

Antenna Project

Log R
One bay
Frequency: 88.30 MHz

Nov 18, 2022

General data of antenna System

TX station	
Locality	
Description	
Status	
System of coordinates	
Longitude	
Latitude	
Ground level a.s.l. (m)	1464.0
Antenna system height (m)	10.0
Transmitter power(Watt)	145.000
Carrier wave frequency (MHz)	88.300
Antenna system central frequency (MHz)	88.300
Antenna base diagrams type 1	Log R
Antenna base Electrical Tilt type 1	
Mechanical Tilt	0
Azimuth (°):	162.0
Polarization (H/V/C/X)	V
Transmitting cable attenuation (dB)	0.9
Additional attenuations(dB)	0.7
Base diagrams sectors (T = All, F = Front)	T
Velocity factor of cables to Antennas (0÷1)	0.66
Coordinate System(Cartesian, Polar, Offset)	P
Mast side / diameter(cm)	5.1
Mast cross section (T/Q/C)	C
Structure rotation w.r.t. North (°)	0.0
Mast rotation w.r.t. North (°)	0.0

Information about antennas used in the System

	Antenna type 1
Manufacturer	BEXT
Antenna model	Log R
Band start(MHz)	87.5
Band stop(MHz)	108
diagrams Frequency(MHz)	88.3
Polariz (H/V/C/X)	V
Vertical dist (cm)	260
Height (cm)	175
Width (cm)	7.5
Thickness (cm)	138
Weight (Kg)	8
Maximum power (KW)	0
Gain (dBd)	4.64
North E.C. (cm)	
East E.C. (cm)	
Return loss (dB)	
R.C.Phase (°)	

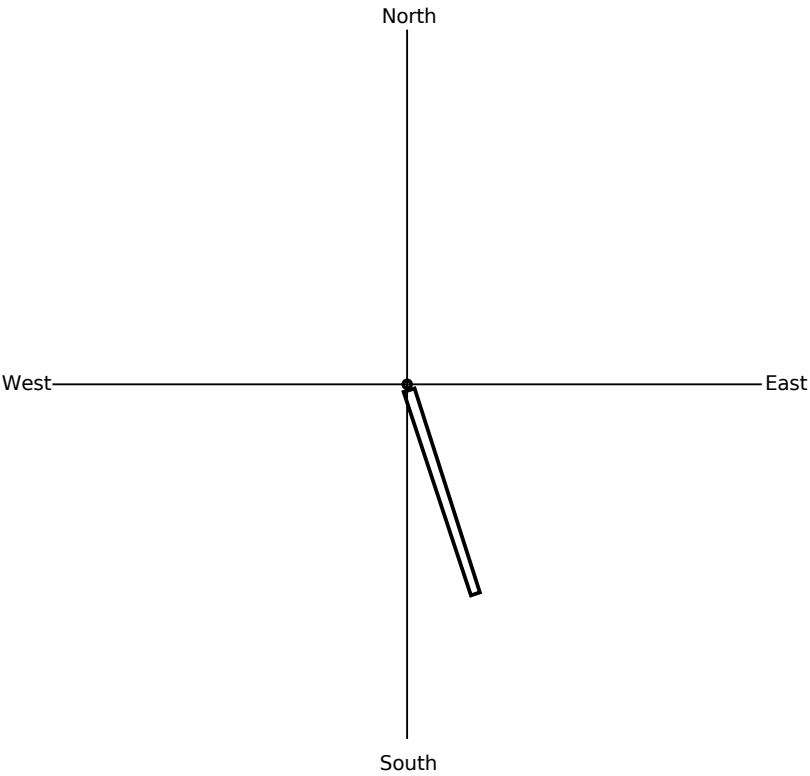
Frequency: 88.30 MHz

Geometr. and electrical data of antenna System

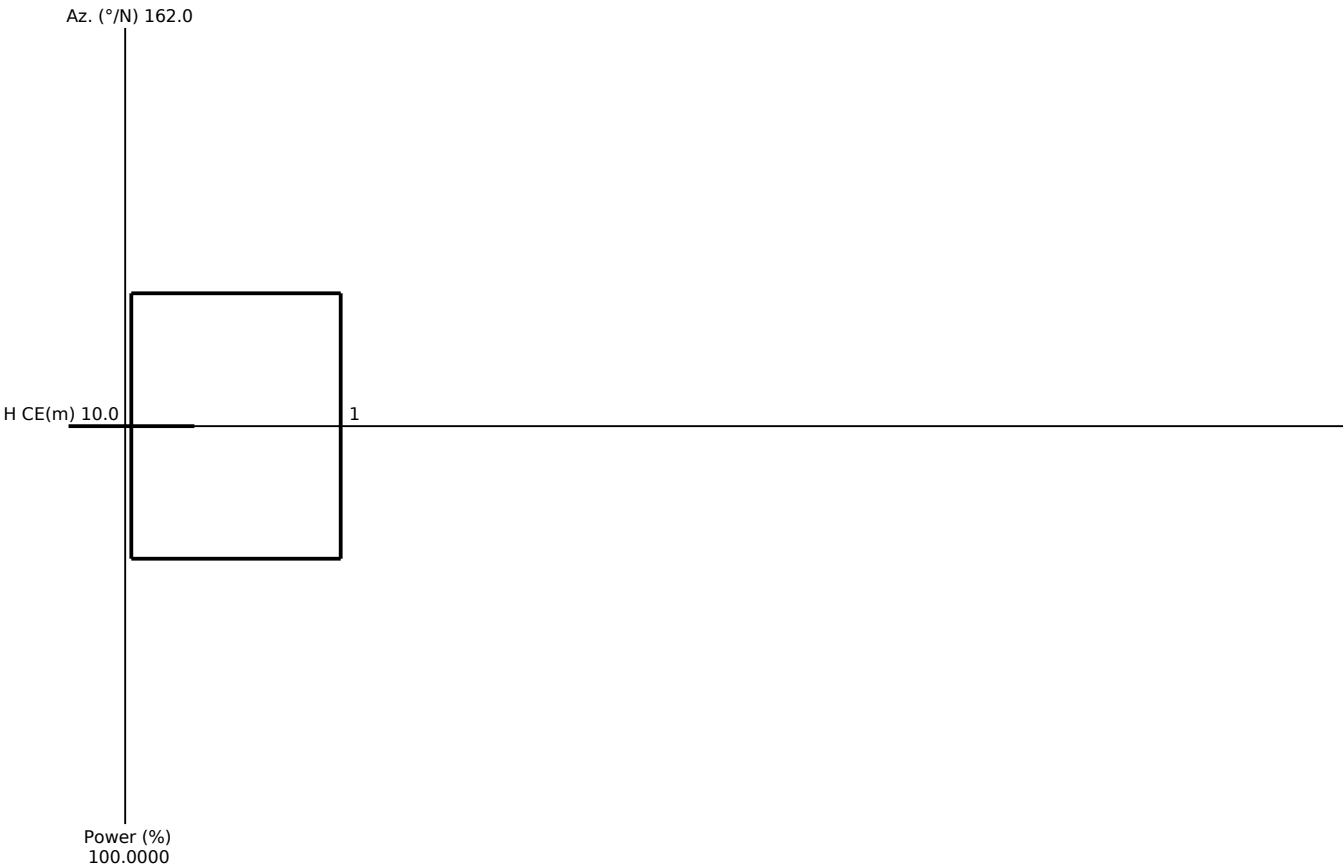
	Power (%)	Tilt (°)	Az. (°/N)	Group Phase(°)	Phase (°)	V dist. (m)	Scr-d (cm)	Scr-Az (°/N)	Rot. (1÷4)	Type (1÷2)	L cables (cm)	Car. phase(°)
1	100.0000	0	162	0	+0.0	0.00	4.0	162.0	1	1	0.0	0.0

Frequency: 88.30 MHz

Plan of antenna system

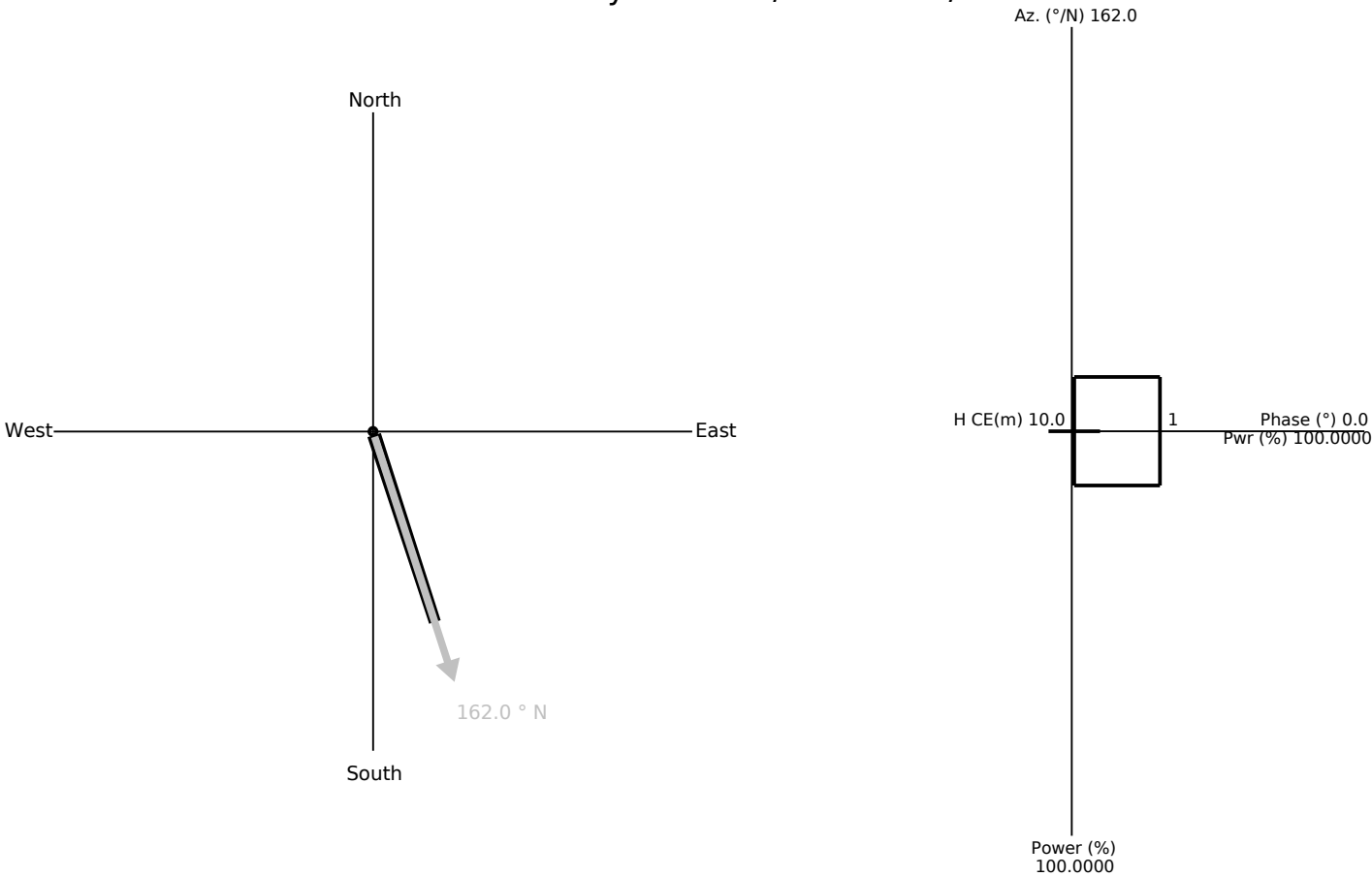


Side of antenna system



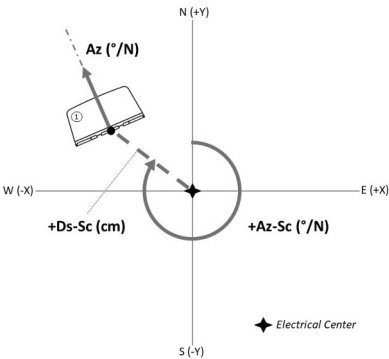
Frequency: 88.30 MHz

Array Details 1/1 - 162.0 °/N



Geometr. and electrical data of Array 1/1 - 162.0 °/N

	Power (%)	Tilt (°)	Az. (°/N)	Group Phase(°)	Phase (°)	V dist. (m)	Scr-d (cm)	Scr-Az (°/N)	Rot. (1÷4)	Type (1÷2)	Car. phase(°)
1	100.0000	0	162	0	+0.0	0.00	4.0	162.0	1	1	0.0



Frequency: 88.30 MHz

Antennas arrays data

Note: calculation of single antennas arrays data (without taking into account mutual effects)

A. Antennas array azimuth (°/N)	162
B. Number of antennas	1
C. Nominal power supply (W)	145.00
D. Losses (addit. + cables) (dB)	1.6
E. Effective power supply (W)	99.72
F. Theor. maximum gain (dBd)	4.64
G. Distribution losses (dB)	0.00
H. Nominal max gain F - G (dBd)	4.64
I. Compensation losses (dB)	0.00
J. Effec. max gain H - I (dBd)	4.64
K. Effec. max gain (times)	2.91
L. Effec. max power E * K (KW)	0.2902
M. Max power depr. angle (°)	3.0
N. Max power az. angle (°)	162

Diagram in dBK calculated at horizon

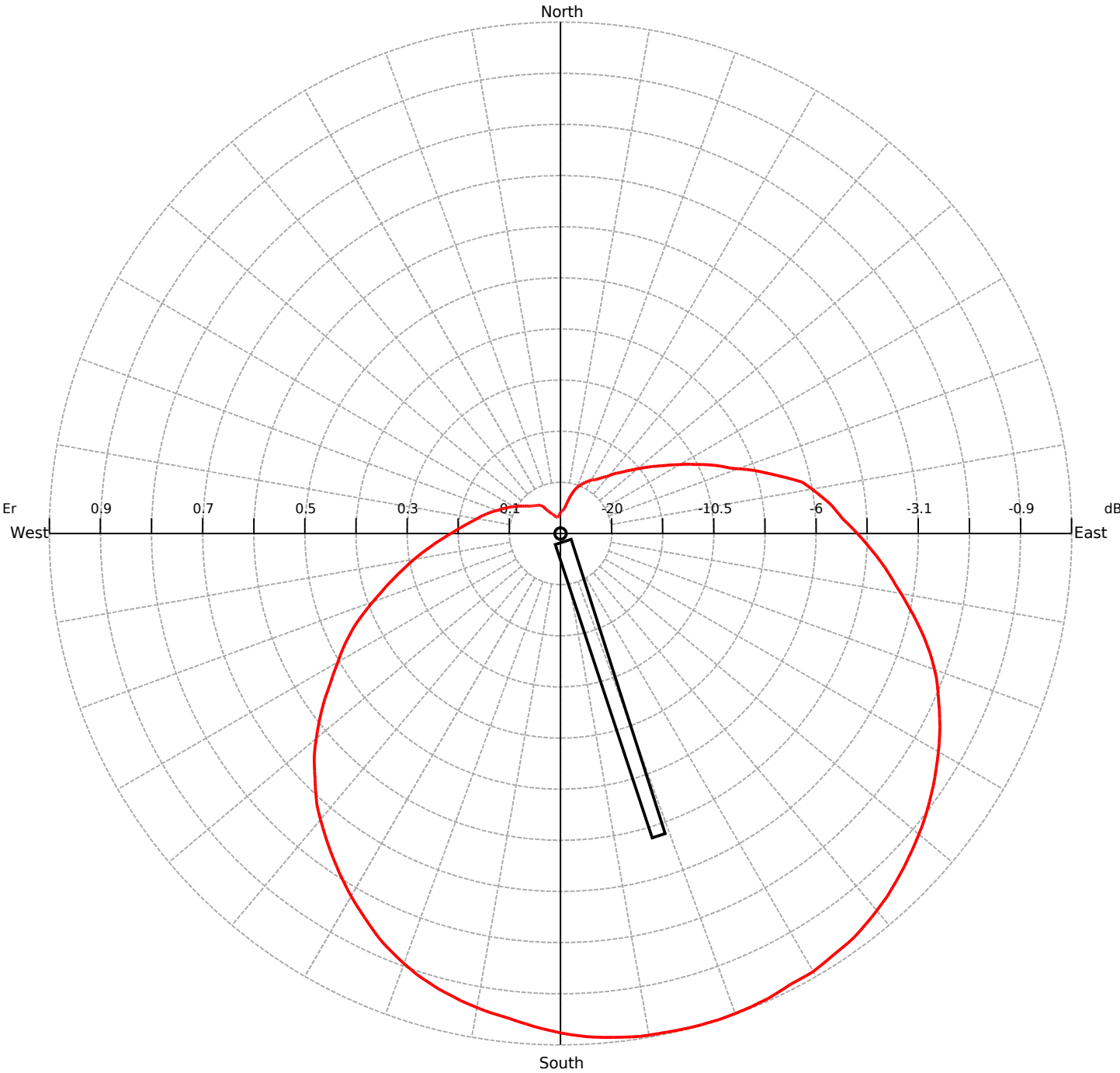
Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK
0	-25.4	90	-10.1	180	-5.6	270	-18.8
10	-25.4	100	-8.8	190	-5.9	280	-21.0
20	-25.4	110	-7.6	200	-6.4	290	-23.0
30	-23.8	120	-6.8	210	-7.1	300	-25.0
40	-22.0	130	-6.2	220	-8.1	310	-25.4
50	-19.5	140	-5.7	230	-9.5	320	-25.4
60	-16.8	150	-5.5	240	-11.4	330	-25.4
70	-14.0	160	-5.4	250	-13.6	340	-25.4
80	-11.4	170	-5.4	260	-16.1	350	-25.4

Diagram in dBK calculated at horizon
(without -20dB\'s lower limit vs maximum power)

Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK	Az. (°/N)	dBK
0	-33.1	90	-10.1	180	-5.6	270	-18.8
10	-30.8	100	-8.8	190	-5.9	280	-21.0
20	-25.8	110	-7.6	200	-6.4	290	-23.0
30	-23.8	120	-6.8	210	-7.1	300	-25.0
40	-22.0	130	-6.2	220	-8.1	310	-27.0
50	-19.5	140	-5.7	230	-9.5	320	-28.3
60	-16.8	150	-5.5	240	-11.4	330	-31.1
70	-14.0	160	-5.4	250	-13.6	340	-33.6
80	-11.4	170	-5.4	260	-16.1	350	-35.2

Frequency: 88.30 MHz

Horizontal diagram at 0.0° depres. (Total Antenna)



0.0° depres. (Total Antenna), Gain (dBd): 4.6 ERP T.Max(KW): 0.418 ERP E.Max(KW): 0.288

Horizontal diagram at 0.0° depres. (Total Antenna)

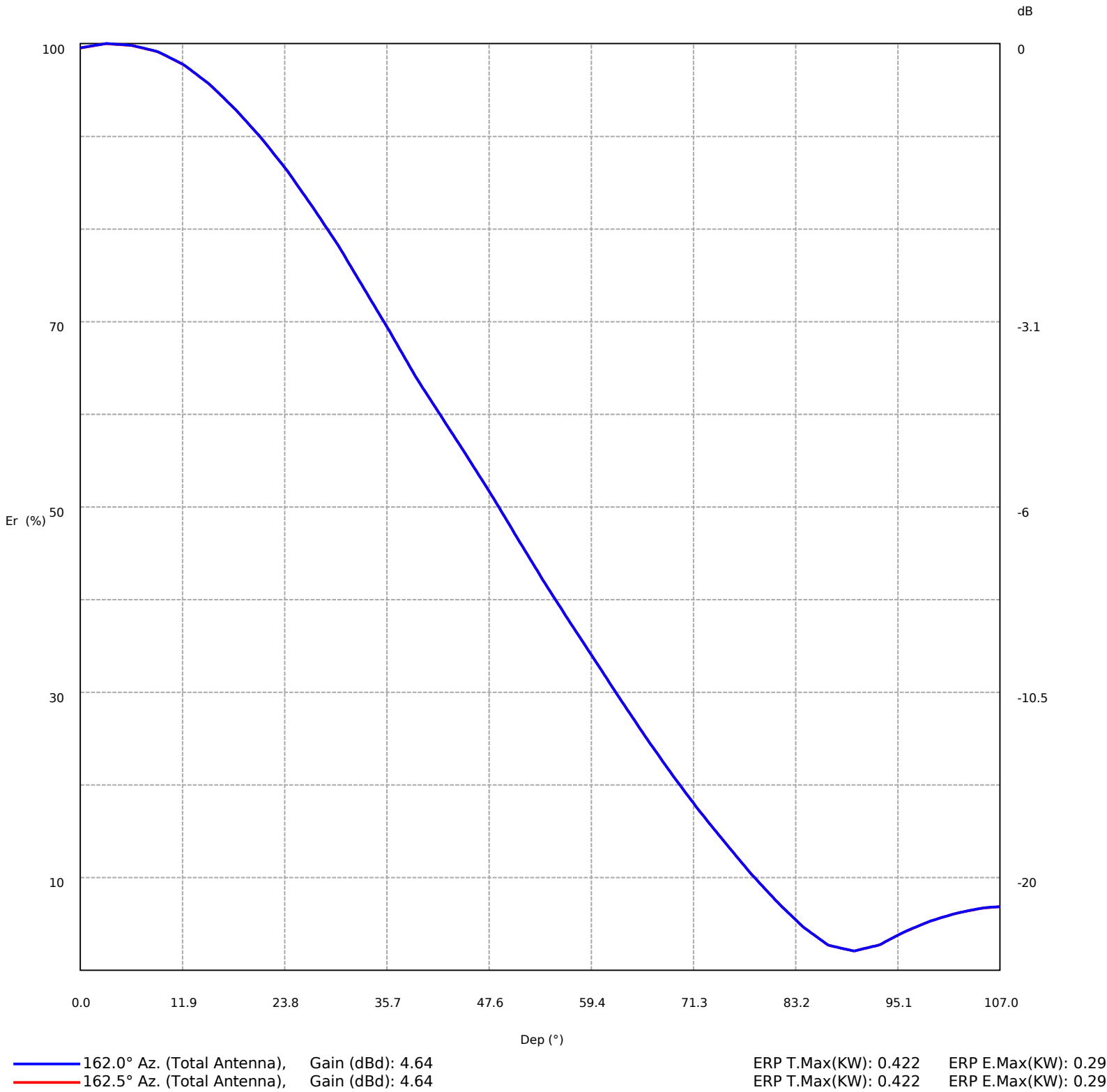
Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)
0.0	4.1	0.5	60.0	27.0	20.9	120.0	85.4	209.6
1.0	4.2	0.5	61.0	27.9	22.4	121.0	86.0	212.8
2.0	4.3	0.5	62.0	28.8	23.9	122.0	86.7	216.1
3.0	4.3	0.5	63.0	29.7	25.4	123.0	87.3	219.4
4.0	4.4	0.6	64.0	30.8	27.2	124.0	88.0	222.6
5.0	4.5	0.6	65.0	31.8	29.1	125.0	88.6	225.8
6.0	4.6	0.6	66.0	32.8	31.0	126.0	89.2	229.0
7.0	4.7	0.6	67.0	33.8	32.8	127.0	89.8	232.0
8.0	4.8	0.7	68.0	34.7	34.6	128.0	90.4	235.0
9.0	5.0	0.7	69.0	35.6	36.5	129.0	91.0	238.0
10.0	5.4	0.8	70.0	37.1	39.5	130.0	91.5	240.8
11.0	5.7	0.9	71.0	38.5	42.6	131.0	92.0	243.5
12.0	6.1	1.1	72.0	39.9	45.7	132.0	92.6	246.3
13.0	6.6	1.3	73.0	41.2	48.8	133.0	93.1	249.0
14.0	7.1	1.5	74.0	42.5	52.0	134.0	93.6	251.7
15.0	7.6	1.7	75.0	43.8	55.2	135.0	94.1	254.4
16.0	8.1	1.9	76.0	45.3	59.1	136.0	94.5	257.0
17.0	8.5	2.1	77.0	46.8	63.1	137.0	95.0	259.6
18.0	9.0	2.3	78.0	48.4	67.3	138.0	95.5	262.2
19.0	9.3	2.5	79.0	49.2	69.5	139.0	95.9	264.3
20.0	9.6	2.6	80.0	50.0	71.8	140.0	96.2	266.4
21.0	9.9	2.8	81.0	50.8	74.1	141.0	96.6	268.5
22.0	10.1	3.0	82.0	51.6	76.6	142.0	97.0	270.4
23.0	10.4	3.1	83.0	52.4	79.1	143.0	97.3	272.3
24.0	10.7	3.3	84.0	53.3	81.6	144.0	97.7	274.3
25.0	10.9	3.4	85.0	53.9	83.6	145.0	97.8	275.3
26.0	11.1	3.6	86.0	54.6	85.7	146.0	98.0	276.3
27.0	11.4	3.7	87.0	55.2	87.8	147.0	98.2	277.3
28.0	11.6	3.9	88.0	56.2	90.8	148.0	98.4	278.6
29.0	11.8	4.0	89.0	57.1	93.9	149.0	98.7	279.9
30.0	12.1	4.2	90.0	58.1	97.0	150.0	98.9	281.2
31.0	12.2	4.3	91.0	59.0	100.2	151.0	98.9	281.4
32.0	12.3	4.4	92.0	60.0	103.4	152.0	99.0	281.6
33.0	12.5	4.5	93.0	60.9	106.6	153.0	99.0	281.8
34.0	12.8	4.7	94.0	61.9	110.1	154.0	99.2	283.0
35.0	13.1	4.9	95.0	62.8	113.6	155.0	99.4	284.1
36.0	13.4	5.2	96.0	63.8	117.1	156.0	99.6	285.2
37.0	13.7	5.4	97.0	64.8	120.6	157.0	99.7	285.7
38.0	14.0	5.6	98.0	65.7	124.0	158.0	99.8	286.1
39.0	14.3	5.9	99.0	66.6	127.5	159.0	99.8	286.6
40.0	14.8	6.3	100.0	67.6	131.6	160.0	99.9	286.9
41.0	15.2	6.7	101.0	68.7	135.7	161.0	99.9	287.2
42.0	15.7	7.1	102.0	69.7	139.8	162.0	100.0	287.5
43.0	16.1	7.5	103.0	70.8	144.2	163.0	100.0	287.4
44.0	16.5	7.9	104.0	71.9	148.6	164.0	99.9	287.2
45.0	17.0	8.3	105.0	73.0	153.1	165.0	99.9	287.0
46.0	17.5	8.8	106.0	74.0	157.5	166.0	99.8	286.6
47.0	18.0	9.3	107.0	75.0	161.9	167.0	99.8	286.2
48.0	18.5	9.8	108.0	76.1	166.3	168.0	99.7	285.8
49.0	19.1	10.5	109.0	77.0	170.3	169.0	99.7	285.6
50.0	19.7	11.1	110.0	77.9	174.3	170.0	99.6	285.3
51.0	20.3	11.8	111.0	78.8	178.4	171.0	99.6	285.1
52.0	20.9	12.6	112.0	79.5	181.8	172.0	99.4	284.2
53.0	21.6	13.4	113.0	80.2	185.2	173.0	99.3	283.3
54.0	22.3	14.2	114.0	81.0	188.6	174.0	99.1	282.4
55.0	23.0	15.2	115.0	81.8	192.2	175.0	98.9	281.3
56.0	23.7	16.1	116.0	82.5	195.9	176.0	98.7	280.2
57.0	24.4	17.1	117.0	83.3	199.5	177.0	98.5	279.2
58.0	25.2	18.3	118.0	84.0	202.8	178.0	98.2	277.5
59.0	26.1	19.6	119.0	84.7	206.2	179.0	98.0	275.9

Horizontal diagram at 0.0° depres. (Total Antenna)

Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)	Az (°)	Er (%)	ERP (W)
180.0	97.7	274.3	240.0	50.3	72.8	300.0	10.5	3.2
181.0	97.3	272.2	241.0	49.3	69.8	301.0	10.3	3.0
182.0	96.9	270.1	242.0	48.3	66.9	302.0	10.0	2.9
183.0	96.6	268.1	243.0	47.2	64.1	303.0	9.8	2.8
184.0	96.2	265.9	244.0	46.1	61.2	304.0	9.6	2.6
185.0	95.8	263.8	245.0	45.0	58.3	305.0	9.3	2.5
186.0	95.4	261.6	246.0	43.9	55.5	306.0	9.1	2.4
187.0	95.1	260.0	247.0	42.7	52.5	307.0	8.9	2.3
188.0	94.8	258.4	248.0	41.5	49.6	308.0	8.7	2.2
189.0	94.5	256.7	249.0	40.3	46.7	309.0	8.5	2.1
190.0	94.1	254.8	250.0	39.1	44.0	310.0	8.4	2.0
191.0	93.8	252.9	251.0	37.9	41.4	311.0	8.2	1.9
192.0	93.4	250.9	252.0	36.7	38.8	312.0	8.0	1.8
193.0	93.0	248.7	253.0	35.7	36.7	313.0	7.9	1.8
194.0	92.6	246.5	254.0	34.7	34.6	314.0	7.8	1.7
195.0	92.2	244.4	255.0	33.6	32.5	315.0	7.6	1.7
196.0	91.7	241.8	256.0	32.7	30.8	316.0	7.5	1.6
197.0	91.2	239.2	257.0	31.8	29.0	317.0	7.4	1.6
198.0	90.7	236.6	258.0	30.8	27.3	318.0	7.3	1.6
199.0	90.1	233.4	259.0	29.9	25.8	319.0	7.3	1.5
200.0	89.5	230.3	260.0	29.1	24.3	320.0	7.2	1.5
201.0	88.9	227.1	261.0	28.2	22.9	321.0	7.1	1.4
202.0	88.2	223.7	262.0	27.4	21.5	322.0	7.0	1.4
203.0	87.5	220.4	263.0	26.5	20.2	323.0	6.9	1.4
204.0	86.9	217.0	264.0	25.7	19.0	324.0	6.8	1.3
205.0	86.0	212.9	265.0	24.9	17.9	325.0	6.7	1.3
206.0	85.2	208.7	266.0	24.2	16.8	326.0	6.5	1.2
207.0	84.4	204.7	267.0	23.4	15.8	327.0	6.3	1.2
208.0	83.6	200.8	268.0	22.8	14.9	328.0	6.0	1.0
209.0	82.7	196.9	269.0	22.1	14.1	329.0	5.6	0.9
210.0	81.9	193.0	270.0	21.4	13.2	330.0	5.2	0.8
211.0	81.1	188.9	271.0	20.9	12.5	331.0	5.0	0.7
212.0	80.2	184.8	272.0	20.3	11.8	332.0	4.9	0.7
213.0	79.3	180.8	273.0	19.7	11.2	333.0	4.7	0.6
214.0	78.4	176.8	274.0	19.2	10.6	334.0	4.5	0.6
215.0	77.5	172.9	275.0	18.7	10.1	335.0	4.3	0.5
216.0	76.7	169.0	276.0	18.3	9.6	336.0	4.2	0.5
217.0	75.8	165.0	277.0	17.8	9.1	337.0	4.1	0.5
218.0	74.8	161.1	278.0	17.4	8.7	338.0	4.1	0.5
219.0	73.9	157.2	279.0	17.0	8.3	339.0	4.1	0.5
220.0	73.0	153.4	280.0	16.6	8.0	340.0	3.9	0.4
221.0	72.1	149.7	281.0	16.3	7.6	341.0	3.7	0.4
222.0	71.2	145.9	282.0	15.9	7.3	342.0	3.6	0.4
223.0	70.1	141.5	283.0	15.6	7.0	343.0	3.5	0.4
224.0	69.0	137.1	284.0	15.3	6.7	344.0	3.4	0.3
225.0	67.9	132.7	285.0	14.9	6.4	345.0	3.3	0.3
226.0	66.9	128.7	286.0	14.6	6.1	346.0	3.3	0.3
227.0	65.9	124.7	287.0	14.2	5.8	347.0	3.2	0.3
228.0	64.8	120.9	288.0	13.9	5.5	348.0	3.2	0.3
229.0	63.6	116.3	289.0	13.5	5.3	349.0	3.2	0.3
230.0	62.4	111.9	290.0	13.2	5.0	350.0	3.3	0.3
231.0	61.2	107.5	291.0	12.9	4.8	351.0	3.3	0.3
232.0	59.9	103.3	292.0	12.6	4.6	352.0	3.3	0.3
233.0	58.7	99.2	293.0	12.3	4.4	353.0	3.4	0.3
234.0	57.5	95.1	294.0	12.1	4.2	354.0	3.4	0.3
235.0	56.2	90.9	295.0	11.8	4.0	355.0	3.5	0.4
236.0	55.0	86.8	296.0	11.5	3.8	356.0	3.6	0.4
237.0	53.7	82.8	297.0	11.3	3.7	357.0	3.7	0.4
238.0	52.5	79.4	298.0	11.0	3.5	358.0	3.9	0.4
239.0	51.4	76.0	299.0	10.7	3.3	359.0	4.0	0.5

Frequency: 88.30 MHz

Vertical diagrams



Vertical diagrams

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
0.0	99.6	287.5	17.8	93.1	251.5	35.7	69.4	139.9
0.3	99.6	287.8	18.1	92.8	249.9	36.0	69.0	138.1
0.6	99.6	288.1	18.4	92.5	248.3	36.3	68.5	136.1
0.9	99.7	288.3	18.7	92.2	246.7	36.6	68.0	134.2
1.2	99.7	288.6	19.0	91.9	245.0	36.9	67.5	132.3
1.5	99.8	288.9	19.3	91.6	243.4	37.2	67.1	130.5
1.8	99.8	289.1	19.6	91.3	241.8	37.5	66.6	128.6
2.1	99.9	289.4	19.9	91.0	240.2	37.7	66.1	126.7
2.4	99.9	289.7	20.2	90.7	238.6	38.0	65.6	124.9
2.7	100.0	290.0	20.5	90.4	237.0	38.3	65.1	123.1
3.0	100.0	290.2	20.8	90.1	235.4	38.6	64.6	121.2
3.3	100.0	290.1	21.1	89.8	233.7	38.9	64.2	119.4
3.6	100.0	290.0	21.4	89.4	231.9	39.2	63.7	117.8
3.9	100.0	289.9	21.7	89.1	230.1	39.5	63.3	116.2
4.2	99.9	289.8	22.0	88.7	228.4	39.8	62.9	114.7
4.5	99.9	289.7	22.3	88.4	226.6	40.1	62.4	113.1
4.8	99.9	289.6	22.6	88.0	224.8	40.4	62.0	111.6
5.1	99.9	289.5	22.9	87.7	223.0	40.7	61.6	110.1
5.4	99.9	289.3	23.2	87.3	221.3	41.0	61.2	108.5
5.6	99.8	289.2	23.5	87.0	219.5	41.3	60.7	107.0
5.9	99.8	289.1	23.8	86.6	217.8	41.6	60.3	105.5
6.2	99.8	288.8	24.1	86.3	216.0	41.9	59.9	104.0
6.5	99.7	288.4	24.4	85.9	214.0	42.2	59.5	102.6
6.8	99.6	288.0	24.7	85.5	212.0	42.5	59.0	101.1
7.1	99.6	287.6	25.0	85.1	210.1	42.8	58.6	99.6
7.4	99.5	287.2	25.3	84.7	208.2	43.1	58.2	98.2
7.7	99.4	286.9	25.6	84.3	206.2	43.4	57.8	96.8
8.0	99.4	286.5	25.9	83.9	204.3	43.7	57.3	95.3
8.3	99.3	286.1	26.2	83.5	202.4	44.0	56.9	93.9
8.6	99.2	285.7	26.5	83.1	200.5	44.3	56.5	92.5
8.9	99.2	285.3	26.8	82.7	198.6	44.6	56.0	91.1
9.2	99.1	284.7	27.0	82.3	196.7	44.9	55.6	89.8
9.5	98.9	283.9	27.3	81.9	194.7	45.2	55.2	88.4
9.8	98.8	283.1	27.6	81.5	192.8	45.5	54.8	87.0
10.1	98.6	282.3	27.9	81.1	190.8	45.8	54.3	85.6
10.4	98.5	281.5	28.2	80.7	188.9	46.1	53.9	84.2
10.7	98.4	280.7	28.5	80.3	187.0	46.4	53.4	82.9
11.0	98.2	279.9	28.8	79.9	185.0	46.7	53.0	81.5
11.3	98.1	279.1	29.1	79.4	183.1	47.0	52.6	80.2
11.6	97.9	278.3	29.4	79.0	181.2	47.3	52.1	78.9
11.9	97.8	277.5	29.7	78.6	179.3	47.6	51.7	77.5
12.2	97.6	276.5	30.0	78.2	177.4	47.9	51.3	76.2
12.5	97.4	275.3	30.3	77.7	175.3	48.2	50.8	74.9
12.8	97.2	274.1	30.6	77.3	173.3	48.4	50.4	73.6
13.1	97.0	273.0	30.9	76.8	171.2	48.7	49.9	72.2
13.4	96.8	271.8	31.2	76.4	169.1	49.0	49.4	70.9
13.7	96.6	270.6	31.5	75.9	167.1	49.3	49.0	69.6
14.0	96.4	269.5	31.8	75.4	165.1	49.6	48.5	68.3
14.3	96.2	268.3	32.1	75.0	163.0	49.9	48.1	67.0
14.6	96.0	267.1	32.4	74.5	161.0	50.2	47.6	65.7
14.9	95.7	266.0	32.7	74.0	159.0	50.5	47.1	64.5
15.2	95.5	264.6	33.0	73.6	157.1	50.8	46.7	63.2
15.5	95.2	263.2	33.3	73.1	155.1	51.1	46.2	62.0
15.8	95.0	261.7	33.6	72.7	153.2	51.4	45.8	60.8
16.1	94.7	260.2	33.9	72.2	151.2	51.7	45.3	59.6
16.3	94.4	258.7	34.2	71.7	149.3	52.0	44.9	58.4
16.6	94.2	257.3	34.5	71.3	147.4	52.3	44.4	57.2
16.9	93.9	255.8	34.8	70.8	145.5	52.6	44.0	56.1
17.2	93.6	254.4	35.1	70.4	143.6	52.9	43.5	54.9
17.5	93.4	252.9	35.4	69.9	141.8	53.2	43.1	53.8

Vertical diagrams

Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)	Dep (°)	Er (%)	ERP (W)
53.5	42.6	52.6	71.3	18.0	9.4	89.2	2.2	0.1
53.8	42.1	51.5	71.6	17.7	9.1	89.5	2.2	0.1
54.1	41.7	50.4	71.9	17.3	8.7	89.8	2.1	0.1
54.4	41.3	49.4	72.2	17.0	8.3	90.1	2.1	0.1
54.7	40.8	48.4	72.5	16.6	8.0	90.4	2.1	0.1
55.0	40.4	47.4	72.8	16.3	7.7	90.7	2.2	0.1
55.3	40.0	46.4	73.1	15.9	7.4	91.0	2.3	0.2
55.6	39.6	45.4	73.4	15.6	7.1	91.2	2.3	0.2
55.9	39.1	44.4	73.7	15.3	6.8	91.5	2.4	0.2
56.2	38.7	43.4	74.0	14.9	6.5	91.8	2.5	0.2
56.5	38.3	42.5	74.3	14.6	6.2	92.1	2.5	0.2
56.8	37.8	41.5	74.6	14.2	5.9	92.4	2.6	0.2
57.1	37.4	40.6	74.9	13.9	5.6	92.7	2.7	0.2
57.4	37.0	39.7	75.2	13.6	5.3	93.0	2.7	0.2
57.7	36.6	38.8	75.5	13.2	5.1	93.3	2.9	0.2
58.0	36.1	37.9	75.8	12.9	4.8	93.6	3.1	0.3
58.3	35.7	37.0	76.1	12.6	4.6	93.9	3.2	0.3
58.6	35.3	36.2	76.4	12.2	4.3	94.2	3.4	0.3
58.9	34.9	35.3	76.7	11.9	4.1	94.5	3.5	0.4
59.1	34.5	34.5	77.0	11.6	3.9	94.8	3.6	0.4
59.4	34.0	33.6	77.3	11.2	3.7	95.1	3.8	0.4
59.7	33.6	32.8	77.6	10.9	3.5	95.4	3.9	0.4
60.0	33.2	32.0	77.9	10.6	3.3	95.7	4.1	0.5
60.3	32.8	31.2	78.2	10.3	3.1	96.0	4.2	0.5
60.6	32.4	30.4	78.5	10.0	2.9	96.3	4.3	0.5
60.9	31.9	29.6	78.8	9.7	2.7	96.6	4.4	0.6
61.2	31.5	28.8	79.1	9.4	2.6	96.9	4.5	0.6
61.5	31.1	28.0	79.4	9.1	2.4	97.2	4.7	0.6
61.8	30.7	27.3	79.7	8.8	2.2	97.5	4.8	0.7
62.1	30.2	26.5	80.0	8.5	2.1	97.8	4.9	0.7
62.4	29.8	25.8	80.3	8.2	1.9	98.1	5.0	0.7
62.7	29.4	25.1	80.5	7.9	1.8	98.4	5.1	0.8
63.0	29.0	24.4	80.8	7.6	1.7	98.7	5.2	0.8
63.3	28.6	23.7	81.1	7.3	1.6	99.0	5.3	0.8
63.6	28.2	23.0	81.4	7.0	1.4	99.3	5.4	0.9
63.9	27.7	22.3	81.7	6.8	1.3	99.6	5.5	0.9
64.2	27.3	21.7	82.0	6.5	1.2	99.9	5.6	0.9
64.5	26.9	21.0	82.3	6.2	1.1	100.2	5.7	0.9
64.8	26.5	20.4	82.6	6.0	1.0	100.5	5.8	1.0
65.1	26.1	19.8	82.9	5.7	0.9	100.8	5.8	1.0
65.4	25.7	19.2	83.2	5.4	0.9	101.1	5.9	1.0
65.7	25.3	18.6	83.5	5.2	0.8	101.4	6.0	1.0
66.0	24.9	18.0	83.8	4.9	0.7	101.7	6.1	1.1
66.3	24.5	17.4	84.1	4.7	0.6	101.9	6.2	1.1
66.6	24.1	16.8	84.4	4.5	0.6	102.2	6.2	1.1
66.9	23.7	16.3	84.7	4.3	0.5	102.5	6.3	1.1
67.2	23.3	15.8	85.0	4.1	0.5	102.8	6.3	1.2
67.5	22.9	15.3	85.3	3.9	0.4	103.1	6.4	1.2
67.8	22.5	14.7	85.6	3.7	0.4	103.4	6.4	1.2
68.1	22.1	14.2	85.9	3.5	0.3	103.7	6.5	1.2
68.4	21.8	13.7	86.2	3.2	0.3	104.0	6.6	1.2
68.7	21.4	13.2	86.5	3.0	0.3	104.3	6.6	1.3
69.0	21.0	12.8	86.8	2.8	0.2	104.6	6.7	1.3
69.3	20.6	12.3	87.1	2.7	0.2	104.9	6.7	1.3
69.6	20.2	11.9	87.4	2.6	0.2	105.2	6.7	1.3
69.8	19.9	11.5	87.7	2.6	0.2	105.5	6.8	1.3
70.1	19.5	11.0	88.0	2.5	0.2	105.8	6.8	1.3
70.4	19.1	10.6	88.3	2.4	0.2	106.1	6.8	1.3
70.7	18.8	10.2	88.6	2.4	0.2	106.4	6.8	1.4
71.0	18.4	9.8	88.9	2.3	0.2	106.7	6.8	1.4