

**Application for Modification**  
**Post – Repack Construction Permit**  
**Engineering Exhibit**

**WPX-TV – Boston, Massachusetts**

Facility ID: 7692

Licensee “ION MEDIA BOSTON LICENSE, LLC” is currently authorized to operate on Post-Repack DTV channel 22. The Antenna Structure Registration Number is 1004623 with a Latitude of 42° 18’ 27.8” N+ and a Longitude of 071° 13’ 24.9” W-.

The purpose of this application is to request authority to modify the construction permit (0000034343) to operate from Antenna Structure Registration Number 1046935 with a Latitude of 42° 23’ 2.7” N+ and a Longitude of 071° 29’ 35.3” W-. The HAAT is 334.59 m (AGL 350.52 m) with an AMSL of 413.92 m. An ERP of 150 kW will be utilized.

The station is filing this request to change towers because the station is moving to a new tower location. To the extent necessary, the station requests an exemption or waiver of any current freeze on the filing of construction permit modifications as needed to process and approve this application.

**Channel Share**

WPX-TV has an executed channel sharing agreement with WDPX-TV, Woburn, MA, Facility ID 6476. Accordingly, all relevant technical parameters in this application pertain to both stations. This includes, but not limited to, the RF Hazard statement and RF Coverage analysis.

**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.

<b>Calculated Maximum</b>	<b>Calculated Exposure</b>	<b>Percent of Limit</b>
mW/cm <sup>2</sup>	mW/cm <sup>2</sup>	
0.347	0.001147	0.33%

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

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**Broadcast Facility**

**§73.616 Interference Caused**

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-10-03 indicates that there is excessive interference caused to the approved facilities of WPXG-TV. See attached “Interference Agreement”. No other excessive interference is caused. This study used cell spacing of 2 km and a profile spacing of .2 km.

**§73.622(f) Maximum ERP and Antenna Height**

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

**§73.622(i) DTV Allotments**

The application does not change the DTV Table of Allotments.

**§73.625 Coverage of Principal Community**

The application’s ERP will sufficiently cover Boston, Massachusetts. RF coverage analysis attached.

**§73.1030 Radio, Research and Receiving Locations**

A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-10-03 indicates that no excessive interference to any “protected” locations. As such, no coordination or notification is required.

**§73.1650 International Agreements**

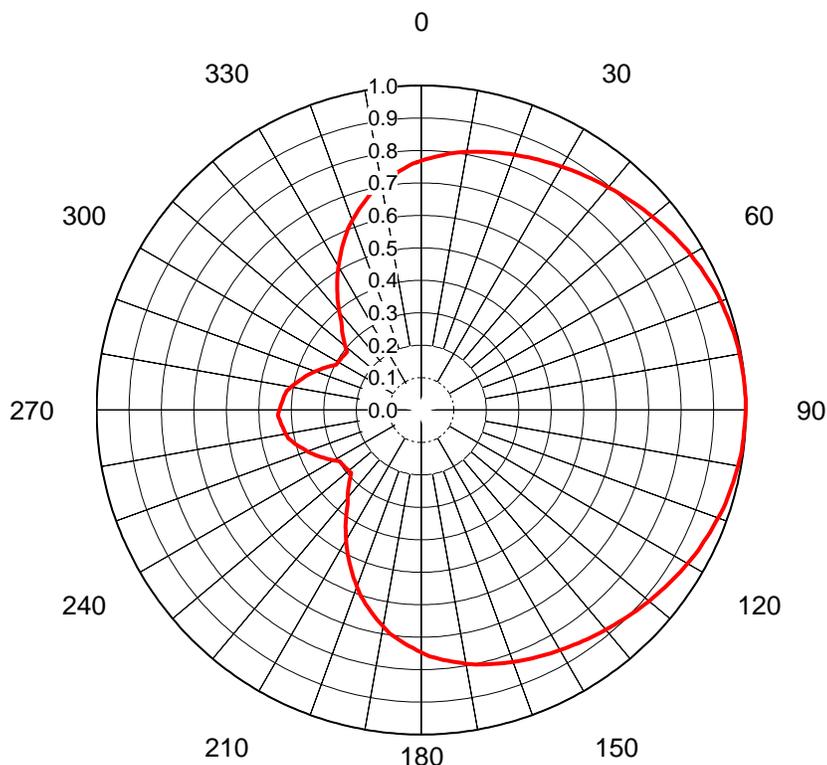
The application’s transmit location is 292.2 km from Canada. A calculation using *TVStudy* version 2.2.5 using an LMS database dated 2018-10-03 indicates that this application causes no new interference to any Canadian stations.

The application’s transmit location is 2945.6 km from Mexico. As such, no coordination or notification is required.

## AZIMUTH PATTERN Horizontal Polarization

In Free Space

Proposal No. **C-71135-2**  
 Date **18-Sep-18**  
 Call Letters **WPBX**  
 Channel **22**  
 Frequency **521 MHz**  
 Antenna Type **TFU-15JSC/VP-R S190**  
 Gain **1.91 (2.81dB)**  
 Calculated



Deg	Value																		
0	0.768	36	0.884	72	0.984	108	0.978	144	0.872	180	0.747	216	0.392	252	0.384	288	0.361	324	0.439
1	0.773	37	0.887	73	0.986	109	0.976	145	0.869	181	0.741	217	0.380	253	0.390	289	0.355	325	0.451
2	0.777	38	0.890	74	0.988	110	0.973	146	0.866	182	0.734	218	0.368	254	0.396	290	0.348	326	0.463
3	0.781	39	0.893	75	0.989	111	0.970	147	0.863	183	0.728	219	0.360	255	0.402	291	0.342	327	0.475
4	0.785	40	0.896	76	0.991	112	0.968	148	0.860	184	0.722	220	0.352	256	0.407	292	0.335	328	0.487
5	0.789	41	0.900	77	0.992	113	0.966	149	0.857	185	0.715	221	0.345	257	0.413	293	0.329	329	0.499
6	0.794	42	0.903	78	0.994	114	0.963	150	0.854	186	0.709	222	0.337	258	0.419	294	0.323	330	0.510
7	0.798	43	0.906	79	0.995	115	0.960	151	0.852	187	0.702	223	0.329	259	0.421	295	0.316	331	0.522
8	0.802	44	0.909	80	0.995	116	0.958	152	0.849	188	0.696	224	0.321	260	0.424	296	0.310	332	0.533
9	0.805	45	0.912	81	0.996	117	0.956	153	0.846	189	0.687	225	0.313	261	0.426	297	0.303	333	0.545
10	0.808	46	0.916	82	0.996	118	0.953	154	0.843	190	0.677	226	0.306	262	0.428	298	0.297	334	0.557
11	0.811	47	0.919	83	0.997	119	0.950	155	0.840	191	0.668	227	0.298	263	0.430	299	0.296	335	0.568
12	0.814	48	0.922	84	0.998	120	0.947	156	0.838	192	0.659	228	0.290	264	0.433	300	0.296	336	0.580
13	0.817	49	0.925	85	0.998	121	0.944	157	0.835	193	0.650	229	0.291	265	0.435	301	0.295	337	0.591
14	0.820	50	0.928	86	0.999	122	0.941	158	0.832	194	0.640	230	0.291	266	0.437	302	0.294	338	0.603
15	0.823	51	0.931	87	0.999	123	0.938	159	0.829	195	0.631	231	0.292	267	0.440	303	0.294	339	0.612
16	0.826	52	0.934	88	1.000	124	0.934	160	0.826	196	0.622	232	0.293	268	0.442	304	0.293	340	0.622
17	0.829	53	0.938	89	0.999	125	0.931	161	0.823	197	0.612	233	0.294	269	0.440	305	0.292	341	0.631
18	0.832	54	0.941	90	0.999	126	0.928	162	0.820	198	0.603	234	0.294	270	0.437	306	0.291	342	0.640
19	0.835	55	0.944	91	0.998	127	0.925	163	0.817	199	0.591	235	0.295	271	0.435	307	0.291	343	0.650
20	0.838	56	0.947	92	0.998	128	0.922	164	0.814	200	0.580	236	0.296	272	0.433	308	0.290	344	0.659
21	0.840	57	0.950	93	0.997	129	0.919	165	0.811	201	0.568	237	0.296	273	0.430	309	0.298	345	0.668
22	0.843	58	0.953	94	0.996	130	0.916	166	0.808	202	0.557	238	0.297	274	0.428	310	0.306	346	0.677
23	0.846	59	0.956	95	0.996	131	0.912	167	0.805	203	0.545	239	0.303	275	0.426	311	0.313	347	0.687
24	0.849	60	0.958	96	0.995	132	0.909	168	0.802	204	0.533	240	0.310	276	0.424	312	0.321	348	0.696
25	0.852	61	0.960	97	0.995	133	0.906	169	0.798	205	0.522	241	0.316	277	0.421	313	0.329	349	0.702
26	0.854	62	0.963	98	0.994	134	0.903	170	0.794	206	0.510	242	0.323	278	0.419	314	0.337	350	0.709
27	0.857	63	0.966	99	0.992	135	0.900	171	0.789	207	0.499	243	0.329	279	0.413	315	0.345	351	0.715
28	0.860	64	0.968	100	0.991	136	0.896	172	0.785	208	0.487	244	0.335	280	0.407	316	0.352	352	0.722
29	0.863	65	0.970	101	0.989	137	0.893	173	0.781	209	0.475	245	0.342	281	0.402	317	0.360	353	0.728
30	0.866	66	0.973	102	0.988	138	0.890	174	0.777	210	0.463	246	0.348	282	0.396	318	0.368	354	0.734
31	0.869	67	0.976	103	0.986	139	0.887	175	0.773	211	0.451	247	0.355	283	0.390	319	0.380	355	0.741
32	0.872	68	0.978	104	0.984	140	0.884	176	0.768	212	0.439	248	0.361	284	0.384	320	0.392	356	0.747
33	0.875	69	0.980	105	0.983	141	0.881	177	0.764	213	0.428	249	0.367	285	0.378	321	0.404	357	0.754
34	0.878	70	0.981	106	0.981	142	0.878	178	0.760	214	0.416	250	0.373	286	0.373	322	0.416	358	0.760
35	0.881	71	0.983	107	0.980	143	0.875	179	0.754	215	0.404	251	0.378	287	0.367	323	0.428	359	0.764

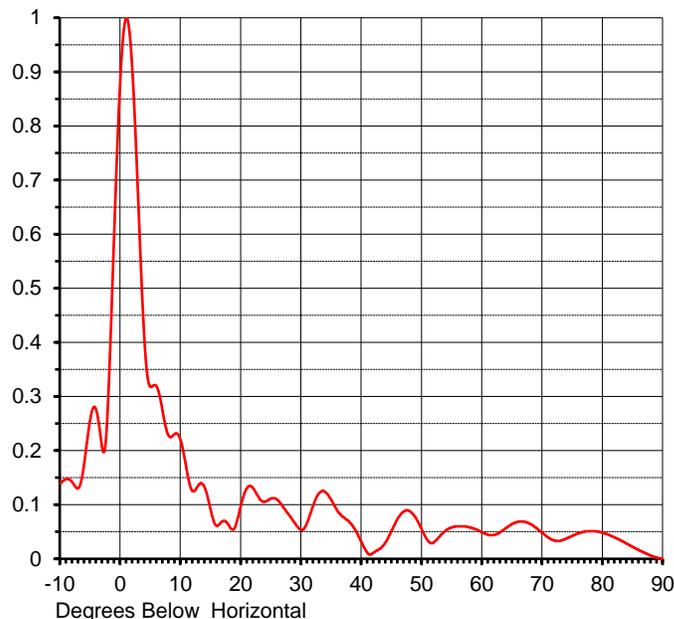
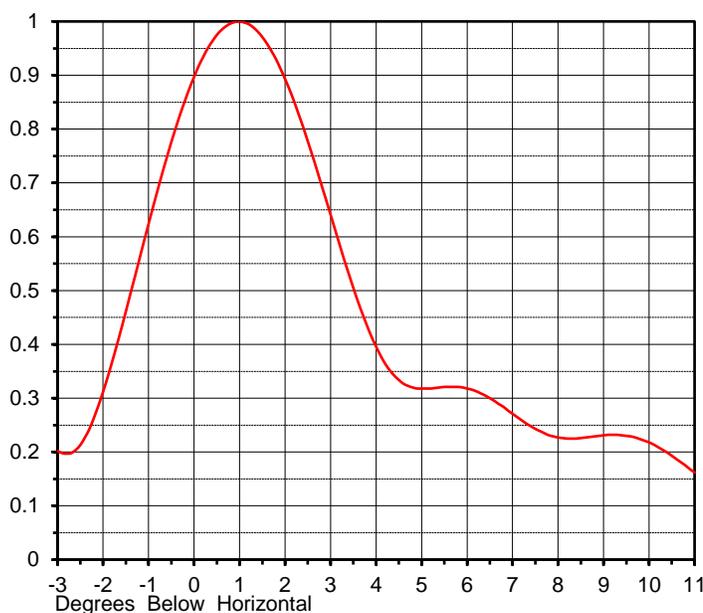
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## ELEVATION PATTERN

Proposal No. **C-71135-2**  
 Date **18-Sep-18**  
 Call Letters **WBPX**  
 Channel **22**  
 Frequency **521 MHz**  
 Antenna Type **TFU-15JSC/VP-R S190**

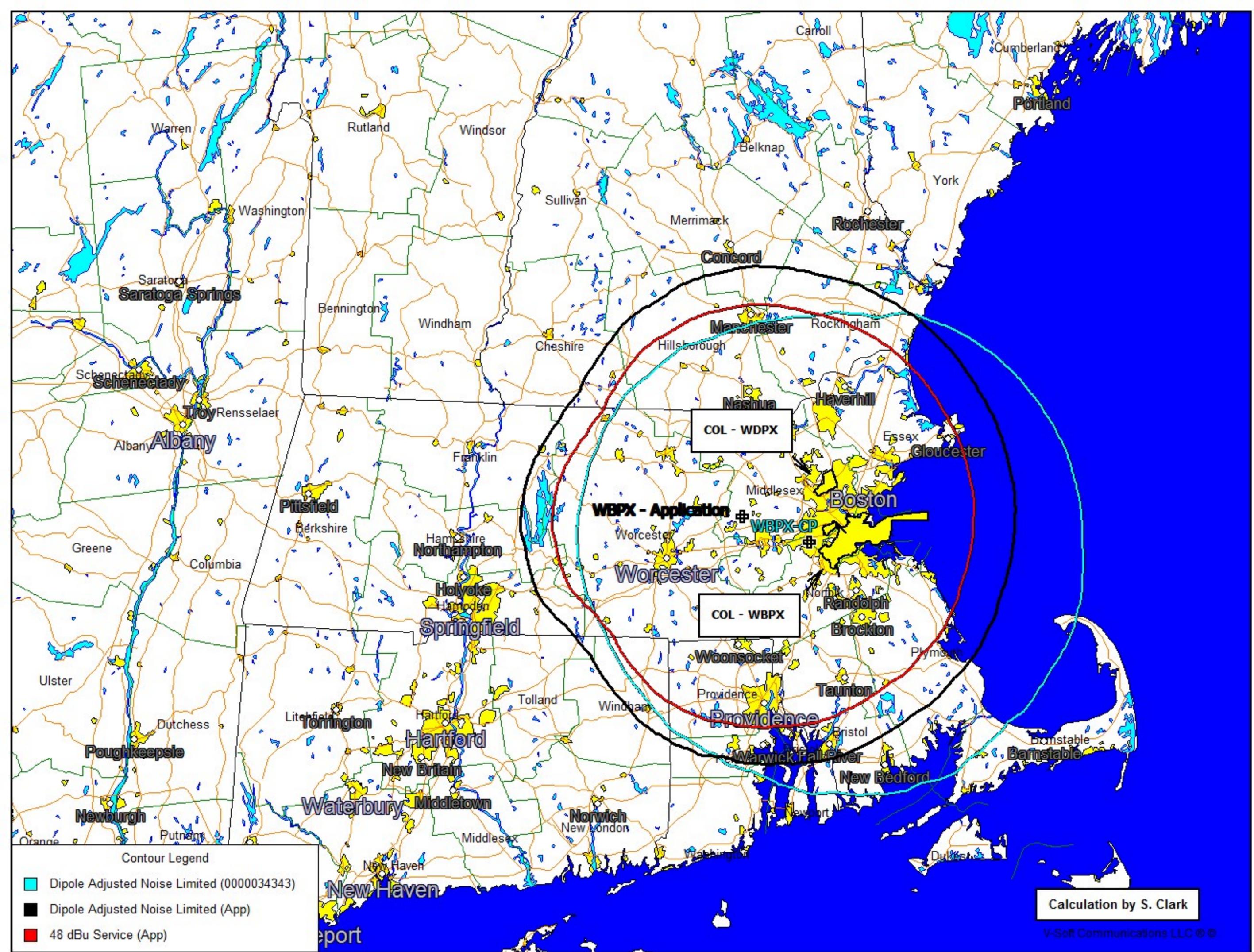
RMS Directivity at Main Lobe **13.2 ( 11.22 dB )**  
 RMS Directivity at Horizontal **10.7 ( 10.29 dB )**  
**Calculated**

Beam Tilt **1.00 deg**  
 Pattern Number **15J132100**



Angle	Field								
-10.0	0.139	10.0	0.218	30.0	0.053	50.0	0.053	70.0	0.048
-9.0	0.147	11.0	0.162	31.0	0.068	51.0	0.033	71.0	0.039
-8.0	0.141	12.0	0.125	32.0	0.100	52.0	0.031	72.0	0.034
-7.0	0.131	13.0	0.137	33.0	0.122	53.0	0.042	73.0	0.034
-6.0	0.180	14.0	0.130	34.0	0.123	54.0	0.053	74.0	0.038
-5.0	0.260	15.0	0.088	35.0	0.108	55.0	0.058	75.0	0.043
-4.0	0.273	16.0	0.061	36.0	0.088	56.0	0.060	76.0	0.047
-3.0	0.202	17.0	0.070	37.0	0.077	57.0	0.060	77.0	0.050
-2.0	0.312	18.0	0.061	38.0	0.067	58.0	0.058	78.0	0.051
-1.0	0.624	19.0	0.059	39.0	0.052	59.0	0.054	79.0	0.051
0.0	0.897	20.0	0.100	40.0	0.030	60.0	0.049	80.0	0.048
1.0	1.000	21.0	0.131	41.0	0.010	61.0	0.044	81.0	0.044
2.0	0.893	22.0	0.130	42.0	0.012	62.0	0.044	82.0	0.039
3.0	0.641	23.0	0.112	43.0	0.019	63.0	0.049	83.0	0.034
4.0	0.396	24.0	0.106	44.0	0.031	64.0	0.057	84.0	0.028
5.0	0.318	25.0	0.112	45.0	0.053	65.0	0.065	85.0	0.022
6.0	0.318	26.0	0.109	46.0	0.075	66.0	0.069	86.0	0.016
7.0	0.271	27.0	0.095	47.0	0.088	67.0	0.068	87.0	0.011
8.0	0.227	28.0	0.080	48.0	0.088	68.0	0.064	88.0	0.006
9.0	0.231	29.0	0.065	49.0	0.075	69.0	0.057	89.0	0.002
								90.0	0.000

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- Contour Legend
- Dipole Adjusted Noise Limited (0000034343)
  - Dipole Adjusted Noise Limited (App)
  - 48 dBu Service (App)

Calculation by S. Clark

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