

# SCHWARZBECK MESS - ELEKTRONIK

An der Klinge 29 D-69250 Schönau Tel.: 06228/1001 Fax.: (49)6228/1003

## SGA 1800 Gewinn-Normal SGA 1800 Gain Standard Antenna

### Beschreibung

Die Gewinn-Normale SGA bestehen aus einem quadratischen Reflektor der Kantenlänge  $\lambda$ . Im Abstand von  $\lambda/4$  vor dem Reflektor sind jeweils 2 Halbwellendipole angebracht. Der Isotropgewinn beträgt etwa 9.8 dBi bei der Dimensionierungsfrequenz. Die Dimensionierungsfrequenz kann zwischen 430 MHz und 2.8 GHz angegeben werden. Der 3 dB-Öffnungswinkel beträgt etwa 60°. Die Normale werden eingesetzt, wenn eine Referenzantenne mit exakt bekanntem Gewinn bei guter Richtwirkung und guter Rückdämpfung benötigt wird.

### Description

The Gain Standard Antenna consists of a square-shaped reflector with dimensions  $\lambda \times \lambda$ . Two half-wave dipoles are mounted  $\lambda/4$  in front of the reflector plate. The gain is 9.8 dBi at the antennas' design frequency. The design frequency may be specified from 430 MHz to 2.8 GHz. The half power beamwidth is approx. 60°. The standard gain antenna is used for applications which require a high gain with good directivity and good front to back ratio.



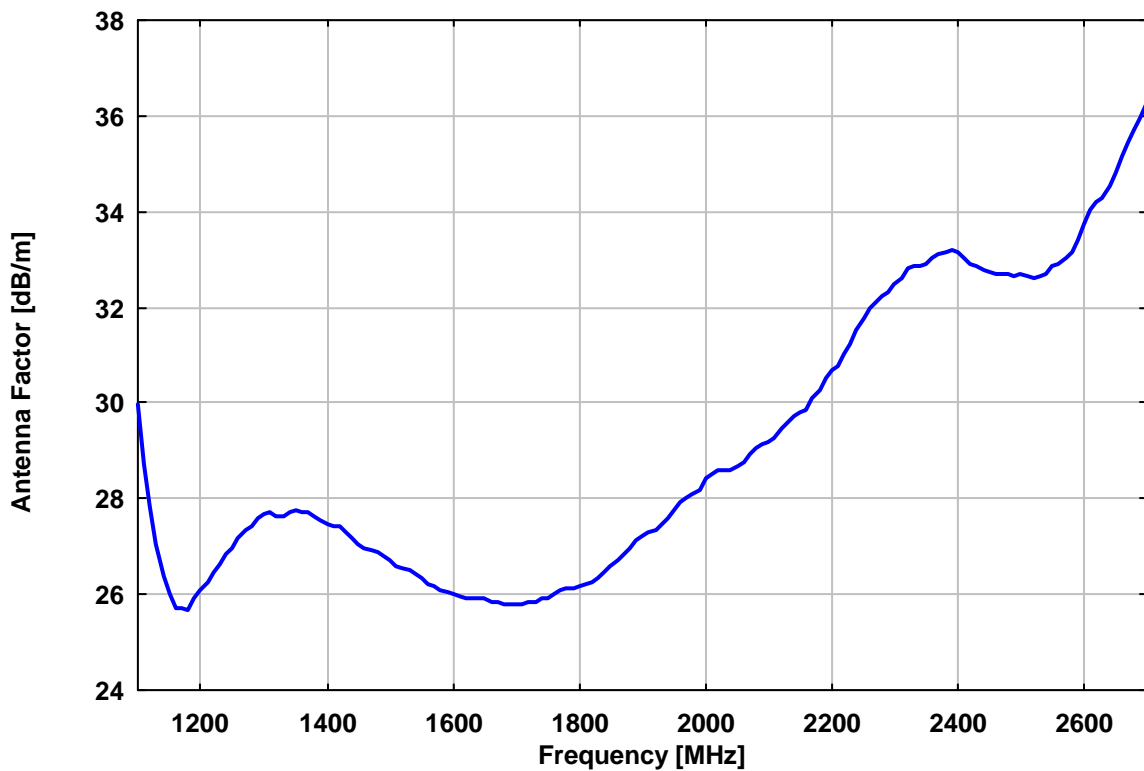
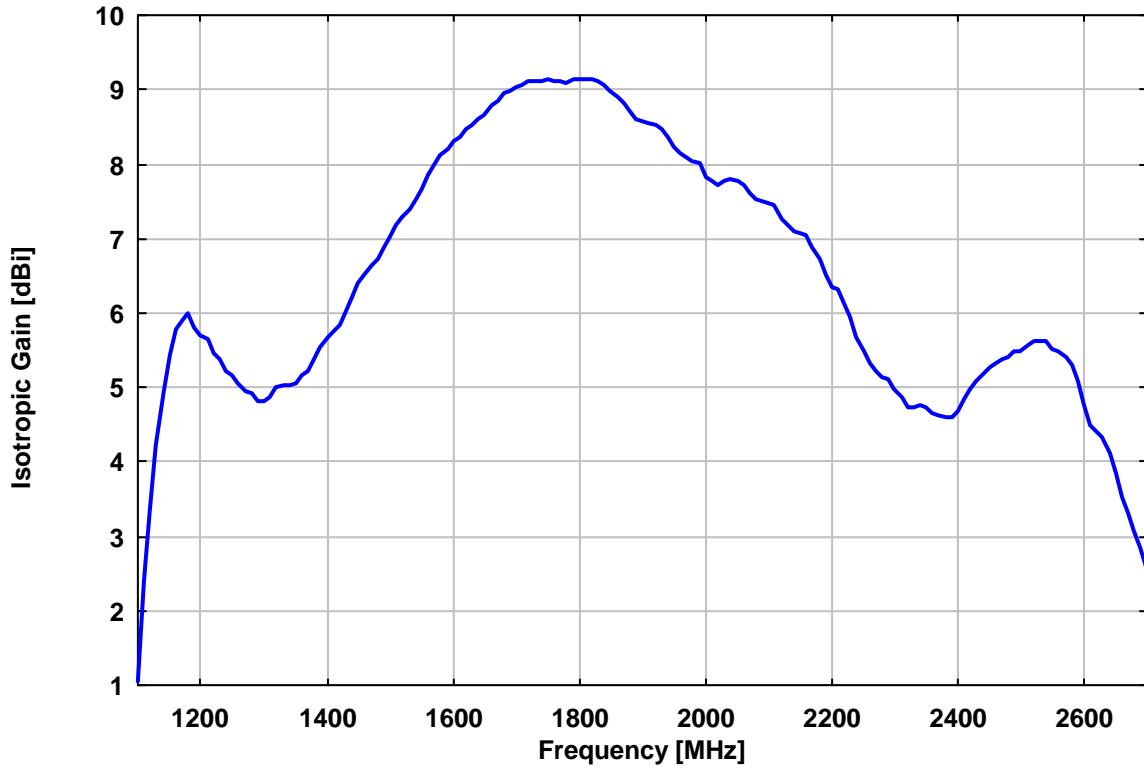
Nennfrequenzbereich:	1.7 GHz - 1.9 GHz
Nutzbarer Frequenzbereich:	1.4 GHz - 2.2 GHz
Abmessungen: (B x H x T)	170 x 170 x 340 mm
Wellenlänge $\lambda$ [m]:	$300/f$ [MHz]
Bandbreite: ( $g_i > 6$ dBi)	$\approx 1.7 : 1$
Befestigungsrohr (L x d):	270 x 22 mm
Anschluß (Buchse):	N
Nominelle Impedanz:	50 $\Omega$
Maximale Eingangsleistung:	300 W
Antennenbezugspunkt: Reflektor	

Nominal Frequency Range:	
Useable Frequency Range:	
Dimensions (W x H x D):	
Wavelength $\lambda$ [m]:	
Bandwidth ( $g_i > 6$ dBi):	
Mounting Tube (L x d):	
Connector (female):	
Nominal Impedance:	
Maximum Input Power:	
Antenna Reference Point: Reflector	

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Frequency	Distance	Wavelength	Attenuation	Gain(Isotr.)	Gain(Dipole)	Ant.-Factor
Frequenz	Abstand	Wellenlänge	Dämpfung	Isotrop-gewinn	Gewinn über Dipol	Ant.-Wandlungsmaß
MHz	m	m	dB	dBi	dBd	dB/m
1100.00	2.00	0.27	37.17	1.06	-1.09	29.99
1110.00	2.00	0.27	34.58	2.40	0.25	28.73
1120.00	2.00	0.27	32.76	3.34	1.19	27.86
1130.00	2.00	0.27	31.08	4.22	2.07	27.06
1140.00	2.00	0.26	29.69	4.96	2.81	26.40
1150.00	2.00	0.26	28.79	5.44	3.29	25.99
1160.00	2.00	0.26	28.20	5.78	3.63	25.73
1170.00	2.00	0.26	28.07	5.88	3.73	25.70
1180.00	2.00	0.25	27.92	5.99	3.84	25.67
1190.00	2.00	0.25	28.34	5.82	3.67	25.91
1200.00	2.00	0.25	28.62	5.71	3.56	26.09
1210.00	2.00	0.25	28.85	5.63	3.48	26.24
1220.00	2.00	0.25	29.25	5.47	3.32	26.48
1230.00	2.00	0.24	29.52	5.37	3.22	26.65
1240.00	2.00	0.24	29.87	5.23	3.08	26.86
1250.00	2.00	0.24	30.07	5.17	3.02	26.99
1260.00	2.00	0.24	30.36	5.06	2.91	27.17
1270.00	2.00	0.24	30.64	4.95	2.80	27.35
1280.00	2.00	0.23	30.75	4.93	2.78	27.44
1290.00	2.00	0.23	31.03	4.82	2.67	27.61
1300.00	2.00	0.23	31.12	4.81	2.66	27.69
1310.00	2.00	0.23	31.09	4.86	2.71	27.70
1320.00	2.00	0.23	30.87	5.00	2.85	27.63
1330.00	2.00	0.23	30.87	5.03	2.88	27.66
1340.00	2.00	0.22	30.92	5.04	2.89	27.72
1350.00	2.00	0.22	30.97	5.05	2.90	27.77
1360.00	2.00	0.22	30.81	5.16	3.01	27.73
1370.00	2.00	0.22	30.77	5.22	3.06	27.74
1380.00	2.00	0.22	30.52	5.37	3.22	27.65
1390.00	2.00	0.22	30.24	5.54	3.39	27.54
1400.00	2.00	0.21	30.02	5.69	3.53	27.46
1410.00	2.00	0.21	29.90	5.77	3.62	27.43
1420.00	2.00	0.21	29.82	5.85	3.69	27.42
1430.00	2.00	0.21	29.53	6.02	3.87	27.31
1440.00	2.00	0.21	29.18	6.22	4.07	27.16
1450.00	2.00	0.21	28.90	6.40	4.24	27.05
1460.00	2.00	0.21	28.71	6.52	4.37	26.99
1470.00	2.00	0.20	28.56	6.63	4.47	26.94
1480.00	2.00	0.20	28.42	6.72	4.57	26.90
1490.00	2.00	0.20	28.14	6.89	4.74	26.79
1500.00	2.00	0.20	27.92	7.03	4.88	26.71
1510.00	2.00	0.20	27.67	7.19	5.04	26.61
1520.00	2.00	0.20	27.51	7.30	5.15	26.56
1530.00	2.00	0.20	27.35	7.40	5.25	26.51
1540.00	2.00	0.19	27.14	7.54	5.38	26.44
1550.00	2.00	0.19	26.94	7.67	5.52	26.36
1560.00	2.00	0.19	26.63	7.85	5.70	26.23
MHz	m	m	dB	dBi	dBd	dB/m

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Frequency Frequenz	Distance Abstand	Wavelength Wellenlänge	Attenuation Dämpfung	Gain(Isotr.) Isotropgewinn	Gain(Dipole) Gewinn über Dipol	Ant.-Factor Ant.-Wandlungsmaß
MHz	m	m	dB	dBi	dBd	dB/m
1570.00	2.00	0.19	26.42	7.98	5.83	26.16
1580.00	2.00	0.19	26.19	8.12	5.97	26.07
1590.00	2.00	0.19	26.10	8.20	6.04	26.05
1600.00	2.00	0.19	25.95	8.30	6.15	26.00
1610.00	2.00	0.19	25.85	8.37	6.22	25.98
1620.00	2.00	0.19	25.69	8.48	6.33	25.93
1630.00	2.00	0.18	25.67	8.52	6.37	25.94
1640.00	2.00	0.18	25.57	8.60	6.44	25.92
1650.00	2.00	0.18	25.51	8.65	6.50	25.92
1660.00	2.00	0.18	25.31	8.78	6.63	25.85
1670.00	2.00	0.18	25.22	8.85	6.70	25.83
1680.00	2.00	0.18	25.10	8.94	6.78	25.79
1690.00	2.00	0.18	25.07	8.97	6.82	25.80
1700.00	2.00	0.18	25.02	9.03	6.88	25.80
1710.00	2.00	0.18	24.98	9.07	6.92	25.81
1720.00	2.00	0.17	24.95	9.11	6.96	25.82
1730.00	2.00	0.17	24.99	9.12	6.97	25.86
1740.00	2.00	0.17	25.05	9.12	6.96	25.92
1750.00	2.00	0.17	25.05	9.14	6.99	25.94
1760.00	2.00	0.17	25.15	9.12	6.96	26.02
1770.00	2.00	0.17	25.20	9.11	6.96	26.07
1780.00	2.00	0.17	25.29	9.09	6.94	26.13
1790.00	2.00	0.17	25.23	9.15	7.00	26.13
1800.00	2.00	0.17	25.30	9.14	6.98	26.19
1810.00	2.00	0.17	25.32	9.15	7.00	26.22
1820.00	2.00	0.16	25.38	9.14	6.99	26.28
1830.00	2.00	0.16	25.47	9.12	6.97	26.35
1840.00	2.00	0.16	25.66	9.05	6.90	26.46
1850.00	2.00	0.16	25.87	8.97	6.82	26.59
1860.00	2.00	0.16	26.03	8.91	6.76	26.70
1870.00	2.00	0.16	26.29	8.80	6.65	26.85
1880.00	2.00	0.16	26.51	8.72	6.57	26.98
1890.00	2.00	0.16	26.78	8.61	6.46	27.14
1900.00	2.00	0.16	26.89	8.57	6.42	27.22
1910.00	2.00	0.16	26.99	8.55	6.40	27.29
1920.00	2.00	0.16	27.09	8.52	6.37	27.36
1930.00	2.00	0.16	27.26	8.46	6.31	27.47
1940.00	2.00	0.15	27.49	8.37	6.22	27.61
1950.00	2.00	0.15	27.79	8.24	6.09	27.78
1960.00	2.00	0.15	28.01	8.15	6.00	27.92
1970.00	2.00	0.15	28.15	8.10	5.95	28.01
1980.00	2.00	0.15	28.30	8.05	5.90	28.10
1990.00	2.00	0.15	28.42	8.01	5.86	28.19
2000.00	2.00	0.15	28.84	7.82	5.67	28.42
2010.00	2.00	0.15	28.96	7.78	5.63	28.50
2020.00	2.00	0.15	29.15	7.71	5.56	28.61
2030.00	2.00	0.15	29.08	7.77	5.62	28.60
MHz	m	m	dB	dBi	dBd	dB/m

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Frequenz	Abstand	Wellenlänge	Dämpfung	Isotropgewinn	Gewinn über Dipol	Ant.-Wandlungsmaß
MHz	m	m	dB	dBi	dBd	dB/m
2040.00	2.00	0.15	29.04	7.81	5.66	28.60
2050.00	2.00	0.15	29.15	7.78	5.63	28.68
2060.00	2.00	0.15	29.30	7.72	5.57	28.77
2070.00	2.00	0.14	29.58	7.60	5.45	28.94
2080.00	2.00	0.14	29.78	7.52	5.37	29.06
2090.00	2.00	0.14	29.86	7.50	5.35	29.12
2100.00	2.00	0.14	29.97	7.47	5.32	29.19
2110.00	2.00	0.14	30.04	7.46	5.31	29.25
2120.00	2.00	0.14	30.46	7.27	5.11	29.48
2130.00	2.00	0.14	30.67	7.18	5.03	29.60
2140.00	2.00	0.14	30.85	7.11	4.96	29.71
2150.00	2.00	0.14	30.97	7.07	4.92	29.80
2160.00	2.00	0.14	31.08	7.04	4.89	29.87
2170.00	2.00	0.14	31.45	6.87	4.72	30.08
2180.00	2.00	0.14	31.78	6.73	4.58	30.26
2190.00	2.00	0.14	32.26	6.51	4.36	30.52
2200.00	2.00	0.14	32.59	6.36	4.21	30.70
2210.00	2.00	0.14	32.72	6.32	4.16	30.79
2220.00	2.00	0.14	33.12	6.14	3.98	31.01
2230.00	2.00	0.13	33.54	5.95	3.80	31.24
2240.00	2.00	0.13	34.11	5.68	3.53	31.54
2250.00	2.00	0.13	34.55	5.48	3.33	31.78
2260.00	2.00	0.13	34.88	5.33	3.18	31.97
2270.00	2.00	0.13	35.13	5.23	3.08	32.11
2280.00	2.00	0.13	35.35	5.14	2.99	32.24
2290.00	2.00	0.13	35.46	5.10	2.95	32.32
2300.00	2.00	0.13	35.74	4.98	2.83	32.47
2310.00	2.00	0.13	36.00	4.87	2.72	32.62
2320.00	2.00	0.13	36.34	4.72	2.57	32.81
2330.00	2.00	0.13	36.36	4.73	2.58	32.84
2340.00	2.00	0.13	36.36	4.74	2.59	32.86
2350.00	2.00	0.13	36.44	4.72	2.57	32.92
2360.00	2.00	0.13	36.60	4.66	2.51	33.02
2370.00	2.00	0.13	36.72	4.62	2.47	33.10
2380.00	2.00	0.13	36.79	4.60	2.45	33.15
2390.00	2.00	0.13	36.83	4.60	2.45	33.19
2400.00	2.00	0.13	36.70	4.69	2.54	33.14
2410.00	2.00	0.12	36.45	4.83	2.68	33.03
2420.00	2.00	0.12	36.19	4.98	2.83	32.92
2430.00	2.00	0.12	36.01	5.08	2.93	32.85
2440.00	2.00	0.12	35.83	5.19	3.04	32.78
2450.00	2.00	0.12	35.74	5.26	3.11	32.75
2460.00	2.00	0.12	35.63	5.33	3.18	32.71
2470.00	2.00	0.12	35.53	5.39	3.24	32.68
2480.00	2.00	0.12	35.53	5.41	3.26	32.69
2490.00	2.00	0.12	35.39	5.50	3.35	32.64
2500.00	2.00	0.12	35.42	5.50	3.35	32.68
MHz	m	m	dB	dBi	dBd	dB/m

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Frequency	Distance	Wavelength	Attenuation	Gain(Isotr.)	Gain(Dipole)	Ant.-Factor
Frequenz	Abstand	Wellenlänge	Dämpfung	Isotrop-gewinn	Gewinn über Dipol	Ant.-Wandlungsmaß
MHz	m	m	dB	dBi	dBd	dB/m
2510.00	2.00	0.12	35.32	5.57	3.42	32.64
2520.00	2.00	0.12	35.25	5.62	3.47	32.63
2530.00	2.00	0.12	35.31	5.61	3.46	32.67
2540.00	2.00	0.12	35.33	5.62	3.47	32.70
2550.00	2.00	0.12	35.57	5.51	3.36	32.84
2560.00	2.00	0.12	35.67	5.48	3.33	32.90
2570.00	2.00	0.12	35.85	5.41	3.26	33.01
2580.00	2.00	0.12	36.08	5.31	3.16	33.14
2590.00	2.00	0.12	36.58	5.07	2.92	33.41
2600.00	2.00	0.12	37.24	4.76	2.61	33.76
2610.00	2.00	0.11	37.79	4.50	2.35	34.05
2620.00	2.00	0.11	38.01	4.41	2.26	34.18
2630.00	2.00	0.11	38.19	4.34	2.19	34.28
2640.00	2.00	0.11	38.65	4.13	1.98	34.53
2650.00	2.00	0.11	39.21	3.86	1.71	34.83
2660.00	2.00	0.11	39.90	3.53	1.38	35.18
2670.00	2.00	0.11	40.37	3.31	1.16	35.44
2680.00	2.00	0.11	40.88	3.08	0.93	35.71
2690.00	2.00	0.11	41.34	2.86	0.71	35.95
2700.00	2.00	0.11	42.11	2.49	0.34	36.35
MHz	m	m	dB	dBi	dBd	dB/m