

DTV12 Reverse Frequency Transmit Off-Axis Summary

6/1/2012

OS1 (102.8W) Beam 12

Antenna Gain Relative to +X-axis

The antenna is left or right hand circularly polarized (LHCP, RHCP)

Three frequencies were analyzed, 17.305, 17.500, and 17.695 GHz

Total number of sheets = 6 (2 polarizations x 3 frequencies)

Each sheet has two header lines and four columns

column 1: Elevation angle relative to x-axis in degrees, rotation about z, $\pm 60^\circ$ every 5° (negative toward

column 2: Azimuth angle relative to x-axis in degrees, rotation about y, $\pm 30^\circ$ every 5° (negative toward

column 3: Co-polarized antenna gain, dBi (RHCP gain for RHCP port or LHCP gain for LHCP port)

column 4: Cross-polarized antenna gain, dBi (LHCP gain for RHCP port or RHCP gain for LHCP port)

Kevin Clancy

DTV12 Antenna Project Engineer

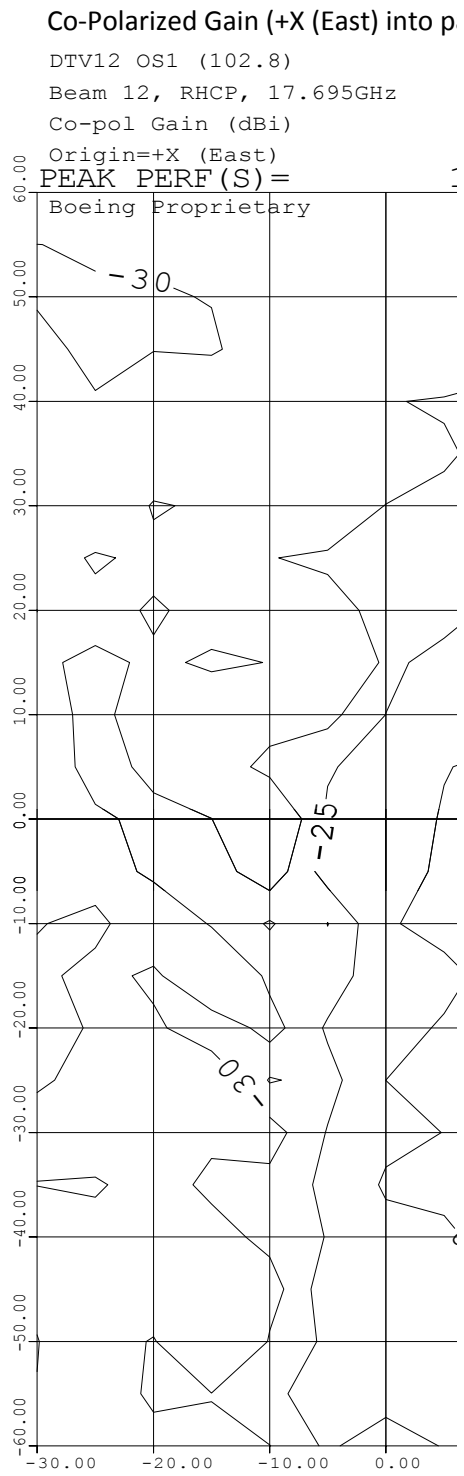
Boeing S&IS, El Segundo

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south)
Earth)

Beam 12 OS1 RHCP 17.695

Z-Rotation (Deg.)	Y-Rotation (Deg.)	Co-pol Gain (dBi)	Cross-pol Gain (dBi)
-60	-30	-34.478	-25.879
-60	-25	-32.47	-23.472
-60	-20	-32.994	-24.947
-60	-15	-30.864	-25.259
-60	-10	-30.086	-21.336
-60	-5	-24.099	-22.796
-60	0	-28.367	-16.477
-60	5	-24.627	-15.225
-60	10	-23.098	-15.88
-60	15	-20.041	-15.984
-60	20	-20.096	-15.028
-60	25	-18.044	-20.649
-60	30	-18.257	-19.688
-55	-30	-30.154	-23.454
-55	-25	-36.136	-28.345
-55	-20	-28.314	-21.206
-55	-15	-29.84	-22.787
-55	-10	-25.403	-24.117
-55	-5	-24.122	-17.444
-55	0	-22.16	-20.829
-55	5	-21.671	-18.667
-55	10	-21.55	-14.868
-55	15	-19.295	-15.79
-55	20	-18.032	-18.385
-55	25	-17.761	-20.996
-55	30	-18.259	-15.178
-50	-30	-29.788	-25.087
-50	-25	-35.589	-23.611
-50	-20	-29.202	-26.388
-50	-15	-45.096	-20.259
-50	-10	-29.343	-19.629
-50	-5	-23.97	-20.437
-50	0	-23.041	-17.267
-50	5	-20.887	-18.048
-50	10	-20.593	-14.973
-50	15	-17.82	-20.742
-50	20	-18.14	-19.365
-50	25	-18.25	-15.121
-50	30	-18.063	-14.226
-45	-30	-31.498	-26.263



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BOTH AXES ARE

-45	-25	-30.794	-23.147
-45	-20	-38.65	-25.89
-45	-15	-30.073	-20.07
-45	-10	-32.573	-17.636
-45	-5	-21.916	-21.994
-45	0	-21.883	-18.718
-45	5	-21.061	-14.716
-45	10	-19.952	-14.78
-45	15	-19.493	-15.312
-45	20	-18.606	-16.552
-45	25	-18.679	-17.18
-45	30	-18.835	-12.897
-40	-30	-50.111	-28.603
-40	-25	-32.413	-23.583
-40	-20	-40.406	-26.617
-40	-15	-32.341	-21.929
-40	-10	-28.367	-21.407
-40	-5	-24.768	-16.378
-40	0	-21.408	-16.988
-40	5	-20.86	-14.546
-40	10	-18.007	-20.071
-40	15	-19.834	-16.274
-40	20	-19.905	-16.204
-40	25	-18.848	-14.493
-40	30	-17.601	-10.046
-35	-30	-29.471	-25.272
-35	-25	-29.23	-23.923
-35	-20	-32.842	-24.022
-35	-15	-28.638	-22.466
-35	-10	-28.465	-17.648
-35	-5	-23.776	-16.687
-35	0	-19.453	-20.355
-35	5	-18.774	-17.743
-35	10	-19.2	-17.747
-35	15	-18.079	-20.967
-35	20	-18.737	-12.892
-35	25	-17.634	-12.06
-35	30	-15.22	-6.574
-30	-30	-37.648	-26.491
-30	-25	-34.545	-31.539
-30	-20	-46.484	-24.816
-30	-15	-31.338	-24.39
-30	-10	-32.262	-17.594
-30	-5	-24.711	-18.448

-30	0	-21.074	-16.651
-30	5	-19.947	-15.129
-30	10	-17.949	-18.926
-30	15	-19.462	-15.546
-30	20	-18.76	-11.47
-30	25	-17.067	-10.832
-30	30	-12.368	-5.22
-25	-30	-27.621	-25.326
-25	-25	-35.503	-26.685
-25	-20	-34.427	-23.499
-25	-15	-35.191	-24.758
-25	-10	-24.584	-23.674
-25	-5	-26.663	-16.643
-25	0	-19.997	-19.071
-25	5	-18.964	-17.34
-25	10	-19.208	-16.942
-25	15	-20.106	-15.767
-25	20	-18.703	-12.441
-25	25	-14.974	-6.944
-25	30	-10.985	-4.363
-20	-30	-26.907	-24.878
-20	-25	-30.812	-25.788
-20	-20	-31.205	-26.827
-20	-15	-25.975	-23.765
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-15	-25	-32.519	-31.098
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-15	-15	-37.745	-22.127
-15	-10	-28.782	-21.563
-15	-5	-28.088	-16.683
-15	0	-21.079	-18.304
-15	5	-21.117	-14.173
-15	10	-18.389	-19.304
-15	15	-19.426	-15.47
-15	20	-19.6	-13.44

-15	25	-14.552	-6.538
-15	30	-10.341	-2.547
-10	-30	-30.47	-26.973
-10	-25	-27.788	-25.392
-10	-20	-36.384	-27.09
-10	-15	-29.413	-21.124
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-10	5	-18.671	-19.569
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-10	30	-10.404	-5.053
-5	-30	-32.076	-34.909
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-5	-20	-28.362	-23.643
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-5	-10	-33.258	-22.633
-5	-5	-22.647	-22.734
-5	0	-22.216	-18.004
-5	5	-19.157	-18.801
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-5	15	-19.844	-21.431
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0	0	-22.732	-19.459
0	5	-19.61	-17.448
0	10	-18.768	-15.106
0	15	-18.88	-15.216
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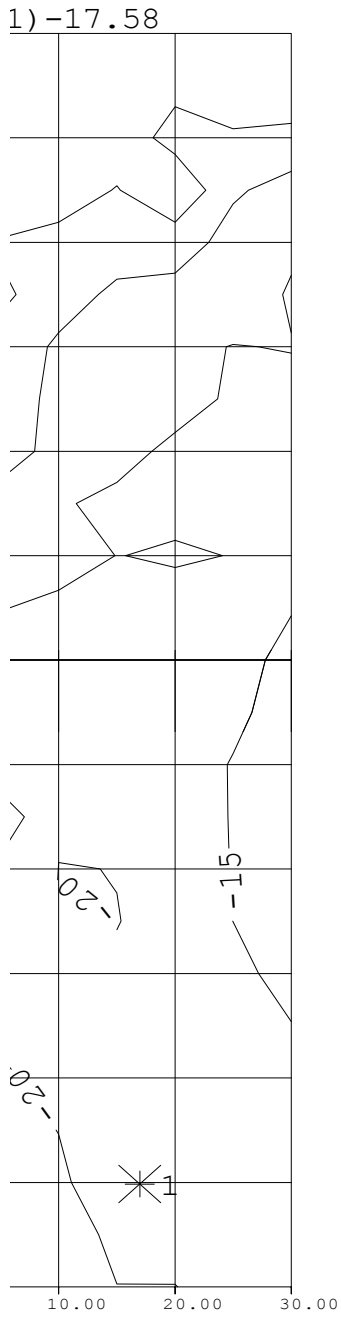
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20	20	-19.075	-14.335
20	25	-18.469	-14.611
20	30	-18.307	-14.505
25	-30	-41.063	-28.242
25	-25	-27.399	-29.626
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25	-10	-30.376	-28.743
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35	20	-23.76	-17.042
35	25	-22.73	-16.242
35	30	-19.523	-15.737

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40	-5	-39.624	-26.895
40	0	-30.447	-26.021
40	5	-29.17	-25.709
40	10	-28.004	-25.457
40	15	-27.182	-19.534
40	20	-26.778	-17.564
40	25	-23.72	-18.666
40	30	-20.829	-19.977
45	-30	-33.352	-31.443
45	-25	-26.984	-26.68
45	-20	-29.297	-26.801
45	-15	-28.829	-26.857
45	-10	-35.076	-38.833
45	-5	-34.487	-29.232
45	0	-34.475	-33.46
45	5	-39.521	-23.394
45	10	-33.243	-26.031
45	15	-29.653	-24.895
45	20	-35.131	-18.021
45	25	-25.468	-20.327
45	30	-23.68	-19.362
50	-30	-28.841	-41.089
50	-25	-28.354	-36.855
50	-20	-29.281	-33.164
50	-15	-30.309	-37.156
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50	-5	-34.923	-37.002
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50	10	-31.582	-21.957
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55	-10	-36.847	-27.77

55	-5	-38.269	-35.512
55	0	-37.443	-32.712
55	5	-31.465	-24.719
55	10	-31.593	-26.262
55	15	-31.648	-22.166
55	20	-31.596	-26.468
55	25	-37.62	-22.409
55	30	-36.871	-19.943
60	-30	-51.568	-28.973
60	-25	-34.924	-28.735
60	-20	-30.082	-32.683
60	-15	-33.653	-36.76
60	-10	-33.223	-28.249
60	-5	-42.031	-29.428
60	0	-34.463	-27.897
60	5	-32.138	-26.152
60	10	-36.469	-29.321
60	15	-35.733	-27.898
60	20	-50.014	-26.212
60	25	-47.214	-24.46
60	30	-31.544	-27.993

age)



IN DEG

Cross-Polarized Gain (+X (East) into page)

DTV12 OS1 (102.8)

Beam 12, RHCP, 17.695GHz

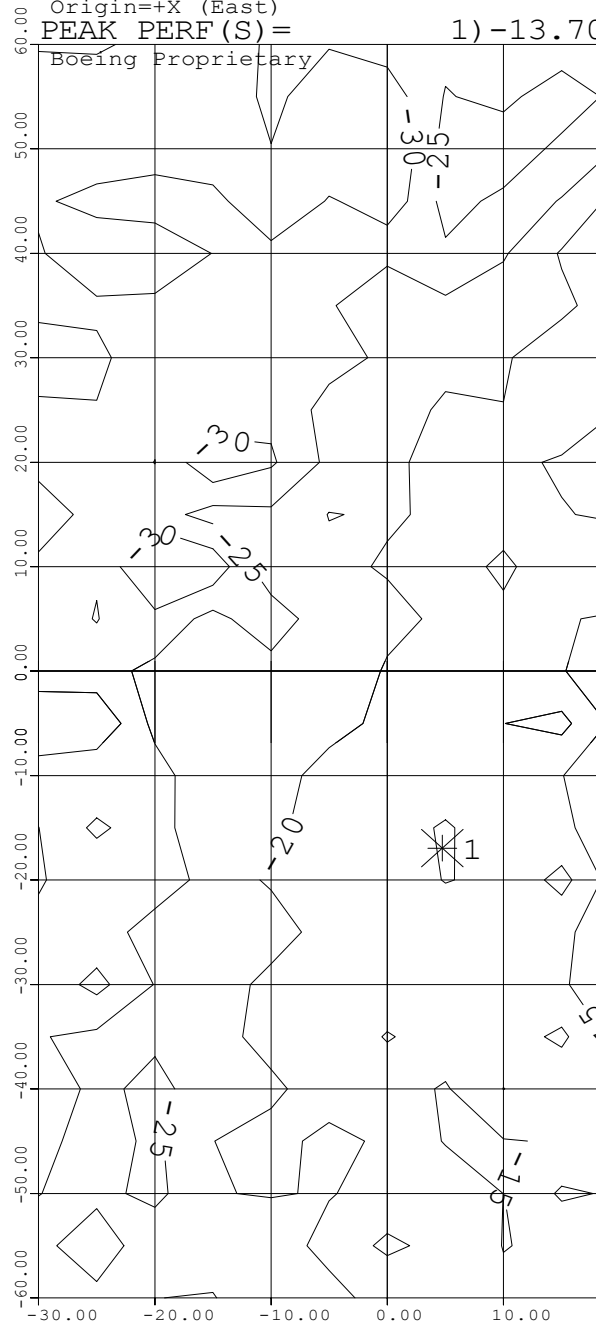
Cross-pol Gain (dBi)

Origin=+X (East)

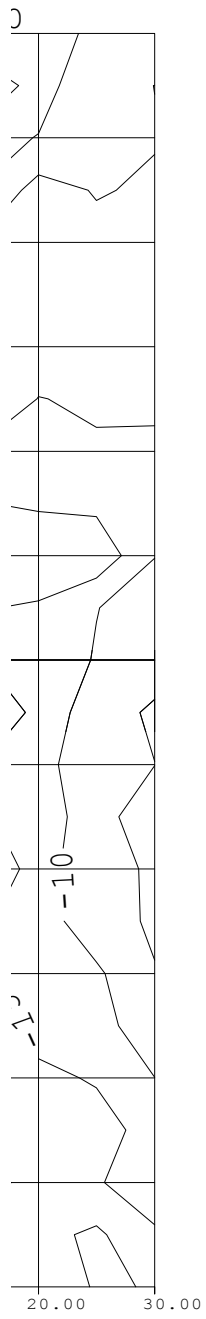
PEAK PERF(S) =

1) -13.70

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BOTH AXES ARE IN DEG

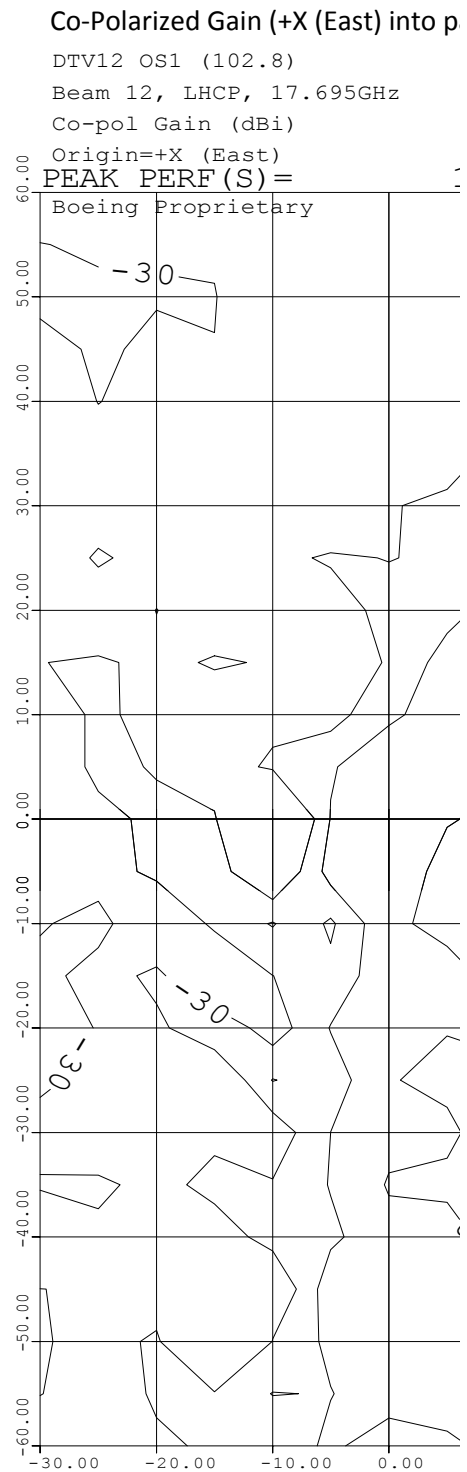


EG

Beam 12 OS1 LHCP 17.695

Z-Rotation (Deg.)	Y-Rotation (Deg.)	Co-pol Gain (dBi)	Cross-pol Gain (dBi)
-60	-30	-37.018	-25.278
-60	-25	-32.684	-23.673
-60	-20	-31.368	-25.485
-60	-15	-28.787	-24.361
-60	-10	-29.457	-21.261
-60	-5	-23.647	-23.24
-60	0	-28.911	-16.254
-60	5	-26.492	-15.295
-60	10	-22.413	-15.659
-60	15	-21.026	-16.205
-60	20	-20.268	-14.916
-60	25	-18.418	-21.146
-60	30	-18.59	-19.728
-55	-30	-29.725	-23.555
-55	-25	-35.364	-27.052
-55	-20	-28.824	-21.429
-55	-15	-29.125	-23.18
-55	-10	-24.84	-24.514
-55	-5	-25.204	-17.791
-55	0	-21.612	-20.583
-55	5	-21.2	-18.559
-55	10	-22.362	-14.905
-55	15	-20.292	-16.073
-55	20	-17.707	-17.938
-55	25	-17.886	-20.563
-55	30	-17.891	-15.011
-50	-30	-28.755	-25.68
-50	-25	-34.534	-22.957
-50	-20	-28.229	-27.386
-50	-15	-54.768	-19.876
-50	-10	-29.75	-19.345
-50	-5	-23.769	-20.781
-50	0	-22.812	-17.018
-50	5	-20.649	-18.099
-50	10	-20.281	-14.918
-50	15	-18.068	-20.853
-50	20	-18.194	-19.247
-50	25	-17.855	-14.931
-50	30	-17.966	-13.837
-45	-30	-29.935	-26.707

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BOTH AXES ARE

-45	-25	-30.569	-23.167
-45	-20	-36.658	-25.284
-45	-15	-31.648	-20.039
-45	-10	-35.625	-17.524
-45	-5	-21.833	-22.357
-45	0	-21.819	-18.924
-45	5	-22.197	-14.927
-45	10	-20.352	-14.937
-45	15	-19.999	-15.517
-45	20	-18.221	-16.435
-45	25	-19.034	-16.77
-45	30	-19.188	-12.639
-40	-30	-41.781	-28.645
-40	-25	-31.291	-23.167
-40	-20	-38.251	-26.706
-40	-15	-32.965	-21.813
-40	-10	-27.884	-21.3
-40	-5	-26.037	-16.477
-40	0	-21.496	-16.922
-40	5	-21.273	-14.567
-40	10	-18.347	-20.373
-40	15	-20.4	-16.635
-40	20	-19.557	-16.336
-40	25	-18.275	-14.483
-40	30	-17.746	-9.922
-35	-30	-28.672	-25.37
-35	-25	-28.888	-23.559
-35	-20	-31.853	-23.968
-35	-15	-28.282	-22.588
-35	-10	-29.591	-17.688
-35	-5	-24.72	-16.78
-35	0	-19.604	-20.641
-35	5	-19.342	-18.069
-35	10	-19.818	-18.19
-35	15	-18.245	-20.637
-35	20	-18.067	-12.66
-35	25	-16.982	-12.018
-35	30	-15.605	-6.53
-30	-30	-35.645	-26.166
-30	-25	-34.97	-31.425
-30	-20	-50.127	-24.733
-30	-15	-31.349	-24.639
-30	-10	-33.286	-17.606
-30	-5	-24.978	-18.578

-30	0	-21.38	-16.749
-30	5	-20.635	-15.281
-30	10	-18.03	-19.063
-30	15	-19.488	-15.575
-30	20	-18.051	-11.297
-30	25	-16.91	-10.785
-30	30	-12.647	-5.289
-25	-30	-27.211	-24.994
-25	-25	-34.747	-26.438
-25	-20	-33.526	-23.277
-25	-15	-35.665	-24.972
-25	-10	-24.786	-23.937
-25	-5	-27.621	-16.725
-25	0	-20.172	-19.315
-25	5	-19.32	-17.482
-25	10	-19.604	-17.055
-25	15	-20.024	-15.727
-25	20	-18.011	-12.274
-25	25	-14.89	-6.916
-25	30	-11.549	-4.466
-20	-30	-26.638	-24.79
-20	-25	-30.318	-25.941
-20	-20	-31.135	-26.443
-20	-15	-25.948	-23.578
-20	-10	-32.651	-19.273
-20	-5	-24.734	-19.641
-20	0	-21.955	-17.238
-20	5	-20.121	-14.998
-20	10	-20.442	-15.864
-20	15	-19.61	-21.662
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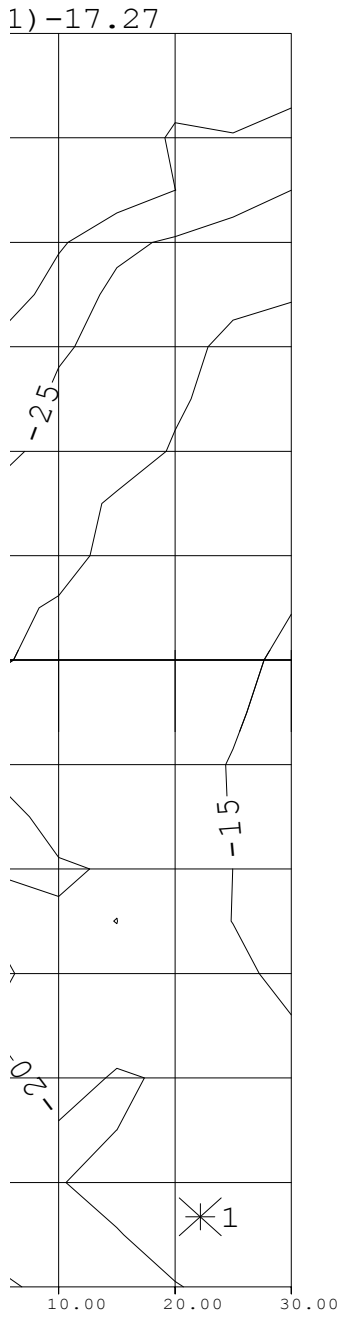
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IN DEG

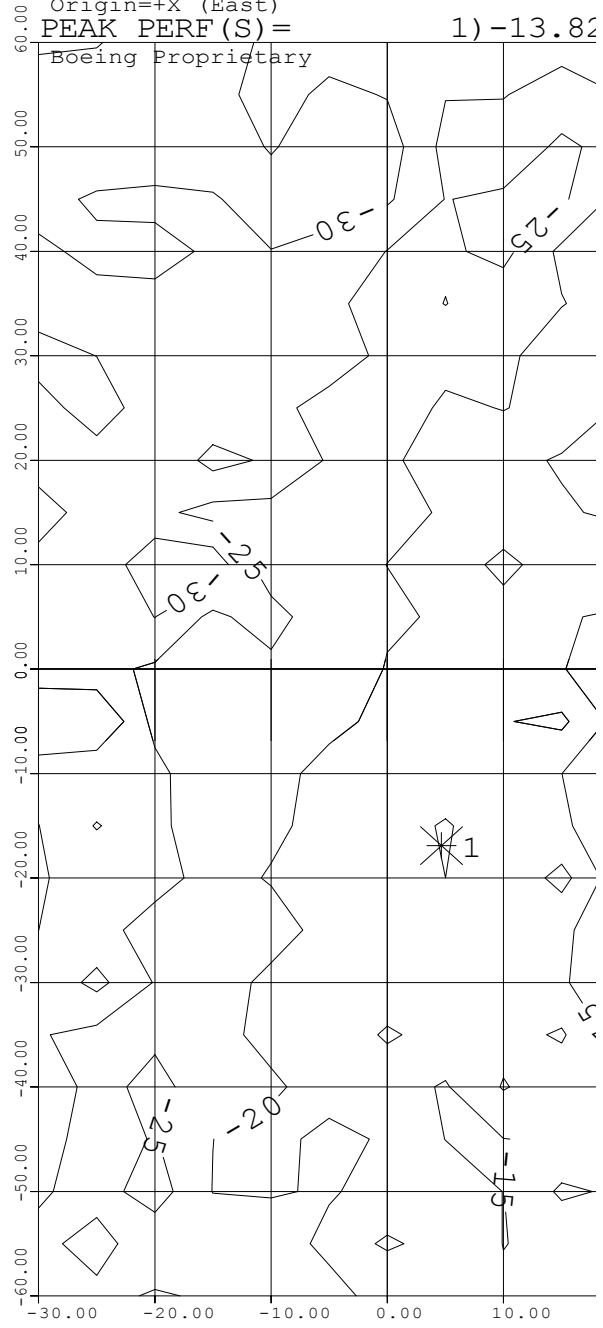
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DTV12 OS1 (102.8)
 Beam 12, LHCP, 17.695GHz
 Cross-pol Gain (dBi)

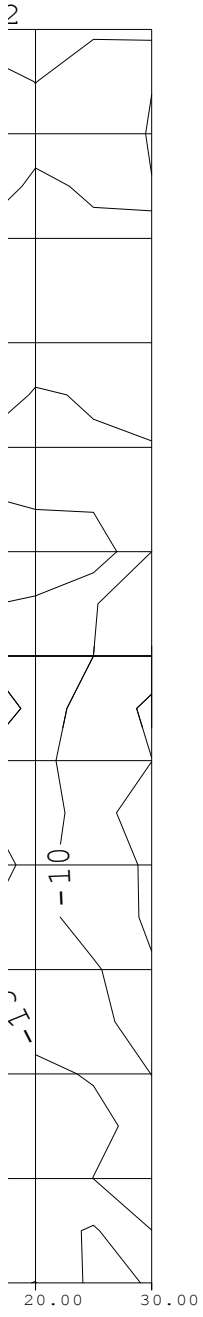
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 PEAK PERF(S) = 1) -13.82

Boeing Proprietary

qq925b FP: Jun 1 12 11:37:52A



BOTH AXES ARE IN DEG

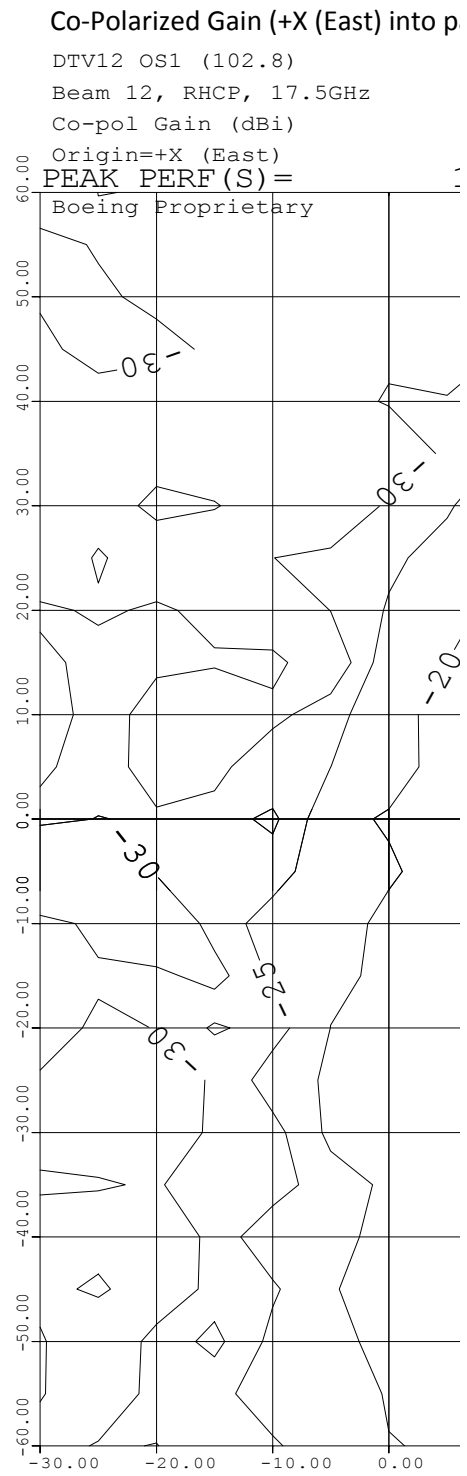


EG

Beam 12 OS1 RHCP 17.5

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BOTH AXES ARE

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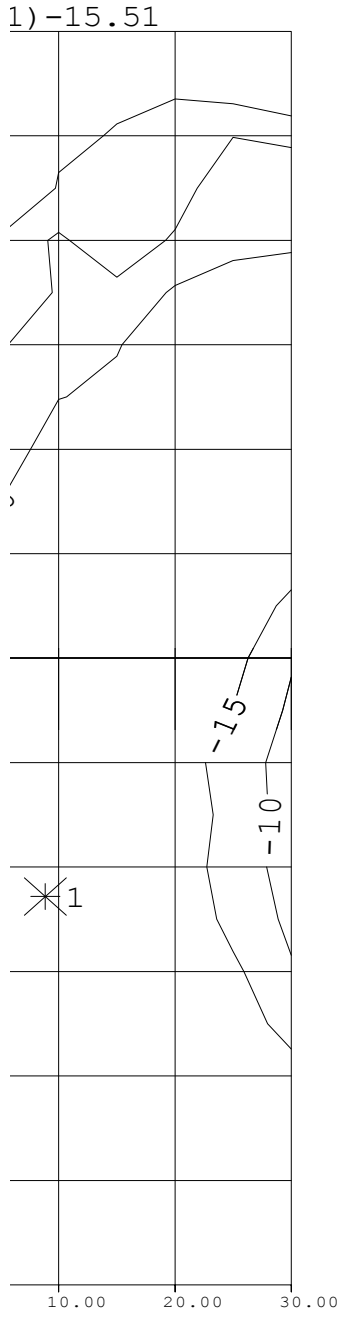
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35	25	-18.243	-14.375
35	30	-18.247	-16.265

40	-30	-36.389	-26.89
40	-25	-34.407	-27.383
40	-20	-36.796	-26.323
40	-15	-31.679	-26.525
40	-10	-32.996	-24.645
40	-5	-35.553	-22.782
40	0	-28.768	-28.976
40	5	-27.871	-24.837
40	10	-24.324	-23.454
40	15	-27.997	-16.829
40	20	-24.428	-15.543
40	25	-21.12	-15.535
40	30	-20.546	-15.044
45	-30	-32.381	-30.89
45	-25	-26.206	-28.352
45	-20	-27.641	-30.211
45	-15	-31.253	-34.426
45	-10	-36.249	-24.231
45	-5	-32.523	-22.893
45	0	-32.434	-24.733
45	5	-46.968	-20.489
45	10	-28.921	-23.94
45	15	-25.794	-22.748
45	20	-27.239	-17.209
45	25	-21.339	-21.275
45	30	-20.529	-19.811
50	-30	-28.88	-35.48
50	-25	-28.783	-35.362
50	-20	-31.74	-32.016
50	-15	-37.704	-26.316
50	-10	-36.613	-27.065
50	-5	-32.536	-23.324
50	0	-32.117	-23.881
50	5	-32.03	-24.01
50	10	-32.591	-22.66
50	15	-29.233	-24.416
50	20	-26.271	-22.756
50	25	-25.107	-22.006
50	30	-26.288	-17.664
55	-30	-27.307	-35.831
55	-25	-30.692	-33.829
55	-20	-34.803	-29.359
55	-15	-40.28	-25.242
55	-10	-35.7	-31.105

55	-5	-33.097	-24.436
55	0	-30.767	-24.778
55	5	-33.417	-28.39
55	10	-31.276	-31.69
55	15	-32.606	-22.957
55	20	-31.583	-24.955
55	25	-33.095	-20.382
55	30	-35.992	-18.354
60	-30	-36.04	-27.634
60	-25	-29.951	-29.068
60	-20	-30.102	-35.046
60	-15	-56.404	-26.208
60	-10	-33.672	-33.035
60	-5	-34.093	-26.201
60	0	-29.943	-26.608
60	5	-36.046	-28.935
60	10	-33.953	-29.722
60	15	-34.131	-30.679
60	20	-39.172	-22.049
60	25	-43.091	-21.05
60	30	-28.941	-28.359

age)



IN DEG

Cross-Polarized Gain (+X (East) into page)

DTV12 OS1 (102.8)

Beam 12, RHCP, 17.5GHz

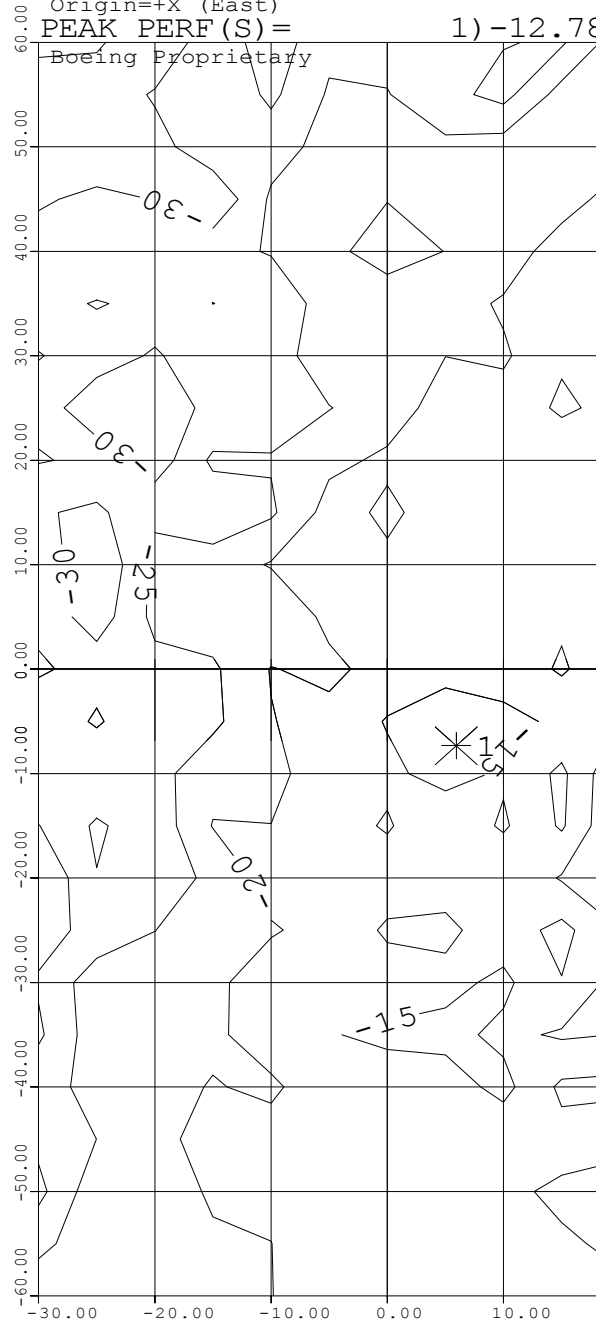
Cross-pol Gain (dBi)

Origin=+X (East)

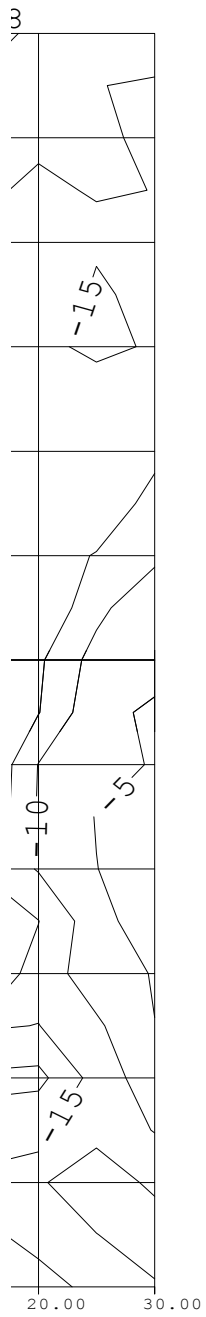
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1) -12.78

qq925b FP: Jun 1 12 11:37:41A



BOTH AXES ARE IN DEG

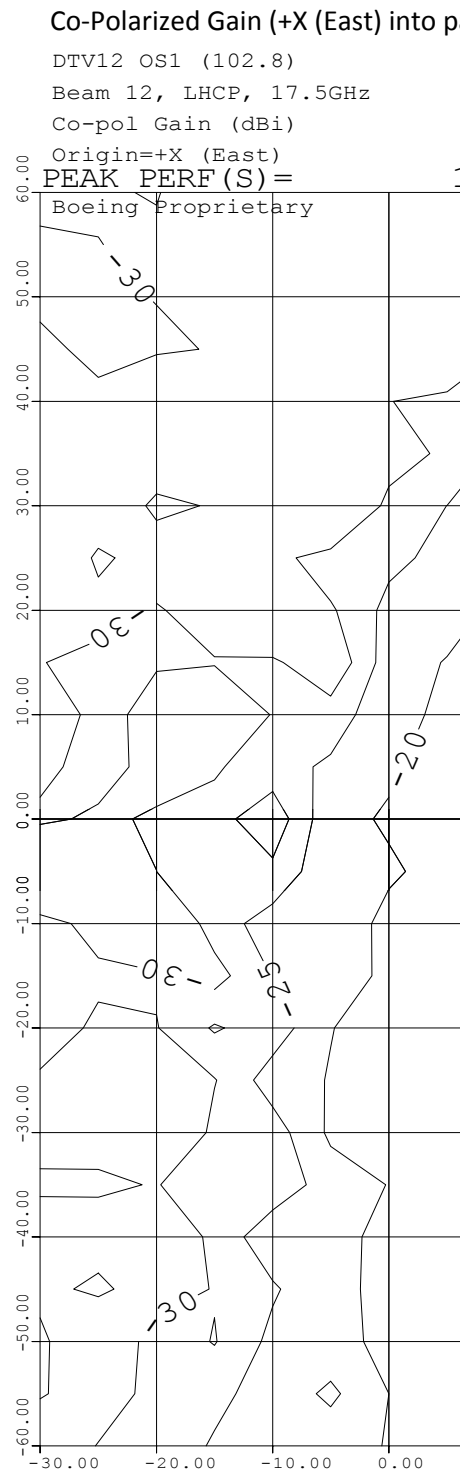


EG

Beam 12 OS1 LHCP 17.5

Z-Rotation (Deg.)	Y-Rotation (Deg.)	Co-pol Gain (dBi)	Cross-pol Gain (dBi)
-60	-30	-37.256	-21.73
-60	-25	-29.615	-24.335
-60	-20	-29.205	-23.371
-60	-15	-24.273	-22.567
-60	-10	-24.958	-20.09
-60	-5	-21.991	-18.436
-60	0	-19.721	-18.132
-60	5	-18.789	-16.292
-60	10	-17.525	-18.258
-60	15	-17.427	-14.974
-60	20	-16.924	-16.866
-60	25	-16.487	-13.672
-60	30	-16.288	-14.159
-55	-30	-29.199	-27.469
-55	-25	-34.809	-21.325
-55	-20	-27.188	-20.818
-55	-15	-26.737	-21.441
-55	-10	-22.019	-20.764
-55	-5	-26.012	-15.391
-55	0	-19.991	-17.176
-55	5	-18.955	-15.961
-55	10	-17.074	-16.352
-55	15	-16.214	-15.869
-55	20	-17.764	-13.825
-55	25	-16.286	-14.728
-55	30	-17.421	-19.385
-50	-30	-28.589	-31.241
-50	-25	-37.378	-21.592
-50	-20	-26.756	-24.611
-50	-15	-30.288	-18.647
-50	-10	-23.712	-18.708
-50	-5	-21.724	-17.97
-50	0	-18.649	-18.21
-50	5	-18.434	-15.508
-50	10	-17.033	-17.351
-50	15	-17.012	-13.512
-50	20	-16.819	-14.282
-50	25	-17.747	-19.441
-50	30	-16.9	-13.401
-45	-30	-31.716	-28.382

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BOTH AXES ARE

-45	-25	-28.725	-25.52
-45	-20	-33.401	-20.955
-45	-15	-29.649	-18.311
-45	-10	-25.641	-17.221
-45	-5	-20.989	-16.896
-45	0	-19.044	-16.186
-45	5	-16.631	-16.432
-45	10	-16.105	-18.876
-45	15	-16.462	-18.656
-45	20	-17.761	-15.779
-45	25	-17.003	-12.59
-45	30	-18.426	-9.664
-40	-30	-36.243	-26.177
-40	-25	-32.859	-24.126
-40	-20	-35.868	-22.01
-40	-15	-28.469	-19.595
-40	-10	-21.619	-21.319
-40	-5	-22.161	-15.862
-40	0	-18.155	-17.474
-40	5	-16.759	-17.703
-40	10	-17.211	-13.663
-40	15	-16.405	-20.71
-40	20	-19.02	-20.82
-40	25	-19.264	-12.829
-40	30	-17.531	-6.98
-35	-30	-28.145	-30.022
-35	-25	-29.095	-22.141
-35	-20	-30.292	-24.866
-35	-15	-26.425	-21.563
-35	-10	-28.177	-16.545
-35	-5	-22.688	-15.339
-35	0	-19.844	-14.433
-35	5	-17.641	-13.706
-35	10	-15.863	-16.092
-35	15	-16.291	-14.273
-35	20	-18.335	-14.941
-35	25	-17.844	-10.76
-35	30	-13.649	-5.081
-30	-30	-34.306	-29.807
-30	-25	-32.217	-22.031
-30	-20	-38.893	-21.137
-30	-15	-28.5	-21.445
-30	-10	-27.467	-16.977
-30	-5	-19.028	-19.544

-30	0	-17.572	-17.444
-30	5	-16.292	-16.591
-30	10	-17.731	-14.064
-30	15	-17.85	-19.672
-30	20	-17.982	-12.621
-30	25	-16.372	-7.272
-30	30	-10.712	-4.844
-25	-30	-30.756	-32.853
-25	-25	-32.303	-28.678
-25	-20	-30.866	-25.021
-25	-15	-30.27	-21.413
-25	-10	-22.407	-20.783
-25	-5	-19.711	-18.315
-25	0	-19.386	-14.449
-25	5	-17.162	-14.105
-25	10	-15.845	-17.73
-25	15	-18.545	-21.161
-25	20	-18.964	-15.001
-25	25	-13.366	-6.896
-25	30	-9.666	-1.975
-20	-30	-27.103	-35.389
-20	-25	-31.025	-24.935
-20	-20	-30.222	-28.007
-20	-15	-24.427	-23.964
-20	-10	-27.845	-18.085
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-20	10	-15.935	-19.457
-20	15	-17.183	-14.474
-20	20	-17.132	-9.551
-20	25	-13.192	-5.119
-20	30	-8.393	-2.024
-15	-30	-26.145	-30.634
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-15	-20	-29.352	-28.496
-15	-15	-32.003	-19.8
-15	-10	-24.747	-20.198
-15	-5	-21.685	-17.075
-15	0	-19.306	-14.602
-15	5	-15.984	-18.716
-15	10	-17.596	-14.404
-15	15	-18.226	-20.683
-15	20	-18.243	-9.51

-15	25	-12.969	-4.781
-15	30	-8.468	-0.855
-10	-30	-27.728	-25.25
-10	-25	-31.994	-29.133
-10	-20	-37.183	-27.539
-10	-15	-27.482	-21.318
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-5	-20	-30.018	-28.973
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-5	-10	-28.819	-20.757
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0	-30	-28.762	-24.885
0	-25	-31.062	-27.611
0	-20	-29.257	-25.626
0	-15	-28.037	-24.825
0	-10	-33.466	-20.32
0	-5	-21.179	-20.952
0	0	-19.571	-17.433
0	5	-17.736	-15.797
0	10	-16.811	-16.661
0	15	-17.015	-20.365
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0	25	-16.397	-8.019
0	30	-10.607	-6.784
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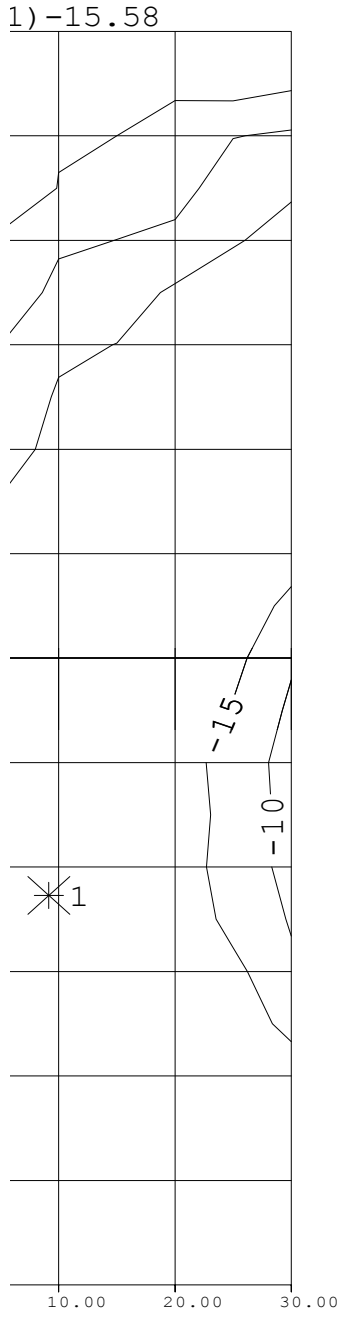
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5	30	-13.852	-5.625
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10	20	-16.792	-18.079
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15	-25	-27.143	-32.919
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15	-15	-29.489	-26.691
15	-10	-29.02	-24.82
15	-5	-34.401	-18.632
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15	15	-16.782	-16.249
15	20	-16.763	-18.714
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15	30	-18.806	-13.136
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20	15	-16.477	-17.997
20	20	-16.488	-16.83
20	25	-17.139	-17.489
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25	-30	-45.909	-26.366
25	-25	-27.748	-30.986
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25	-15	-36.635	-28.144
25	-10	-32.243	-28.701
25	-5	-26.636	-23.654
25	0	-26.299	-21.67
25	5	-23.426	-18.509
25	10	-19.501	-17.327
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25	20	-16.616	-16.696
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35	10	-23.829	-18.818
35	15	-22.13	-16.21
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35	25	-18.723	-14.702
35	30	-17.136	-15.388

40	-30	-48.177	-26.839
40	-25	-32.456	-26.227
40	-20	-43.437	-26.174
40	-15	-33.881	-27.824
40	-10	-34.593	-24.049
40	-5	-39.397	-23.018
40	0	-30.159	-27.336
40	5	-28.156	-23.773
40	10	-25.648	-23.74
40	15	-24.964	-16.617
40	20	-23.46	-15.672
40	25	-20.215	-15.432
40	30	-19.138	-14.56
45	-30	-32.638	-31.245
45	-25	-27.073	-31.441
45	-20	-28.378	-32.333
45	-15	-30.602	-30.369
45	-10	-40.61	-24.647
45	-5	-35.641	-23.141
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45	15	-27.153	-22.969
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45	30	-20.311	-18.859
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50	-25	-27.879	-30.597
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55	0	-32.787	-26.601
55	5	-34.65	-26.286
55	10	-32.89	-29.924
55	15	-31.497	-22.158
55	20	-31.981	-24.277
55	25	-32.334	-20.886
55	30	-30.886	-18.508
60	-30	-34.925	-27.687
60	-25	-31.274	-30.24
60	-20	-29.23	-30.818
60	-15	-39.765	-25.882
60	-10	-32.849	-30.484
60	-5	-36.918	-27.313
60	0	-31.206	-28.96
60	5	-36.904	-26.874
60	10	-35.589	-30.813
60	15	-36.109	-29.166
60	20	-48.173	-22.658
60	25	-45.137	-21.546
60	30	-30.526	-27.143

age)



IN DEG

Cross-Polarized Gain (+X (East) into page)

DTV12 OS1 (102.8)

Beam 12, LHCP, 17.5GHz

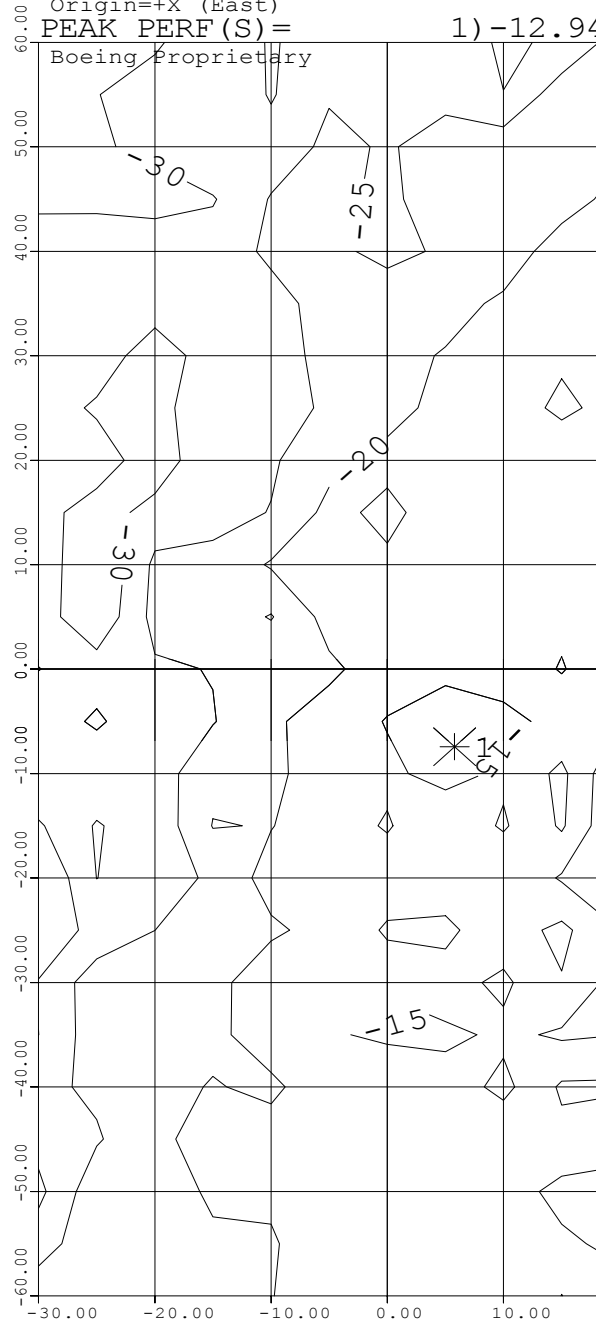
Cross-pol Gain (dBi)

Origin=+X (East)

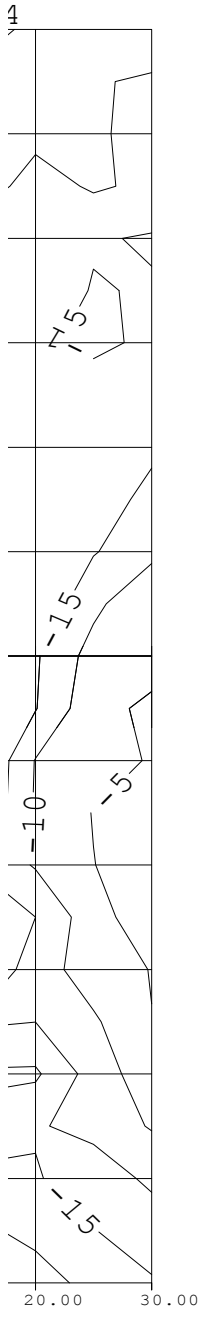
PEAK PERF(S) =

1) -12.94

qq925b FP: Jun 1 12 11:37:28A



BOTH AXES ARE IN D

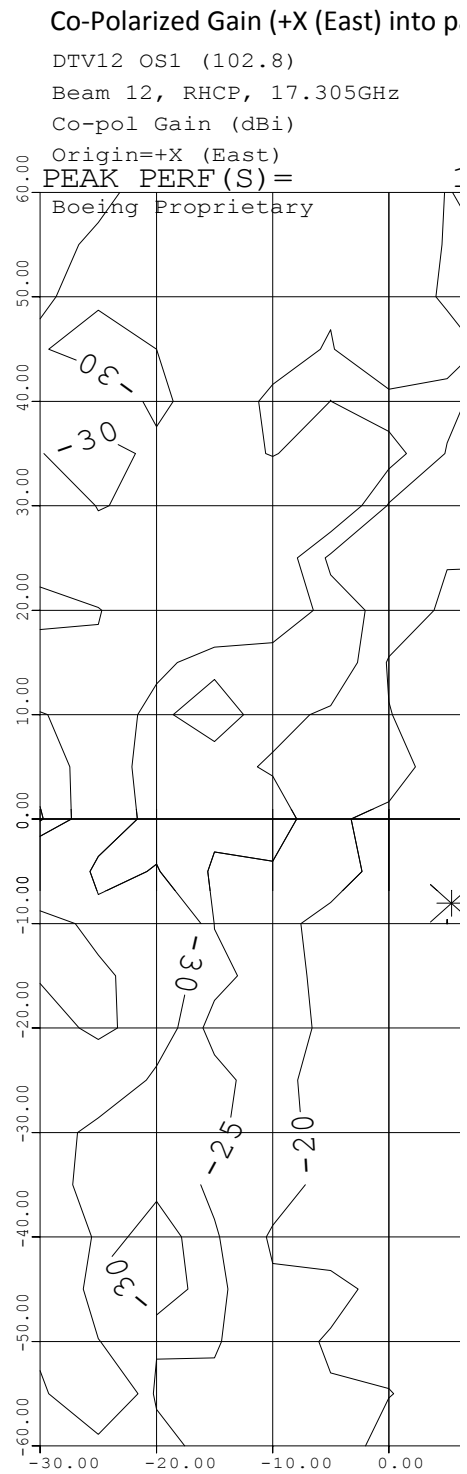


EG

Beam 12 OS1 RHCP 17.305

Z-Rotation (Deg.)	Y-Rotation (Deg.)	Co-pol Gain (dBi)	Cross-pol Gain (dBi)
-60	-30	-28.16	-21.812
-60	-25	-26.287	-24.083
-60	-20	-27.444	-20.953
-60	-15	-22.438	-21.134
-60	-10	-22.208	-19.388
-60	-5	-22.359	-14.966
-60	0	-18.408	-17.073
-60	5	-17.448	-16.324
-60	10	-18.4	-13.008
-60	15	-16.008	-15.303
-60	20	-15.934	-14.303
-60	25	-16.242	-16.577
-60	30	-16.496	-16.6
-55	-30	-27.739	-26.278
-55	-25	-43.236	-19.148
-55	-20	-23.935	-19.999
-55	-15	-23.982	-19.771
-55	-10	-21.314	-16.914
-55	-5	-20.279	-16.113
-55	0	-20.145	-13.788
-55	5	-18.337	-13.375
-55	10	-16.407	-14.861
-55	15	-16.563	-13.972
-55	20	-15.589	-19.048
-55	25	-16.527	-19.001
-55	30	-16.955	-16.38
-50	-30	-32.935	-22.155
-50	-25	-30.184	-22.054
-50	-20	-25.545	-21.375
-50	-15	-25.466	-18.128
-50	-10	-21.65	-17.879
-50	-5	-19.574	-15.617
-50	0	-18.607	-14.492
-50	5	-17.299	-13.555
-50	10	-16.046	-13.606
-50	15	-15.973	-18.069
-50	20	-17.015	-19.978
-50	25	-17.192	-16.379
-50	30	-19.605	-16.602
-45	-30	-40.432	-22.614

qg925b FP: Jun 1 12 11:37:10A



BOTH AXES ARE

-45	-25	-26.404	-25.983
-45	-20	-34.351	-18.644
-45	-15	-26.308	-16.888
-45	-10	-20.644	-18.021
-45	-5	-21.242	-14.093
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-45	5	-16.807	-14.094
-45	10	-16.534	-13.234
-45	15	-16.524	-15.599
-45	20	-18.214	-23.951
-45	25	-19.197	-13.481
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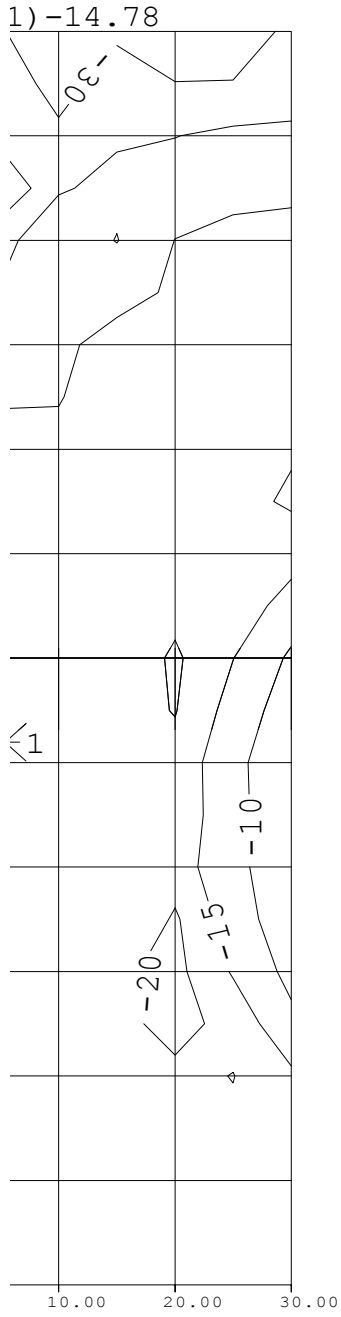
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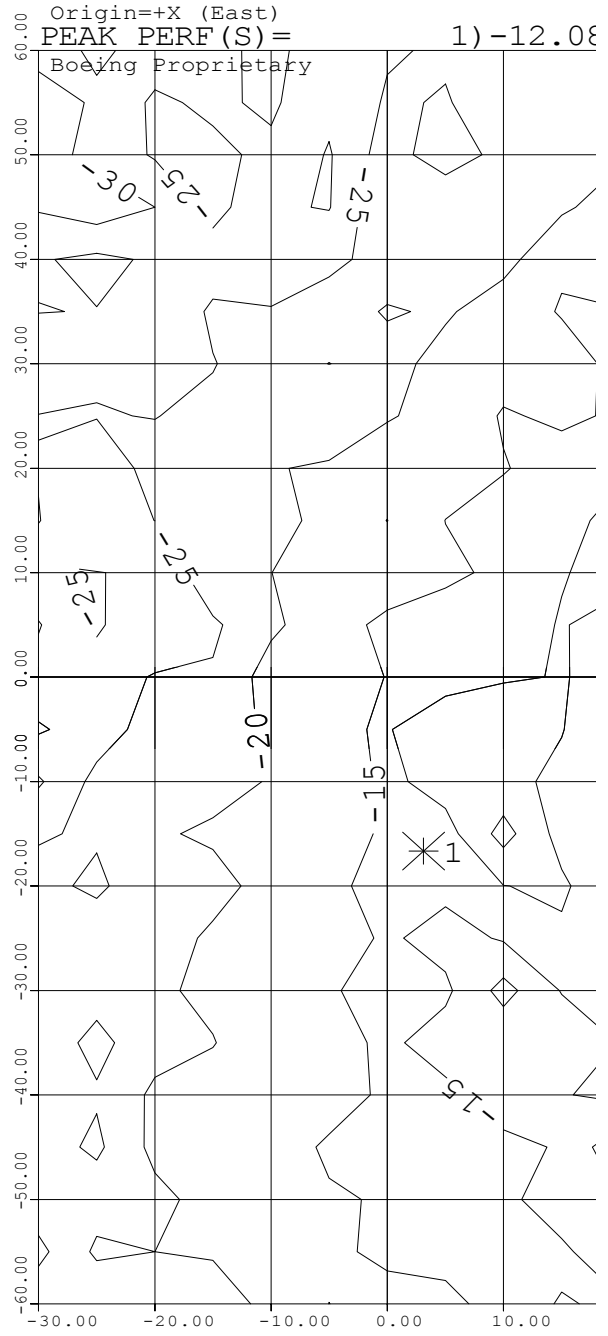
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IN DEG

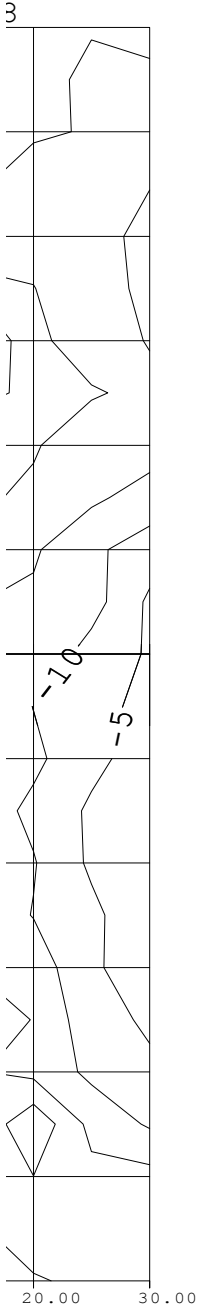
Cross-Polarized Gain (+X (East) into page)

DTV12 OS1 (102.8)
 Beam 12, RHCP, 17.305GHz
 Cross-pol Gain (dBi)



BOTH AXES ARE IN DEG

qq925b FP: Jun 1 12 11:37:16A

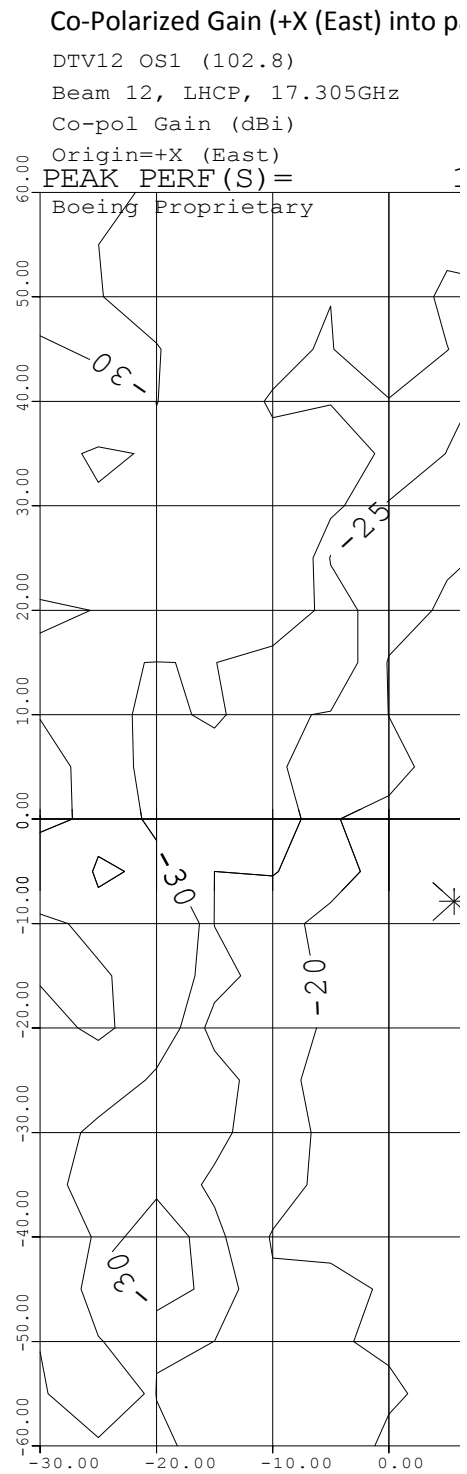


EG

Beam 12 OS1 LHCP 17.305

Z-Rotation (Deg.)	Y-Rotation (Deg.)	Co-pol Gain (dBi)	Cross-pol Gain (dBi)
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qg925b FP: Jun 1 12 11:36:58A



BOTH AXES ARE

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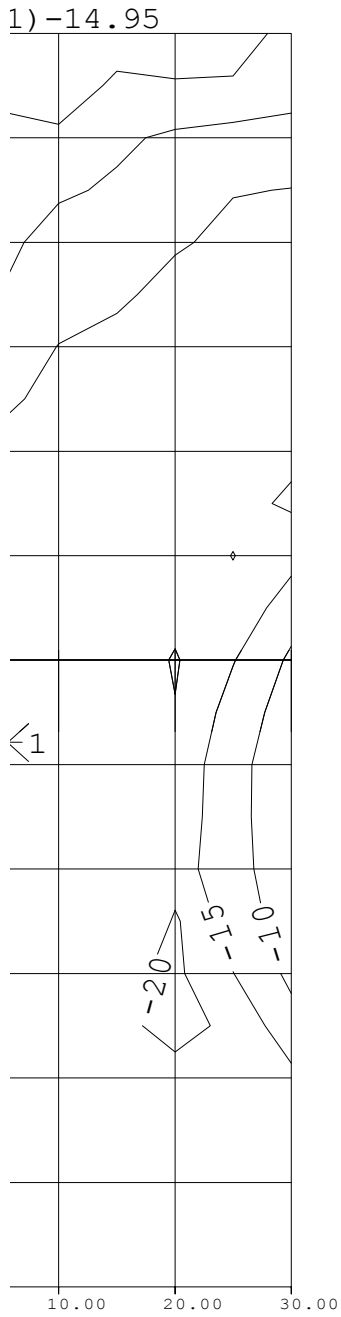
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10	20	-17.66	-15.593
10	25	-20.123	-11.093
10	30	-16.722	-7.804
15	-30	-33.429	-24.541
15	-25	-30.232	-25.762
15	-20	-29.938	-23.988
15	-15	-30.129	-25.102
15	-10	-26.797	-23.688
15	-5	-29.613	-17.26
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15	5	-19.106	-14.718
15	10	-17.608	-13.082
15	15	-15.974	-14.341
15	20	-15.969	-16.254
15	25	-18.623	-16.378
15	30	-20.684	-13.038
20	-30	-27.313	-26.908
20	-25	-30.438	-28.957
20	-20	-36.769	-23.138
20	-15	-33.126	-22.883
20	-10	-36.882	-20.829
20	-5	-27.305	-19.415
20	0	-22.321	-16.952
20	5	-19.195	-17.641

20	10	-17.74	-14.866
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20	25	-16.23	-18.556
20	30	-19.024	-18.034
25	-30	-40.528	-25.764
25	-25	-32.672	-24.242
25	-20	-38.768	-24.725
25	-15	-40.092	-24.711
25	-10	-42.317	-21.189
25	-5	-24.636	-24.2
25	0	-23.864	-19.894
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25	15	-16.91	-15.922
25	20	-16.407	-14.02
25	25	-16.249	-14.407
25	30	-16.503	-16.63
30	-30	-36.895	-26.65
30	-25	-31.433	-26.559
30	-20	-31.089	-24.387
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40	20	-20.613	-16.791
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45	10	-25.7	-22.064
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45	25	-20.222	-16.849
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60	15	-33.468	-24.417
60	20	-32.997	-21.14
60	25	-32.114	-20.144
60	30	-28.547	-24.505

age)



IN DEG

Cross-Polarized Gain (+X (East) into page)

DTV12 OS1 (102.8)

Beam 12, LHCP, 17.305GHz

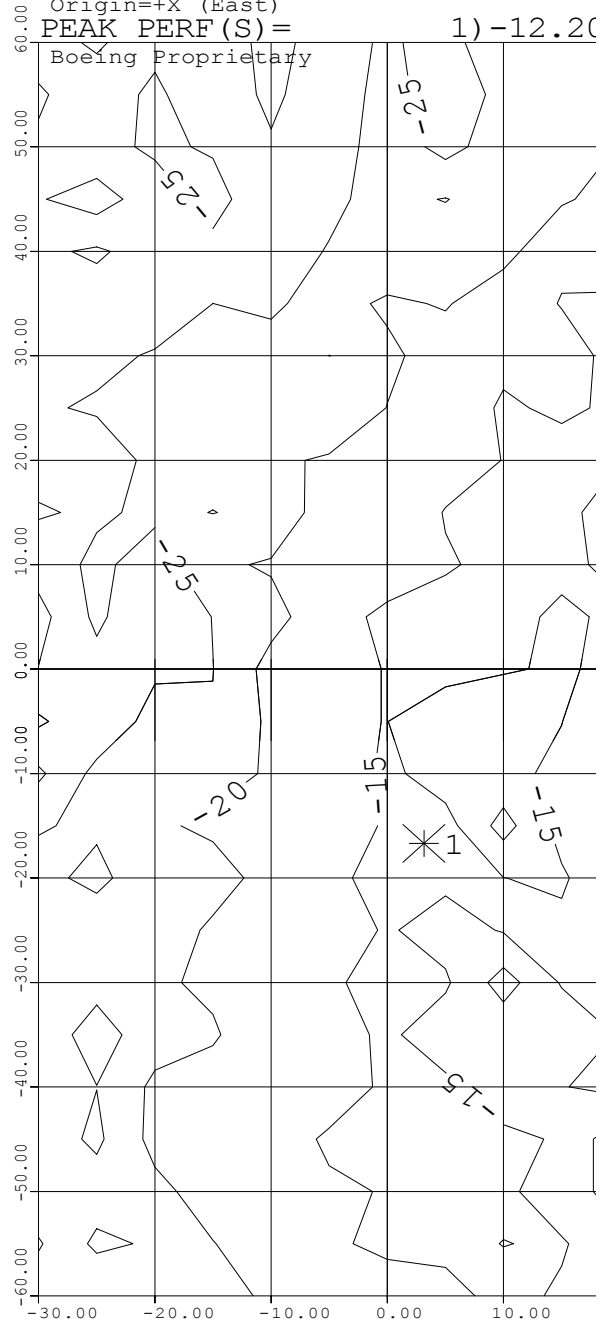
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Origin=+X (East)

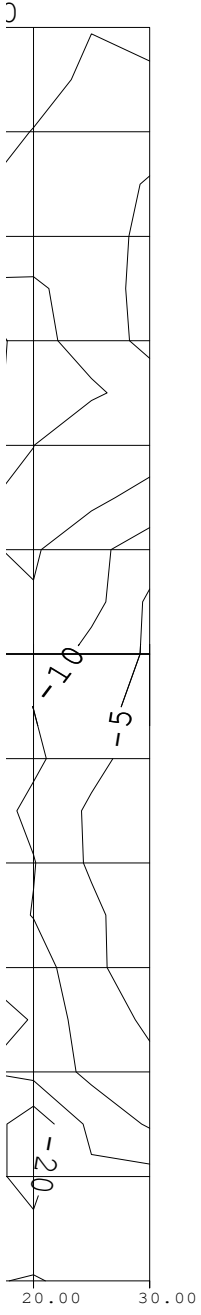
PEAK PERF(S) =

1) -12.20

qq925b FP: Jun 1 12 11:37: 4A



BOTH AXES ARE IN DEG



EG