Request for Waiver of C Band Coordination Requirement

As noted in the attached "Request for Extension of Special Temporary Authority" L3Harris Technologies, Inc. ("L3Harris") has contracted with Micronet Communications, Inc. to perform a C-Band coordination study for the Galliano, LA 2.4m Flyaway C-Band terminal. The initial C-Band coordination was issued on the afternoon of Friday October 8, 2021, however the Prior Coordination Notice comment period will not be final until November 7, 2021. Out of an abundance of caution, L3Harris hereby requests a waiver of §25.203(c) of the Commission's rules requiring prior coordination of earth station facilities utilizing frequency bands shared with terrestrial services (C Band) for this STA extension request.

As noted in the original request for Special Temporary Authority ("STA"), owing to Hurricane Ida, all terrestrial paths transmitting voice and data traffic to the FAA Houston Air Route Control Center and the New Orleans airport (MSY) were rendered inoperable, requiring L3Harris[1] to deploy a C Band Flyaway antenna system at the Galliano, LA heliport to carry voice and data traffic back to the FAA Houston Air Route Control Center and the New Orleans airport (MSY).

Due to the temporary nature of the transportable earth station installation, and the extremely low likelihood of carrier interference due to the look angle, beam width and the isolation of the physical location of the antenna, Commission grant of this waiver request is warranted and will serve the public interest.

[1] L3Harris Technologies serves as the current FAA Telecommunications Infrastructure contractor

Initial FCC Emergency STA

Conditions of Grant

Emergency STA Conditions of Grant

Company: L3HARRIS TECHNOLOGIES **Name/Title: Michael Feustel**

Telephone: +1 321.309.8468 (O) / +1 321.213.1334 (M)E-mail: Michael.Feustel@L3Harris.com

24/7 Contact Name: **24/7 Contact Phone:**

L3HARRIS TECHNOLOGIES' request for Special Temporary Authority is GRANTED WITH CONDITIONS beginning September 13, 2021 and ending October 12, 2021.

1. All operations under this STA are on an unprotected and non-harmful interference basis. L3HARRIS TECHNOLOGIES shall cease operations immediately upon notification of such interference and inform the Commission in writing immediately of such an event.
2. Operations are limited to the following frequency bands

Earth-to-Space Frequency (ES Transmit)	Space-to-Earth Frequency (ES Receive)
6336-6376 MHz VLP	4111-4151 MHz HLP

3. Maximum input power density is limited to −2.7 − 10log(N) dBW/4 kHz for digital carriers. *See* 47 CFR §§25.212 (d). .
4. Maximum Off-Axis EIRP density is limited to the applicable portions of section 25.218 (c) and (d). *See* 47 CFR §§25.218 (c) and (d).
5. Points of Communication is limited to the SES-2 satellite at 87º W.L. (Call Sign S2826)
6. L3HARRIS TECHNOLOGIES is not authorized to transmit on the earth station while in motion.
7. L3HARRIS TECHNOLOGIES' request for a waiver of the sections §25.203 b) and c) and §25.251 requirement for a frequency coordination report is GRANTED. This waiver is based upon the critical need to restore communications between Galliano, LA heliport, the FAA Houston Air Route Control Center and the New Orleans airport (MSY). In addition, local terrestrial facilities are not currently functional due to the damage caused by Hurricane Ida. and the station is located on the coast and is pointed out to sea with an elevation angle greater than 55 degrees. Given this situation, the likelihood of interference is very small.
8. L3HARRIS TECHNOLOGIES must take all reasonable and customary measures to ensure that the earth station(s) do(es) not create a potential for harmful non-ionizing radiation to persons who may be in the vicinity of the earth station when it is in operation. At a minimum, permanent warning labels shall be fixed to the earth station and its housing warning of the radiation hazard and including a diagram showing the regions around the earth station where radiation levels could exceed 1.0mW/cm^2. The earth station operator shall be responsible for assuring that individuals do not stray into the regions around the earth station where there is a potential for exceeding the maximum permissible exposure limits required by 47 C.F.R. § 1.1310.
9. Any action taken or expense incurred as a result of operations pursuant to this special authority is solely at L3HARRIS TECHNOLOGIES' own risk.
10. The grant of the verbal STA request was issued in accordance with emergency procedures put in place to provide communications in areas affected by Hurricane Ida. To ensure that the Commission has a complete record of the request and action taken, L3HARRIS

TECHNOLOGIES is directed to file an electronic version of its STA request submitted through IBFS as soon as possible.

11. This STA may be terminated at the International Bureau's discretion, without a hearing, if conditions warrant. Under no circumstances may the facility authorized violate the terms of an international agreement or treaty. The applicant is required to post and/or retain a copy of this authorization as required by the Commission's Rules.
12. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective immediately.

Verbal approval from:

Kathyrn Medley

Chief, Satellite Engineering Branch

Satellite Division

FCC/IB

Temporary Fixed Transportable

Earth Station Technical Parameters

Antenna Alignment
Produced using Satmaster Pro
Thursday 9 September 2021

Site name	GAO_RTR (Galliano, LA)
Satellite name	SES-2 21C

Input Parameters	Value	Units
Site latitude	29.414148N	degrees
Site longitude	90.295413W	degrees
Satellite longitude	87.00W	degrees
Inclination	0	degrees
Spot beam polarization cant	0	degrees
Antenna offset focus angle	0	degrees

Satellite Look Angles	Value	Units
Elevation	55.51	degrees
True azimuth	173.31	degrees
Azimuth compass bearing	174.52	degrees
Polarization offset	-5.84	degrees
Path distance to satellite	36750.51	km

Modified Polar Mount Settings	Value	Units
Polar axis	30.02	degrees
Polar elevation	59.98	degrees
Declination offset	4.29	degrees
Apex declination	34.31	degrees
Apex elevation	55.69	degrees

SES LINK BUDGET ANALYSIS

SES
beyond frontiers

PREPARED BY
Nick Brown
DATE
10-Sep-21
BUSINESS PARTNER

PROJECT
FTISAT Current Eb/No Readings
REVISION
Current Eb/No Readings

Satellite		SES-2
Orbital location	°E	-87.00

Transponder information		
Transponder ID		21C
Center frequency and polarisation (U/D)	MHz	6345 VLP / 4120 HLP
Bandwidth	MHz	36.00
Transponder Dlk Saturation EIRP Towards Beam-Peak	dBW	43.47
Transponder Beam-Peak G/T	dB/K	3.64
Saturation flux density, Beam-peak	dBW/m²	-90.85
Operational mode		Multiple Carrier, [IBO: -5.5 dB | OBO: -4 dB]
Inclined (Yes,No)		No

AGGREGATE RESOURCE REQUIREMENTS		
Capacity Balanced / BW / PWR Limited		
Number of carriers in transponder		2
Required bandwidth	MHz	0.3
Allocated bandwidth	MHz	0.32
PEB of carriers	MHz	0.27

ANALYSIS HIGHLIGHTS ACROSS ALL SITES IN ANALYSIS	
Link margin review [over sites]	
Site with highest clear sky link margin	USA-WBN-004 6175.0/3950.0 Woodbine C5 (CSM, SES-2)>USA-33454 at GAO : 0.0 dB
Site with lowest clear sky link margin	USA-33454 at GAO >USA-WBN-004 6175.0/3950.0 Woodbine C5 (CSM, SES-2) : 0.0 dB
Link availability review [over sites]	
Site with highest link availability	-
Site with lowest link availability	-

Calculation type		Clear sky only	Clear sky only
Carrier Name		**GAO C GW**	**GAO C RM**
Carrier PEB	MHz	**0.20**	**0.06**
Carrier Predicted Total C/(N+I)	dB	11.16	11.16
Link total Eb/No	dB	9.40	9.40
Required Eb/No (including implementation and additional margin)	dB	9.40	9.40
Link closes? [2 out of 2, 100 %]		Yes	Yes
Link margin in clear sky (For ACM carriers, residual margin in CS)	dB	0.00	0.00
Target Link Availability	% yr	clear weather only	clear weather only
Achieved Link Availability	% yr	clear weather only	clear weather only
Availability Requirement Satisfied? [0 out of 2, 0 %]		clear weather only	clear weather only
ALC: Is the overdrive limit exceeded ?		**Not computed**	**Not computed**
Balanced/Power/Bandwidth limited		**PWR Lim**	**BW Lim**
Carrier PEB to allocated bandwidth ratio		**1.27**	**0.40**
Compliance to SES Coordination constraints		No CoCos	No CoCos
Summary of carrier emission levels			
Carrier power density at transmit antenna flange	dBW/Hz	-63.31	-53.98
Carrier Uplink EIRP density	dBW/Hz	-7.33	-11.69
Carrier power flux spectral density	dBW/m^2/Hz	-169.89	-174.95
Carrier Downlink EIRP density at beam peak	dBW/Hz	-34.09	-39.15

EARTH STATIONS			
Tx earth station ID		USA-WBN-004 6175.0/3950	USA-33454 at GAO
Latitude	°N	39.38	29.41
Longitude	°E	-77.08	-90.30
Antenna diameter	m	11.10	2.40
Skew angle at transmit location	deg.	11.79	5.81
Effective (Refracted) Elevation	deg.	43.49	55.70
Uplink aspect correction	dB	0.02	0.91
Receive earth station ID		USA-33454 at GAO	USA-WBN-004 6175.0/3950.0 Woodbine C5 (CSM, SES-2)
Latitude	°N	29.41	39.38
Longitude	°E	-90.30	-77.08
Antenna diameter	m	2.40	11.10
Skew angle at receive location	deg.	5.81	11.79
Effective (Refracted) Elevation	deg.	55.70	43.49
Effective G/T at the carrier frequency (Clear-Sky)	dB/K	18.65	30.03
Downlink aspect correction	dB	1.27	1.59

CARRIER INFORMATION			
Carrier uplink centre frequency	MHz	6345.00	6345.00
Carrier downlink centre frequency	MHz	4120.00	4120.00
Number of carriers		1.00	1.00
Modem			
Modulation setting name (clear sky)		QPSK_0.750	QPSK_0.750
Information rate (clear sky)	Mbps	0.19	0.19
Symbol rate	Msps	0.13	0.13
Aggregate code rate (clear sky)		0.75	0.75
Noise Bandwidth	MHz	0.13	0.13
Spreading Factor		1.00	1.00
Allocated bandwidth	MHz	0.16	0.16
Power Equivalent Bandwidth	MHz	0.20	0.06
ACM analysis (constant SR)			
Spectral efficiency in clear sky	b/sym	1.50	1.50
Clear sky throughput	Mbps	0.19	0.19
Clear sky achievable modulation setting		QPSK_0.750	QPSK_0.750

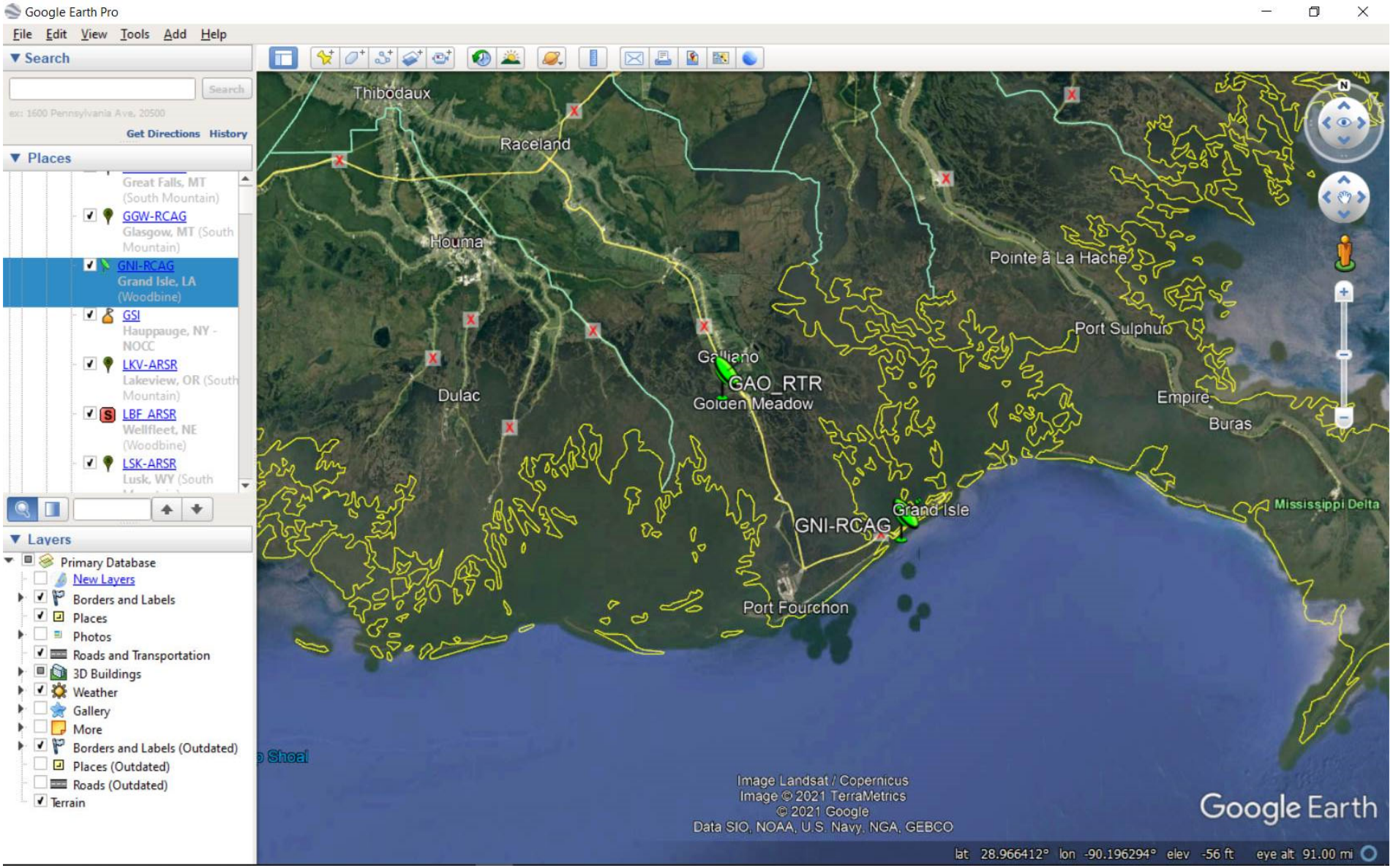
SES LINK BUDGET ANALYSIS

Is the minimum recommended TPD OBO exceeded ?			
Under fade: Spectral efficiency at required availability	b/sym	N/A	N/A
Under fade: Throughput when meeting the required availability	Mbps	N/A	N/A
Under fade : Mod Cod meeting the required availability		N/A	N/A

LINK BUDGET			
Uplink Calculations			
Carrier Input Backoff in clear sky	dB	-27.99	-33.05
Carrier FD from Uplink E/S	dBW/m^2	-118.80	-122.97
$C/N_{UP,Thermal}$: Uplink Thermal Noise ratio (clear sky)	dB	24.84	19.79
$C/(N+I)_{UP,\ NO\ ASI}$: Uplink Thermal Noise and interference ratio prior to ASI (clear sky)	dB	22.01	18.69
$C/(N+I)_{UP}$ Uplink Thermal Noise and interference ratio (clear sky)	**dB**	**17.71**	**13.22**
Total propagation loss considering uplink rain fade	dB		
$C/(N+I)_{UP}$ Uplink Thermal Noise and Interference ratio (UL under fade)	**dB**		
Resulting uplink path availability	**% yr**	**clear weather only**	**clear weather only**
Downlink Calculations			
Carrier Downlink EIRP towards Receive E/S	dBW	15.70	10.33
Carrier Downlink EIRP at beam peak	dBW	16.98	11.92
Carrier Output Backoff (clear sky)	dB	-26.49	-31.55
$C/(N+I)_{DN,\ NO\ ASI}$: Downlink Thermal Noise and interference ratio prior to ASI (clear sky)	dB	14.54	16.00
$C/N_{DN,Thermal}$: Downlink Thermal Noise ratio (clear sky)	dB	15.78	21.59
$C/(N+I)_{DN}$ Downlink Thermal Noise and interference ratio (clear sky)	**dB**	**12.25**	**15.39**
Total propagation loss considering downlink rain fade	dB		
$C/(N+I)_{DN}$ Downlink Thermal Noise and Interference ratio (DL under fade)	dB		
Resulting downlink path availability	**% yr**	**clear weather only**	**clear weather only**

NOISE CONTRIBUTION ANALYSIS			
Limiting factor		**Downlink Thermal Noise**	**Uplink Adjacent Satellite Interference**
Total C/(N+I) clear sky	**dB**	**11.16**	**11.16**
Total Eb/No clear sky	**dB**	**9.40**	**9.40**
Total C/(N+I) (UL fade, DL clear)	dB		
Total C/(N+I) (DL fade, UL clear)	dB		
Total C/(N+I), excluding ASI, clear sky	**dB**	**13.82**	**14.13**
Required C/N (including implementation and additional margin)	dB	11.16	11.16
Required Eb/No (including implementation and additional margin)	dB	9.40	9.40
Link margin in clear sky (For ACM carriers, residual margin in CS)	**dB**	**0.00**	**0.00**

POWER DENSITY REVIEW			
Carrier power density at antenna flange (clear sky)	dBW/Hz	-63.31	-53.98
Uplink EIRP density	dBW/Hz	-7.33	-11.69
Skew angle at transmit location	deg.	11.79	5.81
Uplink off-axis EIRP density at 2 deg.	dBW/Hz	-41.84	-32.51
Downlink EIRP density at beam peak	dBW/Hz	-34.09	-39.15
HPA Sizing			
Total number of carriers		1.00	1.00
Total EIRP required from E/S	dBW	43.75	39.38
UPC Range	dB	0.00	0.00
HPA type/mode		Not Defined | Multi Carrier	Not Defined | Multi Carrier
Required backoff	dB	-4.00	-4.00
Required HPA capability	W	0.20	1.50
Recommended HPA size (for a single carrier)	W	HPA type not supplied	HPA type not supplied
Recommended HPA size (to support all carriers)	W	HPA type not supplied	HPA type not supplied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File Edit View Tools Add Help
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Places
GGW-RCAG
Glasgow, MT (South Mountain)
GNI-RCAG
Grand Isle, LA (Woodbine)
GSI
Hauppauge, NY - NOCC
LKV-ARSR
Lakeview, OR (South Mountain)
LBF_ARSR
Wellfleet, NE (Woodbine)
LSK-ARSR
Lusk, WY (South
Layers
Primary Database
New Layers
Borders and Labels
Places
Photos
Roads and Transportation
3D Buildings
Weather
Gallery
More
Borders and Labels (Outdated)
Places (Outdated)
Roads (Outdated)
Terrain
Thibodaux
Raceland
Houma
Dulac
Galliano
GAO_RTR
Golden Meadow
Pointe ã La Hache
Port Sulphur
Empire
Buras
Mississippi Delta
Grand Isle
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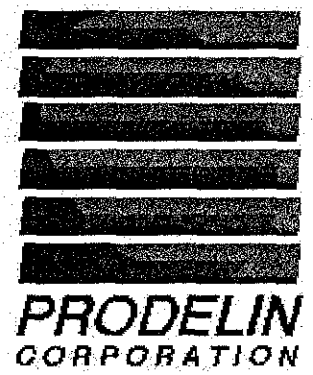


Prodelin Corporation

Riverbend Antenna Range
7945 Riverbend Road
Claremont NC 28610

Test No. 0645

Prodelin 2.4 Meter
4-Piece
Receive / Transmit
Offset Antenna System

C-Band Linear

This package contains original patterns
(Sidelobe envelope extends to 1° for FCC acceptance)

Transmit Patterns

File: See Legend

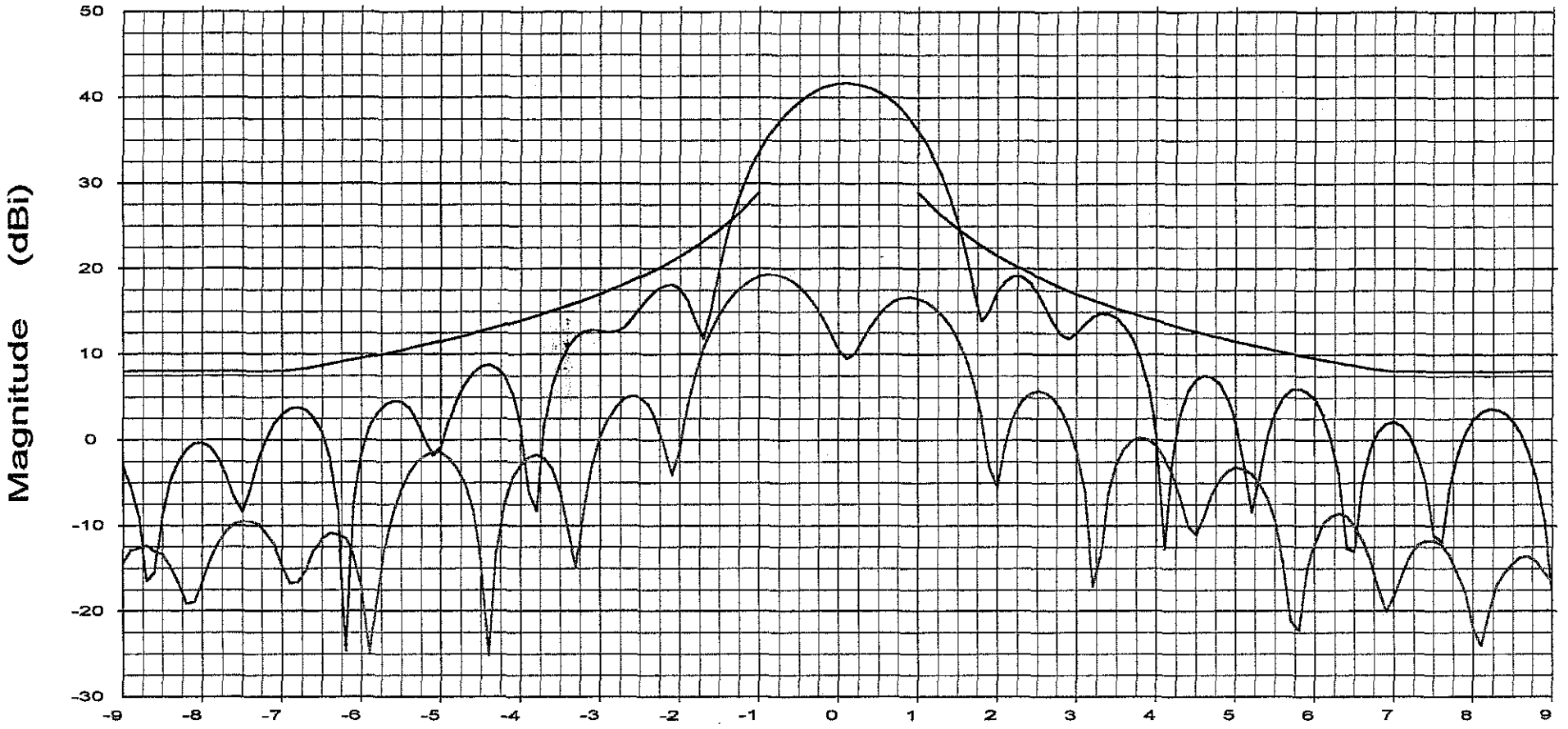
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test——	064532.DAT	dBi	0.10	41.64
064536.DAT-ant_under_test——	064536.DAT	dBi	-0.80	19.28

Prodelin Corporation
Riverbend st Range
Cl nont NC

File: See Legend

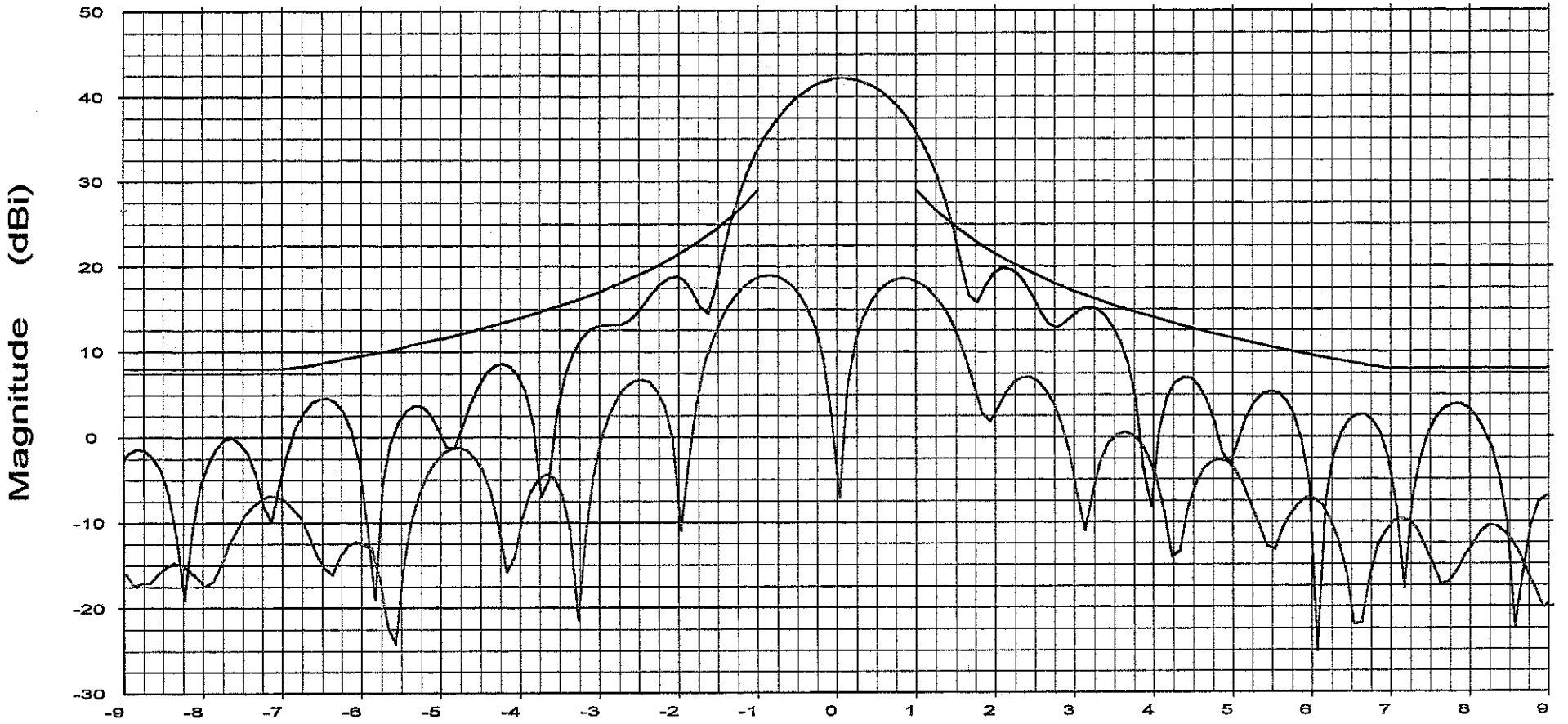
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



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8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg
-10 dBi~48 to 180 Deg

Overlays	Cal. file	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test——	064532.DAT	dBi	0.07	42.14
064536.DAT-ant_under_test——	064536.DAT	dBi	-0.87	18.92

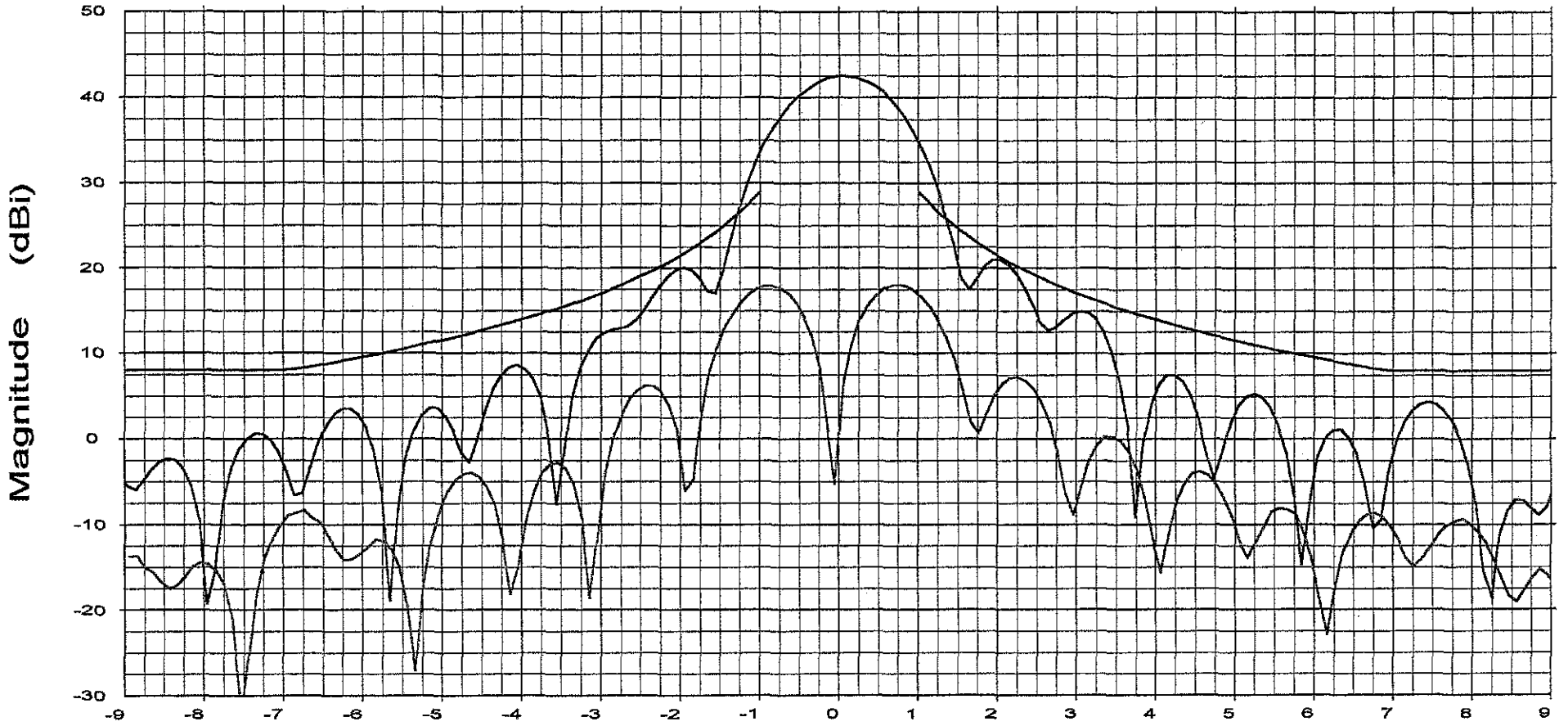
Prodelin Corporation
Riverbend st Range
Cl mont NC

File: See Legend

Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test Tx pol: Vert. Rx pol: Vert.



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8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg
-10 dBi~48 to 180 Deg

Overlays	Cal. file	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test——	064532.DAT	dBi	0.04	42.49
064536.DAT-ant_under_test——	064536.DAT	dBi	0.76	18.02

Prodelin Corporation
Riverbend [illegible]st Range
Cl [illegible]nont NC

File: See Legend

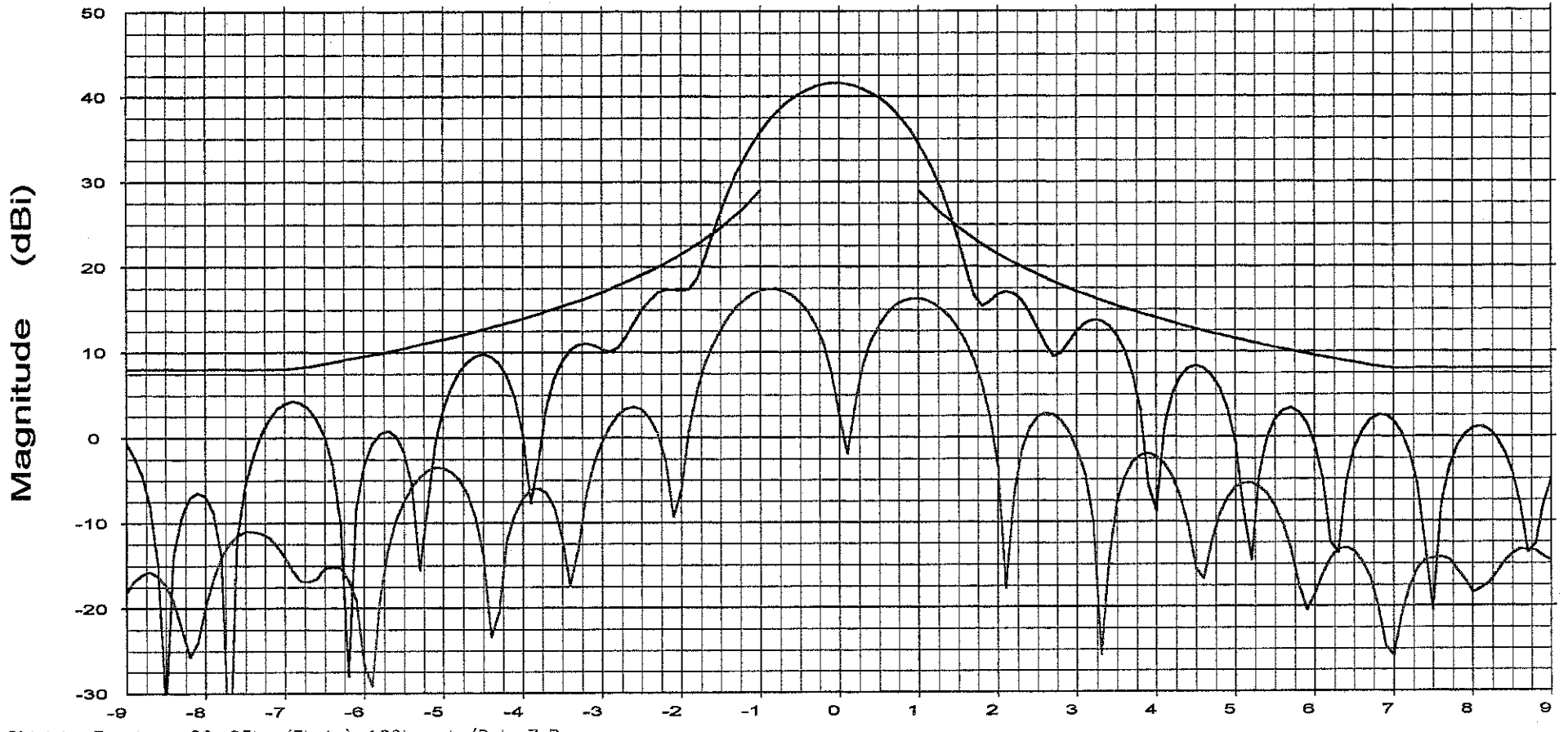
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test——	064539.DAT	dBi	0.00	41.54
064542.DAT-ant_under_test——	064542.DAT	dBi	-0.90	17.40

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

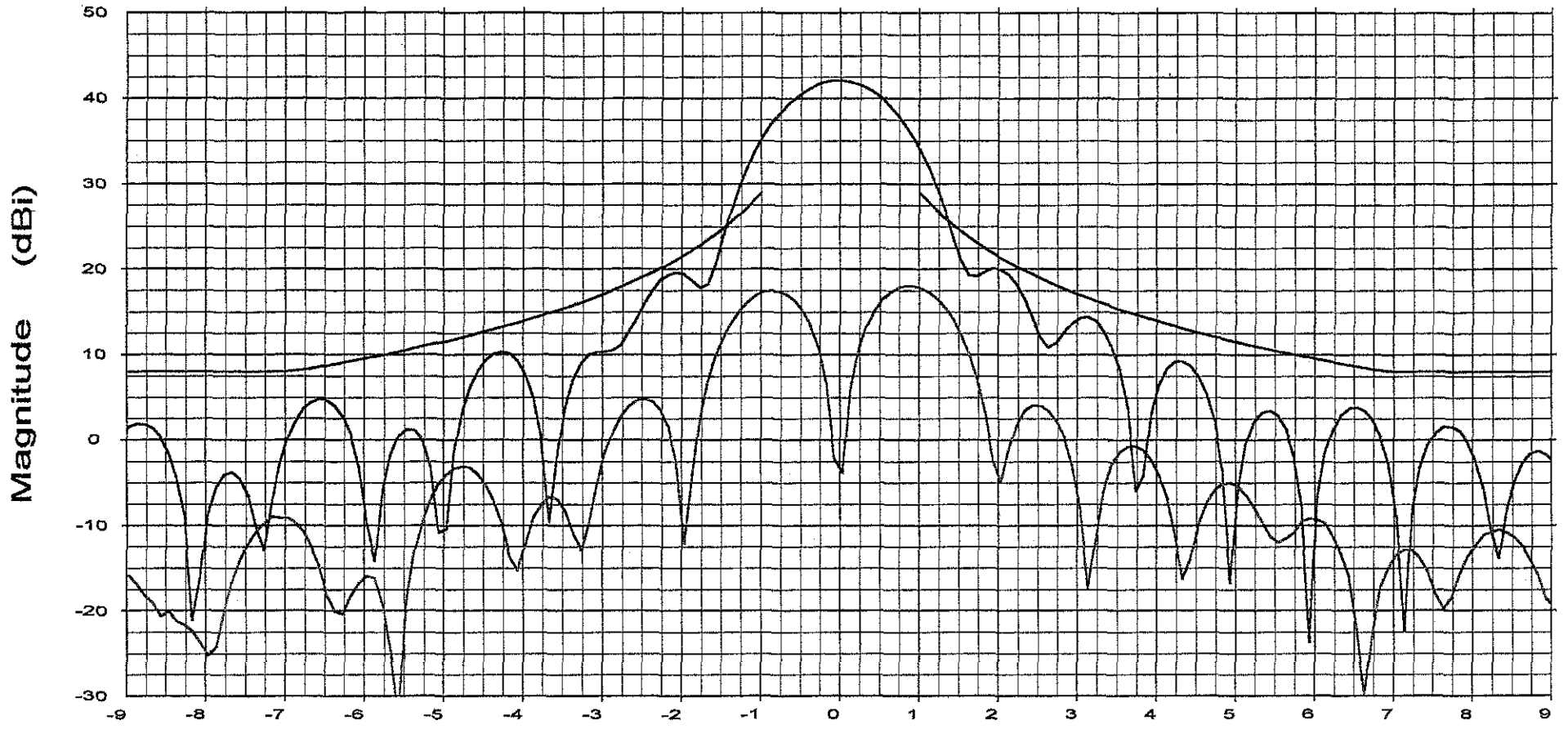
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



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8 dBi~7 to 9.2 Deg | 32-25Log(Theta)~9.2 to 48 Deg
-10 dBi~48 to 180 Deg

Overlays	Cal. file	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test———	064539.DAT	dBi	-0.07	42.06
064542.DAT-ant_under_test———	064542.DAT	dBi	0.93	17.98

Prodelin Corporation
Riverbend [illegible]st Range
Ci [illegible]mont NC

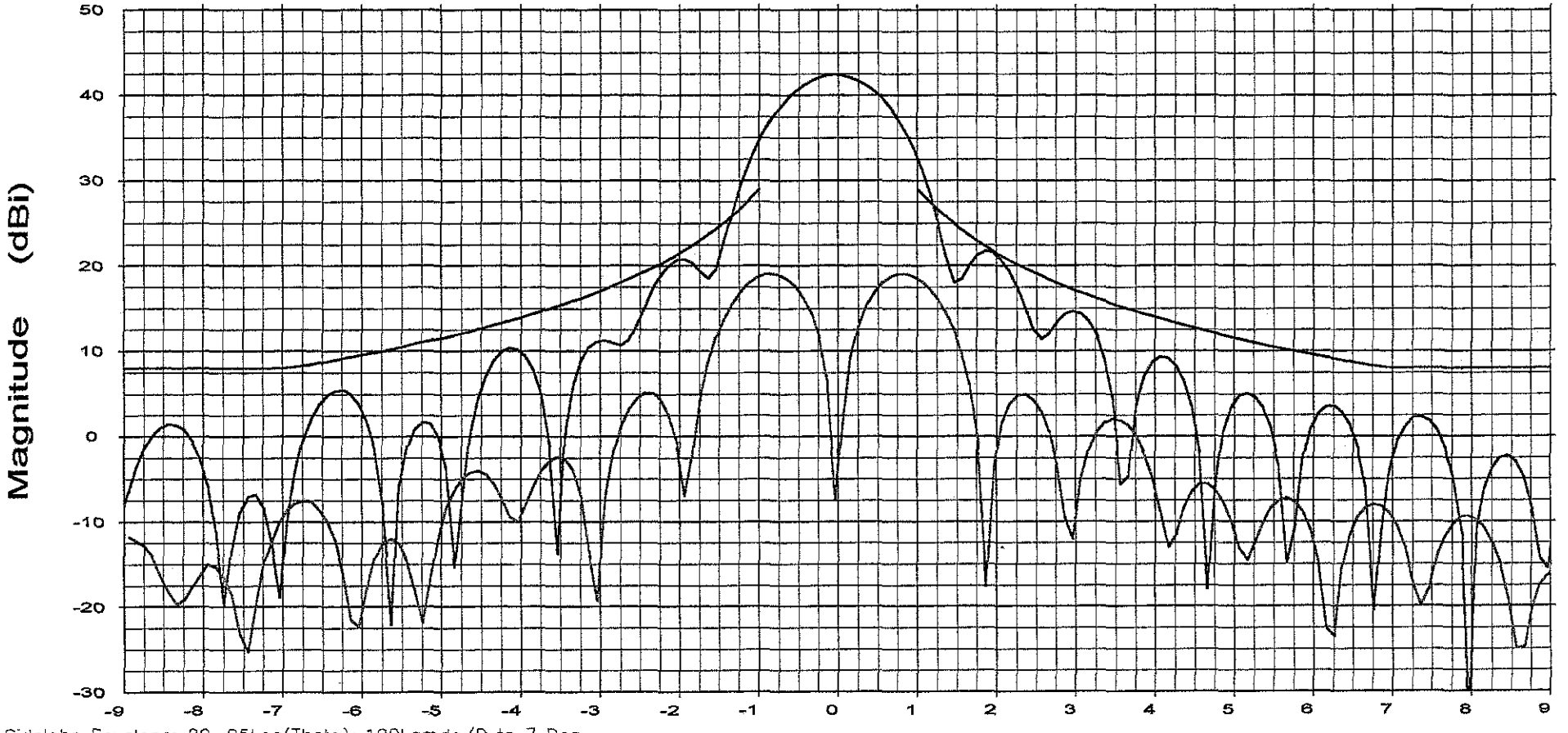
File: See Legend

Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test———	064539.DAT	dBi	-0.04	42.36
064542.DAT-ant_under_test———	064542.DAT	dBi	-0.84	19.03

Prodelin Corporation
Riverbend [illegible]st Range
C[illegible]mont NC

File: See Legend

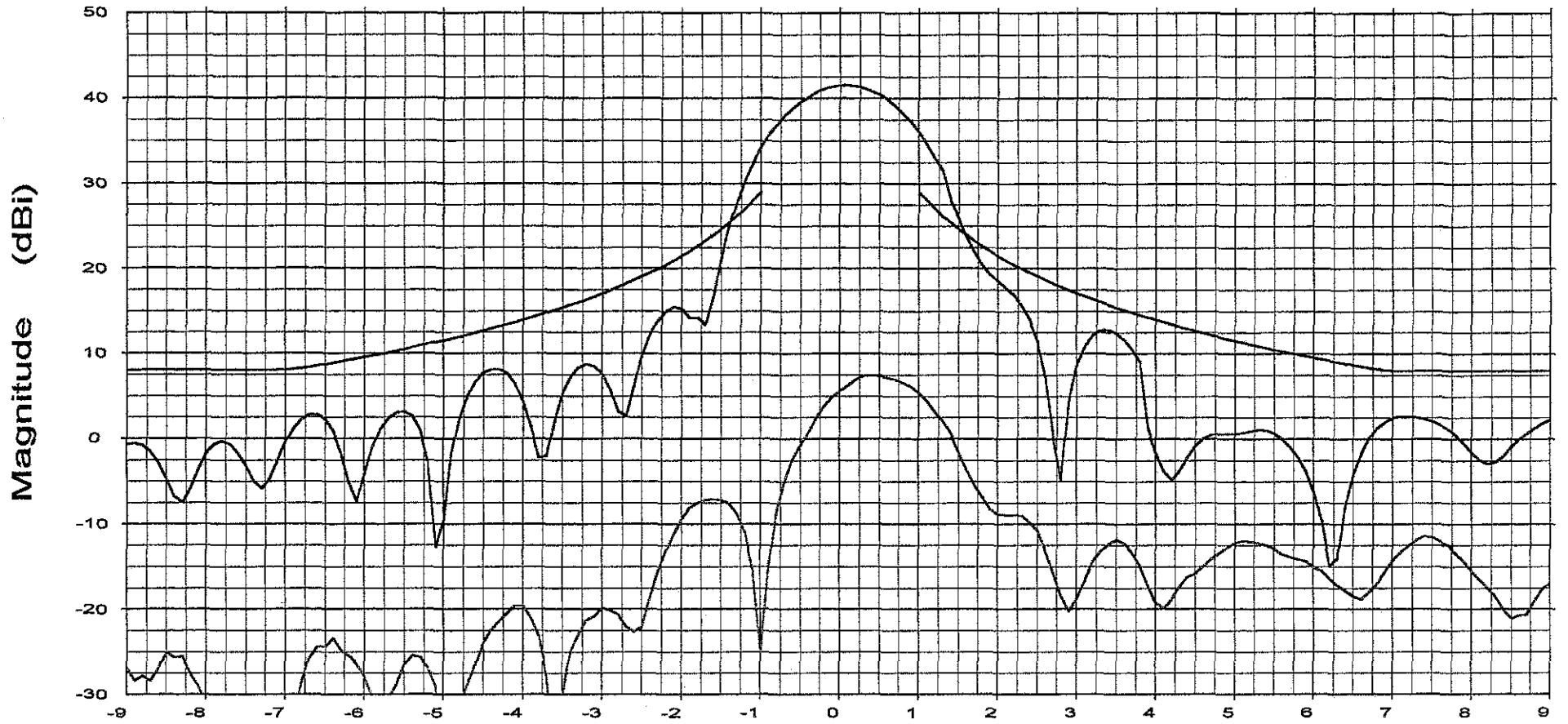
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	dB
064533.DAT-ant_under_test——	064533.DAT	dBi	0.10	41.51
064538.DAT-ant_under_test——	064538.DAT	dBi	0.40	7.41

Prodelin Corporation
Riverbend [illegible]st Range
Cl[illegible]mont NC

File: See Legend

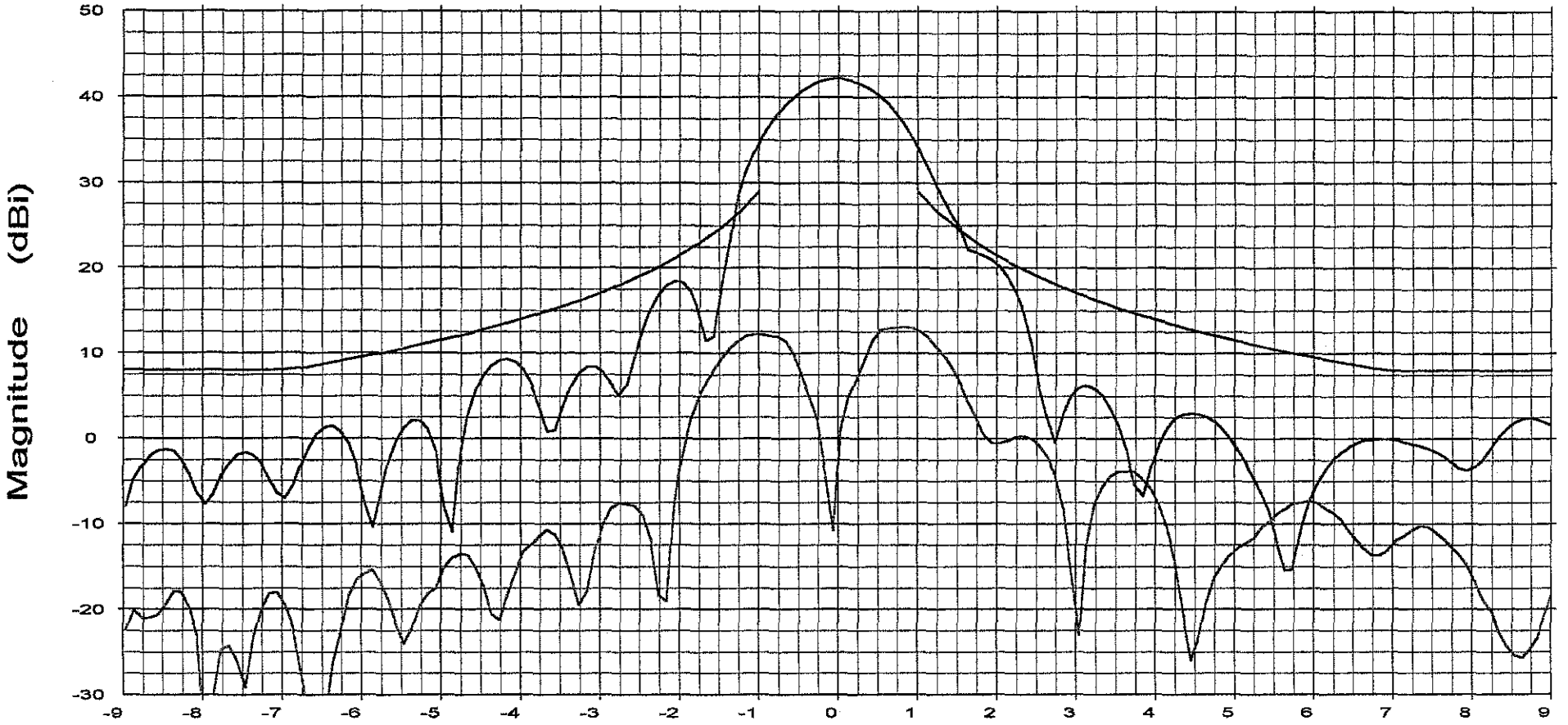
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064534.DAT-ant_under_test———	064534.DAT	dBi	0.04	42.12
064537.DAT-ant_under_test———	064537.DAT	dBi	0.84	13.02

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

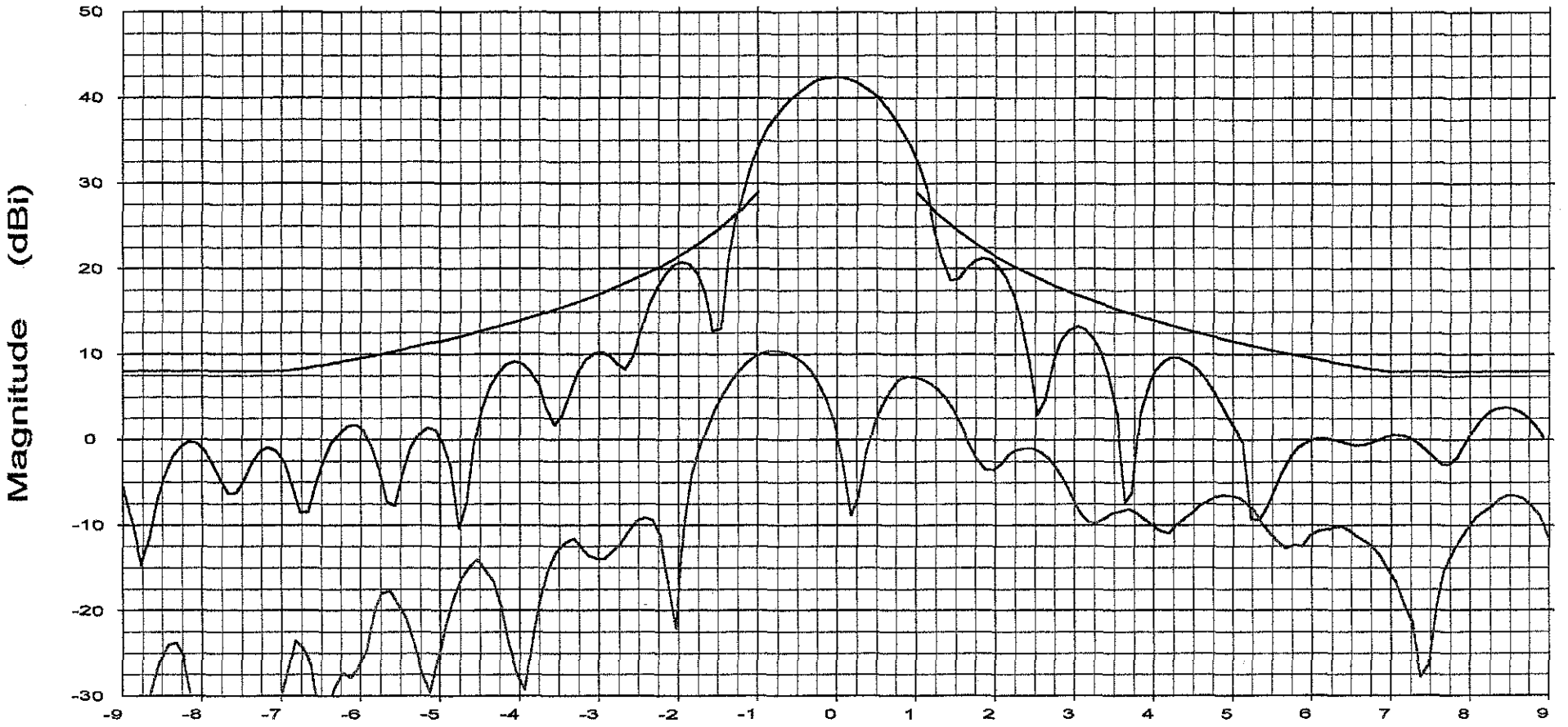
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29−25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064535.DAT-ant_under_test———	064535.DAT	dBi	-0.07	42.39
064537.DAT-ant_under_test———	064537.DAT	dBi	-0.73	10.39

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

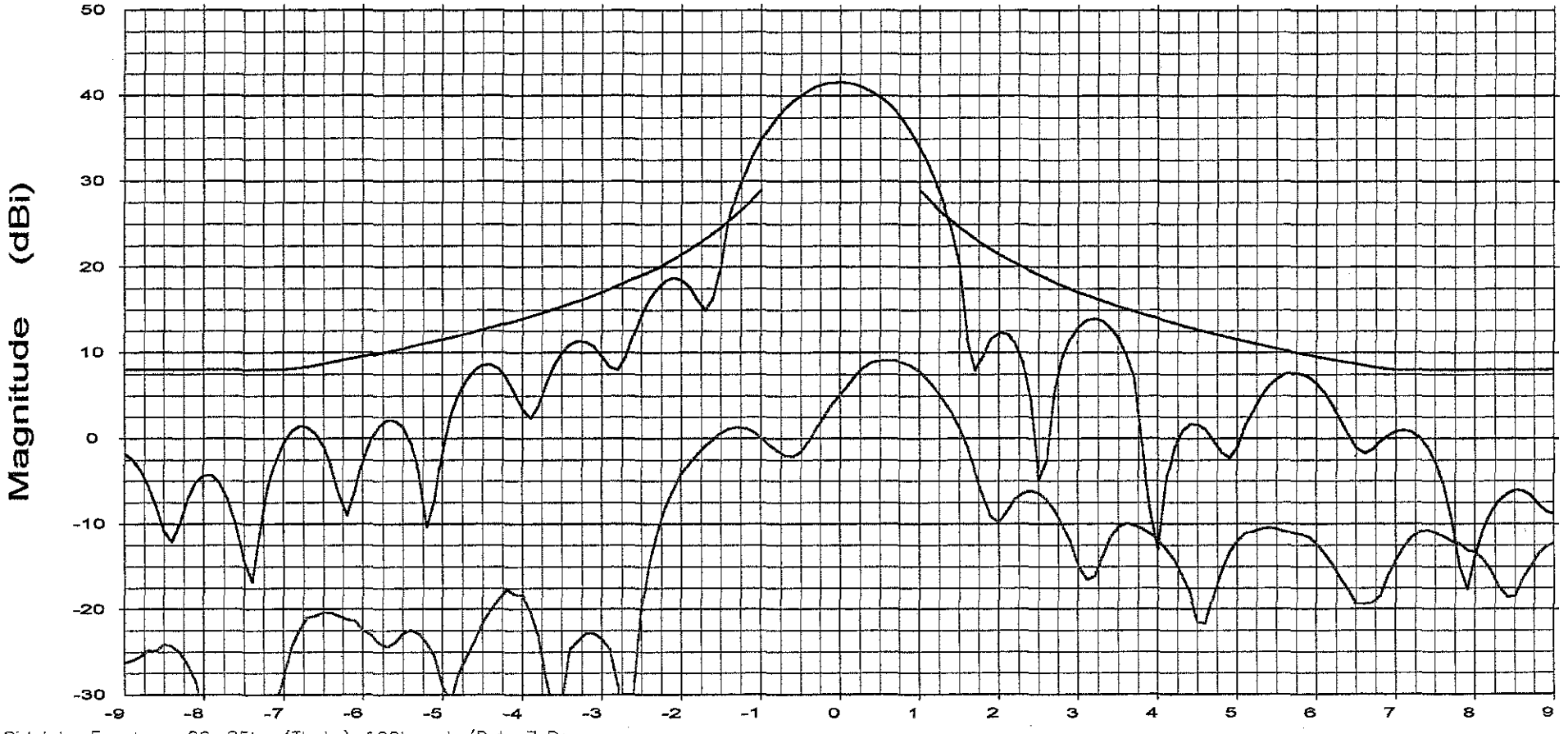
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064541.DAT-ant_under_test———	064541.DAT	dBi	0.00	41.53
064543.DAT-ant_under_test———	064543.DAT	dBi	0.50	9.05

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

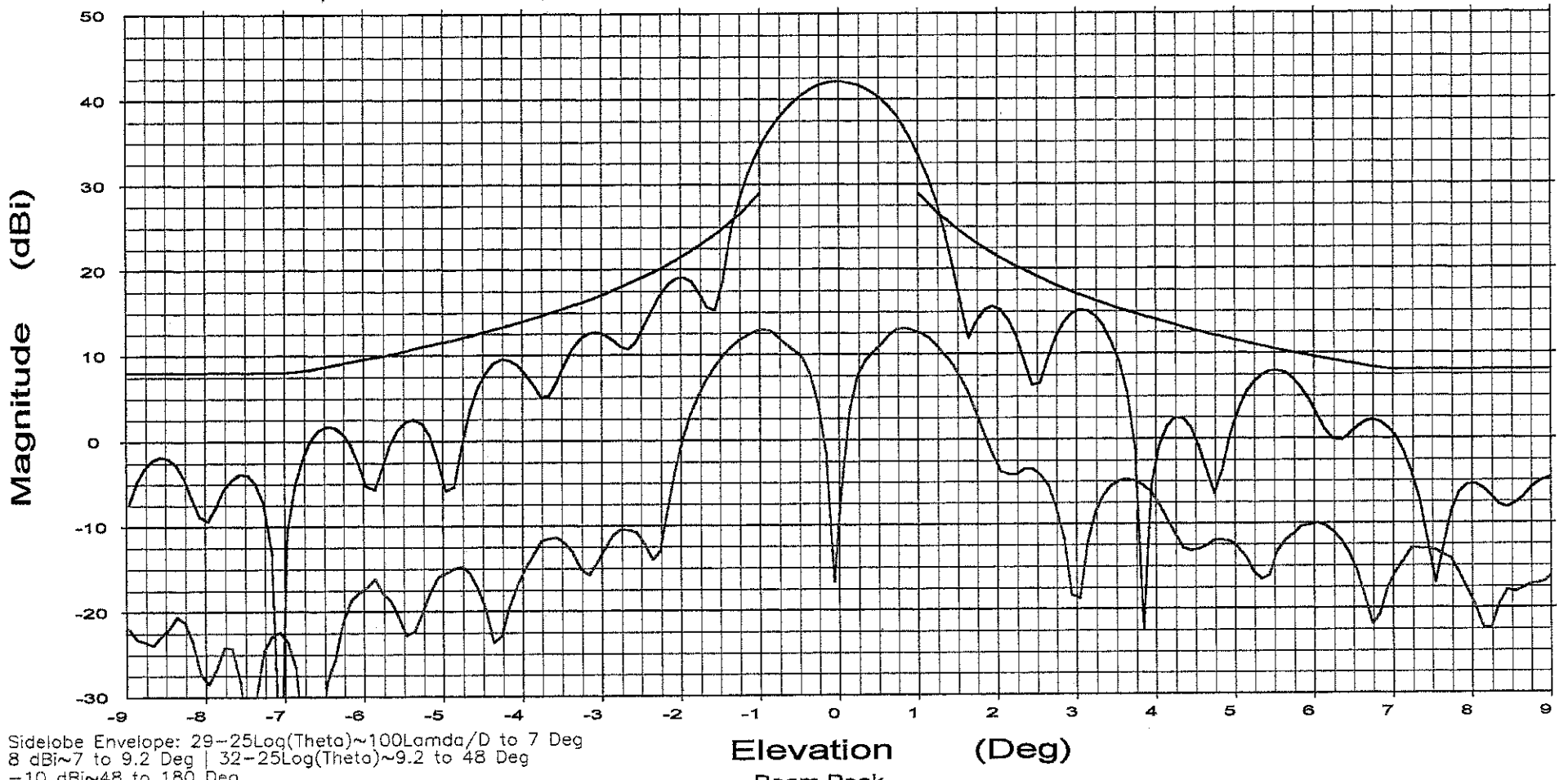
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064541.DAT-ant_under_test——	064541.DAT	dBi	-0.07	42.04
064543.DAT-ant_under_test——	064543.DAT	dBi	0.83	13.00

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

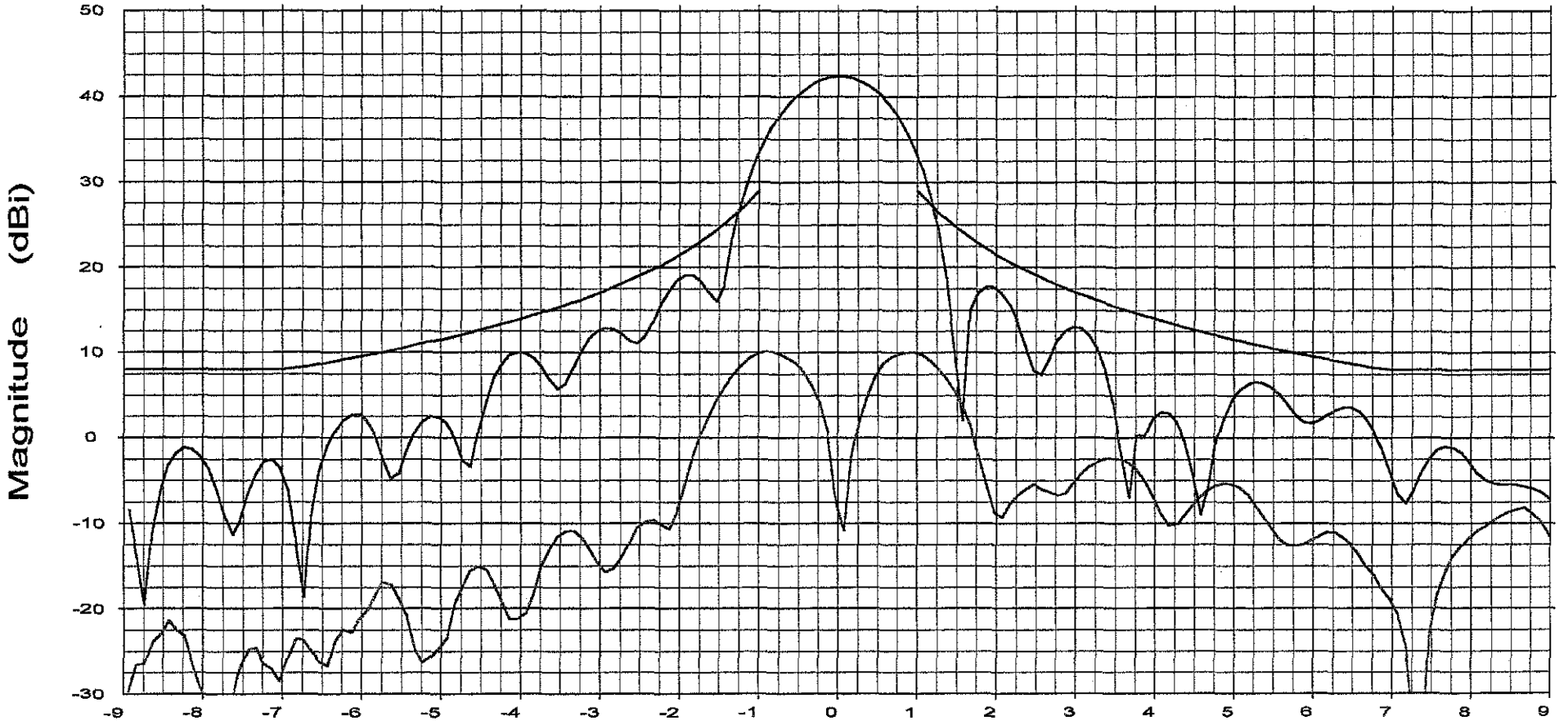
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064541.DAT-ant_under_test———	064541.DAT	dBi	-0.03	42.34
064543.DAT-ant_under_test———	064543.DAT	dBi	-0.83	10.06

Prodelin Corporation
Riverbend [illegible]st Range
Cl[illegible]mont NC

File: See Legend

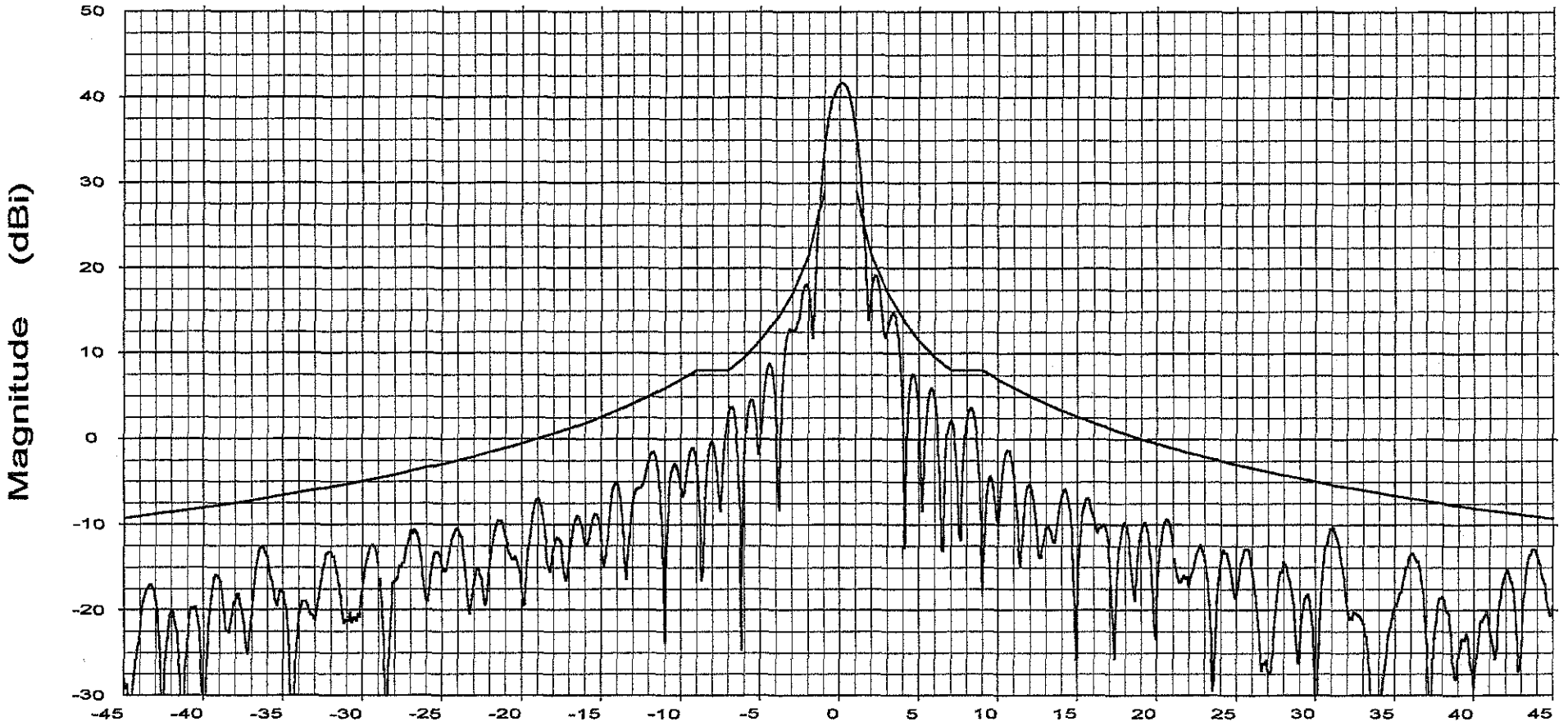
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test——	064532.DAT	dBi	0.10	41.64

Prodelin Corporation
Riverbend [illegible]st Range
Cl [illegible]nont NC

File: See Legend

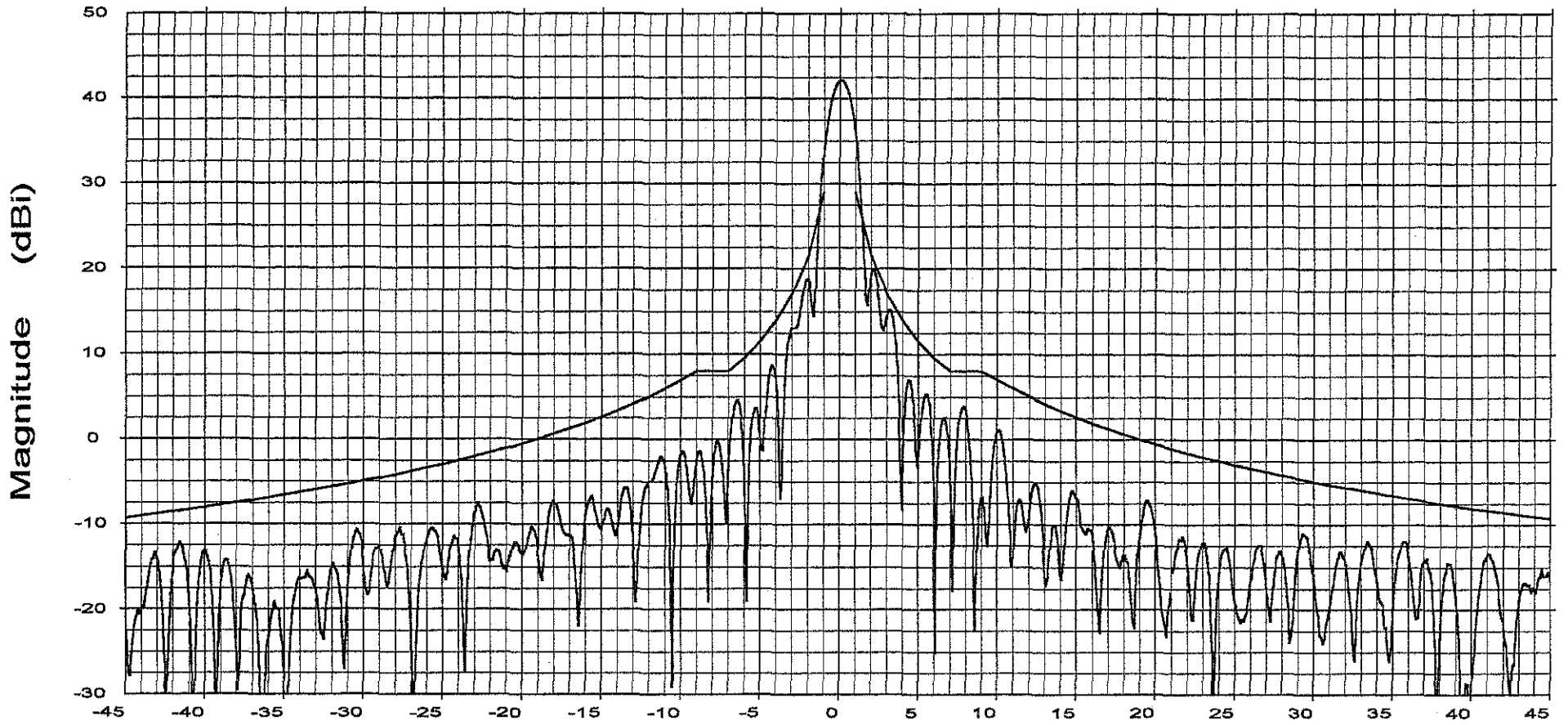
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test——	064532.DAT	dBi	0.07	42.14

Prodelin Corporation
Riverbend [illegible]st Range
Cl[illegible]nont NC

File: See Legend

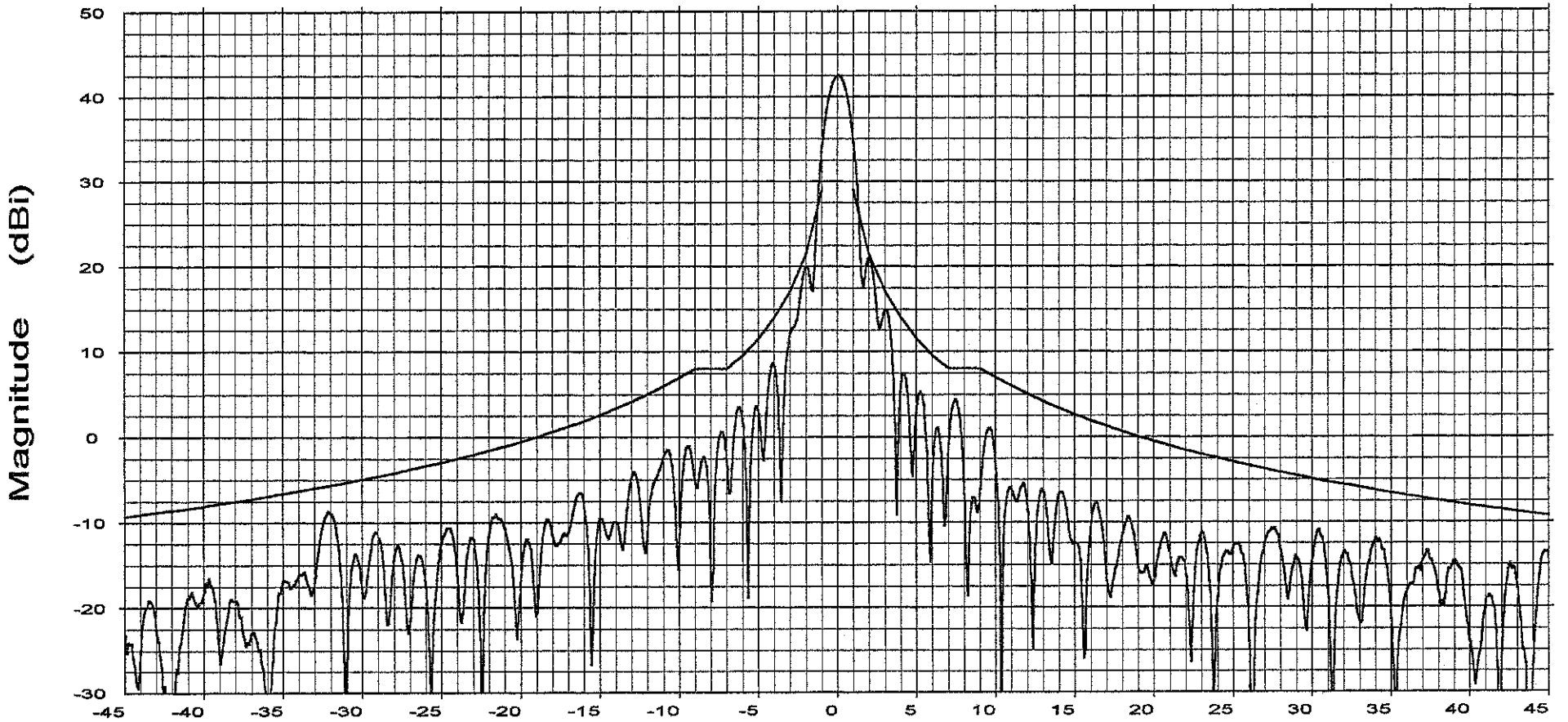
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	dB
064532.DAT-ant_under_test———	064532.DAT	dBi	0.04	42.49

Prodelin Corporation
Riverbend [illegible]st Range
Cl[illegible]nont NC

File: See Legend

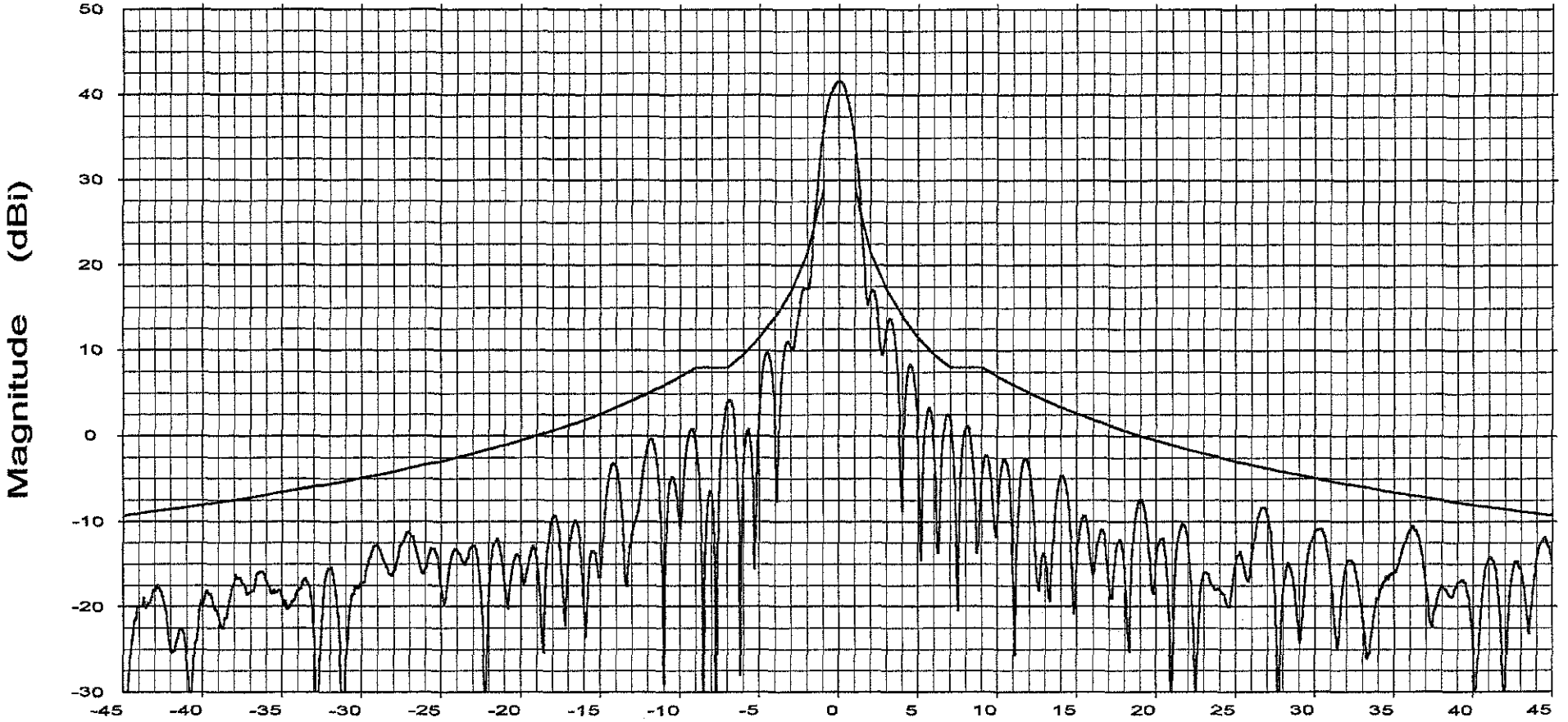
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 5.845 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test———	064539.DAT	dBi	0.00	41.54

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

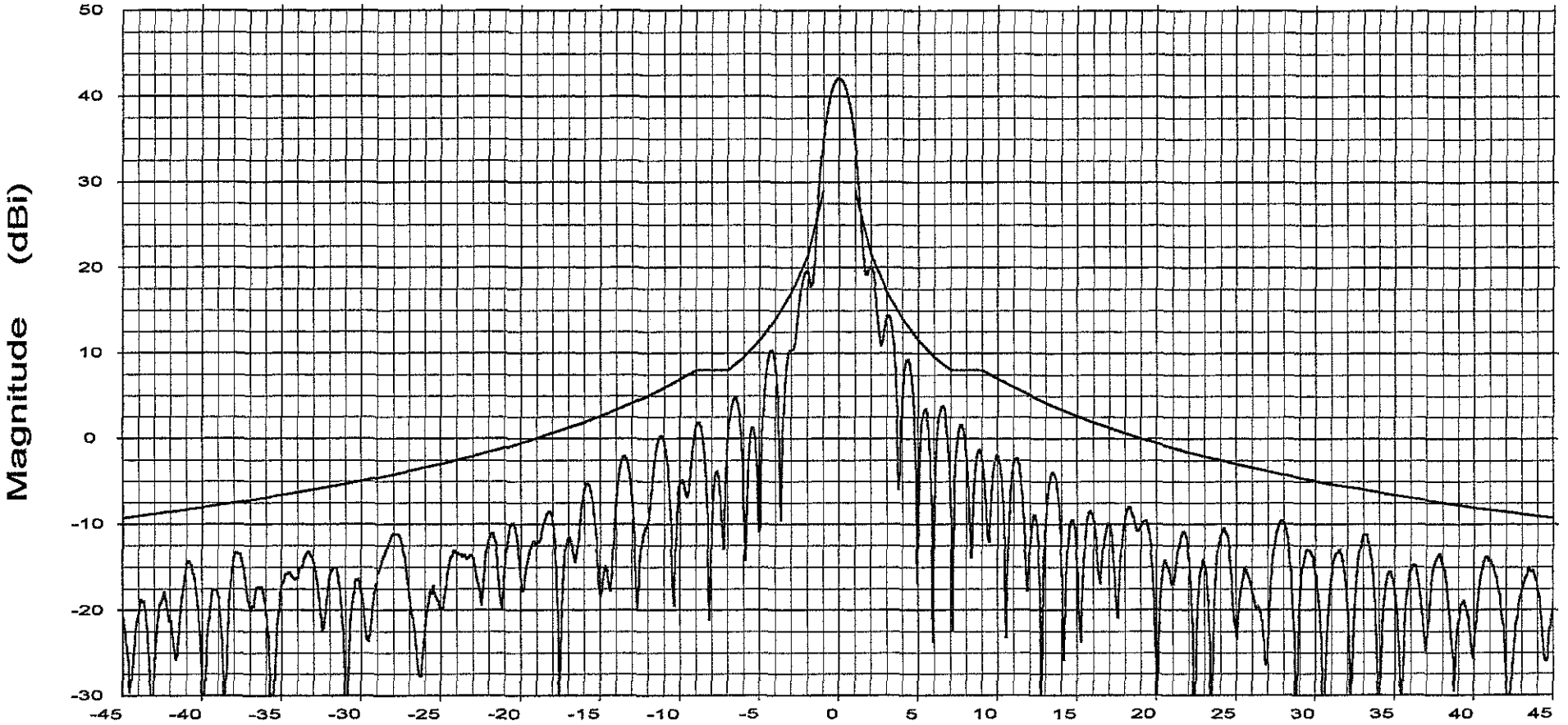
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test———	064539.DAT	dBi	-0.07	42.06

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

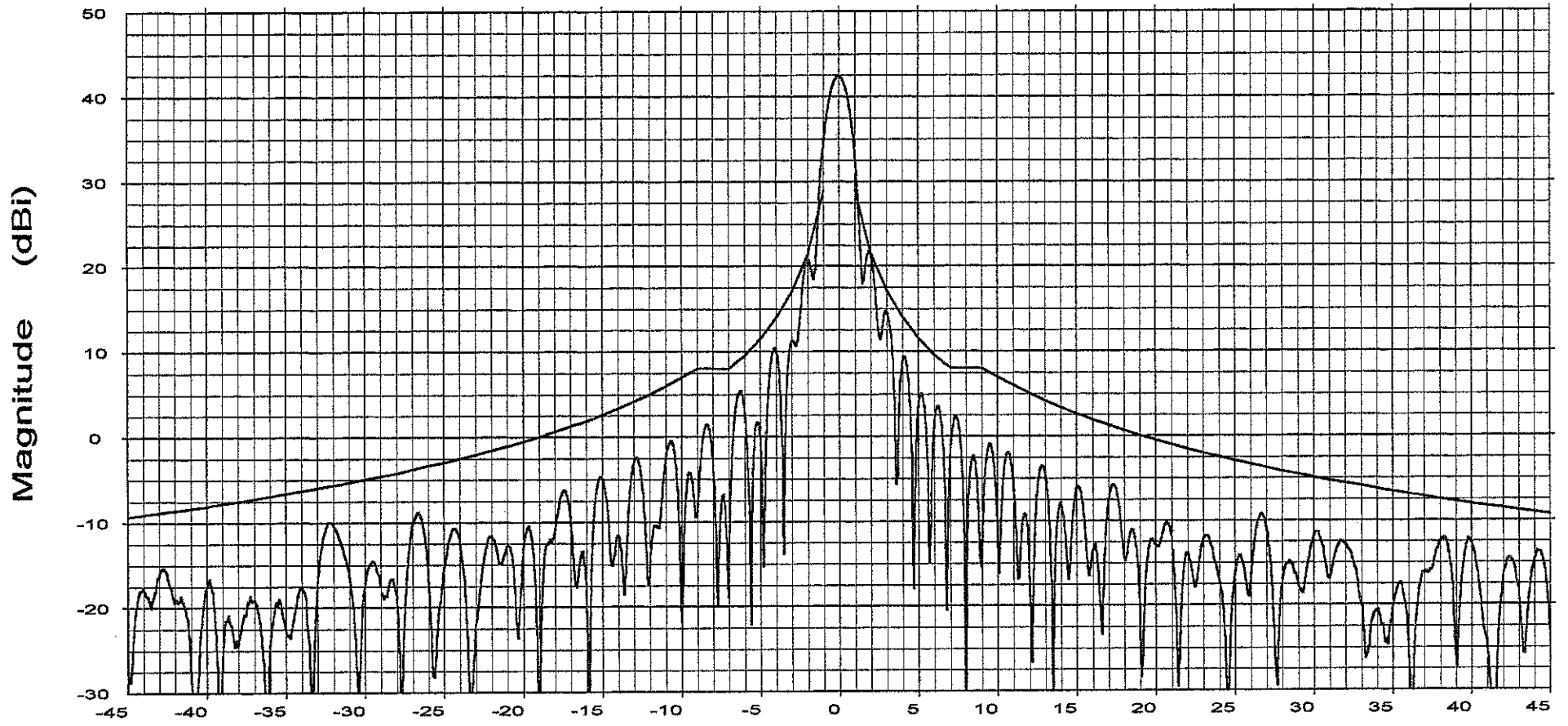
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.425 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29−25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test———	064539.DAT	dBi	-0.04	42.36

Prodelin Corporation
Riverbend st Range
Cl mont NC

File: See Legend

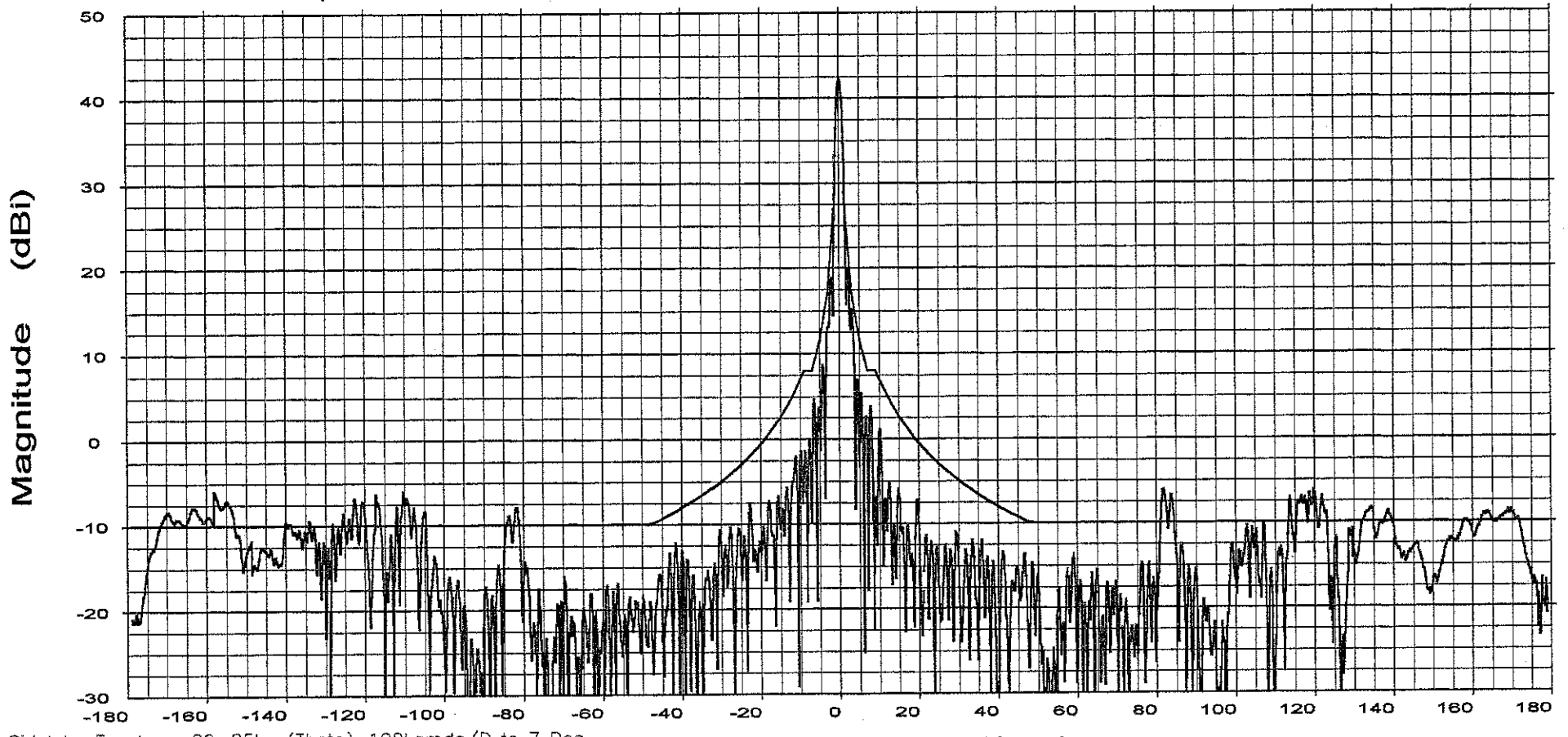
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064532.DAT-ant_under_test———	064532.DAT	dBi	0.07	42.14

Prodelin Corporation
Riverbend st Range
Cl mont NC

File: See Legend

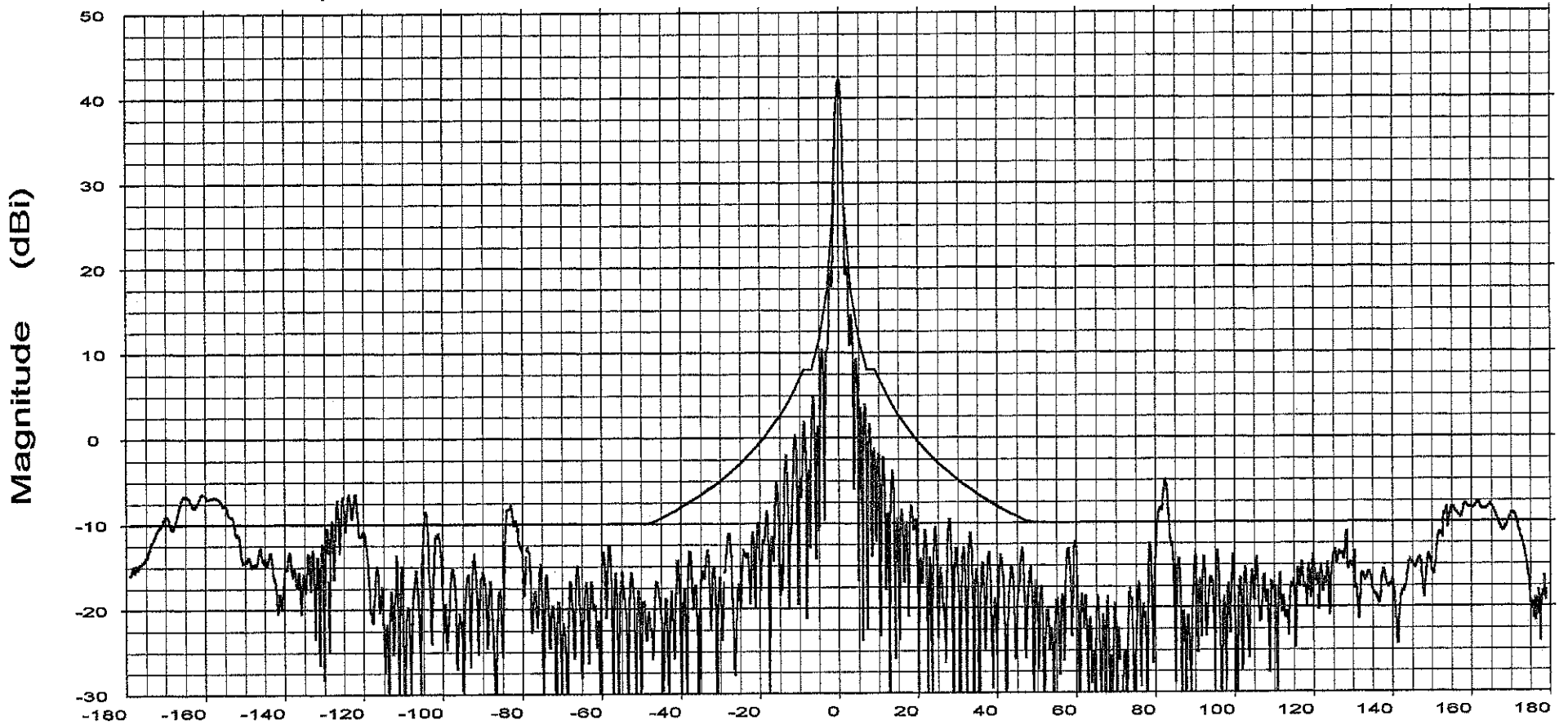
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 6.138 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064539.DAT-ant_under_test——	064539.DAT	dBi	-0.07	42.06

Prodelin Corporation
Riverbend st Range
Cl mont NC

Receive Patterns

File: See Legend

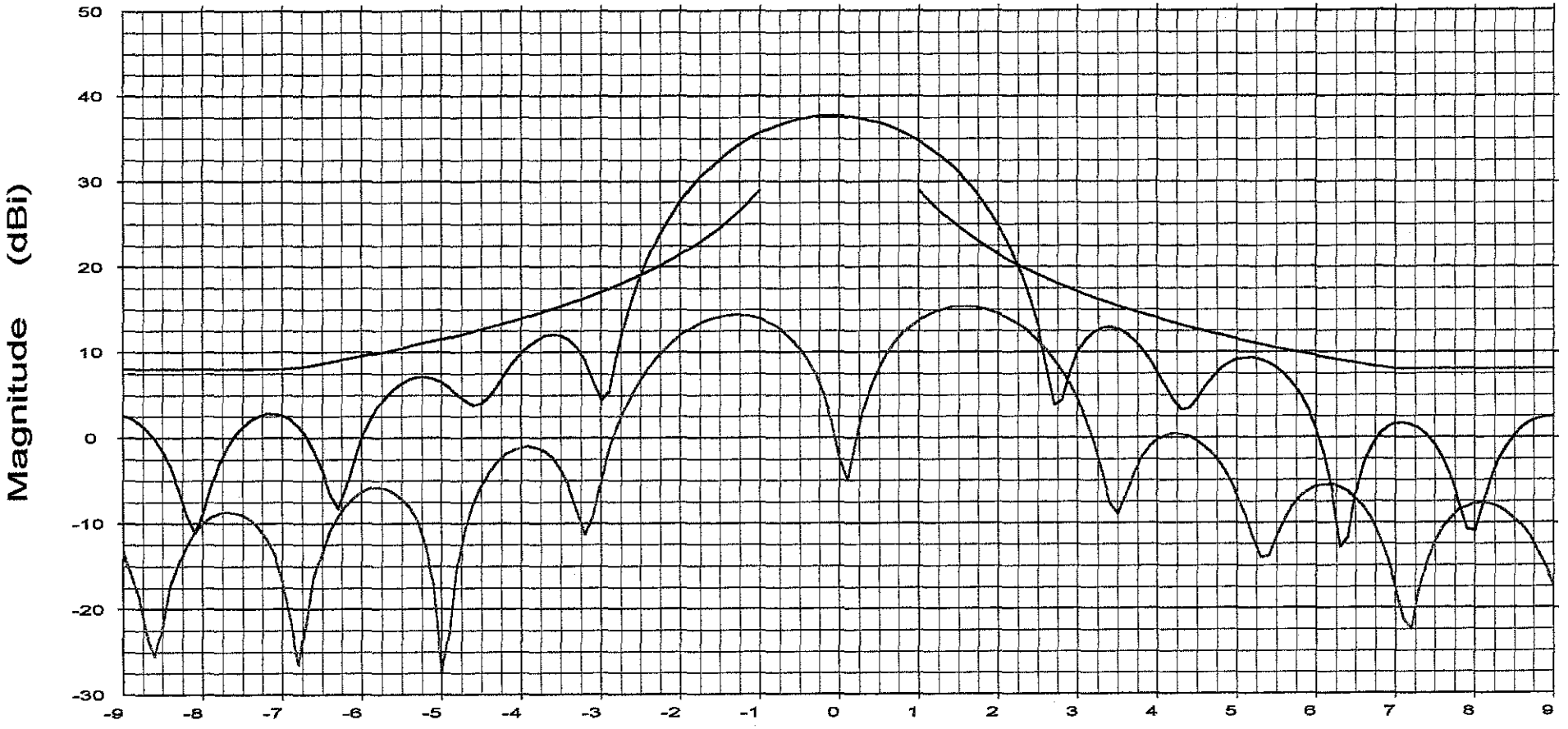
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test———	064544.DAT	dBi	-0.10	37.66
064547.DAT-ant_under_test———	064547.DAT	dBi	1.60	15.33

Prodelin Corporation
Riverbend st Range
C mont NC

File: See Legend

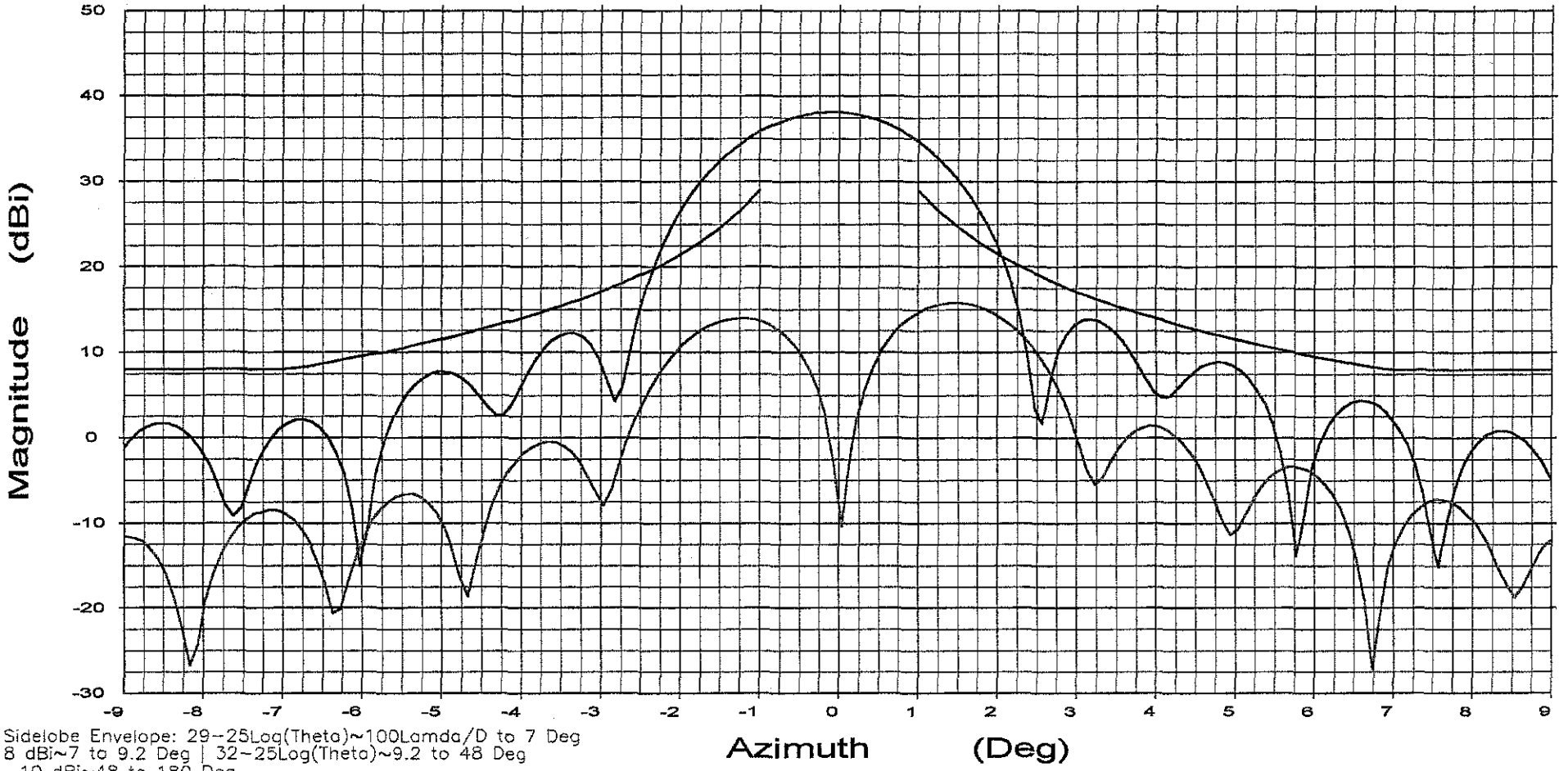
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test———	064544.DAT	dBi	-0.13	38.10
064547.DAT-ant_under_test———	064547.DAT	dBi	1.43	15.74

Prodelin Corporation
Riverbend st Range
C mont NC

File: See Legend

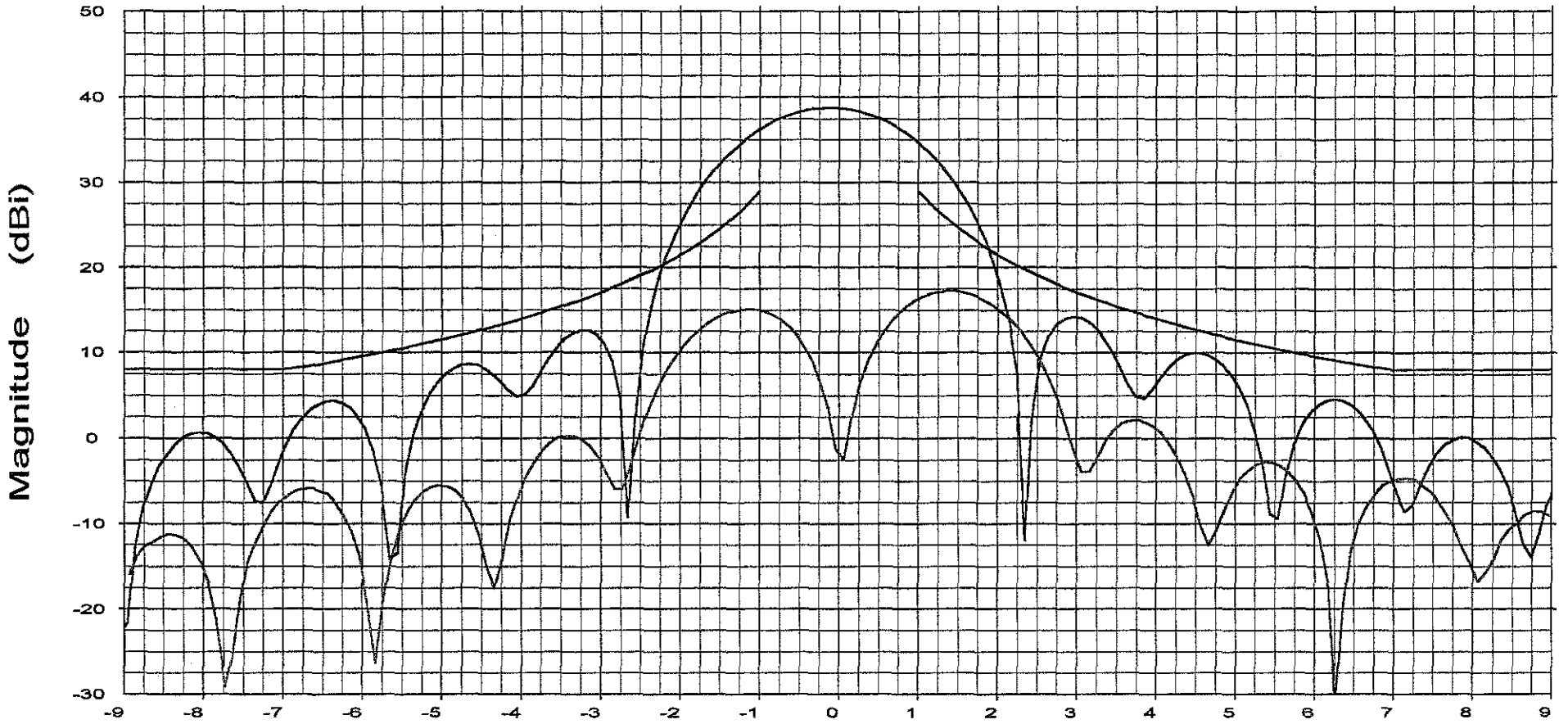
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29−25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test——	064544.DAT	dBi	-0.16	38.70
064547.DAT-ant_under_test——	064547.DAT	dBi	1.36	17.22

Prodelin Corporation
Riverbend st Range
C. mont NC

File: See Legend

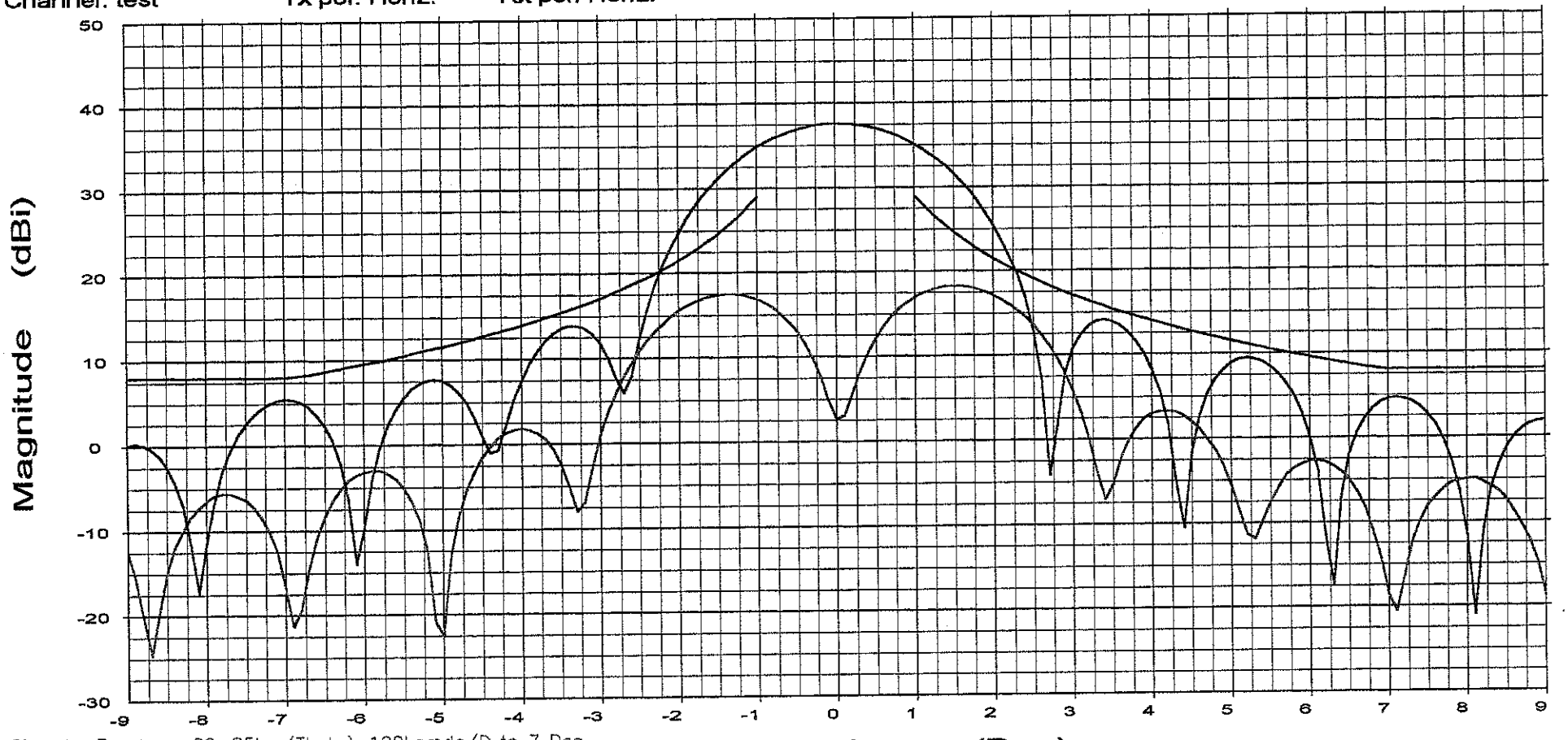
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test——	064549.DAT	dBi	0.00	37.55
064552.DAT-ant_under_test——	064552.DAT	dBi	1.50	18.20

Prodelin Corporation
Riverbend Test Range
C mont NC

File: See Legend

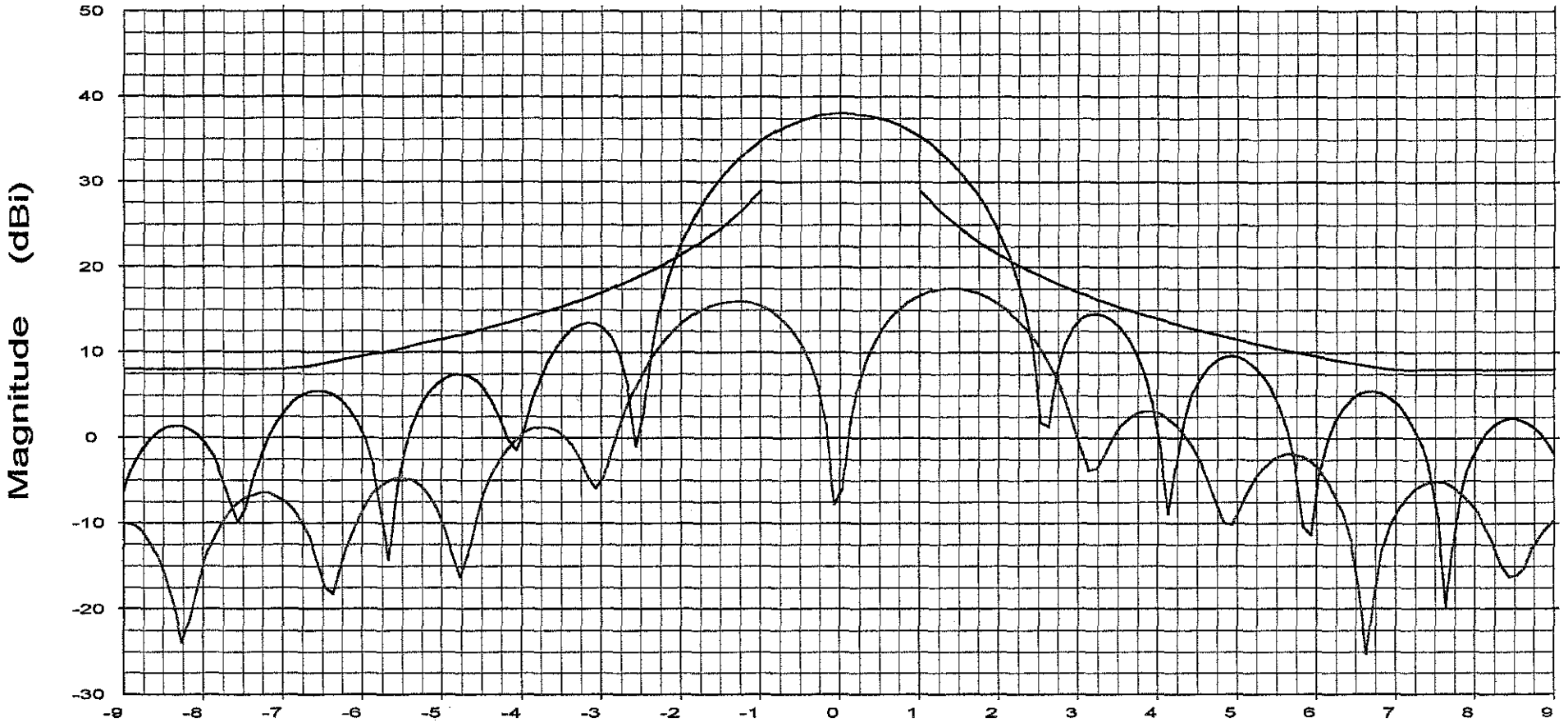
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test———	064549.DAT	dBi	0.03	38.02
064552.DAT-ant_under_test———	064552.DAT	dBi	1.33	17.52

Prodelin Corporation
Riverbend Test Range
C mont NC

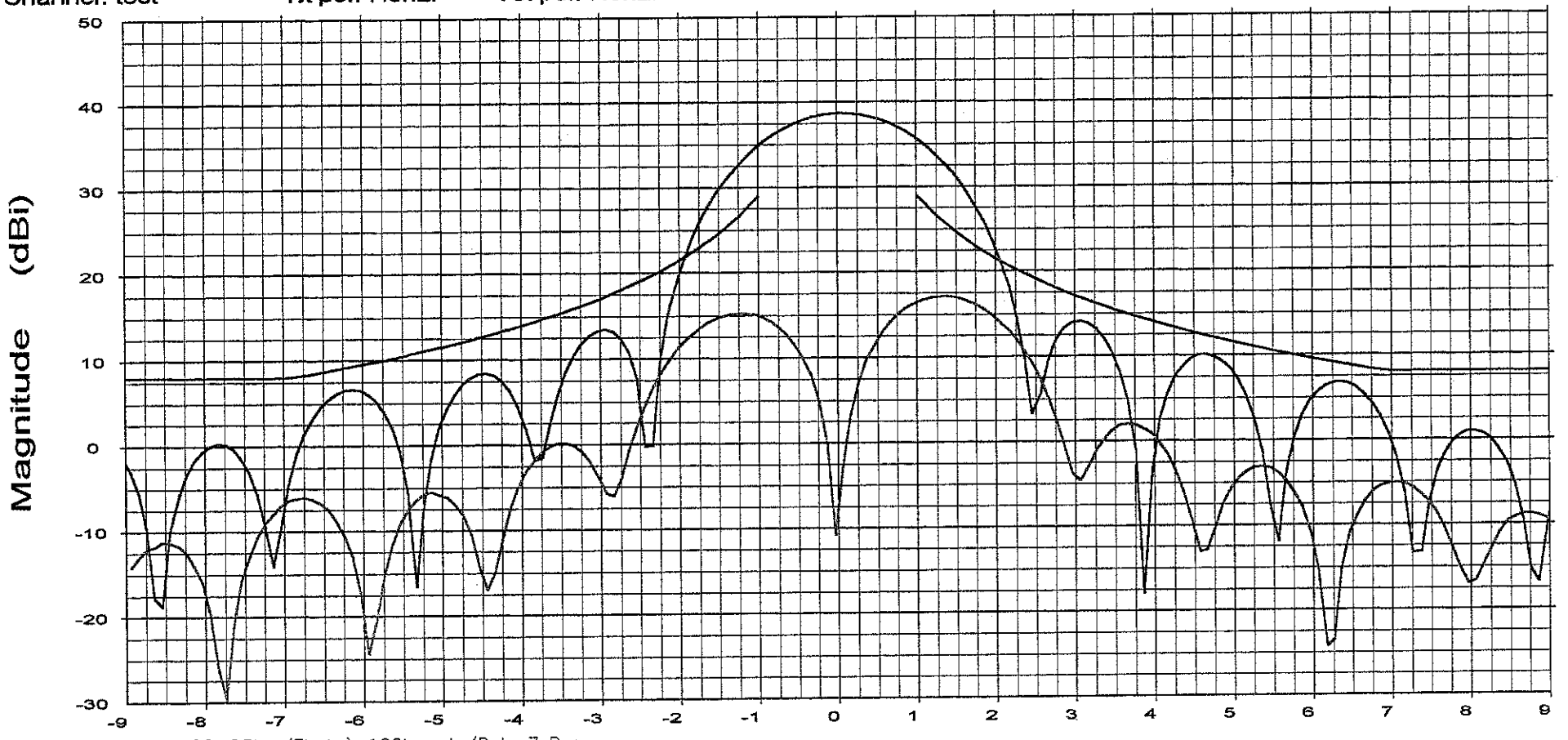
File: See Legend

Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz. Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test———	064549.DAT	dBi	0.06	38.63
064552.DAT-ant_under_test———	064552.DAT	dBi	1.36	17.05

Prodelin Corporation
Riverbend [illegible]st Range
C [illegible]mont NC

File: See Legend

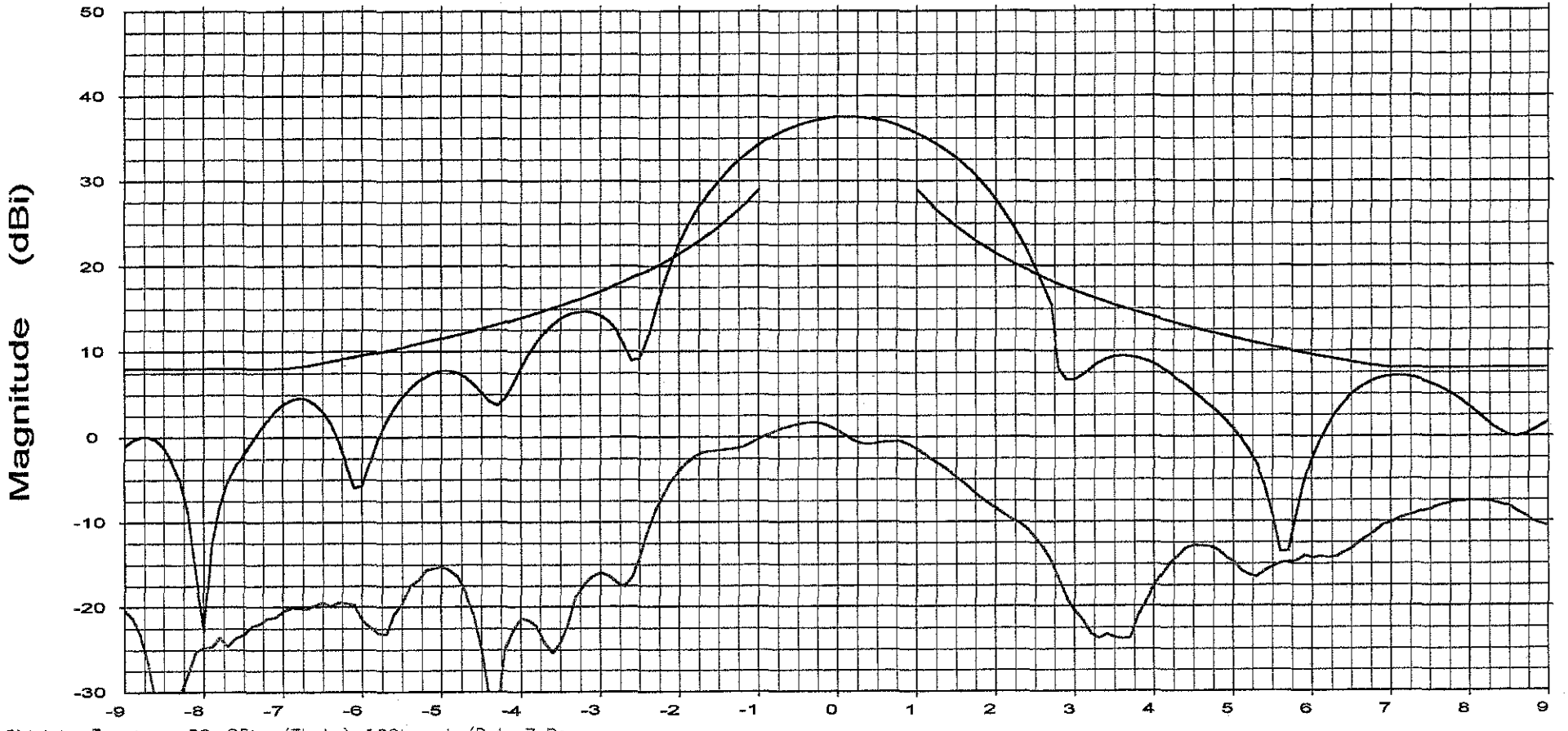
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064546.DAT-ant_under_test——	064546.DAT	dBi	0.10	37.50
064548.DAT-ant_under_test——	064548.DAT	dBi	-0.40	1.62

Prodelin Corporation
Riverbend [illegible]st Range
C [illegible]mont NC

File: See Legend

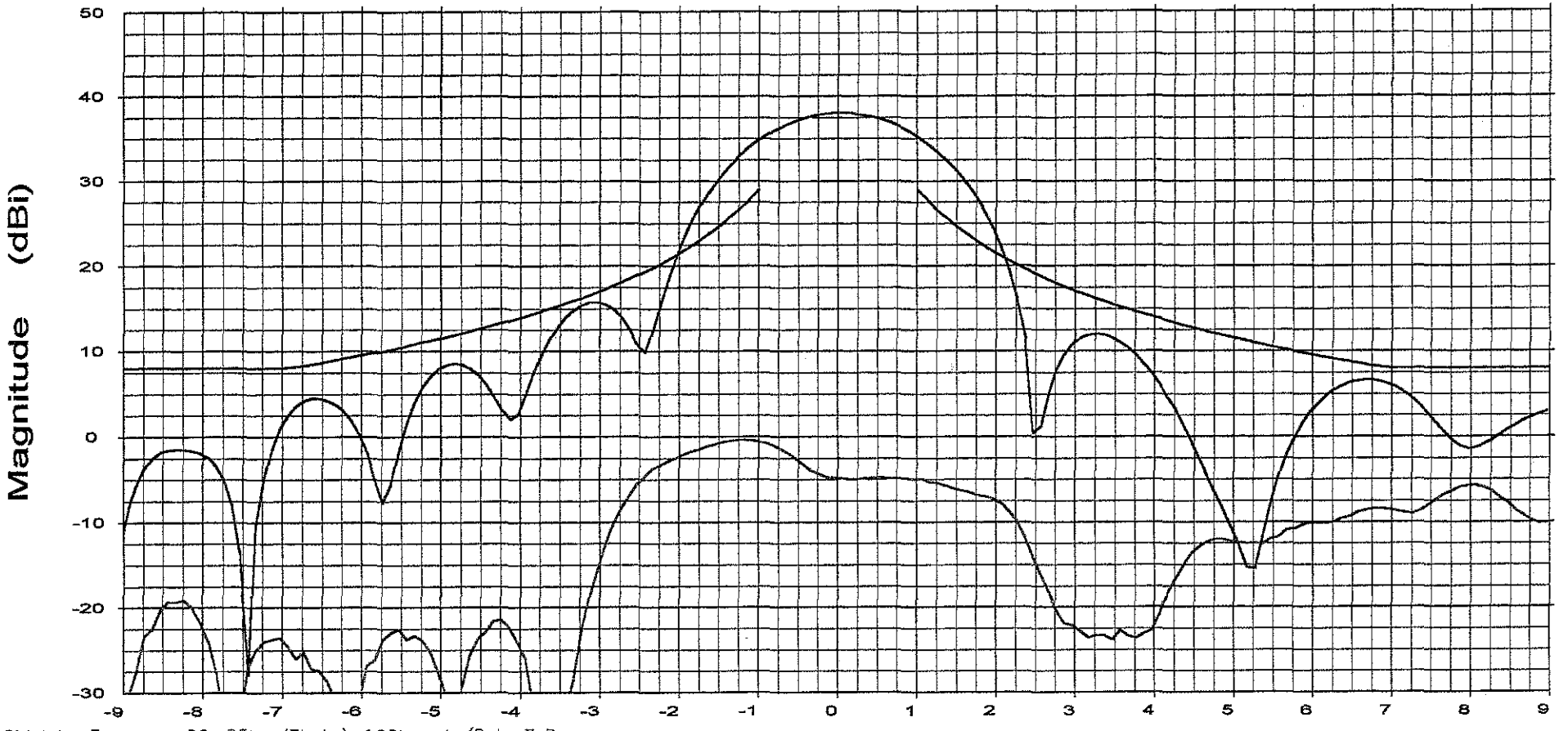
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064545.DAT-ant_under_test———	064545.DAT	dBi	0.07	37.99
064548.DAT-ant_under_test———	064548.DAT	dBi	-1.23	-0.41

Prodelin Corporation
Riverbend [illegible]st Range
C [illegible]mont NC

File: See Legend

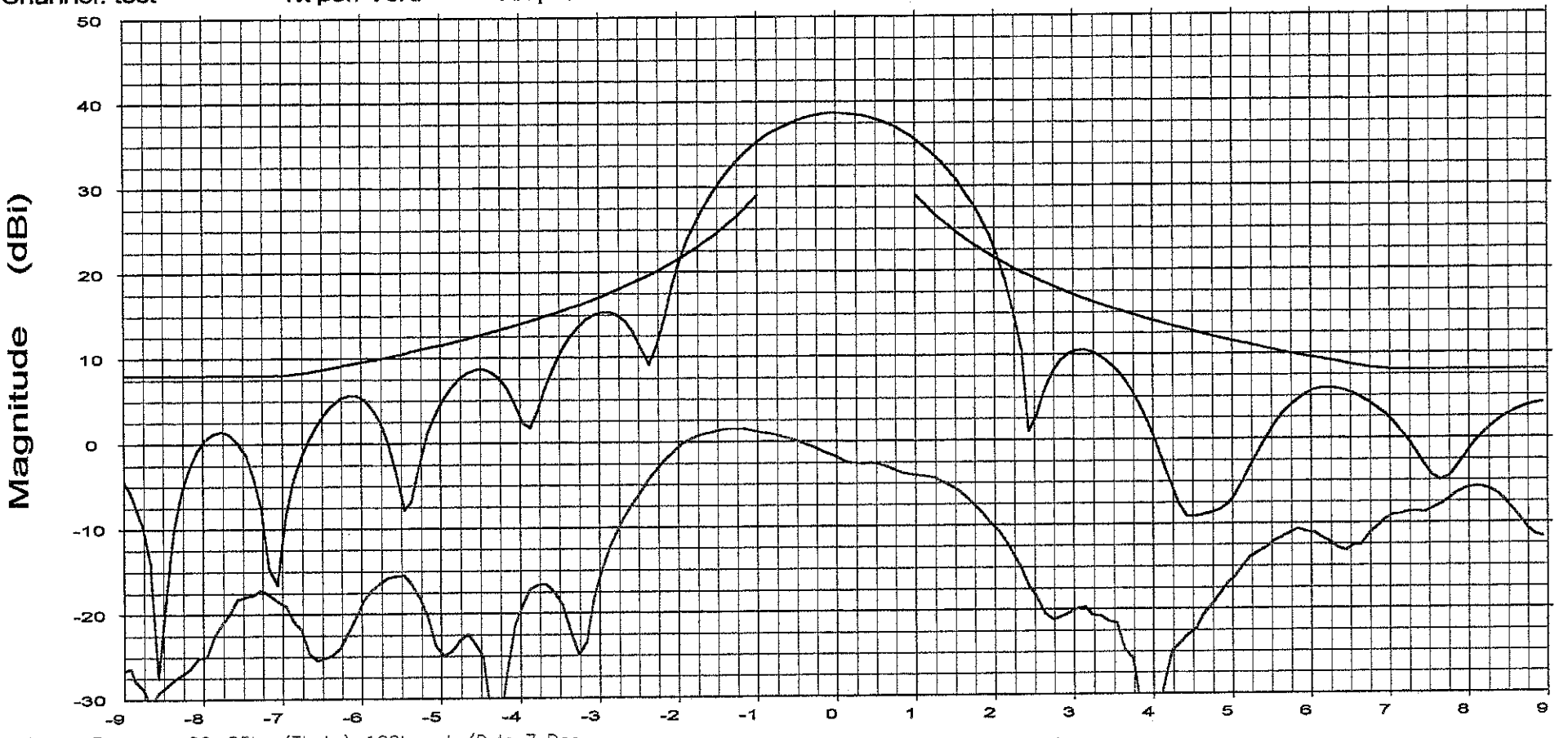
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064545.DAT-ant_under_test——	064545.DAT	dBi	0.03	38.60
064548.DAT-ant_under_test——	064548.DAT	dBi	-1.26	1.49

Prodelin Corporation
Riverbend [illegible]st Range
C [illegible]mont NC

File: See Legend

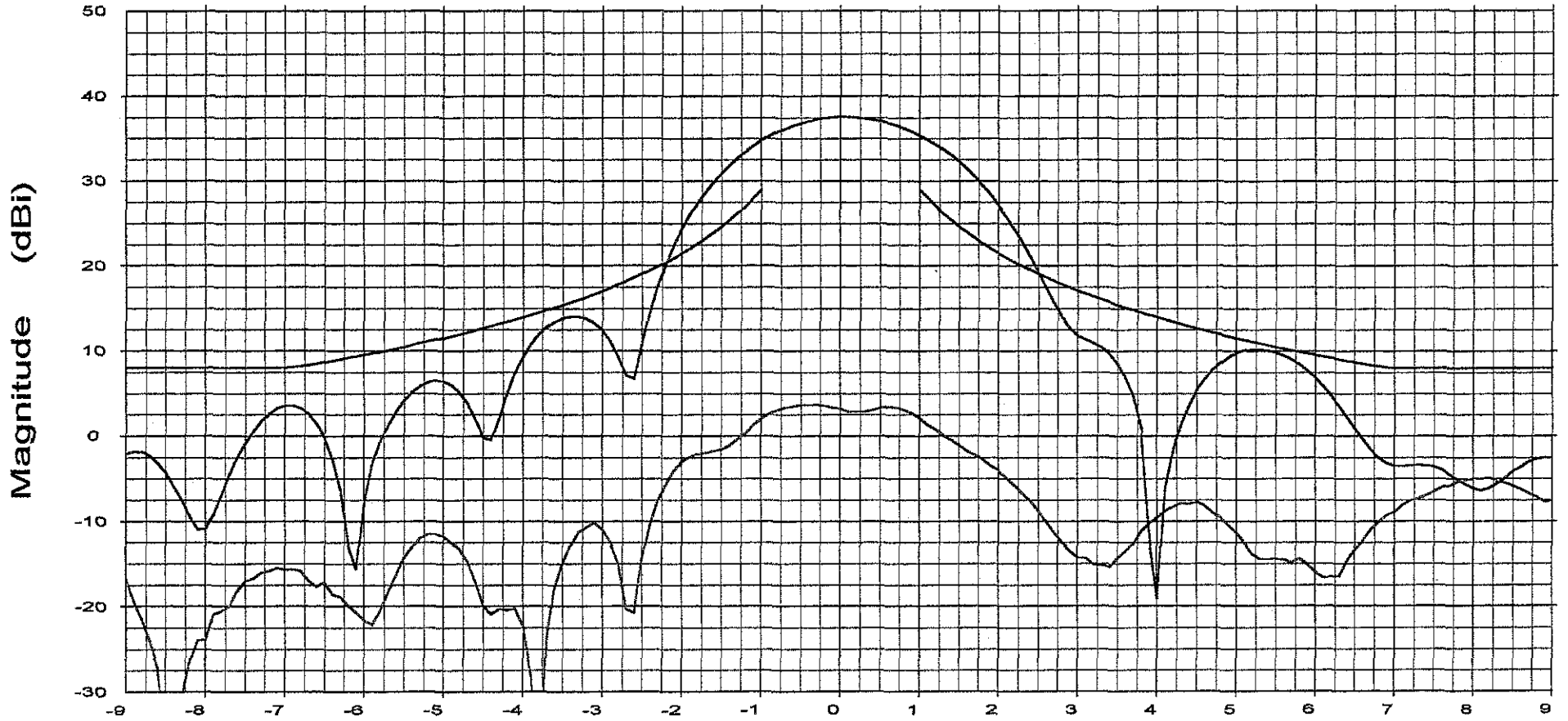
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064551.DAT-ant_under_test———	064551.DAT	dBi	0.00	37.52
064553.DAT-ant_under_test———	064553.DAT	dBi	-0.30	3.64

Prodelin Corporation
Riverbend st Range
Cl nont NC

File: See Legend

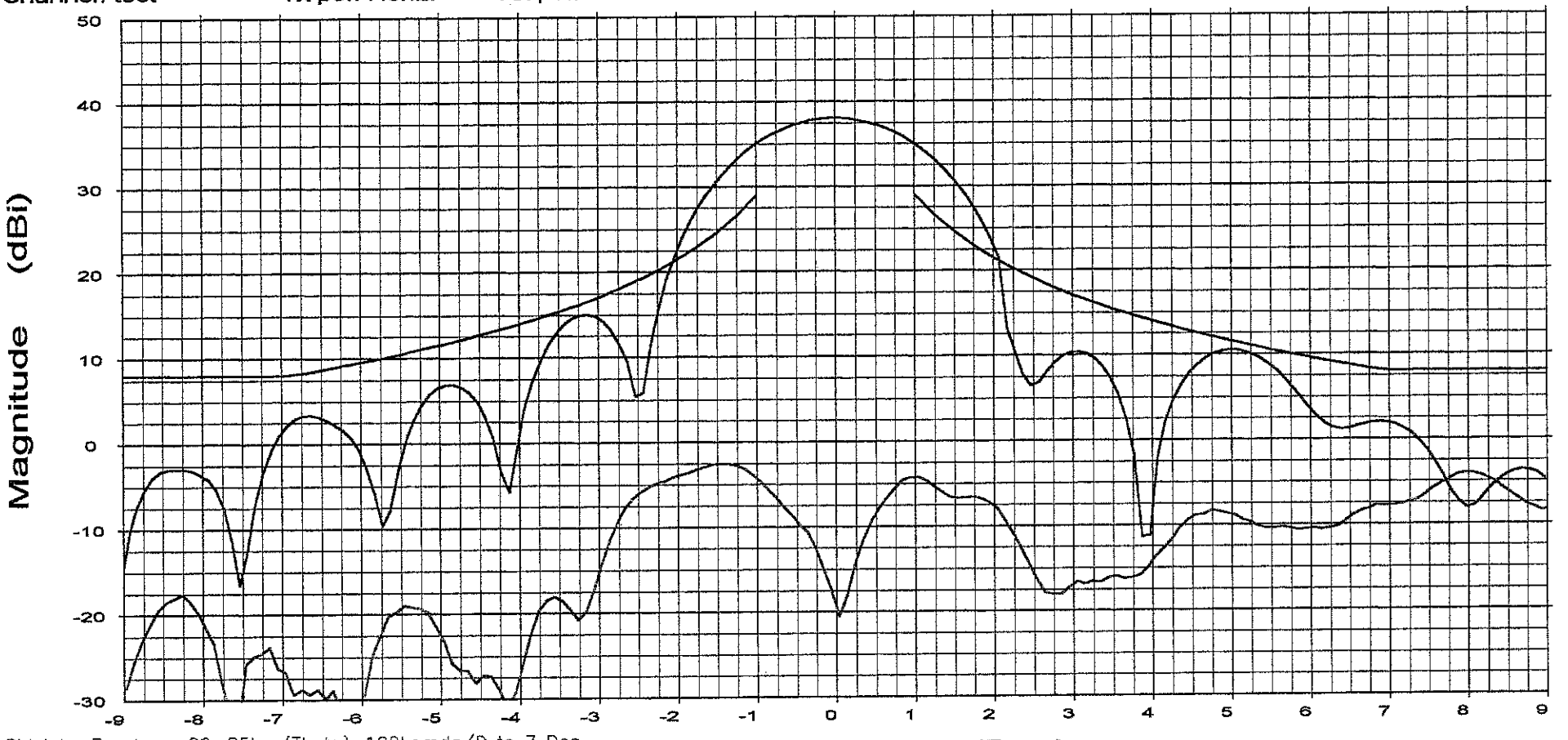
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064550.DAT-ant_under_test——	064550.DAT	dBi	-0.04	38.02
064553.DAT-ant_under_test——	064553.DAT	dBi	-1.37	-2.59

Prodelin Corporation
Riverbend st Range
Cl nont NC

File: See Legend

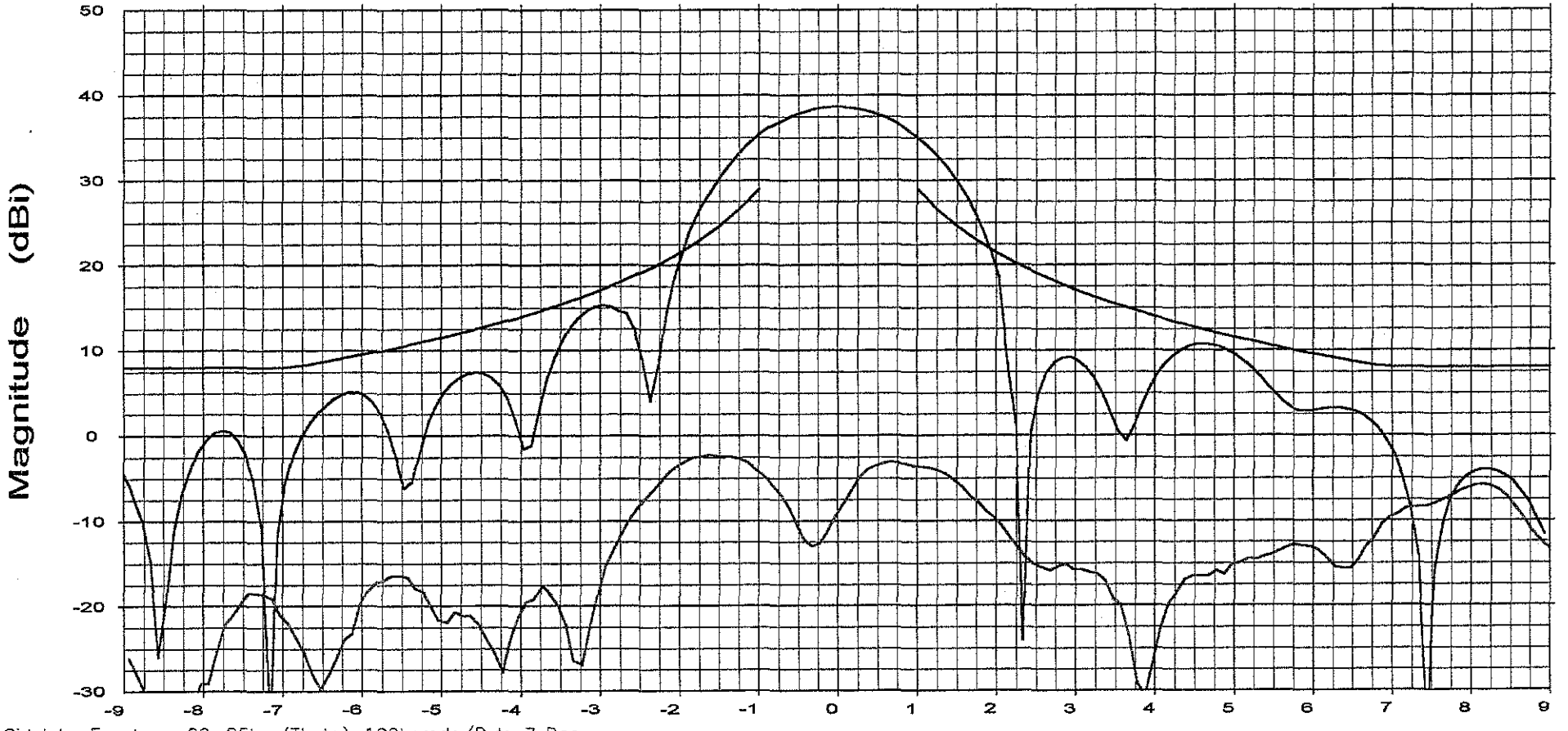
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064550.DAT-ant_under_test———	064550.DAT	dBi	0.03	38.60
064553.DAT-ant_under_test———	064553.DAT	dBi	-1.63	-2.31

Prodelin Corporation
Riverbend [illegible]st Range
Cl [illegible]nont NC

File: See Legend

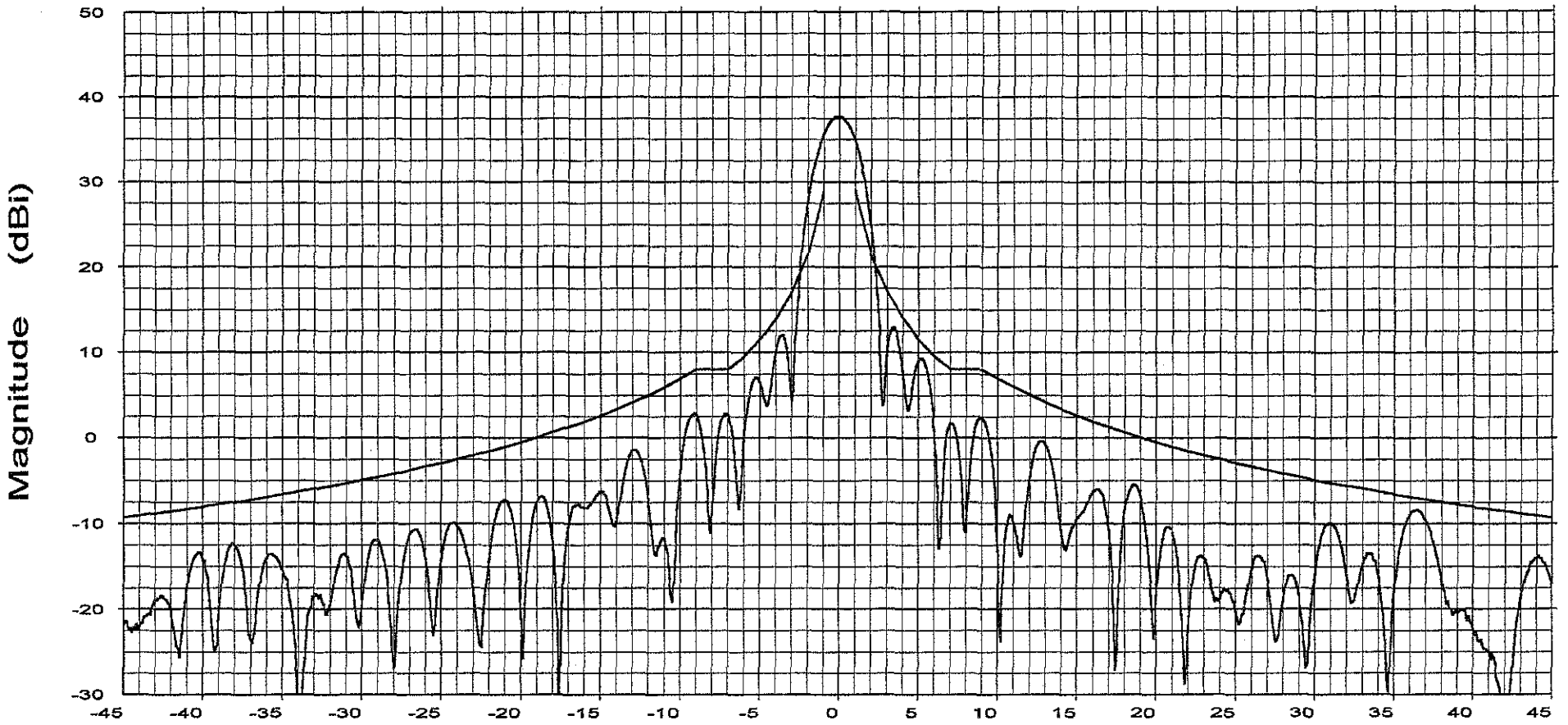
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test——	064544.DAT	dBi	-0.10	37.66

Prodelin Corporation
Riverbend Test Range
C[illegible]mont NC

File: See Legend

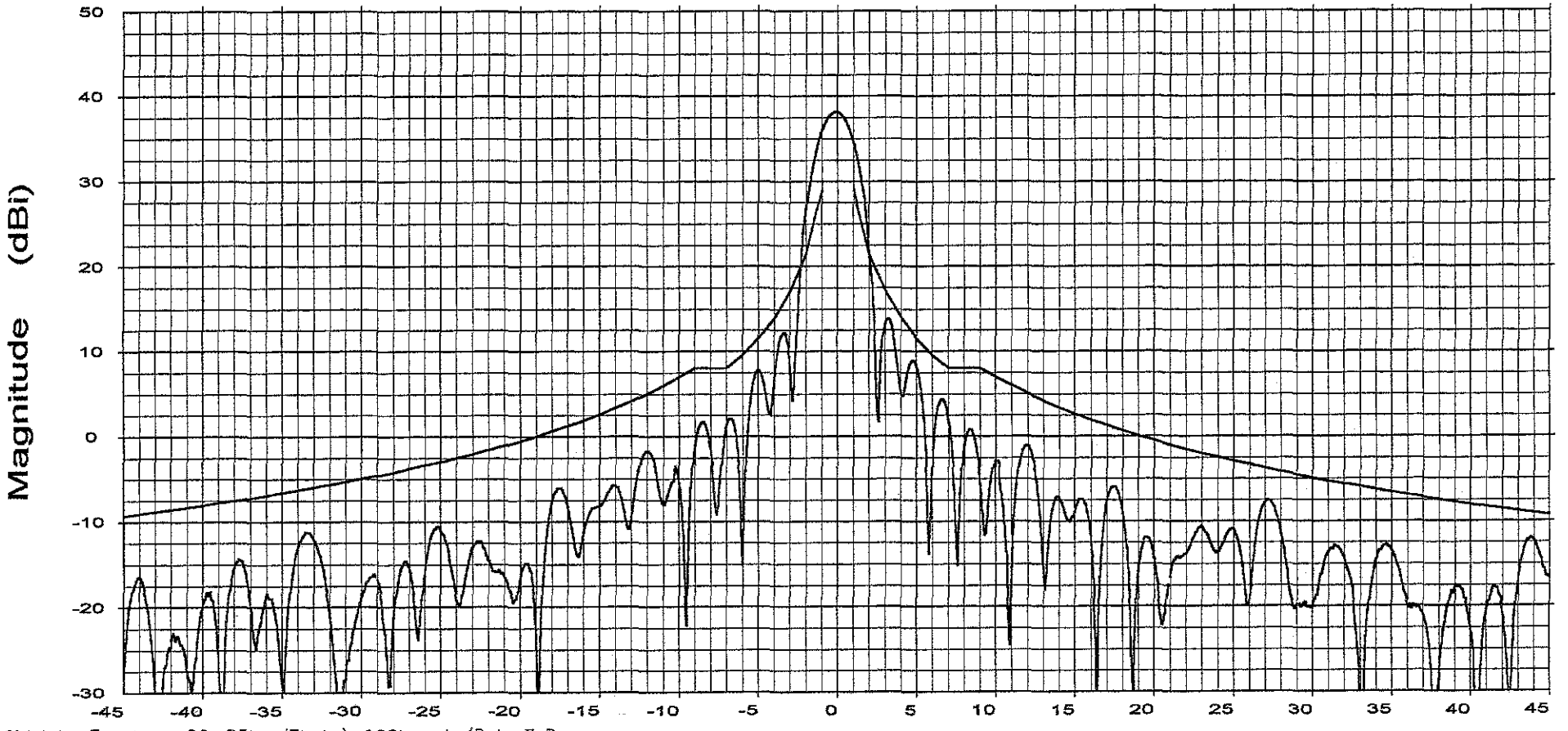
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test———	064544.DAT	dBi	-0.13	38.10

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] nont NC

File: See Legend

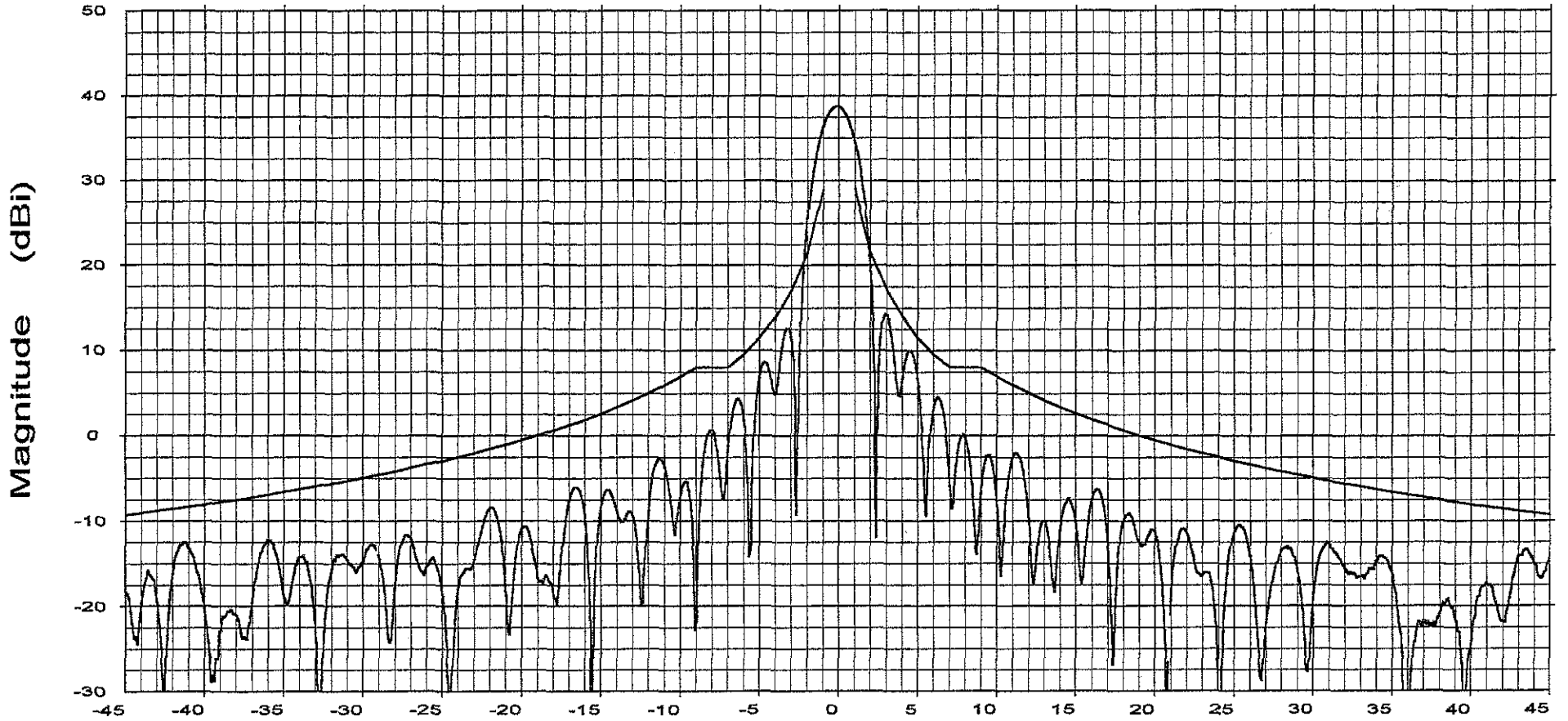
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test———	064544.DAT	dBi	-0.16	38.70

Prodelin Corporation
Riverbend [illegible] st Range
Ci [illegible] mont NC

File: See Legend

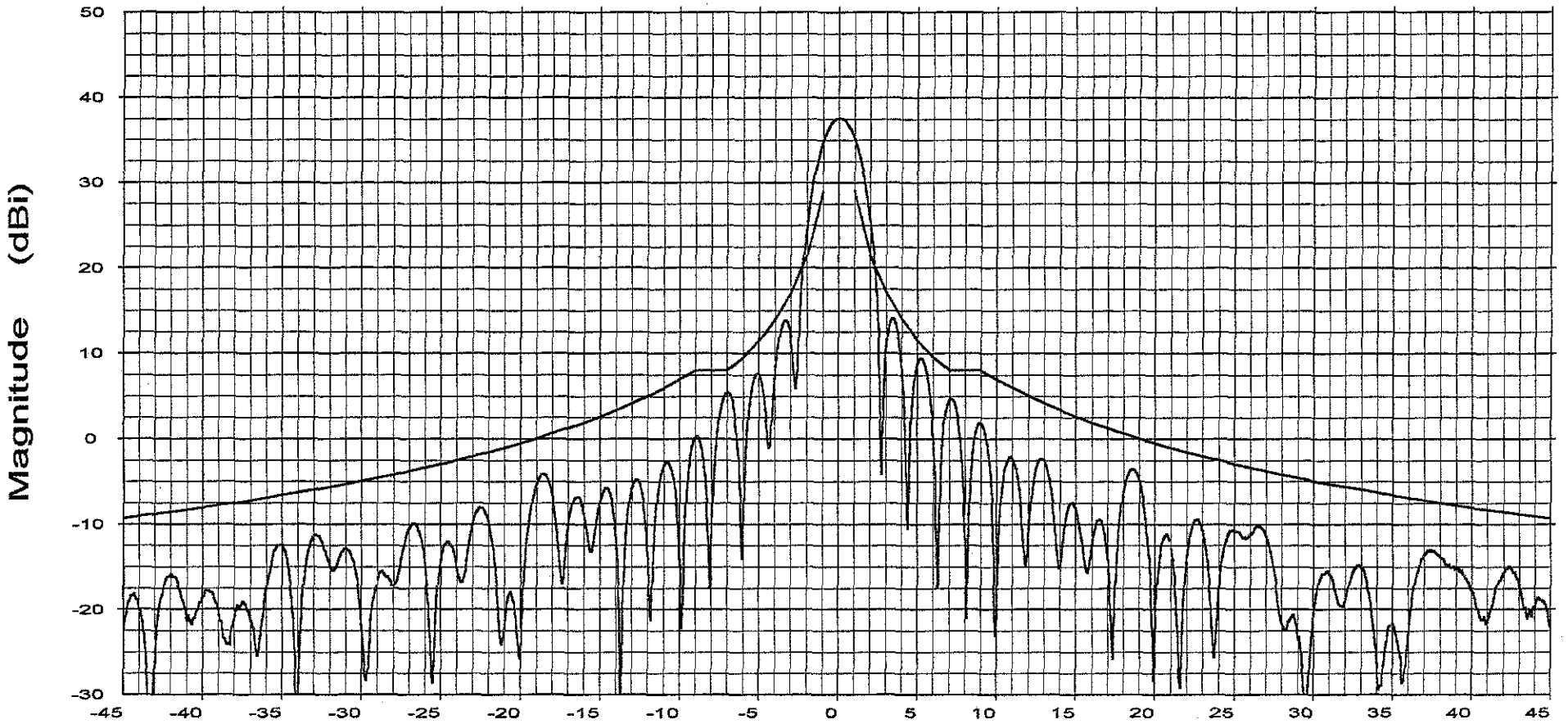
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.700 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test——	064549.DAT	dBi	0.00	37.55

Prodelin Corporation
Riverbend [illegible]st Range
Cl [illegible]mont NC

File: See Legend

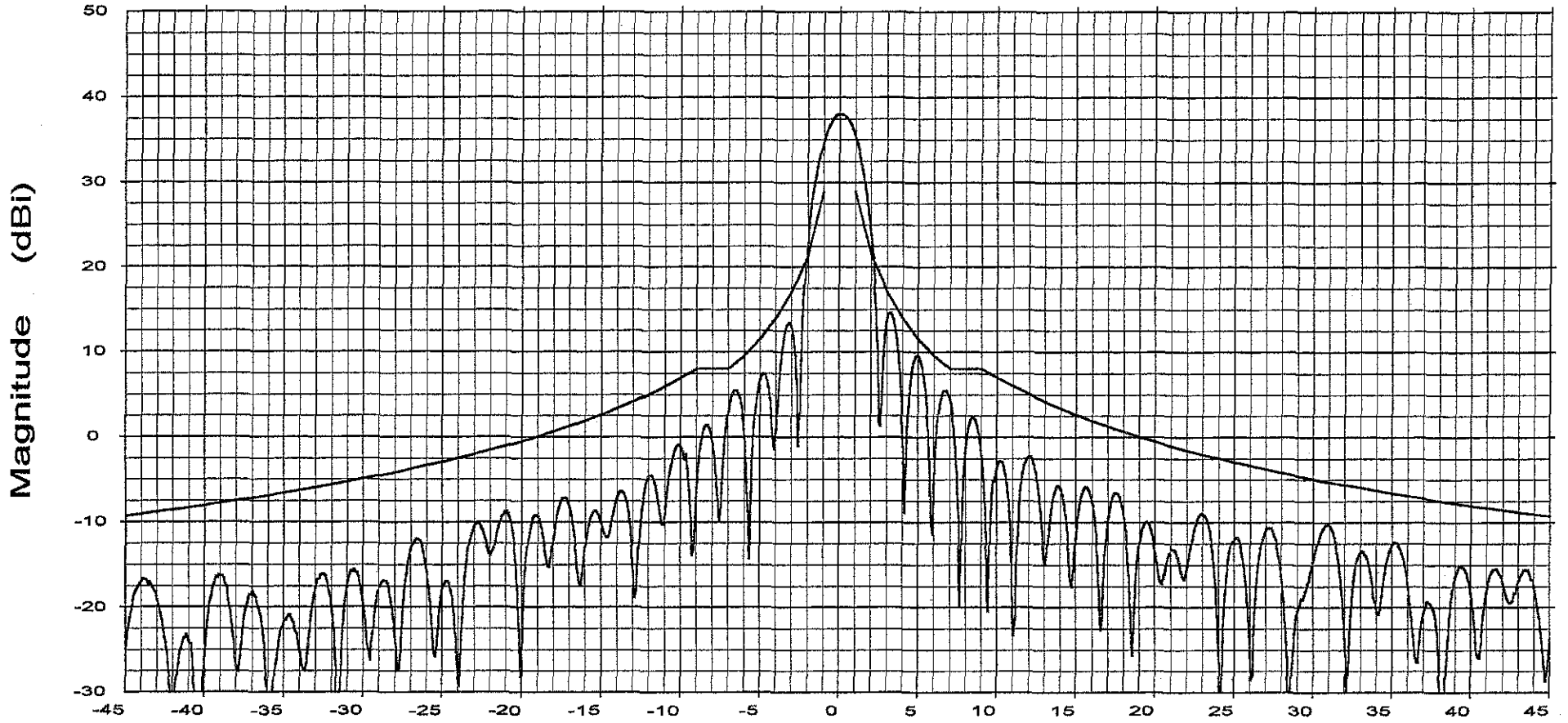
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test——	064549.DAT	dBi	0.03	38.02

Prodelin Corporation
Riverbend [illegible]st Range
Cl [illegible]mont NC

File: See Legend

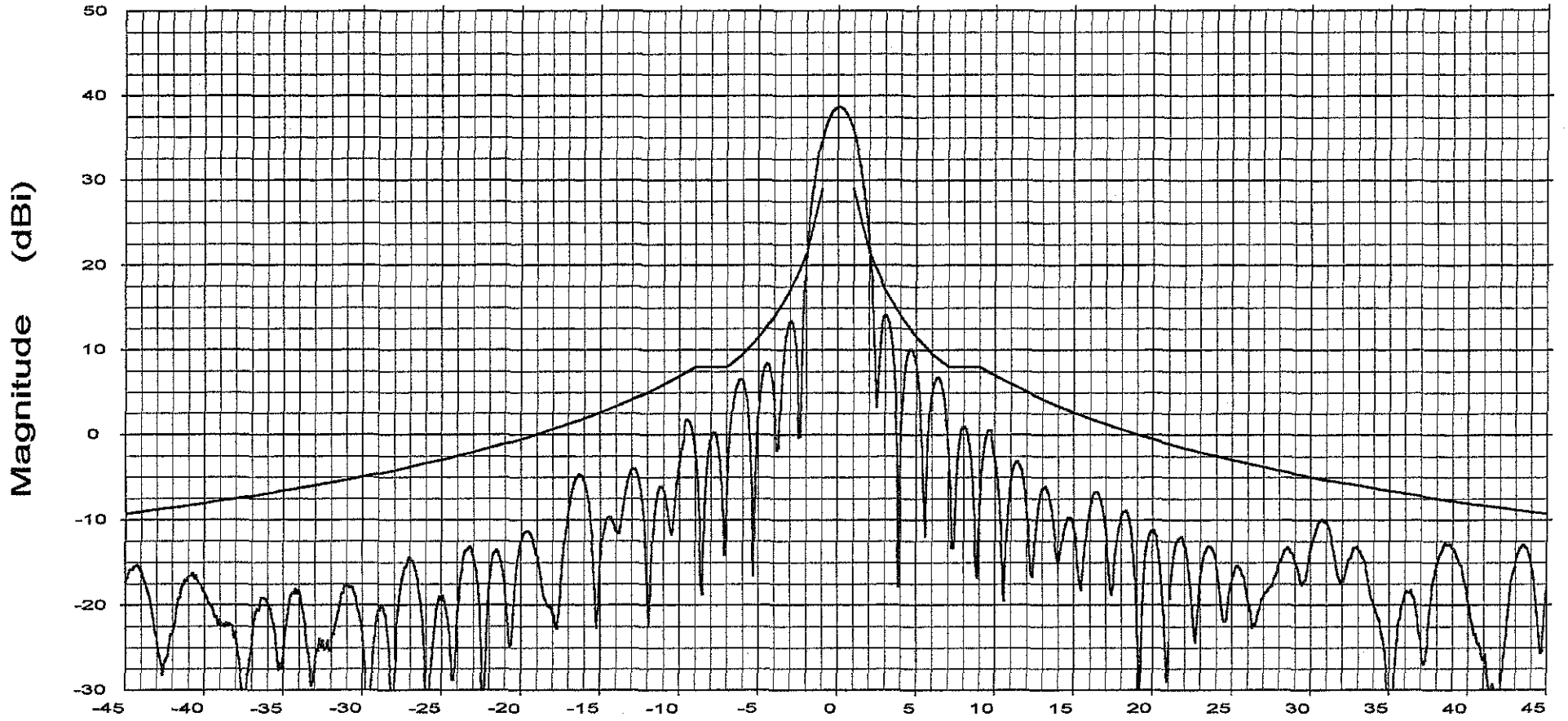
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 4.200 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test——	064549.DAT	dBi	0.06	38.63

Prodelin Corporation
Riverbend [illegible] st Range
Cl [illegible] mont NC

File: See Legend

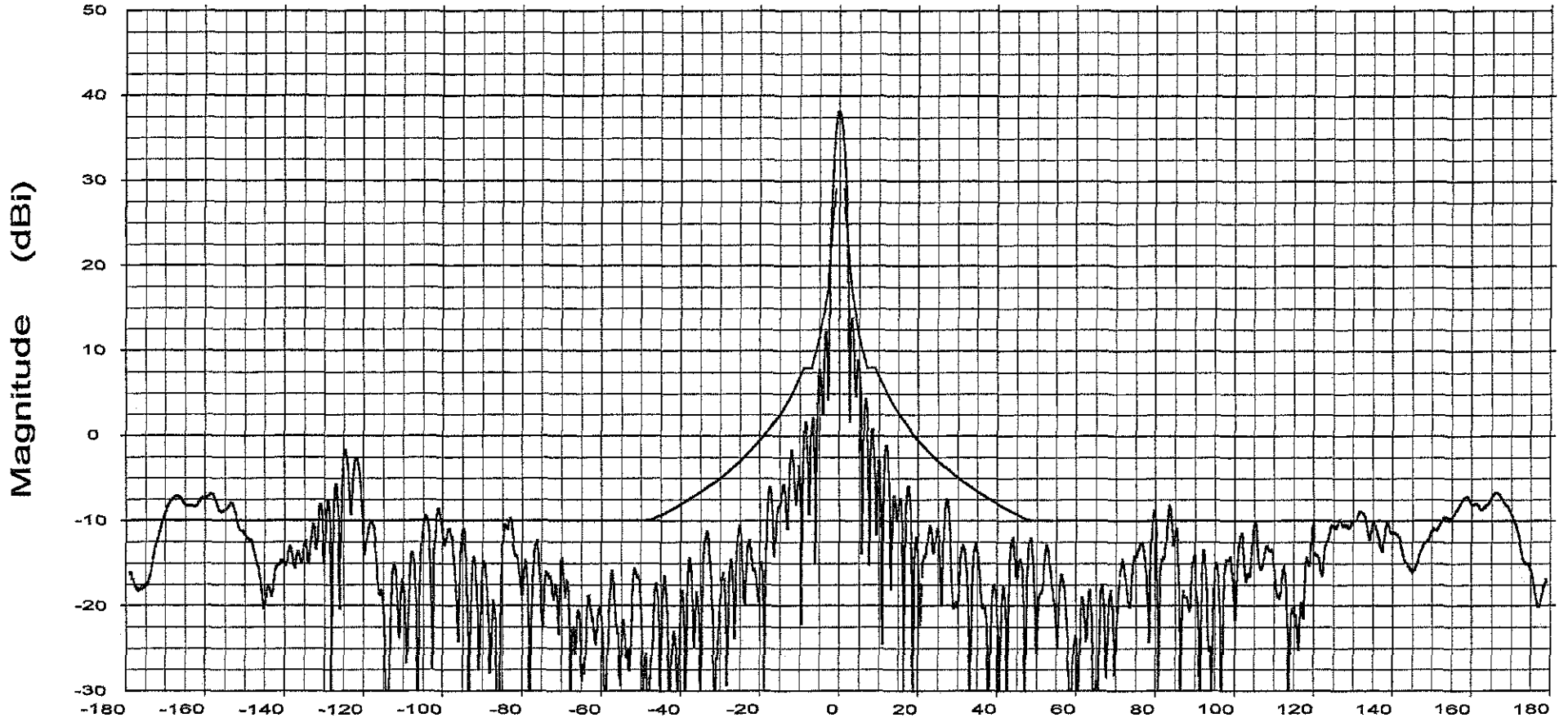
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Vert.

Rx pol: Vert.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064544.DAT-ant_under_test——	064544.DAT	dBi	-0.13	38.10

Prodelin Corporation
Riverbend [illegible] st Range
Cl[illegible]mont NC

File: See Legend

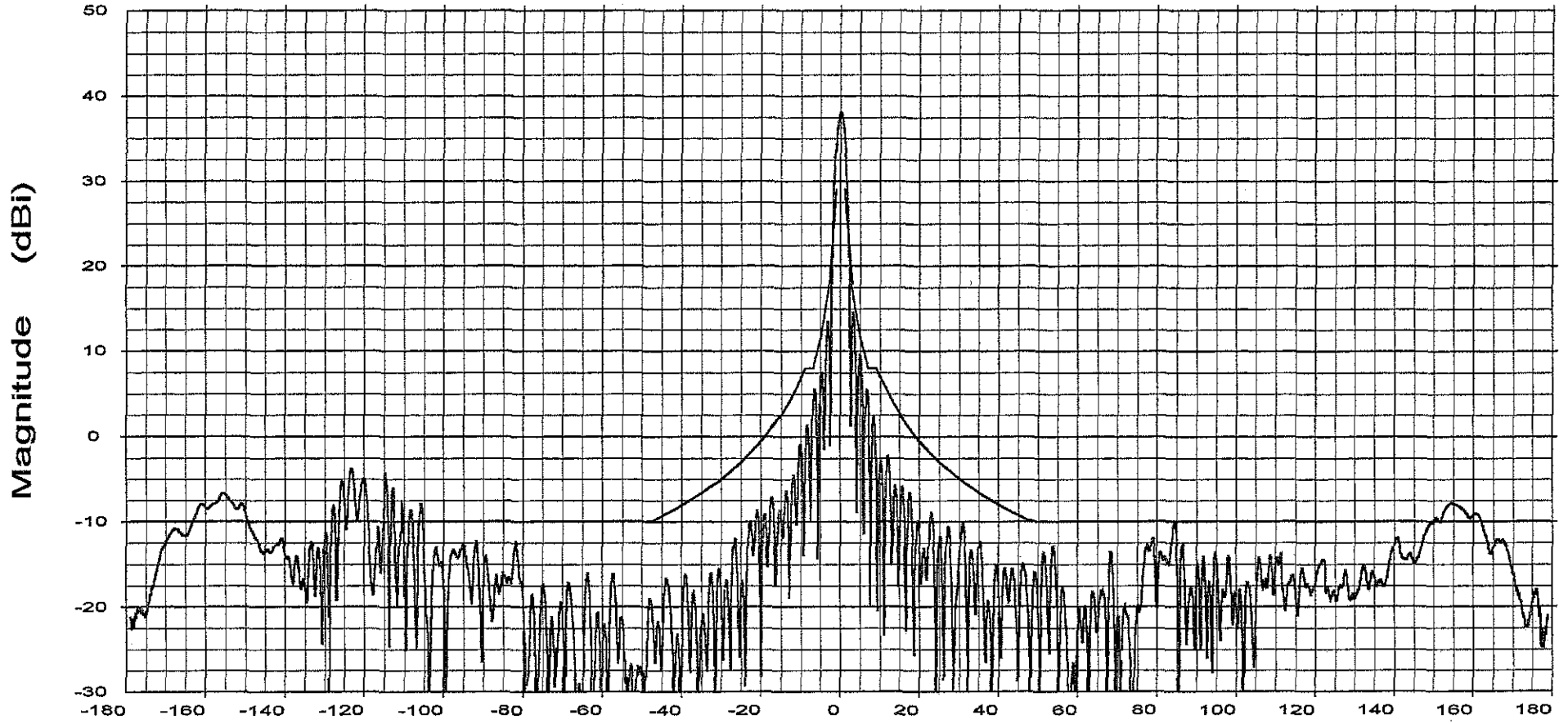
Prodelin 2.4M 4-Pc
Receive / Transmit
Offset Antenna System
C-Band Linear

Frequency : 3.950 GHz

Operator: Ken Poovey
Ser. no.:
Channel: test

Tx pol: Horiz.

Rx pol: Horiz.



Sidelobe Envelope: 29-25Log(Theta)~100Lamda/D 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	units	Beam Peak Deg	Beam Peak dB
064549.DAT-ant_under_test——	064549.DAT	dBi	0.03	38.02

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Riverbend Test Range
Claremont NC