

Non-Interference Compliance

Regarding Facility id 155345

Channel 294

Description of Exhibit 13 Contents

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all of the applicable rule sections and that this application for a construction permit is in full compliance with 47 C.F.R. § 74.1204.

Let it be noted that should any actual real world interference occur, the applicant acknowledges that it will promptly suspend operation of this translator in accordance with 47 C.F.R. § 74.1203.

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

[A]n application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.

Page 3 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Page 4 includes a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 5 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dBμ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using the free space equation and 120 radials.

Page 7 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

Note: The tallest building within the zone of predicted interference is less than 20ft (6.1m) in height. This proposal provides 8.3m ground clearance so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
1084025	BLH20050919ABQ BLFTB20051212AB	KLJH	68.3	68.3
1105268	W	KLJH-FM1	73.9	72.4
1442949	BLFTB20110916ABU	KLJH-FM2	72	72
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				68.3

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **68.3 dBμ**, this makes the proposed translator's worst-case interfering contour **108.3 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **295.5 m** from the transmit antenna.

The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 6 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated on the following page at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free-space calculation that neglects any loss due to reflection, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the tower ground level (TGL) by **8.3 m** at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the area of interference.

Note: The tallest building within the zone of predicted interference is less than 20ft (6.1m) in height. This proposal provides 8.3m ground clearance so a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

Antenna Manufacturer:	PSI
Antenna Model:	FML-2(.75)
CORAGL:	74 m
Maximum ERP:	0.12 kW
Interfering Contour:	108.3 dBμ
Max Int. Contour Distance:	295.5 m
Min Ground Clearance:	8.3 m

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.975	114.1	288.1	287.0	48.9
10	.903	97.8	266.9	262.8	27.7
15	.792	75.3	234.1	226.1	13.4
20	.650	50.7	192.1	180.5	8.3
25	.493	29.2	145.7	132.0	12.4
30	.331	13.1	97.8	84.7	25.1
35	.178	3.8	52.6	43.1	43.8
40	.043	0.2	12.7	9.7	65.8
45	.068	0.6	20.1	14.2	59.8
50	.149	2.7	44.0	28.3	40.3
55	.202	4.9	59.7	34.2	25.1
60	.227	6.2	67.1	33.5	15.9
65	.226	6.1	66.8	28.2	13.5
70	.205	5.0	60.6	20.7	17.1
75	.168	3.4	49.6	12.8	26.0
80	.118	1.7	34.9	6.1	39.7
85	.061	0.4	18.0	1.6	56.0
90	.001	0.0	0.3	0.0	73.7
Minimum Clearance above TGL:					8.3 m

Propagation Systems Inc.

Elevation Pattern Tabulation

Antenna: PSIFML-2 Special

Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.00	0.001	-60.000	-50.00	0.149	-16.513	-10.00	0.903	-0.883
-89.00	0.012	-38.221	-49.00	0.135	-17.364	-9.00	0.921	-0.713
-88.00	0.025	-32.201	-48.00	0.120	-18.405	-8.00	0.937	-0.561
-87.00	0.037	-28.679	-47.00	0.104	-19.677	-7.00	0.952	-0.429
-86.00	0.049	-26.207	-46.00	0.086	-21.289	-6.00	0.964	-0.315
-85.00	0.061	-24.285	-45.00	0.068	-23.404	-5.00	0.975	-0.219
-84.00	0.073	-22.748	-44.00	0.048	-26.425	-4.00	0.984	-0.139
-83.00	0.085	-21.443	-43.00	0.027	-31.481	-3.00	0.991	-0.079
-82.00	0.096	-20.349	-42.00	0.005	-46.848	-2.00	0.996	-0.036
-81.00	0.107	-19.378	-41.00	0.018	-34.664	-1.00	0.999	-0.009
-80.00	0.118	-18.538	-40.00	0.043	-27.417	0.00	1.000	0.000
-79.00	0.129	-17.792	-39.00	0.068	-23.365	1.00	0.999	-0.009
-78.00	0.139	-17.125	-38.00	0.094	-20.529	2.00	0.996	-0.036
-77.00	0.149	-16.522	-37.00	0.121	-18.329	3.00	0.991	-0.079
-76.00	0.159	-15.984	-36.00	0.149	-16.531	4.00	0.984	-0.139
-75.00	0.168	-15.508	-35.00	0.178	-14.998	5.00	0.975	-0.219
-74.00	0.176	-15.072	-34.00	0.207	-13.669	6.00	0.964	-0.315
-73.00	0.184	-14.685	-33.00	0.237	-12.489	7.00	0.952	-0.429
-72.00	0.192	-14.335	-32.00	0.268	-11.431	8.00	0.937	-0.561
-71.00	0.199	-14.026	-31.00	0.299	-10.475	9.00	0.921	-0.713
-70.00	0.205	-13.752	-30.00	0.331	-9.602	10.00	0.903	-0.882
-69.00	0.211	-13.518	-29.00	0.363	-8.801	11.00	0.884	-1.072
-68.00	0.216	-13.315	-28.00	0.395	-8.061	12.00	0.863	-1.279
-67.00	0.220	-13.146	-27.00	0.428	-7.377	13.00	0.841	-1.508
-66.00	0.224	-13.009	-26.00	0.460	-6.742	14.00	0.817	-1.757
-65.00	0.226	-12.904	-25.00	0.493	-6.151	15.00	0.792	-2.029
-64.00	0.228	-12.834	-24.00	0.525	-5.599	16.00	0.765	-2.322
-63.00	0.229	-12.800	-23.00	0.557	-5.083	17.00	0.738	-2.639
-62.00	0.229	-12.794	-22.00	0.589	-4.603	18.00	0.710	-2.979
-61.00	0.228	-12.829	-21.00	0.620	-4.154	19.00	0.680	-3.344
-60.00	0.227	-12.898	-20.00	0.650	-3.736	20.00	0.650	-3.736
-59.00	0.224	-13.009	-19.00	0.680	-3.344	21.00	0.620	-4.154
-58.00	0.220	-13.158	-18.00	0.710	-2.979	22.00	0.589	-4.603
-57.00	0.215	-13.351	-17.00	0.738	-2.639	23.00	0.557	-5.083
-56.00	0.209	-13.600	-16.00	0.765	-2.323	24.00	0.525	-5.599
-55.00	0.202	-13.894	-15.00	0.792	-2.029	25.00	0.493	-6.151
-54.00	0.194	-14.260	-14.00	0.817	-1.759	26.00	0.460	-6.742
-53.00	0.184	-14.685	-13.00	0.840	-1.510	27.00	0.428	-7.377
-52.00	0.174	-15.192	-12.00	0.863	-1.281	28.00	0.395	-8.061
-51.00	0.162	-15.795	-11.00	0.884	-1.072	29.00	0.363	-8.801
						30.00	0.331	-9.602

Adjacent Channel Study **For Station NEW, Facility_id: 155345**

Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Chan	Adj	Dist	Overlap
1105268	165301	BLFTB-20051212ABW	KLJH-FM1	VOICE MINISTRIES OF FARMINGTON, INC.	D	FARMINGTON	NM	LIC	2.9	1798	296	2	12.5	0.7161
1442949	184454	BLFTB-20110916ABU	KLJH-FM2	VOICE MINISTRIES OF FARMINGTON, INC.	D	BLOOMFIELD	NM	LIC	2.5	2133	296	2	20.7	0.7161
1084025	78212	BLH-20050919ABQ	KLJH	VOICE MINISTRIES OF FARMINGTON, INC.	C	BAYFIELD	CO	LIC	100	3008	296	2	77.4	0.7161
635237	143099	BNPFT-20030312AIQ	NEW	WINTON ROAD BROADCASTING CO., LLC	D	FARMINGTON	NM	APP	0.095	1794	292	2	12.7	0
215425	29593	BLFT-19951016TC	K294AJ	CAPSTAR TX LLC	D	DURANGO	CO	LIC	0.15	2373	294	0	63.8	0
45416	47097	BLFT-19820727IC	K292AX	BEN F. STINSON, III	D	CORTEZ	CO	LIC	0.043	3101	292	2	73	0
1373348	187544	BNPFTB-20100608AIY	KLJH-FM3	VOICE MINISTRIES OF FARMINGTON, INC.	D	CORTEZ	CO	CP	1.3	3132	296	2	73.5	0
137779	51286	BMLH-19891211KX	KWUF-FM	WOLF CREEK BROADCASTING, LLC	A	PAGOSA SPRINGS	CO	LIC	0.255	2633	292	2	102.6	0
1373733	187557	BNPFTB-20100608AIW	KLJH-FM4	VOICE MINISTRIES OF FARMINGTON, INC.	D	PAGOSA SPRINGS	CO	CP	0.21	2636	296	2	102.7	0
1405309	51286	BPH-20101130AFG	KWUF-FM	WOLF CREEK BROADCASTING, LLC	C3	PAGOSA SPRINGS	CO	CP	1.55	2632	291	3	102.7	0
1509553	190714	BNPH-20120828AFK	NEW	NAVAJO TECHNICAL COLLEGE	A	CROWNPOINT	NM	APP	6	2171	297	3	113.6	0
213553	66816	BLH-19950908KE	KFXR-FM	CC LICENSES, LLC	C2	CHINLE	AZ	LIC	3.6	2507	297	3	161.3	0

Intermediate Frequencies (53 and 54 channels difference):

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1482816	155376	BLFT-20111108AMX	K241BP	PROCLAIMING CHRIST'S LOVE MINISTRIES, IN	D	FARMINGTON	NM	LIC	0.25	1829	241	53	12.5	2.5



