

4:1 Hochleistungs-Balun
4:1 High Power Balun



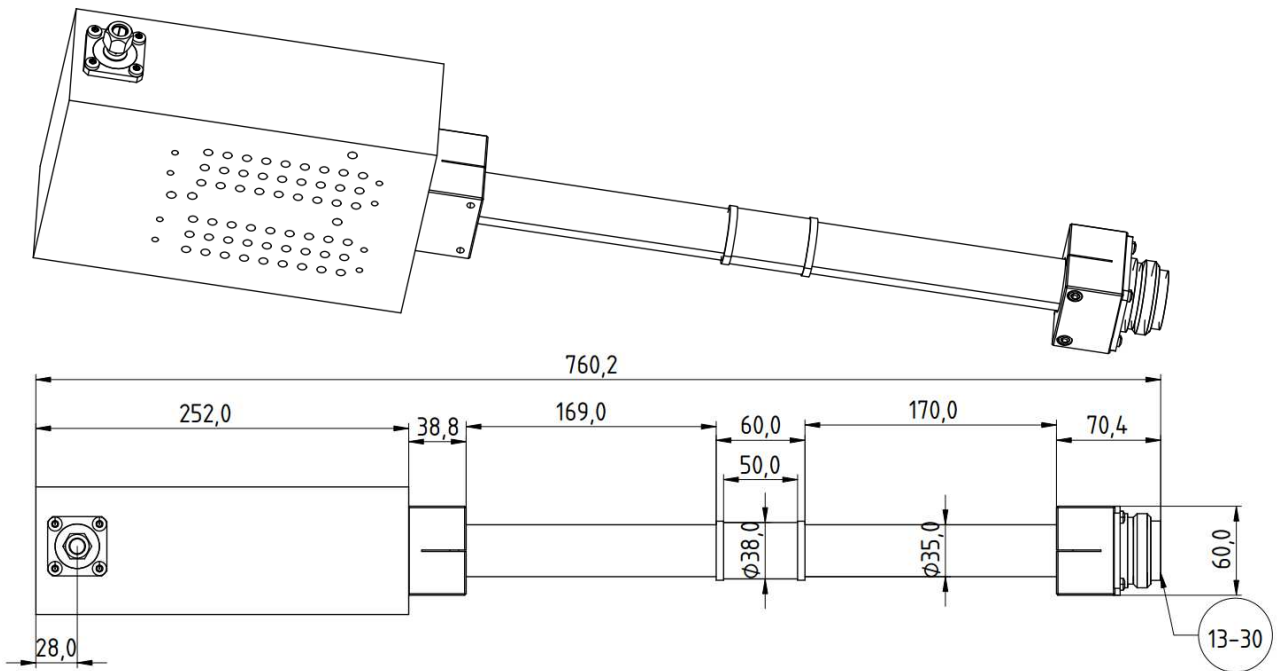
Beschreibung:

Der Hochleistungs-Balun VHBD 9134-10 dient zur Störfestigkeitsprüfung im Frequenzbereich von 20 MHz bis 280 MHz. Er eignet sich zur Aufnahme verschiedener Strahlerelemente mit 10 mm Zapfen. Durch ein Impedanz-Transformationsverhältnis von 4:1, einem extrem verlustarmen Aufbau und einer Dimensionierung für höchste Eingangsleistungen können enorme Feldstärken erzeugt werden. Das Halterohr des Baluns ist mit einer 13-30 Buchse ausgestattet.

Description:

The high power balun VHBD 9134-10 was designed for immunity tests in the frequency range from 20 MHz to 280 MHz. The symmetrical terminals can accept several types of radiating elements with 10 mm shaft. A transformation ratio for impedances of 4:1 and an extremely low-loss design allows the generation of highest field strengths in the VHF range. The mounting tube is equipped with a 13-30 coaxial connector.

Technische Daten:		Specifications:	
Frequenzbereich:	20 ... 280 MHz	Frequency Range:	
Nominelle Impedanz:	50 Ω	Nominal Impedance:	
Max. Eingangsleistung:	10 kW @ 20-30 MHz 8 kW @ 50 MHz 6 kW @ 100 MHz 4 kW @ 200 MHz	Max. Power:	
Koaxialanschluss:	13-30 IEC 60169-5	Coaxial Connector:	
Symmetrische Klemmen:	∅ 10 mm	Symmetrical Terminals:	
Gehäusematerial:	Aluminium	Housing material:	
Abmessungen:	762 x 210 x 90 mm	Dimensions:	
Befestigung:	∅ 38 mm	Mounting	
Gewicht:	5.5 kg	Weight:	
Passende Strahlerelemente:	BBA 9106, BBAL 9136, BBFA 9146, TRI 0630	Suitable Radiating Elements:	
Mastadapter:	AA 9202-38	Mast Adapter:	



Koaxialanschluß 13-30
Coaxial Connector 13-30



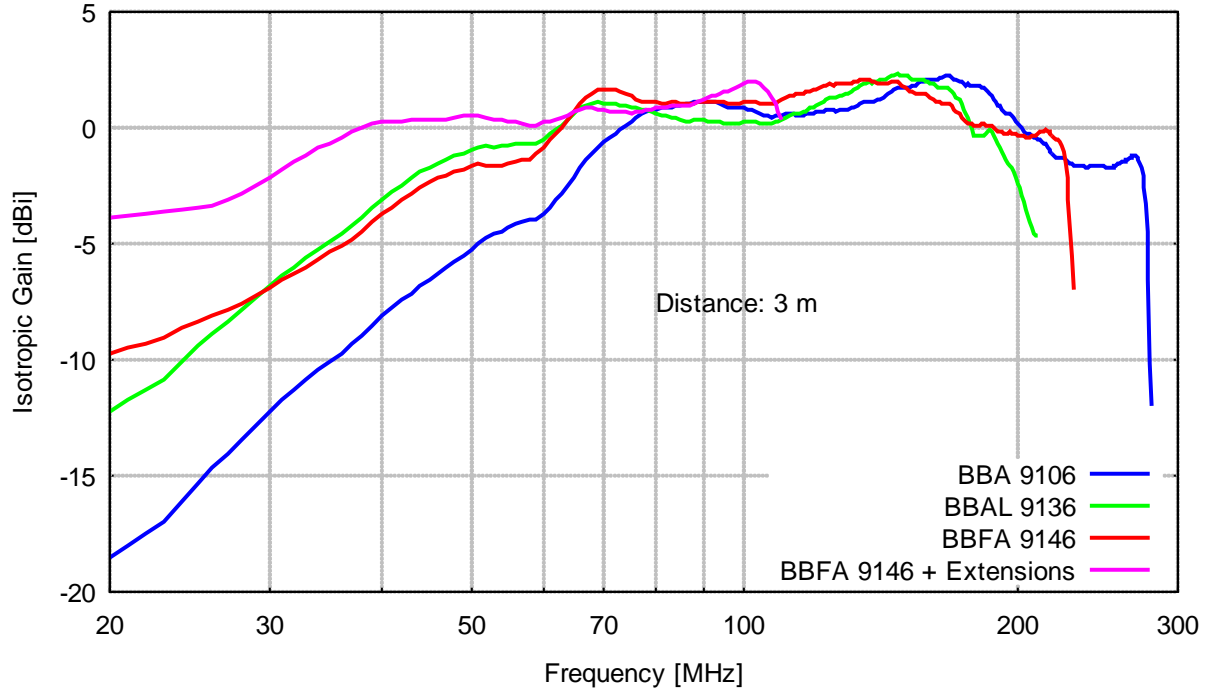
AA 9202-38 Mastadapter
AA 9202-38 Mast Adapter





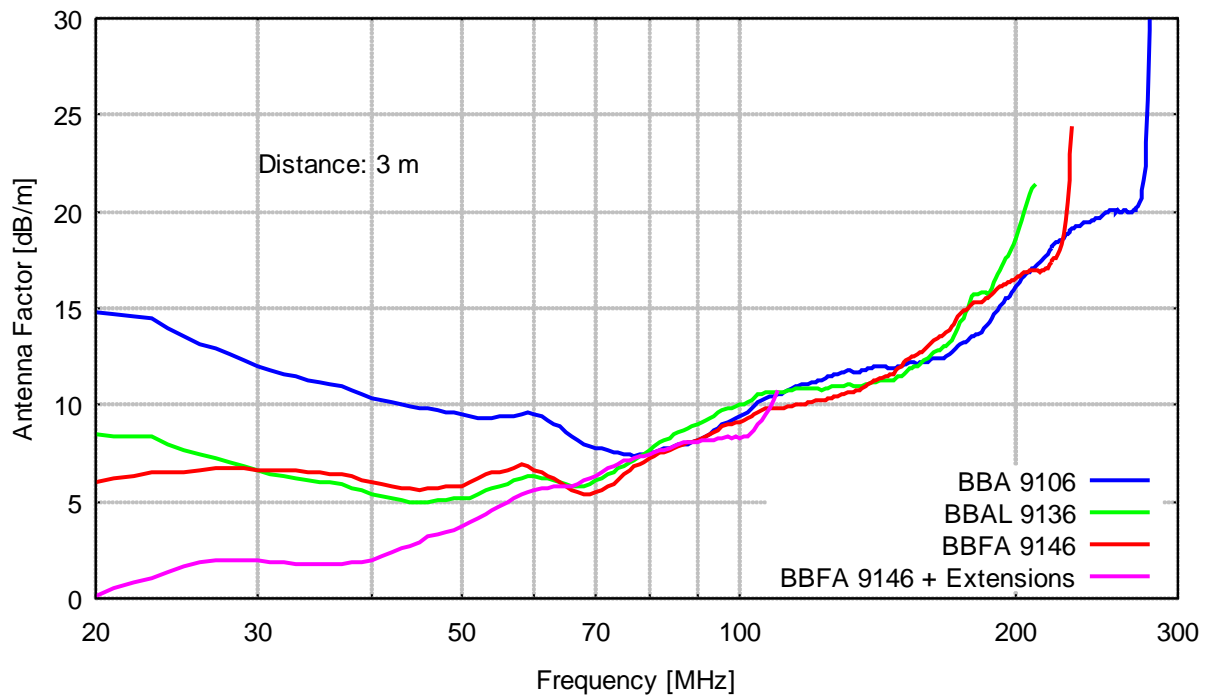
Gewinn mit verschiedenen Strahlerelementen
Gain with different radiating elements

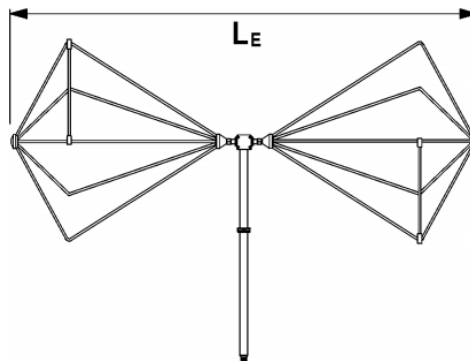
VHBD 9134-10



Antennen-Wandlungsmaß mit verschiedenen Strahlerelementen
Antenna Factor with different radiating elements

VHBD 9134-10





Radiating Element Type	L_E [m]	Remarks
BBA 9106	1.42	Classical Biconical Element
BBAL 9136	2.05	Large Biconical Element
BBFA 9146	1.89	Collapsible Conical Element opened to 1.2 m diameter circle
BBFA 9146 with Extensions	3.53	Opened to 1.2 m diameter circle at extension junction
TRI 0630	1.47	Triangle Elements with foldable extensions for automotive immunity tests

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
20.00	-18.56	14.80
21.00	-17.99	14.65
22.00	-17.48	14.55
23.00	-17.00	14.45
24.00	-16.12	13.94
25.00	-15.35	13.53
26.00	-14.62	13.14
27.00	-14.05	12.90
28.00	-13.45	12.61
29.00	-12.84	12.31
30.00	-12.24	12.00
31.00	-11.72	11.77
32.00	-11.29	11.61
33.00	-10.87	11.46
34.00	-10.46	11.31
35.00	-10.06	11.16
36.00	-9.72	11.07
37.00	-9.34	10.92
38.00	-8.95	10.77
39.00	-8.53	10.57
40.00	-8.12	10.38
41.00	-7.76	10.24
42.00	-7.45	10.13
43.00	-7.12	10.01
44.00	-6.81	9.90
45.00	-6.55	9.83
46.00	-6.30	9.78
47.00	-6.06	9.72

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
48.00	-5.81	9.65
49.00	-5.56	9.58
50.00	-5.27	9.47
51.00	-5.00	9.37
52.00	-4.73	9.27
53.00	-4.58	9.29
54.00	-4.47	9.34
55.00	-4.33	9.36
56.00	-4.18	9.36
57.00	-4.07	9.41
58.00	-4.01	9.50
59.00	-3.97	9.61
60.00	-3.75	9.53
61.00	-3.45	9.38
62.00	-3.15	9.22
63.00	-2.83	9.04
64.00	-2.51	8.85
65.00	-2.13	8.61
66.00	-1.73	8.34
67.00	-1.39	8.13
68.00	-1.10	7.97
69.00	-0.87	7.87
70.00	-0.65	7.77
71.00	-0.47	7.72
72.00	-0.28	7.65
73.00	-0.09	7.58
74.00	0.10	7.50
75.00	0.27	7.45

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
76.00	0.44	7.40
77.00	0.56	7.39
78.00	0.65	7.41
79.00	0.74	7.43
80.00	0.77	7.51
81.00	0.81	7.58
82.00	0.85	7.65
83.00	0.89	7.71
84.00	0.94	7.77
85.00	0.98	7.83
86.00	1.00	7.91
87.00	1.05	7.96
88.00	1.10	8.01
89.00	1.15	8.06
90.00	1.15	8.15
91.00	1.13	8.27
92.00	1.11	8.39
93.00	1.07	8.52
94.00	1.04	8.64
95.00	0.97	8.80
96.00	0.89	8.98
97.00	0.85	9.11
98.00	0.86	9.18
99.00	0.83	9.30
100.00	0.84	9.38
101.00	0.79	9.52
102.00	0.74	9.65
103.00	0.68	9.80
104.00	0.61	9.95
105.00	0.52	10.12
106.00	0.47	10.26
107.00	0.45	10.36
108.00	0.47	10.42
109.00	0.48	10.49
110.00	0.52	10.53
111.00	0.55	10.58
112.00	0.57	10.63
113.00	0.56	10.72
114.00	0.54	10.82
115.00	0.52	10.91
116.00	0.52	10.99
117.00	0.56	11.02
118.00	0.60	11.06
119.00	0.62	11.11
120.00	0.64	11.16
121.00	0.66	11.22
122.00	0.69	11.26
123.00	0.74	11.28
124.00	0.75	11.34
125.00	0.73	11.43
126.00	0.72	11.51
127.00	0.75	11.55

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
128.00	0.74	11.62
129.00	0.78	11.65
130.00	0.80	11.70
131.00	0.82	11.75
132.00	0.87	11.76
133.00	0.97	11.73
134.00	1.04	11.72
135.00	1.13	11.70
136.00	1.13	11.76
137.00	1.14	11.81
138.00	1.13	11.89
139.00	1.14	11.94
140.00	1.18	11.96
141.00	1.24	11.96
142.00	1.28	11.99
143.00	1.36	11.97
144.00	1.44	11.95
145.00	1.55	11.90
146.00	1.61	11.90
147.00	1.69	11.88
148.00	1.69	11.94
149.00	1.69	11.99
150.00	1.70	12.04
151.00	1.73	12.07
152.00	1.74	12.12
153.00	1.76	12.15
154.00	1.79	12.18
155.00	1.87	12.16
156.00	1.94	12.14
157.00	1.99	12.15
158.00	2.04	12.15
159.00	2.06	12.19
160.00	2.08	12.22
161.00	2.06	12.30
162.00	2.05	12.36
163.00	2.08	12.38
164.00	2.12	12.40
165.00	2.15	12.42
166.00	2.19	12.43
167.00	2.23	12.44
168.00	2.23	12.50
169.00	2.16	12.62
170.00	2.09	12.74
171.00	2.03	12.85
172.00	1.99	12.94
173.00	1.93	13.05
174.00	1.85	13.18
175.00	1.82	13.26
176.00	1.85	13.28
177.00	1.84	13.34
178.00	1.82	13.41
179.00	1.78	13.50

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
180.00	1.78	13.55
181.00	1.77	13.60
182.00	1.74	13.68
183.00	1.69	13.78
184.00	1.61	13.91
185.00	1.55	14.01
186.00	1.47	14.14
187.00	1.37	14.29
188.00	1.22	14.48
189.00	1.08	14.67
190.00	0.97	14.83
191.00	0.90	14.94
192.00	0.80	15.09
193.00	0.71	15.22
194.00	0.63	15.35
195.00	0.56	15.46
196.00	0.55	15.52
197.00	0.48	15.63
198.00	0.38	15.77
199.00	0.26	15.94
200.00	0.13	16.11
201.00	0.05	16.23
202.00	-0.05	16.38
203.00	-0.14	16.51
204.00	-0.23	16.64
205.00	-0.28	16.74
206.00	-0.31	16.81
207.00	-0.36	16.90
208.00	-0.44	17.02
209.00	-0.48	17.10
210.00	-0.53	17.19
211.00	-0.55	17.26
212.00	-0.59	17.34
213.00	-0.67	17.46
214.00	-0.74	17.57
215.00	-0.84	17.71
216.00	-0.92	17.83
217.00	-1.02	17.97
218.00	-1.12	18.11
219.00	-1.18	18.21
220.00	-1.27	18.34
221.00	-1.30	18.41
222.00	-1.27	18.42
223.00	-1.28	18.47
224.00	-1.31	18.53
225.00	-1.38	18.64
226.00	-1.48	18.78
227.00	-1.51	18.85
228.00	-1.53	18.91
229.00	-1.60	19.02
230.00	-1.66	19.11
231.00	-1.68	19.17

Frequency	Isotropic gain 3 m BBA 9106 Elements	Antenna factor 3 m BBA 9106 Elements
MHz	dBi	dB/m
232.00	-1.69	19.22
233.00	-1.68	19.25
234.00	-1.66	19.26
235.00	-1.65	19.29
236.00	-1.68	19.36
237.00	-1.70	19.41
238.00	-1.70	19.45
239.00	-1.65	19.44
240.00	-1.64	19.46
241.00	-1.66	19.52
242.00	-1.66	19.56
243.00	-1.66	19.59
244.00	-1.64	19.61
245.00	-1.63	19.63
246.00	-1.64	19.68
247.00	-1.66	19.73
248.00	-1.67	19.78
249.00	-1.71	19.85
250.00	-1.74	19.92
251.00	-1.75	19.96
252.00	-1.76	20.01
253.00	-1.77	20.05
254.00	-1.72	20.04
255.00	-1.66	20.01
256.00	-1.63	20.01
257.00	-1.58	20.00
258.00	-1.56	20.01
259.00	-1.52	20.01
260.00	-1.47	19.99
261.00	-1.46	20.01
262.00	-1.44	20.03
263.00	-1.39	20.01
264.00	-1.35	20.00
265.00	-1.28	19.96
266.00	-1.28	20.00
267.00	-1.24	19.99
268.00	-1.23	20.01
269.00	-1.25	20.07
270.00	-1.28	20.13
271.00	-1.40	20.28
272.00	-1.55	20.46
273.00	-1.77	20.71
274.00	-2.11	21.09
275.00	-2.58	21.59
276.00	-3.31	22.35
277.00	-4.50	23.57
278.00	-6.60	25.70
279.00	-10.20	29.33
280.00	-12.01	31.17

Frequency	Isotropic gain 3 m BBAL 9136 Elements	Antenna factor 3 m BBAL 9136 Elements
MHz	dBi	dB/m
20.00	-12.24	8.48
21.00	-11.75	8.41
22.00	-11.32	8.39
23.00	-10.89	8.34
24.00	-10.09	7.91
25.00	-9.44	7.62
26.00	-8.88	7.40
27.00	-8.39	7.24
28.00	-7.86	7.02
29.00	-7.33	6.80
30.00	-6.85	6.61
31.00	-6.40	6.45
32.00	-6.01	6.33
33.00	-5.65	6.24
34.00	-5.28	6.13
35.00	-4.92	6.02
36.00	-4.60	5.95
37.00	-4.26	5.84
38.00	-3.88	5.70
39.00	-3.49	5.53
40.00	-3.11	5.37
41.00	-2.79	5.27
42.00	-2.50	5.18
43.00	-2.20	5.09
44.00	-1.92	5.01
45.00	-1.72	5.00
46.00	-1.53	5.01
47.00	-1.39	5.05
48.00	-1.23	5.07
49.00	-1.10	5.12
50.00	-0.94	5.14
51.00	-0.84	5.21
52.00	-0.80	5.34
53.00	-0.83	5.54
54.00	-0.79	5.66
55.00	-0.75	5.78
56.00	-0.72	5.90
57.00	-0.71	6.05
58.00	-0.74	6.23
59.00	-0.69	6.33
60.00	-0.50	6.28
61.00	-0.30	6.23
62.00	-0.10	6.17
63.00	0.11	6.10
64.00	0.32	6.02
65.00	0.59	5.89
66.00	0.83	5.78
67.00	0.98	5.76
68.00	1.05	5.82

Frequency	Isotropic gain 3 m BBAL 9136 Elements	Antenna factor 3 m BBAL 9136 Elements
MHz	dBi	dB/m
69.00	1.07	5.93
70.00	1.06	6.06
71.00	1.02	6.23
72.00	0.99	6.38
73.00	0.95	6.54
74.00	0.91	6.69
75.00	0.86	6.86
76.00	0.84	7.00
77.00	0.79	7.16
78.00	0.73	7.33
79.00	0.68	7.49
80.00	0.60	7.68
81.00	0.54	7.85
82.00	0.47	8.03
83.00	0.44	8.16
84.00	0.39	8.32
85.00	0.35	8.46
86.00	0.29	8.62
87.00	0.29	8.72
88.00	0.30	8.81
89.00	0.31	8.90
90.00	0.30	9.00
91.00	0.28	9.12
92.00	0.27	9.23
93.00	0.25	9.34
94.00	0.23	9.45
95.00	0.20	9.57
96.00	0.15	9.72
97.00	0.13	9.83
98.00	0.19	9.85
99.00	0.19	9.94
100.00	0.24	9.98
101.00	0.24	10.07
102.00	0.24	10.15
103.00	0.23	10.25
104.00	0.19	10.37
105.00	0.15	10.49
106.00	0.14	10.59
107.00	0.16	10.65
108.00	0.22	10.67
109.00	0.28	10.69
110.00	0.36	10.69
111.00	0.44	10.69
112.00	0.52	10.68
113.00	0.56	10.72
114.00	0.58	10.78
115.00	0.62	10.81
116.00	0.65	10.86
117.00	0.72	10.86

Frequency	Isotropic gain 3 m BBAL 9136 Elements	Antenna factor 3 m BBAL 9136 Elements
MHz	dBi	dB/m
118.00	0.82	10.84
119.00	0.89	10.84
120.00	0.97	10.83
121.00	1.04	10.84
122.00	1.13	10.82
123.00	1.22	10.80
124.00	1.26	10.83
125.00	1.29	10.87
126.00	1.32	10.91
127.00	1.38	10.92
128.00	1.40	10.96
129.00	1.44	10.99
130.00	1.49	11.01
131.00	1.53	11.04
132.00	1.59	11.04
133.00	1.69	11.01
134.00	1.78	10.98
135.00	1.88	10.95
136.00	1.90	10.99
137.00	1.93	11.02
138.00	1.92	11.10
139.00	1.94	11.14
140.00	1.97	11.17
141.00	2.02	11.18
142.00	2.04	11.23
143.00	2.09	11.24
144.00	2.13	11.26
145.00	2.20	11.25
146.00	2.26	11.25
147.00	2.30	11.27
148.00	2.27	11.36
149.00	2.25	11.43
150.00	2.22	11.52
151.00	2.19	11.61
152.00	2.13	11.73
153.00	2.07	11.84
154.00	2.03	11.94
155.00	2.05	11.98
156.00	2.04	12.04
157.00	2.03	12.11
158.00	2.01	12.18
159.00	1.97	12.28
160.00	1.92	12.38
161.00	1.85	12.51
162.00	1.77	12.64
163.00	1.73	12.73
164.00	1.71	12.81
165.00	1.70	12.87

Frequency	Isotropic gain 3 m BBAL 9136 Elements	Antenna factor 3 m BBAL 9136 Elements
MHz	dBi	dB/m
166.00	1.70	12.92
167.00	1.68	12.99
168.00	1.67	13.06
169.00	1.56	13.22
170.00	1.45	13.38
171.00	1.32	13.56
172.00	1.19	13.74
173.00	1.00	13.98
174.00	0.78	14.25
175.00	0.57	14.51
176.00	0.39	14.74
177.00	0.19	14.99
178.00	-0.03	15.26
179.00	-0.36	15.64
180.00	-0.35	15.68
181.00	-0.35	15.72
182.00	-0.33	15.75
183.00	-0.32	15.79
184.00	-0.30	15.82
185.00	-0.22	15.78
186.00	-0.07	15.68
187.00	-0.19	15.85
188.00	-0.35	16.05
189.00	-0.54	16.29
190.00	-0.73	16.53
191.00	-0.89	16.73
192.00	-1.06	16.95
193.00	-1.23	17.16
194.00	-1.39	17.37
195.00	-1.54	17.56
196.00	-1.62	17.69
197.00	-1.76	17.87
198.00	-1.93	18.08
199.00	-2.14	18.34
200.00	-2.38	18.62
201.00	-2.63	18.91
202.00	-2.91	19.24
203.00	-3.21	19.58
204.00	-3.51	19.92
205.00	-3.81	20.27
206.00	-4.06	20.56
207.00	-4.33	20.87
208.00	-4.57	21.15
209.00	-4.66	21.28
210.00	-4.69	21.35

Frequency	Isotropic gain 3 m BBFA 9146 Elements	Antenna factor 3 m BBFA 9146 Elements
MHz	dBi	dB/m
20.00	-9.76	6.00
21.00	-9.50	6.16
22.00	-9.28	6.35
23.00	-9.05	6.50
24.00	-8.64	6.46
25.00	-8.34	6.52
26.00	-8.11	6.63
27.00	-7.89	6.74
28.00	-7.59	6.75
29.00	-7.25	6.72
30.00	-6.90	6.66
31.00	-6.59	6.64
32.00	-6.28	6.60
33.00	-6.00	6.59
34.00	-5.69	6.54
35.00	-5.38	6.48
36.00	-5.11	6.46
37.00	-4.81	6.39
38.00	-4.46	6.28
39.00	-4.10	6.14
40.00	-3.73	5.99
41.00	-3.42	5.90
42.00	-3.14	5.82
43.00	-2.84	5.73
44.00	-2.56	5.65
45.00	-2.34	5.62
46.00	-2.17	5.65
47.00	-2.06	5.72
48.00	-1.91	5.75
49.00	-1.78	5.80
50.00	-1.64	5.84
51.00	-1.58	5.95
52.00	-1.63	6.17
53.00	-1.68	6.39
54.00	-1.61	6.48
55.00	-1.52	6.55
56.00	-1.46	6.64
57.00	-1.43	6.77
58.00	-1.40	6.89
59.00	-1.17	6.81
60.00	-0.83	6.61
61.00	-0.54	6.47
62.00	-0.26	6.33
63.00	0.03	6.18
64.00	0.35	5.99
65.00	0.72	5.76
66.00	1.04	5.57
67.00	1.26	5.48
68.00	1.48	5.39
69.00	1.60	5.40
70.00	1.64	5.48
71.00	1.64	5.61

Frequency	Isotropic gain 3 m BBFA 9146 Elements	Antenna factor 3 m BBFA 9146 Elements
MHz	dBi	dB/m
72.00	1.60	5.77
73.00	1.55	5.94
74.00	1.47	6.13
75.00	1.34	6.38
76.00	1.17	6.67
77.00	1.15	6.80
78.00	1.14	6.92
79.00	1.12	7.05
80.00	1.07	7.21
81.00	1.03	7.36
82.00	0.99	7.51
83.00	1.09	7.51
84.00	1.07	7.64
85.00	1.04	7.77
86.00	1.01	7.90
87.00	1.04	7.97
88.00	1.06	8.05
89.00	1.10	8.11
90.00	1.12	8.18
91.00	1.11	8.29
92.00	1.12	8.38
93.00	1.11	8.48
94.00	1.10	8.58
95.00	1.07	8.70
96.00	1.02	8.85
97.00	0.99	8.97
98.00	1.03	9.01
99.00	1.05	9.08
100.00	1.10	9.12
101.00	1.11	9.20
102.00	1.10	9.29
103.00	1.09	9.39
104.00	1.05	9.51
105.00	1.00	9.64
106.00	1.00	9.73
107.00	1.01	9.80
108.00	1.06	9.83
109.00	1.11	9.86
110.00	1.19	9.86
111.00	1.28	9.85
112.00	1.36	9.84
113.00	1.39	9.89
114.00	1.42	9.94
115.00	1.44	9.99
116.00	1.46	10.05
117.00	1.51	10.07
118.00	1.58	10.08
119.00	1.62	10.11
120.00	1.66	10.14
121.00	1.69	10.19
122.00	1.76	10.19
123.00	1.82	10.20

Frequency	Isotropic gain 3 m BBFA 9146 Elements	Antenna factor 3 m BBFA 9146 Elements
MHz	dBi	dB/m
124.00	1.85	10.24
125.00	1.84	10.32
126.00	1.87	10.36
127.00	1.89	10.41
128.00	1.89	10.47
129.00	1.90	10.53
130.00	1.91	10.59
131.00	1.92	10.65
132.00	1.95	10.68
133.00	2.01	10.69
134.00	2.05	10.71
135.00	2.09	10.74
136.00	2.06	10.83
137.00	2.04	10.91
138.00	1.96	11.06
139.00	1.93	11.15
140.00	1.91	11.23
141.00	1.91	11.29
142.00	1.89	11.38
143.00	1.91	11.42
144.00	1.92	11.47
145.00	1.94	11.51
146.00	1.95	11.56
147.00	1.94	11.63
148.00	1.87	11.76
149.00	1.78	11.90
150.00	1.70	12.04
151.00	1.64	12.16
152.00	1.56	12.30
153.00	1.51	12.40
154.00	1.46	12.51
155.00	1.47	12.56
156.00	1.46	12.62
157.00	1.44	12.70
158.00	1.43	12.76
159.00	1.38	12.87
160.00	1.32	12.98
161.00	1.24	13.12
162.00	1.15	13.26
163.00	1.11	13.35
164.00	1.09	13.43
165.00	1.06	13.51
166.00	1.05	13.57
167.00	1.04	13.63
168.00	1.01	13.72
169.00	0.90	13.88
170.00	0.78	14.05
171.00	0.67	14.21
172.00	0.57	14.36
173.00	0.44	14.54
174.00	0.32	14.71
175.00	0.23	14.85

Frequency	Isotropic gain 3 m BBFA 9146 Elements	Antenna factor 3 m BBFA 9146 Elements
MHz	dBi	dB/m
176.00	0.20	14.93
177.00	0.15	15.03
178.00	0.12	15.11
179.00	0.06	15.22
180.00	0.07	15.26
181.00	0.09	15.28
182.00	0.12	15.30
183.00	0.12	15.35
184.00	0.11	15.41
185.00	0.10	15.46
186.00	0.08	15.53
187.00	0.05	15.61
188.00	-0.02	15.72
189.00	-0.10	15.85
190.00	-0.15	15.95
191.00	-0.17	16.01
192.00	-0.21	16.10
193.00	-0.24	16.17
194.00	-0.26	16.24
195.00	-0.26	16.28
196.00	-0.22	16.29
197.00	-0.23	16.34
198.00	-0.25	16.40
199.00	-0.29	16.49
200.00	-0.33	16.57
201.00	-0.35	16.63
202.00	-0.37	16.70
203.00	-0.39	16.76
204.00	-0.43	16.84
205.00	-0.43	16.89
206.00	-0.40	16.90
207.00	-0.38	16.92
208.00	-0.38	16.96
209.00	-0.33	16.95
210.00	-0.27	16.93
211.00	-0.21	16.92
212.00	-0.15	16.90
213.00	-0.14	16.93
214.00	-0.12	16.95
215.00	-0.14	17.01
216.00	-0.20	17.11
217.00	-0.28	17.23
218.00	-0.38	17.37
219.00	-0.46	17.49
220.00	-0.54	17.61
221.00	-0.51	17.62
222.00	-0.61	17.76
223.00	-0.79	17.98
224.00	-1.07	18.29
225.00	-1.53	18.79
226.00	-2.20	19.50
227.00	-3.09	20.43

Frequency	Isotropic gain 3 m BBFA 9146 Elements	Antenna factor 3 m BBFA 9146 Elements
MHz	dBi	dB/m
228.00	-4.26	21.64
229.00	-5.54	22.96
230.00	-6.96	24.41

Frequency	Isotropic gain 3 m BBFA 9146 Elements with Extensions	Antenna factor 3 m BBFA 9146 Elements with Extensions
MHz	dBi	dB/m
20.00	-3.85	0.09
21.00	-3.82	0.48
22.00	-3.75	0.82
23.00	-3.62	1.07
24.00	-3.55	1.37
25.00	-3.46	1.64
26.00	-3.35	1.87
27.00	-3.13	1.98
28.00	-2.82	1.98
29.00	-2.48	1.95
30.00	-2.16	1.92
31.00	-1.82	1.87
32.00	-1.49	1.81
33.00	-1.18	1.77
34.00	-0.89	1.74
35.00	-0.66	1.76
36.00	-0.46	1.81
37.00	-0.22	1.80
38.00	-0.01	1.83
39.00	0.17	1.87
40.00	0.27	1.99
41.00	0.27	2.21
42.00	0.27	2.41
43.00	0.34	2.55
44.00	0.37	2.72
45.00	0.36	2.92
46.00	0.32	3.16
47.00	0.34	3.32
48.00	0.44	3.40
49.00	0.50	3.52
50.00	0.52	3.68
51.00	0.48	3.89
52.00	0.41	4.13
53.00	0.34	4.37
54.00	0.31	4.56
55.00	0.27	4.76
56.00	0.23	4.95
57.00	0.18	5.16

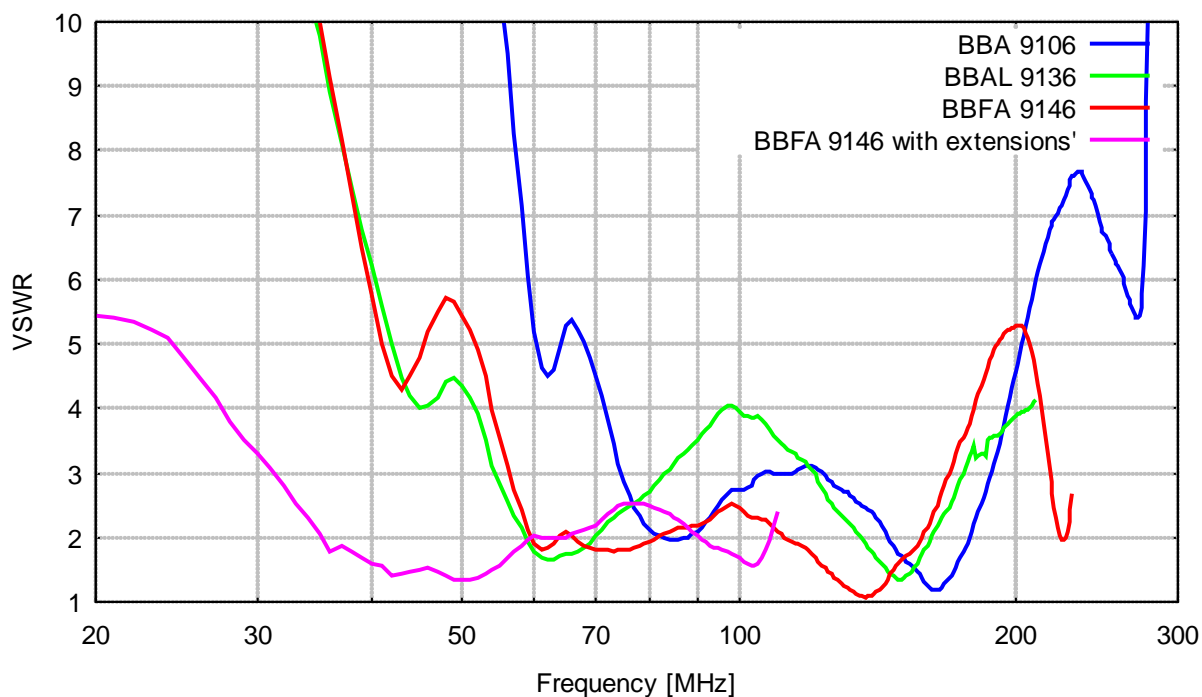
Frequency	Isotropic gain 3 m BBFA 9146 Elements with Extensions	Antenna factor 3 m BBFA 9146 Elements with Extensions
MHz	dBi	dB/m
58.00	0.10	5.39
59.00	0.11	5.53
60.00	0.23	5.55
61.00	0.29	5.64
62.00	0.35	5.72
63.00	0.42	5.79
64.00	0.52	5.82
65.00	0.65	5.83
66.00	0.78	5.83
67.00	0.82	5.92
68.00	0.82	6.05
69.00	0.80	6.20
70.00	0.77	6.35
71.00	0.72	6.53
72.00	0.68	6.69
73.00	0.67	6.82
74.00	0.65	6.95
75.00	0.63	7.09
76.00	0.66	7.18
77.00	0.68	7.27
78.00	0.73	7.33
79.00	0.80	7.37
80.00	0.82	7.46
81.00	0.85	7.54
82.00	0.86	7.64
83.00	0.90	7.70
84.00	0.91	7.80
85.00	0.92	7.89
86.00	0.91	8.00
87.00	0.96	8.05
88.00	1.02	8.09
89.00	1.12	8.09
90.00	1.20	8.10
91.00	1.27	8.13
92.00	1.35	8.15
93.00	1.41	8.18
94.00	1.49	8.19
95.00	1.55	8.22

Frequency	Isotropic gain 3 m BBFA 9146 Elements with Extensions	Antenna factor 3 m BBFA 9146 Elements with Extensions
MHz	dBi	dB/m
96.00	1.57	8.30
97.00	1.63	8.33
98.00	1.74	8.30
99.00	1.80	8.33
100.00	1.91	8.31
101.00	1.95	8.36
102.00	1.97	8.42
103.00	1.94	8.54

Frequency	Isotropic gain 3 m BBFA 9146 Elements with Extensions	Antenna factor 3 m BBFA 9146 Elements with Extensions
MHz	dBi	dB/m
104.00	1.86	8.70
105.00	1.69	8.95
106.00	1.52	9.21
107.00	1.28	9.53
108.00	1.03	9.86
109.00	0.70	10.27
110.00	0.31	10.74

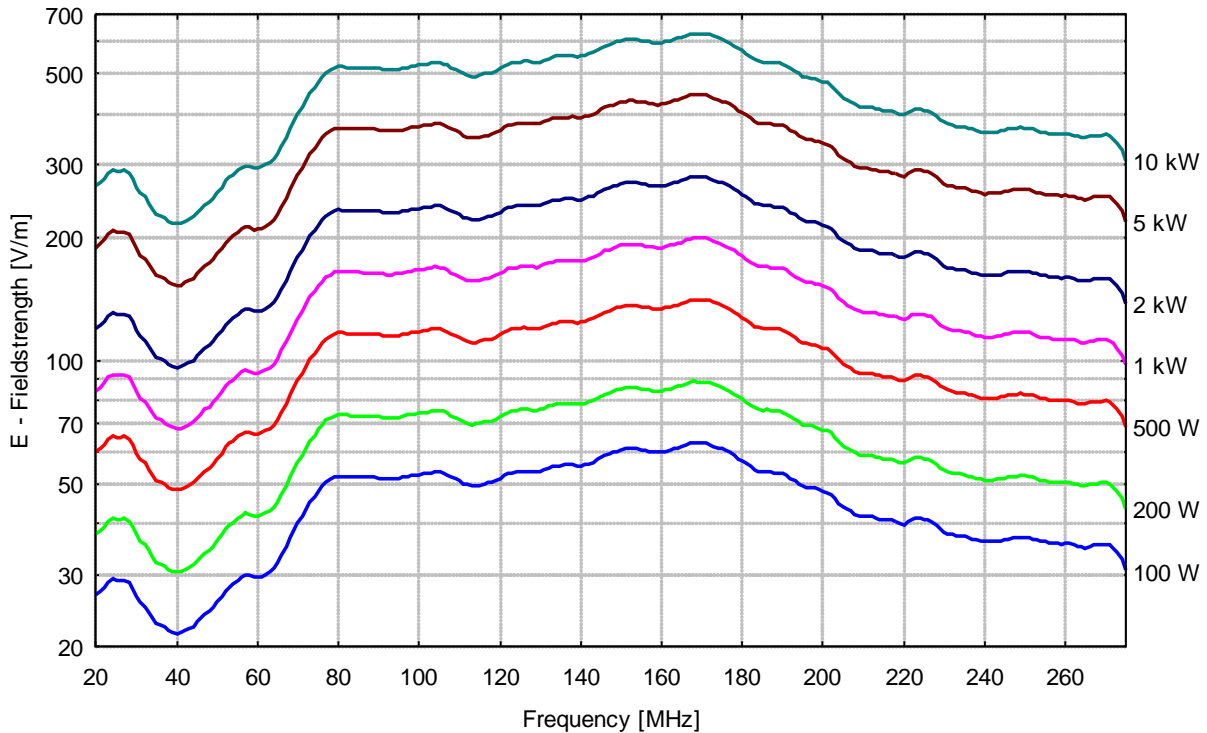
VSWR mit verschiedenen Strahlerelementen
VSWR with different radiating elements

VSWR-Plot VHBD 9134-10

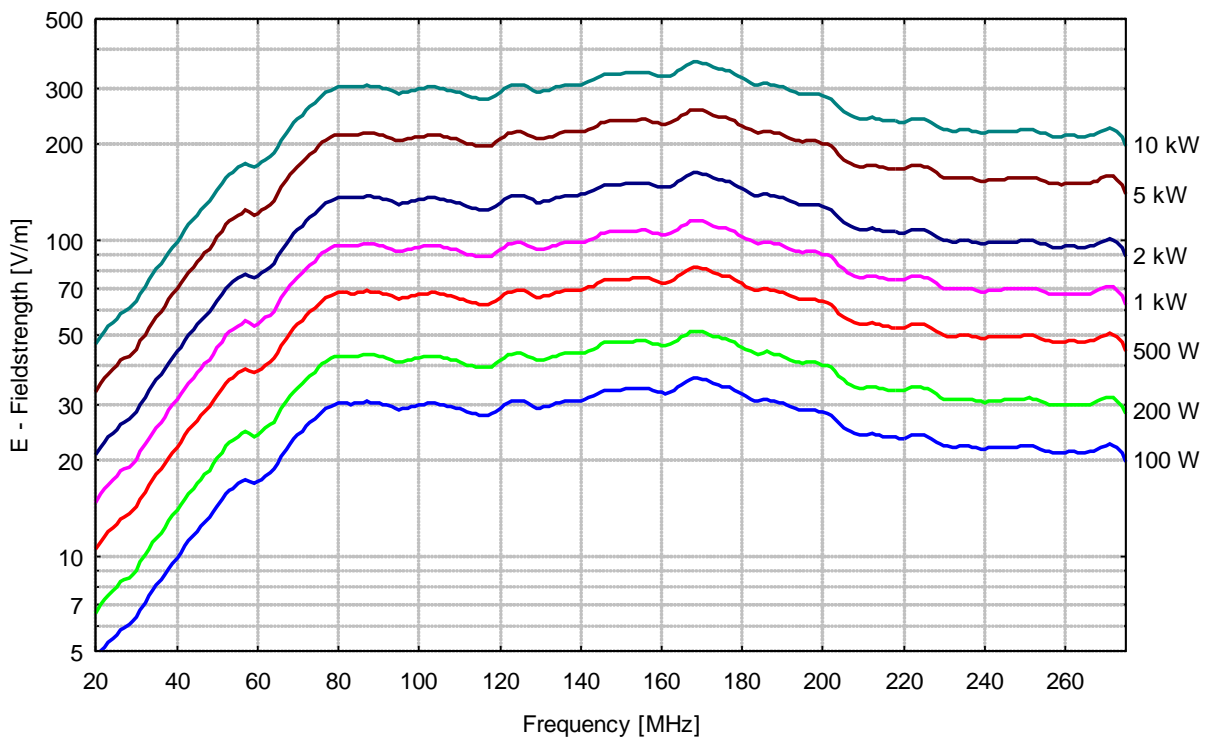


Erzeugte Feldstärke mit BBA 9106 Bikonuselementen
Generated Field strength with BBA 9106 Biconical Elements

BBA 9106 Input Power, Distance Antenna - EuT : 1 m

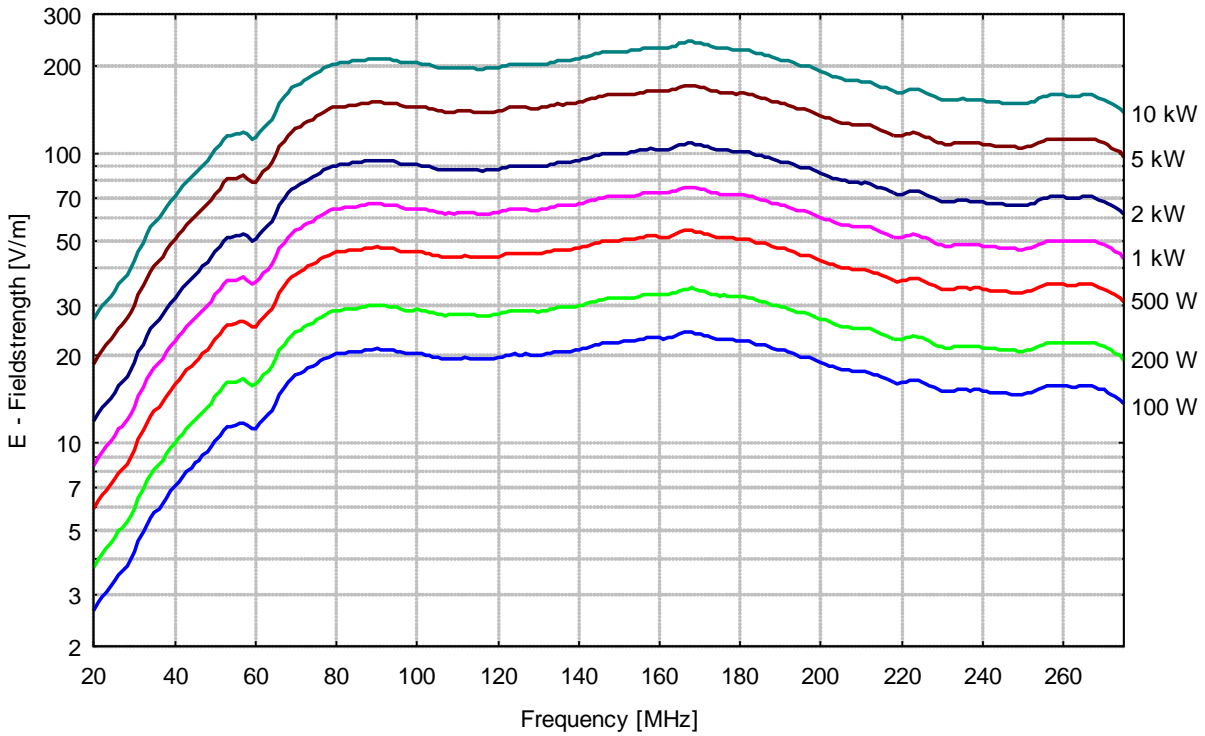


BBA 9106 Input Power, Distance Antenna - EuT : 2 m



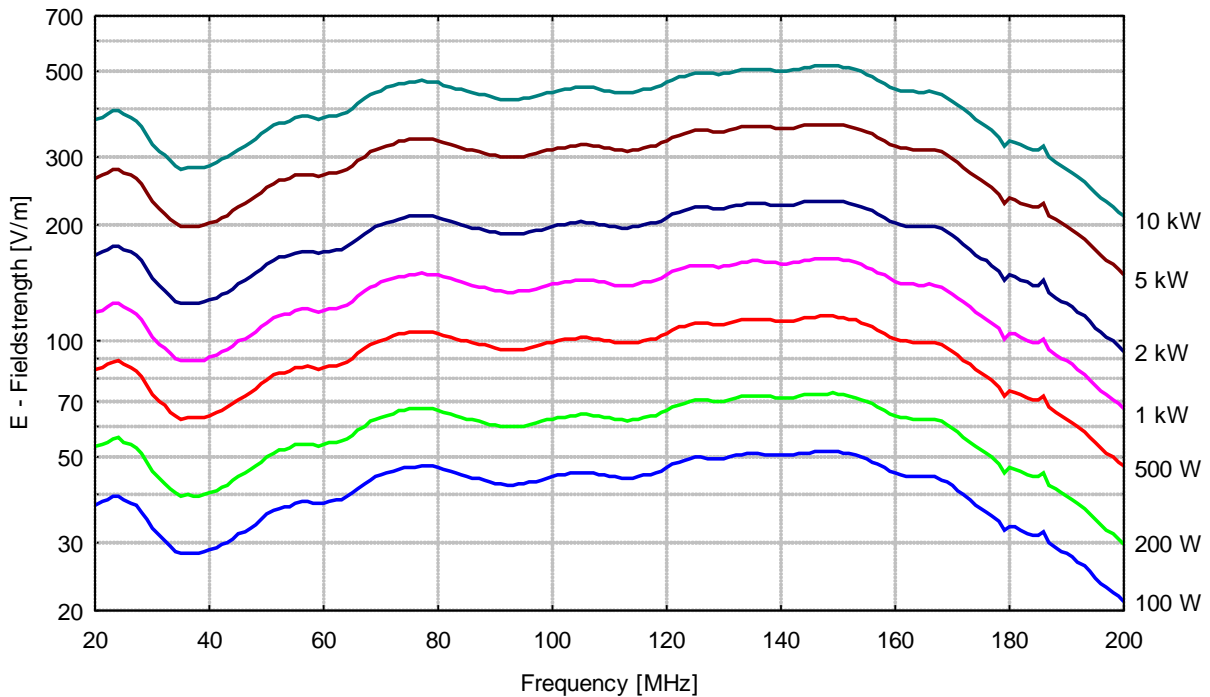


BBA 9106 Input Power, Distance Antenna - EuT : 3 m

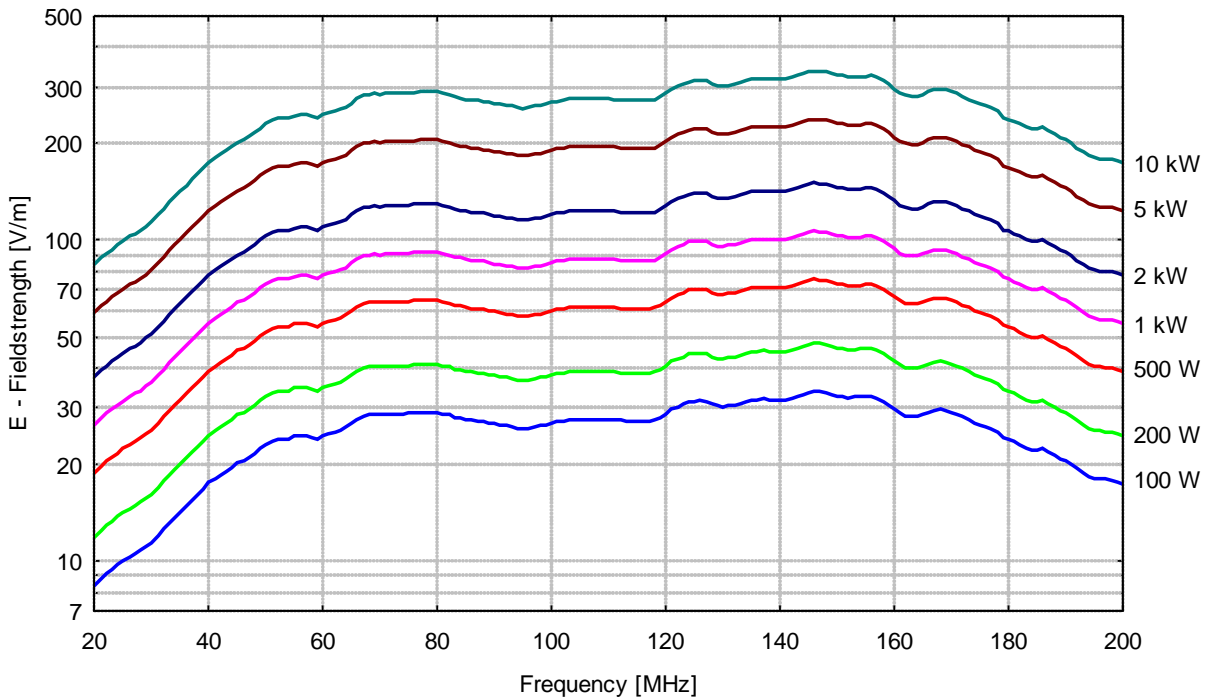


Erzeugte Feldstärke mit BBAL 9136 Bikonuselementen
Generated Field strength with BBAL 9136 Biconical Elements

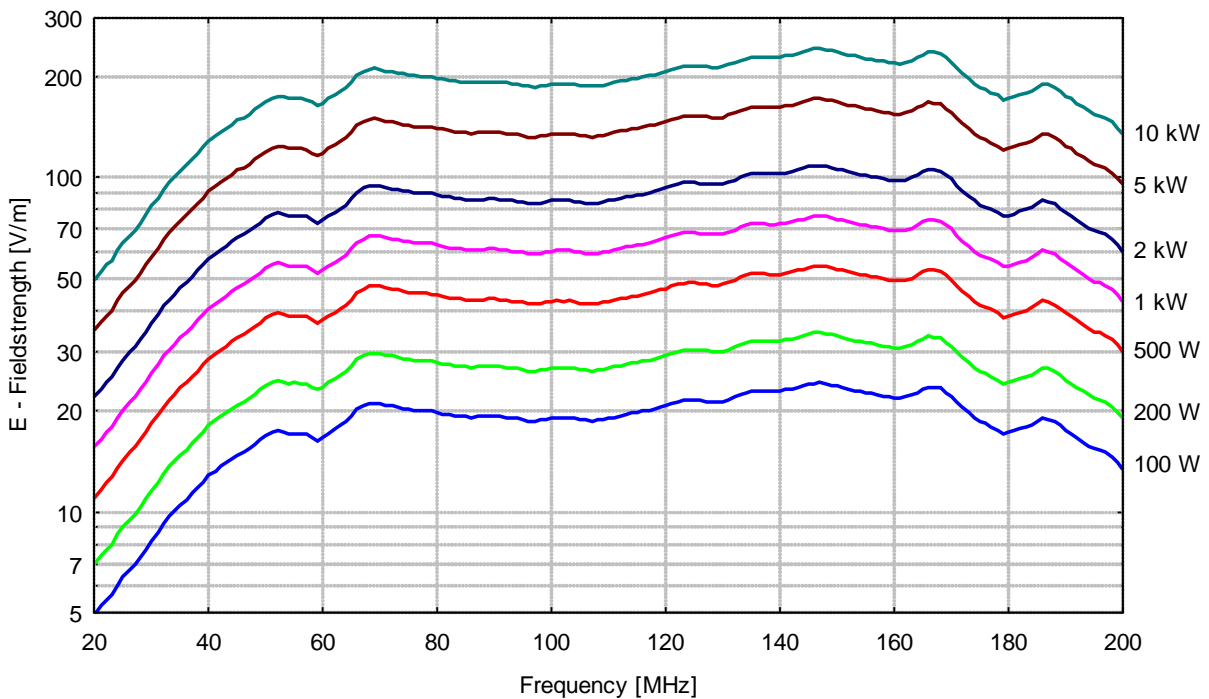
BBAL 9136 Input Power, Distance Antenna - EuT : 1 m



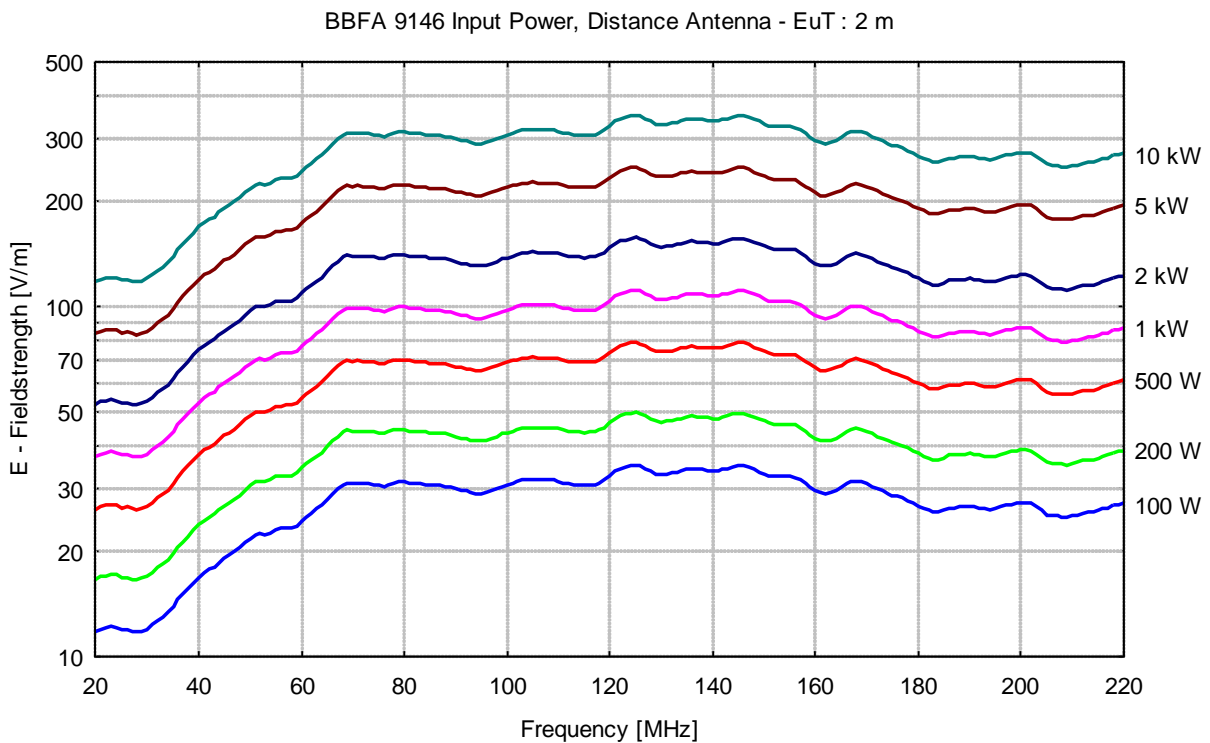
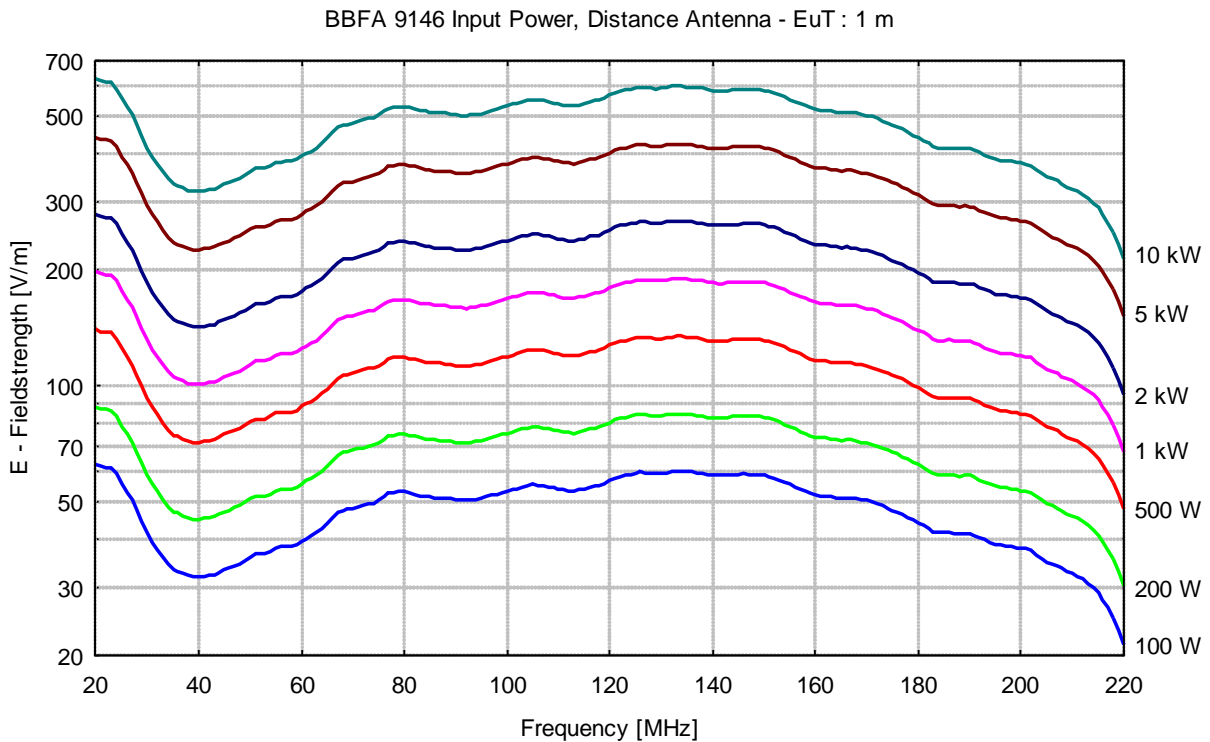
BBAL 9136 Input Power, Distance Antenna - EuT : 2 m

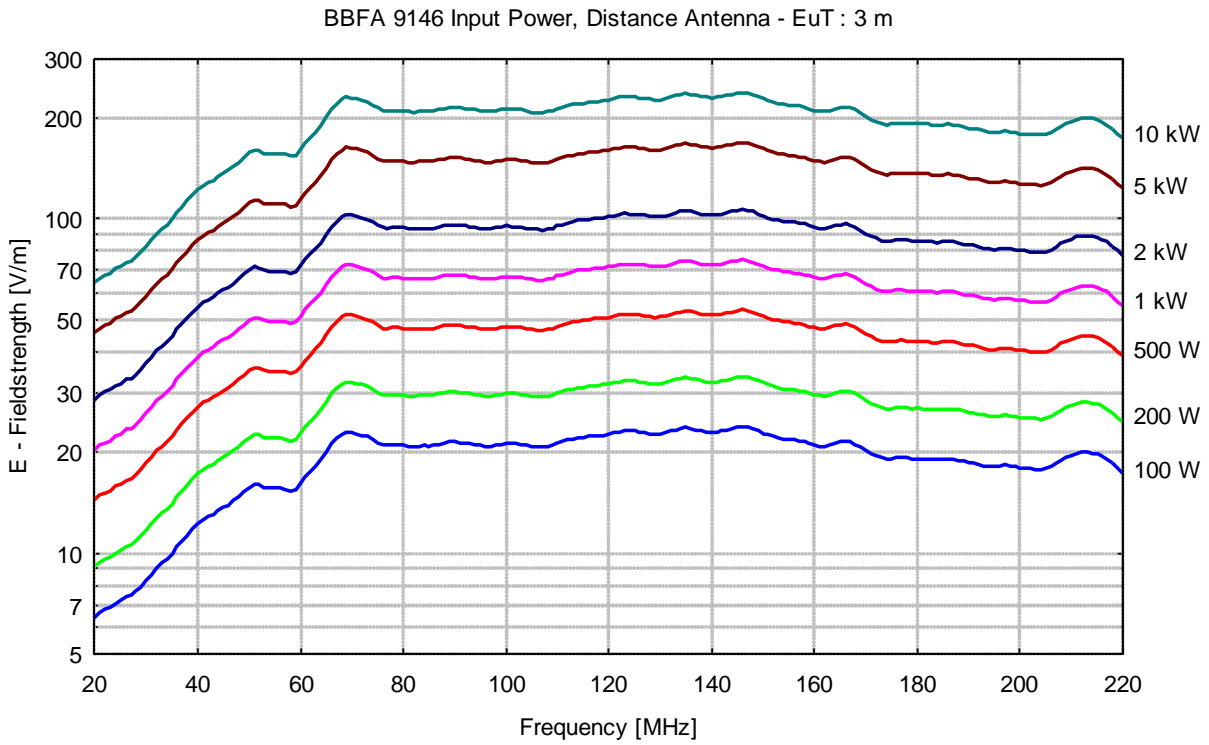


BBAL 9136 Input Power, Distance Antenna - EuT : 3 m

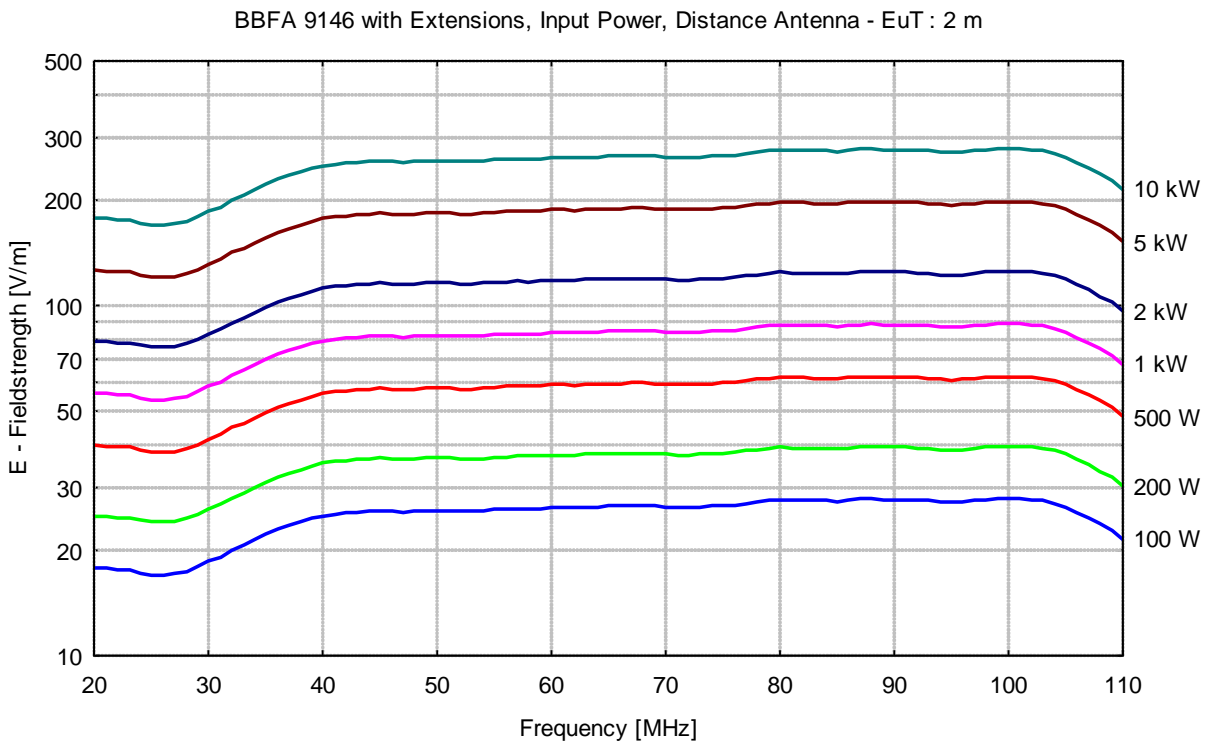


Erzeugte Feldstärke mit BBFA 9146 Faltkonuselementen (Umkreisdurchmesser 1.2 m)
Generated Field strength with BBFA 9146 Collapsible Elements (Diameter 1.2 m)

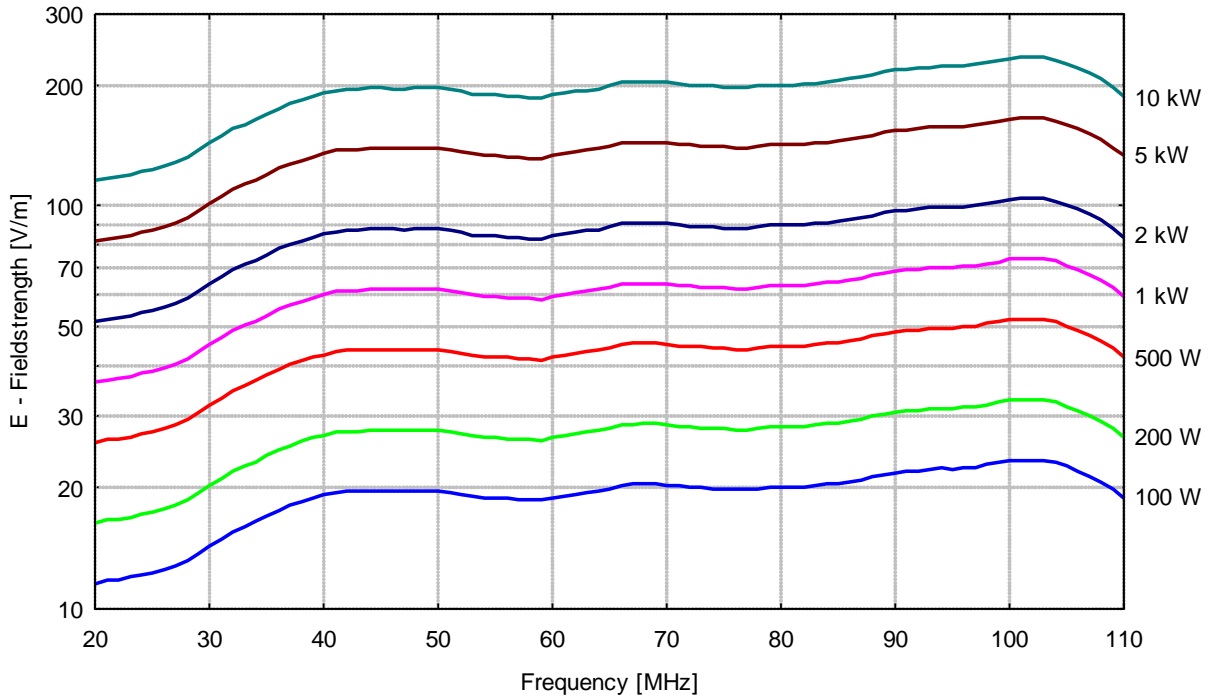




Erzeugte Feldstärke mit BBFA 9146 Faltkonuselementen und Verlängerungen (Ø 1.2 m)
Generated Field strength with BBFA 9146 Collapsible Elements and Extensions (Ø 1.2 m)



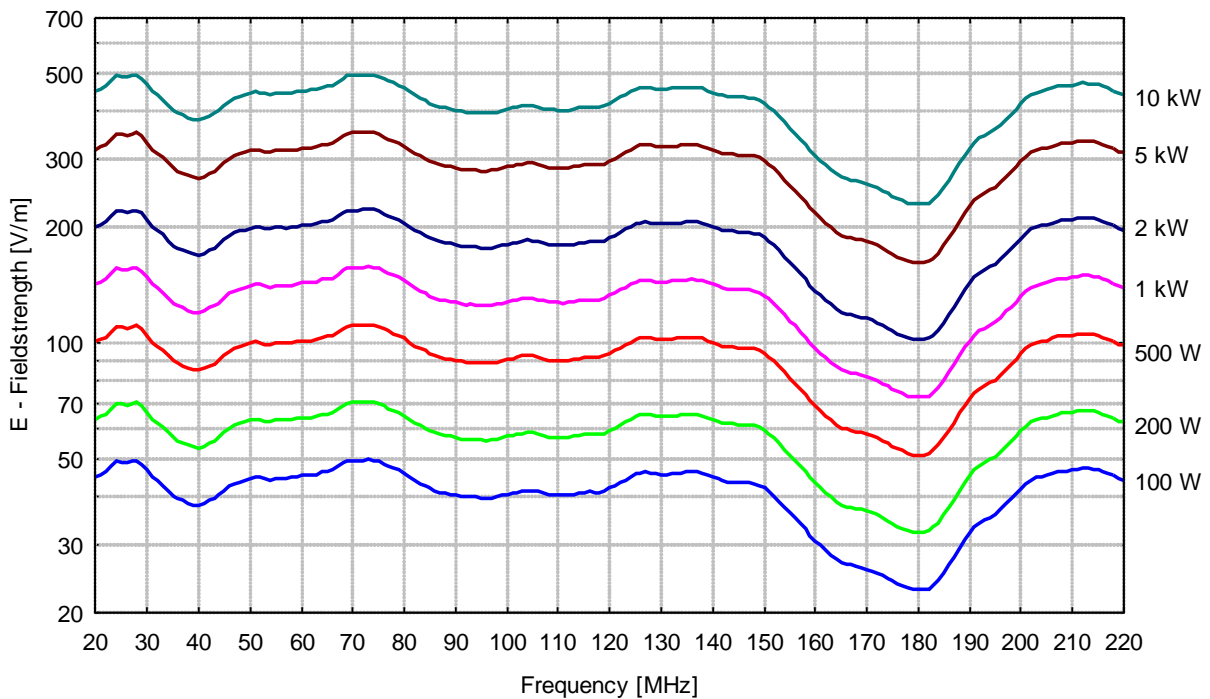
BBFA 9146 with Extensions, Input Power, Distance Antenna - EuT : 3 m





Erzeugte Feldstärke mit faltbaren TRI 0630 Strahlerelementen ($L_E=1.47$ m)
Generated Field strength with TRI 0630 foldable radiating elements ($L_E=1.47$ m)

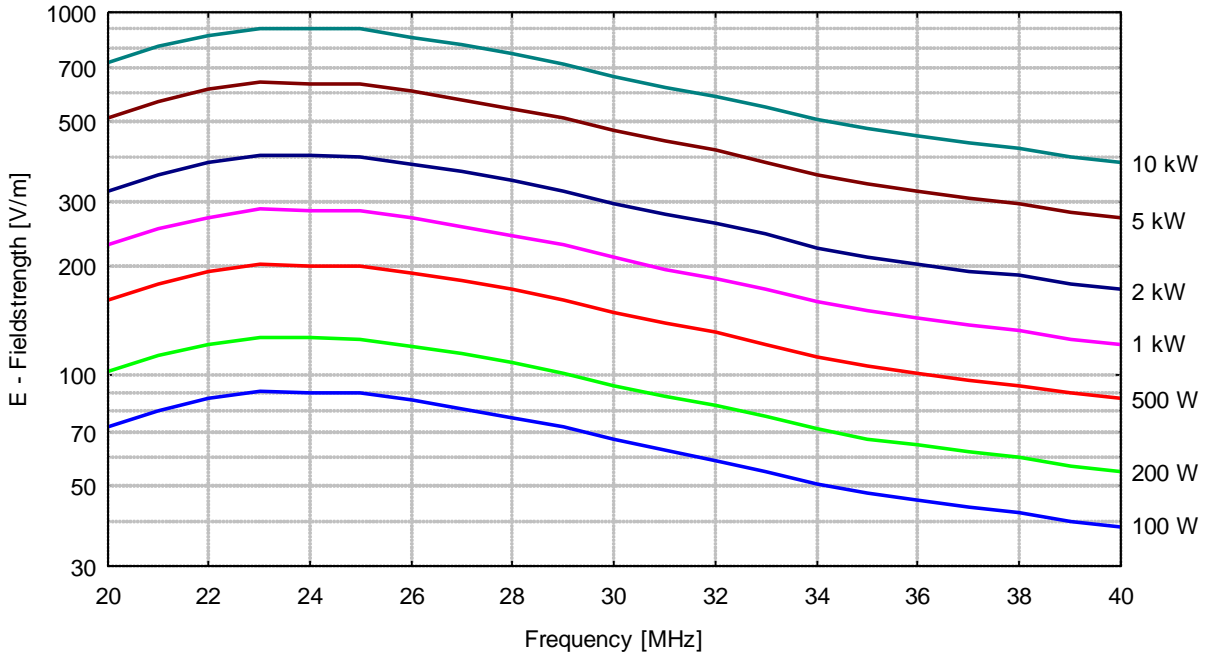
TRI 0630, Input Power, Distance Antenna - EuT : 1 m



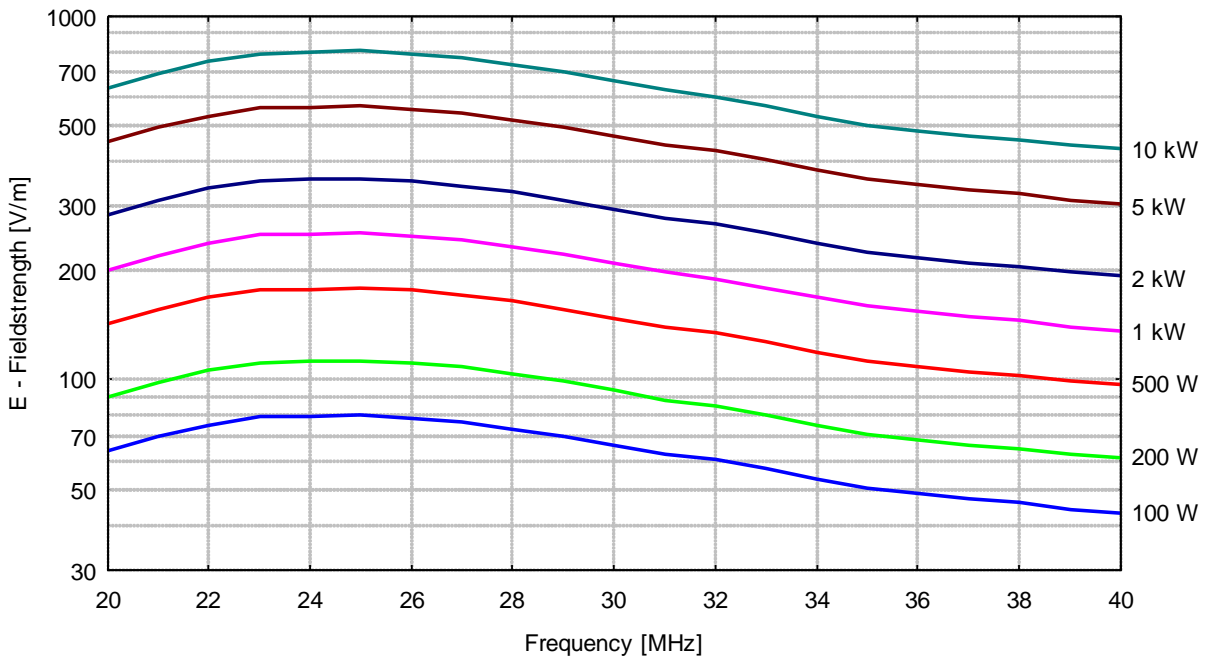


Erzeugte Feldstärke mit faltbaren TRI 0630 Strahlerelementen und BCOI 9180 Elementspulen
Generated Field strength with TRI 0630 foldable radiating elements and BCOI 9180 Booster Coils

TRI 0630 + BCOI 9180 5 turns, Input Power, Distance Antenna - EuT : 1 m

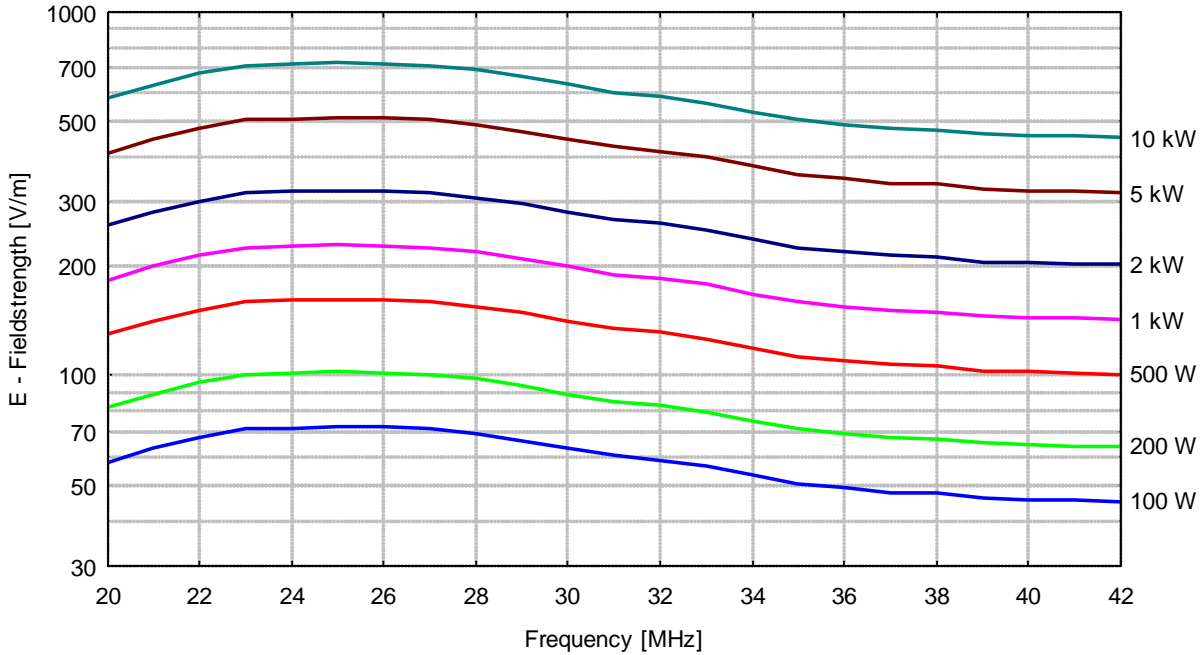


TRI 0630 + BCOI 9180 4 turns, Input Power, Distance Antenna - EuT : 1 m

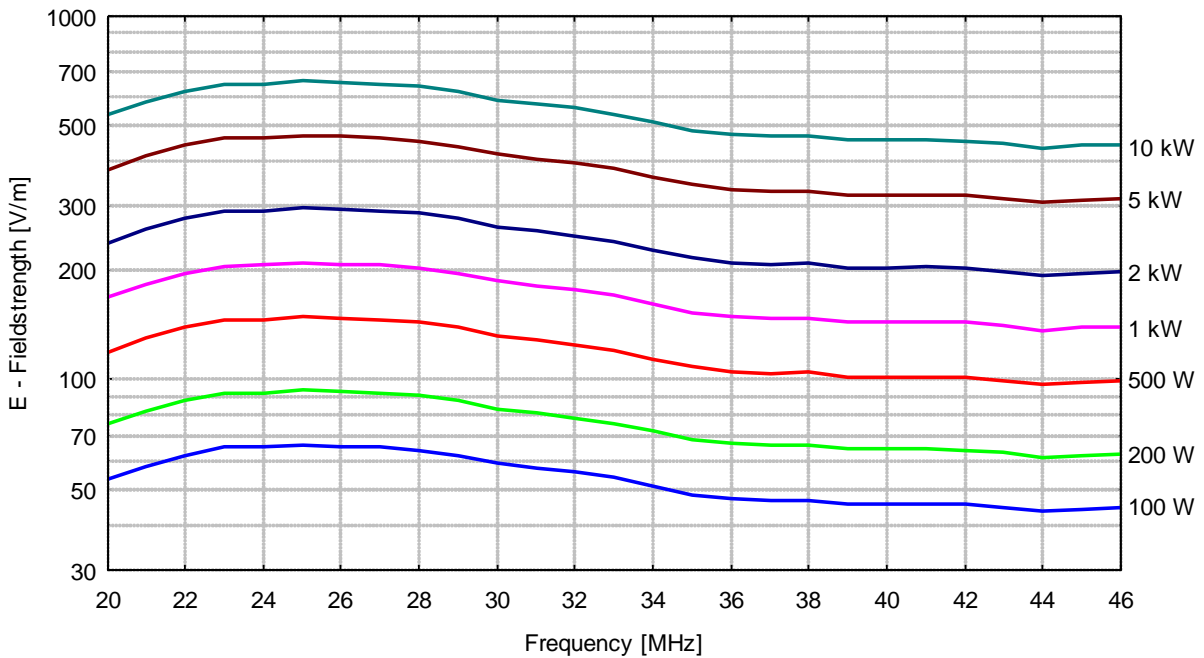




TRI 0630 + BCOI 9180 3 turns, Input Power, Distance Antenna - EuT : 1 m



TRI 0630 + BCOI 9180 2 turns, Input Power, Distance Antenna - EuT : 1 m



Holder Short mit TRI 0630 Strahlerelementen
Holder Short with TRI 0630 Radiating Elements

