

Antenna Test Report

Test No. 1121

89cm Ku-Band
Rx/Tx Antenna System



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Antenna Patterns

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Section I

Frequencies Tested

89cm Ku-Band Rx/Tx
Antenna System
Test No. 1121

Frequency	Vertical	Horizontal
14.50	✓	✓
14.25	✓	✓
14.00	✓	✓
13.75	✓	✓
12.75	✓	✓
12.20	✓	✓
11.95	✓	✓
10.95	✓	✓

Section II

Gain Analysis
89cm Ku-Band Rx/Tx
Antenna System

Test No. 1121

Frequency	Polarization	Gain
13.75	Vertical	40.12
14.00	Vertical	40.27
14.25	Vertical	40.51
14.50	Vertical	40.74

Frequency	Polarization	Gain
13.75	Horizontal	40.29
14.00	Horizontal	40.44
14.25	Horizontal	40.68
14.50	Horizontal	40.91

Frequency	Polarization	Gain
10.95	Vertical	38.26
11.95	Vertical	38.99
12.20	Vertical	39.11
12.75	Vertical	39.45

Frequency	Polarization	Gain
10.95	Horizontal	38.35
11.95	Horizontal	39.12
12.20	Horizontal	39.27
12.75	Horizontal	39.63

Section III

X-Pol Analysis

89cm Ku-Band Rx/Tx Antenna System

Test No. 1121

Frequency	Polarization	On Axis X-Pol Azimuth Plane	On Axis X-Pol Elevation Plane
13.75	Vertical	43.60	43.23
14.00	Vertical	41.36	37.52
14.25	Vertical	35.22	51.83
14.50	Vertical	46.42	52.57

Frequency	Polarization	On Axis X-Pol Azimuth Plane	On Axis X-Pol Elevation Plane
13.75	Horizontal	46.95	47.04
14.00	Horizontal	45.11	42.88
14.25	Horizontal	50.48	33.04
14.50	Horizontal	42.71	39.24

Frequency	Polarization	On Axis X-Pol Azimuth Plane	On Axis X-Pol Elevation Plane
10.95	Vertical	34.11	32.37
11.95	Vertical	33.28	31.15
12.20	Vertical	36.80	34.24
12.75	Vertical	47.11	47.04

Frequency	Polarization	On Axis X-Pol Azimuth Plane	On Axis X-Pol Elevation Plane
10.95	Horizontal	31.77	33.49
11.95	Horizontal	35.07	33.21
12.20	Horizontal	37.51	35.96
12.75	Horizontal	43.86	40.69

Section IV

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

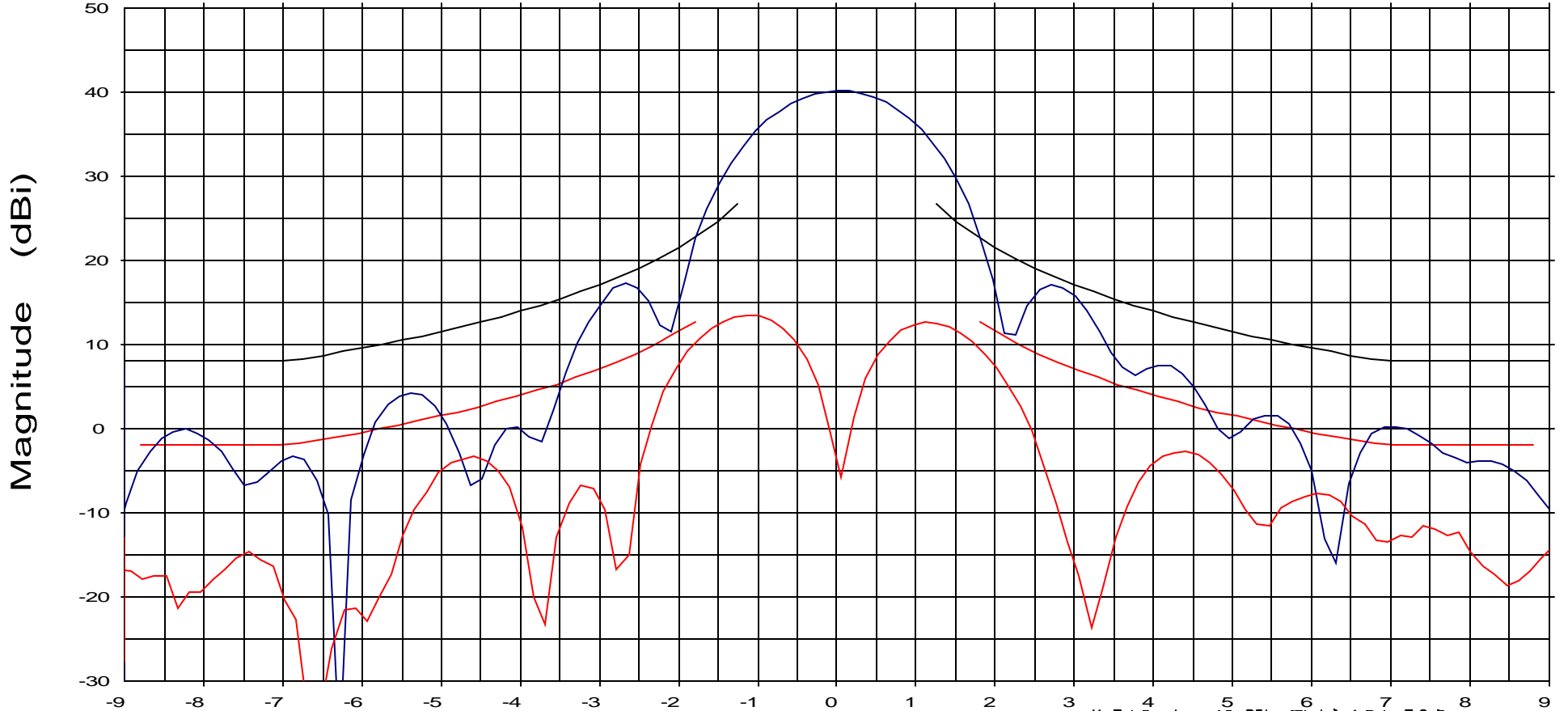
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

Beam Peak
 Deg dB
 0.03 40.12
 -1.14 13.44

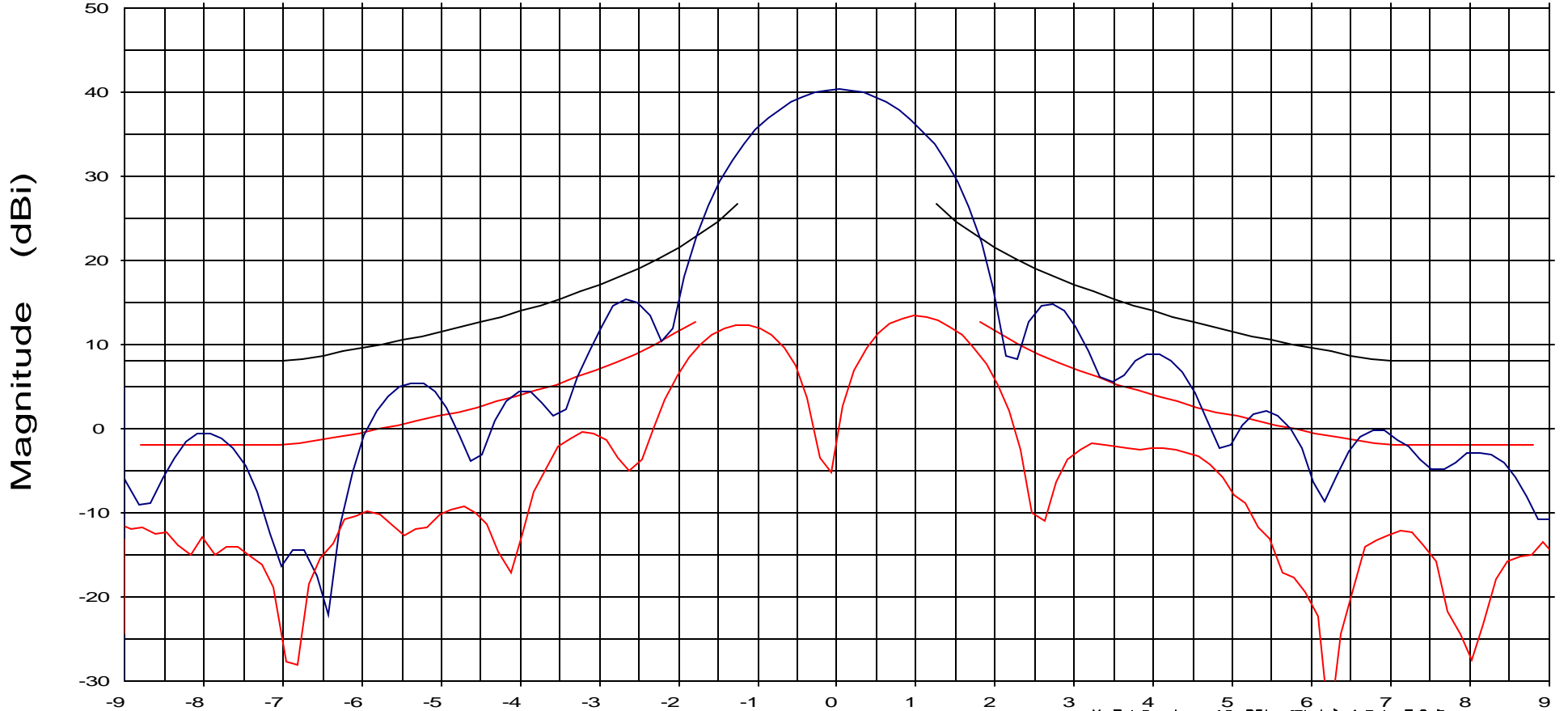
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

units
 dBi
 dBi

Beam Peak
 Deg dB
 0.02 40.27
 1.05 13.32

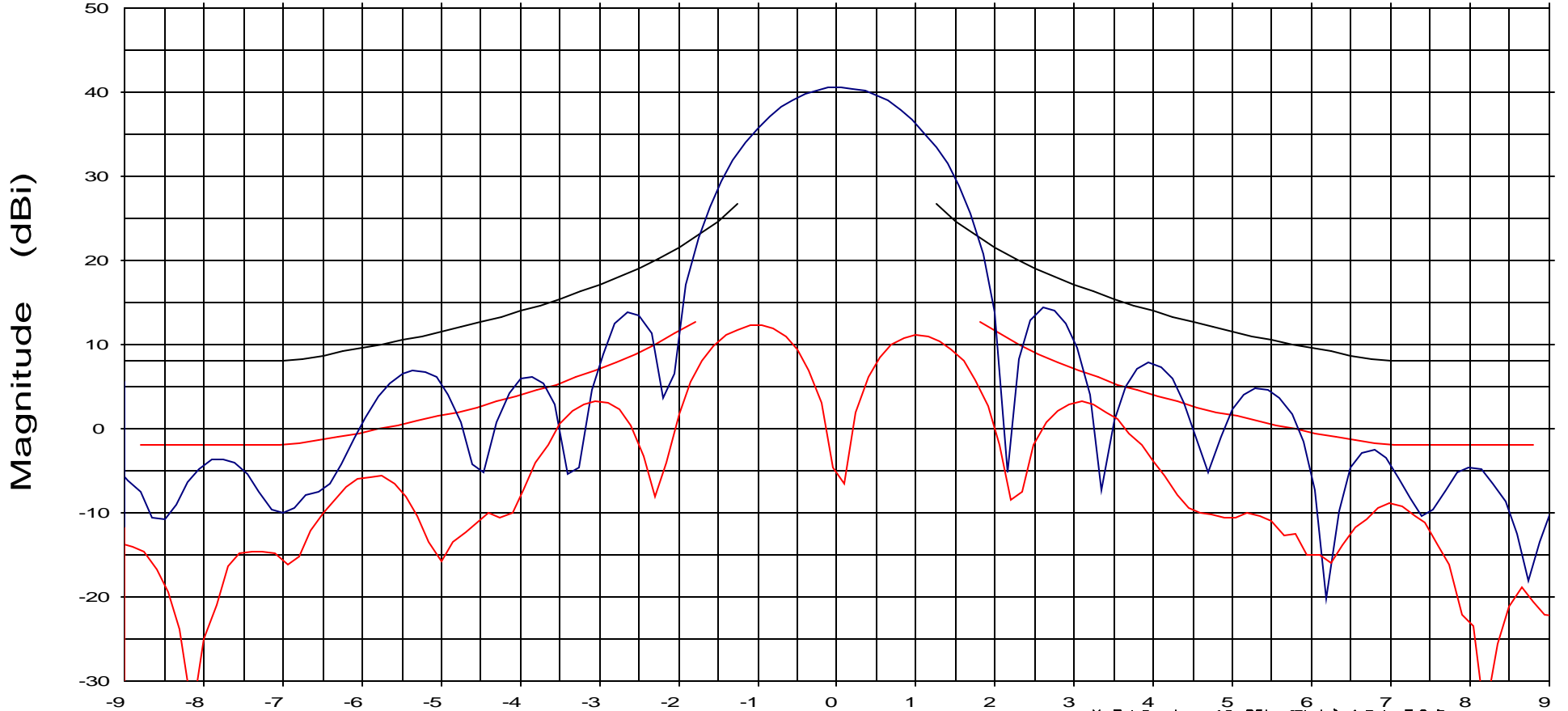
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file	units
112109.dat	dBi
112112.dat	dBi

Beam Peak	
Deg	dB
0.03	40.51
-1.05	12.25

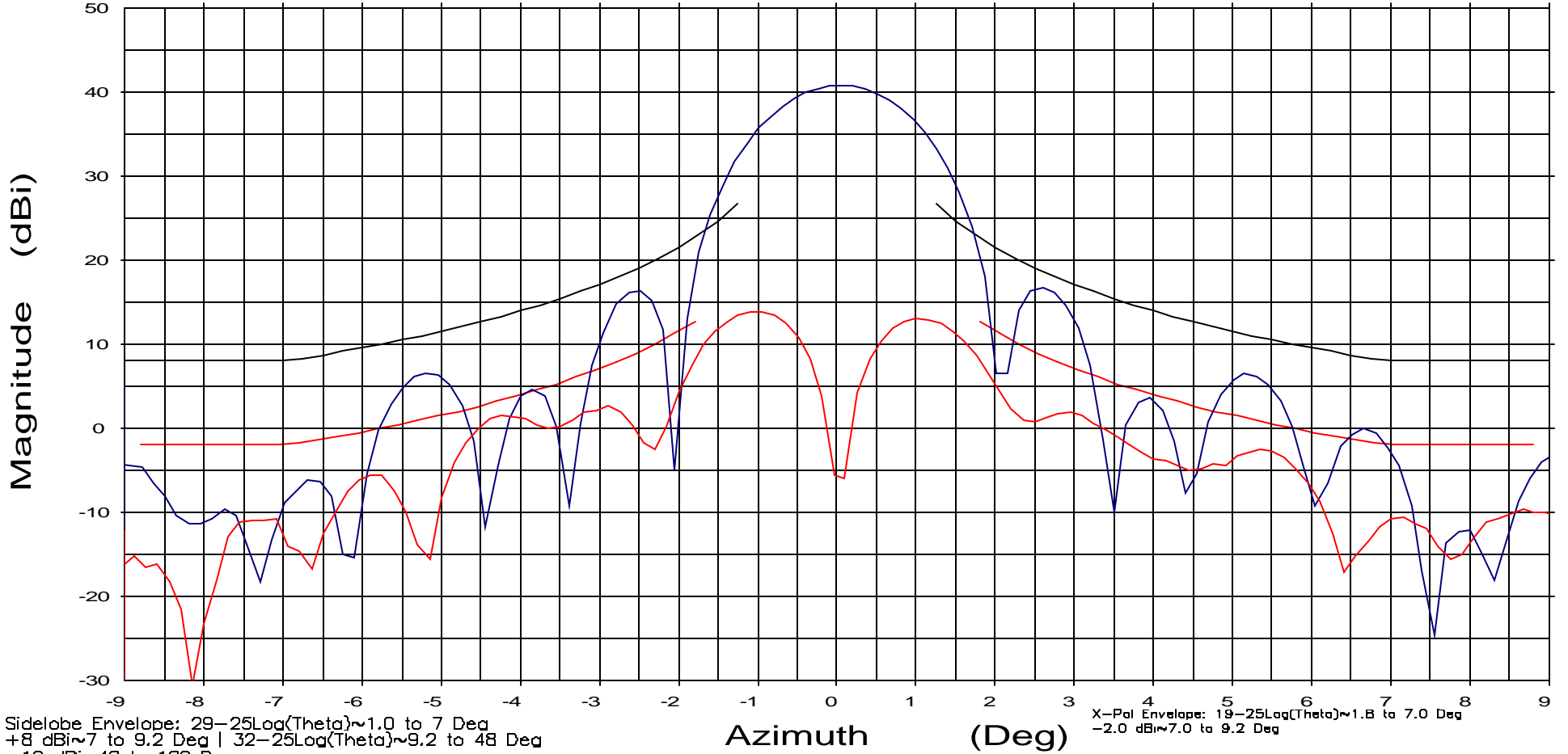
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

units
 dBi
 dBi

Beam Peak
 Deg dB
 0.04 40.74
 -1.05 13.84

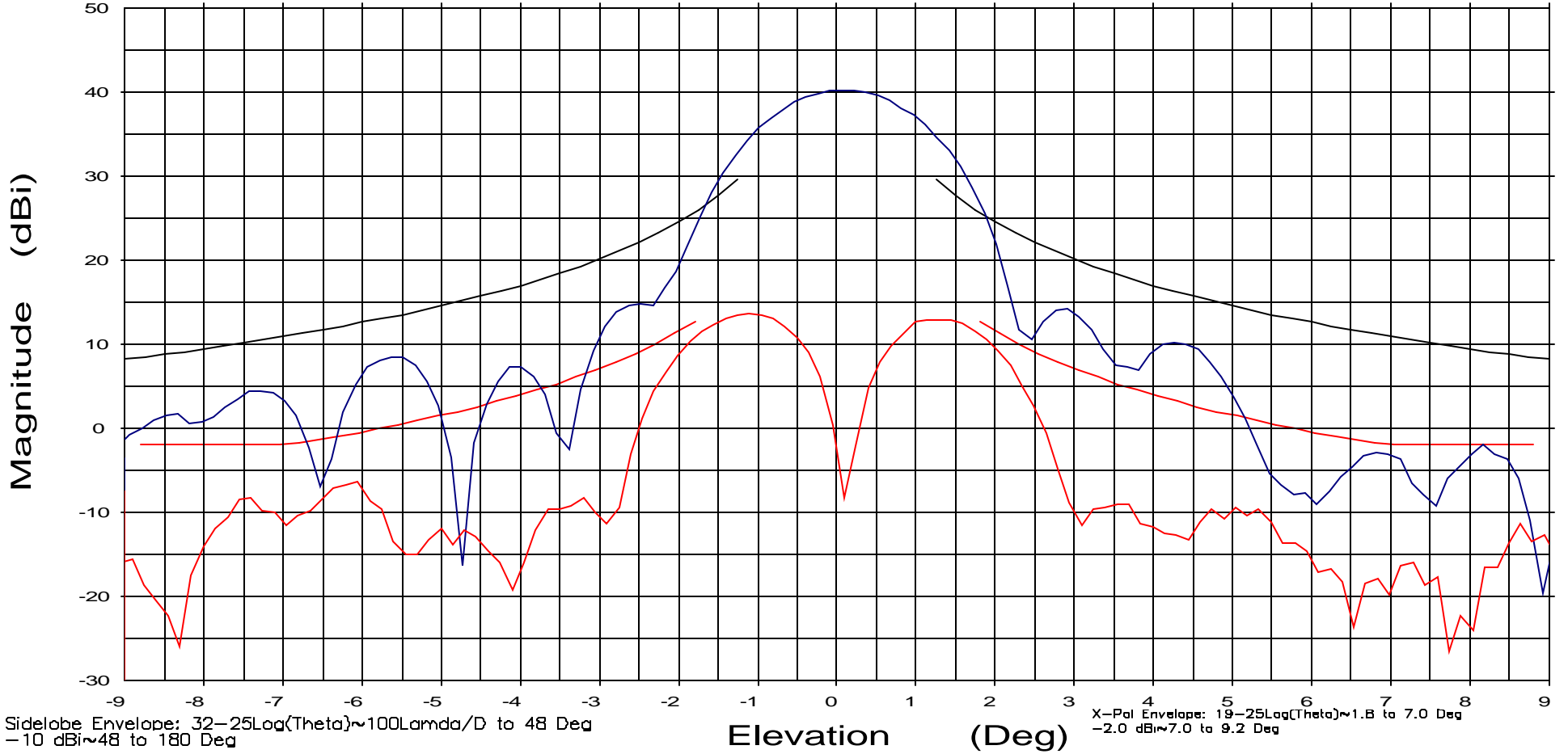
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays
 112111.dat-ant_under_test — blue line
 112115.dat-ant_under_test — red line

Cal. file units
 112111.dat dBi
 112115.dat dBi

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

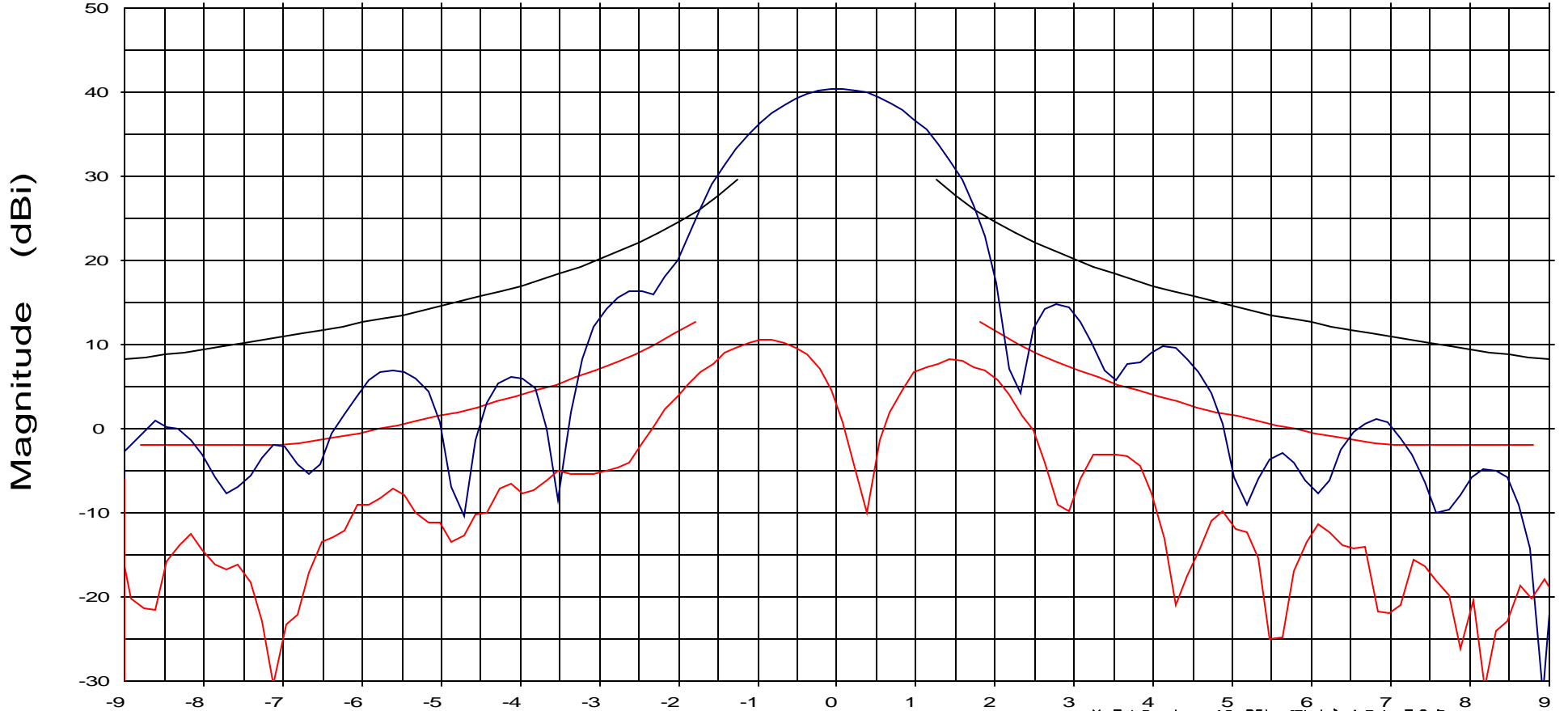
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda / D$ to 48 Deg
-10 dBi \sim 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi \sim 7.0 to 9.2 Deg

Elevation (Deg)

Overlays

112111.dat-ant_under_test	—
112115.dat-ant_under_test	—

Cal. file	units
112111.dat	dBi
112115.dat	dBi

Beam Peak	
Deg	dB
0.02	40.32
-0.93	10.50

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

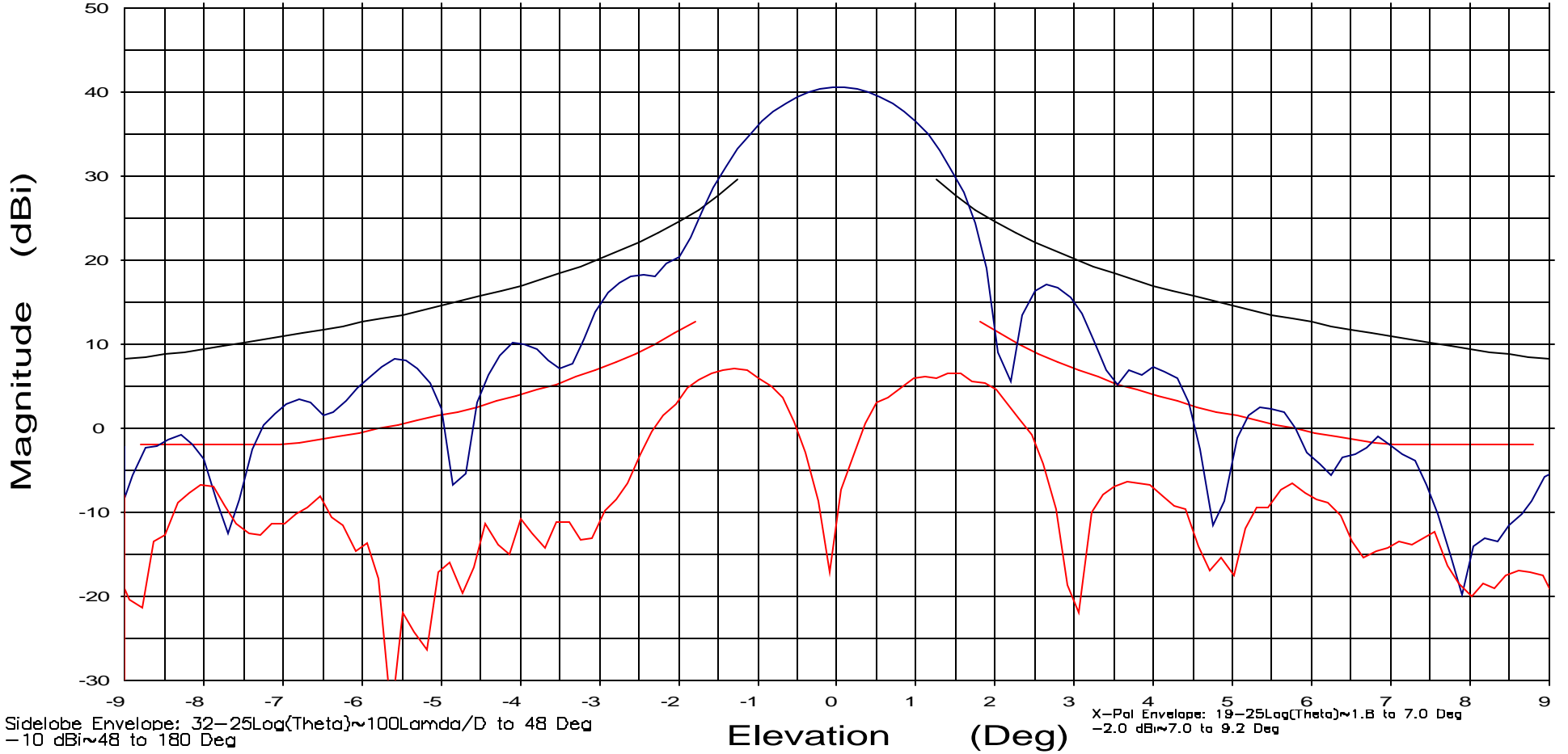
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays
 112111.dat-ant_under_test — blue line
 112115.dat-ant_under_test — red line

Cal. file
 112111.dat
 112115.dat

units	Beam Peak	Deg	dB
dBi	0.02		40.53
dBi	-1.34		7.06

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

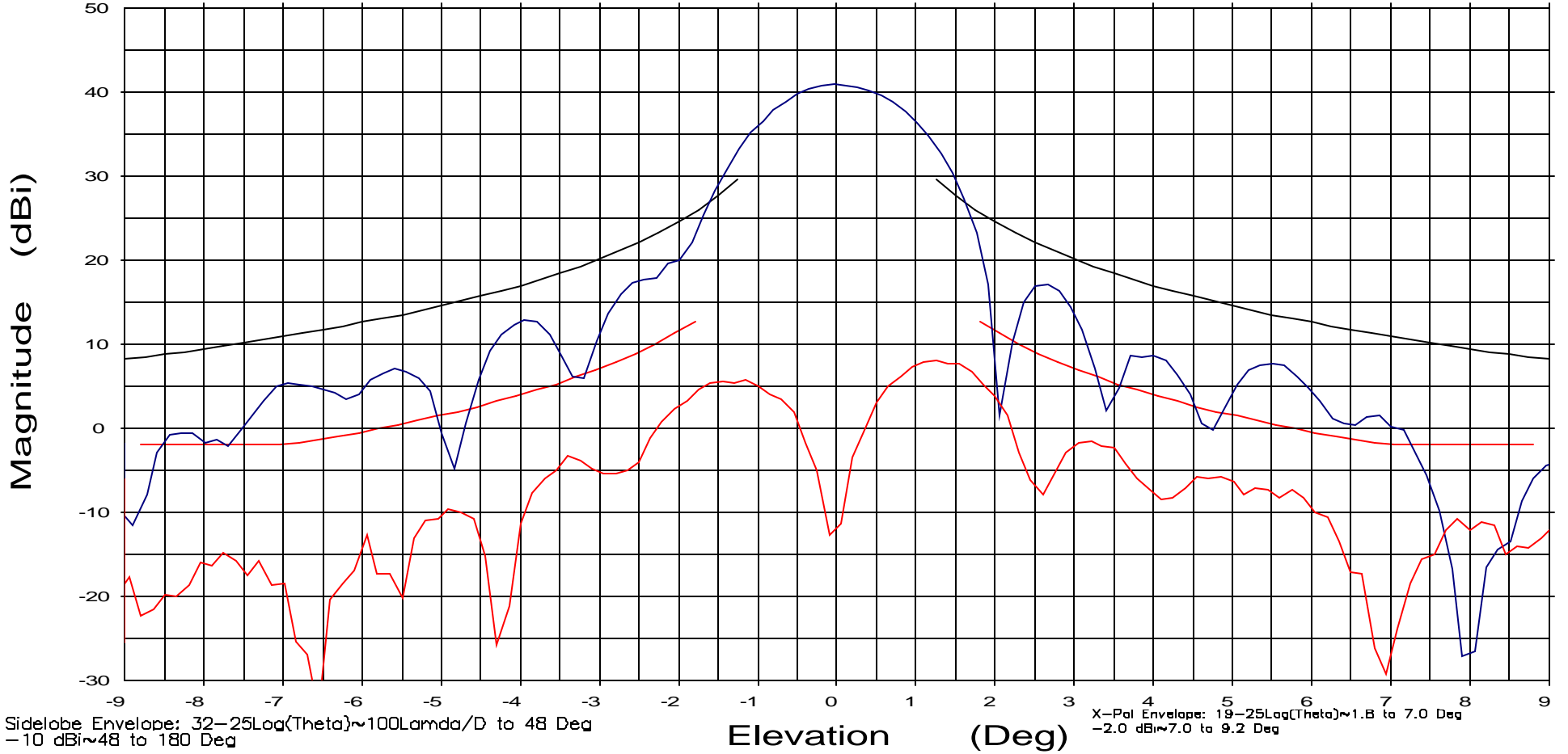
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda / D$ to 48 Deg
-10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi ~ 7.0 to 9.2 Deg

Overlays

112111.dat-ant_under_test	—
112115.dat-ant_under_test	—

Cal. file	units
112111.dat	dBi
112115.dat	dBi

Beam Peak	Deg	dB
	0.02	40.79
	1.26	8.08

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

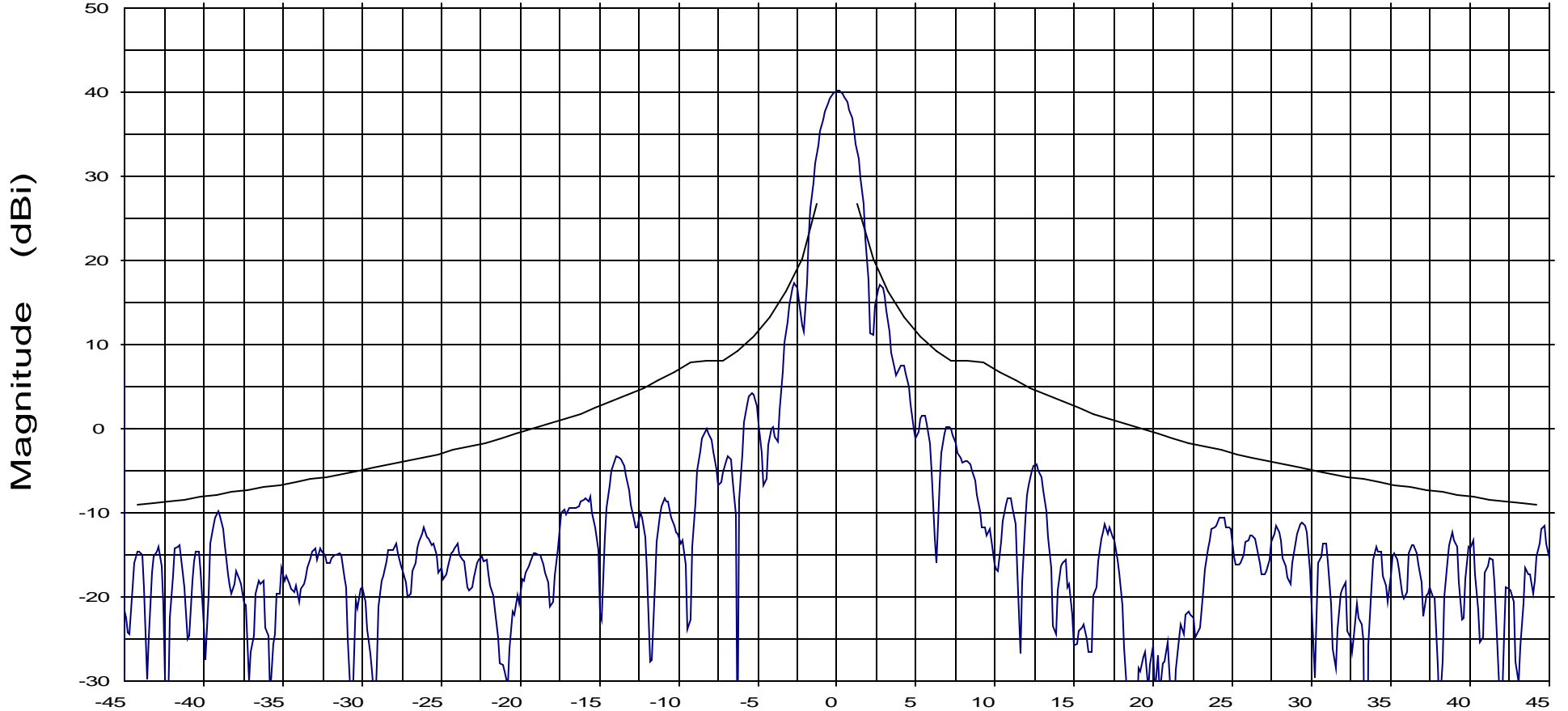
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test

Cal. file
112109.dat

units
dBi

Beam Peak
 Deg dB
 0.03 40.12

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

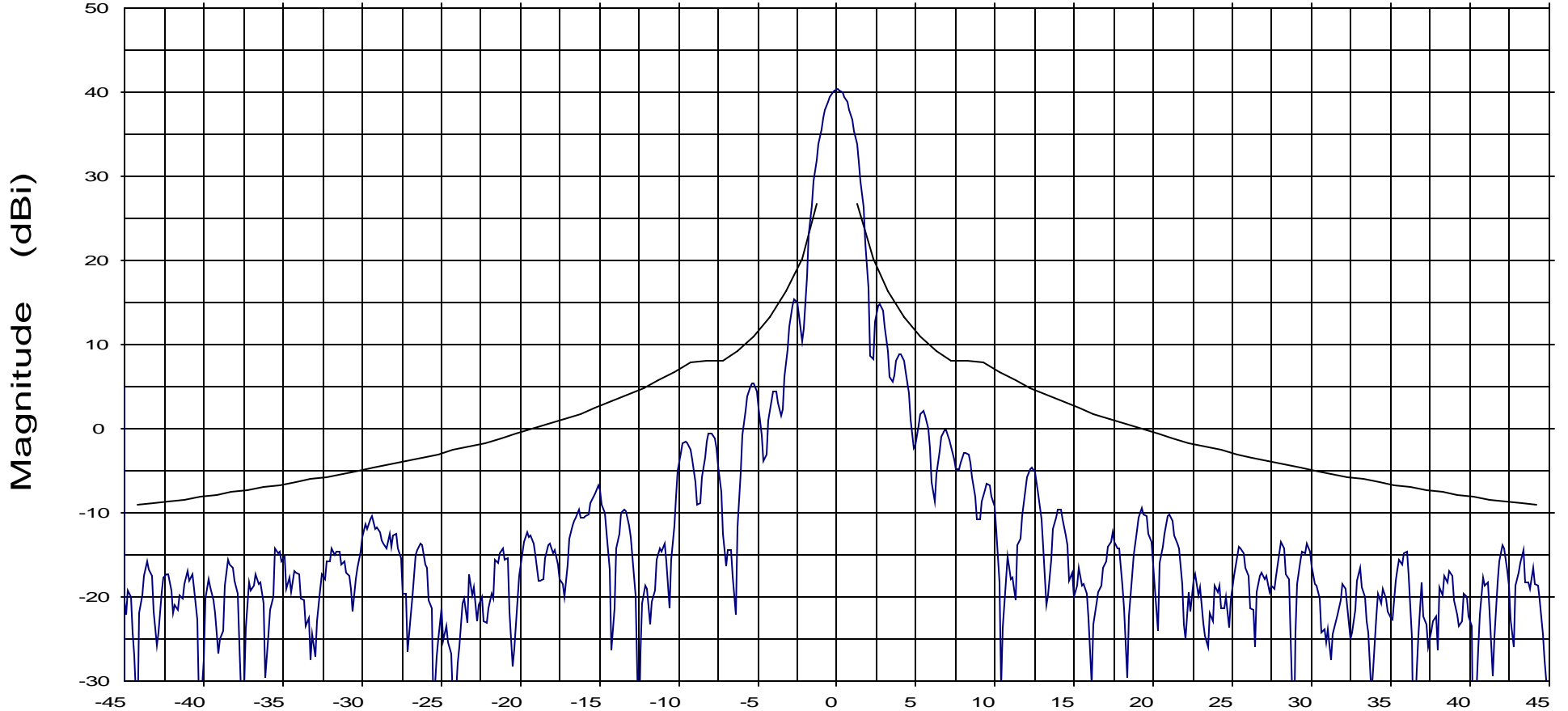
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak
 Deg dB
 0.02 40.27

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

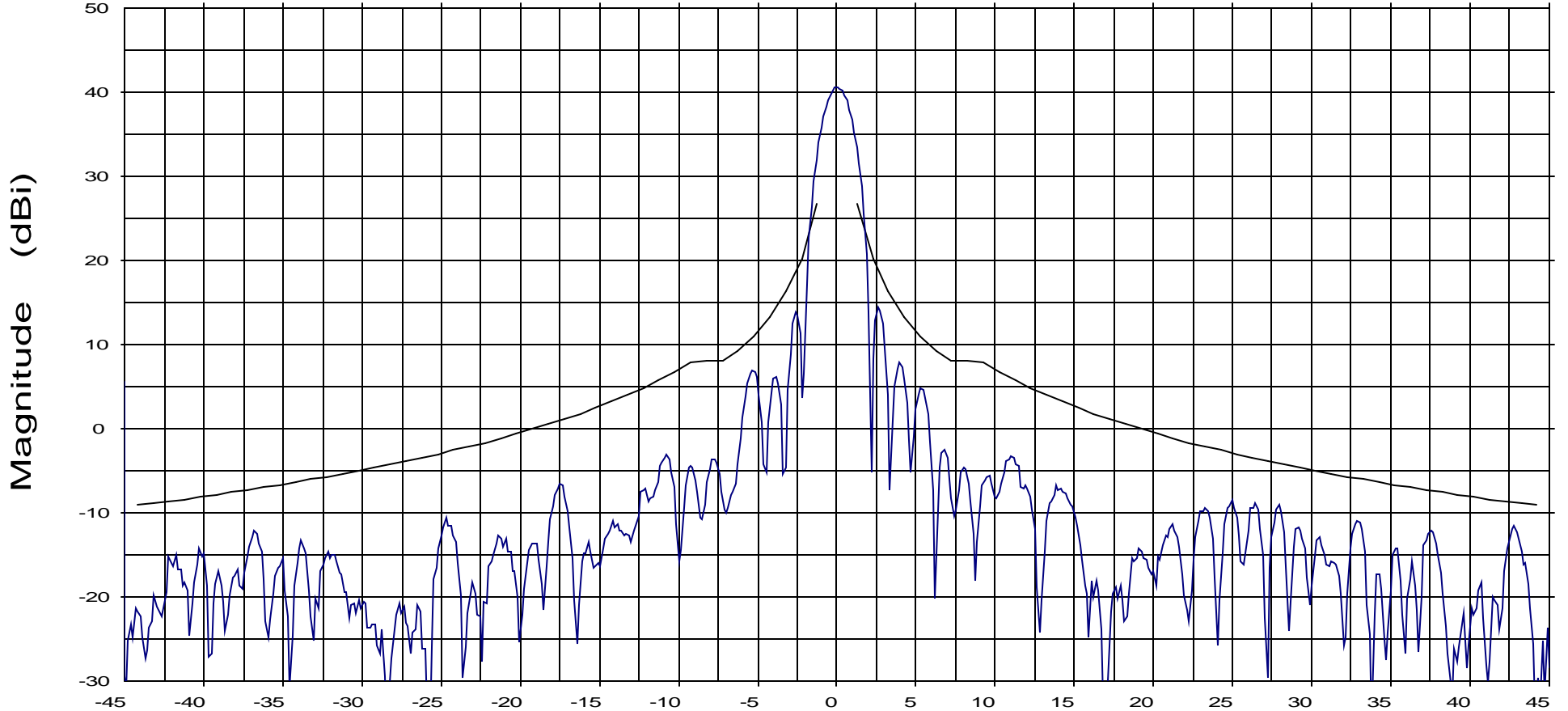
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak
 Deg dB
 0.03 40.51

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

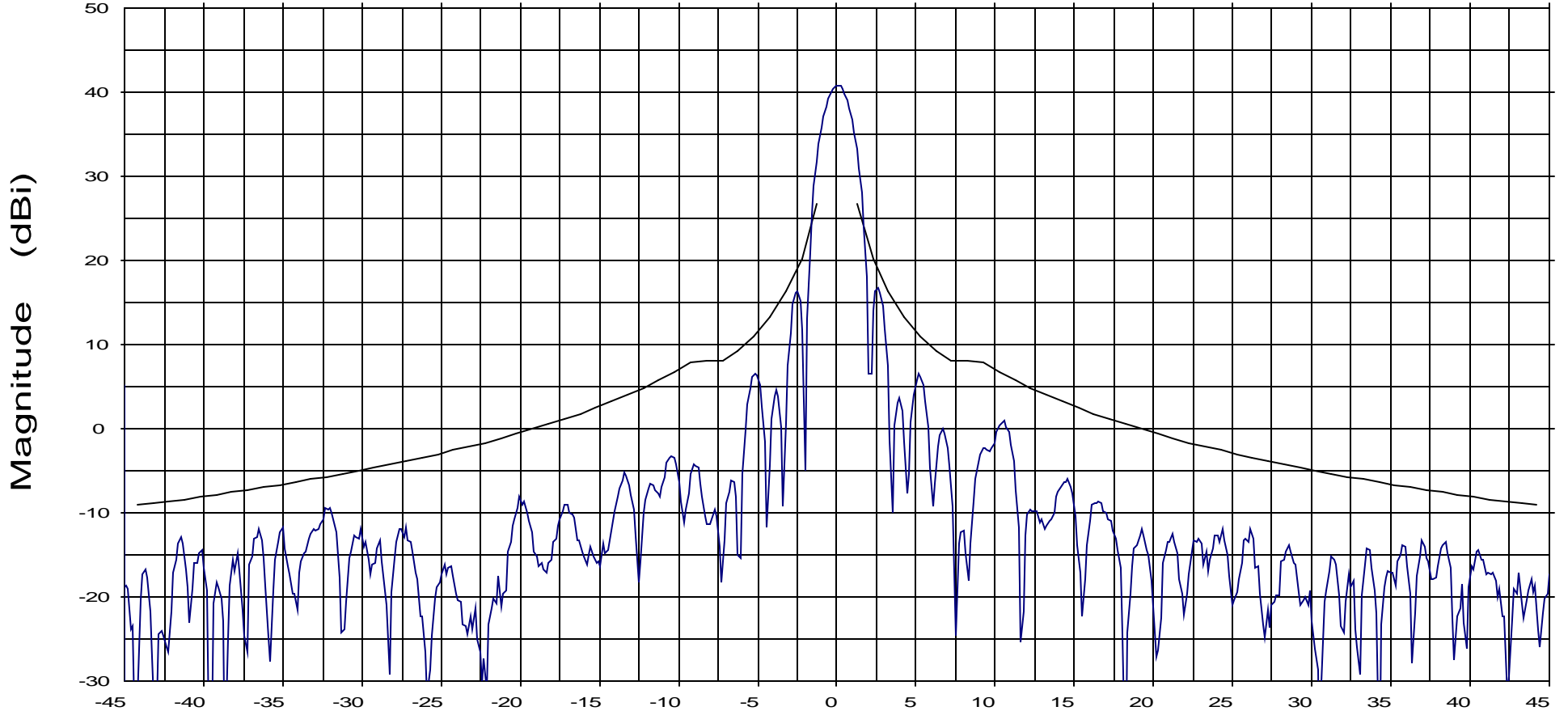
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.04 40.74

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

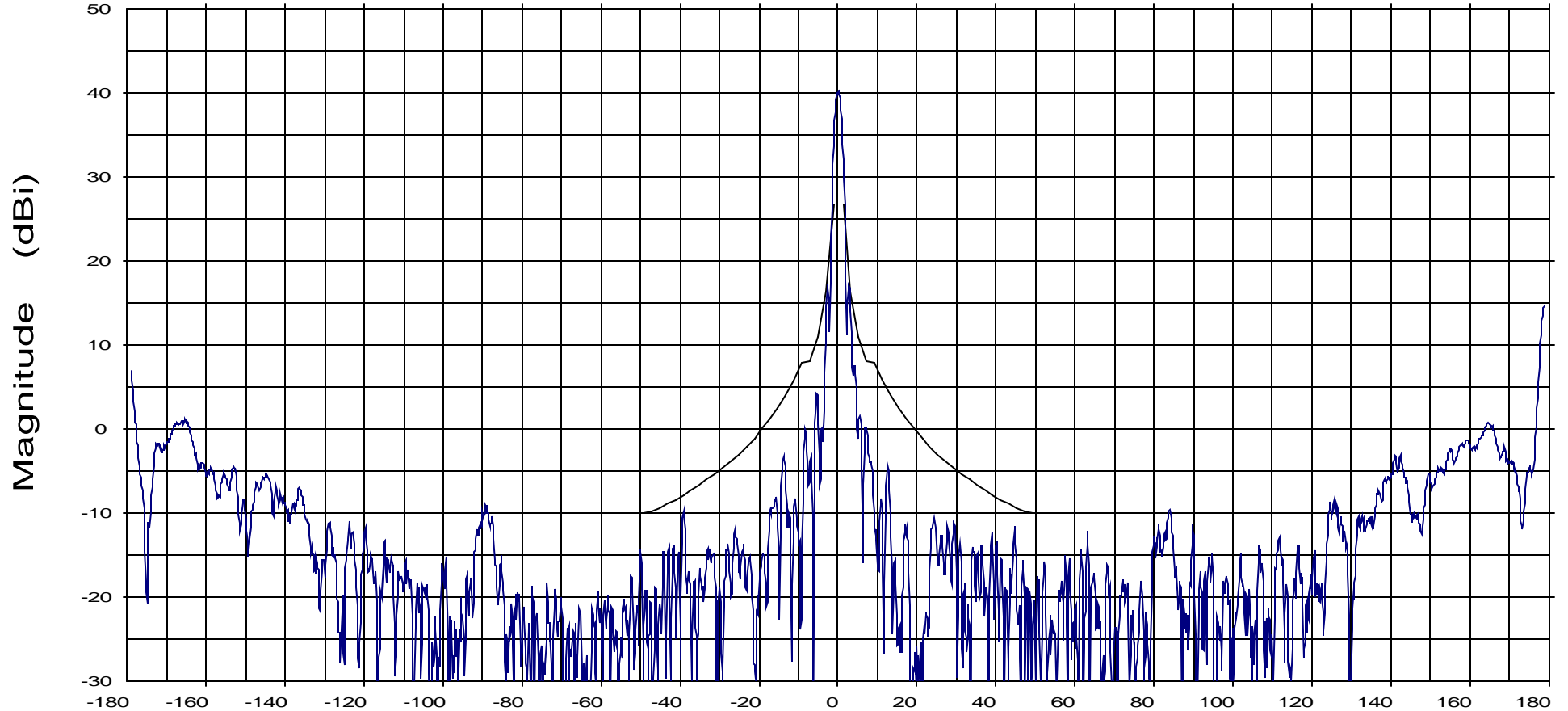
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak
Deg dB
0.03 40.12

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

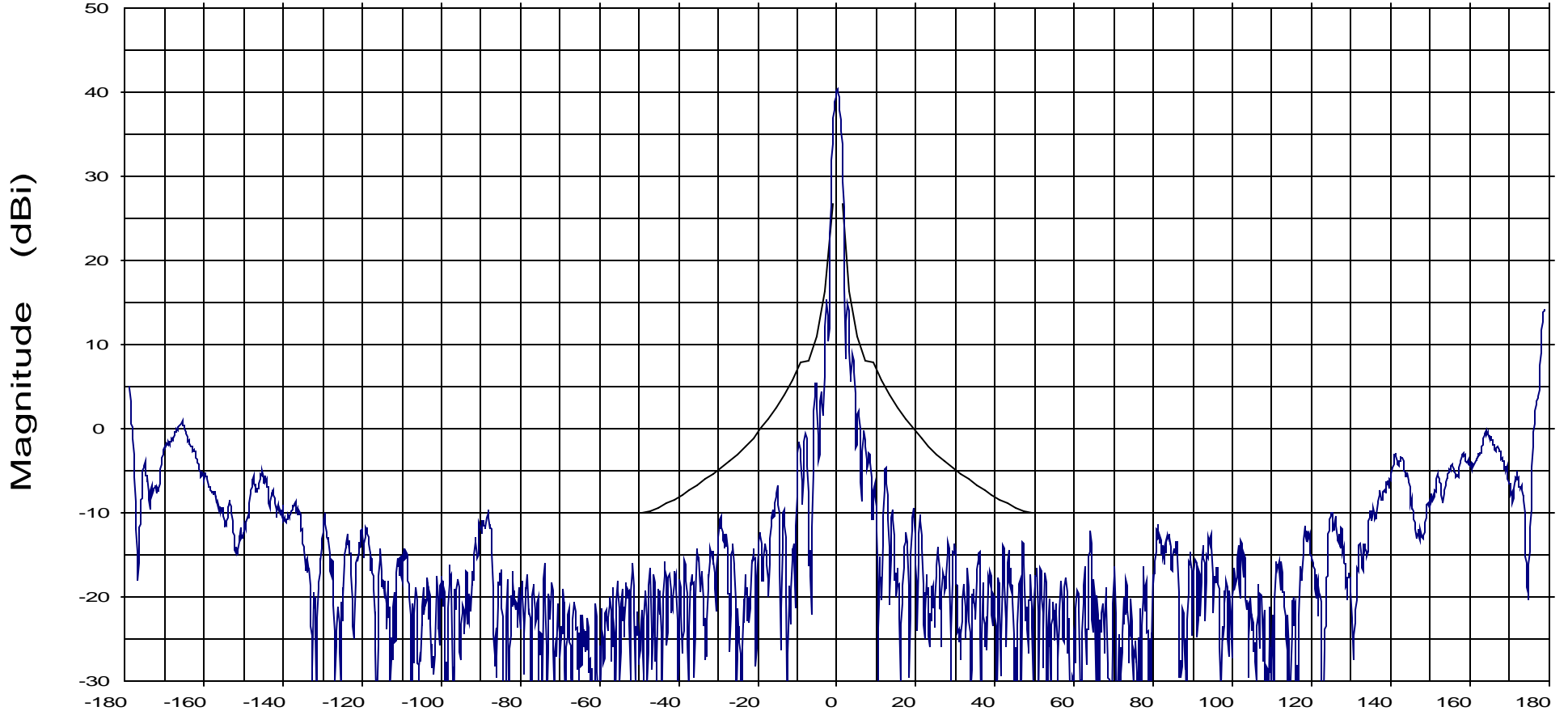
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Azimuth (Deg)

Beam Peak
 Deg dB
 0.02 40.27

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

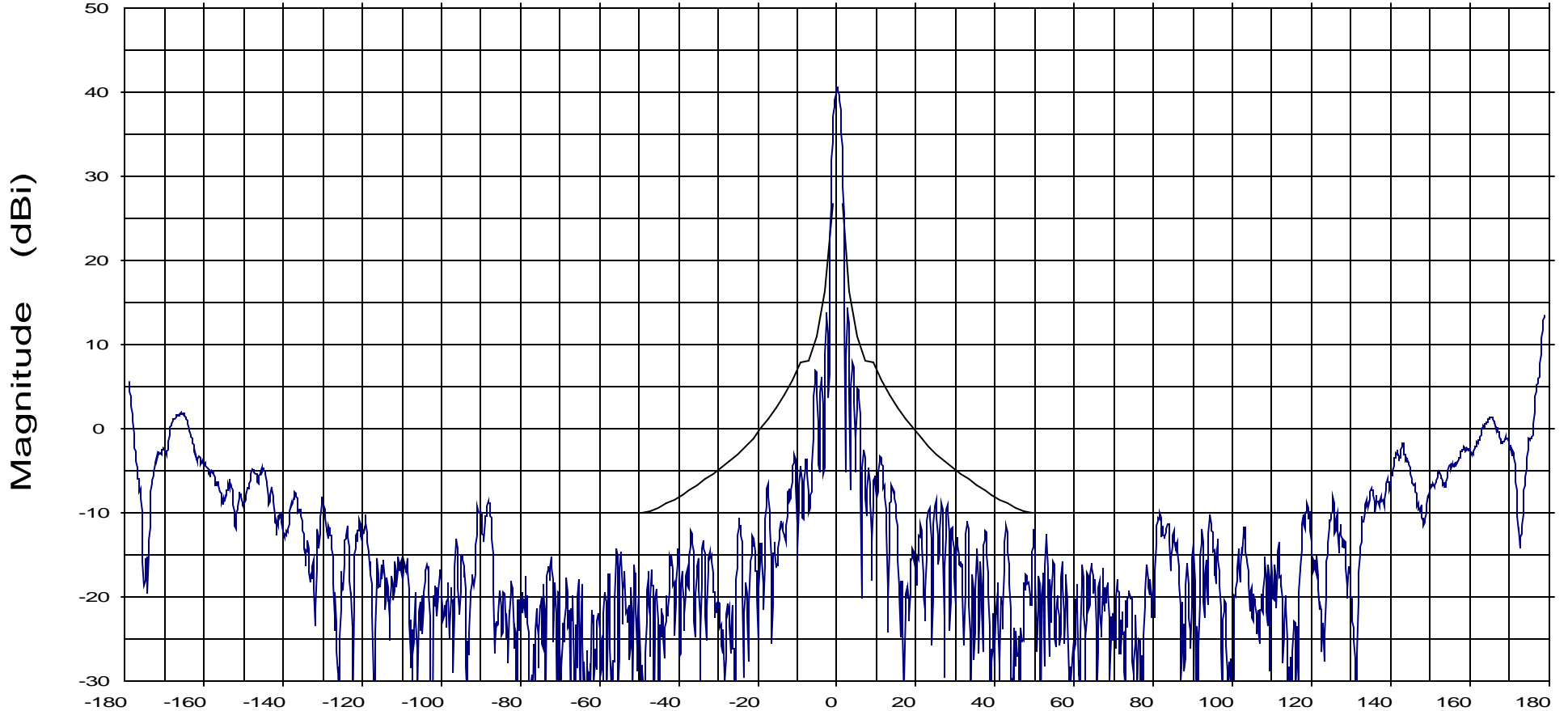
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.03 40.51

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

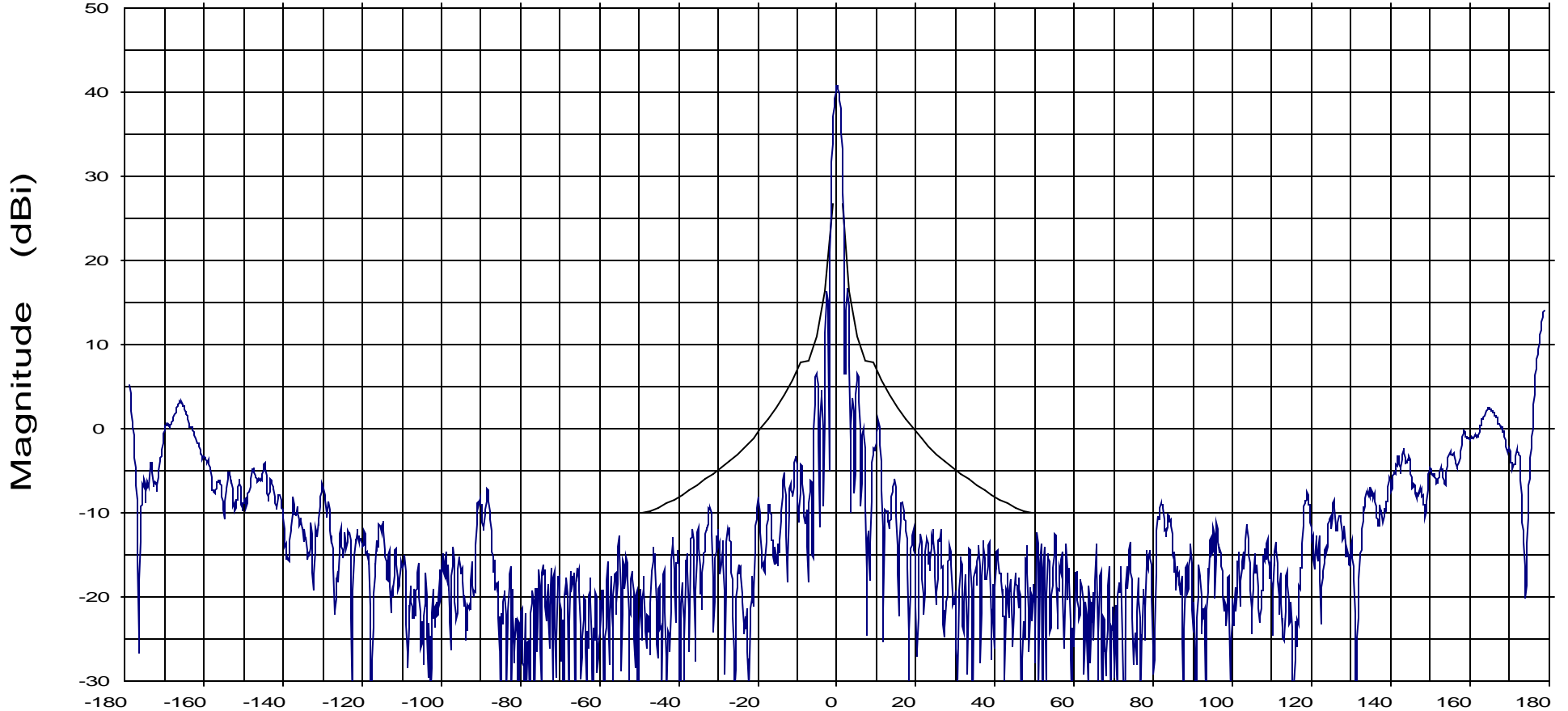
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.04 40.74

Section V

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

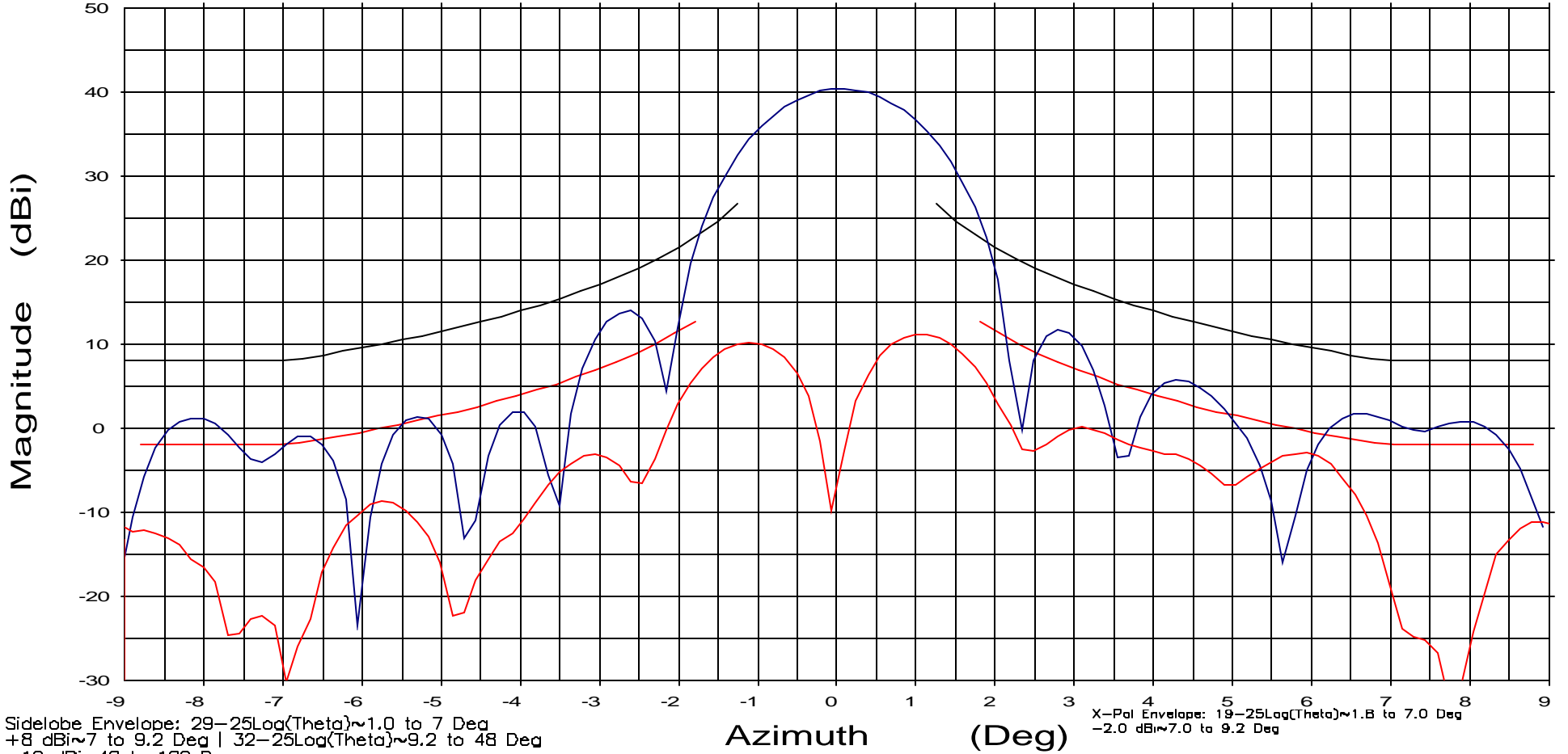
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112119.dat-ant_under_test — blue line
 112123.dat-ant_under_test — red line

Cal. file
 112119.dat
 112123.dat

units
 dBi
 dBi

Beam Peak
 Deg dB
 0.06 40.29
 1.09 11.04

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

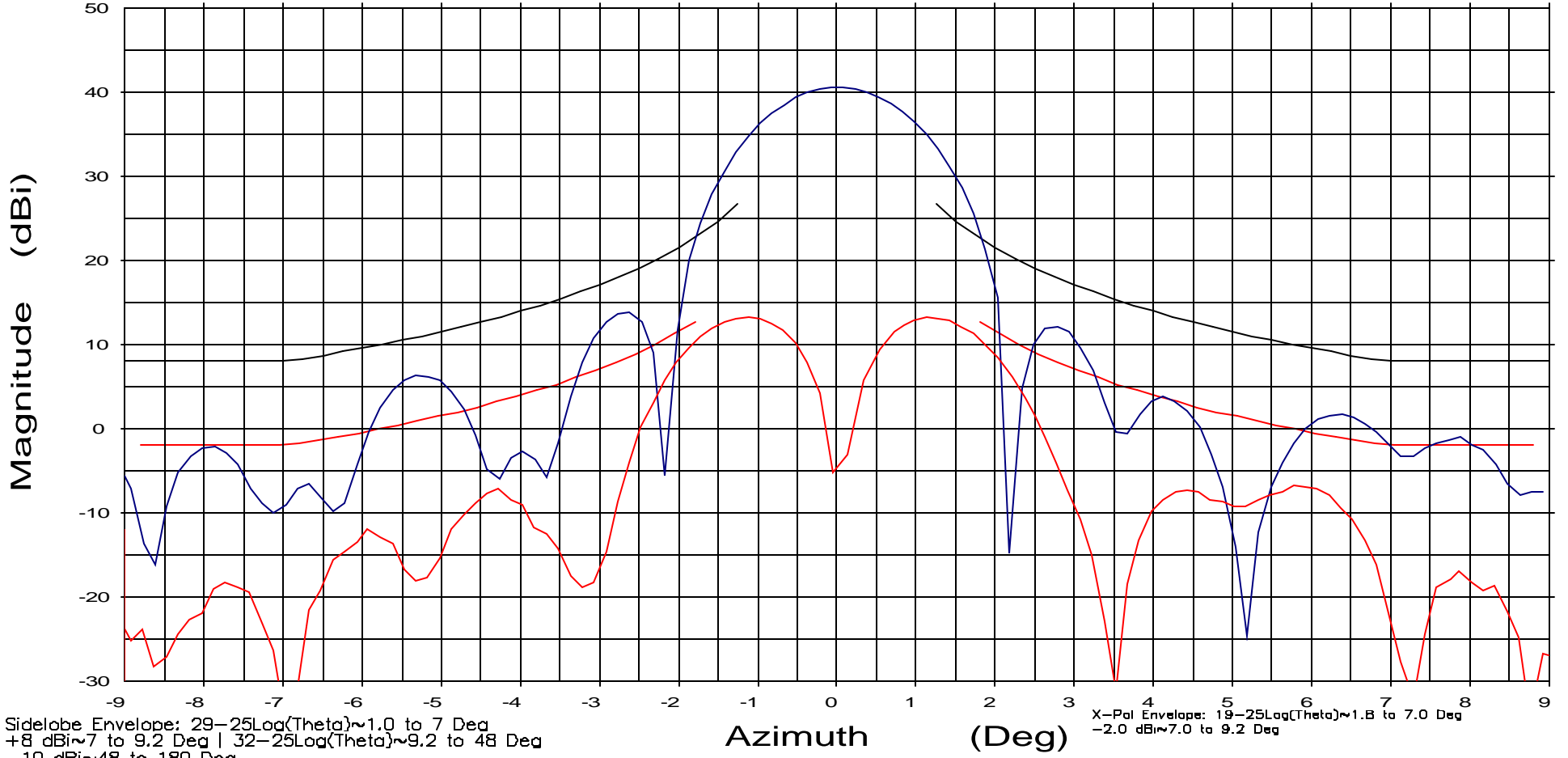
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112119.dat-ant_under_test — blue line
 112124.dat-ant_under_test — red line

Cal. file
 112119.dat
 112124.dat

units	Beam Peak Deg	dB
dBi	0.02	40.44
dBi	-1.17	13.21

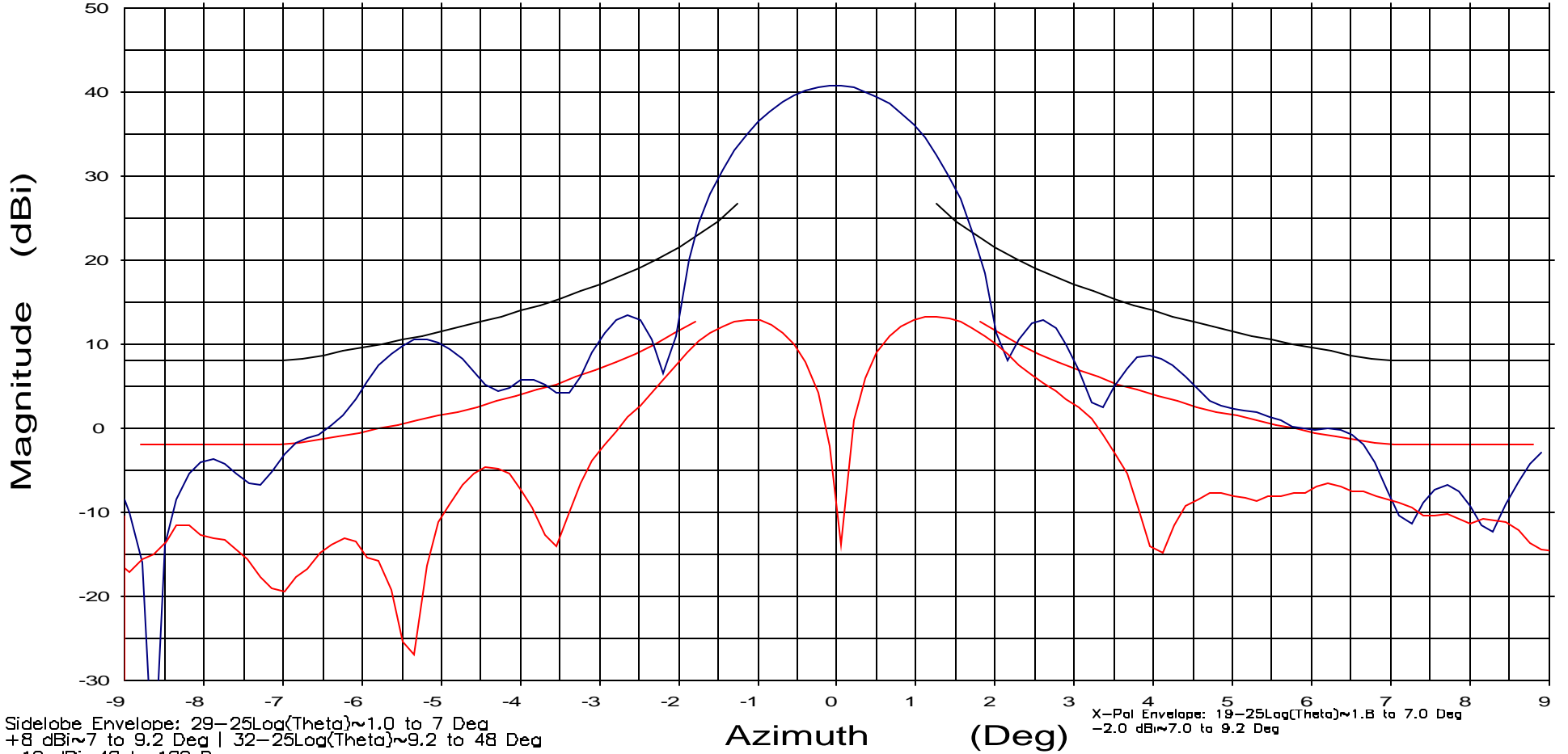
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112119.dat-ant_under_test — blue line
 112123.dat-ant_under_test — red line

Cal. file	units
112119.dat	dBi
112123.dat	dBi

Beam Peak	
Deg	dB
-0.03	40.68
1.28	13.25

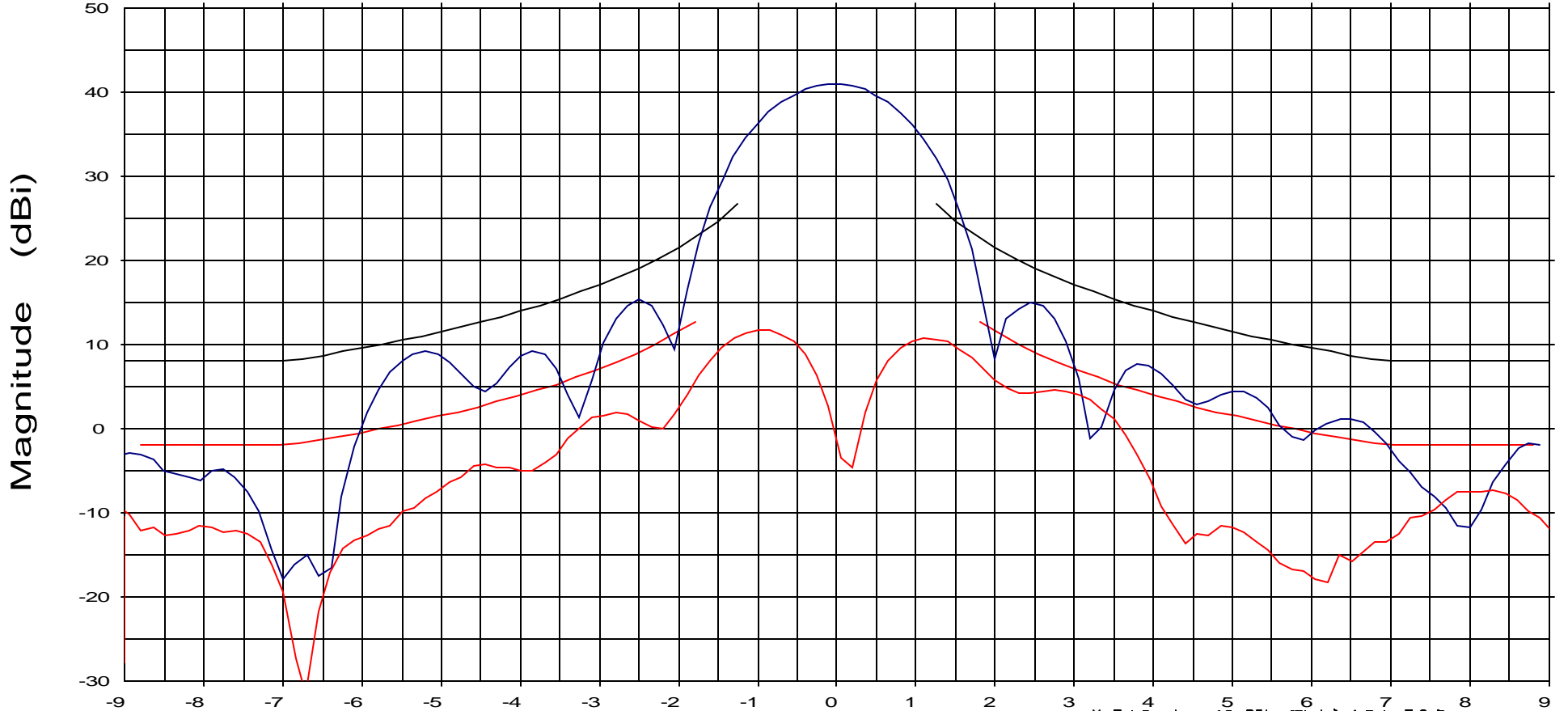
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112119.dat-ant_under_test — blue line
 112123.dat-ant_under_test — red line

Cal. file	units
112119.dat	dBi
112123.dat	dBi

Beam Peak	
Deg	dB
-0.03	40.91
-0.97	11.75

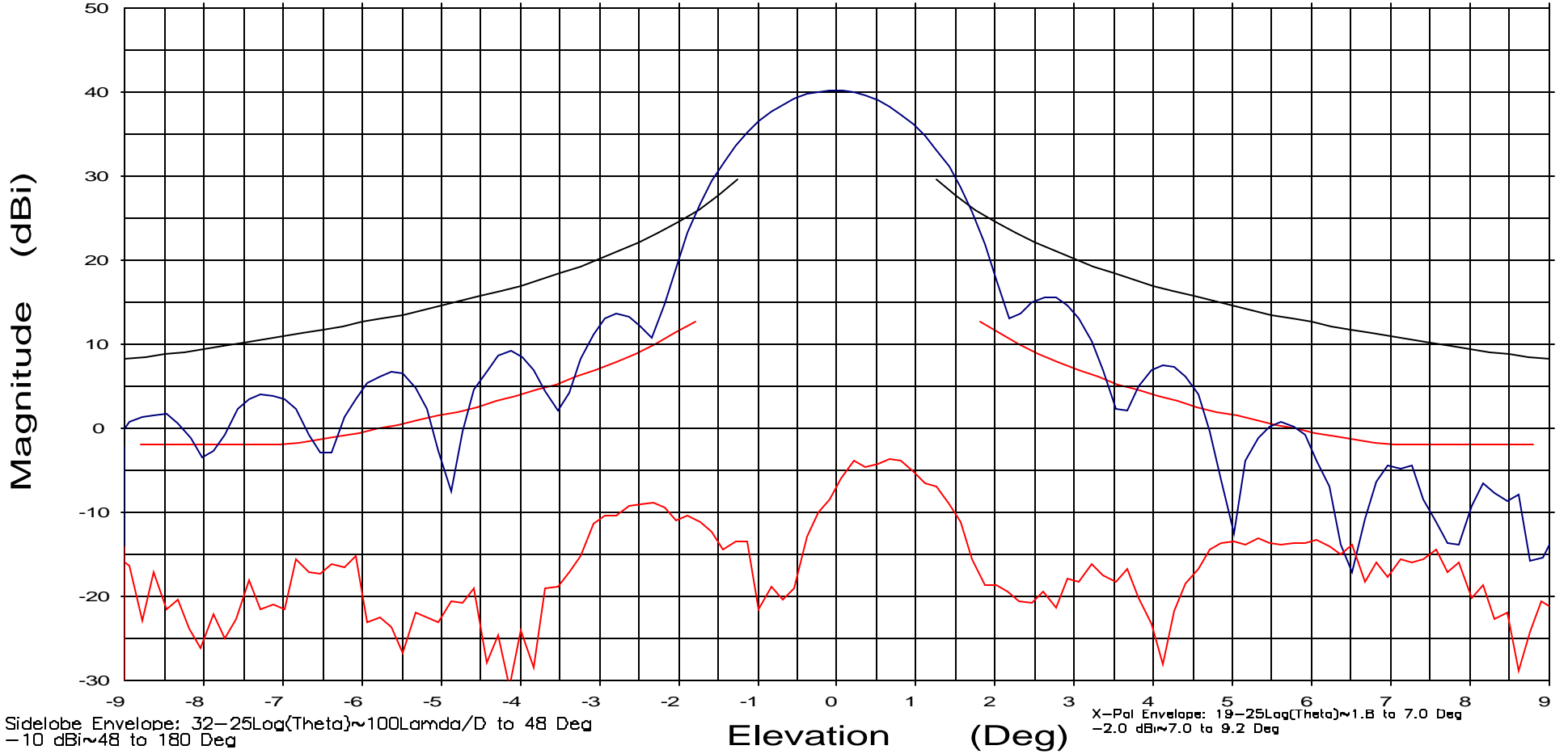
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays
 112121.dat-ant_under_test — blue line
 112125.dat-ant_under_test — red line

Cal. file
 112121.dat
 112125.dat

units
 dBi
 dBi

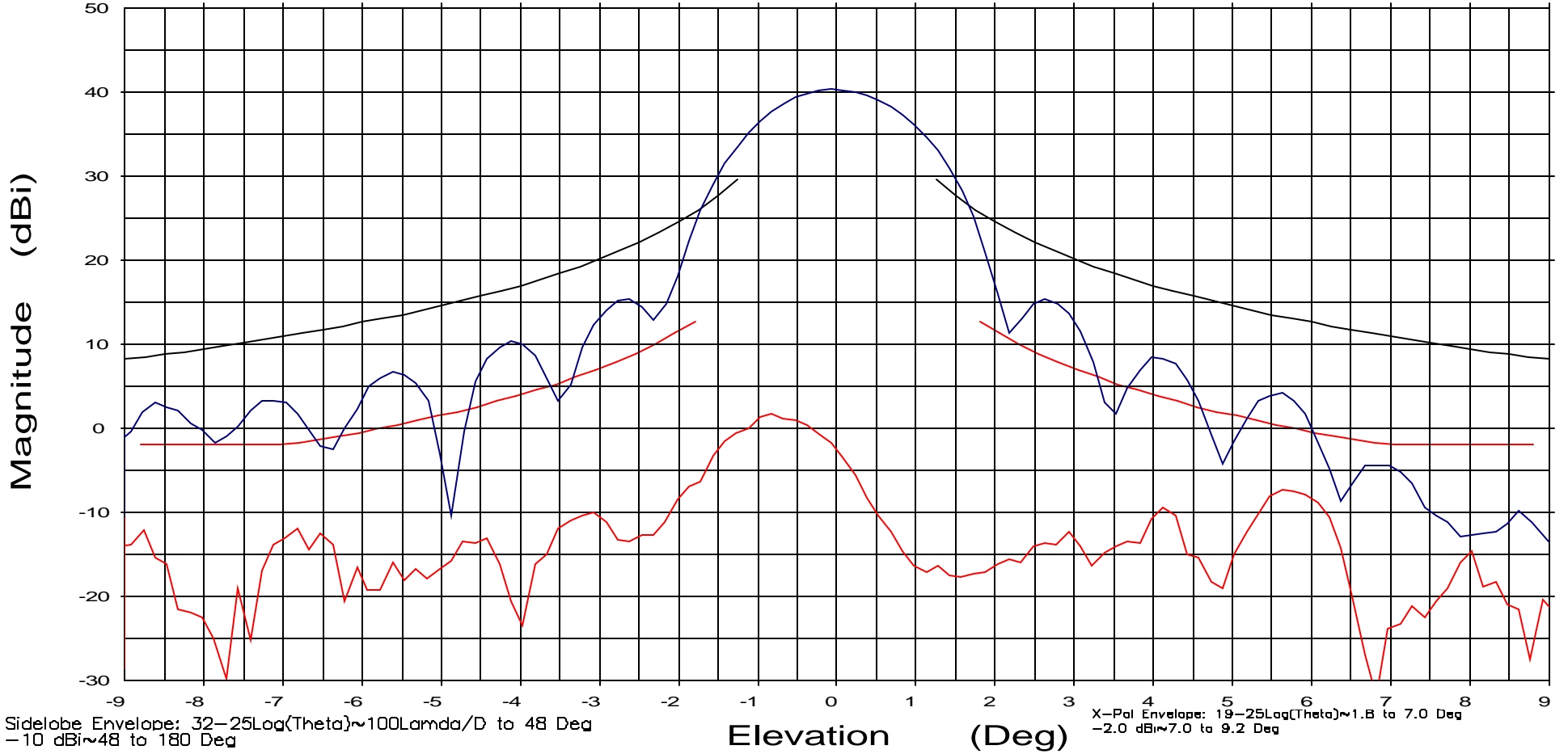
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays
 112121.dat-ant_under_test — blue line
 112125.dat-ant_under_test — red line

Cal. file units
 112121.dat dBi
 112125.dat dBi

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

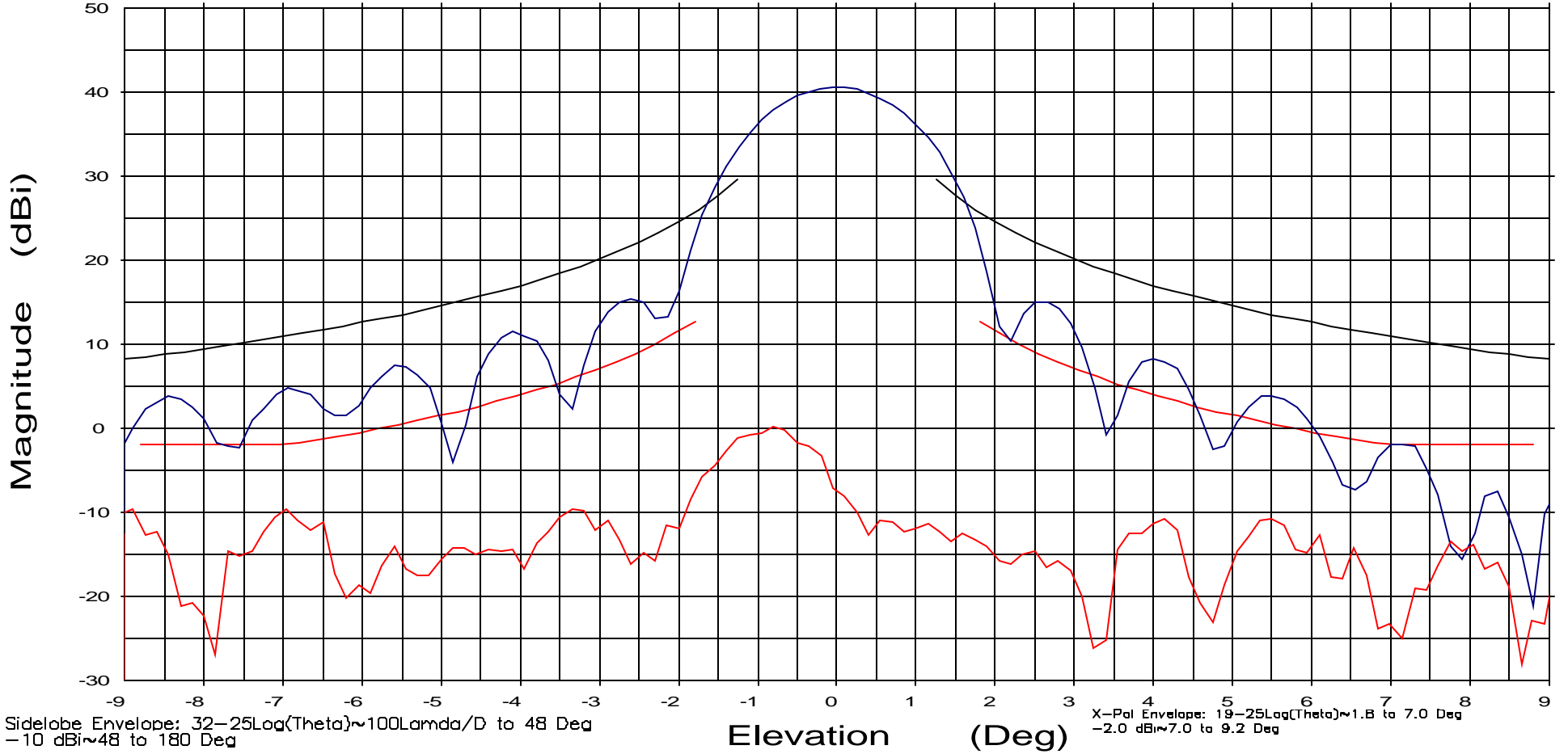
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays
 112121.dat-ant_under_test — blue line
 112125.dat-ant_under_test — red line

Cal. file
 112121.dat
 112125.dat

units	Beam Peak	Deg	dB
dBi	0.00	0.00	40.48
dBi	-0.84	0.09	0.09

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

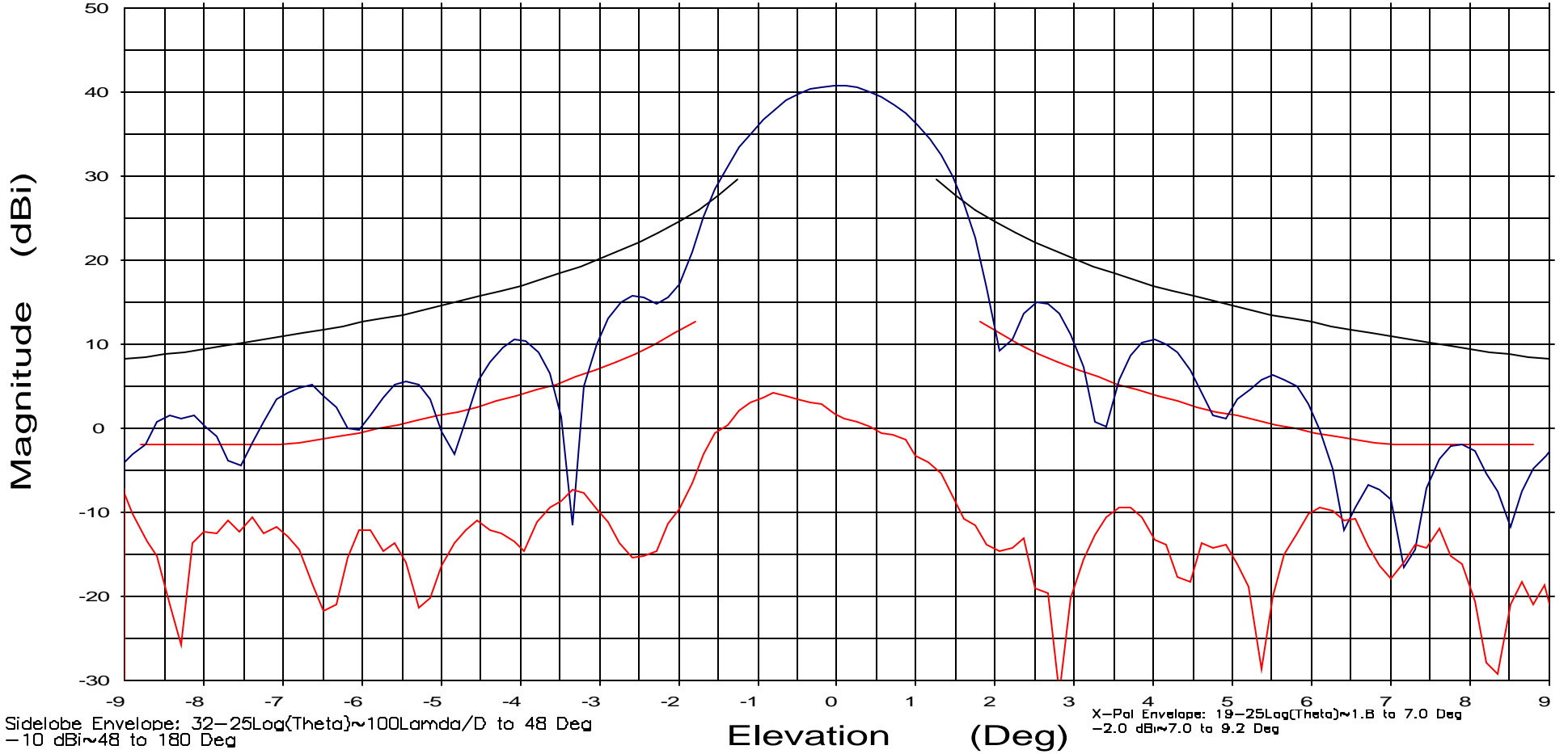
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays
 112121.dat-ant_under_test — blue line
 112125.dat-ant_under_test — red line

Cal. file
 112121.dat
 112125.dat

units
 dBi
 dBi

Beam Peak
 Deg dB
 0.00 40.71
 -0.62 3.81

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

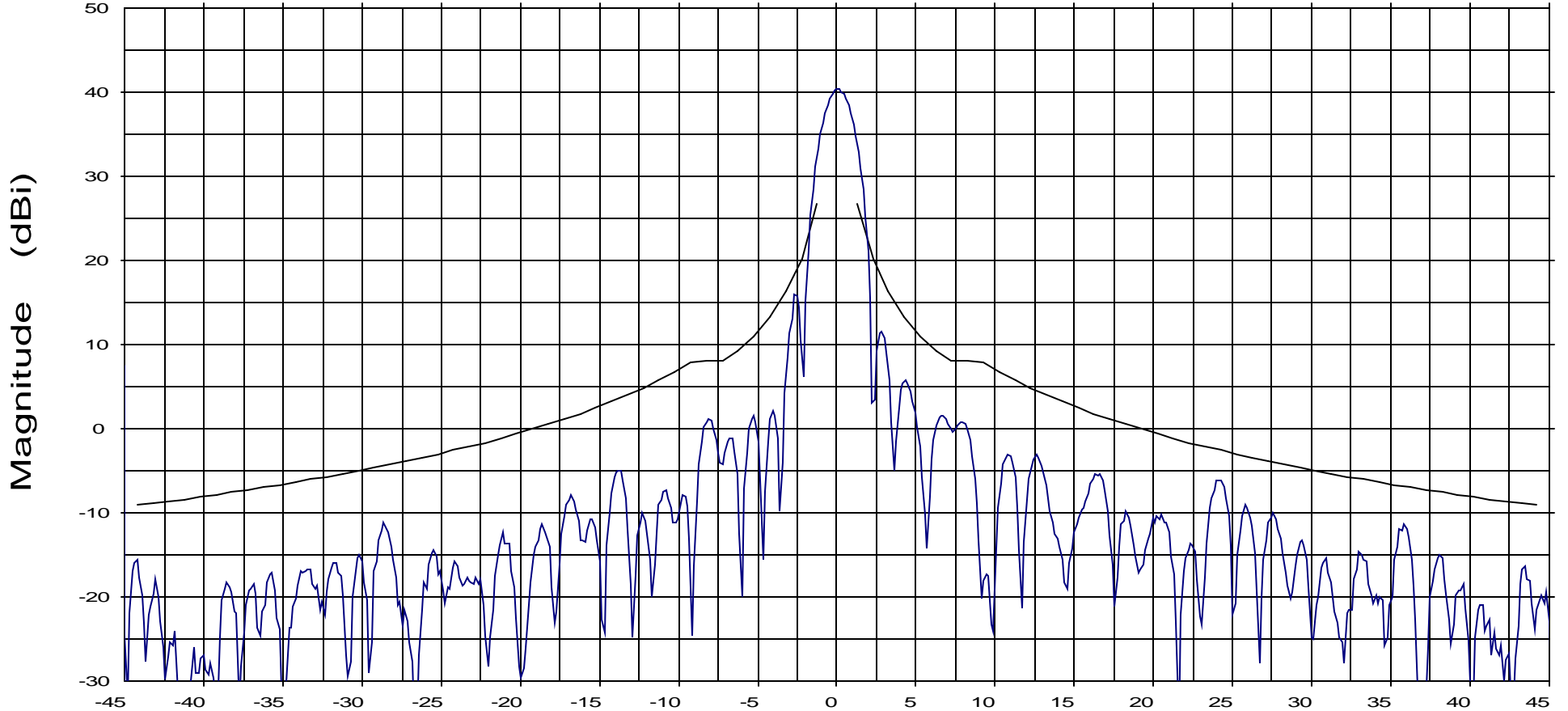
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test —

Cal. file
112117.dat

units
dBi

Beam Peak
 Deg 0.05 dB 40.29

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

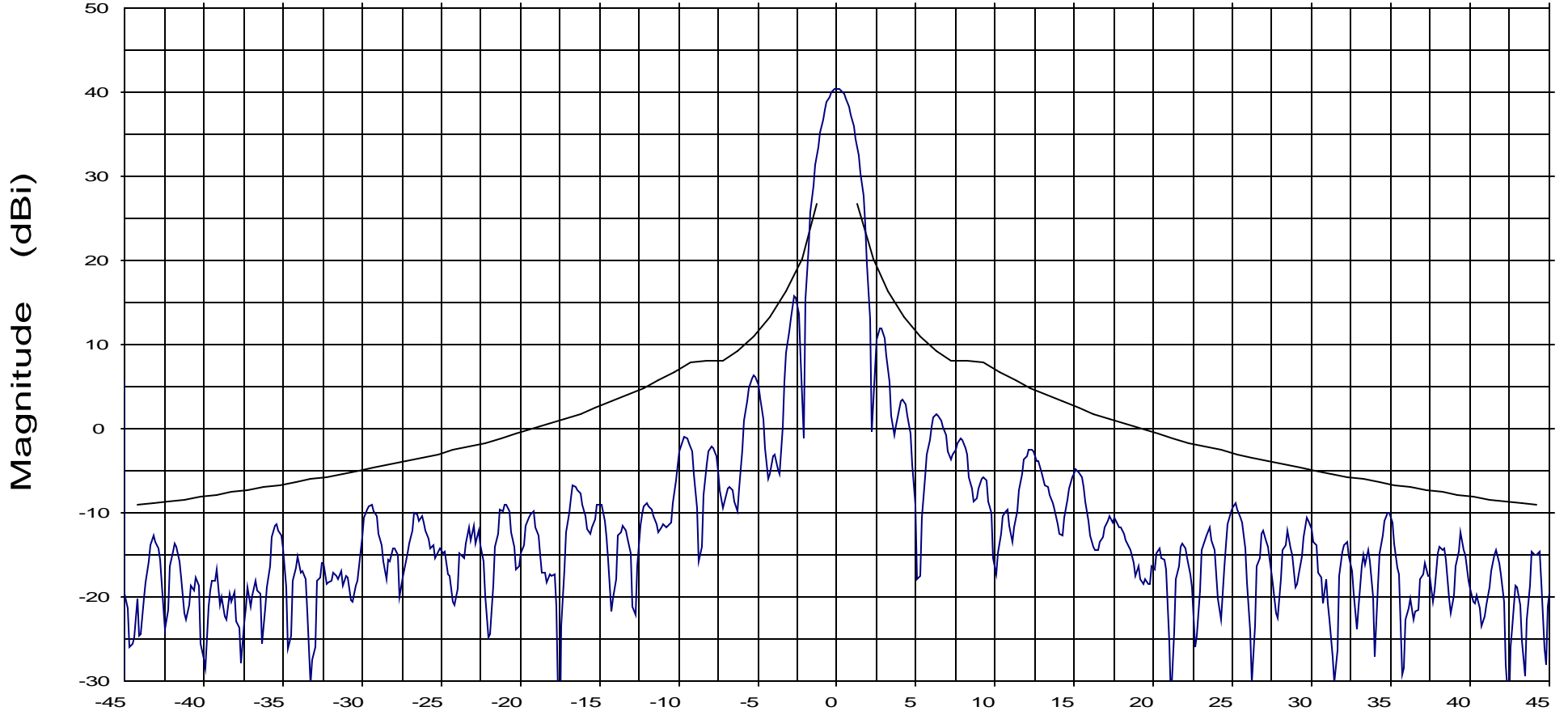
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 0.01 40.44

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

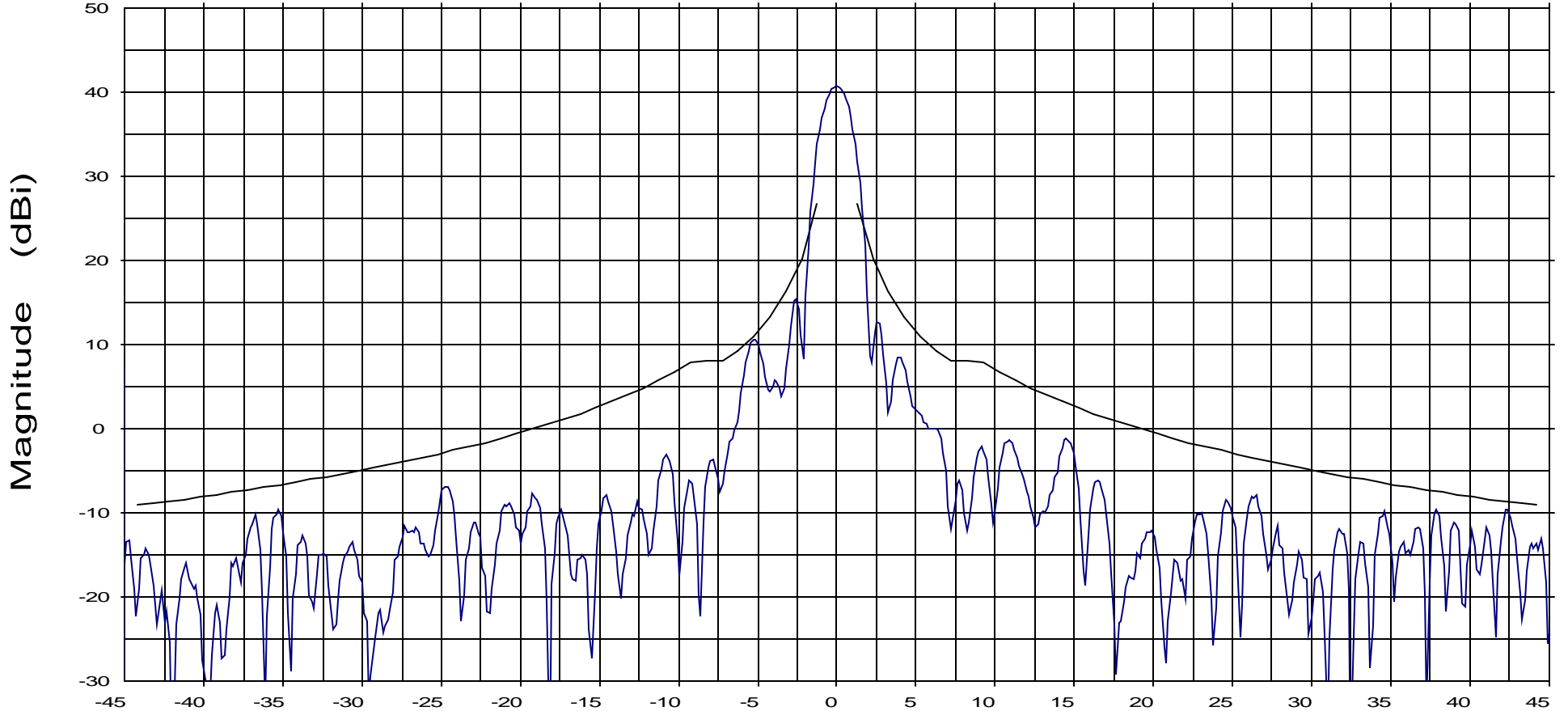
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.04 40.68

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

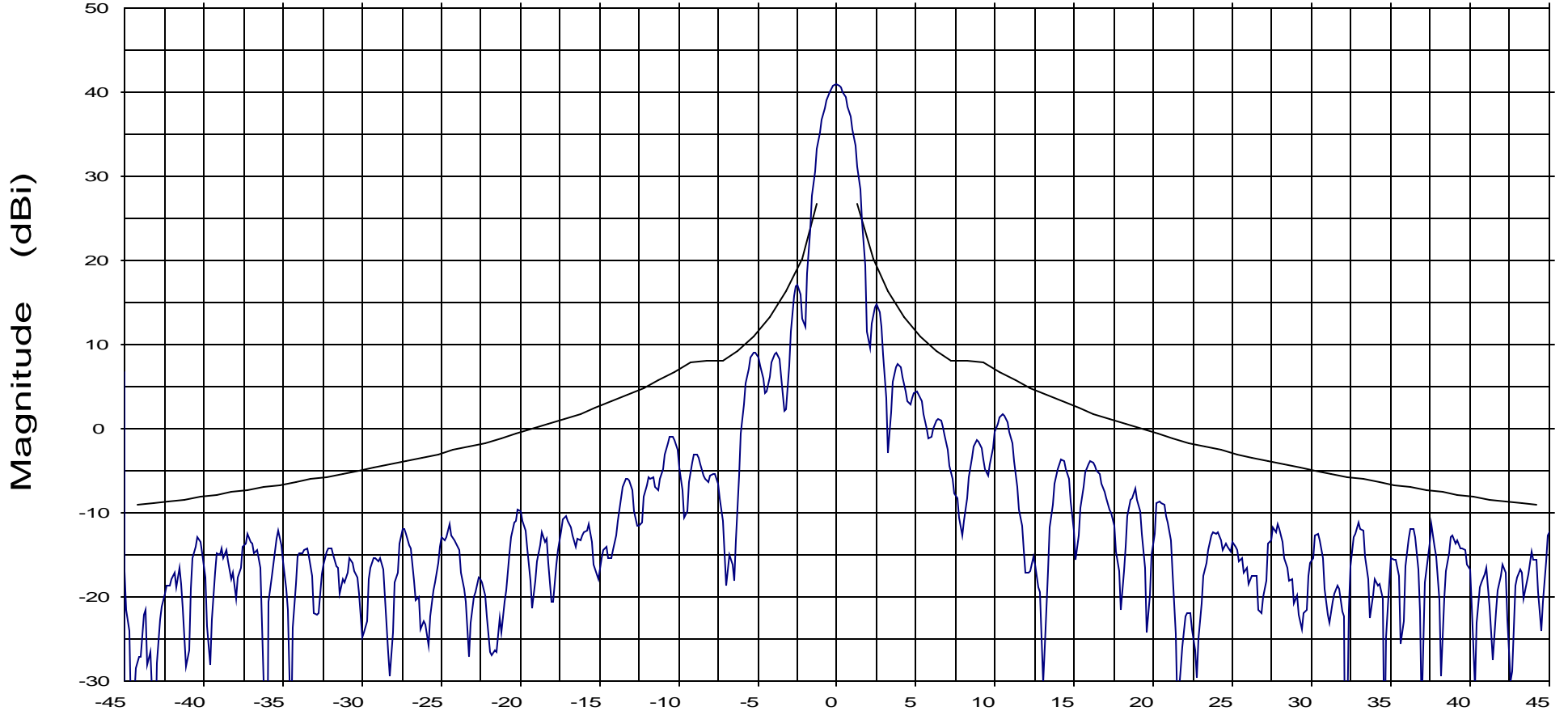
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test

Cal. file
112117.dat

units
dBi

Beam Peak
 Deg dB
 -0.04 40.91

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 13.750 GHz

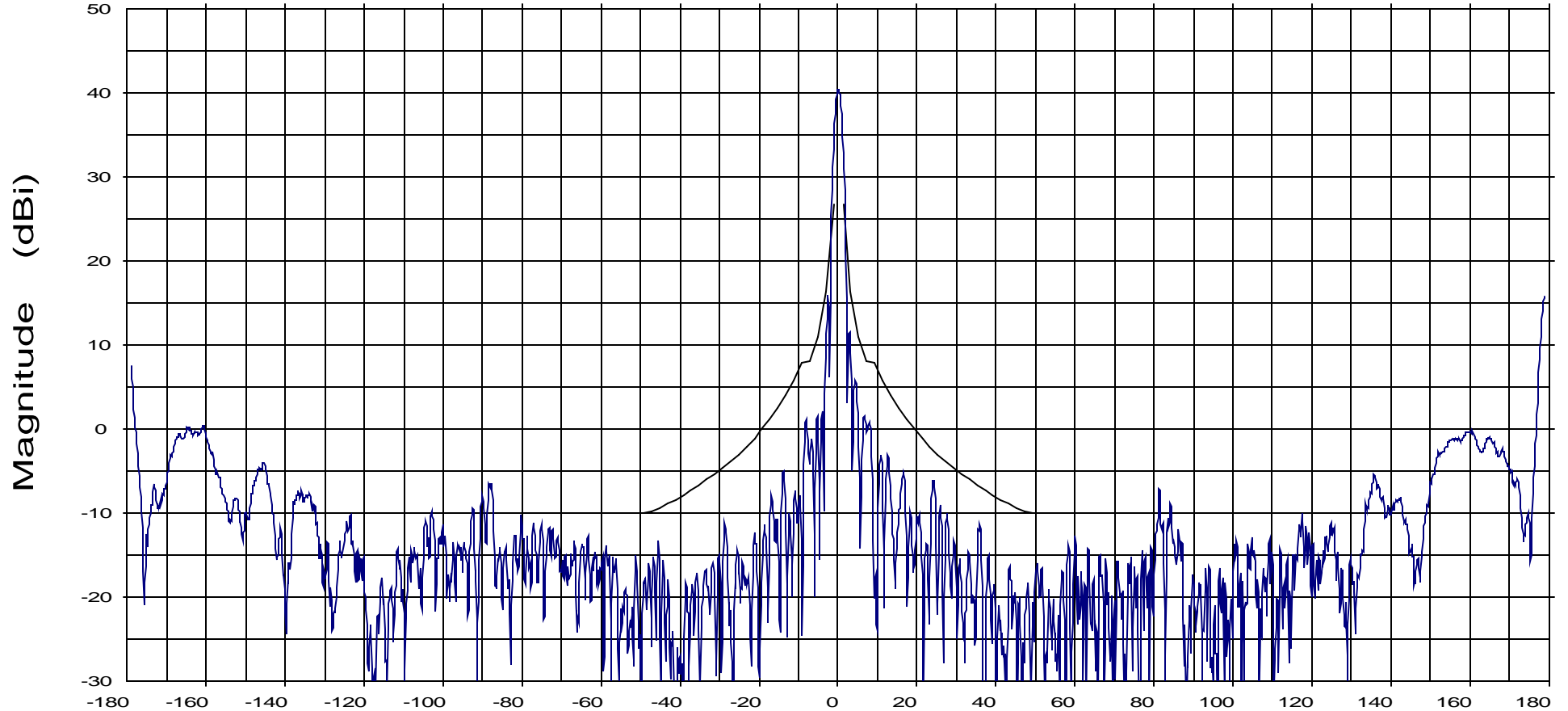
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test —

Cal. file
112117.dat

units
dBi

Beam Peak
Deg 0.05 dB 40.29

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.000 GHz

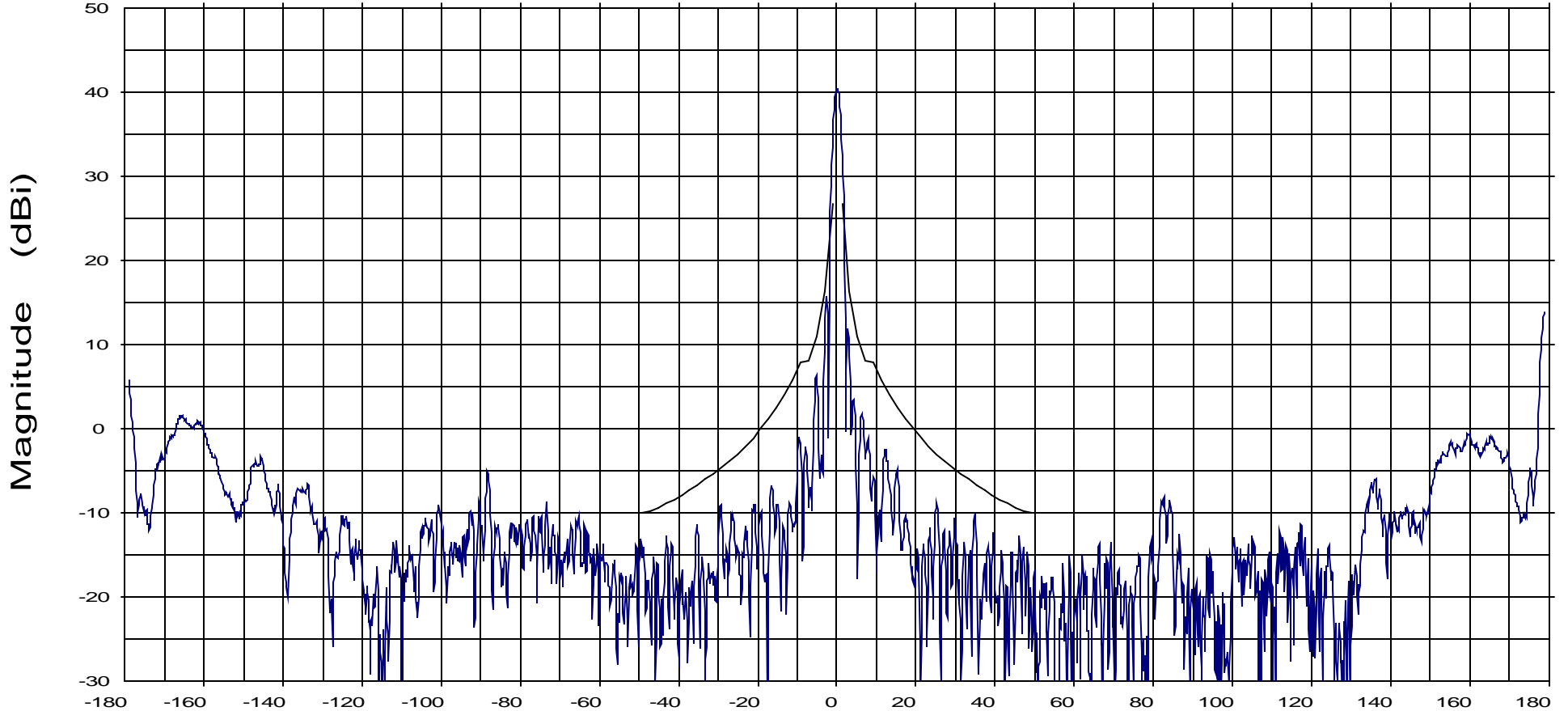
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg 0.01 dB 40.44

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.250 GHz

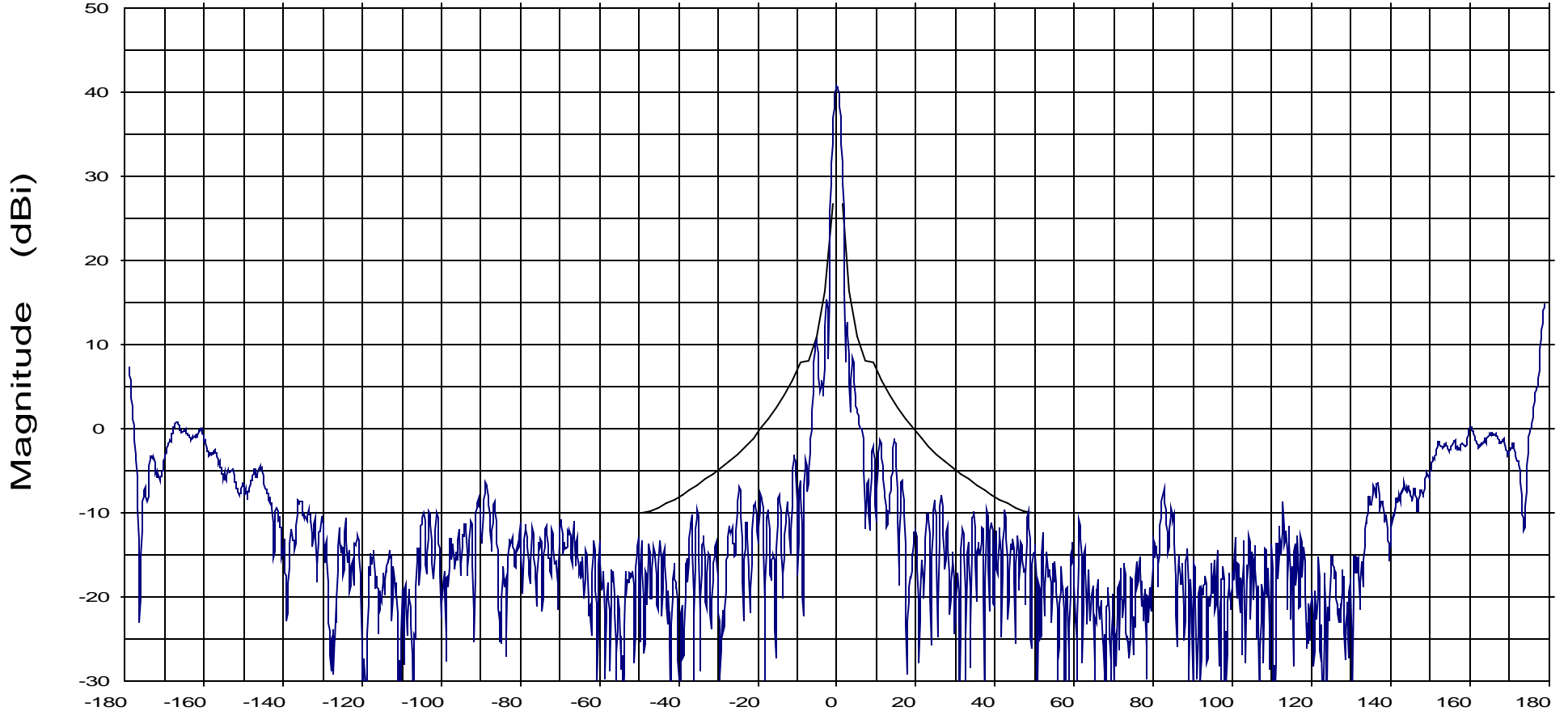
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.04 40.68

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 14.500 GHz

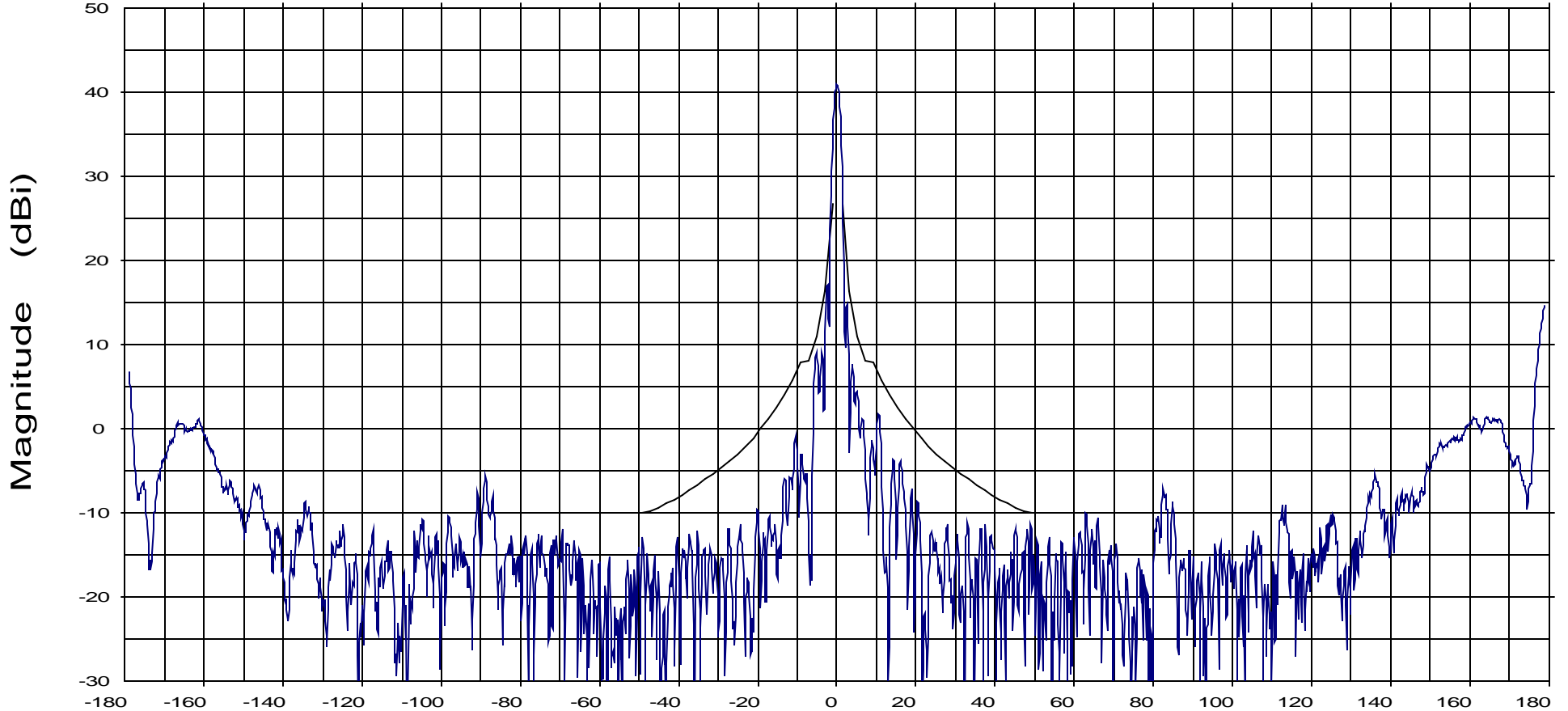
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test —

Cal. file
112117.dat

units
dBi

Beam Peak
 Deg dB
 -0.04 40.91

Section VI

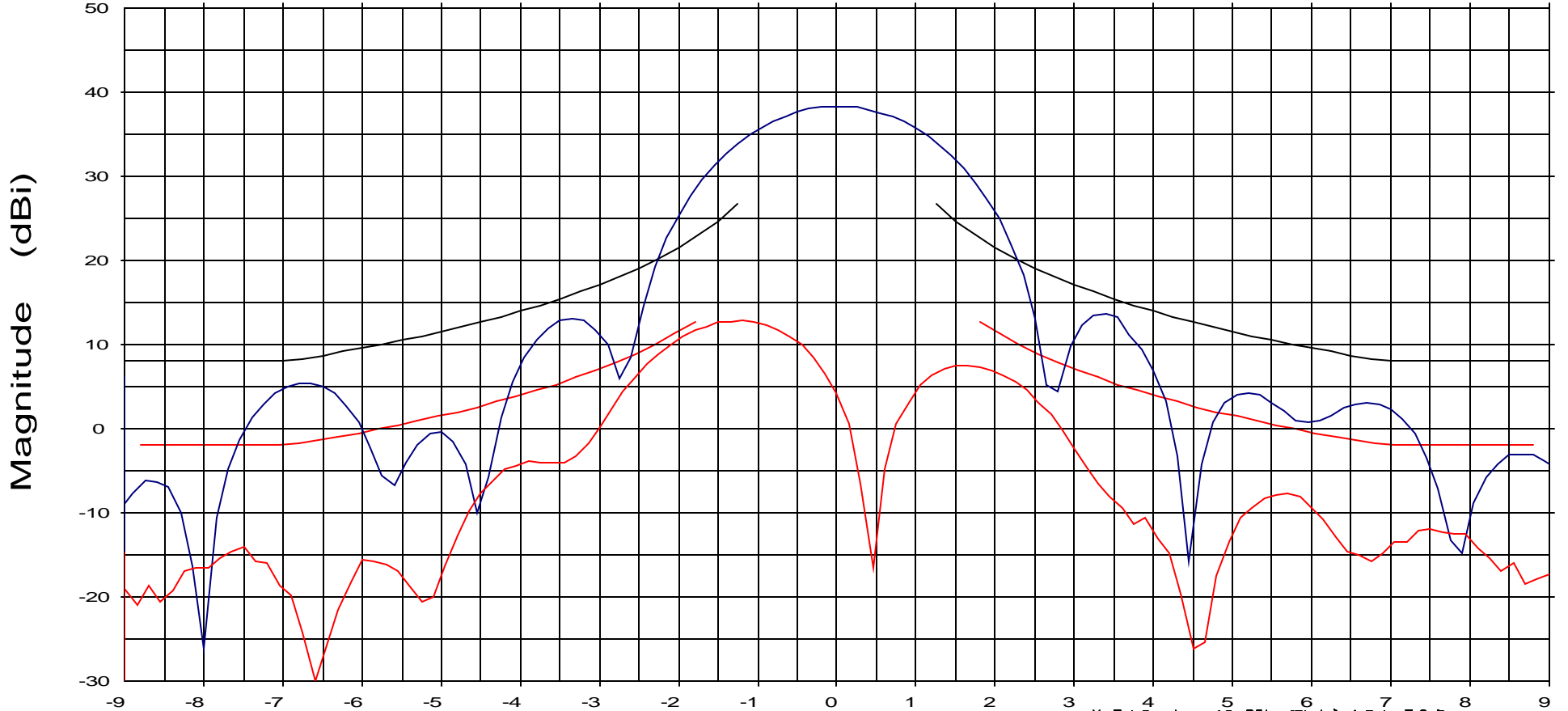
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

Beam Peak
 Deg dB
 0.01 38.26
 -1.29 12.76

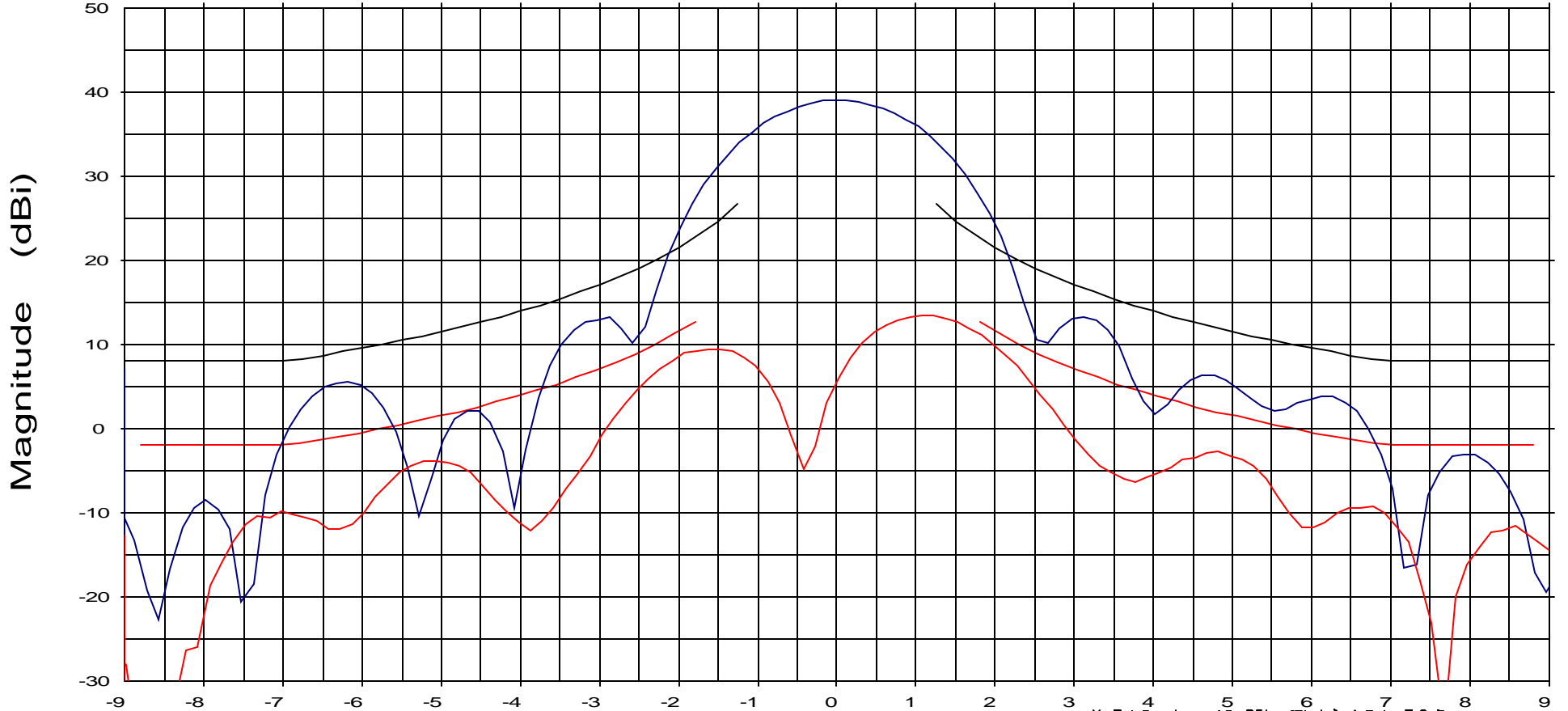
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $1.8 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

Beam Peak
 Deg dB
 0.02 38.99
 1.14 13.39

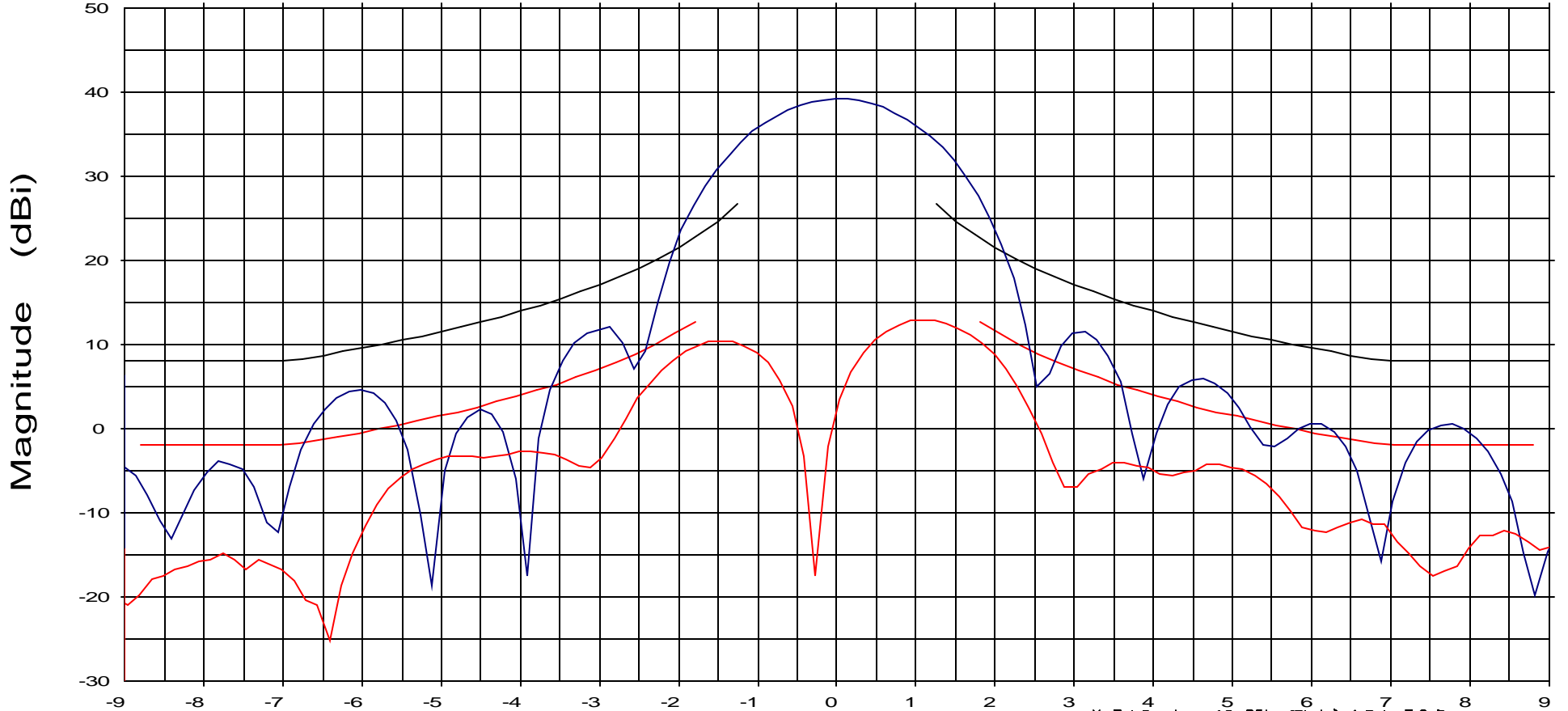
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112109.dat-ant_under_test — blue line
 112112.dat-ant_under_test — red line

Cal. file
 112109.dat
 112112.dat

units
 dBi
 dBi

Azimuth (Deg)
 Beam Peak
 Deg dB
 0.02 39.11
 1.14 12.90

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

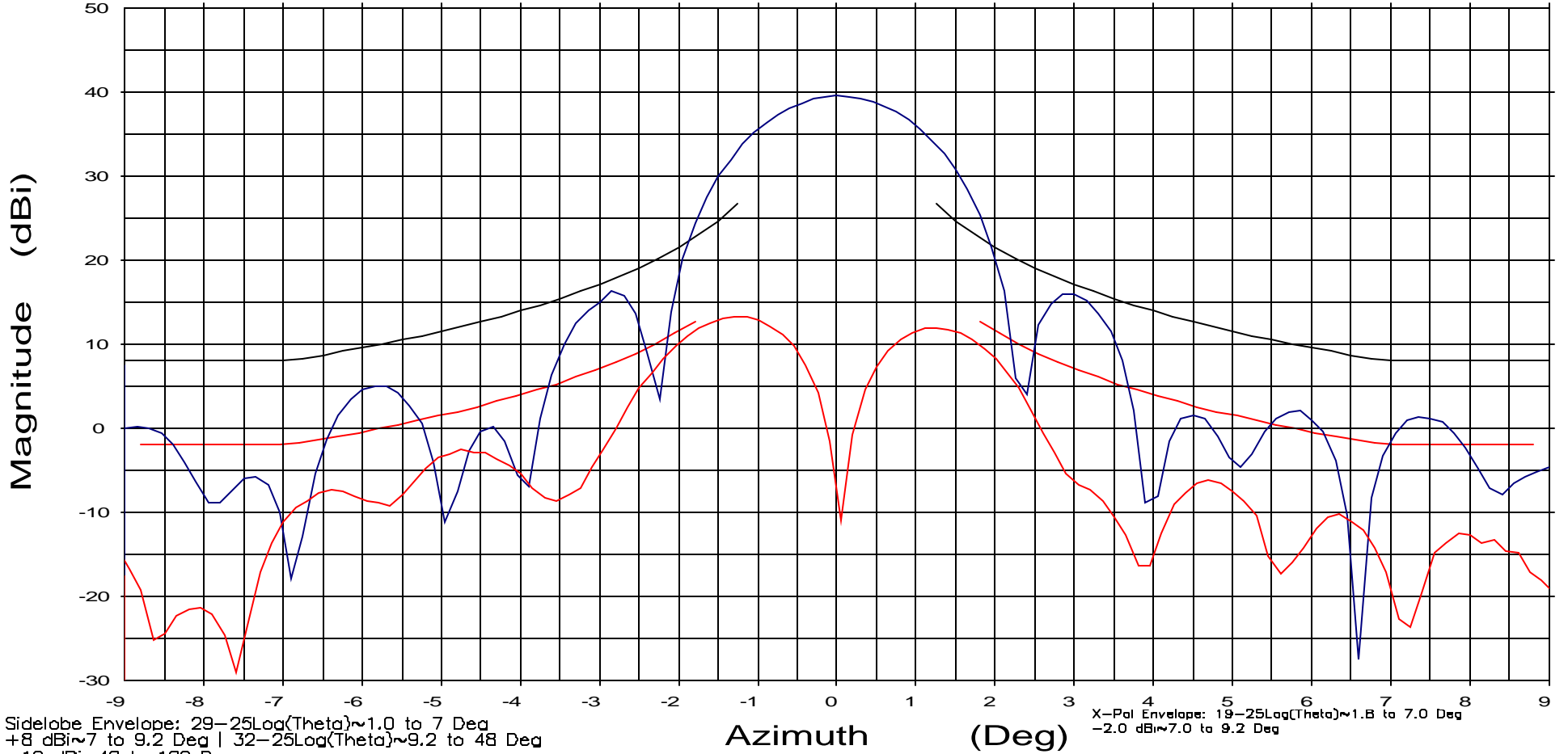
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays

112109.dat-ant_under_test — blue line

112112.dat-ant_under_test — red line

Cal. file

112109.dat dBi

112112.dat dBi

Beam Peak

Deg

0.03 39.45

-1.29 13.20

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

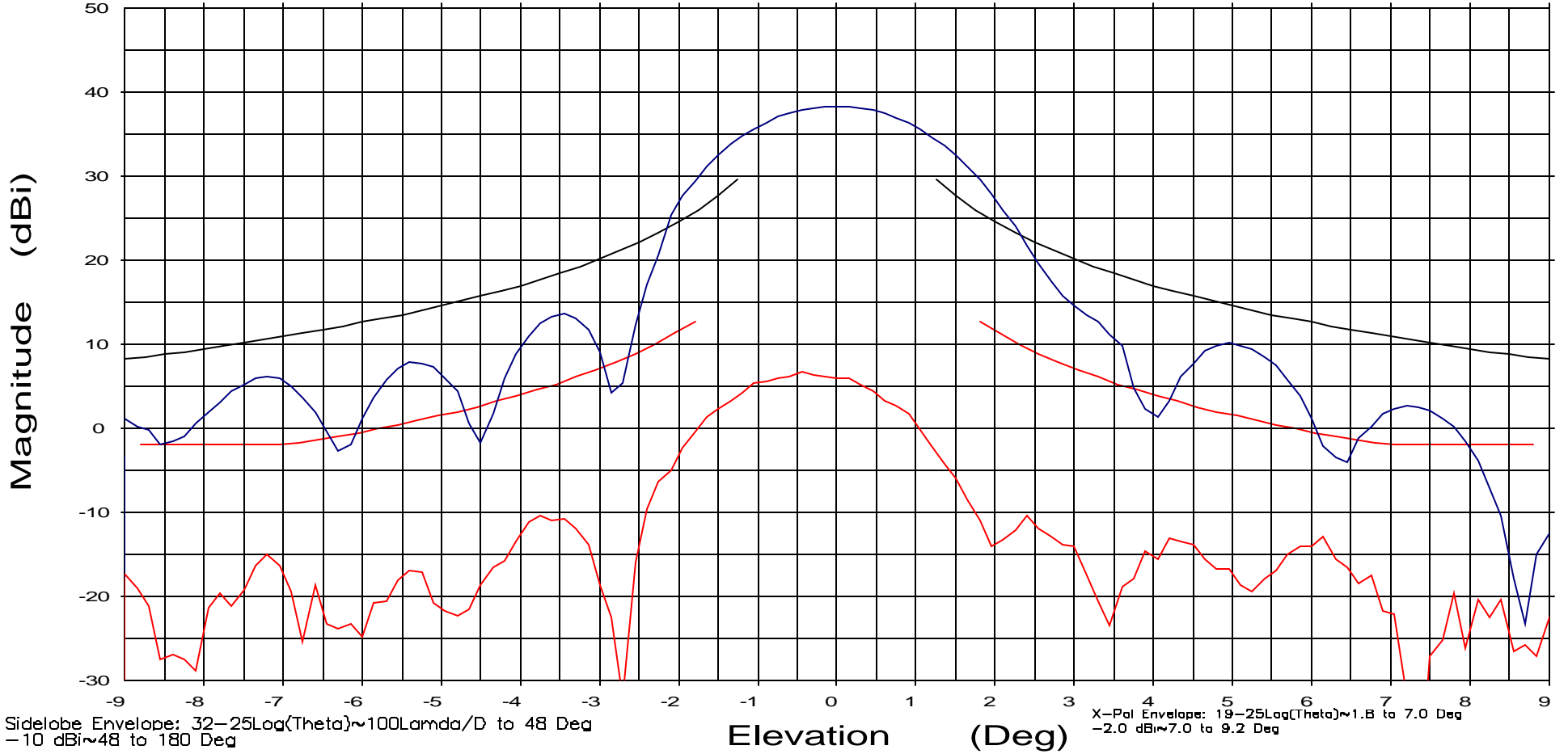
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays
 112111.dat-ant_under_test — blue line
 112115.dat-ant_under_test — red line

Cal. file units
 112111.dat dBi
 112115.dat dBi

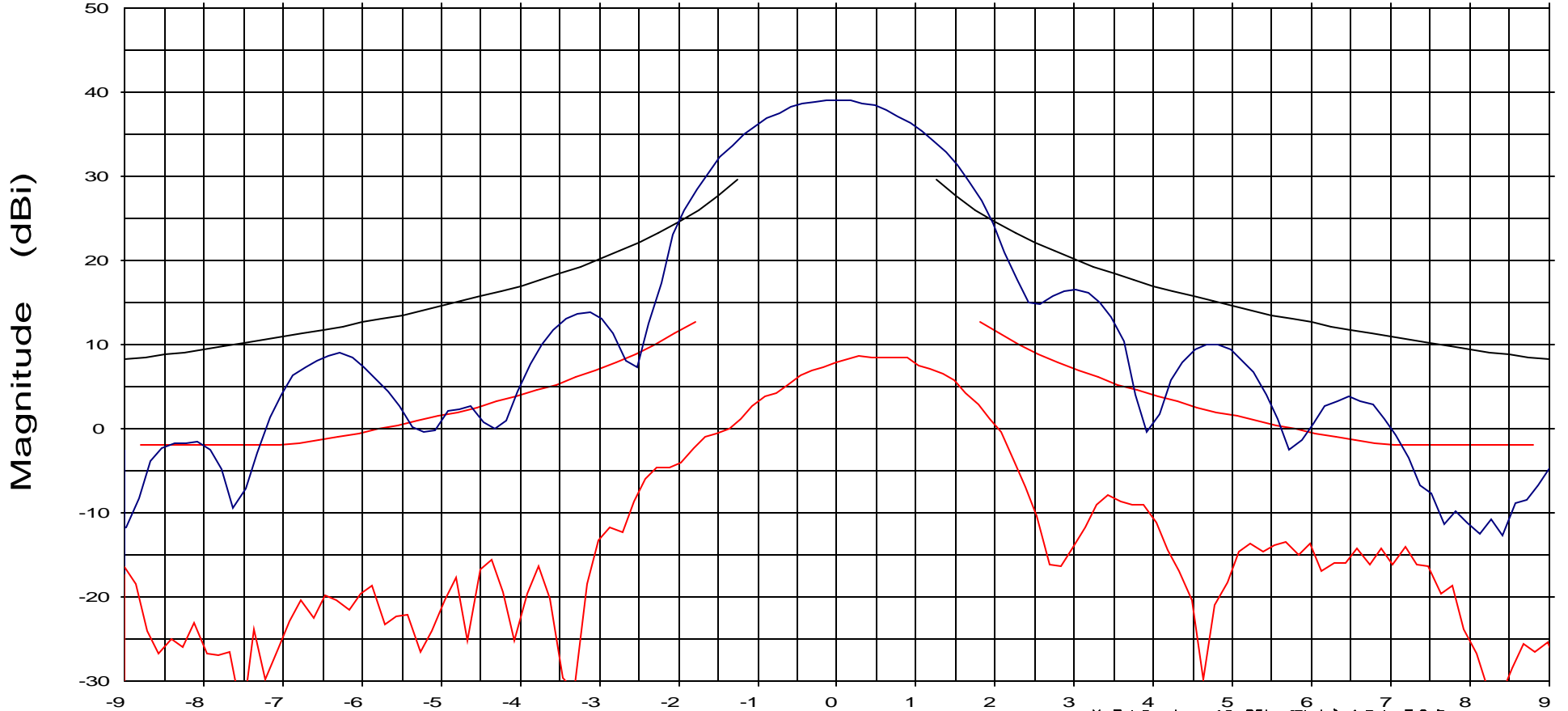
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda / D$ to 48 Deg
-10 dBi \sim 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi \sim 7.0 to 9.2 Deg

Elevation (Deg)

Overlays

112111.dat-ant_under_test	—
112115.dat-ant_under_test	—

Cal. file	units
112111.dat	dBi
112115.dat	dBi

Beam Peak	
Deg	dB
-0.02	39.03
0.47	8.47

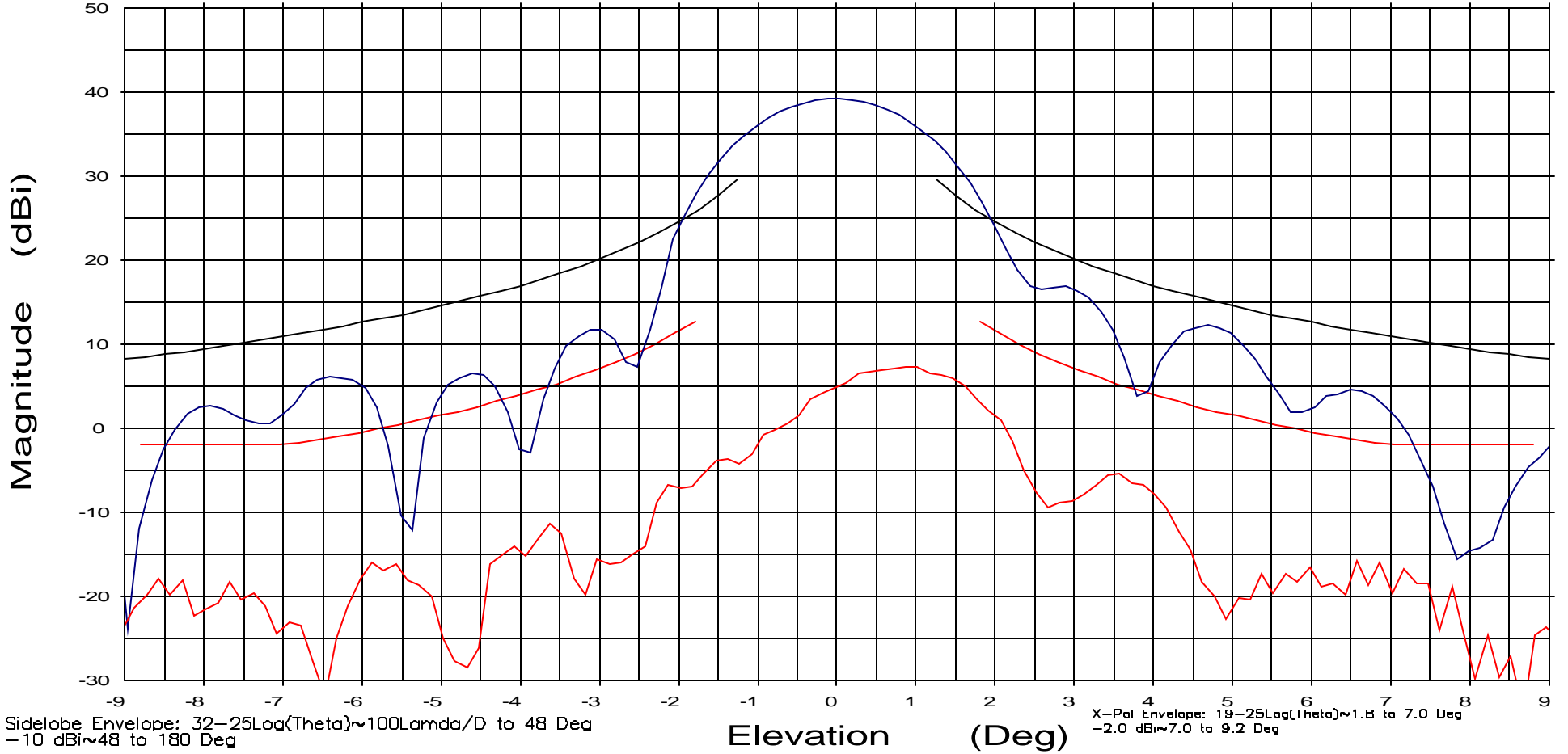
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays

112111.dat-ant_under_test — blue line

112115.dat-ant_under_test — red line

Cal. file

112111.dat dBi

112115.dat dBi

Beam Peak

Deg dB

-0.01 39.14

0.76 7.12

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

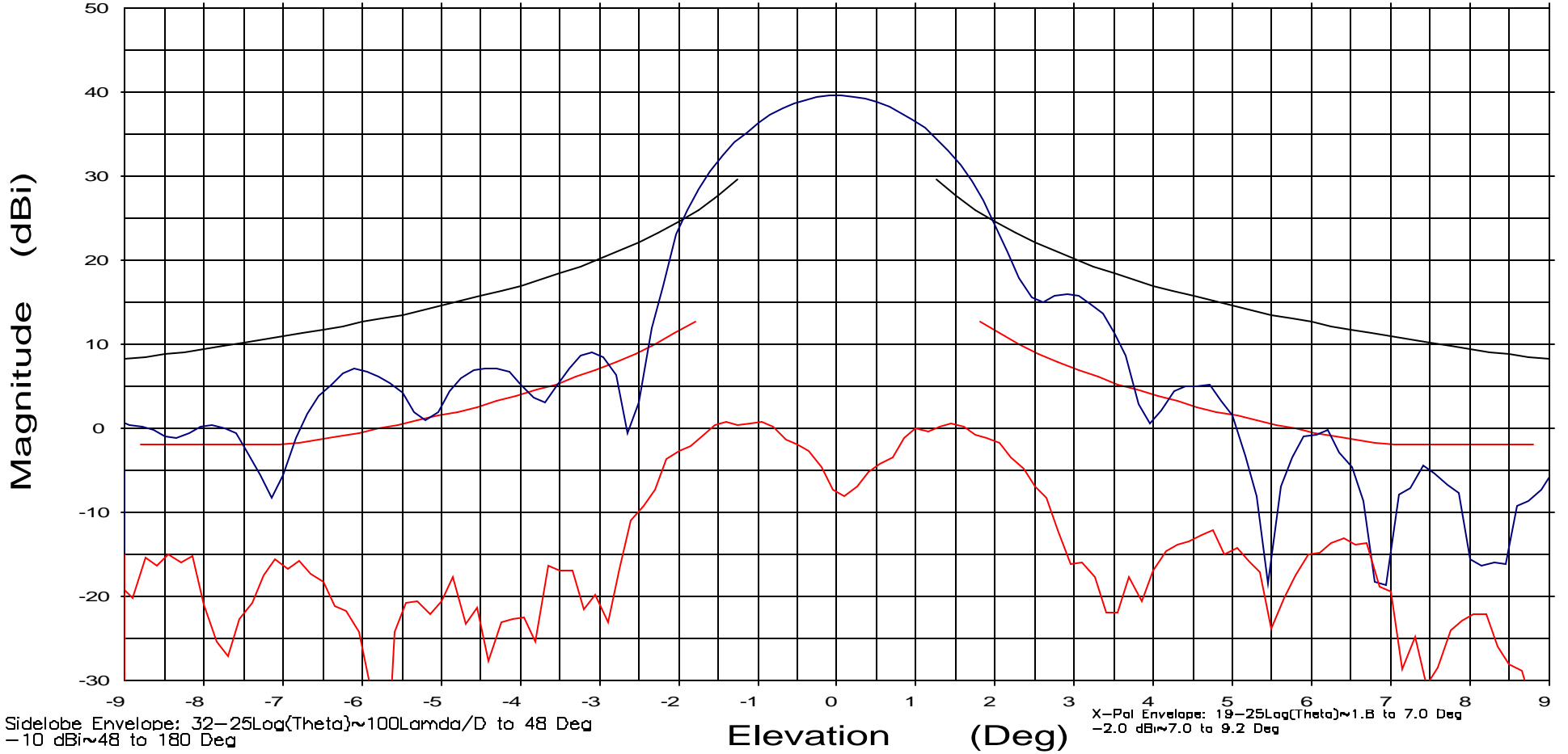
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Overlays

112111.dat-ant_under_test	—
112115.dat-ant_under_test	—

Cal. file	units
112111.dat	dBi
112115.dat	dBi

Beam Peak	
Deg	dB
0.01	39.47
-1.16	0.56

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

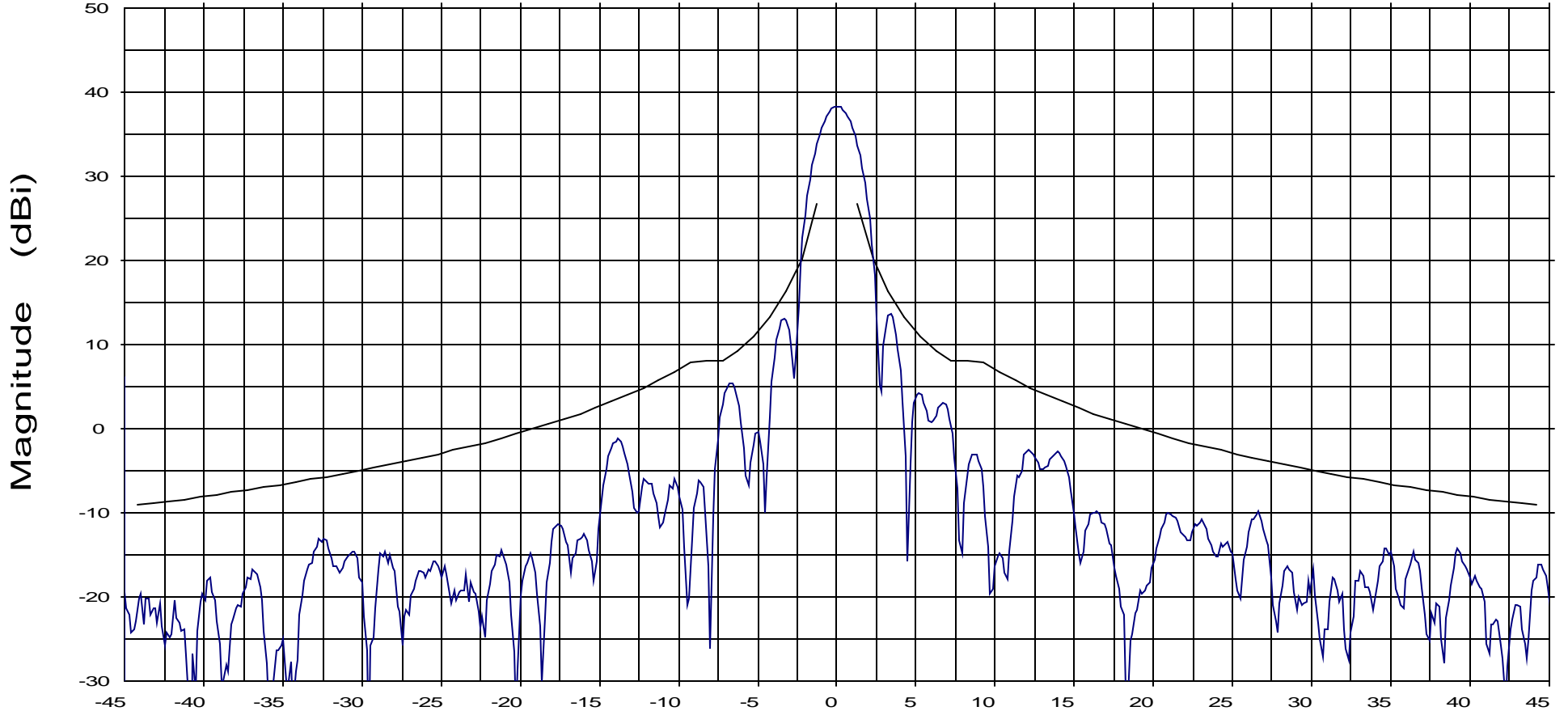
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak	
Deg	dB
0.01	38.26

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 11.950 GHz

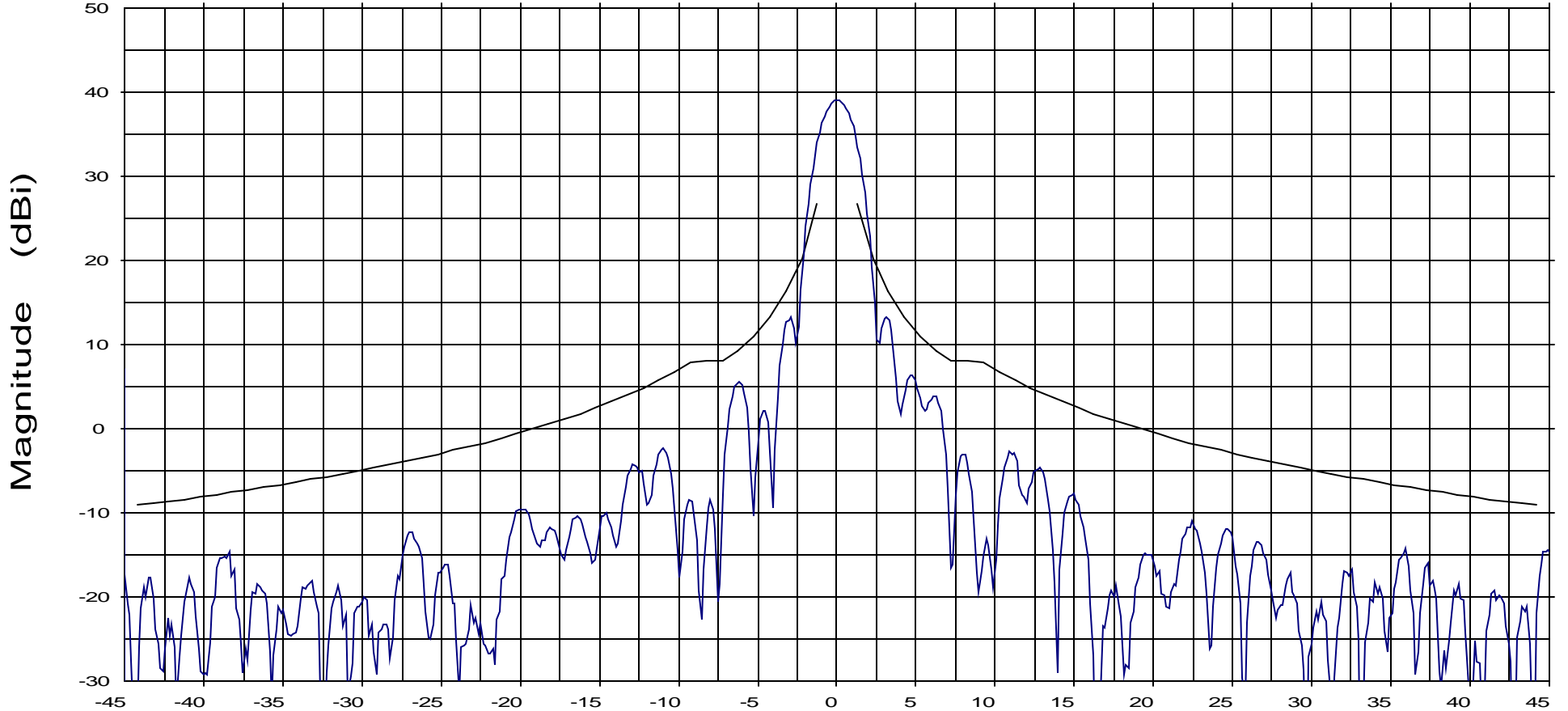
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak	
Deg	dB
0.02	38.99

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.200 GHz

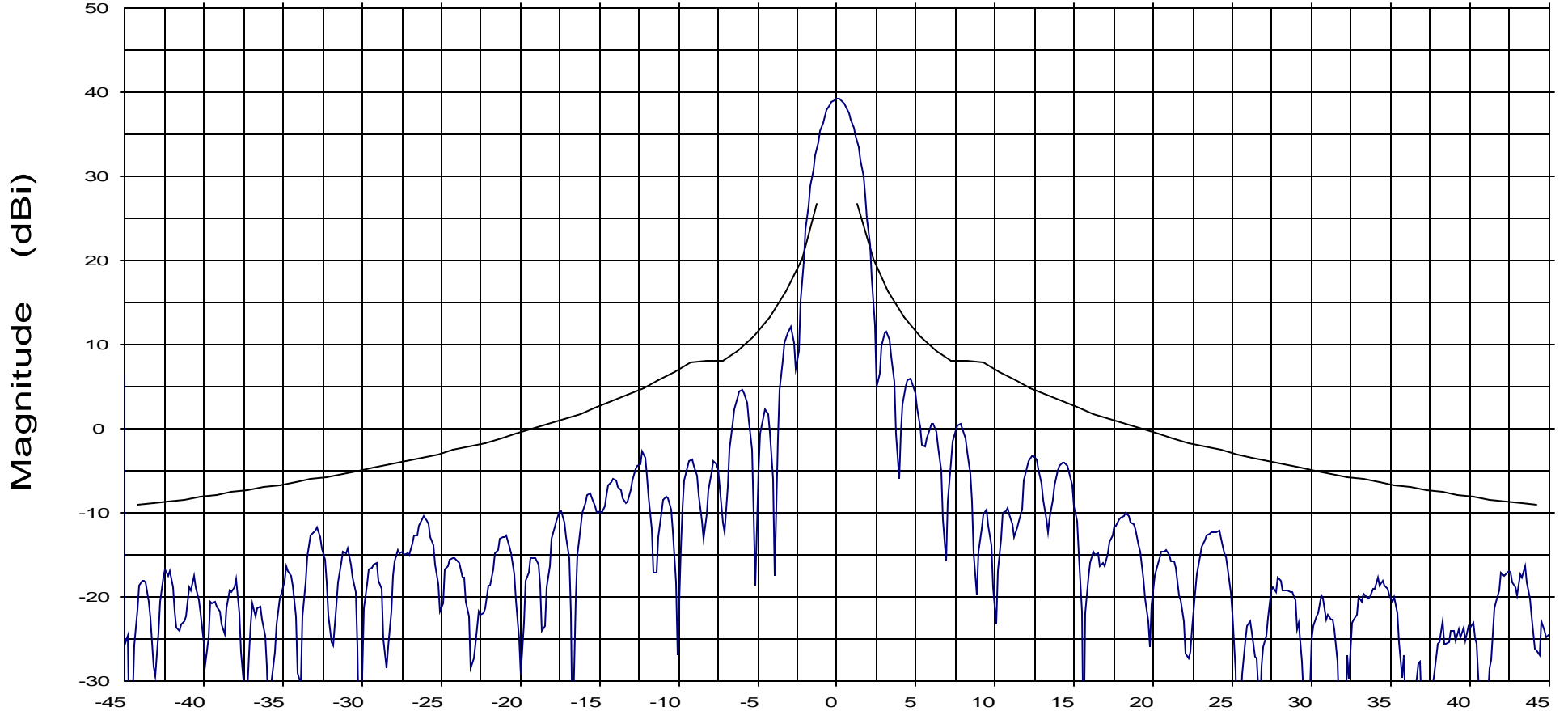
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test

Cal. file
112109.dat

units
dBi

Beam Peak
 Deg dB
 0.02 39.11

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

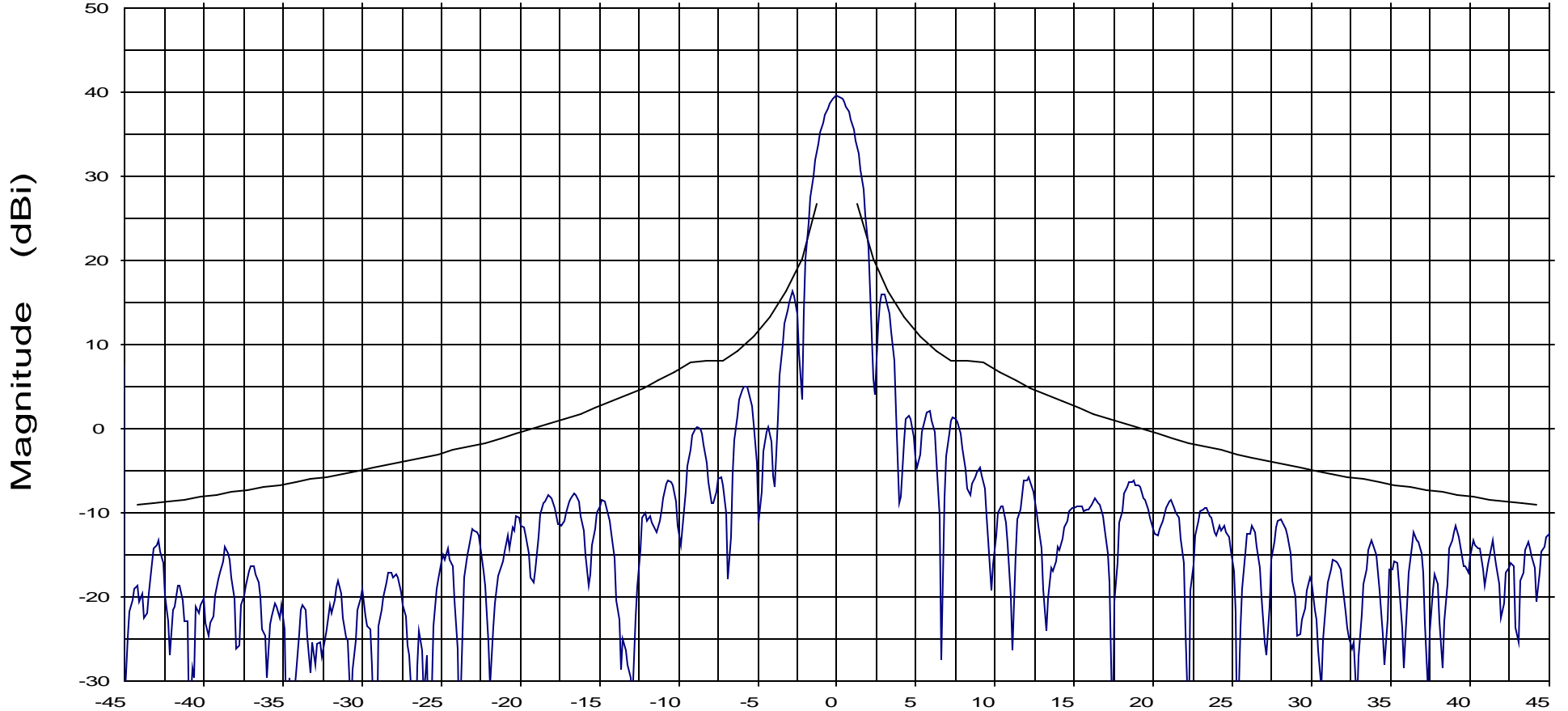
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.03 39.45

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

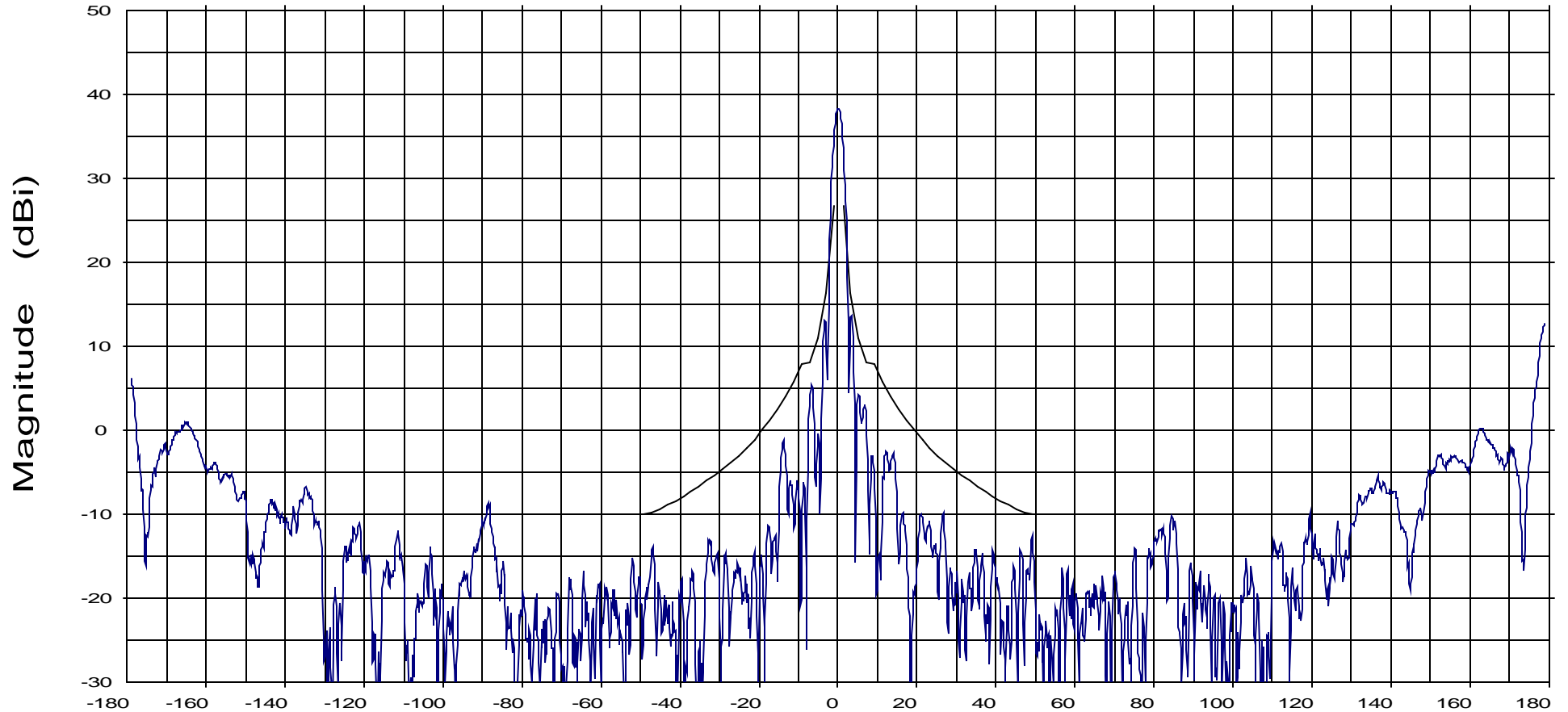
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Beam Peak
Deg dB
0.01 38.26

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 11.950 GHz

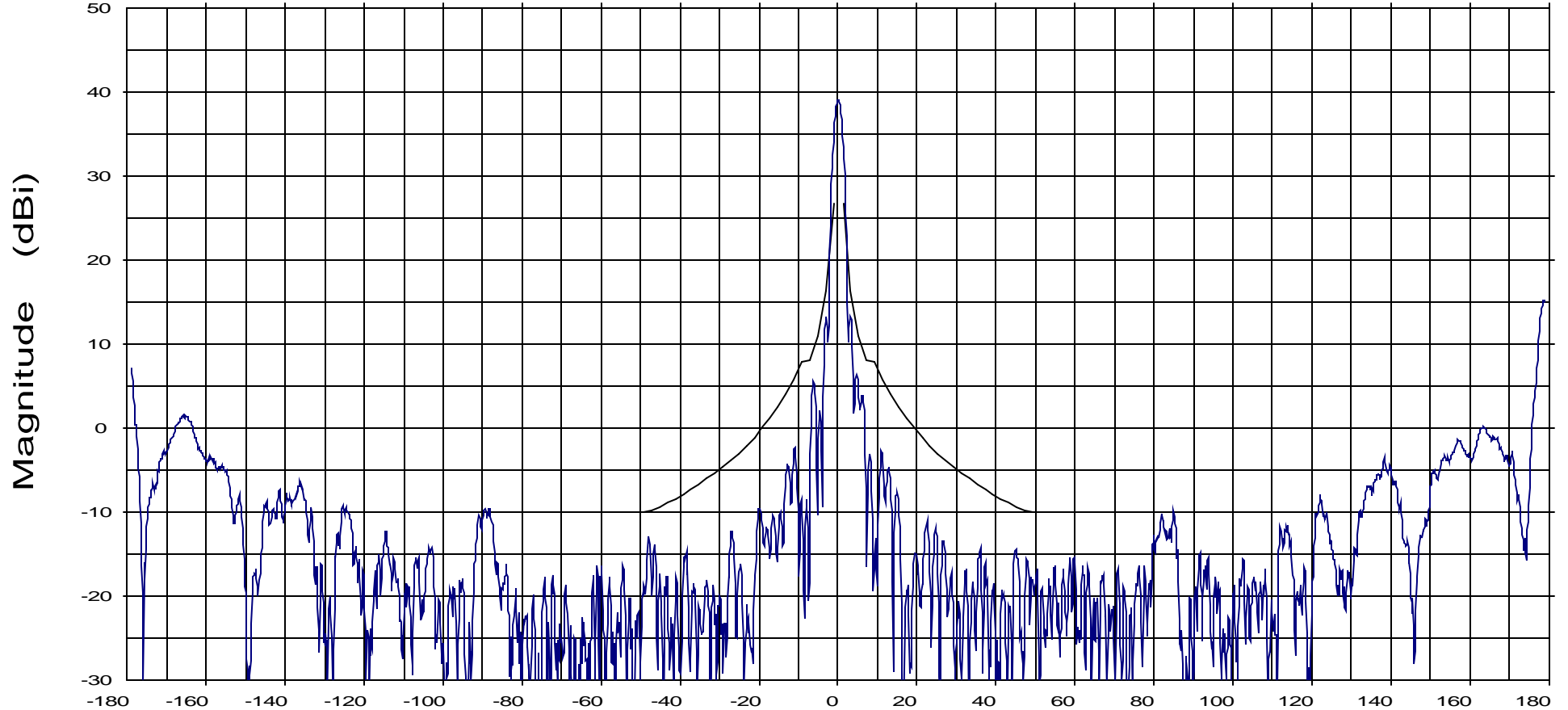
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.02 38.99

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.200 GHz

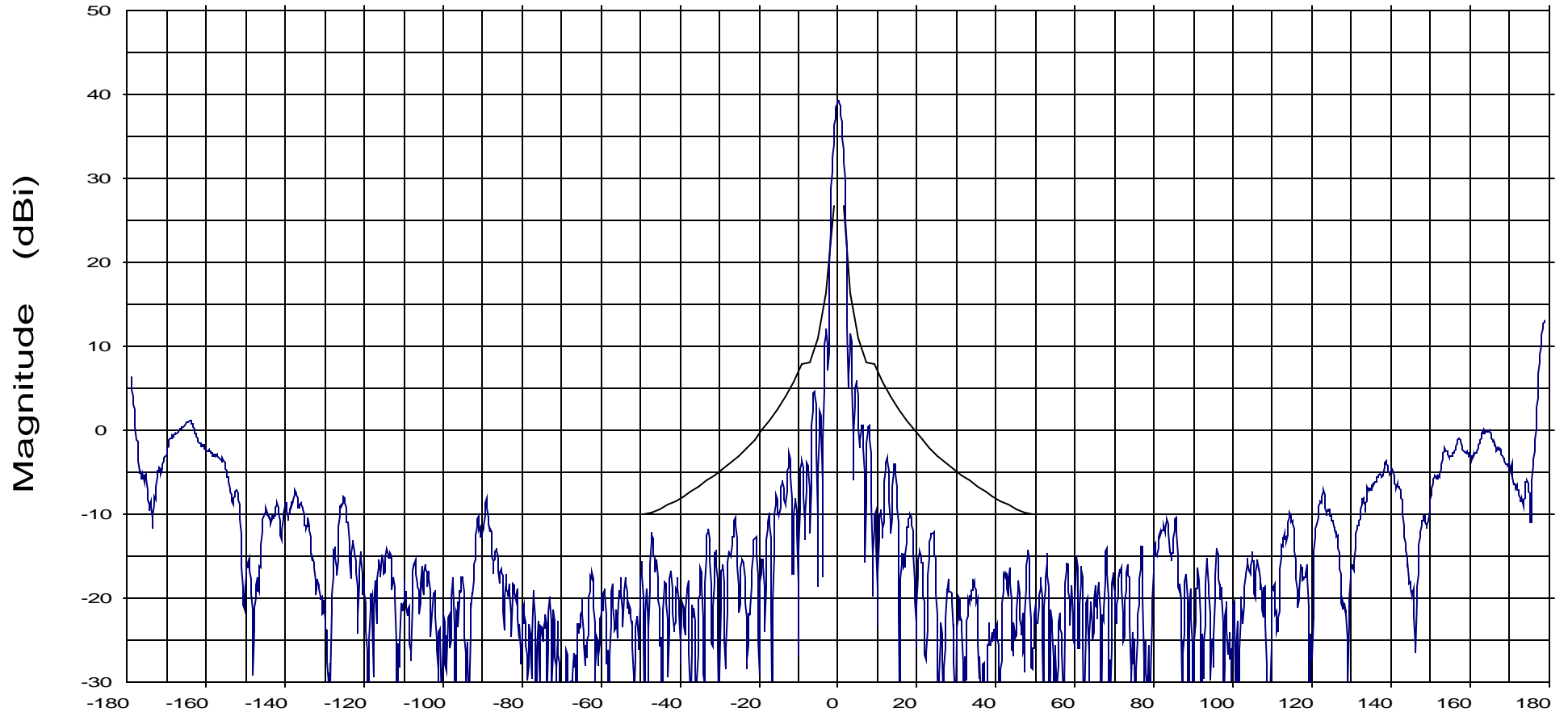
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Overlays
112109.dat-ant_under_test —

Cal. file
112109.dat

units
dBi

Azimuth (Deg)

Beam Peak
Deg dB
0.02 39.11

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

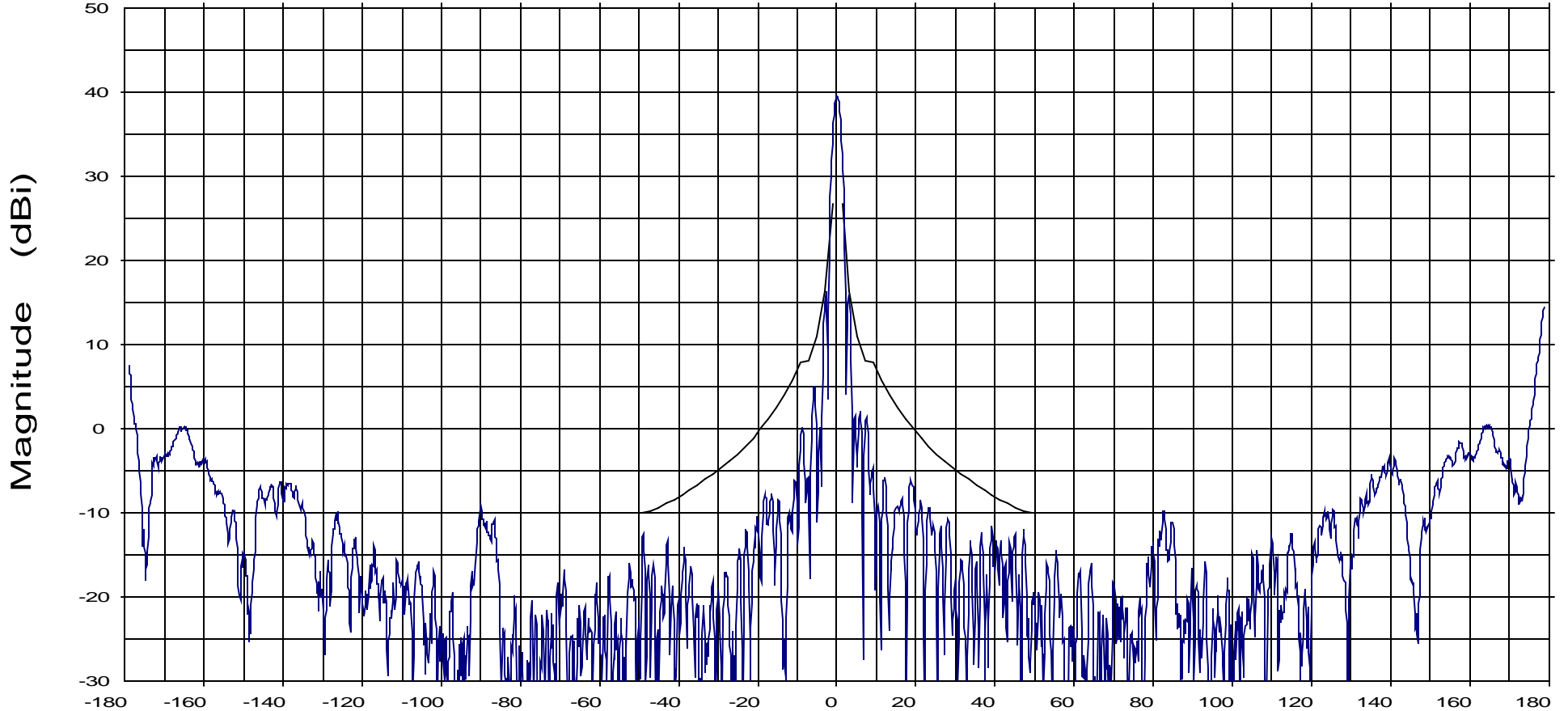
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112109.dat-ant_under_test —

Cal. file
 112109.dat

units
 dBi

Beam Peak
 Deg dB
 0.03 39.45

Section VII

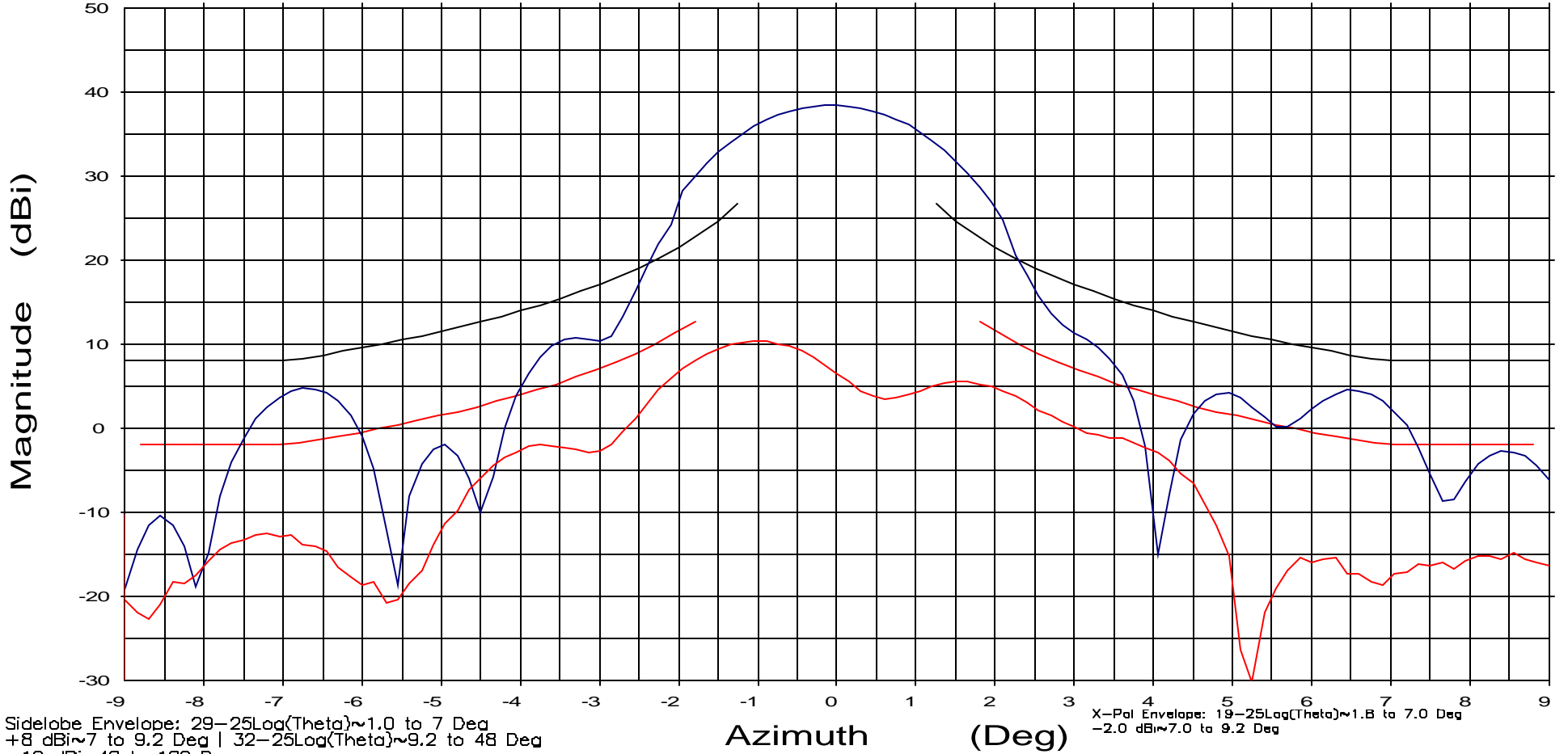
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays

112118.dat-ant_under_test	—
112123.dat-ant_under_test	—

Cal. file	units
112118.dat	dBi
112123.dat	dBi

Beam Peak	Deg	dB
-0.06		38.35
-1.02		10.30

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 11.950 GHz

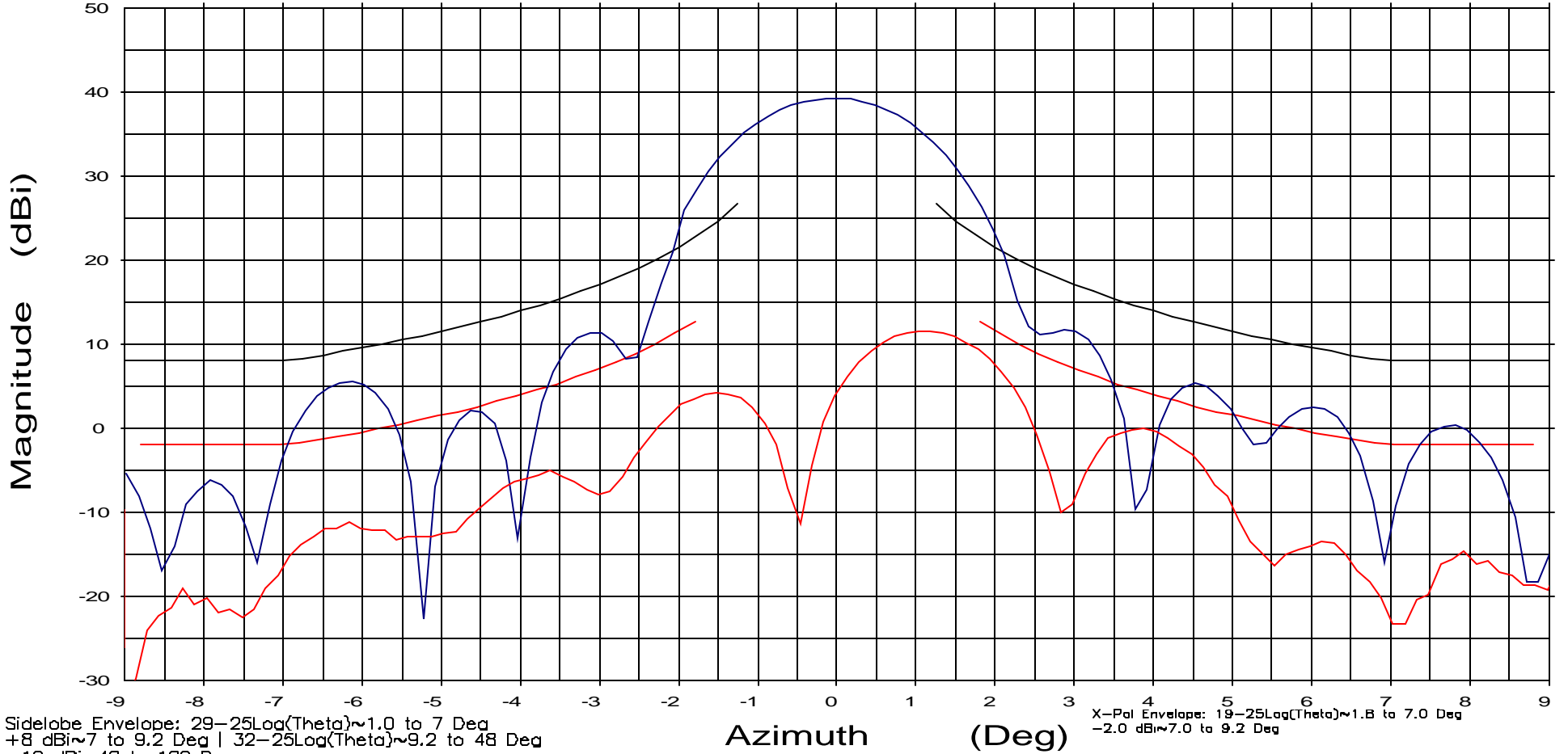
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Overlays

112118.dat-ant_under_test	—
112123.dat-ant_under_test	—

Cal. file	units
112118.dat	dBi
112123.dat	dBi

Beam Peak	Deg	dB
-0.05	39.12	
1.12	11.56	

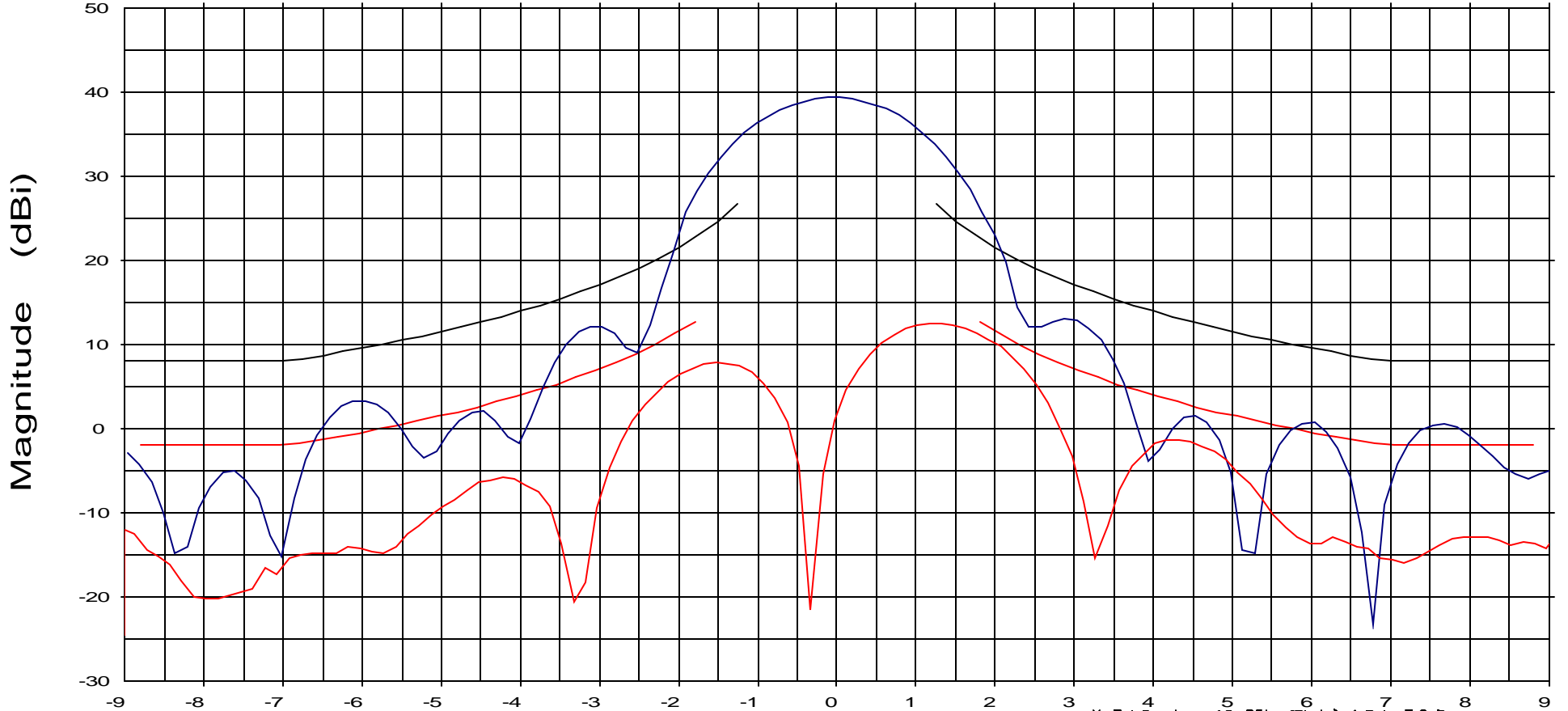
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Azimuth (Deg)

Overlays
 112118.dat-ant_under_test — blue line
 112123.dat-ant_under_test — red line

Cal. file	units
112118.dat	dBi
112123.dat	dBi

Beam Peak	
Deg	dB
-0.04	39.27
1.29	12.44

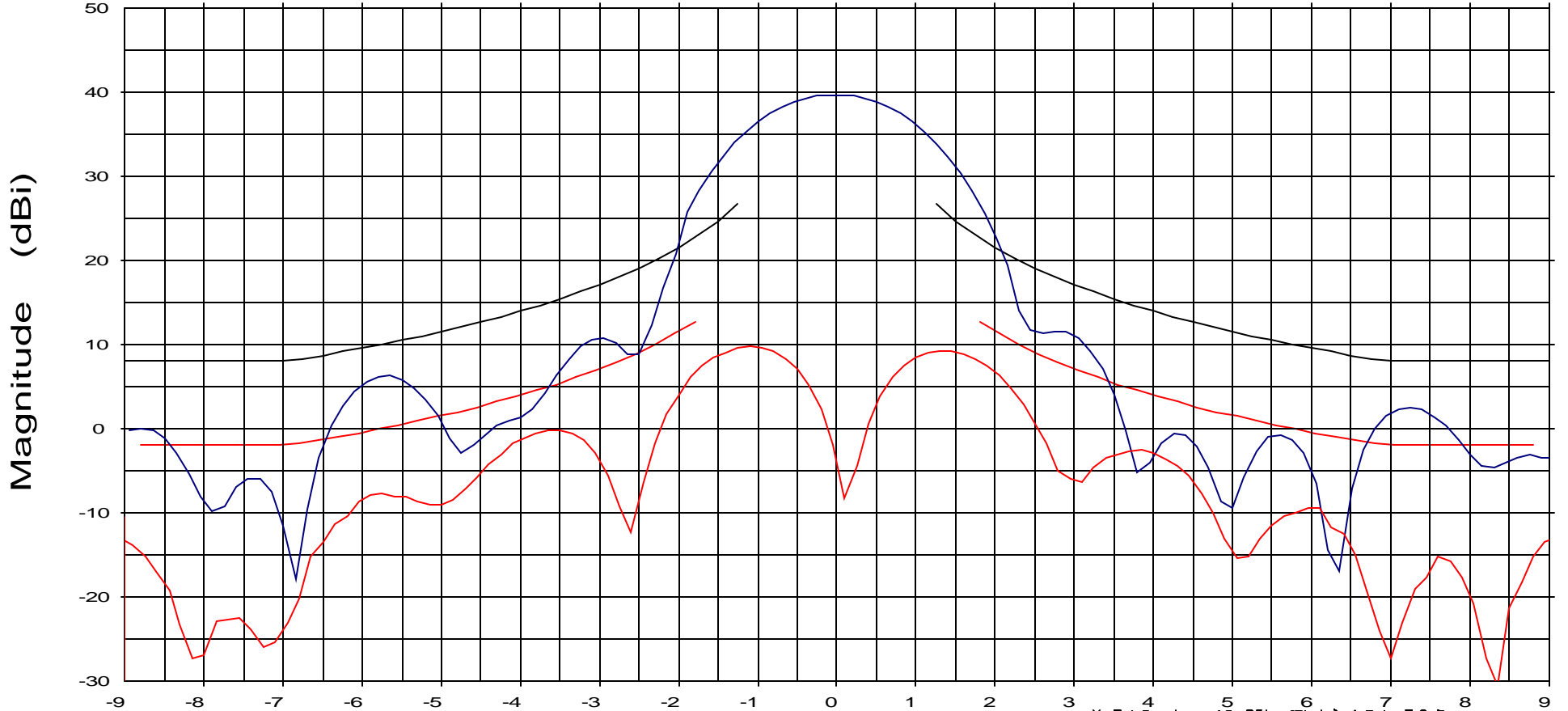
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
 -2.0 dBi ~ 7.0 to 9.2 Deg

Azimuth (Deg)

Overlays
 112118.dat-ant_under_test — blue line
 112123.dat-ant_under_test — red line

Cal. file	units
112118.dat	dBi
112123.dat	dBi

Beam Peak	
Deg	dB
-0.03	39.63
-1.12	9.76

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

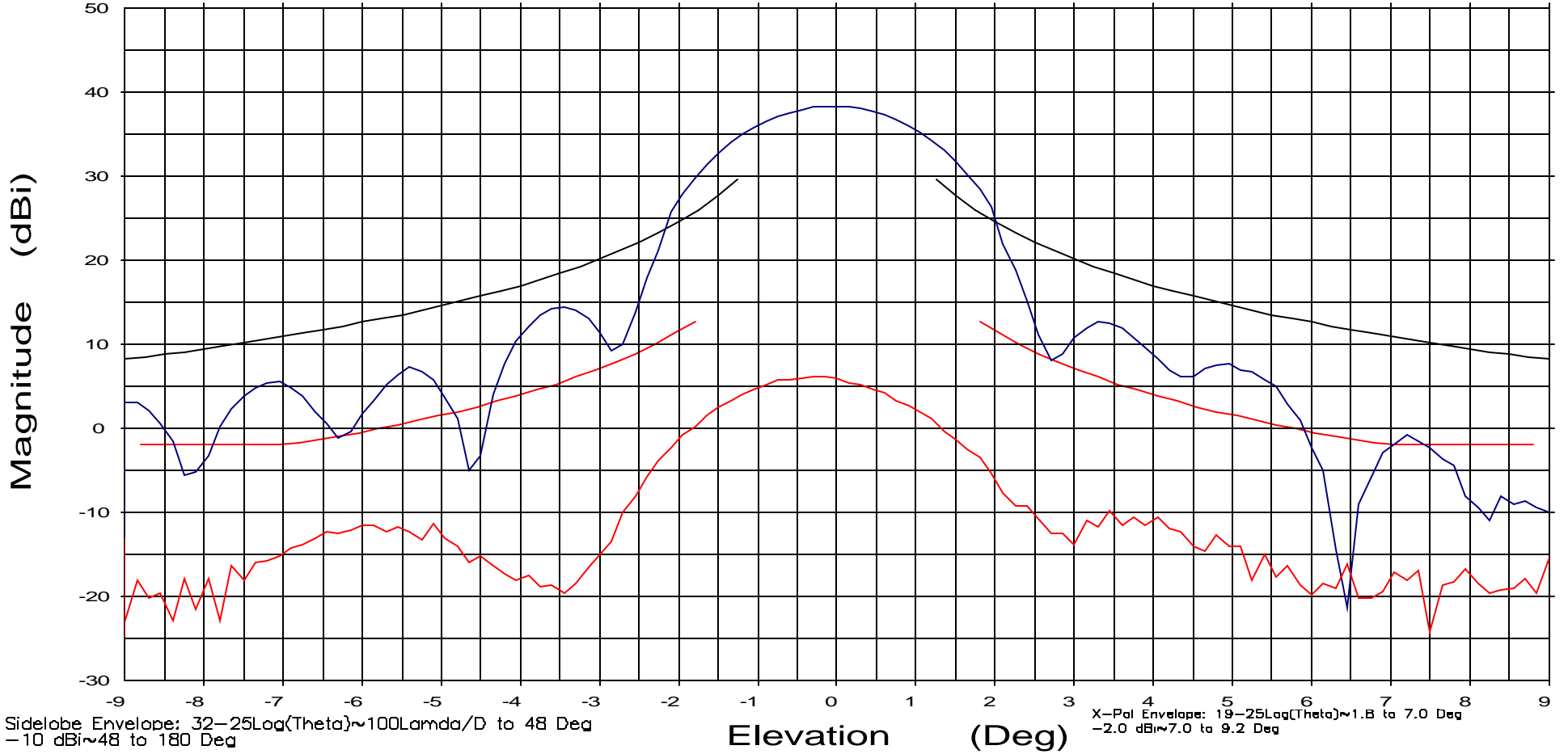
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda/D$ to 48 Deg
-10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi ~ 7.0 to 9.2 Deg

Overlays
 112121.dat-ant_under_test — blue line
 112127.dat-ant_under_test — red line

Cal. file
 112121.dat
 112127.dat

units	Beam Peak	Deg	dB
dBi	-0.05	38.25	
dBi	-0.29	6.06	

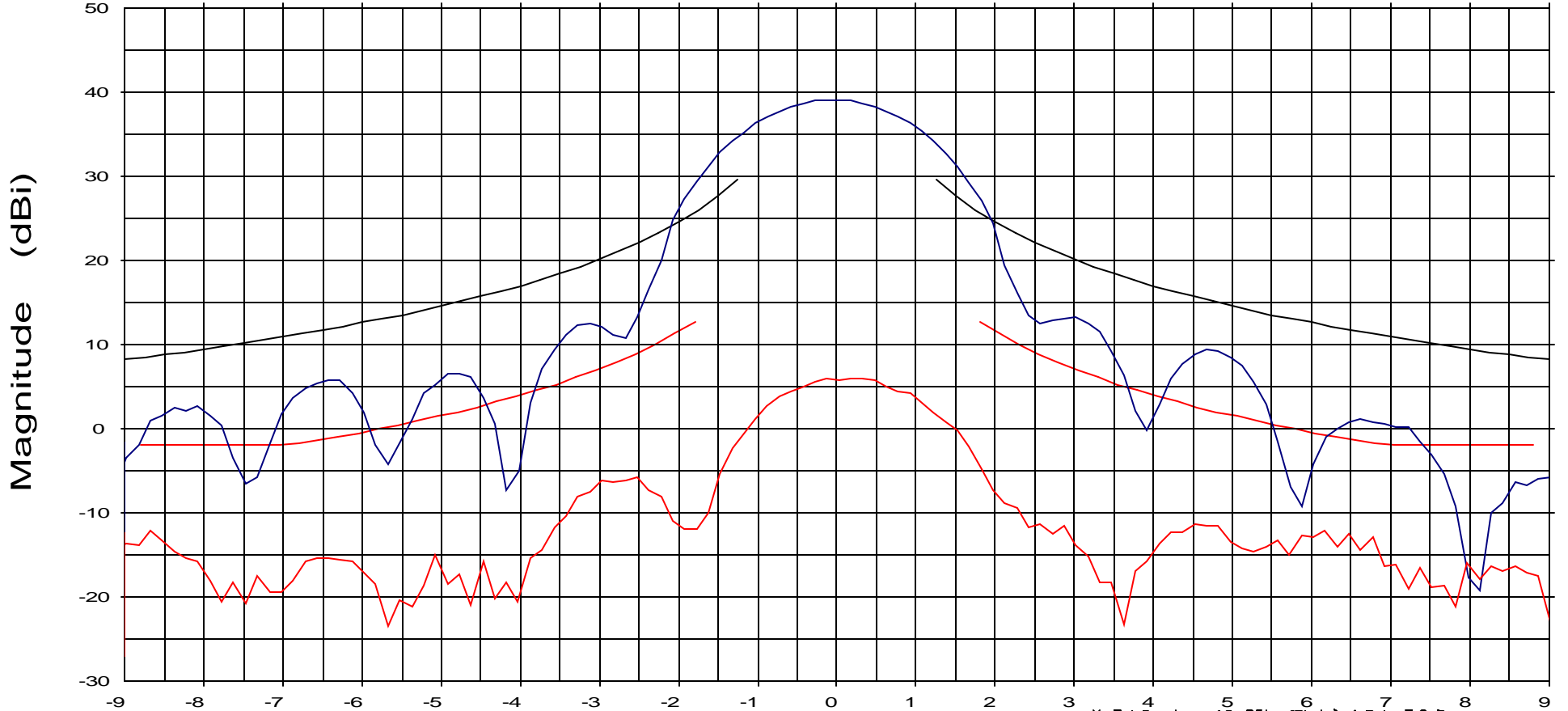
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda / D$ to 48 Deg
-10 dBi \sim 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi \sim 7.0 to 9.2 Deg

Elevation (Deg)

Overlays

112121.dat-ant_under_test	—
112125.dat-ant_under_test	—

Cal. file	units
112121.dat	dBi
112125.dat	dBi

Beam Peak	
Deg	dB
-0.05	39.01
0.13	5.86

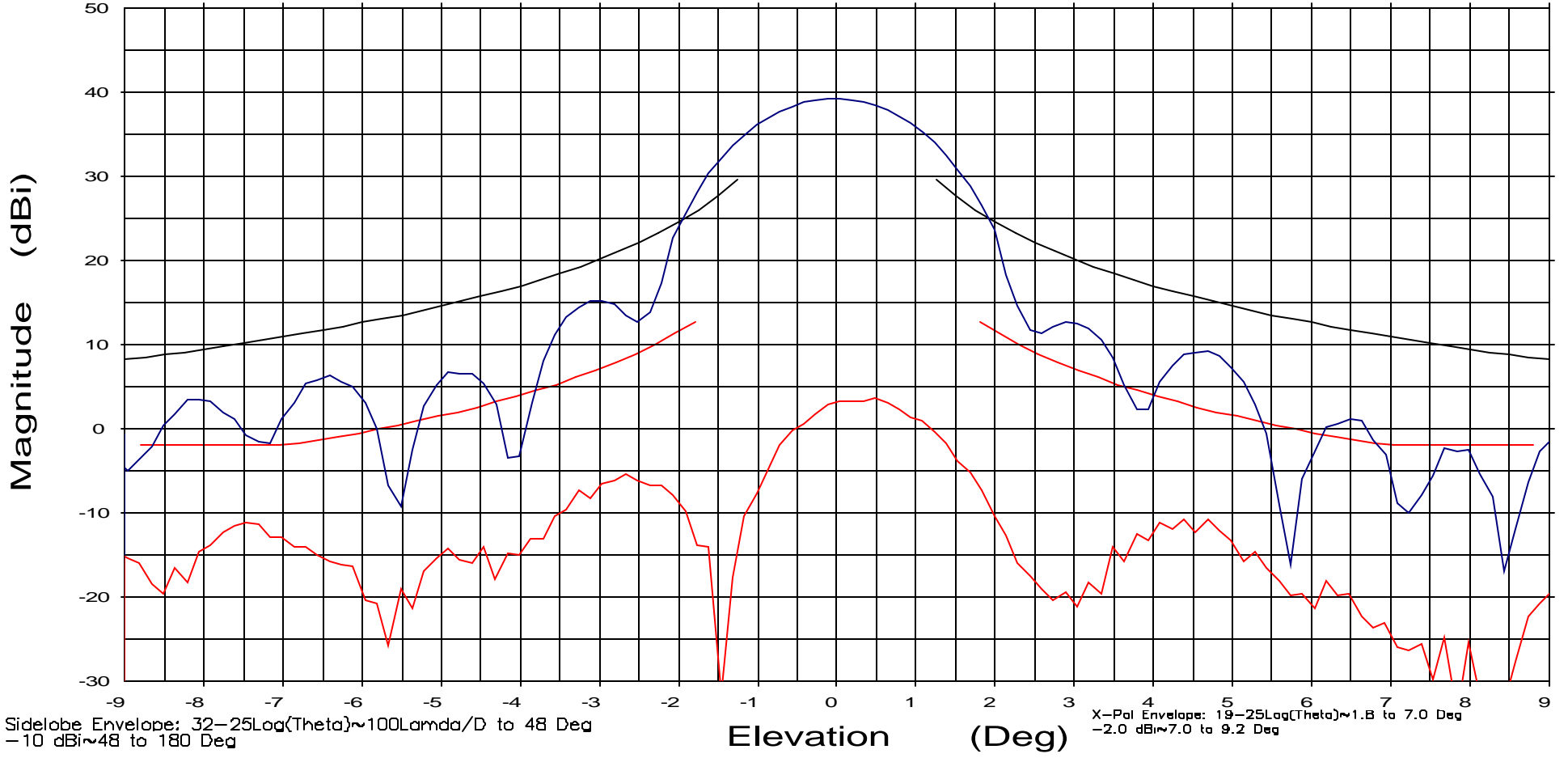
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda / D$ to 48 Deg
-10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi ~ 7.0 to 9.2 Deg

Overlays

112121.dat-ant_under_test	—
112125.dat-ant_under_test	—

Cal. file	units
112121.dat	dBi
112125.dat	dBi

Beam Peak	
Deg	dB
-0.03	39.14
0.36	3.32

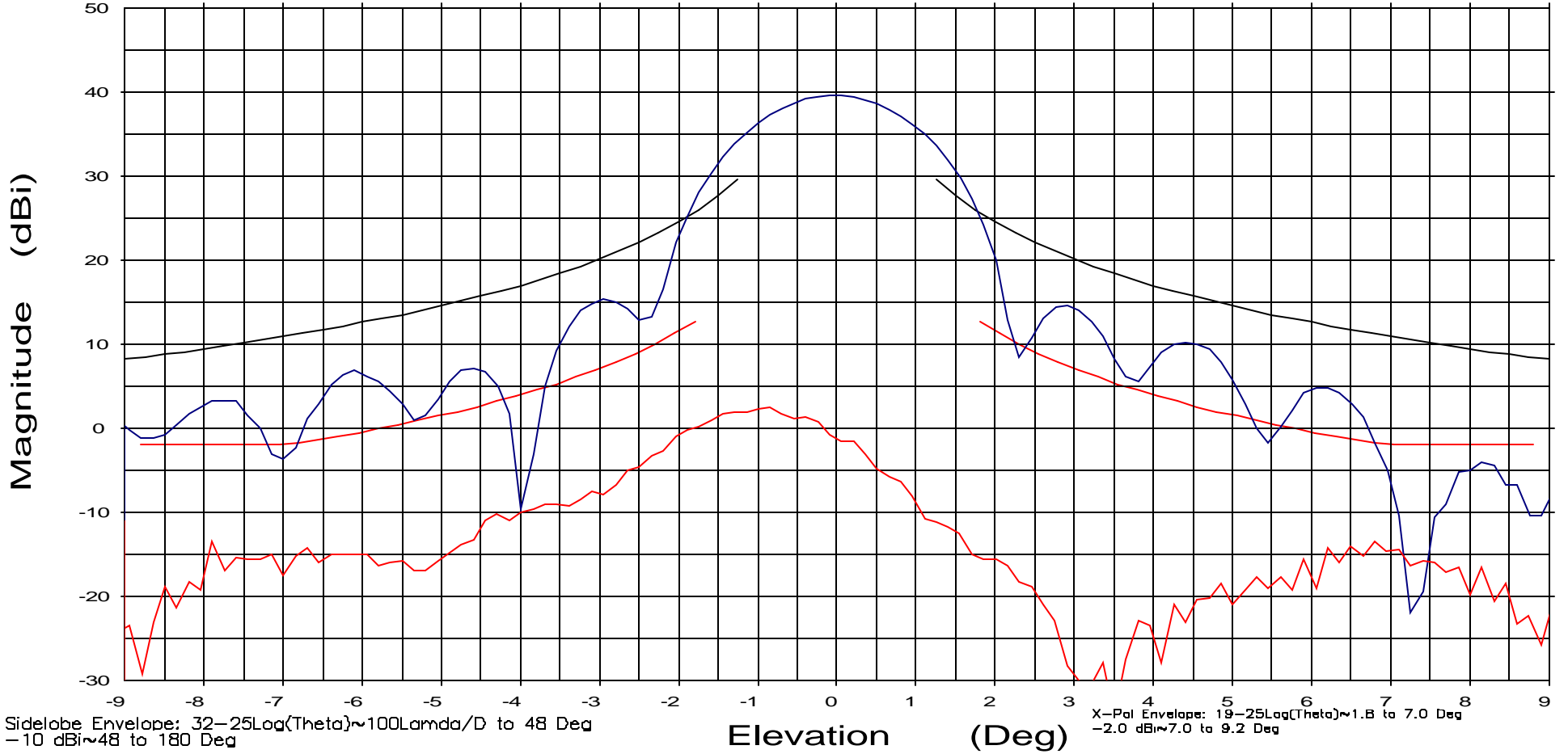
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $32 - 25 \log(\theta) \sim 100 \lambda/D$ to 48 Deg
-10 dBi ~ 48 to 180 Deg

X-Pol Envelope: $19 - 25 \log(\theta) \sim 1.8$ to 7.0 Deg
-2.0 dBi ~ 7.0 to 9.2 Deg

Elevation (Deg)

Overlays

112121.dat-ant_under_test	—
112125.dat-ant_under_test	—

Cal. file	units
112121.dat	dBi
112125.dat	dBi

Beam Peak	
Deg	dB
-0.04	39.48
-1.03	2.18

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

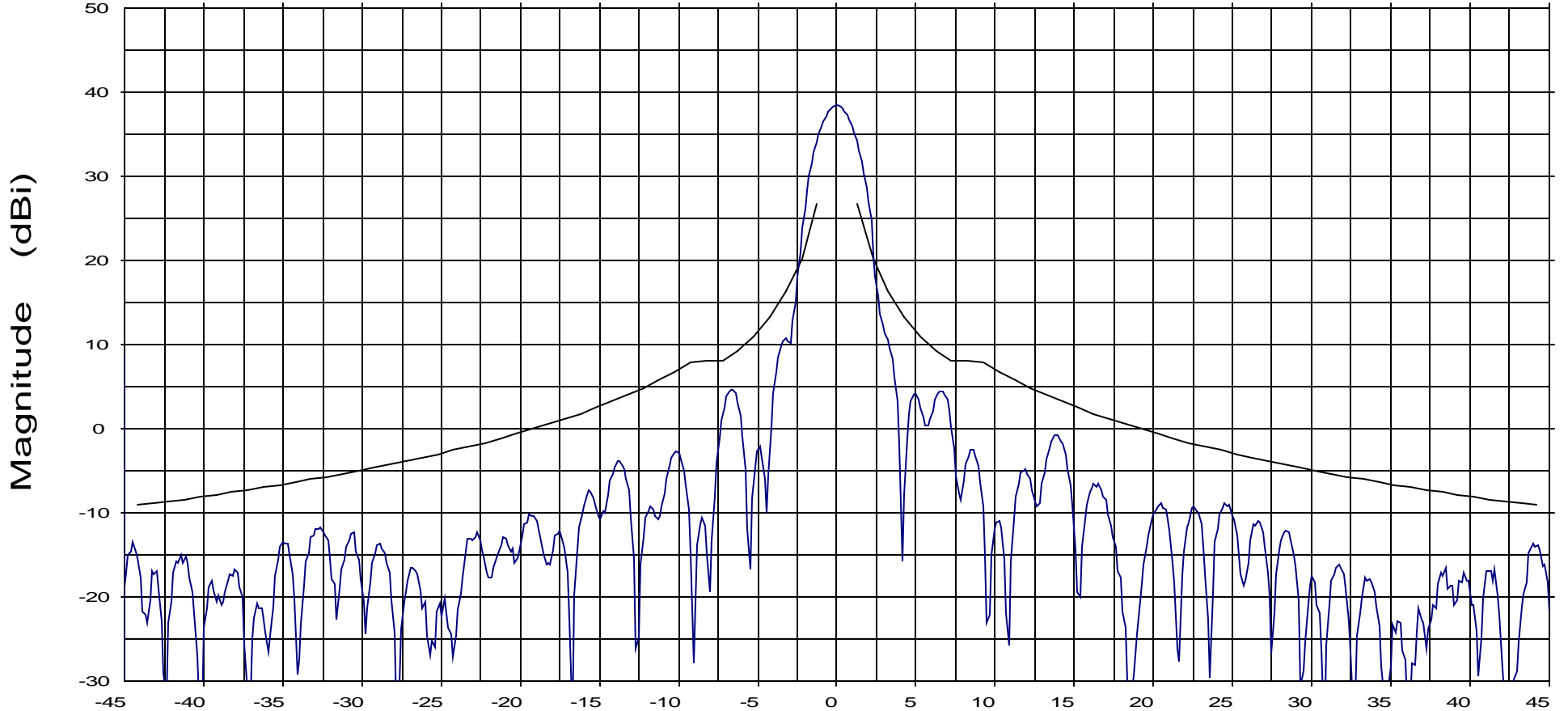
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \approx 1.0$ to 7 Deg
 $+8$ dBi ≈ 7 to 9.2 Deg | $32 - 25 \log(\theta) \approx 9.2$ to 48 Deg
 -10 dBi ≈ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test

Cal. file
112117.dat

units
dBi

Beam Peak
 Deg dB
 -0.01 38.35

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 11.950 GHz

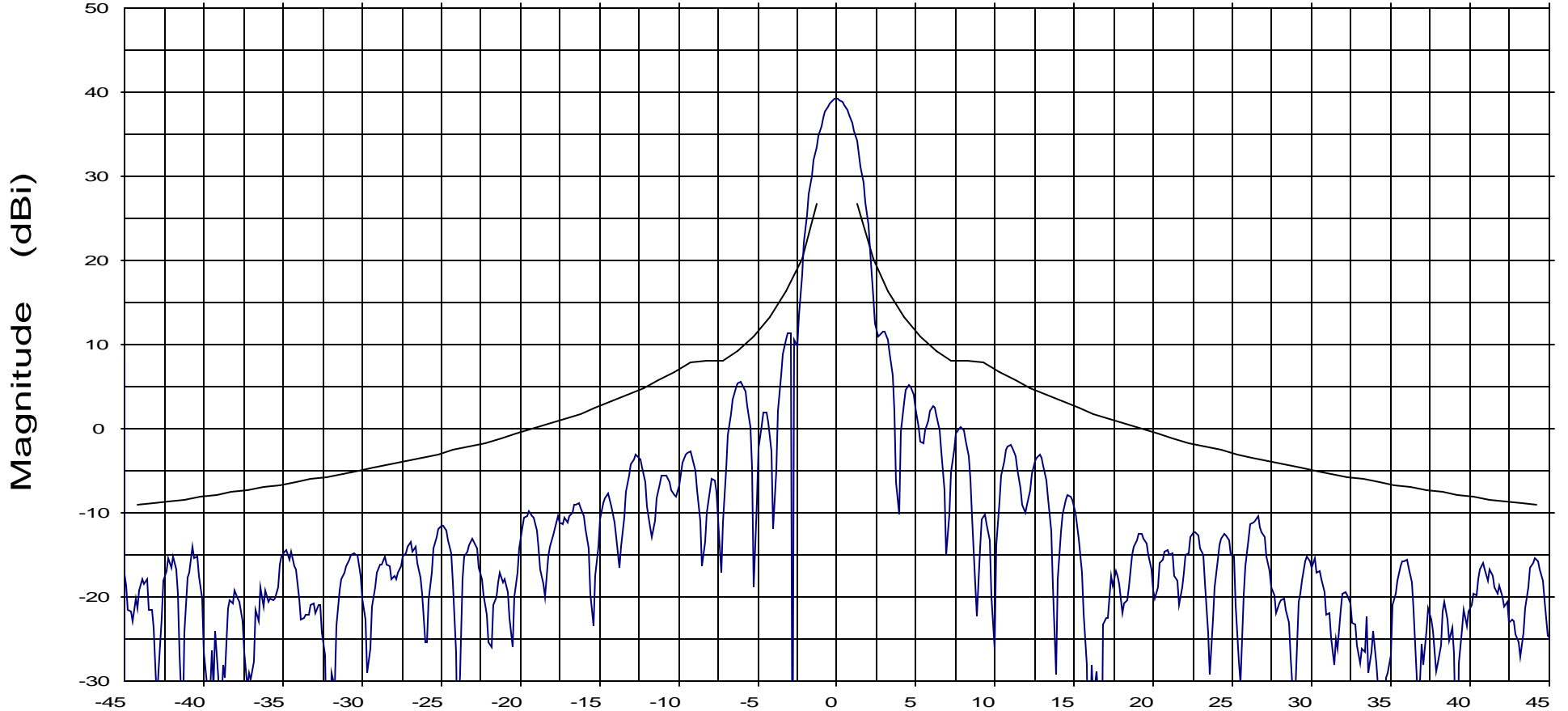
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.12

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.200 GHz

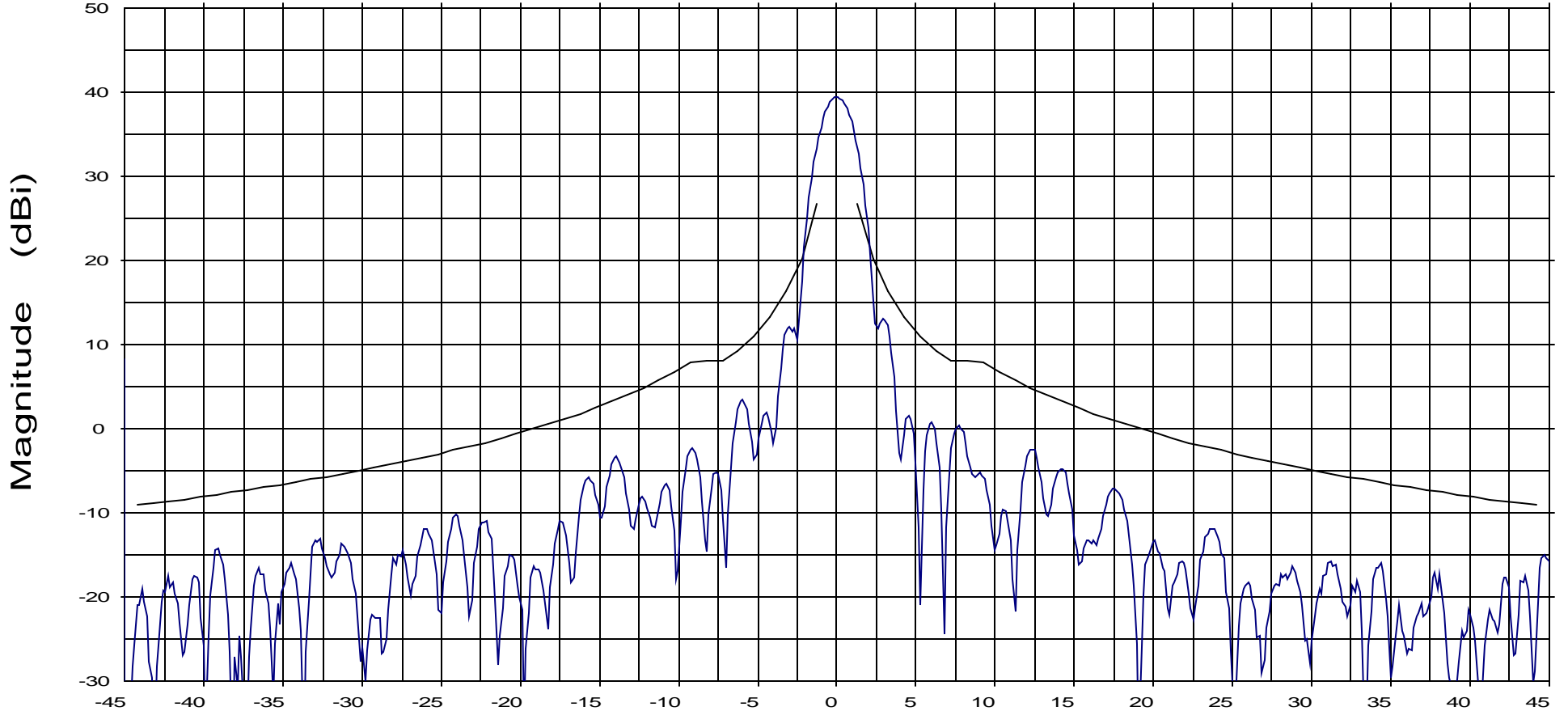
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.27

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

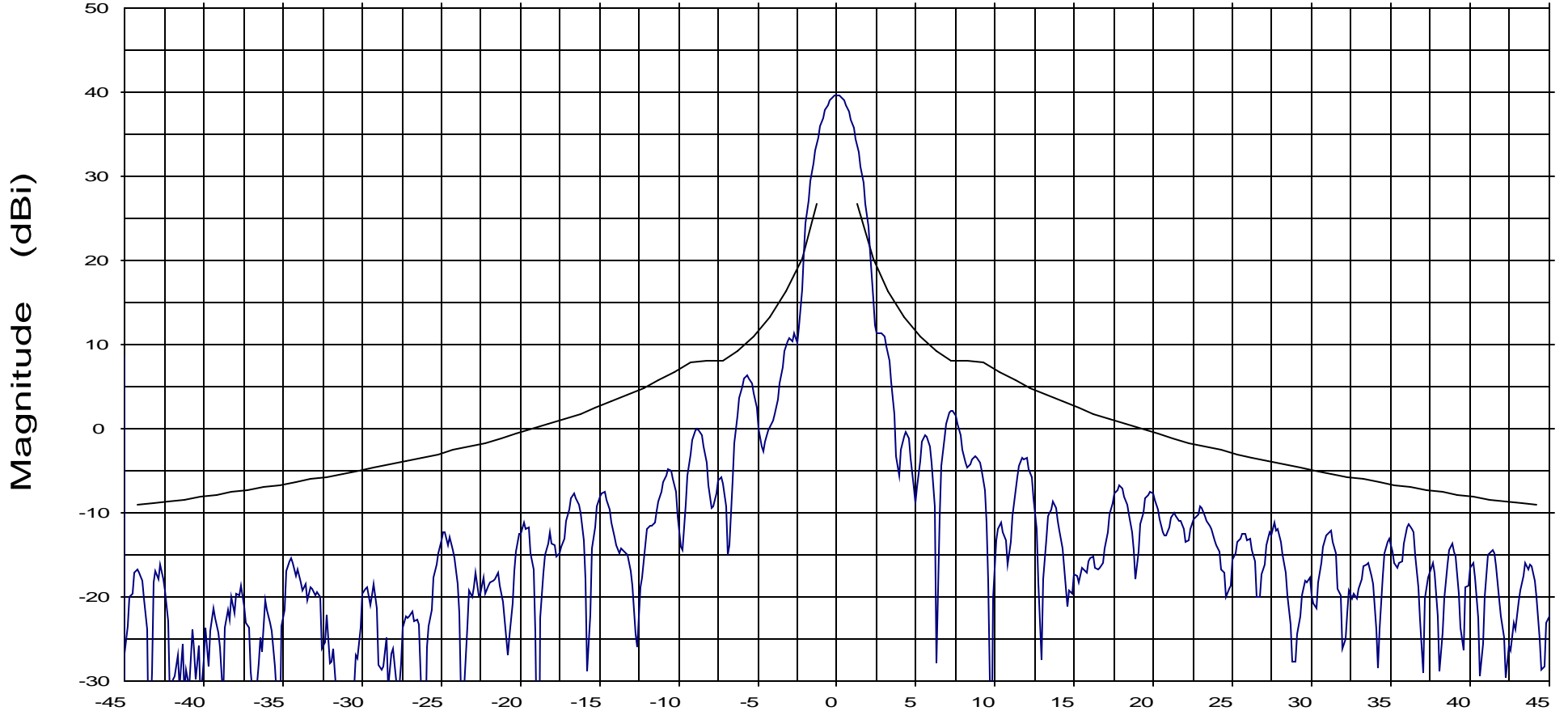
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.63

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 10.950 GHz

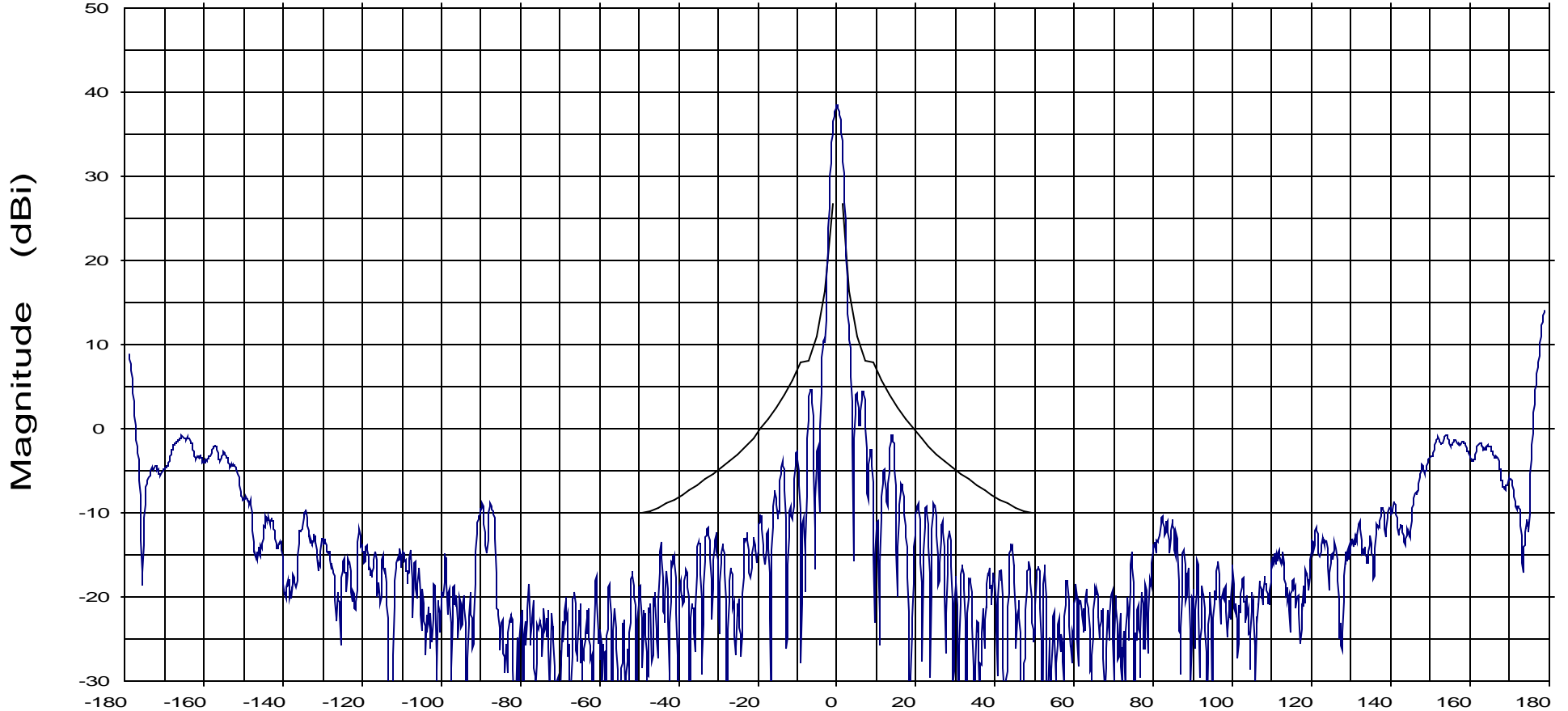
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
112117.dat-ant_under_test —

Cal. file
112117.dat

units
dBi

Beam Peak
 Deg dB
 -0.01 38.35

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 11.950 GHz

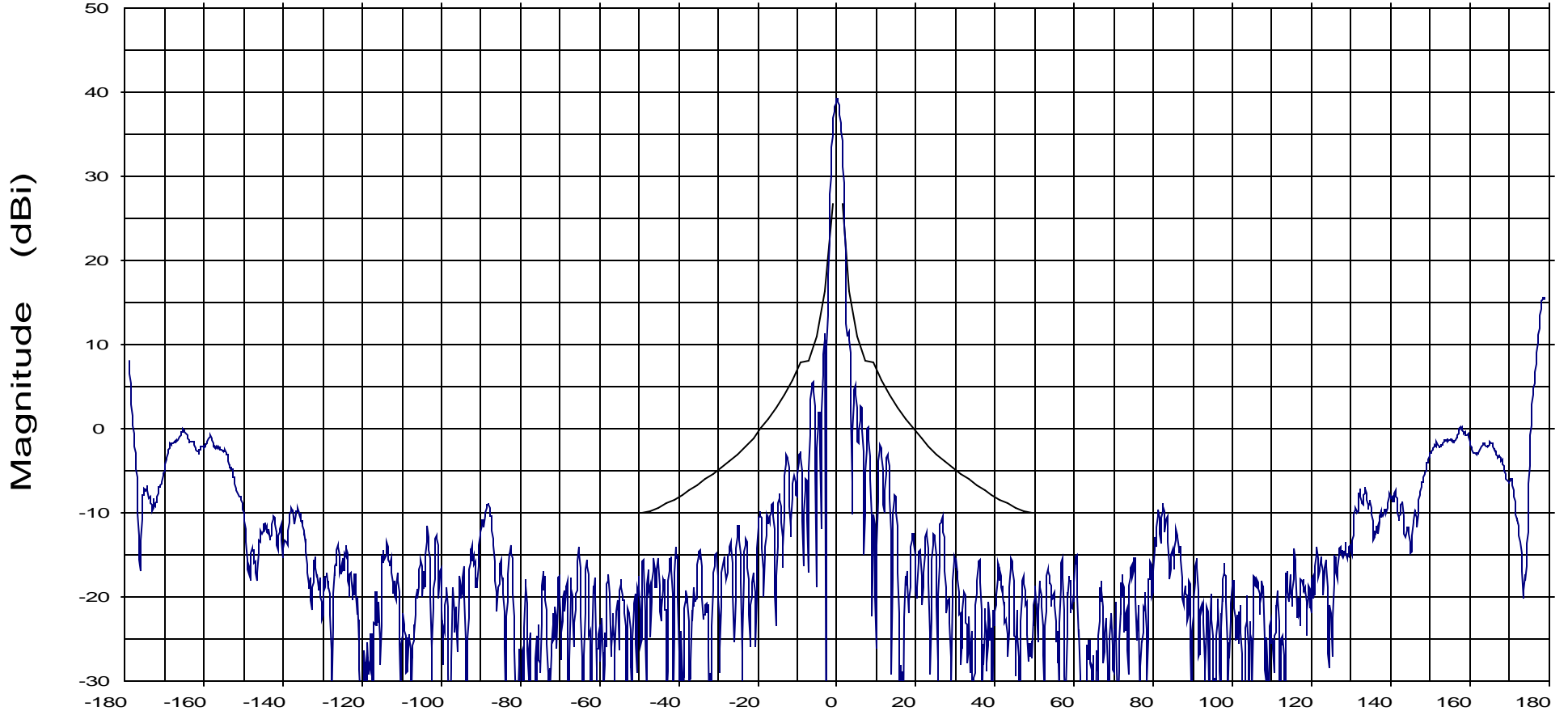
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.12

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.200 GHz

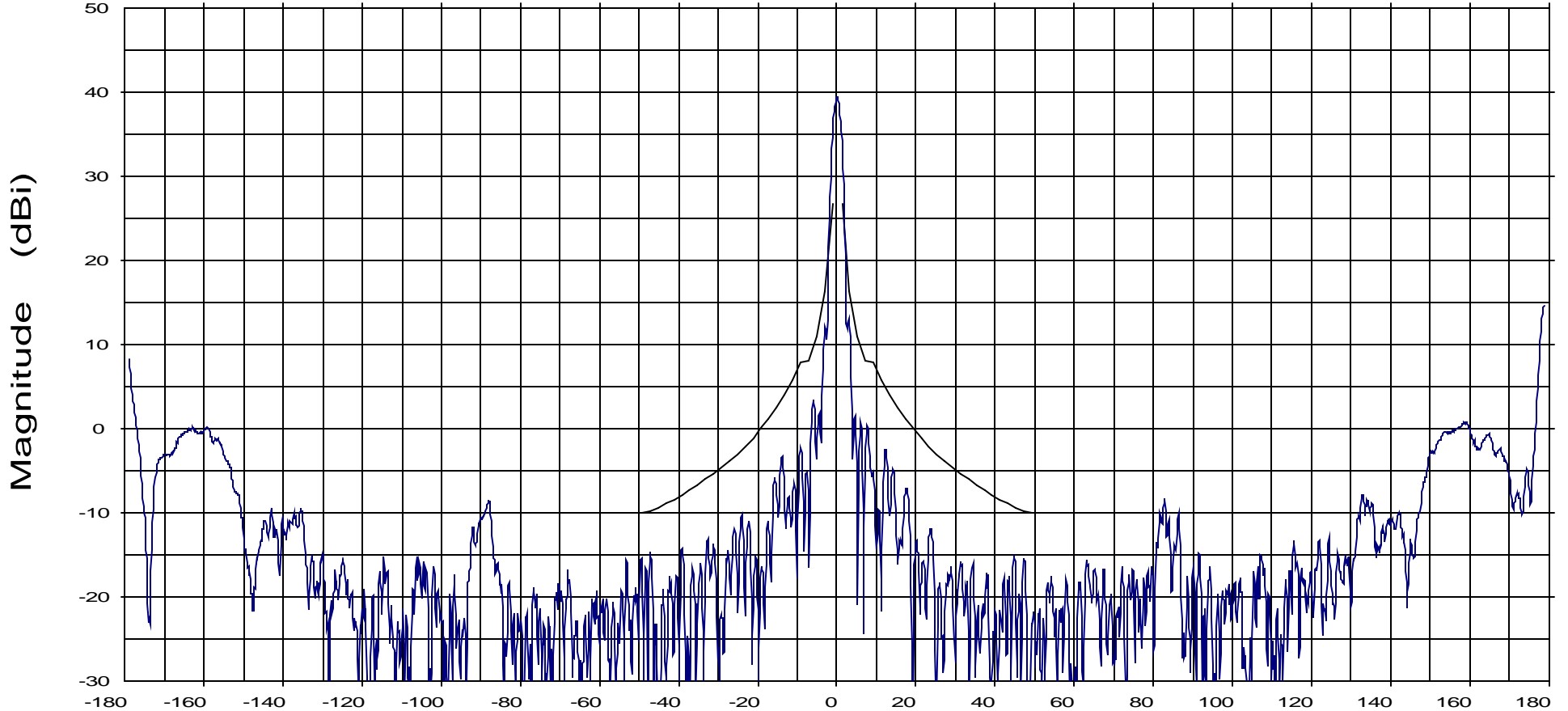
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.27

File: See Legend

89cm Ku-Band
Rx/Tx Antenna System

Frequency : 12.750 GHz

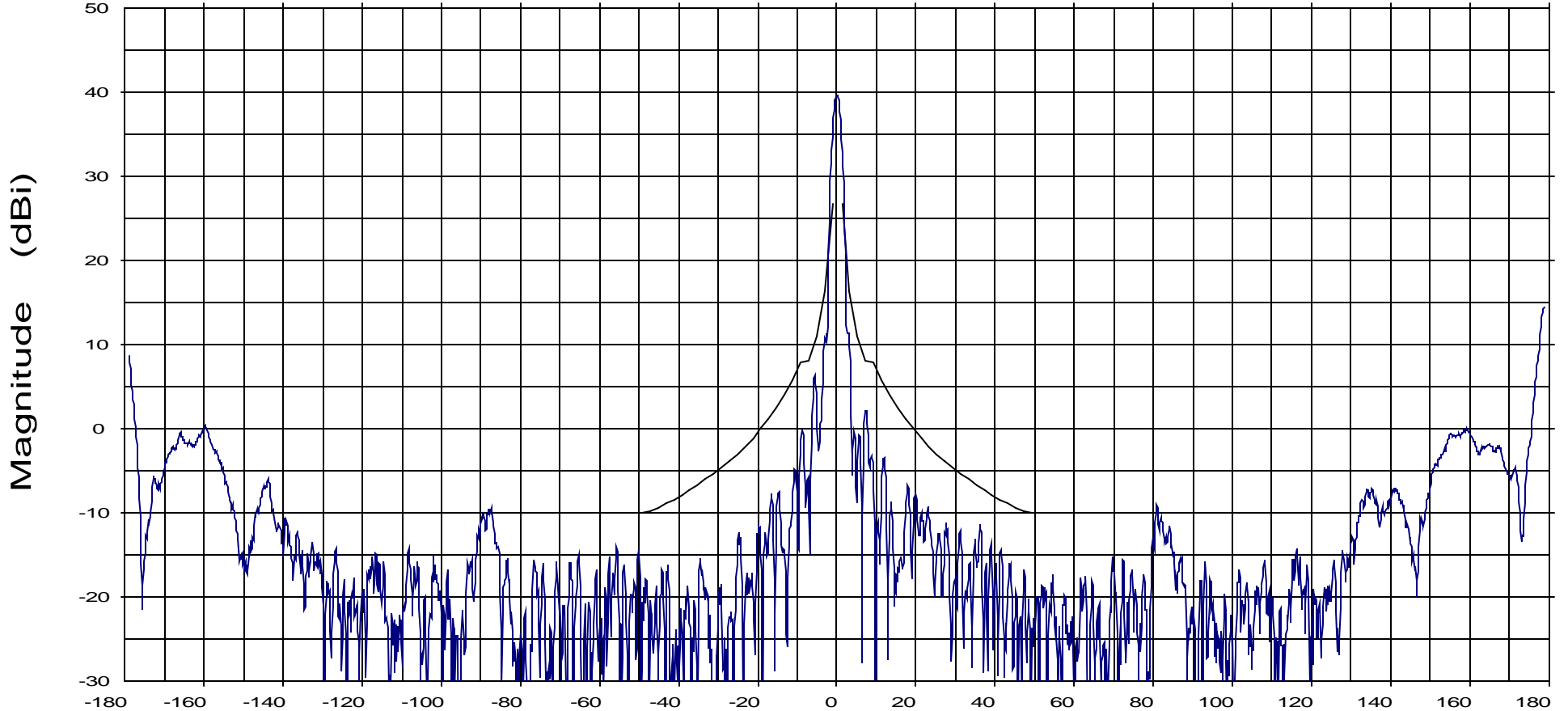
Operator: K. Poovey

Ser. No.

Channel: ch1

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: $29 - 25 \log(\theta) \sim 1.0$ to 7 Deg
 $+8$ dBi ~ 7 to 9.2 Deg | $32 - 25 \log(\theta) \sim 9.2$ to 48 Deg
 -10 dBi ~ 48 to 180 Deg

Azimuth (Deg)

Overlays
 112117.dat-ant_under_test —

Cal. file
 112117.dat

units
 dBi

Beam Peak
 Deg dB
 -0.01 39.63