



*A Unit of SPX Corporation*

## PATTERN CERTIFICATION

### Method of Measurement

The azimuth pattern developed for WFBY was optimized in the following manner.

A single model of the SKM radiator at a scale of 4.4:1 was mounted on a similarly scaled model of the tower according to information provided to Dielectric by the station. Both the horizontal and vertical polarization azimuth patterns were measured in an anechoic test range. Spacing and location of the radiator off the tower in conjunction with parasitic elements were used to optimize the azimuth pattern.

### STATEMENT OF QUALIFICATIONS

John Schadler is the Principal Engineer here at Dielectric. He has been working for Dielectric since 1986. He received a BS in Electrical Engineering from Penn State University, and a Masters in Electrical Engineering from Drexel University. He has multiple patents in the areas of circular polarization, centerfed antennas, broadband and multi-channel antennas, common aperture antennas, and DTV antennas.

Signed by: \_\_\_\_\_

Date: \_\_\_\_\_

# Dielectric

A Unit of SPX Corporation

MSO NO: 67627

DATE: May 7, 2001

PATTERN NO: WFBY050701

## FM AZIMUTH PATTERN APPROVAL

The azimuth pattern of the horizontal polarization and vertical polarization as supplied by Dielectric is acknowledged as acceptable. We understand that Dielectric does not guarantee or predict signal strength in any particular location.

Receipt of Dielectric's drawing of the model antenna and relevant portions of the tower that produced this pattern is acknowledged. We understand that Dielectric recommends we verify that the dimensions of the antenna and any mounting brackets conform to the dimensions on this drawing. It is agreed that this verification, or in it's absence, the installation of the antenna upon the tower, will constitute acceptance by the undersigned of the performance of this antenna relative to the approved azimuth pattern of the horizontal polarization and the vertical polarization.

WFBY-FM  
(Customer's name)

By: NOEL RICHARDSON  
(Name typed or printed)

Title: DIRECTOR OF ENGINEERING

Noel Richardson  
(Signature)

Proposal Number 67627  
 Date May 7, 2001  
 Call Letters WFBY  
 Location Clarksburg, WV  
 Customer Noel Richardson  
 Antenna Type SKM6CD.5

## AZIMUTH PATTERN

90% Ccov\_50% Hrms\_50% Vrms

Calculated / Measured

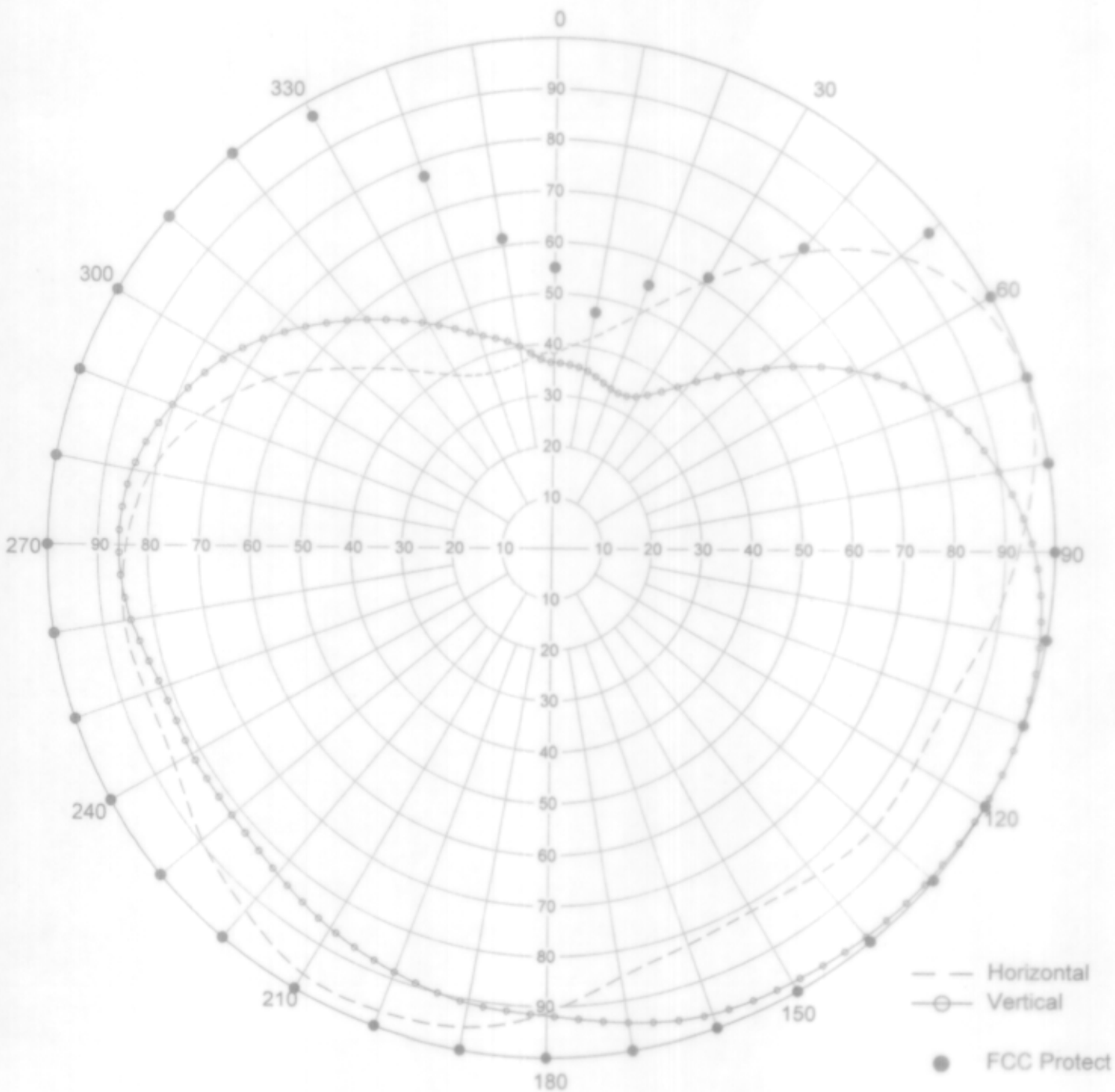
Measured

Frequency

106.5

Drawing #

40 Circular



Date	May 07, 2001
Call Letters	WFBY
Location	Clarksburg, WV
Customer	Noel Richardson
Antenna Type	SKM6CD.5
Frequency	106.50 MHz
Drawing #	40 Circular

## CUSTOMER GAIN SUMMARY

Azimuth Pattern Gain of Horizontal Polarization	1.59
Elevation Pattern Gain Per Polarization	1.91
Peak Gain at Horizontal Polarization	3.04

Proposal Number 67627  
 Date 7-May-01  
 Call Letters WFBY  
 Location Clarksburg, WV  
 Customer Noel Richardson  
 Antenna Type SKM6CD.5  
 Frequency 106.50 MHz  
 Drawing #: 40 Circular

## TABULATION OF HORIZONTAL AZIMUTH PATTERN

DISREGARD ERP DATA

Angle	Field	dBk	Power kW
0	0.384	8.676	7.373
10	0.422	9.496	8.904
20	0.498	10.934	12.400
30	0.621	12.852	19.282
40	0.775	14.776	30.031
50	0.908	16.151	41.223
60	0.977	16.788	47.726
70	0.996	16.955	49.601
80	0.967	16.698	46.754
90	0.922	16.284	42.504
100	0.881	15.889	38.808
110	0.845	15.527	35.701
120	0.840	15.475	35.280
130	0.845	15.527	35.701
140	0.827	15.340	34.196
150	0.815	15.213	33.211
160	0.826	15.329	34.114
170	0.858	15.659	36.808
180	0.919	16.256	42.228
190	0.958	16.617	45.888
200	0.970	16.725	47.045
210	0.965	16.680	46.561
220	0.927	16.331	42.966
230	0.891	15.987	39.694
240	0.855	15.629	36.551
250	0.851	15.588	36.210
260	0.857	15.649	36.722
270	0.840	15.475	35.280
280	0.804	15.095	32.321
290	0.732	14.280	26.791
300	0.642	13.140	20.608
310	0.532	11.508	14.151
320	0.444	9.937	9.857
330	0.385	8.699	7.411
340	0.364	8.212	6.625
350	0.370	8.354	6.845

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 Drawing #: 40 Circular

## TABULATION OF VERTICAL AZIMUTH PATTERN

DISREGARD ERP DATA

Angle	Field	dBk	Power kW
0	0.363	8.188	6.588
10	0.353	7.945	6.230
20	0.332	7.412	5.511
30	0.350	7.871	6.125
40	0.436	9.779	9.505
50	0.568	12.077	16.131
60	0.715	14.076	25.561
70	0.832	15.392	34.611
80	0.906	16.132	41.042
90	0.964	16.671	46.465
100	0.989	16.894	48.906
110	0.999	16.981	49.900
120	0.998	16.972	49.800
130	0.993	16.929	49.302
140	0.987	16.876	48.708
150	0.979	16.805	47.922
160	0.970	16.725	47.045
170	0.942	16.471	44.368
180	0.917	16.237	42.044
190	0.906	16.132	41.042
200	0.884	15.919	39.073
210	0.859	15.670	36.894
220	0.832	15.392	34.611
230	0.819	15.255	33.538
240	0.817	15.234	33.374
250	0.819	15.255	33.538
260	0.846	15.537	35.786
270	0.857	15.649	36.722
280	0.841	15.486	35.364
290	0.797	15.019	31.760
300	0.737	14.339	27.158
310	0.655	13.315	21.451
320	0.573	12.153	16.416
330	0.499	10.952	12.450
340	0.439	9.839	9.636
350	0.396	8.944	7.841