

## W295DB MINOR SITE CHANGE APPLICATION

This application is being filed to request a very minor site change for the W295DB translator. The translator construction permit site is on the WHYM-AM #4 directional pattern tower, ASR #1247091. This application is requesting a move to the #1 WHYM tower, ASR #1247089. The move is only a distance of 120 meters, on a bearing of 284.9 degrees.

A second proposed change is using a SWR FM1R/6-HWS antenna. The construction permit lists a SWR FM1R/5-HWS/5-HWS antenna. The six bay antenna is being requested to provide better compliance with protecting second adjacent channel station WTOD. The six bay antenna will allow the W285DB to increase its radiated power to a full 250 watts. The strongest 103.9 dBu F(50-10) contour radiated from the six bay antenna, at 250 watts, will extend out to a distance of 150 meters, at a downward angle of 28.8 degrees. The contour will not reach the ground. The 103.9 dBu level will be reached 4.5 meters or 14.7 feet above ground level. A circle drawn around the proposed new tower site shows the maximum contour level going over one home and one barn. People living in the home or working in the barn should have no problem listening to WTOD.

The proposed site, antenna and power change will still be in compliance with the Commission's regulations, including the Part 74.1203 protection of WTOD.



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*Wichita, KS 67205-1647*  
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FM Study for: W295DB

FCC Database Date: 2/11/2021

41-31-58

Location: BOWLING GREEN, OH

Channel Class: D

83-34-00

[\*] by HAAT indicates calculated as missing in database.

Call City, State

Chan Class Freq kW

Latitude Dist.

Required

Status Proponent

File Number HAAT

Longitude Azm.

Clear (km)

&gt;&gt;&gt;&gt;&gt;&gt;&gt; Study For Channel 295 106.9 mHz &lt;&lt;&lt;&lt;&lt;&lt;&lt;

W295DB	BOWLING GREEN, OH	295 D	106.9	.17	41-31-56	0.3	44	
CP	Fac. No. 201314	BNPFT-20171220ABX	81		83-33-49	103.5	-43.7	SHORT
WTOD	DELTA, OH	293 A	106.5	4.8 +	41-30-49	23.7	29	73.215
LIC	Fac. No. 67275	BLH-20030325ADT	112		83-51-00	265.0	-5.3	SHORT
WJUC	SWANTON, OH	297 A	107.3	3	41-38-30	30.38	29	
LIC	Fac. No. 71442	BLH-19970314KA	100		83-54-03	293.6	+1.38	CLOSE
WLLZ	DETROIT, MI	294 B	106.7	61	42-19-55	98.7	92	
LIC	Fac. No. 59952	BMLH-19890804KA	155		83-02-42	25.8	+6.7	CLOSE
WGPR	DETROIT, MI	298 B	107.5	50	42-21-28	100.6	67	
LIC	Fac. No. 70512	BLH-20040422ABP	124		83-03-55	24.2	+33.6	CLEAR
WSAE	SPRING ARBOR, MI	295 A	106.9	3.9	42-09-13	106.9	73	73.215
LIC	Fac. No. 61994	BMLH-20141105ACS	102		84-32-58	310.5	+33.9	CLEAR
WQKL	ANN ARBOR, MI	296 A	107.1	3	42-16-41	84.0	47	
LIC	Fac. No. 47117	BLH-19911119KA	88		83-44-32	350.1	+37.0	CLEAR

Larry P. Waggoner

02-18-2021

Project: W295DB

Site Coordinates: 41-31-58 North 83-34-00 West

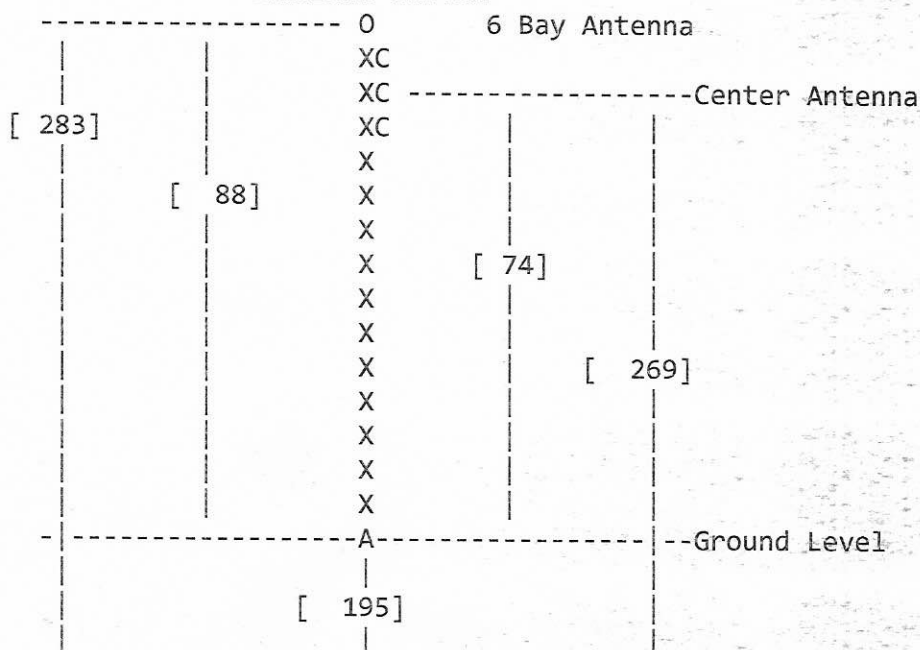
NGDC 30-Second Database is used in Continental US

DEM-30 Database is used in AK, HI, and PR.

Azimuth	Elevation	HAAT	60 dBu
0	182	87	12.1 km
30	183	86	12.0 km
60	183	86	12.0 km
90	183	86	12.0 km
120	190	79	11.5 km
150	193	76	11.3 km
180	195	74	11.2 km
210	196	73	11.1 km
240	194	75	11.2 km
270	185	84	11.9 km
300	183	86	12.0 km
330	183	86	12.0 km

Data in (feet) meters  
Overall Height Above Average Terrain: ( 269) 82 \*  
Site Elevation AMSL: ( 641) 195  
Antenna Height Above Ground Level: ( 242) 74  
Antenna Center Above Sea Level: ( 883) 269  
Overall Ground Average Terrain AMSL: ( 614) 187  
Effective Radiated Power: 0.2500 kW \*  
TV/FM Channel: 295

VERTICAL SKETCH





# Minor Site Change for W295DB

## Legend

Feature 1

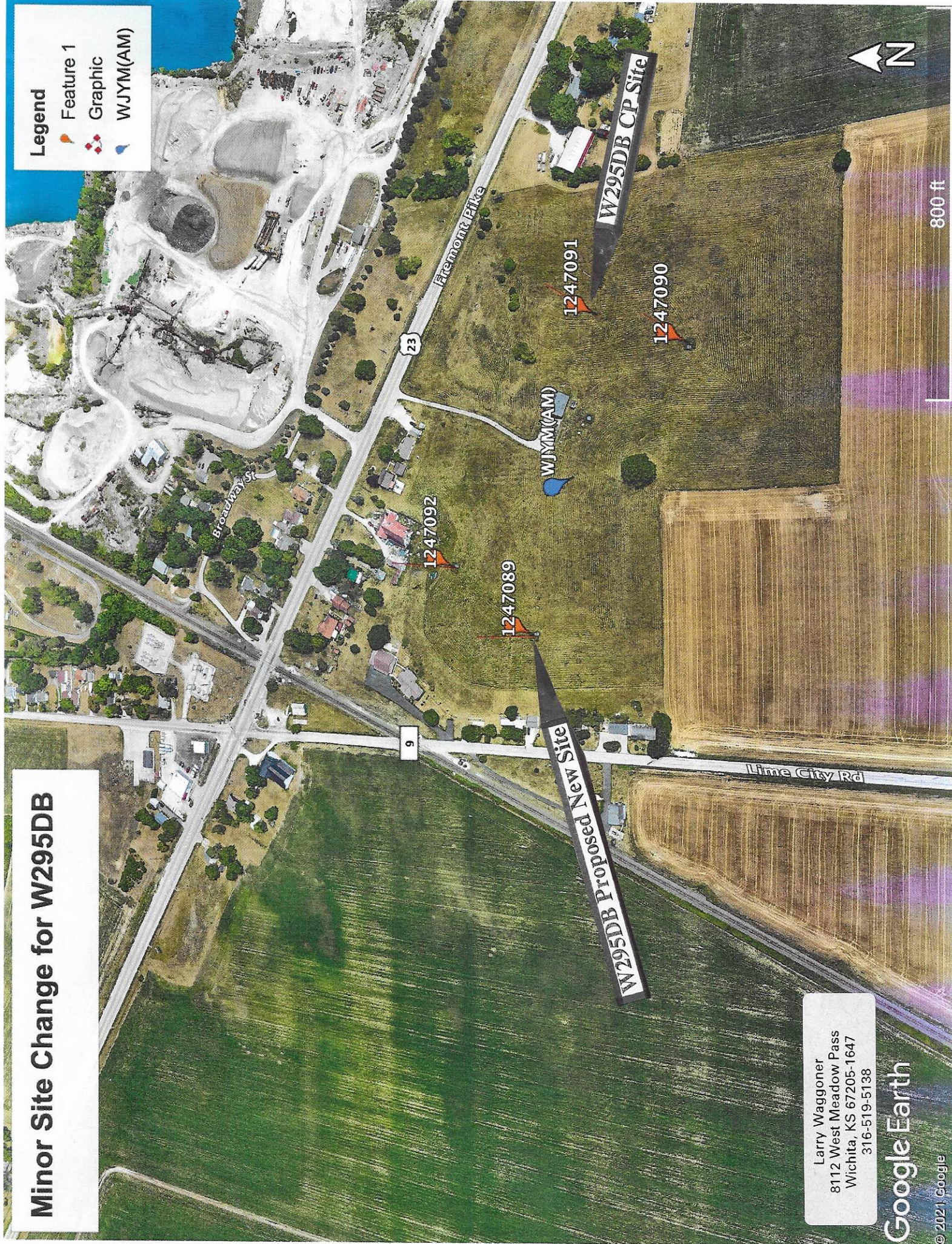
Graphic

WJYM(AM)

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Google Earth

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**SYSTEMS WITH RELIABILITY, LP****Broadcast Antenna & Transmission Systems**

# SYSTEM DATA SHEET

Customer	WJYM-AM
Contact	Tyson Evans
Location	Bowling Green, OH (Perrysburg)
Antenna Model	FM1R/6-HWS
Channel / Frequency	106.9 MHz

## ELECTRICAL SPECIFICATION

Polarization Type	Circular		
Polarization Ratio			
H-Pol. (PRH)	50.000	%	
V-Pol. (PRV)	50.000	%	
Elevation Directivity (ED)	3.847		
Azimuth Directivity (AD) H-Pol.	1.000		
Azimuth Directivity (AD) V-Pol.	1.000		
Antenna Efficiency	100.000	%	
Antenna Gain (GH)			
H-Pol. (GH)	1.924		
V-Pol. (GV)	1.924		
dB Gain (AG)			
H-Pol. (AGH)	2.841		
V-Pol. (AGV)	2.841		
ERP			
H-Pol. (ERPH)	0.250	kW	
V-Pol. (ERPV)	0.250	kW	
Line Type	1/2" Foam	LCF12-50J	
Attenuation per 100 ft.	0.680	dB/100ft	
Line Length (LL) AGL + Horizontal Run	265.00	ft.	
Total Line Attenuation	1.80	dB	
Line Efficiency (LE)	66.04	%	
Line Loss (LPL)	0.067	kW	
Antenna Input Power (AIP)	0.130	kW	
Req'd. Transmitter Output Power	0.197	kW	

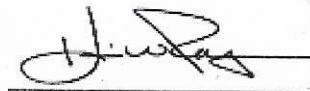
## MECHANICAL SPECIFICATION

No. Of Bays	6			
Antenna Aperture	23.00	ft.	7.01	m
Antenna Total Length	25.00	ft.	7.62	m
Center of Radiation AGL	259.20	ft.	79.00	m
Antenna Weight (W/O Brackets)	161.20	lbs.	73.27	kg
Windload (50/33) / CaAc	402.50	lbs. 50/33PSF	11.50	ft^2

Mechanical Specifications will be certified upon final construction and testing.

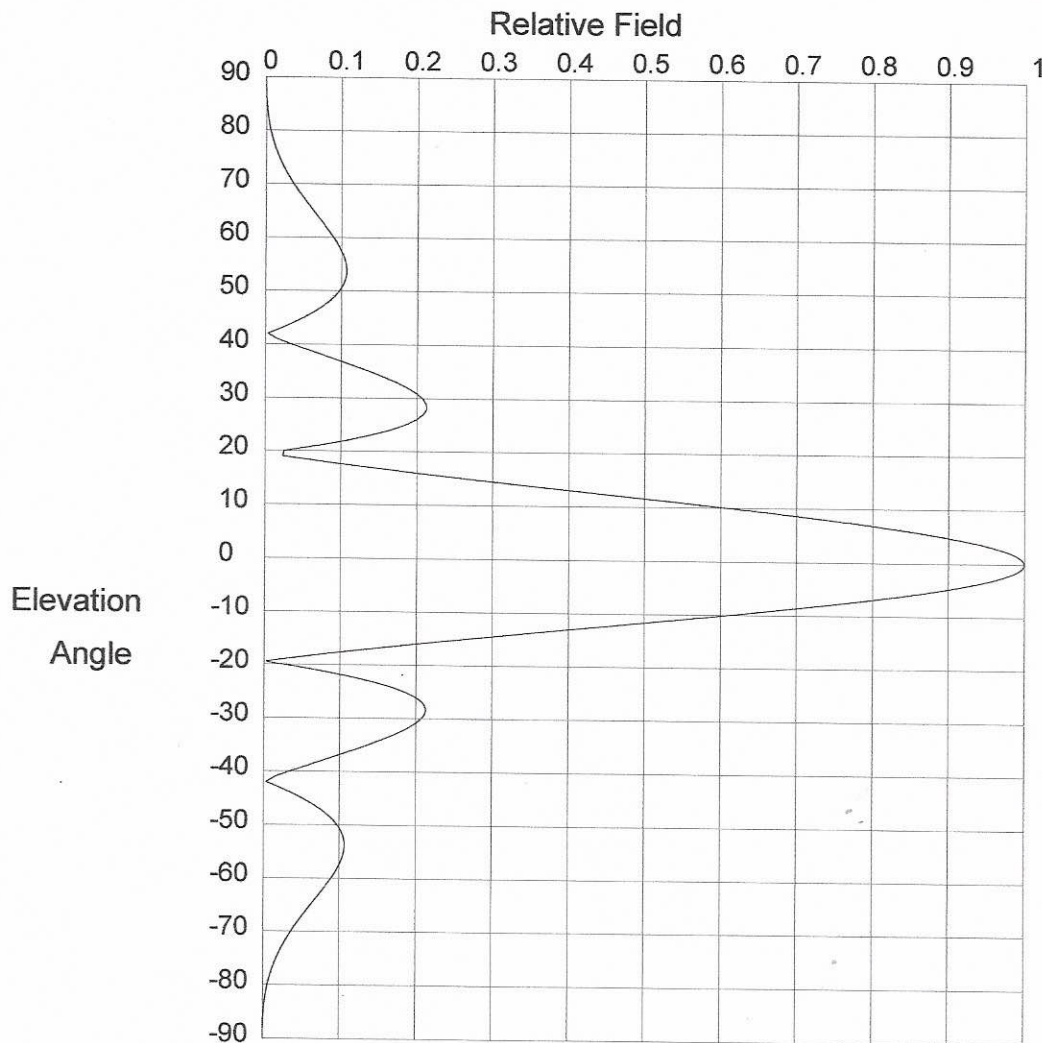
Note: Given values can be used for planning system.

Prepared by:

  
 Kevin W. Rager  
 SWR, LP Engineering

7/25/2018

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Elevation Pattern

Scale: Linear

Units: Field, Relative

## Systems With Reliability

CLIENT: WJYM-AM (W295DB)  
 ANTENNA TYPE: FM1/6-HWS  
 FREQUENCY: 106.9 MHz  
 PATTERN POL.: Circular  
 DIRECTIVITY(Peak): 3.847/5.851 dBd  
 DIRECTIVITY(Horiz): 3.847/5.851 dBd

Date: 7/1/2019

Beam Tilt (Deg.) : 0  
 Null Fill(s)(%) : 0, 0, 0

Micro-Tek Eng. Ver. 2.6

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# Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
3.2	.954 (-0.406)	-4.4	.915 (-0.773)	-12.0	.471 (-6.534 )
3.0	.96 (-0.356)	-4.6	.907 (-0.846)	-12.2	.457 (-6.796 )
2.8	.965 (-0.31)	-4.8	.899 (-0.922)	-12.4	.443 (-7.066 )
2.6	.97 (-0.267)	-5.0	.891 (-1.002)	-12.6	.429 (-7.345 )
2.4	.974 (-0.227)	-5.2	.882 (-1.086)	-12.8	.415 (-7.633 )
2.2	.978 (-0.191)	-5.4	.874 (-1.173)	-13.0	.401 (-7.931 )
2.0	.982 (-0.158)	-5.6	.865 (-1.264)	-13.2	.387 (-8.238 )
1.8	.985 (-0.128)	-5.8	.855 (-1.359)	-13.4	.373 (-8.557 )
1.6	.988 (-0.101)	-6.0	.846 (-1.457)	-13.6	.36 (-8.886 )
1.4	.991 (-0.077)	-6.2	.836 (-1.559)	-13.8	.346 (-9.227 )
1.2	.994 (-0.057)	-6.4	.826 (-1.665)	-14.0	.332 (-9.581 )
1.0	.995 (-0.039)	-6.6	.815 (-1.775)	-14.2	.318 (-9.948 )
.8	.997 (-0.025)	-6.8	.805 (-1.889)	-14.4	.304 (-10.33 )
.6	.998 (-0.014)	-7.0	.794 (-2.007)	-14.6	.291 (-10.727 )
.4	.999 (-0.006)	-7.2	.783 (-2.129)	-14.8	.277 (-11.14 )
.2	1.00 (-0.002)	-7.4	.771 (-2.255)	-15.0	.264 (-11.571 )
.0	1.00 (0)	-7.6	.76 (-2.385)	-15.2	.251 (-12.021 )
-.2	1.00 (-0.002)	-7.8	.748 (-2.52)	-15.4	.237 (-12.492 )
-.4	.999 (-0.006)	-8.0	.736 (-2.659)	-15.6	.224 (-12.986 )
-.6	.998 (-0.014)	-8.2	.724 (-2.802)	-15.8	.211 (-13.505 )
-.8	.997 (-0.025)	-8.4	.712 (-2.95)	-16.0	.198 (-14.051 )
-1.0	.995 (-0.039)	-8.6	.70 (-3.102)	-16.2	.186 (-14.628 )
-1.2	.994 (-0.057)	-8.8	.687 (-3.26)	-16.4	.173 (-15.24 )
-1.4	.991 (-0.077)	-9.0	.674 (-3.422)	-16.6	.161 (-15.89 )
-1.6	.988 (-0.101)	-9.2	.662 (-3.589)	-16.8	.148 (-16.584 )
-1.8	.985 (-0.128)	-9.4	.649 (-3.761)	-17.0	.136 (-17.329 )
-2.0	.982 (-0.158)	-9.6	.635 (-3.938)	-17.2	.124 (-18.133 )
-2.2	.978 (-0.191)	-9.8	.622 (-4.121)	-17.4	.112 (-19.006 )
-2.4	.974 (-0.227)	-10.0	.609 (-4.309)	-17.6	.10 (-19.962 )
-2.6	.97 (-0.267)	-10.2	.595 (-4.503)	-17.8	.089 (-21.02 )
-2.8	.965 (-0.31)	-10.4	.582 (-4.703)	-18.0	.078 (-22.205 )
-3.0	.96 (-0.356)	-10.6	.568 (-4.908)	-18.2	.066 (-23.554 )
-3.2	.954 (-0.406)	-10.8	.555 (-5.12)	-18.4	.055 (-25.123 )
-3.4	.949 (-0.458)	-11.0	.541 (-5.339)	-18.6	.045 (-27.001 )
-3.6	.942 (-0.514)	-11.2	.527 (-5.563)	-18.8	.034 (-29.352 )
-3.8	.936 (-0.574)	-11.4	.513 (-5.795)	-19.0	.024 (-32.512 )
-4.0	.929 (-0.637)	-11.6	.499 (-6.034)	-19.2	.013 (-37.4 )
-4.2	.922 (-0.703)	-11.8	.485 (-6.28)	-19.4	.004 (-49.105 )

## Systems With Reliability

Page 2 of 3

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 DIRECTIVITY(Peak): 3.847/5.851 dBd  
 DIRECTIVITY(Horiz): 3.847/5.851 dBd

Date: 7/1/2019

Beam Tilt (Deg.): 0  
 Null Fill(s)(%): 0, 0, 0

Micro-Tek Eng. Ver. 2.6

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# Relative Field Tabulation

Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)	Elev. Angle	Rel. Fld(dB)
-19.6	.006 (-44.053)	-27.2	.21 (-13.567)	-54.0	.107 (-19.423)
-19.8	.016 (-36.007)	-27.4	.211 (-13.525)	-55.0	.106 (-19.491)
-20.0	.025 (-31.976)	-27.6	.212 (-13.491)	-56.0	.104 (-19.643)
-20.2	.034 (-29.289)	-27.8	.212 (-13.465)	-57.0	.101 (-19.872)
-20.4	.043 (-27.283)	-28.0	.213 (-13.447)	-58.0	.098 (-20.175)
-20.6	.052 (-25.692)	-28.2	.213 (-13.437)	-59.0	.094 (-20.545)
-20.8	.06 (-24.379)	-28.4	.213 (-13.434)	-60.0	.089 (-20.981)
-21.0	.069 (-23.268)	-28.6	.213 (-13.439)	-61.0	.084 (-21.48)
-21.2	.077 (-22.309)	-28.8	.213 (-13.451)	-62.0	.079 (-22.04)
-21.4	.084 (-21.469)	-29.0	.212 (-13.47)	-63.0	.074 (-22.66)
-21.6	.092 (-20.724)	-29.2	.211 (-13.496)	-64.0	.068 (-23.339)
-21.8	.099 (-20.059)	-29.4	.211 (-13.529)	-65.0	.063 (-24.078)
-22.0	.106 (-19.46)	-29.6	.21 (-13.569)	-66.0	.057 (-24.876)
-22.2	.113 (-18.917)	-29.8	.209 (-13.615)	-67.0	.052 (-25.735)
-22.4	.12 (-18.424)	-30.0	.207 (-13.669)	-68.0	.046 (-26.656)
-22.6	.126 (-17.973)	-31.0	.199 (-14.036)	-69.0	.041 (-27.642)
-22.8	.132 (-17.56)	-32.0	.187 (-14.57)	-70.0	.037 (-28.695)
-23.0	.138 (-17.18)	-33.0	.172 (-15.276)	-71.0	.032 (-29.818)
-23.2	.144 (-16.83)	-34.0	.155 (-16.169)	-72.0	.028 (-31.016)
-23.4	.149 (-16.508)	-35.0	.137 (-17.273)	-73.0	.024 (-32.294)
-23.6	.155 (-16.21)	-36.0	.117 (-18.627)	-74.0	.021 (-33.659)
-23.8	.16 (-15.935)	-37.0	.097 (-20.301)	-75.0	.018 (-35.119)
-24.0	.164 (-15.681)	-38.0	.076 (-22.412)	-76.0	.015 (-36.684)
-24.2	.169 (-15.445)	-39.0	.055 (-25.193)	-77.0	.012 (-38.367)
-24.4	.173 (-15.228)	-40.0	.035 (-29.199)	-78.0	.01 (-40.183)
-24.6	.177 (-15.027)	-41.0	.015 (-36.412)	-79.0	.008 (-42.151)
-24.8	.181 (-14.842)	-42.0	.003 (-49.299)	-80.0	.006 (-44.298)
-25.0	.185 (-14.671)	-43.0	.021 (-33.668)	-81.0	.005 (-46.656)
-25.2	.188 (-14.514)	-44.0	.037 (-28.727)	-82.0	.003 (-49.271)
-25.4	.191 (-14.37)	-45.0	.051 (-25.857)	-83.0	.002 (-52.205)
-25.6	.194 (-14.239)	-46.0	.064 (-23.924)	-84.0	.002 (-55.549)
-25.8	.197 (-14.119)	-47.0	.075 (-22.537)	-85.0	.001 (-59.442)
-26.0	.199 (-14.01)	-48.0	.084 (-21.516)	-86.0	.001 (-64.113)
-26.2	.202 (-13.912)	-49.0	.092 (-20.76)	-87.0	.00 (-69.988)
-26.4	.204 (-13.824)	-50.0	.098 (-20.21)	-88.0	.00 (-78.01)
-26.6	.205 (-13.746)	-51.0	.102 (-19.825)	-89.0	.00 (-91.156)
-26.8	.207 (-13.677)	-52.0	.105 (-19.577)	-90.0	.00 (-50)
-27.0	.209 (-13.618)	-53.0	.107 (-19.448)	90.0	.00 (-50)

## Systems With Reliability

Page 3 of 3

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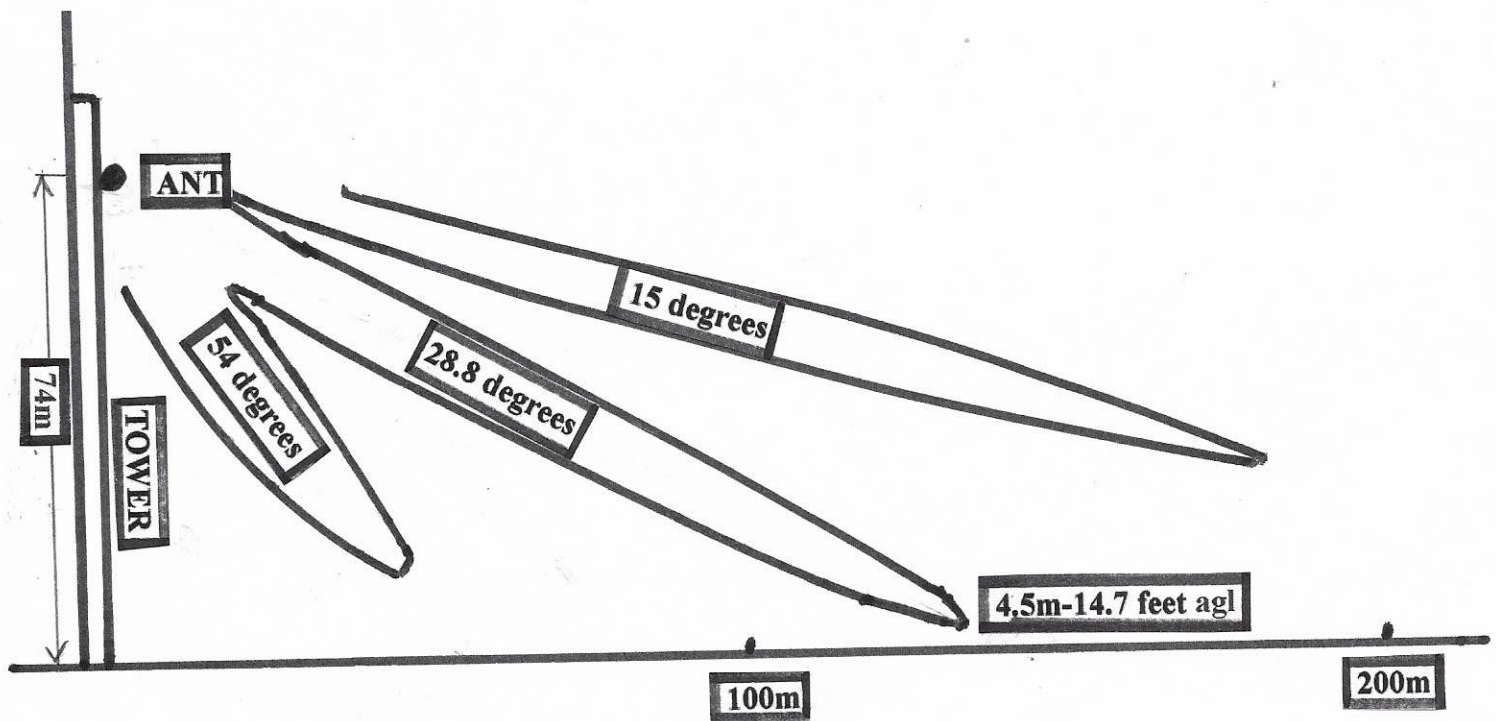
Micro-Tek Eng. Ver. 2.6

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# SWR FM1R/6-HWS Antenna Interference Contour Data

Depression Angle	Vertical Field	ERP	Distance to Contour
0 degrees	1.000	250 watts	708 m
-5	0.891	198	630
-10	0.609	92.7	432
-15	0.264	17.4	187
-20	0.025	0.2	000
-25	0.185	8.6	131
-28.8	0.213	11.3	150
-30	0.207	10.7	146
-35	0.137	4.7	97
-40	0.035	0.31	25
-45	0.051	0.7	37
-50	0.098	2.4	69
-54	0.107	2.9	76
-60	0.089	2.0	63
-65	0.063	1.0	45
-70	0.037	0.3	25
-75	0.018	0.1	14



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# W295DB INTERFERENCE CONTOUR MAP

## 28.8 degree Contour

(The closest the Interference gets to ground level)

### Legend

Feature 1

Graphic

WJYM(AM)

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Wichita, KS 67205-1647  
316-519-5138

Google Earth

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600 ft

28.8 degree Interference Contour

Lime City Rd



1247091

1247090

WJYM(AM)

1247092

1247089

9

23

Broadway St

Interference Files