

ENGINEERING STATEMENT
RE BROADCAST ENGINEERING DATA AMENDMENT TO
APPLICATION FOR DIGITAL DISPLACEMENT
(FCC FILE NO. BDISDTT-20090630AFH)
OF AN AUTHORIZED
DIGITAL COMPANION FACILITY
(FCC FILE NO. BDCCDTT-20061030AOP)
W29DI-D, BRIDGEWATER, ET. AL., VIRGINIA
CHANNEL 41 15 KW DA ERP 1295.2 METERS RCAMSL
MARCH 2010

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

City of Washington)
) ss
District of Columbia)

He is a graduate electrical engineer, a Registered Professional Engineer in the District of Columbia, and is President, Secretary and Treasurer of Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That the attached engineering report was prepared by him or under his supervision and direction and

That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.

Donald G. Everist
District of Columbia
Professional Engineer
Registration No. 5714

Subscribed and sworn to before me this 25th day of March, 2010.

~~Notary Public~~

My Commission Expires: 2/28/2013

This engineering statement has been prepared in support of an amendment to a pending application (FCC File No. BDISDTT-20090630AFH) for modification of the outstanding construction permit (FCC File No. BDCCDTT-20061030AOP) by displacement of the digital companion channel of a currently licensed translator facility (FCC File No. BLTT-20020506AAJ) on behalf of Virginia Broadcasting Corporation, licensee of translator station W31CE, Bridgewater, Et. Al., Virginia. W31CE(TX) is licensed to operate on NTSC television Channel 31 with a maximum visual effective radiated power (“ERP”) of 27 kW and an antenna radiation center above mean sea level (“RCAMSL”) of 1332 meters. W31CE’s digital companion authorization W29DI-D is authorized to construct digital companion facilities on Channel 29 with an ERP of 10 kW and an antenna RCAMSL of 1332 meters. As demonstrated in the pending application, W29DI-D has been displaced by multiple post-transition full-service co-channel and adjacent-channel constraints also explained below which prohibit the further expansion of W29DI-D on Channel 29 due to interference concerns. The purpose of this filing is a slight correction of transmitter site, elevation, refined antenna pattern from the antenna manufacturer, and to report the approval received by the National Radio Astronomy Observatory (“NRAO”). For completeness, items contained in the pending application are herein provided.

Displacement Information

There are two co-channel DTV post-transition full service authorizations and/or allotments in accordance with Section 73.3572(a)(4)(iv)(A)(1) of the FCC Rules within 265 km of the W29DI-D transmitter site.

- WMPB-DT, Baltimore, Maryland (Allot, CP, License) Channel 29 located
262 km
- WXLV-DT, Winston-Salem, North Carolina (Allot, CP) Channel 29 located
259 km

Hence, W29DI-D complies with the intent of this provision and therefore seeks to modify the authorization to operate on Channel 41 as amended to the current pending application.

Operation on Channel 41 is being requested in response to the notification that WHTJ(TV), Channel 41, Charlottesville, Virginia has ceased its analog operation on March 30, 2009.

Further increase of its ERP is also currently not possible on Channel 29 due to first-adjacent channel interference caused to WSLs-DT, Channel 30, Roanoke, Virginia. W29DI-D proposes to construct digital companion facilities of 15 kW ERP (directional) on Channel 41 at a RCAMSL of 1295.2 meters. A coverage map of the proposed operation is included as Exhibit E-1.

The existing tower is less than 200 feet and TOWAIR indicates that this structure does not require registration. There are no airports within 8 km (5 miles) of the existing site.

The geographic coordinates of the existing site are as follows:

North Latitude: 38° 09' 55"

West Longitude: 79° 18' 44"

NAD-27

Equipment Data

Antenna: Dielectric, Type TFU-12DSC-R C180 (or equivalent) antenna with 1.5° electrical beam tilt. Antenna manufacturer's data is included as Exhibit E-2.

Transmission Line: Andrew, LDF7-50, 1-5/8", 50 ohm, foam, 30 meters (98.4 feet)

Out-of-Channel Emission Mask: Stringent

Power Data

Transmitter output	0.88 kW	-0.56 dBk
Transmission line efficiency/loss 30 meters (98.4 feet)	86.3%	0.64 dB
Input power to the antenna	0.76 kW	-1.20 dBk
Antenna power gain, Main Lobe	19.8	12.96 dB
Effective Radiated Power, Maximum	15 kW	11.76 dBk

Elevation Data

Overall height above ground of the existing antenna structure	23 meters 75.5 feet
Center of radiation of Channel 41 antenna above ground	15 meters 49.2 feet
Elevation of site above mean sea level	1280.2 meters 4200 feet
Center of radiation of Channel 41 antenna above mean sea level	1295.2 meters 4249.3 feet

Overall height above mean sea level	1303.2 meters
of existing tower and antenna	4396.4 feet
(including lightning protection)	

Note: Slight height differences may result due to conversion to metric.

Allocation

The proposed digital companion operation on Channel 41 at Bridgewater, Et. Al., Virginia, conforms to the requirements of Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b), and 73.1030 of the Commission's Rules. The requirements of these sections regarding this proposed Channel 41 operation of W29DI-D are met through demonstration of Longley-Rice prediction methodology where applicable, submitted in the pending application (FCC File No. 20090630AFH) and update in Table I. The proposed digital television translator station will not cause any objectionable interference to any existing or proposed full-service NTSC or DTV station or LPTV/TV translators.

Interference Analysis

A study of predicted interference caused by the proposed W29DI-D digital companion television translator station operation has been performed as shown in Table I using the Longley-Rice program for which the source data has been posted by the Commission on its website at http://www.fcc.gov/oet/dtv/dtv_apps.html. The FCC's FORTRAN-77 code was modified only to the extent necessary (primarily input/output handling) for the program to run on a Microsoft Windows XP platform. Comparison of service/interference areas and population indicates this model closely matches the FCC's digital low-power TV/translator evaluation program. Best

efforts have been made to use data and calculation identical to the FCC's program with the simple emission mask. The model employs the Longley-Rice propagation methodology and evaluates in grid cells of approximately 1 sq. km. Using 3-second terrain data sampled approximately every 1.0 km at one-degree azimuth intervals with 2000 census centroids, all studies are based upon data in the current CDBS database update of the FCC's engineering database. A Longley-Rice study was performed with the proposed W29DI-D digital companion television translator facilities and all relevant stations listed in the pending application on file with the FCC and updated in Table I. It is noted that the proposed RCAMSL is decreased by over 30 meters.

Environmental Statement

There are no AM stations located within 3.22 km of the existing W29DI-D tower site. According to the FCC CDBS, there is one FM and no full-service TV stations located within 100 meters. Only one television translator, W31CE, licensed to Bridgewater, Et. Al., Virginia, shares the tower.

Although no adverse technical effects are expected due to the proposed operation, the applicant will take measures to resolve any problems proved to be related to the changes proposed.

The proposed operation, based upon the current OET Bulletin No. 65, Edition 97-01, dated August 1997 and Supplement A, meets the provisions of the FCC radio frequency field ("RFF") guidelines, and thus, complies with Section 1.1307 of the FCC Rules.

The site is located on the side of Elliott Knob of Great North Mountain and access to the site is made through a locked gate to road whose length is approximately 2 miles. Further, the proposed W29DI-D site is enclosed by an eight foot chain link fence.

W29DI-D proposes to operate with a Dielectric, Type TFU-12DSC-R C180 antenna with an effective radiated power of 15 kW on UHF Channel 41 with a center of radiation above ground of 15 meters (49.2 feet). The elevation pattern for this antenna (Exhibit E-2) shows a maximum relative field of less than 0.15 towards the ground in the vicinity of the tower. Using this relative field factor and the procedures prescribed in OET Bulletin 65, the maximum RFF resulting from the proposed operation is less than $66.7 \mu\text{W}/\text{cm}^2$ at 2 meters above ground level. This is less than 15.8% of the $423.3 \mu\text{W}/\text{cm}^2$ maximum human exposure to RFF recommended by the FCC guidelines for an uncontrolled environment which is less than 3.15% of the current FCC guidelines for a controlled environment.

The current facility on the tower is W31CE. Based on an antenna factor of 0.2 and using the OET procedures described above, the maximum RFF resulting from the present operation is less than $107 \mu\text{W}/\text{cm}^2$ at 2 meters above ground level. This is less than 28% of the $383.3 \mu\text{W}/\text{cm}^2$ maximum human exposure to RFF recommended by the FCC guidelines for an uncontrolled environment which is less than 6% of the current FCC guidelines for a controlled environment. If both facilities are operational the total RFF level for the controlled environment is less than 10 percent.

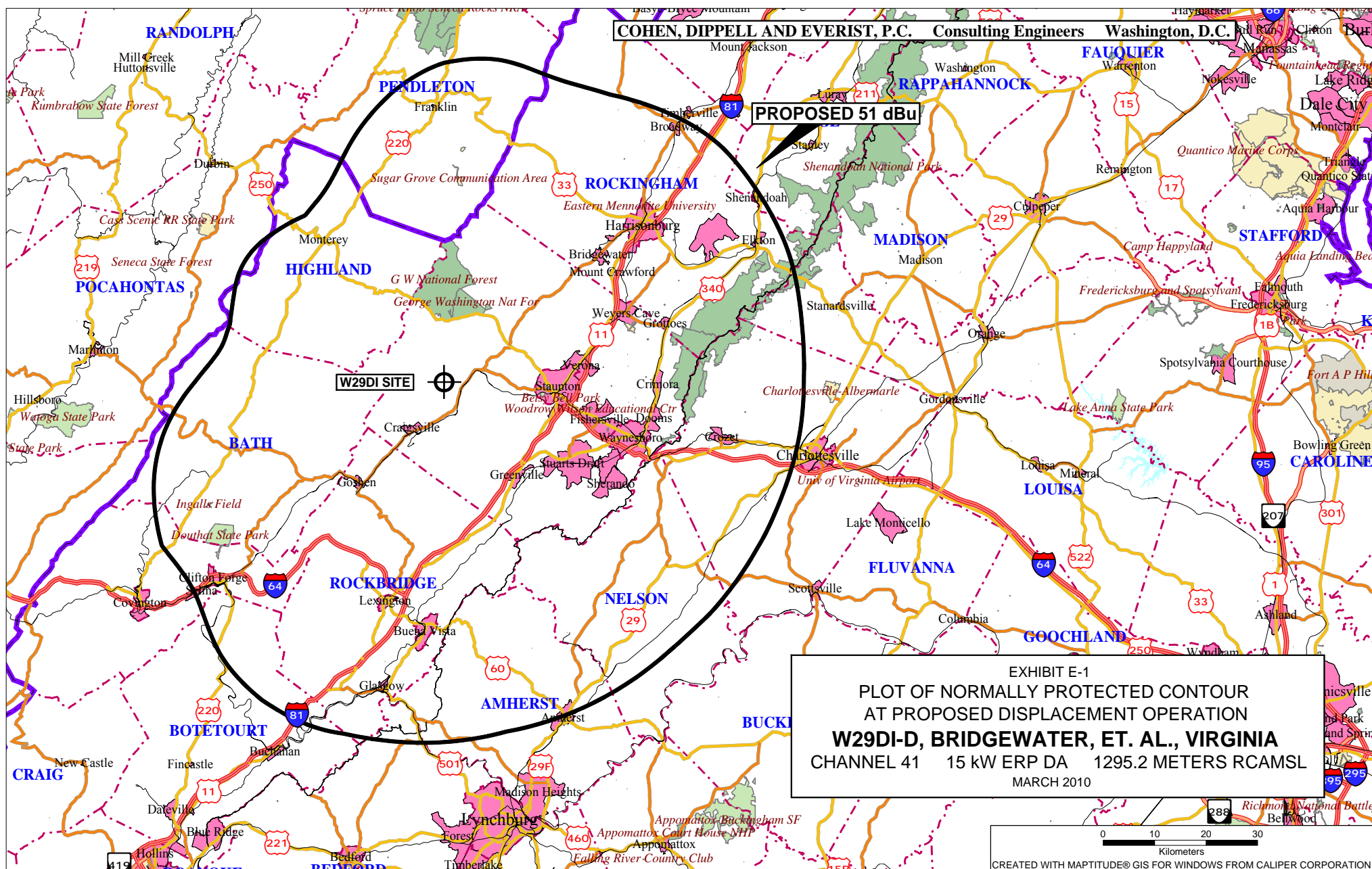
Authorized personnel and rigging contractors will be alerted to the potential zone of high field levels on the tower, and if necessary, the station will operate with reduced power or terminate the operation of the transmitter as appropriate when it is necessary for authorized personnel or contractors to perform work on the tower. Workers and the general public, therefore, will not be subjected to RFF levels in excess of the current FCC guidelines.

Environmental Statement

An environmental assessment ("EA") is categorically excluded under Section 1.1306 of the FCC Rules and Regulations as the tower was constructed prior to the requirements specified in WT Docket No. 03-128 and the licensee indicates:

- (a)(1) The proposed facilities are not located in an officially designated wilderness area.
- (a)(2) The proposed facilities are not located in an officially designated wildlife preserve.
- (a)(3) The proposed facilities will not affect any listed threatened or endangered species or habitats.
- (a)(3)(ii) The proposed facilities will not jeopardize the continued existence of any proposed endangered or threatened species or likely to result in the destruction or adverse modification of proposed critical habitats.
- (a)(4) The proposed facilities located on a tower which was built prior to the adoption of WT Docket No. 03-128 and is grandfathered and has not affected any known districts, sites, buildings, structures, or objects significant in American history, architecture, archaeology, engineering, or culture.
- (a)(5) The existing tower is not located near any known Indian religious sites.
- (a)(6) The existing tower is not located in a flood plain.

- (a)(7) The installation of the DTV facilities on an existing tower at an existing site will not involve a significant change in surface features of the ground in the vicinity of the tower.
- (a)(8) Aeronautical painting and lighting are not required.
- (b) Workers and the general public will not be subjected to RFF levels in excess of the current FCC guidelines contained in OET Bulletin 65 (Edition 97-01) and Supplement A. Authorized personnel will be alerted to areas of the antennas where potential radiation levels are in excess of the FCC guidelines. A security fence with a locked gate precludes access to the tower site.



COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

W29DI-D, BRIDGEWATER, ET. AL., VIRGINIA

Proposal Number

C-03612

Date

8-Jul-09

Call Letters

WVIR-DT

Channel

41

Location

Charlottesville, VA

Customer

Antenna Type

TFU-12DSC-R C-180

AZIMUTH PATTERN

Gain

1.80

(2.55 dB)

Frequency

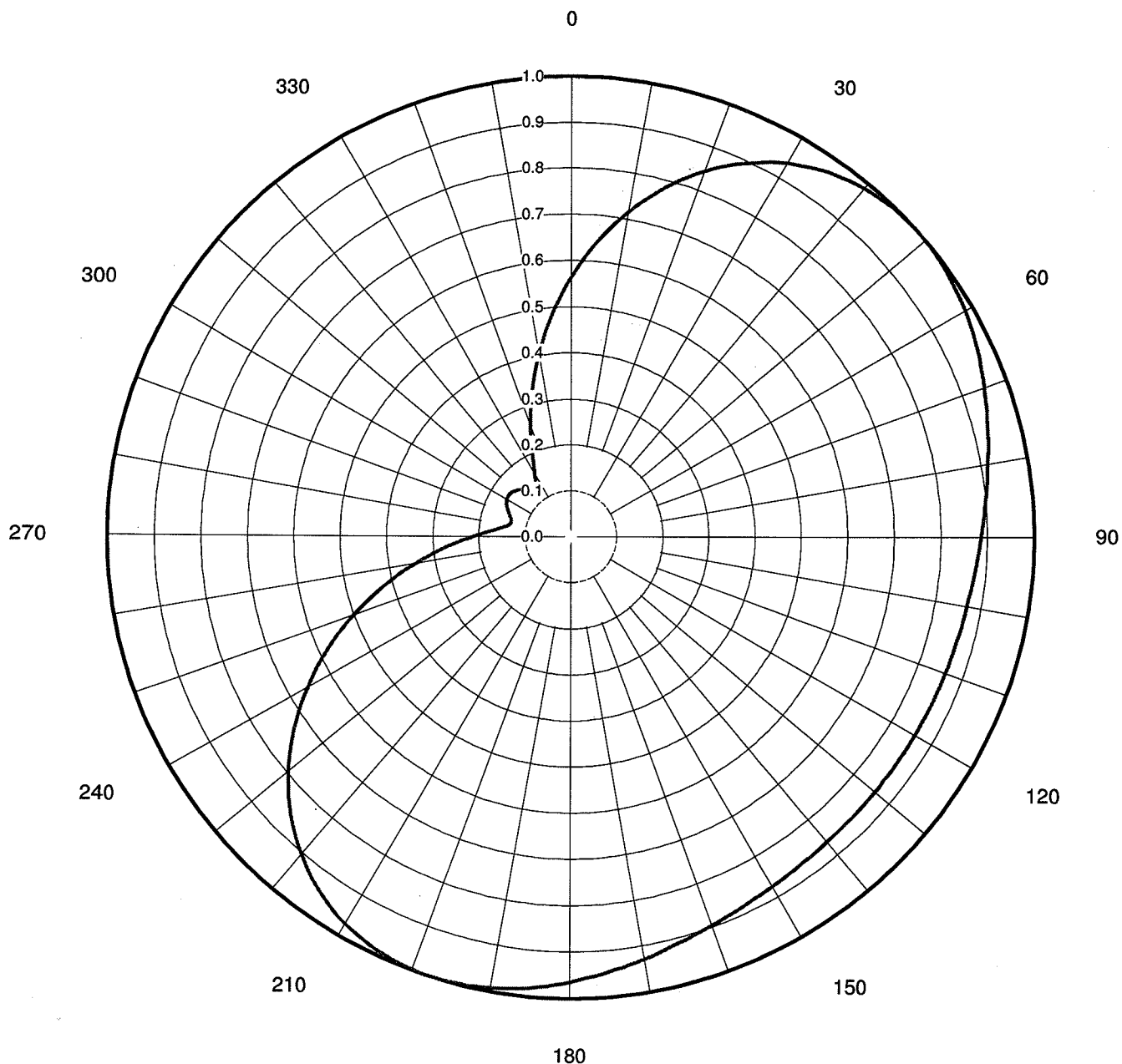
635.00 MHz

Calculated / Measured

Calculated

Drawing #

C180





Proposal Number

C-03612

Date

8-Jul-09

Call Letters

WVIR-DT

Channel

41

Location

Charlottesville, VA

Customer

Antenna Type

TFU-12DSC-R C-180**TABULATION OF AZIMUTH PATTERN**Azimuth Pattern Drawing #: **C180**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.563	45	0.998	90	0.886	135	0.861	180	0.964	225	0.854	270	0.211	315	0.145
1	0.579	46	0.999	91	0.884	136	0.861	181	0.968	226	0.843	271	0.200	316	0.142
2	0.595	47	1.000	92	0.882	137	0.862	182	0.971	227	0.832	272	0.190	317	0.140
3	0.611	48	1.000	93	0.880	138	0.862	183	0.974	228	0.820	273	0.181	318	0.138
4	0.626	49	1.000	94	0.878	139	0.863	184	0.977	229	0.808	274	0.172	319	0.136
5	0.642	50	1.000	95	0.876	140	0.863	185	0.980	230	0.796	275	0.164	320	0.135
6	0.657	51	0.999	96	0.875	141	0.864	186	0.983	231	0.783	276	0.158	321	0.134
7	0.672	52	0.998	97	0.873	142	0.865	187	0.986	232	0.770	277	0.151	322	0.134
8	0.686	53	0.997	98	0.872	143	0.866	188	0.988	233	0.757	278	0.147	323	0.134
9	0.701	54	0.996	99	0.870	144	0.867	189	0.990	234	0.743	279	0.142	324	0.135
10	0.715	55	0.994	100	0.869	145	0.868	190	0.992	235	0.730	280	0.139	325	0.136
11	0.730	56	0.992	101	0.868	146	0.869	191	0.994	236	0.715	281	0.136	326	0.139
12	0.743	57	0.990	102	0.867	147	0.870	192	0.996	237	0.701	282	0.135	327	0.142
13	0.757	58	0.988	103	0.866	148	0.872	193	0.997	238	0.686	283	0.134	328	0.147
14	0.770	59	0.986	104	0.865	149	0.873	194	0.998	239	0.672	284	0.134	329	0.151
15	0.783	60	0.983	105	0.864	150	0.875	195	0.999	240	0.657	285	0.134	330	0.158
16	0.796	61	0.980	106	0.863	151	0.876	196	1.000	241	0.642	286	0.135	331	0.164
17	0.808	62	0.977	107	0.863	152	0.878	197	1.000	242	0.626	287	0.136	332	0.172
18	0.820	63	0.974	108	0.862	153	0.880	198	1.000	243	0.611	288	0.138	333	0.181
19	0.832	64	0.971	109	0.862	154	0.882	199	1.000	244	0.595	289	0.140	334	0.190
20	0.843	65	0.968	110	0.861	155	0.884	200	0.999	245	0.579	290	0.142	335	0.200
21	0.854	66	0.964	111	0.861	156	0.886	201	0.998	246	0.563	291	0.145	336	0.211
22	0.865	67	0.961	112	0.860	157	0.888	202	0.996	247	0.548	292	0.147	337	0.222
23	0.875	68	0.957	113	0.860	158	0.891	203	0.995	248	0.532	293	0.149	338	0.234
24	0.885	69	0.954	114	0.860	159	0.893	204	0.992	249	0.516	294	0.151	339	0.246
25	0.894	70	0.950	115	0.860	160	0.896	205	0.990	250	0.500	295	0.153	340	0.259
26	0.903	71	0.946	116	0.859	161	0.899	206	0.987	251	0.483	296	0.155	341	0.272
27	0.912	72	0.943	117	0.859	162	0.902	207	0.984	252	0.468	297	0.157	342	0.286
28	0.920	73	0.939	118	0.859	163	0.905	208	0.980	253	0.452	298	0.158	343	0.299
29	0.928	74	0.935	119	0.859	164	0.908	209	0.976	254	0.436	299	0.160	344	0.314
30	0.935	75	0.932	120	0.859	165	0.911	210	0.971	255	0.420	300	0.161	345	0.328
31	0.943	76	0.928	121	0.859	166	0.914	211	0.966	256	0.404	301	0.161	346	0.343
32	0.949	77	0.925	122	0.859	167	0.918	212	0.961	257	0.389	302	0.162	347	0.358
33	0.955	78	0.921	123	0.859	168	0.921	213	0.955	258	0.373	303	0.162	348	0.373
34	0.961	79	0.918	124	0.859	169	0.925	214	0.949	259	0.358	304	0.162	349	0.389
35	0.966	80	0.914	125	0.859	170	0.928	215	0.943	260	0.343	305	0.161	350	0.404
36	0.971	81	0.911	126	0.859	171	0.932	216	0.935	261	0.328	306	0.161	351	0.420
37	0.976	82	0.908	127	0.859	172	0.935	217	0.928	262	0.314	307	0.160	352	0.436
38	0.980	83	0.905	128	0.859	173	0.939	218	0.920	263	0.299	308	0.158	353	0.452
39	0.984	84	0.902	129	0.859	174	0.943	219	0.912	264	0.286	309	0.157	354	0.468
40	0.987	85	0.899	130	0.859	175	0.946	220	0.903	265	0.272	310	0.155	355	0.483
41	0.990	86	0.896	131	0.860	176	0.950	221	0.894	266	0.259	311	0.153	356	0.500
42	0.992	87	0.893	132	0.860	177	0.954	222	0.885	267	0.246	312	0.151	357	0.516
43	0.995	88	0.891	133	0.860	178	0.957	223	0.875	268	0.234	313	0.149	358	0.532
44	0.996	89	0.888	134	0.860	179	0.961	224	0.865	269	0.222	314	0.147	359	0.548

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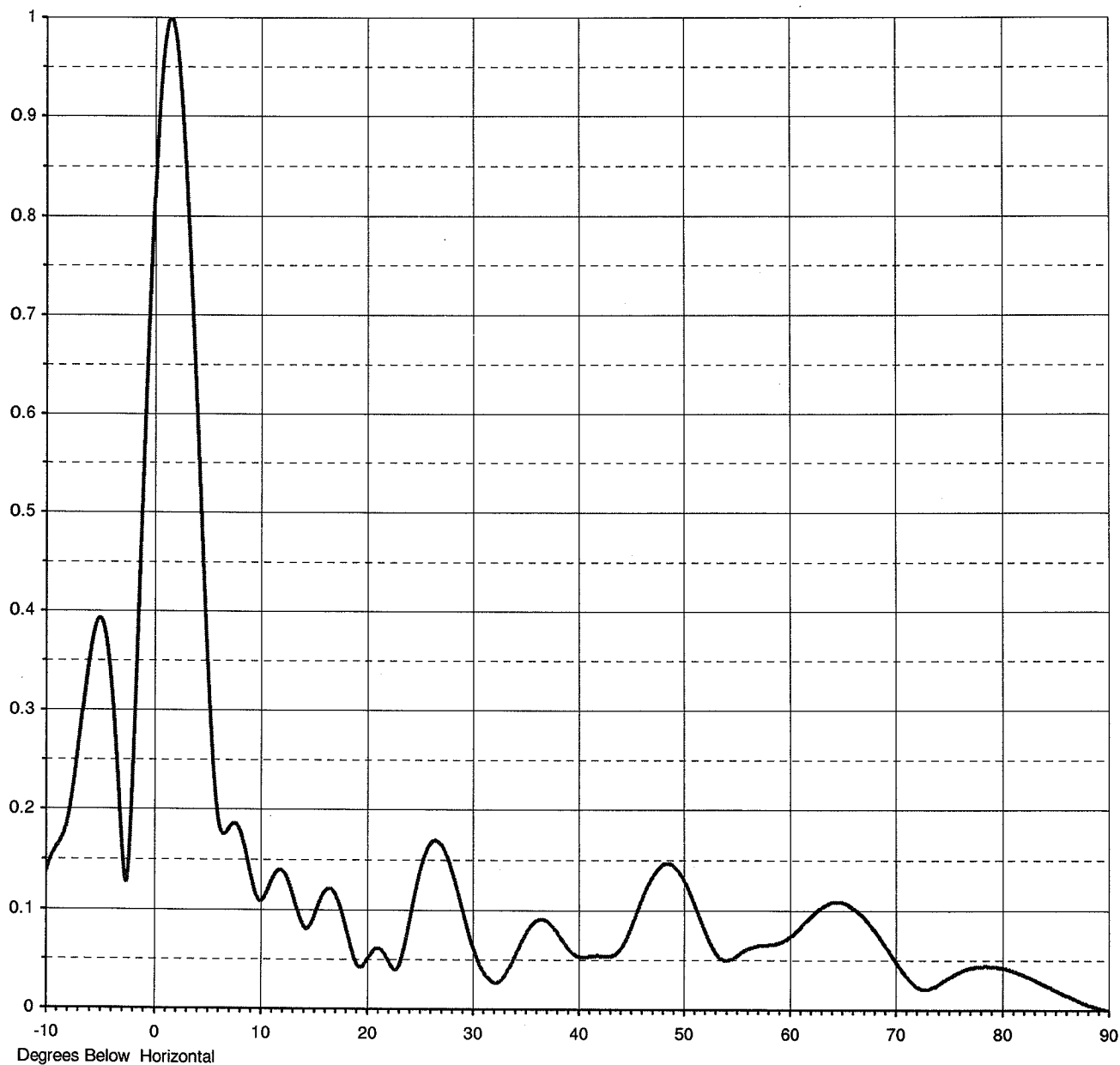


Proposal Number	C-03612	
Date	8-Jul-09	
Call Letters	WVIR-DT	Channel 41
Location	Charlottesville, VA	
Customer		
Antenna Type	TFU-12DSC-R C-180	

ELEVATION PATTERN

RMS Gain at Main Lobe	11.00 (10.41 dB)
RMS Gain at Horizontal	7.50 (8.75 dB)
Calculated / Measured	Calculated

Beam Tilt	1.50 deg
Frequency	635.00 MHz
Drawing #	12Q110150-90



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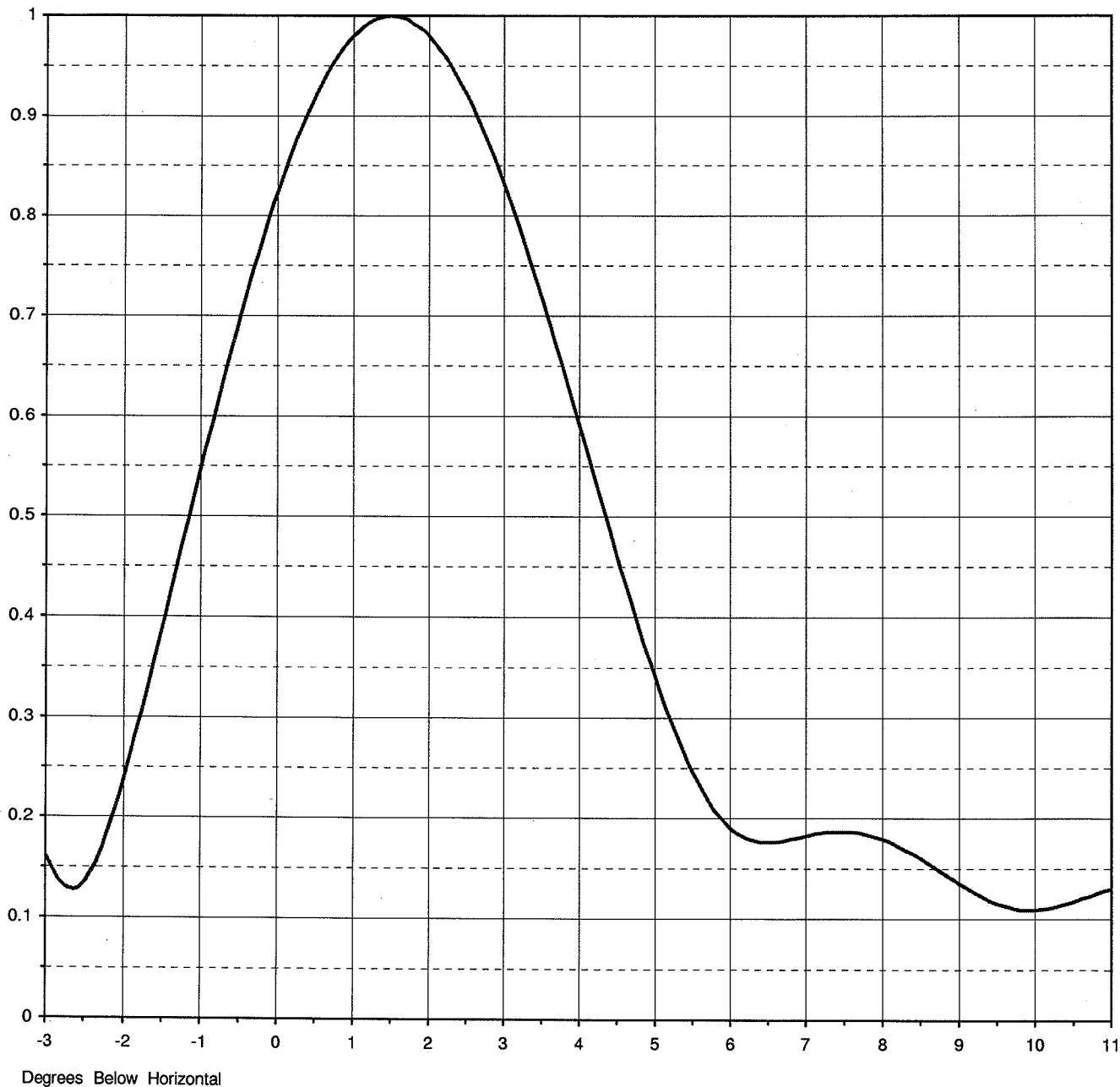


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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **12Q110150-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.138	2.4	0.936	10.6	0.117	30.5	0.050	51.0	0.109	71.5	0.028
-9.5	0.153	2.6	0.906	10.8	0.122	31.0	0.039	51.5	0.095	72.0	0.023
-9.0	0.163	2.8	0.871	11.0	0.128	31.5	0.032	52.0	0.082	72.5	0.021
-8.5	0.172	3.0	0.832	11.5	0.138	32.0	0.028	52.5	0.069	73.0	0.021
-8.0	0.189	3.2	0.789	12.0	0.140	32.5	0.028	53.0	0.059	73.5	0.023
-7.5	0.220	3.4	0.742	12.5	0.133	33.0	0.033	53.5	0.052	74.0	0.026
-7.0	0.263	3.6	0.694	13.0	0.117	33.5	0.042	54.0	0.050	74.5	0.030
-6.5	0.311	3.8	0.643	13.5	0.099	34.0	0.053	54.5	0.051	75.0	0.033
-6.0	0.355	4.0	0.591	14.0	0.084	34.5	0.065	55.0	0.054	75.5	0.036
-5.5	0.385	4.2	0.539	14.5	0.082	35.0	0.075	55.5	0.058	76.0	0.039
-5.0	0.393	4.4	0.487	15.0	0.092	35.5	0.084	56.0	0.061	76.5	0.041
-4.5	0.374	4.6	0.436	15.5	0.107	36.0	0.089	56.5	0.063	77.0	0.043
-4.0	0.325	4.8	0.388	16.0	0.118	36.5	0.091	57.0	0.064	77.5	0.044
-3.5	0.249	5.0	0.342	16.5	0.121	37.0	0.090	57.5	0.065	78.0	0.044
-3.0	0.161	5.2	0.300	17.0	0.117	37.5	0.085	58.0	0.065	78.5	0.045
-2.8	0.135	5.4	0.263	17.5	0.104	38.0	0.079	58.5	0.066	79.0	0.044
-2.6	0.128	5.6	0.232	18.0	0.085	38.5	0.071	59.0	0.067	79.5	0.044
-2.4	0.147	5.8	0.207	18.5	0.064	39.0	0.063	59.5	0.069	80.0	0.042
-2.2	0.186	6.0	0.190	19.0	0.048	39.5	0.057	60.0	0.073	80.5	0.041
-2.0	0.238	6.2	0.180	19.5	0.043	40.0	0.054	60.5	0.077	81.0	0.039
-1.8	0.296	6.4	0.176	20.0	0.049	40.5	0.053	61.0	0.082	81.5	0.037
-1.6	0.357	6.6	0.176	20.5	0.057	41.0	0.054	61.5	0.088	82.0	0.035
-1.4	0.421	6.8	0.179	21.0	0.061	41.5	0.054	62.0	0.093	82.5	0.033
-1.2	0.484	7.0	0.182	21.5	0.058	42.0	0.054	62.5	0.098	83.0	0.030
-1.0	0.547	7.2	0.185	22.0	0.050	42.5	0.054	63.0	0.102	83.5	0.028
-0.8	0.608	7.4	0.186	22.5	0.041	43.0	0.054	63.5	0.105	84.0	0.025
-0.6	0.667	7.6	0.186	23.0	0.043	43.5	0.055	64.0	0.108	84.5	0.023
-0.4	0.723	7.8	0.183	23.5	0.060	44.0	0.060	64.5	0.108	85.0	0.020
-0.2	0.775	8.0	0.179	24.0	0.086	44.5	0.069	65.0	0.108	85.5	0.017
0.0	0.823	8.2	0.172	24.5	0.112	45.0	0.081	65.5	0.106	86.0	0.015
0.2	0.866	8.4	0.164	25.0	0.136	45.5	0.094	66.0	0.102	86.5	0.012
0.4	0.903	8.6	0.155	25.5	0.154	46.0	0.108	66.5	0.098	87.0	0.010
0.6	0.935	8.8	0.145	26.0	0.165	46.5	0.121	67.0	0.093	87.5	0.007
0.8	0.961	9.0	0.135	26.5	0.170	47.0	0.132	67.5	0.086	88.0	0.005
1.0	0.980	9.2	0.126	27.0	0.166	47.5	0.140	68.0	0.080	88.5	0.003
1.2	0.993	9.4	0.118	27.5	0.156	48.0	0.145	68.5	0.072	89.0	0.002
1.4	0.999	9.6	0.113	28.0	0.141	48.5	0.147	69.0	0.064	89.5	0.001
1.6	0.999	9.8	0.111	28.5	0.123	49.0	0.145	69.5	0.056	90.0	0.000
1.8	0.992	10.0	0.109	29.0	0.103	49.5	0.140	70.0	0.048		
2.0	0.980	10.2	0.110	29.5	0.083	50.0	0.132	70.5	0.041		
2.2	0.961	10.4	0.113	30.0	0.065	50.5	0.121	71.0	0.034		

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COHEN, DIPPELL AND EVERIST, P.C.

TABLE I
DLPTV LONGLEY-RICE ANALYSIS
FOR THE PROPOSED DIGITAL DISPLACEMENT OPERATION OF
W29DI-D, BRIDGEWATER, ET. AL., VIRGINIA
CHANNEL 41 15 KW DA ERP 1295.2 METERS RCAMSL
WITH THE STRINGENT EMISSION MASK
MARCH 2010

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
27	WADA-LP	CHARLOTTESVILLE VA	75.3	LIC	BLTTA-20050124AGC	0.00%
27	WFXR-TV	ROANOKE VA	130.7	LIC	BMLCT-19940217KE	No interference
33	W33AC	CENT.ROCKINGHAM COUN VA	60.9	LIC	BLTT-19840131II	No interference
33	W33AD	CONCORD VA	95.9	LIC	BLTTL-19821108IO	0.00%
38	W38AV	LURAY VA	76.6	LIC	BLTT-19890620IE	0.00%
38	WPXR	ROANOKE VA	131.1	LIC	BLCT-20030905ACH	No interference
39	W39AD	CENT.ROCKINGHAM COUN VA	60.9	LIC	BLTT-19840131IG	No interference
39	W39AK	ROCKFISH VALLEY VA	44.2	LIC	BLTT-19870522JM	No interference
40	WAHU-CA	CHARLOTTESVILLE VA	75.5	LIC	BLDTL-20090331ABV	0.00%
40	NEW	FRONT ROYAL VA	151.3	CP	BDCCDTL-20061027AHI	No interference
40	WYAT-LP	MARTINSVILLE VA	169.7	CP	BPTTL-20070416AAE	0.00%
40	WYAT-LP	MARTINSVILLE VA	169.7	LIC	BLTTL-20060508AAA	0.00%
40	WYAT-LP	MARTINSVILLE VA	180.6	STA	BSTA-20040806AGR	0.00%
40	WLFB	BLUEFIELD WV	201	LIC	BLCT-20001121AIB	0.00%
40	WLFB-DT	BLUEFIELD WV	201	CP	BPCDT-20080317AIS	No interference
40	W40AS	MOOREFIELD WV	97.4	LIC	BLTT-19910221JI	No interference
41	WUTB-DT	BALTIMORE MD	254	CP MO	BMPCDT-20051118ADM	0.01%
41	WUTB-DT	BALTIMORE MD	254	APP	BPCDT-20080619AJG	0.00%
41	W41DI-D	BAT CAVE, ETC. NC	401.2	LIC	BLDTT-20080902ADC	No interference
41	W65DT	BOONE NC	301.5	CP	BDISDTT-20060727AHL	No interference
41	WWIW-LP	RALEIGH NC	272.4	CP	BDISTTL-20070305ABA	No interference
41	WNCR-LP	TARBORO NC	285.8	LIC	BLTTL-20050623ABK	No interference
41	WKBN-DT	YOUNGSTOWN OH	341	CP	BPCDT-19991025ACU	0.00%
41	W41CF	ALTOONA PA	277.1	LIC	BLTT-20000403ABN	No interference
41	WETP-DT	SNEEDVILLE TN	395.3	LIC	BLEDT-20050916AAX	No interference
41	WVEC-DT	HAMPTON VA	292.2	LIC	BLCDT-20020412AAT	No interference
41	WKPZ-LP	WYTHEVILLE VA	208.5	LIC	BLTTA-20021210ACE	No interference
41	WCHS-DT	CHARLESTON WV	227.6	LIC	BLCDT-20050621AAQ	0.00%
41	W41AO	HAMPSHIRE, ETC. WV	165.5	LIC	BLTT-19921006JH	No interference

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TABLE I
DLPTV LONGLEY-RICE ANALYSIS
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CHANNEL 41 15 KW DA ERP 1295.2 METERS RCAMSL
WITH THE STRINGENT EMISSION MASK
MARCH 2010

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
41	W41DK-D	KEYSER WV	136.7	LIC	BLDTT-20081020ANH	0.49%
41	W41AA	WHEELING WV	244.5	LIC	BLTT-1606	No interference
42	WVPY	FRONT ROYAL VA	122.8	LIC	BLET-20070226AEU	0.12%
42	W42DQ-D	HARRISONBURG VA	122.8	APP	BDRTCT-20090401APJ	0.00%
42	WCVE-DT	RICHMOND VA	166.9	LIC	BLCDT-20050606AHG	No interference
42	WCVE-TV	RICHMOND VA	166.9	APP	BPEDT-20080610AAQ	0.02%
43	WRKV-LP	ROANOKE VA	132.7	LIC	BLTTL-20010322ABK	0.00%
43	WRKV-LP	ROANOKE VA	132.7	APP	BSTA-20070718AEC	0.00%
43	NEW	PENDLETON WV	69.6	CP	BNPTTL-20000828AED	0.00%
44	W34CU	ROANOKE VA	103.3	LIC	BLTT-20060130AXI	0.00%
45	NEW	CHARLOTTESVILLE VA	80.7	APP	BNPTTL-20000831ANA	0.00%
45	W45AW	FULKS RUN VA	60.8	LIC	BLTT-20030702ABL	0.00%
45	NEW	PENDLETON WV	69.6	CP	BNPTTL-20000828AEE	0.00%
48	W48AA	KEYSER WV	136.7	LIC	BLTT-1615	0.00%
49	W49AP	ROANOKE VA	122.2	LIC	BLTTL-19890504IE	0.00%

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-3

NATIONAL RADIO ASTRONOMY OBSERVATORY APPROVAL



NATIONAL RADIO ASTRONOMY OBSERVATORY

POST OFFICE BOX 2
GREEN BANK, WV 24944-0002
NRQZ OFFICE TELEPHONE (304)456-2107
[HTTP://WWW.GB.NRAO.EDU/](http://www.gb.nrao.edu/)

FAX (304)456-2276
NRQZ@NRAO.EDU

November 30, 2009

Virginia Broadcasting Corporation
503 East Market Street
Charlottesville, VA 22902-0503

inre:

Radio Service Code:	DTV Translator (Channel 41)
Applicant:	Addressee
Fixed transmitter location:	Elliott Knob, VA
Coordinates:	038-09-55N, 079-18-44 W
Operating Frequency:	632 MHz band
Purpose of application:	Modification of call sign WVIR-TV
FCC File Number:	Pending notification
Previous Evaluation:	NRQZ#4849
NRAO Coordination:	NRQZ#6219/22JUL09/29OCT09

Dear Mr. Wright:

The National Radio Quiet Zone (NRQZ) office evaluated the proposed transmitter to determine the possible interference impact on our highly sensitive radio astronomy operations.

The National Radio Astronomy Observatory (NRAO), Green Bank, WV, does not object unless and until the **special condition** of the station license limits the effective radiated power relative to a dipole (ERPd) antenna to 1328 watts at 303 degrees true azimuth bearing.

A summary of the evaluation is to follow.

NRQZ Compliance Engineering

1. Final engineering submitted by Donald Everist of Cohen, Dippell and Everist, PC., on 29 October 2009 indicates that the site will meet the requested ERPd limit.
2. Prior to site activation, the applicant shall arrange for a site inspection to verify implementation of the submitted and approved engineering.



NATIONAL RADIO ASTRONOMY OBSERVATORY

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November 30, 2009

Page 2 of 2

NRQZ#6219/22JUL09/29OCT09

To assist in the regulatory requirements of this transmitter, the National Radio Quiet Zone office requests that:

Regulatory

1. The FCC places a special condition on the station license.
2. The coordinator attaches this Letter of Concurrence to the FCC application.
3. The applicant provides the NRQZ office notice of their official filing with the FCC per section 47CFR1.924 (a) (2).

The Sugar Grove Research Station, Sugar Grove, WV does not object to the granting of the referenced modification.

The National Radio Astronomy Observatory, Green Bank, WV, **does not object** to and **recommends for approval** this modification of call sign **WVIR** by the FCC.

This letter **constitutes coordination** of assignment in the National Radio Quiet Zone as required by the FCC Rules and Regulations 47CFR1.924.

If I can be of assistance, please feel free to contact me.

Sincerely,

Paulette W. Woody
Interference Office
NRQZ Administrator

File: 6219 .doc

PWW:pww

Cc: Donald Everist of Cohen, Dippell and Everist, P.C.

Section III - Engineering (Digital)

TECHNICAL SPECIFICATIONS

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1. Channel: _____
2. Translator Input Channel No. _____
3. Station proposed to be rebroadcast:

Call Sign	City	State	Channel
-----------	------	-------	---------

4. Antenna Location Coordinates: (NAD 27)

____° ____' ____" ☐ N ☐ S Latitude
____° ____' ____" ☐ E ☐ W Longitude

5. Antenna Structure Registration Number: _____

☐ Not applicable ☐ See Explanation in Exhibit No. ☐ FAA Notification Filed with FAA

6. Antenna Location Site Elevation Above Mean Sea Level: _____ meters
7. Overall Tower Height Above Ground Level: _____ meters
8. Height of Radiation Center Above Ground Level: _____ meters
9. Maximum Effective Radiated Power (ERP): _____ kW
10. Transmitter Output Power: _____ kW

11. a. Transmitting Antenna: ☐ Nondirectional ☐ Directional ☐ Directional composite

Manufacturer	Model
--------------	-------

- b. Electrical Beam Tilt: _____ degrees ☐ Not applicable

c. Directional Antenna Relative Field Values:

Rotation: _____ ° ☐ No rotation ☐ N/A (Nondirectional)

Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value	Degree	Value
0		60		120		180		240		300	
10		70		130		190		250		310	
20		80		140		200		260		320	
30		90		150		210		270		330	
40		100		160		220		280		340	
50		110		170		230		290		350	
Additional Azimuths											

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

12. **Out-of-Channel Emission Mask:** Simple ☐ Stringent ☐

CERTIFICATION

13. **Interference.** The proposed facility complies with all of the following applicable rule sections. 47 C.F.R. Sections 74.709, 74.793(e), 74.793(f), 74.793(g), 74.793(h), 74.794(b) and 73.1030. ☐ Yes ☐ No

See Explanation in Exhibit No.

14. **Environmental Protection Act.** The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (*i.e.*, the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine RF compliance. An **Exhibit is required.** ☐ Yes ☐ No

See Explanation in Exhibit No.

Exhibit No.

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.

15. **Channels 52-59.** If the proposed channel is within channels 52-59, the applicant certifies compliance with the following requirements, as applicable:

☐ The applicant is applying for a digital companion channel for which no suitable channel from channel 2-51 is available.

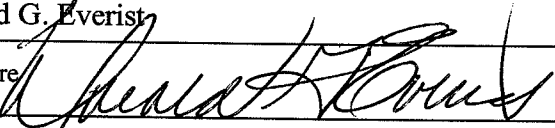
☐ Pursuant to Section 74.786(d), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees.

PREPARER'S CERTIFICATION ON PAGE 8 MUST BE COMPLETED AND SIGNED.

16. **Channels 60-69.** If the proposed channel is within channels 60-69, the applicant certifies co-Amendment following requirements, as applicable:

- ☐ Pursuant to Section 74.786(e), the applicant has notified, within 30 days of filing this application, all commercial wireless licensees of the spectrum comprising the proposed TV channel and the first adjacent channels thereto, for which the proposed digital LPTV or TV translator antenna site lies inside the licensed geographic boundaries of the wireless licensees or within 75 miles and 50 miles, respectively, of the geographic boundaries of co-channel and adjacent-channel wireless licensees,
- ☐ Pursuant to Section 74.786(e), the applicant proposing operation on channel 63, 64, 68 and 69 ("public safety channels") has secured a coordinated spectrum use agreement(s) with 700 MHz public safety regional planning committee(s) and state frequency administrator(s) of the region(s) and state(s) within which the antenna site of the digital LPTV or TV translator station is proposed to locate, and those adjoining regions and states with boundaries within 75 miles of the proposed station location.
- ☐ Pursuant to Section 74.786(e), an applicant for a channel adjacent to channel 63, 64, 68 or 69 has notified, within 30 days of filing this application, the 700 MHz public safety regional planning committee(s) and state administrator(s) of the region and state containing the proposed digital LPTV or TV translator antenna site and regions and states whose geographic boundaries lie within 50 miles of the proposed LPTV or TV translator antenna site.

I certify that I have prepared Section III (Engineering Data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name Donald G. Everist		Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 		Date March 25, 2010	
Mailing Address Cohen, Dippell and Everist, P.C., 1300 L Street, NW, Suite 1100			
City Washington	State or Country (if foreign address) DC		ZIP Code 20005
Telephone Number (include area code) (202) 898-0111		E-Mail Address (if available) cde@attglobal.net	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).