



**ENGINEERING STATEMENT**  
**OF**  
**BENJAMIN L. PIDEK, P.E.**  
**IN SUPPORT OF “FLASHCUT” APPLICATION**  
**FOR**  
**W33BY**  
**DETROIT, MI**

**Background**

Highland Park Broadcasting, L.P., (HPB) is the licensee of Class A television station W33BY, Ch. 33, (BLTTA-20020301ABU, Facility ID 25722) at Detroit, MI. HPB now proposes to “flashcut” W33BY to digital operation.

**Site and Tower**

HPB is proposing to move its digital facility to its studio location and it intends to construct a tower (no more than 200 ft. AGL tall) at the site which has the following coordinates:

42° 24’ 29” N (NAD27)

83° 05’ 30” W

**PROVIDING COMMUNICATION  
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The proposed tower passes the FCC TOWAIR slope test and is not located in the instrument approach area of any nearby airport; therefore, neither an FAA study of the tower nor antenna registration of the structure is required. The site is located within the Canadian Border zone and coordination with Canada is requested if necessary.

Even though HPB is proposing to move its digital facility to a different site than its present licensed analog facility, the 51 dBu protected contour of the proposed digital facility will significantly overlap the 74 dBu protected contour of the analog facility as shown in Figure 1, attached hereto.

### **Antenna and Power**

HPB is proposing to use a Scala 4DR-8-2HW directional antenna (specifications and dBk table attached hereto) for the facility with a horizontally polarized ERP of 4.0 kW (no vertical polarization component).

### **Interference**

An interference study was conducted using the proposed parameters with software that emulates that used by the Commission. The results of the OET-69 analysis indicate that there are no domestic full-service DTV or Class A stations predicted to receive more than the allowable 0.5% new interference from the proposed W33BY facility (assuming the use of a full-service mask filter) and, also, there are no analog or digital LPTV or translator stations predicted to receive more than the allowable 2% interference.

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## **Environmental/RFR**

This report addresses only the conditions specified in 47CFR1.1307 that deal with Radio Frequency Radiation. Any other non-RFR conditions that might require the preparation of an EA are beyond the scope of this report.

The location of the proposed digital facility is a multi-user site and it is assumed that the site is currently "in compliance" with FCC guidelines for human exposure to RFR (as defined in OET-65). The worst case ground level RFR contributed to the site by this proposal in public areas is calculated to be 0.005286 mW/cm<sup>2</sup>, which is less than 5% (and, in fact, less than 2%) of the maximum permissible exposure for public areas (0.391 mW/cm<sup>2</sup>) at Ch. 33 (584-590 MHz). The contribution to the overall RFR from the proposed facility is negligible and, therefore, the site will remain "in compliance" with FCC guidelines.

HPB agrees to comply with the Commission's requirements regarding power adjustments or cessation of operation as may be necessary to ensure a compliant environment for worker access. Workers will be trained on RFR issues and encouraged to wear personal RFR monitors when on the structure. The tower base is enclosed by a locked security fence and appropriate signage warning of potential RFR hazards is posted.

## **Certification**

I hereby certify that the foregoing report or statement was prepared by me but may include work performed by others under my supervision or direction. The statements of fact contained therein are believed to be true and correct based on personal knowledge, information and belief unless otherwise stated; with respect to facts not known of my own personal knowledge, I believe them to be true and correct based on their origin from sources known to me to be generally reliable and accurate. I have

### **PROVIDING COMMUNICATION SYSTEMS ENGINEERING**

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prepared this document with due care and in accordance with applicable standards of professional practice.

A handwritten signature in black ink, appearing to read "Ben Pidek", is written over a horizontal line.

Benjamin L. Pidek, P.E.  
October 23, 2012

**PROVIDING COMMUNICATION  
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## Mid-State Consultants

### W33BY-DC Prop.

Latitude: 42-24-29 N  
Longitude: 083-05-30 W  
ERP: 4.00 kW  
Channel: 33  
Frequency: 587.5 MHz  
AMSL Height: 253.3 m

### W33BY-CA

BLTTA20020301ABU  
Latitude: 42-22-40 N  
Longitude: 083-14-32 W  
ERP: 15.00 kW  
Channel: 33+  
Frequency: 587.5 MHz  
AMSL Height: 289.0 m

FCC F(50,90) Protected 51 dBu Contour (Red) of Proposed W33BY Digital Facility vs.  
FCC F(50,50) Protected 74 dBu Contour (Black) of Licensed W33BY Analog Class A Facility

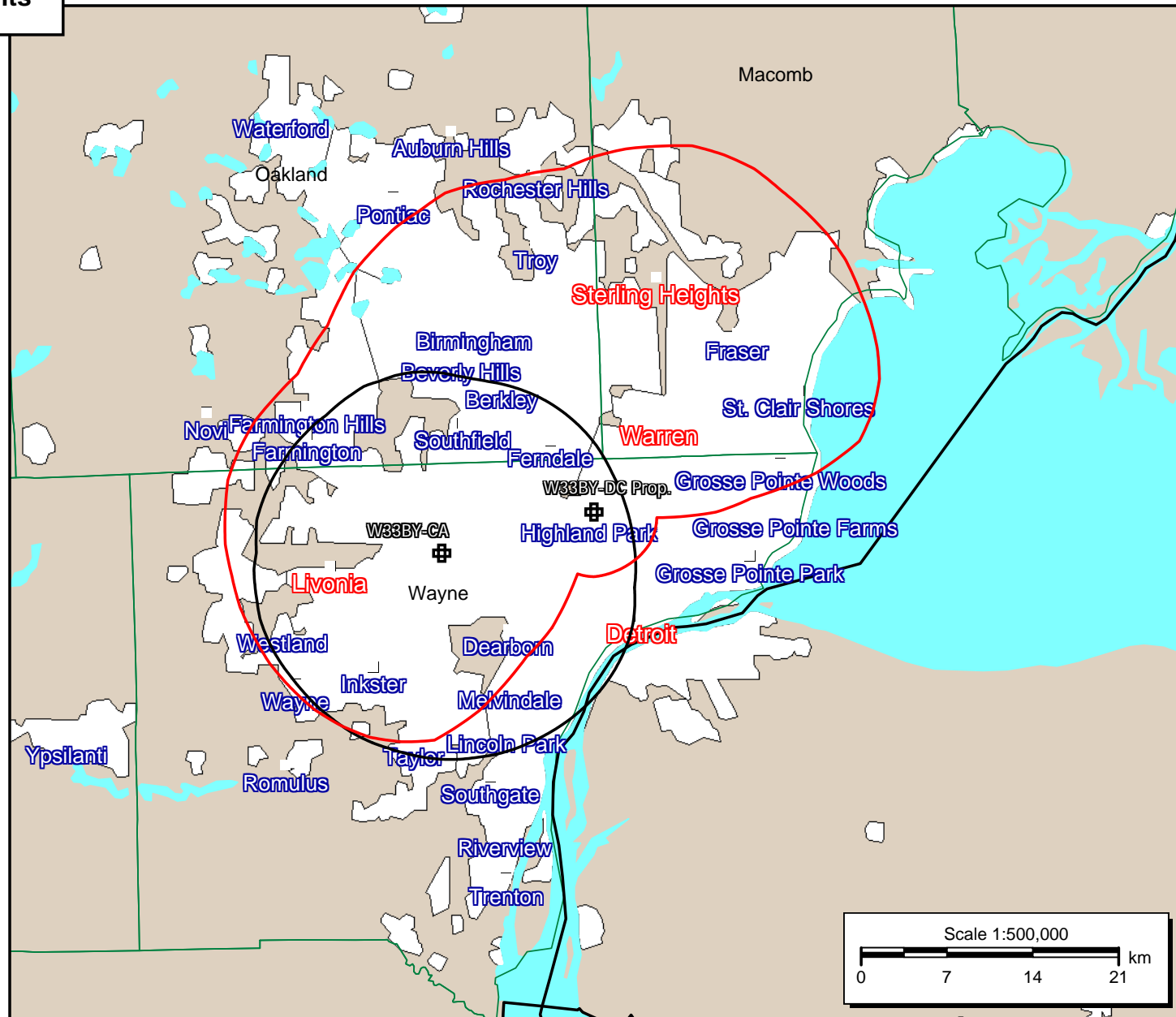
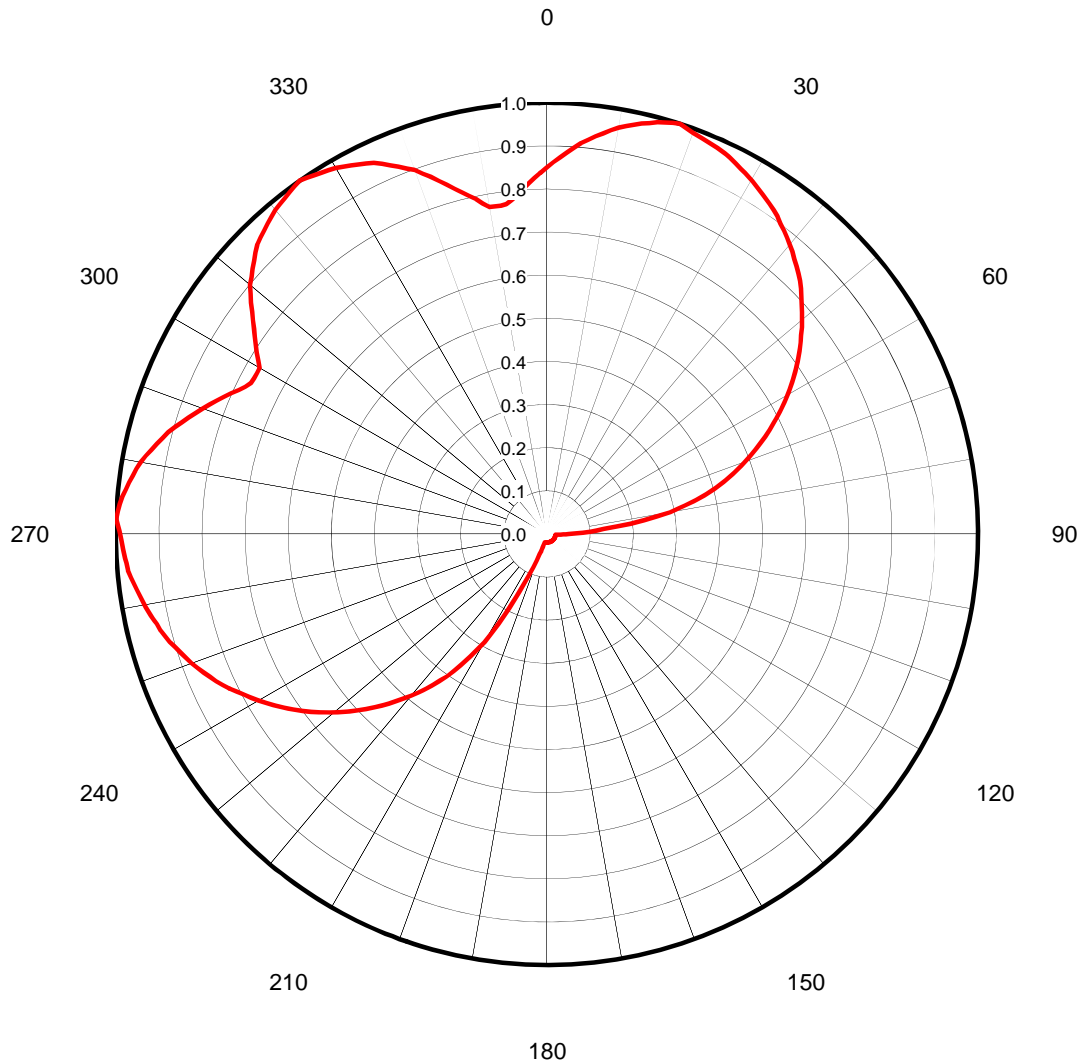


Figure 1

# W33BY Azimuth Pattern

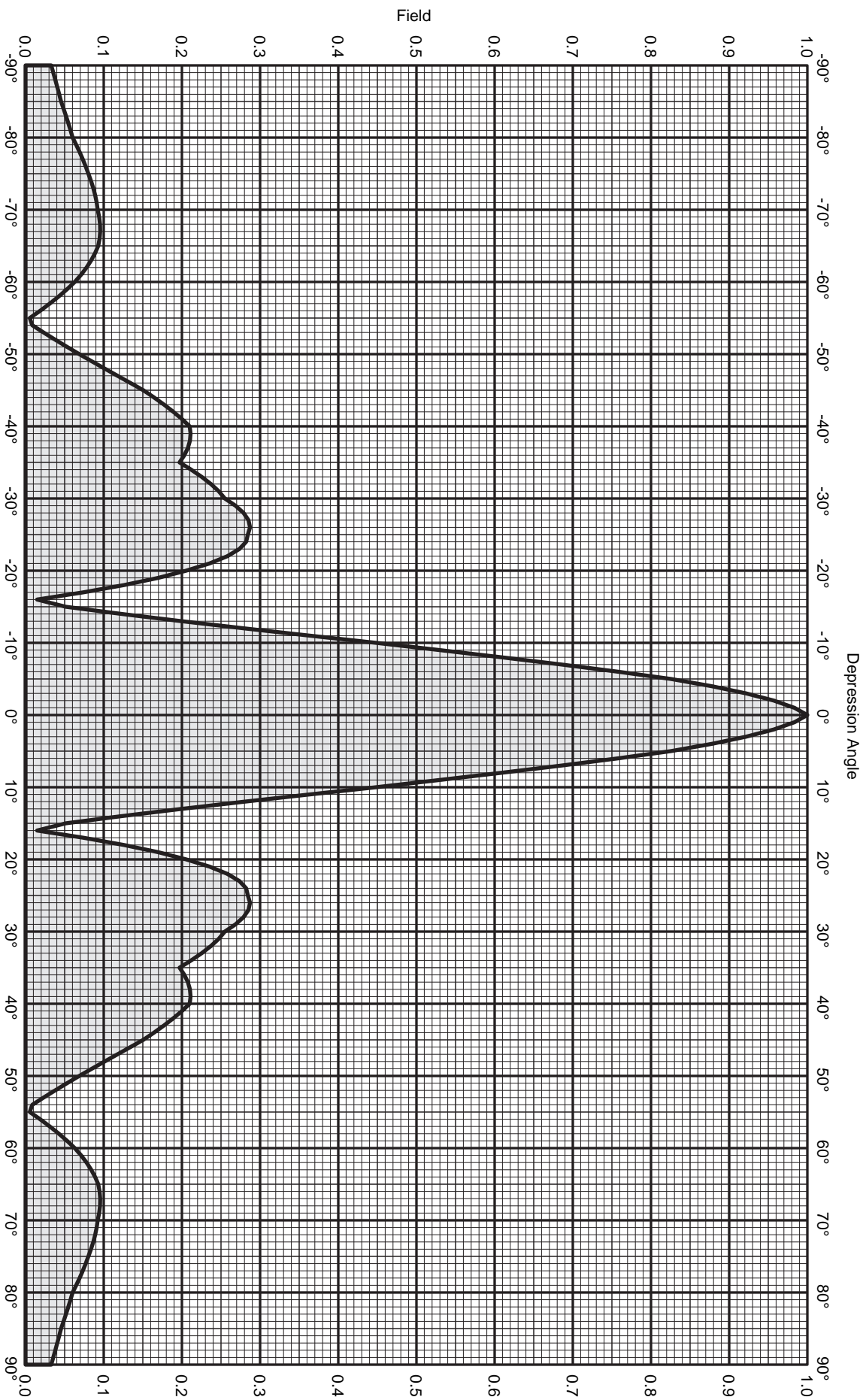


**Antenna Manufacturer:** Scala

**Rotation:** 325

**Model #:** 4DR-8-HW

Azimuth	RF	Azimuth	RF	Azimuth	RF	Azimuth	RF
0	1.000	90	0.712	180	0.020	270	0.712
10	0.950	100	0.570	190	0.020	280	0.830
20	0.829	110	0.403	200	0.020	290	0.917
30	0.789	120	0.132	210	0.020	300	0.975
40	0.910	130	0.020	220	0.020	310	0.989
50	0.989	140	0.020	230	0.020	320	0.910
60	0.975	150	0.020	240	0.132	330	0.789
70	0.917	160	0.020	250	0.403	340	0.829
80	0.830	170	0.020	260	0.570	350	0.950



4DR-8-2HW

Ch-33

Maximum gain: 8.5 dBd

Horizontal polarization

Vertical radiation pattern

0 degree electrical downtilt



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4DR-8-2HW

Ch-33

Maximum gain: 8.5 dBd

Horizontal polarization

Vertical radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.033	-29.67	-21.17	0.01	-45	0.151	-16.44	-7.94	0.16
-89	0.035	-29.00	-20.50	0.01	-44	0.164	-15.69	-7.19	0.19
-88	0.038	-28.39	-19.89	0.01	-43	0.177	-15.03	-6.53	0.22
-87	0.041	-27.84	-19.34	0.01	-42	0.189	-14.46	-5.96	0.25
-86	0.043	-27.32	-18.82	0.01	-41	0.200	-13.98	-5.48	0.28
-85	0.045	-26.85	-18.35	0.01	-40	0.210	-13.56	-5.06	0.31
-84	0.049	-26.26	-17.76	0.02	-39	0.211	-13.51	-5.01	0.32
-83	0.052	-25.73	-17.23	0.02	-38	0.210	-13.54	-5.04	0.31
-82	0.055	-25.24	-16.74	0.02	-37	0.208	-13.66	-5.16	0.31
-81	0.058	-24.80	-16.30	0.02	-36	0.203	-13.84	-5.34	0.29
-80	0.060	-24.40	-15.90	0.03	-35	0.197	-14.11	-5.61	0.27
-79	0.065	-23.77	-15.27	0.03	-34	0.212	-13.48	-4.98	0.32
-78	0.069	-23.21	-14.71	0.03	-33	0.225	-12.95	-4.45	0.36
-77	0.073	-22.71	-14.21	0.04	-32	0.237	-12.50	-4.00	0.40
-76	0.077	-22.28	-13.78	0.04	-31	0.247	-12.14	-3.64	0.43
-75	0.080	-21.90	-13.40	0.05	-30	0.255	-11.87	-3.37	0.46
-74	0.084	-21.54	-13.04	0.05	-29	0.269	-11.42	-2.92	0.51
-73	0.087	-21.25	-12.75	0.05	-28	0.279	-11.09	-2.59	0.55
-72	0.089	-21.00	-12.50	0.06	-27	0.285	-10.90	-2.40	0.58
-71	0.091	-20.82	-12.32	0.06	-26	0.287	-10.84	-2.34	0.58
-70	0.092	-20.70	-12.20	0.06	-25	0.284	-10.92	-2.42	0.57
-69	0.094	-20.52	-12.02	0.06	-24	0.282	-10.99	-2.49	0.56
-68	0.095	-20.42	-11.92	0.06	-23	0.274	-11.26	-2.76	0.53
-67	0.095	-20.40	-11.90	0.06	-22	0.258	-11.77	-3.27	0.47
-66	0.095	-20.47	-11.97	0.06	-21	0.235	-12.56	-4.06	0.39
-65	0.093	-20.63	-12.13	0.06	-20	0.205	-13.74	-5.24	0.30
-64	0.089	-21.02	-12.52	0.06	-19	0.170	-15.41	-6.91	0.20
-63	0.084	-21.51	-13.01	0.05	-18	0.126	-18.01	-9.51	0.11
-62	0.078	-22.15	-13.65	0.04	-17	0.074	-22.61	-14.11	0.04
-61	0.071	-22.97	-14.47	0.04	-16	0.015	-36.61	-28.11	0.00
-60	0.063	-24.02	-15.52	0.03	-15	0.051	-25.77	-17.27	0.02
-59	0.053	-25.48	-16.98	0.02	-14	0.123	-18.18	-9.68	0.11
-58	0.043	-27.42	-18.92	0.01	-13	0.200	-13.99	-5.49	0.28
-57	0.031	-30.17	-21.67	0.01	-12	0.280	-11.05	-2.55	0.56
-56	0.019	-34.59	-26.09	0.00	-11	0.363	-8.79	-0.29	0.94
-55	0.010	-40.00	-31.50	0.00	-10	0.448	-6.96	1.54	1.42
-54	0.010	-40.00	-31.50	0.00	-9	0.530	-5.52	2.98	1.99
-53	0.023	-32.76	-24.26	0.00	-8	0.609	-4.31	4.19	2.62
-52	0.038	-28.43	-19.93	0.01	-7	0.685	-3.28	5.22	3.33
-51	0.053	-25.49	-16.99	0.02	-6	0.758	-2.41	6.09	4.07
-50	0.069	-23.26	-14.76	0.03	-5	0.825	-1.67	6.83	4.82
-49	0.085	-21.43	-12.93	0.05	-4	0.877	-1.14	7.36	5.45
-48	0.101	-19.90	-11.40	0.07	-3	0.922	-0.71	7.79	6.01
-47	0.118	-18.59	-10.09	0.10	-2	0.957	-0.38	8.12	6.49
-46	0.134	-17.44	-8.94	0.13	-1	0.983	-0.14	8.36	6.85
					0	1.000	0.00	8.50	7.08





4DR-8-2HW

Ch-33

Maximum gain: 8.5 dBd

Horizontal polarization

Vertical radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	8.50	7.08	45	0.151	-16.44	-7.94	0.16
1	0.983	-0.14	8.36	6.85	46	0.134	-17.44	-8.94	0.13
2	0.957	-0.38	8.12	6.49	47	0.118	-18.59	-10.09	0.10
3	0.922	-0.71	7.79	6.01	48	0.101	-19.90	-11.40	0.07
4	0.877	-1.14	7.36	5.45	49	0.085	-21.43	-12.93	0.05
5	0.825	-1.67	6.83	4.82	50	0.069	-23.26	-14.76	0.03
6	0.758	-2.41	6.09	4.07	51	0.053	-25.49	-16.99	0.02
7	0.685	-3.28	5.22	3.33	52	0.038	-28.43	-19.93	0.01
8	0.609	-4.31	4.19	2.62	53	0.023	-32.76	-24.26	0.00
9	0.530	-5.52	2.98	1.99	54	0.010	-40.00	-31.50	0.00
10	0.448	-6.96	1.54	1.42	55	0.010	-40.00	-31.50	0.00
11	0.363	-8.79	-0.29	0.94	56	0.019	-34.59	-26.09	0.00
12	0.280	-11.05	-2.55	0.56	57	0.031	-30.17	-21.67	0.01
13	0.200	-13.99	-5.49	0.28	58	0.043	-27.42	-18.92	0.01
14	0.123	-18.18	-9.68	0.11	59	0.053	-25.48	-16.98	0.02
15	0.051	-25.77	-17.27	0.02	60	0.063	-24.02	-15.52	0.03
16	0.015	-36.61	-28.11	0.00	61	0.071	-22.97	-14.47	0.04
17	0.074	-22.61	-14.11	0.04	62	0.078	-22.15	-13.65	0.04
18	0.126	-18.01	-9.51	0.11	63	0.084	-21.51	-13.01	0.05
19	0.170	-15.41	-6.91	0.20	64	0.089	-21.02	-12.52	0.06
20	0.205	-13.74	-5.24	0.30	65	0.093	-20.63	-12.13	0.06
21	0.235	-12.56	-4.06	0.39	66	0.095	-20.47	-11.97	0.06
22	0.258	-11.77	-3.27	0.47	67	0.095	-20.40	-11.90	0.06
23	0.274	-11.26	-2.76	0.53	68	0.095	-20.42	-11.92	0.06
24	0.282	-10.99	-2.49	0.56	69	0.094	-20.52	-12.02	0.06
25	0.284	-10.92	-2.42	0.57	70	0.092	-20.70	-12.20	0.06
26	0.287	-10.84	-2.34	0.58	71	0.091	-20.82	-12.32	0.06
27	0.285	-10.90	-2.40	0.58	72	0.089	-21.00	-12.50	0.06
28	0.279	-11.09	-2.59	0.55	73	0.087	-21.25	-12.75	0.05
29	0.269	-11.42	-2.92	0.51	74	0.084	-21.54	-13.04	0.05
30	0.255	-11.87	-3.37	0.46	75	0.080	-21.90	-13.40	0.05
31	0.247	-12.14	-3.64	0.43	76	0.077	-22.28	-13.78	0.04
32	0.237	-12.50	-4.00	0.40	77	0.073	-22.71	-14.21	0.04
33	0.225	-12.95	-4.45	0.36	78	0.069	-23.21	-14.71	0.03
34	0.212	-13.48	-4.98	0.32	79	0.065	-23.77	-15.27	0.03
35	0.197	-14.11	-5.61	0.27	80	0.060	-24.40	-15.90	0.03
36	0.203	-13.84	-5.34	0.29	81	0.058	-24.80	-16.30	0.02
37	0.208	-13.66	-5.16	0.31	82	0.055	-25.24	-16.74	0.02
38	0.210	-13.54	-5.04	0.31	83	0.052	-25.73	-17.23	0.02
39	0.211	-13.51	-5.01	0.32	84	0.049	-26.26	-17.76	0.02
40	0.210	-13.56	-5.06	0.31	85	0.045	-26.85	-18.35	0.01
41	0.200	-13.98	-5.48	0.28	86	0.043	-27.32	-18.82	0.01
42	0.189	-14.46	-5.96	0.25	87	0.041	-27.84	-19.34	0.01
43	0.177	-15.03	-6.53	0.22	88	0.038	-28.39	-19.89	0.01
44	0.164	-15.69	-7.19	0.19	89	0.035	-29.00	-20.50	0.01
					90	0.033	-29.67	-21.17	0.01

**DIRECTIONAL ANTENNA DATA**  
**W33BY-DC**  
**dBk Table**

Actual Bearing	Pattern Azimuth	Relative Field	ERP (dBk)	CONTOUR F(50,90) - 51 dBu
N000E	0.00	0.850	4.61	29.0
	10.00	0.957	5.64	
	20.00	0.990	5.93	
	30.00	0.948	5.56	
	40.00	0.877	4.88	
N045E	45.00	0.830	4.40	29.0
	50.00	0.772	3.77	
	60.00	0.645	2.21	
	70.00	0.490	-0.18	
	80.00	0.290	-4.73	
N090E	90.00	0.050	-20.00	9.9
	100.00	0.020	-27.96	
	110.00	0.020	-27.96	
	120.00	0.020	-27.96	
	130.00	0.020	-27.96	
N135E	135.00	0.020	-27.96	5.2
	140.00	0.020	-27.96	
	150.00	0.020	-27.96	
	160.00	0.020	-27.96	
	170.00	0.020	-27.96	
N180E	180.00	0.020	-27.96	5.3
	190.00	0.020	-27.96	
	200.00	0.050	-20.00	
	210.00	0.290	-4.73	
	220.00	0.490	-0.18	
N225E	225.00	0.570	1.14	25.9
	230.00	0.645	2.21	
	240.00	0.772	3.77	
	250.00	0.877	4.88	
	260.00	0.948	5.56	
N270E	270.00	0.990	5.93	30.1
	280.00	0.957	5.64	
	290.00	0.850	4.61	
	300.00	0.770	3.75	
	310.00	0.899	5.10	
N315E	315.00	0.950	5.58	27.7
	320.00	0.980	5.85	
	330.00	0.980	5.85	
	340.00	0.899	5.10	
	350.00	0.770	3.75	

Maximum: N090E- -27.96 dBk  
N190E

Minima: N325E 6.02 dBk