

ANTENNA PROJECT

Communications Technologies, Inc.

TX station: *BOOSTER*

Site name: *KSIQ*

Frequency: *96.10 MHz*

Date: *10/6/2008*

TX station: BOOSTER

Site name: KSIQ

General data of antenna system

TX station	BOOSTER
Site name	KSIQ
Site longitude (+ddd°pp'ss")	32-41-52.5
Site latitude (+dd°pp'ss")	116-55-59.5
Ground level a.s.l. (m)	0
Antenna system height a.g.l. (m)	12.2
Transmitter power (Watt)	15.3
Carrier wave frequency (MHz)	96.10
Antenna system central frequency (MHz)	96.10
Filename of antenna base diagrams type 1	ALDENA_ALP0802712.ANT
Filename of antenna base diagrams type 2	
Antenna system polarization (H, V, C, X)	V
Transmitting cable attenuation (dB)	0.0
Additional attenuations (dB)	0.0
Base diagrams sectors (A = all, F = front)	A
Velocity factor of cables to antennas (0÷1)	0.88
Coordinate system (C = cartesian, P = polar)	P
Mast side/diameter (cm):	28.0
Mast cross section (Triangular, Square, Circular)	T
Mast rotation w.r.t. North (°)	0
System picture filename (*.bmp *.gif *.jpg)	

Information about antennas used in the system*Antenna of type 1*

Manufacturer	Telecomunicazioni A
Antenna model	ALP.08.02.712
Band start (MHz)	85
Band stop (MHz)	110
Diagrams frequency (MHz)	96
Polariz. (H, V, C, X)	V
Vertical dist. (cm)	270
Height (cm)	180
Width (cm)	16
Thickness (cm)	260
Weight (Kg)	14
Maximum power (KW)	5
Gain (dBd)	7.7
North E.C. (cm)	0
East E.C. (cm)	0
Return loss (dB)	-31.18
R.C. phase (°)	0

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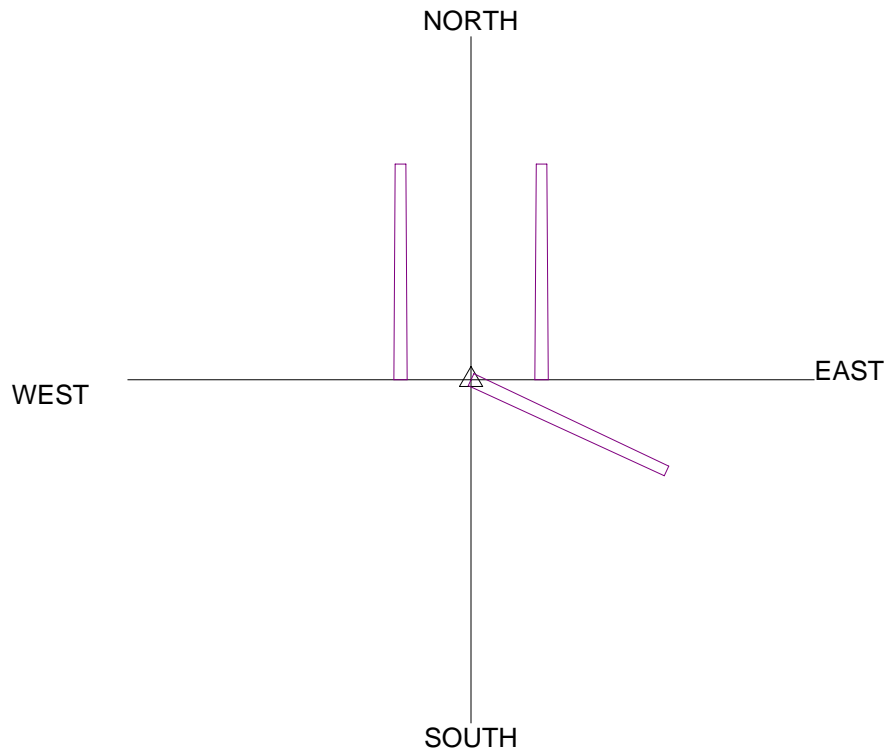
Geometr. and electrical data of antenna system

	<i>Power</i> (%)	<i>Tilt</i> (°)	<i>Az.</i> (°/N)	<i>Phase</i> (°)	<i>V dist.</i> (m)	<i>Scr-D</i> (cm)	<i>Scr-Az</i> (°/N)	<i>Rot.</i> (1÷4)	<i>Type</i> (1÷2)	<i>L cables</i> (cm)	<i>Car. phase</i> (°)	
1	37.500	0	0	0	+0.0	0.01	85.0	90.0	1	1	0.0	0.0
2	25.000	0	115	0	+0.0	0.00	0.0	0.0	1	1	0.0	0.0
3	37.500	0	0	0	+0.0	0.00	85.0	270.0	1	1	0.0	0.0

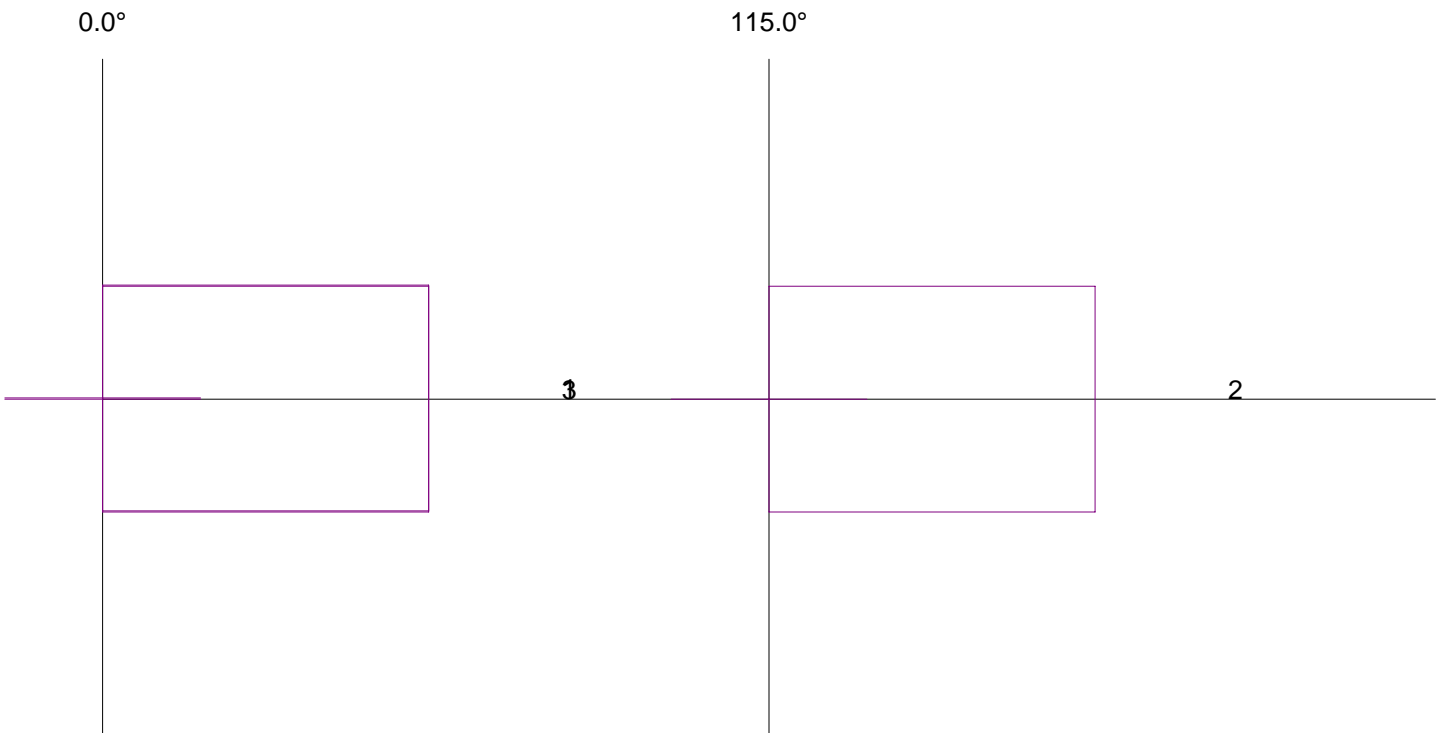
TX station: BOOSTER

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Plan of antenna system



Side of antenna system

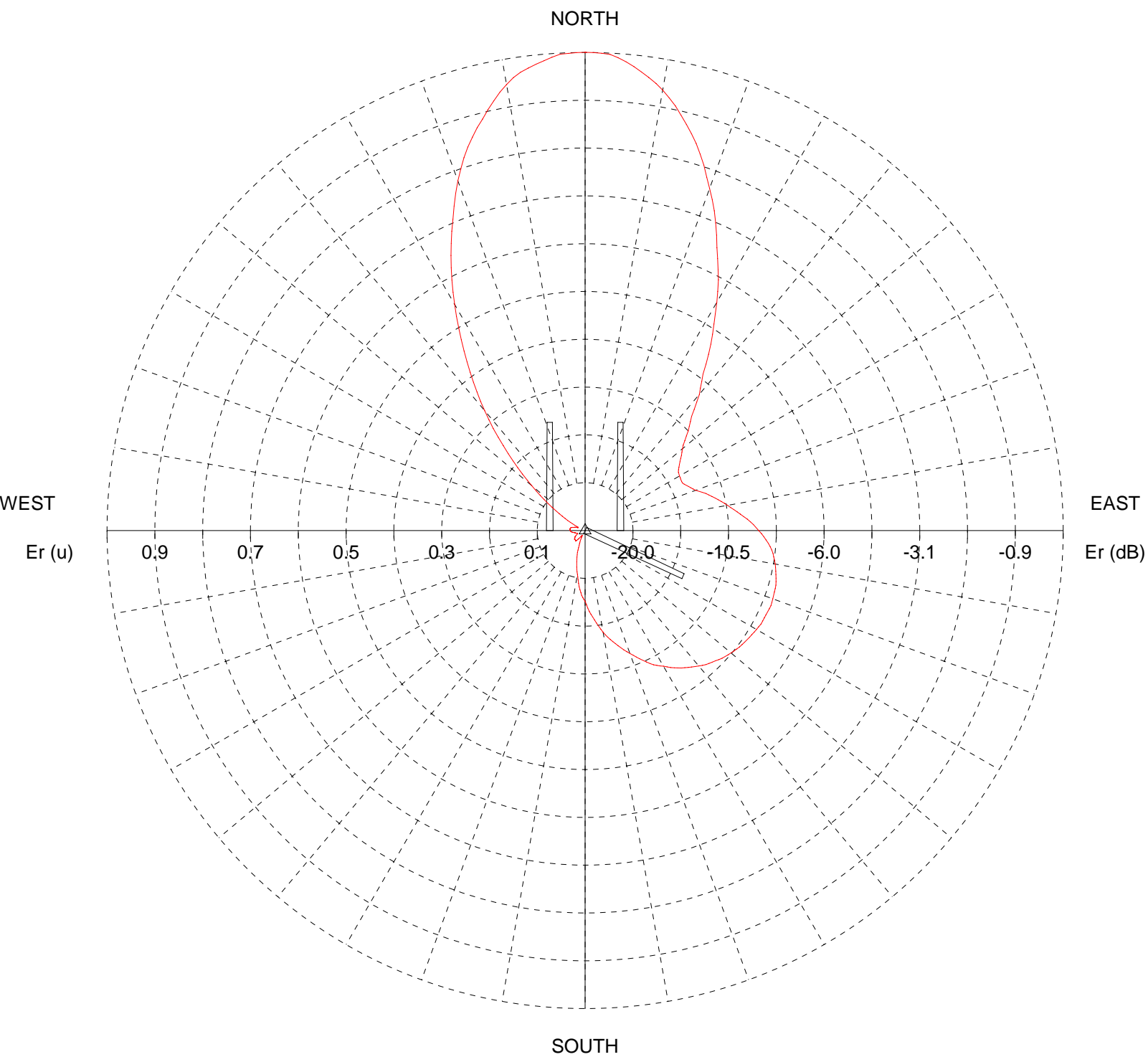


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Horizontal diagram



— 0.0° depres. (Total antenna), Gain (dBd): 9.12 ERP T.max (KW): 0.125 ERP E.max (KW): 0.125

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Horizontal diagram at 0.0° depres. (Total antenna)

Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)
0.0	100.0	125.0	60.0	22.8	6.5	120.0	41.4	21.4
1.0	100.0	125.0	61.0	22.8	6.5	121.0	41.3	21.3
2.0	99.9	124.7	62.0	22.7	6.4	122.0	41.1	21.1
3.0	99.7	124.3	63.0	22.6	6.4	123.0	41.0	21.0
4.0	99.1	122.8	64.0	22.7	6.4	124.0	40.9	20.9
5.0	98.4	121.0	65.0	22.9	6.5	125.0	40.7	20.7
6.0	97.6	119.0	66.0	23.2	6.7	126.0	40.6	20.6
7.0	96.6	116.7	67.0	23.5	6.9	127.0	40.4	20.4
8.0	95.7	114.4	68.0	23.8	7.1	128.0	40.2	20.2
9.0	94.7	112.0	69.0	24.2	7.3	129.0	40.0	20.0
10.0	93.5	109.3	70.0	24.6	7.6	130.0	39.8	19.8
11.0	92.2	106.2	71.0	25.2	7.9	131.0	39.6	19.6
12.0	90.8	103.0	72.0	25.8	8.3	132.0	39.4	19.4
13.0	89.2	99.3	73.0	26.4	8.7	133.0	39.2	19.2
14.0	87.5	95.8	74.0	26.9	9.1	134.0	38.9	18.9
15.0	85.9	92.2	75.0	27.5	9.4	135.0	38.6	18.6
16.0	84.2	88.6	76.0	28.0	9.8	136.0	38.3	18.3
17.0	82.3	84.6	77.0	28.6	10.2	137.0	38.0	18.1
18.0	80.4	80.7	78.0	29.1	10.6	138.0	37.7	17.8
19.0	78.1	76.3	79.0	29.7	11.0	139.0	37.4	17.5
20.0	76.1	72.5	80.0	30.3	11.4	140.0	37.0	17.1
21.0	74.2	68.7	81.0	30.8	11.9	141.0	36.6	16.7
22.0	72.1	65.0	82.0	31.4	12.3	142.0	36.2	16.4
23.0	69.9	61.0	83.0	32.0	12.8	143.0	35.9	16.1
24.0	67.6	57.2	84.0	32.7	13.3	144.0	35.5	15.7
25.0	65.3	53.3	85.0	33.3	13.9	145.0	35.1	15.4
26.0	63.2	50.0	86.0	34.0	14.4	146.0	34.7	15.0
27.0	61.3	46.9	87.0	34.6	15.0	147.0	34.3	14.7
28.0	59.4	44.1	88.0	35.2	15.5	148.0	33.8	14.3
29.0	57.2	40.9	89.0	35.8	16.0	149.0	33.3	13.8
30.0	55.1	37.9	90.0	36.3	16.5	150.0	32.8	13.4
31.0	52.9	35.0	91.0	36.9	17.0	151.0	32.4	13.1
32.0	50.9	32.4	92.0	37.4	17.5	152.0	32.0	12.8
33.0	48.9	29.9	93.0	37.9	17.9	153.0	31.5	12.4
34.0	47.0	27.7	94.0	38.4	18.4	154.0	31.0	12.0
35.0	45.0	25.3	95.0	38.8	18.8	155.0	30.3	11.5
36.0	43.0	23.1	96.0	39.2	19.2	156.0	29.7	11.0
37.0	41.0	21.0	97.0	39.6	19.6	157.0	29.1	10.6
38.0	39.6	19.6	98.0	39.9	19.8	158.0	28.5	10.2
39.0	38.3	18.4	99.0	40.1	20.1	159.0	27.9	9.8
40.0	37.2	17.3	100.0	40.4	20.4	160.0	27.4	9.4
41.0	35.6	15.8	101.0	40.6	20.6	161.0	26.8	9.0
42.0	34.1	14.5	102.0	40.8	20.8	162.0	26.3	8.6
43.0	32.7	13.3	103.0	41.0	21.0	163.0	25.7	8.2
44.0	31.7	12.5	104.0	41.2	21.2	164.0	25.1	7.9
45.0	30.8	11.9	105.0	41.3	21.4	165.0	24.5	7.5
46.0	30.0	11.2	106.0	41.5	21.5	166.0	23.9	7.2
47.0	29.0	10.5	107.0	41.6	21.6	167.0	23.4	6.8
48.0	28.1	9.8	108.0	41.6	21.7	168.0	22.8	6.5
49.0	27.2	9.2	109.0	41.7	21.7	169.0	22.2	6.2
50.0	26.6	8.8	110.0	41.8	21.8	170.0	21.6	5.8
51.0	26.1	8.5	111.0	41.8	21.9	171.0	20.9	5.5
52.0	25.6	8.2	112.0	41.9	22.0	172.0	20.2	5.1
53.0	25.0	7.8	113.0	41.9	21.9	173.0	19.5	4.8
54.0	24.5	7.5	114.0	41.8	21.8	174.0	18.8	4.4
55.0	24.1	7.2	115.0	41.7	21.8	175.0	18.1	4.1
56.0	23.7	7.0	116.0	41.7	21.7	176.0	17.6	3.9
57.0	23.3	6.8	117.0	41.7	21.7	177.0	17.0	3.6
58.0	23.0	6.6	118.0	41.7	21.7	178.0	16.2	3.3
59.0	22.9	6.5	119.0	41.5	21.5	179.0	15.5	3.0

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Horizontal diagram at 0.0° depres. (Total antenna)

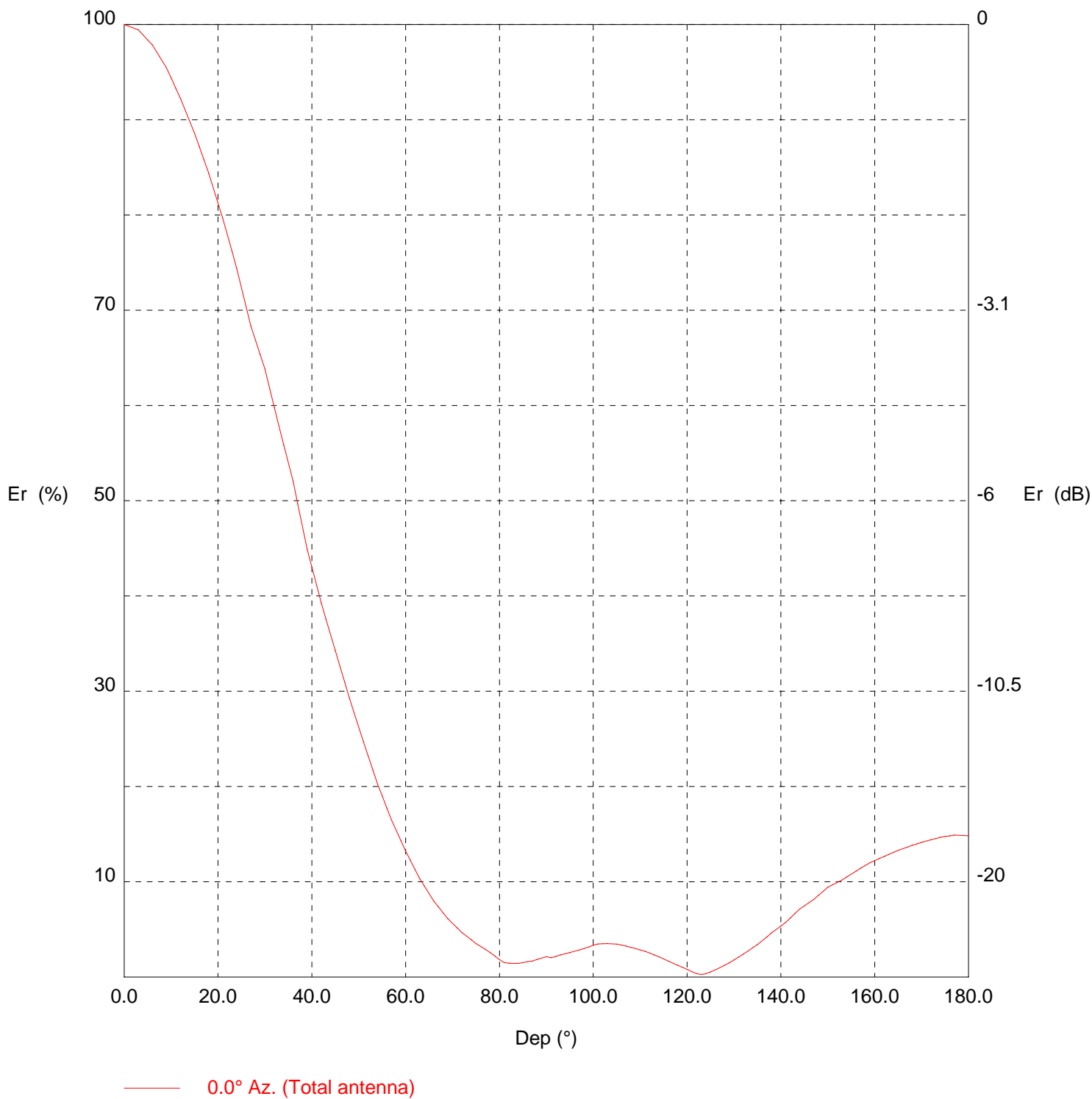
Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)
180.0	14.8	2.7	240.0	2.3	0.1	300.0	4.2	0.2
181.0	14.4	2.6	241.0	2.2	0.1	301.0	4.9	0.3
182.0	14.0	2.5	242.0	2.1	0.1	302.0	5.6	0.4
183.0	13.6	2.3	243.0	2.0	0.0	303.0	6.4	0.5
184.0	13.0	2.1	244.0	1.9	0.0	304.0	7.4	0.7
185.0	12.4	1.9	245.0	1.8	0.0	305.0	8.4	0.9
186.0	11.8	1.7	246.0	1.8	0.0	306.0	9.6	1.1
187.0	11.1	1.5	247.0	1.7	0.0	307.0	10.7	1.4
188.0	10.4	1.4	248.0	1.7	0.0	308.0	11.9	1.8
189.0	9.8	1.2	249.0	1.7	0.0	309.0	13.1	2.2
190.0	9.3	1.1	250.0	1.7	0.0	310.0	14.5	2.6
191.0	8.9	1.0	251.0	1.8	0.0	311.0	16.0	3.2
192.0	8.4	0.9	252.0	1.8	0.0	312.0	17.6	3.9
193.0	7.8	0.8	253.0	1.9	0.0	313.0	19.3	4.6
194.0	7.3	0.7	254.0	2.0	0.0	314.0	21.0	5.5
195.0	6.8	0.6	255.0	2.1	0.1	315.0	22.7	6.5
196.0	6.3	0.5	256.0	2.1	0.1	316.0	24.7	7.6
197.0	5.8	0.4	257.0	2.1	0.1	317.0	26.6	8.9
198.0	5.4	0.4	258.0	2.2	0.1	318.0	28.7	10.3
199.0	4.9	0.3	259.0	2.3	0.1	319.0	30.7	11.8
200.0	4.4	0.2	260.0	2.4	0.1	320.0	32.7	13.3
201.0	3.9	0.2	261.0	2.5	0.1	321.0	34.7	15.1
202.0	3.4	0.1	262.0	2.6	0.1	322.0	36.8	16.9
203.0	3.0	0.1	263.0	2.7	0.1	323.0	38.8	18.8
204.0	2.7	0.1	264.0	2.8	0.1	324.0	40.9	20.9
205.0	2.3	0.1	265.0	2.9	0.1	325.0	43.1	23.2
206.0	2.0	0.0	266.0	3.0	0.1	326.0	45.3	25.6
207.0	1.7	0.0	267.0	3.1	0.1	327.0	47.5	28.2
208.0	1.4	0.0	268.0	3.1	0.1	328.0	49.9	31.1
209.0	1.2	0.0	269.0	3.1	0.1	329.0	52.2	34.1
210.0	1.2	0.0	270.0	3.1	0.1	330.0	54.6	37.2
211.0	1.2	0.0	271.0	3.1	0.1	331.0	57.0	40.6
212.0	1.2	0.0	272.0	3.1	0.1	332.0	59.3	44.0
213.0	1.3	0.0	273.0	3.1	0.1	333.0	61.7	47.6
214.0	1.3	0.0	274.0	3.1	0.1	334.0	64.0	51.2
215.0	1.5	0.0	275.0	3.2	0.1	335.0	66.3	54.9
216.0	1.7	0.0	276.0	3.2	0.1	336.0	68.5	58.7
217.0	1.9	0.0	277.0	3.2	0.1	337.0	70.7	62.5
218.0	2.2	0.1	278.0	3.2	0.1	338.0	73.2	66.9
219.0	2.4	0.1	279.0	3.1	0.1	339.0	75.6	71.4
220.0	2.6	0.1	280.0	3.1	0.1	340.0	77.8	75.7
221.0	2.8	0.1	281.0	3.0	0.1	341.0	79.9	79.8
222.0	3.0	0.1	282.0	3.0	0.1	342.0	82.0	84.0
223.0	2.9	0.1	283.0	2.8	0.1	343.0	83.9	87.9
224.0	2.9	0.1	284.0	2.7	0.1	344.0	85.6	91.5
225.0	2.8	0.1	285.0	2.5	0.1	345.0	87.2	95.1
226.0	2.9	0.1	286.0	2.4	0.1	346.0	88.7	98.3
227.0	2.9	0.1	287.0	2.3	0.1	347.0	90.3	102.0
228.0	2.8	0.1	288.0	2.2	0.1	348.0	91.9	105.5
229.0	2.9	0.1	289.0	2.0	0.1	349.0	93.4	109.1
230.0	2.9	0.1	290.0	1.8	0.0	350.0	94.7	112.1
231.0	2.9	0.1	291.0	1.7	0.0	351.0	95.9	115.0
232.0	2.8	0.1	292.0	1.6	0.0	352.0	96.8	117.1
233.0	2.7	0.1	293.0	1.6	0.0	353.0	97.5	118.7
234.0	2.6	0.1	294.0	1.6	0.0	354.0	98.1	120.2
235.0	2.6	0.1	295.0	1.7	0.0	355.0	98.6	121.6
236.0	2.6	0.1	296.0	2.0	0.0	356.0	99.2	123.1
237.0	2.5	0.1	297.0	2.4	0.1	357.0	99.8	124.4
238.0	2.5	0.1	298.0	3.0	0.1	358.0	99.9	124.6
239.0	2.4	0.1	299.0	3.5	0.2	359.0	100.0	124.9

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Vertical diagram



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Vertical diagram at an azimuth of 0° degrees

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	100.0	125.0	60.0	13.2	2.2	120.0	0.8	0.0
1.0	99.8	124.5	61.0	12.3	1.9	121.0	0.6	0.0
2.0	99.6	124.0	62.0	11.3	1.6	122.0	0.4	0.0
3.0	99.4	123.6	63.0	10.3	1.3	123.0	0.3	0.0
4.0	98.9	122.3	64.0	9.6	1.1	124.0	0.3	0.0
5.0	98.4	121.0	65.0	8.8	1.0	125.0	0.5	0.0
6.0	97.9	119.7	66.0	8.0	0.8	126.0	0.7	0.0
7.0	97.1	117.7	67.0	7.4	0.7	127.0	1.0	0.0
8.0	96.3	115.8	68.0	6.7	0.6	128.0	1.2	0.0
9.0	95.5	113.9	69.0	6.1	0.5	129.0	1.5	0.0
10.0	94.4	111.3	70.0	5.6	0.4	130.0	1.8	0.0
11.0	93.3	108.8	71.0	5.1	0.3	131.0	2.1	0.1
12.0	92.2	106.3	72.0	4.7	0.3	132.0	2.4	0.1
13.0	91.0	103.5	73.0	4.3	0.2	133.0	2.7	0.1
14.0	89.8	100.8	74.0	3.9	0.2	134.0	3.1	0.1
15.0	88.6	98.1	75.0	3.5	0.2	135.0	3.4	0.1
16.0	87.2	95.0	76.0	3.2	0.1	136.0	3.8	0.2
17.0	85.8	92.0	77.0	2.9	0.1	137.0	4.2	0.2
18.0	84.4	89.1	78.0	2.6	0.1	138.0	4.6	0.3
19.0	82.8	85.8	79.0	2.2	0.1	139.0	5.0	0.3
20.0	81.3	82.5	80.0	1.8	0.0	140.0	5.3	0.4
21.0	79.7	79.3	81.0	1.5	0.0	141.0	5.7	0.4
22.0	77.9	75.9	82.0	1.5	0.0	142.0	6.2	0.5
23.0	76.2	72.5	83.0	1.4	0.0	143.0	6.7	0.6
24.0	74.4	69.2	84.0	1.4	0.0	144.0	7.1	0.6
25.0	72.4	65.5	85.0	1.5	0.0	145.0	7.5	0.7
26.0	70.4	61.9	86.0	1.6	0.0	146.0	7.8	0.8
27.0	68.4	58.4	87.0	1.7	0.0	147.0	8.1	0.8
28.0	66.8	55.8	88.0	1.8	0.0	148.0	8.6	0.9
29.0	65.3	53.4	89.0	2.0	0.0	149.0	9.0	1.0
30.0	63.8	50.9	90.0	2.1	0.1	150.0	9.4	1.1
31.0	61.8	47.7	91.0	2.0	0.1	151.0	9.7	1.2
32.0	59.8	44.7	92.0	2.2	0.1	152.0	9.9	1.2
33.0	57.8	41.7	93.0	2.3	0.1	153.0	10.2	1.3
34.0	55.9	39.0	94.0	2.4	0.1	154.0	10.5	1.4
35.0	53.9	36.4	95.0	2.6	0.1	155.0	10.8	1.5
36.0	52.0	33.8	96.0	2.7	0.1	156.0	11.1	1.5
37.0	49.7	30.8	97.0	2.8	0.1	157.0	11.4	1.6
38.0	47.3	27.9	98.0	3.0	0.1	158.0	11.7	1.7
39.0	44.9	25.2	99.0	3.1	0.1	159.0	12.0	1.8
40.0	43.0	23.1	100.0	3.3	0.1	160.0	12.2	1.9
41.0	41.1	21.2	101.0	3.5	0.2	161.0	12.4	1.9
42.0	39.3	19.3	102.0	3.5	0.2	162.0	12.7	2.0
43.0	37.6	17.7	103.0	3.5	0.2	163.0	12.9	2.1
44.0	35.9	16.1	104.0	3.5	0.2	164.0	13.1	2.1
45.0	34.3	14.7	105.0	3.4	0.1	165.0	13.3	2.2
46.0	32.6	13.3	106.0	3.4	0.1	166.0	13.5	2.3
47.0	31.0	12.0	107.0	3.2	0.1	167.0	13.6	2.3
48.0	29.3	10.7	108.0	3.1	0.1	168.0	13.8	2.4
49.0	27.8	9.6	109.0	3.0	0.1	169.0	14.0	2.4
50.0	26.2	8.6	110.0	2.8	0.1	170.0	14.1	2.5
51.0	24.7	7.6	111.0	2.7	0.1	171.0	14.3	2.5
52.0	23.2	6.7	112.0	2.5	0.1	172.0	14.4	2.6
53.0	21.7	5.9	113.0	2.3	0.1	173.0	14.5	2.6
54.0	20.3	5.1	114.0	2.1	0.1	174.0	14.7	2.7
55.0	19.0	4.5	115.0	1.9	0.0	175.0	14.7	2.7
56.0	17.7	3.9	116.0	1.7	0.0	176.0	14.8	2.7
57.0	16.5	3.4	117.0	1.4	0.0	177.0	14.9	2.8
58.0	15.4	3.0	118.0	1.2	0.0	178.0	14.9	2.8
59.0	14.3	2.6	119.0	1.0	0.0	179.0	14.9	2.8