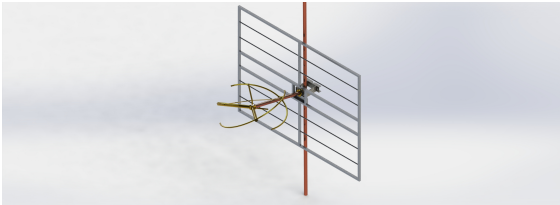


Antena ANTENA FM ANEL CIRCULAR, faixa 76.1–107.9 MHz, polarização Circular direita. COM REFLETOR EM GRADE



Características elétricas

Item	Valor
Ganho cadastrado (referência)	0.00 dBd
HPBW horizontal	215.06°
HPBW vertical	83.85°
Faixa de frequência	76.10 – 107.90 MHz
Polarização	Circular direita
Fabricante	EFTX Broadcast & Telecom
Categoria	FM
Circularidade	< 1,5 dB (espaço livre)
Quantidade de Níveis	1,2,3,4,6,8,12



Validar autenticidade · 1.0

Página 1 · Código 6F6542BB

Características mecânicas

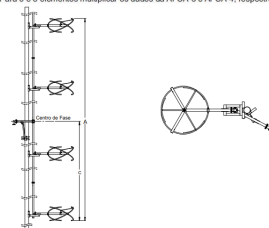
Item	Valor
Material Empregado	Estrutura em latão e cobre; Fixadores em aço inox e isoladores em PTFE; Estrutura de sustentação em aço galvanizado
Montagem	Fornecida com suportes compatíveis com tubos de 3,5" a 10" em aço
Acabamento	Pintura na cor vermelha
Acessórios	Divisores de potência construídos em latão e cobre com contatos internos prateados
Embalagem	Caixa de madeira
Padrões de alimentação	Os sistemas podem ser fornecidos alimentados com linhas rígidas ou com divisor e cabos. Sistemas com linhas rígidas construídos com alimentação central.
Altura da antena	350 mm
Centro de radiação	175 mm

Características Mecânicas

A Altura da antena em mm
C Centro de radiação em mm
P Peso médio do antena em kg
AE Área de exposição (CoA) da antena em m²

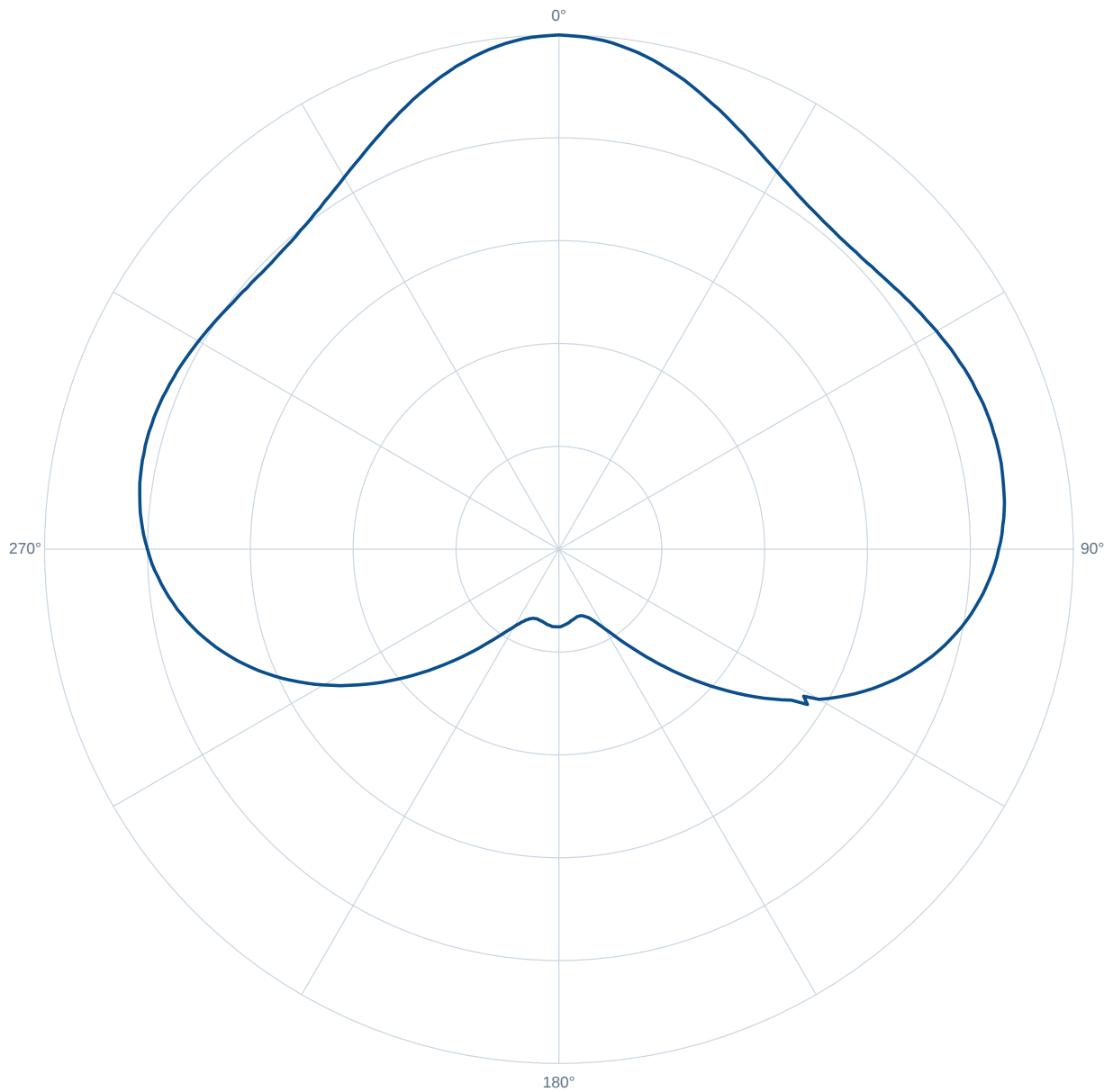
Modelo	AFCA-1				AFCA-2				AFCA-3				AFCA-4				AFCA-5			
Frequência	A	C	P	AE	A	C	P	AE	A	C	P	AE	A	C	P	AE	A	C	P	AE
76.1 a 77.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
78.1 a 80.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
81.1 a 83.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
84.1 a 86.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
87.1 a 89.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
90.1 a 92.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
93.1 a 95.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
96.1 a 98.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
99.1 a 101.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
102.1 a 104.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150
105.1 a 107.9	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150	150	175	150	150

*Para 6 e 8 elementos multiplicar os dados da AFCA-3 e AFCA-4, respectivamente por 2.



Rua Higino Guilherme Costato 298 - Jardim Pinheiros - Valinhos - SP CEP 13.274-410 Tel. +(55)19 4117-0270

AFCAR-N# · Azimute com refletor



Parâmetros da configuração

HPBW HORIZONTAL

215.06°

GANHO

0.00 dBd

FRENTE/COSTAS

14.94 dB

RIPPLE

5.88 dB

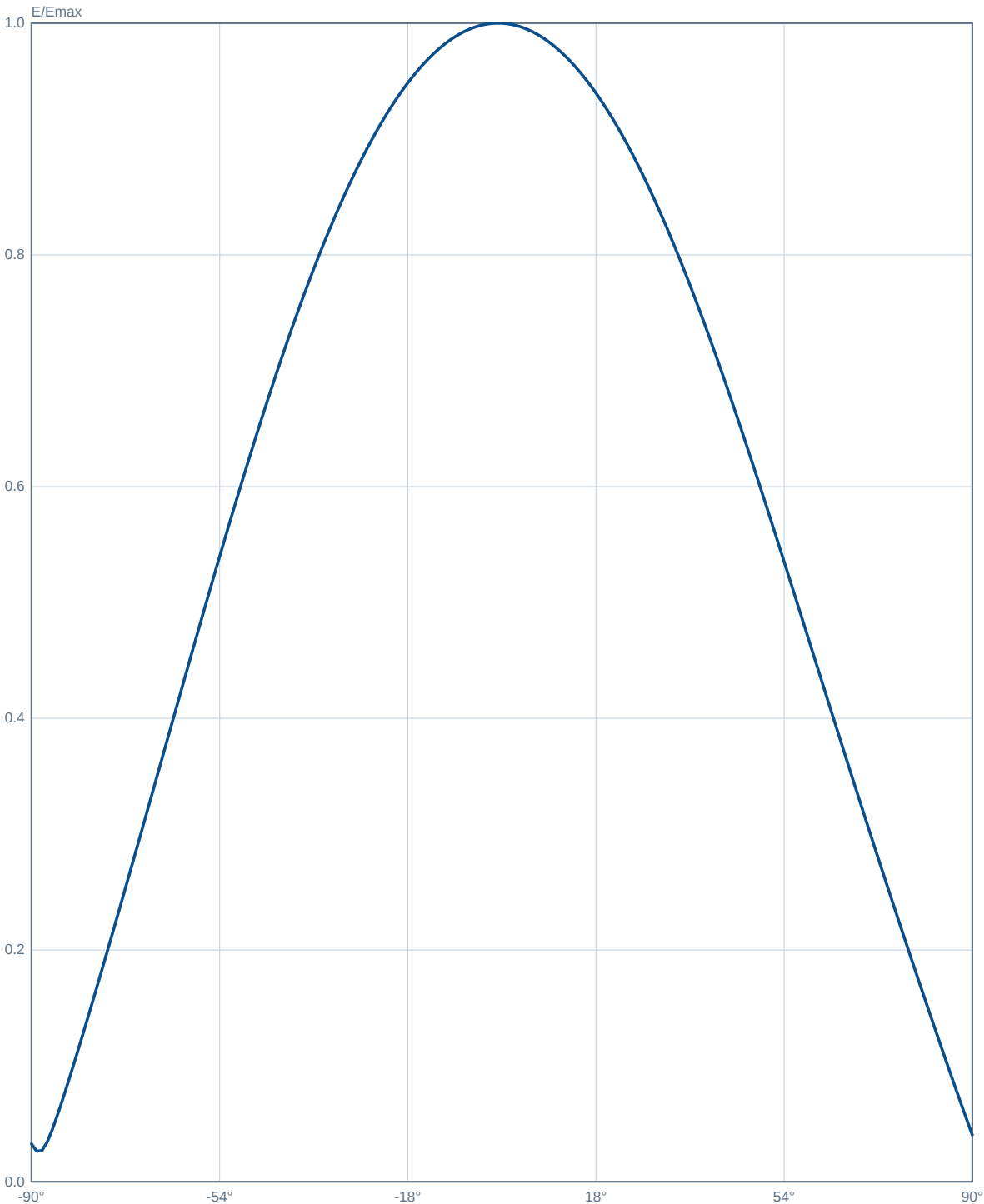
Tabela completa - Azimute



AFCAR-N# · Azimute com refletor

Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB
0°	1.0000	-0.00	73°	0.8740	1.17	146°	0.2130	13.43	219°	0.2480	12.11	292°	0.8230	1.69
1°	0.9990	0.01	74°	0.8750	1.16	147°	0.2030	13.85	220°	0.2590	11.73	293°	0.8220	1.70
2°	0.9980	0.02	75°	0.8750	1.16	148°	0.1940	14.24	221°	0.2700	11.37	294°	0.8200	1.72
3°	0.9970	0.03	76°	0.8760	1.15	149°	0.1860	14.61	222°	0.2820	10.99	295°	0.8190	1.73
4°	0.9950	0.04	77°	0.8760	1.15	150°	0.1790	14.94	223°	0.2940	10.63	296°	0.8170	1.76
5°	0.9930	0.06	78°	0.8760	1.15	151°	0.1720	15.29	224°	0.3060	10.29	297°	0.8150	1.78
6°	0.9900	0.09	79°	0.8760	1.15	152°	0.1660	15.60	225°	0.3190	9.92	298°	0.8130	1.80
7°	0.9860	0.12	80°	0.8750	1.16	153°	0.1600	15.92	226°	0.3320	9.58	299°	0.8110	1.82
8°	0.9820	0.16	81°	0.8740	1.17	154°	0.1550	16.19	227°	0.3460	9.22	300°	0.8090	1.84
9°	0.9780	0.19	82°	0.8730	1.18	155°	0.1510	16.42	228°	0.3590	8.90	301°	0.8070	1.86
10°	0.9730	0.24	83°	0.8720	1.19	156°	0.1470	16.65	229°	0.3730	8.57	302°	0.8050	1.88
11°	0.9680	0.28	84°	0.8710	1.20	157°	0.1440	16.83	230°	0.3870	8.25	303°	0.8030	1.91
12°	0.9620	0.34	85°	0.8690	1.22	158°	0.1420	16.95	231°	0.4010	7.94	304°	0.8010	1.93
13°	0.9560	0.39	86°	0.8670	1.24	159°	0.1400	17.08	232°	0.4150	7.64	305°	0.7990	1.95
14°	0.9500	0.45	87°	0.8640	1.27	160°	0.1380	17.20	233°	0.4300	7.33	306°	0.7970	1.97
15°	0.9440	0.50	88°	0.8620	1.29	161°	0.1370	17.27	234°	0.4440	7.05	307°	0.7950	1.99
16°	0.9370	0.57	89°	0.8590	1.32	162°	0.1360	17.33	235°	0.4580	6.78	308°	0.7940	2.00
17°	0.9300	0.63	90°	0.8550	1.36	163°	0.1360	17.33	236°	0.4720	6.52	309°	0.7930	2.01
18°	0.9230	0.70	91°	0.8520	1.39	164°	0.1360	17.33	237°	0.4860	6.27	310°	0.7910	2.04
19°	0.9160	0.76	92°	0.8480	1.43	165°	0.1360	17.33	238°	0.5010	6.00	311°	0.7910	2.04
20°	0.9100	0.82	93°	0.8440	1.47	166°	0.1370	17.27	239°	0.5140	5.78	312°	0.7900	2.05
21°	0.9030	0.89	94°	0.8390	1.52	167°	0.1380	17.20	240°	0.5280	5.55	313°	0.7890	2.06
22°	0.8960	0.95	95°	0.8340	1.58	168°	0.1390	17.14	241°	0.5420	5.32	314°	0.7890	2.06
23°	0.8890	1.02	96°	0.8290	1.63	169°	0.1400	17.08	242°	0.5550	5.11	315°	0.7890	2.06
24°	0.8830	1.08	97°	0.8230	1.69	170°	0.1410	17.02	243°	0.5680	4.91	316°	0.7900	2.05
25°	0.8760	1.15	98°	0.8170	1.76	171°	0.1420	16.95	244°	0.5810	4.72	317°	0.7910	2.04
26°	0.8700	1.21	99°	0.8110	1.82	172°	0.1440	16.83	245°	0.5940	4.52	318°	0.7920	2.03
27°	0.8640	1.27	100°	0.8040	1.89	173°	0.1450	16.77	246°	0.6060	4.35	319°	0.7930	2.01
28°	0.8580	1.33	101°	0.7970	1.97	174°	0.1460	16.71	247°	0.6180	4.18	320°	0.7950	1.99
29°	0.8530	1.38	102°	0.7890	2.06	175°	0.1470	16.65	248°	0.6300	4.01	321°	0.7980	1.96
30°	0.8480	1.43	103°	0.7810	2.15	176°	0.1480	16.59	249°	0.6410	3.86	322°	0.8000	1.94
31°	0.8430	1.48	104°	0.7730	2.24	177°	0.1490	16.54	250°	0.6520	3.71	323°	0.8030	1.91
32°	0.8390	1.52	105°	0.7640	2.34	178°	0.1500	16.48	251°	0.6630	3.57	324°	0.8070	1.86
33°	0.8350	1.57	106°	0.7550	2.44	179°	0.1510	16.42	252°	0.6730	3.44	325°	0.8100	1.83
34°	0.8310	1.61	107°	0.7450	2.56	180°	0.1510	16.42	253°	0.6830	3.31	326°	0.8150	1.78
35°	0.8280	1.64	108°	0.7350	2.67	181°	0.1510	16.42	254°	0.6930	3.19	327°	0.8190	1.73
36°	0.8250	1.67	109°	0.7250	2.79	182°	0.1510	16.42	255°	0.7020	3.07	328°	0.8240	1.68
37°	0.8230	1.69	110°	0.7140	2.93	183°	0.1510	16.42	256°	0.7110	2.96	329°	0.8290	1.63
38°	0.8210	1.71	111°	0.7030	3.06	184°	0.1510	16.42	257°	0.7200	2.85	330°	0.8350	1.57
39°	0.8190	1.73	112°	0.6910	3.21	185°	0.1510	16.42	258°	0.7280	2.76	331°	0.8410	1.50
40°	0.8180	1.74	113°	0.6790	3.36	186°	0.1500	16.48	259°	0.7360	2.66	332°	0.8470	1.44
41°	0.8170	1.76	114°	0.6670	3.52	187°	0.1490	16.54	260°	0.7430	2.58	333°	0.8530	1.38
42°	0.8160	1.77	115°	0.6540	3.69	188°	0.1490	16.54	261°	0.7510	2.49	334°	0.8600	1.31
43°	0.8160	1.77	116°	0.6410	3.86	189°	0.1480	16.59	262°	0.7570	2.42	335°	0.8670	1.24
44°	0.8160	1.77	117°	0.6270	4.05	190°	0.1470	16.65	263°	0.7640	2.34	336°	0.8740	1.17
45°	0.8170	1.76	118°	0.6130	4.25	191°	0.1460	16.71	264°	0.7700	2.27	337°	0.8810	1.10
46°	0.8170	1.76	119°	0.5990	4.45	192°	0.1450	16.77	265°	0.7760	2.20	338°	0.8890	1.02
47°	0.8180	1.74	120°	0.5840	4.67	193°	0.1440	16.83	266°	0.7810	2.15	339°	0.8960	0.95
48°	0.8200	1.72	121°	0.5550	5.11	194°	0.1440	16.83	267°	0.7870	2.08	340°	0.9040	0.88
49°	0.8210	1.71	122°	0.5700	4.88	195°	0.1430	16.89	268°	0.7920	2.03	341°	0.9110	0.81
50°	0.8230	1.69	123°	0.5390	5.37	196°	0.1430	16.89	269°	0.7960	1.98	342°	0.9190	0.73
51°	0.8250	1.67	124°	0.5240	5.61	197°	0.1420	16.95	270°	0.8000	1.94	343°	0.9260	0.67
52°	0.8270	1.65	125°	0.5080	5.88	198°	0.1420	16.95	271°	0.8040	1.89	344°	0.9330	0.60
53°	0.8300	1.62	126°	0.4930	6.14	199°	0.1430	16.89	272°	0.8080	1.85	345°	0.9400	0.54
54°	0.8320	1.60	127°	0.4770	6.43	200°	0.1430	16.89	273°	0.8110	1.82	346°	0.9470	0.47
55°	0.8350	1.57	128°	0.4610	6.73	201°	0.1440	16.83	274°	0.8140	1.79	347°	0.9530	0.42
56°	0.8370	1.55	129°	0.4450	7.03	202°	0.1460	16.71	275°	0.8170	1.76	348°	0.9600	0.35
57°	0.8400	1.51	130°	0.4290	7.35	203°	0.1470	16.65	276°	0.8190	1.73	349°	0.9650	0.31
58°	0.8420	1.49	131°	0.4130	7.68	204°	0.1500	16.48	277°	0.8210	1.71	350°	0.9710	0.26
59°	0.8450	1.46	132°	0.3980	8.00	205°	0.1520	16.36	278°	0.8230	1.69	351°	0.9760	0.21
60°	0.8480	1.43	133°	0.3820	8.36	206°	0.1560	16.14	279°	0.8250	1.67	352°	0.9810	0.17
61°	0.8500	1.41	134°	0.3670	8.71	207°	0.1590	15.97	280°	0.8260	1.66	353°	0.9850	0.13
62°	0.8530	1.38	135°	0.3520	9.07	208°	0.1640	15.70	281°	0.8270	1.65	354°	0.9890	0.10
63°	0.8560	1.35	136°	0.3370	9.45	209°	0.1680	15.49	282°	0.8280	1.64	355°	0.9920	0.07
64°	0.8580	1.33	137°	0.3230	9.82	210°	0.1740	15.19	283°	0.8280	1.64	356°	0.9950	0.04
65°	0.8600	1.31	138°	0.3080	10.23	211°	0.1800	14.89	284°	0.8290	1.63	357°	0.9970	0.03
66°	0.8630	1.28	139°	0.2950	10.60	212°	0.1860	14.61	285°	0.8290	1.63	358°	0.9980	0.02
67°	0.8650	1.26	140°	0.2810	11.03	213°	0.1930	14.29	286°	0.8290	1.63	359°	0.9990	0.01
68°	0.8670	1.24	141°	0.2690	11.40	214°	0.2010	13.94	287°	0.8280	1.64	360°	1.0000	-0.00
69°	0.8680	1.23	142°	0.2560	11.84	215°	0.2090	13.60	288°	0.8280	1.64			
70°	0.8700	1.21	143°	0.2440	12.25	216°	0.2180	13.23	289°	0.8270	1.65			
71°	0.8720	1.19	144°	0.2330	12.65	217°	0.2270	12.88	290°	0.8260	1.66			
72°	0.8730	1.18	145°	0.2230	13.03	218°	0.2370	12.51	291°	0.8250	1.67			

E/E_{max} de campo normalizado · atenuação positiva em dB



Parâmetros da configuração			
ELEMENTOS	HPBW VERTICAL	GANHO	PRIMEIRO NULO
N/D	83.85°	0.00 dBd	89.30°

Tabela completa - Elevação



AFCAR-N# · Diagrama de elevação

Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB	Ângulo	E/E _{max}	Aten. dB
-90°	0.0327	29.71	-53.5°	0.5473	5.24	-17°	0.9542	0.41	19.5°	0.9296	0.63	56°	0.5066	5.91
-89.5°	0.0295	30.59	-53°	0.5550	5.11	-16.5°	0.9570	0.38	20°	0.9261	0.67	56.5°	0.4994	6.03
-89°	0.0264	31.58	-52.5°	0.5626	5.00	-16°	0.9597	0.36	20.5°	0.9225	0.70	57°	0.4923	6.16
-88.5°	0.0267	31.48	-52°	0.5702	4.88	-15.5°	0.9622	0.33	21°	0.9189	0.73	57.5°	0.4851	6.28
-88°	0.0269	31.39	-51.5°	0.5777	4.77	-15°	0.9648	0.31	21.5°	0.9151	0.77	58°	0.4779	6.41
-87.5°	0.0306	30.29	-51°	0.5852	4.65	-14.5°	0.9672	0.29	22°	0.9113	0.81	58.5°	0.4708	6.54
-87°	0.0342	29.31	-50.5°	0.5927	4.54	-14°	0.9695	0.27	22.5°	0.9074	0.84	59°	0.4636	6.68
-86.5°	0.0397	28.02	-50°	0.6001	4.43	-13.5°	0.9717	0.25	23°	0.9034	0.88	59.5°	0.4564	6.81
-86°	0.0452	26.89	-49.5°	0.6075	4.33	-13°	0.9739	0.23	23.5°	0.8993	0.92	60°	0.4492	6.95
-85.5°	0.0516	25.75	-49°	0.6149	4.22	-12.5°	0.9760	0.21	24°	0.8952	0.96	60.5°	0.4421	7.09
-85°	0.0579	24.74	-48.5°	0.6222	4.12	-12°	0.9780	0.19	24.5°	0.8909	1.00	61°	0.4349	7.23
-84.5°	0.0647	23.78	-48°	0.6295	4.02	-11.5°	0.9799	0.18	25°	0.8867	1.04	61.5°	0.4277	7.38
-84°	0.0715	22.91	-47.5°	0.6367	3.92	-11°	0.9817	0.16	25.5°	0.8822	1.09	62°	0.4206	7.52
-83.5°	0.0786	22.09	-47°	0.6439	3.82	-10.5°	0.9834	0.15	26°	0.8778	1.13	62.5°	0.4134	7.67
-83°	0.0857	21.34	-46.5°	0.6510	3.73	-10°	0.9851	0.13	26.5°	0.8733	1.18	63°	0.4063	7.82
-82.5°	0.0929	20.64	-46°	0.6581	3.63	-9.5°	0.9866	0.12	27°	0.8687	1.22	63.5°	0.3991	7.98
-82°	0.1001	19.99	-45.5°	0.6651	3.54	-9°	0.9882	0.10	27.5°	0.8640	1.27	64°	0.3920	8.13
-81.5°	0.1075	19.37	-45°	0.6721	3.45	-8.5°	0.9895	0.09	28°	0.8592	1.32	64.5°	0.3849	8.29
-81°	0.1149	18.80	-44.5°	0.6790	3.36	-8°	0.9908	0.08	28.5°	0.8544	1.37	65°	0.3777	8.46
-80.5°	0.1223	18.25	-44°	0.6860	3.27	-7.5°	0.9920	0.07	29°	0.8495	1.42	65.5°	0.3706	8.62
-80°	0.1298	17.73	-43.5°	0.6928	3.19	-7°	0.9932	0.06	29.5°	0.8445	1.47	66°	0.3635	8.79
-79.5°	0.1374	17.24	-43°	0.6995	3.10	-6.5°	0.9942	0.05	30°	0.8395	1.52	66.5°	0.3564	8.96
-79°	0.1449	16.78	-42.5°	0.7062	3.02	-6°	0.9952	0.04	30.5°	0.8343	1.57	67°	0.3493	9.13
-78.5°	0.1525	16.33	-42°	0.7129	2.94	-5.5°	0.9960	0.03	31°	0.8292	1.63	67.5°	0.3423	9.31
-78°	0.1602	15.91	-41.5°	0.7195	2.86	-5°	0.9968	0.03	31.5°	0.8239	1.68	68°	0.3352	9.49
-77.5°	0.1679	15.50	-41°	0.7261	2.78	-4.5°	0.9975	0.02	32°	0.8186	1.74	68.5°	0.3282	9.68
-77°	0.1755	15.11	-40.5°	0.7325	2.70	-4°	0.9981	0.02	32.5°	0.8132	1.80	69°	0.3211	9.87
-76.5°	0.1833	14.74	-40°	0.7389	2.63	-3.5°	0.9986	0.01	33°	0.8077	1.85	69.5°	0.3141	10.06
-76°	0.1910	14.38	-39.5°	0.7453	2.55	-3°	0.9991	0.01	33.5°	0.8022	1.91	70°	0.3071	10.25
-75.5°	0.1988	14.03	-39°	0.7516	2.48	-2.5°	0.9994	0.01	34°	0.7966	1.97	70.5°	0.3001	10.45
-75°	0.2066	13.70	-38.5°	0.7578	2.41	-2°	0.9997	0.00	34.5°	0.7910	2.04	71°	0.2931	10.66
-74.5°	0.2144	13.37	-38°	0.7640	2.34	-1.5°	0.9999	0.00	35°	0.7853	2.10	71.5°	0.2861	10.87
-74°	0.2223	13.06	-37.5°	0.7700	2.27	-1°	1.0000	-0.00	35.5°	0.7795	2.16	72°	0.2792	11.08
-73.5°	0.2301	12.76	-37°	0.7761	2.20	-0.5°	1.0000	0.00	36°	0.7737	2.23	72.5°	0.2723	11.30
-73°	0.2380	12.47	-36.5°	0.7820	2.14	0°	0.9999	0.00	36.5°	0.7678	2.30	73°	0.2653	11.52
-72.5°	0.2459	12.18	-36°	0.7879	2.07	0.5°	0.9997	0.00	37°	0.7619	2.36	73.5°	0.2584	11.75
-72°	0.2538	11.91	-35.5°	0.7937	2.01	1°	0.9995	0.00	37.5°	0.7558	2.43	74°	0.2515	11.99
-71.5°	0.2618	11.64	-35°	0.7995	1.94	1.5°	0.9991	0.01	38°	0.7498	2.50	74.5°	0.2446	12.23
-71°	0.2697	11.38	-34.5°	0.8051	1.88	2°	0.9987	0.01	38.5°	0.7437	2.57	75°	0.2378	12.48
-70.5°	0.2777	11.13	-34°	0.8108	1.82	2.5°	0.9982	0.02	39°	0.7376	2.64	75.5°	0.2309	12.73
-70°	0.2856	10.88	-33.5°	0.8162	1.76	3°	0.9976	0.02	39.5°	0.7313	2.72	76°	0.2241	12.99
-69.5°	0.2936	10.64	-33°	0.8217	1.71	3.5°	0.9969	0.03	40°	0.7251	2.79	76.5°	0.2173	13.26
-69°	0.3016	10.41	-32.5°	0.8271	1.65	4°	0.9962	0.03	40.5°	0.7188	2.87	77°	0.2105	13.54
-68.5°	0.3096	10.18	-32°	0.8324	1.59	4.5°	0.9953	0.04	41°	0.7124	2.95	77.5°	0.2037	13.82
-68°	0.3176	9.96	-31.5°	0.8376	1.54	5°	0.9944	0.05	41.5°	0.7060	3.02	78°	0.1969	14.11
-67.5°	0.3256	9.75	-31°	0.8428	1.49	5.5°	0.9933	0.06	42°	0.6996	3.10	78.5°	0.1902	14.42
-67°	0.3336	9.54	-30.5°	0.8478	1.43	6°	0.9922	0.07	42.5°	0.6931	3.18	79°	0.1835	14.73
-66.5°	0.3416	9.33	-30°	0.8529	1.38	6.5°	0.9910	0.08	43°	0.6866	3.27	79.5°	0.1767	15.05
-66°	0.3496	9.13	-29.5°	0.8577	1.33	7°	0.9897	0.09	43.5°	0.6800	3.35	80°	0.1700	15.39
-65.5°	0.3577	8.93	-29°	0.8626	1.28	7.5°	0.9883	0.10	44°	0.6734	3.43	80.5°	0.1634	15.74
-65°	0.3657	8.74	-28.5°	0.8674	1.24	8°	0.9869	0.11	44.5°	0.6667	3.52	81°	0.1567	16.10
-64.5°	0.3737	8.55	-28°	0.8721	1.19	8.5°	0.9853	0.13	45°	0.6601	3.61	81.5°	0.1501	16.47
-64°	0.3817	8.37	-27.5°	0.8766	1.14	9°	0.9837	0.14	45.5°	0.6533	3.70	82°	0.1434	16.87
-63.5°	0.3897	8.19	-27°	0.8812	1.10	9.5°	0.9820	0.16	46°	0.6466	3.79	82.5°	0.1368	17.28
-63°	0.3977	8.01	-26.5°	0.8856	1.06	10°	0.9802	0.17	46.5°	0.6398	3.88	83°	0.1302	17.71
-62.5°	0.4057	7.84	-26°	0.8900	1.01	10.5°	0.9783	0.19	47°	0.6330	3.97	83.5°	0.1237	18.16
-62°	0.4137	7.67	-25.5°	0.8942	0.97	11°	0.9763	0.21	47.5°	0.6261	4.07	84°	0.1171	18.63
-61.5°	0.4217	7.50	-25°	0.8985	0.93	11.5°	0.9742	0.23	48°	0.6193	4.16	84.5°	0.1106	19.13
-61°	0.4297	7.34	-24.5°	0.9025	0.89	12°	0.9721	0.25	48.5°	0.6124	4.26	85°	0.1040	19.66
-60.5°	0.4376	7.18	-24°	0.9066	0.85	12.5°	0.9698	0.27	49°	0.6055	4.36	85.5°	0.0976	20.21
-60°	0.4456	7.02	-23.5°	0.9105	0.81	13°	0.9675	0.29	49.5°	0.5985	4.46	86°	0.0911	20.81
-59.5°	0.4535	6.87	-23°	0.9144	0.78	13.5°	0.9651	0.31	50°	0.5915	4.56	86.5°	0.0846	21.45
-59°	0.4615	6.72	-22.5°	0.9182	0.74	14°	0.9626	0.33	50.5°	0.5845	4.66	87°	0.0782	22.14
-58.5°	0.4694	6.57	-22°	0.9219	0.71	14.5°	0.9600	0.35	51°	0.5775	4.77	87.5°	0.0718	22.87
-58°	0.4773	6.42	-21.5°	0.9255	0.67	15°	0.9574	0.38	51.5°	0.5705	4.88	88°	0.0654	23.68
-57.5°	0.4851	6.28	-21°	0.9290	0.64	15.5°	0.9546	0.40	52°	0.5634	4.98	88.5°	0.0591	24.56
-57°	0.4930	6.14	-20.5°	0.9325	0.61	16°	0.9518	0.43	52.5°	0.5564	5.09	89°	0.0528	25.54
-56.5°	0.5008	6.01	-20°	0.9359	0.58	16.5°	0.9489	0.46	53°	0.5493	5.20	89.5°	0.0466	26.63
-56°	0.5087	5.87	-19.5°	0.9391	0.55	17°	0.9459	0.48	53.5°	0.5422	5.32	90°	0.0404	27.87
-55.5°	0.5164	5.74	-19°	0.9423	0.52	17.5°	0.9428	0.51	54°	0.5351	5.43			
-55°	0.5242	5.61	-18.5°	0.9454	0.49	18°	0.9396	0.54	54.5°	0.5280	5.55			
-54.5°	0.5319	5.48	-18°	0.9484	0.46	18.5°	0.9363	0.57	55°	0.5208	5.67			
-54°	0.5396	5.36	-17.5°	0.9513	0.43	19°	0.9331	0.60	55.5°	0.5137	5.79			

E/E_{max} de campo normalizado · atenuação positiva em dB