	16.13	9.68	15.19
560.0	9.15	16.03	9.53	15.66	10.48	14.71
580.0	9.63	15.86	10.01	15.48	10.97	14.51



Frequency	Gain(Iso.) Farfield	Ant.-Fact k Farfield	gi (10 m) Center	k (10m) Center	gi (3m) Center	k (3m) Center
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m
600.0	10.07	15.72	10.46	15.33	11.43	14.35
620.0	9.65	16.42	10.04	16.03	11.03	15.04
640.0	9.08	17.27	9.48	16.87	10.47	15.87
660.0	9.21	17.41	9.61	17.00	10.62	15.99
680.0	9.40	17.47	9.80	17.07	10.83	16.04
700.0	9.67	17.45	10.08	17.04	11.12	16.01
720.0	9.80	17.57	10.21	17.16	11.25	16.12
740.0	9.70	17.90	10.11	17.49	11.16	16.44
760.0	9.13	18.71	9.55	18.29	10.61	17.23
780.0	8.94	19.12	9.36	18.70	10.44	17.62
800.0	8.84	19.44	9.26	19.02	10.34	17.94
820.0	8.87	19.63	9.30	19.20	10.38	18.11
840.0	9.72	18.99	10.15	18.56	11.23	17.47
860.0	10.07	18.84	10.50	18.41	11.60	17.31
880.0	9.88	19.23	10.31	18.80	11.41	17.70
900.0	9.56	19.75	10.00	19.31	11.11	18.20
920.0	9.33	20.16	9.77	19.73	10.88	18.62
940.0	9.25	20.43	9.69	19.99	10.82	18.87
960.0	9.23	20.63	9.67	20.19	10.80	19.07
980.0	9.58	20.47	10.03	20.02	11.16	18.88
1000.0	9.82	20.40	10.27	19.95	11.40	18.82
1050.0	10.09	20.55	10.54	20.10	11.69	18.95
1100.0	9.67	21.38	10.12	20.92	11.29	19.76
1150.0	9.62	21.81	10.08	21.35	11.26	20.18
1200.0	9.57	22.23	10.03	21.77	11.21	20.60
1250.0	10.69	21.47	11.15	21.00	12.34	19.81
1300.0	10.82	21.68	11.28	21.22	12.47	20.03
1350.0	9.90	22.93	10.37	22.46	11.57	21.26
1400.0	9.88	23.27	10.35	22.79	11.57	21.57
1450.0	10.30	23.15	10.77	22.67	11.99	21.46
1500.0	10.33	23.41	10.80	22.94	12.02	21.72
1550.0	10.69	23.33	11.17	22.86	12.40	21.63
1600.0	10.40	23.90	10.88	23.42	12.11	22.20
1650.0	9.99	24.58	10.47	24.10	11.71	22.86
1700.0	10.26	24.56	10.74	24.09	11.98	22.85
1750.0	10.67	24.41	11.15	23.93	12.39	22.69
1800.0	10.82	24.50	11.31	24.02	12.56	22.76
1850.0	10.48	25.09	10.97	24.60	12.22	23.34
1900.0	10.58	25.21	11.07	24.73	12.32	23.47
1950.0	9.77	26.25	10.26	25.76	11.51	24.51
2000.0	9.77	26.47	10.26	25.98	11.53	24.71
2050.0	9.84	26.61	10.33	26.12	11.60	24.86
2100.0	10.12	26.54	10.61	26.05	11.88	24.79
2150.0	10.72	26.15	11.21	25.66	12.48	24.39
2200.0	10.59	26.48	11.09	25.98	12.37	24.70
2250.0	10.44	26.82	10.94	26.33	12.22	25.05
2300.0	9.87	27.58	10.37	27.09	11.65	25.81
2350.0	10.21	27.43	10.71	26.94	11.99	25.65
2400.0	10.20	27.62	10.70	27.13	11.98	25.85
2450.0	10.50	27.51	11.00	27.01	12.28	25.73
2500.0	10.79	27.39	11.29	26.89	12.58	25.59
2550.0	10.95	27.40	11.45	26.90	12.74	25.61
2600.0	11.02	27.50	11.52	27.00	12.81	25.70
2650.0	10.90	27.78	11.40	27.28	12.69	25.99



Frequency	Gain(Iso.) Farfield	Ant.-Fact k Farfield	gi (10 m) Center	k (10m) Center	gi (3m) Center	k (3m) Center
MHz	dBi	dB/m	dBi	dB/m	dBi	dB/m
2700.0	10.48	28.37	10.98	27.87	12.27	26.57
2750.0	9.60	29.41	10.10	28.91	11.39	27.61
2800.0	9.07	30.09	9.57	29.59	10.86	28.30
2850.0	9.36	29.96	9.87	29.45	11.17	28.14
2900.0	9.72	29.75	10.23	29.24	11.53	27.94
2950.0	10.31	29.30	10.82	28.80	12.12	27.49
3000.0	10.98	28.78	11.49	28.28	12.79	26.97
3050.0	10.73	29.18	11.24	28.67	12.54	27.36
3100.0	10.56	29.49	11.07	28.98	12.37	27.67
3150.0	10.50	29.68	11.01	29.18	12.31	27.87
3200.0	10.29	30.03	10.80	29.53	12.10	28.22
3250.0	9.99	30.47	10.50	29.96	11.80	28.66
3300.0	9.76	30.83	10.27	30.33	11.57	29.02
3350.0	9.40	31.32	9.91	30.81	11.23	29.49
3400.0	9.15	31.70	9.66	31.19	10.98	29.87
3450.0	9.15	31.83	9.66	31.32	10.98	30.00
3500.0	9.46	31.64	9.97	31.13	11.29	29.81
3550.0	10.15	31.07	10.66	30.56	11.98	29.24
3600.0	9.95	31.39	10.46	30.89	11.78	29.57
3650.0	10.24	31.22	10.75	30.72	12.07	29.40
3700.0	10.54	31.05	11.05	30.53	12.37	29.21
3750.0	9.84	31.86	10.35	31.35	11.67	30.03
3800.0	9.85	31.96	10.36	31.46	11.68	30.14
3850.0	9.87	32.06	10.38	31.55	11.70	30.23
3900.0	9.84	32.20	10.35	31.69	11.67	30.37
3950.0	9.23	32.92	9.74	32.41	11.06	31.09
4000.0	9.29	32.97	9.80	32.46	11.12	31.14



**Bezugspunkt: Mitte**  
**Reference Point: Center**

