

APPLICATION FOR A  
MAJOR AMENDMENT TO  
AN LPFM BROADCAST  
STATION HAVING  
FACILITY ID 196311 FCC  
FILE BNPL-20131112BLX  
SANTA CLARITA, CA

July 10, 2014

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**1.0 PURPOSE OF LPFM MAJOR AMENDMENT APPLICATION**

Santa Clarita Public Service Broadcasters Corporation (“SCPSBC”) filed for an LPFM broadcast station during the October 15 – November 14, 2013 LPFM filing window. The proposed facility has subsequently been identified as Mutually Exclusive “MX” in Public Notice DA-2397<sup>1</sup> which consists of the following filings:

#	Group	State	City	Chan	Applicant	File Number	Facility ID
167	35	CA	Santa Clarita	300	Santa Clarita Organization For Planning The Environment	20131115AAD	196118
168	35	CA	Santa Clarita	300	Santa Clarita Public Service Broadcasters Corporation	20131112BLX	196311
169	35	CA	Valencia	300	Latino New Talent Org	20131107ADH	195300

Pursuant to Public Notice FCC 14-96<sup>2</sup> released on July 9, 2014, the FCC has identified Facility ID 196118 having File Number BNPL-20131115AAD as the tentative selectee for MX group 35.

Pursuant to Public Notice DA-2308<sup>3</sup> major amendments, such as non-adjacent channel changes and otherwise prohibited site relocations of greater than 5.6 kilometers, will only be allowed after the Commission identifies tentative selectees among the MX groups.

In response the above reference Public Notices, the instant major amendment application is being filed in an expeditiously manner to change the channel from 300 to channel 268. Since channel 268 is 32 channels below channel 300 it is not +/- three channels or to an intermediate frequency (+/- 53 or 54) channel which would be a minor amendment.

Upon approval of the instant major amendment, the LPFM shall be broken from MX group 35 and will not enter into any new MX situations with any other applicants or licensees.

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<sup>1</sup> See *Media bureau identifies mutually exclusive applications filed in the LPFM window and announces 60-day settlement period; CDBS is now accepting form 318 amendments*, Public Notice, DA 13-2397 (MB 2013) Released: December 16, 2013

<sup>2</sup> *Commission Identifies Tentative Selectees in 79 Groups of Mutually Exclusive Applications Filed In the LPFM Window; Announces A 30-Day Petition To Deny Period And A 90 - Day Period To File Voluntary Time-Share Proposals And Major Change Amendments* Public Notice, FCC 12-96 Released: July 9, 2014

<sup>3</sup> See *Media Bureau Provides Further Guidance On The Processing of Form 318 Applications Filed in the LPFM Window*, Public Notice, DA 13-2308 (MB 2013) Released: December 3, 2013

## **2.0 AMENDED TECHNICAL PARAMETERS**

The instant major amendment shall entail modifying the following technical parameters

### **2.1 FCC Form 318 – Section VI – Question 1 - Channel**

The channel is herein amended from 300 to 268 and is classified as a major amendment which is allowable during the 90 day filing period beginning July 10, 2014

### **2.2 FCC Form 318 – Section VI – Question 2 - Location**

The transmitter site location is herein amended

<u>From (NAD27)</u>	<u>To (NAD27):</u>
34° 23' 24.0" N	34° 25' 45.0.0" N
118° 28' 53.0" W	118° 34' 51.1" W

This 10.1 km site change is classified as a major amendment which is allowable during the 90 day filing period beginning July 10, 2014. The proposed site has an existing 35' monopole tower without FAA or FCC registrations. FCC's TOWAIR determines "Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided."

### **2.3 FCC Form 318 – Section VI – Questions 4, 5, and 6 - Elevations**

The Antenna Location Site Elevation above Mean Sea Level is herein amended from 585.0 meters to 388.0 meters. The Overall Tower height above ground level is herein amended from 24 meters to 10.7 meters. The Height of radiation center above ground level is herein amended from 21 meters to 10.7 meters. These amended parameters are due to a total site change.

### **2.4 Effective Radiated Power**

The Effective Radiated Power is herein amended from 8 Watts to 49 Watts.

### **2.5 Antenna Pattern**

The antenna pattern is herein being amended from omni-direction to directional as outlined below and in Appendix F. The azimuth pattern

shown in Appendix F is pre-oriented and must be rotated 150 degrees clockwise to give the proper azimuth.

### **3.0 ALLOCATION ANALYSIS AND REQUEST FOR WAIVER**

A major amendment from channel 300 to channel 268 will break the instant applicant from MX group 35 and bring the facility into technical compliance.

#### **3.1 LPFM Short Space Study for Channel 268**

Appendix A is a channel study which demonstrates the distance separation requirements of 47 C.F.R. Section 73.807. As demonstrated the proposed LPFM facility is short spaced to the following second adjacent channel facilities:

KRTH-FM FCC File No.: BMLH-20071015AJG  
KSCA-FM FCC File No.: BMLH-20111031ADQ

#### **3.2 Second Adjacent Channel Short Spacing Waiver for KRTH-FM**

Appendix B demonstrates the Undesired-to-Desired signal ratio method using the directional antenna illustrated in Appendix F rotated 150 degrees from true north and the corresponding interfering and protected contours. As shown, the interfering contour does not touch occupied structures or major roadways. Therefore, no population shall be subject to interference from the proposed station according to the undesired-to-desired ratio method. As such, a waiver is respectfully requested for the proposed LPFM second-adjacent channel short-spacing with KRTH-FM FCC File BMLH-20071015AJG, facility ID 28631 and of which is not an existing station designated with a Radio Reading Service.

#### **3.3 Second Adjacent Channel Short Spacing Waiver for KSCA-FM**

Appendix C demonstrates the Undesired-to-Desired signal ratio method using the directional antenna illustrated in Appendix F rotated 150 degrees from true north and the corresponding interfering and protected contours. As shown, the interfering contour does not touch occupied structures or major roadways. Therefore, no population shall be subject to interference from the proposed station according to the undesired-to-desired ratio method. As such, a waiver is respectfully requested for the proposed LPFM second-adjacent channel short-spacing with KSCA-FM FCC File BMLH-20111031ADQ, facility ID 24548 and of which is not an existing station designated with a Radio Reading Service.

### **4.0 INTERFERENCE TO TRANSLATOR OR BOOSTER INPUT SIGNALS**

Pursuant to the requirements of 47 C.F.R. Section 73.827(a), Appendix D lists the following FM translator and booster stations which are located within 10 km of the proposed LPFM site and are subject to potential third adjacent-channel interference to the reception of their input channel from their parent station from the herein proposed LPFM facility:

KXOS-FM1 FCC File No: BLFTB-20090130ASX  
Input Channel: KXOS-FM Ch. 230

None of the listed translators or boosters has an input channel that is third-adjacent to the proposed LPFM facility; as such the proposed LPFM facility will not cause interference to the input signals of and surrounding FM translator or FM booster stations.

## **5.0 CHANNEL 6 TELEVISION STATIONS**

Section 47 C.F.R. Section 73.825 TV Channel 6 interference is not a factor for LPFM stations operating on channels 221 – 300 and thus is not applicable to the instant application for further analysis.

## **6.0 AM STATION PROXIMITY**

Appendix E demonstrates that there no AM stations within 3.2 km of the proposed coordinates, thus an exhibit demonstrating compliance with 47 C.F.R. Section 73.1692 is not required. No height alterations shall be made to the existing structure and thus the height in electrical degrees will not be altered relative any AM station beyond 3.2 km

## **7.0 INTERNATIONAL COORDINATION**

The proposed facility lies 250 km from the Mexican border and is thus within 320 km coordination distance. Applicants between 125 km and 320 km of Mexico require coordination only if they specify an ERP exceeding 50 watts in the direction of Mexico. The instant amendment specifies an ERP of 49 Watts and thus will not require coordination with Mexican officials.

## **8.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)**

### **8.1 General Environmental Requirements**

The proposed support structure and antenna will not:

- Require high intensity white lighting.
- Is not located in an official designated wilderness area or wildlife preserve.
- Does not threaten the existence or habitat of endangered species.
- Does not affect districts, sites, buildings, structures or objects significant in American history, architecture, archaeology, engineering or culture that are listed in the National Register of Historic Places or are eligible for listing.
- Does not affect Indian religious sites.
- Is not located in a floodplain
- Does not require construction that involves significant changes in surface features (e.g., wetland fill, deforestation or water diversion).

## 8.2 Radio Frequency Radiation (RFR) Compliance.

Appendix G is a RFR analysis which demonstrates that the peak RFR exposure is less than 5% of the most restrictive permissible exposure threshold standing anywhere at ground level and in any proximity to the proposed support structure. Pursuant to OET Bulletin 65, since the proposed operation does not exceed 5% of the most permissible exposure at any location 2 meters above ground, it is not considered a significant contributor to RFR and other sources of RFR need not be taken into consideration for a net effect. The instant application is compliant with the FCC limits for human exposure to RFR and thus is excluded from further environmental processing.

## 9.0 DIRECTIONAL ANTENNA SPECIFICATIONS

Pursuant to 47 C.F.R Section 73.816(c)(2) LPFM permittees proposing a waiver of the second-adjacent channel spacing requirements of Section 73.807 may utilize directional antennas for the sole purpose of justifying such a waiver. As demonstrated in Section 3, a directional antenna will be required particularly in order to provide interference protection to KRTH-FM and KSCA-FM.

### 9.1 LPFM Directional Antenna Make Model and Orientation and Polarization

A Kathrein Scala Division Model HDCA-5CP/RM FM single bay Circularly Polarized Yagi antenna shall be mounted 10.7m above ground on the support structure and shall be oriented 150 degrees relative to true north. Appendix F specifies the antennas technical parameters and directional relative field pattern. **The Appendix F "off the shelf" pattern is pre-oriented and 150 degrees clockwise rotation will properly orient the pattern.**

## **10.0 CONCLUSION**

As demonstrated a major amendment to the proposed facility shall remove it from MX group 35 and place it to a channel where it will not be mutual exclusive with any other facilities when considering the requested second adjacent channel waivers. On all other accounts, the proposed facility is well within compliance on all regulatory matters.

## **11.0 CERTIFICATION**

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on July 10, 2014.

KESSLER AND GEHMAN ASSOCIATES, INC.



Ryan Wilhour  
Consulting Engineer

**APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA**

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014

**APPENDIX A - Short Spacing Study for Channel 268**

Santa Clarita Public Service Broadcasters Corporation								
REFERENCE					DISPLAY DATES			
34 25 45.0 N.					CLASS = L1 Int = L1			
118 34 51.1 W.					DATA 07-09-14			
Current Spacings to 2nd Adj.					SEARCH 07-09-14			
----- Channel 268 - 101.5 MHz -----								
Call	Channel	Location		Azi	Dist	FCC	Margin	
KRTH	LIC	266B	Los Angeles	CA	115.3	52.35	66.5	-14.2
KSCA	LIC	270B	Glendale	CA	115.5	52.86	66.5	-13.6
1594015	APP	268L1	Panorama City	CA	152.2	24.43	23.5	0.9
KGFM	LIC	268B	Bakersfield	CA	352.7	112.85	111.5	1.4
1584805	APP	268L1	Canoga Park	CA	182.0	29.10	23.5	5.6
KSCA-FM1	LIC-D	270D	Santa Clarita	CA	188.5	11.12	5.5	5.6
1579528	APP	268L1	Los Angeles	CA	164.2	34.97	23.5	11.5
KSBL	CP -Z	269B	Isla Vista	CA	244.5	109.10	96.5	12.6
K268CO	CP -D	268D	Lake Los Angeles	CA	52.2	39.59	25.5	14.1
1592989	APP	268L1	Los Angeles	CA	165.5	38.22	23.5	14.7
1592010	APP	268L1	Los Angeles	CA	149.8	38.93	23.5	15.4
1594460	APP	268L1	Los Angeles	CA	149.8	38.93	23.5	15.4
1591985	APP	268L1	Los Angeles	CA	153.8	39.77	23.5	16.3
1635745	APP	268L1	Glendale	CA	126.5	41.84	23.5	18.3
1592016	APP	268L1	Los Angeles	CA	138.1	42.27	23.5	18.8
1594454	APP	268L1	Los Angeles	CA	139.5	46.95	23.5	23.5
1593515	APP	268L1	Los Angeles	CA	144.7	50.87	23.5	27.4
1569834	APP	268L1	Pasadena	CA	128.0	51.52	23.5	28.0
1615292	APP	268L1	Los Angeles	CA	144.4	52.22	23.5	28.7
1594631	APP	268L1	Pasadena	CA	126.1	54.78	23.5	31.3
1586120	APP	268L1	Los Angeles	CA	140.8	55.04	23.5	31.5
KOCC-LP	LIC	268L1	Oxnard	CA	244.2	58.66	23.5	35.2
1626189	APP	268L1	El Monte	CA	129.6	62.17	23.5	38.7
KSBL	LIC	269B1	Carpinteria	CA	274.4	116.79	73.5	43.3
1581964	APP	268L1	Compton	CA	149.4	67.56	23.5	44.1
1628238	APP	268L1	Compton	CA	153.7	69.33	23.5	45.8
1595129	APP	268L1	West Covina	CA	124.9	70.95	23.5	47.5
1596210	APP	268L1	City Of Industry	CA	127.2	74.47	23.5	51.0
K271CA	CP -D	271D	Oxnard	CA	240.4	58.66	7.5	51.2
1626192	APP	268L1	West Covina	CA	124.0	74.85	23.5	51.4
1591208	APP	268L1	Long Beach	CA	151.0	79.82	23.5	56.3
K271AC	LIC-D	271D	Ojai	CA	262.9	69.94	13.5	56.4
1642247	APP	268L1	Long Beach	CA	155.3	80.78	23.5	57.3
1564165	APP	268L1	Sante Fe Springs	CA	133.4	80.93	23.5	57.4
1629588	APP	268L1	Anaheim	CA	138.6	85.67	23.5	62.2
KZPE	CP	271A	Ford City	CA	311.4	96.46	28.5	68.0

All separation margins include rounding

## **APPENDIX B - Short Spacing Waiver Calculation for KRTH-FM**

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility:

### Undesired-to-Desired Ratio Method:

BMLH-20071015AJG f(50,50) signal: 76.1 dBu<sup>4</sup>

Second-adjacent protection: + 40 dB

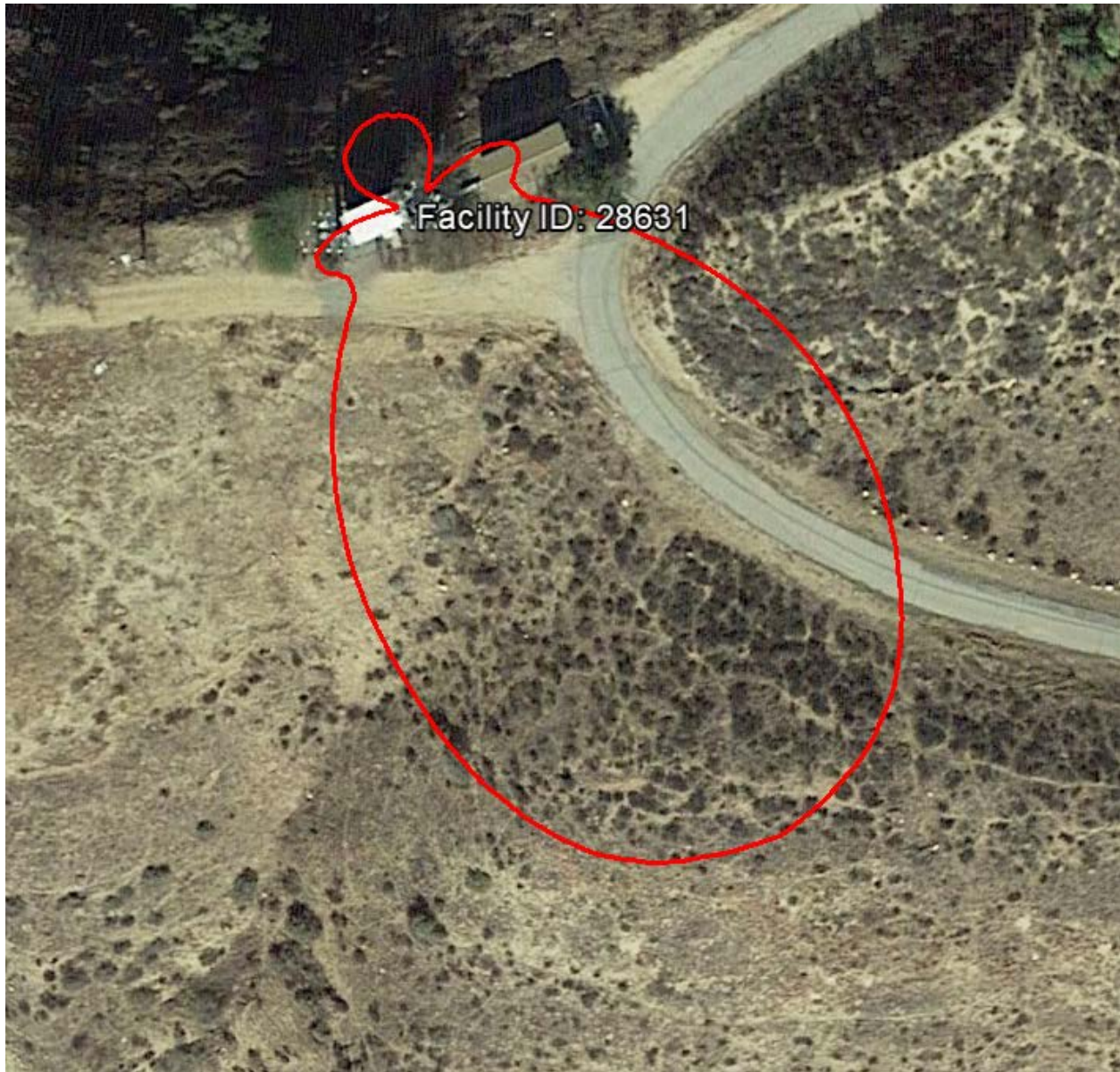
Interference-zone boundary: 116.1 dBu

Distance to 116.1 dBu: 76.8 meters at 150 degrees (where ERP = 0.049 kW, at antenna relative field of 1.0)

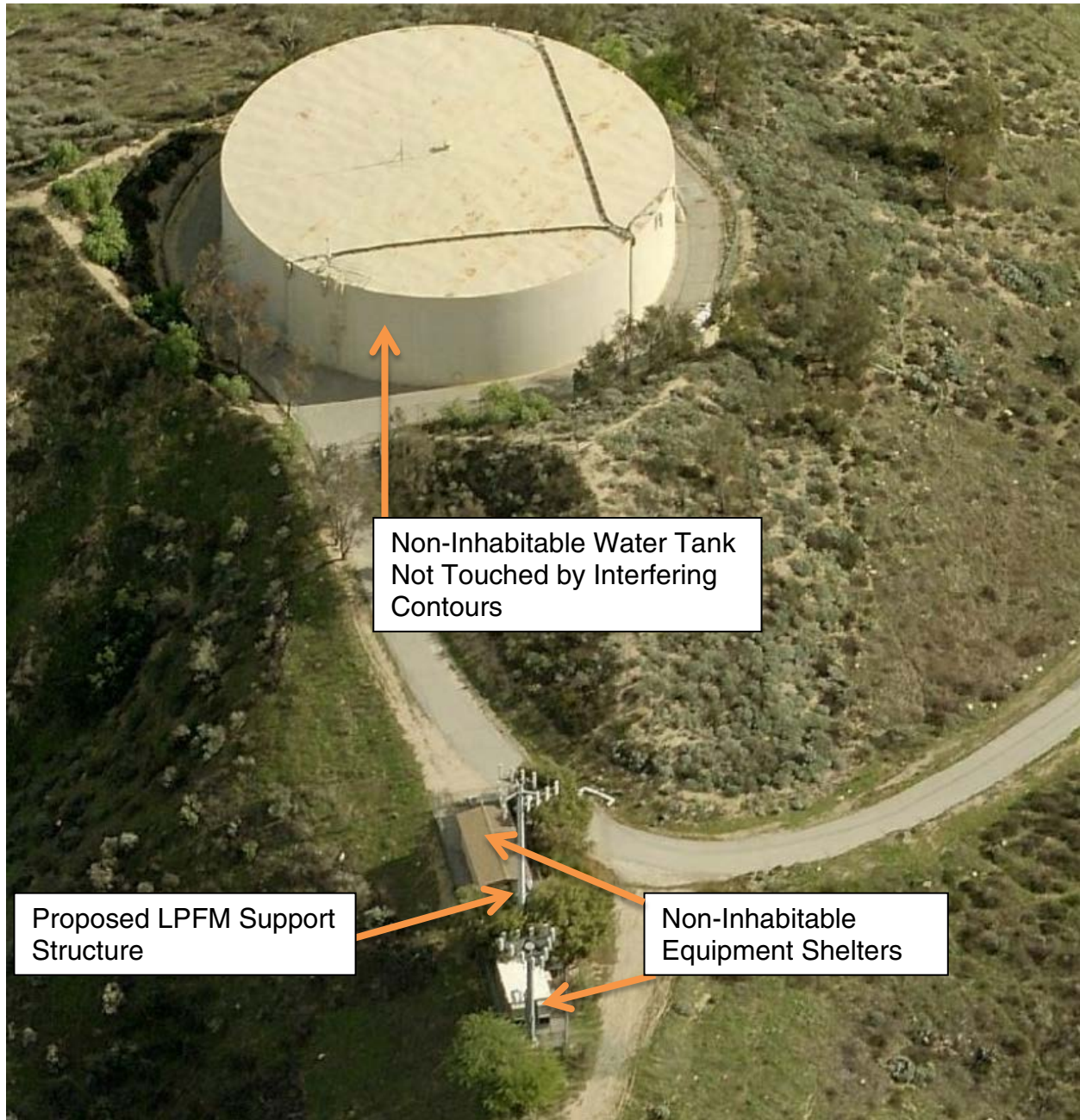
Using the directional antenna shown in Appendix F rotated with its maximum lobe of radiation pointed towards 150 degrees from true north, the peak interference zone propagates 76.8 meters. As demonstrated below the directional antenna pulls a null in order to keep the 116.1 dBu interfering contour from intersecting neither occupied structures nor major roadways, thus as demonstrated no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.

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<sup>4</sup> tvfms\_metric() C-language subroutine as distributed by the FCC. At distances less than or equal to 1.5 km, tvfms\_metric() uses the free-space method.



As demonstrated below from an “birds eye view” of the transmitter site, there are two communications equipment shelters that lie within the prohibited zone. Neither of the equipment shelters are habitable by people nor can they be used for office/retail space. The shelters are on site to keep wireless equipment for the towers secured and in a climate controlled environment. As such, the interference zone does not contact occupants nor does it intersect with nearby occupied structures or major roadways, thus no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.



## **APPENDIX C - Short Spacing Waiver Calculation for KSCA-FM**

Short Spacing Undesired-to-Desired Ratio Calculation to second-adjacent channel facility:

Undesired-to-Desired Ratio Method:

BMLH-20111031ADQ f(50,50) signal: 64.0 dBu<sup>5</sup>

Second-adjacent protection: + 40 dB

Interference-zone boundary: 104 dBu

Distance to 104 dBu: 309.3 meters at 150 degrees (where ERP = 0.049 kW, at antenna relative field of 1.0)

Using the directional antenna shown in Appendix F rotated with its maximum lobe of radiation pointed towards 150 degrees from true north, the peak interference zone propagates 309.4 meters. As demonstrated below the directional antenna pulls a null in order to keep the 104.0 dBu interfering contour from intersecting neither occupied structures nor major roadways, thus as demonstrated no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.

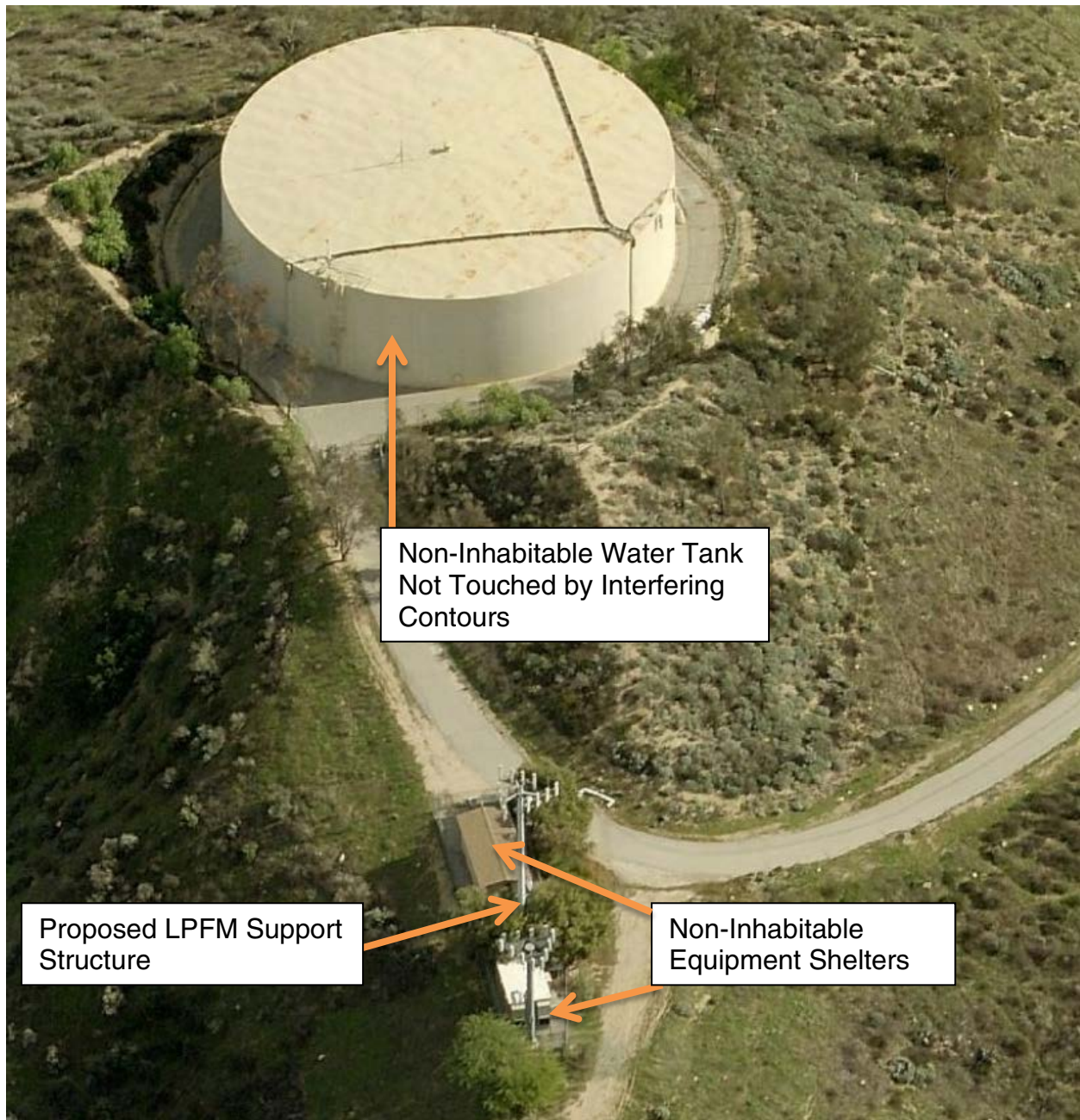
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<sup>5</sup> tvfms\_metric() C-language subroutine as distributed by the FCC. At distances less than or equal to 1.5 km, tvfms\_metric() uses the free-space method.



As demonstrated below from a “birds eye view” of the transmitter site, there are two communications equipment shelters that lie within the prohibited zone. Neither of the equipment shelters are habitable by people nor can they be used for office/retail space. The shelters are on site to keep wireless equipment for the towers secured and in a climate controlled environment. As such, the interference zone does not contact occupants nor does it intersect with nearby occupied structures or major roadways, thus

no population will be subject to interference from the proposed station according to the undesired-to-desired ratio method.



**APPENDIX D – Translator and Booster Proximity**

The proposed transmitter site proximity to FM boosters and translators was determined using the FCC's FMQuery tool:

<http://www.fcc.gov/encyclopedia/fm-query-broadcast-station-search>

Results are as follows:

Boosters within 10km of the proposed LPFM transmitter site:

**Search Parameters**

Service:	FB
Search radius:	10.00 km
Center lat / lon:	N 34 25 45.00 W 118 34 51.10
Lower Channel	200
Upper Channel	300

Call	Channel	Class	Service	Frequency	Status	City	State	Country	File Number	Docket
KXOS-FM1	230	D	FB	93.9 MHz	LIC	SANTA CLARITA	CA	US	BLFTB-20090130ASX	

\*\*\* 1 FM Records within 10.00 km distance of 34° 25' 45.00" N, 118° 34' 51.10" W \*\*\*

Translators within 10km of the proposed LPFM transmitter site:

**Search Parameters**

Service:	FX
Search radius:	10.00 km
Center lat / lon:	N 34 25 45.00 W 118 34 51.10
Lower Channel	200
Upper Channel	300

\*\*\* 0 FM Records within 10.00 km distance of 34° 25' 45.00" N, 118° 34' 51.10" W \*\*\*

## **APPENDIX E – AM Station Proximity**

The proposed transmitter site proximity to AM stations was determined using the FCC's FMQuery tool:

<http://www.fcc.gov/encyclopedia/am-query-broadcast-station-search>

Results are as follows:

AM Stations within 3.2 km radius for 47 C.F.R. Section 73.1692 compliance:

<b>Search Parameters</b>	
Search radius:	3.20 km
Center lat / lon:	N 34 25 45.00 W 118 34 51.10
Lower Frequency	530
Upper Frequency	1700

\*\*\* 0 AM Records within 3.20 km distance of 34° 25' 45.00" N, 118° 34' 51.10" W \*\*\*

## APPENDIX F – Broadcast Antenna Specifications


**HDCA-5CP/RM**  
 FM Yagi Antenna  
 88 to 108 MHz

The Kathrein-Scala HDCA-5CP/RM is a ruggedly built yagi antenna, designed for professional FM transmit and receive applications.

Like all Kathrein-Scala antennas, the HDCA-5CP/RM is made of the finest materials resulting in superior performance and long service life.

The HDCA-5CP/RM may be used stand-alone or in stacked arrays for higher gain, increased side-lobe suppression, or custom azimuth patterns.

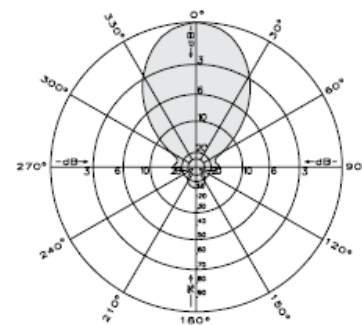
**Specifications:**

Frequency range	Any specified FM channel 88 to 108 MHz
Gain	4.5 dBd
Power gain	2.82
Impedance	50 or 75 ohms
VSWR	< 1.5:1
Polarization	Circular
Front-to-back ratio	>14 dB
Maximum input power	100 watts (75Ω N) 250 watts (50Ω N)
Azimuth pattern	62 degrees (half-power)
Elevation pattern	62 degrees (half-power)
Connector	50Ω N or 75Ω N
Weight	34.5 lb (15.6 kg)
Dimensions	74.1 x 54 x 51 inches maximum (1882 x 1372 x 1295 mm)
Wind load	at 100 mph (160 kph) 79 lbf (350 N) maximum
Wind survival rating*	120 mph (200 kph)
Shipping dimensions	84 x 13 x 8 inches maximum (2134 x 330 x 203 mm)
Shipping weight	37.5 lb (15.6 kg)
Mounting	For masts of 2.375 inches (60 mm) OD.

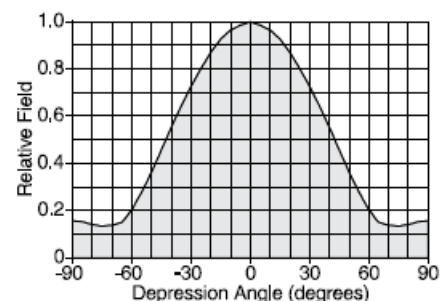
\* Mechanical design is based on environmental conditions as stipulated in TIA-222-G-2 (December 2009) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

**Order Information:**

Contact Kathrein-Scala Customer Service for detailed order information.



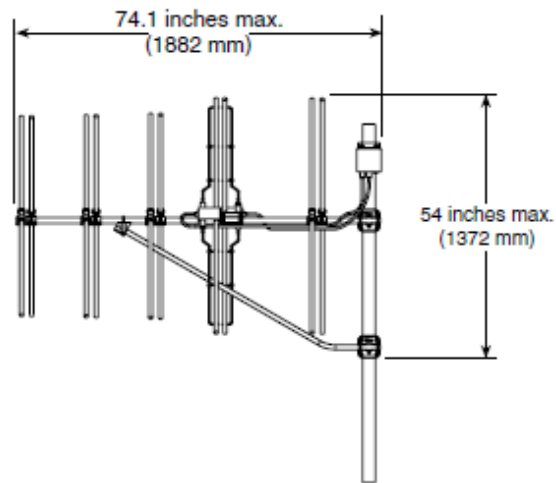
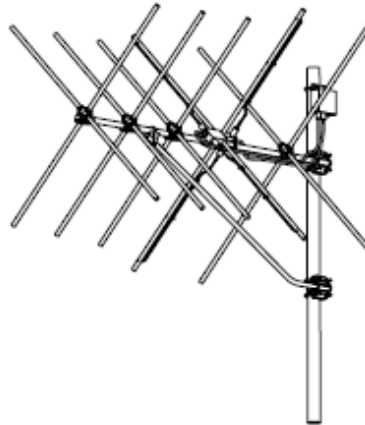
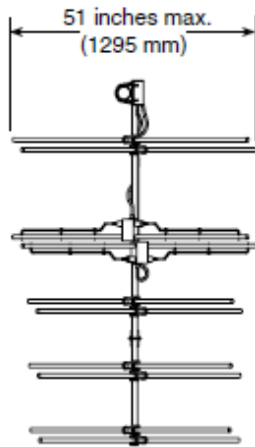
Azimuth pattern



Elevation pattern

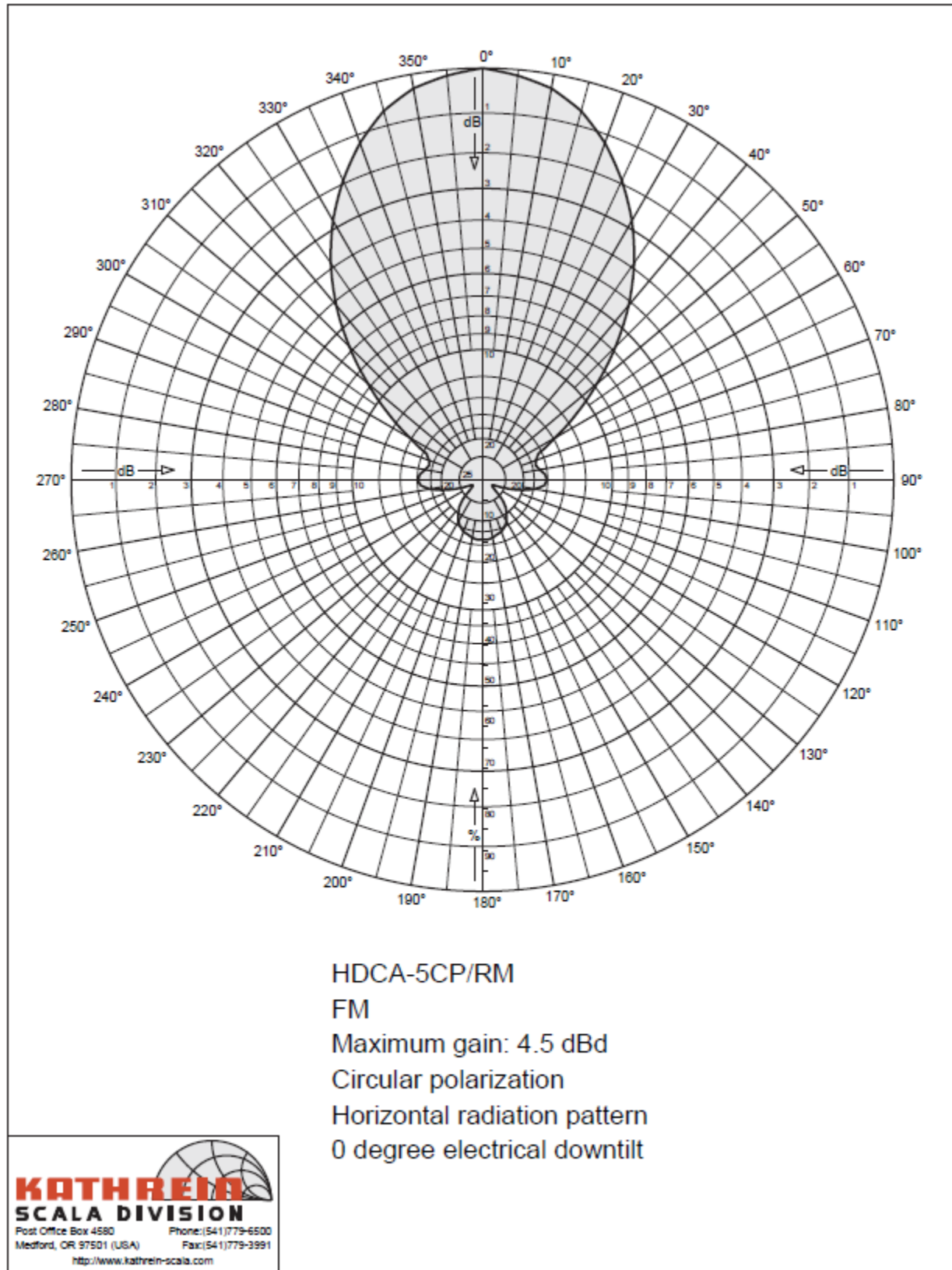


**HDCA-5CP/RM**  
**FM Yagi Antenna**  
**88 to 108 MHz**



**Order Information:**

Contact Kathrein-Scala Customer Service for detailed order information.



**APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA**

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Horizontal radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	4.50	2.82	45	0.458	-6.79	-2.29	0.59
1	0.997	-0.02	4.48	2.80	46	0.439	-7.15	-2.65	0.54
2	0.994	-0.05	4.45	2.79	47	0.420	-7.53	-3.03	0.50
3	0.992	-0.07	4.43	2.77	48	0.401	-7.93	-3.43	0.45
4	0.989	-0.10	4.40	2.75	49	0.382	-8.35	-3.85	0.41
5	0.986	-0.12	4.38	2.74	50	0.363	-8.79	-4.29	0.37
6	0.982	-0.16	4.34	2.72	51	0.346	-9.21	-4.71	0.34
7	0.978	-0.20	4.30	2.69	52	0.329	-9.65	-5.15	0.31
8	0.974	-0.23	4.27	2.67	53	0.312	-10.11	-5.61	0.27
9	0.970	-0.27	4.23	2.65	54	0.295	-10.59	-6.09	0.25
10	0.966	-0.30	4.20	2.63	55	0.278	-11.11	-6.61	0.22
11	0.958	-0.37	4.13	2.59	56	0.263	-11.59	-7.09	0.20
12	0.951	-0.44	4.06	2.55	57	0.248	-12.10	-7.60	0.17
13	0.943	-0.51	3.99	2.51	58	0.233	-12.64	-8.14	0.15
14	0.935	-0.58	3.92	2.47	59	0.218	-13.22	-8.72	0.13
15	0.928	-0.65	3.85	2.43	60	0.203	-13.84	-9.34	0.12
16	0.916	-0.76	3.74	2.37	61	0.193	-14.30	-9.80	0.10
17	0.905	-0.87	3.63	2.31	62	0.182	-14.80	-10.30	0.09
18	0.894	-0.98	3.52	2.25	63	0.171	-15.32	-10.82	0.08
19	0.882	-1.09	3.41	2.19	64	0.161	-15.88	-11.38	0.07
20	0.871	-1.20	3.30	2.14	65	0.150	-16.48	-11.98	0.06
21	0.857	-1.34	3.16	2.07	66	0.148	-16.61	-12.11	0.06
22	0.843	-1.48	3.02	2.00	67	0.145	-16.75	-12.25	0.06
23	0.830	-1.62	2.88	1.94	68	0.143	-16.89	-12.39	0.06
24	0.816	-1.77	2.73	1.88	69	0.141	-17.04	-12.54	0.06
25	0.802	-1.91	2.59	1.81	70	0.138	-17.18	-12.68	0.05
26	0.787	-2.08	2.42	1.75	71	0.138	-17.23	-12.73	0.05
27	0.772	-2.25	2.25	1.68	72	0.137	-17.28	-12.78	0.05
28	0.757	-2.42	2.08	1.62	73	0.136	-17.33	-12.83	0.05
29	0.742	-2.59	1.91	1.55	74	0.135	-17.38	-12.88	0.05
30	0.727	-2.77	1.73	1.49	75	0.134	-17.44	-12.94	0.05
31	0.710	-2.97	1.53	1.42	76	0.136	-17.35	-12.85	0.05
32	0.693	-3.18	1.32	1.36	77	0.137	-17.26	-12.76	0.05
33	0.677	-3.39	1.11	1.29	78	0.138	-17.18	-12.68	0.05
34	0.660	-3.61	0.89	1.23	79	0.140	-17.09	-12.59	0.06
35	0.643	-3.83	0.67	1.17	80	0.141	-17.01	-12.51	0.06
36	0.625	-4.08	0.42	1.10	81	0.143	-16.87	-12.37	0.06
37	0.607	-4.33	0.17	1.04	82	0.146	-16.73	-12.23	0.06
38	0.589	-4.59	-0.09	0.98	83	0.148	-16.59	-12.09	0.06
39	0.571	-4.86	-0.36	0.92	84	0.150	-16.46	-11.96	0.06
40	0.553	-5.14	-0.64	0.86	85	0.153	-16.33	-11.83	0.07
41	0.534	-5.44	-0.94	0.80	86	0.153	-16.28	-11.78	0.07
42	0.515	-5.76	-1.26	0.75	87	0.154	-16.23	-11.73	0.07
43	0.496	-6.09	-1.59	0.69	88	0.155	-16.19	-11.69	0.07
44	0.477	-6.43	-1.93	0.64	89	0.156	-16.14	-11.64	0.07

26-Oct-2011

**APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA**

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Horizontal radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
90	0.157	-16.10	-11.60	0.07	135	0.067	-23.41	-18.91	0.01
91	0.156	-16.16	-11.66	0.07	136	0.072	-22.89	-18.39	0.01
92	0.155	-16.21	-11.71	0.07	137	0.076	-22.40	-17.90	0.02
93	0.154	-16.27	-11.77	0.07	138	0.080	-21.94	-17.44	0.02
94	0.153	-16.33	-11.83	0.07	139	0.084	-21.50	-17.00	0.02
95	0.152	-16.38	-11.88	0.06	140	0.088	-21.08	-16.58	0.02
96	0.147	-16.63	-12.13	0.06	141	0.091	-20.81	-16.31	0.02
97	0.143	-16.89	-12.39	0.06	142	0.094	-20.54	-16.04	0.02
98	0.139	-17.16	-12.66	0.05	143	0.097	-20.29	-15.79	0.03
99	0.134	-17.44	-12.94	0.05	144	0.100	-20.04	-15.54	0.03
100	0.130	-17.72	-13.22	0.05	145	0.102	-19.80	-15.30	0.03
101	0.123	-18.18	-13.68	0.04	146	0.105	-19.56	-15.06	0.03
102	0.117	-18.66	-14.16	0.04	147	0.108	-19.33	-14.83	0.03
103	0.110	-19.17	-14.67	0.03	148	0.111	-19.10	-14.60	0.03
104	0.103	-19.72	-15.22	0.03	149	0.114	-18.88	-14.38	0.04
105	0.097	-20.29	-15.79	0.03	150	0.117	-18.66	-14.16	0.04
106	0.089	-20.98	-16.48	0.02	151	0.119	-18.51	-14.01	0.04
107	0.082	-21.72	-17.22	0.02	152	0.121	-18.37	-13.87	0.04
108	0.075	-22.54	-18.04	0.02	153	0.123	-18.23	-13.73	0.04
109	0.067	-23.44	-18.94	0.01	154	0.125	-18.08	-13.58	0.04
110	0.060	-24.44	-19.94	0.01	155	0.127	-17.95	-13.45	0.05
111	0.054	-25.35	-20.85	0.01	156	0.128	-17.84	-13.34	0.05
112	0.048	-26.38	-21.88	0.01	157	0.130	-17.74	-13.24	0.05
113	0.042	-27.54	-23.04	0.00	158	0.131	-17.64	-13.14	0.05
114	0.036	-28.87	-24.37	0.00	159	0.133	-17.54	-13.04	0.05
115	0.030	-30.46	-25.96	0.00	160	0.134	-17.45	-12.95	0.05
116	0.029	-30.65	-26.15	0.00	161	0.135	-17.40	-12.90	0.05
117	0.029	-30.85	-26.35	0.00	162	0.136	-17.36	-12.86	0.05
118	0.028	-31.06	-26.56	0.00	163	0.136	-17.32	-12.82	0.05
119	0.027	-31.27	-26.77	0.00	164	0.137	-17.27	-12.77	0.05
120	0.027	-31.48	-26.98	0.00	165	0.138	-17.23	-12.73	0.05
121	0.027	-31.27	-26.77	0.00	166	0.139	-17.17	-12.67	0.05
122	0.028	-31.06	-26.56	0.00	167	0.140	-17.10	-12.60	0.05
123	0.029	-30.85	-26.35	0.00	168	0.141	-17.03	-12.53	0.06
124	0.029	-30.65	-26.15	0.00	169	0.142	-16.97	-12.47	0.06
125	0.030	-30.46	-25.96	0.00	170	0.143	-16.90	-12.40	0.06
126	0.032	-29.81	-25.31	0.00	171	0.143	-16.87	-12.37	0.06
127	0.035	-29.20	-24.70	0.00	172	0.144	-16.82	-12.32	0.06
128	0.037	-28.64	-24.14	0.00	173	0.145	-16.79	-12.29	0.06
129	0.039	-28.10	-23.60	0.00	174	0.146	-16.74	-12.24	0.06
130	0.042	-27.60	-23.10	0.00	175	0.146	-16.70	-12.20	0.06
131	0.047	-26.59	-22.09	0.01	176	0.146	-16.71	-12.21	0.06
132	0.052	-25.68	-21.18	0.01	177	0.146	-16.73	-12.23	0.06
133	0.057	-24.86	-20.36	0.01	178	0.146	-16.74	-12.24	0.06
134	0.062	-24.11	-19.61	0.01	179	0.145	-16.76	-12.26	0.06

26-Oct-2011

# APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Horizontal radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
180	0.145	-16.77	-12.27	0.06	225	0.067	-23.41	-18.91	0.01
181	0.145	-16.76	-12.26	0.06	226	0.062	-24.11	-19.61	0.01
182	0.146	-16.74	-12.24	0.06	227	0.057	-24.86	-20.36	0.01
183	0.146	-16.73	-12.23	0.06	228	0.052	-25.68	-21.18	0.01
184	0.146	-16.71	-12.21	0.06	229	0.047	-26.59	-22.09	0.01
185	0.146	-16.70	-12.20	0.06	230	0.042	-27.60	-23.10	0.00
186	0.146	-16.74	-12.24	0.06	231	0.039	-28.10	-23.60	0.00
187	0.145	-16.79	-12.29	0.06	232	0.037	-28.64	-24.14	0.00
188	0.144	-16.82	-12.32	0.06	233	0.035	-29.20	-24.70	0.00
189	0.143	-16.87	-12.37	0.06	234	0.032	-29.81	-25.31	0.00
190	0.143	-16.90	-12.40	0.06	235	0.030	-30.46	-25.96	0.00
191	0.142	-16.97	-12.47	0.06	236	0.029	-30.65	-26.15	0.00
192	0.141	-17.03	-12.53	0.06	237	0.029	-30.85	-26.35	0.00
193	0.140	-17.10	-12.60	0.05	238	0.028	-31.06	-26.56	0.00
194	0.139	-17.17	-12.67	0.05	239	0.027	-31.27	-26.77	0.00
195	0.138	-17.23	-12.73	0.05	240	0.027	-31.48	-26.98	0.00
196	0.137	-17.27	-12.77	0.05	241	0.027	-31.27	-26.77	0.00
197	0.136	-17.32	-12.82	0.05	242	0.028	-31.06	-26.56	0.00
198	0.136	-17.36	-12.86	0.05	243	0.029	-30.85	-26.35	0.00
199	0.135	-17.40	-12.90	0.05	244	0.029	-30.65	-26.15	0.00
200	0.134	-17.45	-12.95	0.05	245	0.030	-30.46	-25.96	0.00
201	0.133	-17.54	-13.04	0.05	246	0.036	-28.87	-24.37	0.00
202	0.131	-17.64	-13.14	0.05	247	0.042	-27.54	-23.04	0.00
203	0.130	-17.74	-13.24	0.05	248	0.048	-26.38	-21.88	0.01
204	0.128	-17.84	-13.34	0.05	249	0.054	-25.35	-20.85	0.01
205	0.127	-17.95	-13.45	0.05	250	0.060	-24.44	-19.94	0.01
206	0.125	-18.08	-13.58	0.04	251	0.067	-23.44	-18.94	0.01
207	0.123	-18.23	-13.73	0.04	252	0.075	-22.54	-18.04	0.02
208	0.121	-18.37	-13.87	0.04	253	0.082	-21.72	-17.22	0.02
209	0.119	-18.51	-14.01	0.04	254	0.089	-20.98	-16.48	0.02
210	0.117	-18.66	-14.16	0.04	255	0.097	-20.29	-15.79	0.03
211	0.114	-18.88	-14.38	0.04	256	0.103	-19.72	-15.22	0.03
212	0.111	-19.10	-14.60	0.03	257	0.110	-19.17	-14.67	0.03
213	0.108	-19.33	-14.83	0.03	258	0.117	-18.66	-14.16	0.04
214	0.105	-19.56	-15.06	0.03	259	0.123	-18.18	-13.68	0.04
215	0.102	-19.80	-15.30	0.03	260	0.130	-17.72	-13.22	0.05
216	0.100	-20.04	-15.54	0.03	261	0.134	-17.44	-12.94	0.05
217	0.097	-20.29	-15.79	0.03	262	0.139	-17.16	-12.66	0.05
218	0.094	-20.54	-16.04	0.02	263	0.143	-16.89	-12.39	0.06
219	0.091	-20.81	-16.31	0.02	264	0.147	-16.63	-12.13	0.06
220	0.088	-21.08	-16.58	0.02	265	0.152	-16.38	-11.88	0.06
221	0.084	-21.50	-17.00	0.02	266	0.153	-16.33	-11.83	0.07
222	0.080	-21.94	-17.44	0.02	267	0.154	-16.27	-11.77	0.07
223	0.076	-22.40	-17.90	0.02	268	0.155	-16.21	-11.71	0.07
224	0.072	-22.89	-18.39	0.01	269	0.156	-16.16	-11.66	0.07

26-Oct-2011

# APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Horizontal radiation pattern

0 degree electrical downtilt

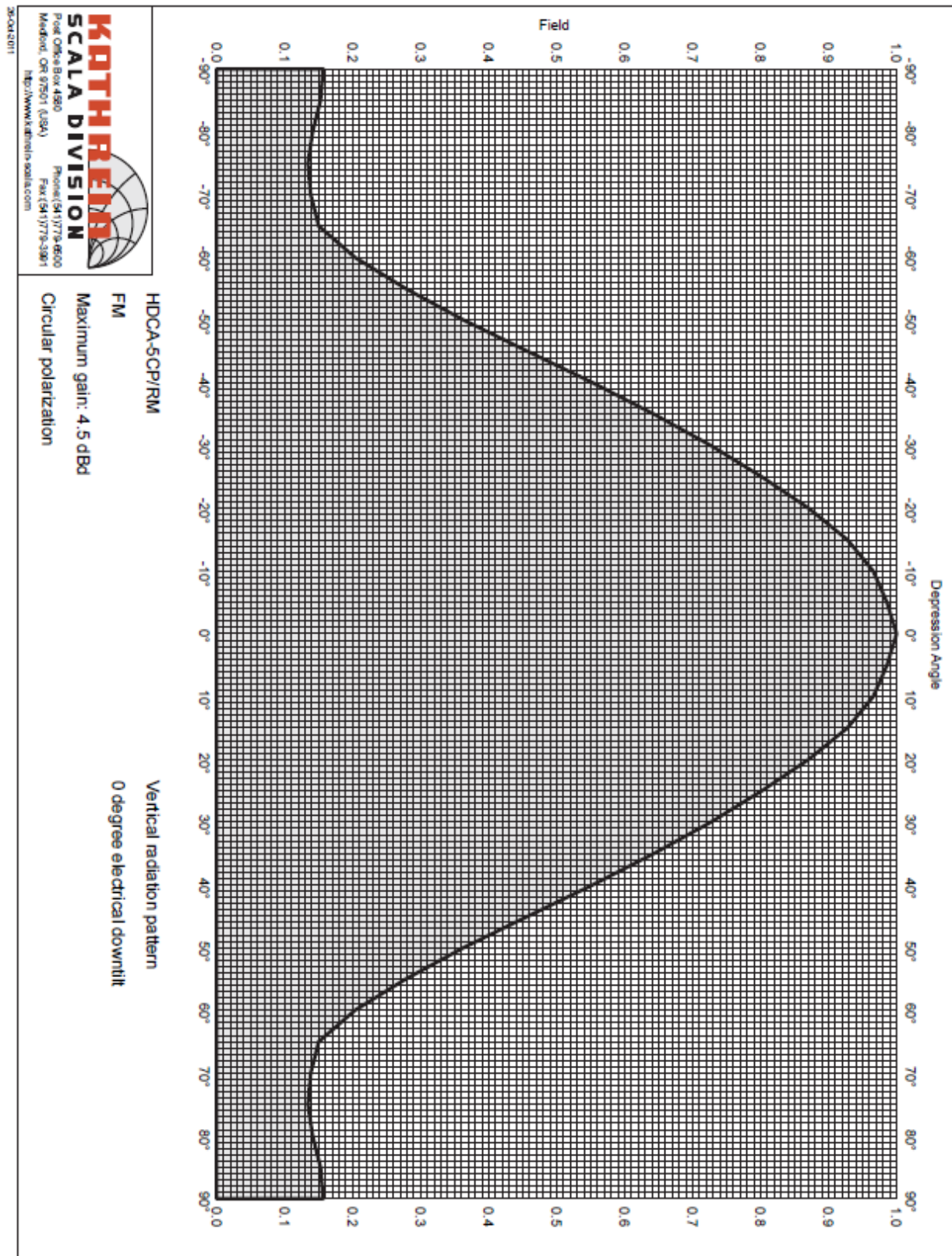
Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
270	0.157	-16.10	-11.60	0.07	315	0.458	-6.79	-2.29	0.59
271	0.156	-16.14	-11.64	0.07	316	0.477	-6.43	-1.93	0.64
272	0.155	-16.19	-11.69	0.07	317	0.496	-6.09	-1.59	0.69
273	0.154	-16.23	-11.73	0.07	318	0.515	-5.76	-1.26	0.75
274	0.153	-16.28	-11.78	0.07	319	0.534	-5.44	-0.94	0.80
275	0.153	-16.33	-11.83	0.07	320	0.553	-5.14	-0.64	0.86
276	0.150	-16.46	-11.96	0.06	321	0.571	-4.86	-0.36	0.92
277	0.148	-16.59	-12.09	0.06	322	0.589	-4.59	-0.09	0.98
278	0.146	-16.73	-12.23	0.06	323	0.607	-4.33	0.17	1.04
279	0.143	-16.87	-12.37	0.06	324	0.625	-4.08	0.42	1.10
280	0.141	-17.01	-12.51	0.06	325	0.643	-3.83	0.67	1.17
281	0.140	-17.09	-12.59	0.06	326	0.660	-3.61	0.89	1.23
282	0.138	-17.18	-12.68	0.05	327	0.677	-3.39	1.11	1.29
283	0.137	-17.26	-12.76	0.05	328	0.693	-3.18	1.32	1.36
284	0.136	-17.35	-12.85	0.05	329	0.710	-2.97	1.53	1.42
285	0.134	-17.44	-12.94	0.05	330	0.727	-2.77	1.73	1.49
286	0.135	-17.38	-12.88	0.05	331	0.742	-2.59	1.91	1.55
287	0.136	-17.33	-12.83	0.05	332	0.757	-2.42	2.08	1.62
288	0.137	-17.28	-12.78	0.05	333	0.772	-2.25	2.25	1.68
289	0.138	-17.23	-12.73	0.05	334	0.787	-2.08	2.42	1.75
290	0.138	-17.18	-12.68	0.05	335	0.802	-1.91	2.59	1.81
291	0.141	-17.04	-12.54	0.06	336	0.816	-1.77	2.73	1.88
292	0.143	-16.89	-12.39	0.06	337	0.830	-1.62	2.88	1.94
293	0.145	-16.75	-12.25	0.06	338	0.843	-1.48	3.02	2.00
294	0.148	-16.61	-12.11	0.06	339	0.857	-1.34	3.16	2.07
295	0.150	-16.48	-11.98	0.06	340	0.871	-1.20	3.30	2.14
296	0.161	-15.88	-11.38	0.07	341	0.882	-1.09	3.41	2.19
297	0.171	-15.32	-10.82	0.08	342	0.894	-0.98	3.52	2.25
298	0.182	-14.80	-10.30	0.09	343	0.905	-0.87	3.63	2.31
299	0.193	-14.30	-9.80	0.10	344	0.916	-0.76	3.74	2.37
300	0.203	-13.84	-9.34	0.12	345	0.928	-0.65	3.85	2.43
301	0.218	-13.22	-8.72	0.13	346	0.935	-0.58	3.92	2.47
302	0.233	-12.64	-8.14	0.15	347	0.943	-0.51	3.99	2.51
303	0.248	-12.10	-7.60	0.17	348	0.951	-0.44	4.06	2.55
304	0.263	-11.59	-7.09	0.20	349	0.958	-0.37	4.13	2.59
305	0.278	-11.11	-6.61	0.22	350	0.966	-0.30	4.20	2.63
306	0.295	-10.59	-6.09	0.25	351	0.970	-0.27	4.23	2.65
307	0.312	-10.11	-5.61	0.27	352	0.974	-0.23	4.27	2.67
308	0.329	-9.65	-5.15	0.31	353	0.978	-0.20	4.30	2.69
309	0.346	-9.21	-4.71	0.34	354	0.982	-0.16	4.34	2.72
310	0.363	-8.79	-4.29	0.37	355	0.986	-0.12	4.38	2.74
311	0.382	-8.35	-3.85	0.41	356	0.989	-0.10	4.40	2.75
312	0.401	-7.93	-3.43	0.45	357	0.992	-0.07	4.43	2.77
313	0.420	-7.53	-3.03	0.50	358	0.994	-0.05	4.45	2.79
314	0.439	-7.15	-2.65	0.54	359	0.997	-0.02	4.48	2.80

26-Oct-2011

# APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



# APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Vertical radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
-90	0.157	-16.10	-11.60	0.07	-45	0.458	-6.79	-2.29	0.59
-89	0.156	-16.14	-11.64	0.07	-44	0.477	-6.43	-1.93	0.64
-88	0.155	-16.19	-11.69	0.07	-43	0.496	-6.09	-1.59	0.69
-87	0.154	-16.23	-11.73	0.07	-42	0.515	-5.76	-1.26	0.75
-86	0.153	-16.28	-11.78	0.07	-41	0.534	-5.44	-0.94	0.80
-85	0.153	-16.33	-11.83	0.07	-40	0.553	-5.14	-0.64	0.86
-84	0.150	-16.46	-11.96	0.06	-39	0.571	-4.86	-0.36	0.92
-83	0.148	-16.59	-12.09	0.06	-38	0.589	-4.59	-0.09	0.98
-82	0.146	-16.73	-12.23	0.06	-37	0.607	-4.33	0.17	1.04
-81	0.143	-16.87	-12.37	0.06	-36	0.625	-4.08	0.42	1.10
-80	0.141	-17.01	-12.51	0.06	-35	0.643	-3.83	0.67	1.17
-79	0.140	-17.09	-12.59	0.06	-34	0.660	-3.61	0.89	1.23
-78	0.138	-17.18	-12.68	0.05	-33	0.677	-3.39	1.11	1.29
-77	0.137	-17.26	-12.76	0.05	-32	0.693	-3.18	1.32	1.36
-76	0.136	-17.35	-12.85	0.05	-31	0.710	-2.97	1.53	1.42
-75	0.134	-17.44	-12.94	0.05	-30	0.727	-2.77	1.73	1.49
-74	0.135	-17.38	-12.88	0.05	-29	0.742	-2.59	1.91	1.55
-73	0.136	-17.33	-12.83	0.05	-28	0.757	-2.42	2.08	1.62
-72	0.137	-17.28	-12.78	0.05	-27	0.772	-2.25	2.25	1.68
-71	0.138	-17.23	-12.73	0.05	-26	0.787	-2.08	2.42	1.75
-70	0.138	-17.18	-12.68	0.05	-25	0.802	-1.91	2.59	1.81
-69	0.141	-17.04	-12.54	0.06	-24	0.816	-1.77	2.73	1.88
-68	0.143	-16.89	-12.39	0.06	-23	0.830	-1.62	2.88	1.94
-67	0.145	-16.75	-12.25	0.06	-22	0.843	-1.48	3.02	2.00
-66	0.148	-16.61	-12.11	0.06	-21	0.857	-1.34	3.16	2.07
-65	0.150	-16.48	-11.98	0.06	-20	0.871	-1.20	3.30	2.14
-64	0.161	-15.88	-11.38	0.07	-19	0.882	-1.09	3.41	2.19
-63	0.171	-15.32	-10.82	0.08	-18	0.894	-0.98	3.52	2.25
-62	0.182	-14.80	-10.30	0.09	-17	0.905	-0.87	3.63	2.31
-61	0.193	-14.30	-9.80	0.10	-16	0.916	-0.76	3.74	2.37
-60	0.203	-13.84	-9.34	0.12	-15	0.928	-0.65	3.85	2.43
-59	0.218	-13.22	-8.72	0.13	-14	0.935	-0.58	3.92	2.47
-58	0.233	-12.64	-8.14	0.15	-13	0.943	-0.51	3.99	2.51
-57	0.248	-12.10	-7.60	0.17	-12	0.951	-0.44	4.06	2.55
-56	0.263	-11.59	-7.09	0.20	-11	0.958	-0.37	4.13	2.59
-55	0.278	-11.11	-6.61	0.22	-10	0.966	-0.30	4.20	2.63
-54	0.295	-10.59	-6.09	0.25	-9	0.970	-0.27	4.23	2.65
-53	0.312	-10.11	-5.61	0.27	-8	0.974	-0.23	4.27	2.67
-52	0.329	-9.65	-5.15	0.31	-7	0.978	-0.20	4.30	2.69
-51	0.346	-9.21	-4.71	0.34	-6	0.982	-0.16	4.34	2.72
-50	0.363	-8.79	-4.29	0.37	-5	0.986	-0.12	4.38	2.74
-49	0.382	-8.35	-3.85	0.41	-4	0.989	-0.10	4.40	2.75
-48	0.401	-7.93	-3.43	0.45	-3	0.992	-0.07	4.43	2.77
-47	0.420	-7.53	-3.03	0.50	-2	0.994	-0.05	4.45	2.79
-46	0.439	-7.15	-2.65	0.54	-1	0.997	-0.02	4.48	2.80
					0	1.000	0.00	4.50	2.82

25-Oct-2011

# APPLICATION FOR A NEW LPFM BROADCAST STATION TO SERVE SANTA CLARITA CA

Santa Clarita Public Service Broadcasters Corporation

July 10, 2014



HDCA-5CP/RM

FM

Maximum gain: 4.5 dBd

Circular polarization

Vertical radiation pattern

0 degree electrical downtilt

Angle	Field	Rel.dB	dBd	PwrMult	Angle	Field	Rel.dB	dBd	PwrMult
0	1.000	0.00	4.50	2.82	45	0.458	-6.79	-2.29	0.59
1	0.997	-0.02	4.48	2.80	46	0.439	-7.15	-2.65	0.54
2	0.994	-0.05	4.45	2.79	47	0.420	-7.53	-3.03	0.50
3	0.992	-0.07	4.43	2.77	48	0.401	-7.93	-3.43	0.45
4	0.989	-0.10	4.40	2.75	49	0.382	-8.35	-3.85	0.41
5	0.986	-0.12	4.38	2.74	50	0.363	-8.79	-4.29	0.37
6	0.982	-0.16	4.34	2.72	51	0.346	-9.21	-4.71	0.34
7	0.978	-0.20	4.30	2.69	52	0.329	-9.65	-5.15	0.31
8	0.974	-0.23	4.27	2.67	53	0.312	-10.11	-5.61	0.27
9	0.970	-0.27	4.23	2.65	54	0.295	-10.59	-6.09	0.25
10	0.966	-0.30	4.20	2.63	55	0.278	-11.11	-6.61	0.22
11	0.958	-0.37	4.13	2.59	56	0.263	-11.59	-7.09	0.20
12	0.951	-0.44	4.06	2.55	57	0.248	-12.10	-7.60	0.17
13	0.943	-0.51	3.99	2.51	58	0.233	-12.64	-8.14	0.15
14	0.935	-0.58	3.92	2.47	59	0.218	-13.22	-8.72	0.13
15	0.928	-0.65	3.85	2.43	60	0.203	-13.84	-9.34	0.12
16	0.916	-0.76	3.74	2.37	61	0.193	-14.30	-9.80	0.10
17	0.905	-0.87	3.63	2.31	62	0.182	-14.80	-10.30	0.09
18	0.894	-0.98	3.52	2.25	63	0.171	-15.32	-10.82	0.08
19	0.882	-1.09	3.41	2.19	64	0.161	-15.88	-11.38	0.07
20	0.871	-1.20	3.30	2.14	65	0.150	-16.48	-11.98	0.06
21	0.857	-1.34	3.16	2.07	66	0.148	-16.61	-12.11	0.06
22	0.843	-1.48	3.02	2.00	67	0.145	-16.75	-12.25	0.06
23	0.830	-1.62	2.88	1.94	68	0.143	-16.89	-12.39	0.06
24	0.816	-1.77	2.73	1.88	69	0.141	-17.04	-12.54	0.06
25	0.802	-1.91	2.59	1.81	70	0.138	-17.18	-12.68	0.05
26	0.787	-2.08	2.42	1.75	71	0.138	-17.23	-12.73	0.05
27	0.772	-2.25	2.25	1.68	72	0.137	-17.28	-12.78	0.05
28	0.757	-2.42	2.08	1.62	73	0.136	-17.33	-12.83	0.05
29	0.742	-2.59	1.91	1.55	74	0.135	-17.38	-12.88	0.05
30	0.727	-2.77	1.73	1.49	75	0.134	-17.44	-12.94	0.05
31	0.710	-2.97	1.53	1.42	76	0.136	-17.35	-12.85	0.05
32	0.693	-3.18	1.32	1.36	77	0.137	-17.26	-12.76	0.05
33	0.677	-3.39	1.11	1.29	78	0.138	-17.18	-12.68	0.05
34	0.660	-3.61	0.89	1.23	79	0.140	-17.09	-12.59	0.06
35	0.643	-3.83	0.67	1.17	80	0.141	-17.01	-12.51	0.06
36	0.625	-4.08	0.42	1.10	81	0.143	-16.87	-12.37	0.06
37	0.607	-4.33	0.17	1.04	82	0.146	-16.73	-12.23	0.06
38	0.589	-4.59	-0.09	0.98	83	0.148	-16.59	-12.09	0.06
39	0.571	-4.86	-0.36	0.92	84	0.150	-16.46	-11.96	0.06
40	0.553	-5.14	-0.64	0.86	85	0.153	-16.33	-11.83	0.07
41	0.534	-5.44	-0.94	0.80	86	0.153	-16.28	-11.78	0.07
42	0.515	-5.76	-1.26	0.75	87	0.154	-16.23	-11.73	0.07
43	0.496	-6.09	-1.59	0.69	88	0.155	-16.19	-11.69	0.07
44	0.477	-6.43	-1.93	0.64	89	0.156	-16.14	-11.64	0.07
					90	0.157	-16.10	-11.60	0.07

26-03-2011

## **APPENDIX G - Far Field Exposure to RF Emissions**

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in OET Bulletin 65, Edition 97-01. The RFR analysis is conducted pursuant to the following methodology:

Terrain<sup>6</sup> extraction is compiled from the support structure site, if the support structure is on a rooftop with no higher elevations (e.g., elevator shaft) then flat terrain is compiled. Terrain is extracted using radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

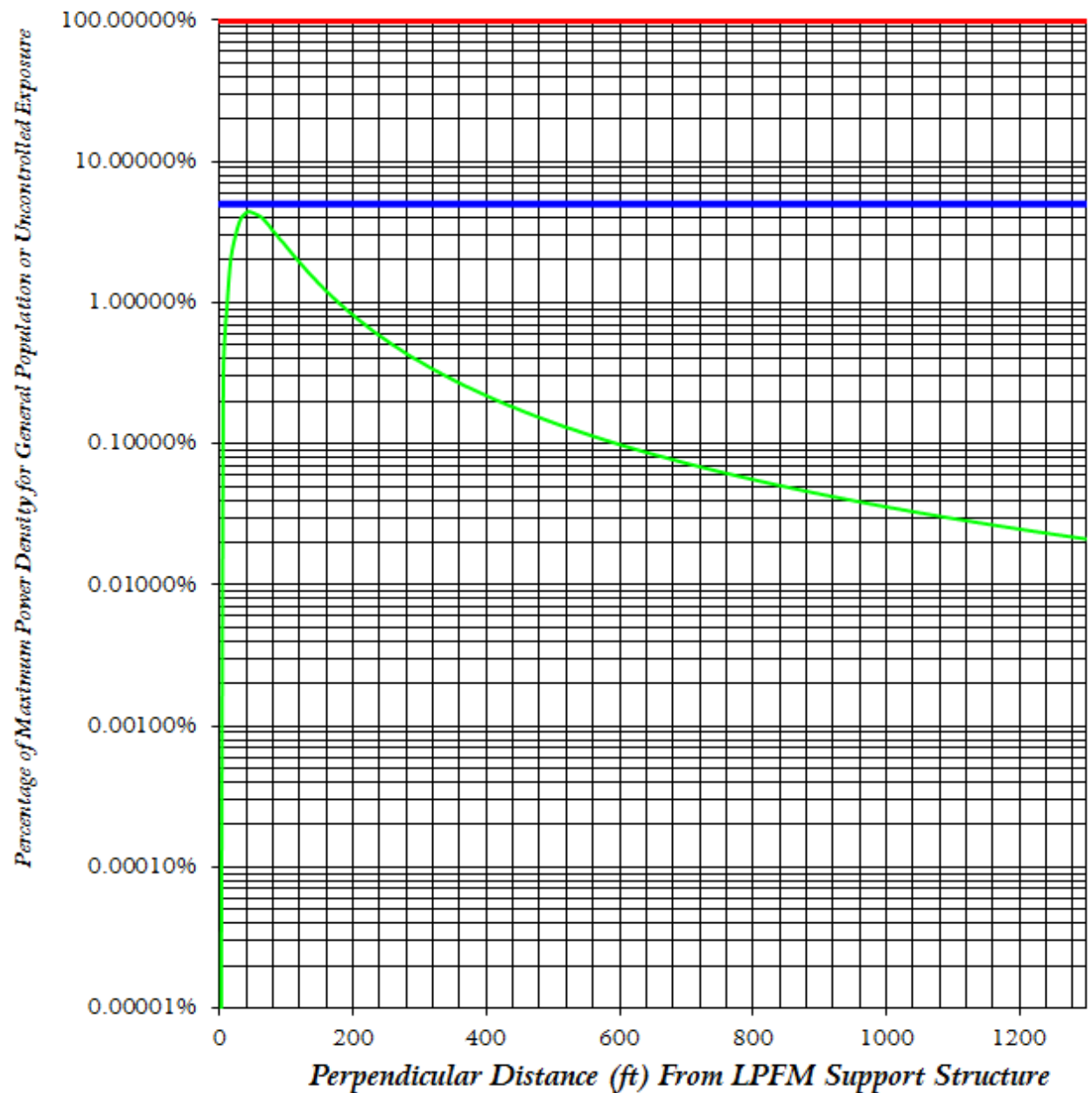
The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

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<sup>6</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.

## FAR FIELD EXPOSURE TO RF EMISSIONS



- Maximum Allowable General Population or Uncontrolled Exposure
- 5 % of Maximum General Population or Uncontrolled Exposure
- Percentage of Maximum General Population or Uncontrolled Exposure