REVISIONS

MF	REV	DESCRIPTION	DATE	APPROVED
		Preliminary	6/6/03	MD

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES

TOLERANCES ON DIMS:
.X - ±.1
.XX - ±.03
.XXX - ±.010

HOLE DIAMETERS:
UNDER .251 0=+.005/-.005
.251 to .500 0=+.008/-.005
OVER .500 0=+.008/-.005
ANGLES: +/-1.0”

THIRD ANGLE PROJECTION

DRAWN	NM	06/06/03	
CHECKED			
ENGRG.	MD	06/06/03	
ENGRG.			
Q.A. ENGRG.			
APPD MFG			

ANDREW

Andrew Corporation
Richardson, TX USA

ITU REGULATORY DATA, 7.6M iPSTAR

SIZE	CAGE CODE	DWG. NO.	REV
A	84147	AE03U-A0556	

SCALE: None

TU0SEQ

PROD GR.	050	DISTR.	

CDRL C017
ITU REGULATORY DATA, 7.6M, iPSTAR

Revision __
Release Date: 6 Jun, 03

Andrew Corp
2601 Telecom Parkway
Richardson, TX 75082

1 Specification Sheet

product specifications

7.6 Meter Dual-Reflector Earth Station Antenna

C-, X-, Ku-, or K-Band Capabilities

Television broadcasters and telecommunications system operators, integrators, and designers can bring their systems on line faster, more economically, and with superior performance with the Andrew 7.6 m earth station antenna.

In use worldwide in broadcast applications, including high-density data and voice communications networks, the Andrew 7.6 m earth station antenna features a computer-optimized dual reflector Gregorian system and close-tolerance manufacturing techniques. This combination provides extremely accurate surface contour, exceptionally high gain, superior efficiency, and closely controlled pattern characteristics.

Andrew earth station antennas provide maximum durability with minimal maintenance. The hot-dipped galvanized steel ground mount assembly ensures extended product life. Galvanized and stainless steel hardware maximize corrosion resistance. For cost effective system expansion, available modular equipment options include anti-icing equipment and pressurization systems. Microprocessor steptrack control and motorizable mount options are also available.

Features

- High gain, excellent pattern characteristics
- Advanced Gregorian optics
- Rugged aluminum and steel—125 mph (200 kph) Wind Survival
- No field alignment (C-band)
- 3-year warranty on all structural components.

Compliances

- Meets Intelsat® D, E-1, E-2, E-3, F-1, F-2, F-3, G
- Meets EUTELSAT standards
- ITU-R, S.580-4 and S.465-5
- US FCC regulation 25.209
- Approved for use in the territory of Russia by the Ministry of Communications of the Russian Federation
  (Reference: Homologation Certificate No OC/-AΦ-136)

ANDREW. Connecting the Wireless World

Specifications for 7.6 Meter Dual-Reflector Earth Station Antenna

Electrical

Operating frequency band

C-Band receive, *GHz*	3.40–4.20
C-Band transmit, *GHz*	5.850–6.725
X-Band receive, *GHz*	7.25–7.75
X-Band transmit, *GHz*	7.90–8.40
Ku-Band receive, *GHz*	10.70–13.25
Ku-Band transmit, *GHz*	14.00–14.80
K-Band receive, *GHz*	14.00–14.80
K-Band transmit, *GHz*	17.30–18.40

Gain, with two port linear or circular combiner (dBi, ±0.2 dB)

Rx Freq., GHz	*Rx Gain*	*Tx Freq., GHz*	*Tx Gain*
3.400	43.0	5.850	47.8
3.400	47.2	5.850	52.1
3.625	47.8	6.175	52.6
4.000	48.7	6.425	52.9
4.200	49.1	6.725	53.2
7.250	54.0	7.90	54.6
7.500	54.2	8.15	54.7
7.750	54.4	8.40	54.9
10.700	56.7	13.75	58.9
10.950	57.0	14.00	59.1
11.950	57.8	14.25	59.3
12.750	58.3	14.50	59.4
		14.80	59.6
		17.30	60.2
		18.40	60.7

Polarization
linearly- or circularly-polarized

Polarization discrimination, (linearly-polarized)
>35 dB across 1 dB beamwidth 19–25 log 0 from 1.8° to 9.2°

Voltage axial ratio, (circularly-polarized) across the 1 dB beamwidth

C-Band	<1.06:1 on axis, Tx
C-Band	<1.06:1 on axis, Rx
X-Band	<1.20:1 on axis, Tx and Rx

Beamwidth, mid-band, degrees, *receive (transmit)*

	C-Band	*Ku-Band*	*X-Band*
3 dB	0.58 (0.39)	0.22 (0.18)	0.33 (0.30)
15 dB	1.18 (0.75)	0.39 (0.31)	0.62 (0.57)

Antenna noise temperature,
Under clear sky conditions, at 68°F (20°C), with 2 port combiner

Elevation	*C-Band, K*	*X-Band, K*	*K-Band, K*	*Ku-Band, K*
10°	45	45	55	55
30°	36	36	41	41
50°	32	32	36	36

Antenna VSWR, transmit and receive <1.3:1

Mechanical

Antenna type	Dual-reflector, Gregorian
Reflector material	Precision-formed aluminum
Reflector segments	16
Mount type	El over AZ, tripod
Antenna pointing range	Coarse/(continuous)
Elevation	5–90° (85°)
Azimuth	180 (120°)
Polarization	180 (180°)
Hub enclosure dimensions	
Diameter, *in (mm)*	52 (1.33)
Depth, *in (mm)*	48.5 (1.17)

Environmental

Operating temperature, *F (C)*	-40° to 125° (-40° to 52°)
Wind loading	
Survival, *mph (km/h)*	125 (200) in any position of operation
Optional motor drives, *mph (km/h)*	45 (72) gusting to 65 (105)
Rain, *in (mm)*	4 (102) per hour
Solar radiation, *BTU/hr/ft² (watts/m²)*	360 (1135)
Relative humidity, %	100
Shock and vibration,	
As encountered by commercial air, rail and truck shipment	
Atmospheric conditions,	
As encountered in a moderately corrosive coastal/industrial area	
Severe conditions require additional protection	

G/T Performance

C-Band

LNA/LNB noise temperature, *K*	65	45	30
ES76 G/T at 10° EL, *dB/K*	28.2	29.0	29.7

Based on a 2-port, linearly-polarized antenna configuration at 4 GHz and at 10° elevation under clear sky conditions.

Ku- and K-Band

LNA/LNB noise temperature, *K*	165	125	90
ES76 G/T at 10° EL, *dB/K*	34.4	35.3	36.1

Based on a 2-port, linearly-polarized antenna configuration at 12 GHz and at 10° elevation under clear sky conditions.

X-Band

LNA/LNB noise temperature, *K*	50	75	100
ES76 G/T at 10° EL, *dB/K*	34.1	33.1	32.3

Based on a 2-port, linearly-polarized antenna configuration at 7.50 GHz and at 10° elevation under clear sky conditions.

Typical Slab Foundation

Soil bearing capacity, *PSF (kgf/m²)*	2000 (9.77)
Reinforcing steel, *tons (kg)*	1.47 (1339)
Concrete compressive strength, *lb/in² (kg/cm²)*	3000 (211)
Foundation size	
Length, *ft (m)*	19.5 (5.94)
Width, *ft (m)*	19.5 (5.94)
Depth, *ft (m)*	2.5 (0.76)
Concrete volume, *yd³ (m³)*	35.2 (27)

Typical Shipping Information

Net weight, *lb (kg)*	6500 (2950)
Gross shipping weight (typical), *lb (kg)*	8200 (3720)
Shipping volume (typical), *ft³ (m³)*	780 (22.1)
Shipping container*	
Quantity 1	Standard 20 ft land/sea container
Quantity 3	Standard 40 ft land/sea container

**Antenna, mount and feed system*

ANDREW. **Connecting the Wireless World**

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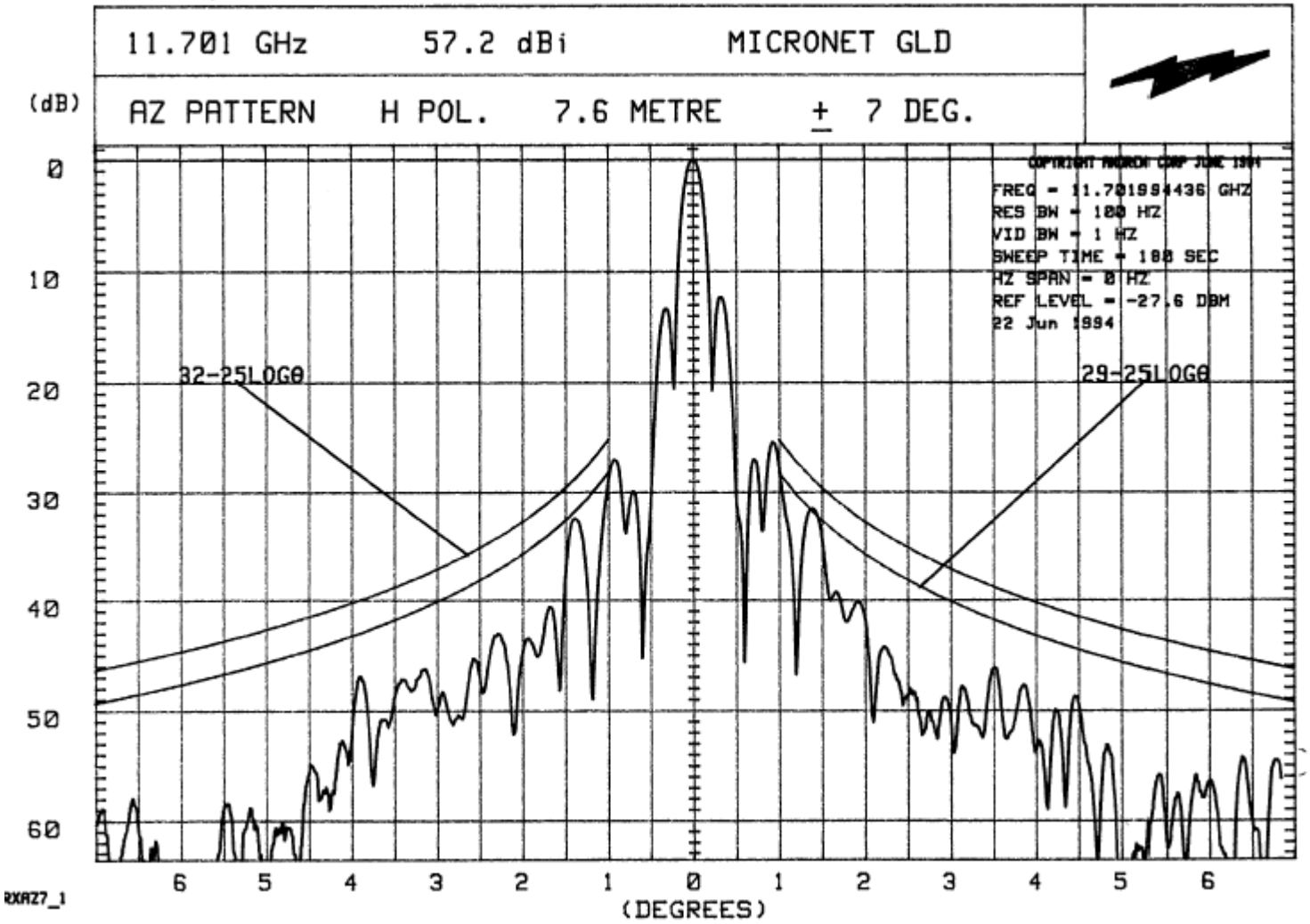
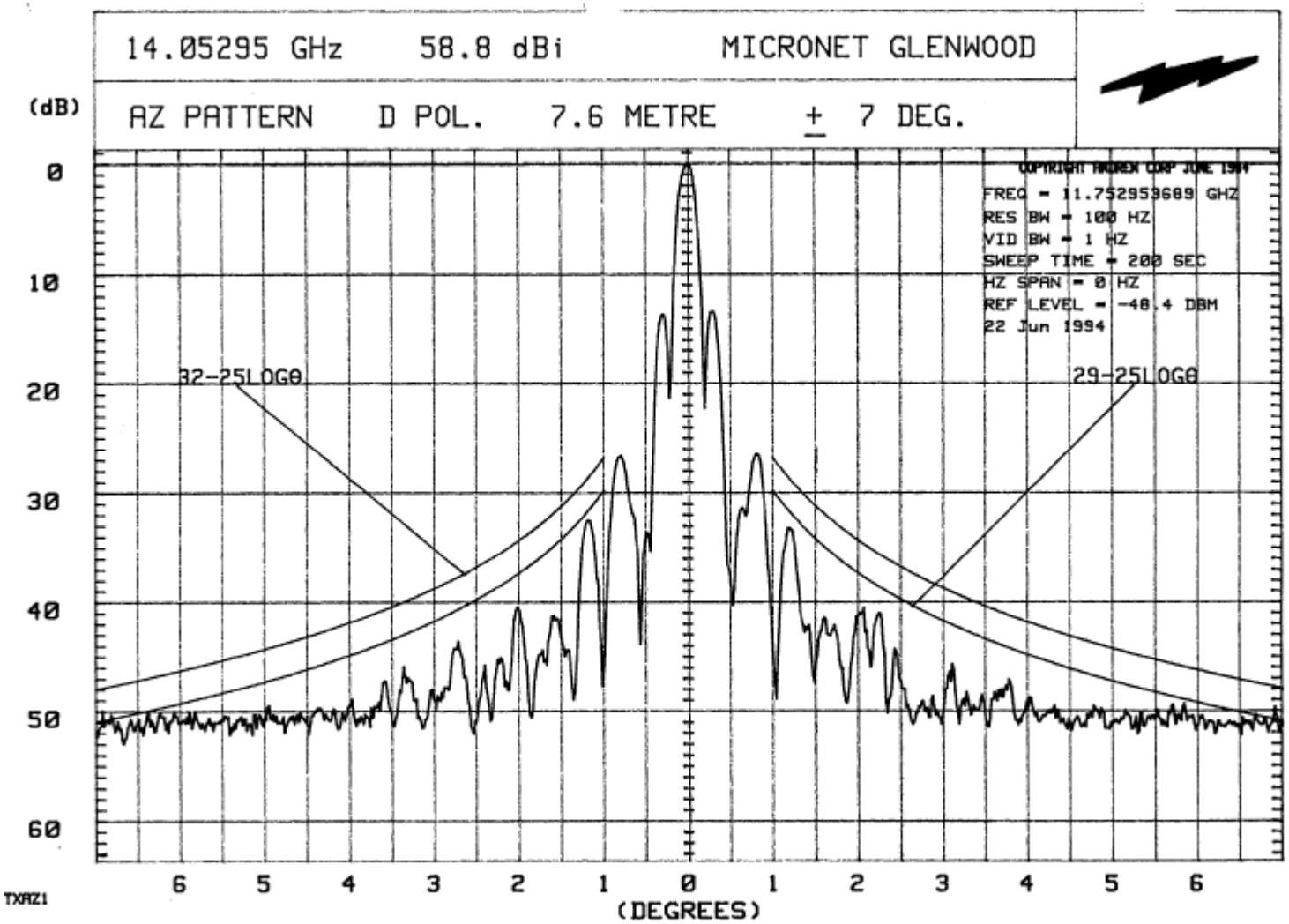
From North America:
1-800-861-1700
International:
+1-708-873-3614

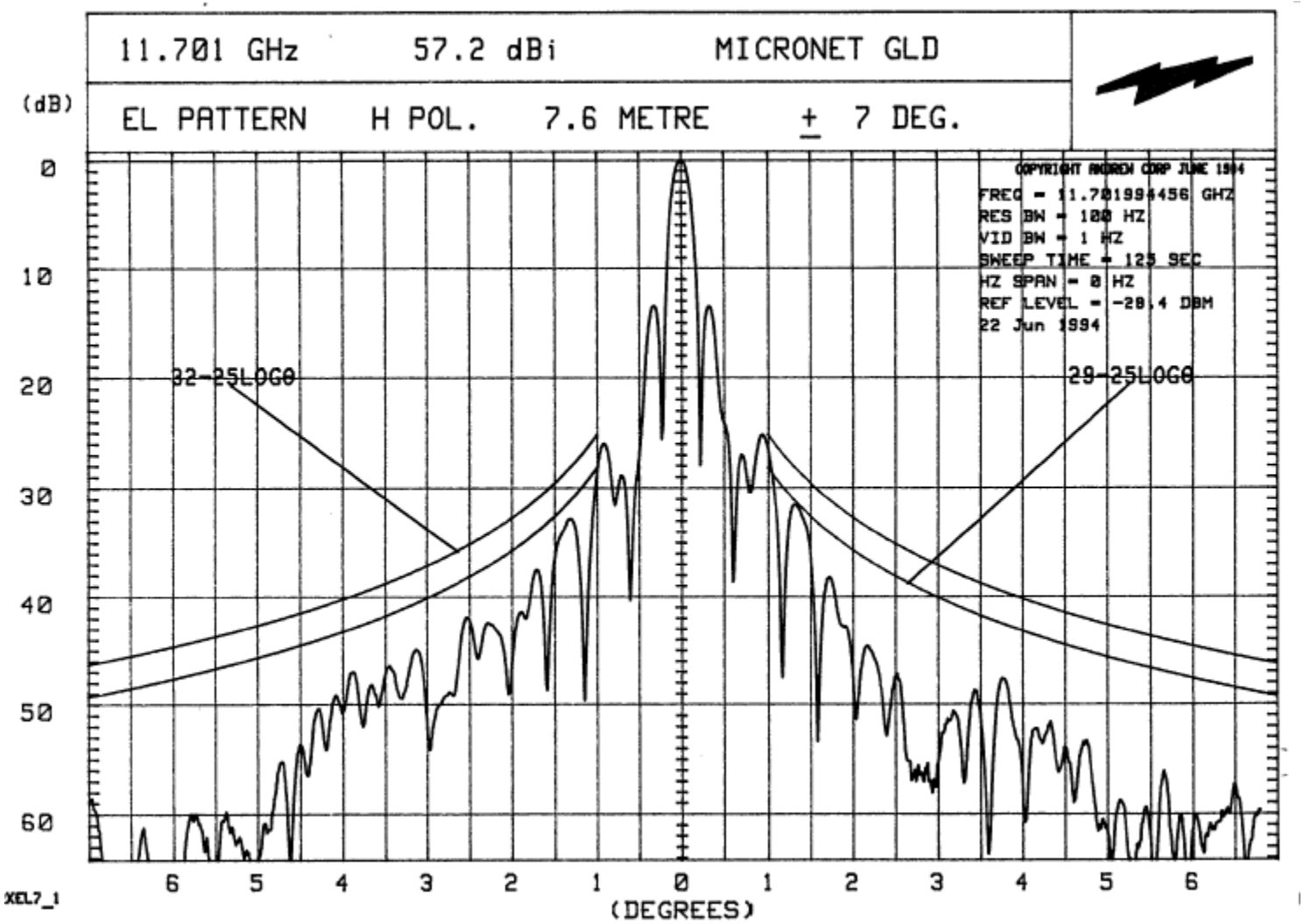
2 Patterns

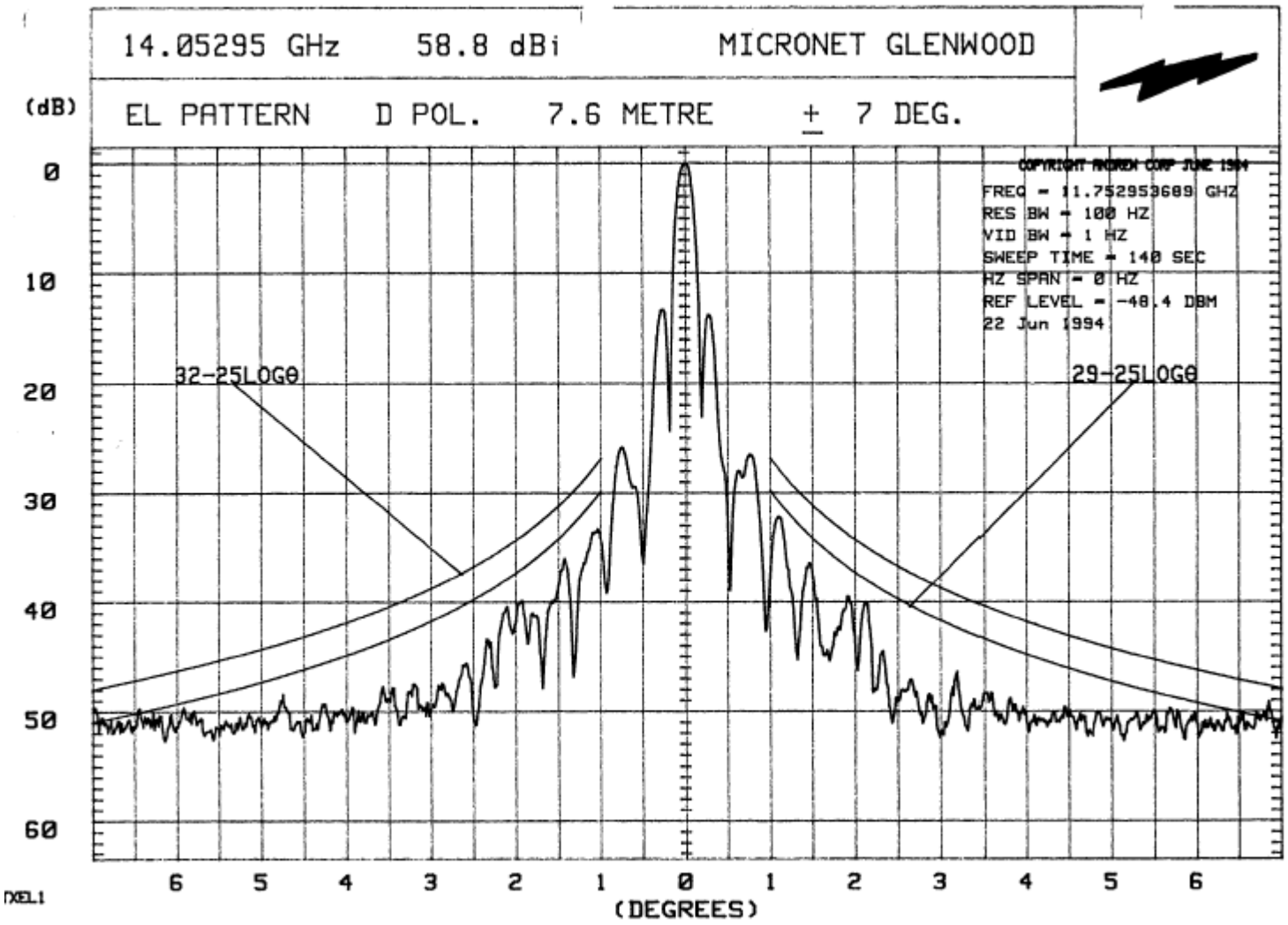
2.1 Azimuth Patterns




14.05295 GHz 58.8 dBi MICRONET GLENWOOD
AZ PATTERN D POL. 7.6 METRE ± 7 DEG.
(dB)
0
10
20
30
40
50
60
COPYRIGHT ANDREW CORP JUNE 1994
FREQ = 11.752953689 GHZ
RES BW = 100 HZ
VID BW = 1 HZ
SWEEP TIME = 200 SEC
HZ SPAN = 0 HZ
REF LEVEL = -48.4 DBM
22 Jun 1994
32-25LOG0
29-25LOG0
6 5 4 3 2 1 0 1 2 3 4 5 6
(DEGREES)
TXRZ1

2.2 Elevation Patterns



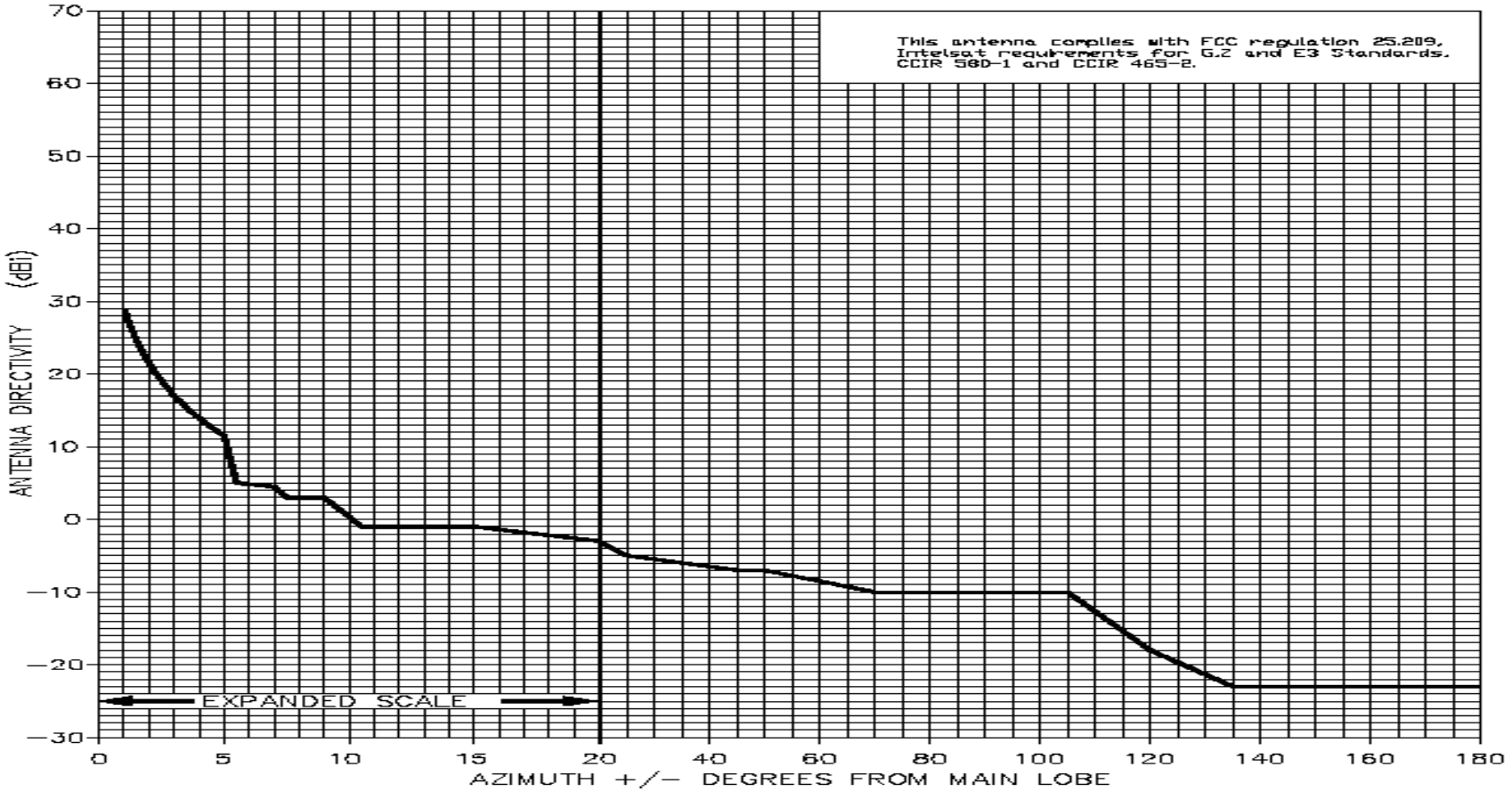

14.05295 GHz 58.8 dBi
MICRONET GLENWOOD
EL PATTERN D POL. 7.6 METRE ± 7 DEG.
(dB)
0
10
20
30
40
50
60
COPYRIGHT ANDREW CORP JUNE 1994
FREQ = 11.752953689 GHZ
RES BW = 100 HZ
VID BW = 1 HZ
SWEEP TIME = 140 SEC
HZ SPAN = 0 HZ
REF LEVEL = -48.4 DBM
22 Jun 1994
32-25LOG0
29-25LOG0
6 5 4 3 2 1 0 1 2 3 4 5 6
(DEGREES)

3 Pattern Envelopes

Pattern Envelope Linear Co—Polarized

Antenna Type Number: ES76, ES76HS, ES76XHS
Frequency Band: 10.7—12.75 GHz
Gain: 58.0 dBi at 11.95 GHz
Diameter: 7.6 Meter
3 dB Beamwidth .22 Degrees 15 dB Beamwidth .39 Degrees
ANDREW CORPORATION

ANDREW
PE 5863
Approved 23 Sept. 1992

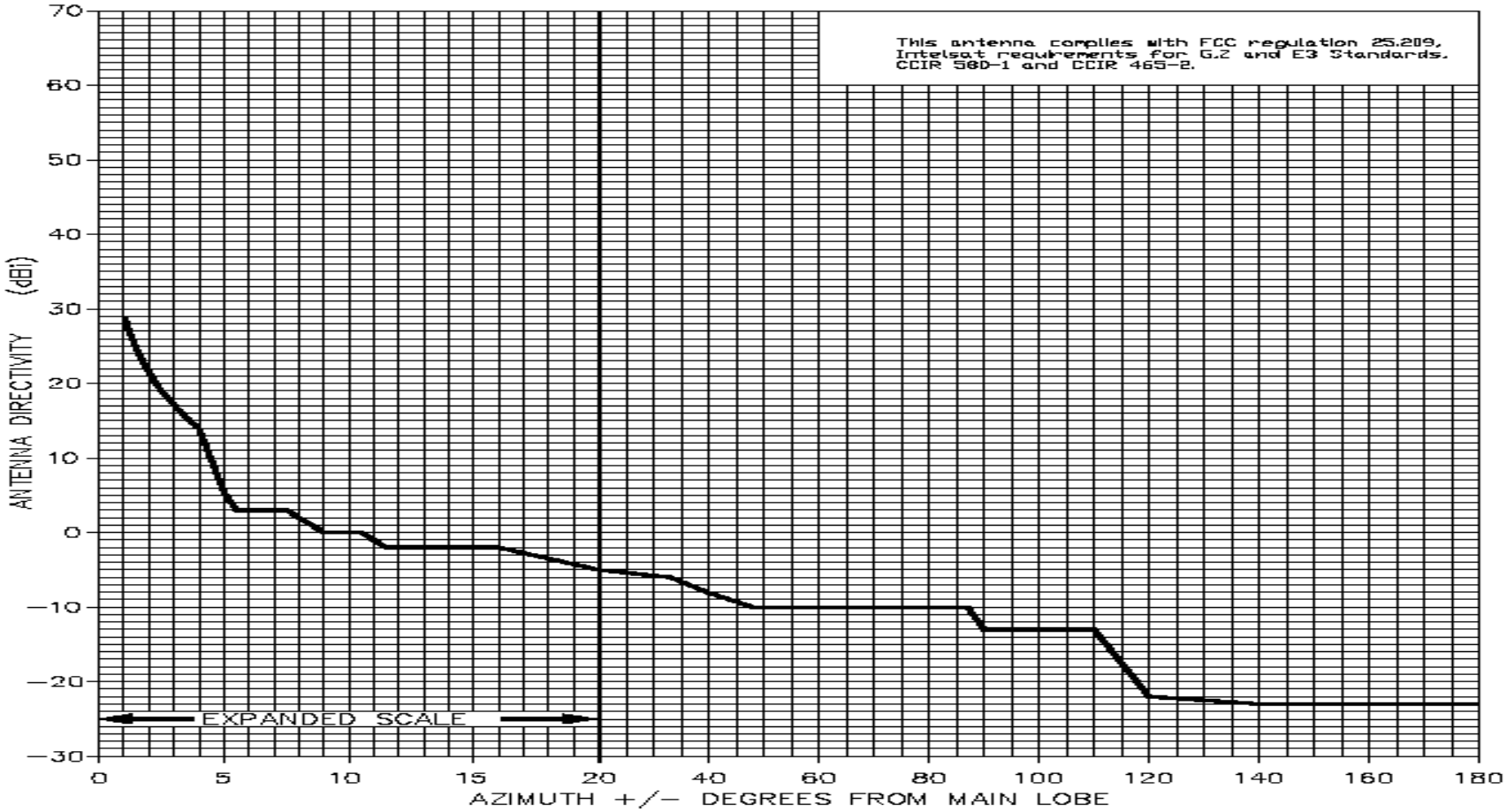


Pattern Envelope

Linear Co—Polarized

Antenna Type Number: ES76, ES76HS, ES76XHS
Frequency Band: 12.75—14.8 GHz
Gain: 59.4 dBi at 14.25 GHz
Diameter: 7.6 Meter
3 dB Beamwidth .18 Degrees 15 dB Beamwidth .31 Degrees
ANDREW CORPORATION

ANDREW
PE 5864
Dave Neuhauser
Approved 23 Sept. 1992



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6/6/03

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