TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.62	0.20			0.00	30.00			0.00	0.00			0.00	30.00		
0.98	0.70			3.00	30.00			0.60	0.20			3.00	30.00		
1.28	1.50			6.60	46.00			1.00	0.90			10.00	42.00		
1.50	2.10			15.00	50.00			1.32	1.70			15.00	42.00		
1.74	3.00			47.00	50.00			1.48	2.20			32.00	47.00		
1.98	4.10			60.00	55.00			1.62	2.80			60.00	55.00		
2.20	5.30			180.00	55.00			1.82	3.70			180.00	55.00		
2.42	6.70							1.98	4.50						
2.62	8.00							2.16	5.50						
2.86	10.00							2.36	6.80						
3.06	12.00							2.48	8.00						
3.25	14.00							2.60	9.00						
6.00	14.00							2.76	10.00						
10.00	22.00							3.10	13.00						
12.00	22.00							6.00	13.00						
14.20	28.00							10.00	25.00						
15.00	28.00							15.00	25.00						
25.00	28.00							26.00	34.00						
40.00	38.00							55.00	35.50						
65.00	41.00							100.00	52.50						
80.00	47.00							140.00	55.00						
90.00	55.00							180.00	55.00						
180.00	55.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0028-0
2 Foot Antenna 17.7 – 19.7 GHz Single Polarized
Gain: 38.7 dBi at 18.7 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

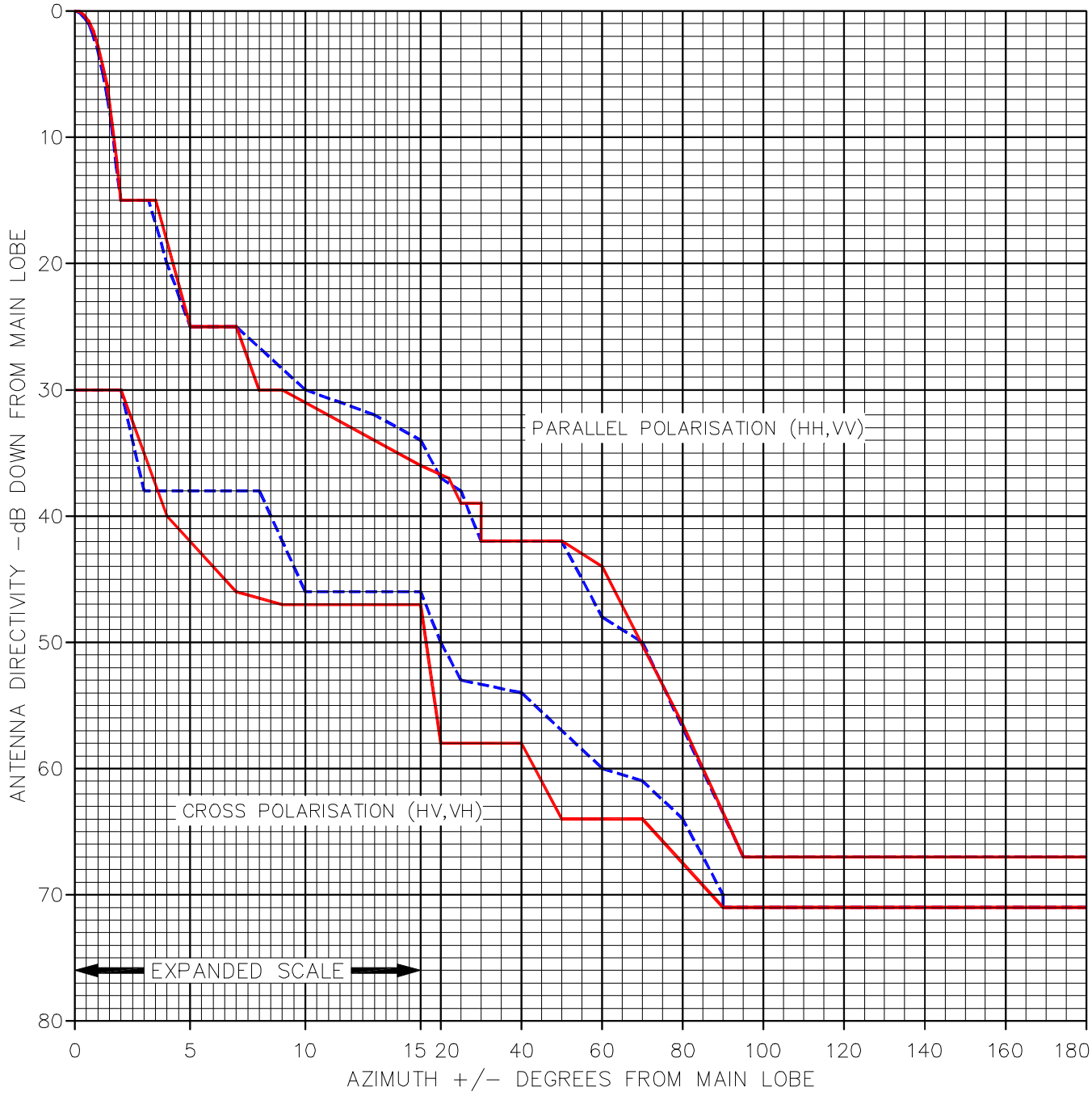

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.20	0.05			2.00	30.00			0.19	0.10			2.00	30.00		
0.40	0.30			4.00	40.00			0.40	0.50			3.00	38.00		
0.60	0.80			7.00	46.00			0.60	1.00			8.00	38.00		
0.80	1.60			9.00	47.00			0.79	1.90			10.00	46.00		
1.00	2.80			15.00	47.00			1.00	3.20			15.00	46.00		
1.21	4.30			20.00	58.00			1.20	4.90			20.00	50.00		
1.40	5.90			40.00	58.00			1.39	6.70			25.00	53.00		
1.61	8.85			50.00	64.00			1.60	9.10			40.00	54.00		
1.81	11.80			70.00	64.00			1.80	12.35			60.00	60.00		
2.00	15.00			90.00	71.00			2.00	15.00			70.00	61.00		
3.00	15.00			180.00	71.00			3.20	15.00			80.00	64.00		
3.50	15.00							4.00	20.00			90.00	70.00		
5.00	25.00							5.00	25.00			90.00	71.00		
7.00	25.00							7.00	25.00			180.00	71.00		
8.00	30.00							10.00	30.00						
9.00	30.00							13.00	32.00						
15.00	36.00							15.00	34.00						
22.00	37.00							20.00	37.00						
25.00	39.00							24.95	38.00						
30.00	39.00							30.00	42.00						
30.00	42.00							50.00	42.00						
50.00	42.00							60.00	48.00						
60.00	44.00							70.00	50.00						
80.00	56.50							95.00	67.00						
95.00	67.00							180.00	67.00						
180.00	67.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0030-0
4 Foot Antenna 17.7 – 19.7 GHz Single Polarized
Gain: 44.6 dBi at 18.7 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

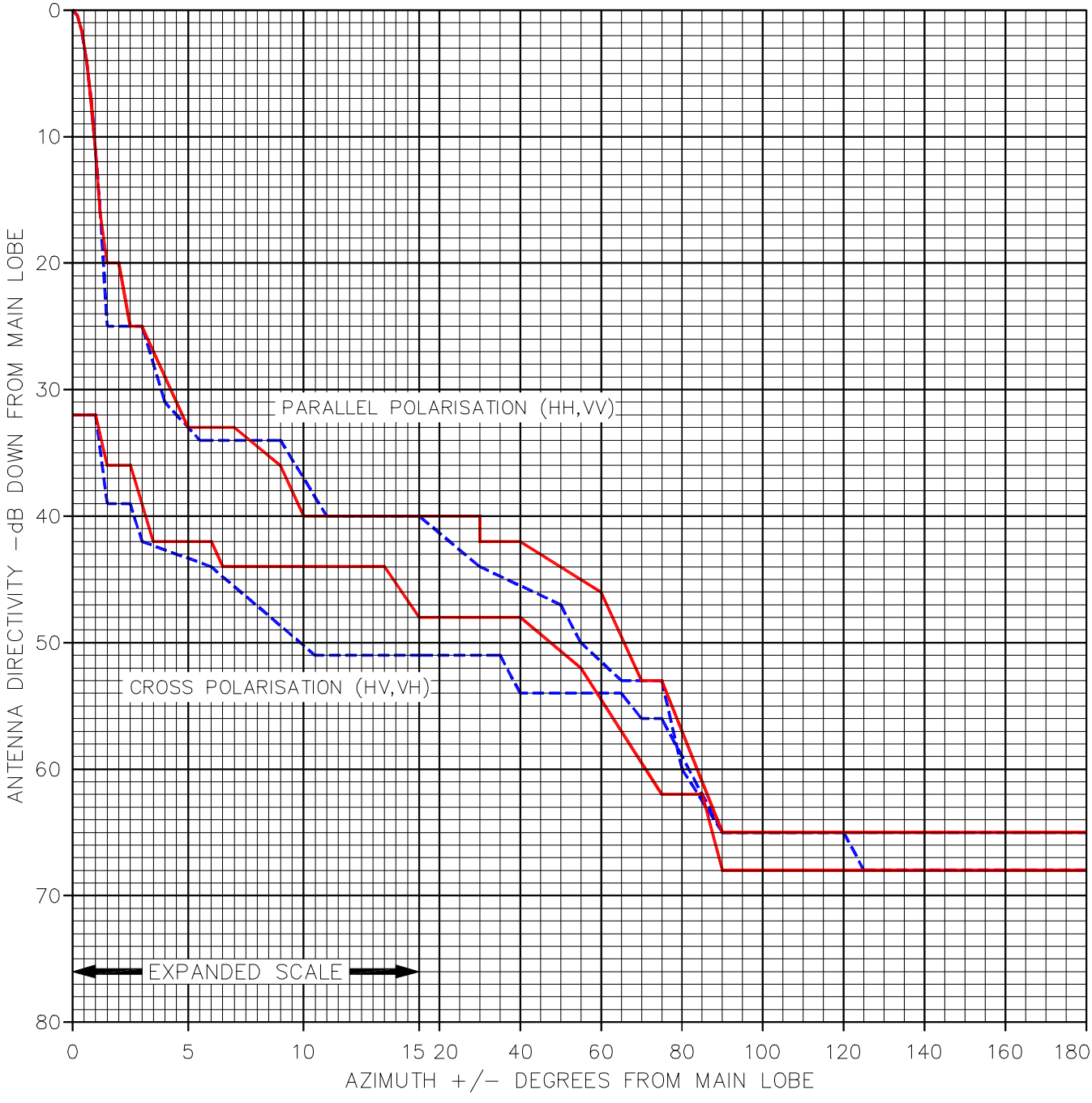

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	32.00			0.00	0.00			0.00	32.00		
0.20	0.40			1.00	32.00			0.20	0.40			1.00	32.00		
0.40	1.70			1.50	36.00			0.40	1.70			1.50	39.00		
0.60	4.00			2.50	36.00			0.60	4.00			2.50	39.00		
0.80	7.10			3.50	42.00			0.80	7.10			3.00	42.00		
1.00	11.10			6.00	42.00			1.00	11.10			6.00	44.00		
1.20	16.00			6.50	44.00			1.20	16.00			10.50	51.00		
1.50	20.00			13.50	44.00			1.50	25.00			15.00	51.00		
2.00	20.00			15.00	48.00			3.00	25.00			35.00	51.00		
2.50	25.00			40.00	48.00			4.00	31.00			40.00	54.00		
3.00	25.00			55.00	52.00			5.50	34.00			65.00	54.00		
5.00	33.00			75.00	62.00			9.00	34.00			70.00	56.00		
7.00	33.00			85.00	62.00			11.00	40.00			75.00	56.00		
9.00	36.00			90.00	68.00			15.00	40.00			90.00	65.00		
10.00	40.00			180.00	68.00			30.00	44.00			120.00	65.00		
15.00	40.00							50.00	47.00			125.00	68.00		
30.00	40.00							55.00	50.00			180.00	68.00		
30.00	42.00							65.00	53.00						
40.00	42.00							75.00	53.00						
60.00	46.00							80.00	60.00						
70.00	53.00							90.00	65.00						
75.00	53.00							180.00	65.00						
90.00	65.00														
180.00	65.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0034-0
1 Foot Antenna 21.2 – 23.6 GHz Single Polarized
Gain: 34.9 dBi at 22.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.cergaon.com

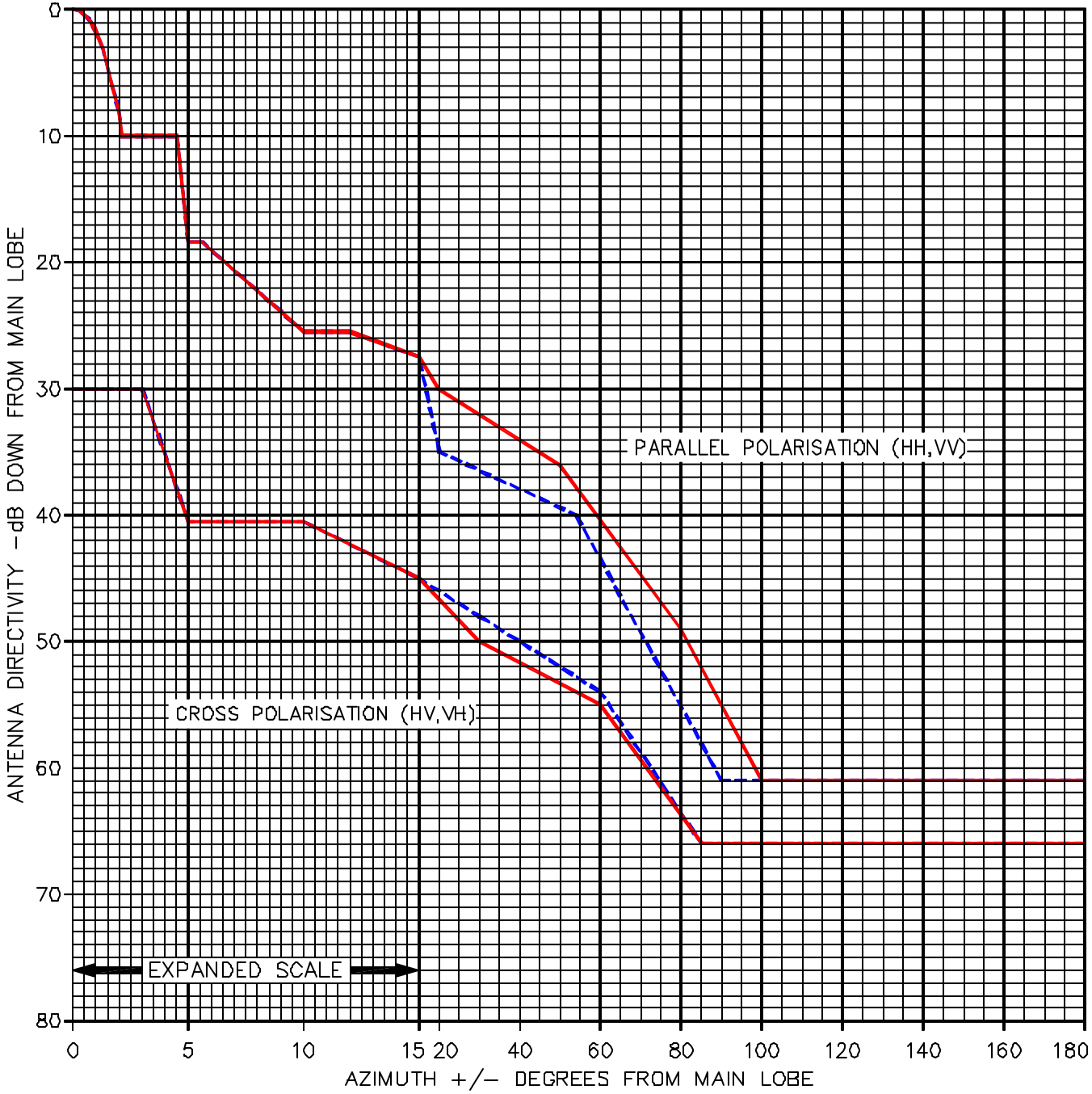

ANTENNA DIRECTIVITY - dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/- DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0 00	30 00			0 00	0 00			0.00	30.00		
0.30	0.10			3.00	30.00			0.30	0.10			3.00	30.00		
0.50	0.50			5.00	40.50			0.50	0.50			5.00	40.50		
0.70	0.80			10 00	40 50			0 70	0 80			10.00	40.50		
0.90	1.40			15 00	45 00			0 90	1 40			15.00	45.00		
1.30	3.00			30.00	50.00			1.30	3.00			30.00	48.00		
1.50	4.50			60.00	55.00			1.50	4.50			60.00	54.00		
1.70	6.10			85 00	66 00			1 70	6 10			85.00	66.00		
2.00	8.00			180 00	66 00			2 00	8 00			180.00	66.00		
2.10	10.00							2.10	10.00						
4.50	10.00							4.50	10.00						
5.00	18.40							5 00	18 40						
5.60	18.40							5 60	18 40						
10.00	25.50							10.00	25.50						
12.00	25.50							12.00	25.50						
15.00	27.50							15 00	27 50						
20.00	30.00							20 00	35 00						
50.00	36.00							54.00	40.00						
80.00	49.00							90.00	61.00						
100.00	61.00							180 00	61 00						
180.00	61.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0032-0
2 Foot Antenna 21.2 – 23.6 GHz Single Polarized
Gain: 40.1 dBi at 22.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

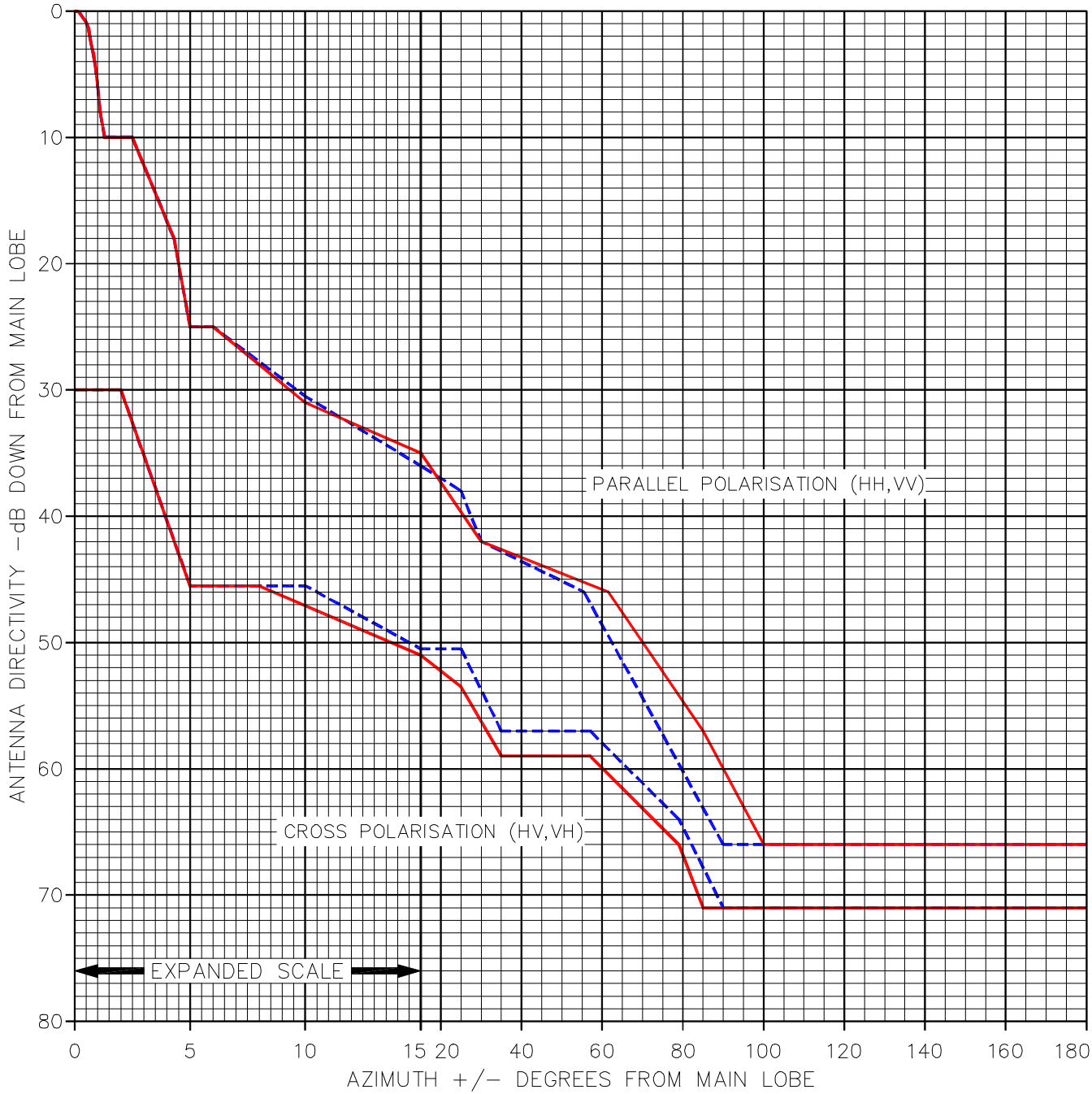

ANTENNA DIRECTIVITY – dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.10	0.00			2.00	30.00			0.10	0.00			2.00	30.00		
0.20	0.10			5.00	45.50			0.20	0.10			5.00	45.50		
0.30	0.40			8.00	45.50			0.30	0.40			10.00	45.50		
0.50	0.90			15.00	51.00			0.50	0.90			15.00	50.50		
0.60	1.40			25.00	53.50			0.60	1.40			25.00	50.50		
0.70	2.50			35.00	59.00			0.70	2.50			35.00	57.00		
0.80	3.30			57.00	59.00			0.80	3.30			57.00	57.00		
0.90	4.50			79.00	66.00			0.90	4.50			79.00	64.00		
1.00	5.90			85.00	71.00			1.00	5.90			90.00	71.00		
1.10	8.00			180.00	71.00			1.10	8.00			180.00	71.00		
1.30	10.00							1.30	10.00						
2.50	10.00							2.50	10.00						
4.30	18.00							4.30	18.00						
5.00	25.00							5.00	25.00						
6.00	25.00							6.00	25.00						
8.00	28.00							10.00	30.50						
10.00	31.00							15.00	36.00						
15.00	35.00							25.00	38.00						
30.00	42.00							30.00	42.00						
61.50	46.00							55.50	46.00						
85.00	57.00							90.00	66.00						
100.00	66.00							180.00	66.00						
180.00	66.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0033-0
4 Foot Antenna 21.2 – 23.6 GHz Single Polarized
Gain: 46.1 dBi at 22.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

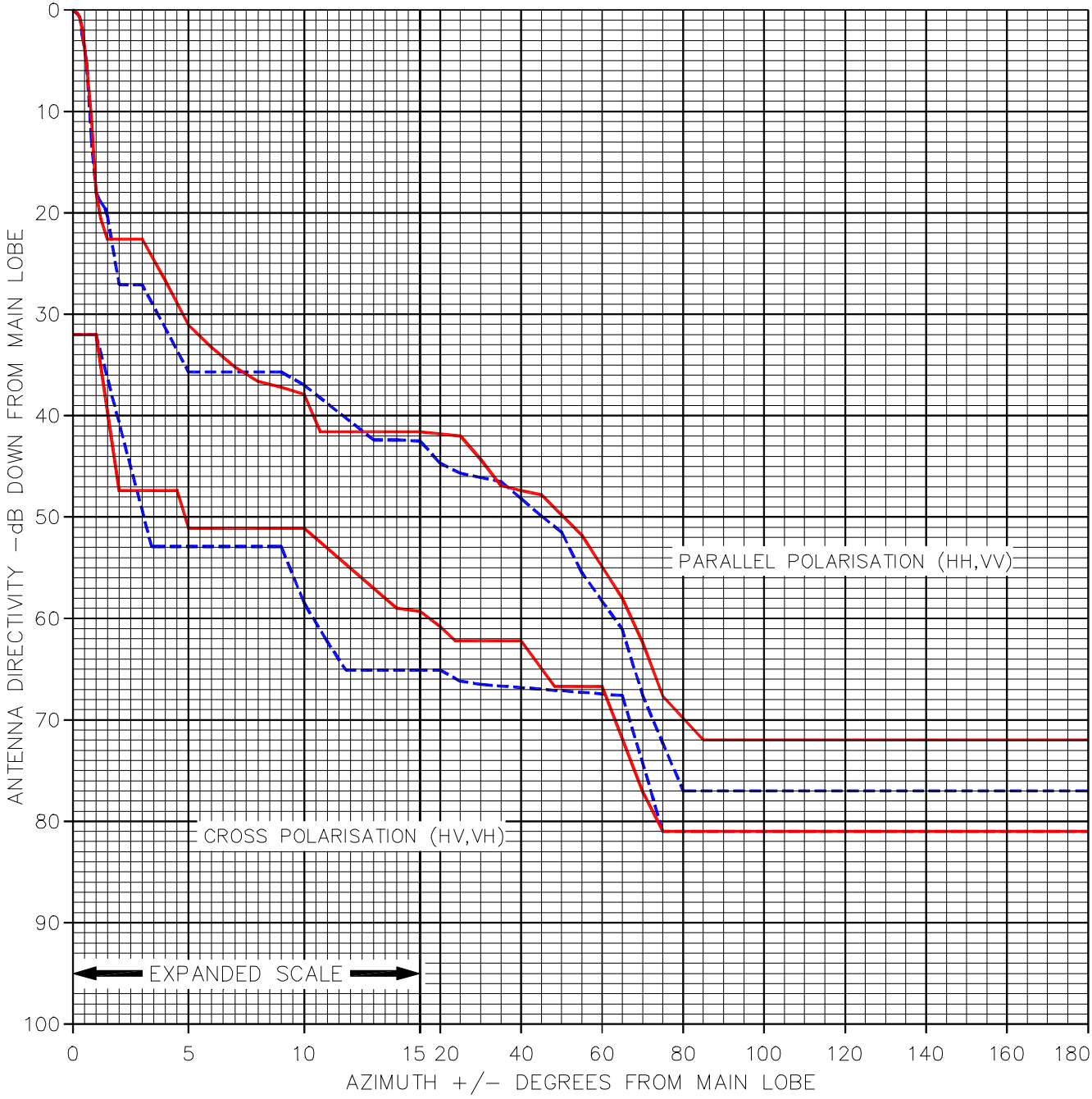

0
10
20
30
40
50
60
70
80
90
100
ANTENNA DIRECTIVITY – dB DOWN FROM MAIN LOBE
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	32.00			0.00	0.00			0.00	32.00		
0.10	0.10			1.00	32.00			0.10	0.20			1.00	32.00		
0.20	0.30			2.00	47.40			0.20	0.40			3.40	52.90		
0.30	0.80			4.50	47.40			0.30	0.70			9.00	52.90		
0.40	1.80			5.00	51.10			0.40	2.40			10.00	58.50		
0.60	5.40			10.00	51.10			0.60	5.20			11.00	62.30		
0.80	10.50			14.00	59.00			0.80	12.80			11.80	65.10		
1.00	18.00			15.00	59.30			1.00	18.00			15.00	65.10		
1.20	20.60			20.00	60.80			1.20	18.90			20.00	65.10		
1.50	22.60			23.70	62.20			1.40	19.60			25.00	66.20		
3.00	22.60			40.00	62.20			1.50	20.40			30.00	66.50		
4.00	26.70			48.30	66.70			2.00	27.10			65.00	67.60		
5.00	31.10			60.00	66.70			3.00	27.10			75.00	81.00		
6.00	33.30			70.00	77.10			5.00	35.70			180.00	81.00		
7.00	35.20			75.00	81.00			9.00	35.70						
8.00	36.60			180.00	81.00			10.00	37.00						
9.00	37.20							13.00	42.40						
10.00	37.90							14.00	42.40						
10.70	41.60							15.00	42.50						
15.00	41.60							20.00	44.70						
25.00	42.00							25.00	45.70						
30.00	44.30							30.00	46.10						
35.00	46.90							35.00	46.50						
40.00	47.40							40.00	48.20						
45.00	47.80							45.00	49.90						
50.00	49.80							50.00	51.50						
55.00	51.80							55.00	55.50						
60.00	54.90							60.00	58.30						
65.00	58.00							65.00	61.10						
70.00	62.40							70.00	67.60						
75.00	67.70							75.00	72.30						
85.00	72.00							80.00	77.00						
180.00	72.00							180.00	77.00						

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0018-0
1 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 36.0 dBi at 25.375GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

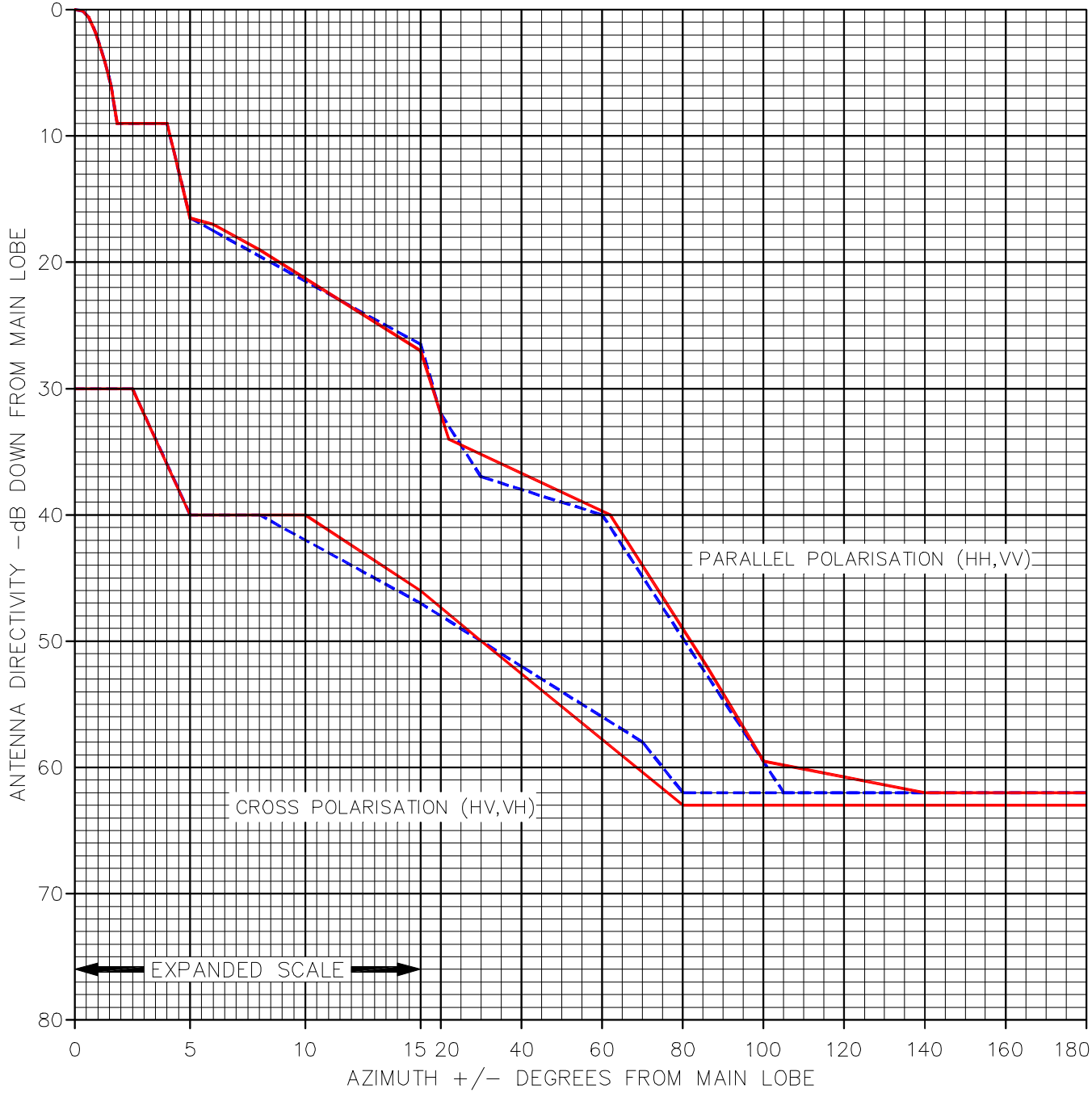

ANTENNA DIRECTIVITY -dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/- DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.34	0.10			2.50	30.00			0.34	0.10			2.50	30.00		
0.60	0.60			5.00	40.00			0.60	0.60			5.00	40.00		
0.90	1.80			10.00	40.00			0.90	1.80			8.00	40.00		
1.30	4.10			15.00	46.00			1.30	4.10			15.00	47.00		
1.57	6.00			30.00	50.00			1.57	6.00			40.00	52.00		
1.83	9.00			80.00	63.00			1.83	9.00			70.00	58.00		
4.00	9.00			180.00	63.00			4.00	9.00			80.00	62.00		
5.00	16.50							5.00	16.50			180.00	62.00		
6.00	17.00							6.00	17.50						
8.00	19.00							15.00	26.50						
15.00	27.00							20.00	32.00						
22.00	34.00							30.00	37.00						
62.00	40.00							60.00	40.00						
86.00	52.00							105.00	62.00						
100.00	59.50							180.00	62.00						
140.00	62.00														
180.00	62.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0017-0
2 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 41.1 dBi at 25.375 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

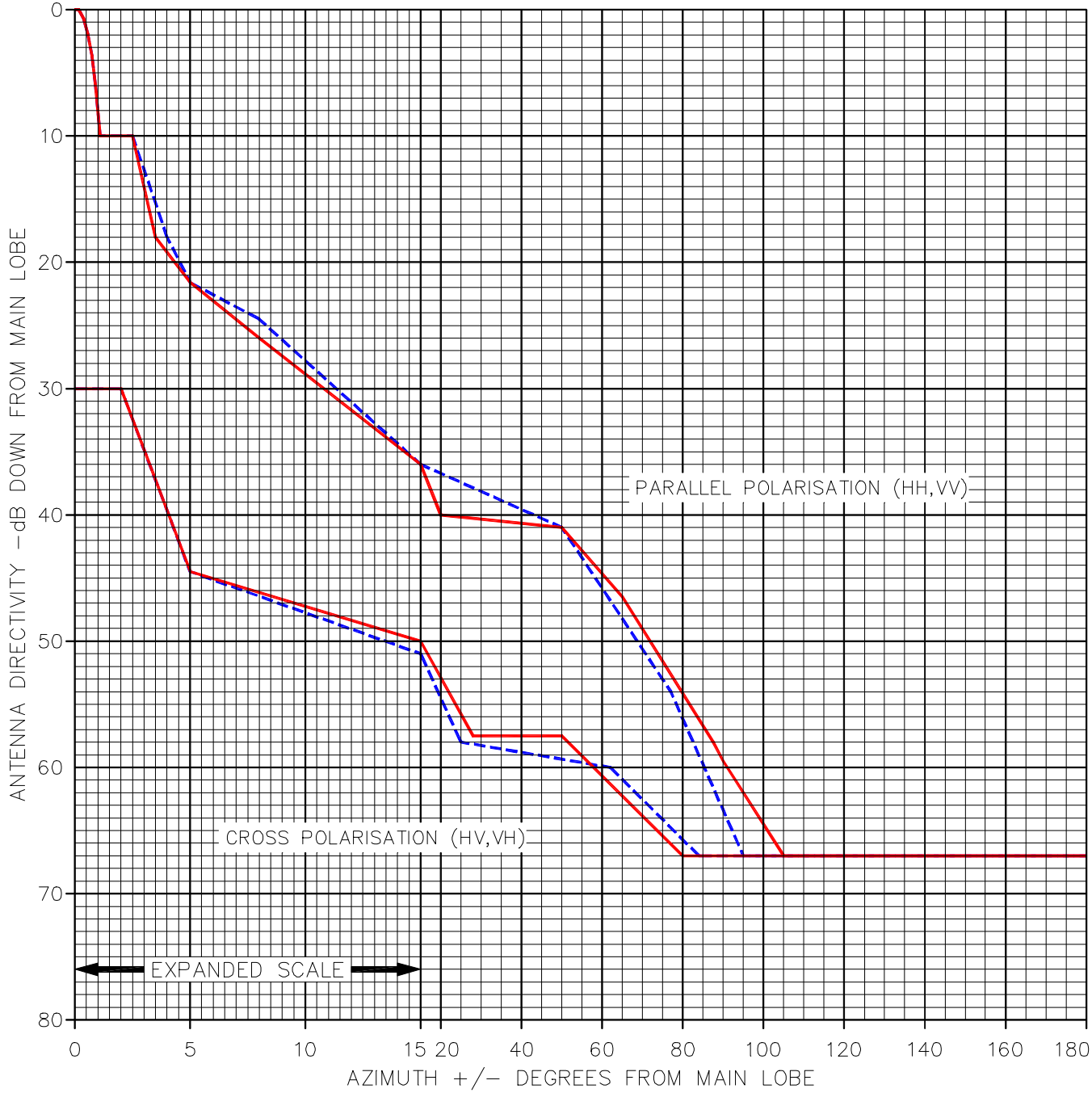

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.17	0.00			2.00	30.00			0.17	0.00			2.00	30.00		
0.37	0.70			5.00	44.50			0.37	0.70			5.00	44.50		
0.55	1.90			15.00	50.00			0.55	1.90			15.00	51.00		
0.73	3.60			28.00	57.50			0.73	3.60			25.00	58.00		
0.89	6.00			50.00	57.50			0.89	6.00			62.00	60.00		
1.09	10.00			80.00	67.00			1.09	10.00			84.00	67.00		
2.50	10.00			180.00	67.00			2.50	10.00			180.00	67.00		
3.50	18.00							4.00	18.00						
5.00	21.60							5.00	21.60						
8.00	26.00							8.00	24.50						
15.00	36.00							15.00	36.00						
20.00	40.00							50.00	41.00						
50.00	41.00							77.00	54.00						
65.00	46.50							95.00	67.00						
87.50	58.00							180.00	67.00						
90.00	59.50														
105.00	67.00														
180.00	67.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0015-0
4 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 46.9 dBi at 25.375 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

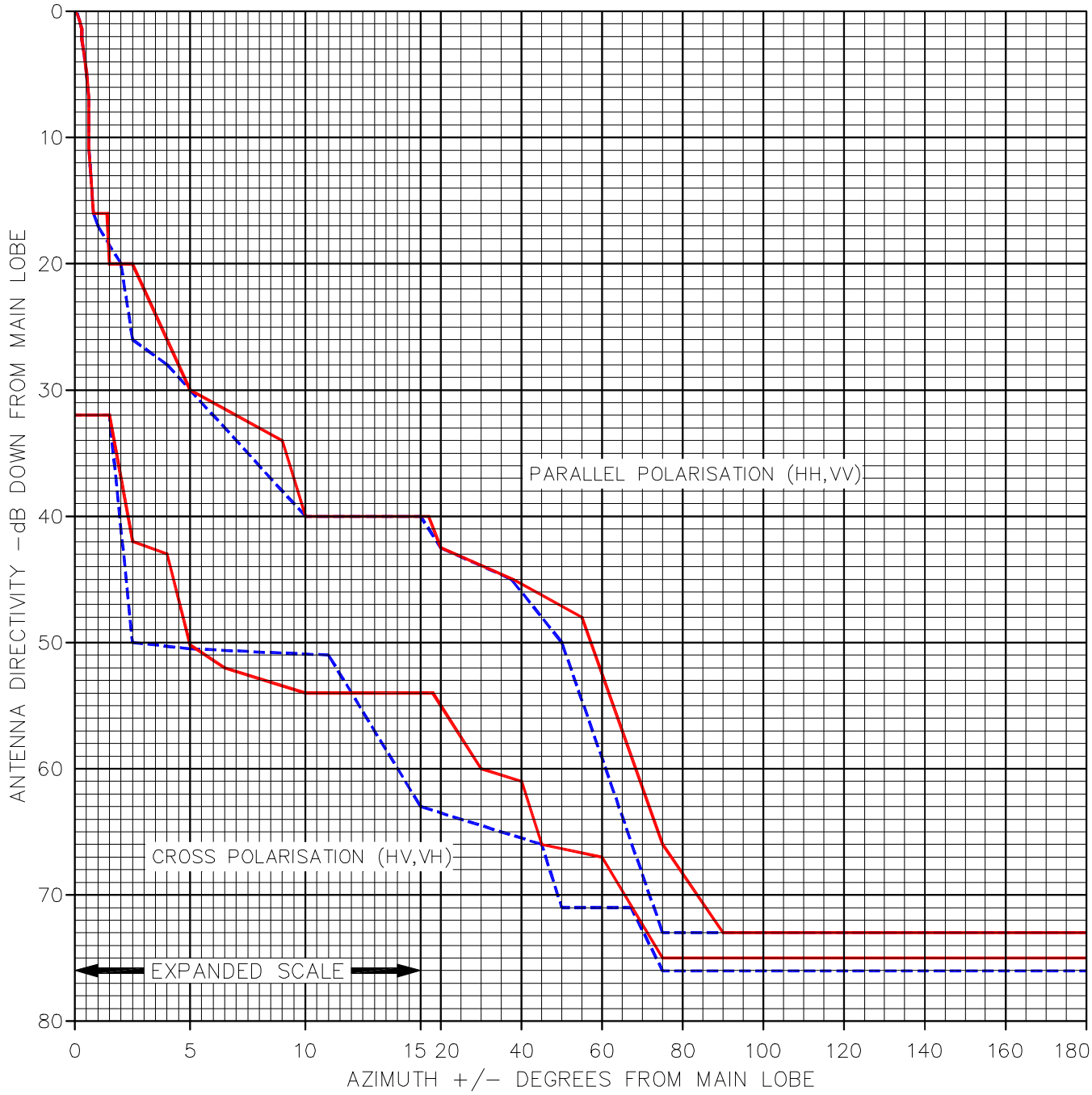

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15
20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	32.00			0.00	0.00			0.00	32.00		
0.10	0.20			1.50	32.00			0.10	0.20			1.50	32.00		
0.20	0.70			2.50	42.00			0.20	0.70			2.50	50.00		
0.30	1.40			4.00	43.00			0.30	1.40			5.00	50.50		
0.30	2.20			5.00	50.20			0.30	2.20			11.00	51.00		
0.40	3.40			6.50	52.00			0.40	3.40			15.00	63.00		
0.50	4.80			10.00	54.00			0.50	4.80			45.00	66.00		
0.60	6.80			15.00	54.00			0.60	6.80			50.00	71.00		
0.60	8.80			18.00	54.00			0.60	8.80			67.10	71.00		
0.60	10.80			30.00	60.00			0.60	10.80			75.00	76.00		
0.70	13.00			40.00	61.00			0.70	13.00			180.00	76.00		
0.80	16.00			45.00	66.00			0.80	16.00						
1.40	16.00			60.00	67.00			1.00	17.00						
1.50	20.00			75.00	75.00			2.00	20.00						
2.50	20.00			180.00	75.00			2.50	26.00						
5.00	30.00							4.00	28.00						
9.00	34.00							10.00	40.00						
10.00	40.00							15.00	40.00						
17.00	40.00							20.00	42.50						
20.00	42.50							37.50	45.00						
38.00	45.00							50.00	50.00						
55.00	48.00							75.00	73.00						
75.00	66.00							180.00	73.00						
90.00	73.00														
180.00	73.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0022-0
1 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 36.0 dBi at 25.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

Radiation Pattern Envelope
Type: AN-0022-0 (Azimuth Diagram)

Nominal Diameter 0.3 m / 1 ft

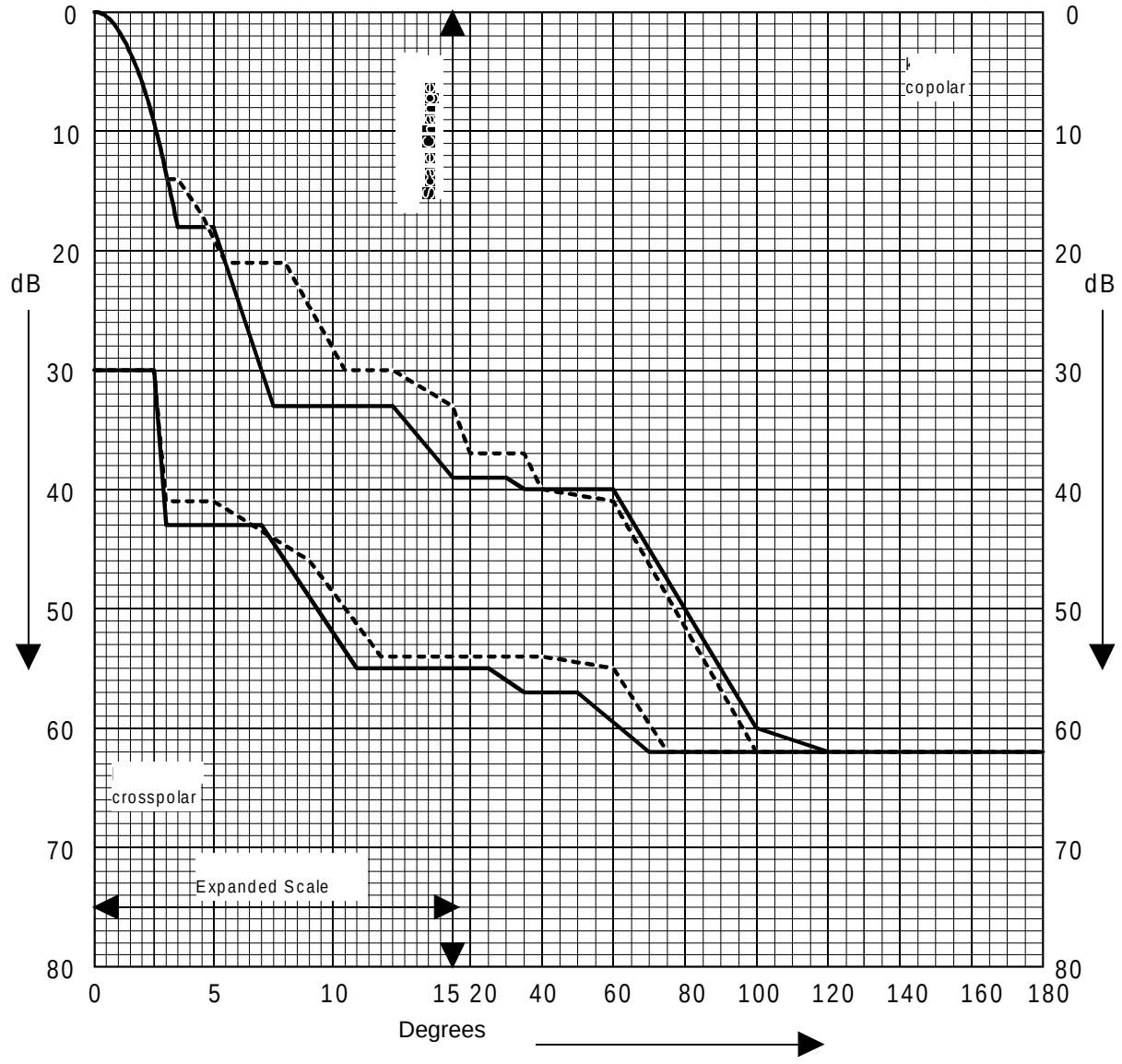
Frequency Range 24.25 - 26.5 GHz

Gain 36.0 dBi at 25.4 GHz

HPBW 2.5°

Horizontal Polarisation

Vertical Polarisation



Radiation Pattern Envelope

Antenna Type Number AN – 0006-0
2 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 41.1 dBi at 25.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

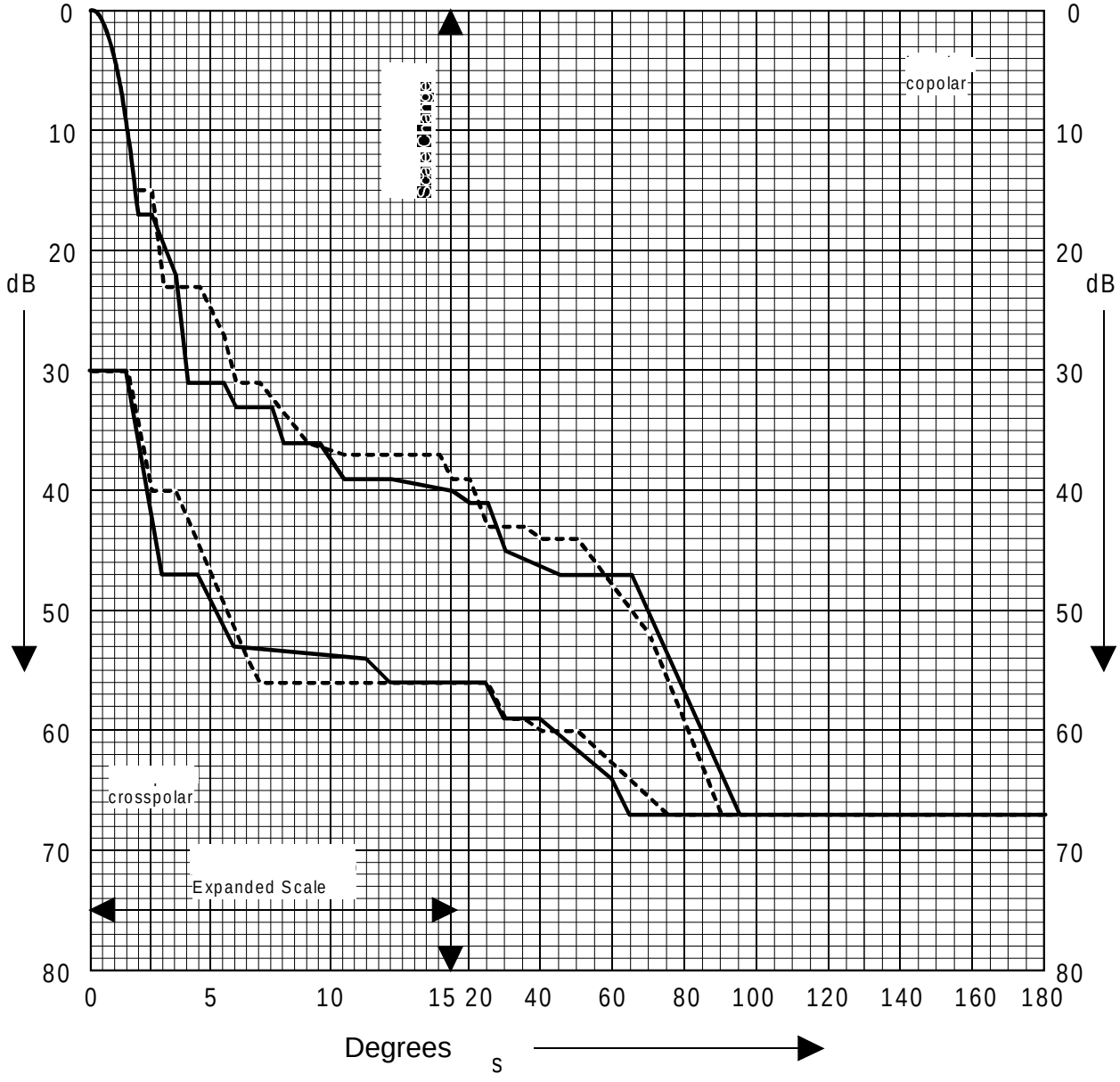
CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

Radiation Pattern Envelope
Type: AN-0006-0 (Azimuth Diagram)

Nominal Diameter	0.6 2	m ft
Frequency Range	24.25 - 26.5	GHz
Gain	41.1 dBi at	25.4 GHz
Halbwertsbreite HPBW	1.4°	

Horizontal Polarisation

Vertical Polarisation



Radiation Pattern Envelope

Antenna Type Number AN – 0014-0
4 Foot Antenna 24.25 – 26.5 GHz Single Polarized
Gain: 47.2 dBi at 25.4 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

Radiation Pattern Envelope
Type: AN-0014-0 (Azimuth Diagram)

Nominal Diameter 1.2 m / 4 ft

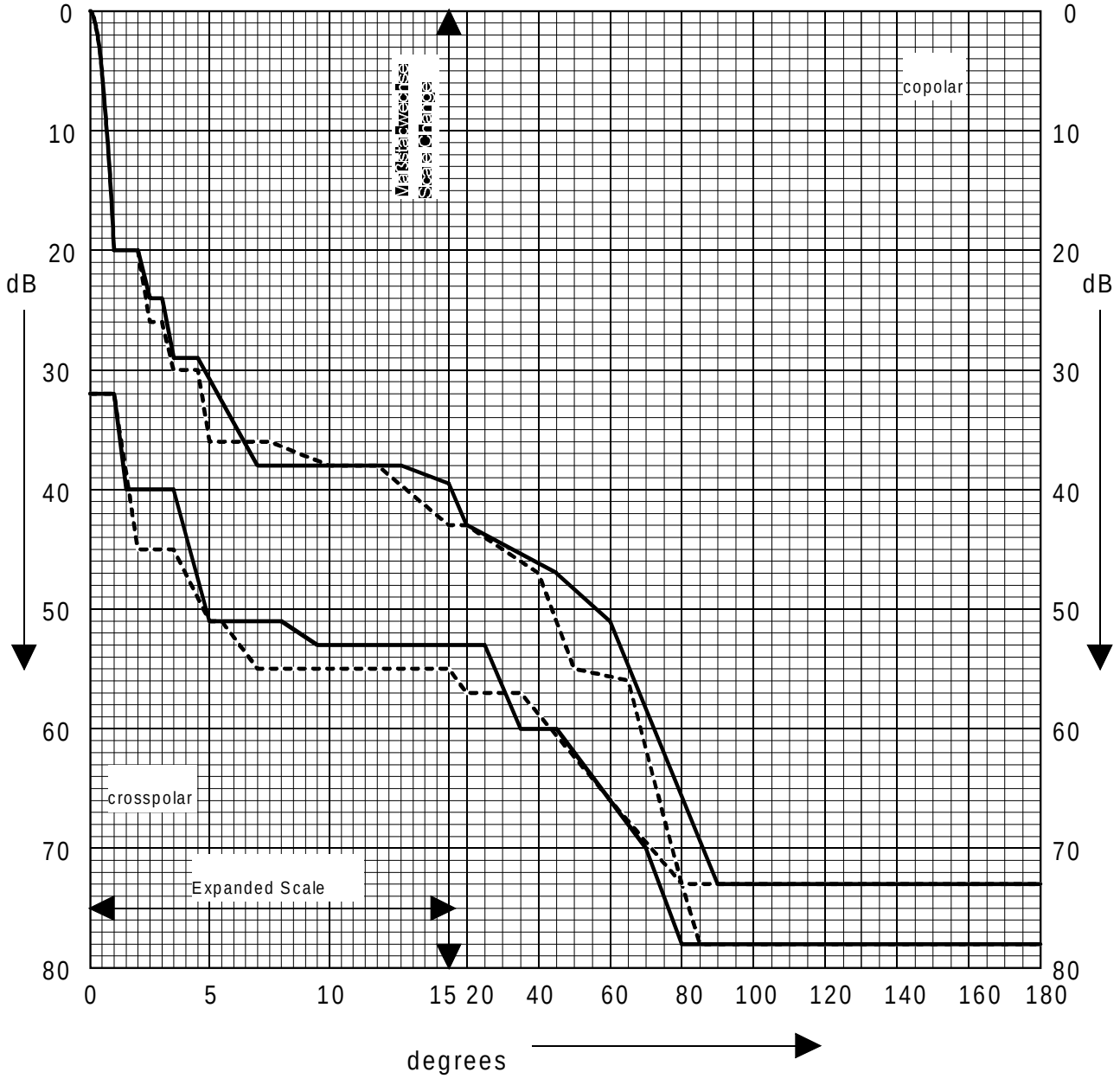
Frequency Range 24.25 - 26.5 GHz

Gain 47.2 dBi at 25.4 GHz

HPBW 0.7°

Horizontal Polarisation

Vertical Polarisation



Radiation Pattern Envelope

Antenna Type Number AN – 0002-0
1 Foot Antenna 37.0 – 39.5 GHz Single Polarized
Gain: 39.6 dBi at 38.25 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

Radiation Pattern Envelope
Type: AN-0002-0 (Azimuth Diagram)

Nominal Diameter: 0.3 m / 1 ft

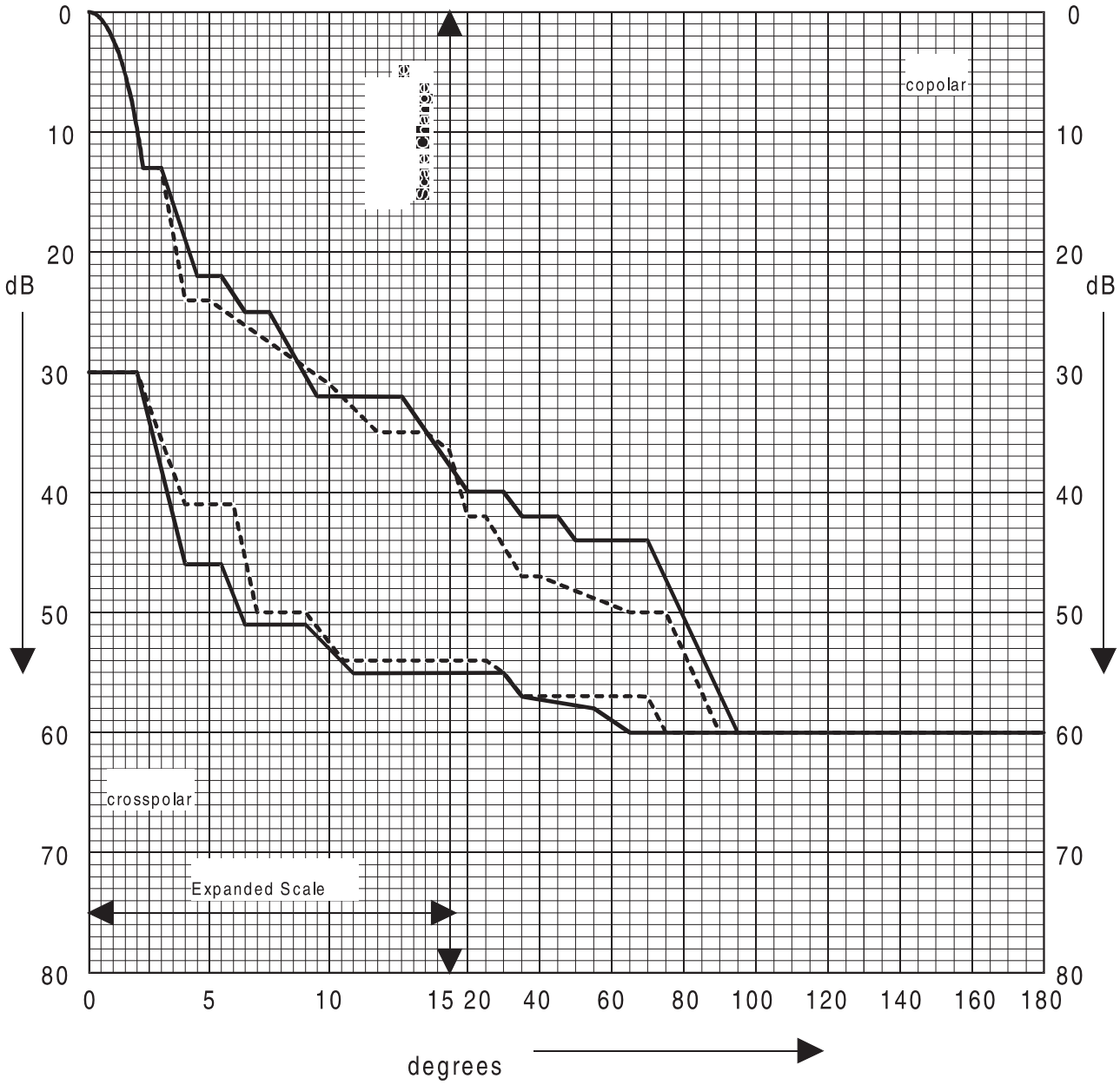
Frequency Range: 37.0 - 39.5 GHz

Gain: 39.6 dBi at 38.25 GHz

HPBW: 1.7°

———— Horizontal Polarisation

..... Vertical Polarisation



Radiation Pattern Envelope

Antenna Type Number AN – 0001-0
2 Foot Antenna 37.0 – 39.5 GHz Single Polarized
Gain: 44.8 dBi at 38.25 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

Radiation Pattern Envelope
Type: AN-0001-0 (Azimuth Diagram)

Nominal Diameter 0.6 m / 2 ft

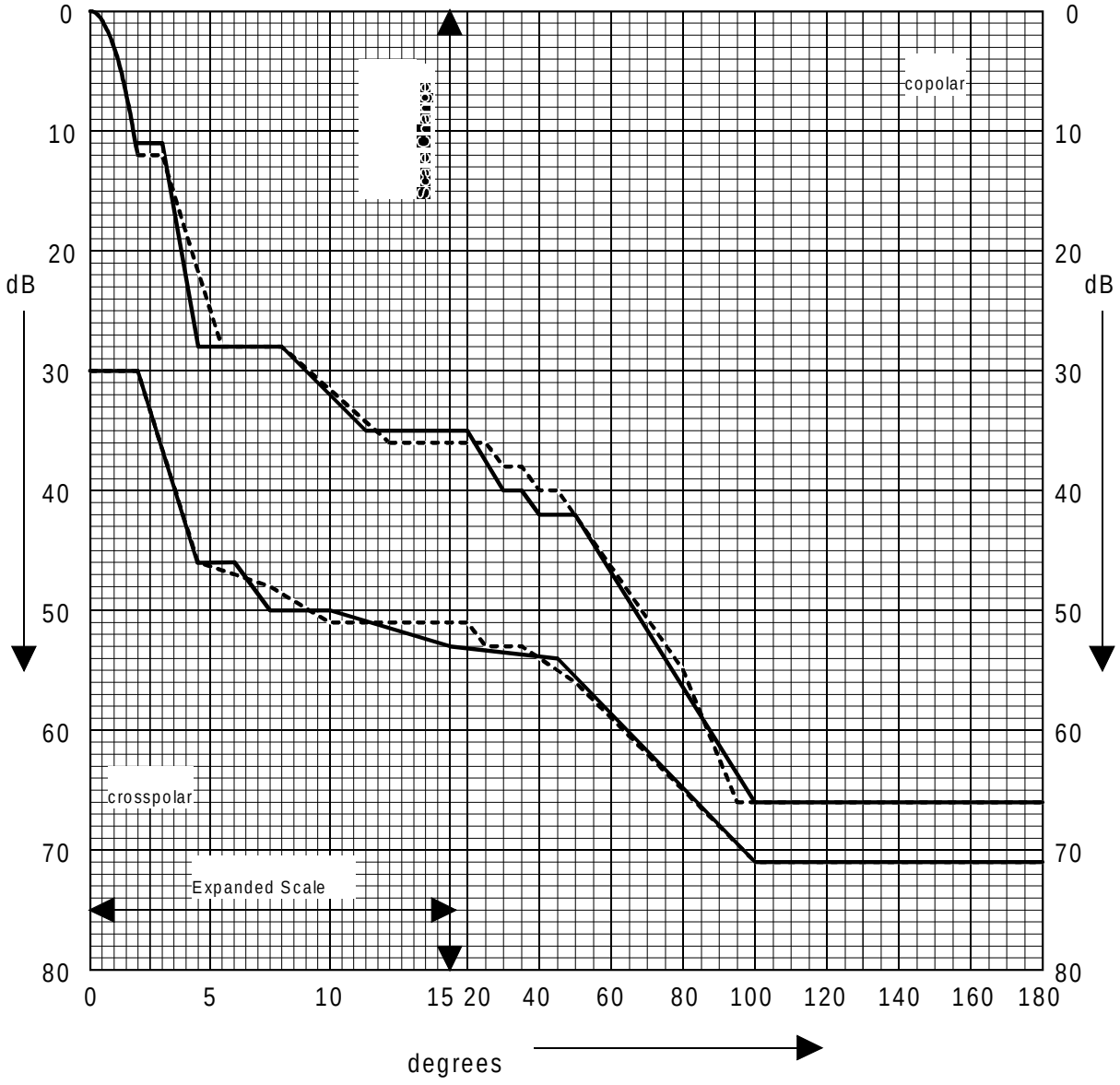
Frequency Range 21.2 - 23.6 GHz

Gain 40.1 dBi at 22.4 GHz

HPBW 1.6°

Horizontal Polarisation

Vertical Polarisation



Radiation Pattern Envelope

Antenna Type Number AN – 0035-0
1 Foot Antenna 37.0 – 40.0 GHz Single Polarized
Gain: 39.7 dBi at 38.5 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

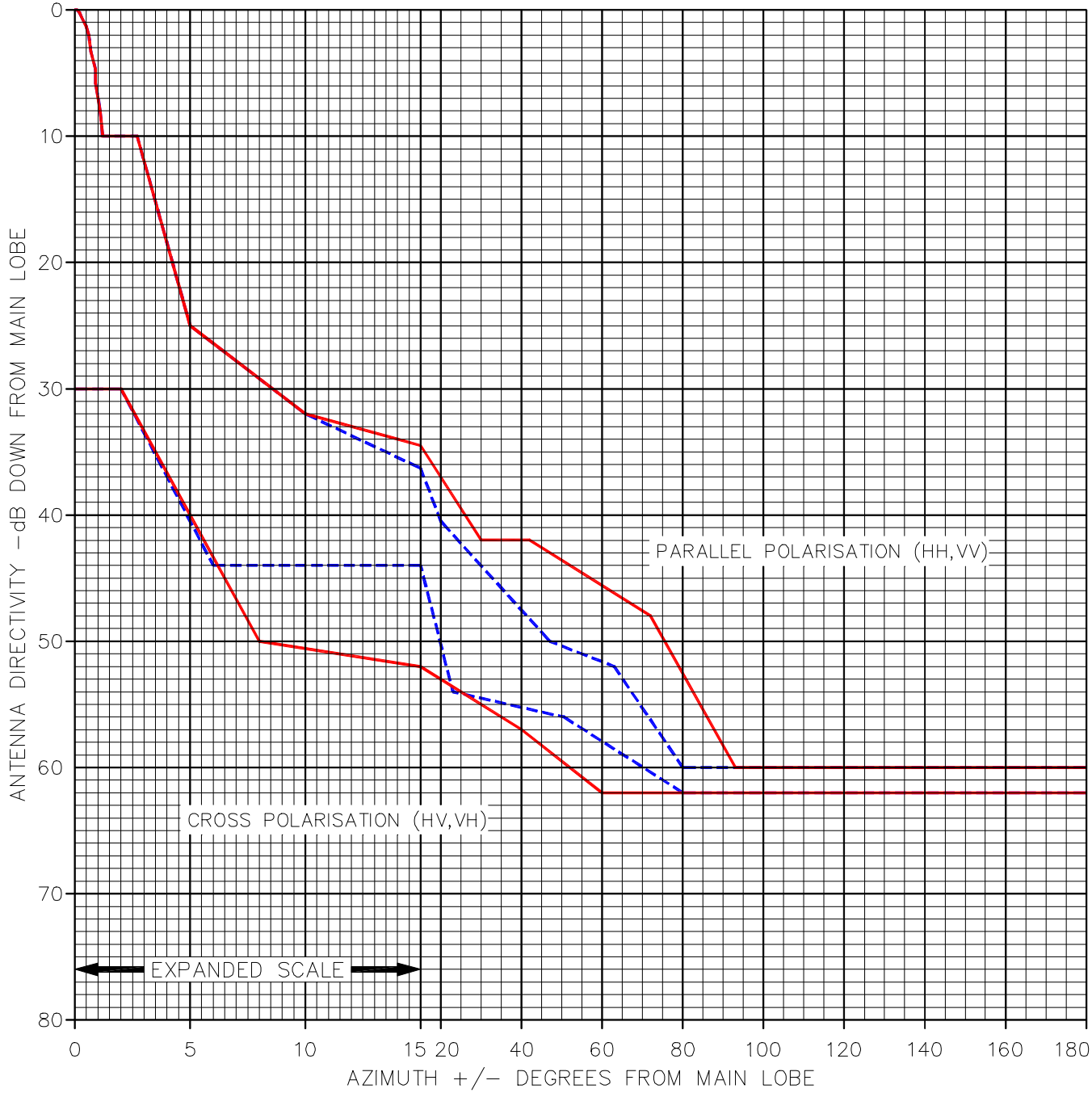

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15 20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.10	0.00			2.00	30.00			0.10	0.00			2.00	30.00		
0.20	0.20			8.00	50.00			0.20	0.20			6.00	44.00		
0.30	0.60			15.00	52.00			0.30	0.60			15.00	44.00		
0.50	1.30			40.00	57.00			0.50	1.30			23.00	54.00		
0.60	2.00			60.00	62.00			0.60	2.00			50.50	56.00		
0.70	3.30			180.00	62.00			0.70	3.30			80.00	62.00		
0.90	4.70							0.90	4.70			180.00	62.00		
0.90	5.80							0.90	5.80						
1.10	8.00							1.10	8.00						
1.20	10.00							1.20	10.00						
2.70	10.00							2.70	10.00						
5.00	25.00							5.00	25.00						
10.00	32.00							10.00	32.00						
14.00	34.00							15.00	36.30						
15.00	34.50							20.00	40.50						
30.00	42.00							47.00	50.00						
42.00	42.00							63.00	52.00						
72.00	48.00							80.00	60.00						
93.00	60.00							180.00	60.00						
180.00	60.00														

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Radiation Pattern Envelope

Antenna Type Number AN – 0036-0
2 Foot Antenna 37.0 – 40.0 GHz Single Polarized
Gain: 44.5 dBi at 38.5 GHz

Legend:

———— Envelope for a horizontally polarized antenna (HH, HV)

..... Envelope for a vertically polarized antenna (VV,VH)

CERAGON, Sept-2000

CERAGON Ltd.
24 Raul Valenberg Street, Tel-Aviv, 69710, Israel
Tel: +972-3-6455733 Fax: +972-3-6455499
Home Page: www.ceragon.com

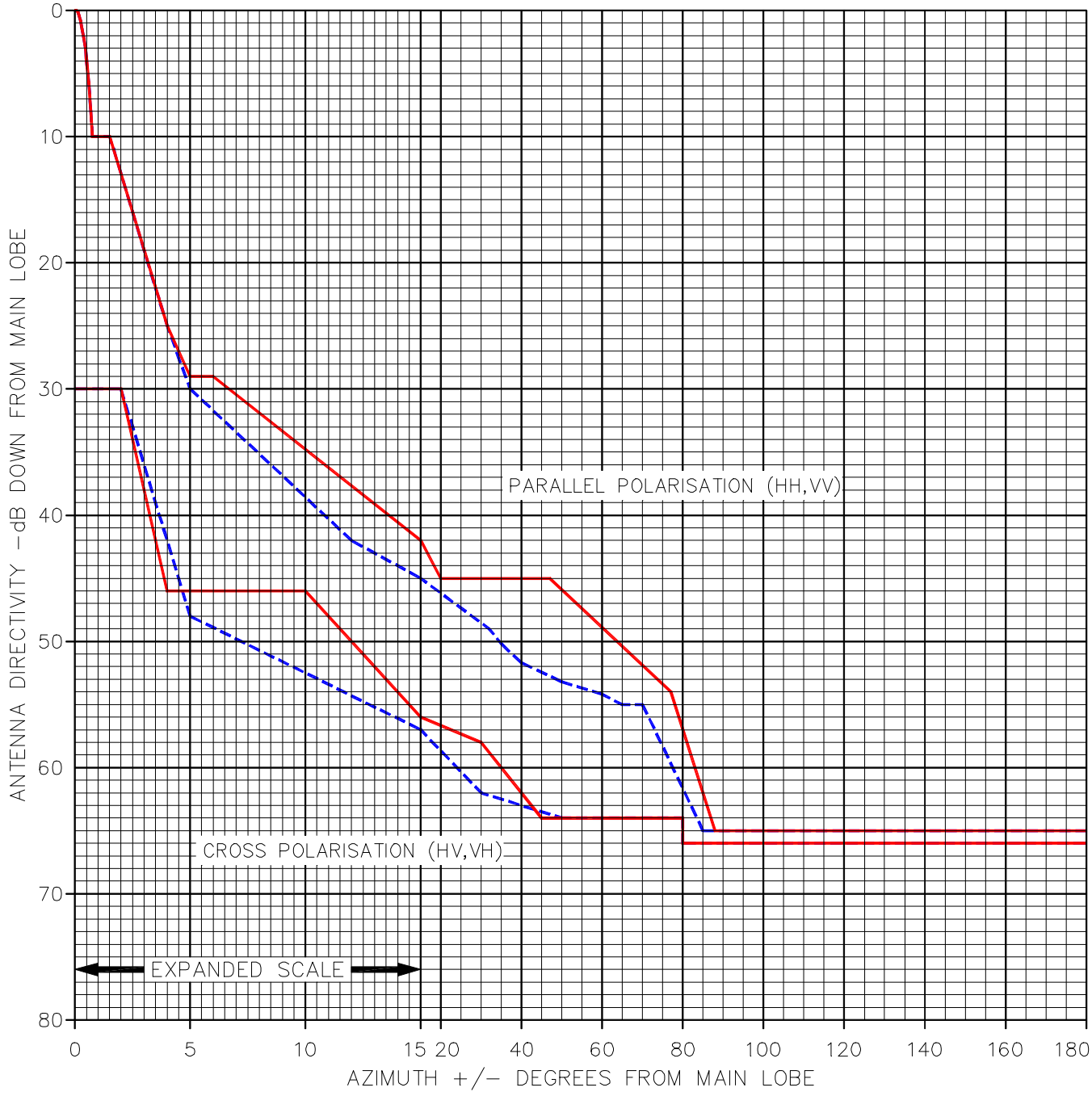

ANTENNA DIRECTIVITY –dB DOWN FROM MAIN LOBE
0
10
20
30
40
50
60
70
80
PARALLEL POLARISATION (HH,VV)
CROSS POLARISATION (HV,VH)
EXPANDED SCALE
0
5
10
15
20
40
60
80
100
120
140
160
180
AZIMUTH +/– DEGREES FROM MAIN LOBE

TABLE OF BREAKPOINTS DEFINING THE RPE (SEE NOTE)

ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HH (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	HV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VV (dB)	ANGLE (DEG)	VH (dB)	ANGLE (DEG)	VH (dB)
0.00	0.00			0.00	30.00			0.00	0.00			0.00	30.00		
0.06	0.00			2.00	30.00			0.06	0.00			2.00	30.00		
0.13	0.10			4.00	46.00			0.13	0.10			5.00	48.00		
0.18	0.40			10.00	46.00			0.18	0.40			15.00	57.00		
0.24	0.80			15.00	56.00			0.24	0.80			30.00	62.00		
0.32	1.50			30.00	58.00			0.32	1.50			50.00	64.00		
0.38	2.10			45.00	64.00			0.38	2.10			80.00	64.00		
0.46	3.10			80.00	64.00			0.46	3.10			80.00	66.00		
0.50	3.90			80.00	66.00			0.50	3.90			180.00	66.00		
0.60	5.70			180.00	66.00			0.60	5.70						
0.69	8.00							0.69	8.00						
0.75	10.00							0.75	10.00						
1.51	10.00							1.51	10.00						
4.00	25.00							4.00	25.00						
5.00	29.00							5.00	30.00						
6.00	29.00							12.00	42.00						
15.00	42.00							15.00	45.00						
20.00	45.00							32.00	49.00						
47.00	45.00							35.00	50.20						
77.00	54.00							40.00	51.70						
88.00	65.00							50.00	53.20						
180.00	65.00							60.00	54.20						
								65.00	55.00						
								70.00	55.00						
								85.00	65.00						
								180.00	65.00						

NOTE: THE RPE IS DEFINED BY CONNECTING THESE POINTS WITH STRAIGHT LINES AS GRAPHICALLY DISPLAYED ON REVERSE SIDE.

PARALLEL POLARISATION:
HH – HORIZONTAL PORT RESPONSE TO A HORIZONTAL SIGNAL
VV – VERTICAL PORT RESPONSE TO A VERTICAL SIGNAL

CROSS POLARISATION:
HV – HORIZONTAL PORT RESPONSE TO A VERTICAL SIGNAL
VH – VERTICAL PORT RESPONSE TO A HORIZONTAL SIGNAL

Appendix D
Frequency Information

The following tables list local frequencies and channels for the FibeAir system.

Please note that the Width and Separation columns represent MHz values.

FCC Channel Allocations, 16 QAM

Frequency	Width	Separation	Tx Range	Rx Range
18 GHz, Tx Low	40	1560	17700-18150	19260-19710
18 GHz, Tx High	40	1560	19260-19710	17700-18150
23 GHz, High Block, Tx Low	50	1200	21800-22400	23000-23600
23 GHz, High Block, Tx High	50	1200	23000-23600	21800-22400
23 GHz, Low Block, Tx Low	50	1200	21200-21800	22400-23000
23 GHz, Low Block, Tx High	50	1200	22400-23000	21200-21800
24 GHz	50	150	24075	24225
29 GHz, Tx Low	50	1975	29100-29250	31075-31225
29 GHz, Tx High	50	1975	31075-31225	29100-29250
31 GHz, Tx Low	50	225	31000-31075	31225-31300
31 GHz, Tx High	50	225	31225-31300	31000-31075
38 GHz, Block A High, Tx High	50	700	38050-38400	37350-37700
38 GHz, Block A High, Tx Low	50	700	37350-37700	38050-38400
38 GHz, Block A Low, Tx Low	50	700	37000-37350	37700-38050
38 GHz, Block A Low, Tx High	50	700	37700-38050	37000-37350
38 GHz, Block B Low, Tx Low	50	700	38600-38950	39300-39650
38 GHz, Block B Low, Tx High	50	700	39300-39650	38600-38950
38 GHz, Block B High, Tx Low	50	700	38950-39300	39650-40000
38 GHz, Block B High, Tx High	50	700	39650-40000	38950-39300

FCC Channel Allocations, 128 QAM

Frequency	Width	Separation	Tx Range	Rx Range
18 GHz, Tx Low	20	1560	17700-18150	19260-19710
18 GHz, Tx High	20	1560	19260-19710	17700-18150
23 GHz, High Block, Tx Low	25	1200	21800-22400	23000-23600
23 GHz, High Block, Tx High	25	1200	23000-23600	21800-22400
23 GHz, Low Block, Tx Low	25	1200	21200-21800	22400-23000
23 GHz, Low Block, Tx High	25	1200	22400-23000	21200-21800

ETSI Channel Allocations, 16 QAM

Frequency	Width	Separation	Tx Range	Rx Range
18 GHz, Low Block, Tx Low	55	1010	17700-18200	18710-19210
18 GHz, Low Block, Tx High	55	1010	18710-19210	17700-18200
18 GHz, High Block, Tx Low	55	1010	18150-18690	19160-19700
18 GHz, High Block, Tx High	55	1010	19160-19700	18150-18690
23 GHz, Tx Low	56	1008	22000-22600	23000-23600
23 GHz, Tx High	56	1008	23000-23600	22000-22600
26 GHz, High Block, Tx Low	56	1008	24997-25445	26005-26453
26 GHz, High Block, Tx High	56	1008	26005-26453	24997-25445
26 GHz, Low Block, Tx Low	56	1008	24549-24997	25557-26005
26 GHz, Low Block, Tx High	56	1008	25557-26005	24549-24997
38 GHz, Low Block, Tx Low	56	1260	37058-37618	38318-38878
38 GHz, Low Block, Tx High	56	1260	38318-38878	37058-37618
38 GHz, High Block, Tx Low	56	1260	37618-38178	38878-39438
38 GHz, High Block, Tx High	56	1260	38878-39438	37618-38178

ETSI Channel Allocations, 128 QAM

Frequency	Width	Separation	Tx Range	Rx Range
6 GHz, Tx Low	28	240-340 (flexible)	5900-6500	5900-6501
6 GHz, Tx High	28	240-340 (flexible)	6400-7100	6400-7101
7/8 GHz	28, 29.65	119-311.32 (flexible)	7100-8500	7100-8500
11 GHz, Low Block, Tx Low	28	490-530 (flexible)	10700-10950	11190-11460
11 GHz, Low Block, Tx High	28	490-530 (flexible)	11190-11460	10700-10950
11 GHz, High Block, Tx Low	28	490-530 (flexible)	10940-11198	11430-11720
11 GHz, High Block, Tx High	28	490-530 (flexible)	11430-11720	10940-11198
13 GHz, Wide Band 1-4, Tx Low	28	266	12751-12863	13017-13129
13 GHz, Wide Band 1-4, Tx High	28	266	13017-13129	12751-12863
13 GHz, Wide Band 5-8, Tx Low	28	266	12863-12975	13129-13241
13 GHz, Wide Band 5-8, Tx High	28	266	13129-13241	12863-12975
13 GHz, Channel 1, Tx Low	28	266	12751-12779	13017-13045
13 GHz, Channel 1, Tx High	28	266	13017-13045	12751-12779
13 GHz, Channel 2, Tx Low	28	266	12779-12807	13045-13073
13 GHz, Channel 2, Tx High	28	266	13045-13073	12779-12807
13 GHz, Channel 3, Tx Low	28	266	12807-12835	13073-13101
13 GHz, Channel 3, Tx High	28	266	13073-13101	12807-12835
13 GHz, Channel 4, Tx Low	28	266	12835-12863	13101-13129
13 GHz, Channel 4, Tx High	28	266	13101-13129	12835-12863
13 GHz, Channel 5, Tx Low	28	266	12863-12891	13129-13157
13 GHz, Channel 5, Tx High	28	266	13129-13157	12863-12891

Frequency	Width	Separation	Tx Range	Rx Range
13 GHz, Channel 6, Tx Low	28	266	12891-12919	13157-13185
13 GHz, Channel 6, Tx High	28	266	13157-13185	12891-12919
13 GHz, Channel 7, Tx Low	28	266	12919-12947	13185-13213
13 GHz, Channel 7, Tx High	28	266	13185-13213	12919-12947
13 GHz, Channel 8, Tx Low	28	266	12947-12975	13213-13241
13 GHz, Channel 8, Tx High	28	266	13213-13241	12947-12975
15 GHz, Wide Band 1-4, Tx Low	28	728	14501-14613	15229-15341
15 GHz, Wide Band 1-4, Tx High	28	728	15229-15341	14501-14613
15 GHz, Wide Band 1-4, Tx Low	28	315	14648-14760	14963-15075
15 GHz, Wide Band 1-4, Tx High	28	315	14963-15075	14648-14760
15 GHz, Wide Band 4-7, Tx Low	28	315	14732-14844	15047-15159
15 GHz, Wide Band 4-7, Tx High	28	315	15047-15159	14732-14844
15 GHz, Wide Band 1-8, Tx Low	28	420	14501-14725	14921-15145
15 GHz, Wide Band 1-8, Tx High	28	420	14921-15145	14501-14725
15 GHz, Wide Band 8-15, Tx Low	28	420	14697-14921	15117-15341
15 GHz, Wide Band 8-15, Tx High	28	420	15117-15341	14697-14921
15 GHz, Channel 1, Tx Low	28	728	14501-14529	15229-15257
15 GHz, Channel 1, Tx High	28	728	15229-15257	14501-14529
15 GHz, Channel 2, Tx Low	28	728	14529-14557	15257-15285
15 GHz, Channel 2, Tx High	28	728	15257-15285	14529-14557
15 GHz, Channel 3, Tx Low	28	728	14557-14585	15285-15313
15 GHz, Channel 3, Tx High	28	728	15285-15313	14557-14585
15 GHz, Channel 4, Tx Low	28	728	14585-14613	15313-15341
15 GHz, Channel 4, Tx High	28	728	15313-15341	14585-14613
15 GHz, Channel 1, Tx Low	28	315	14648-14676	14963-14991
15 GHz, Channel 1, Tx High	28	315	14963-14991	14648-14676
15 GHz, Channel 2, Tx Low	28	315	14676-14704	14991-15019

Frequency	Width	Separation	Tx Range	Rx Range
15 GHz, Channel 2, Tx High	28	315	14991-15019	14676-14704
15 GHz, Channel 3, Tx Low	28	315	14704-14732	15019-15047
15 GHz, Channel 3, Tx High	28	315	15019-15047	14704-14732
15 GHz, Channel 4, Tx Low	28	315	14732-14760	15047-15075
15 GHz, Channel 4, Tx High	28	315	15047-15075	14732-14760
15 GHz, Channel 5, Tx Low	28	315	14760-14788	15075-15103
15 GHz, Channel 5, Tx High	28	315	15075-15103	14760-14788
15 GHz, Channel 6, Tx Low	28	315	14788-14816	15103-15131
15 GHz, Channel 6, Tx High	28	315	15103-15131	14788-14816
15 GHz, Channel 7, Tx Low	28	315	14816-14844	15131-15159
15 GHz, Channel 7, Tx High	28	315	15131-15159	14816-14844
15 GHz, Channel 1, Tx Low	28	420	14501-14529	14921-14949
15 GHz, Channel 1, Tx High	28	420	14921-14949	14501-14529
15 GHz, Channel 2, Tx Low	28	420	14529-14557	14949-14977
15 GHz, Channel 2, Tx High	28	420	14949-14977	14529-14557
15 GHz, Channel 3, Tx Low	28	420	14557-14585	14977-15005
15 GHz, Channel 3, Tx High	28	420	14977-15005	14557-14585
15 GHz, Channel 4, Tx Low	28	420	14585-14613	15005-15033
15 GHz, Channel 4, Tx High	28	420	15005-15033	14585-14613
15 GHz, Channel 5, Tx Low	28	420	14613-14641	15033-15061
15 GHz, Channel 5, Tx High	28	420	15033-15061	14613-14641
15 GHz, Channel 6, Tx Low	28	420	14641-14669	15061-15089
15 GHz, Channel 6, Tx High	28	420	15061-15089	14641-14669
15 GHz, Channel 7, Tx Low	28	420	14669-14697	15089-15117
15 GHz, Channel 7, Tx High	28	420	15089-15117	14669-14697
15 GHz, Channel 8, Tx Low	28	420	14697-14725	15117-15145
15 GHz, Channel 8, Tx High	28	420	15117-15145	14697-14725

Frequency	Width	Separation	Tx Range	Rx Range
15 GHz, Channel 9, Tx Low	28	420	14725-14753	15145-15173
15 GHz, Channel 9, Tx High	28	420	15145-15173	14725-14753
15 GHz, Channel 10, Tx Low	28	420	14753-14781	15173-15201
15 GHz, Channel 10, Tx High	28	420	15173-15201	14753-14781
15 GHz, Channel 11, Tx Low	28	420	14781-14809	15201-15229
15 GHz, Channel 11, Tx High	28	420	15201-15229	14781-14809
15 GHz, Channel 12, Tx Low	28	420	14809-14837	15229-15257
15 GHz, Channel 12, Tx High	28	420	15229-15257	14809-14837
15 GHz, Channel 13, Tx Low	28	420	14837-14865	15257-15285
15 GHz, Channel 13, Tx High	28	420	15257-15285	14837-14865
15 GHz, Channel 14, Tx Low	28	420	14865-14893	15285-15313
15 GHz, Channel 14, Tx High	28	420	15285-15313	14865-14893
15 GHz, Channel 15, Tx Low	28	420	14893-14921	15313-15341
15 GHz, Channel 15, Tx High	28	420	15313-15341	14893-14921
18 GHz, Low Block, Tx Low	27.5	1010	17700-18200	18710-19210
18 GHz, Low Block, Tx High	27.5	1010	18710-19210	17700-18200
18 GHz, High Block, Tx Low	27.5	1010	18150-18690	19160-19700
18 GHz, High Block, Tx High	27.5	1010	19160-19700	18150-18690
23 GHz, Tx Low	28	1008	22000-22600	23000-23600
23 GHz, Tx High	28	1008	23000-23600	22000-22600
26 GHz, High Block, Tx Low	28	1008	24997-25445	26005-26453
26 GHz, High Block, Tx High	28	1008	26005-26453	24997-25445
26 GHz, Low Block, Tx Low	28	1008	24549-24997	25557-26005
26 GHz, Low Block, Tx High	28	1008	25557-26005	24549-24997
28 GHz, Low Block, Tx Low	28	1008	27548-27996	28556-29004
28 GHz, Low Block, Tx High	28	1008	28556-29004	27548-27996
28 GHz, High Block, Tx Low	28	1008	27996-28444	29004-29452

Frequency	Width	Separation	Tx Range	Rx Range
28 GHz, High Block, Tx High	28	1008	29004-29452	27996-28444
32 GHz, Low Block, Tx Low	28	812	31815-32207	32627-33019
32 GHz, Low Block, Tx High	28	812	32627-33019	31815-32207
32 GHz, High Block, Tx Low	28	812	32179-32571	32991-33383
32 GHz, High Block, Tx High	28	812	32991-33383	32179-32571
38 GHz, Low Block, Tx Low	28	1260	37058-37618	38318-38878
38 GHz, Low Block, Tx High	28	1260	38318-38878	37058-37618
38 GHz, High Block, Tx Low	28	1260	37618-38178	38878-39438
38 GHz, Low Block, Tx High	28	1260	38878-39438	37618-38178

Deutsch Telecom Channel Allocations, 128 QAM

Frequency	Width	Separation	Tx Range	Rx Range
11 GHz, Low Block, Tx Low	25	126	10401-10460.5	10527-10586.5
11 GHz, Low Block, Tx High	25	126	10527-10586.5	10401-10460.5
11 GHz, Mid Block, Tx Low	25	126	10443-10502	10569-10628
11 GHz, Mid Block, Tx High	25	126	10443-10502	10569-10628
11 GHz, High Block, Tx Low	25	126	10485-10544.5	10611-10670.5
11 GHz, High Block, Tx High	25	126	10485-10544.5	10611-10670.5

Japan Channel Allocations, 16 QAM

Frequency	Width	Separation	Tx Range	Rx Range
23 GHz, Tx Low	60	600	22140-22380	22740-22980
23 GHz, Tx High	60	600	22740-22980	22140-22380
38 GHz, Tx Low	60	1000	38050-38500	39050-39500
38 GHz, Tx High	60	1000	39050-39500	38050-38500

China Channel Allocations, 16 QAM

Frequency	Width	Separation	Tx Range	Rx Range
18 GHz, Low Block, Tx Low	55	1120	17728-18113	18848-19233
18 GHz, Low Block, Tx High	55	1120	18848-19233	17728-18113
18 GHz, High Block, Tx Low	55	1120	18113-18553	19233-19673
18 GHz, High Block, Tx High	55	1120	19233-19673	18113-18553

Argentina Channel Allocations, 16 QAM

Frequency	Width	Separation	Tx Range	Rx Range
23 GHz, Low Block, Tx Low	56	1232	21224-21784	22456-23016
23 GHz, Low Block, Tx High	56	1232	22456-23016	21224-21784
23 GHz, High Block, Tx Low	56	1232	21784-22344	23016-23576
23 GHz, High Block, Tx High	56	1232	23016-23576	21784-22344