EXHIBIT E

ENGINEERING STATEMENT
APPLICATION FOR CONSTRUCTION PERMIT
FOR DIGITAL COMPANION CHANNEL
W36AX, MANCHESTER, ETC. VERMONT
CHANNEL 30 0.796 KW ERP 1169 METERS RC/AMSL

JANUARY 2011

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

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)

Donald G. Everist, being duly sworn upon his oath, deposes and states that:

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1420 N Street, N.W., Suite One, Washington, D.C. 20005;

That his qualifications are a matter of record in the Federal Communications Commission;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 11th day of January, 2011.

Notary Public

My Commission Expires: 2/28/2013

Introduction

This engineering statement has been prepared on behalf of Vermont ETV, Inc. ("VETV"), licensee of television translator station W36AX, Manchester, Vermont (Facility ID 69942). This statement supports the licensee's request for a digital companion channel to be operated simultaneously with W36AX's licensed Channel 36 analog operation. Therefore, VETV hereby requests digital companion translator facilities on Channel 30 with an effective radiated power of 0.796 kW at a radiation center above mean sea level ("RCAMSL") of 1169 meters.

Transmitter Site

The proposed digital companion channel translator operation will utilize an existing tower located on Mount Equinox, 3.6 kilometers west of Manchester, Vermont. The geographic coordinates of the existing site are as follows:

North Latitude: 43° 09' 57"

West Longitude: 73° 06' 57"

NAD-27

Equipment Data

Transmitter:	Type-approved
Emission Mask:	Stringent
Transmission Line:	RFS, Type LCF158-50J-AO copper 1-5/8", 50 ohm foam, 19.8 meters (65 feet) with 92.8% efficiency

Antenna: Scala, Type 4DR-4-2HW antenna (or equivalent) with a maximum gain of 3.98, oriented at N 140ºE and no electrical beam tilt Exhibit E-1 includes manufacturer antenna data.

Power Data

Transmitter:	0.215 kW	-6.66 dBk
Transmission Line Efficiency/Loss:	92.8%	-0.325 dB
Input Into Antenna:	0.200 kW	-6.99 dBk
Antenna Gain:	3.98	6.0 dB
ERP:	0.796 kW	-0.991 dBk

Elevation Data

Elevation of site above mean sea level	1155.2 meters (3790 feet)
Center of radiation of antenna above ground level	14.0 meters (46 feet)
Center of radiation of antenna above mean sea level	1169 meters (3836 feet)
Overall tower height above ground level	15.2 meters (50 feet)

Antenna structure registration for the existing tower is not required.

As indicated above, the transmitter with typical power output of 0.215 kW will deliver 0.200 kW to the input of the antenna. The antenna, having a maximum power gain of 3.98 and no electrical beam tilt will produce a maximum ERP of 0.796 kW. A coverage map providing the protected contour of the proposed digital facility, the operation authorized by outstanding

construction permit relative to the currently licensed analog operation of W36AX has been included as Exhibit E-2 of this report. Exhibit E-3 provided the interference contour in relation to Canada. It demonstrates that no Canadian coordination is required.

Other Broadcast Facilities

A brief analysis was completed to determine the presence of stations in the vicinity of the W36AX tower using the January 11, 2011, data contained within the Commission's Consolidated Database System ("CDBS"). Within 0.5 km of the proposed site, there are two licensed full-service FM radio stations, one FM translator station, no full-service DTV or NTSC television stations, and two low-power analog television or television translator stations in addition to the proposed companion channel digital operation. There are no AM facilities within 5 km of the existing tower. Although no adverse technical affects are expected due to the proposed changes, the licensee will take measures to resolve any problems proven to be related to the changes proposed in this application.

Interference Analysis

A study of predicted interference caused by the proposed digital companion translator operation has been performed using the Longley-Rice program for which the source data has been posted by the Commission on its website at http://www.fcc.gov/oet/dtv/ dtv_apps.html. The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Microsoft Windows XP/Intel platform. Comparison of service/interference areas and population indicates this model closely matches the FCC's digital low-power TV/translator evaluation program. Best efforts have been made to

use data and calculation identical to the FCC's program. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using 3-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 2000 census centroids, all studies are based upon data in the current CDBS database. A Longley-Rice study was performed with the proposed digital companion channel television translator facilities and all potentially affected stations listed in the FCC database as of January 11, 2011. The results of the study are included as Table I.

FCC Rule, Section 1.1307

The proposed 0.796 kW directional operation will utilize a Scala, Type 4DR-4-2HW antenna (or equivalent) described above with a center of radiation above ground of 14.0 meters. The antenna will be top-mounted on an existing tower with an overall height of 15.2 meters above ground. The proposed digital companion channel operation will create a radio frequency field ("RFF") level of less than 7.5 $\mu W/cm^2$ at the base of the tower. This level is less than 2% of the Maximum Permissible Exposure ("MPE") level for the general population.

Pursuant to OET Bulletin No. 65 dated August 1997, these broadcast stations are all exempt from RFF evaluations for the following reason:

Station	Licensed Under Part No.	Reason for Exemption
WVTQ(FM)	Part 73	Exempt, ERP $\leq$100 watts

Therefore, the RFF study will consider the following stations:

Station	Channel	Status
NEW	30	Proposed
WEQX(FM)	274B	Licensed

The RFF contribution of each station will be calculated using the following formula:

$$S = \frac{33.4(F^2)\ \text{Total ERP}}{R^2}$$

where:

S = power density in $\mu W/cm^2$
F = relative field factor
Total ERP = ERP Horizontal Polarization + ERP Vertical Polarization
R = RCAGL - 2 meters

ERP = RMS ERP in watts for FM and DTV Stations

ERP = $[0.4\ ERP_V + ERP_A]$ for NTSC Stations
ERP_V = peak visual ERP in watts
ERP_A = RMS aural ERP in watts

NEW DTV Translator Facility (Proposed)

Channel 30	Freq:	566-572 MHz range
	ERP =	0.796 kW
	Polarization =	Horizontal
	RCAGL -2 meters =	12 meters

The proposed digital companion channel operation will utilize a Scala, Type 4DR-4-2HW antenna with no electrical beam tilt. This antenna is assumed to have a field factor less than 0.2 at any angle below the horizon in the vicinity of the proposed tower site. A value of 0.2 will be used in the calculation.

$$S = \frac{33.4\ (F^2)\ \text{Tot ERP}}{R^2}$$

Tot ERP = 0.796 kW (Horizontal Only)
R = 12 meters
F = 0.2 (field factor)

$S \leq 7.4\ \mu W/cm^2$

The proposed operation contributes less than 7.5 μW/cm^2 at 2 meters above ground. The limit for an uncontrolled environment is f/1.5 for a station broadcasting in the 300-1500 MHz range.

(569 MHz)/1.5 = 379.3 μW/cm^2 is the RFF limit for the proposed translator.

Therefore:

The proposed DTV translator facility contributes less than 1.9% RFF for an uncontrolled environment two meters above ground at the proposed tower site.

WEQX(FM) FM Facility

Channel 274	Freq:	102.7 MHz
	ERP =	1.25 kW
	Polarization =	Horizontal + Vertical
	RCAGL -2 meters =	51 meters

WEQX(FM) is using a Harris, Type FMH-2A antenna. The field factor for this antenna is assumed to be less than 0.4 at any angle below the horizon in the vicinity of the W36AX tower site. A value of 0.4 will be used in the calculation.

$S = \frac{33.4 (F^2) \text{ Tot ERP}}{R^2}$

Tot ERP =	2.5 kW (Horizontal + Vertical)
R =	51 meters
F =	0.4 (field factor)

$S \leq 5.2$ uW/cm^2

WEQX(FM) contributes less than 5.2 uW/cm^2 at 2 meters above ground. The limit for an uncontrolled environment is 200 uW/cm^2 for a station broadcasting in the 30-300 MHz range.

Therefore:

WEQX(FM) FM facility contributes less than 2.6% RFF for an uncontrolled environment two meters above ground at the proposed tower site.

Total RFF at the Site

The total RFF contribution for all transmitters can now be calculated:

Total RFF $\leq$ 1.9% + 2.6% $\leq$ 5%

Therefore, the total RFF 2 meters above ground level in the vicinity of the proposed tower site is less than 5% as a percentage of the MPE guideline for an uncontrolled environment.

Authorized personnel and rigging contractors will be alerted to the potential zone of high radio frequency field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on or near the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Environmental Assessment

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the licensee indicates:

(a)(1)	The existing tower is not located in an officially designated wilderness area.
(a)(2)	The existing tower is not located in an officially designated wildlife preserve.
(a)(3)	The proposed facilities will not affect any listed threatened or endangered species or habitats.
(a)(3)(ii)	The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
(a)(4)	The proposed facilities will be located on a tower which was built prior to the adoption of WT Docket No. 03-128 and will not affect any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.

(a)(5) The existing tower is not located near any known Indian religious sites.

(a)(6) The existing tower is not located in a flood plain.

(a)(7) The installation of the DTV facilities on an existing tower will not involve a significant change in surface features of the ground in the vicinity of the tower.

(a)(8) It is not proposed to equip the tower with high intensity white lights unless required by the FAA.

(b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A.

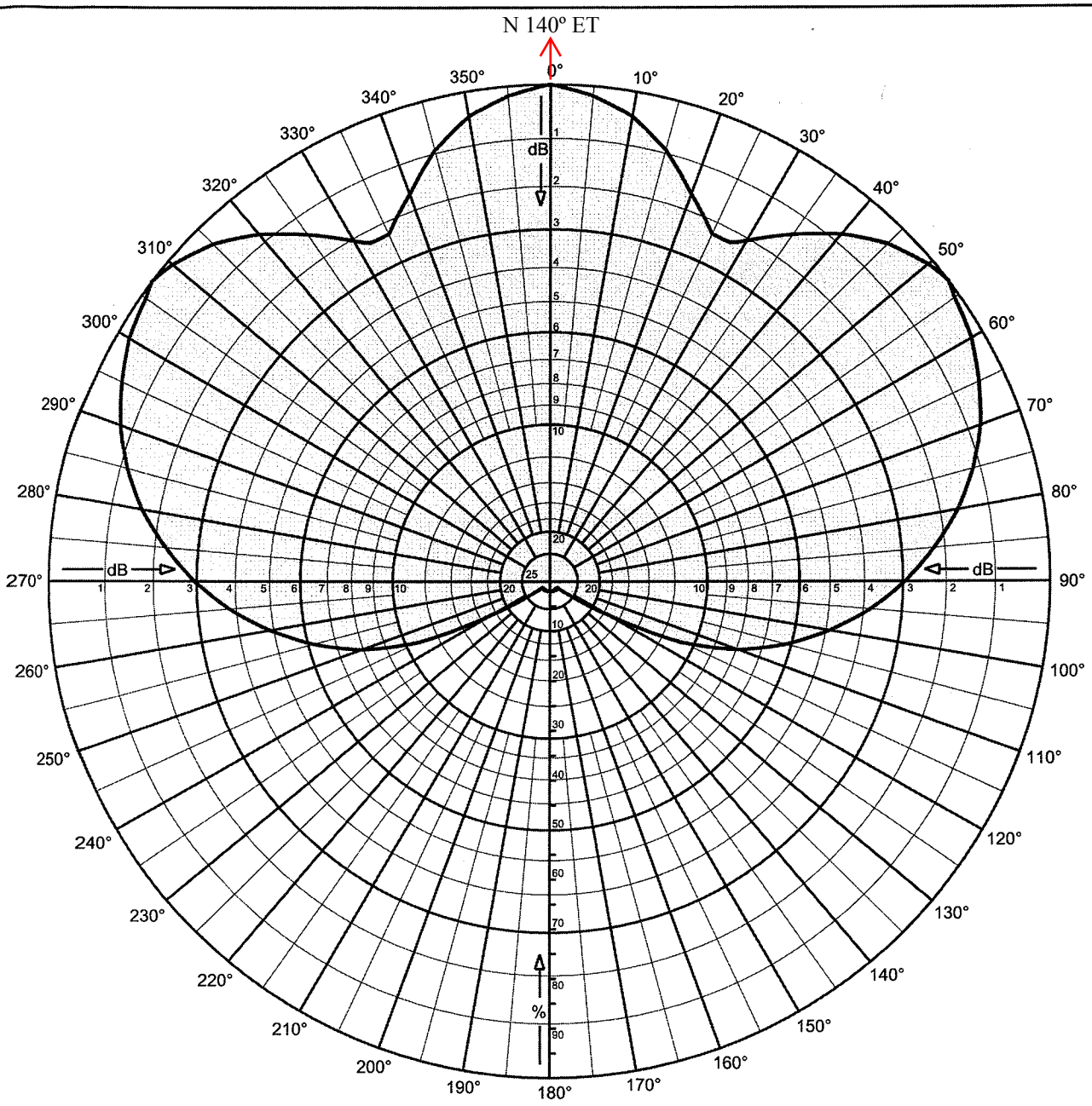
Cohen, Dippell and Everist, P.C.

EXHIBIT E-1

ANTENNA MANUFACTURER DATA

FOR DIGITAL COMPANION CHANNEL

W36AX, MANCHESTER, ETC., VERMONT



4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 dBd
Horizontal polarization
Horizontal radiation pattern
0 degree electrical downtilt

KATHREIN
SCALA DIVISION
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18-Sep-2008

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SCALA DIVISION

4DR-4-2HW Panel array
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Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	6.00	3.98	45	0.957	-0.38	5.62	3.65
1	0.996	-0.03	5.97	3.95	46	0.964	-0.32	5.68	3.70
2	0.992	-0.07	5.93	3.92	47	0.970	-0.26	5.74	3.75
3	0.988	-0.10	5.90	3.89	48	0.977	-0.21	5.79	3.80
4	0.984	-0.14	5.86	3.85	49	0.982	-0.15	5.85	3.84
5	0.980	-0.17	5.83	3.83	50	0.989	-0.10	5.90	3.89
6	0.974	-0.23	5.77	3.78	51	0.993	-0.06	5.94	3.93
7	0.968	-0.28	5.72	3.73	52	0.997	-0.03	5.97	3.96
8	0.962	-0.34	5.66	3.68	53	1.000	0.00	6.00	3.98
9	0.956	-0.39	5.61	3.64	54	0.995	-0.04	5.96	3.95
10	0.950	-0.45	5.55	3.59	55	0.990	-0.09	5.91	3.90
11	0.940	-0.54	5.46	3.52	56	0.987	-0.11	5.89	3.88
12	0.929	-0.64	5.36	3.44	57	0.984	-0.14	5.86	3.85
13	0.919	-0.73	5.27	3.36	58	0.981	-0.17	5.83	3.83
14	0.908	-0.83	5.17	3.29	59	0.978	-0.19	5.81	3.81
15	0.899	-0.93	5.07	3.21	60	0.975	-0.22	5.78	3.78
16	0.884	-1.07	4.93	3.11	61	0.970	-0.27	5.73	3.74
17	0.871	-1.20	4.80	3.02	62	0.964	-0.32	5.68	3.70
18	0.856	-1.35	4.65	2.92	63	0.959	-0.36	5.64	3.66
19	0.843	-1.49	4.51	2.83	64	0.954	-0.41	5.59	3.62
20	0.829	-1.63	4.37	2.73	65	0.948	-0.46	5.54	3.58
21	0.817	-1.76	4.24	2.66	66	0.942	-0.52	5.48	3.53
22	0.805	-1.88	4.12	2.58	67	0.936	-0.57	5.43	3.49
23	0.794	-2.01	3.99	2.51	68	0.929	-0.64	5.36	3.44
24	0.781	-2.14	3.86	2.43	69	0.924	-0.69	5.31	3.40
25	0.770	-2.27	3.73	2.36	70	0.917	-0.75	5.25	3.35
26	0.769	-2.28	3.72	2.35	71	0.910	-0.82	5.18	3.29
27	0.769	-2.28	3.72	2.35	72	0.901	-0.90	5.10	3.24
28	0.771	-2.26	3.74	2.36	73	0.893	-0.98	5.02	3.17
29	0.779	-2.17	3.83	2.42	74	0.885	-1.06	4.94	3.12
30	0.789	-2.05	3.95	2.48	75	0.877	-1.14	4.86	3.06
31	0.802	-1.92	4.08	2.56	76	0.868	-1.23	4.77	3.00
32	0.814	-1.79	4.21	2.63	77	0.858	-1.33	4.67	2.93
33	0.826	-1.66	4.34	2.72	78	0.849	-1.42	4.58	2.87
34	0.838	-1.54	4.46	2.80	79	0.840	-1.52	4.48	2.81
35	0.850	-1.41	4.59	2.88	80	0.830	-1.62	4.38	2.74
36	0.862	-1.29	4.71	2.96	81	0.819	-1.74	4.26	2.67
37	0.874	-1.17	4.83	3.04	82	0.807	-1.86	4.14	2.59
38	0.886	-1.05	4.95	3.13	83	0.795	-1.99	4.01	2.52
39	0.898	-0.93	5.07	3.21	84	0.784	-2.11	3.89	2.45
40	0.910	-0.82	5.18	3.30	85	0.772	-2.24	3.76	2.38
41	0.919	-0.73	5.27	3.37	86	0.761	-2.38	3.62	2.30
42	0.929	-0.64	5.36	3.44	87	0.748	-2.52	3.48	2.23
43	0.938	-0.55	5.45	3.51	88	0.737	-2.66	3.34	2.16
44	0.948	-0.46	5.54	3.58	89	0.724	-2.80	3.20	2.09

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4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 dBd
Horizontal polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
90	0.712	-2.94	3.06	2.02	135	0.020	-33.98	-27.98	0.00
91	0.699	-3.11	2.89	1.95	136	0.020	-33.98	-27.98	0.00
92	0.686	-3.28	2.72	1.87	137	0.020	-33.98	-27.98	0.00
93	0.672	-3.45	2.55	1.80	138	0.020	-33.98	-27.98	0.00
94	0.658	-3.63	2.37	1.73	139	0.020	-33.98	-27.98	0.00
95	0.645	-3.81	2.19	1.66	140	0.020	-33.98	-27.98	0.00
96	0.630	-4.01	1.99	1.58	141	0.020	-33.98	-27.98	0.00
97	0.615	-4.22	1.78	1.51	142	0.020	-33.98	-27.98	0.00
98	0.600	-4.44	1.56	1.43	143	0.020	-33.98	-27.98	0.00
99	0.585	-4.66	1.34	1.36	144	0.020	-33.98	-27.98	0.00
100	0.570	-4.88	1.12	1.29	145	0.020	-33.98	-27.98	0.00
101	0.554	-5.13	0.87	1.22	146	0.020	-33.98	-27.98	0.00
102	0.538	-5.38	0.62	1.15	147	0.020	-33.98	-27.98	0.00
103	0.522	-5.65	0.35	1.08	148	0.020	-33.98	-27.98	0.00
104	0.506	-5.92	0.08	1.02	149	0.020	-33.98	-27.98	0.00
105	0.490	-6.20	-0.20	0.96	150	0.020	-33.98	-27.98	0.00
106	0.473	-6.51	-0.51	0.89	151	0.020	-33.98	-27.98	0.00
107	0.455	-6.84	-0.84	0.82	152	0.020	-33.98	-27.98	0.00
108	0.438	-7.18	-1.18	0.76	153	0.020	-33.98	-27.98	0.00
109	0.420	-7.54	-1.54	0.70	154	0.020	-33.98	-27.98	0.00
110	0.403	-7.90	-1.90	0.64	155	0.020	-33.98	-27.98	0.00
111	0.380	-8.40	-2.40	0.57	156	0.020	-33.98	-27.98	0.00
112	0.358	-8.93	-2.93	0.51	157	0.020	-33.98	-27.98	0.00
113	0.335	-9.50	-3.50	0.45	158	0.020	-33.98	-27.98	0.00
114	0.312	-10.10	-4.10	0.39	159	0.020	-33.98	-27.98	0.00
115	0.290	-10.75	-4.75	0.33	160	0.020	-33.98	-27.98	0.00
116	0.258	-11.75	-5.75	0.27	161	0.020	-33.98	-27.98	0.00
117	0.227	-12.88	-6.88	0.21	162	0.020	-33.98	-27.98	0.00
118	0.195	-14.18	-8.18	0.15	163	0.020	-33.98	-27.98	0.00
119	0.164	-15.70	-9.70	0.11	164	0.020	-33.98	-27.98	0.00
120	0.132	-17.56	-11.56	0.07	165	0.020	-33.98	-27.98	0.00
121	0.116	-18.71	-12.71	0.05	166	0.020	-33.98	-27.98	0.00
122	0.100	-20.04	-14.04	0.04	167	0.020	-33.98	-27.98	0.00
123	0.083	-21.62	-15.62	0.03	168	0.020	-33.98	-27.98	0.00
124	0.066	-23.54	-17.54	0.02	169	0.020	-33.98	-27.98	0.00
125	0.050	-26.02	-20.02	0.01	170	0.020	-33.98	-27.98	0.00
126	0.044	-27.13	-21.13	0.01	171	0.020	-33.98	-27.98	0.00
127	0.038	-28.40	-22.40	0.01	172	0.020	-33.98	-27.98	0.00
128	0.032	-29.90	-23.90	0.00	173	0.020	-33.98	-27.98	0.00
129	0.026	-31.70	-25.70	0.00	174	0.020	-33.98	-27.98	0.00
130	0.020	-33.98	-27.98	0.00	175	0.020	-33.98	-27.98	0.00
131	0.020	-33.98	-27.98	0.00	176	0.020	-33.98	-27.98	0.00
132	0.020	-33.98	-27.98	0.00	177	0.020	-33.98	-27.98	0.00
133	0.020	-33.98	-27.98	0.00	178	0.020	-33.98	-27.98	0.00
134	0.020	-33.98	-27.98	0.00	179	0.020	-33.98	-27.98	0.00

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4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 dBd
Horizontal polarization

Horizontal radiation pattern
0 degree electrical downtilt

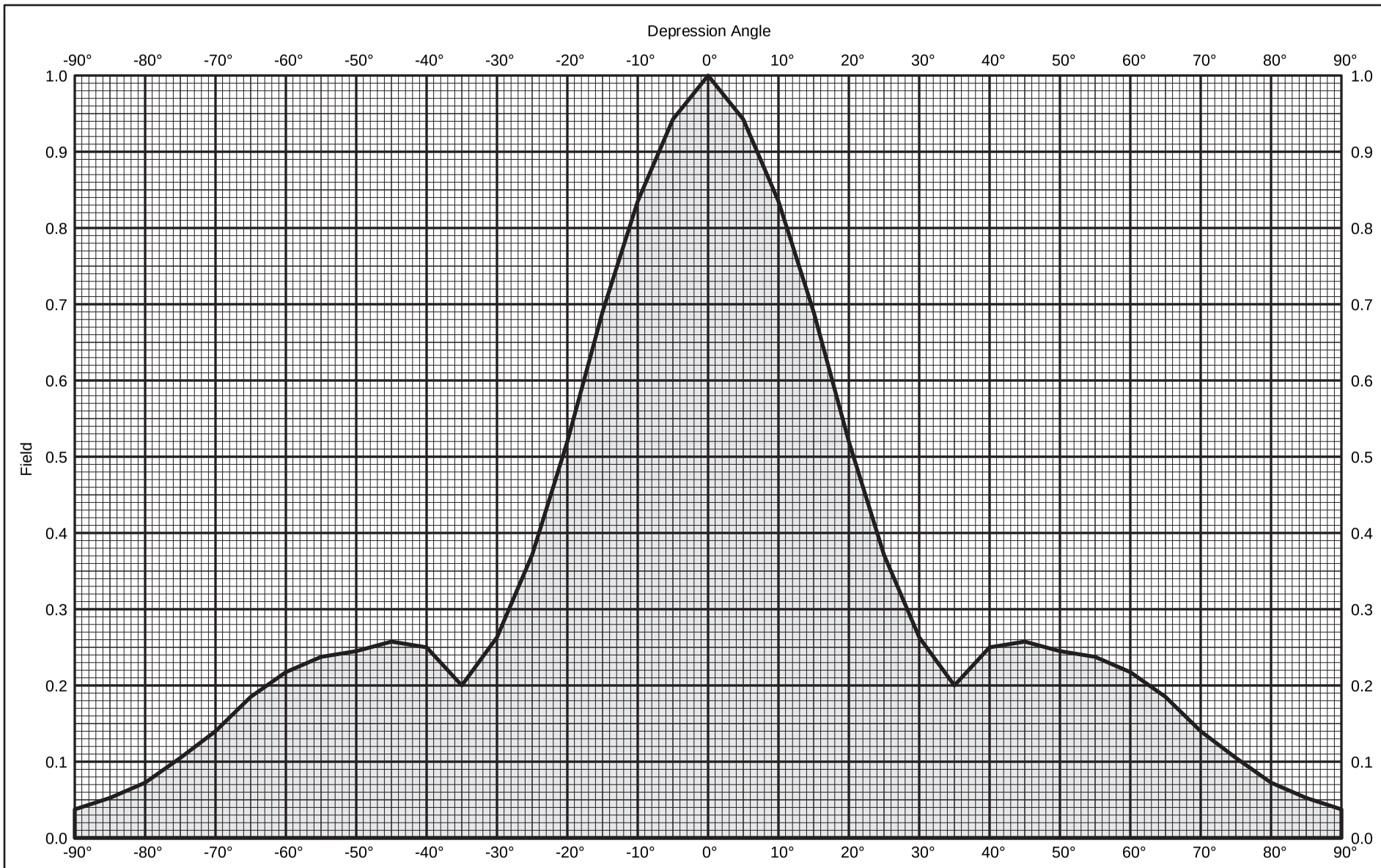
Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
180	0.020	-33.98	-27.98	0.00	225	0.020	-33.98	-27.98	0.00
181	0.020	-33.98	-27.98	0.00	226	0.020	-33.98	-27.98	0.00
182	0.020	-33.98	-27.98	0.00	227	0.020	-33.98	-27.98	0.00
183	0.020	-33.98	-27.98	0.00	228	0.020	-33.98	-27.98	0.00
184	0.020	-33.98	-27.98	0.00	229	0.020	-33.98	-27.98	0.00
185	0.020	-33.98	-27.98	0.00	230	0.020	-33.98	-27.98	0.00
186	0.020	-33.98	-27.98	0.00	231	0.026	-31.70	-25.70	0.00
187	0.020	-33.98	-27.98	0.00	232	0.032	-29.90	-23.90	0.00
188	0.020	-33.98	-27.98	0.00	233	0.038	-28.40	-22.40	0.01
189	0.020	-33.98	-27.98	0.00	234	0.044	-27.13	-21.13	0.01
190	0.020	-33.98	-27.98	0.00	235	0.050	-26.02	-20.02	0.01
191	0.020	-33.98	-27.98	0.00	236	0.066	-23.54	-17.54	0.02
192	0.020	-33.98	-27.98	0.00	237	0.083	-21.62	-15.62	0.03
193	0.020	-33.98	-27.98	0.00	238	0.100	-20.04	-14.04	0.04
194	0.020	-33.98	-27.98	0.00	239	0.116	-18.71	-12.71	0.05
195	0.020	-33.98	-27.98	0.00	240	0.132	-17.56	-11.56	0.07
196	0.020	-33.98	-27.98	0.00	241	0.164	-15.70	-9.70	0.11
197	0.020	-33.98	-27.98	0.00	242	0.195	-14.18	-8.18	0.15
198	0.020	-33.98	-27.98	0.00	243	0.227	-12.88	-6.88	0.21
199	0.020	-33.98	-27.98	0.00	244	0.258	-11.75	-5.75	0.27
200	0.020	-33.98	-27.98	0.00	245	0.290	-10.75	-4.75	0.33
201	0.020	-33.98	-27.98	0.00	246	0.312	-10.10	-4.10	0.39
202	0.020	-33.98	-27.98	0.00	247	0.335	-9.50	-3.50	0.45
203	0.020	-33.98	-27.98	0.00	248	0.358	-8.93	-2.93	0.51
204	0.020	-33.98	-27.98	0.00	249	0.380	-8.40	-2.40	0.57
205	0.020	-33.98	-27.98	0.00	250	0.403	-7.90	-1.90	0.64
206	0.020	-33.98	-27.98	0.00	251	0.420	-7.54	-1.54	0.70
207	0.020	-33.98	-27.98	0.00	252	0.438	-7.18	-1.18	0.76
208	0.020	-33.98	-27.98	0.00	253	0.455	-6.84	-0.84	0.82
209	0.020	-33.98	-27.98	0.00	254	0.473	-6.51	-0.51	0.89
210	0.020	-33.98	-27.98	0.00	255	0.490	-6.20	-0.20	0.96
211	0.020	-33.98	-27.98	0.00	256	0.506	-5.92	0.08	1.02
212	0.020	-33.98	-27.98	0.00	257	0.522	-5.65	0.35	1.08
213	0.020	-33.98	-27.98	0.00	258	0.538	-5.38	0.62	1.15
214	0.020	-33.98	-27.98	0.00	259	0.554	-5.13	0.87	1.22
215	0.020	-33.98	-27.98	0.00	260	0.570	-4.88	1.12	1.29
216	0.020	-33.98	-27.98	0.00	261	0.585	-4.66	1.34	1.36
217	0.020	-33.98	-27.98	0.00	262	0.600	-4.44	1.56	1.43
218	0.020	-33.98	-27.98	0.00	263	0.615	-4.22	1.78	1.51
219	0.020	-33.98	-27.98	0.00	264	0.630	-4.01	1.99	1.58
220	0.020	-33.98	-27.98	0.00	265	0.645	-3.81	2.19	1.66
221	0.020	-33.98	-27.98	0.00	266	0.658	-3.63	2.37	1.73
222	0.020	-33.98	-27.98	0.00	267	0.672	-3.45	2.55	1.80
223	0.020	-33.98	-27.98	0.00	268	0.686	-3.28	2.72	1.87
224	0.020	-33.98	-27.98	0.00	269	0.699	-3.11	2.89	1.95

KATHREIN
SCALA DIVISION

4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 dBd
Horizontal polarization

Horizontal radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
270	0.712	-2.94	3.06	2.02	315	0.957	-0.38	5.62	3.65
271	0.724	-2.80	3.20	2.09	316	0.948	-0.46	5.54	3.58
272	0.737	-2.66	3.34	2.16	317	0.938	-0.55	5.45	3.51
273	0.748	-2.52	3.48	2.23	318	0.929	-0.64	5.36	3.44
274	0.761	-2.38	3.62	2.30	319	0.919	-0.73	5.27	3.37
275	0.772	-2.24	3.76	2.38	320	0.910	-0.82	5.18	3.30
276	0.784	-2.11	3.89	2.45	321	0.898	-0.93	5.07	3.21
277	0.795	-1.99	4.01	2.52	322	0.886	-1.05	4.95	3.13
278	0.807	-1.86	4.14	2.59	323	0.874	-1.17	4.83	3.04
279	0.819	-1.74	4.26	2.67	324	0.862	-1.29	4.71	2.96
280	0.830	-1.62	4.38	2.74	325	0.850	-1.41	4.59	2.88
281	0.840	-1.52	4.48	2.81	326	0.838	-1.54	4.46	2.80
282	0.849	-1.42	4.58	2.87	327	0.826	-1.66	4.34	2.72
283	0.858	-1.33	4.67	2.93	328	0.814	-1.79	4.21	2.63
284	0.868	-1.23	4.77	3.00	329	0.802	-1.92	4.08	2.56
285	0.877	-1.14	4.86	3.06	330	0.789	-2.05	3.95	2.48
286	0.885	-1.06	4.94	3.12	331	0.779	-2.17	3.83	2.42
287	0.893	-0.98	5.02	3.17	332	0.771	-2.26	3.74	2.36
288	0.901	-0.90	5.10	3.24	333	0.769	-2.28	3.72	2.35
289	0.910	-0.82	5.18	3.29	334	0.769	-2.28	3.72	2.35
290	0.917	-0.75	5.25	3.35	335	0.770	-2.27	3.73	2.36
291	0.924	-0.69	5.31	3.40	336	0.781	-2.14	3.86	2.43
292	0.929	-0.64	5.36	3.44	337	0.794	-2.01	3.99	2.51
293	0.936	-0.57	5.43	3.49	338	0.805	-1.88	4.12	2.58
294	0.942	-0.52	5.48	3.53	339	0.817	-1.76	4.24	2.66
295	0.948	-0.46	5.54	3.58	340	0.829	-1.63	4.37	2.73
296	0.954	-0.41	5.59	3.62	341	0.843	-1.49	4.51	2.83
297	0.959	-0.36	5.64	3.66	342	0.856	-1.35	4.65	2.92
298	0.964	-0.32	5.68	3.70	343	0.871	-1.20	4.80	3.02
299	0.970	-0.27	5.73	3.74	344	0.884	-1.07	4.93	3.11
300	0.975	-0.22	5.78	3.78	345	0.899	-0.93	5.07	3.21
301	0.978	-0.19	5.81	3.81	346	0.908	-0.83	5.17	3.29
302	0.981	-0.17	5.83	3.83	347	0.919	-0.73	5.27	3.36
303	0.984	-0.14	5.86	3.85	348	0.929	-0.64	5.36	3.44
304	0.987	-0.11	5.89	3.88	349	0.940	-0.54	5.46	3.52
305	0.990	-0.09	5.91	3.90	350	0.950	-0.45	5.55	3.59
306	0.995	-0.04	5.96	3.95	351	0.956	-0.39	5.61	3.64
307	1.000	0.00	6.00	3.98	352	0.962	-0.34	5.66	3.68
308	0.997	-0.03	5.97	3.96	353	0.968	-0.28	5.72	3.73
309	0.993	-0.06	5.94	3.93	354	0.974	-0.23	5.77	3.78
310	0.989	-0.10	5.90	3.89	355	0.980	-0.17	5.83	3.83
311	0.982	-0.15	5.85	3.84	356	0.984	-0.14	5.86	3.85
312	0.977	-0.21	5.79	3.80	357	0.988	-0.10	5.90	3.89
313	0.970	-0.26	5.74	3.75	358	0.992	-0.07	5.93	3.92
314	0.964	-0.32	5.68	3.70	359	0.996	-0.03	5.97	3.95



4DR-4-2HW Panel array

Ch-30

Maximum gain: 6.0 dBd

Horizontal polarization

Vertical radiation pattern

0 degree electrical downtilt

KATHREIN
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18-Sep-2008

KATHREIN
SCALA DIVISION

4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 dBd
Horizontal polarization

Vertical radiation pattern
0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.038	-28.52	-22.52	0.01	-45	0.257	-11.78	-5.78	0.26
-89	0.041	-27.85	-21.85	0.01	-44	0.256	-11.84	-5.84	0.26
-88	0.043	-27.23	-21.23	0.01	-43	0.254	-11.89	-5.89	0.26
-87	0.047	-26.65	-20.65	0.01	-42	0.253	-11.94	-5.94	0.25
-86	0.049	-26.11	-20.11	0.01	-41	0.252	-11.99	-5.99	0.25
-85	0.053	-25.60	-19.60	0.01	-40	0.250	-12.04	-6.04	0.25
-84	0.056	-24.96	-18.96	0.01	-39	0.240	-12.40	-6.40	0.23
-83	0.060	-24.36	-18.36	0.01	-38	0.230	-12.77	-6.77	0.21
-82	0.065	-23.81	-17.81	0.02	-37	0.220	-13.15	-7.15	0.19
-81	0.068	-23.29	-17.29	0.02	-36	0.210	-13.56	-7.56	0.18
-80	0.072	-22.79	-16.79	0.02	-35	0.200	-13.98	-7.98	0.16
-79	0.079	-22.05	-16.05	0.02	-34	0.213	-13.45	-7.45	0.18
-78	0.086	-21.36	-15.36	0.03	-33	0.225	-12.95	-6.95	0.20
-77	0.092	-20.72	-14.72	0.03	-32	0.238	-12.47	-6.47	0.23
-76	0.098	-20.13	-14.13	0.04	-31	0.251	-12.02	-6.02	0.25
-75	0.105	-19.58	-13.58	0.04	-30	0.263	-11.60	-5.60	0.28
-74	0.112	-19.02	-13.02	0.05	-29	0.285	-10.91	-4.91	0.32
-73	0.119	-18.49	-12.49	0.06	-28	0.306	-10.27	-4.27	0.37
-72	0.126	-17.99	-11.99	0.06	-27	0.328	-9.68	-3.68	0.43
-71	0.133	-17.52	-11.52	0.07	-26	0.350	-9.13	-3.13	0.49
-70	0.140	-17.08	-11.08	0.08	-25	0.371	-8.60	-2.60	0.55
-69	0.149	-16.54	-10.54	0.09	-24	0.401	-7.94	-1.94	0.64
-68	0.158	-16.03	-10.03	0.10	-23	0.431	-7.31	-1.31	0.74
-67	0.167	-15.55	-9.55	0.11	-22	0.461	-6.73	-0.73	0.84
-66	0.176	-15.09	-9.09	0.12	-21	0.490	-6.19	-0.19	0.96
-65	0.185	-14.66	-8.66	0.14	-20	0.520	-5.68	0.32	1.08
-64	0.192	-14.36	-8.36	0.15	-19	0.554	-5.13	0.87	1.22
-63	0.198	-14.07	-8.07	0.16	-18	0.588	-4.61	1.39	1.38
-62	0.205	-13.79	-7.79	0.17	-17	0.622	-4.12	1.88	1.54
-61	0.211	-13.51	-7.51	0.18	-16	0.656	-3.66	2.34	1.71
-60	0.218	-13.25	-7.25	0.19	-15	0.690	-3.22	2.78	1.90
-59	0.222	-13.09	-7.09	0.20	-14	0.719	-2.87	3.13	2.06
-58	0.225	-12.94	-6.94	0.20	-13	0.748	-2.52	3.48	2.23
-57	0.229	-12.78	-6.78	0.21	-12	0.777	-2.19	3.81	2.40
-56	0.234	-12.63	-6.63	0.22	-11	0.806	-1.87	4.13	2.59
-55	0.237	-12.49	-6.49	0.22	-10	0.835	-1.57	4.43	2.78
-54	0.239	-12.43	-6.43	0.23	-9	0.857	-1.35	4.65	2.92
-53	0.241	-12.38	-6.38	0.23	-8	0.878	-1.13	4.87	3.07
-52	0.242	-12.32	-6.32	0.23	-7	0.900	-0.92	5.08	3.22
-51	0.243	-12.27	-6.27	0.24	-6	0.921	-0.71	5.29	3.38
-50	0.245	-12.22	-6.22	0.24	-5	0.942	-0.51	5.49	3.54
-49	0.248	-12.13	-6.13	0.24	-4	0.954	-0.41	5.59	3.62
-48	0.250	-12.04	-6.04	0.25	-3	0.965	-0.30	5.70	3.71
-47	0.252	-11.95	-5.95	0.25	-2	0.977	-0.20	5.80	3.80
-46	0.255	-11.87	-5.87	0.26	-1	0.988	-0.10	5.90	3.89
					0	1.000	0.00	6.00	3.98

KATHREIN
SCALA DIVISION

4DR-4-2HW Panel array
Ch-30
Maximum gain: 6.0 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	6.00	3.98	45	0.257	-11.78	-5.78	0.26
1	0.988	-0.10	5.90	3.89	46	0.255	-11.87	-5.87	0.26
2	0.977	-0.20	5.80	3.80	47	0.252	-11.95	-5.95	0.25
3	0.965	-0.30	5.70	3.71	48	0.250	-12.04	-6.04	0.25
4	0.954	-0.41	5.59	3.62	49	0.248	-12.13	-6.13	0.24
5	0.942	-0.51	5.49	3.54	50	0.245	-12.22	-6.22	0.24
6	0.921	-0.71	5.29	3.38	51	0.243	-12.27	-6.27	0.24
7	0.900	-0.92	5.08	3.22	52	0.242	-12.32	-6.32	0.23
8	0.878	-1.13	4.87	3.07	53	0.241	-12.38	-6.38	0.23
9	0.857	-1.35	4.65	2.92	54	0.239	-12.43	-6.43	0.23
10	0.835	-1.57	4.43	2.78	55	0.237	-12.49	-6.49	0.22
11	0.806	-1.87	4.13	2.59	56	0.234	-12.63	-6.63	0.22
12	0.777	-2.19	3.81	2.40	57	0.229	-12.78	-6.78	0.21
13	0.748	-2.52	3.48	2.23	58	0.225	-12.94	-6.94	0.20
14	0.719	-2.87	3.13	2.06	59	0.222	-13.09	-7.09	0.20
15	0.690	-3.22	2.78	1.90	60	0.218	-13.25	-7.25	0.19
16	0.656	-3.66	2.34	1.71	61	0.211	-13.51	-7.51	0.18
17	0.622	-4.12	1.88	1.54	62	0.205	-13.79	-7.79	0.17
18	0.588	-4.61	1.39	1.38	63	0.198	-14.07	-8.07	0.16
19	0.554	-5.13	0.87	1.22	64	0.192	-14.36	-8.36	0.15
20	0.520	-5.68	0.32	1.08	65	0.185	-14.66	-8.66	0.14
21	0.490	-6.19	-0.19	0.96	66	0.176	-15.09	-9.09	0.12
22	0.461	-6.73	-0.73	0.84	67	0.167	-15.55	-9.55	0.11
23	0.431	-7.31	-1.31	0.74	68	0.158	-16.03	-10.03	0.10
24	0.401	-7.94	-1.94	0.64	69	0.149	-16.54	-10.54	0.09
25	0.371	-8.60	-2.60	0.55	70	0.140	-17.08	-11.08	0.08
26	0.350	-9.13	-3.13	0.49	71	0.133	-17.52	-11.52	0.07
27	0.328	-9.68	-3.68	0.43	72	0.126	-17.99	-11.99	0.06
28	0.306	-10.27	-4.27	0.37	73	0.119	-18.49	-12.49	0.06
29	0.285	-10.91	-4.91	0.32	74	0.112	-19.02	-13.02	0.05
30	0.263	-11.60	-5.60	0.28	75	0.105	-19.58	-13.58	0.04
31	0.251	-12.02	-6.02	0.25	76	0.098	-20.13	-14.13	0.04
32	0.238	-12.47	-6.47	0.23	77	0.092	-20.72	-14.72	0.03
33	0.225	-12.95	-6.95	0.20	78	0.086	-21.36	-15.36	0.03
34	0.213	-13.45	-7.45	0.18	79	0.079	-22.05	-16.05	0.02
35	0.200	-13.98	-7.98	0.16	80	0.072	-22.79	-16.79	0.02
36	0.210	-13.56	-7.56	0.18	81	0.068	-23.29	-17.29	0.02
37	0.220	-13.15	-7.15	0.19	82	0.065	-23.81	-17.81	0.02
38	0.230	-12.77	-6.77	0.21	83	0.060	-24.36	-18.36	0.01
39	0.240	-12.40	-6.40	0.23	84	0.056	-24.96	-18.96	0.01
40	0.250	-12.04	-6.04	0.25	85	0.053	-25.60	-19.60	0.01
41	0.252	-11.99	-5.99	0.25	86	0.049	-26.11	-20.11	0.01
42	0.253	-11.94	-5.94	0.25	87	0.047	-26.65	-20.65	0.01
43	0.254	-11.89	-5.89	0.26	88	0.043	-27.23	-21.23	0.01
44	0.256	-11.84	-5.84	0.26	89	0.041	-27.85	-21.85	0.01
					90	0.038	-28.52	-22.52	0.01

18-Sep-2008

KATHREIN
SCALA DIVISION

4DR series

PARAPANEL® UHF-TV ANTENNAS AND ARRAYS 470 to 862 MHz

The Kathrein Scala Division Parapanel antennas offer high performance and low VSWR. Multi-panel arrays can be utilized to provide standard patterns shown below and custom patterns for specific coverage requirements. Arrays include power dividers and coax feeders, plus installation hardware.

The antenna is fabricated from corrosion resistant aluminum and stainless steel. All metal components are DC grounded. The rugged fiberglass radome assures reliable performance in heavy icing conditions.

Thousands of Kathrein Scala Division Parapanels are in operation worldwide in translator and low-power UHF-TV television systems.

4DR-4S

4DR-4-2HW

General Specifications:

Frequency	470 to 862 MHz	
Bandwidth	Any single 6, 7, or 8 MHz UHF-TV channel	
Impedance	50 ohms	
VSWR	< 1.1:1	
Polarization	Horizontal	
Maximum input power	500 watts (at 50° C)	
Connector	N female	
Wind survival rating*	120 mph (200 kph)	
Mounting	The following installation kits are included for mounting on 2.375 inch (60 mm) OD masts:	
	Antenna frequency range	Clamp kit
	470–560 MHz	MKPS-18
	560–862 MHz	MKPS-17

*Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

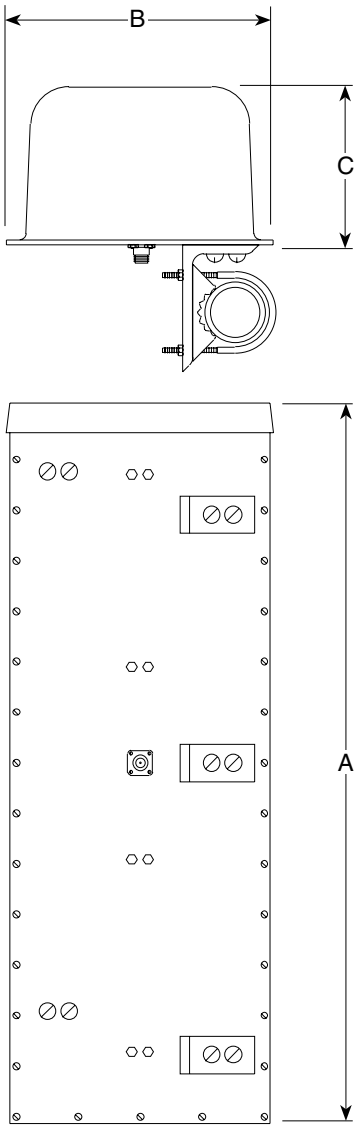
10264-F

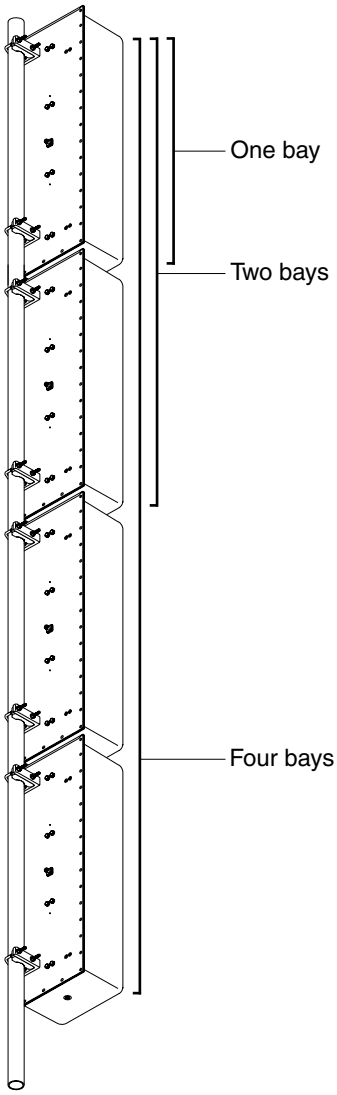
Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

KATHREIN
SCALA DIVISION

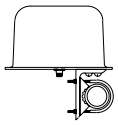
4DR series

PARAPANEL® UHF-TV ANTENNAS AND ARRAYS 470 to 862 MHz

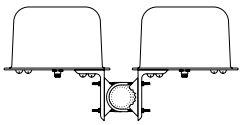




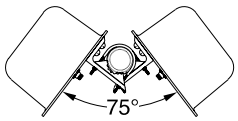
4DR Array Top Views



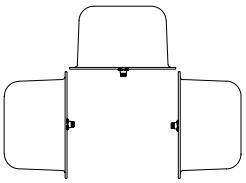
S series



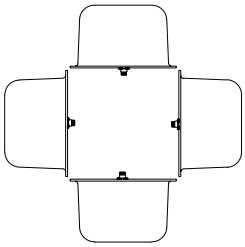
2HN series



2HW series



3HC series



4HO series

	A	B	C
470 to 560 MHz	48 inches (1220 mm)	18 inches (458 mm)	9 inches (229 mm)
560 to 656 MHz	36 inches (915 mm)	14.3 inches (364 mm)	8 inches (204 mm)
656 to 862 MHz	29 inches (737 mm)	10.5 inches (267 mm)	7 inches (178 mm)

Order Information:

Contact Kathrein Scala Division Customer Service for order information.

All specifications are subject to change without notice. The latest specifications are available at www.kathrein-scala.com.

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: broadcast@kathrein.com Internet: www.kathrein-scala.com

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I
LONGLEY-RICE INTERFERENCE
FOR THE OPERATION FOR
W36AX, MANCHESTER, ETC., VERMONT
CHANNEL 30 796 W MAX ERP 1169 METERS RCAMSL
JANUARY 2011

N 43° 09' 57"
W 73° 06' 57"
NAD-27
Stringent Mask

Channel	Call	City/State	Dist(km)	Status	FCC File No.	Result
15	NEW	LACONIA NH	139.1	APP	BNPTT-20000831COQ	0.00%
15	WNYA-CA	ALBANY NY	92.7	LIC	BLTTA-20030903ABN	No interference
16	W16AL	BURLINGTON VT	134	LIC	BLTT-19940720IH	0.00%
26	WNGN-LP	TROY NY	59.4	APP	BPTTL-20030513AAE	0.00%
27	W27CP	WHITE RIVER JUNCTION VT	98.3	APP	BPTT-20100614AJC	0.00%
27	W27CP	WHITE RIVER JUNCTION VT	93	LIC	BLTT-20041021ABZ	0.00%
28	WFXQ-CD	SPRINGFIELD MA	124.8	CP	BPTTA-20081017AHG	0.00%
29	WUNI	WORCESTER MA	146.9	LIC	BLCDT-20090821ABQ	0.00%
29	WMUR-LP	LITTLETON NH	158.4	LIC	BLTTL-20000601AEG	0.00%
29	WKTV	UTICA NY	148.2	LIC	BLCDT-20060630ACL	0.10%
30	WBZ-TV	BOSTON MA	180.4	CP	BPCDT-20080616ABK	0.05%
30	WBZ-TV	BOSTON MA	180.4	LIC	BLCDT-20060420ABG	0.03%
30	WCKD-LP	BANGOR ME	387.4	LIC	BLTT-19940422IJ	0.00%
30	WFUT-DT	NEWARK NJ	278.2	LIC	BLCDT-20090618ABZ	0.00%
30	WSKA	CORNING NY	343.2	LIC	BLEDT-20060705ABL	No interference
30	W30AZ-D	ELLENVILLE NY	193.6	LIC	BLDTL-20100610AEU	0.07%
30	WPXN-TV	NEW YORK NY	276.4	STA	BDSTAB-20071023AAA	No interference
30	W30AJ	SYRACUSE NY	246.6	LIC	BLTTL-19910528JX	No interference
30	WUTR	UTICA NY	167.1	LIC	BLCDT-20040217ADC	0.02%
30	CKWS-PT-	BRIGHTON ON	388.9	AL	CANADA-1417658NULL	0.00%
30	CKWS-TV-	BRIGHTON ON	388.9	LIC	BPFS-20081201ATG	0.00%
30	WELL-LD	PHILADELPHIA PA	389.4	APP	BSTA-20090826AAO	0.00%
30	WELL-LD	PHILADELPHIA PA	389.7	LIC	BLDTL-20100208AAC	0.00%
30	CIVO-PT	HULL QC	338.7	AL	CANADA-1419480NULL	No interference
30	CIVOTV	HULL QC	338.7	LIC	NULL-303666NULL	No interference
30	CIVO-TV	HULL QC	338.7	LIC	BPFS-20081210ACI	No interference

COHEN, DIPPELL AND EVERIST, P.C.

TABLE I
LONGLEY-RICE INTERFERENCE
FOR THE OPERATION FOR
W36AX, MANCHESTER, ETC., VERMONT
CHANNEL 30 796 W MAX ERP 1169 METERS RCAMSL
JANUARY 2011

N 43° 09' 57"
W 73° 06' 57"
NAD-27
Stringent Mask

Channel	Call	City/State	Dist(km)	Status	FCC File No.	Result
30	CIVO-TV	HULL QC	338.7	OP	CANADA-5617	No interference
30	CFKSTV	MAGOG QC	248.5	LIC	NULL-302629NULL	No interference
30	NEW-DT	SHAWINIGAN QC	377.3	APP	BPFS-1127550NULL	0.00%
30	QC-PT-20	SHAWINIGAN QC	377.3	AL	CANADA-1417573NULL	0.00%
30	QU-DT-21	SHAWINIGAN QC	377.3	AL	CANADA-C1417011	0.00%
30	VACANT	SHAWINIGAN QC	377.3	LIC	BPFS-20081216AII	0.00%
30	CFKS-TV	SHERBROOKE QC	248.5	OP	CANADA-3672	No interference
30	QC-PT-20	SHERBROOKE QC	248.5	AL	CANADA-1417581NULL	0.00%
30	VACANT	SHERBROOKE QC	248.5	LIC	BPFS-20081216AMC	No interference
30	CFKSTV	SHERBROOKE-MAGOG QC	248.5	LIC	NULL-303667NULL	No interference
30	WBVT-CA	BURLINGTON VT	179.8	APP	BMJPTTA-20040310ACX	No interference
30	WBVT-CA	BURLINGTON VT	143.2	LIC	BLTTA-20001208AED	No interference
31	WTIC-TV	HARTFORD CT	164.2	CP MO	BMPCDT-20080620ADP	0.00%
31	WTIC-TV	HARTFORD CT	164.2	LIC	BLCDT-20090911ABG	0.00%
31	WFXT	BOSTON MA	182.2	CP MO	BMPCDT-20080307ABR	No interference
31	WFXT	BOSTON MA	182.1	LIC	BLCDT-19990507KI	No interference
31	W31BP	BURLINGTON, ETC. NY	172.5	LIC	BLTTL-19980120JE	0.00%
31	WNCE-CD	GLENS FALLS NY	52.7	LIC	BLDTA-20100812ABN	0.15%
32	W52DF	ALBANY NY	92.7	CP	BPTT-20050405ABY	No interference
33	W33AK	NASHUA NH	141.7	LIC	BLTTL-19950728IB	0.00%
34	WCRN-LP	LEICESTER MA	140.8	LIC	BLTTL-19960130JB	0.00%
34	WTXX-LP	SPRINGFIELD MA	129.8	LIC	BLTTL-20080707AAF	0.00%

TABLE II
DTV COVERAGE DATA
FOR PROPOSED COMPANION CHANNEL DTV OPERATION OF
W36AX, MANCHESTER, VERMONT
CHANNEL 30 0.796 KW ERP 1169 METERS RCAMSL
JANUARY 2011

Radial Bearing N ° E, T	Average* Elevation 3 to 16.1 km meters	Effective Height meters	Depression Angle degrees	ERP At Radio Horizon kW	Distance to Contour 51 dBu km
0	500.8	668.2	0.716	0.0	8.4
10	495.9	673.1	0.719	0.0	8.4
20	493.4	675.6	0.720	0.0	25.5
30	527.5	641.5	0.702	0.1	38.2
40	385.1	783.9	0.776	0.3	44.7
50	365.6	803.4	0.785	0.4	47.8
60	433.6	735.4	0.751	0.5	48.5
70	396.6	772.4	0.770	0.7	50.4
80	446.1	722.9	0.745	0.8	50.3
90	483.9	685.1	0.725	0.8	49.9
100	469.0	700.0	0.733	0.7	49.0
110	583.6	585.4	0.670	0.5	45.6
120	621.4	547.6	0.648	0.5	45.6
130	639.9	529.1	0.637	0.7	46.8
140	661.7	507.3	0.624	0.8	46.8
150	645.0	524.0	0.634	0.7	46.7
160	568.0	601.0	0.679	0.5	46.4
170	454.1	714.9	0.741	0.5	47.5
180	341.5	827.5	0.797	0.7	51.4
190	262.3	906.7	0.834	0.8	53.8
200	301.5	867.5	0.816	0.8	53.0
210	592.2	576.9	0.665	0.7	47.4
220	507.5	661.5	0.712	0.5	47.3
230	367.4	801.6	0.784	0.4	47.7
240	344.6	824.4	0.795	0.3	45.4
250	362.9	806.1	0.786	0.1	40.8
260	374.6	794.4	0.781	0.0	27.2
270	363.2	805.8	0.786	0.0	8.9
280	392.7	776.3	0.772	0.0	8.8

TABLE II
DTV COVERAGE DATA
FOR PROPOSED COMPANION CHANNEL DTV OPERATION OF
W36AX, MANCHESTER, VERMONT
CHANNEL 30 0.796 KW ERP 1169 METERS RCAMSL
JANUARY 2011

Radial Bearing N ° E, T	Average* Elevation 3 to 16.1 km meters	Effective Height meters	Depression Angle degrees	ERP At Radio Horizon kW	Distance to Contour 51 dBu km
290	401.3	767.7	0.768	0.0	8.7
300	455.1	713.9	0.740	0.0	8.5
310	490.1	678.9	0.722	0.0	8.4
320	476.7	692.3	0.729	0.0	8.5
330	515.4	653.6	0.708	0.0	8.3
340	635.6	533.4	0.640	0.0	7.9
350	531.9	637.1	0.699	0.0	8.3

*Based on data from FCC 3-second data base.

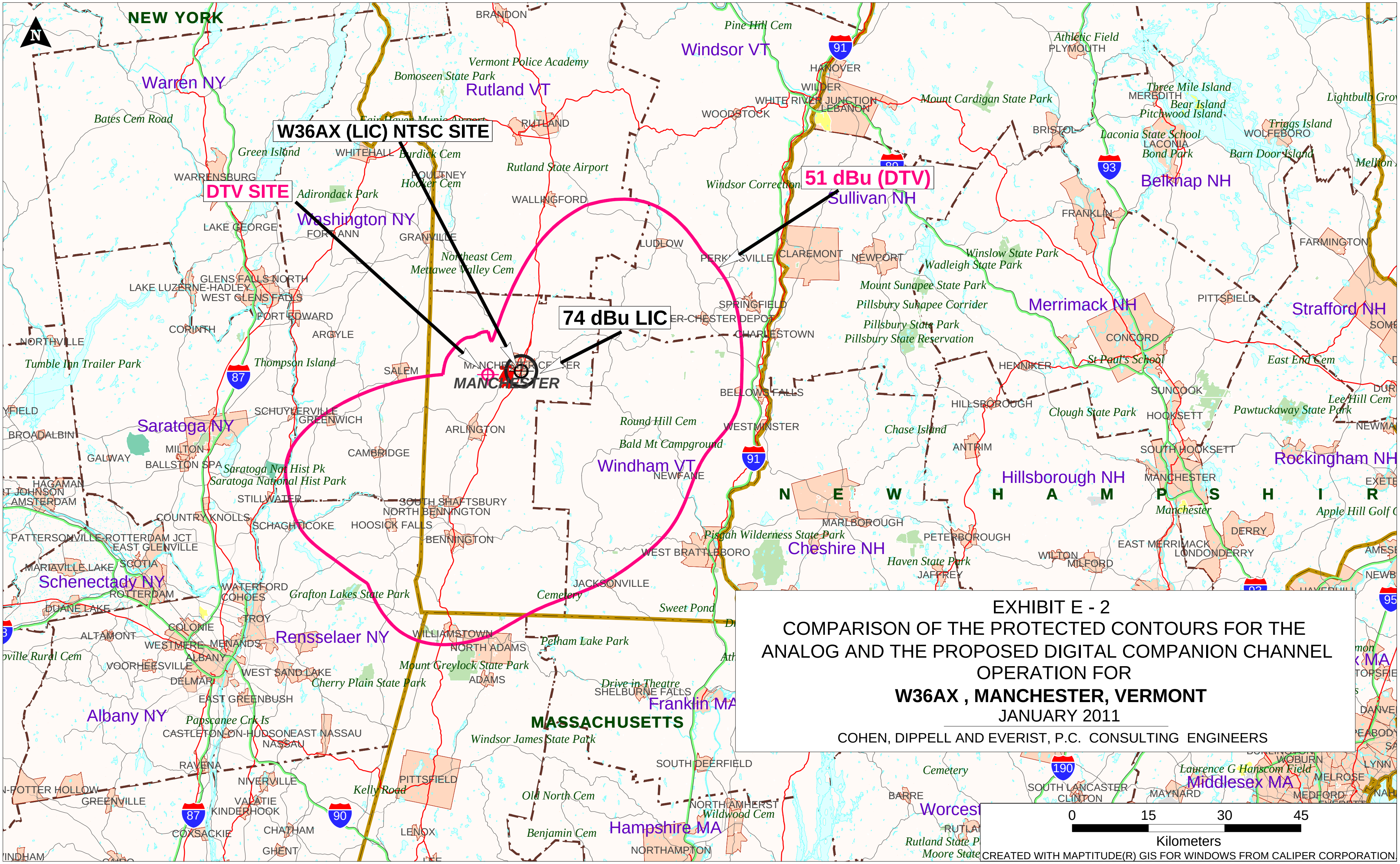


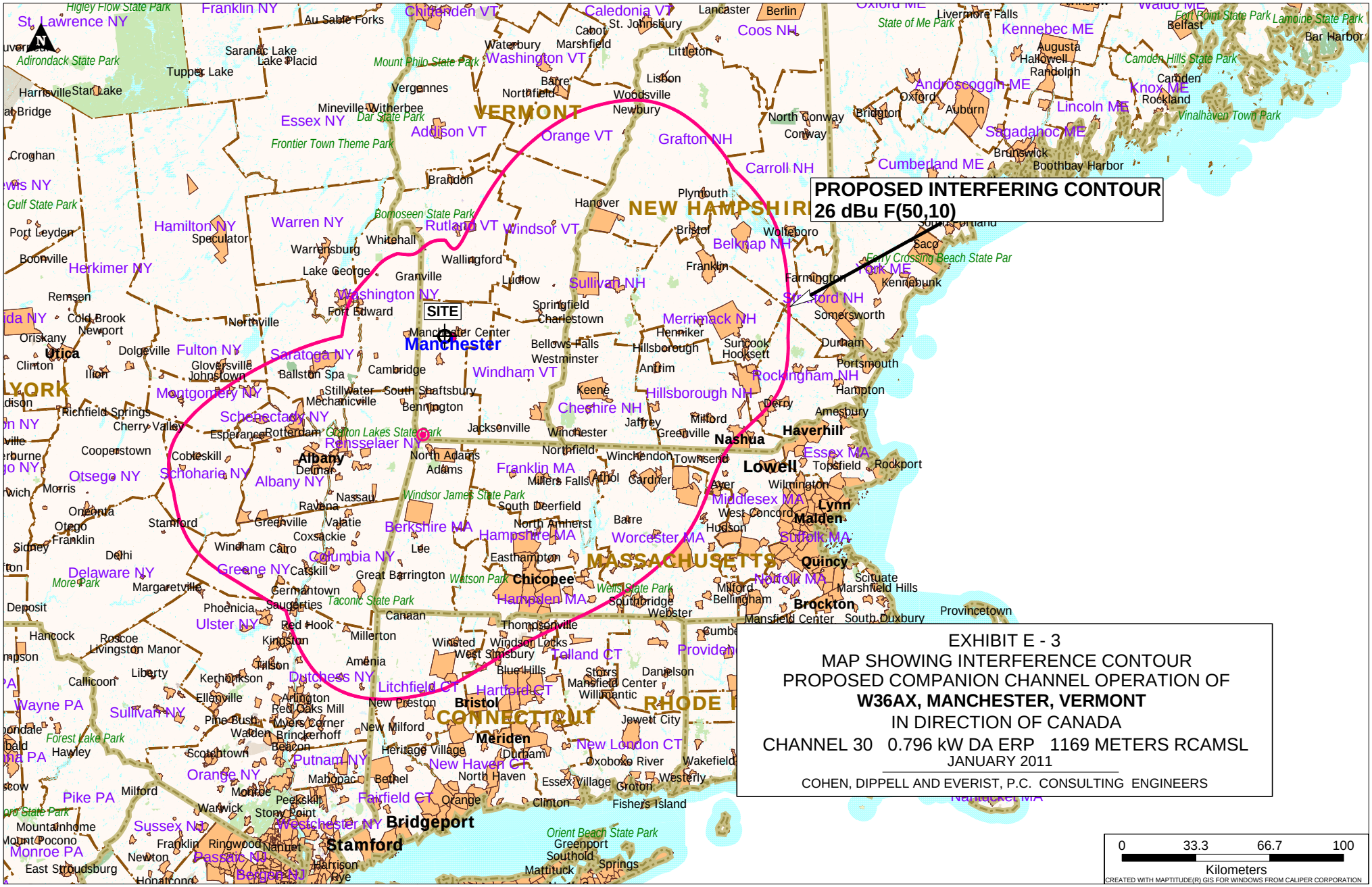
EXHIBIT E - 2

COMPARISON OF THE PROTECTED CONTOURS FOR THE ANALOG AND THE PROPOSED DIGITAL COMPANION CHANNEL OPERATION FOR

W36AX , MANCHESTER, VERMONT

JANUARY 2011

COHEN, DIPPELL AND EVERIST, P.C. CONSULTING ENGINEERS


PROPOSED INTERFERING CONTOUR
26 dBu F(50,10)
SITE
Manchester
VERMONT
NEW HAMPSHIRE
MASSACHUSETTS
CONNECTICUT
RHODE I
EXHIBIT E - 3
MAP SHOWING INTERFERENCE CONTOUR
PROPOSED COMPANION CHANNEL OPERATION OF
W36AX, MANCHESTER, VERMONT
IN DIRECTION OF CANADA
CHANNEL 30 0.796 kW DA ERP 1169 METERS RCAMSL
JANUARY 2011
COHEN, DIPPELL AND EVERIST, P.C. CONSULTING ENGINEERS
0 33.3 66.7 100
Kilometers
CREATED WITH MAPTITUDE(R) GIS FOR WINDOWS FROM CALIPER CORPORATION

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel: 30

2. Translator Input Channel No. 24

3. Station proposed to be rebroadcast: Facility ID: 69943

Call Sign	City	State	Channel
WVTA	Windsor	VT	24

4. Antenna Location Coordinates: (NAD 27)

43 ° 09 ' 57 " [X] N [ ] S Latitude
73 ° 06 ' 57 " [ ] E [X] W Longitude

5. Antenna Structure Registration Number: _____

[X] Not applicable [See Explanation in Exhibit No. E] [ ] FAA Notification Filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: 1155.2 meters

7. Overall Tower Height Above Ground Level: 15.2 meters

8. Height of Radiation Center Above Ground Level: 14.0 meters

9. Maximum Effective Radiated Power (ERP): 0.796 kW

10. Transmitter Output Power: 0.215 kW

11. a. Transmitting Antenna: [ ] Nondirectional [ ] Directional ("Off-the-Shelf") [X] Directional composite

Manufacturer	Model
Scala	4DR-4-2HW

b. Electrical Beam Tilt: _____ degrees [X] Not applicable

c. Directional Antenna Relative Field Values:

Rotation: _____ ° [X] No rotation [ ] N/A (Nondirectional) or Directional "Off-the-Shelf"

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.02	60	0.83	120	0.829	180	0.91	240	0.57	300	0.02
10	0.02	70	0.917	130	0.95	190	0.989	250	0.403	310	0.02
20	0.132	80	0.975	140	1	200	0.975	260	0.132	320	0.02
30	0.403	90	0.989	150	0.95	210	0.917	270	0.02	330	0.02
40	0.57	100	0.91	160	0.829	220	0.83	280	0.02	340	0.02
50	0.712	110	0.789	170	0.789	230	0.712	290	0.02	350	0.02
Additional Azimuths											

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

12. **Out-of-Channel Emission Mask:** Simple [ ] Stringent [X]

CERTIFICATION

13. **Interference.** The proposed facility complies with all of the following applicable rule sections. 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030.

[X] Yes [ ] No — See Explanation in Exhibit No.

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.,* the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance. An **Exhibit is required.**

[X] Yes [ ] No — See Explanation in Exhibit No.

Exhibit No. E

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

[ ] The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

[ ] Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies compliance following requirements, as applicable: W36AX Digital Companion Channel

☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees,

☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreement(s) with 700 MHz public safety regional planning committee(s) and state frequency administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.

☐ Pursuant to Section 74.786(e), an applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Donald G. Everist		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer
Signature		Date January 11, 2011
Mailing Address Cohen, Dippell and Everist, P.C., 1420 N Street, NW Suite One		
City Washington	State or Country (if foreign address) DC	ZIP Code 20005
Telephone Number (include area code) (202) 898-0111	E-Mail Address (if available) cde@attglobal.net	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).