

ENGINEERING STATEMENT

The engineering data contained herein have been prepared on behalf of RADIANT LIFE MINISTRIES, INC., licensee of full-power digital television station WFBD-DT, Channel 29 in Destin, Florida, in support of its Application for Construction to operate with an increase in effective radiated power. No change in site location, antenna radiation center height above ground, antenna make/model or azimuth pattern is proposed herein.

It is proposed to utilize the presently licensed Dielectric TFU-24DSC-R S200 antenna which is mounted at the 326.8-meter level of an existing 336.5-meter tower. The proposed effective radiated power for the facility is 916 kW in the horizontal plane. Exhibit B is a map upon which the predicted service contours are plotted. As shown, the community of Destin is completely encompassed by the proposed 48 dBu city-grade service contour.

Azimuth and elevation pattern data for the proposed directional antenna are provided in Exhibit C. Exhibit D contains the summary results from a TVStudy interference study, which was conducted using a cell size of 2.0 kilometers and increment spacing of 1.0 kilometer. It concludes that the proposed WFBD-DT facility meets the Commission's *de minimis* interference criteria to all co-channel and adjacent-channel post-repack full-power and Class A facilities. A power density calculation appears as 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. In addition, the Federal Communications Commission issued Antenna Structure Registration Number 1242292 to this tower.

EXHIBIT A

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 "K. T. Fisher", with a stylized, elongated final letter.

KEVIN T. FISHER

December 15, 2020

CONTOUR POPULATION
2018 U.S. CENSUS ESTIMATE
CITY-GRADE (48 DBU) : 783,638 (364,931 HH)
NOISE-LIMITED : 915,899 (429,590 HH)

Smith and Fisher, LLC

**NOISE-LIMITED
FCC CONTOUR**

**CITY-GRADE
FCC CONTOUR**

WFBF-DT

EXHIBIT B
PREDICTED SERVICE CONTOURS
PROPOSED WFBF-DT
CHANNEL 29 - DESTIN, FLORIDA

Scale 1:1,000,000

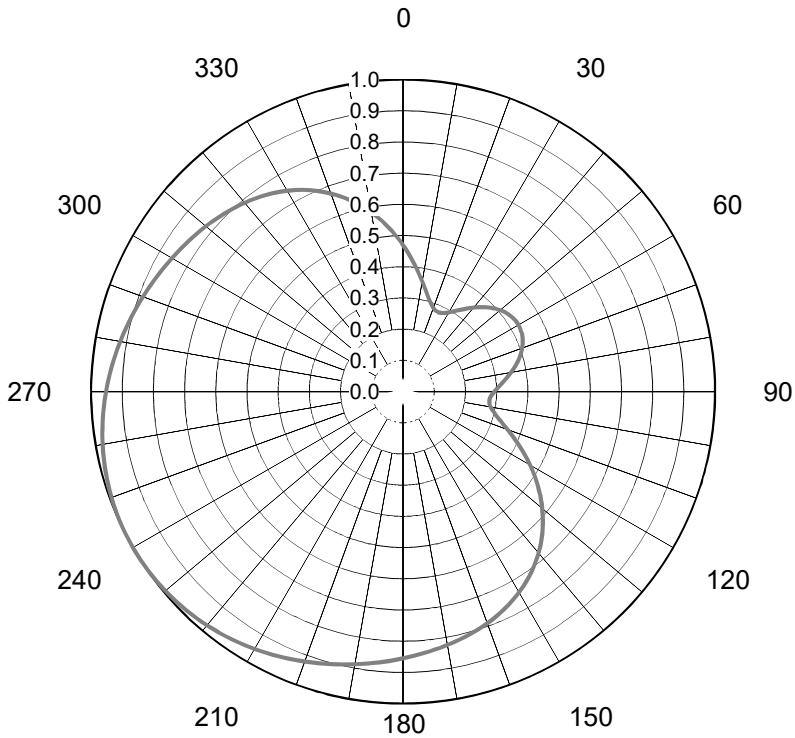
0 10 20 30 mi

EXHIBIT C

AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-70932-1**
Date **28-Jun-17**
Call Letters **WFBD**
Channel **29**
Frequency **563 MHz**
Antenna Type **TFU-24DSC-R S200**
Gain **1.94 (2.88dB)**
Calculated



Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.470	36	0.326	72	0.397	108	0.337	144	0.706	180	0.855	216	0.969	252	0.992	288	0.894
1	0.458	37	0.332	73	0.392	109	0.347	145	0.712	181	0.858	217	0.971	253	0.990	289	0.891
2	0.446	38	0.339	74	0.387	110	0.357	146	0.719	182	0.862	218	0.973	254	0.989	290	0.887
3	0.435	39	0.345	75	0.382	111	0.367	147	0.725	183	0.865	219	0.976	255	0.987	291	0.884
4	0.423	40	0.352	76	0.376	112	0.378	148	0.732	184	0.868	220	0.978	256	0.986	292	0.881
5	0.411	41	0.358	77	0.370	113	0.389	149	0.738	185	0.871	221	0.980	257	0.984	293	0.878
6	0.400	42	0.364	78	0.364	114	0.400	150	0.743	186	0.874	222	0.982	258	0.982	294	0.874
7	0.389	43	0.370	79	0.358	115	0.411	151	0.749	187	0.878	223	0.984	259	0.980	295	0.871
8	0.378	44	0.376	80	0.352	116	0.423	152	0.754	188	0.881	224	0.986	260	0.978	296	0.868
9	0.367	45	0.382	81	0.345	117	0.435	153	0.759	189	0.884	225	0.987	261	0.976	297	0.865
10	0.357	46	0.387	82	0.339	118	0.446	154	0.764	190	0.887	226	0.989	262	0.973	298	0.862
11	0.347	47	0.392	83	0.332	119	0.458	155	0.769	191	0.891	227	0.990	263	0.971	299	0.858
12	0.337	48	0.397	84	0.326	120	0.470	156	0.773	192	0.894	228	0.992	264	0.969	300	0.855
13	0.329	49	0.402	85	0.320	121	0.482	157	0.778	193	0.898	229	0.993	265	0.966	301	0.852
14	0.320	50	0.406	86	0.314	122	0.493	158	0.782	194	0.901	230	0.994	266	0.963	302	0.849
15	0.313	51	0.410	87	0.308	123	0.505	159	0.786	195	0.904	231	0.995	267	0.961	303	0.846
16	0.305	52	0.414	88	0.302	124	0.516	160	0.790	196	0.908	232	0.996	268	0.958	304	0.843
17	0.299	53	0.417	89	0.297	125	0.528	161	0.794	197	0.911	233	0.997	269	0.955	305	0.840
18	0.293	54	0.420	90	0.293	126	0.539	162	0.798	198	0.914	234	0.998	270	0.952	306	0.837
19	0.289	55	0.422	91	0.289	127	0.550	163	0.801	199	0.918	235	0.999	271	0.949	307	0.834
20	0.285	56	0.424	92	0.285	128	0.561	164	0.805	200	0.921	236	0.999	272	0.946	308	0.831
21	0.282	57	0.425	93	0.282	129	0.572	165	0.808	201	0.924	237	0.999	273	0.943	309	0.828
22	0.280	58	0.426	94	0.280	130	0.583	166	0.812	202	0.927	238	1.000	274	0.940	310	0.824
23	0.279	59	0.427	95	0.279	131	0.593	167	0.815	203	0.931	239	1.000	275	0.937	311	0.821
24	0.278	60	0.427	96	0.278	132	0.603	168	0.818	204	0.934	240	1.000	276	0.934	312	0.818
25	0.279	61	0.427	97	0.279	133	0.613	169	0.821	205	0.937	241	1.000	277	0.931	313	0.815
26	0.280	62	0.426	98	0.280	134	0.623	170	0.824	206	0.940	242	1.000	278	0.927	314	0.812
27	0.282	63	0.425	99	0.282	135	0.632	171	0.828	207	0.943	243	0.999	279	0.924	315	0.808
28	0.285	64	0.424	100	0.285	136	0.641	172	0.831	208	0.946	244	0.999	280	0.921	316	0.805
29	0.289	65	0.422	101	0.289	137	0.650	173	0.834	209	0.949	245	0.999	281	0.918	317	0.801
30	0.293	66	0.420	102	0.293	138	0.659	174	0.837	210	0.952	246	0.998	282	0.914	318	0.798
31	0.297	67	0.417	103	0.299	139	0.667	175	0.840	211	0.955	247	0.997	283	0.911	319	0.794
32	0.302	68	0.414	104	0.305	140	0.676	176	0.843	212	0.958	248	0.996	284	0.908	320	0.790
33	0.308	69	0.410	105	0.313	141	0.683	177	0.846	213	0.961	249	0.995	285	0.904	321	0.786
34	0.314	70	0.406	106	0.320	142	0.691	178	0.849	214	0.963	250	0.994	286	0.901	322	0.782
35	0.320	71	0.402	107	0.329	143	0.698	179	0.852	215	0.966	251	0.993	287	0.898	323	0.778

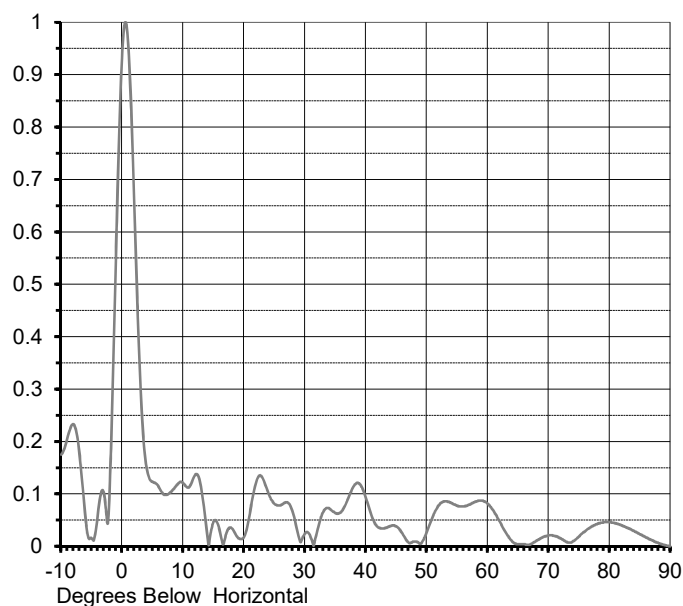
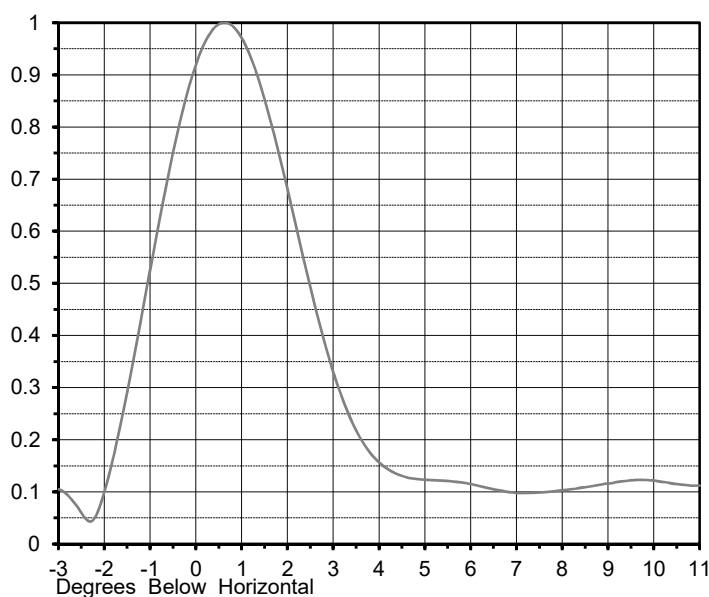
This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

ELEVATION PATTERN

Proposal No. **C-70932-1**
 Date **28-Jun-17**
 Call Letters **WFBF**
 Channel **29**
 Frequency **563 MHz**
 Antenna Type **TFU-24DSC-R S200**

RMS Directivity at Main Lobe **19.5 (12.90 dB)**
 RMS Directivity at Horizontal **17.3 (12.38 dB)**
Calculated

Beam Tilt **0.50 deg**
 Pattern Number **24Q195050**



Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.175	10.0	0.120	30.0	0.025	50.0	0.028	70.0	0.021
-9.0	0.206	11.0	0.113	31.0	0.015	51.0	0.058	71.0	0.020
-8.0	0.233	12.0	0.137	32.0	0.029	52.0	0.079	72.0	0.015
-7.0	0.174	13.0	0.108	33.0	0.066	53.0	0.086	73.0	0.008
-6.0	0.051	14.0	0.017	34.0	0.072	54.0	0.083	74.0	0.010
-5.0	0.015	15.0	0.047	35.0	0.063	55.0	0.077	75.0	0.019
-4.0	0.062	16.0	0.029	36.0	0.067	56.0	0.076	76.0	0.029
-3.0	0.101	17.0	0.022	37.0	0.089	57.0	0.080	77.0	0.037
-2.0	0.131	18.0	0.034	38.0	0.115	58.0	0.085	78.0	0.043
-1.0	0.572	19.0	0.016	39.0	0.118	59.0	0.087	79.0	0.046
0.0	0.943	20.0	0.018	40.0	0.092	60.0	0.081	80.0	0.046
1.0	0.954	21.0	0.067	41.0	0.056	61.0	0.066	81.0	0.044
2.0	0.643	22.0	0.124	42.0	0.036	62.0	0.046	82.0	0.040
3.0	0.304	23.0	0.131	43.0	0.034	63.0	0.025	83.0	0.035
4.0	0.149	24.0	0.101	44.0	0.039	64.0	0.009	84.0	0.029
5.0	0.123	25.0	0.081	45.0	0.038	65.0	0.004	85.0	0.023
6.0	0.113	26.0	0.078	46.0	0.024	66.0	0.004	86.0	0.017
7.0	0.098	27.0	0.084	47.0	0.007	67.0	0.004	87.0	0.011
8.0	0.104	28.0	0.064	48.0	0.009	68.0	0.011	88.0	0.006
9.0	0.117	29.0	0.016	49.0	0.005	69.0	0.017	89.0	0.002
								90.0	0.000

This document contains proprietary and confidential information of Dielectric. It is to be used solely for the purpose for which it is provided. No disclosure, reproduction, or use of this document or any part of it may be made without the written permission of Dielectric.

TVSTUDY INTERFERENCE ANALYSIS RESULTS
 PROPOSED WFBD-DT
 CHANNEL 29 – DESTIN, FLORIDA

Study created: 2020.12.15 12:45:23

Study build station data: LMS TV 2020-11-16

Proposal: WFBD D29 DT LIC DESTIN, FL

File number: BLANK0000027353

Facility ID: 81669

Station data: User record

Record ID: 952

Country: U.S.

Zone: III

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WMCF-TV	D28	DT	LIC	MONTGOMERY, AL	BLANK0000107502	163.9 km
Yes	WFSG	D28	DT	LIC	PANAMA CITY, FL	BLANK0000064507	103.4
No	WMAW-TV	D28	DT	LIC	MERIDIAN, MS	BLANK0000106235	258.0
Yes	WBRC	D29	DT	LIC	BIRMINGHAM, AL	BLANK0000081282	277.0
No	WGFL	D29	DT	LIC	HIGH SPRINGS, FL	BLANK0000100460	425.9
No	WYGA-CD	D29	DC	LIC	ATLANTA, GA	BLANK0000081313	377.2
Yes	WVUE-DT	D29	DT	LIC	NEW ORLEANS, LA	BLCDDT20110502AEC	330.4
No	WIAT	D30	DT	LIC	BIRMINGHAM, AL	BLCDDT20021219AAV	276.5
No	WGIQ	D30	DT	LIC	LOUISVILLE, AL	BLANK0000067031	146.0
No	WGIQ	D30	DT	APP	LOUISVILLE, AL	BLANK0000118055	146.0
Yes	WEIQ	D30	DT	LIC	MOBILE, AL	BLANK0000111746	118.0

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D29

Latitude: 30 59 52.00 N (NAD83)

Longitude: 86 43 13.00 W
Height AMSL: 371.0 m
HAAT: 312.0 m
Peak ERP: 916 kW
Antenna: DIE-TFU-24DSC-R S200 (ID 1001606) 0.0 deg
Elev Pattn: Generic
Elec Tilt: 0.50

40.2 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	202 kW	308.5 m	85.3 km
45.0	132	305.5	81.8
90.0	78.6	304.6	78.5
135.0	363	317.3	91.3
180.0	670	328.8	97.8
225.0	891	320.1	99.5
270.0	830	303.3	97.1
315.0	597	307.6	94.6

Distance to Canadian border: 1240.4 km

Distance to Mexican border: 1141.7 km

Conditions at FCC monitoring station: Powder Springs GA
Bearing: 29.9 degrees Distance: 369.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
Bearing: 306.4 degrees Distance: 1950.4 km

Study cell size: 2.00 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%

No IX check failures found.

POWER DENSITY CALCULATION

PROPOSED WFBD-DT
CHANNEL 29 – DESTIN, FLORIDA

Since the FCC considers the possible biological effects of RF transmissions in its environmental determinations, we have studied the matter with respect to this Destin facility. Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 916 kW, an antenna radiation center 326.8 meters above ground, and the specific elevation pattern of the existing Dielectric TFU-24DSC-R S200 antenna, maximum power density two meters above ground of 0.0016 mW/cm^2 is calculated to occur 195 meters southwest of the base of the tower. Since this is 0.4 percent of the 0.37 mW/cm^2 reference for uncontrolled environments (areas with public access) surrounding a facility operating on Channel 29 (560-566 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.