

EXHIBIT A

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of WEIGEL BROADCASTING CO., licensee of digital low power translator station WFBN-LD, Channel 23 in Rockford, IL, in support of its Application for Construction Permit to specify a new antenna. No change in ERP, site location nor height above ground is proposed herein.

It is proposed to mount a Dielectric TLP-8I directional, horizontally polarized slotted cylinder antenna at the 191-meter level of an existing 222.2-meter tower. Exhibit B is a map on which the licensed and proposed noise-limited, 51 dBu service contours are plotted.

Azimuth and elevation pattern data for the Dielectric directional antenna is included in Exhibit C. Exhibit D contains the summary results from a TVStudy interference study, which was conducted using a cell size of 1.0 kilometers and increment spacing of 1.0 kilometer. It concludes that the proposed WFBN-LD facility meets the Commission's de minimis interference criteria to all co-channel and adjacent-channel full-power and Class A television facilities with the exception of WCIU-DT in Chicago, IL, which is co-owned with WFBN-LD. Therefore, interference to WCIU-DT can be ignored. The licensed facility LMS file number is 0000102906. The authorized construction permit LMS file number is 0000196941.

A detailed power density calculation is provided in Exhibit E.

Since no change in the overall height or location of the existing tower is proposed herein, the Federal Aviation Administration has not been notified of this application. It is

EXHIBIT A

important to note that the Federal Communications Commission has assigned Antenna Structure Registration Number 1209945 to this structure.

I declare under penalty of perjury that the foregoing statements and the attached exhibits, which were prepared by me or under my immediate supervision, are true and correct to the best of my knowledge and belief.

A handwritten signature in blue ink, appearing to read "Kyle T. Fisher", with a stylized flourish at the end.

KYLE T. FISHER

January 30, 2024

CONTOUR POPULATION (2020 U.S. CENSUS DATA)
NOISE-LIMITED CP SERVICE : 555,227 (238,409 HH)
NOISE-LIMITED LIC SERVICE : 443,814 (187,360 HH)



- WFBN-LD CP (23)
- WFBN-LD LIC (23)

Proposed WFBN-LD
N/L Service Contour

Licensed WFBN-LD
N/L Service Contour

EXHIBIT B
CONTOUR COMPARISON
LICENSED AND PROPOSED WFBN-LD
CHANNEL 23 - ROCKFORD, IL

Scale 1:500,000



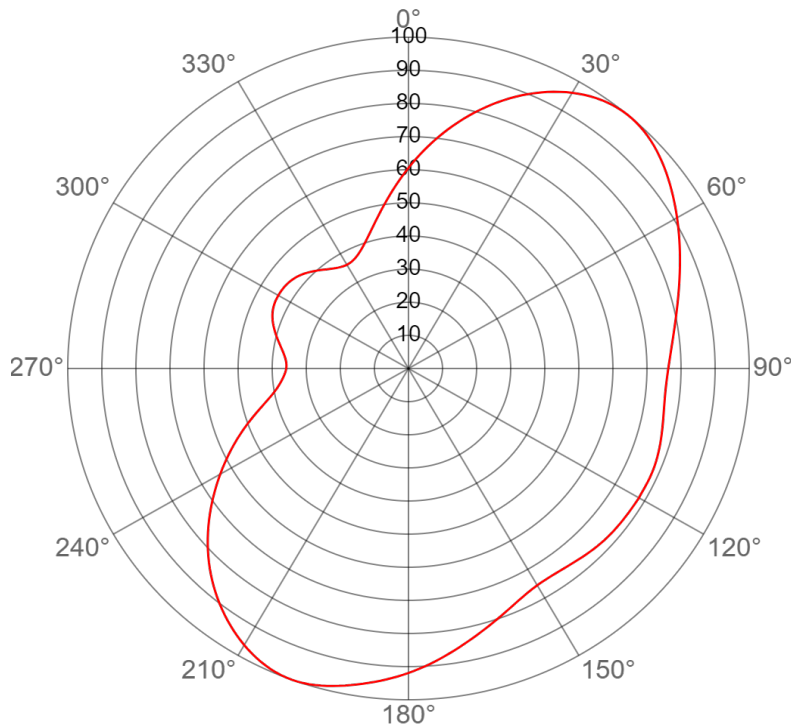
**Horizontal Polarization
AZIMUTH PATTERN**

Exhibit No. **C**
 Date **29 Jan 2024**
 Call Letters **WFBN-LD**
 Channel **23**
 Antenna Type **TLP-8I/VP**
 Location **ROCKFORD, IL**
 Customer **WEIGEL BROADCASTING CO.**

Gain **1.8 (2.55 dB)**
 Calculated
 Drawing # **TLP-I**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.605	36	0.993	72	0.836	108	0.775	144	0.755	180	0.919	216	0.918	252	0.482	288	0.417	324	0.373
1	0.619	37	0.995	73	0.830	109	0.776	145	0.754	181	0.925	217	0.910	253	0.470	289	0.420	325	0.370
2	0.633	38	0.998	74	0.825	110	0.778	146	0.754	182	0.930	218	0.900	254	0.458	290	0.424	326	0.367
3	0.647	39	0.999	75	0.819	111	0.779	147	0.754	183	0.936	219	0.891	255	0.446	291	0.428	327	0.365
4	0.661	40	1.000	76	0.814	112	0.780	148	0.754	184	0.941	220	0.881	256	0.435	292	0.431	328	0.363
5	0.675	41	1.000	77	0.809	113	0.781	149	0.755	185	0.946	221	0.871	257	0.425	293	0.433	329	0.362
6	0.688	42	0.999	78	0.804	114	0.781	150	0.756	186	0.951	222	0.861	258	0.415	294	0.436	330	0.362
7	0.702	43	0.998	79	0.799	115	0.781	151	0.758	187	0.956	223	0.850	259	0.406	295	0.437	331	0.362
8	0.716	44	0.995	80	0.795	116	0.781	152	0.760	188	0.961	224	0.839	260	0.399	296	0.439	332	0.362
9	0.729	45	0.993	81	0.791	117	0.781	153	0.763	189	0.966	225	0.828	261	0.392	297	0.440	333	0.364
10	0.743	46	0.989	82	0.786	118	0.781	154	0.766	190	0.970	226	0.817	262	0.386	298	0.440	334	0.366
11	0.756	47	0.985	83	0.783	119	0.781	155	0.770	191	0.975	227	0.805	263	0.380	299	0.441	335	0.368
12	0.769	48	0.981	84	0.779	120	0.781	156	0.775	192	0.979	228	0.793	264	0.376	300	0.441	336	0.372
13	0.783	49	0.976	85	0.776	121	0.780	157	0.779	193	0.984	229	0.781	265	0.372	301	0.441	337	0.376
14	0.795	50	0.971	86	0.772	122	0.780	158	0.784	194	0.988	230	0.768	266	0.368	302	0.441	338	0.380
15	0.808	51	0.966	87	0.770	123	0.779	159	0.789	195	0.991	231	0.755	267	0.365	303	0.440	339	0.386
16	0.821	52	0.960	88	0.767	124	0.779	160	0.795	196	0.994	232	0.743	268	0.362	304	0.440	340	0.391
17	0.833	53	0.954	89	0.765	125	0.779	161	0.800	197	0.997	233	0.730	269	0.360	305	0.439	341	0.398
18	0.845	54	0.948	90	0.763	126	0.778	162	0.806	198	0.998	234	0.717	270	0.359	306	0.438	342	0.405
19	0.856	55	0.942	91	0.761	127	0.778	163	0.812	199	1.000	235	0.704	271	0.358	307	0.436	343	0.412
20	0.868	56	0.936	92	0.759	128	0.777	164	0.817	200	1.000	236	0.691	272	0.358	308	0.434	344	0.420
21	0.879	57	0.929	93	0.758	129	0.776	165	0.823	201	0.999	237	0.677	273	0.359	309	0.432	345	0.429
22	0.890	58	0.923	94	0.758	130	0.776	166	0.830	202	0.998	238	0.664	274	0.361	310	0.429	346	0.438
23	0.900	59	0.917	95	0.757	131	0.775	167	0.836	203	0.996	239	0.651	275	0.363	311	0.426	347	0.447
24	0.910	60	0.910	96	0.757	132	0.774	168	0.842	204	0.993	240	0.638	276	0.366	312	0.423	348	0.457
25	0.920	61	0.904	97	0.758	133	0.773	169	0.848	205	0.990	241	0.625	277	0.369	313	0.420	349	0.468
26	0.929	62	0.897	98	0.758	134	0.771	170	0.855	206	0.986	242	0.612	278	0.373	314	0.416	350	0.479
27	0.938	63	0.891	99	0.759	135	0.770	171	0.862	207	0.981	243	0.599	279	0.376	315	0.411	351	0.490
28	0.946	64	0.885	100	0.761	136	0.768	172	0.868	208	0.976	244	0.585	280	0.381	316	0.407	352	0.502
29	0.954	65	0.878	101	0.762	137	0.766	173	0.875	209	0.970	245	0.572	281	0.385	317	0.403	353	0.514
30	0.961	66	0.872	102	0.764	138	0.765	174	0.881	210	0.964	246	0.559	282	0.390	318	0.398	354	0.526
31	0.968	67	0.866	103	0.766	139	0.763	175	0.888	211	0.957	247	0.546	283	0.394	319	0.394	355	0.539
32	0.974	68	0.859	104	0.767	140	0.761	176	0.894	212	0.950	248	0.533	284	0.399	320	0.389	356	0.552
33	0.980	69	0.853	105	0.769	141	0.759	177	0.901	213	0.943	249	0.520	285	0.403	321	0.385	357	0.565
34	0.985	70	0.847	106	0.771	142	0.758	178	0.907	214	0.935	250	0.508	286	0.408	322	0.381	358	0.578
35	0.989	71	0.841	107	0.773	143	0.756	179	0.913	215	0.927	251	0.495	287	0.412	323	0.377	359	0.592

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ELEVATION PATTERN

Exhibit No.

Date **29 Jan 2024**

Call Letters **WFBN-LD**

Channel **23**

Antenna Type **TLP-8I/VP**

Location **ROCKFORD, IL**

Customer **WEIGEL BROADCASTING CO.**

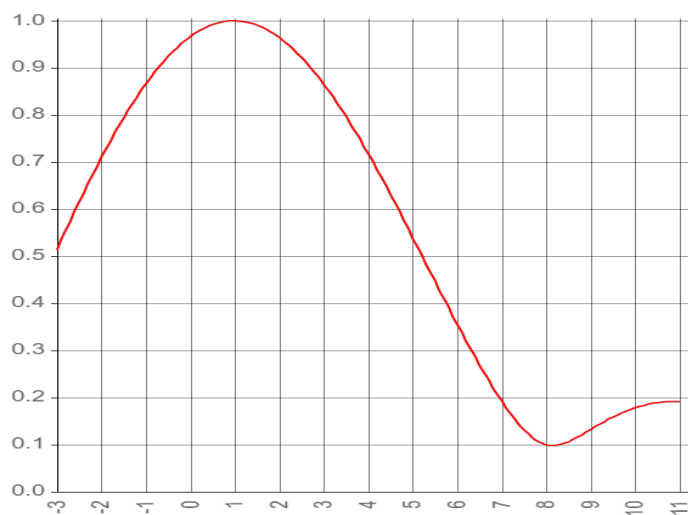
RMS Gain at Main Lobe **8.0 (9.03 dB)**

RMS Gain at Horizontal **7.5 (8.74 dB)**

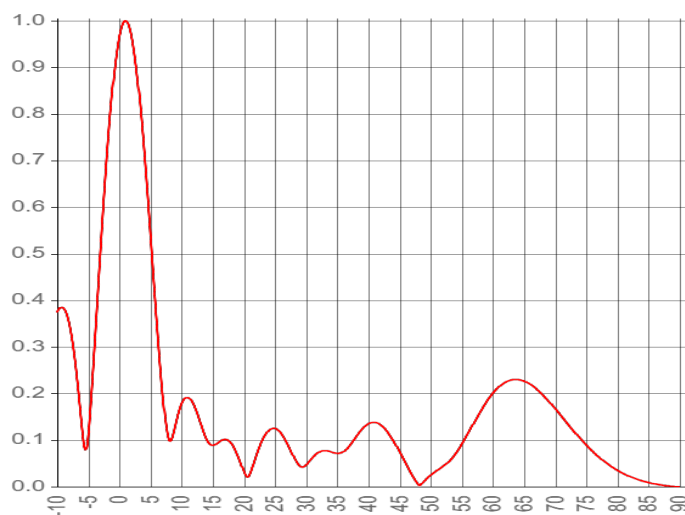
Calculated

Beam Tilt **1 Degrees**

Drawing # **08L080100**



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.374	10	0.178	30	0.047	50	0.025	70	0.167
-9	0.383	11	0.191	31	0.062	51	0.035	71	0.151
-8	0.346	12	0.174	32	0.074	52	0.044	72	0.135
-7	0.258	13	0.137	33	0.077	53	0.055	73	0.119
-6	0.130	14	0.102	34	0.075	54	0.071	74	0.104
-5	0.114	15	0.089	35	0.072	55	0.092	75	0.089
-4	0.303	16	0.096	36	0.075	56	0.115	76	0.076
-3	0.513	17	0.102	37	0.089	57	0.139	77	0.064
-2	0.709	18	0.093	38	0.107	58	0.162	78	0.053
-1	0.866	19	0.067	39	0.124	59	0.183	79	0.043
0	0.967	20	0.032	40	0.135	60	0.201	80	0.035
1	1.000	21	0.029	41	0.138	61	0.215	81	0.028
2	0.964	22	0.067	42	0.132	62	0.224	82	0.022
3	0.865	23	0.100	43	0.119	63	0.229	83	0.017
4	0.717	24	0.121	44	0.099	64	0.230	84	0.012
5	0.539	25	0.125	45	0.075	65	0.227	85	0.009
6	0.355	26	0.114	46	0.050	66	0.220	86	0.006
7	0.192	27	0.092	47	0.025	67	0.209	87	0.004
8	0.099	28	0.064	48	0.005	68	0.197	88	0.002
9	0.132	29	0.044	49	0.013	69	0.183	89	0.001

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TVSTUDY INTERFERENCE ANALYSIS RESULTS
 PROPOSED WFBN-LD
 CHANNEL 23 – ROCKFORD, IL

Study created: 2024.01.30 14:11:43

Study build station data: LMS TV 2024-01-30

Proposal: WFBN-LD D23 LD LIC ROCKFORD, IL

File number: BLANK0000087738

Facility ID: 168664

Station data: User record

Record ID: 80

Country: U.S.

Build options:

Protect pre-transition records not on baseline channel

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	KPXR-TV	D22	DT	LIC	CEDAR RAPIDS, IA	BLANK0000063428	223.3 km
No	WRJK-LD	N22-	TX	LIC	ARLINGTON HEIGHTS, IL	BLTT19991020AAO	99.4
Yes	WLS-TV	D22	DT	LIC	CHICAGO, IL	BLANK0000232100	134.9
No	WBUI	D22	DT	LIC	DECATUR, IL	BLANK0000203560	262.4
No	WFRV-TV	D22	DT	LIC	GREEN BAY, WI	BLANK0000163103	245.9
Yes	WISC-TV	D22	LD	CP	MADISON, WI	BLANK0000152659	56.8
No	KCWI-TV	D23	DT	APP	AMES, IA	BPCDT20130205AAY	370.3
No	KCWI-TV	D23	DT	LIC	AMES, IA	BLCDT20090612AIO	370.3
Yes	WCIU-TV	D23	DT	LIC	CHICAGO, IL	BLANK0000102906	134.8
Yes	WCIU-TV	D23	DT	CP	CHICAGO, IL	BLANK0000196941	135.1
No	W23EQ-D	D23	LD	LIC	DANVILLE, IL	BLANK0000068569	267.7
Yes	WQPT-TV	D23	DT	LIC	MOLINE, IL	BLANK0000142182	148.3
No	WUSI-TV	D23	DT	LIC	OLNEY, IL	BLANK0000087280	394.3
No	W23EW-D	D23	LD	LIC	SPRINGFIELD, IL	BLANK0000113887	284.9
No	WCUH-LD	D23	LD	LIC	FORT WAYNE, IN	BLANK0000142031	359.6
No	WDTI	D23	DT	LIC	INDIANAPOLIS, IN	BLANK0000118661	364.6
No	WBSF	D23	DT	LIC	BAY CITY, MI	BLANK0000233232	456.3
No	WBSF	D23	DT	LIC	BAY CITY, MI	BLANK0000185118	456.3
No	W23EB-D	D23	LD	LIC	CADILLAC, MI	BLDTL20140317ABS	373.5
No	WXMI	D23	LD	LIC	GRAND RAPIDS, MI	BLANK0000090140	330.3
No	W23FL-D	D23	LD	LIC	TRAVERSE CITY, MI	BLANK0000201471	392.4
No	KQEG-CD	D23	DC	LIC	LA CRESCENT, MN	BLANK0000001542	236.4

No	KTCI-TV	D23	DT LIC	ST. PAUL, MN	BLANK0000221665	441.8
No	KETC	D23	DT LIC	ST. LOUIS, MO	BLANK0000055432	436.5
No	W23FC-D	D23	LD LIC	EAU CLAIRE, WI	BLANK0000164596	347.1
Yes	WBAY-TV	D23	DT LIC	GREEN BAY, WI	BLANK0000163423	253.1
Yes	W23BW-D	D23	DC LIC	MADISON, WI	BLANK0000194534	87.7
No	WTAS-LD	D23-	LD LIC	WAUKESHA, WI	BLANK0000151967	109.6
No	WRJK-LD	D24	LD CP	ARLINGTON HEIGHTS, IL	BMPDTL20140211ACV	134.9
Yes	WFLD	D24	DT CP	CHICAGO, IL	BLANK0000072366	134.8
No	WHOI	D24	DT LIC	PEORIA, IL	BLANK0000100514	188.0
No	WTLJ	D24	DT LIC	MUSKEGON, MI	BLANK0000001674	277.2
No	WZCK-LD	D24	LD LIC	MADISON, WI	BLANK0000112772	87.6
No	WDMW-LD	D24	LD LIC	MILWAUKEE, WI	BLANK0000193212	109.6
No	DWMKB-LP	N25z	TX APP	Rochelle, IL	BLTTL20070813AFM	33.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D23
Mask: Stringent
Latitude: 42 17 48.00 N (NAD83)
Longitude: 89 10 15.00 W
Height AMSL: 440.9 m
HAAT: 0.0 m
Peak ERP: 15.0 kW
Antenna: DIE TLP8I 0.0 deg
Elev Pattn: Generic
Elec Tilt: 1.00

49.7 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	5.49 kW	197.7 m	46.1 km
45.0	14.8	207.2	51.7
90.0	8.71	200.7	48.6
135.0	8.89	207.7	49.1
180.0	12.7	200.6	50.5
225.0	10.3	179.4	48.3
270.0	1.93	191.8	40.3
315.0	2.53	199.3	42.2

Database HAAT does not agree with computed HAAT

Database HAAT: 0 m Computed HAAT: 198 m

Distance to Canadian border: 496.7 km

Distance to Mexican border: 1769.9 km

Conditions at FCC monitoring station: Allegan MI

Bearing: 81.5 degrees Distance: 265.9 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 265.3 degrees Distance: 1361.0 km

Study cell size: 1.00 km

Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

**IX check failure to BLANK0000102906 LIC scenario 1, 1.39% interference caused

**IX check failure to BLANK0000102906 LIC scenario 2, 1.39% interference caused

**IX check failure to BLANK0000196941 CP scenario 1, 1.25% interference caused

**IX check failure to BLANK0000196941 CP scenario 2, 1.27% interference caused

---- Below is IX received by proposal BLANK0000087738 ----

Proposal receives 4.52% interference from scenario 1

Proposal receives 4.05% interference from scenario 2

POWER DENSITY CALCULATION

PROPOSED WFBN-LD
CHANNEL 23 – ROCKFORD, IL

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Rockford facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 15 kW (H), an antenna radiation center 191 meters above ground, and the specific elevation pattern of the proposed Dielectric antenna, a maximum power density value two meters above ground of 0.00091 mW/cm^2 is calculated to occur near the base of the tower. Since this is 0.26 percent of the 0.35 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 23 (524-530 MHz), a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing radiation.