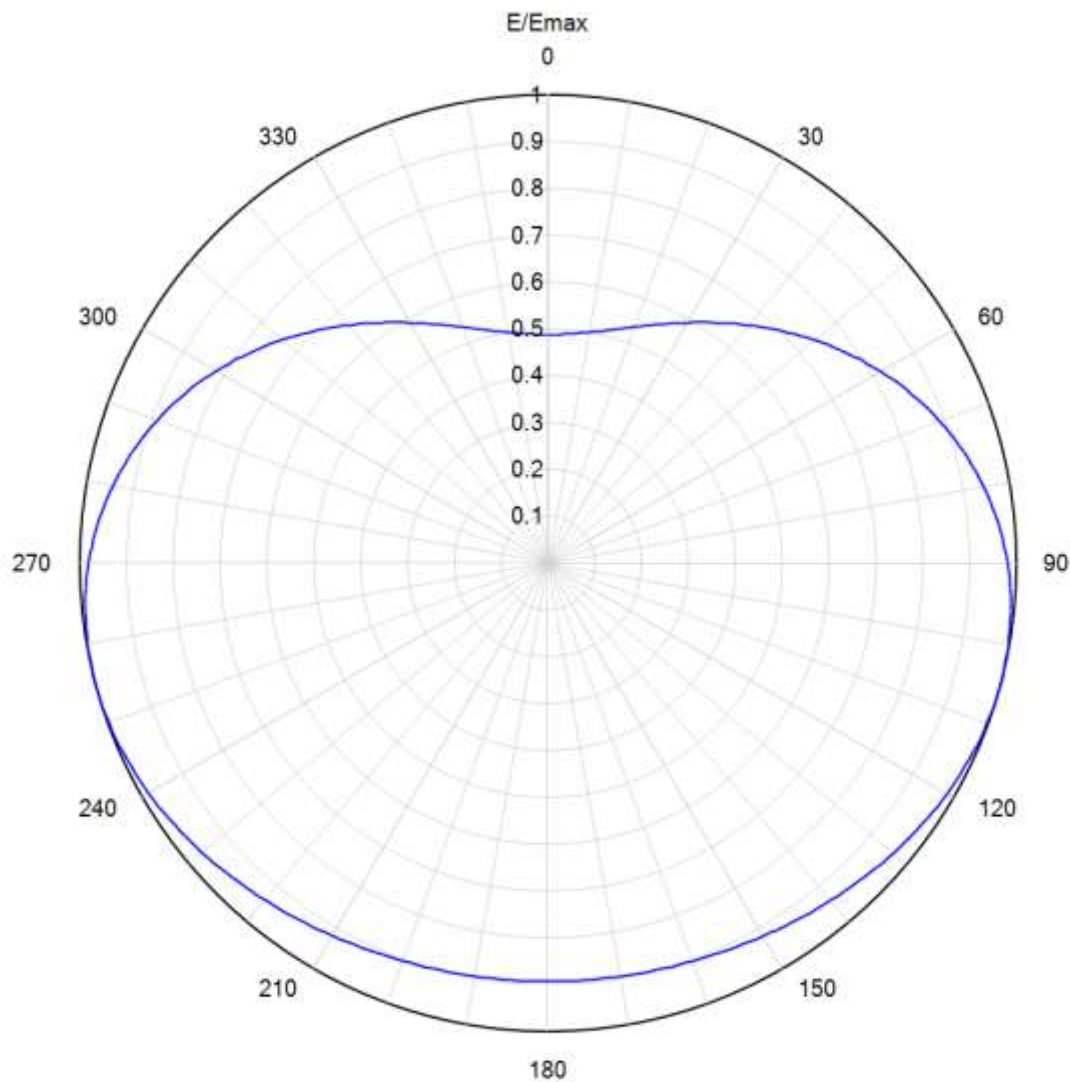




## Azimuth Pattern



Model: SAA28-ATW\_WC-E400-ET6R-33

Location: WINSTON-SALEM

Customer: University of North Carolina

Date: June 7, 2018

Rotation Angle: 180 degrees

Note: Pattern Tolerance +/-5% of Emax

Polarization: Horizontal

Frequency: 587.00 MHz

Directivity: 1.4 (1.43 dB)

Elevation Angle: 1.00 degrees

Horizontal Unit Pattern:

File = WUNL-main-upgrade-hrp.pat



Model: **SAA28-ATW\_WC-E400-ET6R-33**  
Location: **WINSTON-SALEM**  
Customer: **University of North Carolina**  
Date: **June 7, 2018**

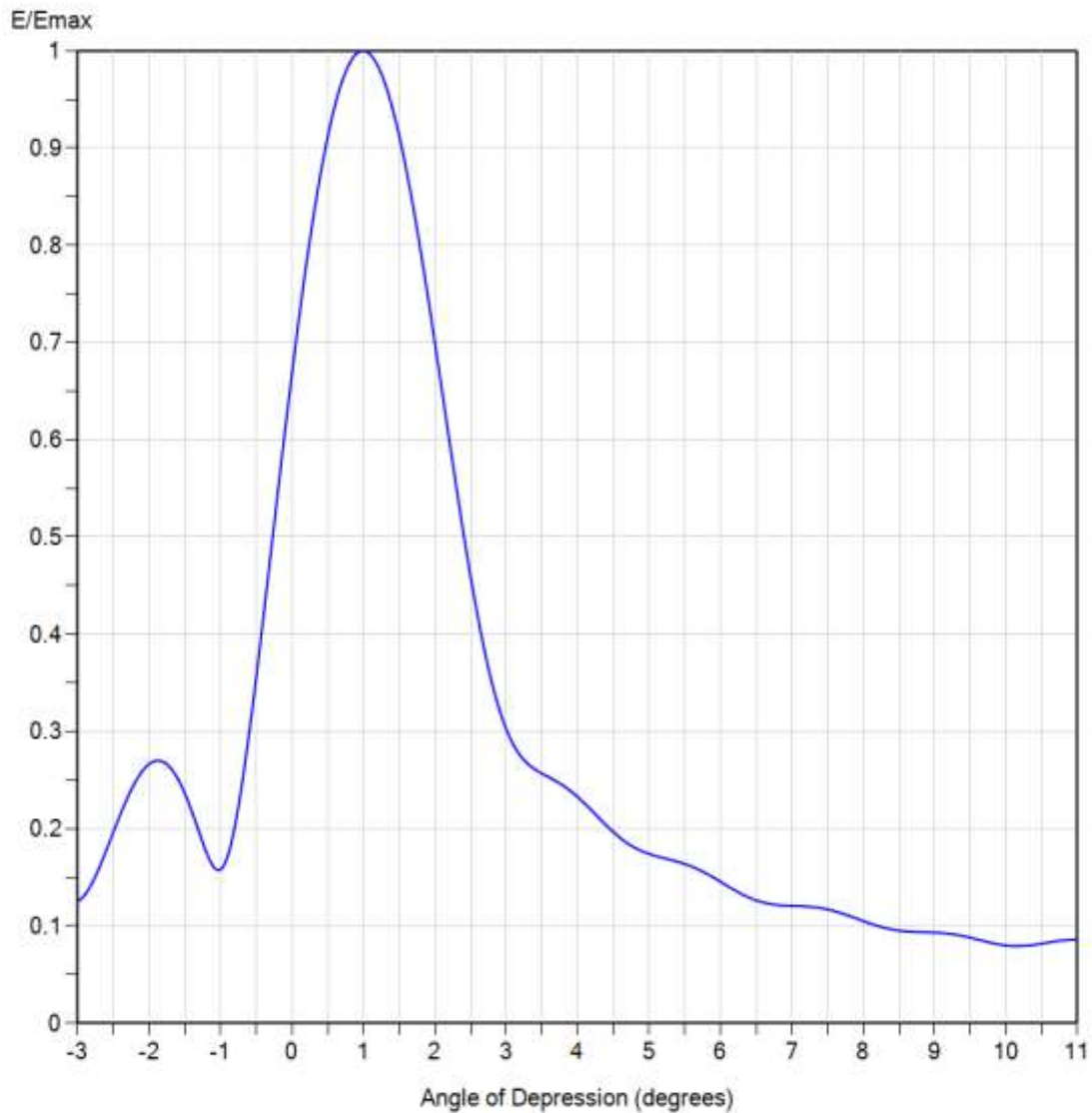
Polarization: **Horizontal**  
Frequency (MHz): **587.00**  
Directivity: **1.4 (1.43 dB)**  
Elevation Angle: **1.00 degrees**  
Rotation Angle: **180 degrees**

### TABULATED AZIMUTH PATTERN

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.488	45	0.702	90	0.981	135	0.952	180	0.893	225	0.952	270	0.981	315	0.702
1	0.488	46	0.709	91	0.984	136	0.949	181	0.893	226	0.954	271	0.978	316	0.694
2	0.488	47	0.717	92	0.986	137	0.947	182	0.893	227	0.956	272	0.975	317	0.686
3	0.489	48	0.725	93	0.988	138	0.945	183	0.893	228	0.958	273	0.972	318	0.678
4	0.490	49	0.733	94	0.990	139	0.942	184	0.894	229	0.961	274	0.969	319	0.671
5	0.491	50	0.741	95	0.992	140	0.940	185	0.894	230	0.963	275	0.965	320	0.663
6	0.492	51	0.749	96	0.993	141	0.938	186	0.894	231	0.965	276	0.961	321	0.656
7	0.494	52	0.757	97	0.995	142	0.936	187	0.895	232	0.968	277	0.957	322	0.648
8	0.496	53	0.765	98	0.996	143	0.933	188	0.895	233	0.970	278	0.953	323	0.641
9	0.498	54	0.773	99	0.997	144	0.931	189	0.896	234	0.972	279	0.949	324	0.633
10	0.500	55	0.781	100	0.998	145	0.929	190	0.896	235	0.974	280	0.944	325	0.626
11	0.503	56	0.788	101	0.999	146	0.927	191	0.897	236	0.976	281	0.939	326	0.619
12	0.505	57	0.796	102	0.999	147	0.925	192	0.897	237	0.978	282	0.934	327	0.612
13	0.509	58	0.804	103	1.000	148	0.923	193	0.898	238	0.980	283	0.929	328	0.605
14	0.512	59	0.811	104	1.000	149	0.921	194	0.899	239	0.982	284	0.924	329	0.599
15	0.515	60	0.819	105	1.000	150	0.919	195	0.899	240	0.984	285	0.919	330	0.592
16	0.519	61	0.827	106	1.000	151	0.917	196	0.900	241	0.986	286	0.913	331	0.586
17	0.523	62	0.834	107	1.000	152	0.915	197	0.901	242	0.988	287	0.907	332	0.579
18	0.527	63	0.841	108	0.999	153	0.914	198	0.902	243	0.989	288	0.901	333	0.573
19	0.531	64	0.848	109	0.999	154	0.912	199	0.903	244	0.991	289	0.895	334	0.568
20	0.536	65	0.856	110	0.998	155	0.911	200	0.904	245	0.992	290	0.889	335	0.562
21	0.541	66	0.863	111	0.997	156	0.909	201	0.905	246	0.994	291	0.883	336	0.556
22	0.546	67	0.869	112	0.996	157	0.908	202	0.906	247	0.995	292	0.876	337	0.551
23	0.551	68	0.876	113	0.995	158	0.906	203	0.908	248	0.996	293	0.869	338	0.546
24	0.556	69	0.883	114	0.994	159	0.905	204	0.909	249	0.997	294	0.863	339	0.541
25	0.562	70	0.889	115	0.992	160	0.904	205	0.911	250	0.998	295	0.856	340	0.536
26	0.568	71	0.895	116	0.991	161	0.903	206	0.912	251	0.999	296	0.848	341	0.531
27	0.573	72	0.901	117	0.989	162	0.902	207	0.914	252	0.999	297	0.841	342	0.527
28	0.579	73	0.907	118	0.988	163	0.901	208	0.915	253	1.000	298	0.834	343	0.523
29	0.586	74	0.913	119	0.986	164	0.900	209	0.917	254	1.000	299	0.827	344	0.519
30	0.592	75	0.919	120	0.984	165	0.899	210	0.919	255	1.000	300	0.819	345	0.515
31	0.599	76	0.924	121	0.982	166	0.899	211	0.921	256	1.000	301	0.811	346	0.512
32	0.605	77	0.929	122	0.980	167	0.898	212	0.923	257	1.000	302	0.804	347	0.508
33	0.612	78	0.934	123	0.978	168	0.897	213	0.925	258	0.999	303	0.796	348	0.505
34	0.619	79	0.939	124	0.976	169	0.897	214	0.927	259	0.999	304	0.788	349	0.503
35	0.626	80	0.944	125	0.974	170	0.896	215	0.929	260	0.998	305	0.781	350	0.500
36	0.633	81	0.949	126	0.972	171	0.896	216	0.931	261	0.997	306	0.773	351	0.498
37	0.641	82	0.953	127	0.970	172	0.895	217	0.933	262	0.996	307	0.765	352	0.496
38	0.648	83	0.957	128	0.968	173	0.895	218	0.936	263	0.995	308	0.757	353	0.494
39	0.656	84	0.961	129	0.965	174	0.894	219	0.938	264	0.993	309	0.749	354	0.492
40	0.663	85	0.965	130	0.963	175	0.894	220	0.940	265	0.992	310	0.741	355	0.491
41	0.671	86	0.969	131	0.961	176	0.894	221	0.942	266	0.990	311	0.733	356	0.490
42	0.678	87	0.972	132	0.958	177	0.893	222	0.945	267	0.988	312	0.725	357	0.489
43	0.686	88	0.975	133	0.956	178	0.893	223	0.947	268	0.986	313	0.717	358	0.488
44	0.694	89	0.978	134	0.954	179	0.893	224	0.949	269	0.984	314	0.709	359	0.488



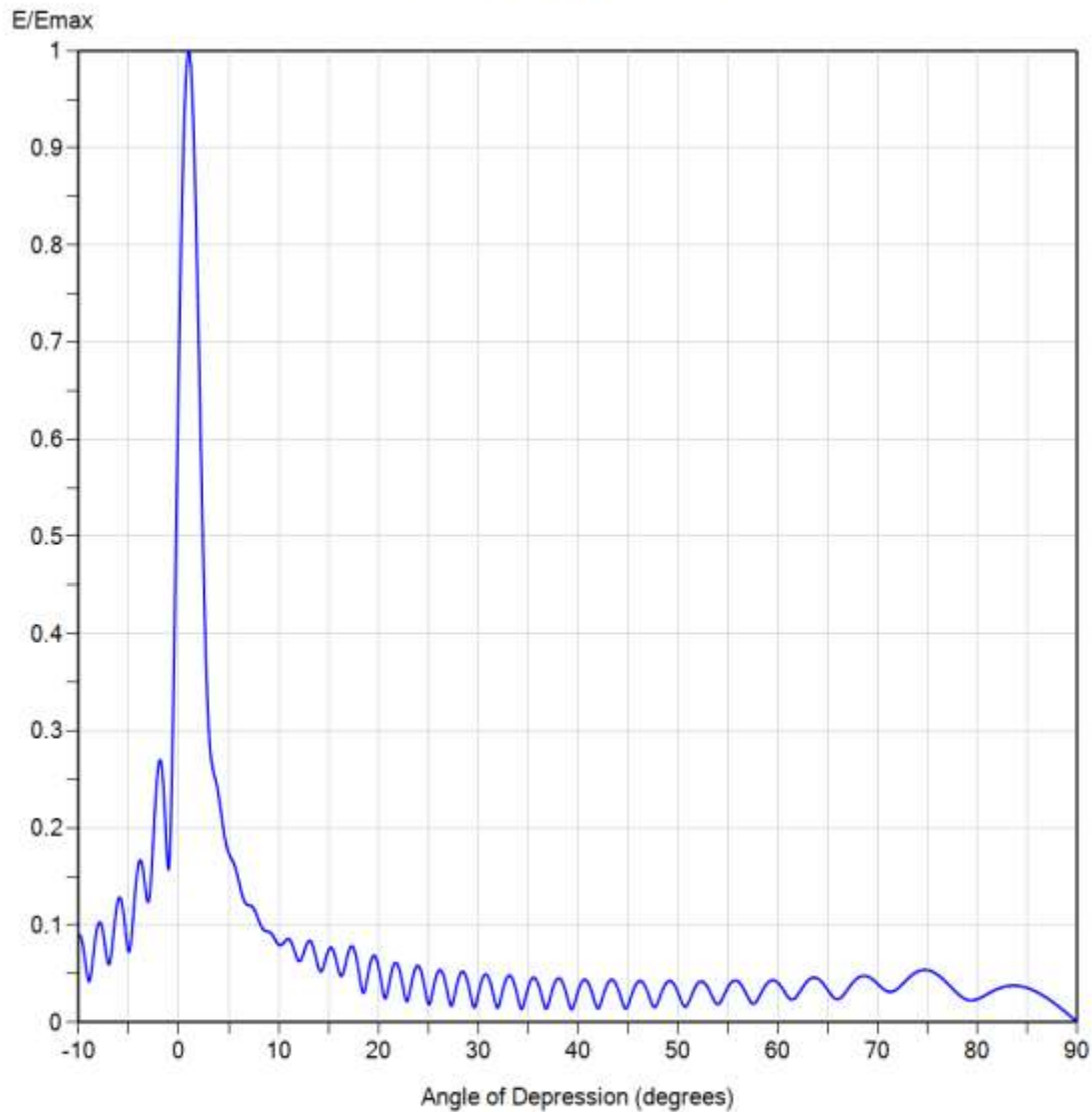
## Elevation Pattern



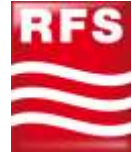
Model:	SAA28-ATW_WC-E400-ET6R-33	Frequency:	587.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	27.1 (14.33 dBd)
Location:	WINSTON-SALEM	Directivity (At Horizon):	12.2 (10.85 dBd)
Customer:	University of North Carolina	Beam Tilt:	1.00 degrees
Date:	June 7, 2018	Azimuth Angle:	105 degrees



## Elevation Pattern



Model:	SAA28-ATW_WC-E400-ET6R-33	Frequency:	587.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	27.1 (14.33 dBd)
Location:	WINSTON-SALEM	Directivity (At Horizon):	12.2 (10.85 dBd)
Customer:	University of North Carolina	Beam Tilt:	1.00 degrees
Date:	June 7, 2018	Azimuth Angle:	105 degrees



Model: **SAA28-ATW\_WC-E400-ET6R-33**  
Location: **WINSTON-SALEM**  
Customer: **University of North Carolina**  
Date: **June 7, 2018**

Polarization: **Horizontal**  
Frequency (MHz): **587.00**  
Directivity (Main Lobe): **27.1 (14.33 dB)**  
Directivity (At Horizon): **12.2 (10.85 dB)**  
Beam Tilt: **1.00 degrees**

### TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.090	2.4	0.504	10.6	0.083	30.5	0.047	51.0	0.019	71.5	0.032
-9.5	0.072	2.6	0.418	10.8	0.085	31.0	0.047	51.5	0.031	72.0	0.035
-9.0	0.042	2.8	0.349	11.0	0.086	31.5	0.029	52.0	0.040	72.5	0.039
-8.5	0.074	3.0	0.302	11.5	0.076	32.0	0.015	52.5	0.042	73.0	0.045
-8.0	0.102	3.2	0.275	12.0	0.063	32.5	0.035	53.0	0.035	73.5	0.049
-7.5	0.087	3.4	0.261	12.5	0.071	33.0	0.048	53.5	0.025	74.0	0.052
-7.0	0.059	3.6	0.253	13.0	0.083	33.5	0.043	54.0	0.018	74.5	0.054
-6.5	0.095	3.8	0.244	13.5	0.076	34.0	0.023	54.5	0.026	75.0	0.054
-6.0	0.128	4.0	0.233	14.0	0.056	34.5	0.016	55.0	0.036	75.5	0.052
-5.5	0.109	4.2	0.218	14.5	0.057	35.0	0.036	55.5	0.042	76.0	0.049
-5.0	0.072	4.4	0.203	15.0	0.074	35.5	0.046	56.0	0.042	76.5	0.045
-4.5	0.118	4.6	0.190	15.5	0.073	36.0	0.039	56.5	0.036	77.0	0.040
-4.0	0.164	4.8	0.180	16.0	0.053	36.5	0.021	57.0	0.026	77.5	0.034
-3.5	0.150	5.0	0.174	16.5	0.052	37.0	0.018	57.5	0.019	78.0	0.030
-3.0	0.125	5.2	0.170	17.0	0.072	37.5	0.036	58.0	0.024	78.5	0.025
-2.8	0.144	5.4	0.166	17.5	0.077	38.0	0.045	58.5	0.033	79.0	0.023
-2.6	0.179	5.6	0.161	18.0	0.054	38.5	0.039	59.0	0.041	79.5	0.023
-2.4	0.216	5.8	0.154	18.5	0.030	39.0	0.022	59.5	0.043	80.0	0.024
-2.2	0.248	6.0	0.145	19.0	0.052	39.5	0.015	60.0	0.041	80.5	0.026
-2.0	0.267	6.2	0.137	19.5	0.068	40.0	0.032	60.5	0.034	81.0	0.029
-1.8	0.269	6.4	0.129	20.0	0.057	40.5	0.043	61.0	0.026	81.5	0.032
-1.6	0.251	6.6	0.124	20.5	0.029	41.0	0.041	61.5	0.023	82.0	0.034
-1.4	0.217	6.8	0.121	21.0	0.036	41.5	0.026	62.0	0.028	82.5	0.036
-1.2	0.175	7.0	0.121	21.5	0.058	42.0	0.014	62.5	0.036	83.0	0.037
-1.0	0.158	7.2	0.120	22.0	0.057	42.5	0.027	63.0	0.043	83.5	0.038
-0.8	0.203	7.4	0.118	22.5	0.034	43.0	0.041	63.5	0.046	84.0	0.038
-0.6	0.300	7.6	0.115	23.0	0.025	43.5	0.043	64.0	0.045	84.5	0.037
-0.4	0.420	7.8	0.110	23.5	0.049	44.0	0.034	64.5	0.040	85.0	0.035
-0.2	0.547	8.0	0.105	24.0	0.058	44.5	0.018	65.0	0.033	85.5	0.033
0.0	0.670	8.2	0.100	24.5	0.043	45.0	0.017	65.5	0.026	86.0	0.031
0.2	0.781	8.4	0.096	25.0	0.019	45.5	0.033	66.0	0.024	86.5	0.028
0.4	0.875	8.6	0.094	25.5	0.035	46.0	0.042	66.5	0.027	87.0	0.025
0.6	0.944	8.8	0.094	26.0	0.053	46.5	0.040	67.0	0.034	87.5	0.021
0.8	0.987	9.0	0.093	26.5	0.049	47.0	0.030	67.5	0.041	88.0	0.017
1.0	1.000	9.2	0.092	27.0	0.026	47.5	0.017	68.0	0.046	88.5	0.013
1.2	0.985	9.4	0.090	27.5	0.022	48.0	0.021	68.5	0.048	89.0	0.009
1.4	0.942	9.6	0.086	28.0	0.045	48.5	0.034	69.0	0.047	89.5	0.004
1.6	0.877	9.8	0.082	28.5	0.052	49.0	0.042	69.5	0.044	90.0	
1.8	0.794	10.0	0.080	29.0	0.039	49.5	0.040	70.0	0.039		
2.0	0.699	10.2	0.079	29.5	0.016	50.0	0.030	70.5	0.035		
2.2	0.600	10.4	0.081	30.0	0.029	50.5	0.018	71.0	0.032		