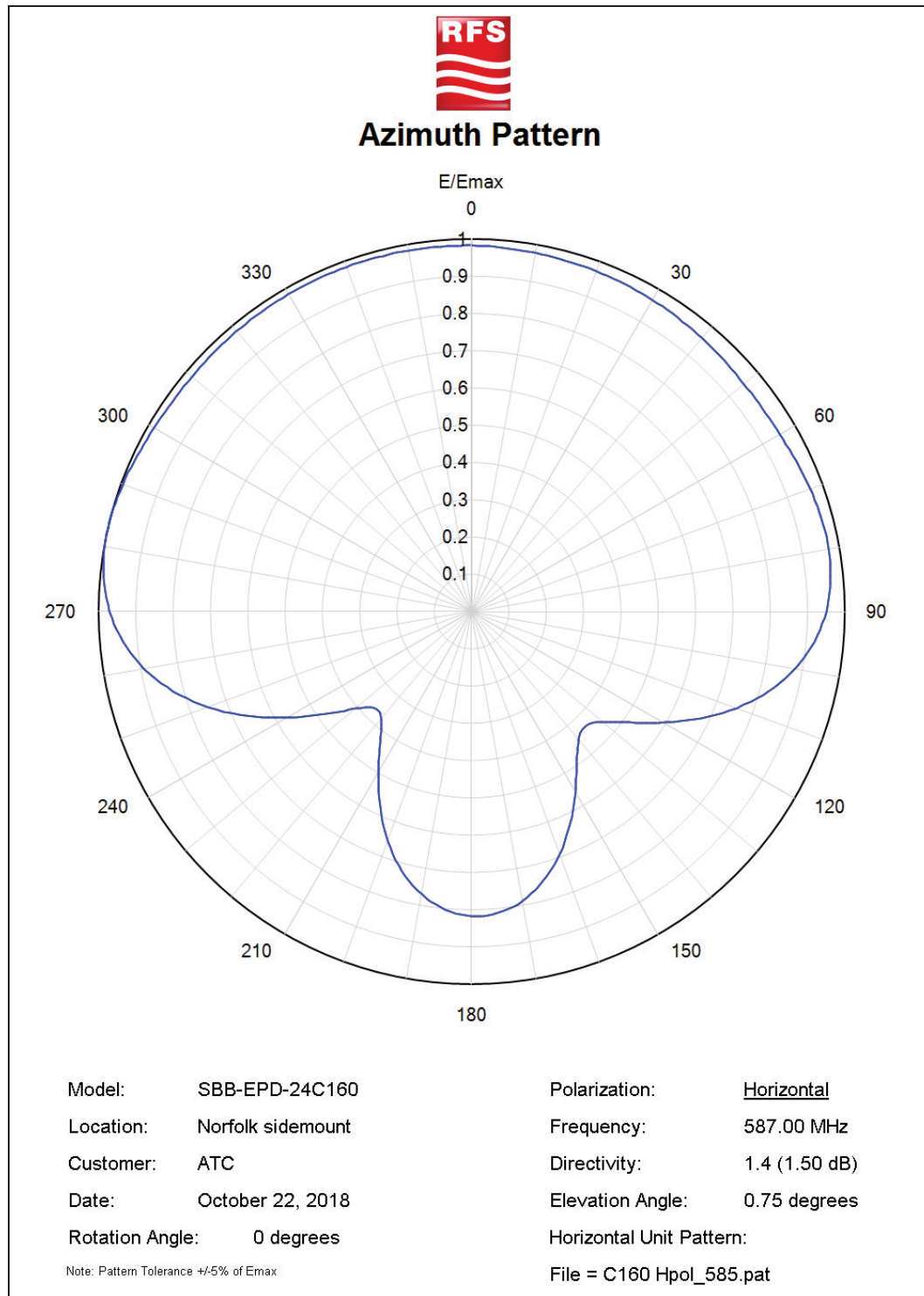


CH US33 RADIATION PATTERNS



Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Horizontal**
 Frequency (MHz): **587.00**
 Directivity: **1.4 (1.50 dB)**
 Elevation Angle: **0.75 degrees**
 Rotation Angle: **0 degrees**



TABULATED AZIMUTH PATTERN

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.982	45	0.954	90	0.950	135	0.434	180	0.817	225	0.367	270	0.970	315	0.980
1	0.982	46	0.954	91	0.946	136	0.434	181	0.816	226	0.371	271	0.975	316	0.980
2	0.981	47	0.953	92	0.941	137	0.435	182	0.814	227	0.377	272	0.980	317	0.980
3	0.981	48	0.953	93	0.935	138	0.437	183	0.811	228	0.385	273	0.984	318	0.980
4	0.981	49	0.952	94	0.929	139	0.441	184	0.808	229	0.395	274	0.987	319	0.981
5	0.980	50	0.952	95	0.922	140	0.447	185	0.803	230	0.406	275	0.990	320	0.981
6	0.980	51	0.951	96	0.915	141	0.453	186	0.798	231	0.419	276	0.993	321	0.981
7	0.979	52	0.951	97	0.907	142	0.461	187	0.792	232	0.432	277	0.995	322	0.981
8	0.979	53	0.951	98	0.899	143	0.471	188	0.786	233	0.447	278	0.996	323	0.981
9	0.978	54	0.951	99	0.890	144	0.481	189	0.779	234	0.463	279	0.998	324	0.982
10	0.978	55	0.951	100	0.881	145	0.492	190	0.771	235	0.480	280	0.999	325	0.982
11	0.977	56	0.951	101	0.871	146	0.504	191	0.762	236	0.497	281	0.999	326	0.982
12	0.977	57	0.952	102	0.860	147	0.516	192	0.753	237	0.515	282	1.000	327	0.982
13	0.976	58	0.952	103	0.849	148	0.529	193	0.743	238	0.533	283	1.000	328	0.982
14	0.976	59	0.953	104	0.837	149	0.542	194	0.732	239	0.552	284	1.000	329	0.983
15	0.975	60	0.953	105	0.825	150	0.556	195	0.721	240	0.570	285	1.000	330	0.983
16	0.975	61	0.954	106	0.812	151	0.570	196	0.709	241	0.589	286	0.999	331	0.983
17	0.974	62	0.955	107	0.799	152	0.584	197	0.697	242	0.608	287	0.998	332	0.983
18	0.973	63	0.956	108	0.786	153	0.598	198	0.684	243	0.626	288	0.997	333	0.983
19	0.973	64	0.957	109	0.771	154	0.612	199	0.670	244	0.645	289	0.996	334	0.983
20	0.972	65	0.958	110	0.757	155	0.626	200	0.656	245	0.663	290	0.995	335	0.983
21	0.972	66	0.960	111	0.742	156	0.639	201	0.642	246	0.682	291	0.994	336	0.983
22	0.971	67	0.961	112	0.726	157	0.653	202	0.627	247	0.699	292	0.993	337	0.983
23	0.971	68	0.962	113	0.711	158	0.666	203	0.612	248	0.717	293	0.992	338	0.983
24	0.970	69	0.964	114	0.695	159	0.679	204	0.596	249	0.734	294	0.991	339	0.983
25	0.969	70	0.965	115	0.679	160	0.692	205	0.581	250	0.751	295	0.989	340	0.983
26	0.969	71	0.966	116	0.662	161	0.704	206	0.565	251	0.767	296	0.988	341	0.984
27	0.968	72	0.967	117	0.646	162	0.715	207	0.549	252	0.783	297	0.987	342	0.984
28	0.968	73	0.968	118	0.629	163	0.726	208	0.533	253	0.798	298	0.986	343	0.984
29	0.967	74	0.969	119	0.613	164	0.737	209	0.517	254	0.813	299	0.985	344	0.984
30	0.966	75	0.970	120	0.597	165	0.747	210	0.501	255	0.827	300	0.984	345	0.984
31	0.965	76	0.971	121	0.580	166	0.757	211	0.485	256	0.841	301	0.983	346	0.984
32	0.965	77	0.972	122	0.565	167	0.766	212	0.470	257	0.854	302	0.982	347	0.984
33	0.964	78	0.972	123	0.549	168	0.774	213	0.455	258	0.866	303	0.982	348	0.984
34	0.963	79	0.972	124	0.534	169	0.781	214	0.441	259	0.878	304	0.981	349	0.984
35	0.962	80	0.972	125	0.520	170	0.788	215	0.427	260	0.890	305	0.981	350	0.984
36	0.962	81	0.971	126	0.506	171	0.794	216	0.415	261	0.900	306	0.980	351	0.984
37	0.961	82	0.971	127	0.493	172	0.800	217	0.403	262	0.911	307	0.980	352	0.983
38	0.960	83	0.969	128	0.481	173	0.805	218	0.393	263	0.920	308	0.980	353	0.983
39	0.959	84	0.968	129	0.471	174	0.809	219	0.384	264	0.929	309	0.980	354	0.983
40	0.958	85	0.966	130	0.461	175	0.812	220	0.376	265	0.937	310	0.979	355	0.983
41	0.958	86	0.964	131	0.453	176	0.815	221	0.371	266	0.945	311	0.979	356	0.983
42	0.957	87	0.961	132	0.446	177	0.816	222	0.367	267	0.952	312	0.979	357	0.983
43	0.956	88	0.958	133	0.440	178	0.818	223	0.365	268	0.959	313	0.980	358	0.982
44	0.955	89	0.954	134	0.437	179	0.818	224	0.365	269	0.965	314	0.980	359	0.982

Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Horizontal**
 Frequency (MHz): **587.00**
 Directivity: **1.4 (1.50 dB)**
 Elevation Angle: **0.75 degrees**
 Rotation Angle: **0 degrees**

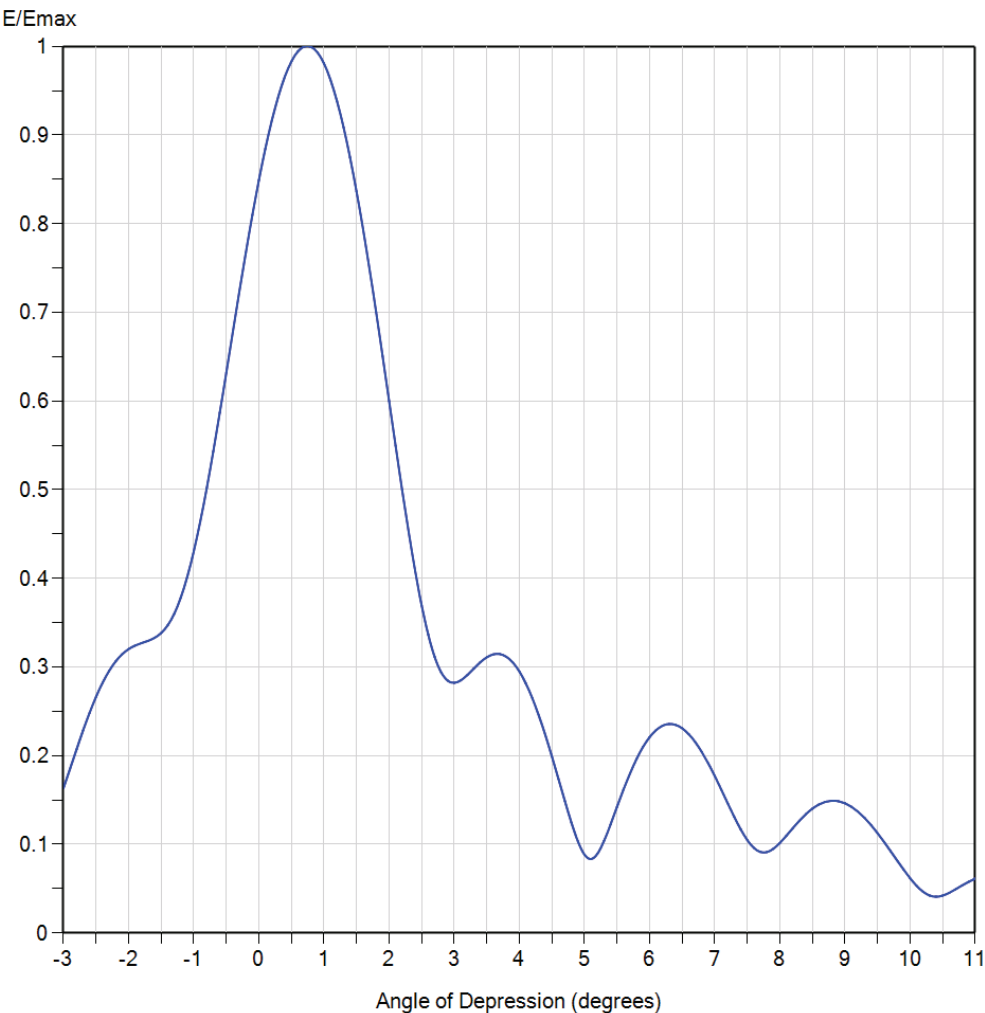


TABULATED AZIMUTH ERP

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	540.0	45	510.1	90	505.7	135	105.6	180	374.1	225	75.5	270	527.2	315	537.6
1	539.6	46	509.4	91	500.9	136	105.3	181	372.9	226	77.2	271	532.6	316	537.8
2	539.3	47	508.7	92	495.5	137	105.8	182	371.1	227	79.8	272	537.4	317	538.0
3	538.9	48	508.1	93	489.7	138	107.0	183	368.5	228	83.1	273	541.7	318	538.2
4	538.4	49	507.5	94	483.3	139	109.0	184	365.3	229	87.3	274	545.6	319	538.5
5	538.0	50	507.1	95	476.4	140	111.7	185	361.4	230	92.3	275	548.9	320	538.7
6	537.5	51	506.7	96	469.0	141	115.1	186	356.9	231	98.1	276	551.7	321	539.0
7	537.0	52	506.5	97	461.1	142	119.2	187	351.7	232	104.7	277	554.1	322	539.2
8	536.5	53	506.3	98	452.7	143	124.0	188	345.9	233	112.1	278	556.0	323	539.5
9	536.0	54	506.3	99	443.8	144	129.4	189	339.6	234	120.2	279	557.5	324	539.7
10	535.4	55	506.4	100	434.4	145	135.4	190	332.7	235	128.9	280	558.7	325	539.9
11	534.9	56	506.7	101	424.6	146	142.0	191	325.2	236	138.4	281	559.4	326	540.1
12	534.3	57	507.0	102	414.3	147	149.1	192	317.3	237	148.5	282	559.9	327	540.3
13	533.7	58	507.5	103	403.7	148	156.6	193	308.9	238	159.1	283	560.0	328	540.5
14	533.1	59	508.2	104	392.7	149	164.6	194	300.1	239	170.3	284	559.9	329	540.6
15	532.5	60	508.9	105	381.3	150	173.0	195	291.0	240	182.1	285	559.5	330	540.8
16	531.9	61	509.8	106	369.6	151	181.7	196	281.5	241	194.2	286	558.8	331	540.9
17	531.3	62	510.8	107	357.7	152	190.8	197	271.7	242	206.8	287	558.1	332	541.0
18	530.7	63	511.9	108	345.5	153	200.1	198	261.7	243	219.7	288	557.1	333	541.1
19	530.1	64	513.1	109	333.2	154	209.5	199	251.4	244	233.0	289	556.0	334	541.2
20	529.5	65	514.4	110	320.7	155	219.2	200	241.1	245	246.4	290	554.8	335	541.3
21	528.8	66	515.7	111	308.1	156	228.9	201	230.6	246	260.1	291	553.5	336	541.4
22	528.2	67	517.1	112	295.5	157	238.7	202	220.1	247	273.9	292	552.2	337	541.5
23	527.6	68	518.5	113	282.9	158	248.5	203	209.6	248	287.8	293	550.9	338	541.5
24	526.9	69	519.9	114	270.3	159	258.2	204	199.1	249	301.8	294	549.5	339	541.6
25	526.3	70	521.4	115	257.9	160	267.8	205	188.8	250	315.7	295	548.2	340	541.7
26	525.6	71	522.7	116	245.6	161	277.3	206	178.6	251	329.5	296	546.9	341	541.7
27	524.9	72	524.0	117	233.6	162	286.5	207	168.6	252	343.2	297	545.6	342	541.8
28	524.2	73	525.2	118	221.8	163	295.6	208	158.9	253	356.8	298	544.4	343	541.8
29	523.5	74	526.3	119	210.4	164	304.3	209	149.5	254	370.1	299	543.3	344	541.8
30	522.8	75	527.3	120	199.3	165	312.6	210	140.4	255	383.2	300	542.3	345	541.8
31	522.0	76	528.1	121	188.7	166	320.6	211	131.8	256	395.9	301	541.3	346	541.9
32	521.2	77	528.6	122	178.5	167	328.2	212	123.6	257	408.4	302	540.5	347	541.9
33	520.4	78	529.0	123	168.9	168	335.3	213	115.9	258	420.4	303	539.8	348	541.8
34	519.6	79	529.0	124	159.8	169	341.9	214	108.8	259	432.1	304	539.1	349	541.8
35	518.8	80	528.8	125	151.3	170	348.0	215	102.2	260	443.3	305	538.6	350	541.8
36	517.9	81	528.3	126	143.4	171	353.5	216	96.3	261	454.0	306	538.1	351	541.7
37	517.0	82	527.4	127	136.3	172	358.4	217	91.0	262	464.3	307	537.8	352	541.6
38	516.1	83	526.2	128	129.8	173	362.7	218	86.4	263	474.0	308	537.5	353	541.5
39	515.3	84	524.6	129	124.0	174	366.4	219	82.5	264	483.3	309	537.3	354	541.4
40	514.4	85	522.6	130	119.0	175	369.4	220	79.3	265	492.0	310	537.2	355	541.2
41	513.5	86	520.1	131	114.8	176	371.7	221	77.0	266	500.1	311	537.2	356	541.0
42	512.6	87	517.2	132	111.3	177	373.3	222	75.4	267	507.7	312	537.2	357	540.8
43	511.7	88	513.9	133	108.6	178	374.3	223	74.6	268	514.8	313	537.3	358	540.6
44	510.9	89	510.0	134	106.7	179	374.5	224	74.7	269	521.2	314	537.4	359	540.3



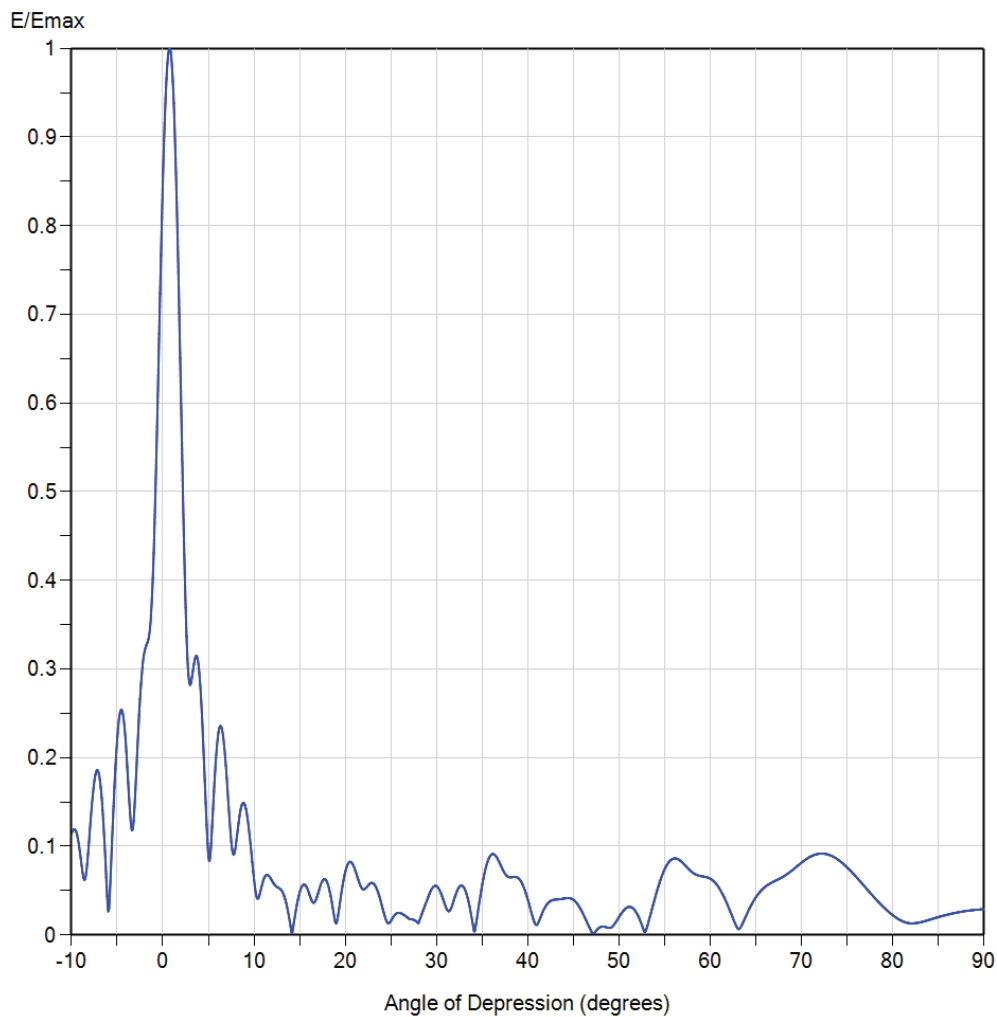
Elevation Pattern



Model:	SBB-EPD-24C160	Frequency:	587.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	22.6 (13.54 dBd)
Location:	Norfolk sidemount	Directivity (At Horizon):	16.3 (12.12 dBd)
Customer:	ATC	Beam Tilt:	0.75 degrees
Date:	October 22, 2018	Azimuth Angle:	283 degrees



Elevation Pattern



Model: SBB-EPD-24C160

Frequency: 587.00 MHz

Polarization: Horizontal

Directivity (Main Lobe): 22.6 (13.54 dBd)

Location: Norfolk sidemount

Directivity (At Horizon): 16.3 (12.12 dBd)

Customer: ATC

Beam Tilt: 0.75 degrees

Date: October 22, 2018

Azimuth Angle: 283 degrees

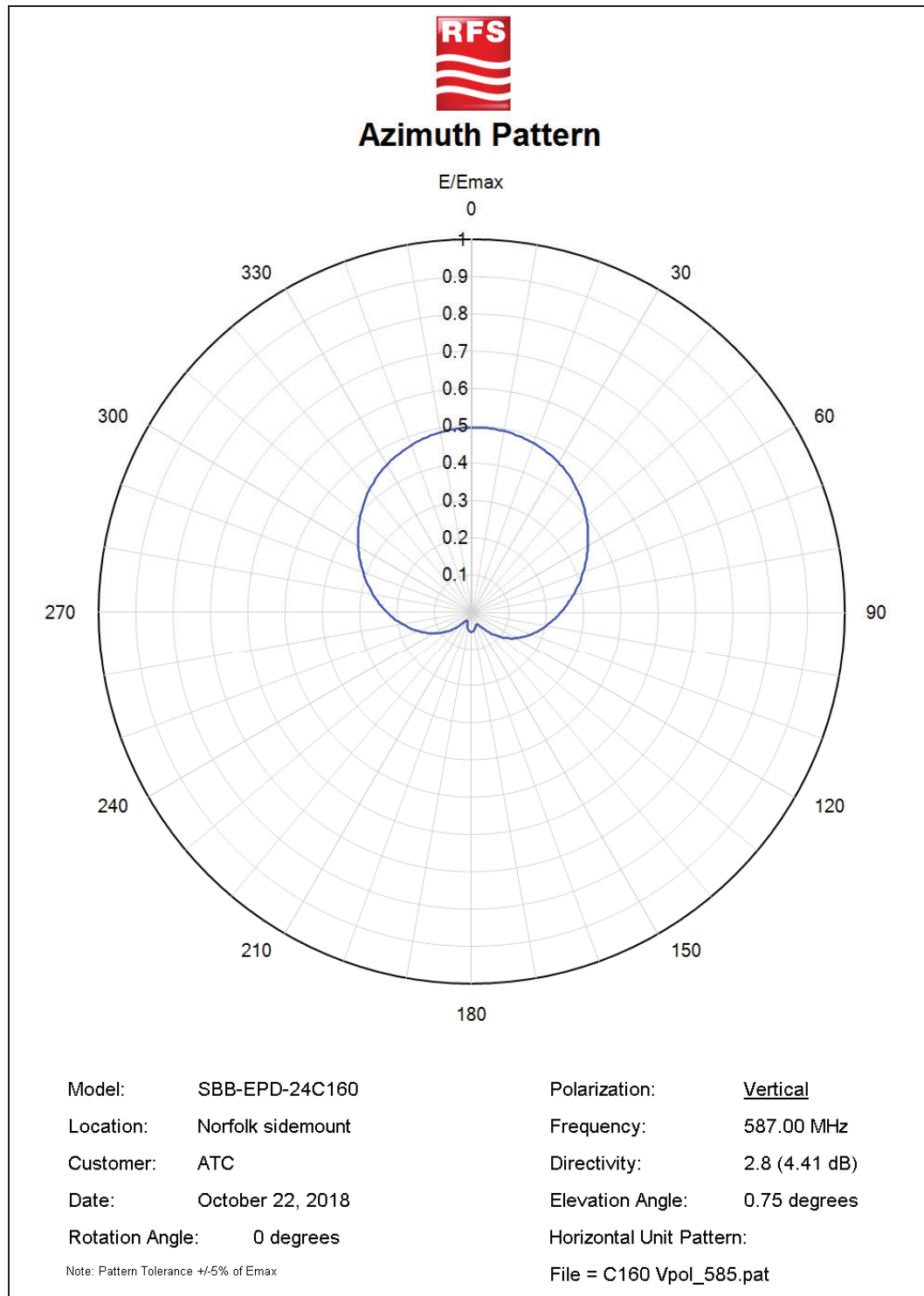
Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Horizontal**
 Frequency (MHz): **587.00**
 Directivity (Main Lobe): **22.6 (13.54 dB)**
 Directivity (At Horizon): **16.3 (12.12 dB)**
 Beam Tilt: **0.75 degrees**



TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.114	2.4	0.408	10.6	0.045	30.5	0.046	51.0	0.032	71.5	0.091
-9.5	0.117	2.6	0.337	10.8	0.054	31.0	0.032	51.5	0.030	72.0	0.092
-9.0	0.086	2.8	0.294	11.0	0.061	31.5	0.028	52.0	0.023	72.5	0.092
-8.5	0.064	3.0	0.282	11.5	0.068	32.0	0.043	52.5	0.011	73.0	0.090
-8.0	0.118	3.2	0.291	12.0	0.060	32.5	0.054	53.0	0.007	73.5	0.088
-7.5	0.174	3.4	0.305	12.5	0.054	33.0	0.053	53.5	0.025	74.0	0.085
-7.0	0.181	3.6	0.314	13.0	0.050	33.5	0.037	54.0	0.044	74.5	0.081
-6.5	0.124	3.8	0.312	13.5	0.037	34.0	0.010	54.5	0.061	75.0	0.076
-6.0	0.028	4.0	0.295	14.0	0.010	34.5	0.025	55.0	0.074	75.5	0.071
-5.5	0.122	4.2	0.265	14.5	0.023	35.0	0.057	55.5	0.083	76.0	0.065
-5.0	0.221	4.4	0.223	15.0	0.048	35.5	0.080	56.0	0.086	76.5	0.059
-4.5	0.254	4.6	0.174	15.5	0.057	36.0	0.091	56.5	0.085	77.0	0.053
-4.0	0.207	4.8	0.124	16.0	0.048	36.5	0.089	57.0	0.081	77.5	0.048
-3.5	0.125	5.0	0.088	16.5	0.036	37.0	0.079	57.5	0.076	78.0	0.042
-3.0	0.164	5.2	0.089	17.0	0.047	37.5	0.069	58.0	0.071	78.5	0.036
-2.8	0.207	5.4	0.122	17.5	0.061	38.0	0.065	58.5	0.068	79.0	0.031
-2.6	0.248	5.6	0.162	18.0	0.060	38.5	0.066	59.0	0.066	79.5	0.026
-2.4	0.282	5.8	0.196	18.5	0.038	39.0	0.064	59.5	0.065	80.0	0.022
-2.2	0.306	6.0	0.221	19.0	0.013	39.5	0.055	60.0	0.063	80.5	0.019
-2.0	0.320	6.2	0.234	19.5	0.043	40.0	0.040	60.5	0.059	81.0	0.016
-1.8	0.327	6.4	0.235	20.0	0.072	40.5	0.021	61.0	0.052	81.5	0.014
-1.6	0.333	6.6	0.224	20.5	0.083	41.0	0.012	61.5	0.043	82.0	0.013
-1.4	0.347	6.8	0.204	21.0	0.075	41.5	0.023	62.0	0.031	82.5	0.013
-1.2	0.378	7.0	0.177	21.5	0.059	42.0	0.033	62.5	0.018	83.0	0.014
-1.0	0.430	7.2	0.146	22.0	0.051	42.5	0.038	63.0	0.007	83.5	0.016
-0.8	0.502	7.4	0.117	22.5	0.056	43.0	0.040	63.5	0.012	84.0	0.017
-0.6	0.587	7.6	0.096	23.0	0.059	43.5	0.040	64.0	0.024	84.5	0.019
-0.4	0.678	7.8	0.091	23.5	0.050	44.0	0.041	64.5	0.034	85.0	0.020
-0.2	0.767	8.0	0.101	24.0	0.033	44.5	0.042	65.0	0.043	85.5	0.022
0.0	0.849	8.2	0.118	24.5	0.016	45.0	0.040	65.5	0.049	86.0	0.023
0.2	0.917	8.4	0.134	25.0	0.016	45.5	0.034	66.0	0.054	86.5	0.024
0.4	0.966	8.6	0.145	25.5	0.023	46.0	0.025	66.5	0.058	87.0	0.025
0.6	0.994	8.8	0.149	26.0	0.025	46.5	0.014	67.0	0.060	87.5	0.026
0.8	1.000	9.0	0.146	26.5	0.022	47.0	0.003	67.5	0.063	88.0	0.027
1.0	0.981	9.2	0.137	27.0	0.018	47.5	0.005	68.0	0.066	88.5	0.028
1.2	0.938	9.4	0.122	27.5	0.017	48.0	0.009	68.5	0.069	89.0	0.028
1.4	0.875	9.6	0.103	28.0	0.013	48.5	0.009	69.0	0.073	89.5	0.029
1.6	0.794	9.8	0.082	28.5	0.027	49.0	0.008	69.5	0.077	90.0	0.029
1.8	0.701	10.0	0.062	29.0	0.040	49.5	0.012	70.0	0.082		
2.0	0.600	10.2	0.046	29.5	0.052	50.0	0.020	70.5	0.085		
2.2	0.500	10.4	0.041	30.0	0.055	50.5	0.028	71.0	0.088		



Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Vertical**
 Frequency (MHz): **587.00**
 Directivity: **2.8 (4.41 dB)**
 Elevation Angle: **0.75 degrees**
 Rotation Angle: **0 degrees**



TABULATED AZIMUTH PATTERN

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.494	45	0.418	90	0.239	135	0.086	180	0.053	225	0.059	270	0.226	315	0.409
1	0.495	46	0.415	91	0.235	136	0.082	181	0.053	226	0.062	271	0.230	316	0.413
2	0.495	47	0.411	92	0.231	137	0.079	182	0.053	227	0.066	272	0.234	317	0.416
3	0.495	48	0.407	93	0.228	138	0.075	183	0.053	228	0.069	273	0.238	318	0.420
4	0.495	49	0.404	94	0.224	139	0.072	184	0.052	229	0.073	274	0.242	319	0.423
5	0.495	50	0.400	95	0.220	140	0.069	185	0.052	230	0.076	275	0.246	320	0.426
6	0.494	51	0.396	96	0.217	141	0.065	186	0.052	231	0.080	276	0.250	321	0.430
7	0.494	52	0.392	97	0.213	142	0.062	187	0.051	232	0.084	277	0.254	322	0.433
8	0.494	53	0.388	98	0.210	143	0.059	188	0.050	233	0.087	278	0.259	323	0.436
9	0.493	54	0.384	99	0.207	144	0.056	189	0.050	234	0.091	279	0.263	324	0.439
10	0.493	55	0.380	100	0.203	145	0.053	190	0.049	235	0.095	280	0.267	325	0.442
11	0.492	56	0.376	101	0.200	146	0.050	191	0.048	236	0.098	281	0.271	326	0.445
12	0.491	57	0.372	102	0.197	147	0.047	192	0.047	237	0.102	282	0.275	327	0.447
13	0.490	58	0.368	103	0.193	148	0.045	193	0.046	238	0.106	283	0.279	328	0.450
14	0.490	59	0.364	104	0.190	149	0.043	194	0.044	239	0.109	284	0.283	329	0.453
15	0.489	60	0.360	105	0.187	150	0.041	195	0.043	240	0.113	285	0.287	330	0.455
16	0.488	61	0.356	106	0.184	151	0.039	196	0.042	241	0.117	286	0.292	331	0.457
17	0.486	62	0.352	107	0.180	152	0.038	197	0.040	242	0.120	287	0.296	332	0.460
18	0.485	63	0.347	108	0.177	153	0.036	198	0.039	243	0.124	288	0.300	333	0.462
19	0.484	64	0.343	109	0.174	154	0.036	199	0.037	244	0.128	289	0.304	334	0.464
20	0.482	65	0.339	110	0.171	155	0.035	200	0.036	245	0.131	290	0.308	335	0.466
21	0.481	66	0.335	111	0.168	156	0.035	201	0.034	246	0.135	291	0.312	336	0.468
22	0.479	67	0.331	112	0.165	157	0.035	202	0.033	247	0.139	292	0.317	337	0.470
23	0.478	68	0.327	113	0.161	158	0.035	203	0.031	248	0.142	293	0.321	338	0.472
24	0.476	69	0.322	114	0.158	159	0.035	204	0.030	249	0.146	294	0.325	339	0.474
25	0.474	70	0.318	115	0.155	160	0.036	205	0.029	250	0.150	295	0.329	340	0.476
26	0.472	71	0.314	116	0.152	161	0.037	206	0.027	251	0.153	296	0.334	341	0.477
27	0.470	72	0.310	117	0.149	162	0.038	207	0.026	252	0.157	297	0.338	342	0.479
28	0.468	73	0.306	118	0.145	163	0.039	208	0.026	253	0.161	298	0.342	343	0.480
29	0.466	74	0.302	119	0.142	164	0.040	209	0.025	254	0.165	299	0.346	344	0.482
30	0.463	75	0.298	120	0.139	165	0.041	210	0.025	255	0.168	300	0.350	345	0.483
31	0.461	76	0.293	121	0.135	166	0.042	211	0.026	256	0.172	301	0.354	346	0.484
32	0.458	77	0.289	122	0.132	167	0.043	212	0.026	257	0.176	302	0.359	347	0.486
33	0.456	78	0.285	123	0.129	168	0.044	213	0.027	258	0.180	303	0.363	348	0.487
34	0.453	79	0.281	124	0.125	169	0.045	214	0.029	259	0.183	304	0.367	349	0.488
35	0.450	80	0.277	125	0.122	170	0.046	215	0.030	260	0.187	305	0.371	350	0.489
36	0.448	81	0.273	126	0.118	171	0.047	216	0.032	261	0.191	306	0.375	351	0.490
37	0.445	82	0.269	127	0.115	172	0.048	217	0.035	262	0.195	307	0.379	352	0.490
38	0.442	83	0.265	128	0.111	173	0.049	218	0.037	263	0.199	308	0.383	353	0.491
39	0.439	84	0.261	129	0.108	174	0.050	219	0.040	264	0.203	309	0.387	354	0.492
40	0.435	85	0.258	130	0.104	175	0.051	220	0.043	265	0.207	310	0.391	355	0.493
41	0.432	86	0.254	131	0.100	176	0.051	221	0.046	266	0.211	311	0.395	356	0.493
42	0.429	87	0.250	132	0.097	177	0.052	222	0.049	267	0.214	312	0.398	357	0.494
43	0.425	88	0.246	133	0.093	178	0.052	223	0.052	268	0.218	313	0.402	358	0.494
44	0.422	89	0.242	134	0.090	179	0.053	224	0.055	269	0.222	314	0.406	359	0.494

Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Vertical**
 Frequency (MHz): **587.00**
 Directivity: **2.8 (4.41 dB)**
 Elevation Angle: **0.75 degrees**
 Rotation Angle: **0 degrees**

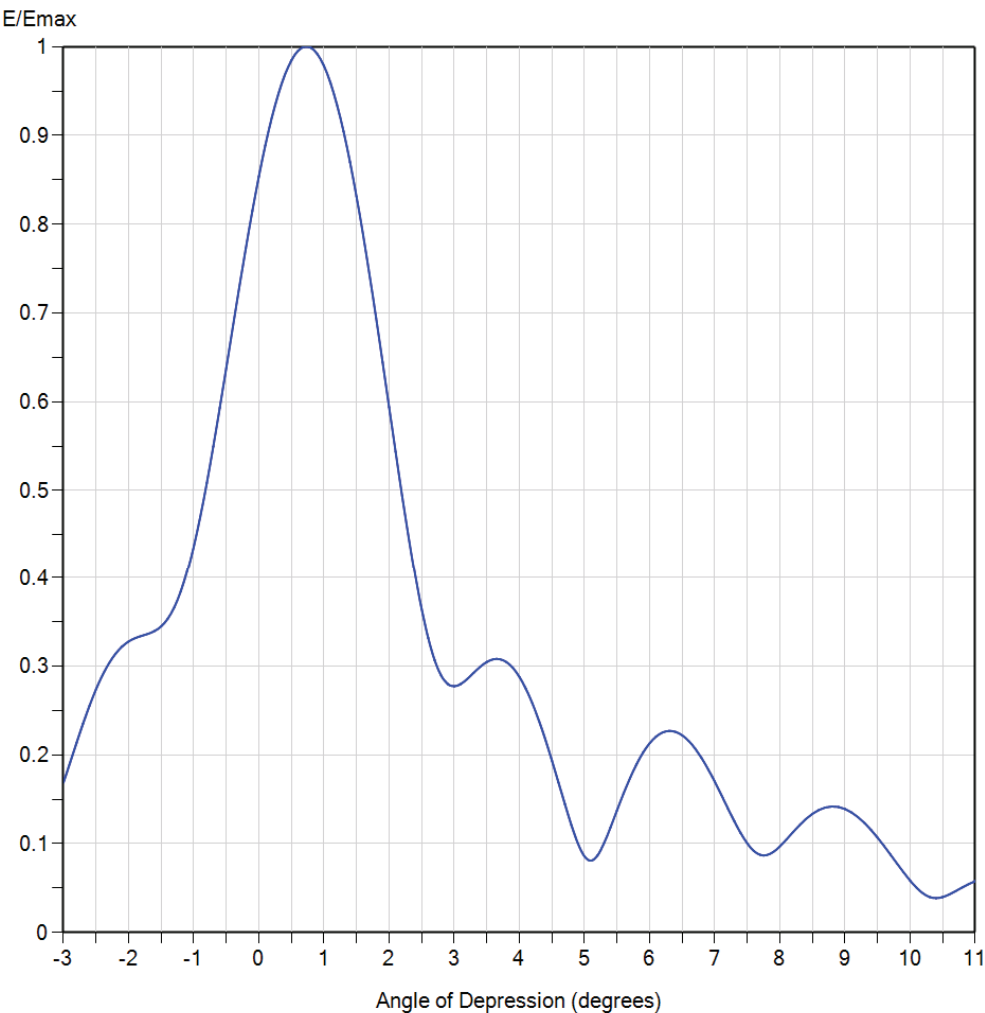


TABULATED AZIMUTH ERP

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	137.3	45	98.3	90	32.0	135	4.2	180	1.6	225	1.9	270	28.8	315	94.1
1	137.4	46	96.6	91	31.0	136	3.8	181	1.6	226	2.2	271	29.8	316	95.8
2	137.5	47	94.9	92	30.0	137	3.5	182	1.6	227	2.4	272	30.8	317	97.4
3	137.5	48	93.2	93	29.1	138	3.2	183	1.6	228	2.7	273	31.9	318	99.0
4	137.4	49	91.5	94	28.2	139	2.9	184	1.5	229	3.0	274	33.0	319	100.6
5	137.3	50	89.8	95	27.3	140	2.6	185	1.5	230	3.3	275	34.1	320	102.2
6	137.2	51	88.1	96	26.4	141	2.4	186	1.5	231	3.6	276	35.2	321	103.7
7	137.1	52	86.4	97	25.6	142	2.2	187	1.5	232	3.9	277	36.4	322	105.2
8	136.8	53	84.6	98	24.8	143	1.9	188	1.4	233	4.3	278	37.5	323	106.7
9	136.6	54	82.9	99	24.0	144	1.7	189	1.4	234	4.6	279	38.7	324	108.2
10	136.3	55	81.2	100	23.2	145	1.6	190	1.3	235	5.0	280	40.0	325	109.6
11	135.9	56	79.5	101	22.4	146	1.4	191	1.3	236	5.4	281	41.2	326	111.0
12	135.5	57	77.8	102	21.7	147	1.3	192	1.2	237	5.8	282	42.5	327	112.4
13	135.1	58	76.1	103	21.0	148	1.1	193	1.2	238	6.3	283	43.8	328	113.7
14	134.6	59	74.4	104	20.3	149	1.0	194	1.1	239	6.7	284	45.1	329	115.0
15	134.1	60	72.7	105	19.6	150	0.9	195	1.0	240	7.2	285	46.4	330	116.3
16	133.5	61	71.1	106	18.9	151	0.9	196	1.0	241	7.6	286	47.7	331	117.5
17	132.9	62	69.4	107	18.3	152	0.8	197	0.9	242	8.1	287	49.1	332	118.7
18	132.2	63	67.8	108	17.7	153	0.7	198	0.8	243	8.6	288	50.5	333	119.9
19	131.5	64	66.2	109	17.0	154	0.7	199	0.8	244	9.1	289	51.9	334	121.1
20	130.7	65	64.6	110	16.4	155	0.7	200	0.7	245	9.7	290	53.4	335	122.1
21	129.9	66	63.0	111	15.8	156	0.7	201	0.7	246	10.2	291	54.8	336	123.2
22	129.0	67	61.4	112	15.2	157	0.7	202	0.6	247	10.8	292	56.3	337	124.2
23	128.1	68	59.9	113	14.6	158	0.7	203	0.5	248	11.4	293	57.8	338	125.2
24	127.2	69	58.4	114	14.1	159	0.7	204	0.5	249	12.0	294	59.4	339	126.2
25	126.2	70	56.9	115	13.5	160	0.7	205	0.5	250	12.6	295	60.9	340	127.1
26	125.2	71	55.4	116	13.0	161	0.8	206	0.4	251	13.2	296	62.5	341	128.0
27	124.1	72	54.0	117	12.4	162	0.8	207	0.4	252	13.9	297	64.1	342	128.8
28	123.0	73	52.5	118	11.9	163	0.8	208	0.4	253	14.5	298	65.7	343	129.6
29	121.8	74	51.1	119	11.3	164	0.9	209	0.4	254	15.2	299	67.3	344	130.4
30	120.6	75	49.7	120	10.8	165	0.9	210	0.4	255	15.9	300	68.9	345	131.1
31	119.3	76	48.4	121	10.3	166	1.0	211	0.4	256	16.6	301	70.6	346	131.8
32	118.0	77	47.0	122	9.8	167	1.0	212	0.4	257	17.4	302	72.2	347	132.4
33	116.7	78	45.7	123	9.3	168	1.1	213	0.4	258	18.1	303	73.9	348	133.1
34	115.3	79	44.4	124	8.8	169	1.2	214	0.5	259	18.9	304	75.6	349	133.6
35	113.9	80	43.2	125	8.3	170	1.2	215	0.5	260	19.7	305	77.3	350	134.2
36	112.5	81	41.9	126	7.9	171	1.3	216	0.6	261	20.5	306	79.0	351	134.7
37	111.0	82	40.7	127	7.4	172	1.3	217	0.7	262	21.3	307	80.7	352	135.1
38	109.5	83	39.5	128	6.9	173	1.4	218	0.8	263	22.2	308	82.4	353	135.5
39	108.0	84	38.4	129	6.5	174	1.4	219	0.9	264	23.1	309	84.1	354	135.9
40	106.4	85	37.2	130	6.1	175	1.4	220	1.0	265	24.0	310	85.7	355	136.3
41	104.9	86	36.1	131	5.7	176	1.5	221	1.2	266	24.9	311	87.4	356	136.5
42	103.3	87	35.1	132	5.3	177	1.5	222	1.3	267	25.8	312	89.1	357	136.8
43	101.6	88	34.0	133	4.9	178	1.5	223	1.5	268	26.8	313	90.8	358	137.0
44	100.0	89	33.0	134	4.5	179	1.5	224	1.7	269	27.8	314	92.5	359	137.2



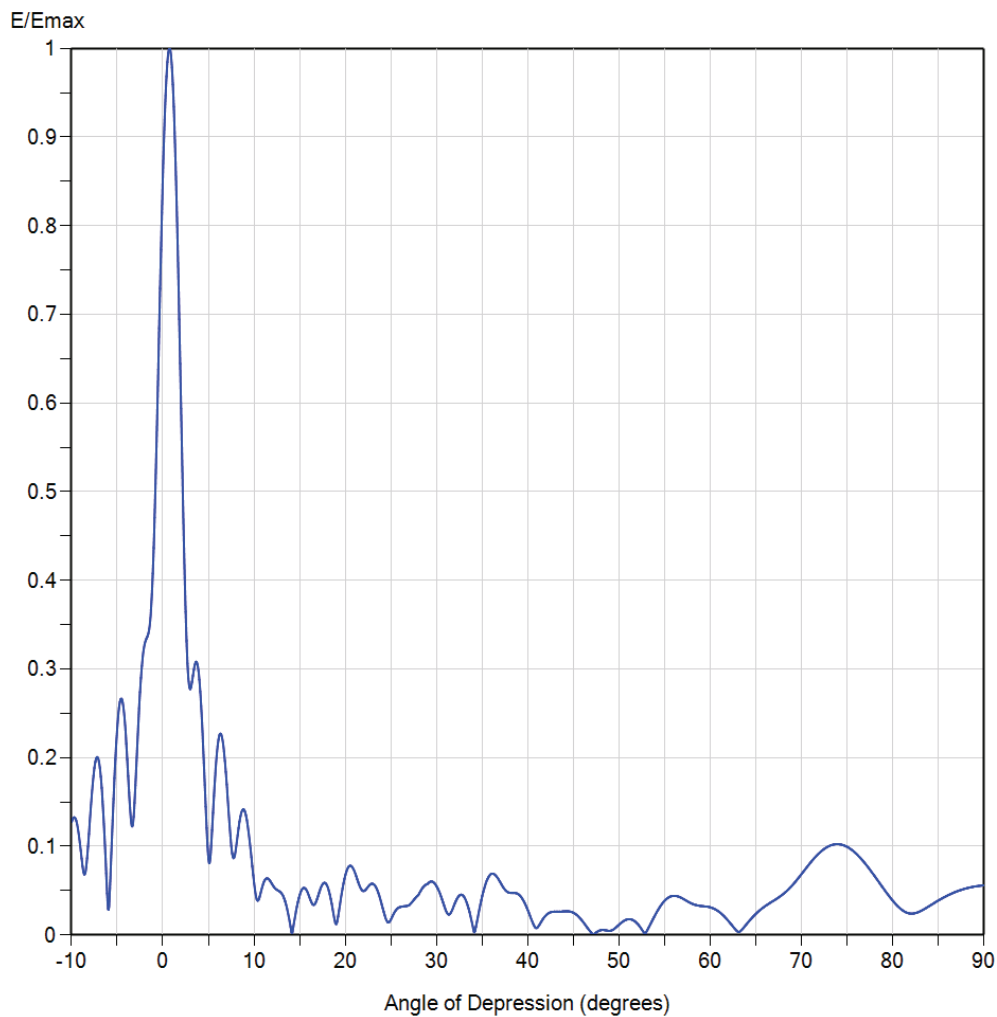
Elevation Pattern



Model:	SBB-EPD-24C160	Frequency:	587.00 MHz
Polarization:	<u>Vertical</u>	Directivity (Main Lobe):	22.2 (13.46 dBd)
Location:	Norfolk sidemount	Directivity (At Horizon):	16.2 (12.09 dBd)
Customer:	ATC	Beam Tilt:	0.75 degrees
Date:	October 22, 2018	Azimuth Angle:	3 degrees



Elevation Pattern



Model: SBB-EPD-24C160

Frequency: 587.00 MHz

Polarization: Vertical

Directivity (Main Lobe): 22.2 (13.46 dBd)

Location: Norfolk sidemount

Directivity (At Horizon): 16.2 (12.09 dBd)

Customer: ATC

Beam Tilt: 0.75 degrees

Date: October 22, 2018

Azimuth Angle: 3 degrees

Model: **SBB-EPD-24C160**
 Location: **Norfolk sidemount**
 Customer: **ATC**
 Date: **October 22, 2018**

Polarization: **Vertical**
 Frequency (MHz): **587.00**
 Directivity (Main Lobe): **22.2 (13.46 dB)**
 Directivity (At Horizon): **16.2 (12.09 dB)**
 Beam Tilt: **0.75 degrees**



TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.127	2.4	0.403	10.6	0.043	30.5	0.043	51.0	0.018	71.5	0.088
-9.5	0.129	2.6	0.332	10.8	0.051	31.0	0.028	51.5	0.017	72.0	0.093
-9.0	0.095	2.8	0.289	11.0	0.058	31.5	0.024	52.0	0.013	72.5	0.097
-8.5	0.070	3.0	0.277	11.5	0.064	32.0	0.036	52.5	0.006	73.0	0.100
-8.0	0.129	3.2	0.286	12.0	0.057	32.5	0.045	53.0	0.004	73.5	0.102
-7.5	0.189	3.4	0.299	12.5	0.051	33.0	0.043	53.5	0.014	74.0	0.102
-7.0	0.195	3.6	0.308	13.0	0.047	33.5	0.030	54.0	0.023	74.5	0.101
-6.5	0.133	3.8	0.305	13.5	0.034	34.0	0.008	54.5	0.032	75.0	0.099
-6.0	0.030	4.0	0.288	14.0	0.009	34.5	0.019	55.0	0.039	75.5	0.096
-5.5	0.129	4.2	0.258	14.5	0.021	35.0	0.044	55.5	0.043	76.0	0.091
-5.0	0.233	4.4	0.217	15.0	0.045	35.5	0.061	56.0	0.044	76.5	0.086
-4.5	0.266	4.6	0.169	15.5	0.053	36.0	0.069	56.5	0.043	77.0	0.080
-4.0	0.216	4.8	0.121	16.0	0.044	36.5	0.067	57.0	0.041	77.5	0.073
-3.5	0.130	5.0	0.086	16.5	0.034	37.0	0.059	57.5	0.038	78.0	0.066
-3.0	0.169	5.2	0.087	17.0	0.044	37.5	0.051	58.0	0.035	78.5	0.059
-2.8	0.213	5.4	0.118	17.5	0.057	38.0	0.048	58.5	0.033	79.0	0.052
-2.6	0.256	5.6	0.156	18.0	0.056	38.5	0.047	59.0	0.033	79.5	0.045
-2.4	0.290	5.8	0.189	18.5	0.035	39.0	0.046	59.5	0.032	80.0	0.038
-2.2	0.314	6.0	0.213	19.0	0.012	39.5	0.039	60.0	0.031	80.5	0.033
-2.0	0.328	6.2	0.225	19.5	0.040	40.0	0.028	60.5	0.029	81.0	0.028
-1.8	0.334	6.4	0.226	20.0	0.067	40.5	0.015	61.0	0.026	81.5	0.025
-1.6	0.340	6.6	0.216	20.5	0.078	41.0	0.008	61.5	0.021	82.0	0.024
-1.4	0.353	6.8	0.196	21.0	0.072	41.5	0.015	62.0	0.015	82.5	0.025
-1.2	0.384	7.0	0.170	21.5	0.057	42.0	0.022	62.5	0.009	83.0	0.027
-1.0	0.437	7.2	0.140	22.0	0.049	42.5	0.026	63.0	0.004	83.5	0.030
-0.8	0.508	7.4	0.112	22.5	0.054	43.0	0.026	63.5	0.006	84.0	0.033
-0.6	0.593	7.6	0.092	23.0	0.058	43.5	0.026	64.0	0.013	84.5	0.036
-0.4	0.684	7.8	0.087	23.5	0.051	44.0	0.027	64.5	0.019	85.0	0.039
-0.2	0.773	8.0	0.097	24.0	0.034	44.5	0.027	65.0	0.024	85.5	0.042
0.0	0.854	8.2	0.113	24.5	0.017	45.0	0.025	65.5	0.029	86.0	0.045
0.2	0.920	8.4	0.128	25.0	0.018	45.5	0.021	66.0	0.032	86.5	0.047
0.4	0.969	8.6	0.138	25.5	0.027	46.0	0.015	66.5	0.036	87.0	0.049
0.6	0.995	8.8	0.142	26.0	0.031	46.5	0.008	67.0	0.039	87.5	0.051
0.8	0.999	9.0	0.139	26.5	0.032	47.0	0.002	67.5	0.042	88.0	0.052
1.0	0.978	9.2	0.130	27.0	0.034	47.5	0.003	68.0	0.046	88.5	0.054
1.2	0.935	9.4	0.116	27.5	0.040	48.0	0.005	68.5	0.051	89.0	0.055
1.4	0.870	9.6	0.097	28.0	0.045	48.5	0.005	69.0	0.056	89.5	0.055
1.6	0.788	9.8	0.078	28.5	0.054	49.0	0.005	69.5	0.062	90.0	0.056
1.8	0.695	10.0	0.058	29.0	0.057	49.5	0.007	70.0	0.069		
2.0	0.594	10.2	0.044	29.5	0.060	50.0	0.012	70.5	0.075		
2.2	0.494	10.4	0.039	30.0	0.055	50.5	0.016	71.0	0.082		

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