



**Technical Exhibit 13**  
**Application for Construction Permit**  
**For Minor Modification of License**  
**Of KHYZ-FM2**  
**Las Vegas, Nevada**

**Proposed  
Channel 259D  
0.14 KW MAX  
35° 56' 44" N  
115° 02' 31" W**

**November 13, 2017**

**Application for Minor Modification Booster Station  
Technical Exhibit**

Page 2

**Technical Exhibit  
Application for Construction Permit  
For Minor Modification of License  
Of KHYZ-FM2  
Las Vegas, Nevada**

**Table of Contents**

Pages 3 – 5	Technical Narrative
Exhibit 1	Proposed Transmitter Site
Exhibits 2 & 3	Predicted FCC Coverage Contours
Exhibit 4	Proposed KHYZ-FM2 Spacing Study
Exhibit 5	TOWAIR Study
Exhibit 6	Antenna Horizontal Plane Pattern & Data
Exhibit 7	Antenna Vertical Plane Pattern

**Application for Minor Modification Booster Station  
Technical Exhibit**

Page 3

**Technical Exhibit  
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For Minor Modification of License  
Of KHYZ-FM2  
Las Vegas, Nevada**

**Overview**

This technical exhibit was prepared for Heftel Broadcasting Company, LLC and supports an application for a construction permit to modify the license of KHYZ-FM2, Las Vegas, NV (Facility ID 178524, File # BNPTB-20090527AGH). KHYZ-FM2 is currently licensed to operate on Channel 259D (99.7 MHz) with a maximum effective radiated power of 0.37 kW.

**Proposed Facilities**

This application is proposing to relocate the antenna of the station, decrease the center of radiation and decrease the effective radiation power of the station. KHYZ-FM2 will continue to serve Las Vegas, NV. The location of the proposed transmitter site is at coordinates 35° 56' 44" N; 115° 02' 31" W. It is proposed to operate the station with an effective radiated power of 0.14 kW (140 w) utilizing a vertically polarized Scala CL-FM/VRM/50N log periodic antenna that will be mounted on an existing tower having an overall height of 23 meters above ground level. The antenna will be mounted at a height above ground of 20 meters and therefore will not be increasing the overall height of the tower. A map showing the proposed antenna location is attached as Exhibit 1.

**Proposed Coverage**

Exhibits 2 & 3 are computer generated maps showing the 54 dBu contours for both the proposed booster and licensed site of KHYZ (FM), Mountain Pass, CA. As can be seen from this map, the 54dBu contour of the proposed booster does not exceed the 54 dBu contour of the licensed facilities of KHYZ (FM).

Application for Minor Modification Booster Station  
Technical Exhibit

Page 4

Allocation Study

An allocation study was performed according to § 74.1204 of the Commissions Rules. The CDBS was used as the basis for the study. The proposed operation of the booster meets all spacing and overlap requirements. A spacing study is attached as Exhibit 4.

Environmental Considerations

The antenna system will be mounted on an existing tower. TOWAIR confirms that this tower does not require registration (see Exhibit 5). Since the installation of the antenna will not increase the height of the existing tower the proposed facility should be exempt from environmental processing under 47 CFR Section 1.1306.

The proposed facility was evaluated in regards to potential exposure to radio frequency energy at ground level to workers and the general public. The center of radiation of the antenna being proposed is 20 meters above ground level. The vertical pattern included as Exhibit 7 was used in the RF calculation, and the RF was calculated based on a worst case vertical factor of 0.212 at -52° elevation. The RF contribution of the proposed booster was calculated to be 0.402 µwatts/cm<sup>2</sup> at 2 meters AGL or 0.2% of the maximum 200 µwatts/cm<sup>2</sup> for general public exposure and is less than the 5% of the applicable limit required for consideration.

$$S = \frac{33.4 * F^2 * ERP}{R^2}$$

where:  
S = power density in µW/cm<sup>2</sup>  
F = relative field factor (relative numeric gain)  
ERP = power in watts  
R = distance in meters

The licensee agrees to reduce power or cease operations when it becomes necessary for workers to be on the tower in order to ensure that they will not be exposed to levels of radio frequency electromagnetic radiation that exceed FCC guidelines.

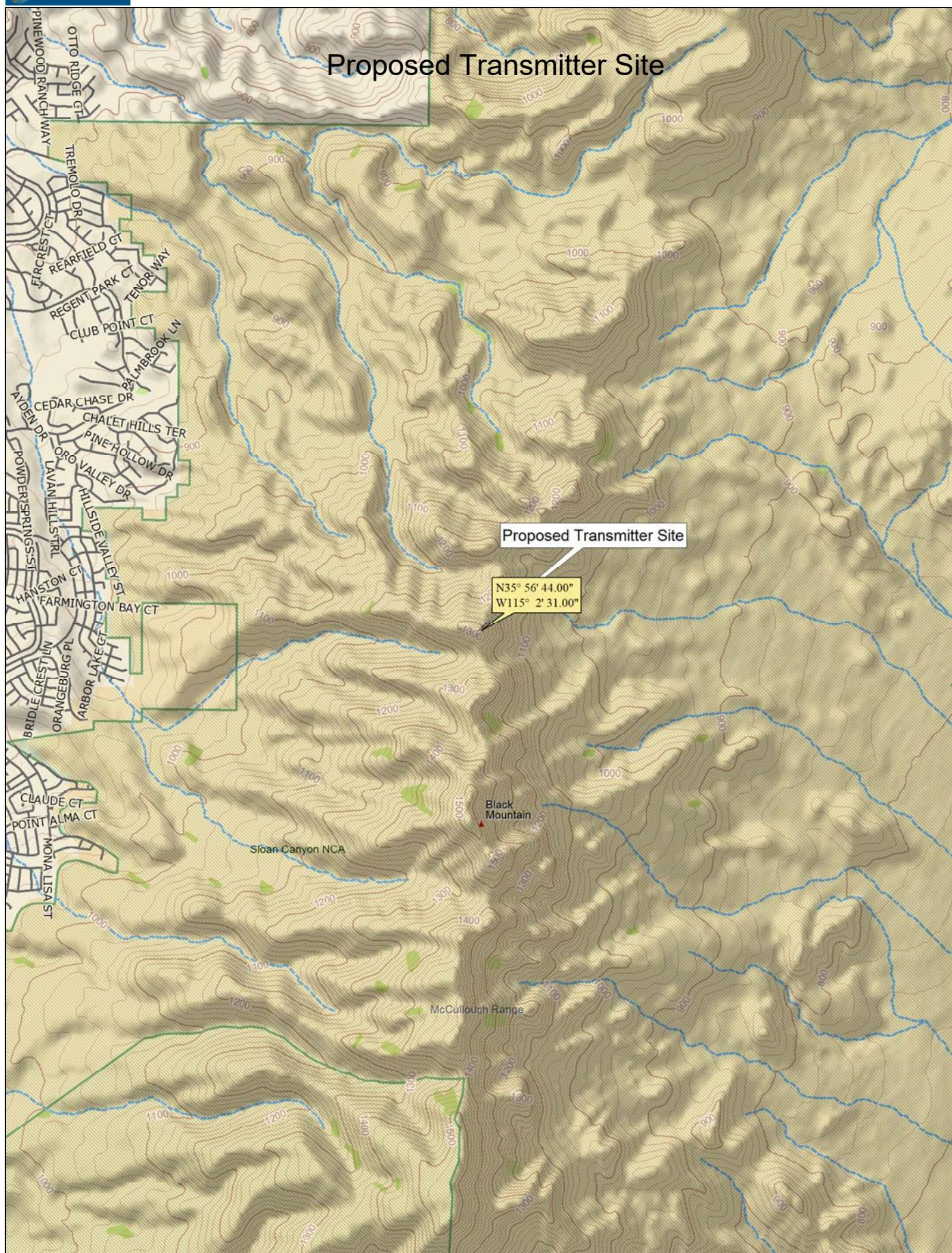
Application for Minor Modification Booster Station  
Technical Exhibit

Page 5

The data and information contained herein is accurate and complete to the best of my knowledge and belief.



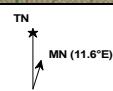
Alan D. Kirschner  
Technical Consultant  
Kirschner Broadcast Services, LLC  
November 13, 2017

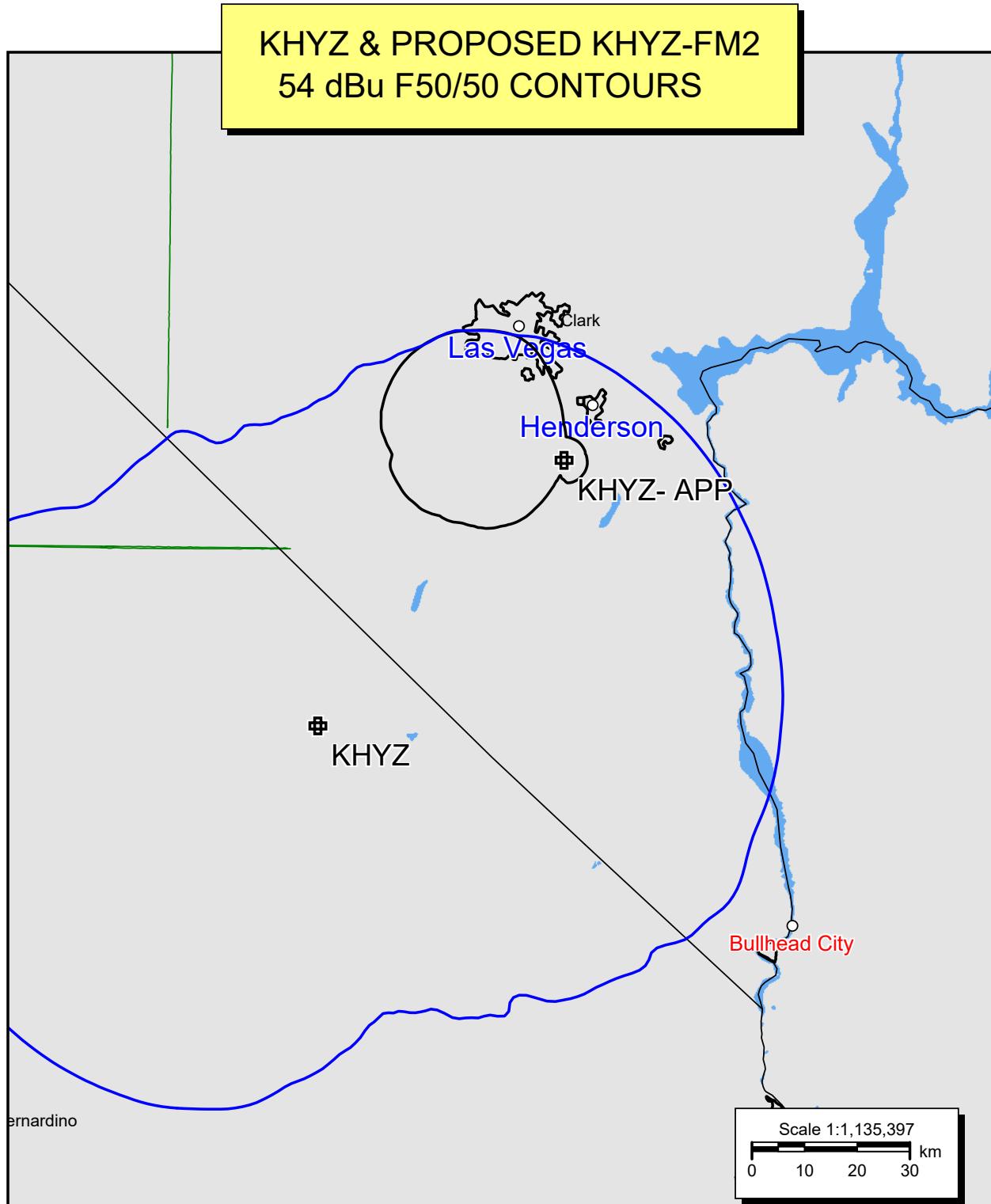


Data use subject to license.

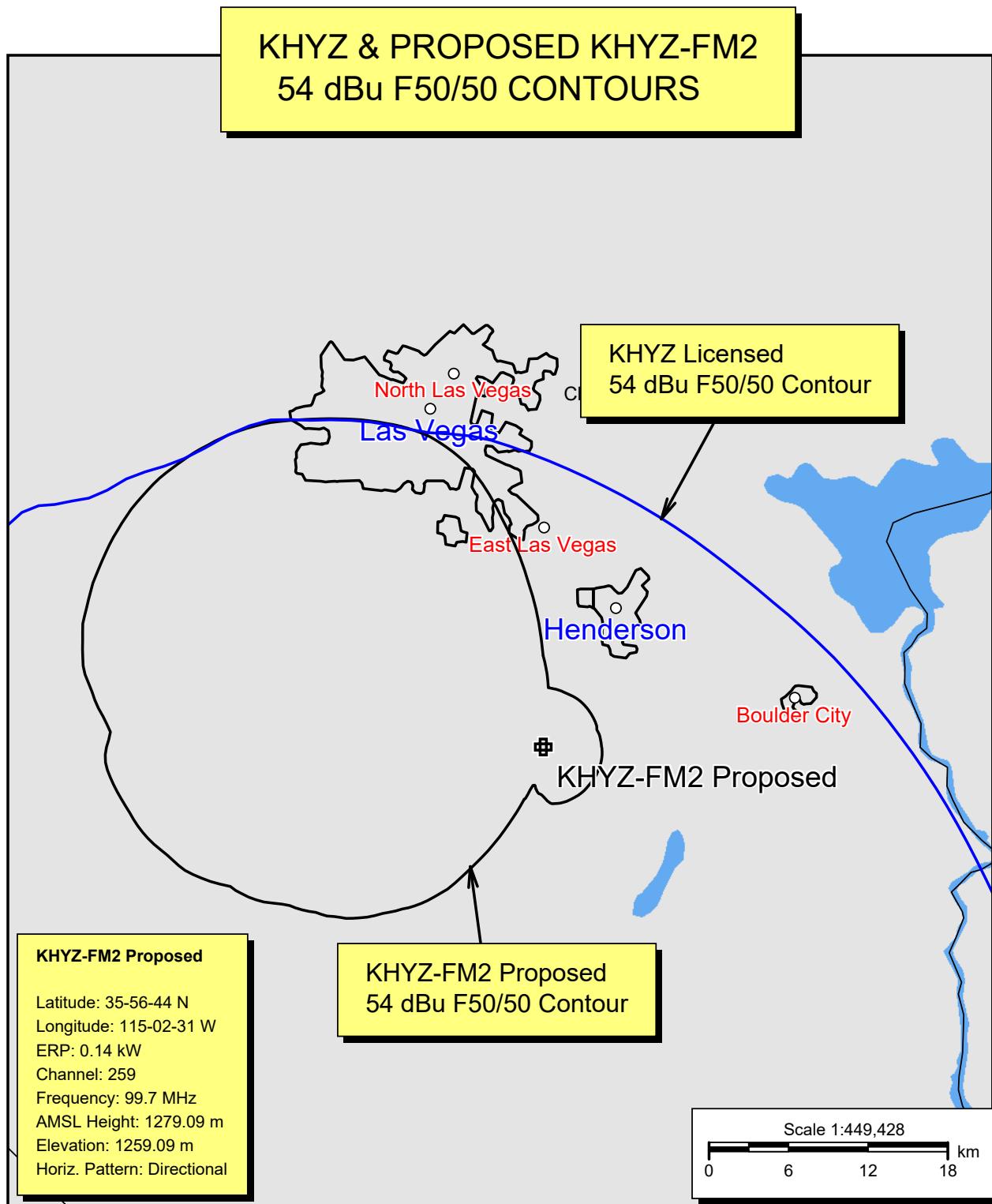
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## Proposed KHYZ-FM2

REFERENCE 35 56 44.0 N. 115 02 31.0 W.	CH# 259D - 99.7 MHz, Pwr= 0.14 kW DA, HAAT= 498.3 M, COR= 1279.1 M	DISPLAY DATA Average Protected F(50-50)= 25.16 km Standard Directional	SEARCH 11-13-17						
<hr/>									
CH CI TY	CALL STATE	TYPE ANT <--	AZI DIST FILE #						
LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE						
*IN*	*OUT*	(Overlap in km)							
259B <del>KHYZ</del> Mountain Pass	CP _CX CA	216.5 36.3	65.92 BPH20170510AAI	35 28 05.0 115 28 32.0	50.000 148	177.4 1378	95.3 Heftel	-121.6* Broadcasting	-76.6 Company
259B <del>KHYZ</del> Mountain Pass	LIC _C_ CA	222.8 42.5	68.71 BMLH20020228ADC	35 29 27.0 115 33 27.0	8.400 551	158.9 1864	87.9 Heftel	-102.2* Broadcasting	-73.5 Company
259D <del>KHYZ-FM2</del> Las Vegas	LIC DC_ NV	282.7 102.7	0.84 BLFTB20090527AGH	35 56 50.0 115 03 04.0	0.370	27.1 1247	5.9 Heftel	-51.6* Broadcasting	-83.5* Company
257CO KRGT Indian Springs	LIC CN_ NV	311.5 131.2	63.26 BLH20160211ABY	36 19 16.0 115 34 15.0	35.000 657	10.9 2658	91.7 Univision	28.2 Radio Stations G	-29.0* Group
257D KRGT-FM1 Las Vegas	LIC DC_ NV	25.2 205.2	7.67 BLFTB20050815AED	36 00 29.0 115 00 20.0	6.000 324	0.8 1027	6.0 Hbc License	4.5 Corporation	1.7 Broadband
261D K247AX Las Vegas	CP DV_ NV	320.3 140.1	30.46 BMPFT20170717ADK	36 09 22.2 115 15 32.0	0.040	0.0 858	1.3 American	7.8 Educational	28.6 Broadcast
205C KNPR Las Vegas	LIC CX_ NV	273.2 92.9	41.35 BLED20070424AAW	35 57 55.0 115 29 58.8	22.000 1190	12.8 2639	58.8 Nevada Public	28.5R Radio	12.9M Group
261D K261BZ Las Vegas TRANSLATOR FOR KLUK, BULLHEAD CITY, AZ.	LIC DHN_ NV	261.9 81.7	41.25 BLFT19880429TA	35 53 34.0 115 29 40.0	0.165 560	0.5 1909	23.0 K244ce, Lic	18.1	17.5

Terrain database is USGS 03 SEC, R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.  
 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 restricted contour.

## TOWAIR Determination Results

### \* \* \* NOTICE \* \* \*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

#### Your Specifications

##### NAD83 Coordinates

Latitude	35-56-44.0 north
Longitude	115-02-34.3 west

##### Measurements (Meters)

Overall Structure Height (AGL)	22
Support Structure Height (AGL)	22
Site Elevation (AMSL)	1259

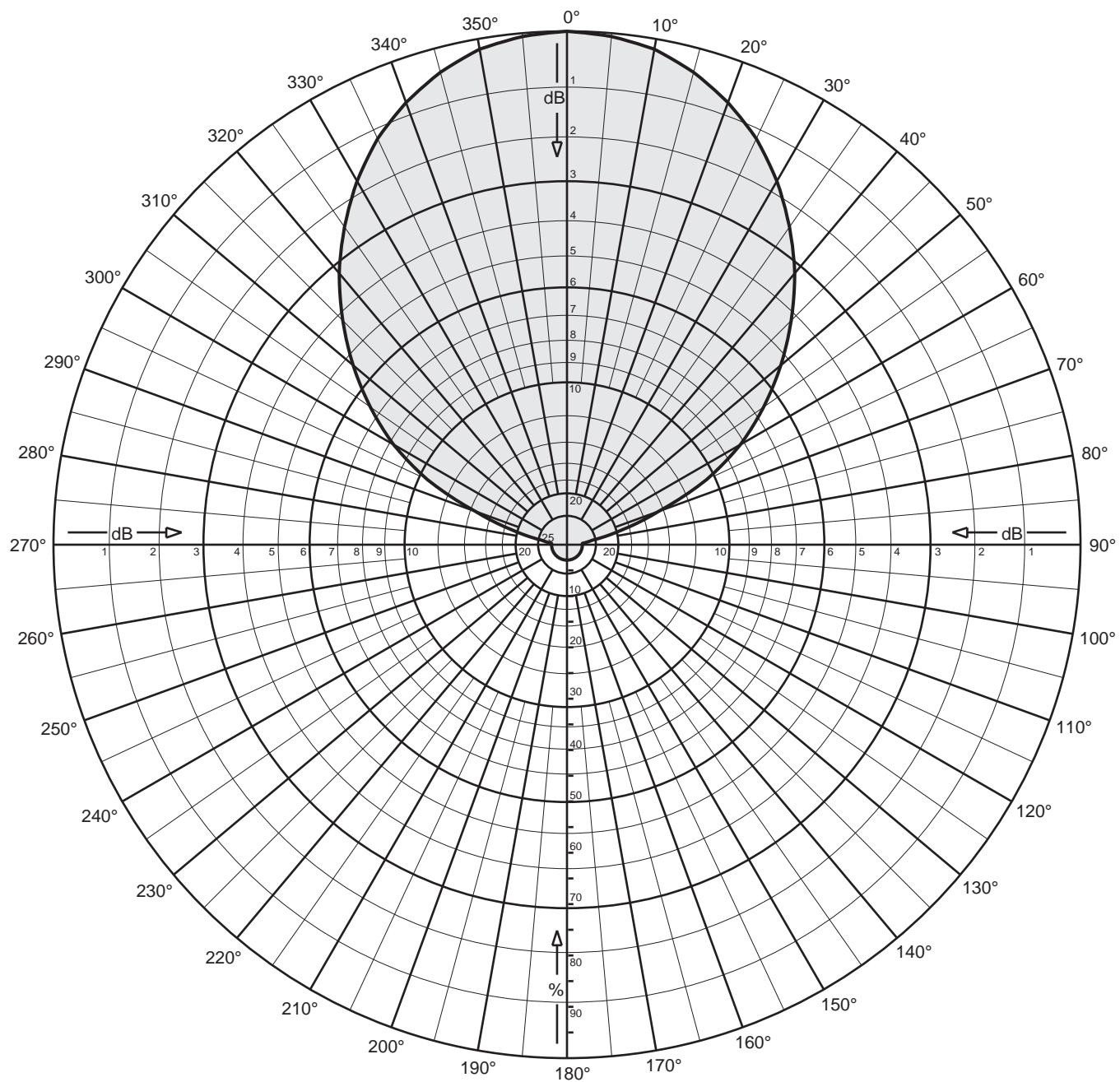
##### Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

#### [Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

[CLOSE WINDOW](#)



CL-FM  
FM  
Maximum gain: 7.0 dBd  
Vertical polarization  
Horizontal plane pattern

## Exhibit 6B

CL-FM  
 FM  
 Maximum gain: 7 dBd  
 Vertical polarization  
 Horizontal plane pattern

Angle	Rel.Field	Rel.dB	dBd	PwrMult
-----	-----	-----	-----	-----
0	1.000	0.00	7.00	5.01
1	0.998	-0.01	6.99	5.00
2	0.997	-0.02	6.98	4.99
3	0.996	-0.03	6.97	4.98
4	0.995	-0.04	6.96	4.97
5	0.993	-0.06	6.94	4.94
6	0.991	-0.08	6.92	4.92
7	0.988	-0.10	6.90	4.90
8	0.985	-0.13	6.87	4.86
9	0.982	-0.15	6.85	4.84
10	0.980	-0.18	6.82	4.81
11	0.975	-0.22	6.78	4.76
12	0.969	-0.27	6.73	4.71
13	0.964	-0.32	6.68	4.66
14	0.958	-0.37	6.63	4.60
15	0.952	-0.42	6.58	4.55
16	0.946	-0.49	6.51	4.48
17	0.938	-0.56	6.44	4.41
18	0.931	-0.62	6.38	4.35
19	0.923	-0.69	6.31	4.28
20	0.916	-0.76	6.24	4.21
21	0.908	-0.84	6.16	4.13
22	0.899	-0.92	6.08	4.06
23	0.890	-1.01	5.99	3.97
24	0.882	-1.10	5.90	3.89
25	0.873	-1.18	5.82	3.82
26	0.862	-1.29	5.71	3.72
27	0.851	-1.41	5.59	3.62
28	0.840	-1.52	5.48	3.53
29	0.829	-1.63	5.37	3.44
30	0.817	-1.75	5.25	3.35
31	0.806	-1.88	5.12	3.25
32	0.793	-2.02	4.98	3.15
33	0.781	-2.15	4.85	3.05
34	0.767	-2.30	4.70	2.95
35	0.756	-2.44	4.56	2.86
36	0.742	-2.59	4.41	2.76
37	0.729	-2.74	4.26	2.67
38	0.716	-2.90	4.10	2.57
39	0.704	-3.05	3.95	2.48
40	0.690	-3.22	3.78	2.39
41	0.675	-3.41	3.59	2.29
42	0.661	-3.60	3.40	2.19
43	0.646	-3.79	3.21	2.09
44	0.632	-3.99	3.01	2.00
45	0.618	-4.19	2.81	1.91
46	0.602	-4.40	2.60	1.82
47	0.588	-4.61	2.39	1.73
48	0.573	-4.84	2.16	1.64
49	0.558	-5.06	1.94	1.56
50	0.544	-5.30	1.70	1.48
51	0.528	-5.54	1.46	1.40
52	0.513	-5.80	1.20	1.32
53	0.498	-6.06	0.94	1.24
54	0.483	-6.33	0.67	1.17

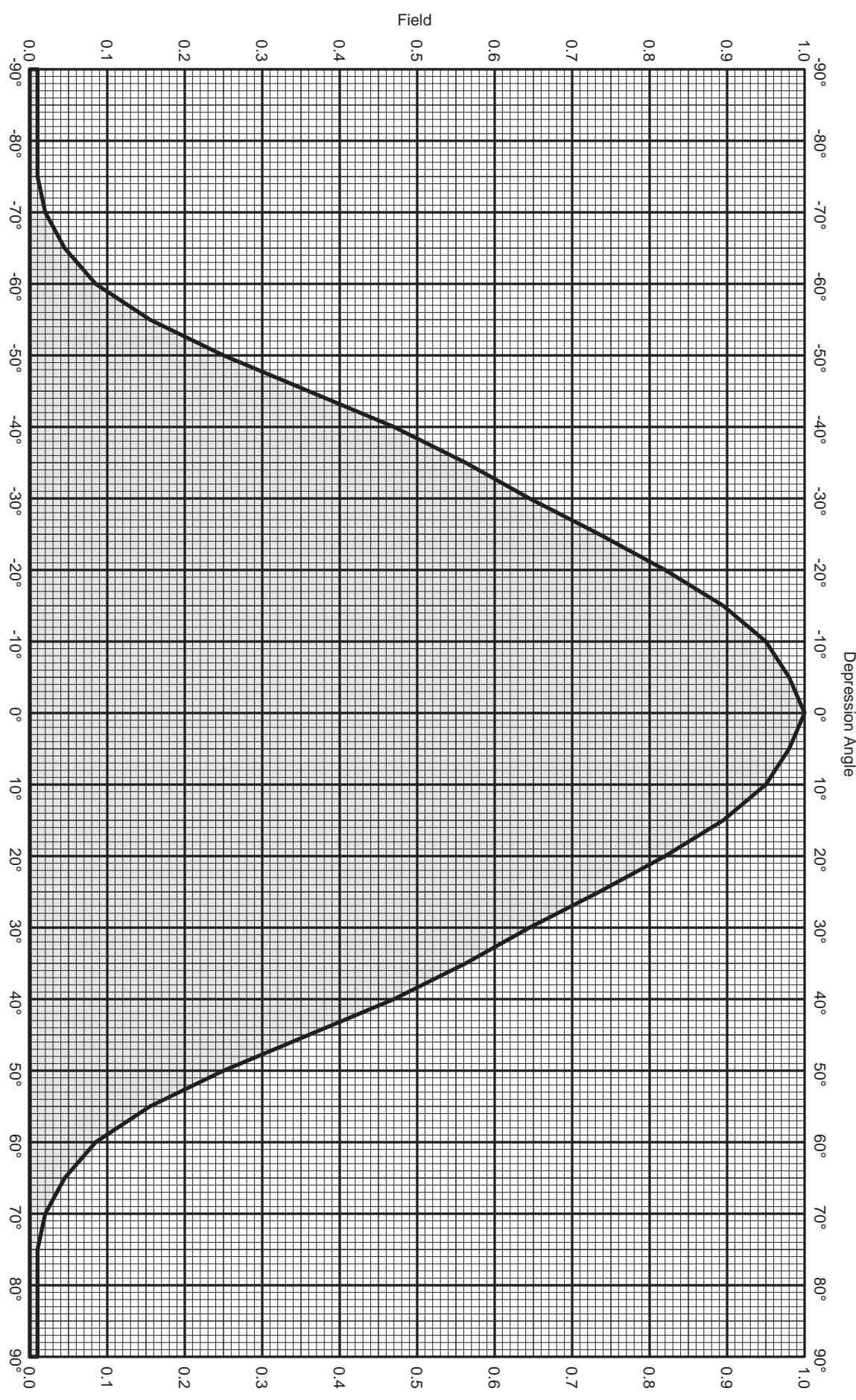
55	0.467	-6.60	0.40	1.10
56	0.452	-6.90	0.10	1.02
57	0.436	-7.20	-0.20	0.95
58	0.421	-7.51	-0.51	0.89
59	0.405	-7.84	-0.84	0.82
60	0.390	-8.18	-1.18	0.76
61	0.372	-8.59	-1.59	0.69
62	0.354	-9.02	-2.02	0.63
63	0.336	-9.47	-2.47	0.57
64	0.318	-9.95	-2.95	0.51
65	0.300	-10.46	-3.46	0.45
66	0.278	-11.12	-4.12	0.39
67	0.256	-11.84	-4.84	0.33
68	0.234	-12.62	-5.62	0.27
69	0.212	-13.47	-6.47	0.23
70	0.190	-14.42	-7.42	0.18
71	0.174	-15.19	-8.19	0.15
72	0.158	-16.03	-9.03	0.13
73	0.142	-16.95	-9.95	0.10
74	0.126	-17.99	-10.99	0.08
75	0.110	-19.17	-12.17	0.06
76	0.098	-20.18	-13.18	0.05
77	0.086	-21.31	-14.31	0.04
78	0.074	-22.62	-15.62	0.03
79	0.062	-24.15	-17.15	0.02
80	0.050	-26.02	-19.02	0.01
81	0.046	-26.74	-19.74	0.01
82	0.042	-27.54	-20.54	0.01
83	0.038	-28.40	-21.40	0.01
84	0.034	-29.37	-22.37	0.01
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236	0.030	-30.46	-23.46	0.00
237	0.030	-30.46	-23.46	0.00
238	0.030	-30.46	-23.46	0.00
239	0.030	-30.46	-23.46	0.00
240	0.030	-30.46	-23.46	0.00
241	0.030	-30.46	-23.46	0.00
242	0.030	-30.46	-23.46	0.00
243	0.030	-30.46	-23.46	0.00
244	0.030	-30.46	-23.46	0.00
245	0.030	-30.46	-23.46	0.00
246	0.030	-30.46	-23.46	0.00
247	0.030	-30.46	-23.46	0.00
248	0.030	-30.46	-23.46	0.00
249	0.030	-30.46	-23.46	0.00
250	0.030	-30.46	-23.46	0.00
251	0.030	-30.46	-23.46	0.00
252	0.030	-30.46	-23.46	0.00
253	0.030	-30.46	-23.46	0.00
254	0.030	-30.46	-23.46	0.00
255	0.030	-30.46	-23.46	0.00
256	0.030	-30.46	-23.46	0.00
257	0.030	-30.46	-23.46	0.00
258	0.030	-30.46	-23.46	0.00

259	0.030	-30.46	-23.46	0.00
260	0.030	-30.46	-23.46	0.00
261	0.030	-30.46	-23.46	0.00
262	0.030	-30.46	-23.46	0.00
263	0.030	-30.46	-23.46	0.00
264	0.030	-30.46	-23.46	0.00
265	0.030	-30.46	-23.46	0.00
266	0.030	-30.46	-23.46	0.00
267	0.030	-30.46	-23.46	0.00
268	0.030	-30.46	-23.46	0.00
269	0.030	-30.46	-23.46	0.00
270	0.030	-30.46	-23.46	0.00
271	0.030	-30.46	-23.46	0.00
272	0.030	-30.46	-23.46	0.00
273	0.030	-30.46	-23.46	0.00
274	0.030	-30.46	-23.46	0.00
275	0.030	-30.46	-23.46	0.00
276	0.034	-29.37	-22.37	0.01
277	0.038	-28.40	-21.40	0.01
278	0.042	-27.54	-20.54	0.01
279	0.046	-26.74	-19.74	0.01
280	0.050	-26.02	-19.02	0.01
281	0.062	-24.15	-17.15	0.02
282	0.074	-22.62	-15.62	0.03
283	0.086	-21.31	-14.31	0.04
284	0.098	-20.18	-13.18	0.05
285	0.110	-19.17	-12.17	0.06
286	0.126	-17.99	-10.99	0.08
287	0.142	-16.95	-9.95	0.10
288	0.158	-16.03	-9.03	0.13
289	0.174	-15.19	-8.19	0.15
290	0.190	-14.42	-7.42	0.18
291	0.212	-13.47	-6.47	0.23
292	0.234	-12.62	-5.62	0.27
293	0.256	-11.84	-4.84	0.33
294	0.278	-11.12	-4.12	0.39
295	0.300	-10.46	-3.46	0.45
296	0.318	-9.95	-2.95	0.51
297	0.336	-9.47	-2.47	0.57
298	0.354	-9.02	-2.02	0.63
299	0.372	-8.59	-1.59	0.69
300	0.390	-8.18	-1.18	0.76
301	0.405	-7.84	-0.84	0.82
302	0.421	-7.51	-0.51	0.89
303	0.436	-7.20	-0.20	0.95
304	0.452	-6.90	0.10	1.02
305	0.467	-6.60	0.40	1.10
306	0.483	-6.33	0.67	1.17
307	0.498	-6.06	0.94	1.24
308	0.513	-5.80	1.20	1.32
309	0.528	-5.54	1.46	1.40
310	0.544	-5.30	1.70	1.48
311	0.558	-5.06	1.94	1.56
312	0.573	-4.84	2.16	1.64
313	0.588	-4.61	2.39	1.73
314	0.602	-4.40	2.60	1.82
315	0.618	-4.19	2.81	1.91
316	0.632	-3.99	3.01	2.00
317	0.646	-3.79	3.21	2.09
318	0.661	-3.60	3.40	2.19
319	0.675	-3.41	3.59	2.29
320	0.690	-3.22	3.78	2.39
321	0.704	-3.05	3.95	2.48
322	0.716	-2.90	4.10	2.57
323	0.729	-2.74	4.26	2.67
324	0.742	-2.59	4.41	2.76
325	0.756	-2.44	4.56	2.86
326	0.767	-2.30	4.70	2.95

327	0.781	-2.15	4.85	3.05
328	0.793	-2.02	4.98	3.15
329	0.806	-1.88	5.12	3.25
330	0.817	-1.75	5.25	3.35
331	0.829	-1.63	5.37	3.44
332	0.840	-1.52	5.48	3.53
333	0.851	-1.41	5.59	3.62
334	0.862	-1.29	5.71	3.72
335	0.873	-1.18	5.82	3.82
336	0.882	-1.10	5.90	3.89
337	0.890	-1.01	5.99	3.97
338	0.899	-0.92	6.08	4.06
339	0.908	-0.84	6.16	4.13
340	0.916	-0.76	6.24	4.21
341	0.923	-0.69	6.31	4.28
342	0.931	-0.62	6.38	4.35
343	0.938	-0.56	6.44	4.41
344	0.946	-0.49	6.51	4.48
345	0.952	-0.42	6.58	4.55
346	0.958	-0.37	6.63	4.60
347	0.964	-0.32	6.68	4.66
348	0.969	-0.27	6.73	4.71
349	0.975	-0.22	6.78	4.76
350	0.980	-0.18	6.82	4.81
351	0.982	-0.15	6.85	4.84
352	0.985	-0.13	6.87	4.86
353	0.988	-0.10	6.90	4.90
354	0.991	-0.08	6.92	4.92
355	0.993	-0.06	6.94	4.94
356	0.995	-0.04	6.96	4.97
357	0.996	-0.03	6.97	4.98
358	0.997	-0.02	6.98	4.99
359	0.998	-0.01	6.99	5.00



Vertical plane pattern

CL-FM

FM

Maximum gain: 7.0 dBd

Vertical polarization

**KATHREIN**

USA

## Exhibit 7B

CL-FM  
 FM  
 Maximum gain: 7 dBd  
 Vertical polarization  
 Vertical plane pattern

Angle	Rel.Field	Rel.dB	dBd	PwrMult
-90	0.010	-40.00	-33.00	0.00
-89	0.010	-40.00	-33.00	0.00
-88	0.010	-40.00	-33.00	0.00
-87	0.010	-40.00	-33.00	0.00
-86	0.010	-40.00	-33.00	0.00
-85	0.010	-40.00	-33.00	0.00
-84	0.010	-40.00	-33.00	0.00
-83	0.010	-40.00	-33.00	0.00
-82	0.010	-40.00	-33.00	0.00
-81	0.010	-40.00	-33.00	0.00
-80	0.010	-40.00	-33.00	0.00
-79	0.010	-40.00	-33.00	0.00
-78	0.010	-40.00	-33.00	0.00
-77	0.010	-40.00	-33.00	0.00
-76	0.010	-40.00	-33.00	0.00
-75	0.010	-40.00	-33.00	0.00
-74	0.012	-38.42	-31.42	0.00
-73	0.014	-37.08	-30.08	0.00
-72	0.016	-35.92	-28.92	0.00
-71	0.018	-34.89	-27.89	0.00
-70	0.020	-33.98	-26.98	0.00
-69	0.025	-32.04	-25.04	0.00
-68	0.030	-30.46	-23.46	0.00
-67	0.035	-29.12	-22.12	0.01
-66	0.040	-27.96	-20.96	0.01
-65	0.045	-26.94	-19.94	0.01
-64	0.053	-25.51	-18.51	0.01
-63	0.061	-24.29	-17.29	0.02
-62	0.069	-23.22	-16.22	0.02
-61	0.077	-22.27	-15.27	0.03
-60	0.085	-21.41	-14.41	0.04
-59	0.099	-20.09	-13.09	0.05
-58	0.113	-18.94	-11.94	0.06
-57	0.127	-17.92	-10.92	0.08
-56	0.141	-17.02	-10.02	0.10
-55	0.155	-16.19	-9.19	0.12
-54	0.174	-15.19	-8.19	0.15
-53	0.193	-14.29	-7.29	0.19
-52	0.212	-13.47	-6.47	0.23
-51	0.231	-12.73	-5.73	0.27
-50	0.250	-12.04	-5.04	0.31
-49	0.272	-11.31	-4.31	0.37
-48	0.294	-10.63	-3.63	0.43
-47	0.316	-10.01	-3.01	0.50
-46	0.338	-9.42	-2.42	0.57
-45	0.360	-8.87	-1.87	0.65
-44	0.382	-8.36	-1.36	0.73
-43	0.404	-7.87	-0.87	0.82
-42	0.426	-7.41	-0.41	0.91
-41	0.448	-6.97	0.03	1.01
-40	0.470	-6.56	0.44	1.11
-39	0.488	-6.22	0.78	1.20
-38	0.507	-5.90	1.10	1.29
-37	0.525	-5.59	1.41	1.38
-36	0.544	-5.29	1.71	1.48

-35	0.562	-5.00	2.00	1.58
-34	0.579	-4.75	2.25	1.68
-33	0.595	-4.50	2.50	1.78
-32	0.612	-4.26	2.74	1.88
-31	0.628	-4.03	2.97	1.98
-30	0.645	-3.81	3.19	2.08
-29	0.663	-3.57	3.43	2.20
-28	0.681	-3.34	3.66	2.32
-27	0.699	-3.11	3.89	2.45
-26	0.717	-2.89	4.11	2.58
-25	0.735	-2.67	4.33	2.71
-24	0.752	-2.48	4.52	2.83
-23	0.769	-2.28	4.72	2.96
-22	0.786	-2.09	4.91	3.10
-21	0.803	-1.91	5.09	3.23
-20	0.820	-1.72	5.28	3.37
-19	0.835	-1.57	5.43	3.49
-18	0.850	-1.41	5.59	3.62
-17	0.865	-1.26	5.74	3.75
-16	0.880	-1.11	5.89	3.88
-15	0.895	-0.96	6.04	4.02
-14	0.906	-0.86	6.14	4.11
-13	0.917	-0.75	6.25	4.22
-12	0.928	-0.65	6.35	4.32
-11	0.939	-0.55	6.45	4.42
-10	0.950	-0.45	6.55	4.52
-9	0.956	-0.39	6.61	4.58
-8	0.962	-0.34	6.66	4.63
-7	0.968	-0.28	6.72	4.70
-6	0.974	-0.23	6.77	4.75
-5	0.980	-0.18	6.82	4.81
-4	0.984	-0.14	6.86	4.85
-3	0.988	-0.10	6.90	4.90
-2	0.992	-0.07	6.93	4.93
-1	0.996	-0.03	6.97	4.98
0	1.000	0.00	7.00	5.01
1	0.996	-0.03	6.97	4.98
2	0.992	-0.07	6.93	4.93
3	0.988	-0.10	6.90	4.90
4	0.984	-0.14	6.86	4.85
5	0.980	-0.18	6.82	4.81
6	0.974	-0.23	6.77	4.75
7	0.968	-0.28	6.72	4.70
8	0.962	-0.34	6.66	4.63
9	0.956	-0.39	6.61	4.58
10	0.950	-0.45	6.55	4.52
11	0.939	-0.55	6.45	4.42
12	0.928	-0.65	6.35	4.32
13	0.917	-0.75	6.25	4.22
14	0.906	-0.86	6.14	4.11
15	0.895	-0.96	6.04	4.02
16	0.880	-1.11	5.89	3.88
17	0.865	-1.26	5.74	3.75
18	0.850	-1.41	5.59	3.62
19	0.835	-1.57	5.43	3.49
20	0.820	-1.72	5.28	3.37
21	0.803	-1.91	5.09	3.23
22	0.786	-2.09	4.91	3.10
23	0.769	-2.28	4.72	2.96
24	0.752	-2.48	4.52	2.83
25	0.735	-2.67	4.33	2.71
26	0.717	-2.89	4.11	2.58
27	0.699	-3.11	3.89	2.45
28	0.681	-3.34	3.66	2.32
29	0.663	-3.57	3.43	2.20
30	0.645	-3.81	3.19	2.08
31	0.628	-4.03	2.97	1.98
32	0.612	-4.26	2.74	1.88

33	0.595	-4.50	2.50	1.78
34	0.579	-4.75	2.25	1.68
35	0.562	-5.00	2.00	1.58
36	0.544	-5.29	1.71	1.48
37	0.525	-5.59	1.41	1.38
38	0.507	-5.90	1.10	1.29
39	0.488	-6.22	0.78	1.20
40	0.470	-6.56	0.44	1.11
41	0.448	-6.97	0.03	1.01
42	0.426	-7.41	-0.41	0.91
43	0.404	-7.87	-0.87	0.82
44	0.382	-8.36	-1.36	0.73
45	0.360	-8.87	-1.87	0.65
46	0.338	-9.42	-2.42	0.57
47	0.316	-10.01	-3.01	0.50
48	0.294	-10.63	-3.63	0.43
49	0.272	-11.31	-4.31	0.37
50	0.250	-12.04	-5.04	0.31
51	0.231	-12.73	-5.73	0.27
52	0.212	-13.47	-6.47	0.23
53	0.193	-14.29	-7.29	0.19
54	0.174	-15.19	-8.19	0.15
55	0.155	-16.19	-9.19	0.12
56	0.141	-17.02	-10.02	0.10
57	0.127	-17.92	-10.92	0.08
58	0.113	-18.94	-11.94	0.06
59	0.099	-20.09	-13.09	0.05
60	0.085	-21.41	-14.41	0.04
61	0.077	-22.27	-15.27	0.03
62	0.069	-23.22	-16.22	0.02
63	0.061	-24.29	-17.29	0.02
64	0.053	-25.51	-18.51	0.01
65	0.045	-26.94	-19.94	0.01
66	0.040	-27.96	-20.96	0.01
67	0.035	-29.12	-22.12	0.01
68	0.030	-30.46	-23.46	0.00
69	0.025	-32.04	-25.04	0.00
70	0.020	-33.98	-26.98	0.00
71	0.018	-34.89	-27.89	0.00
72	0.016	-35.92	-28.92	0.00
73	0.014	-37.08	-30.08	0.00
74	0.012	-38.42	-31.42	0.00
75	0.010	-40.00	-33.00	0.00
76	0.010	-40.00	-33.00	0.00
77	0.010	-40.00	-33.00	0.00
78	0.010	-40.00	-33.00	0.00
79	0.010	-40.00	-33.00	0.00
80	0.010	-40.00	-33.00	0.00
81	0.010	-40.00	-33.00	0.00
82	0.010	-40.00	-33.00	0.00
83	0.010	-40.00	-33.00	0.00
84	0.010	-40.00	-33.00	0.00
85	0.010	-40.00	-33.00	0.00
86	0.010	-40.00	-33.00	0.00
87	0.010	-40.00	-33.00	0.00
88	0.010	-40.00	-33.00	0.00
89	0.010	-40.00	-33.00	0.00
90	0.010	-40.00	-33.00	0.00