

Non-Interference Compliance

Regarding Facility id 144146

Channel 284

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 80ft (24.4m) in height. This application provides 40.5m (132.9ft) 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
625791	BLH20030218AAQ	KXSE	65.8	65.8
71821	BLH19840815CB	KNCI	73.8	73.2
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				65.8

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 **65.8 dBμ**, this makes the proposed translator's worst-case interfering contour **105.8 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **568.8 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 **40.5 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 80ft (24.4m) in height. This application provides 40.5m (132.9ft) 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)-DA
CORAGL:	167 m
Maximum ERP:	0.25 kW
Interfering Contour:	105.8 dBμ
Max Int. Contour Distance:	568.8 m
Min Ground Clearance:	40.5 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	237.7	554.6	552.5	118.7
10	.903	203.9	513.6	505.8	77.8
15	.792	156.8	450.5	435.1	50.4
20	.650	105.6	369.7	347.4	40.5
25	.493	60.8	280.4	254.2	48.5
30	.331	27.4	188.3	163.1	72.9
35	.178	7.9	101.2	82.9	108.9
40	.043	0.5	24.5	18.7	151.3
45	.068	1.2	38.7	27.4	139.6
50	.149	5.6	84.8	54.5	102.1
55	.202	10.2	114.9	65.9	72.9
60	.227	12.9	129.1	64.6	55.2
65	.226	12.8	128.6	54.3	50.5
70	.205	10.5	116.6	39.9	57.4
75	.168	7.1	95.6	24.7	74.7
80	.118	3.5	67.1	11.7	100.9
85	.061	0.9	34.7	3.0	132.4
90	.001	0.0	0.6	0.0	166.4
Minimum Clearance above TGL:					40.5 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 K284CM, Facility_id: 144146**

Co-channel through third adjacent:

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Char	Adj	Dist	Overlap
71821	20353	BLH-19840815CB	KNCI	CBS RADIO STATIONS INC.	B	SACRAMENTO	CA	LIC	50	333	286	2	35.2	3.421
625791	53653	BLH-20030218AAQ	KXSE	ENTRAVISION HOLDINGS, LLC	A	DAVIS	CA	LIC	3.4	147	282	2	21.5	1.2637
1634328	83228	BPFT-20130329AAL	K284AG	NEVADA CITY COMMUNITY BRO/	D	WOODLAND	CA	CP	0.13	30	284	0	21.3	0
1683949	195602	BLL-20150727AAT	KYTP-LP	IGLESIA ROSA DE SARON	L1	GALT	CA	LIC	0	45	283	1	40.5	0
1172371	124166	BLL-20070208AAU	KCYC-LP	NORTH VALLEY CALVARY CHAPI	L1	YUBA CITY	CA	LIC	0	47	284	0	58.1	0
1332499	83228	BLFT-20090904ACH	K284AG	NEVADA CITY COMMUNITY BRO/	D	WOODLAND	CA	LIC	0.01	587	284	0	59.2	0
1583303	194202	BNPL-20131113AAJ	KELR-LP	ETERNAL LIFE RADIO	L1	STOCKTON	CA	CP	0	29.8	284	0	71.2	0
209243	18526	BLFTB-19950522TE	KITS-FM4	CBS RADIO EAST INC.	D	ANTIOCH	CA	LIC	0.33	85	287	3	72.1	0
1722835	144158	BPFT-20160301AGU	K287BS	HISPANIC FAMILY CHRISTIAN NE	D	STOCKTON	CA	APP	0.17	37	286	2	73.9	0
1722356	144158	BLFT-20160222AAJ	K287BS	HISPANIC FAMILY CHRISTIAN NE	D	STOCKTON	CA	LIC	0.17	37	287	3	73.9	0
1090172	144606	BLFT-20051007AAK	K283AY	LA FAVORITA RADIO NETWORK,	D	WEST POINT	CA	LIC	0.13	1049	283	1	83	0
156398	54773	BLFTB-19910122TP	KFOG-FM3	SUSQUEHANNA RADIO CORP.	D	PLEASANTON, ET	CA	LIC	0.185	1155	283	1	87	0
122558	18524	BLFTB-19890112TF	KITS-FM1	CBS RADIO EAST INC.	D	WALNUT CREEK	CA	LIC	0.61	145	287	3	91.7	0
1061290	162021	BLFTB-20050509AC5	KMHX-FM2	AMATURO SONOMA MEDIA GRO	D	GLEN ELLEN	CA	LIC	0.95	284	285	1	95.3	0
1510693	123802	BLL-20120803ABK	KGIG-LP	FELLOWSHIP OF THE EARTH (FC	L1	MODESTO	CA	LIC	0	27.6	285	1	103.5	0
299923	11240	BLH-7721	KHKK	RADIO LICENSE HOLDING CBC, I	B	MODESTO	CA	LIC	50	422	281	3	104	0
89444	18521	BLFTB-19860619TN	KITS-FM2	CBS RADIO EAST INC.	D	PLEASANTON	CA	LIC	0.044	571	287	3	104.3	0
435334	92756	BLFTB-19991222ABT	KMHX-FM1	AMATURO SONOMA MEDIA GRO	D	BENNETT VALLEY	CA	LIC	0.85	240	285	1	104.9	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
658493	48339	BLH-20030430AAA	KNCO-FM	NEVADA COUNTY BROADCAST	A	GRASS VALLEY	CA	LIC	0.66	1190	231	53	86.1	76.1



