

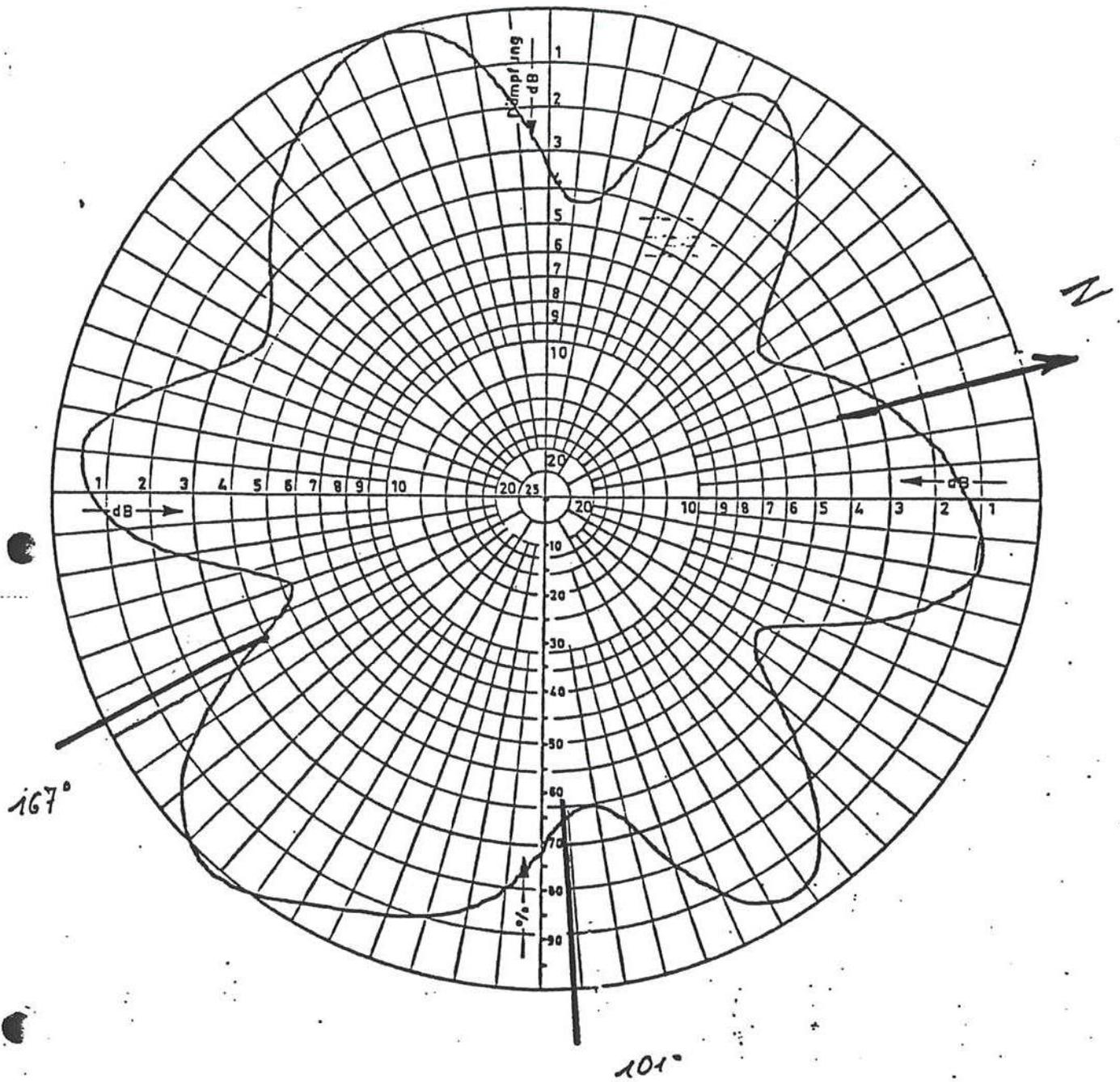
Factory test

EXHIBIT A1

Horizontal pattern of the  
horizontal polarisation

M.B. Crouch

	Tag	Strahlungsdiagramm	Type Nr.	
	28.6.85		92.5 MHz	756 664
	Name		Blatt: 1	



Factory test

EXHIBIT A2

Horizontal pattern of the  
vertical polarisation

2.06db M.B. Crouch

<b>KATHREIN</b>	Tag	Strahlungsdiagramm	Type Nr.
	28.6.65		756 664
	Name		Blatt: 2
	Klausen	92,5 MHz	

TABLE 2.0

PROPOSED DIRECTIONAL ANTENNA PATTERNBeasley Broadcasting of Philadelphia, Inc.  
Philadelphia, PA

Azimuth (Degrees)	Horizontal Polarization		Vertical Polarization	
	Relative Field	dBK	Relative Field	dBK
0	0.729	9.21	0.646	8.16
15	0.832	10.36	0.767	9.66
30	0.804	10.06	0.741	9.36
45	0.684	8.66	0.473	5.46
60	0.772	9.71	0.684	8.66
75	0.767	9.66	0.841	10.46
90	0.484	5.66	0.613	7.71
105	0.490	5.76	0.638	8.06
120	0.776	9.76	0.790	9.91
135	0.972	11.71	0.861	10.66
150	0.955	11.56	0.891	10.96
165	0.724	9.16	0.638	8.06
180	0.550	6.76	0.550	6.76
195	0.729	9.21	0.818	10.21
210	0.716	9.06	0.716	9.06
225	0.537	6.56	0.579	7.21
240	0.638	8.06	0.700	8.86
255	0.827	10.31	0.832	10.36
270	0.813	10.16	0.871	10.76
285	0.603	7.56	0.596	7.46
300	0.596	7.46	0.646	8.16
315	0.804	10.06	0.832	10.36
330	0.700	8.86	0.620	7.81
345	0.589	7.36	0.495	5.86

**EXHIBIT A3**

**AMEND BPH-20040303ABJ**  
**WXTU LICENSE LIMITED PARTNERSHIP**  
**WXTU (FM) RADIO STATION**  
**CH 223B - 92.5 MHZ - 15.0 KW**  
**PHILADELPHIA, PENNSYLVANIA**  
**July 2004**

**EXHIBIT A4**

**Directional Antenna System (§73.316 Compliance)**

This application at Philadelphia, Pennsylvania, is proposing to use a directional FM antenna system to achieve the required amount of protection to existing shortspaced stations as detailed in Exhibit B1. The existing antenna was manufactured by Kathrein Antenna (supplied by Tennaplex Systems). The antenna is a circularly polarized two bay (three around panel antenna) Model #756-664. The antenna is mounted on the WXTU tower structure in accordance with the antenna manufacturer's specifications. Kathrein has provided the applicant with a measured pattern which was used to develop an envelope pattern of the system. This information was used in the preparation of all WXTU's contours. The actual measured pattern, as submitted with FCC Form 302-FM, application for station license, will come as close as possible to the envelope pattern attached hereto without exceeding the limits of the pattern on any azimuth.

Exhibit A5 is a relative field horizontal plane envelope pattern of the proposed system with the zero degree bearing oriented true north, in accordance with §73.316(c)(2). Attached, as Exhibit A6, is the tabulated relative field pattern, horizontal plane, of the envelope antenna pattern. Maxima and minima are noted on the tabulation. This is a composite pattern, containing

horizontal and vertical measured pattern of the operating WXTU antenna system in ten degree increments.<sup>1</sup> To assist the staff in completing the processing of the license application and using the limited data available on the WXTU antenna system, a ten degree tabulation was calculated, based on the pattern available from the manufacturer (as submitted in BLH-20031205AXO).

However, in preparing the tabulation, it became apparent that the 310° azimuth of the pattern was higher than the value reflected in the Commission's CDBS database for the license authorized in BLH-19860325KC (which was the same as that proposed in BLH-20031205AXO). The 310° azimuth was originally extracted from the CDBS database and was relied upon in the preparation of BPH-20000630AEI. There was no reason to believe there were any issues involving the previously authorized measured pattern.

The actual relative field of the horizontal polarization at 310° is 0.750. The field of the vertical polarization at 310° is 0.810. The CDBS record for this azimuth indicates a field of 0.640 (which would normally be the higher of the two values). It is readily apparent, in a review of both the horizontal and vertical measured patterns, which are attached hereto as Exhibits A1 and A2, that between 300° and 315°, the fields of both polarizations are rising (see Exhibit A3 for tabulation). Yet the CDBS database reflects a field at 310° which is less than the value at 300° for the vertical polarization and just slightly higher than the horizontal polarization at 300°. A review of the Commission's files and discussions with the staff could find no explanation for this

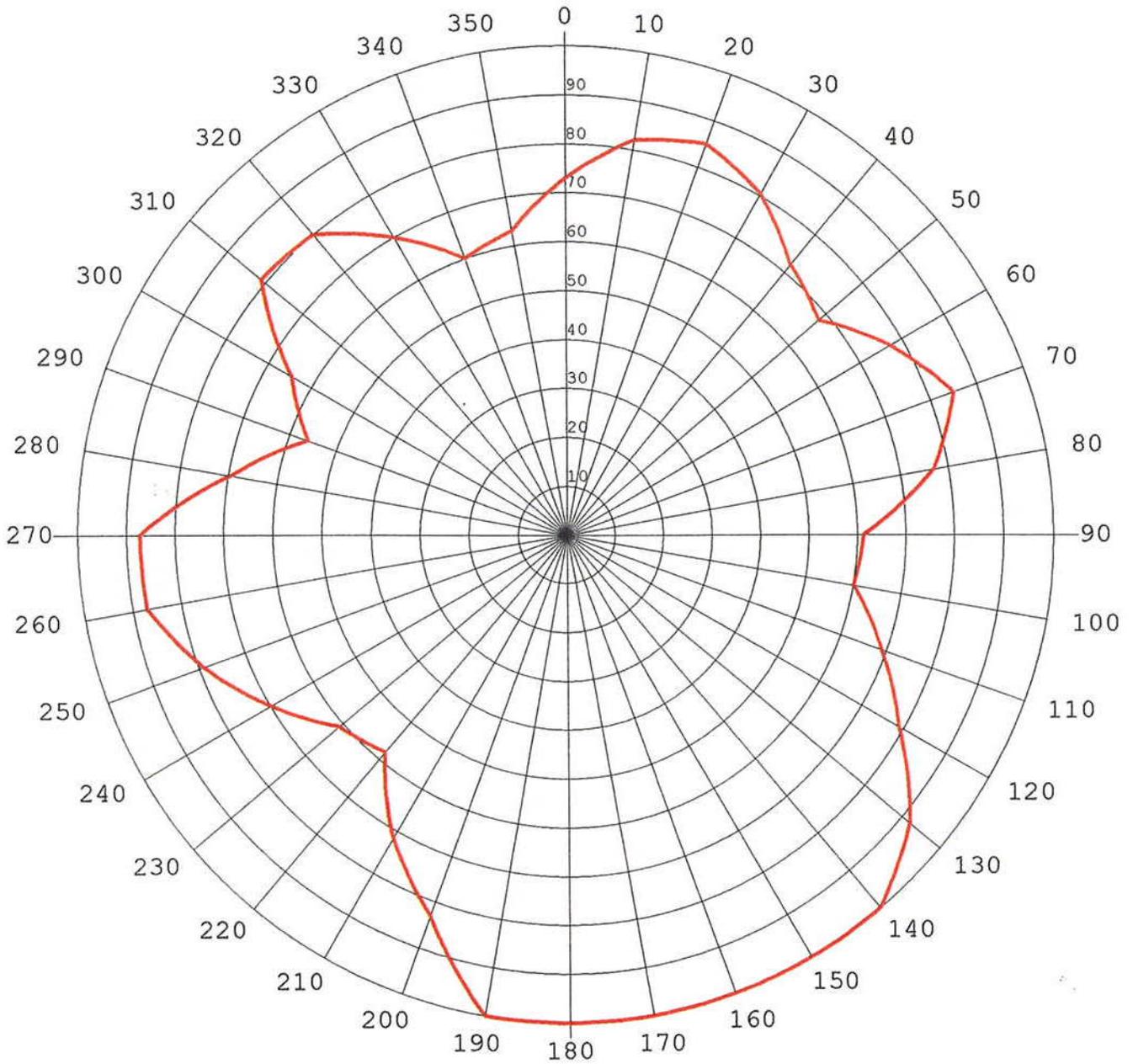
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1) The operating WXTU antenna is the same system as authorized in BLH-19860325KC, with no actual changes. In BPH-20000630AEI, WLLP altered the directional envelope pattern for WXTU pursuant to a mutual increase of facilities agreement with station WVLT, Vineland, New Jersey. The operating WXTU antenna system fits within the updated envelope pattern and, as such, no actual change to the operating antenna was proposed. However, the WXTU antenna documentation submitted with BLH-19860325KC, and again with BLH-20031205AXO, included a horizontal and vertical pattern tabulation in 15° increments.

both horizontal and vertical polarizations. A representation of the typical vertical plane pattern of the proposed antenna system is included herein as Exhibit #7. There will be no other antennas or tower attachments, including top-mounted platforms, installed near the directional antenna system. Any other antennas mounted on the tower structure will be placed far enough away from the directional antenna so as to not affect the directional pattern. This distance that other antennas must be away from the FM antenna has been specified by the antenna manufacturer.

The applicant has included a statement from an Engineer that the antenna has been properly assembled, which is attached as Exhibit A8. Attached is a statement from a licensed surveyor demonstrating that the antenna has been oriented pursuant to the manufacturer's instructions (Exhibit A9). Also attached are the tabulated horizontal and vertical polarizations of the measured WXTU system and the azimuth patterns of both polarizations (Exhibits A10 thru A13).

# WXTU Envelope Pattern - Feb. 2004



**EXHIBIT #5**

WXTU Directional Envelope (composite)

AMEND BPH-20040303ABJ  
WXTU LICENSE LIMITED PARTNERSHIP  
WXTU (FM) RADIO STATION  
CH 223B - 92.5 MHZ - 15.0 KW  
PHILADELPHIA, PENNSYLVANIA  
July 2004

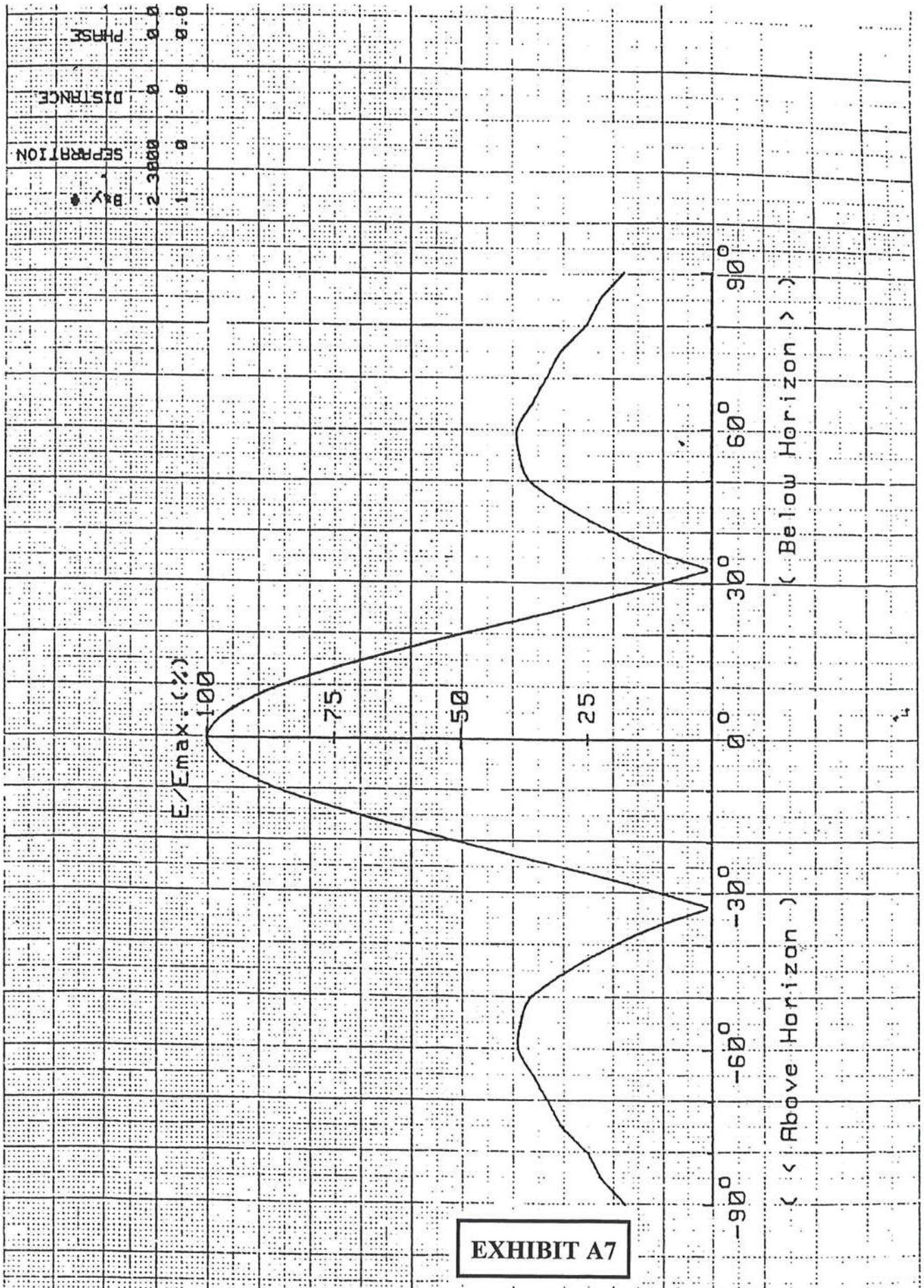
EXHIBIT A6

Horizontal Plane Relative Field Envelope Pattern  
Tabulated Data

DEGREES	RELATIVE FIELD	DEGREES	RELATIVE FIELD
0	0.729	180	1.000
10	0.820	190	1.000
20	0.850	200	0.830
30	0.804	210	0.716
40	0.720	220	0.580
45	0.684	225	0.579
50	0.680	230	0.610
60	0.772	240	0.700
70	0.850	250	0.790
80	0.770	260	0.870
90	0.613	270	0.871
100	0.600	280	0.695
110	0.690	+ 290	0.560
120	0.790	300	0.646
130	0.920	310	0.810
135	0.972	315	0.832
140	1.000	320	0.800
150	1.000	330	0.700
* 160	1.000	340	0.600
170	1.000	350	0.630

+ Minima Relative Field.

\* Maxima Relative Field.



**EXHIBIT A7**

**KATHREIN**  
**TENNAPLEX**

Day	8 Mar 1985
Name	

VERTICAL DIAGRAM 2-bays 754 154  
 FM CP Transmit Antenna  
 WXTU FM, Philadelphia

Type No.	756 664
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21 Concourse Gate, Nepean, Ontario K2E 7S4 Telex: 053 4962 Tel.: (613) 226-5870

20 December 1985

Mr. Don Powers, Chief Engineer  
WXTU  
23 West City Avenue  
Bala Cynwyd, Penn. 19004

Affidavit

Having personally climbed the tower and checked the installation I certify that the Kathrein antenna type 756 664 was installed as planned and drawn, with proper spacing, aiming angles and harnessing.

Signed,

A handwritten signature in black ink, appearing to read 'Edwin Ritz', written over a horizontal line.

Edwin Ritz  
Field Services Manager  
Tennaplex Systems Ltd.

Notorized

A large, stylized handwritten signature in black ink, written over a horizontal line.

Notary Public  
REGINA, CANADA.



# CITY OF PHILADELPHIA

DEPARTMENT OF STREETS  
BUREAU OF SURVEYS & DESIGN  
Ninth Survey District  
6056 Ridge Avenue  
Philadelphia, Pa. 19128

March 7, 1986

To whom it may concern:

This letter is to accompany an updated Survey and Plan of property by Francis X. Burns, Surveyor & Regulator, 9th Survey District dated March 6, 1986, which was originally made by Vincent F. Collier dated September 16, 1976 and revised April 26, 1979.

The property is located on the Northwesterly side of Paoli Avenue, 265' 1-3/4" Northeastwardly from the Northeasterly side of Umbria Street. It has a frontage of 1605' 4-3/4".

The focal point on this update is the radio tower and supporting guy-wires and anchors. At the request of Mr. Don Powers, Chief Engineer of Radio station WXTU we have examined the existing tower and support system and found it to be oriented in the same relationship as is stated on the original plan. I have made an addendum on the original plan stating this.

Sincerely

*Francis X. Burns*

Francis X. Burns  
Surveyor & Regulator  
9th Survey District

*Maryann Garagotto*  
MARYANN GARAGOTTO  
L.S. of P.D. 1986  
My Commission Expires 12/31/86

Sworn to and certified before me  
this 7th day of Mar 1986

EXHIBIT A9



**AMEND BPH-20040303ABJ**  
**WXTU LICENSE LIMITED PARTNERSHIP**  
**WXTU (FM) RADIO STATION**  
**CH 223B - 92.5 MHZ - 15.0 KW**  
**PHILADELPHIA, PENNSYLVANIA**  
**July 2004**

**EXHIBIT A10**

**Horizontal Plane Relative Field**  
**Horizontal Polarization**  
**Measured Tabulated Data**

<b>DEGREES</b>	<b>RELATIVE FIELD</b>	<b>DEGREES</b>	<b>RELATIVE FIELD</b>
0	0.729	180	0.550
10	0.820	190	0.671
20	0.850	200	0.765
30	0.804	210	0.716
40	0.720	220	0.580
50	0.680	230	0.536
60	0.772	240	0.638
70	0.810	250	0.788
80	0.695	260	0.846
90	0.484	270	0.813
100	0.423	280	0.675
110	0.585	290	0.540
120	0.776	300	0.596
130	0.920	310	0.750
140	1.000	320	0.800
150	0.955	330	0.700
160	0.810	340	0.600
170	0.610	350	0.630

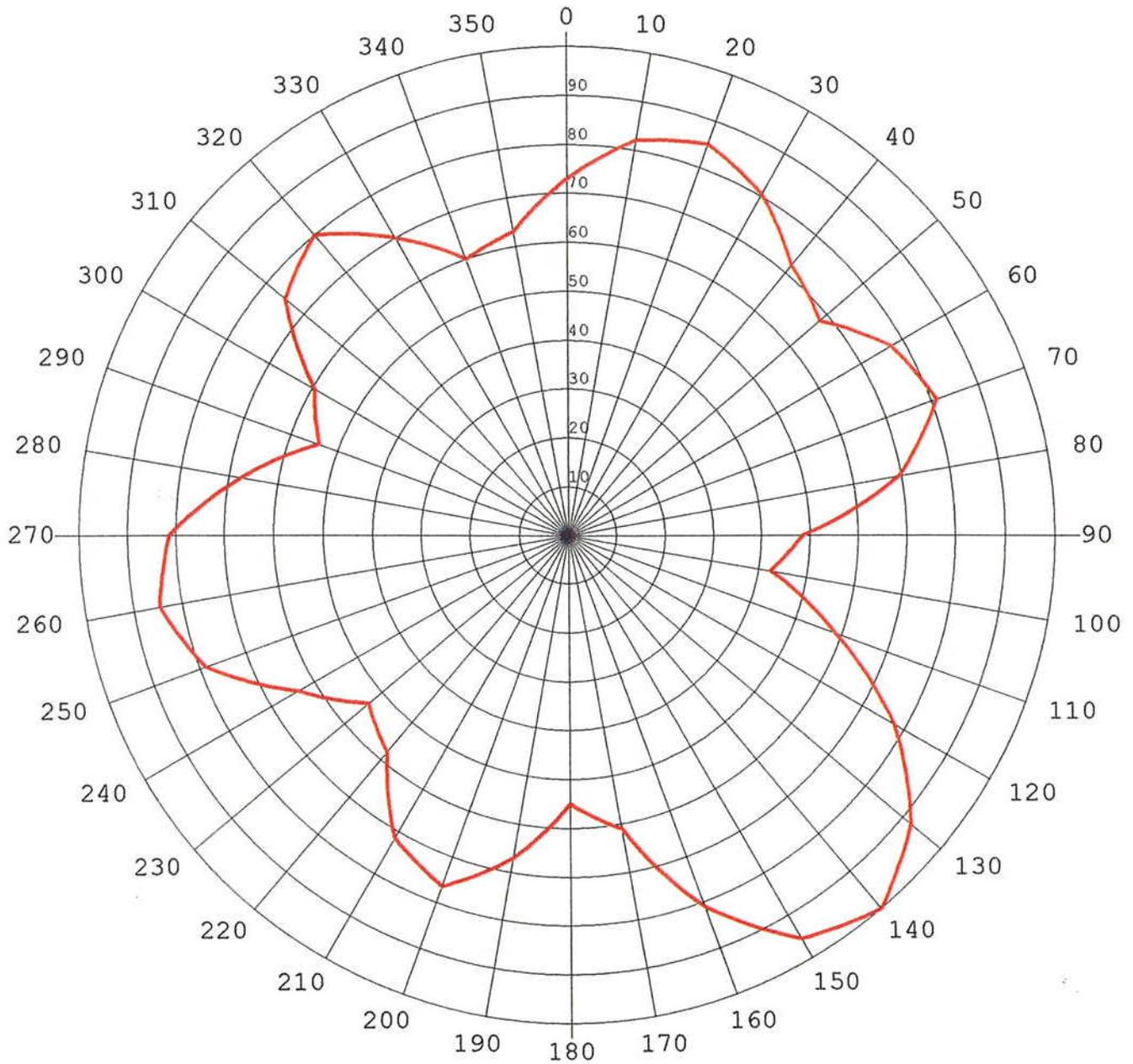
**AMEND BPH-20040303ABJ**  
**WXTU LICENSE LIMITED PARTNERSHIP**  
**WXTU (FM) RADIO STATION**  
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**July 2004**

**EXHIBIT A11**

**Horizontal Plane Relative Field**  
**Vertical Polarization**  
**Measured Tabulated Data**

<b>DEGREES</b>	<b>RELATIVE FIELD</b>	<b>DEGREES</b>	<b>RELATIVE FIELD</b>
0	0.646	180	0.550
10	0.729	190	0.730
20	0.792	200	0.830
30	0.741	210	0.716
40	0.540	220	0.580
50	0.466	230	0.610
60	0.684	240	0.700
70	0.850	250	0.790
80	0.770	260	0.870
90	0.613	270	0.871
100	0.600	280	0.670
110	0.690	290	0.550
120	0.790	300	0.646
130	0.837	310	0.810
140	0.887	320	0.800
150	0.891	330	0.620
160	0.756	340	0.482
170	0.522	350	0.531

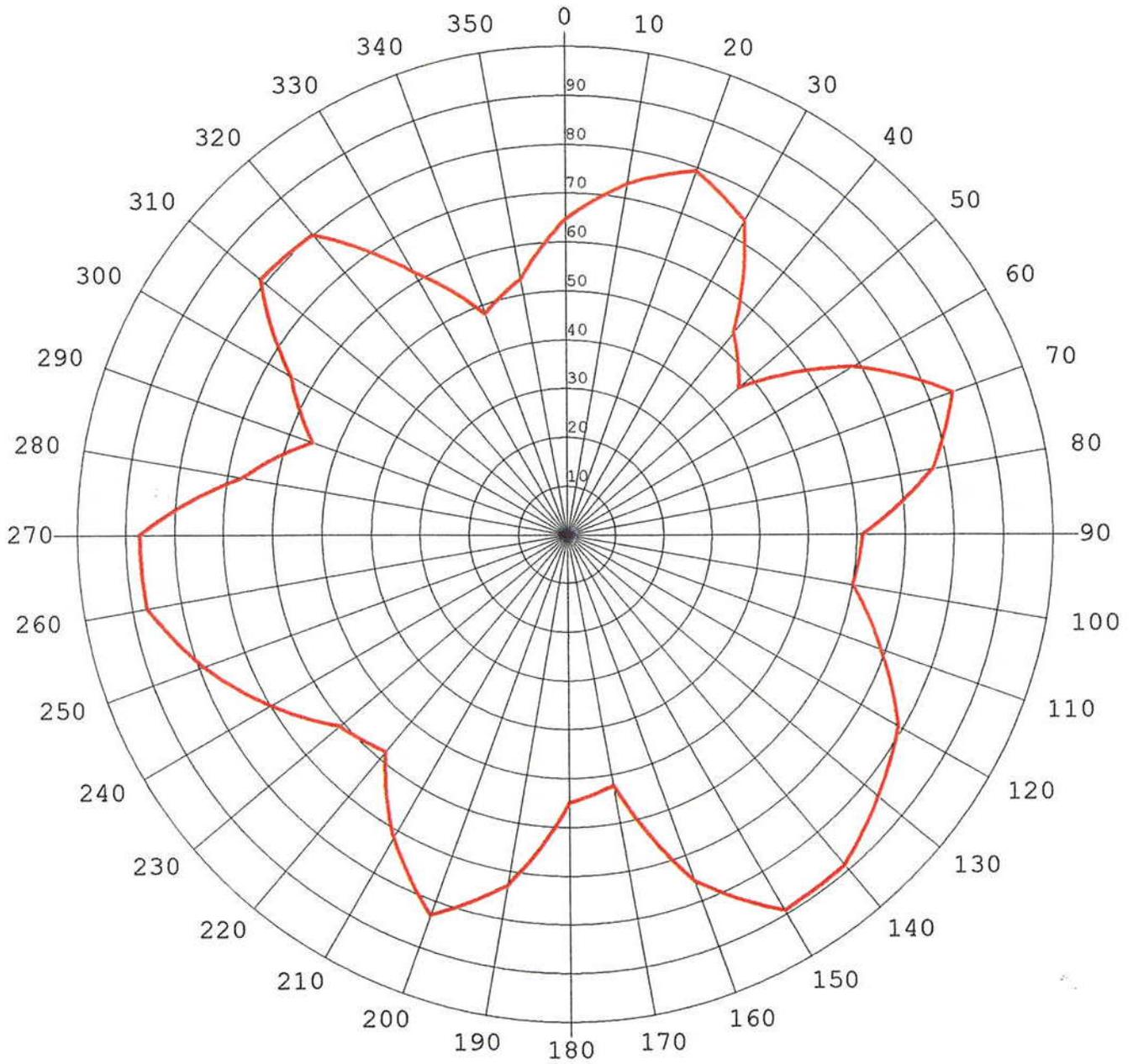
# WXTU Horizontal Pattern - Feb. 2004



**EXHIBIT A12**

WXTU Directional - Horizontal Measured

# WXTU Horizontal Pattern - Feb. 2004



**EXHIBIT A13**

WXTU Directional - Vertical Measured