

ANALYSIS OF POTENTIAL 2nd/3rd ADJACENT INTERFERENCE

FM ANTENNA

NUMBER OF ELEMENTS: 3
 SPACING BETWEEN ELEMENTS: 180.0 E.Degrees .50 Lambda
 MECHANICAL TILT: .00 Degrees Down
 CENTER OF RADIATION: 290.0 Feet AGL 88.39 Meters
 EFFECTIVE RADIATED POWER: 100.0 Watts

**Adjust C.R. for Lower House
 Elevation of 140'.
 CR: 150' AGL + 140'
 Adjusted: 290' AGL**

SIGNAL LEVELS ARE COMPUTED AT: 30.0 Feet AGL 9.14 Meters

INTERFERING CONTOUR: 106.1 dBu Free Space
 DISTANCE FROM ANTENNA: 1140.1 Feet 347.52 Meters
 DISTANCE FROM TOWER: 1110.1 Feet 338.36 Meters
 DEPRESSION ANGLE: 13.18 Degrees

DISTANCE FROM TOWER	FROM ANTENNA	ANGLE (DEG)	FIELD RATIO	dBu at WORST CASE	30.0' AGL EXPECTED	LOCATION FR TWR	106.1 dBu AGL
*****	*****	*****	*****	*****	*****	*****	*****
Feet	Feet					Feet	Feet
100.0	278.6	69.0	.114	118.340+	99.511	46.83	168.23
200.0	328.0	52.4	.120	116.921+	98.503	83.41	181.57
300.0	397.0	40.9	.016	115.264+	79.483	14.00	277.86
400.0	477.1	33.0	.201	113.667+	99.720	191.90	165.27
500.0	563.6	27.5	.367	112.220+	103.522	371.62	96.76
600.0	653.9	23.4	.499	110.929+	104.895	522.28	63.68
650.0	700.1	21.8	.553	110.336+	105.188	585.22	55.91
700.0	746.7	20.4	.599	109.776+	105.330	640.59	52.07
750.0	793.8	19.1	.640	109.245+	105.365	689.17	51.09 <--
800.0	841.2	18.0	.675	108.741+	105.326	731.78	52.17
850.0	888.9	17.0	.706	108.262+	105.232	769.20	54.72
900.0	936.8	16.1	.732	107.806+	105.100	802.11	58.28
950.0	984.9	15.3	.756	107.371+	104.939	831.14	62.53
1000.0	1033.2	14.6	.776	106.955+	104.758	856.82	67.23
1050.0	1081.7	13.9	.795	106.557+	104.562	879.60	72.19
1100.0	1130.3	13.3	.811	106.175+	104.356	899.88	77.30
1150.0	1179.0	12.7	.825	105.809	104.143	917.98	82.46
1200.0	1227.8	12.2	.838	105.456	103.925	934.20	87.59

VERTICAL FORM FACTOR BASED UPON: COSINE DISTRIBUTION

BELOW PROTECTION BY .73 dB Max ERP is 118.4 Watts

INTERFERENCE RESULTS AT AN AGL HEIGHT >= 51.1 Feet

The 106.1 dBu Interference Contour Never Hits the Ground.
Maximum Free Space Distance: 1,140' from Antenna
There is only one cluster of Homes or Roads within 1,140' Radius of Tower.
The 106.1 dBu is at least 51' AGL at all locations to NE.
This Proposal could operate with an ERP of 118 Watts and still comply.

APPENDIX A: FIGURE B - LOCATING 106.1 dBu - Ch. 286 (105.1 MHz)
from old WBCW-AM-1530 Tower - ASR: None - for WKFBI-AM-770 Class D



AM-FM TRANSLATOR 250 MILE WINDOW
WKFB AM-770 - Jeannette, PA & W237CX - Bridgeport, WV
Ch. 286 - Greensburg, PA - February 2016