

SECONDARY PATTERN TEST REPORT

FOR

2.4 DMK - 1108

KU-BAND ANTENNA

Reflector s/n: _____

Sub s/n: _____

Feed s/n: _____

TESTED AT

VERTEX COMMUNICATIONS CORPORATION

Vertex Antenna Test Range, Kilgore, Texas

FT 4174-9912

Job: EE001

Prepared by

VERTEX COMMUNICATIONS CORPORATION

2600 Longview Street

Kilgore, TX 75662

903-984-0555

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1.0 INTRODUCTION

The following test data represents the evaluation of a 2.4m 11/14 GHz dual offset mobile antenna system, with adjustable polarization angle 2 port linear polarized feed system. The antenna is of the truck mounted, mobile class. These tests were conducted on the Vertex Test Range, according to the test plan 900 - 0220.

This evaluation is a measurement of the antenna system. The tests were carried out according to the Vertex test plan and the principles of the EIA-411-A Standard Chapter 6. The gain evaluation was determined by using the precision beamwidth method. The wide angle patterns show good sidelobe suppression.

It can be concluded from the attached data that the VERTEX 2.4m DMK-1108 antenna complies with the FCC 25.209 mandatory sidelobe envelope requirements.

2.0 SUMMARY OF ANTENNA PERFORMANCE:

2.1 ANTENNA GAIN

Frequency (MHz)	11850	14250
Measured (dBi)	47.05	48.72
Specified (dBi)	47.30	48.90

Measurement accuracy estimated at +/- 0.5 dB

2.2 ON AXIS X-POL DISCRIMINATION:

FREQUENCY (Mhz): 11850

Polarization Discrimination (dB):	Horizontal	Vertical
Azimuth	-41.3	-44.5
Elevation	-40.2	-43.8

Spec: -35 dB

FREQUENCY (Mhz): 14250

Polarization Discrimination (dB):	Horizontal	Vertical
Azimuth	-41.3	-44.5
Elevation	-40.2	-43.8

Spec: -35 dB

2.3 SIDELobe ENVELOPE:

Specified sidelobe envelope recorded on patterns.

Receive Band -- 25.209
Transmit Band -- 25.209

3.0 ANTENNA SYSTEM GAIN-RECEIVE BAND
[Precision Beamwidth Measurement Method]
Frequency: 11850 MHz
Polarization: Horizontal & Vertical



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:06 PM

Time of Pattern:

Saturday, November 13, 1999 11:05 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

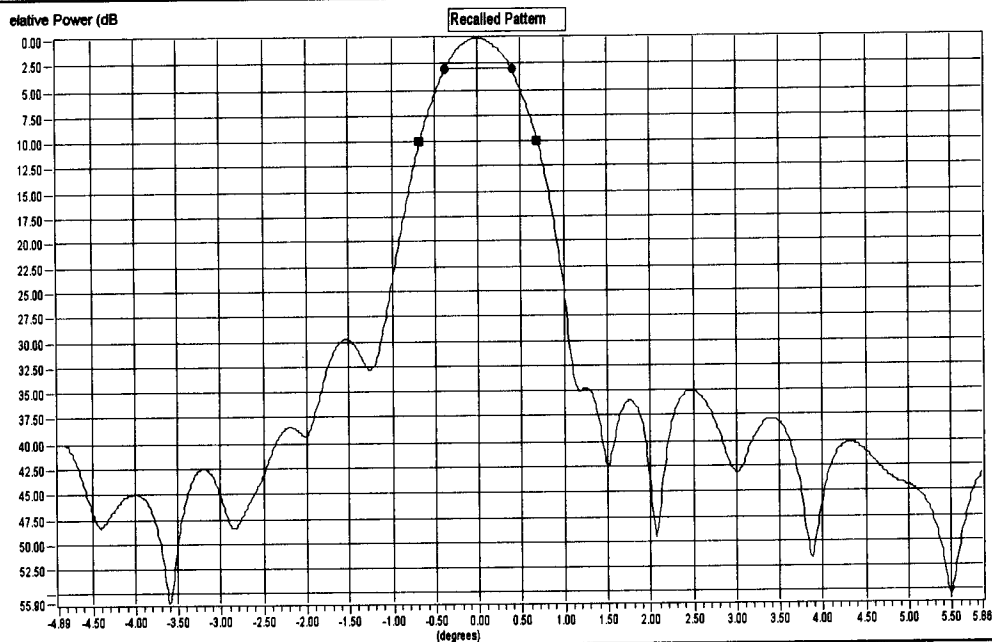
Comments:

Tool box

Recall

Exit

Applied Curve: ☒ Use Original Curve



Cross Pol Pattern

3dB Beamwidth

10dB Beamwidth

Azimuth 3 dB Beamwidth (degrees):

0.6884

Azimuth 10 dB Beamwidth (degrees):

1.1585

Pattern Information

Frequency Band: Receive
Polarization: HORIZONTAL
Beginning Angle: -4.89 degrees
Ending Angle: 5.87 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

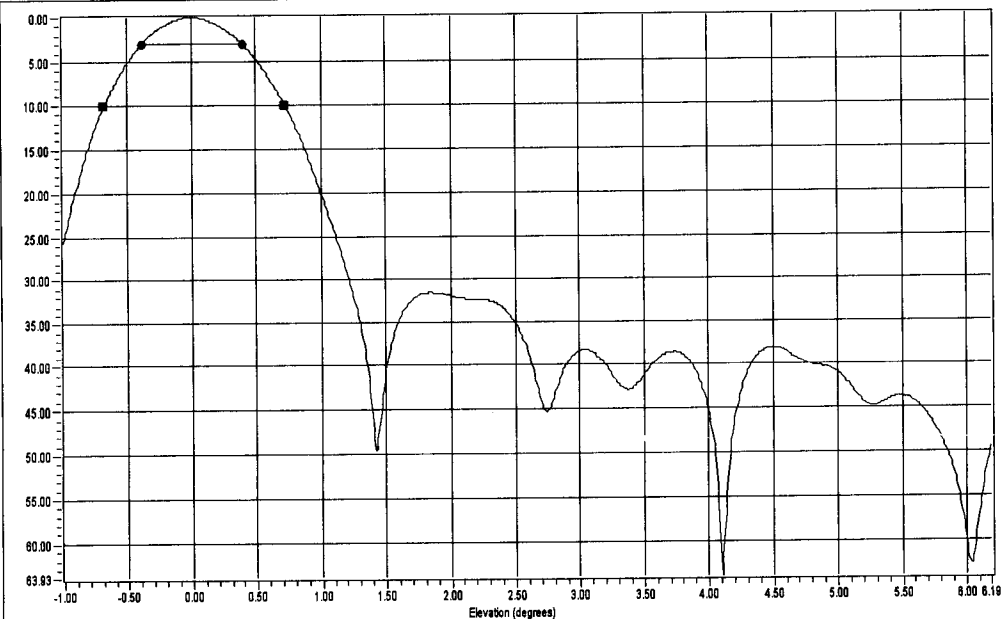
Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.72 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

Calculated Gain = $.5 * 10 \log \{ 37000 / (0.7801 * 0.8100) \}$
 $+ 10 \log \{ 107000 / (1.3853 * 1.4400) \}$
 $- 0.30 - (4.82 * \text{square}(11.85) * \text{square}(0.01)) = 47.12 \text{ dB}$

Recalled Elevation Gain Pattern



Elevation Pattern

3dB Beamwidth

10dB Beamwidth

Elevation 3 dB Beamwidth (degrees):

0.6726

Elevation 10 dB Beamwidth (degrees):

1.1989



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:06 PM

Time of Pattern:

Saturday, November 13, 1999 11:43 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

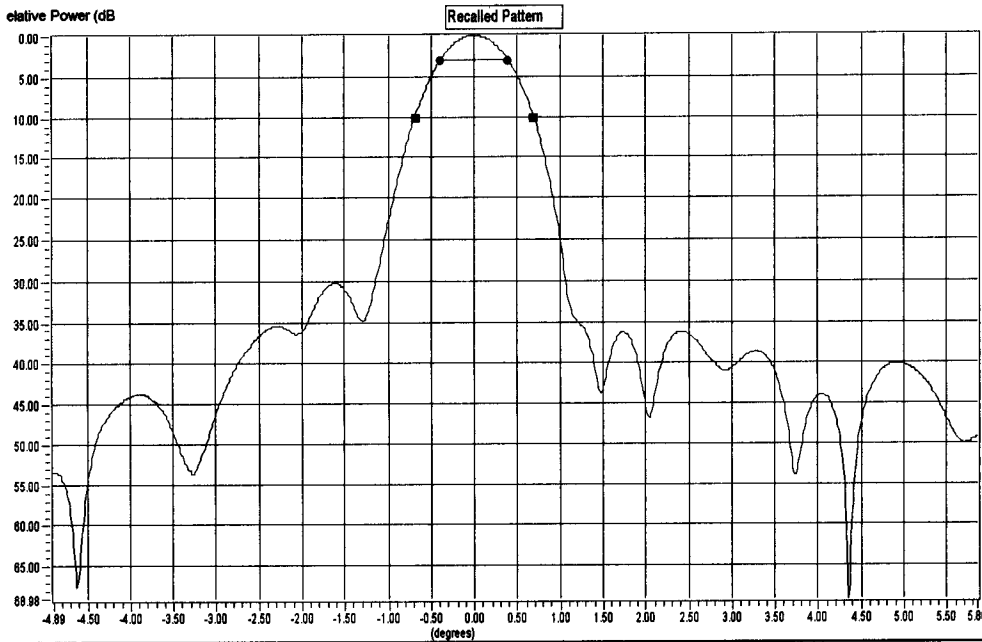
Comments:

Applied Curve: ☒ Use Original Curve

Tool box

Recall

Exit



Cross Pol Pattern

3dB Beamwidth

10dB Beamwidth



Azimuth 3 dB Beamwidth (degrees):

0.7801

Azimuth 10 dB Beamwidth (degrees):

1.3853

Pattern Information

Frequency Band: Receive
Polarization: VERTICAL
Beginning Angle: -4.89 degrees
Ending Angle: 5.87 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

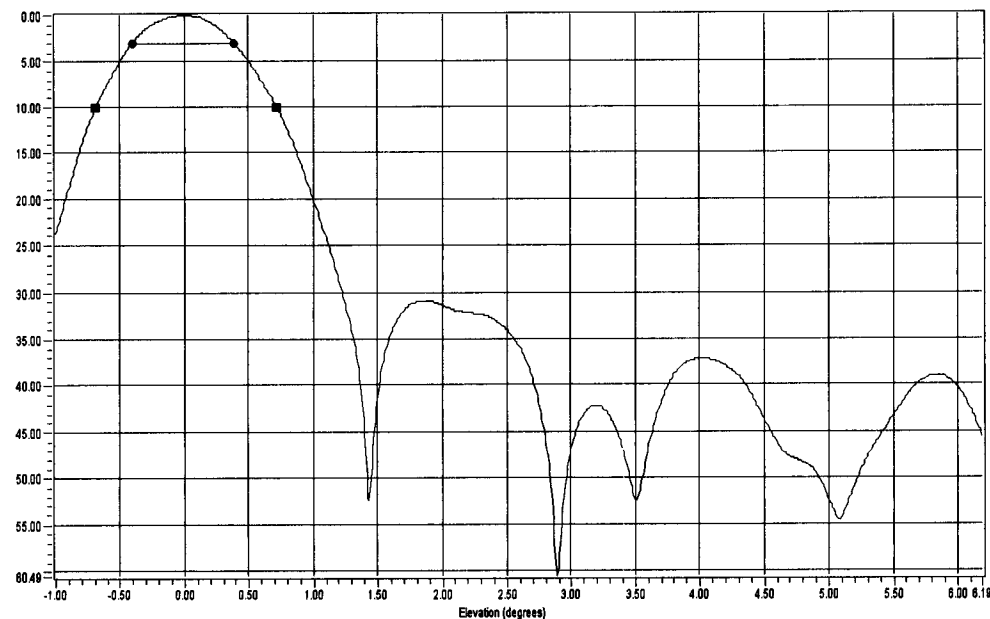
Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.23 dB
Sweep Time: 25.0 sec

Calculated Gain = $5 + 10 \log \{ 37000 / (0.8070 * 0.8190) \}$
 $+ 10 \log \{ 107000 / (1.3887 * 1.4580) \}$
 $- 0.30 - (4.92 * \text{square}(11.85) * \text{square}(0.01)) = 46.97 \text{ dB}$

Use Ctrl-H to see information and instructions on specific fields in this panel.

Recalled Elevation Gain Pattern



Elevation Pattern

3dB Beamwidth

10dB Beamwidth



Elevation 3 dB Beamwidth (degrees):

0.8100

Elevation 10 dB Beamwidth (degrees):

1.4400

4.0 ANTENNA SYSTEM GAIN- TRANSMIT BAND

[Precision Beamwidth Measurement Method]

Frequency: 14250 MHz

Polarization: Horizontal & Vertical



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:02 PM

Time of Pattern:

Friday, November 12, 1999 11:31 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER:

TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER:

EE001

Applied Curve: ☒ Use Original Curve

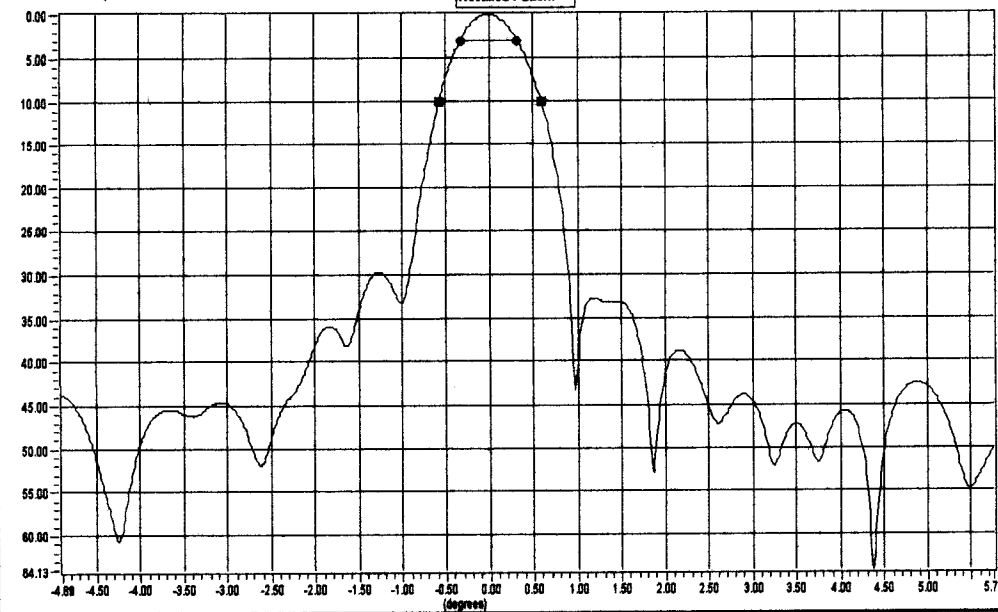
Tool box

Recall

Exit

Relative Power (dB)

Recalled Pattern



Cross Pol Pattern

3dB Beamwidth

10dB Beamwidth



Azimuth 3 dB Beamwidth (degrees):

0.8664

Azimuth 10 dB Beamwidth (degrees):

1.1861

Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -4.88 degrees
Ending Angle: 5.77 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

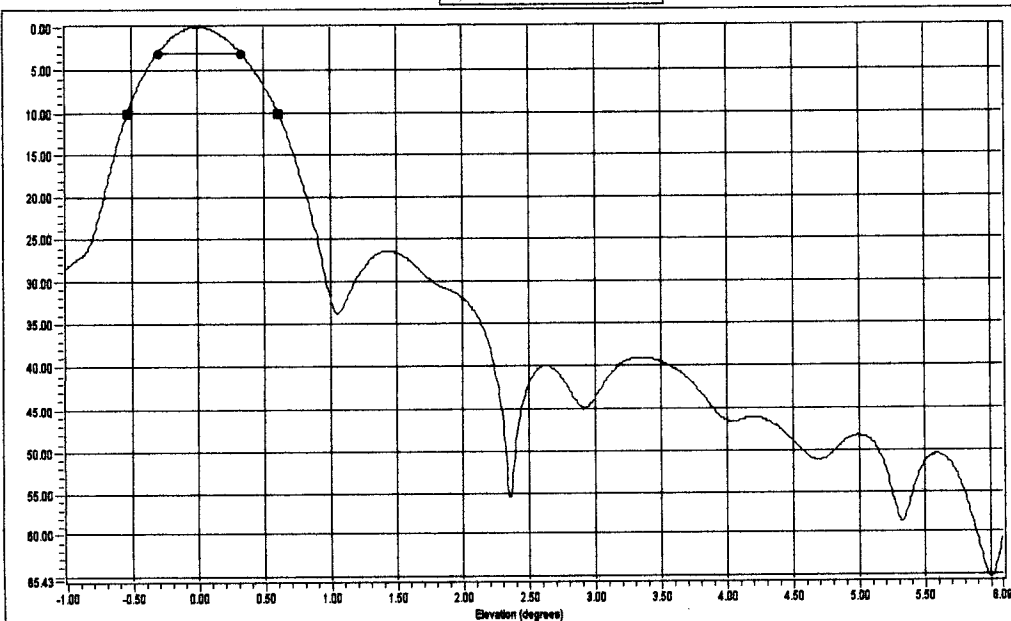
Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.98 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

$$\begin{aligned} \text{Calculated Gain} &= .5 * 10 \log (37000 / (0.8664 * 0.8664)) \\ &+ 10 \log (107000 / (1.1861 * 1.1861)) \\ &- 0.20 - (4.82 * \text{square}(14.25) * \\ &\text{square}(0.01)) = 48.88 \text{ dB} \end{aligned}$$

Recalled Elevation Gain Pattern



Elevation Pattern

3dB Beamwidth

10dB Beamwidth



Elevation 3 dB Beamwidth (degrees):

0.8656

Elevation 10 dB Beamwidth (degrees):

1.1861



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:04 PM

Time of Pattern:

Saturday, November 13, 1999 10:00 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

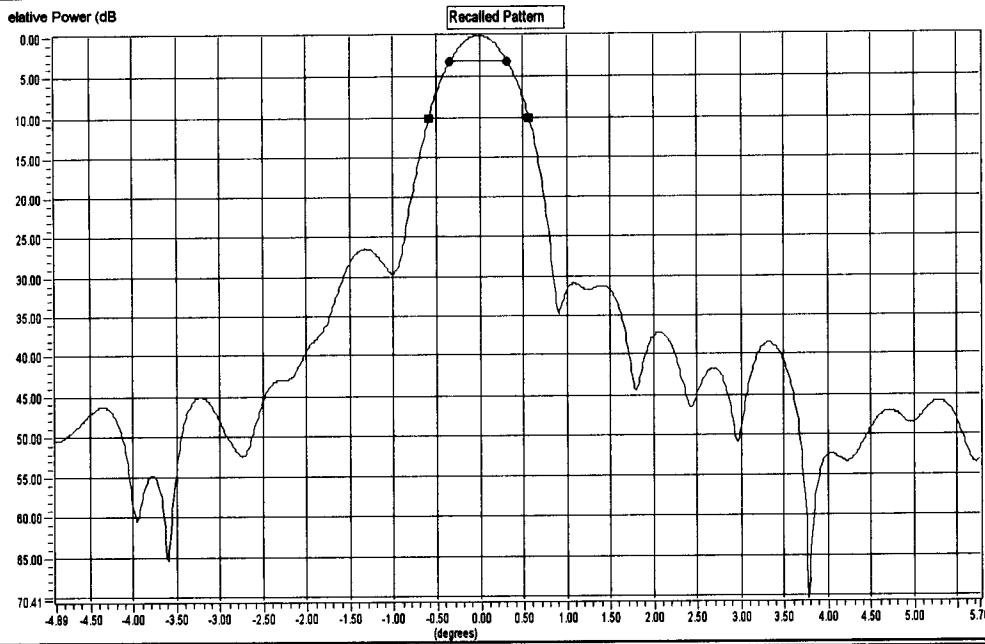
Comments:

Applied Curve: ☒ Use Original Curve

Tool box

Recall

Exit



Cross Pol Pattern

3dB Beamwidth

10dB Beamwidth



Azimuth 3 dB Beamwidth (degrees):

0.6864

Azimuth 10 dB Beamwidth (degrees):

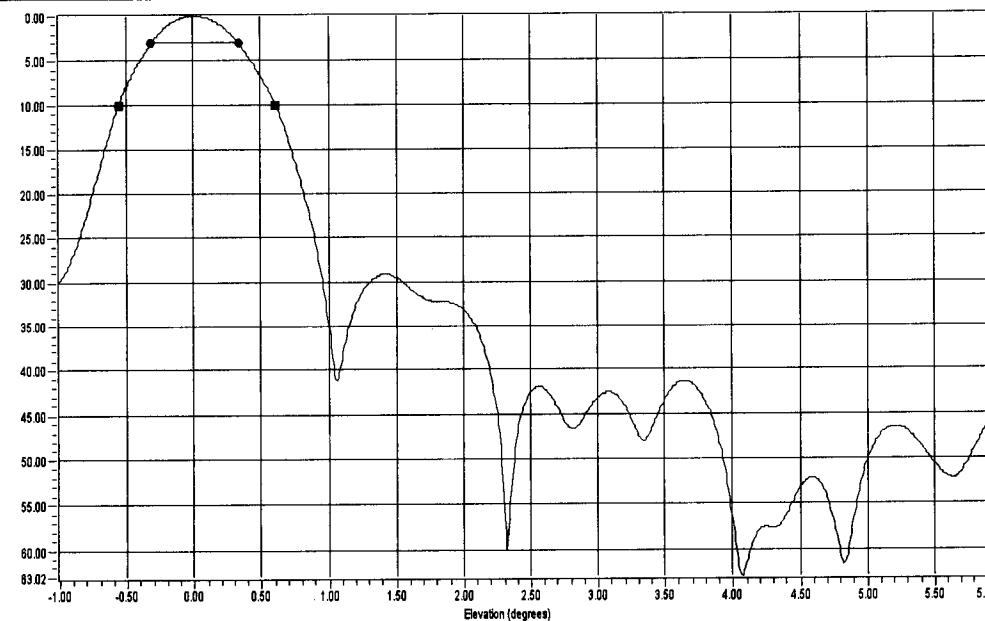
1.1881

Pattern Information		Antenna Information		Spectrum Analyzer Information	
Frequency Band:	Transmit	Beam Center:	Azimuth: 0.00	Resolution Bandwidth:	30.0000 Hz
Polarization:	VERTICAL		Elevation: 12.00	Center Frequency:	14.2500 GHz
Beginning Angle:	-4.89 degrees	Specified Gain:	48.90 dB	Video Bandwidth:	3.0000 Hz
Ending Angle:	5.77 degrees			Reference Level:	-10.89 dB
Test Frequency:	14.2500 GHz			Sweep Time:	25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

$$\begin{aligned} \text{Calculated Gain} &= 5 * 10 \log \{ 37000 / (0.6864 * 0.6728) \} \\ &+ 10 \log \{ 107000 / (1.1595 * 1.1889) \} \\ &- 0.20 - (4.82 * \text{square}(14.25) * \\ &\text{square}(0.01)) = 48.72 \text{ dB} \end{aligned}$$

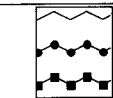
Recalled Elevation Gain Pattern



Elevation Pattern

3dB Beamwidth

10dB Beamwidth



Elevation 3 dB Beamwidth (degrees):

0.6656

Elevation 10 dB Beamwidth (degrees):

1.1881

5.0 XPOL DISCRIMINATION- RECEIVE BAND
Frequency: 11850 MHz
Polarization: Horizontal & Vertical



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:08 PM

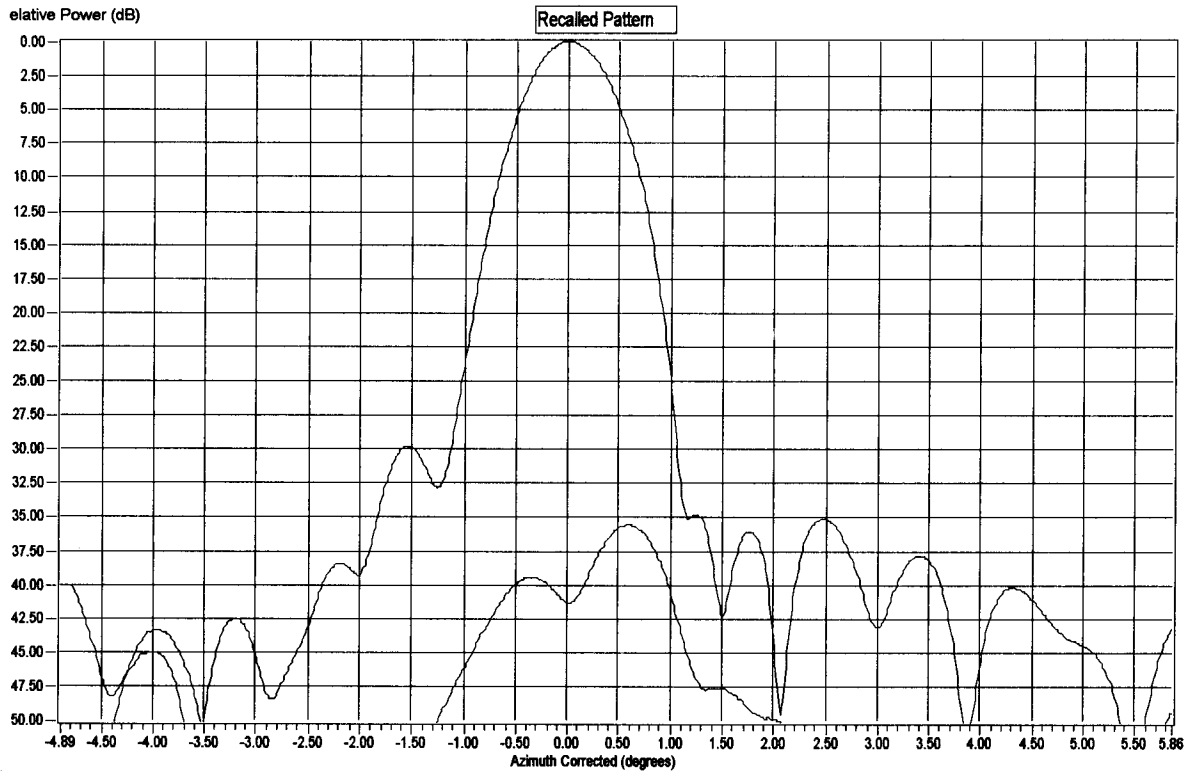
Time of Pattern:

Saturday, November 13, 1999 11:14 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve:



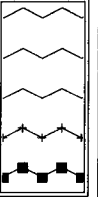
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Receive
Polarization: HORIZONTAL
Beginning Angle: -4.89 degrees
Ending Angle: 5.87 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.72 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:09 PM

Time of Pattern:

Saturday, November 13, 1999 11:22 AM

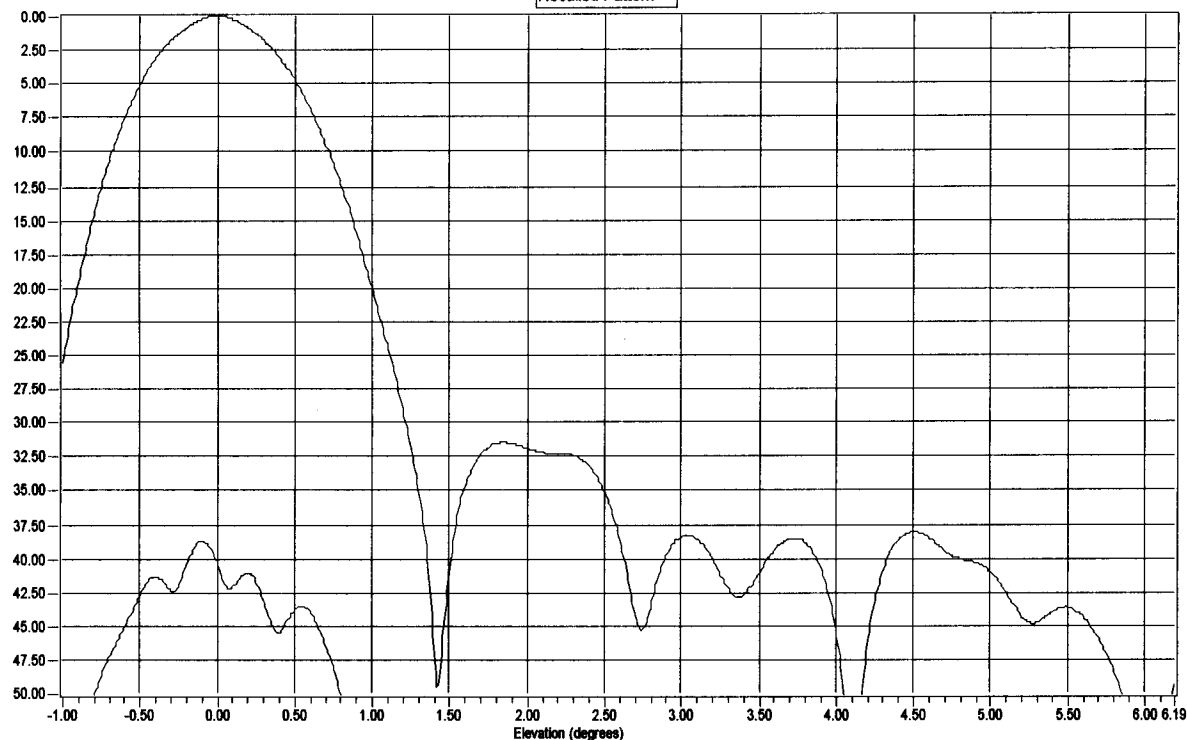
CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve:

Relative Power (dB)

Recalled Pattern



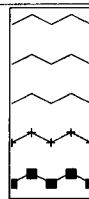
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Receive
Polarization: HORIZONTAL
Beginning Angle: -1.00 degrees
Ending Angle: 6.20 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.91 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:09 PM

Time of Pattern:

Saturday, November 13, 1999 11:51 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

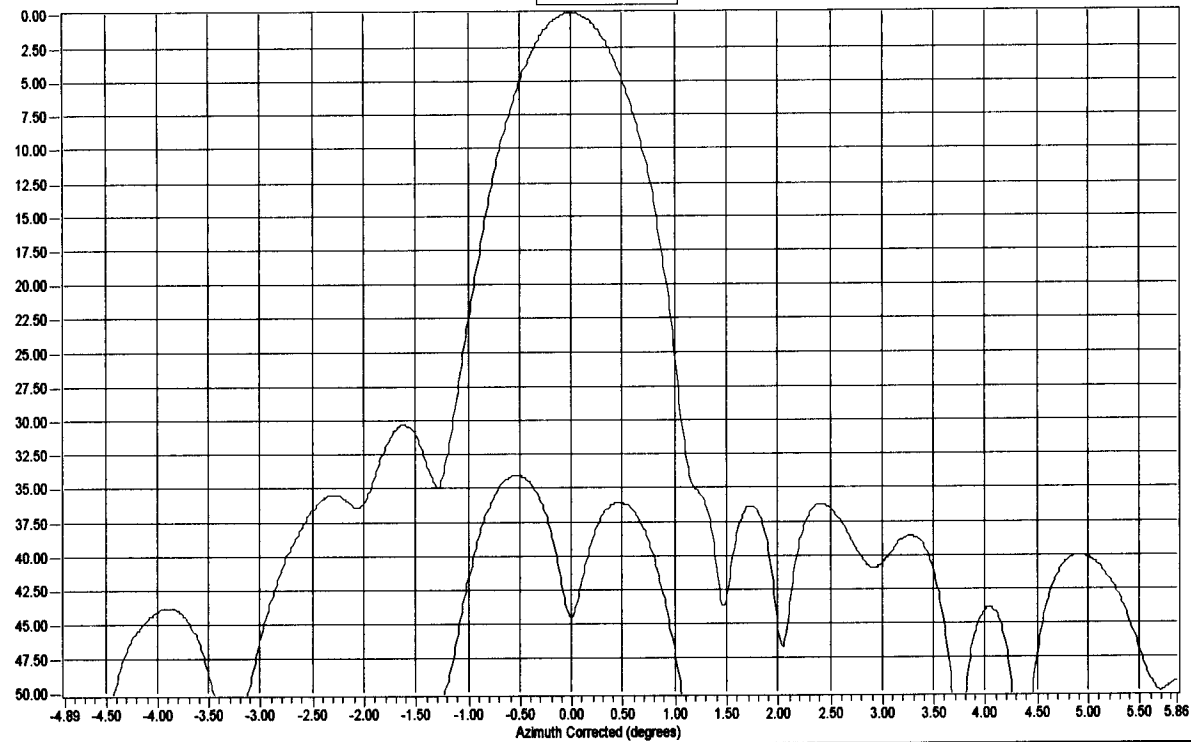
Tool box

Recall

Exit

Relative Power (dB)

Recalled Pattern



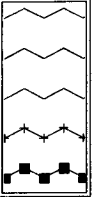
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Receive
Polarization: VERTICAL

Beginning Angle: -4.89 degrees
Ending Angle: 5.87 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.23 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:09 PM

Time of Pattern:

Saturday, November 13, 1999 11:56 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK

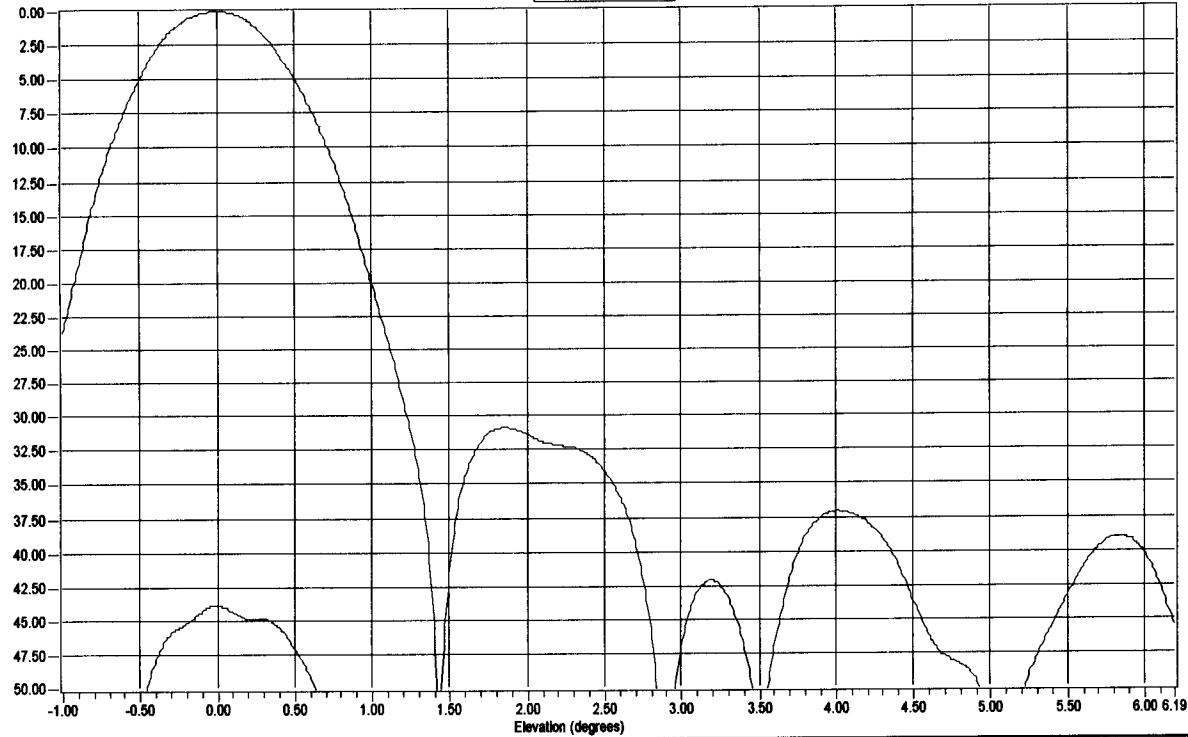
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve:

Relative Power (dB)

Recalled Pattern



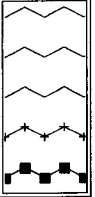
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Receive
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 6.20 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.17 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

6.0 XPOL DISCRIMINATION- TRANSMIT BAND
Frequency: 14250 MHz
Polarization: Horizontal & Vertical



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:14 PM

Time of Pattern:

Saturday, November 13, 1999 8:22 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK

SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve: ☒ Use Original Curve

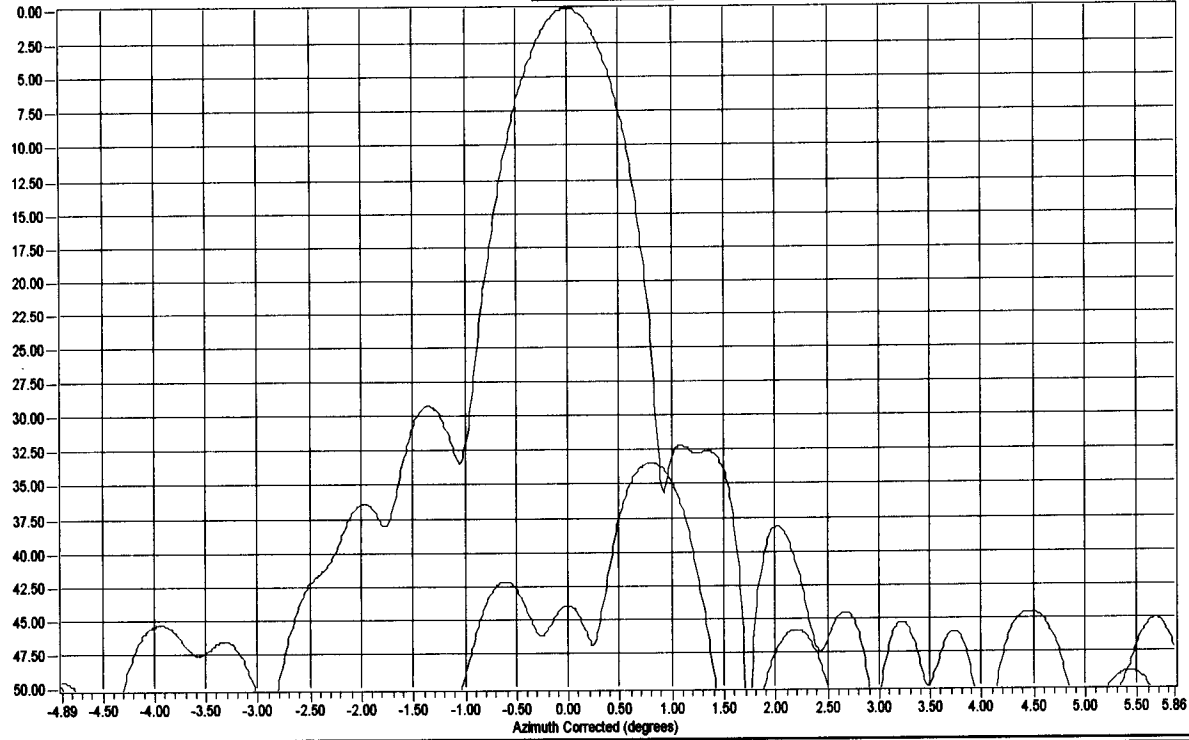
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



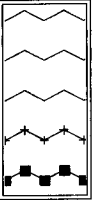
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -4.89 degrees
Ending Angle: 5.87 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.96 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:15 PM

Time of Pattern:

Saturday, November 13, 1999 8:25 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK

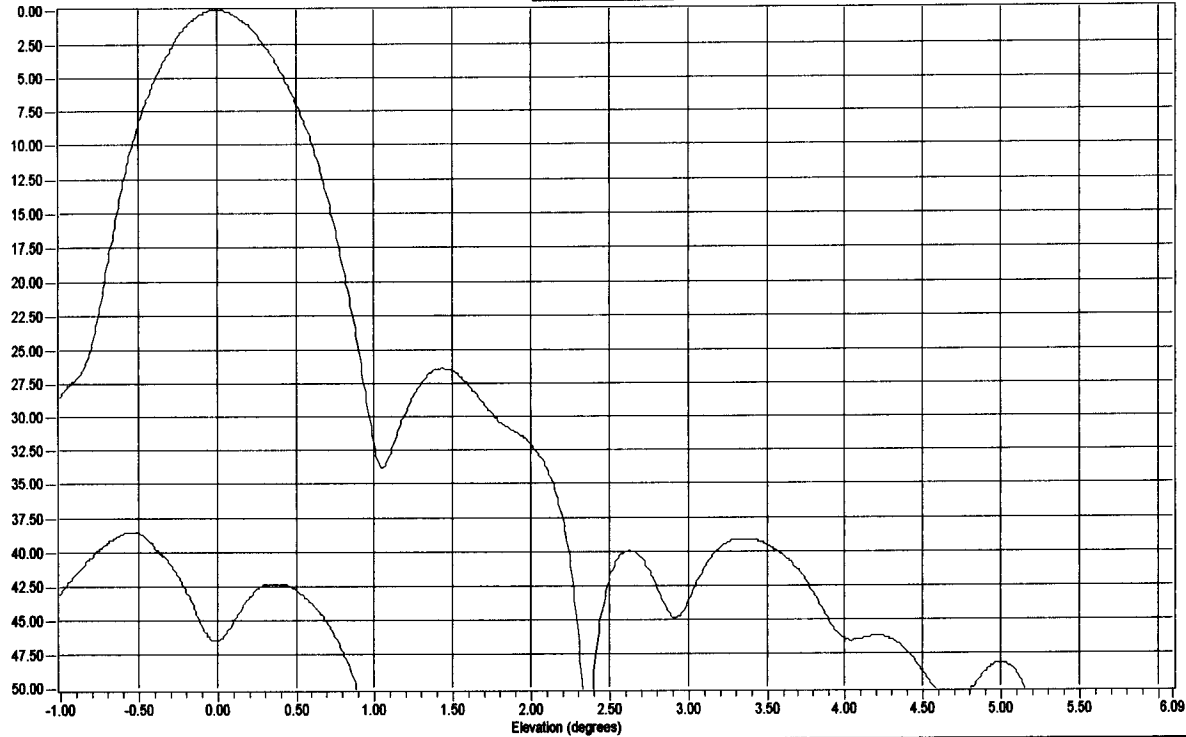
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve:

relative Power (dB)

Recalled Pattern



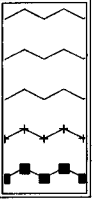
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL

Beginning Angle: -1.00 degrees
Ending Angle: 6.10 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -11.15 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:15 PM

Time of Pattern:

Saturday, November 13, 1999 10:15 AM

CUSTOMER: VERTEX INVENTORY SATELLITE: SHORT RANGE
SITE: VCC TEST RANGE TRANSPONDER: N/A
ANTENNA: CLEAR JOB NUMBER: TODD WEAVER
WEATHER: 2.4m DMK TEST ENGINEER: EE001

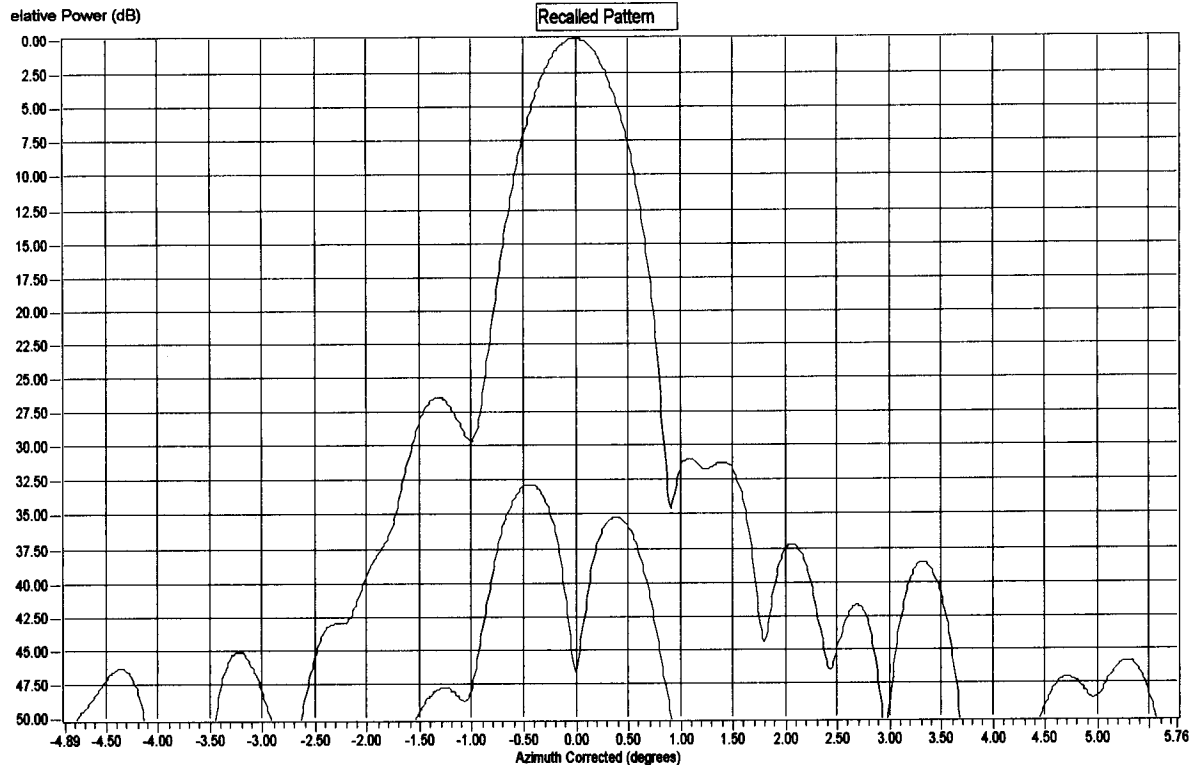
Comments:

Applied Curve: ☒ Use Original Curve

Tool box

Recall

Exit



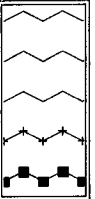
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL

Beginning Angle: -4.89 degrees
Ending Angle: 5.77 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.99 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:15 PM

Time of Pattern:

Saturday, November 13, 1999 10:21 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK

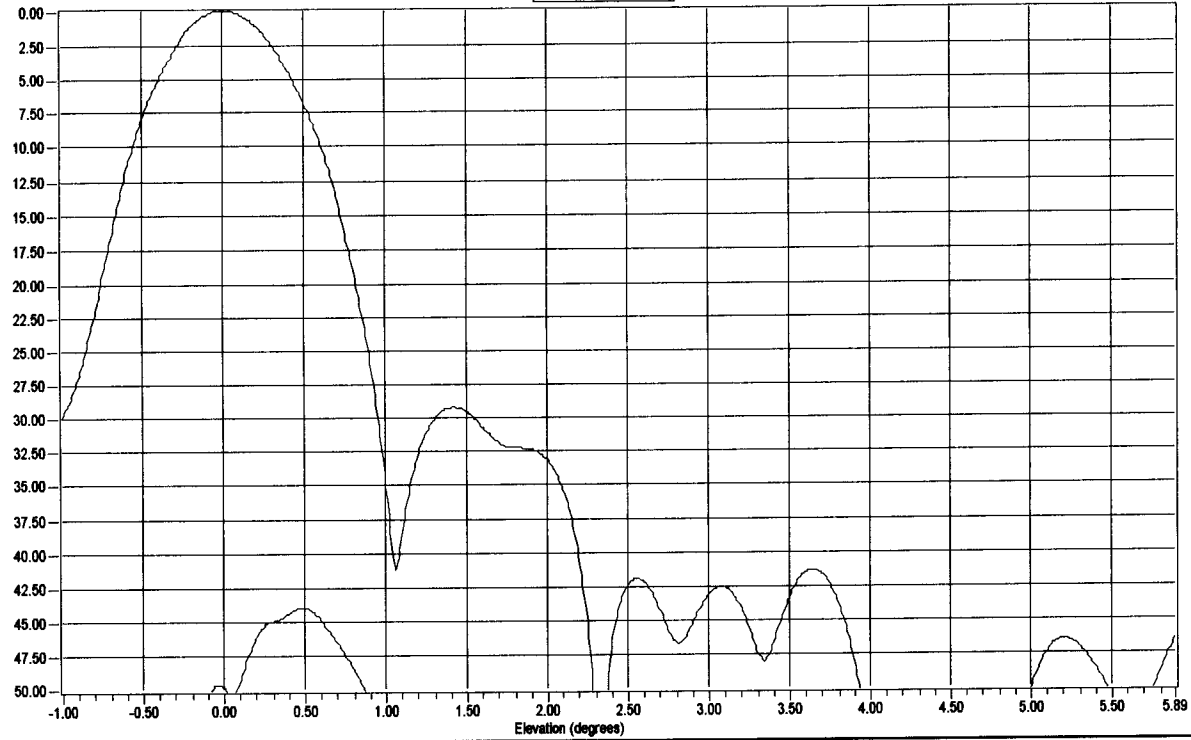
SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve:

relative Power (dB)

Recalled Pattern



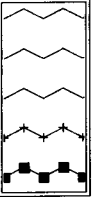
Cross Pol Pattern

Left Curve

Right Curve

Cross Pol Pattern

Measured Cross Pol



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 5.90 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.92 dB
Sweep Time: 25.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

7.0 ANTENNA PATTERNS- RECEIVE BAND

Frequency: 11850 MHz

Polarization: Horizontal & Vertical

Azimuth: +/- 30 degrees

Elevation: + 30 degrees



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:16 PM

Time of Pattern:

Saturday, November 13, 1999 10:58 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

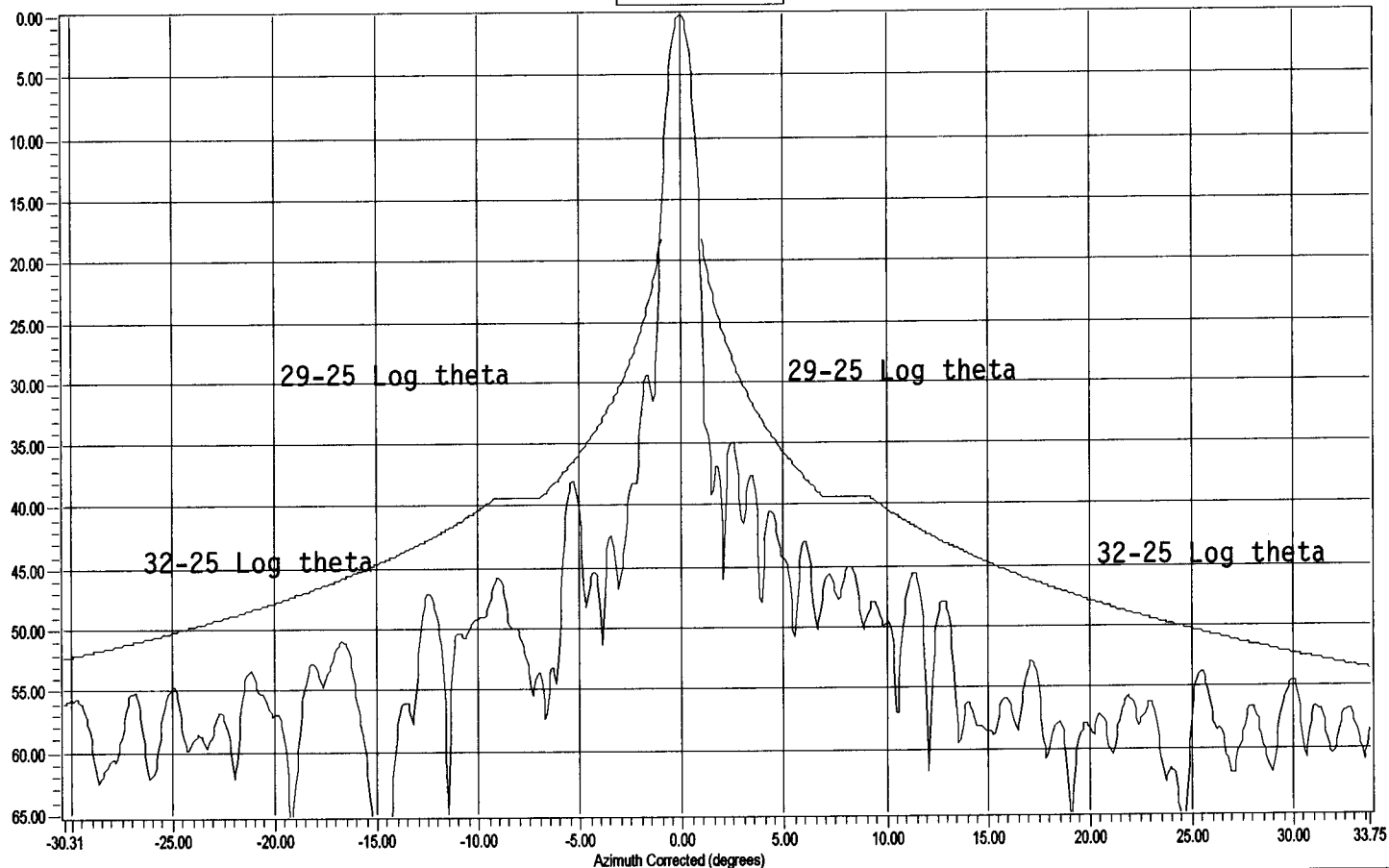
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Receive
Polarization: HORIZONTAL
Beginning Angle: -31.00 degrees
Ending Angle: 34.60 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.69 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:16 PM

Time of Pattern:

Saturday, November 13, 1999 10:50 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

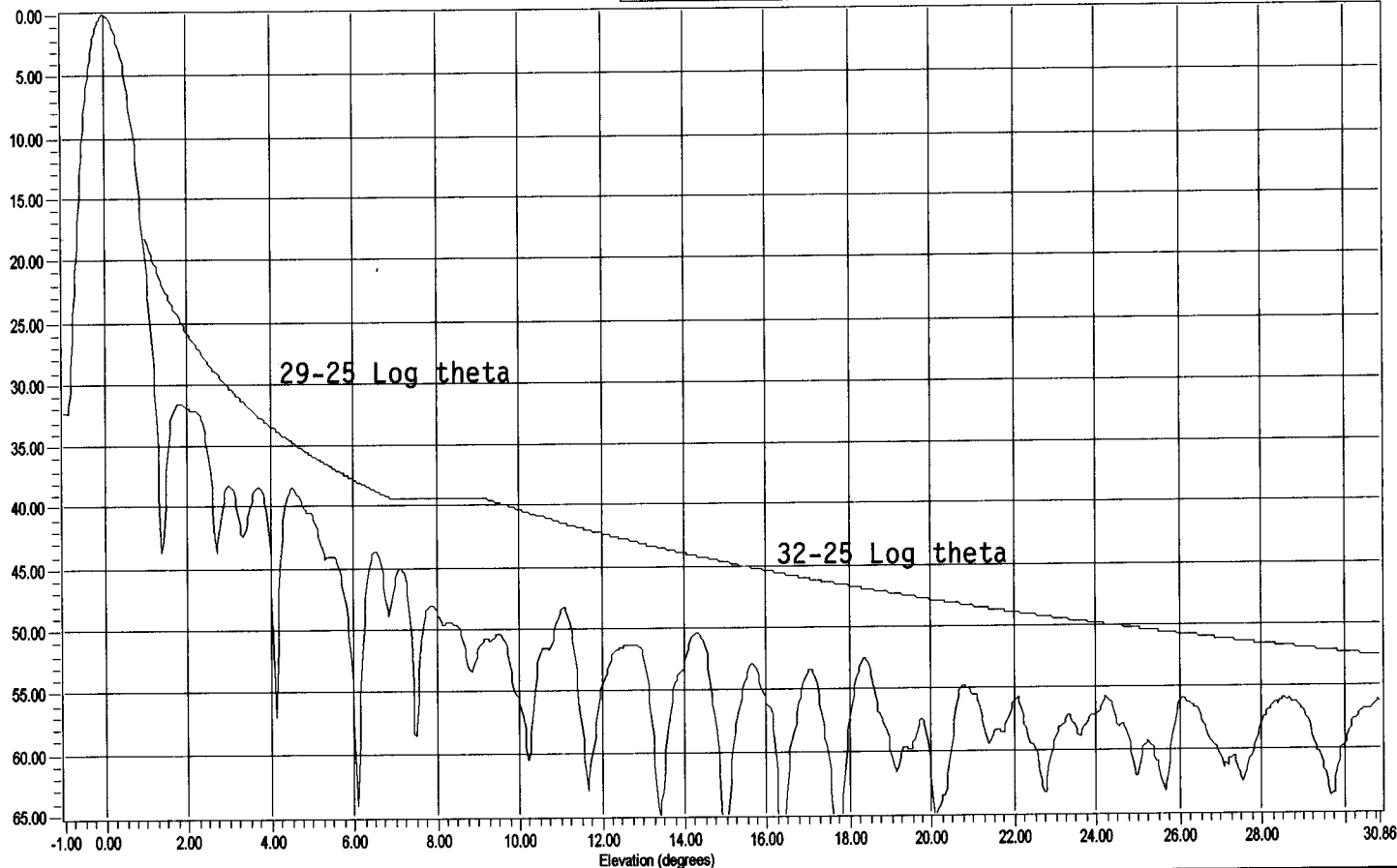
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Receive
Polarization: HORIZONTAL
Beginning Angle: -1.00 degrees
Ending Angle: 30.90 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.69 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:17 PM

Time of Pattern:

Saturday, November 13, 1999 11:30 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

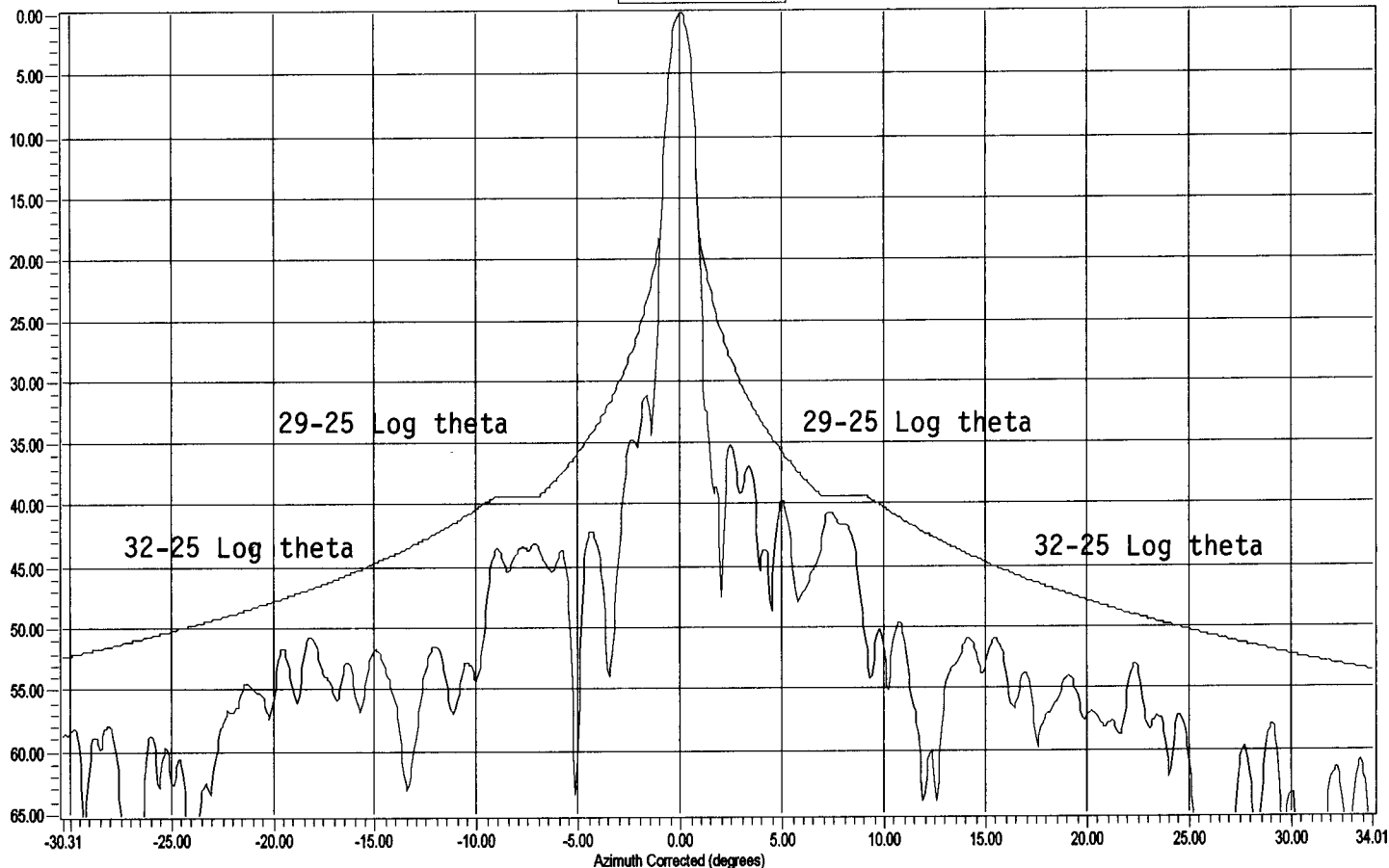
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Receive
Polarization: VERTICAL
Beginning Angle: -31.00 degrees
Ending Angle: 34.80 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.36 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:17 PM

Time of Pattern:

Saturday, November 13, 1999 11:38 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

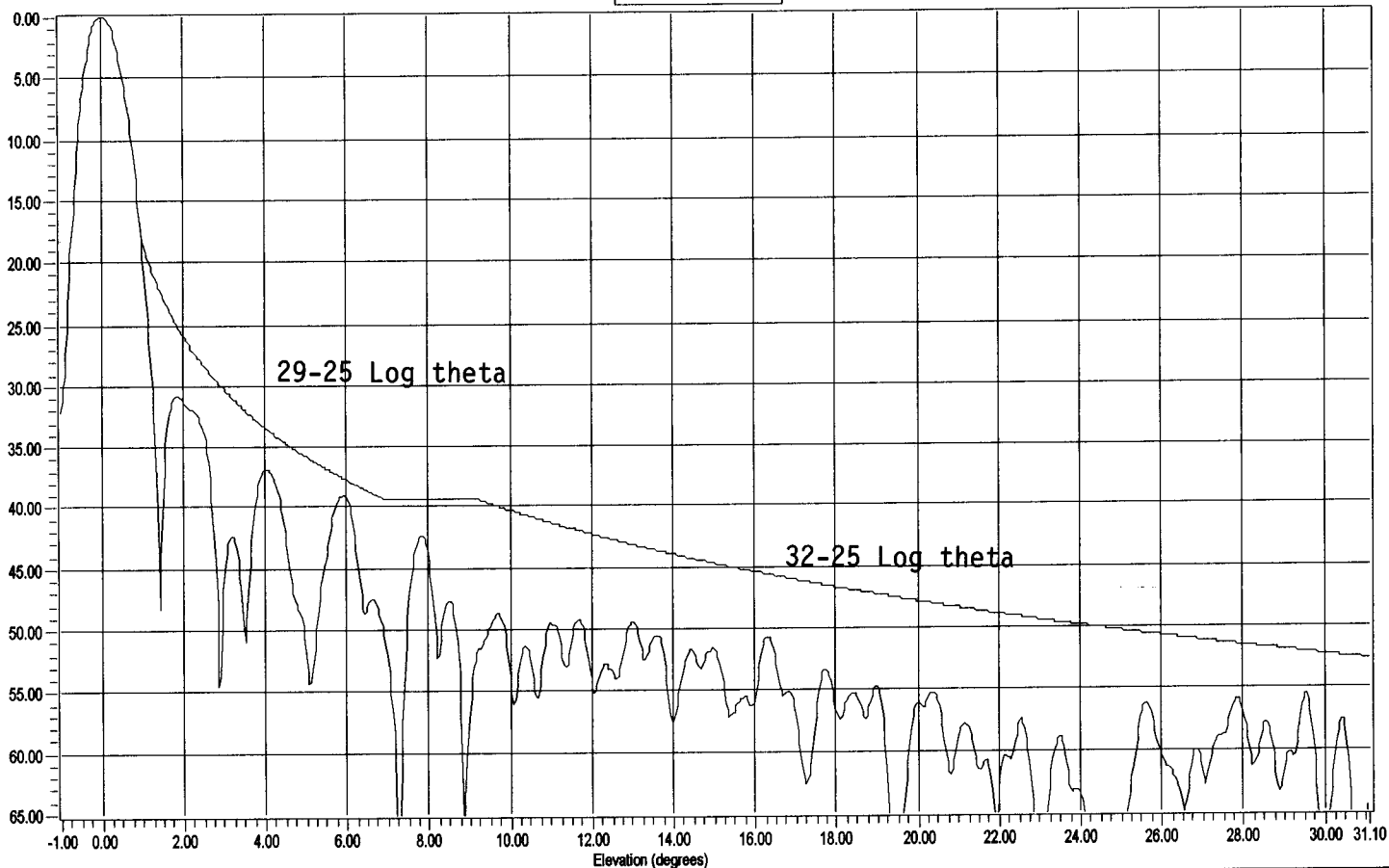
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Receive
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 31.10 degrees
Test Frequency: 11.8500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 47.30 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 11.8500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.36 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.

8.0 ANTENNA PATTERNS-TRANSMIT BAND

Frequencies: 14000, 14250, 14500 MHz

Polarization: Horizontal & Vertical

Azimuth: +/- 30 degrees

Elevation: + 30 degrees



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:18 PM

Time of Pattern:

Friday, November 12, 1999 2:07 PM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

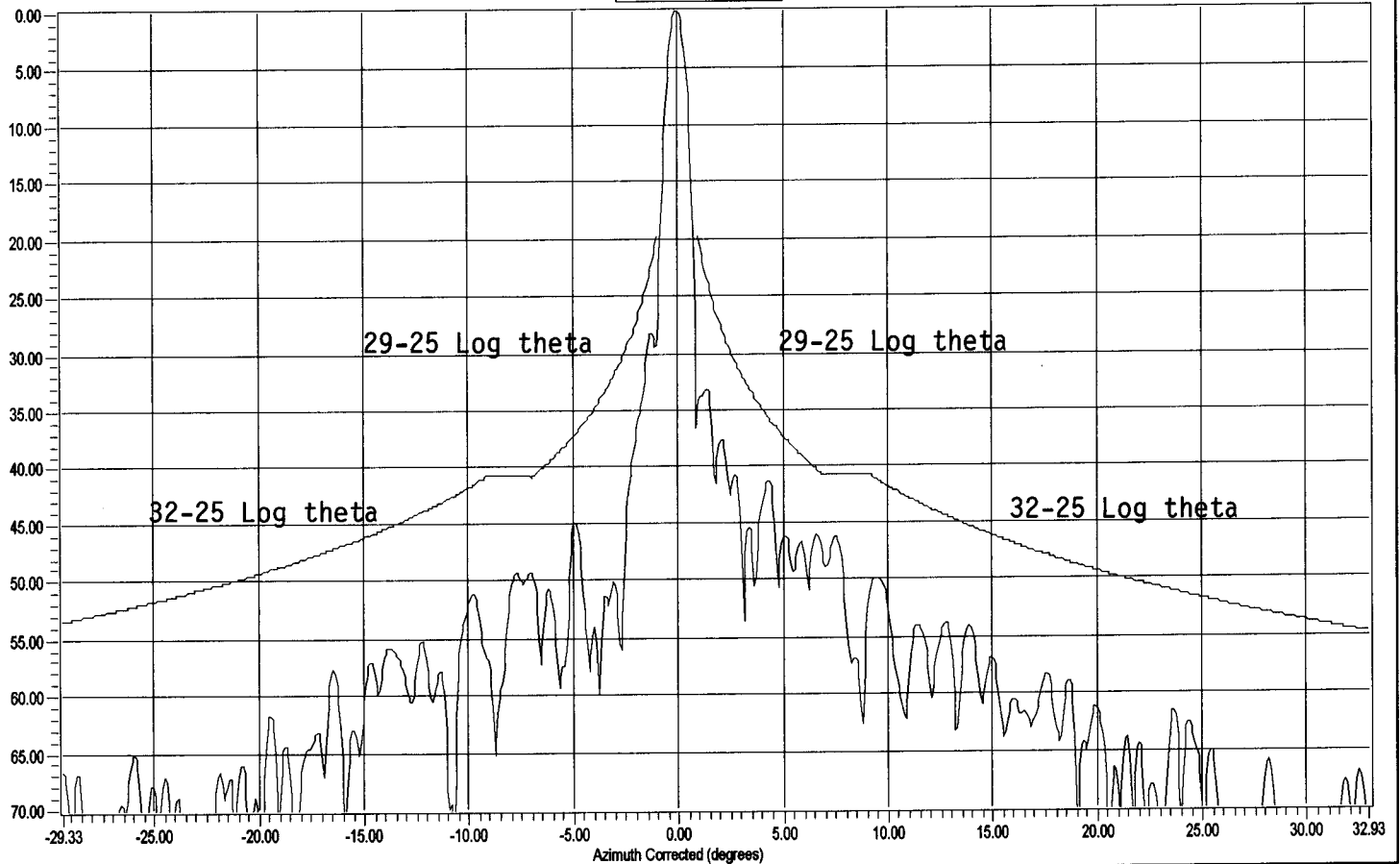
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -30.00 degrees
Ending Angle: 33.70 degrees
Test Frequency: 14.0000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.80 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.0000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.93 dB
Sweep Time: 59.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:23 PM

Time of Pattern:

Friday, November 12, 1999 2:10 PM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

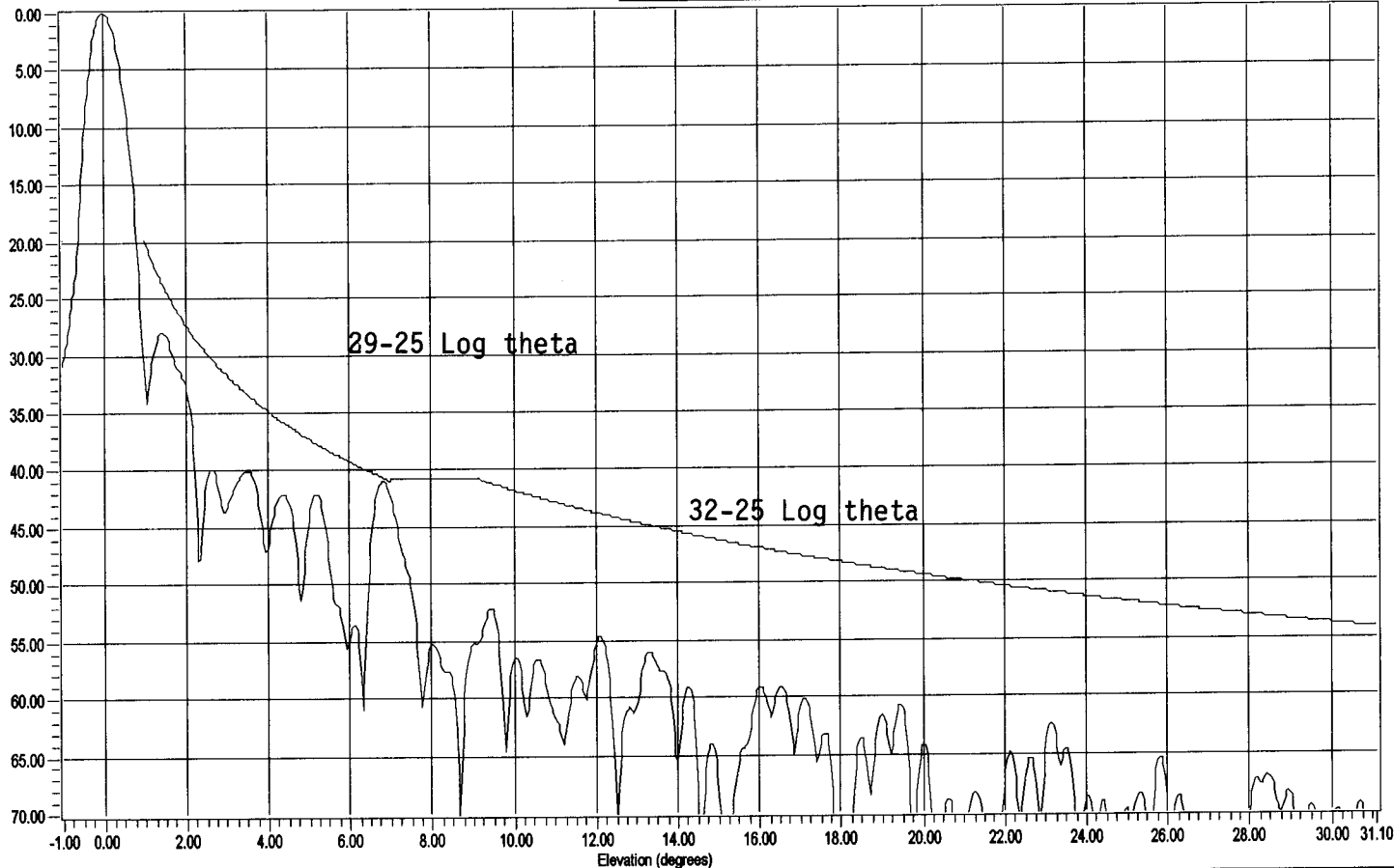
JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -1.00 degrees
Ending Angle: 31.10 degrees
Test Frequency: 14.0000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.80 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.0000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.68 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:25 PM

Time of Pattern:

Saturday, November 13, 1999 9:23 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

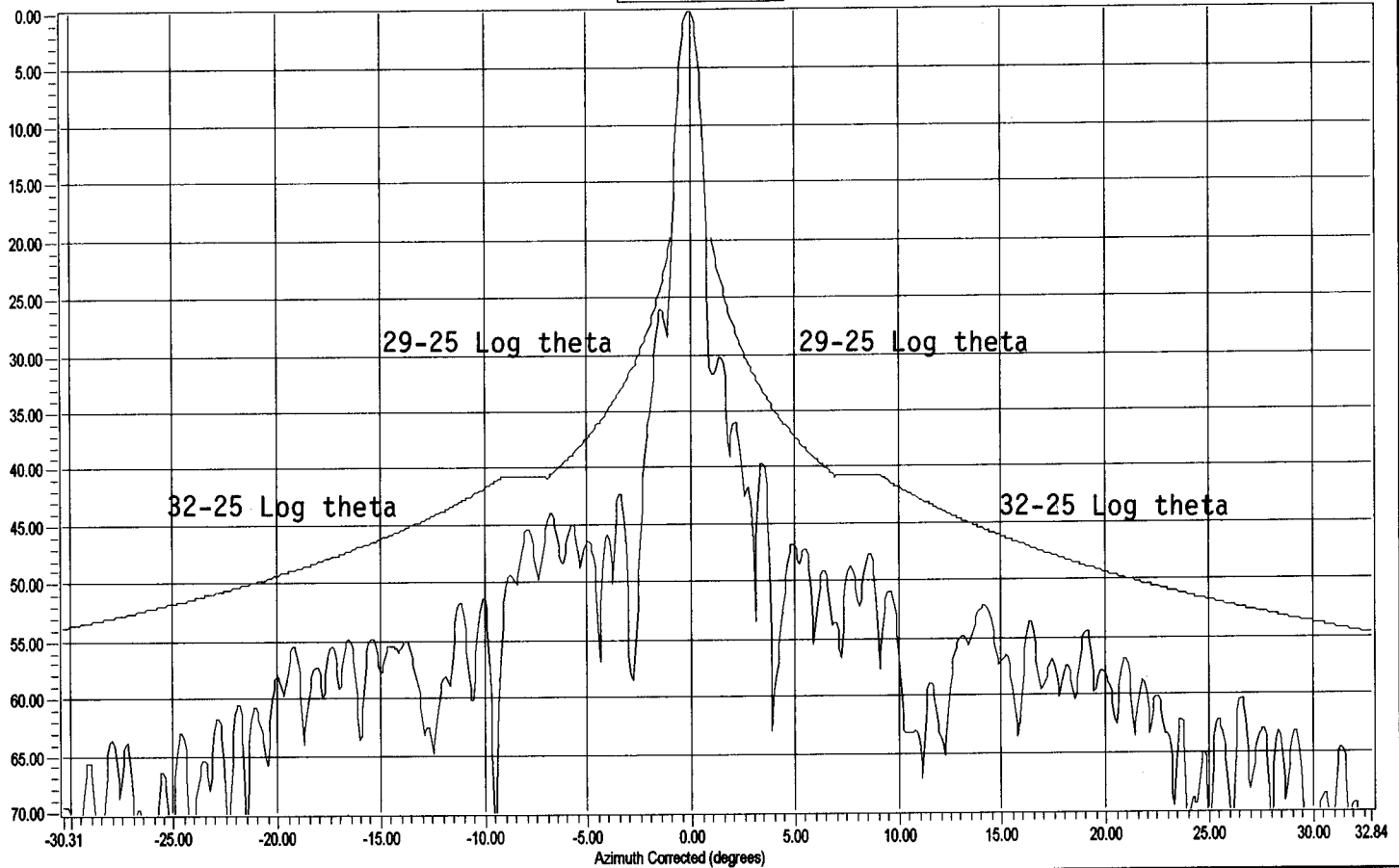
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -31.00 degrees
Ending Angle: 33.60 degrees
Test Frequency: 14.0000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.80 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.0000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.74 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:36 PM

Time of Pattern:

Saturday, November 13, 1999 9:30 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

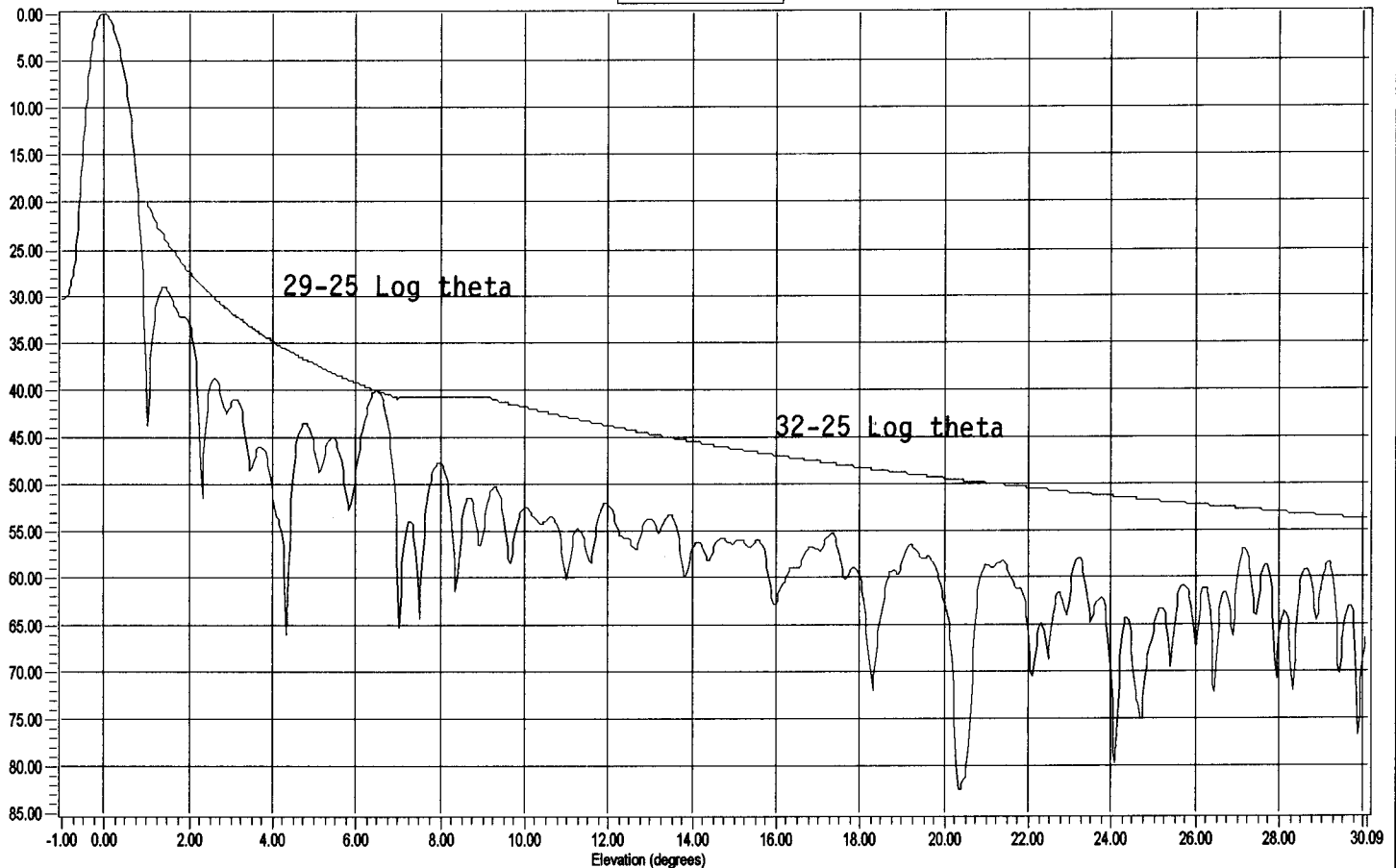
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 30.10 degrees
Test Frequency: 14.0000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.80 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.0000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -9.61 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:22 PM

Time of Pattern:

Friday, November 12, 1999 1:08 PM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

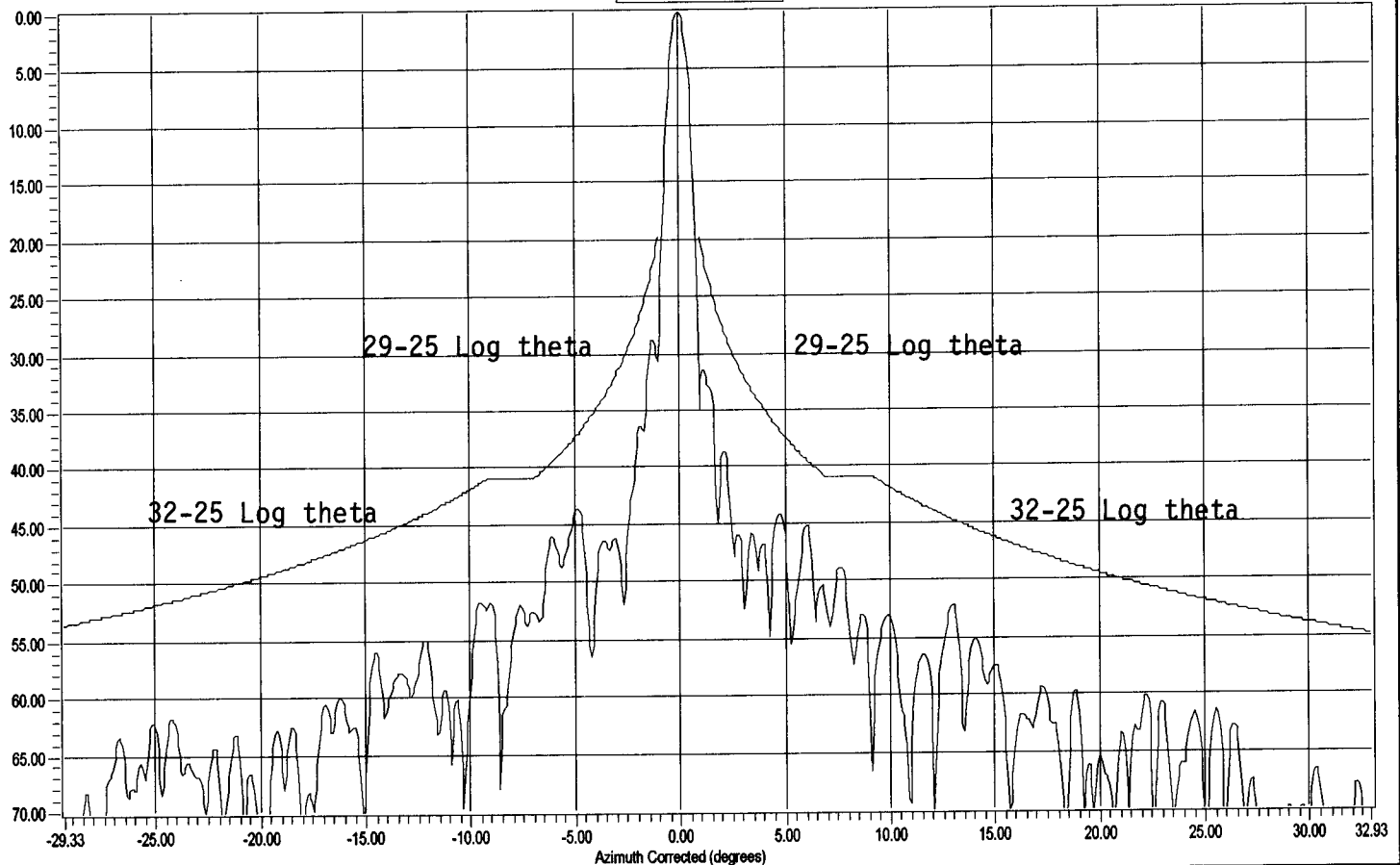
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -30.00 degrees
Ending Angle: 33.70 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -11.21 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:24 PM

Time of Pattern:

Friday, November 12, 1999 1:12 PM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

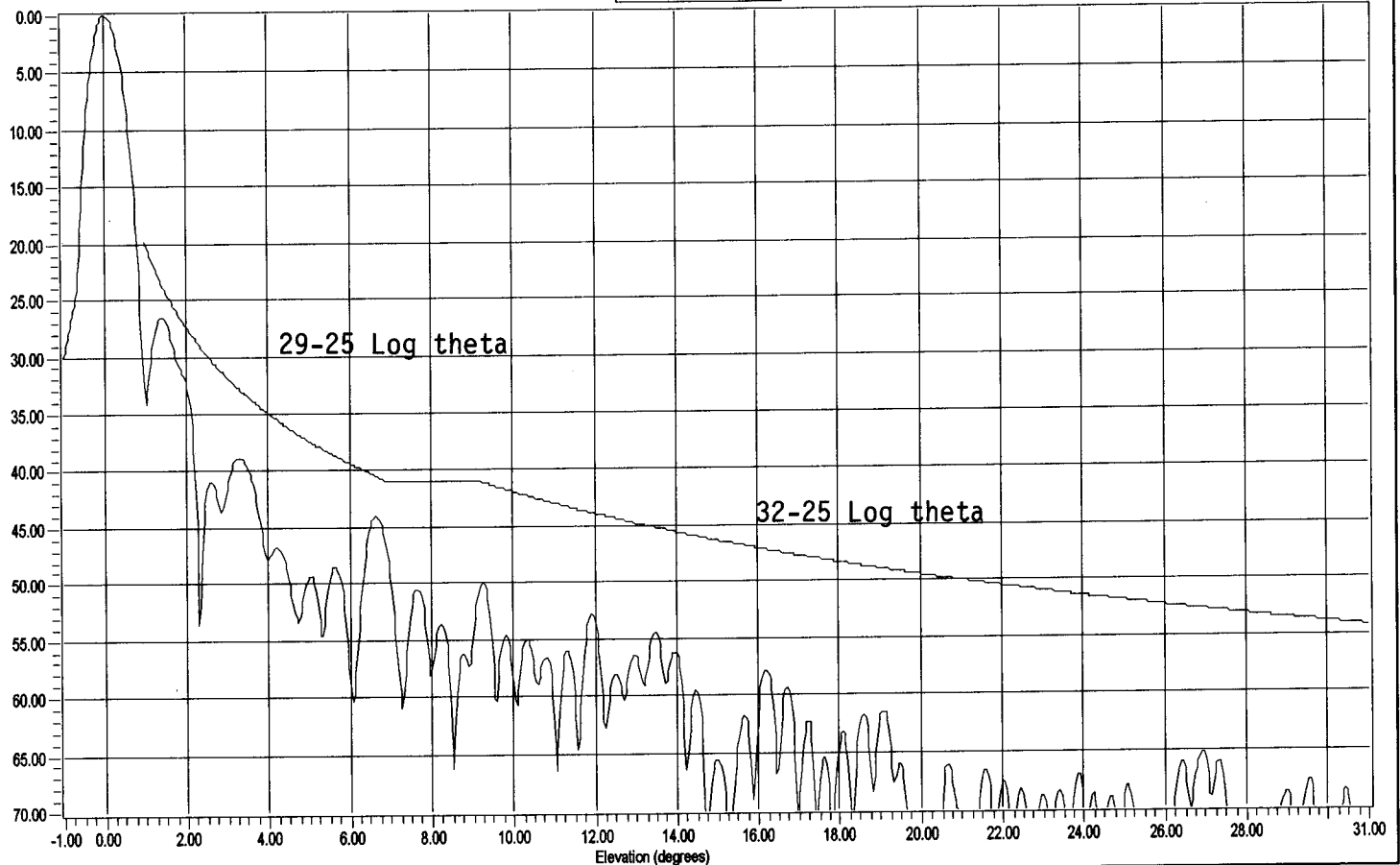
WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve:

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -1.00 degrees
Ending Angle: 31.00 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -11.18 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:25 PM

Time of Pattern:

Saturday, November 13, 1999 9:47 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

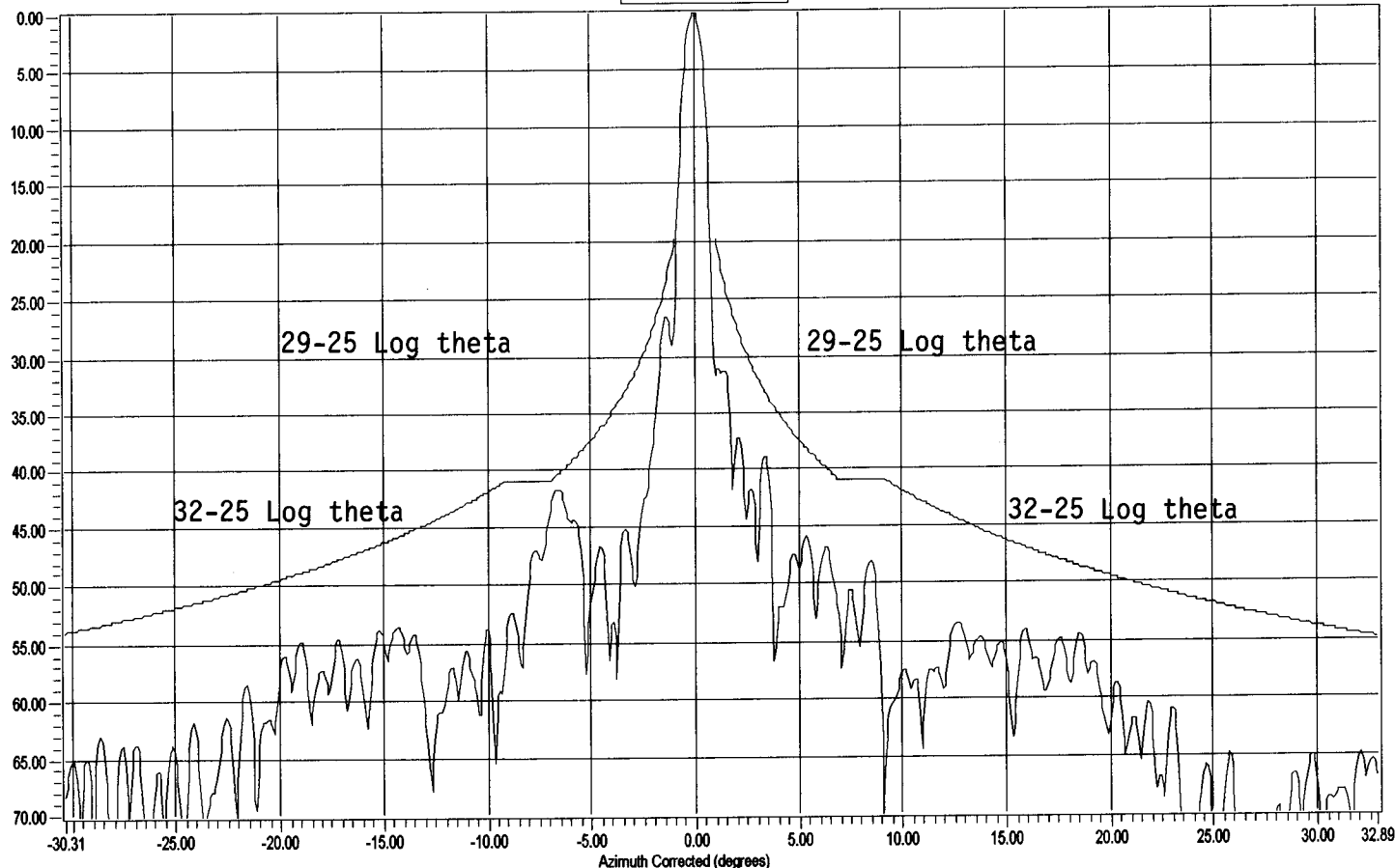
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -31.00 degrees
Ending Angle: 33.70 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.99 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:35 PM

Time of Pattern:

Saturday, November 13, 1999 9:42 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

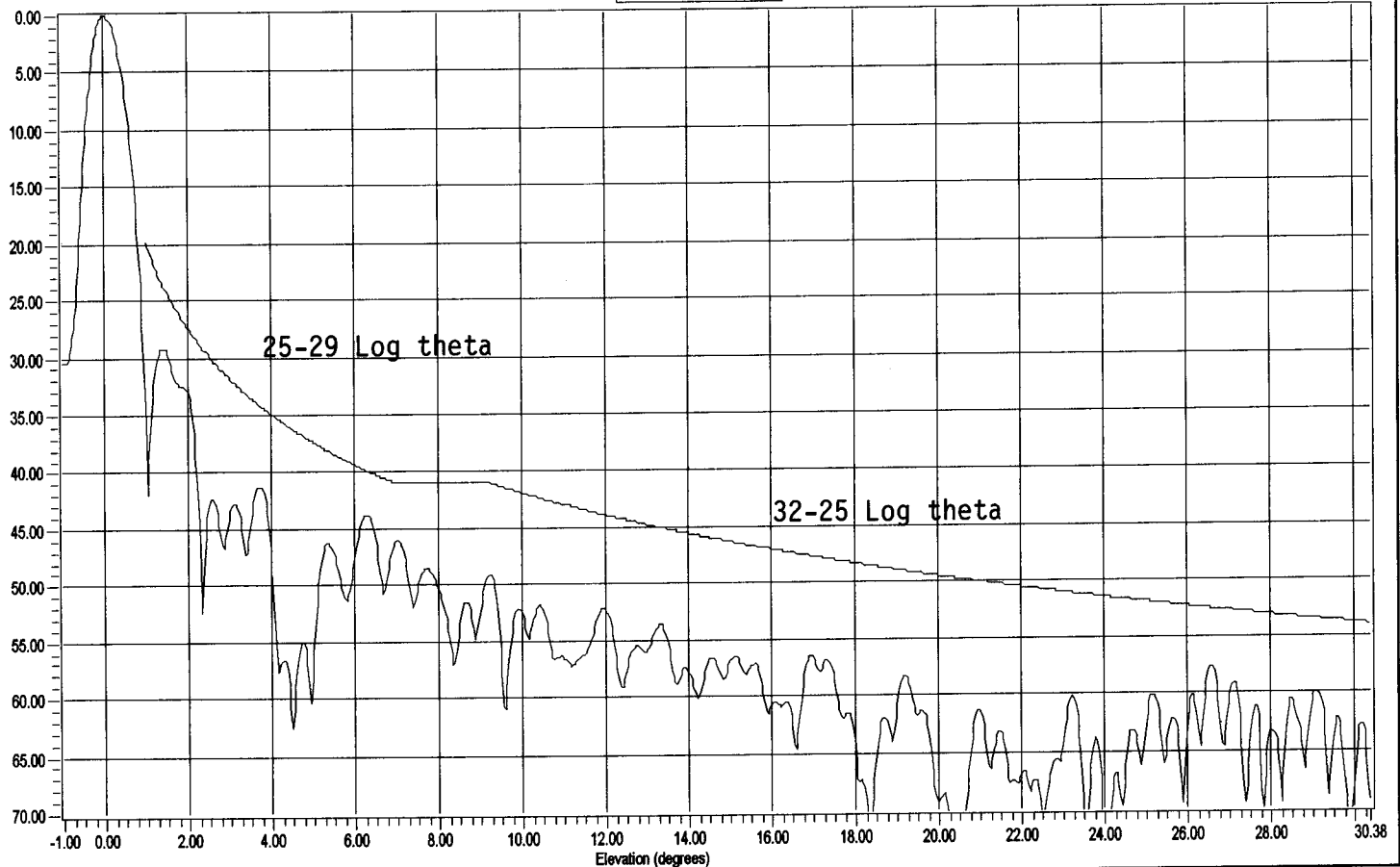
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 30.40 degrees
Test Frequency: 14.2500 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 48.90 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.2500 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -10.82 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:17 PM

Time of Pattern:

Saturday, November 13, 1999 8:48 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

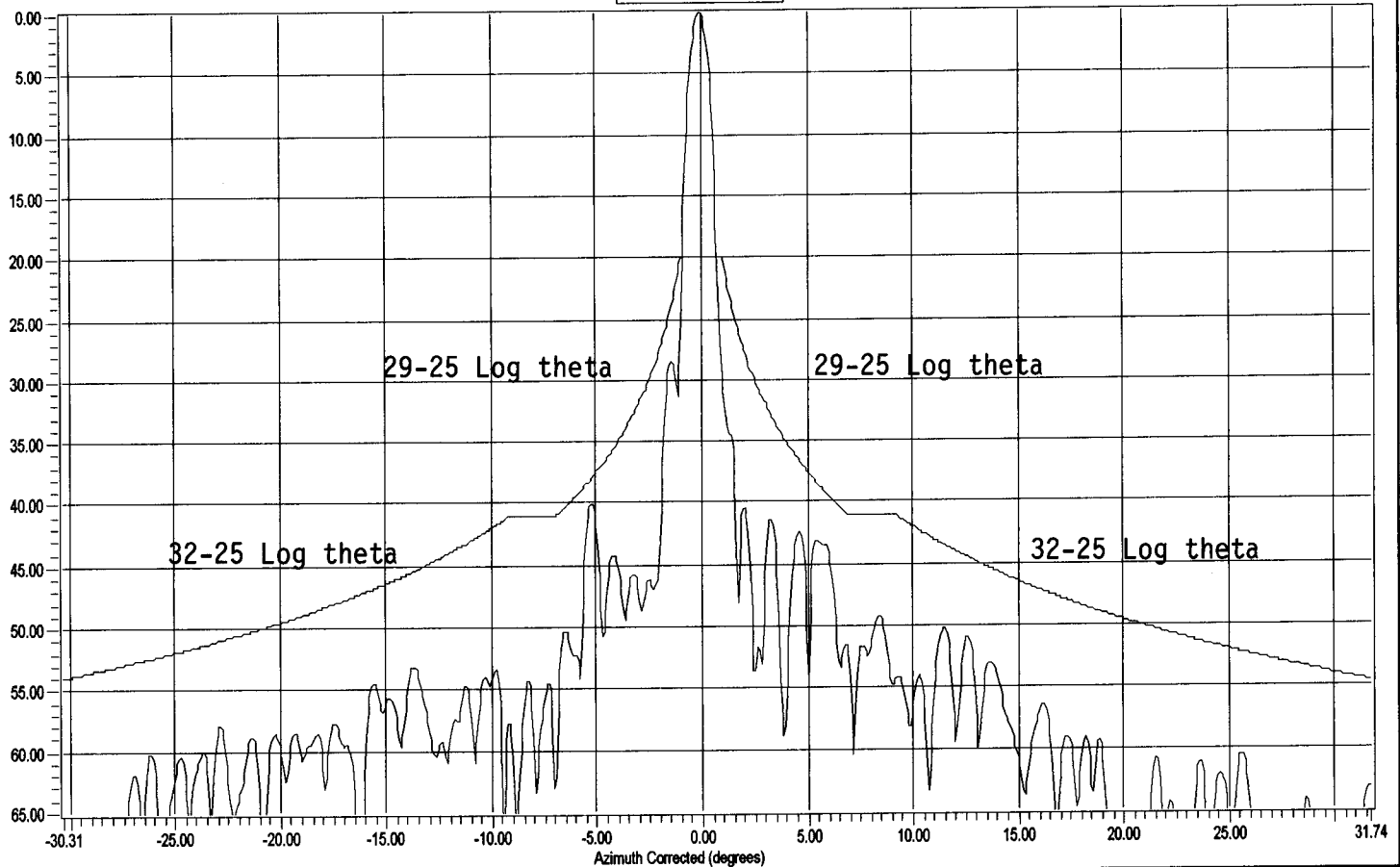
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -31.00 degrees
Ending Angle: 32.50 degrees
Test Frequency: 14.5000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 49.00 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.5000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -12.46 dB
Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:22 PM

Time of Pattern:

Saturday, November 13, 1999 8:51 AM

CUSTOMER: VERTEX INVENTORY
SITE: VCC TEST RANGE
ANTENNA: CLEAR
WEATHER: 2.4m DMK

SATELLITE: SHORT RANGE
TRANSPONDER: N/A
JOB NUMBER: TODD WEAVER
TEST ENGINEER: EE001

Comments:

Applied Curve: ☒ Use Original Curve

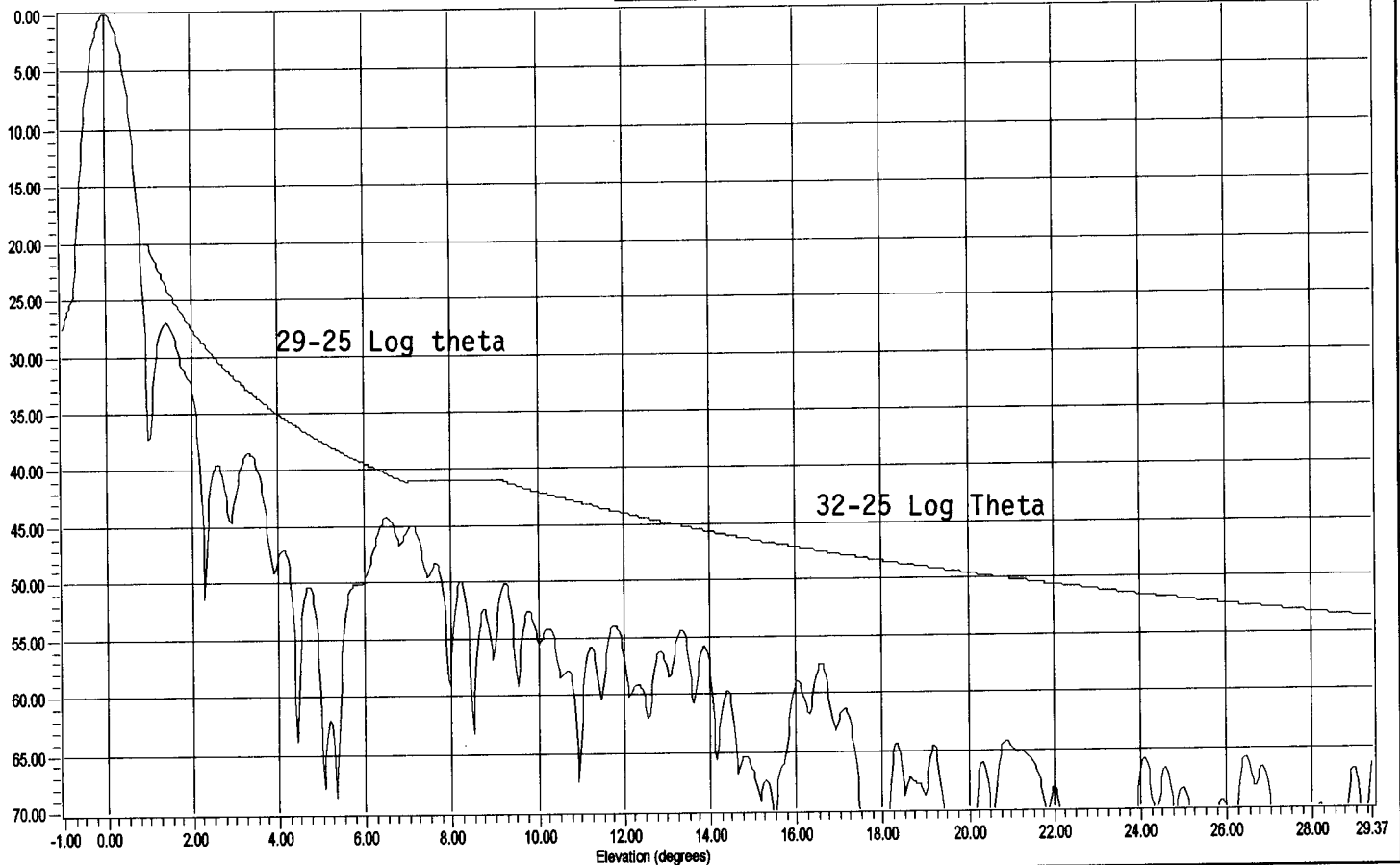
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: HORIZONTAL
Beginning Angle: -1.00 degrees
Ending Angle: 29.40 degrees
Test Frequency: 14.5000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 49.00 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.5000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -12.54 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:24 PM

Time of Pattern:

VERTICAL

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☒ Use Original Curve

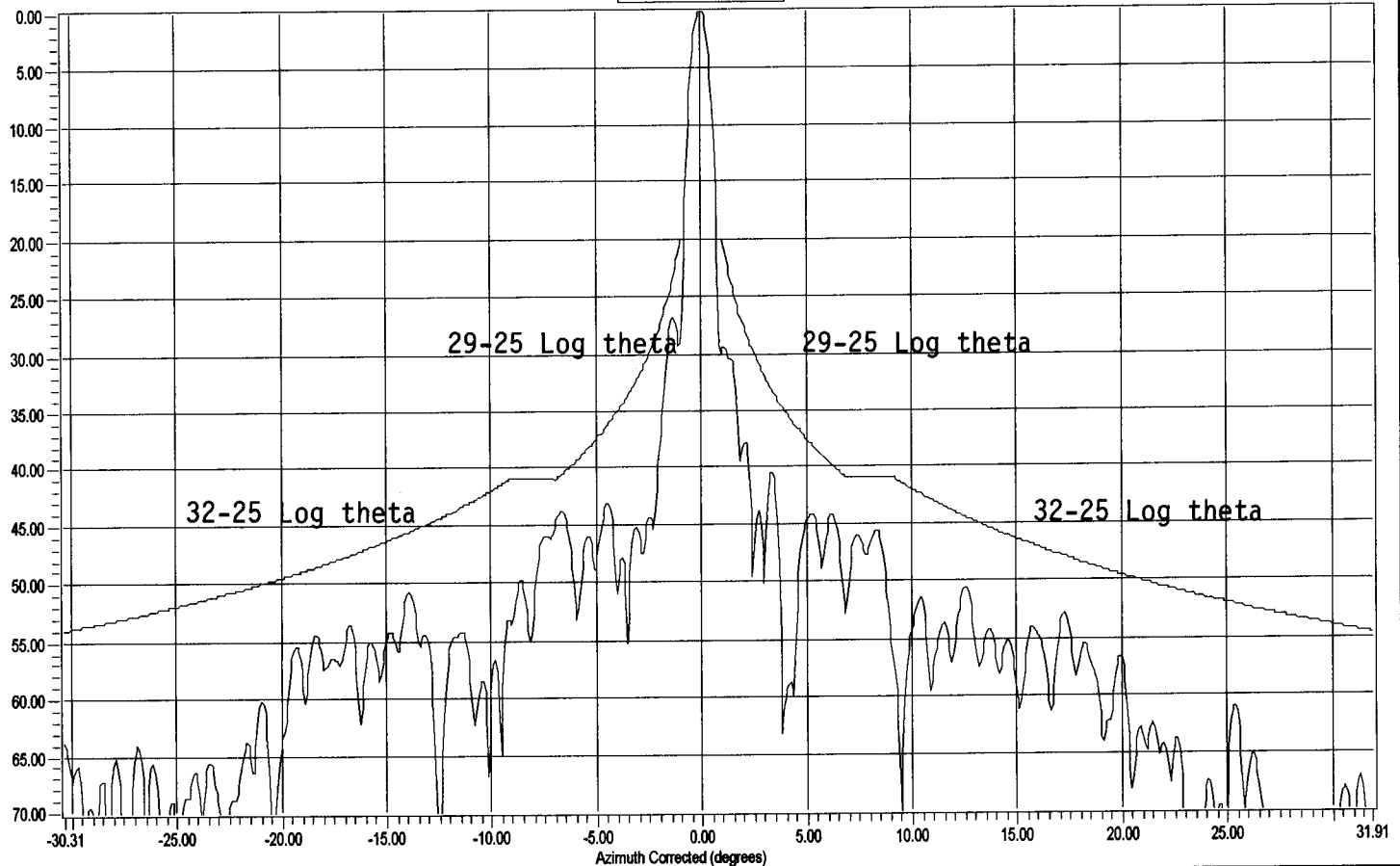
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit

Polarization: Vertical

Beginning Angle: -31.00 degrees

Ending Angle: 32.70 degrees

Test Frequency: 14.5000 GHz

Antenna Information

Beam Center: Azimuth: 0.00

Elevation: 12.00

Specified Gain: 49.00 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz

Center Frequency: 14.5000 GHz

Video Bandwidth: 3.0000 Hz

Reference Level: -12.52 dB

Sweep Time: 58.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.



VERITAS TRC TRACE RECALL

WRITTEN BY JERRY M. WARD

Friday, January 07, 2000

1:25 PM

Time of Pattern:

Saturday, November 13, 1999 9:08 AM

CUSTOMER: VERTEX INVENTORY

SATELLITE: SHORT RANGE

Comments:

SITE: VCC TEST RANGE

TRANSPONDER: N/A

ANTENNA: CLEAR

JOB NUMBER: TODD WEAVER

WEATHER: 2.4m DMK

TEST ENGINEER: EE001

Applied Curve: ☐ Use Original Curve

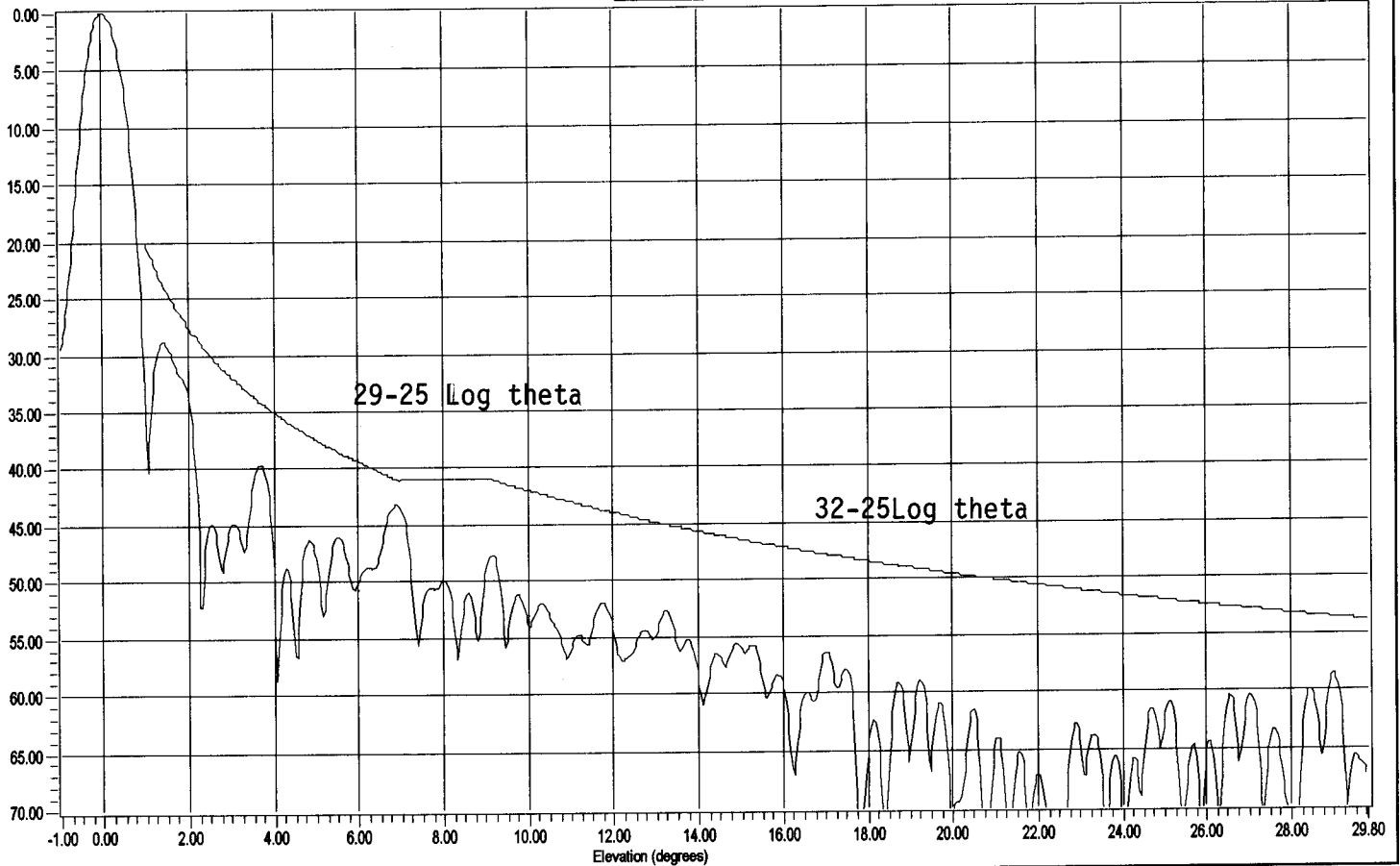
Tool box

Recall

Exit

relative Power (dB)

Recalled Pattern



Pattern Information

Frequency Band: Transmit
Polarization: VERTICAL
Beginning Angle: -1.00 degrees
Ending Angle: 29.80 degrees
Test Frequency: 14.5000 GHz

Antenna Information

Beam Center: Azimuth: 0.00
Elevation: 12.00
Specified Gain: 49.00 dB

Spectrum Analyzer Information

Resolution Bandwidth: 30.0000 Hz
Center Frequency: 14.5000 GHz
Video Bandwidth: 3.0000 Hz
Reference Level: -12.49 dB
Sweep Time: 40.0 sec

Use Ctrl-H to see information and instructions on specific fields in this panel.