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Engineering Statement
Minor Modification Application for KVPA-LP Phoenix, AZ
For Operation on Channel 42-
December 2005

This Engineering Statement has been prepared on behalf of KDMA Channel 25, Inc., licensee of LPTV station KVPA-LP at Phoenix, Arizona. This material has been prepared in connection with a minor modification application for this facility, for a site change and power increase. Continued operation is proposed on Channel 42-.

I. Allocation Study

Cochannel

Study has been made of all cochannel operations within 400 km of the proposed Ch. 42- operation. The attached allocation study map demonstrates that there will be no prohibited contour overlap with any authorized analog cochannel facilities close enough to require detailed study, with the exception of K42AC Cottonwood. A Longley-Rice study has been performed to determine the potential impact of the proposed operation on K42AC. That study indicates that while there is interference predicted to be caused to reception of K42AC, that interference occurs only on isolated and unpopulated mountain peaks.¹ None of the K42AC service population is predicted to receive interference as a result of the proposed operation.²

¹ This Longley-Rice interference study, and the other such studies which follow, were conducted using 3-second terrain database data, and a 0.5 x 0.5 km grid.

² Even were there to be interference caused to K42AC, this would be easily remedied by K42AC implementing offset operation. K42AC presently operates without an offset.

First-Adjacent

There are two first-adjacent-channel facilities in the immediate area: KPDF-CA Ch. 41 Phoenix (license and pending application) and KEJR-LP Ch. 43 Phoenix. Both of these first-adjacent-channel stations are co-located with the proposed KVPA-LP operation on South Mountain. The KPDF-CA license facility is located just 200 meters from the proposed facility, the KPDF-CA application facility is at the same coordinates as the proposed facility, and the KEJR-LP facility is located just 170 meters from the proposed facility.

Longley-Rice studies has been performed to determine the potential impact of the proposed operation on KPDF-CA and KEJR-LP. The results of these studies are as follows:

KPDF-CA License: Interference is predicted to 4,833 (0.2%) of the 2,477,852 persons who would otherwise receive protected 74 dBu service from the KPDF-CA License facility.

KPDF-CA Application: Interference is predicted to zero of the persons who would otherwise receive protected 74 dBu service from the KPDF-CA application facility.

KEJR-LP License: Interference is predicted to 5086 (0.34%) of the 1,513,565 persons who would otherwise receive protected 74 dBu service from KEJR-LP.

Each of these interference figures is less than 0.5% of the population served by the affected facility and is therefore considered to round to zero per Commission policy. The areas and extents of the predicted interference (if any) is depicted on the attached study maps.

N+7

There are no analog television stations on Channel 49 within 100 km of the proposed translator.

N-14 and N-15

There is one N-15 facility in the immediate area which requires detailed study: KAZT-CA Ch. 27 Phoenix. This station is co-located with the proposed KVPA-LP operation on South Mountain. The KAZT-CA license facility is located just 80 meters from the proposed facility.

A Longley-Rice study has been performed to determine the potential impact of the proposed operation on KAZT-CA. The results of this study indicates that interference is predicted to 4441 (0.18%) of the 2,445,739 persons who would otherwise receive protected 74 dBu service from KAZT-CA. This interference figure is less than 0.5% of the population served by the affected facility and is therefore considered to round to zero per Commission policy. The areas and extents of the predicted interference (if any) is depicted on the attached study map.

Digital Stations

With regard to digital station KHRR-DT Ch. 42 Tucson, a detailed Longley-Rice interference study has been conducted to demonstrate that the proposed operation will not cause interference to that facility.

The time-shared "HDTV" computer program offered by the National Telecommunications and Information Administration's *TA Services* in Boulder, Colorado was employed as the method for coverage and interference protection. The HDTV computer program has been developed in close coordination with the Commission's OET staff, and utilizes similar methodology as the computer program used by the Commission to develop the DTV Table of Allotments. Predictions included "clipping" the extent of protected coverage as specified under §73.623(c)(2) at the Grade B contour distance for analog stations, at the 74 dBu contour distance for UHF translators, and at the DTV coverage contour distance for DTV assignments per §73.625(b). It is believed that the HDTV program offered by *TA Services* is compliant with the FCC's OET Bulletin 69 Longley-Rice Methodology for Evaluating TV Coverage and Interference ("OET-69").

Study was made using the Phoenix Ch. 42 technical facility described herein, including the proposed horizontal pattern. The vertical pattern used comports with the Commission's Report and Order in MB Docket No. 03-185, released on September 30, 2004.

The results indicate that the proposed Phoenix Ch. 42 facility is predicted to cause only *de minimus* interference to the digital television station. Specifically, interference is predicted to 3,117 persons served by KHRR-DT, but this figure is less than 0.5% of the 915,550 person population served by that station and is therefore considered to round to zero per Commission policy.

Hatfield & Dawson Consulting Engineers

Conclusion

Based on the foregoing allocation and interference studies, it is believed that the proposed KVPA-LP Ch. 42- facility can operate without risk of interference to other stations.

Note: See text for discussion of interference protection to K42AC Cottonwood. Also, overlap to K42AC is eliminated if that station implements offset operation.

K42AC Ch. 42N Cottonwood
74 dBu F(50,50)

KVPA-LP Ch. 42- Phoenix
46 dBu F(50,10)
29 dBu F(50,10)

App Ch. 42z Quartzsite
74 dBu F(50,50)

Arizona

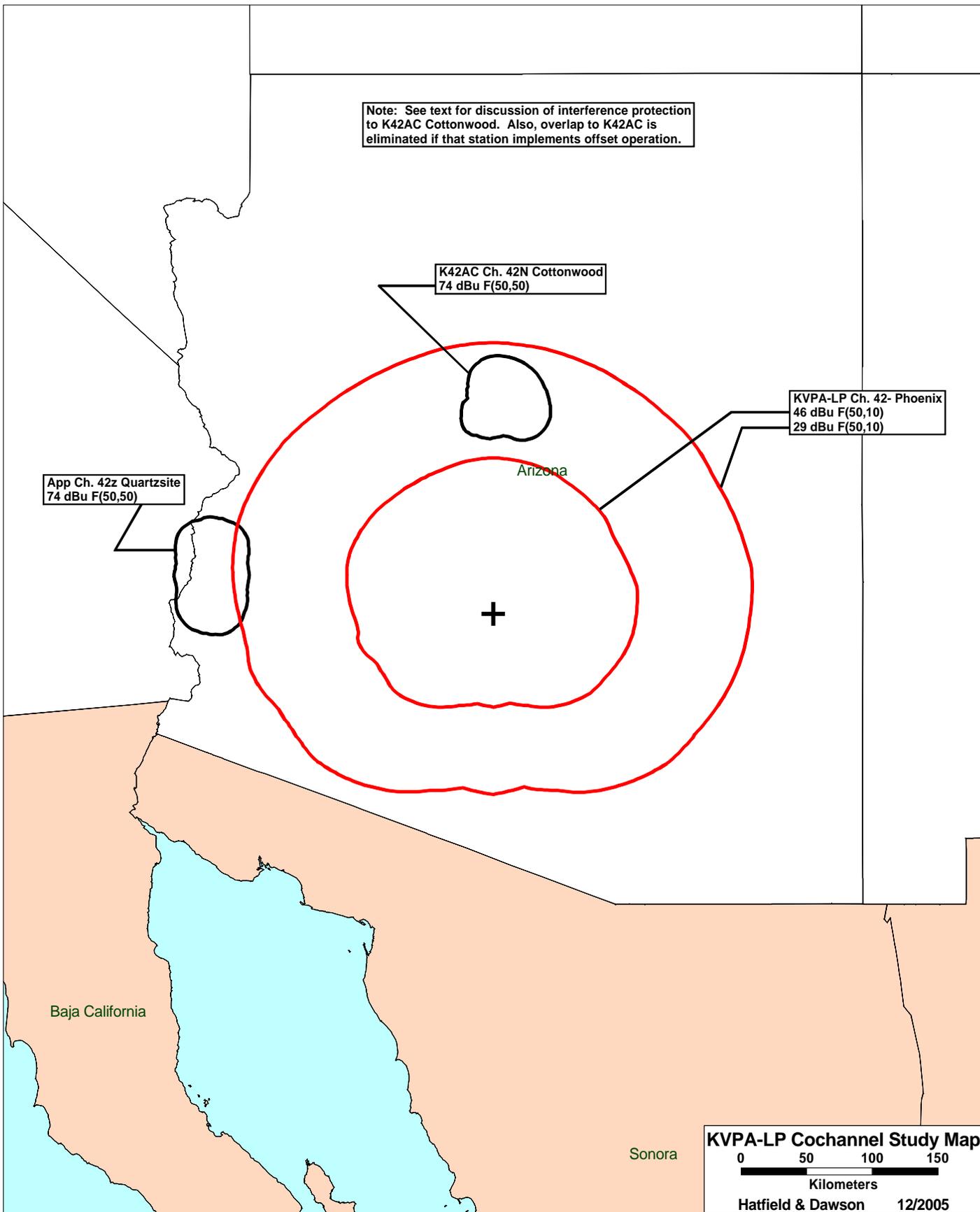
Baja California

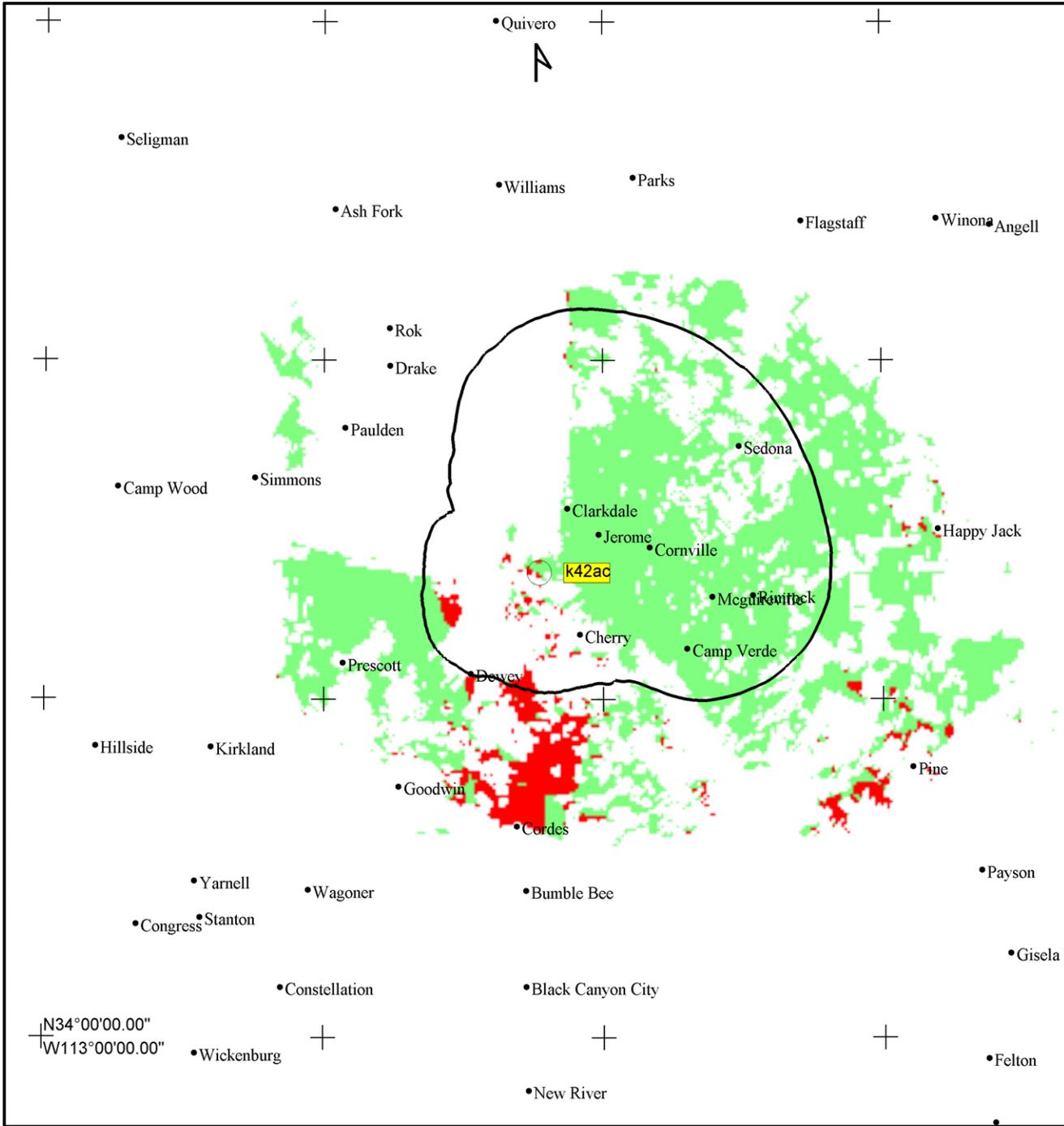
Sonora

KVPA-LP Cochannel Study Map



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SIGNAL™: K42FD South Mtn

Prop. model 1: Longley-Rice v1.2.2
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Prop. model 2: Longley-Rice v1.2.2
 Time: 10.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Sites

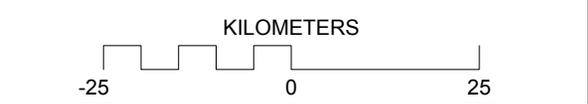
Site: k42ac (Primary Group)
 N34°41'12.00" W112°06'59.00" 2310.0 m
 k42ac Tx.Ht.AGL: 39.0 m Total ERPd: 13.30 dBkW
 Model: 1 directional-horizontal/45.0° 641.0000 MHz

Site: sth (Secondary Group)
 N33°20'03.00" W112°03'38.00" 801.0 m
 sth * Tx.Ht.AGL: 30.0 m Total ERPd: 13.98 dBkW
 Model: 2 directional-horizontal/0.0° 641.0000 MHz

C/I ratio Primary Group TXs to Second Group TXs

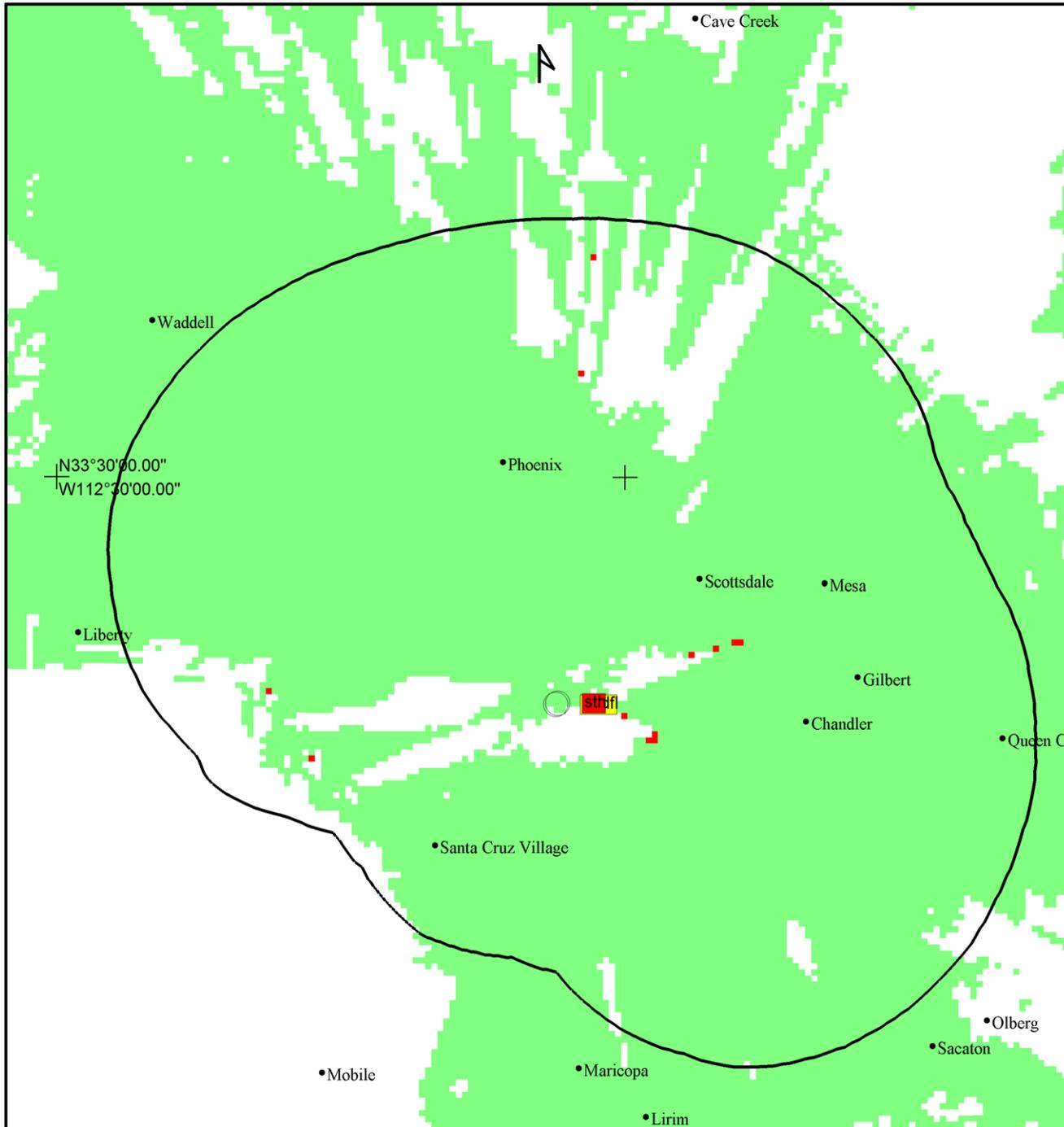
■ > 45.0 dB IntFree
■ < 45.0 dB Interference

Display threshold level: 74 dBu
 RX Antenna - Type: DA
 Height: 9.1 m AGL Gain: 0.00 dBd



KVPA-LP Into K42AC
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Exhibit Dec 2005



SIGNAL™: K42FD South Mtn

Prop. model 1: Longley-Rice v1.2.2
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Sites

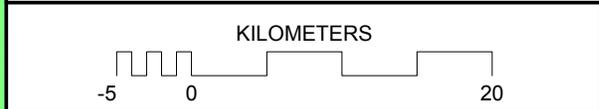
Site: kpdf (Primary Group)
 N33°20'00.00" W112°03'45.00" 755.1 m
 kpdf Tx.Ht.AGL: 73.9 m Total ERPd: 16.62 dBkW
 Model: 1 directional-horizontal/30.0° 635.0000 MHz

Site: sth (Secondary Group)
 N33°20'03.00" W112°03'38.00" 801.0 m
 sth * Tx.Ht.AGL: 30.0 m Total ERPd: 13.98 dBkW
 Model: 1 directional-horizontal/0.0° 641.0000 MHz

C/I ratio Primary Group TXs to Second Group TXs

■ > -15.0 dB IntFree
■ < -15.0 dB Interference

Display threshold level: 74 dBu
 RX Antenna - Type: DA
 Height: 9.1 m AGL Gain: 0.00 dBd



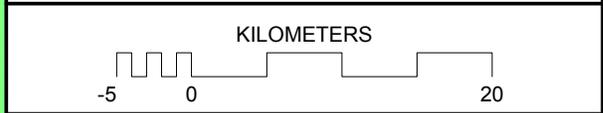
KVPA-LP Into KPDF-CA License
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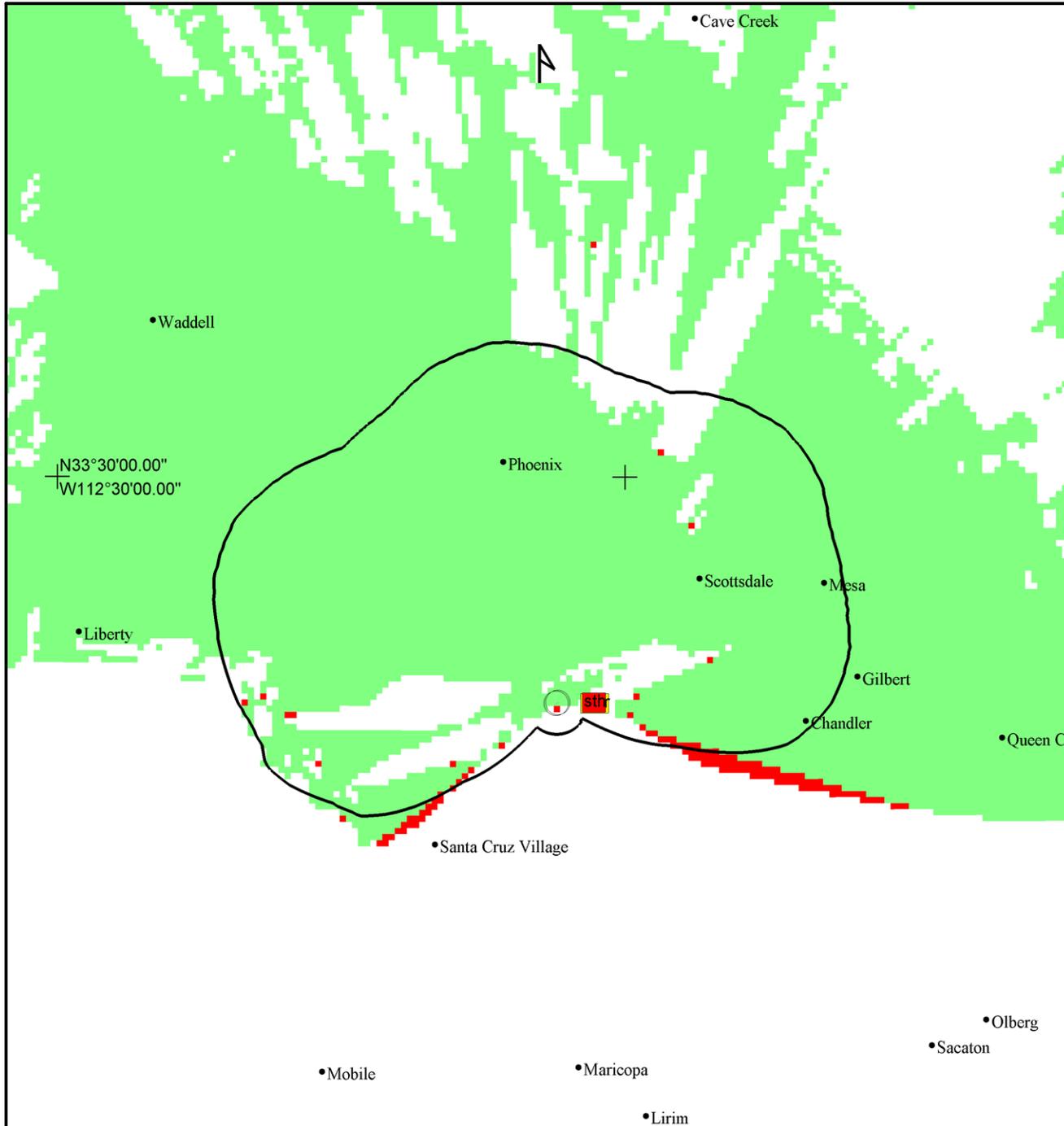
SIGNAL™: K42FD South Mtn
 Prop. model 1: Longley-Rice v1.2.2
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Sites
 Site: kpdfa (Primary Group)
 N33°20'03.00" W112°03'38.00" 736.8 m
 kpdfa Tx.Ht.AGL: 135.2 m Total ERPd: 17.10 dBkW
 Model: 1 directional-horizontal/0.0° 635.0000 MHz
 Site: sth (Secondary Group)
 N33°20'03.00" W112°03'38.00" 801.0 m
 sth * Tx.Ht.AGL: 30.0 m Total ERPd: 13.98 dBkW
 Model: 1 directional-horizontal/0.0° 641.0000 MHz

C/I ratio Primary Group TXs to Second Group TXs
 > -15.0 dB IntFree
 < -15.0 dB Interference
 Display threshold level: 74 dBu
 RX Antenna - Type: DA
 Height: 9.1 m AGL Gain: 0.00 dBd



KVPA-LP Into KPFD-CA App
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SIGNAL™: K42FD South Mtn

Prop. model 1: Longley-Rice v1.2.2
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Sites

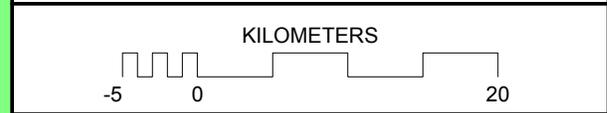
Site: kejr (Primary Group)
 N33°20'01.00" W112°03'44.00" 748.0 m
 kejr Tx.Ht.AGL: 82.0 m Total ERPd: 9.54 dBkW
 Model: 1 directional-horizontal/350.0° 647.0000 MHz

Site: sth (Secondary Group)
 N33°20'03.00" W112°03'38.00" 801.0 m
 sth * Tx.Ht.AGL: 30.0 m Total ERPd: 13.98 dBkW
 Model: 1 directional-horizontal/0.0° 641.0000 MHz

C/I ratio Primary Group TXs to Second Group TXs

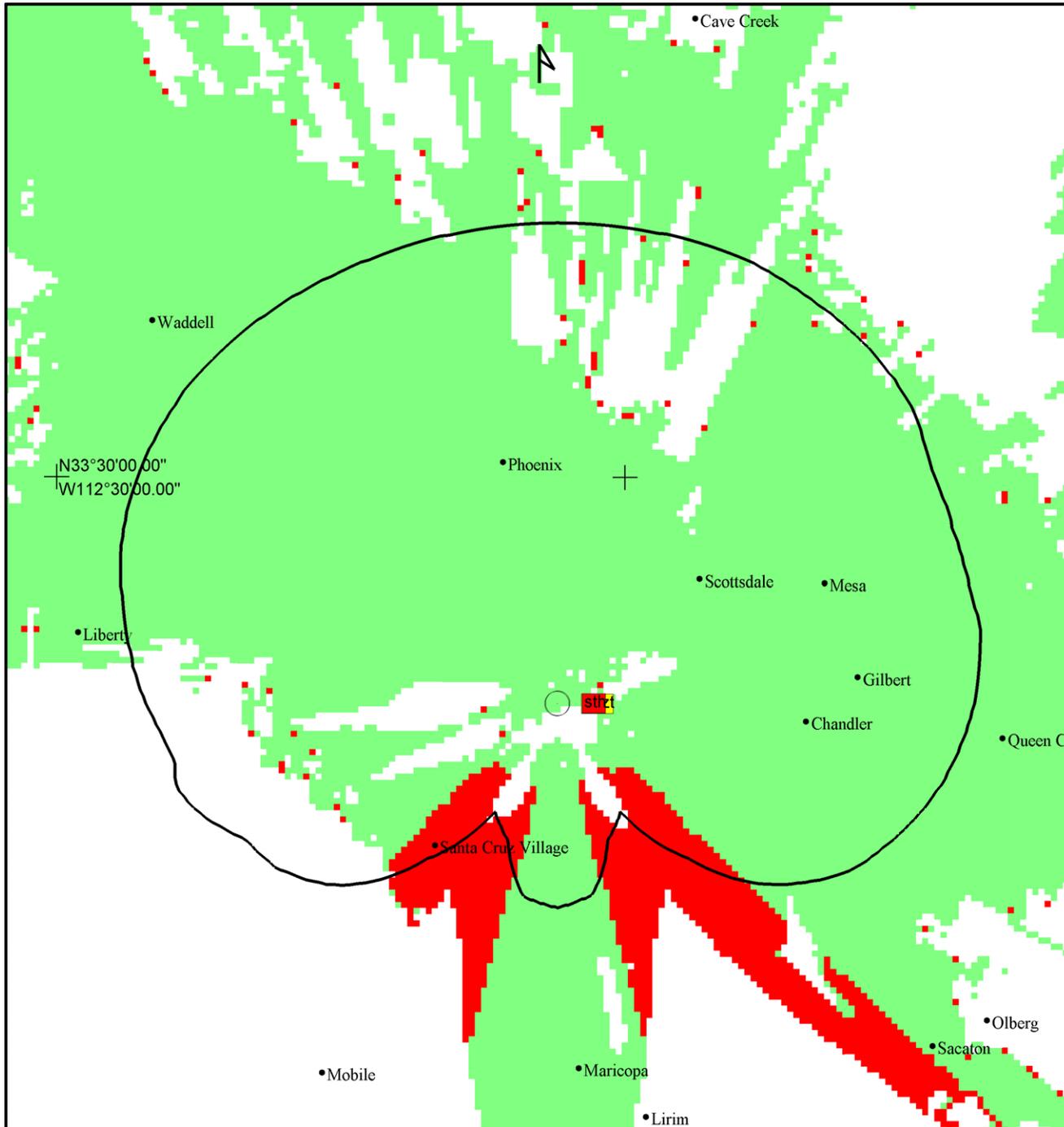
> -15.0 dB IntFree
 < -15.0 dB Interference

Display threshold level: 74 dBu
 RX Antenna - Type: DA
 Height: 9.1 m AGL Gain: 0.00 dBd



KVPA-LP Into KEJR-LP
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SIGNAL™: K42FD South Mtn

Prop. model 1: Longley-Rice v1.2.2
 Time: 50.0% Loc.: 50.0%
 Prediction Confidence Margin: 0.0dB
 Climate: Continental Temperate
 Land use (clutter): none
 Atmospheric Abs.: none
 K Factor: 1.333

Sites

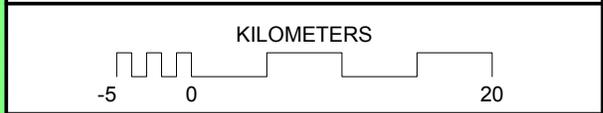
Site: kztz (Primary Group)
 N33°20'02.00" W112°03'41.00" 740.2 m
 kztz Tx.Ht.AGL: 113.8 m Total ERPd: 15.31 dBkW
 Model: 1 directional-horizontal/0.0° 551.0000 MHz

Site: stht (Secondary Group)
 N33°20'03.00" W112°03'38.00" 801.0 m
 stht * Tx.Ht.AGL: 30.0 m Total ERPd: 13.98 dBkW
 Model: 1 directional-horizontal/0.0° 641.0000 MHz

C/I ratio Primary Group TXs to Second Group TXs

■	> -6.0 dB	Int-Free
■	< -6.0 dB	Interference

Display threshold level: 74 dBu
 RX Antenna - Type: DA
 Height: 9.1 m AGL Gain: 0.00 dBd



KVPA-LP Into KAZT-CA
 Hatfield & Dawson

Exhibit Dec 2005

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 LPTV station 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 LPTV facility were calculated for an elevation of 2 meters above ground (28 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 0.1 at these angles, based on the manufacturer's vertical plane pattern for the horizontally-polarized SWR SWLP18 antenna (1 degree electrical beam tilt) proposed in this application. This relative field value yields a worst-case adjusted peak effective radiated power of 250 Watts at depression angles between 45 and 90 degrees below the horizontal. Assuming an average effective radiated power of 125 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 $5.3 \mu\text{W}/\text{cm}^2$, which is 1.2% of $426 \mu\text{W}/\text{cm}^2$ (the FCC maximum at the Channel 42 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 LPTV station 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.

December 12, 2005

Erik C. Swanson



SYSTEMS WITH RELIABILITY, Inc.
Broadcast Antenna & Transmission Systems

SYSTEM DATA SHEET

Customer	Latin America Broadcasting
Contact	Matt Varney
Location	Phoenix,AZ
Antenna Model	SWLP18WC/42
Channel / Frequency	42 641 MHz

ELECTRICAL SPECIFICATION

Polarization Type	Horizontal
Polarization Ratio	
H-Pol. (PRH)	100.0000 %
Elevation Directivity at Peak (ED)	19.540
Azimuth Directivity (AD) H-Pol.	1.586
Antenna Gain (GH)	
H-Pol. (GH)	30.994
dB Gain (AG)	
H-Pol (AGH)	14.913
ERP below Horizontal Plane	
H-Pol. (ERPH)	25.000 kW
Line Type	1 5/8" foam LDF7-50A
Attenuation per 100 ft.	0.572 dB/100ft
Line Length (LL)	120.00 ft.
Total Line Attenuation	0.69 dB
Line Efficiency (LE)	85.38 %
Line Loss (LPL)	0.14 kW
Antenna Input Power (AIP)	0.81 kW
Req'd. Transmitter Output Power	0.94 kW

MECHANICAL SPECIFICATION

No. Of Bays	18			
Antenna Aperture	25.67	ft.	7.83	m
Antenna Total Length	28.88	ft.	8.80	m
Height Above Ground Level (AGL)	98.40	ft.	30.00	m
Antenna Weight	198.00	lbs.	90.00	kg
Windload (50/33)	510.00	lbs.	231.82	kg

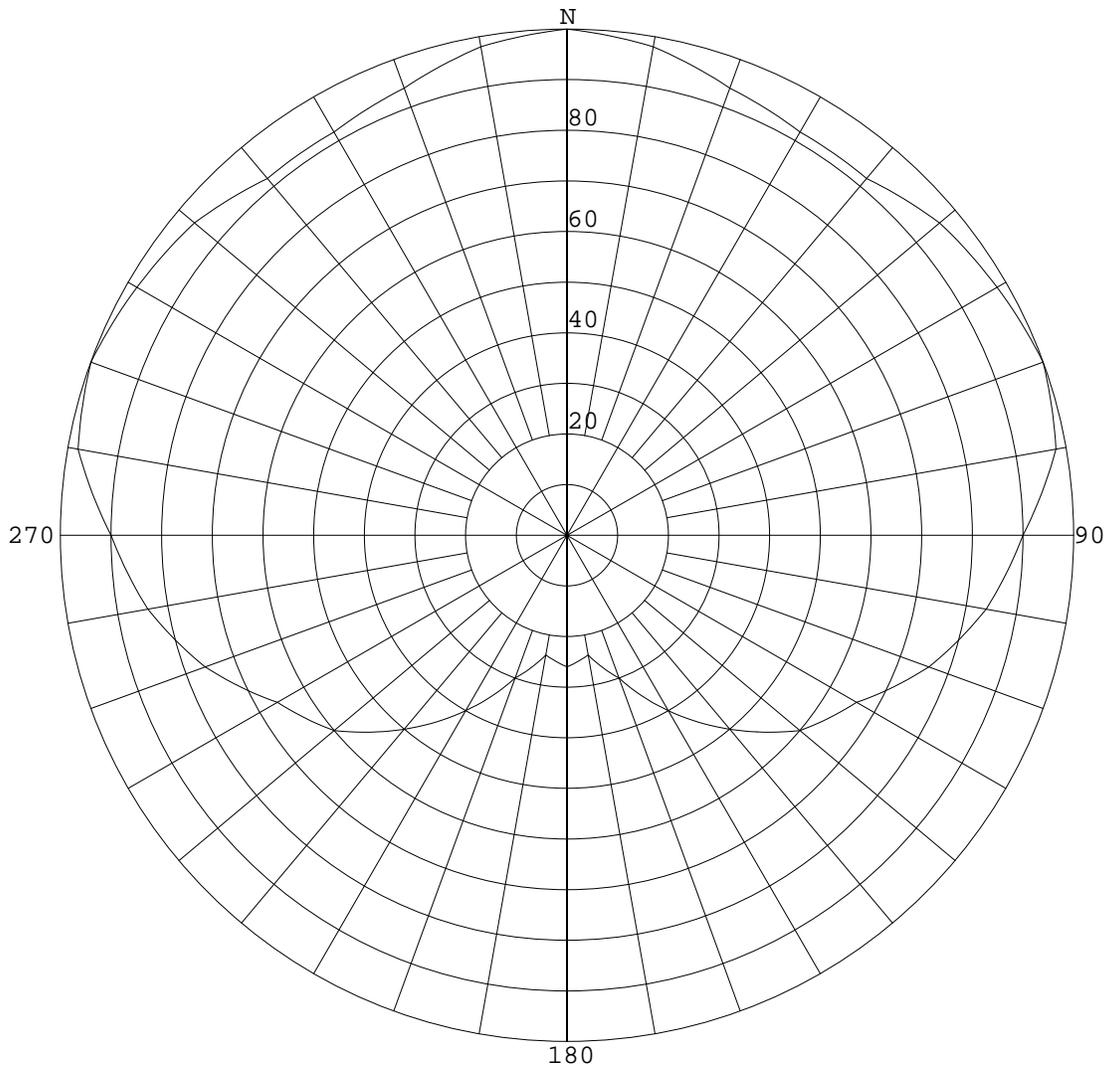
Beam Tilt (Total - 0.95 Degrees)

Mechanical Specifications will be certified upon final construction and testing.

Note: Given values can be used for planning system.

Prepared by: 

Jagannath G Shanbhag
Electrical Engineer
Department of Engineering
SWR, Inc



Azimuth Pattern

Scale: Linear

Systems With Reliability Inc. Unit: Relative Field

CLIENT: Latin America Broadcasting

Date: 12/9/2005

ANTENNA TYPE: SWLP18WC/42

FREQUENCY: 641

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY:1.58619 / 2.0dB

PATTERN RMS: 0.794

Relative Field Tabulation(Azimuth)

Azimuth Heading	Relative Field(dB)	Azimuth Heading	Relative Field(dB)
0	1.0000 (0.01)	180	.2600 (-11.67)
5	.9900 (-0.08)	185	.2500 (-12.01)
10	.9800 (-0.17)	190	.2400 (-12.36)
15	.9600 (-0.35)	195	.2700 (-11.34)
20	.9400 (-0.53)	200	.3000 (-10.43)
25	.9300 (-0.62)	205	.3500 (-9.09)
30	.9200 (-0.71)	210	.4000 (-7.94)
35	.9200 (-0.71)	215	.4500 (-6.92)
40	.9200 (-0.71)	220	.5000 (-6)
45	.9400 (-0.53)	225	.5500 (-5.18)
50	.9600 (-0.35)	230	.6000 (-4.42)
55	.9700 (-0.26)	235	.6300 (-4)
60	.9800 (-0.17)	240	.6600 (-3.6)
65	.9900 (-0.08)	245	.7100 (-2.96)
70	1.0000 (0.01)	250	.7600 (-2.37)
75	.9900 (-0.08)	255	.8000 (-1.93)
80	.9800 (-0.17)	260	.8400 (-1.5)
85	.9400 (-0.53)	265	.8700 (-1.2)
90	.9000 (-0.91)	270	.9000 (-0.91)
95	.8700 (-1.2)	275	.9400 (-0.53)
100	.8400 (-1.5)	280	.9800 (-0.17)
105	.8000 (-1.93)	285	.9900 (-0.08)
110	.7600 (-2.37)	290	1.0000 (0.01)
115	.7100 (-2.96)	295	.9900 (-0.08)
120	.6600 (-3.6)	300	.9800 (-0.17)
125	.6300 (-4)	305	.9700 (-0.26)
130	.6000 (-4.42)	310	.9600 (-0.35)
135	.5500 (-5.18)	315	.9400 (-0.53)
140	.5000 (-6)	320	.9200 (-0.71)
145	.4500 (-6.92)	325	.9200 (-0.71)
150	.4000 (-7.94)	330	.9200 (-0.71)
155	.3500 (-9.09)	335	.9300 (-0.62)
160	.3000 (-10.43)	340	.9400 (-0.53)
165	.2700 (-11.34)	345	.9600 (-0.35)
170	.2400 (-12.36)	350	.9800 (-0.17)
175	.2500 (-12.01)	355	.9900 (-0.08)

Systems With Reliability Inc.

CLIENT: Latin America Broadcasting

Date: 12/9/2005

ANTENNA TYPE: SWLP18WC/42

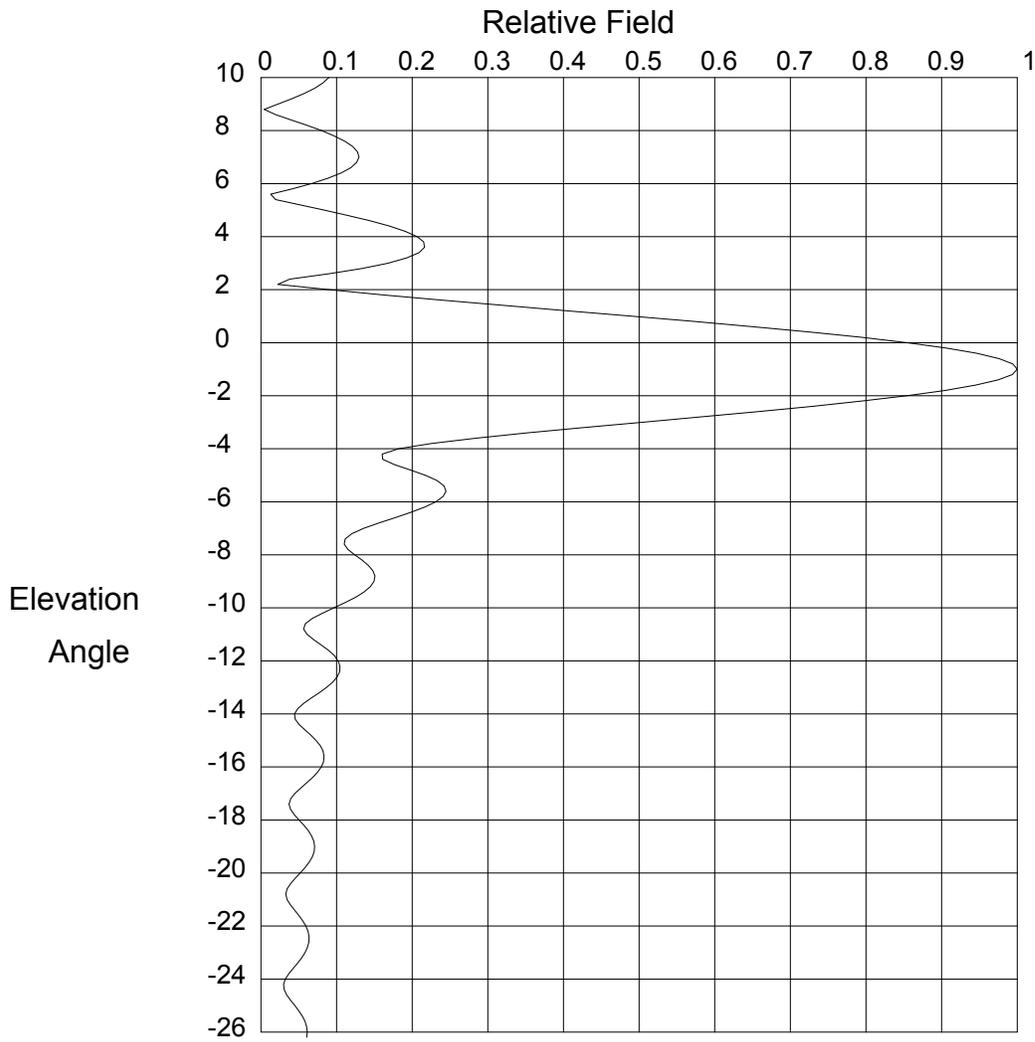
FREQUENCY: 641

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY:1.58619 / 2.0dB

PATTERN RMS: 0.794



Elevation Pattern

Scale: Linear

Units: Field, Relative

Systems With Reliability

CLIENT: *Latin America Broadcasting*
 ANTENNA TYPE: SWLP18WC/42
 FREQUENCY: 641
 PATTERN POL.: Horizontal
 DIRECTIVITY(Peak): 19.54/12.909 dBd
 DIRECTIVITY(Horiz): 14.287/11.549 dBd

Date: 12/9/2005

Beam Tilt (Deg.) : -95
 Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
90.0	.101 (-19.907)	52.0	.046 (-26.802)	14.0	.073 (-22.767)
89.0	.117 (-18.64)	51.0	.02 (-34.033)	13.0	.061 (-24.329)
88.0	.133 (-17.536)	50.0	.029 (-30.869)	12.0	.007 (-42.589)
87.0	.149 (-16.563)	49.0	.051 (-25.826)	11.0	.077 (-22.241)
86.0	.164 (-15.701)	48.0	.057 (-24.937)	10.0	.09 (-20.935)
85.0	.179 (-14.941)	47.0	.041 (-27.639)	9.8	.082 (-21.703)
84.0	.193 (-14.28)	46.0	.017 (-35.349)	9.6	.071 (-22.936)
83.0	.206 (-13.722)	45.0	.031 (-30.128)	9.4	.057 (-24.817)
82.0	.217 (-13.275)	44.0	.051 (-25.899)	9.2	.041 (-27.757)
81.0	.225 (-12.952)	43.0	.05 (-26.101)	9.0	.022 (-32.985)
80.0	.23 (-12.773)	42.0	.028 (-31.01)	8.8	.004 (-47.352)
79.0	.23 (-12.763)	41.0	.019 (-34.563)	8.6	.02 (-34.187)
78.0	.225 (-12.957)	40.0	.042 (-27.48)	8.4	.04 (-27.852)
77.0	.214 (-13.399)	39.0	.05 (-26.101)	8.2	.061 (-24.3)
76.0	.196 (-14.156)	38.0	.033 (-29.526)	8.0	.08 (-21.936)
75.0	.171 (-15.321)	37.0	.015 (-36.467)	7.8	.097 (-20.272)
74.0	.14 (-17.05)	36.0	.036 (-28.932)	7.6	.111 (-19.099)
73.0	.105 (-19.61)	35.0	.044 (-27.221)	7.4	.121 (-18.316)
72.0	.067 (-23.499)	34.0	.025 (-31.999)	7.2	.128 (-17.871)
71.0	.037 (-28.738)	33.0	.01 (-40.205)	7.0	.13 (-17.745)
70.0	.041 (-27.672)	32.0	.04 (-28.023)	6.8	.127 (-17.944)
69.0	.068 (-23.307)	31.0	.045 (-26.921)	6.6	.119 (-18.503)
68.0	.092 (-20.749)	30.0	.021 (-33.506)	6.4	.106 (-19.494)
67.0	.104 (-19.626)	29.0	.018 (-35.106)	6.2	.088 (-21.064)
66.0	.104 (-19.689)	28.0	.045 (-26.879)	6.0	.067 (-23.527)
65.0	.089 (-20.981)	27.0	.042 (-27.453)	5.8	.041 (-27.732)
64.0	.064 (-23.849)	26.0	.01 (-40.336)	5.6	.013 (-37.769)
63.0	.037 (-28.705)	25.0	.031 (-30.247)	5.4	.02 (-34.171)
62.0	.033 (-29.561)	24.0	.049 (-26.199)	5.2	.051 (-25.777)
61.0	.055 (-25.121)	23.0	.03 (-30.451)	5.0	.084 (-21.543)
60.0	.073 (-22.749)	22.0	.015 (-36.546)	4.8	.115 (-18.781)
59.0	.076 (-22.428)	21.0	.051 (-25.779)	4.6	.144 (-16.819)
58.0	.062 (-24.174)	20.0	.051 (-25.873)	4.4	.17 (-15.392)
57.0	.036 (-28.949)	19.0	.011 (-39.564)	4.2	.191 (-14.373)
56.0	.019 (-34.585)	18.0	.043 (-27.385)	4.0	.207 (-13.698)
55.0	.041 (-27.644)	17.0	.065 (-23.798)	3.8	.215 (-13.338)
54.0	.061 (-24.345)	16.0	.035 (-29.095)	3.6	.216 (-13.292)
53.0	.062 (-24.091)	15.0	.027 (-31.245)	3.4	.209 (-13.585)

Systems With Reliability

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CLIENT: *Latin America Broadcasting*

Date: 12/9/2005

ANTENNA TYPE: SWLP18WC/42

FREQUENCY: 641

PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 19.54/12.909 dBd

Beam Tilt (Deg.) : -95

DIRECTIVITY(Horiz): 14.287/11.549 dBd

Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
3.2	.193 (-14.277)	-4.4	.161 (-15.861)	-12.0	.102 (-19.808)
3.0	.168 (-15.489)	-4.6	.177 (-15.053)	-12.2	.105 (-19.603)
2.8	.134 (-17.478)	-4.8	.198 (-14.078)	-12.4	.104 (-19.642)
2.6	.09 (-20.896)	-5.0	.218 (-13.248)	-12.6	.101 (-19.921)
2.4	.038 (-28.387)	-5.2	.233 (-12.657)	-12.8	.095 (-20.443)
2.2	.023 (-32.952)	-5.4	.242 (-12.32)	-13.0	.087 (-21.214)
2.0	.09 (-20.936)	-5.6	.245 (-12.225)	-13.2	.077 (-22.238)
1.8	.163 (-15.74)	-5.8	.241 (-12.36)	-13.4	.067 (-23.502)
1.6	.242 (-12.335)	-6.0	.231 (-12.717)	-13.6	.057 (-24.925)
1.4	.323 (-9.804)	-6.2	.217 (-13.287)	-13.8	.049 (-26.266)
1.2	.407 (-7.806)	-6.4	.198 (-14.063)	-14.0	.044 (-27.044)
1.0	.491 (-6.179)	-6.6	.177 (-15.031)	-14.2	.045 (-26.858)
.8	.573 (-4.831)	-6.8	.156 (-16.149)	-14.4	.051 (-25.909)
.6	.653 (-3.707)	-7.0	.136 (-17.327)	-14.6	.058 (-24.714)
.4	.727 (-2.77)	-7.2	.12 (-18.381)	-14.8	.066 (-23.611)
.2	.795 (-1.993)	-7.4	.112 (-19.051)	-15.0	.073 (-22.726)
.0	.855 (-1.36)	-7.6	.11 (-19.153)	-15.2	.079 (-22.09)
-.2	.906 (-0.857)	-7.8	.115 (-18.76)	-15.4	.082 (-21.702)
-.4	.947 (-0.475)	-8.0	.124 (-18.124)	-15.6	.084 (-21.554)
-.6	.976 (-0.208)	-8.2	.134 (-17.473)	-15.8	.083 (-21.64)
-.8	.994 (-0.05)	-8.4	.142 (-16.94)	-16.0	.08 (-21.958)
-1.0	1.00 (0)	-8.6	.148 (-16.587)	-16.2	.075 (-22.513)
-1.2	.994 (-0.056)	-8.8	.151 (-16.437)	-16.4	.068 (-23.308)
-1.4	.975 (-0.219)	-9.0	.15 (-16.5)	-16.6	.061 (-24.343)
-1.6	.945 (-0.49)	-9.2	.145 (-16.784)	-16.8	.053 (-25.587)
-1.8	.904 (-0.872)	-9.4	.137 (-17.296)	-17.0	.045 (-26.927)
-2.0	.854 (-1.371)	-9.6	.125 (-18.048)	-17.2	.039 (-28.071)
-2.2	.795 (-1.994)	-9.8	.112 (-19.052)	-17.4	.037 (-28.554)
-2.4	.729 (-2.75)	-10.0	.096 (-20.312)	-17.6	.039 (-28.134)
-2.6	.657 (-3.651)	-10.2	.081 (-21.795)	-17.8	.044 (-27.112)
-2.8	.581 (-4.712)	-10.4	.068 (-23.356)	-18.0	.05 (-25.944)
-3.0	.504 (-5.952)	-10.6	.059 (-24.597)	-18.2	.057 (-24.894)
-3.2	.427 (-7.393)	-10.8	.057 (-24.947)	-18.4	.063 (-24.057)
-3.4	.353 (-9.054)	-11.0	.061 (-24.287)	-18.6	.067 (-23.457)
-3.6	.284 (-10.93)	-11.2	.07 (-23.128)	-18.8	.07 (-23.092)
-3.8	.225 (-12.94)	-11.4	.08 (-21.955)	-19.0	.071 (-22.956)
-4.0	.182 (-14.792)	-11.6	.089 (-20.982)	-19.2	.07 (-23.046)
-4.2	.16 (-15.899)	-11.8	.097 (-20.264)	-19.4	.068 (-23.359)

Systems With Reliability

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CLIENT: *Latin America Broadcasting*

Date: 12/9/2005

ANTENNA TYPE: SWLP18WC/42

FREQUENCY: 641

PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 19.54/12.909 dBd

Beam Tilt (Deg.) : -95

DIRECTIVITY(Horiz): 14.287/11.549 dBd

Null Fill(s)(%) : 15, 10, 5

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
-19.6	.064 (-23.9)	-27.2	.035 (-29.011)	-54.0	.01 (-39.95)
-19.8	.058 (-24.671)	-27.4	.027 (-31.318)	-55.0	.031 (-30.241)
-20.0	.052 (-25.67)	-27.6	.018 (-34.745)	-56.0	.05 (-26.102)
-20.2	.045 (-26.862)	-27.8	.009 (-40.81)	-57.0	.055 (-25.184)
-20.4	.039 (-28.131)	-28.0	.00 (-71.368)	-58.0	.046 (-26.733)
-20.6	.035 (-29.194)	-28.2	.009 (-40.627)	-59.0	.026 (-31.636)
-20.8	.033 (-29.62)	-28.4	.018 (-34.893)	-60.0	.013 (-37.753)
-21.0	.035 (-29.195)	-28.6	.026 (-31.684)	-61.0	.034 (-29.398)
-21.2	.039 (-28.193)	-28.8	.033 (-29.57)	-62.0	.054 (-25.333)
-21.4	.044 (-27.039)	-29.0	.039 (-28.1)	-63.0	.065 (-23.756)
-21.6	.05 (-25.985)	-29.2	.044 (-27.077)	-64.0	.064 (-23.828)
-21.8	.055 (-25.129)	-29.4	.048 (-26.399)	-65.0	.053 (-25.439)
-22.0	.06 (-24.499)	-29.6	.05 (-26.01)	-66.0	.036 (-28.939)
-22.2	.062 (-24.095)	-29.8	.051 (-25.882)	-67.0	.02 (-33.845)
-22.4	.064 (-23.911)	-30.0	.05 (-26.002)	-68.0	.028 (-31.073)
-22.6	.063 (-23.945)	-31.0	.028 (-31.184)	-69.0	.047 (-26.586)
-22.8	.062 (-24.195)	-32.0	.012 (-38.462)	-70.0	.063 (-24.006)
-23.0	.058 (-24.664)	-33.0	.043 (-27.395)	-71.0	.073 (-22.71)
-23.2	.054 (-25.357)	-34.0	.046 (-26.718)	-72.0	.076 (-22.336)
-23.4	.049 (-26.276)	-35.0	.021 (-33.462)	-73.0	.073 (-22.729)
-23.6	.043 (-27.4)	-36.0	.017 (-35.444)	-74.0	.064 (-23.856)
-23.8	.037 (-28.647)	-37.0	.046 (-26.824)	-75.0	.051 (-25.779)
-24.0	.032 (-29.793)	-38.0	.05 (-26.061)	-76.0	.037 (-28.623)
-24.2	.03 (-30.429)	-39.0	.028 (-31.006)	-77.0	.025 (-32.069)
-24.4	.031 (-30.218)	-40.0	.008 (-42.309)	-78.0	.022 (-32.957)
-24.6	.034 (-29.3)	-41.0	.037 (-28.569)	-79.0	.031 (-30.131)
-24.8	.039 (-28.105)	-42.0	.048 (-26.424)	-80.0	.043 (-27.363)
-25.0	.045 (-26.95)	-43.0	.035 (-29.199)	-81.0	.054 (-25.414)
-25.2	.05 (-25.971)	-44.0	.008 (-42.492)	-82.0	.062 (-24.121)
-25.4	.055 (-25.21)	-45.0	.027 (-31.391)	-83.0	.068 (-23.317)
-25.6	.058 (-24.671)	-46.0	.046 (-26.828)	-84.0	.072 (-22.894)
-25.8	.061 (-24.351)	-47.0	.044 (-27.034)	-85.0	.073 (-22.784)
-26.0	.061 (-24.247)	-48.0	.025 (-31.956)	-86.0	.071 (-22.947)
-26.2	.061 (-24.359)	-49.0	.01 (-40.168)	-87.0	.068 (-23.363)
-26.4	.058 (-24.699)	-50.0	.034 (-29.329)	-88.0	.063 (-24.027)
-26.6	.054 (-25.284)	-51.0	.049 (-26.224)	-89.0	.057 (-24.948)
-26.8	.049 (-26.15)	-52.0	.046 (-26.678)	-90.0	.049 (-26.155)
-27.0	.043 (-27.357)	-53.0	.028 (-30.911)	90.0	.00 (-50)

Systems With Reliability

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CLIENT: *Latin America Broadcasting*

Date: 12/9/2005

ANTENNA TYPE: SWLP18WC/42

FREQUENCY: 641

PATTERN POL.: Horizontal

DIRECTIVITY(Peak): 19.54/12.909 dBd

Beam Tilt (Deg.): -.95

DIRECTIVITY(Horiz): 14.287/11.549 dBd

Null Fill(s)(%): 15, 10, 5