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Engineering Statement

Modification Application for K32CC Sunriver, OR

For Operation on Channel 32+

May 2005

This Engineering Statement has been prepared on behalf of Rural Oregon Wireless Television, licensee of TV translator station K32CC. This material has been prepared in connection with a minor modification application for this facility. Operation is proposed with a modified antenna pattern and ERP on Channel 32+.

I. Allocation Study

Cochannel

Study has been made of all cochannel operations within 400 km of the proposed Ch. 32+ operation. There will be no prohibited contour overlap with any authorized cochannel analog facilities close enough to require detailed study.

First-Adjacent

The attached allocation study map demonstrates that there will be no prohibited contour overlap with any authorized first-adjacent-channel facilities close enough to require detailed study.

N+7

There are no analog television stations on Channel 39 within 100 km of the proposed translator.

N-14 and N-15

There are no existing N-14 or N-15 operations close enough to require detailed study.

Based on the foregoing allocation and interference study, it is believed that the proposed Ch. 32+ facility can operate without risk of interference to other stations.

II. NIER Study

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

> When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . .For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed translator operation will produce less than 5% of the applicable exposure limit for both controlled environments such as this one. Thus, the proposed facility is categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

Power density levels produced by the proposed translator were calculated for an elevation of 2 meters above ground (6 meters below the antenna radiation center). The worst case power density levels occur at depression angles between 45 and 90 degrees below the horizontal. The calculations in this report assume a worst-case relative field value of 0.14 at these angles, based on the manufacturer's vertical plane pattern for the horizontally-polarized Kathrein K723147 broadband panel antenna array (2-level) proposed in this application. This relative field value yields a worst-case adjusted peak effective radiated power of 24 Watts at depression angles between 45 and 90 degrees below the horizontal. Assuming an average effective radiated power of 12 Watts, and the shortest distance between the antenna radiation center and 2 meters above ground level (i.e. straight down), the highest calculated power density from the proposed antenna alone occurs at the base of the antenna support structure. At this point the power density is

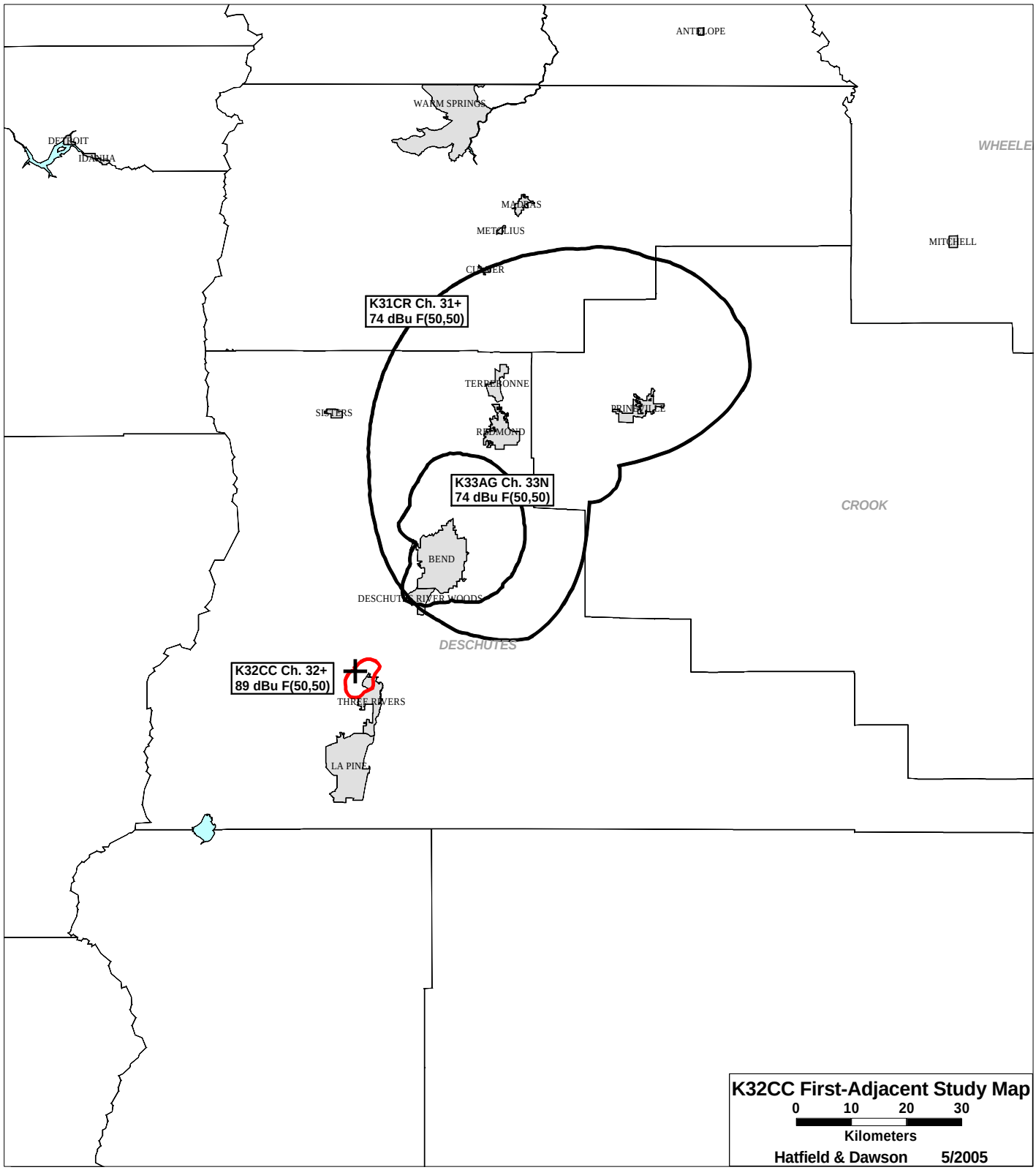
calculated to be 2.4 μW/cm², which is 0.6% of 386 μW/cm² (the FCC maximum at the Channel 32 visual carrier frequency for uncontrolled environments).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed translator operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 1000 meters from the base of the antenna support structure. Section 1.1307(b)(3) of the Commission's Rules excludes applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 et seq and no further analysis of non-ionizing radiation at this site is required in this application.

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken. The site and tower will be posted with warning signs.

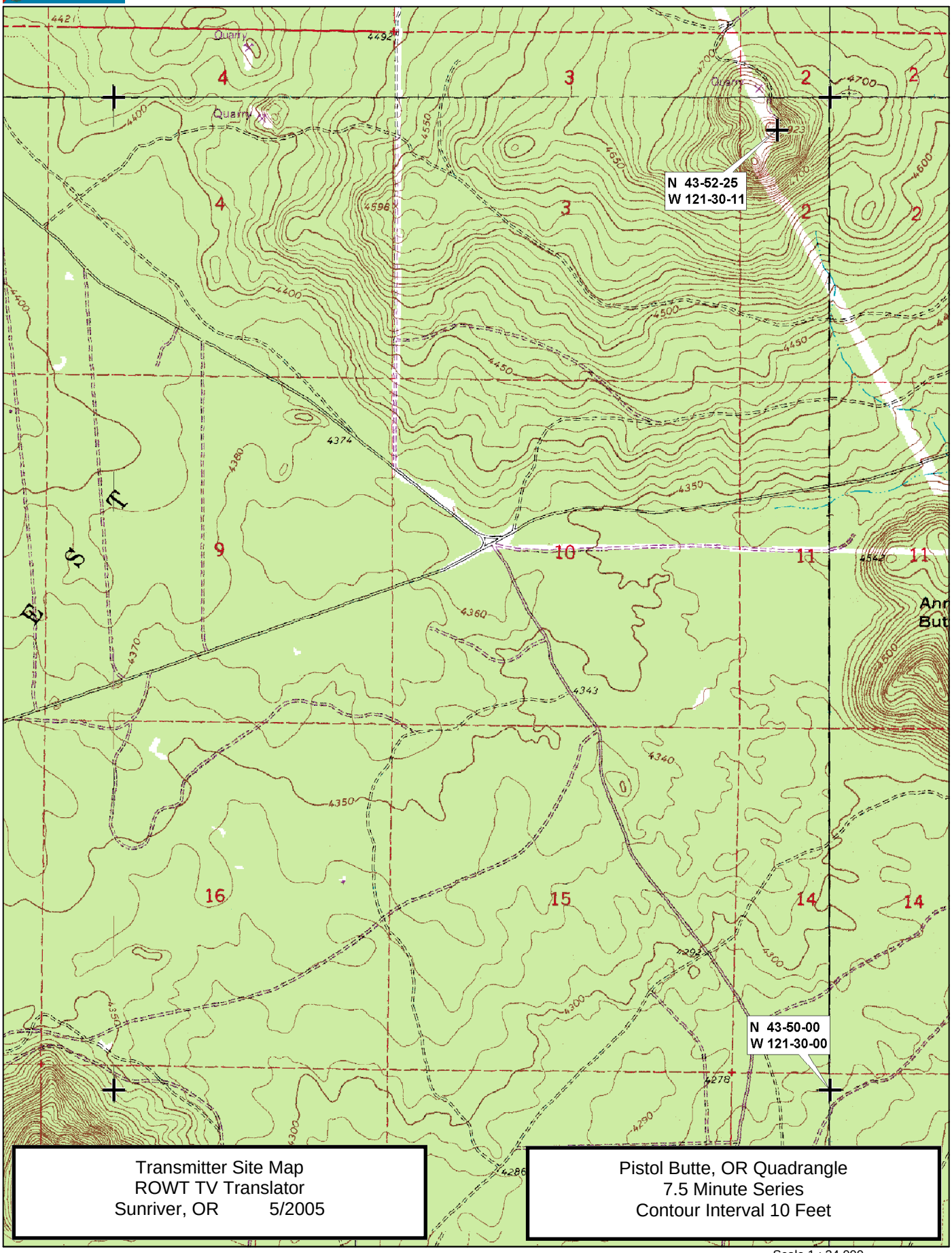
The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency radiation in excess of FCC guidelines.

May 24, 2005
Erik C. Swanson


ANTELOPE
WARM SPRINGS
DETROIT
IDANHA
WHEELE
MADRAS
METOLIUS
MITCHELL
CLOVERDALE
K31CR Ch. 31+
74 dBu F(50,50)
TERREBONNE
SISTERS
PRINEVILLE
REDMOND
K33AG Ch. 33N
74 dBu F(50,50)
CROOK
BEND
DESCHUTES RIVER WOODS
DESCHUTES
K32CC Ch. 32+
89 dBu F(50,50)
THREE RIVERS
LA PINE
K32CC First-Adjacent Study Map
0 10 20 30
Kilometers
Hatfield & Dawson 5/2005

DeLORME

XMap® 4.5



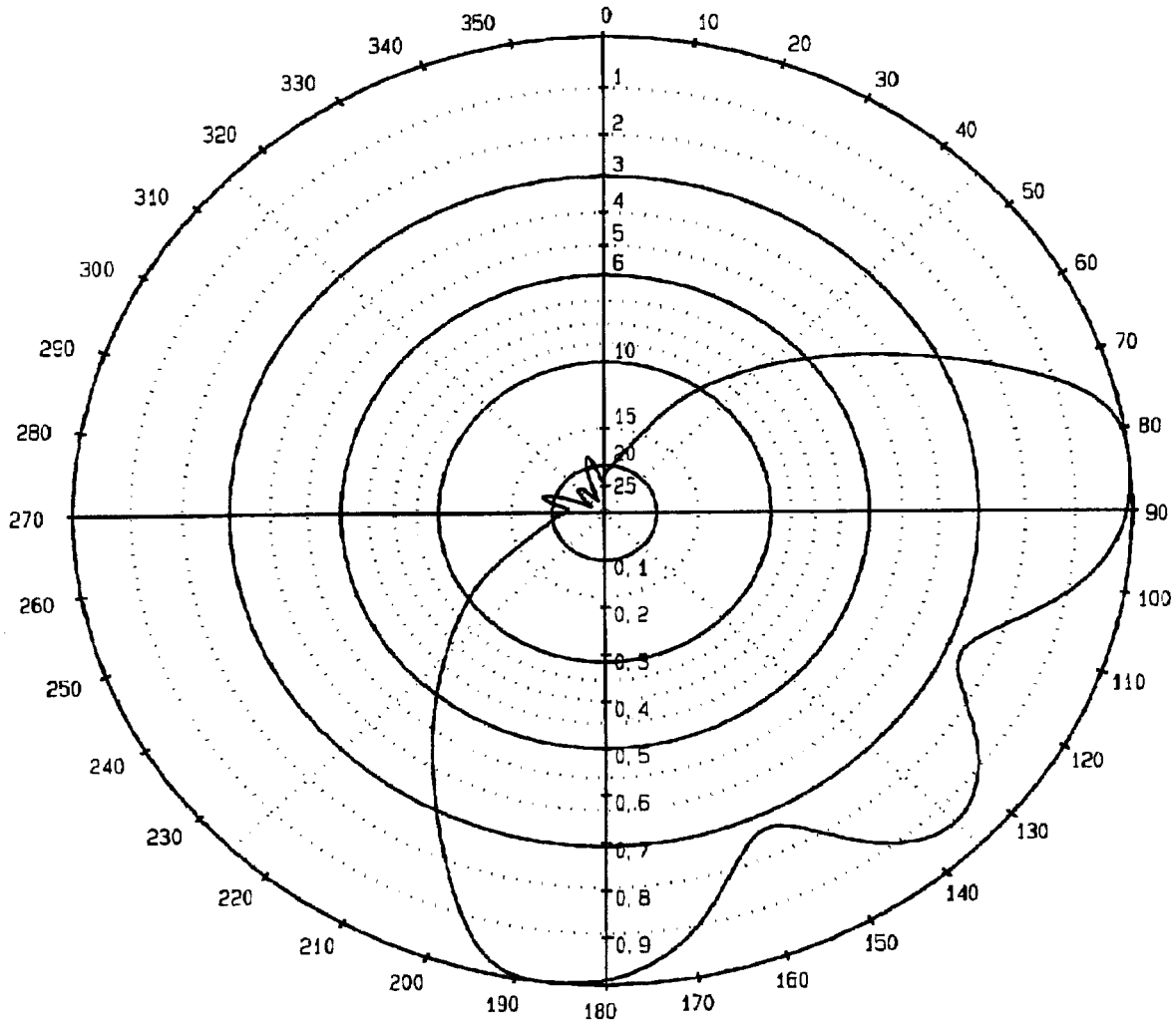
Transmitter Site Map
ROWT TV Translator
Sunriver, OR 5/2005

Pistol Butte, OR Quadrangle
7.5 Minute Series
Contour Interval 10 Feet

TN
MN (16.4°E)

Scale 1 : 24,000

1" = 609.6 m Data Zoom 13-1



frequency in MHz 591.250
down-tilt in .0
max / mean in dB 4.43

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S C A L A Medford Oregon	2 x 2 K723147 Panel Array	Typ Nr.
MB 23.5. 5 16:42	Ch: 32-34-38 .	Bl.:

simulation with typical exactness of +/- 8% of max signal

Azimuth Radiation Pattern in % and dB at downtilt: .0

f = 591.250MHz

azimuth	%	dB	azimuth	%	dB
0	7.8	-22.2	180	99.0	-.1
5	9.3	-20.6	185	100.0	.0
10	10.6	-19.5	190	99.4	-.1
15	12.4	-18.1	195	94.8	-.5
20	15.5	-16.2	200	85.0	-1.4
25	19.6	-14.2	205	74.7	-2.5
30	25.9	-11.7	210	65.3	-3.7
35	31.6	-10.0	215	57.3	-4.8
40	37.0	-8.6	220	49.8	-6.1
45	43.2	-7.3	225	43.2	-7.3
50	49.8	-6.1	230	37.0	-8.6
55	57.2	-4.8	235	31.6	-10.0
60	65.4	-3.7	240	25.9	-11.7
65	74.7	-2.5	245	19.6	-14.2
70	84.9	-1.4	250	15.4	-16.2
75	94.7	-.5	255	12.5	-18.1
80	99.4	-.1	260	10.7	-19.4
85	100.0	.0	265	9.4	-20.6
90	99.0	-.1	270	7.8	-22.2
95	96.0	-.4	275	6.9	-23.2
100	90.8	-.8	280	8.9	-21.0
105	83.5	-1.6	285	12.0	-18.4
110	76.4	-2.3	290	10.3	-19.7
115	73.7	-2.6	295	4.7	-26.6
120	78.2	-2.1	300	3.1	-30.3
125	85.6	-1.3	305	4.5	-26.9
130	91.1	-.8	310	6.3	-23.9
135	93.3	-.6	315	7.0	-23.1
140	91.3	-.8	320	6.3	-23.9
145	85.6	-1.3	325	4.5	-26.9
150	78.0	-2.2	330	3.1	-30.3
155	73.7	-2.6	335	4.7	-26.6
160	76.5	-2.3	340	10.3	-19.7
165	83.4	-1.6	345	12.0	-18.4
170	90.8	-.8	350	8.9	-21.0
175	96.0	-.4	355	6.9	-23.2
180	99.0	-.1	360	7.8	-22.2

maximum fieldstrength was found at:
azimuth 84.
downtilt 0.

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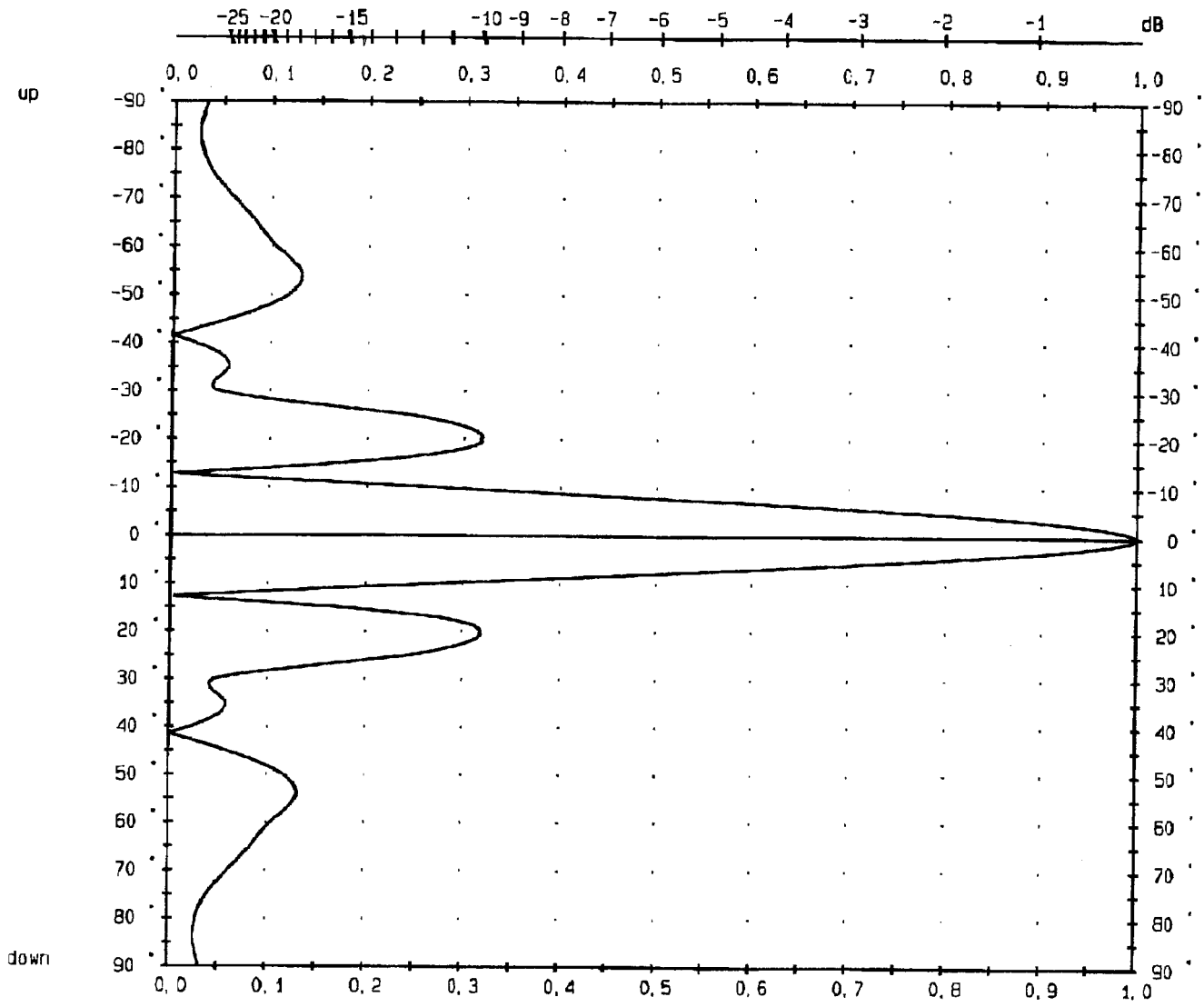
S C A L A Medford Oregon	2 x 2 K723147 Panel Array	Typ Nr.
MB 23.5. 5 16:42	Ch: 32-34-38 .	Bl.:



frequency in MHz 591.250
azimut in 85.0
omni-dir in dBd 7.05

Hatfield & Dawson

S C A L A Medford Oregon	2 x 2 K723147 Panel Array	Typ Nr.
MB 23.5. 5 16:42	Ch: 32-34-38 .	Bl.: