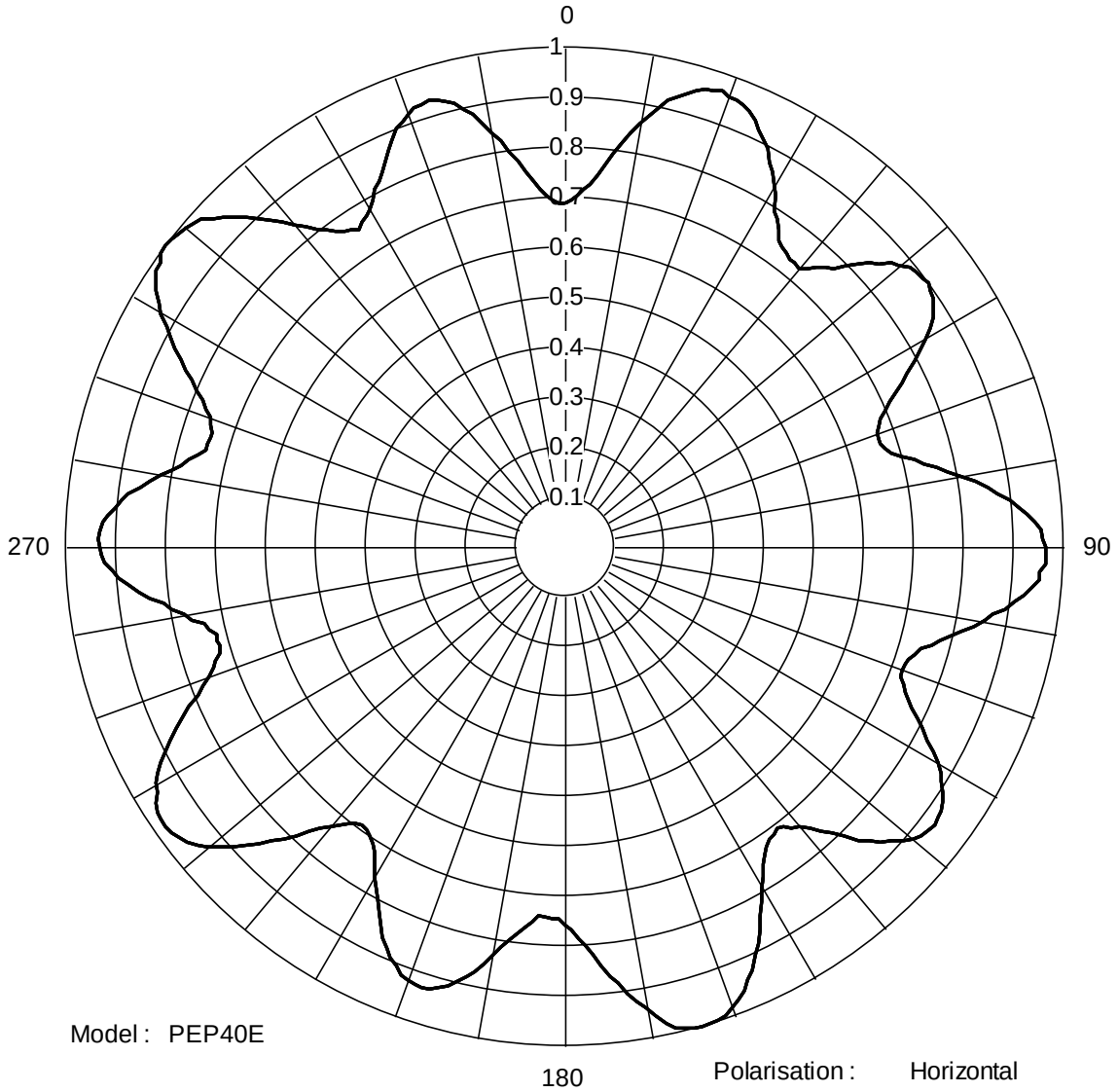
CH44 - 653MHz HPol HRP

Station : OWTC

E / Emax

Date : 22/03/2017



Model : PEP40E

Polarisation : Horizontal
Frequency (MHz) : 653.00
Directivity : 1.47 dB
Elevation Angle : 1.0 degrees
Horizontal Unit Pattern
File = HPOL gate_653.pat

Pattern Tolerance +/- 5% of Emax

0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	Er
–∞	-20	-14	-10.5	-8	-6	-4.4	-3.1	-1.9	-0.9	0	dB

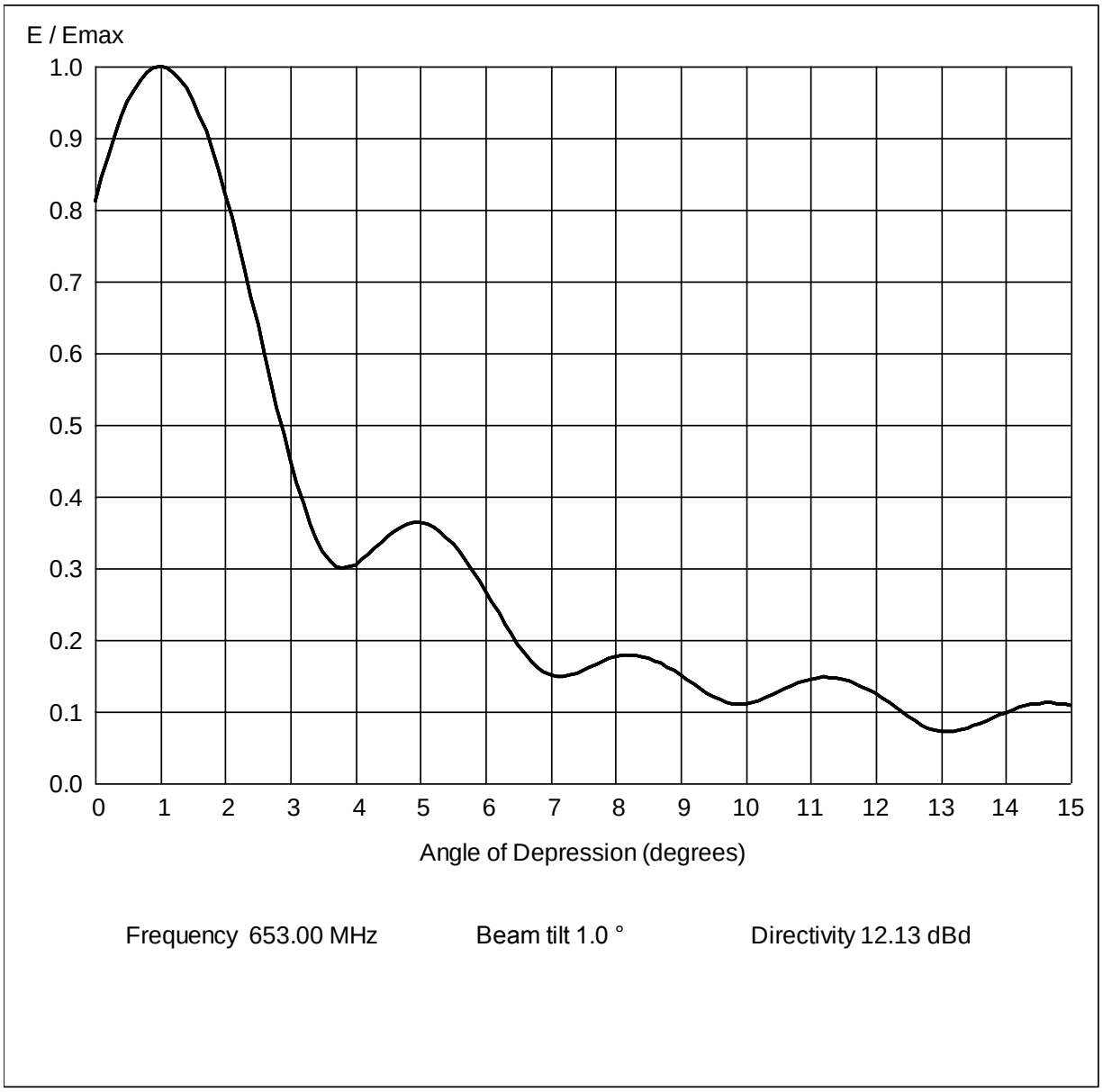
Voltage and Power Ratios
0 dB = Max ERP
Directivity : 1.47 dB

Model:		Polarisation:	**Horizontal**
Location:		Frequency (MHz):	**653.00**
Customer:		Directivity:	**1.4 (1.47 dB)**
Date:	**April 4, 2017**	Elevation Angle:	**1.00 degrees**
		Rotation Angle:	**19 degrees**

TABULATED AZIMUTH PATTERN

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.687	45	0.795	90	0.962	135	0.829	180	0.755	225	0.831	270	0.932	315	0.933
1	0.694	46	0.814	91	0.964	136	0.804	181	0.745	226	0.853	271	0.934	316	0.916
2	0.703	47	0.834	92	0.963	137	0.782	182	0.743	227	0.874	272	0.933	317	0.899
3	0.715	48	0.845	93	0.953	138	0.766	183	0.742	228	0.896	273	0.927	318	0.880
4	0.728	49	0.865	94	0.953	139	0.746	184	0.741	229	0.914	274	0.918	319	0.861
5	0.746	50	0.874	95	0.938	140	0.730	185	0.753	230	0.933	275	0.904	320	0.841
6	0.769	51	0.888	96	0.923	141	0.722	186	0.762	231	0.946	276	0.891	321	0.826
7	0.793	52	0.892	97	0.907	142	0.710	187	0.777	232	0.959	277	0.880	322	0.805
8	0.816	53	0.895	98	0.890	143	0.704	188	0.792	233	0.965	278	0.857	323	0.793
9	0.838	54	0.901	99	0.868	144	0.710	189	0.809	234	0.972	279	0.840	324	0.779
10	0.859	55	0.893	100	0.853	145	0.713	190	0.828	235	0.976	280	0.822	325	0.769
11	0.880	56	0.888	101	0.836	146	0.722	191	0.849	236	0.975	281	0.804	326	0.765
12	0.897	57	0.878	102	0.812	147	0.734	192	0.869	237	0.974	282	0.784	327	0.756
13	0.917	58	0.869	103	0.793	148	0.747	193	0.882	238	0.966	283	0.773	328	0.767
14	0.928	59	0.852	104	0.775	149	0.771	194	0.896	239	0.953	284	0.756	329	0.774
15	0.938	60	0.833	105	0.761	150	0.790	195	0.908	240	0.946	285	0.746	330	0.780
16	0.951	61	0.816	106	0.741	151	0.813	196	0.916	241	0.934	286	0.744	331	0.794
17	0.957	62	0.794	107	0.733	152	0.835	197	0.926	242	0.916	287	0.743	332	0.809
18	0.961	63	0.767	108	0.724	153	0.861	198	0.926	243	0.900	288	0.743	333	0.821
19	0.965	64	0.752	109	0.719	154	0.883	199	0.926	244	0.881	289	0.749	334	0.835
20	0.957	65	0.730	110	0.719	155	0.902	200	0.923	245	0.860	290	0.756	335	0.852
21	0.958	66	0.712	111	0.721	156	0.926	201	0.916	246	0.837	291	0.768	336	0.870
22	0.953	67	0.695	112	0.730	157	0.940	202	0.904	247	0.817	292	0.781	337	0.884
23	0.946	68	0.681	113	0.741	158	0.957	203	0.893	248	0.791	293	0.803	338	0.904
24	0.935	69	0.672	114	0.754	159	0.972	204	0.878	249	0.775	294	0.819	339	0.911
25	0.919	70	0.666	115	0.765	160	0.981	205	0.863	250	0.758	295	0.838	340	0.919
26	0.908	71	0.664	116	0.784	161	0.992	206	0.841	251	0.744	296	0.857	341	0.930
27	0.895	72	0.665	117	0.802	162	0.994	207	0.820	252	0.735	297	0.876	342	0.930
28	0.872	73	0.670	118	0.822	163	0.998	208	0.796	253	0.722	298	0.896	343	0.933
29	0.858	74	0.681	119	0.843	164	0.999	209	0.778	254	0.718	299	0.911	344	0.929
30	0.836	75	0.697	120	0.861	165	0.997	210	0.761	255	0.721	300	0.934	345	0.924
31	0.820	76	0.721	121	0.877	166	0.992	211	0.743	256	0.719	301	0.948	346	0.914
32	0.792	77	0.736	122	0.887	167	0.986	212	0.720	257	0.731	302	0.967	347	0.897
33	0.782	78	0.761	123	0.903	168	0.974	213	0.707	258	0.738	303	0.975	348	0.884
34	0.764	79	0.779	124	0.913	169	0.954	214	0.699	259	0.762	304	0.989	349	0.864
35	0.749	80	0.805	125	0.919	170	0.937	215	0.692	260	0.773	305	0.990	350	0.840
36	0.741	81	0.834	126	0.922	171	0.920	216	0.689	261	0.798	306	1.000	351	0.821
37	0.736	82	0.854	127	0.926	172	0.904	217	0.694	262	0.812	307	1.000	352	0.800
38	0.729	83	0.873	128	0.922	173	0.879	218	0.702	263	0.838	308	1.000	353	0.778
39	0.730	84	0.895	129	0.918	174	0.864	219	0.716	264	0.858	309	0.995	354	0.754
40	0.727	85	0.913	130	0.908	175	0.840	220	0.729	265	0.878	310	0.993	355	0.735
41	0.739	86	0.927	131	0.897	176	0.817	221	0.747	266	0.895	311	0.987	356	0.719
42	0.751	87	0.941	132	0.879	177	0.798	222	0.765	267	0.908	312	0.980	357	0.703
43	0.766	88	0.953	133	0.865	178	0.783	223	0.789	268	0.922	313	0.963	358	0.693
44	0.775	89	0.957	134	0.847	179	0.767	224	0.812	269	0.929	314	0.951	359	0.687

CH44 - 653MHz HPol VRP



Model:		Polarisation:	**Horizontal**
Location:		Frequency (MHz):	**653.00**
Customer:		Directivity (Main Lobe):	**16.3 (12.13 dB)**
Date:	**April 4, 2017**	Directivity (At Horizon):	**10.8 (10.32 dB)**
		Beam Tilt:	**1.00 degrees**

TABULATED ELEVATION PATTERN

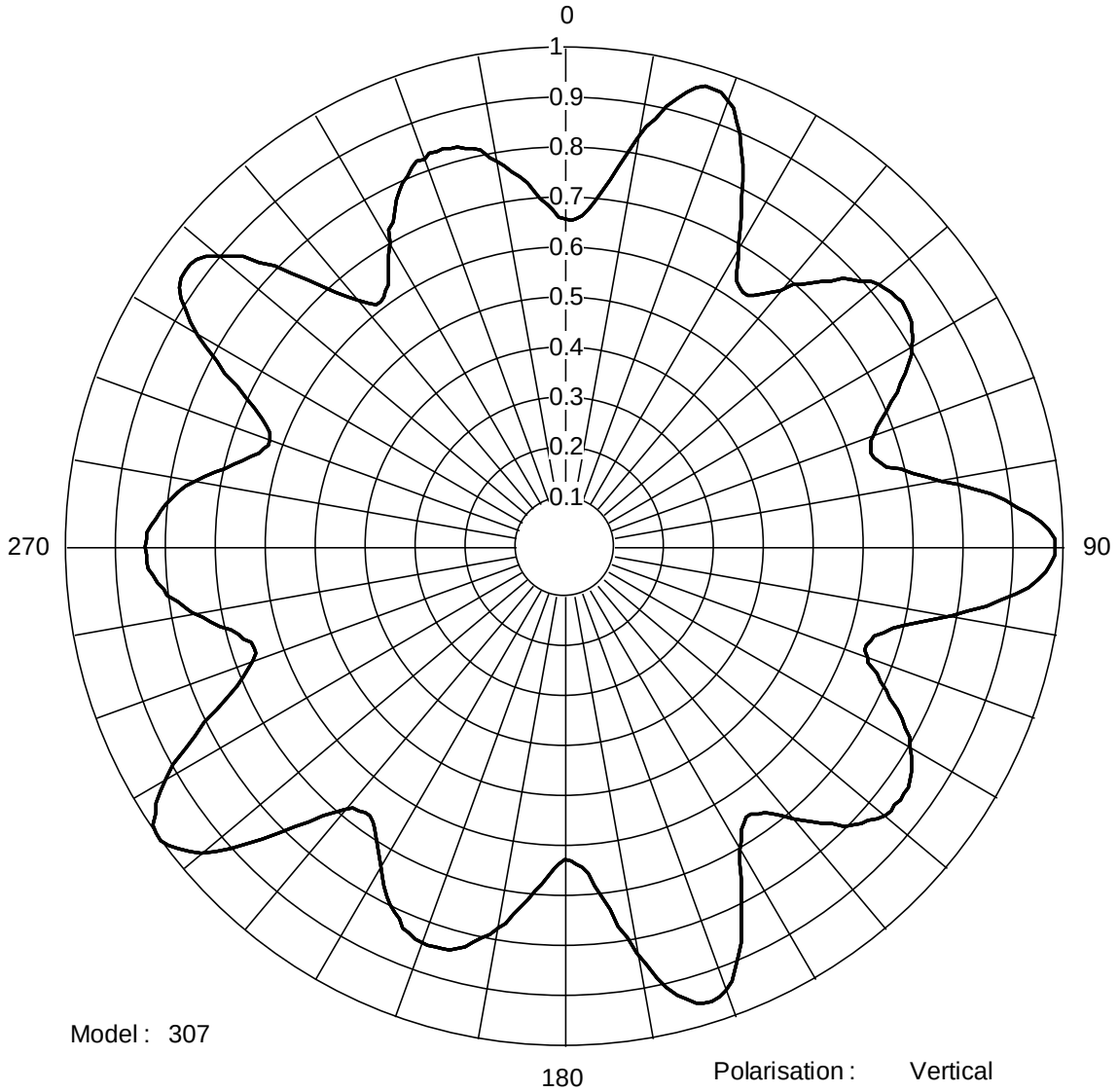
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.155	2.4	0.679	10.6	0.132	30.5	0.040	51.0	0.093	71.5	0.015
-9.5	0.167	2.6	0.601	10.8	0.140	31.0	0.042	51.5	0.094	72.0	0.014
-9.0	0.153	2.8	0.524	11.0	0.146	31.5	0.039	52.0	0.090	72.5	0.012
-8.5	0.119	3.0	0.451	11.5	0.145	32.0	0.033	52.5	0.081	73.0	0.011
-8.0	0.085	3.2	0.389	12.0	0.125	32.5	0.027	53.0	0.068	73.5	0.010
-7.5	0.078	3.4	0.340	12.5	0.093	33.0	0.026	53.5	0.053	74.0	0.009
-7.0	0.089	3.6	0.311	13.0	0.072	33.5	0.030	54.0	0.038	74.5	0.009
-6.5	0.085	3.8	0.300	13.5	0.080	34.0	0.036	54.5	0.031	75.0	0.009
-6.0	0.073	4.0	0.305	14.0	0.099	34.5	0.038	55.0	0.038	75.5	0.009
-5.5	0.120	4.2	0.320	14.5	0.112	35.0	0.036	55.5	0.054	76.0	0.009
-5.0	0.227	4.4	0.337	15.0	0.108	35.5	0.033	56.0	0.071	76.5	0.010
-4.5	0.350	4.6	0.352	15.5	0.089	36.0	0.029	56.5	0.087	77.0	0.010
-4.0	0.455	4.8	0.361	16.0	0.063	36.5	0.029	57.0	0.099	77.5	0.010
-3.5	0.514	5.0	0.364	16.5	0.043	37.0	0.034	57.5	0.108	78.0	0.010
-3.0	0.506	5.2	0.357	17.0	0.041	37.5	0.040	58.0	0.112	78.5	0.010
-2.8	0.480	5.4	0.343	17.5	0.042	38.0	0.044	58.5	0.116	79.0	0.011
-2.6	0.442	5.6	0.323	18.0	0.034	38.5	0.043	59.0	0.116	79.5	0.011
-2.4	0.394	5.8	0.298	18.5	0.030	39.0	0.039	59.5	0.112	80.0	0.011
-2.2	0.338	6.0	0.268	19.0	0.049	39.5	0.032	60.0	0.106	80.5	0.011
-2.0	0.279	6.2	0.238	19.5	0.082	40.0	0.026	60.5	0.097	81.0	0.011
-1.8	0.226	6.4	0.208	20.0	0.113	40.5	0.026	61.0	0.087	81.5	0.011
-1.6	0.200	6.6	0.181	20.5	0.133	41.0	0.032	61.5	0.077	82.0	0.011
-1.4	0.221	6.8	0.162	21.0	0.138	41.5	0.039	62.0	0.066	82.5	0.011
-1.2	0.283	7.0	0.151	21.5	0.126	42.0	0.045	62.5	0.056	83.0	0.010
-1.0	0.367	7.2	0.149	22.0	0.100	42.5	0.046	63.0	0.046	83.5	0.010
-0.8	0.461	7.4	0.154	22.5	0.066	43.0	0.043	63.5	0.038	84.0	0.010
-0.6	0.556	7.6	0.162	23.0	0.038	43.5	0.037	64.0	0.031	84.5	0.010
-0.4	0.648	7.8	0.170	23.5	0.039	44.0	0.030	64.5	0.027	85.0	0.010
-0.2	0.734	8.0	0.176	24.0	0.057	44.5	0.023	65.0	0.024	85.5	0.010
0.0	0.811	8.2	0.178	24.5	0.076	45.0	0.019	65.5	0.024	86.0	0.009
0.2	0.877	8.4	0.177	25.0	0.087	45.5	0.020	66.0	0.024	86.5	0.009
0.4	0.930	8.6	0.171	25.5	0.085	46.0	0.021	66.5	0.025	87.0	0.009
0.6	0.968	8.8	0.162	26.0	0.074	46.5	0.021	67.0	0.025	87.5	0.009
0.8	0.992	9.0	0.151	26.5	0.062	47.0	0.018	67.5	0.025	88.0	0.009
1.0	1.000	9.2	0.138	27.0	0.047	47.5	0.017	68.0	0.025	88.5	0.009
1.2	0.992	9.4	0.126	27.5	0.041	48.0	0.022	68.5	0.025	89.0	0.009
1.4	0.969	9.6	0.116	28.0	0.033	48.5	0.034	69.0	0.023	89.5	0.009
1.6	0.933	9.8	0.111	28.5	0.026	49.0	0.049	69.5	0.022	90.0	0.000
1.8	0.884	10.0	0.111	29.0	0.023	49.5	0.064	70.0	0.020		
2.0	0.824	10.2	0.116	29.5	0.027	50.0	0.077	70.5	0.018		
2.2	0.754	10.4	0.124	30.0	0.034	50.5	0.087	71.0	0.017		

CH44 - 653MHz VPol HRP

Station :

E / Emax

Date : 22/03/2017



Model : 307

Polarisation : Vertical
Frequency (MHz) : 653.00
Directivity : 2.13 dB
Elevation Angle : 0.9 degrees
Horizontal Unit Pattern
File = VPOL_gate_653.pat

Pattern Tolerance +/- 5% of Emax

0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	Er
$-\infty$	-20	-14	-10.5	-8	-6	-4.4	-3.1	-1.9	-0.9	0	dB

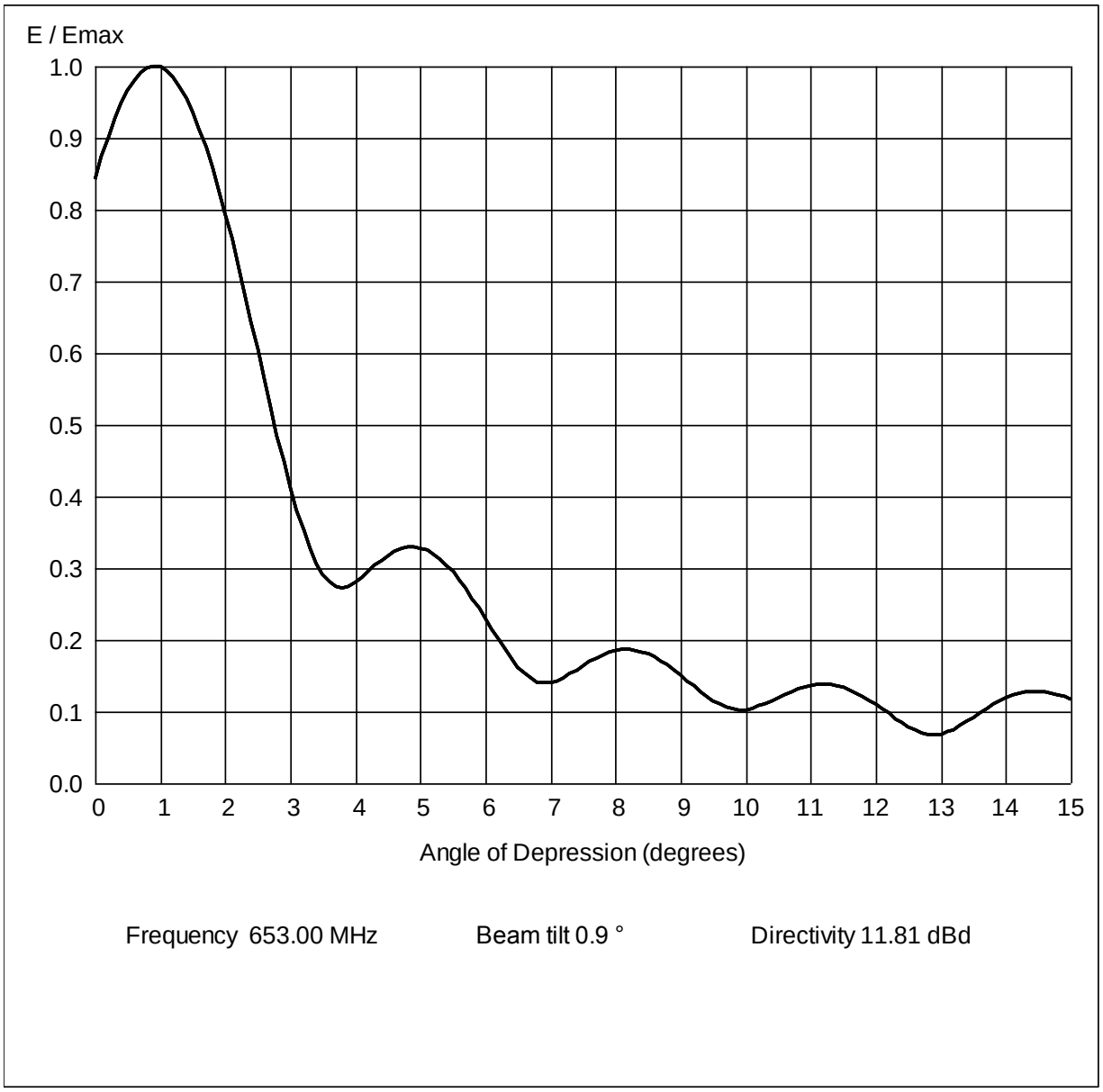
Voltage and Power Ratios
0 dB = Max ERP
Directivity : 2.13 dB

Model:		Polarisation:	**Vertical**
Location:		Frequency (MHz):	**653.00**
Customer:		Directivity:	**1.6 (2.13 dB)**
Date:	**April 4, 2017**	Elevation Angle:	**0.90 degrees**
		Rotation Angle:	**19 degrees**

TABULATED AZIMUTH PATTERN

Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field	Angl	Field
0	0.656	45	0.753	90	0.981	135	0.790	180	0.626	225	0.810	270	0.840	315	0.775
1	0.653	46	0.774	91	0.982	136	0.771	181	0.635	226	0.843	271	0.839	316	0.741
2	0.657	47	0.785	92	0.974	137	0.758	182	0.643	227	0.871	272	0.838	317	0.715
3	0.662	48	0.795	93	0.965	138	0.742	183	0.661	228	0.901	273	0.829	318	0.687
4	0.677	49	0.811	94	0.948	139	0.724	184	0.677	229	0.927	274	0.820	319	0.662
5	0.693	50	0.819	95	0.931	140	0.710	185	0.689	230	0.952	275	0.814	320	0.644
6	0.715	51	0.822	96	0.907	141	0.691	186	0.710	231	0.966	276	0.805	321	0.627
7	0.741	52	0.828	97	0.879	142	0.678	187	0.723	232	0.982	277	0.793	322	0.615
8	0.767	53	0.830	98	0.851	143	0.666	188	0.741	233	0.993	278	0.783	323	0.615
9	0.798	54	0.835	99	0.818	144	0.660	189	0.762	234	1.000	279	0.770	324	0.619
10	0.827	55	0.832	100	0.788	145	0.651	190	0.775	235	0.998	280	0.752	325	0.625
11	0.855	56	0.831	101	0.759	146	0.651	191	0.791	236	0.994	281	0.736	326	0.632
12	0.876	57	0.826	102	0.727	147	0.658	192	0.799	237	0.977	282	0.716	327	0.647
13	0.905	58	0.819	103	0.699	148	0.667	193	0.813	238	0.967	283	0.700	328	0.665
14	0.924	59	0.812	104	0.678	149	0.684	194	0.823	239	0.945	284	0.684	329	0.683
15	0.943	60	0.802	105	0.660	150	0.701	195	0.831	240	0.919	285	0.668	330	0.702
16	0.956	61	0.793	106	0.644	151	0.724	196	0.838	241	0.896	286	0.655	331	0.727
17	0.964	62	0.780	107	0.640	152	0.753	197	0.840	242	0.861	287	0.641	332	0.735
18	0.963	63	0.763	108	0.634	153	0.781	198	0.841	243	0.830	288	0.634	333	0.753
19	0.961	64	0.748	109	0.635	154	0.808	199	0.844	244	0.802	289	0.627	334	0.771
20	0.950	65	0.734	110	0.644	155	0.834	200	0.841	245	0.769	290	0.628	335	0.786
21	0.941	66	0.715	111	0.649	156	0.865	201	0.840	246	0.739	291	0.633	336	0.798
22	0.916	67	0.699	112	0.673	157	0.888	202	0.834	247	0.715	292	0.643	337	0.805
23	0.900	68	0.685	113	0.686	158	0.911	203	0.830	248	0.694	293	0.659	338	0.818
24	0.867	69	0.671	114	0.706	159	0.929	204	0.816	249	0.678	294	0.681	339	0.828
25	0.844	70	0.658	115	0.719	160	0.943	205	0.807	250	0.665	295	0.704	340	0.826
26	0.815	71	0.649	116	0.741	161	0.952	206	0.796	251	0.655	296	0.731	341	0.834
27	0.780	72	0.644	117	0.756	162	0.955	207	0.784	252	0.652	297	0.763	342	0.833
28	0.750	73	0.640	118	0.770	163	0.954	208	0.769	253	0.655	298	0.789	343	0.833
29	0.719	74	0.645	119	0.788	164	0.948	209	0.754	254	0.670	299	0.822	344	0.830
30	0.693	75	0.652	120	0.797	165	0.935	210	0.738	255	0.675	300	0.846	345	0.829
31	0.672	76	0.663	121	0.811	166	0.925	211	0.722	256	0.690	301	0.875	346	0.821
32	0.647	77	0.689	122	0.818	167	0.904	212	0.706	257	0.709	302	0.895	347	0.818
33	0.632	78	0.711	123	0.827	168	0.882	213	0.693	258	0.724	303	0.915	348	0.812
34	0.625	79	0.736	124	0.832	169	0.851	214	0.679	259	0.740	304	0.930	349	0.793
35	0.624	80	0.765	125	0.840	170	0.825	215	0.670	260	0.760	305	0.939	350	0.785
36	0.622	81	0.797	126	0.838	171	0.792	216	0.663	261	0.770	306	0.940	351	0.773
37	0.630	82	0.827	127	0.840	172	0.767	217	0.664	262	0.783	307	0.941	352	0.756
38	0.643	83	0.860	128	0.839	173	0.731	218	0.669	263	0.802	308	0.935	353	0.747
39	0.655	84	0.887	129	0.840	174	0.702	219	0.673	264	0.808	309	0.924	354	0.731
40	0.670	85	0.910	130	0.838	175	0.682	220	0.686	265	0.819	310	0.906	355	0.715
41	0.694	86	0.933	131	0.827	176	0.655	221	0.703	266	0.827	311	0.887	356	0.697
42	0.706	87	0.954	132	0.818	177	0.641	222	0.724	267	0.836	312	0.867	357	0.686
43	0.722	88	0.971	133	0.810	178	0.635	223	0.753	268	0.837	313	0.836	358	0.677
44	0.741	89	0.981	134	0.800	179	0.629	224	0.779	269	0.838	314	0.809	359	0.661

CH44 - 653MHz VPol VRP



Model:		Polarisation:	**Vertical**
Location:		Frequency (MHz):	**653.00**
Customer:		Directivity (Main Lobe):	**15.2 (11.81 dB)**
Date:	**April 4, 2017**	Directivity (At Horizon):	**10.8 (10.33 dB)**
		Beam Tilt:	**0.90 degrees**

TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.153	2.4	0.644	10.6	0.124	30.5	0.028	51.0	0.172	71.5	0.048
-9.5	0.159	2.6	0.564	10.8	0.132	31.0	0.031	51.5	0.173	72.0	0.043
-9.0	0.140	2.8	0.486	11.0	0.137	31.5	0.030	52.0	0.163	72.5	0.038
-8.5	0.102	3.0	0.414	11.5	0.133	32.0	0.027	52.5	0.146	73.0	0.035
-8.0	0.065	3.2	0.353	12.0	0.110	32.5	0.023	53.0	0.120	73.5	0.032
-7.5	0.060	3.4	0.307	12.5	0.078	33.0	0.026	53.5	0.090	74.0	0.031
-7.0	0.072	3.6	0.280	13.0	0.068	33.5	0.033	54.0	0.066	74.5	0.030
-6.5	0.064	3.8	0.273	13.5	0.092	34.0	0.040	54.5	0.069	75.0	0.031
-6.0	0.052	4.0	0.281	14.0	0.119	34.5	0.043	55.0	0.100	75.5	0.032
-5.5	0.113	4.2	0.295	14.5	0.128	35.0	0.042	55.5	0.140	76.0	0.034
-5.0	0.221	4.4	0.311	15.0	0.117	35.5	0.036	56.0	0.182	76.5	0.034
-4.5	0.334	4.6	0.323	15.5	0.092	36.0	0.031	56.5	0.221	77.0	0.035
-4.0	0.424	4.8	0.329	16.0	0.060	36.5	0.032	57.0	0.255	77.5	0.036
-3.5	0.468	5.0	0.328	16.5	0.038	37.0	0.038	57.5	0.280	78.0	0.036
-3.0	0.445	5.2	0.320	17.0	0.039	37.5	0.046	58.0	0.297	78.5	0.036
-2.8	0.415	5.4	0.305	17.5	0.041	38.0	0.050	58.5	0.302	79.0	0.036
-2.6	0.374	5.6	0.284	18.0	0.033	38.5	0.050	59.0	0.299	79.5	0.036
-2.4	0.324	5.8	0.258	18.5	0.027	39.0	0.044	59.5	0.295	80.0	0.035
-2.2	0.270	6.0	0.230	19.0	0.056	39.5	0.035	60.0	0.284	80.5	0.035
-2.0	0.218	6.2	0.200	19.5	0.098	40.0	0.030	60.5	0.265	81.0	0.034
-1.8	0.186	6.4	0.173	20.0	0.137	40.5	0.036	61.0	0.241	81.5	0.033
-1.6	0.195	6.6	0.153	20.5	0.160	41.0	0.048	61.5	0.214	82.0	0.032
-1.4	0.248	6.8	0.141	21.0	0.163	41.5	0.059	62.0	0.186	82.5	0.031
-1.2	0.328	7.0	0.140	21.5	0.147	42.0	0.067	62.5	0.157	83.0	0.030
-1.0	0.419	7.2	0.147	22.0	0.114	42.5	0.068	63.0	0.130	83.5	0.029
-0.8	0.513	7.4	0.158	22.5	0.068	43.0	0.063	63.5	0.108	84.0	0.028
-0.6	0.606	7.6	0.170	23.0	0.040	43.5	0.054	64.0	0.090	84.5	0.027
-0.4	0.693	7.8	0.180	23.5	0.063	44.0	0.041	64.5	0.077	85.0	0.026
-0.2	0.773	8.0	0.186	24.0	0.101	44.5	0.029	65.0	0.071	85.5	0.025
0.0	0.843	8.2	0.187	24.5	0.118	45.0	0.024	65.5	0.072	86.0	0.024
0.2	0.902	8.4	0.184	25.0	0.116	45.5	0.026	66.0	0.075	86.5	0.023
0.4	0.948	8.6	0.176	25.5	0.117	46.0	0.029	66.5	0.079	87.0	0.022
0.6	0.980	8.8	0.165	26.0	0.107	46.5	0.028	67.0	0.082	87.5	0.022
0.8	0.997	9.0	0.151	26.5	0.081	47.0	0.023	67.5	0.083	88.0	0.021
1.0	0.999	9.2	0.136	27.0	0.054	47.5	0.021	68.0	0.082	88.5	0.020
1.2	0.984	9.4	0.122	27.5	0.032	48.0	0.035	68.5	0.080	89.0	0.019
1.4	0.955	9.6	0.110	28.0	0.016	48.5	0.060	69.0	0.077	89.5	0.019
1.6	0.913	9.8	0.104	28.5	0.012	49.0	0.089	69.5	0.073	90.0	0.000
1.8	0.859	10.0	0.103	29.0	0.011	49.5	0.117	70.0	0.067		
2.0	0.795	10.2	0.108	29.5	0.015	50.0	0.142	70.5	0.061		
2.2	0.722	10.4	0.116	30.0	0.021	50.5	0.161	71.0	0.055		