

Holography Feed Horn Patterns: Reference feed and transmitter feed

ATFD-42.02.03.00-001-A-REP

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The ALMA ATF transmitter feed horn and holography receiver reference feed horn are of identical design. The feed was designed to have beamwidth of 4.6-4.8 degrees at 104 GHz.

These measurements were done at Georgia Tech Research Institute

Antenna feed patterns measurements were done on one of these feeds, and the results are included here.

Excel files containing the data are referenced here. Plots of each of the patterns are included on the following pages.

Measured beamwidths are approximately 4.6 degrees at 104 GHz and 6.2 degrees at 78 GHz.

SN3EC_EX_H.xls -- E-plane co- and x-pol amplitude pattern, high-band (104.02 GHz)

SN3EC_EX_L.xls -- E-plane co- and x-pol amplitude pattern, low-band (78.92 GHz)

sn3hh01H_phase.xls -- E-plane co-pol phase pattern, high-band.

sn3hh01L_phase.xls -- E-plane co-pol phase pattern, low-band.

SN3HC_HX_H.xls -- H-plane co- and x-pol amplitude pattern, high-band (104.02 GHz)

SN3HC_HX_L.xls -- H-plane co- and x-pol amplitude pattern, low-band (78.92 GHz)

sn3vv01H_phase.xls -- H-plane co-pol phase pattern, high-band.

sn3vv01L_phase.xls -- H-plane co-pol phase pattern, low-band.

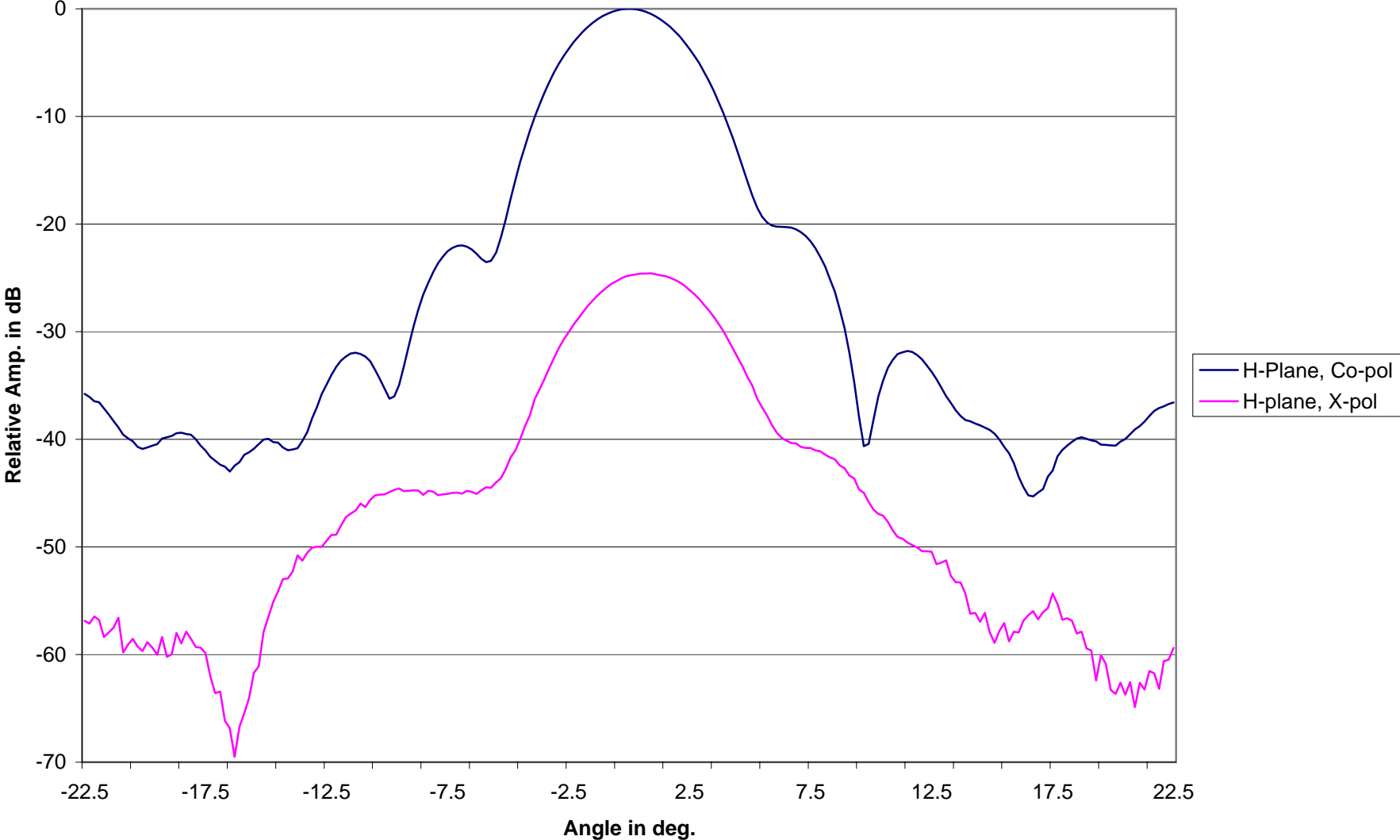
SN3DC_DX_H.xls -- D-plane co- and x-pol amplitude pattern, high-band (104.02 GHz)

SN3DC_DX_L.xls -- D-plane co- and x-pol amplitude pattern, low-band (78.92 GHz)

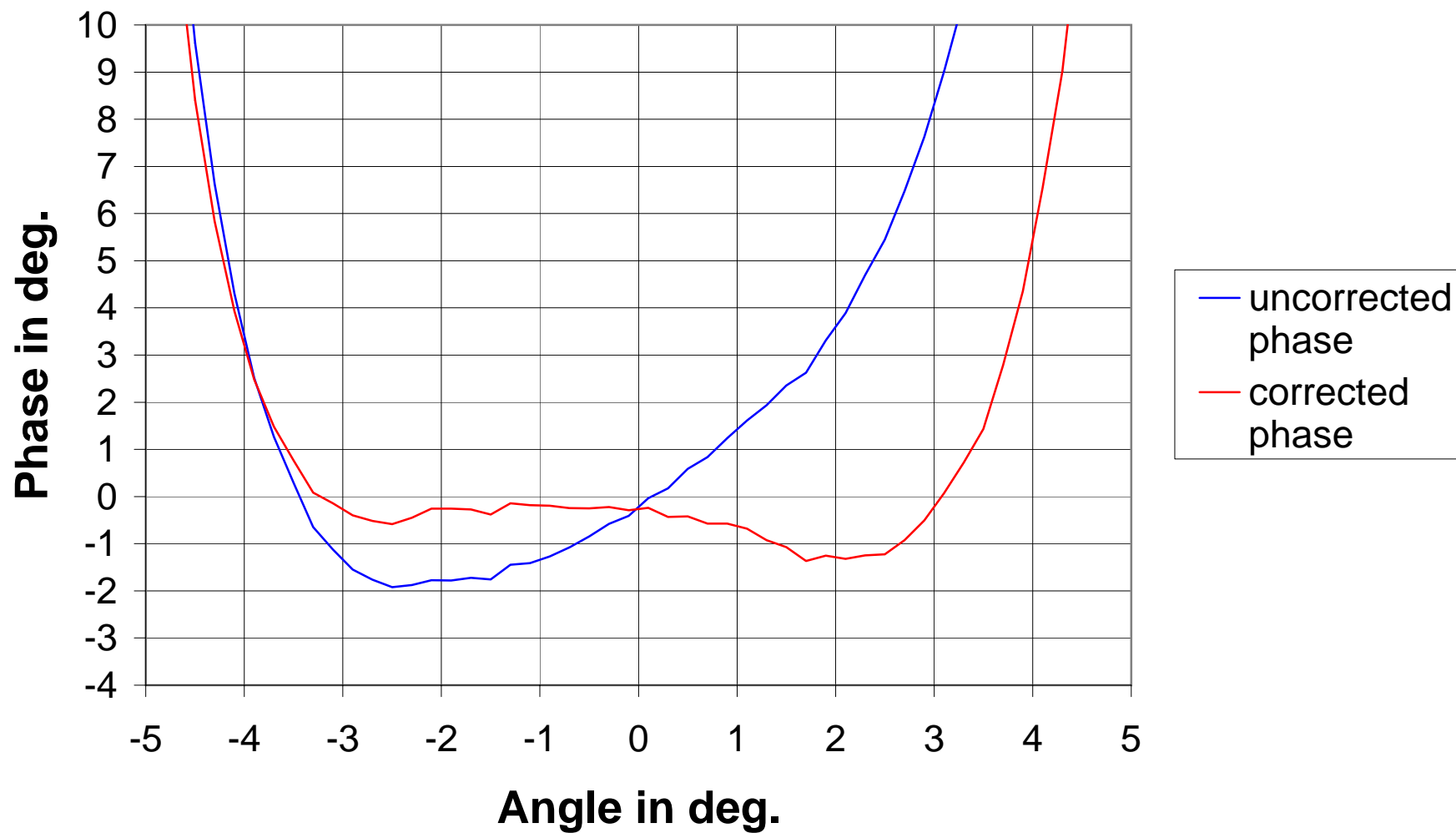
sn3dd01H_phase.xls -- D-plane co-pol phase pattern, high-band.

sn3dd01L_phase.xls -- D-plane co-pol phase pattern, low-band.

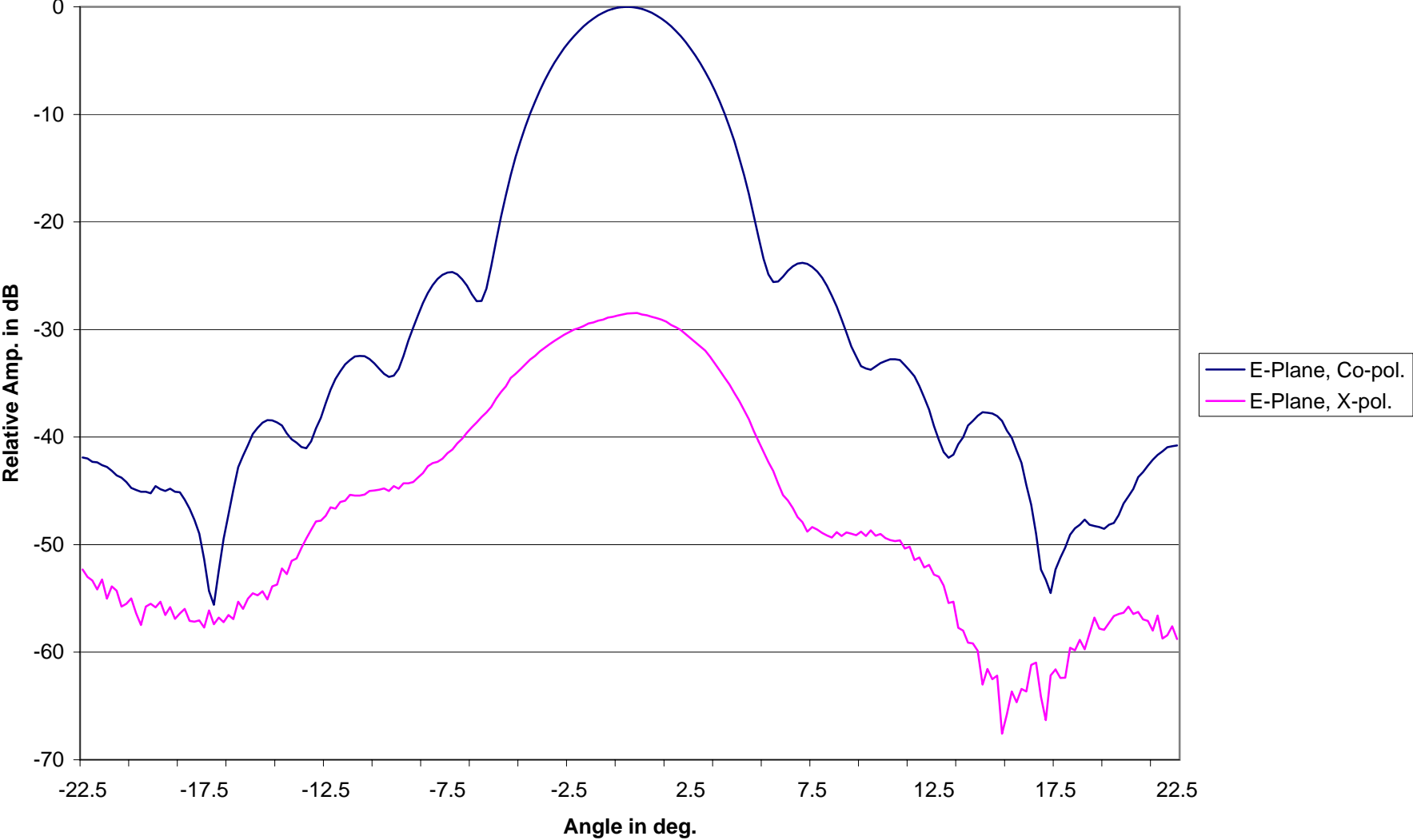
S/N: 003, 104.02 GHz



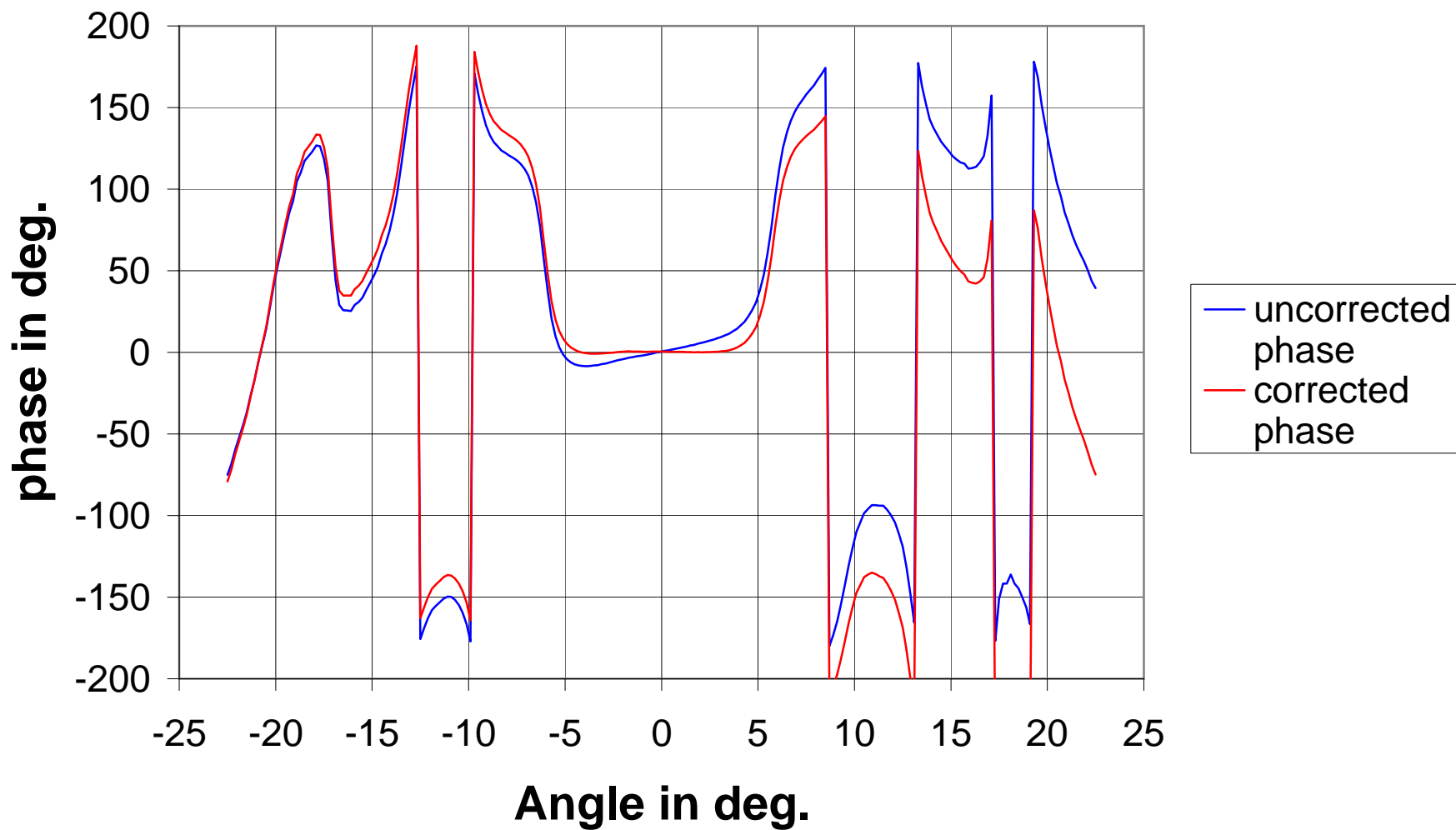
S/N: 003, 104.02 GHz, H-Plane



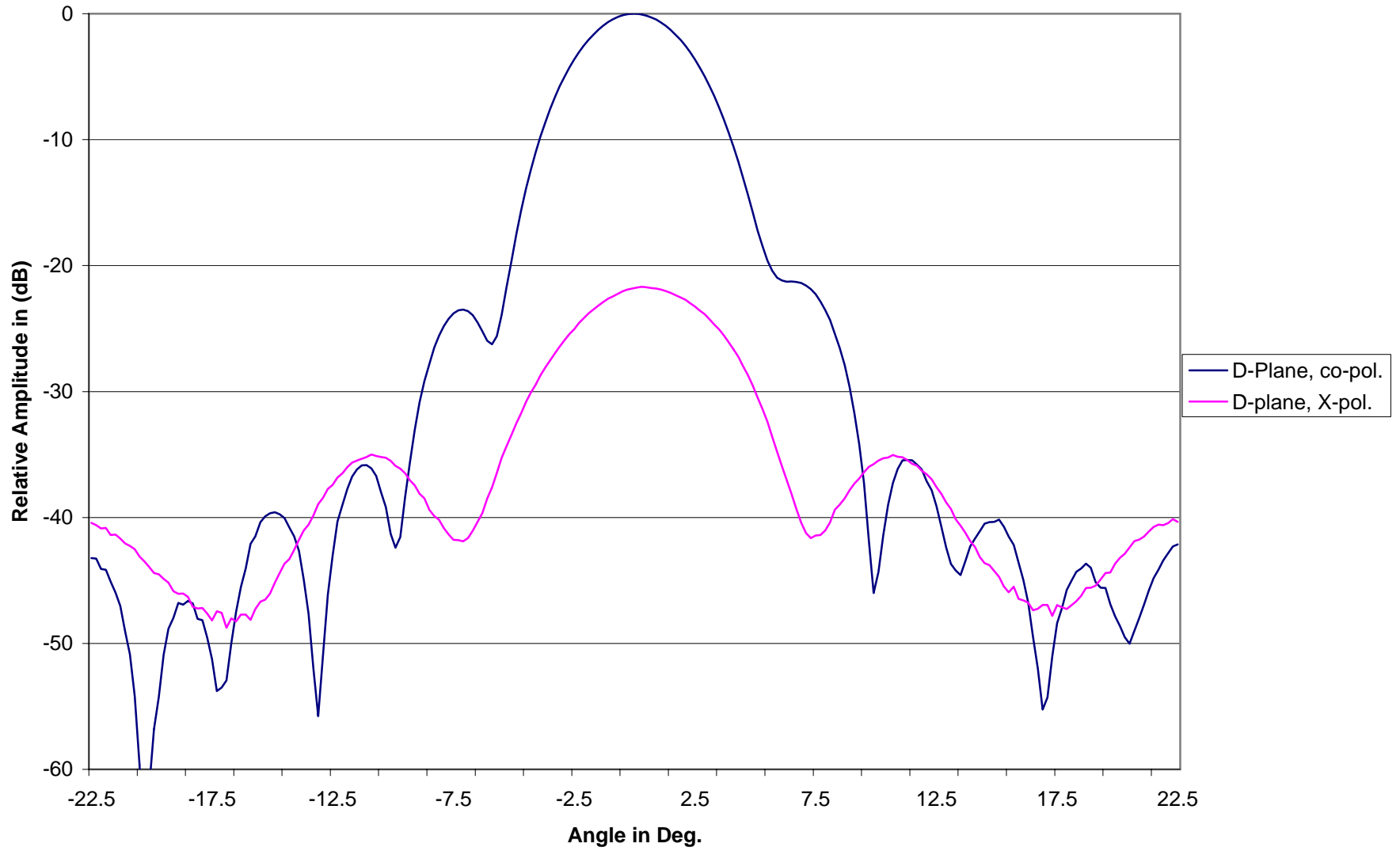
S/N: 003, 104.02 GHz



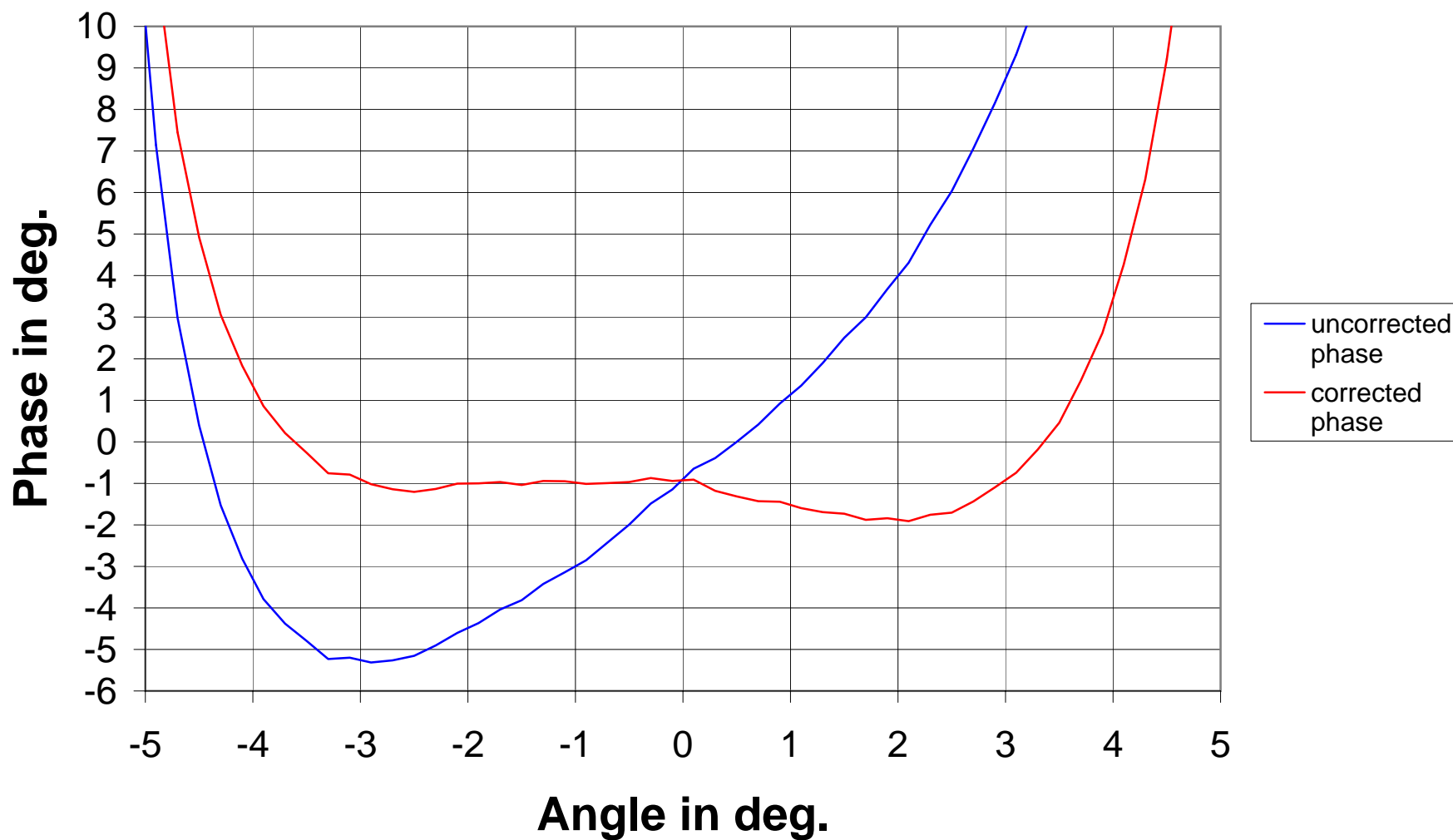
S/N: 003, 104.02 GHz, E-Plane



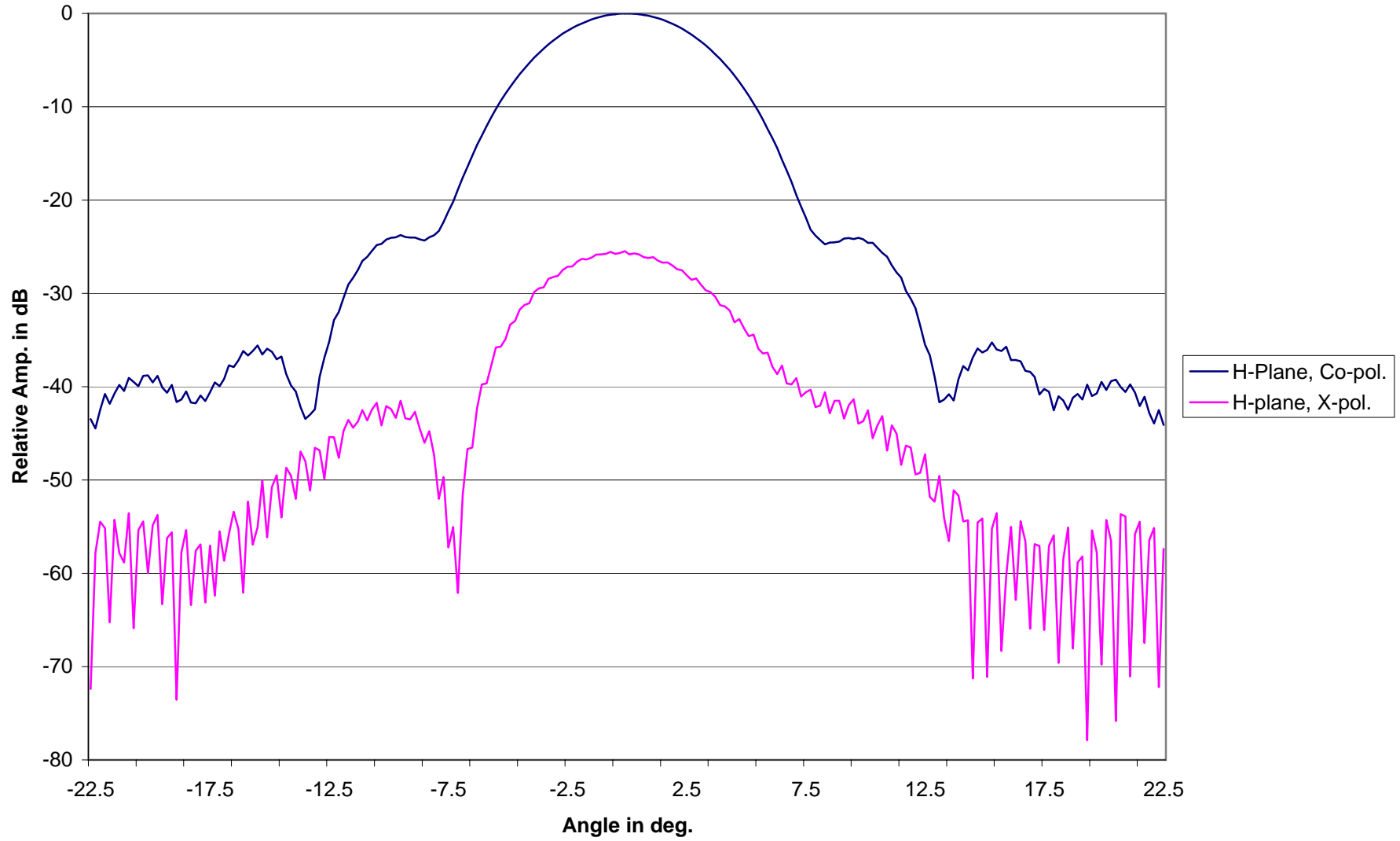
S/N: 003, 104.02 GHz



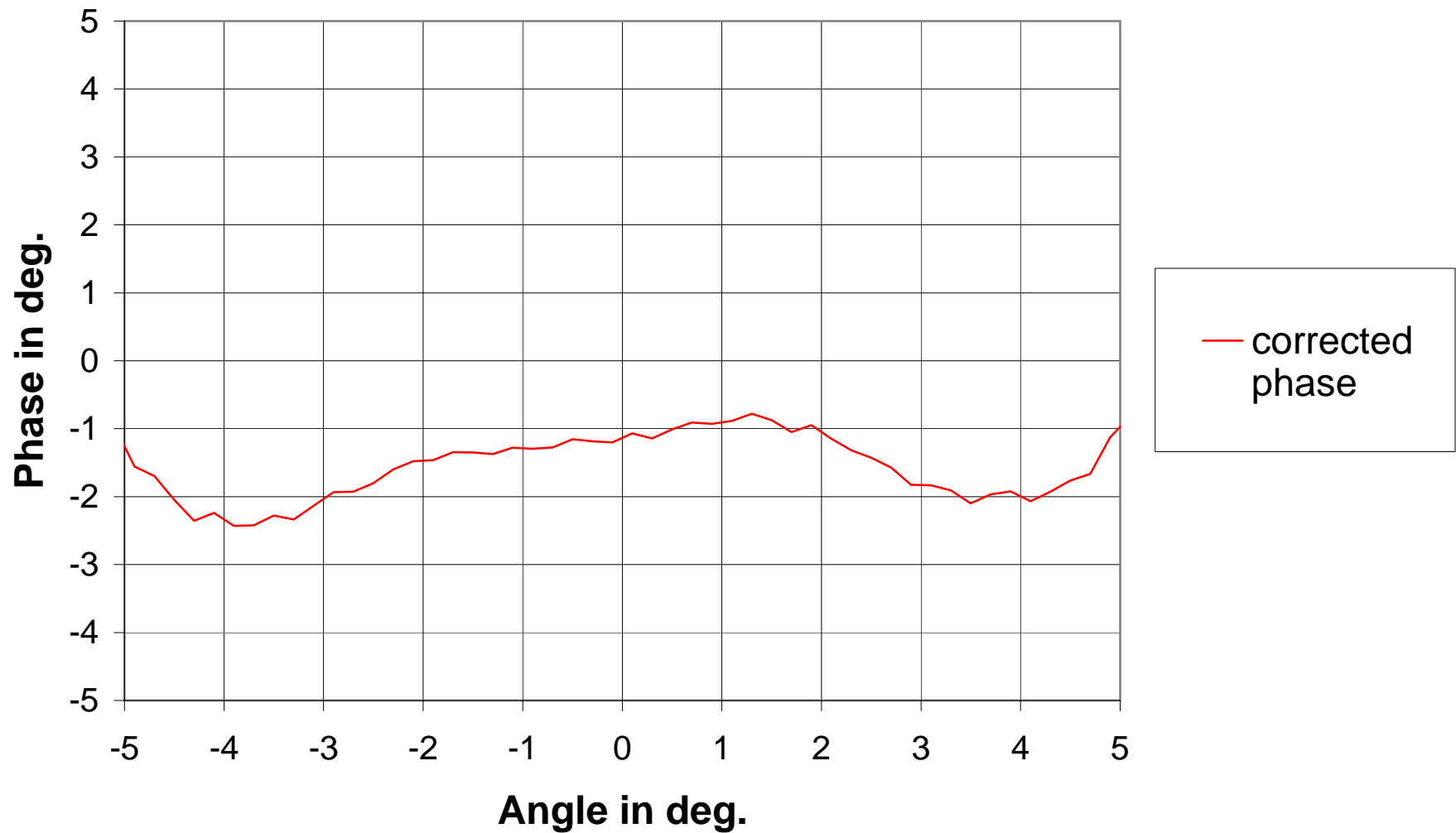
S/N: 003, 104.02 GHz, D-Plane



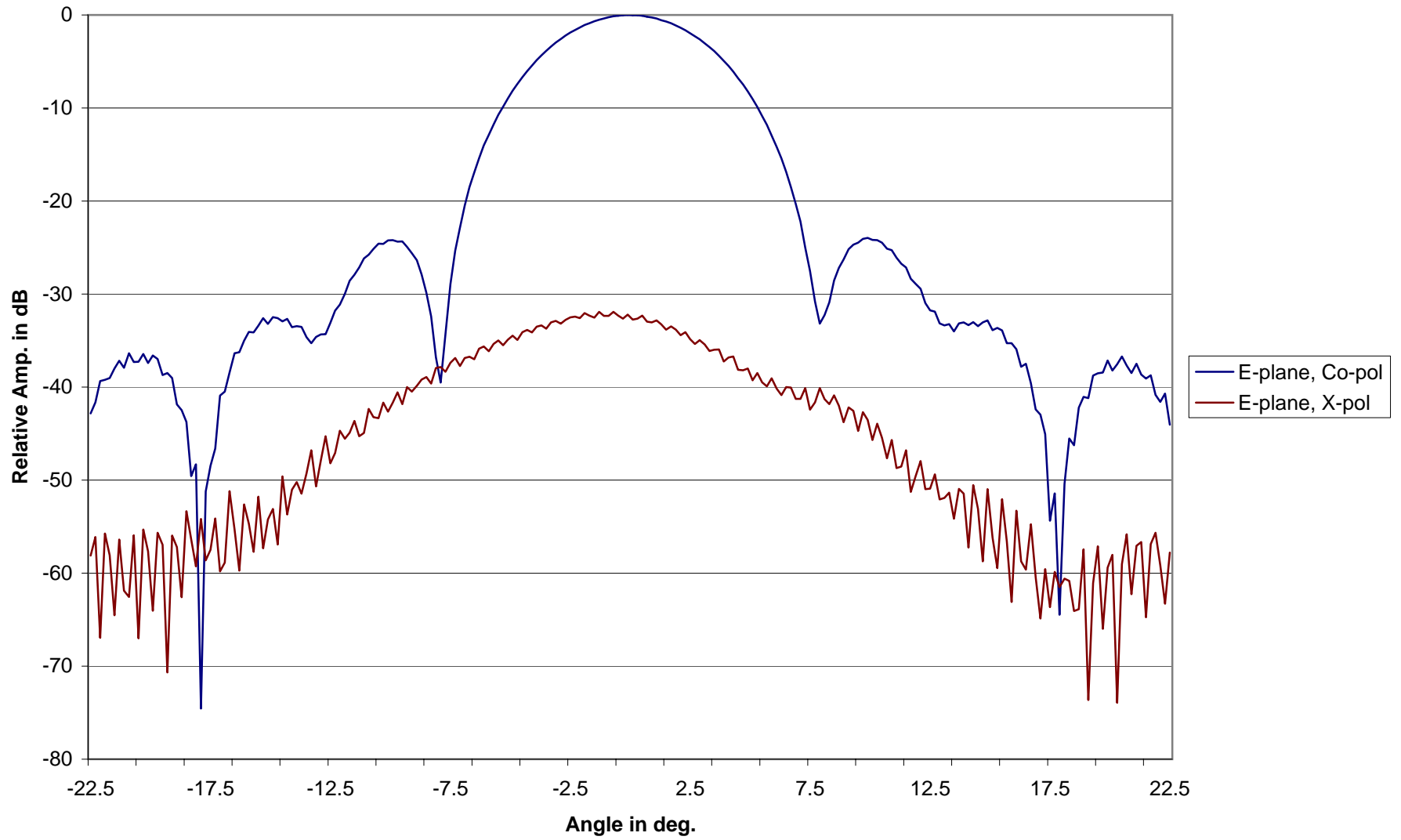
S/N: 003, 78.92 GHz



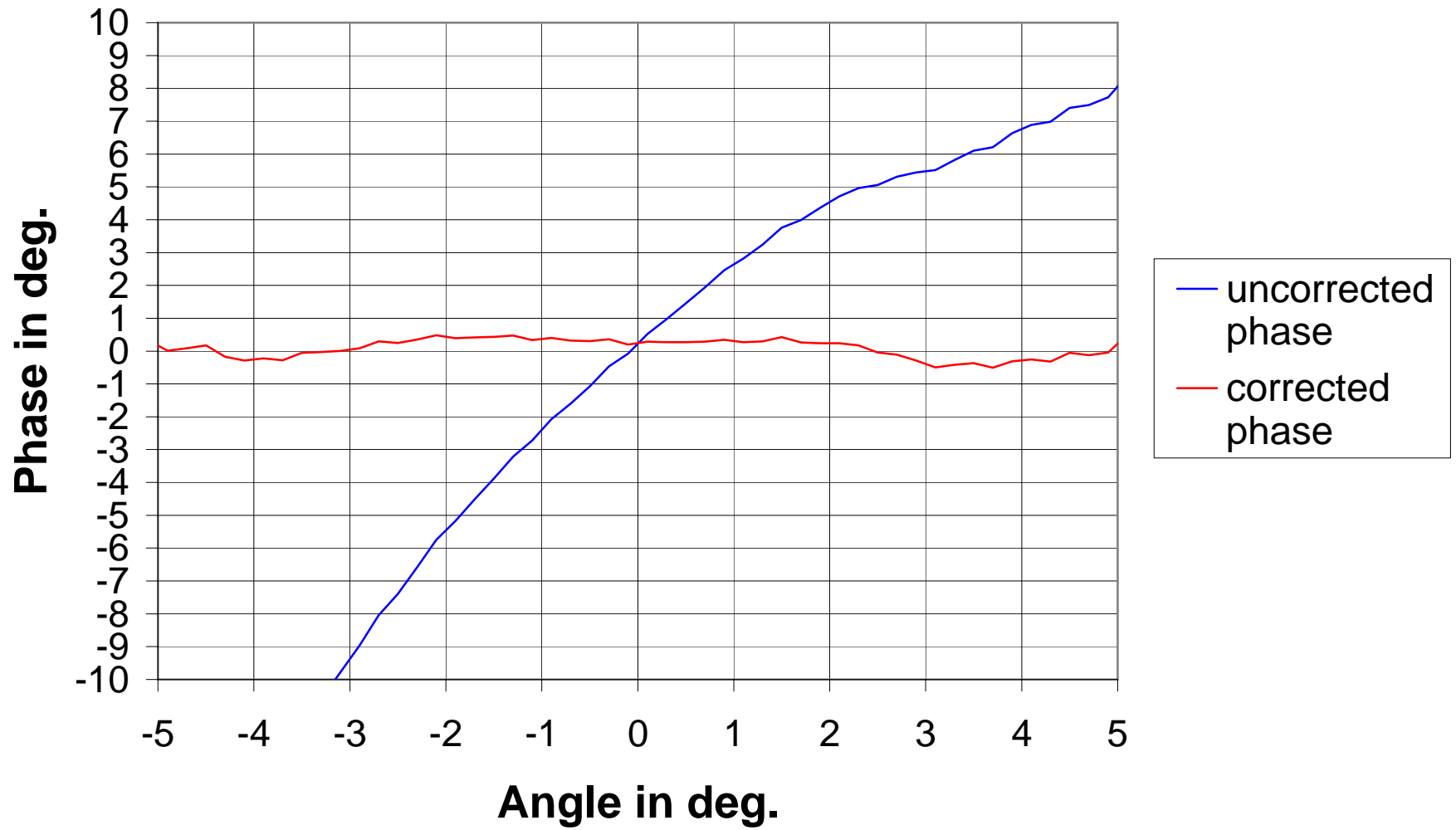
S/N: 003, 78.92 GHz, H-Plane



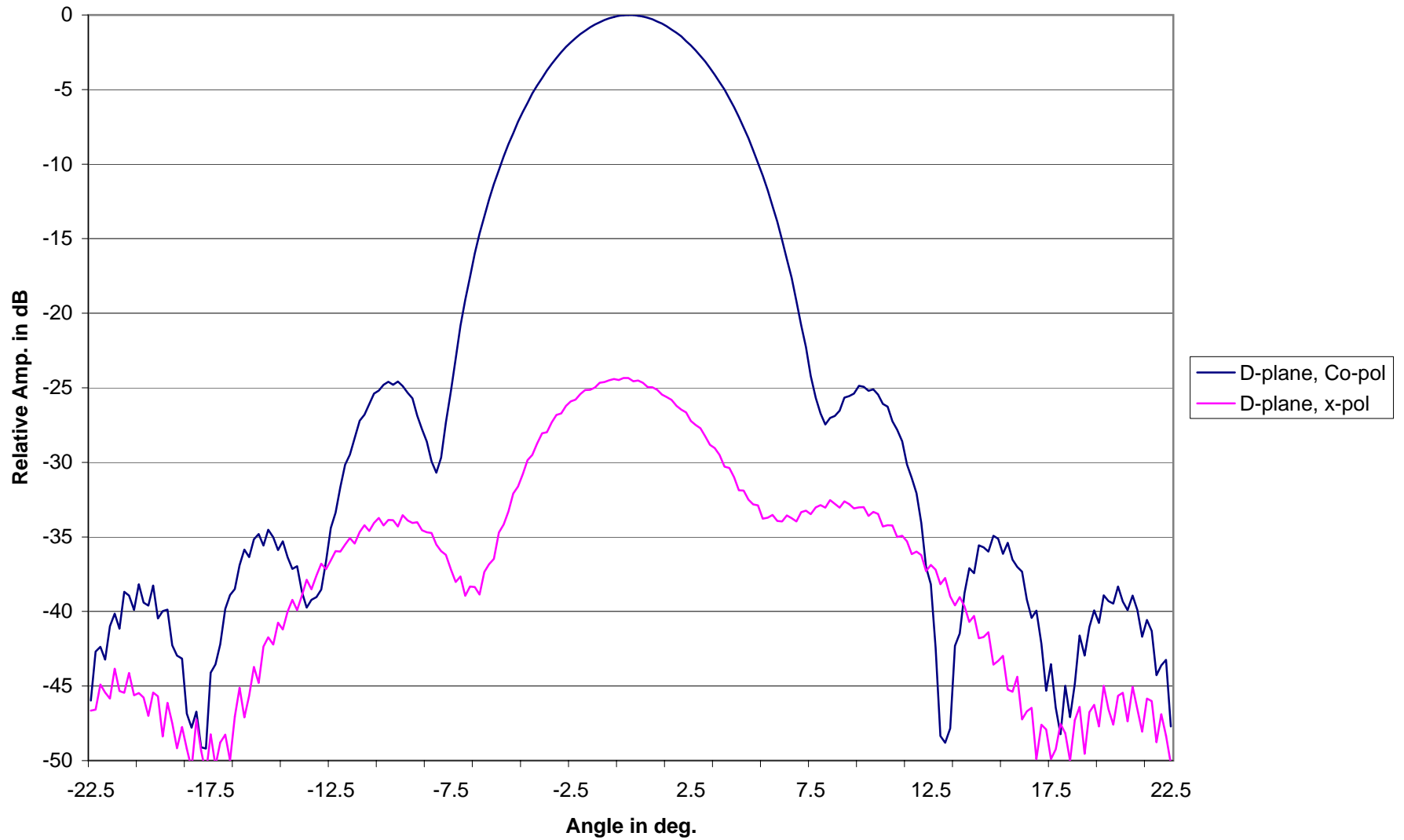
S/N: 003, 78.92 GHz



S/N: 003, 78.92 GHz, E-Plane



S/N: 003, 78.92 GHz



S/N: 003, 78.92 GHz, D-Plane

