



**Lawrence Behr  
Associates** INC  
www.lbagroup.com

## AM PROTECTION REPORT

### SITE NAME:

KSOG LP Site

### RADIO STATION:

KOPY

### LOCATION:

Alice, Texas

### COMPANY:

GMD Electronics

*August 28, 2015*



## NOTICE

This work is based upon our best interpretation of available information. However, these data and their interpretation are constantly changing. Therefore, we do not warrant that any undertaking based on this report will be successful, or that others will not require further research or actions in support of this proposal or future undertaking. In the event of errors, our liability is strictly limited to replacement of this document with a corrected one. Liability for consequential damages is specifically disclaimed. Any use of this document constitutes an agreement to hold Lawrence Behr Associates, Inc. and its employees harmless and indemnify it for any and all liability, claims, demands, litigation expenses and attorney's fees arising out of such use.

Work product documents released prior to account settlement remain the sole property of Lawrence Behr Associates, Inc. and must be returned on demand. Underlying work notes and data relating to this document remain the property of Lawrence Behr Associates, Inc. This document shall not be reproduced in whole or part without permission of Lawrence Behr Associates, Inc. Any dispute hereunder shall be adjudicated in North Carolina. Any use or retention of this document constitutes acceptance of these terms, the entire work product, and all charges associated therewith.

COPYRIGHT © 2015 BY  
LAWRENCE BEHR ASSOCIATES, INC.  
GREENVILLE, NORTH CAROLINA

## AM PROTECTION REPORT:

### KOPY & KSOG LP Site

*GMD Electronics*

*Alice, Texas*

#### INTRODUCTION

Lawrence Behr Associates, Inc. (LBA) has been retained by GMD Electronics to evaluate the potential impact of GMD Electronics' KSOG LP Site. GMD Electronics has constructed this new tower near KOPY, so a method of moments (MOM) modeling study was performed to assess the interaction of this tower and the KOPY licensed nighttime signal pattern in order to determine whether the impact warrants further AM protection action.

#### SITE AND FACILITY CONSIDERATIONS

The GMD Electronics KSOG LP Site is located at 2489 N Texas Blvd., Alice, Texas at Latitude North 27° 46' 21.9", Longitude West 98° 03' 54.9". The structure is a new guyed tower having a height including attachments of 30 meters above ground level.

In order to comply with Federal Communications Commission (FCC) procedures, all AM stations were determined within the study distance specified in §1.30002. The only transmitter so identified is KOPY. KOPY is licensed to operate fulltime on 1070 kHz with one kilowatt using a directional antenna pattern for nighttime operations. The KSOG LP Site is 1.7 kilometers at a bearing of 108.4° True from the array center coordinates for KOPY. Appendix 1.0 is a map showing the location of KOPY site and the KSOG LP Site.

#### METHODOLOGY

LBA consultant Marvin Brewer, N.C.E., who has extensive experience in performing antenna modeling studies, performed this study using Expert MININEC Broadcast Professional V5.3. Mr. Brewer holds iNARTE certification number EMC-000417-NE. The model was constructed utilizing information contained in the FCC database for KOPY. Other information was obtained from GMD Electronics.

#### STUDY RESULTS

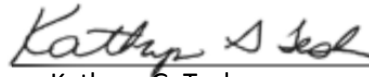
The KOPY nighttime array was modeled using the data from the KOPY FCC files. The station pattern was also modeled with the GMD Electronics structure as planned. 2015 FCC regulations infer if the sum of the theoretical pattern plus the field reradiated by the tower exceeds the standard or augmented pattern, the tower must be detuned.

Appendix 2.0 is a tabulation of the KOPY theoretical nighttime horizontal plane pattern, every 5°, without the KSOG LP Site tower. Then the reradiation from the KSOG LP Site tower has been added to the theoretical pattern and is shown in the third column. The next two columns are the licensed nighttime standard pattern and the licensed nighttime augmented standard pattern. The final two columns compare the theoretical pattern, adjusted by the reradiation of the KSOG LP Site tower, to the licensed standard pattern and then the licensed augmented standard pattern. This comparison is highlighted green indicating compliance and red indicating noncompliance. It is clear that the nighttime pattern of AM station KOPY will be unaffected by the KSOG LP Site tower.

## CONCLUSION

It is our opinion that the study results above demonstrate that GMD Electronics's KSOG LP Site tower is not a significant factor in the ability of KOPY to properly maintain its nighttime directional antenna pattern and that detuning of this tower is not required.

August 28, 2015



Kathryn G. Tesh  
Senior Consultant



**Lawrence Behr**  
**Associates** INC

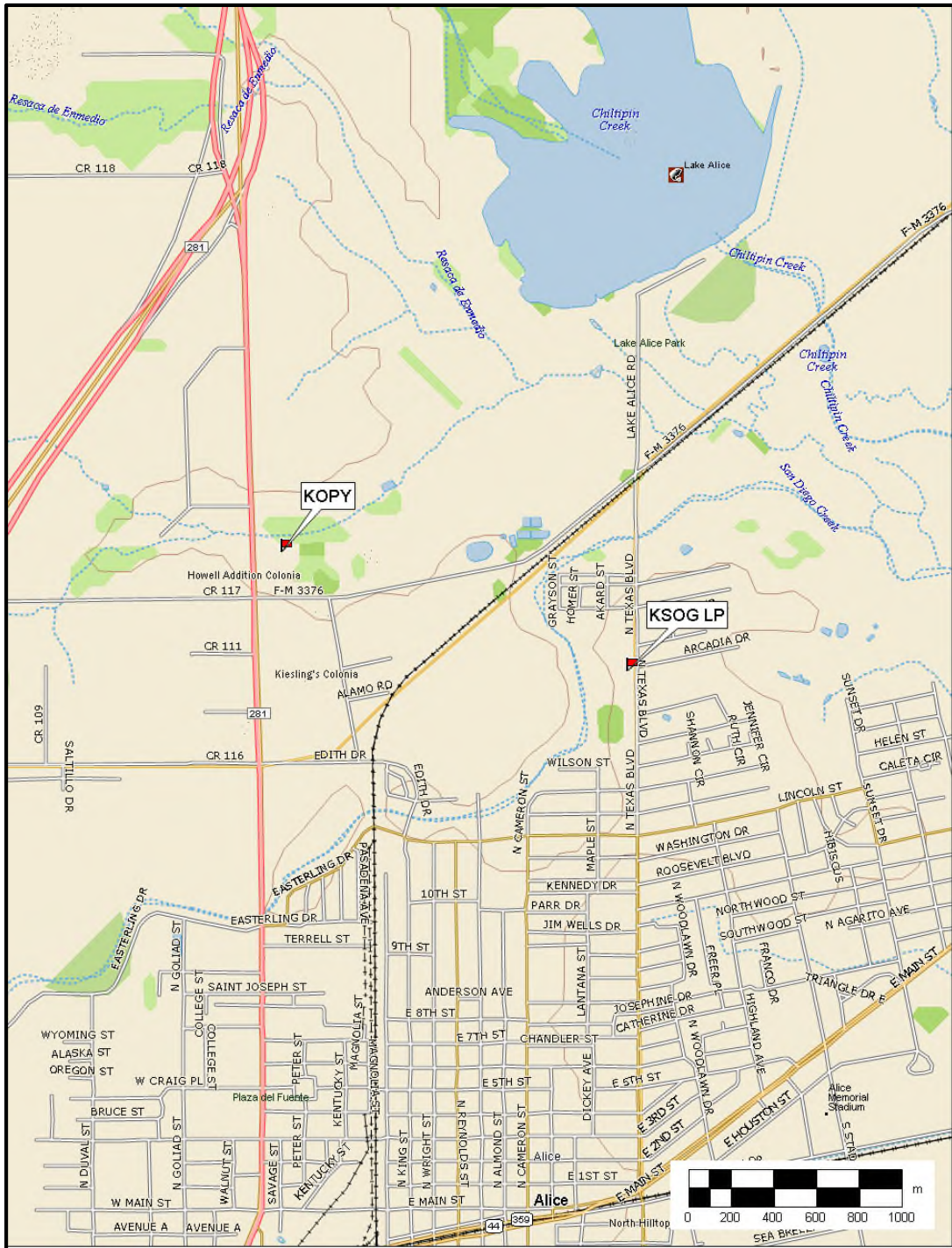
www.lbagroup.com | 3400 Tupper Dr. | Greenville, NC 27834  
252-317-2123 | 800-522-4464 | lbagrp@lbagroup.com



## APPENDIX 1.0

### Site Area Map

GMD Electronics  
Alice, Texas



**Lawrence Behr**  
**Associates** INC

www.lbagroup.com | 3400 Tupper Dr. | Greenville, NC 27834  
252-317-2123 | 800-522-4464 | lbagr@lbgroupp.com

## APPENDIX 2.0

### KOPY Nighttime Pattern Tabulation

GMD Electronics

Alice, Texas

Nighttime Patterns (mV/m/km)					FCC Comparison	
Azimuth (degrees)	Theoretical Pattern	Theoretical plus Rerad	Standard Pattern	Augmented Pattern	Adjusted Theoretical vs Standard	Adjusted Theoretical vs Augmented
0	21.2	21.29726827	24.62	84.21	-3.32273173	-62.91273173
5	37.79	37.88726827	41.04	86.53	-3.15273173	-48.64273173
10	56.34	56.43726827	60.08	101.49	-3.64273173	-45.05273173
15	76.66	76.75726827	81.17	117.02	-4.41273173	-40.26273173
20	98.5	98.59726827	103.95	133.89	-5.35273173	-35.29273173
25	121.58	121.6772683	128.09	155.95	-6.41273173	-34.27273173
30	145.6	145.6972683	153.24	173.68	-7.54273173	-27.98273173
35	170.22	170.3172683	179.04	181.94	-8.72273173	-11.62273173
40	195.07	195.1672683	205.1	223.55	-9.93273173	-28.38273173
45	219.8	219.8972683	231.03	245.15	-11.1327317	-25.25273173
50	244.05	244.1472683	256.47	270.22	-12.3227317	-26.07273173
55	267.47	267.5672683	281.04	295.48	-13.4727317	-27.91273173
60	289.75	289.8472683	304.41	319.79	-14.5627317	-29.94273173
65	310.6	310.6972683	326.3	328.07	-15.6027317	-17.37273173
70	329.8	329.8972683	346.45	348.74	-16.5527317	-18.84273173
75	347.19	347.2872683	364.7	370.15	-17.4127317	-22.86273173
80	362.66	362.7572683	380.93	390.21	-18.1727317	-27.45273173
85	376.15	376.2472683	395.1	408.31	-18.8527317	-32.06273173
90	387.69	387.7872683	407.21	423.99	-19.4227317	-36.20273173
95	397.34	397.4372683	417.34	436.9	-19.9027317	-39.46273173
100	405.24	405.3372683	425.63	446.85	-20.2927317	-41.51273173
105	411.53	411.6272683	432.23	453.84	-20.6027317	-42.21273173
110	416.4	416.4972683	437.35	458.77	-20.8527317	-42.27273173
115	420.06	420.1572683	441.19	462.59	-21.0327317	-42.43273173
120	422.71	422.8072683	443.97	465.48	-21.1627317	-42.67273173
125	424.56	424.6572683	445.92	467.62	-21.2627317	-42.96273173
130	425.8	425.8972683	447.21	469.15	-21.3127317	-43.25273173
135	426.57	426.6672683	448.02	470.19	-21.3527317	-43.52273173
140	427.02	427.1172683	448.49	470.84	-21.3727317	-43.72273173



145	427.23	427.3272683	448.71	471.17	-21.3827317	-43.84273173
150	427.25	427.3472683	448.73	471.09	-21.3827317	-43.74273173
155	427.08	427.1772683	448.55	470.23	-21.3727317	-43.05273173
160	426.68	426.7772683	448.14	469	-21.3627317	-42.22273173
165	425.98	426.0772683	447.41	467.45	-21.3327317	-41.37273173
170	424.85	424.9472683	446.22	465.59	-21.2727317	-40.64273173
175	423.14	423.2372683	444.42	463.4	-21.1827317	-40.16273173
180	420.66	420.7572683	441.82	460.81	-21.0627317	-40.05273173
185	417.22	417.3172683	438.21	457.66	-20.8927317	-40.34273173
190	412.61	412.7072683	433.37	453.77	-20.6627317	-41.06273173
195	406.62	406.7172683	427.08	448.36	-20.3627317	-41.64273173
200	399.06	399.1572683	419.14	440.46	-19.9827317	-41.30273173
205	389.77	389.8672683	409.39	430.15	-19.5227317	-40.28273173
210	378.61	378.7072683	397.68	417.4	-18.9727317	-38.69273173
215	365.51	365.6072683	383.93	402.25	-18.3227317	-36.64273173
220	350.44	350.5372683	368.11	384.87	-17.5727317	-34.33273173
225	333.43	333.5272683	350.26	365.56	-16.7327317	-32.03273173
230	314.58	314.6772683	330.47	344.67	-15.7927317	-29.99273173
235	294.04	294.1372683	308.92	322.69	-14.7827317	-28.55273173
240	272.03	272.1272683	285.82	300.14	-13.6927317	-28.01273173
245	248.81	248.9072683	261.47	276.59	-12.5627317	-27.68273173
250	224.7	224.7972683	236.17	251.37	-11.3727317	-26.57273173
255	200.04	200.1372683	210.31	224.77	-10.1727317	-24.63273173
260	175.18	175.2772683	184.24	197.15	-8.96273173	-21.87273173
265	150.49	150.5872683	158.36	168.95	-7.77273173	-18.36273173
270	126.32	126.4172683	133.05	140.71	-6.63273173	-14.29273173
275	103.02	103.1172683	108.68	113.11	-5.56273173	-9.992731733
280	80.91	81.00726827	85.6	87.07	-4.59273173	-6.062731733
285	60.27	60.36726827	64.15	64.15	-3.78273173	-3.782731733
290	41.35	41.44726827	44.66	44.66	-3.21273173	-3.212731733
295	24.35	24.44726827	27.64	28.98	-3.19273173	-4.532731733
300	9.47	9.567268267	14.46	23.67	-4.89273173	-14.10273173
305	3.16	3.257268267	11.01	25.41	-7.75273173	-22.15273173
310	13.44	13.53726827	17.59	31.7	-4.05273173	-18.16273173
315	21.27	21.36726827	24.68	40.28	-3.31273173	-18.91273173
320	26.61	26.70726827	29.85	41.88	-3.14273173	-15.17273173
325	29.42	29.51726827	32.62	45.89	-3.10273173	-16.37273173
330	29.67	29.76726827	32.88	47.23	-3.11273173	-17.46273173
335	27.38	27.47726827	30.6	46.57	-3.12273173	-19.09273173
340	22.54	22.63726827	25.89	48.28	-3.25273173	-25.64273173
345	15.2	15.29726827	19.1	52.34	-3.80273173	-37.04273173
350	5.41	5.507268267	11.94	57.67	-6.43273173	-52.16273173
355	6.76	6.857268267	12.68	68.02	-5.82273173	-61.16273173

