

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:

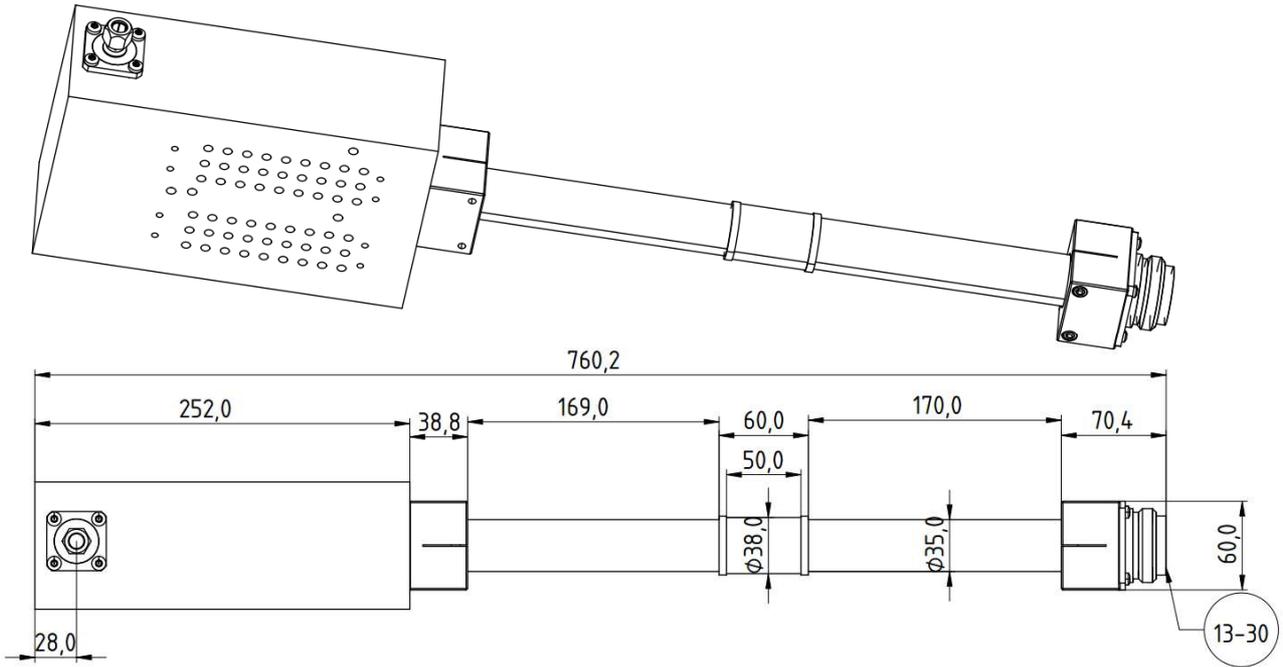
The high power balun VHBD 9134-10 was designed for immunity tests in the frequency range from 20 MHz to 280 MHz. The symmetrical terminals can accept several types of radiating elements with 10 mm shaft. A transformation ratio for impedances of 4:1 and an extremely low-loss design allows the generation 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:

Sales Partner:


ABSOLUTE EMC LLC.
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 United States, Mexico, & Canada

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Koaxialanschluß 13-30
Coaxial Connector 13-30



AA 9202-38 Mastadapter
AA 9202-38 Mast Adapter



Sales Partner:



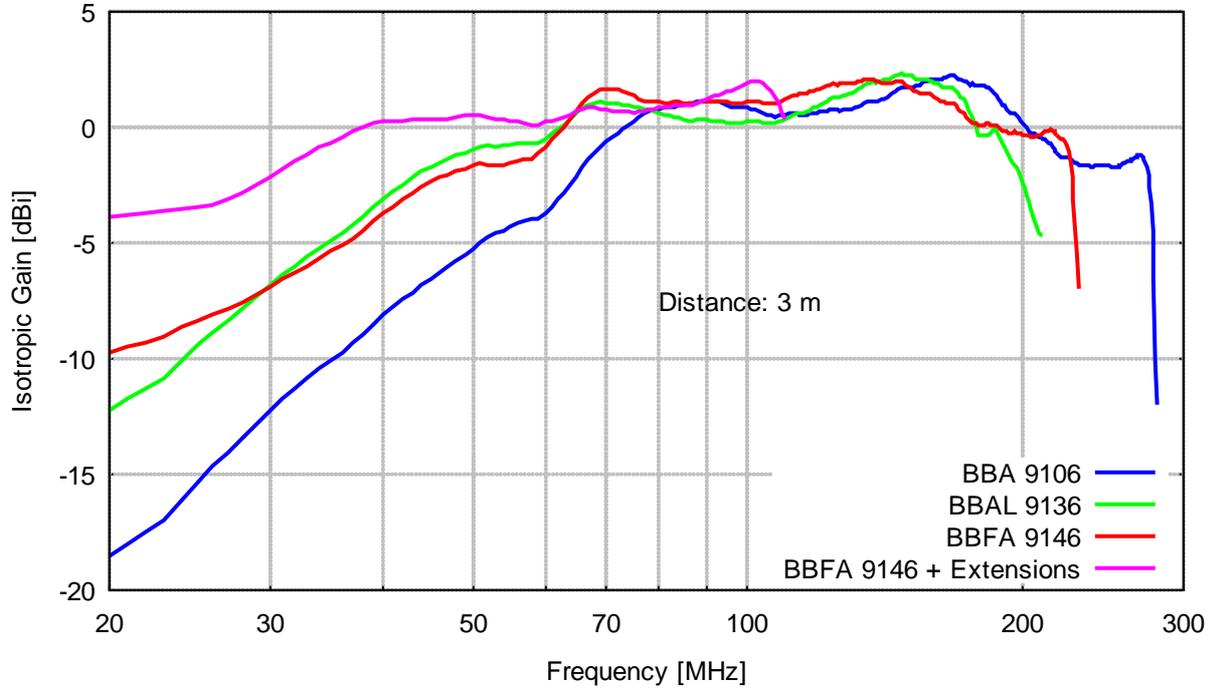
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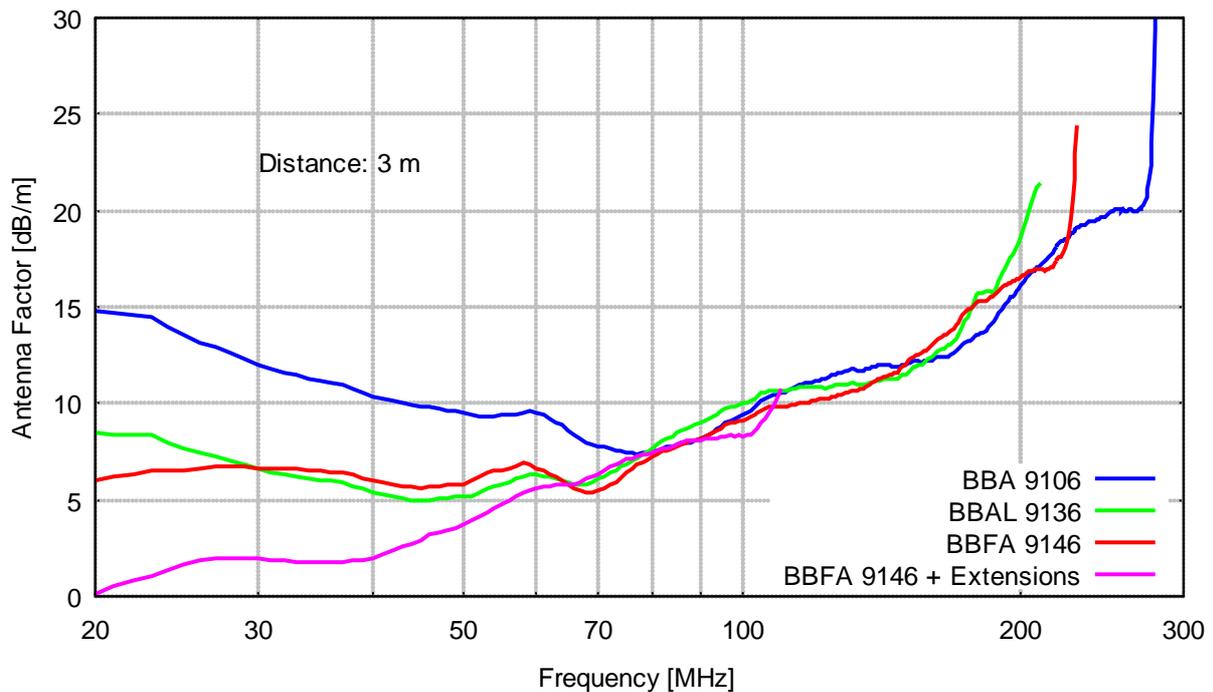
Gewinn mit verschiedenen Strahlerelementen
Gain with different radiating elements

VHBD 9134-10



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

VHBD 9134-10

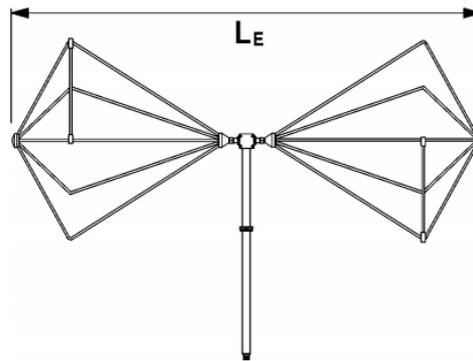


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Radiating Element Type	L_E [m]	Remarks
BBA 9106	1.42	Classical Biconical Element
BBAL 9136	2.05	Large Biconical Element
BBFA 9146	1.89	Collapsible Conical Element opened to 1.2 m diameter circle
BBFA 9146 with Extensions	3.53	Opened to 1.2 m diameter 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	dB <i>i</i>	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	dB <i>i</i>	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

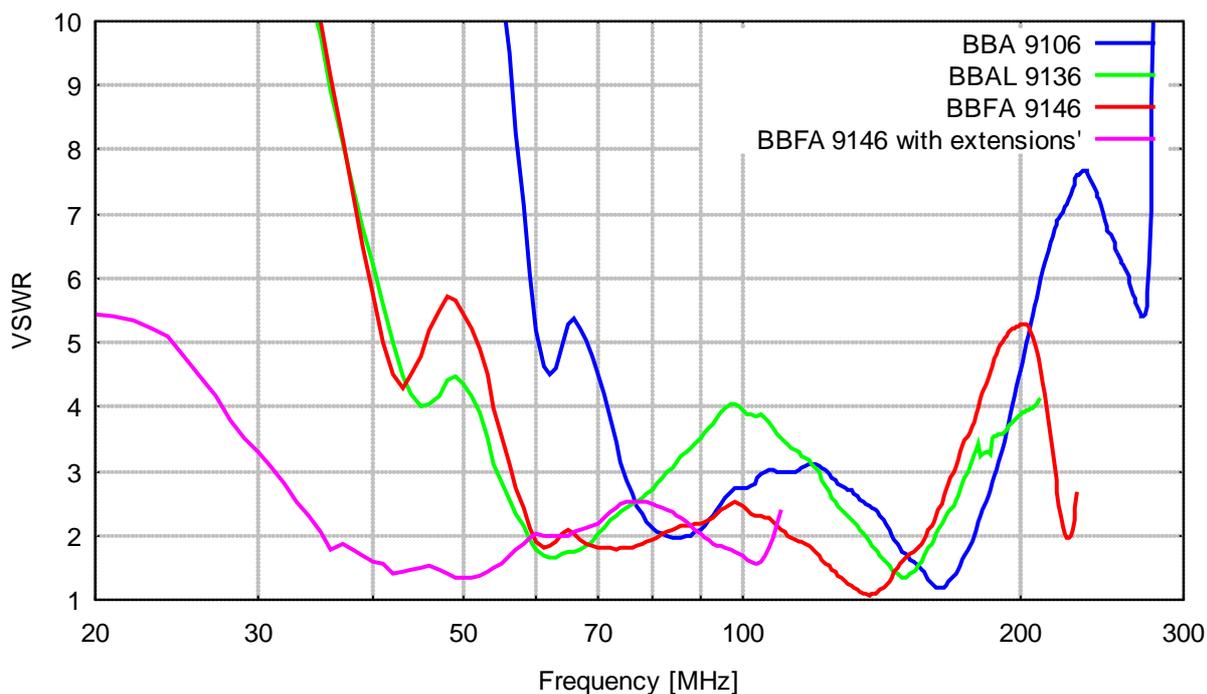
Frequency	Isotropic gain 3 m BBFA 9146 Elements with Extensions	Antenna factor 3 m BBFA 9146 Elements with Extensions
MHz	dBi	dB/m
58.00	0.10	5.39
59.00	0.11	5.53
60.00	0.23	5.55
61.00	0.29	5.64
62.00	0.35	5.72
63.00	0.42	5.79
64.00	0.52	5.82
65.00	0.65	5.83
66.00	0.78	5.83
67.00	0.82	5.92
68.00	0.82	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



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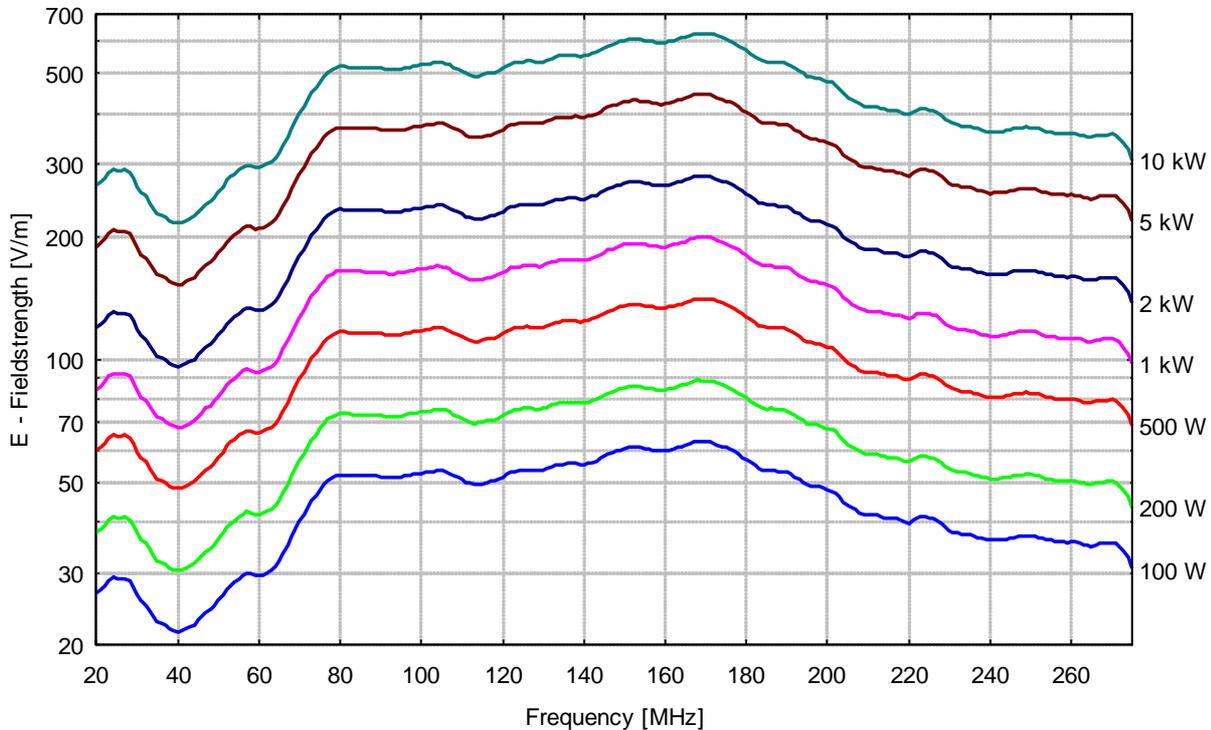


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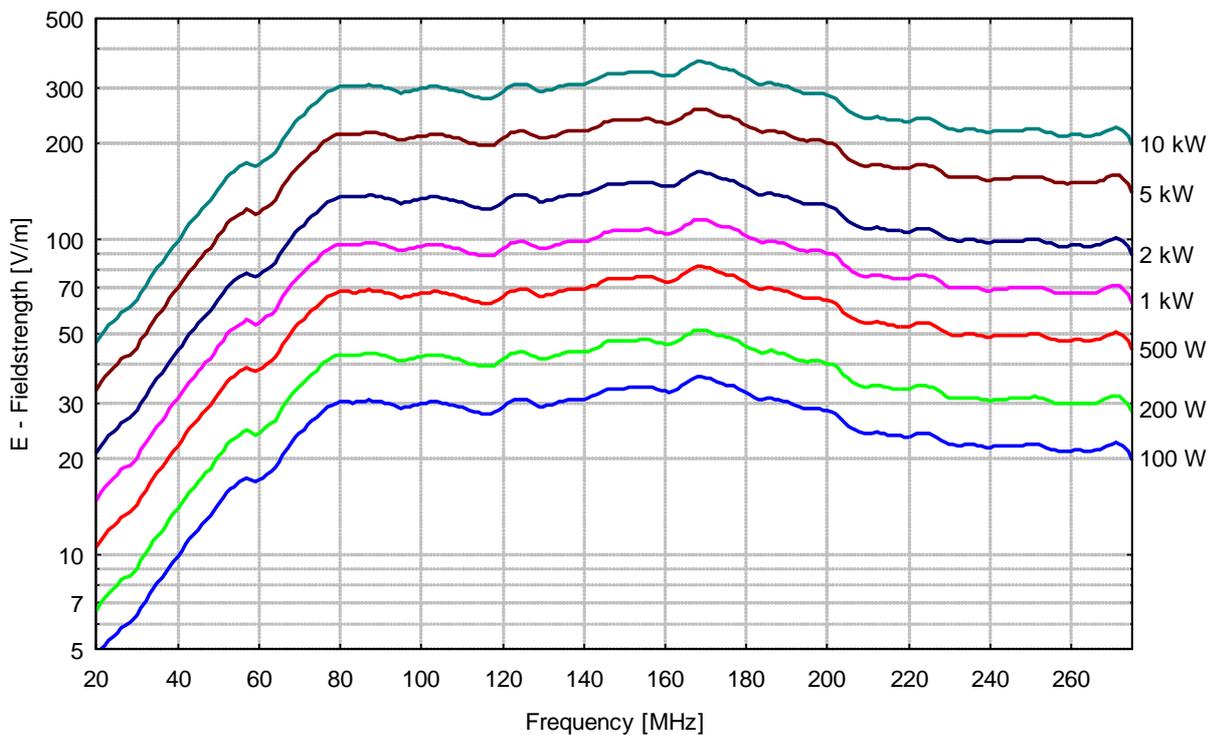
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Erzeugte Feldstärke mit BBA 9106 Bikonuselementen
Generated Field strength with BBA 9106 Biconical Elements

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



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



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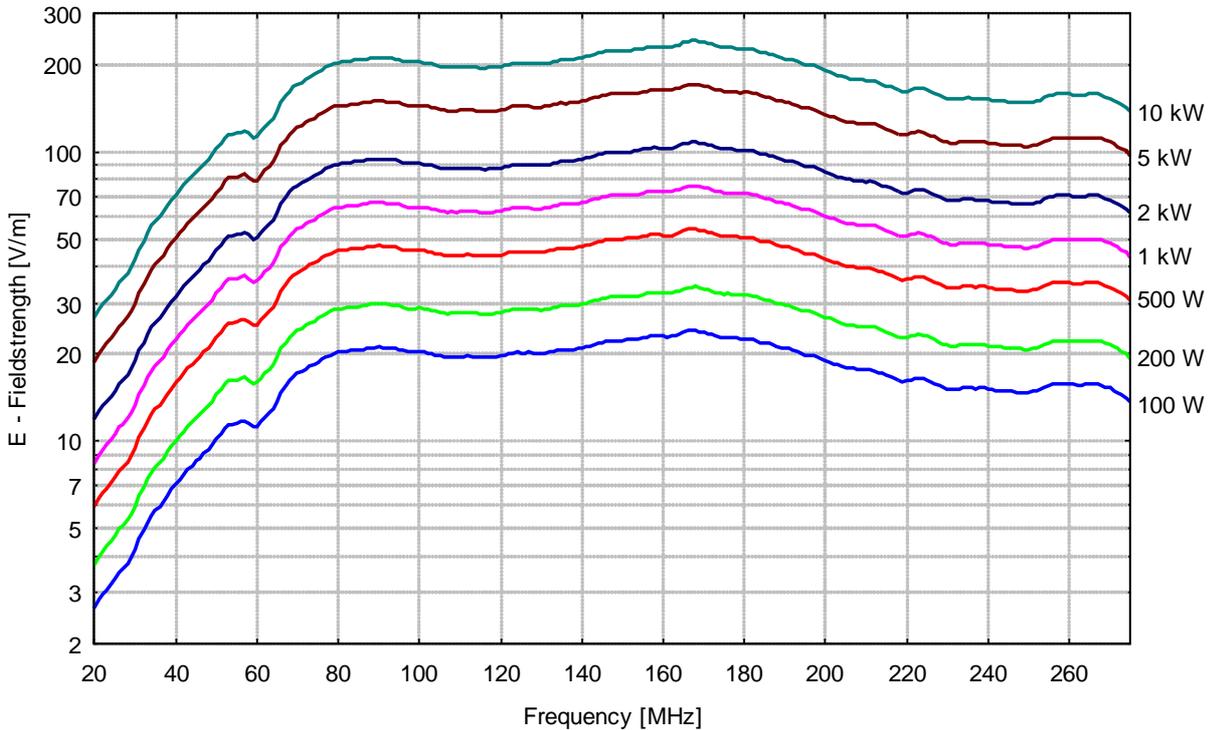


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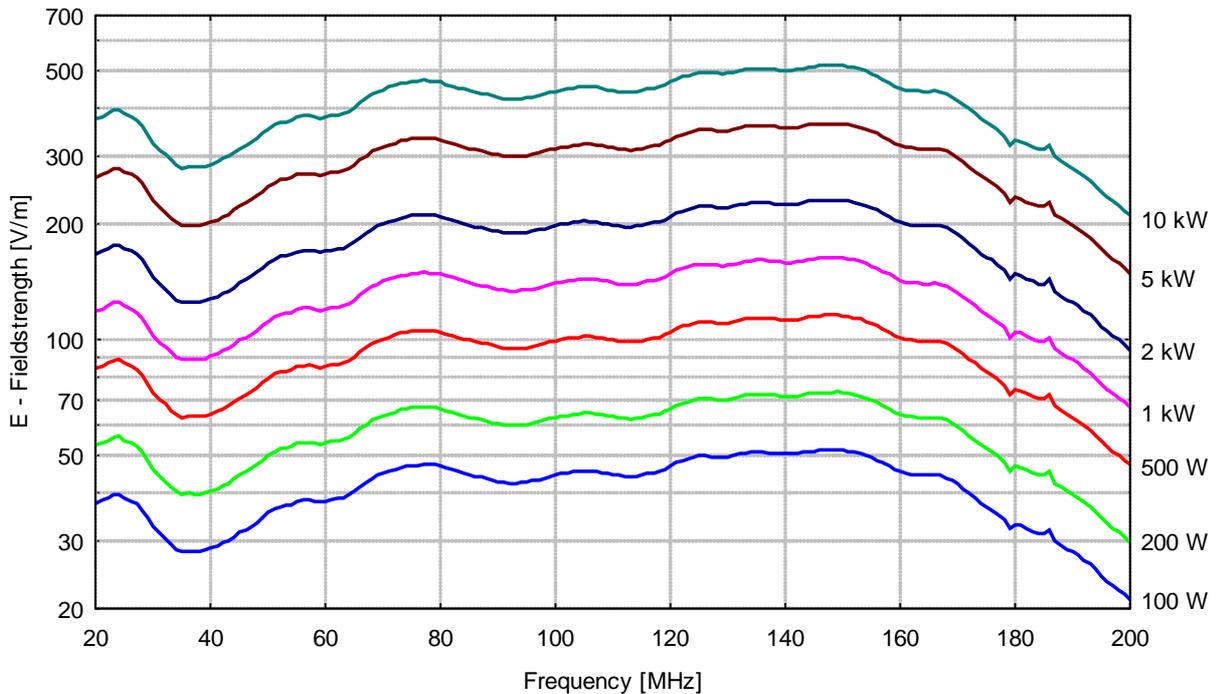


BBA 9106 Input Power, Distance Antenna - EuT : 3 m



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

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



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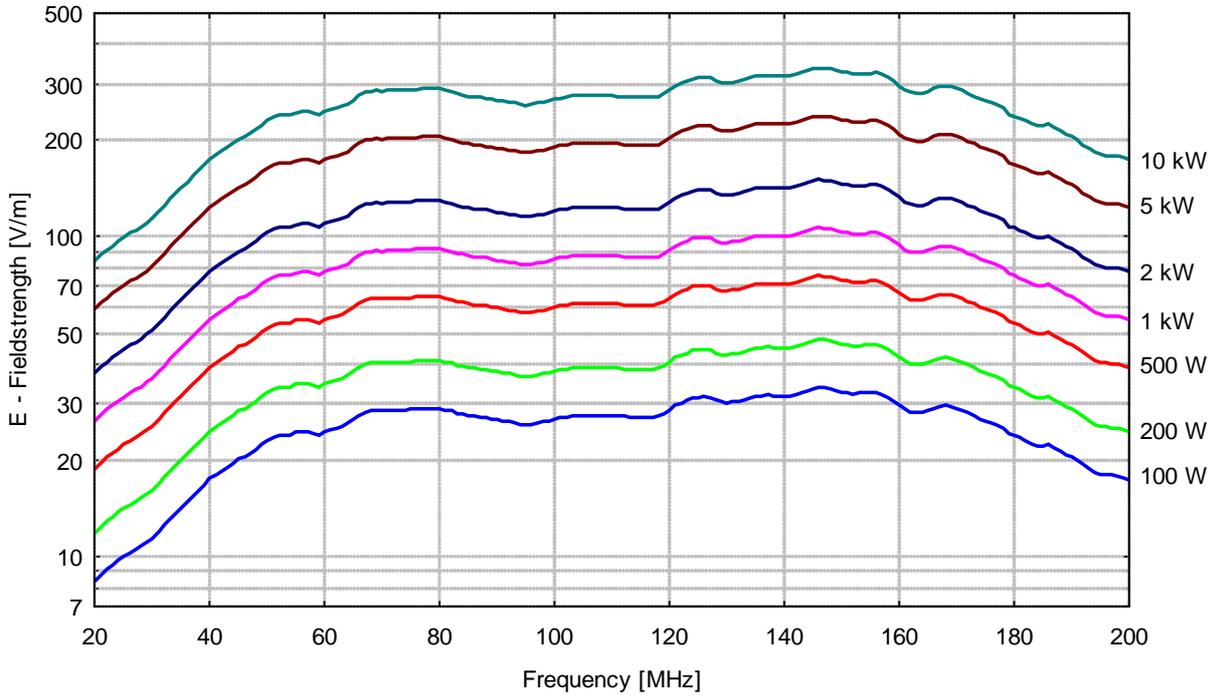


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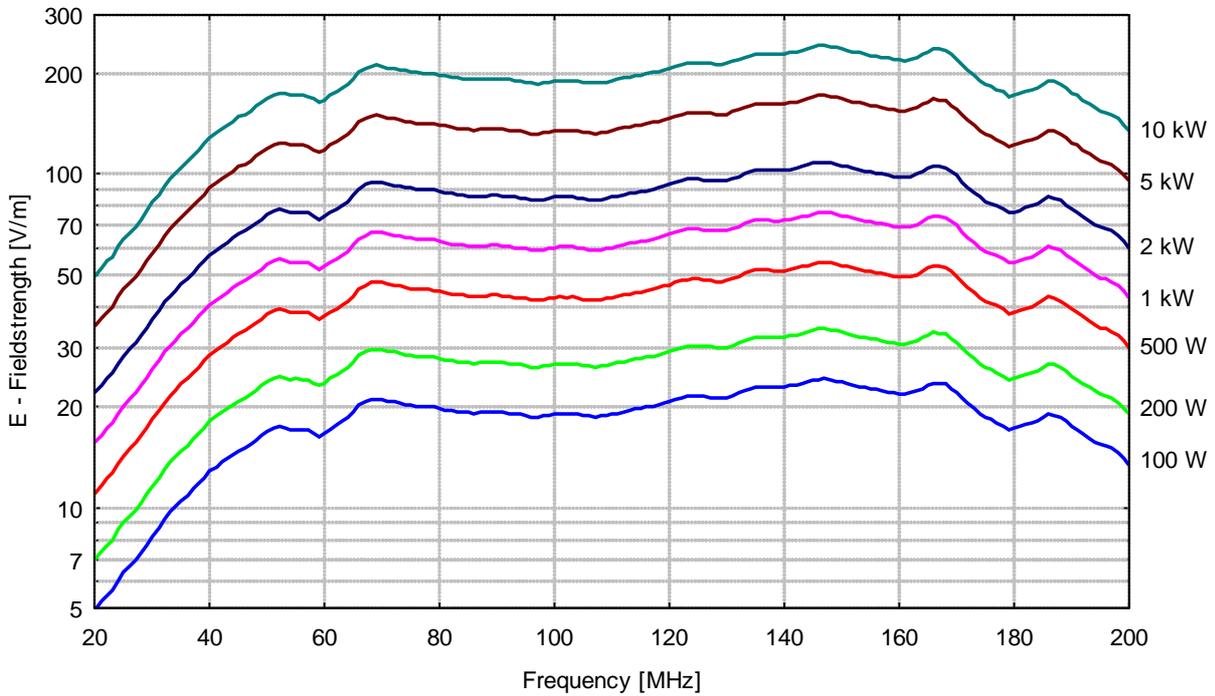
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BBAL 9136 Input Power, Distance Antenna - EuT : 2 m



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



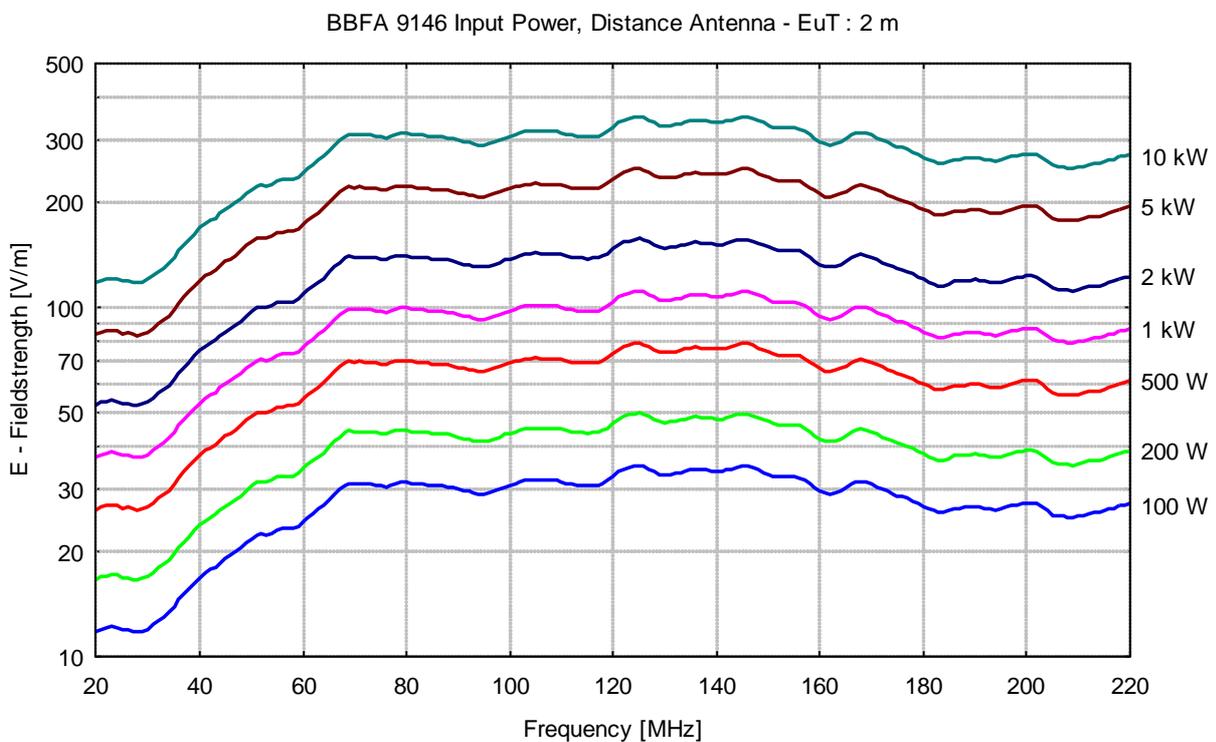
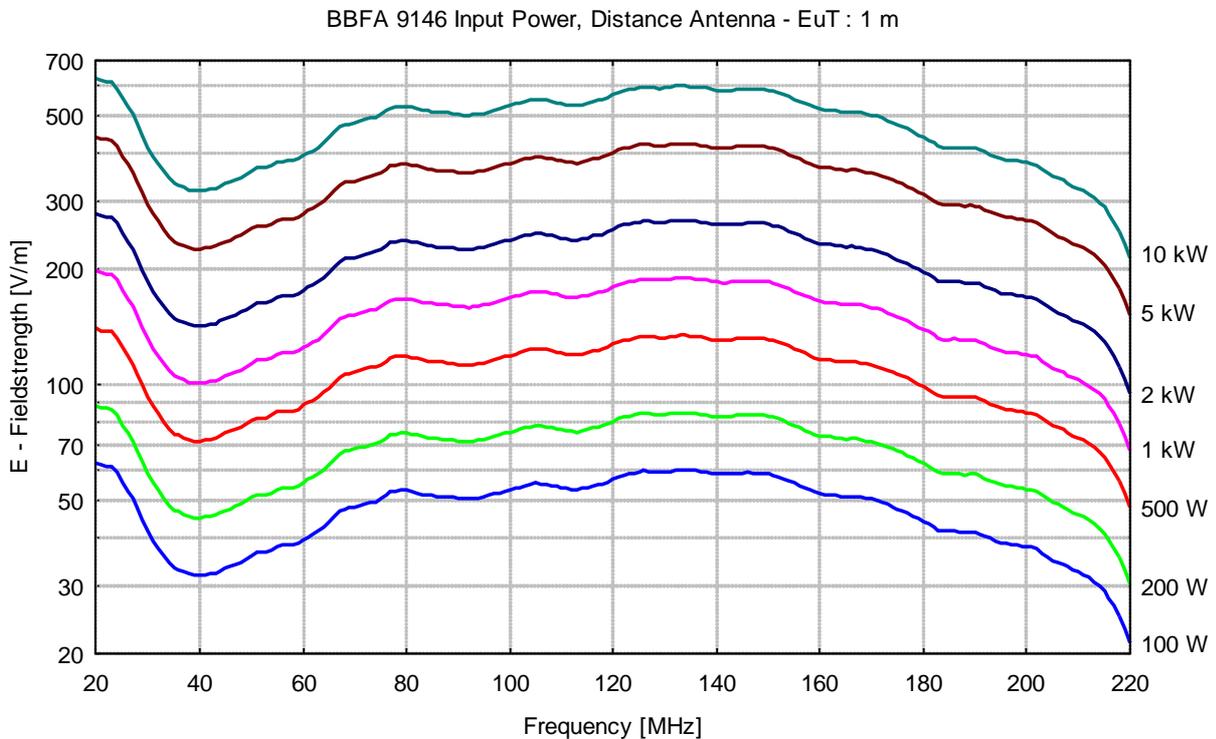
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Erzeugte Feldstärke mit BBFA 9146 Faltkonuselementen (Umkreisdurchmesser 1.2 m)
Generated Field strength with BBFA 9146 Collapsible Elements (Diameter 1.2 m)

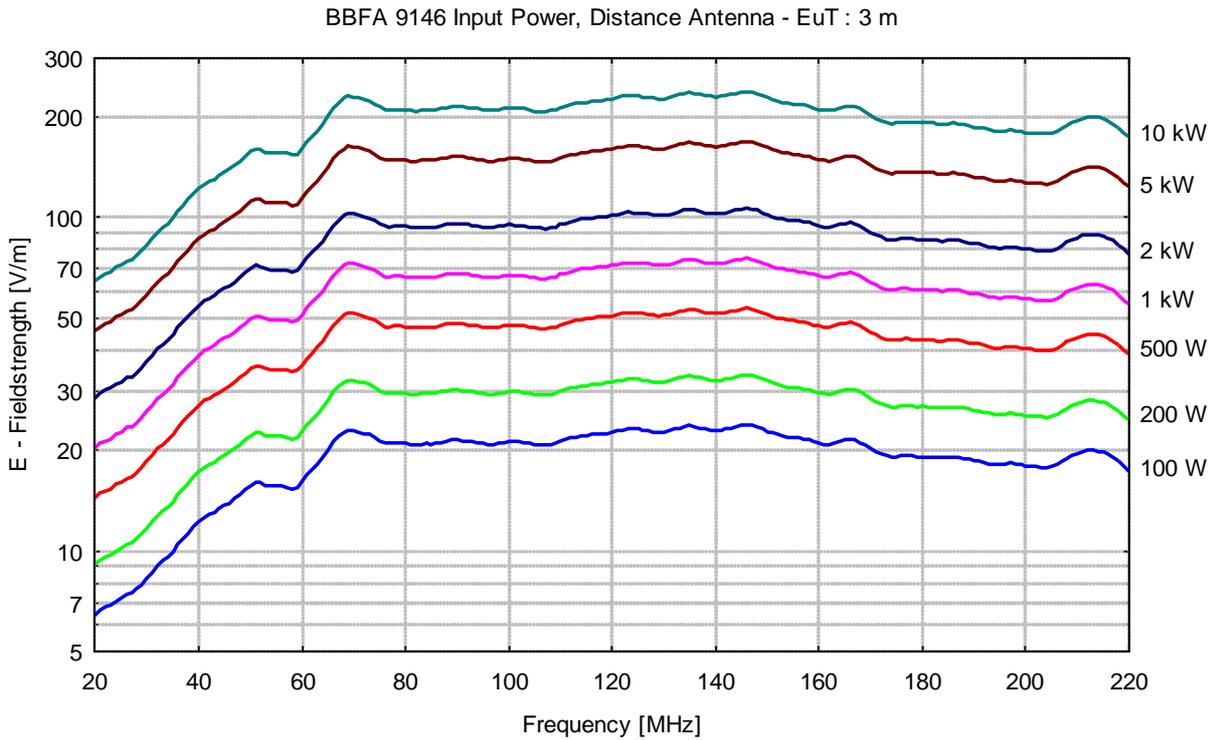


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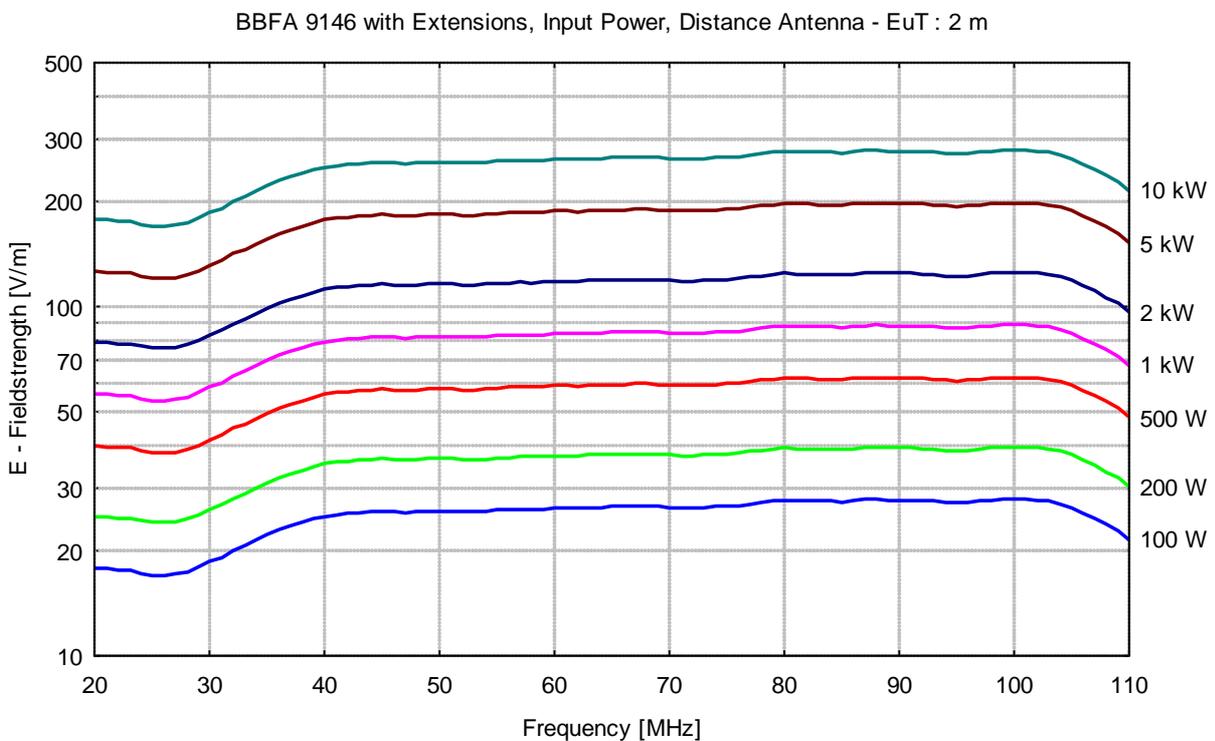


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Erzeugte Feldstärke mit BBFA 9146 Faltkonuselementen und Verlängerungen (∅ 1.2 m)
Generated Field strength with BBFA 9146 Collapsible Elements and Extensions (∅ 1.2 m)



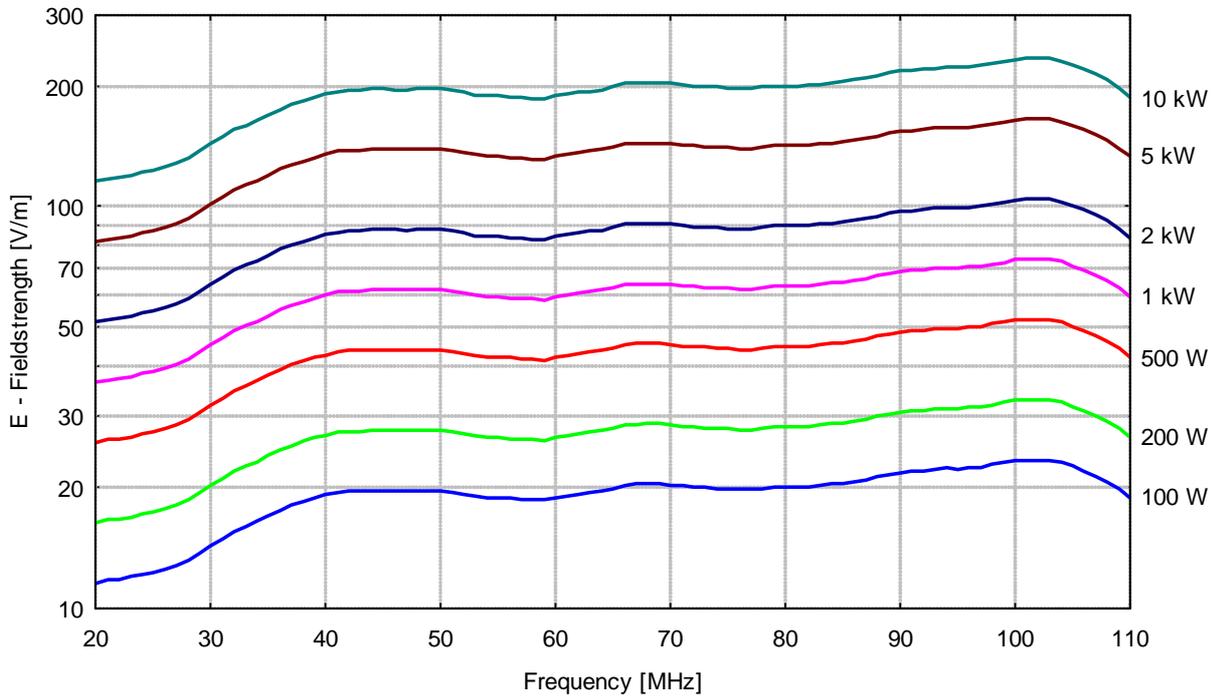
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BBFA 9146 with Extensions, Input Power, Distance Antenna - EuT : 3 m



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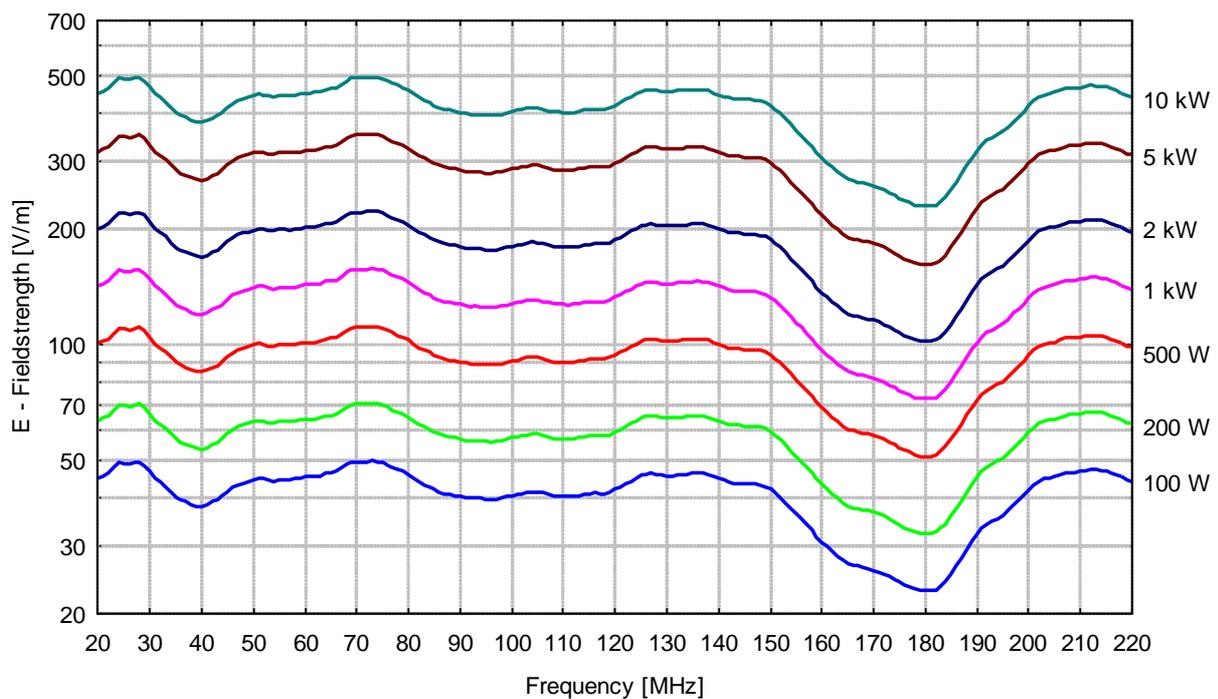
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Erzeugte Feldstärke mit faltbaren TRI 0630 Strahlerelementen ($L_E=1.47$ m)
Generated Field strength with TRI 0630 foldable radiating elements ($L_E=1.47$ m)

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



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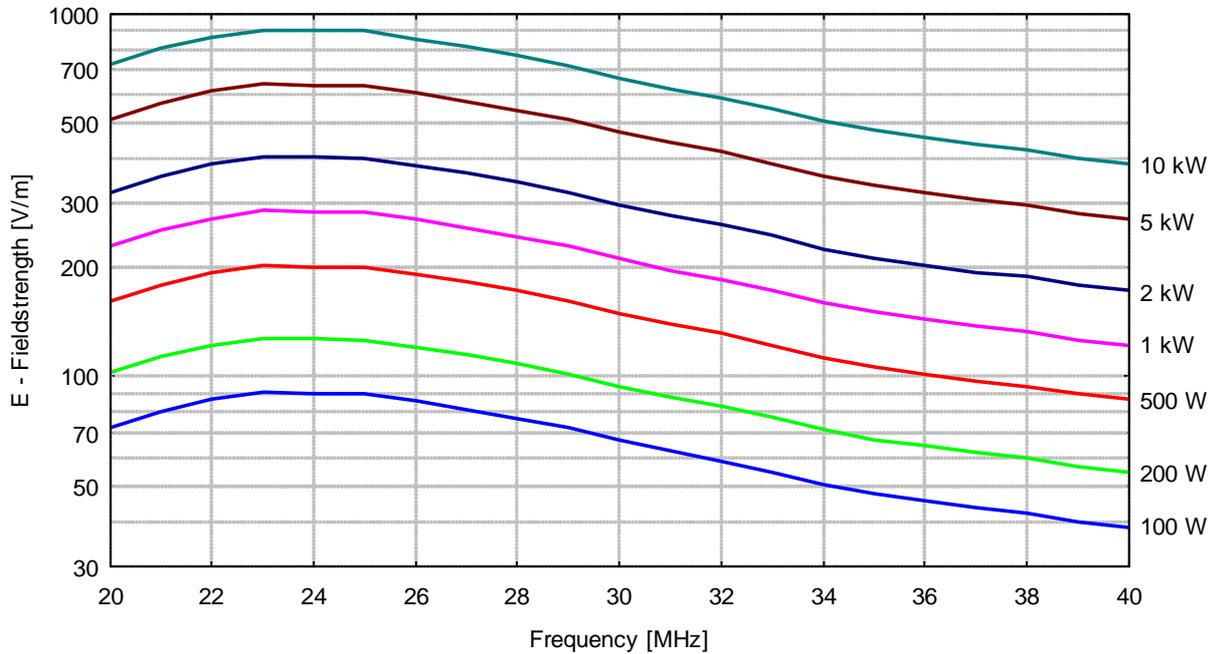


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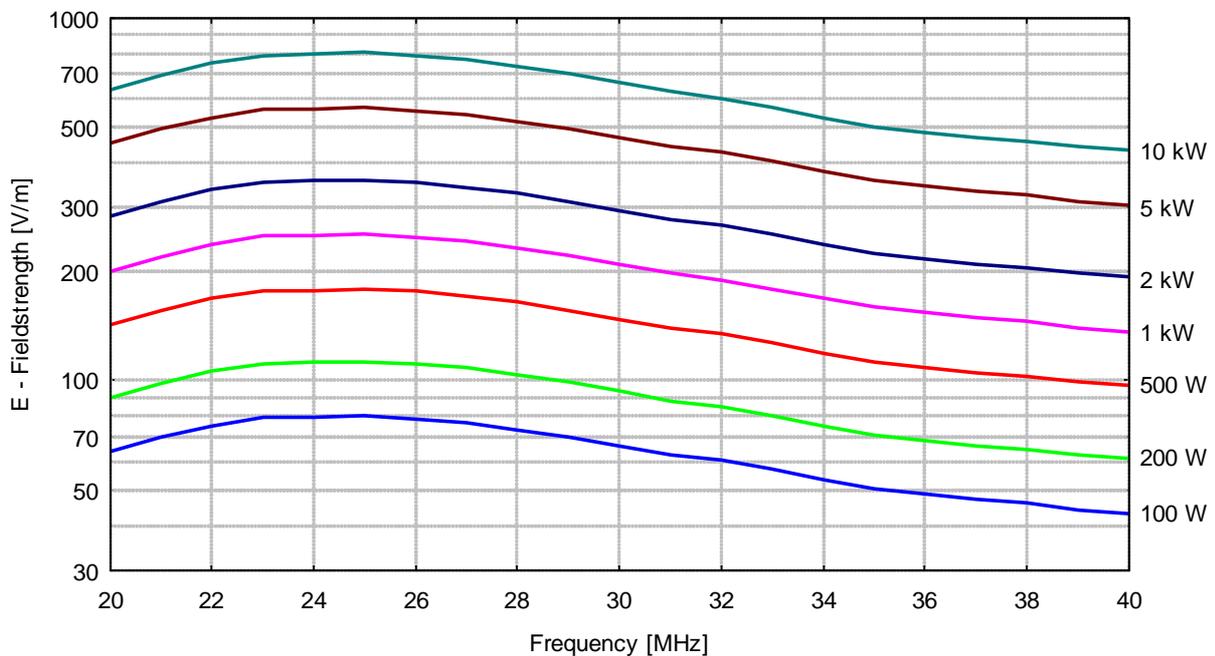
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Erzeugte Feldstärke mit faltbaren TRI 0630 Strahlerelementen und BCOI 9180 Elementspulen
Generated Field strength with TRI 0630 foldable radiating elements and BCOI 9180 Booster Coils

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



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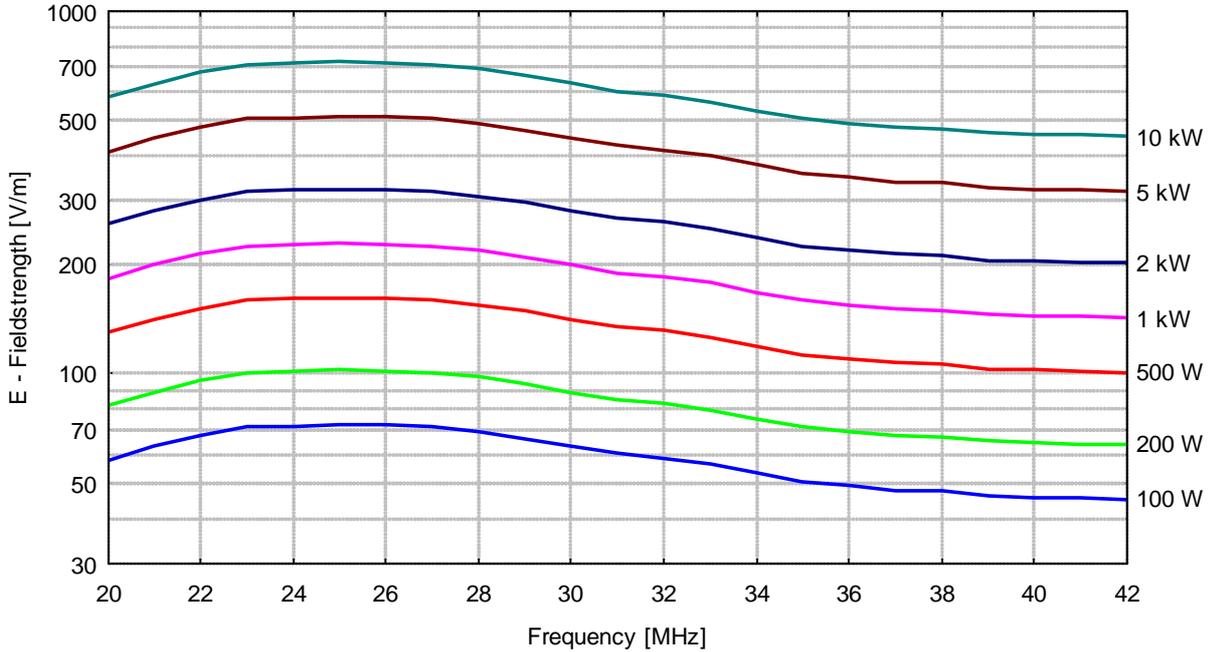


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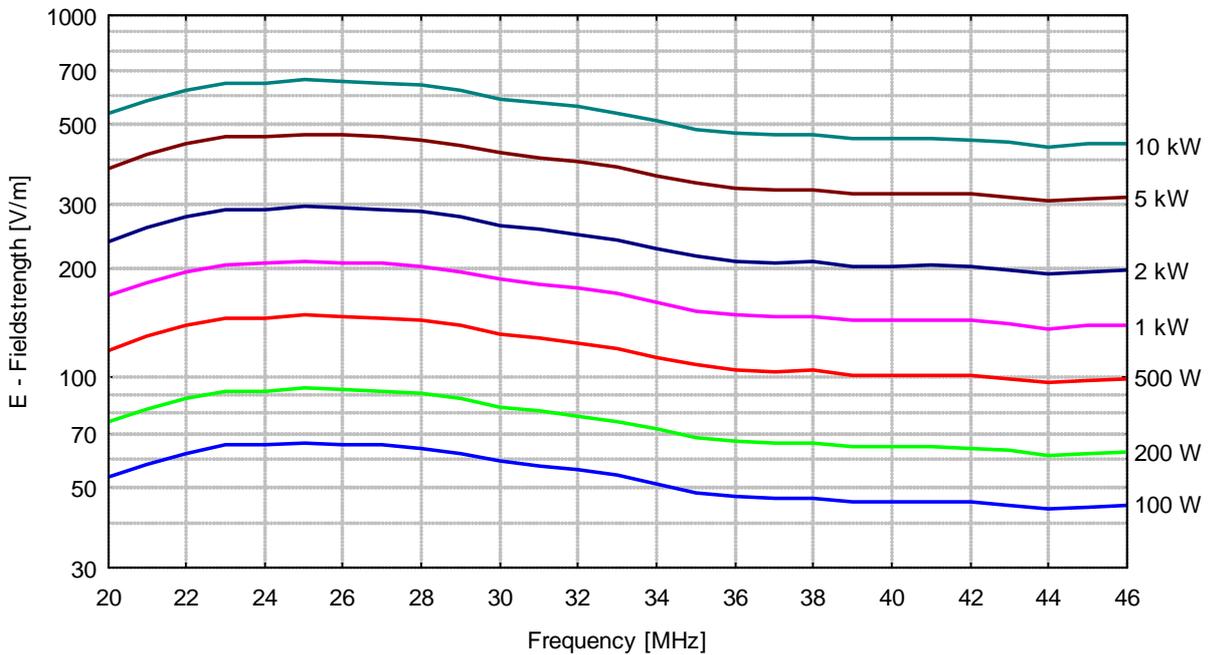
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TRI 0630 + BCOI 9180 3 turns, Input Power, Distance Antenna - EuT : 1 m



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



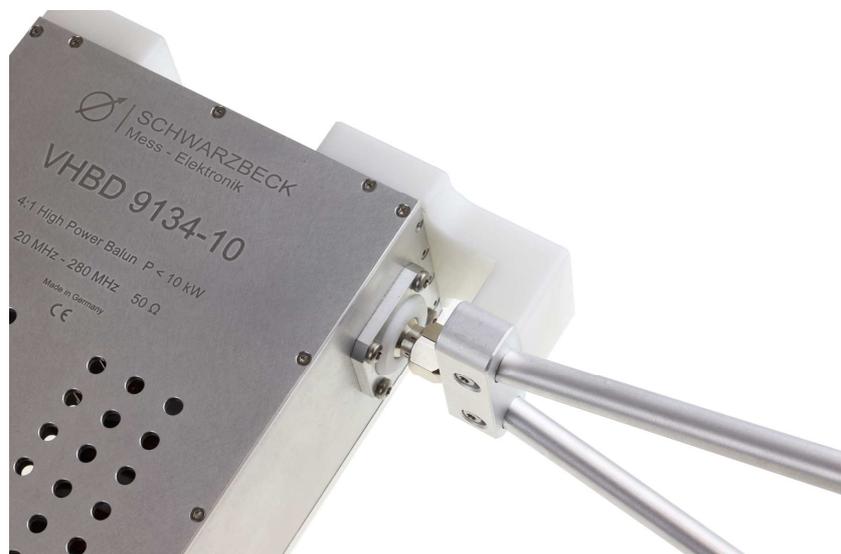
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Holder Short mit TRI 0630 Strahlerelementen
Holder Short with TRI 0630 Radiating Elements



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