System Summary

Exhibit No.	
Date	**23 Jan 2019**
Call Letters	**KNWA**
Channel	**33**
Antenna Type	**TFU-16WB**
Location	**Rogers, AR**
Customer	**Nexstar**

Antenna

ERP:	895.0 kW (29.52 dBk)
Peak Gain*:	22.5 (13.51 dB)

Antenna Input Power:

39.8 kW

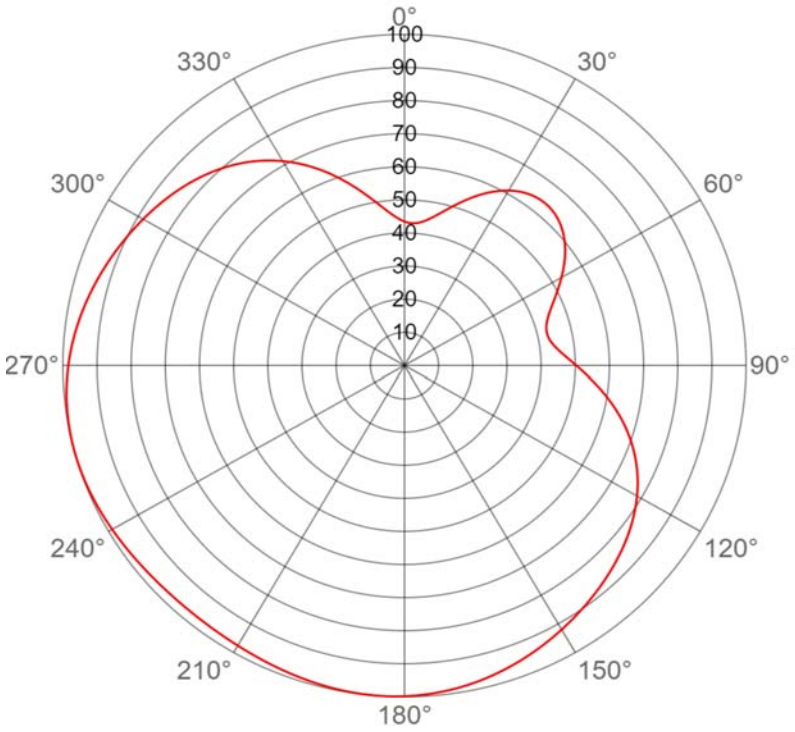
Transmission Line

Type:	Transmission Line		
Size:	6-1/8" 75 ohm		
Impedance:	75 ohm		
Length:	420 ft (128.0 m)	Attenuation:	0.5 dB
		Efficiency:	89.19 %

Transmitter Output

44.7 kW (16.50 dBk)

* Gain is with respect to half wave dipole.



Horizontal Polarization
AZIMUTH PATTERN

Exhibit No.	
Date	**23 Jan 2019**
Call Letters	**KNWA**
Channel	**33**
Antenna Type	**TFU-16WB**
Location	**Rogers, AR**
Customer	**Nexstar**
Gain	**1.6 (1.90 dB)**
	Calculated
Drawing #	**WB-C160H**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.435	36	0.635	72	0.440	108	0.693	144	0.897	180	0.998	216	0.972	252	0.999	288	0.928	324	0.761
1	0.432	37	0.637	73	0.435	109	0.702	145	0.901	181	0.999	217	0.972	253	1.000	289	0.925	325	0.754
2	0.431	38	0.639	74	0.432	110	0.711	146	0.905	182	0.999	218	0.971	254	1.000	290	0.921	326	0.746
3	0.430	39	0.640	75	0.430	111	0.720	147	0.909	183	0.999	219	0.971	255	1.000	291	0.917	327	0.738
4	0.430	40	0.640	76	0.428	112	0.728	148	0.913	184	1.000	220	0.971	256	1.000	292	0.914	328	0.730
5	0.432	41	0.640	77	0.428	113	0.736	149	0.916	185	1.000	221	0.971	257	1.000	293	0.910	329	0.721
6	0.434	42	0.639	78	0.429	114	0.744	150	0.920	186	0.999	222	0.972	258	1.000	294	0.906	330	0.713
7	0.438	43	0.637	79	0.430	115	0.752	151	0.924	187	0.999	223	0.972	259	0.999	295	0.902	331	0.703
8	0.442	44	0.635	80	0.433	116	0.759	152	0.928	188	0.999	224	0.972	260	0.998	296	0.899	332	0.694
9	0.447	45	0.632	81	0.436	117	0.766	153	0.931	189	0.998	225	0.973	261	0.998	297	0.895	333	0.685
10	0.452	46	0.628	82	0.441	118	0.773	154	0.935	190	0.998	226	0.973	262	0.997	298	0.891	334	0.675
11	0.459	47	0.624	83	0.446	119	0.780	155	0.939	191	0.997	227	0.974	263	0.996	299	0.887	335	0.665
12	0.465	48	0.620	84	0.452	120	0.786	156	0.942	192	0.996	228	0.975	264	0.995	300	0.883	336	0.655
13	0.473	49	0.615	85	0.459	121	0.792	157	0.946	193	0.995	229	0.975	265	0.993	301	0.880	337	0.644
14	0.481	50	0.609	86	0.467	122	0.798	158	0.949	194	0.994	230	0.976	266	0.992	302	0.876	338	0.634
15	0.489	51	0.603	87	0.475	123	0.804	159	0.953	195	0.993	231	0.977	267	0.990	303	0.872	339	0.623
16	0.497	52	0.596	88	0.484	124	0.810	160	0.956	196	0.992	232	0.978	268	0.988	304	0.868	340	0.612
17	0.506	53	0.589	89	0.493	125	0.815	161	0.959	197	0.991	233	0.979	269	0.986	305	0.864	341	0.601
18	0.515	54	0.582	90	0.503	126	0.820	162	0.962	198	0.990	234	0.981	270	0.984	306	0.859	342	0.590
19	0.524	55	0.574	91	0.513	127	0.825	163	0.965	199	0.989	235	0.982	271	0.982	307	0.855	343	0.579
20	0.533	56	0.566	92	0.523	128	0.830	164	0.968	200	0.987	236	0.983	272	0.979	308	0.851	344	0.568
21	0.542	57	0.557	93	0.534	129	0.835	165	0.971	201	0.986	237	0.984	273	0.977	309	0.847	345	0.557
22	0.550	58	0.548	94	0.545	130	0.840	166	0.974	202	0.985	238	0.986	274	0.974	310	0.842	346	0.546
23	0.559	59	0.540	95	0.556	131	0.844	167	0.977	203	0.984	239	0.987	275	0.972	311	0.837	347	0.535
24	0.567	60	0.531	96	0.567	132	0.849	168	0.979	204	0.983	240	0.988	276	0.969	312	0.833	348	0.524
25	0.575	61	0.522	97	0.578	133	0.853	169	0.982	205	0.981	241	0.989	277	0.966	313	0.828	349	0.514
26	0.583	62	0.513	98	0.589	134	0.857	170	0.984	206	0.980	242	0.990	278	0.963	314	0.823	350	0.504
27	0.590	63	0.504	99	0.600	135	0.862	171	0.986	207	0.979	243	0.992	279	0.960	315	0.817	351	0.494
28	0.597	64	0.495	100	0.611	136	0.866	172	0.988	208	0.978	244	0.993	280	0.956	316	0.812	352	0.485
29	0.604	65	0.487	101	0.622	137	0.870	173	0.990	209	0.977	245	0.994	281	0.953	317	0.806	353	0.476
30	0.610	66	0.478	102	0.632	138	0.874	174	0.991	210	0.976	246	0.995	282	0.950	318	0.801	354	0.468
31	0.616	67	0.470	103	0.643	139	0.878	175	0.993	211	0.975	247	0.996	283	0.946	319	0.795	355	0.461
32	0.621	68	0.463	104	0.653	140	0.882	176	0.994	212	0.974	248	0.997	284	0.943	320	0.788	356	0.454
33	0.625	69	0.456	105	0.663	141	0.886	177	0.996	213	0.974	249	0.998	285	0.939	321	0.782	357	0.448
34	0.629	70	0.450	106	0.673	142	0.889	178	0.997	214	0.973	250	0.998	286	0.936	322	0.775	358	0.442
35	0.632	71	0.444	107	0.683	143	0.893	179	0.997	215	0.972	251	0.999	287	0.932	323	0.768	359	0.438

ELEVATION PATTERN

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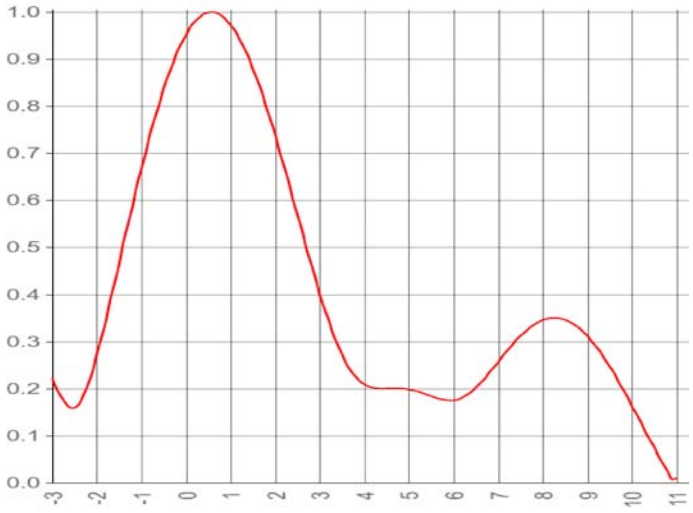
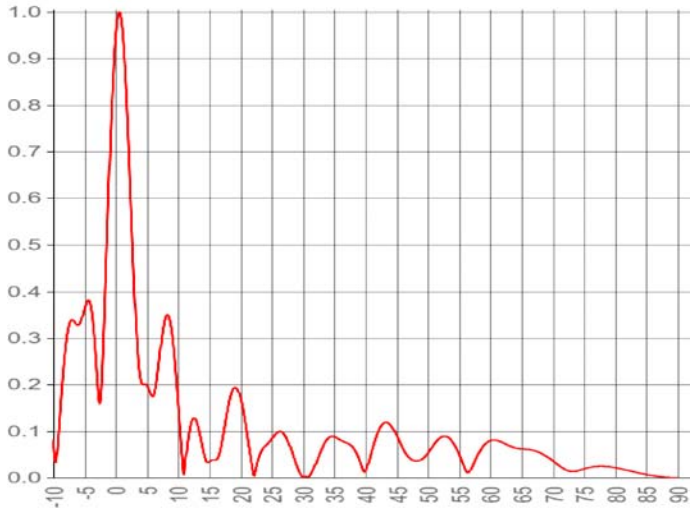
Antenna Type	**TFU-16WB**
Location	**Rogers, AR**
Customer	**Nexstar**

RMS Gain at Main Lobe	**14.5 (11.61 dB)**	Beam Tilt	**0.55 Degrees**
RMS Gain at Horizontal	**13.1 (11.18 dB)**	Drawing #	**TFU-WB-16**
	Calculated		



Degrees below horizontal



Degrees below horizontal

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10	0.082	10	0.163	30	0.000	50	0.053	70	0.036
-9	0.126	11	0.010	31	0.003	51	0.072	71	0.026
-8	0.286	12	0.115	32	0.029	52	0.086	72	0.018
-7	0.340	13	0.118	33	0.062	53	0.088	73	0.014
-6	0.328	14	0.060	34	0.085	54	0.075	74	0.015
-5	0.363	15	0.034	35	0.088	55	0.050	75	0.019
-4	0.370	16	0.038	36	0.081	56	0.018	76	0.022
-3	0.222	17	0.076	37	0.075	57	0.022	77	0.024
-2	0.269	18	0.151	38	0.065	58	0.050	78	0.025
-1	0.666	19	0.193	39	0.040	59	0.070	79	0.024
0	0.952	20	0.171	40	0.014	60	0.080	80	0.022
1	0.973	21	0.097	41	0.058	61	0.081	81	0.019
2	0.738	22	0.013	42	0.098	62	0.075	82	0.016
3	0.401	23	0.045	43	0.118	63	0.069	83	0.013
4	0.209	24	0.069	44	0.113	64	0.064	84	0.010
5	0.198	25	0.084	45	0.090	65	0.062	85	0.007
6	0.175	26	0.098	46	0.062	66	0.061	86	0.005
7	0.257	27	0.093	47	0.043	67	0.058	87	0.003
8	0.346	28	0.064	48	0.036	68	0.053	88	0.001
9	0.312	29	0.025	49	0.040	69	0.046	89	0.000

Mechanicals

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Channel	**33**
Antenna Type	**TFU-16WB**
Location	**Rogers, AR**
Customer	**Nexstar**

Preliminary Specifications

Side Mounted

Mechanical Specification without ice TIA-222-G

Basic Wind Speed	90 mph
Structure Class	II
Exposure Category	C
Topography Category	1

Mechanical Specifications

Height less Lightning Protector	(H2)	28.9 ft (8.8 m)
Center of Radiation	(H3)	14.5 ft (4.4 m)
Effective Projected Area	(EPA)s	36.4 ft² (11.1 m²)
Weight	W	1254.0 lbs