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**ENGINEERING REPORT**

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**Carlsbad, CA, Channel 285D FM Translator Application**

**ENGINEERING STATEMENT**

Gold Coast Broadcasting, LLC (“Applicant”) submits this technical minor amendment for its pending 1983 application for a new FM translator station at Carlsbad, CA. The pending application file number is BNPFT-20030312MUE.

This filing includes a site change of 13.5 kilometers along with a channel displacement from 284 to 285. The displacement from channel 284 to channel 285 is deemed a minor change pursuant to Section 74.1233(a) of the FCC Rules.

*LPFM Preclusion Study Results for the herein proposed facility are provided in the separate Exhibit 1 (Section 1, Question 5 of the FCC Form 349, as directed by the FCC).*

**CHANNEL STUDY**

Attached as Figure EE1 is a channel study for the proposed channel 285D facility. All required protections are met by contour non-overlap pursuant to Section 74.1204, with the exception of protection to KIOZ, San Diego, CA, 287B. KIOZ is protected, as discussed below.

**CONTOUR OVERLAP SHOWING**

No detailed study is required due to contour non-overlap clearance as listed in Figure EE1 for each protected facility (with the exception of KIOZ, discussed below). The service and interference contour distances that are listed on Figure EE1 use the worst-case (greatest) distance along any bearing for each facility, and also considers each protected station as omni-directional. No contour overlap using this worst-case test means no possible contour overlap when applying Section 73.313 methodology.

**PROTECTION TO KIOZ**

KIOZ, San Diego, CA, 287B, is second adjacent-channel to the proposed channel 285D facility and is located only 42.0 kilometers (at 188 degrees True bearing) from the proposed 285D transmitter site. The 60 dBu F50,50 service contour extends well beyond the 285D transmitter site. Using the well-established *Living Way Ministries* Methodology, no actual interference to any population is predicted to exist to KIOZ.

Note that a rule waiver of Section 74.1204 for this second/third adjacent-channel protection using the well-established *Living Way Ministries* Methodology is respectfully requested if such a rule waiver is deemed necessary for protection to this station.

The F50,50 signal strength from KIOZ at the proposed 285D transmitter site is 65.0 dBu (the “desired” signal). The second/third adjacent-channel protection of Section 74.1204 is an undesired-to-desired (“U/D”) dB signal strength ratio of 40:1. Therefore, predicted interference to KIOZ from the proposed 285D facility is a signal of greater than or equal to 105.0 dBu.

Figure EE2 is the vertical plane relative field pattern for the proposed antenna. By adjusting for the vertical plane downward relative field values of the proposed antenna, it is herein demonstrated that the 105.0 dBu interfering signal (using a free space field determination) does not exist at any point a ground level. (Actually, the study is made to 2 meters above ground level to account for a person’s height.)

Attached as Figure EE3 is a tabulation of various points (at 2 meters above ground level) from the proposed translator tower base. (Column B is the different distances from the tower base to each studied point.) The actual distance from the antenna to each point is listed in Column C, the hypotenuse of the vertical height (Column A) and the horizontal distance (Column B). Because the calculated distance to the free space interfering signal (Column J) is less than the hypotenuse distance (Column C) for each studied point, the interfering signal does not reach any studied point. (In other words, the interfering signal does not make it to 2 meters above ground level to any point.) Therefore, pursuant to Section 74.1204(d) of the FCC Rules, KIOZ is adequately protected by the proposed facility.

The above study results of Figure EE3 assume uniform terrain elevation near the proposed tower. Because the clearance shown (Column C minus Column J values) is at least 9 meters for all rows, this assumption is acceptable for showing non-interference—no actual elevation within 150 meters of the proposed translator tower is at an elevation that is more than 5 meters above that of the tower base elevation.

**SECTION 74.1204 CHANNEL STUDY**

**PROJECT: CARLSBAD,CA, 285D FROM PROPOSED SITE**

**STUDY COORDINATES: N 33-12-50.0; W 117-11-11.0(N D-M-S; W D-M-S)**

Call Docket	Channel FacilityID	Class Service	Frequency ERP	Status DA?	City HAAT	State RCAMSL	Country RCAGL	File Number
Latitude	Longitude			ASRN	Dist (km)	Dist (mi)	Azimuth	
Licensee/Permittee								

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 NEW 283 D FX 104.5 MHz APP SAN MARCOS CA US BNPFT-20030317AQW  
 - 139356 0.05 kW DA -9. m 202. m 7. m  
 N 33 8 12.00 W 117 9 16.00 1014950 9.07 km 5.63 mi 160.89°  
 CITICASTERS LICENSES, L.P.

**NOTE: THIS IS ALSO A PENDING AUCTION 83 FMT APPLICATION AND A NEW MX TO THIS FACILITY IS NOT BEING CAUSED BY THIS AMENDMENT.**

NEW 283 D FX 104.5 MHz APP SAN MARCOS CA US BNPFT-20030317AQW  
 - 139356 0.05 kW DA 0. m 202. m 7. m  
 N 33 8 12.00 W 117 9 16.00 1014950 9.07 km 5.63 mi 160.89°  
 CITICASTERS LICENSES, L.P.

**NOTE: THIS IS ALSO A PENDING AUCTION 83 FMT APPLICATION AND A NEW MX TO THIS FACILITY IS NOT BEING CAUSED BY THIS AMENDMENT.**

NEW 284 D FX 104.7 MHz APP SAN BERNARDINO CA US BNPFT-20030317MUE  
 - 158544 0.25 kW 562. m 629. m 35. m  
 N 33 9 32.00 W 117 18 55.00 - 13.48 km 8.38 mi 243.02°  
 GOLD COAST BROADCASTING LLC

**NOTE: THIS IS THE AUCTION 83 APPLICATION THAT IS BEING AMENDED BY THIS APPLICATION**

NEW 285 D FX 104.9 MHz APP SPRING VALLEY CA US BNPFT-20030317LML  
 - 157713 0.01 kW DA 550.9 m 795. m 15. m  
 N 32 41 46.00 W 116 56 8.00 1055993 62.03 km 38.54 mi 157.81°  
 EDUCATIONAL MEDIA FOUNDATION

**Protected Contour Dist: 15.1 km Prop 285D Interf Contour Dist: 41.4 km  
 Result: 5.5 km CLEAR (WORST-CAST STUDY); There is also no predicted received interference to the proposed Carlsbad 285D by this facility.**

KIOZ 287 B FM 105.3 MHz LIC SAN DIEGO CA US BLH-20070411ACO  
 - 13504 26. kW 210. m 289. m 50. m  
 N 32 50 20.00 W 117 14 56.00 1015930 42.00 km 26.10 mi 187.97°  
 CITICASTERS LICENSES, INC.

**NOTE: A SHOWING BASED ON THE LIVING WAY MINISTRIES METHODOLOGY TO THIS STATION IS INCLUDED WITH THIS APPLICATION THAT DEMONSTRATES PROTECTION TO THIS FACILITY.**

Study Complete

# Shively Labs<sup>®</sup>

Antenna Mfr.: Shively Labs

Date: 12/30/2004

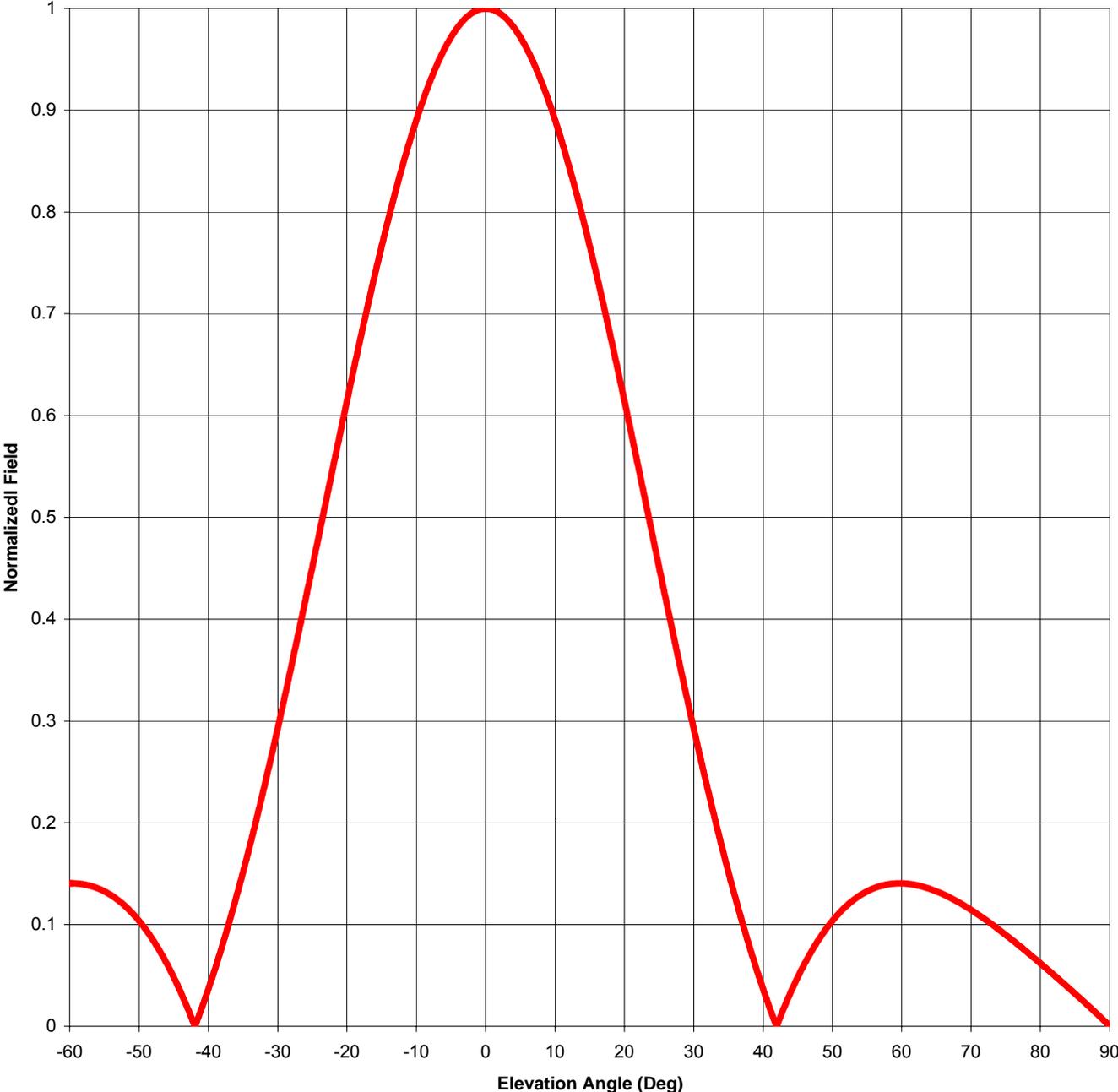
Antenna Type: 6014, 6015, 6510, 6513, 6600, 68xx 3-Bay, 1/2-wave-spaced

Frequency: 98.1

6014, 6015, 68xx Gain (Max) 1.02 1.08 dB

6510, 6513, 6600 Gain (Max) 2.04 4.08 dB

FIGURE EE2 (Page 1 of 2)



## FIGURE EE2 (Page 2 of 2)

### Elevation Pattern Tabulation, Sidemount 3-Bay Antennas, Half-Wave-Spaced

Includes Models 6014, 6015, 66xx series except 6602B, 65xx series, 68xx series except 6812B & 6832.

Relative Field at 0° Depression = 1.000

Degrees	Rel. Field								
1	0.999	19	0.646	37	0.102	55	0.133	73	0.100
2	0.995	20	0.615	38	0.079	56	0.136	74	0.095
3	0.990	21	0.582	39	0.057	57	0.138	75	0.090
4	0.982	22	0.550	40	0.037	58	0.140	76	0.084
5	0.972	23	0.517	41	0.017	59	0.140	77	0.079
6	0.959	24	0.484	42	0.001	60	0.140	78	0.073
7	0.945	25	0.451	43	0.018	61	0.140	79	0.068
8	0.929	26	0.419	44	0.034	62	0.139	80	0.062
9	0.911	27	0.387	45	0.048	63	0.137	81	0.056
10	0.891	28	0.355	46	0.062	64	0.135	82	0.050
11	0.869	29	0.323	47	0.074	65	0.133	83	0.044
12	0.845	30	0.293	48	0.085	66	0.130	84	0.038
13	0.820	31	0.263	49	0.095	67	0.126	85	0.032
14	0.794	32	0.234	50	0.104	68	0.123	86	0.026
15	0.767	33	0.205	51	0.111	69	0.119	87	0.020
16	0.738	34	0.178	52	0.118	70	0.114	88	0.013
17	0.708	35	0.152	53	0.124	71	0.110	89	0.007
18	0.678	36	0.126	54	0.129	72	0.105	90	0.000

**FIGURE EE3 - STUDY PROTECTING KIOZ 287B**  
**FREE SPACE FIELD STRENGTH AT A DISTANCE STUDY RESULTS**

PROJECT: CARLSBAD, CA, CHANNEL 285D

18-Apr-13

Point	Column A Vertical Distance From Antenna Bottom (meters)	Column B Horizontal Distance From Tower Base (meters)	Column C Hypotenuse Distance From Antenna Bottom (meters)	Column D Downward Angle From Antenna Bottom (degrees)	Column E Max ERP (watts)	Column F Max ERP (dBmW)	Column G Pattern Relative Field at Down- ward Angle	Column H Free Space Inter- ferring Signal (dBu)	Column I Adjusted ERP in Down- ward Angle (dBmW)	Column J <b>OUTPUT Distance (meters)</b>
1	34	0.1	<b>34.0</b>	<a href="#">89.8</a>	10	<a href="#">40.00</a>	0.007	105.0	<a href="#">-3.10</a>	<b>0.9</b>
2	34	10	<b>35.4</b>	<a href="#">73.6</a>	10	<a href="#">40.00</a>	0.100	105.0	<a href="#">20.00</a>	<b>12.5</b>
3	34	20	<b>39.4</b>	<a href="#">59.5</a>	10	<a href="#">40.00</a>	0.140	105.0	<a href="#">22.92</a>	<b>17.5</b>
4	34	30	<b>45.3</b>	<a href="#">48.6</a>	10	<a href="#">40.00</a>	0.085	105.0	<a href="#">18.59</a>	<b>10.6</b>
5	34	40	<b>52.5</b>	<a href="#">40.4</a>	10	<a href="#">40.00</a>	0.037	105.0	<a href="#">11.36</a>	<b>4.6</b>
6	34	60	<b>69.0</b>	<a href="#">29.5</a>	10	<a href="#">40.00</a>	0.323	105.0	<a href="#">30.18</a>	<b>40.4</b>
7	34	80	<b>86.9</b>	<a href="#">23.0</a>	10	<a href="#">40.00</a>	0.517	105.0	<a href="#">34.27</a>	<b>64.7</b>
8	34	100	<b>105.6</b>	<a href="#">18.8</a>	10	<a href="#">40.00</a>	0.678	105.0	<a href="#">36.62</a>	<b>84.9</b>
9	34	120	<b>124.7</b>	<a href="#">15.8</a>	10	<a href="#">40.00</a>	0.767	105.0	<a href="#">37.70</a>	<b>96.0</b>
10	34	130	<b>134.4</b>	<a href="#">14.7</a>	10	<a href="#">40.00</a>	<b>1.000</b>	105.0	<a href="#">40.00</a>	<b>125.2</b>

NOTE: Study point at 2 meters above ground level.

Worst-case relative field of 1.000 used for last examined point.

**RESULTS: COLUMN J DISTANCES ARE LESS THAN COLUMN C DISTANCES IN ALL INSTANCES; THEREFORE, INTERFERRING SIGNAL DOES NOT EXIST AT ANY LOCATION (TWO METERS OR LESS ABOVE GROUND LEVEL)**