1010-1060

Station	Main Studio	Freq	Power	Date
CFRB	Toronto, CN	1010	50 kW/DA-2	9/26/68
CFYQ	Gander, NF	1010	5 kW/DA-2	7/5/83
CMBQ	Havana, Cuba	1010	10 kW	11/46
KBCQ	Roswell, NM	1010	50 kW/DA-2	7/16/75
KBEV	Portland, OR	1010	1 kW/DA-D	6/7/57
KCHJ	Delano, CA	1010	1/5 kW/DA-2	1/10/53
KCMJ	Palm Springs, CA	1010	0.5/1 kW/DA-2	5/27/57
KDJW	Amarillo, TX	1010	0.5/5 kW/DA-N	11/12/47
KIQI	Hayward, CA	1010	5/50 kW/DA-2	9/12/80
KIQI	San Francisco, CA	1010	0.25/10 kW/DA-1	9/17/75
CBR	Calgary, AB	1010	50 kW/DA-2	5/17/74
CFRB	Toronto, ON	1010	50 kW/DA-2	5/3/72
KKIK	Marlin, TX	1010	10 kW/DA-D	3/23/59
KLRA	Little Rock, AR	1010	5 kW	
KODA	Houston, TX	1010	1 kW/DA-D	7/7/61
KODA	Houston, TX	1010	5 kW/DA-D	2/9/66
KRVN	Lexington, NE	1010	25 kW/DA-D	12/49
KIQI	San Francisco, CA	1010	10 kW/DA-D	2/13/74
KVNC	Winslow, AZ	1010	0.5/1 kW/DA-2	5/14/51
KXEN	St. Louis, MO	1010	5/50 kW/DA-2	3/23/59
KXEN	St. Louis, MO	1010	50 kW/DA-D	4/22/59
WBIX	Jacksonville Beach, FL	1010	10 kW/DA-D	3/30/64
WFGW	Black Mountain, NC	1010	10/50 kW/DA-2	10/26/64
WINQ	Tampa, FL	1010	0.5/50 kW/DA-1	12/4/80
WINS	Montclair, NJ	1010	50 kW/DA-1	11/5/51
WITL	Lansing, MI	1010	0.5 kW/DA-D	9/26/69
WMIN	Minneapolis, MN	1010	0.25 kW/DA-D	6/29/64

1010-1060

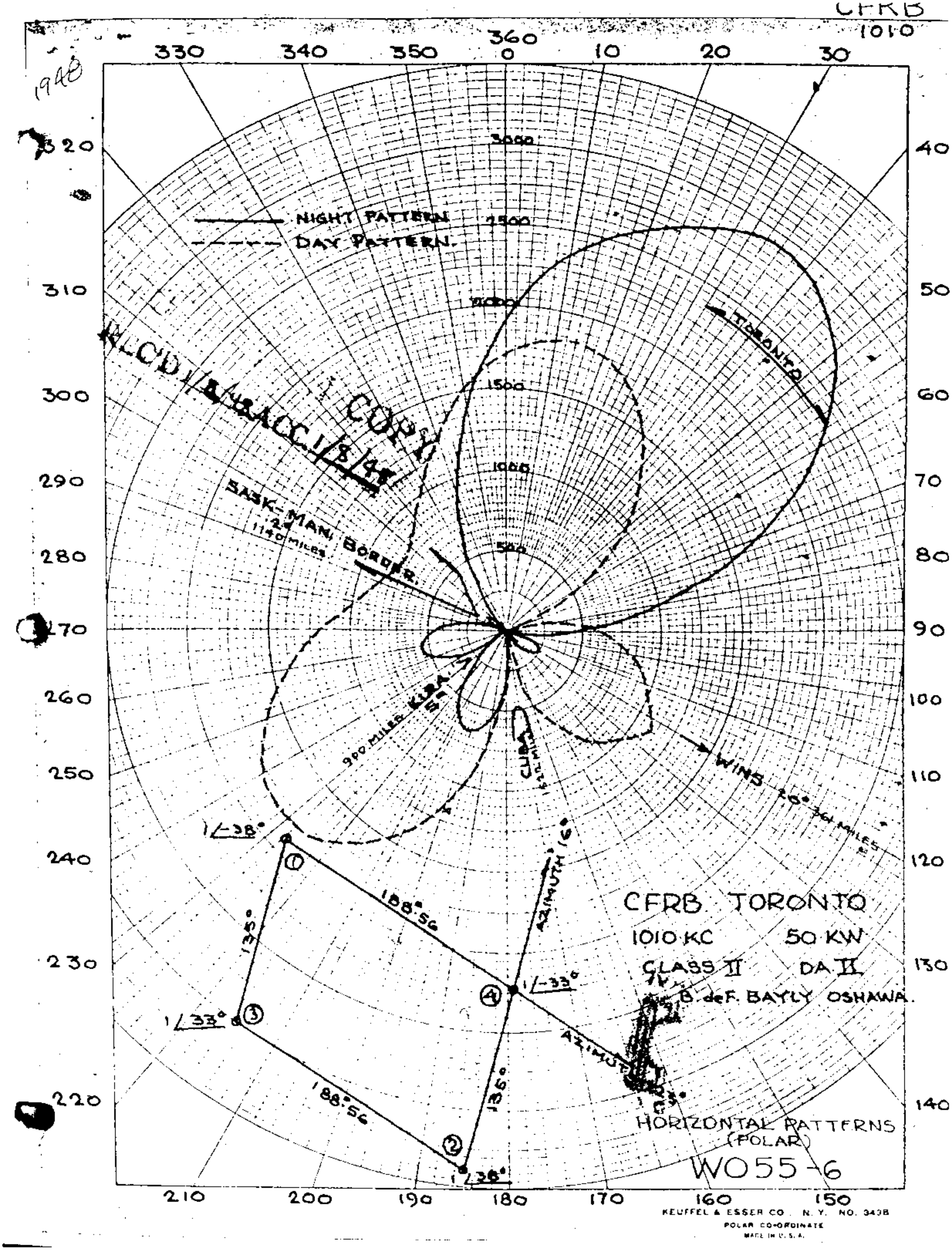
Station	Main Studio	Freq	Power	Date
WMOX	Meridian, MS	1010	10 kW/DA-D	3/27/56
WMOX	Meridian, MS	1010	1/10 kW/DA-2	9/20/61
WPMH	Portsmouth, VA	1010	5 kW/DA-D	4/28/67
WZRO	Jacksonville, FL	1010	25 kW/DA-D	9/4/59
WZRO	Jacksonville, FL	1010	10 kW/DA-D	9/27/62
KBCQ	Rosewell, NM	1020	10/50 kW/DA-2	1/28/66
KSWS	Roswell, NM	1020	50 kW/DA-2	5/75
KTNQ	Los Angeles, CA	1020	50 kW/DA-2	10/22/75
WBZ	Boston, MA	1030	50 kW/DA-1	6/23/77
KTWO	Casper, WY	1030	50 kW/DA-N	2/12/75
KTWO	Casper, WY	1030	10 kW/DA-2	7/27/65
WSWO	San Juan, PR	1030	10 kW/DA-1	5/19/76
XED	Mexicali, BC	1030	10 kW/DA-N	8/18/54
XECX	Zapopan, Jalisco	1040	5 kW/DA-D	11/12/79
NEW	Vernon, BC	1050	10/1 kW/DA-N	1/20/76
CFGP	Grande Prairie, AB	1050	10 kW/DA-1	4/7/78
CHUM	Toronto, ON	1050	50 kW/DA-2	5/27/65
CJIC	Sault Ste Marie, ON	1050	2.5/10 kW/DA-N	3/28/68
CJNB	North Battleford, Sask.	1050	10 kW/DA-N	2/26/63
CKSB	St. Boniface, MB	1050	10 kW/DA-N	2/28/68
KBBV	Big Bear Lake, CA	1050	0.25 kW/DA-D	7/24/63
KBUF	Garden City, KS	1050	5 kW/DA-D	11/2/79
KCCO	Lawton, OK	1050	0.25 kW/DA-D	2/5/54
KLOH	Pipestone, MN	1050	1 kW/DA-D	10/18/54
KPXE	Liberty, TX	1050	0.25 kW/DA-D	8/19/57
KUPK	Garden City, KS	1050	5 kW/DA-D	3/30/62
NEW	Conway, SC	1050	5 kW/DA-D	4/1/76

1010-1060

Station	Main Studio	Freq	Power	Date
WBTL	Farmville, NC	1050	0.25 kW/DA-D	8/8/59
WCMG	Jacksonville, FL	1050	5 kW/DA-D	12/21/77
WCMS	Norfolk, VA	1050	5 kW/DA-D	7/28/66
WHN	New York, NY	1050	0.5 kW/DA-1	1/22/71
WKAU	Kaukauna, WI	1050	1 kW/DA-D	6/14/61
WPAG	Ann Arbor, MI	1050	5 kW/DA-D	5/8/74
WSEN	Baldwinsville, NY	1050	1 kW/DA-D	9/25/70
WSKE	Everett, PA	1050	1 kW/DA-D	11/2/79
WTCA	Plymouth, IN	1050	0.25 kW/DA-D	10/28/66
NEW	White Bear, MN	1050	1 kW/DA-D	3/28/60
CFCN	Calgary, AB	1060	50 kW/DA-N	2/12/81
CFCN	Calgary, AB	1060	25/50 kW/DA-2	6/28/65
CJRP	Sillery, QU	1060	10 kW/DA-1	3/8/61
CMCX	Havana, Cuba	1060	10 kW	5/12/50
NEW	Van Buren, AR	1060	0.5 kW/DA-D	6/28/78
KCLT	Lockhart, TX	1060	0.25 kW/DA-D	11/29/65
KGFX	Pierre, SD	1060	1/10 kW/DA-2	11/30/76
KGFX	Pierre, SD	1060	10 kW/DA-D	8/28/67
KKKQ	Tempe, AZ	1060	0.5/5 kW/DA-N	8/30/78
KPAY	Chico, CA	1060	10 kW/DA-N	7/20/53
KRSP	South Salt Lake, UT	1060	1/10 kW/ND-D	11/2/79
KUPD	Tempe, AZ	1060	0.5 kW/DA-1	5/27/60
KYW	Philadelphia, PA	1060	50 kW/DA-1	2/21/56
WCMW	Canton, OH	1060	10 kW/DA-D	9/25/58
WGTR	Natick, MA	1060	5/50 kW/DA-D	11/16/79
WJLJ	Tupelo, MS	1060	0.25 kW/DA-D	12/23/70
WMCL	McLeansboro, IL	1060	2.5 kW/DA-D	11/16/77

1010-1060

Station	Main Studio	Freq	Power	Date
WNOE	New Orleans, LA	1060	5/50 kW/DA-2	6/10/50
WOIO	Canton, OH	1060	5 kW/DA-D	9/25/63
WPLK	Rockmart, GA	1060	5 kW/DA-D	9/26/68
WQWX	Mebane, NC	1060	1 kW/DA-D	11/3/71
WQWX	Mebane, NC	1060	1/0.5 kW/DA-2	2/28/68
WRWL	Rochelle, IL	1060	0.25 kW/DA-D	12/29/66
WRMF	Titusville, FL	1060	5/10 kW/DA-2	2/28/67
NEW	Tupelo, MS	1060	5 kW/DA-D	9/26/68
XEDP	Mexico, DF	1060	50 kW	9/14/48


CFRB
1010
1948
NIGHT PATTERN
DAY PATTERN
CLCD 1/8/48
ACC 1/8/48
COPY
TORONTO
SASK-MAN. BORDER
1140 MILES
KLRA
900 MILES
CUBA
WINS
361 MILES
AZIMUTH 16°
AZIMUTH
188°56
135°
136°
1 ∠-38°
1 ∠33°
1 ∠-33°
1 ∠38°
CFRB TORONTO
1010 KC 50 KW
CLASS II DA II
B. deF. BAYLY OSHAWA.
HORIZONTAL PATTERNS
(POLAR)
W055-6
KEUFFEL & ESSER CO. N.Y. NO. 3438
POLAR CO-ORDINATE
MADE IN U.S.A.

CFRB

Description Sheet p.1
(9-26-68ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

PROJECT #1703

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

Station: CFRB   Main Studio: Toronto, Ontario

Frequency: 1010 kHz   Power: 50 Kw   Class: II

Notification List No: [illegible]   Date: [illegible]

GEOGRAPHICAL LOCATION: Latitude: 43° 30' 22" North
Longitude: 79° 37' 50" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-2
Number of Elements: Four (4)
Type of Elements: Guyed Steel towers, uniform cross-section, base insulated for series feed

TOWER:	#1(SE)	#2(SW)	#3(NE)	#4(NW)
HEIGHT ABOVE BASE INSULATOR:	550' (203°)	550' (203°)	250' (92.3°)	250' (92.3°)
OVERALL HEIGHT:	555'	555'	255'	255'
FIELD RATIO:				
Nighttime	1.0	1.01	1.0	.92
Daytime	1.0	.94	.47	---
PHASING:				
Nighttime	0°	-5°	-66°	-71°
Daytime	0°	-65°	-75°	---

GROUND SYSTEM: 120 equally spaced radials of No. 10 B & S gauge bare copper wire extend from the base of each tower for a distance of 390' (.4 wavelength) with the exception of those joined along the common chords. Radials are buried approximately eight inches.

CFRB

Description Sheet p.2
(9-26-68ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

PROJECT #1703 CFRB

DESCRIPTION SHEET - DIRECTIONAL ANTENNA
(Continued)

SPACING AND ORIENTATION OF TOWERS: The towers are located at the four corners of a parallelogram whose long sides are 510.7' (188.56°) at azimuth 303° and whose short sides are 365.19' (135°) at azimuth [illegible].

PREDICTED EFFECTIVE FIELD:

Nighttime:

1365 mV/m at 1 mile for 50 kW

193 mV/m at 1 mile for 1 kW

Daytime:

1670 mV/m at 1 mile for 50 kW

237 mV/m at 1 mile for 1 kW

D. E. M. Allen, P. Eng.

Broadcast Consulting Engineer.

CFRB

Proposed Day
(9-26-68ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

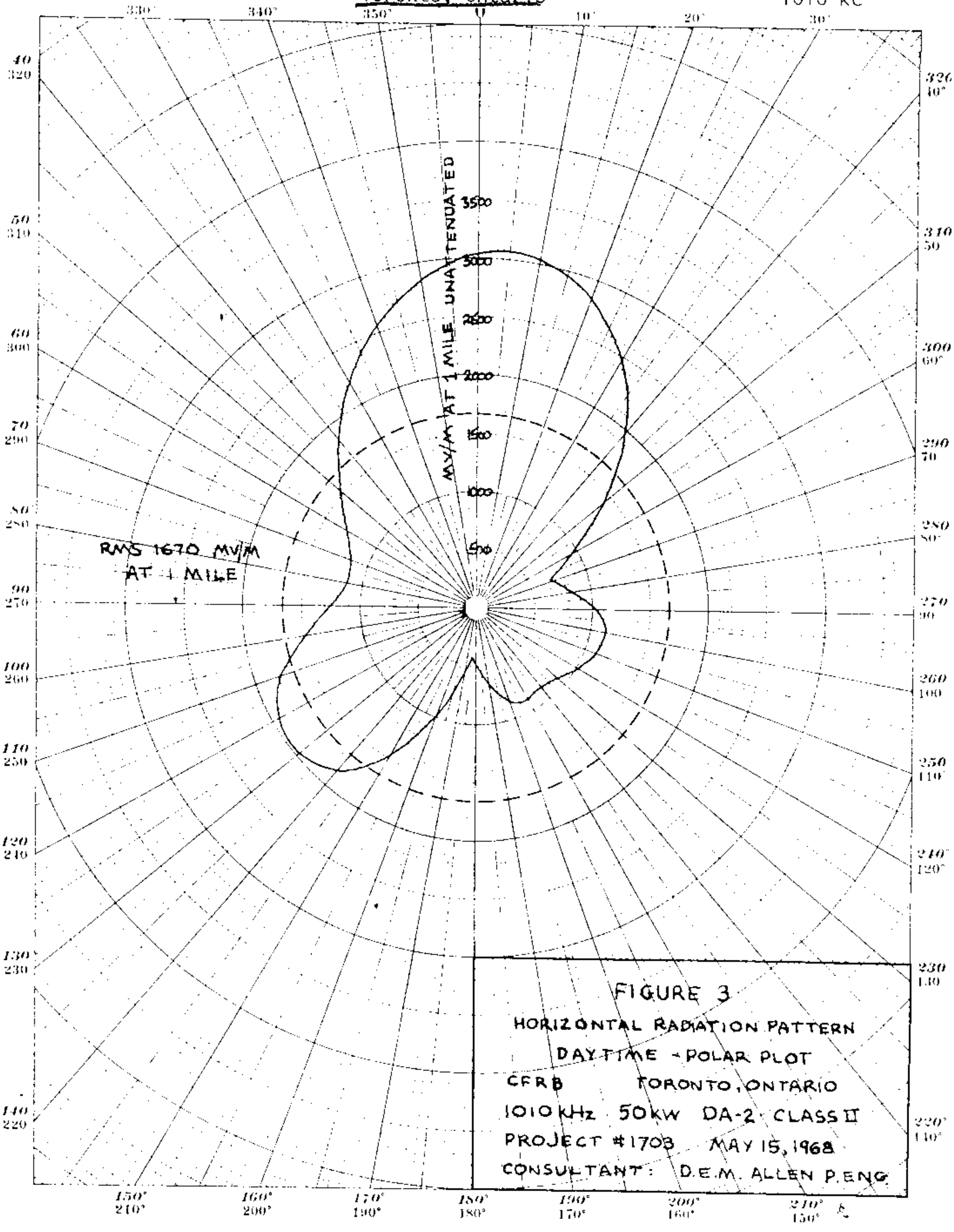


FIGURE 3
HORIZONTAL RADIATION PATTERN
DAYTIME - POLAR PLOT
CFRB TORONTO, ONTARIO
1010 KHz 50KW DA-2 CLASS II
PROJECT #1703 MAY 15, 1968
CONSULTANT: D.E.M. ALLEN P.ENG.

CFRB

Proposed Day Nulls (9-26-68ct)

Station CFRB
Toronto, Ontario

50kw, DA-2, U, Class II
1010 kc

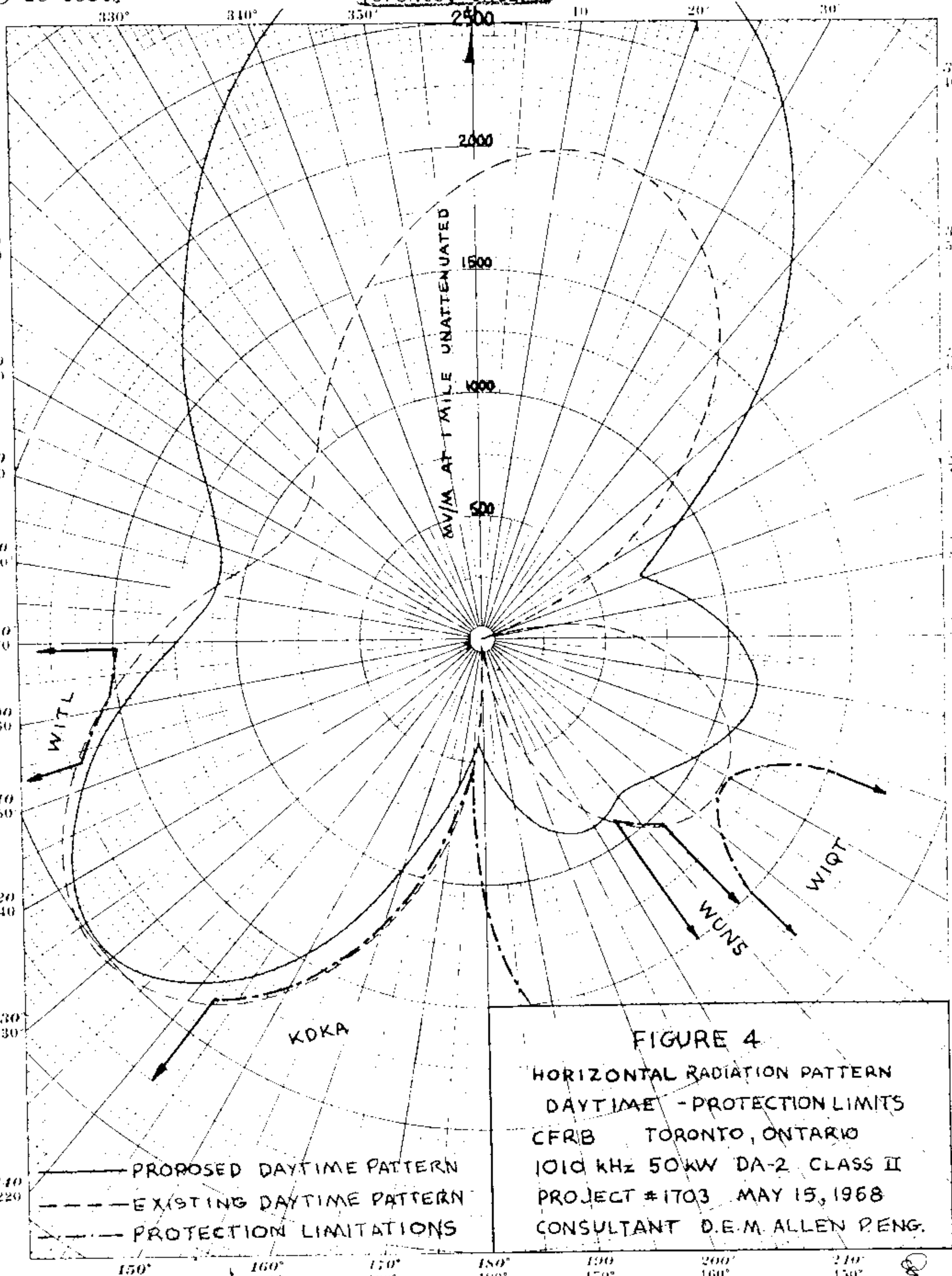


FIGURE 4
HORIZONTAL RADIATION PATTERN
DAYTIME - PROTECTION LIMITS
CFRB TORONTO, ONTARIO
1010 kHz 50 kW DA-2 CLASS II
PROJECT #1703 MAY 15, 1968
CONSULTANT D.E.M. ALLEN P.ENG.

CFRB

Proposed Night
(9-26-68ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

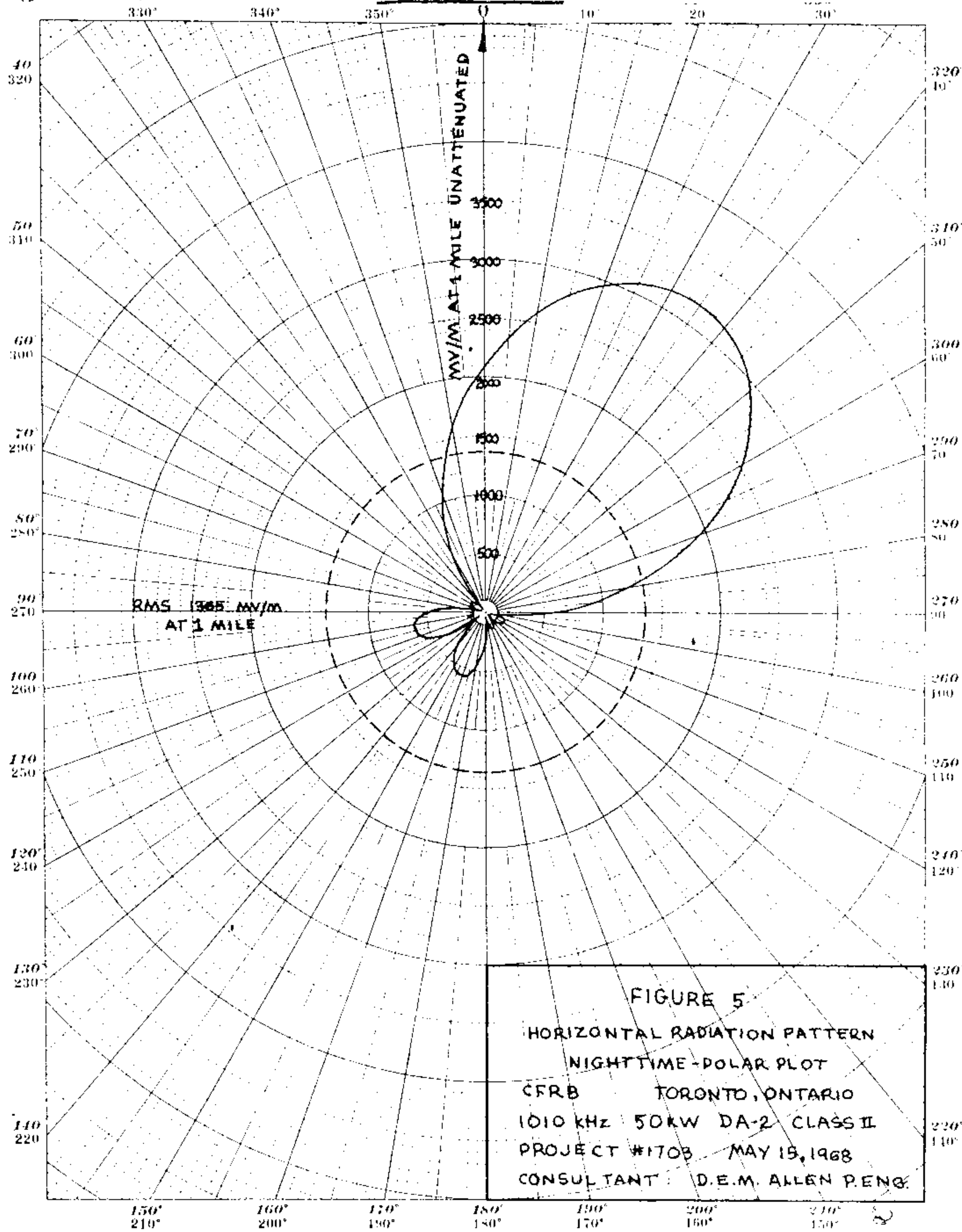


FIGURE 5
HORIZONTAL RADIATION PATTERN
NIGHTTIME-POLAR PLOT
CFRB TORONTO, ONTARIO
1010 kHz 50KW DA-2 CLASS II
PROJECT #1708 MAY 15, 1968
CONSULTANT: D.E.M. ALLEN P.ENG.

CFRB

Proposed Night Nulls
(9-26-68ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

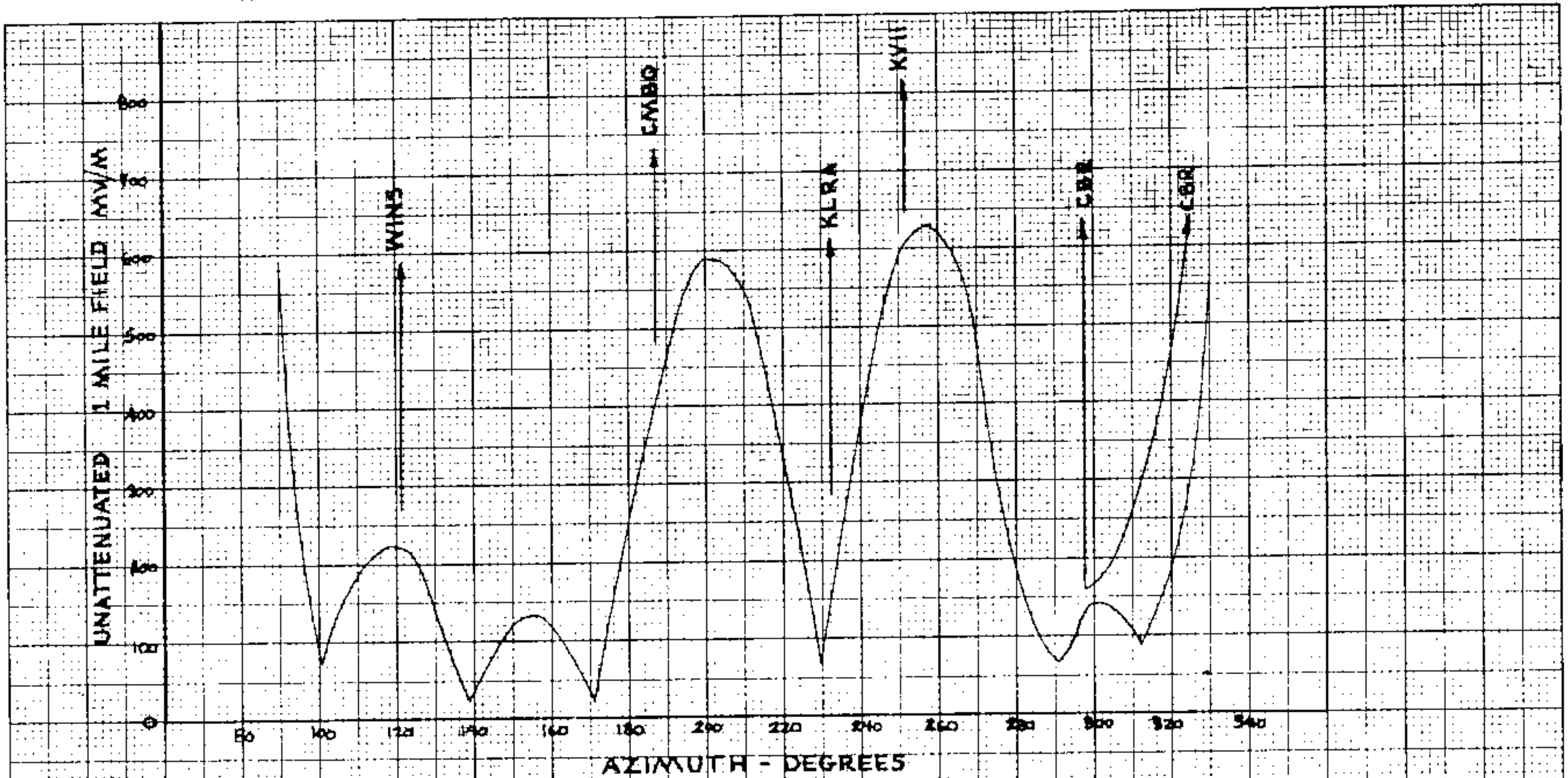


FIGURE 6

HORIZONTAL RADIATION PATTERN
NIGHTTIME - EXPANDED SCALE
CFRB TORONTO, ONTARIO
1010 KHz 50KW DA-2 CLASS II
PROJECT #1703 MAY 15, 1968
CONSULTANT: D.E.M. ALLEN P.ENG.

8

CFYQ 1010

IFRB Serial No. 12504

FORM FOR THE APPLICATION OF ARTICLE 4 OF THE AGREEMENT

CHARACTERISTICS OF A REGION 2 BROADCASTING STATION IN THE BAND 535 – 1605 kHz

PART I GENERAL INFORMATION

(01) Administration: CANADA | Sheet No.: 420 | Date: 830705

Assigned frequency (kHz)		(02)	1010
Transmitting station	Name of the station	(03)	GANDER NF
	Call sign	(04)	CFYQ
	Additional Identification	(05)	
	Station class	(06)	B
	Operational Status	(07)	O
Country		(08)	CAN
Geographical coordinates of the transmitting station		(09)	48W5830 54N3647

(11) a) New assignment [ ] b) Modification of characteristic of an assignment recorded in the plan [X] c) Cancellation of an assignment [ ]

(12) Modification under Section 4.2.14 Yes [X] No [ ]

(13) Date of bringing into service or cessation of operation: Year [ ] Month [ ] Day [ ]

STATION PARAMETERS		DAYTIME OPERATION		NIGHT-TIME OPERATION
Station power (kW)	(21)	5.	(31)	5.
r.m.s. value of radiation for station power (mV/m at 1 km)	(25)	629.62	(35)	629.62
Antenna type	(26)	1	(36)	1
Simple vertical antenna electrical height (degrees)	(27)	.	(37)	.

(44) Remarks

COORDINATION UNDER ARTICLE 4:								
COUNTRY	USA							
IN PROGRESS								
ACCEPTANCE OBTAINED								

CFYQ
1010

FORM FOR THE APPLICATION OF ARTICLE 4 OF THE AGREEMENT
CHARACTERISTICS OF A REGION 2 BROADCASTING STATION IN THE BAND 535 - 1605 kHz

PART IV

12504

IFRB Serial No.

Description of the top-loaded or sectionalized towers used for :

A) Directional antenna systems for towers entered in Part II Section I as top-loaded or sectionalized (column 12), or

B) Non-directional antenna towers entered in Part I as top-loaded or sectionalized (column 26 or 36)

(01) GANDER NF
Name of transmitting station

(02) CAN
Country

420
Sheet No.

(03) DN
Hours of Operation

(04) TOWER NUMBER	(05) A	(06) B	(07) C	(08) D
1	49.9	10.1		

CMBQ ~~CMX~~
1010

DIRECTIONAL ANTENNA DESCRIPTION

Void

Station: C M X   Location: Havana, Havana, CUBA

Power: 10 kw   Frequency: 1010 kc

Two elements, self-supporting steel towers, insulated at a point 8.5 meters above ground level.

Tower:	North	South
Height:	73.5 meters	73.5 meters
	(0.24 wavelength or 87 degrees)	
Spacing:	112 meters or 135 degrees	
Phasing:	+45°	0°
Current Ratio:	0.75	1.00

Orientation: Elements on a line bearing 352° true.

Predicted effective field: 865 mv/m at one kilometer for 10 kw.

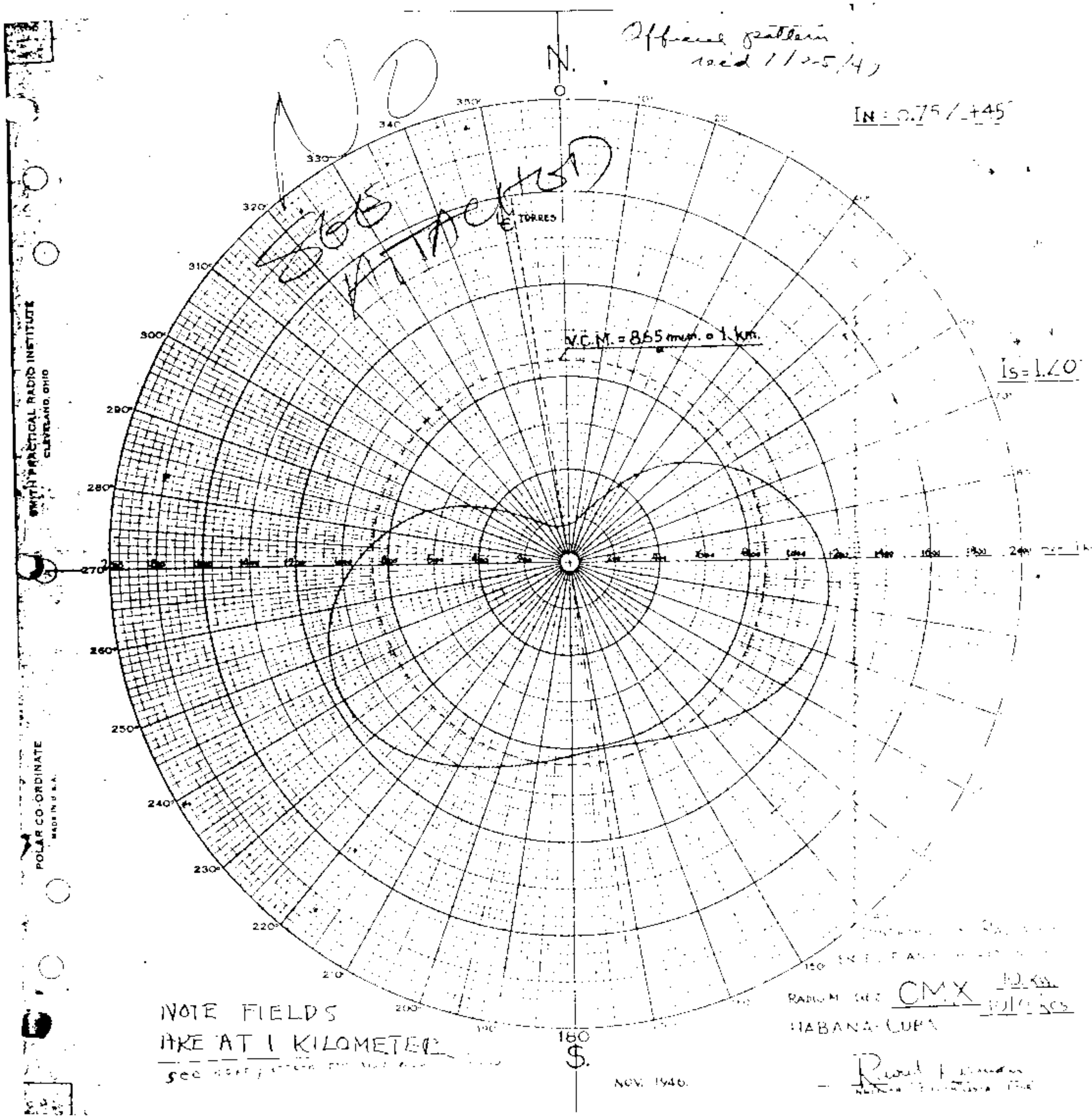
273.3 mv/m at one kilometer for 1 kw.

PATT - VOID

BURKHARDT SAYS 25 KW NOTIFIED HOWEVER NO PATT AS YET, 6/76 RWG.

10 KW - 5-12/60 - JDG

SAFEST ASSUMPTION = PROTECT BORDER AND GIVES NO LIMITS



Official pattern recd 11/25/47
N.
See attached
TORRES
$I_N = 0.75 / +45°$
V.C.M. = 865 mm. @ 1 km.
$I_S = 1.20$
S.
NOTE FIELDS
ARE AT 1 KILOMETER
CMX
HABANA CUBA
NOV. 1946.
SMITH PRACTICAL RADIO INSTITUTE CLEVELAND, OHIO
POLAR CO-ORDINATE
MADE IN U.S.A.

KBCQ

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KBCQ Main Studio: Roswell, New Mexico

Frequency: 1020 kHz Power: 50 kW

Notification List No. 1641 Date: July 16, 1975 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 33° 27' 53"
West Longitude: 104° 29' 58"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 6
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	NC(#2)	NE(#3)	SW(#4)	SC(#5)	SE(#6)
HEIGHT ABOVE INSULATORS:	All towers 241' (90°)					
NIGHT PHASING:	-158.84°	-110.35°	-61.8°	-48°	0°	+48°
NIGHT FIELD RATIO:	0.2263	0.45	0.2263	0.5029	1	0.5029
DAY PHASING:	-50.5°	+9.30°	+50.5°	---	---	---
DAY FIELD RATIO:	1.0	2.005	1.0	---	---	---

SPACING AND ORIENTATION: Towers are located in two rows with three towers per row. Adjacent elements in a row are spaced 375.25' (140°). The towers in the north row are located on a line bearing 60° true. Towers in the south row are located on a line bearing 64.5° true. Towers #3 and #6 are spaced 712.98' (266°) on a line bearing 204° true.

GROUND SYSTEM: 120-241' equally spaced copper radials plus a 40' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between tower.

Predicted effective Night Field: 1314 mv/m at rated power.

Predicted effective Day Field: 1360 mv/m at rated power.

Note: Please retain the Daytime directional antenna radiation pattern notified for a new Station at Roswell, New Mexico in United States Change List Number 1069 dated July 15, 1964, and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns a correction in geographical coordinates of the center of the array and a change in the Nighttime operation of the station with Daytime operation continued as previously notified.

CTR NO 30006A3

KBEV

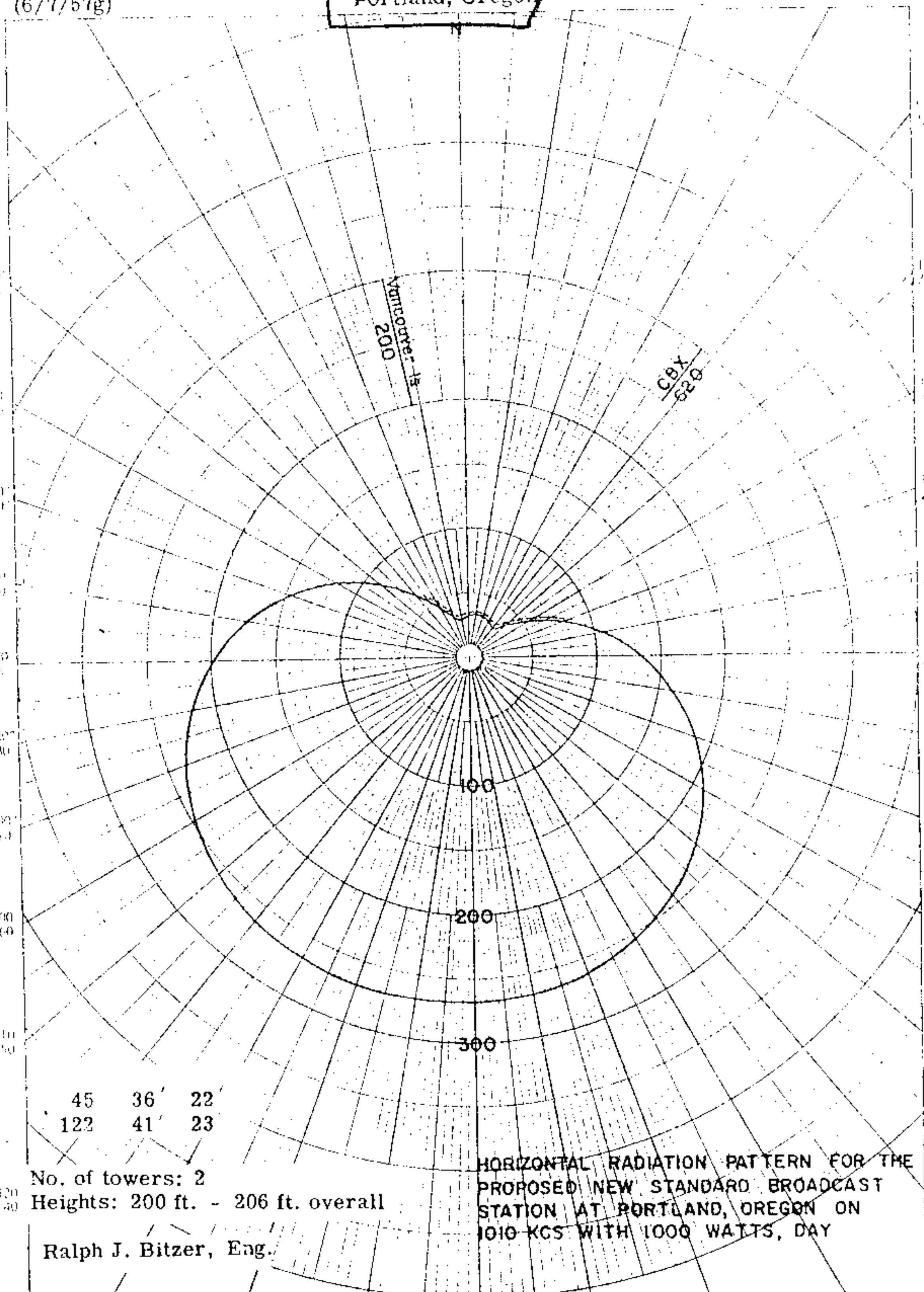
Granted 3/11/58 mod. of C.P. to change antenna-trans. location

PROPOSED DAY
(6/7/57g)

Station KBEV
Portland, Oregon

1kw, DA-D,D

1010 KC



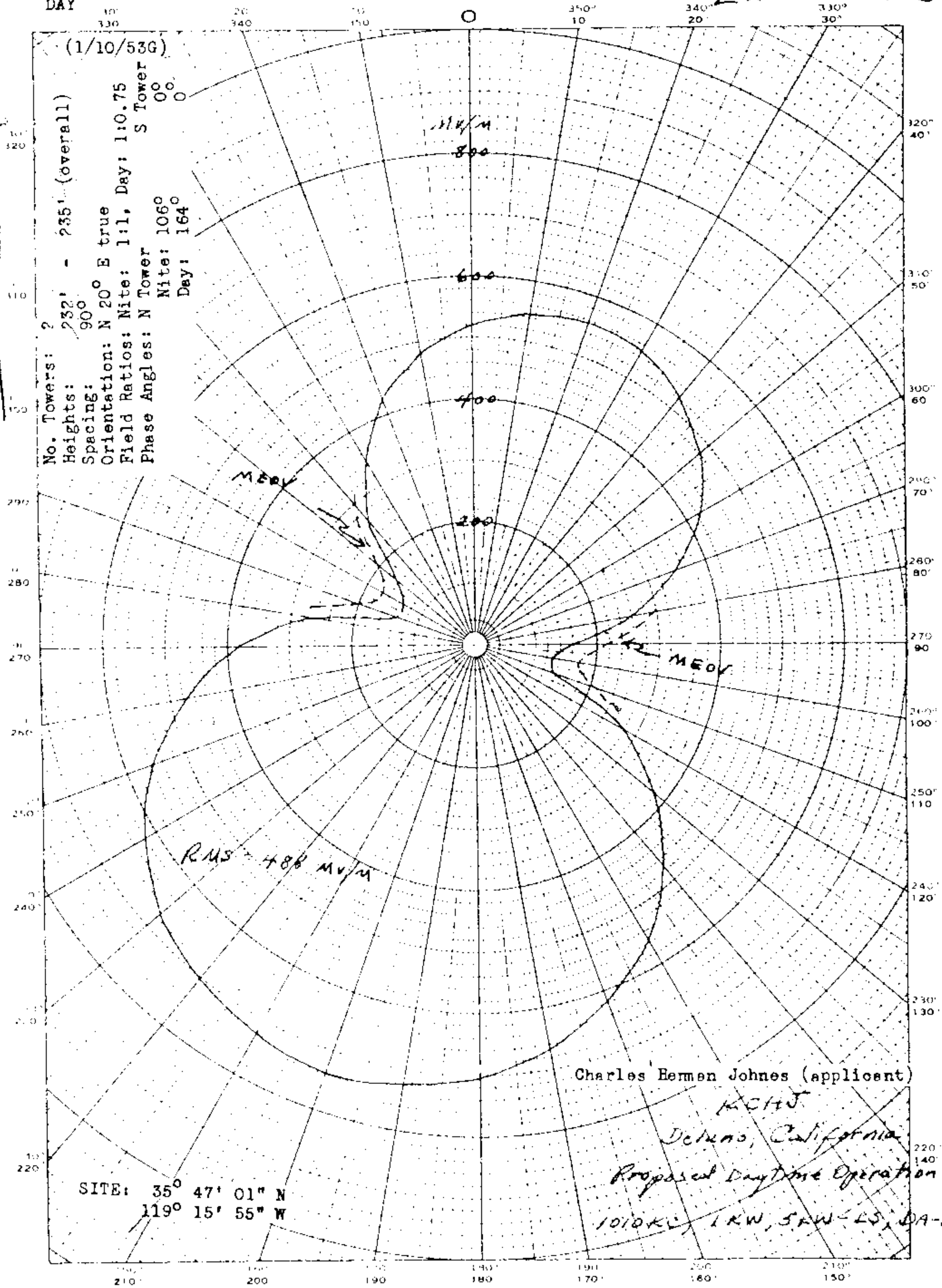
FCC File No. BMP-7396 KBEV
Accepted 5/31/57 (Ammended) Portland, Oregon 1010 KC

PROPOSED
DAY

KCHJ, DELANO, CALIF. 1kw, 5kw-LS, U, DA-2 1010 kc

EXHIBIT #5

SEE MEASURED



FCC FILE NO. BP-8681 11-28-52 KCHJ, Delano, Calif. 1010 kc

KCHJ

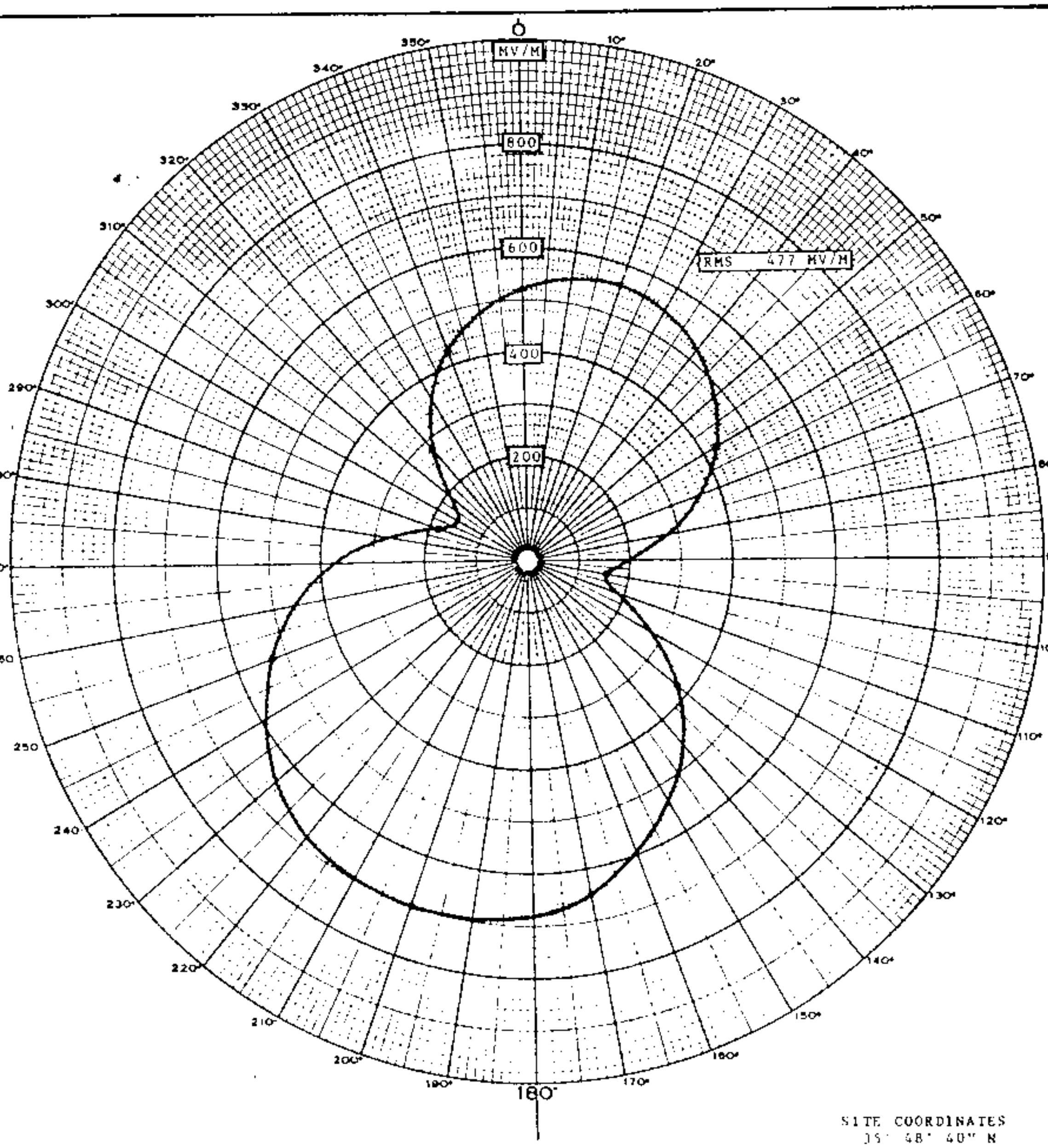
Measured Day
(1-28-65ct)

Station KCHJ
Delano, California

1kw,5kw-LS,DA-2,U
1010 kc

BL 10742
2-4-65 LIC.
CHG DA, XMTR LOC.

Figure 9



SITE COORDINATES
35° 48' 40" N
119° 19' 18" W

MEASURED DAYTIME HORIZONTAL PLANE RADIATION PATTERN

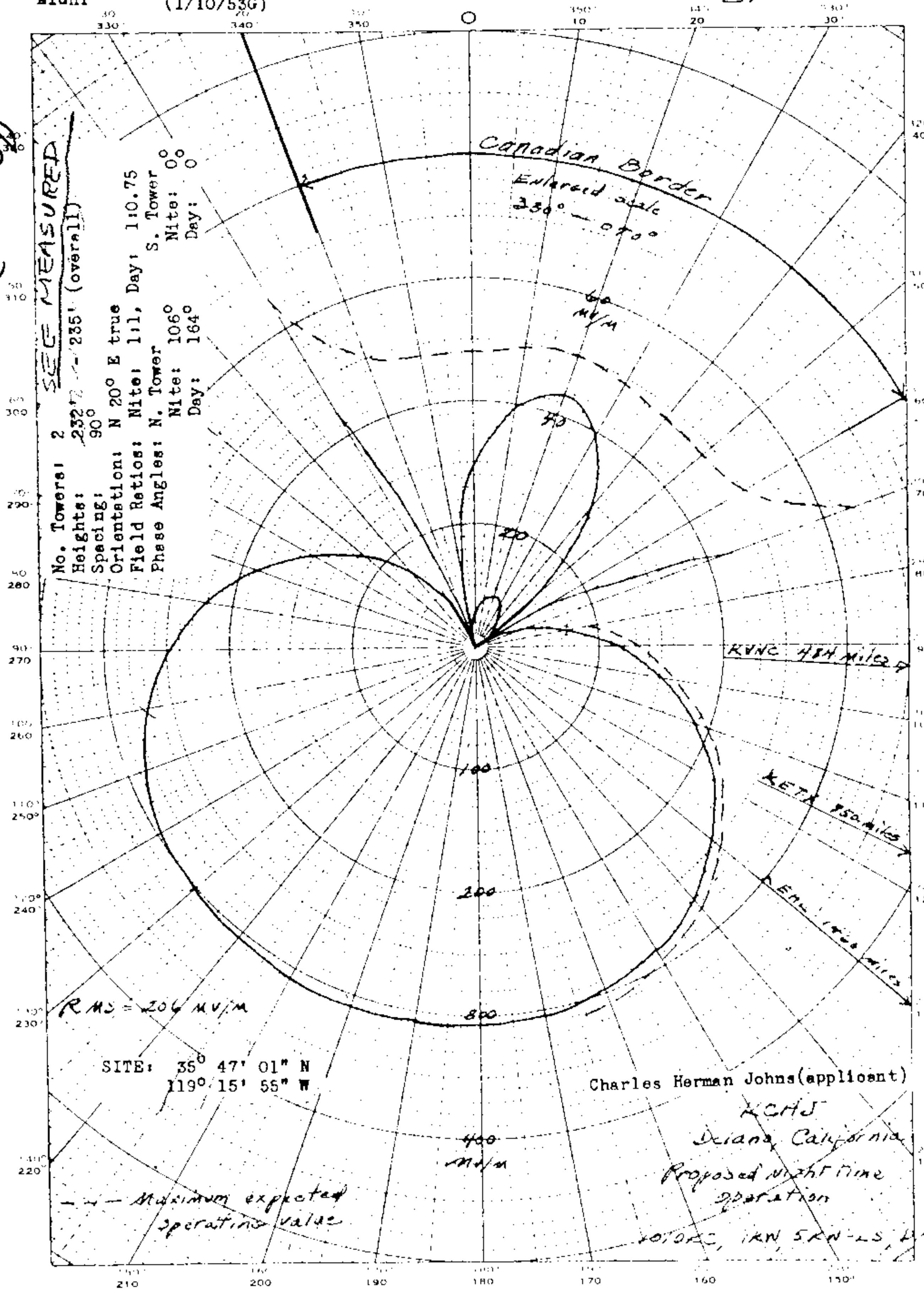
CHARLES HERMAN JONES
DELANO, CALIFORNIA

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION KCHJ
1010 KC
1 KW, 5 KW LS U DA 2
Pattern 631218

PROPOSED NIGHT (1/10/53G) KCHJ, DELANO, CALIF. 1kw, 5kw-LS, U, DA-2 1010 kc

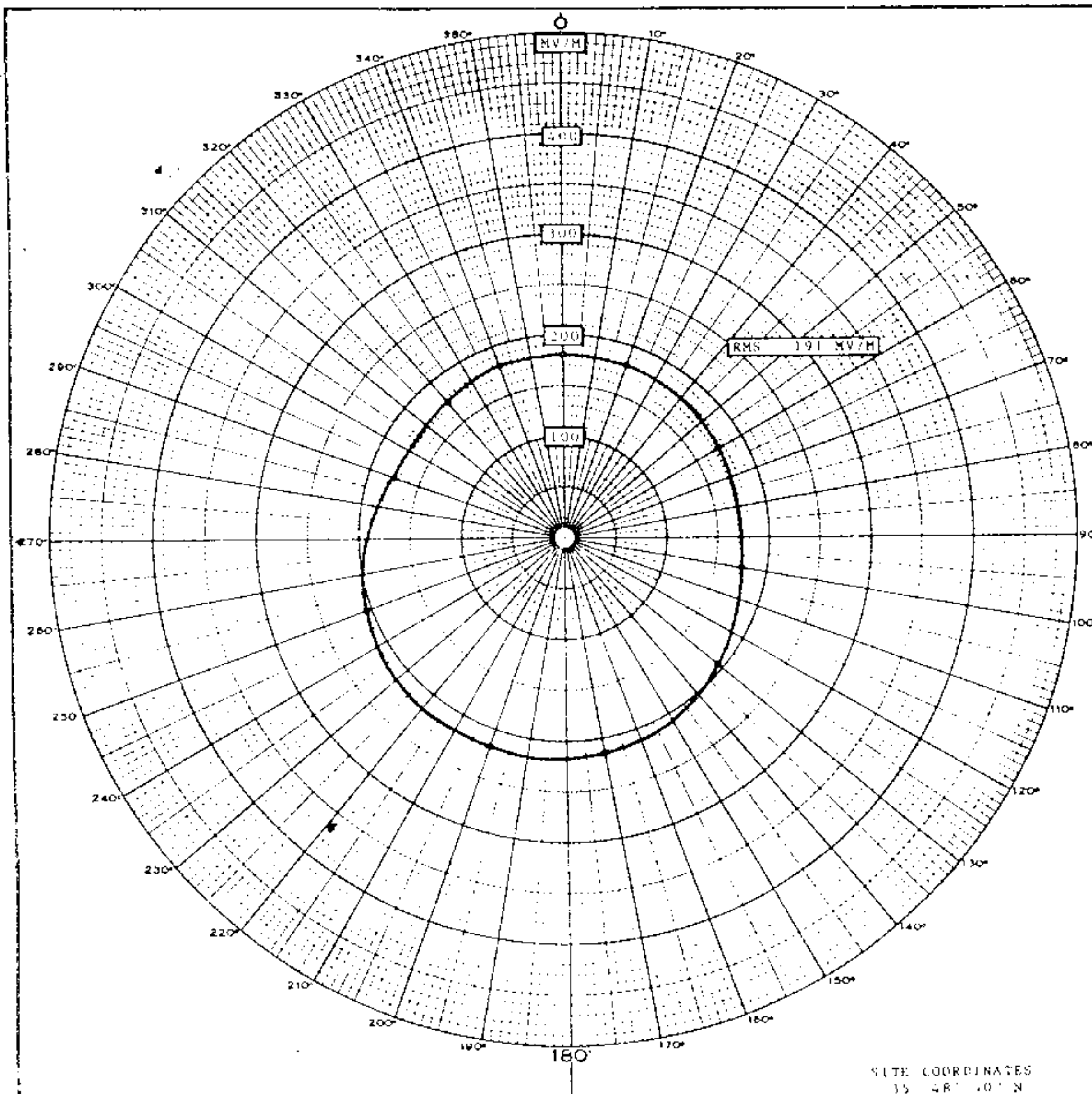
granted CP to change coord.
NL 35-48-37
WL 119-19-17 (10-30-53)



KCHJ

Measured Non-DA (1-28-65ct)	Station KCHJ Delano, California	1kw,5kw-LS,DA-2,U 1010 kc

Figure 7



SITE COORDINATES
35° 48' 40" N
119° 19' 18" W

MEASURED NONDIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

(1) 1.070 90 243.5° (2) Unused	CHARLES CERMAN JOHNES DELANO, CALIFORNIA Jules Cohen & Associates Consulting Electronics Engineers	RADIO STATION KCHJ 1010 KC 1 KW, 5 KW LS U DA 2 Pattern 631216

.0742
4-65 LIC.
DA, XMTR LOC.

FCC File No. BL-10742
Accepted 1-18-65

Station KCHJ
Delano, California

1010 kc

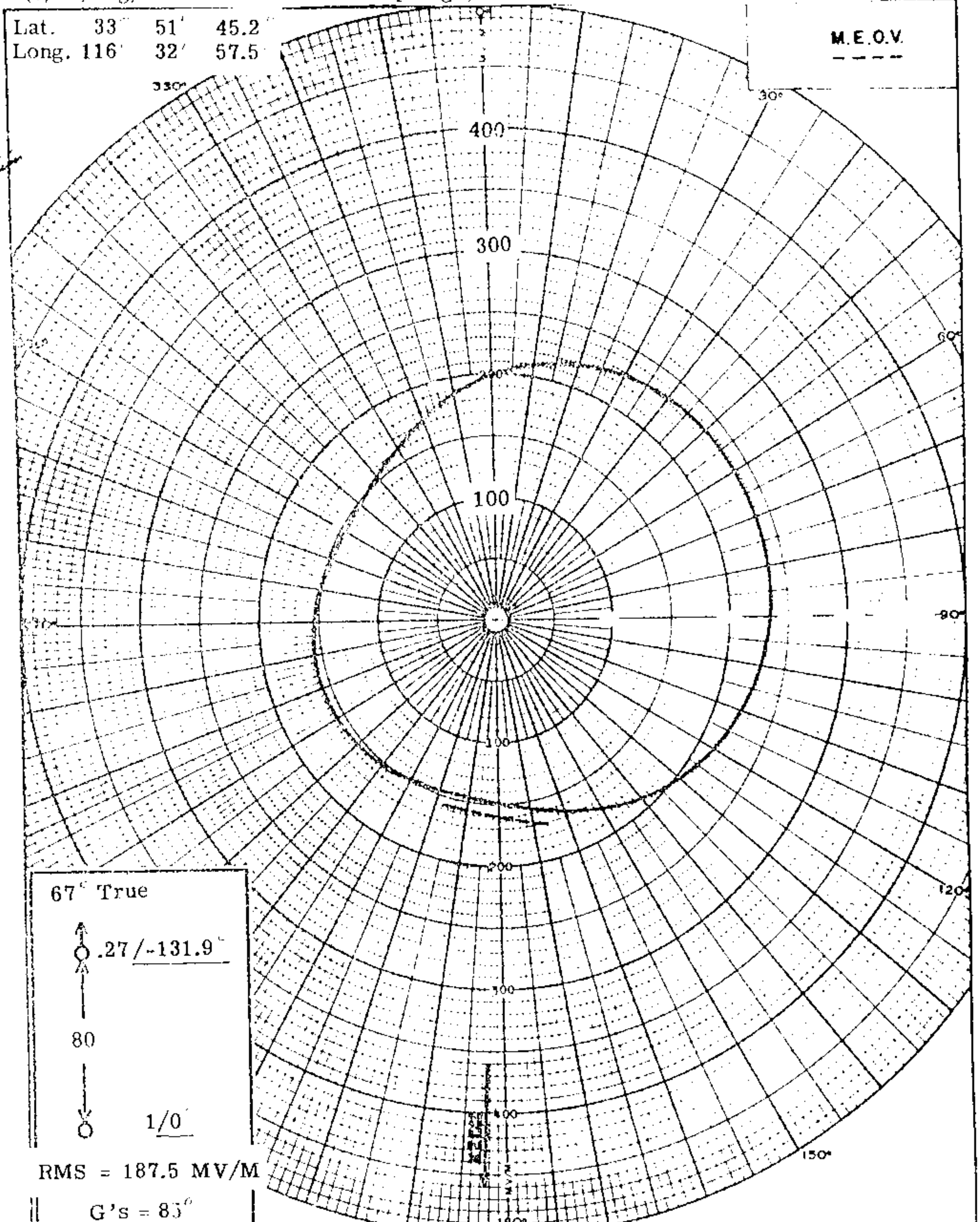
KCMJ

PROPOSED DAY
(5/27/57g)

Station KCMJ
Palm Springs, California

500w,1kw-LS, DA-2,U
1010 KC

Granted CP 7/11/57 for change in freq & ~~...~~ installation DA system



COMMERCIAL RADIO EQUIPMENT CO. RADIO ENGINEERING CONSULTANTS WASHINGTON, D.C.	PATTERN PROPOSED DAYTIME
	FOR KCMJ, Palm Springs, Calif.
	POWER 1 D/0.5 N, DA-2, FREQ 1010 KC
	DATE 2/21/57

FCC File No. BP-10,359
Accepted 5/14/57

KCMJ
Palm Springs, California

1010 KC

KCMJ

MEASURED DAY (3-3-58g)

Station KCMJ 500w,1kw-LS, DA-2,U
Palm Springs, California 1010 KC

Granted license 5/14/58 covering changes in facil. & instal. of DA antenna

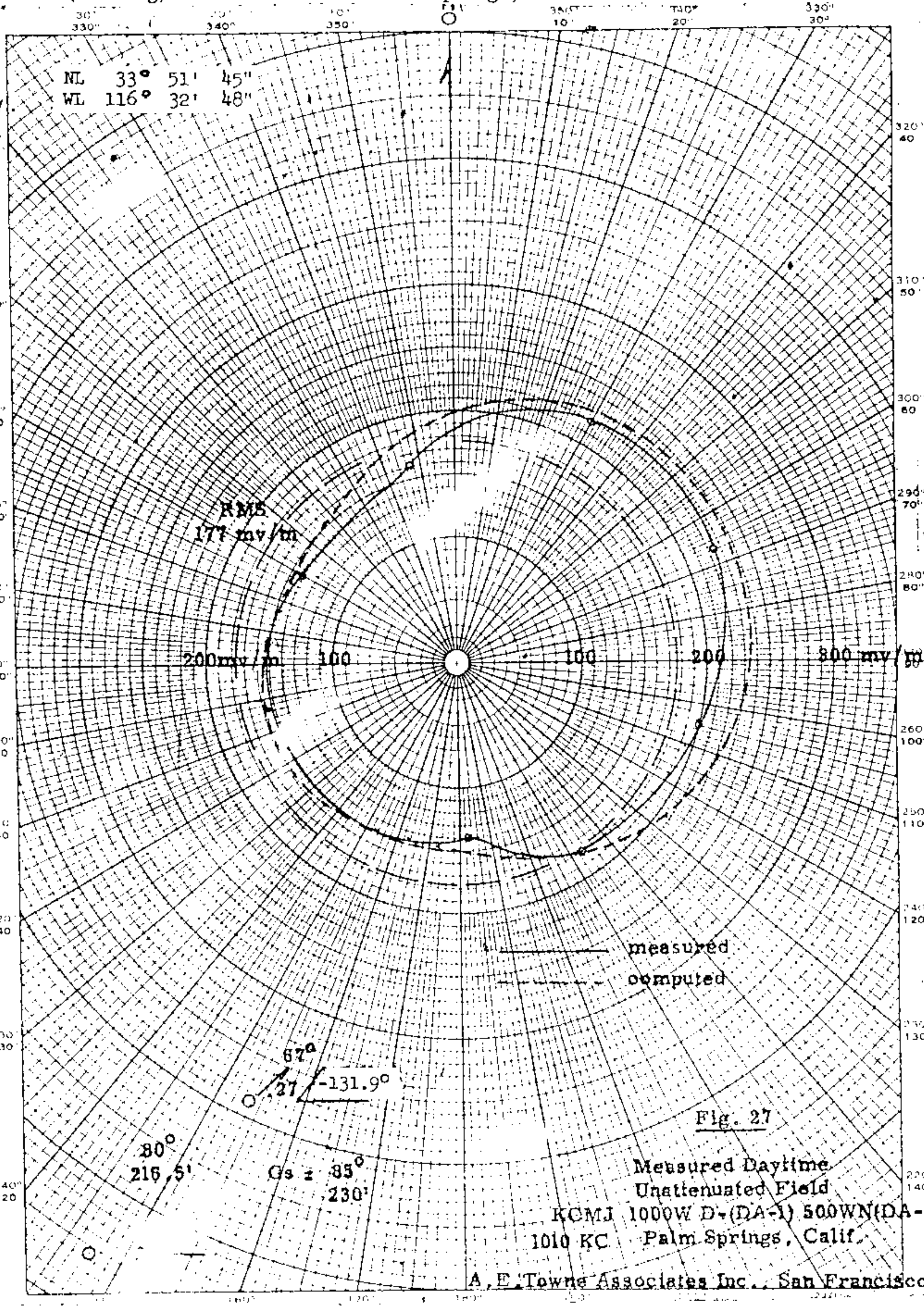


Fig. 27

Measured Daytime
Unattenuated Field
KCMJ 1000W D-(DA-1) 500WN(DA-2)
1010 KC Palm Springs, Calif.

A. E. Towne Associates Inc., San Francisco

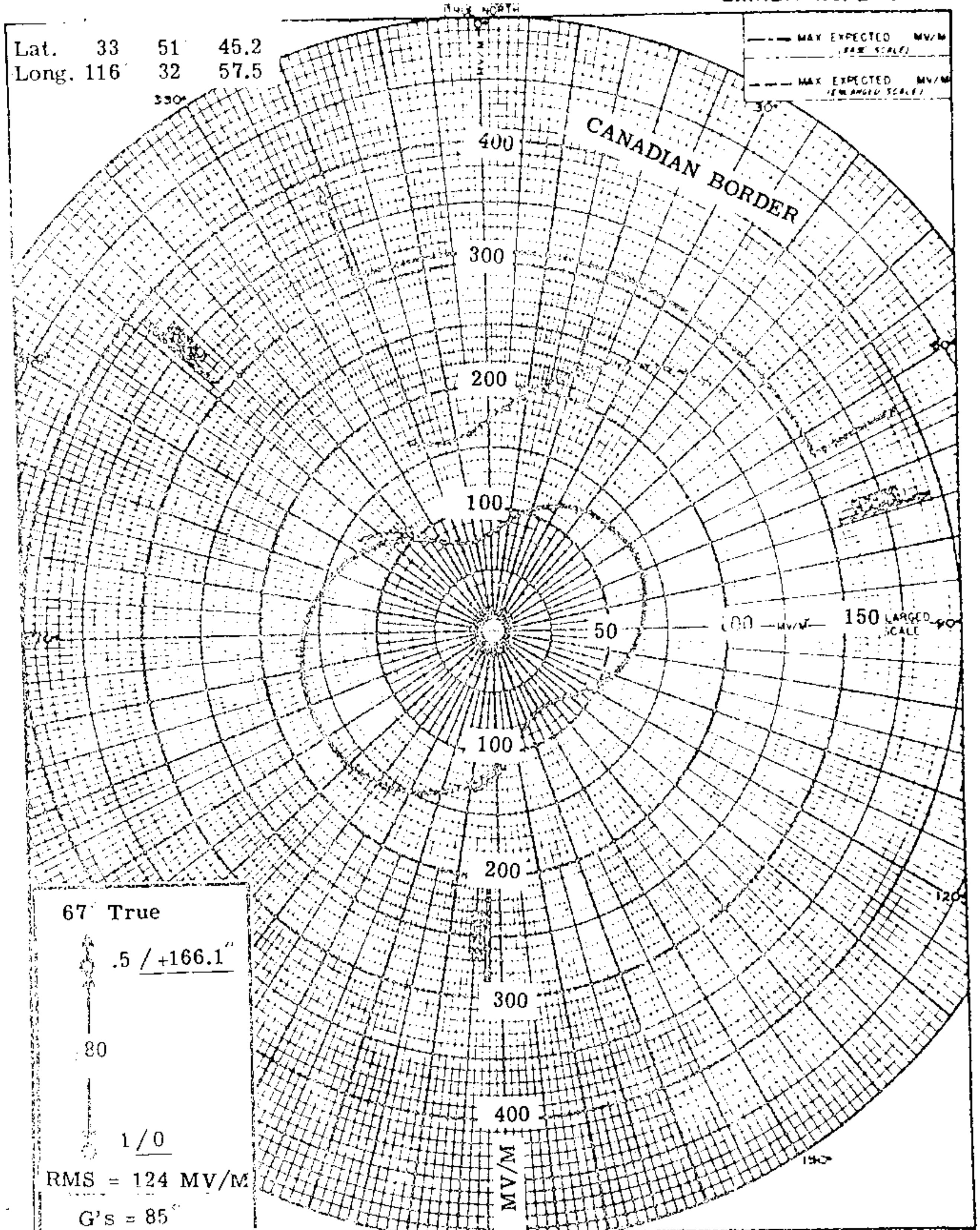
FCC File No. BL-7009 KCMJ
Accepted 2-21-58 Palm Springs, California 1010 KC

KCMJ

PROPOSED NIGHT
(5/27/57g)

Station KCMJ
Palm Springs, California

500w, 1kw-LS, DA-2,U
1010 KC



COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
WASHINGTON, D.C.

PATTERN PROPOSED NIGHTTIME
FOR KCMJ Palm Springs, Calif.
1010 KC

FCC File No. BP-10,359
Accepted 5/14/57

KCMJ
Palm Springs, California

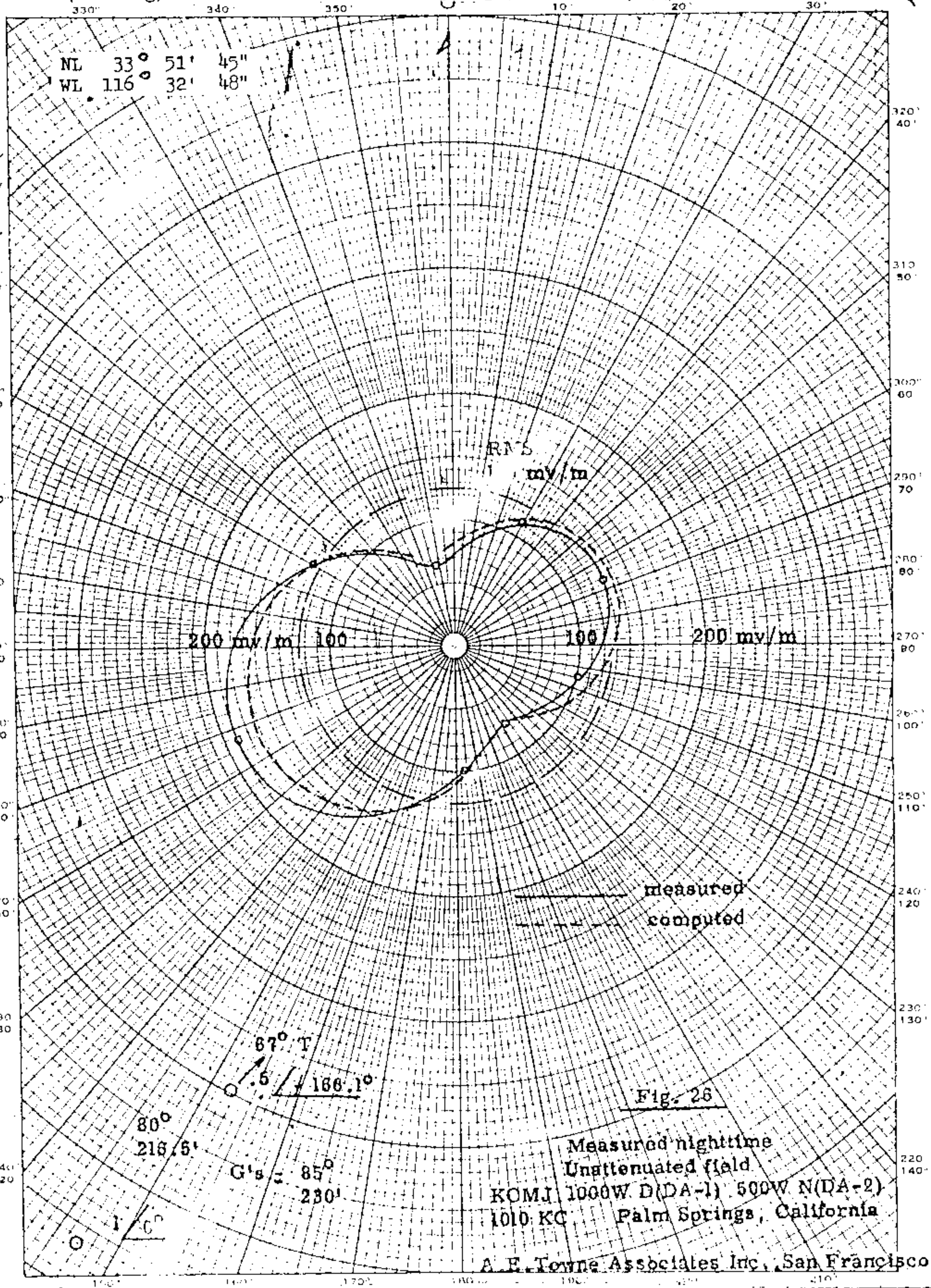
1010 KC

KCMJ

MEASURED NIGHT (3-3-58g)

Station KCMJ 500w, 1kw-LS, DA-2,U
Palm Springs, California 1010 KC

Granted license 5/16/58 covering changes in facil. + install. of DA antenna

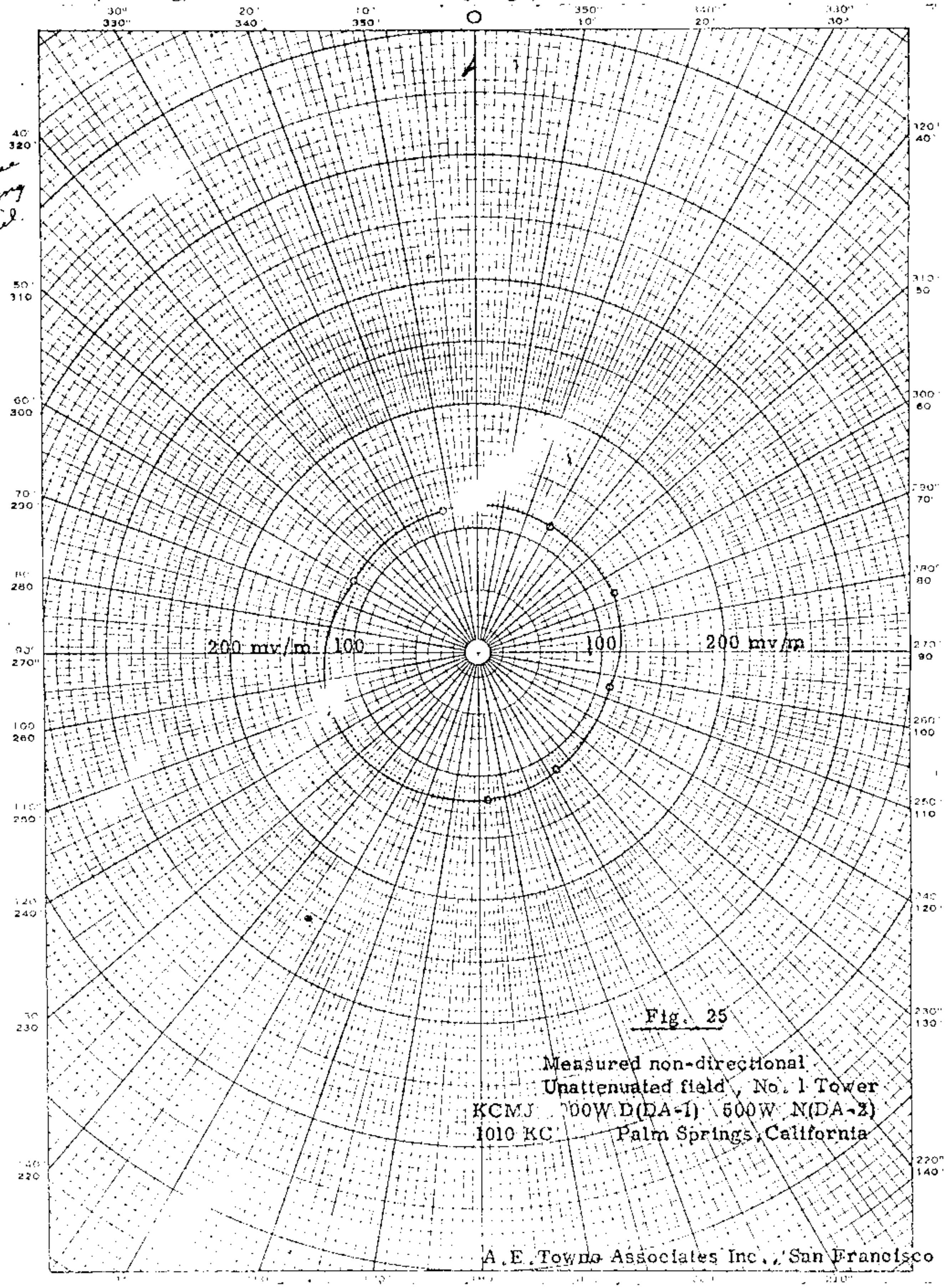


FCC File No. BL-7009 KCMJ
Accepted 2-21-58 Palm Springs, California 1010 KC

MEASURED NON-DA (3-3-58g)

Station KCMJ 500w,1kw-LS, DA-2,U
Palm Springs, California 1010 KC

Granted license
5/16/58 covering
hange in feed
+ install. of
A antenna



FCC File No. BL-7009
Accepted 2-21-58

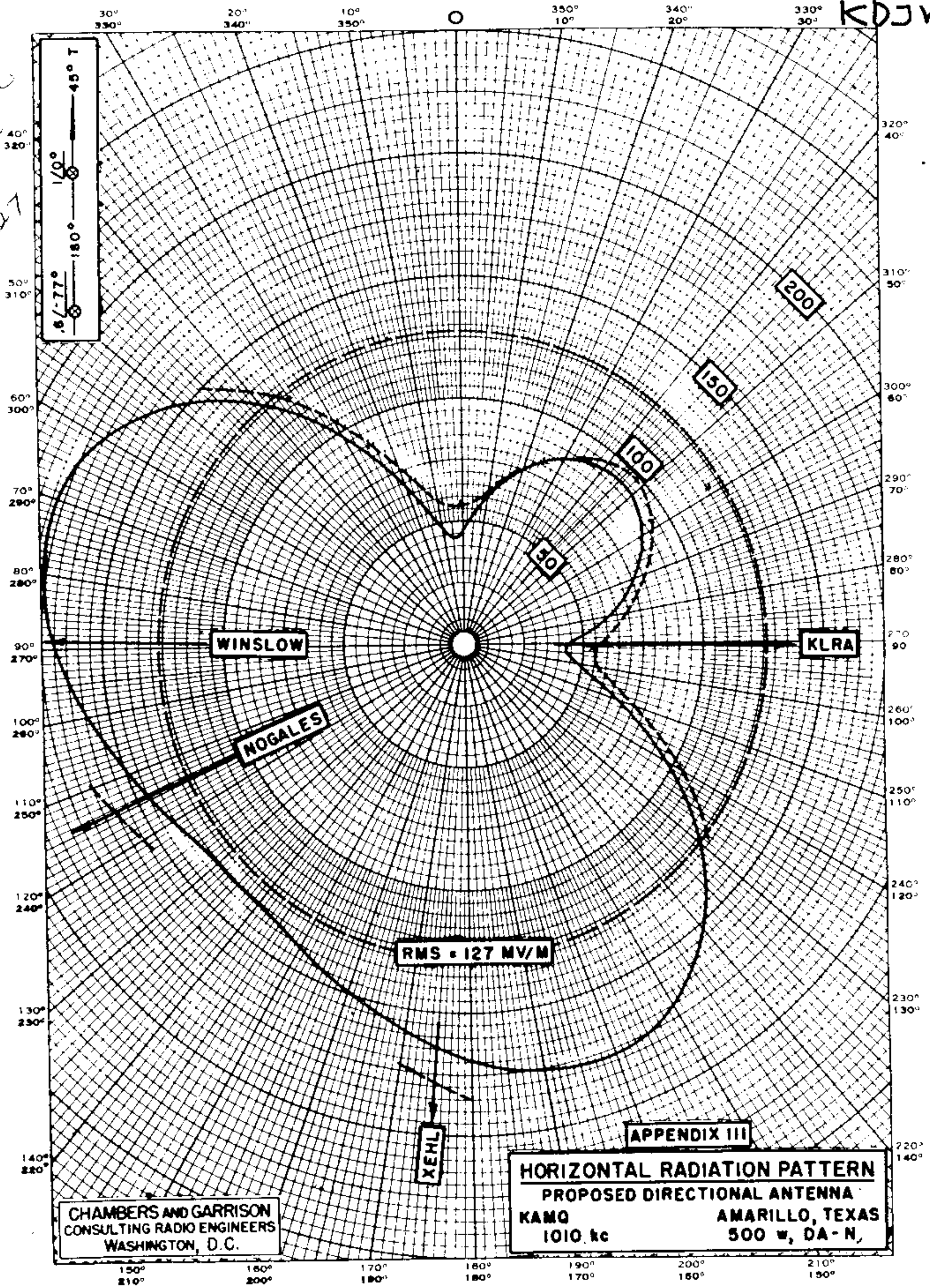
KCMJ
Palm Springs, California 1010 KC

~~KVH~~ | ~~KBUY~~

KDJN

Rec'd 11-12-47

Accepted for move to N 35 13 07 W 101 46 27 [illegible]



~~KVII~~ ~~KBUY~~

PROPOSED
DAY (9/15/54G)

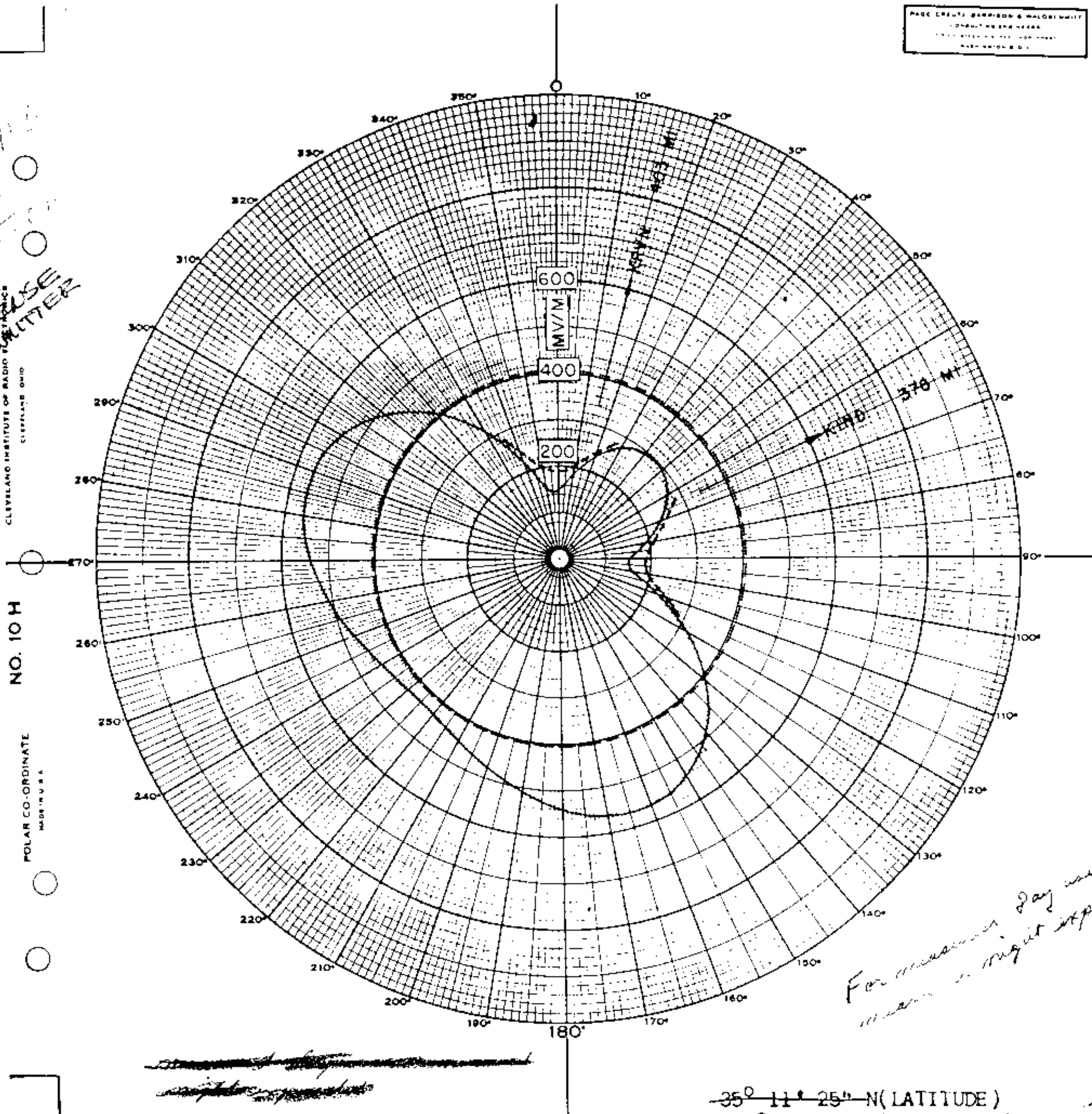
KAMQ
AMARILLO, TEXAS

DA-2 UNLIMITED
500 W,5 KW-LS

KDJW

1010 KC

12-20-66
GRANTED INCREASE
FOR TRANSMITTER
MOVE

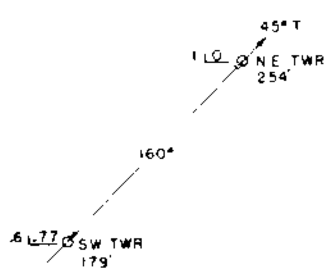


For measured day use mean of night expanded

~~35° 11' 25" N~~(LATITUDE)
~~101° 46' 00" W~~(LONGITUDE)

RMS=407.9

CP accepted to move to
N 35 13 07
W 101 46 27



MEOV-----

FIGURE 1
Horizontal Radiation Pattern
KAMQ, Amarillo, Texas
Proposed 5 kw Daytime Operation
July 1954

FCC FILE NO. BP-9139 (AMENDED) DATE ACCEPTED 8-26-54 DOCKET NO. 11100 1010 KC

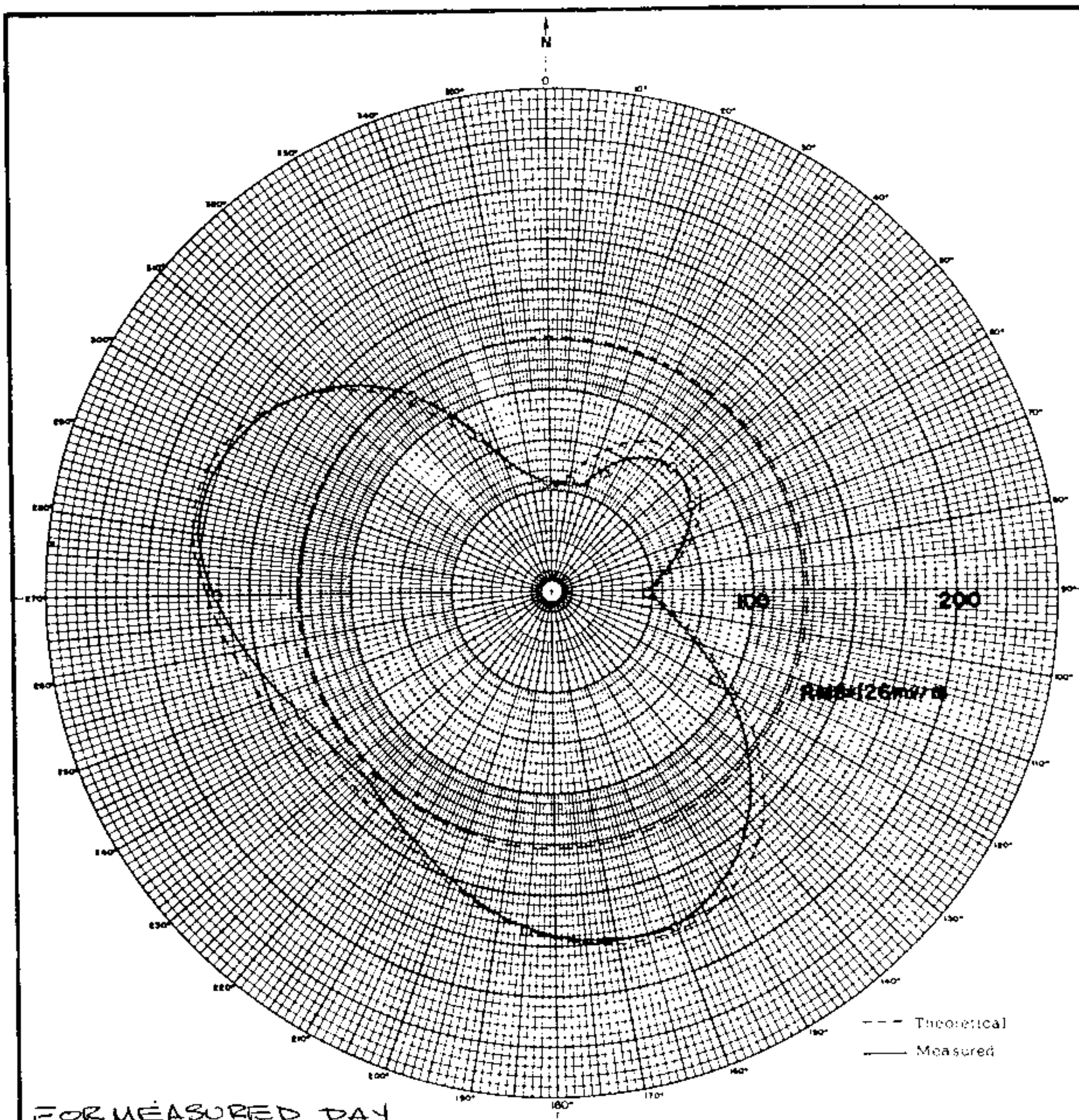
~~KVII~~ ~~KBUY~~
KDJW

Measured Day & Night
(12-29-65ct)

Station KBUY
Amarillo, Texas

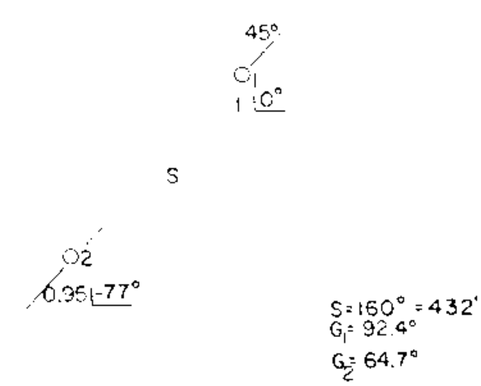
500w,5kw-LS,DA-1,U
1010 kc

12-20-66
GRANTED LICENSE
FOR TRANSMITTER
MOVE.



FOR MEASURED DAY

USE MEASURED NIGHT EXPANDED



APPLICANT	RADIO KBUY, INC.
LOCATION	AMARILLO, TEXAS
FREQUENCY	1010 KC/S
POWER	5.0/0.5 KW DA-1
LATITUDE	~~35°13'14"~~ 35 13 07
LONGITUDE	~~101°46'21"~~ 101 46 27
WHEN USED	DA-1
RMS FIELD	126 MV/M — 0.5 KW
DATE	650601

William B. Carr
Consulting Engineer
Fort Worth, Texas

FCC File No. BL-11161
Accepted 12-16-65

Station KBUY
Amarillo, Texas

1010 kc

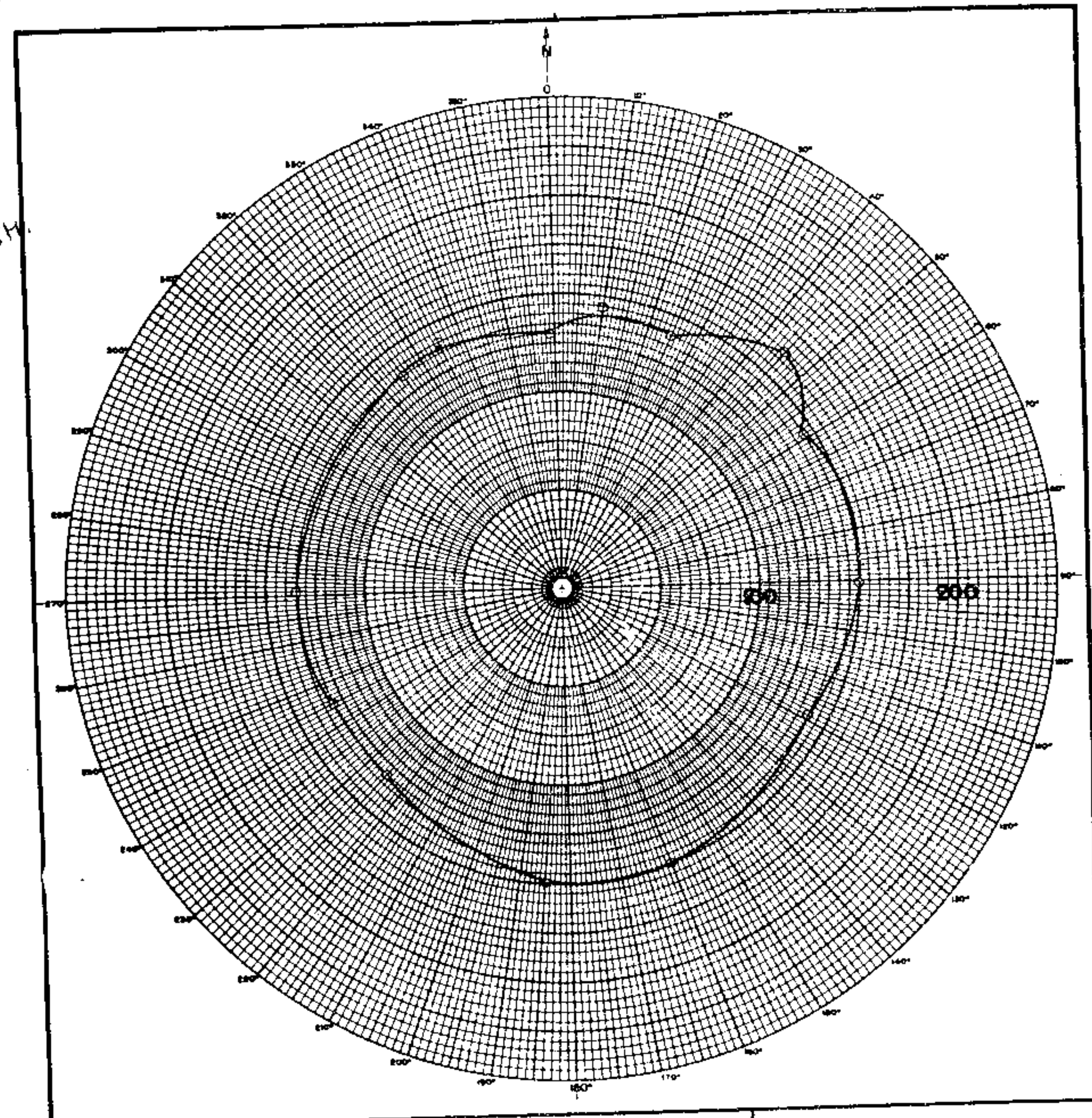
~~KVII~~ ~~KBUY~~ KDJW

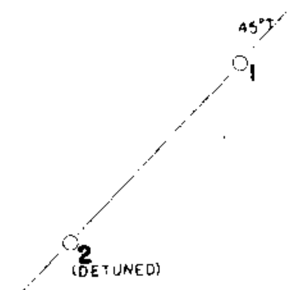
Measured Non-DA
(12-29-65ct)

Station KBUY
Amarillo, Texas

500w,5kw-LS,DA-1,U
1010 kc

2-20-66
GRANTED
LICENSE
FOR TRANSM.
MOVE.





APPLICANT	RADIO KBUY, INC.
LOCATION	AMARILLO, TEXAS
FREQUENCY	1010 KC/S
POWER	0.5 KW
LATITUDE	~~35°13'14"~~ 351307
LONGITUDE	~~101°46'21"~~ 1014627
WHEN USED	NONDIRECTIONAL
R M S FIELD	———
DATE	660601

William B. Carr
CONSULTING ENGINEER
FORT WORTH TEXAS

FCC File No.BL-11161
Accepted 12-16-65

Station KBUY
Amarillo, Texas

1010 kc

KIQI
1010KHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KIQI

Main Studio: Hayward, California

Frequency: 1010 kHz

Power: 5kw Night 50kw Day

Notification List No. 1789

Date: September 12, 1980 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 37° 39' 02"
West Longitude: 122° 09' 08"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 7
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	(#1)	(#2)	(3)	(#4)	(#5)	(#6)	(#7)
HEIGHT ABOVE INSULATORS:	200'	200'	200'	200'	200'	200'	200' (73.9°)
NIGHT PHASIN	0°	-129.8°	-84.2°	+94.8°	+39°	+307°	+133.5°
NIGHT FIELD RATIO:	1.0	0.58	0.18	0.485	0.50	0.469	0.430
DAY PHASING:	0°	-117.1°	+147.7°	+145.5°	-117°	+141.6°	+18.4°
DAY FIELD RATIO:	1.0	0.907	0.119	0.468	0.614	0.496	0.164

SPACING AND ORIENTATION: With Tower #1 as reference Tower #2 is spaced 307.4'(113.6°) on an azimuth of 237.6° true; Tower #3 is spaced 695.2' (256.9°) on an azimuth of 234.3° true; Tower #4 is spaced 349.9' (129.3° on an azimuth of 50.8' true; Tower #5 is spaced 350.5' (129.5°) on an azimuth of 287.8° true; Tower #6 is spaced 600.5' (221.9°) on an azimuth of 264.1° true and Tower #7 is spaced 327.5' (121.0°) on an azimuth of 357.8° true.

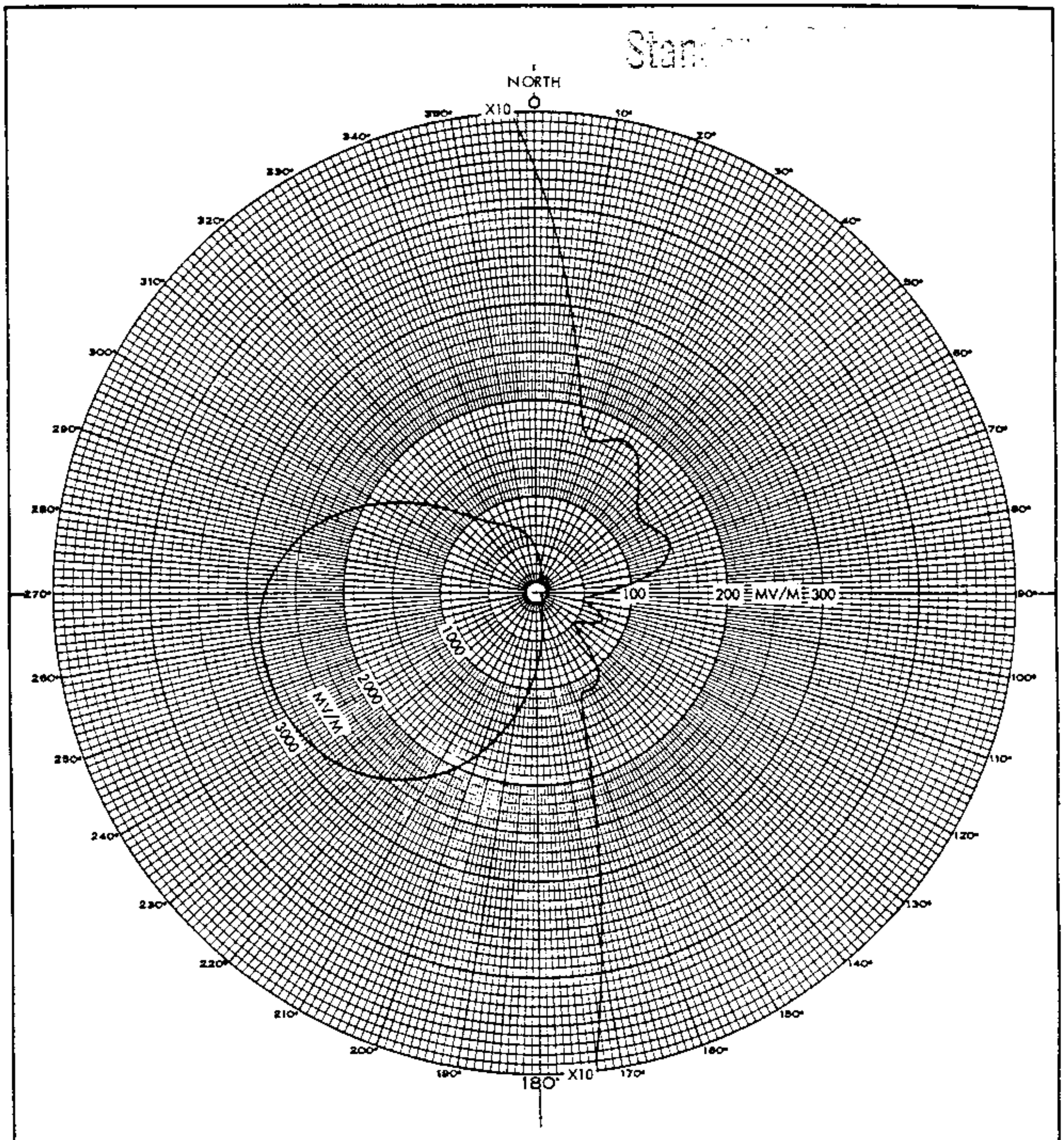
GROUND SYSTEM: 120 - 245' equally spaced copper radials plus interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

KICK
1010KHz

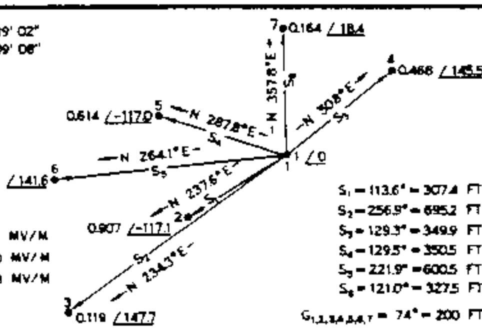
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	1405.2 mv/m	1247.53 mv/m	1476.1 mv/m
Night	406.4 mv/m	451.82 mv/m	429.9 mv/m

KIQI
1010 kHz



N. LAT 37°39' 02"
W. LONG 122°09' 08"



S_1 = 113.6° = 307.4 FT
S_2 = 256.9° = 695.2 FT
S_3 = 129.3° = 349.9 FT
S_4 = 129.5° = 350.5 FT
S_5 = 221.9° = 600.5 FT
S_6 = 121.0° = 327.5 FT
$G_{1,2,3,4,5,6,7}$ = 74° = 200 FT

RMS_{STD} = 1476.13 MV/M
RMS_{THEO} = 1405.20 MV/M
E_{RSS} = 1247.53 MV/M

PROPOSED STANDARD HORIZONTAL RADIATION DAYTIME

UNATTENUATED FIELD STRENGTH
AT ONE MILE

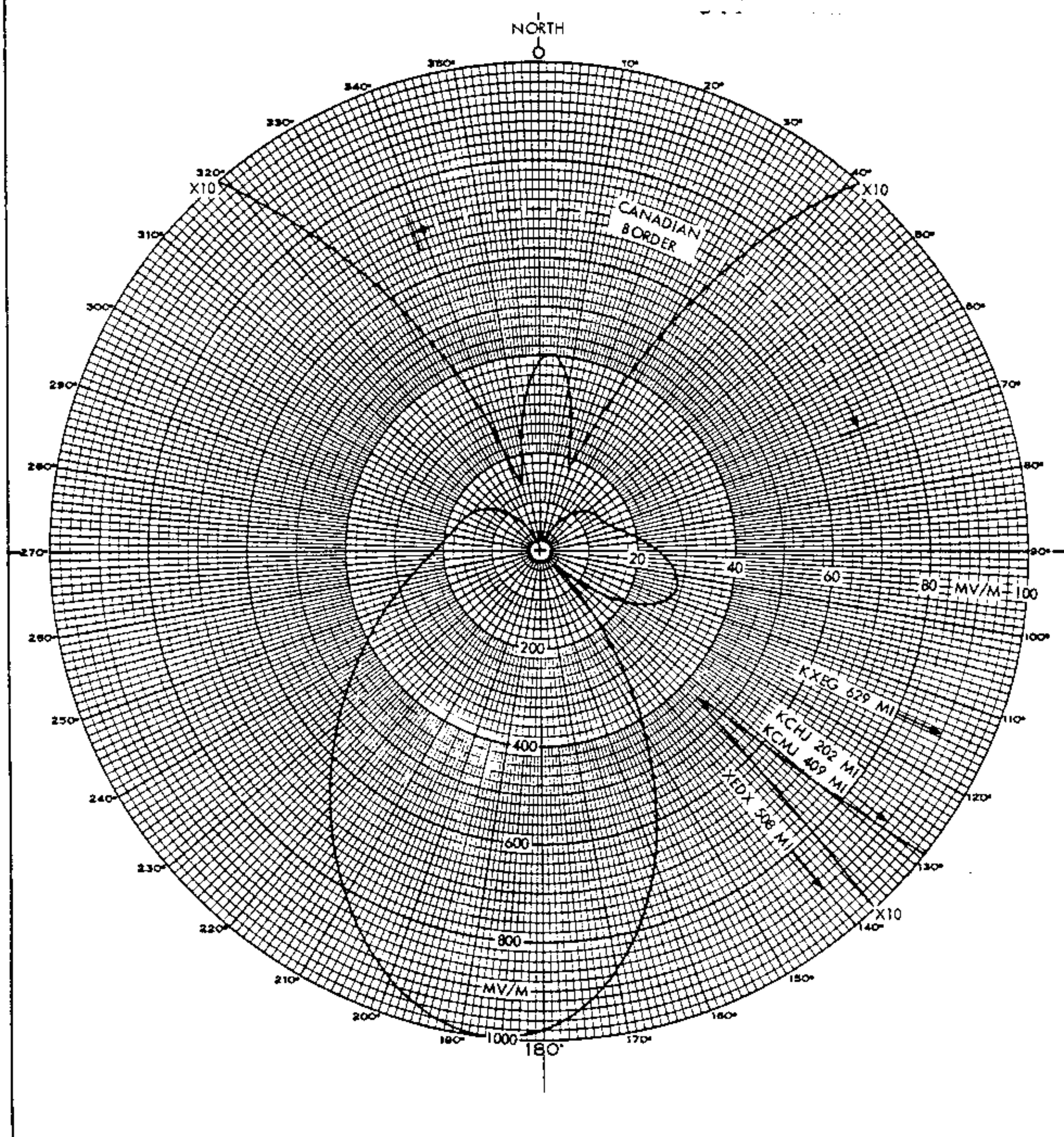
HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

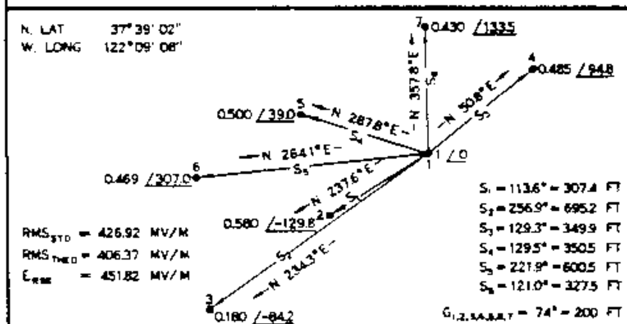
RADIO STATION KIQI
1010KHZ 5KW. 50KW-LS. DA-2
HAYWARD, CALIFORNIA

760218.7

FIGURE 3B

KIQI
1010KHz





HAMMETT & EDISON, INC.
CONSULTING ENGINEERS
SAN FRANCISCO

RADIO STATION KIQI
1010KHZ 5KW, 50KW-LS, DA-2
HAYWARD, CALIFORNIA

PROPOSED STANDARD HORIZONTAL RADIATION NIGHTTIME

UNATTENUATED FIELD STRENGTH
AT ONE MILE

760218.7

FIGURE 4B

KIQI

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KIQI | Main Studio: San Francisco, California

Frequency: 1010 kHz | Power: 0.25 kW Night 10 kW Day

Notification List No. 1650 | Date: September 17, 1975 | Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 37° 49' 33"
West Longitude: 122° 18' 39"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-1)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper 75' sections of guy wires to an effective electrical height of 90 degrees. (*)

TOWER:	W	C	E
HEIGHT ABOVE INSULATORS:	204'	204'	204' (*)
PHASING:	0°	+117.9°	-110.2°
FIELD RATIO:	1	1.142	0.43

SPACING AND ORIENTATION: Adjacent elements are spaced 243.5'(90°) on a line bearing 60° true.

GROUND SYSTEM: 120-200' to 250' equally spaced copper radials about each tower. Radials are shortened and bonded along intersections between towers. Centers of systems are bonded together.

Predicted effective Night Field: 91.4 mv/m at rated power.

Predicted effective Day Field: 578 mv/m at rated power.

Note: Please retain the Daytime directional antenna radiation pattern notified for station KFOO (now KIQI) in United States Change List Number 629 dated October 26, 1955 and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns changes to add a new nighttime operation with Daytime operation continued as previously notified, and cancels the proposed daytime operation notified in list number 1567 dated February 13, 1974.

CTR NO 30378A3

A. D. RING & ASSOCIATES · 5/57 · 500

KIQI, 1010 KHZ

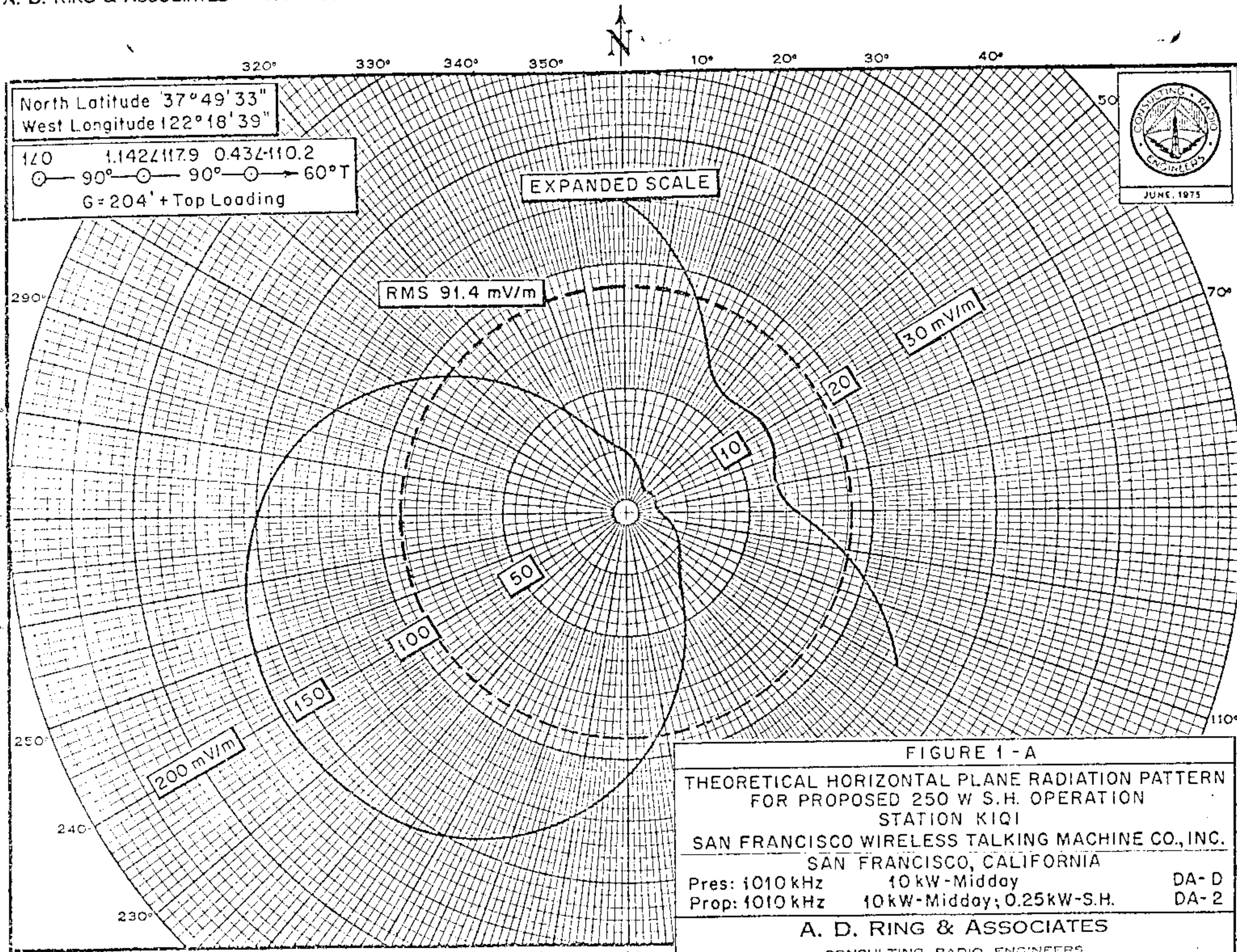


FIGURE 1-A

THEORETICAL HORIZONTAL PLANE RADIATION PATTERN
FOR PROPOSED 250 W S.H. OPERATION
STATION KIQI
SAN FRANCISCO WIRELESS TALKING MACHINE CO., INC.
SAN FRANCISCO, CALIFORNIA

Pres: 1010 kHz	10 kW-Midday	DA-D
Prop: 1010 kHz	10 kW-Midday; 0.25 kW-S.H.	DA-2

A. D. RING & ASSOCIATES
CONSULTING RADIO ENGINEERS
WASHINGTON, [illegible]

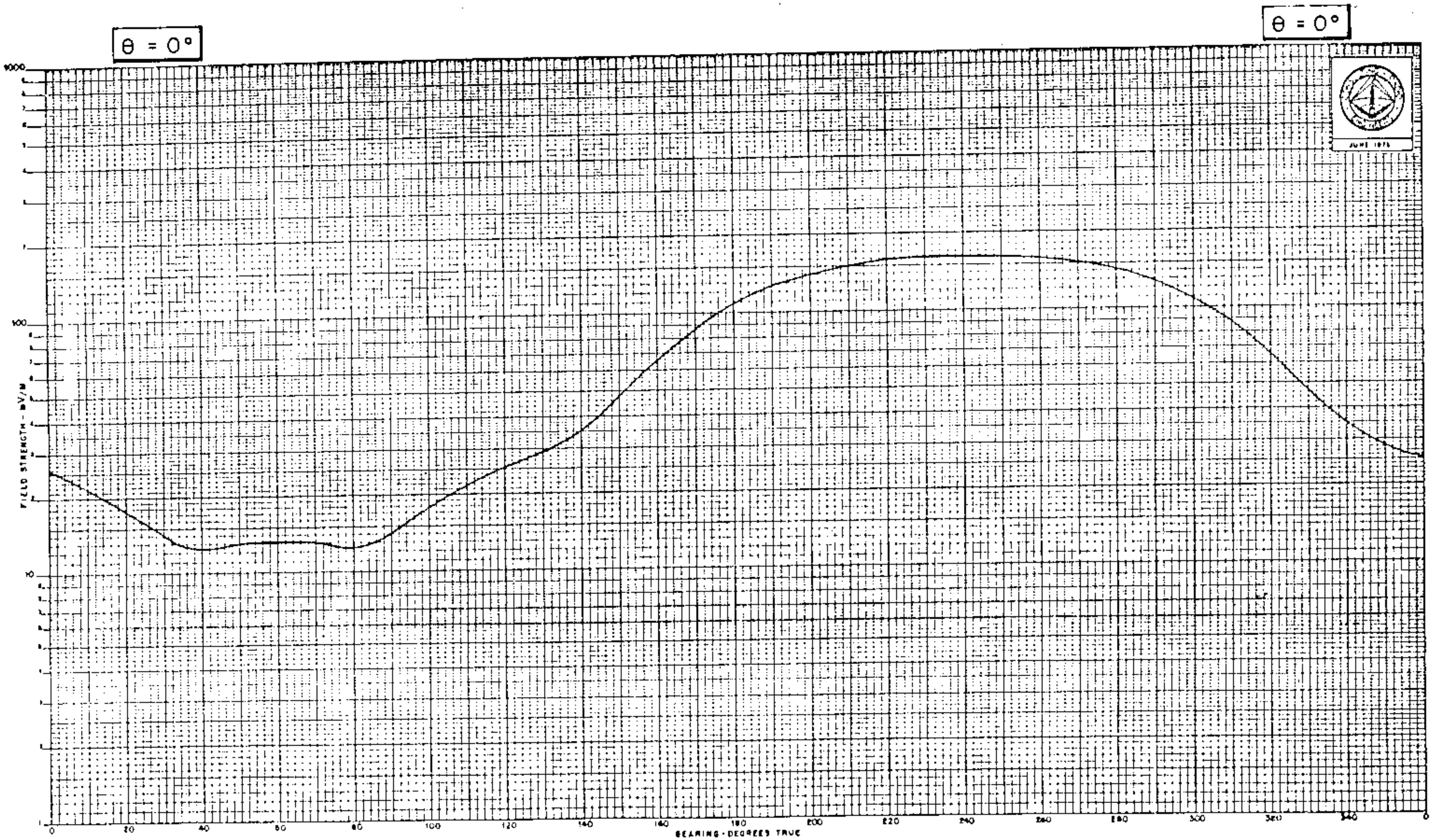


FIGURE 2-A

K1Q1

CBR
1010 kHz

SUPPLEMENTAL DIRECTIONAL

ANTENNA DESCRIPTION SHEET

Station: CBR

Main Studio: Calgary, Alberta

Frequency: 1010KHz

Power: 50 kw, Class IA

Notification List No.: 325

Date: May 17, 1974

Geographical Location of
the Center of the Antenna System:

North Latitude: 50° 56' 17"
West Longitude: 113° 57' 38"

Mode of Operation - DA-2

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CBR in Canadian Change List Number 168 dated March 9, 1962 and attach to this supplemental description sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates.

CBR

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: CBR

Main Studio: Calgary, Alberta

Frequency: 1010KHz

Power: 50 kw, Class IA

Notification List No.: 325

Date: May 17, 1974

Geographical Location of the Center of the Antenna System:

North Latitude: 50° 56' 17"
West Longitude: 113° 57' 38"

Mode of Operation - DA-2

Note: Please retain the description sheet and directional antenna radiation patterns notified for station CBR in Canadian Change List Number 168 dated March 9, 1962 and attach to this supplemental description sheet. This notification is for the purpose of indicating only a correction in the geographical coordinates.

168

Description Sheet
(9-29-64ct)

Station CBR
Calgary, Alberta

CBR
50kw,DA-2,U,ClassI-A
1010 kc

CANADIAN BROADCASTING CORPORATION
ENGINEERING DIVISION MONTREAL
TITLE..

DWG. NO. ....
DATE .... ISS. ....
ENG. .... APP. ....

Now operating with incr. pwr chg. list 191

RECEIVED
MAR 1962
F.C.C.
MAIL & FILES

DESCRIPTION OF ANTENNA ARRAY

Station: [redacted]CBR Main Studio: Calgary, Alberta

Frequency: 1010 kc/s Power: 50 kw Class I-A

Geographical Location of the Centre of Antenna System: Latitude: 50° 56' ~~6"~~ 17" N.

Longitude: 113° 57' ~~16"~~ 38" W.

Notification List No. 168 Date: March 9, 1962

Antenna Characteristics

Day and Night Operation: (DA-2)

Number of Elements: 2

Type of Elements: Series excited, uniform cross-section guyed, vertical steel towers.

Towers:	1 (East)	2 (West)
Height above insulators:	465' (180°)	465' (180°)
Night Phasing:	0	-16°
Night Field Ratio:	1.0	1.0
Day Phasing:	-16°	0
Day Field Ratio:	1.0	1.0

Spacing and Orientation: Elements are placed 284' (105°) apart, and lie on a line bearing 108°T.

Ground System: 120 radials per tower spaced at 3° and averaging 390' long, except in area between towers, where the radials are bonded to a common transverse copper strap mid-way between the tower positions.

Antenna Efficiency: (Day) 1580 mv/m at 1 mile

(Night) 1580 mv/m at 1 mile

C.B.C.-252A

Transmission & Development Department

#168

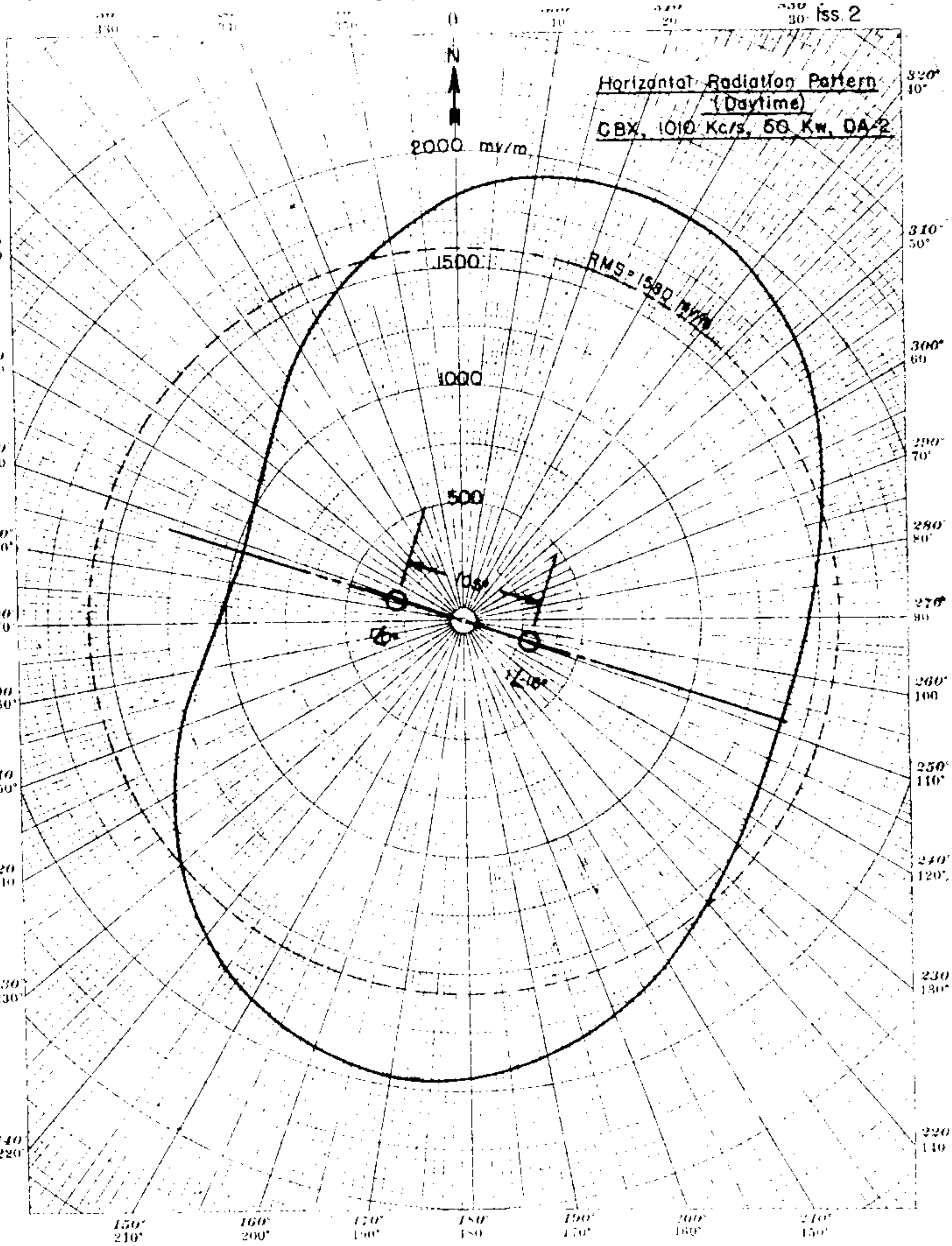
CBR

Proposed Day
(9-29-64ct)

Station CBR
Calgary, Alberta

50kw,DA-2,U,ClassI-A
1010 kc
Iss. 2

N OPERATING
TH INCR. PWR.
HG. LIST 191



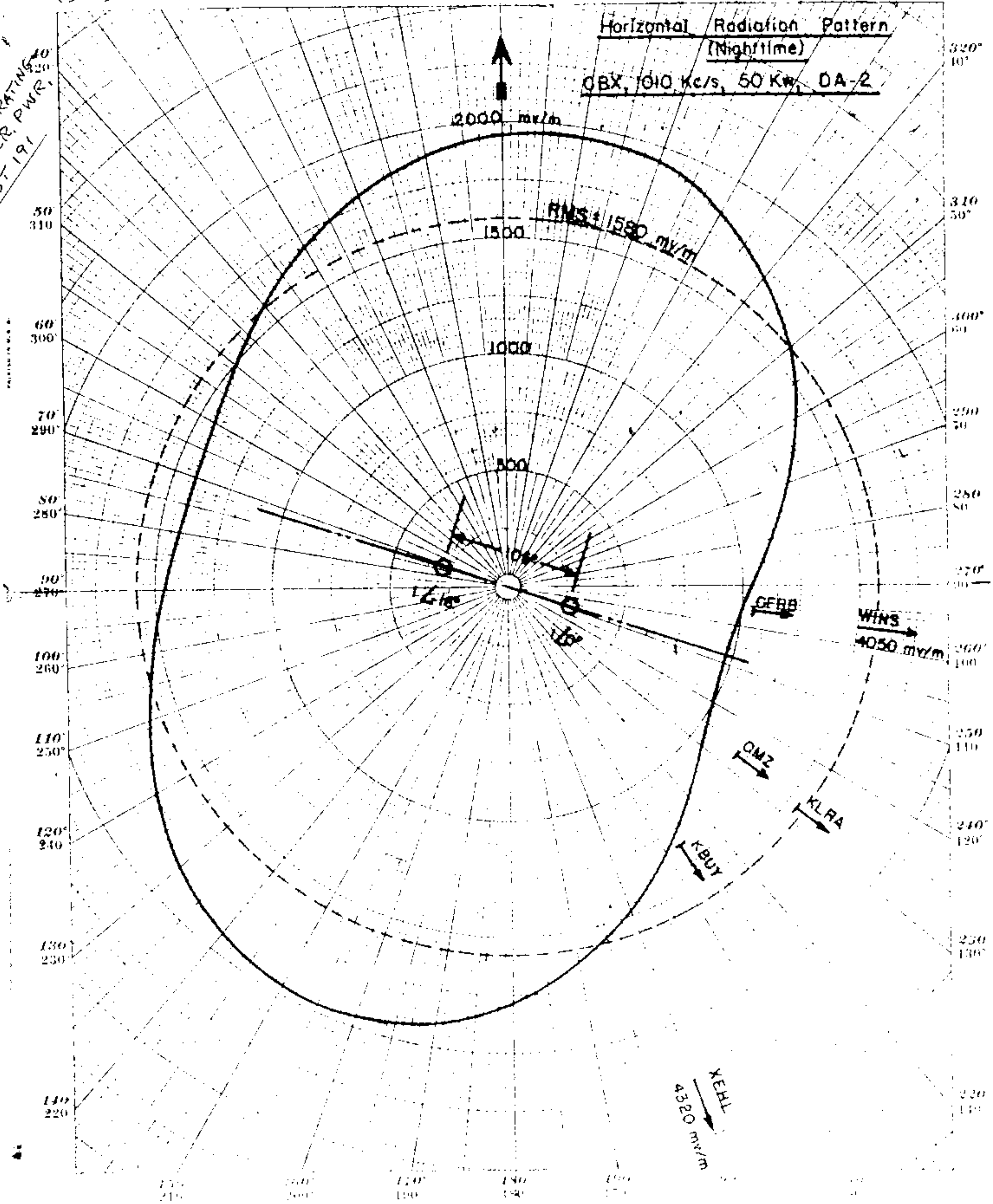
F168

CBR

Proposed Night
(9-29-64ct)

Station CBR
Calgary, Alberta

50kw,DA-2,U,ClassI-A
1010 kc



PROJECT #1703

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CFRB MAIN STUDIO: Toronto, Ontario

FREQUENCY: 1010 kHz POWER: 50 kW CLASS: II

NOTIFICATION LIST NO: 290 DATE: May 3, 1972

GEOGRAPHICAL LOCATION: Latitude 43° 30' 22" North
Longitude 79° 37' 50" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-2
Number of Elements: 4 (four)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

TOWER:	#1(SE)	#2(SW)	#3(NE)	#4(NW)
HEIGHT ABOVE BASE INSULATOR:	550' (203°)	550' (203°)	250' (92.3°)	250' (92.3°)
OVERALL HEIGHT:	555'	555'	255'	255'
FIELD RATIO:				
Nighttime	1.0	1.01	1.0	.92
Daytime	1.0	.94	.47	--
PHASING:				
Nighttime	0°	-5°	-64.2°	-71°
Daytime	0°	-65°	-75°	--

GROUND SYSTEM: 120 equally spaced radials of No. 10 B & S gauge bare copper wire extend from the base of each tower for a distance of 390' (.4 wave-length) with the exception of those joined along the common chords. Radials are buried approximately eight inches.

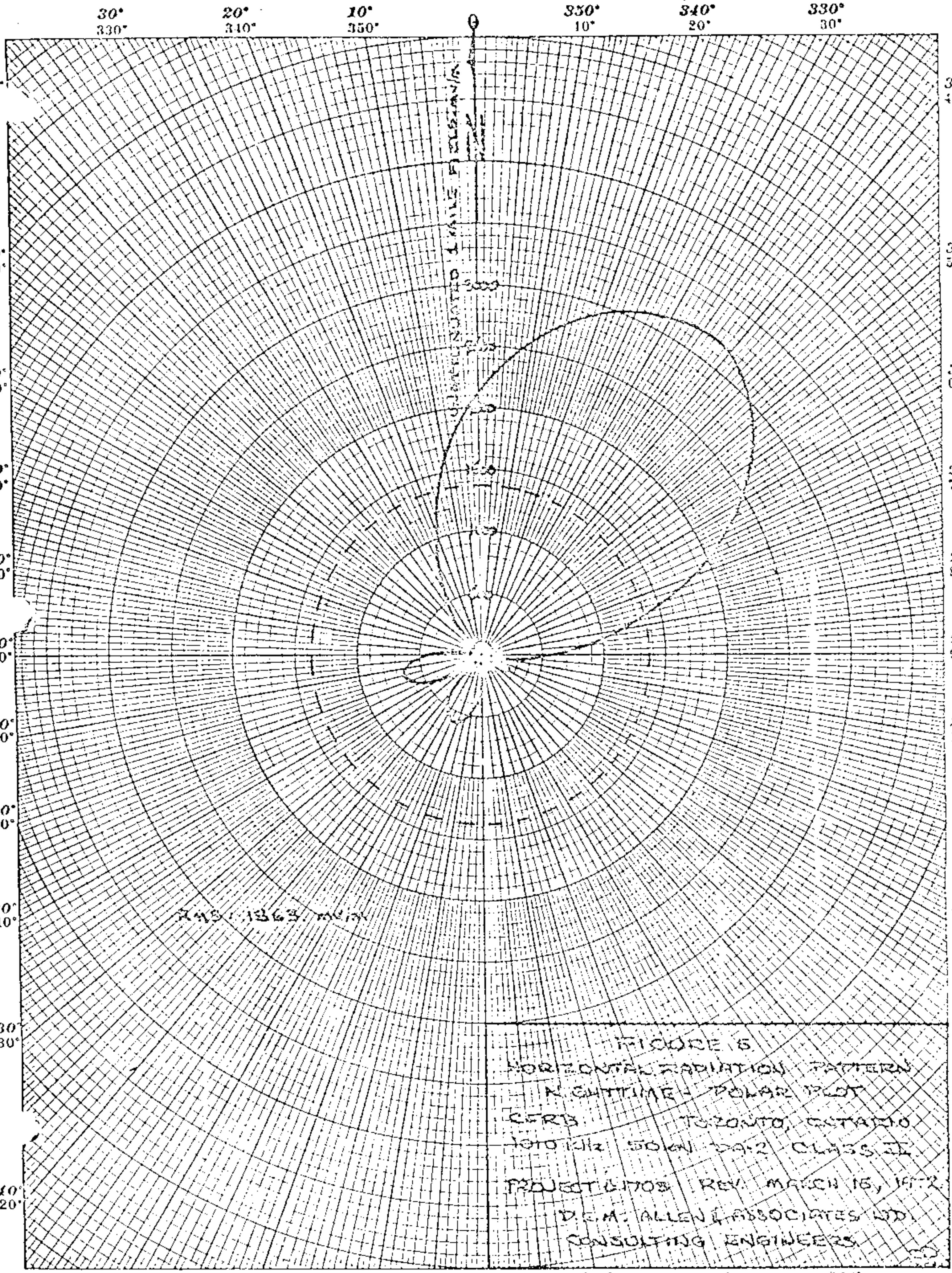
SPACING AND ORIENTATION OF TOWERS: The towers are located at the four corners of a parallelogram whose long sides are 510.7' (188.56°) at azimuth 303° and whose short sides are 365.19' (135°) at azimuth 16°.

PREDICTED EFFECTIVE FIELD:

Nighttime 1363 mV/m at 1 mile for 50 kW
193 mV/m at 1 mile for 1 kW

Daytime 1670 mV/m at 1 mile for 50 kW
237 mV/m at 1 mile for 1 kW

March 15, 1972



30° 330°
20° 340°
10° 350°
0
350° 10°
340° 20°
330° 30°
UNATTENUATED 1 MILE FIELD mV/m
RMS: 1363 mV/m
FIGURE 6
HORIZONTAL RADIATION PATTERN
NIGHTTIME - POLAR PLOT
CFRB TORONTO, ONTARIO
1010 kHz 50 kW DA-2 CLASS II
PROJECT 6108 REV. MARCH 16, 1972
D.E.M. ALLEN & ASSOCIATES LTD.
CONSULTING ENGINEERS

[illegible] #1701

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

Station: CFRB | Main Studio: Toronto, Ontario

Frequency: 1010 kHz | Power: 50 kW

Notification List No: **234** | Date: **November 15, 1967**

GEOGRAPHICAL LOCATION: Latitude: 43° 33' 22" North
Longitude: 79° 37' 50" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-2
Number of Elements: Four (4)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed.

TOWER:	#1(NW)	#2(SE)	#3(SW)	#4(NE)
HEIGHT ABOVE BASE INSULATOR:	250'(92.3°)	250'(92.3°)	250'(92.3°)	250'(92.3°)
OVERALL HEIGHT:	255'	255'.	255'	255'
FIELD RATIO:				
Nighttime	1.0	1.0	1.0	1.0
Daytime	1.0	---	---	1.0
PHASING:				
Nighttime	0°	+76°	+71°	+5°
Daytime	0°	---	---	+60°

GROUND SYSTEM: 120 equally spaced radials [illegible] gauge bare copper wire [illegible] the base of each tower for a distance of approximately 40[illegible]' with the exception of those joined along the common chords. Radials are buried approximately eight inches.

CFRB

Description Sheet (Page 2)
(12-28-67ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

PROJECT #[illegible]

CFRB

DESCRIPTION SHEET - DIRECTIONAL ANTENNA
(Continued)

SPACING AND ORIENTATION
OF TOWERS:

The Towers are located at the four corners of a parallelogram whose long sides are [illegible]0.7' ([illegible]8.86°) at azimuth 123° and whose short sides are 355.19' ([illegible]0°) at azimuth 15°.

Predicted Effective Field:

Nighttime:
1237 mV/m at 1 mile for 50 kW
175 mV/m at 1 mile for 1 kW

Daytime: 1300 mV/m at 1 mile for 50 kW
184 mV/m at 1 mile for 1 kW

NOTE: Attach this description sheet and day-time horizontal radiation pattern to the night-time radiation pattern previously notified

List #234, November 15, 1967.

D. E. H. ALLEN, P. ENG.   BROADCAST CONSULTING ENGINEER.

1948

CFRB

ISSUE 1010

DESCRIPTION OF ARRAY

Station CFRB Main Studio Toronto

Power 50 KW Frequency 1010 KC Class II

Location Latitude 43° 30' 30" N
Longitude 79° 37' 45" W

ANTENNA

Night Operation
4 elements

Tower	1 (NW)	2 (SE)	3 (SW)	4 (NE)
Height above insulator	250'	250'	250'	250'
Phasing	38° (lag)	33° (lead)	33° (lead)	33° (lag)
Field Ratio	1	1	1	1

Day Operation

Tower	1 (NW)	4 (NE)
Phasing	30° (lag)	30° (lead)
Field Ratio	1	1

Ground System: 120 radials 400 ft. long around each mast

Predicted Effective Field: 1237 MV/M/M. (175 for 1KW)

Orientation: 3 - 1 and 2 - 4 azimuth 16° spacing 135

1 - 4 and 3 - 2 " 123 " 183°.56.

RECD 1/8/48 ACC 1/8/48

COPY

B. de F. BAYLY

DATE	DRAWN
SCALE	APPR. BY

WO 55-5

CFRB

Proposed Day
(12-28-67ct)

Station CFRB
Toronto, Ontario

50kw,DA-2,U,Class II
1010 kc

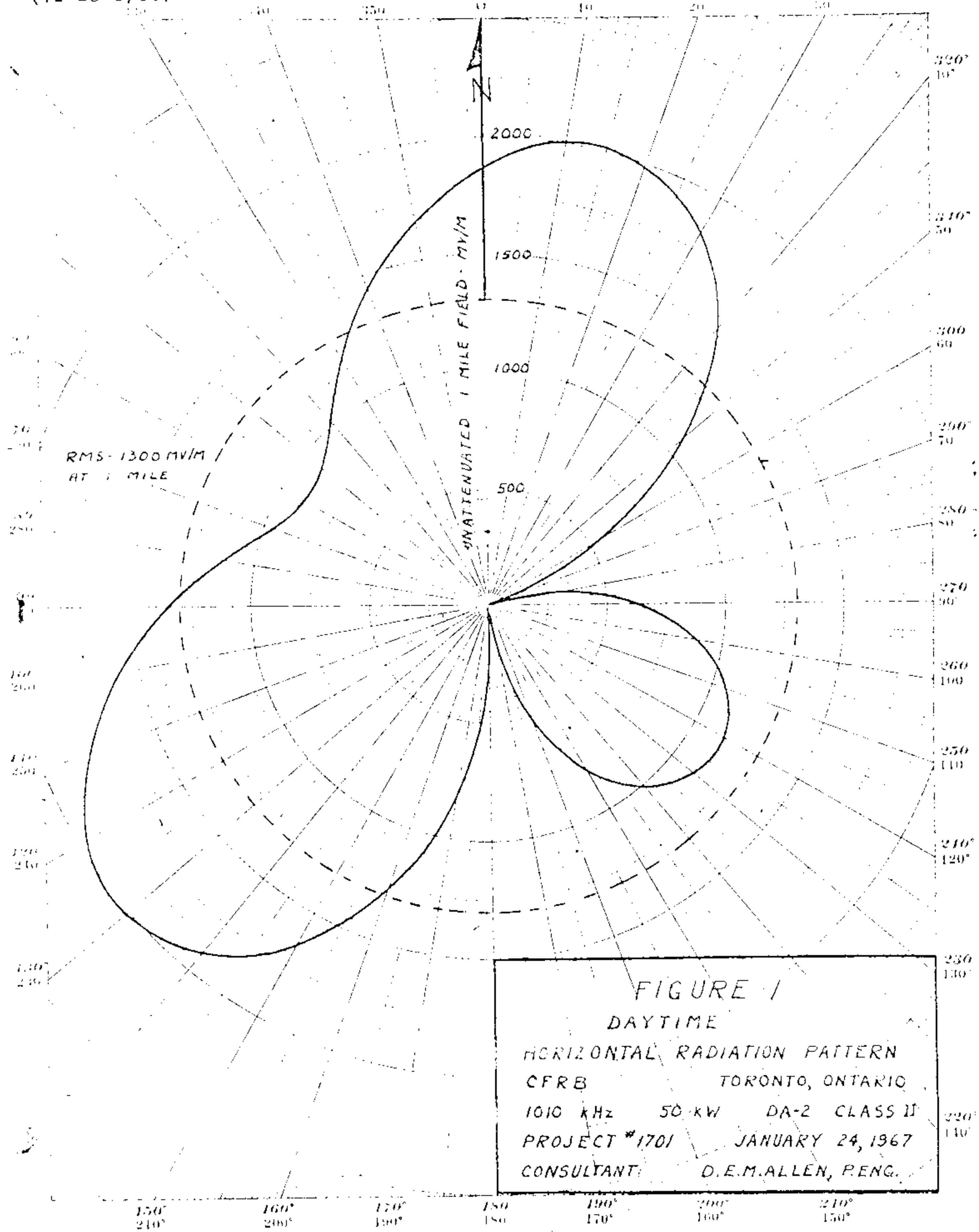


FIGURE 1

DAYTIME

HORIZONTAL RADIATION PATTERN

CFRB TORONTO, ONTARIO

1010 kHz 50 KW DA-2 CLASS II

PROJECT # 1701 JANUARY 24, 1967

CONSULTANT: D.E.M.ALLEN, P.ENG.

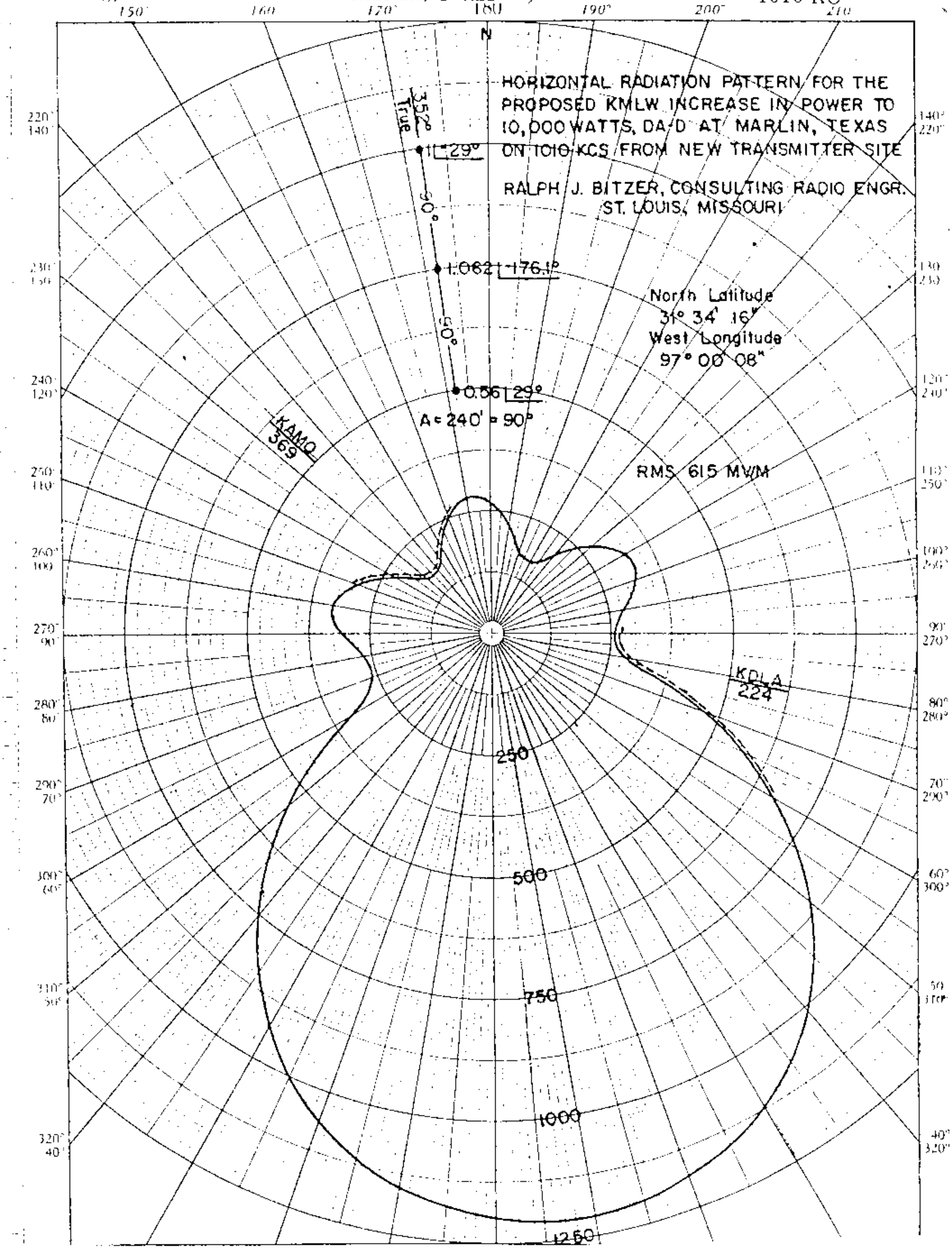
KKIK

PROPOSED DAY
(3-23-59g)

Station KMLW
Marlin, Texas

10kw, DA-D,D

1010 KC



FCC File No. BP-12159
Accepted 2-3-59 (Amended)

KMLW
Marlin, Texas

1010 KC

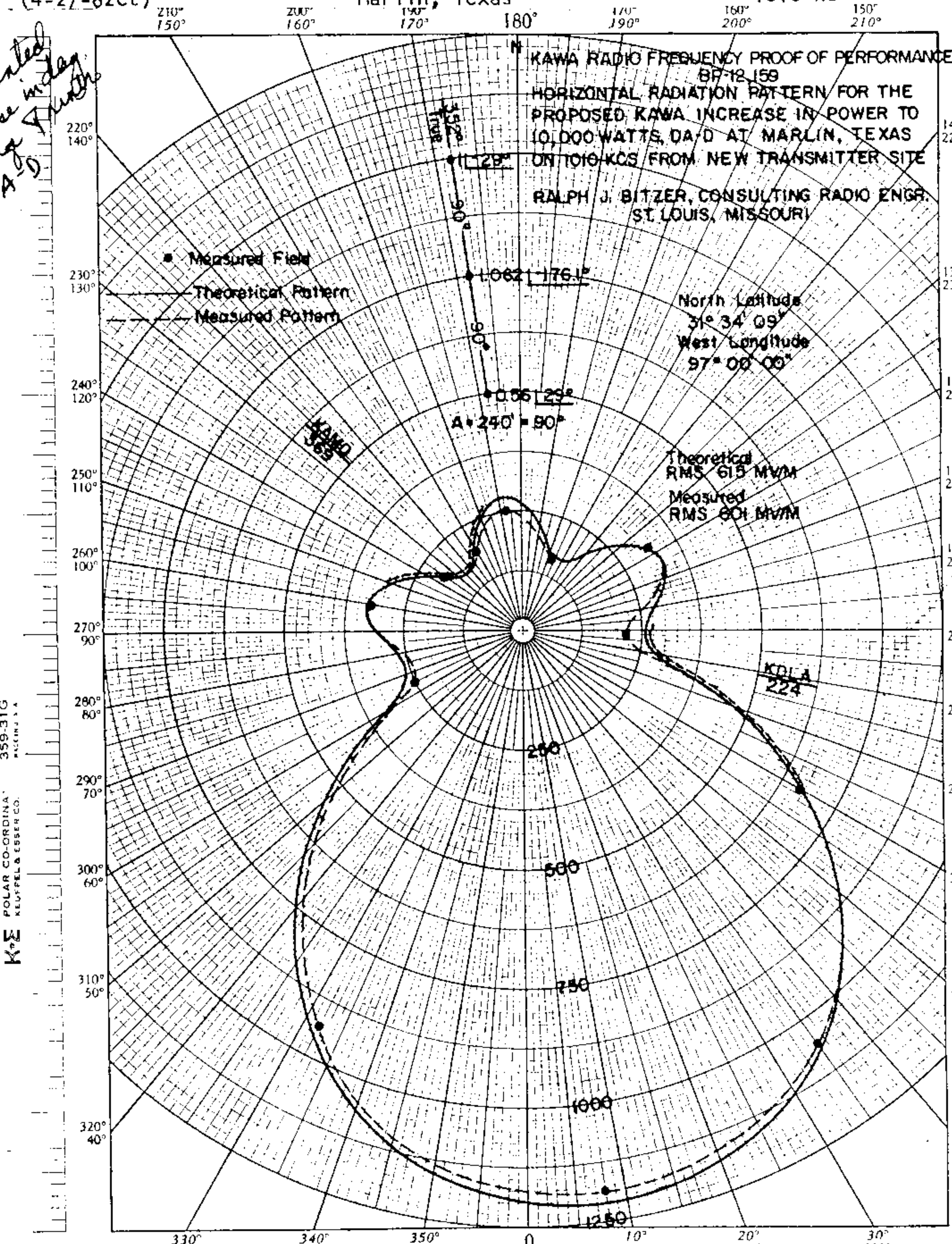
KKIK

Measured Day
(4-27-62ct)

Station KAWA
Marlin, Texas

10kw,DA-D,D
1010 kc

vL-9075 granted -2-62 for increase in day power, change trans. location + DA-D



FCC File No.BL-9075
Accepted 4-3-62

Station KAWA
Marlin, Texas

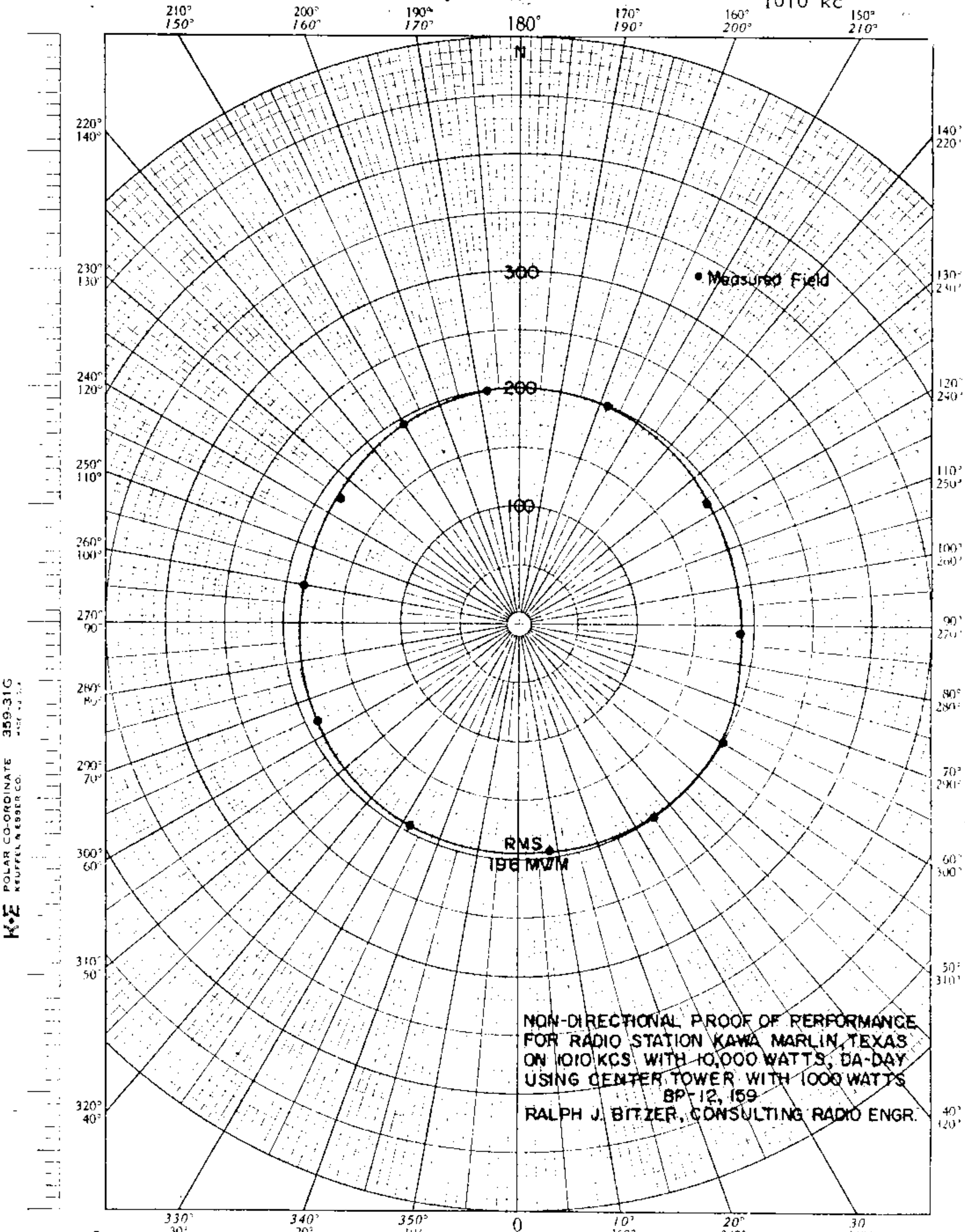
1010 kc

KKIK

Measured Non-DA
(4-27-62ct)

Station KAWA
Marlin, Texas

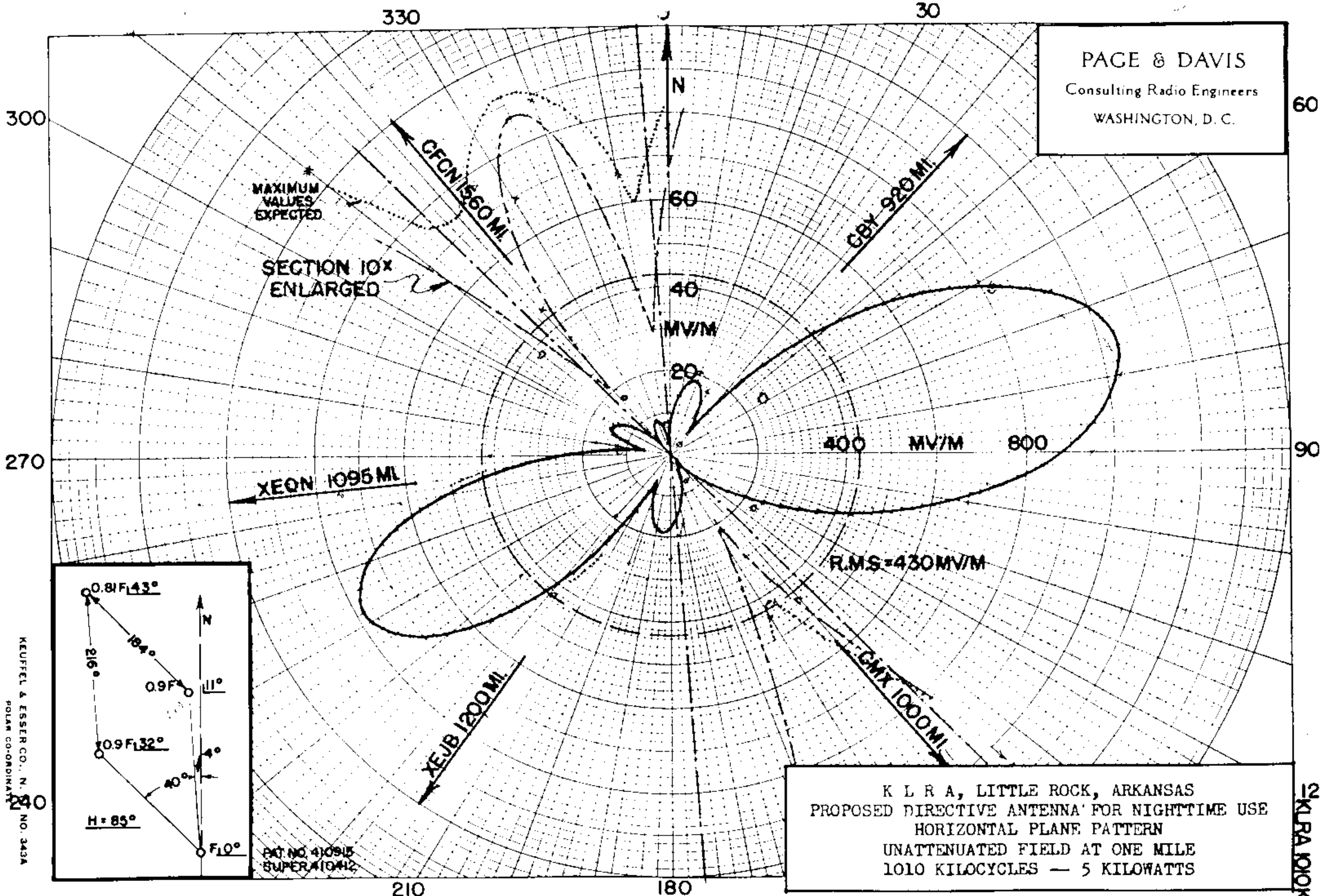
10kw,DA-D,D
1010 kc

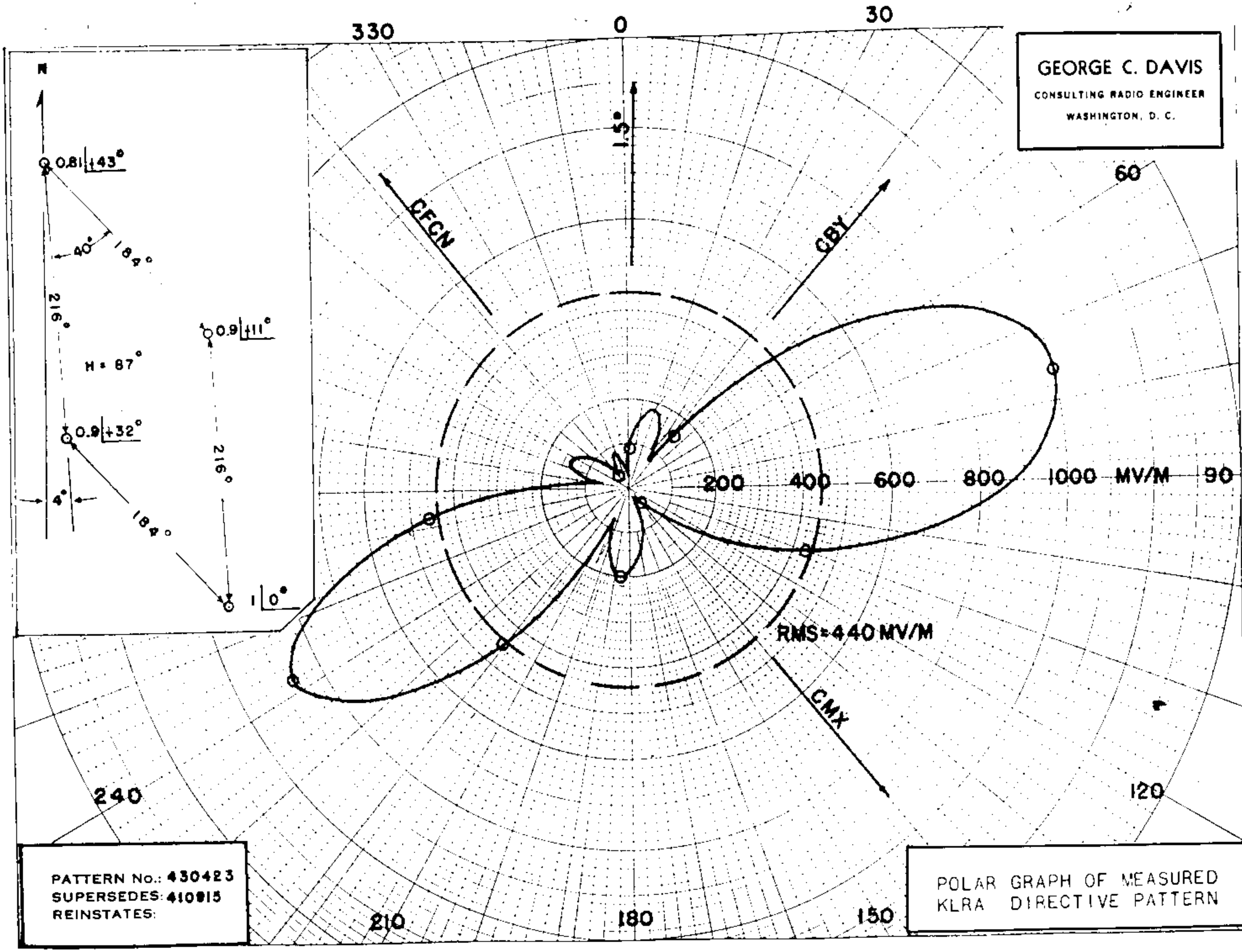


FCC File No.BL-9075
Accepted 4-3-62

Station KAWA
Marlin, Texas

1010 kc


PAGE & DAVIS
Consulting Radio Engineers
WASHINGTON, D. C.
K L R A, LITTLE ROCK, ARKANSAS
PROPOSED DIRECTIVE ANTENNA FOR NIGHTTIME USE
HORIZONTAL PLANE PATTERN
UNATTENUATED FIELD AT ONE MILE
1010 KILOCYCLES — 5 KILOWATTS
12
KLRA 1010KC
CFCN 1560 MI.
CBY 920 MI.
XEQN 1095 MI.
XEJB 1200 MI.
CMX 1000 MI.
R.M.S.=430 MV/M
MAXIMUM VALUES EXPECTED
SECTION 10x ENLARGED
N
20
40
60
MV/M
400
MV/M
800
330
30
300
60
270
90
240
210
180
0.81F 43°
184°
216°
0.9F 11°
0.9F 32°
4°
40°
H = 85°
F 0°
PAT. NO. 410915
SUPER 410412
KEUFFEL & ESSER CO., N. Y. NO. 343A
POLAR CO-ORDINATE

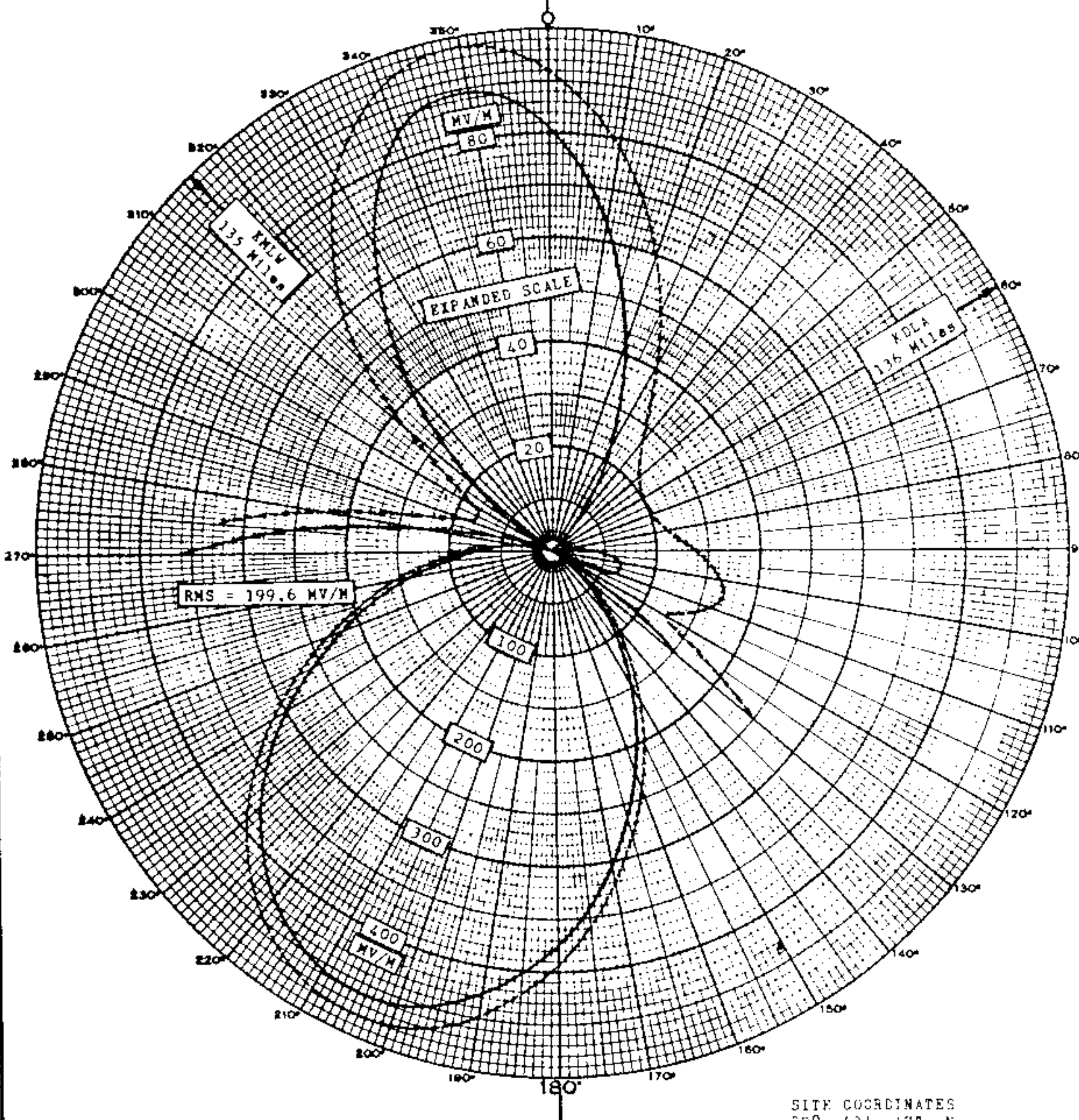


KEUFFEL & ESSER CO., N. Y. NO. 343A

PROPOSED DAY
(7-26-61ct)

Station KODA
Houston, Texas

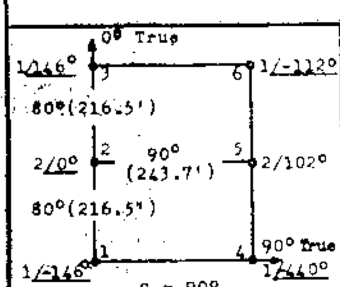
1kw, DA-D,D
1010 KC



--- MEOV

SITE COORDINATES
29° 53' 47" N
95° 17' 25" W

PROPOSED HORIZONTAL PLANE RADIATION PATTERN



TAFT BROADCASTING COMPANY
HOUSTON, TEXAS

Jules Cohen
Consulting Electronic Engineer

KODA
PROPOSED OPERATION
1010 KC
1 KW D DA
Pattern 610619

FCC File No. BMP-9565
Accepted 7-7-61

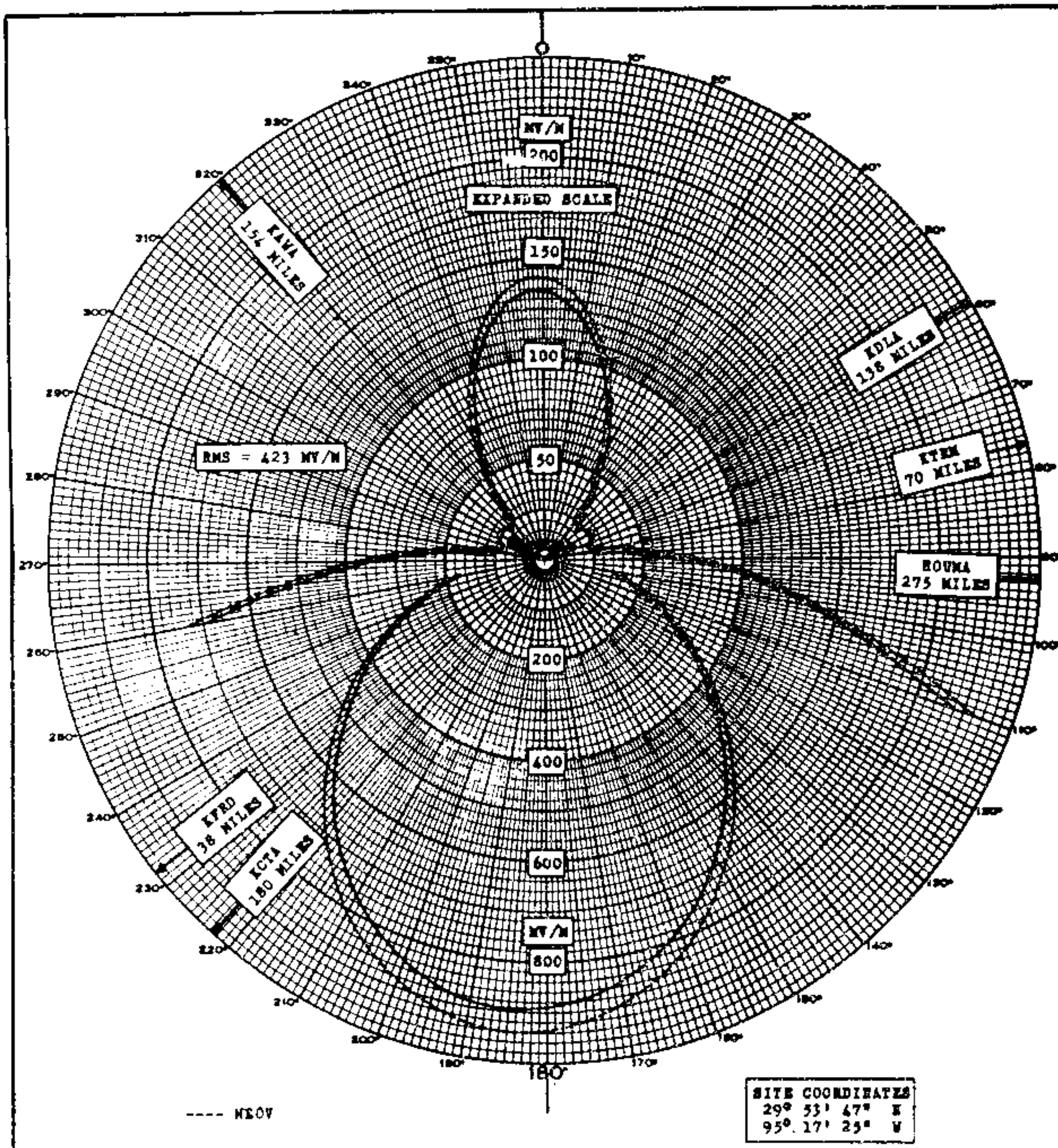
KODA
Houston, Texas

1010 KC

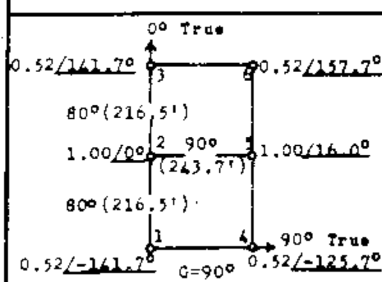
KODA

CP 7-1-66

Proposed Day (4-28-66ct)	Station KODA Houston, Texas	5kw,DA-D,D 1010 kc



PROPOSED HORIZONTAL PLANE RADIATION PATTERN



TAFT BROADCASTING COMPANY
HOUSTON, TEXAS

Jules Cohen
Consulting Electronic Engineer

PROPOSED OPERATION
RADIO STATION KODA
1010 KC 5 KW D DA
Pattern 620316

FCC File No.BP-16295 Accepted 2-9-66 (Resub.)	Station KODA Houston, Texas	1010 kc

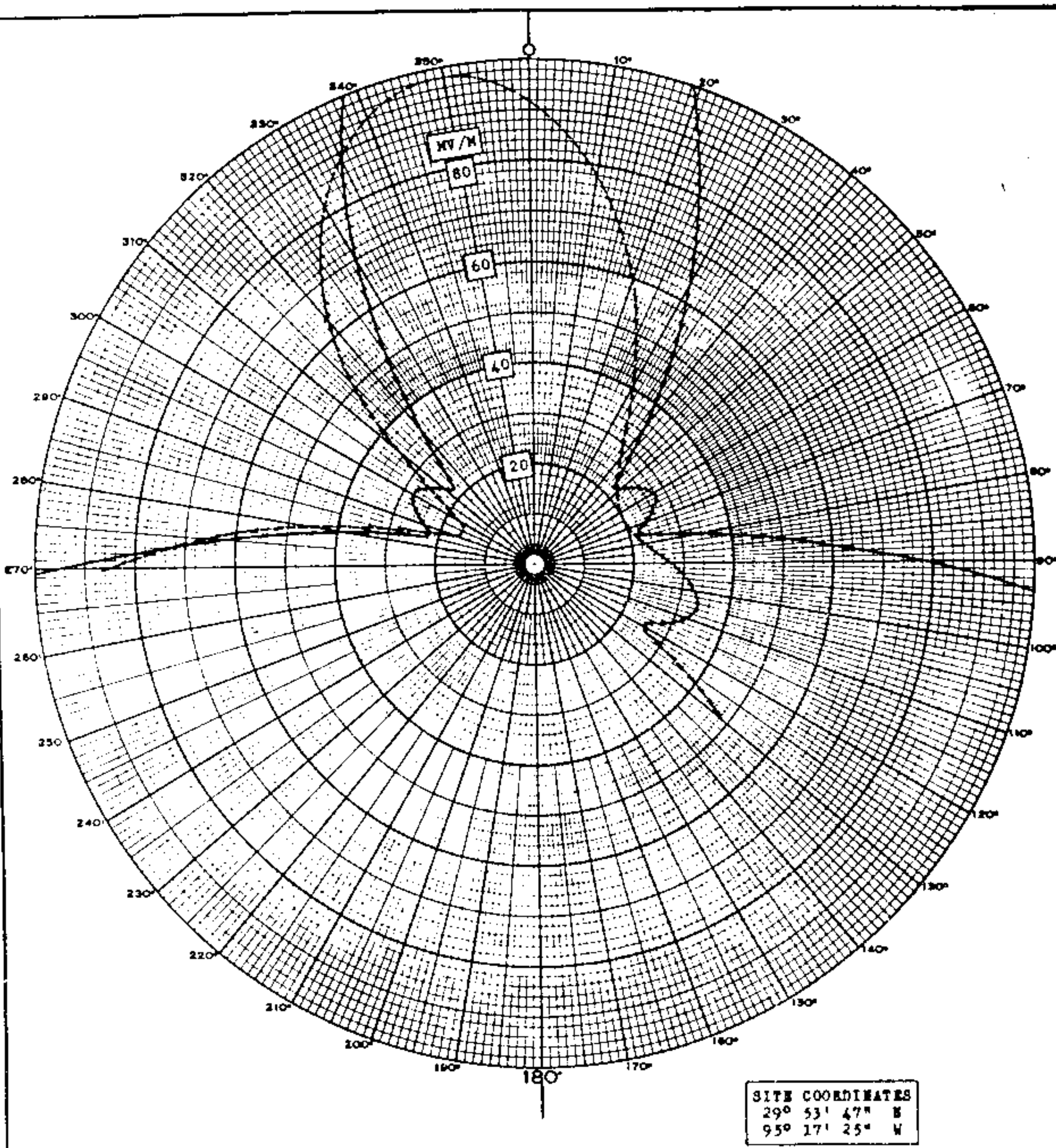
KODA

Proposed Day Nulls
(4-28-66ct)

Station KODA
Houston, Texas

5kw, DA-D, D
1010 kc
Figure 3

P 7-1-66



COMPARISON OF HORIZONTAL PLANE RADIATION PATTERNS
IN MINOR LOBE REGIONS

BMP-9565 MEOV ------- Pattern 620316 MEOV ———	TAFT BROADCASTING COMPANY HOUSTON, TEXAS Jules Cohen Consulting Electronic Engineer	PROPOSED OPERATION RADIO STATION KODA 1010 KC 5 KW D DA March, 1962

FCC File No. BP-16295
Accepted 2-9-66 (Resub.)

Station KODA
Houston, Texas

1010 kc

KODA

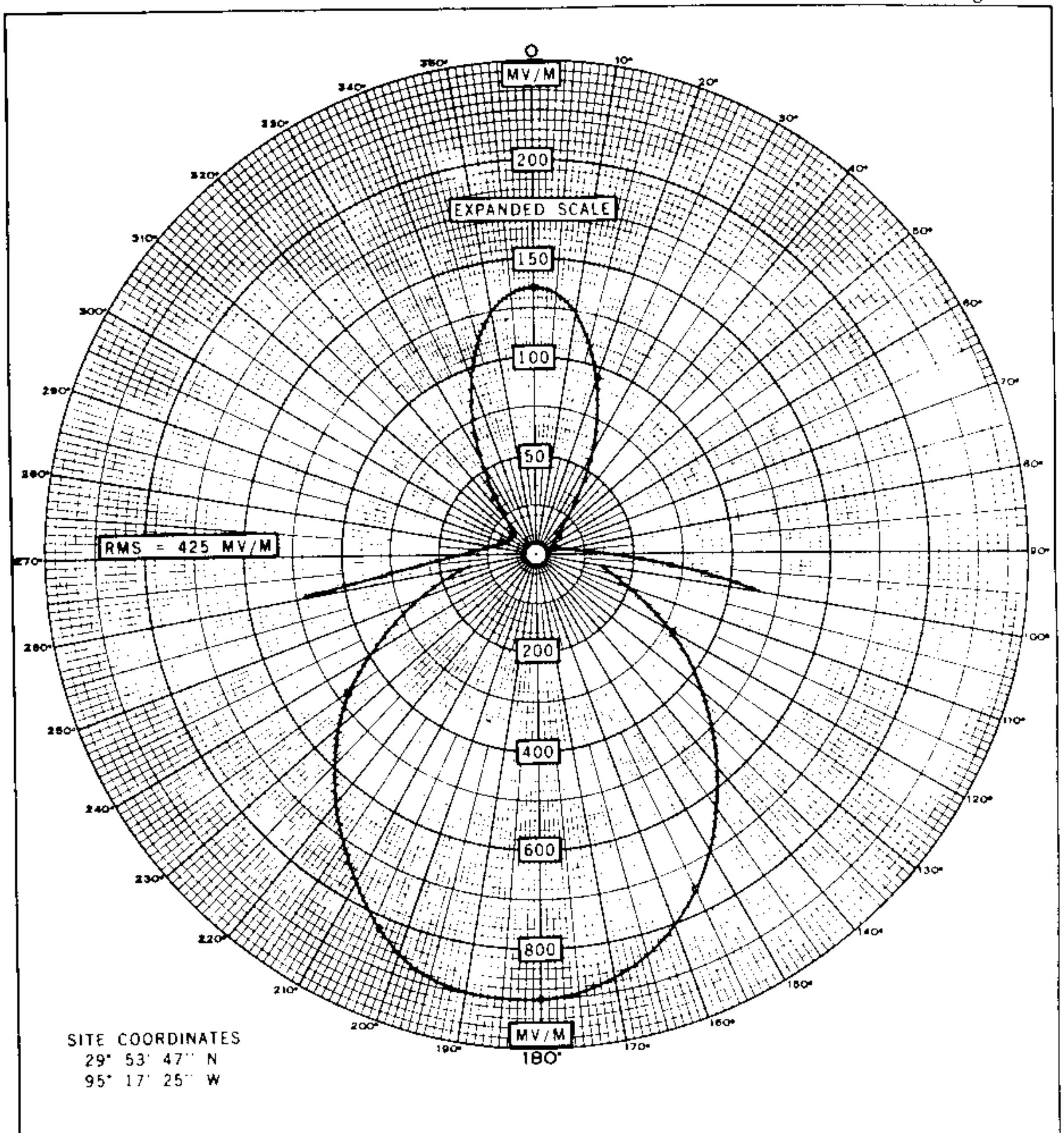
Measured Day
(2-28-67ct)

Station KODA
Houston, Texas

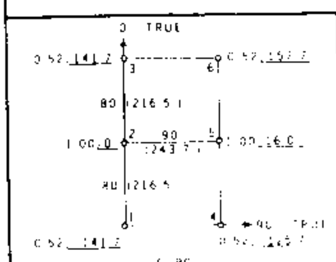
5kw,DA-D,D
1010 kc

Granted Lic.
3-23-67
for increase
in power

Figure 10



MEASURED DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN



TAFT BROADCASTING COMPANY
HOUSTON, TEXAS

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION KODA
1010 KC/S
5 KW D DA

DECEMBER 1966

FCC File No.BL-11529
Accepted 2-1-67

Station KODA
Houston, Texas

1010 kc

PROPOSED DAYTIME

NEW, LEXINGTON, NEBR.
(Nebr. Rural Radio Asso.)

25kw, DA, D

1010 kc

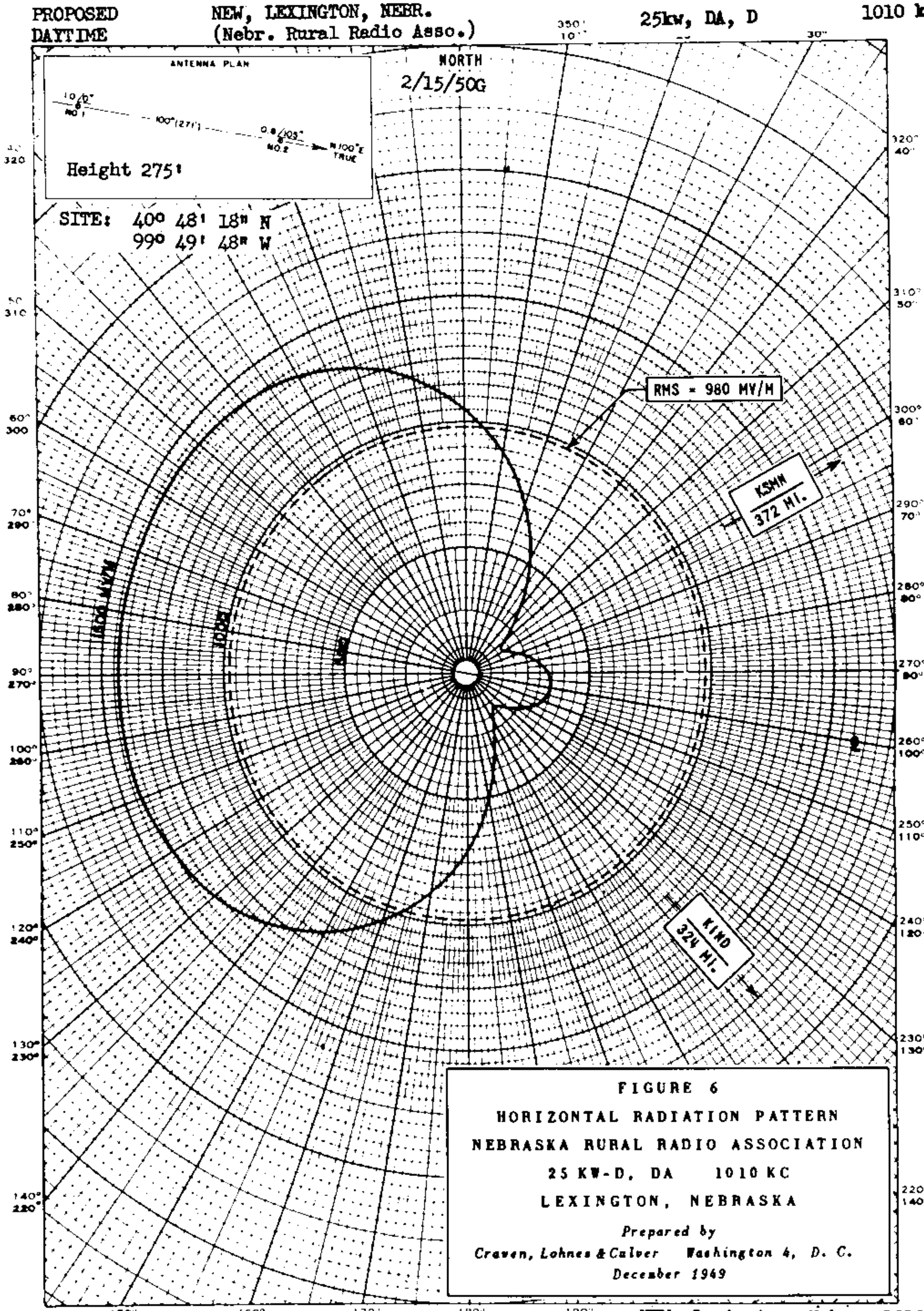


FIGURE 6
HORIZONTAL RADIATION PATTERN
NEBRASKA RURAL RADIO ASSOCIATION
25 KW-D, DA 1010 KC
LEXINGTON, NEBRASKA

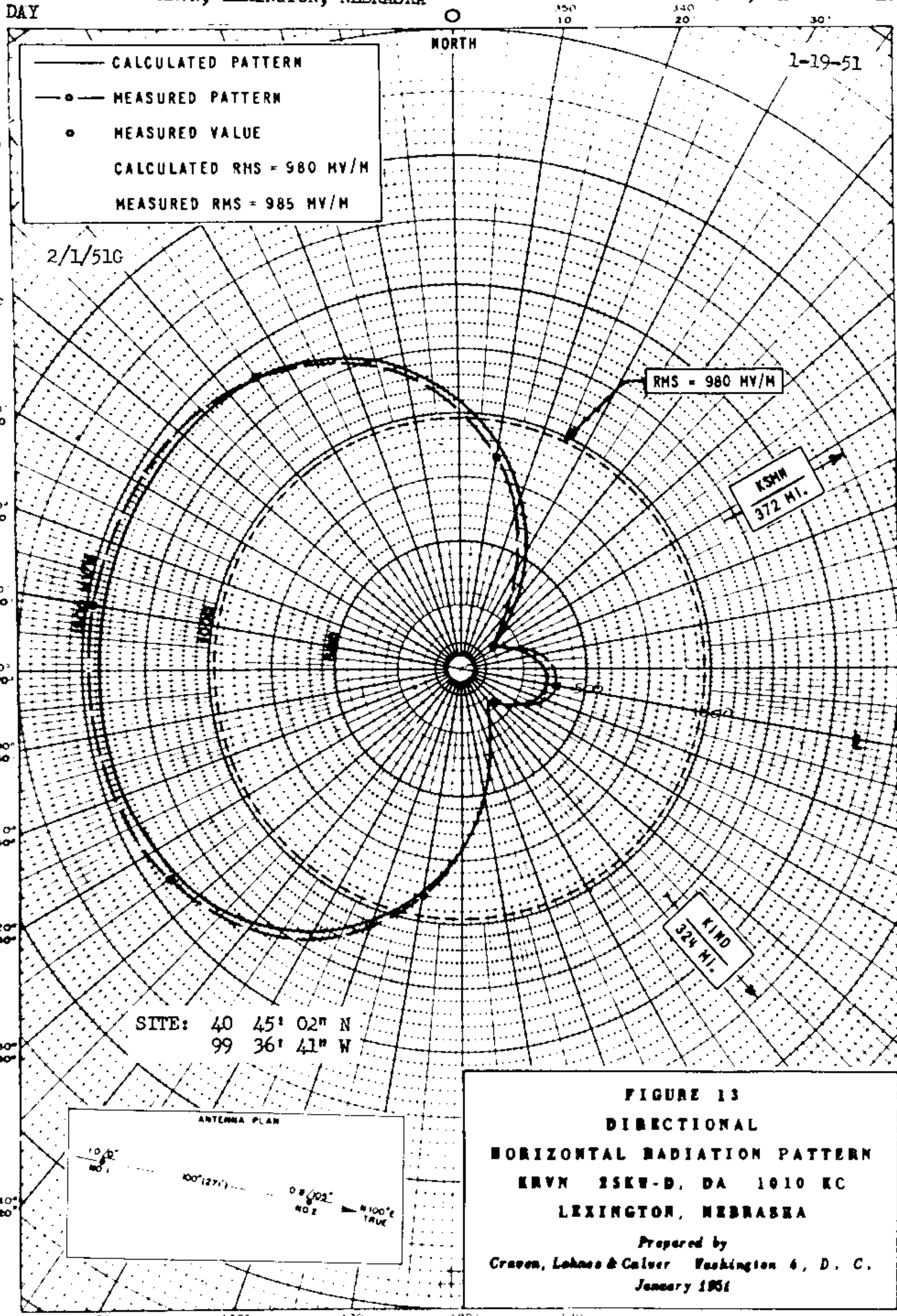
Prepared by
Craven, Lohnes & Culver Washington 4, D. C.
December 1949

AMENDMENT RECD 1-30-50 ACC 2-10-50 BP-7335

NEW, Lexington, Nebr. 1010 kc

KRVN

MEASURED DAY | KRVN, LEXINGTON, NEBRASKA | 25kw, DA-D | 1010 kc



KRVN, Lexington, Nebraska 1010 kc

KIQ1

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KSAY

Main Studio: San Francisco, California

Frequency: 1010 kHz

Power: 10 kW

Notification List No. 1567

Date: February 13, 1974

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 37° 38' 43"
West Longitude: 122° 08' 56"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers, top loaded by upper sections of guy wires to an effective electrical height of 90 degrees. (*)

TOWER:	W(#1)	C(#2)	E(#3)	
HEIGHT ABOVE INSULATORS:	200'	200'	200'	(*)
PHASING:	0°	+117.9°	-110.2°	
FIELD RATIO:	1.0	1.14	0.43	

SPACING AND ORIENTATION: Adjacent elements are spaced 243.6' (90°) on a line bearing 80° true.

GROUND SYSTEM: 120-250' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

Predicted effective Field: 578 mv/m at rated power.

Note: This notification concerns changes in transmitter location, directional antenna system and radiation pattern.

PENDING SITE CHANGE

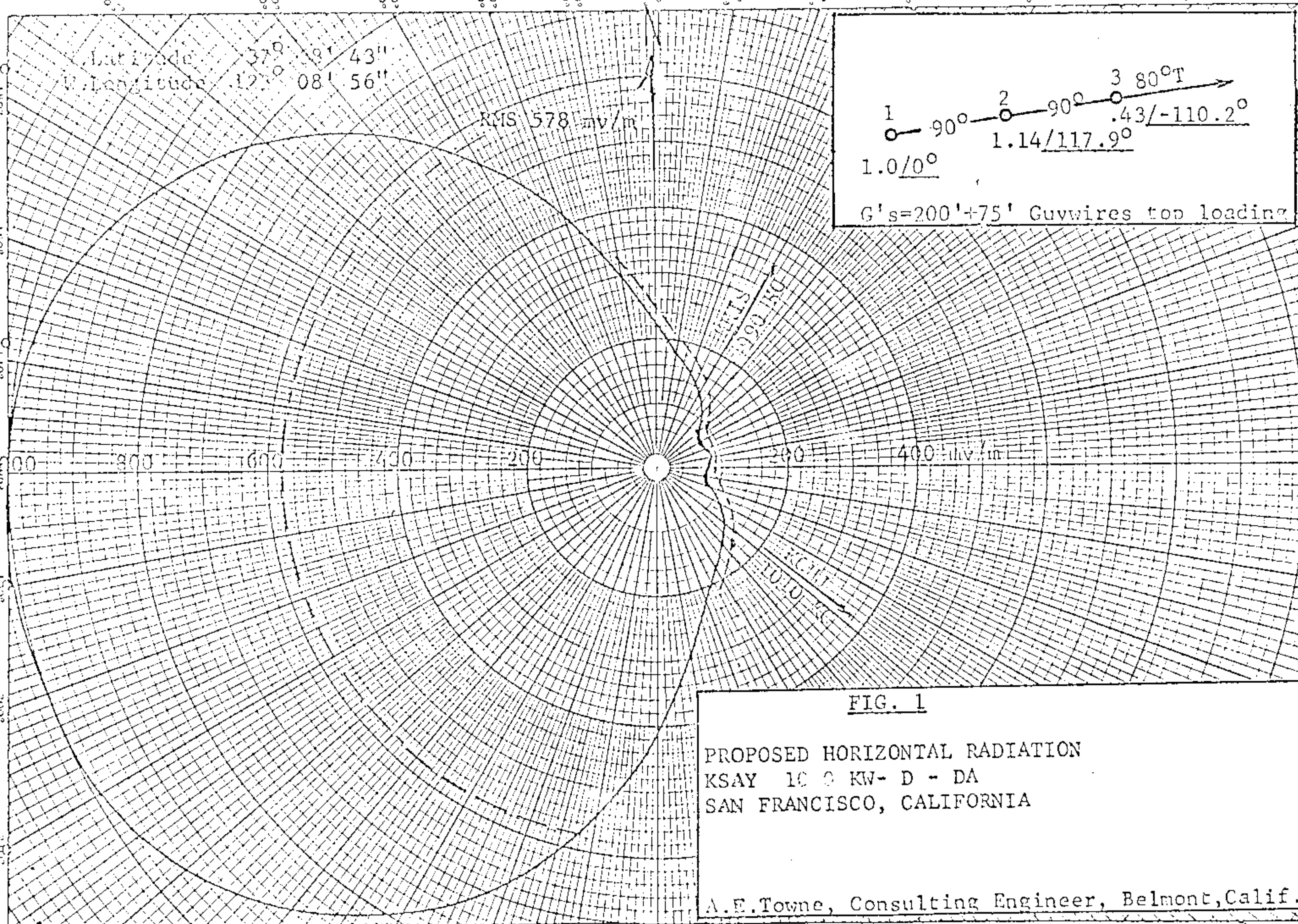


FIG. 1

PROPOSED HORIZONTAL RADIATION
KSAY 10 0 KW- D - DA
SAN FRANCISCO, CALIFORNIA

A.E.Towne, Consulting Engineer, Belmont,Calif.

KIQI

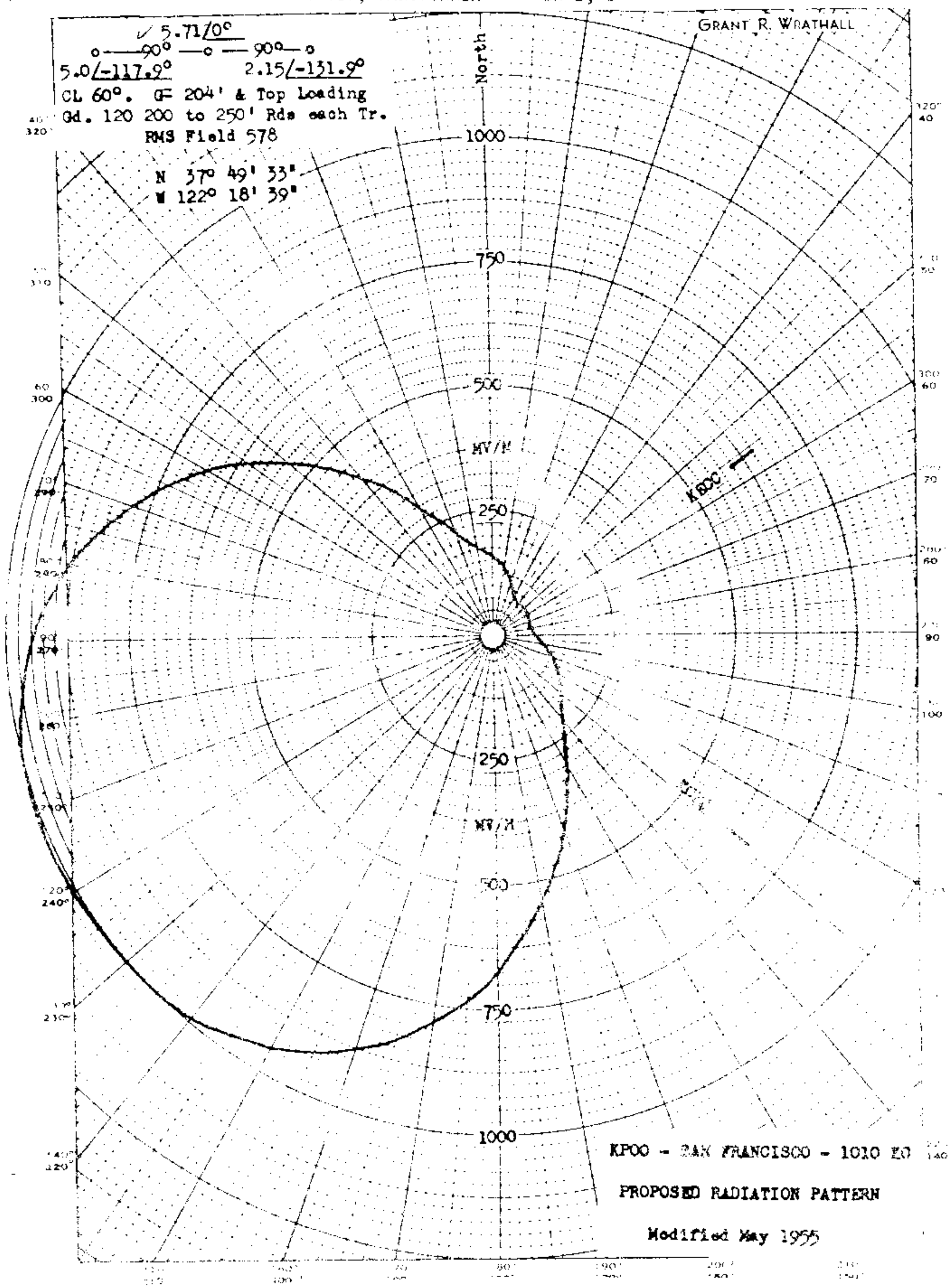
KIQI

PROPOSED DAY
(7/12/55G)

STATION KPOO
SAN FRANCISCO, CALIFORNIA

10 KW
DA-D, D

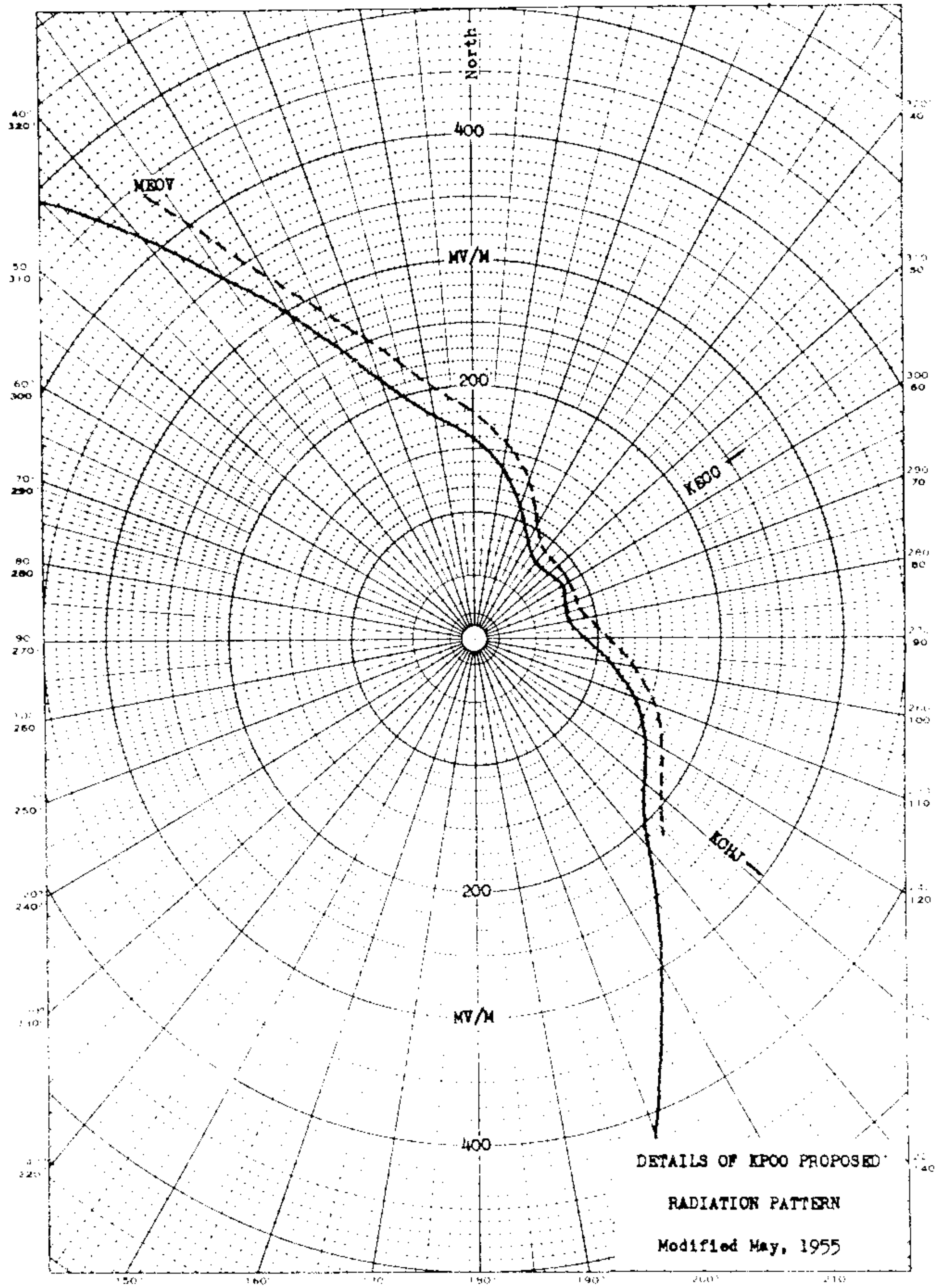
1010 KC



KPOO, San Francisco, Cal.

PROPOSED DAY NULLS (7/12/55G) STATION KPOO SAN FRANCISCO, CALIFORNIA 10 KW DA-D, D

K/Q/



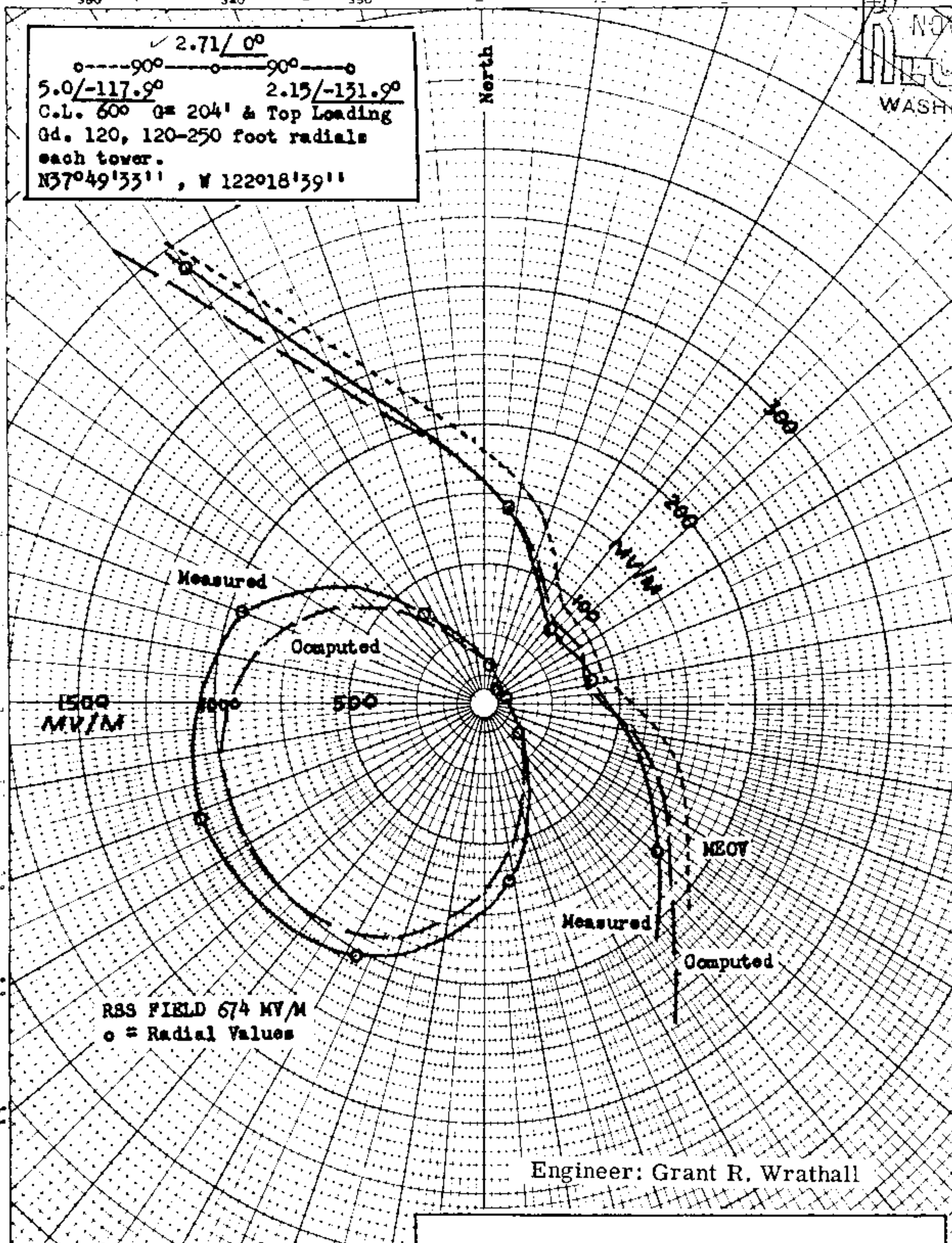
FILE NO. BMP-6660 ACCEPTED FCC 6/6/55 KPOO, San Francisco, Cal. 1010 KC

K I Q I

MEASURED DAY
(10/30/57g)

Station KSAY 10kw, DA-D,D
San Francisco, California 1010 KC

contd license
0/24/57



Engineer: Grant R. Wrathall

COMPUTED AND MEASURED RADIATION PATTERNS

RADIO STATION KSAY, SAN FRANCISCO

1010 KC, 10 KW, July 1957

FCC File No. BL-6775
Accepted 10-9-57

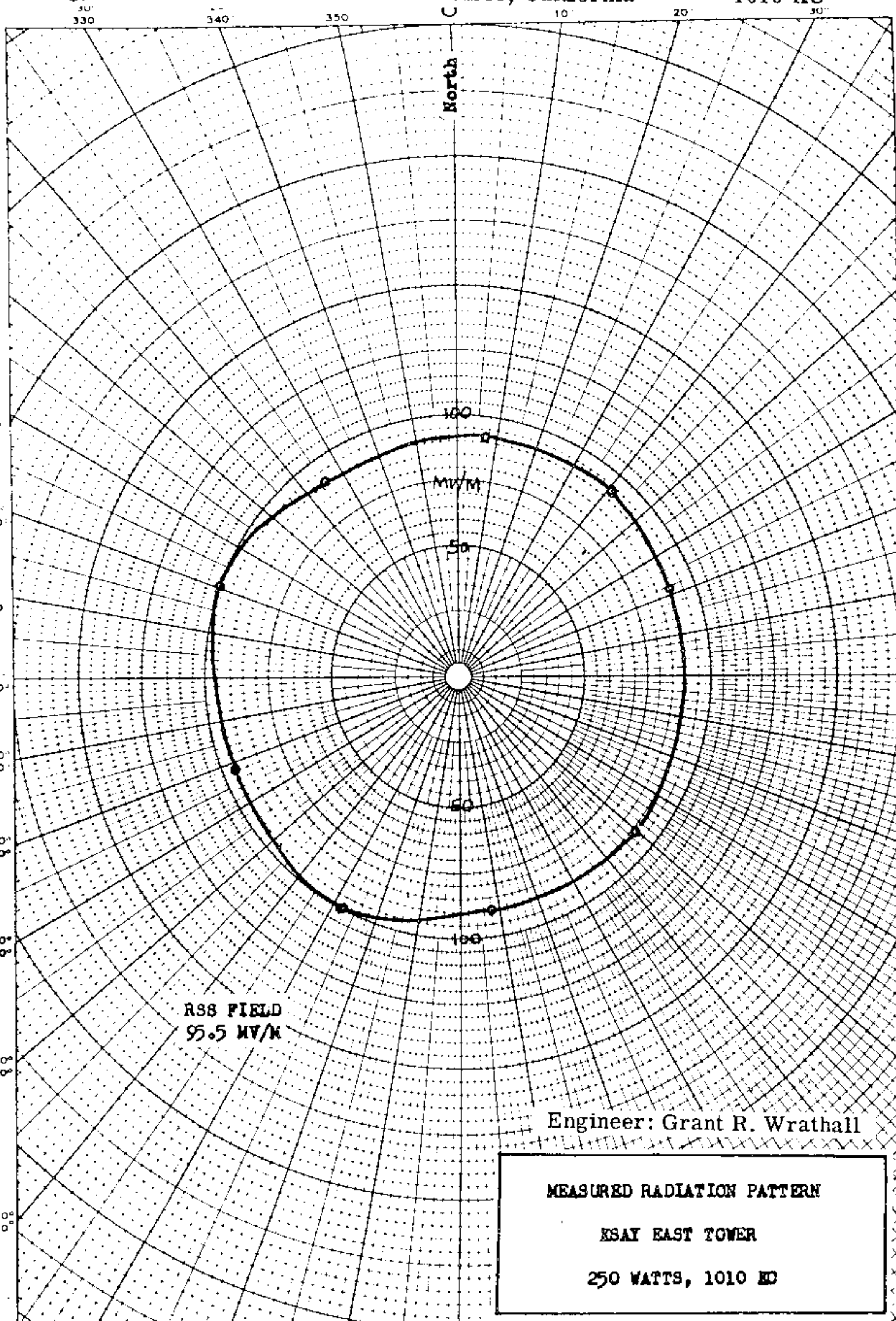
KSAY
San Francisco, California 1010 KC

K1Q1

MEASURED NON-DA
(10/30/57g)

Station KSAY 10kw, DA-D,D
San Francisco, California 1010 KC

granted license
10/24/57



Engineer: Grant R. Wrathall

MEASURED RADIATION PATTERN

KSAY EAST TOWER

250 WATTS, 1010 KC

FCC File No. BL-6775
Accepted 10-9-57

KSAY
San Francisco, California 1010 KC

KVNC

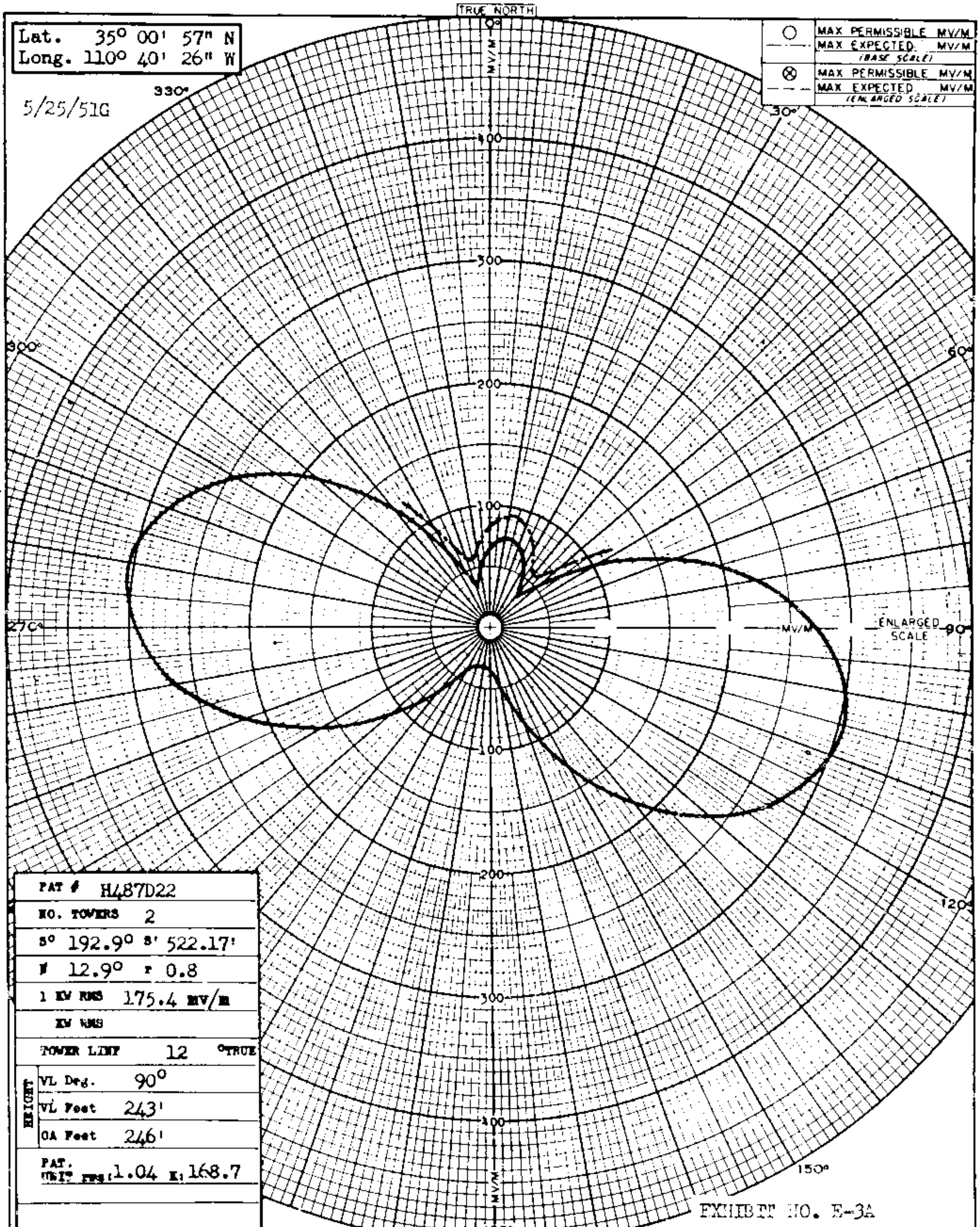
WINSLOW, ARIZ

PROPOSED OVER NEW, WINSLOW, ARIZ.
DAY (Gila Bg. Co.)

500w, 1kw-LS, DA-2 1010 kc

Lat. 35° 00' 57" N
Long. 110° 40' 26" W

5/25/51G



PAT #	H487D22
NO. TOWERS	2
S° 192.9°	S' 522.17'
Ψ 12.9°	r 0.8
1 KW RMS	175.4 mv/m
KW RMS	
TOWER LINE	12 °TRUE
HEIGHT VL Deg.	90°
HEIGHT VL Feet	243'
HEIGHT OA Feet	246'
PAT. UNIT RMS: 1.04	K: 168.7

EXHIBIT NO. E-3A

COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
KANSAS CITY • WASHINGTON, D. C.

PATTERN	PROPOSED DAYTIME
FOR	WINSLOW, ARIZONA
POWER 1KW-D .5KW-N	FREQ 1010 KC
DATE April 30, 1951	BY EFL

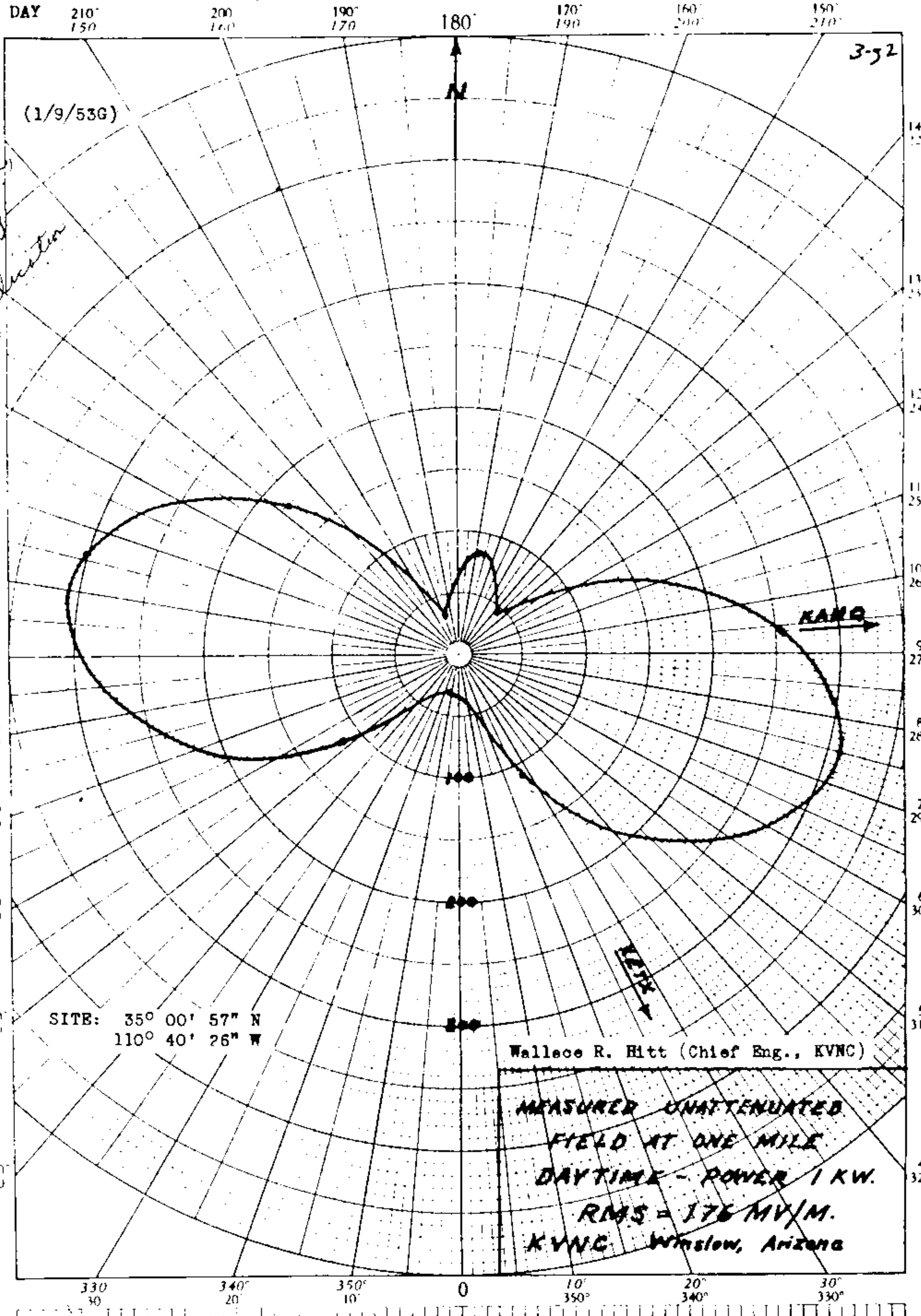
AMENDMENT RECD 5/14/51 ACC 5/16/51 BP-5406

New, Winslow, Ariz. 1010 kc

KVNC

MEASURED DAY — KVNC, WINSLOW, ARIZONA — 500w, 1kw-LS, U, DA-2 — 1010 kc

5/15/64
Ister Morris,
olidge, Arizona
dismissed by
request of
applicant, application
for new AM
station

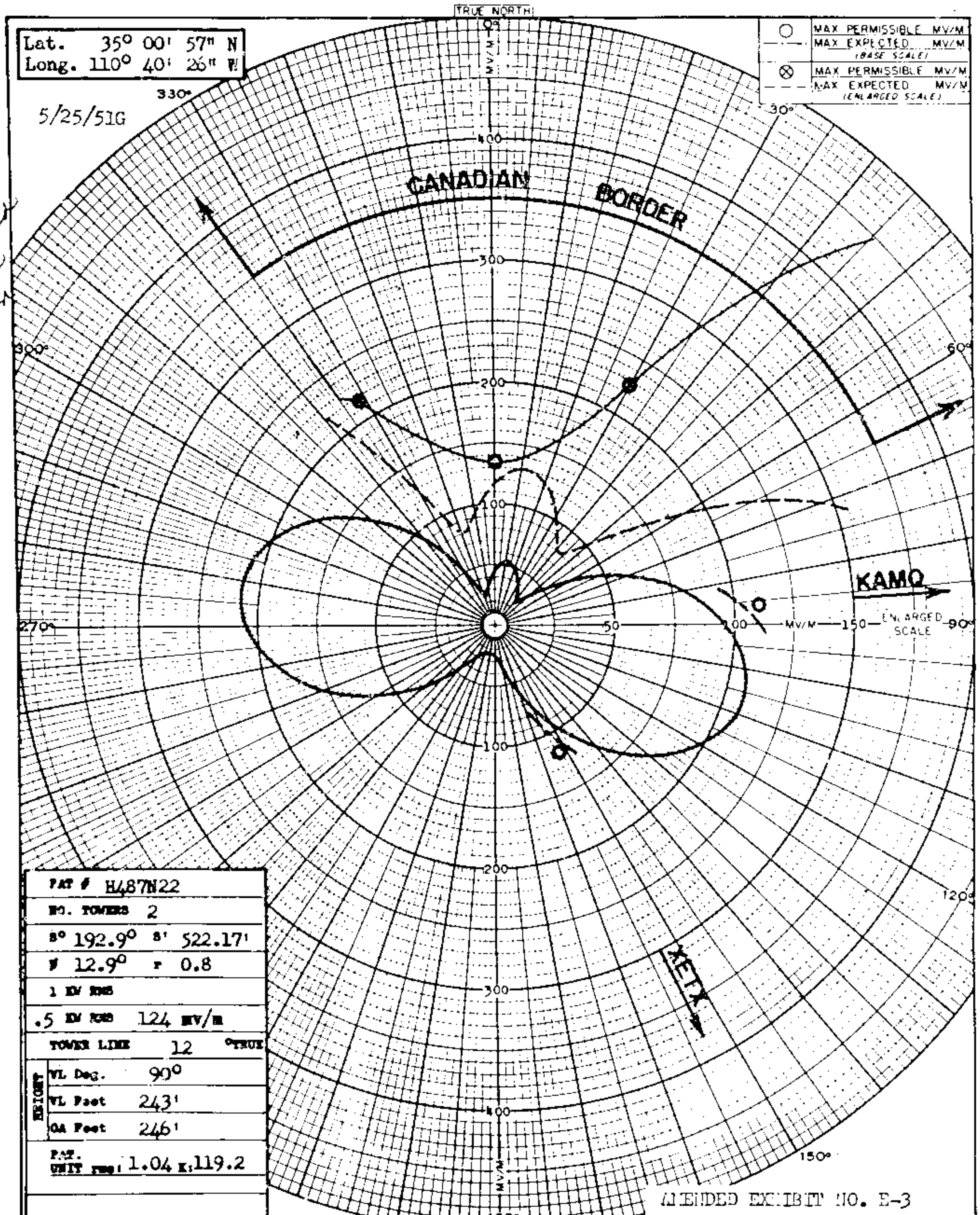


FCC FILE NO. BL-4766 RECD 8/6/52 — KVNC, Winslow, Arizona — 1010 kc

KVNC
WINSLOW, ARIZ

PROPOSED NIGHT — NEW, WINSLOW, ARIZ. (Gila Bg. Co.) — 500w, 1kw-LS, DA-2 — 1010 kc

5/15/64 Peter Morris in Coolidge, Ariz., dismissed application for new AM station



PAT #	H487N22
NO. TOWERS	2
S° 192.9°	S' 522.17'
Ψ 12.9°	r 0.8
1 KW RMS	
.5 KW RMS	124 mV/m
TOWER LINE	12 °TRUE
HEIGHT: VL Deg.	90°
HEIGHT: VL Feet	243'
HEIGHT: OA Feet	246'
PAT. UNIT RMS: 1.04	K: 119.2

AMENDED EXHIBIT NO. E-3

COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
KANSAS CITY — WASHINGTON, D. C.

PATTERN PROPOSED NIGHTTIME
FOR WINSLOW, ARIZONA
POWER 1 KW-D ~~.5 KW-N~~ .5 KW-N FREQ 1010 KC
DATE April 30, 1951 BY EFL

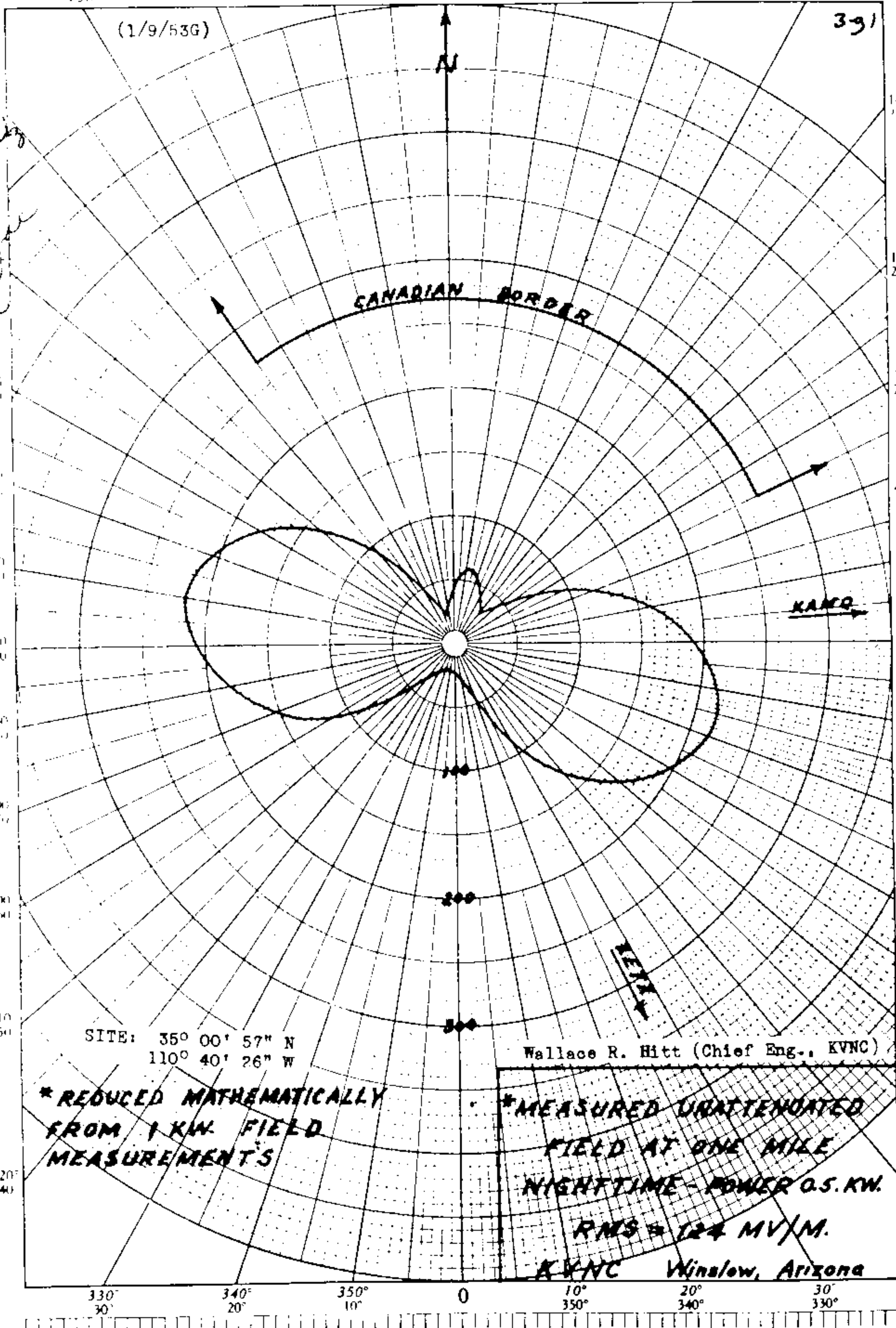
AMENDMENT RECD 5/14/51 ACC 5/16/51 BP-5406 — New, Winslow, Ariz. 1010 k

KVNC

MEASURED NIGHT

KVNC, WINSLOW, ARIZONA 500w. 1kw-LS, U, DA-2 1010 kc

5/15/64 Ester Morris in Coolidge, ariz dismissed application for new station



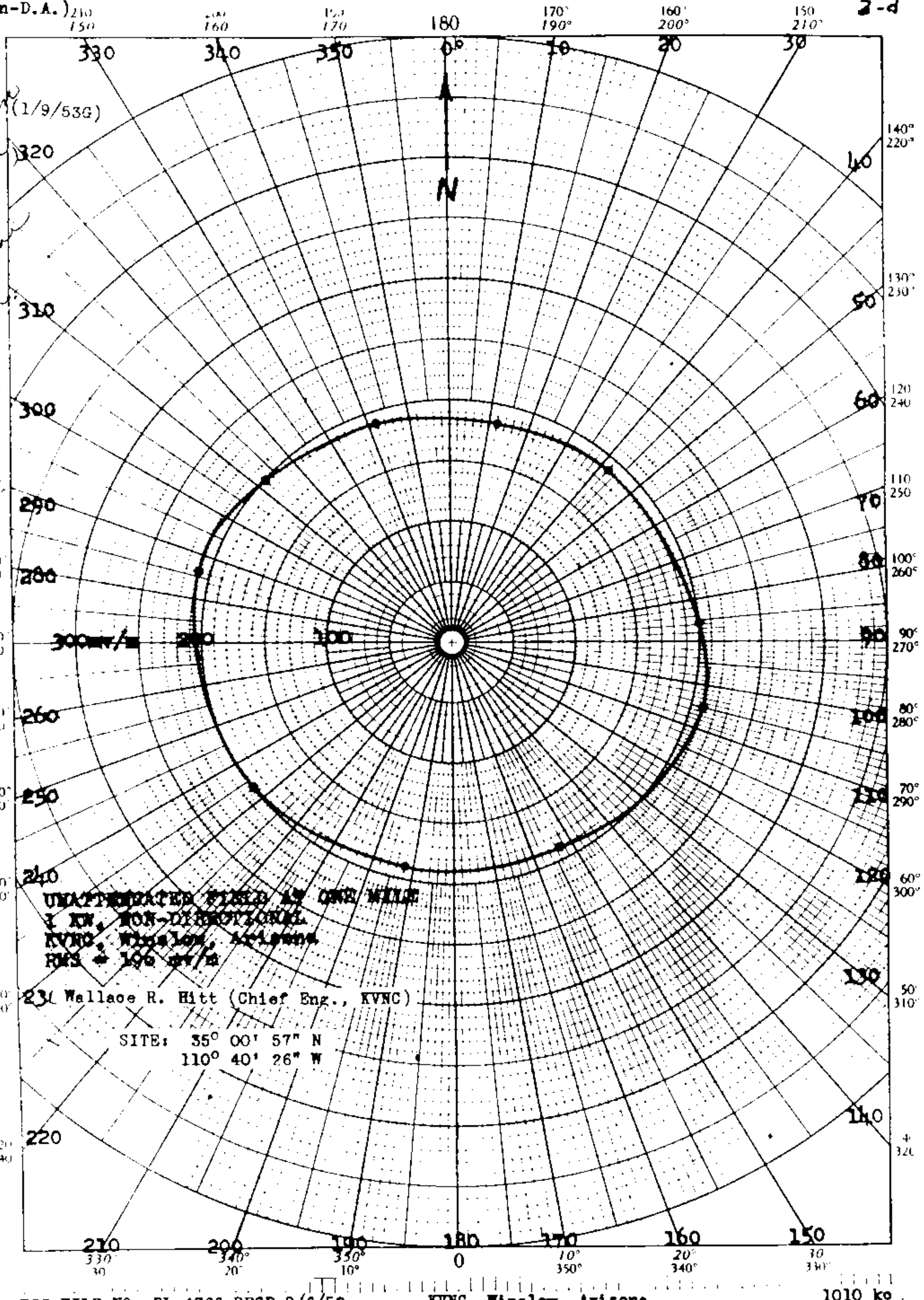
FCC FILE NO. BL-4766 RECD 8/6/52 KVNC, Winslow, Arizona 1010 kc

KVNC

MEASURED (Non-D.A.) KVNC, WINSLOW, ARIZONA 500w, 1kw-LS, U, DA-2 1010 kc

2-d

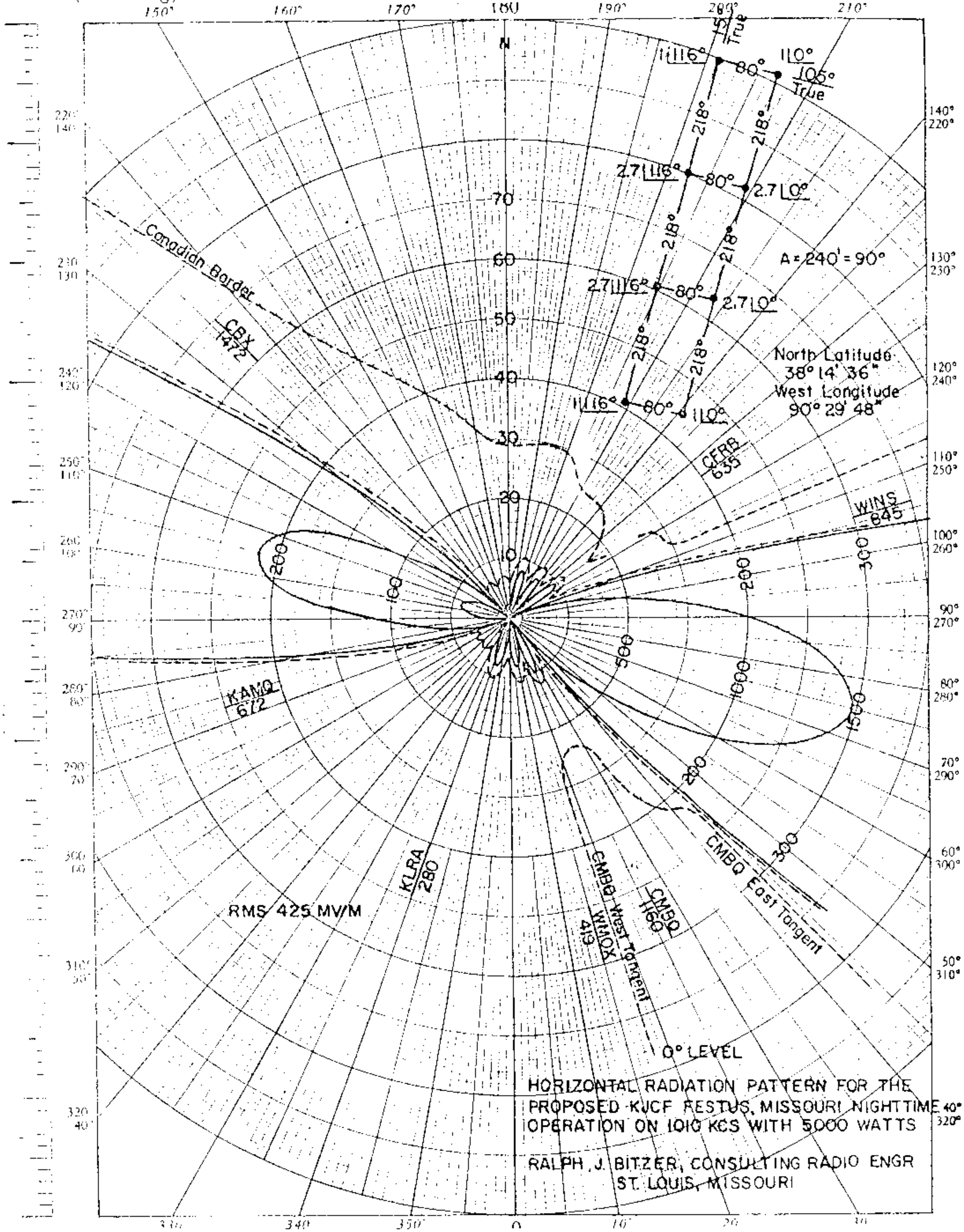
3/15/64 'ster Mountain ridge, Arizona dismissed application for new station



FCC FILE NO. BL-4766 RECD 8/6/52 KVNC, Winslow, Arizona 1010 kc

KXEN

PROPOSED NIGHT (3-23-59g) Station KJCF ST. Louis ~~Festus~~, Missouri 5kw, 50kw-LS, DA-2,U 1010 KC



FCC File No. BP-12104
Accepted 1-30-59 (Amended)

KJCF
Festus, Missouri

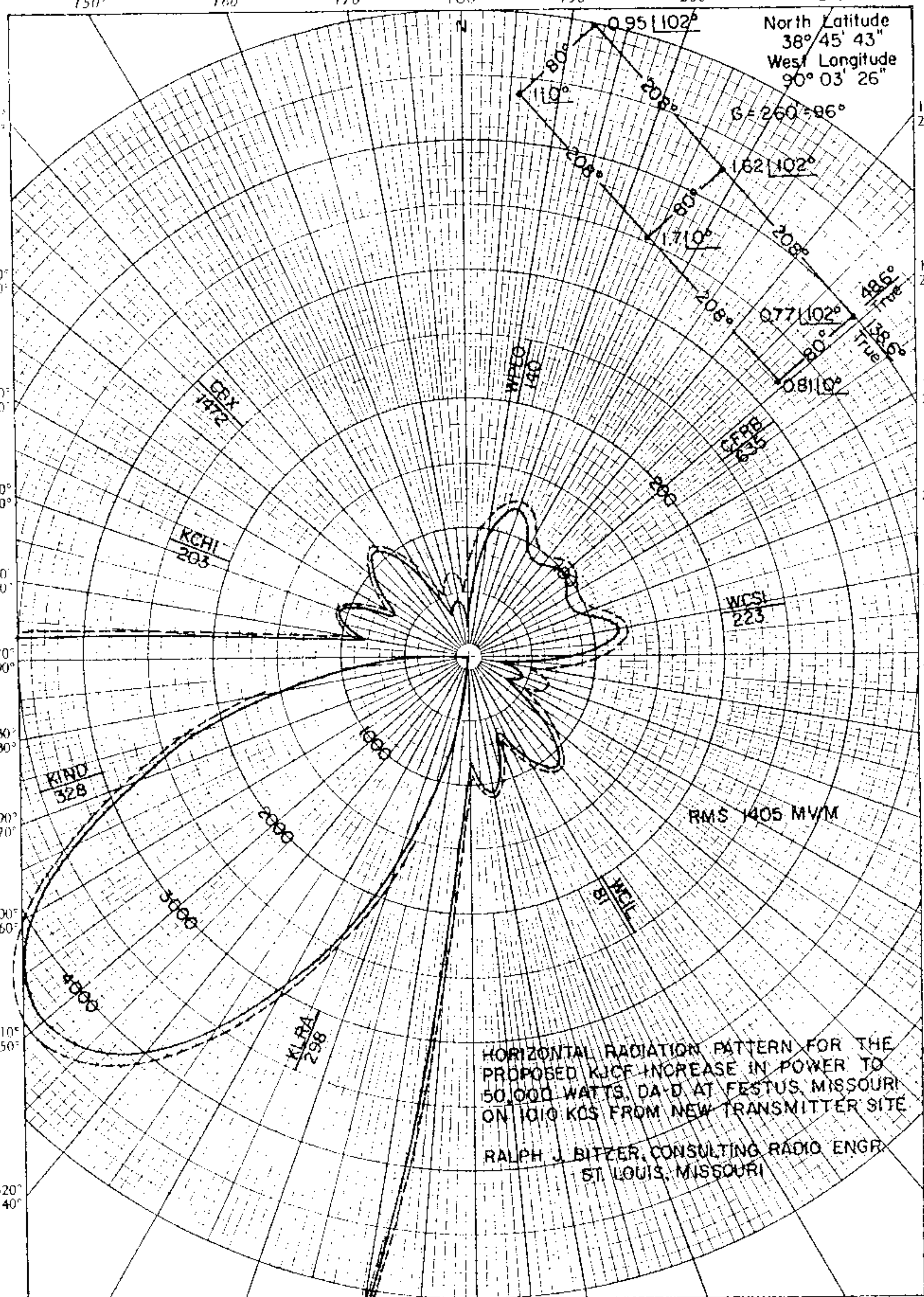
1010 KC

KXEN

PROPOSED DAY
(4-22-59g)

Station KJCF
~~Festus~~ - St. Louis, Missouri

50kw, DA-D,D
1010 KC



FCC File No. BP-12104
Accepted 3-18-59 (Amended)
GT CP (4-29-59)

KJCF
Festus - St. Louis, Missouri

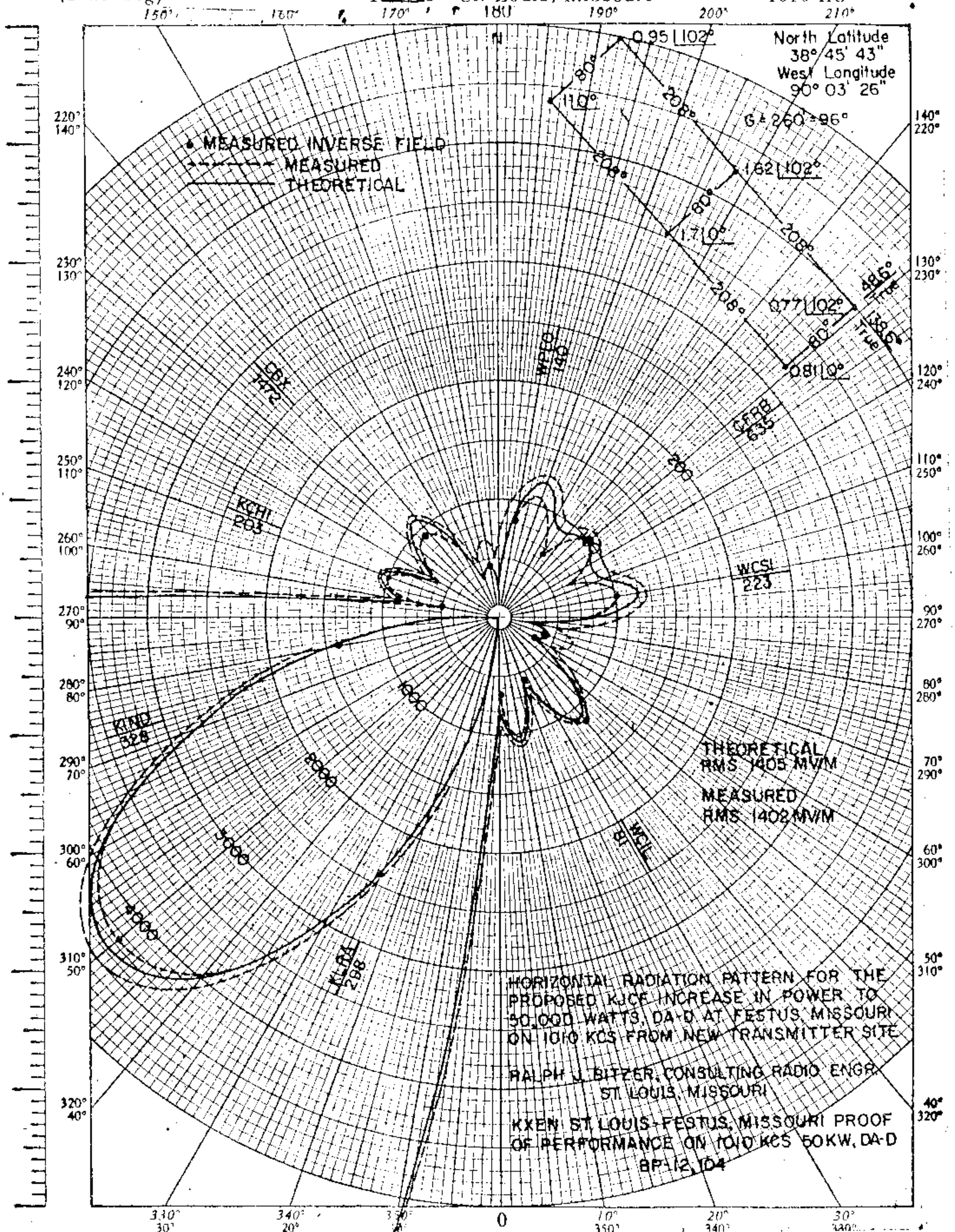
1010 KC

KXEN

MEASURED DAY
(2-26-60g)

Station KXEN
[redacted]s - St. Louis, Missouri

50kw, DA-D,D
1010 KC



FCC File No. BL-7828
Accepted 2-11-60

KXEN
Festus - St. Louis, Missouri

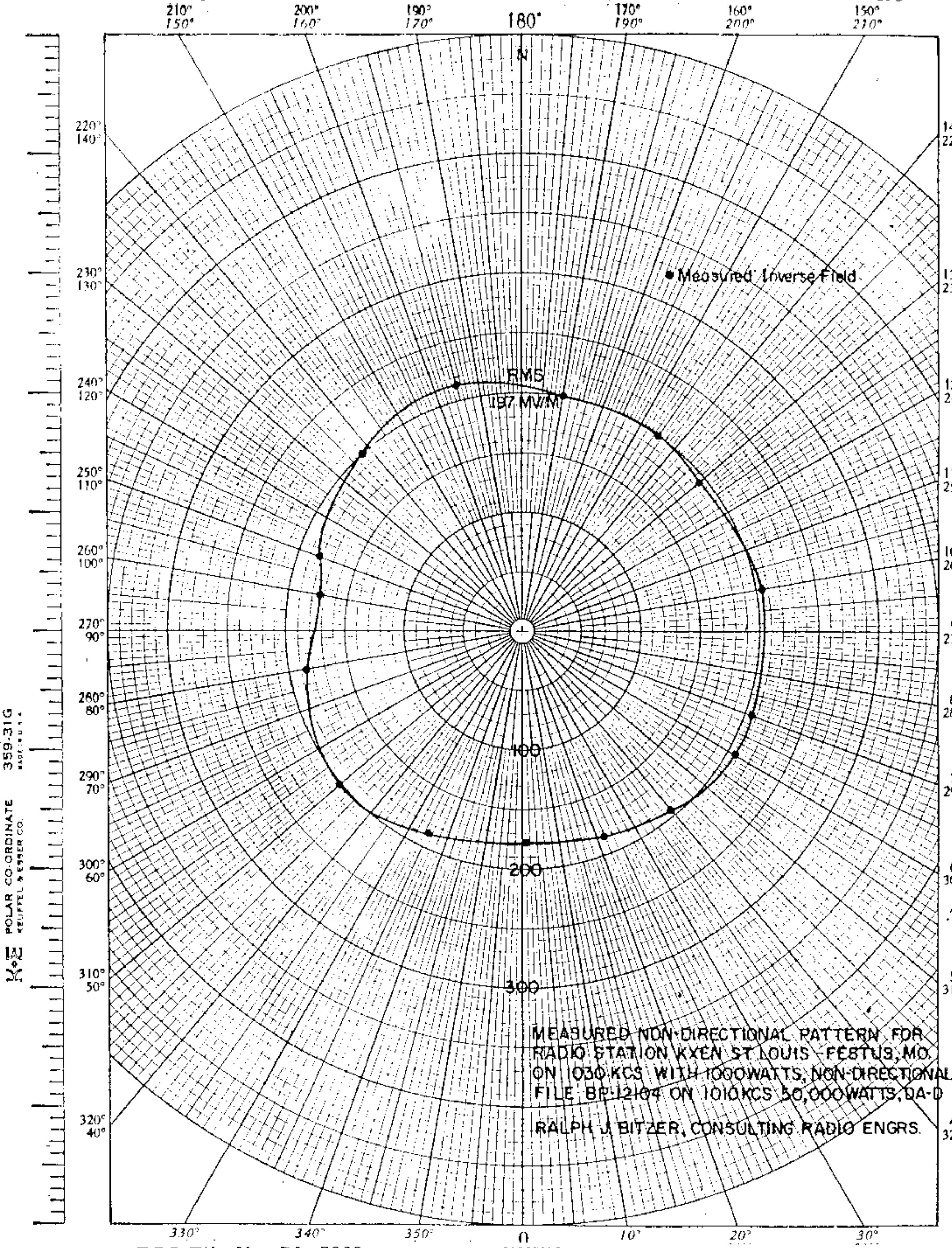
1010 KC

K XEN

MEASURED NON-DA
(2-26-60g)

Station KXEN
[redacted] - St. Louis, Missouri

50kw, DA-D,D
1010 KC



FCC File No. BL-7828
Accepted 2-11-60

KXEN
Festus - St. Louis, Missouri 1010 KC

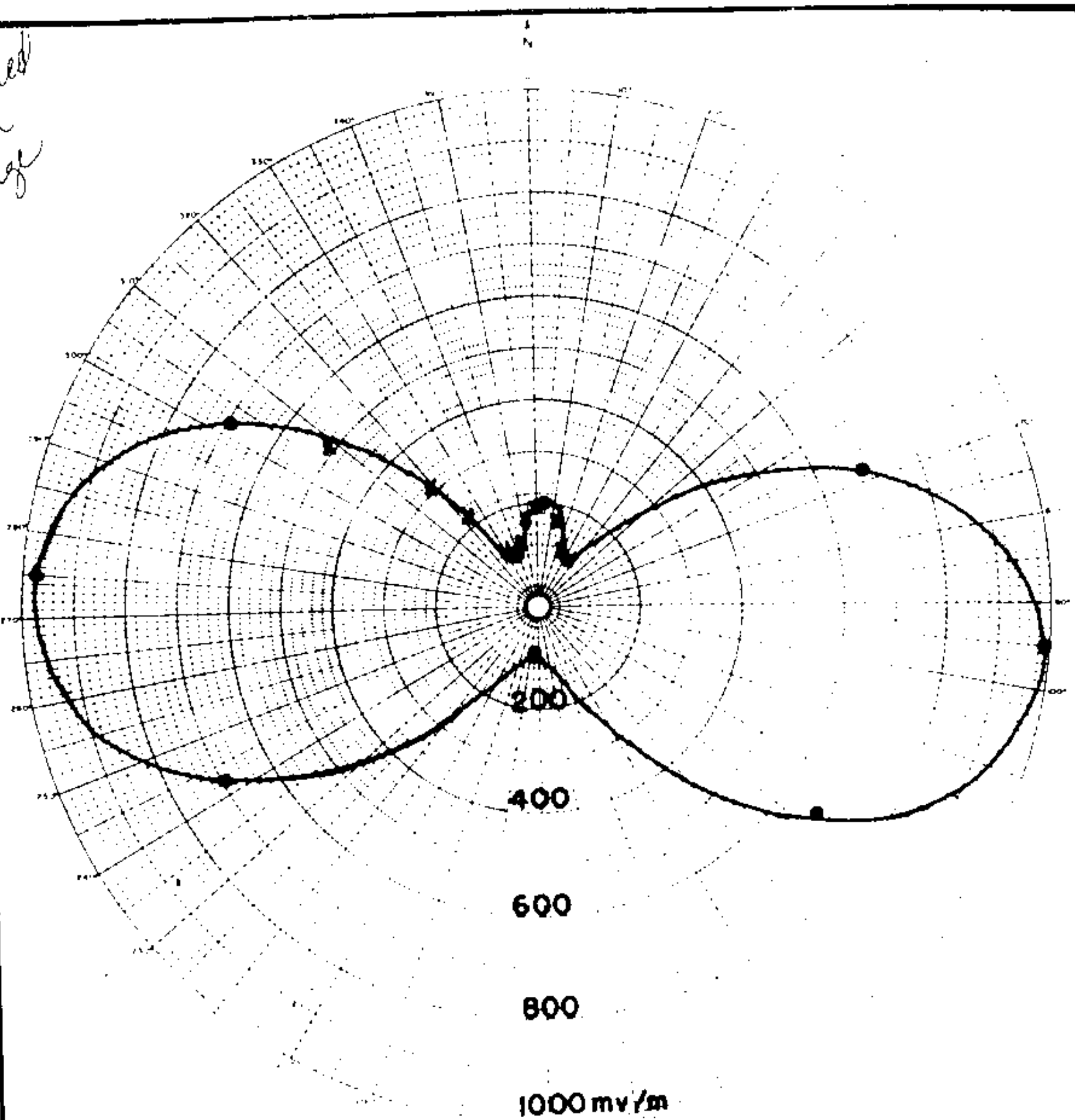
W B I X

Measured Day
(3-30-64ct)

Station WBIX
Jacksonville Beach, Florida

10kw,DA-D,D
1010kc

201
9-1-64 granted
for increase in
power and change
of xmtr site



E_{RMS} = 573.78 mv/m

LATITUDE 30° 17' 42"
LONGITUDE 81° 33' 11"

AMBROSE W. KRAMER
CONSULTING RADIO ENGINEER

ANTENNA PARAMETERS

G 72.5°
S 190°

5° TRUE

no. 2 1.2/0°

no. 1 1.0/-10°

FIGURE-17
D.A. MEASURED
POLAR PATTERN
WBIX
JACKSONVILLE BEACH, FLORIDA
1010 kc/s., 10 kw. D.A.-D.-D.
27, NOVEMBER 1963

BP-13,353

FCC File No. BL-10437
Accepted 3-12-64

Station WBIX
Jacksonville Beach, Florida

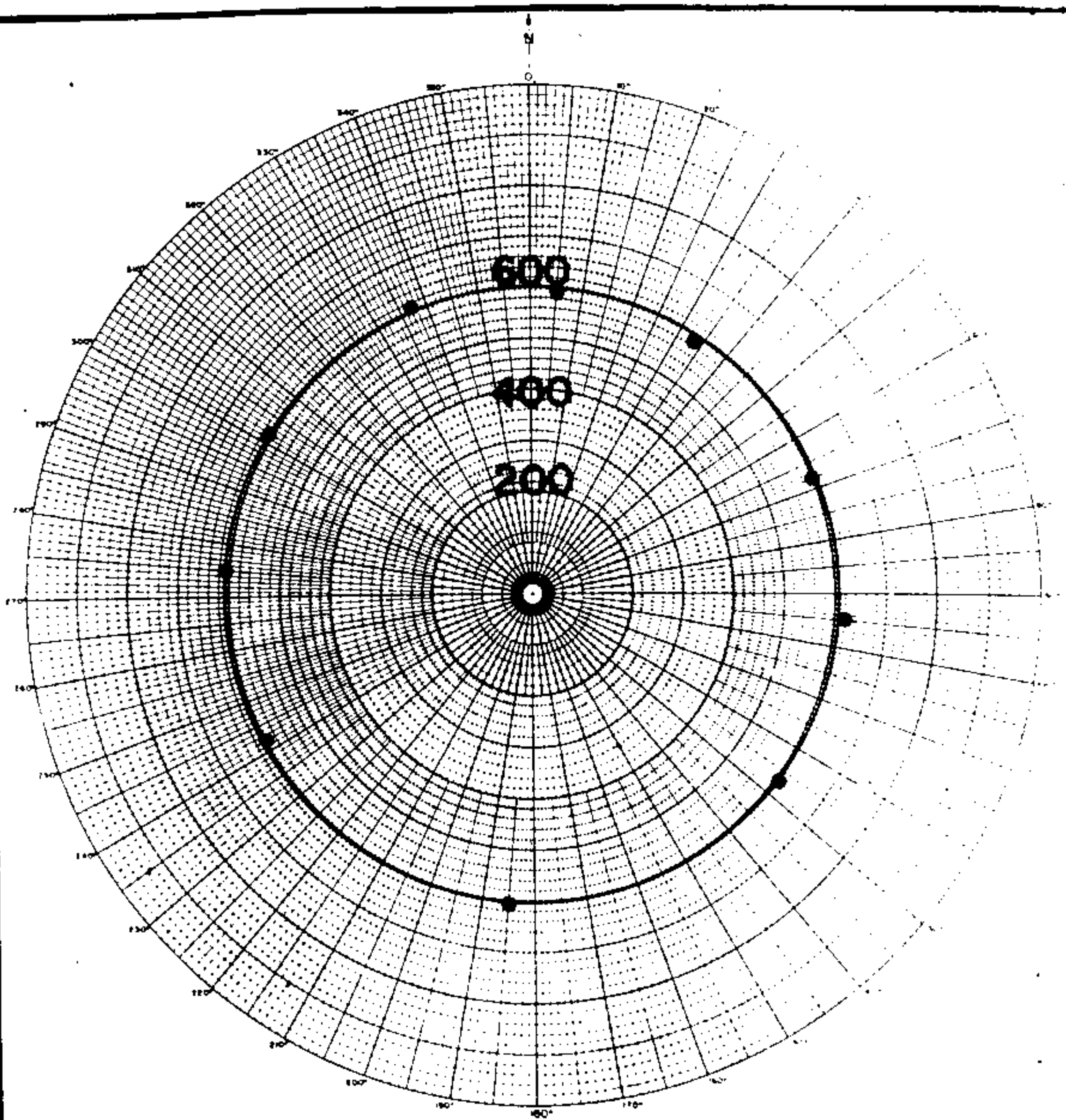
1010kc

WBIX

Measured Non-DA
(3-30-64ct)

Station WBIX
Jacksonville Beach, Florida

10kw,DA-D,D
1010kc



E_{RMS} · 604 mv/m

• = measured radials

LATITUDE 30° 17' 42"
LONGITUDE 81° 33' 11"

AMBROSE W. KRAMER
CONSULTING RADIO ENGINEER

ANTENNA PARAMETERS

o no. 2
ISOLATED

o no. 1
G = 72.5°

FIGURE-15
NON D.A. MEASURED
POLAR PATTERN
WBIX

JACKSONVILLE BEACH, FLORIDA
1010 KC/S. 10 KW, D.A.D.-D.
27 NOVEMBER 1963
BP-13,353

FCC File No. BL-10437
Accepted 3-12-64

Station WBIX
Jacksonville Beach, Florida

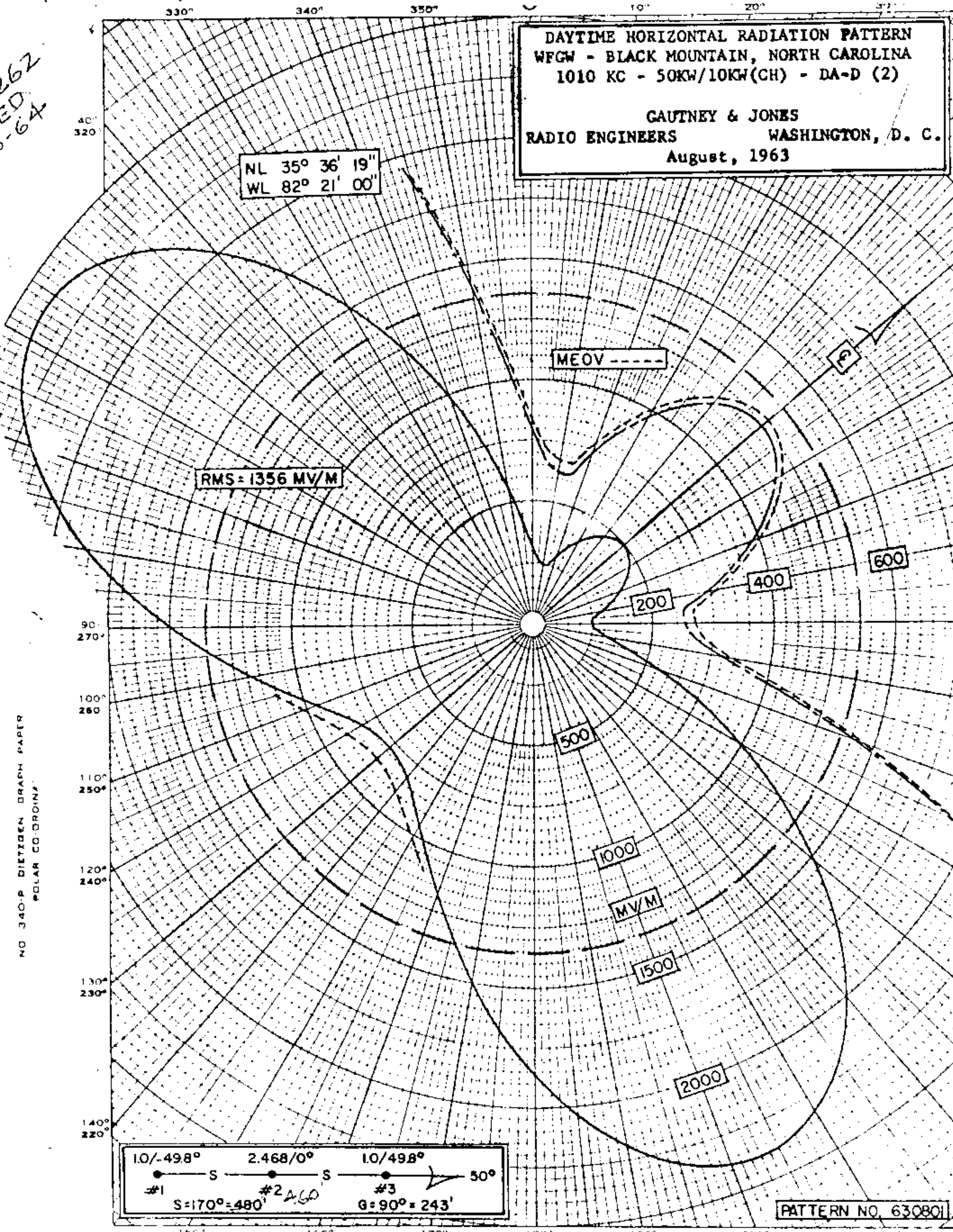
1010kc

WFGW

Proposed Day
(10-26-64ct)

Station WFGW
Black Mountain, North Carolina

10kw(CH),50kw,DA-2,D
1010 kc



BP 16262
GRANTED
12-23-64

FCC File No. BP-16262 Station WFGW
Accepted 9-29-64

Black Mountain, North Carolina

1010 kc

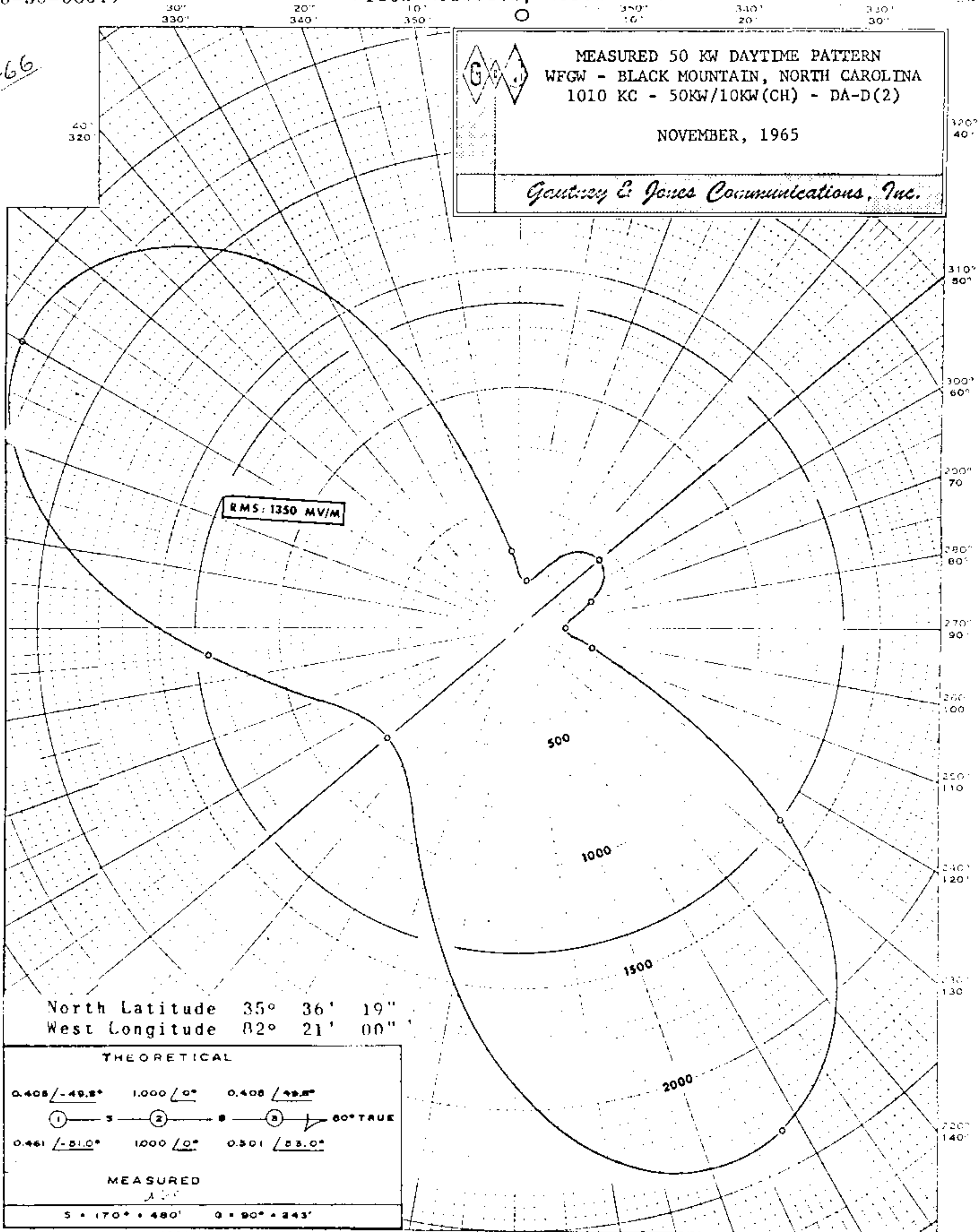
WFGW

Measured Day
(3-30-66CT)

Station WFGW
Black Mountain, North Carolina

50kw,10kw-CH,DA-D(2),D
1010 kc

LIC 3-15-66



FCC File No.BL-11221
Accepted 3-4-66

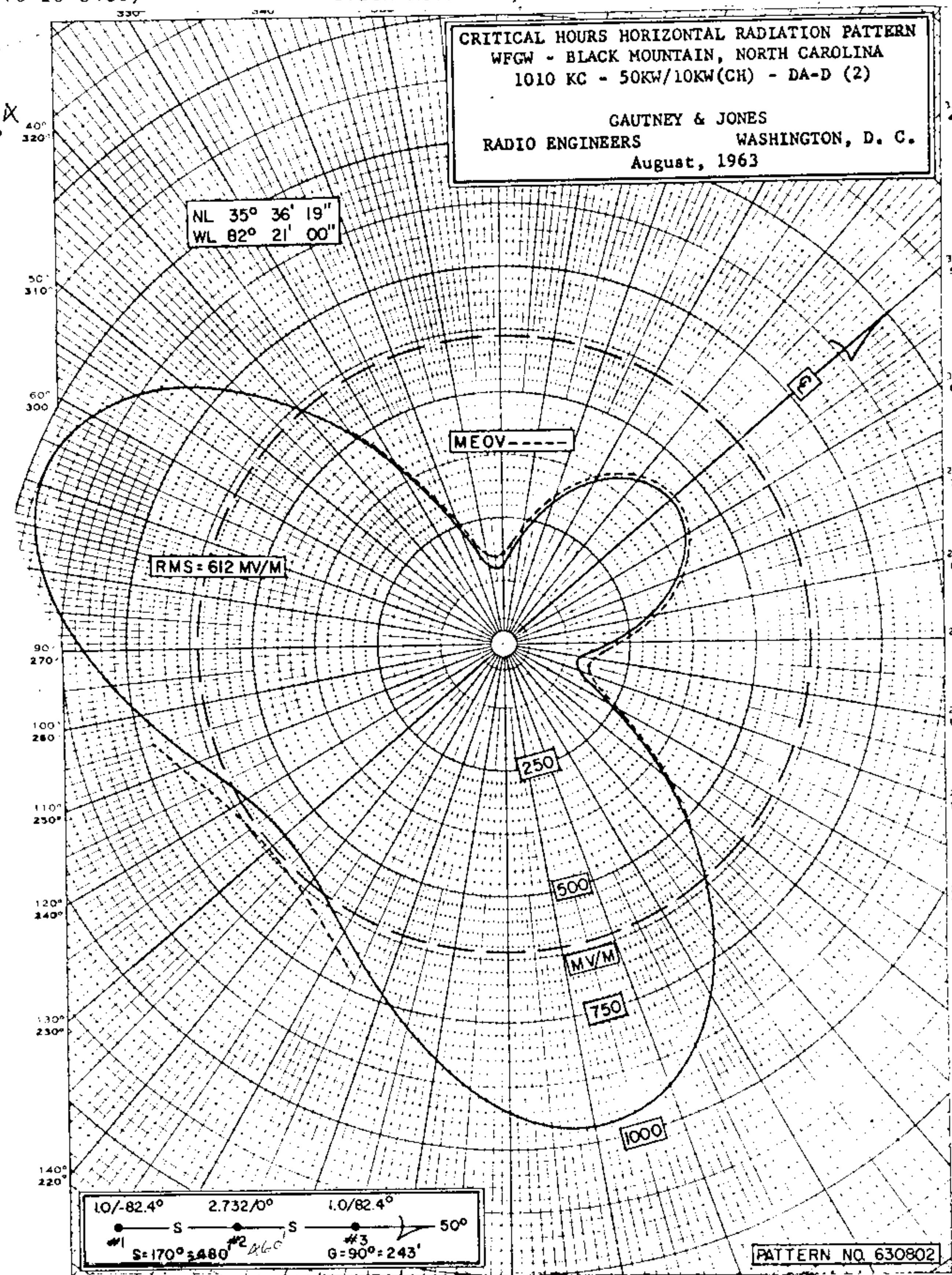
Station WFGW
Black Mountain, North Carolina

1010 kc

WFGW

Proposed Day (CH) (10-26-64ct) | Station WFGW Black Mountain, North Carolina | 10kw(CH),50kw,DA-2,D 1010 kc

BP-16262 GRANTED 12-23-64



FCC File No. BP-16262 Station WFGW
Accepted 9-29-64 Black Mountain, North Carolina 1010 kc

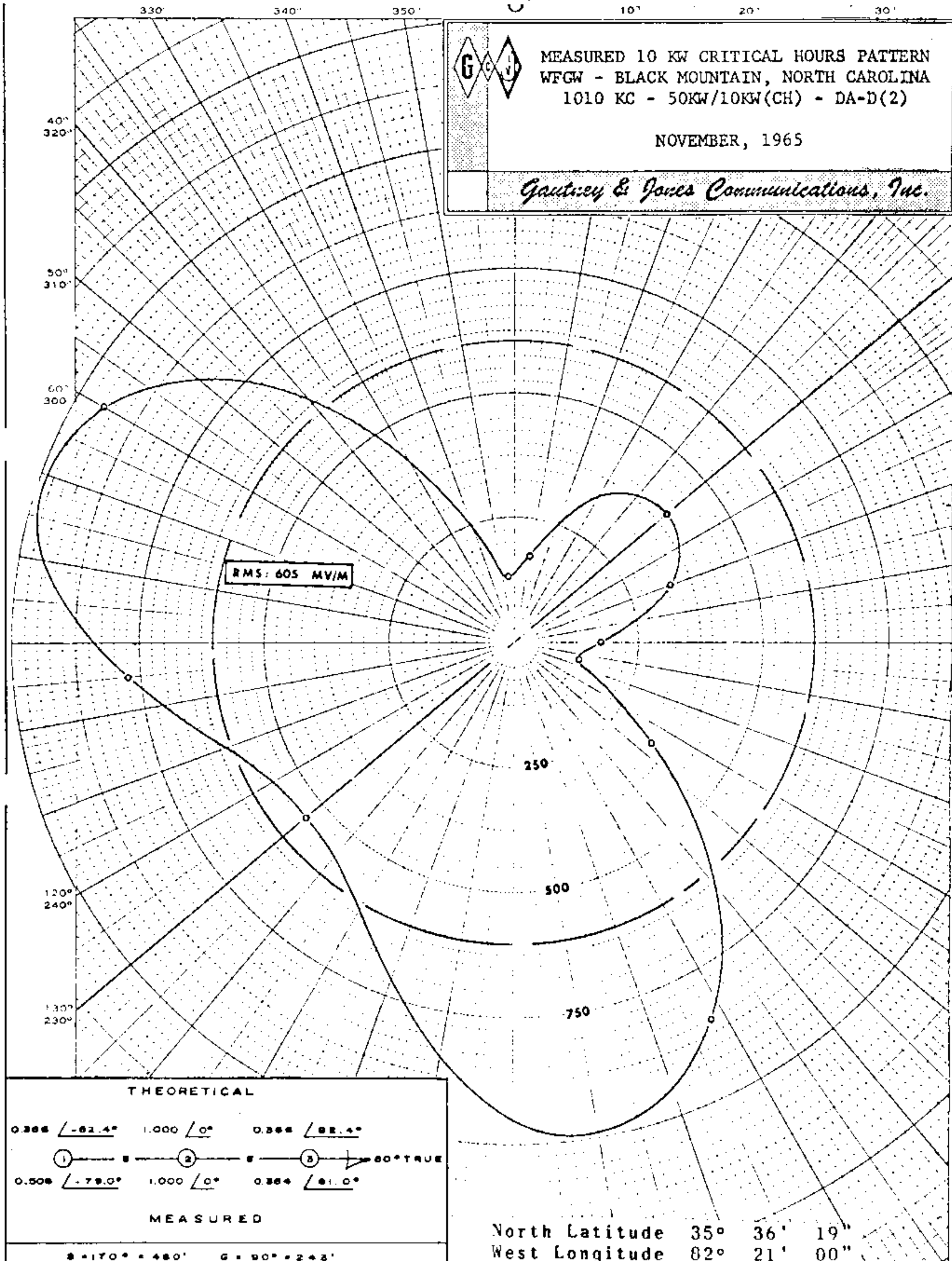
WFGW

LIC 3-15-66

Measured Day (CH)
(3-30-66CT)

Station WFGW
Black Mountain, North Carolina

50kw,10kw-CH,DA-D(2),D
1010 kc



FCC File No.BL-11221
Accepted 3-4-66

Station WFGW
Black Mountain, North Carolina

1010 kc

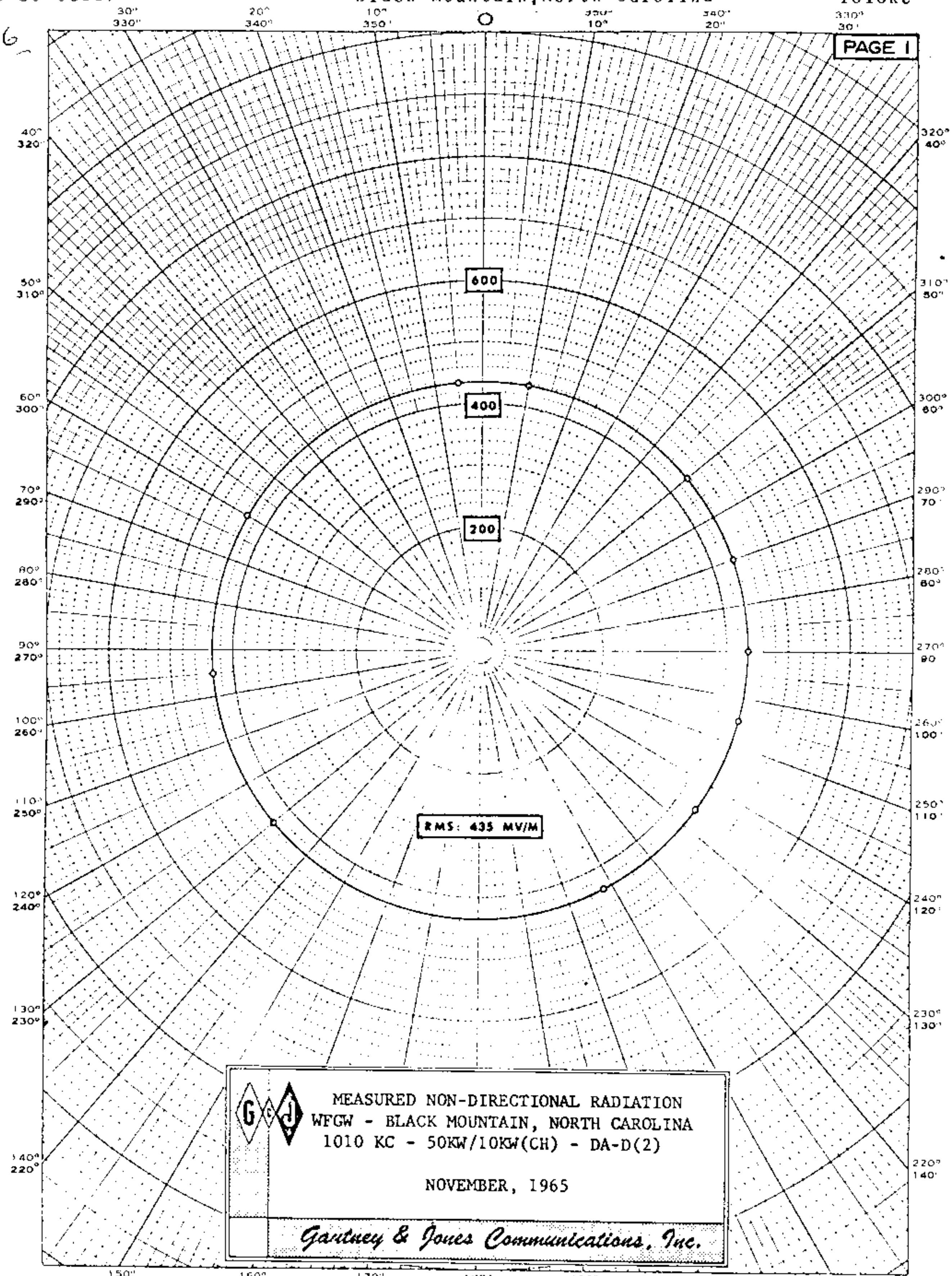
WFGW

Measured Non-DA
(3-30-66CT)

Station WFGW
Black Mountain, North Carolina

50kw, 10kw-CH, DA-D(2), D
1010kc

LIC 3-15-66



EUGENE DIETZGEN CO.

NO. 340-P DIETZGEN GRAPH PAPER
POLAR

FCC File No. BL-11221
Accepted 3-4-66

Station WFGW
Black Mountain, North Carolina

1010 kc

WINQ
1010kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WINQ	Main Studio: Tampa, Florida
Frequency: 1010 kHz	Power: 0.5kw Night 50kw Day
Notification List No. 1790	Dated: December 4, 1980 Class: II
GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:	North Latitude: 27° 59' 25" West Longitude: 82° 13' 06"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-1)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	N(#1)	C(#2)	S(#3)
HEIGHT ABOVE INSULATORS:	260'	260'	260' (96°)
NIGHT PHASING:	+19.5°	0°	-19.5°
NIGHT FIELD RATIO:	1.0	1.78	0.902

SPACING AND ORIENTATION: Adjacent towers in a row are spaced 533.5' (197°) on a line bearing 355° true.

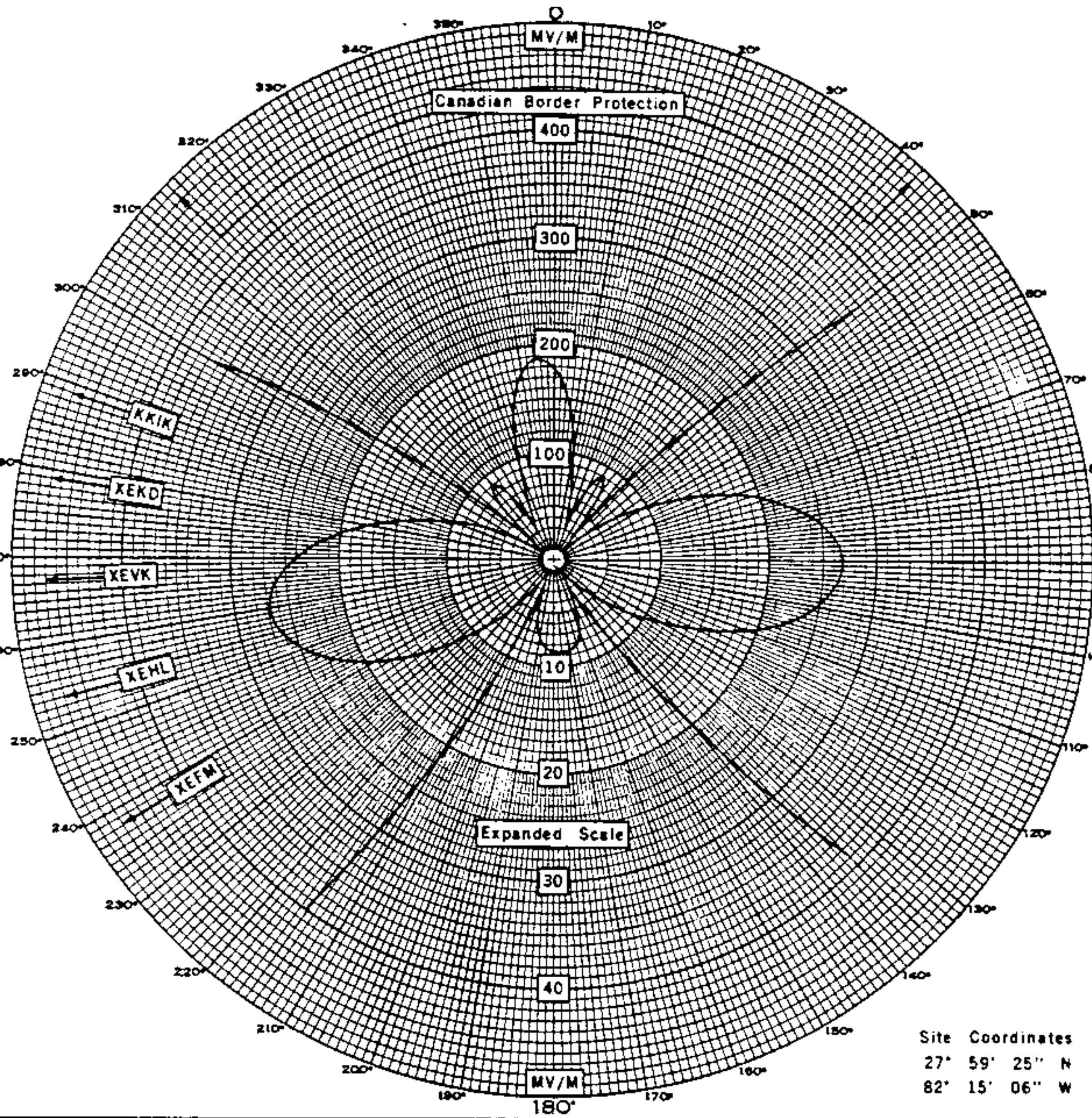
GROUND SYSTEM: 120 - 200' equally spaced copper radials plus a 40' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

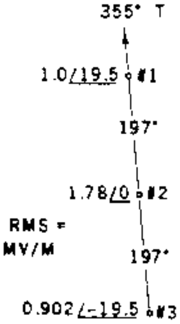
	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	1267 mv/m		
Night	126.7 mv/m		

Note: Please retain the Daytime directional antenna radiation pattern notifed for Station WINQ in United States Change List Number 931 dated November 1, 1961 and attach to this Revised Description Sheet and Nighttime pattern. This notification concerns only the addition of Nighttime operation of the station with Daytime operation continued as previously notified.

WINQ
1010 KHz



PROPOSED NIGHTTIME HORIZONTAL PLANE RADIATION PATTERN



G = 96°
Theor. RMS = 126.7 MV/M

GORE BROADCASTING
OF FLORIDA, INC.
TAMPA, FLORIDA

Jules Cohen & Associates
Consulting Electronics Engineers

RADIO STATION WINQ
1010 KHZ
500 W, 50 KW-LS
SH DA-1
JULY 1979

WINQ

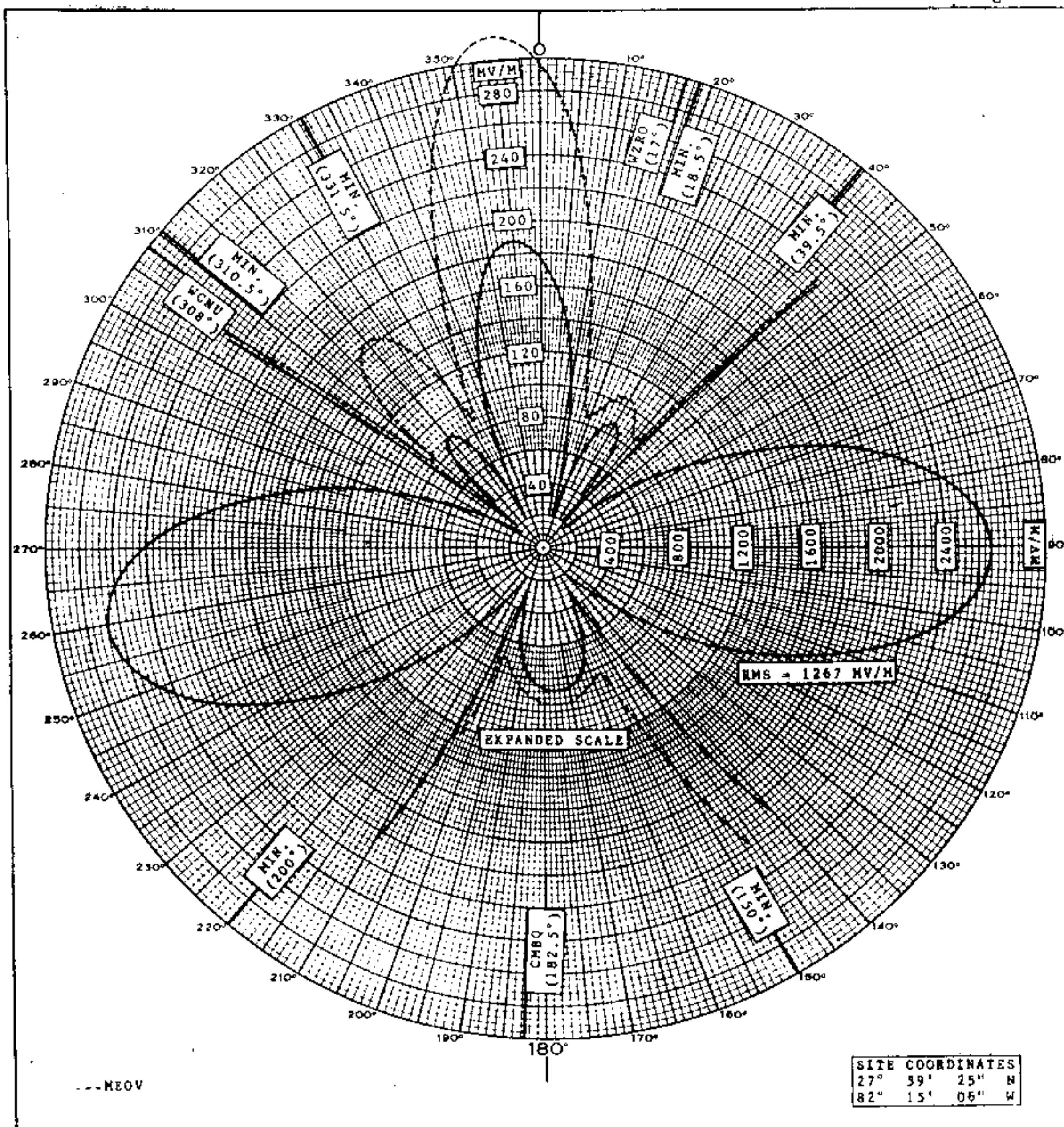
Proposed Day
(12-28-62ct)

Station WINQ
Tampa, Florida

50kw,DA-D,U
1010 kc

1/16/63
granted mcp
& changes in DAD

Figure 2



CALCULATED HORIZONTAL PLANE RADIATION PATTERN

355° TRUE (1) 1.0/19.5° 197° (533.5') (2) 1.78/0° 197° (533.5') (3) 0.902/-19.5° G = 96° (260')	RAND BROADCASTING OF TAMPA-ST. PETERSBURG, INC. TAMPA, FLORIDA Jules Cohen Consulting Electronic Engineer	RADIO STATION WINQ 1010 KC 50 KW D DA PATTERN 621123

FCC File No. BMP-10697
Accepted 12-13-62

Station WINQ
Tampa, Florida

1010 kc

WINQ

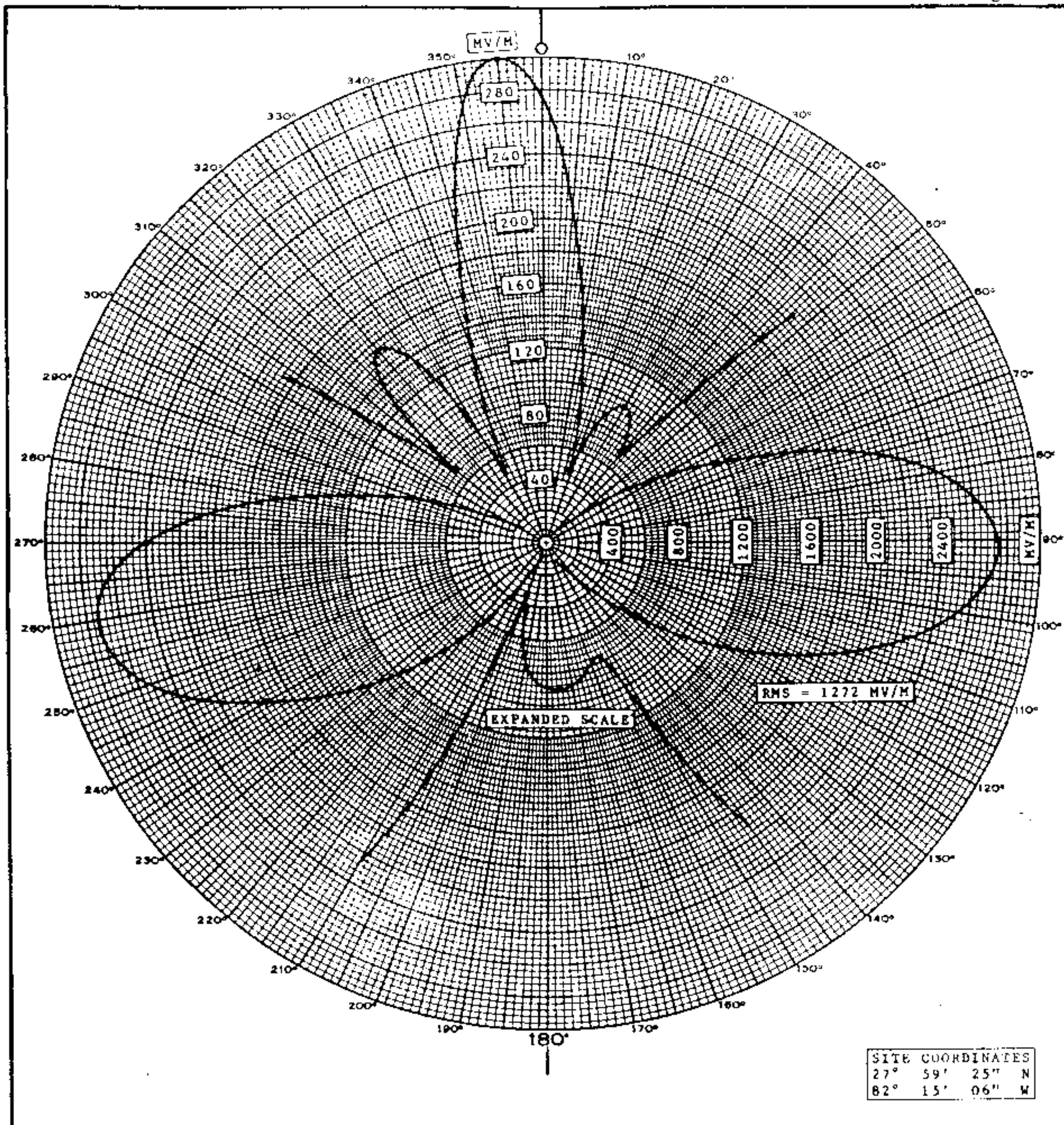
Measured Day
(1-30-63ct)

Station WINQ
Tampa, Florida

50kw,DA-D,D
1010 kc

8-1-63
posted license
for an Am station

Figure 10



MEASURED HORIZONTAL PLANE RADIATION PATTERN

355° TRUE (1) 1.0/19.5° 197° (533.5') (2) 1.78/0° 197° (533.5') (3) 0.902/-19.5° G = 96° (260')	RAND BROADCASTING OF TAMPA-ST. PETERSBURG, INC. TAMPA, FLORIDA Jules Cohen Consulting Electronic Engineer	RADIO STATION WINQ 1010 KC 50 KW D DA PATTERN 621127

FCC File No. BL-8066
Accepted 1-23-63

Station WINQ
Tampa, Florida

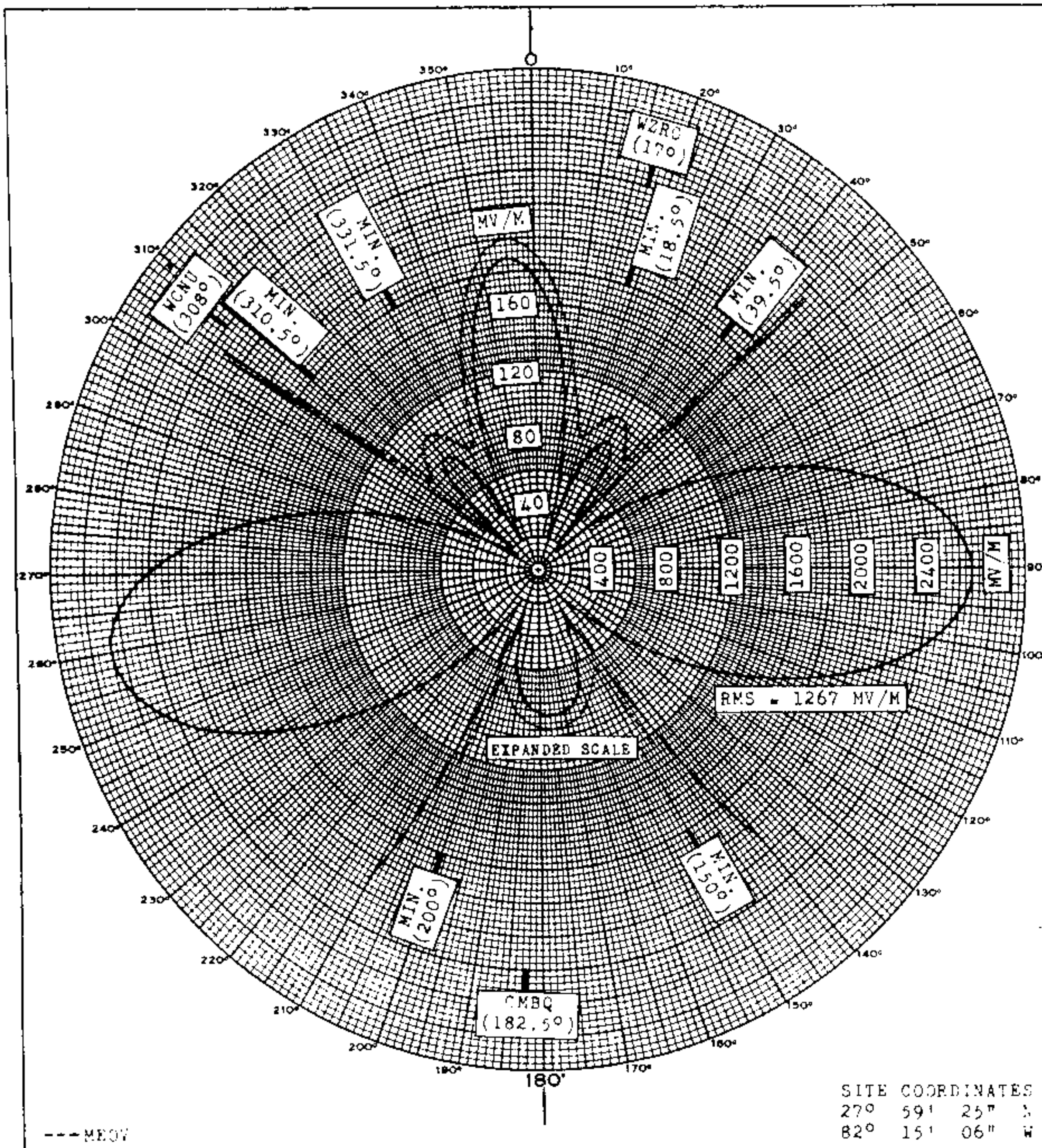
1010 kc

PROPOSED DAY
(7-29-60g)

Station WINQ
Tampa, Florida

50kw, DA-D,D
1010 kc

Granted mod. 7-22-60



PROPOSED HORIZONTAL PLANE RADIATION PATTERN

355° TRUE

(1) 1.0/19.5°

197° (353.5')

(2) 1.78/0°

197° (353.5')

(3) 0.902/-19.5°

S = 90° (260')

RAND BROADCASTING OF TAMPA-ST. PETERSBURG, INC.

RADIO STATION WINQ

TAMPA FLORIDA

Jules Cohen

Consulting Electronic Engineer

PROPOSED OPERATION

1010 KC

50 KW D DA

June, 1960

FCC File No. BMP-9052
Accepted 7-18-60

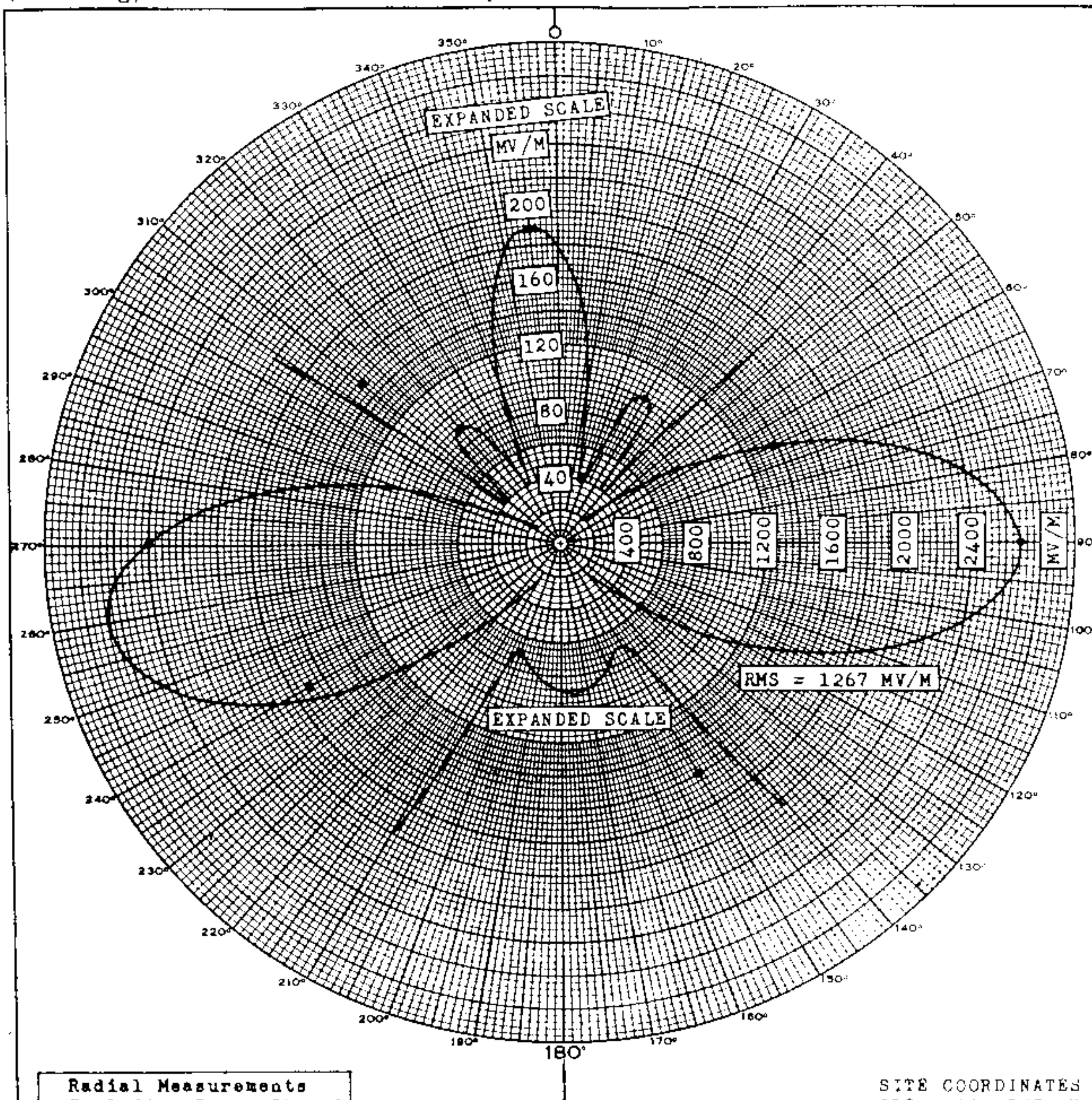
WINQ
Tampa, Florida

1010 kc

WINQ

3-1-63 granted license [illegible] for the station

MEASURED DAY | Station WINQ | 50kw, DA-D,D
(9-13-60g) | Tampa, Florida | 1010 KC



Radial Measurements
o Including Power Shovel
Reradiation Effects

SITE COORDINATES
27° 59' 25" N
82° 15' 06" W

MEASURED DIRECTIONAL HORIZONTAL PLANE RADIATION PATTERN

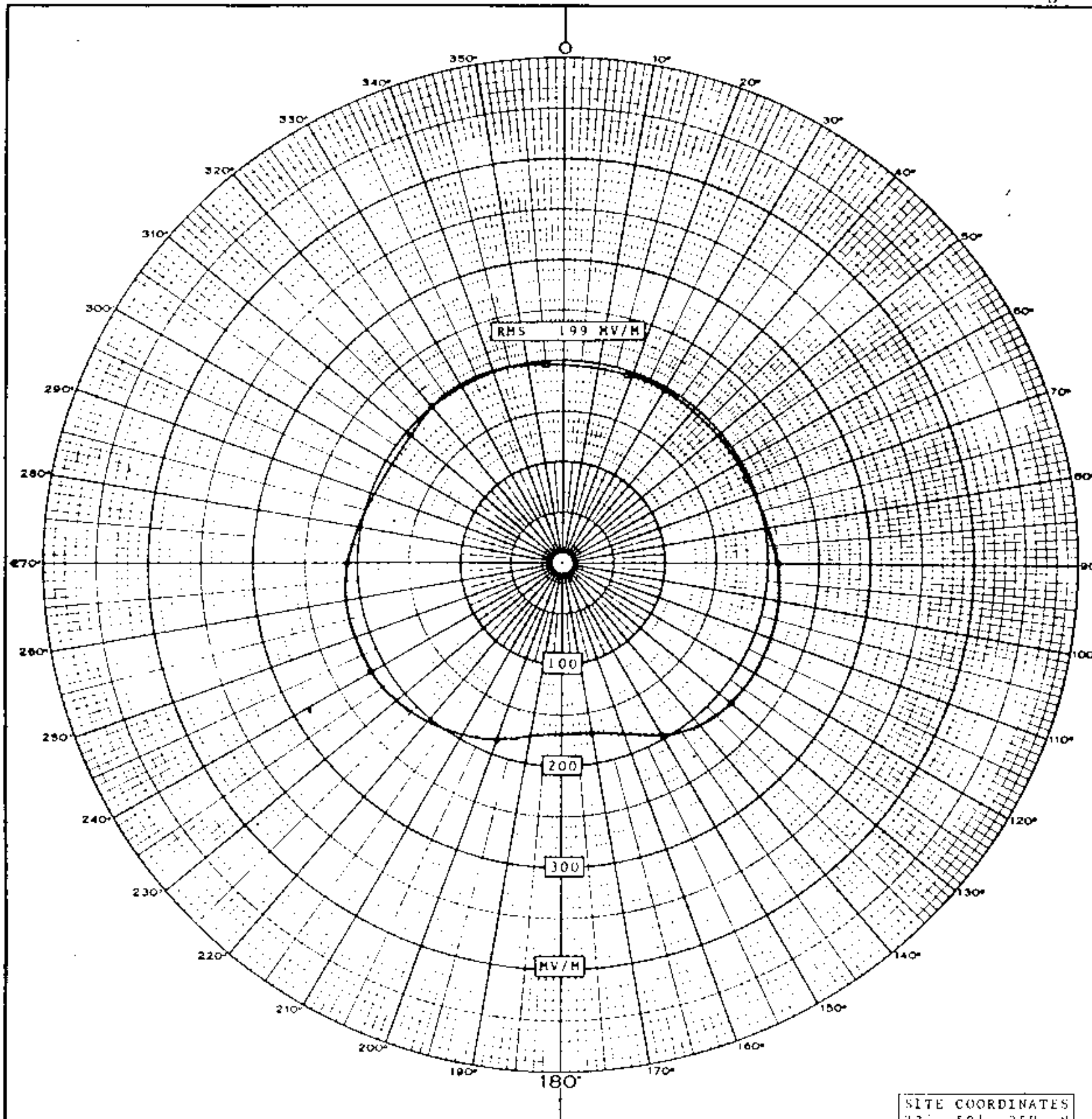
355° TRUE (1) 1.0/19.5° 197° (533.5') (2) 1.78/0° 197° (533.5') (3) 0.902/-19.5° G = 96° (260')	RAND BROADCASTING OF TAMPA-ST. PETERSBURG, INC. TAMPA, FLORIDA Jules Cohen Consulting Electronic Engineer	RADIO STATION WINQ 1010 KC 50 KW D DA July, 1960

FCC File No. BL-8066 | WINQ |
Accepted 8-31-60 | Tampa, Florida | 1010 KC

WINQ

Measured Non-DA (1-30-63ct)	Station WINQ Tampa, Florida	50kw,DA-D,D 1010 kc

Figure 8



SITE COORDINATES			
27°	59'	25"	N
82	15'	06"	W

MEASURED 1962 NONDIRECTIONAL HORIZONTAL PLANE
RADIATION PATTERN (1000 WATTS)

355° TRUE (1) 197° (533.5') (2) 1.0/0° 197° (533.5') (3) G - 96° (260')	RAND BROADCASTING OF TAMPA ST. PETERSBURG, INC. TAMPA, FLORIDA Jules Cohen Consulting Electronic Engineer	RADIO STATION WINQ 1010 KC 50 KW D DA PATTERN 620200 (as reanalyzed)

FCC File No. BL-8066 Accepted 1-23-63	Station WINQ Tampa, Florida	1010 kc

proposed day and night

40-48-03
74-06-25

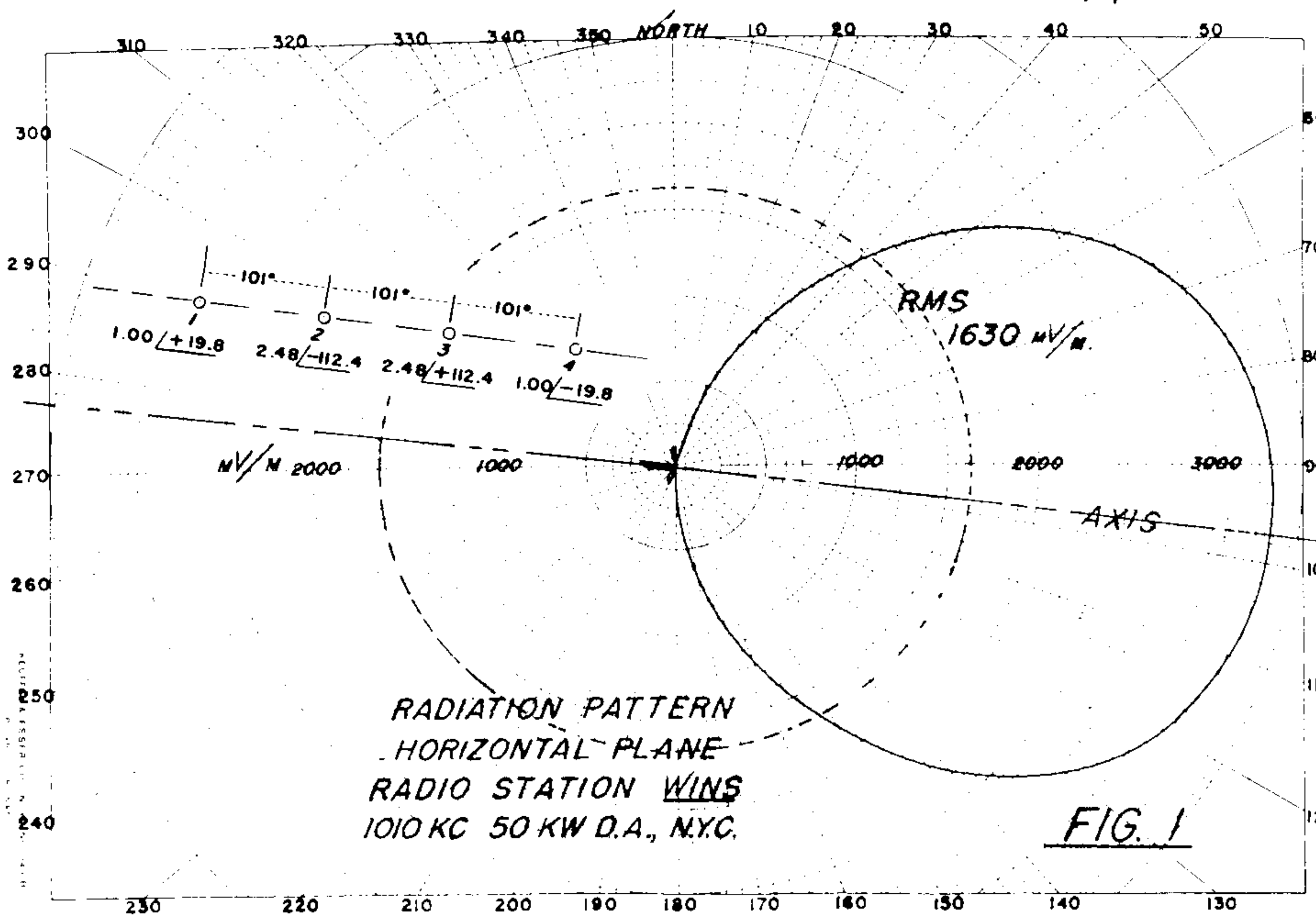


FIG. 1

PAUL F. GODLEY
MONTCLAIR, N. J. - JULY 1943

WINS-1010 Kc

WINS- 1010 KC

(MP-1720) 10/5/43

proposed nulls

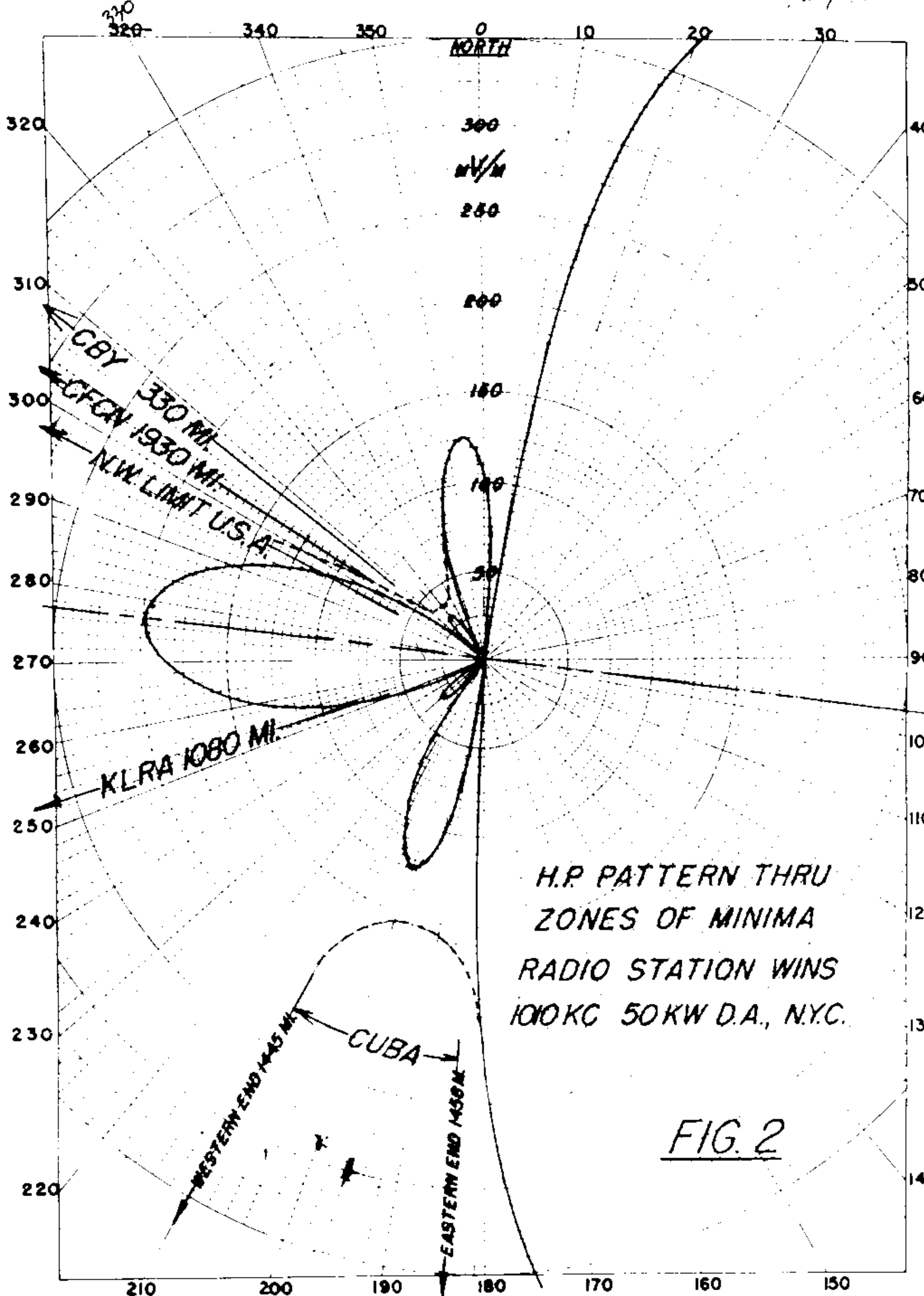


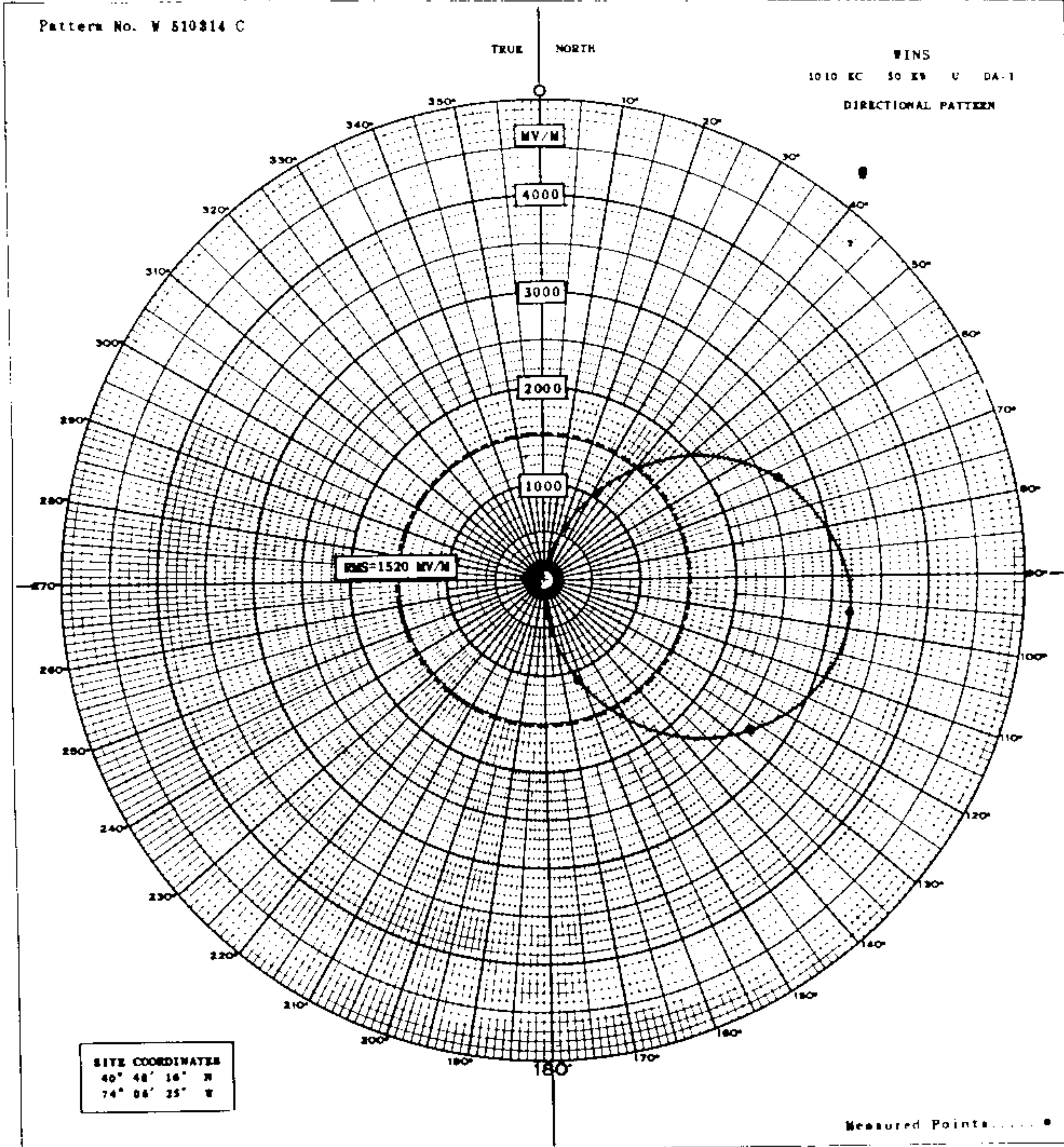
FIG. 2

PAUL F GODLEY
MONTCLAIR, N.J.-JULY 1943

KEUFFEL & ESSER CO. N.Y. NO. 141 B

WINS

MEASURED DAY & NITE	WINS, NEW YORK, N. Y. 11/5/51G	50 KW, U, DA-1	1010 KC



MEASURED HORIZONTAL PLANE RADIATION PATTERN

Tower No.	Field ratio and phasing
1	1.00 ∠+19.8°
2	2.40 ∠-133.4°
3	2.40 ∠+133.4°
4	1.00 ∠-19.8°

G = 74.6°

CROSLEY BROADCASTING CORPORATION

WELDON & CARR Consulting Radio Engineers

Dallas • Washington • Seattle

WINS

NEW YORK CITY

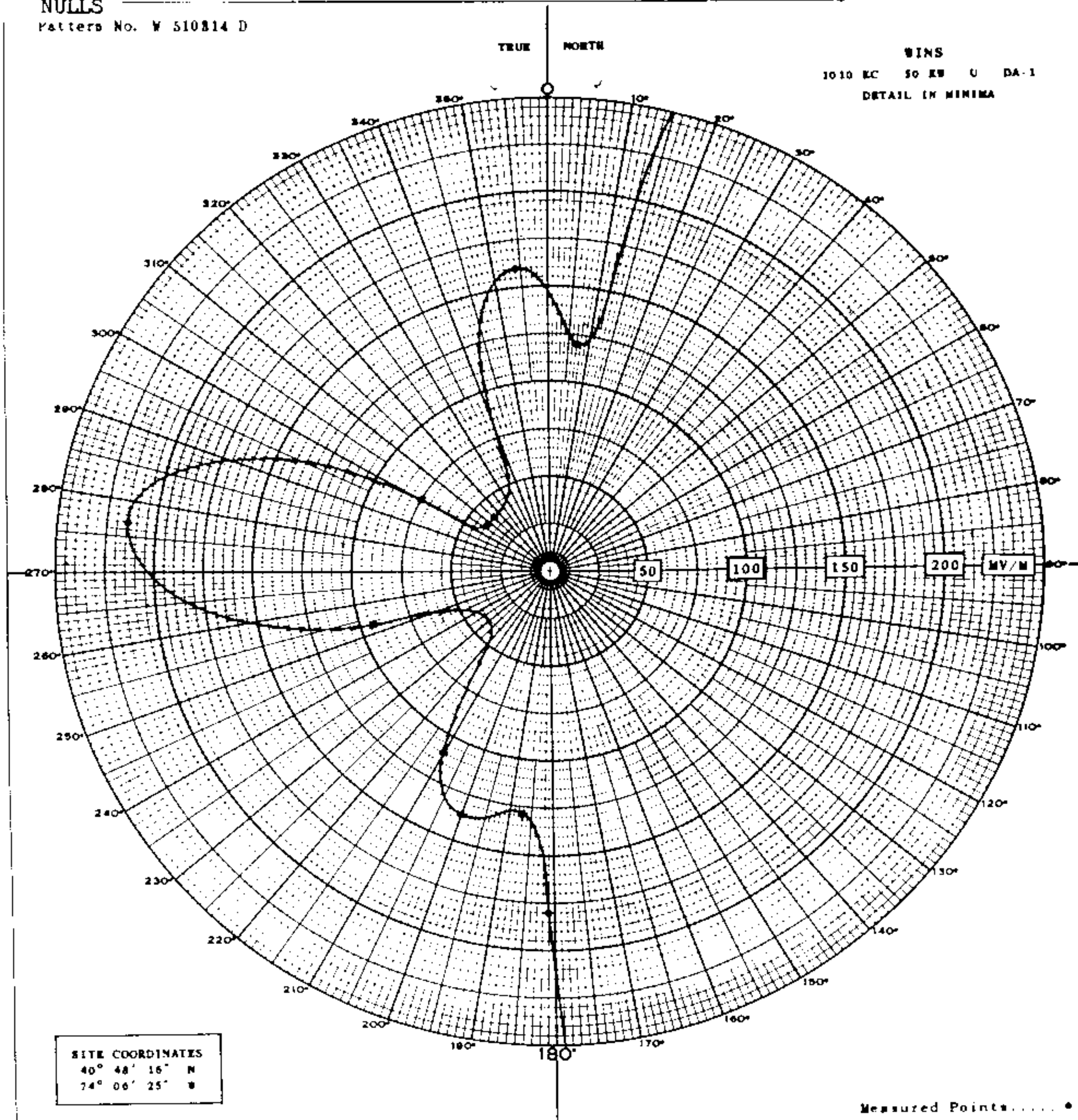
1010 KC 50 KW U DA-1

APPL RECD 3/29/51 BL-4567 WINS, NEW YORK, NEW YORK 1010 KC

WINS

MEASURED DAY & NITE NULLS — WINS, NEW YORK, N. Y. 11/5/51G — 50 KW, U, DA-1 — 1010 KC FIGURE 10

Pattern No. W 510814 D



SITE COORDINATES
40° 48' 16" N
74° 06' 25" W

Measured Points..... •

MEASURED HORIZONTAL PLANE RADIATION PATTERN

DETAIL IN MINIMA	CROSLEY BROADCASTING CORPORATION WELDON & CARR Consulting Radio Engineers Dallas • Washington • Seattle	WINS NEW YORK CITY 1010 KC 50 KW U DA-1

APPL RECD 3/29/51 BL-4567 WINS, NEW YORK, NEW YORK 1010 KC

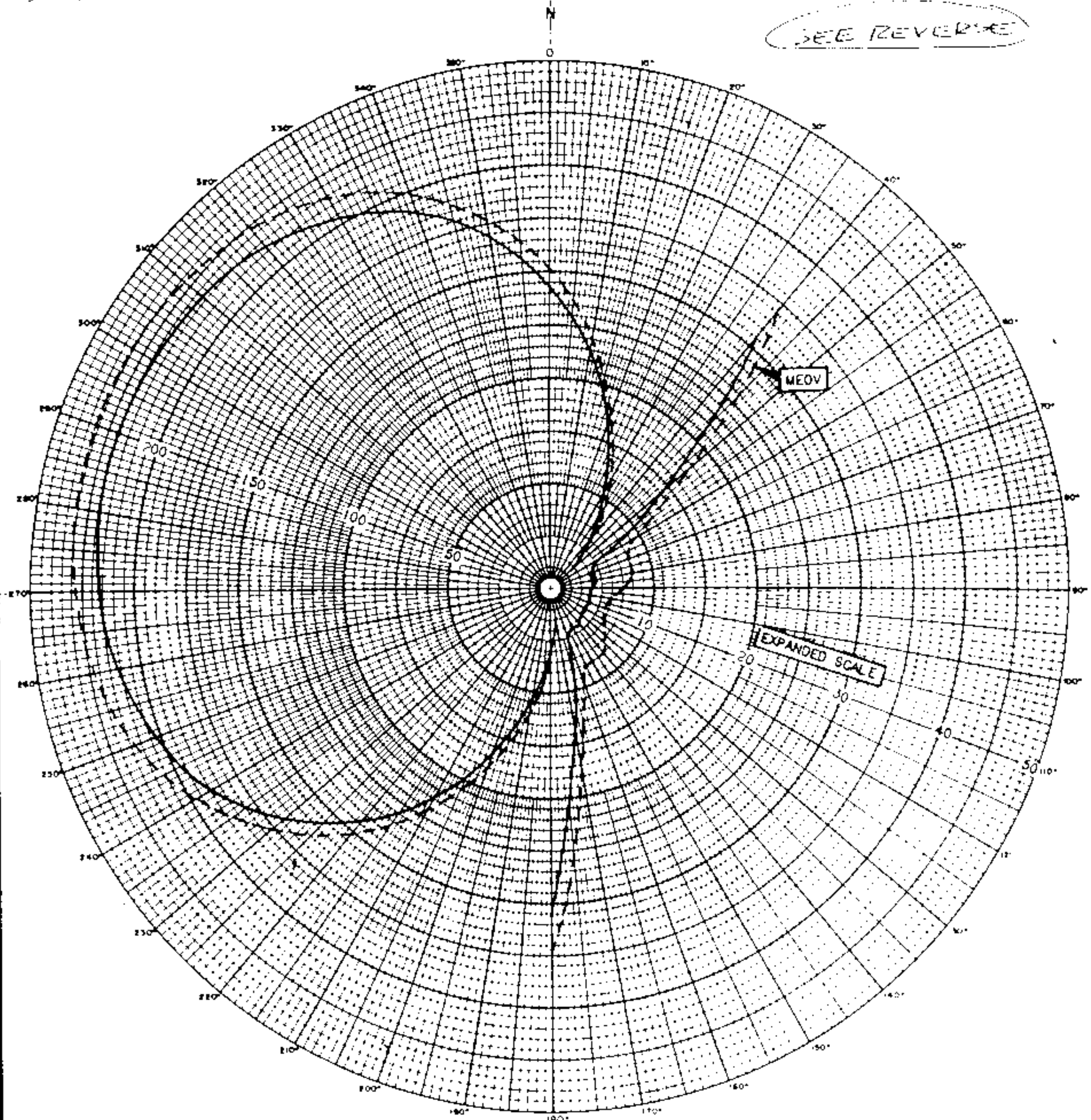
WITL

Proposed Day
(9-26-69ct)

Station WITL
Lansing, Michigan

500w, DA-D, D
1010 kc

SEE REVERSE



E_{RMS} = 132 MV/M

LATITUDE 42° 40' 31.7"
LONGITUDE 84° 30' 05.6"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

ALL G's = 91.4°

N 290° E

0.51 /-104° #1 (NW)
S
1.0 /+2° #2 (C)
S
0.51 /+104° #3 (SE)

S = 90° (243.6')

880801 FIGURE 5

PROPOSED DIRECTIONAL RADIATION

RADIO STATION WITL
LANSING, MICHIGAN

1010 Kc. 500 DA-D

FCC File No. BP-18626
Accepted 9-9-69

Station WITL
Lansing, Michigan

1010 kc

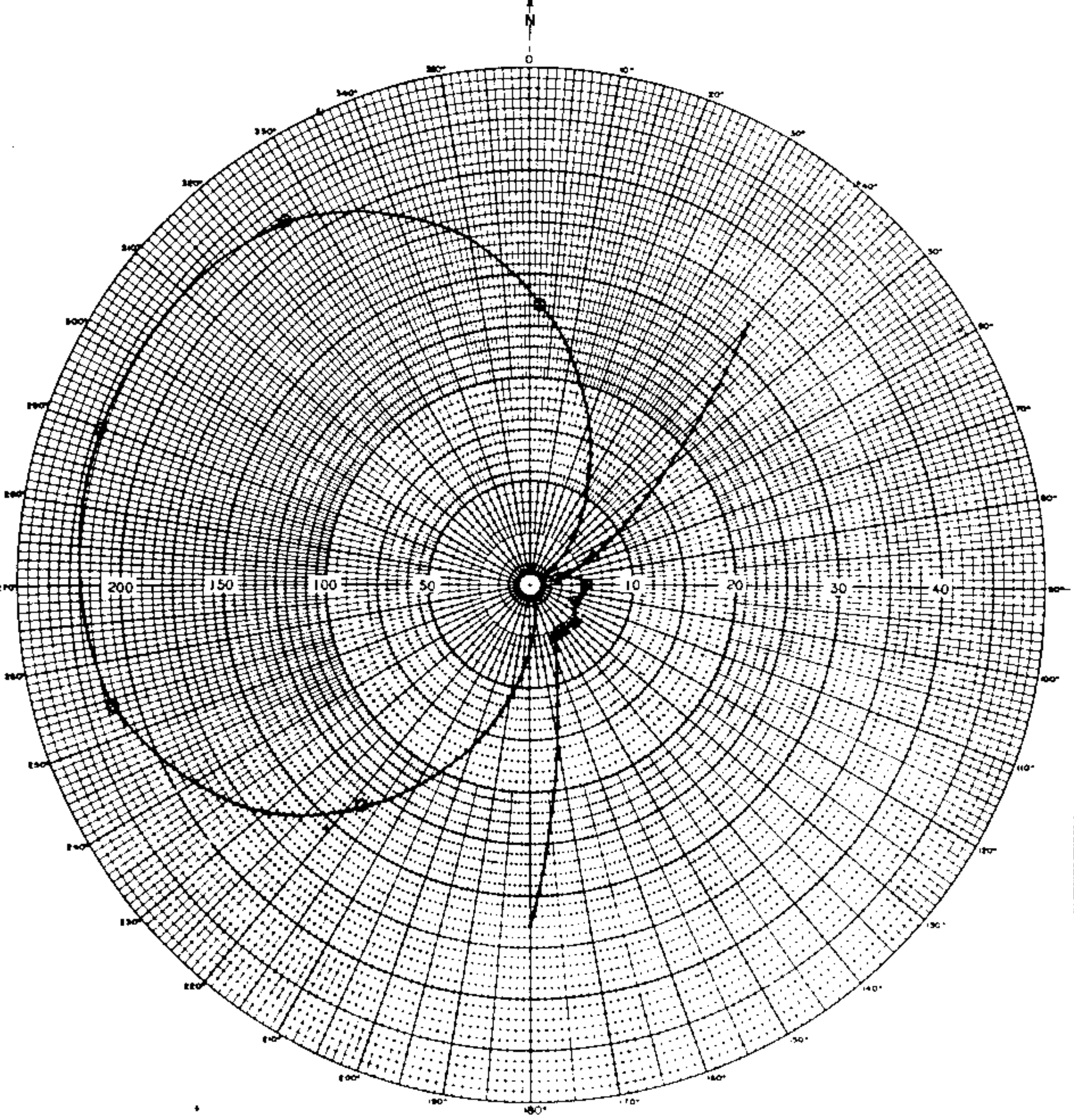
WITL

Measured Day
(5-27-66ct)

LIC 7-14-66

Station WITL
Lansing, Michigan

500w, DA-D, D
1010 kc



E_{RMS} = 133 mV/M

LATITUDE: 42° 41' 57"
LONGITUDE: 84° 30' 05"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

G = 90°

290° T

0.51/-104°
1

1.0/+2°
2

0.51/+104°
3

SPACINGS:
1-2 = 90°
2-3 = 90°

651025 FIGURE 3

MEASURED DIRECTIONAL RADIATION

RADIO STATION WITL
LANSING, MICHIGAN

1010 KC 500 DA-D

FCC File No. BL-11287
Accepted 5-13-66

Station WITL
Lansing, Michigan

1010 kc

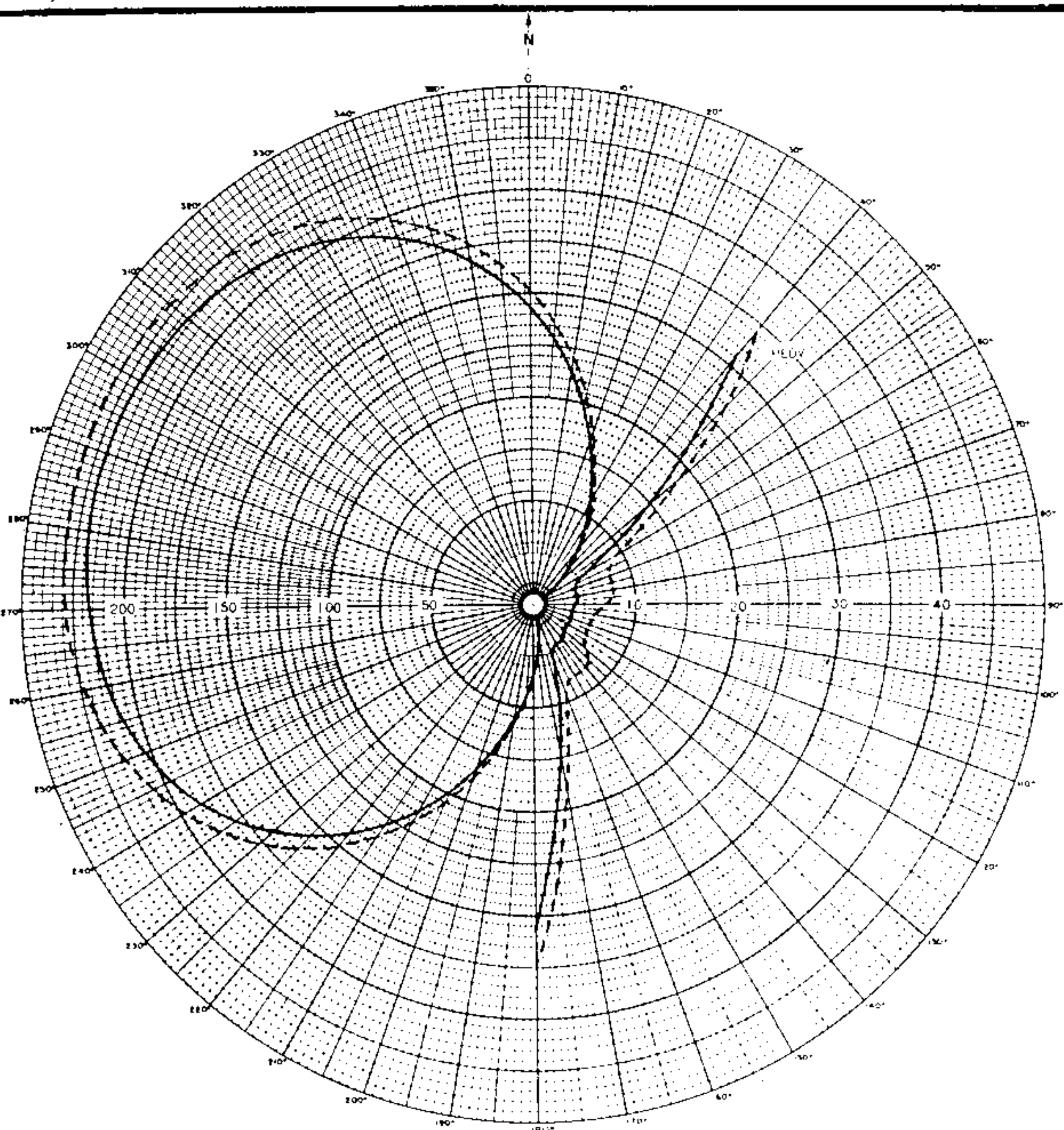
WITL

Proposed Day
(2-28-66ct)

Station WITL
Lansing, Michigan

500w,DA-D,D
1010 kc

CP 3-2-66
CHG DA PAT



• E_{RMS} = 132 mv/m

LATITUDE 42° 41' 57"

LONGITUDE 84° 30' 05"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

ϕ = 90°

290° T

0.51/-104°
1

1.0/+0°
2

0.51/+104°
3

SPACINGS:
1-2 = 90°
2-3 = 90°

65105 FIGURE 5

PROPOSED DIRECTIONAL RADIATION

RADIO STATION WITL
LANSING, MICHIGAN

1010 KC 500 DA-D

FCC File No.BP-17065
Accepted 2-8-66

Station WITL
Lansing, Michigan

1010 kc

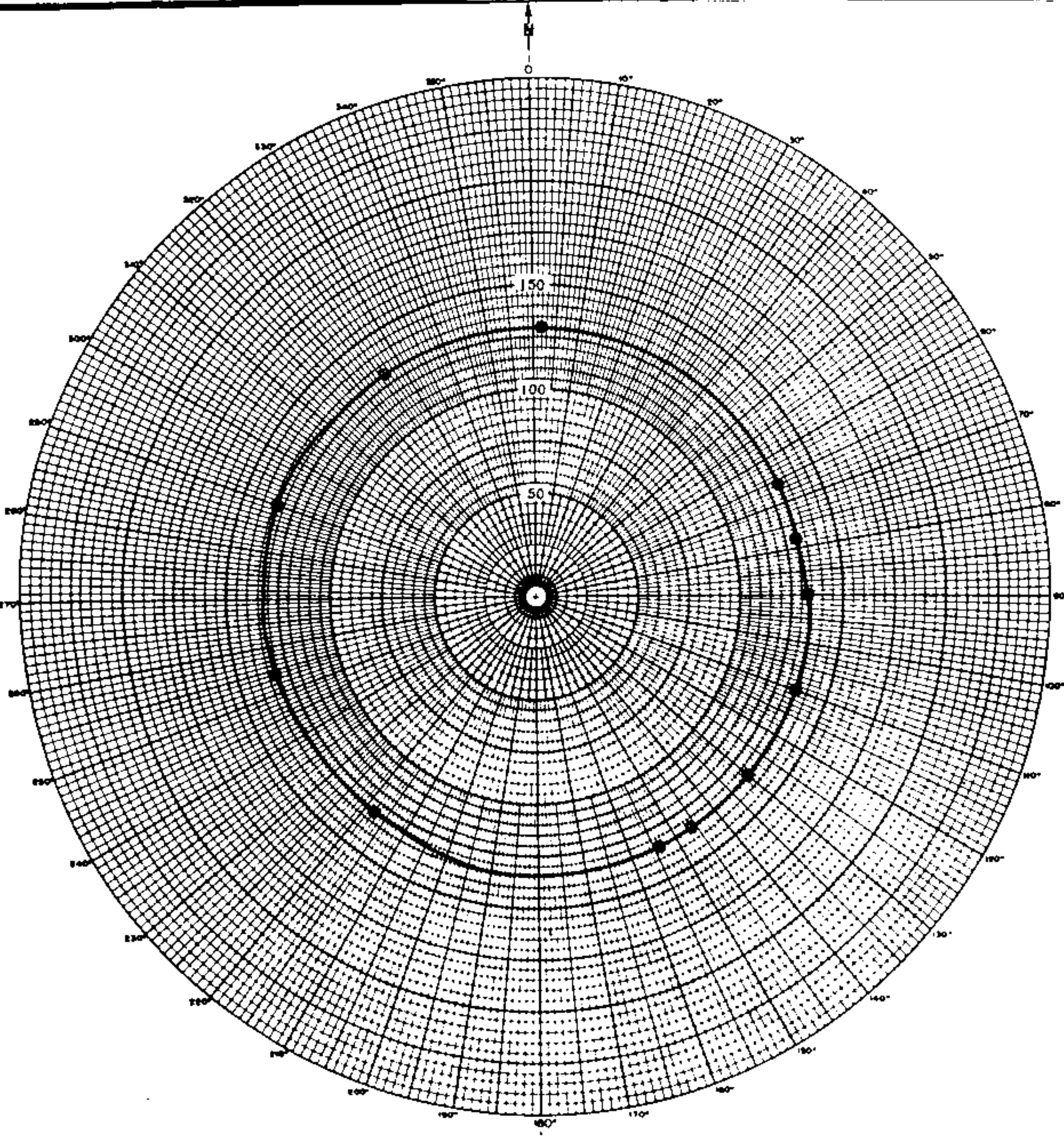
WITL

Measured Non-DA
(5-27-66ct)

Station WITL
Lansing, Michigan

500w,DA-D,D
1010 kc

LIC 7-14-66



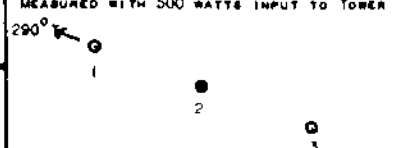
E_{RMS} = 132 MV/M

LATITUDE: 42° 41' 57"
LONGITUDE: 84° 30' 05"

ANTENNA PARAMETERS

G = 90°

MEASURED WITH 500 WATTS INPUT TO TOWER 2



651025 FIGURE 2

MEASURED NON-DIRECTIONAL RADIATION

RADIO STATION WITL
LANSING, MICHIGAN

1010 KC 500 DA-D

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

FCC File No. BL-11287
Accepted 5-13-66

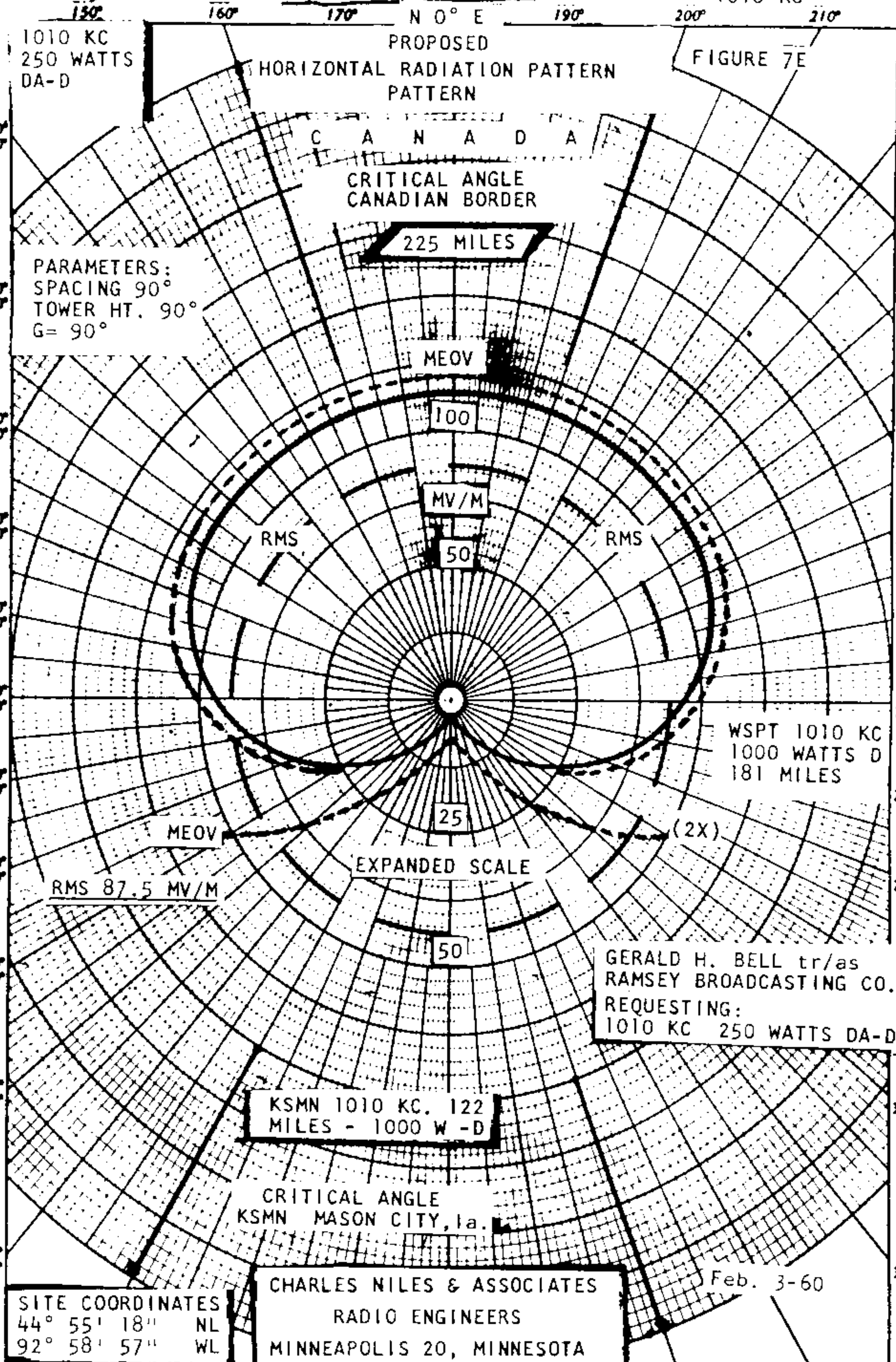
WMIN ~~ZCR~~

PROPOSED DAY
(5-8-61g)

New; Ramsey Bcstng. Co.
Maplewood, Minnesota

250W, DA D,D
1010 KC

2-13-63 granted as formed station



FCC File No. BP-14386
Accepted 4-18-61 (Amended)

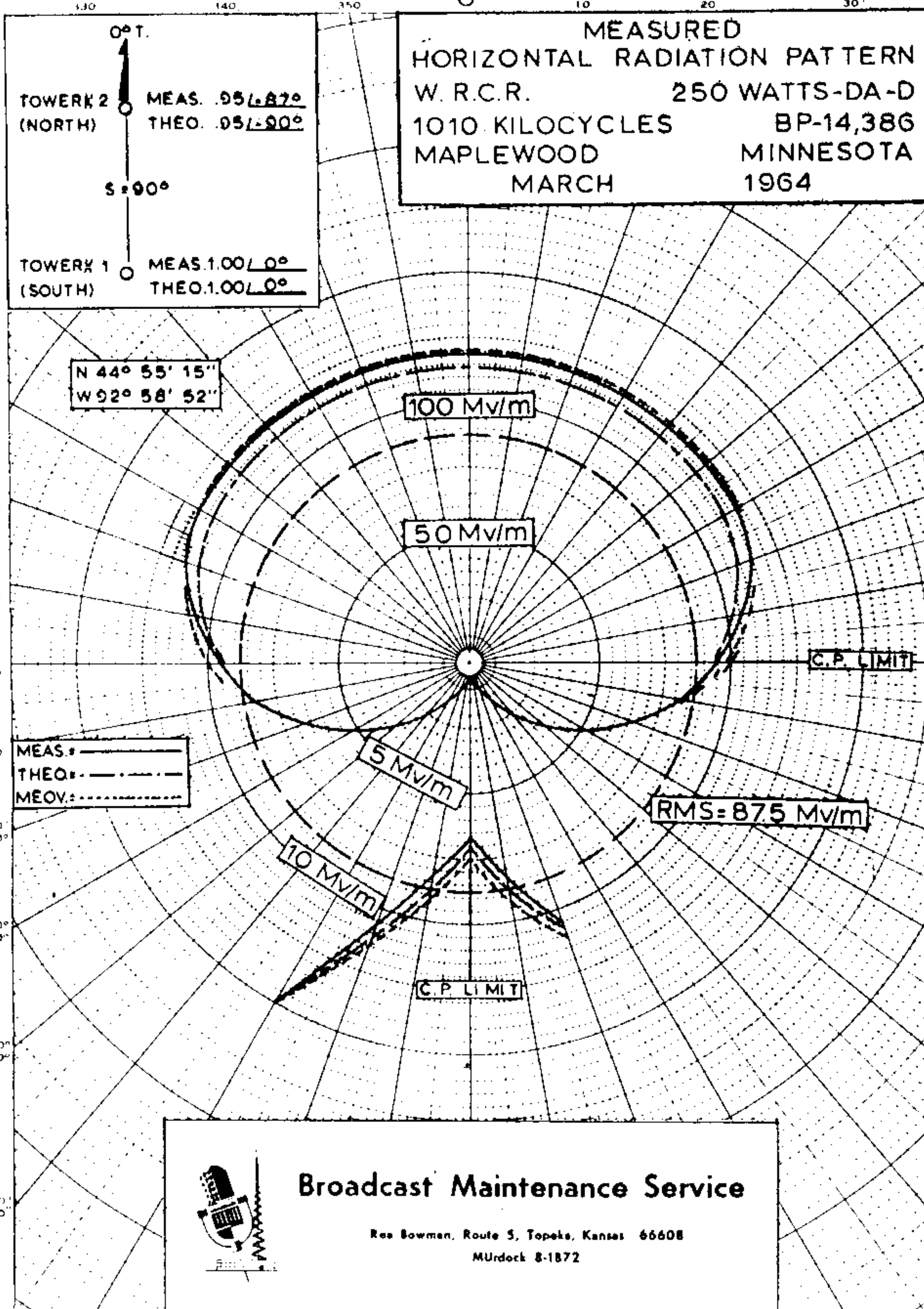
Ramsey Broadcasting Company
Maplewood, Minnesota 1010 KC

WMIN ~~RCR~~

Measured Day
(6-29-64ct)

Station WRCR
Maplewood, Minnesota

250w,DA-D,D
1010 kc



200
1-28-64
granted L for
two stations

Broadcast Maintenance Service

Rae Bowman, Route 5, Topeka, Kansas 66608
MUrdock 8-1872

FCC File No.BL-10588
Accepted 5-25-64

Station WRCR
Maplewood, Minnesota

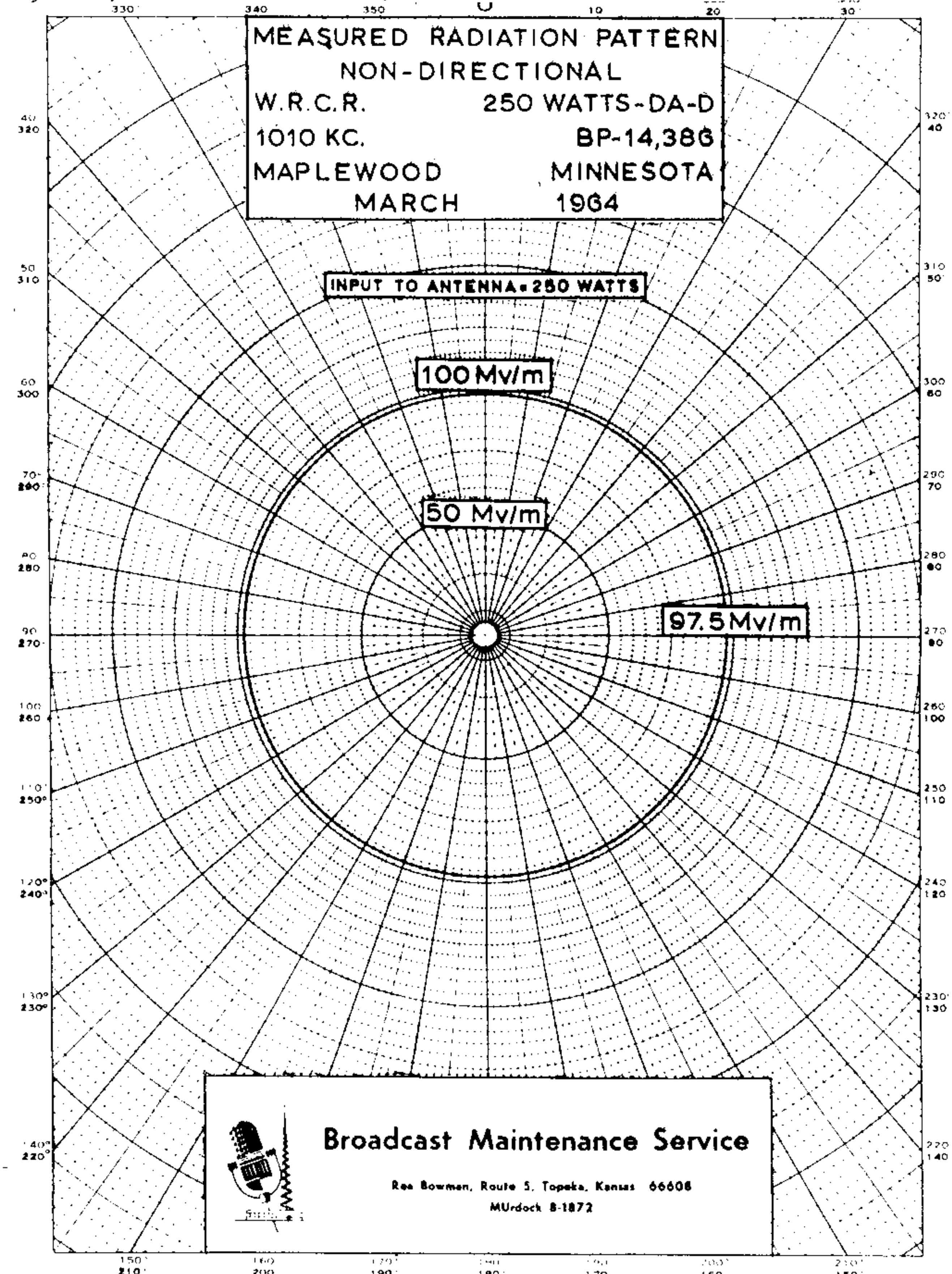
1010 kc

WMIN ~~WRCR~~

Measured Non-DA
(6-29-64ct)

Station WRCR
Maplewood, Minnesota

250w, DA-D, D
1010 kc



FCC File No. BL-10588
Accepted 5-25-64

Station WRCR
Maplewood, Minnesota

1010 kc

WMOX

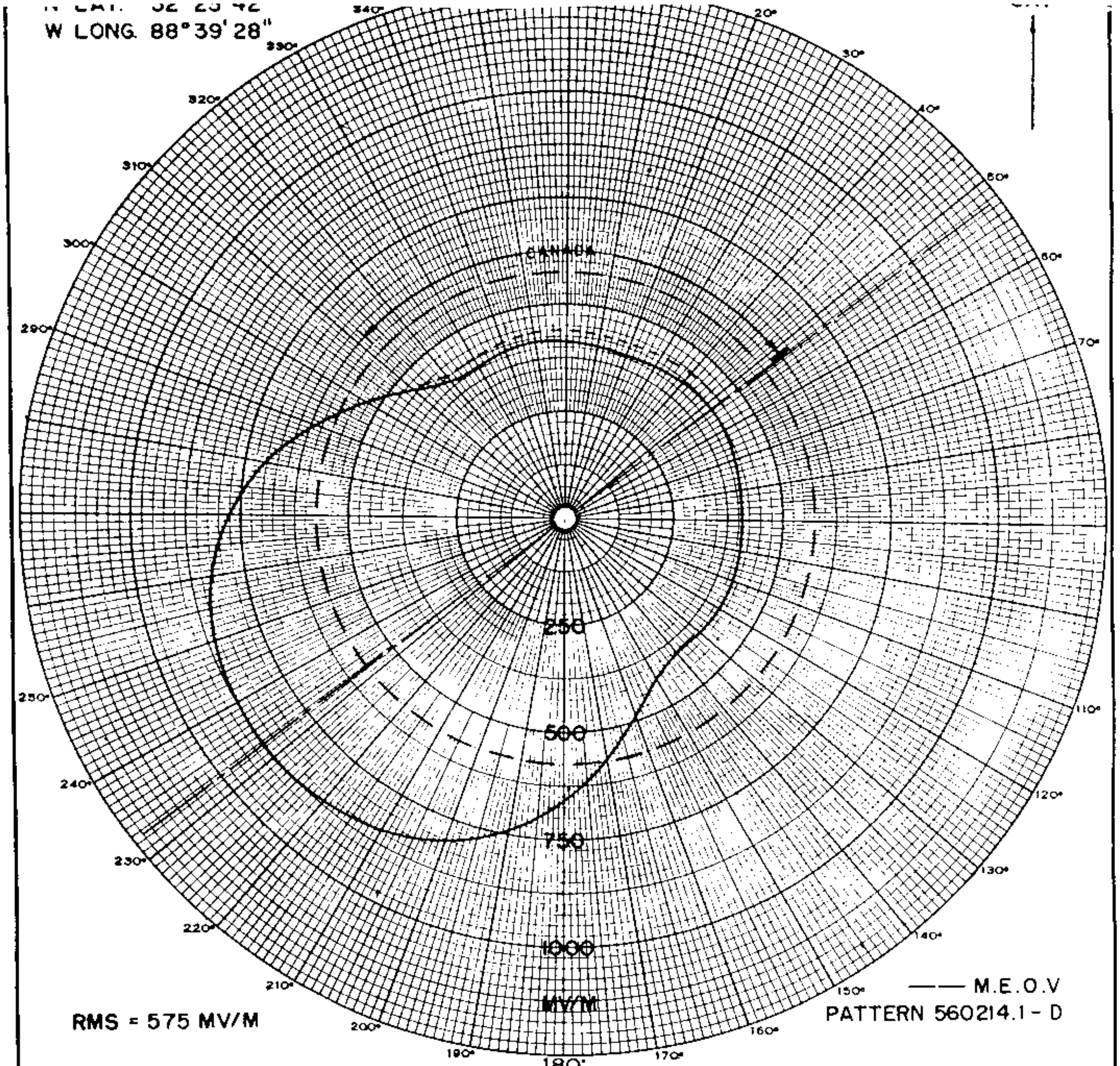
PROPOSED
DAY (3/27/56g)

STATION WMOX
MERIDIAN, MISS.

10 KW
DA-2, U

1010 KC

granted 7-29-59
for DA-2



G = 189.5' = 70°

(1)—S—(2)—S—(3)—S—(4) → 52.5°

S = 270.6' = 100°

TOWER	1	2	3	4
FIELD	0.400	0.957	0.400	-
PHASE	+45.00	-133.93	-45.00	-

RADIO STATION WMOX
MERIDIAN, MISSISSIPPI
1010 KC   10 KW   DA-DAY

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

560214.2   FIGURE 7A

WMOX

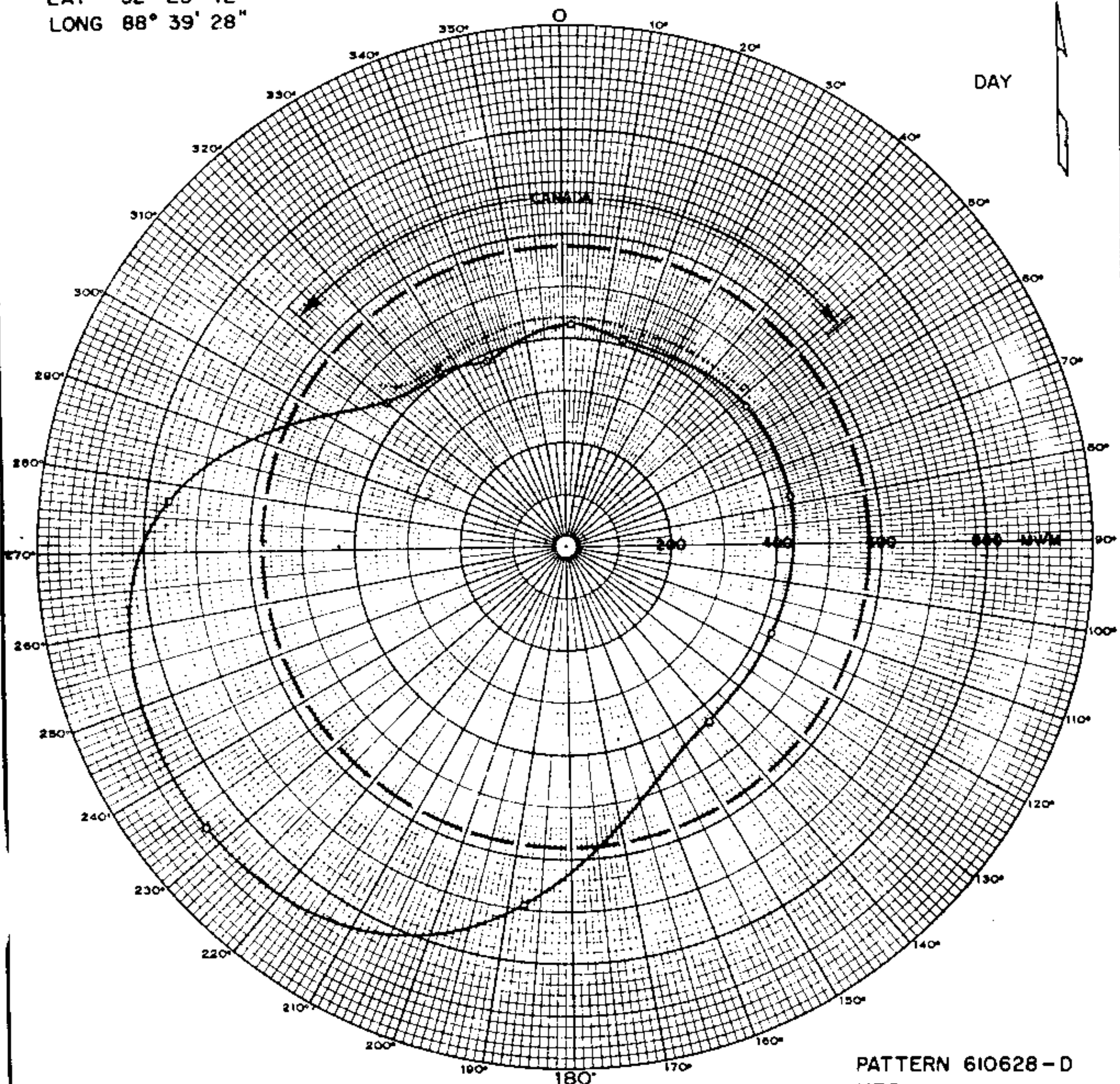
MEASURED DAY
(9-20-61ct)

Station WMOX
Meridian, Mississippi

1kw,10kw-LS,DA-2,U
1010 kc

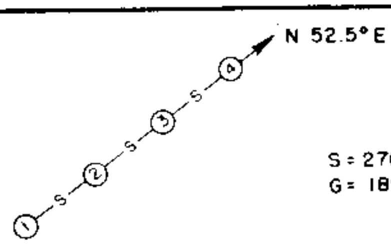
(L-8688 -5-6) granted for change in meeaue in ef.) order, + change Xmtr site DA-2

LAT 32° 23' 42"
LONG 88° 39' 28"



RMS = 575 MV/M

PATTERN 610628-D
MEOV ....



S = 270.6' = 100°
G = 189.5' = 70°

10 KW DIRECTIONAL DAYTIME

	THEORETICAL ψ	THEORETICAL I	MEASURED ψ	MEASURED I_B	MEASURED I_L
TOWER 1	+178.93	.418	+172°	.422	.422
TOWER 2	0.00	1.000	0°	1.000	1.000
TOWER 3	+ 88.93	.418	+ 86°	.422	.422
TOWER 4	——		DETUNED		

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WMOX
1010 KC 1 KW 10 KW-LS DA-2
610628 FIGURE 4B

FCC File No. BL-8688
Accepted 8-30-61

Station WMOX
Meridian, Mississippi

1010 kc

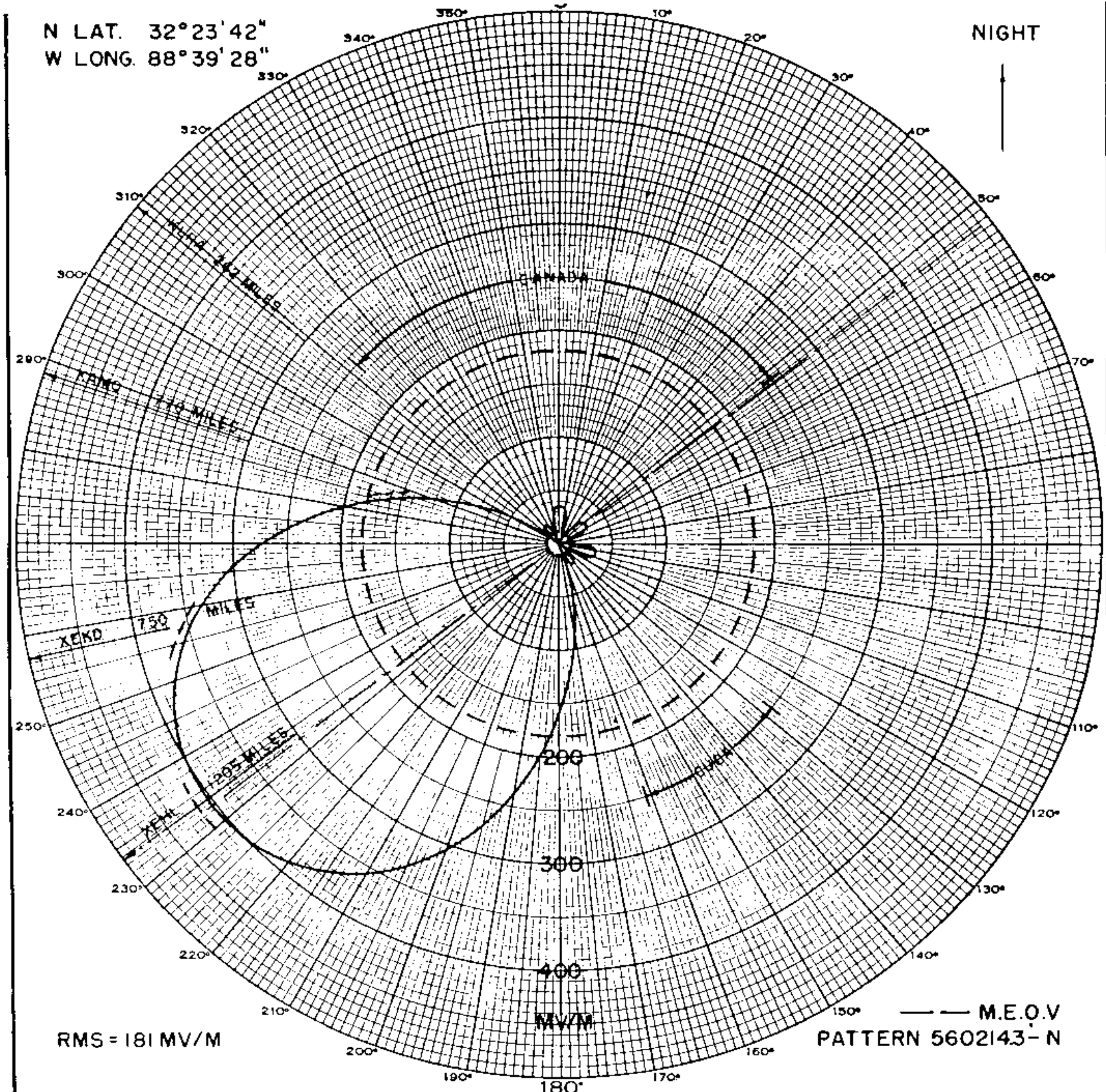
WMOX

PROPOSED
NIGHT (3/27/56g)

STATION WMOX
MERIDIAN, MISS.

1 KW
DA-2, U

1010 KC



G = 189.5' = 70°

(1)—S—(2)—S—(3)—S—(4)——→ 52.5°

S = 270.6' = 100°

TOWER	1	2	3	4
FIELD	1.000	2.113	2.113	1.000
PHASE	-43.00	106.78	-106.78	43.00

RADIO STATION WMOX
MERIDIAN, MISSISSIPPI
1010 KC   1 KW   DA-NIGHT

A. EARL CULLUM, JR.
CONSULTING RADIO ENGINEERS

560214.3   FIGURE 4A

Fcc File No. BP-10,163   Accepted 3-21-56   WMOX, Meridian, Miss.   1010 KC

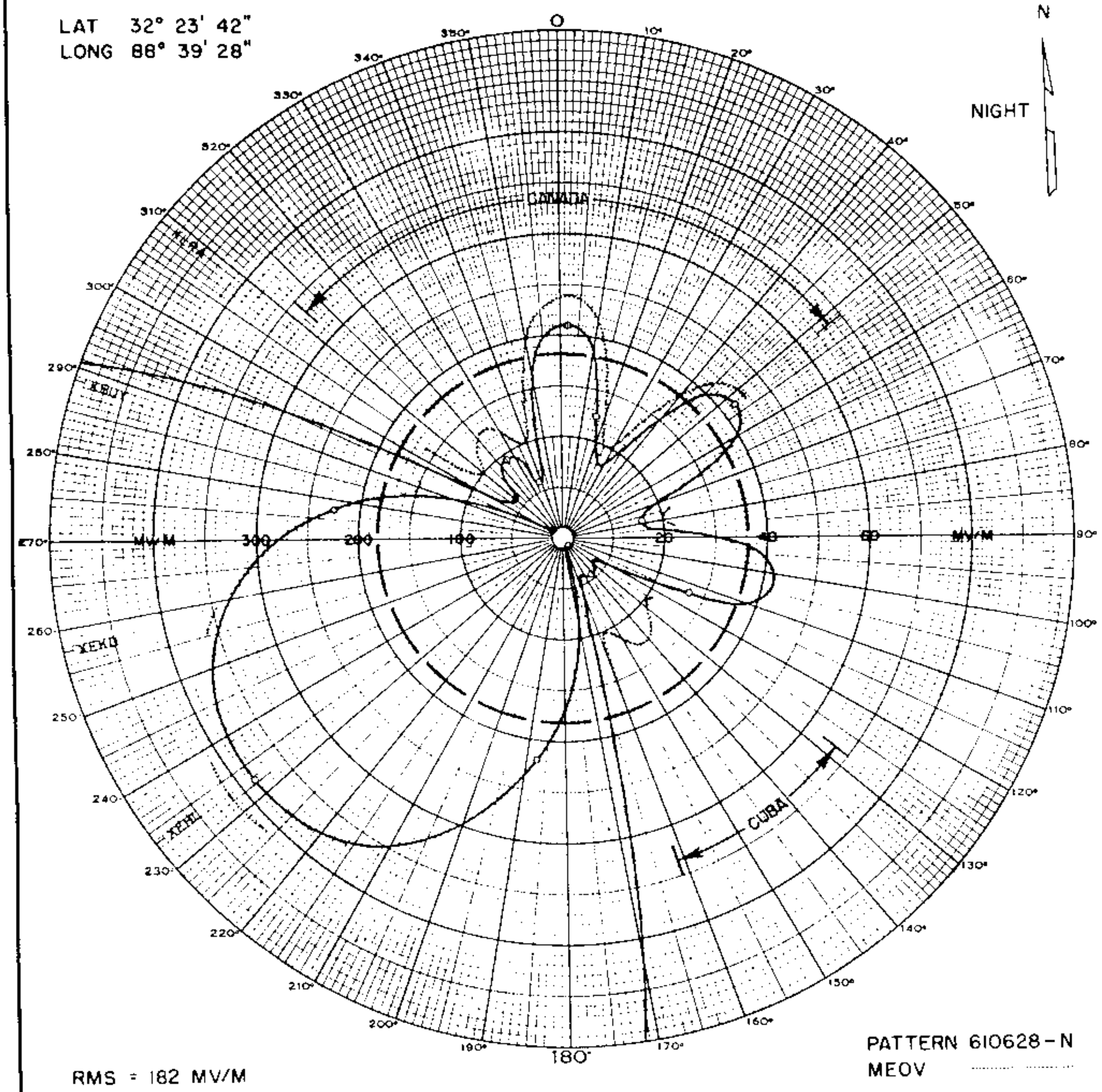
Granted CP per LTK 1-24-59

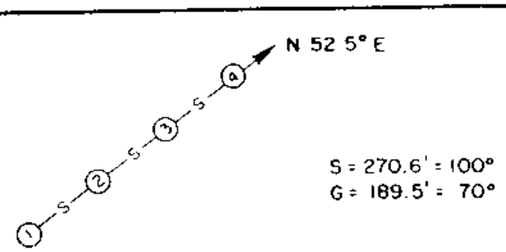
WMOX

MEASURED NIGHT
(9-20-61ct)

Station WMOX
Meridian, Mississippi

1kw,10kx-LS,DA-2,U
1010 kc





1.0 KW DIRECTIONAL NIGHTTIME

	THEORETICAL ψ	THEORETICAL I	MEASURED ψ	MEASURED I_B	MEASURED I_L
TOWER 1	−149.78	.473	−149°	.468	.468
TOWER 2	0.00	1.000	0°	1.000	1.000
TOWER 3	+146.44	1.000	+144°	1.000	1.000
TOWER 4	− 63.78	.473	− 66°	.468	.468

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WMOX
1010 KC 1 KW 10 KW-LS DA-2
610628 FIGURE 4C

FCC File No.BL-8688
Accepted 8-30-61

Station WMOX
Meridian, Mississippi

1010 kc

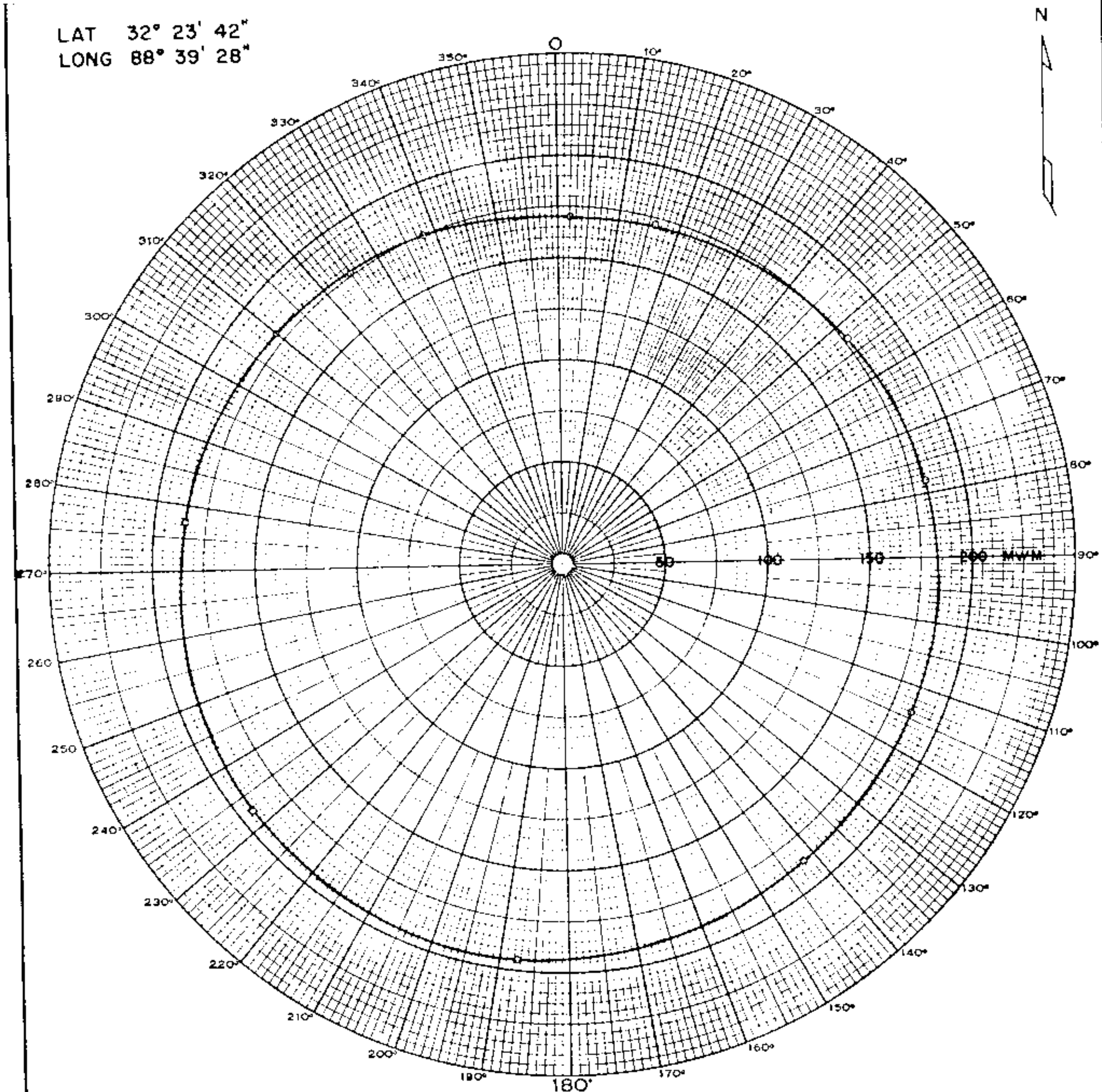
WMOX

MEASURED NON-DA
(9-20-61ct)

Station WMOX
Meridian, Mississippi

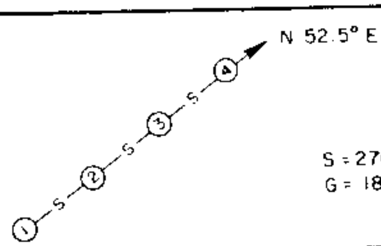
1kw, 10kw-LS, DA-2, U
1010 kc

LAT 32° 23' 42"
LONG 88° 39' 28"



RMS = 182 MV/M

TEST PATTERN



S = 270.6' = 100°
G = 189.5' = 70°

1.0 KW NONDIRECTIONAL TEST

	OPERATION
TOWER 1	DETUNED
TOWER 2	SERIES FED
TOWER 3	DETUNED
TOWER 4	DETUNED

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WMOX
MERIDIAN, MISSISSIPPI
610628 FIGURE 4A

FCC File No. BL-8688
Accepted 8-30-61

Station WMOX
Meridian, Mississippi

1010 kc

W PMH

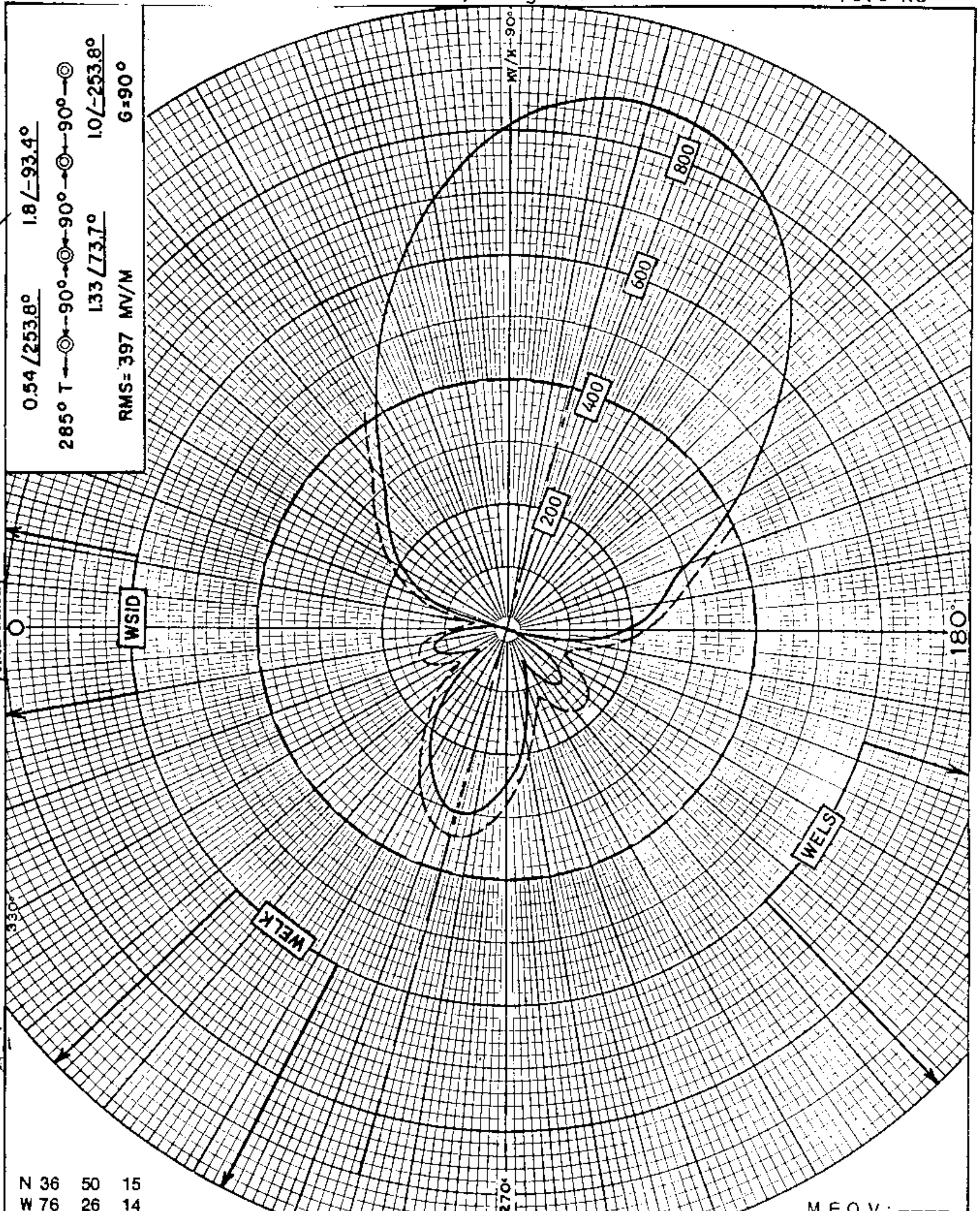
Proposed Day
(4-28-67ct)

Station WPMH
Portsmouth, Virginia

5kw, DA-D, D
1010 kc

8-7-67
GRANTED
MODIF. OF CP
CHANGE IN
DA PATTERN
(MEOV)

mailed 4/3/69
modification of
cp to change
antenna-
transmitter
location.



application accepted 12/7/67 by the [illegible] to modify CP to change antenna-transmitter location to [illegible] latitude [illegible] longitude 76° 26' 35"

COMMERCIAL RADIO EQUIPMENT CO. Radio Engineering Consultants WASHINGTON, D. C. 3/67	HORIZONTAL RADIATION PATTERN RADIO STATION WPMH PORTSMOUTH, VIRGINIA 1010 kHz, 5 KW, DA-D

FCC File No. BMP-12035
Accepted 4-17-67

Station WPMH
Portsmouth, Virginia

1010 kc

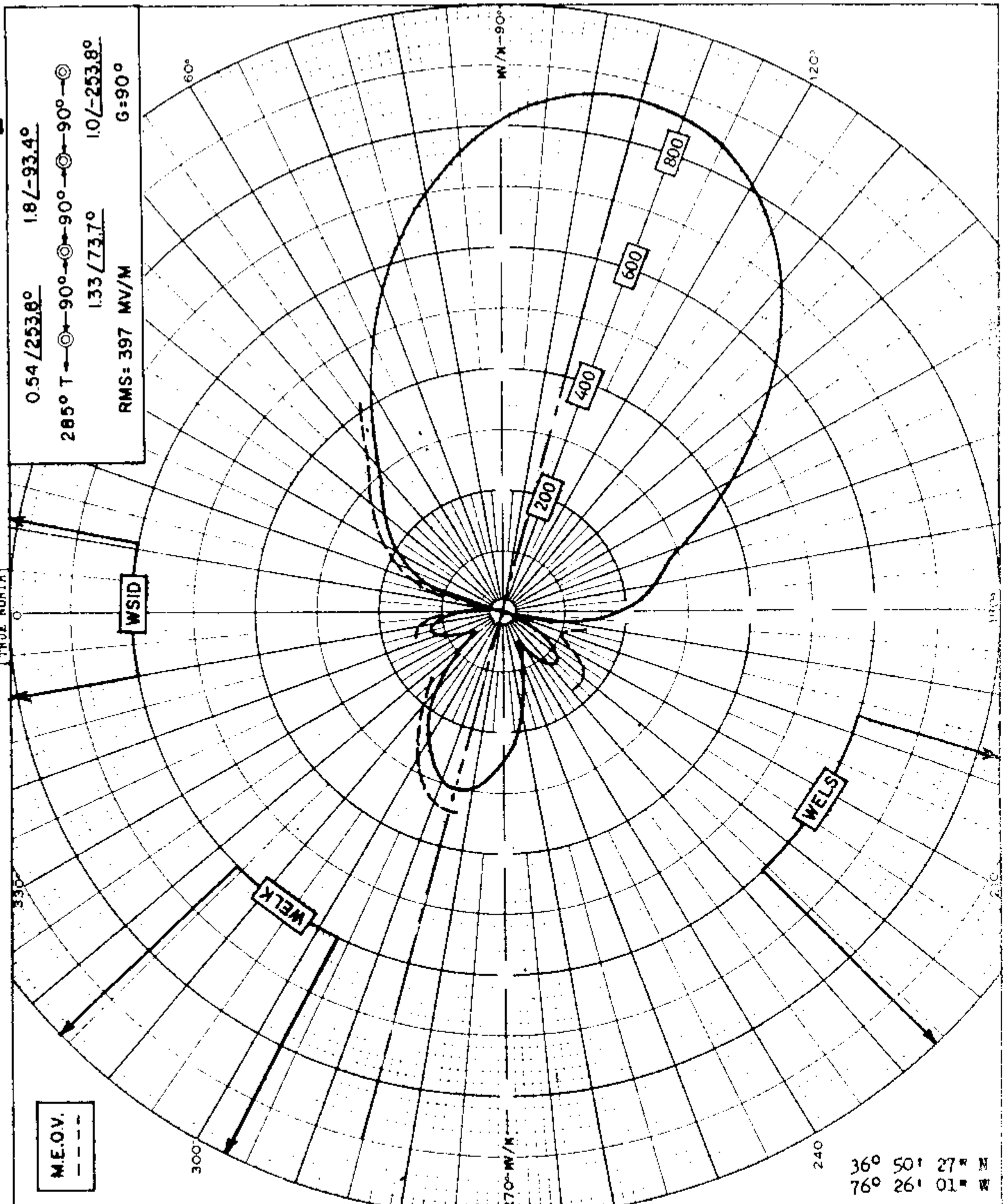
WPMH

PROPOSED DAY
(8-12-60g)

New; D.D. Cameron
Portsmouth, Virginia

5kw, DA-D,D
1010 KC
Exhibit No. E-2A

4-11-61
granted for new station



COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
WASHINGTON, D. C.

PATTERN:	PROPOSED DAYTIME HORIZONTAL
FOR:	PORTSMOUTH, VIRGINIA
POWER:	5 KW FREQ: 1010 KC
DATE:	6/28/60

15

FCC File No. BP-13875
Accepted 8-1-60 (Amended)

D.D. Cameron
Portsmouth, Virginia

1010 KC

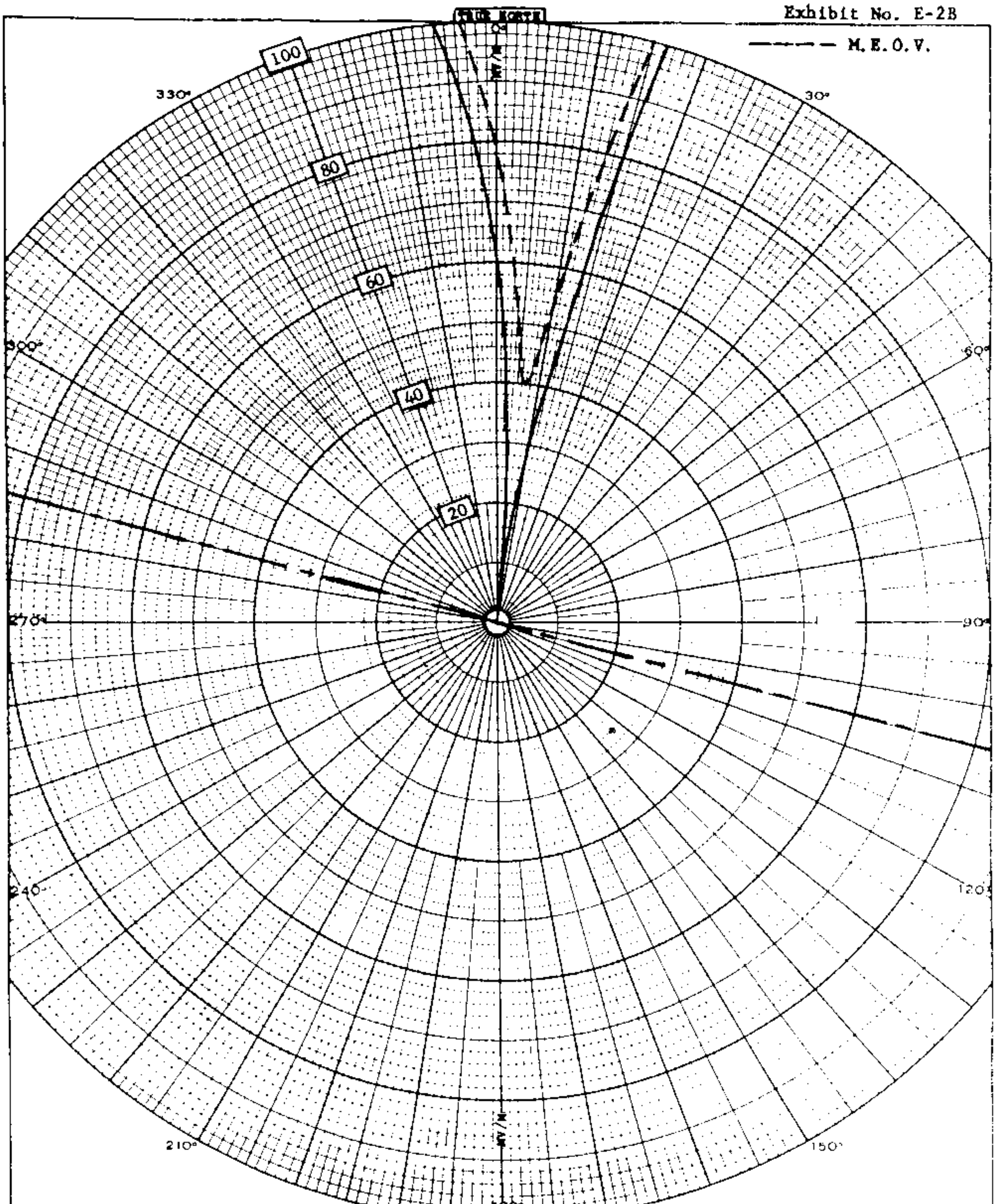
WPMH

PROPOSED DAY NULLS
(8-12-60g)

New; D.D. Cameron
Portsmouth, Virginia

5kw, DA-D,D
1010 KC

Exhibit No. E-2B



COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
WASHINGTON, D.C.

PATTERN: PROPOSED NULL DETAIL
FOR: PORTMOUTH, VIRGINIA
POWER: 5 KW FREQ: 1010 KC
DATE: 6/28/60

FCC File No. BP-13875
Accepted 8-1-60 (Amended)

D.D. Cameron
Portsmouth, Virginia

1010 KC

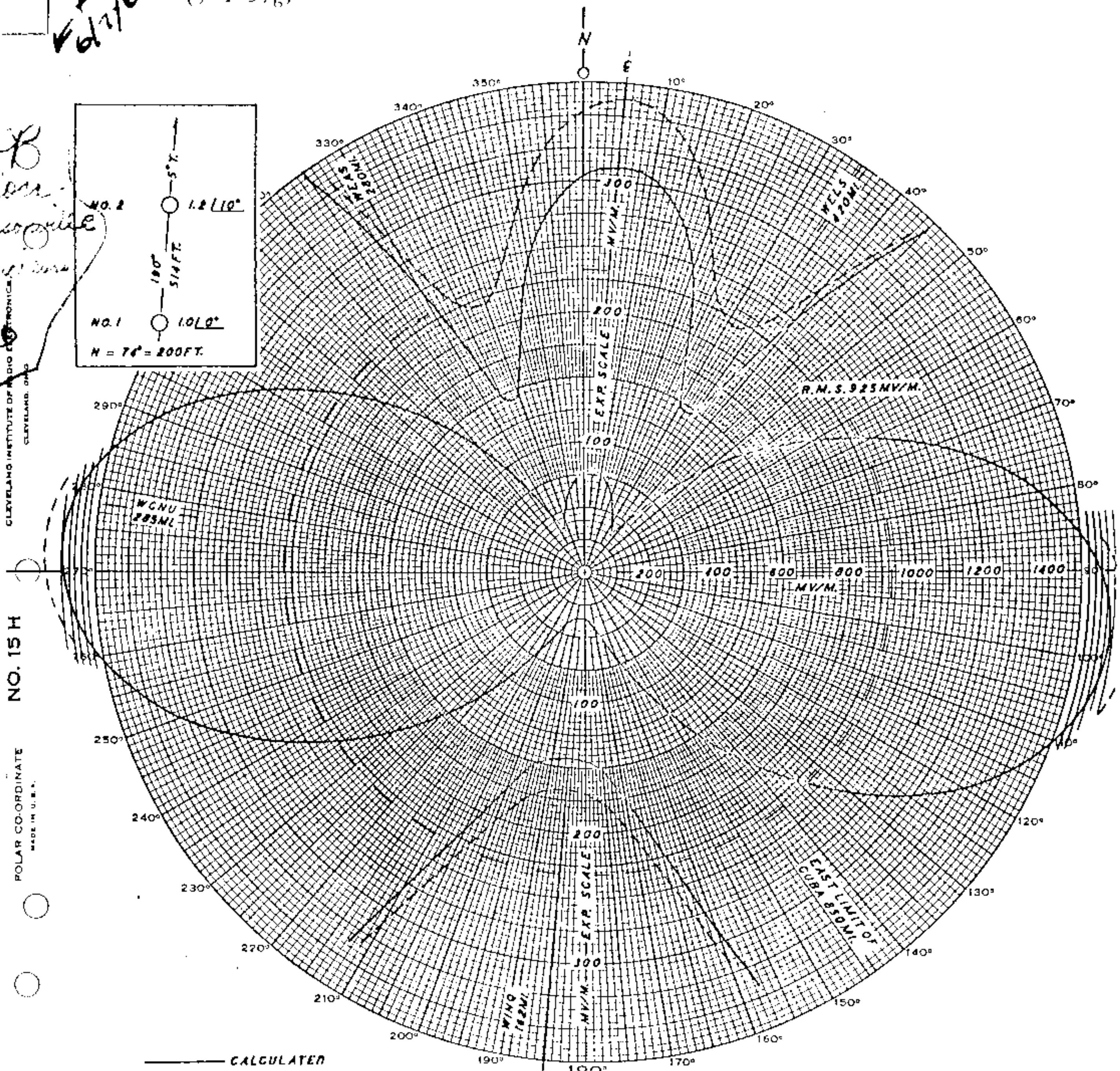
WZRO

outside 6/7/61 #162

PROPOSED DAY
(9-4-59g)

Station WZRO
Jacksonville, Florida

25kw, DA-D, D
1010 KC



NL 30° 18' 48"
WL 81° 49' 57"

HORIZONTAL RADIATION PATTERN
WZRO - JACKSONVILLE, FLORIDA
1010 KC. - 25 KW. - D.A. - D.

W.J. HOLEY
ATLANTA GA.
JULY 1959

FCC File No. BP-13353
Accepted 8-25-59

WZRO
Jacksonville, Florida

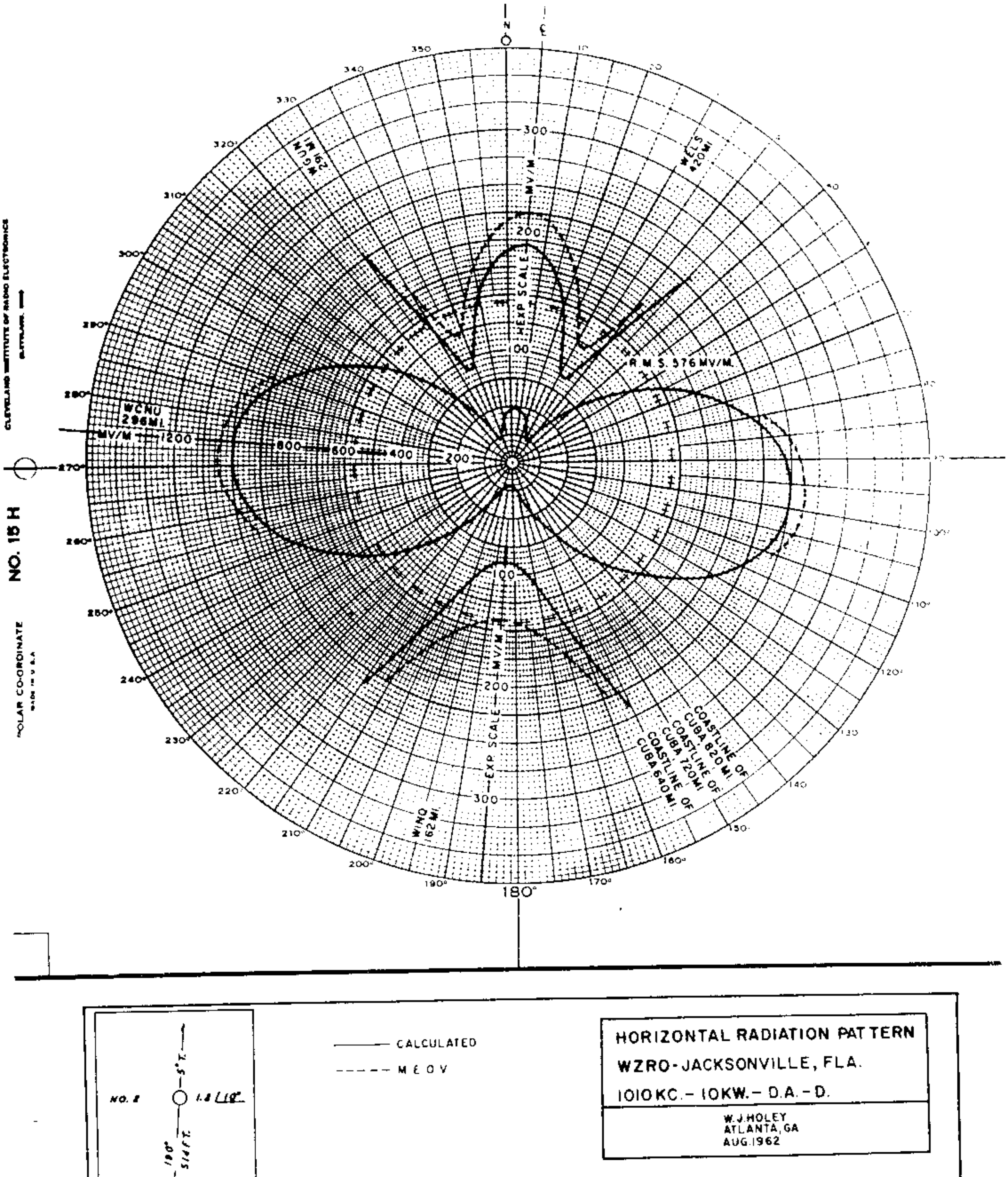
1010 KC

WZRO

Proposed Day
(9-27-62ct)

Station WZRO
Jacksonville, Florida

10kw,DA-D,D
1010 kc



HORIZONTAL RADIATION PATTERN
WZRO-JACKSONVILLE, FLA.
1010 KC.- 10KW.- D.A.-D.

W.J.HOLEY
ATLANTA, GA
AUG.1962

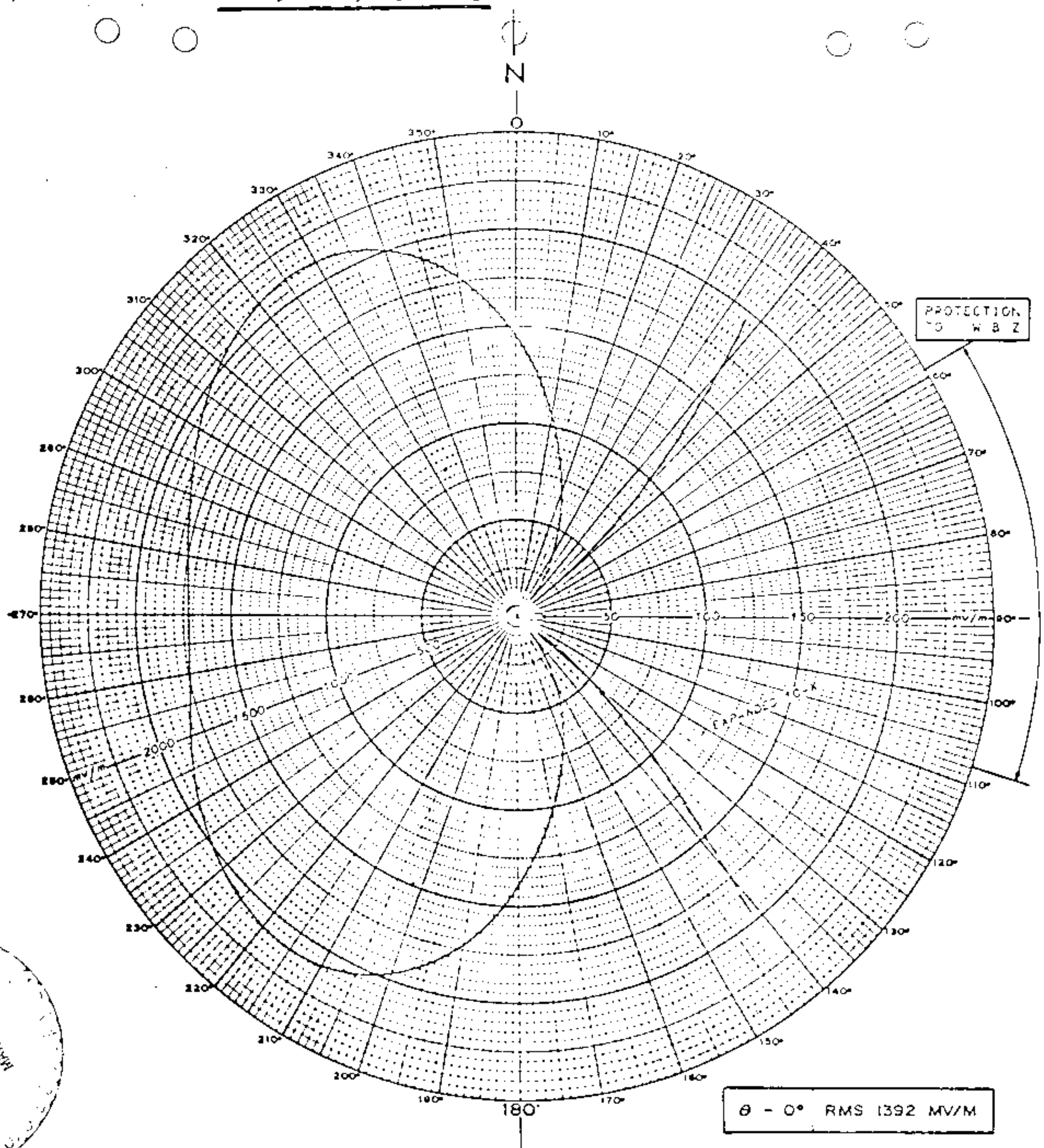
FCC File No.BP-13353
Accepted 9-11-62 Amended

Station WZRO
Jacksonville, Florida

1010 kc

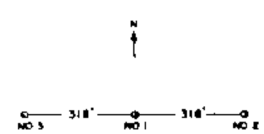
KTWO

Proposed Day & Night (5-27-66ct) | New; Family Broadcasting, Inc. Cheyenne, Wyoming | 50kw,DA-1,U 1030 kc



θ - 0° RMS 1392 MV/M

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	STATION DATA



TOWER No.	ELECTRICAL HEIGHT G°	TRUE TOWER ORIENTATION φ°	SPACING S°	PHASING ψ°	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV. ANGLE θ°	ELEVATION AMPLITUDE mv/m E_θ
1	90	0	0	0		1.0	0	
2	90	90	120	+72		.5	10	
3	90	270	120	-72		.5	20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_r =	mv/m
DAYTIME OPERATION			NIGHTTIME OPERATION				P_r =	kw

STATION DATA	
CALL	New Application
FREQUENCY	1030 kc
POWER	50 kw
TIME OF OPERATION	Unlimited
TYPE OF OPERATION	DA-1
DAYTIME TOWERS	3
NIGHTTIME TOWERS	3
NO. RADIALS PER TOWER	
LENGTH OF RADIALS	ft.
GROUND SCREEN DIMENSION	
LAT.	41° 38' 07"
LONG.	104° 53' 31"
SUPERSEDES	
PATTERN No.	

CECIL LYNCH, CONSULTING ENGINEER
MODESTO, CALIFORNIA

FAMILY BROADCASTING, INC.
La Grange, Wyoming

Proposed New Station - 1030 kcs 50 kw U DA-1
Amended April, 1966

FIGURE 3

11

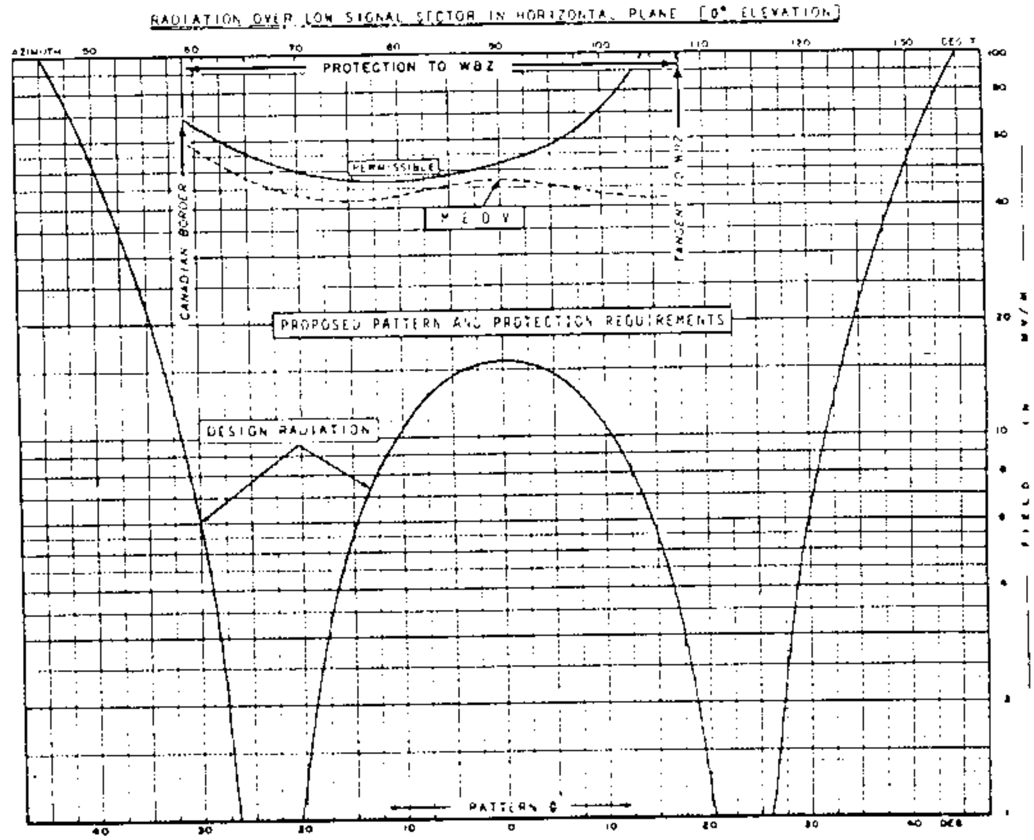
FCC File No. BP-17204 Accepted 5-3-66 Amended | New; Family Broadcasting, Inc. Cheyenne, Wyoming | 1030 kc

KTWO

Proposed Day & Night Nulls
(5-27-66ct)

New; Family Broadcasting, Inc.
Cheyenne, Wyoming

50kw,DA-1,U
1030 kc



AMENDMENT TO APPLICATION

Proposed New Class II-A Standard Broadcast Station
1030 kc/s ~ 50 kw U DA-1 ~ April 1966

FAMILY BROADCASTING, INC. LA GRANGE ~ WYOMING	FIGURE 4

FCC File No. BP-17204
Accepted 5-3-66 Amended

New; Family Broadcasting, Inc.
Cheyenne, Wyoming

1030 kc

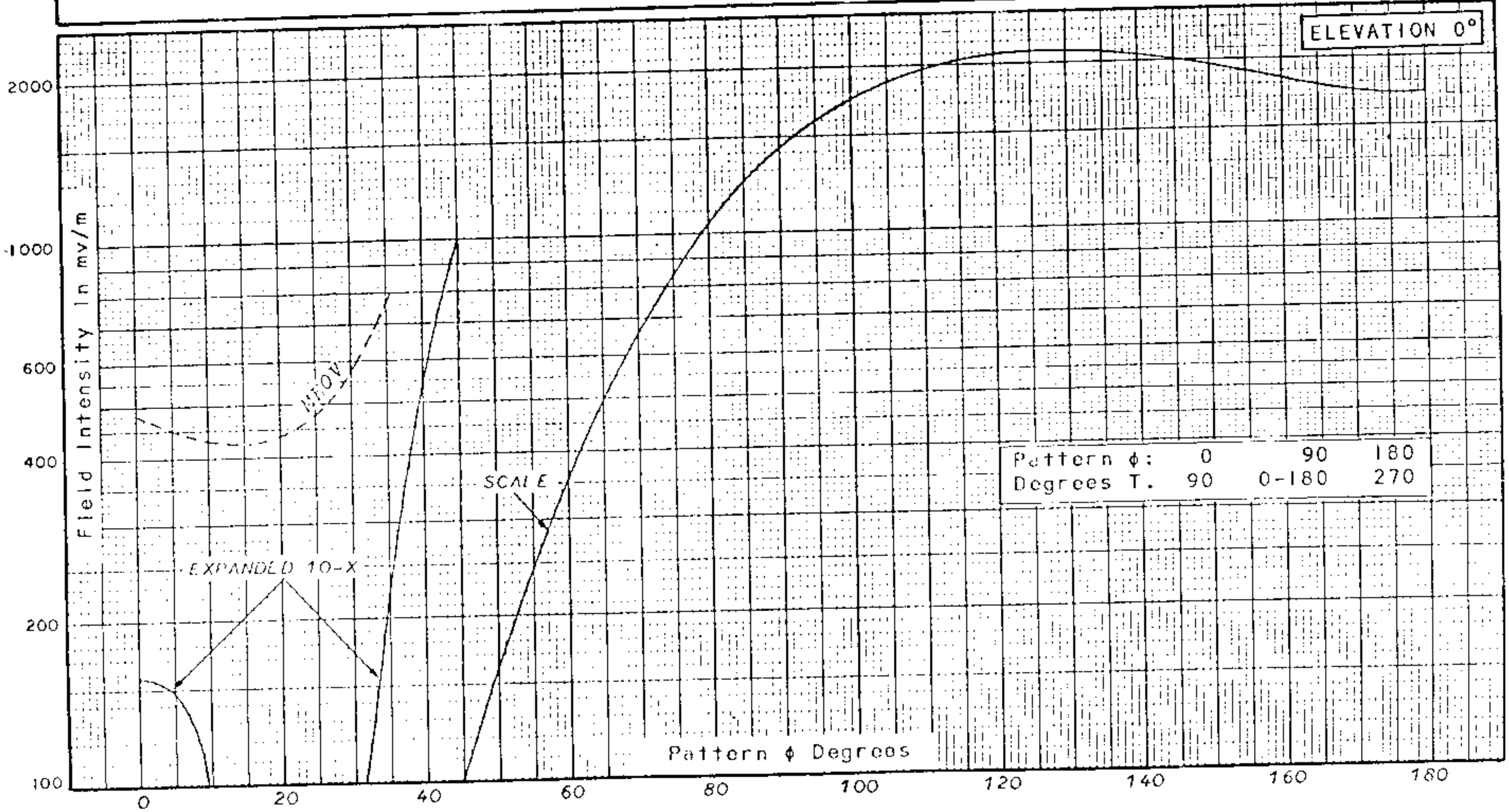
Proposed Day & Night Nulls
(5-27-66ct)

New; Family Broadcasting, Inc.
Cheyenne, Wyoming

50kw,DA-1,U
1030 kc

Proposed New Class II-A Standard Broadcast Station 1030 kc/s ~ 50 kw U DA-1 ~ April 1966	FAMILY BROADCASTING, INC. LA GRANGE ~ WYOMING

PROPOSED DIRECTIONAL ANTENNA RADIATION PATTERN (AMENDED)



FCC File No. BP-17204
Accepted 5-3-66 Amended

New; Family Broadcasting, Inc.
Cheyenne, Wyoming

1030 kc

FIGURE 5

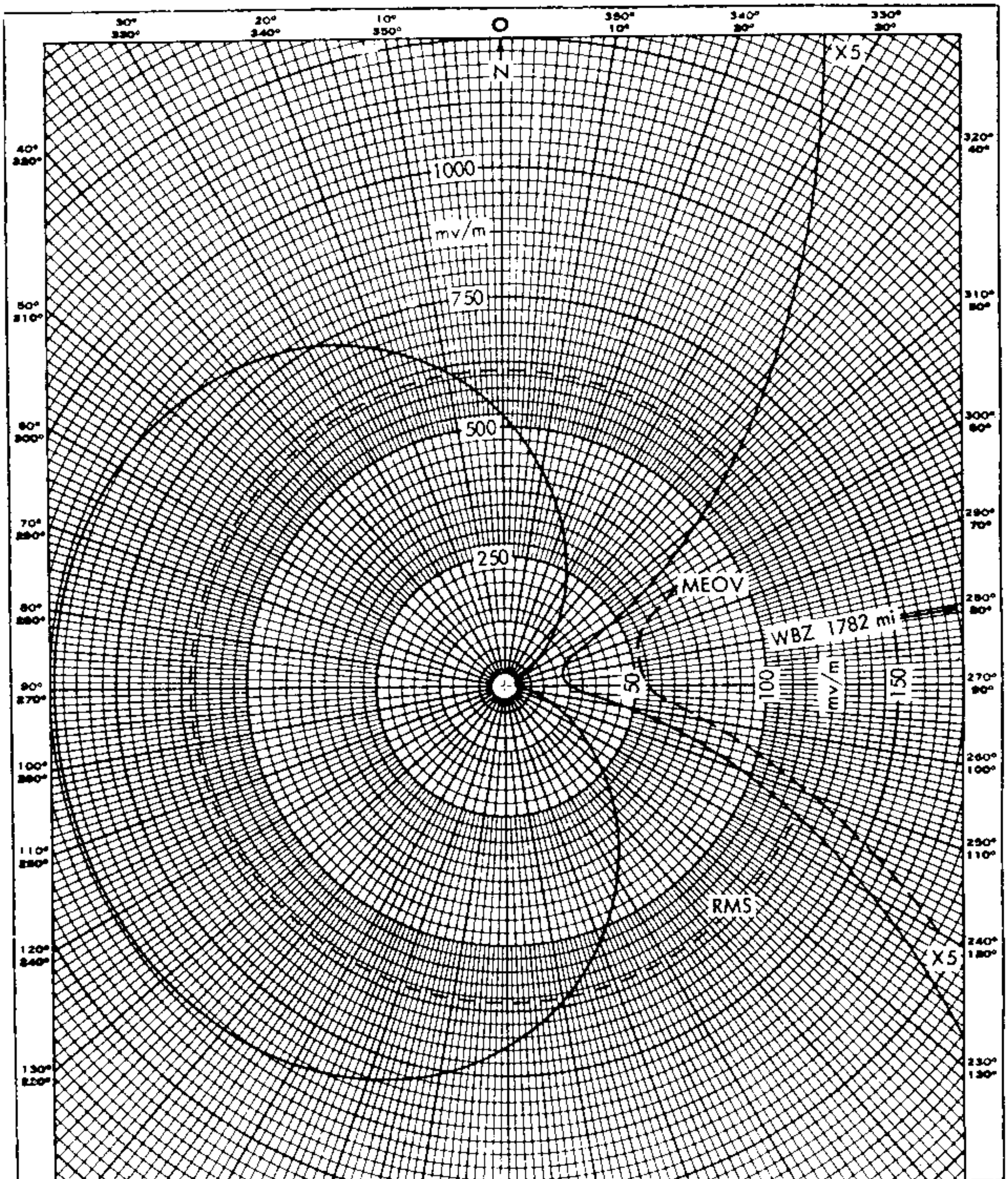
18

KTWO

Proposed Night
(7-27-65ct)

Station KTWO
Casper, Wyoming

10kw,DA-2,U
1030 kc



N. LAT. 42° 50' 34"
W. LONG 106° 13' 07"

S = G = 90° = 239'
RMS = 610 MV/M

1.00/0°
0.95/-90°
S
1
2
N 260° E

HAMMETT & EDISON
CONSULTING RADIO ENGINEERS
SAN FRANCISCO

RADIO STATION KTWO
1030 KC. 10 KW. DA-2
CASPER, WYOMING

PROPOSED HORIZONTAL RADIATION NIGHTTIME

UNATTENUATED FIELD INTENSITY
AT ONE MILE

650125

FIGURE 68

FCC File No. BP-16713
Accepted 7-6-65

Station KTWO
Casper, Wyoming

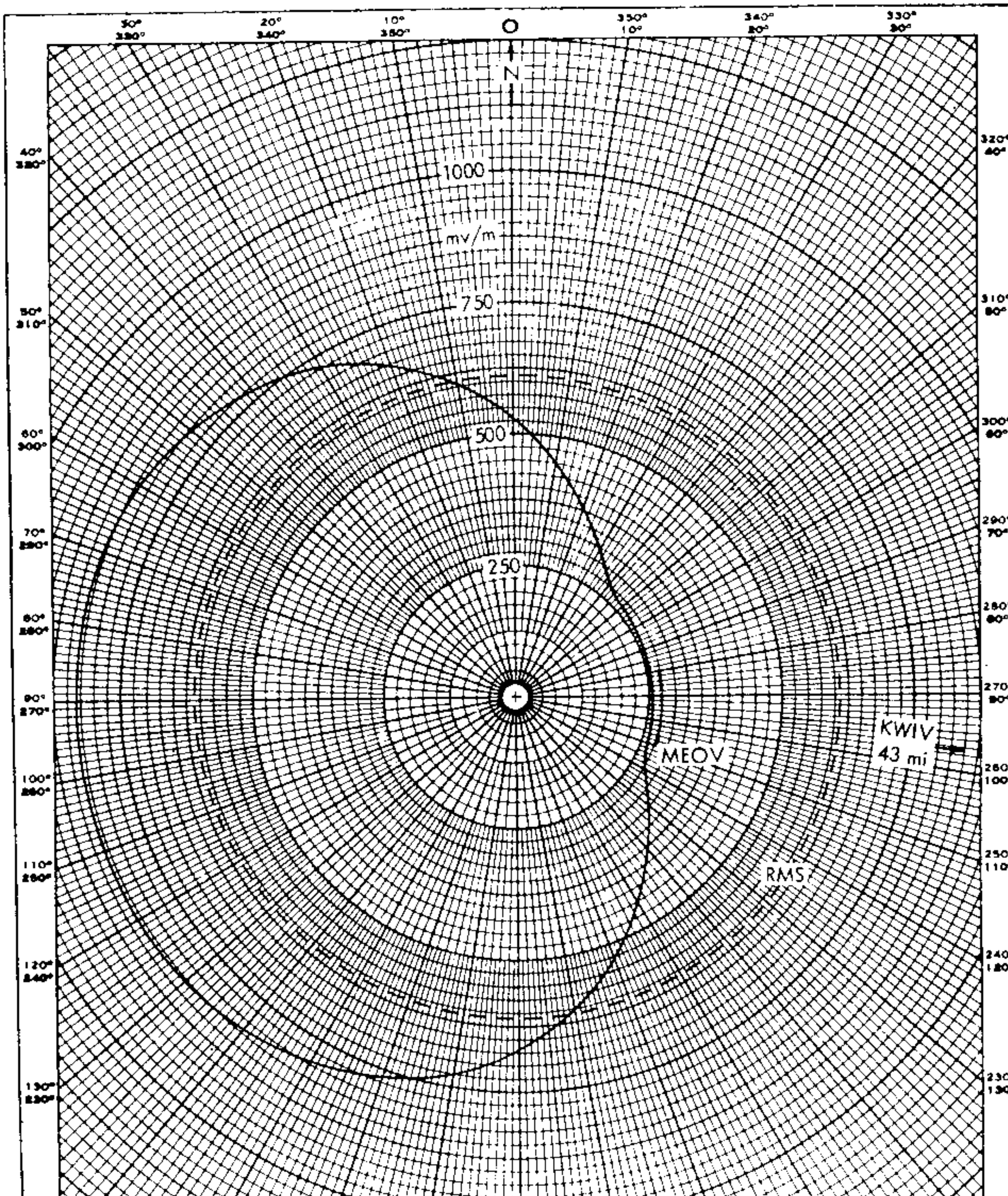
1030 kc

KTWO

Proposed Day
(7-27-65ct)

Station KTWO
Casper, Wyoming

10kw,DA-2,U
1030 kc



N. LAT 42° 50' 34"
W. LONG. 106° 13' 07"

S = G = 90° = 239'

RMS = 610 MV/M

1.00/0°
0.53/-94°
S
1
2
N 260° E

PROPOSED
HORIZONTAL RADIATION
DAYTIME

UNATTENUATED FIELD INTENSITY
AT ONE MILE

HAMMETT & EDISON
CONSULTING RADIO ENGINEERS
SAN FRANCISCO

RADIO STATION KTWO
1030 KC 10 KW DA-2
CASPER WYOMING

650125

FIGURE 5B

FCC File No. BP-16713
Accepted 7-6-65

Station KTWO
Casper, Wyoming

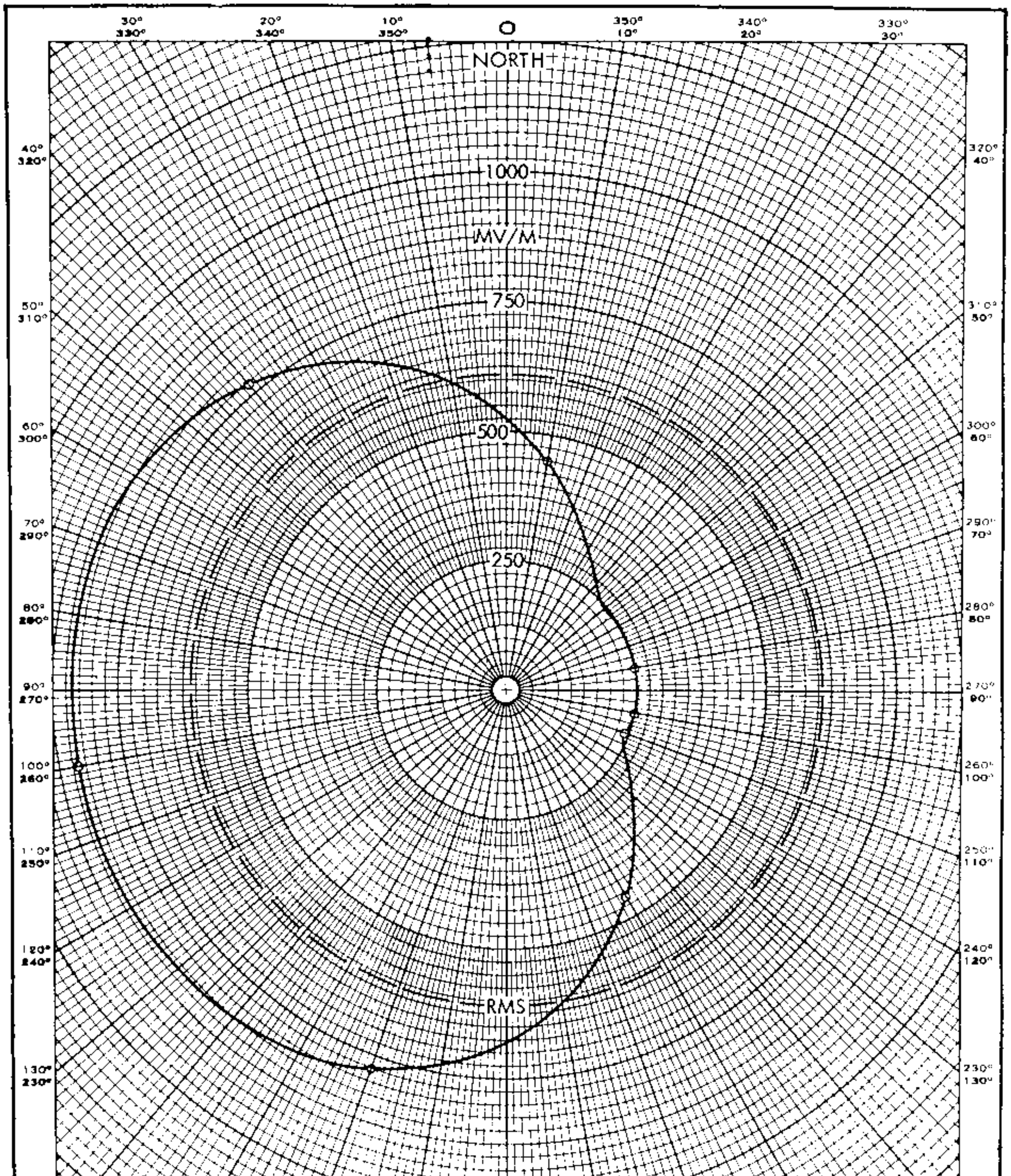
1030 kc

KTWO

Measured Day
(1-28-69ct)

Station KTWO
Casper, Wyoming

10kw,DA-2,U
1030 kc



N. LAT. 42° 50' 34"
W. LONG. 106° 13' 07"

S = G = 90° = 239'
RMS = 610 MV/M

THEORETICAL

N 260° E

1: 1.00 ∠0°
2: 0.53 ∠-94°

OPERATING

N 260° E

1: 1.000 ∠0°
2: 0.475 ∠-94°

HAMMETT & EDISON
CONSULTING ENGINEERS
SAN FRANCISCO

RADIO STATION KTWO
1030 KHZ. 10 KW. DA-2
CASPER, WYOMING

MEASURED HORIZONTAL RADIATION PATTERN DAYTIME

UNATTENUATED FIELD INTENSITY
AT ONE MILE

680808

FIGURE 11B

FCC File No.BL-12214
Accepted 1-3-69

Station KTWO
Casper, Wyoming

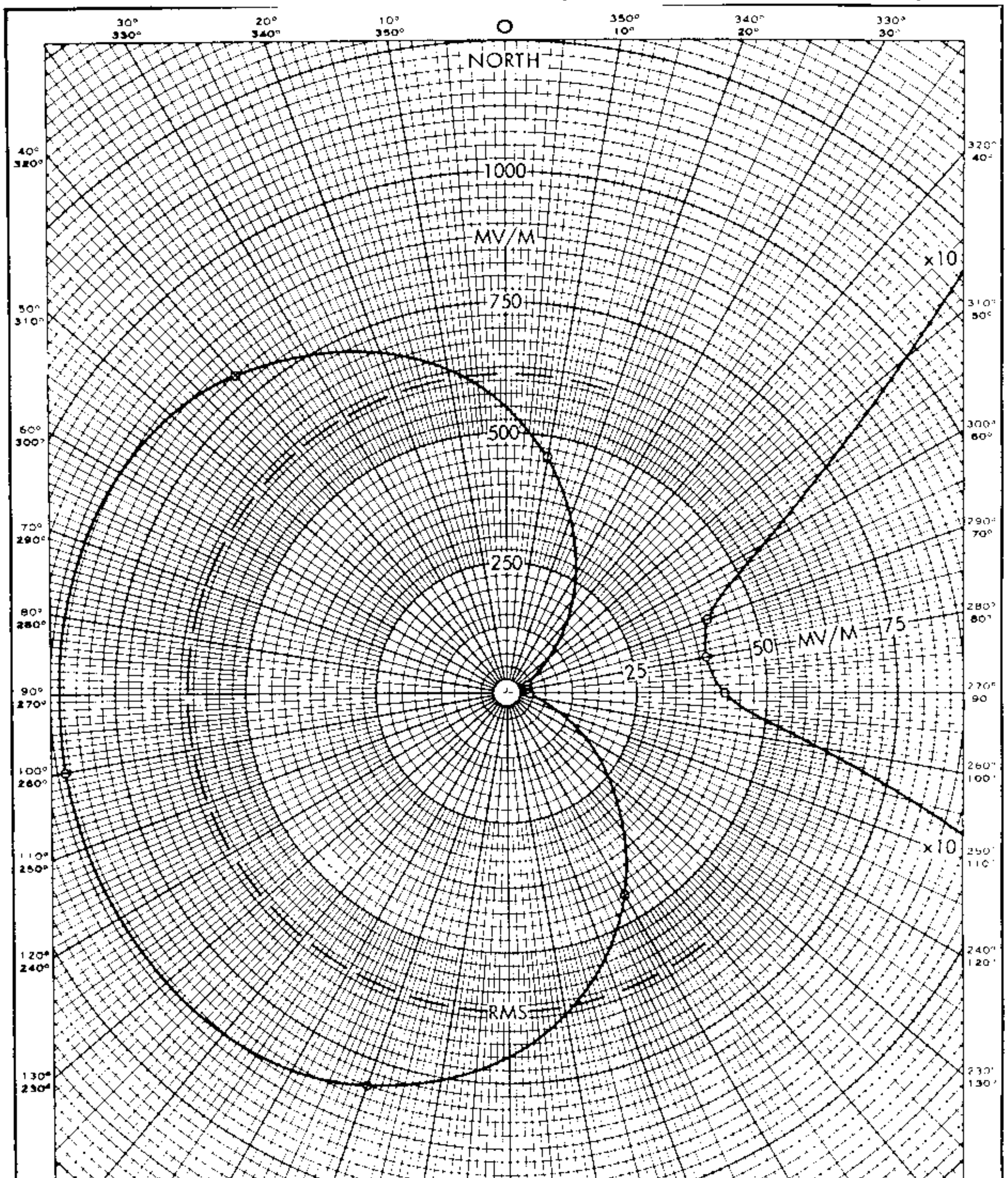
1030 kc

KTWO

Measured Night
(1-28-69ct)

Station KTWO
Casper, Wyoming

10kw,DA-2,U
1030 kc



N. LAT. 42° 50' 34"
W. LONG. 106° 13' 07"

S = G = 90°-239'
RMS = 613 MV/M

THEORETICAL	OPERATING
N 260° E	N 260° E
1: 1.00 ∠0°	1: 1.000 ∠0°
2: 0.95 ∠-90°	2: 0.849 ∠-89°

MEASURED HORIZONTAL RADIATION PATTERN NIGHTTIME

UNATTENUATED FIELD INTENSITY AT ONE MILE

HAMMETT & EDISON
CONSULTING ENGINEERS
SAN FRANCISCO

RADIO STATION KTWO
1030 KHZ. 10 KW. DA-2
CASPER, WYOMING

680808

FIGURE 11C

FCC File No.BL-12214
Accepted 1-3-69

Station KTWO
Casper, Wyoming

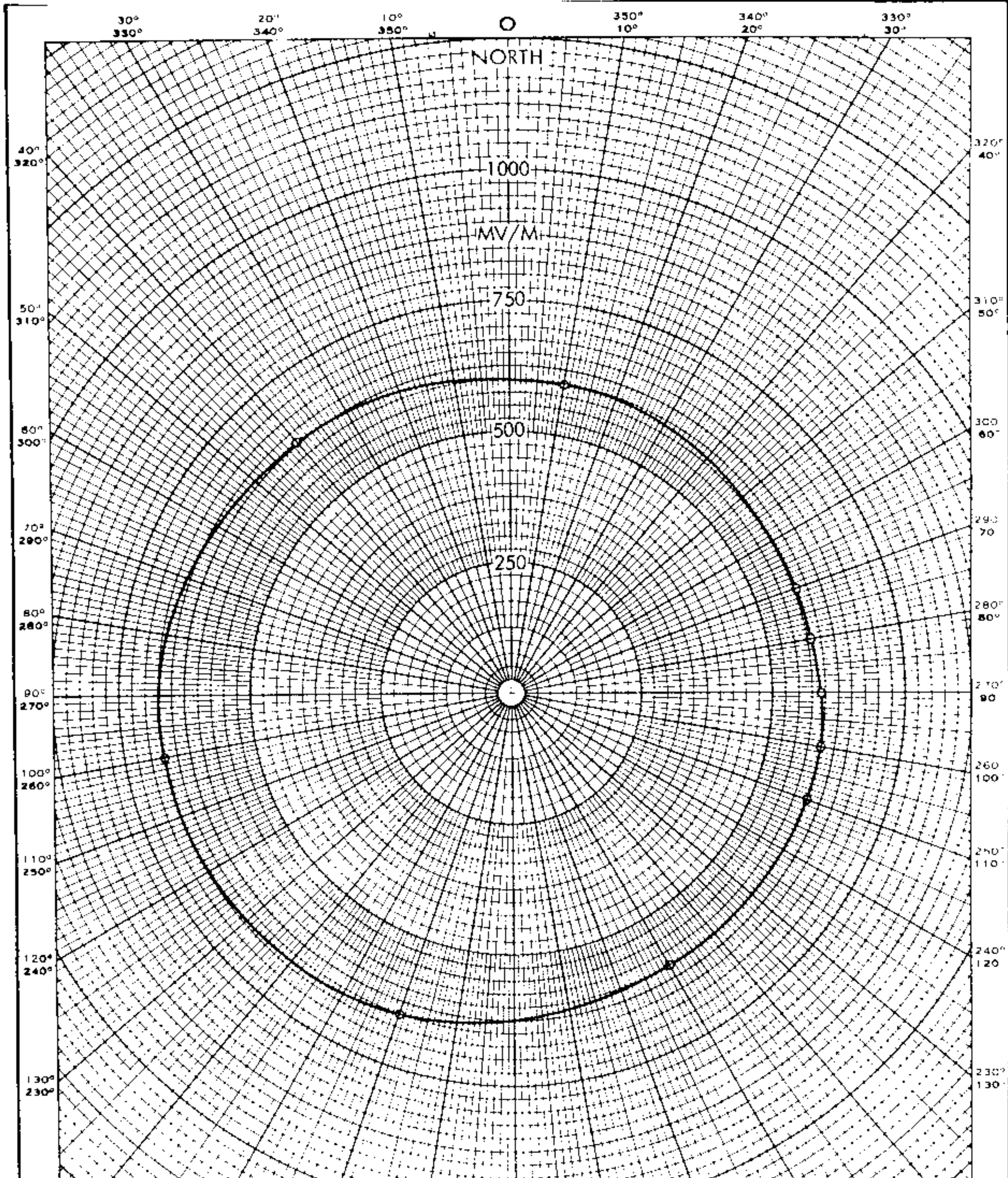
1030 kc

KTWO

Measured Non-DA (1-28-69ct)

Station KTWO
Casper, Wyoming

10kw,DA-2,U
1030 kc



N. LAT. 42° 50' 34"
W. LONG. 106° 13' 07"
G = 90° = 239 FT
RMS = 618 MV/M

TOWER 1 EXCITED. TOWER 2 FLOATING

HAMMETT & EDISON
CONSULTING ENGINEERS
SAN FRANCISCO

RADIO STATION KTWO
1030 KHZ. 10 KW. DA-2
CASPER, WYOMING

MEASURED HORIZONTAL RADIATION PATTERN NON-DIRECTIONAL

UNATTENUATED FIELD INTENSITY
AT ONE MILE

680808

FIGURE 11A

FCC File No.BL-12214
Accepted 1-3-69

Station KTWO
Casper, Wyoming

1030 kc

WSWO

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WKZE Main Studio: San Juan, Puerto Rico

Frequency: 1030 kHz Power: 10 kW

Notification List No. 1685 Date: May 19, 1976 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 18° 22' 07"
West Longitude: 66° 15' 17"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-1)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#3)	C(#2)	SE(#1)
HEIGHT ABOVE INSULATORS:	239'	239'	239' (90°)
PHASING:	+234.1°	+119.2°	0°
FIELD RATIO:	0.994	1.609	1

SPACING AND ORIENTATION: Adjacent towers in a row are spaced 239' (90°) on a line bearing 304° true.

GROUND SYSTEM: 120-239' equally spaced copper radials plus a 24' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
642.1 mv/m	728.6 mv/m	674.5 mv/m

Note: This notification concerns changes in the directional antenna system and radiation pattern and transmitter location.

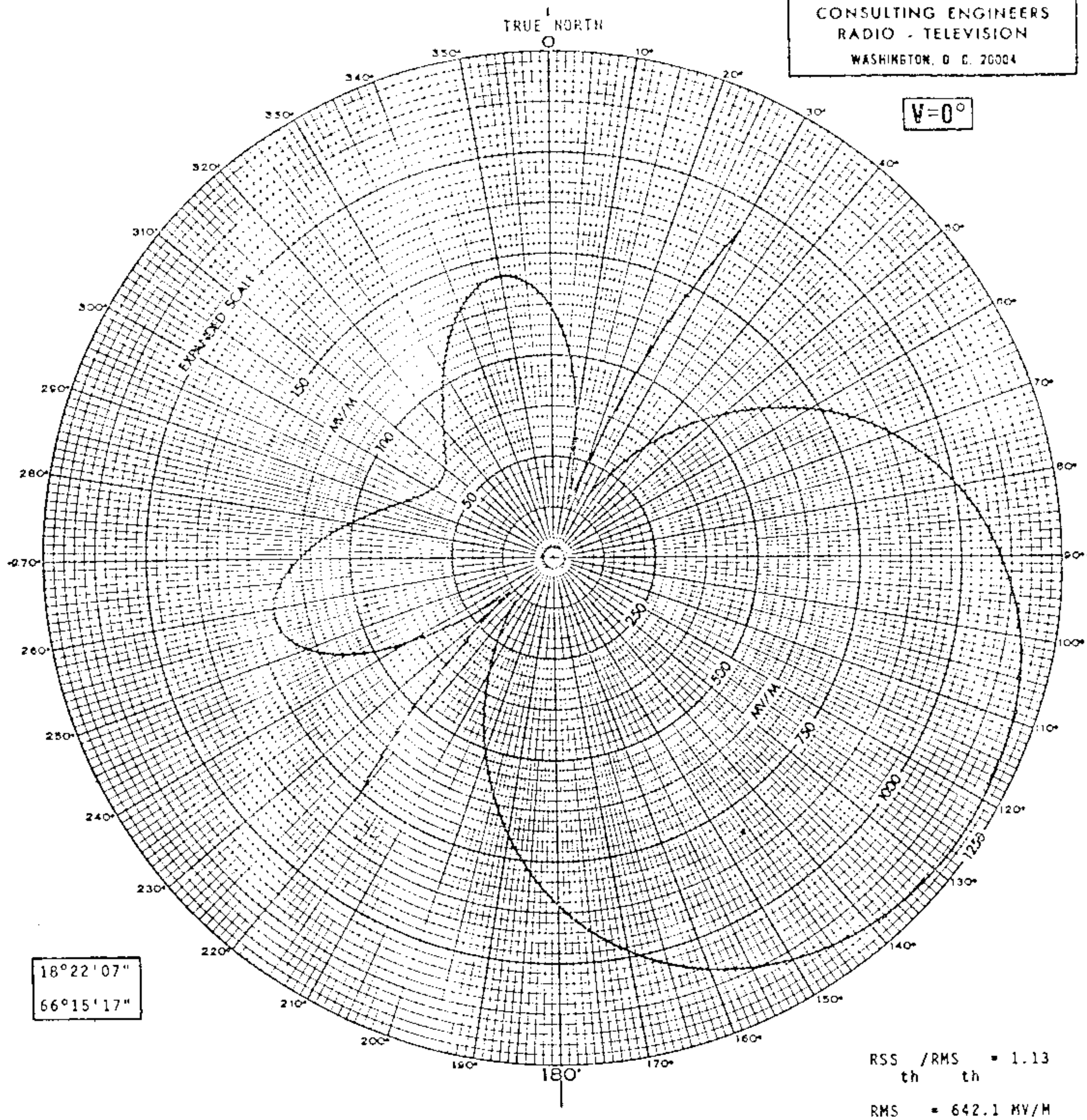
CTR NO 3049:A4

WSWO

Standard Pattern

COHEN AND DIPPELL, P.C.
CONSULTING ENGINEERS
RADIO - TELEVISION
WASHINGTON, D. C. 20004

V=0°



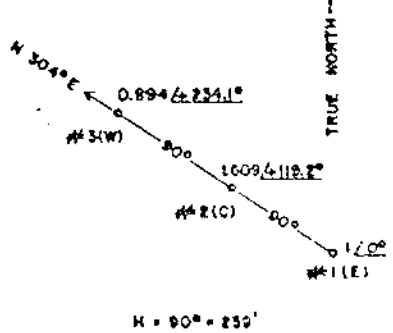
18°22'07"
66°15'17"

RSS_{th} / RMS_{th} = 1.13

RMS_{th} = 642.1 MV/M

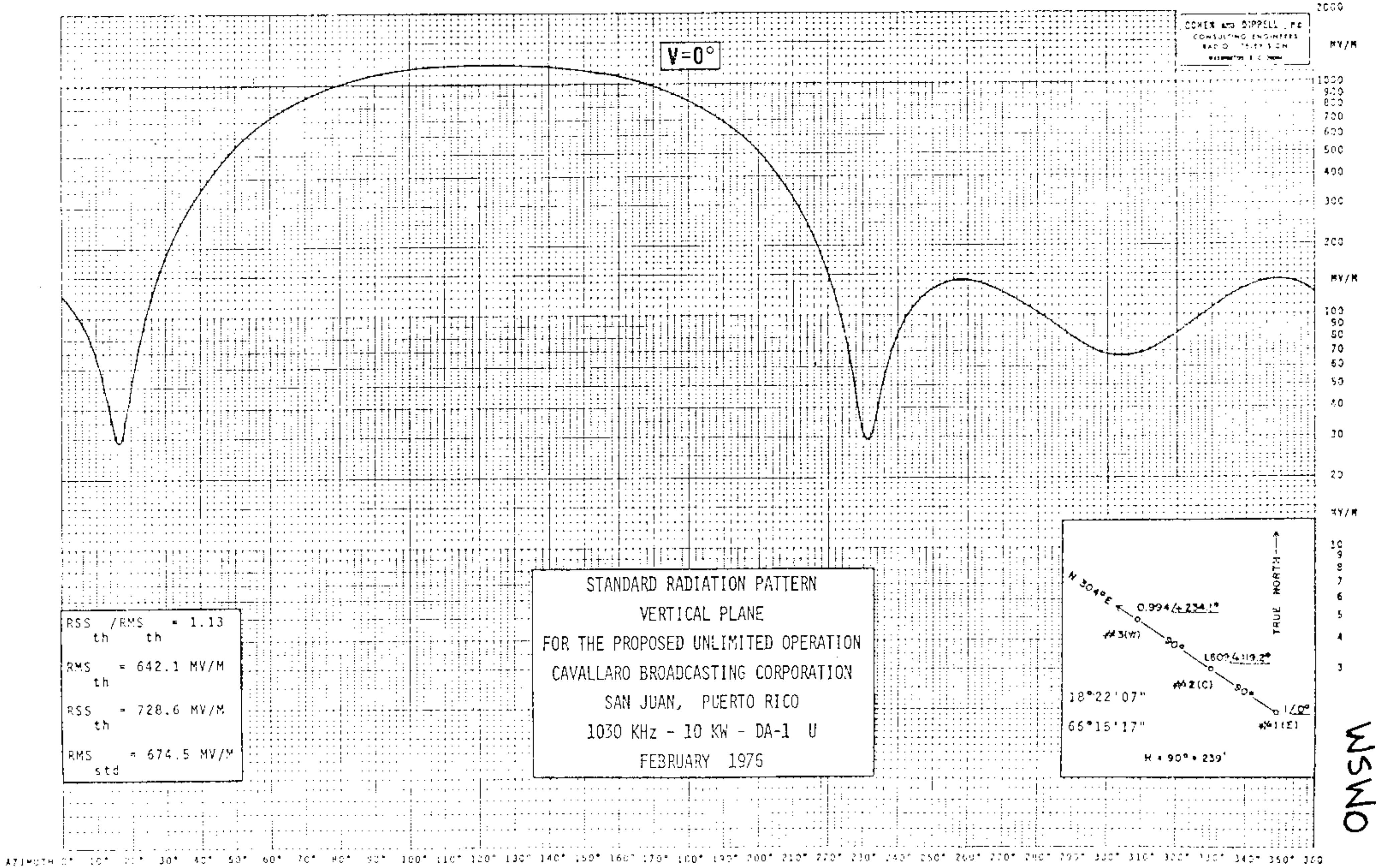
RSS_{th} = 728.6 MV/M

RMS_{std} = 674.5 MV/M



STANDARD RADIATION PATTERN
HORIZONTAL PLANE
FOR THE PROPOSED UNLIMITED OPERATION
CAVALLARO BROADCASTING CORPORATION
SAN JUAN, PUERTO RICO
1030 KHz - 10 KW - DA-1 U
FEBRUARY 1976

Standard Pattern



XED
1030 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

14289

Station: XED

Main Studio: Mexicali, B. C.

Frequency: 1030kc

Power: 10Kw

Notification List No. 171

Date: August 18, 1954 Class: II

GOEGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 32° 37' 20"

West Longitude: 115° 30' 54"

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: Two (2)
Type of elements: Series-fed, uniform cross-section, guyed vertical steel towers.

TOWER:	Southwest		Northeast
HEIGHT ABOVE INSULATORS:	239'		239' (90°)
SPACING:	359'	or	135° between adjacent towers
NIGHT PHASING:	0°		45°
NIGHT FIELD RATIO:	1.0		1.0

ORIENTATION: Elements on a line bearing 71.5° true.

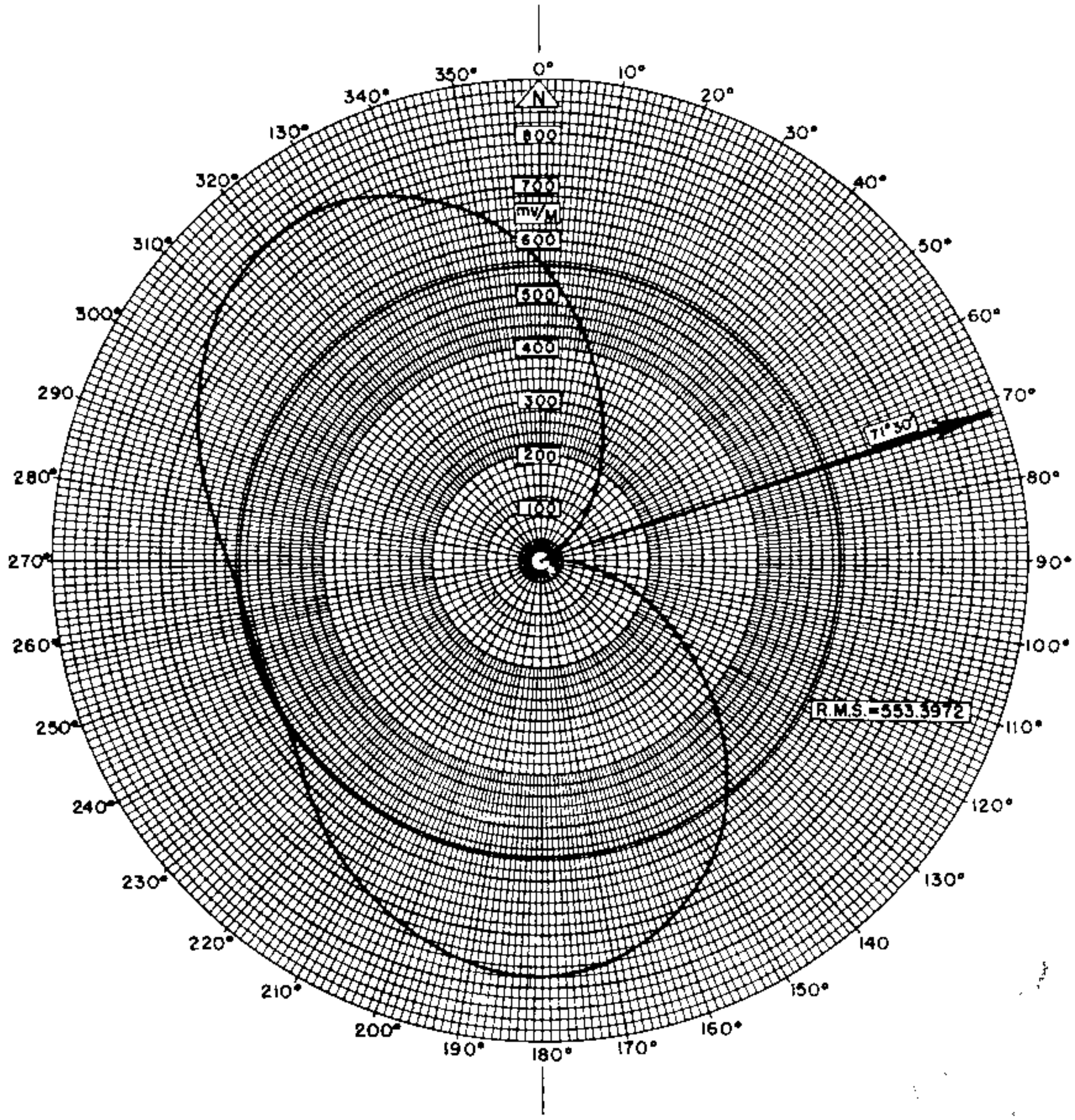
GROUND SYSTEM: 120 - 239' equally spaced radials about each tower. Radials are shortened and bonded by a transverse strap along intersections between towers. (See diagram attached)

Predicted effective Night Field: 553.4 mv/m (at rated power)

Note: The Federal Communications Commission has objected to this pattern.

XED

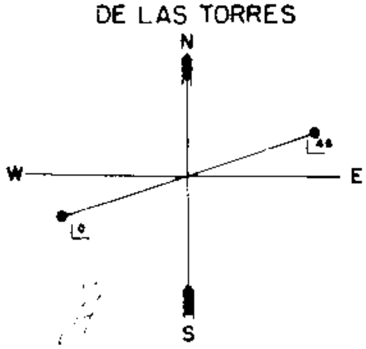
NIGHTIME (12/22/54G) XED, MEXICALI, B. C. 10KW DA-N, CLASS II 1030 KC



32° 37' 20" NORTH LATITUDE
115° 30' 54" WEST LONGITUDE

PATRON DE RADIACION HORIZONTAL CALCULADO EN mV/M A UNA MILLA

POSICION RELATIVA DE LAS TORRES



RADIODIFUSORA

XED

Mexicali, B.C.

1030 Kc/s.

10,000 Watts.

INGENIERIA ELECTRONICA
S. de R. L. de C.V.
16 DE SEPTIEMBRE 53-306.
MEXICO, I. D. F.

XED, MEXICALI, B. C. AUGUST 18, 1954 NOTIFICATION LIST #171 1030 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

STATION: XECX

Main Studio: Zapopan, Jalisco

Frequency: 1040 kHz

Power: 5kw

Notification List No. 292

Date: November 12, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 20° 37' 57"
West Longitude: 103° 26' 24"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	#1 (NE)	#2 (SW)
HEIGHT ABOVE INSULATORS:	236.2'	236.2' (89.9°)
DAY PHASING:	0°	174°
DAY FIELD RATIO:	1	1

SPACING AND ORIENTATION: The towers are spaced 39.4' (15°) on a line bearing 230° true.

GROUND SYSTEM: 120 - 236' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS
Day	290.9

XECX

XECX

1040 KHz. 5 KW. AD

DESCRIPCION DEL SISTEMA DIRECCIONAL

REVISO

SANTA ANA TEPETITLAN,
MUNICIPIO DE ZAPOPAN,
JALISCO.

AGOSTO DE 1979

APROBADO

DESCRIPCION DEL SISTEMA RADIADOR DIRECCIONAL XECX

1. LISTA DE CAMBIOS 292 12-XI-79
2. FECHA AGOSTO DE 1979
3. FRECUENCIA 1040 KHz
4. DISTINTIVO XECX
5. POBLACION STA ANA TEPETITLA, MCPIO. DE ZAPOPAN JAL. LAT. NORTE 20° 37' 57"
6. UBICACION FRAC. RANCHO DE S. ANTONIO DEL VALLE LONG. OESTE 103° 26' 24"
7. POTENCIA 5 KW AD-D
8. CLASE III

CARACTERISTICAS TECNICAS DEL RADIADOR

9. TIEMPO DE OPERACION AD-D
10. SISTEMA DEL RADIADOR DIRECCIONAL DIURNO
11. NUMERO DE ELEMENTOS DOS

TIPO DE ELEMENTOS RADIADORES

12. TIPO DE ALIMENTACION SERIE
13. SECCION TRANSVERSAL FORMA TRIANGULAR DIMENSIONES 45 cm POR SECC.
14. TIPO DE ELEMENTO RADIADOR VERTICAL
15. TIPO DE SOPORTE RETENIDAS TIPO DE RETENES CABLE DE ACERO DE Ø 6.3 mm.
16. LONGITUD DE TOPETE CAPACITIVO NO HAY
17. IMPEDANCIA MUTUA 38 |20° IMPEDANCIA PROPIA : $R_{b1} = R_{b2} = 45 + j30$
18. NUMERO DE ELEMENTOS 1 2 $Z_1 = 8.12 + j20.81$
19. ALTURA SOBRE EL AISLADOR 72 m. 72 m. $Z_2 = 10.54 + j13.4$
20. DEFASAMIENTO 0° 174°
21. RELACION DE CAMPO 1 1
22. DESCRIPCION DE LA ORIENTACION DEL SISTEMA RADIADOR EL EJE DE LAS TORRES SE ENCUENTRA A 230° RESPECTO DEL NORTE GEOGRAFICO; LA SEPARACION ENTRE TORRES ES DE 15°, LA FASE DE LAS CORRIENTES ES DE 174°, Y SU RELACION ES LA UNIDAD.

REVISO

SISTEMA DE TIERRA

23. NUMERO DE RADIALES POR ELEMENTO 120
24. LONGITUD DE LOS RADIALES 72.1 m (90°)
25. TIPO DEL RADIAL ALAMBRE DE COBRE No. 10 Awg.

RADIACION DEL SISTEMA

26. INTENSIDAD DE CAMPO EFECTIVO TEORICO (OMNIDIRECCIONAL) DE LA POTENCIA RADIADA (RCM) 290.0
27. INTENSIDAD DE CAMPO EFECTIVO TEORICO A 1609 mts POR KW DE POTENCIA RADIADA 194.9 mV/m.
28. NOTA PATRON NUEVO

ING. ANTONIO DE AVILA SERAFIN
Perito en Telecomunicaciones No. 7

XECX

PATRON DE RADIACION HORIZONTAL TABULADO

OPERACION DIURNA

XECX

5,000 WATTS

1040 KHz

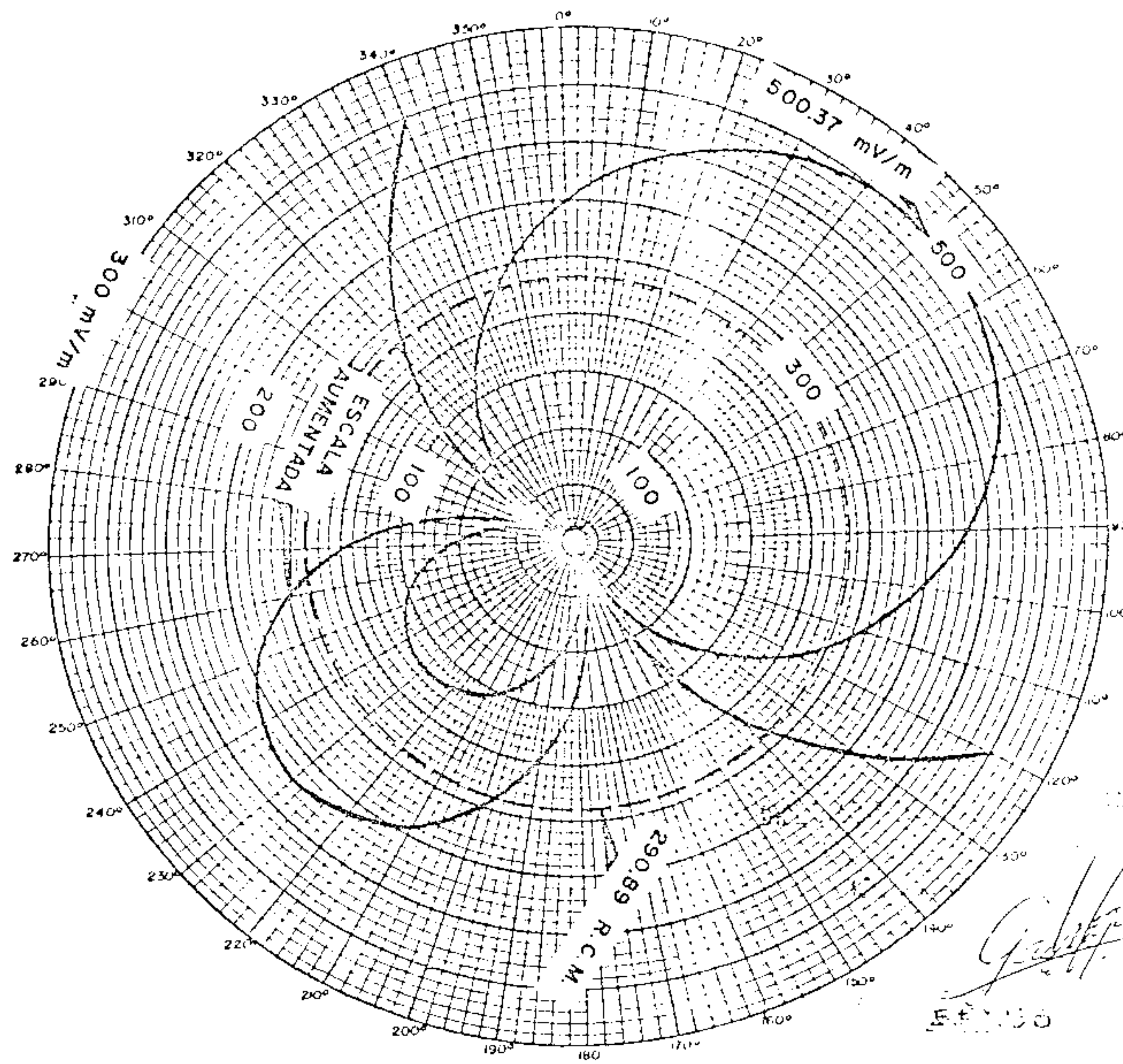
$$E_\theta = 2E_1 \cos\left[\frac{s}{2}\cos(230^\circ - \theta) + \frac{\Psi}{2}\right]$$

$E_1 = 1373$
$s = 15^\circ$
$\Psi = 174^\circ$

AZIMUT	A	B	C	D	F	E (mV/M)
θ	$\cos(230^\circ-\theta)$	$\frac{S}{2}A$	$B+\frac{\Psi}{2}$	$\cos C$	2D	$\lvert \cdot F \rvert$
0	-0.6428	-4.8209	82.1791	0.1361	0.2722	373.63
10	-0.7660	-5.7453	81.2547	0.1520	0.3041	417.47
20	-0.8660	-6.4952	80.5048	0.1650	0.3299	452.95
30	-0.9397	-7.0477	79.9523	0.1745	0.3490	479.04
40	-0.9848	-7.3861	79.6139	0.1803	0.3606	495.00
50	-1.0000	-7.5000	79.5000	0.1822	0.3644	500.37
60	-0.9848	-7.3861	79.6139	0.1803	0.3606	495.00
70	-0.9397	-7.0477	79.9523	0.1745	0.3489	479.04
80	-0.8660	-6.4952	80.5048	0.1650	0.3299	452.95
90	-0.7660	-5.7453	81.2547	0.1520	0.3041	417.47
100	-0.6428	-4.8209	82.1791	0.1361	0.2722	373.63
110	-0.5000	-3.7500	83.2500	0.1175	0.2351	322.72
120	-0.3420	-2.5652	84.4348	0.0970	0.1940	266.27
130	-0.1736	-1.3024	85.6976	0.0750	0.1500	205.98
140	0.0000	0.0000	87.0000	0.0523	0.1046	143.70
150	0.1736	1.3024	88.3024	0.0296	0.0593	81.34
160	0.3420	2.5652	89.5652	0.0076	0.0152	20.83
170	0.5000	3.7500	90.7500	-0.0131	-0.0266	35.94
180	0.6428	4.8209	91.8209	-0.0318	-0.0636	87.24
190	0.7660	5.7453	92.7453	-0.0479	-0.0958	131.51
200	0.8660	6.4952	93.4952	-0.0610	-0.1219	167.39
210	0.9397	7.0477	94.0477	-0.0706	-0.1412	193.81
220	0.9848	7.3861	94.3861	-0.0765	-0.1530	209.98
230	1.0000	7.5000	94.5000	-0.0785	-0.1569	215.43
240	0.9848	7.3861	94.3861	-0.0765	-0.1530	209.98
250	0.9397	7.0477	94.0477	-0.0706	-0.1412	193.81
260	0.8660	6.4952	93.4952	-0.0610	-0.1220	167.39
270	0.7660	5.7453	92.7453	-0.0479	-0.0958	131.51
280	0.6428	4.8209	91.8209	-0.0318	-0.0636	87.24
290	0.5000	3.7500	90.7500	-0.0131	0.0262	35.94
300	0.3420	2.5652	89.5652	0.0076	0.0152	20.83
310	0.1736	1.3024	88.3024	0.0296	0.0592	81.34
320	0.0000	0.0000	87.0000	0.0523	0.1046	143.70
330	-0.1736	-1.3024	85.6976	0.0750	0.1500	205.98
340	-0.3420	-2.5652	84.4348	0.0970	0.1940	266.27
350	-0.5000	-3.7500	83.2500	0.1175	0.2350	322.72

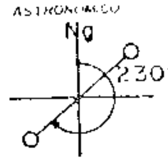
APROBO

XECX



PATRON DE RADIACION HORIZONTAL CALCULADO

ESQUEMA DE LAS TORRES Y SU ORIENTACION CON RESPECTO AL NORTE ASTRONOMICO

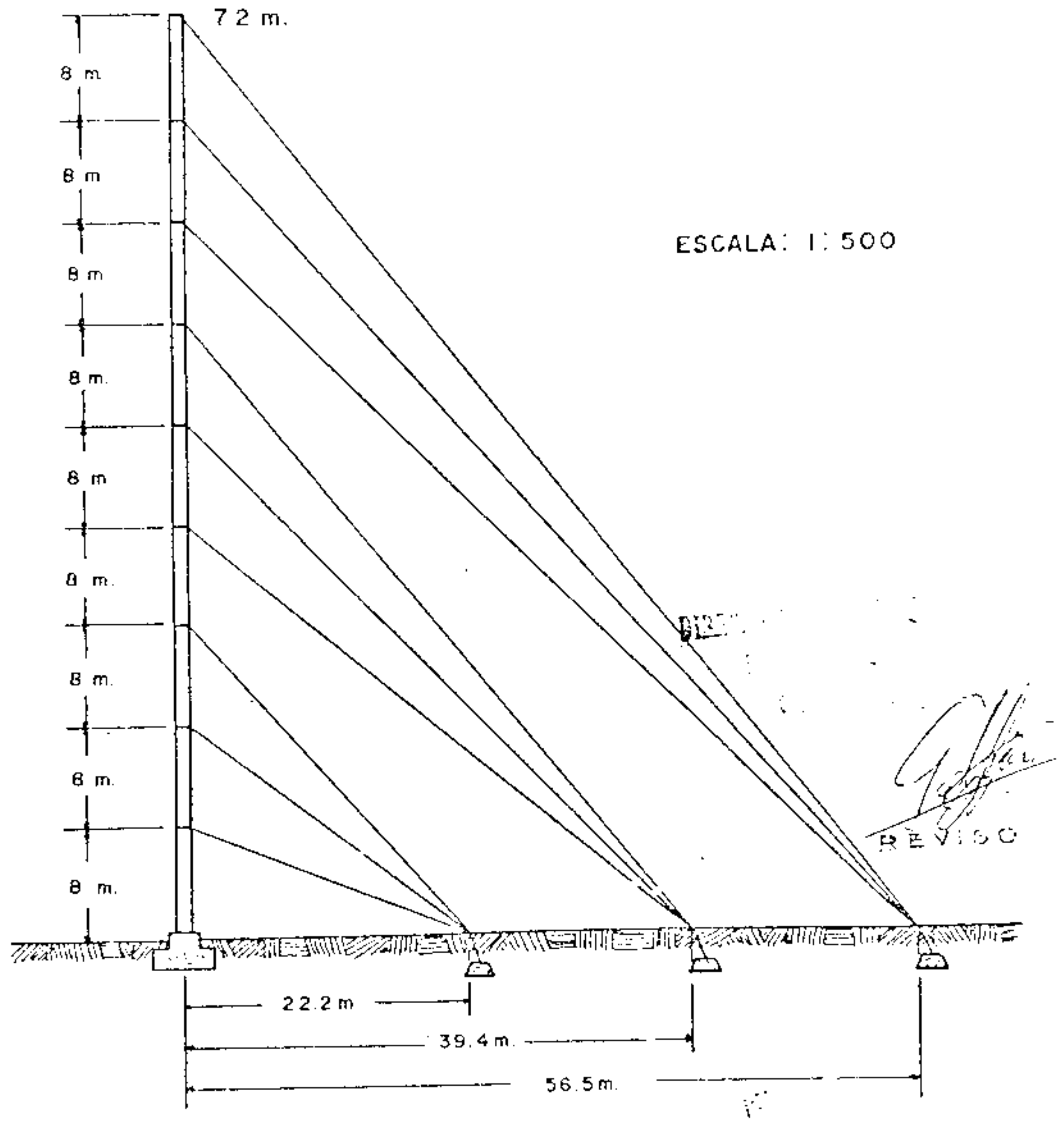


XECX

1040 KHz.
5,000 WATTS

ING. ANTONIO DE AVILA

XECX

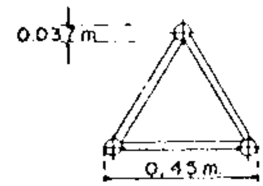


DETALLE DE LA TORRE Y RETENIDAS

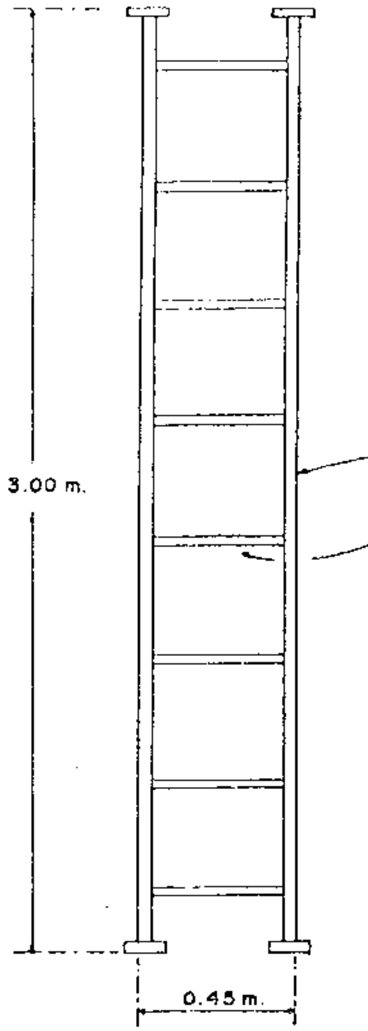
XECX 1040 KHz.

STA. ANA TEPETITLAN,
MUNICIPIO DE ZAPOPAN,
JALISCO.

XECX



SECCION TRANSVERSAL
ESCALA 1 : 20



LARGUEROS = tubo $1\frac{1}{2}$" Cal. 13 redondo
ESCALONES = tubo $1\frac{3}{4}$" x $\frac{3}{4}$" Cal. 13 ovalado

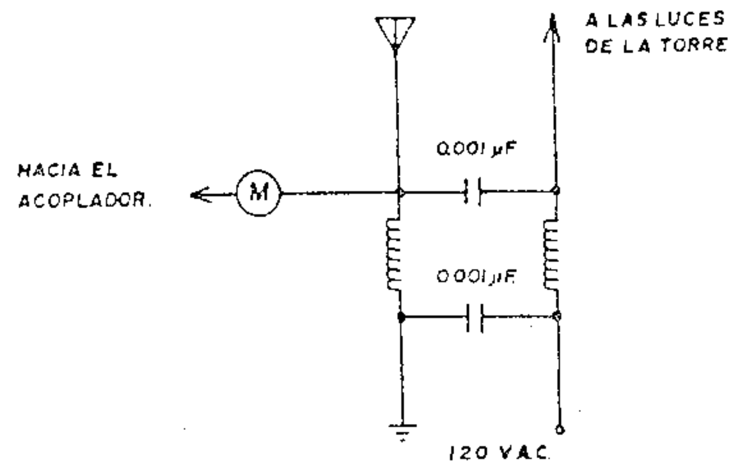
TIPO T-60
SECCION TRIANGULAR
GALVANIZADO EN CALIENTE
ESCALA 1 : 20

UNION = bridas $\frac{1}{4}$"

REVISO

DETALLE SECCION DE TORRE — ANTENA

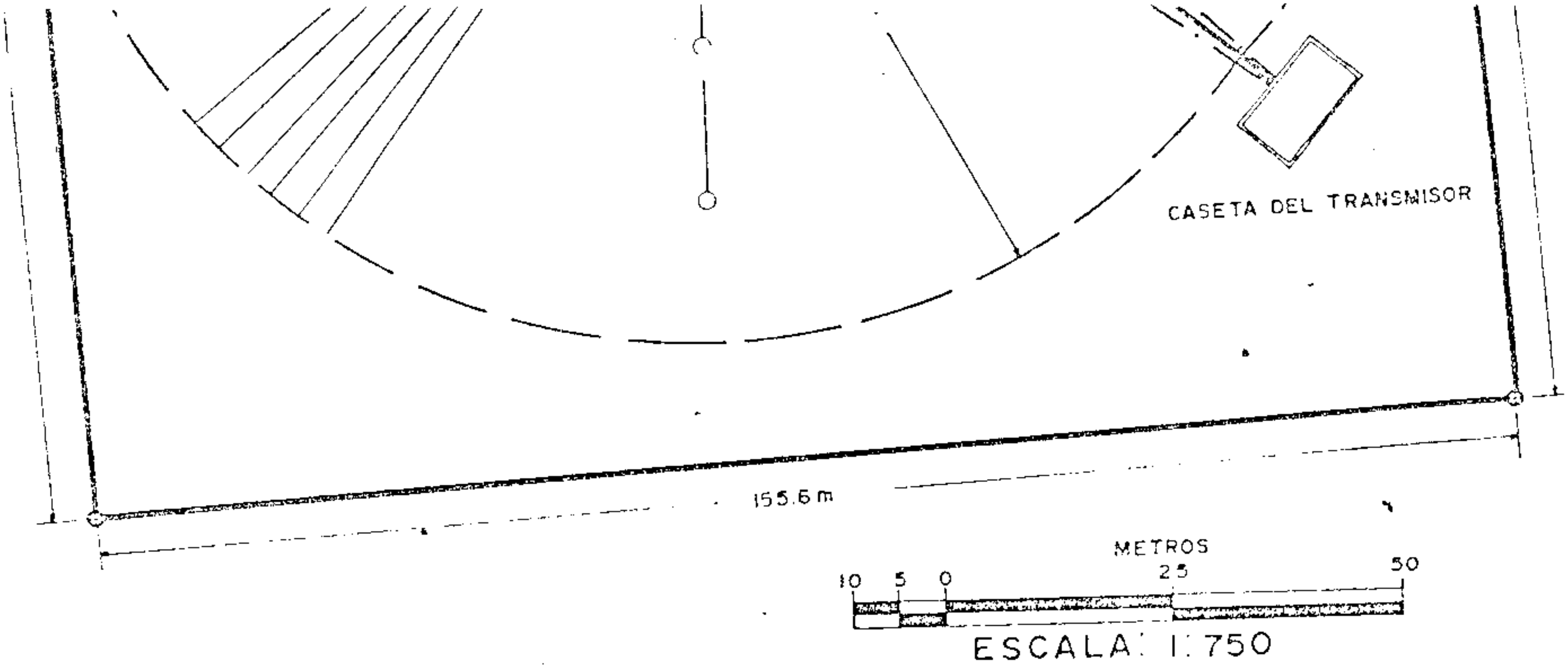
FRECUENCIA: 1040 KHz.	RADIO COSMOS S.A. XECX	RESPONSABLE TECNICO: ING. ANTONIO DE AVILA SERAFIN
POTENCIA: 5,000 W.	STA. ANA TEPETITLAN MCPIO. DE ZAP. JAL.	FECHA: AGOSTO DEL 79



SISTEMA DE ALIMENTACION DE 120 V.A.C.
PARA EL ALUMBRADO DE LA TORRE.

XECX
1040 KHZ.

5,000 WATTS.



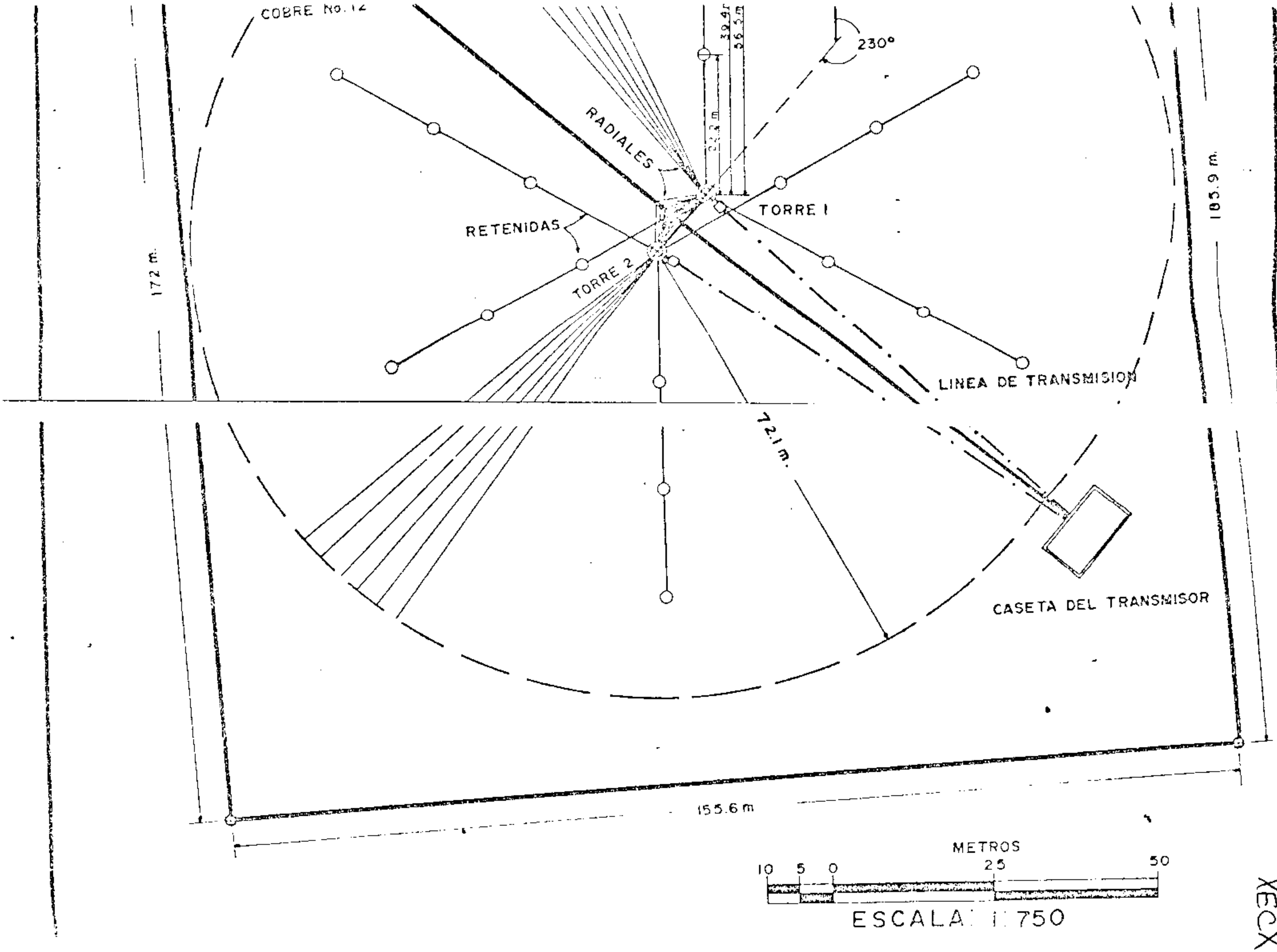
EN TODAS LAS UNIONES SE UTILIZA SOLDADURA DE COBRE APLICADA -- CON ACETILENO.

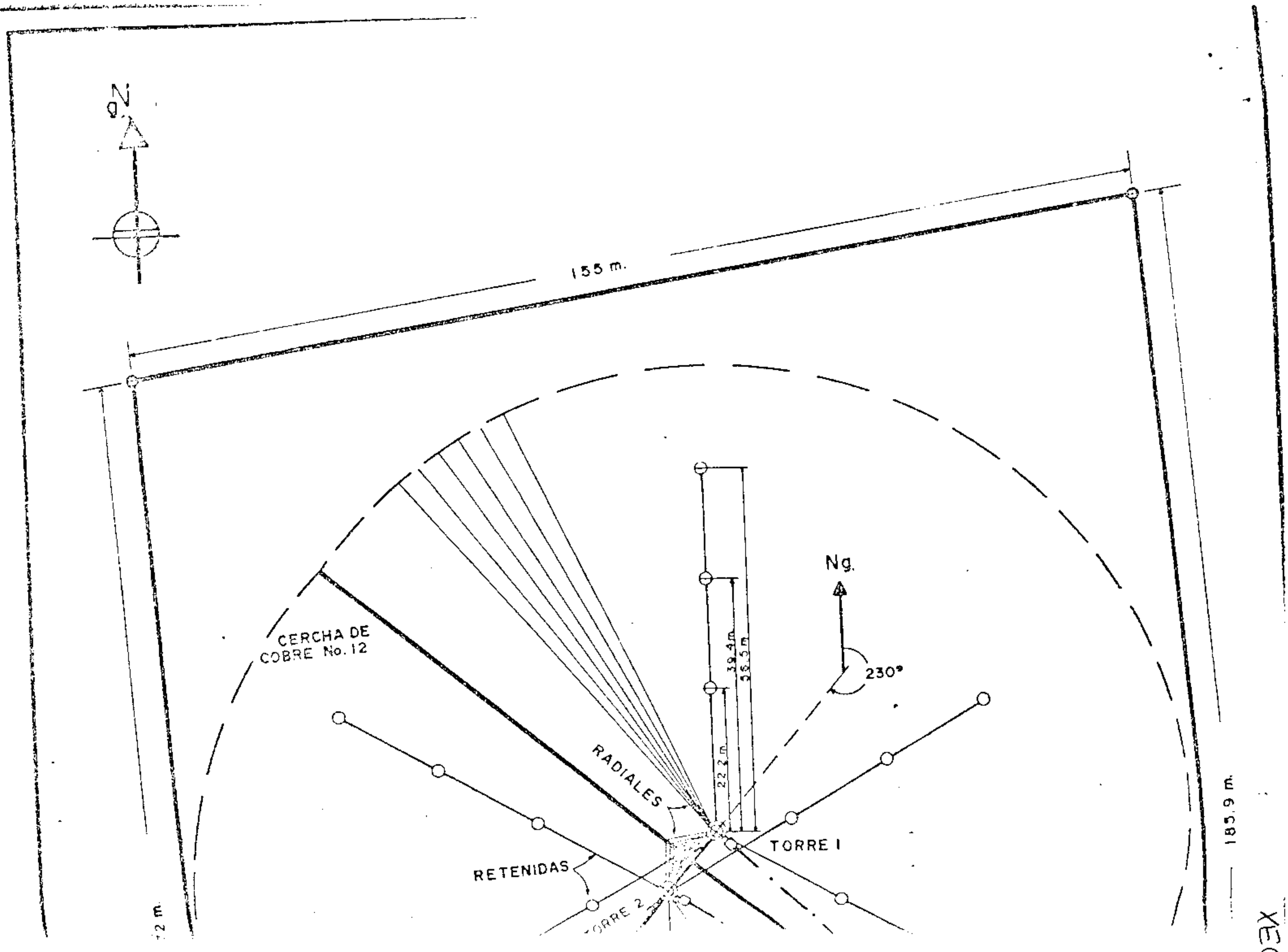
SISTEMA DE TIERRA

DESCRIPCION DEL MATERIAL	DISTINTIVO DE LLAMADA	FRECUENCIA / PERITO EN TELECOMUNICACIONES / FECHA
120 RADIALES POR TORRE IGUALMENTE ESPACIADAS. PARTIENDO DE LA BASE DE CADA TORRE. 72.1 m DE ALAMBRE No. 10 ENTERRADOS A 10 cm DE PROFUNDIDAD	XECX COORDENADAS GEOGRAFICAS LN: 20° 37' 57" LW: 103° 26' 24"	FRECUENCIA: 1,040 KHz. PERITO EN TELECOMUNICACIONES: ING. ANTONIO DE AVILA S. REGISTRO No 7 — FECHA: AGOSTO DE 1979.

9

XECX


XECX
COBRE No.12
RADIALES
RETENIDAS
TORRE 1
TORRE 2
230°
LINEA DE TRANSMISION
72.1 m.
CASETA DEL TRANSMISOR
172 m.
183.9 m.
155.6 m
METROS
10 5 0 25 50
ESCALA 1:750



XECX
Ng.
155 m.
185.9 m.
CERCHA DE
COBRE No. 12
RADIALES
39.4 m
56.5 m
22.2 m
230°
TORRE I
TORRE 2
RETENIDAS

DESCRIPTION SHEET

Station:	New	Main Studio:	Vernon, B. C.
Frequency:	1050 kHz	Power:	10 kW Day, 1 kW Night
Time:	Unlimited	Class:	II
Notification List No. 350		Date:	January 20, 1976

Geographic Location: North Lat. 50° 17' 20''

West Long. 119° 16' 26''

Antenna System:

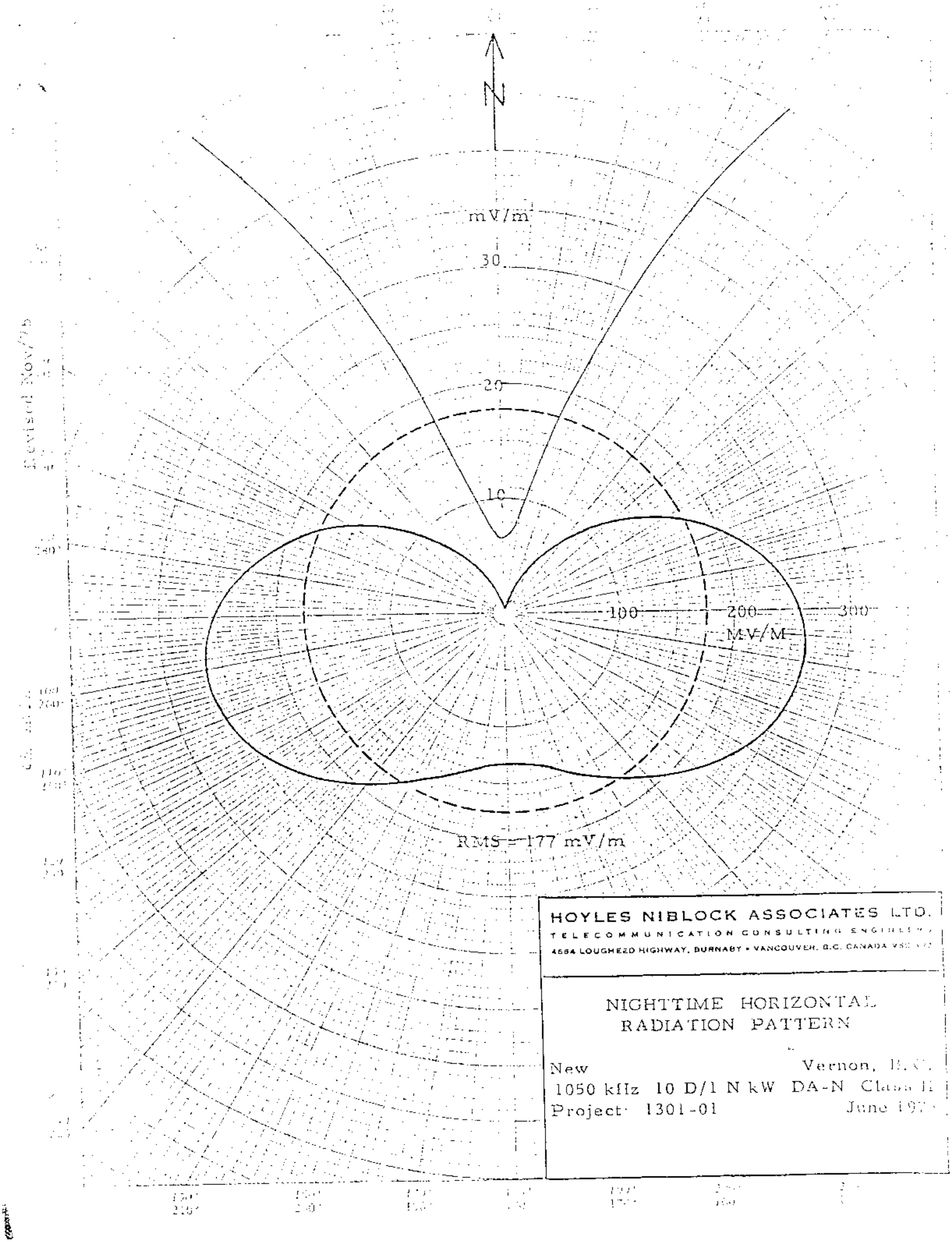
Mode of Operation DA-N

Elements Two uniform cross-section, guyed steel towers, base insulated and series fed.

Towers	1	2
Height above insulators	90°	90°
Overall Height	240'	240'
Spacing	0°	150°
Phasing:	0°	30°
Current:	1.00	0.95
Orientation:	0°	359°

Ground System: The ground system shall consist of 120, No. 10 copper wire radials buried approximately 14 inches below grade. The system is equivalent to 0.4λ

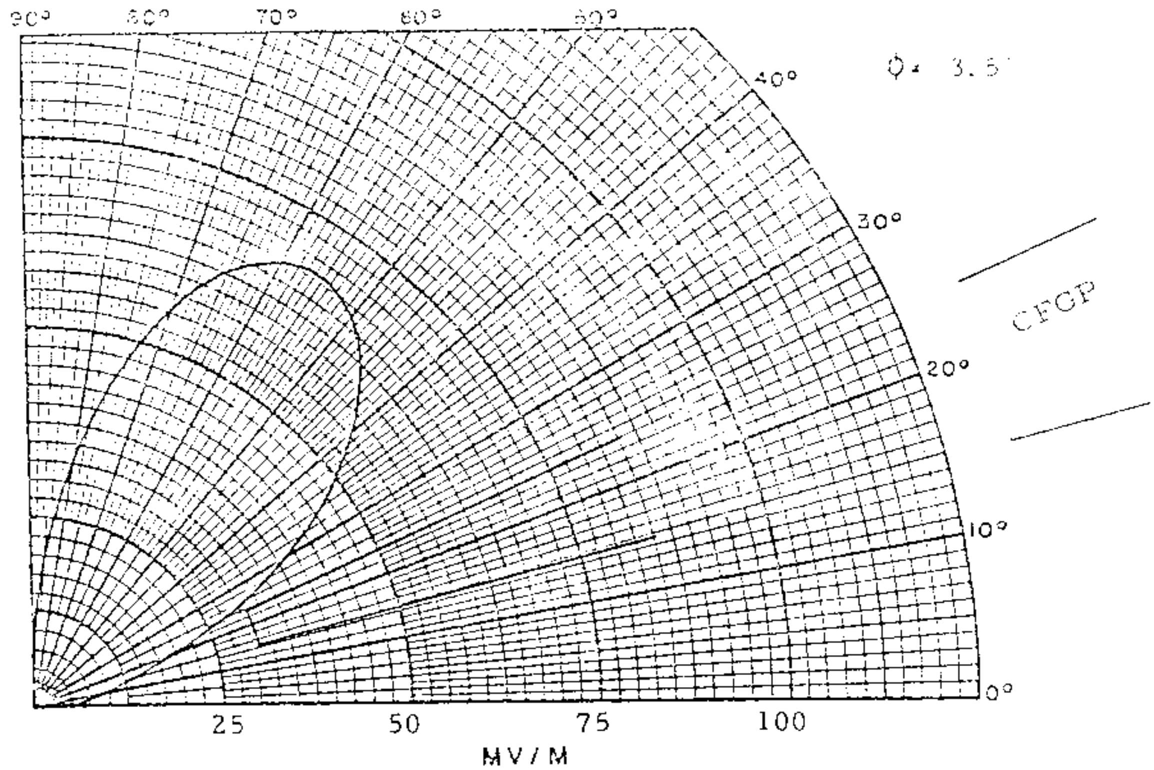
Predicted Effective Field: 600 mV/m for 10 kW Daytime
177 mV/m for 1 kW Nighttime

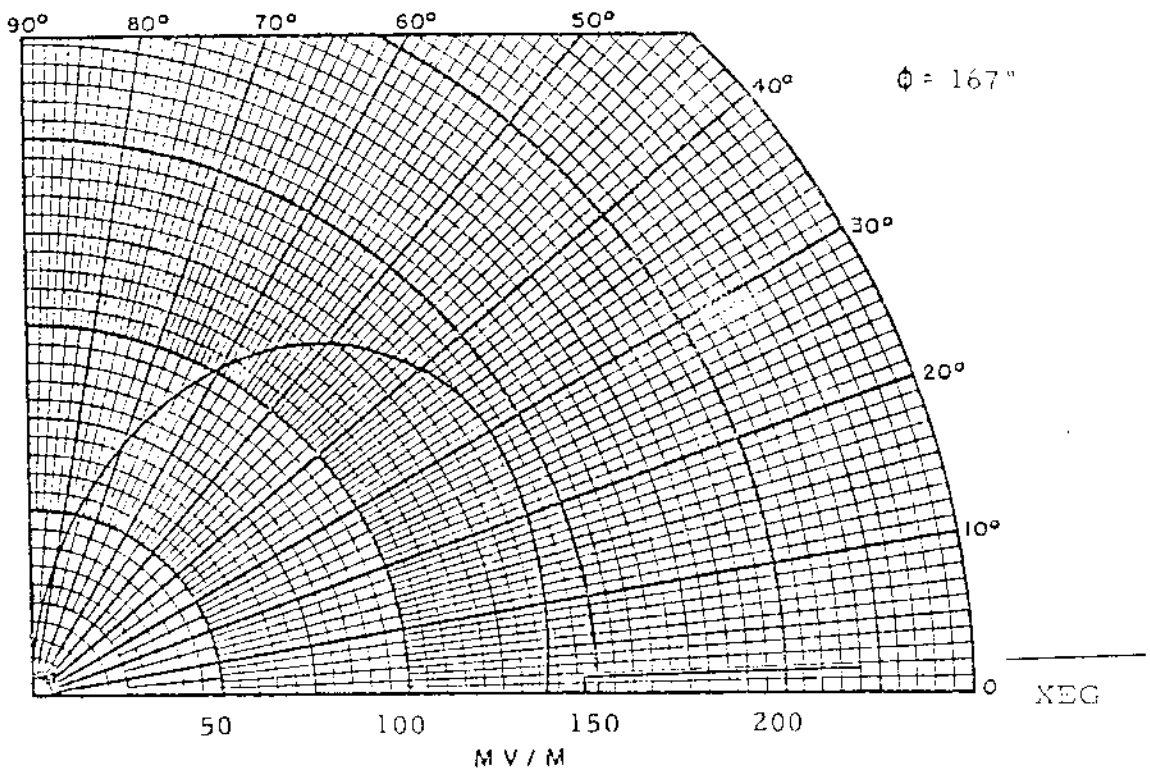


HOYLES NIBLOCK ASSOCIATES LTD.
TELECOMMUNICATION CONSULTING ENGINEERS
4664 LOUGHEED HIGHWAY, BURNABY • VANCOUVER, B.C. CANADA

NIGHTTIME HORIZONTAL
RADIATION PATTERN

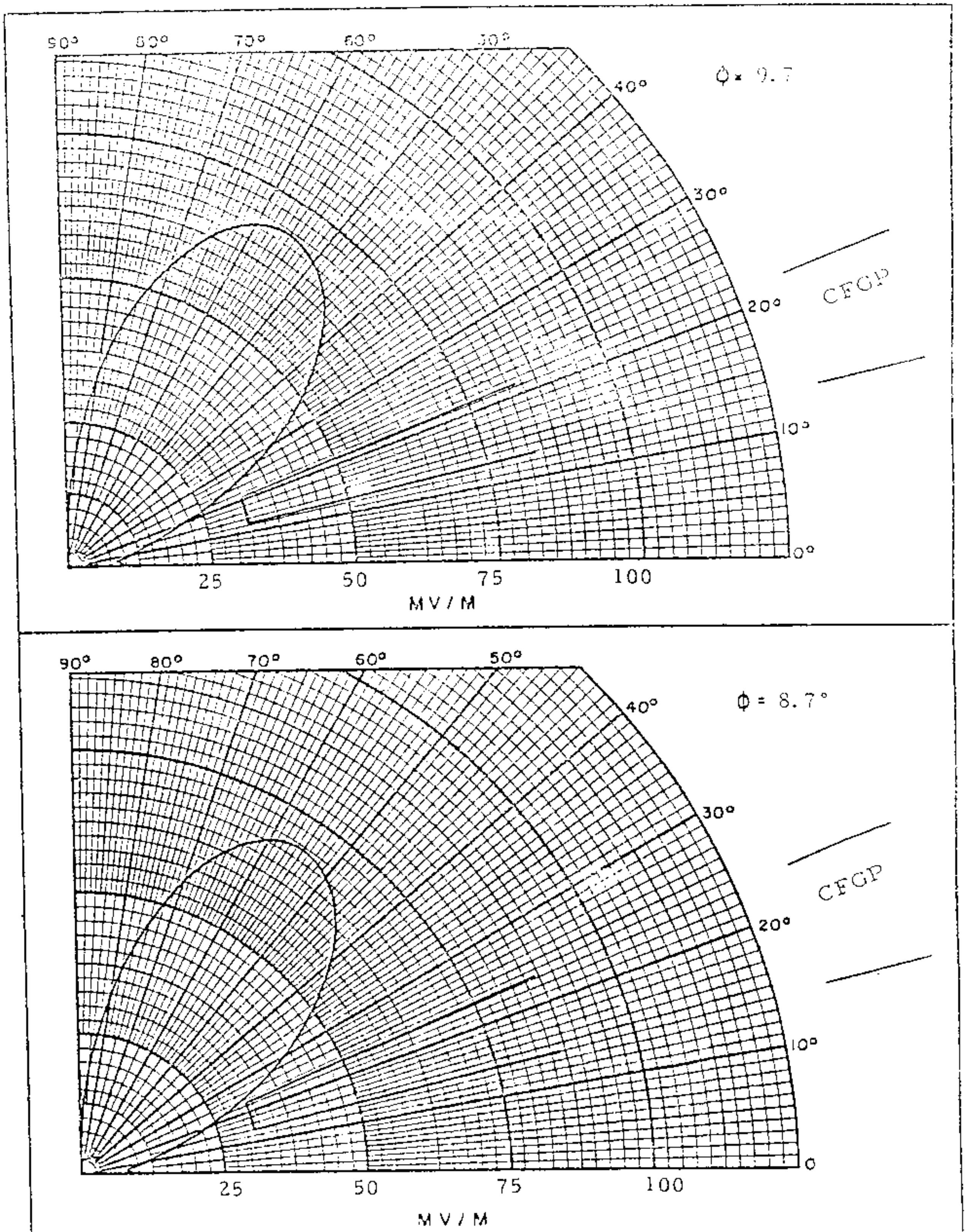
New Vernon, B.C.
1050 kHz 10 D/1 N kW DA-N Class II
Project 1301-01 June 197





VERTICAL RADIATION PATTERNS

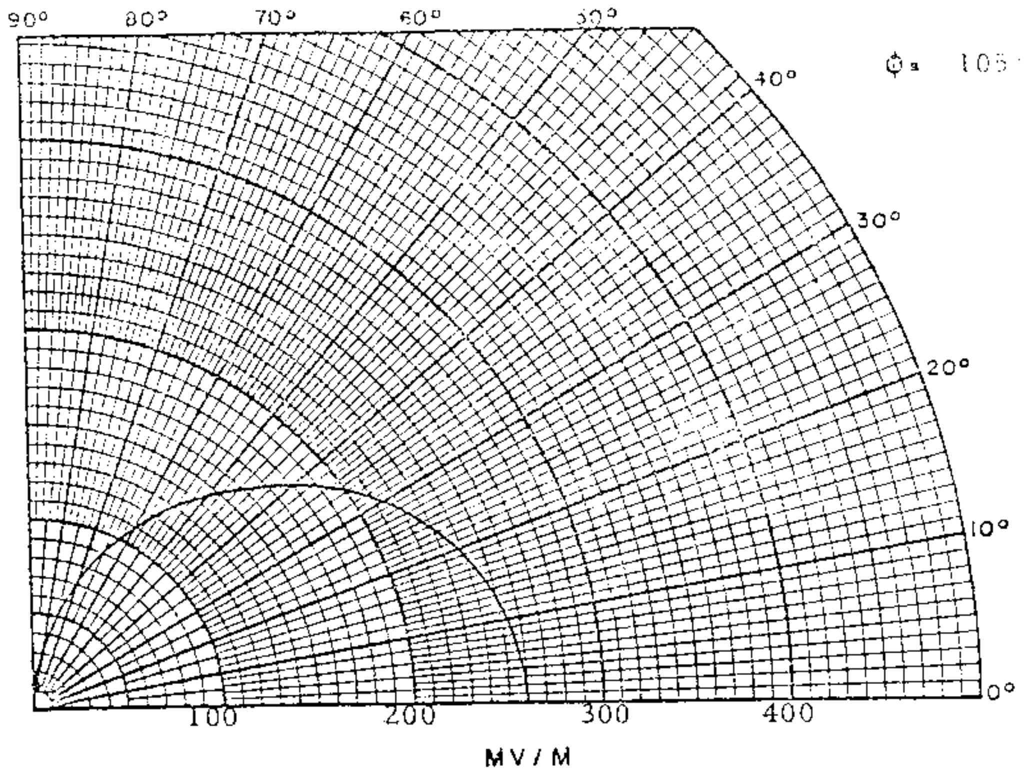
New Vernon, B.C.
1050 kHz 10 D/1 N kW DA-N Class II
Project· 1301-01 June 1975

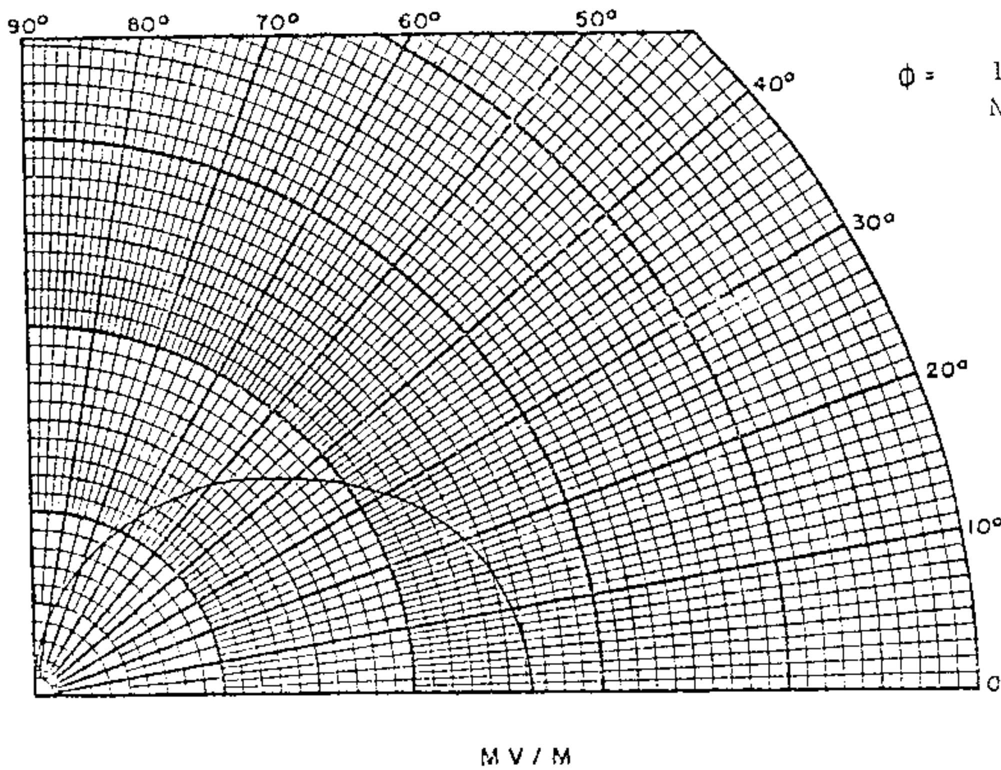


VERTICAL RADIATION PATTERNS

New | Vernon, B.C.
1050 kHz 10 D/1 N kW DA-N Class II
Project: 1301-01 | June 1975

Revised Nov/75





ϕ = 101.5°
Maximum

VERTICAL RADIATION PATTERNS

New — Vernon, B.C.
1050 kHz 10 D/1 N kW DA-N Class II
Project: 1301-01 — June 1975

CFGP

PROJECT #17802

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CFGP

MAIN STUDIO: Grande Prairie, Alberta

FREQUENCY: 1050 kHz

POWER: 10 kW

NOTIFICATION LIST: 372

DATE: April 7, 1978

GEOGRAPHICAL LOCATION: Latitude 55° 07' 10" North
Longitude 118° 56' 45" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-1

Number of Elements: 2 (Two)

Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed

TOWER:	#1 (South)	#3 (North)
Height above base insulator:	210' (80.7°)	210' (80.7°)
Overall height:	215'	215'
Ratio:	1.0	.66
Phasing:	0°	-75°

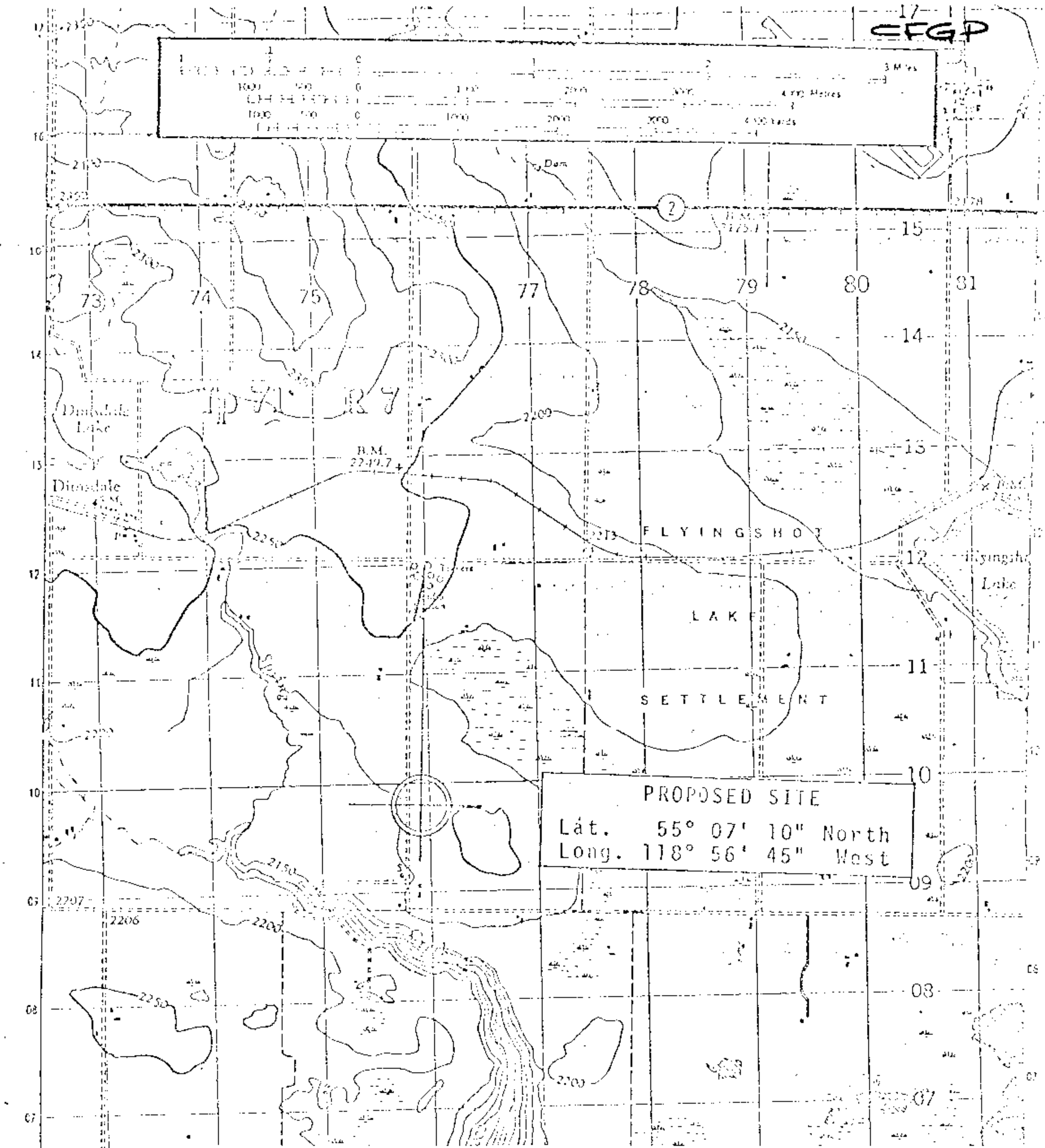
GROUND SYSTEM: 120 equally spaced radials per tower of #10 B & S gauge bare soft copper wire, buried approximately 8 inches.

The length of all radials, with the exception of those joined along the common chord is 375' (0.4 wavelength)

SPACING AND ORIENTATION: Tower #2 is spaced 234.3' (90°) along a line bearing 360° True from Tower #1.

PREDICTED EFFECTIVE FIELD: 575 mV/m at 1 mile for 10 kW
182 mV/m at 1 mile for 1 kW

August 15, 1977



D. E. M. ALLEN
PROFESSIONAL ENGINEER · ALBERTA
LICENSED TO PRACTISE

FIGURE 1

TRANSMITTER SITE LOCATION

CFGP GRANDE PRAIRIE, ALBERTA

1050 kHz 10 kW DA-1 CLASS II

PROJECT #17802 AUGUST 15, 1977

D.E.M. ALLEN & ASSOCIATES LTD
CONSULTING ENGINEERS

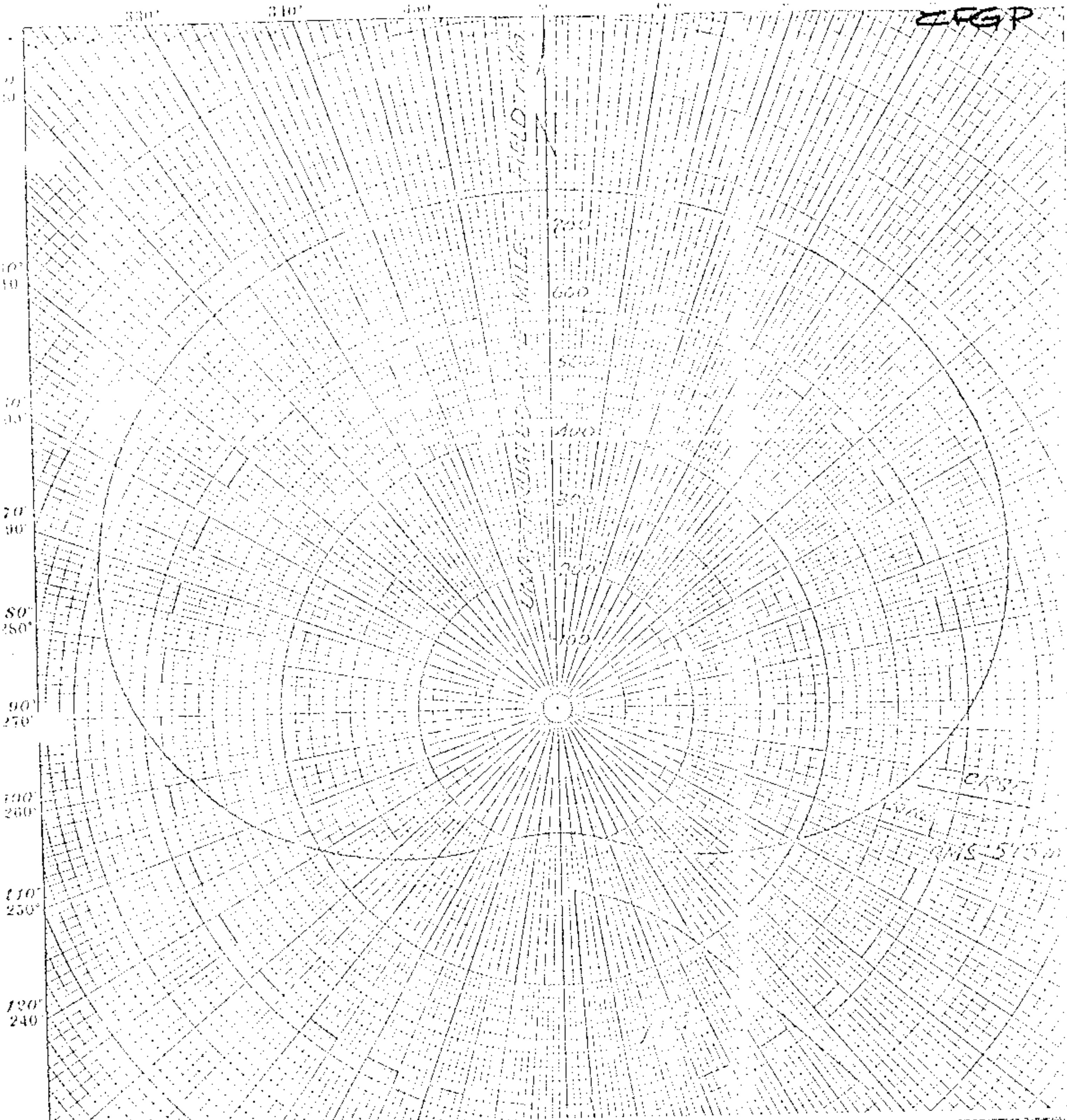


FIGURE 3

HORIZONTAL RADIATION PATTERN

CFGP GRANDE PRAIRIE, ALBERTA

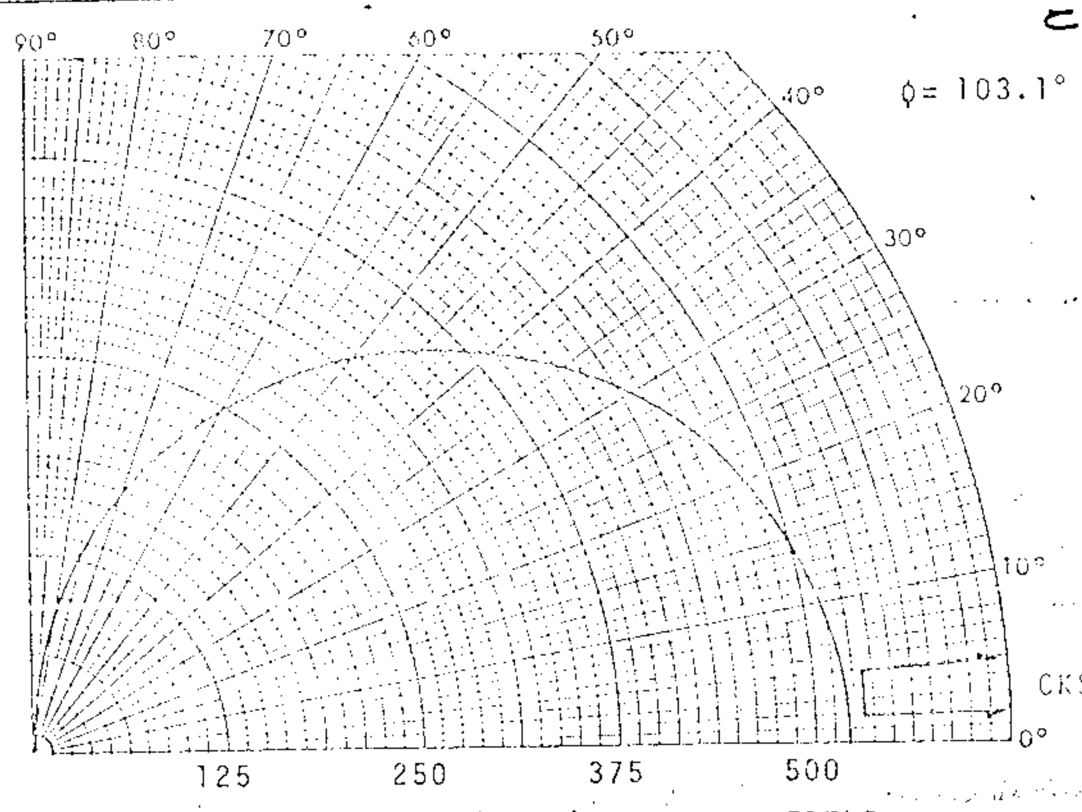
1050 KHz 10 KW DA-1 CLASS II

PROJECT #17802 AUGUST 15, 197

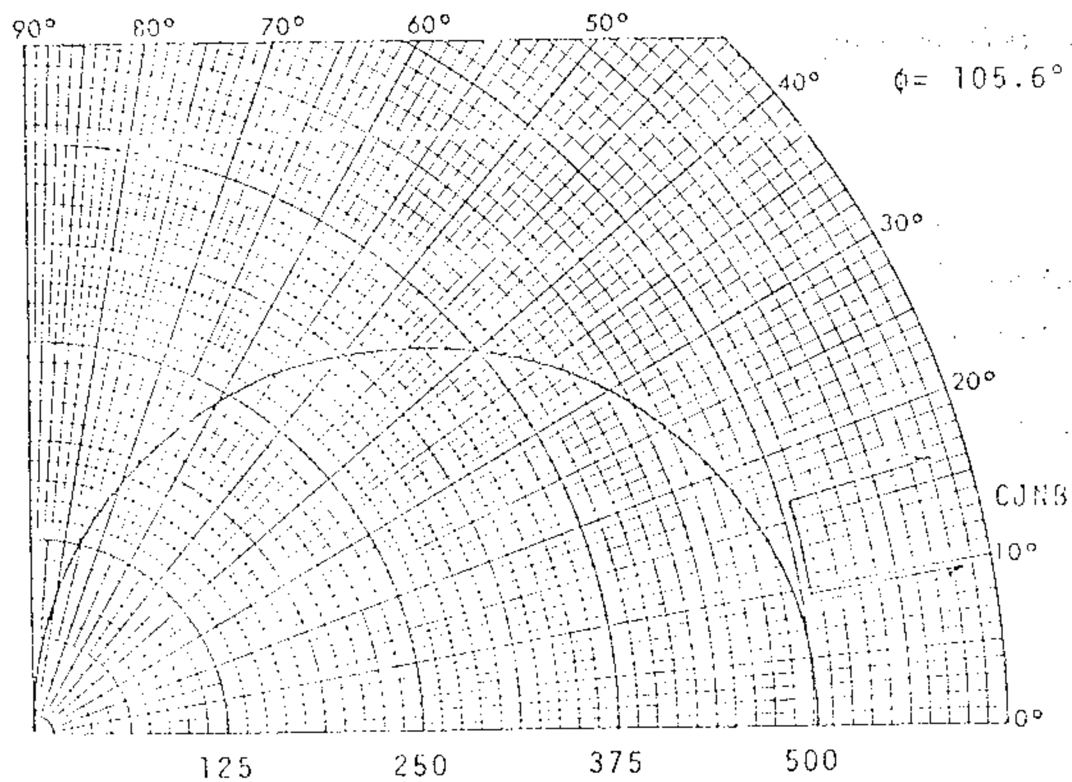
D.E.M. ALLEN & ASSOCIATES LTD

CONSULTING ENGINEERS

CFGP



UNATTENUATED (MV/M) ONE MILE FIELD



UNATTENUATED (MV/M) ONE MILE FIELD

VERTICAL RADIATION PATTERNS

FIGURE 4

CFGP
1050 kHz

10 kW

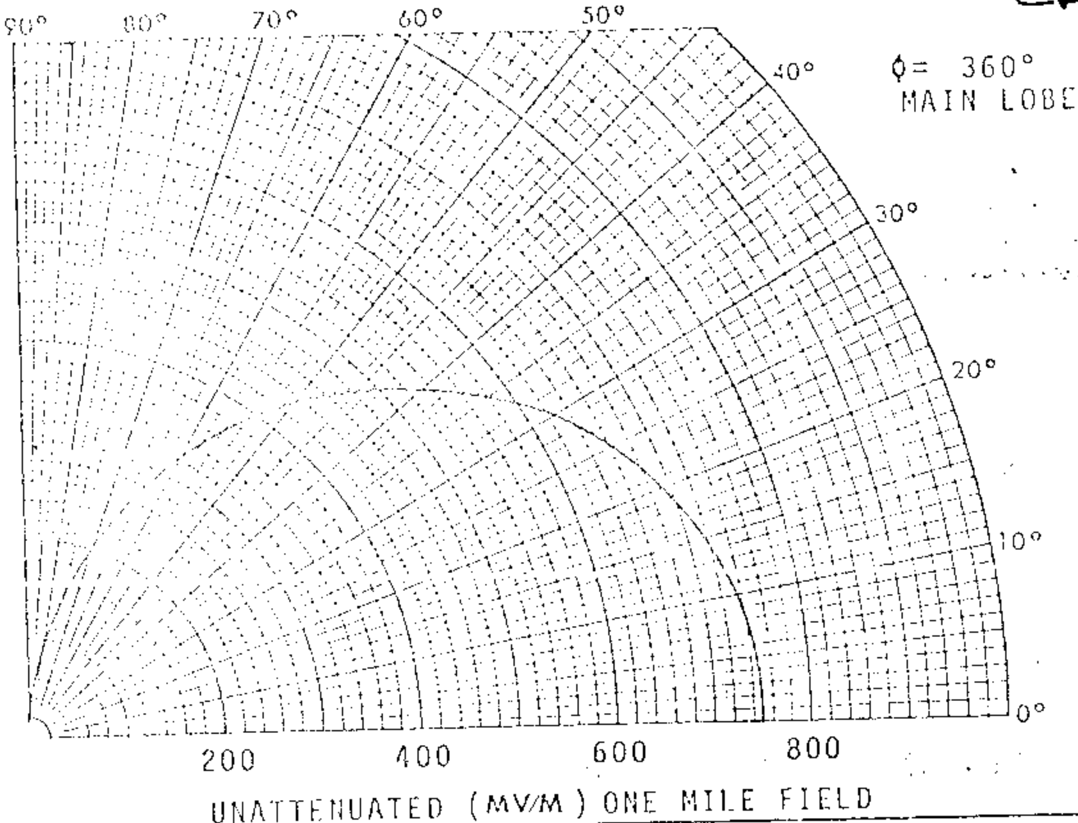
GRANDE PRAIRIE, ALBERTA
DA-1
CLASS II

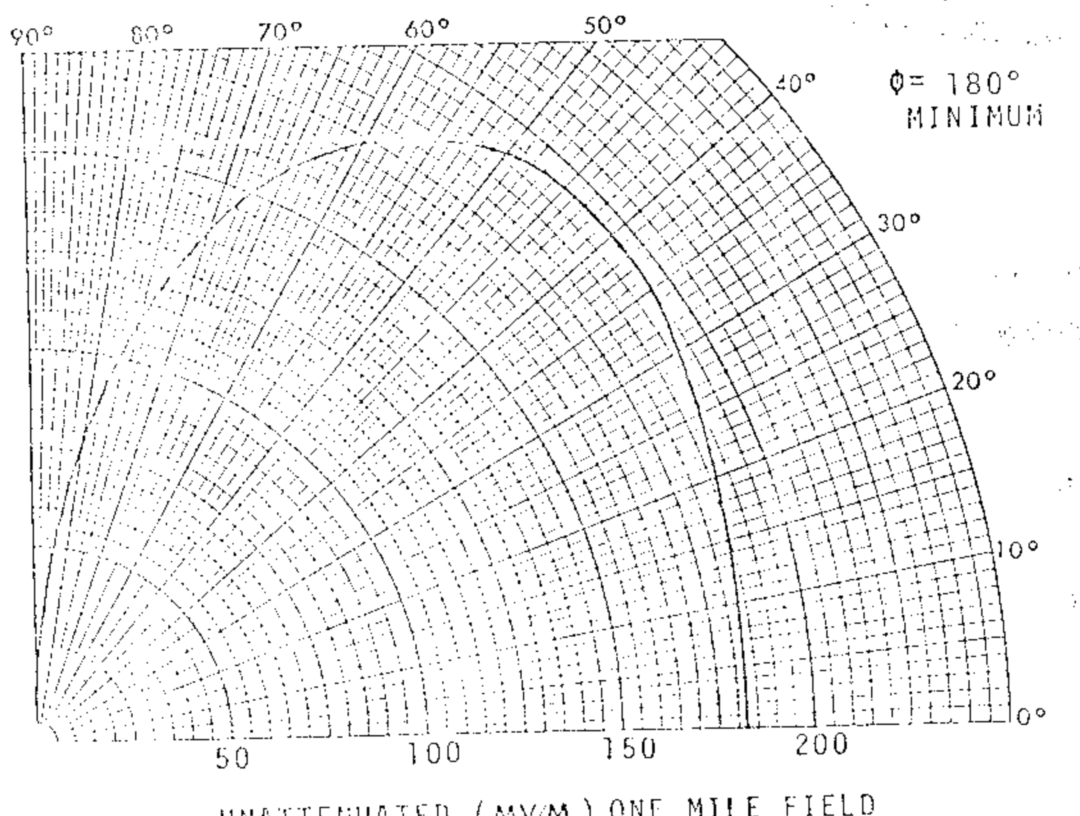
PROJECT #17802

AUGUST 15, 1977

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

CFGP





VERTICAL RADIATION PATTERNS

FIGURE 5

CFGP
1050 kHz

10 kW

GRANDE PRAIRIE, ALBERTA
DA-1 CLASS II

PROJECT #17802

AUGUST 15, 1977

D.E.M. ALLEN & ASSOCIATES LTD., CONSULTING ENGINEERS

#197

CHUM

Description Sheet (5-27-65ct) | Station CHUM Toronto, Ontario | 50kw,DA-2,U,Class II 1050 kc

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-2

STATION CALL: C H U M
MAIN STUDIO: Toronto, Ontario.
FREQUENCY: 1050 kc/s
POWER: 50,000 watts
CLASS: II
TIME: Unlimited

NOTIFICATION REFERENCE: List #197, DATED: March 29, 1965.

GEOGRAPHICAL LOCATION: Lat 43°29'14", Lon 79°37'15"

ARRAY CHARACTERISTICS: Six elements, guyed, uniform cross section, base insulated height 240 feet (92.2°) series feed. No top loading.

Element	ONE	TWO	THREE	FOUR	FIVE	SIX
space	ref	411.5' 158°	823' 316°	864.8' 332°	465.5' 178.7°	156.3' 60°
azm	ref	316°	316°	326¼°	335.3°	36°
Day R	1.0000	1.3262	0.5225	0.4964	1.2599	0.9500
ø	00°	-82.6°	-182°	-318°	-218.6°	-136°
Nite R	1.000	1.896	1.000	0.900	1.706	0.900
ø	00°	-20°	-38°	-161°	-143°	-123°

Ground system: 120 radials per tower, #10 AWG bare soft copper wire, uniformly spaced, depth approximately 8 inches. Radials bonded along line between towers and bonded to soft copper strap at tower base. Maximum radial length 375 feet

Predicted RMS: Day 1350 mv/m at 1 mile for 50 kw
191 mv/m at 1 mile for 1 kw

Night 1279 mv/m at 1 mile for 50 kw
181 mv/m at 1 mile for 1 kw

NOTE: Please attach the night-time radiation patterns notified for CHUM in Canadian Change List No. 177 dated May 7, 1963 to this description sheet and day-time pattern.

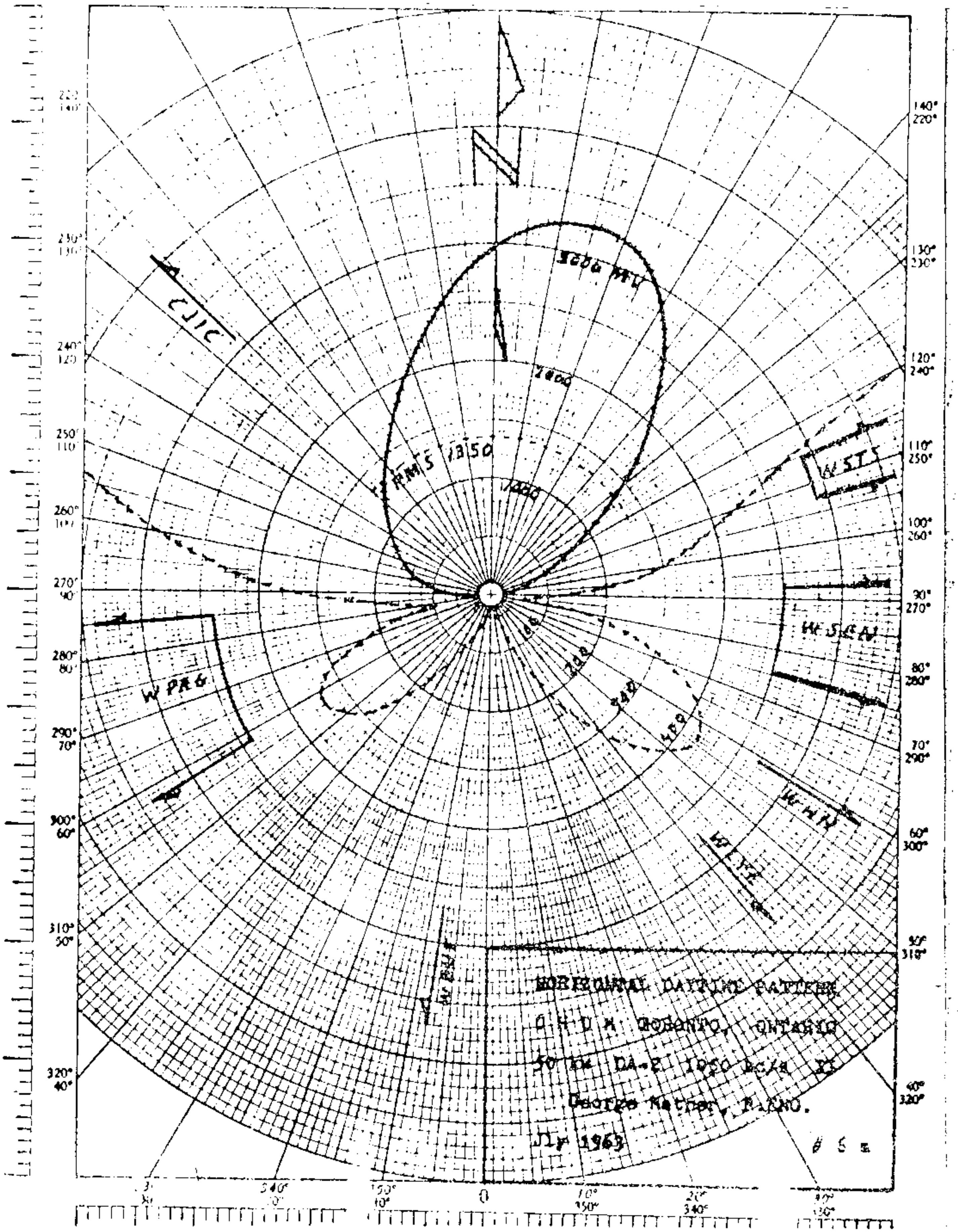
CHUM

#197

Proposed Day
(5-27-65ct)

Station CHUM
Toronto, Ontario

50kw,DA-2,U,Class II
1050 kc

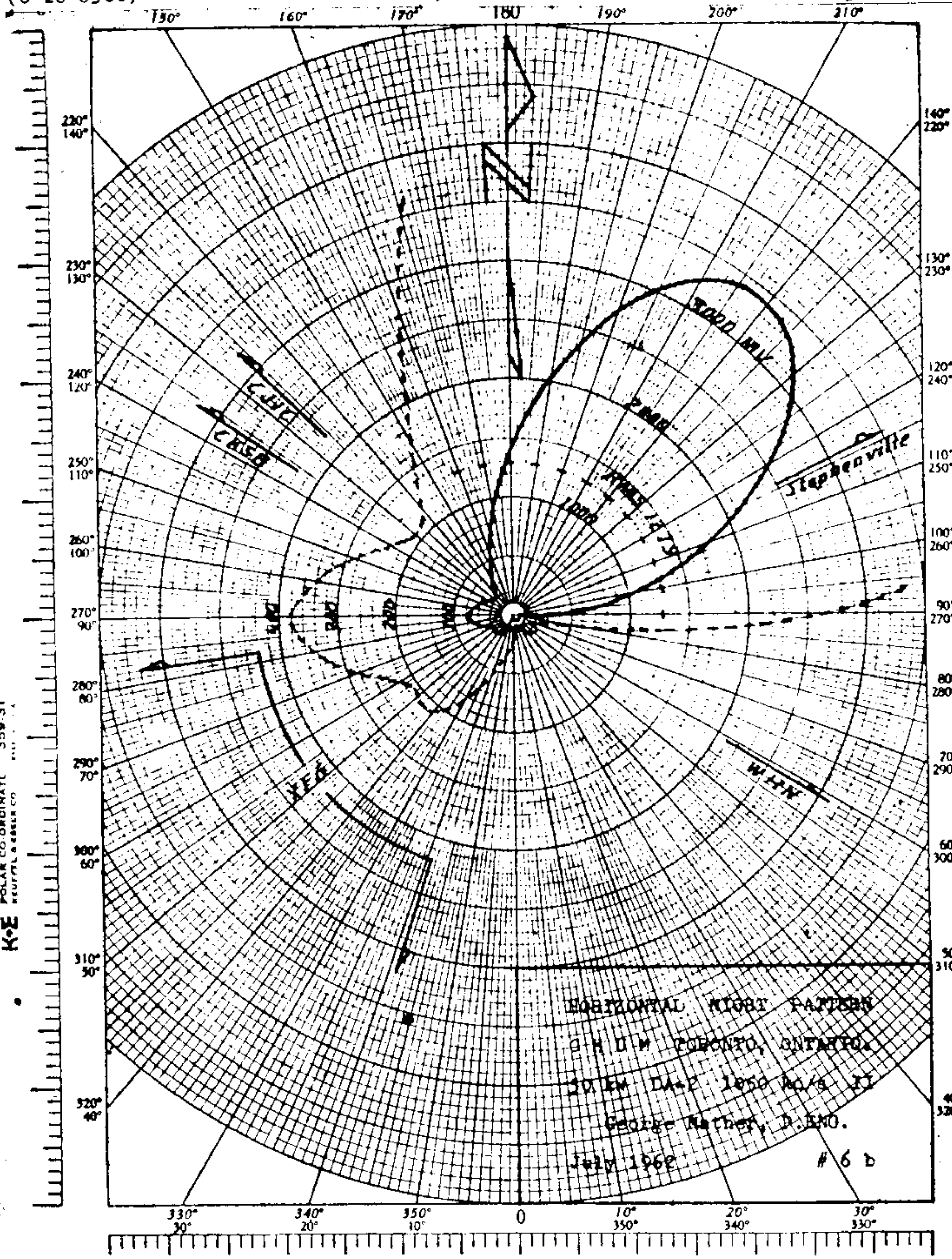


#177 CHUM

Proposed Night (6-28-63ct)

Station CHUM
Toronto, Ontario

50kw, DA-2, U, Class II
1050 kc



CJIC

Description Sheet
(3-28-68ct)

Station CJIC 2.5kw,10kw-LS,DA-N,U,Class II
Sault Ste. Marie, Ontario 1050 kc

DESCRIPTION SHEET

DIRECTIONAL ANTENNA SYSTEM

STATION: CJIC	MAIN STUDIO: Sault Ste Marie, Ont.
POWER: 10kwD/2.5kwN	FREQUENCY: 1050 kc/s
TIME: Unlimited	CLASS: II
NOTIFICATION LIST NO. 240	DATE: March 11, 1968
GEOGRAPHICAL LOCATION OF THE CENTER OF ANTENNA SYSTEM:	NORTH LAT. 46° 32' 53" WEST LONG. 84° 17' 28"

ANTENNA:

MODE OF OPERATION:	DA-N	
ELEMENTS:	Two uniform cross-section, guyed steel towers, base insulated, series fed.	
TOWER:	#1 (SW)	#2 (NE)
HEIGHT ABOVE INSULATORS:	226' (87°)	226' (87°)
PHASING (NIGHT):	0°	+185°
FIELD RATIO (NIGHT):	0.7	1.0
SPACING:	820' (315°)	

GROUND SYSTEM: 120 radials per tower, #10 AWG, bare soft drawn copper wire, uniformly spaced, depth 18". Radials continuous and bonded to soft copper strap at tower bases. Radials extended over an arc of 80° between towers to make an equivalent area for standard .4 wave-length ground system. Radial length 375 ft. where possible.

PREDICTED RMS FIELD:

Day: 597 mv/m at 1 mile for 10 kw.
189 mv/m at 1 mile for 1 kw.

NIGHT: 291 mv/m at 1 mile for 2.5 kw.
184 mv/m at 1 mile for 1 kw.

NOTE: This notification relates to a correction of night field ratio parameters only. To this description sheet attach the radiation patterns previously distributed relative to notification on List #144.

#144

CJIC

DESCRIPTION SHEET
(3-8-61g)

Station CJIC ~~250w~~ 2.5KW, 10kw-LS, DA-N, U, Class II
Sault Ste. Marie, Ontario, Canada 1050 KC

DESCRIPTION SHEET

DIRECTIONAL ANTENNA SYSTEM

STATION:	CJIC	MAIN STUDIO:	SAULT STE. MARIE, ONT.
POWER:	10KWD/2.5KWN	FREQUENCY:	1050 KC/S
TIME:	UNLIMITED	CLASS:	II
NOTIFICATION LIST NO. 144		DATE:	March 9, 1960

GEOGRAPHICAL LOCATION OF THE CENTRE OF ANTENNA SYSTEM:

NORTH LAT. 46° 32' 53"

WEST LONG. 84° 17' 28"

ANTENNA:

MODE OF OPERATION: DA-N

ELEMENTS: Two uniform cross-section, guyed steel towers, base insulated, series fed.

TOWER:	#1 (SW)	#2 (NE)
HEIGHT ABOVE INSULATORS:	226' (87°)	226' (87°)
PHASING (NIGHT):	0°	+185°
FIELD RATIO (NIGHT):	1.0	0.7
SPACING:	820' (315°)	

GROUND SYSTEM: 120 radials per tower, #10 AWG, bare soft drawn copper wire, uniformly spaced, depth 18". Radials continuous and bonded to soft copper strap at tower bases. Radial length 375 ft. where possible. Radials extended over an arc of 80° between towers to make an equivalent area for standard .4 wavelength ground system.

PREDICTED RMS FIELD:

Day: 597 mv/m at 1 mile for 10 KW.
189 mv/m at 1 mile for 1 KW

Night: 291 mv/m at 1 mile for 2.5 KW
184 mv/m at 1 mile for 1 KW

RCA VICTOR COMPANY, LTD.
MONTREAL, QUEBEC
PROJ. 2697-B
JANUARY 1960

\#144

CJIC

2.5KW

PROPOSED NIGHT
(3-8-61g)

Station CJIC ~~250w~~, 10kw-LS, DA-N, U, Class II
Sault Ste. Marie, Ontario, Canada 1050 KC

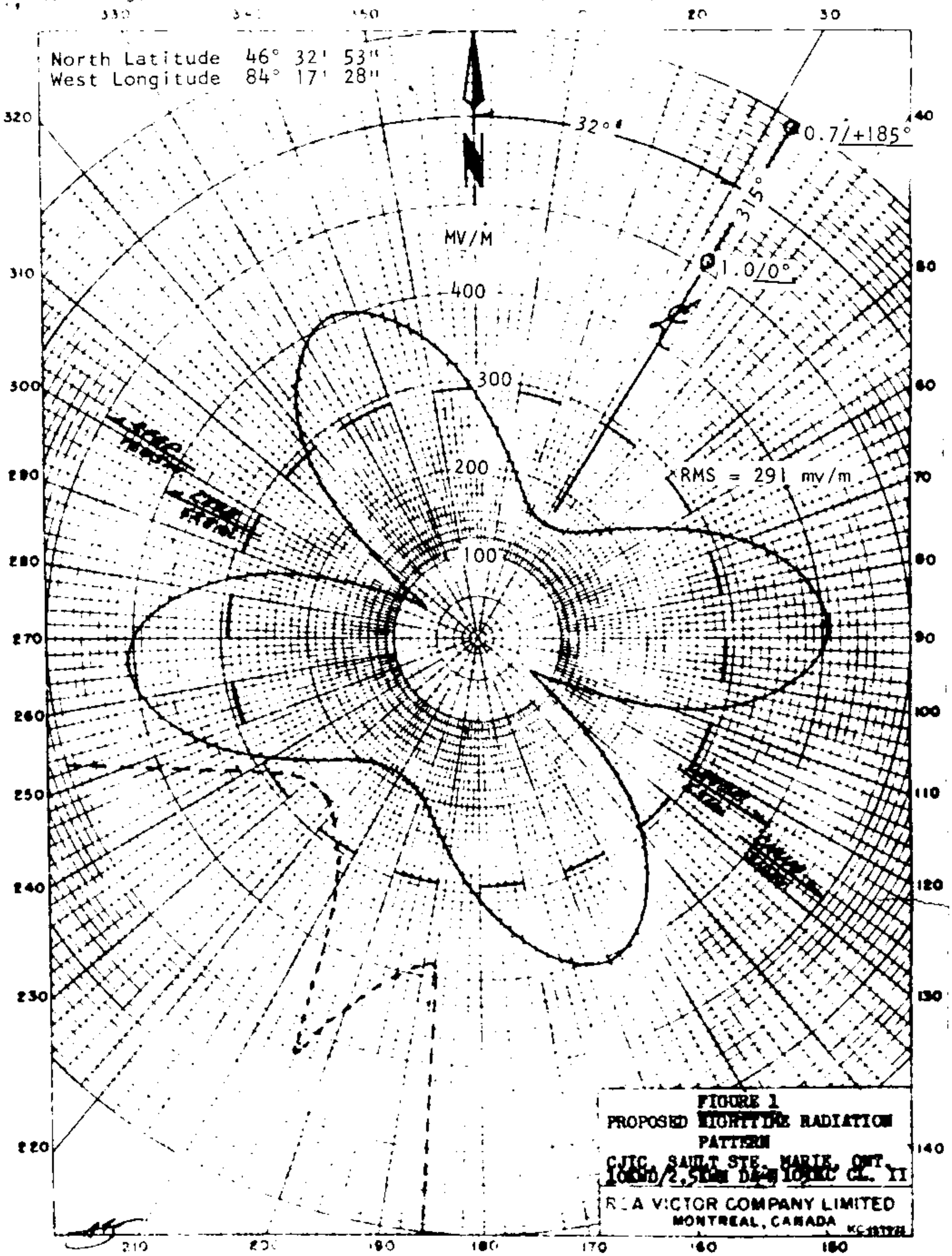


FIGURE 1
PROPOSED NIGHTTIME RADIATION PATTERN
CJIC, SAULT STE. MARIE, ONT.
10KWD/2.5KWN DA-N 1050KC CL. II

RCA VICTOR COMPANY LIMITED
MONTREAL, CANADA

#176 CJNB

Description Sheet
(3-30-63ct)

Station CJNB
North Battleford, Sask.

10kw,DA-N,U,Class II
1050 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: CJNB

Main Studio: North Battleford, Sask.

Frequency: 1050 kc

Power: 10kw Class:II

Notification List No. 176

Date: February 26, 1963

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: N 52° 50'30"

West Longitude: W 108° 18'20"

ANTENNA CHARACTERISTICS

Mode of operation: DA-N
Number of elements: 4
Type of elements: Vertical elements, series fed, no top loading, guyed.

Tower:	#1(SW)	#2(NW)	#3(SE)	#4(NE)
Height above insulators:	198.4'(77°)	198.4'	198.4'	198.4'
Overall Height:	202.4'	202.4'	202.4'	202.4'
Spacing;	#1-2=#3-4=90°	#1-3=2-4=188°		
Phasing:	0°	-94°	0°	-94°
Field Ratio:	1.0	1.0	1.0	1.0

Orientation: #1-2, #3-4 on a line bearing 47°(In parallelogram array)
#1-3, #3-4 on a line bearing 127°
2

Ground System: 120 radials per tower, spaced 3°, buried 8", of #10 AWG soft copper and joined to #4 at intersections. Radials from 245' (94°) to 400'(153.6°) long

Predicted effective field Night 553 mv/m (175 mv/m for 1kw)
Day 570 mv/m (180 mv/m for 1kw)

#1 — 1.0, 0, 0, 0
#2 - 1.0, 90, 47, -94
#3 - 1.0, 228.08, 103.48, -94
#4 1.0, 188, 127, 0

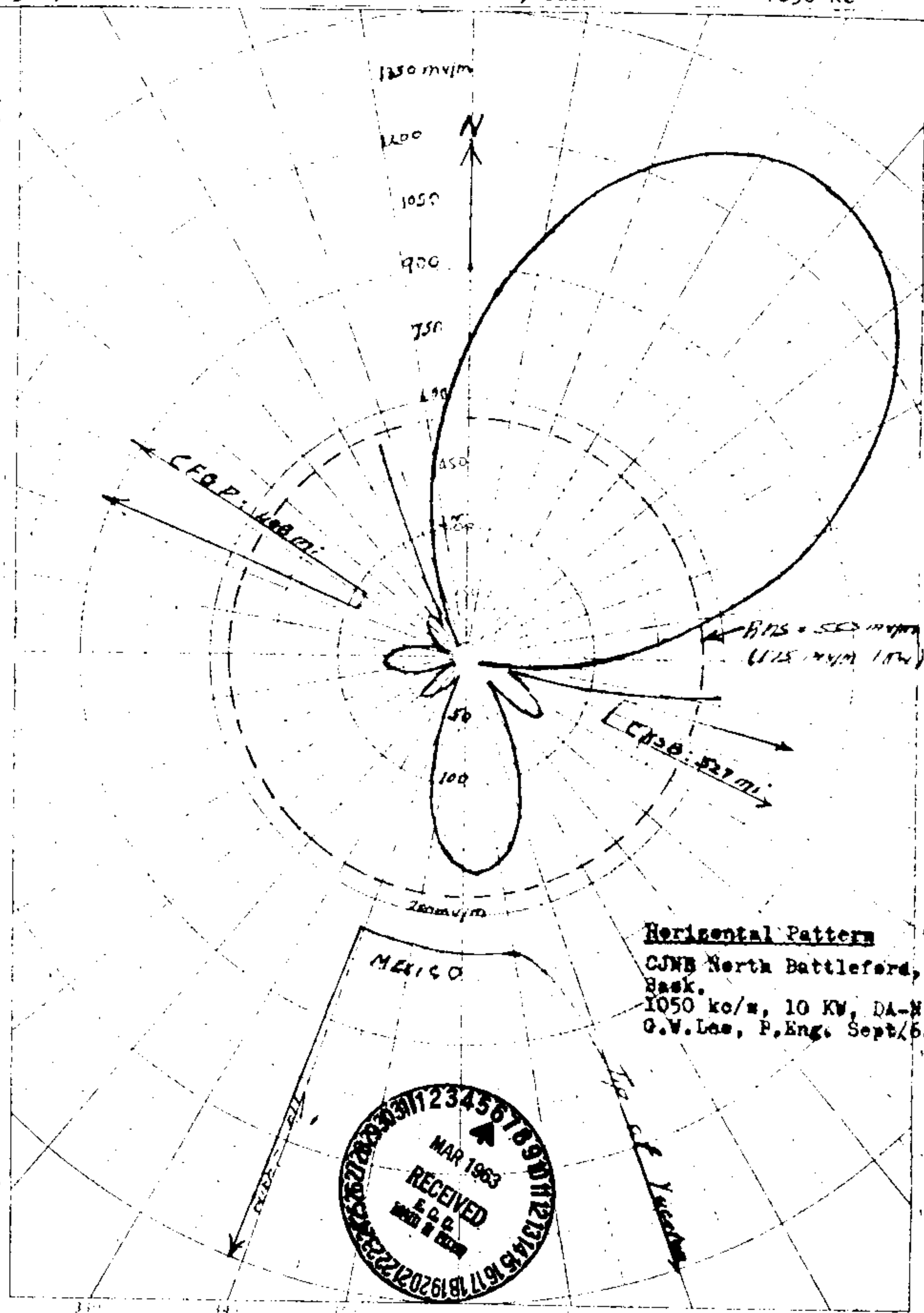
176

CJNB

Proposed Night
(3-30-63ct)

Station CJNB
North Battleford, Sask

10kw,DA-N,U,Class II
1050 kc



CKSB

Description Sheet
(2-28-68ct)

Station CKSB
St. Boniface, Manitoba

10kw,DA-N,U,Class II
1050 kc

REVISED

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CKSB   Main Studio: St. Boniface, Man.

Frequency: 1050 kHz   Power: 10 kW   Class: II

Notification List: 238   Date: January 29, 1968

GEOGRAPHICAL LOCATION: Latitude: 49° 45' 06" North
Longitude: 97° 10' 54" West

ANTENNA CHARACTERISTICS:

Mode of Operation: DA-N
Number of Elements: Two (2)
Type of Elements: Guyed steel towers, uniform cross-section, base insulated for series feed.

TOWER:	#1 South	#2 North
HEIGHT ABOVE BASE INSULATOR:	235 feet (90°)	235 feet (90°)
OVERALL HEIGHT ABOVE GROUND:	240 feet	240 feet
FIELD RATIO:	1.0	0.7
PHASING:	0°	+124°

GROUND SYSTEM: 120 equally spaced radials per tower of No. 10 B & S gauge bare copper wire, buried approximately 8 inches. Maximum length of radials 376 feet (0.4 wavelength).

SPACING AND ORIENTATION: Towers are on a line bearing 20° East of True North and are spaced 820 feet (314°) apart.

PREDICTED EFFECTIVE FIELD:

600 mV/m at 1 mile for 10 kW

190 mV/m at 1 mile for 1 kW

NOTE: Please retain the directional antenna radiation pattern previously notified for CKSB St. Boniface, Manitoba and attach to this revised description sheet. This notification concerns only a change in geographical coordinates of the station.

D. E. M. ALLEN, P. ENG.   BROADCAST CONSULTING ENGINEER.

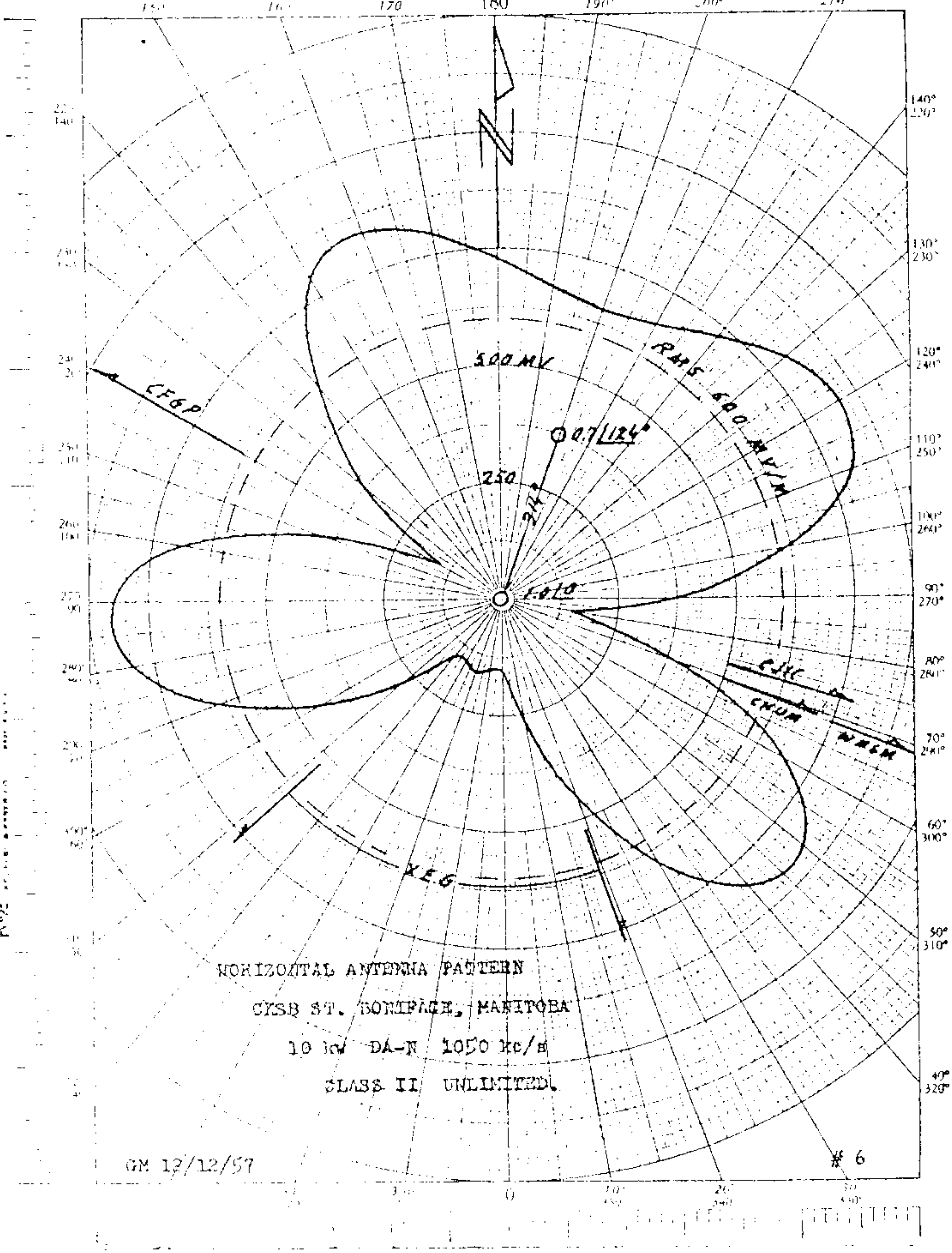
#120

CKSB

PROPOSED NIGHT
(7-8-58g)

Station CKSB
St. Boniface, Manitoba, Canada

10kw, DA-N,U, Class II
1050 KC



HORIZONTAL ANTENNA PATTERN
CKSB ST. BONIFACE, MANITOBA
10 kW DA-N 1050 Kc/s
CLASS II UNLIMITED.

GM 12/12/57

6

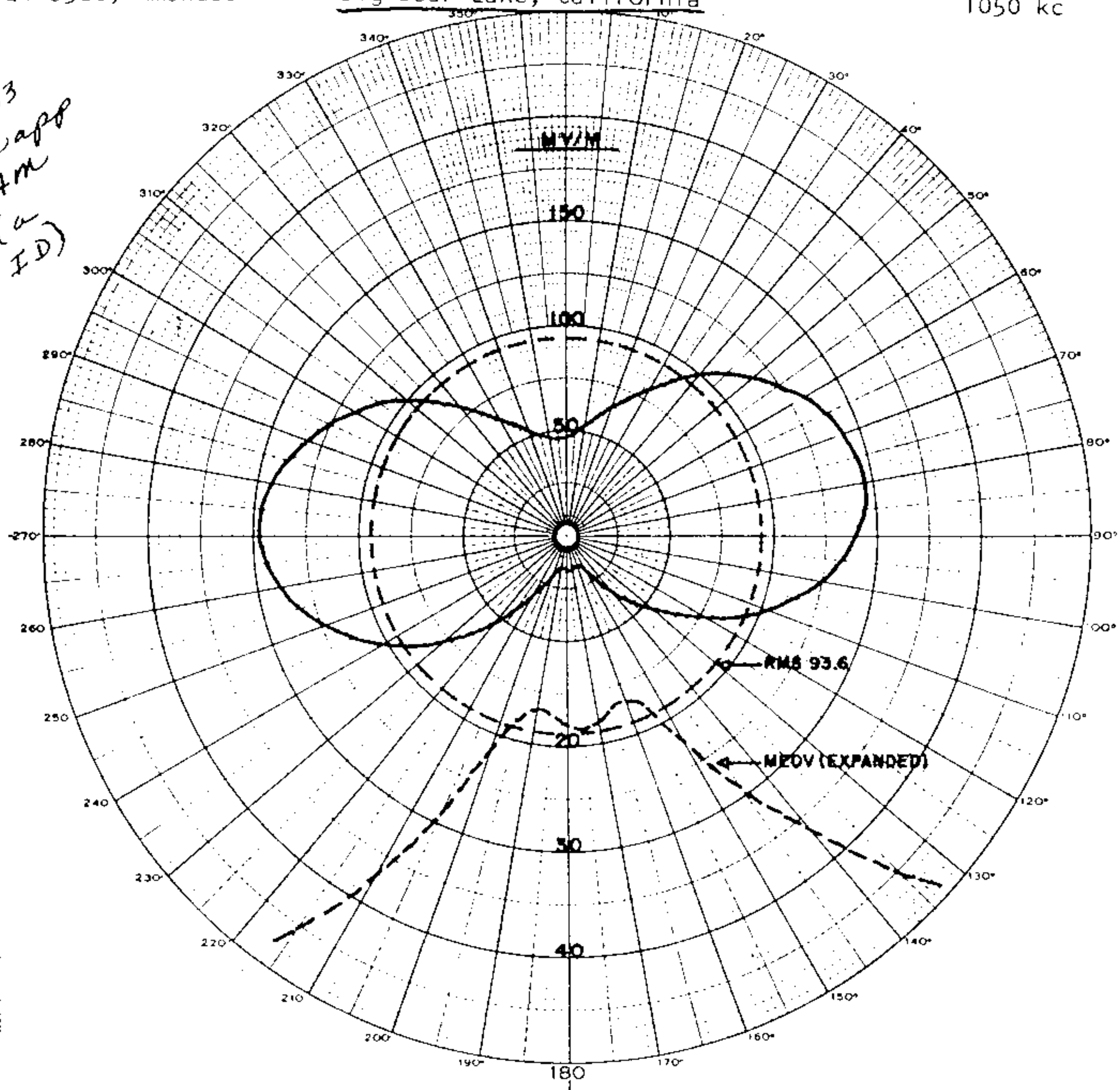
KBBV

Proposed Day
(7-24-63ct) Amended

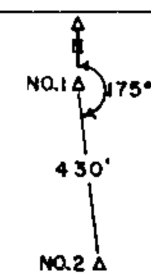
New; Big Bear Broadcasting Co.
Big Bear Lake, California

250w,DA-D,D
1050 kc

12-26-63
Granted app
for new AM
station (a
7-24-63 ID)



TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\phi°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	80	0	0	0	81	0	0	93.6
2	80	175	165	-20	64.8	0.8	10	
3							20	
4							30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							E_1 =	mv/m
							P_r =	kw

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

STATION DATA

CALL	NEW
FREQUENCY	1050 kc
POWER	0.250 kw
TIME OF OPERATION	D
TYPE OF OPERATION	DA-D
DAYTIME TOWERS	1,2
NIGHTTIME TOWERS	—
No RADIALS PER TOWER	120
LENGTH OF RADIALS	90 - 235 ft
GROUND SCREEN DIMENSION	—
LAT.	34° 15' 09.8"
LONG.	116° 53' 09.2"
SUPERSEDES	122560
PATTERN No	610622

(REV'D 5-15-63)

FLOYD HALL
RADIO ENGINEERING CONSULTANT

FIGURE 3-A
HORIZONTAL RADIATION PATTERN
PROPOSED BIG BEAR
1050 KC, 250W, DA-D

FCC File No.BP-13447
Accepted 7-1-63 Amended

New; Big Bear Broacasting Co.
Big Bear Lake, California

1050 kc

#120

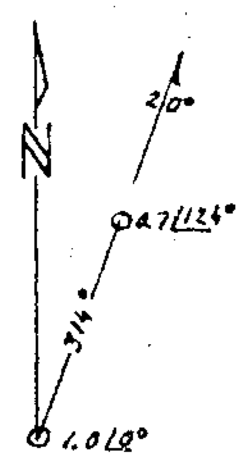
CKSB

ANTENNA DESCRIPTION SHEET

DIRECTIONAL DA-N

STATION CALL:	CKSB
MAIN STUDIO:	St. Boniface, Manitoba.
FREQUENCY:	1050 kc/s
POWER:	10 kw
CLASS:	II
TIME:	Unlimited
NOTIFICATION REFERENCE: No.:	120.....DATED: April 2, 1958.
GEOGRAPHICAL LOCATION:	N.Lat. 49°45'12" W.Lon. 97°10'11"
ANTENNA CHARACTERISTICS:	Two elements, guyed, uniform cross section, base insulated, series feed.

ELEMENT	SOUTH	NORTH
HEIGHT	90°	90°(235')
SPACING	Ref.	314°(820')
BEARING	Ref.	20°
PHASING	Ref.	124°
FIELD RATIO	1.0	0.7
GROUND SYSTEM	120 radials per tower, #10 AWG bare soft copper wire, uniformly spaced, depth approximately 8 inches. Radials bonded to soft copper strap at tower bases. Maximum radial length 376 feet.	
PREDICTED RMS	190 mv/m at 1 mi. for 1 kw 600 mv/m at 1 mi. for 10 kw	



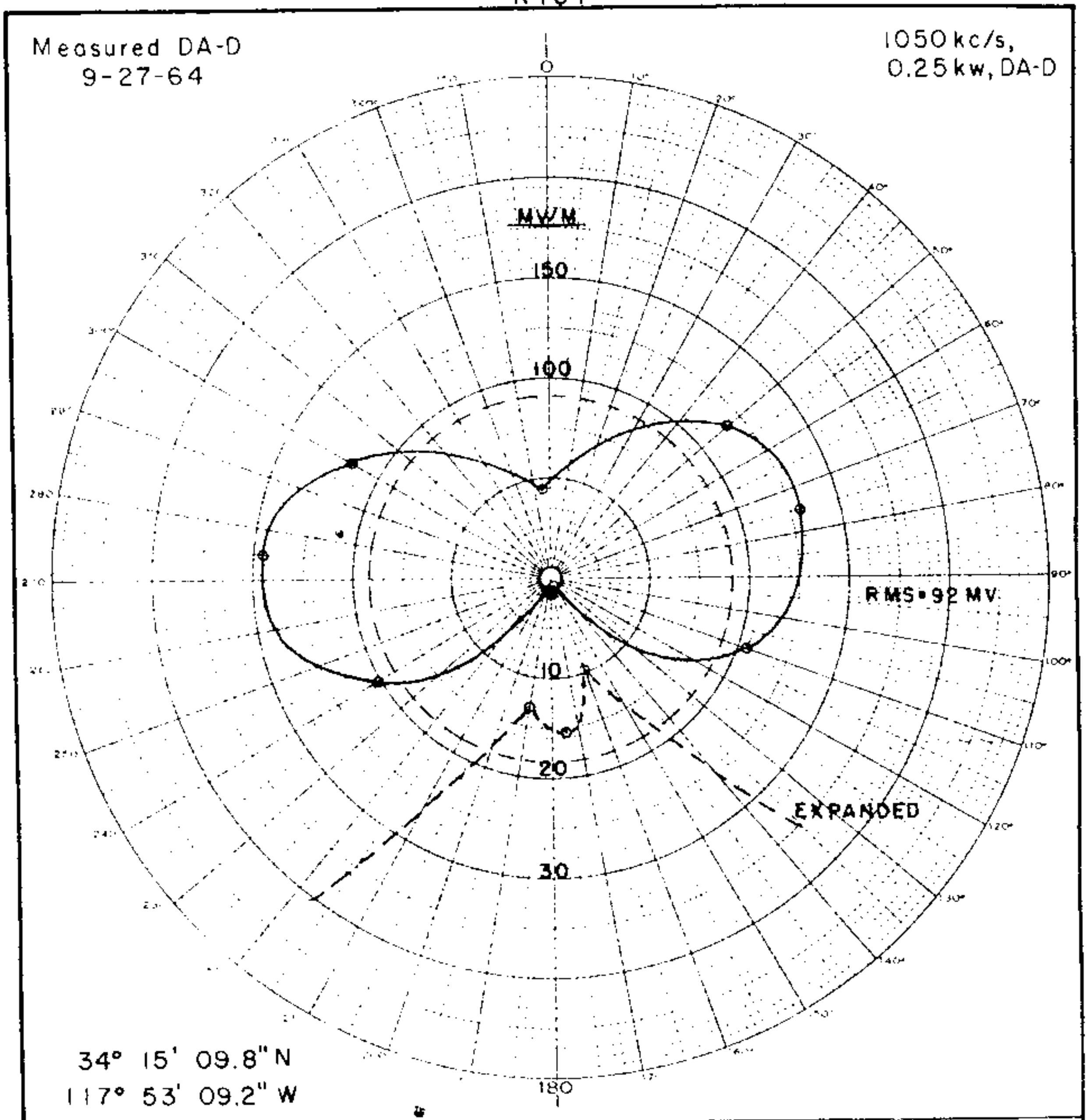
GM 12/12/57 # 5

KBBV

Measured Day
(3-26-65ct)

Station KTOT
Big Bear Lake, California

250w, DA-D, D
1050 kc



N 5° W

NO.1 ▽ 1.0 ∠0°

OPERATING

PARAMETERS

165°

NO.2 ▽ 0.97 ∠19.5°

G = 80°

FIGURE 27

Measured Directional Pattern

Big Bear Lake, California

Lloyd Ball, E.E. Radio Engineering Consultant

FCC File No. BL-10797
Accepted 3-10-65

Station KTOT
Big Bear Lake, California

1050 kc

KBBV

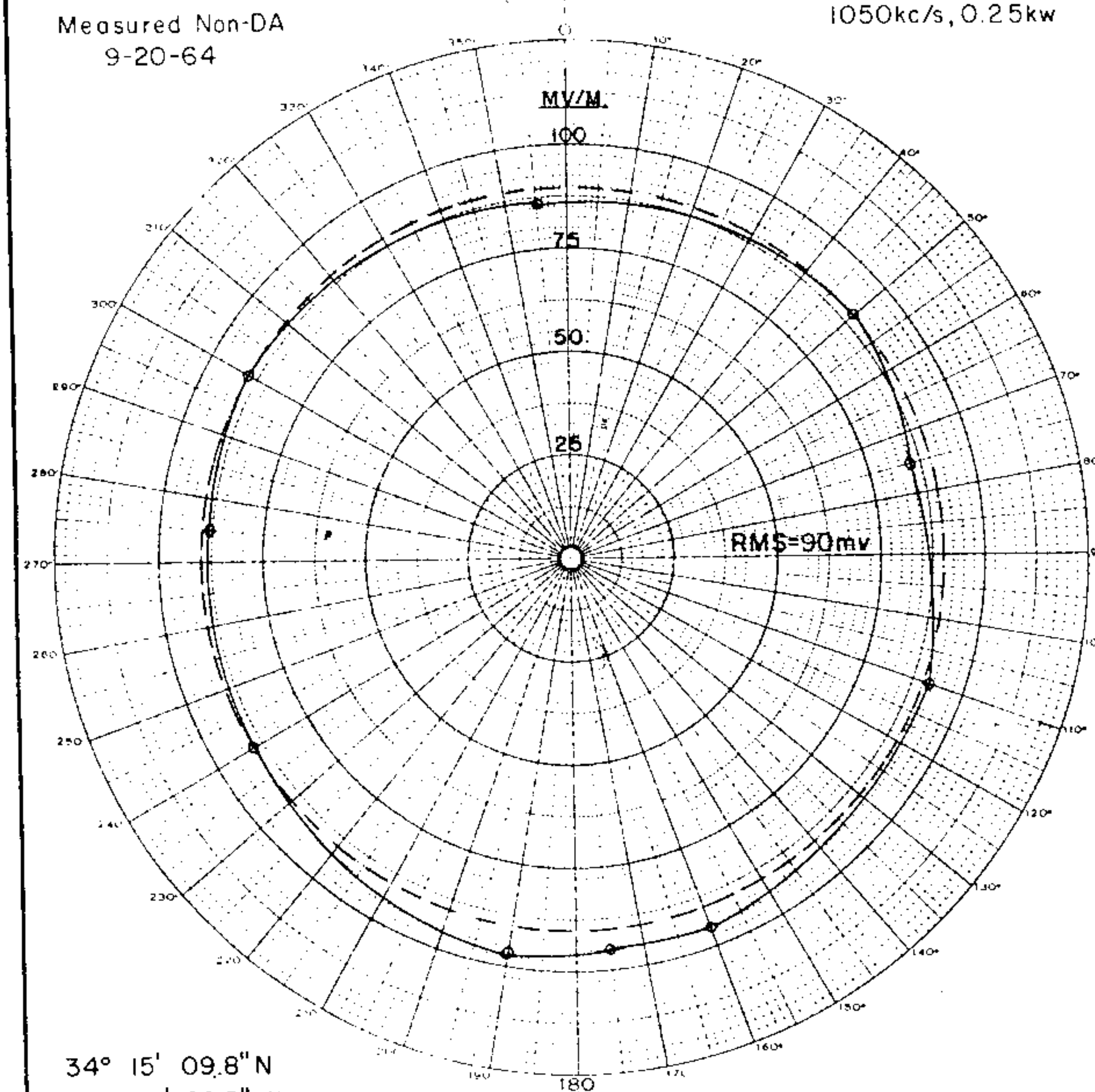
Measured Non-DA
(3-26-65ct)

Station KTOT
Big Bear Lake, California

250w, DA -,
1050 kc

Measured Non-DA
9-20-64

1050kc/s, 0.25kw



34° 15' 09.8" N
116° 53' 09.2" W

Tower No. 2 (S)

FIGURE 26
Measured Non-Directional Pattern
KTOT, 1050kc/s
Big Bear Lake, California

Lloyd Hall, P.E. Radio Engineering Consultant

FCC File No. BL-10797
Accepted 3-10-65

Station KTOT
Big Bear Lake, California

1050 kc

KBUF
1050kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KBUF

Main Studio: Garden City, Kansas

Frequency: 1050 kHz

Power: 5kw Day

Notification List No. 1783

Date: November 2, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 38° 00' 01"
West Longitude: 100° 53' 54"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#1)	SE(#2)
HEIGHT ABOVE INSULATORS:	265'	265' (101.4°)
PHASING:	0°	+37°
FIELD RATIO:	1.0	0.62

SPACING AND ORIENTATION: Towers in a row are spaced 420' (165°) on a line bearing 137.2° true.

GROUND SYSTEM: 120 - 300' equally spaced copper radials about the NW(#1) tower and 110-235 equally spaced copper radials about the SE (#2) tower plus 120-50' about each tower.

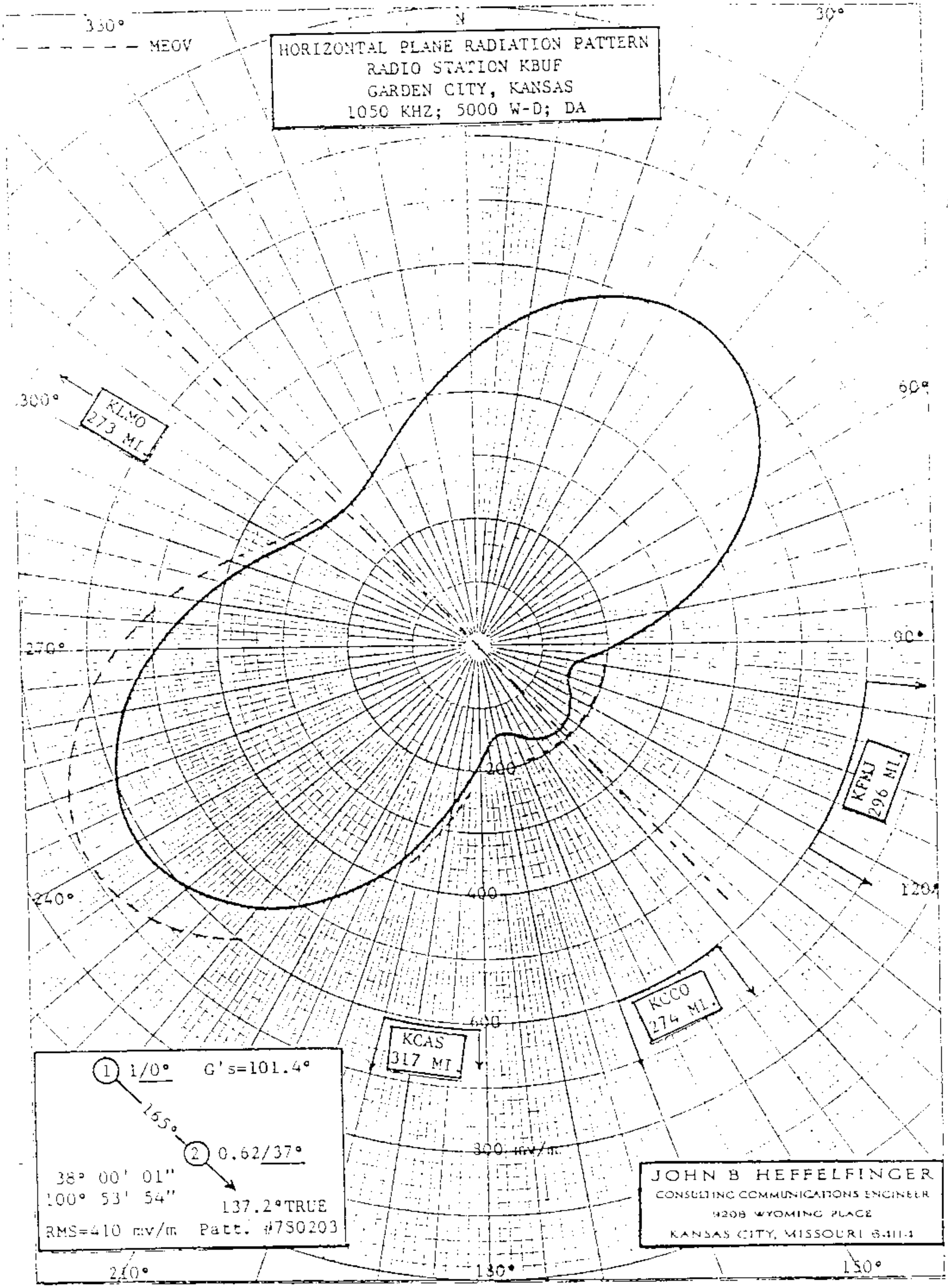
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL
RMS

Day 410 mv/m

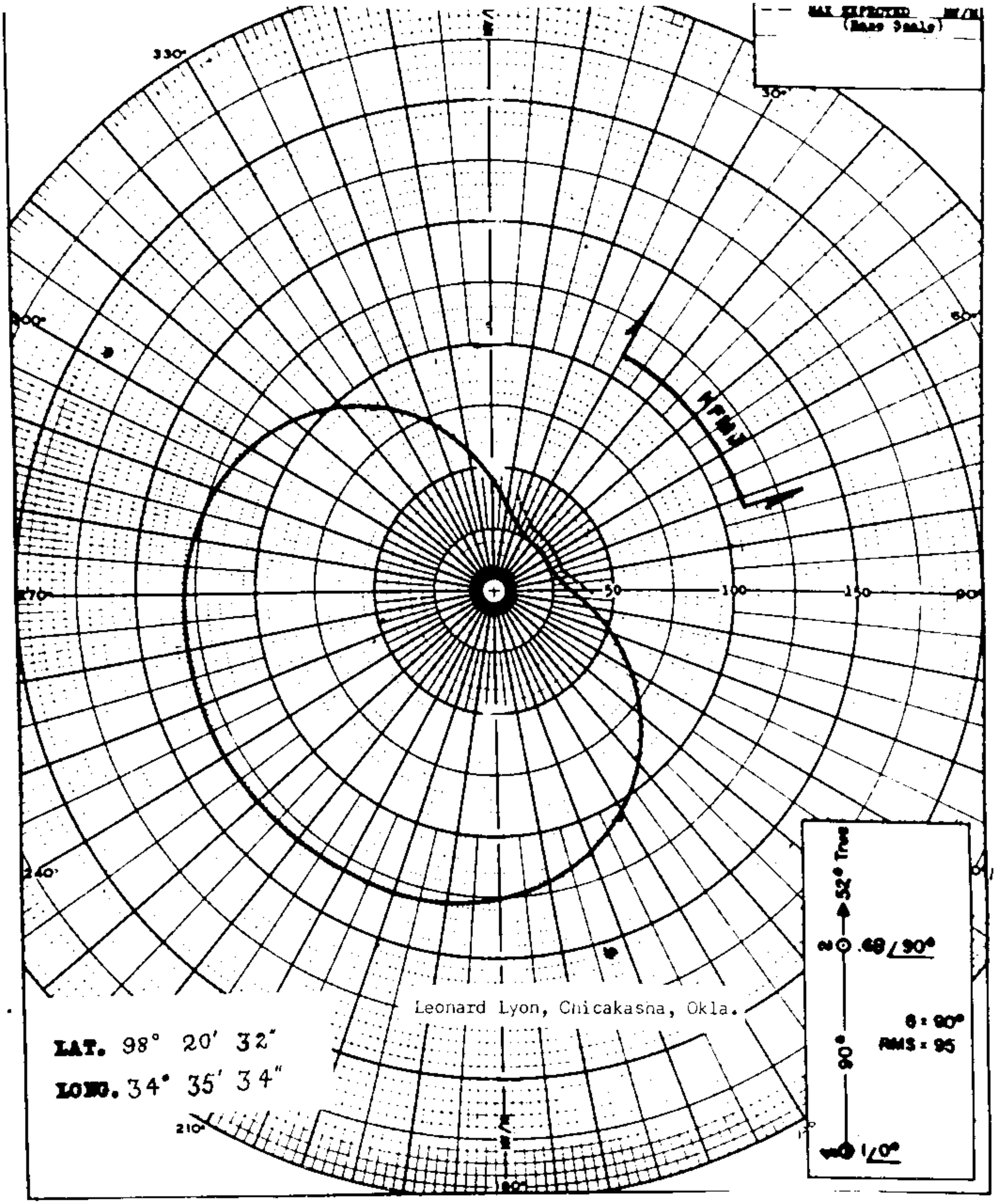
Note: This notification concerns the addition of MEOV from 219° true to 292° true to the daytime directional radiation pattern.

KBUF
1050kHz



KCCO
LAWTON, OKLA
1050 kc

PROPOSED DAY (2/5/54G) NEW, PROGRESSIVE B/C Co., Oklahoma, Lawton 250W, D, DA-D

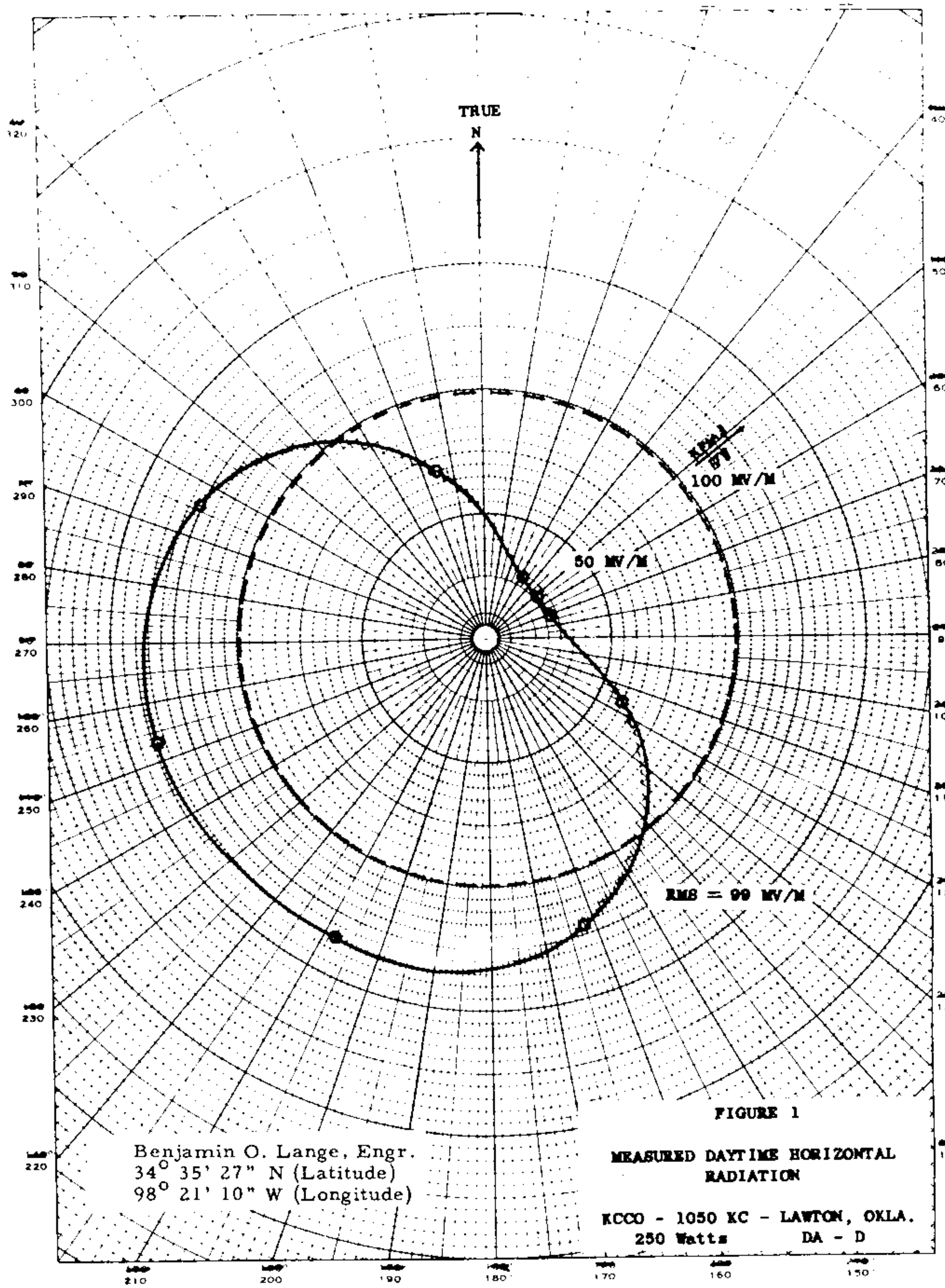


Pattern: Proposed Daytime **New, Lawton, Okla.**
250 Watts-D **Freq. 1050 KC** **EXHIBIT**
DATE **11-[illegible]-53** **E-5**

FCC File No. BP-9122 Accepted 1/12/54 NEW, PROGRESSIVE B/C CO. LAWTON., OKLA. 1050 kc

KCCO

MEASURED DAY (6-20-56g) | STATION KCCO LAWTON, OKLA. | 250 W DA-D, D | 1050 KC



Benjamin O. Lange, Engr.
34° 35' 27" N (Latitude)
98° 21' 10" W (Longitude)

FIGURE 1

MEASURED DAYTIME HORIZONTAL RADIATION

KCCO - 1050 KC - LAWTON, OKLA.
250 Watts DA - D

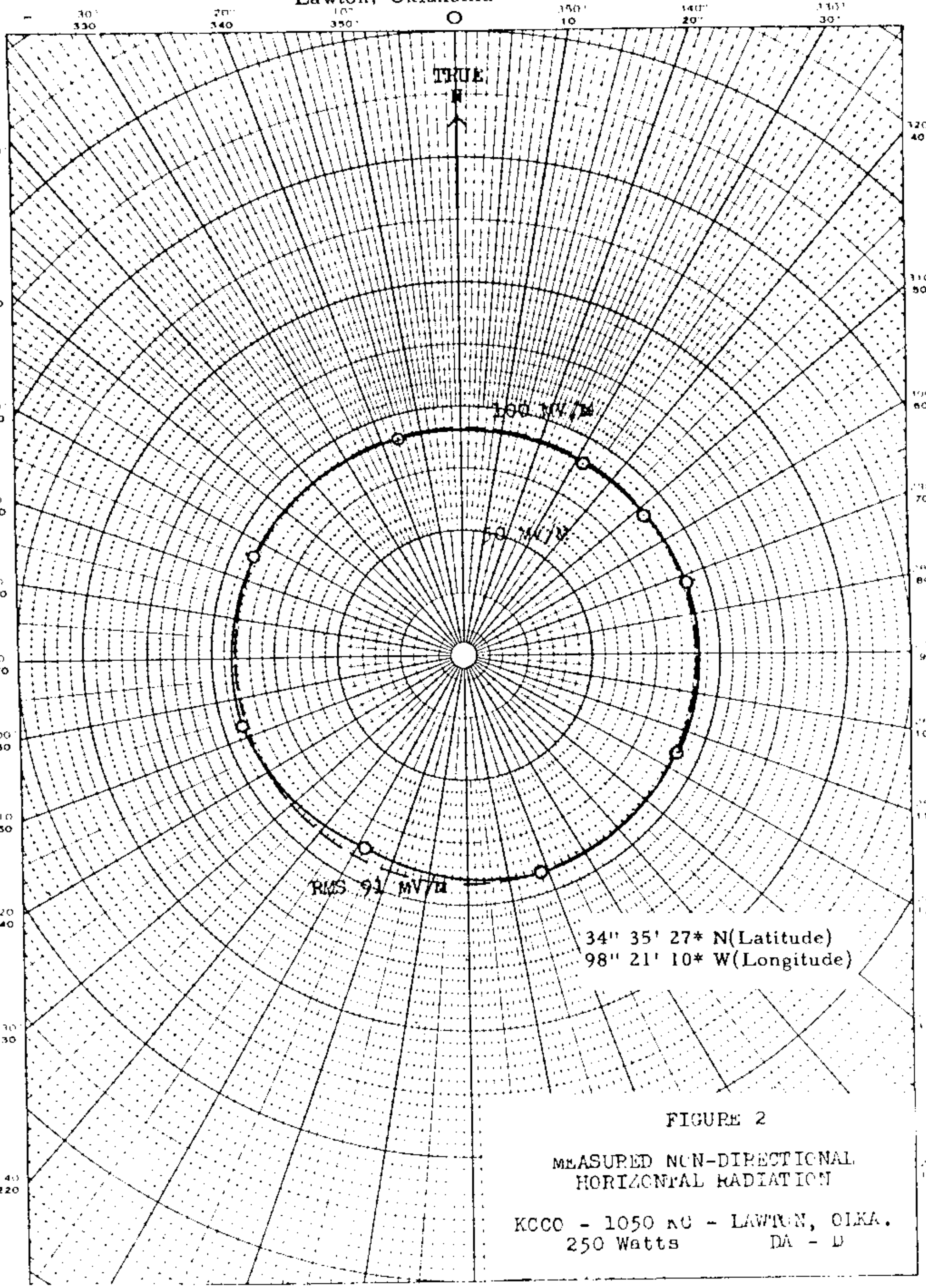
KCCO

MEASURED
NON-DA (9-14-56g)

STATION K C C O
B. O. Lange, Engr.
Lawton, Oklahoma

250 W, DA-D, D

1050 KC



34° 35' 27" N(Latitude)
98° 21' 10" W(Longitude)

FIGURE 2

MEASURED NON-DIRECTIONAL
HORIZONTAL RADIATION

KCCO - 1050 KC - LAWTON, OKLA.
250 Watts DA - D

FCC File
BL-6198(Amended)

Station KCCO
Lawton, Okla.

Accepted 8-13-56

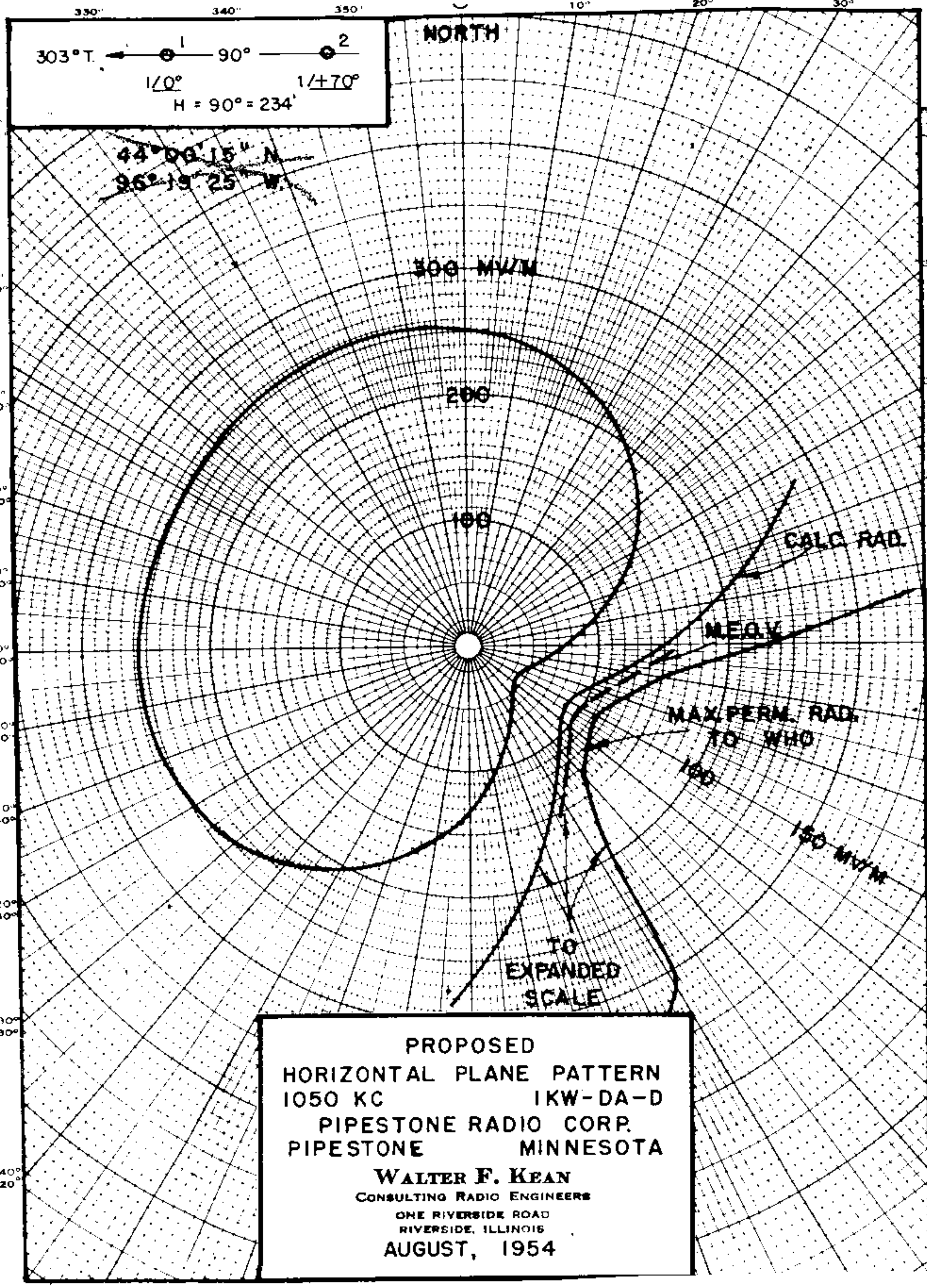
1050 KC

KLOH
1050 KC

PROPOSED DAY
(10/18/54G)

PIPESTONE RADIO CORP.
PIPESTONE, MINNESOTA

1 KW
DA-D, D



File No. BP-9493 Accepted 10/11/54 PIPESTONE RADIO CORP. Pipestone, ~~Maryland~~ 1050 KC

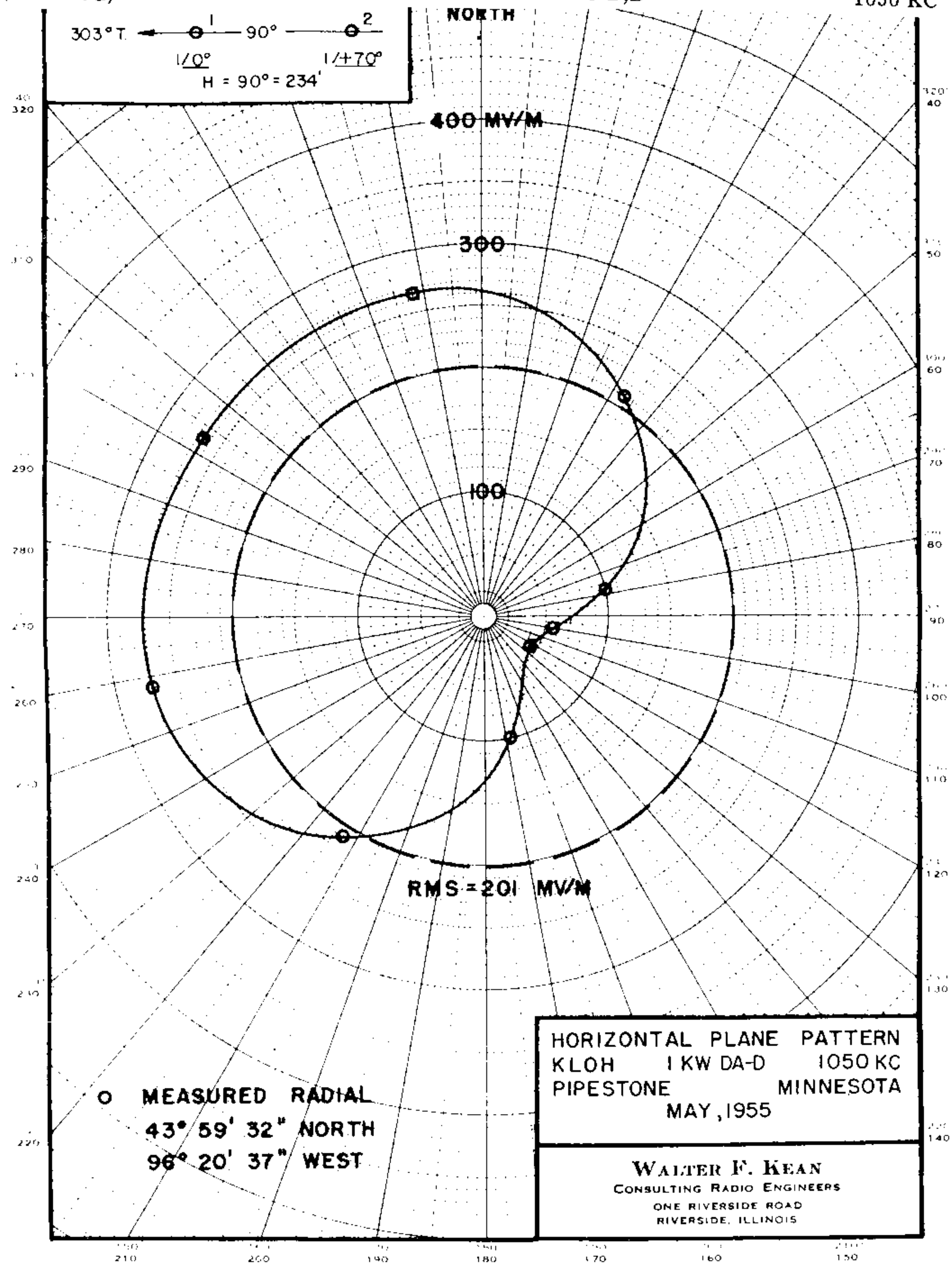
KLOH

MEASURED
DAY (7-18-55G)

KLOH, PIPESTONE
MINNESOTA

1 KW
DA-D,D

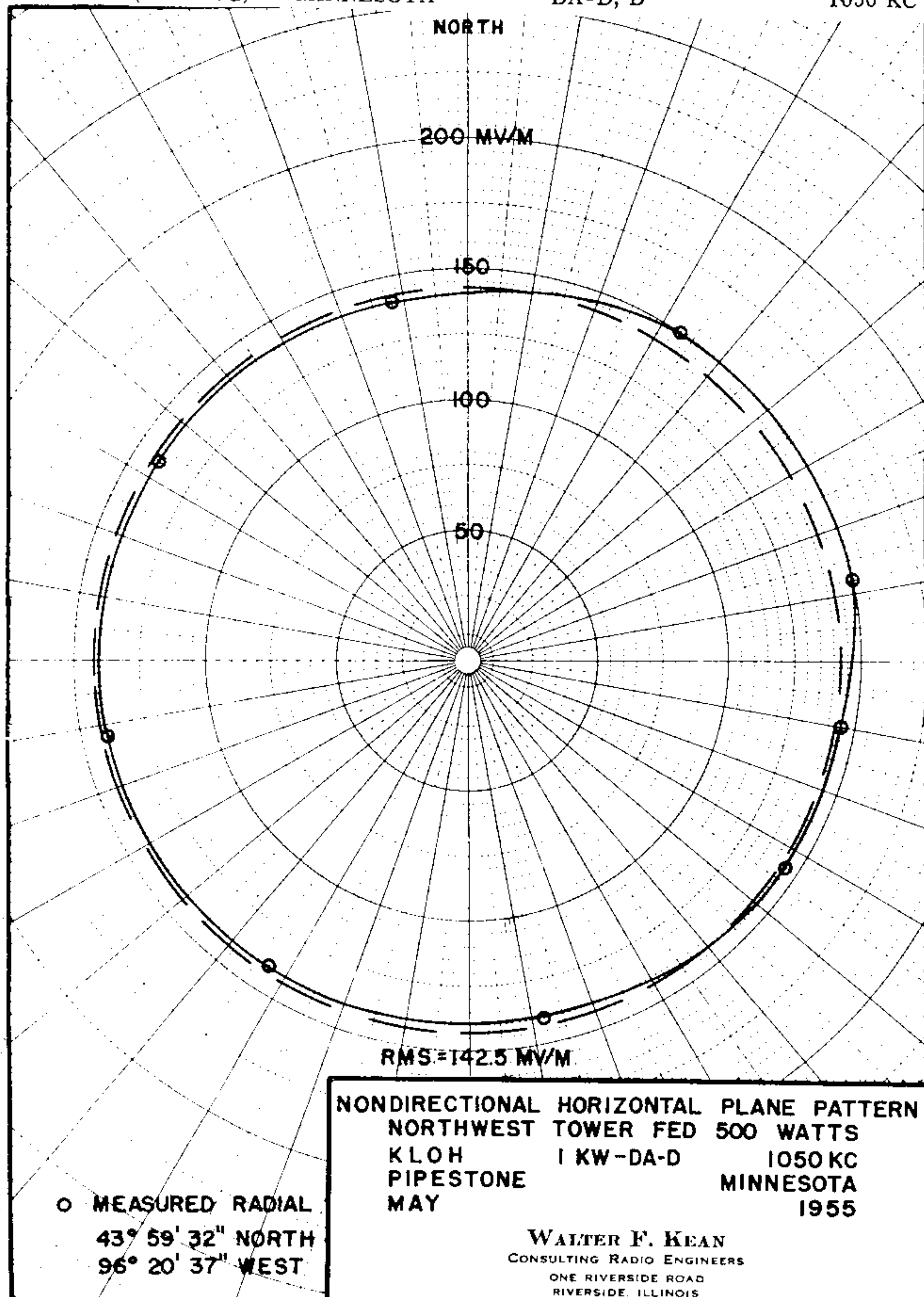
1050 KC



File BL-5760 Accepted 6-30-55 FCC KLOH, Pipestone, Minn. 1050 KC

KLOH

MEASURED NON-DIRECTIONAL (7-18-55G) KLOH, PIPESTONE MINNESOTA 1 KW DA-D, D 1050 KC



NONDIRECTIONAL HORIZONTAL PLANE PATTERN
NORTHWEST TOWER FED 500 WATTS
KLOH 1 KW-DA-D 1050 KC
PIPESTONE MINNESOTA
MAY 1955

o MEASURED RADIAL

43° 59' 32" NORTH
96° 20' 37" WEST

WALTER F. KEAN
CONSULTING RADIO ENGINEERS
ONE RIVERSIDE ROAD
RIVERSIDE, ILLINOIS

File BL-5760 Accepted 6-30-55 FCC KLOH, Pipestone, Minn. 1050 KC

Liberty, Texas KPXE

KPXE

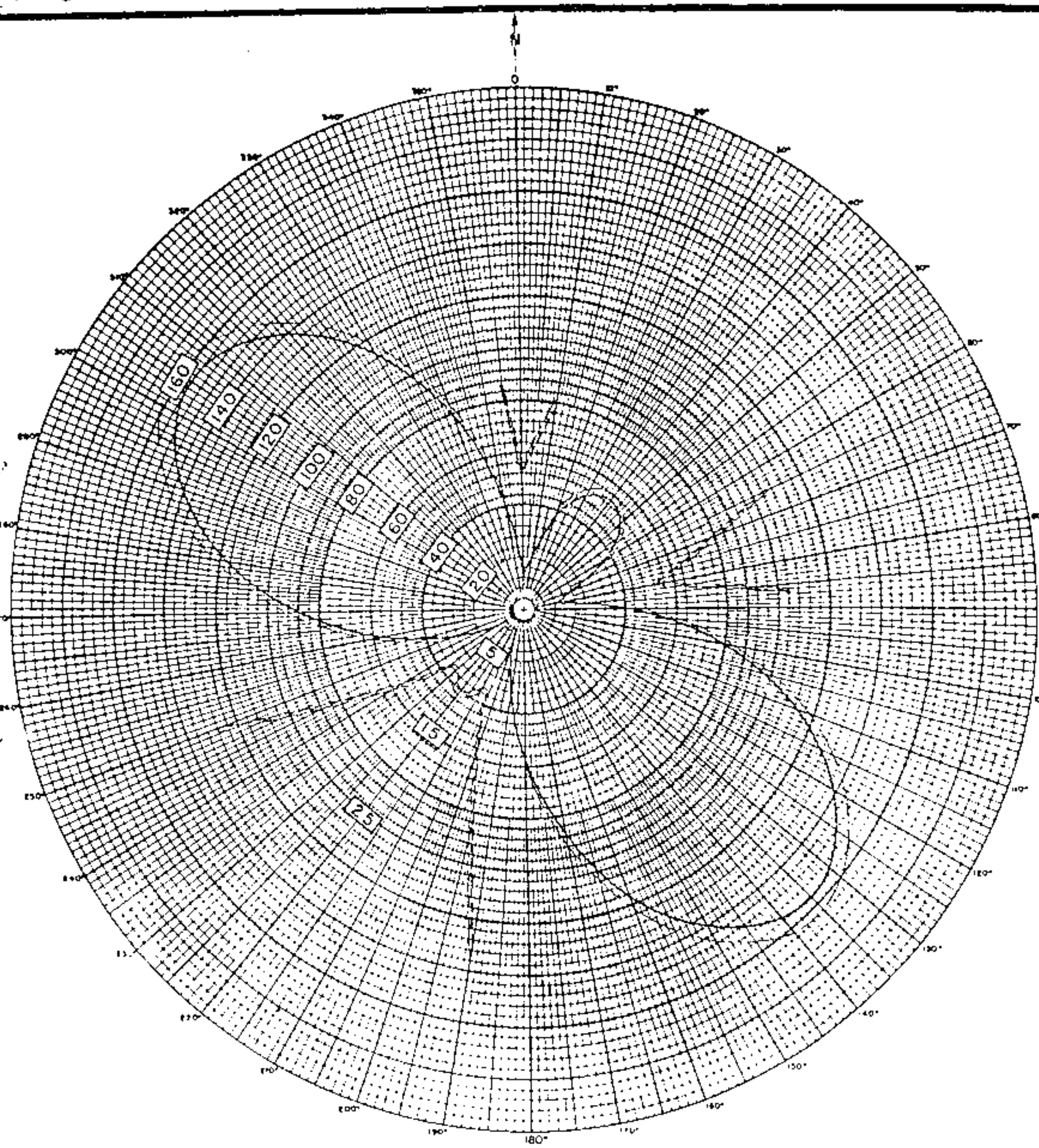
PROPOSED DAY
(8/19/57g)

Liberty B/Ctng. Co.
Liberty, Texas

250w, DA-D,D
1050 KC

3-30-60
Granted L
APPL. 3-11-66
CHG. LOC (N.D.)
BP-17090
DISMISSED
11-9-66 APPL.
TO CHANGE ANT.
TRANSMITTER LOC.
BP-16890
GRANTED 1-18-67
CP FOR A NEW
AM STAT.

BP-17890
GRANTED CP
10-20-67
FOR A NEW
AM STATION



E_{RMS} = 88.4 MV/M

LATITUDE: ~~30 02 19~~ ~~30° 00' 00"~~ 30° 00' 04"
LONGITUDE: ~~94° 45' 21"~~ ~~94 46 22~~ 94° 45'32"

JOHN H. MULLANEY
Consulting Radio Engineers
Washington, D. C.

ANTENNA PARAMETERS

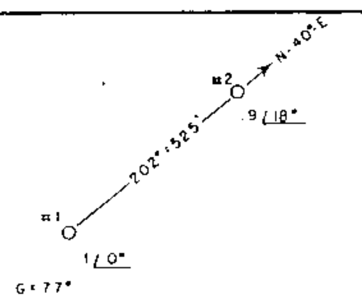


FIGURE 4

DAYTIME HORIZONTAL POLAR PATTERN

LIBERTY B/CING CO.
LIBERTY, TEXAS

1050 KC 250 W-DA-D

FCC File No. BP-9745
Accepted 8/9/57

Liberty B/Cstng. Co.
Liberty, Texas

1050 KC

59-17090

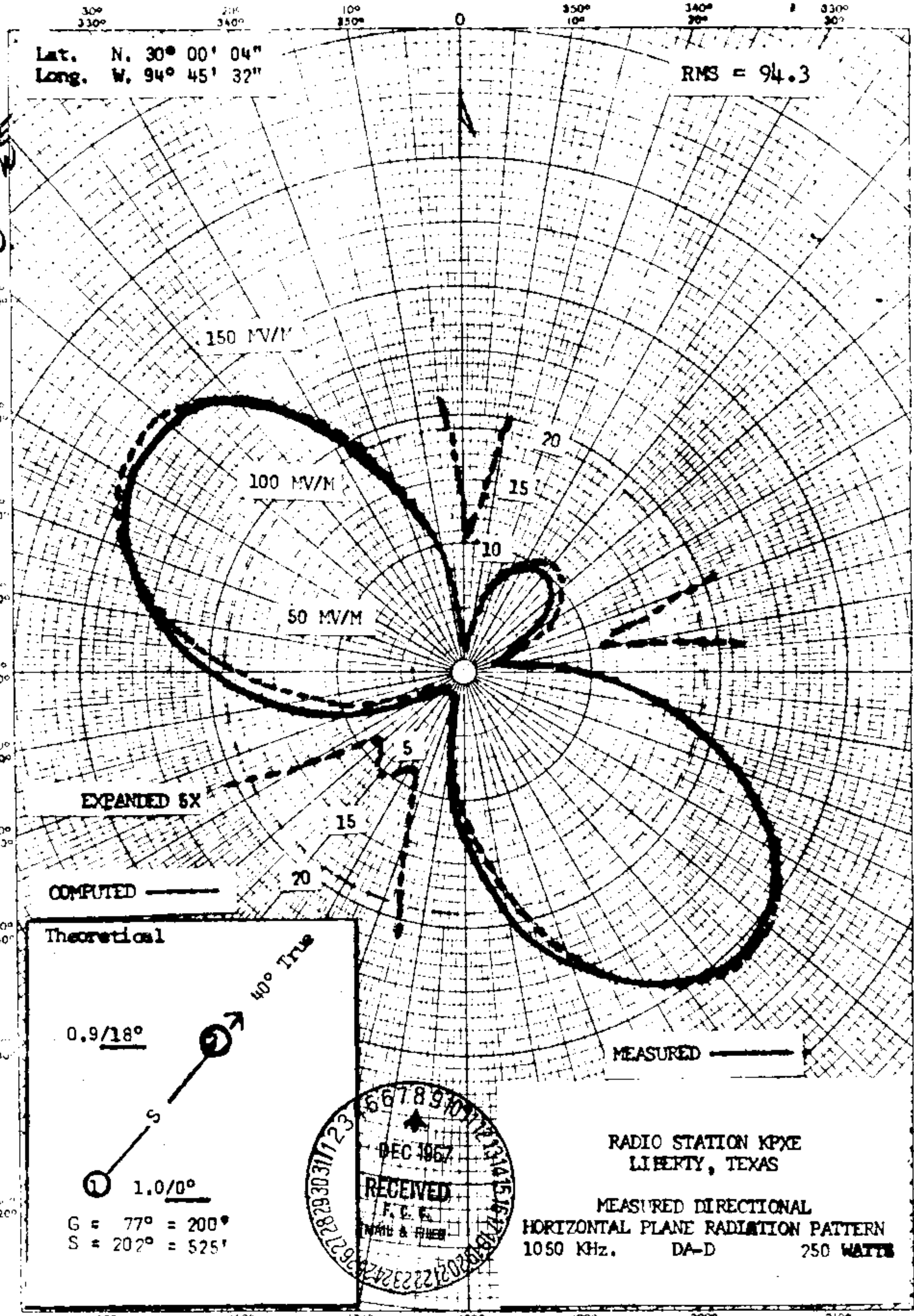
KPXE

Measured Day
(2-28-68ct)

Station KPXE
Liberty, Texas

250w,DA-D,D
1050 kc

BL-11852 GRANTED 8-2-68 LICENSE FOR NEW AM STATION



FCC File No.BL-11852
Accepted 1-26-68

Station KPXE
Liberty, Texas

1050 kc

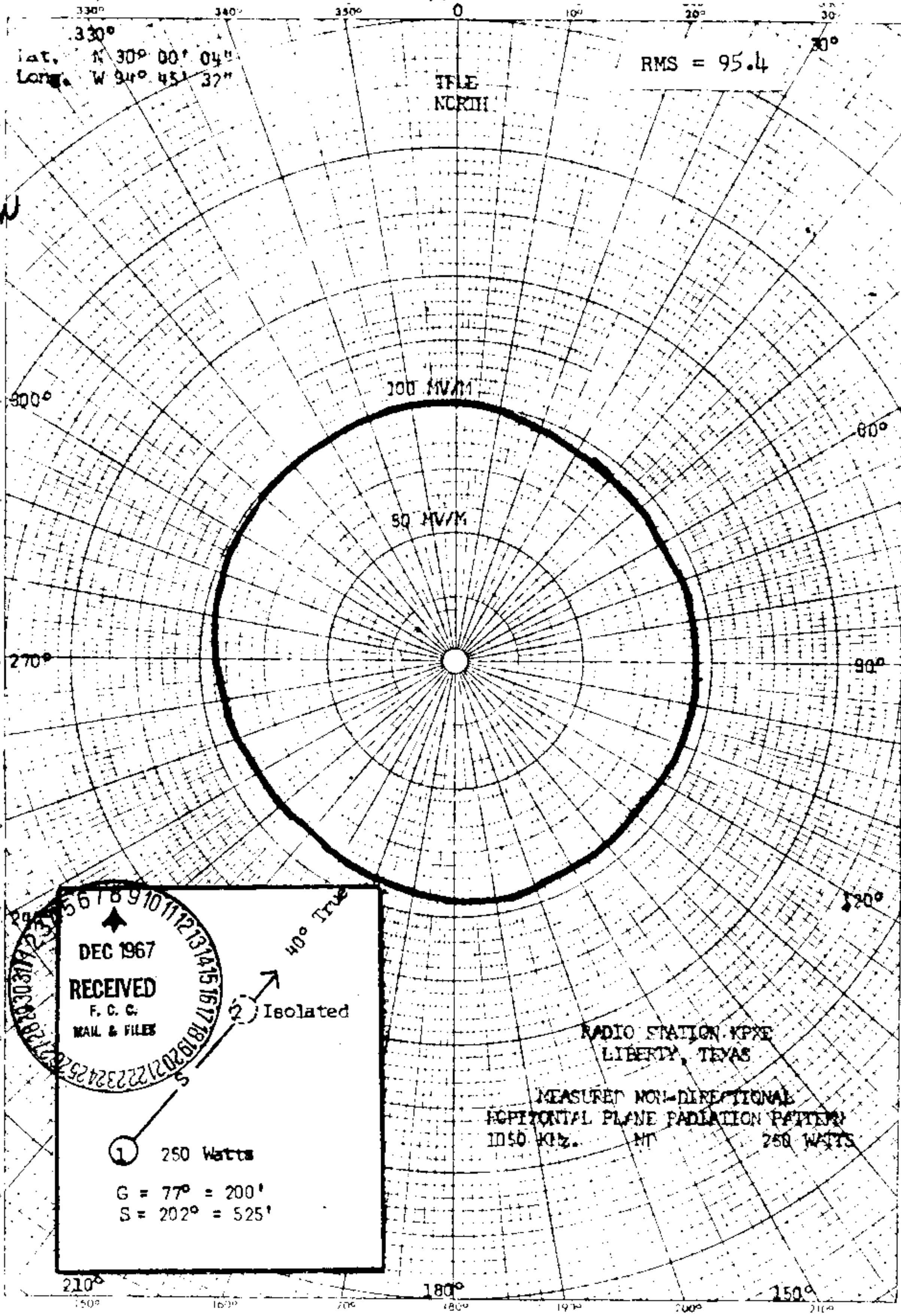
KPXE

Measured Non-DA
(2-28-68ct)

Station KPXE
Liberty, Texas

250w, DA-D,D
1050 kc

BL-11852
GRANTED
(8-2-68)
LICENSE
FOR A NEW
AM STATION



FCC File No. BL-11852
Accepted 1-26-68

Station KPXE
Liberty, Texas

1050 kc

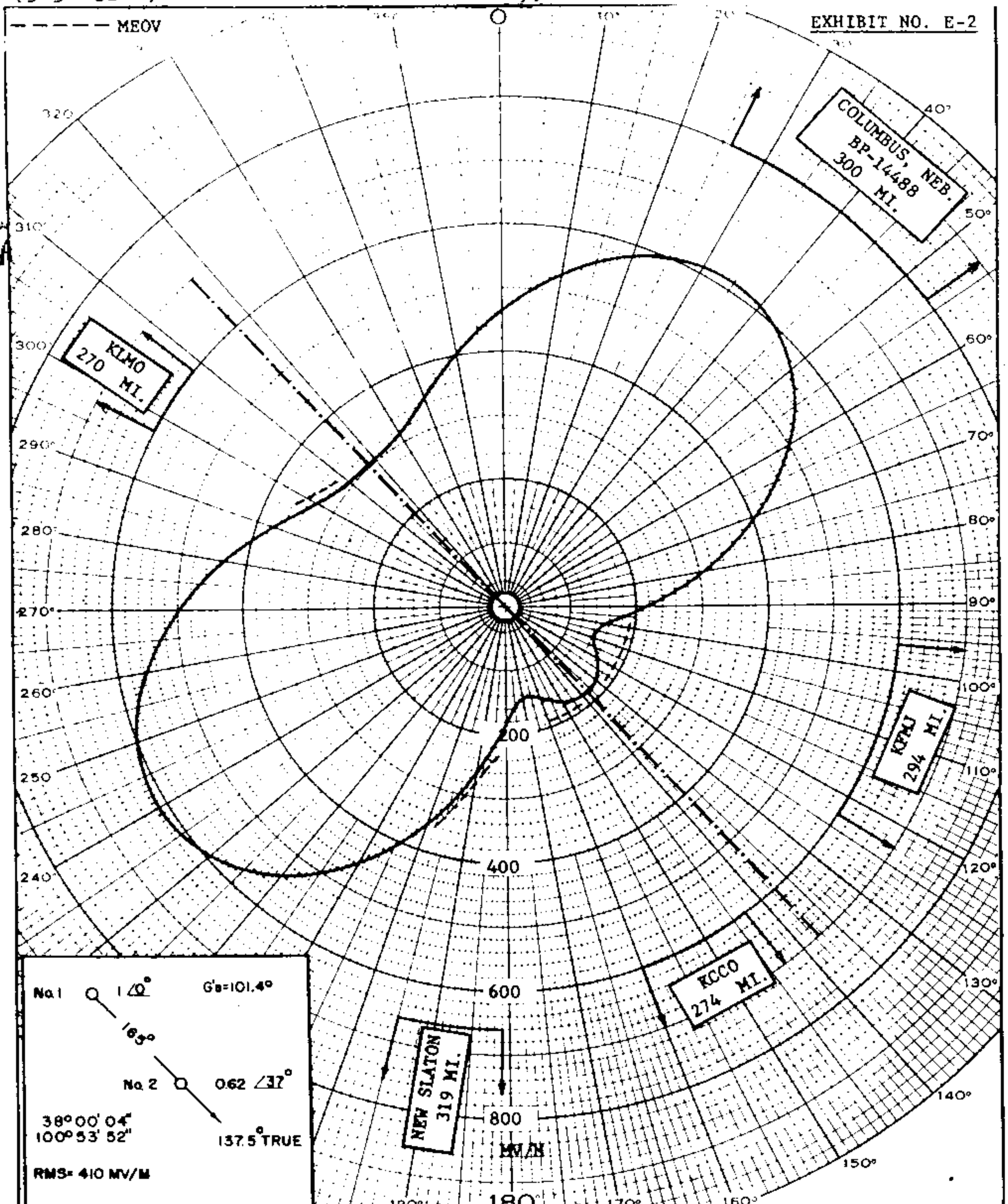
KUPK

Proposed Day
(3-30-62ct)

Station KNCO
Garden City, Kansas

5kw,DA-D,D
1050 kc

1-63
antd CP
increase
pwr to 5kw
& install DA
SEE
ENCLOSED



COMMERCIAL RADIO EQUIPMENT CO. Radio Engineering Consultants AUGUST 1961 WASHINGTON D.C.	PROPOSED KNCO OPERATION GARDEN CITY, KANSAS 1050 KC, 5 KW-D, DA Ark-Valley Broadcasting Co., Inc.

FCC File No.BP-15359
Accepted 3-22-62

Station KNCO
Garden City, Kansas

1050 kc

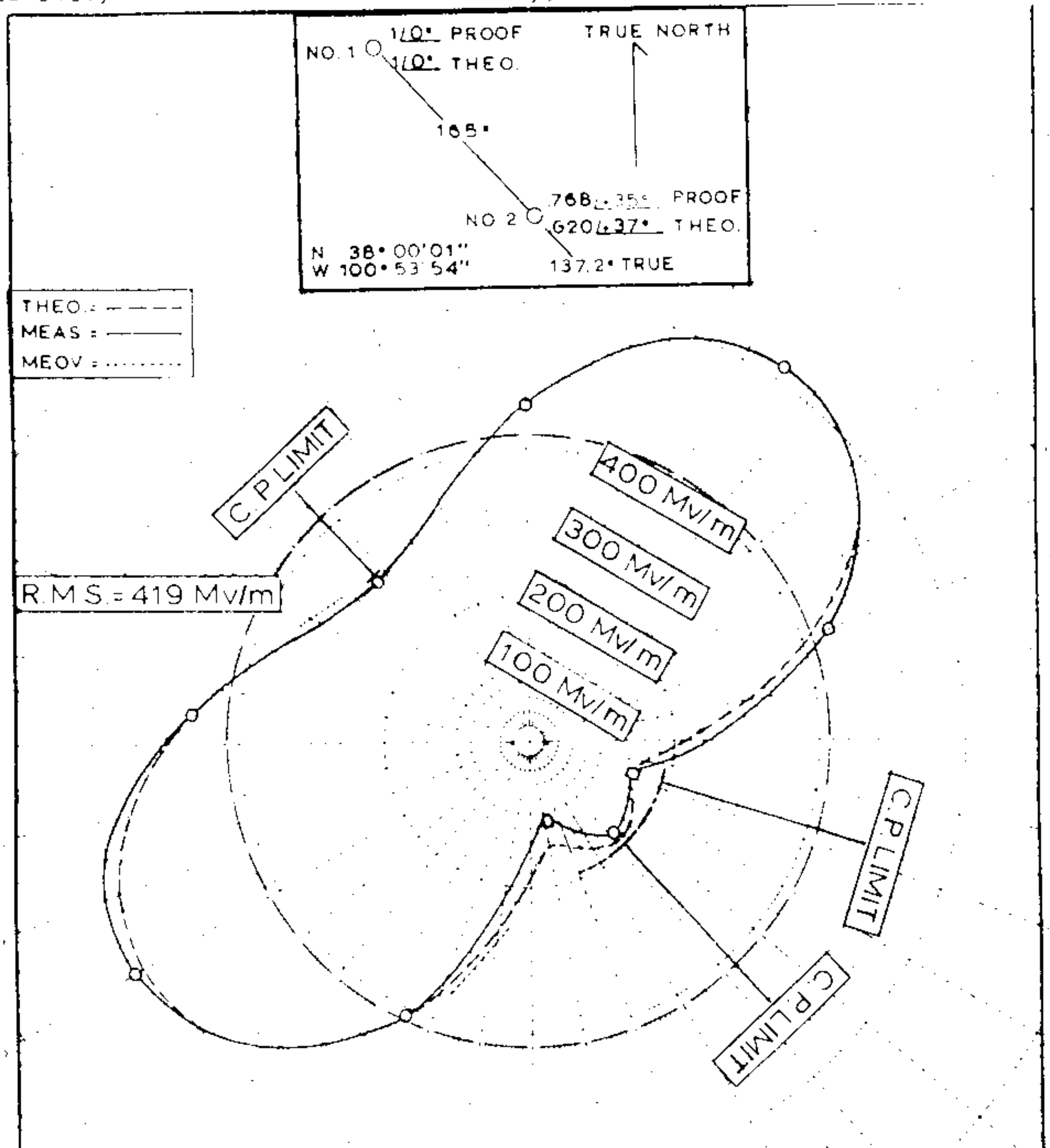
KUPK

Measured Day
(12-22-64ct)

Station KNCO
Garden City, Kansas

5kw,DA-D,D
1050 kc

BL-10681
GRANTED
12-31-64



MEASURED
HORIZONTAL RADIATION PATTERN

K.N.C.O. 1050 KC 5.0 KW/DA/D
GARDEN CITY KANSAS
JUNE 1964

Broadcast Maintenance Service

[illegible] Bowman Route 5 Topeka Kansas 66608
[illegible] 8 1872

FCC File No. BL-10681
Accepted 11-27-64

Station KNCO
Garden City, Kansas

1050 kc

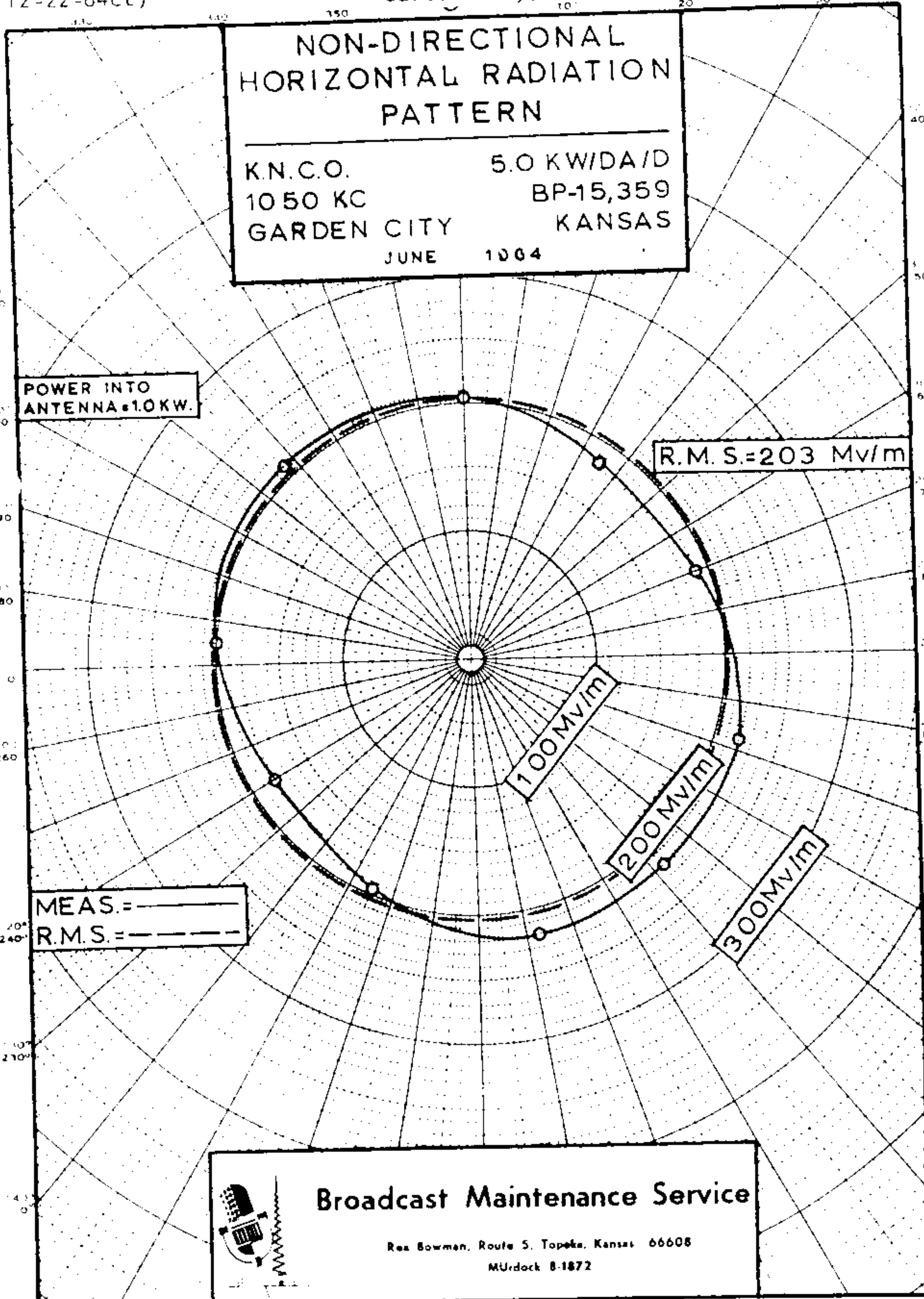
KUPK

Measured Non-DA
(12-22-64ct)

Station KNCO
Garden City, Kansas

1050 kc

BL-10681
GRANTED
12-31-64



FCC File No. BL-10681
Accepted 11-27-64

Station KNCO
Garden City, Kansas

1050 kc

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New)

Main Studio: Conway, South Carolina

Frequency: 1050 kHz

Power: 5 kW

Notification List No. 1678

Date: April 1, 1976

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 33° 50' 56"
West Longitude: 79° 05' 03"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	W(#2)	E(#1)
HEIGHT ABOVE INSULATORS:	180'	180' (69.2°)
PHASING:	+143°	0°
FIELD RATIO:	1.0	0.9

SPACING AND ORIENTATION: Elements are spaced 208.2' (80°) on a line bearing 297° true.

GROUND SYSTEM: 120-234.2' equally spaced copper radials plus a 48' square ground screen about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
426.3 mv/m	575.8 mv/m	447.9 mv/m

Standard Pattern

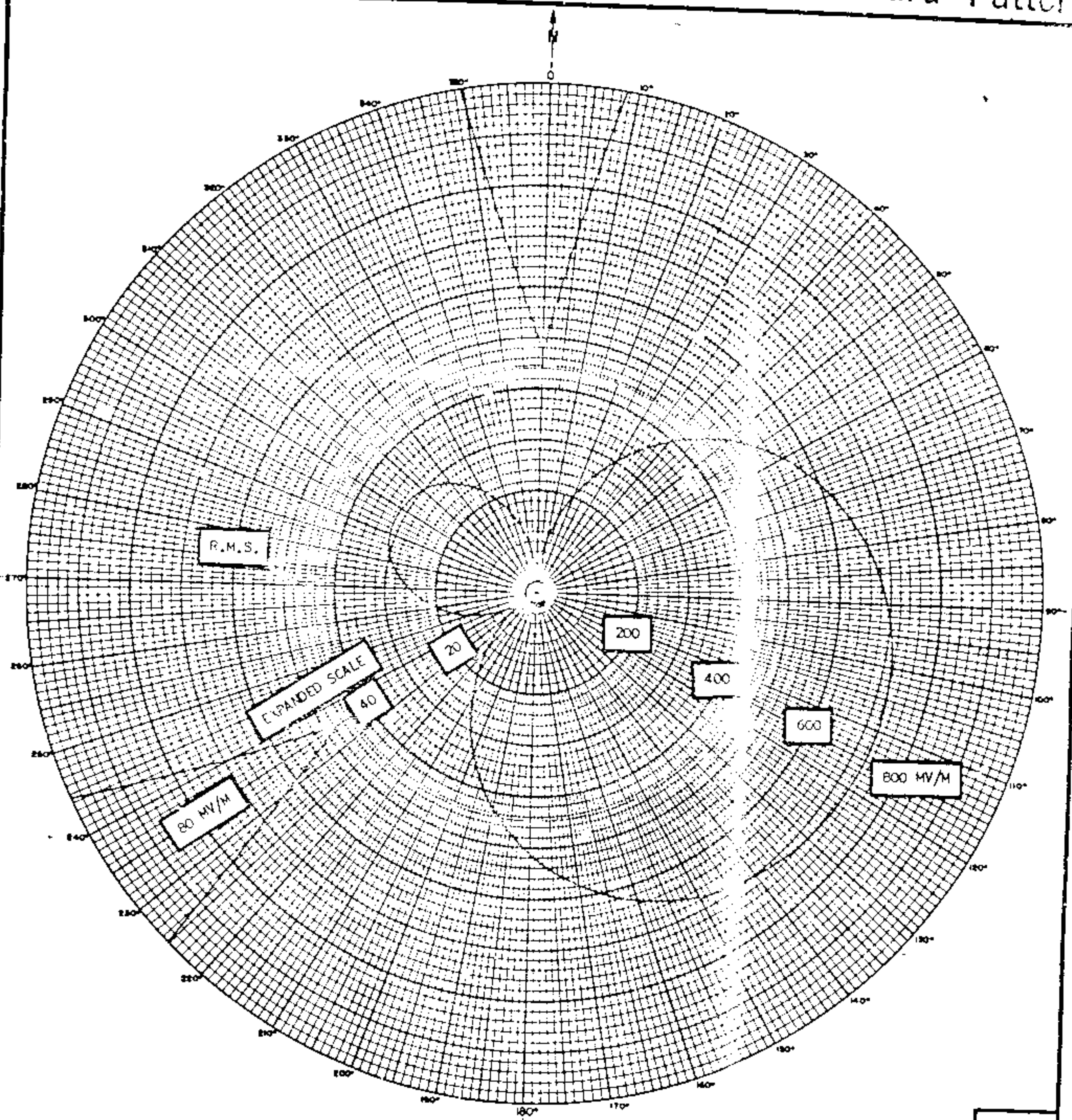
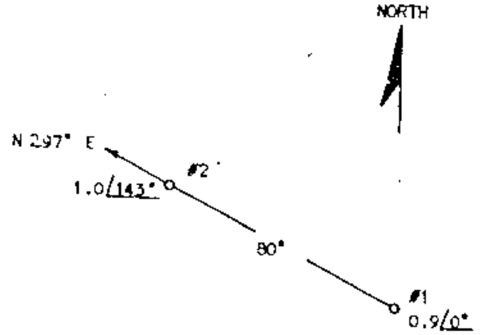


FIGURE 1

HORIZONTAL RADIATION PATTERN

E_{RSS} = 575.825
Q = 14.396



G = 69.2° ALL TOWERS

APPLICANT	KINGSTON BROADCASTING CO., INC
LOCATION	CONWAY, SOUTH CAROLINA
FREQUENCY	1050 KC/S
POWER	5 KW DA-D
LATITUDE	33 DEG 50 MIN 56 SEC
LONGITUDE	79 DEG 05 MIN 03 SEC
HOURS USED	DAYTIME
R.M.S. FIELD	THEO. PATTERN : 426.337 MV/M STANDARD PATTERN : 447.944 MV/M
DATE	JULY 1975

SILLIMAN, MOFFET & KOWALSKI
CONSULTING RADIO ENGINEERS

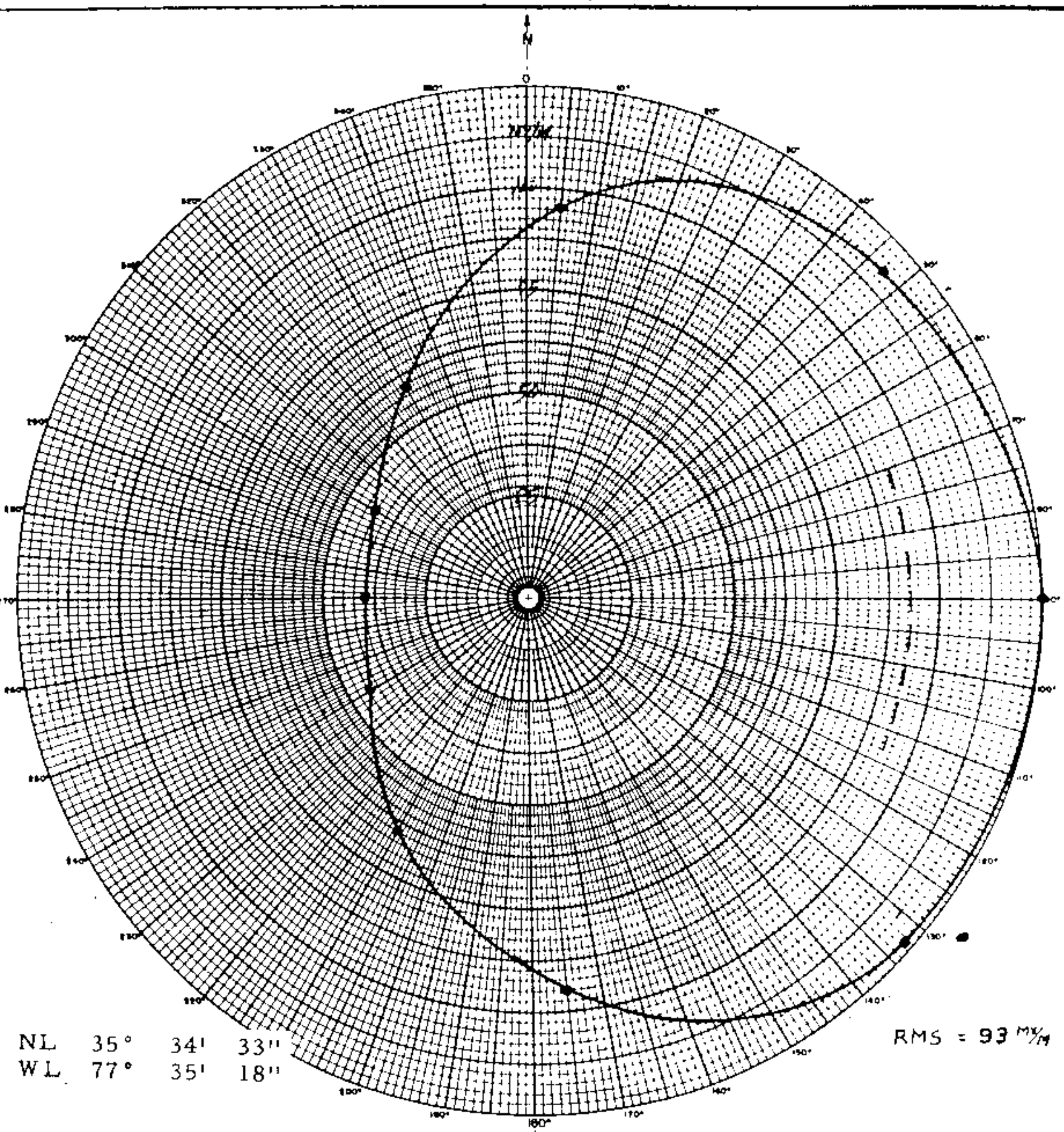
WBTL

MEASURED DAY
(8-8-59g)

Station WBTL
Farmville, North Carolina

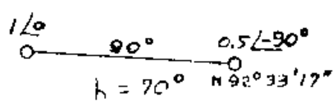
250w, DA-D, D
1050 KC

Station license
for station
9-4-59



NL 35° 34' 33"
WL 77° 35' 18"

EXHIBIT 50
MEASURED HORIZONTAL RADIATION PATTERN DIRECTIONAL
ATLANTIC BROADCASTING CORPORATION
1050 KC. 250 W. DA-DAY FARMVILLE, N.C.



WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 6, D. C.

PATTERN NO
SUPERSEDES
APP.

FCC File No. BL-7558
Accepted 7-17-59

WBTL
Farmville, North Carolina

1050 KC

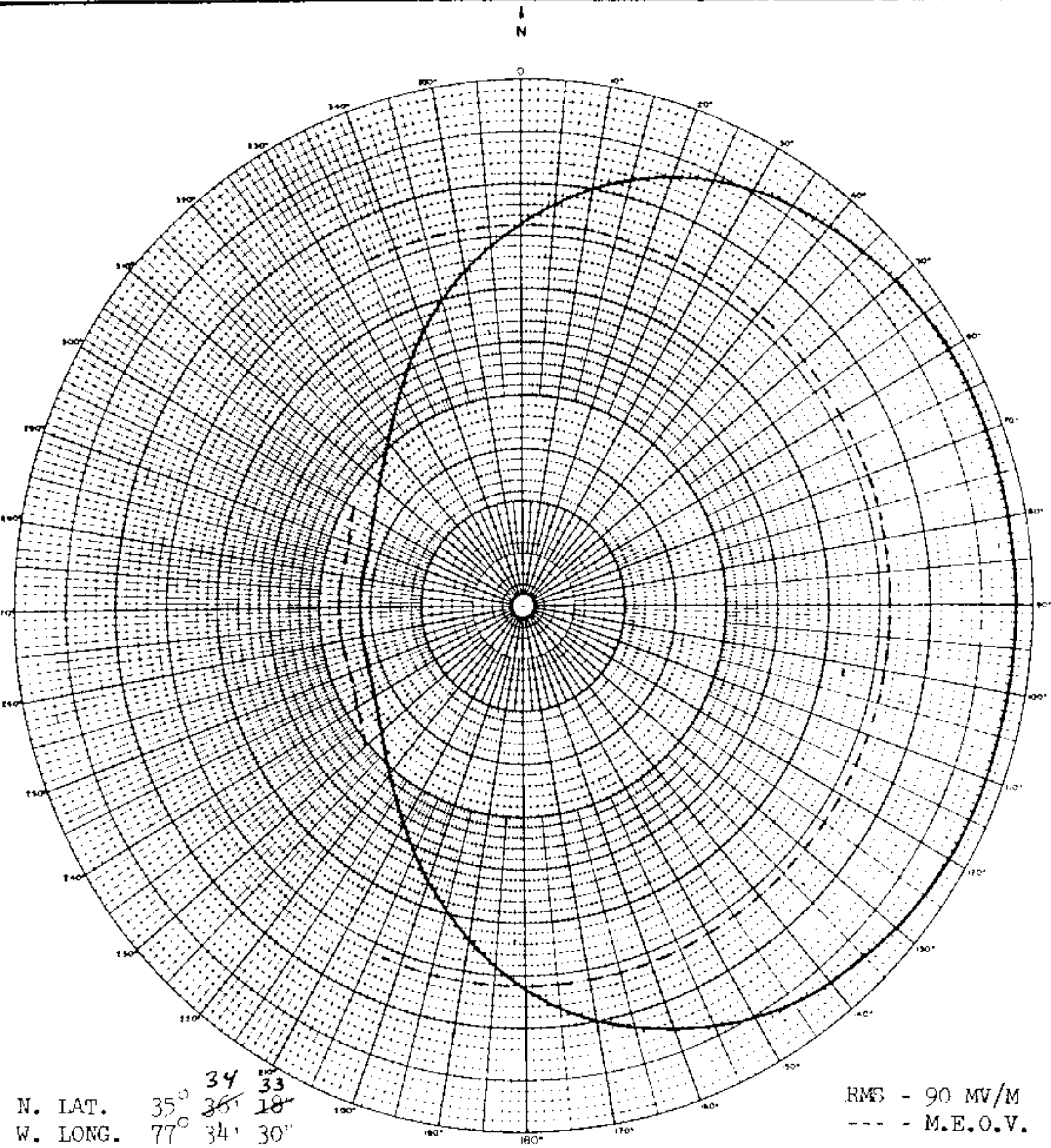
Farmville, N.C. WEIL

PROPOSED DAY
(3-12-58g)

New; Atlantic Bcstng. Co. 250w, DA-D,D
Farmville, North Carolina 1050 KC

Granted CP 5/7/58) for new station

Granted mod. of CP (2/6/59) to change antenna-tower location



N. LAT. 35° ~~36'~~ 34' ~~18"~~ 33"
W. LONG. 77° 34' 30"

RMS - 90 MV/M
--- - M.E.O.V.

EXHIBIT III
HORIZONTAL RADIATION PATTERN
ATLANTIC BROADCASTING CORPORATION
1050 KC. 250 W. DA-DAY FARMVILLE, N.C.

1∠0° - - - - 20° - - - - 0.5∠-90° - - N90°E
h - 70°

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 5, D. C.
927 15th Street, N.W. RE 3663

PATTERN NO
SUPERSEDES
APP

FCC File No. BP-11,264
Accepted 3-4-58

Atlantic Broadcasting Co.
Farmville, North Carolina 1050 KC

WB L

PROPOSED DAY
(7-8-59g)

Station WBTL 250w, DA-D, D
Farmville, North Carolina 1050 KC

7-8-59
MCPG
to make changes in
antenna system

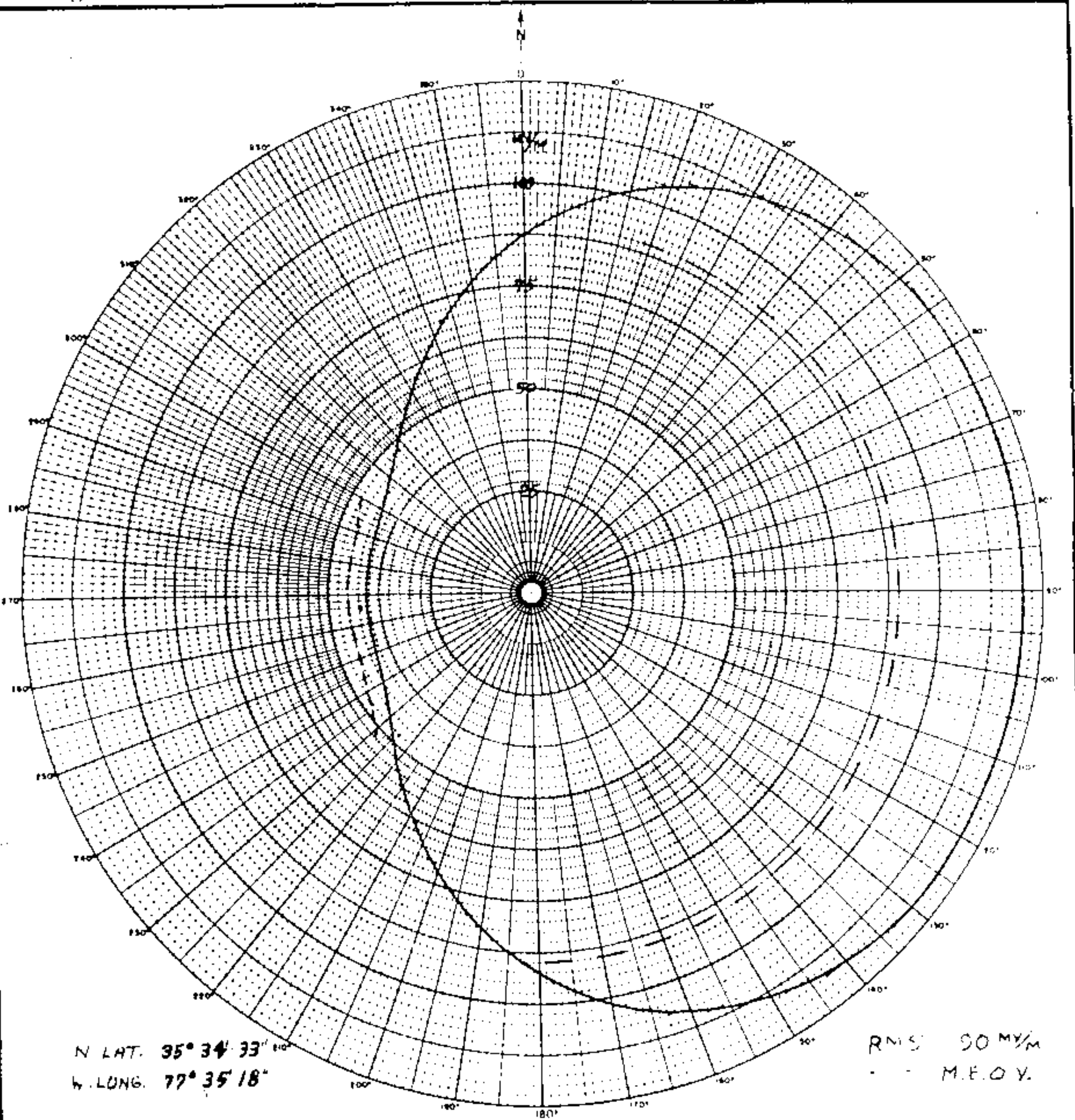
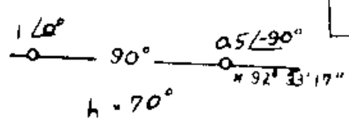


EXHIBIT IIIA
HORIZONTAL RADIATION PATTERN
ATLANTIC BROADCASTING CORPORATION
1050 KC, 250 W, DA-DAY FARMVILLE, N.C.



WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 6, D. C.
927 15th Street, N.W. RE 3063

PATTERN NO
SUPERSEDES
APP

FCC File No. BMP-8605
Accepted 6-30-59

WBTL
Farmville, North Carolina

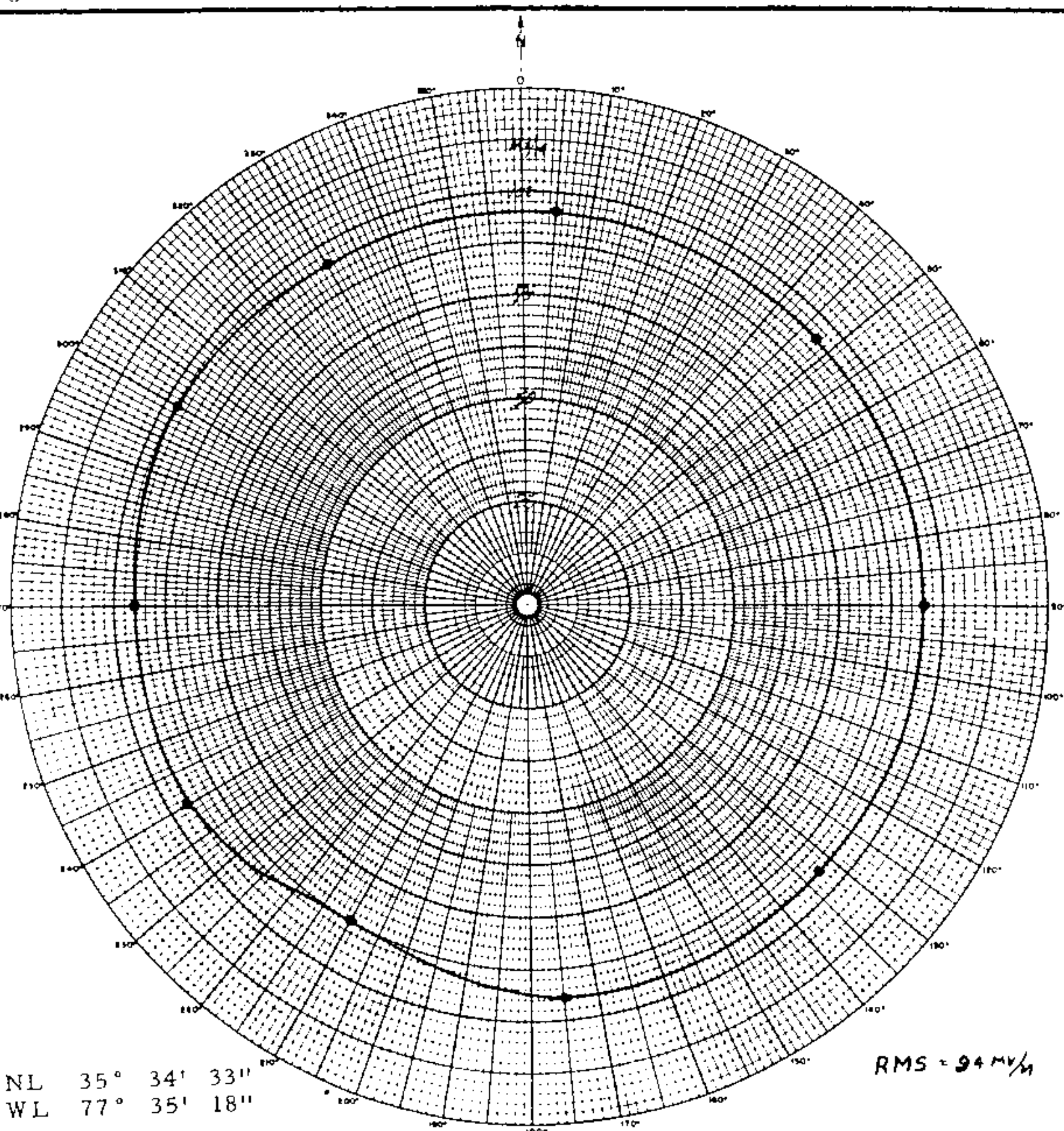
1050 KC

WCTL

MEASURED NON-DA
(8-8-59g)

Station WBTL
Farmville, North Carolina

250w, DA-D, D
1050 KC



NL 35° 34' 33"
WL 77° 35' 18"

granted license
for station
9-9-59

EXHIBIT 5B
MEASURED HORIZONTAL RADIATION PATTERN NON-DIRECTIONAL
ATLANTIC BROADCASTING CORPORATION
1050 KC. 250 W. DA-DAY FARMVILLE, N.C.

WILLIAM L. FOSS, INC.
Electronic Consultants
WASHINGTON 6, D. C.

PATTERN NO
SUPERSEDES
APP

FCC File No. BL-7558
Accepted 7-17-59

WBTL
Farmville, North Carolina

1050 KC

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WCMG

Main Studio: Jacksonville, Florida

Frequency: 1050 kHz

Power: 5kw

Notification List No. 1762

Date: December 21, 1977

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 30° 21' 14"
West Longitude: 81° 44' 21"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Uniform cross-section, guyed, vertical steel towers. Tower #1 is folded unipole, Tower #2 is series fed.

TOWER:	S (#1)	N (#2)
HEIGHT ABOVE INSULATORS:	379.8' (145.98°)	225.9' (86,82°)
PHASING	0°	123.11°
FIELD RATIO:	1	0.65

SPACING AND ORIENTATION: Towers are spaced 150.32' (57.77°) on a line bearing 335° true.

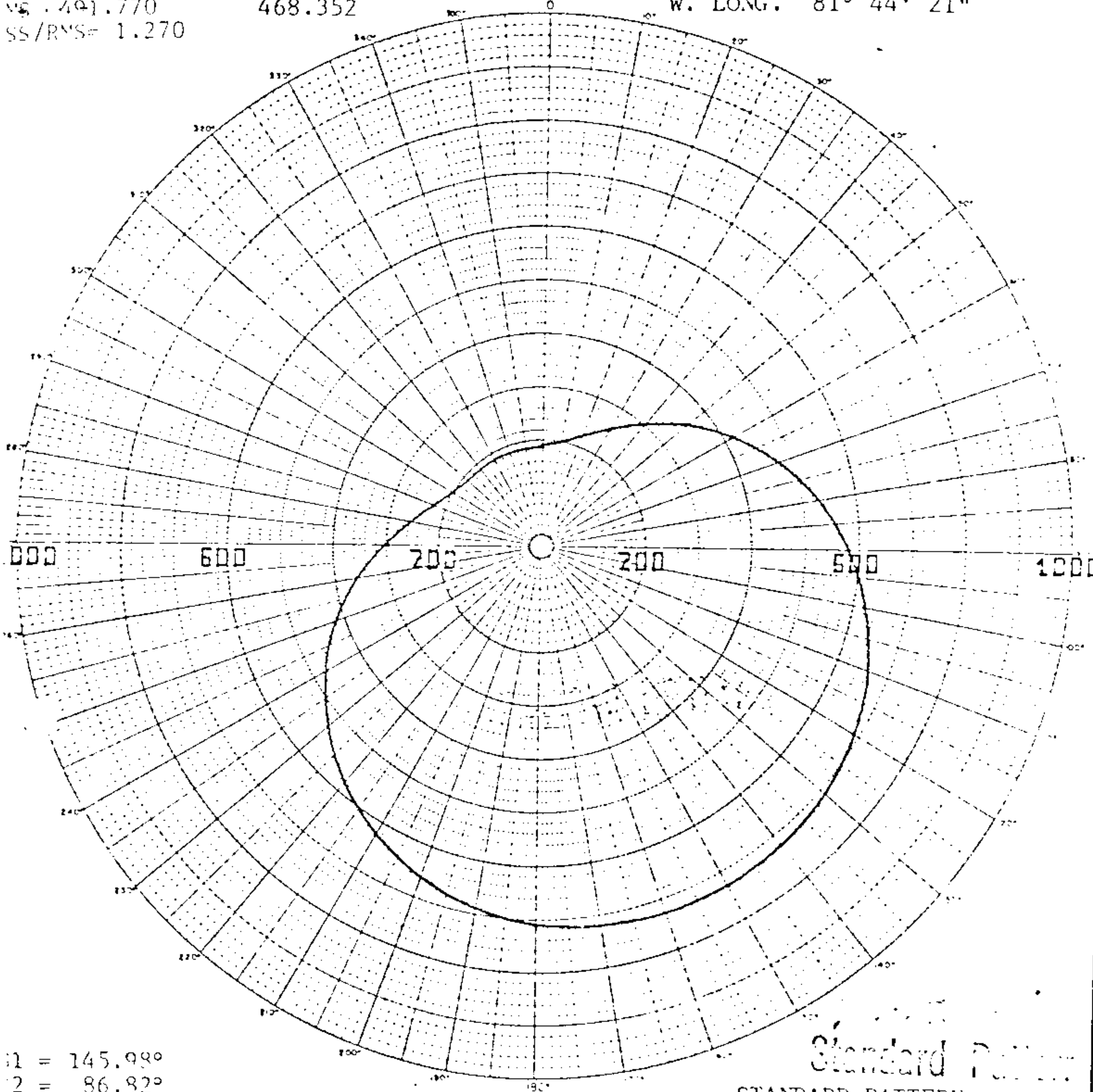
GROUND SYSTEM: 120 - 225' to 380' equally spaced copper radials about each tower plus a 24' square ground screen at the base of tower #2. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

THEORETICAL		STANDARD
RMS	RSS	RMS
468.4 mv/m	594.9 mv/m	491.8 mv/m

RSS .624.633 594.889
MS .491.770 468.352
SS/RMS= 1.270

N. LAT. 30° 21' 14"
W. LONG. 81° 44' 21"



1 = 145.98°
2 = 86.82°

Standard Pattern

STANDARD PATTERN

TOWER NUMBER	ORIENTATION DEGREES	SPACING DEGREES	SPACING FEET	FIELD RATIO	PHASING DEGREES	HEIGHT DEGREES
1	0.000	0.000	0.000	1.000	0.000	145.9[illegible]
2	335.000	57.770	150.320	0.650	123.110	86.8[illegible]

J[illegible]N H. MULLANEY

CONSULTING RADIO ENGINEER

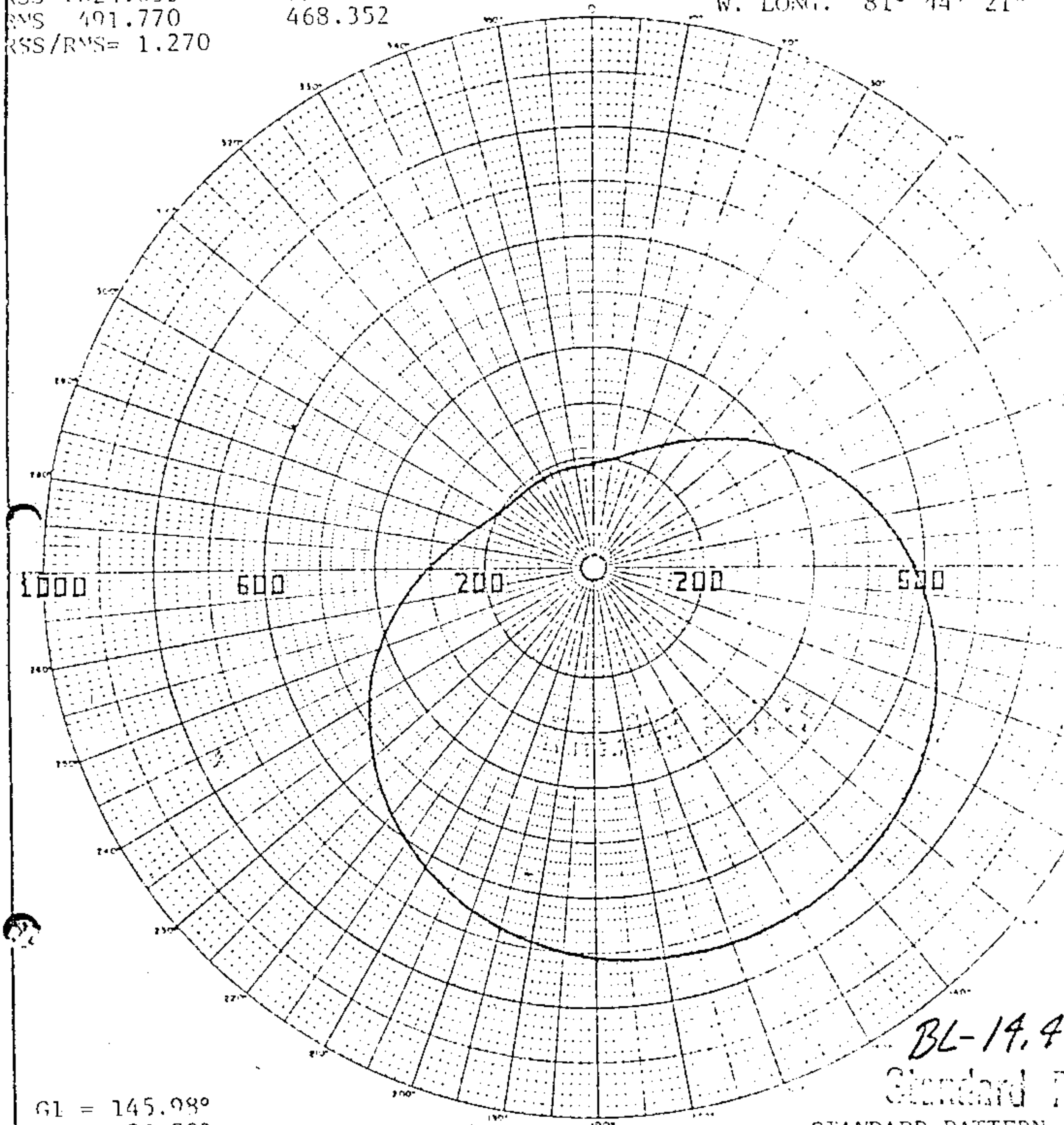
RADIO STATION WCMG
JACKSONVILLE, FLORIDA
1050 KHz 5 KW DA-D

FIGURE 3

WCMG

STANDARD	THEORETICAL
RSS .624.633	594.889
RMS 491.770	468.352
RSS/RMS= 1.270	

PROPOSED COORDINATES:
N. LAT. 30° 21' 14"
W. LONG. 81° 44' 21"



BL-14,465

Standard P

G1 = 145.98°
G2 = 86.82°

STANDARD PATTERN

TOWER NUMBER	ORIENTATION DEGREES	SPACING DEGREES	SPACING FEET	FIELD RATIO	PHASING DEGREES	HEIGHT DEGREES
1	0.000	0.000	0.000	1.000	0.000	145.8??
2	335.000	57.770 ✓	150.380	0.650	123.110	86.820

JOHN H. MULLANEY
CONSULTING
RADIO ENGINEER

RADIO STATION WCMG
JACKSONVILLE, FLORIDA
1050 KHz 5 KW DA-D

FIGURE 3

WCMS

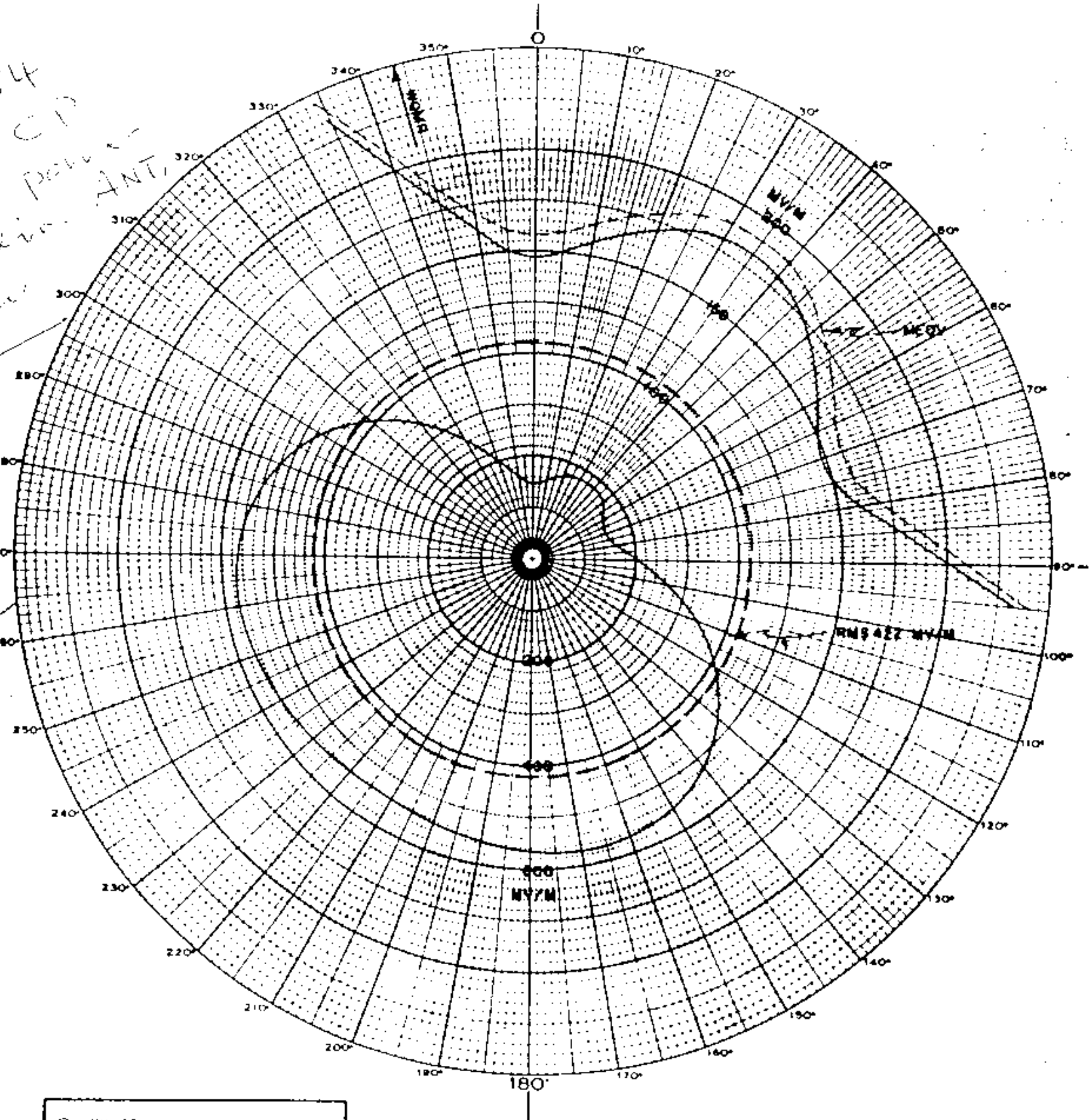
Proposed Day
(7-28-66ct)

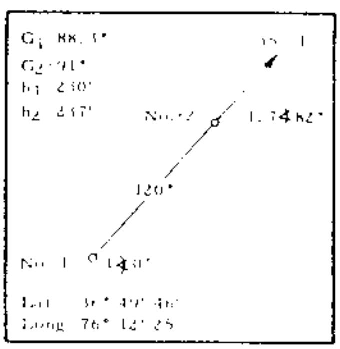
Station WCMS
Norfolk, Virginia

5kw,DA-D,D
1050 kc

1-1-67
BP-16954
GRANTED CP
to increase power
& install dir. ANT.
system

BP-17930
11-24-67
GRANTED CP
TO REPLACE EXPIRED PERMIT
(BP-16954)





WILLIS C. BEECHER
CONSULTING ENGINEER
WASHINGTON, D. C.

Figure 6
Calculated Horizontal Plane Pattern
WCMS Radio Norfolk Incorporated
Norfolk, Virginia
1050Kc 5Kw DA-D, D
August 1965

FCC File No. BP-16954
Accepted 7-25-66

Station WCMS
Norfolk, Virginia

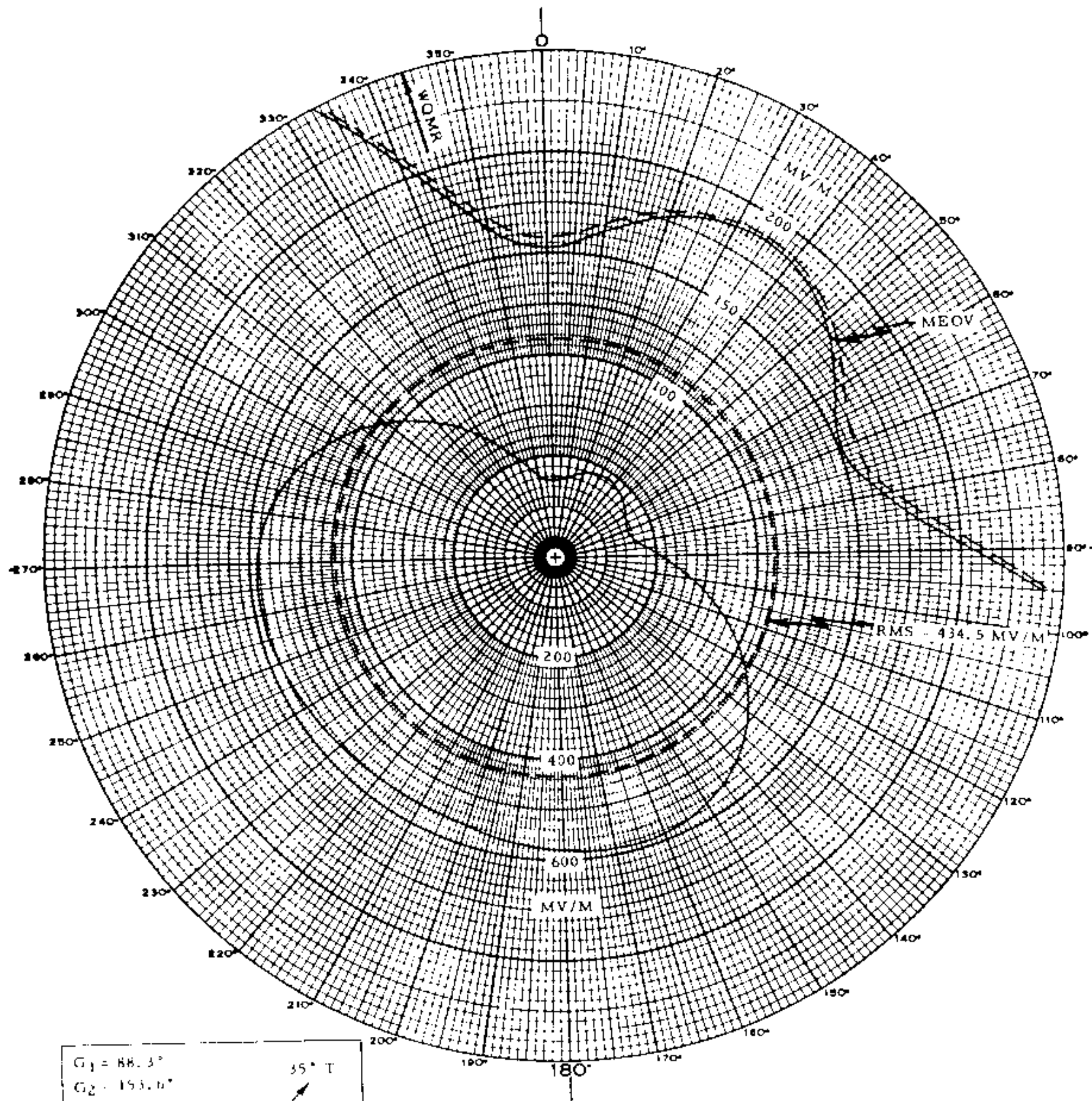
1050 kc

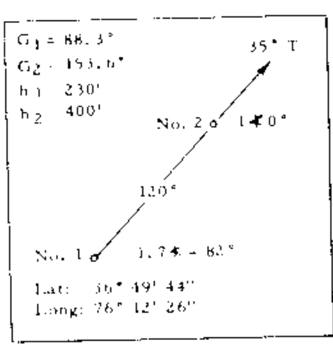
WCMS

Proposed Day
(5-27-69ct)

Station WCMS
Norfolk, Virginia

5kw,DA-D,D
1050 kc





WILLIS C. BEECHER
CONSULTING ENGINEER
WASHINGTON, D. C.

Figure 6
Calculated Horizontal Plane Pattern
WCMS Radio Norfolk, Incorporated
WCMS, Norfolk, Virginia
1050Kc 5Kw DA-D, D
November 1968

FCC File No.BP-18561
Accepted 5-15-69

Station WCMS
Norfolk, Virginia

1050 kc

WCMS

Measured Day
(5-28-68ct)

Station WCMS
Norfolk, Virginia

5kw, DA-D, D
1050 kc

GRANTED LICENSE 7-18-68

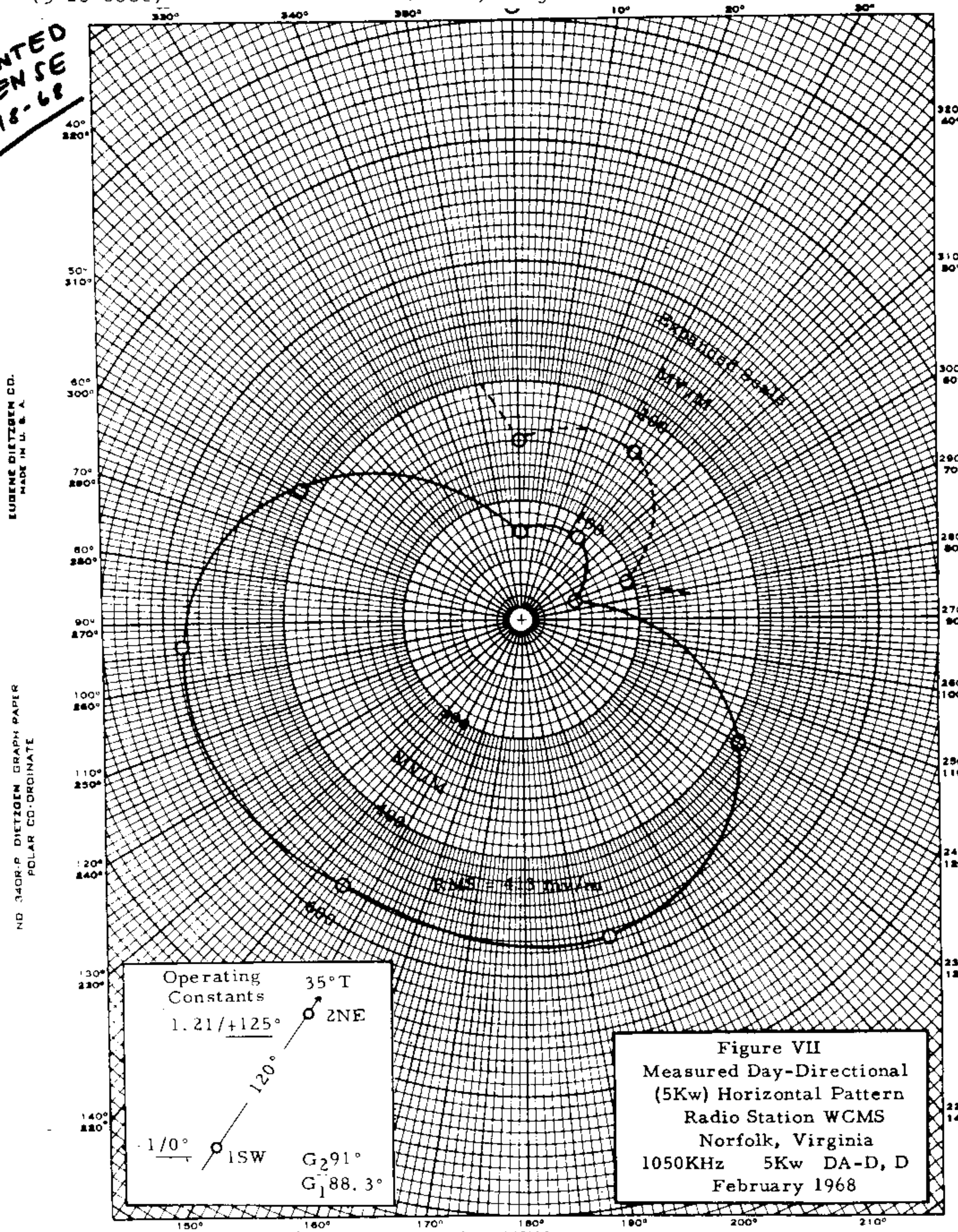


Figure VII
Measured Day-Directional
(5Kw) Horizontal Pattern
Radio Station WCMS
Norfolk, Virginia
1050KHz 5Kw DA-D, D
February 1968

FCC File No. BL-11958
Accepted 5-8-68

Station WCMS
Norfolk, Virginia

1050 kc

WCMS

Measured Non-DA
(5-28-68ct)

Station WCMS
Norfolk, Virginia

5kw, DA-D, D
1050 kc

GRANTED
LICENSE
7-18-68

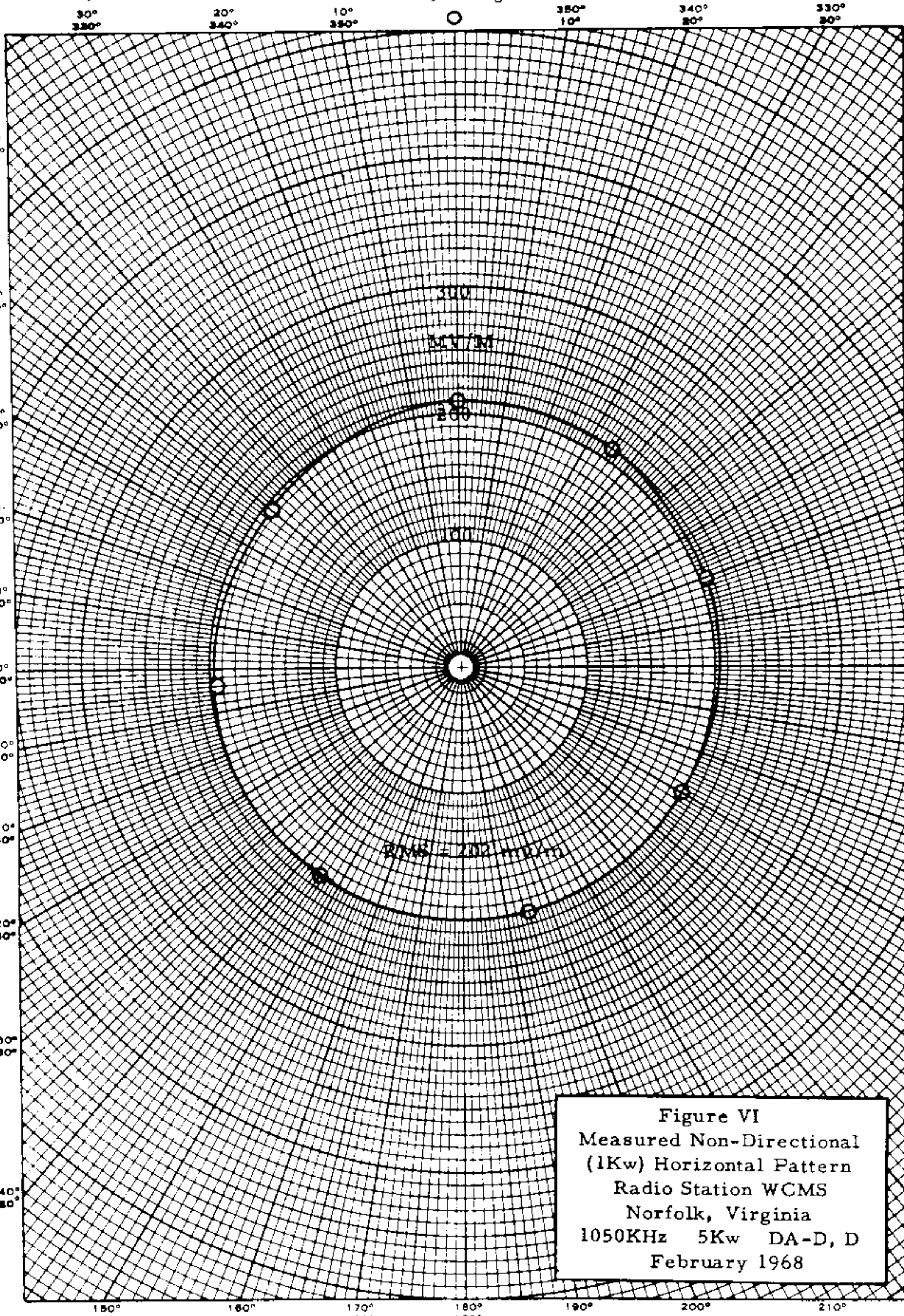


Figure VI
Measured Non-Directional
(1Kw) Horizontal Pattern
Radio Station WCMS
Norfolk, Virginia
1050KHz 5Kw DA-D, D
February 1968

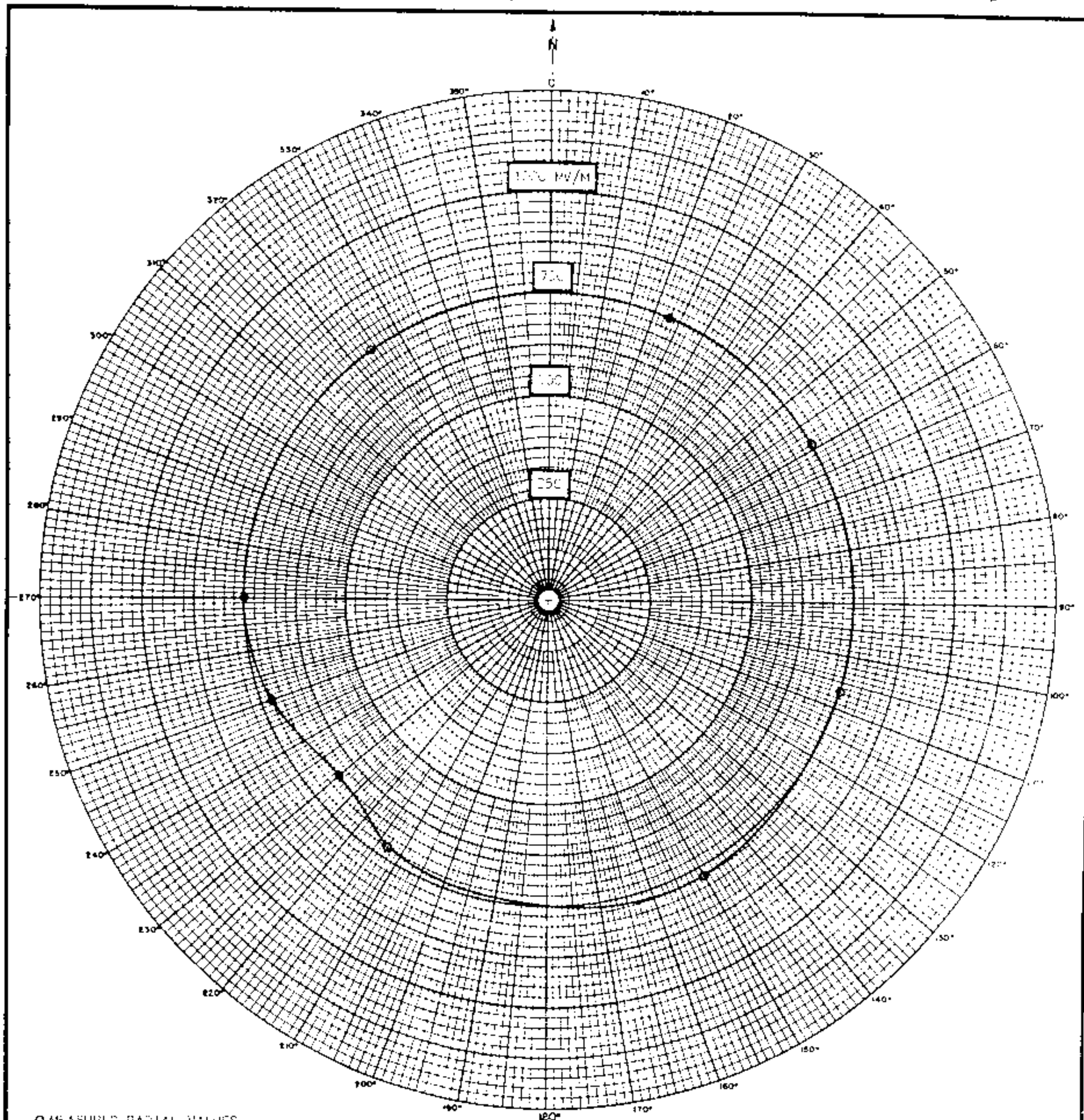
EUGENE DIETZGEN CO.
MADE IN U. S. A.

NO. 340R-P DIETZGEN GRAPH PAPER
POLAR CO-ORDINATE

FCC File No. BL-11958
Accepted 5-8-68

Station WCMS
Norfolk, Virginia

1050 kc



○ MEASURED RADIAL VALUES

FIGURE 1-B

HORIZONTAL RADIATION PATTERN

NON-DIRECTIONAL SURVEY

APPLICANT	WHN
LOCATION	NEW YORK, N. Y.
FREQUENCY	1050 KC/S
POWER	[illegible] KW
LATITUDE	[illegible] DEG [illegible] MIN [illegible] SEC
LONGITUDE	74 DEG [illegible] MIN [illegible] SEC
WHEN USED	NON-DIRECTIONAL SURVEY [illegible]
R.M.S. FIELD	74[illegible] MV/M (MEASURED)
DATE	[illegible]

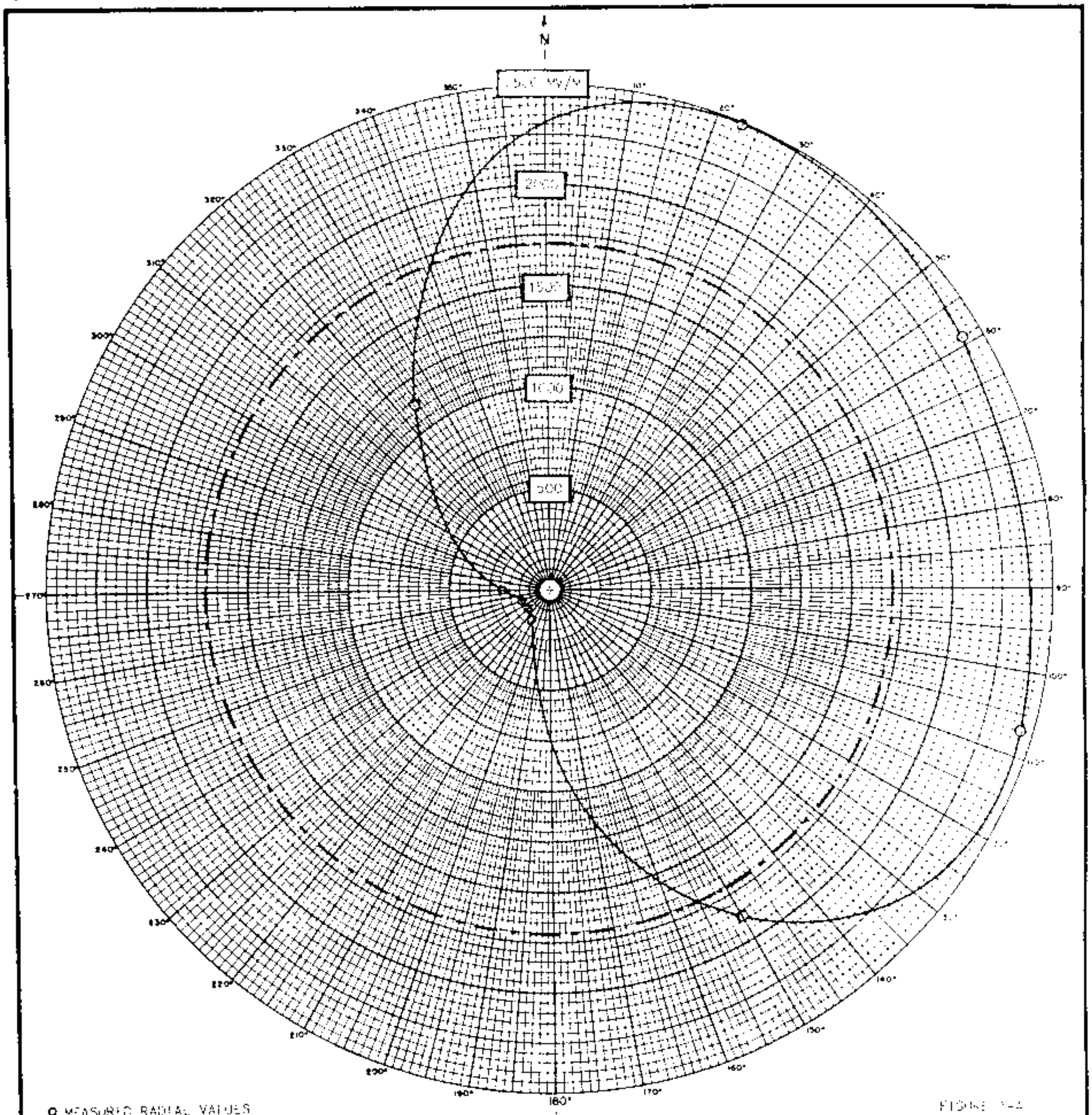
SILLIMAN, MOFFET & KOWALSKI
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

WHN

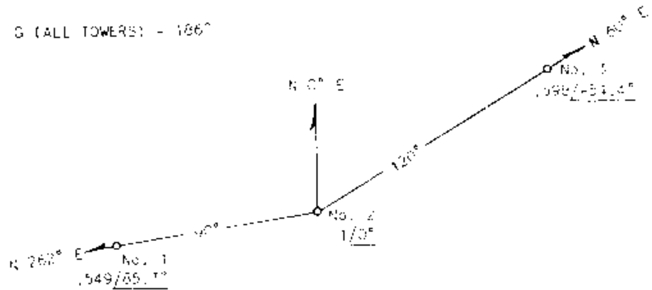
Measured Day & Night
(1-22-71ct)

Station WHN
New York, New York

50kw, DA-1, U
1050 kc



HORIZONTAL RADIATION PATTERN



APPLICANT
LOCATION NEW YORK, N. Y.
FREQUENCY KC/S
POWER
LATITUDE 40 DEG MIN SEC
LONGITUDE DEG MIN SEC
WHEN USED
RMS FIELD
DATE

SILLIMAN, MOFFET & KOWALSKI
CONSULTING RADIO ENGINEERS
WASHINGTON, D.C.

FCC File No. BL-12833
Accepted 1-6-71

Station WHN
New York, New York

1050 kc

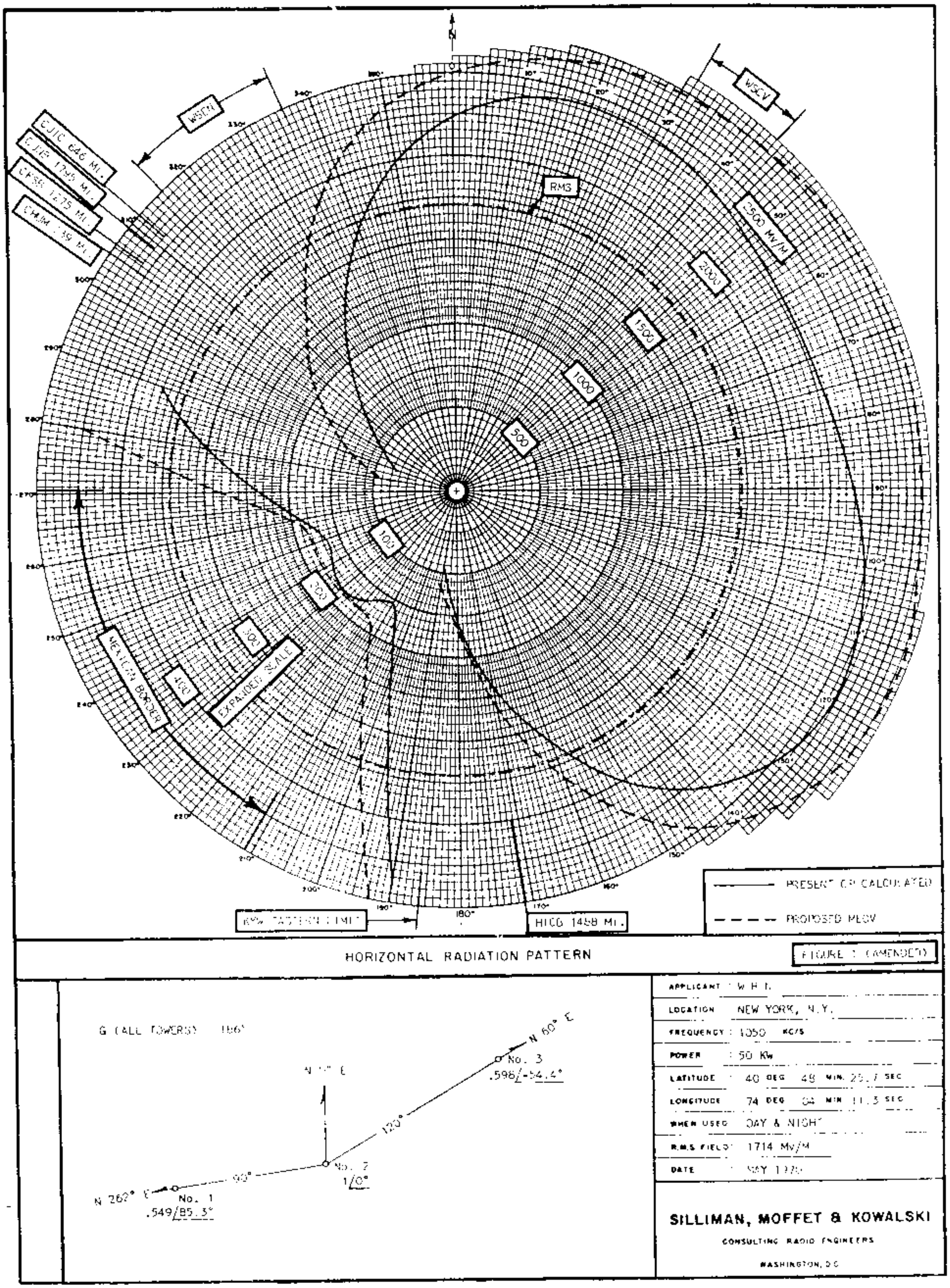
SEE REVERSE SIDE 7/29/70

WHN

Proposed Day & Night
(7-29-70ct)

Station WHN
New York, New York

50kw,DA-1,U
1050 kc



FCC File No.BMP-13030
Accepted 6-29-70

Station WHN
New York, New York

1050 kc

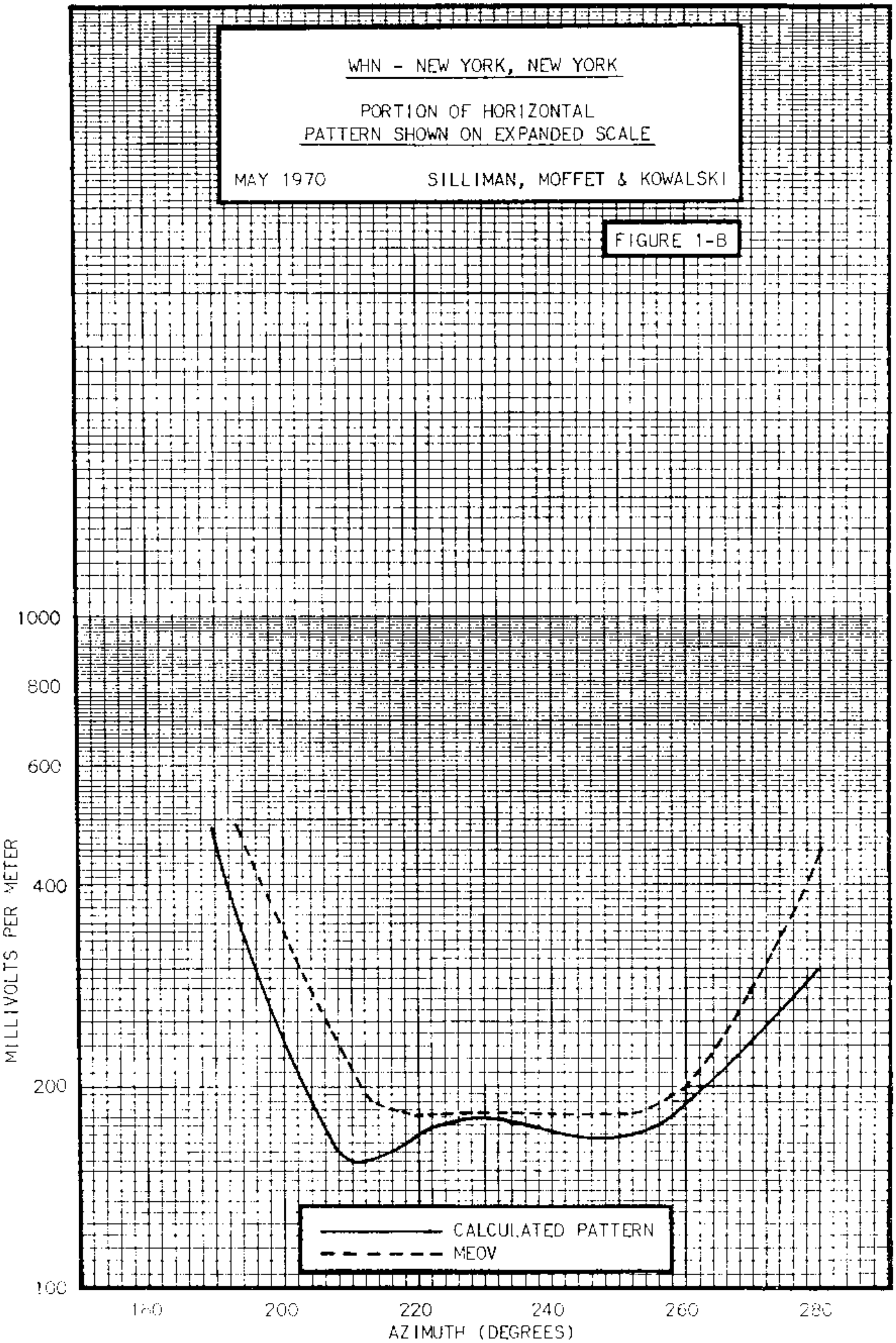
SEE REVERSE SIDE

WHN

Proposed Day & Night Nulls
(7-29-70ct)

Station WHN
New York, New York

50kw,DA-1,U
1050 kc



FCC File No.BMP-13030
Accepted 6-29-70

Station WHN
New York, New York

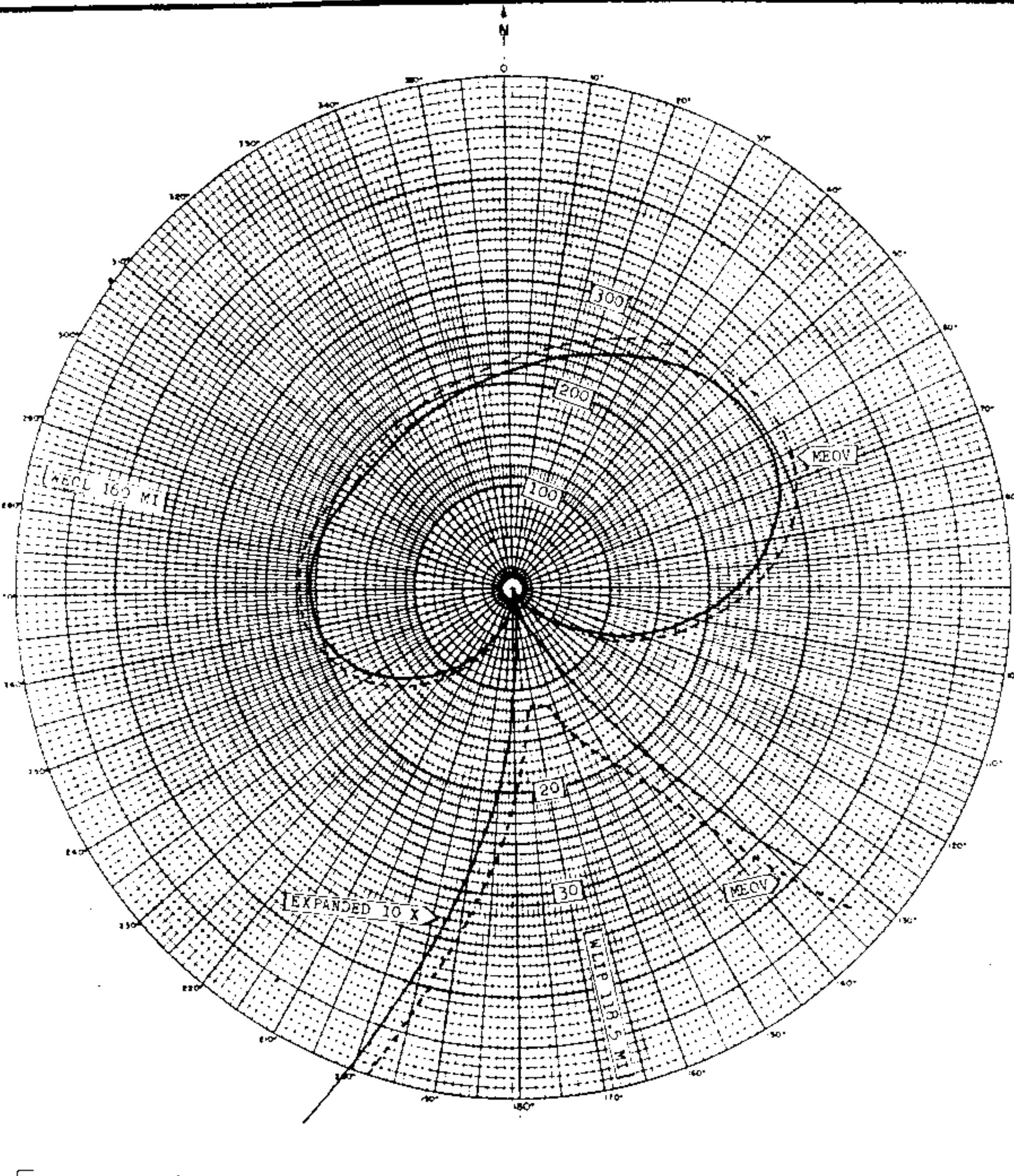
1050 kc

WKAU

PROPOSED DAY
(6-14-61g)

New; Fox River Communications, Inc. 1kw,DA-D,D
Kaukauna, Wisconsin 1050 KC

BP-14773
-10-65 APPL.



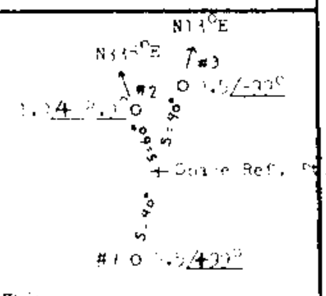
E_{RMS} = [illegible] MV/M

LATITUDE [illegible]

LONGITUDE [illegible]

[illegible] BRENNAN & ASSOCIATES
RADIO ENGINEERS
[illegible], WISCONSIN

ANTENNA PARAMETERS



610201 [illegible]

FOX RIVER COMMUNI[illegible]

KAUKAUNA, WISCONSIN

1050 KC [illegible]

FCC File No. BP-14773
Accepted 5-8-61

New; Fox River Communications, Inc.
Kaukauna, Wisconsin 1050 KC

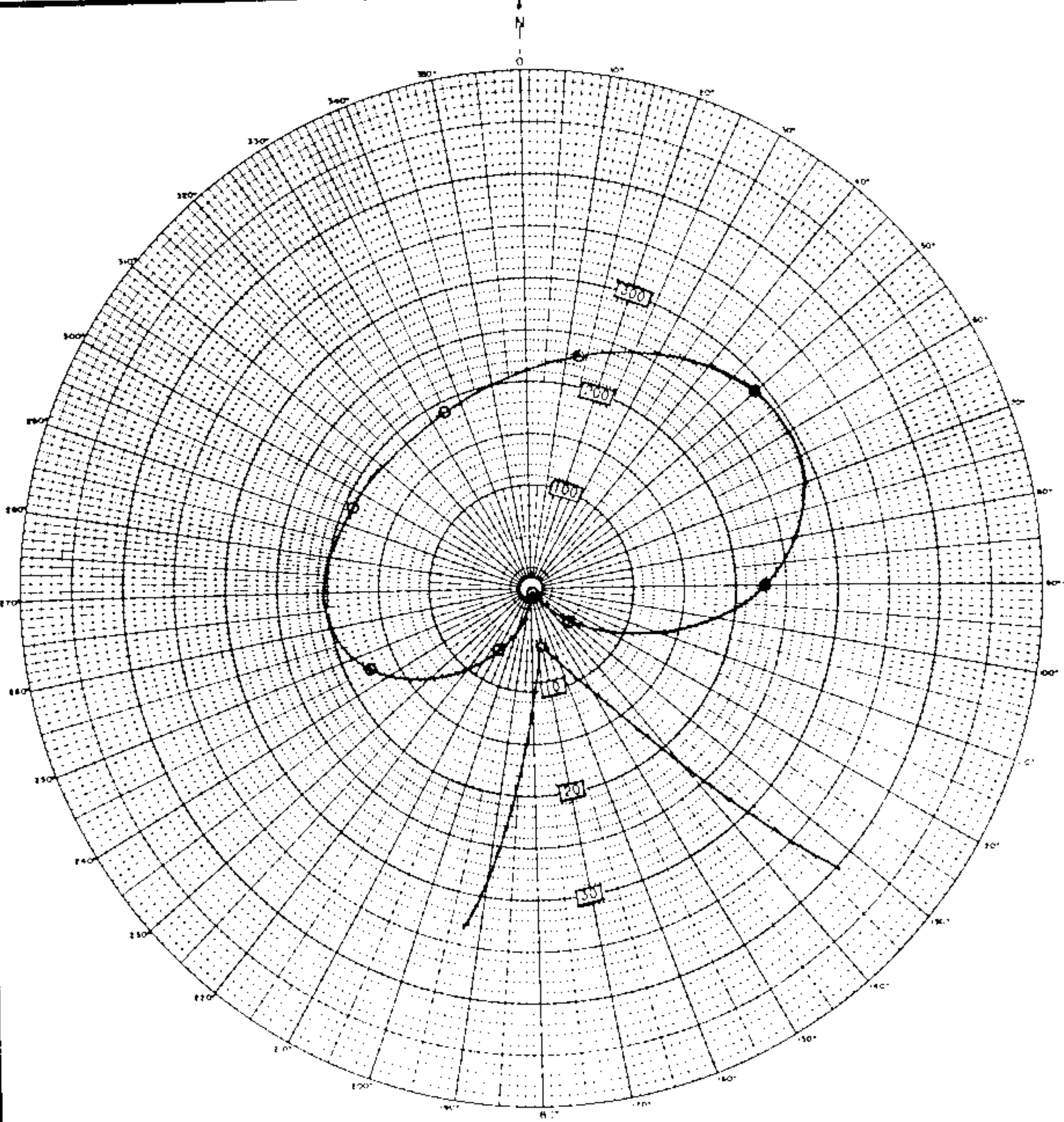
WKAU

Measured Day
(11-29-65ct)

Station WKAU
Kaukauna, Wisconsin

1kw,DA-D,D
1050 kc

Granted License 3-23-67 cov. new AM STATION.



E_{RMS} = 185 MV/M.

LATITUDE 44° 14' 51"
LONGITUDE 88° 18' 00"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

139°T
339°T #3
O 0.5/-99°
#2
1.0/+58.9°
90°
60°
SPACE REF. POINT
90°
#1 O 0.5/+99°
S°s = 90°

650826 FIGURE 5
MEASURED HORIZONTAL RADIATION PATTERN
RADIO STATION WKAU
KAUKAUNA, WISCONSIN
1050 KC 1000 DA-D

FCC File No. BL-11096
Accepted 11-2-65

Station WKAU
Kaukauna, Wisconsin

1050 kc

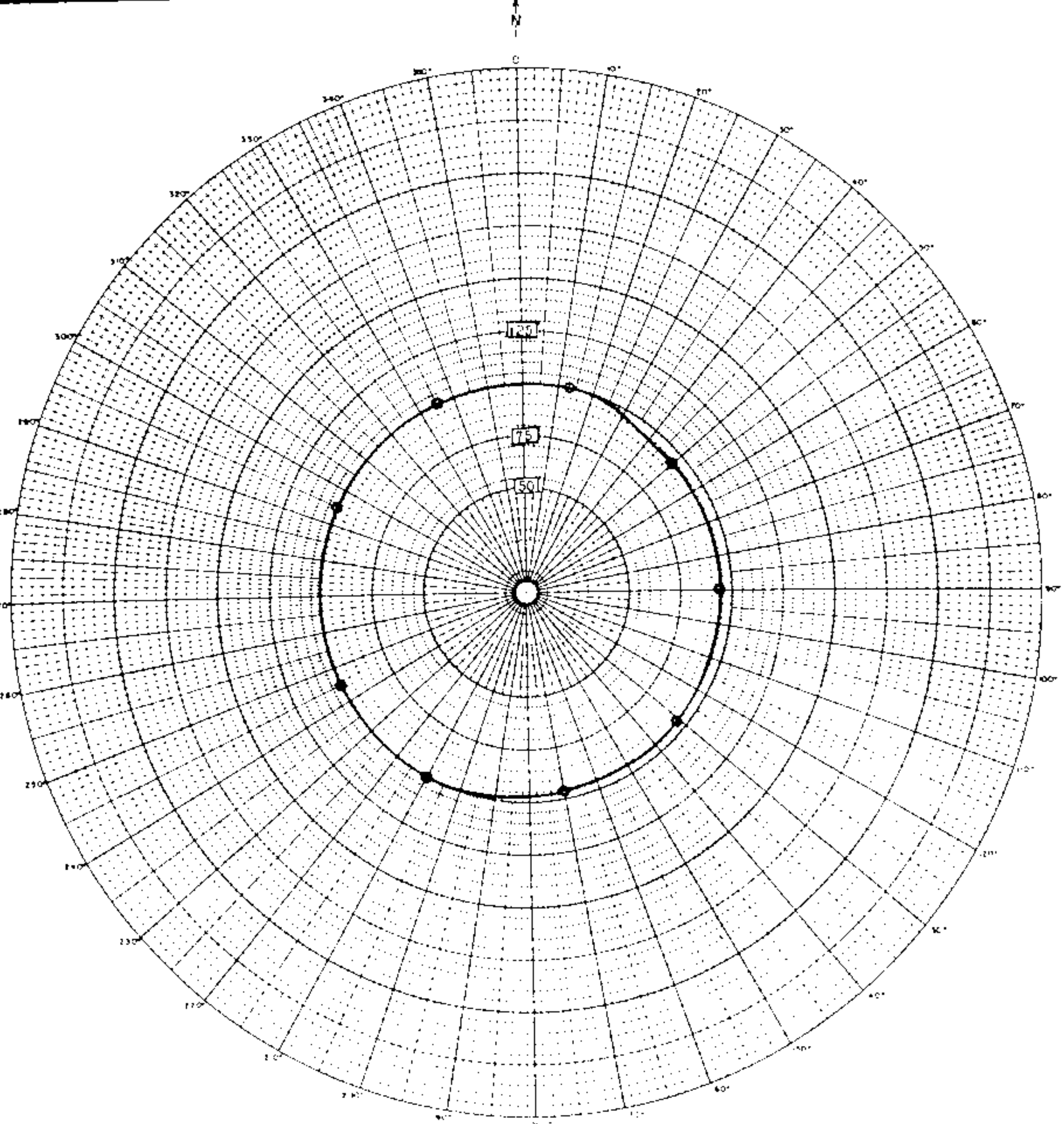
WKAU

Measured Non-DA
(11-29-65ct)

Station WKAU
Kaukauna, Wisconsin

1kw,DA-D,D
1050 kc

Granted License 3-23-67 ov. new AM STATION.



E_{RMS} = 98.5 MV/M

LATITUDE 44° 14' 51"
LONGITUDE 88° 13' 00"

CHARLES E. BRENNAN
CONSULTING RADIO ENGINEERS
MILWAUKEE, WISCONSIN

ANTENNA PARAMETERS

S's = 80°
13° T
#3
#2
#1

MEASURED WITH 254 WATTS INPUT TO TOWER #1 (SOUTH)

650826 FIGURE 4

MEASURED NON-DIRECTIONAL RADIATION

RADIO STATION WKAU
KAUKAUNA, WISCONSIN

1050 KC 1000 DA-D

FCC File No. BL-11096
Accepted 11-2-65

Station WKAU
Kaukauna, Wisconsin

1050 kc

WPAG

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WPAG — Main Studio: Ann Arbor, Michigan

Frequency: 1050 khz — Power: 5 kW

Notification List No. 1579 — Date: May 8, 1974 — Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 42° 14' 32"
West Longitude: 83° 45' 55"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NE(#1)	C(#2)	SE(#3)
HEIGHT ABOVE INSULATORS:	230'	230'	230' (88.5°)
PHASING:	-128°	+30°	+128°
FIELD RATIO:	0.57	0.93	0.43

SPACING AND ORIENTATION: Adjacent elements are spaced 234.3' (90°) on a line bearing 152° true.

GROUND SYSTEM: 120-250' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

Predicted effective Field: 415 mv/m at rated power.

Note: This notification concerns only changes in MEOV's of radiation in the directional antenna pattern. Note that antenna height shown on the radiation pattern as 90 degrees is in error.

WPAG

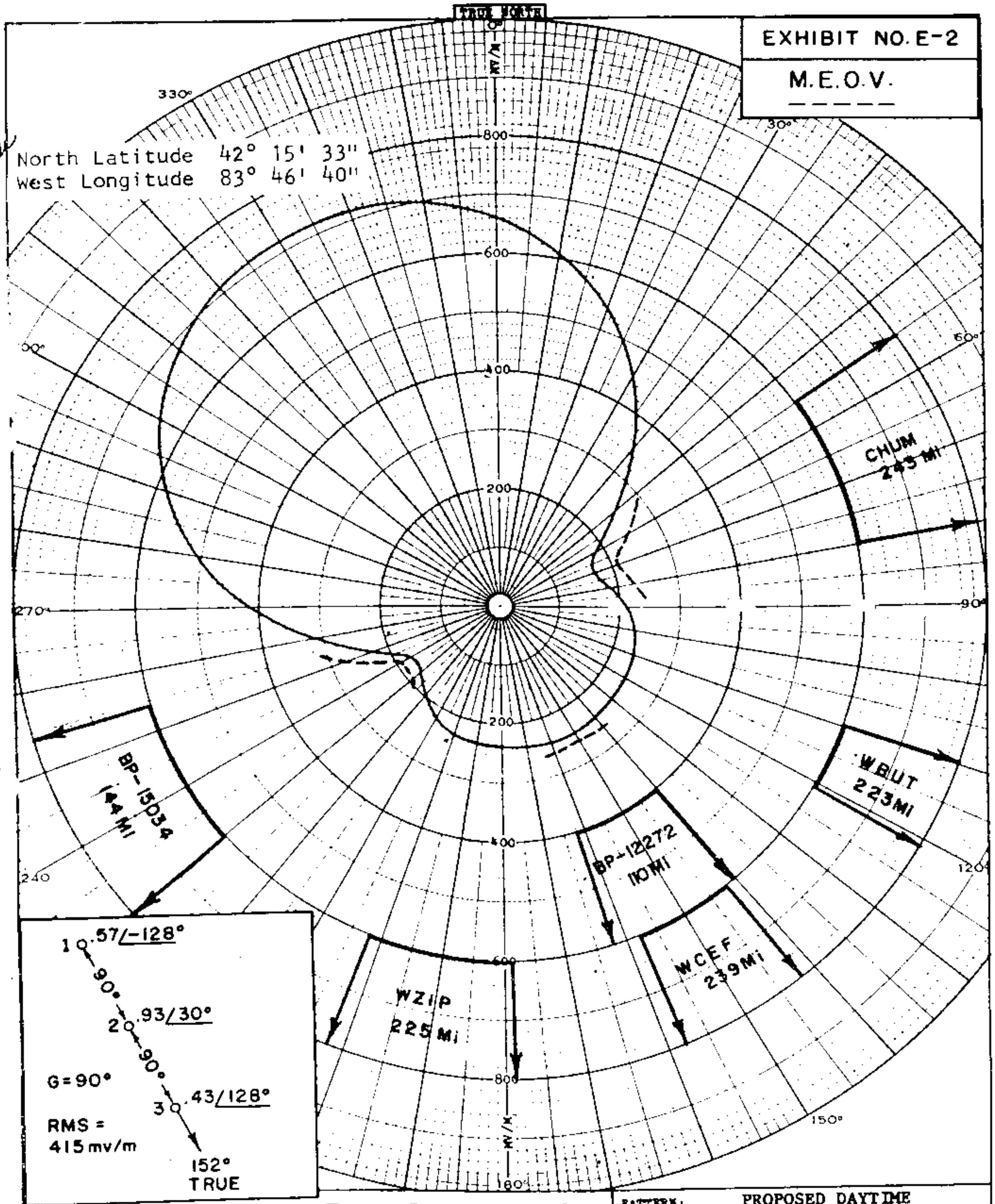
Proposed Day
(3-30-62ct)

Station WPAG
Ann Arbor, Michigan

5kw,DA-D,D
1050 kc

...anted cp
..19-62 for
...crease in power
5KW, and
...A-D

...NER



COMMERCIAL RADIO EQUIPMENT CO.

RADIO ENGINEERING CONSULTANTS

WASHINGTON, D.C

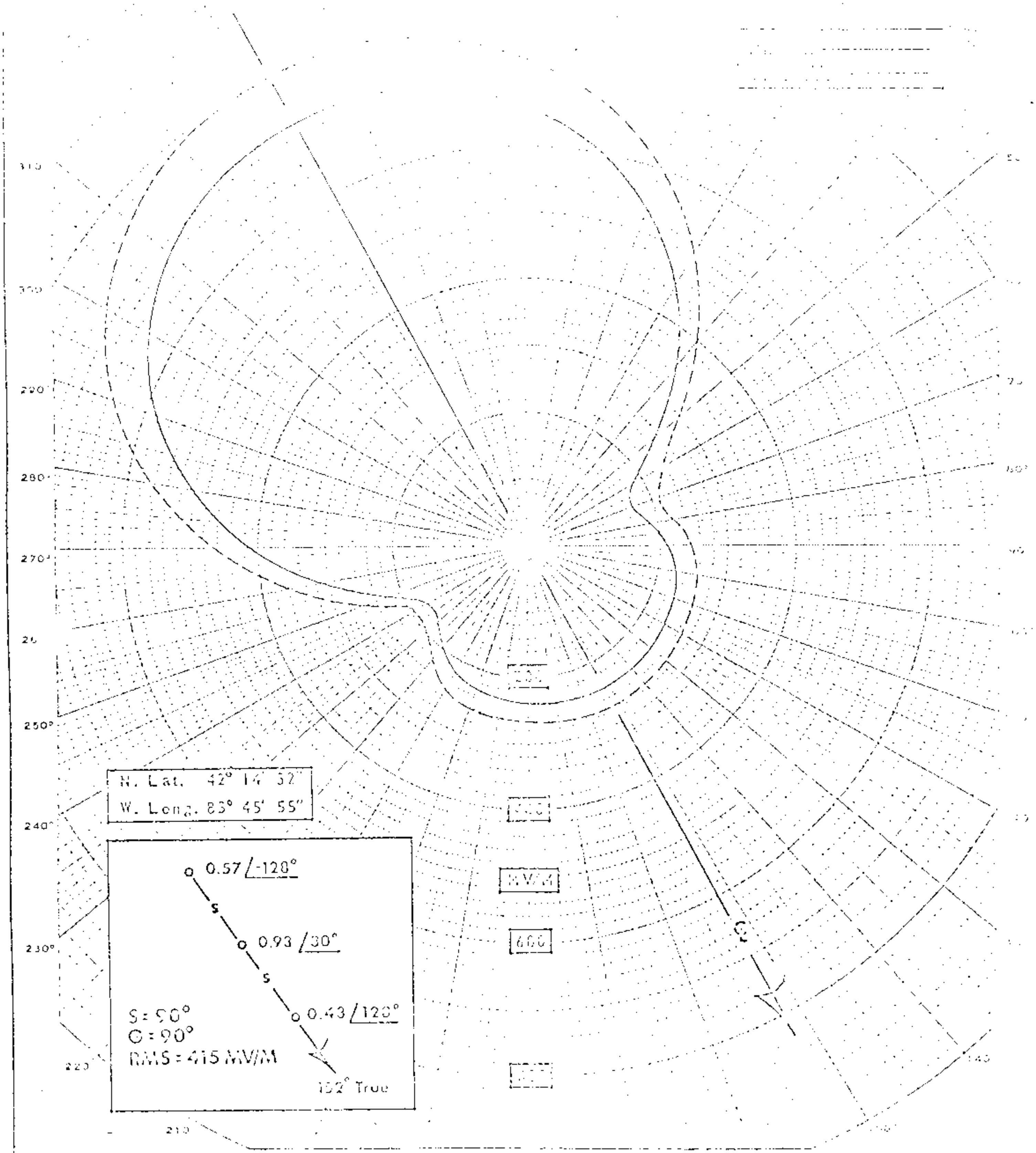
PATTERN:	PROPOSED DAYTIME
FOR:	WPAG, ANN ARBOR, MICH.
POWER:	5 KW FREQ: 1050 KC
DATE:	FEBRUARY 1962 BY:

FCC File No.BP-11675
Accepted 3-6-62 Amended

Station WPAG
Ann Arbor, Michigan

1050 kc

WPAG



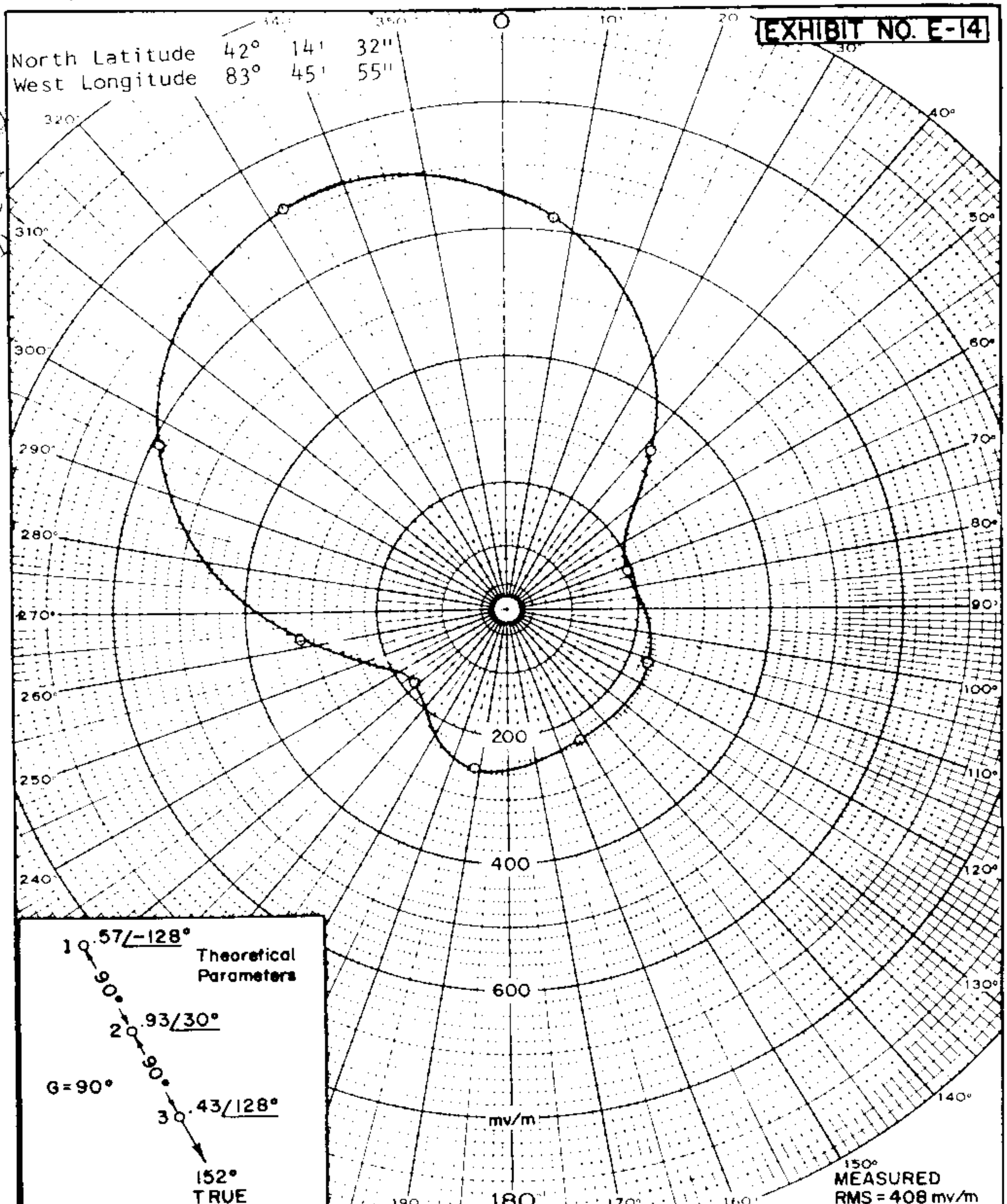
N. Lat. 42° 14' 32"
W. Long. 83° 45' 55"
0.57 /-128°
0.93 /30°
0.43 /120°
S = 90°
O = 90°
RMS = 415 MV/M
152° True
MV/M
600
310
300
290°
280°
270°
250°
240°
230°
220
210
70
60°

WPAG

Measured Day
(7-24-63ct)

Station WPAG
Ann Arbor, Michigan

5kw,DA-D,D
1050 kc



COMMERCIAL RADIO EQUIPMENT CO.
Radio Engineering Consultants
WASHINGTON D. C.

MEASURED DAYTIME PATTERN
WPAG, ANN ARBOR, MICHIGAN
1050 KC., 5KW DA-D

MAY 1963

FCC File No.BL-10099
Accepted 7-2-63

Station WPAG
Ann Arbor, Michigan

1050 kc

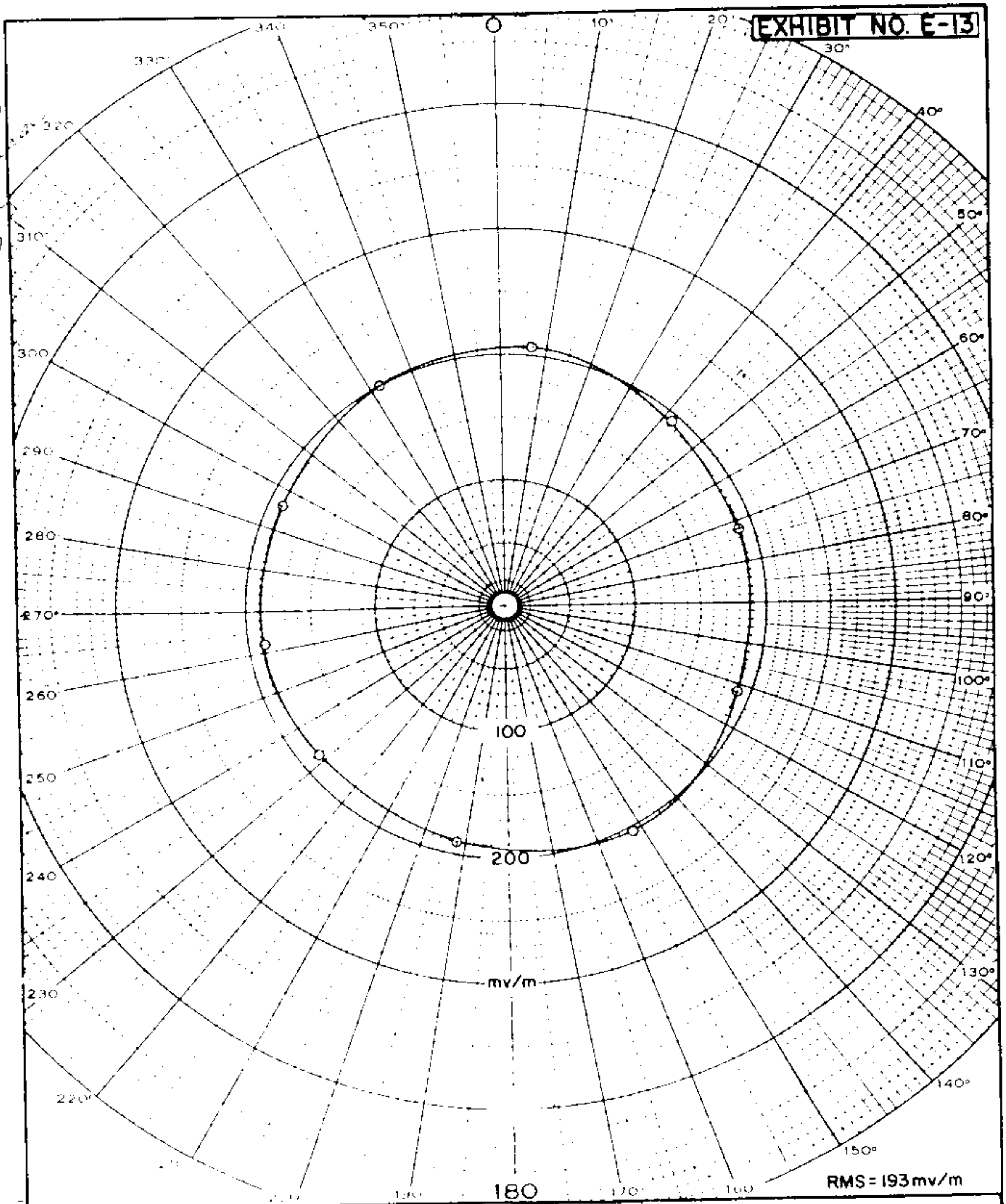
WPAG

Measured Non-DA
(7-24-63ct)

Station WPAG
Ann Arbor, Michigan

5kw,DA-D,D
1050 kc

1-27-63



COMMERCIAL RADIO EQUIPMENT CO.
Radio Engineering Consultants

MEASURED NON-DIRECTIONAL RADIATION
WPAG, NO. 2 TOWER, 1050 KC, 1 KW.
ANN ARBOR, MICHIGAN

MAY 1963

FCC File No.BL-10099
Accepted 7-2-63

Station WPAG
Ann Arbor, Michigan

1050 kc

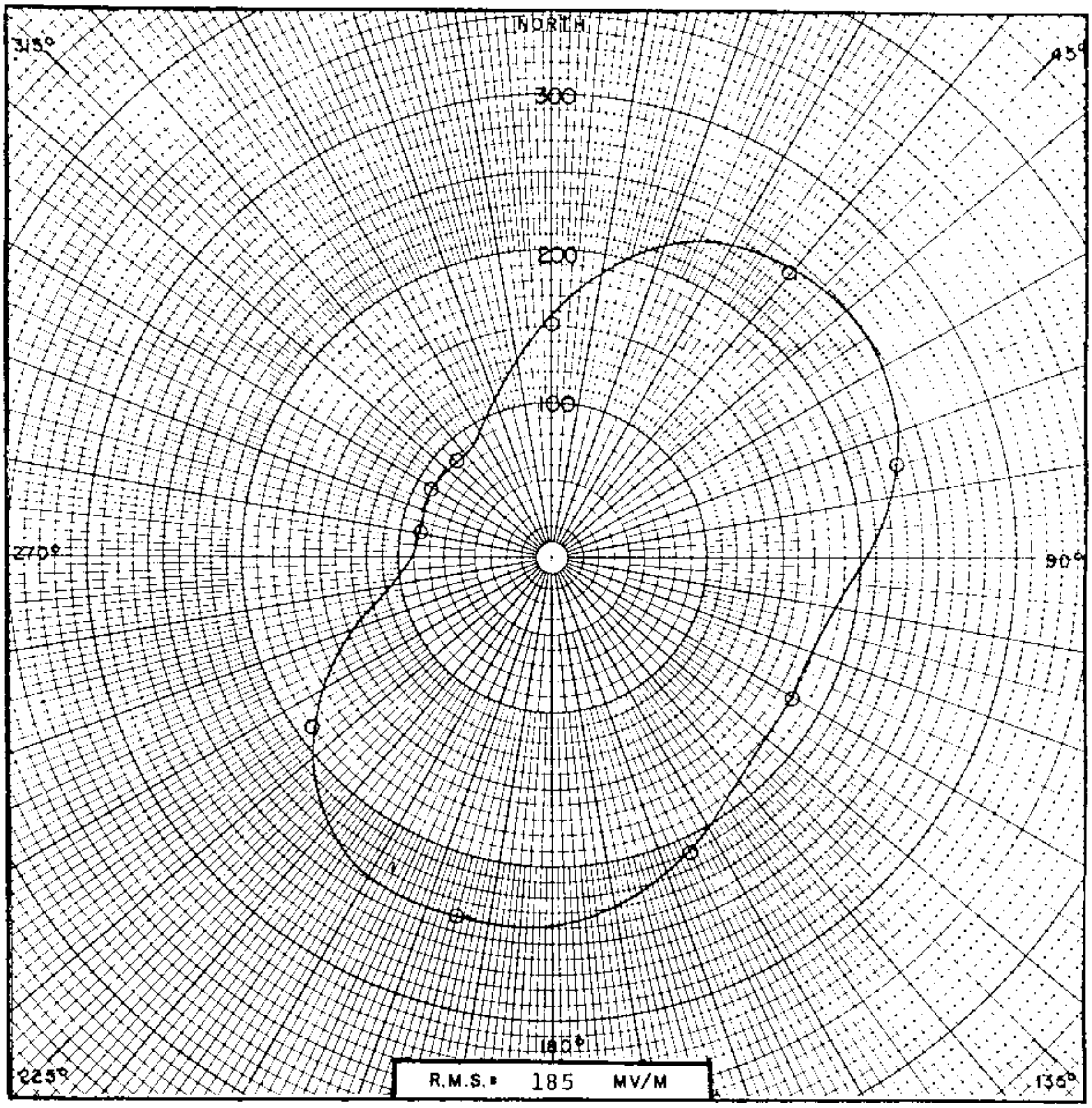
SEE REVERSE SIDE

WSEN

Measured Day
(9-25-70ct)

Station WSEN
Baldwinsville, New York

1kw,DA-D,D
1050 kc



PATTERN PARAMETERS

1. 1.000/ 0° Theo. & Meas.

143°

2. 0.500/-38°
1.62/-39°

G_1 = 127°

G_2 = 89°

120°True

DIRECTIONAL
RADIATION PATTERN

CENTURY BROADCASTING CORP.

[x] MEASURED [ ] PROPOSED

FREQ: 1050 (KHZ) POWER 1.0 (KW) [x] DA-D

N. LAT. 43 ° 10 ' 45 " [ ] DA-N

W. LONG. 76 ° 20 ' 18 " [ ] N-D

LOCATION: Baldwinsville, New York

DATE: November, 1969

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BL-12296
Accepted

Station WSEN
Baldwinsville, New York

1050 kc

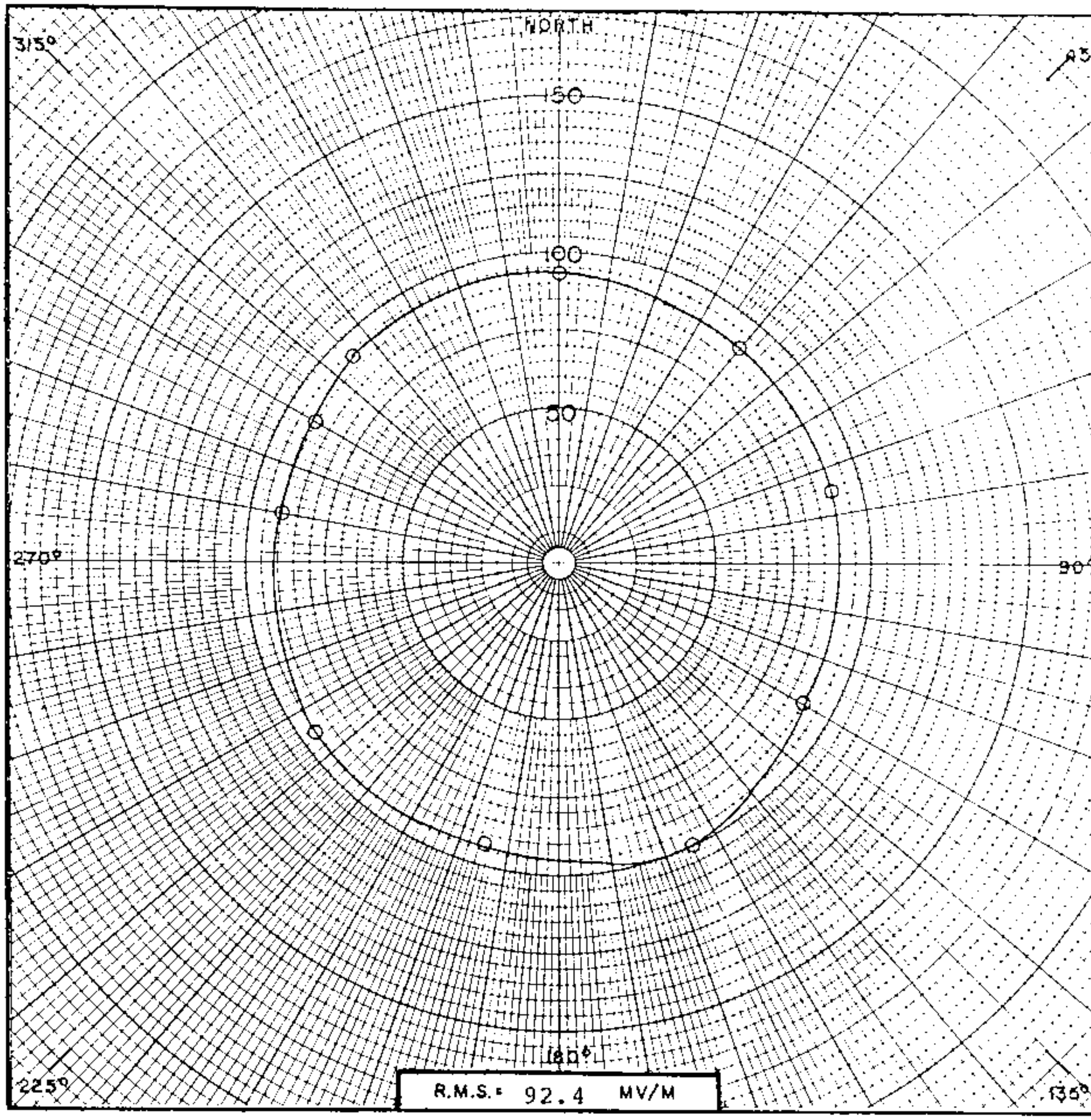
SEE REVERSE SIDE

WSEN

Measured Non-DA
(9-25-70ct)

Station WSEN
Baldwinsville, New York

1kw,DA-D,D
1050 kc



PATTERN PARAMETERS

DIRECTIONAL
RADIATION PATTERN

CENTURY BROADCASTING CORP.

[X] MEASURED [ ] PROPOSED

FREQ: 1050 (KHZ) POWER 0.25 (KW) [ ] DA-D

N LAT. 43 ° 10 ' 45 " [ ] DA-N

W. LONG. 76 ° 20 ' 18 " [✓] N-D

LOCATION: Baldwinsville, New York

DATE: November, 1969

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No.BL-12296
Accepted

Station WSEN
Baldwinsville, New York

1050 kc

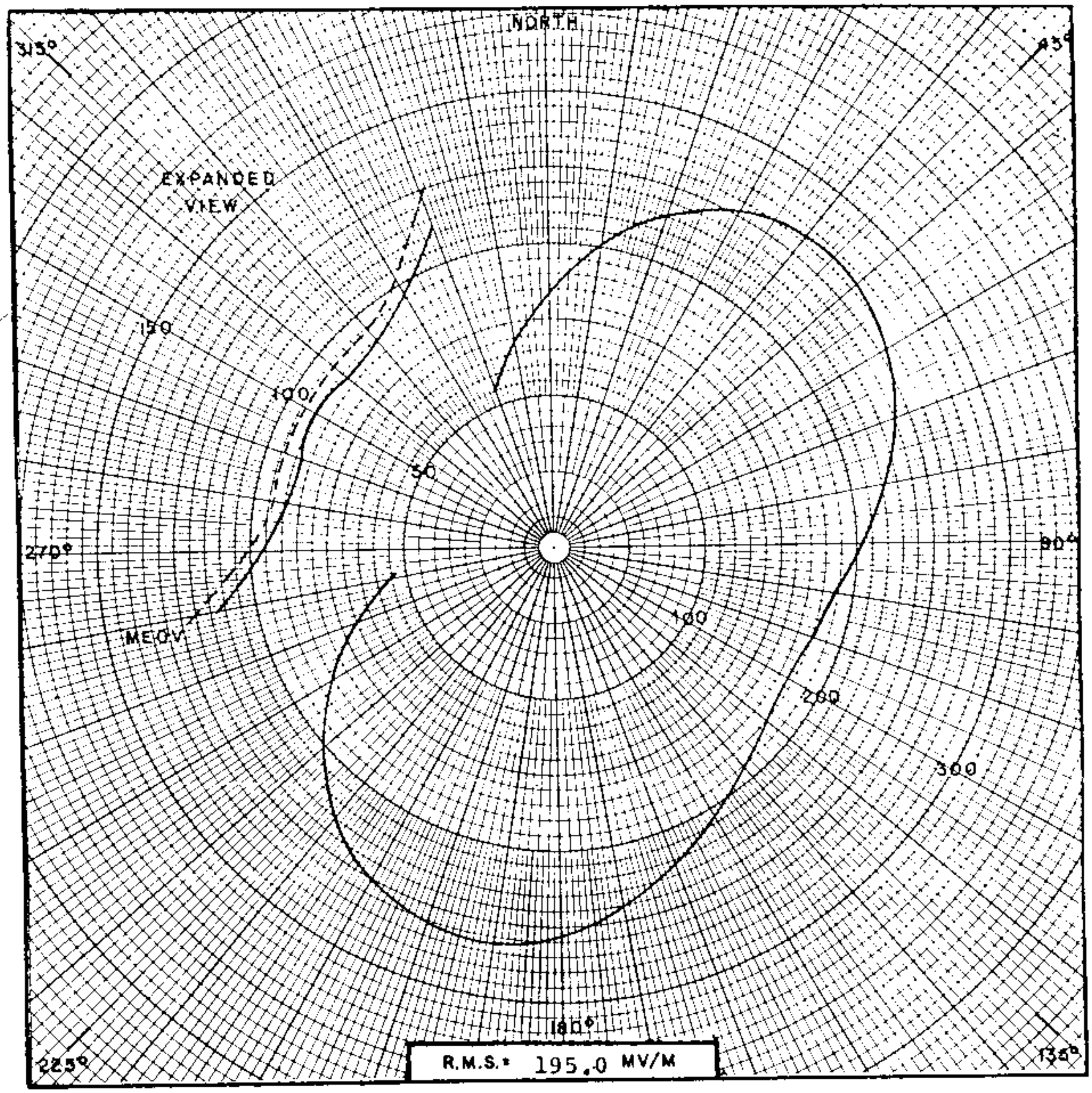
WSEN

Proposed Day
(9-26-68ct)

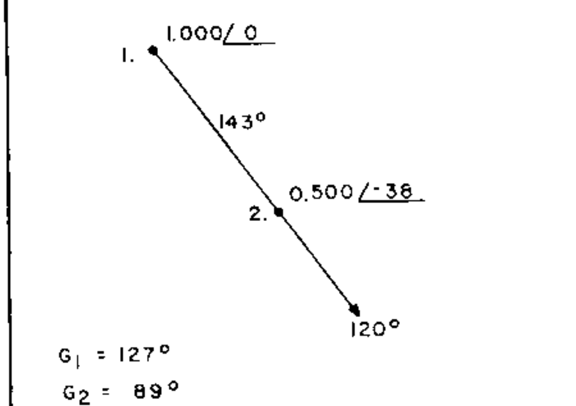
Station WSEN
Baldwinsville, New York

1kw, DA-D, D
1050 kc

issued 7/21/69 [illegible] increase [illegible] from 500 w to 1 kw [illegible] install [illegible] directional [illegible]



PATTERN PARAMETERS



DIRECTIONAL RADIATION PATTERN
CENTURY RADIO CORPORATION

[ ] MEASURED [X] PROPOSED

FREQ: 1050 (KHZ) POWER 1 (KW) [X] DA-D
N. LAT. 43° 10' 45" [ ] DA-N
W. LONG. 76° 20' 18" [ ] N-D
LOCATION: Baldwinsville, New York
DATE: June 1968

ROBERT A JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No. BP-17745
Accepted 8-29-68 Amended

Station WSEN
Baldwinsville, New York

1050 kc

WSKE
1050kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WSKE

Main Studio: Everett, Pennsylvania

Frequency: 1050 kHz

Power 1kw Day

Notification List No. 1783

Date: November 2, 1979 Class: III

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 40° 00' 26"
West Longitude: 78° 21' 44"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	S	N
HEIGHT ABOVE INSULATORS:	200'	200' (76.8°)
PHASING:	0°	0°
FIELD RATIO:	1.0	0.585

SPACING AND ORIENTATION: Towers in a row are spaced 663.8' (255°) on a line bearing 6° true.

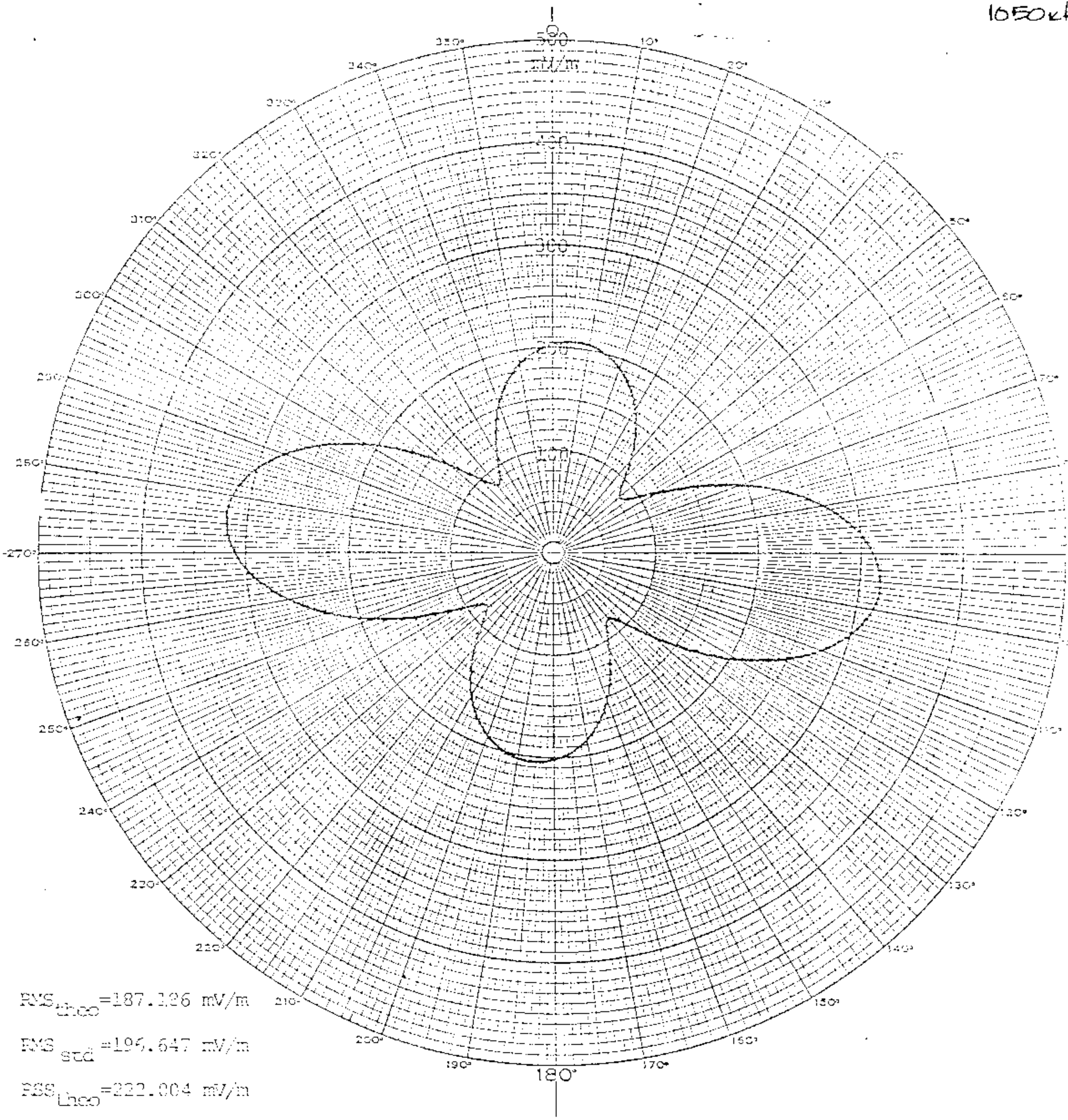
GROUND SYSTEM: 120 - 234.4' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day 1/	187.2 mv/m	220.0 mv/m	196.6 mv/m
Night 1/			

1/ By adjustment of input power.

WSKE
1050 kHz

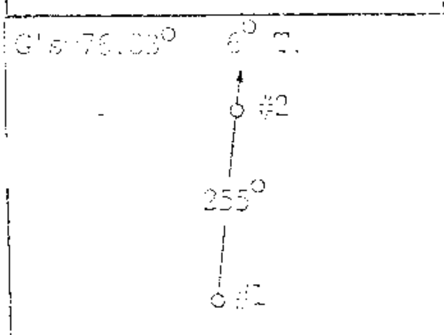


RMS_{theo}=187.136 mV/m

RMS_{std}=196.647 mV/m

RSS_{theo}=222.004 mV/m

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS					FIGURE 4	STATION DATA
	TOWER No	ELECTRICAL HEIGHT	SPACING	PHASING	FIELD RATIO	PROPOSED AMENDED HORIZONTAL PLANE STANDARD PATTERN	CALL WSKE
	1			0°	1.000		FREQ 1050 kHz
	2			0°	0.585		POWER 1 KW
	3						TYPE DA-D
	4						TIME DAYTIME
	5					EVERETT, PA.	LAT. N 40°00'[illegible]
	6					$\theta^{\circ} = 0$	LONG. W 78°2[illegible]
	DAYTIME OPERATION			NIGHTTIME OPERATION			E. HAROLD MUNN, JR. & ASSOCIATES, INC. COLDWATER, MICH.

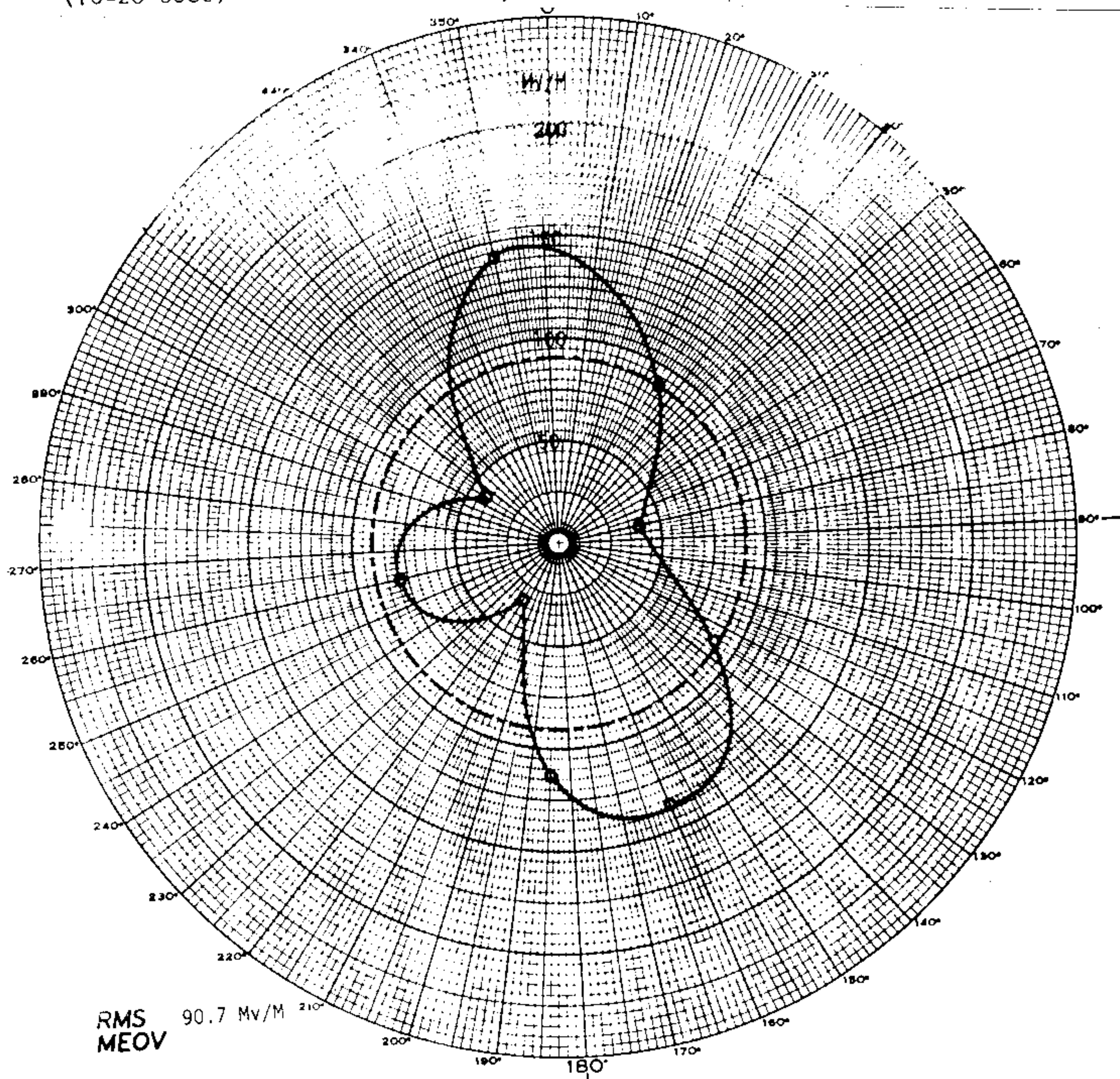


WTCA

Measured Day
(10-28-66ct)

Station WTCA
Plymouth, Indiana

250w,DA-D,D
1050 kc



RMS 90.7 Mv/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 5	STATION DATA
G's = 90° S = 210° No. 2 S No. 1 260° 1/0° 0.697/30°		MEASURED DAYTIME DIRECTIONAL RADIATION PATTERN MAY - 1966	CALL WTCA FREQ 1050 Kc/S POWER 0.25 Kw TYPE DA-D TIME DAYTIME LAT. N-41-19-06 LONG. W-86-18-41

TOWER No.	ELECTRICAL HEIGHT G°	SPACING S°	PHASING Ψ°	FIELD RATIO F
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

θ° 0°

E.H.MUNN,JR.
RADIO ENGINEER
COLDWATER, MICH.

FCC File No.BZ-6155
Accepted 10-24-66

Station WTCA
Plymouth, Indiana

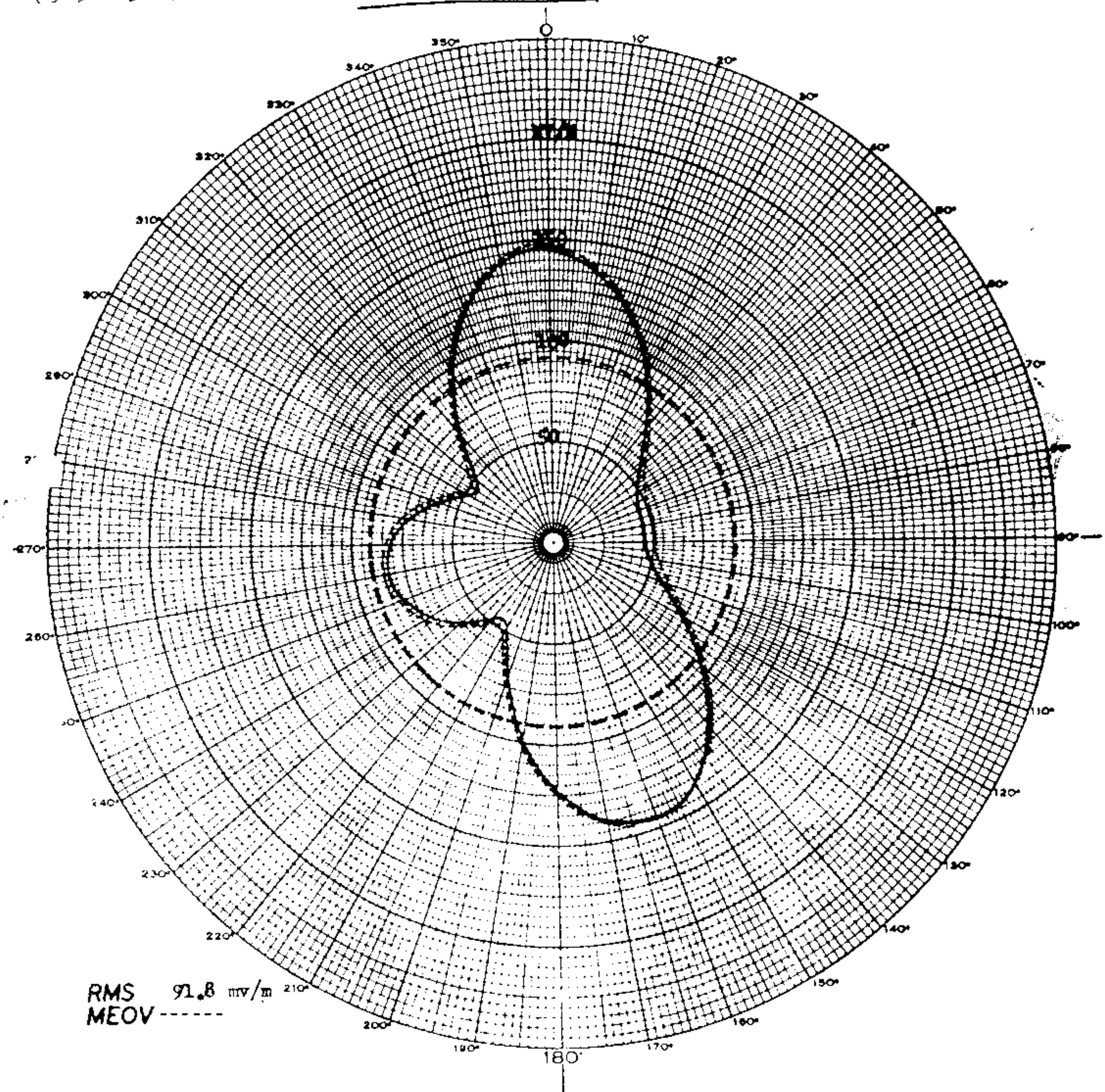
1050 kc

WTCA

Proposed Day
(3-30-63ct)

New; Van Wert B/cg Co.
Plymouth, Indiana

250w,DA-D,D
1050 kc



RMS 91.8 mv/m
MEOV ------

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 9	STATION DATA
G = 90° No. 2 No. 1 210° 0.92/30° 30° 1/0°		PROPOSED DAYTIME DIRECTIONAL RADIATION PATTERN FOR PLYMOUTH, INDIANA θ° 0°	CALL NEW FREQ 1050 kc POWER 0.25 Kw TYPE DA-D TIME Daytime LAT. 41-19-05.6 LONG. 86-18-41.3 E.H.MUNN,JR. RADIO ENGINEER COLDWATER, MICH.

TOWER No.	ELECTRICAL HEIGHT	SPACING	PHASING	FIELD RATIO
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

FCC File No.BP-15034
Accepted 3-18-63 Amended

New; Van Wert B/cg Co.
Plymouth, Indiana

1050 kc

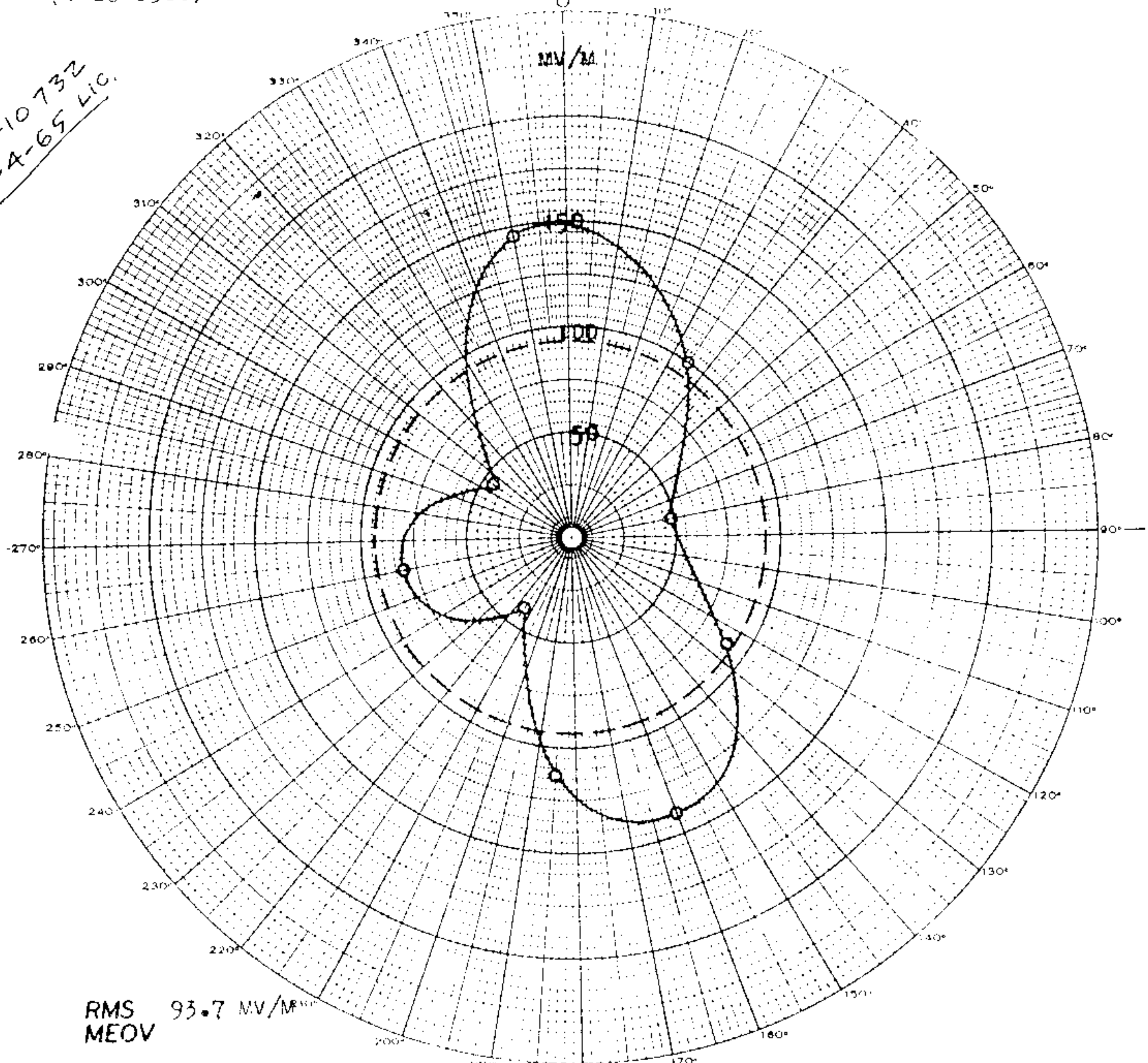
WTCA

Measured Day
(1-28-65ct)

Station WTCA
Plymouth, Indiana

250w,DA-D,D
1050 kc

BL-10732
2-4-65 LIC.



RMS 93.7 MV/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 5	STATION DATA
G: 90° S: 210° No. 2 No. 1 260° S 0 .523 1.0/0° /30°	TOWER No. / ELECTRICAL HEIGHT / SPACING / PHASING / FIELD RATIO DAYTIME OPERATION ■ NIGHTTIME OPERATION □	MEASURED DAYTIME PATTERN θ°	CALL WTCA FREQ 1050 kc/s POWER 0.25 Kw TYPE DA-D TIME DAYTIME LAT. N-41-19-07 LONG. W-86-18-40 E.H.MUNN,JR. RADIO ENGINEER COLDWATER, MICH.

FCC File No. BL-10732
Accepted 1-13-65

Station WTCA
Plymouth, Indiana

1050 kc

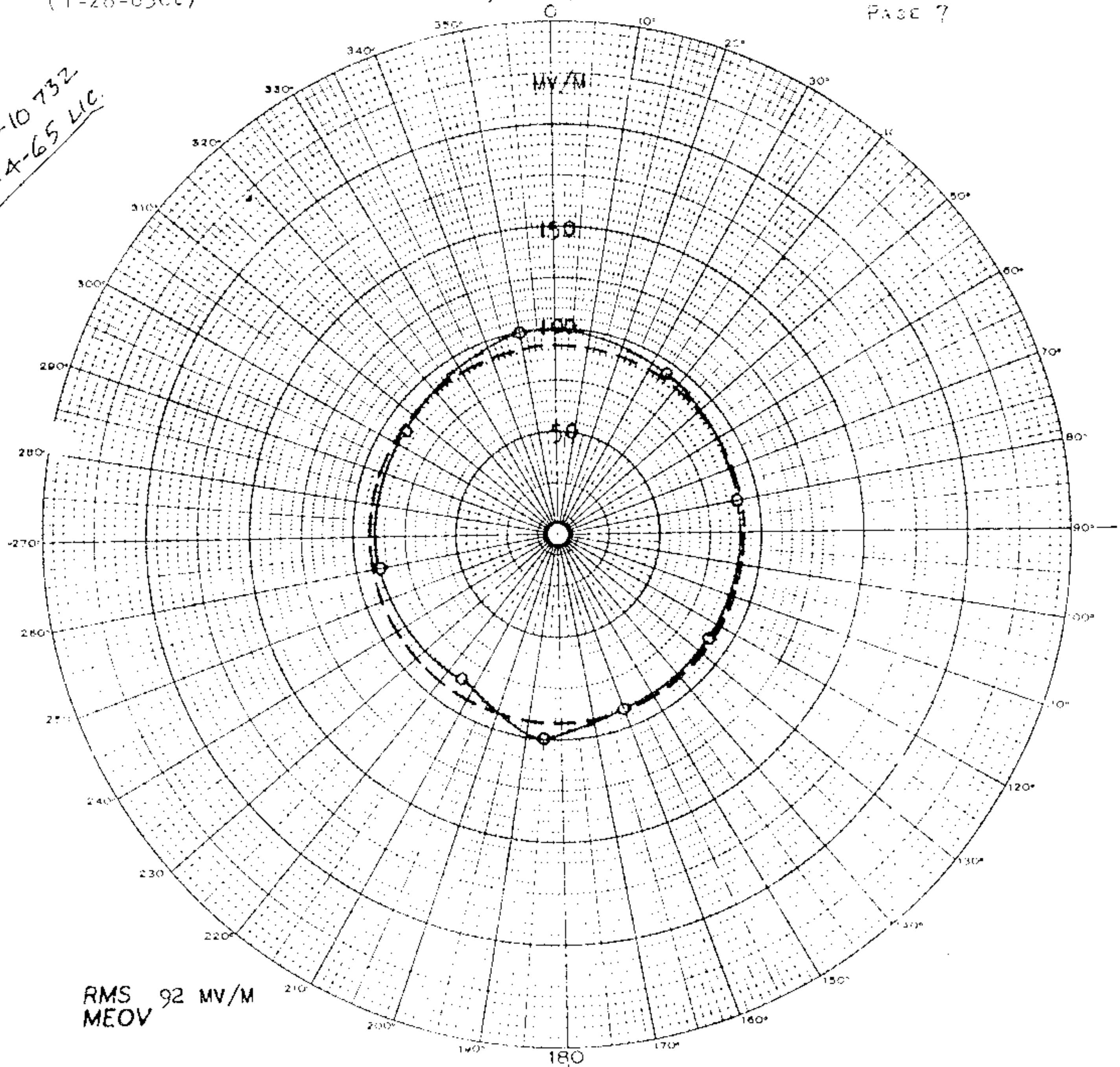
WTCA

Measured Non-DA
(1-28-65ct)

Station WTCA
Plymouth, Indiana

250w,DA-D,D
1050 kc
Page 7

BL-10732
2-4-65 LIC



RMS 92 MV/M
MEOV

TOWER PLACEMENT SKETCH	PATTERN PARAMETERS	FIGURE 4	STATION DATA
G = 90° No. 1 (NC) No. 2 O ← 210° → ● LINE OF TOWERS 260° T.		MEASURED NON-DIRECTIONAL PATTERN EAST TOWER θ°	CALL WTCA FREQ 1050 kc/s POWER 0.25 KW TYPE NON-DA TIME TEST DAY LAT. LONG. E.H.MUNN,JR. RADIO ENGINEER COLDWATER, MICH.

FCC File No. BL-10732
Accepted 1-13-65

Station WTCA
Plymouth, Indiana

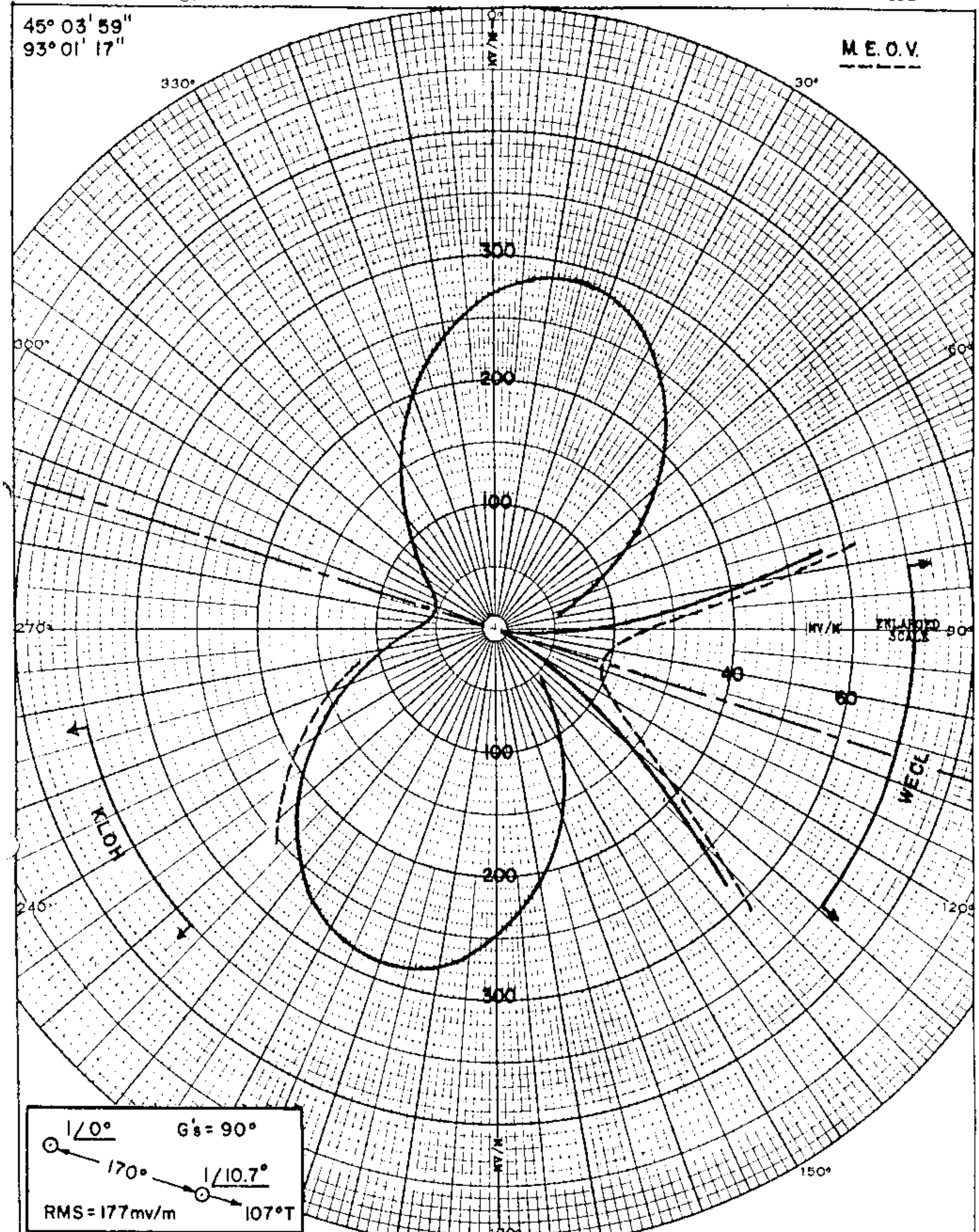
1050 kc

White Bear, Minn.

PROPOSED DAY
(3-28-60g)

New; White Bear Radio Corp.
White Bear, Minnesota

1kw, DA-D,D
1050 KC



COMMERCIAL RADIO EQUIPMENT CO.
RADIO ENGINEERING CONSULTANTS
WASHINGTON, D.C.

PATTERN: PROPOSED DAYTIME
FOR: WHITE BEAR, MINNESOTA
POWER: 1000 WATTS FREQ: 1050 KC
DATE: FEBRUARY 1960

FCC File No. BP-13958
Accepted 3-17-60

White Bear Radio Corporation
White Bear, Minnesota

1050 KC

CFCN
1060 kHz

PROJECT #15414

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CFCN

MAIN STUDIO: CALGARY, ALBERTA

FREQUENCY: 1060 kHz

POWER: 50 kW CLASS: II

NOTIFICATION LIST: 403

DATE: February 12, 1981

GEOGRAPHICAL LOCATION: Latitude 50° 54' 02" North
Longitude 113° 52' 26" West

ANTENNA CHARACTERISTICS:

Mode of Operation:	DA-N
Number of Elements:	3 (Three)
Type of Elements:	Guyed steel towers, uniform cross-section, base insulated for series feed

TOWERS:	#1 (C)	#2 (NW)	#3 (SE)
Height above Base Insulators:	450' (174.5°)	230' (89.2°)	230' (89.2°)
Overall Height:	455'	235'	235'
Oreintation:	Ref.	330°	130°
Spacing:	Ref.	110° (283.7')	110° (283.7')
Phasing:	Ref.	-91.5°	73°
Field Ratio:	1.0	.54	0.55

GROUND SYSTEM: 120 equally spaced radials of #10 bare soft copper wire extending 372' (0.4 wavelength) from the base of each tower with the exception of those joined along the commom chords.

PREDICTED EFFECTIVE FIELD:

Night

1442 mV/m at 1 mile for 50 kW
204 mV/m at 1 mile for 1 kW

Day

1650 mV/m at 1 mile for 50 kW
233 mV/m at 1 mile for 1 kW

December 19, 1980
Revised January 30, 1981

CFCN

X206

Description Sheet
(1-28-66ct)

Station CFCN
Calgary, Alberta

50kw,DA-2,U,Class II
1060 kc

2.5 Directional Antenna Description Sheet

Station:	CFCN	Main Studio:	Calgary, Alberta
Frequency:	1060 kc/s	Power: 50 KW	Class II
Notification List No. 206		Date: December 14, 1965	

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:

North Latitude: 50° 54' 12"
West Longitude: 114° 03' 30"

ANTENNA CHARACTERISTICS

Mode of Operation: DA-2
Number of Elements: Four (4)
Type of Elements: Guyed, uniform rectangular cross-section, base insulated, series fed

TOWER:		One	Two	Three	Four
HEIGHT ABOVE INSULATORS:		230' (90°)	230' (90°)	450' (174°)	230' (90°)
OVERALL HEIGHT:		233'	233'	453'	233'
SPACING:		348' (135°)	400' (155°)	Ref.	348' (135°)
PHASING:	Day:	not used	not used	0°	15°
	Night:	-71°	91°	+24.5°	not used
FIELD RATIO:	Day:	not used	not used	1.0	0.9
	Night:	1.01	0.90	1.74	not used
ORIENTATION: (Azimuth)		318°	125°	Ref.	55°

GROUND SYSTEM: 120 radials per tower No. 10AWG soft copper wire uniformly spaced, buried approx. 8" Radials bonded along line between towers and bonded to a soft copper strap at tower base. Maximum radial length 371'.

Predicted effective field Day: RMS 1470 mv/m (208 mv/m for 1kw)
Night: RMS 1450 mv/m (205 mv/m for 1 kw)

NOTE Please retain the day-time pattern for CFCN as notified in Canadian Change List No. 191 dated October 16, 1964. This notification concerns a change in the night-time pattern and power.

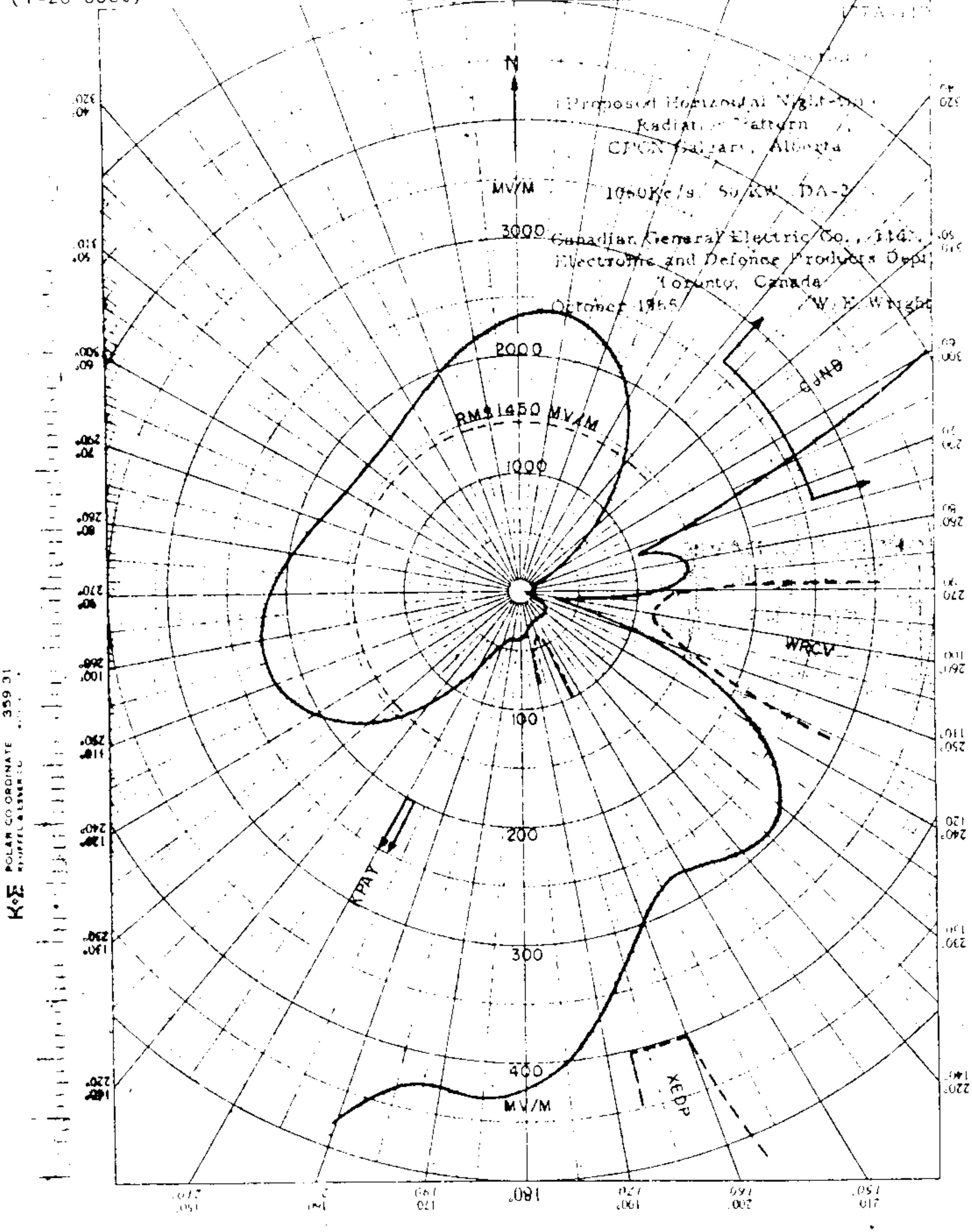
F206

CFCN

Proposed Night
(1-28-66ct)

Station CFCN
Calgary, Alberta

50kw,DA-2,U,Class II
1060 kc



#191

CFCN

Description Sheet
(6-28-65ct)

Station CFCN
Calgary, Alberta

25kw,50kw-LS,DA-2,U,Class II
1060 kc

CORRECTED

2.4 DIRECTIONAL ANTENNA DESCRIPTION SHEET
(Issued by FCC April 14, 1965)

Station: CFCN | Main Studio: Calgary, Alberta

Frequency: 1060 kc/s | Power: 50/25 Class: II

Notification List No. 191 | Date: October 16, 1964

GEOGRAPHICAL LOCATION OF THE ANTENNA SYSTEM:
North Latitude: 50° 54' 12"
West Longitude: 114° 03' 30"

ANTENNA CHARACTERISTICS

Mode of Operation: DA-2
Number of Elements: Four(4)
Type of Elements: Guyed, uniform rectangular cross-section, base insulated, series fed

TOWER		One	Two	Three	Four
HEIGHT ABOVE INSULATORS		230' (90°)	230' (90°)	450' (174°)	230' (90°)
OVERALL HEIGHT		233'	233'	453'	233'
SPACING		348' (135°)	400' (155°)	Ref.	348' (135°)
PHASING:	Day	not used	not used	0°	15°
	Night:	-57°	171°	424°	not used
FIELD RATIO:	Day	not used	not used	1.0	0.9
	Night	1.0	0.9	1.75	not used
ORIENTATION: (Azimuth)		318°	135°	Ref.	55°

GROUND SYSTEM: 120 radials per tower No 10AWG soft copper wire uniformly spaced, buried approx. 8". Radials bonded along line between towers and bonded to a soft copper strap at tower base. Maximum radial length 371'.

Predicted effective field Day: RMS 1470 mv/m (208 mv/m for 1kw)
Night: RMS 1010 mv/m (209 mv/m for 1 kw)

FCC NOTE: Please retain the Daytime and Nighttime directional antenna radiation patterns notified for Station CFCN in Canadian Change List No. 191, dated October 16,1964, except for the vertical radiation pattern at Azimuth 210°, and attach to this corrected Description Sheet and corrected vertical radiation pattern at Azimuth 210°.

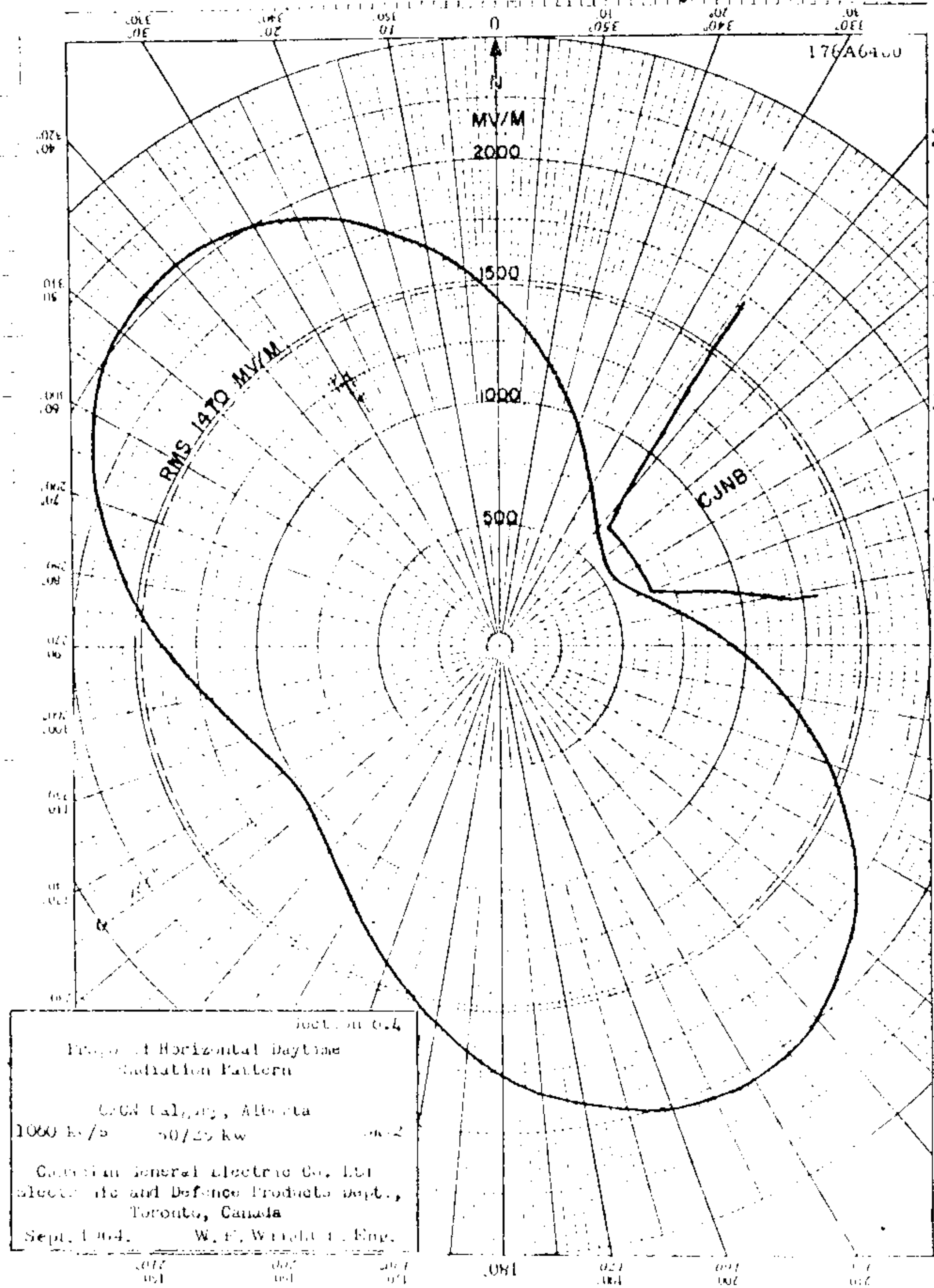
191

CFCN

Proposed Day
(6-28-65ct)

Station CFCN
Calgary, Alberta

25kw,50kw-LS,DA-2,U,Class II
1060 kc



CFCN

PROJECT #15402

DESCRIPTION SHEET - DIRECTIONAL ANTENNA

STATION: CFCN

FREQUENCY: 1060 kHz

NOTIFICATION LIST NO: 356

GEOGRAPHICAL LOCATION:

STATION LOCATION: Calgary, Alta.

POWER: 50 kW CLASS: II

DATE: June 15, 1976

50° 54' 12" North Latitude
114° 03' 30" West Longitude

ANTENNA CHARACTERISTICS:

Mode of Operation:	DA-N
Number of Elements:	3 (Three)
Type of Elements:	Guyed steel towers, uniform cross-section, base insulated for series feed

Tower	#1 (NW)	#2 (SE)	#3 (Centre)
Height above Base Insulators:	230'(90°)	230'(90°)	450'(174°)
Overall Height:	233'	233'	453'
Night Field Ratio	1.01	0.90	1.74
Night Phasing:	-71°	+91°	+24.5°
Orientation:	318°	125°	Ref.
Spacing:	348'(135°)	400'(155°)	Ref.

GROUND SYSTEM: 120 equally spaced radials of No. 10 B & S auge bare soft copper wire per tower, buried approximately 8". Length of radials, 371', (0.4 wavelength), with the exception of those joined along the common chords.

PREDICTED EFFECTIVE NIGHT FIELD:

1450 mV/m at 1 mile for 50 kW
205 mV/m at 1 mile for 1 kW

PREDICTED EFFECTIVE DAY FIELD:

1668 mV/m at 1 mile for 50 kW
236 mV/m at 1 mile for 1 kW

Please retain the night-time radiation patterns for CFCN notified in Change List No. 206 dated December 14, 1965. This notification concerns a change in day-time mode of operation.

April 9, 1975

155

CJLR
CJRP

DESCRIPTION SHEET
(3-8-61g)

Station CJLR 10kw,DA-1,U,Class II
Sillery, Quebec, Canada 1060 KC

DIRECTIONAL ARRAY - DESCRIPTION SHEET

STATION: CJLR MAIN STUDIO: Sillery, Que.

FREQUENCY: 1060 KC POWER: 10 KW CLASS: II

Notification List No.: 155 Date: January 30, 1961

GEOGRAPHICAL LOCATION OF THE ANTENNA ARRAY:

NORTH LATITUDE: 46° 41' 08"

WEST LONGITUDE: 71° 19' 54"

ANTENNA CHARACTERISTICS:

Mode of Operation: Directional full time, same pattern day and night (DA-1)

Number of Elements: Three (3)

Type of Elements: Square uniform cross-section, guyed, insulated from ground, series fed, no top loading.

TOWER:	#1 (SW)	#2 (C)	#3 (NE)
HEIGHT ABOVE INSULATORS:	250'	250'	250' (97°)
OVERALL HEIGHT:	255'	255'	255'
SPACING:	232' (90°) between adjacent towers.		
PHASING:	105° leading	0	105° lagging
FIELD RATIO:	0.508	1	0.508

ORIENTATION: Line of towers 60° East of True North

GROUND SYSTEM: 120 equally spaced radials per mast extending to a maximum distance of 410' (0.4 of a wavelength), or to the limit of the property, bonded on a line equidistant between towers. Radials are No. 10 B & S bare copper wire buried 6 to 8 inches.

PREDICTED EFFECTIVE FIELD: 614 mv/m at 1 mile for 10 Kw radiated or 195.25 mv/m at 1 mile per Kw radiated

CJLR
RP

Description Sheet
(8-28-67ct)

Station CJLR
Quebec, Quebec

10kw,DA-2,U,Class II
1060 kc

DIRECTIONAL ARRAY - DESCRIPTION SHEET

Station : CJLR

Main Studio : Quebec, Que.

Frequency : 1060 KHz

Power : 10 Kw

Class : II

Mode : DA-2 U

Notification List No. : 229

Date : July 31, 1967.

Geographical Location of the Antenna System : 46° 41' 08" N. Lat. 71° 19' 54" W. Long.,

Antenna Characteristics : Three elements, square and uniform cross-section, guyed, insulated from ground, series fed, no top loading.

Tower No.:	1 (SW)	2 (C)	3 (NE)
Height above Insulator:	250 ft (97°)	250 ft	250 ft
Overall Height:	255 ft	255 ft	255 ft
Spacing:	232 ft (90°) between adj. towers.		
Phasing - Day :	0°	-135°	
- Night:	$+105^{\circ}$	0°	-105°
Field Ratio - Day:	1	0.6	
- Night:	0.508	1	0.508
Orientation :	Line of towers 60° East of True North		

Ground System : 120 equally spaced radials per mast extending to a maximum distance of 410 ft (0.4 λ) or to the limit of the property, bonded on a line equidistant between towers. Radials are No.10 B&S bare copper wire, buried 8 inches in ground.

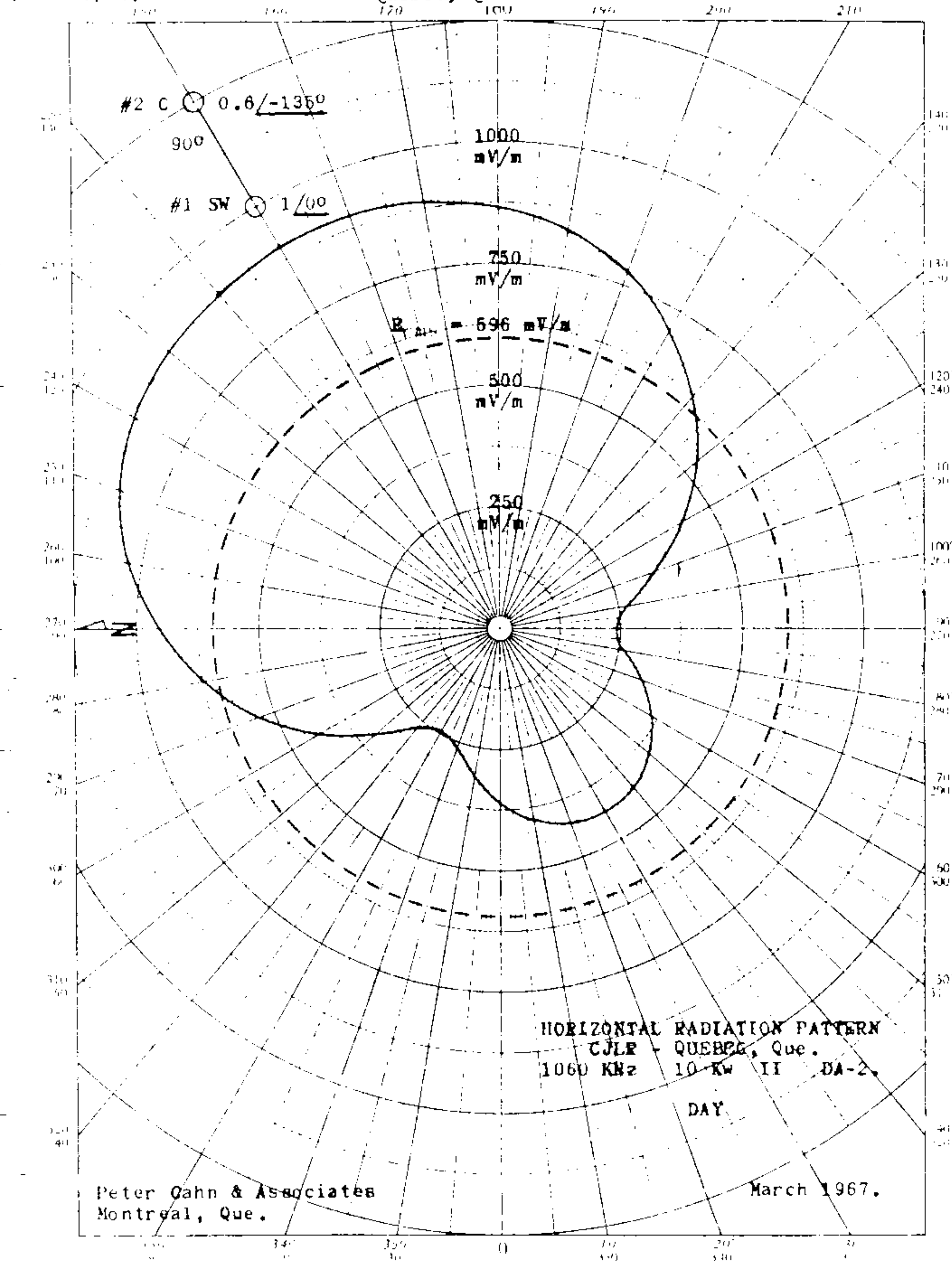
Expected Efficiency : Day - 596 mV/m at 1 mile for 10 Kw
189 mV/m at 1 mile for 1 Kw;
Night - 614 mV/m at 1 mile for 10 Kw
195 mV/m at 1 mile for 1 Kw.

Proposed Day
(8-28-67ct)

Station CJLR
Quebec, Quebec

10kw,DA-2,U,Class II
1060 kc

RP



Peter Cahn & Associates
Montreal, Que.

March 1967.

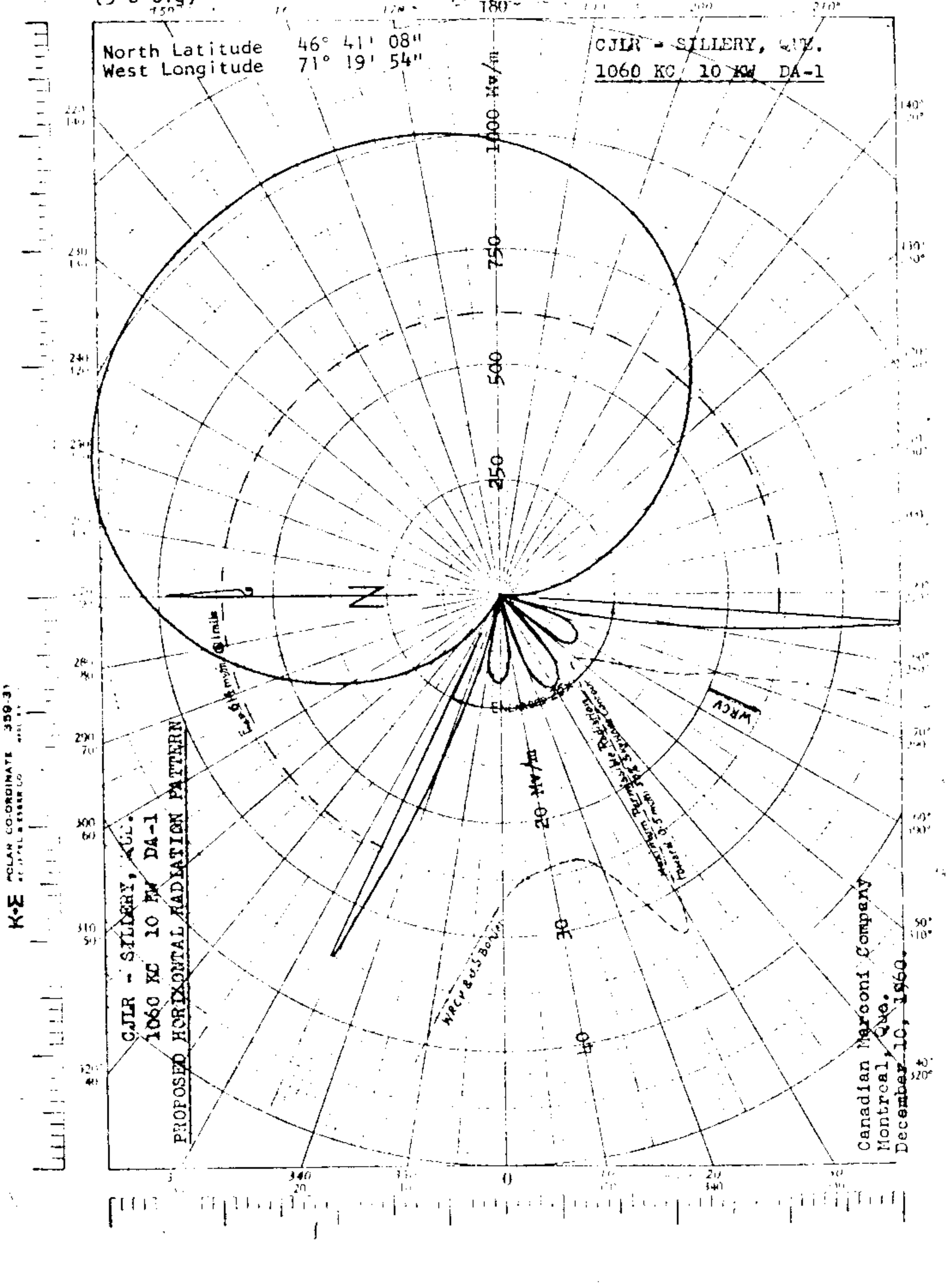
#55

CJLR
RP

PROPOSED DAY & NIGHT
(3-8-61g)

Station CJLR
Sillery, Quebec, Canada

10kw, DA-1,U,Class II
1060 KC

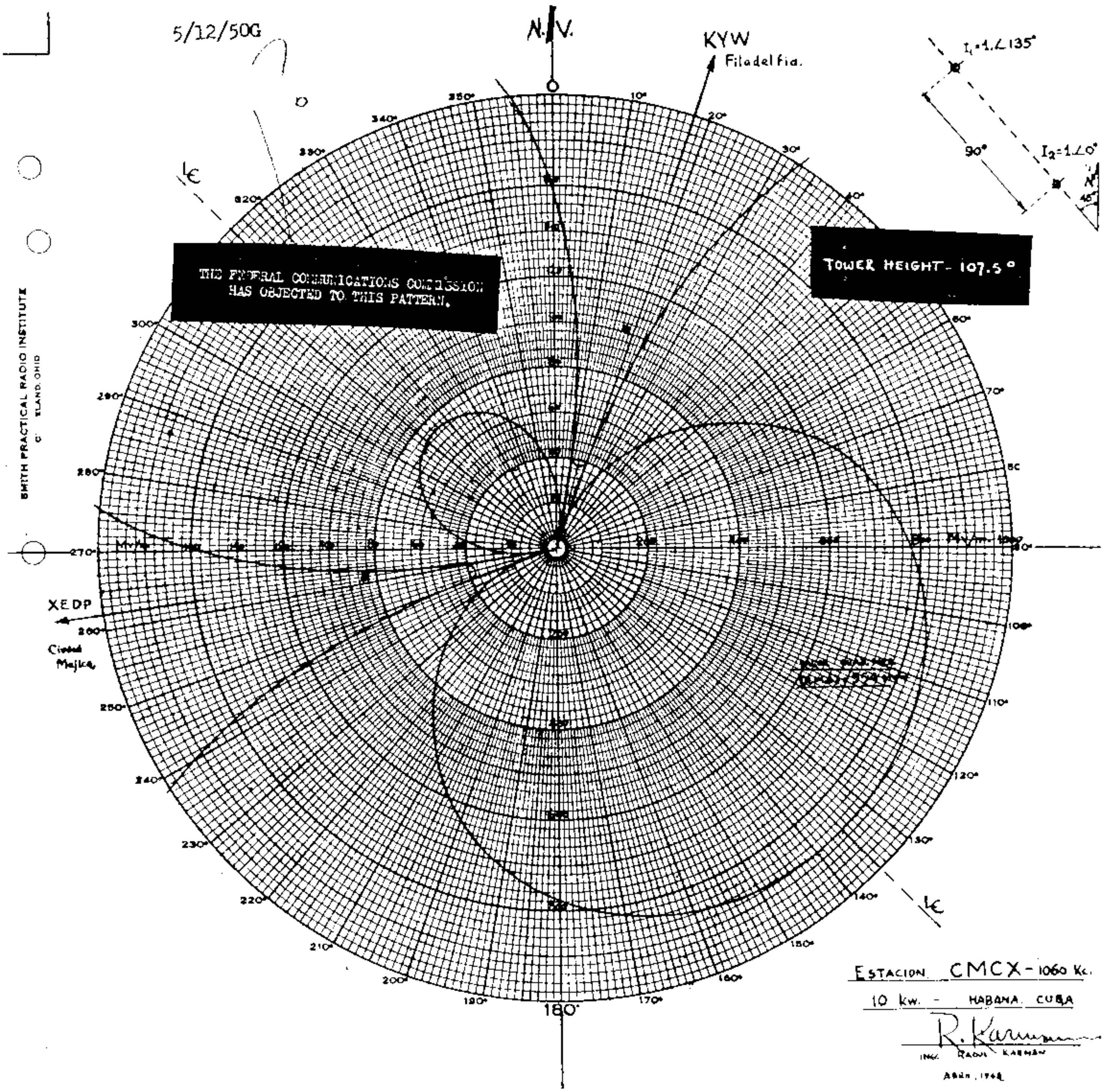


Cuba

CMCX

PROPOSED CMCX, HAVANA, CUBA 10kw, DA 1060 kc

5/12/50G



CMCX, Havana, Cuba 1060 kc

VAN BUREN, AK

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (New)	Main Studio: Van Buren, Arkansas
Frequency: 1060	Power: 0.5 kW Day
Notification List No. 1776	Date: June 28, 1978 Class: II

GEORGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude:	35°	25'	36"
West Longitude:	94°	18'	11"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements 2
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER	W(#2)	E(#1)
HEIGHT ABOVE INSULATORS	180'	180' (69.8°)
PHASING	-180°	0°
FIELD RATIO	0.65	1

SPACING AND ORIENTATION: Towers are spaced 232' (90°) on a line bearing 290° true.

GROUND SYSTEM: 120-232' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

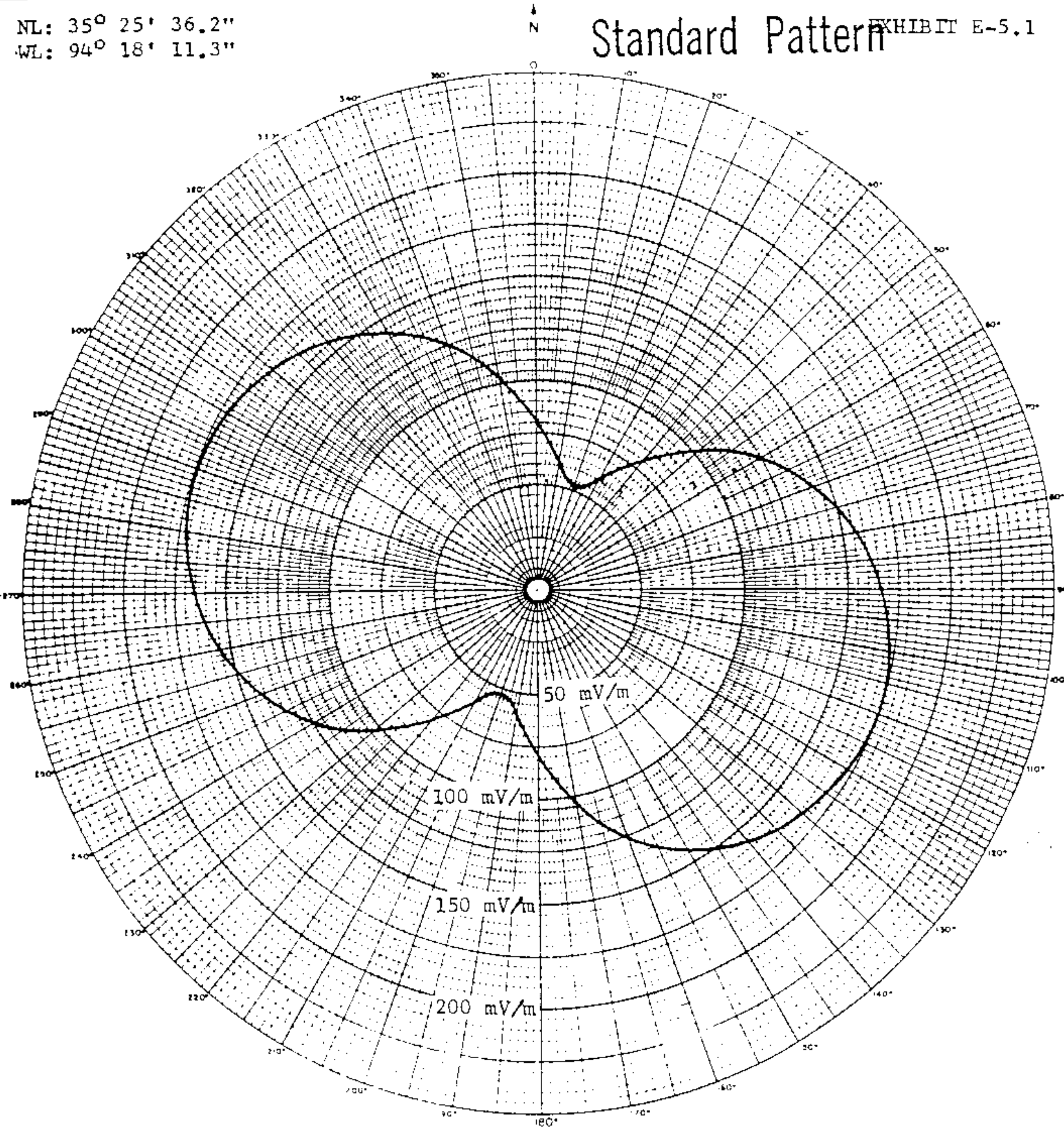
	THEORETICAL		STANDARD
	RMS	RSS	RMS
1/	By adjustment of input power.		
1/	125 mV/m	165.736 mV/m	131.401 mV/m

VAN BUREN, AK

NL: 35° 25' 36.2"
WL: 94° 18' 11.3"

Standard Pattern

EXHIBIT E-5.1



STANDARD HORIZONTAL RADIATION PATTERN

PROPOSED AM STATION
CRAWFORD COUNTY COMMUNICATIONS, INC.
1060 KHZ - 0.5 KW DA-D
VAN BUREN, ARKANSAS
MARCH 1977

0.65∠-180° — 1/0°
290° ← ⊕ — 90° — 232 FEET — ⊕

K FACTOR	138.983 mV/m
THEO. RMS	125 mV/m Adj.
THEO. RSS	165.763 mV/m
STD. RMS	131.401 mV/m
Q FACTOR	6
ELECT. HEIGHT	62.8° - 180 FEET

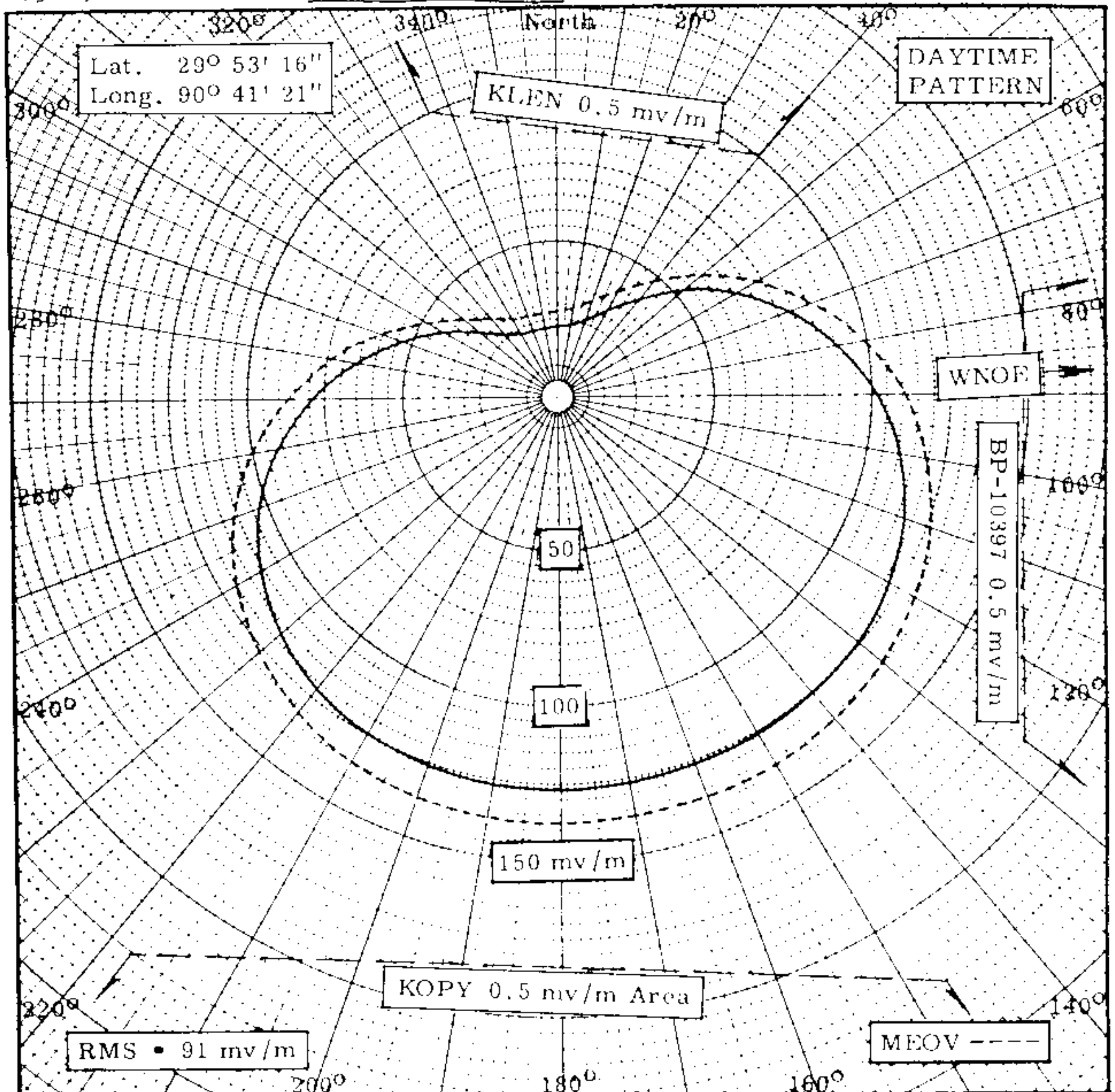
ROBERT L. MIERS
CONSULTING RADIO ENGINEER
P.O. BOX 12 ROLLA MISSOURI 65401 PHONE 314 364-3146

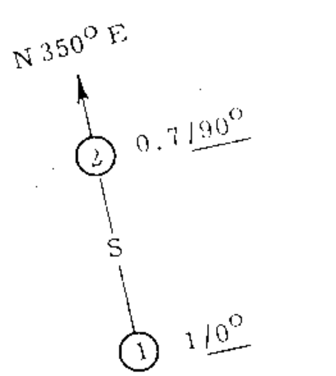
KCLT

Proposed Day
(11-29-65ct)

New; Heath-Reasoner Broadcasters 250w,DA-D,D
Lockhart, Texas 1060 kc

BP 16726
CP 8-24-66





S = 90° = 232.5'
G's = 60° = 155'
(Top loaded to 70°)

HEATH-REASONER BROADCASTERS
LOCKHART, TEXAS

PROPOSED DAYTIME DIRECTIONAL
HORIZONTAL PLANE RADIATION PATTERN
1060 KC DA-D 250 WATTS

041965

FIGURE B

MERL SAXON
CONSULTING RADIO ENGINEER
LUFKIN, TEXAS

FCC File No. BP-16726
Accepted 10-27-65

New; Heath-Reasoner Broadcasters
Lockhart, Texas 1060 kc

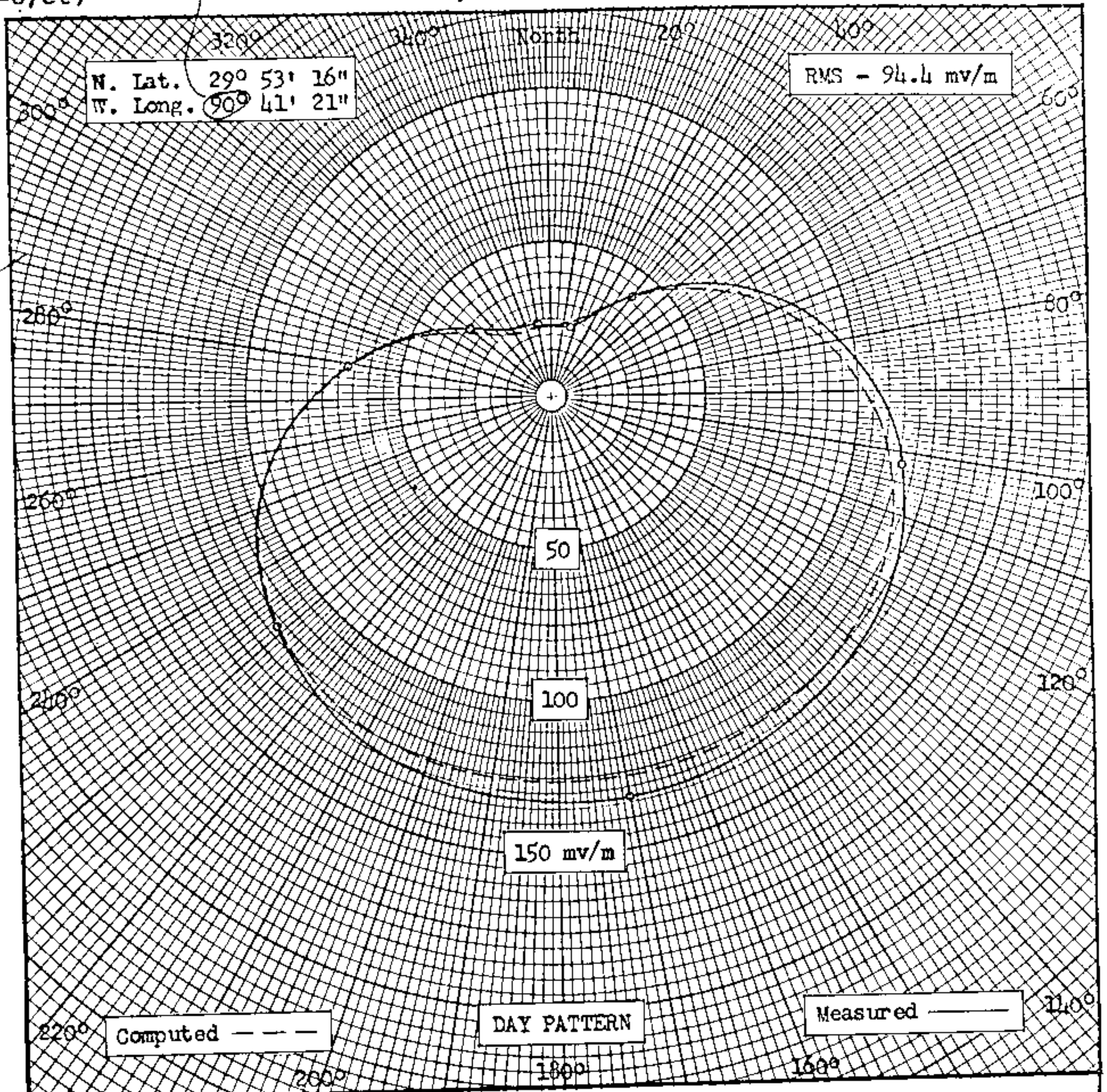
KCLT

Measured Day
(3-29-67ct)

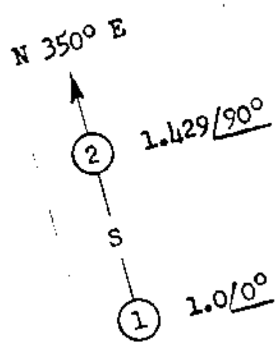
Station KHRB
Lockhart, Texas

250w,DA-D,D
1060 kc

BL-11588
GRANTED
LICENSE
5-16-67
COV. NEW AM
STATION.



Theoretical



S - 90° - 232.5'
G's - 60° - 155'
(Top Loaded to 70°)

RADIO STATION KHRB
LOCKHART, TEXAS

MEASURED DIRECTIONAL
HORIZONTAL PLANE RADIATION PATTERN
1060 KC 250 WATTS

030167

MERL SAXON
CONSULTING RADIO ENGINEER
LUFKIN, TEXAS

FCC File No.BL-11588
Accepted 3-22-67

Station KHRB
Lockhart, Texas

1060 kc

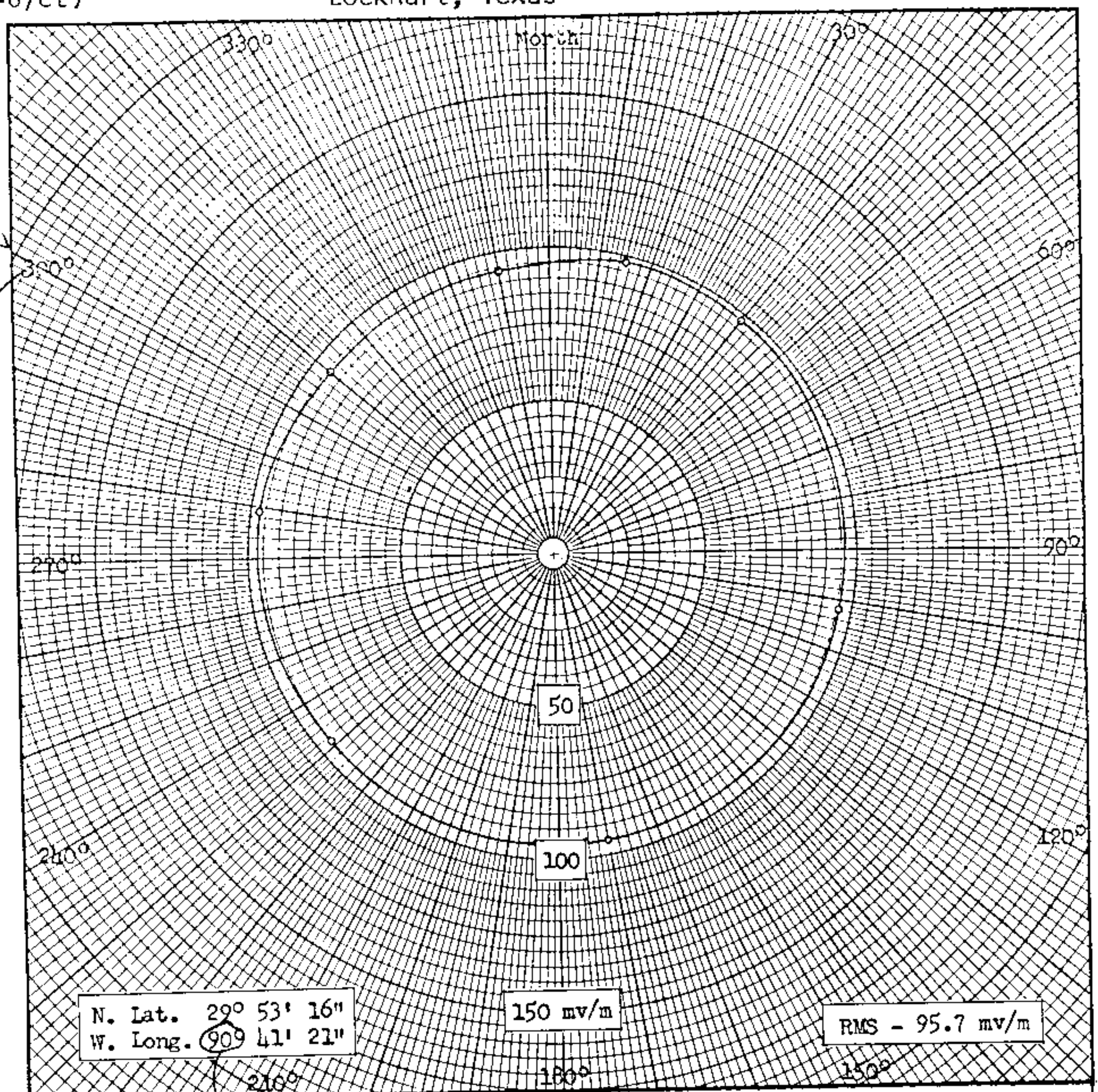
KCLT

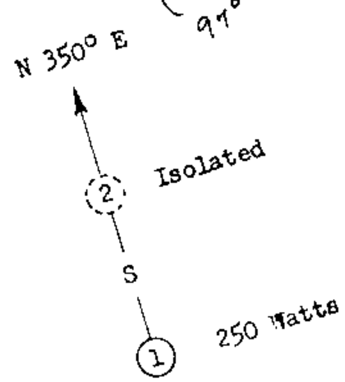
Measured Non-DA
(3-29-67ct)

Station KHRB
Lockhart, Texas

250w,DA-D,D
1060 kc

BL-11588
GRANTED
LICENSE
5-16-67
COV. NEW
AM STATION





S - 90° - 232.5'
G's - 60° - 155'
(Top Loaded to 70°)

RADIO STATION KHRB
LOCKHART, TEXAS

MEASURED NON-DIRECTIONAL
HORIZONTAL PLANE RADIATION PATTERN
1060 KC 250 WATTS

030167

MERL SAXON
CONSULTING RADIO ENGINEER
LUFKIN, TEXAS

FCC File No.BL-11588
Accepted 3-22-67

Station KHRB
Lockhart, Texas

1060 kc

KGFX

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KGFX

Main Studio: Pierre, South Dakota

Frequency: 1060 kHz

Power: 1 kW Night 10 kW Day

Notification List No. 1711

Date: November 30, 1976 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 44° 17' 12"
West Longitude: 100° 20' 18"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Number of elements: 4
Type of elements: Series excited, uniform cross-section, guyed vertical steel towers.

TOWER:	NW(#4)	SW(#3)	NE(#2)	SE(#1)
HEIGHT ABOVE INSULATORS:	230'	230'	230'	230' (89.2°)
NIGHT PHASING:	-105°	+19°	-124°	0°
NIGHT FIELD RATIO:	1.0824	0.92	1.1765	1
DAY PHASING:	-	-	0°	+97°
DAY FIELD RATIO:	-	-	1	0.75

SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 575'(223°) in length on a line bearing 270° true. The short sides are 232' (90°) in length on a line bearing 320° true.

GROUND SYSTEM: 120-232' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	602 mv/m	- mv/m	- mv/m
Night	193.79 mv/m	274.4 mv/m	203.61 mv/m

(Cont'd)

NIGHTTIME PATTERN AUGMENTATION

Azimuth of Maximum Augmentation	Augmented Radiation E_2	Span of Augmentation From - To
103°	21.0	93° - 113°
250°	179.0	245° - 255°
300°	173.0	295° - 305°

Note: Please retain the Daytime directional antenna radiation pattern notified for station KGFX in United States Change List Number 1150 dated February 9, 1966 and attach to this Revised Description Sheet and Nighttime pattern. This notification concerns only a change in the Nighttime operation of the station with Daytime operation continued as previously notified, and with corrected geographical coordinates.

CTR NO 30260A3

KGFX

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KGFX — Main Studio: Pierre, South Dakota

Frequency: 1060 kHz — Power: 1 kW Night 10 kW Day

Notification List No. 1608 — Date: November 27, 1974 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:
North Latitude: 44° 17' 10"
West Longitude: 100° 20' 17"

ANTENNA CHARACTERISTICS

Authorized for Daytime and Nighttime operation. (DA-2)
Day directional antenna radiation pattern: THEORETICAL
Night directional antenna radiation pattern: STANDARD
Number of elements: 4
Type of elements: Series-excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	NW(#4)	SW(#3)	NE(#2)	SE(#1)
HEIGHT ABOVE INSULATORS:	230'	230'	230'	230' (89.2°)
NIGHT PHASING:	-105°	+19°	-124°	0°
NIGHT FIELD RATIO:	1.0824	0.92	1.1765	1
DAY PHASING:	-	-	0°	+97
DAY FIELD RATIO:	-	-	1	0.75

SPACING AND ORIENTATION: The towers are located at the vertices of a parallelogram the long sides of which are 575' (223°) in length on a line bearing 270° true. The short sides are 232' (90°) in length on a line bearing 320° true.

GROUND SYSTEM: 120-232' equally spaced copper radials plus 120-50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Nighttime	193.79 mv/m	274 mv/m	203.61 mv/m
Daytime	602 mv/m	-	-

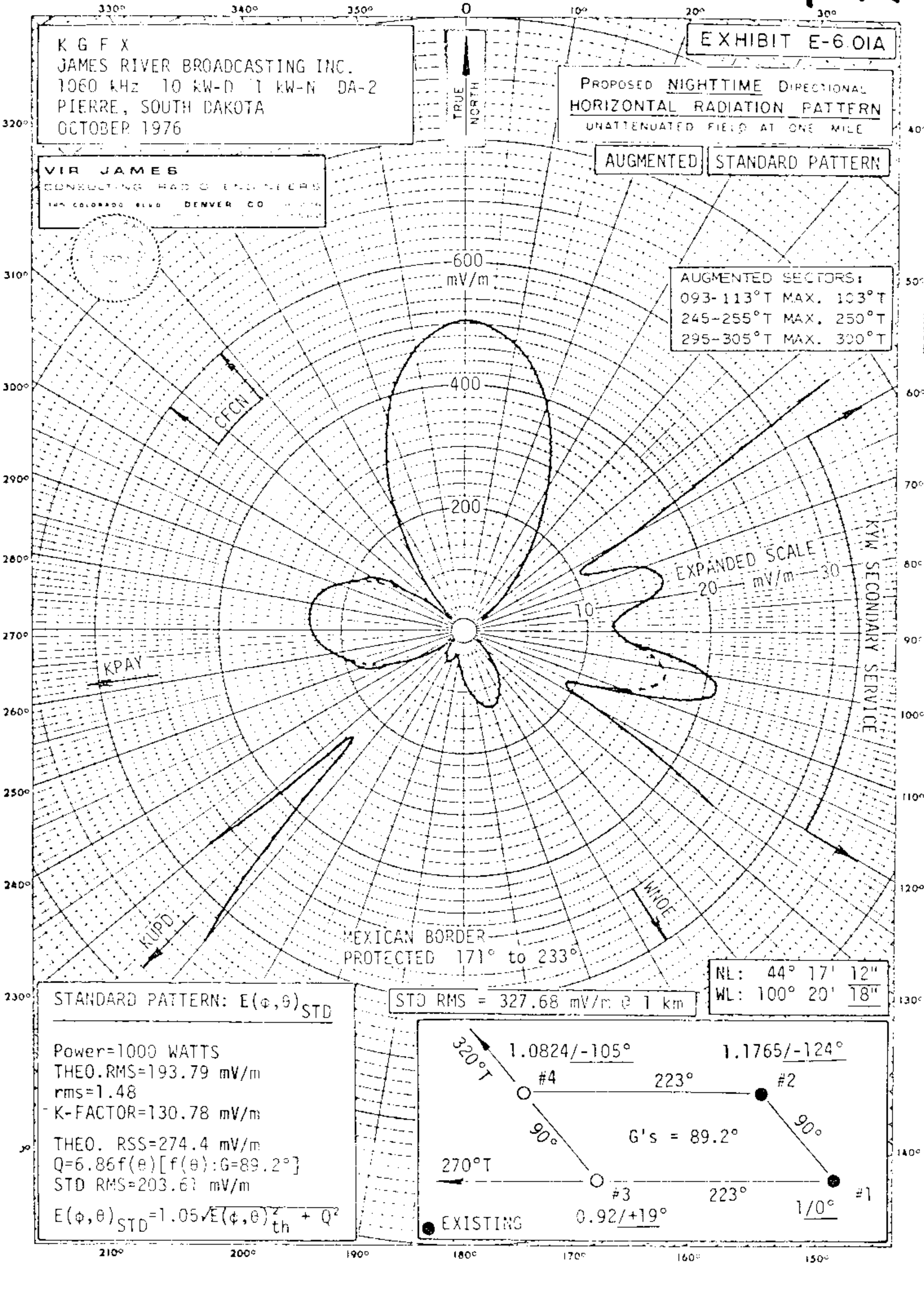
COHEN AND DIPPELL
RECEIVED
MAY 22 1975
D.C.

(Cont'd)

Note: Please retain the Daytime directional antenna radiation pattern notified for station KGFX in United States Change List Number 1150 dated February 9, 1966 and attach to this Revised Description Sheet and Nighttime patterns. This notification concerns a change to add new Nighttime operation with Daytime operation continued as previously notified.

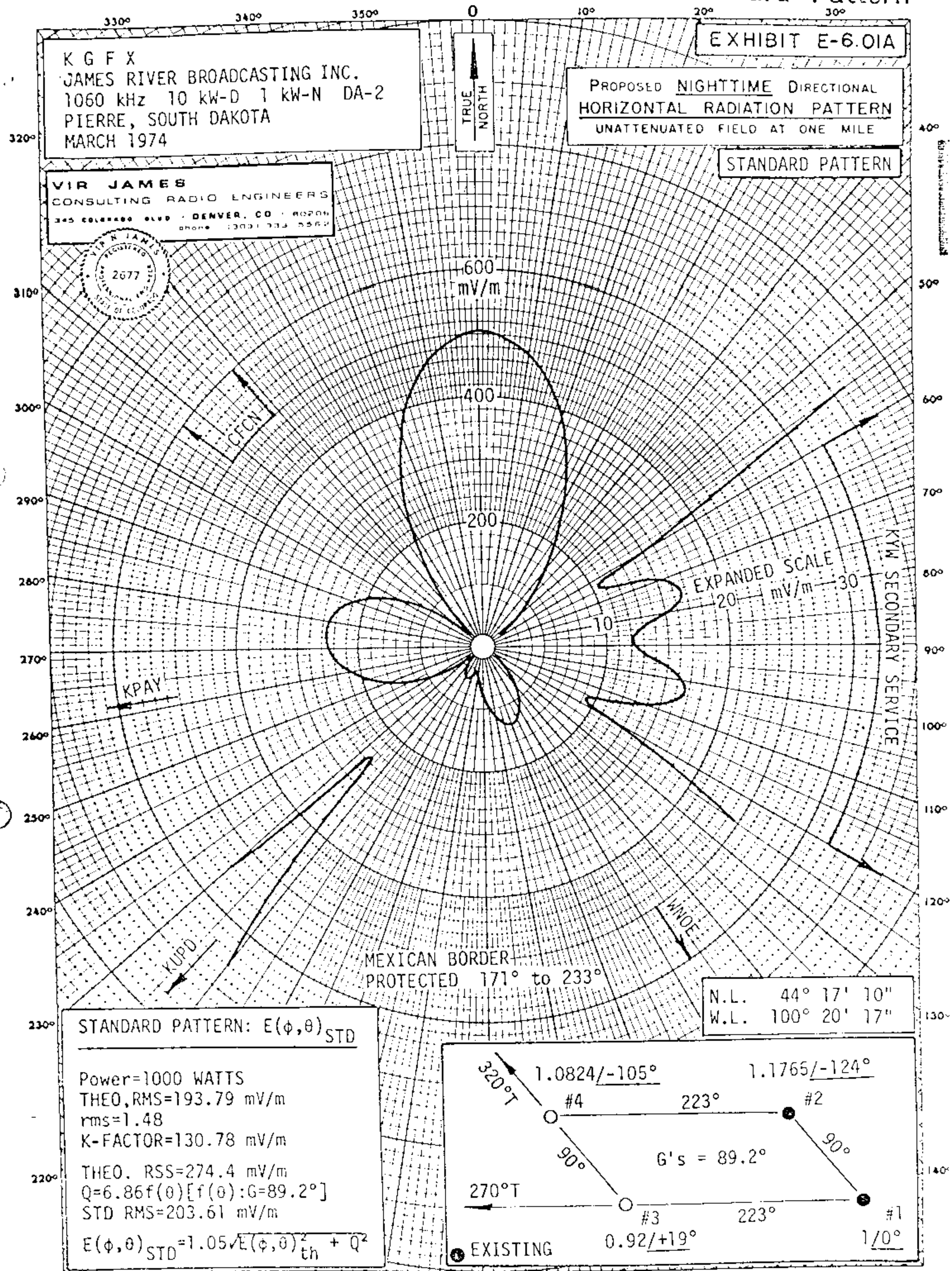
CTR NO 30260A3

KGFX



K G F X
JAMES RIVER BROADCASTING INC.
1060 kHz 10 kW-D 1 kW-N DA-2
PIERRE, SOUTH DAKOTA
OCTOBER 1976
VIR JAMES
CONSULTING RADIO ENGINEERS
DENVER CO
TRUE NORTH
EXHIBIT E-6.01A
PROPOSED NIGHTTIME DIRECTIONAL
HORIZONTAL RADIATION PATTERN
UNATTENUATED FIELD AT ONE MILE
AUGMENTED
STANDARD PATTERN
AUGMENTED SECTORS:
093-113°T MAX. 103°T
245-255°T MAX. 250°T
295-305°T MAX. 300°T
600 mV/m
400
200
EXPANDED SCALE
10
20 mV/m 30
CFCN
KPAY
KUPD
WNOE
KYW SECONDARY SERVICE
MEXICAN BORDER
PROTECTED 171° to 233°
NL: 44° 17' 12"
WL: 100° 20' 18"
STD RMS = 327.68 mV/m @ 1 km
STANDARD PATTERN: E(φ,θ)STD
Power=1000 WATTS
THEO.RMS=193.79 mV/m
rms=1.48
K-FACTOR=130.78 mV/m
THEO. RSS=274.4 mV/m
Q=6.86f(θ)[f(θ):G=89.2°]
STD RMS=203.61 mV/m
E(φ,θ)STD=1.05√E(φ,θ)²th + Q²
320°T
1.0824/-105°
1.1765/-124°
#4
223°
#2
90°
G's = 89.2°
90°
270°T
#3
223°
#1
0.92/+19°
1/0°
EXISTING

KGFX Standard Pattern



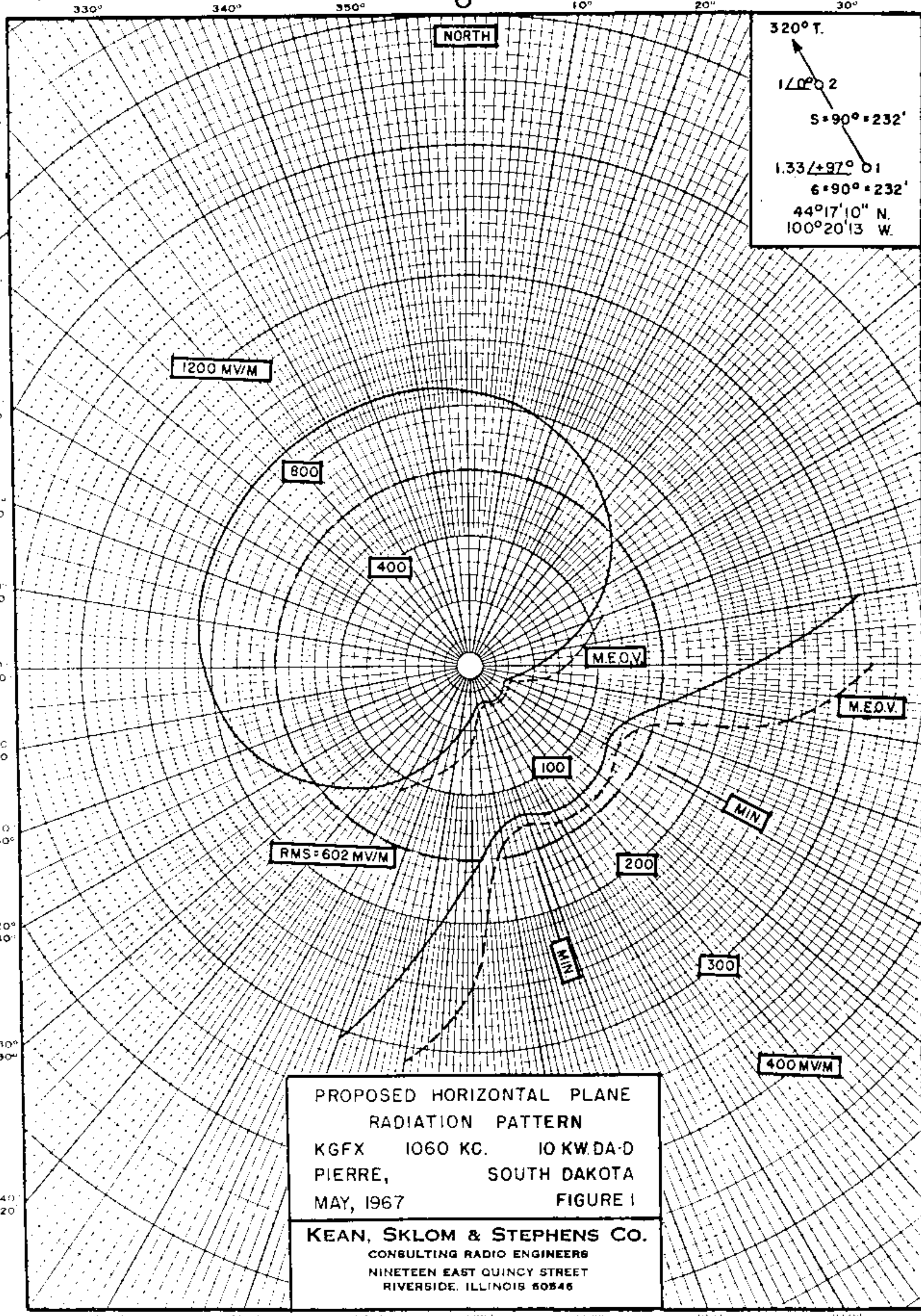
KGFX

Proposed Day
(8-28-67ct)

Station KGFX
Pierre, South Dakota

10kw,DA-D,D
1060 kc

8-10-67
GRANTED
LICENSE
CHANGE IN
FREQU, INCR
IN POWER



FCC File No.BL-11696
Accepted 7-28-67

Station KGFX
Pierre, South Dakota

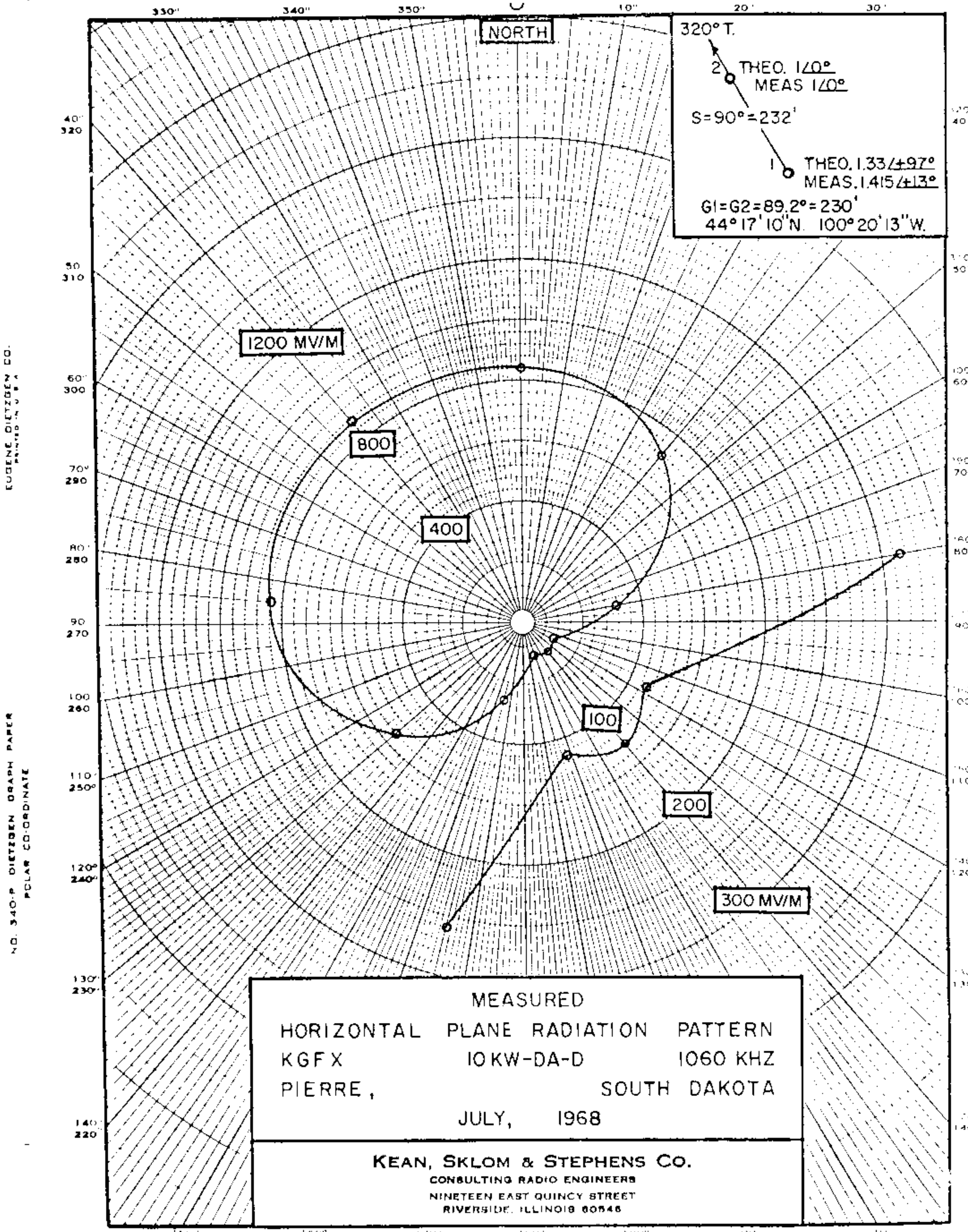
1060 kc

KGFX

Measured Day
(8-28-68ct)

Station KGFX
Pierre, South Dakota

10kw,DA-D,D
1060 kc



FCC File No. BRC3277
Accepted 8-21-68

Station KGFX
Pierre, South Dakota

1060 kc

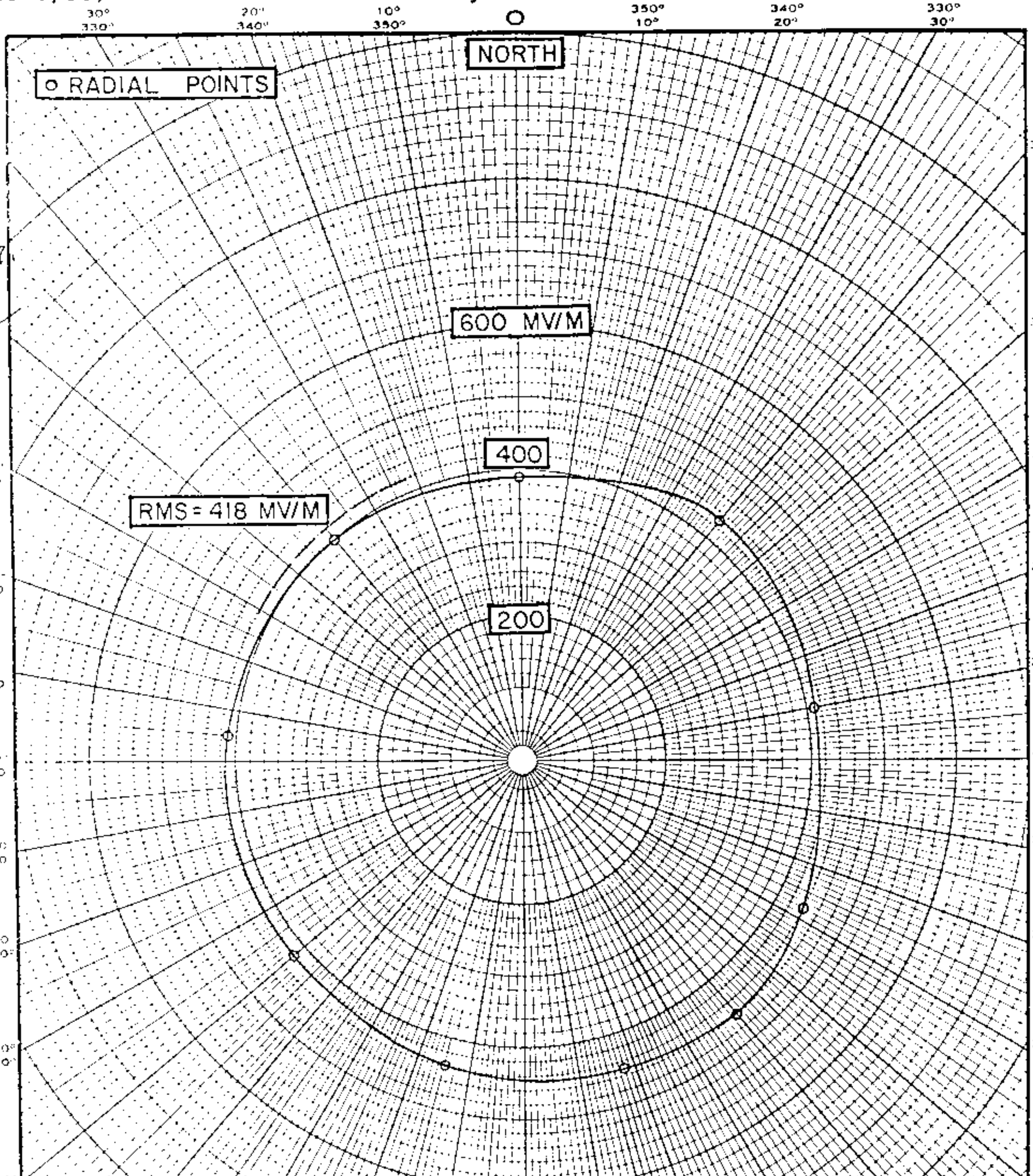
KGFX

Measured Non-DA
(8-28-67ct)

Station KGFX
Pierre, South Dakota

10kw,DA-D,D
1060 kc

8-10-67
GRANTED
LICENSE
CHANGE IN
FREQU, INCR
IN POWER



HORIZONTAL PLANE RADIATION PATTERN
NORTH TOWER FED 5 KW.
KGFX 10 KW-DA-D 1060 KC
PIERRE, SOUTH DAKOTA
MEASURED APRIL, 1967

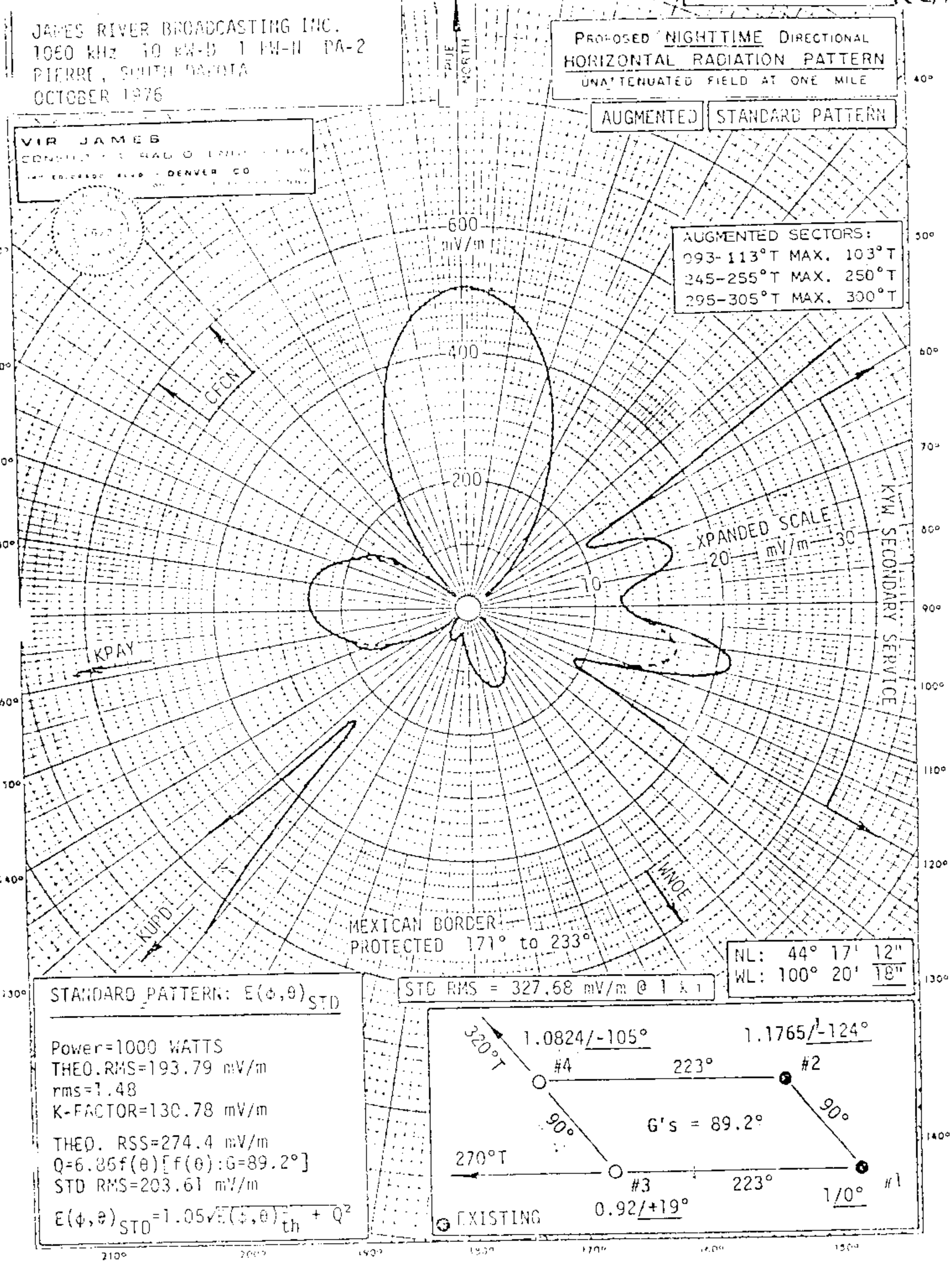
KEAN, SKLOM & STEPHENS CO.
CONSULTING RADIO ENGINEERS
NINETEEN EAST QUINCY STREET
RIVERSIDE, ILLINOIS 60540

FCC File No. BL-11696
Accepted 7-28-67

Station KGFX
Pierre, South Dakota

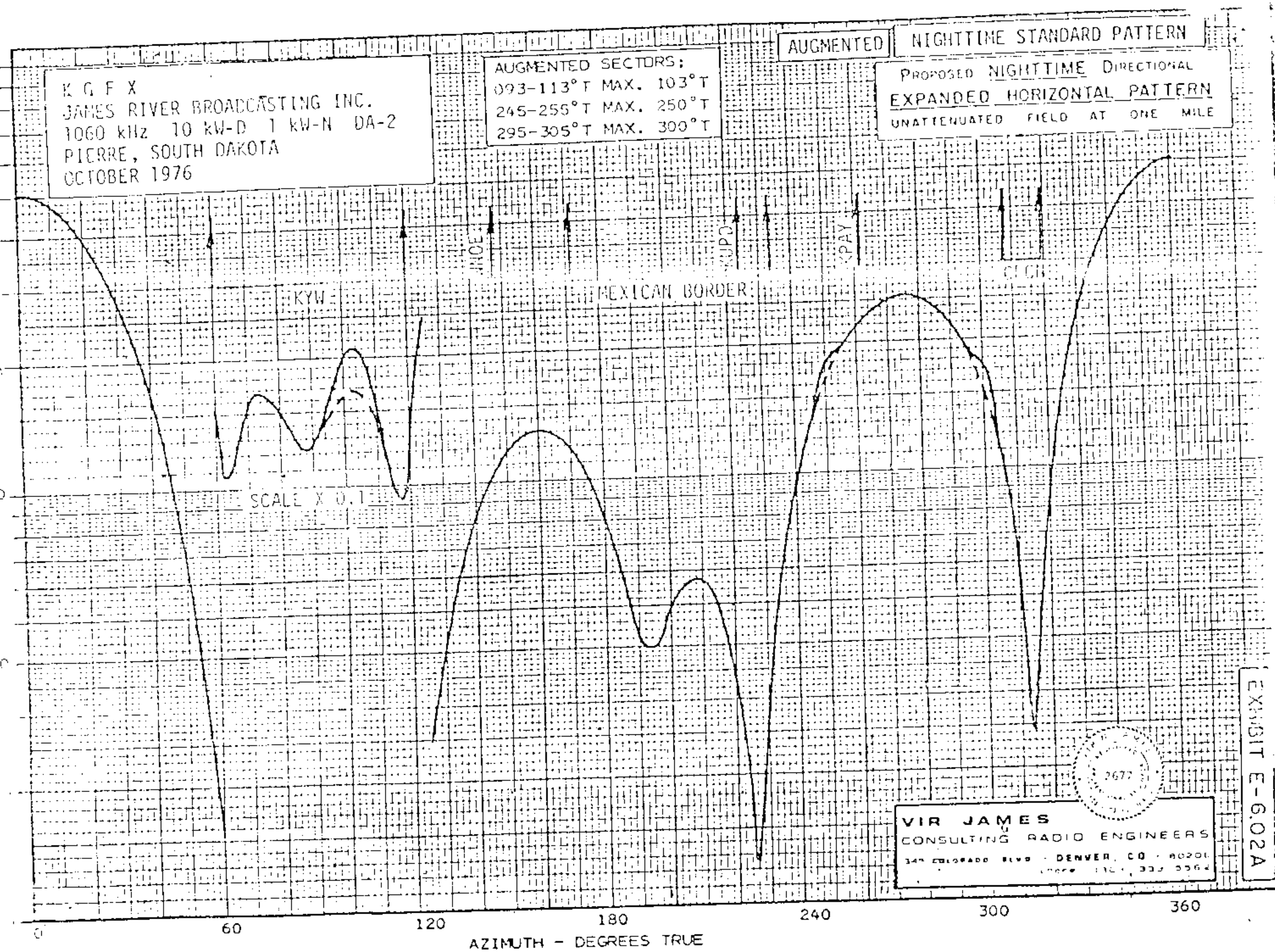
1060 kc

KGFX



JAMES RIVER BROADCASTING INC.
1060 kHz 10 kW-D 1 kW-N DA-2
PIERRE, SOUTH DAKOTA
OCTOBER 1976
TRUE NORTH
PROPOSED NIGHTTIME DIRECTIONAL
HORIZONTAL RADIATION PATTERN
UNATTENUATED FIELD AT ONE MILE
AUGMENTED
STANDARD PATTERN
VIR JAMES
DENVER CO
AUGMENTED SECTORS:
093-113°T MAX. 103°T
245-255°T MAX. 250°T
295-305°T MAX. 300°T
600
mV/m
400
200
10
EXPANDED SCALE
20 mV/m 30
CFCN
KYW SECONDARY SERVICE
KPAY
KUPD
WNOE
MEXICAN BORDER
PROTECTED 171° to 233°
NL: 44° 17' 12"
WL: 100° 20' 18"
STD RMS = 327.68 mV/m @ 1 λ
STANDARD PATTERN: E(φ,θ)STD
Power=1000 WATTS
THEO.RMS=193.79 mV/m
rms=1.48
K-FACTOR=130.78 mV/m
THEO. RSS=274.4 mV/m
Q=6.86f(θ)[f(θ):G=89.2°]
STD RMS=203.61 mV/m
E(φ,θ)STD=1.05√E(φ,θ)²th + Q²
320°T
1.0824/-105°
1.1765/-124°
#4
223°
#2
90°
G's = 89.2°
90°
270°T
#3
223°
#1
0.92/+19°
1/0°
EXISTING

KGFX



AUGMENTED
NIGHTTIME STANDARD PATTERN
PROPOSED NIGHTTIME DIRECTIONAL
EXPANDED HORIZONTAL PATTERN
UNATTENUATED FIELD AT ONE MILE
K G F X
JAMES RIVER BROADCASTING INC.
1060 kHz 10 kW-D 1 kW-N DA-2
PIERRE, SOUTH DAKOTA
OCTOBER 1976
AUGMENTED SECTORS:
093-113°T MAX. 103°T
245-255°T MAX. 250°T
295-305°T MAX. 300°T
KYW
WOE
KUPD
KPAY
MEXICAN BORDER
SCALE X 0.1
0
60
120
180
240
300
360
AZIMUTH - DEGREES TRUE
EXHIBIT E-6.02A
VIR JAMES
CONSULTING RADIO ENGINEERS
DENVER, CO

KKKQ

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KKKQ

Main Studio: Tempe, Arizona

Frequency: 1060 KHz

Power: 0.5 Kw Night 5 Kw Day

Notification: 1778

Date: August 30, 1978 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 33° 22' 33"
West Longitude: 111° 57' 56"

Predicted effective Daytime Field (omnidirectional) 425 mv/m at rated power.

ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER :	#1 (NW)	#2 (C)	#3 (SE)			
HEIGHT ABOVE INSULATORS :	230	230	230	(89°)		
NIGHT PHASING :	+94.0°	+8.1°	-94.0°			
NIGHT FIELD RATIO:	1.0	1.994	1.0			

SPACING AND ORIENTATION : Adjacent towers in a row are spaced 258' (100°) on a line bearing 155° true.

GROUND SYSTEM: 120 - 230' equally spaced copper radials plus 120 - 50' interspaced radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

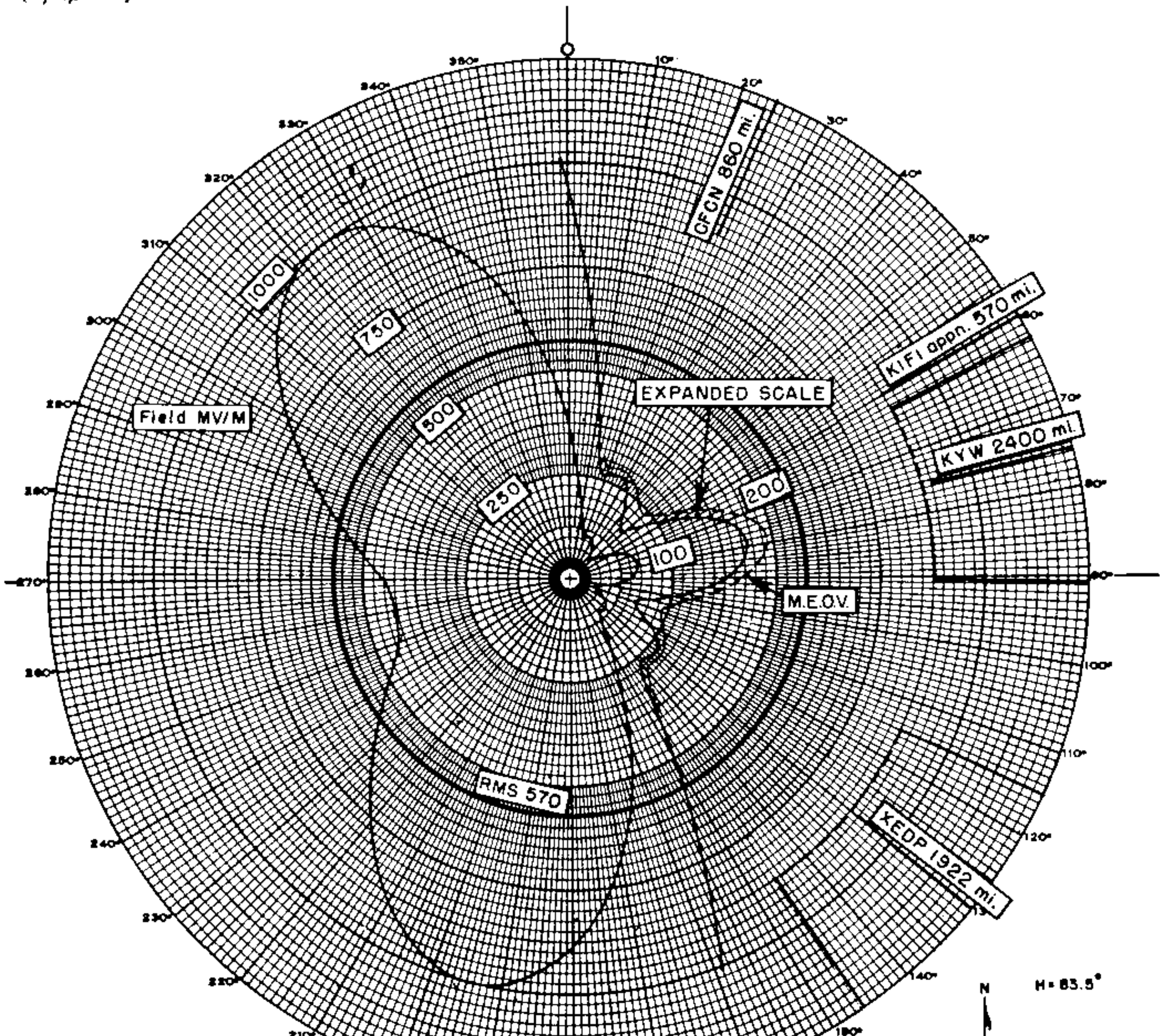
PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Night	135 mv/m	____________	____________

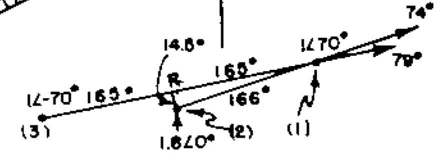
Note: Please retain the Nighttime directional antenna radiation pattern notified for Station (new) Tempe, Arizona in United States Change List Number 805 dated April 8, 1959 and attach to this Revised Description Sheet. This notification concerns only a change in the Daytime operation of the station with Nighttime operation continued as previously notified.

~~KXOC~~
KPAY
1060 kc

PROPOSED KXOC CHICO, CALIF. 10KW, U, DA-N
NIGHT (8/3/53G)



39°42'38" N
121°47'20" W

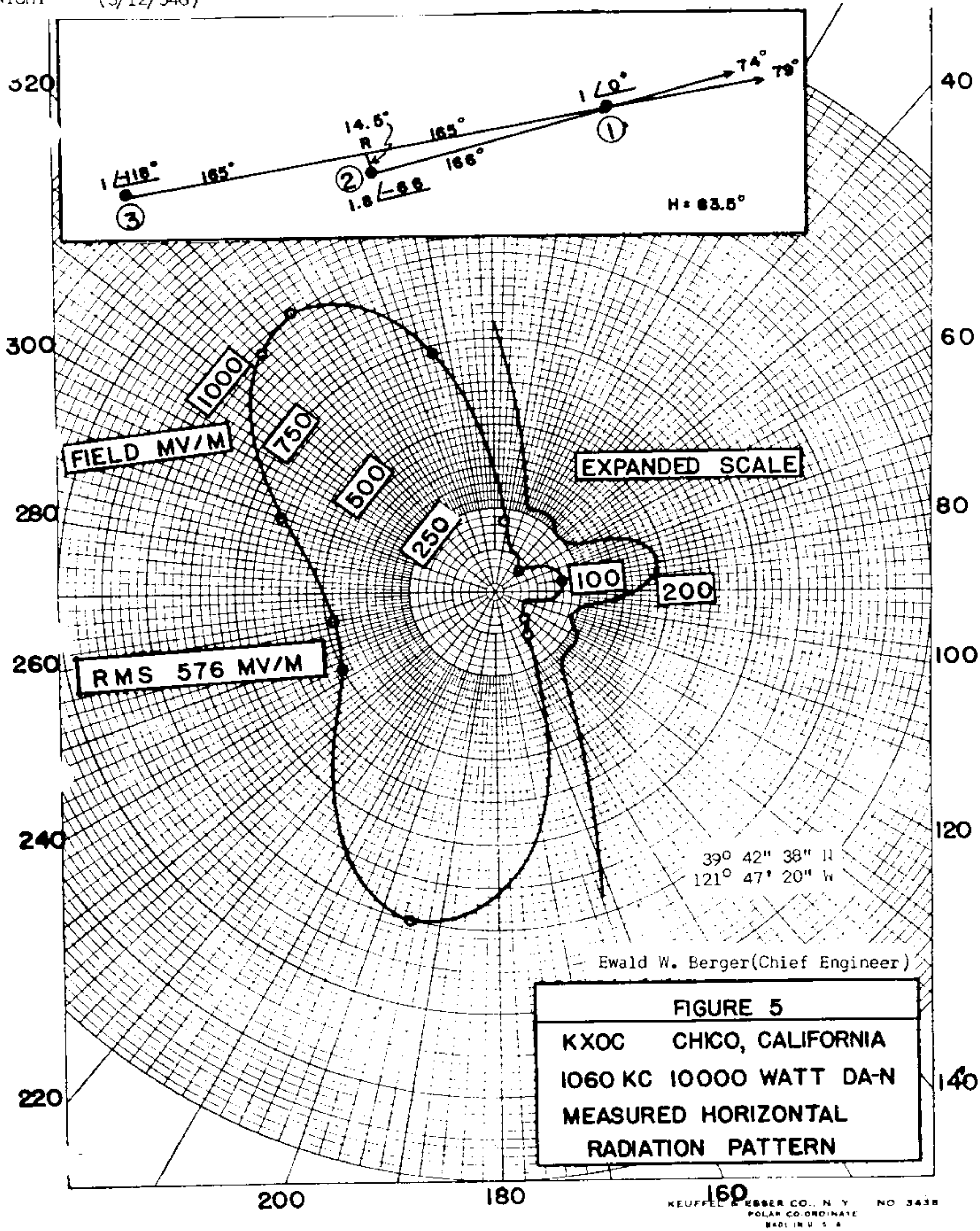


KXOC, INC. **CHICO, CALIFORNIA**	Figure I 1060 KC 10000 WATTS NIGHT
DIRECTIONAL ANTENNA PATTERN	**FRANK H. McINTOSH** *Consulting Radio Engineers* Washington, D.C.

FCC FILE NO. BMP-6255 Accepted 7/20/53 KXOC, CHICO, CALIF. 1060 kc

KPAY ~~KXOC~~

MEASURED NIGHT (3/12/54G) KXOC, Chico, Calif. 10KW, U, DA-N 1060 kc



Ewald W. Berger(Chief Engineer)

FIGURE 5
KXOC CHICO, CALIFORNIA
1060 KC 10000 WATT DA-N
MEASURED HORIZONTAL
RADIATION PATTERN

FCC File No. BL-5226 Accepted 3/5/54 KXOC, Chico, Calif. 1060 kc

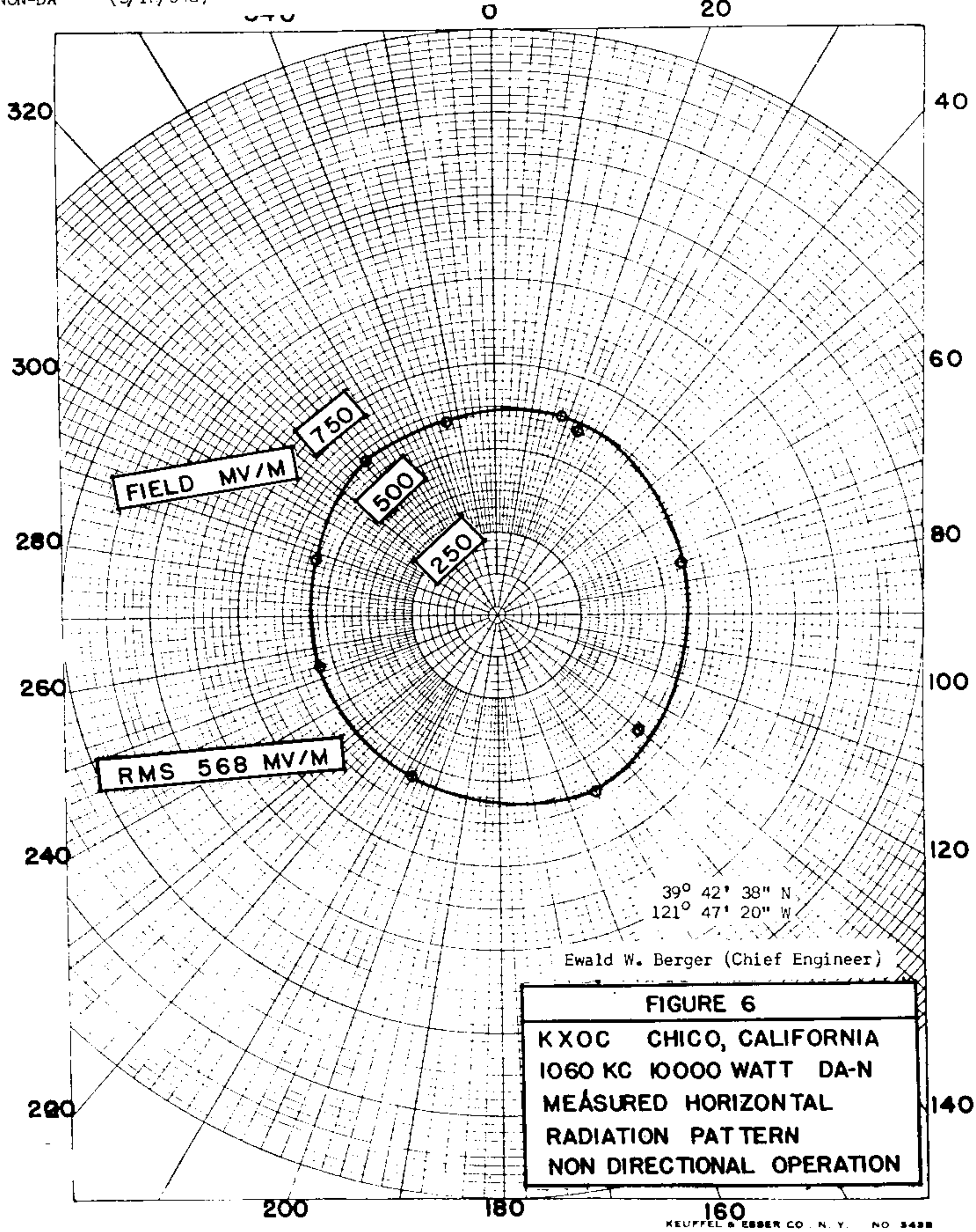
KPAY ~~KXOC~~

1060 kc

MEASURED
NON-DA

KXOC, Chico, Calif. (3/13/54G)

10KW, U, DA-N



1060 kc

FCC File No. BL-5226 Accepted 3/5/54 KXOC, Chico, Calif.

KRSP
1060kHz

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: KRSP

Main Studio: South Salt Lake, Utah

Frequency: 1060 kHz

Power: 1kw Night 10kw Day

Notification List No. 1783

Date: November 2, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTERS OF THE DAYTIME AND NIGHTTIME ANTENNA SYSTEMS:

DAYTIME				NIGHTTIME			
North Latitude:	40°	39'	20"	North Latitude:	40°	39'	15"
West Longitude:	111°	55'	24"	West Longitude:	111°	55'	24"

DAYTIME ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (ND-D)
Number of elements: 1
Type of element: vertical steel tower.

HEIGHT ABOVE INSULATORS: 420'

GROUND SYSTEM: 120-370' equally spaced copper radials about the tower.

NIGHTTIME ANTENNA CHARACTERISTICS

Authorized for Nighttime operation. (DA-N)
Number of elements: 4
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	#1 (NW)	#2 (NC)	#3 (SC)	#4 (SE)
HEIGHT ABOVE INSULATORS:	240'	240'	240'	240' (93.1°)
NIGHT PHASING:	0	+136.8	-25.3	+110
NIGHT FIELD RATIO:	1	1.256	1.055	0.94

SPACING AND ORIENTATION: Towers in a row are spaced 257.8' (100°) on a line bearing 131° true.

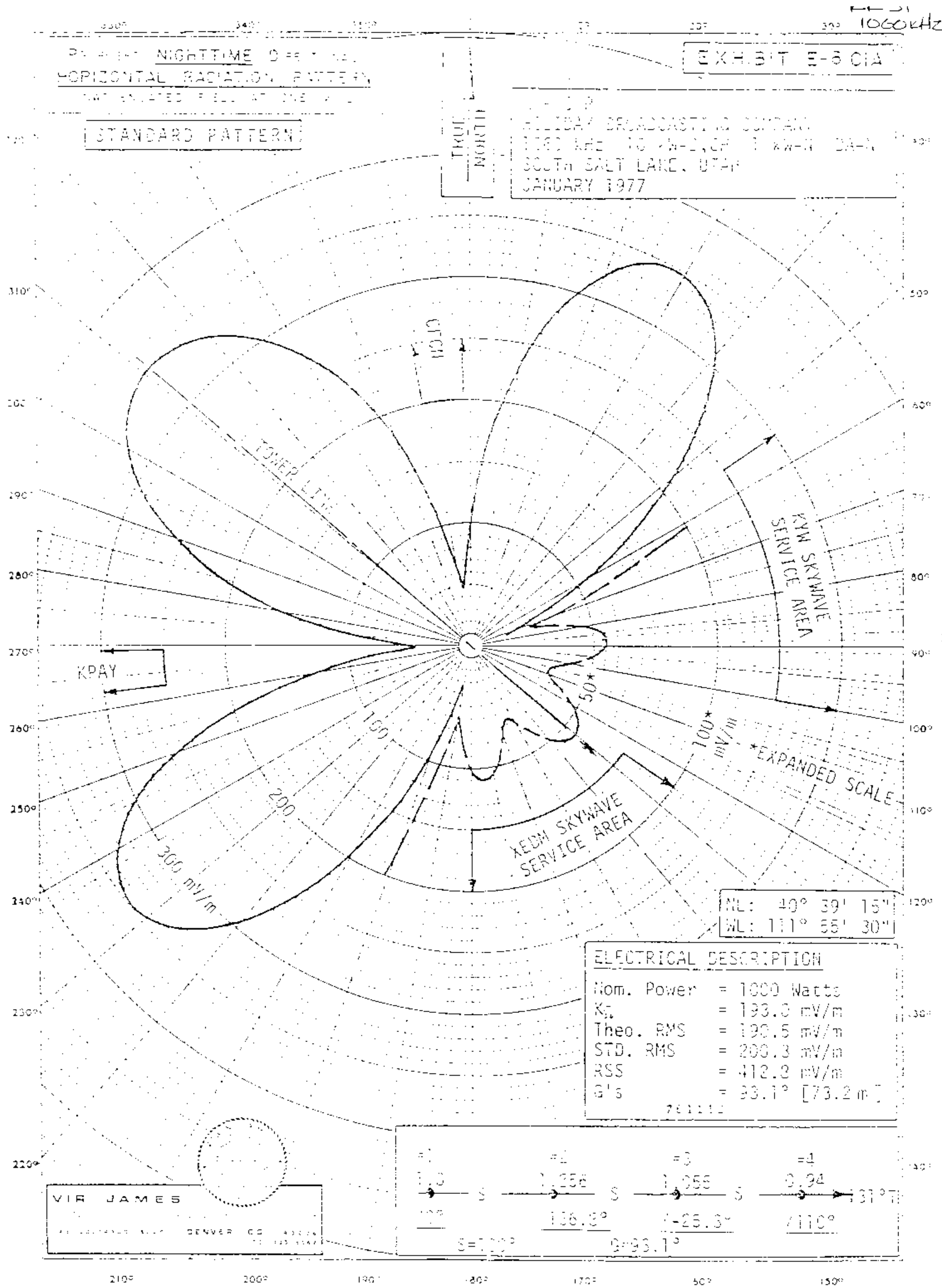
KESP
1 C.C. +lz

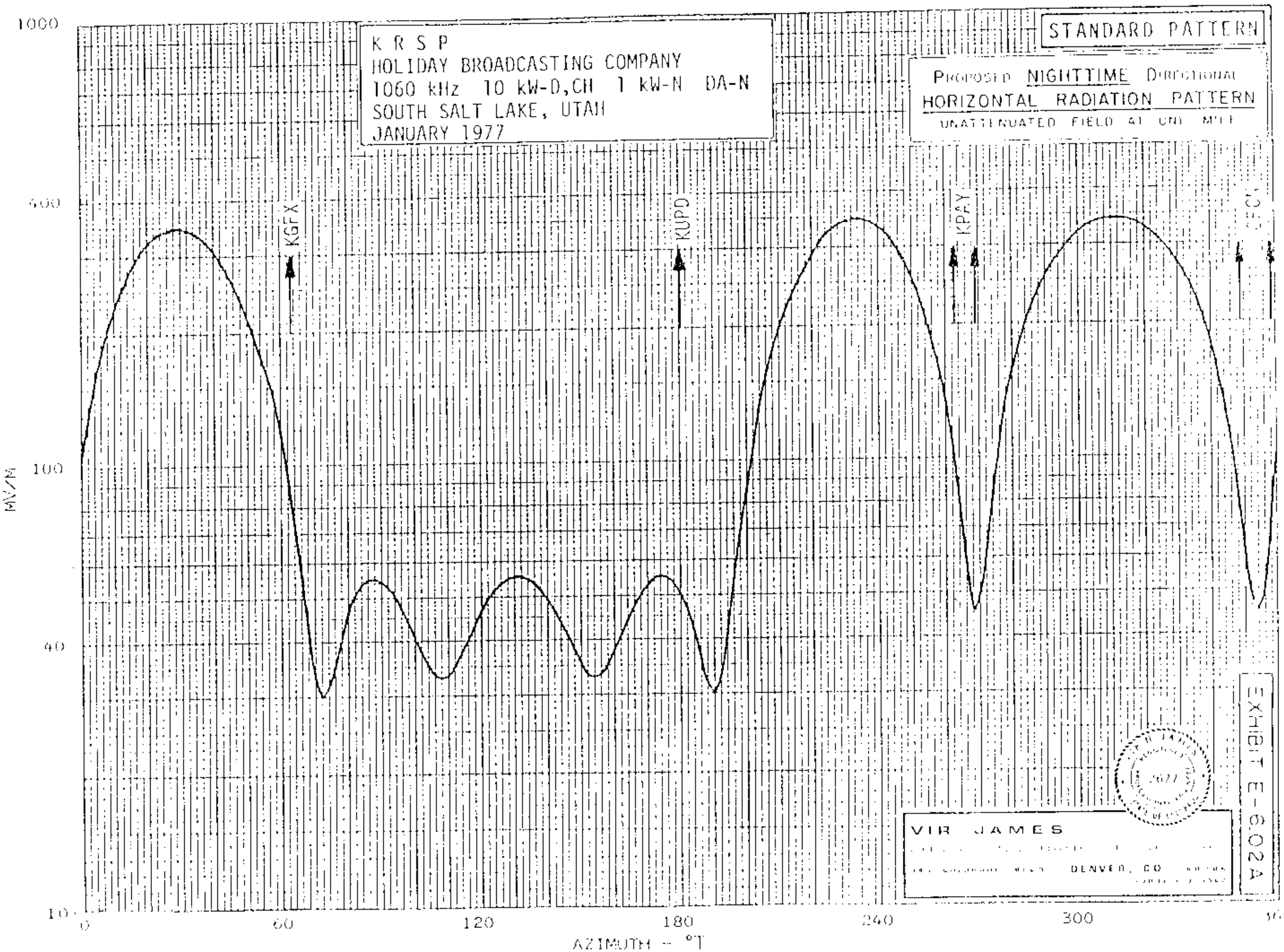
GROUND SYSTEM: 120-230' equally spaced copper radials plus 120 - 75' interspaced radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	708.4 mv/m		
Night	190.5 mv/m	412.8 mv/m	200.3 mv/m

Note: This notification concerns only the addition of Nighttime operation to the station with Daytime operation continued as previously notified.


1060KHz
NIGHTTIME
STANDARD PATTERN
EXHIBIT E-6 CIA
TRUE NORTH
SOUTH SALT LAKE, UTAH
JANUARY 1977
TOWER LINE
KYW SKYWAVE SERVICE AREA
KPAY
XEDM SKYWAVE SERVICE AREA
*EXPANDED SCALE
100
200
300 mV/m
50*
100* mV/m
NL: 40° 39' 15"
WL: 111° 55' 30"
ELECTRICAL DESCRIPTION
Nom. Power = 1000 Watts
RSS = 412.3 mV/m
VIR JAMES
DENVER
0.94
∠110°
G=93.1°



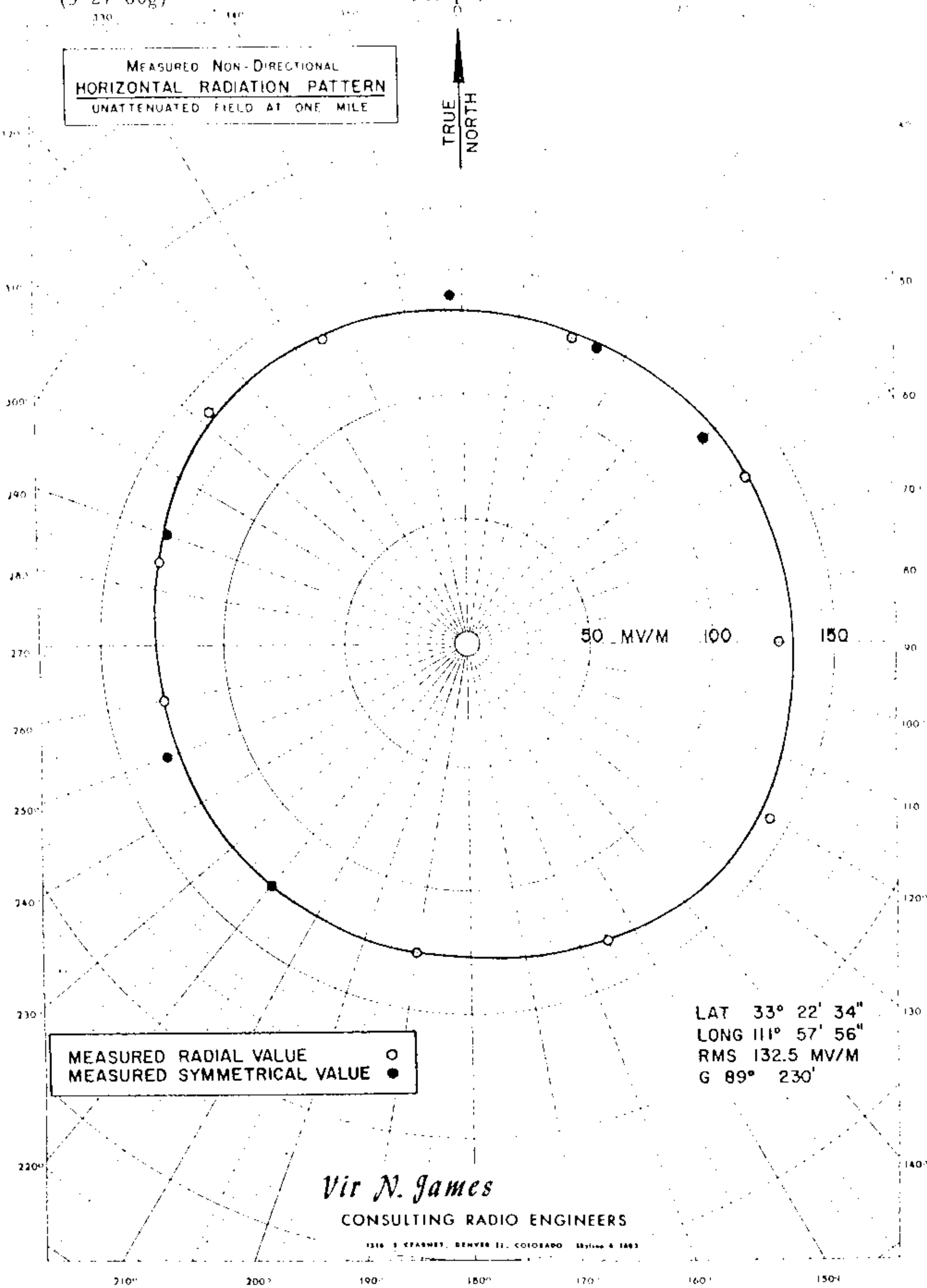
KRSP
1060kHz

KUPD

MEASURED NON-DA
(5-27-60g)

Station KUPD
Tempe, Arizona

500w, DA-1,U
1060 KC



FCC File No. BL-7908
Accepted 4-29-60

KUPD
Tempe, Arizona

1060 KC

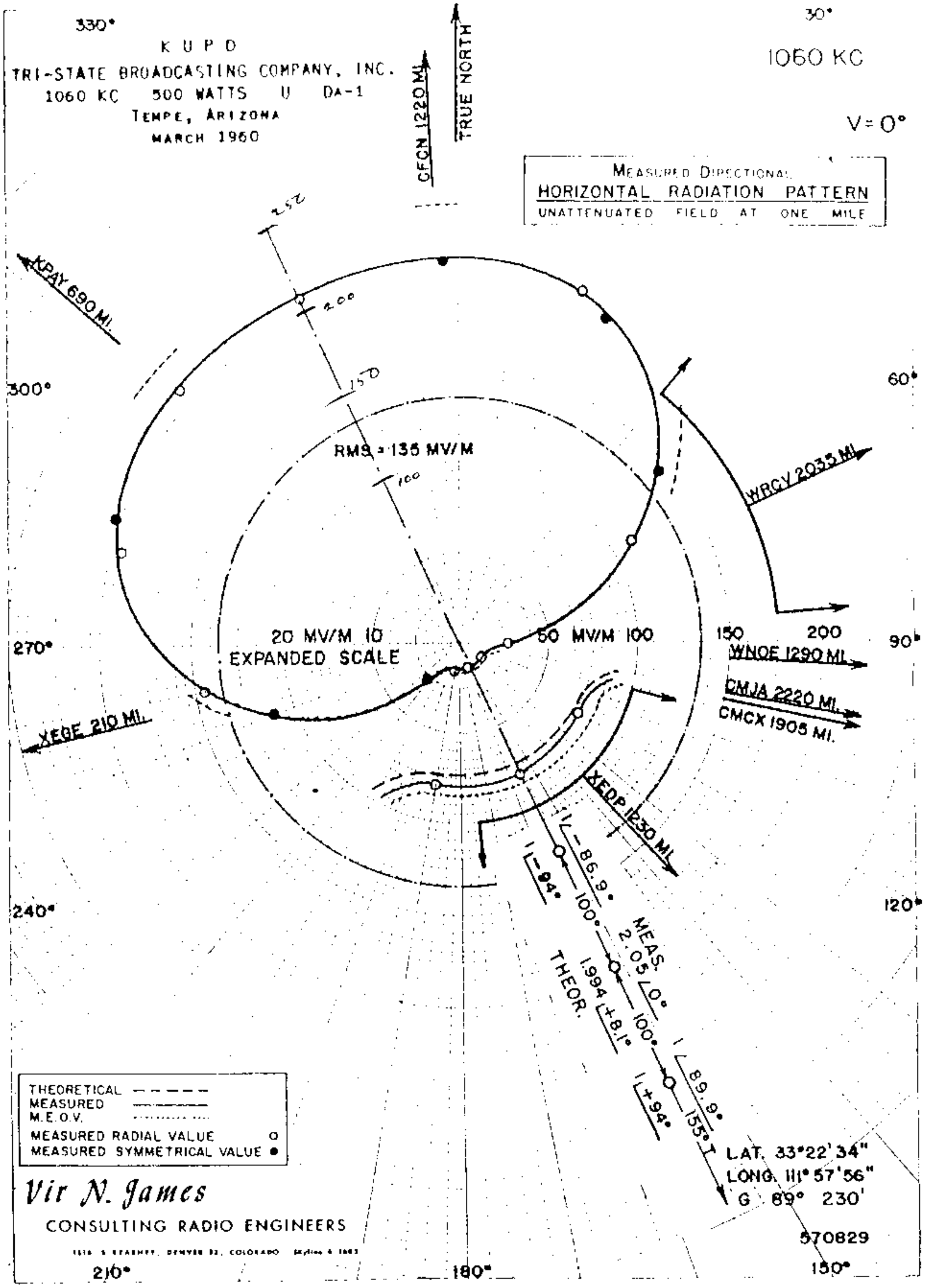
KUPD

MEASURED DAY & NIGHT
(5-27-60g)

Station KUPD
Tempe, Arizona

500w, DA-1,U
1060 KC

Granted license
7-26-60



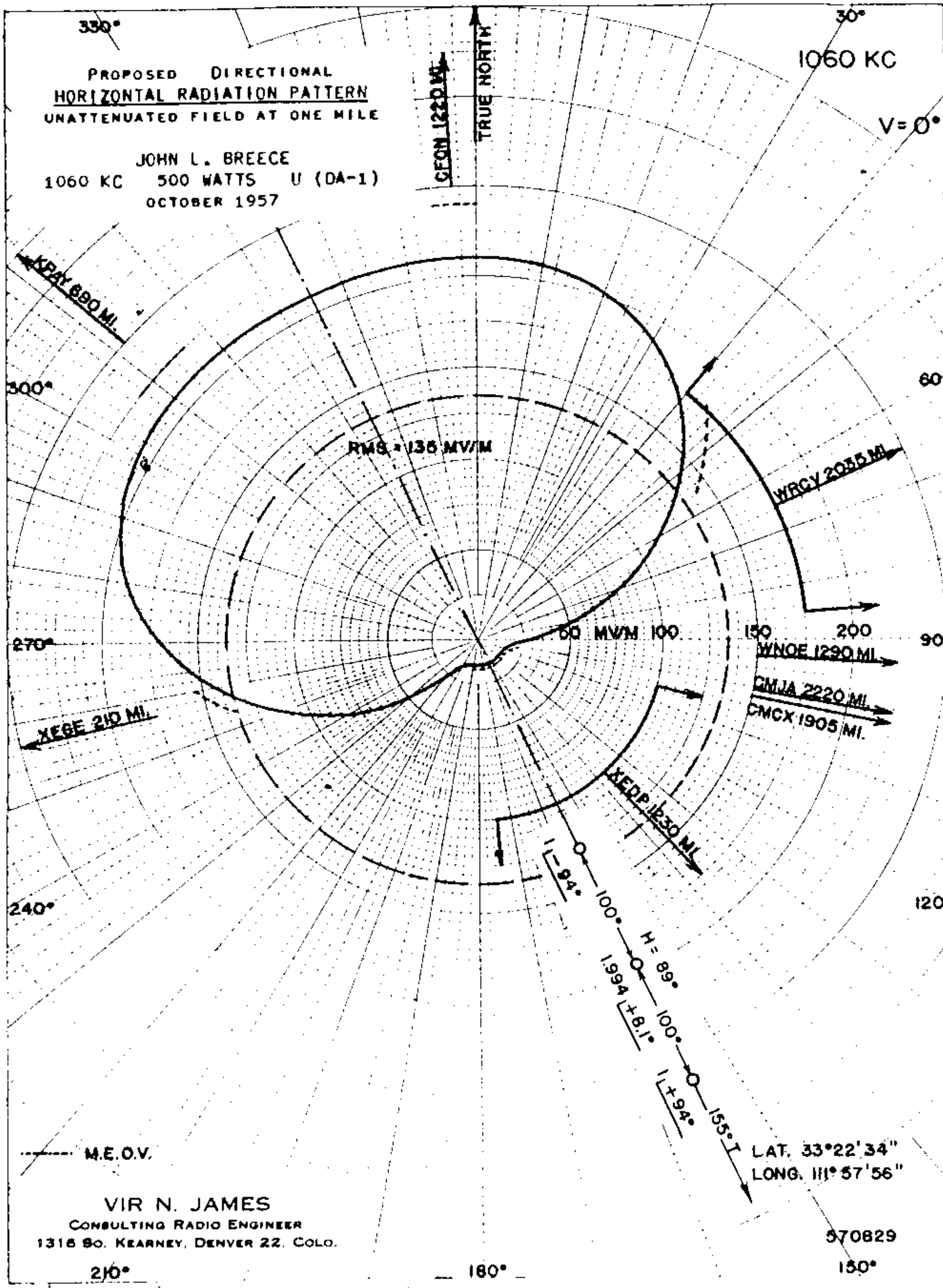
FCC File No. BL-7908
Accepted 4-29-60

KUPD
Tempe, Arizona

1060 KC

Temp e, Ai   KUPD

PROPOSED NIGHT & DAY (11/22/57g) | New; John L. Breece, Temp. ., Arizona | 500w, DA-1,U 1060 KC



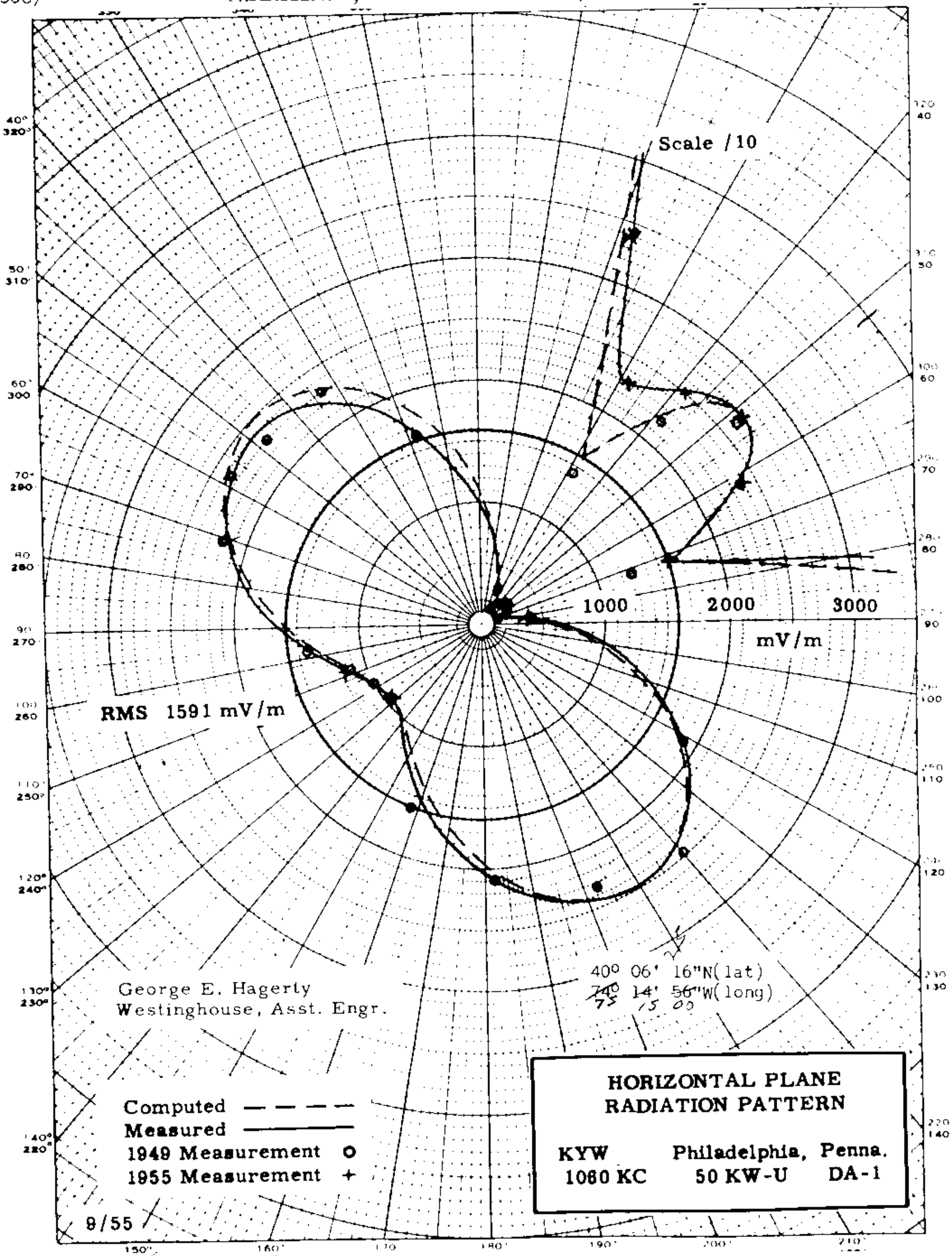
FCC File No. BP-11,639
Accepted 11-12-57

John L. Breece
Temp e, Arizona

1060 KC

KYW ~~WRCV~~

MEASURED DAY & NIGHT (2-21-56G) STATION KYW PHILADELPHIA, PENNSYLVANIA 50KW DA-1, U 1060 KC



FILE NO. BL-6039 ACCEPTED 1-31-56 FCC KYW, Philadelphia, Pa. 1060 KC

KYW-1060 KC

retained for added info.

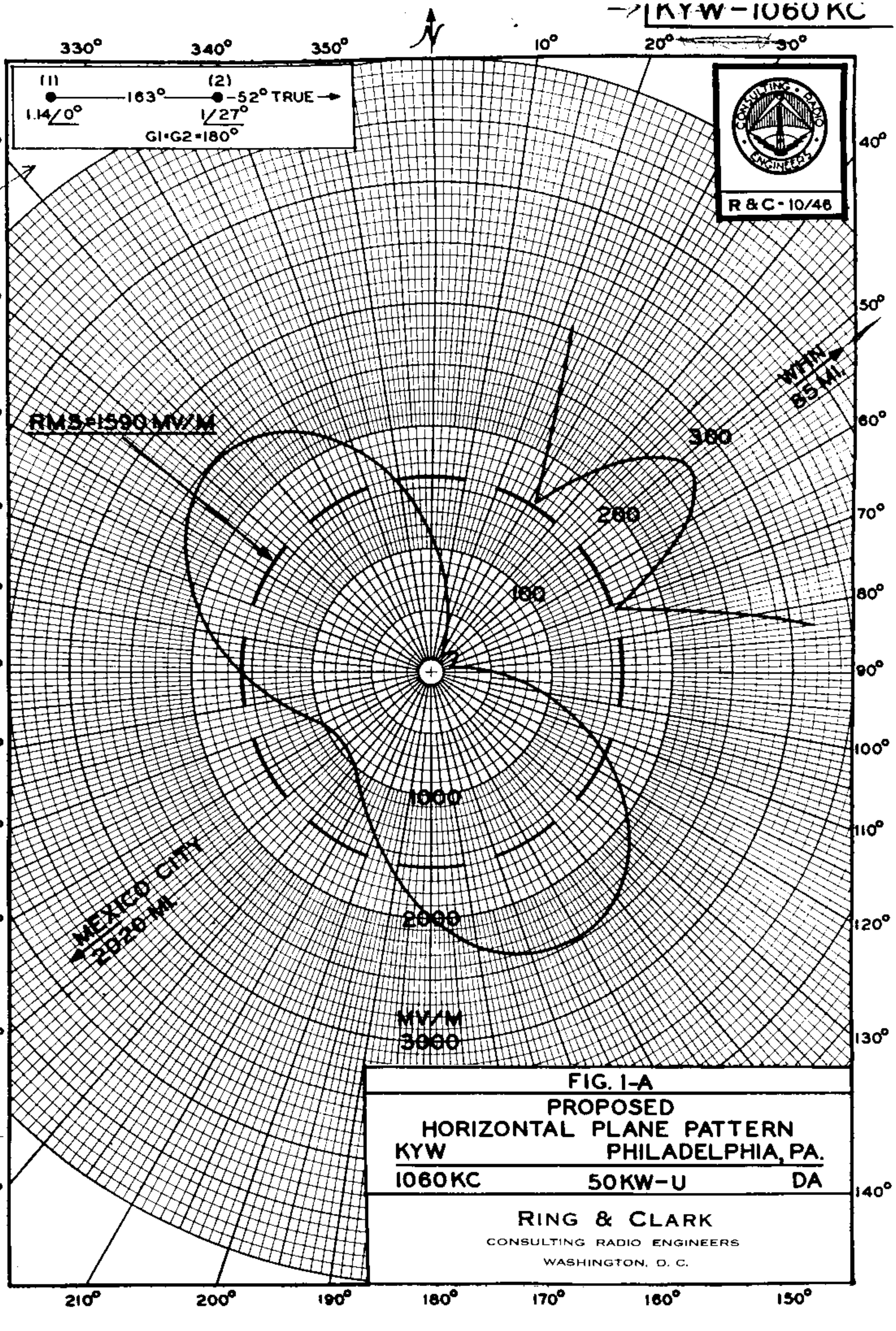


FIG. 1-A

PROPOSED
HORIZONTAL PLANE PATTERN

KYW PHILADELPHIA, PA.

1060KC 50KW-U DA

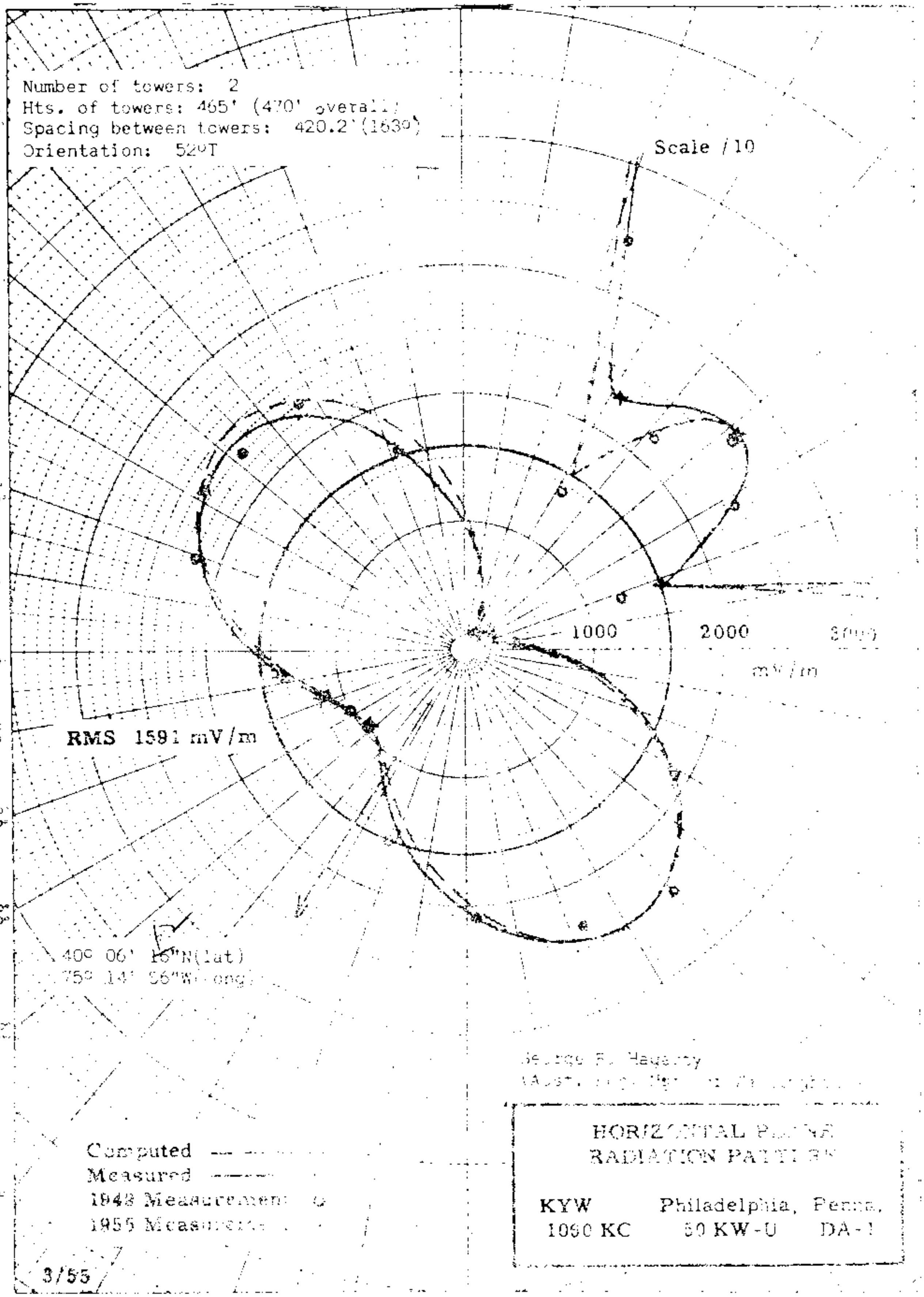
RING & CLARK
CONSULTING RADIO ENGINEERS
WASHINGTON, D. C.

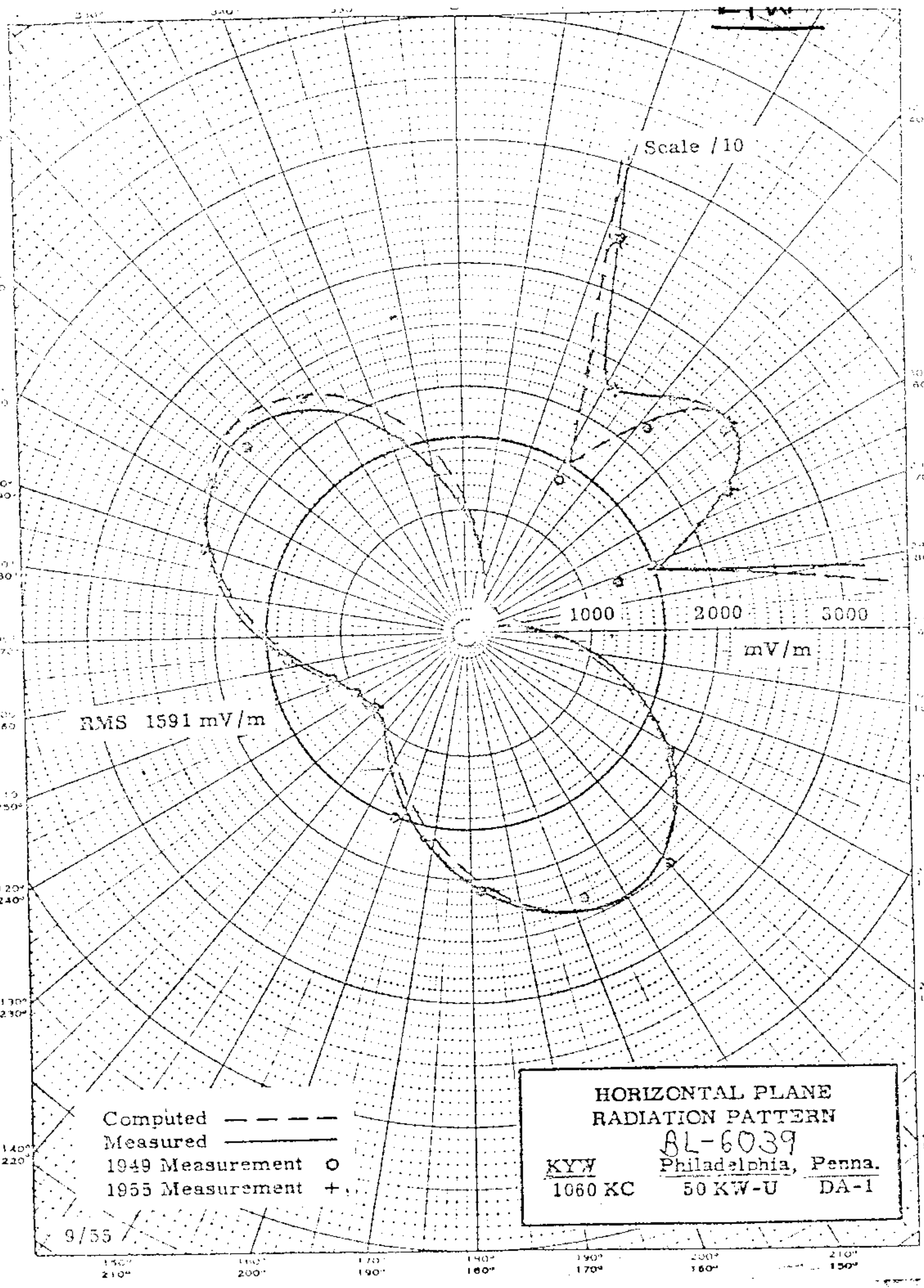
WRCV
KYW

PROPOSED DAY & NIGHT (7/12/55G)

STATION KYW
PHILADELPHIA, PENNSYLVANIA

50 KW
DA-1, U




Scale /10
1000
2000
3000
mV/m
RMS 1591 mV/m
Computed
Measured
1949 Measurement o
1955 Measurement +
9/55
HORIZONTAL PLANE
RADIATION PATTERN
BL-6039
KYW
1060 KC
Philadelphia, Penna.
50 KW-U
DA-1

WCMW

PROPOSED DAY
(9-25-58g)

Station WCMW
Canton, Ohio

10kw, DA-D,D
1060 KC

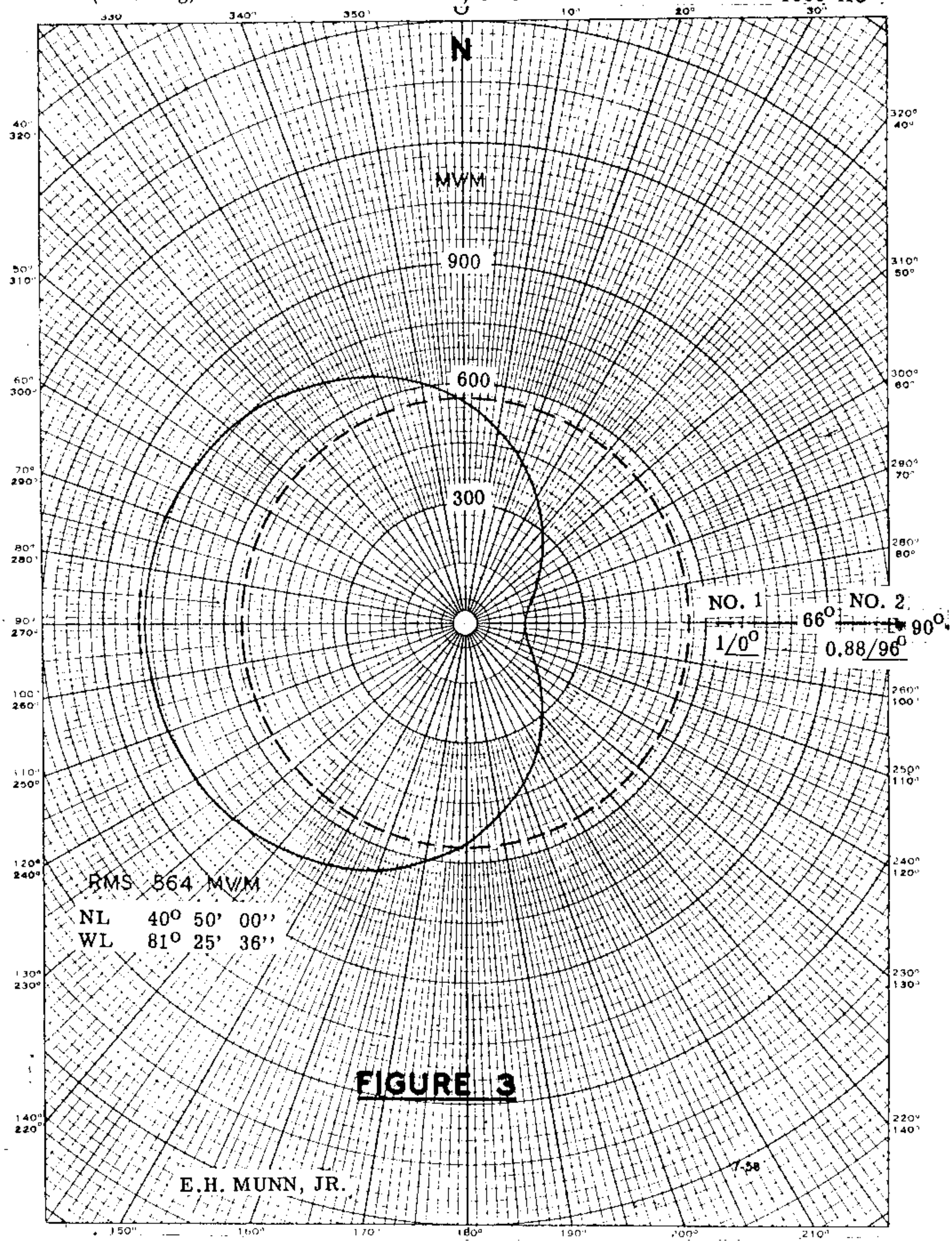


FIGURE 3

FCC File No. BP-12,256
Accepted 9-15-58

WCMW
Canton, Ohio

1060 KC

WCMW

PROPOSED DAY NULLS
(9-25-58g)

Station WCMW 10kw, DA-D,D
Canton, Ohio 1060 KC

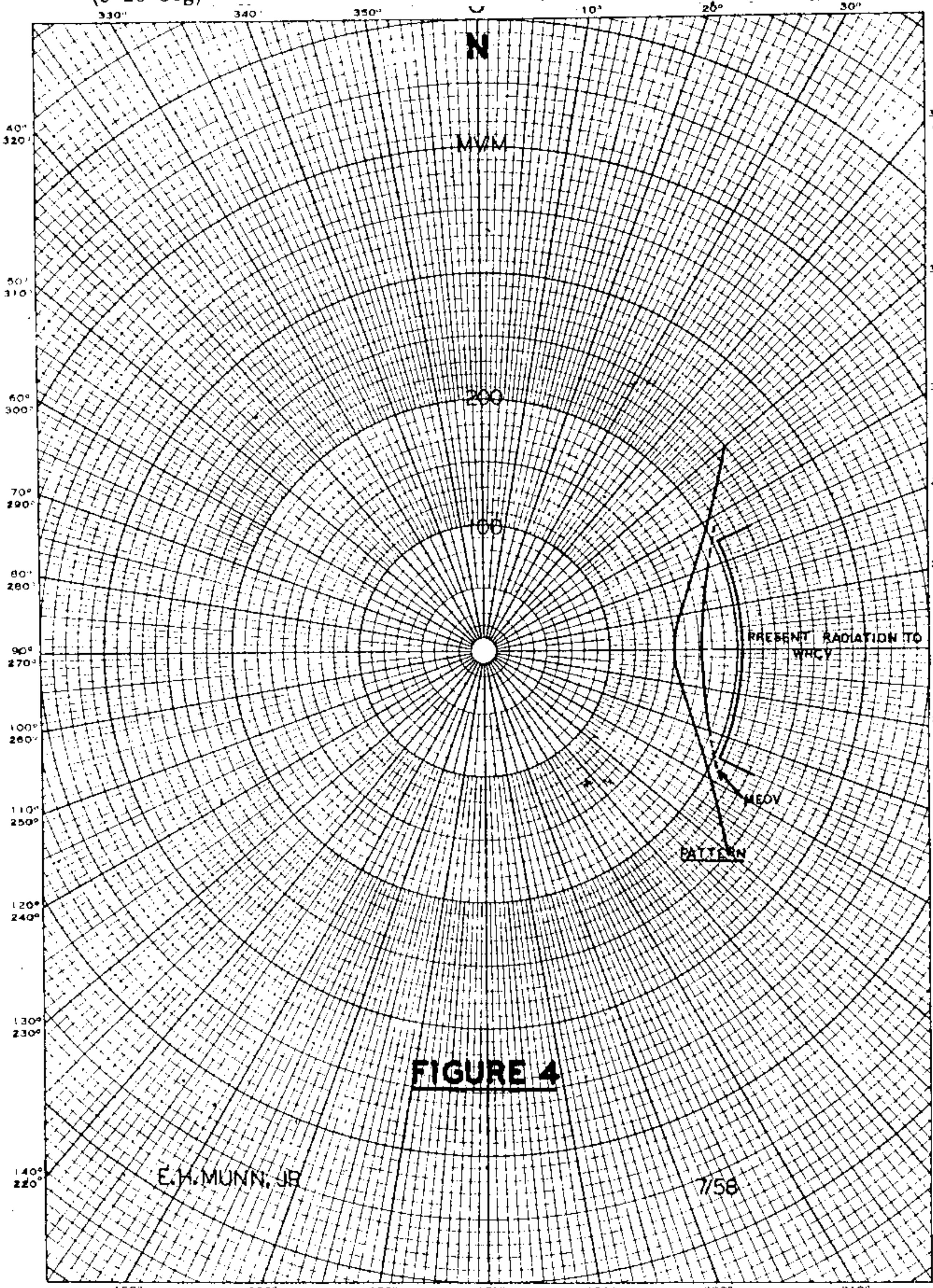


FIGURE 4

FCC File No. BP-12,256
Accepted 9-15-58

WCMW
Canton, Ohio 1060 KC

WGTR
1060KHZ

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WGTR

Frequency: 1060 kHz

Notification List No. 1785

Main Studio: Natick, Massachusetts

Power: 5kw Night 50kw Day

Date: November 16, 1979 Class: II

GEOGRAPHICAL LOCATION OF THE CENTERS OF THE DAYTIME AND NIGHTTIME ANTENNA SYSTEMS:

DAYTIME

North Latitude: 42° 16' 10"
West Longitude: 71° 30' 38"

NIGHTTIME

North Latitude: 42° 16' 07"
West Longitude: 71° 30' 36"

DAYTIME ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series excited, uniform cross-section, guyed, Shunt excited, vertical steel towers.

TOWER:	SW(#1)	C(#2)	NE(#3)
HEIGHT ABOVE INSULATORS:	90°	90°	90° (232')
DAY PHASING:	0.00°	-127.73°	+98.96°
DAY FIELD RATIO:	1.0000	1.3541	0.8075

SPACING AND ORIENTATION: Adjacent towers in a row are spaced 258'(100°) on a line bearing 67° true.

GROUND SYSTEM: 120 - 232' equally spaced copper radiasl plus a 48' square ground screen about each tower. Radials are shortened and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

NIGHTTIME ANTENNA CHARACTERISTICS

Authorized for Nighttime operation (DA-N)
Number of elements: 5
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

WGTR
1060KHZ

TOWER:	NW(#1)	NWC(#2)	C(#3)	SEC(#4)	SE(#5)
HEIGHT ABOVE INSULATORS:	229°	229°	229°	229°	229°
NIGHT PHASING:	0.00	-104.83°	+149.95°	+44.74	-60.09
NIGHT FIELD RATIO:	1.00	3.72	5.47	3.72	1.00

SPACING AND ORIENTATION: Adjacent towers in a row are spaced 258' (100°) on a line bearing 99° true.

GROUND SYSTEM: 120 - 370' equally spaced copper radials plus a 48' square ground screen about each tower. Radials are shortenee and bonded to transverse straps along intersections between towers. Centers of system are bonded together.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	1410.17 mv/m	1696.90 mv/m	1481.35 mv/m
Night	605.10 mv/m	576.22 mv/m	635.53 mv/m

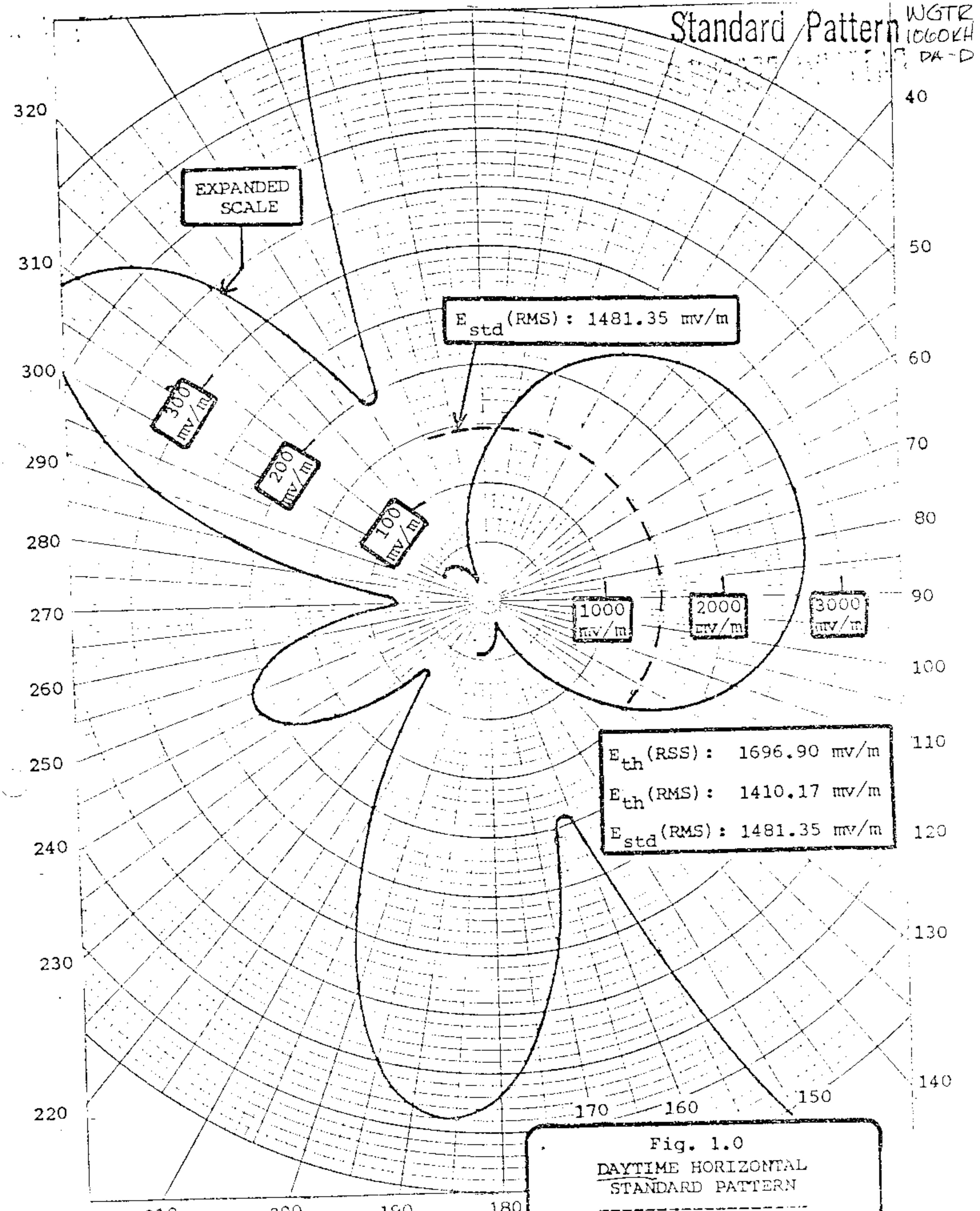


Fig. 1.0
DAYTIME HORIZONTAL
STANDARD PATTERN

WGTR Natick, Ma.

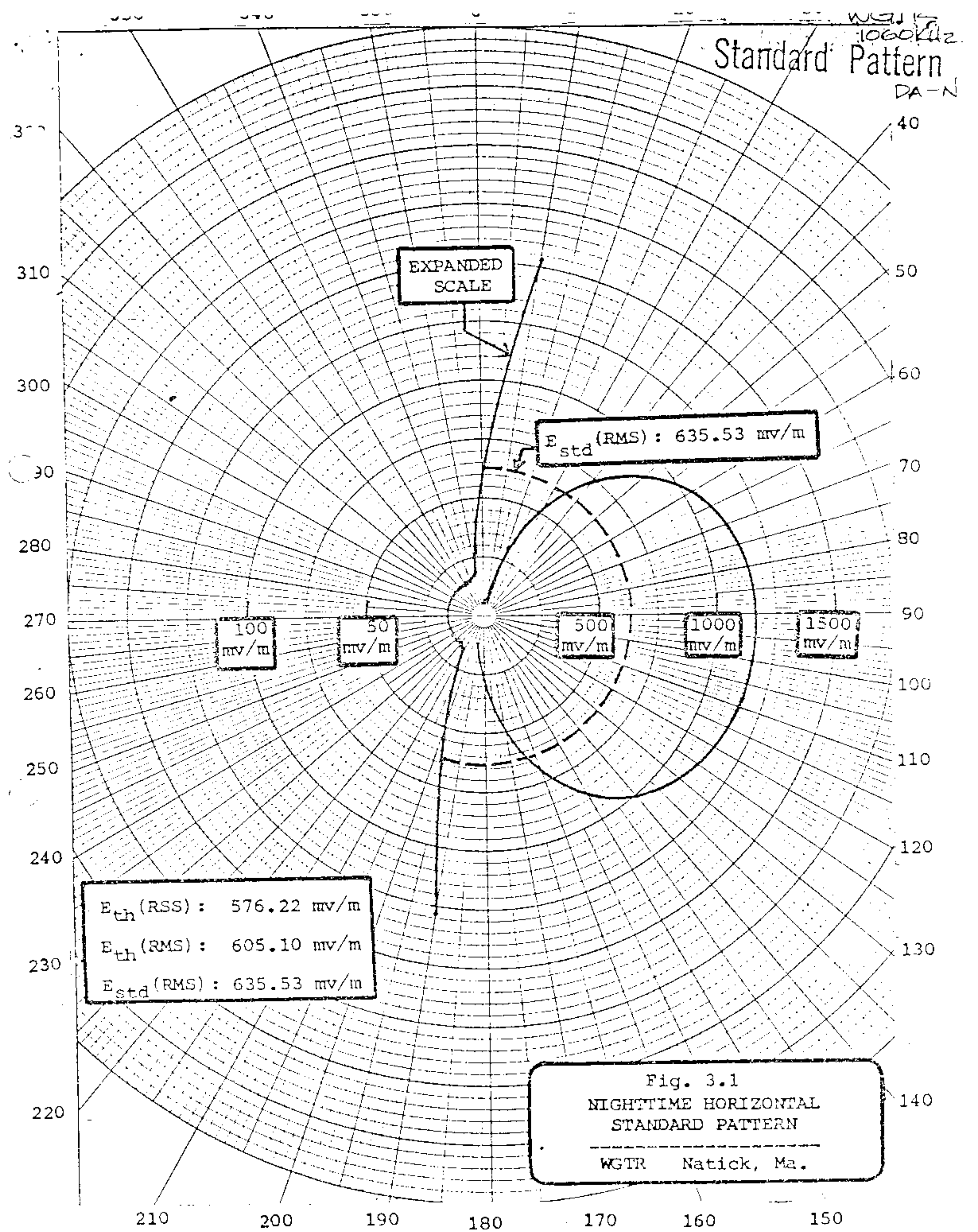


Fig. 3.1
NIGHTTIME HORIZONTAL STANDARD PATTERN

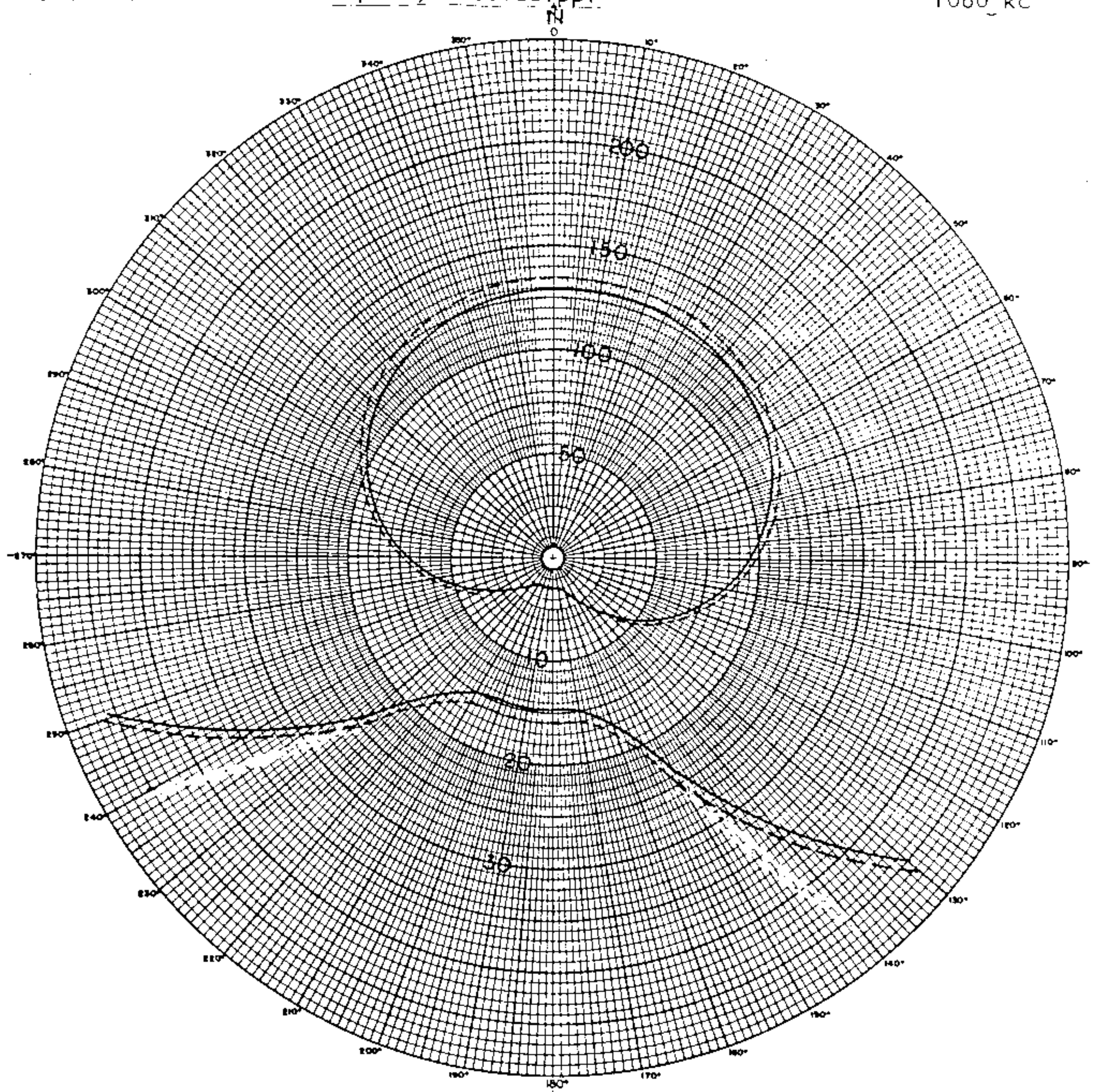
WGTR Natick, Ma.

WJLJ

Proposed Day
(12-23-70ct)

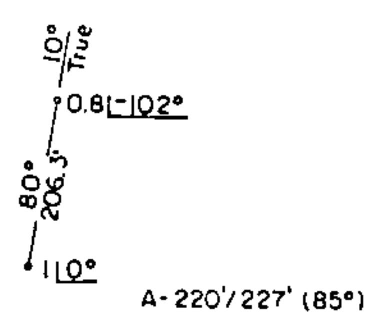
New; Town 'N Country Broadcasting Co.
Tupelo, Mississippi

250w, DA-D, D
1060 kc



HORIZONTAL RADIATION PATTERN

BP-17,986



APPLICANT	James L. Jumper
LOCATION	Tupelo, Mississippi
FREQUENCY	1060 KC/S
POWER	250 Watts
LATITUDE	34 DEG. 14 MIN 18 SEC.
LONGITUDE	88 DEG. 41 MIN 50 SEC.
WHEN USED	Daytime
R.M.S. FIELD	88 MV/M
DATE	January 3rd, 1970

700103

RALPH J. BITZER
CONSULTING RADIO ENGINEERS
ST. LOUIS, MISSOURI

FCC File No. BP-17986 New; Town 'N Country Broadcasting Co.
Accepted 12-11-70 Amended Tupelo, Mississippi 1060 kc

NW16

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: WMCL Main Studio: McLeansboro, Illinois

Frequency: 1060kHz Power: 2.5kw

Notification List No. 1757 Date: November 16, 1977 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 38° 06' 16"
West Longitude: 88° 33' 48"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 2
Type of elements: Series excited, uniform cross-section, guyed, vertical steel towers.

TOWER:	W(#1)	E(#2)
HEIGHT ABOVE INSULATORS:	159.8' (62°)	219.1' (85°)
PHASING:	0°	+174°
FIELD RATIO:	1	0.85

SPACING AND ORIENTATION: Towers are spaced 154.6' (60°) on a line bearing 70.5° true.

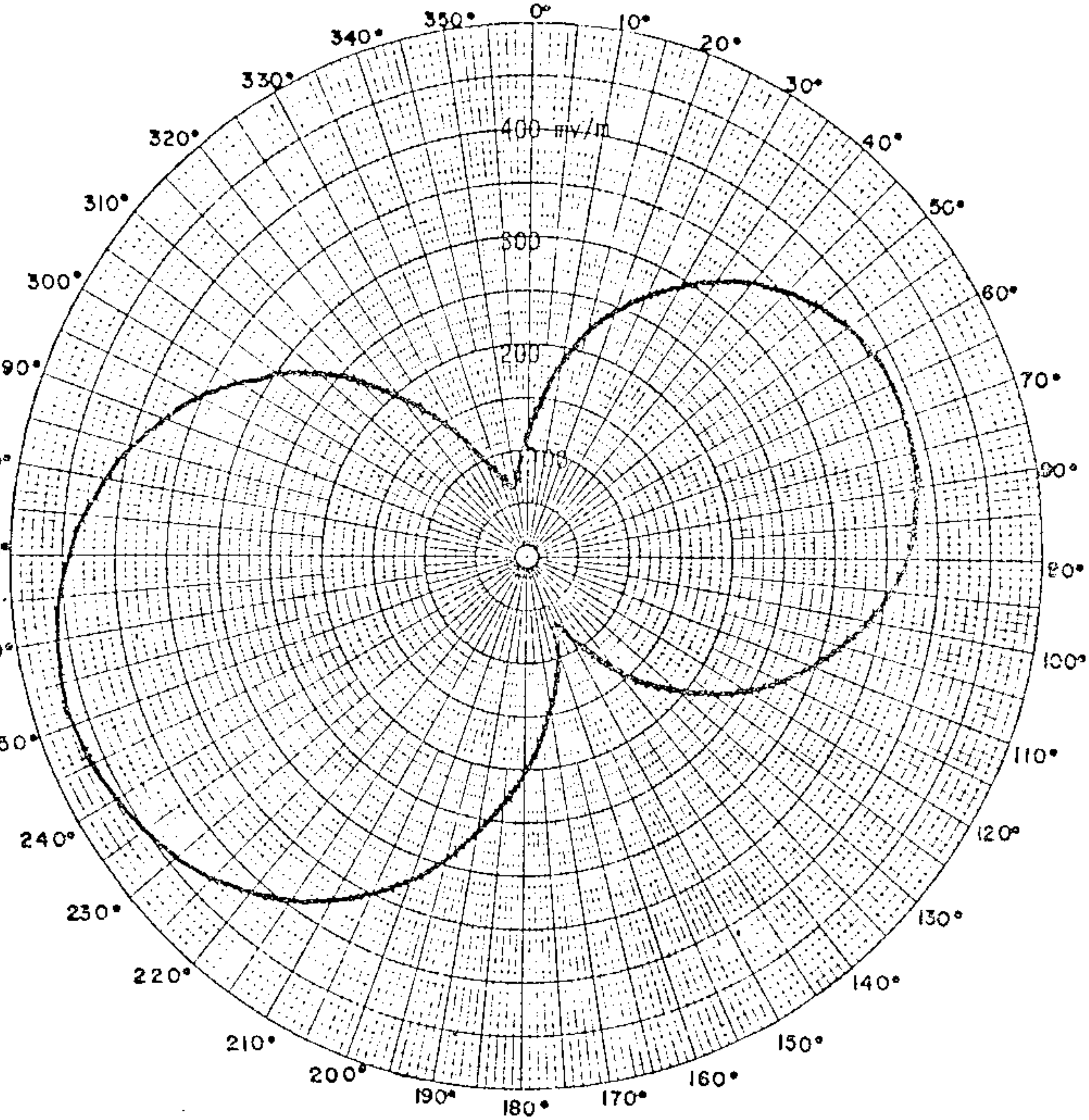
GROUND SYSTEM: 120-170' to 220' equally spaced copper radials about each tower. Radials are shortened and bonded to a transverse strap along intersections between towers.

PREDICTED EFFECTIVE FIELDS AT RATED POWER:

	THEORETICAL RMS	THEORETICAL RSS	STANDARD RMS
Day	295.6 mv/m	569.3 mv/m	310.8 mv/m

This notification concerns an increase in power with a directional antenna system.

Standard Pattern



LATITUDE 38^0 06' 16"

LONGITUDE 88^0 33' 48"

WMCL 1060KHz 2.5Kw DA-D

MIDWEST ENGINEERING ASSOCIATES
CONSULTING ENGINEERS
PEORIA, ILLINOIS

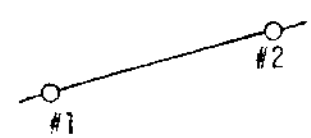
ANTENNA PARAMETERS

Tower	I_n/I_1	Phase
1	1.0	0
2	0.85	174^0

RMS = 310.77 mv/m (Standard)
RMS = 295.63 mv/m(Theoretical)
RSS = 569.29 mv/m
Equivalent Loss Resistance = 1 Ohm

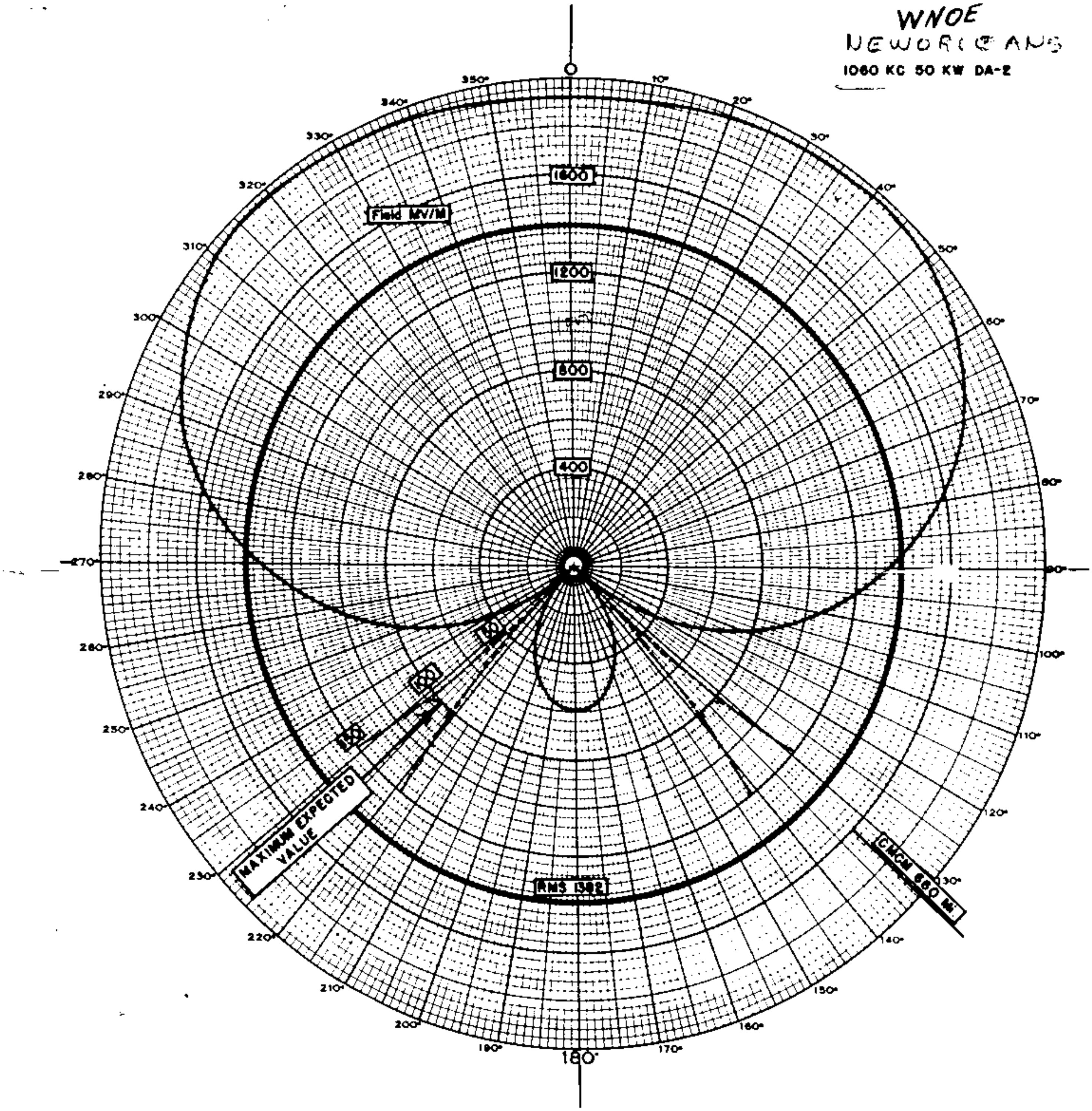
G_1 = 62^0 (48.71m) (159.8')

G_2 = 85^0 (66.78m) (219.1')



S = 60^0 @ 70.5^0T

WNOE
NEW ORLEANS
1060 KC 50 KW DA-2



JAMES A. NOE **NEW ORLEANS, LOUISIANA**		Figure 3 Series 470723C 1060 KC 50000 WATTS DAY
N 7 1/0° H=90° 120° 5 1/95	PROPOSED DIRECTIONAL ANTENNA PATTERN	FRANK H. McINTOSH *Consulting Radio Engineer* Washington, D.C.

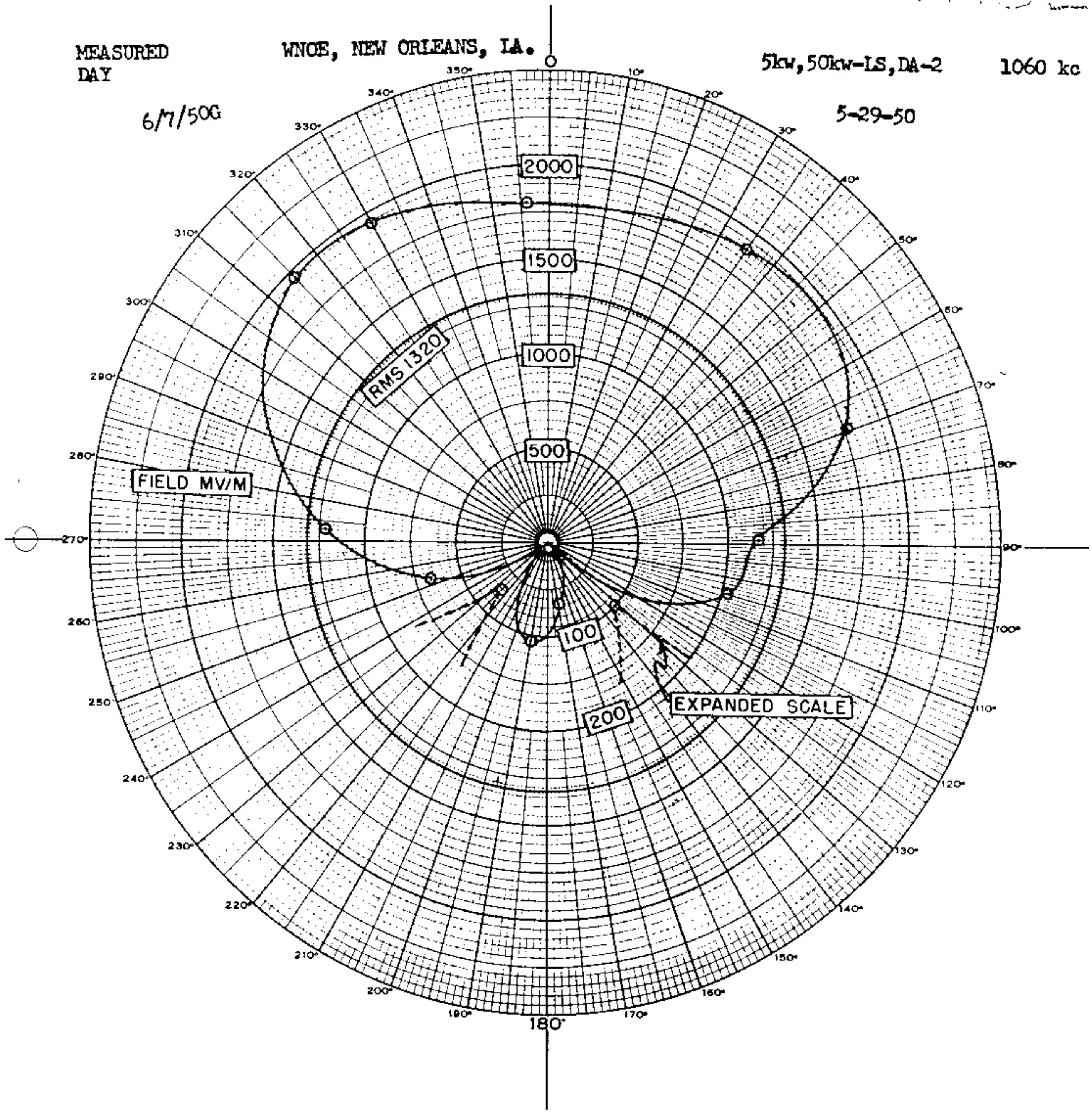
MEASURED
DAY

WNOE, NEW ORLEANS, LA.

5kw,50kw-LS,DA-2 1060 kc

6/7/50G

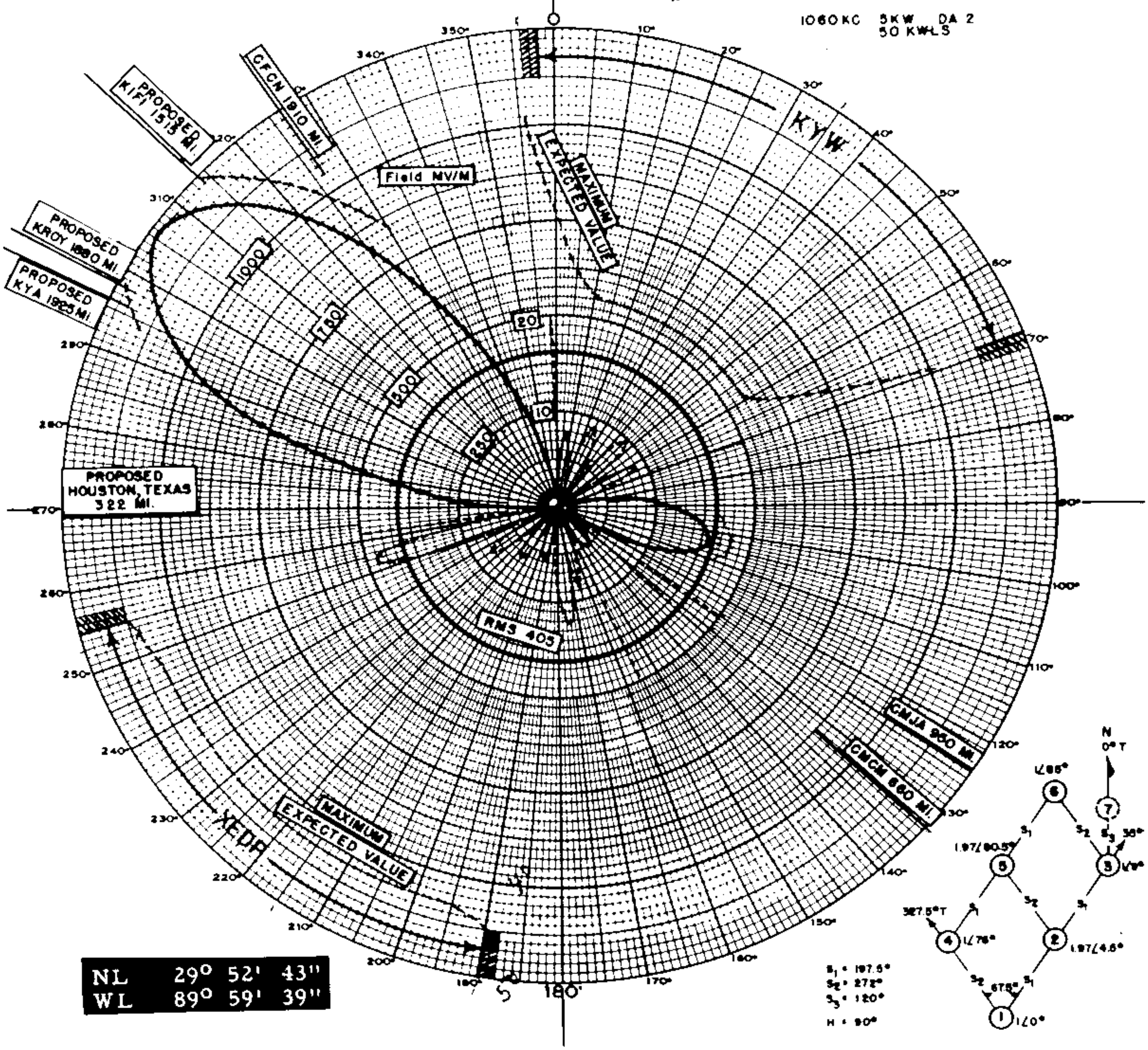
5-29-50



SITE: 29° 52' 43" N
89° 59' 39" W

STATION WNOE NEW ORLEANS, LOUISIANA	FIGURE 12 SERIES C 500519
	1060 KC 50 KW-LS, 5 KW-N DA-2
MEASURED DAYTIME DIRECTIONAL PATTERN	McINTOSH & INGLIS *Consulting Radio Engineers* Washington, D. C.

PROPOSED NIGHT | Station WNOE, New Orleans, Louisiana | 5kw, 50kw-LS, DA-2, U | 1060 KC



JAMES A. NOE NEW ORLEANS, LOUISIANA	Figure 1 Series 470722C
	1060 KC 5000 WATTS NIGHT
PROPOSED DIRECTIONAL ANTENNA PATTERN	FRANK H. McINTOSH *Consulting Radio Engineer* Washington, D.C.

WNOE 2

WNOE

MEASURED
NIGHT

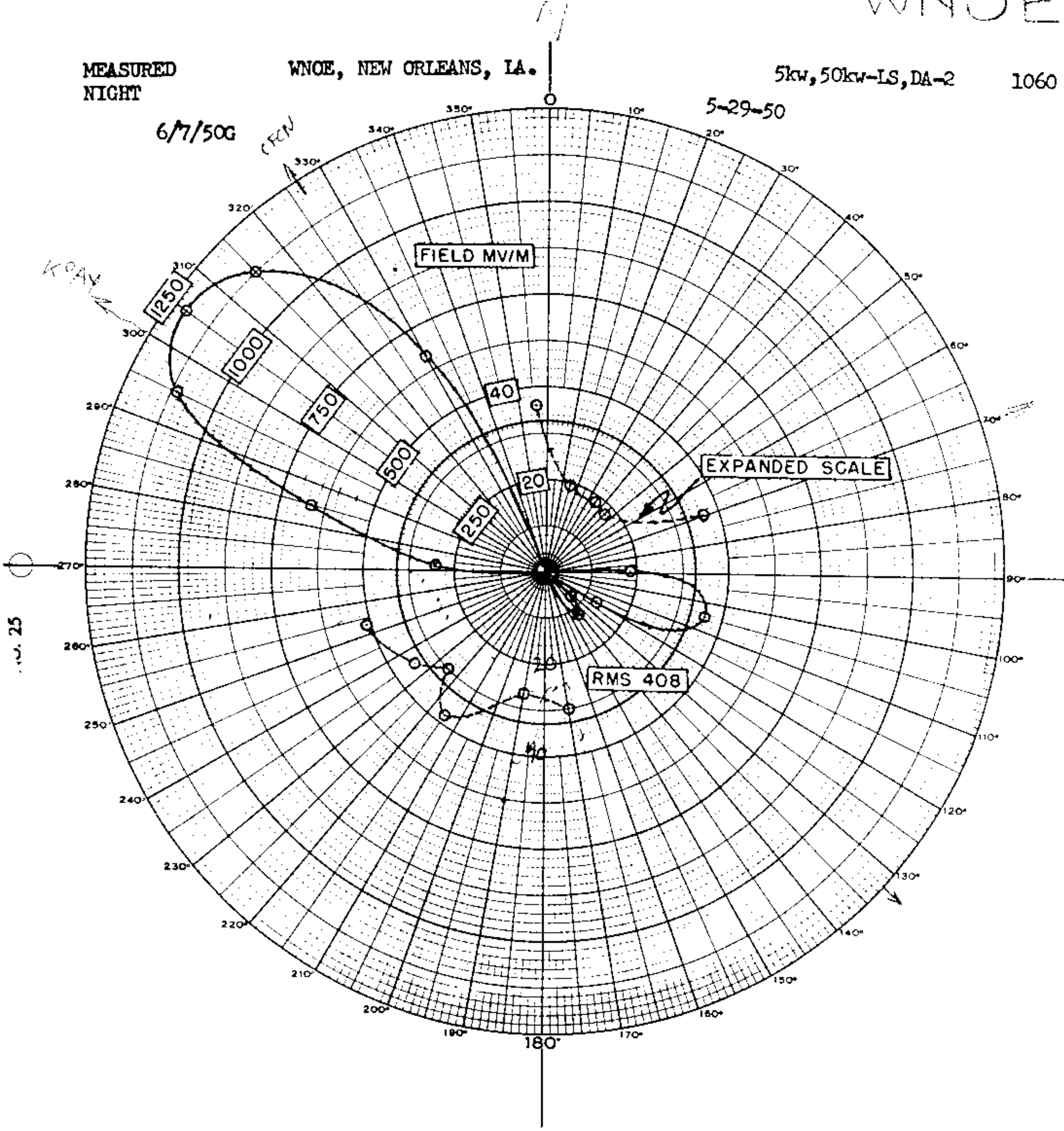
WNOE, NEW ORLEANS, LA.

5kw,50kw-LS,DA-2

1060 kc

5-29-50

6/7/50G



SITE: 29° 52' 43" N
89° 59' 39" W

STATION WNOE NEW ORLEANS, LOUISIANA	FIGURE 11 SERIES C 500519
	1060 KC 50 KW-LS, 5 KW-N DA-2
MEASURED NIGHTTIME DIRECTIONAL PATTERN	McINTOSH & INGLIS *Consulting Radio Engineers* Washington, D. C.

WNOE, New Orleans, La. 1060 kc

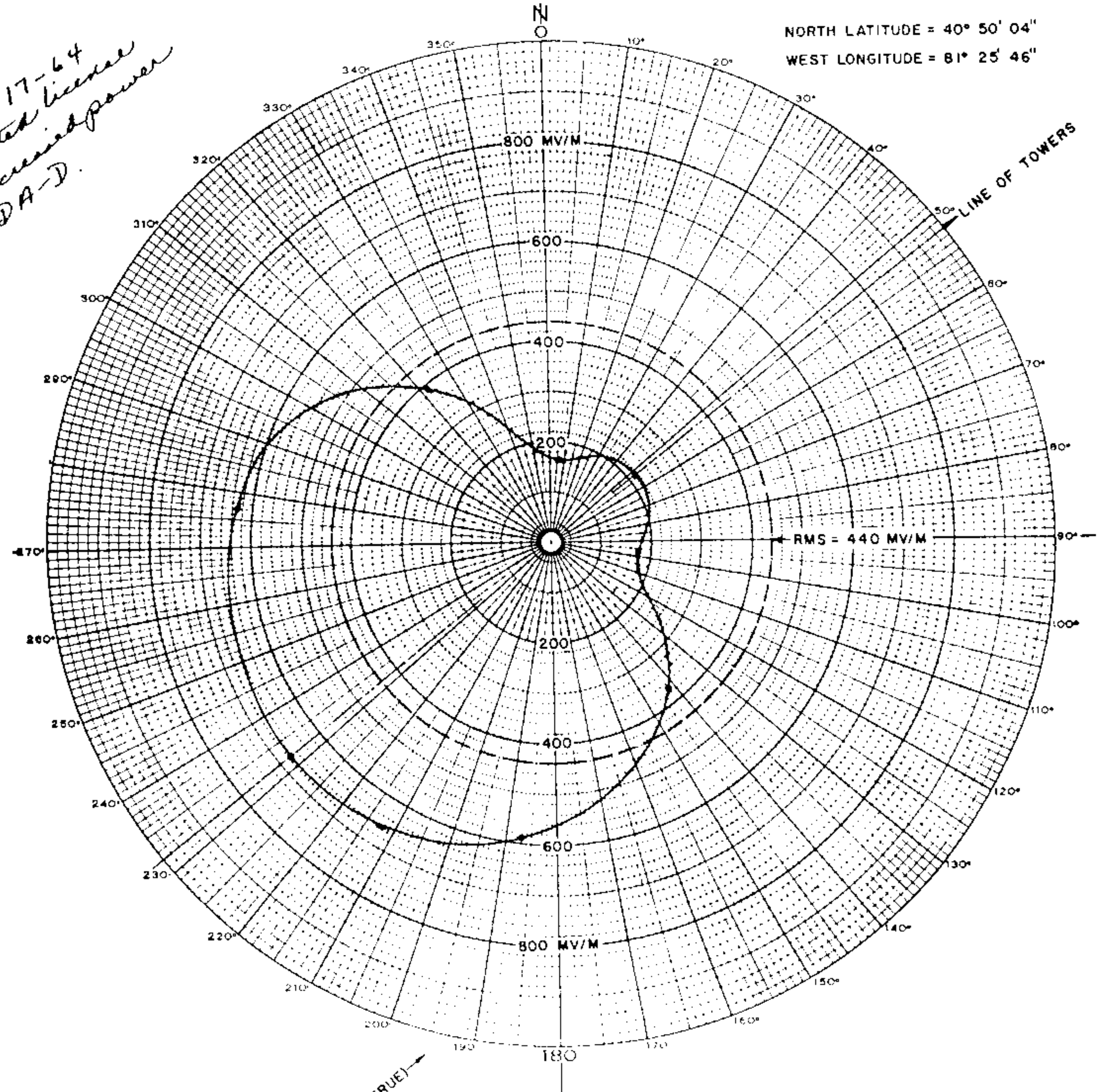
W010

Measured Day
(9-25-63ct)

Station WHOF
Canton, Ohio

5kw,DA-D,D
1060 kc

2-17-64
Granted license
for increased power
and DA-D.



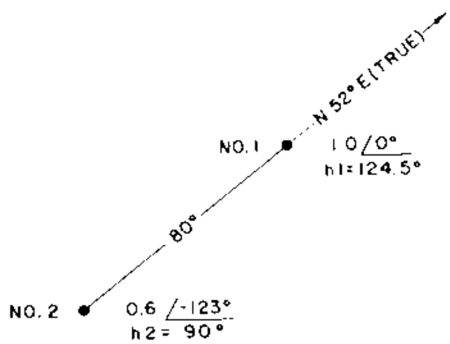


FIGURE 6
HORIZONTAL RADIATION PATTERN
(5 KW DIRECTIONAL OPERATION)
DOUGLAS PROPERTIES CORPORATION
WHOF 5 KW, DA-D 1060 KC
CANTON, OHIO
Prepared by
Lohnes and Culver Washington 4, D.C.
August 1963

FCC File No.BL-10272
Accepted 9-12-63

Station WHOF
Canton, Ohio
1060 kc

W010

Measured Non-DA
(9-25-63ct)

Station WHOF
Canton, Ohio

5kw,DA-D,D
1060 kc

2-17-64
Granted license for
increased power and
DA-D.

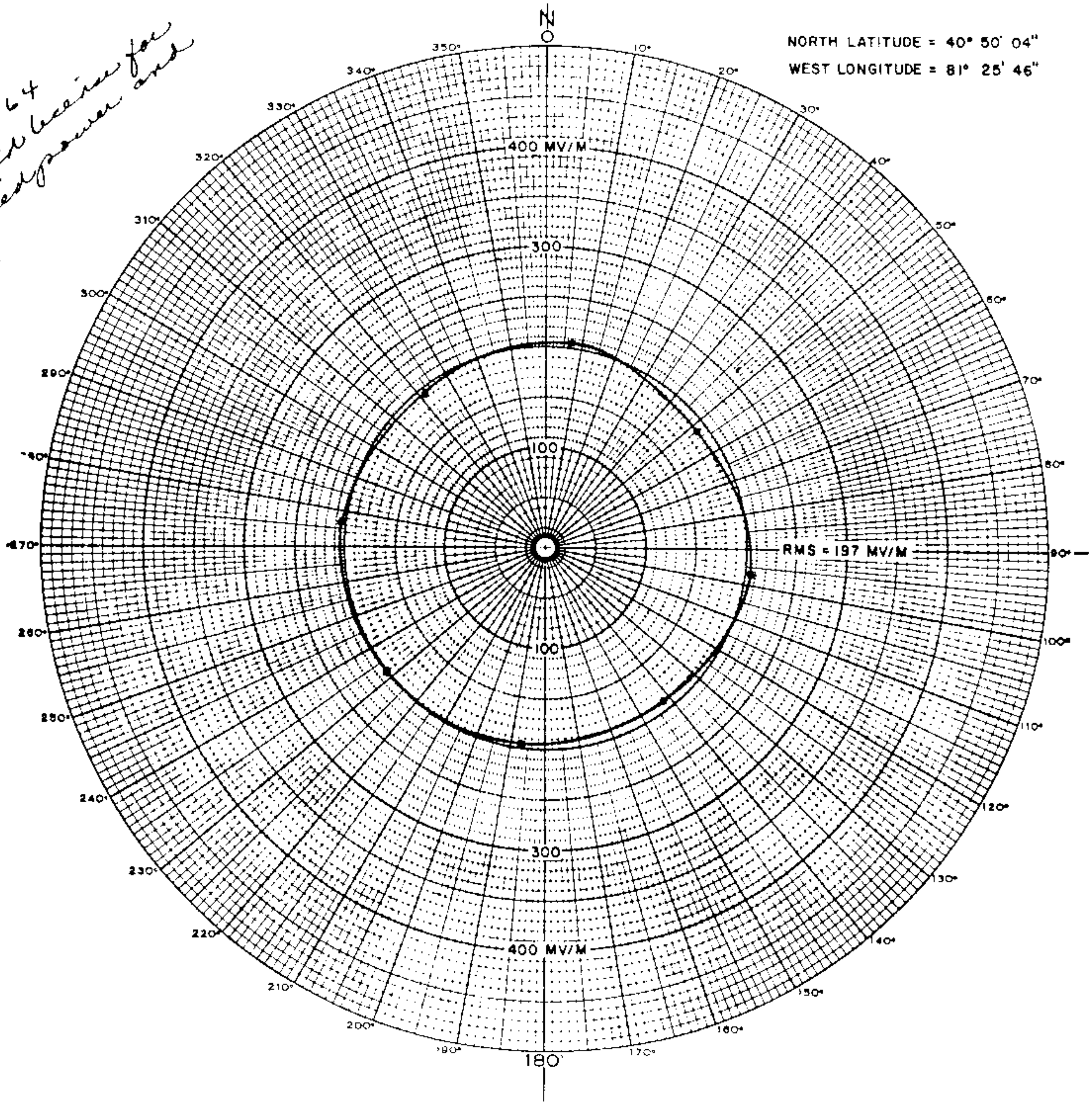


FIGURE 5
HORIZONTAL RADIATION PATTERN
(NON-DIRECTIONAL 1 KW TEST OPERATION)
DOUGLAS PROPERTIES CORPORATION
WHOF 5 KW, DA-D 1060 KC
CANTON, OHIO

Prepared by
Lohnes and Culver *Washington 4, D.C.*
August 1963

FCC File No.BL-10272
Accepted 9-12-63

Station WHOF
Canton, Ohio
1060 kc

W010

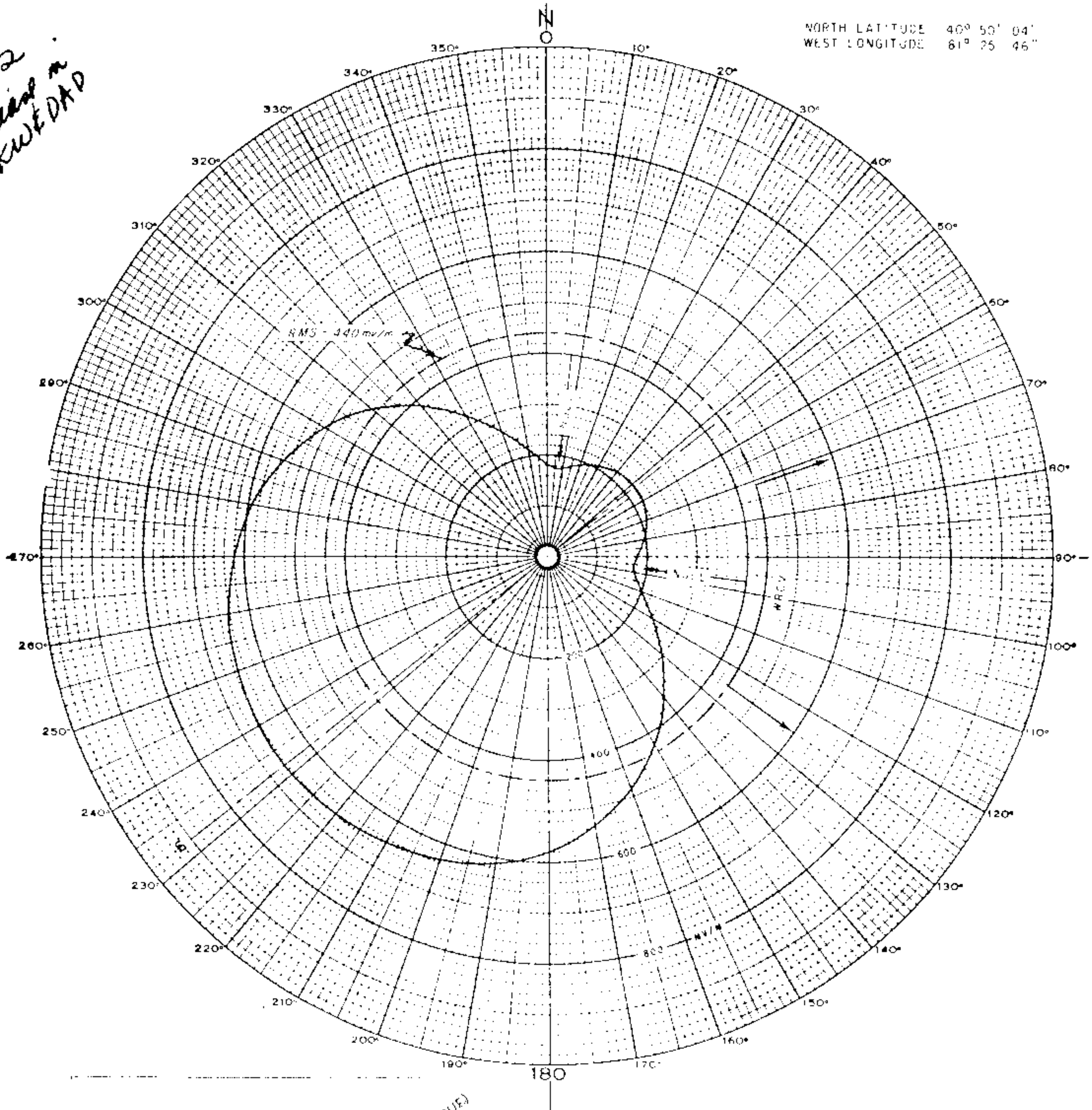
Proposed Day
(7-27-62ct)

Station WHOF
Canton, Ohio

5kw,DA-D,D
1060 kc

12-12-62
granted increase in
power to 5KW&DAD

NORTH LATITUDE 40° 50' 04"
WEST LONGITUDE 81° 25' 46"



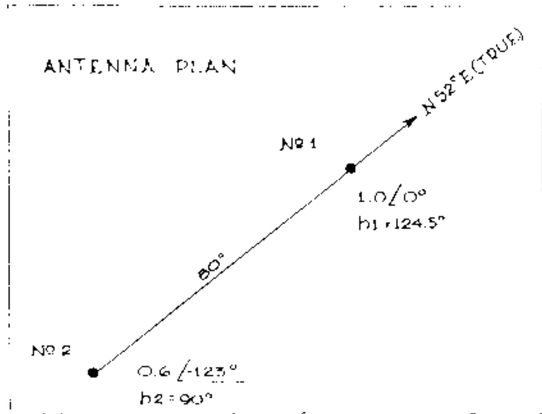


FIGURE 4
HORIZONTAL RADIATION PATTERN
DOUGLAS PROPERTIES CORPORATION
WHOF 5 KW-D, DA 1060 KC
CANTON, OHIO

Prepared by
Lohnes and Culver Washington 4, D.C.
May 1962

FCC File No. BP-12256
Accepted 6-22-62 Amended

Station WHOF
Canton, Ohio

1060 kc

WPLK

Proposed Day
(9-26-68ct)

Station WPLK
Rockmart, Georgia

5kw, DA-D, D
1060 kc

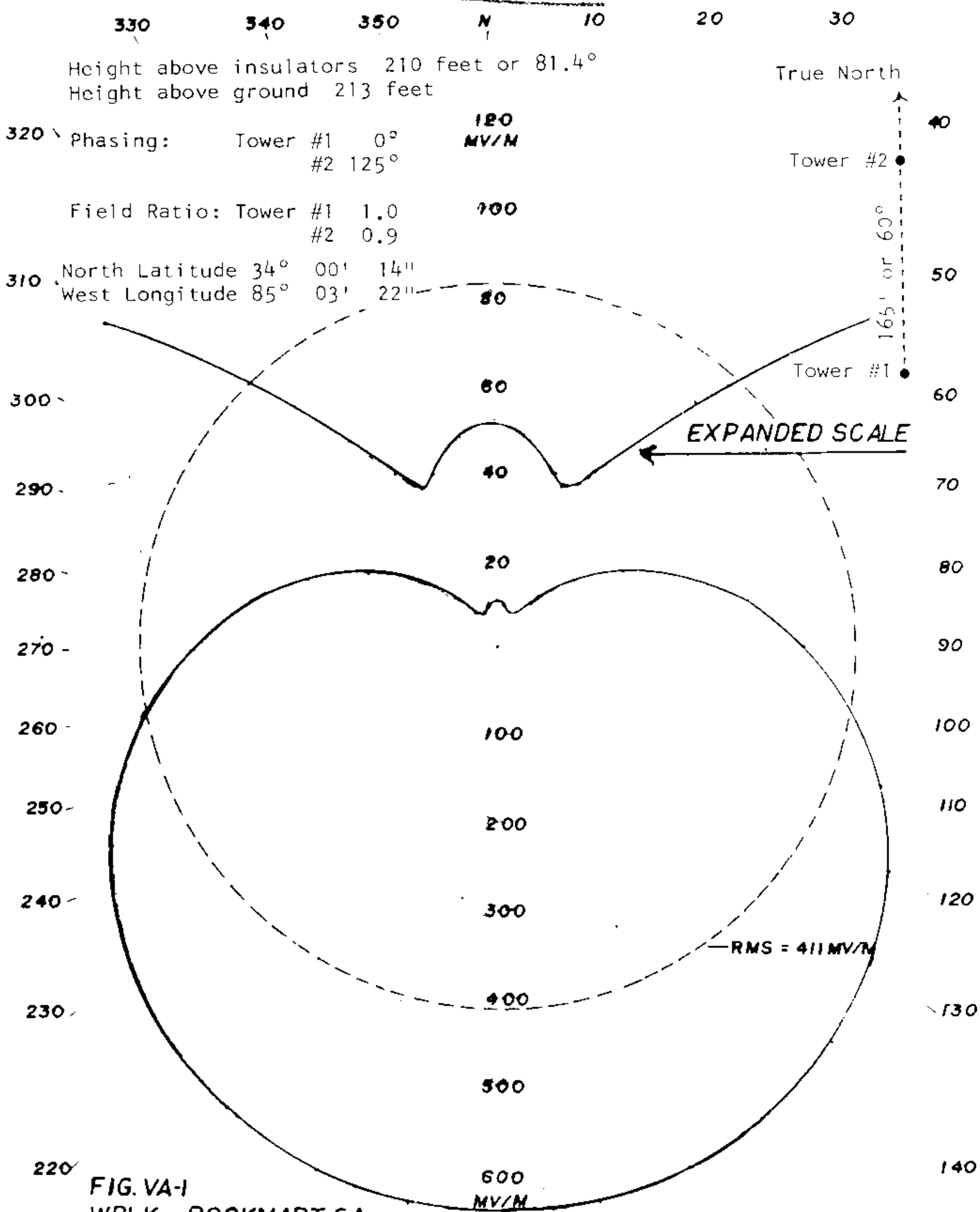


FIG. VA-1
WPLK – ROCKMART, GA.
1060 KC. 5KW (DA – D)

PATTERN NO. 040665

FCC File No. BP-16698
Order set aside 8-14-68

Station WPKL
Rockmart, Georgia

1060 kc

MEBANE, NORTH CAROLINA WQWX

DIRECTIONAL ANTENNA DESCRIPTION SHEET

Station: (new) Main Studio: Mebane, North Carolina

Frequency: 1060 kHz Power: 1 kw

Notification List No. 1449 Date: November 3, 1971 Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM: North Latitude: 36° 03' 28"
West Longitude: 79° 16' 36"

ANTENNA CHARACTERISTICS

Authorized for Daytime operation. (DA-D)
Number of elements: 3
Type of elements: Series-excited, uniform cross-section, guye vertical steel towers.

TOWER:	SW(#2)	C(#1)	NE(#3)	
HEIGHT ABOVE INSULATORS:	180'	180'	180'	(70°)
PHASING:	+132°	0°	-132°	
FIELD RATIO:	1	1.92	1	

SPACING AND ORIENTATION: Adjacent elements are spaced 180.5' (70°) on a line bearing 230° true.

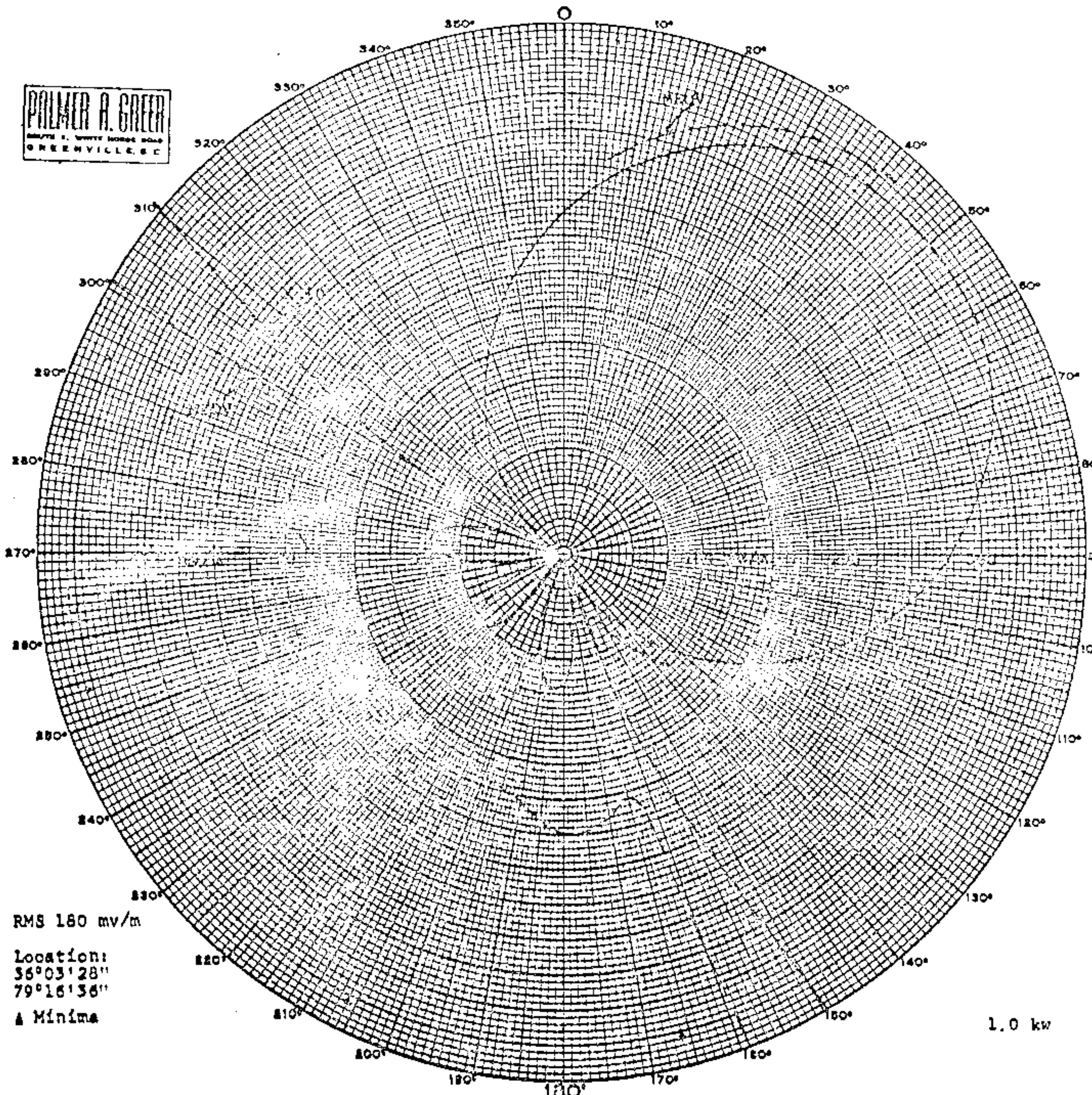
GROUND SYSTEM: 120 - 232' equally spaced copper radials about each tower. Radials are shortened and bonded to transverse straps along intersections between towers.

Predicted effective Field: 180 mv/m at rated power.

- -

MEBANE, NORTH CAROLINA WQWX

PALMER A. GREER
GREENVILLE, S.C.



RMS 180 mv/m

Location:
36°03'28"
79°16'36"

▲ Minima

1.0 kw

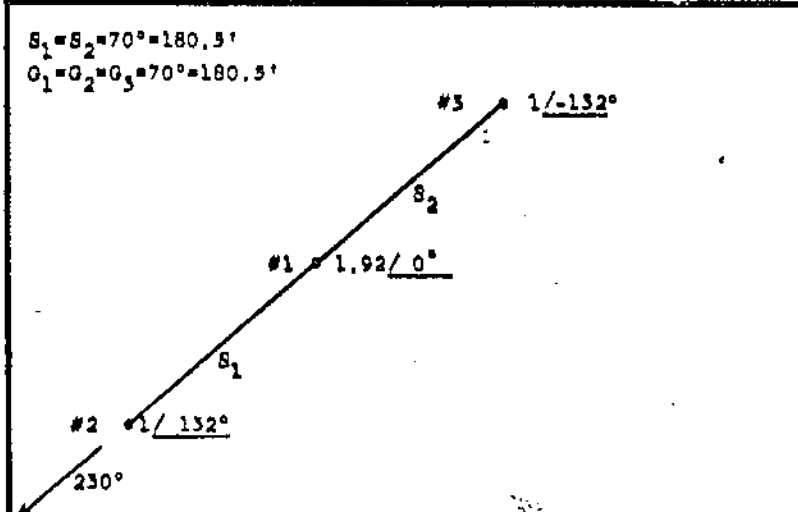


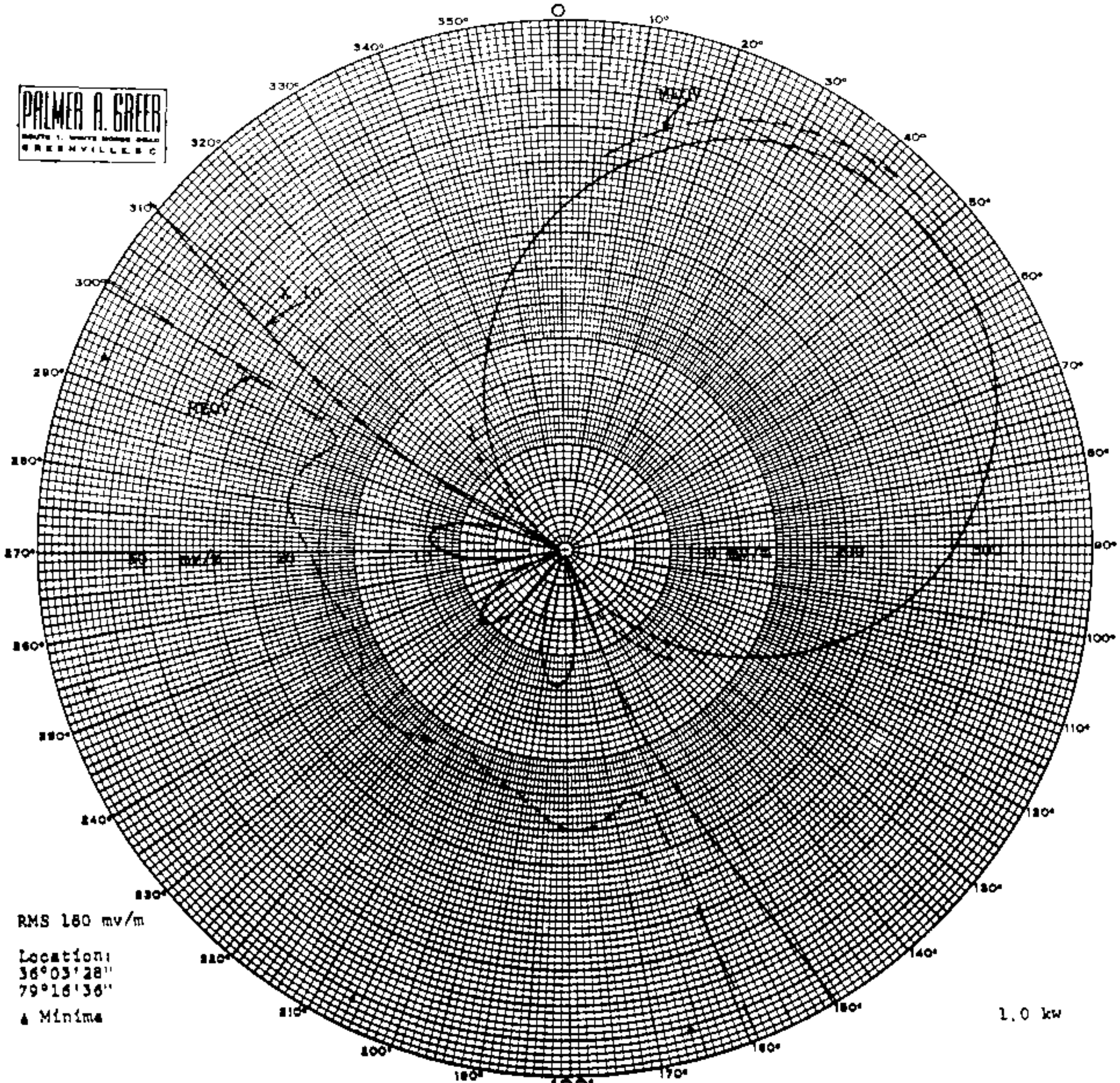
FIG.5
RADIO MEBANE-HILLSBOROUGH INCORPORATED
MEBANE, N.C.
1060 kHz, 1KW,(0.5KW,CH.) DA. DAYTIME,
HORIZONTAL RADIATION PATTERN, 1.0 KW.

WQWX

Proposed Day
(2-28-68ct)

New; Radio Mebane-Hillsborough, Inc.
Mebane, North Carolina

1kw,500w-CH,DA-2,D
1060 kc



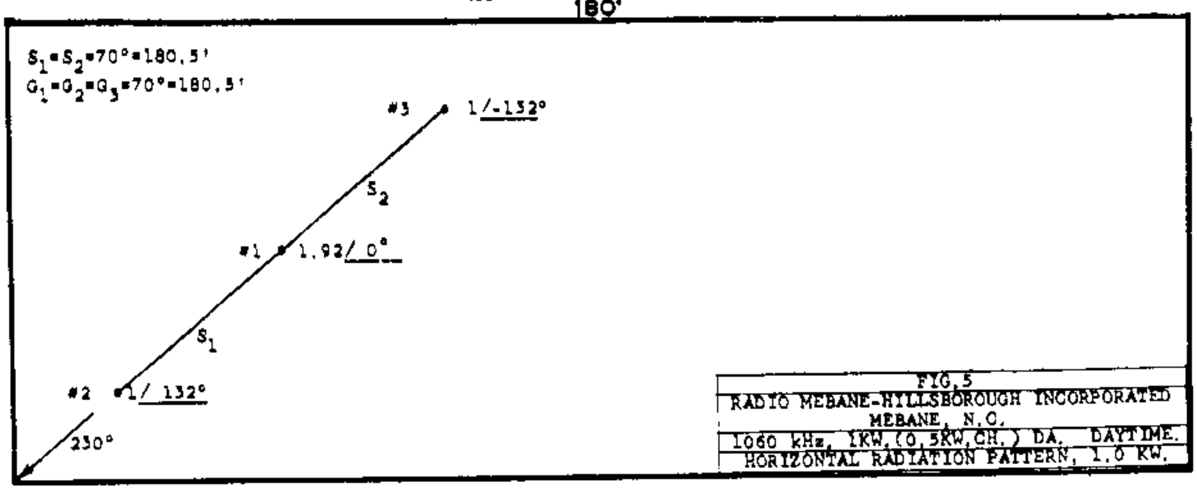


FIG. 5
RADIO MEBANE-HILLSBOROUGH INCORPORATED
MEBANE, N.C.
1060 kHz, 1KW,(0.5KW,CH.) DA. DAYTIME.
HORIZONTAL RADIATION PATTERN, 1.0 KW.

FCC File No.BP-17988 New; Radio Mebane-Hillsborough, Inc.
Accepted 1-31-68 Mebane, North Carolina

1060 kc

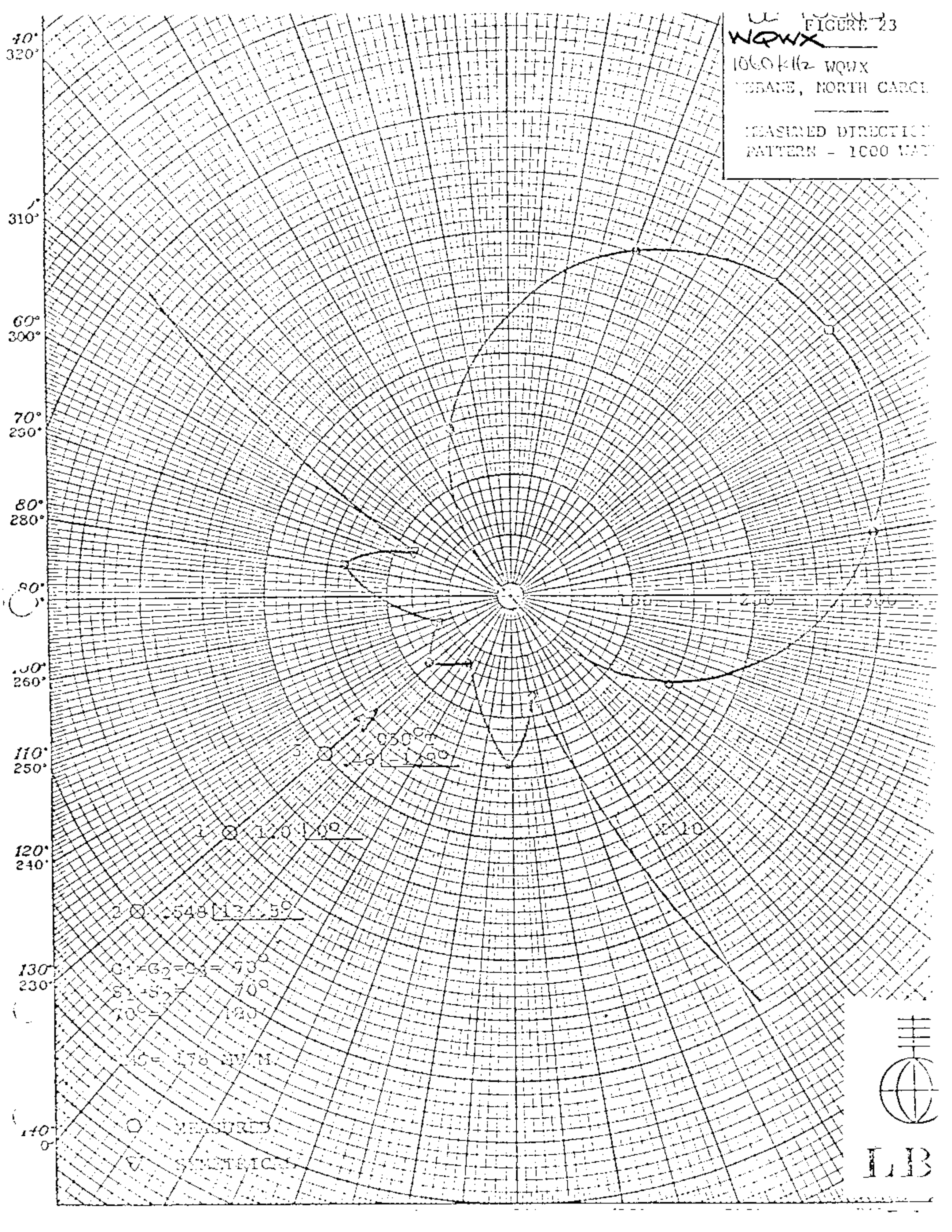

320°
310°
60°
300°
70°
280°
80°
260°
110°
250°
120°
240°
130°
230°
1 ⊗ 1.0 /0°
2 ⊗ .548 /131.5°
MEASURED
WQWX
1060 kHz WQWX
NORTH CAROL
PATTERN - 1000

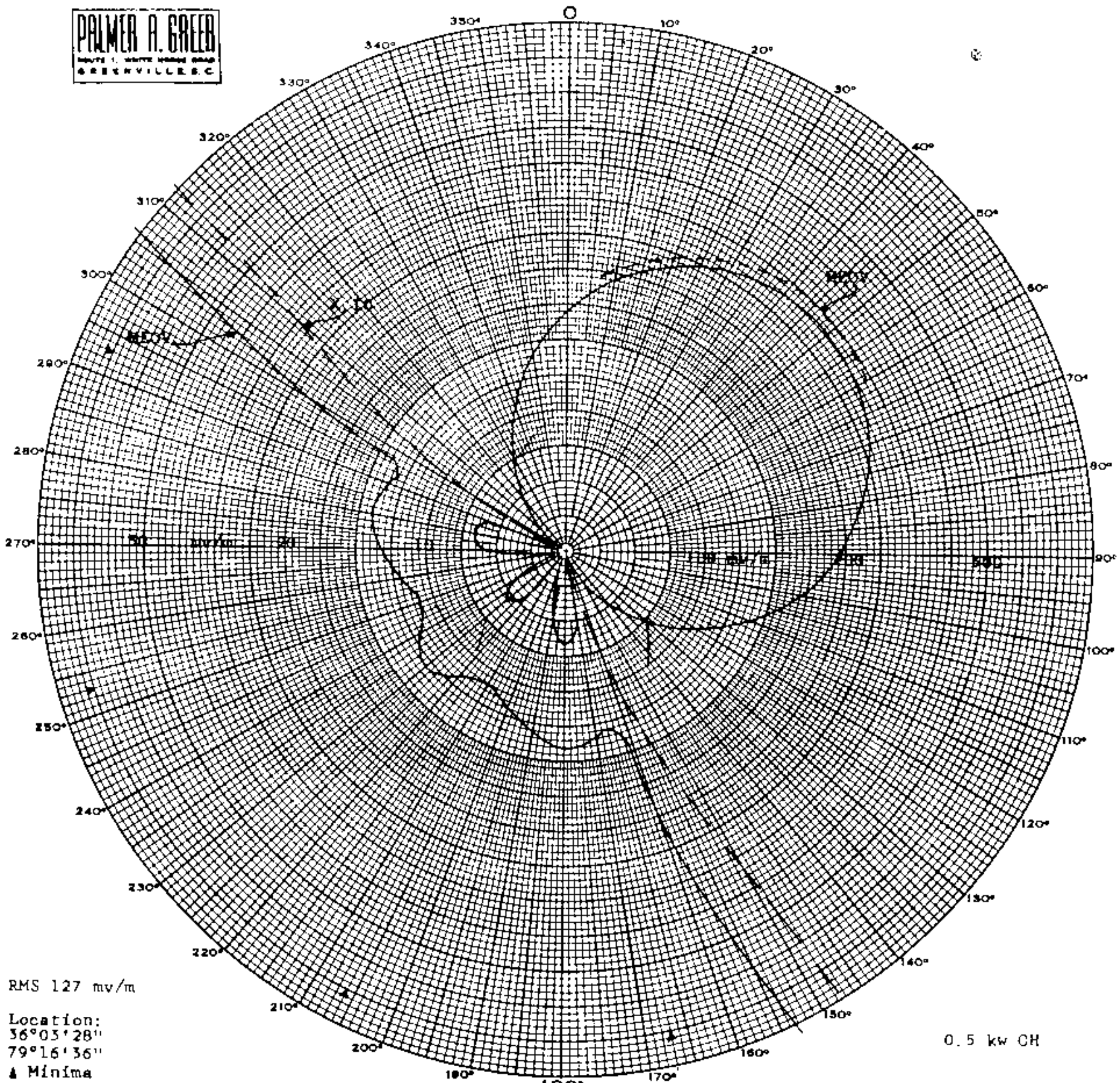
FIGURE 23

WQWX

Proposed Day (CH)
(2-28-68ct)

New; Radio Mebane-Hillsborough, Inc.
Mebane, North Carolina

1kw,500w-CH,DA-2,D
1060 kc



RMS 127 mv/m

Location:
36°03'28"
79°16'36"
▲ Minima

0.5 kw CH

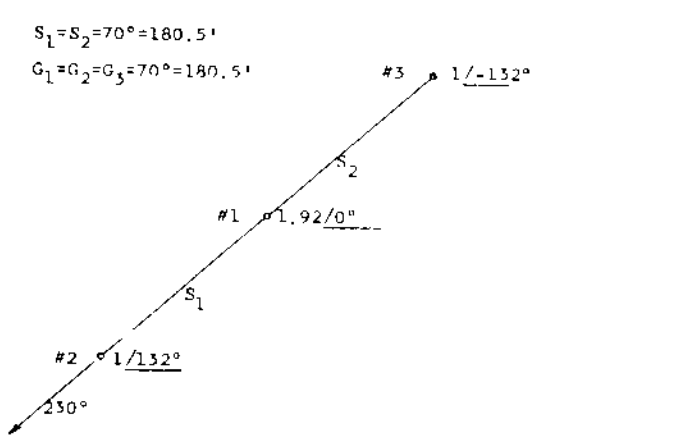


FIG. 6
RADIO MEBANE-HILLSBOROUGH INCORPORATED
MEBANE, N.C.
1060 kHz, 1 KW,(0.5 KW,CH,) DA DAYTIME
HORIZONTAL RADIATION PATTERN, 0.5 KW.

FCC File No.BP-17988 New; Radio Mebane-Hillsborough, Inc.
Accepted 1-31-68 Mebane, North Carolina

1060 kc

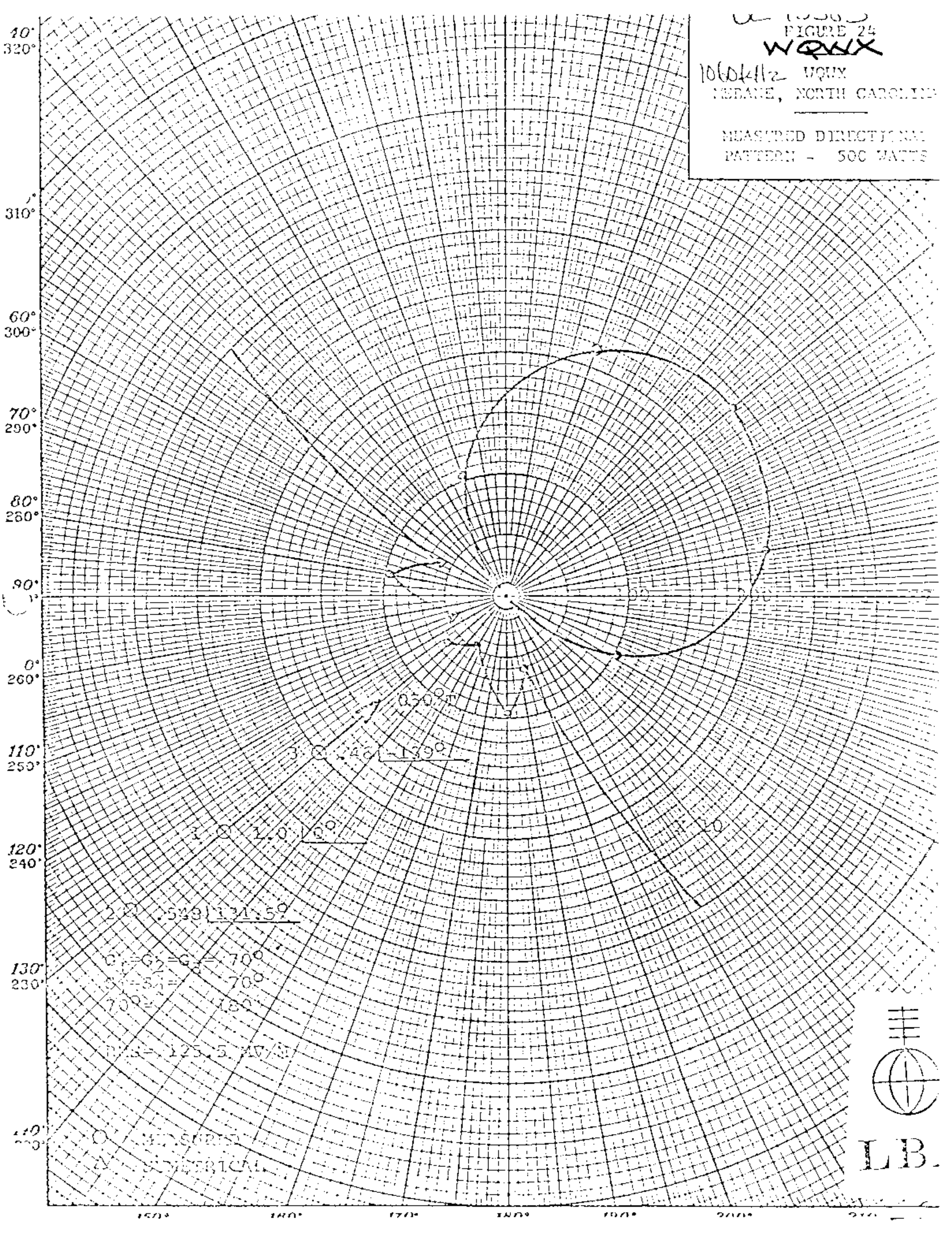


FIGURE 24
WQNX
10604112 WQUX
MEBANE, NORTH CAROLINA
MEASURED DIRECTIONAL
PATTERN - 500 WATTS
3 ⊙ .46 ∠-139°
1 ⊙ 1.0 ∠0°
2 ⊙ .549 ∠134.5°
RMS = 125.5 MV/M
LB.

WQWX

SUPPLEMENTAL DIRECTIONAL
ANTENNA DESCRIPTION SHEET

Station: WQWX

Main Studio: Mebane, North Carolina

Frequency: 1060 kHz

Power: 1 kW

Notification List No. 1663

Date: December 16, 1975

Class: II

GEOGRAPHICAL LOCATION OF THE CENTER OF THE ANTENNA SYSTEM:

North Latitude: 36° 03' 30"
West Longitude: 79° 16' 30"

Authorized for Daytime operation. (DA-D)

Predicted effective Day Field: 180 mv/m at rated power.

Note: Please retain the description sheet and directional antenna radiation pattern notified for a new station at Mebane, North Carolina in United States Change List Number 1449, dated November 3, 1971 and attach to this supplemental Description Sheet. This notification is for the purpose of indicating only a correction in the geographical coördinates of the center of the antenna system.

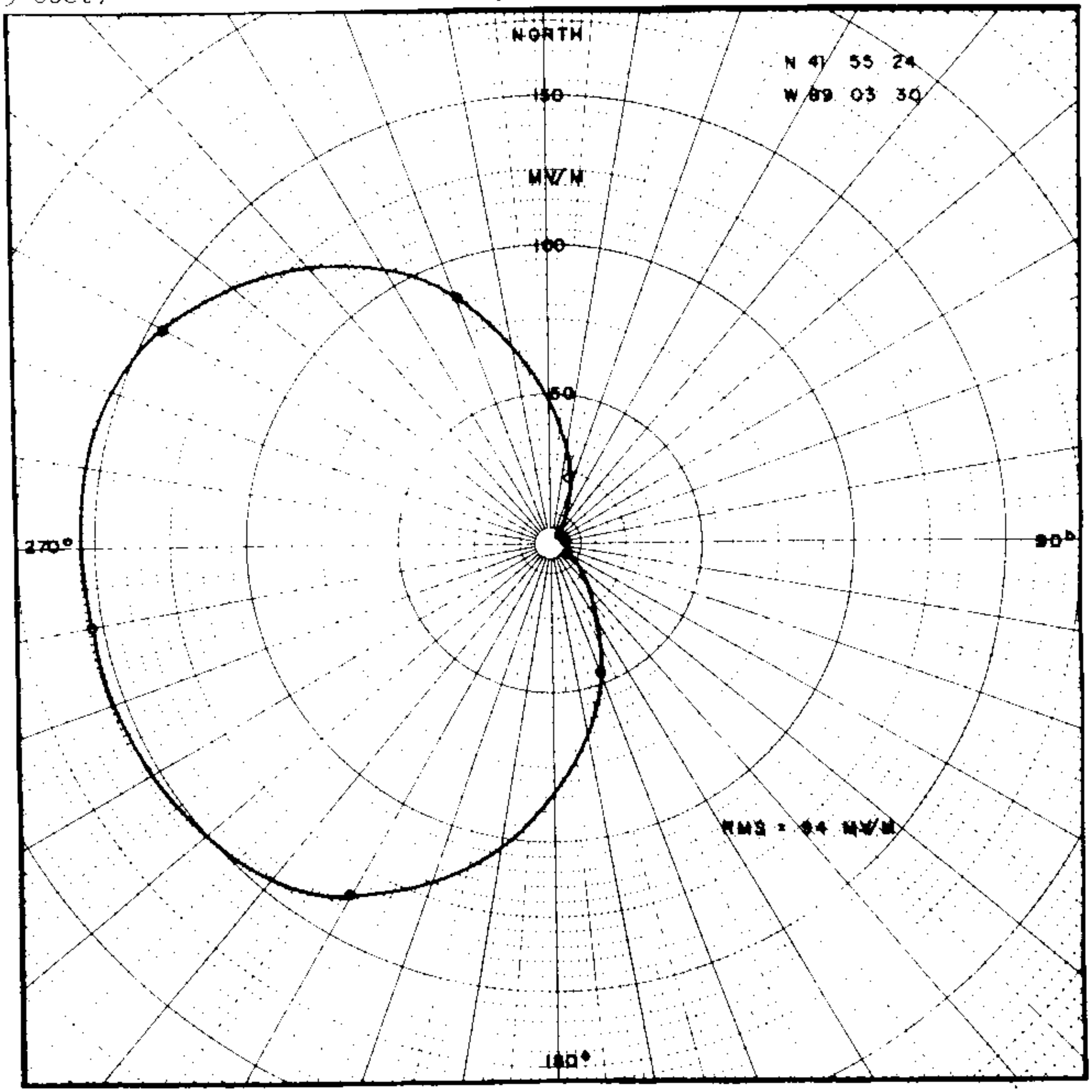
COHEN AND DIPPELL
RECEIVED
JUL 26 1976
WASHINGTON, D.C.

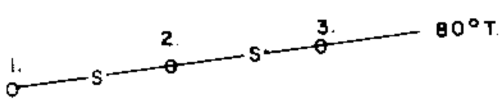
Measured Day
(12-29-66ct)

Station WRHL
Rochelle, Illinois

250w,DA-D,D
1060 kc

12-12-66
GRANTED
LICENSE
COVERING A
NEW AM ST.





	1.	2.	3.
CALC. =	1.0/0	1.53/108	0.64/-148
MEAS. =	1.0/0	2.09/87	0.95/170

S = 90° G = 86°

WRHL
MEASURED RADIATION PATTERN
TILTON PUBLICATIONS, INC.
1060 KHZ 0.25 KW DA-D
ROCHELLE, ILLINOIS
AUGUST, 1966

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No. BL-11453
Accepted 12-5-66

Station WRHL
Rochelle, Illinois

1060 kc

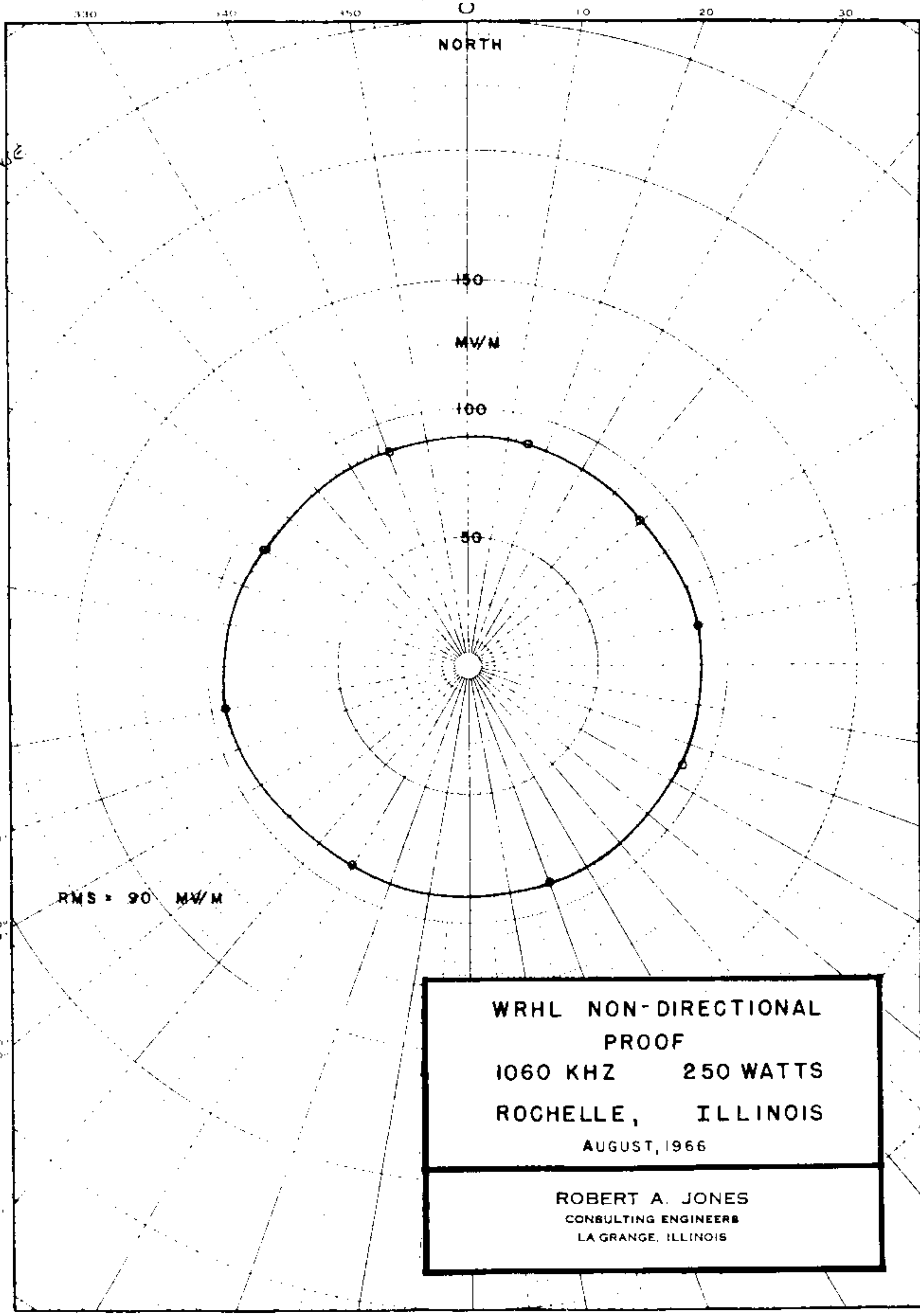
VV WRHL

Measured Non-DA
(12-29-66ct)

Station WRHL
Rochelle, Illinois

250w, DA-D,D
1060 kc

12-12-66
GRANTED LICENSE
COVERING A
NEW AM ST.



WRHL NON-DIRECTIONAL
PROOF
1060 KHZ 250 WATTS
ROCHELLE, ILLINOIS
AUGUST, 1966

ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

FCC File No. BL-11453
Accepted 12-5-66

Station WRHL
Rochelle, Illinois

1060 kc

WRMF

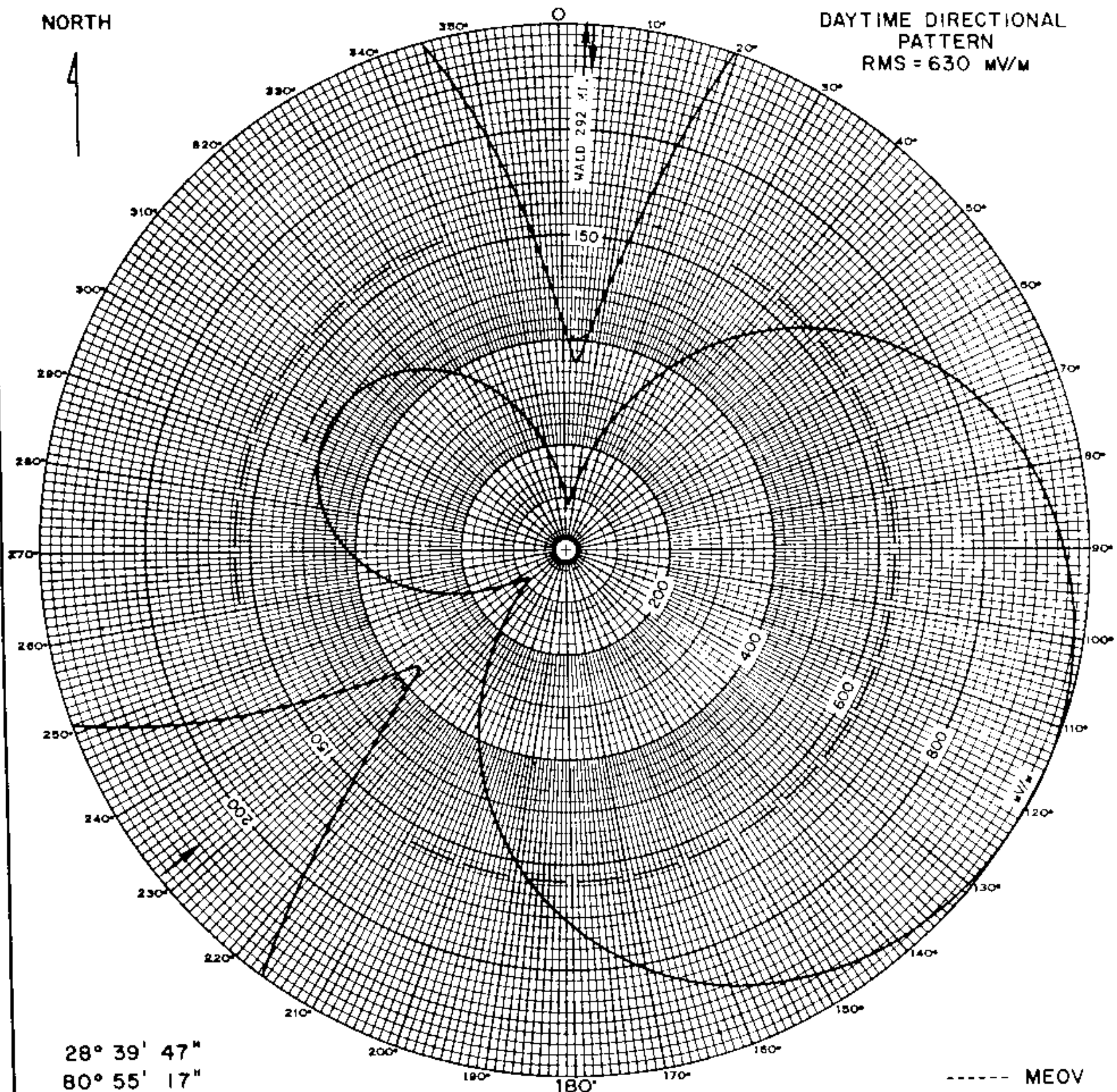
Proposed Day
(2-28-67ct)

Station WRMF
Titusville, Florida

5kw, 10kw-LS, DA-2, U
1060 kc

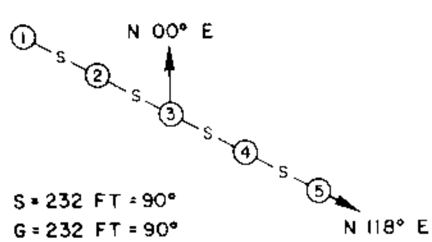
NORTH

DAYTIME DIRECTIONAL PATTERN
RMS = 630 MV/M



28° 39' 47"
80° 55' 17"

------ MEOV



S = 232 FT = 90°
G = 232 FT = 90°

THEORETICAL PARAMETERS

TOWER	FIELD	PHASE
1	–	–
2	–	–
3	1.000	0°
4	0.850	– 143°
5	–	–

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WRMF
1060 kHz 5 kW 10 kW-LS DA-2
661010.2 FIGURE 4B

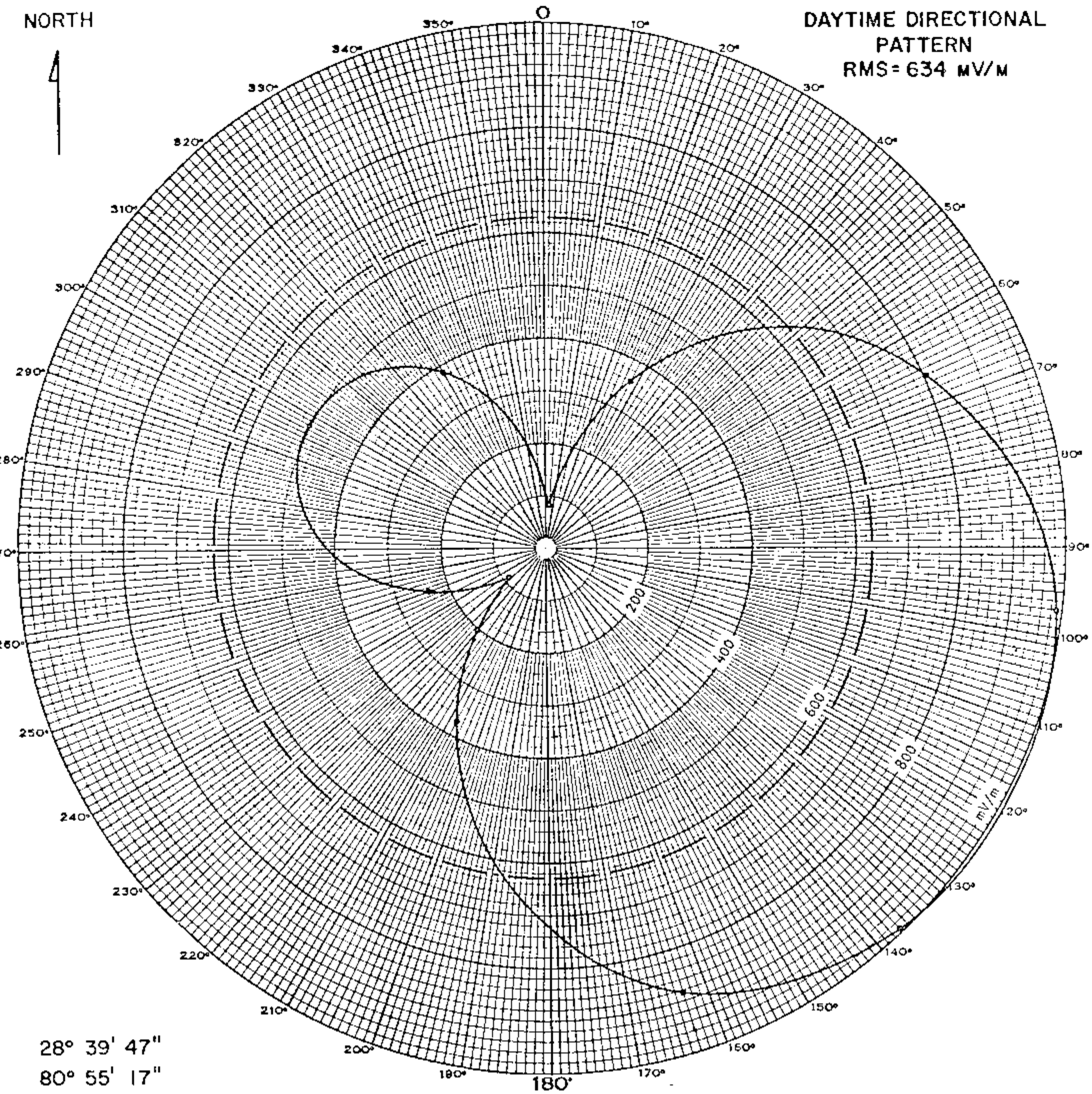
FCC File No. BP-17486
Accepted 2-7-67

Station WRFM
Titusville, Florida

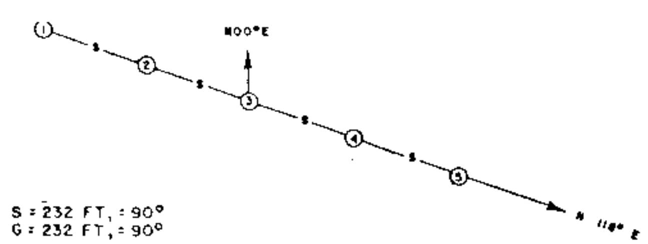
1060 kc

NORTH

DAYTIME DIRECTIONAL
PATTERN
RMS=634 mV/m



28° 39' 47"
80° 55' 17"



DAYTIME DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	INDICATED FIELD	INDICATED PHASE
1	-	-	Detuned	
2	-	-	Detuned	
3	1.000	0.0°	1.000	0.0°
4	0.850	-143.0°	0.840	-139.5°
5	-	-	Detuned	

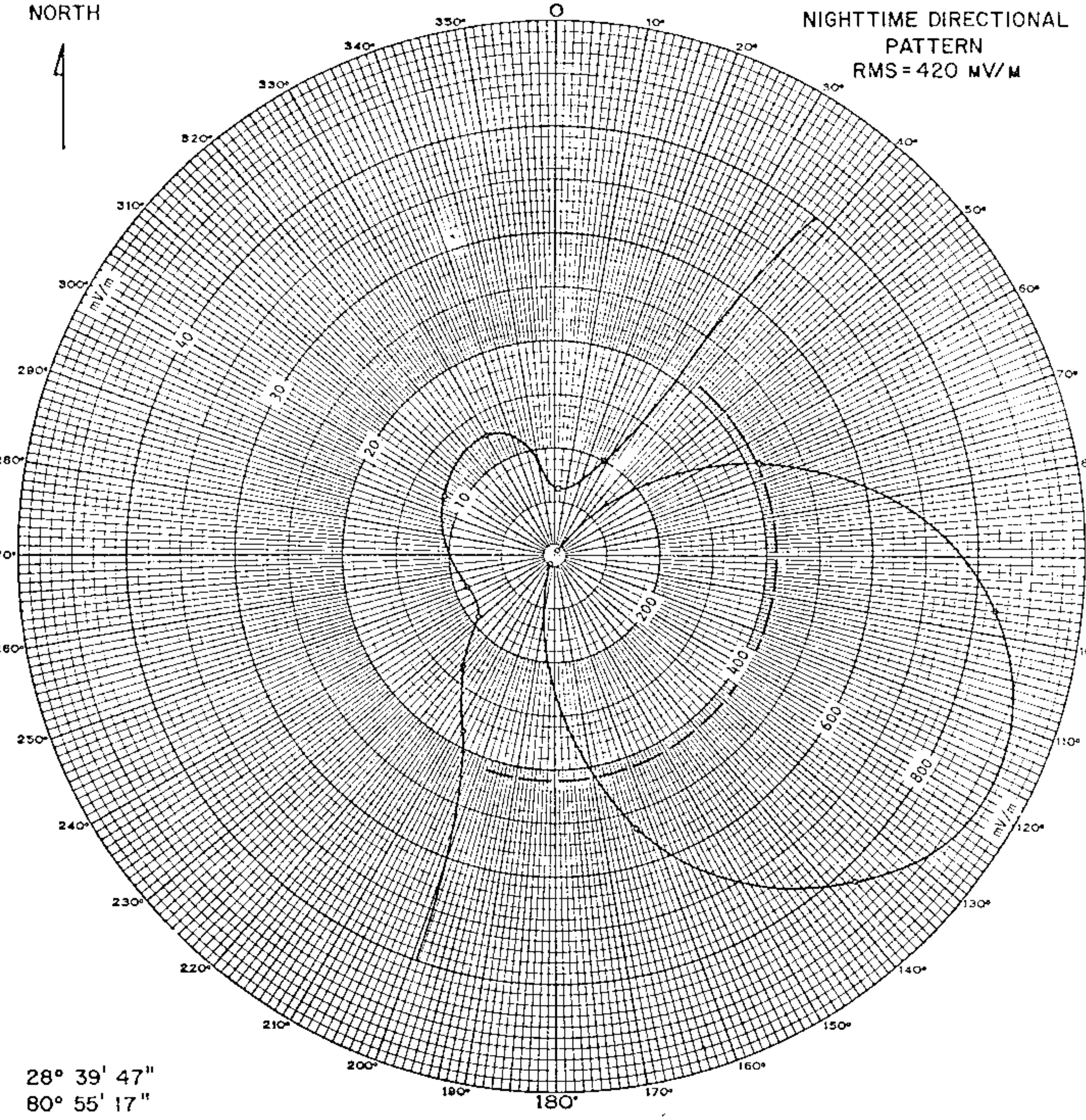
PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

RADIO STATION WRMF
1060 kHz 5 kW 10 kW-LS DA-2
730102 FIGURE 2B

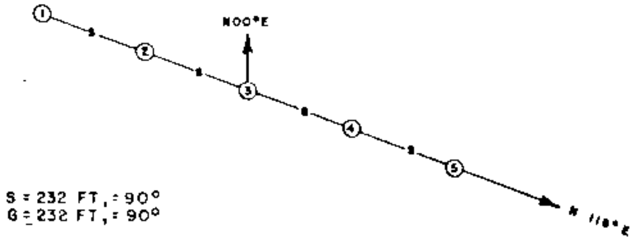
NORTH

NIGHTTIME DIRECTIONAL PATTERN

RMS = 420 mV/m



28° 39' 47"
80° 55' 17"



NIGHTTIME DIRECTIONAL ANTENNA PARAMETERS

TOWER	THEORETICAL FIELD	THEORETICAL PHASE	INDICATED FIELD	INDICATED PHASE
1	0.211	-90°	0.204	-80.9°
2	0.707	+135°	0.692	+137.6°
3	1.000	0°	1.000	0.0°
4	0.707	-135°	0.704	-133.0°
5	0.211	+90°	0.193	+83.3°

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

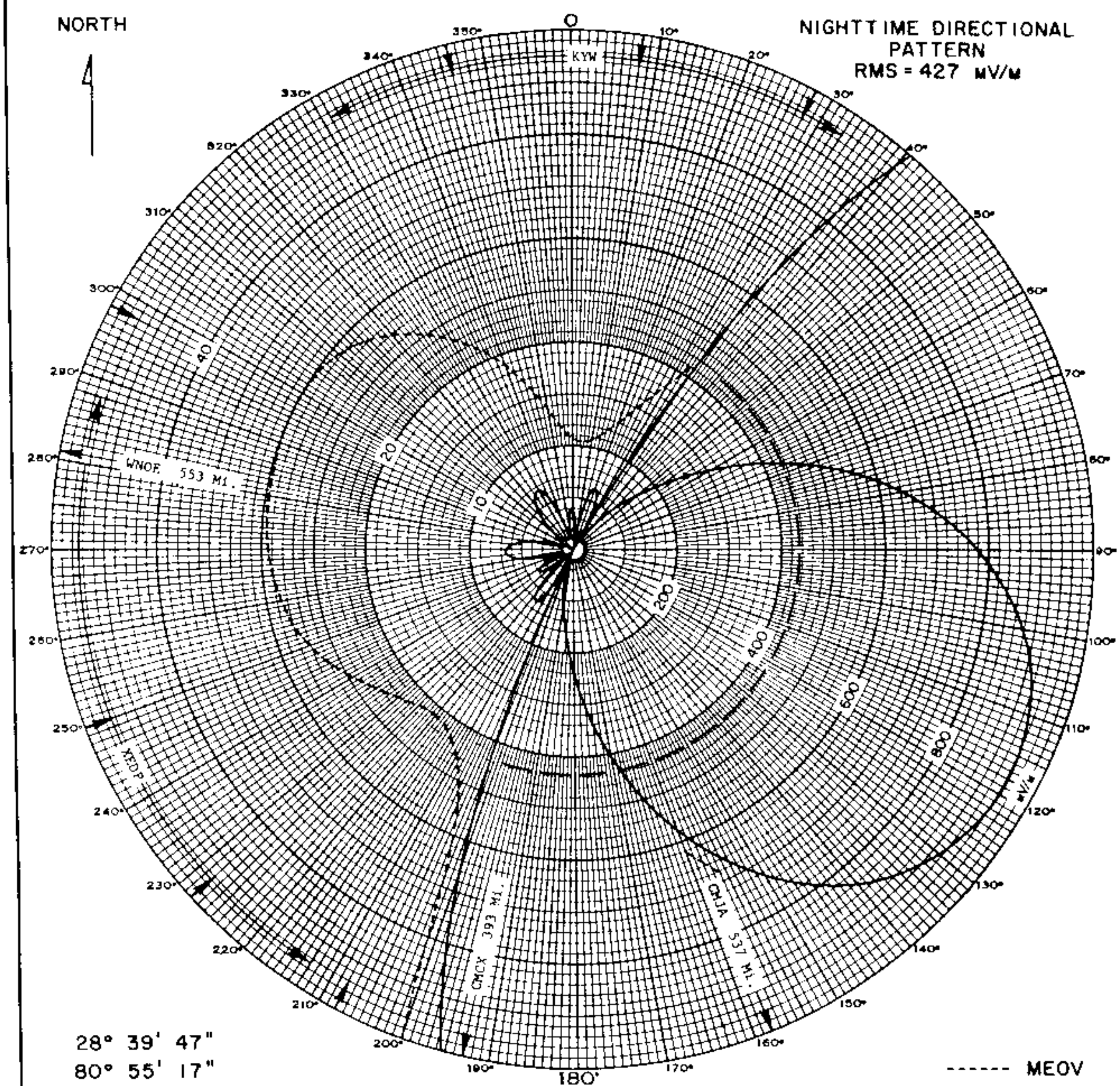
RADIO STATION WRMF
1060 kHz 5 kW 10 kW-LS DA-2
730102 FIGURE 2C

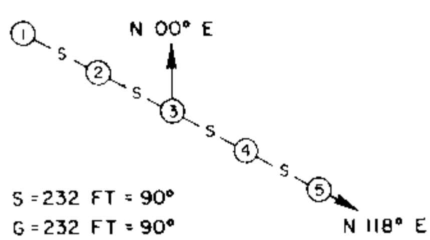
WKMH

Proposed Night
(2-28-67ct)

Station WRFM
Titusville, Florida

5kw,10kw-LS,DA-2,U
1060 kc





THEORETICAL PARAMETERS

TOWER	FIELD	PHASE
1	1.000	270°
2	3.346	135°
3	4 732	0°
4	3 346	− 135°
5	1.000	− 270°

PREPARED BY
THE FIRM OF A. EARL CULLUM, JR.
CONSULTING ENGINEERS

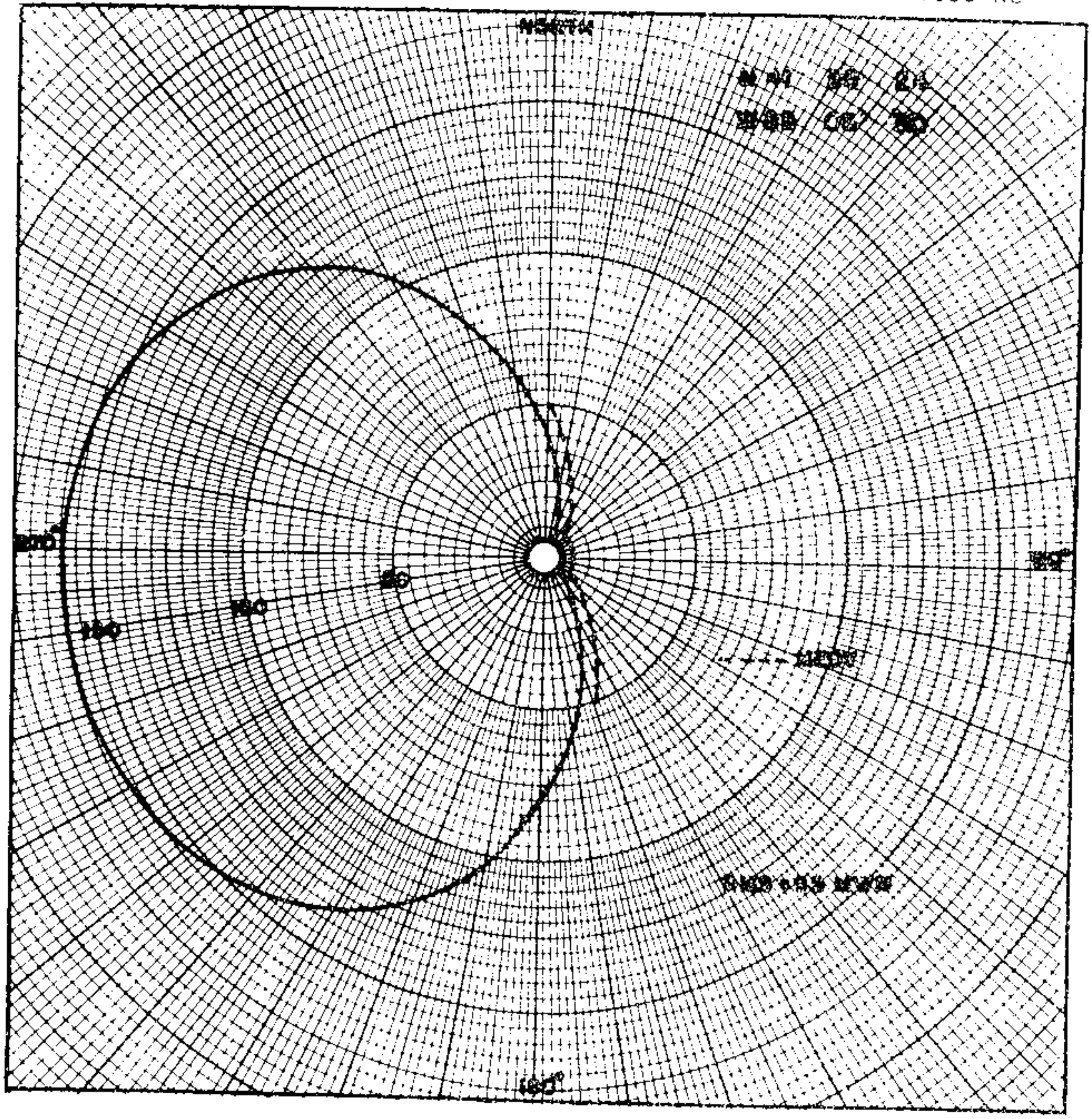
RADIO STATION WRMF
1060 kHz 5 kW 10 kW-LS DA-2
661010.3 FIGURE 4B

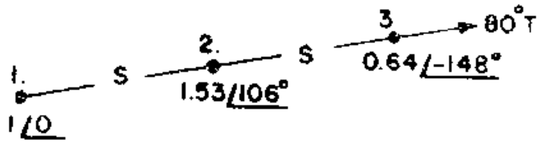
FCC File No.BP-17486
Accepted 2-7-67

Station WRFM
Titusville, Florida

1060 kc

CP 4-6-66





S = 90° = 232'   G = 86° = 220'

HORIZONTAL RADIATION PATTERN
TILTON PUBLICATIONS, INC
1060 KC   0.25 KW DA-D
ROCHELLE, ILLINOIS
FEB. 1965

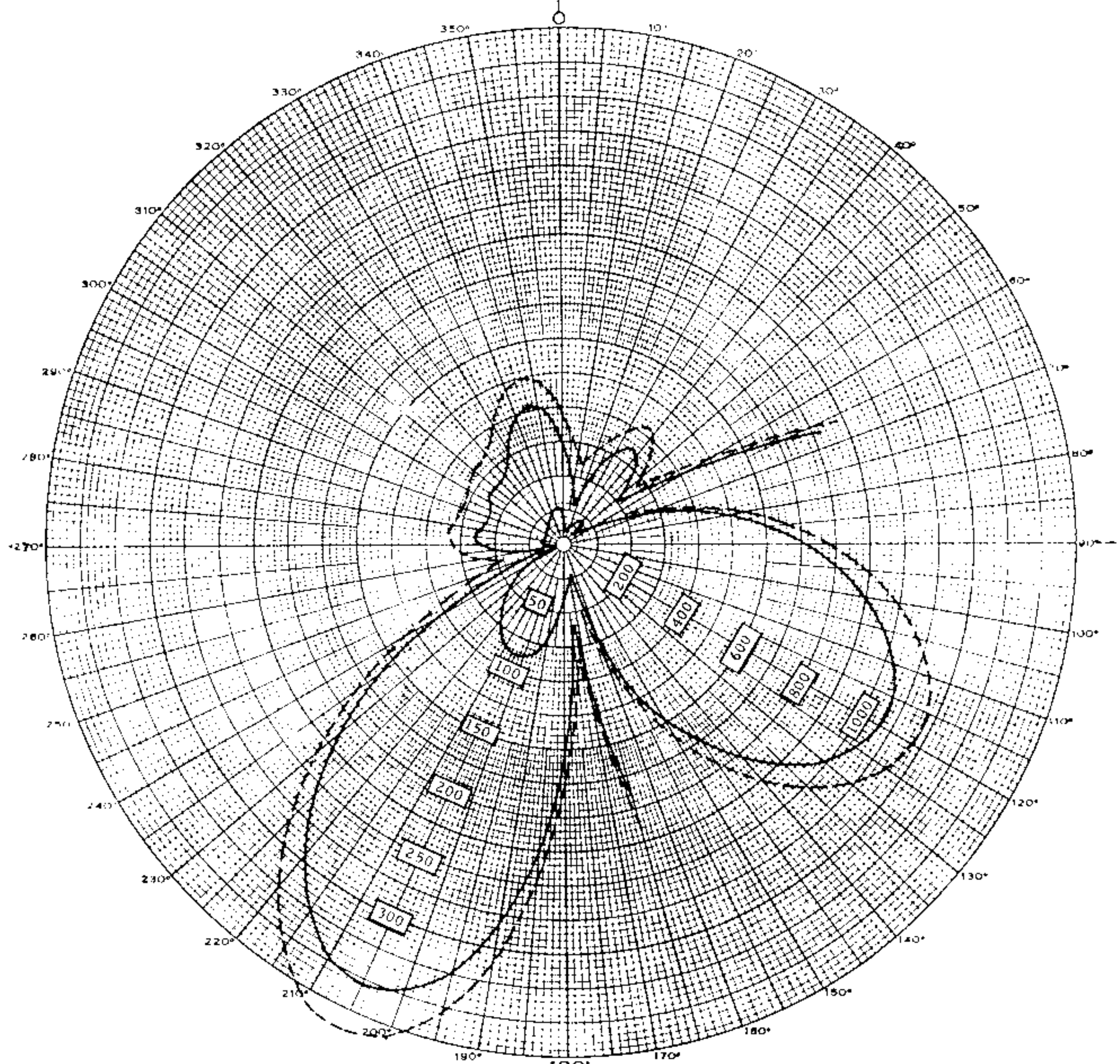
ROBERT A. JONES
CONSULTING ENGINEERS
LA GRANGE, ILLINOIS

NEW

Proposed Day (9-26-68ct)

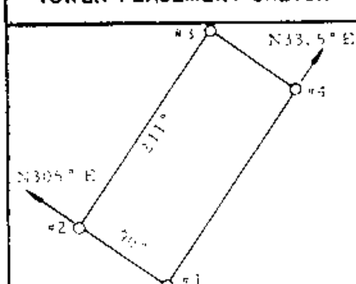
New: Frank E. Holladay & Joseph W. Carson
Tupelo, Mississippi

5kw, DA-D,D
1060 kc



------MEOV

TOWER PLACEMENT SKETCH



PATTERN PARAMETERS

TOWER No	ELECTRICAL HEIGHT $G°$	TRUE TOWER ORIENTATION $\phi°$	SPACING $S°$	PHASING $\psi°$	HORIZONTAL FIELD mv/m E	FIELD RATIO F	ELEV ANGLE $\theta°$	ELEVATION RMS FIELD mv/m E_θ
1	110°	000°	000°	+00°		1.00	0	
2	110°	305°	090°	+90		.886	10	
3	110°	10.635°	231.35°	+70		.785	20	
4	110°	33.5°	211°	-20		.886	30	
5							40	
6							50	
7							60	
8							70	
9							80	
10							RMS 425 mv/m	

DAYTIME OPERATION ☒ NIGHTTIME OPERATION ☐

STATION DATA

CALL NEW
FREQUENCY 1060 KC
POWER 5.0 KW
TIME OF OPERATION DAY
TYPE OF OPERATION DA
DAYTIME TOWERS 1-2-3-4
NIGHTTIME TOWERS xx
No. RADIALS PER TOWER 120
LENGTH OF RADIALS 116 to 280
GROUND SCREEN DIMENSIONS 24 x 24
LAT 34° 17' 50"
LONG 85° 45' 39"
680610A

CLAUDE M. GRAY
CONSULTING RADIO ENGINEER
BIRMINGHAM ALA

EXHIBIT
1-A-5

PROPOSED HORIZONTAL RADIATION PATTERN

JOSEPH W. CARSON AND FRANK E. HOLLADAY

TUPELO, MISSISSIPPI

FCC File No. BP-18227 New: Frank E. Holladay & Joseph W. Carson
Accepted 9-5-68 Tupelo, Mississippi
1060 kc

XEDP
1060

9/21/48 a

DIRECTIONAL ANTENNA DESCRIPTION

Call Letters: X E D P

Studio Location: Mexico, D.F., Mexico

Frequency: 1060 Kilocycles

Authorized Power: 50,000 Watts

Radiation 1200 Mv/m at one mile toward the area of Philadelphia, Pennsylvania (Station K Y W). Azimuth N 37° E.

GEOGRAPHICAL LOCATION OF ANTENNA SYSTEM:

Latitude 19° 24' 03" NORTH
Longitude 99° 08' 55" WEST

TECHNICAL DETAILS:

Number of Towers, Two

Height of Towers, 140 Meters (180°)

Tower Spacing, 86 Meters (110°)

Phasing, 00°

Current Ratio, 1 : 1

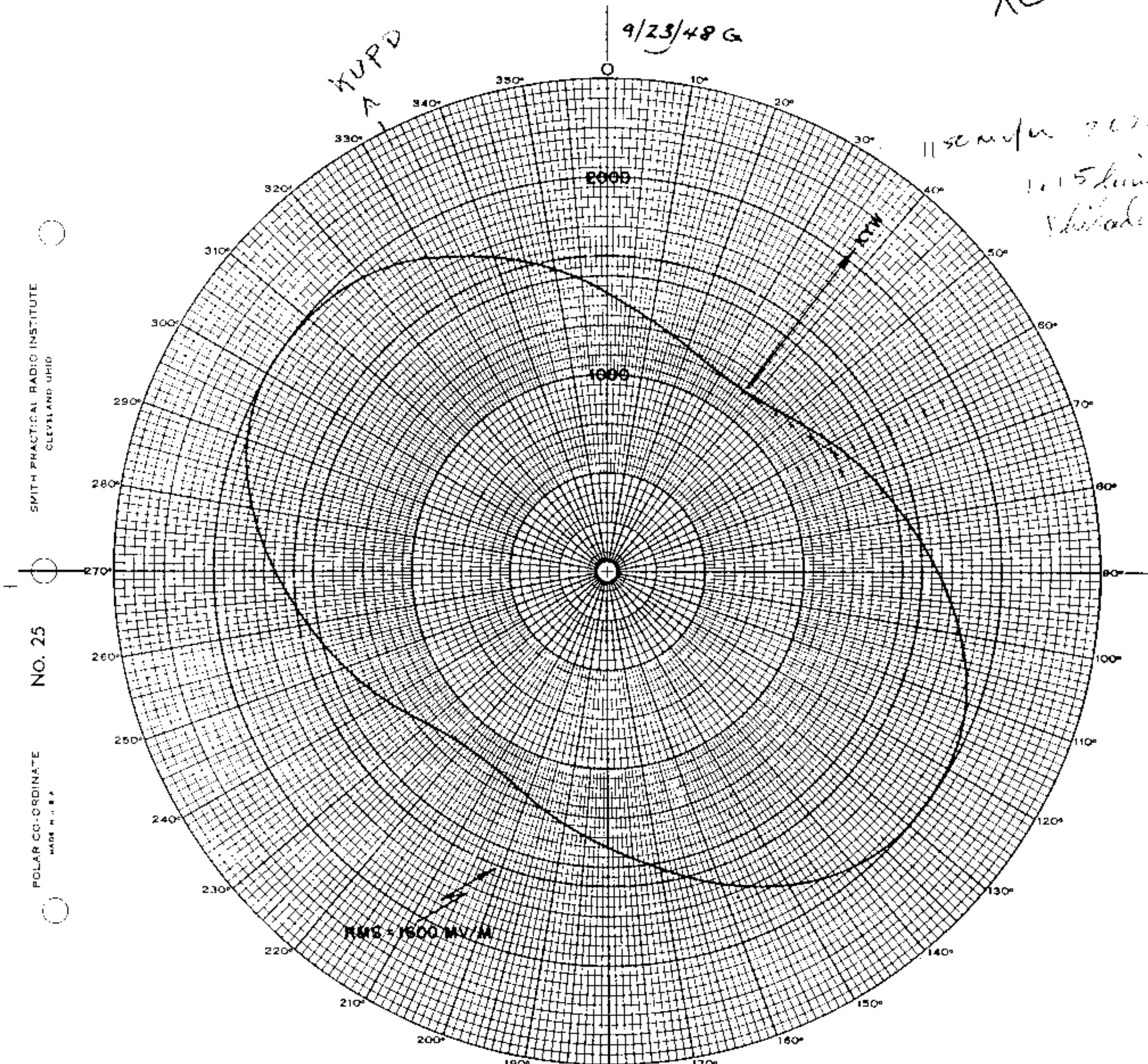
Line of Towers, N 37° E

1L0 0 37°

1L0 110°

Pattern Received: Sept. 14,1948
Pattern Accepted: Sept. 14,1948
Trans.-w.g.

XEDP
1060
XEP



REC'D FCC 9/14/48
ACC. 9/14/48

XEDP - MEXICO, D.F.
1060 kc 50 kw

f = .45