

EXHIBIT 4

**Antenna Radiation Patterns**

The Schlumberger Oilfields UK Plc Antenna (Model No. C24CP) (the "Antenna"), proposed by Schlumberger Technology Corporation ("Schlumberger") in this application, complies with the envelope outlined in Section 25.209 of the FCC's Regulations in the region of  $\pm (1.5^\circ \text{ to } 6.0^\circ)$ . Outside the main beam, the Antenna meets the requirements of Section 25.209 of the FCC's Regulations. The radiation patterns for this Antenna are attached to this application as Exhibit 6.

Pursuant to Section 25.134(a) of the FCC's Regulations, the maximum digital uplink transmitter power density at the antenna flange permitted is -14 dBW/4KHz. Schlumberger's proposed system is designed to operate with a maximum EIRP density at the antenna flange not exceeding - 19 dBW/4KHz. Consequently, the system will operate with a power density below the maximum allowable power density by a margin of 5 dB. This lower power should result in acceptable Antenna performance without adjacent satellite interference.

Furthermore, Schlumberger, in Exhibit 6, has submitted a series of EIRP density charts performed at 14.5 GHz as required by Sections 25.221 (b) of the FCC's Regulations. These charts show compliance with all the spectral density envelopes specified in Sections 25.221 (a)(1-4) of the FCC's Regulations.

Schlumberger agrees to accept adjacent satellite interference in the 6 GHz receive band as a result of its Antenna performance in the  $\pm (1.5^\circ \text{ to } 6.0^\circ)$  region. It understands that adjacent satellite interference protection applies only to the extent set forth in Section 25.209 of the FCC's Regulations.

# **GENERAL DYNAMICS**

## C4 Systems

### Antenna Test Report

Test No. 1629

Prodelin Series 1123

1.2m Ku-Band RX / TX Antenna System

General Dynamics SATCOM Technologies  
East Maiden Test Facility  
4488 Lawing Chapel Church Road  
Maiden, North Carolina 28650  
828-428-1485 / 828-428-1488 fax

**GENERAL DYNAMICS**  
C4 Systems

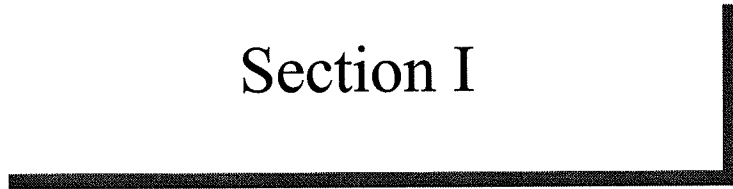
General Dynamics SATCOM Technologies  
East Maiden Test Facility  
4488 Lawing Chapel Church Road  
Maiden, North Carolina 28650

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# Section I



## Gain Analysis

Prodelin Series 1123 1.2M

Ku-Band Rx/Tx Antenna System

Test No. 1629

<b>Frequency In GHz</b>	<b>Polarization</b>	<b>Gain In dBi</b>
10.95	Vertical	41.0
11.95	Vertical	41.7
12.75	Vertical	42.4
14.00	Vertical	43.0
14.25	Vertical	43.2
14.50	Vertical	43.5

<b>Frequency In GHz</b>	<b>Polarization</b>	<b>Gain In dBi</b>
10.95	Horizontal	41.0
11.95	Horizontal	41.7
12.75	Horizontal	42.4
14.00	Horizontal	43.0
14.25	Horizontal	43.2
14.50	Horizontal	43.5



## Section II



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

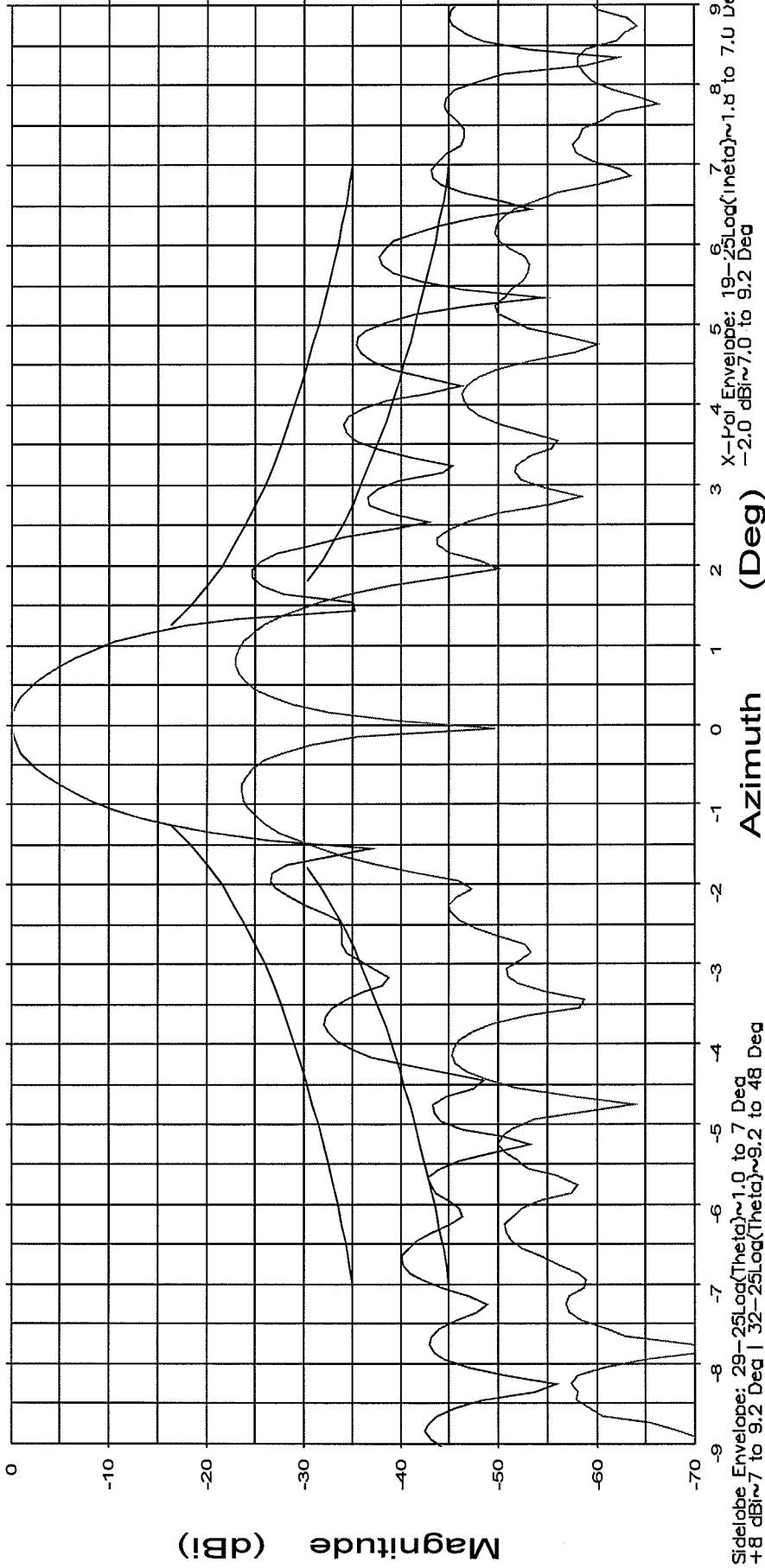
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
 +8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
 -10 dBi~48 to 180 Deg

Overlays

1629-14.dat_ant_under_test	1629-14.dat	table	channel	units
1629-20.dat_ant_under_test	1629-20.dat	SGH-110	ch1	dBi
		SGH-110	ch1	dBi



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

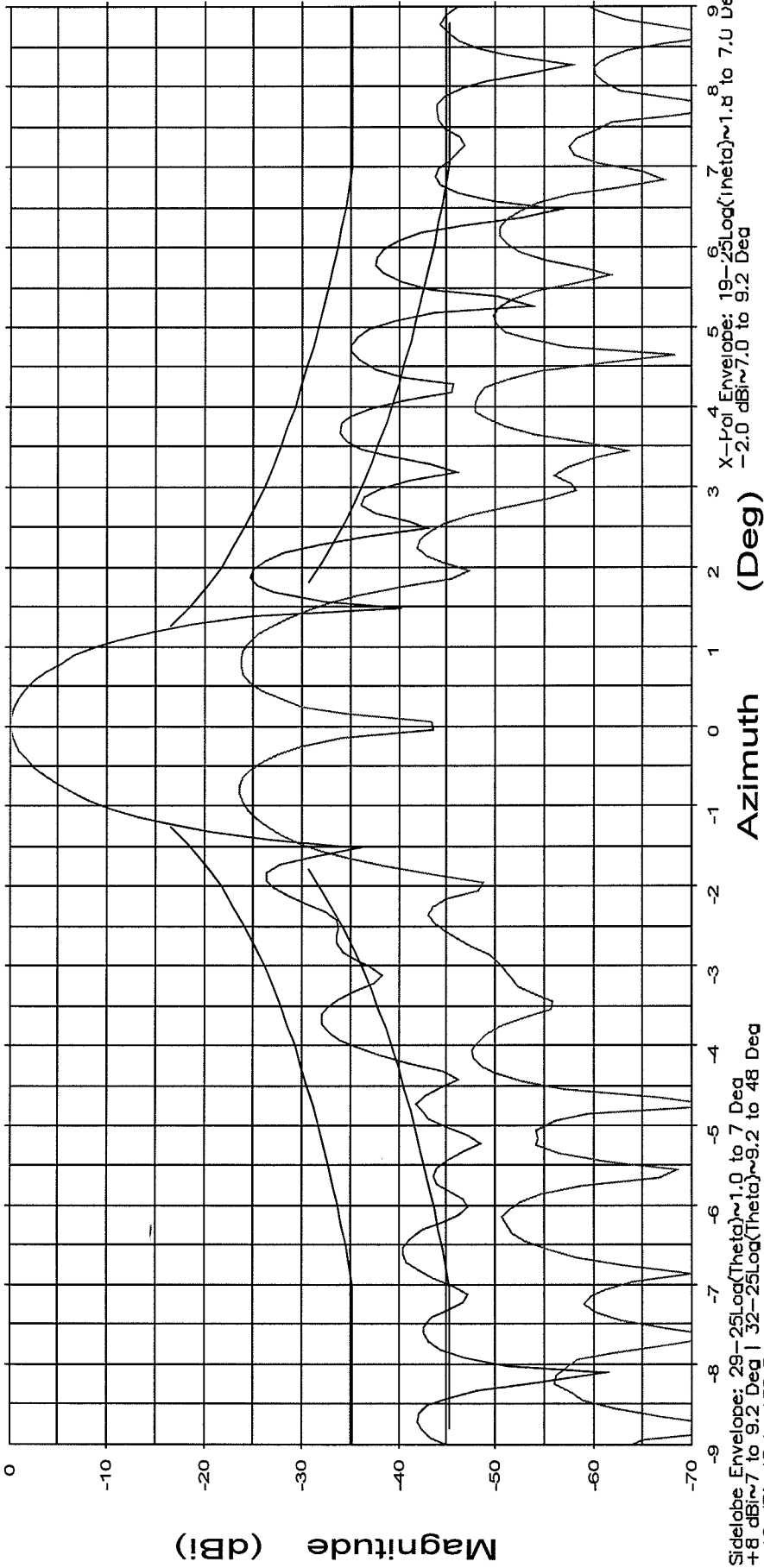
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(ineta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays

1629-14.dat-ant\_under\_test  
1629-20.dat-ant\_under\_test

Cal. file  
1629-14.dat  
1629-20.dat

table  
SGH-110  
SGH-110

channel  
ch1  
ch1

units  
dBi  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

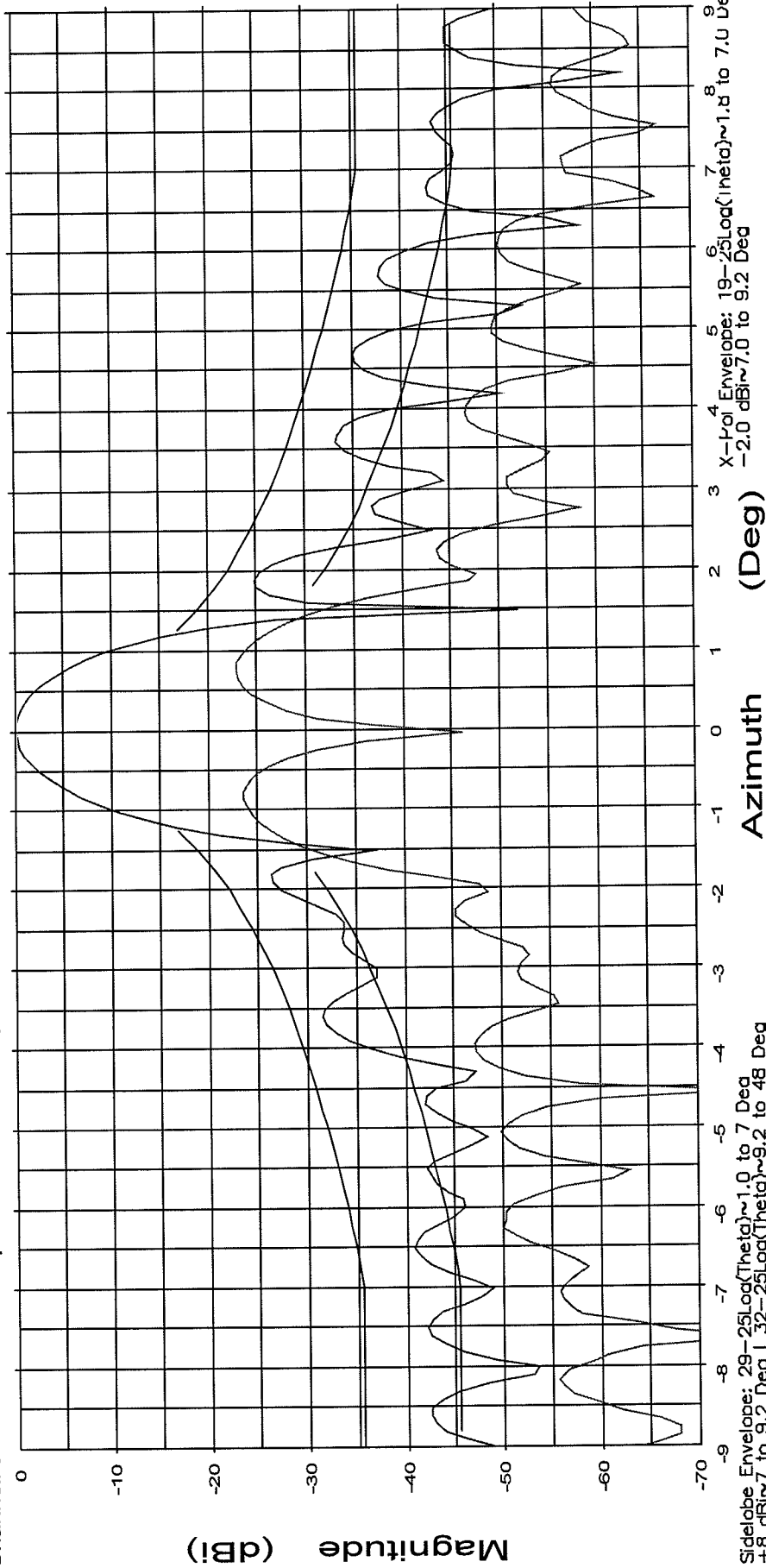
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidlobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays

File	Cal. file	table	channel	units
1629-14.dat-ant_under_test	1629-14.dat	SGH-110	ch1	dBi
1629-20.dat-ant_under_test	1629-20.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

Operator: Keny Poovey

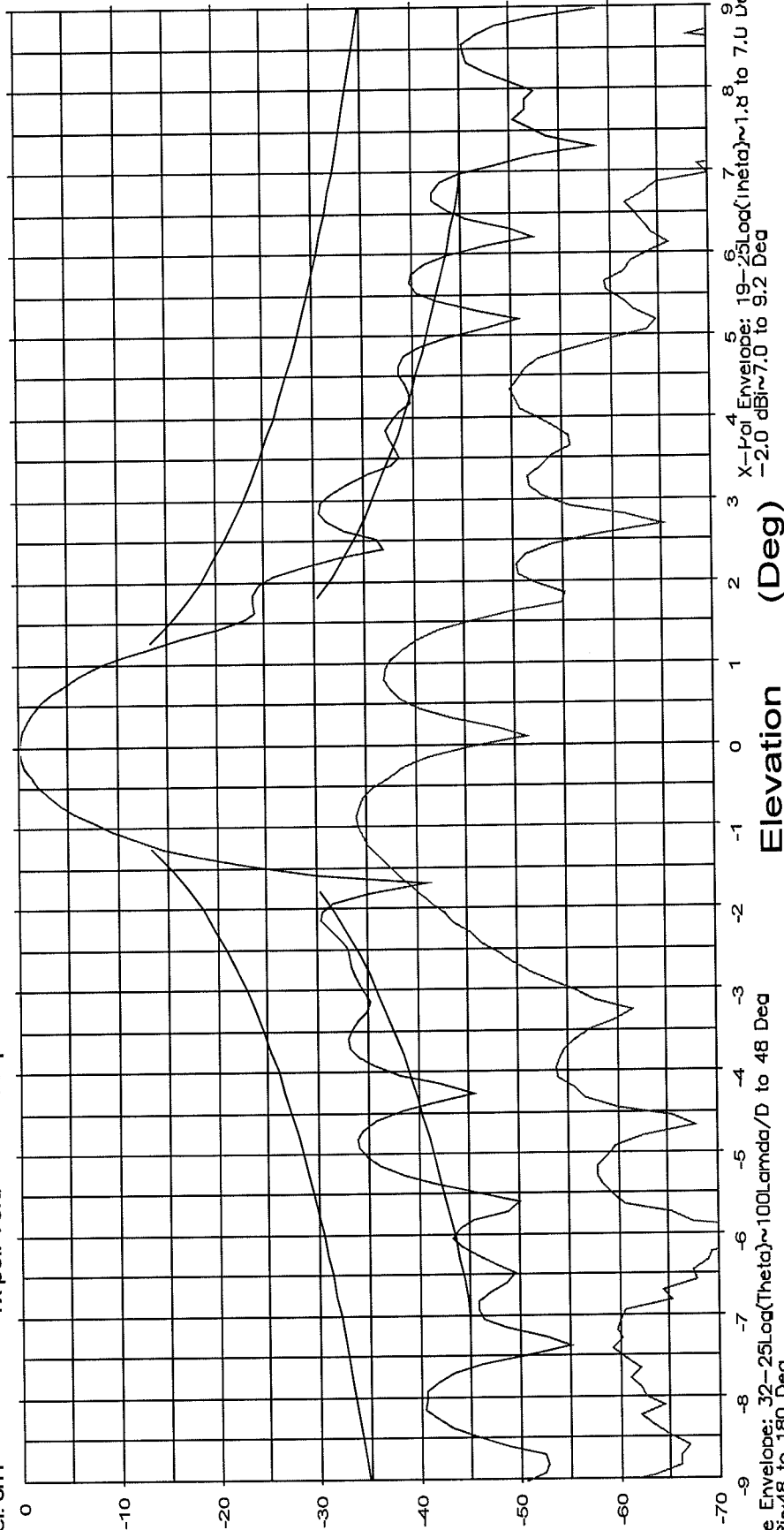
Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.

Magnitude (dBi)



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-19.dat-ant\_under\_test  
1629-21.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

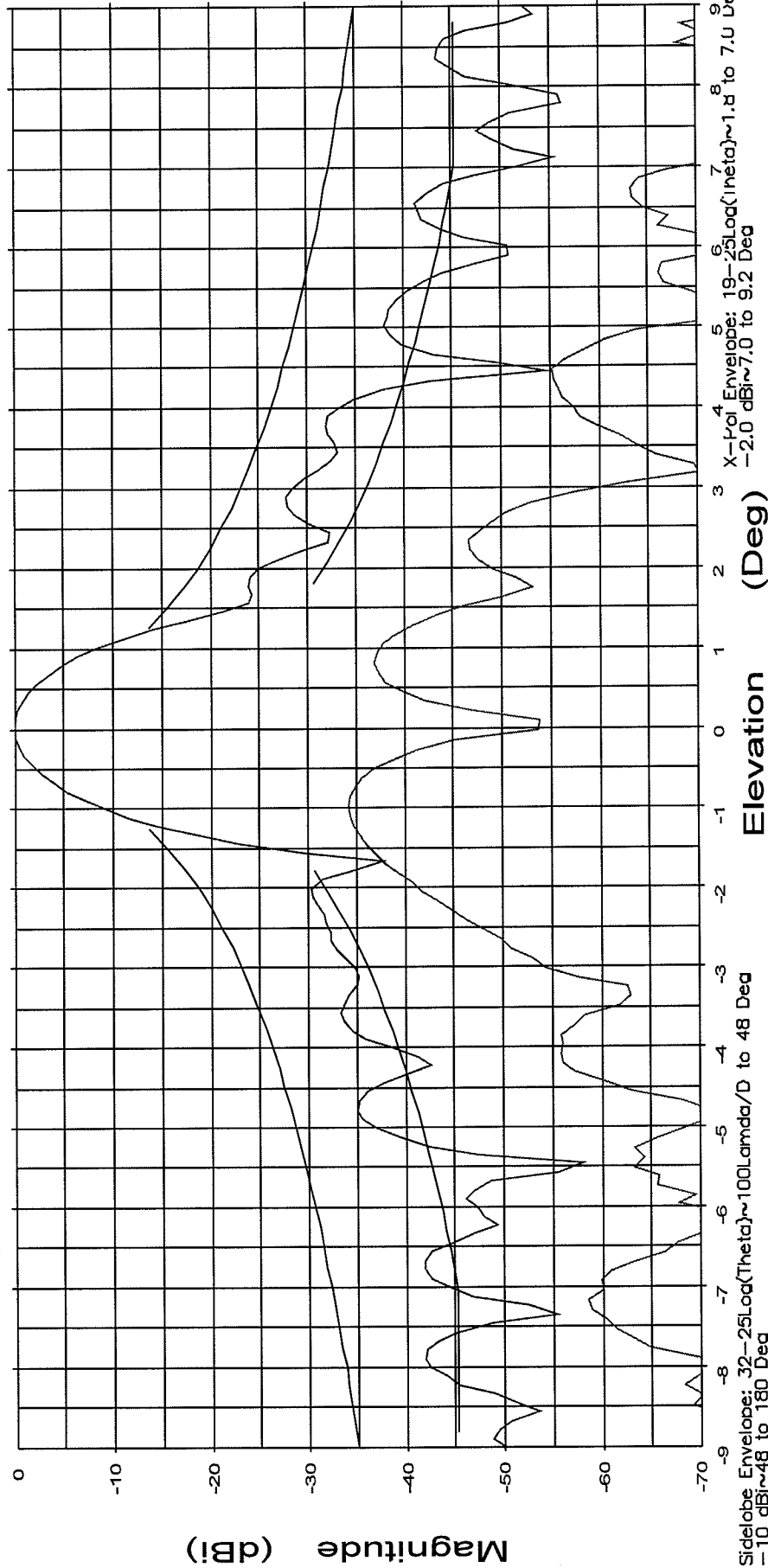
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 32-25Log(Theta)~100Lambda/D to 48 Deg  
-10 dBi~48 to 180 Deg

X-Proj Envelope: 19-25Log(ineta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-19.dat~ant\_under\_test  
1629-21.dat~ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

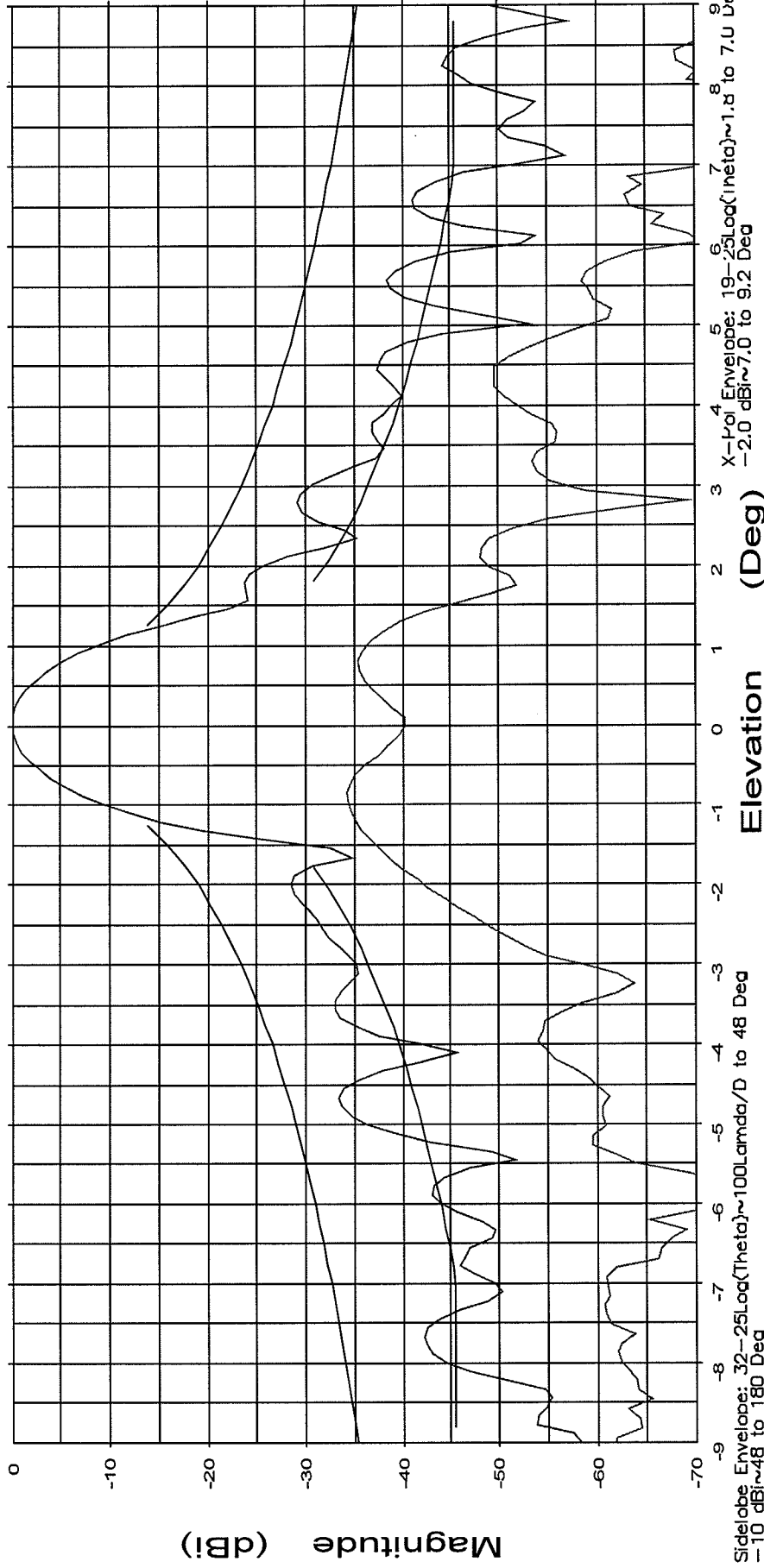
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays

1629-19.dat-ant_under_test	1629-19.dat	SGH-110	ch1	channel	units
1629-21.dat-ant_under_test	1629-21.dat	SGH-110	ch1	channel	dBi

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

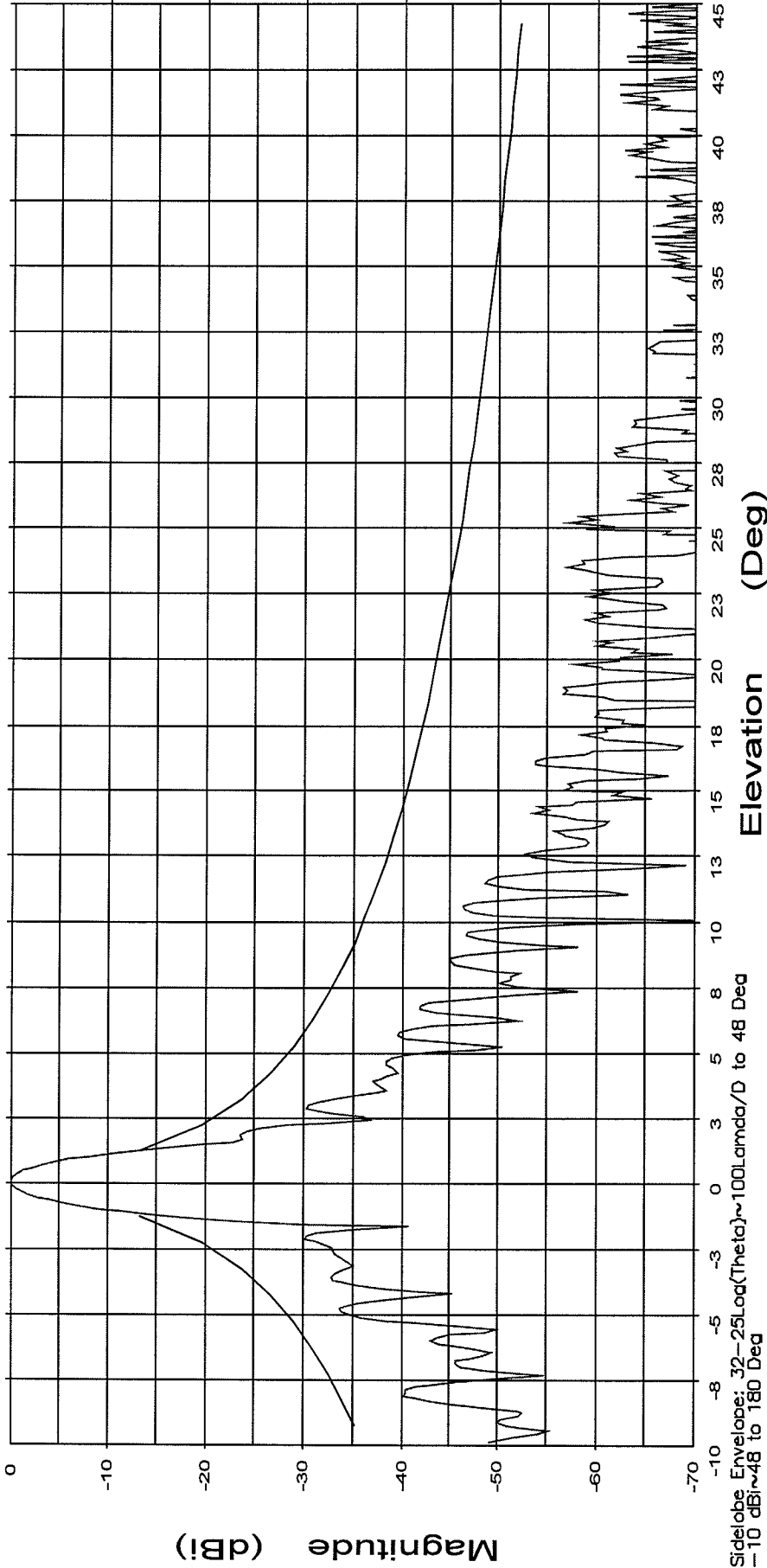
Operator: Kery Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 32--25Log(Theta)~100Lamda/D to 48 Dec  
-10 dBi~48 to 180 Dec

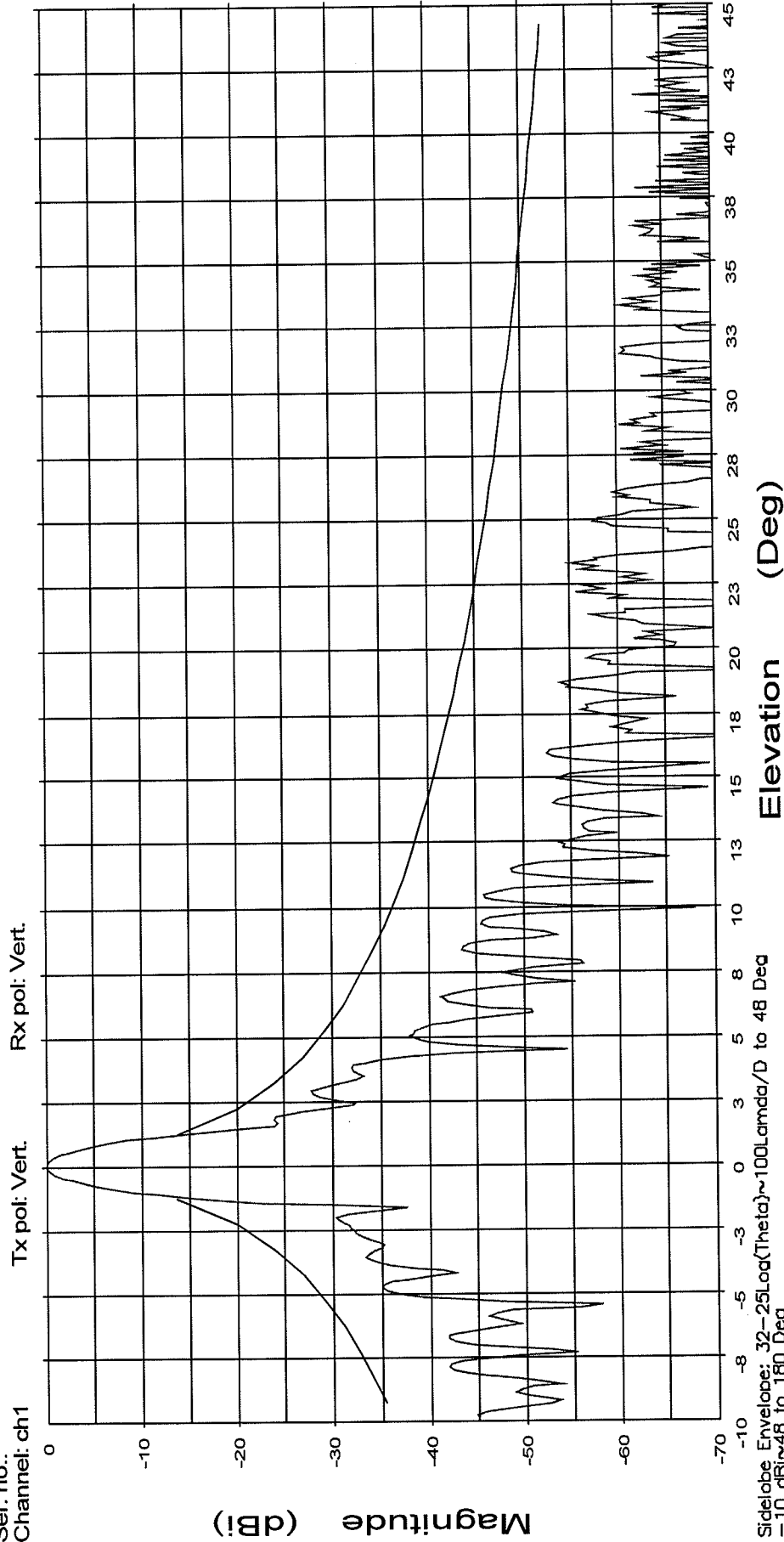
Overlays  
1629-19.dat-ant\_under\_test  
Cal. file 1629-19.dat  
table SGH-110  
channel ch1  
units dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1



Overlays  
1629-19.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi

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4488 Lawing Chapel Church Road  
Maiden, North Carolina 28650

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

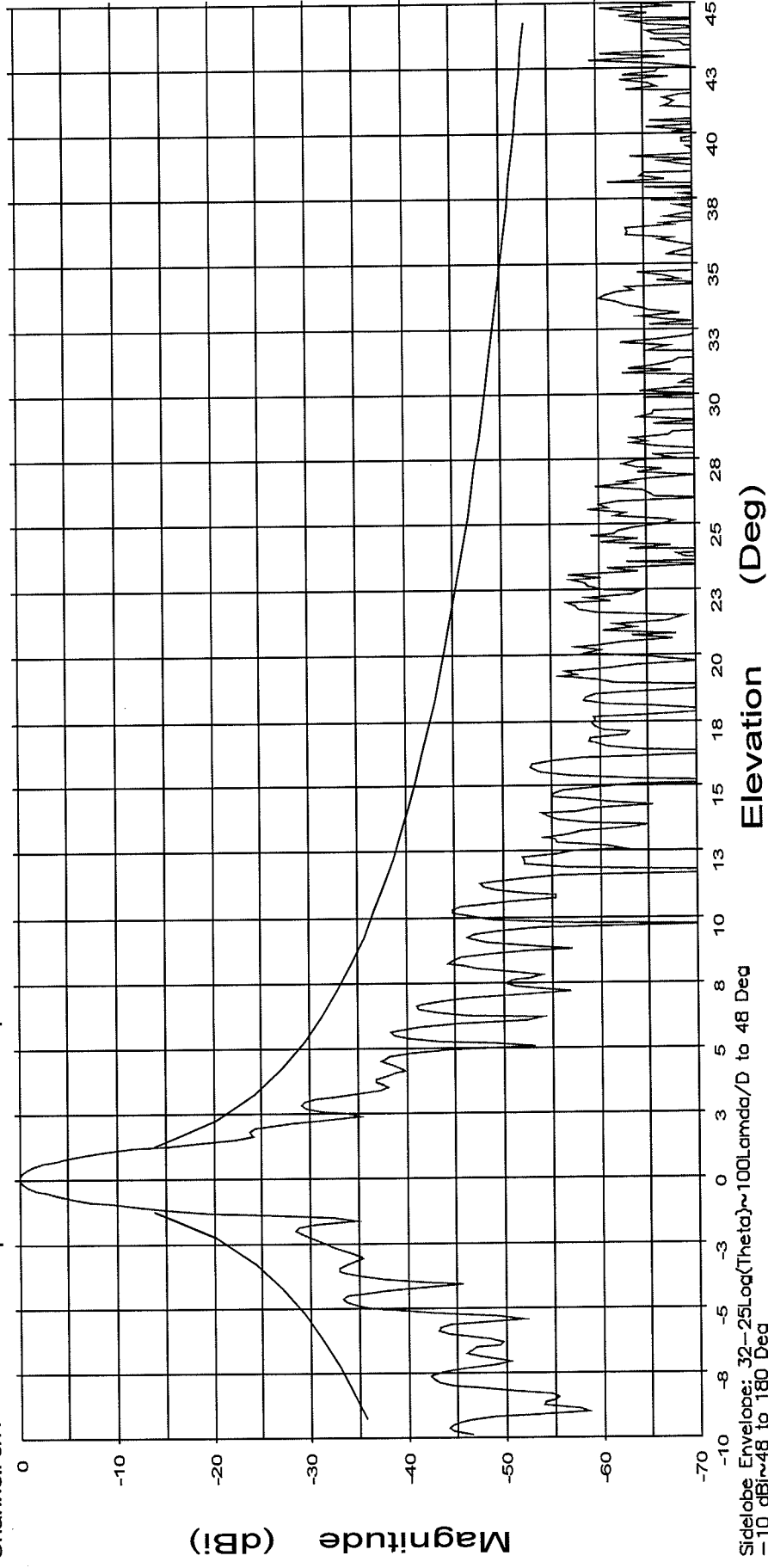
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays  
1629-19.dat-ant\_under\_test  
Cal. file 1629-19.dat  
table SGH-110 ch1  
channel ch1  
units dBi



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

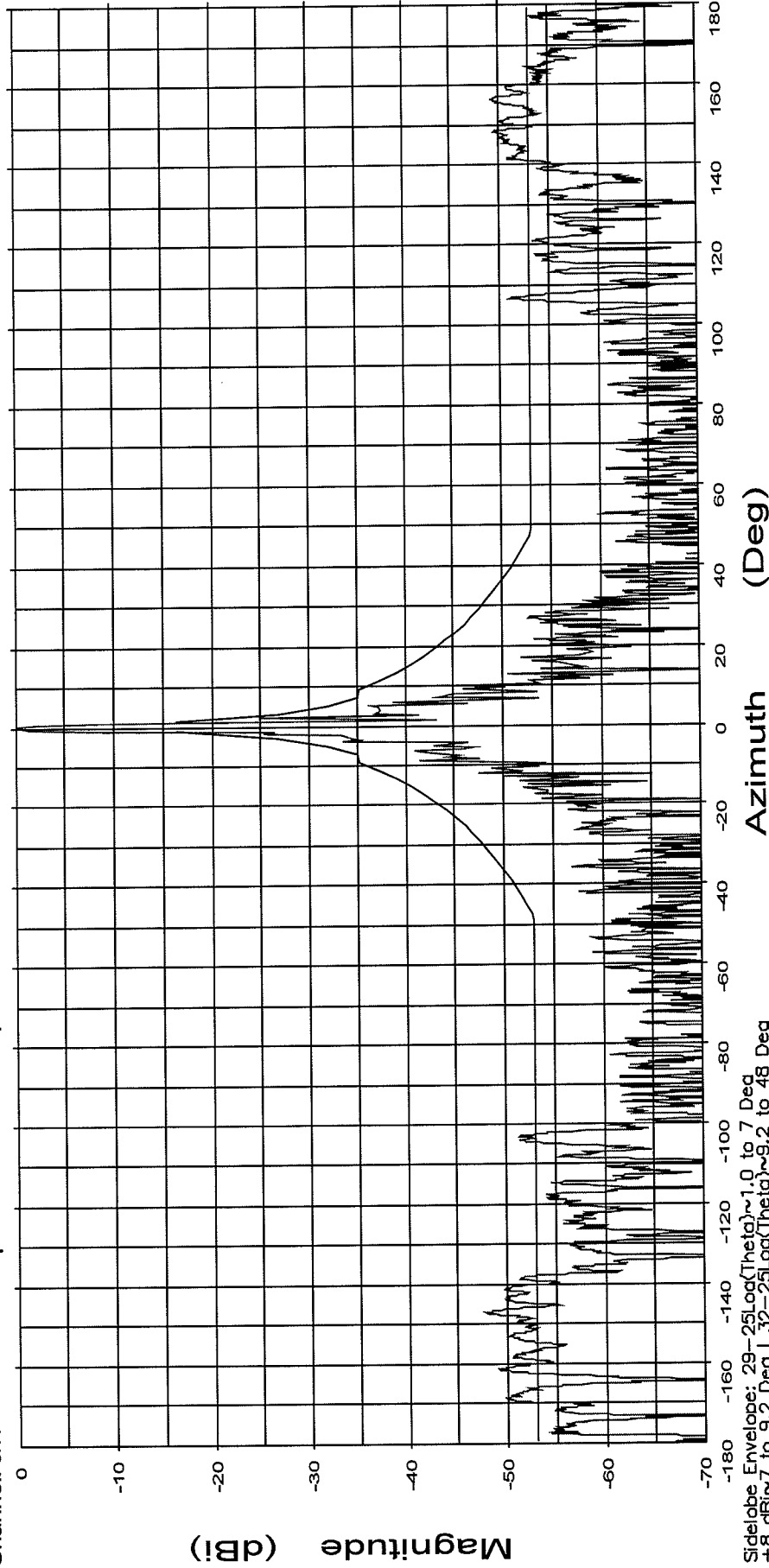
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-14.dat-ant\_under\_test

Cal. file  
1629-08.dat

table  
SGH-110

channel  
ch1

units  
dBi

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Maiden, North Carolina 28650

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

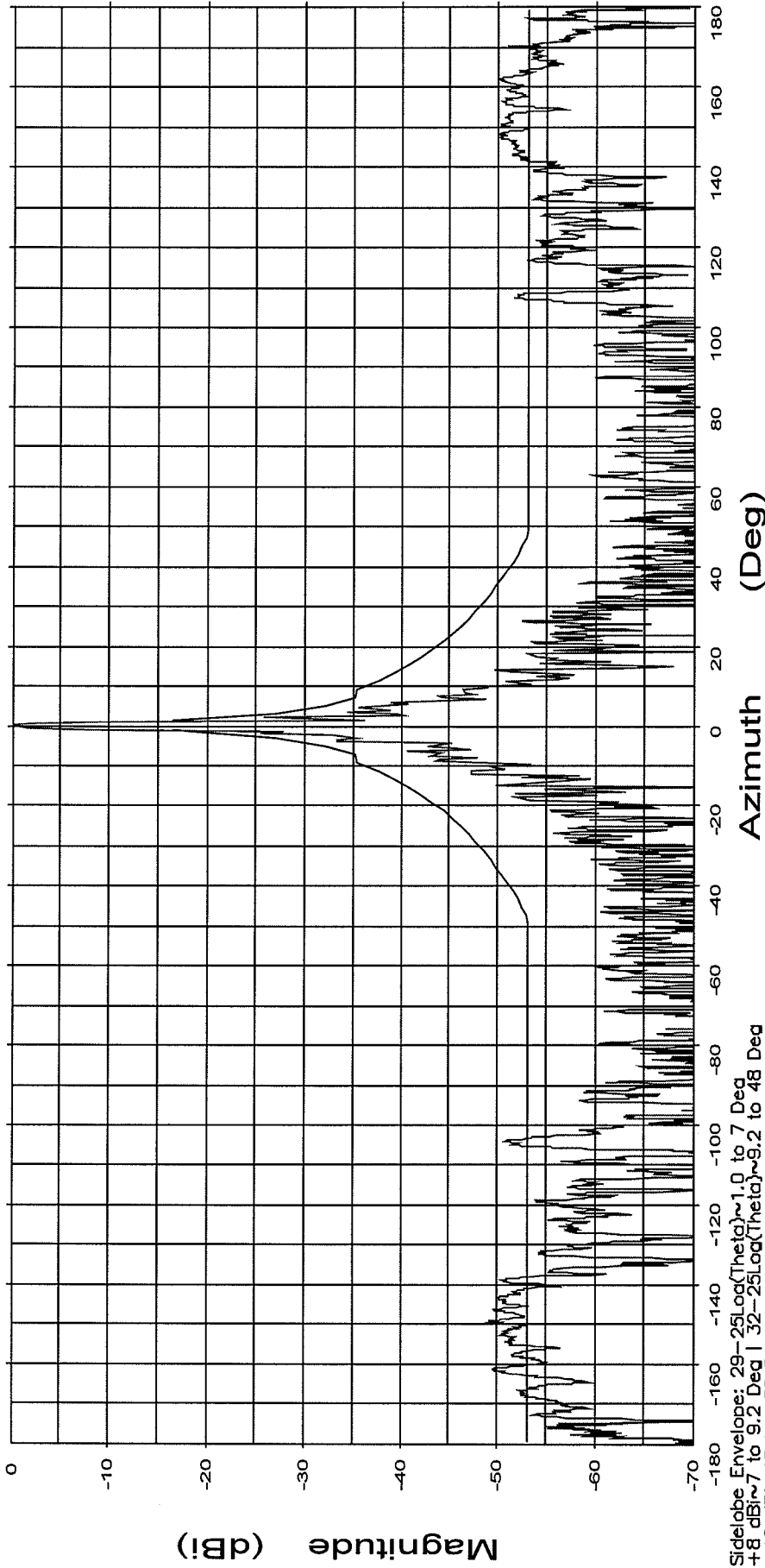
Operator: Kery Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-14.dat-ant\_under\_test —

table	channel	units
SGH-110	ch1	dBi

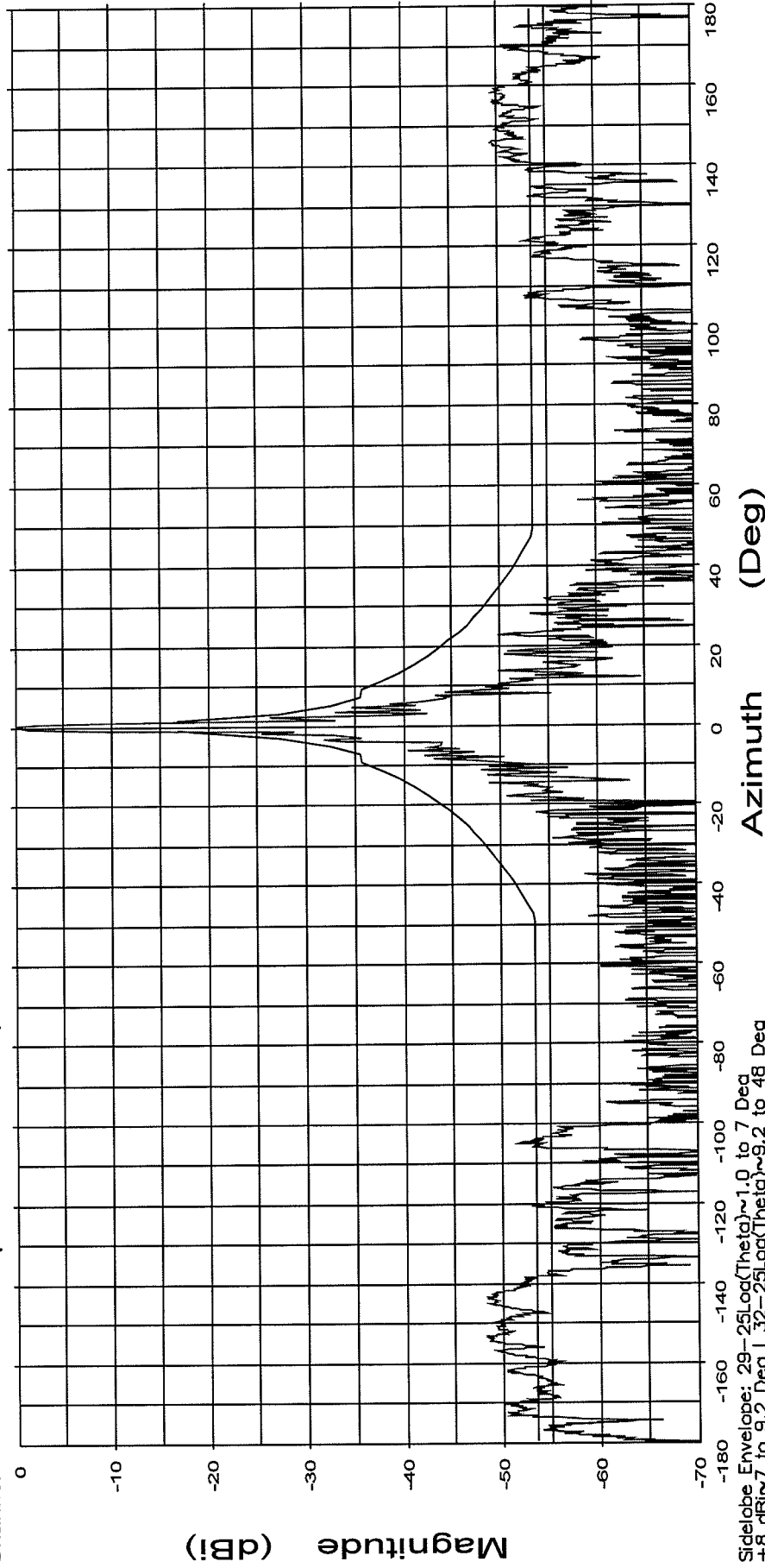
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Vert.      Rx pol: Vert.



Sidlobe Envelope: 29--25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32--25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-14.dat-ant\_under\_test

Cal. file  
1629-08.dat

table  
SGH-110

channel  
ch1

units  
dBi

### Section III



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

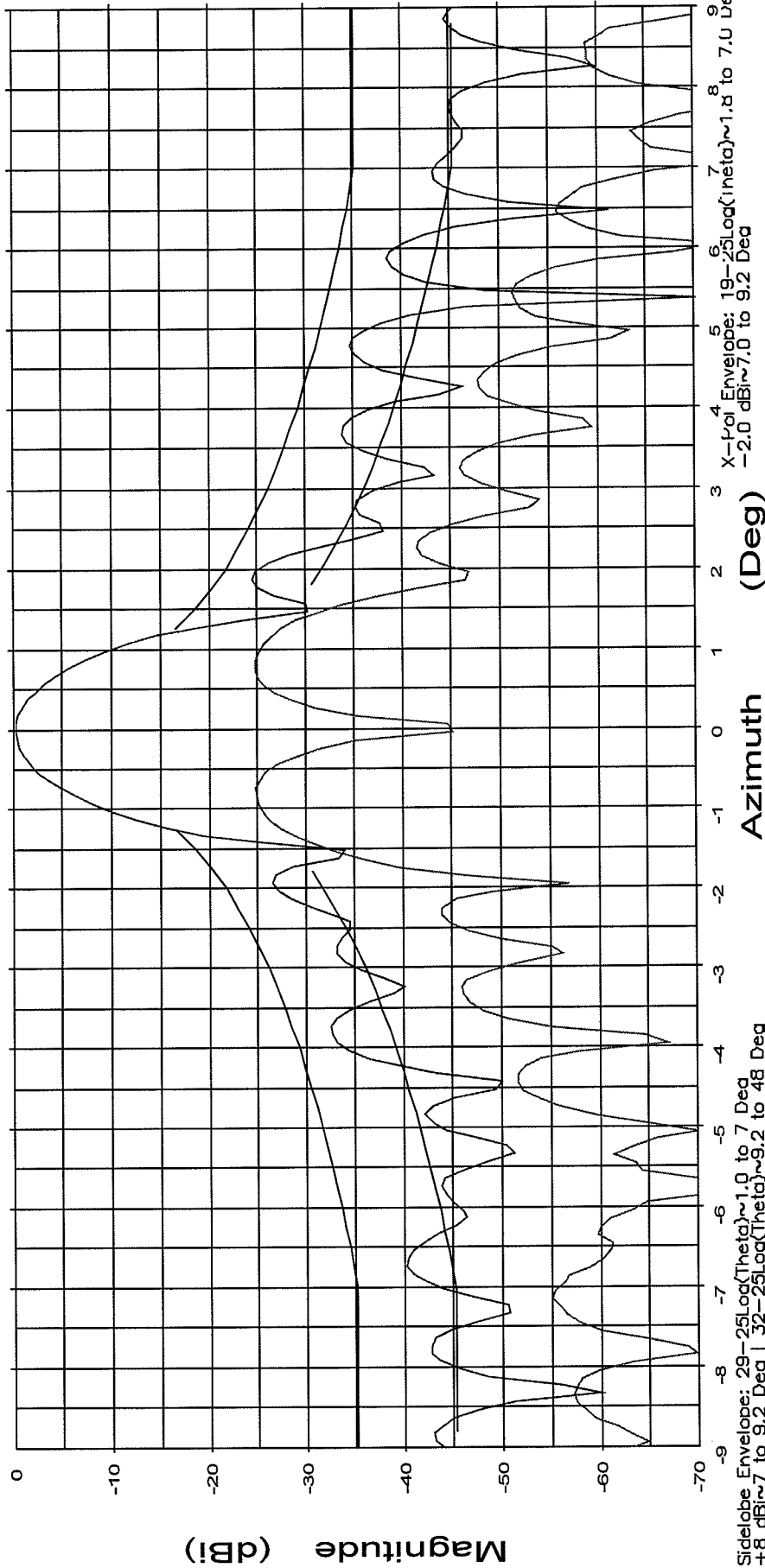
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays

1629-29.dat-ant\_under\_test  
1629-32.dat-ant\_under\_test

Cal. file  
1629-29.dat  
1629-32.dat

table  
SGH-110  
SGH-110

channel  
ch1  
ch1

units  
dBi  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

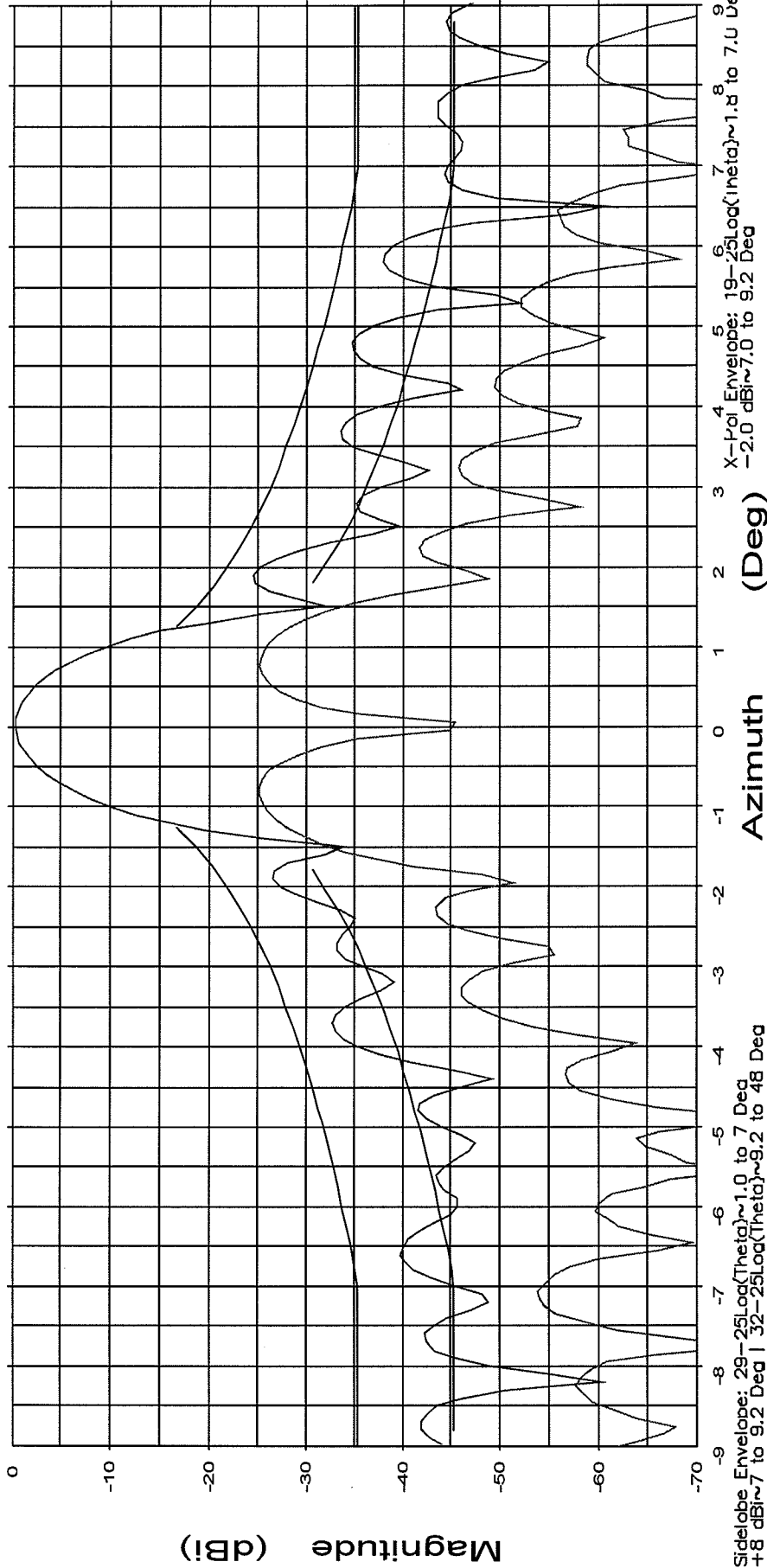
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-29.dat-ant\_under\_test  
1629-32.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

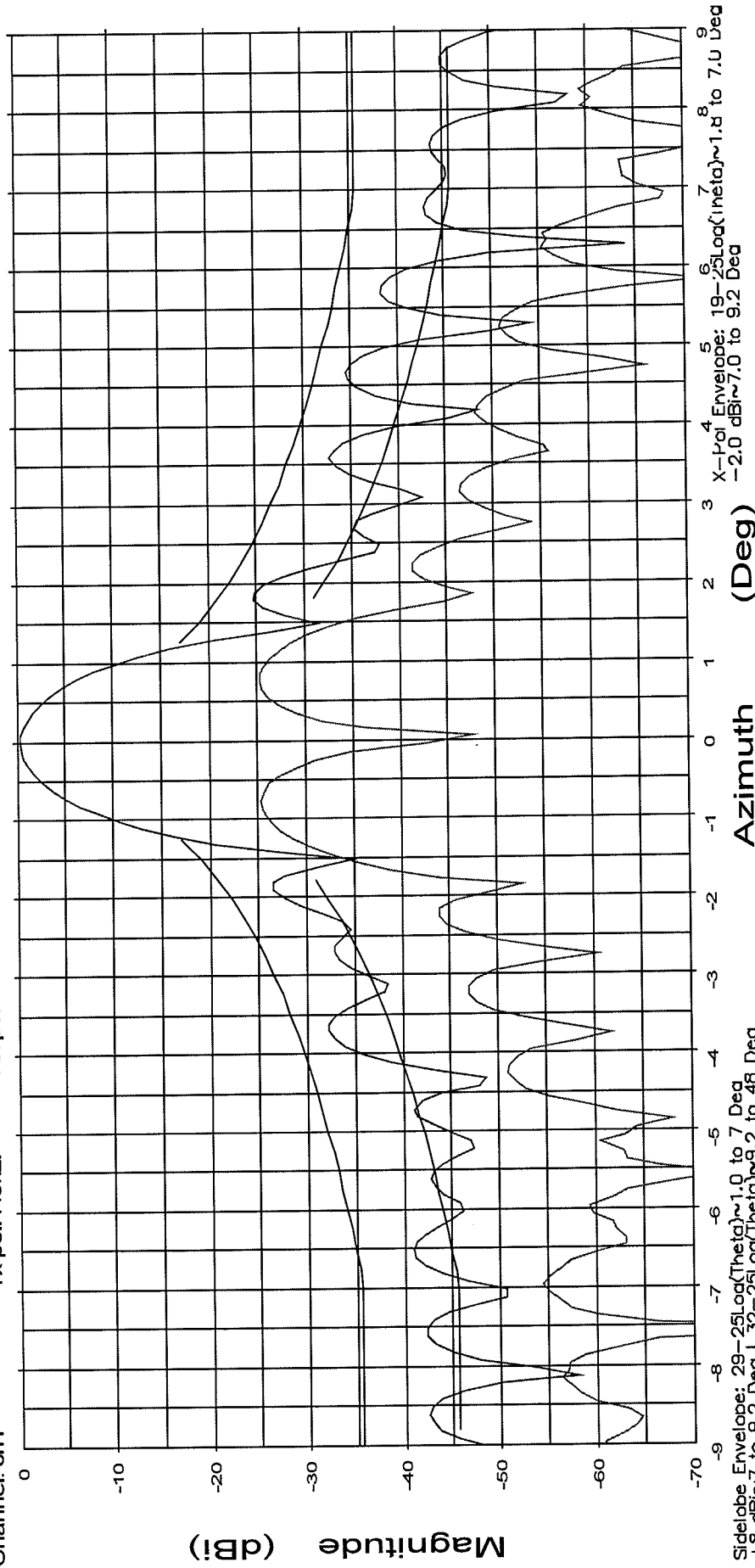
Frequency : 14.500 GHz

Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidlobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test  
1629-32.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

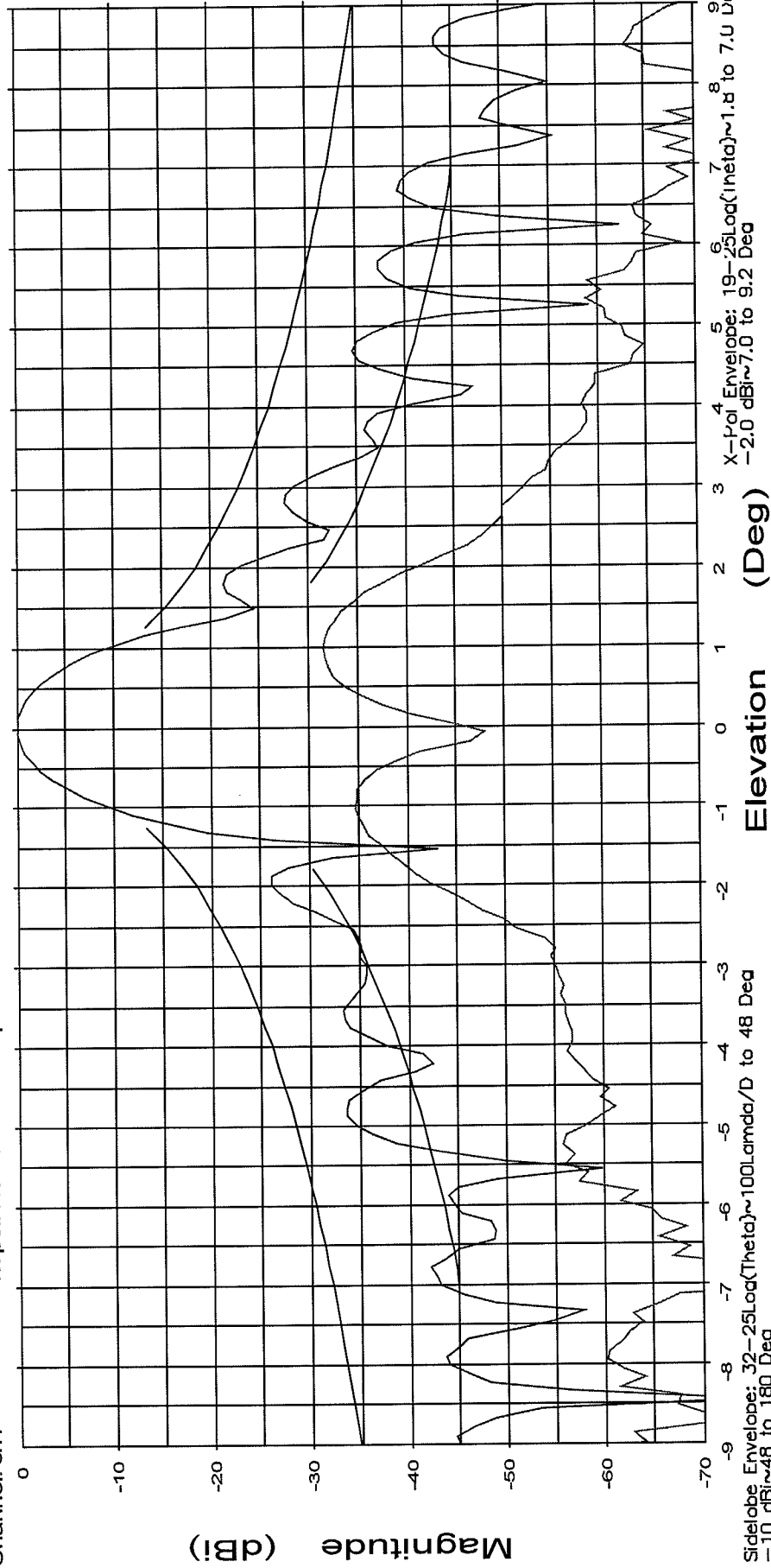
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sideloobe Envelope: 32-25Log(Theta)~100.Lambda/D to 48 Deg  
 -10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(ineta)~1.8 to 7.0 Deg  
 -2.0 dBi~7.0 to 9.2 Deg

Overlays	Cal. file	table	channel	units
1629-28.dat-ant_under_test	1629-28.dat	SGH-110	ch1	dBi
1629-35.dat-ant_under_test	1629-35.dat	SGH-110	ch1	dBi



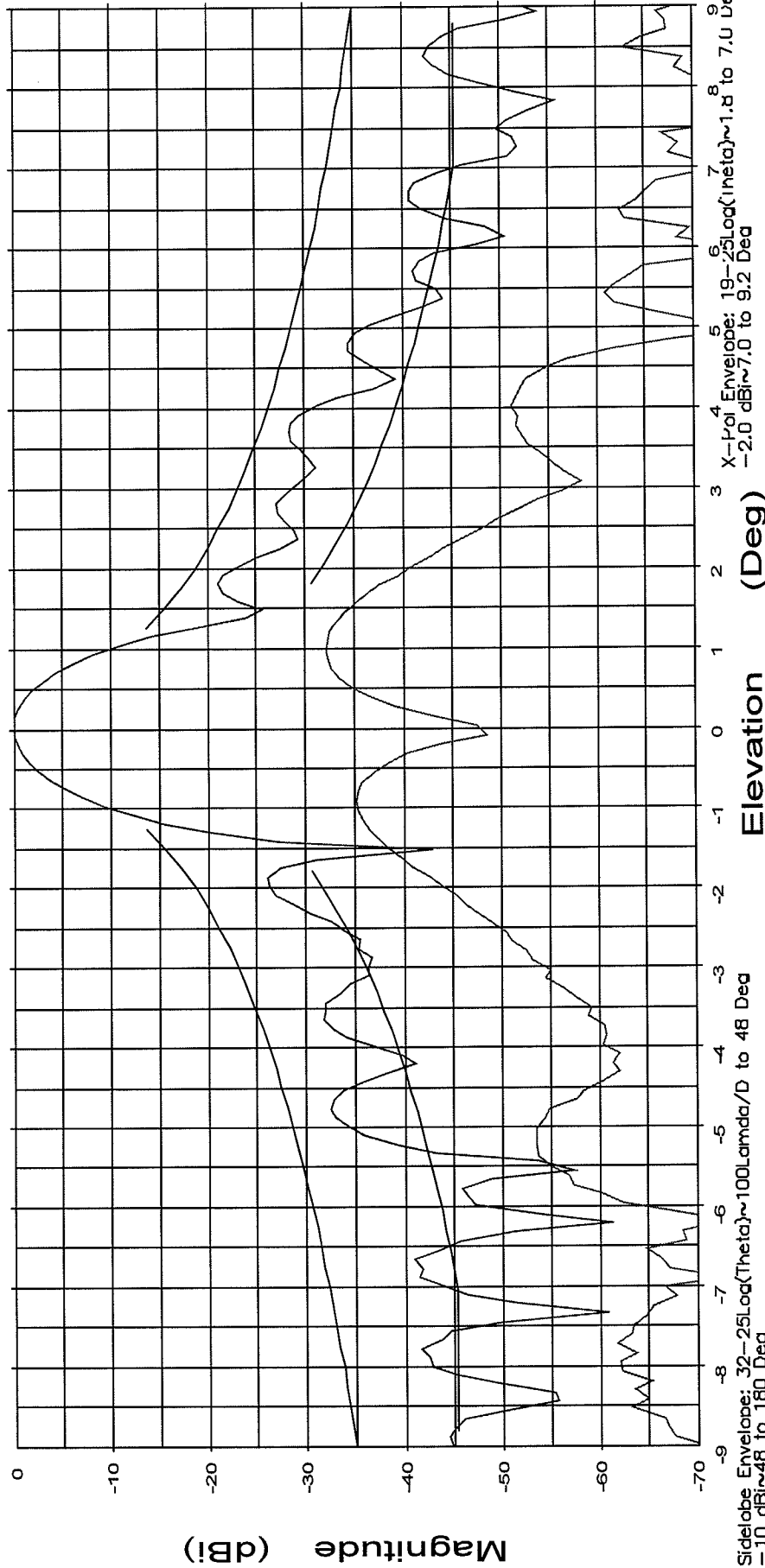
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz.      Rx pol: Horiz.



Overlays	Cal. file	table	channel	units
1629-28.dat-ant_under_test	1629-28.dat	SGH-110	ch1	dBi
1629-35.dat-ant_under_test	1629-35.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

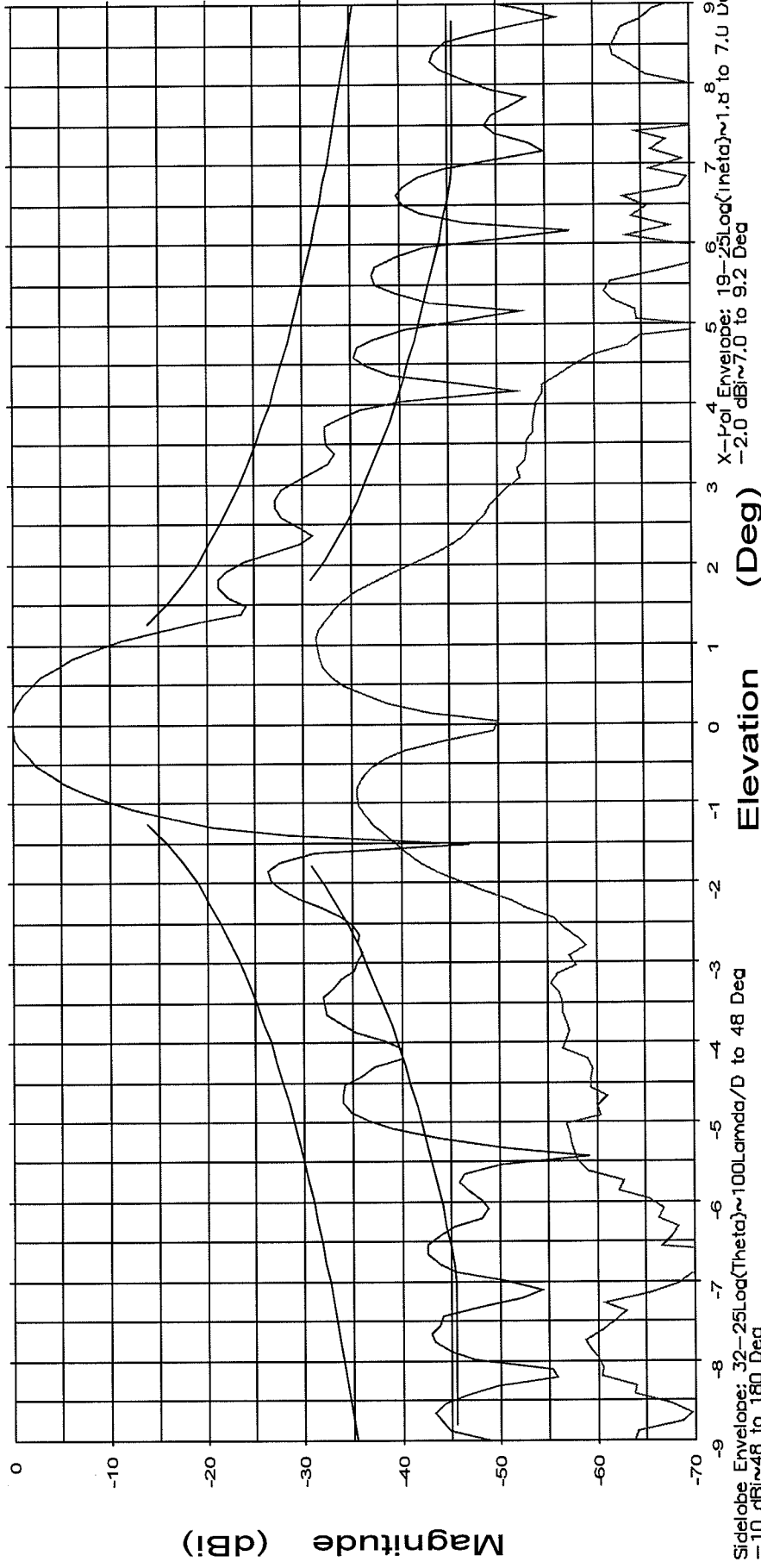
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 32-25Log(Theta)~100Lambda/D to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(in eta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays	Cal. file	table	channel	units
1629-28.dat-ant_under_test	1629-28.dat	SGH-110	ch1	dBi
1629-35.dat-ant_under_test	1629-35.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

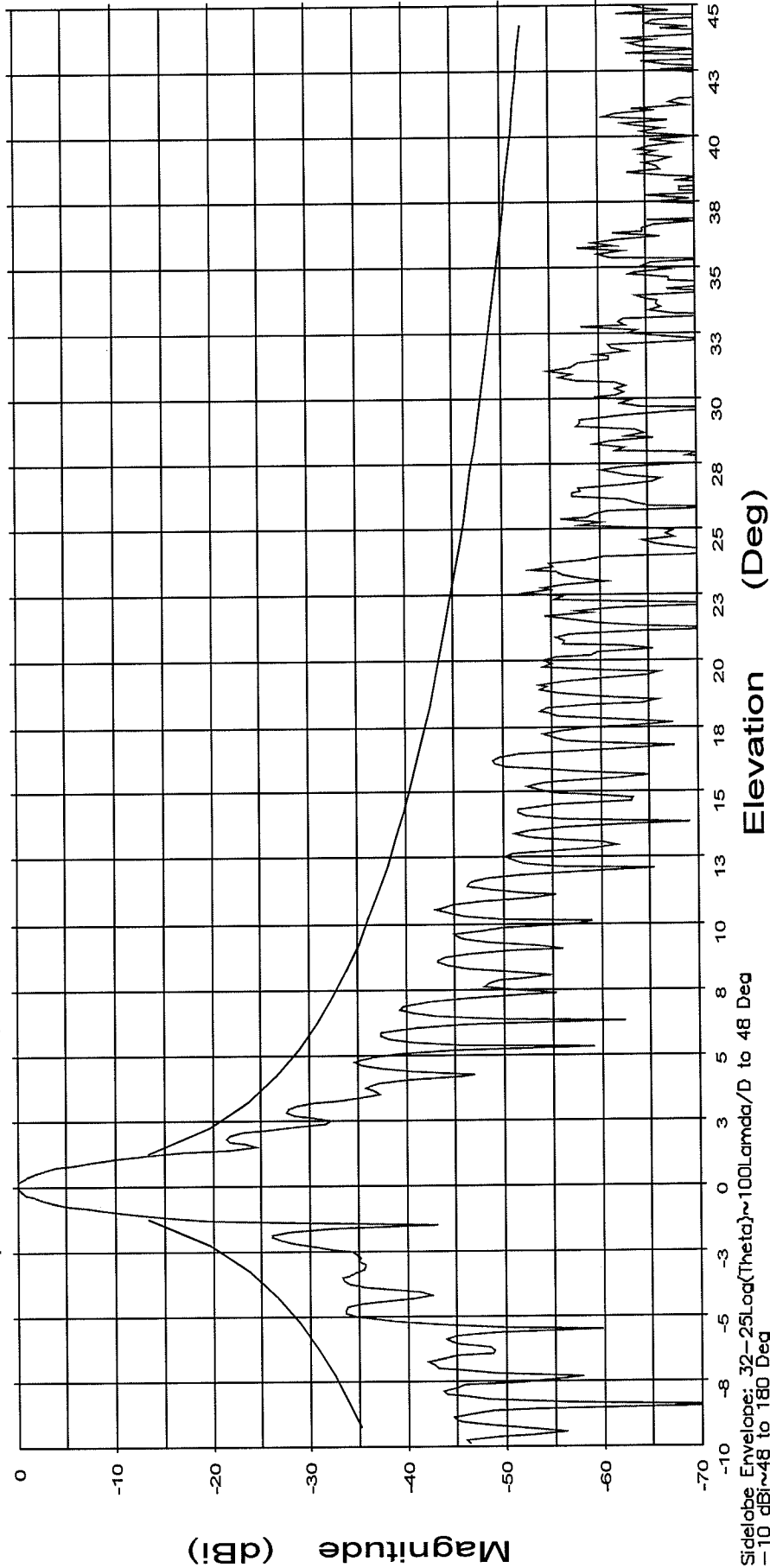
Frequency : 14.000 GHz

Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-28.dat-ant\_under\_test

Cal. file  
1629-28.dat

table  
SGH-110

channel  
ch1

units  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

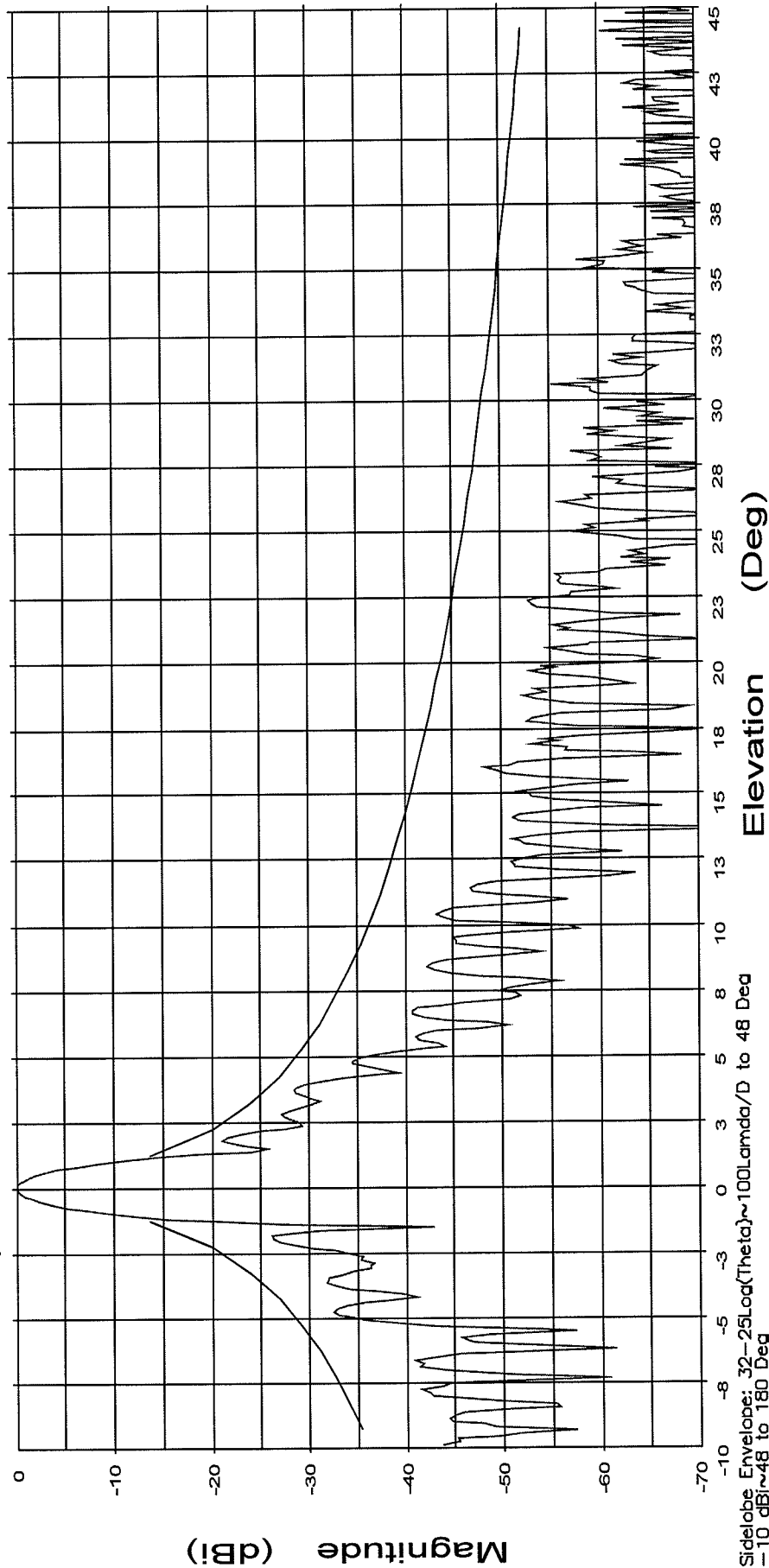
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays  
1629-28.dat-ant\_under\_test

Cal. file	table	channel	units
1629-28.dat	SGH-110	ch1	dBi

General Dynamics SATCOM Technologies  
East Maiden Test Facility  
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Maiden, North Carolina 28650

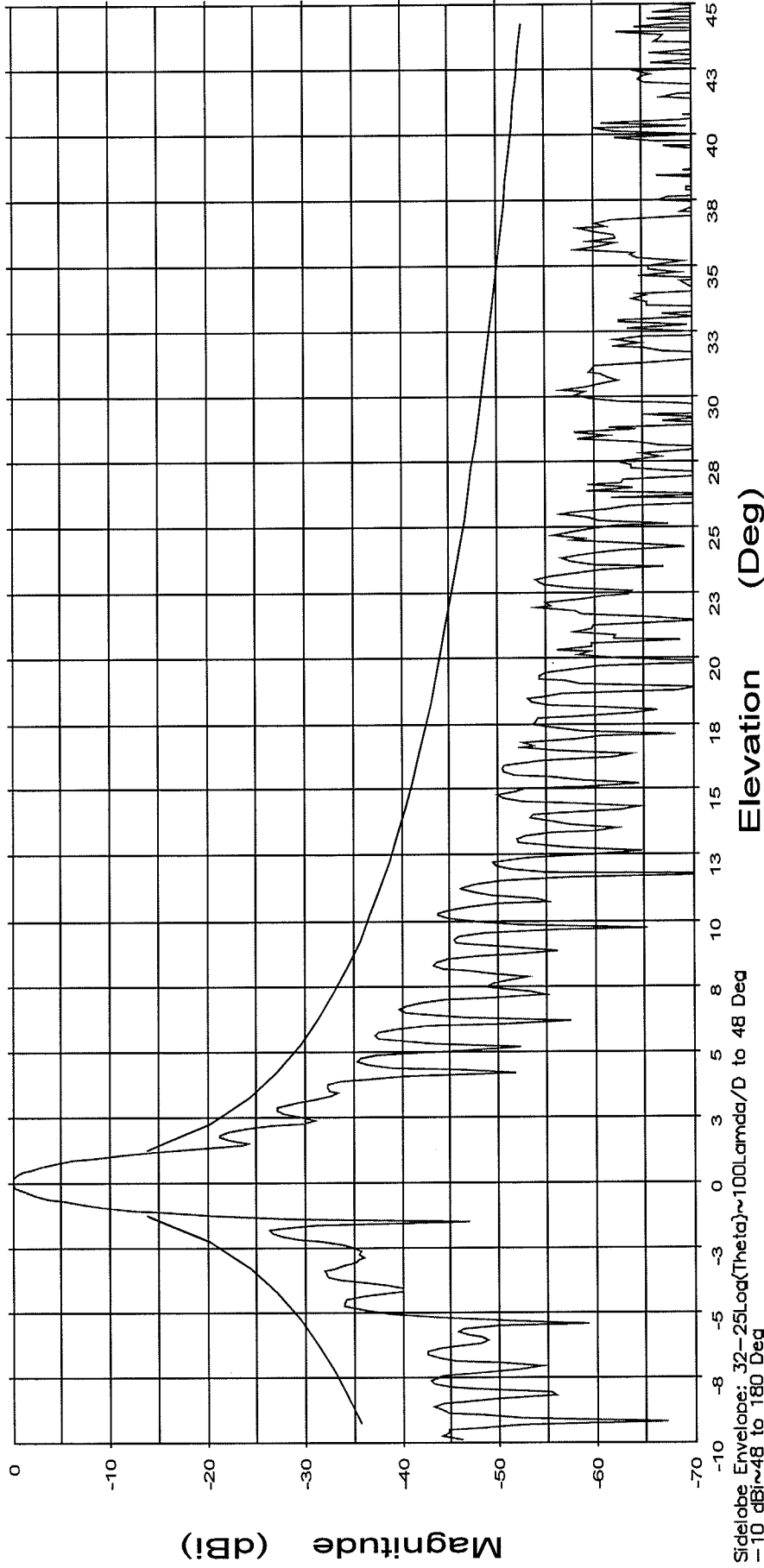
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-28.dat-ant\_under\_test

Cal. file  
1629-28.dat

table  
SGH-110

channel  
ch1

units  
dBi

Elevation (Deg)

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.000 GHz

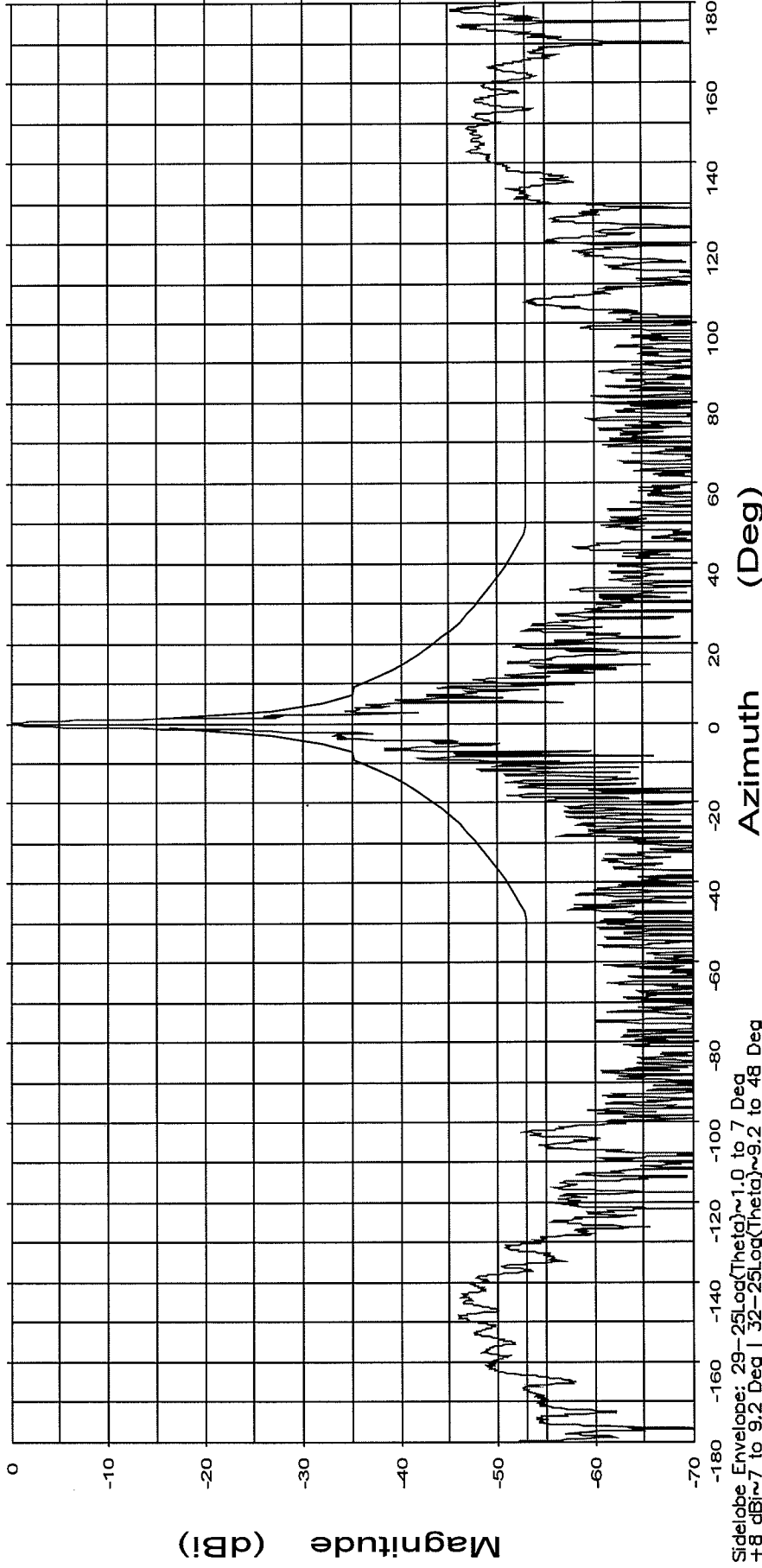
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test

Cal. file  
1629-24.dat

table  
SGH-110

channel  
ch1

units  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.250 GHz

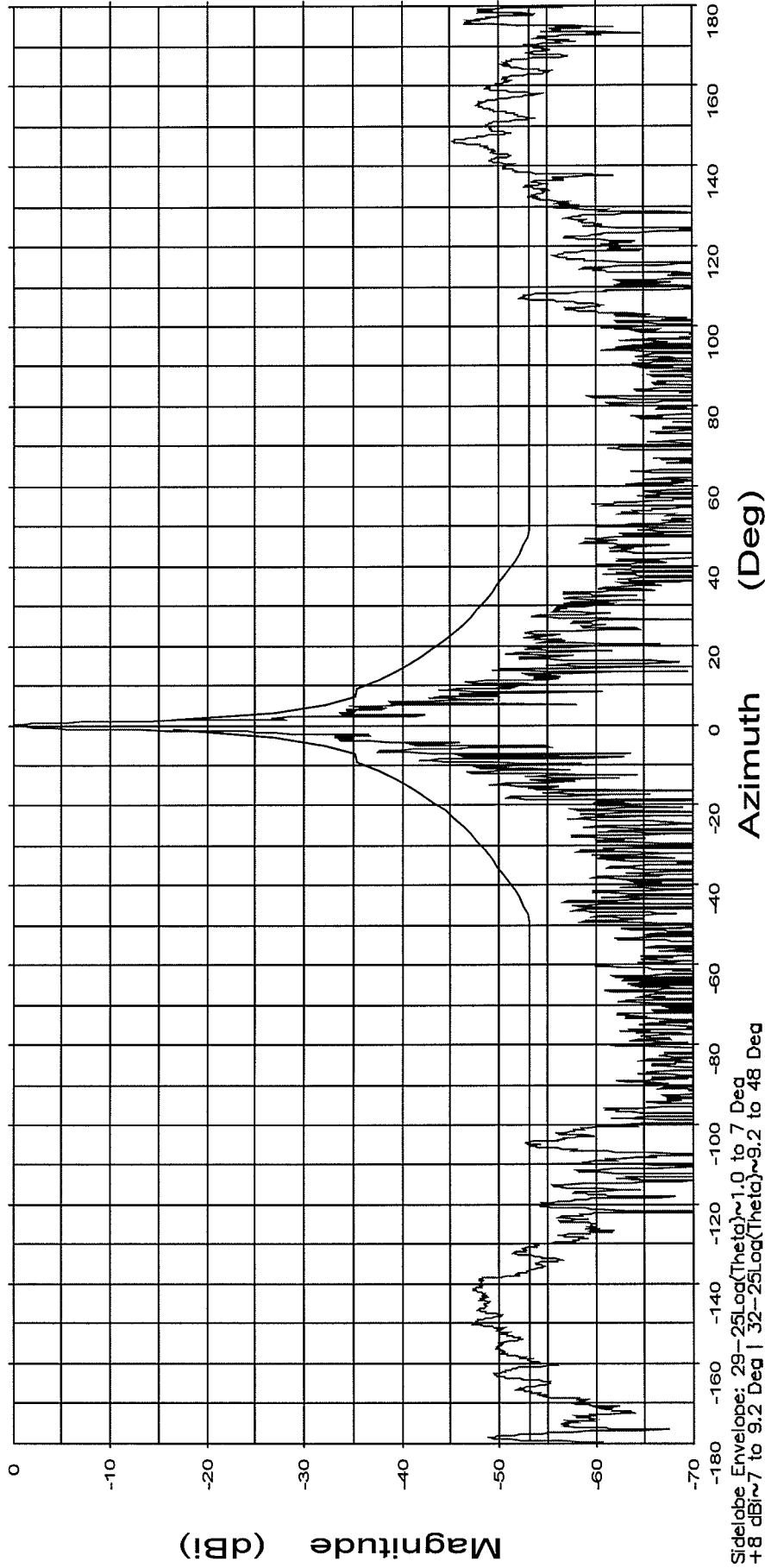
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test

Cal. file  
1629-24.dat

table  
SGH-110

channel  
ch1

units  
dBi

Azimuth (Deg)

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 14.500 GHz

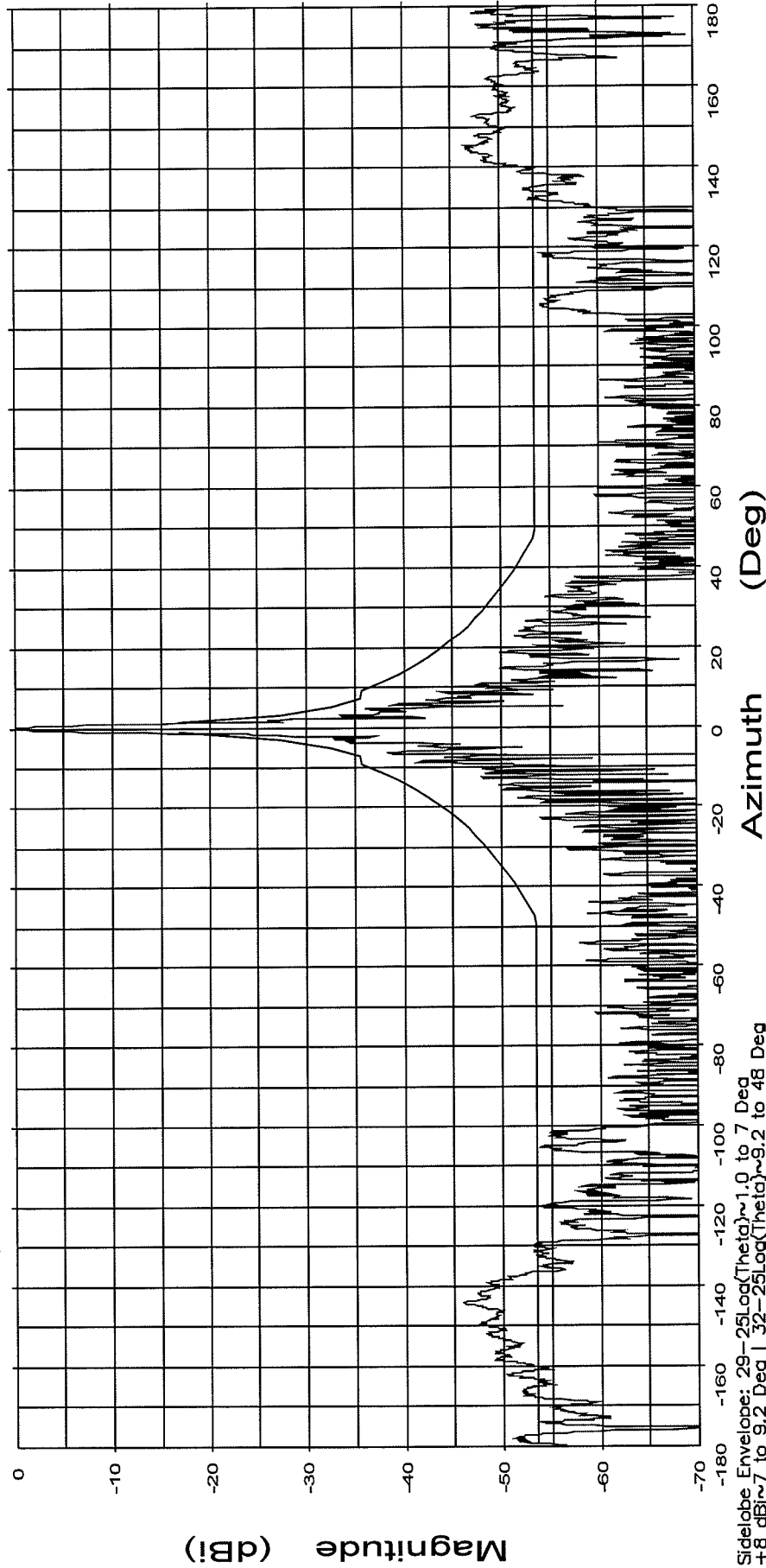
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.

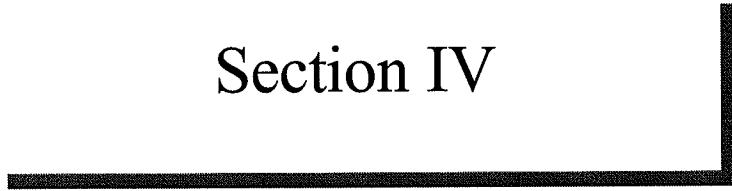


Sidelobe Envelope: 29--25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32--25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test  
Cal. file 1629-24.dat  
table SGH-110  
channel ch1  
units dBi



## Section IV



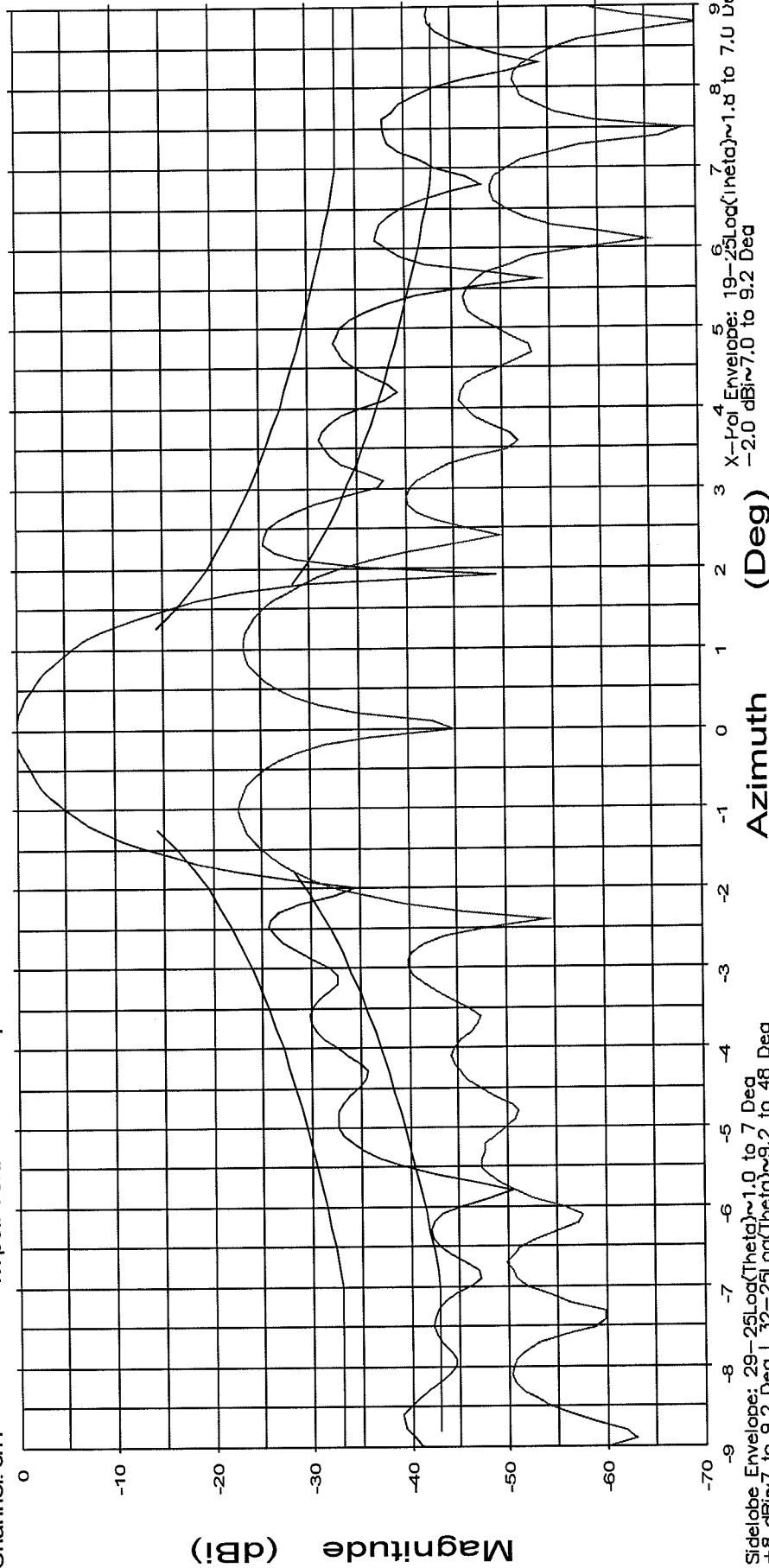
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Vert.      Rx pol: Vert.



Overlays  
 1629-15.dat-ant\_under\_test  
 1629-20.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

Cal. file  
 1629-15.dat  
 1629-20.dat

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

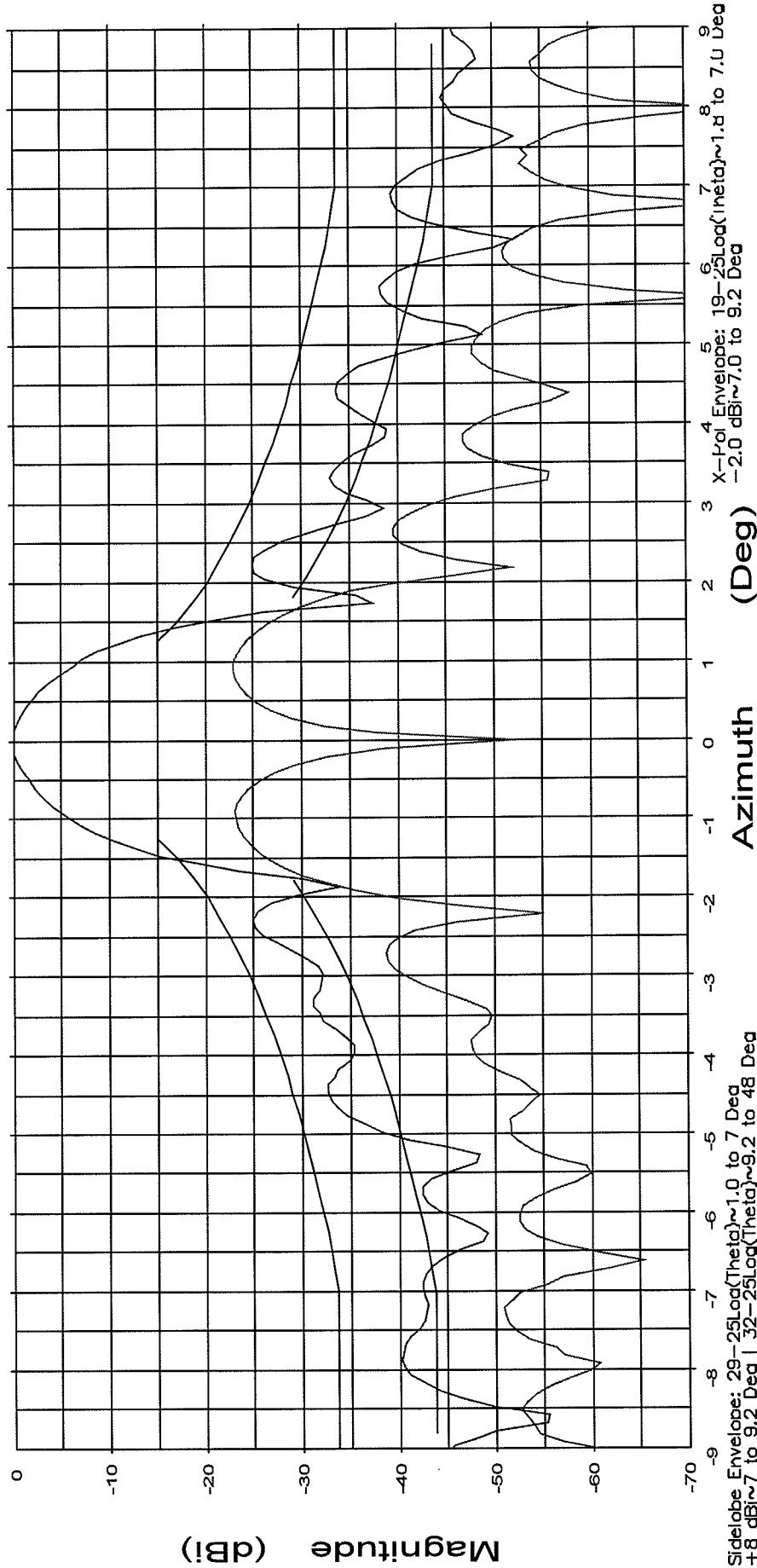
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29--25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32--25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19--25Log(Theta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-15.dat-ant\_under\_test  
1629-20.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

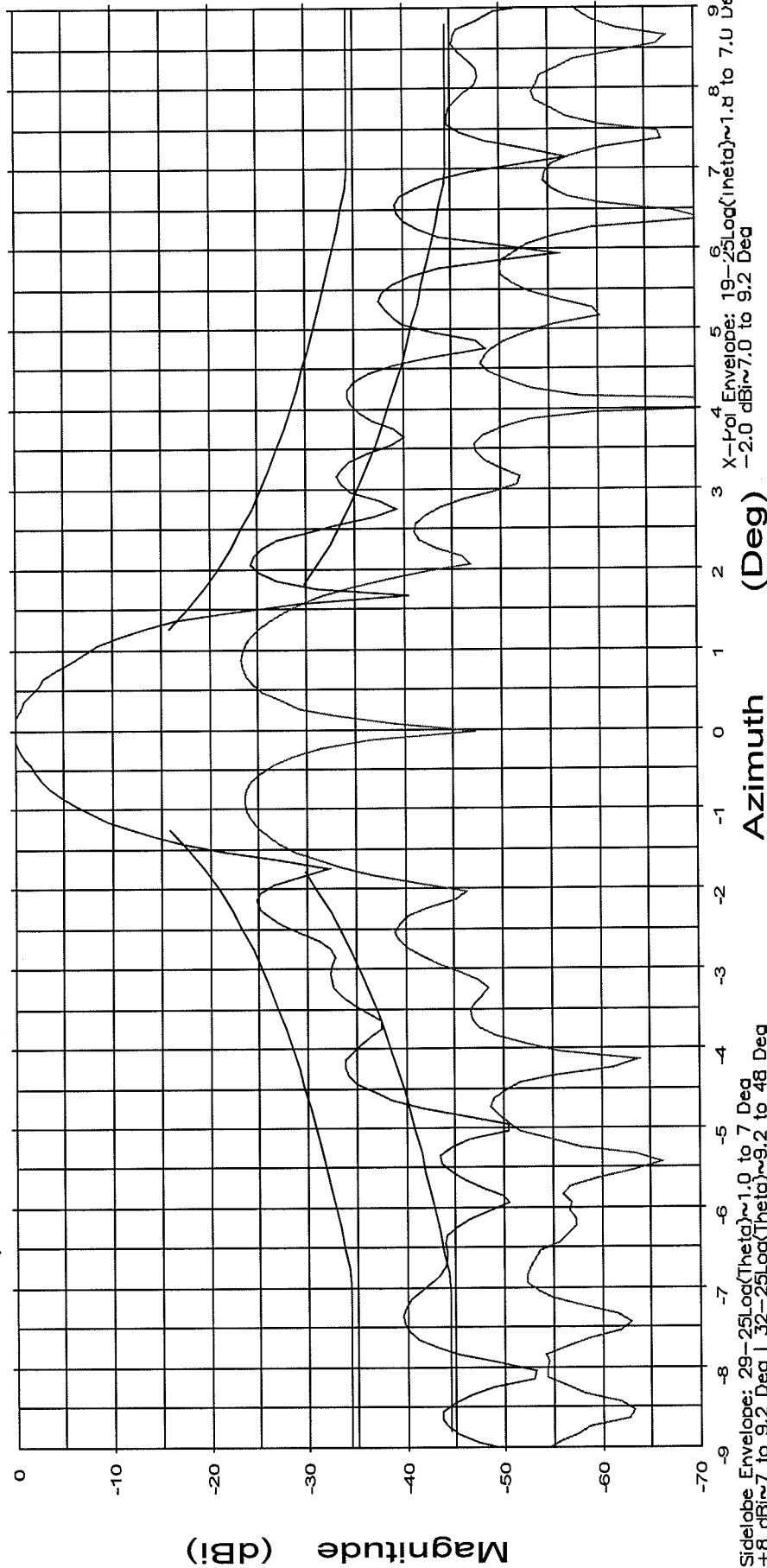
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays

Cal. file	table	channel	units
1629-15.dat	SGH-110	ch1	dBi
1629-20.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

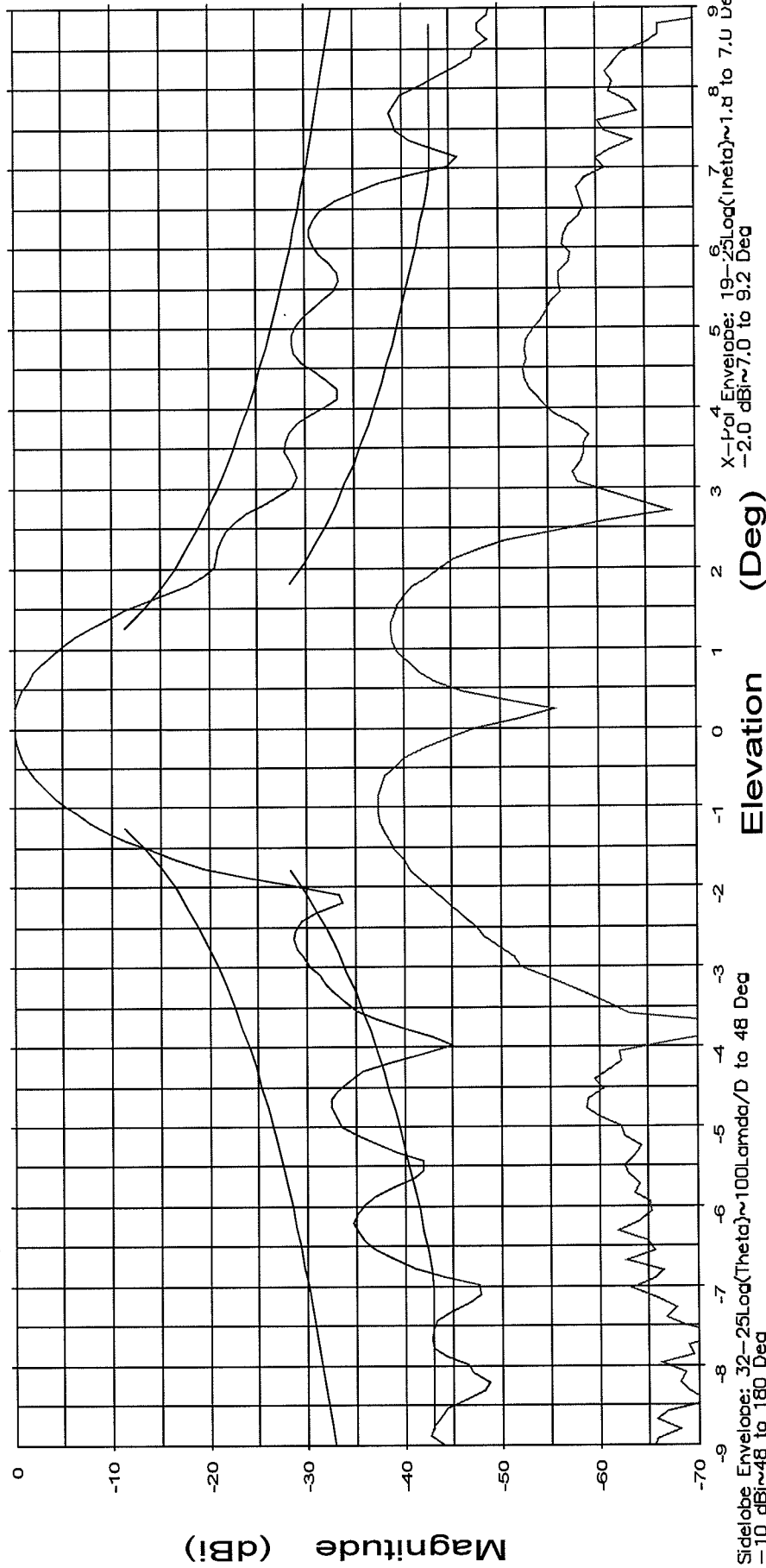
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
 -10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
 -2.0 dBi~7.0 to 9.2 Deg

Overlays  
 1629-19.dat-ant\_under\_test  
 1629-21.dat-ant\_under\_test

Cal. file  
 1629-19.dat  
 1629-21.dat

table  
 SGH-110  
 SGH-110

channel  
 ch1  
 ch1

units  
 dBi  
 dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

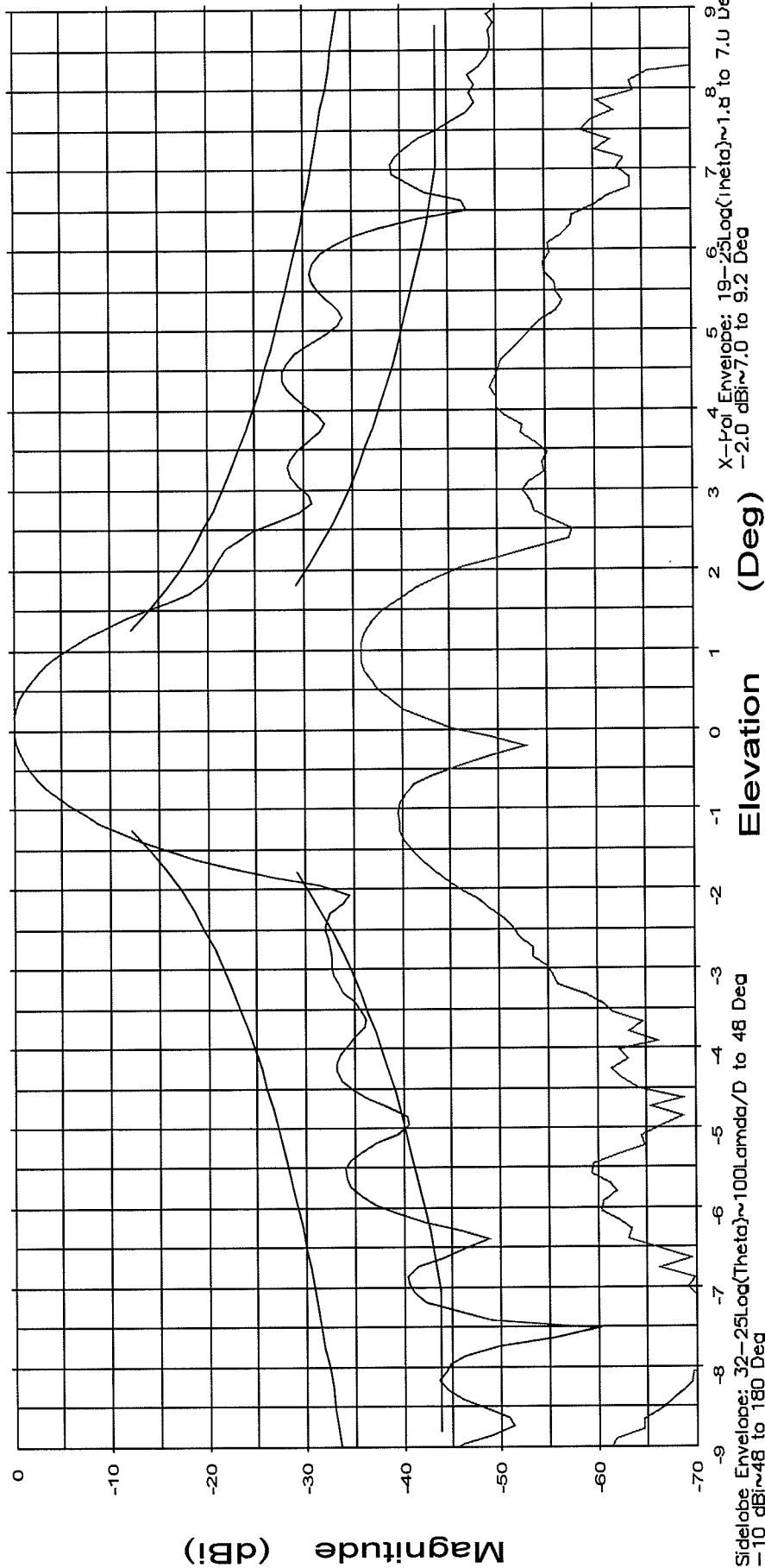
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
 -10 dBi~48 to 180 Deg  
 X-Pol Envelope: 19-25Log(ineta)~1.8 to 7.0 Deg  
 -2.0 dBi~7.0 to 9.2 Deg

Overlays  
 1629-19.dat~ant\_under\_test  
 1629-21.dat~ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

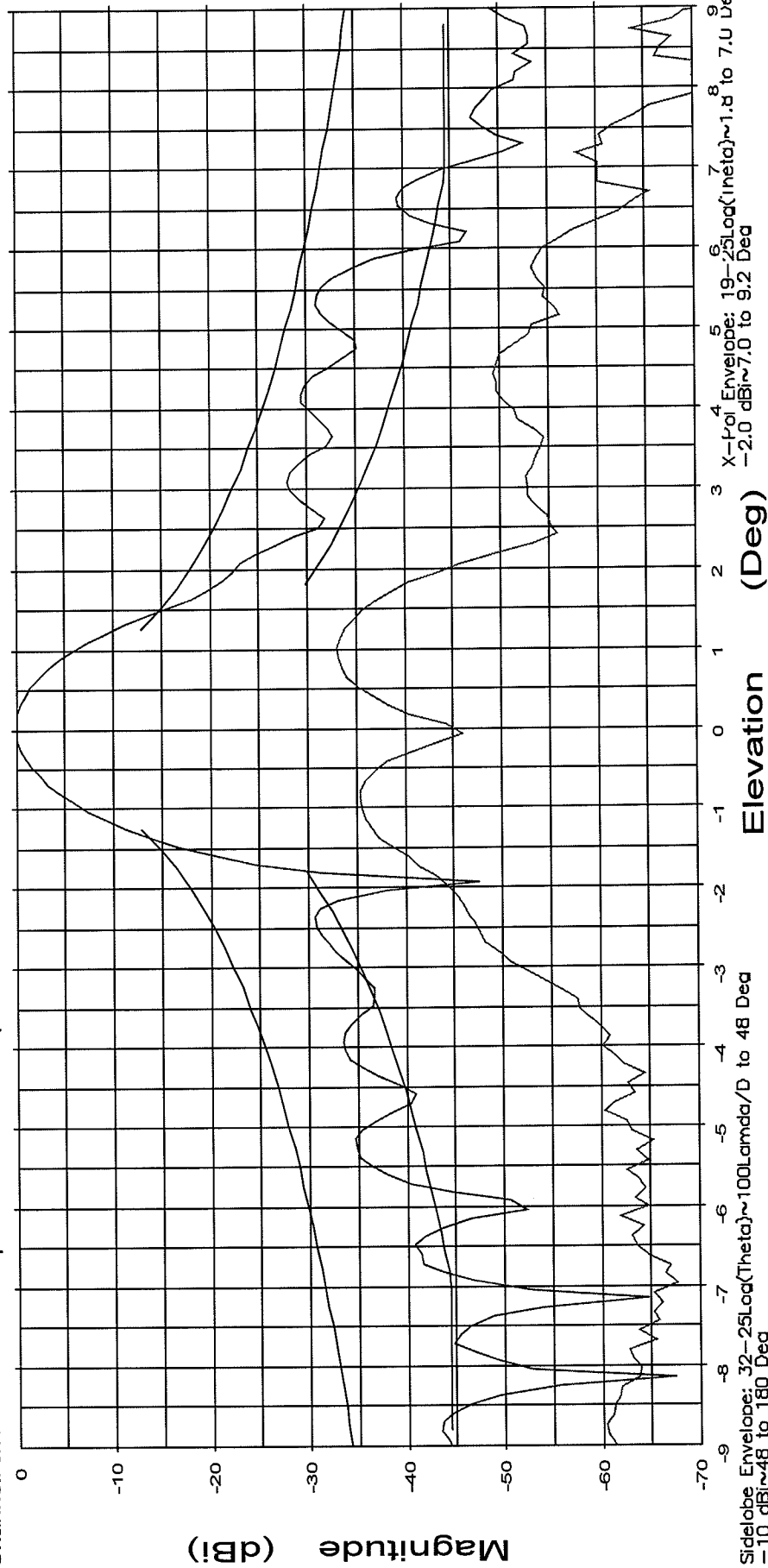
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Vert.      Rx pol: Vert.



Sidelobe Envelope: 32--25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

X-pol Envelope: 19--25Log(ineta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-19.dat-ant\_under\_test  
1629-21.dat-ant\_under\_test

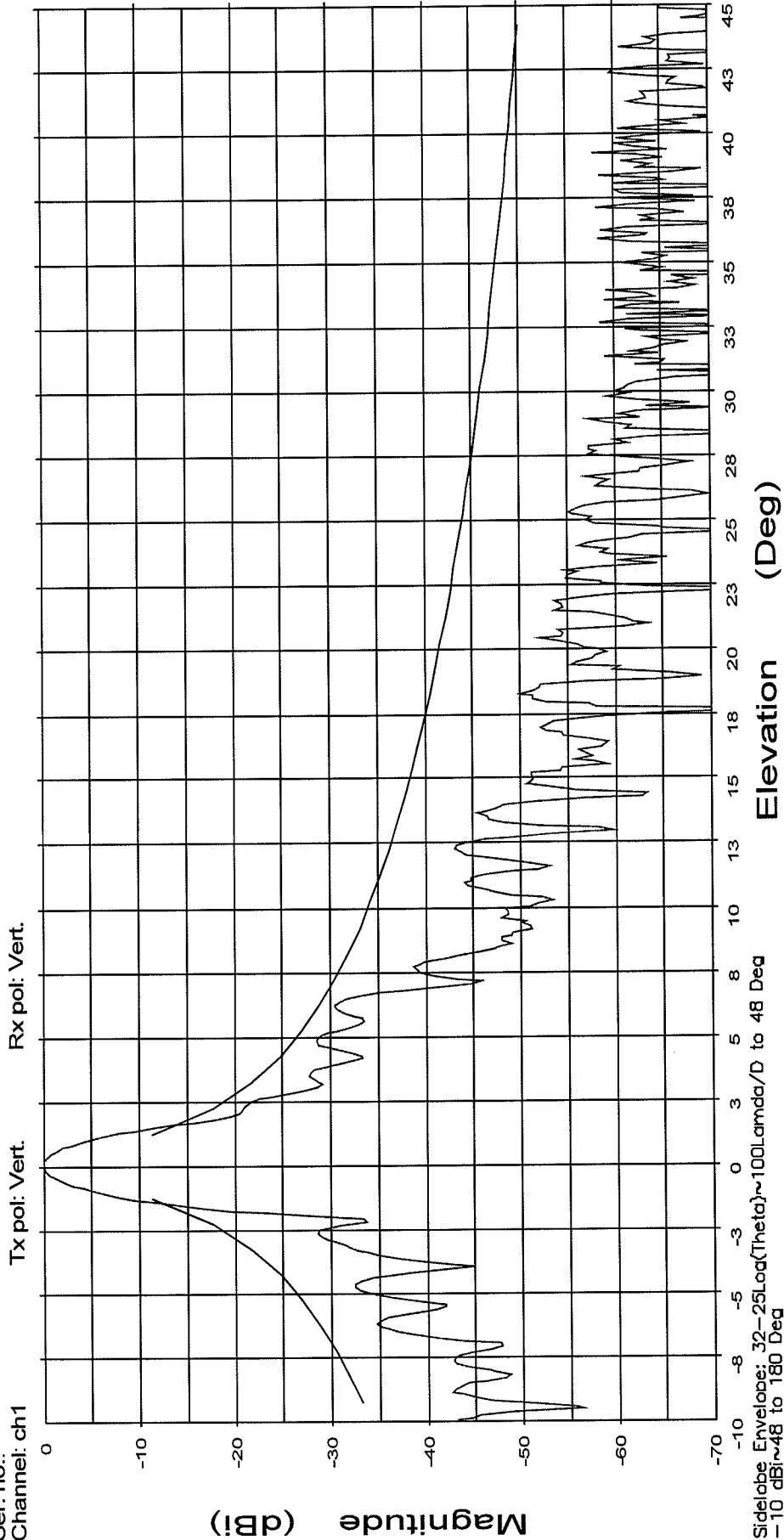
table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1



Sidelobe Envelope: 32-25Lod(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-19.dat-ant\_under\_test

Cal. file  
1629-19.dat

table  
SGH-110

channel  
ch1

units  
dBi

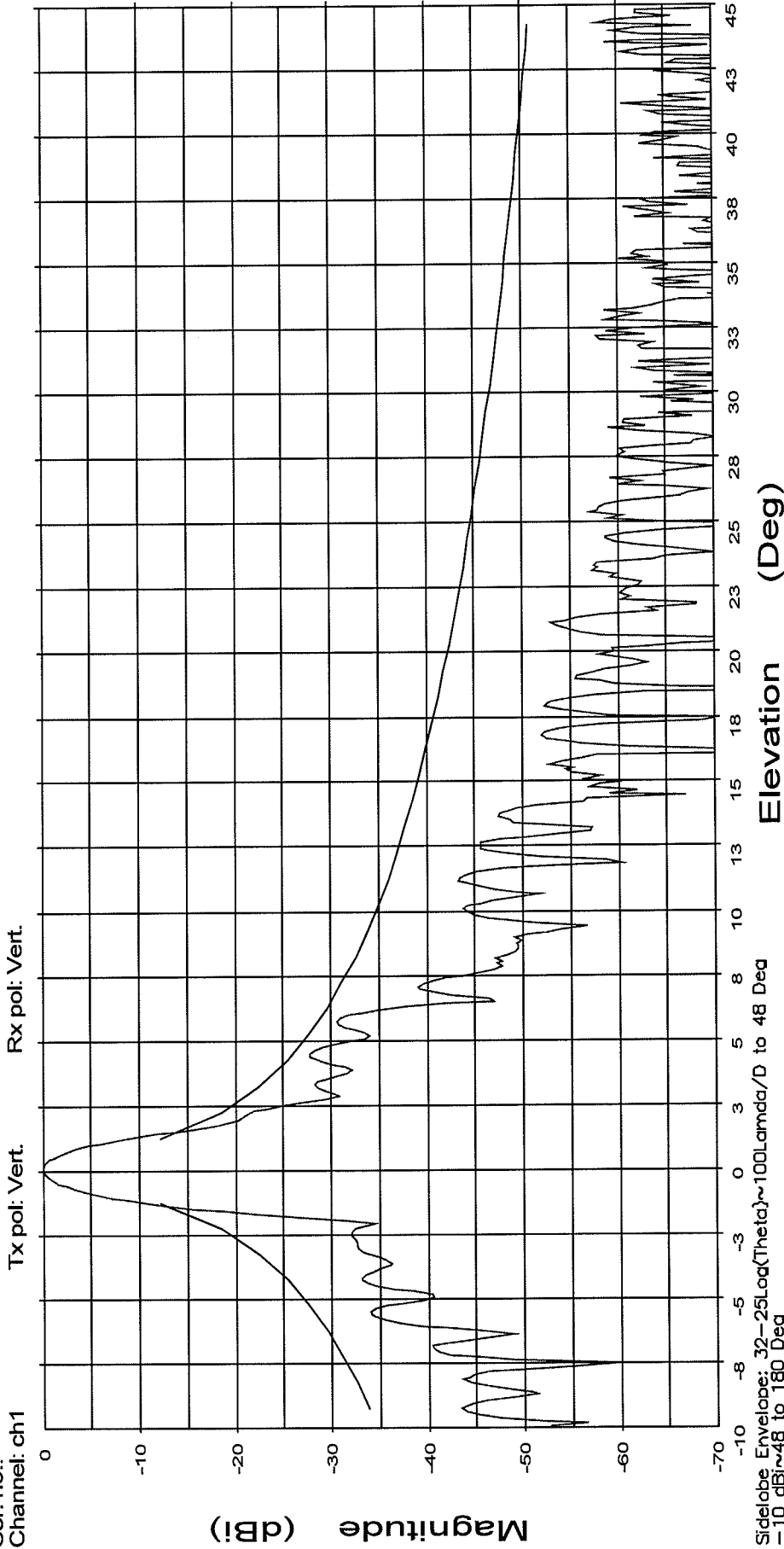


File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1



Side lobe Envelope: 32--25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-19.dat-ant\_under\_test

Cal. file	table	channel	units
1629-19.dat	SGH-110	ch1	dBi

General Dynamics SATCOM Technologies  
East Maiden Test Facility  
4488 Lawing Chapel Church Road  
Maiden, North Carolina 28650

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

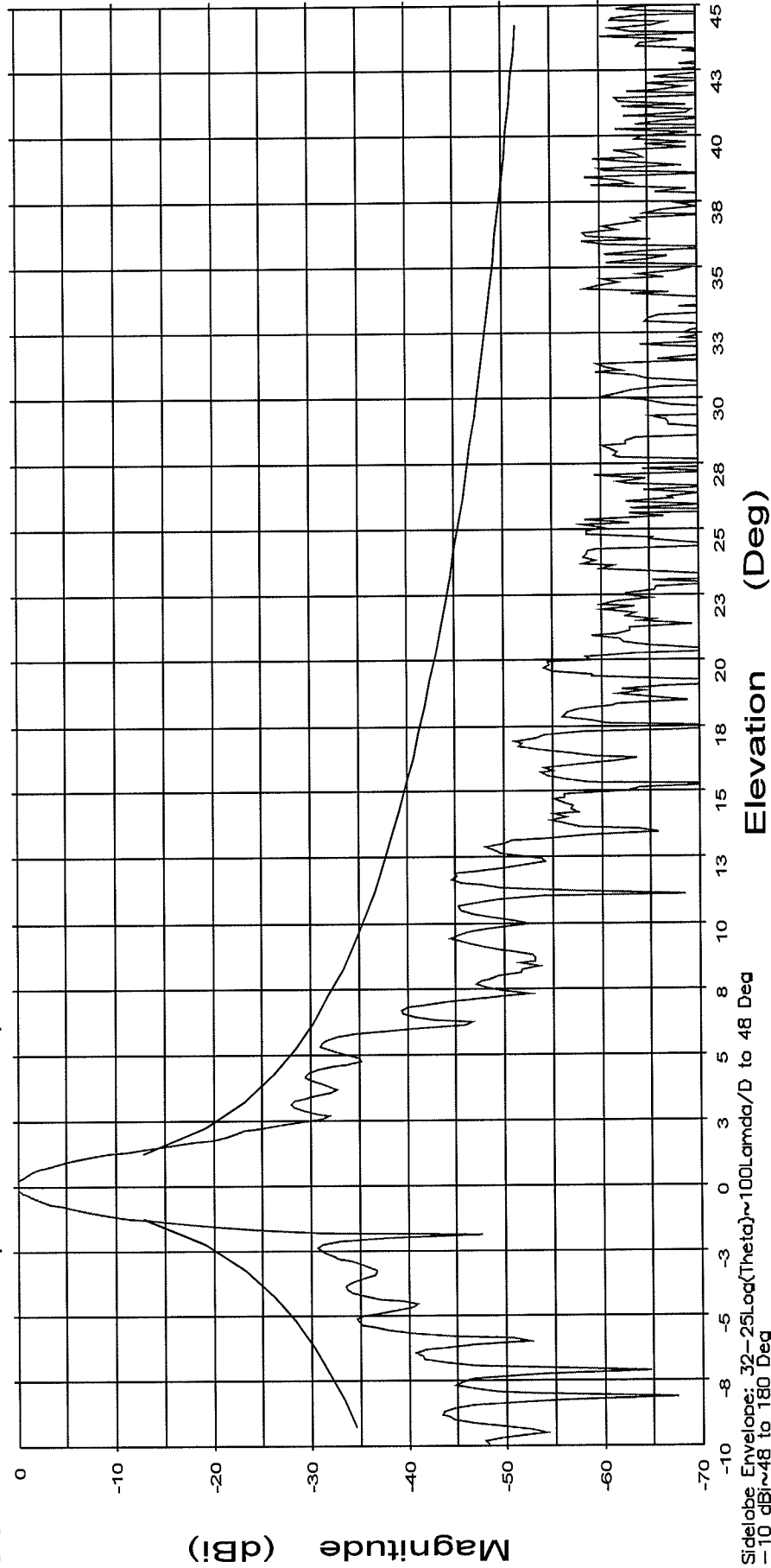
Frequency : 12.750 GHz

Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.      Rx pol: Vert.



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

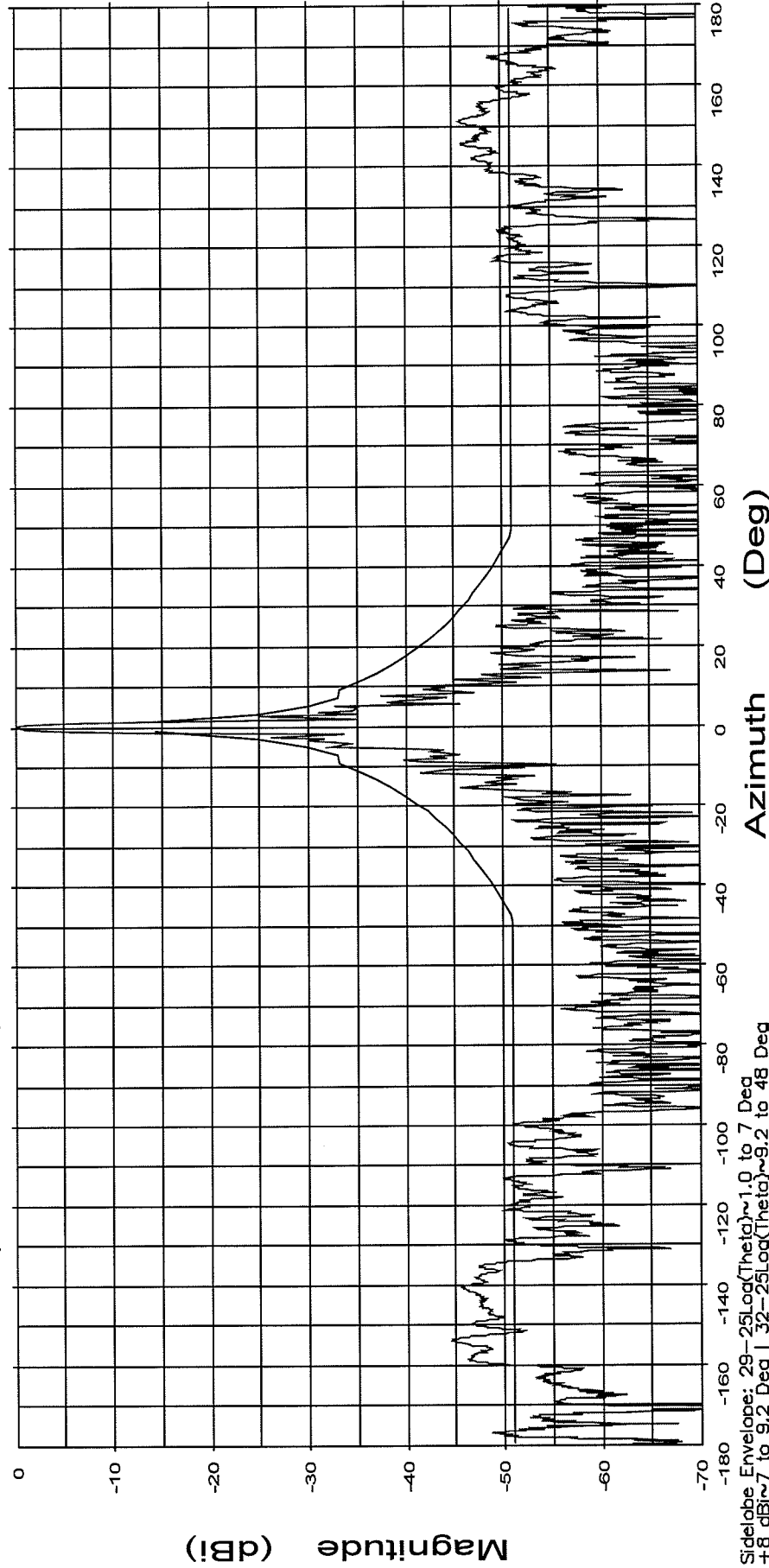
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays  
1629-15.dat-ant\_under\_test

Cal. file  
1629-08.dat

table  
SGH-110

channel  
ch1

units  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

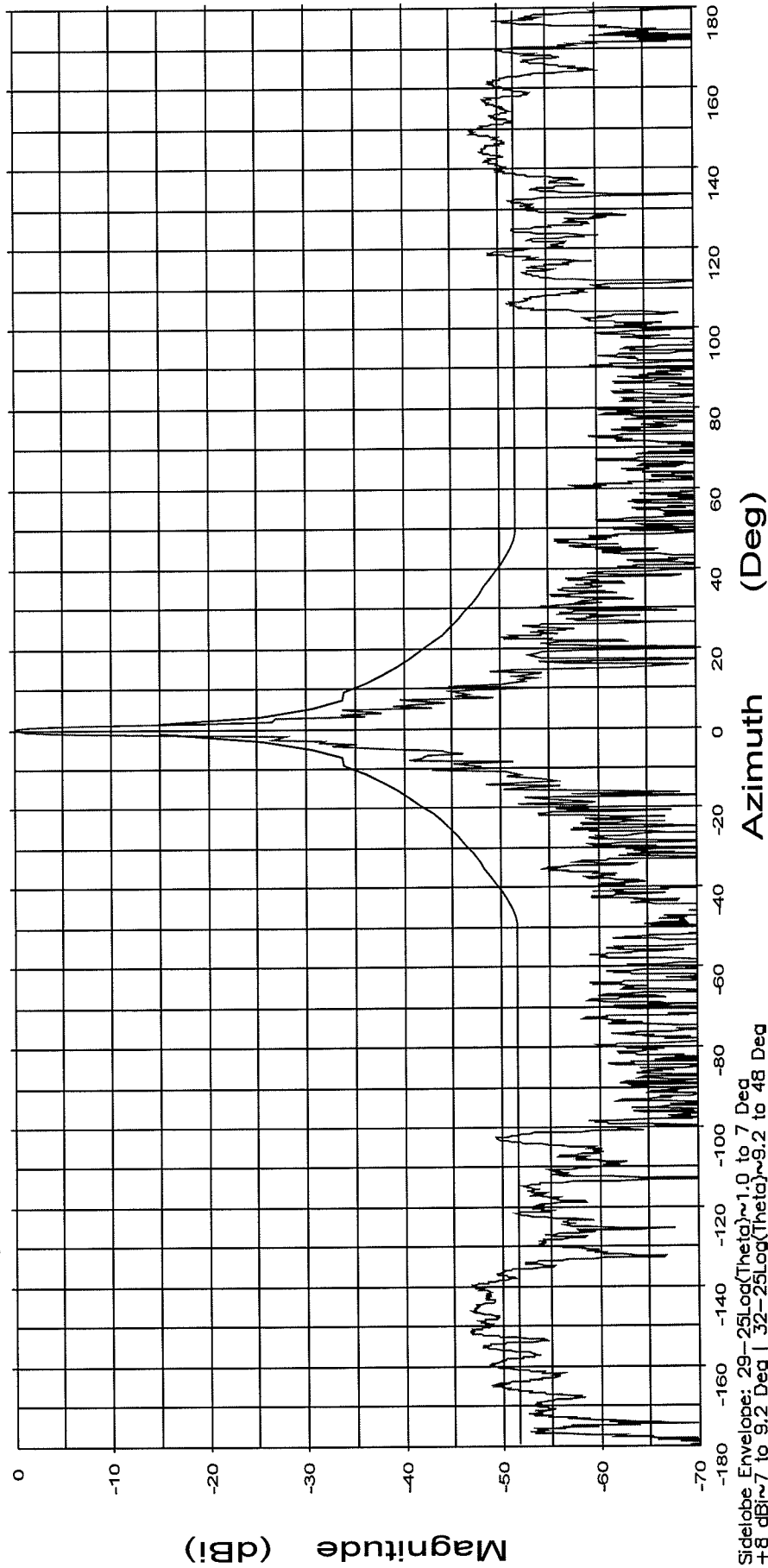
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidlobe Envelope: 29~-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32~-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-15.dat-ant\_under\_test

Cal. file  
1629-08.dat

table  
SGH-110

channel  
ch1

units  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

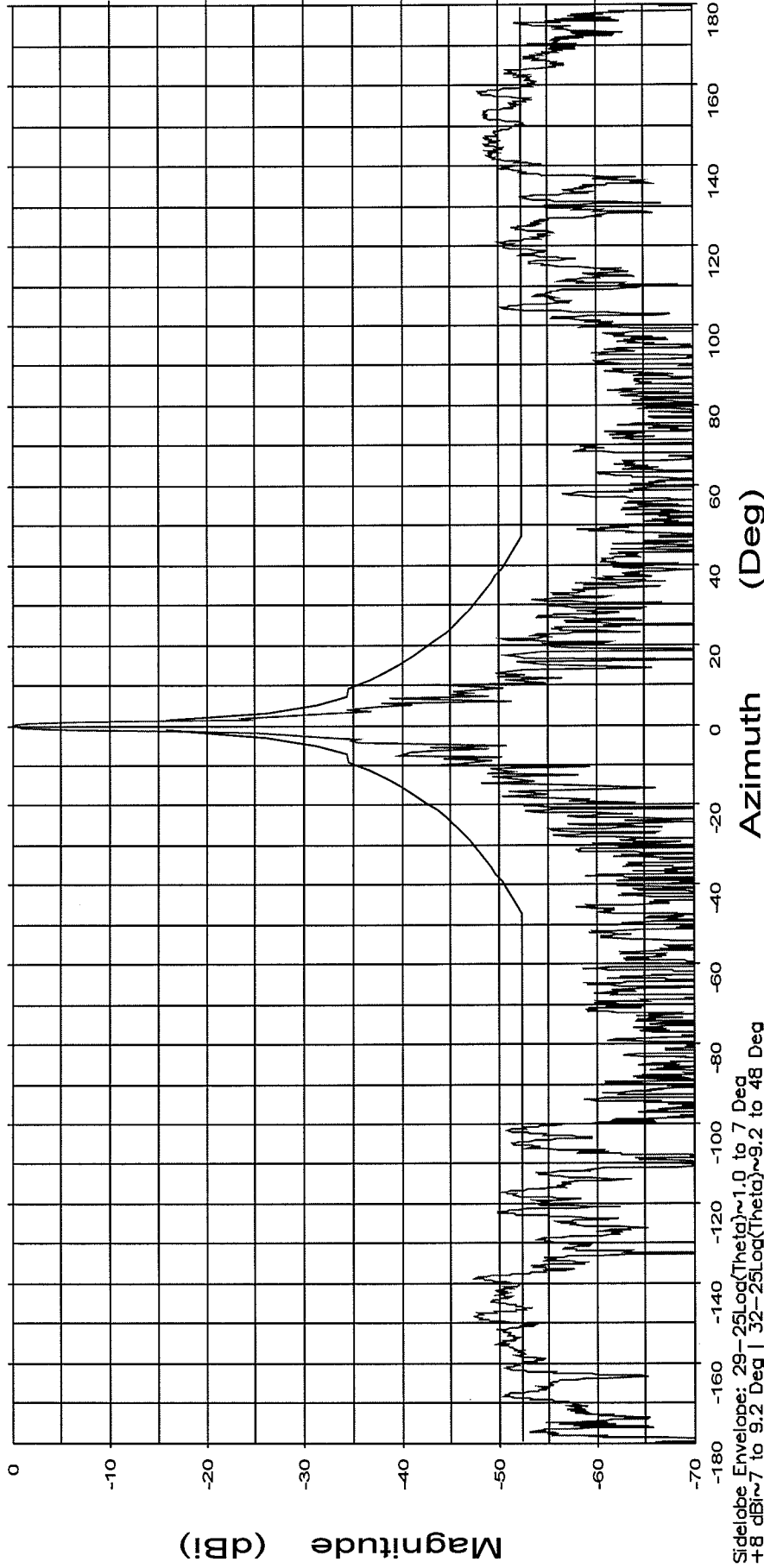
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Loa(Theta)~1.0 to 7 Deg  
+8 dB~7 to 9.2 Deg | 32-25Loa(Theta)~9.2 to 48 Deg  
-10 dB~48 to 180 Deg

Overlays  
1629-15.dat-ant\_under\_test

Cal. file  
1629-08.dat

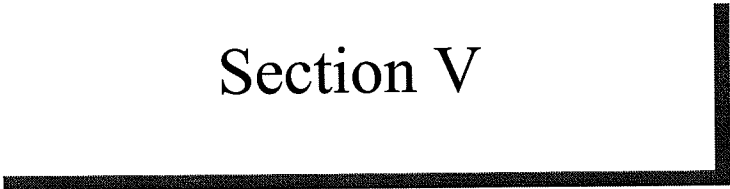
table  
SGH-110

channel  
ch1

units  
dBj

Azimuth (Deg)

Section V



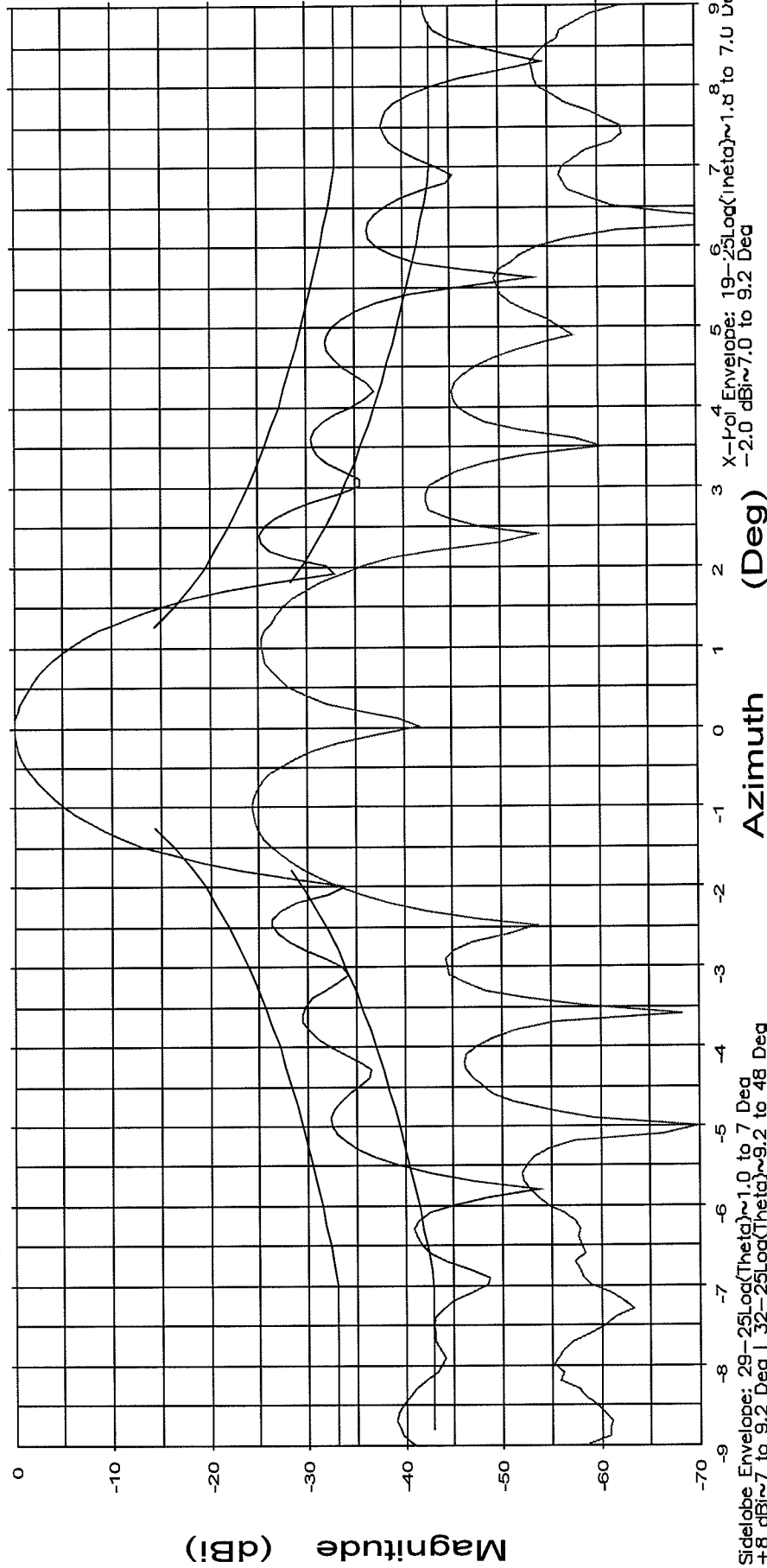
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz.      Rx pol: Horiz.



Overlays  
 1629-29.dat-ant\_under\_test  
 1629-33.dat-ant\_under\_test

Cal. file  
 1629-29.dat  
 1629-33.dat

table  
 SGH-110  
 SGH-110

channel  
 ch1  
 ch1

units  
 dBi  
 dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

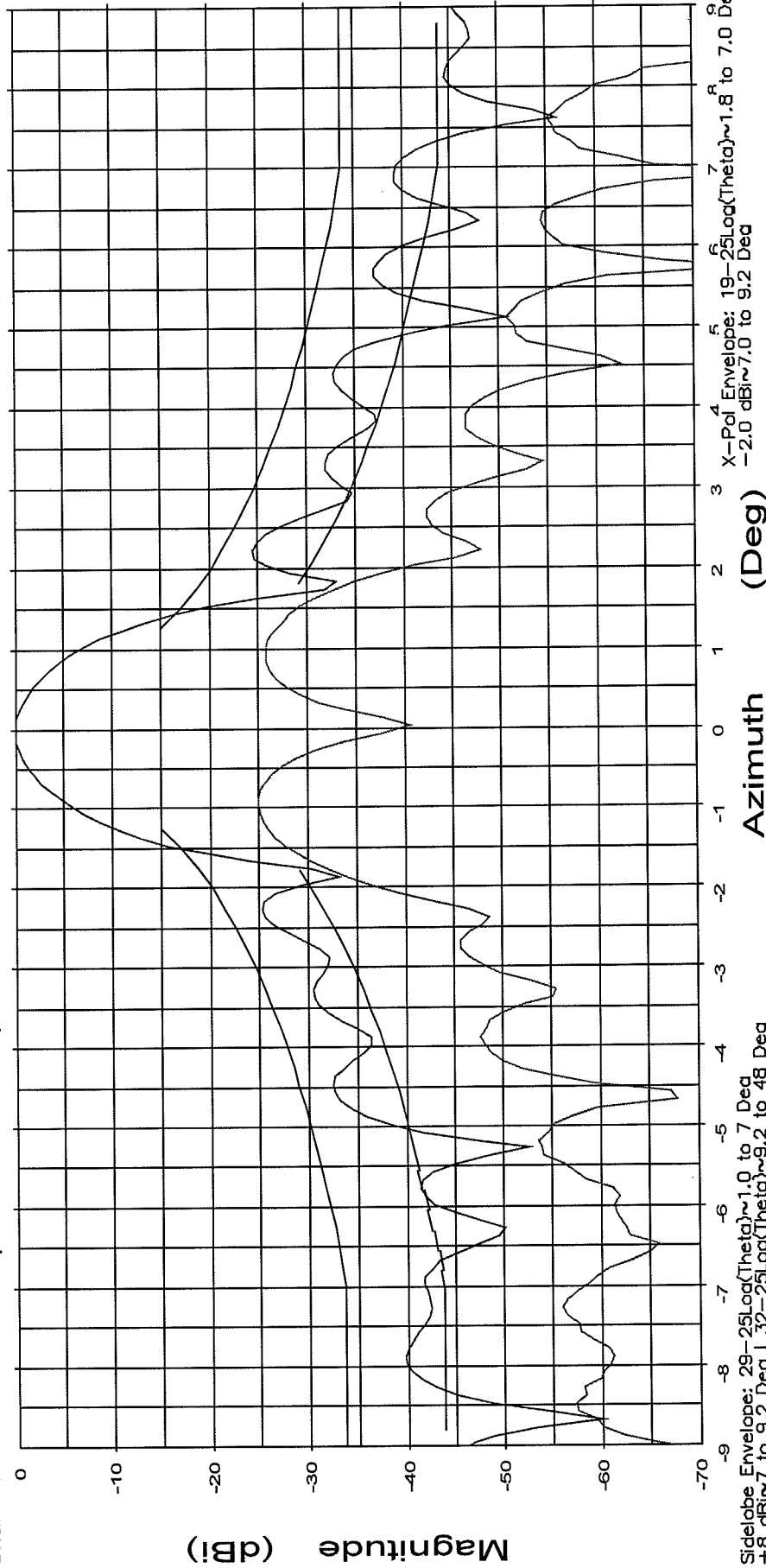
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test  
1629-33.dat-ant\_under\_test

Cal. file  
1629-29.dat  
1629-33.dat

table  
SGH-110  
SGH-110

channel  
ch1  
ch1

units  
dBi  
dBi

Azimuth (Deg)

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg



File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

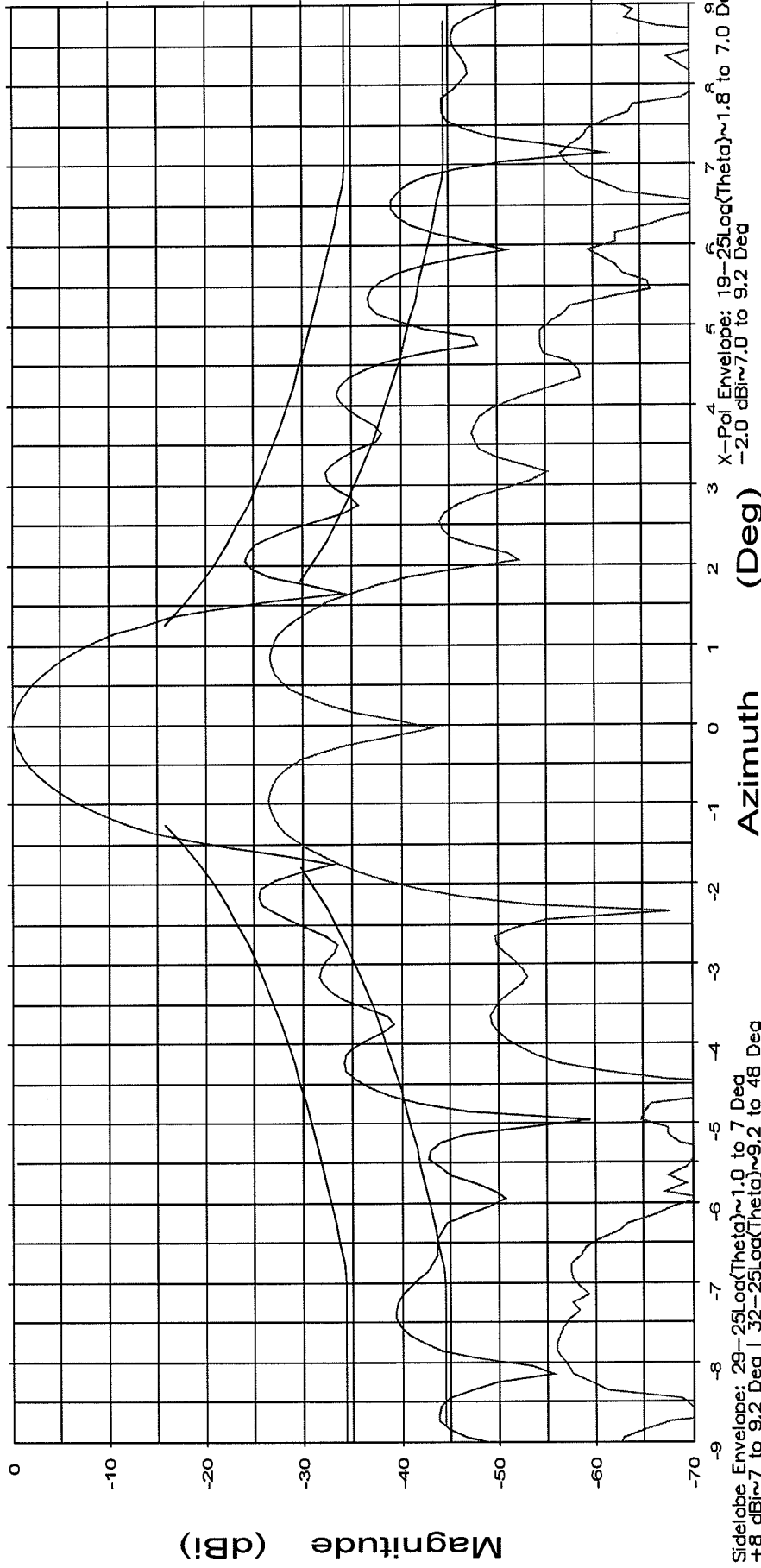
Frequency : 12.750 GHz

Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
 +8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
 -10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
 -2.0 dBi~7.0 to 9.2 Deg

Overlays	Cal. file	table	channel	units
1629-29.dat-ant_under_test	1629-29.dat	SGH-110	ch1	dBi
1629-33.dat-ant_under_test	1629-33.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

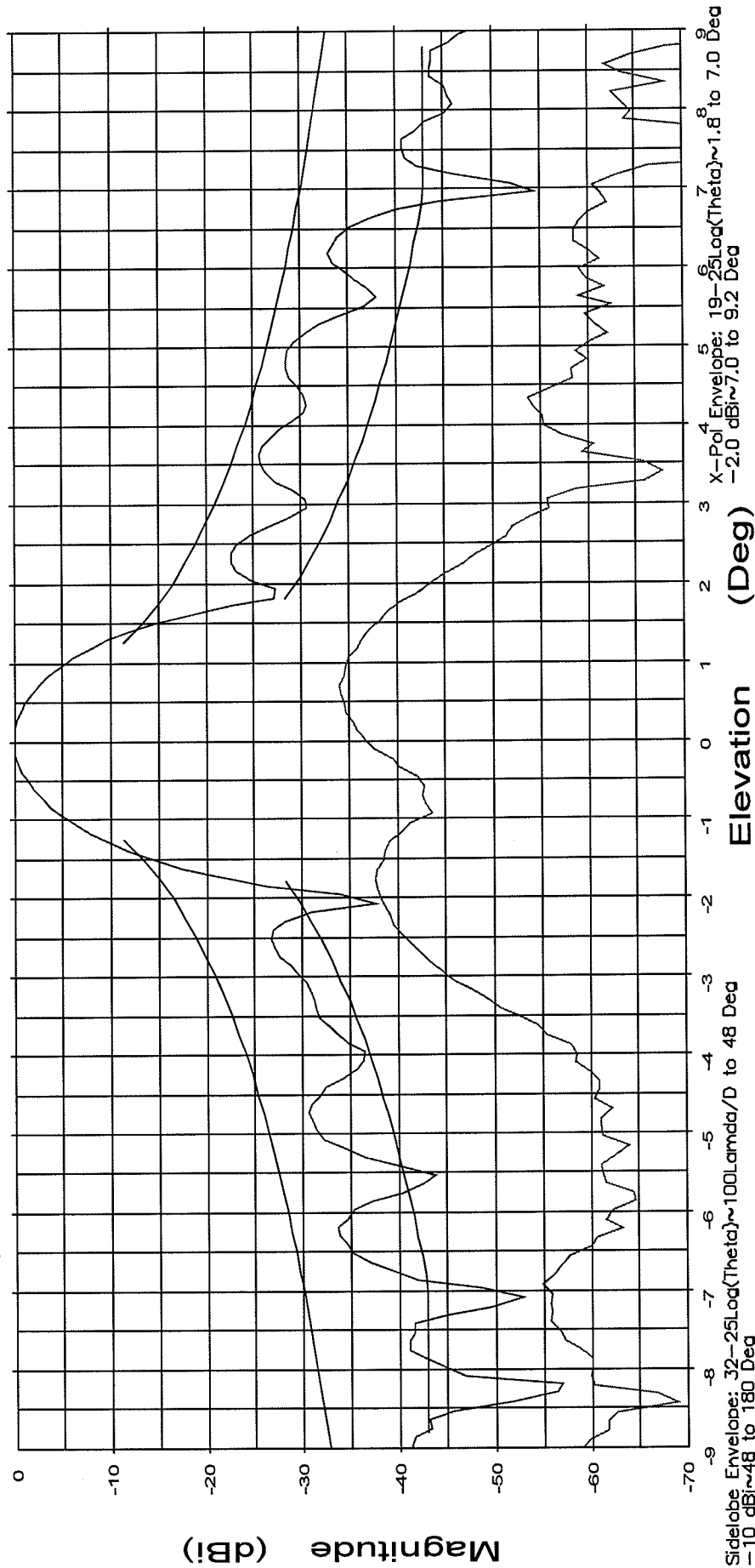
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays	Cal. file	table	channel	units
1629-28.dat-ant_under_test	1629-28.dat	SGH-110	ch1	dBi
1629-35.dat-ant_under_test	1629-35.dat	SGH-110	ch1	dBi

General Dynamics SATCOM Technologies  
 East Maiden Test Facility  
 4488 Lawing Chapel Church Road  
 Maiden, North Carolina 28650

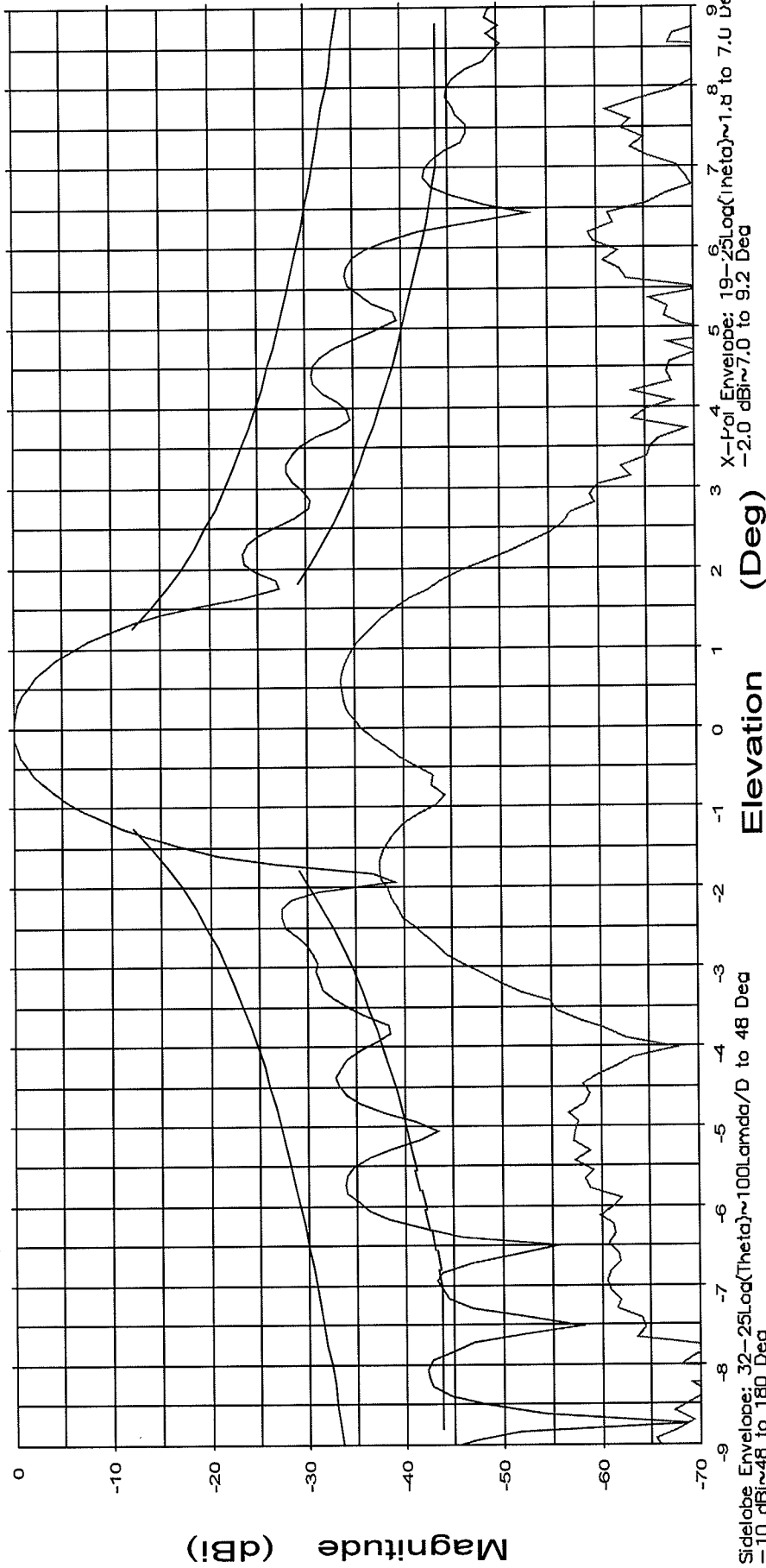
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz.      Rx pol: Horiz.



Sidelobe Envelope: 32-25Log(Theta)~100Lambda/D to 48 Deg  
-10 dBi~48 to 180 Deg

X-Pol Envelope: 19-25Log(Theta)~1.8 to 7.0 Deg  
-2.0 dBi~7.0 to 9.2 Deg

Overlays  
1629-28.dat-ant\_under\_test  
1629-35.dat-ant\_under\_test

table	channel	units
SGH-110	ch1	dBi
SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

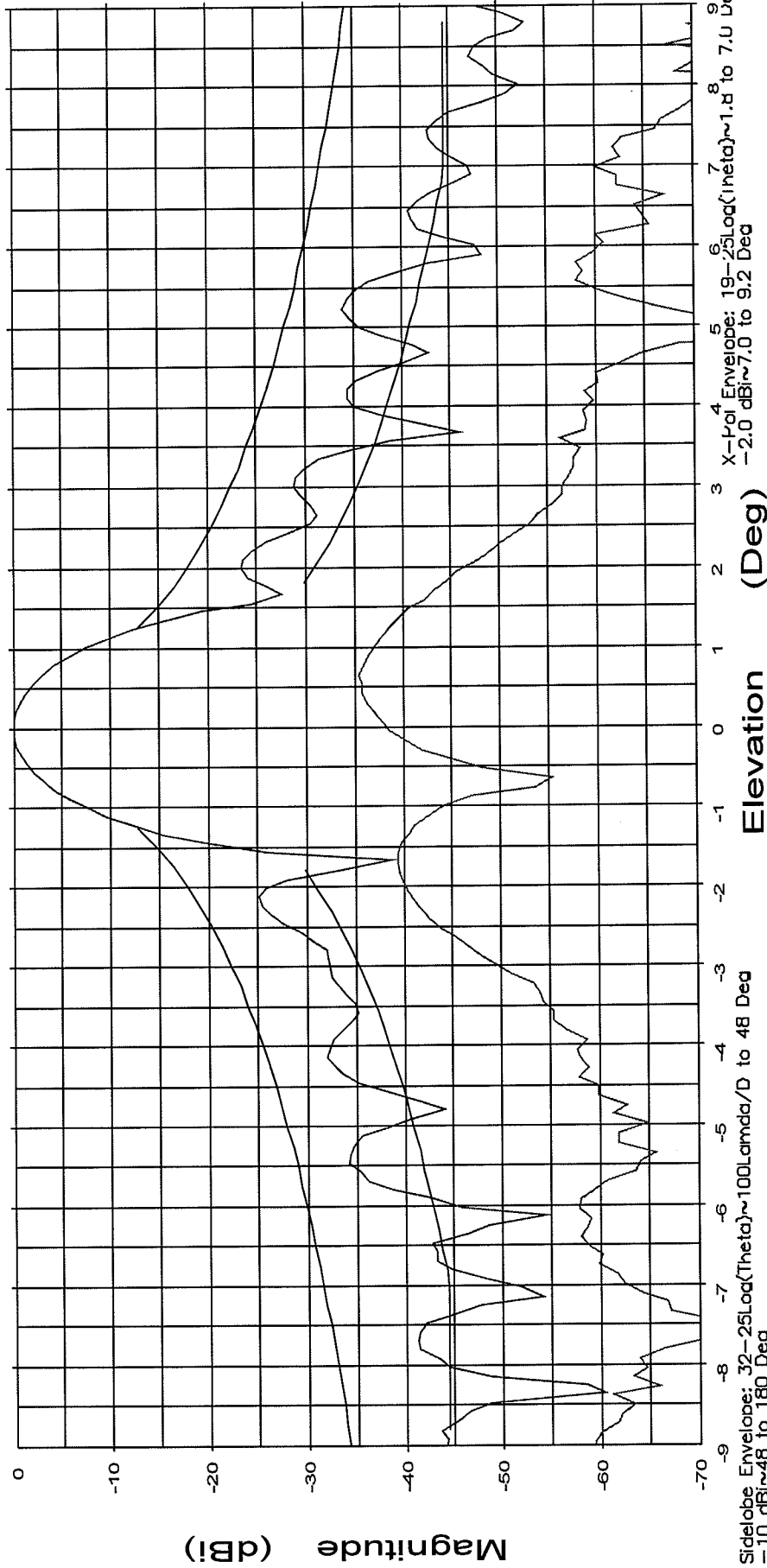
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 32--25Log(Theta)~100Lambda/D to 48 Deg  
 -10 dBi~48 to 180 Deg  
 X-Pol Envelope: 19--25Log(Theta)~1.8 to 7.0 Deg  
 -2.0 dBi~7.0 to 9.2 Deg

Overlays	Cal. file	table	channel	units
1629-28.dat-ant_under_test	1629-28.dat	SGH-110	ch1	dBi
1629-35.dat-ant_under_test	1629-35.dat	SGH-110	ch1	dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

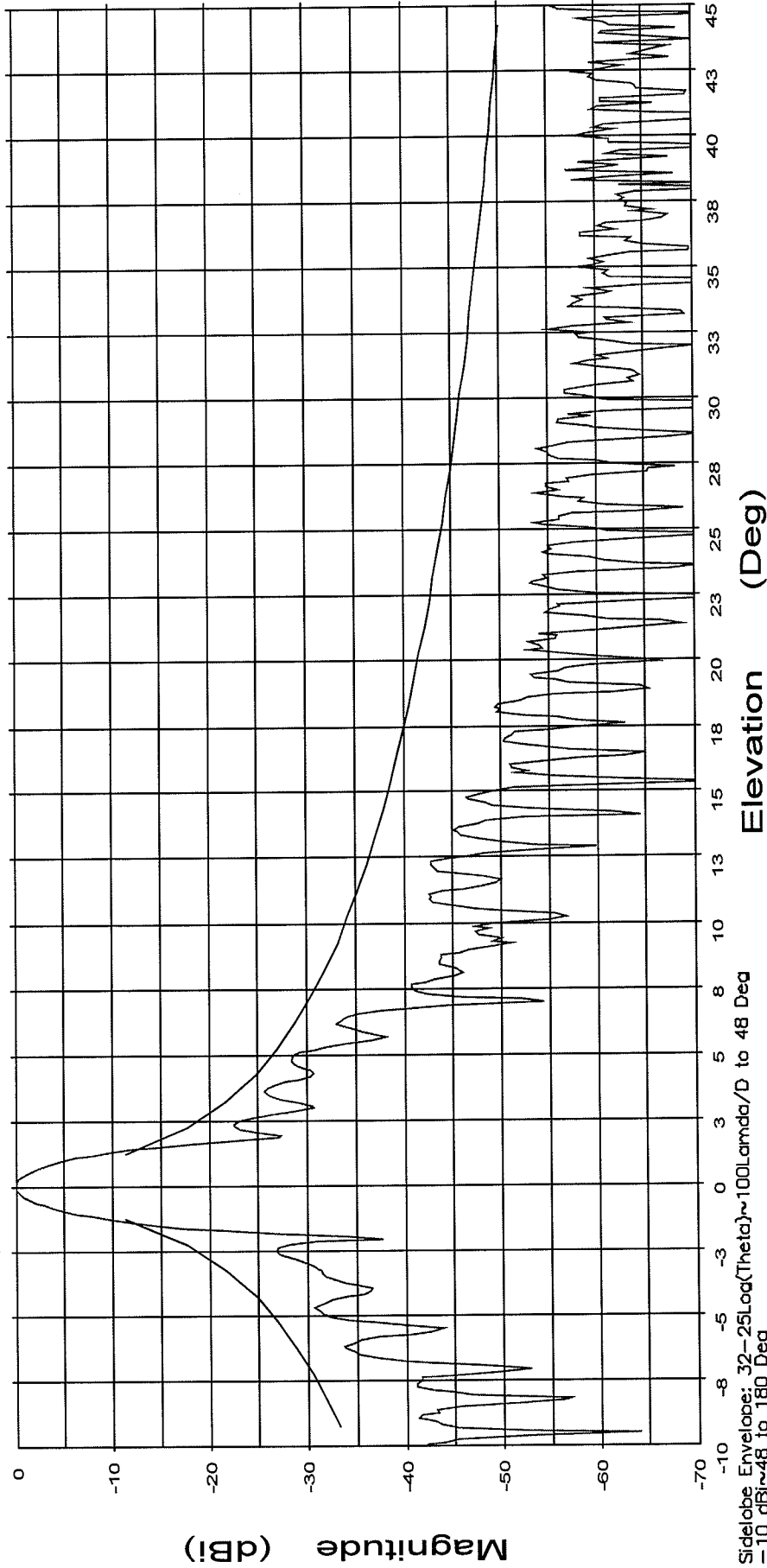
Frequency : 10.950 GHz

Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Overlays  
1629-28.dat-ant\_under\_test

Cal. file  
1629-28.dat

table  
SGH-110

channel  
ch1

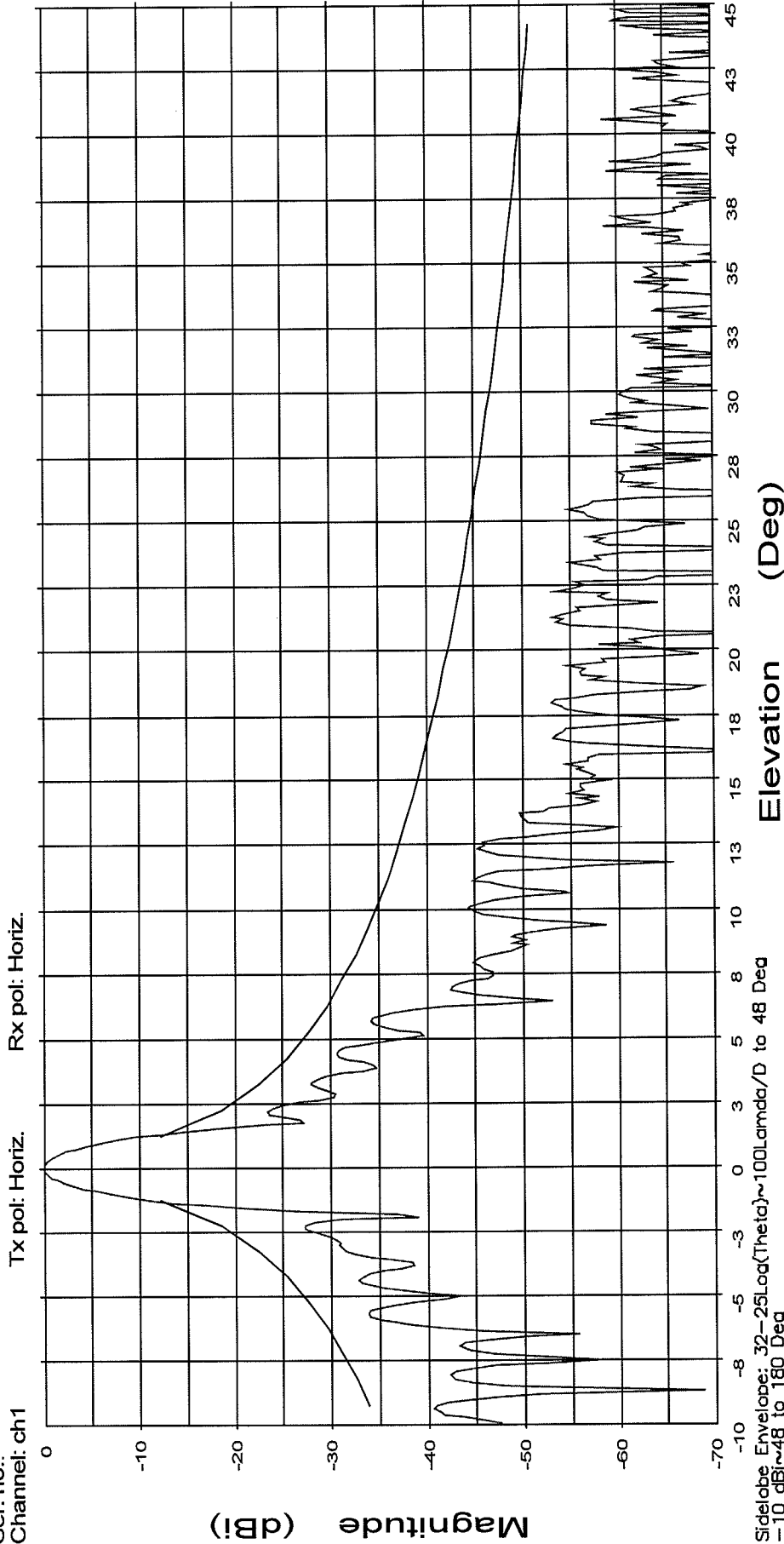
units  
dBi

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1



Overlays  
1629-28.dat-ant\_under\_test

Cal. file	table	channel	units
1629-28.dat	SGH-110	ch1	dBi

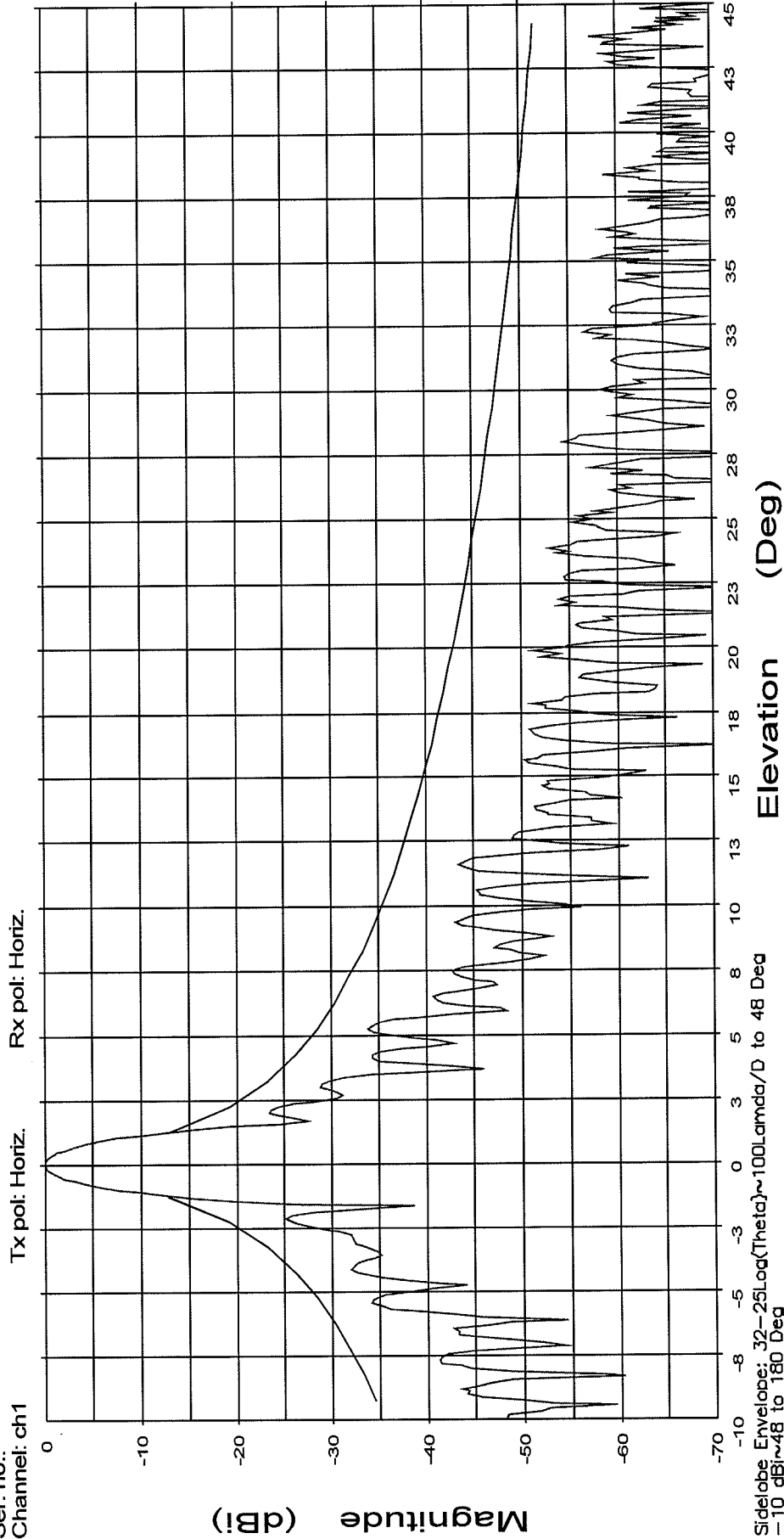
General Dynamics SATCOM Technologies  
East Maiden Test Facility  
4488 Lawing Chapel Church Road  
Maiden, North Carolina 28650

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1



Sidelobe Envelope: 32-25Log(Theta)~100Lamda/D to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-28.dat-ant\_under\_test

Cal. file  
1629-28.dat

table  
SGH-110

channel  
ch1

units  
dBi

Elevation (Deg)

File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 10.950 GHz

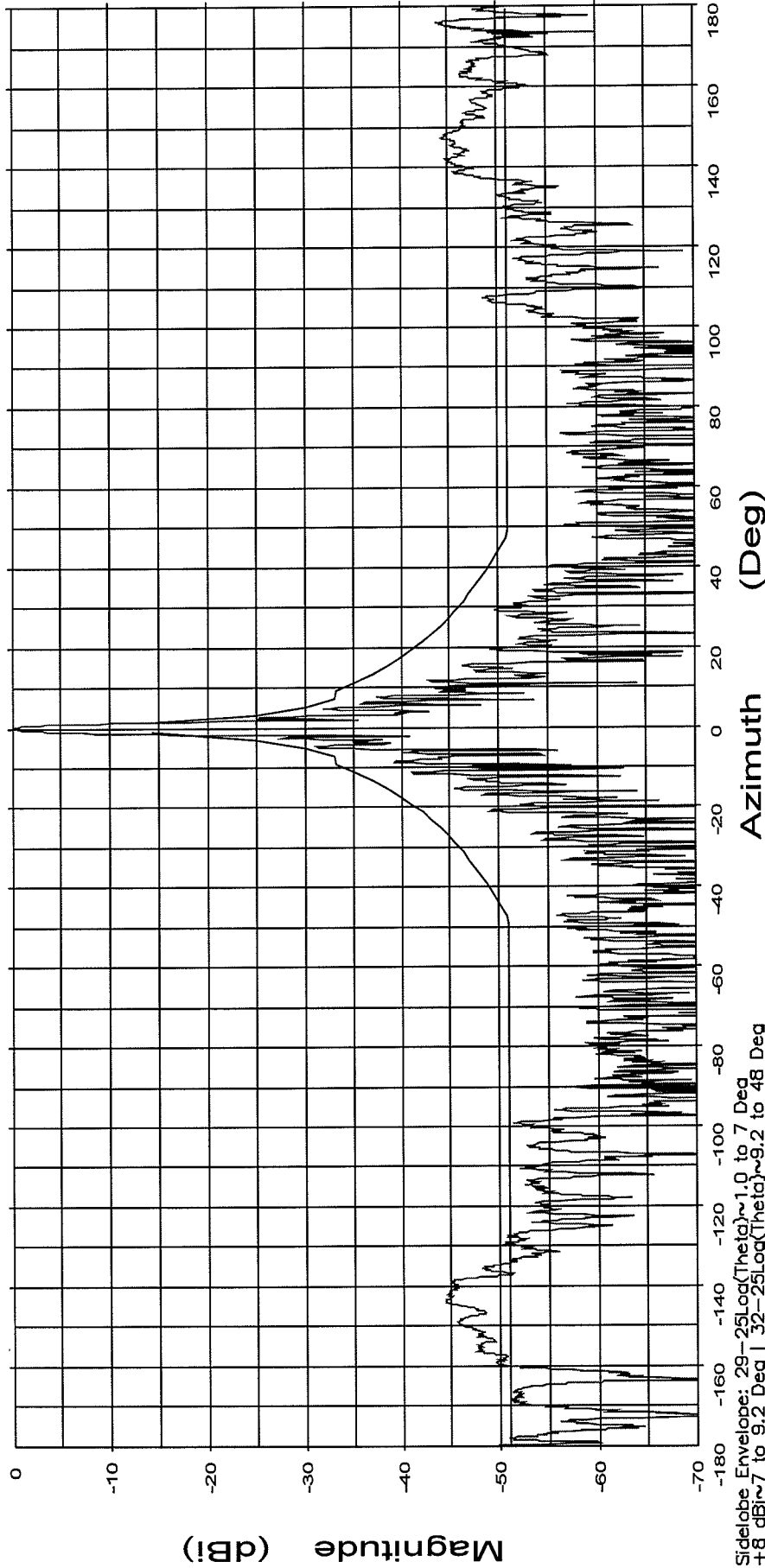
Operator: Keny Poovey

Ser. no.:

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29--25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32--25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test

Cal. file  
1629-24.dat

table  
SGH-110

channel  
ch1

units  
dBi



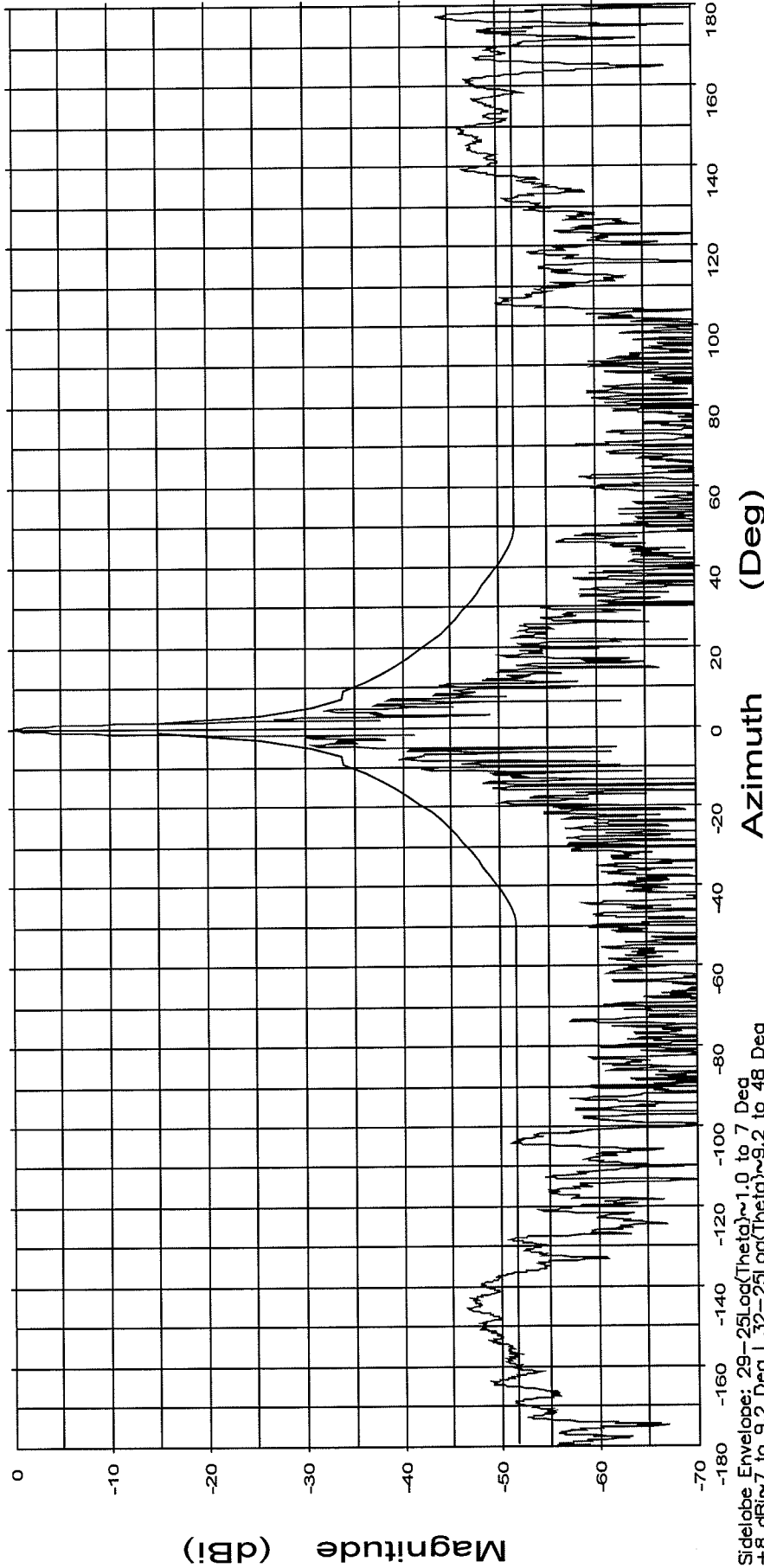
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 11.950 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

Overlays  
1629-29.dat-ant\_under\_test—  
Cal. file 1629-24.dat  
table SGH-110  
channel ch1  
units dBi

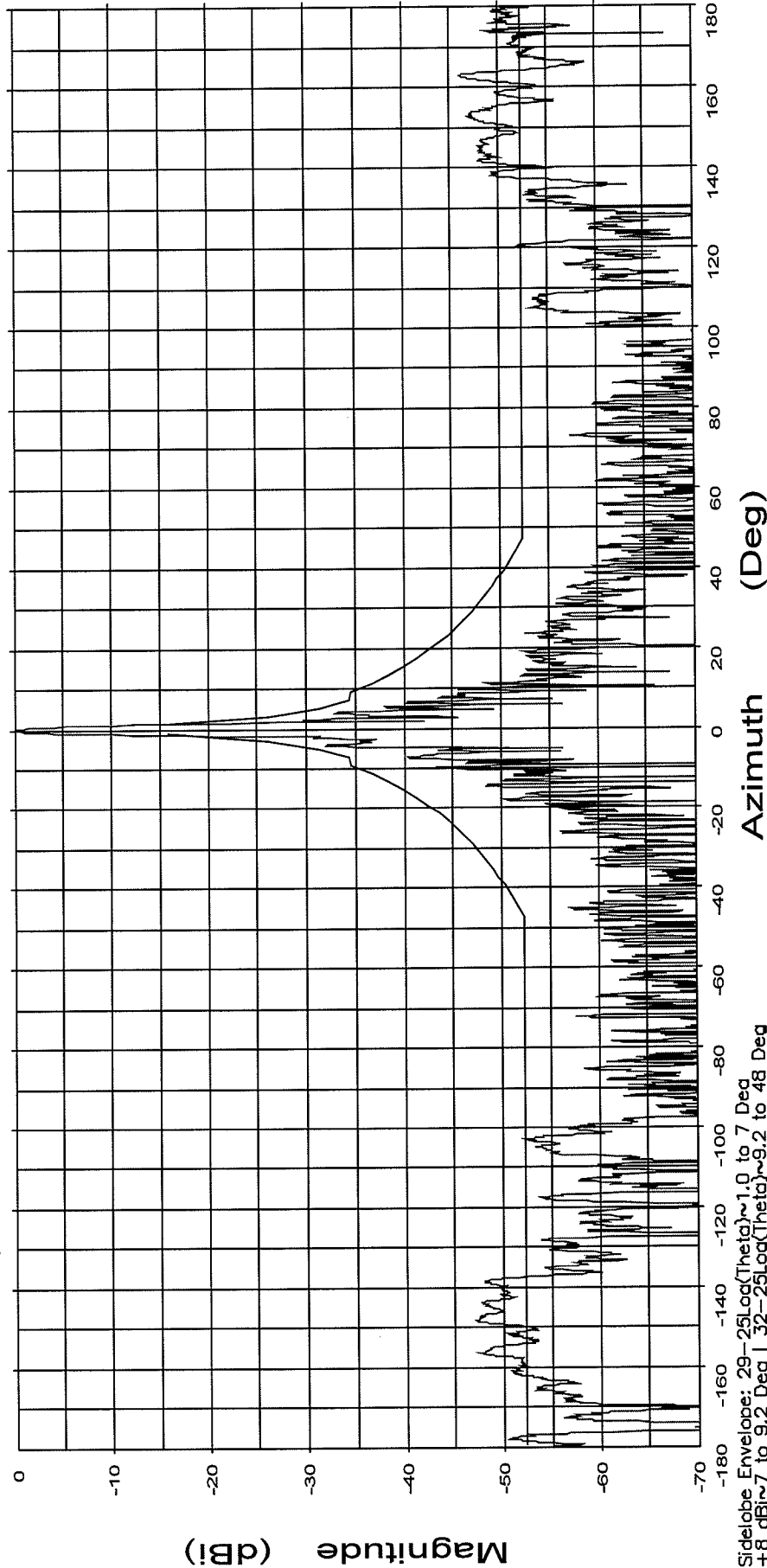
File: See Legend

Prodelin Series 1123  
1.2m Ku Band Antenna System

Frequency : 12.750 GHz

Operator: Keny Poovey  
Ser. no.:  
Channel: ch1

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~1.0 to 7 Deg  
+8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg  
-10 dBi~48 to 180 Deg

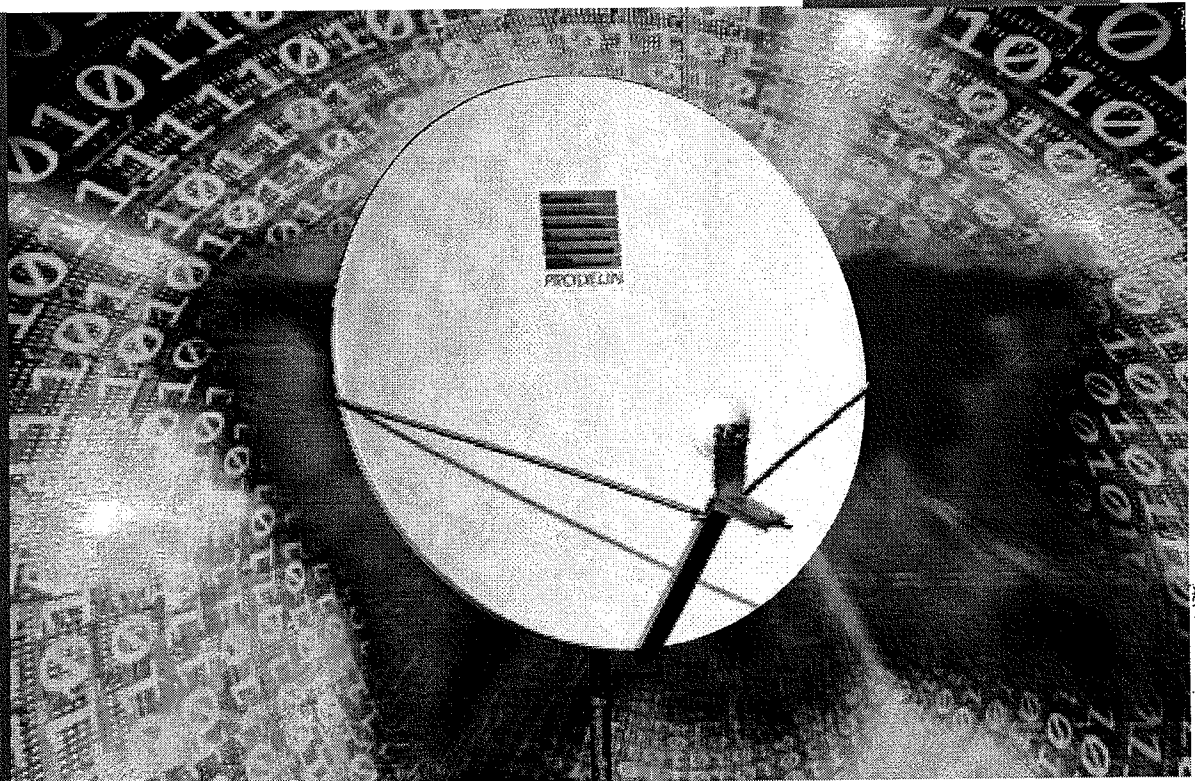
Overlays  
1629-29.dat~ant\_under\_test  
Cal. file 1629-24.dat  
table SGH-110  
channel ch1  
units dBi

1.2M KU-BAND

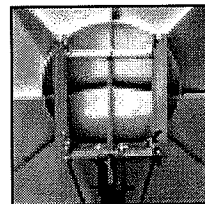
RX/TX

SERIES

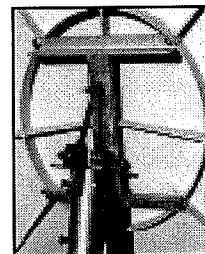
1123 & 1125



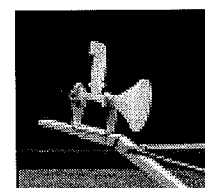
Prodelin Corporation is the world's largest manufacturer of Rx/Tx VSAT antennas. We have the broadest product line in the industry including Receive Only, Rx/Tx and Rural Telephony antenna systems. Prodelin offers nineteen antenna sizes, 47cm to 4.5M. Prodelin is the leader in obtaining type certifications and approvals for Intelsat, AsiaSat and Eutelsat. Prodelin antennas provide the best quality in the market due to the sophisticated, precision SMC compression molding process technology. Prodelin provides the best value antenna solution to the market with competitive prices, the highest quality products and superb engineering support. Prodelin is ISO registered, KEMA # 70022.01. *Prodelin - The Market Leader in VSAT Antennas.*



Back View  
Series 1123



Back View  
Series 1125



Option  
Feed Horn w/ OMT &  
Transmit Reject Filter

## Key Features

- Precision Compression Molded Offset Reflector
- Fully Galvanized Steel Mounts
- Optional Non-Penetrating Mast Mount Available
- Reflector/Feed Electrical Anti-Icing Available
- Low Cost Shipping and Easy Local Handling

(828) 464-4141

Receive/Transmit  
Series 1123 & 1125

1.2M KU-BAND

RX/TX

SERIES

1123 & 1125

Electrical		Series 1123 & 1125 Ku-Band	
Antenna Size		1.2 M (48 in.)	
Operating Frequency (GHz)	Receive	10.95 - 12.75	
	Transmit	14.0 - 14.5	
Midband Gain ( $\pm$ 2dB)	Receive	41.7 dBi	
	Transmit	43.2 dBi	
Antenna Noise Temperature	20° elevation	46 K	
	30° elevation	43 K	
Sidelobe Envelope, Co-Pol (dBi)	$1^\circ \leq \theta \leq 20^\circ$	29-25 Log $\theta$	
	$20^\circ < \theta \leq 26.3^\circ$	- 3.5 dBi	
	$26.3^\circ < \theta \leq 48^\circ$	32 -25 Log $\theta$	
	$48^\circ < \theta$	-10 dBi (averaged)	
Feed Interface		Available in a variety of designs	
Insertion Loss		0.2 dB max.	
Cross-Pol Isolation		>30 dB (on axis)	
VSWR		1.3:1 Max.	
Mechanical			
Reflector Material		Glass Fiber Reinforced Polyester SMC	
Antenna Optics		Prime Focus, Offset Feed	
Mount Type		Elevation over Azimuth	
Mast Pipe Size		2.5" SCH 40 Pipe (2.88" OD) 7.32 cm	
Elevation Adjustment Range		<b>Series 1123</b>	<b>Series 1125</b>
		5° to 90° Continuous Fine Adjustment	12° to 90° Continuous Fine Adjustment
Azimuth Adjustment Range		360° Continuous, $\pm$ 35° Fine	360° Continuous
Shipping Specifications		83 lbs. (37.6 kg.)	61 lbs. (27.7 kg.)
Environmental Performance			
Wind Loading	Operational	50 mph (80 km/h)	
	Survival	125 mph (201 km/h)	
Temperature	Operational	-40° to 140° F (-40° to 60° C)	
	Survival	-50° to 160° F (-46° to 71° C)	
Rain	Operational	1/2" /hr	
	Survival	2" /hr	
Ice	Operational	—	
	Survival	1/2" radial	
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas	
Solar Radiation		360 BTU/h/ft <sup>2</sup>	



1700 NE Cable Drive • Conover, NC 28613 USA  
Tel: (828) 464-4141 • Fax: (828) 466-0860  
[www.prodelin.com](http://www.prodelin.com)

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