



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION TO MODIFY
CONSTRUCTION PERMIT BPCDT-19991029ABW
KWBA-DT- SIERRA VISTA, ARIZONA
DTV - CH. 44 - 1000 kW - 319.0 M HAAT**

Prepared for: Tuscon Communications, L.L.C.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

GENERAL

This office has been authorized by Tuscon Communications, L.L.C., permittee of KWBA-DT, channel 44, Sierra Vista, Arizona, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of this application to modify its current authorization, construction permit BPCDT-19991029ABW, to substitute a SWR model SWCD24BFS/44D directional antenna, with a slightly different antenna azimuth pattern, for the Andrew antenna currently authorized.

PROPOSED DIRECTIONAL ANTENNA

It is proposed to install a new SWR model SWCD24BFS/44D directional antenna at a centerline height of 38.1 meters Above Ground Level (AGL) and 1827.1 meters Above Mean Sea Level (AMSL). The antenna centerline Height Above Average Terrain (HAAT)

is proposed to be 319.0 meters. The antenna manufacturer's horizontal plane azimuth radiation pattern is shown in exhibit 1, and tabulated in exhibit 2. The proposed directional antenna shall employ an electrical beam tilt of 0.70 degrees below the horizontal plane. The manufacturer's vertical plane elevation radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, is shown in Exhibit 3, and tabulated in Exhibit 4.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.684 of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the National Geophysical Data Center Thirty Second Point Database (TPG-0050) as prescribed in the FCC Rules. The predicted principal community (48 dBu) service contour completely encompasses Sierra Vista, Arizona, the principal community of license, shown in Exhibit 5, as required by Section 73.625(a) of the Commission's rules. The predicted 41 dBu noise limited service contour is also shown in Exhibit 5.

ALLOCATION CONSIDERATIONS

NTSC Allocation Considerations

An interference study was performed, using the Commission's application analysis program, tv_process, to ensure that the proposed DTV facility is in compliance with the

Commission's *de minimis* interference requirement contained in Section 73.623(c)(2) of the Commission's rules. The study showed that the DTV facility proposed herein is predicted to cause no increase in the interference population in excess of the Commission's *de minimis* criteria to any authorized NTSC television facility, or relevant pending application.

DTV Allocation Considerations

The same study was evaluated to determine if the modifications proposed herein are predicted to cause any level of new prohibited interference to other authorized DTV facilities, including other authorized DTV stations, DTV expansion construction permits, DTV allotments (including checklist CPs), or pending DTV applications. The study results indicate that the instant proposal is predicted to cause no unacceptable level of new interference to the populations served by any other relevant DTV facility, and thereby is in compliance with the *de minimis* interference criteria contained in Section 73.623(c)(2) of the Commission's Rules.

Class A Television Allocation Considerations

As required in Section 73.623(c)(5) of the FCC's Rules, a study of interference contour overlap was performed to establish compliance with the protection requirements specified therein. The study shows that there are no class A LPTV stations potentially affected by the instant proposal to modify the subject construction permit.

BLANKETING AND INTERMODULATION INTERFERENCE

A number of both broadcast and non-broadcast facilities are located within 15 km of KWBA-DT's transmitter and antenna broadcast site. The permittee recognizes its

responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

ENVIRONMENTAL CONSIDERATIONS

RADIO FREQUENCY IMPACT

Effective October 15, 1997, the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986), and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines provide a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared (mW/cm^2) when applied to broadcast

facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula, (frequency/1500). The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared (mW/cm^2) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, (frequency/300). The predicted emissions of KWBA-DT, channel 44, must be considered, along with the predicted emissions from other proposed and existing stations at, or very near, the current site. For KWBA-DT, which will operate on television Channel 44 (650-656 MHz), the MPE is 0.435 milliwatts per centimeter squared (mW/cm^2) in an "uncontrolled" environment and 2.175 mW/cm^2 in a "controlled" environment. The proposed KWBA-DT facility will operate with a maximum ERP of 1000 kW from a horizontally polarized directional transmitting antenna with a centerline height of 38.1 meters above ground level (AGL). Considering the relevant vertical plane relative field factor of 0.075, the KWBA-DT facility is predicted to produce a power density at two meters above ground level of 0.14497 mW/cm^2 , which is 33.32% of the FCC guideline value for "uncontrolled" environments, and 6.67% of the FCC guideline value for "controlled" environments (see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations to be located at the site, and those within relevant proximity, is only 96.17% of the limit for "uncontrolled" environments, and 19.23% of the limit for "controlled" environments.

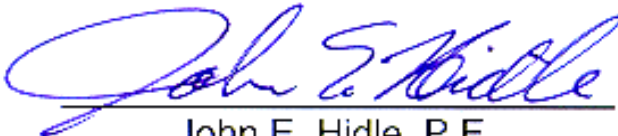
OCCUPATIONAL SAFETY

The permittee of KWBA-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the antenna. The permittee is committed to reducing power and/or ceasing operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

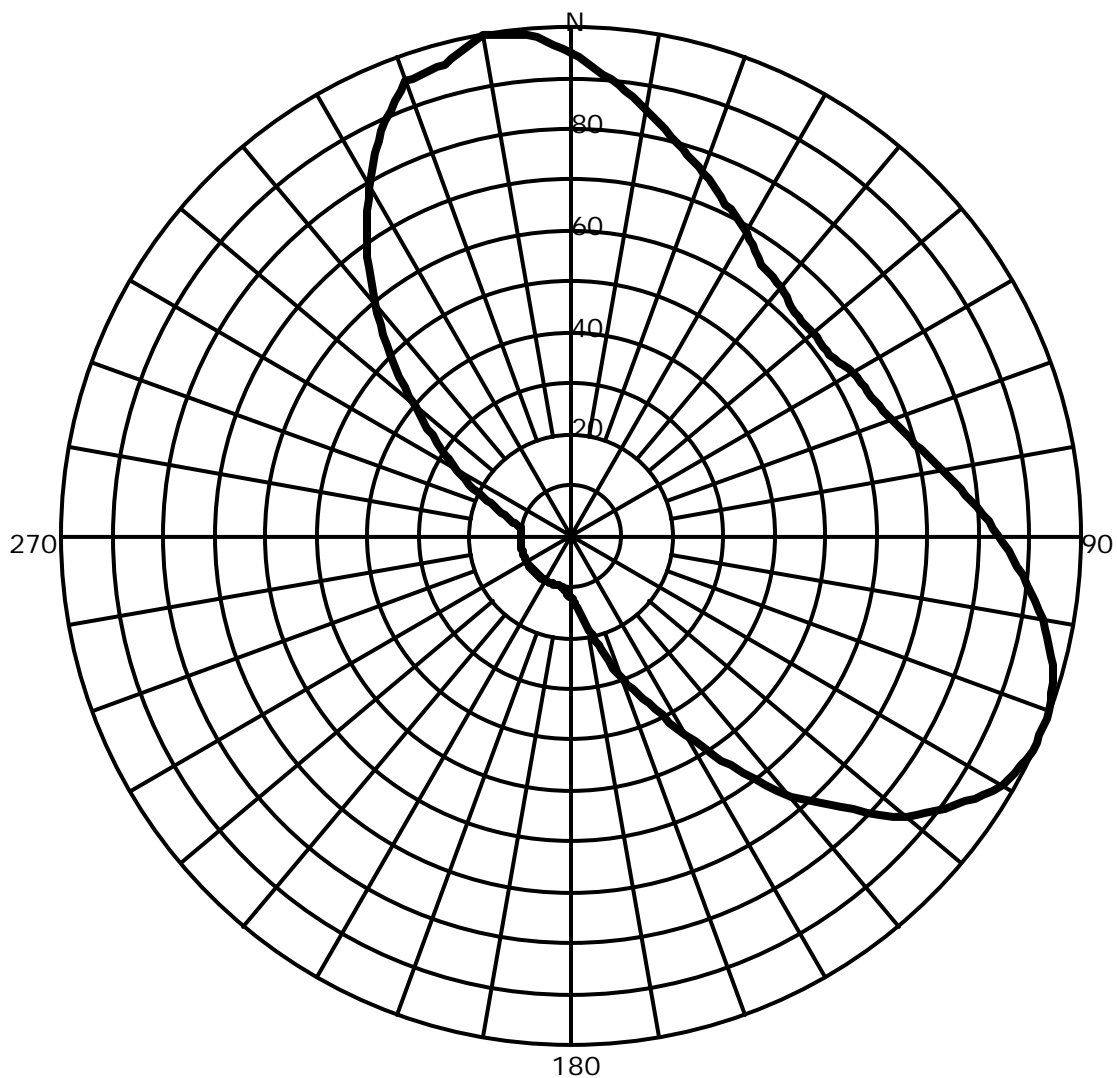
SUMMARY

It is submitted that the instant proposal to modify KWBA-DT's construction permit, BPCDT-19991029ABW, as described herein, complies with the Rules, Regulations and Policies of the Federal Communications Commission. This statement, FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: December 18, 2003


John E. Hidle, P.E.





Azimuth Pattern

Systems with Reliability

Scale: Linear

Unit: Relative Field

CLIENT: KWBA

EXHIBIT 1

Date: 11/5/02

ANTENNA TYPE: SWCD24BFS/44D

FREQUENCY: 653

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY: 2.748 / 4.39dB

PATTERN RMS: 0.603

Relative Field Tabulation(Azimuth)

Azimuth Heading	Relative Field(dB)	Azimuth Heading	Relative Field(dB)
0	.95 (-0.44)	180	.12 (-18.34)
5	.90 (-0.91)	185	.11 (-19.09)
10	.85 (-1.4)	190	.10 (-19.91)
15	.80 (-1.93)	195	.10 (-19.91)
20	.76 (-2.37)	200	.10 (-19.91)
25	.72 (-2.84)	205	.10 (-19.91)
30	.69 (-3.21)	210	.10 (-19.91)
35	.65 (-3.73)	215	.10 (-19.91)
40	.64 (-3.86)	220	.10 (-19.91)
45	.62 (-4.14)	225	.10 (-19.91)
50	.62 (-4.14)	230	.10 (-19.91)
55	.62 (-4.14)	235	.10 (-19.91)
60	.64 (-3.86)	240	.10 (-19.91)
65	.65 (-3.73)	245	.10 (-19.91)
70	.67 (-3.47)	250	.10 (-19.91)
75	.70 (-3.09)	255	.10 (-19.91)
80	.74 (-2.6)	260	.10 (-19.91)
85	.79 (-2.04)	265	.10 (-19.91)
90	.84 (-1.5)	270	.10 (-19.91)
95	.89 (-1)	275	.10 (-19.91)
100	.94 (-0.53)	280	.10 (-19.91)
105	.98 (-0.17)	285	.12 (-18.34)
110	1.00 (0.01)	290	.15 (-16.42)
115	1.00 (0.01)	295	.20 (-13.94)
120	.98 (-0.17)	300	.26 (-11.67)
125	.92 (-0.71)	305	.32 (-9.87)
130	.86 (-1.3)	310	.40 (-7.94)
135	.75 (-2.49)	315	.50 (-6)
140	.67 (-3.47)	320	.60 (-4.42)
145	.55 (-5.18)	325	.70 (-3.09)
150	.45 (-6.92)	330	.79 (-2.04)
155	.36 (-8.85)	335	.88 (-1.1)
160	.30 (-10.43)	340	.95 (-0.44)
165	.23 (-12.73)	345	.96 (-0.35)
170	.18 (-14.85)	350	1.00 (0.01)
175	.14 (-17.02)	355	.99 (-0.08)

Systems with Reliability

CLIENT: *KWBA*

EXHIBIT 2

Date: 11/5/02

ANTENNA TYPE: SWCD24BFS/44D

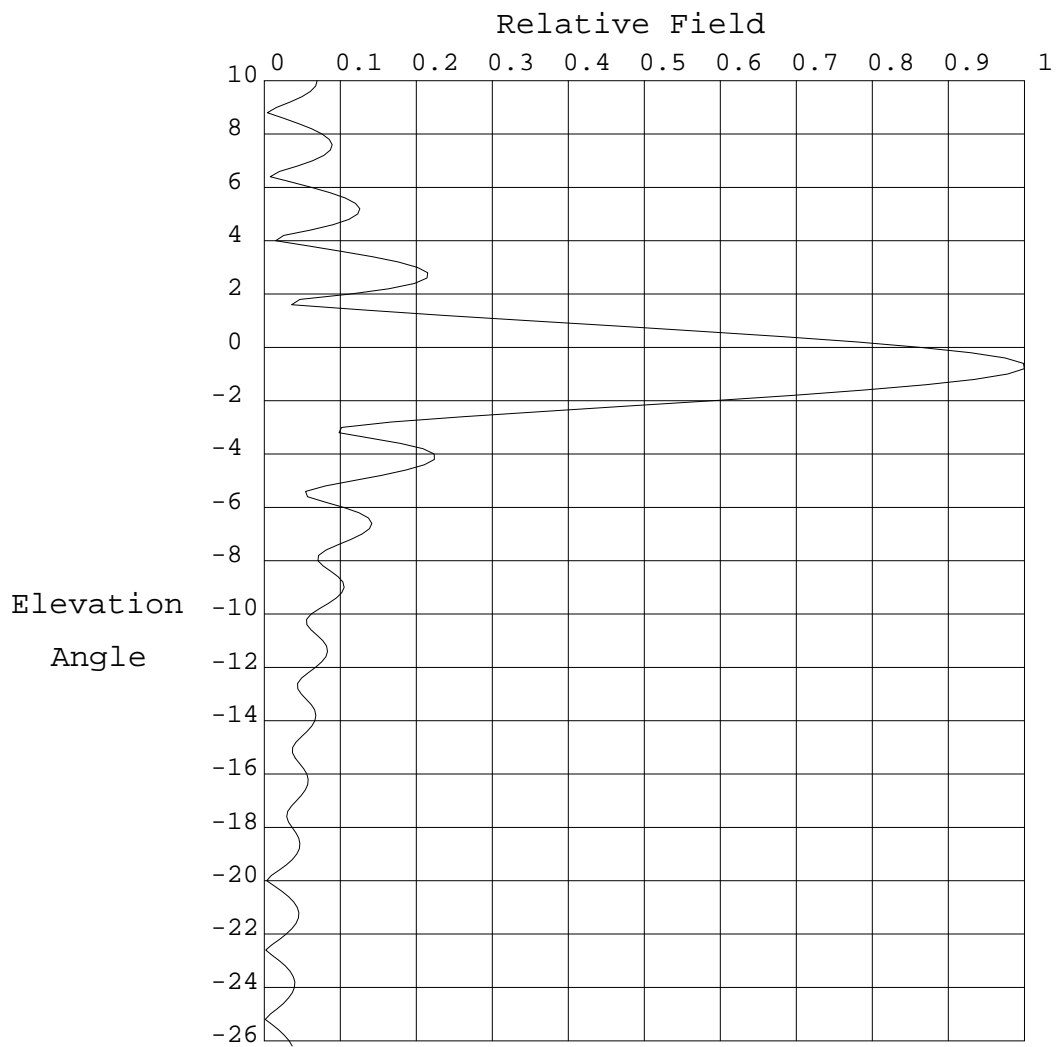
FREQUENCY: 653

PATTERN POL.: Horizontal

CIRCULARITY(+/-dB):

AZ. DIRECTIVITY: 2.748 / 4.39dB

PATTERN RMS: 0.603



Elevation Pattern

Scale: Linear

Systems With Reliability Inc.

Units: Field, Relative

CLIENT: KWBA

EXHIBIT 3

Date: 2/3/03

ANTENNA TYPE: SWCD24BFS/44D

FREQUENCY: 653

PATTERN POL.: Horizontal

DIRECTIVITY(Peak) 25.735/14.105 dBd

Beam Tilt (Deg.) :- .7

DIRECTIVITY(Horiz) 19.205/12.834 dBd

Null Fill(s)(%) 10, 5, 7

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)		Elev. Angle	Rel. Fld(dB)		Elev. Angle
3.2	.177 (-15.064)	-4.4	.211 (-13.522)	-12.0	.067 (-23.44)	
3.0	.202 (-13.908)	-4.6	.187 (-14.584)	-12.2	.058 (-24.747)	
2.8	.215 (-13.351)	-4.8	.154 (-16.251)	-12.4	.049 (-26.152)	
2.6	.214 (-13.381)	-5.0	.117 (-18.656)	-12.6	.044 (-27.134)	
2.4	.198 (-14.079)	-5.2	.08 (-21.939)	-12.8	.044 (-27.116)	
2.2	.164 (-15.686)	-5.4	.054 (-25.293)	-13.0	.049 (-26.227)	
2.0	.114 (-18.877)	-5.6	.057 (-24.893)	-13.2	.056 (-25.101)	
1.8	.047 (-26.587)	-5.8	.08 (-21.96)	-13.4	.062 (-24.163)	
1.6	.036 (-28.807)	-6.0	.105 (-19.604)	-13.6	.066 (-23.565)	
1.4	.131 (-17.632)	-6.2	.125 (-18.094)	-13.8	.068 (-23.344)	
1.2	.237 (-12.513)	-6.4	.137 (-17.26)	-14.0	.067 (-23.507)	
1.0	.349 (-9.147)	-6.6	.142 (-16.976)	-14.2	.063 (-24.05)	
.8	.464 (-6.678)	-6.8	.139 (-17.17)	-14.4	.056 (-24.964)	
.6	.577 (-4.782)	-7.0	.129 (-17.804)	-14.6	.049 (-26.195)	
.4	.684 (-3.301)	-7.2	.114 (-18.852)	-14.8	.042 (-27.548)	
.2	.781 (-2.149)	-7.4	.097 (-20.25)	-15.0	.037 (-28.552)	
.0	.864 (-1.271)	-7.6	.081 (-21.786)	-15.2	.037 (-28.623)	
-.2	.93 (-0.635)	-7.8	.071 (-22.925)	-15.4	.041 (-27.798)	
-.4	.975 (-0.218)	-8.0	.071 (-23.027)	-15.6	.046 (-26.671)	
-.6	.999 (-0.008)	-8.2	.078 (-22.199)	-15.8	.052 (-25.692)	
-.8	1.00 (0)	-8.4	.088 (-21.119)	-16.0	.056 (-25.037)	
-1.0	.978 (-0.192)	-8.6	.097 (-20.236)	-16.2	.058 (-24.753)	
-1.2	.934 (-0.589)	-8.8	.103 (-19.708)	-16.4	.057 (-24.852)	
-1.4	.871 (-1.203)	-9.0	.105 (-19.57)	-16.6	.054 (-25.338)	
-1.6	.79 (-2.051)	-9.2	.102 (-19.824)	-16.8	.049 (-26.211)	
-1.8	.695 (-3.164)	-9.4	.095 (-20.466)	-17.0	.042 (-27.446)	
-2.0	.59 (-4.586)	-9.6	.084 (-21.479)	-17.2	.036 (-28.911)	
-2.2	.479 (-6.386)	-9.8	.073 (-22.79)	-17.4	.031 (-30.193)	
-2.4	.368 (-8.678)	-10.0	.062 (-24.166)	-17.6	.03 (-30.59)	
-2.6	.262 (-11.643)	-10.2	.056 (-25.083)	-17.8	.032 (-29.885)	
-2.8	.167 (-15.527)	-10.4	.056 (-25.025)	-18.0	.037 (-28.698)	
-3.0	.102 (-19.84)	-10.6	.062 (-24.166)	-18.2	.042 (-27.616)	
-3.2	.098 (-20.132)	-10.8	.07 (-23.111)	-18.4	.045 (-26.882)	
-3.4	.138 (-17.175)	-11.0	.077 (-22.252)	-18.6	.047 (-26.569)	
-3.6	.18 (-14.916)	-11.2	.082 (-21.732)	-18.8	.046 (-26.71)	
-3.8	.209 (-13.598)	-11.4	.083 (-21.587)	-19.0	.043 (-27.352)	
-4.0	.224 (-13.004)	-11.6	.081 (-21.824)	-19.2	.037 (-28.593)	
-4.2	.224 (-12.997)	-11.8	.075 (-22.446)	-19.4	.029 (-30.648)	

Systems With Reliability Inc.

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CLIENT: KWBA

EXHIBIT 4 - Page 1

Date: 2/3/03

ANTENNA TYPE: SWCD24BFS/44D

FREQUENCY: 653

PATTERN POL.: Horizontal

DIRECTIVITY(Peak) 25.735/14.105 dBd

Beam Tilt (Deg.) :- .7

DIRECTIVITY(Horiz) 19.205/12.834 dBd

Null Fill(s)(%) 10, 5, 7

Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
-19.6	.02 (-34.038)	-27.2	.026 (-31.603)	-54.0	.037 (-28.656)
-19.8	.009 (-40.54)	-27.4	.019 (-34.432)	-55.0	.056 (-24.985)
-20.0	.003 (-49.629)	-27.6	.011 (-39.398)	-56.0	.046 (-26.705)
-20.2	.013 (-37.51)	-27.8	.002 (-54.141)	-57.0	.013 (-37.894)
-20.4	.023 (-32.625)	-28.0	.007 (-43.29)	-58.0	.031 (-30.117)
-20.6	.032 (-29.872)	-28.2	.015 (-36.375)	-59.0	.061 (-24.248)
-20.8	.039 (-28.195)	-28.4	.023 (-32.912)	-60.0	.068 (-23.403)
-21.0	.043 (-27.233)	-28.6	.029 (-30.822)	-61.0	.048 (-26.286)
-21.2	.046 (-26.835)	-28.8	.033 (-29.547)	-62.0	.016 (-35.669)
-21.4	.045 (-26.945)	-29.0	.036 (-28.864)	-63.0	.034 (-29.45)
-21.6	.042 (-27.57)	-29.2	.037 (-28.679)	-64.0	.062 (-24.106)
-21.8	.036 (-28.781)	-29.4	.036 (-28.966)	-65.0	.072 (-22.795)
-22.0	.029 (-30.763)	-29.6	.033 (-29.753)	-66.0	.061 (-24.288)
-22.2	.02 (-33.966)	-29.8	.028 (-31.137)	-67.0	.032 (-29.918)
-22.4	.01 (-39.848)	-30.0	.022 (-33.347)	-68.0	.009 (-40.827)
-22.6	.002 (-54.036)	-31.0	.018 (-34.887)	-69.0	.048 (-26.445)
-22.8	.011 (-39.436)	-32.0	.036 (-28.772)	-70.0	.08 (-21.962)
-23.0	.02 (-34.009)	-33.0	.014 (-37.185)	-71.0	.099 (-20.06)
-23.2	.028 (-31.077)	-34.0	.023 (-32.592)	-72.0	.104 (-19.635)
-23.4	.034 (-29.321)	-35.0	.035 (-29.22)	-73.0	.096 (-20.335)
-23.6	.038 (-28.32)	-36.0	.008 (-41.419)	-74.0	.08 (-21.967)
-23.8	.04 (-27.906)	-37.0	.027 (-31.442)	-75.0	.063 (-23.947)
-24.0	.04 (-28.013)	-38.0	.035 (-29.107)	-76.0	.06 (-24.38)
-24.2	.037 (-28.65)	-39.0	.009 (-41.147)	-77.0	.075 (-22.504)
-24.4	.032 (-29.892)	-40.0	.026 (-31.826)	-78.0	.097 (-20.242)
-24.6	.025 (-31.942)	-41.0	.035 (-29.123)	-79.0	.119 (-18.483)
-24.8	.017 (-35.311)	-42.0	.011 (-39.018)	-80.0	.137 (-17.274)
-25.0	.008 (-41.822)	-43.0	.026 (-31.729)	-81.0	.149 (-16.516)
-25.2	.001 (-57.416)	-44.0	.041 (-27.705)	-82.0	.156 (-16.117)
-25.4	.011 (-39.462)	-45.0	.022 (-33.023)	-83.0	.158 (-16.006)
-25.6	.019 (-34.301)	-46.0	.016 (-35.773)	-84.0	.156 (-16.134)
-25.8	.027 (-31.448)	-47.0	.045 (-27.018)	-85.0	.15 (-16.466)
-26.0	.033 (-29.705)	-48.0	.041 (-27.684)	-86.0	.142 (-16.979)
-26.2	.037 (-28.683)	-49.0	.009 (-41.02)	-87.0	.131 (-17.661)
-26.4	.039 (-28.218)	-50.0	.031 (-30.086)	-88.0	.119 (-18.513)
-26.6	.039 (-28.246)	-51.0	.051 (-25.786)	-89.0	.105 (-19.546)
-26.8	.036 (-28.766)	-52.0	.039 (-28.072)	-90.0	.091 (-20.79)
-27.0	.032 (-29.835)	-53.0	.007 (-43.555)	90.0	.00 (-50)

Systems With Reliability Inc.

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CLIENT: KWBA

EXHIBIT 4 - Page 2

Date: 2/3/03

ANTENNA TYPE: SWCD24BFS/44D

FREQUENCY: 653

PATTERN POL.: Horizontal

DIRECTIVITY(Peak) 25.735/14.105 dBd

Beam Tilt (Deg.) :- .7

DIRECTIVITY(Horiz) 19.205/12.834 dBd

Null Fill(s)(%) 10, 5, 7



PREDICTED COVERAGE CONTOURS

KWBA-DT, SIERRA VISTA, ARIZONA
Ch. 44 - 1000 kW (DA-MAX) - 319.0 m HAAT

KWBA-DT - 48 dBu F(50,90)
PREDICTED
PRINCIPAL COMMUNITY CONTOUR

KWBA-DT - 41 dBu F(50,90)
PREDICTED
NOISE LIMITED CONTOUR

DECEMBER, 2003

CARL T. JONES
CORPORATION

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
KWBA-DT, SIERRA VISTA, ARIZONA
CHANNEL 44, 1000 kW ERP, 319.0 m HAAT
DECEMBER, 2003

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KWBA(TV)	TV	58	737	H	52	5000.000	0.100	0.30889	0.491	62.87%
KWBA-DT	DT	44	653	H	36	1000.000	0.075	0.14497	0.435	33.30%

TOTAL PERCENTAGE OF ANSI VALUE= 96.17%

*** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.*