



A SUBSIDIARY OF COMTECH TELECOMMUNICATIONS CORP.

TR #741A

5.0M PATTERN DATA 1984

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COMTECH ANTENNA CORP.
3100 Communications Rd.
St. Cloud, FL 32769

COMTECH ANTENNA SYSTEMS INC (CASI)

WARRANTY POLICY

Each standard catalog product manufactured by CASI is warranted to meet all published specifications and to be free from defects in material and workmanship. The company's liability under this warranty is limited to servicing or adjusting equipment and/or replacement of defective parts of any equipment returned to the factory, freight paid by buyer, within a period of three years for reflectors, feeds and mounts and one year for actuators and electronic components, from date of shipment from the factory, unless a shorter period is specified. Equipment showing damage by misuse, or abnormal conditions of operation, shall be excluded from this warranty.

Items manufactured by others and not made an integral part of equipment of CASI's manufacture shall carry the original manufacturer's warranty.

Products manufactured by CASI, to customer's specifications, are warranted to be free of defects in material and workmanship and shall conform to all specifications made a part of the contract or purchase order. Inspection and acceptance shall be conclusive as to fulfilling this warranty, except as to latent defects, fraud, or such gross mistakes as to amount to fraud, providing, however that all claims made or to be made for any reason must be made in writing within one year of shipment from CASI's plant. The responsibility of CASI under this warranty shall be limited to repair or replacement of defective work or parts returned to CASI, with transportation charges CASI's plant and return paid by buyer. SINCE CASI HAS NO CONTROL OVER CONDITIONS OF USE, NO WARRANTY IS MADE OR IMPLIED AS TO SUITABILITY FOR CUSTOMER'S INTENDED USE, BEYOND SUCH PERFORMANCE SPECIFICATIONS AS ARE MADE A PART OF THE PURCHASE ORDER.

Equipment shipped F.O.B. CASI's plant shall become the property of buyer upon delivery to and receipt from carrier. Damage in shipment should be handled by the buyer directly with the carrier by immediately requesting carrier's inspection upon evidence for damage in shipment. DO NOT RETURN ANY CASI PRODUCT TO FACTORY UNTIL SHIPPING INSTRUCTIONS ARE RECEIVED.

COMTECH ANTENNA SYSTEMS INC.

WARRANTY POLICY
(continued)

For shipment of equipment to our Service Department, please use the following procedures so that we may provide fast, efficient service.

Please phone (407) 882-6111 to obtain a Return Material Authorization (RMA) number and shipping instructions. It is imperative that you obtain a RMA number for ALL returns as our Receiving Department will refuse delivery of equipment without the number clearly displayed on the outside of the shipping carton.

TERMS AND CONDITIONS:

Payment Terms - Net 30 days (with approved credit)

F.O.B. Point - ST. CLOUD, FLORIDA

Returns and Restocking:

1. No returns will be accepted unless identified by RMA number obtained from CASI authorized Sales or Customer Service Personnel.
2. Returns must be prepaid.
3. A 20 percent restocking charge will be applied to items returned for credit. No credit will be issued for special items, or items in buyer's possession more than six months.
4. Prices subject to change without notice.

MAILING/SHIPPING ADDRESS:
COMTECH ANTENNA SYSTEMS INC.
3100 COMMUNICATIONS ROAD
ST.CLOUD, FLORIDA 34769

M/F: RMA # _____

TABLE 1
 COMTECH ANTENNA CORPORATION
 TEST PATTERN SUMMARIZATION
 5.0 METER

<u>RECEIVE FREQUENCY (GHz)</u>	<u>HPBW</u>	<u>SLL (db)</u>	<u>CROSS POLARIZATION</u>	<u>ACT. GAIN (dbi)</u>	<u>POLARIZATION</u>
3.7	1.18°	-25.2	≥30db	44.3	Vertical
	1.25°	-27.0		44.5	Horizontal
4.0	1.10°	-24.0	≥30db	44.6	Vertical
	1.16°	-26.0		44.9	Horizontal
4.2	1.00°	-23.0	≥30db	45.2	Vertical
	1.12°	-26.0		45.8	Horizontal

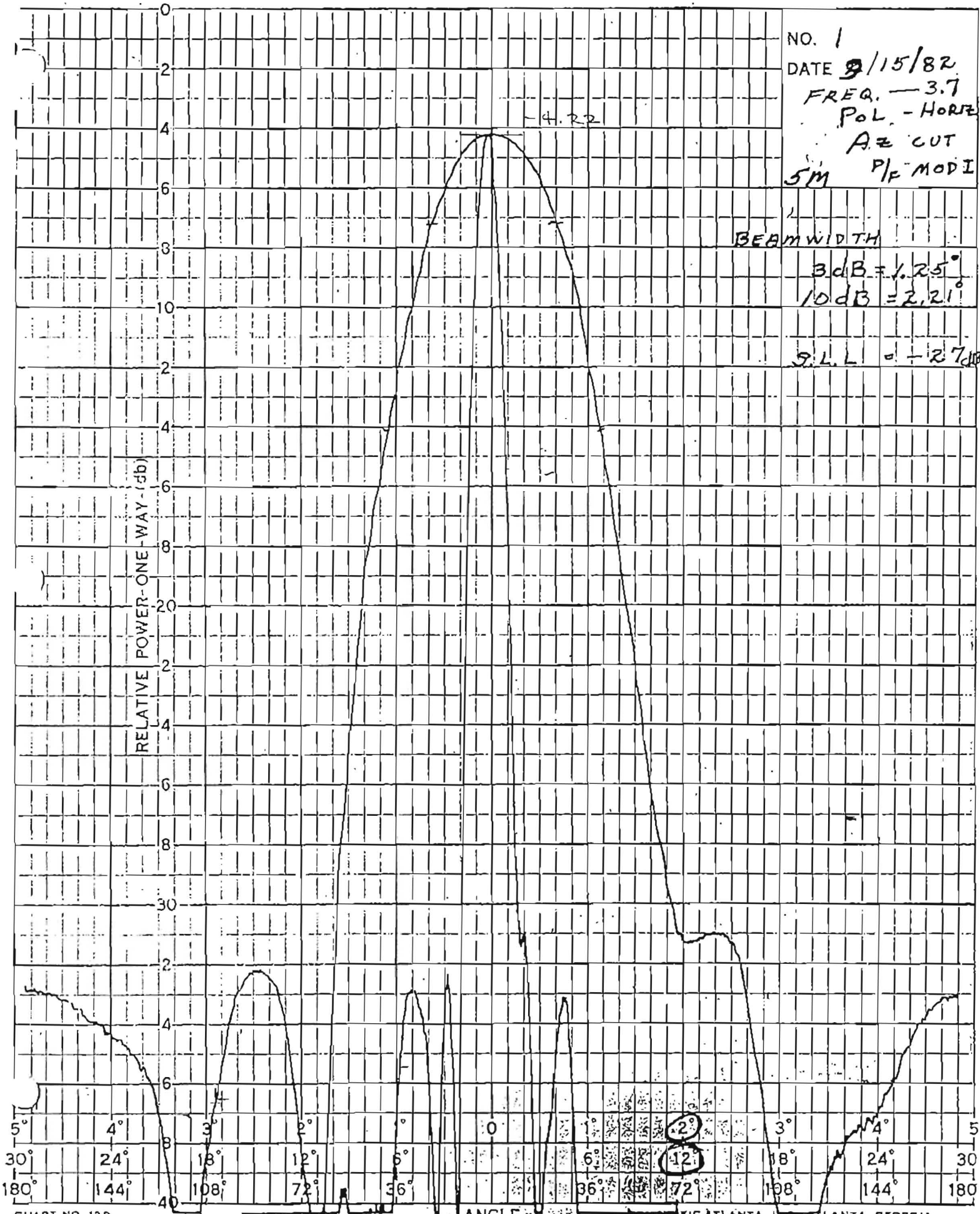
<u>TRANSMIT FREQUENCY (GHz)</u>	<u>HPBW</u>	<u>SLL (db)</u>	<u>CROSS POLARIZATION</u>	<u>ACT. GAIN (dbi)</u>	<u>POLARIZATION</u>
5.9	0.83°	-18.0	≥30db	46.8	Horizontal
	0.83°	-19.5		46.3	Vertical
6.2	0.81°	-22.0	≥30db	47.1	Horizontal
	0.79°	-21.5		46.9	Vertical
6.4	0.79°	-23.0	≥30db	47.4	Horizontal
	0.71°	-20.0		47.2	Vertical

HPBW = Half power beamwidth in degrees.
 SLL = Sidelobe level in db below mainbeam.
 ACT. GAIN = Actual gain is defined as the peak on axis
 amplitude of the 5.0 meter antenna when compared
 to calibrated standards.

NO. 1
 DATE 9/15/82
 FREQ. — 3.7
 POL. — HORIZ
 A = CUT
 5M P/F MOD I

BEAMWIDTH
 3dB = 1.25°
 10dB = 2.21°
 S.L.L. = -27dB

RELATIVE POWER-ONE-WAY (db)

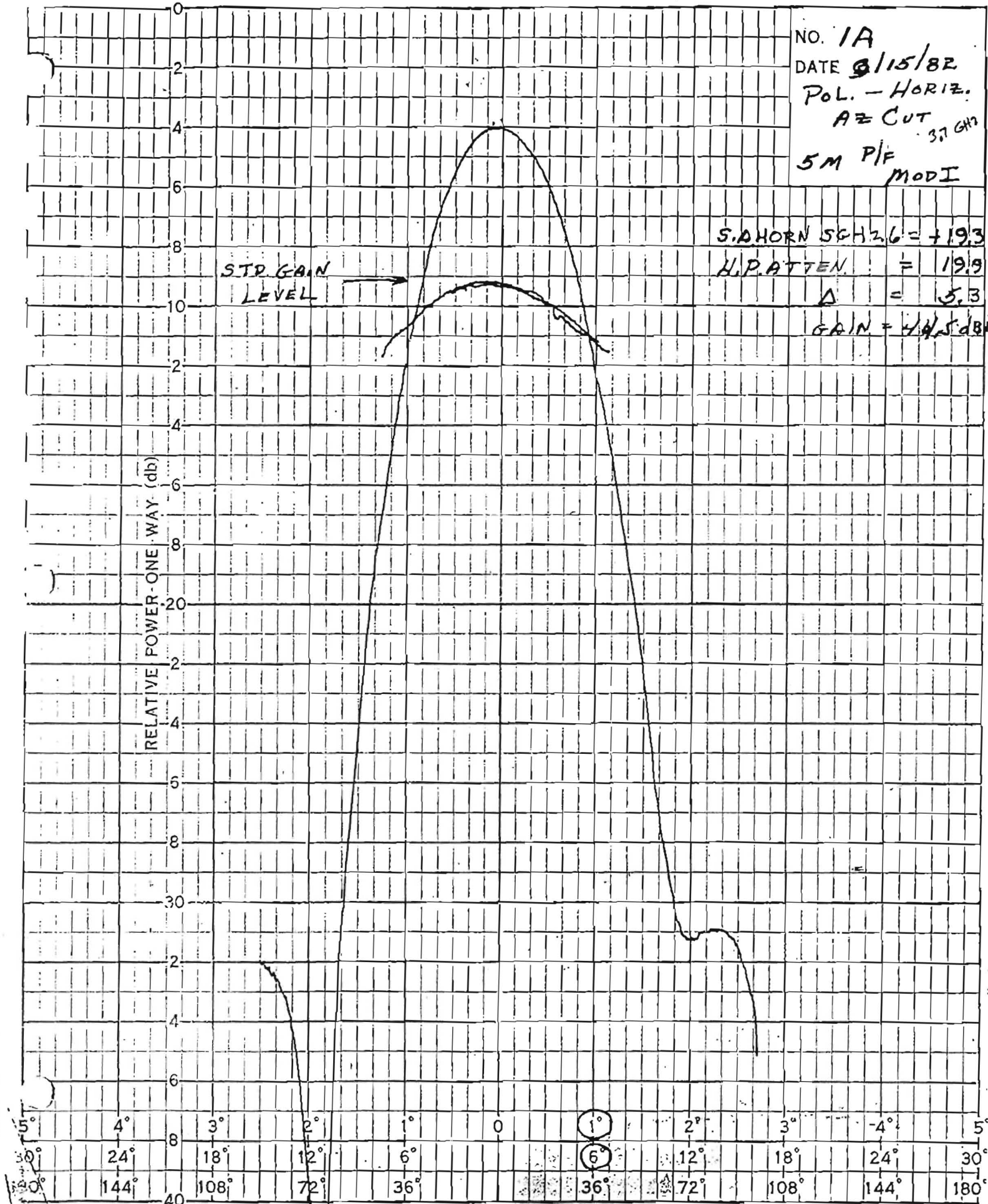


NO. 1A
 DATE 8/15/82
 POL. - HORIZ.
 AZ CUT 37 GHz
 5M P/F
 MOD I

S.A. HORN SGH 2.6 = +19.3
 H.P. ATTN. = 19.9
 Δ = 5.3
 GAIN = 44.5 dB

STD GAIN
 LEVEL →

RELATIVE POWER ONE WAY (db)



ANTENNA 44 NO. 1B

DATE 9/15/82

FREQ. - 3.7 GHz

POL - HORIZ.

AZ CUT

5M P/F MODI

+24 dBi

RELATIVE POWER ONE WAY (db)

29-25 Log θ

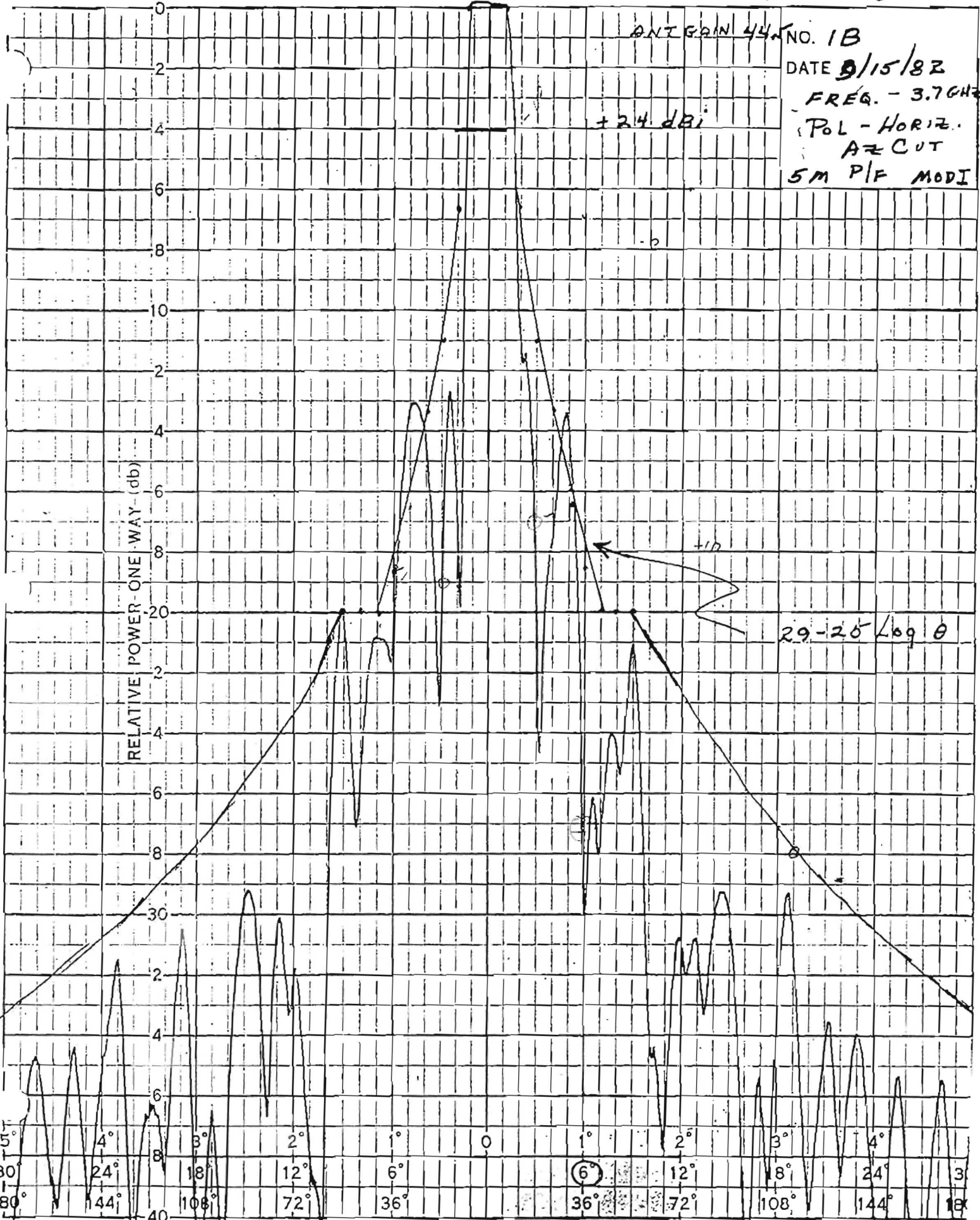
5° 30° 180° 4° 24° 144° 3° 18° 108° 2° 12° 72° 1° 6° 36° 0 36° 72° 108° 144° 18° 3° 24° 180°

ANGLE

CHART NO. 128

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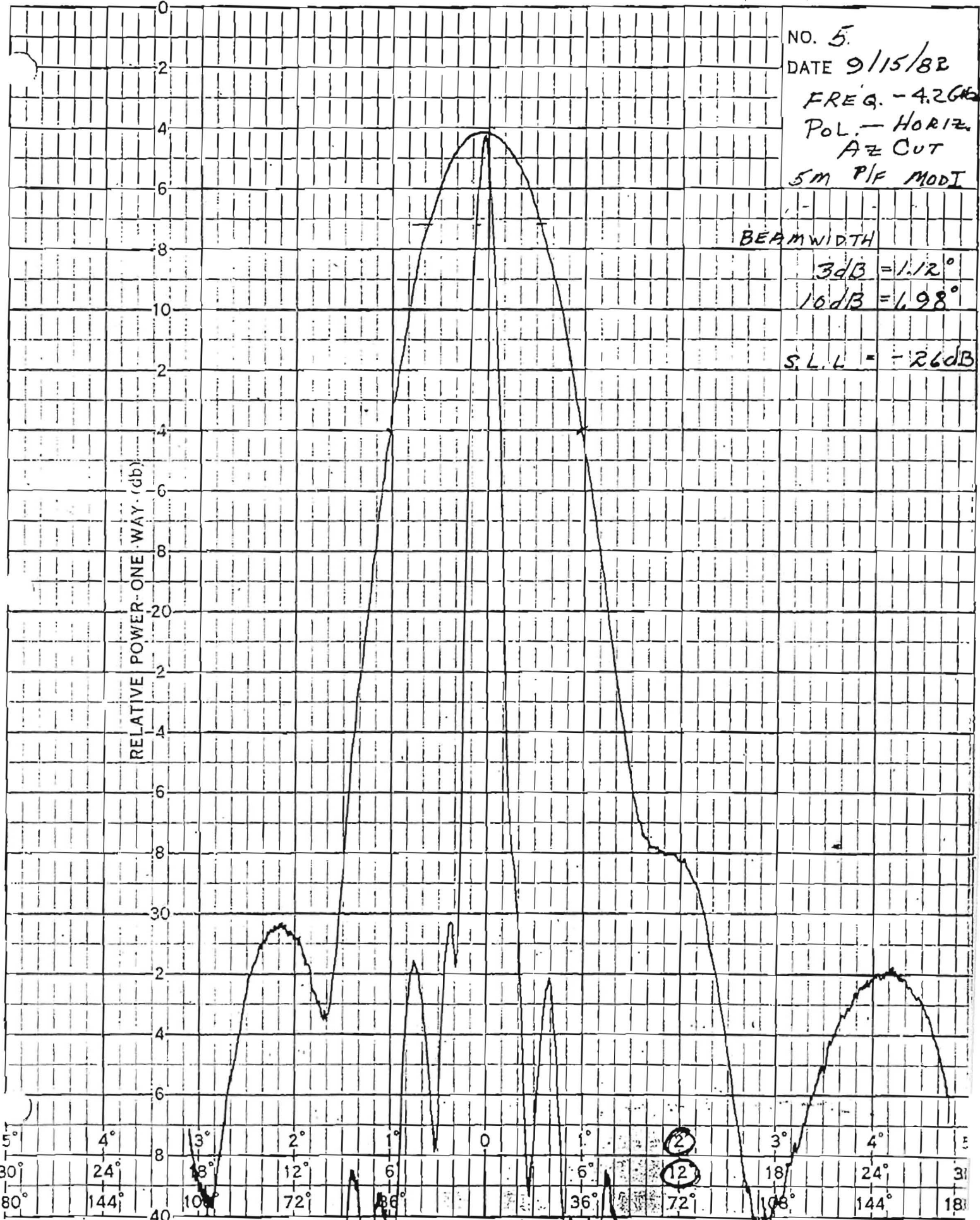
SCIENTIFIC-ATLANTA, INC., ATLANTA, GEORGIA



NO. 5
 DATE 9/15/82
 FREQ. - 4.2 GHz
 POL. - HORIZ.
 AZ CUT
 5M P/F MOD

BEAMWIDTH
 3dB = 1.12°
 10dB = 1.98°
 S.L.L. = -26dB

RELATIVE POWER ONE WAY (db)

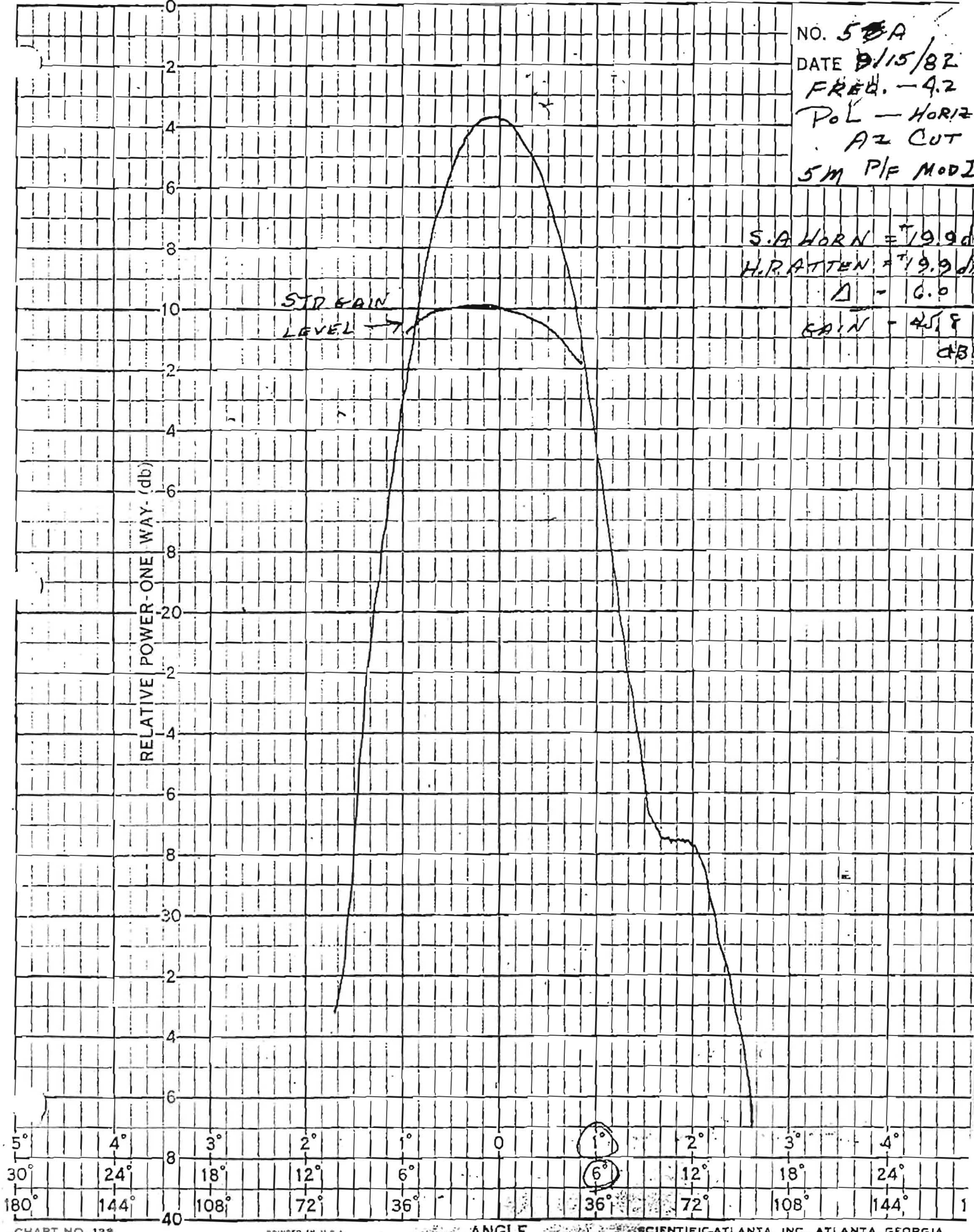


NO. 5BA
 DATE 8/15/82
 FREQ. - 4.2
 POL - HORIZ.
 AZ CUT
 5M P/F MOD I

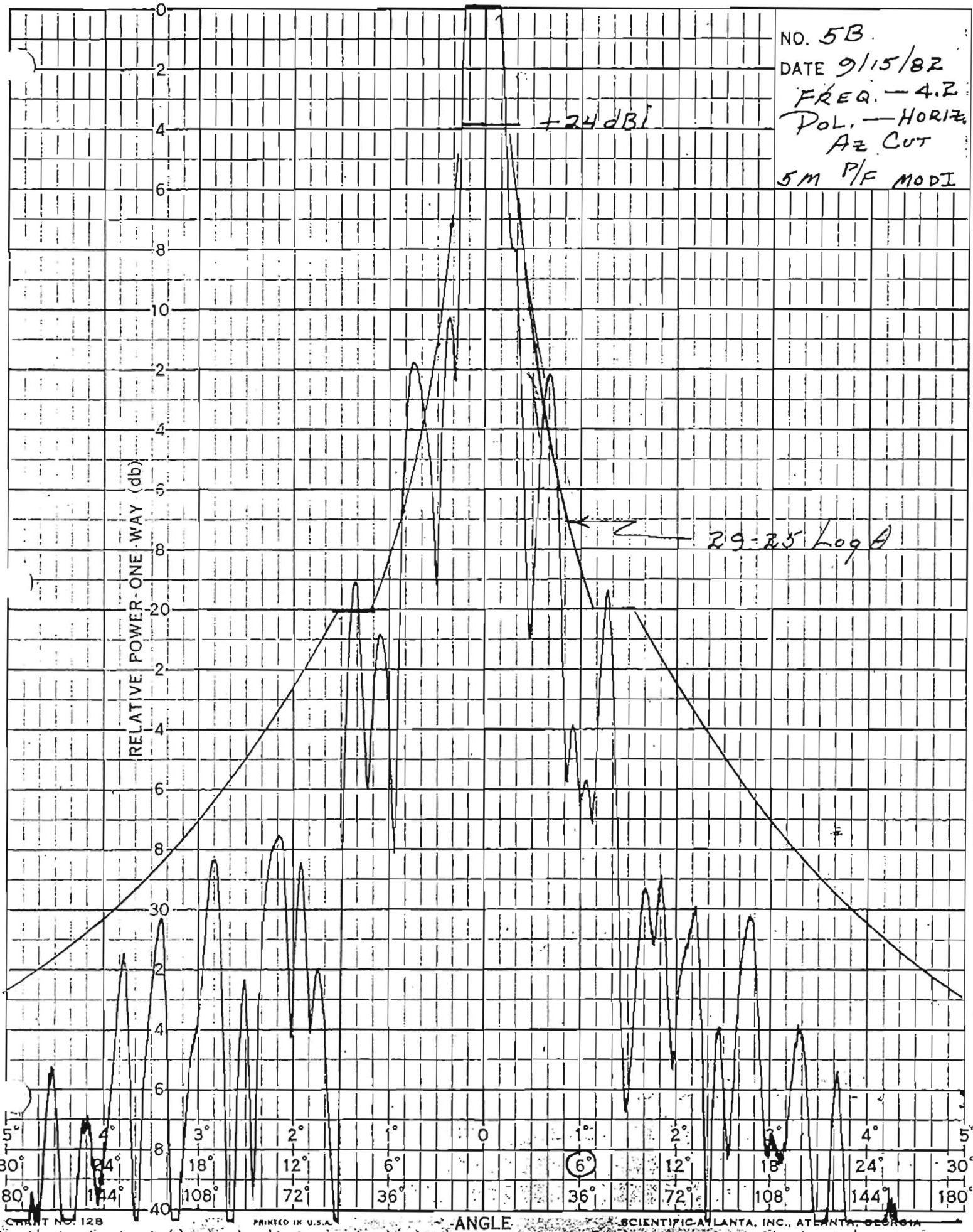
S.A. HORN = 19.9 dB
 H.P. ATTEN = 19.9 dB
 Δ = 0.0
 GAIN = 45.8 dB

STP GAIN
 LEVEL →

RELATIVE POWER-ONE WAY (db)

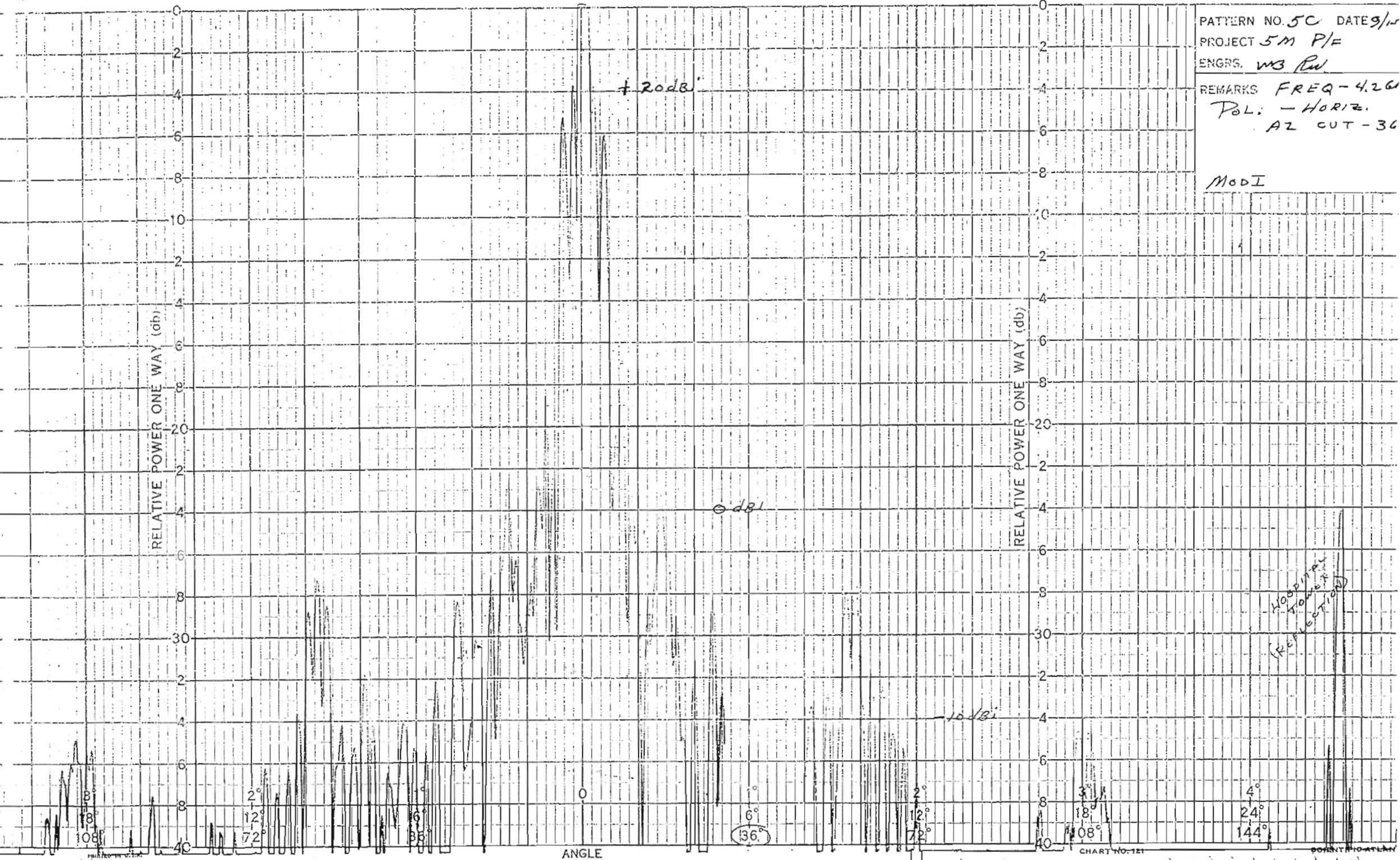


NO. 5B
 DATE 9/15/82
 FREQ. - 4.2
 POL. - HORIZ.
 AZ CUT
 5M P/F MODI



PATTERN NO. 5C DATE 9/12
 PROJECT 5M P/E
 ENGRS. W3 RW
 REMARKS FREQ - 4.2G
 POL: - HORIZ.
 AZ CUT - 3G

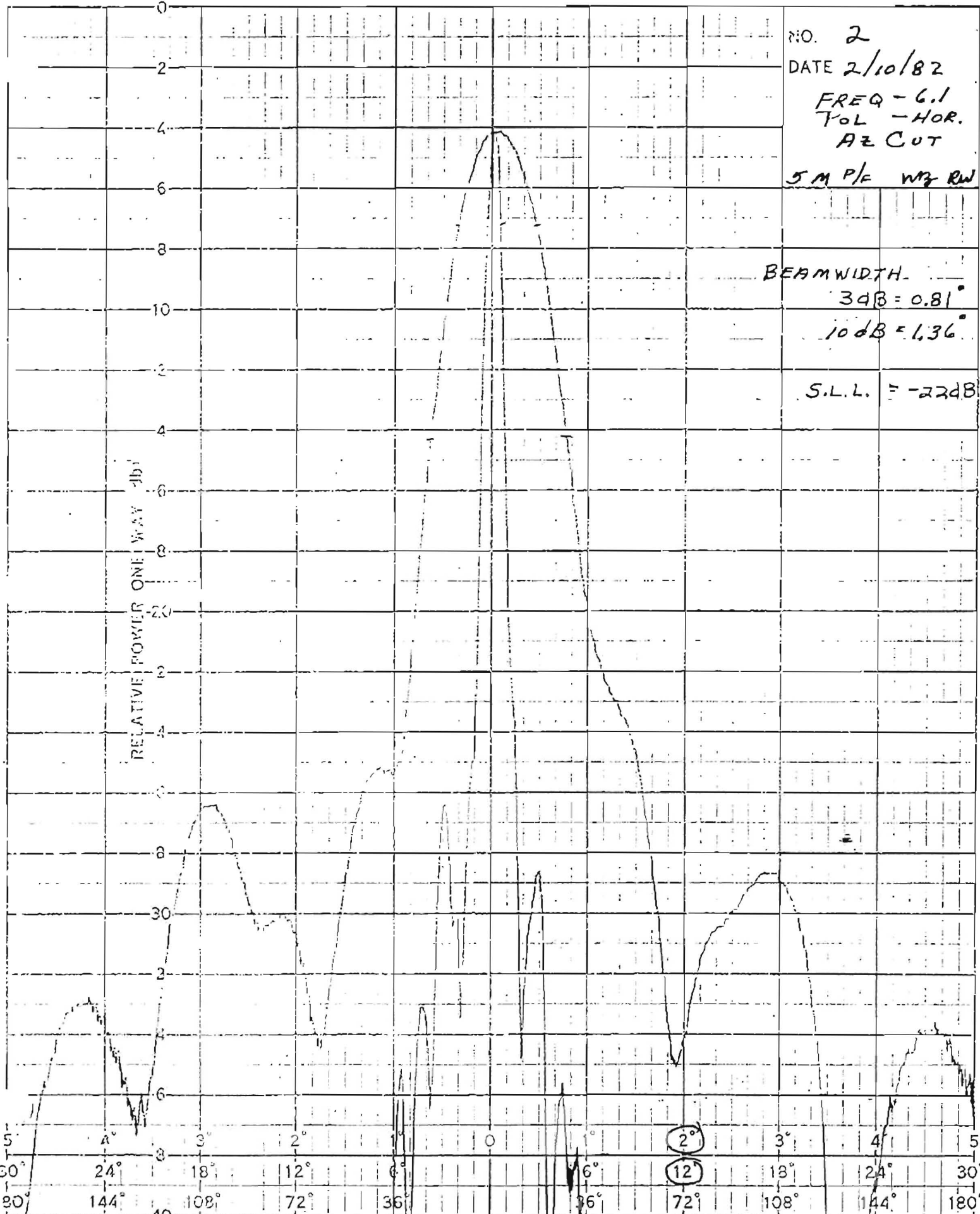
MOD I



NO. 2
 DATE 2/10/82
 FREQ - 6.1
 POL - HOR.
 AZ CUT
 5 M P/E W/2 RW

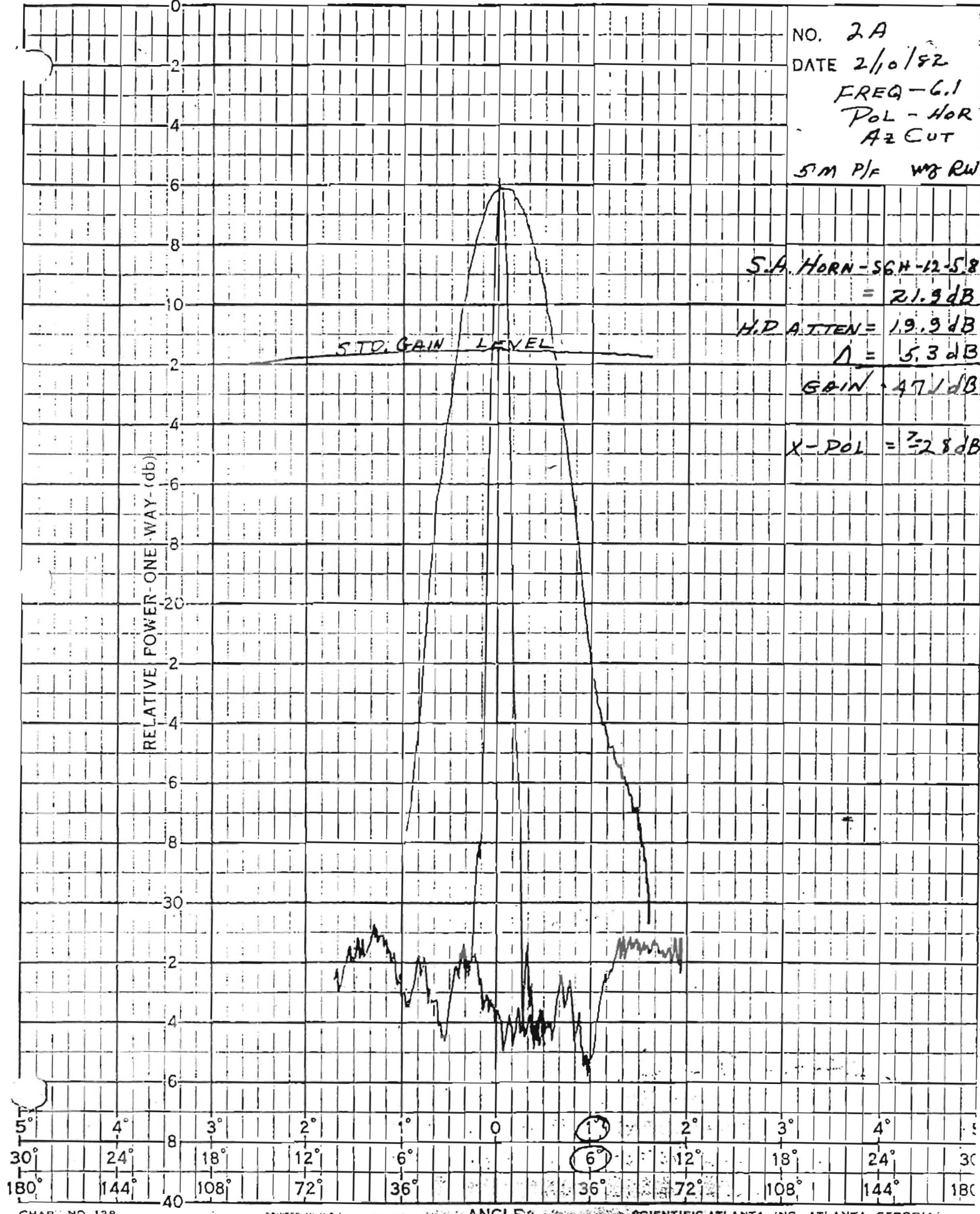
BEAMWIDTH
 3dB = 0.81°
 10dB = 1.36°
 S.L.L. = -22dB

RELATIVE POWER ONE WAY -1dB

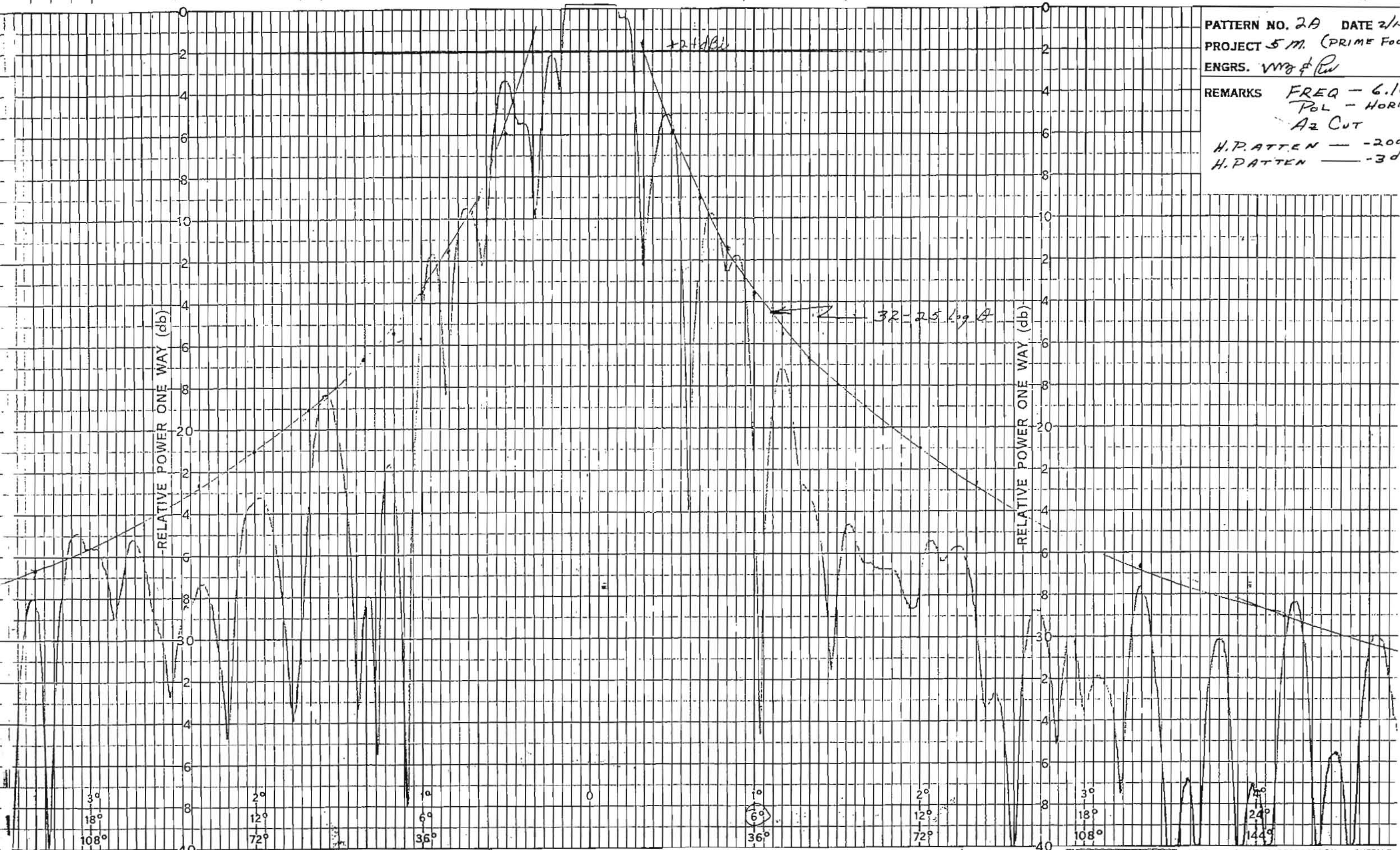


NO. 2A
 DATE 2/10/52
 FREQ - 6.1
 POL - HOR
 AZ CUT
 SM P/F W/RW

S.A. HORN - SGH-12-5.8
 = 21.9 dB
 H.P. ATTEN = 19.9 dB
 Δ = 5.3 dB
 GAIN = 47.1 dB
 X-POL = 2.8 dB



PATTERN NO. 2A DATE 2/11
 PROJECT 5 M. (PRIME FOC
 ENGRS. WJG & RW
 REMARKS FREQ - 6.1
 POL - HORI
 Az CUT
 H.P.ATTEN - -200
 H.P.ATTEN - -30



3° 18° 108° 2° 12° 72° 4° 6° 36° 0° 6° 36° 2° 12° 72° 3° 18° 108° 24° 144°

PATTERN NO. 2 DATE 2/1
PROJECT 5 M. (PRIME FOC)
ENGRS. WBS & RW

REMARKS FREQ - 6.16
POL - HORI
AZ CUT

ANTENNA GAIN = +

RELATIVE POWER ONE WAY (db)

RELATIVE POWER ONE WAY (db)

+47.8Bi

$-32 - 25 \log \theta$

+15.4Bi

3°
18°
108°

2°
12°
72°

35°

11°
6°
36°

2°
12°
72°

3°
18°
108°

4°
24°
144°

ANGLE

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RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, N.Y.

PATTERN NO. 2C DATE 2/12
 PROJECT 5 M. (PRIMEFO
 ENGRS. WBS & RW
 REMARKS FREQ - 6.1
 POL - HO
 AZ CUT
 H. PATTEN. - 2
 H. P. ATTEN. - 3

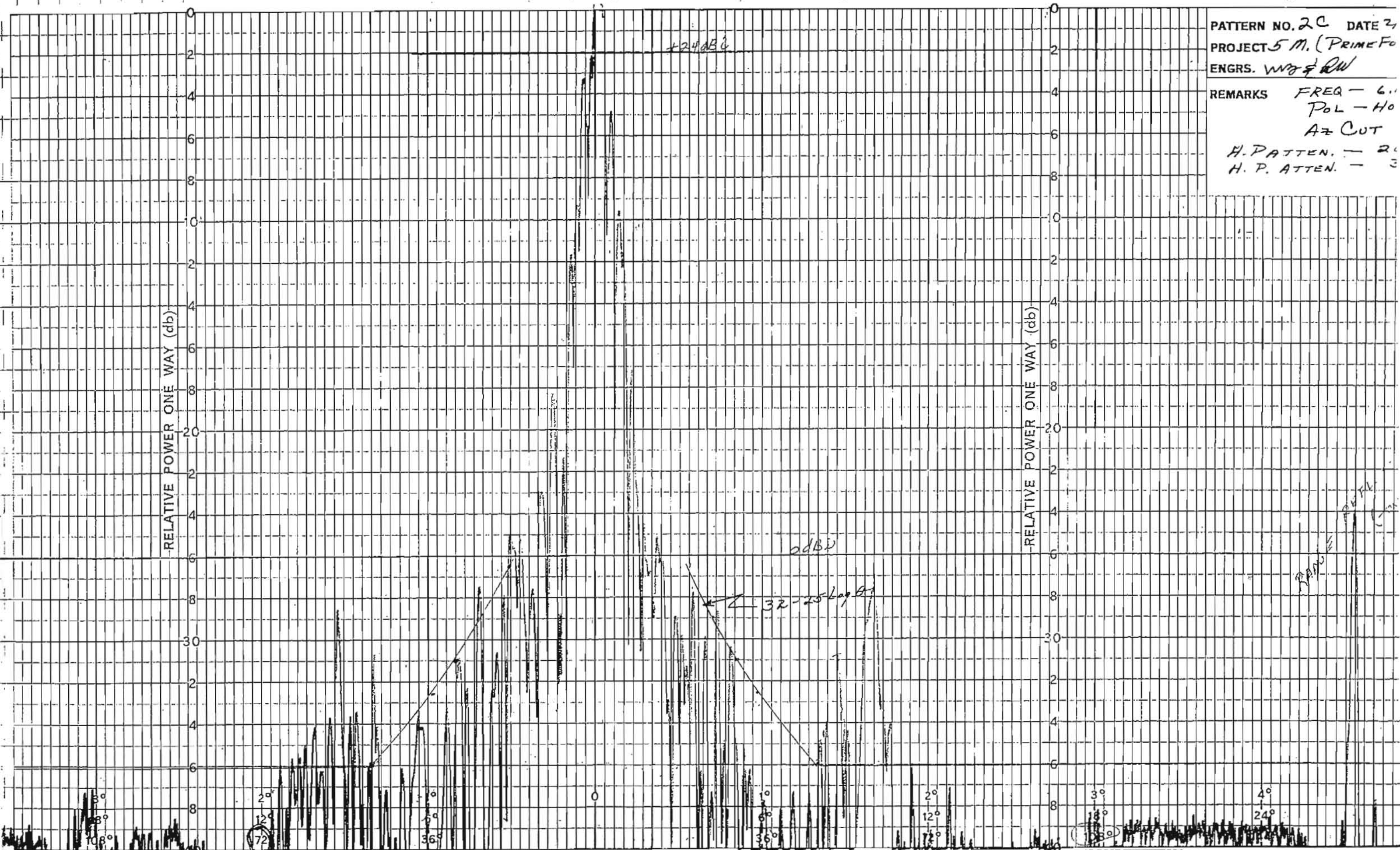
RELATIVE POWER ONE WAY (db)

RELATIVE POWER ONE WAY (db)

+24dB

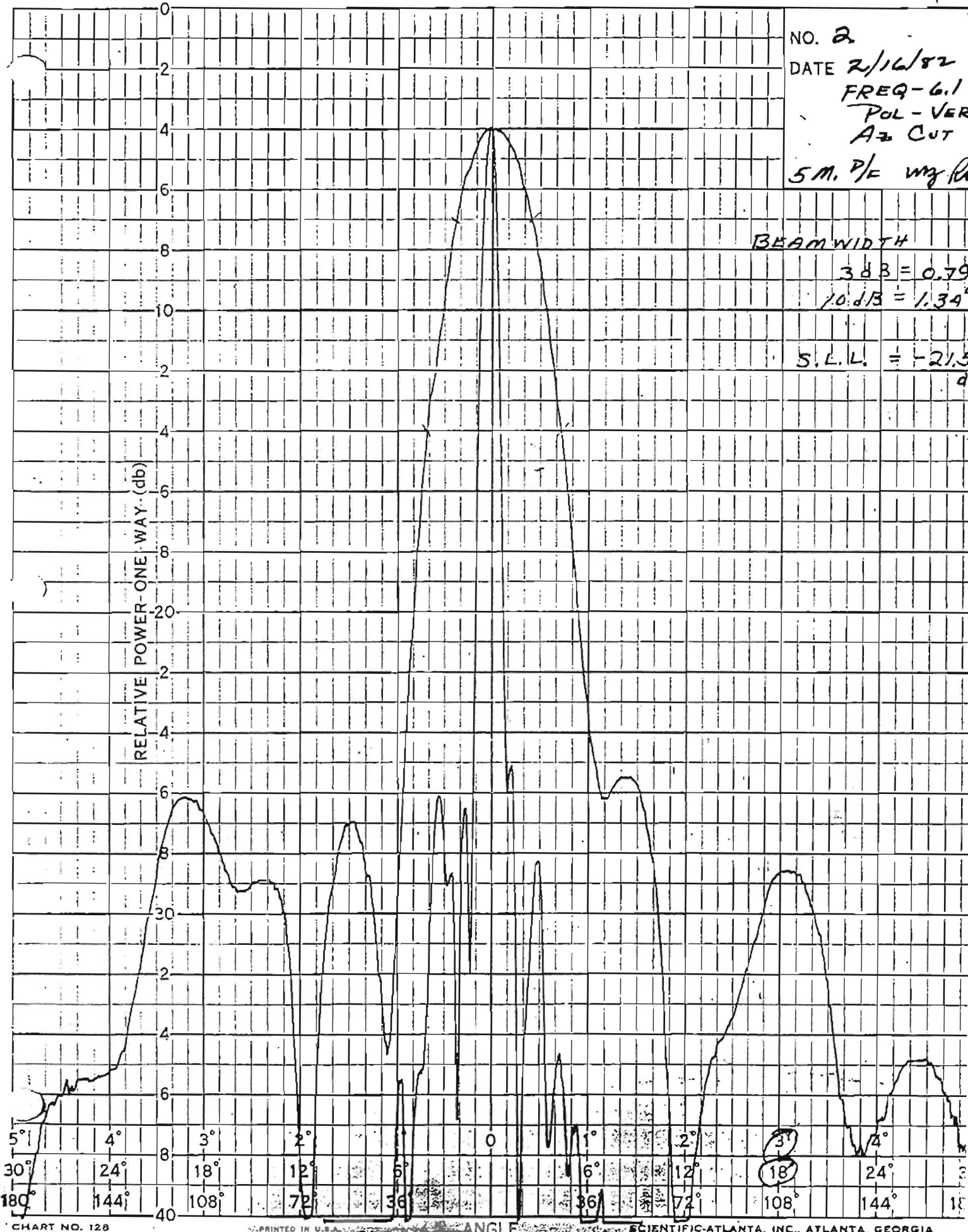
0dB

32-25 Log B



NO. 2
 DATE 2/16/82
 FREQ-6.1
 POL-VER
 Az CUT
 5 M. P/E WY RN.

BEAM WIDTH
 3 dB = 0.79°
 10 dB = 1.34°
 S.L.L. = -21.5 dB



NO. 2A
DATE 2/16/82
FREQ - 6.1
POL - VERT
AZ CUT
S.M. P/F *WJW*

S.A. HORN - 5GH-12-58
= 21.9 dB
H. PATTERN = 19.9 dB
 Δ = 3.1 dB
GAIN = +46.9 dB

RELATIVE POWER ONE WAY (db)

STD. GAIN LEVEL

