Application for Modification
Post – Repack Construction Permit
Engineering Exhibit

WGPX-TV – Burlington, NC

Facility ID: 65074

Licensee “ION MEDIA GREENSBORO LICENSE, INC” is currently authorized to operate on Post-Repack DTV channel 26. The Antenna Structure Registration Number is 1062557 with a Latitude of 36° 14’ 54.8” N+ and a Longitude of 079° 39’ 20.1” W-.

The purpose of this application is to request authority to modify the construction permit (0000034889) to operate from Antenna Structure Registration Number 1001558 with a Latitude of 35° 52’ 13.5” N+ and a Longitude of 079° 50’ 24” W-. The HAAT is 502.37 m (AGL 502.92 m) with an AMSL of 726.92 m. An ERP of 125 kW will be utilized.

Antenna System

A directional side mounted antenna will be utilized. It will be affixed to an existing guyed tower structure and will not increase the overall height of the structure. Any vertical component will not exceed the horizontal pattern in any direction. Elevation and Azimuth patterns are attached.

RF Hazard (Environmental)

Human Exposure measurements were calculated using the OET- 65 equation and the outcome is compliant with FCC 1.1310. Furthermore, the calculation is under 5% of the limit categorically excluding the application from further environmental evaluations.

Calculated Maximum	Calculated Exposure	Percent of Limit
mW/cm²	mW/cm²	
0.363	0.000464	0.13%

The station will coordinate with other(s) to comply with access, antenna and/or tower issues related to RF Exposure

Broadcast Facility

§73.616 Interference Caused

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2019-02-26 indicates that there is no excessive new interference created. This study used cell spacing of 2 km and a profile spacing of .2 km.

§73.622 Maximum ERP and Antenna Height

The application does not exceed the maximum ERP for the specified HAAT.

§73.623 DTV Allotments

The application does not change the DTV Table of Allotments.

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§73.625 Coverage of Principal Community

The application's ERP will sufficiently cover Burlington, North Carolina. RF coverage analysis attached.

§73.1030 Radio, Research and Receiving Locations

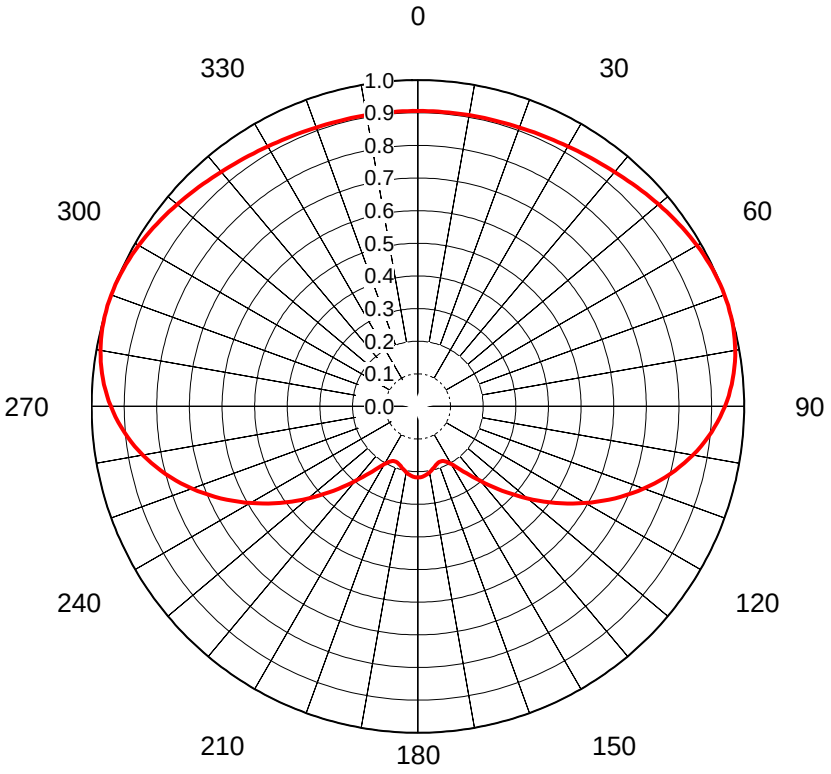
A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2019-02-26 indicates that no excessive interference to any "protected" locations. As such, no coordination or notification is required.

§73.1650 International Agreements

The application's transmit location is 682.3 km from Canada. As such, no coordination or notification is required.

The application's transmit location is 1960.7 km from Mexico. As such, no coordination or notification is required.

Dielectric®



AZIMUTH PATTERN
Horizontal Polarization

Proposal No.	**C-70362-2**
Date	**26-Sep-18**
Call Letters	**WGPX**
Channel	**26**
Frequency	**545 MHz**
Antenna Type	**TFU-18DSC/VP-R C170**
Gain	**1.7 (2.3dB)**
	Calculated
Circularity	**+/- 8.0 dB**
Drawing #	**TFU-C170-26H**

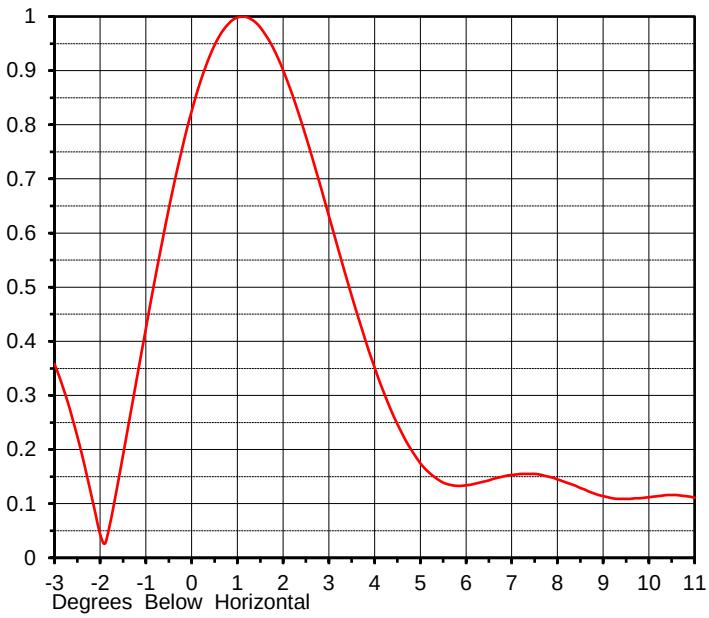
Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.905	36	0.930	72	1.000	108	0.763	144	0.253	180	0.218	216	0.253	252	0.763	288	1.000	324	0.930
1	0.905	37	0.932	73	0.999	109	0.750	145	0.243	181	0.218	217	0.264	253	0.776	289	1.000	325	0.928
2	0.905	38	0.934	74	0.999	110	0.737	146	0.233	182	0.217	218	0.274	254	0.788	290	1.000	326	0.926
3	0.905	39	0.936	75	0.997	111	0.723	147	0.225	183	0.216	219	0.286	255	0.800	291	1.000	327	0.925
4	0.906	40	0.938	76	0.996	112	0.709	148	0.217	184	0.216	220	0.298	256	0.812	292	0.999	328	0.923
5	0.906	41	0.941	77	0.994	113	0.695	149	0.210	185	0.214	221	0.311	257	0.824	293	0.998	329	0.921
6	0.906	42	0.943	78	0.993	114	0.681	150	0.204	186	0.213	222	0.324	258	0.835	294	0.997	330	0.920
7	0.906	43	0.945	79	0.990	115	0.666	151	0.199	187	0.211	223	0.337	259	0.846	295	0.996	331	0.919
8	0.906	44	0.948	80	0.988	116	0.652	152	0.193	188	0.209	224	0.351	260	0.856	296	0.995	332	0.917
9	0.906	45	0.950	81	0.984	117	0.637	153	0.190	189	0.207	225	0.365	261	0.866	297	0.993	333	0.916
10	0.906	46	0.953	82	0.981	118	0.622	154	0.187	190	0.205	226	0.379	262	0.876	298	0.992	334	0.915
11	0.906	47	0.955	83	0.977	119	0.607	155	0.185	191	0.203	227	0.394	263	0.886	299	0.990	335	0.914
12	0.907	48	0.958	84	0.974	120	0.592	156	0.183	192	0.200	228	0.408	264	0.895	300	0.988	336	0.913
13	0.907	49	0.961	85	0.969	121	0.577	157	0.182	193	0.198	229	0.423	265	0.903	301	0.986	337	0.912
14	0.907	50	0.963	86	0.964	122	0.561	158	0.182	194	0.195	230	0.438	266	0.912	302	0.983	338	0.911
15	0.908	51	0.966	87	0.959	123	0.546	159	0.183	195	0.193	231	0.454	267	0.919	303	0.981	339	0.911
16	0.908	52	0.969	88	0.953	124	0.530	160	0.183	196	0.191	232	0.469	268	0.927	304	0.979	340	0.910
17	0.908	53	0.971	89	0.947	125	0.515	161	0.185	197	0.189	233	0.484	269	0.934	305	0.976	341	0.909
18	0.909	54	0.974	90	0.941	126	0.500	162	0.186	198	0.186	234	0.500	270	0.941	306	0.974	342	0.909
19	0.909	55	0.976	91	0.934	127	0.484	163	0.189	199	0.185	235	0.515	271	0.947	307	0.971	343	0.908
20	0.910	56	0.979	92	0.927	128	0.469	164	0.191	200	0.183	236	0.530	272	0.953	308	0.969	344	0.908
21	0.911	57	0.981	93	0.919	129	0.454	165	0.193	201	0.183	237	0.546	273	0.959	309	0.966	345	0.908
22	0.911	58	0.983	94	0.912	130	0.438	166	0.195	202	0.182	238	0.561	274	0.964	310	0.963	346	0.907
23	0.912	59	0.986	95	0.903	131	0.423	167	0.198	203	0.182	239	0.577	275	0.969	311	0.961	347	0.907
24	0.913	60	0.988	96	0.895	132	0.408	168	0.200	204	0.183	240	0.592	276	0.974	312	0.958	348	0.907
25	0.914	61	0.990	97	0.886	133	0.394	169	0.203	205	0.185	241	0.607	277	0.977	313	0.955	349	0.906
26	0.915	62	0.992	98	0.876	134	0.379	170	0.205	206	0.187	242	0.622	278	0.981	314	0.953	350	0.906
27	0.916	63	0.993	99	0.866	135	0.365	171	0.207	207	0.190	243	0.637	279	0.984	315	0.950	351	0.906
28	0.917	64	0.995	100	0.856	136	0.351	172	0.209	208	0.193	244	0.652	280	0.988	316	0.948	352	0.906
29	0.919	65	0.996	101	0.846	137	0.337	173	0.211	209	0.199	245	0.666	281	0.990	317	0.945	353	0.906
30	0.920	66	0.997	102	0.835	138	0.324	174	0.213	210	0.204	246	0.681	282	0.993	318	0.943	354	0.906
31	0.921	67	0.998	103	0.824	139	0.311	175	0.214	211	0.210	247	0.695	283	0.994	319	0.941	355	0.906
32	0.923	68	0.999	104	0.812	140	0.298	176	0.216	212	0.217	248	0.709	284	0.996	320	0.938	356	0.906
33	0.925	69	1.000	105	0.800	141	0.286	177	0.216	213	0.225	249	0.723	285	0.997	321	0.936	357	0.905
34	0.926	70	1.000	106	0.788	142	0.274	178	0.217	214	0.233	250	0.737	286	0.999	322	0.934	358	0.905
35	0.928	71	1.000	107	0.776	143	0.264	179	0.218	215	0.243	251	0.750	287	0.999	323	0.932	359	0.905

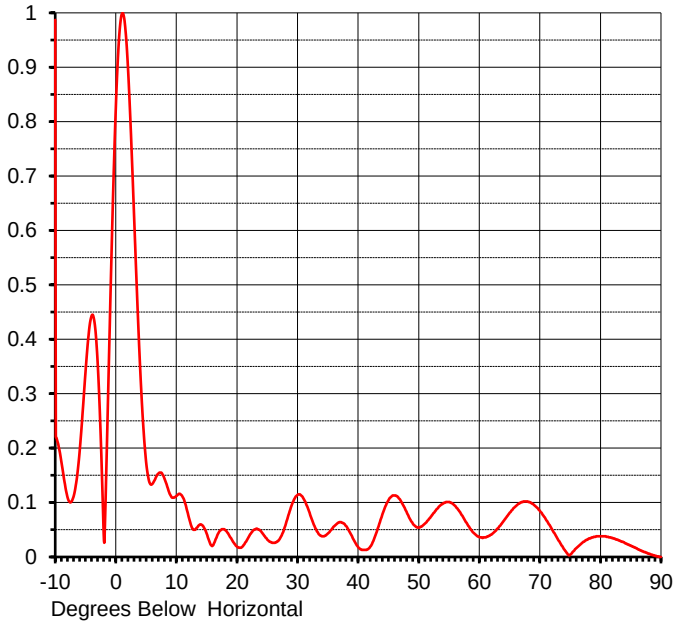
ELEVATION PATTERN

Proposal No.	**C-70362-2**
Date	**26-Sep-18**
Call Letters	**WGPX**
Channel	**26**
Frequency	**545 MHz**
Antenna Type	**TFU-18DSC/VP-R C170**

RMS Directivity at Main Lobe	**15.0 (11.76 dB)**	Beam Tilt	**1.00 deg**
RMS Directivity at Horizontal	**10.2 (10.09 dB)**	Drawing Number	**18Q150100**

Calculated





Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.987	10.0	0.112	30.0	0.114	50.0	0.054	70.0	0.085
-9.0	0.176	11.0	0.111	31.0	0.107	51.0	0.061	71.0	0.069
-8.0	0.111	12.0	0.075	32.0	0.081	52.0	0.074	72.0	0.051
-7.0	0.110	13.0	0.050	33.0	0.052	53.0	0.088	73.0	0.032
-6.0	0.190	14.0	0.060	34.0	0.038	54.0	0.098	74.0	0.014
-5.0	0.340	15.0	0.043	35.0	0.043	55.0	0.101	75.0	0.004
-4.0	0.443	16.0	0.021	36.0	0.056	56.0	0.094	76.0	0.016
-3.0	0.358	17.0	0.045	37.0	0.064	57.0	0.079	77.0	0.026
-2.0	0.043	18.0	0.050	38.0	0.057	58.0	0.061	78.0	0.033
-1.0	0.424	19.0	0.035	39.0	0.038	59.0	0.045	79.0	0.037
0.0	0.825	20.0	0.019	40.0	0.018	60.0	0.037	80.0	0.038
1.0	0.998	21.0	0.020	41.0	0.013	61.0	0.036	81.0	0.037
2.0	0.901	22.0	0.038	42.0	0.019	62.0	0.041	82.0	0.035
3.0	0.632	23.0	0.051	43.0	0.044	63.0	0.052	83.0	0.031
4.0	0.352	24.0	0.047	44.0	0.078	64.0	0.066	84.0	0.026
5.0	0.175	25.0	0.032	45.0	0.104	65.0	0.081	85.0	0.021
6.0	0.134	26.0	0.026	46.0	0.113	66.0	0.093	86.0	0.016
7.0	0.153	27.0	0.032	47.0	0.104	67.0	0.101	87.0	0.010
8.0	0.145	28.0	0.058	48.0	0.083	68.0	0.102	88.0	0.006
9.0	0.114	29.0	0.094	49.0	0.062	69.0	0.096	89.0	0.002
								90.0	0.000

WGPX - Application
Latitude: 35-52-13.50 N
Longitude: 079-50-24 W
ERP: 125.00 kW
Channel: 26
Frequency: 545.0 MHz
AGL: 502.92 m
HAAT: 502.37 m
AMSL: 726.92 m
Horiz. Pattern: Directional
Vert. Pattern: Yes
Elec Tilt: 0.75

Giles
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Lynchburg
Amelia
Roanoke city
Roanoke
Blacksburg
Montgomery
Campbell
Prince Edward
Bland
Radford city
Pulaski
Nottoway
Franklin
Charlotte
Wythe
Floyd
Lunenburg
Pittsylvania
Halifax
Brunswick
Carroll
South Boston city
Grayson
Galax city
Patrick
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Hoke
Sampson
Duplin
Scotland

Contour Legend
- Dipole Adjusted Noise Limited (0000034889)
- Dipole Adjusted Noise Limited (App)
- 48 dBu Service (App)

Calculation by S. Clark