

***COMPREHENSIVE TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT***

FM TRANSLATOR STATION
K209EC - KANSAS CITY, MISSOURI
101.5 MHz / 0.250 kW ND

COMMUNITY BROADCASTING, INC.

SEPTEMBER, 2012

APPLICATION FOR CONSTRUCTION PERMIT

The following engineering statement and attached exhibits have been prepared for **Community Broadcasting, Inc.** ("CBI"), licensee of FM translator station K209EC at Kansas City, Missouri, and are in support of their application for construction permit to modify that facility.¹ It is proposed under this application to change the channel of operation of the facility, relocate the facility from the licensed location, change the effective radiated power, and increase the center of radiation.

The changes proposed under this application are being requested for two purposes. First, CBI seeks displacement relief for K209EC due to the upgrade and modification of KJCV-FM at Country Club, Missouri.² Secondly, as part of the displacement relief, CBI seeks to provide fill-in translator service for Class-D AM station KCCV at Overland Park, Kansas.³ The licensee of KCCV is Bott Broadcasting Company ("BBC"), which is related to CBI. CBI has a valid retransmit agreement in place with BBC, however, CBI has filed to assign the license of K209EC to BBC, but the Commission has not yet granted that application.⁴

At present, K209EC is licensed to operate with a maximum effective radiated power of 205 Watts at a center of radiation of 343 meters above mean sea level using a vertically polarized antenna. This authorization specifies the tower with ASRN 1057465 as its location, and bears FCC File No. BLFT-20010724ABT. The use of this tower was lost when the license was transferred from Pensacola Christian College, Inc. ("Pensacola"). Currently the translator holds a

¹ The Facility ID for K209EC at Kansas City, Missouri is 92765.

² The Facility ID for KJCV-FM at Country Club, Missouri is 89276.

³ The Facility ID for KCCV at Overland Park, Kansas is 6491.

⁴ See FCC File No. BALFT-20120307AAO.

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520

Tel: 309.647.1200
Fax: 855.332.9537
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special temporary authority under FCC File No. BSTA-20120618AAN, which specifies the proposed site location.

The license was assigned to CBI by Pensacola to preserve its operation. KJCV-FM at Country Club, Missouri, co-channel with the translator, had completed an upgrade to its facilities. This upgrade extended the coverage area of that station such that the translator was causing interference to areas now normally having a usable signal. CBI therefore respectfully requests treatment of this application as a displacement of the translator so that it may return to full operation.

It is believed that a grant of this request would be in the public interest. First, a grant would permit the facility to return to full-time and reliable operation instead of the current situation of alternating between intermittent periods of operation and requests for silent authority to protect the license. Second, a change in the channel of operation would eliminate the interference issues between the licensed translator facilities and those of NCE facility KJCV-FM at Country Club, Missouri. Finally, under the proposed change, CBI, and ultimately BBC, would utilize the translator as a fill-in translator for class D standard broadcast station KCCV at Overland Park, Kansas.

KCCV is a class-D AM facility that operates with a secondary nighttime operation. Due to the proximity of the 0.5 mV/m 50% Skywave contour of co-channel class A AM facility WJR at Detroit, Michigan, the coverage of KCCV during nighttime hours east of its array is extremely limited.⁵ In addition, since KCCV is a class-D facility, the nighttime authorization could be cancelled by the Commission. The use of this translator as a fill-in for that facility will aid in its

⁵ The Facility ID for WJR at Detroit, Michigan is 8626.

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P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520

Tel: 309.647.1200
Fax: 855.332.9537
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coverage to the east of the site, which consists of areas in which development has historically occurred.

Exhibit E-1 illustrates the predicted 60 dBu service contour of the proposed facility along with service contours of KCCV and a twenty-five mile site radius centered on the KCCV transmitter site. As depicted in this map, the predicted 60 dBu service contour of the proposed translator would be wholly contained within both the 2.0 mV/m daytime service contour and a twenty-five mile radius centered on the transmitter site of KCCV. This map also demonstrates the extent to which the nighttime signal from KCCV is reduced in an easterly direction. Based on the depictions in this exhibit, the proposed facility qualifies as a fill-in translator.

In Exhibit E-2, a comparison is drawn between the 60 dBu service contour of the proposed facility, and the licensed 60 dBu service contour. As demonstrated in this exhibit, the proposed 60 dBu service contour is wholly contained within the licensed 60 dBu service contour. Due to this contour overlap, the change in the service area would be considered a minor change to the facility.

Although the change in the 60 dBu service contour is minor under the Commission's Rules due to the contour overlap, the proposed change in the channel of operation would normally be considered major. CBI respectfully requests a waiver of Section 74.1233(a)(1) of the Commission's Rules such that this application would be considered minor in nature subject to displacement conditions.

K209EC qualifies for displacement in that it was operational at its currently licensed facilities for several years prior to the upgrade of KJCV-FM. The upgrade and relocation of KJCV-FM

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415
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Canton, IL 61520

Tel: 309.647.1200
Fax: 855.332.9537
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resulted in a situation where the translator would cause widespread interference to the reception of KJCV-FM north of the Kansas City metropolitan area. Exhibit E-3 illustrates the extent of this interference, and considers interference to KJCV-FM from the licensed K209EC facility, both by FCC contours, and by the Longley-Rice model. As is depicted on this map, there is a small area of prohibited contour overlap indicated in orange, and an extensive area of real world interference illustrated by the pink pixels.

The change in the channel of operation from the licensed channel of 209 to the proposed channel 268 would eliminate this interference issue. The change to channel 268 results in no predicted interference to other existing and authorized facilities. Exhibit E-4 is a tabular based contour overlap study for the proposed facility. Exhibit E-5 illustrates the information in Exhibit E-4, but in a contour based graphical form.

As demonstrated in Exhibits E-4 and E-5, there would be no prohibited contour overlap between the proposed facility, and any other relevant facility with the exception of KCKC(FM) at Kansas City, MO, and KCFX at Harrisonville, MO.⁶ In both of these cases, however, the contour overlap would not result in a situation would be experienced in populated areas.

KCKC would be co-located with the proposed translator. The ERP of KCKC is 36 dB above that of the proposed translator facility. The combination of these two factors results in a condition where the field strength of the translator would never be 40 dB or greater above the field strength of KCKC.⁷ Thus, the proposed translator could not cause actual interference to KCKC.

⁶ The Facility ID for KCKC(FM) at Kansas City, Missouri is 11279. The Facility ID for KCFX(FM) at Harrisonville, Missouri is 27021.

⁷ KCKC and the proposed translator are on 3rd adjacent channels.

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P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520

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Fax: 855.332.9537
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Exhibit E-6 demonstrates that the field strength of KCFX in the vicinity of the proposed K209EC transmitter site is 103.5 dBu. Since the proposed translator would operate on a channel second adjacent to KCFX, interference is predicted to occur in areas when the field strength of the translator is at least 40 dB above the field strength of KCFX, which corresponds to 143.5 dBu.

Due to the proximity of the of the potential interference area to the proposed K209EC antenna and site, the standard FCC contour method is not the most accurate methodology of determining the location of the three dimensional surface that would comprise the interference area. Rather, a determination of the field strength through the use of free space calculations is more appropriate. Exhibit E-7 tabulates the determination of the distance from the K209EC antenna to the area where the field strength is 143.5 dBu.⁸ The tabulation is created by the following methodology:

The power density for the proposed facility at a field strength of 143.5 dBu is given by the following equation:

$$S = \frac{E^2}{Z_0} = \frac{(14.962)^2}{377} = 0.5938$$

In this equation, S represents the calculated power density in Watts per square meter, E is the electric field intensity, which for 143.5 dBu is 0.5938 Volts per meter, and Z₀ is the characteristic impedance of free space of 377 ohms.

⁸ Calculations take into account the vertical plane radiation pattern of the proposed LPX-2E antenna.

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221 S. 1st Avenue
Canton, IL 61520

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The power density is also given by:

$$S = \frac{P}{4\pi R^2}$$

Where S is the same units, P is the power in Watts (250 in this case), and R is the distance.

Rearranging the terms in the equation, it can be solved for the distance to the desired power density as follows:

$$R^2 = \frac{P}{4\pi S}$$

The results of these calculations for depression of angles of 0 degrees to 90 degrees are tabulated in Exhibit E-7. As previously mentioned, it was assumed for these calculations that an Electronics Research, Inc. (ERI) LPX-2E antenna would be utilized. This antenna is assumed to be omni-directional in the horizontal plane. The relative field values at the listed depression angles are based on the published data for the antenna.

The resulting "R" or radius value from the third equation above corresponds to the "Field Strength Radius" column in Exhibit E-7. Since each radius is assigned to a specific depression angle, the radius has both a horizontal and vertical component to it. The specific horizontal and vertical distances from the center of radiation were derived using basic trigonometry. Depression angles where the vertical radius is less than approximately three meters AGL, including negative values, result in areas where interference may potentially be experienced by persons in the area. As this table demonstrates, the predicted interference area lies at locations in excess of 282 meters above ground level. It is respectfully submitted that no resident or transient population

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520

Tel: 309.647.1200
Fax: 855.332.9537
jeremyruck.com

(other than tower crew personnel for brief periods) exist in this region, and interference is predicted to occur to zero persons.

The proposed translator is exempt from environmental processing. The supporting structure that would be utilized by the translator is an existing structure. The structure is registered with the Commission. The proposed construction necessary for the translator will not increase the existing environmental impact already present from the structure.

The proposed facility also will not constitute an RF exposure hazard. The Commission's *FM Model* software package predicts a maximum power density of $0.030 \mu\text{W}/\text{cm}^2$ from the proposed facility at ground level at a distance of 188 meters from the base of the tower. This level is so low that it essentially results in zero contribution to the ambient power density from the structure. The calculated power density at ground level is 0.015 percent of the uncontrolled environment condition. The proposed translator is therefore categorically excluded due to its minimal contribution.

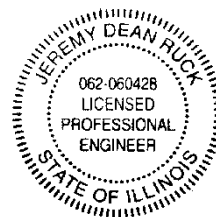
CBI certifies that it will coordinate with all other present and future users of the site to ensure that workers having access to the site or structure are protected from exposure to levels of radiofrequency radiation in excess of those permitted under the safety standard. Such coordination will include, but is not necessarily limited to a reduction in power or cessation of operation as necessary.

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Canton, IL 61520

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The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



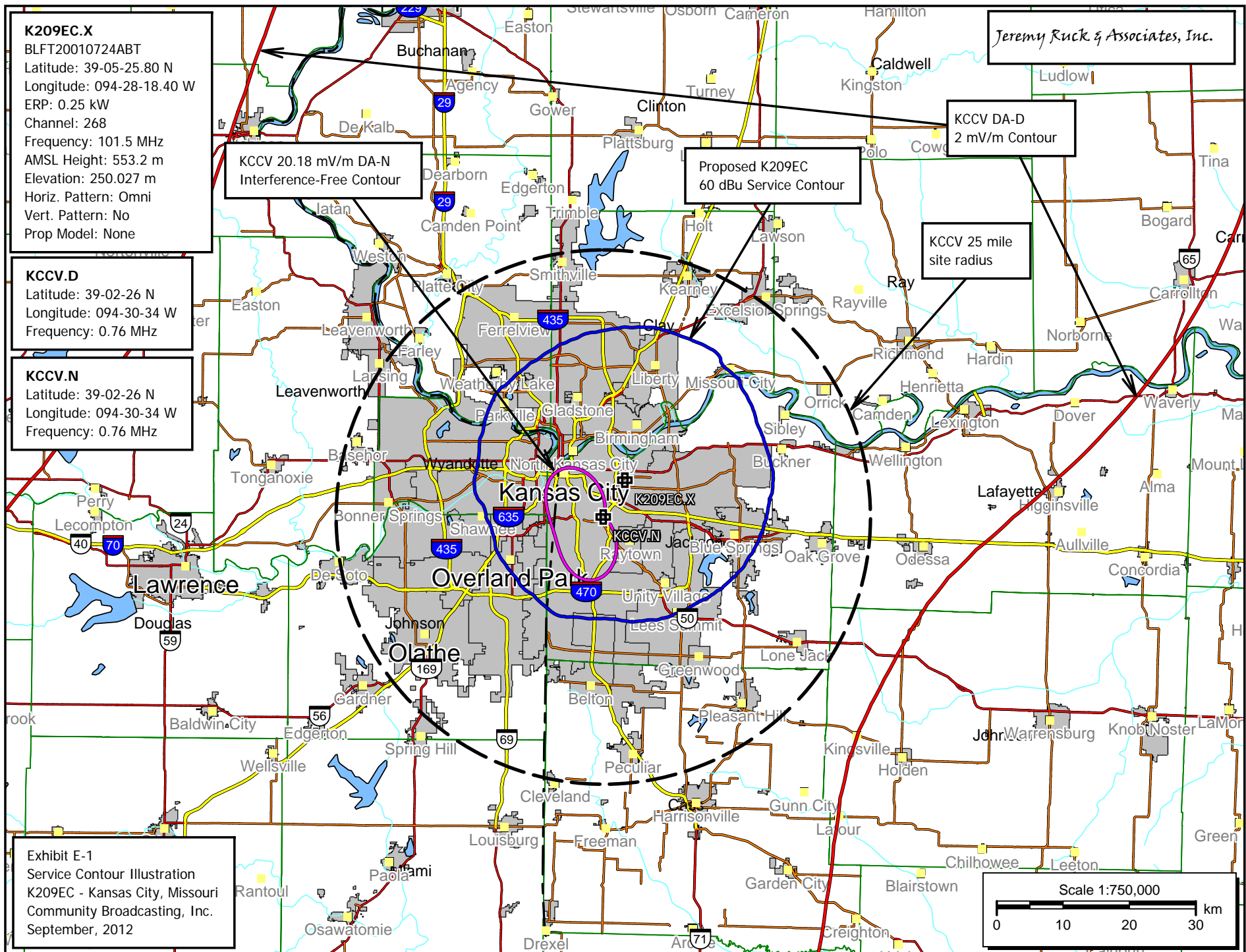
Above signature is digitized copy of actual signature
License Expires November 30, 2013

Jeremy D. Ruck, PE
September 5, 2012

JEREMY RUCK & ASSOCIATES, INC.

P.O. Box 415
221 S. 1st Avenue
Canton, IL 61520

Tel: 309.647.1200
Fax: 855.332.9537
jeremyruck.com



BLFT20010724ABT
Latitude: 39-05-25.80 N
Longitude: 094-28-18.40 W
ERP: 0.25 kW
Channel: 268
Frequency: 101.5 MHz
AMSL Height: 553.2 m
Elevation: 250.027 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

BLFT20010724ABT
Latitude: 39-04-59 N
Longitude: 094-28-49 W
ERP: 0.205 kW
Channel: 209
Frequency: 89.7 MHz
AMSL Height: 343.0 m
Elevation: 252.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

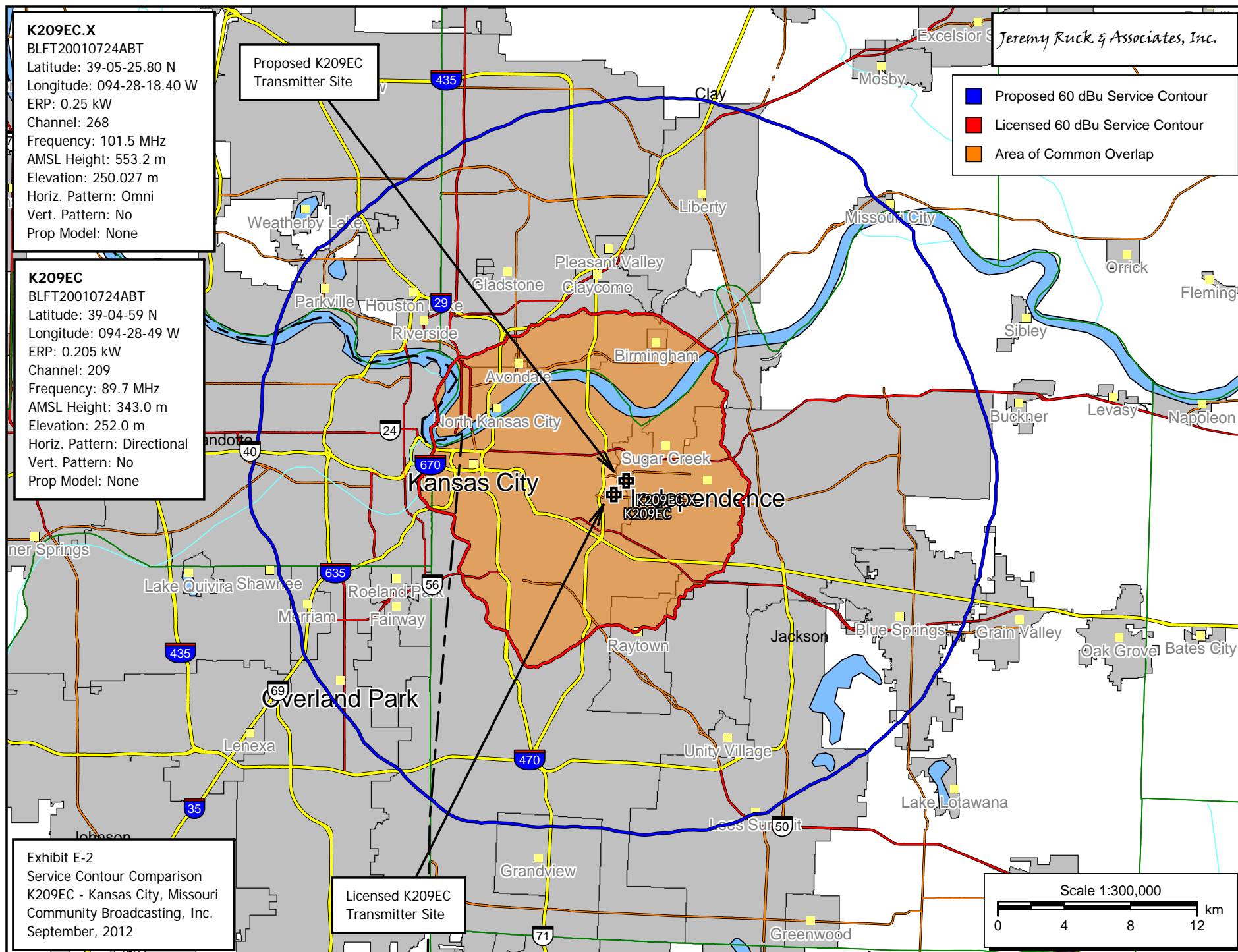
Exhibit E-2
Service Contour Comparison
K209EC - Kansas City, Missouri
Community Broadcasting, Inc.
September, 2012

Proposed K209EC Transmitter Site

Licensed K209EC
Transmitter Site

Excelsior & Jeremy Ruck & Associates, Inc.

- Proposed 60 dBu Service Contour
- Licensed 60 dBu Service Contour
- Area of Common Overlap



BLED20100707FCN
 Latitude: 39-44-42 N
 Longitude: 094-45-06 W
 ERP: 25.00 kW
 Channel: 209
 Frequency: 89.7 MHz
 AMSL Height: 385.5 m
 Elevation: 275.8 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: Longley/Rice
 Climate: Cont temperate
 Conductivity: 0.0050
 Dielec Const: 15.0
 Refractivity: 311.0
 Receiver Ht AG: 9.1 m
 Receiver Gain: 0 dB
 Time Variability: 50.0%
 Sit. Variability: 50.0%
 ITM Mode: Broadcast





-  KJCV-FM 60 dBu F(50,50) Contour
-  K209EC Licensed 40 dBu F(50,10) Contour
-  Area of Prohibited Contour Overlap
-  Area of Longley-Rice Predicted Interference to KJCV-FM

Exhibit E-3
Illustration of Interference to KJCV-FM
K209EC - Kansas City, Missouri
Community Broadcasting, Inc.
September, 2012

Scale 1:750,000

Jeremy Ruck & Associates, Inc.
Consulting Engineers - Canton, Illinois

Exhibit E-4 - Tabular Allocation Study
K209EC - Kansas City, Missouri
CH# 268D - 101.5 MHz, Pwr= 0.25 kW, HAAT= 296.1 M, COR= 553.2 M
Average Protected F(50-50)= 22.41 km
Omni-directional

REFERENCE
39 05 25.8 N.
94 28 18.4 W.

DISPLAY DATES
DATA 09-04-12
SEARCH 09-04-12

CH CITY	CALL	TYPE ANT STATE	AZI <--	DI ST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
271C0 Kansas City	AL1945	RSV-A MO	57.2 237.2	0.01 RMKS213	39 05 26.0 94 28 18.0	100.000 450	12.1 711	83.0	-34.3*	-84.2*
271C0 Kansas City	KCKC	LIC _C_ MO	57.2 237.2	0.01 BLH20010920AAG	39 05 26.0 94 28 18.0	100.000 341	10.7 601	74.9 Wilks License Company-kans	-32.8*	-76.0*
266C0 Harrisonville	KCFX	LIC NCY MO	205.5 25.4	8.40 BLH20030424AAS	39 01 20.0 94 30 49.0	100.000 335	11.1 611	77.0 Cmp Houston-kc, Lic	-25.4*	-69.7*
269D Tonganoxie	641174	APP _C_ KS	270.2 89.8	52.43 BNPFT20030317ISI	39 05 26.0 95 04 40.1	0.140 101	16.5 378	11.3 Radio Assist Ministry, Inc	13.2	7.1
268C1 Columbia	KPLA	LIC NCY MO	91.9 273.2	190.30 BLH19980306KB	39 00 52.0 92 16 32.0	42.000 324	157.3 561	67.2 Cumulus Licensing Lic	10.2	55.4
268C2 Manhattan	KMKF	LIC _CX KS	277.1 95.8	173.39 BMLH20111114BIQ	39 15 55.0 96 27 57.0	37.000 176	138.7 527	55.5 Manhattan Broadcasting Co.	11.8	50.2
268C3 Iola	KIKS-FM	RSV-A KS	208.0 27.5	151.90	37 52 51.0 95 17 09.0	25.000 100	112.0 414	37.5 Iola Broadcasting, Inc.	17.3	45.9
215C0 Warrensburg	KTBG	CP DCX MO	97.1 277.4	47.25 BPED20110510AAS	39 02 13.6 93 55 48.2	90.000 355	0.0 607	0.0 The University Of Central	25.0R	22.8M
269C3 Gallatin	KG0Z	LIC _CN MO	35.7 216.2	109.40 BLH19940621KB	39 53 14.0 93 43 24.0	15.000 129	58.8 373	38.8 Par Broadcasting Co., Inc.	27.1	34.8
269D Osawatomie	641169	APP _C_ KS	210.8 30.5	79.45 BNPFT20030317ISE	38 28 32.1 94 56 22.8	0.140 126	19.0 409	12.6 Radio Assist Ministry, Inc	37.9	32.7
215C1 Warrensburg	KTBG	LIC _CN MO	107.2 287.6	59.28 BLED19981112KB	38 55 54.0 93 49 06.0	97.000 135	0.0 383	0.0 The University Of Central	22.0R	37.8M
268C3 Iola	KIKS-FM	LIC NCX KS	211.7 31.2	154.93 BLH20040525ABR	37 54 04.0 95 24 04.0	11.500 88	94.0 391	29.6 Iola Broadcasting, Inc.	38.3	57.1
267D Bosworth	K267BN	LIC _C_ MO	71.2 251.9	97.21 BLFT20110421AAV	39 21 59.0 93 24 12.0	0.175 250	28.4 461	19.2 Kanza, Inc.	46.8	45.6

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= West Zone, Co to 3rd adjacent.
All separation margins (if shown) include rounding
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
""affixed to 'IN' or 'OUT' values = site inside protected contour.
« = Station meets FCC minimum distance spacing for its class.
Reference station has protected zone issue:

Latitude: 39-05-25.80 N
Longitude: 094-28-18.40 W
ERP: 0.25 kW
Channel: 268
Frequency: 101.5 MHz
AMSL Height: 553.2 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None





-  60 dBu F(50,50) Protected Contour
-  40 dBu F(50,10) Interfering Contour
-  54 dBu F(50,10) Interfering Contour
-  100 dBu F(50,10) Interfering Contour

Exhibit E-5
Contour Allocation Study
K209EC - Kansas City, Missouri
Community Broadcasting, Inc.
September, 2012

Scale 1:1,500,000



K209EC.X

Latitude: 39-05-25.80 N
Longitude: 094-28-18.40 W
ERP: 0.25 kW
Channel: 268
Frequency: 101.5 MHz
AMSL Height: 553.2 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

KCFX

Latitude: 39-01-20 N
Longitude: 094-30-49 W
ERP: 100.00 kW
Channel: 266
Frequency: 101.1 MHz
AMSL Height: 611.0 m
Horiz. Pattern: Omni
Vert. Pattern: No
Prop Model: None

Exhibit E-6

Interference Study
K209EC - Kansas City, Missouri
Community Broadcasting, Inc.
September, 2012

Proposed K209EC
Transmitter Site

Jeremy Ruck & Associates, Inc.

KCFX 103.5 dBu
Service Contour

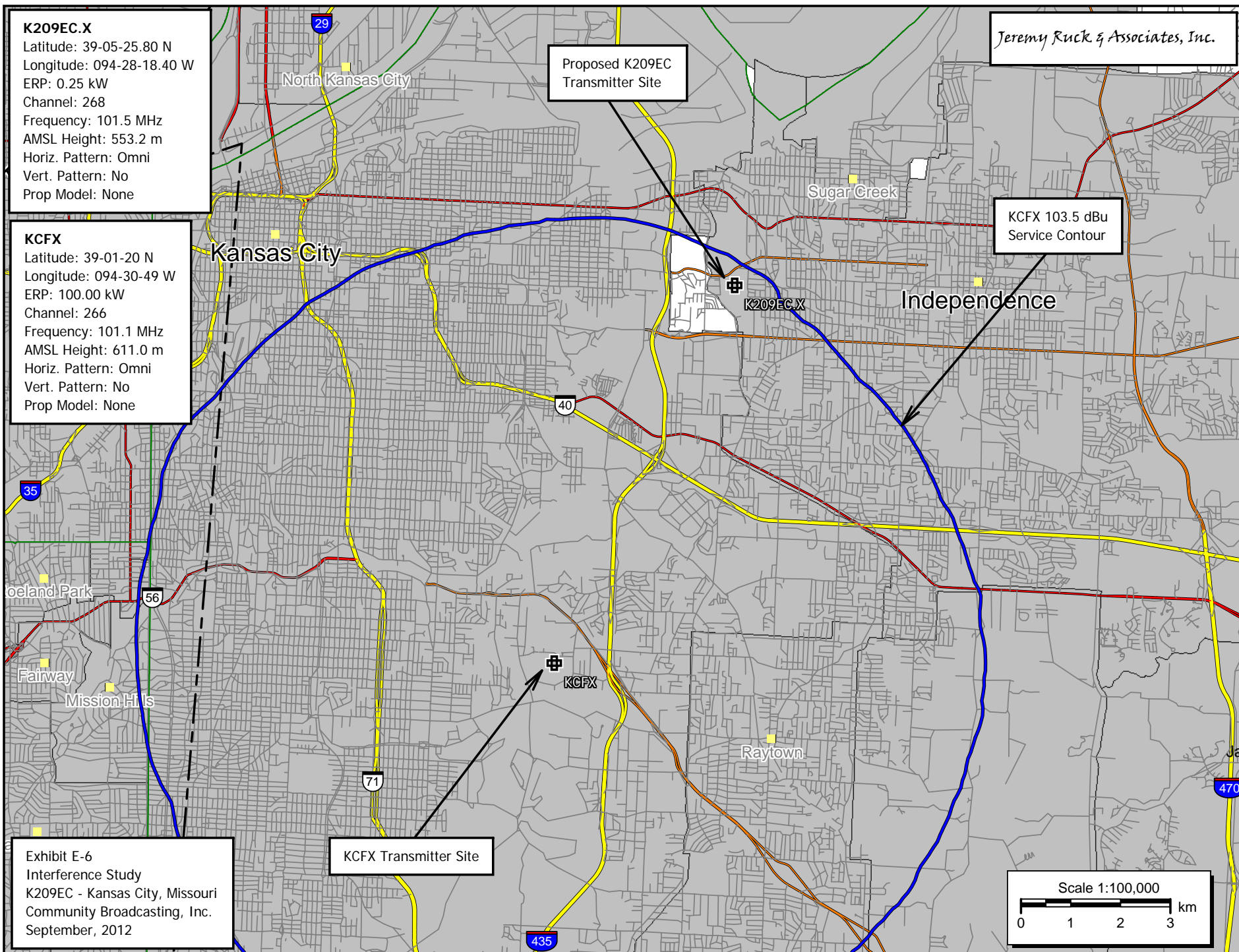


Exhibit E-7 - Power Density Calculations								
Facility:	K209EC							
COR:		284.7	m AGL				Z0 (Ohms)	377
ERP:		250	Watts				ALL distances meters	
Antenna:		LPX-2E						
FS Contour:		143.5	dBu					
E Field Strength:		14.9624	V/m					
Power Density:		0.5938252357	W/m^2					
Dep.			ERP in	Radius	Field Strength	Radius	Radius	Radius
θ	Erel	Prel	Watts	Squared	Radius	Vert. Dist.	AGL	Horiz. Dist.
0	1.000	1.000	250.00	33.502	5.79	0.00	284.70	5.79
1	0.998	0.996	249.00	33.368	5.78	0.10	284.60	5.78
2	0.994	0.988	247.01	33.101	5.75	0.20	284.50	5.75
3	0.985	0.970	242.56	32.505	5.70	0.30	284.40	5.69
4	0.974	0.949	237.17	31.783	5.64	0.39	284.31	5.62
5	0.960	0.922	230.40	30.875	5.56	0.48	284.22	5.54
6	0.942	0.887	221.84	29.729	5.45	0.57	284.13	5.42
7	0.922	0.850	212.52	28.480	5.34	0.65	284.05	5.30
8	0.899	0.808	202.05	27.076	5.20	0.72	283.98	5.15
9	0.873	0.762	190.53	25.533	5.05	0.79	283.91	4.99
10	0.845	0.714	178.51	23.921	4.89	0.85	283.85	4.82
11	0.814	0.663	165.65	22.198	4.71	0.90	283.80	4.62
12	0.781	0.610	152.49	20.435	4.52	0.94	283.76	4.42
13	0.745	0.555	138.76	18.594	4.31	0.97	283.73	4.20
14	0.708	0.501	125.32	16.793	4.10	0.99	283.71	3.98
15	0.669	0.448	111.89	14.994	3.87	1.00	283.70	3.74
16	0.629	0.396	98.91	13.255	3.64	1.00	283.70	3.50
17	0.587	0.345	86.14	11.544	3.40	0.99	283.71	3.25
18	0.544	0.296	73.98	9.914	3.15	0.97	283.73	2.99
19	0.499	0.249	62.25	8.342	2.89	0.94	283.76	2.73
20	0.455	0.207	51.76	6.936	2.63	0.90	283.80	2.47
21	0.409	0.167	41.82	5.604	2.37	0.85	283.85	2.21
22	0.363	0.132	32.94	4.415	2.10	0.79	283.91	1.95
23	0.317	0.100	25.12	3.367	1.83	0.72	283.98	1.69
24	0.272	0.074	18.50	2.479	1.57	0.64	284.06	1.44
25	0.226	0.051	12.77	1.711	1.31	0.55	284.15	1.19
26	0.180	0.032	8.10	1.085	1.04	0.46	284.24	0.94
27	0.135	0.018	4.56	0.611	0.78	0.35	284.35	0.70
28	0.091	0.008	2.07	0.277	0.53	0.25	284.45	0.47
29	0.048	0.002	0.58	0.077	0.28	0.13	284.57	0.24
30	0.006	0.000	0.01	0.001	0.03	0.02	284.68	0.03
31	0.036	0.001	0.32	0.043	0.21	0.11	284.59	0.18
32	0.076	0.006	1.44	0.194	0.44	0.23	284.47	0.37
33	0.114	0.013	3.25	0.435	0.66	0.36	284.34	0.55
34	0.151	0.023	5.70	0.764	0.87	0.49	284.21	0.72
35	0.187	0.035	8.74	1.172	1.08	0.62	284.08	0.89
36	0.221	0.049	12.21	1.636	1.28	0.75	283.95	1.03
37	0.253	0.064	16.00	2.144	1.46	0.88	283.82	1.17
38	0.284	0.081	20.16	2.702	1.64	1.01	283.69	1.30

Exhibit E-7 - Power Density Calculations								
Facility:	K209EC							
COR:		284.7	m AGL				Z0 (Ohms)	377
ERP:		250	Watts				ALL distances meters	
Antenna:		LPX-2E						
FS Contour:		143.5	dBu					
E Field Strength:		14.9624	V/m					
Power Density:		0.5938252357	W/m^2					
Dep.			ERP in	Radius	Field Strength	Radius	Radius	Radius
θ	Erel	Prel	Watts	Squared	Radius	Vert. Dist.	AGL	Horiz. Dist.
39	0.312	0.097	24.34	3.261	1.81	1.14	283.56	1.40
40	0.339	0.115	28.73	3.850	1.96	1.26	283.44	1.50
41	0.364	0.132	33.12	4.439	2.11	1.38	283.32	1.59
42	0.387	0.150	37.44	5.018	2.24	1.50	283.20	1.66
43	0.409	0.167	41.82	5.604	2.37	1.61	283.09	1.73
44	0.428	0.183	45.80	6.137	2.48	1.72	282.98	1.78
45	0.445	0.198	49.51	6.634	2.58	1.82	282.88	1.82
46	0.461	0.213	53.13	7.120	2.67	1.92	282.78	1.85
47	0.475	0.226	56.41	7.559	2.75	2.01	282.69	1.88
48	0.487	0.237	59.29	7.946	2.82	2.09	282.61	1.89
49	0.497	0.247	61.75	8.275	2.88	2.17	282.53	1.89
50	0.506	0.256	64.01	8.578	2.93	2.24	282.46	1.88
51	0.513	0.263	65.79	8.817	2.97	2.31	282.39	1.87
52	0.518	0.268	67.08	8.989	3.00	2.36	282.34	1.85
53	0.522	0.272	68.12	9.129	3.02	2.41	282.29	1.82
54	0.524	0.275	68.64	9.199	3.03	2.45	282.25	1.78
55	0.525	0.276	68.91	9.234	3.04	2.49	282.21	1.74
56	0.525	0.276	68.91	9.234	3.04	2.52	282.18	1.70
57	0.523	0.274	68.38	9.164	3.03	2.54	282.16	1.65
58	0.520	0.270	67.60	9.059	3.01	2.55	282.15	1.59
59	0.516	0.266	66.56	8.920	2.99	2.56	282.14	1.54
60	0.511	0.261	65.28	8.748	2.96	2.56	282.14	1.48
61	0.505	0.255	63.76	8.544	2.92	2.56	282.14	1.42
62	0.498	0.248	62.00	8.309	2.88	2.55	282.15	1.35
63	0.490	0.240	60.03	8.044	2.84	2.53	282.17	1.29
64	0.482	0.232	58.08	7.783	2.79	2.51	282.19	1.22
65	0.472	0.223	55.70	7.464	2.73	2.48	282.22	1.15
66	0.462	0.213	53.36	7.151	2.67	2.44	282.26	1.09
67	0.452	0.204	51.08	6.845	2.62	2.41	282.29	1.02
68	0.440	0.194	48.40	6.486	2.55	2.36	282.34	0.95
69	0.429	0.184	46.01	6.166	2.48	2.32	282.38	0.89
70	0.416	0.173	43.26	5.798	2.41	2.26	282.44	0.82
71	0.404	0.163	40.80	5.468	2.34	2.21	282.49	0.76
72	0.391	0.153	38.22	5.122	2.26	2.15	282.55	0.70
73	0.377	0.142	35.53	4.762	2.18	2.09	282.61	0.64
74	0.364	0.132	33.12	4.439	2.11	2.03	282.67	0.58
75	0.350	0.123	30.63	4.104	2.03	1.96	282.74	0.52
76	0.336	0.113	28.22	3.782	1.94	1.89	282.81	0.47
77	0.321	0.103	25.76	3.452	1.86	1.81	282.89	0.42

Exhibit E-7 - Power Density Calculations								
Facility:	K209EC							
COR:		284.7	m AGL				Z0 (Ohms)	377
ERP:		250	Watts				ALL distances meters	
Antenna:		LPX-2E						
FS Contour:		143.5	dBu					
E Field Strength:		14.9624	V/m					
Power Density:		0.5938252357	W/m^2					
Dep.			ERP in	Radius	Field Strength	Radius	Radius	Radius
θ	Erel	Prel	Watts	Squared	Radius	Vert. Dist.	AGL	Horiz. Dist.
78	0.307	0.094	23.56	3.158	1.78	1.74	282.96	0.37
79	0.292	0.085	21.32	2.857	1.69	1.66	283.04	0.32
80	0.277	0.077	19.18	2.571	1.60	1.58	283.12	0.28
81	0.262	0.069	17.16	2.300	1.52	1.50	283.20	0.24
82	0.247	0.061	15.25	2.044	1.43	1.42	283.28	0.20
83	0.232	0.054	13.46	1.803	1.34	1.33	283.37	0.16
84	0.217	0.047	11.77	1.578	1.26	1.25	283.45	0.13
85	0.202	0.041	10.20	1.367	1.17	1.16	283.54	0.10
86	0.187	0.035	8.74	1.172	1.08	1.08	283.62	0.08
87	0.172	0.030	7.40	0.991	1.00	0.99	283.71	0.05
88	0.156	0.024	6.08	0.815	0.90	0.90	283.80	0.03
89	0.141	0.020	4.97	0.666	0.82	0.82	283.88	0.01
90	0.126	0.016	3.97	0.532	0.73	0.73	283.97	0.00