

December 13, 2011

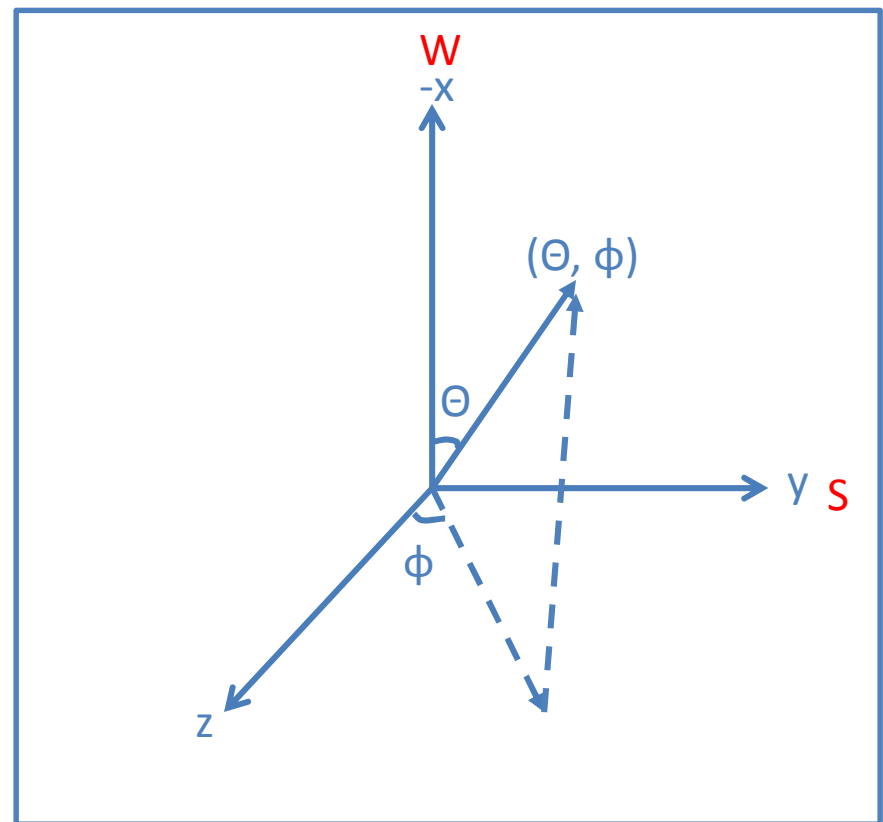
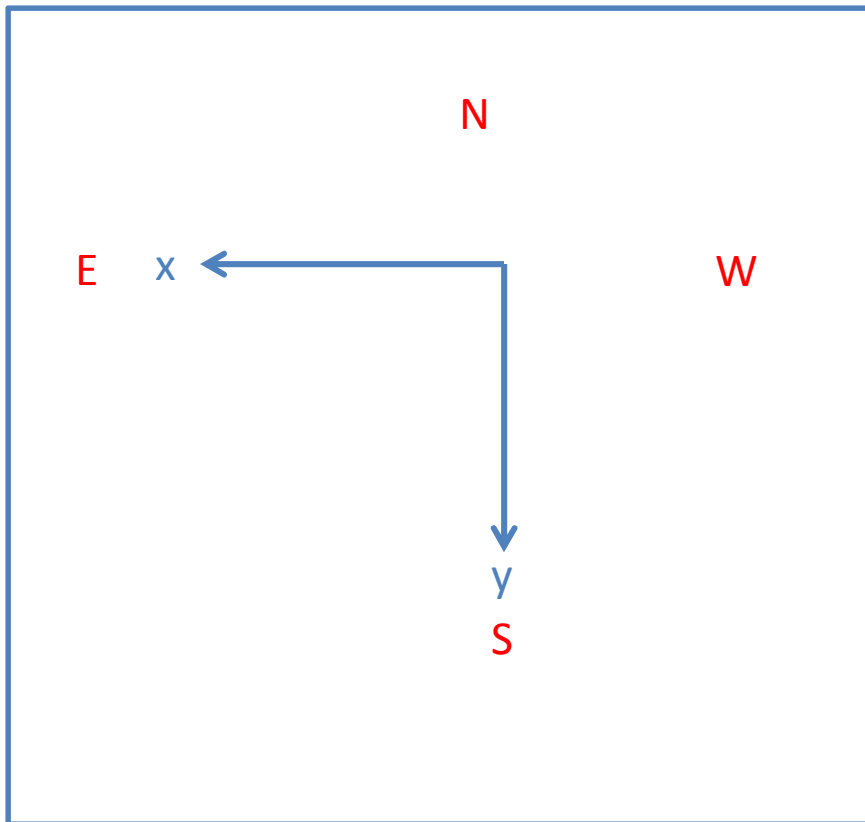
Updated: May 15, 2012

# 119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 49

## Maximum Allowable EIRP to meet the -117dBW/m<sup>2</sup>/100 kHz

| Maximum EIRP Allowed                                 |         |
|--|---------|
| Spec Max flux density, dBW/m <sup>2</sup> /100kHz    | -117    |
| Desired channel band width, MHz                      | 25.8    |
| Symbol rate band width modification factor           | 1       |
| Effective channel bandwidth, MHz                     | 25.8    |
| Effective bandwidth, dB-100kHz                       | 24.1    |
| Flux density allowed per channel, dBW/m <sup>2</sup> | -92.9   |
| R, radial distance to GEO, km                        | 42164.0 |
| Angle of separation between satellites, deg          | 0.1     |
| range between satellites, km                         | 73.59   |
| Spreading factor, dB/m <sup>2</sup>                  | -108.3  |
| Atmospheric loss, dB                                 | 0       |
| Max satellite EIRP allowed, dBW                      | 15.4    |

# Coordinate System



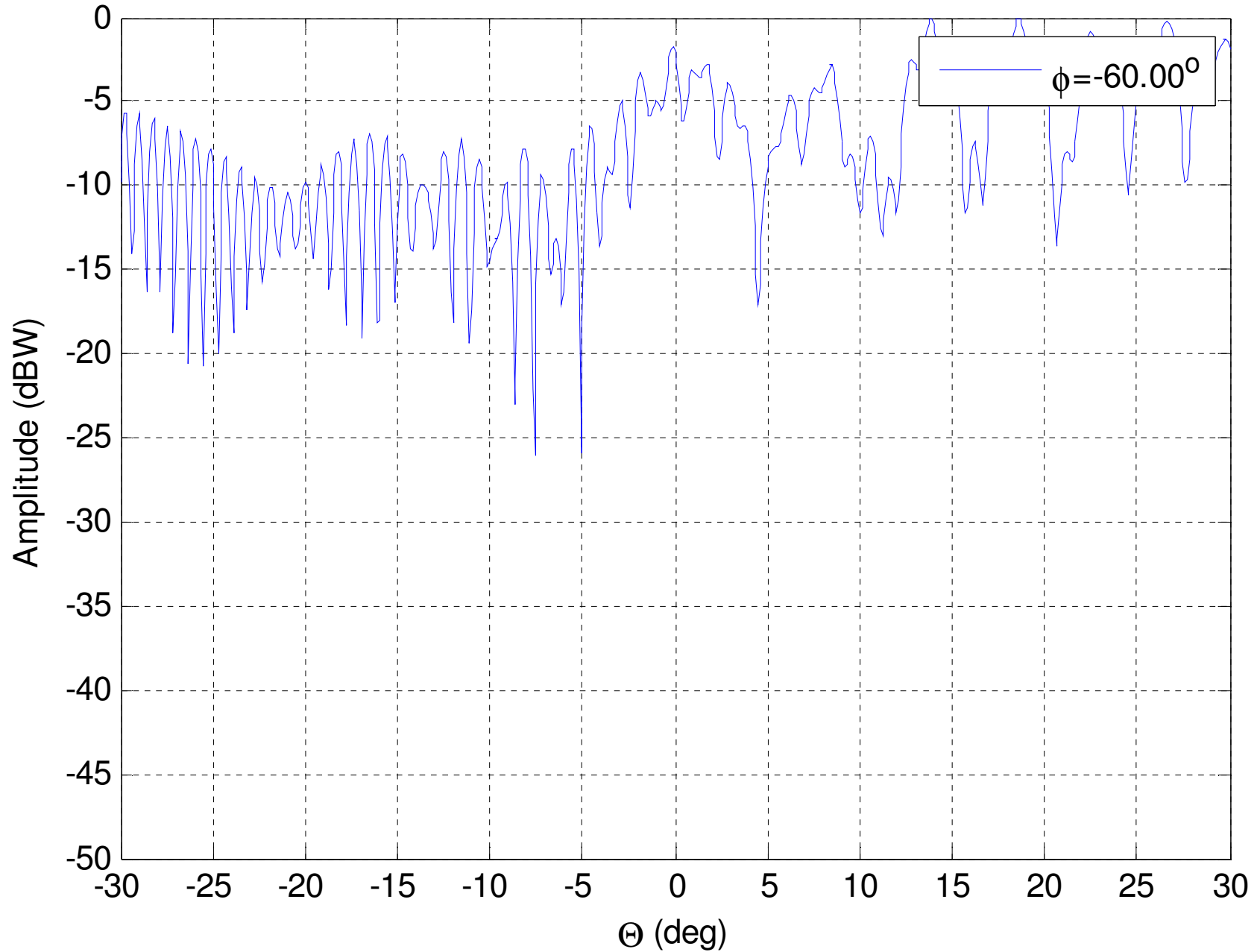
# Spot Beam49, -X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

**RHCP at 17.3 GHz**

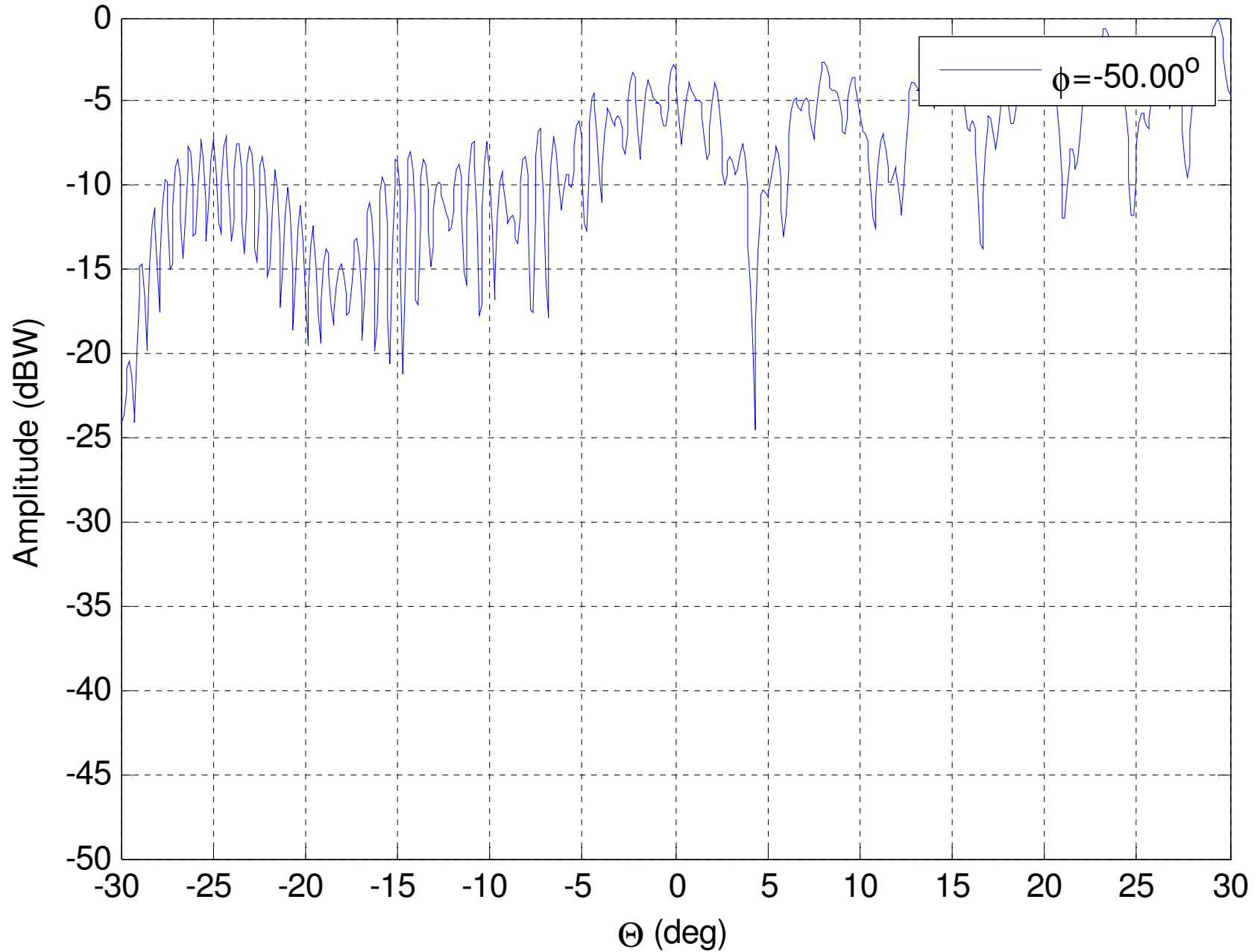
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -12.56 dBW, Date: 16-Dec-2011



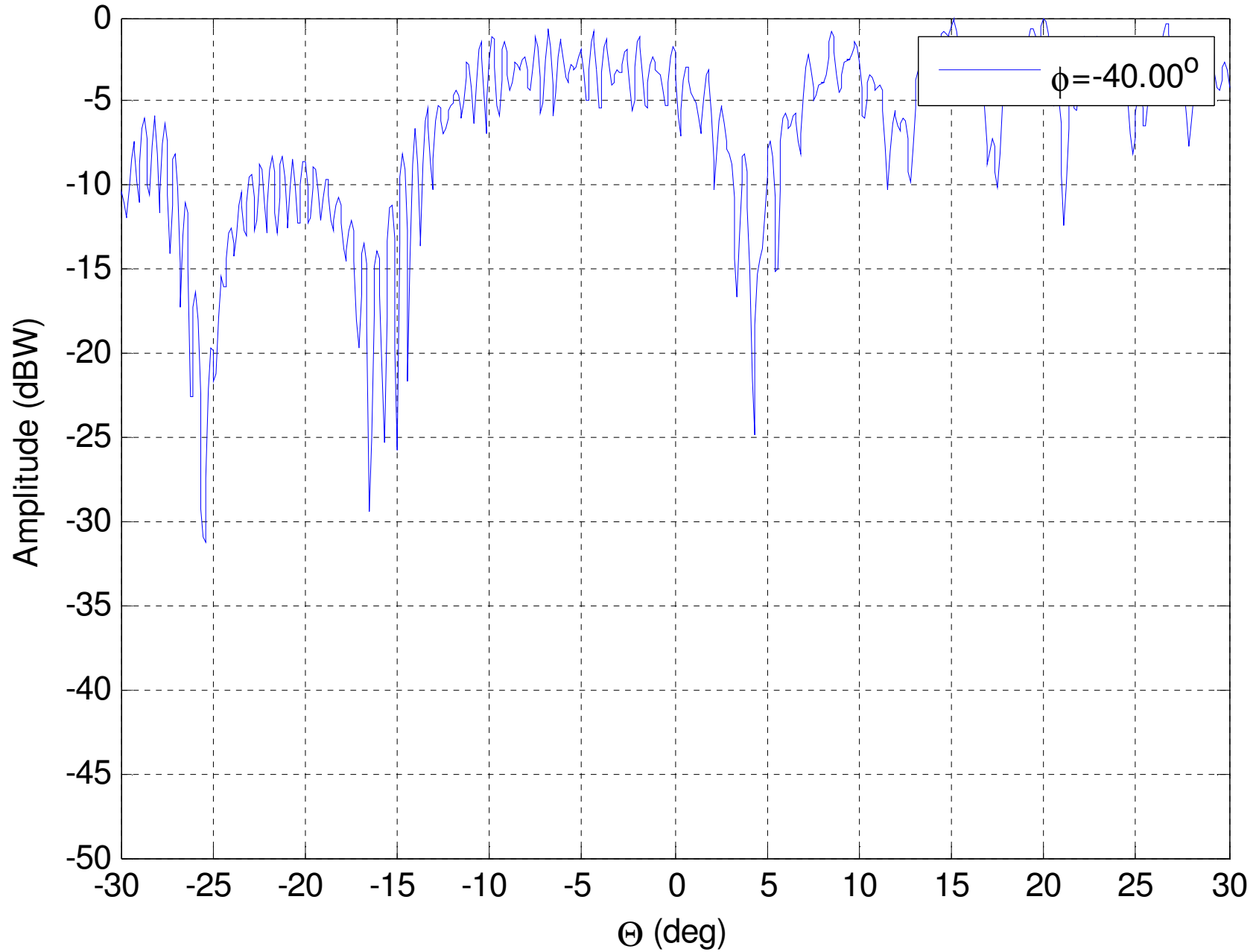
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -11.45 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

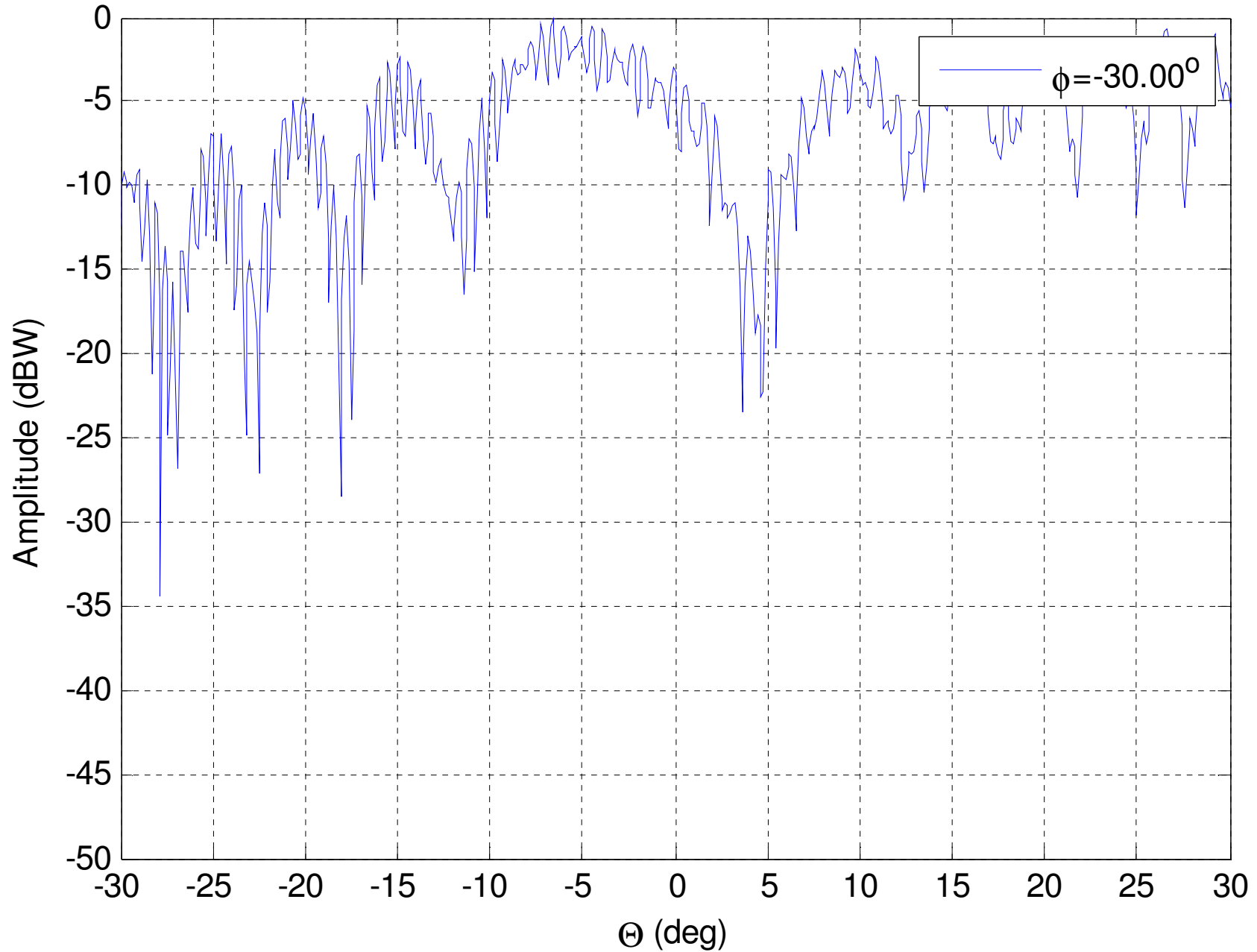
Input file: tx-17.3-rhcp--40.cut, Peak: -12.47 dBW, Date: 16-Dec-2011





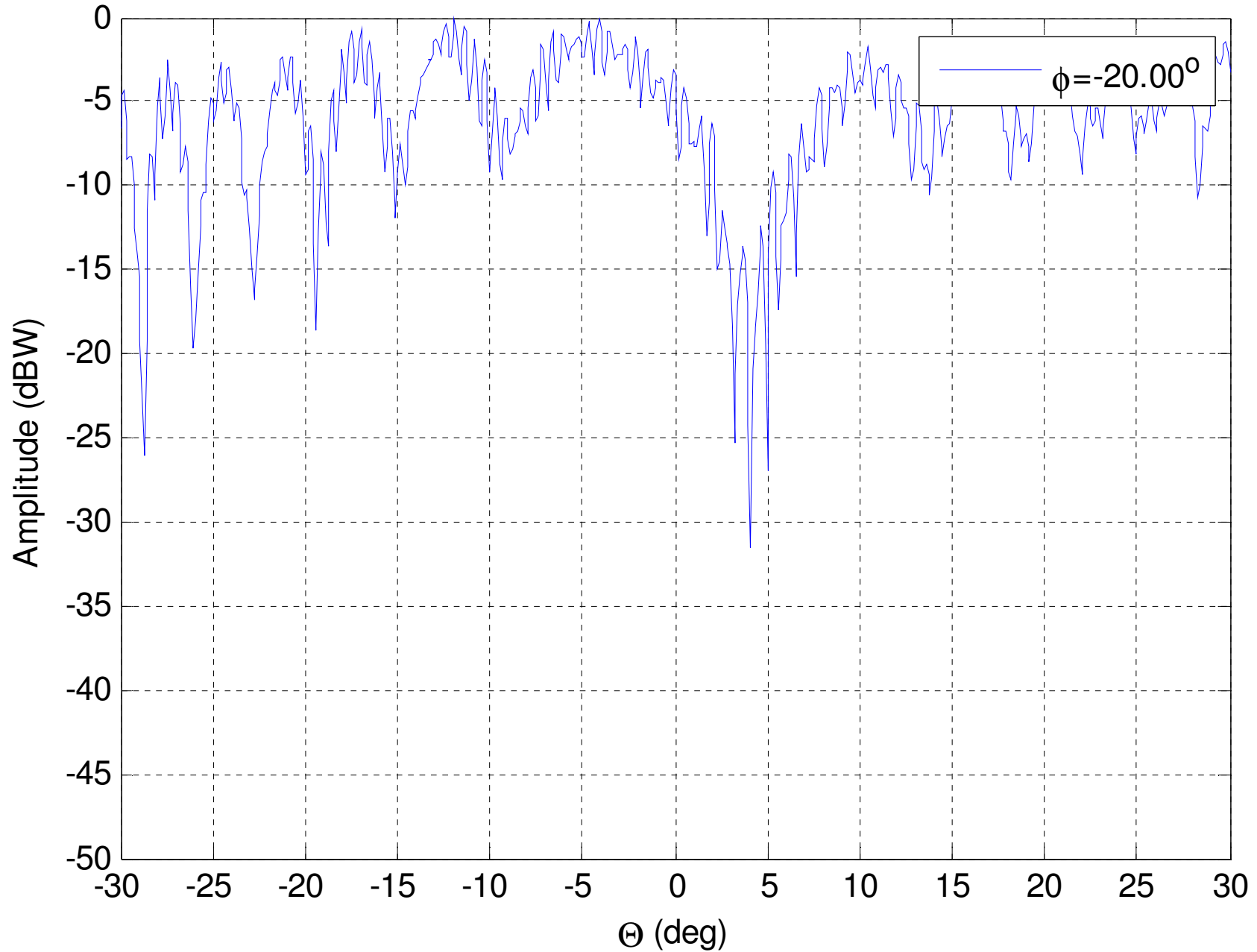
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -11.28 dBW, Date: 16-Dec-2011



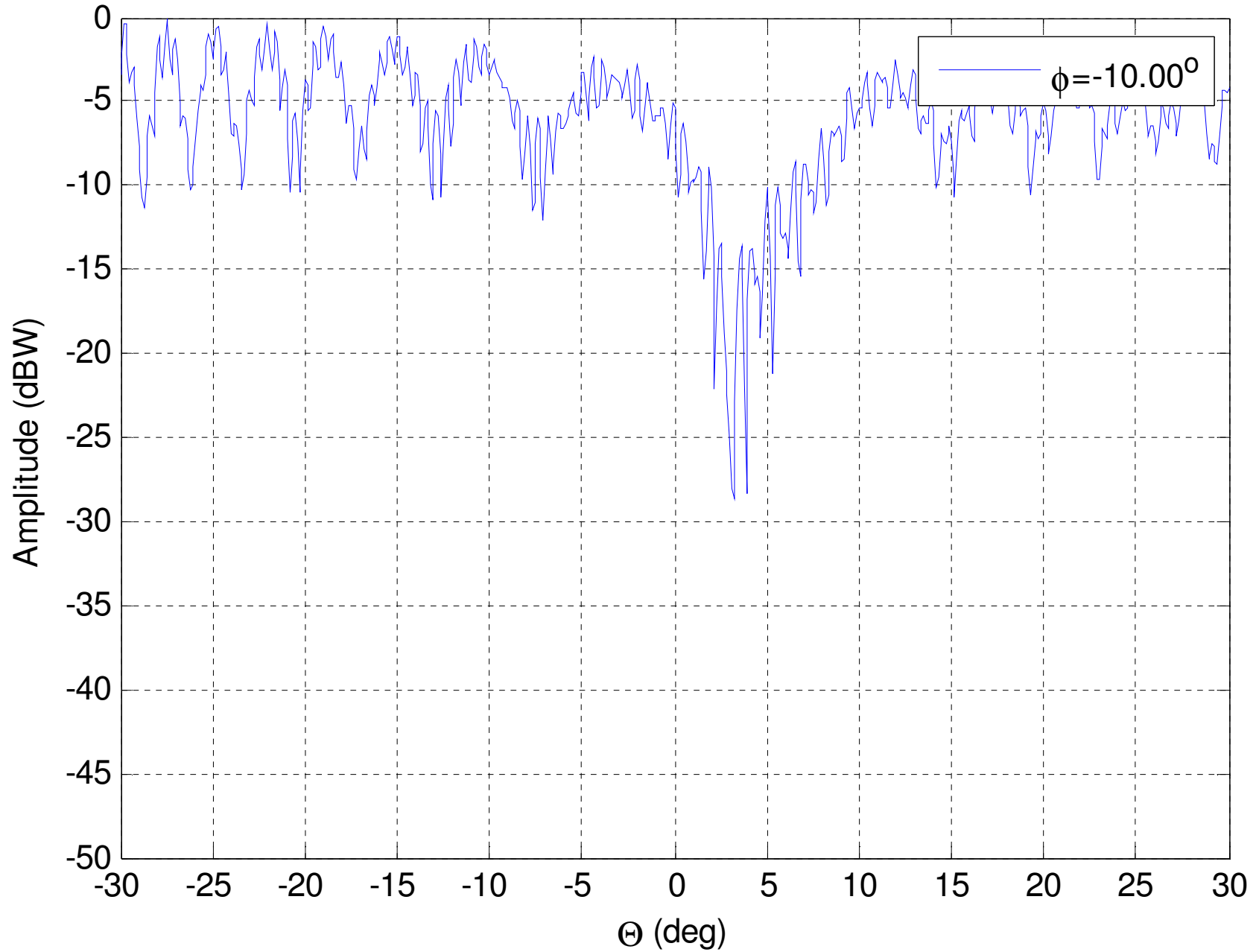
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -11.13 dBW, Date: 16-Dec-2011



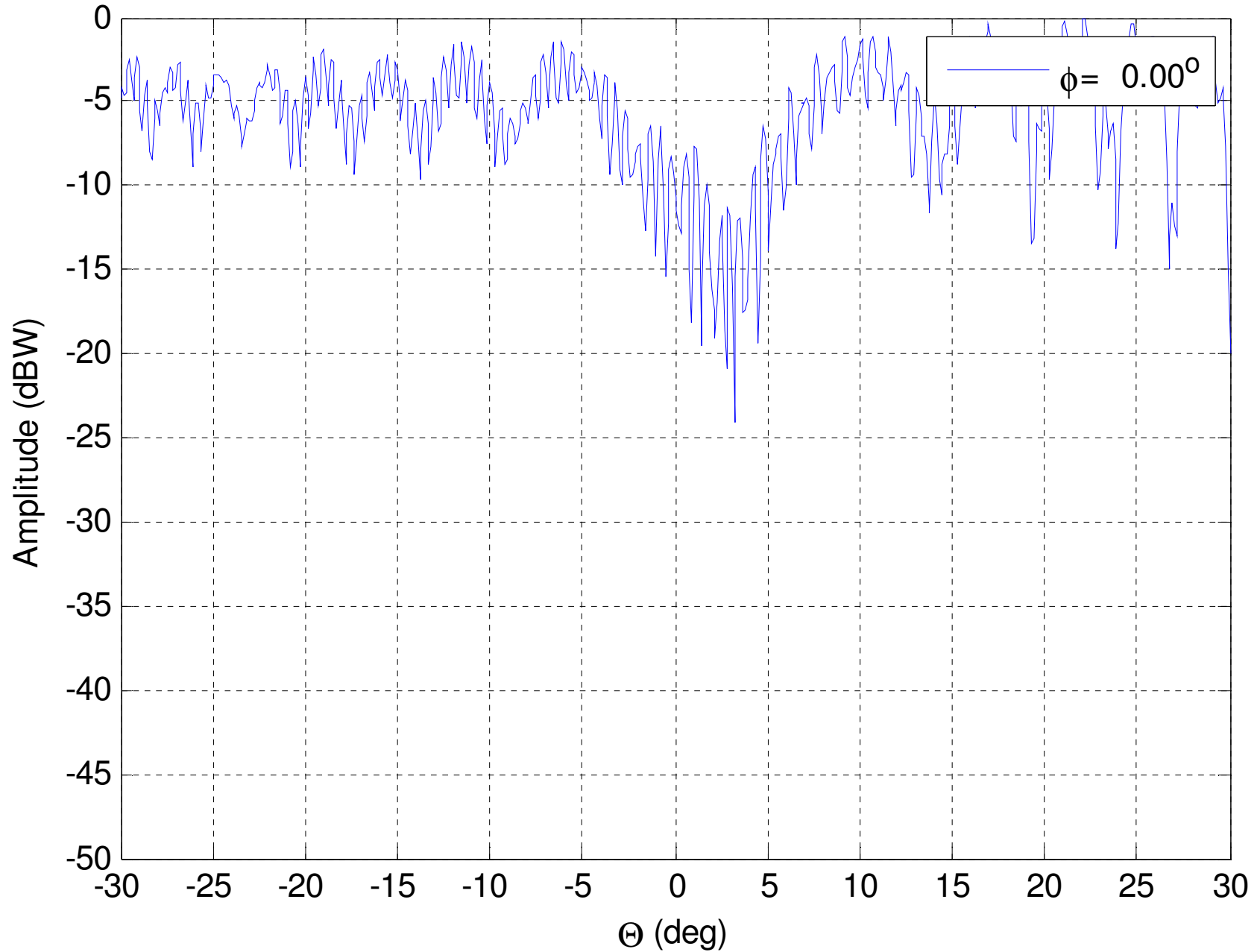
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -9.12 dBW, Date: 16-Dec-2011



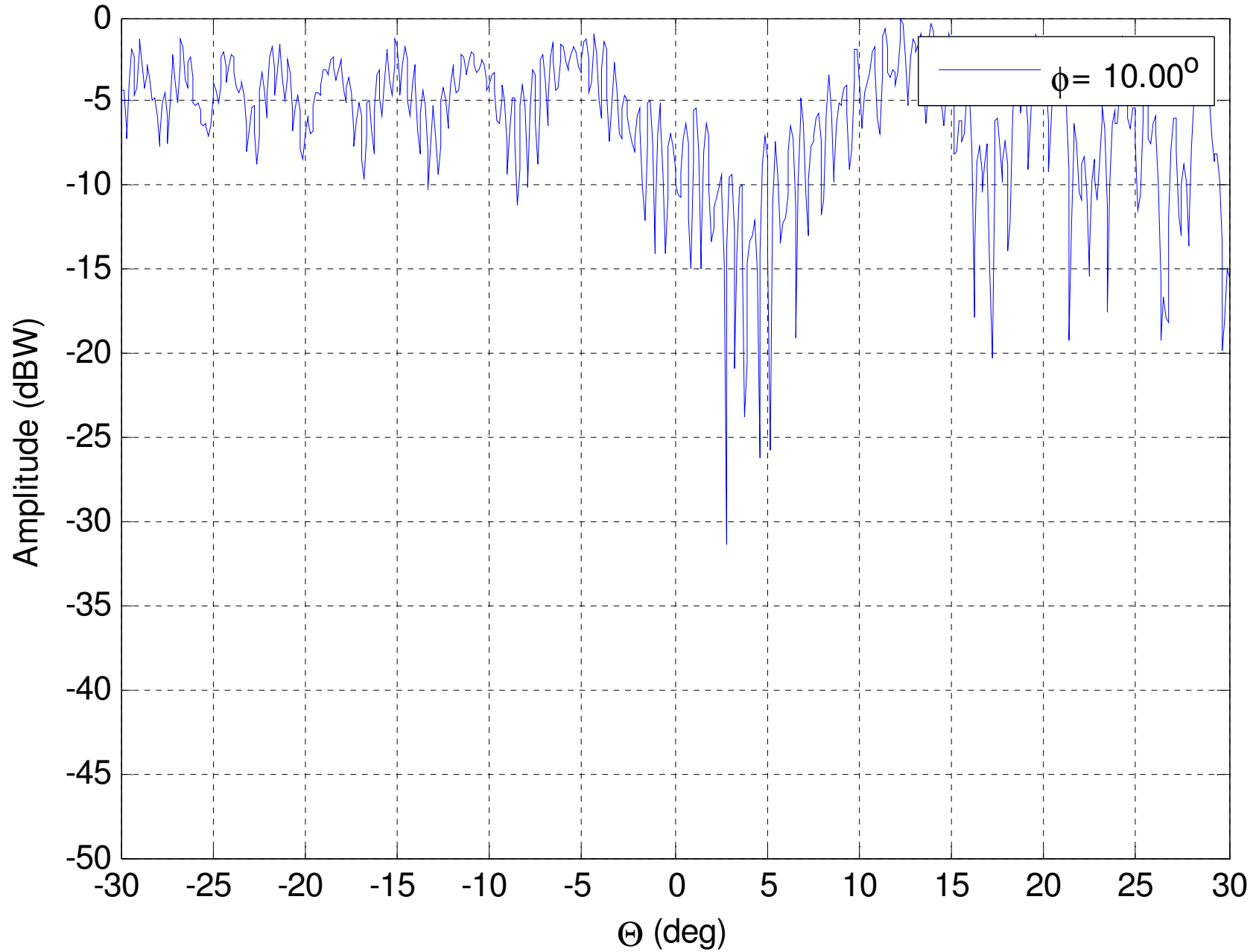
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -9.83 dBW, Date: 16-Dec-2011



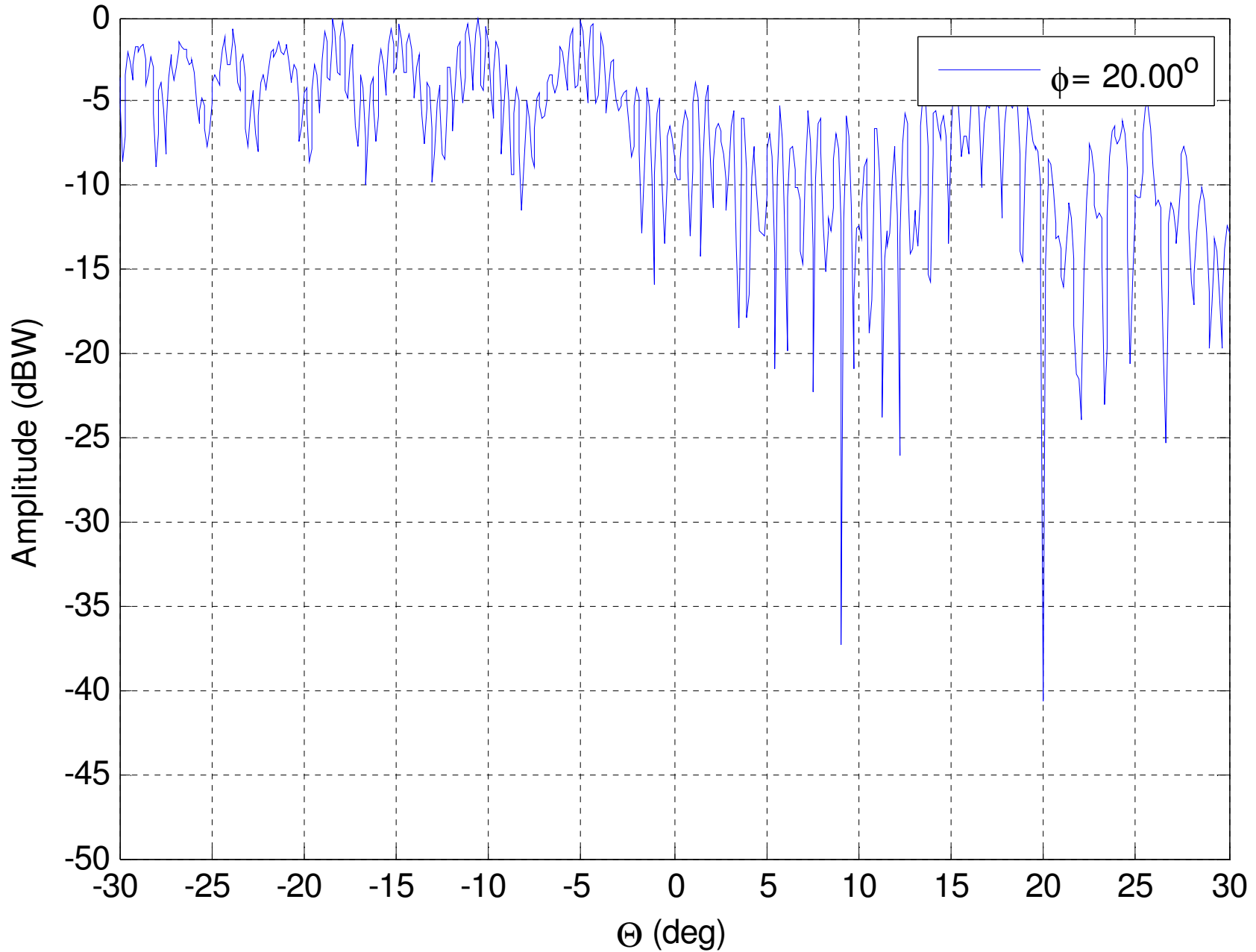
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -11.44 dBW, Date: 16-Dec-2011



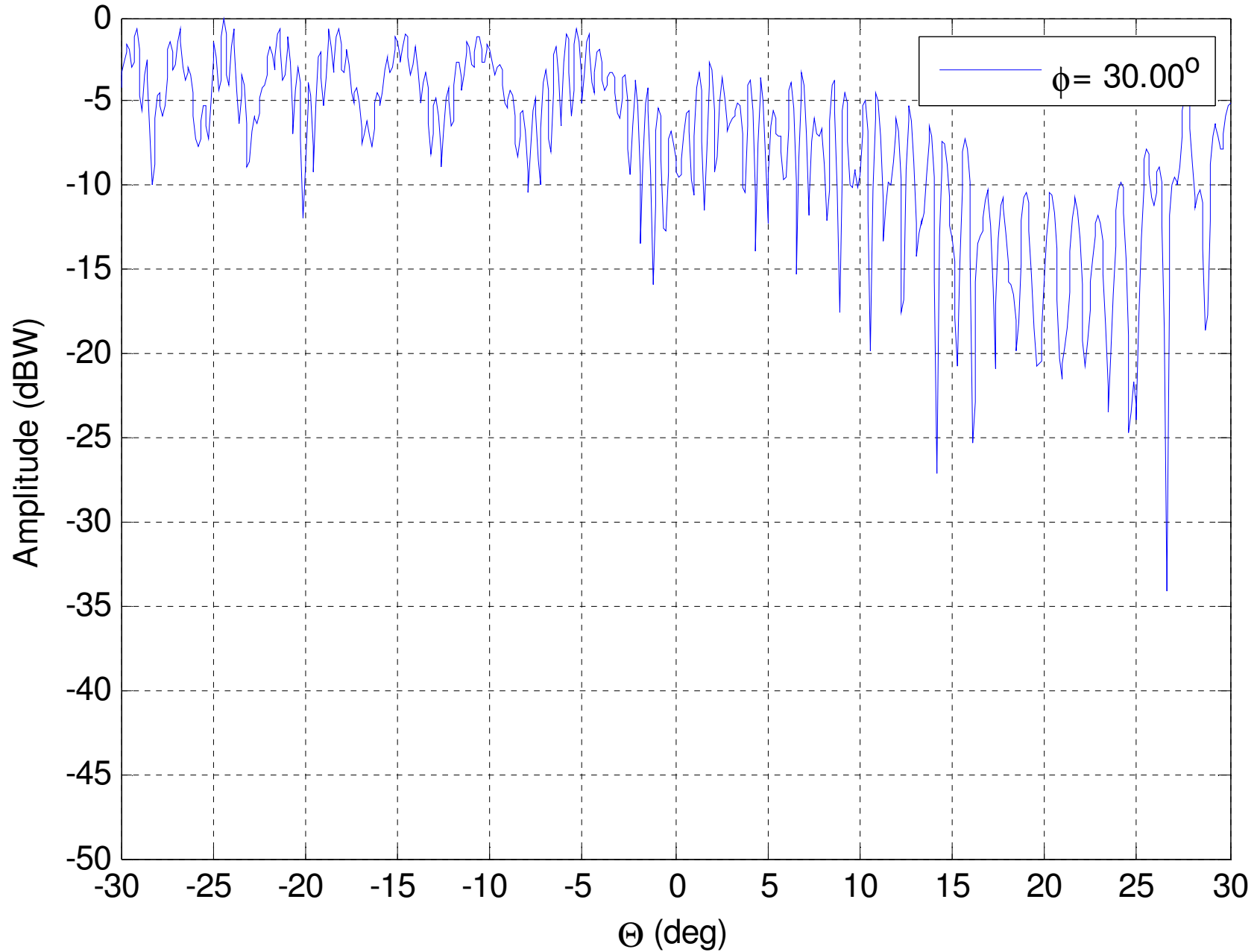
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -12.06 dBW, Date: 16-Dec-2011



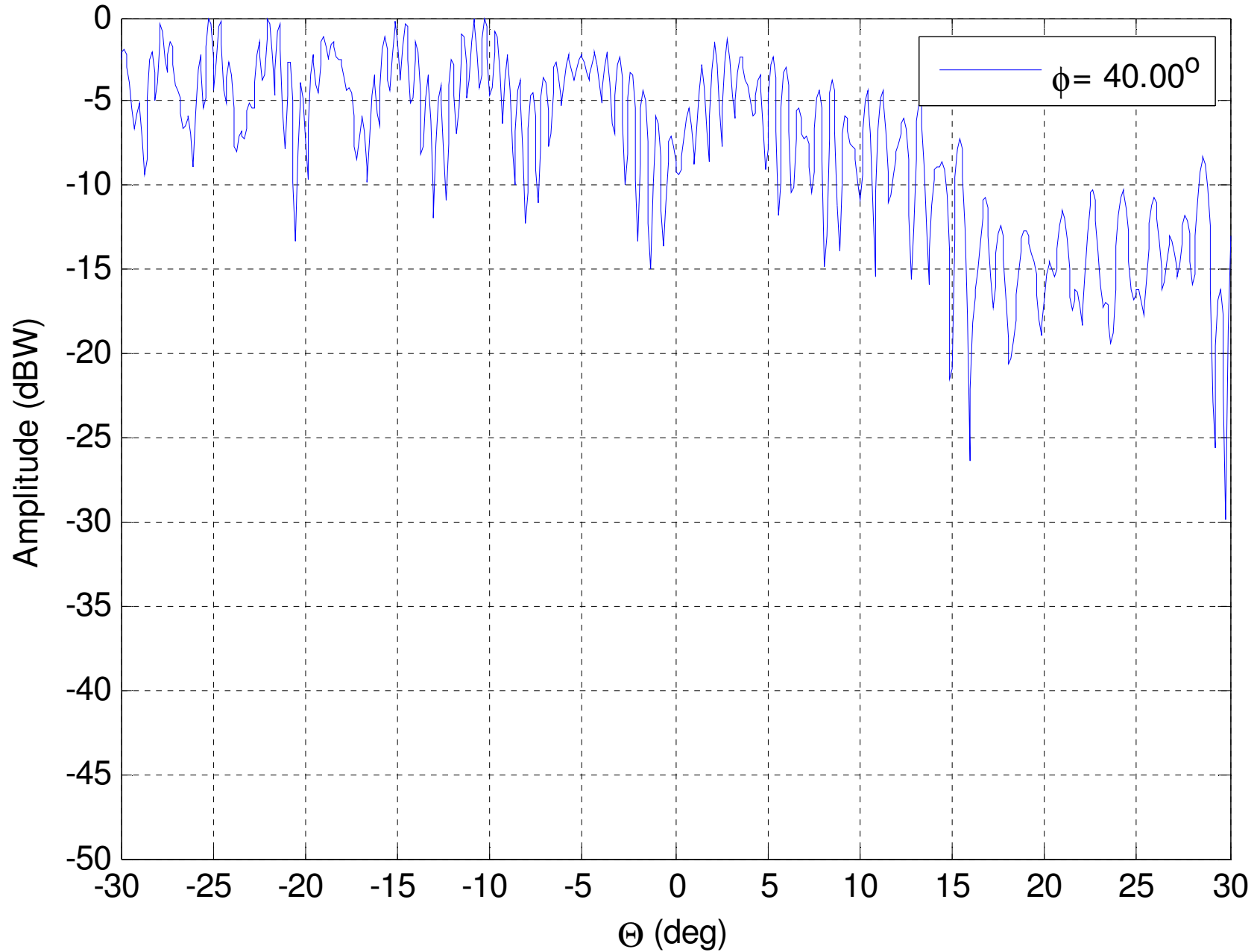
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -11.97 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

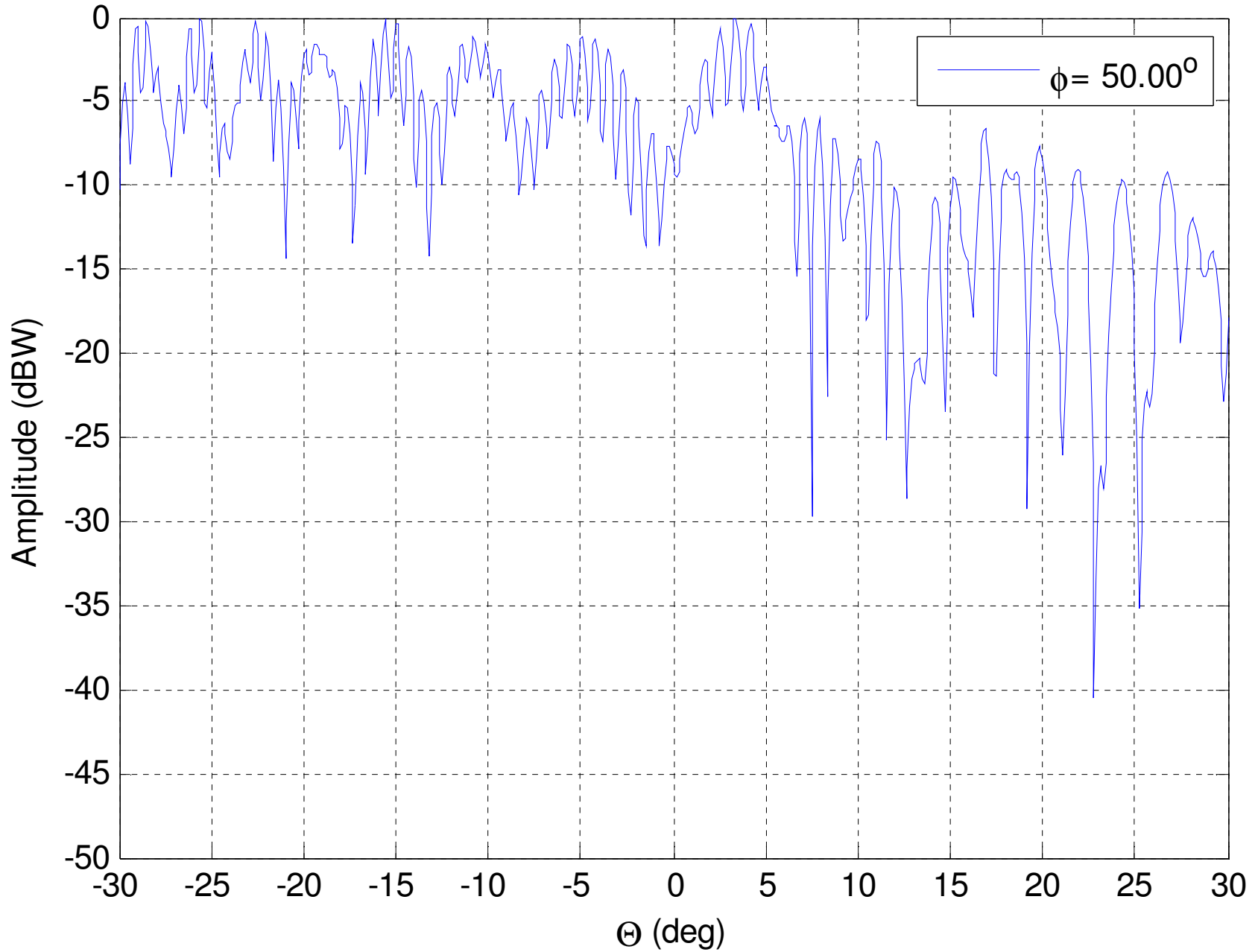
Input file: tx-17.3-rhcp-40.cut, Peak: -11.95 dBW, Date: 16-Dec-2011





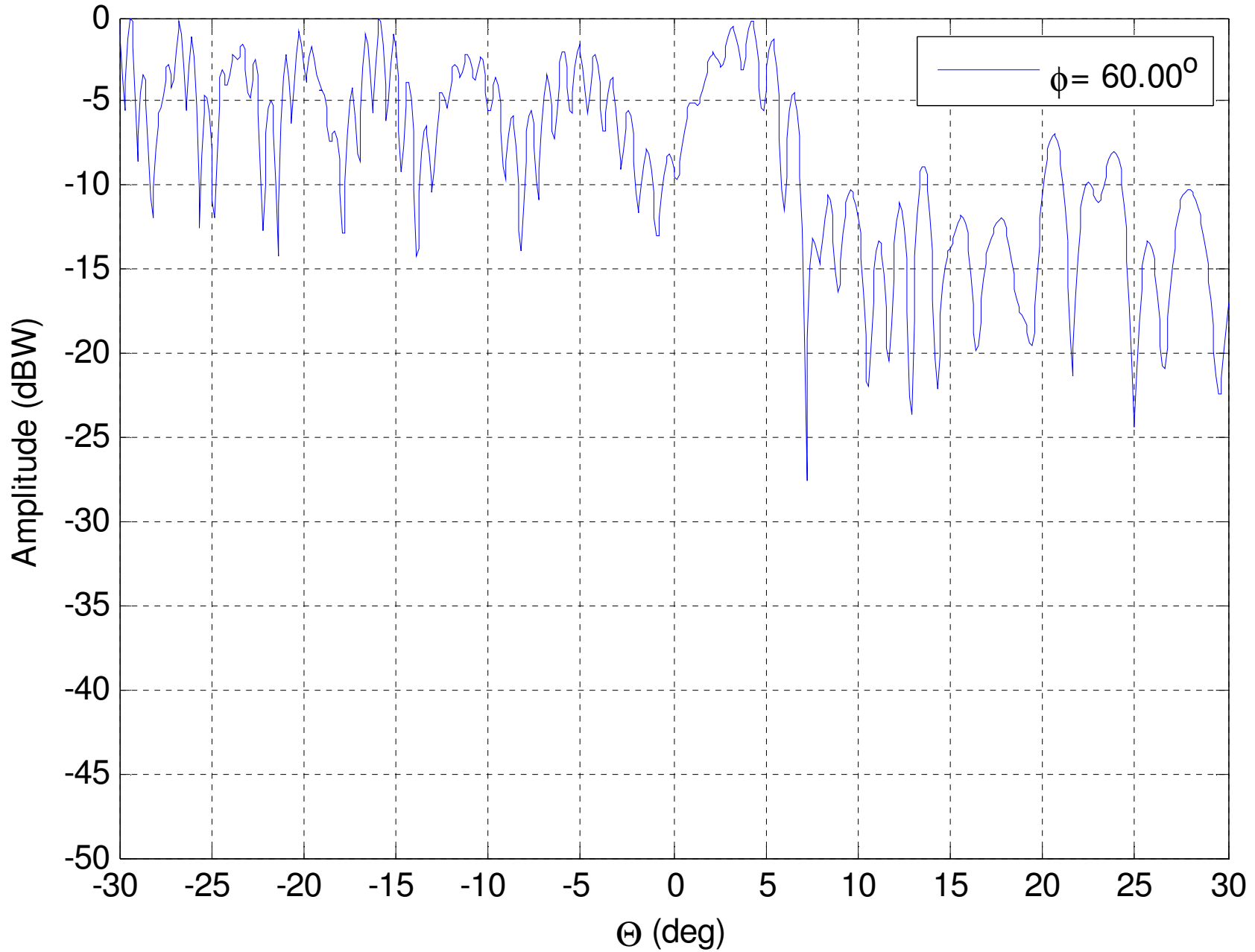
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -11.67 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

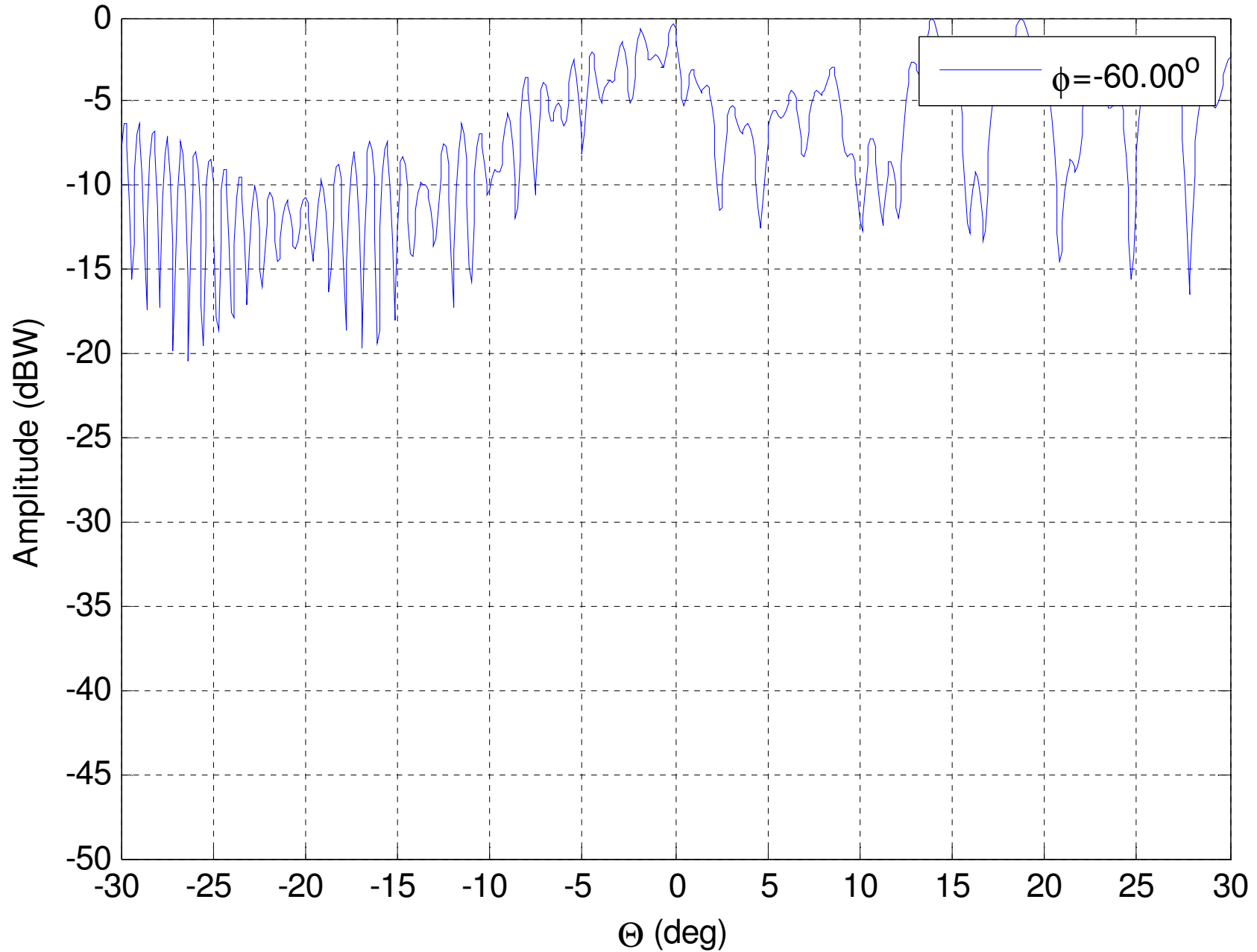
Input file: tx-17.3-rhcp-60.cut, Peak: -11.50 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

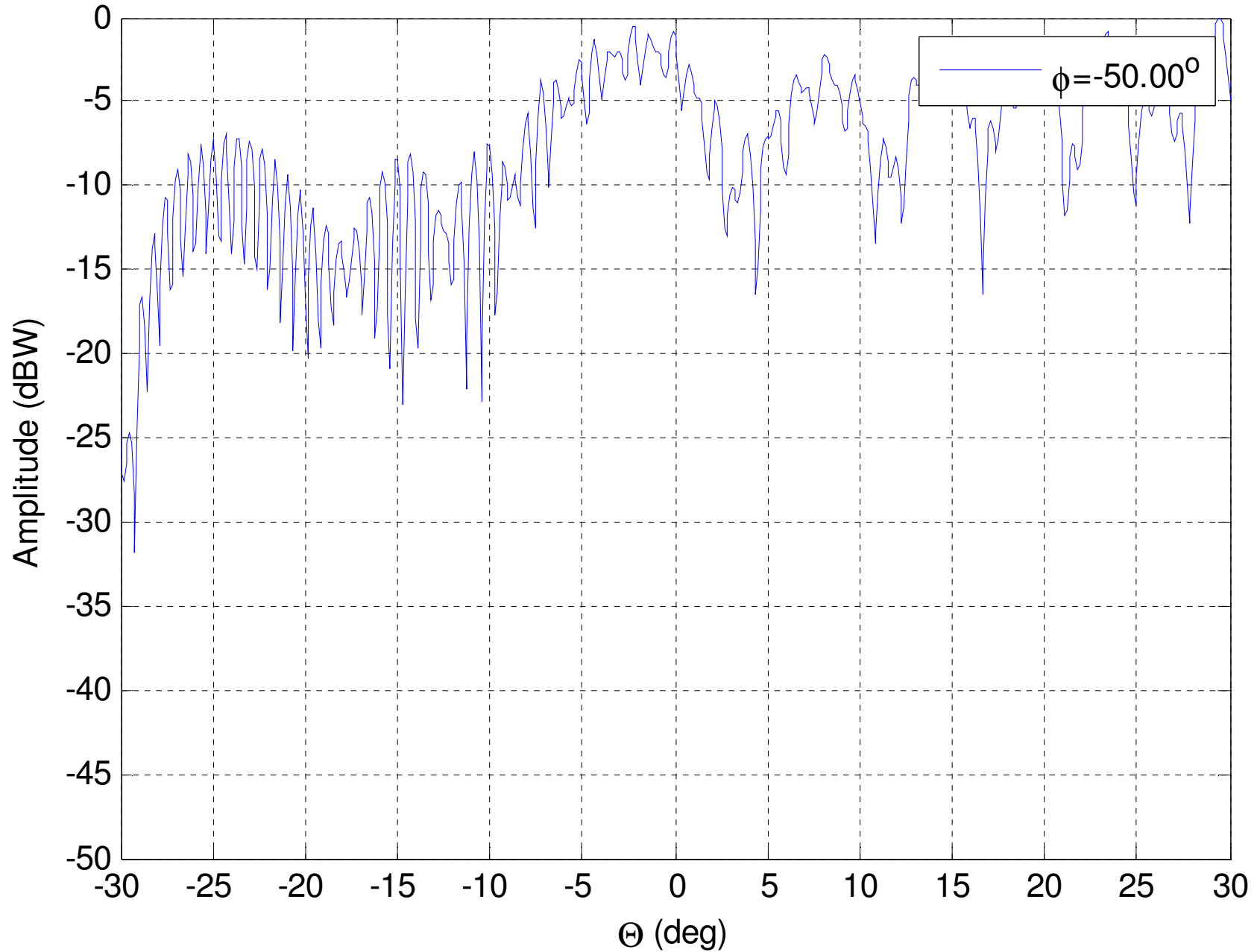
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -12.40 dBW, Date: 16-Dec-2011



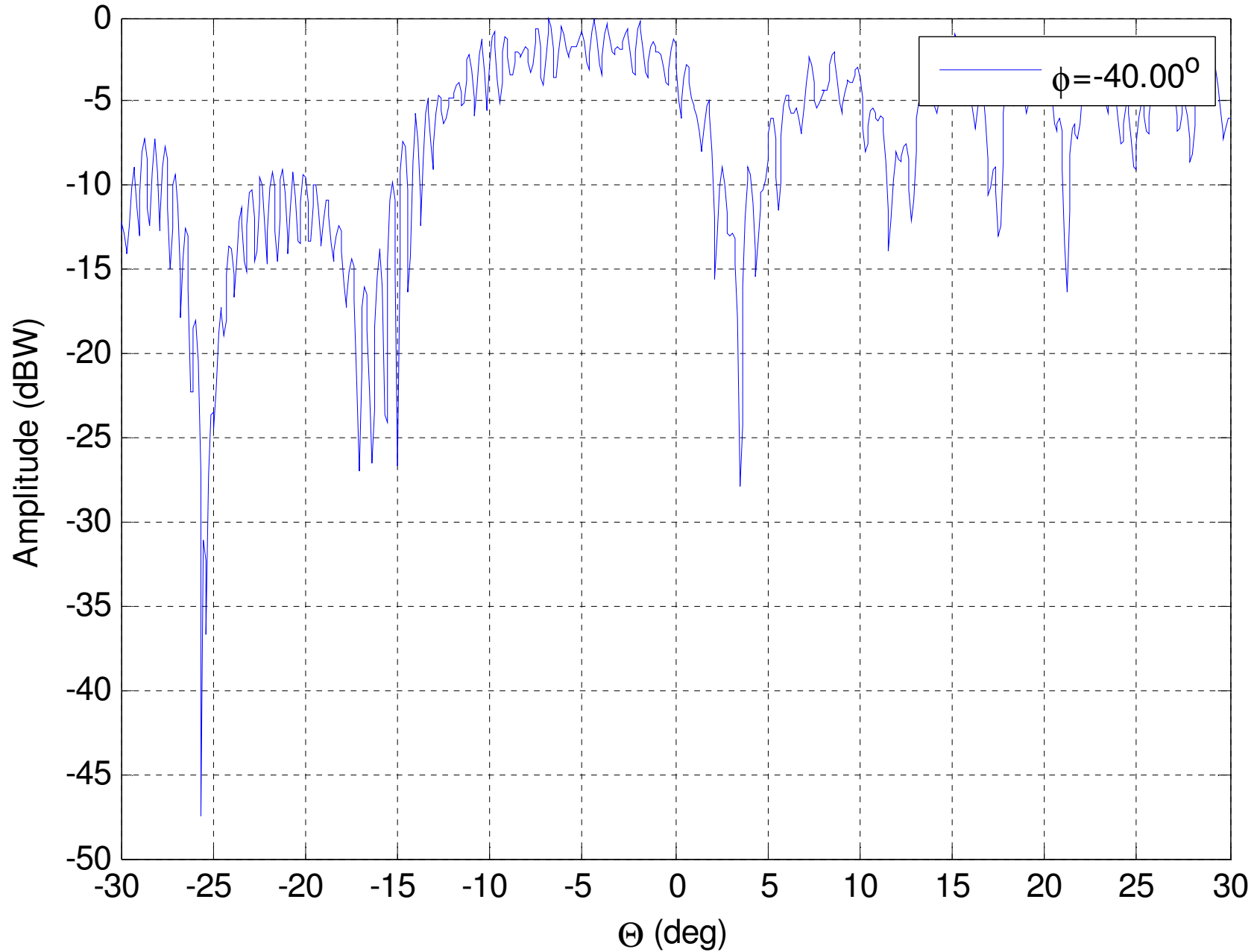
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -11.93 dBW, Date: 16-Dec-2011



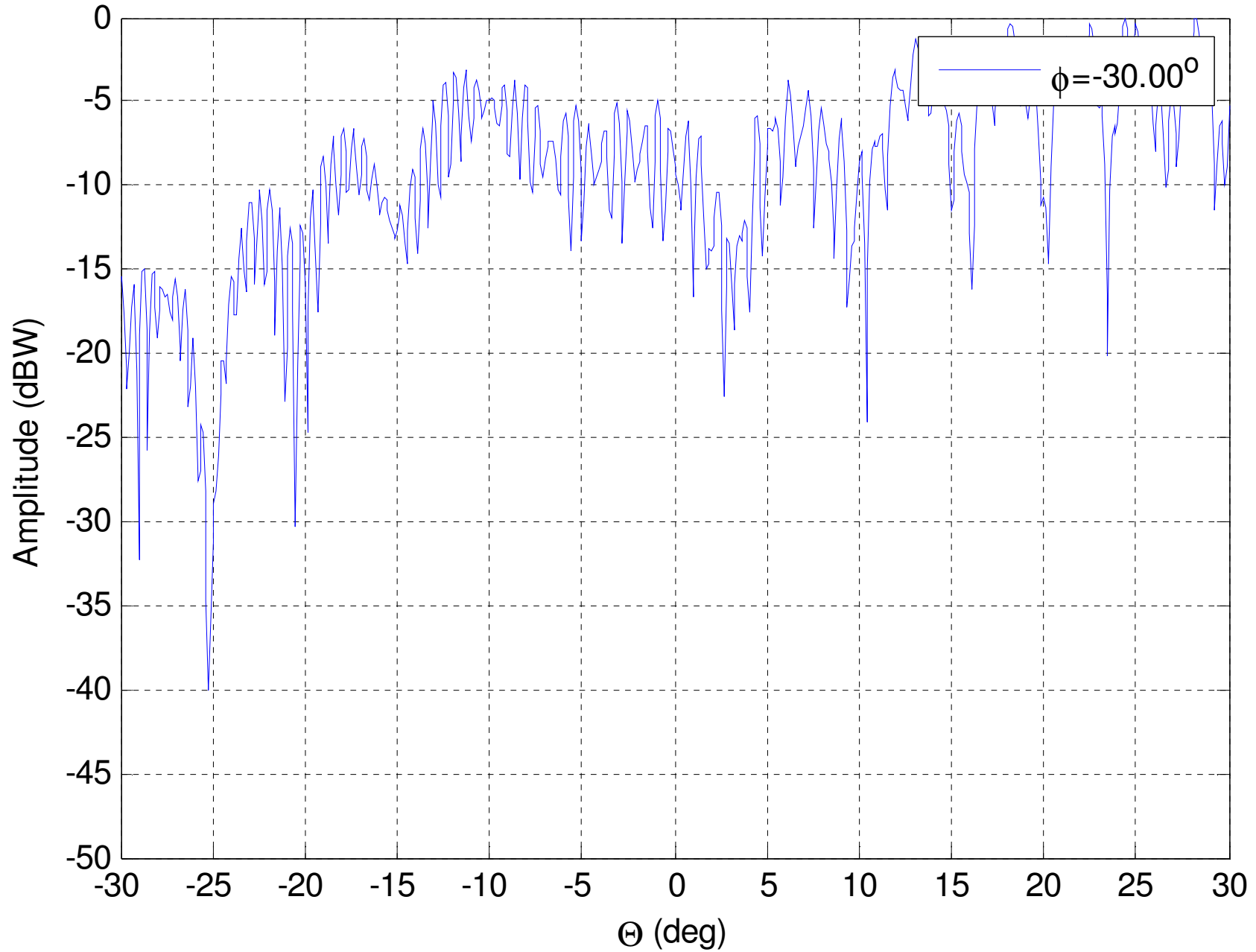
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -11.51 dBW, Date: 16-Dec-2011



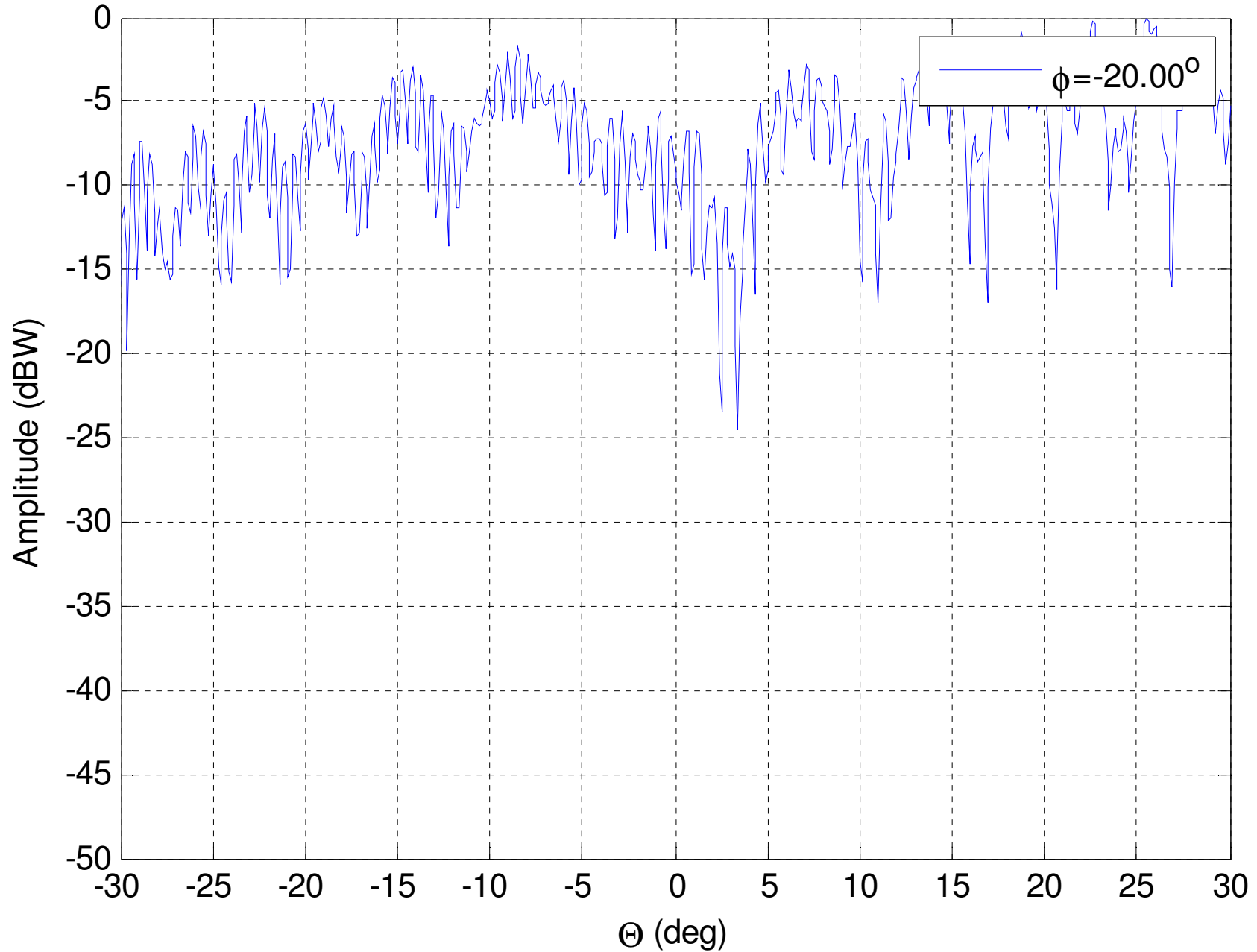
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -10.37 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

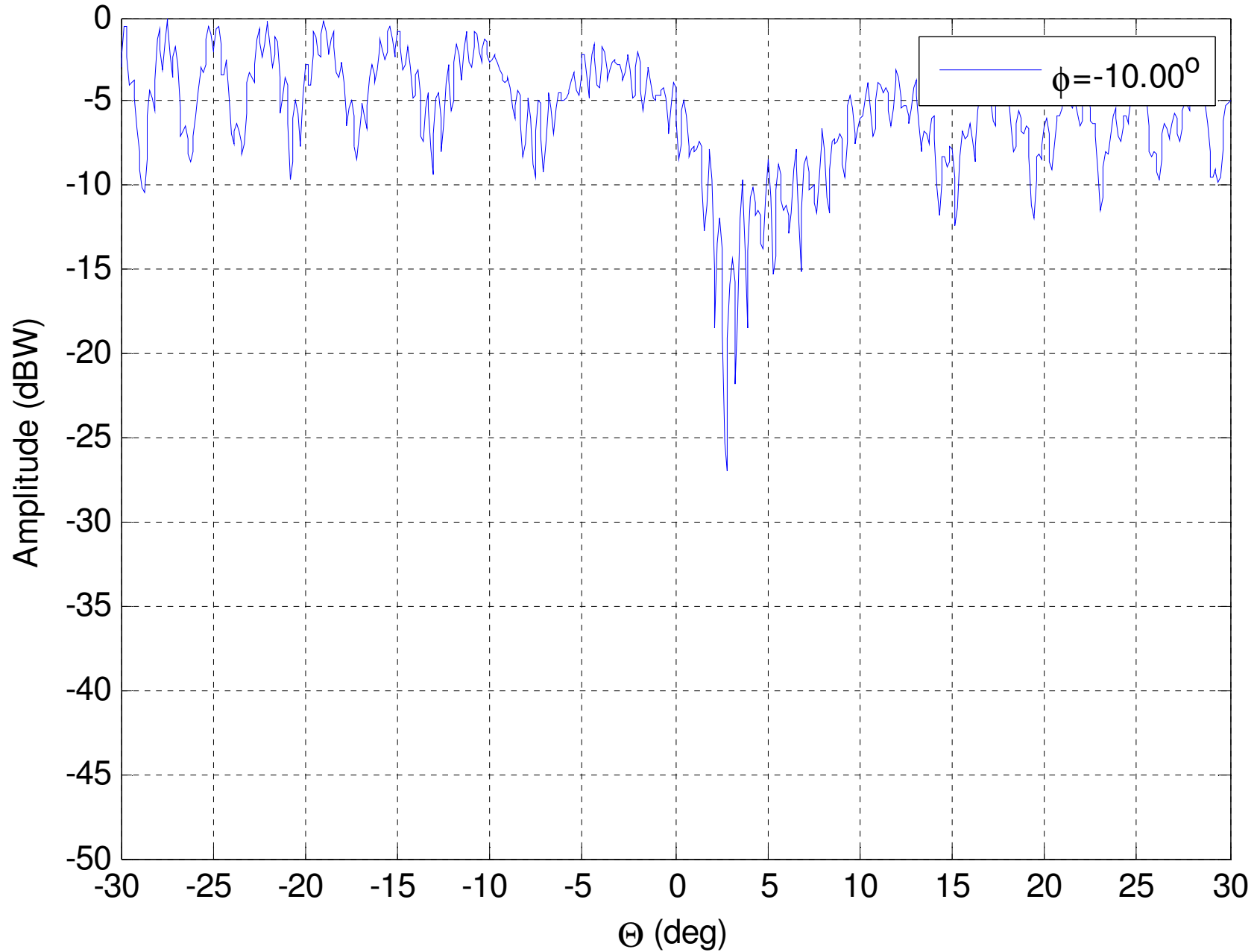
Input file: tx-17.3-lhcp--20.cut, Peak: -10.03 dBW, Date: 16-Dec-2011





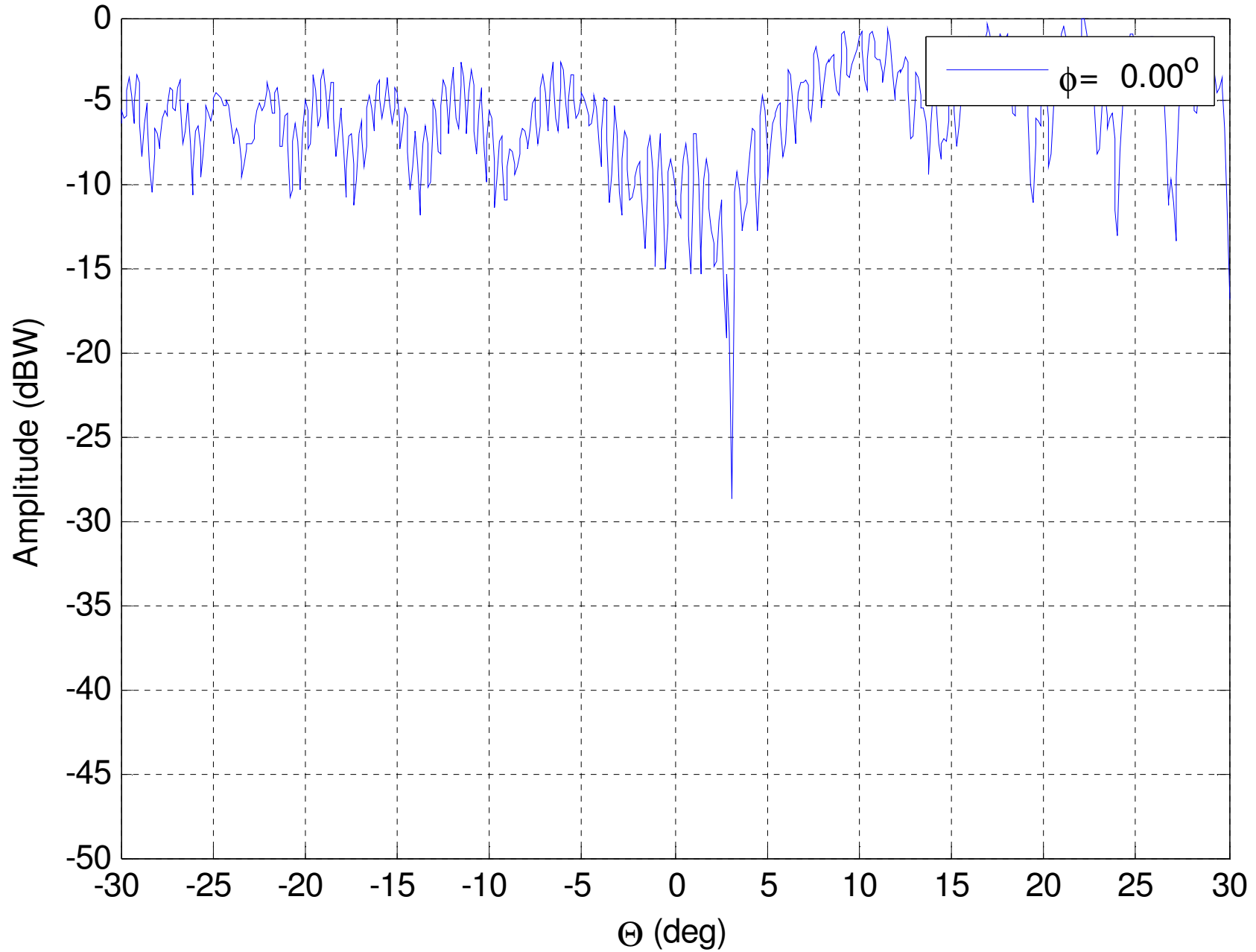
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -8.92 dBW, Date: 16-Dec-2011



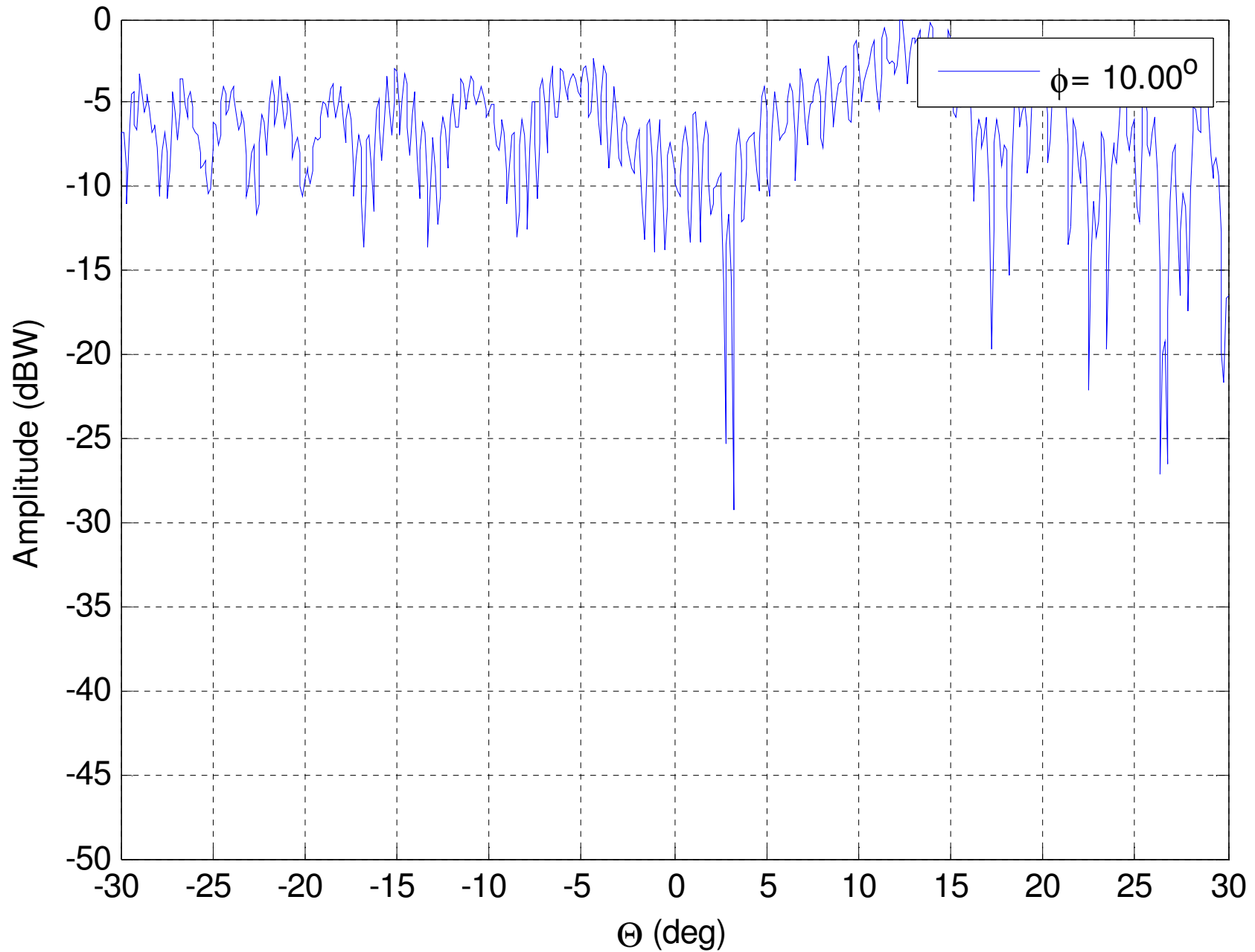
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -8.99 dBW, Date: 16-Dec-2011



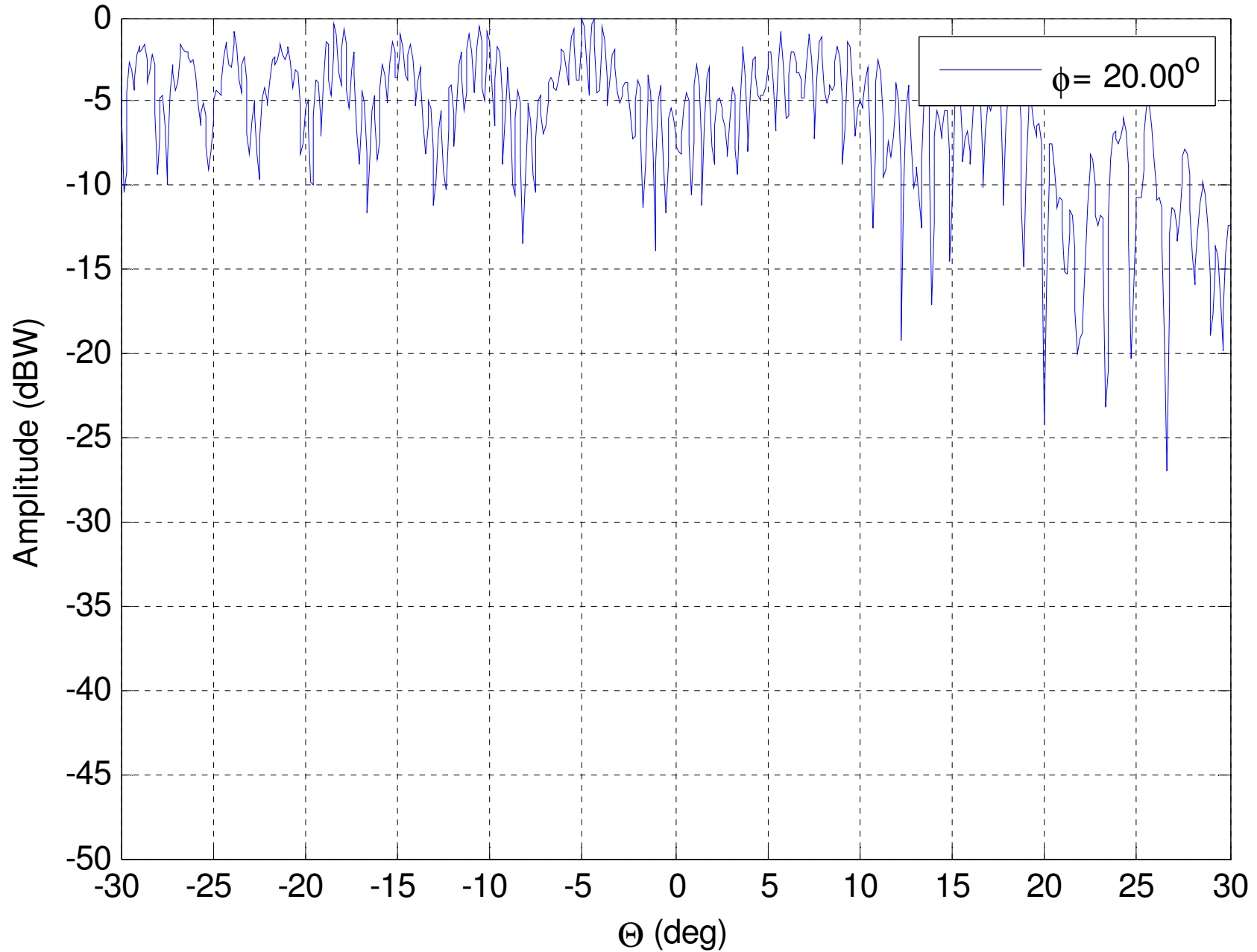
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -10.06 dBW, Date: 16-Dec-2011



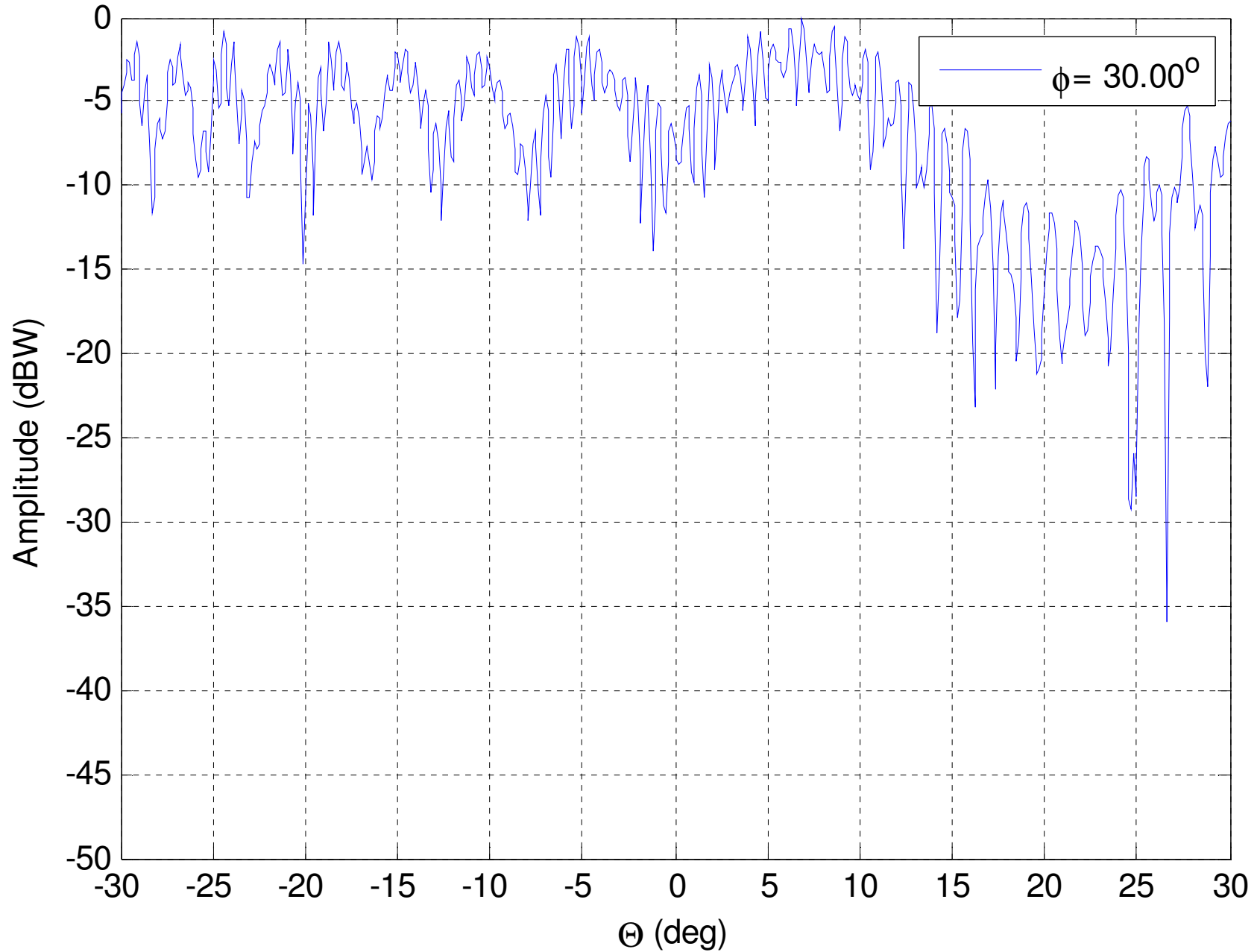
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -12.18 dBW, Date: 16-Dec-2011



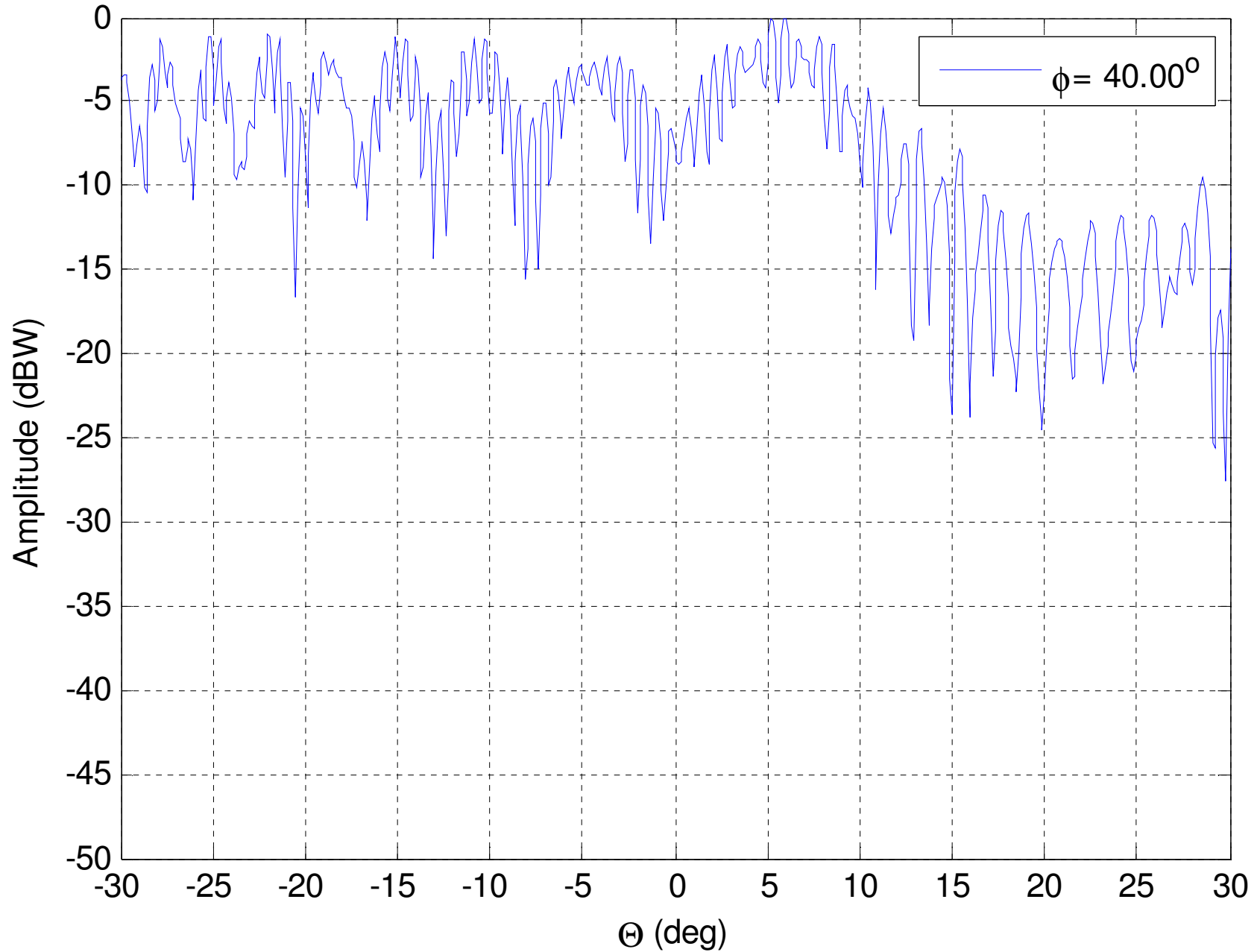
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -11.38 dBW, Date: 16-Dec-2011



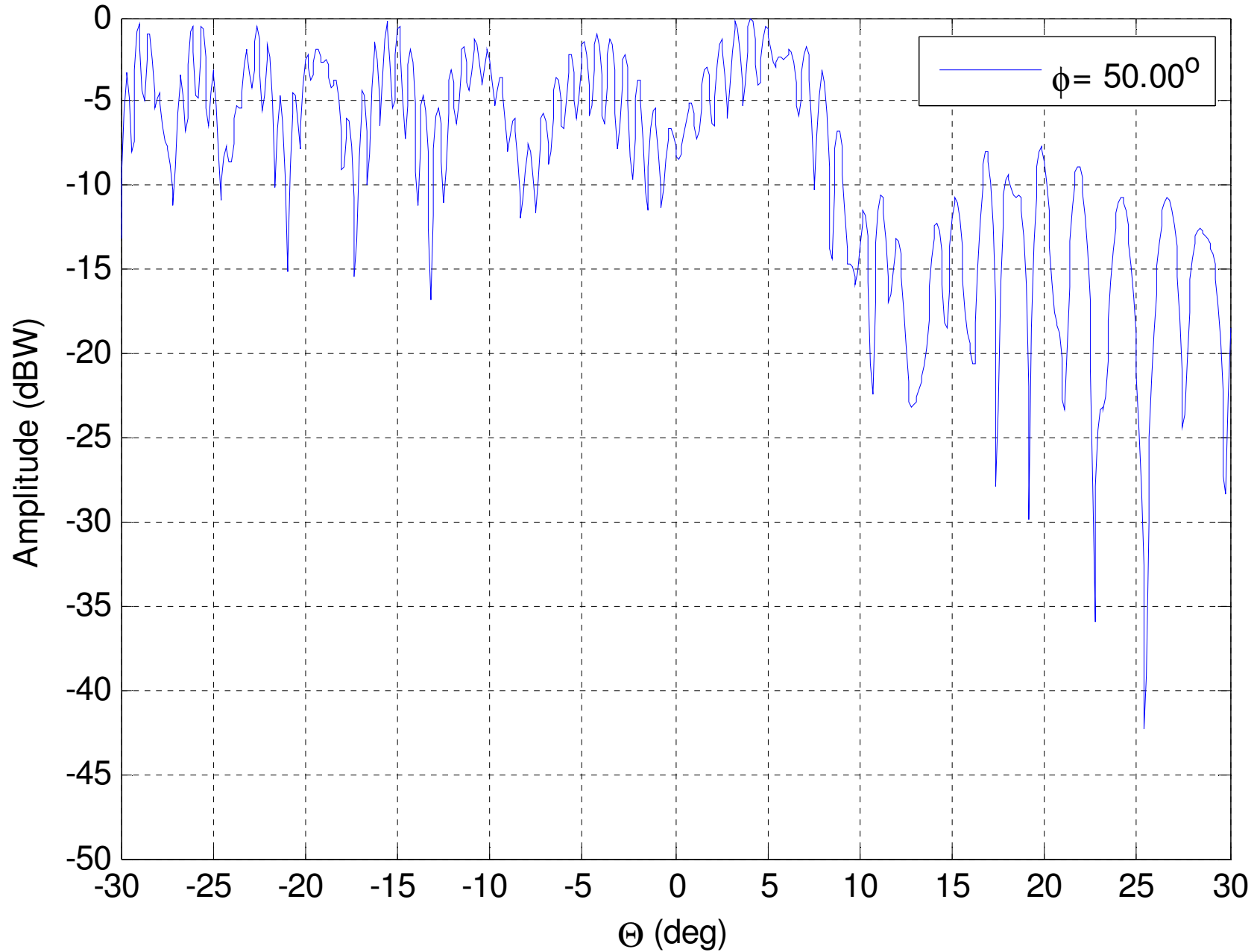
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -11.28 dBW, Date: 16-Dec-2011



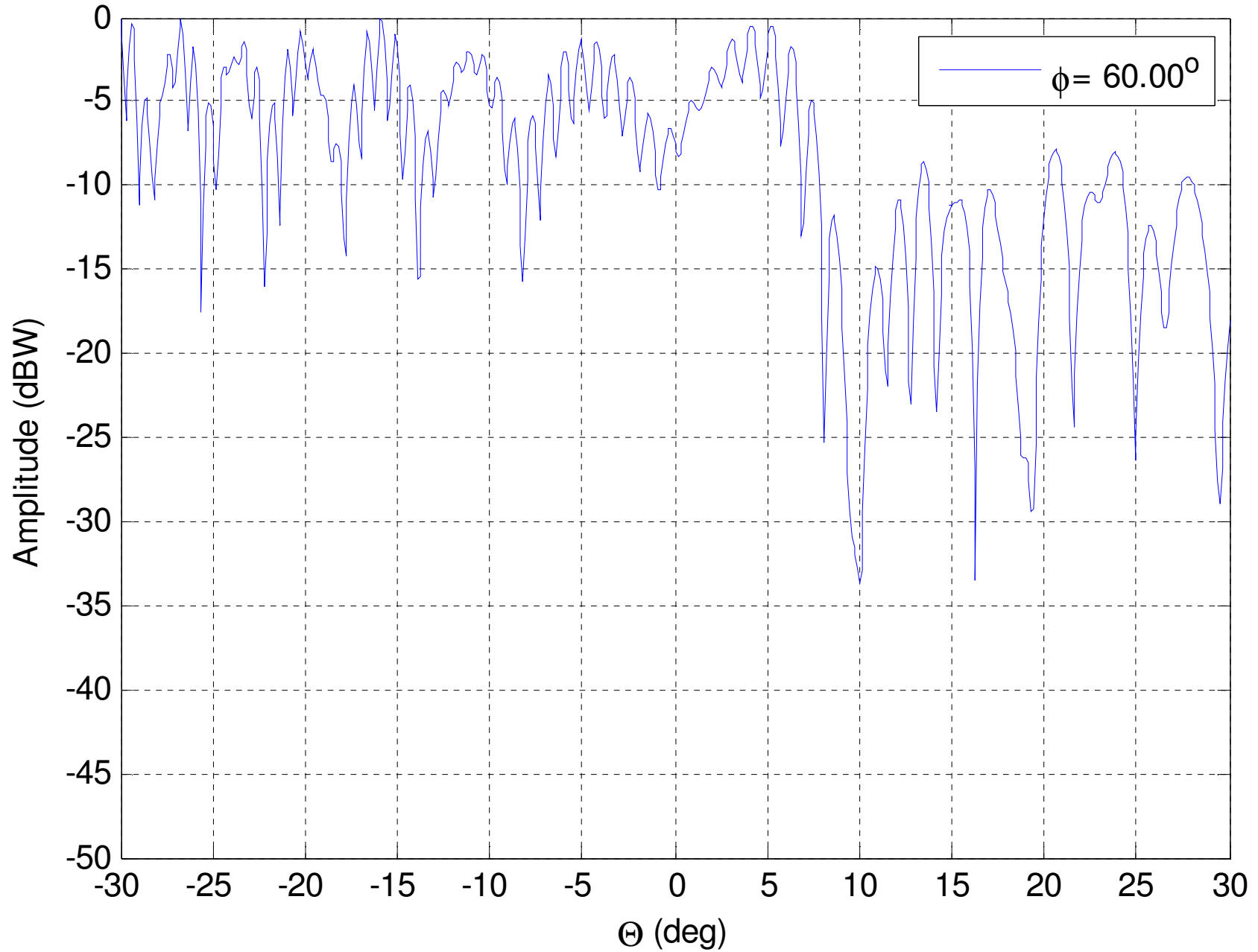
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -11.61 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-60.cut, Peak: -11.74 dBW, Date: 16-Dec-2011

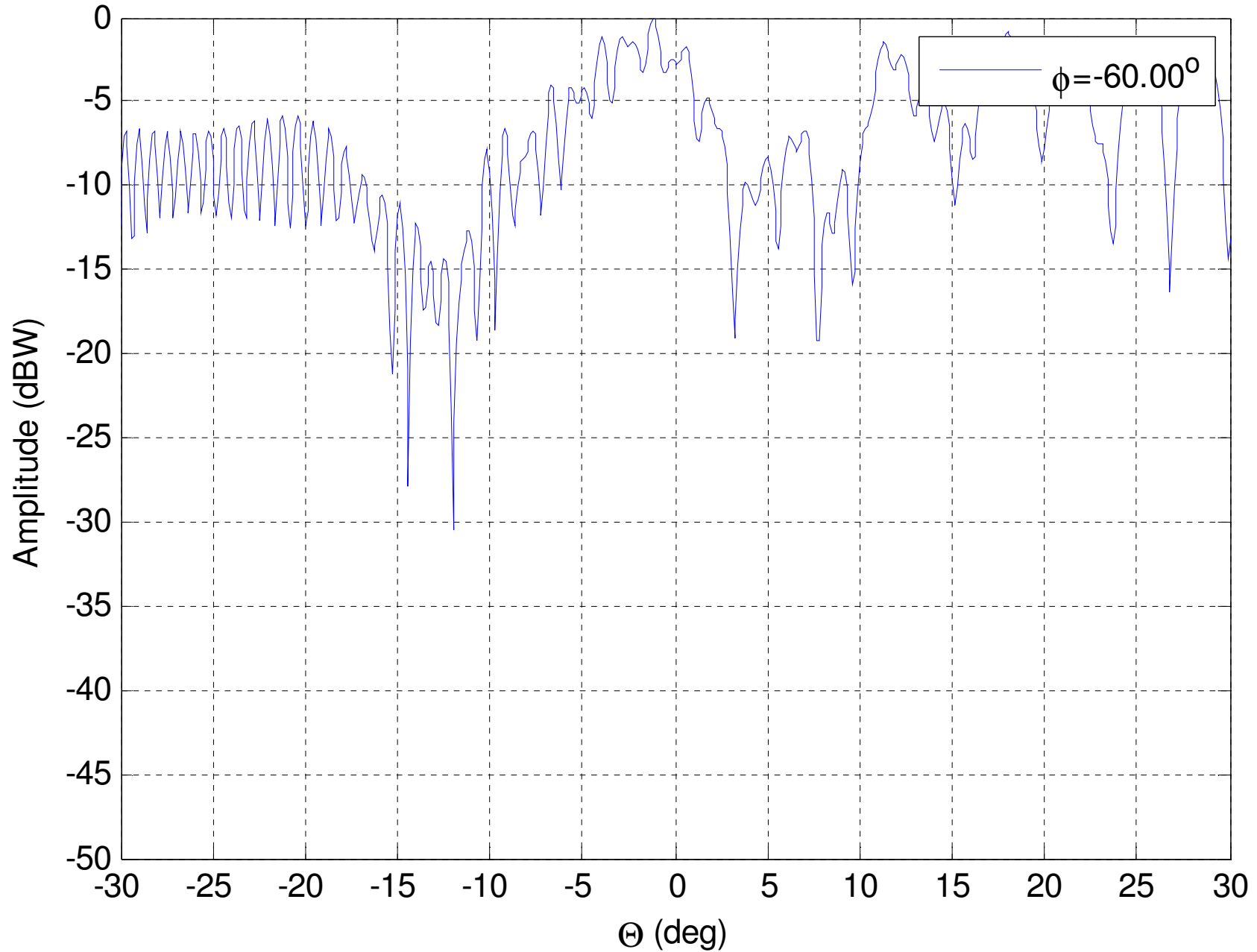




# RHCP at 17.5 GHz

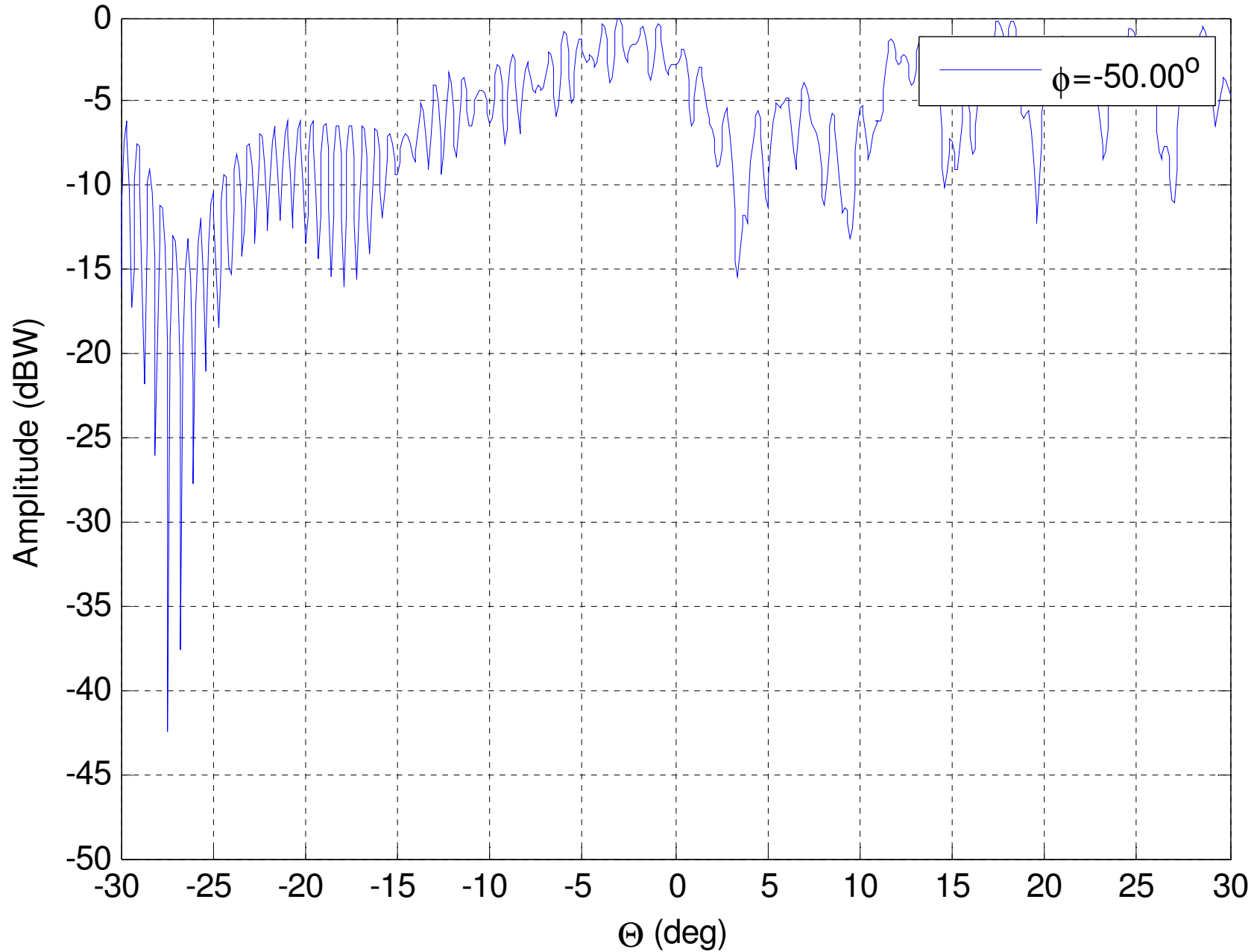
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -12.71 dBW, Date: 16-Dec-2011



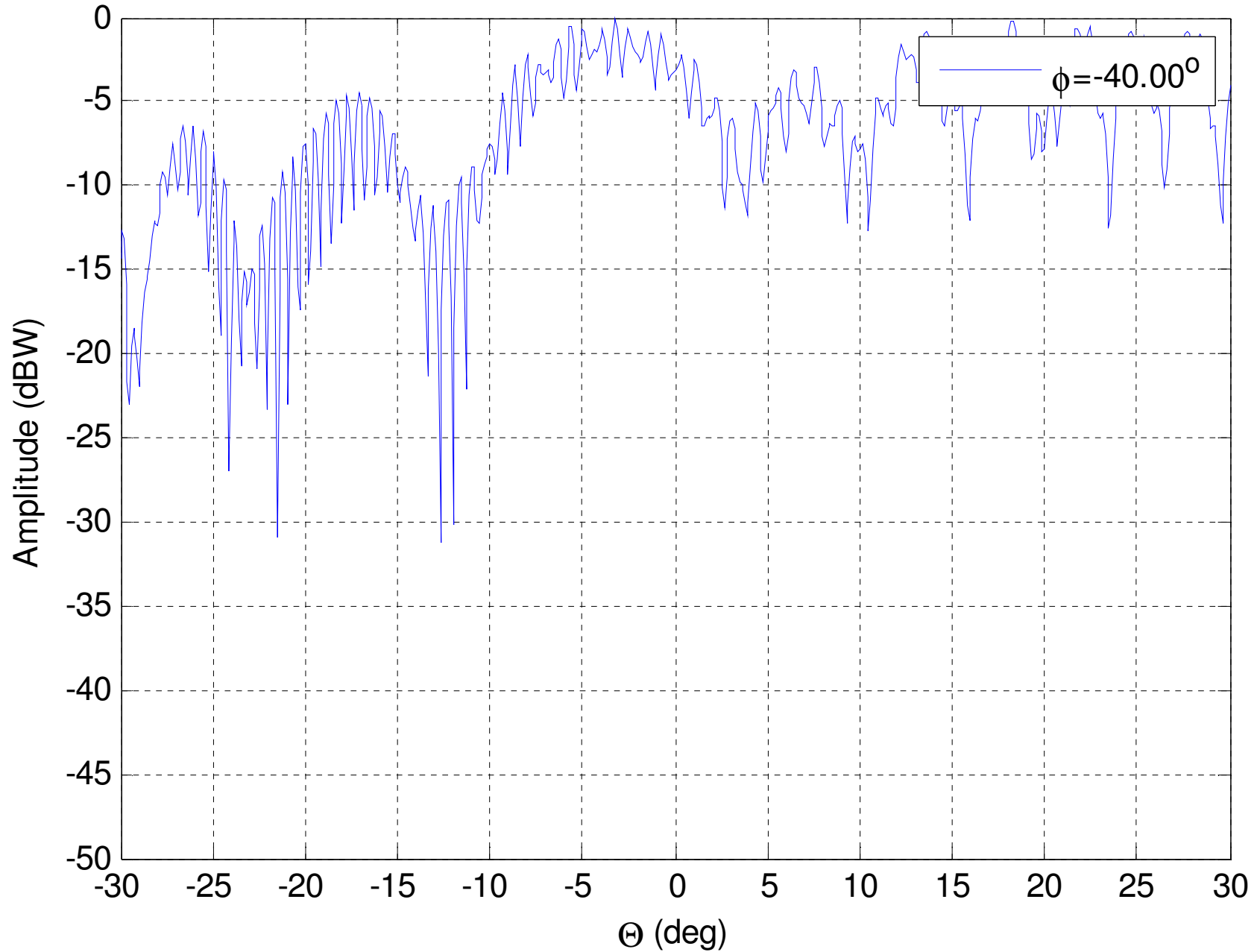
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -12.56 dBW, Date: 16-Dec-2011



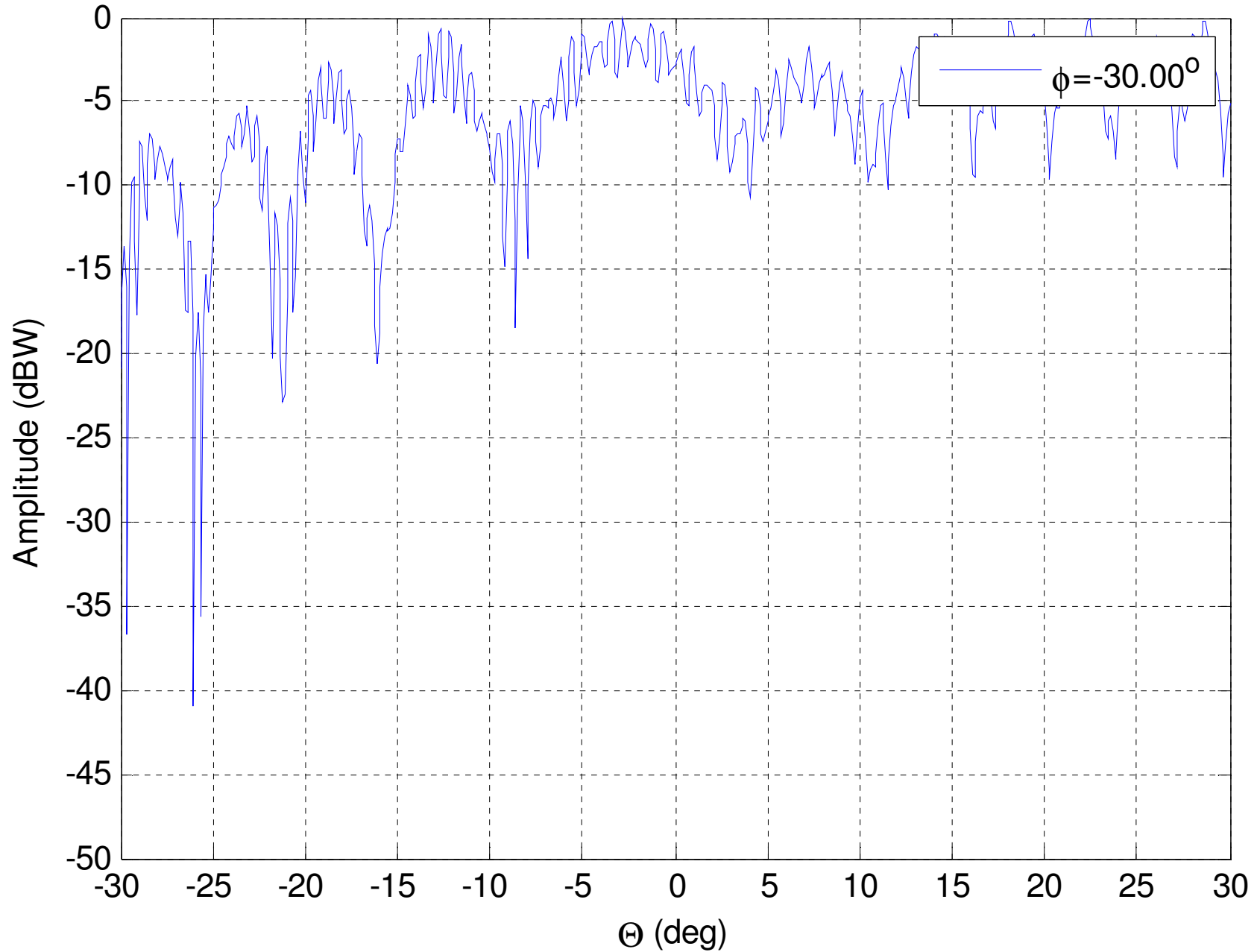
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -12.15 dBW, Date: 16-Dec-2011



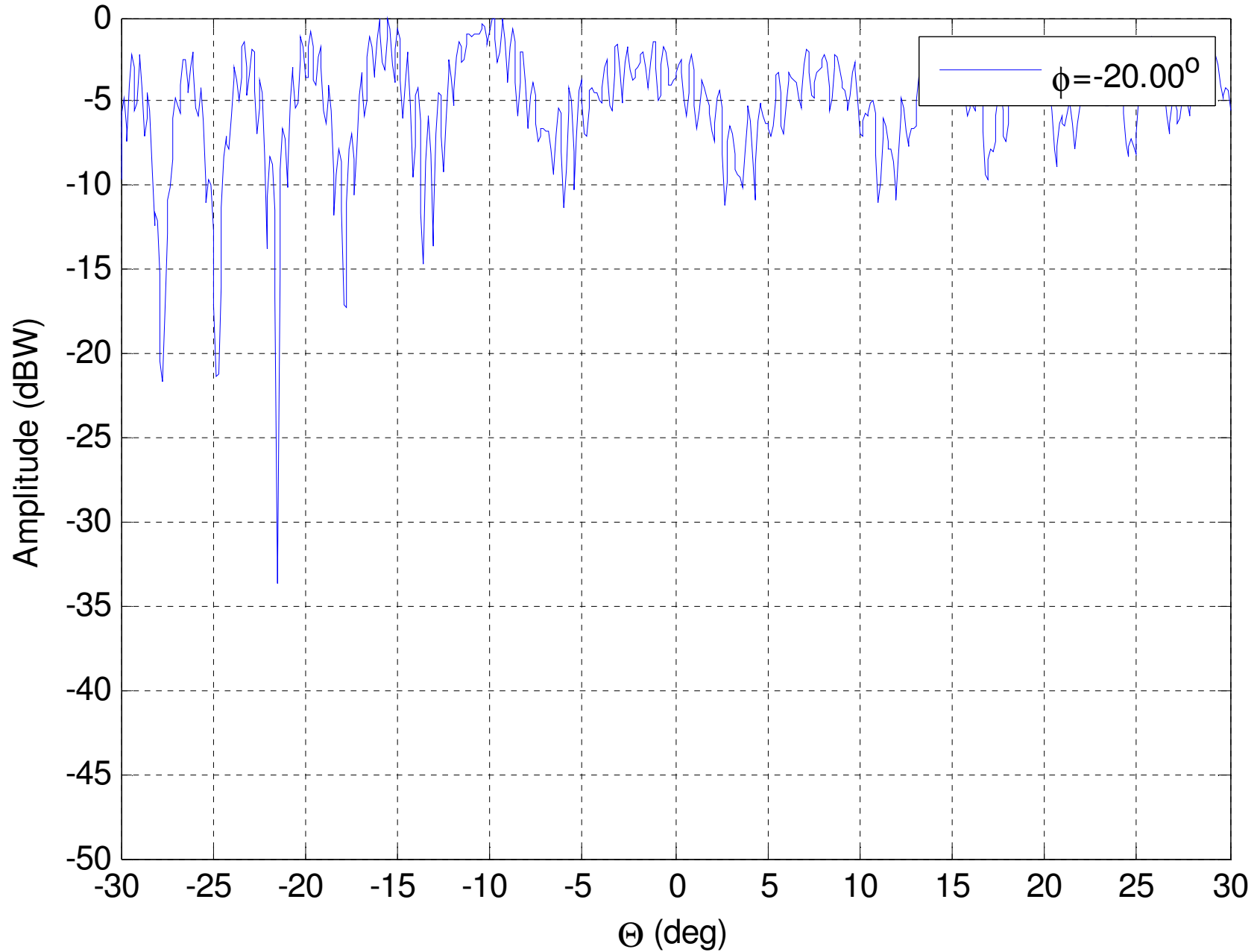
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -12.54 dBW, Date: 16-Dec-2011



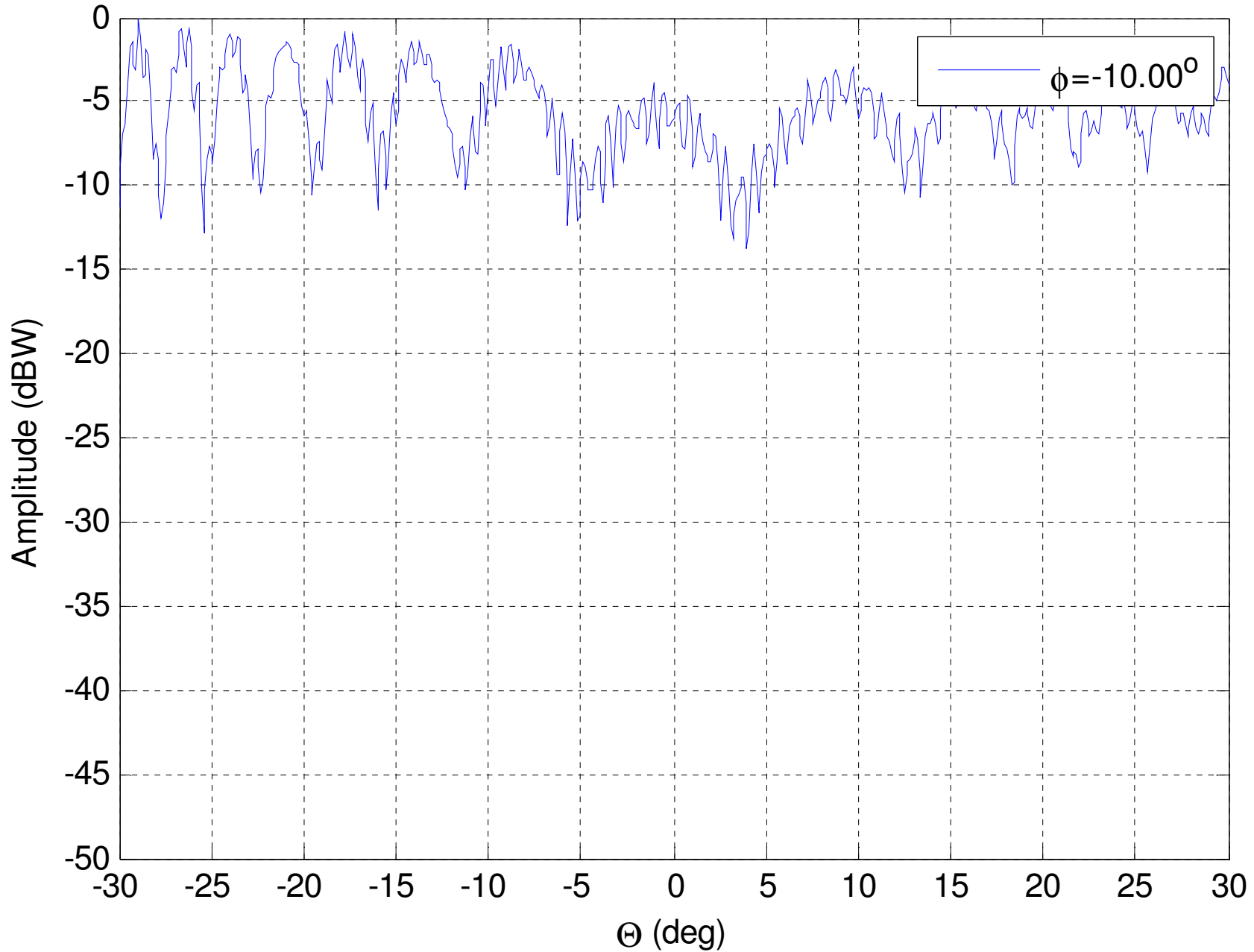
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -11.80 dBW, Date: 16-Dec-2011



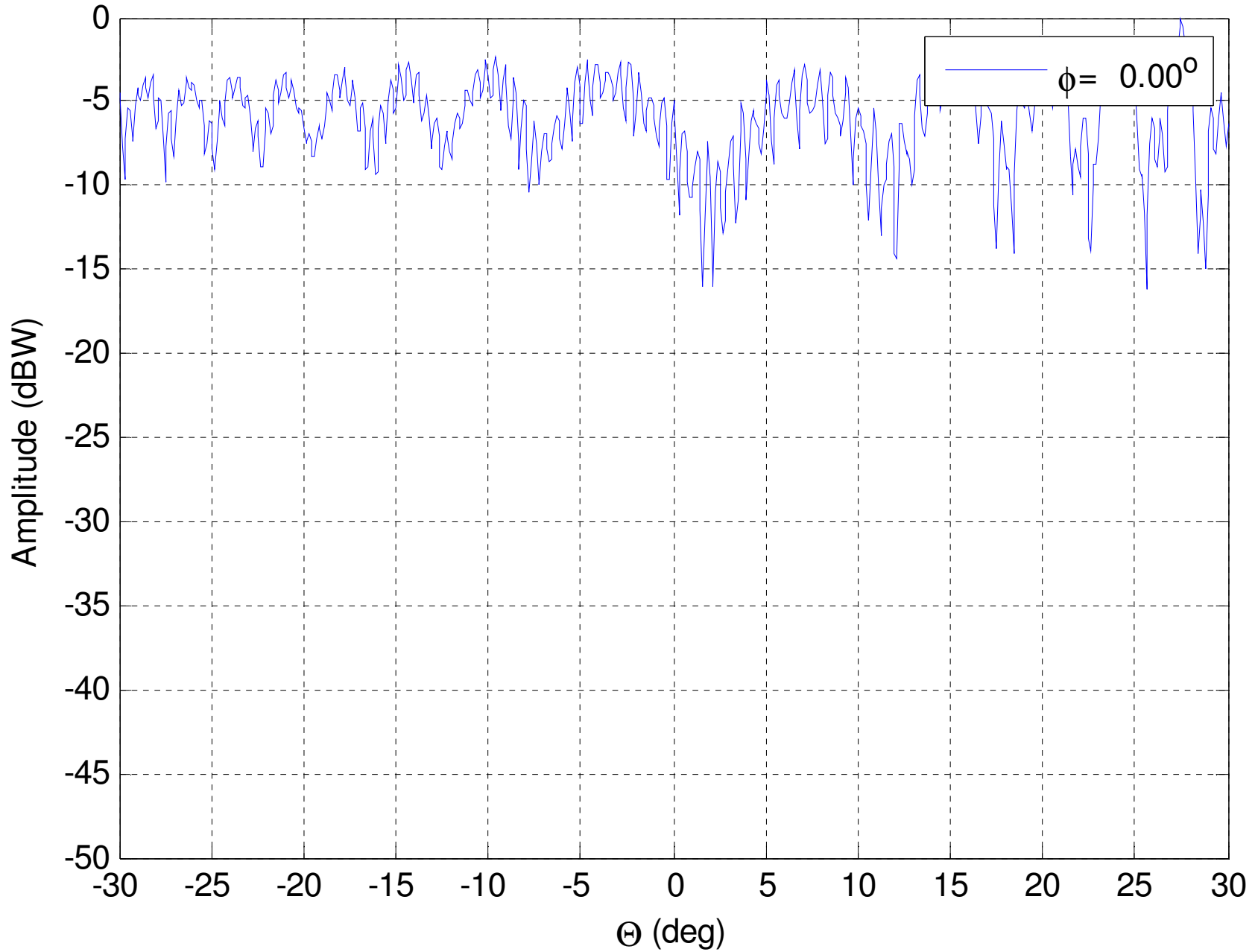
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -9.32 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

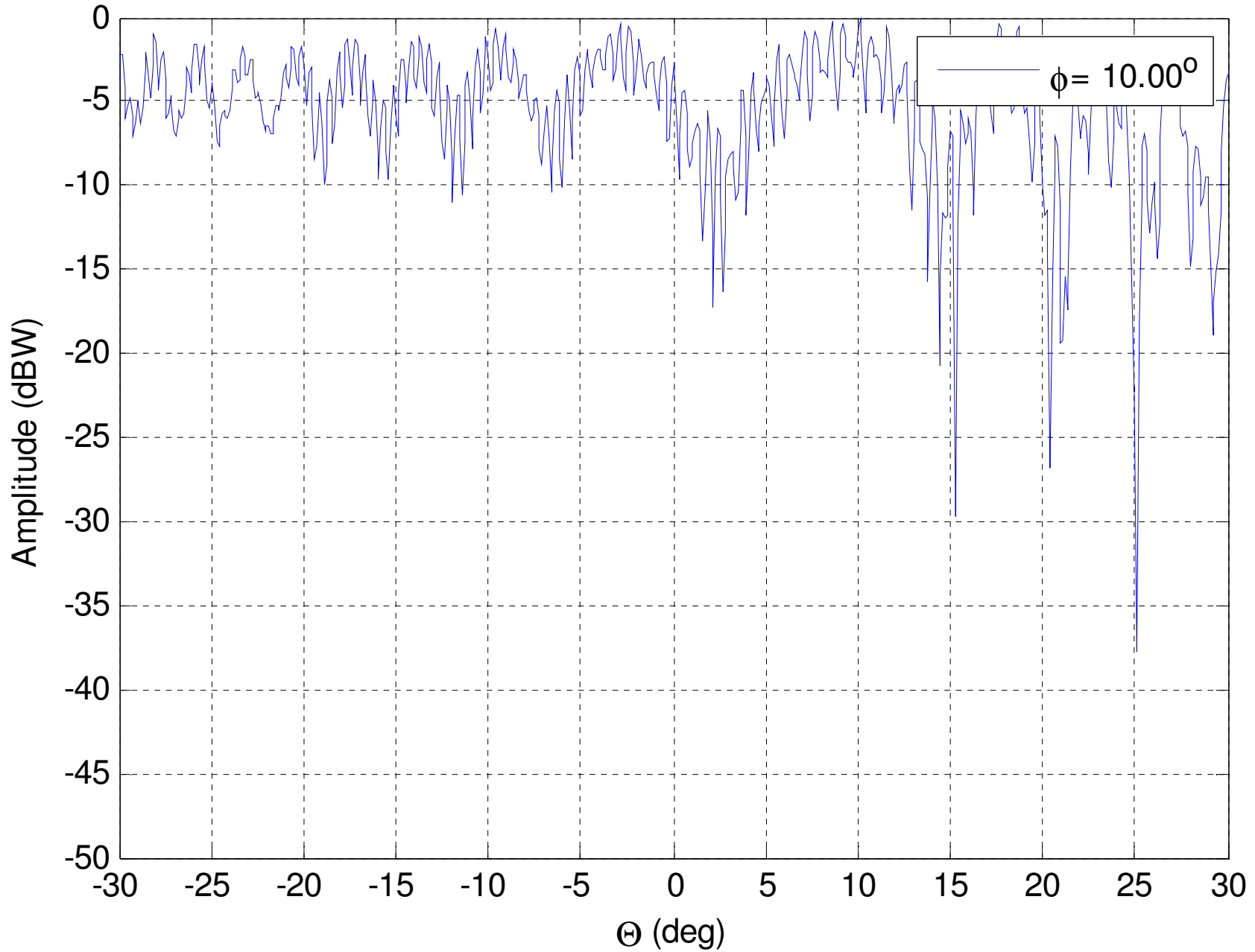
Input file: tx-17.5-rhcp-0.cut, Peak: -9.51 dBW, Date: 16-Dec-2011





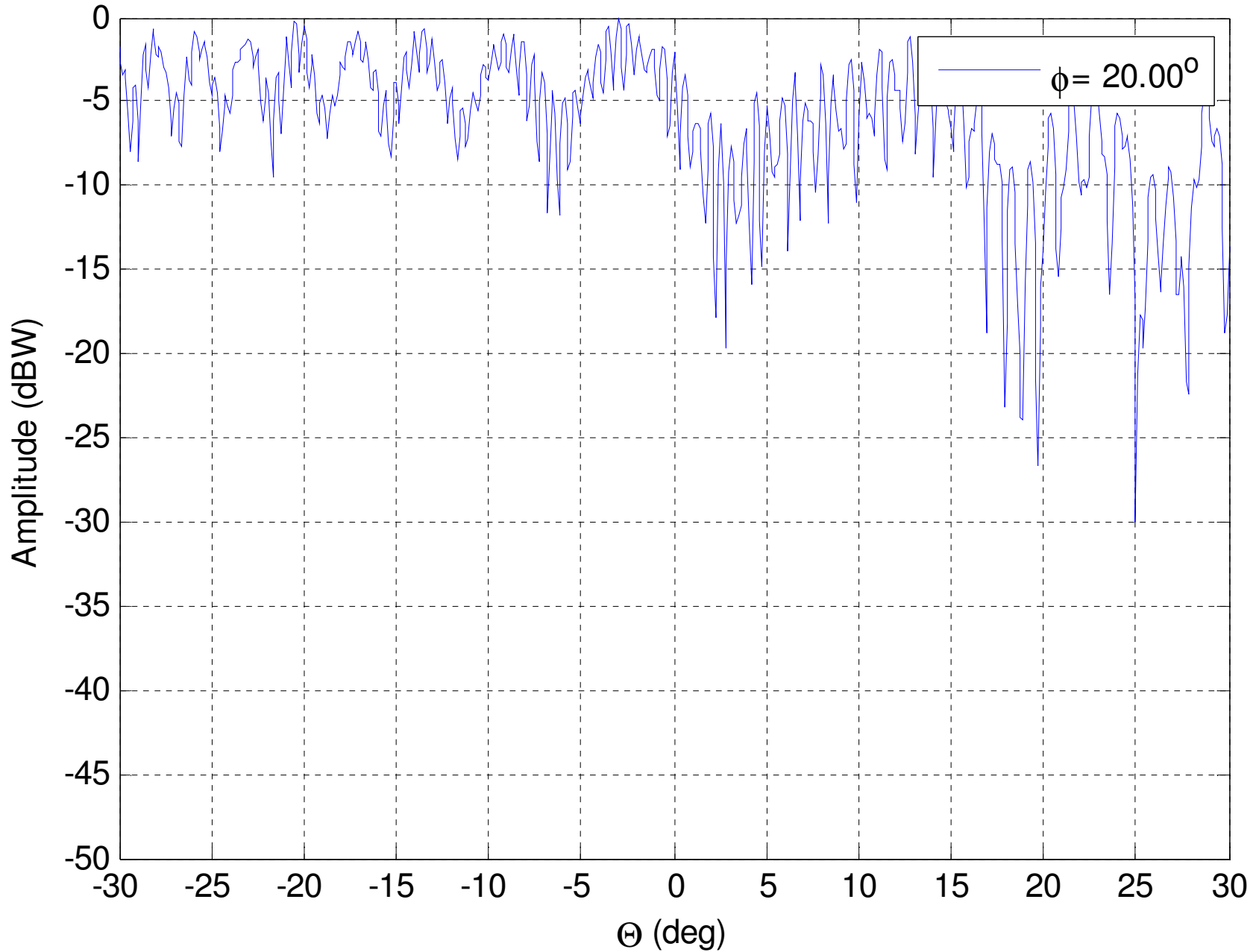
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -11.84 dBW, Date: 16-Dec-2011



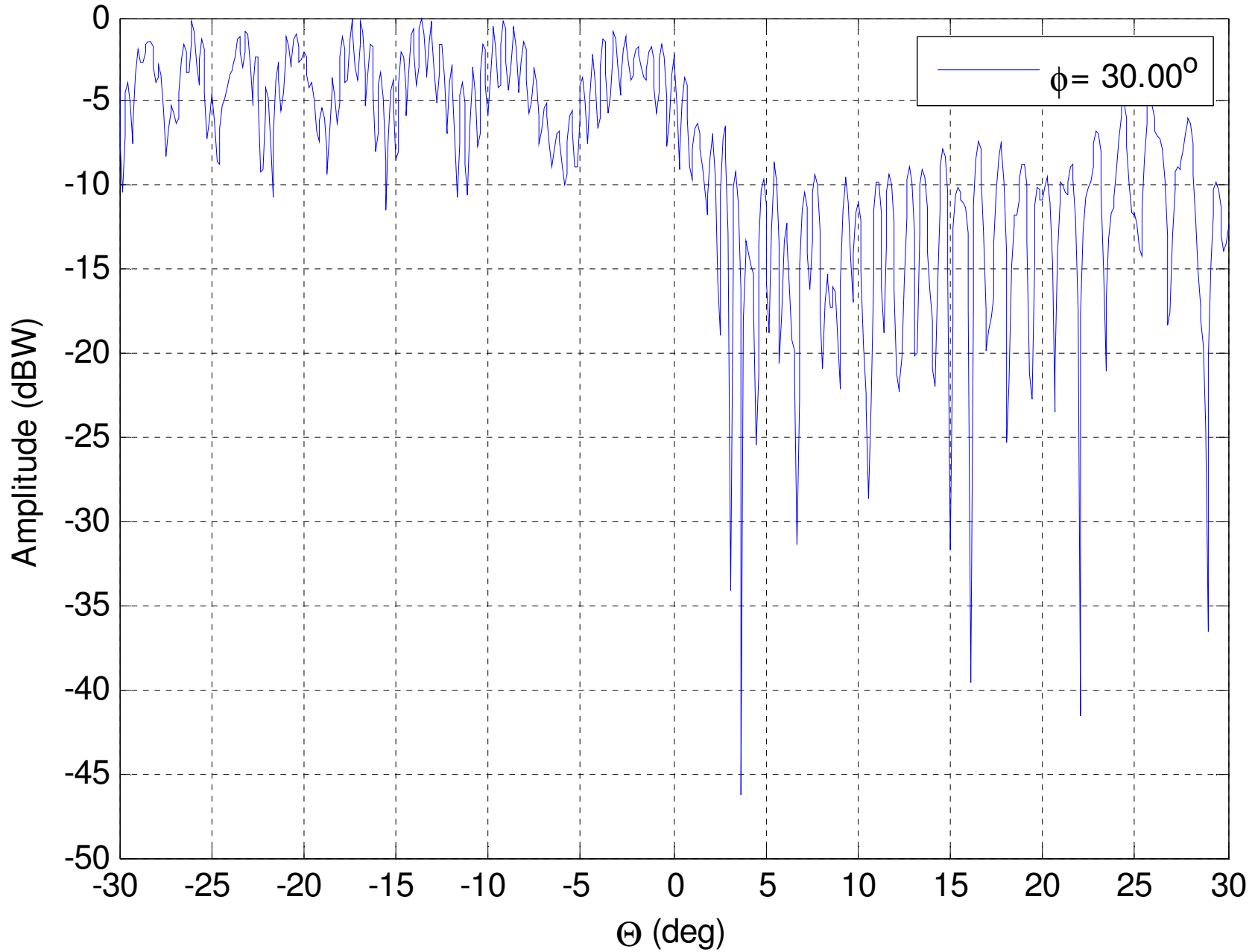
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -12.46 dBW, Date: 16-Dec-2011



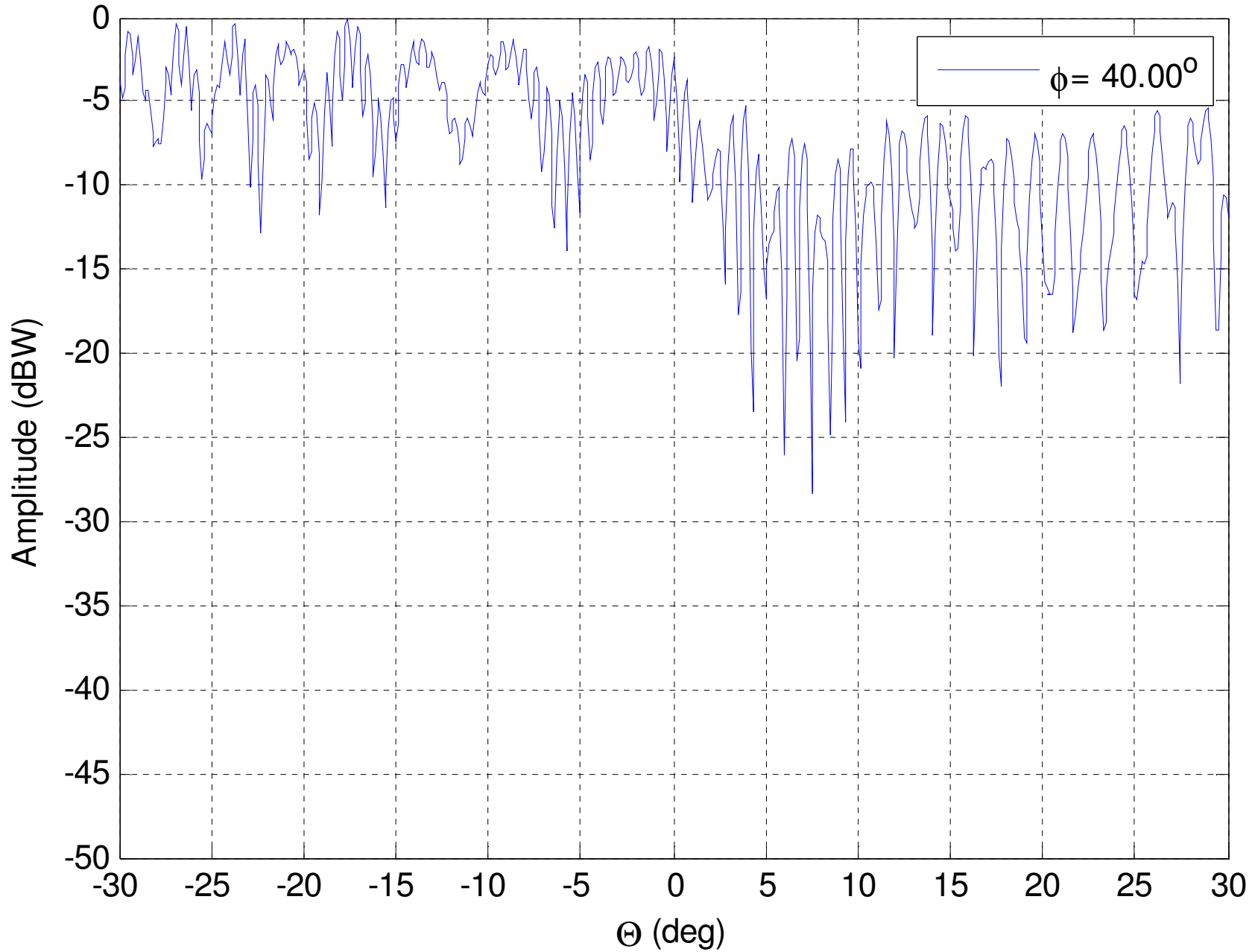
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -12.25 dBW, Date: 16-Dec-2011



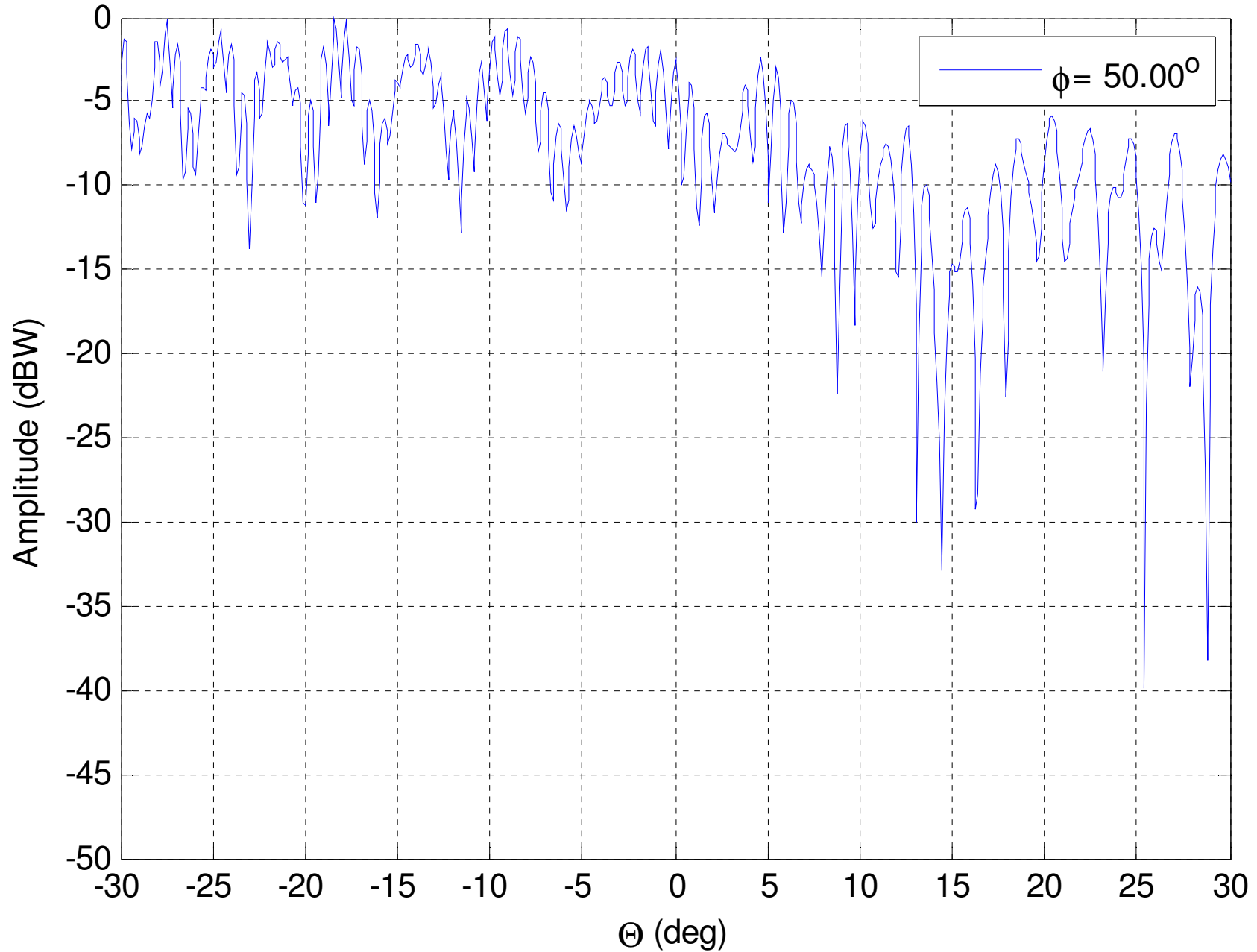
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -12.03 dBW, Date: 16-Dec-2011



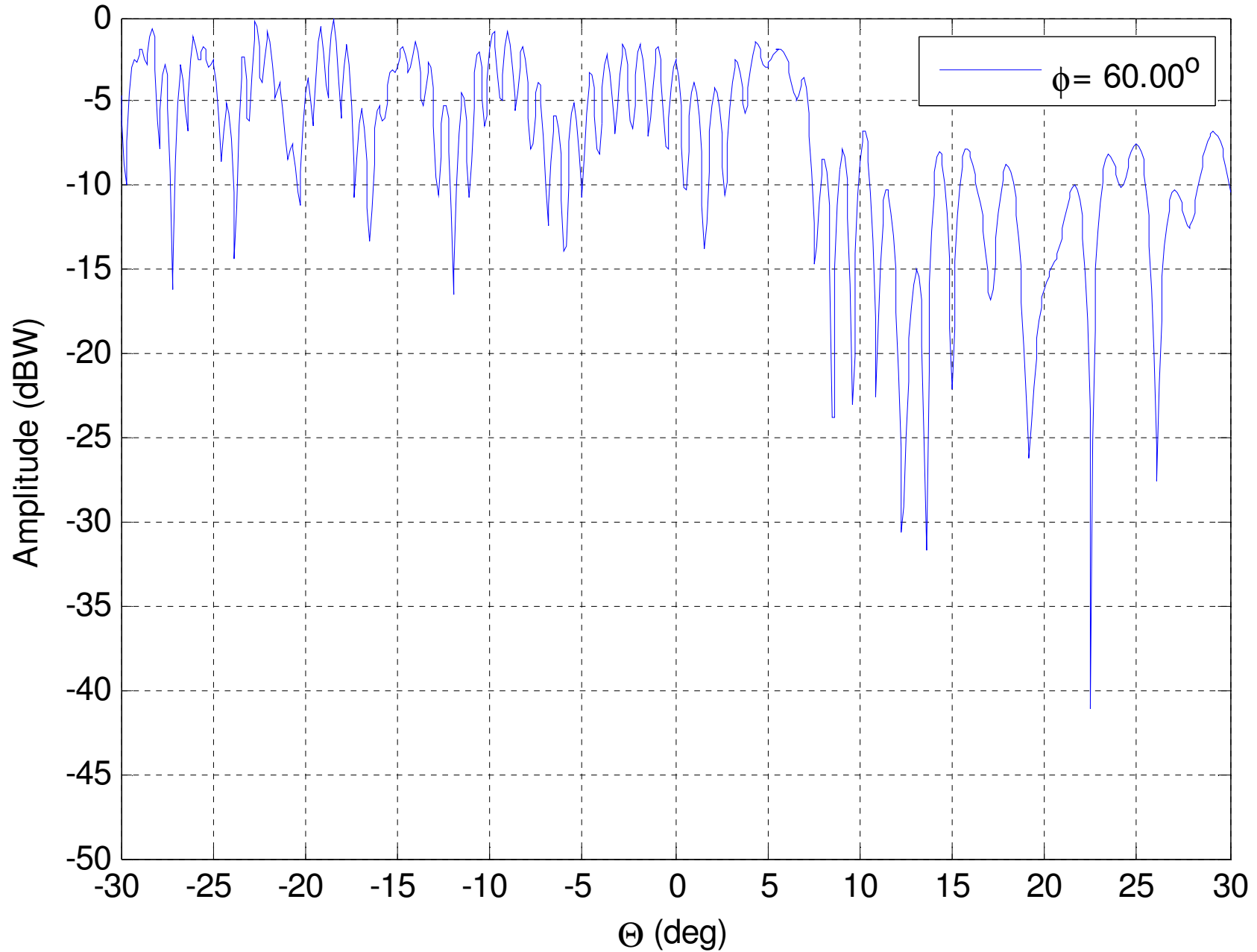
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -11.89 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

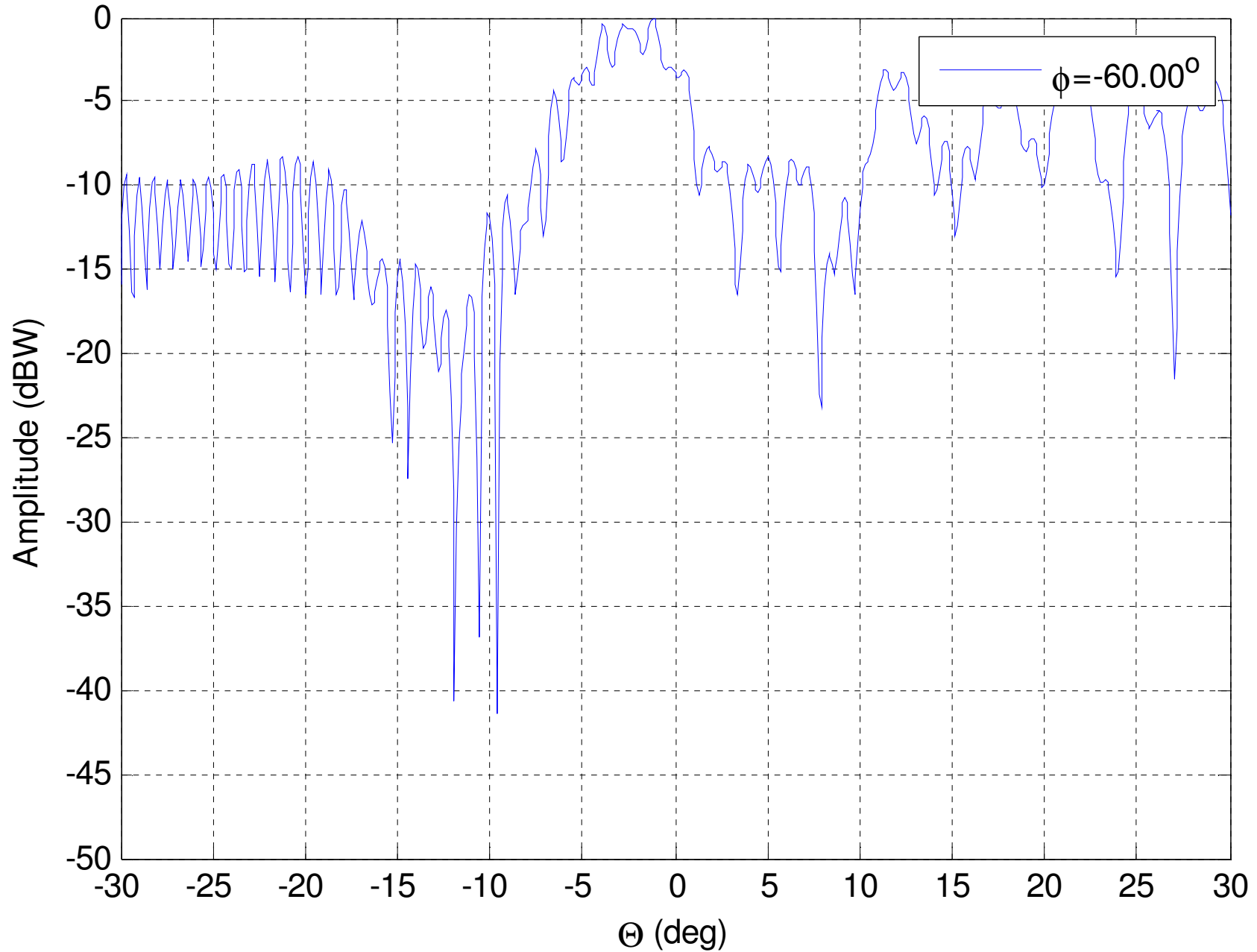
Input file: tx-17.5-rhcp-60.cut, Peak: -11.94 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

# Normalized pattern cuts - farfield

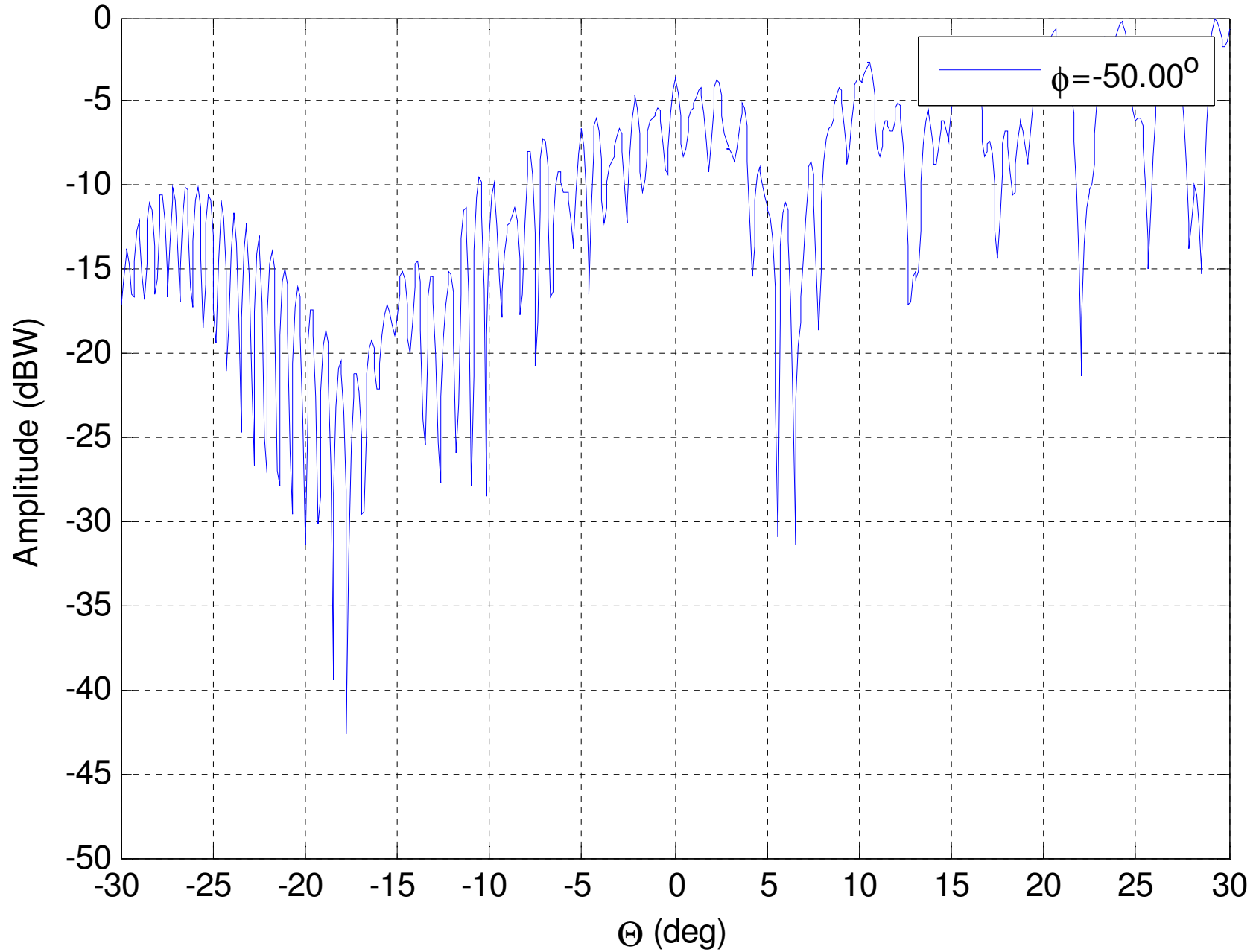
Input file: tx-17.5-lhcp--60.cut, Peak: -10.96 dBW, Date: 16-Dec-2011





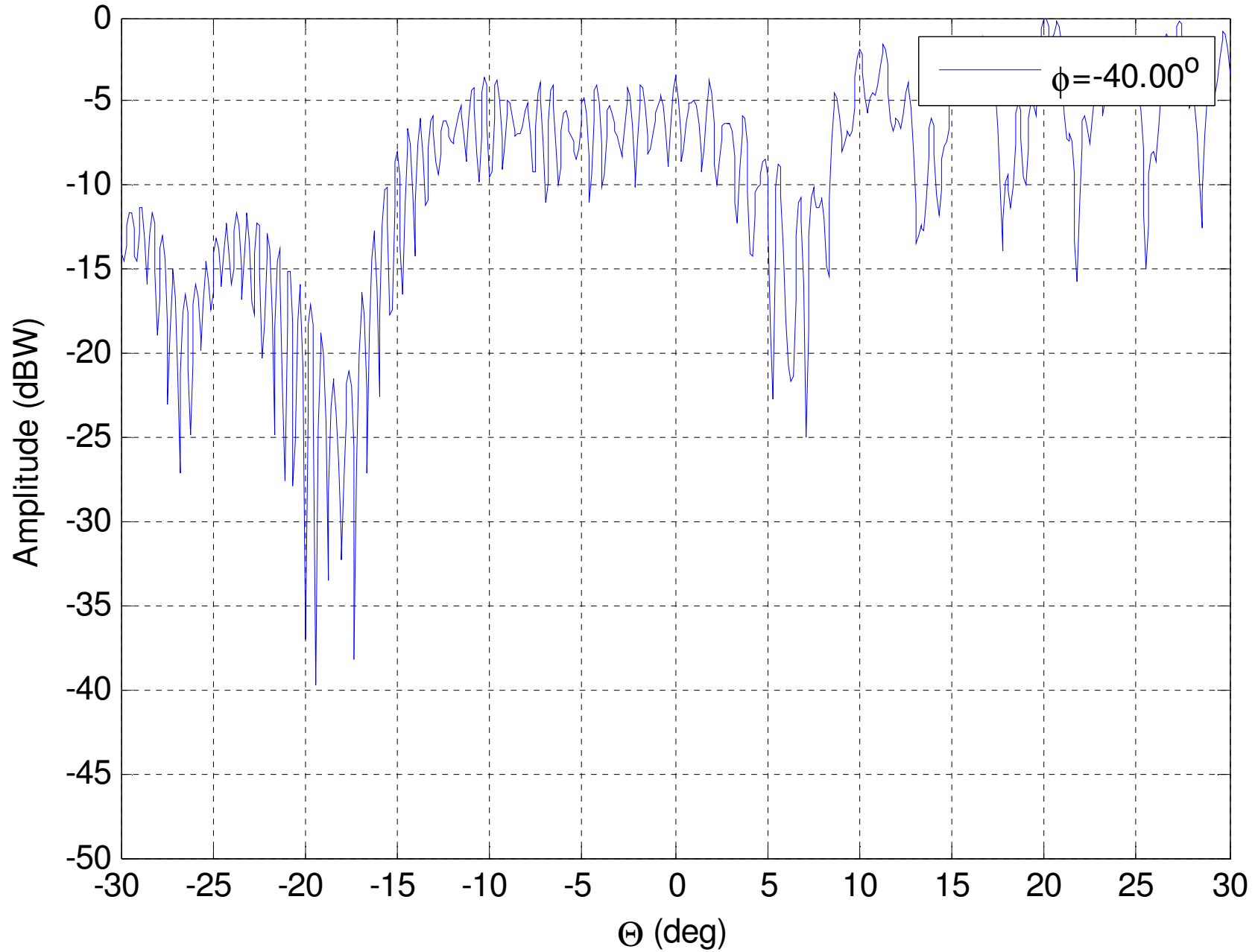
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -10.57 dBW, Date: 16-Dec-2011



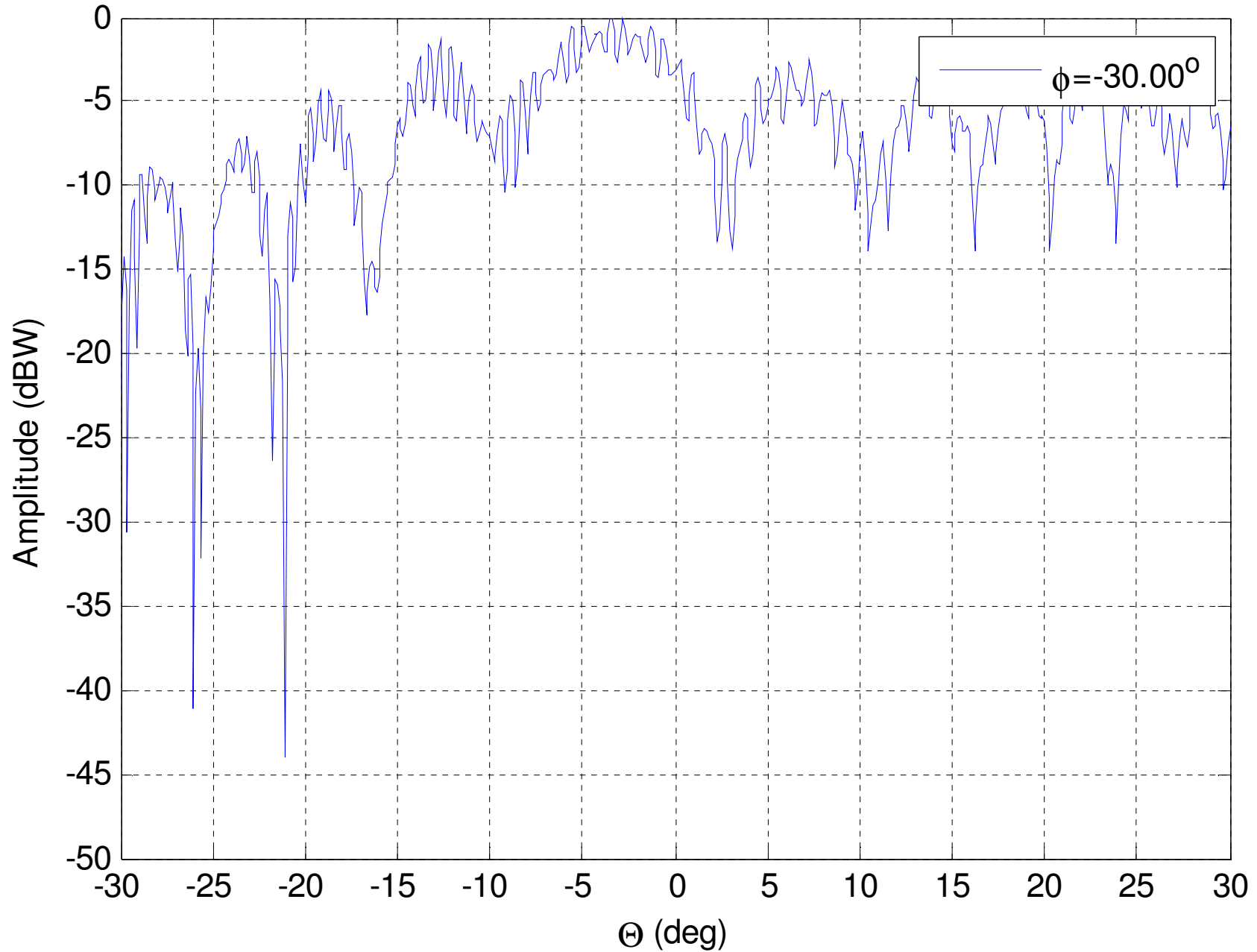
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -10.72 dBW, Date: 16-Dec-2011



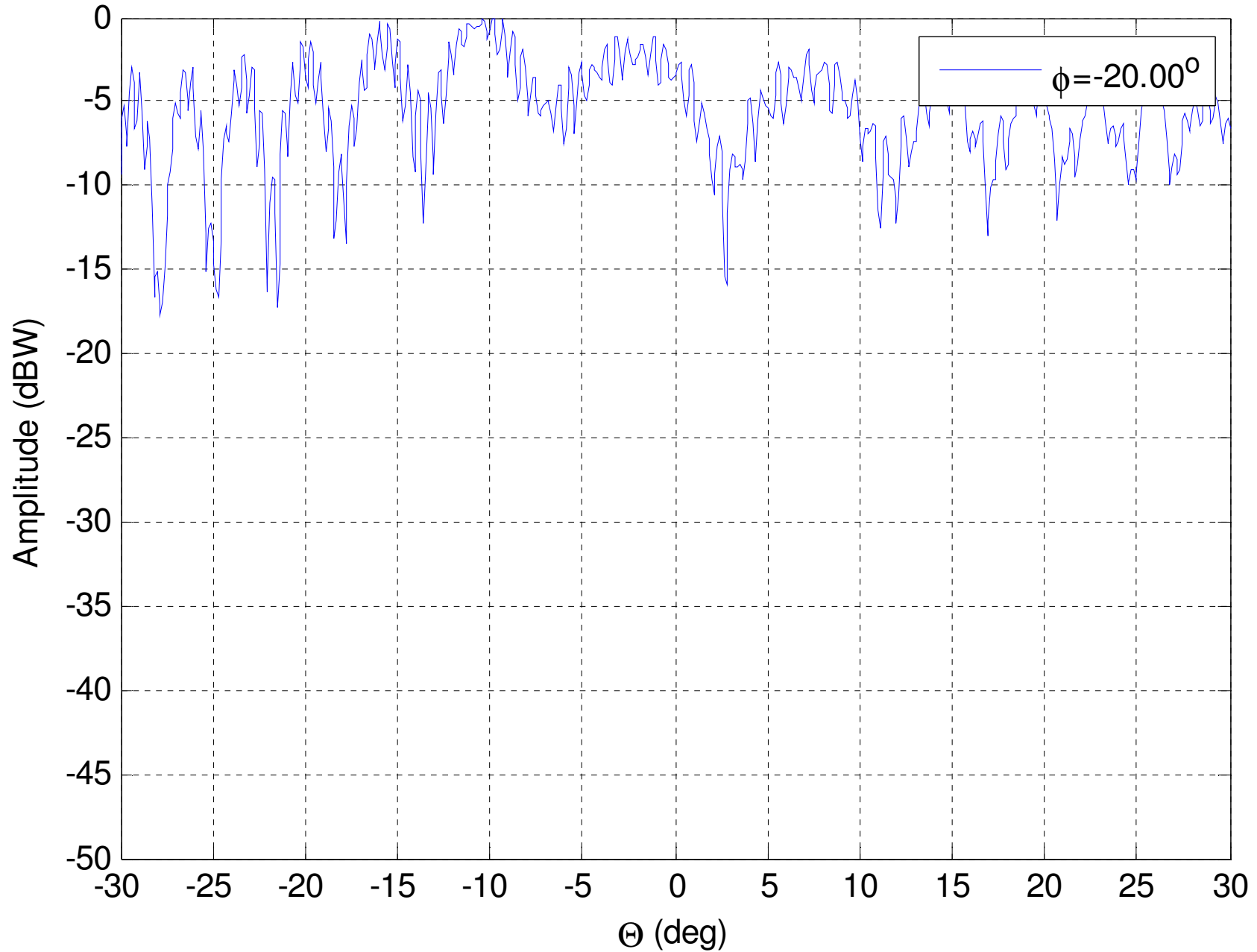
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -10.95 dBW, Date: 16-Dec-2011



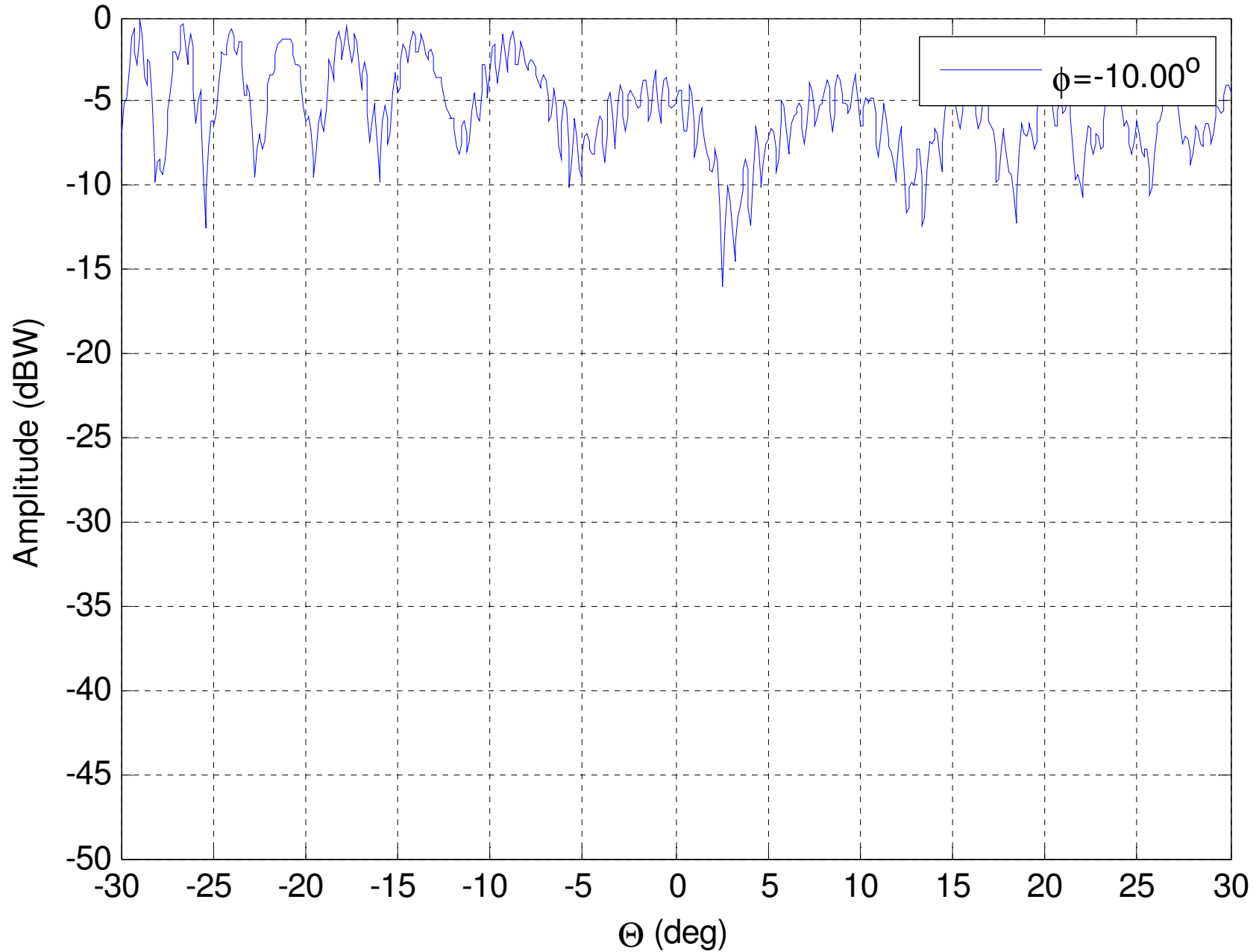
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -10.84 dBW, Date: 16-Dec-2011



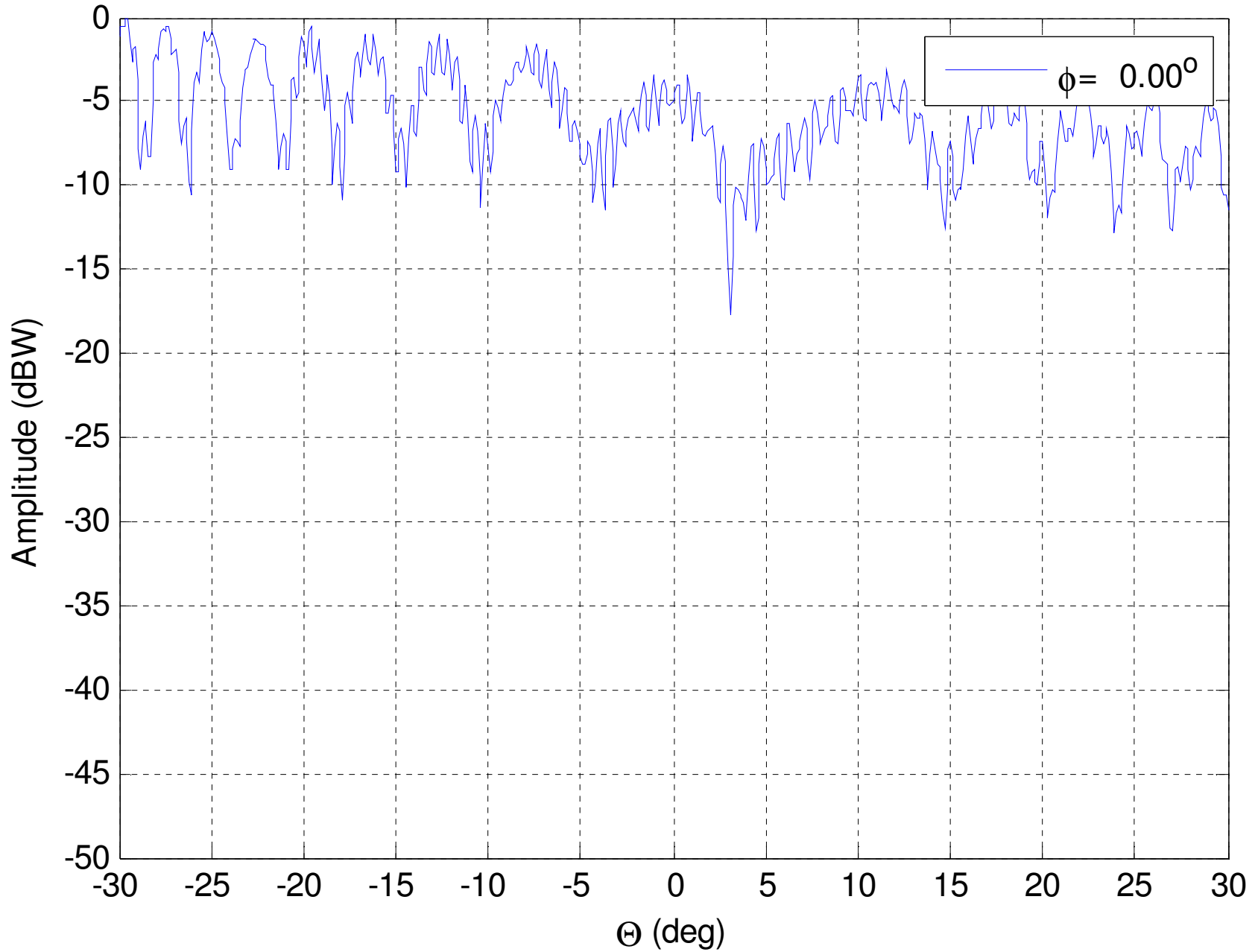
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -9.16 dBW, Date: 16-Dec-2011



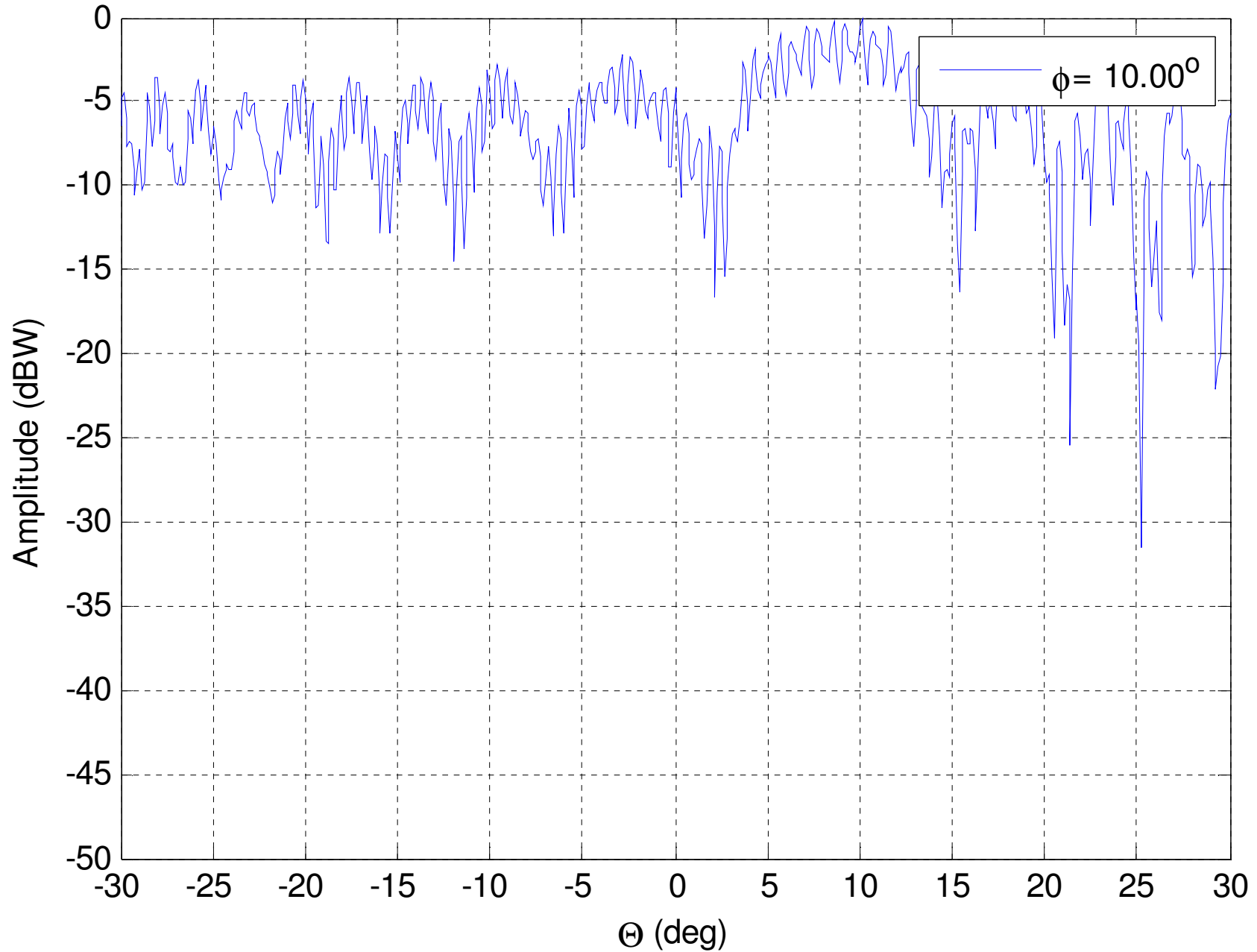
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -9.36 dBW, Date: 16-Dec-2011



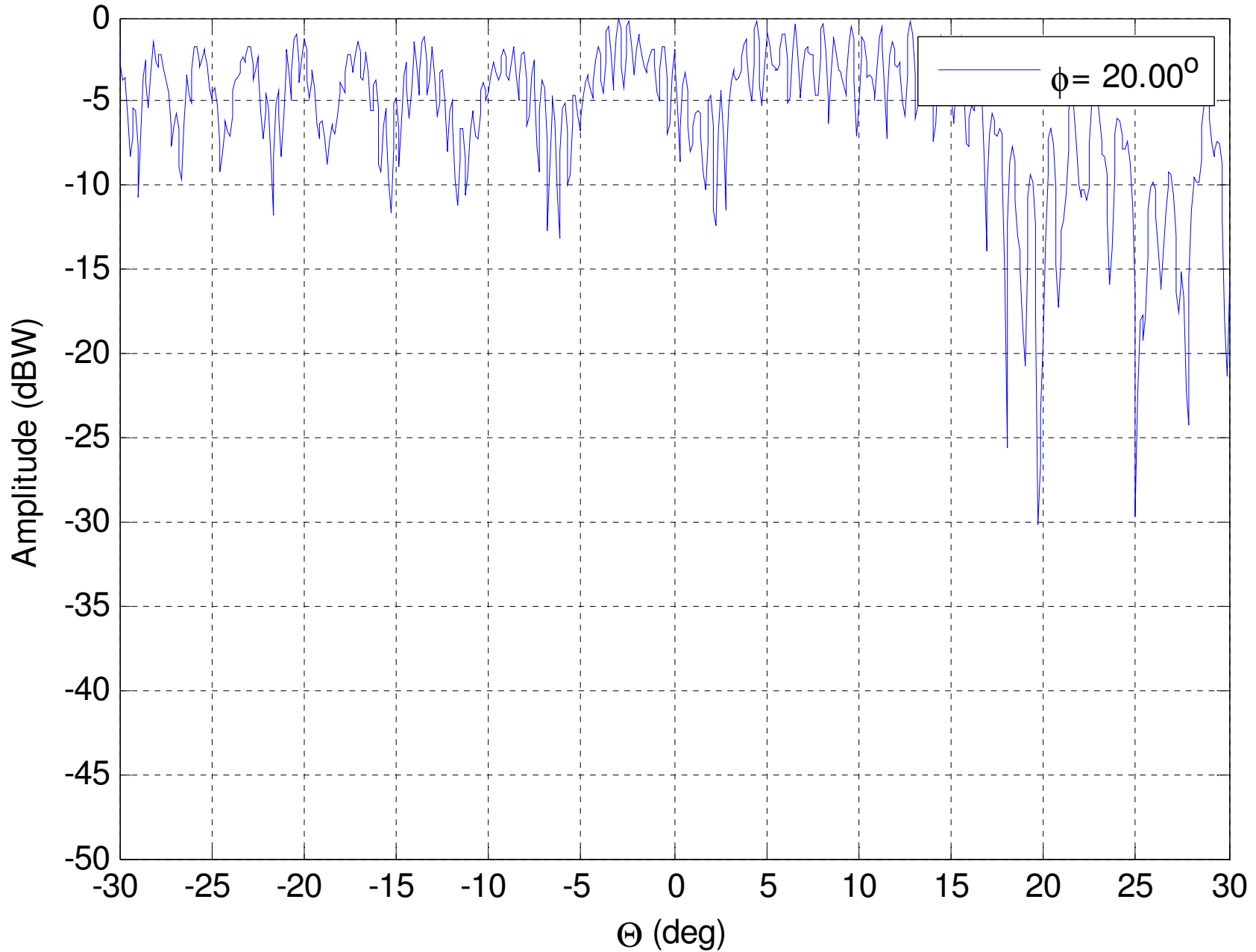
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -9.90 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

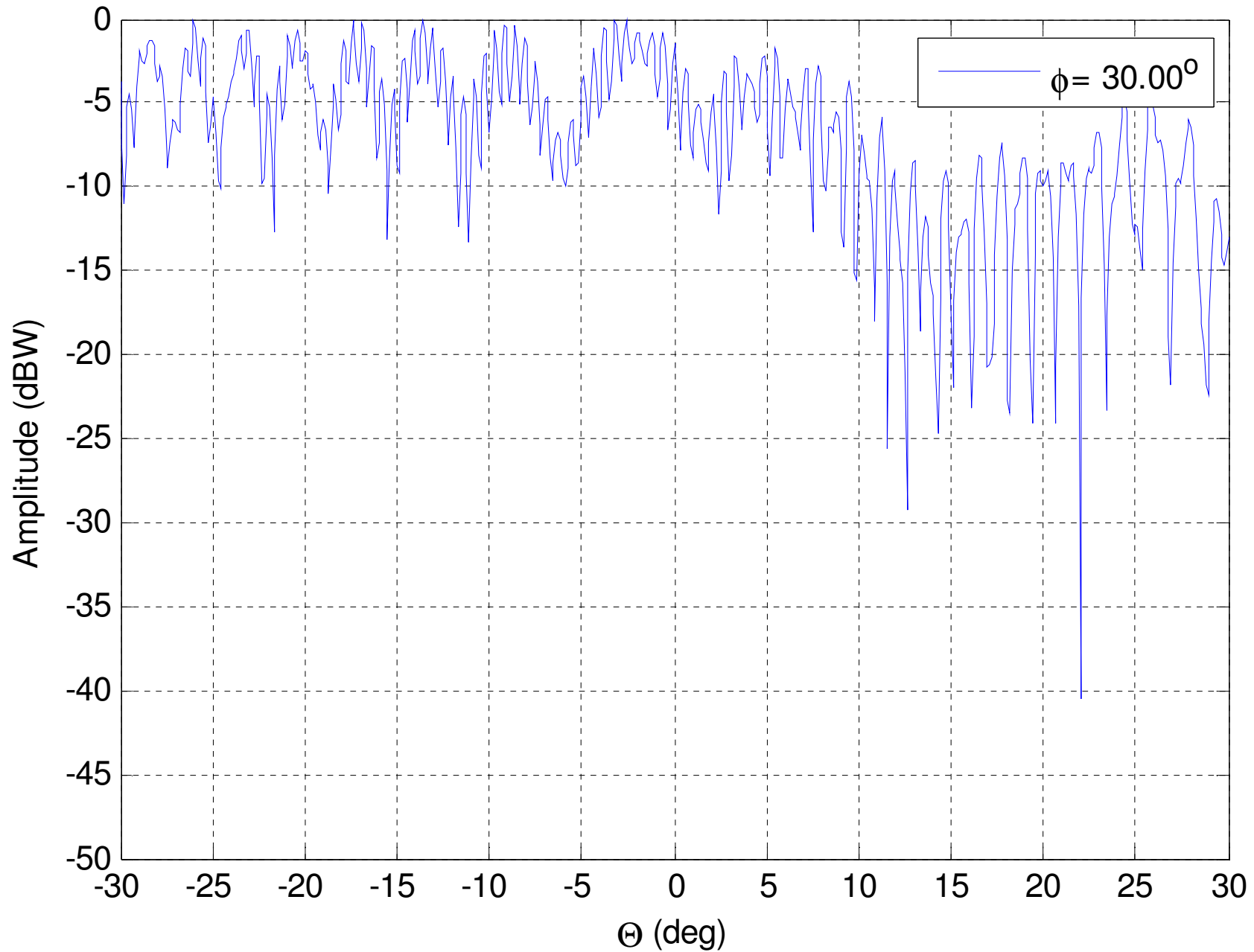
Input file: tx-17.5-lhcp-20.cut, Peak: -12.19 dBW, Date: 16-Dec-2011





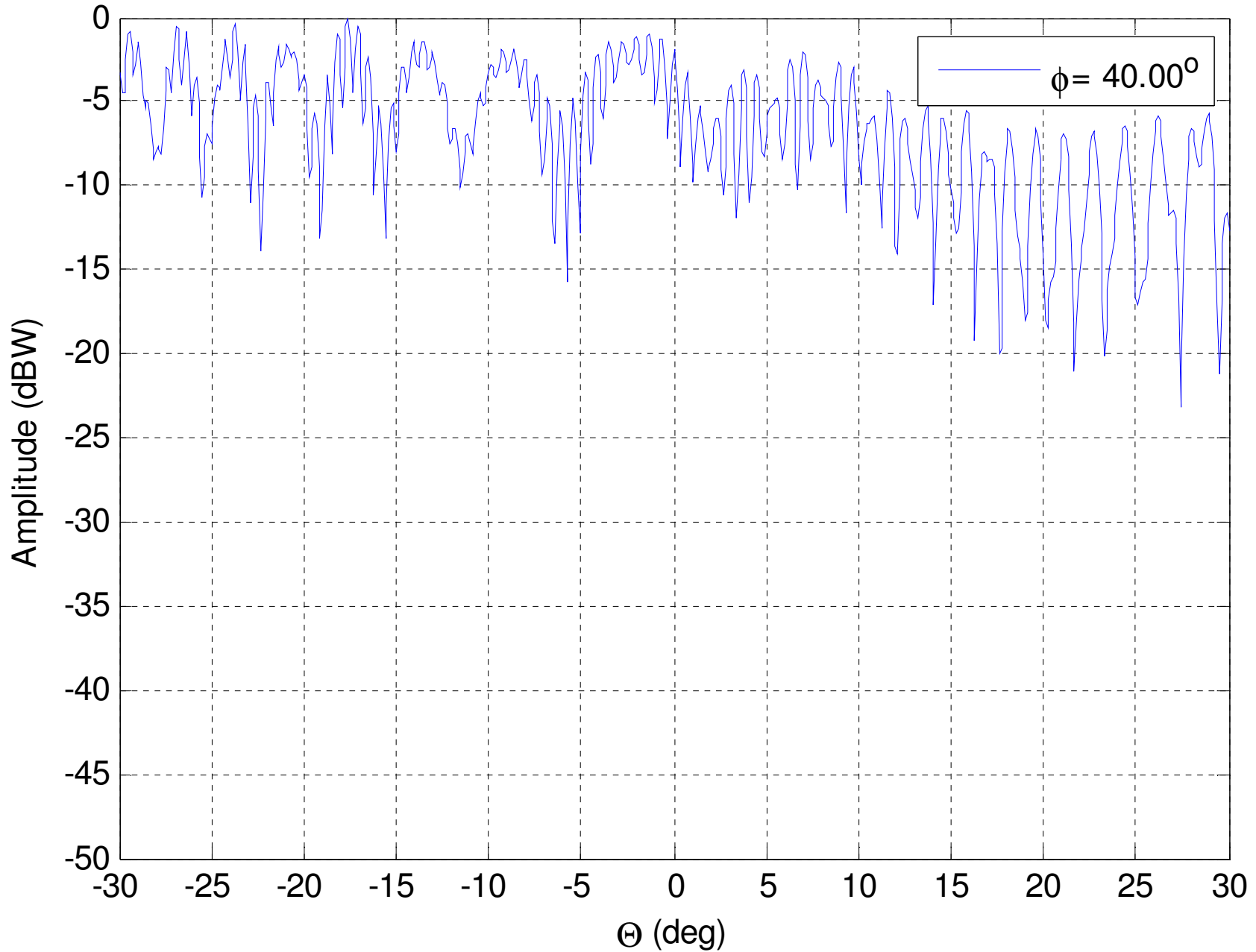
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -12.68 dBW, Date: 16-Dec-2011



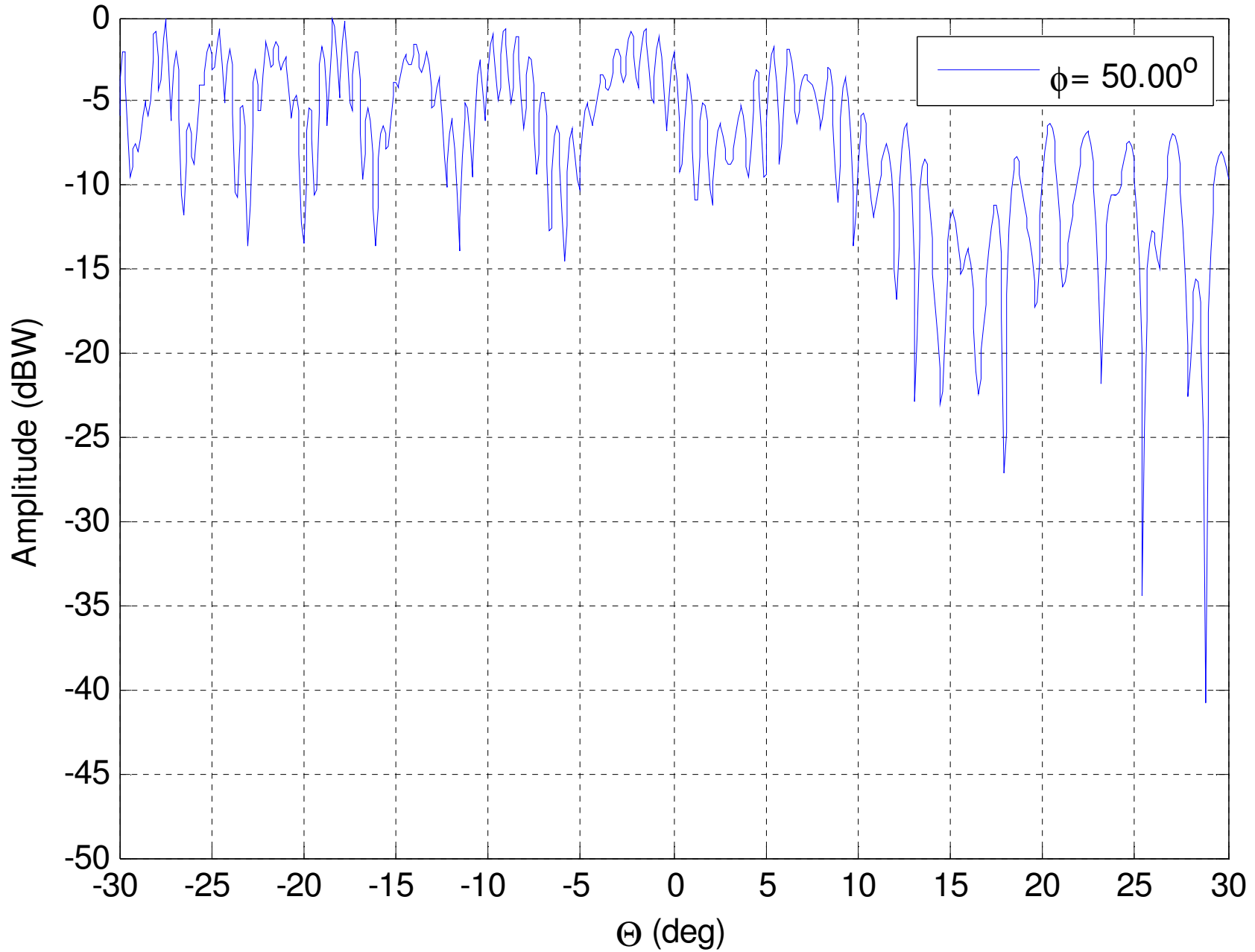
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -12.26 dBW, Date: 16-Dec-2011



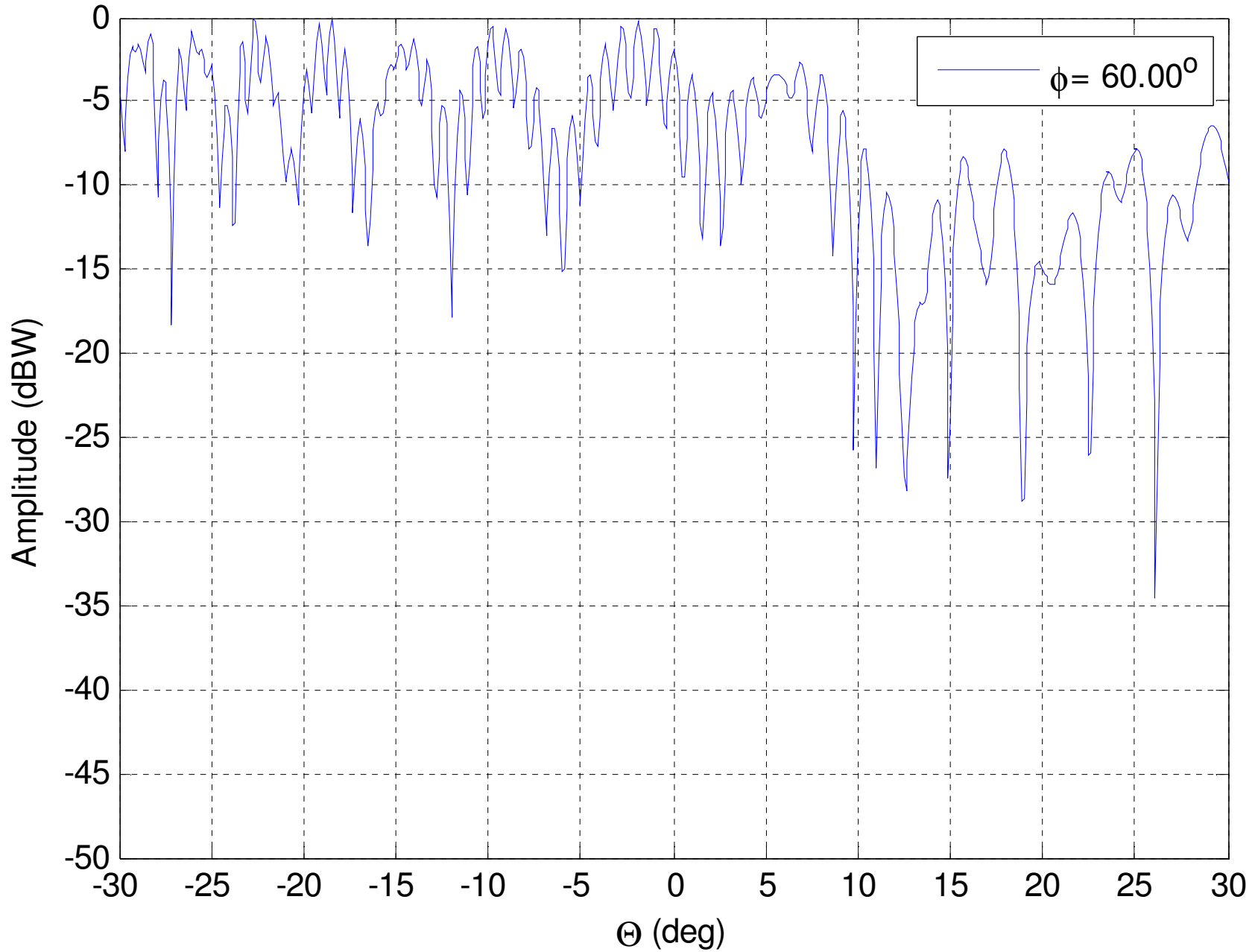
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -12.14 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

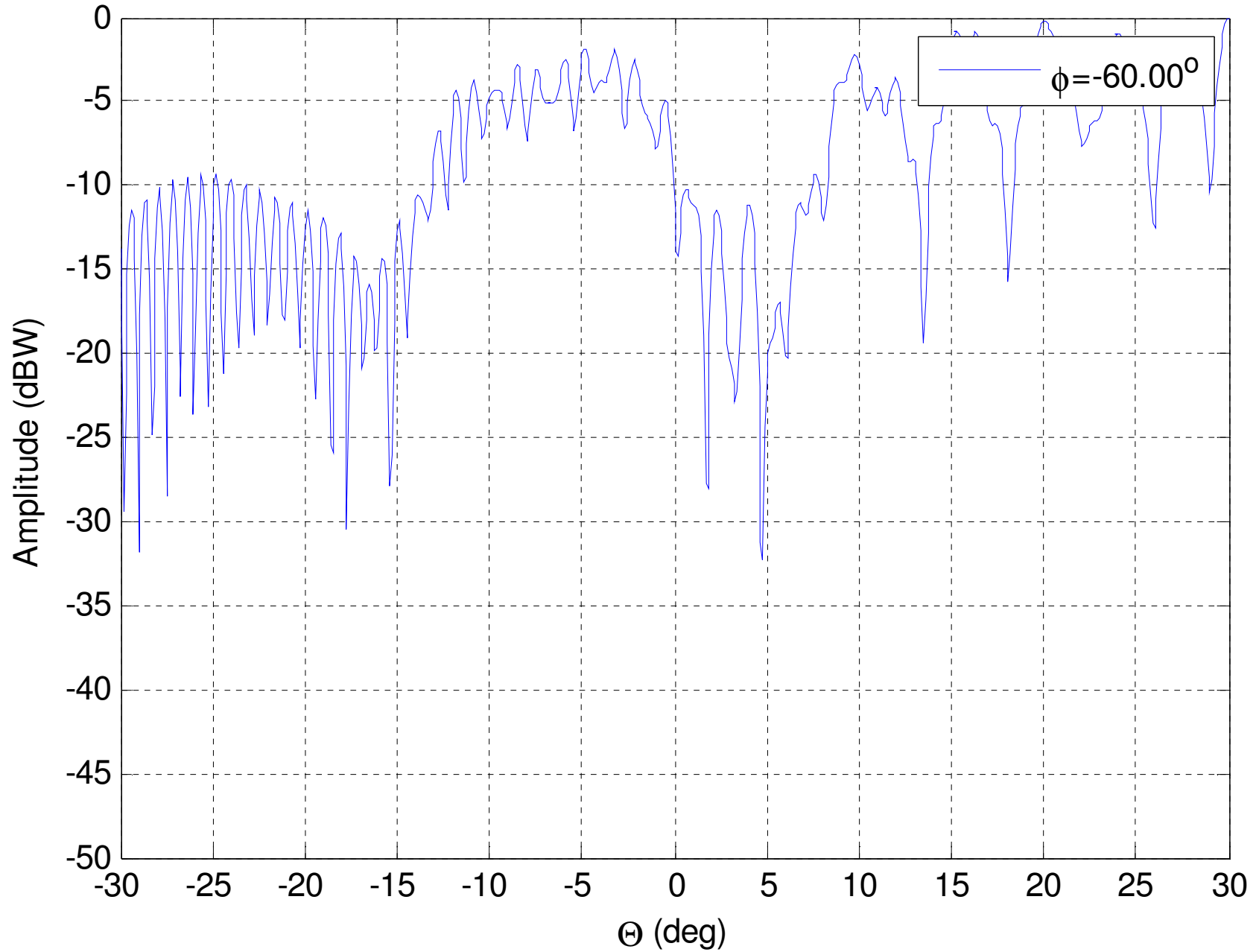
Input file: tx-17.5-lhcp-60.cut, Peak: -12.31 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

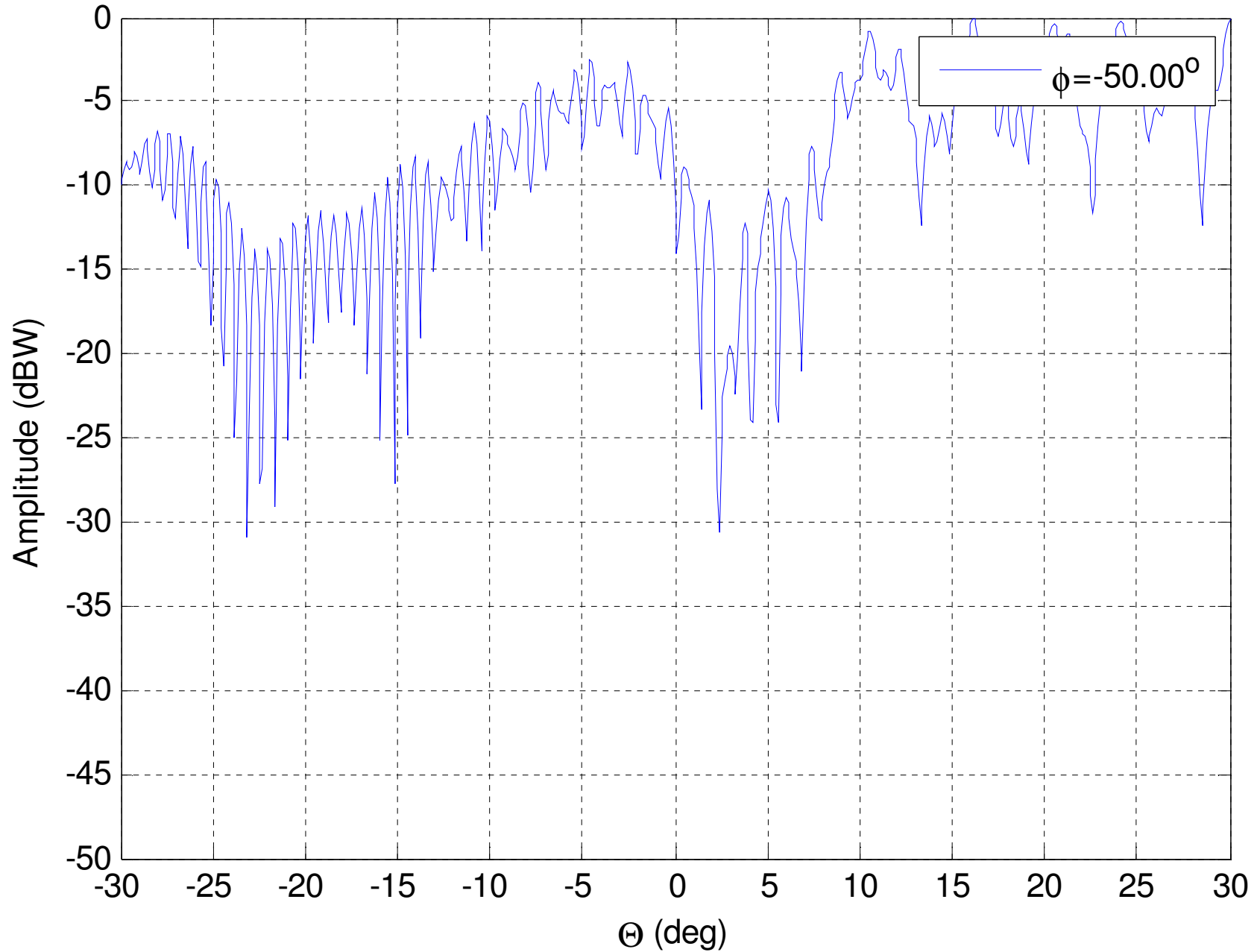
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -12.70 dBW, Date: 16-Dec-2011



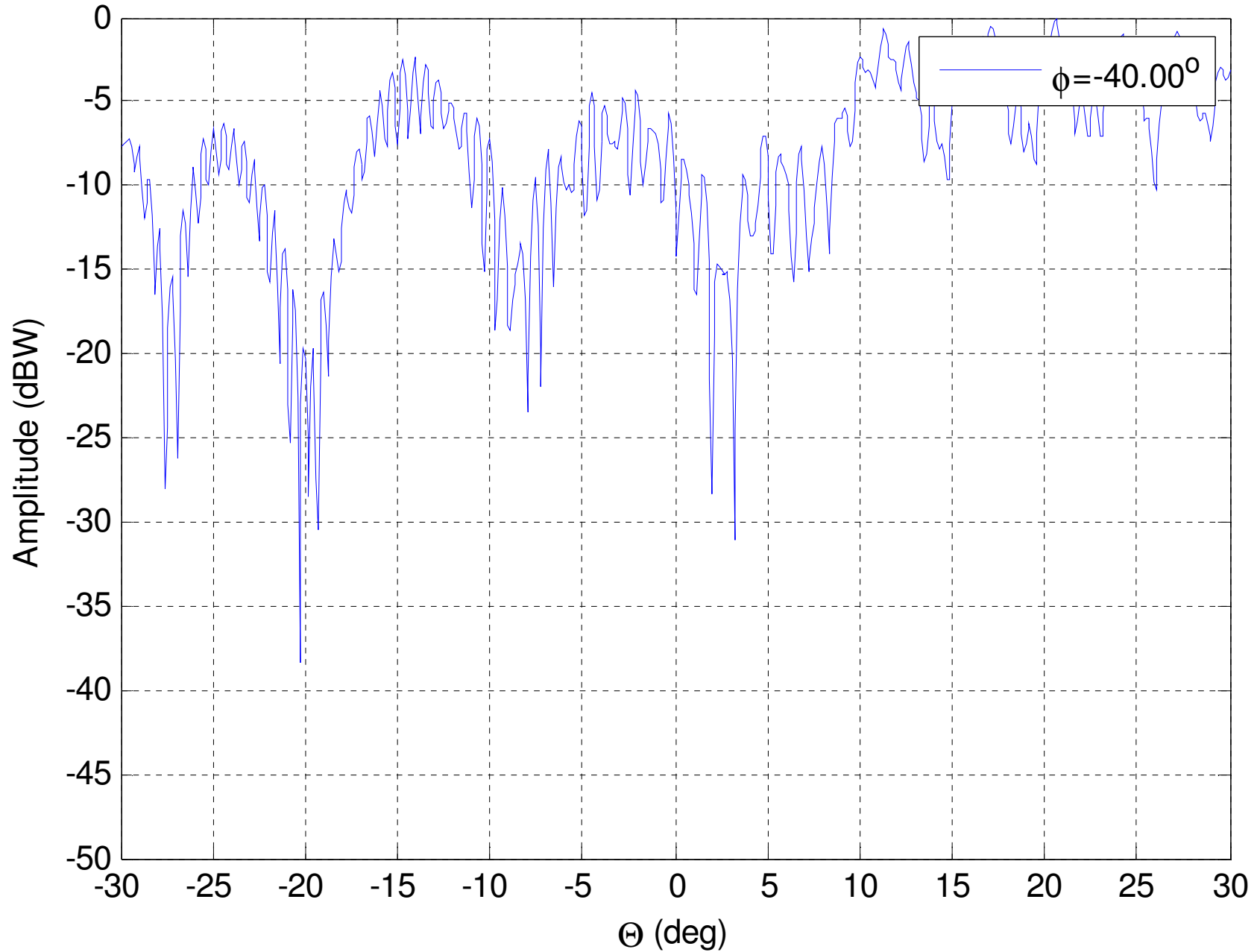
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -12.72 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

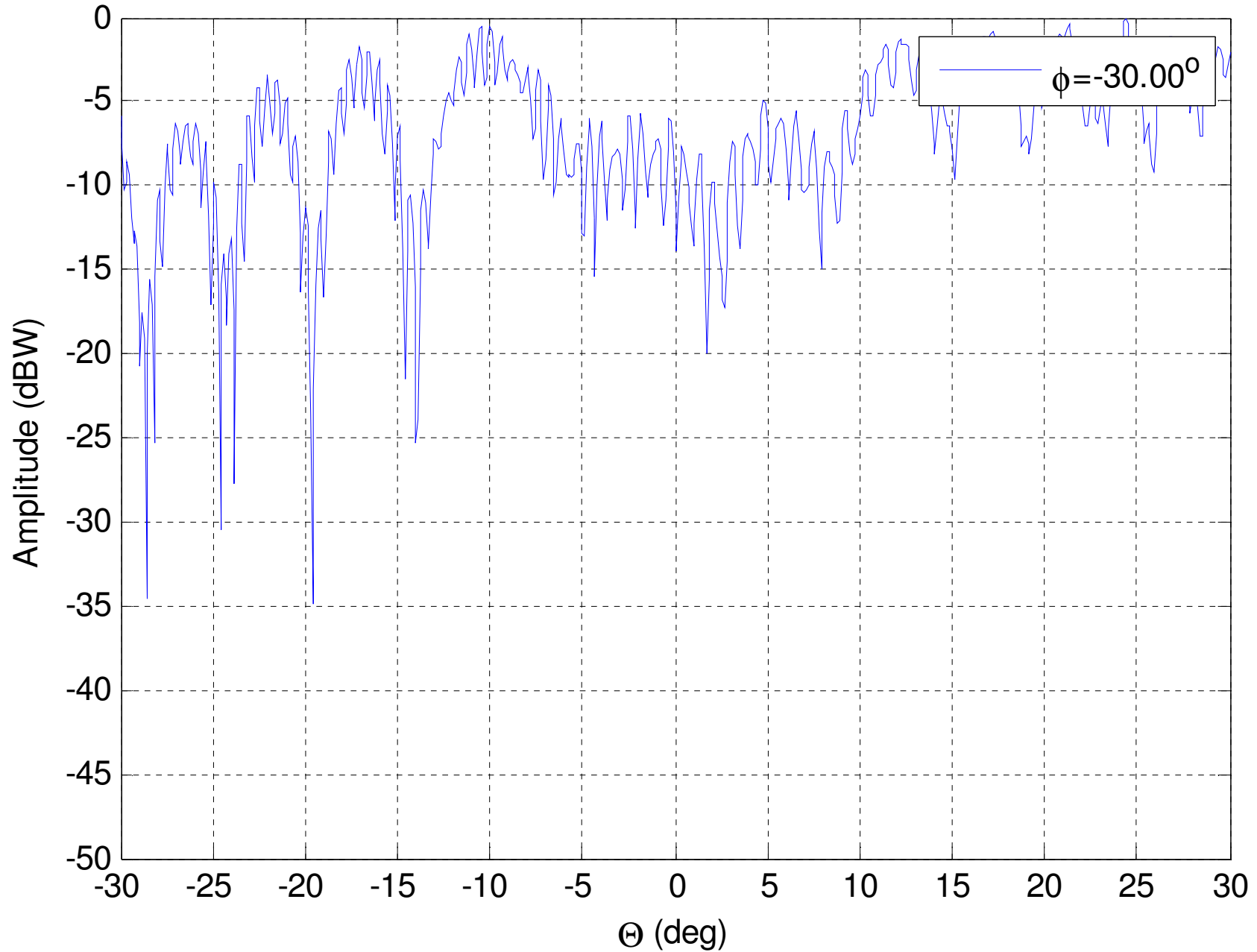
Input file: tx-17.7-rhcp--40.cut, Peak: -12.52 dBW, Date: 16-Dec-2011





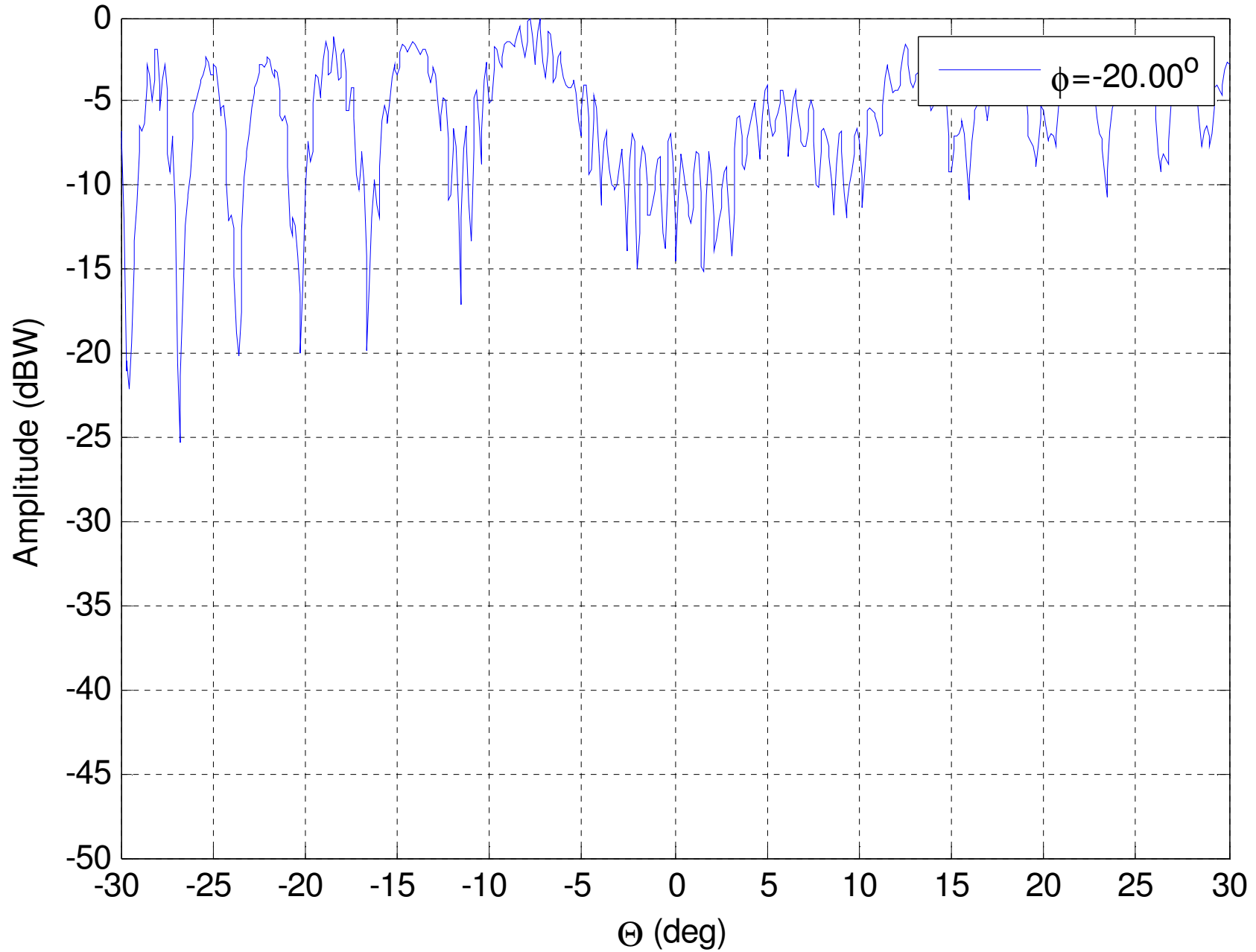
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -12.52 dBW, Date: 16-Dec-2011



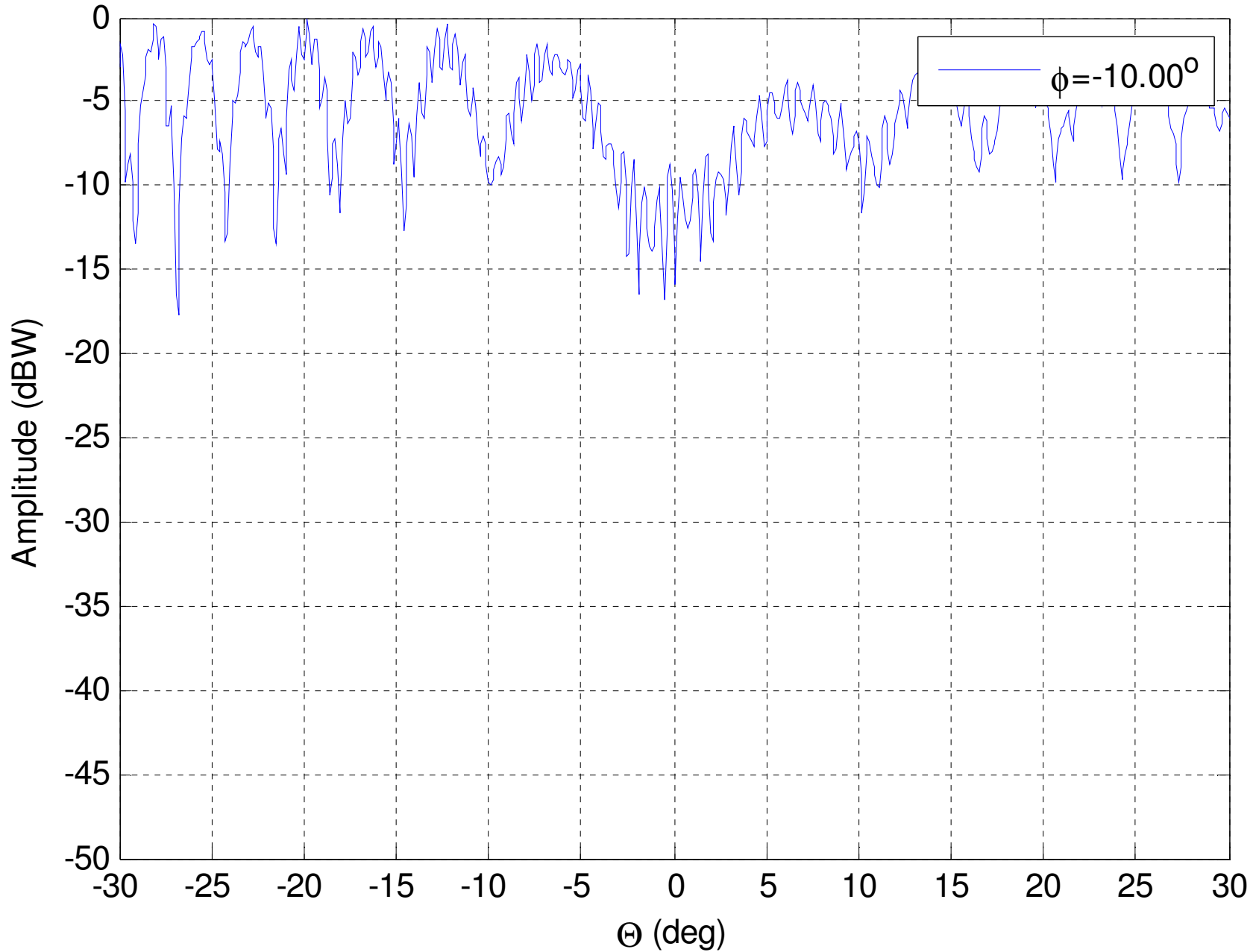
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -11.69 dBW, Date: 16-Dec-2011



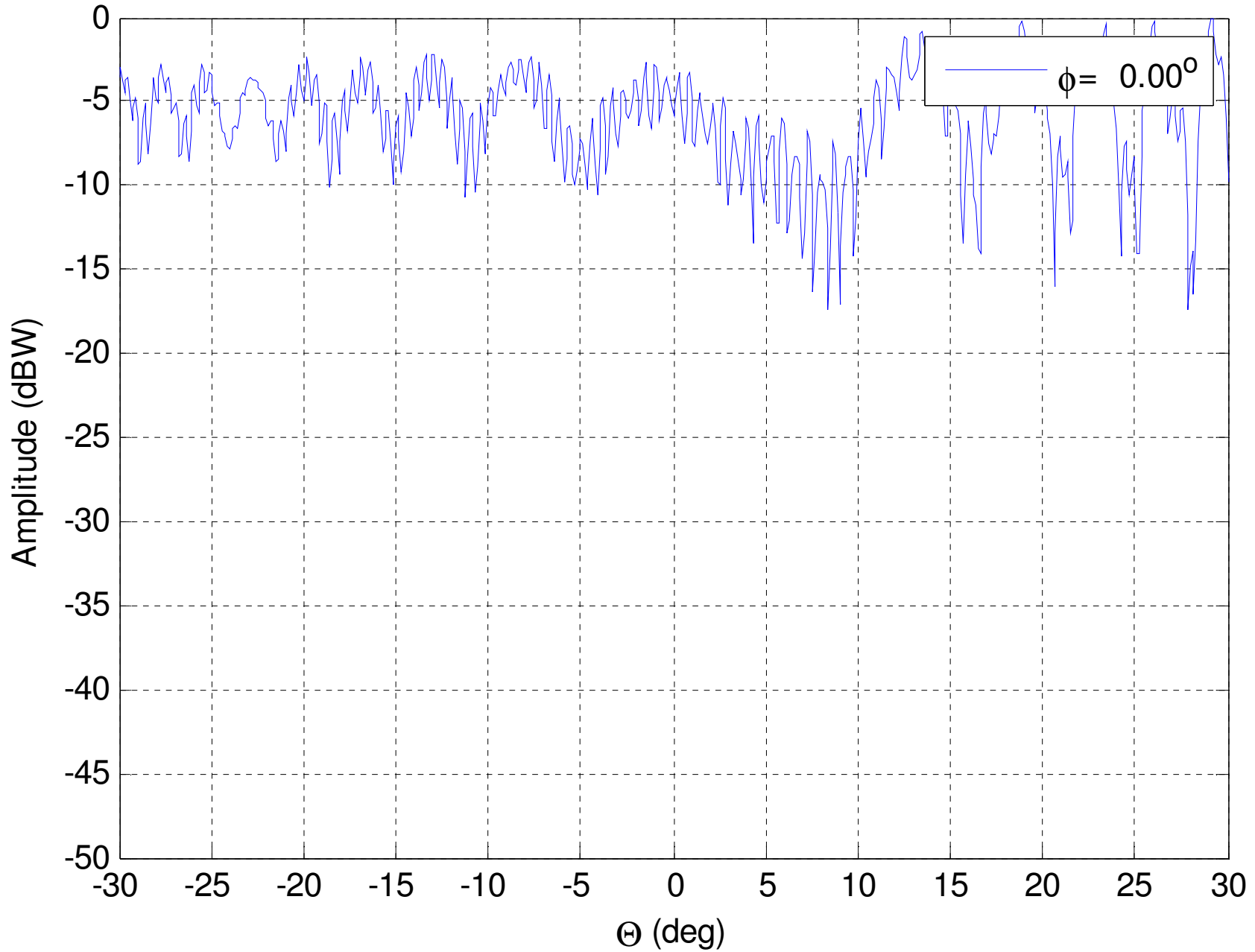
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -10.01 dBW, Date: 16-Dec-2011



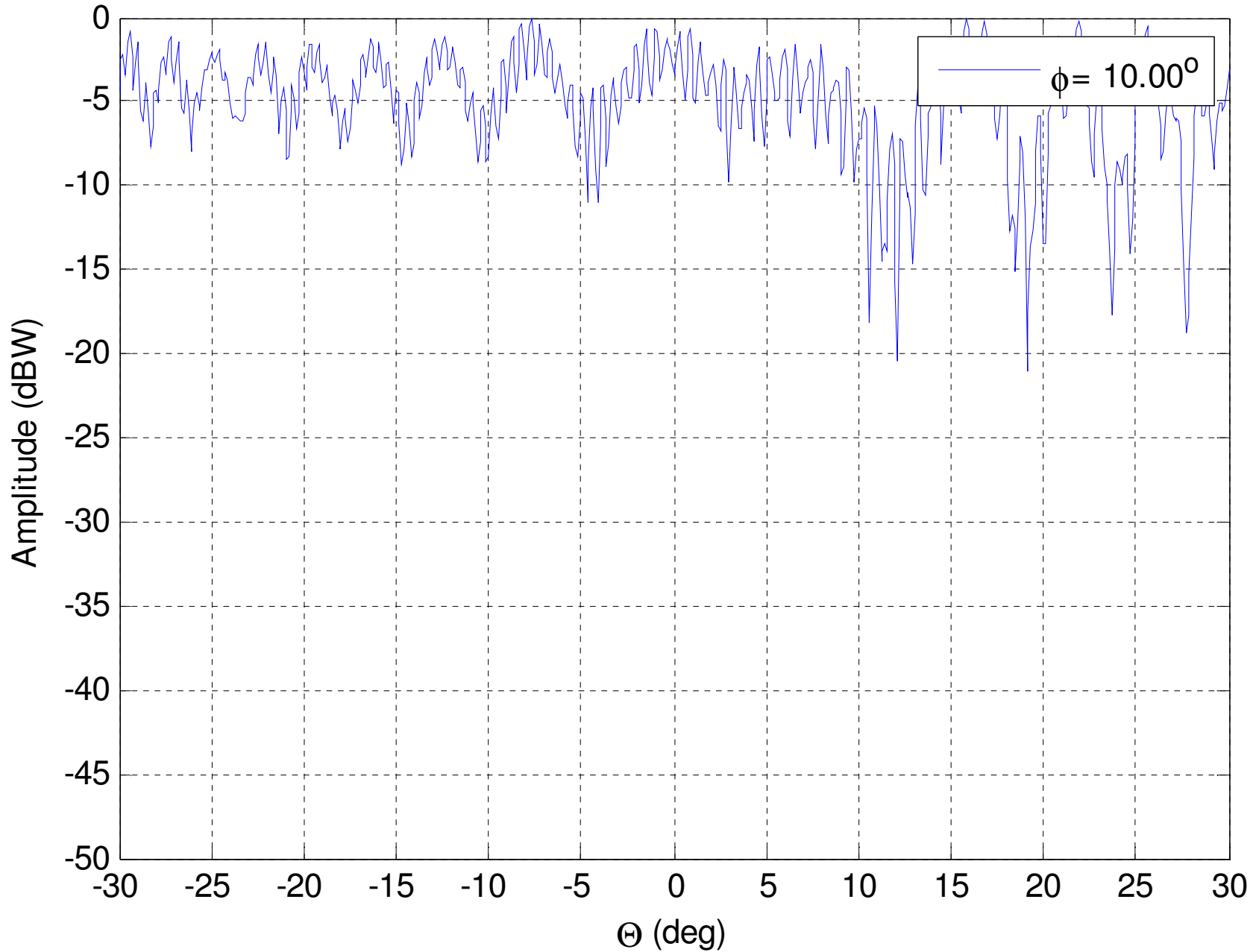
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -10.05 dBW, Date: 16-Dec-2011



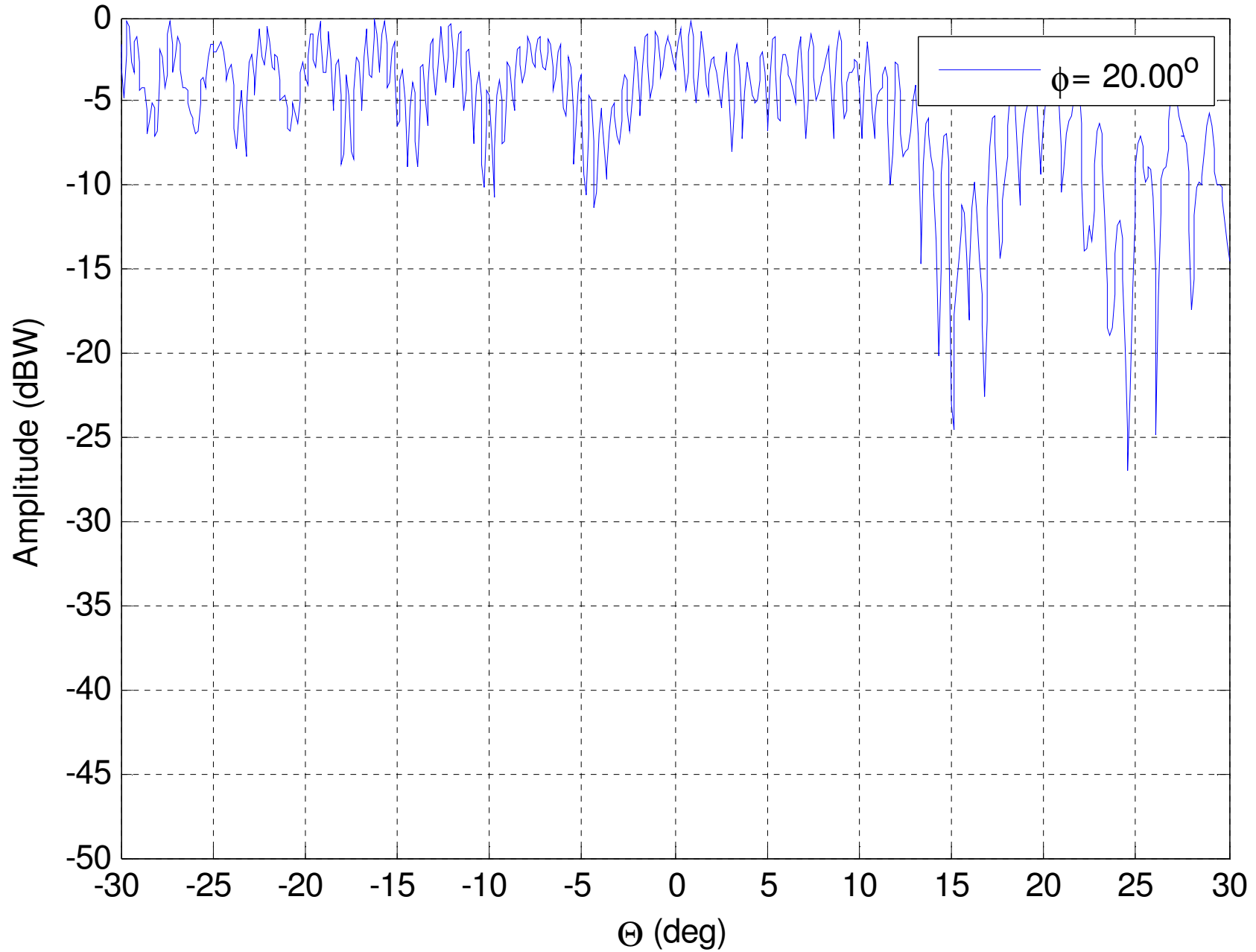
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -12.48 dBW, Date: 16-Dec-2011



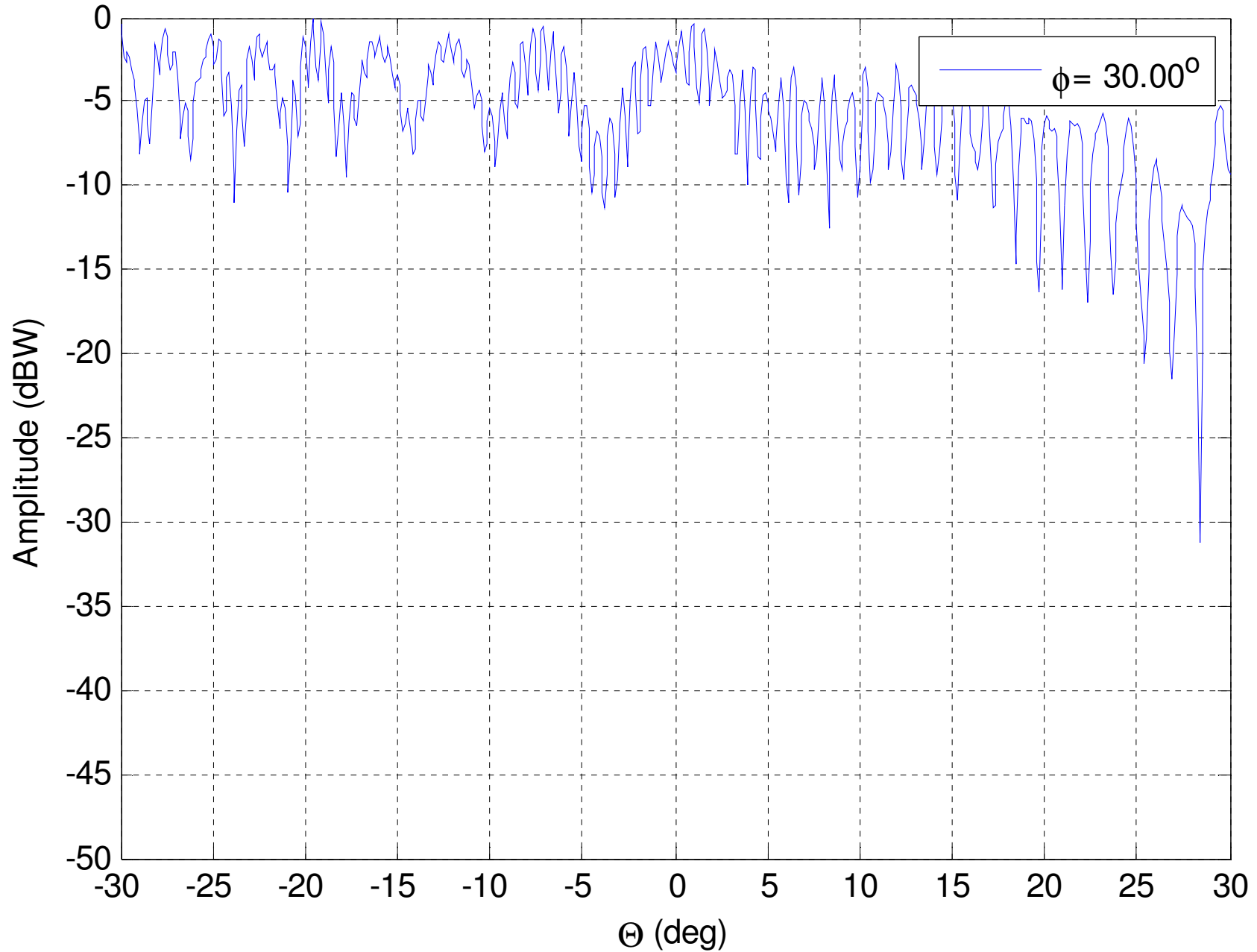
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -12.73 dBW, Date: 16-Dec-2011



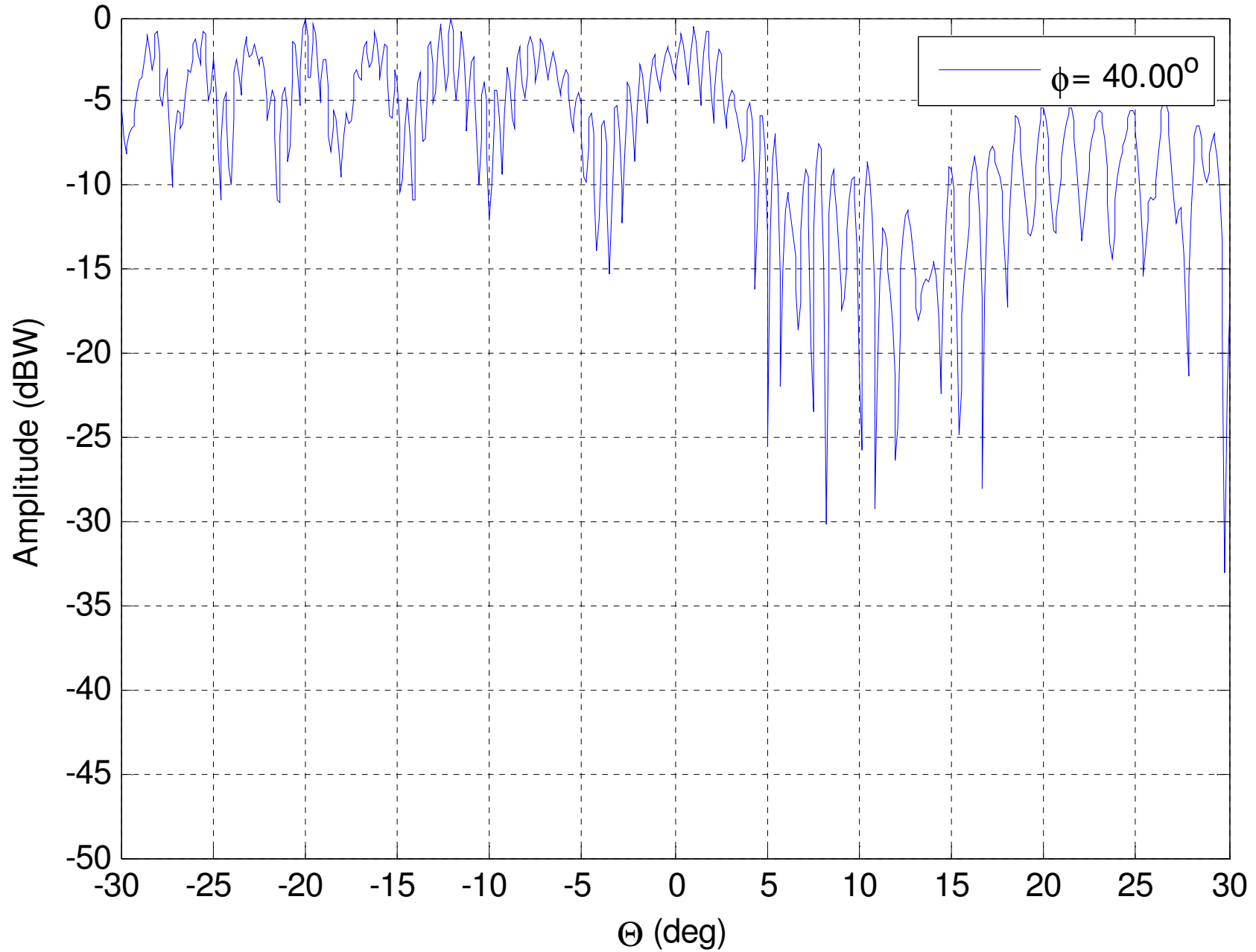
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -12.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

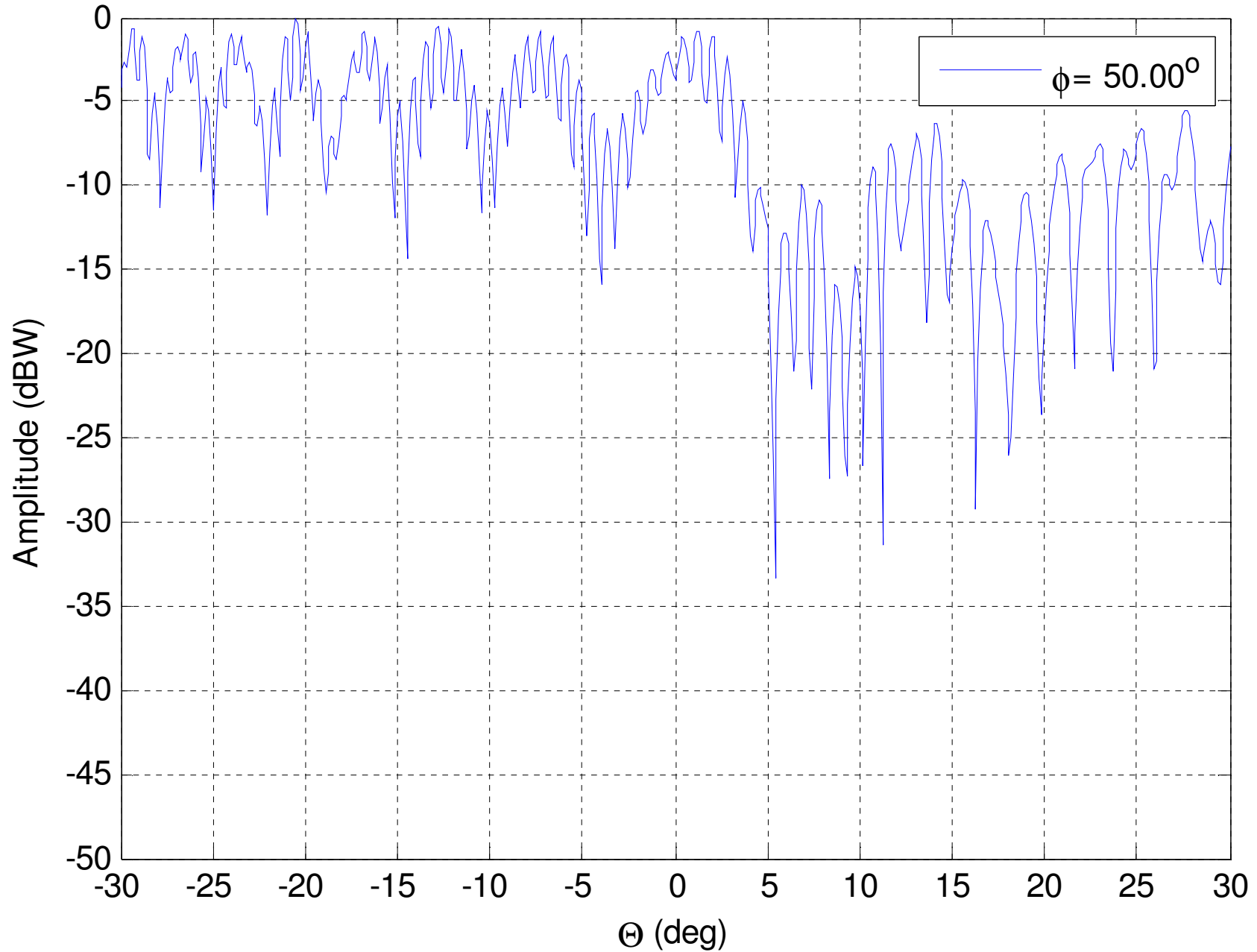
Input file: tx-17.7-rhcp-40.cut, Peak: -12.33 dBW, Date: 16-Dec-2011





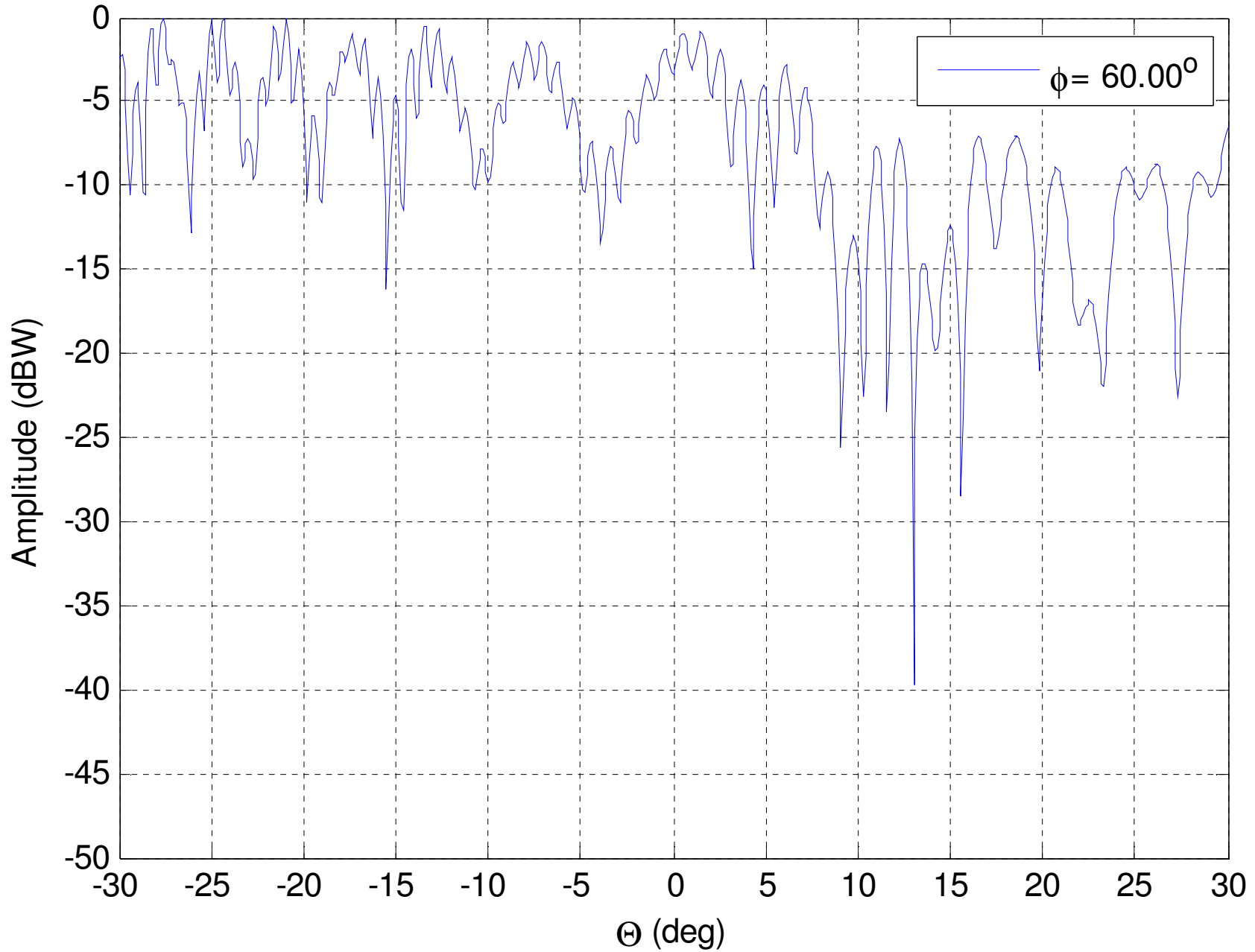
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -12.16 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

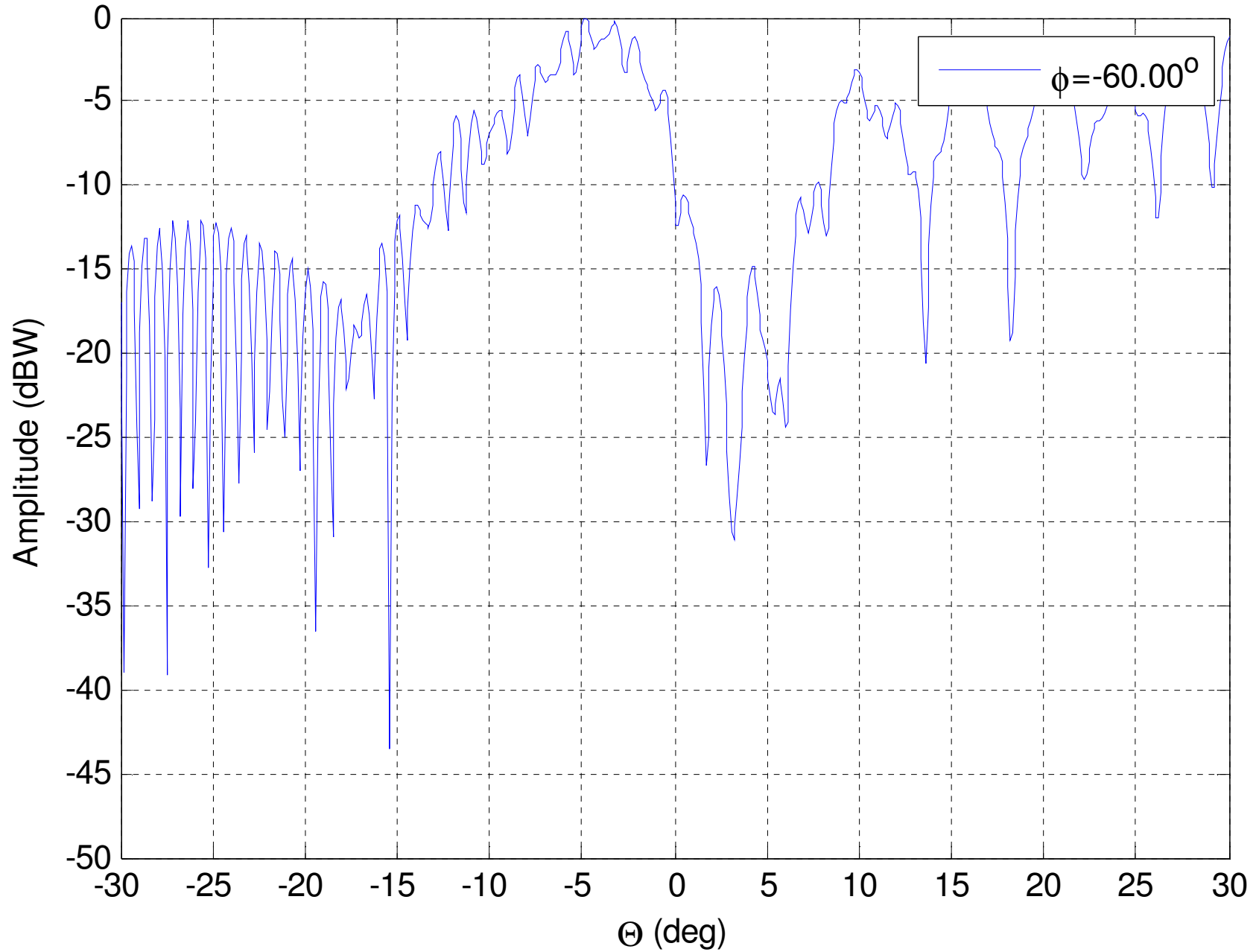
Input file: tx-17.7-rhcp-60.cut, Peak: -12.44 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

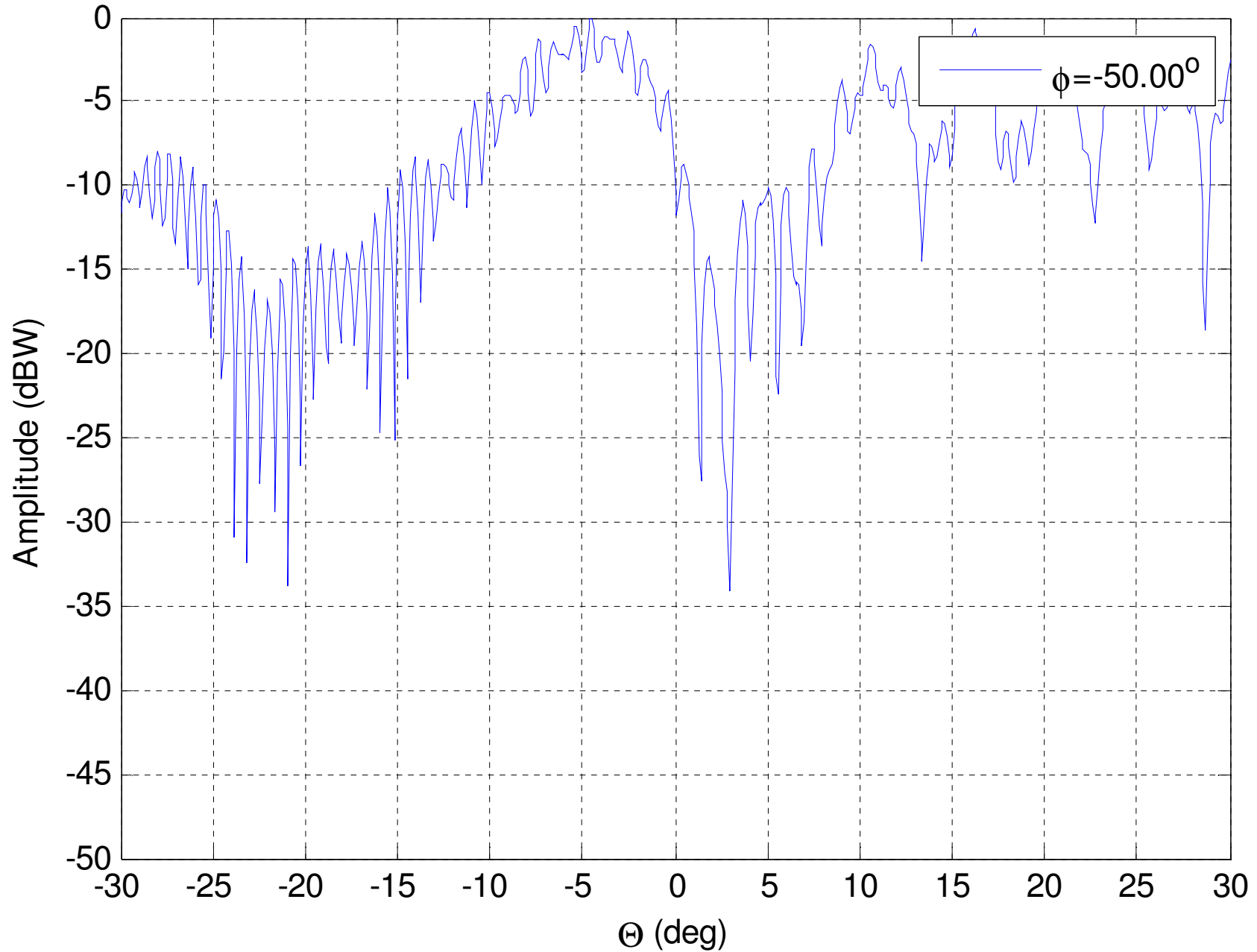
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -11.50 dBW, Date: 16-Dec-2011



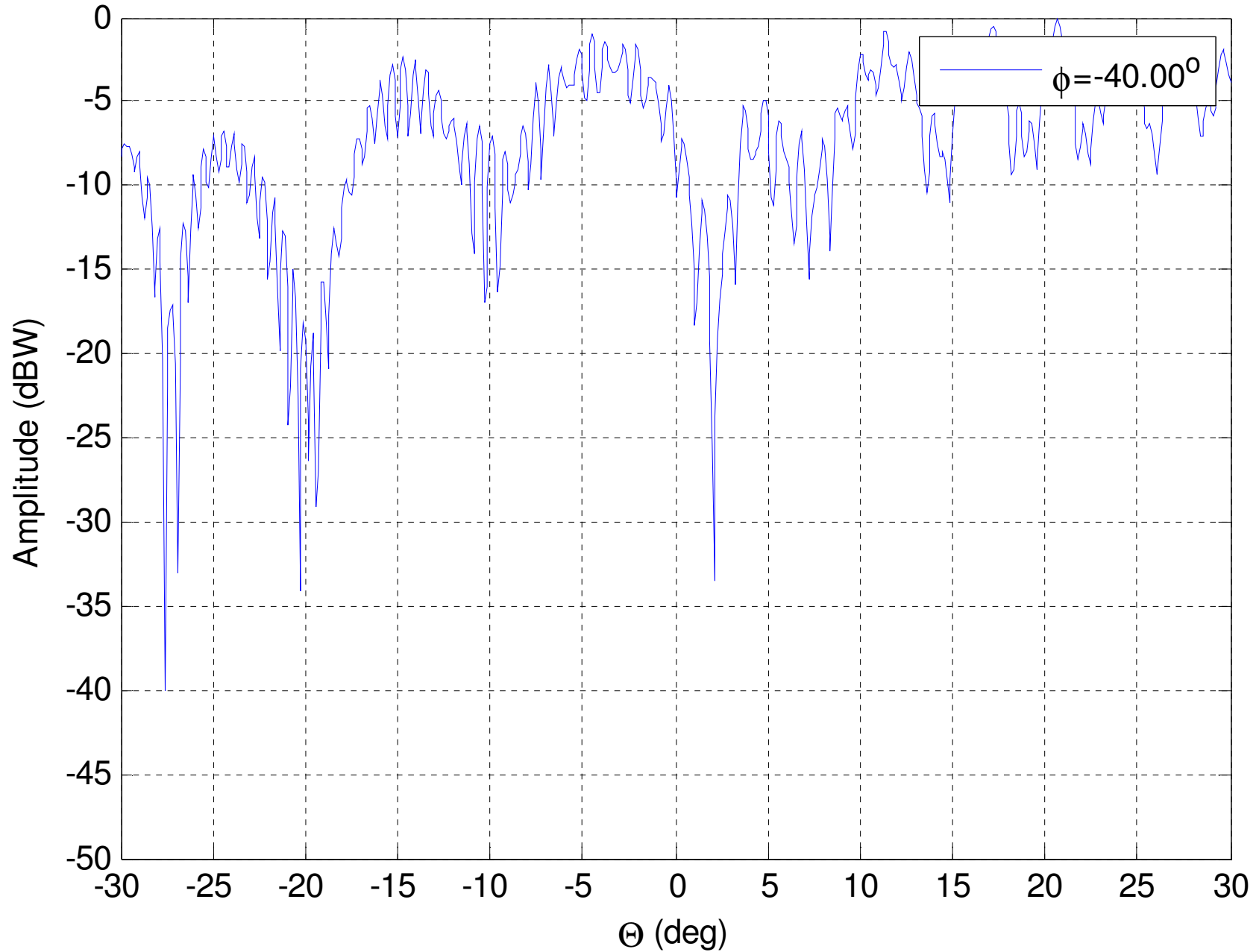
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -12.04 dBW, Date: 16-Dec-2011



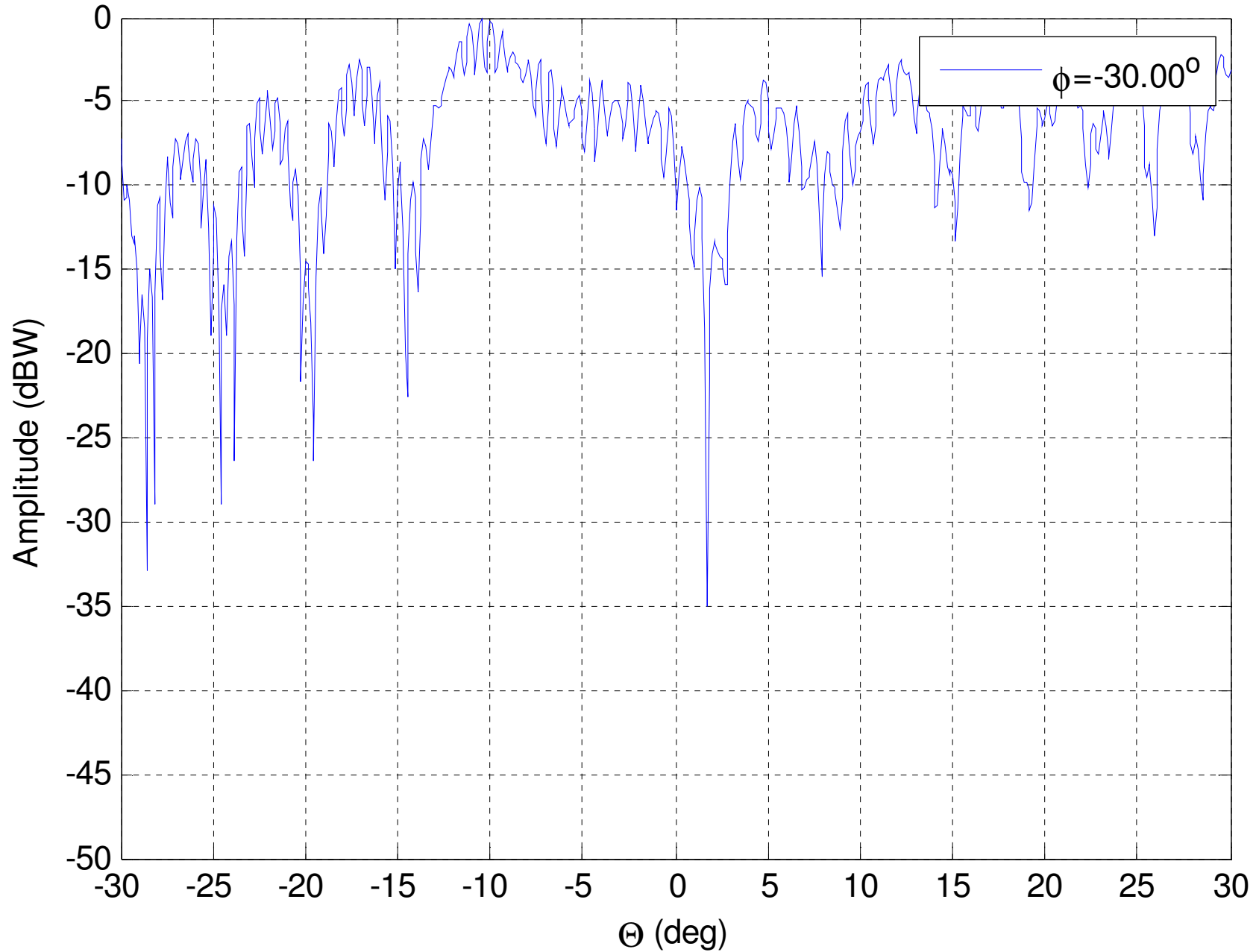
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -12.74 dBW, Date: 16-Dec-2011



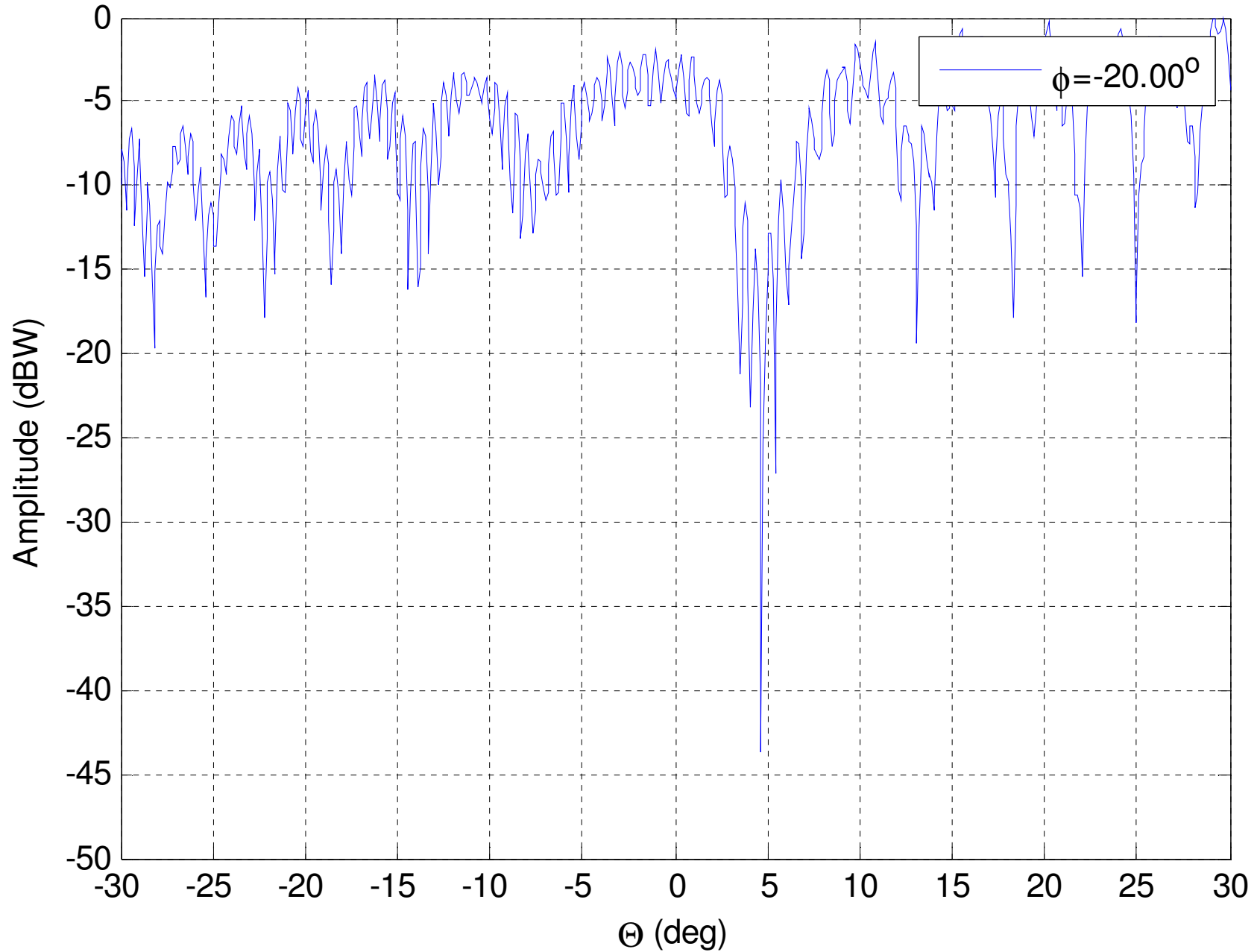
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -11.65 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

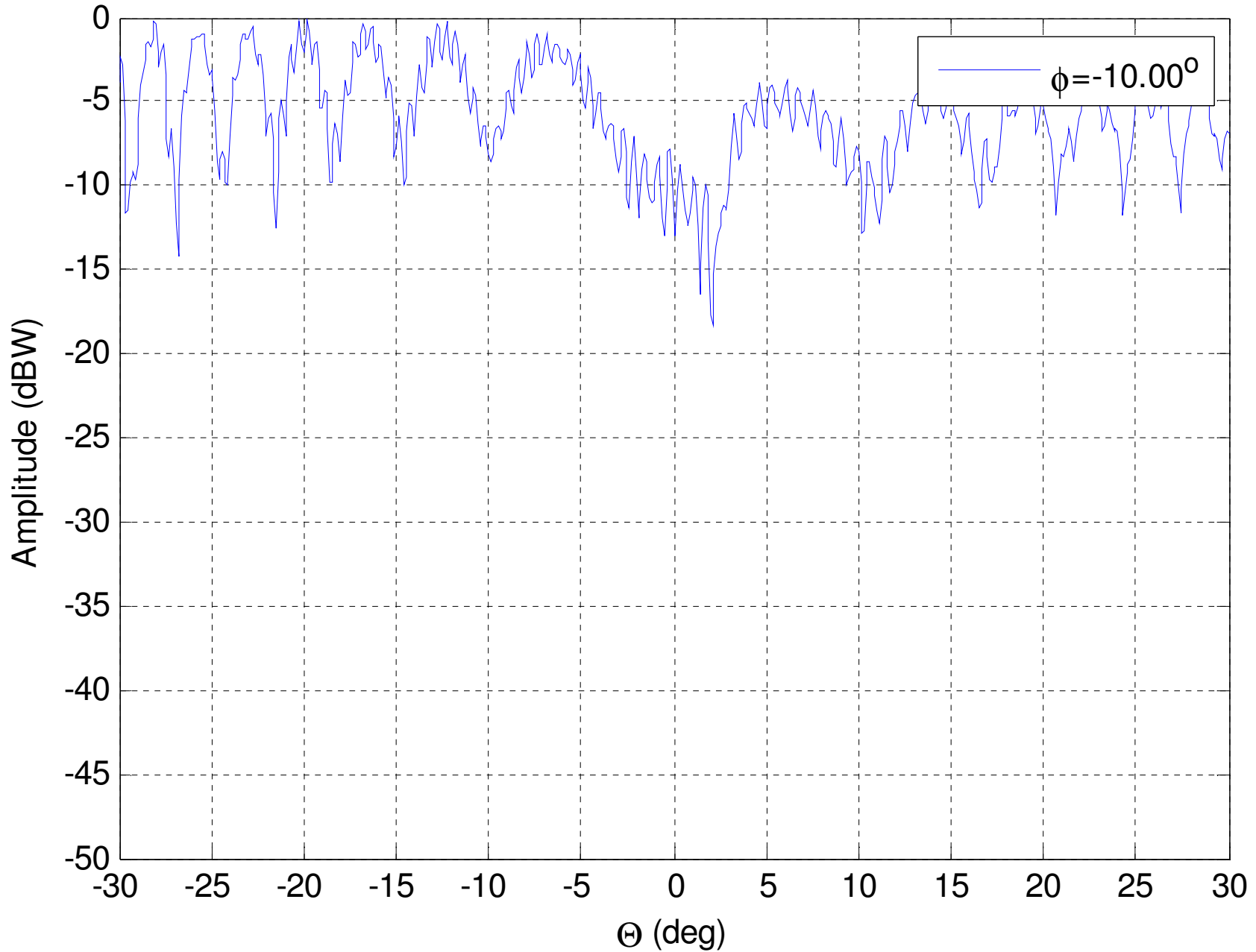
Input file: tx-17.7-lhcp--20.cut, Peak: -10.86 dBW, Date: 16-Dec-2011





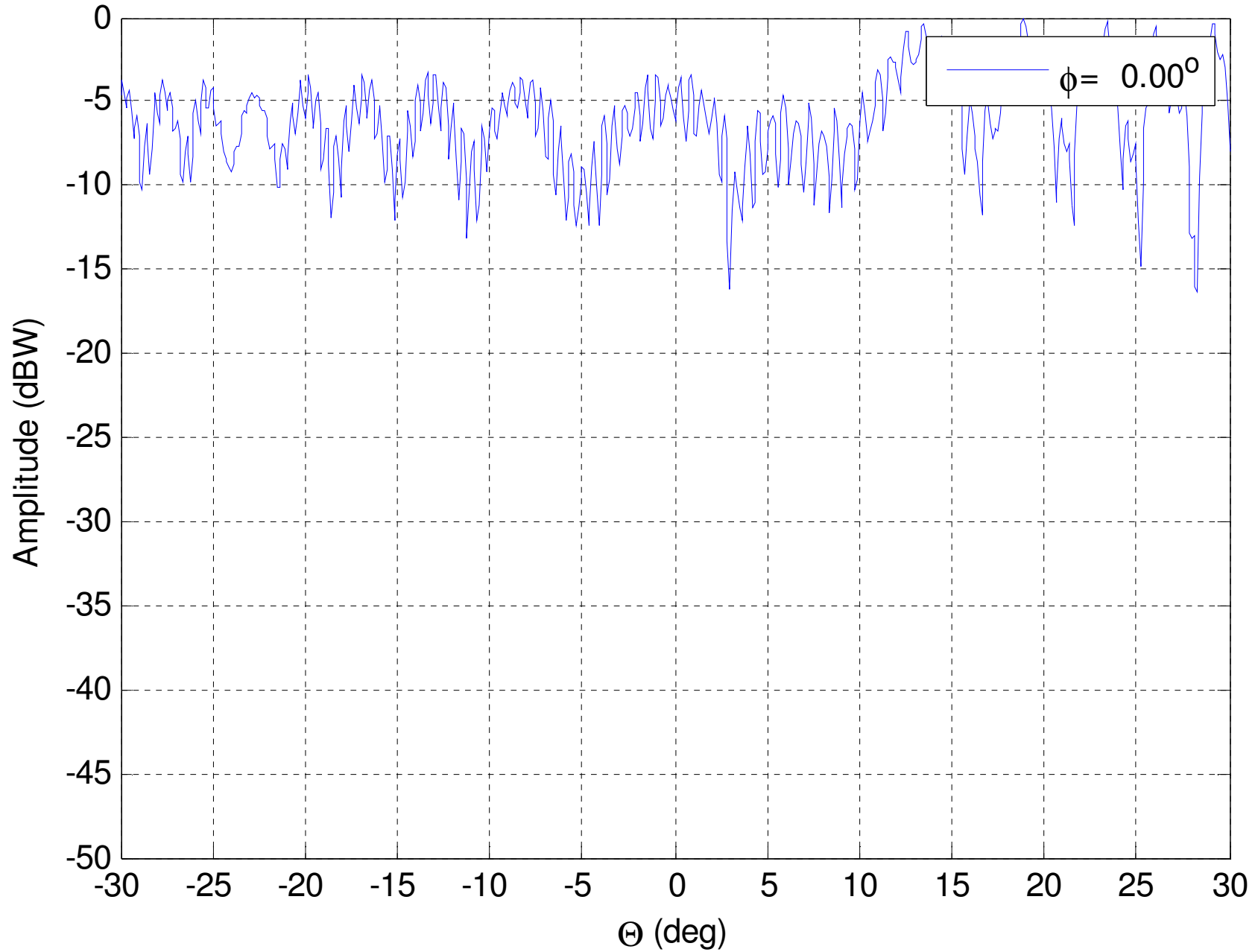
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -9.70 dBW, Date: 16-Dec-2011



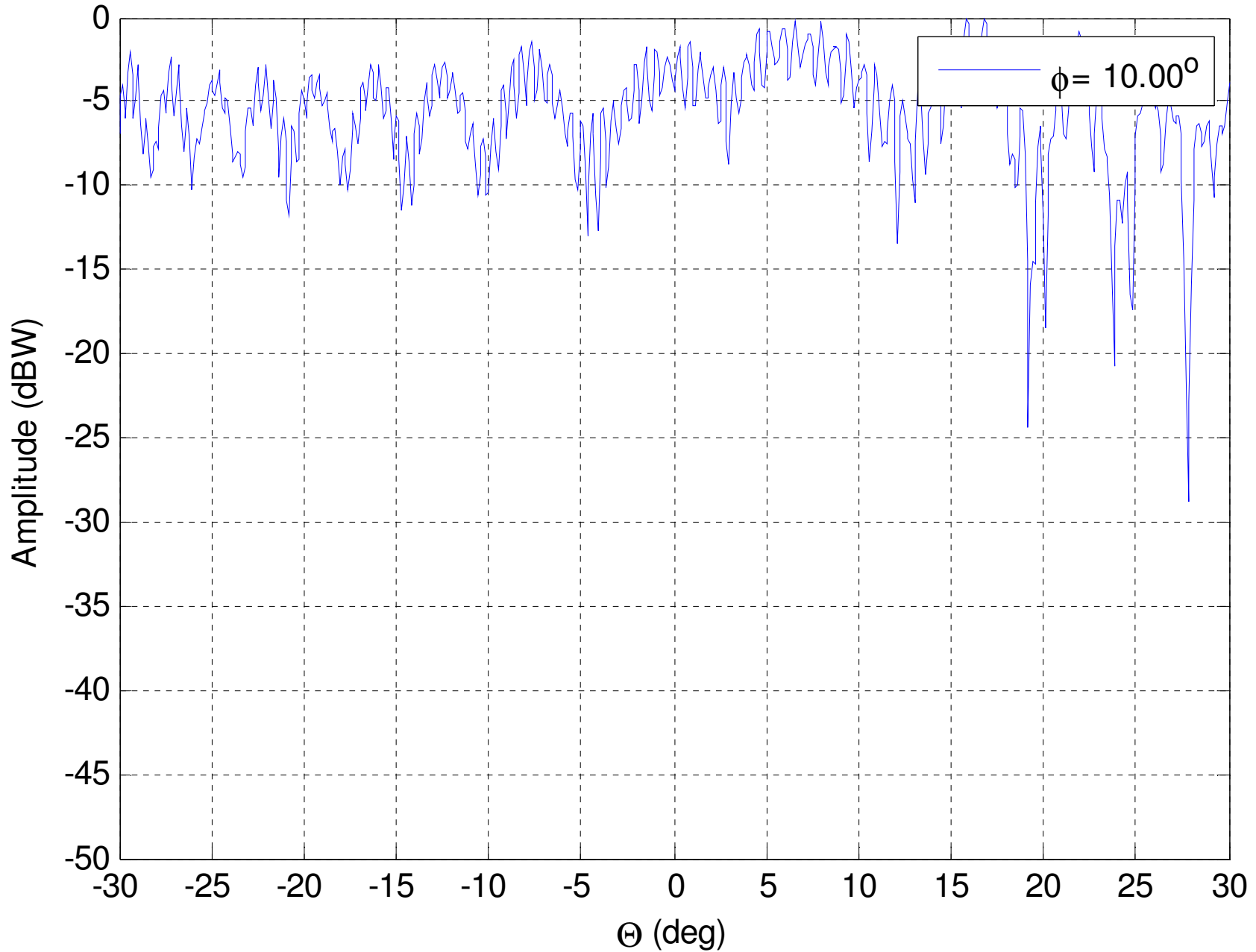
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -9.53 dBW, Date: 16-Dec-2011



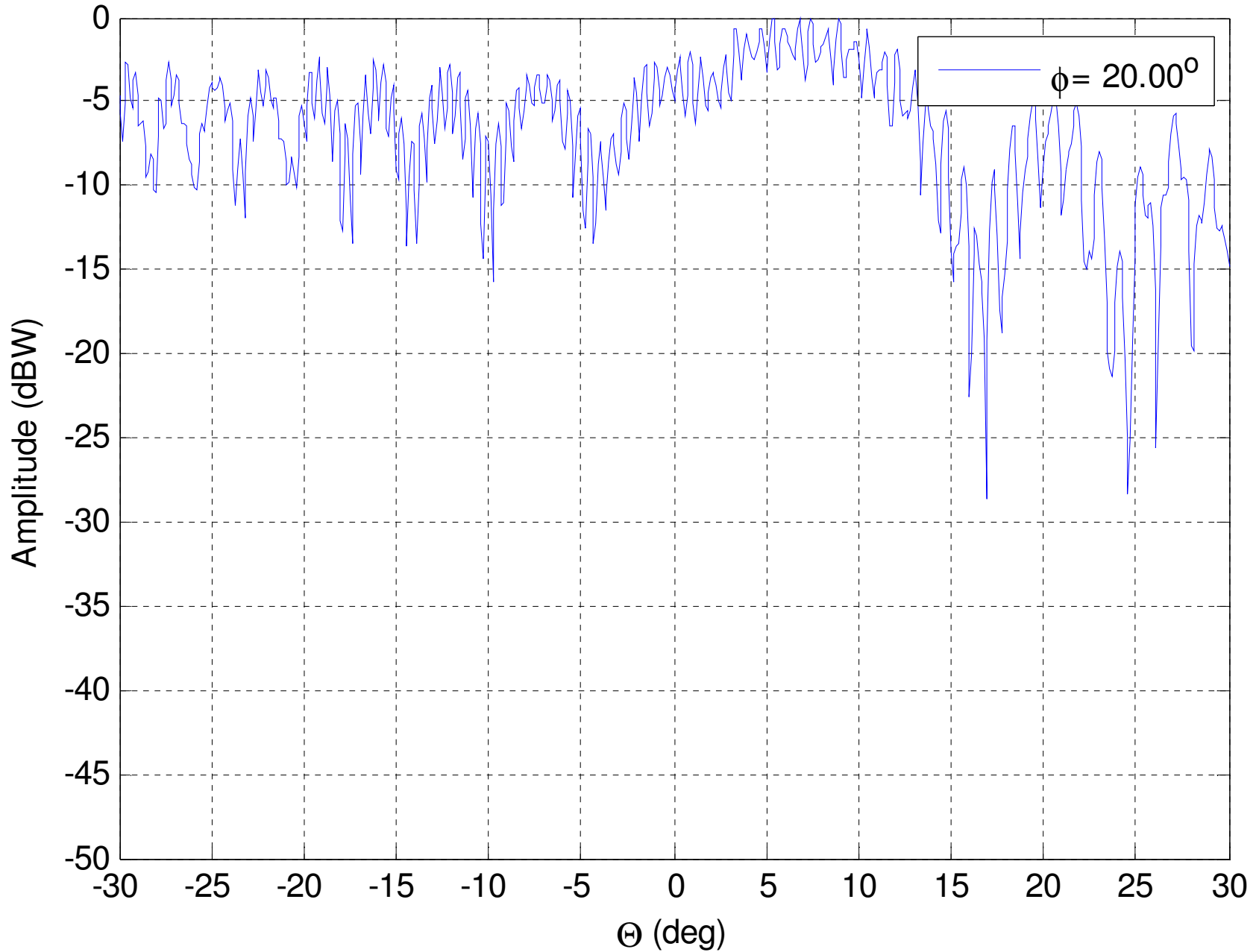
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -11.33 dBW, Date: 16-Dec-2011



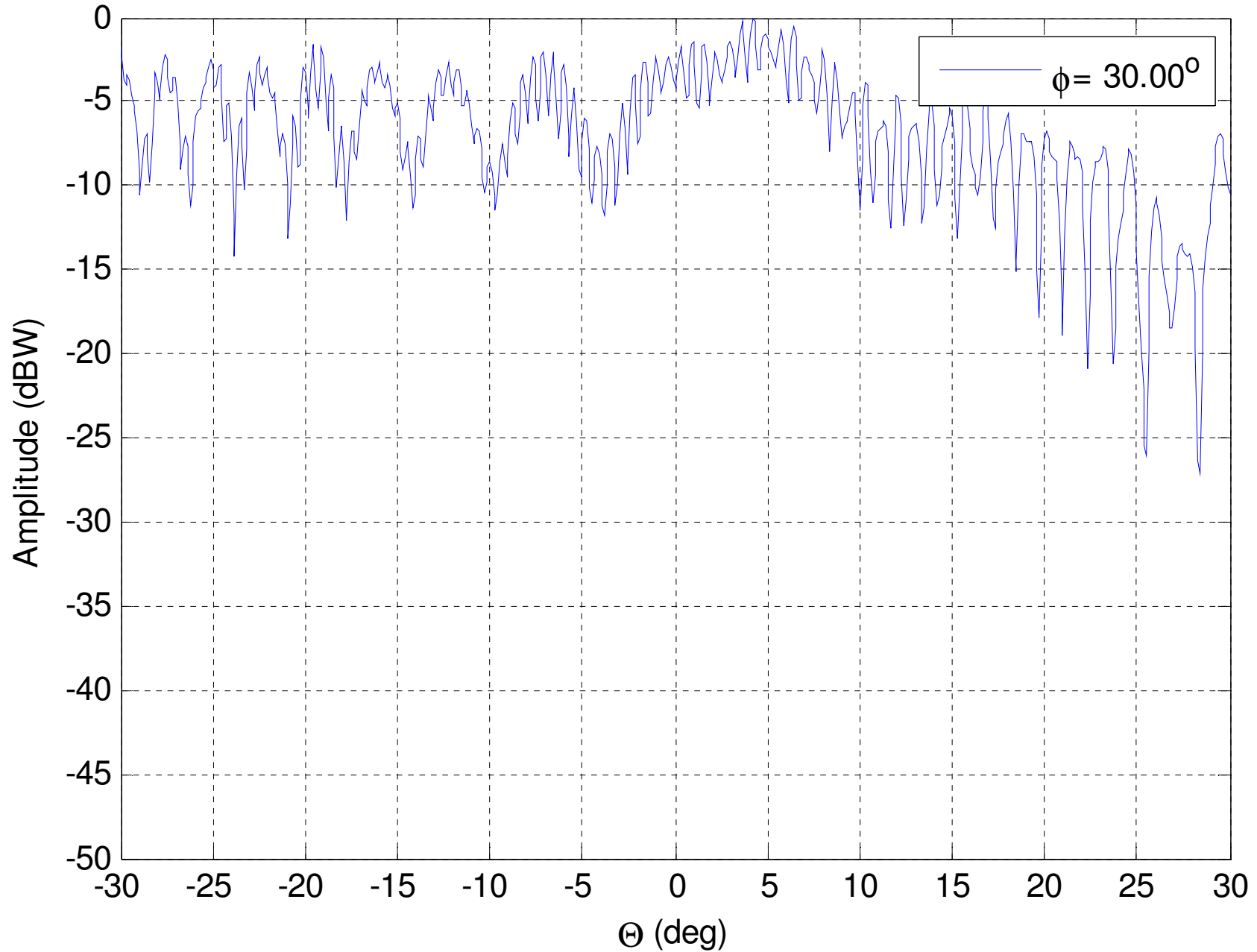
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -10.74 dBW, Date: 16-Dec-2011



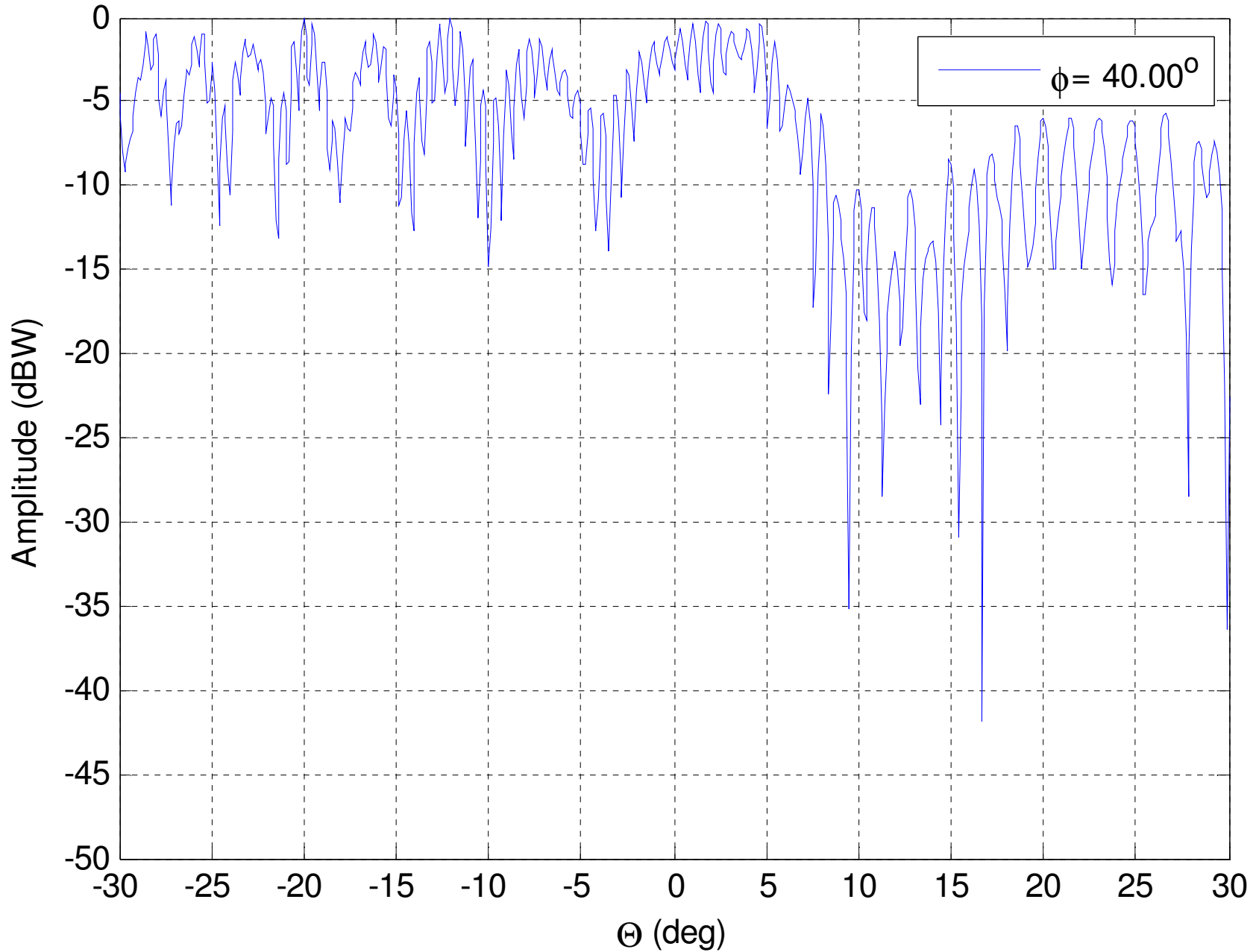
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -11.39 dBW, Date: 16-Dec-2011



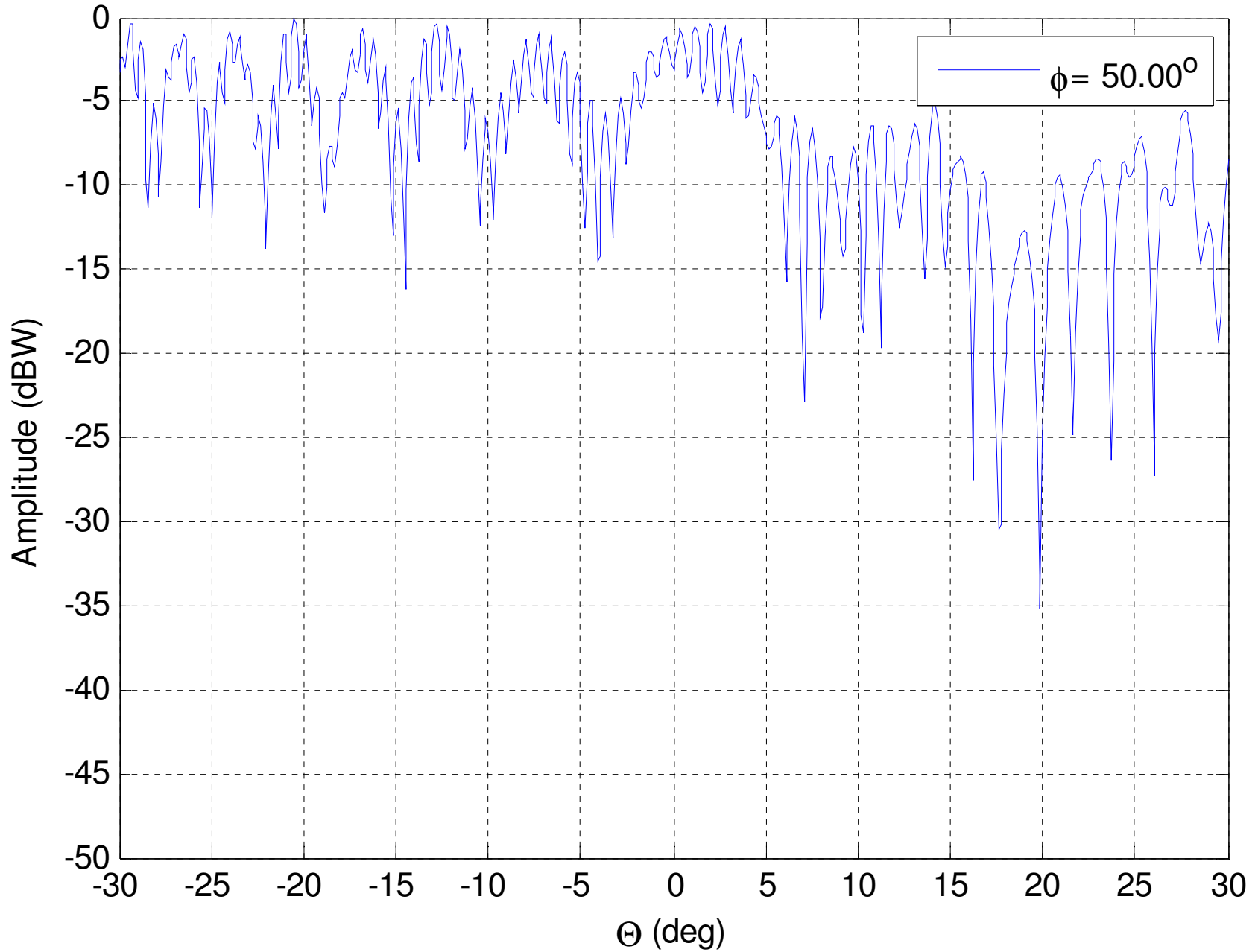
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -12.58 dBW, Date: 16-Dec-2011



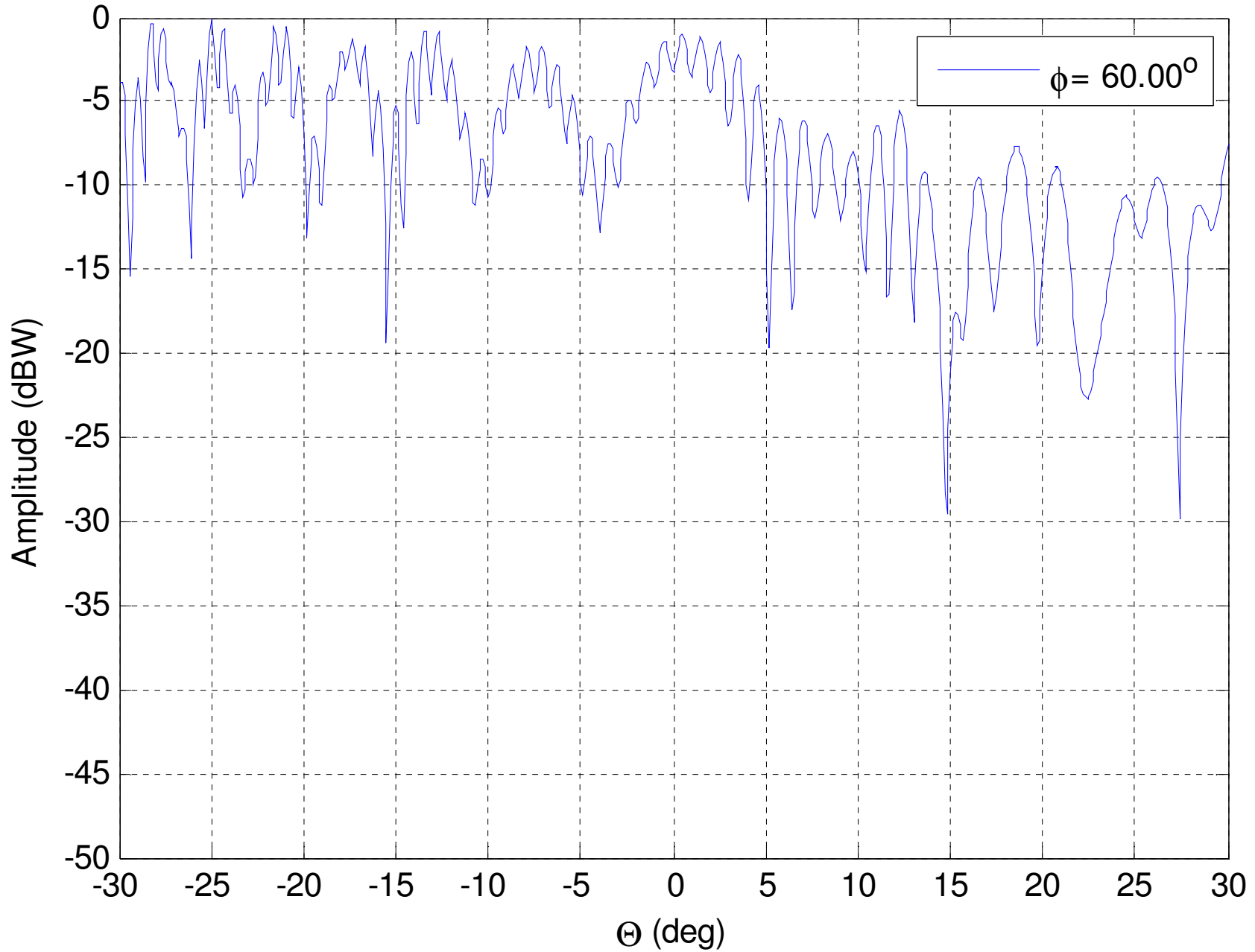
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -12.53 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -12.32 dBW, Date: 16-Dec-2011





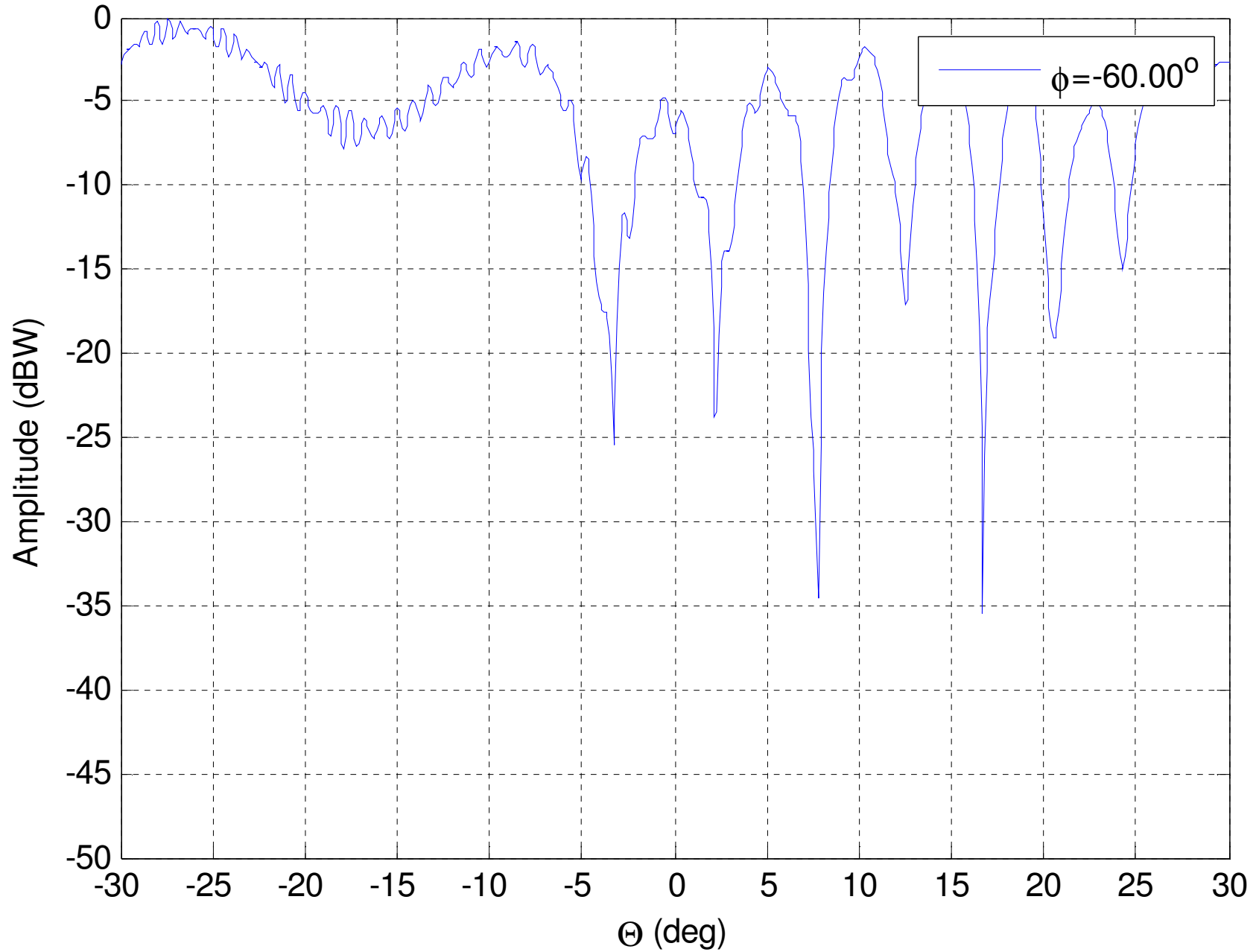
# Spot Beam49, +X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : = +X-axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

# RHCP at 17.3 GHz

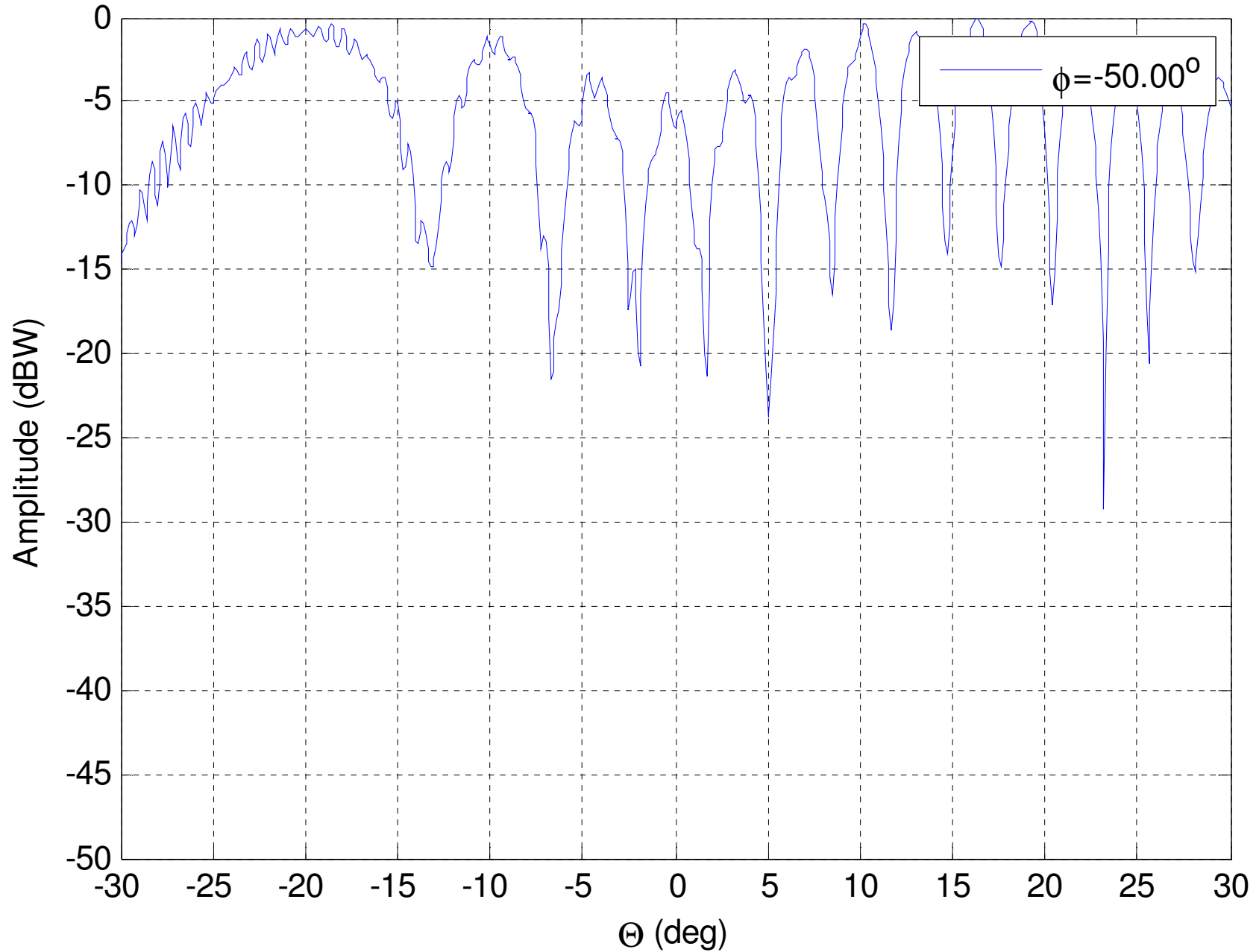
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -12.59 dBW, Date: 16-Dec-2011



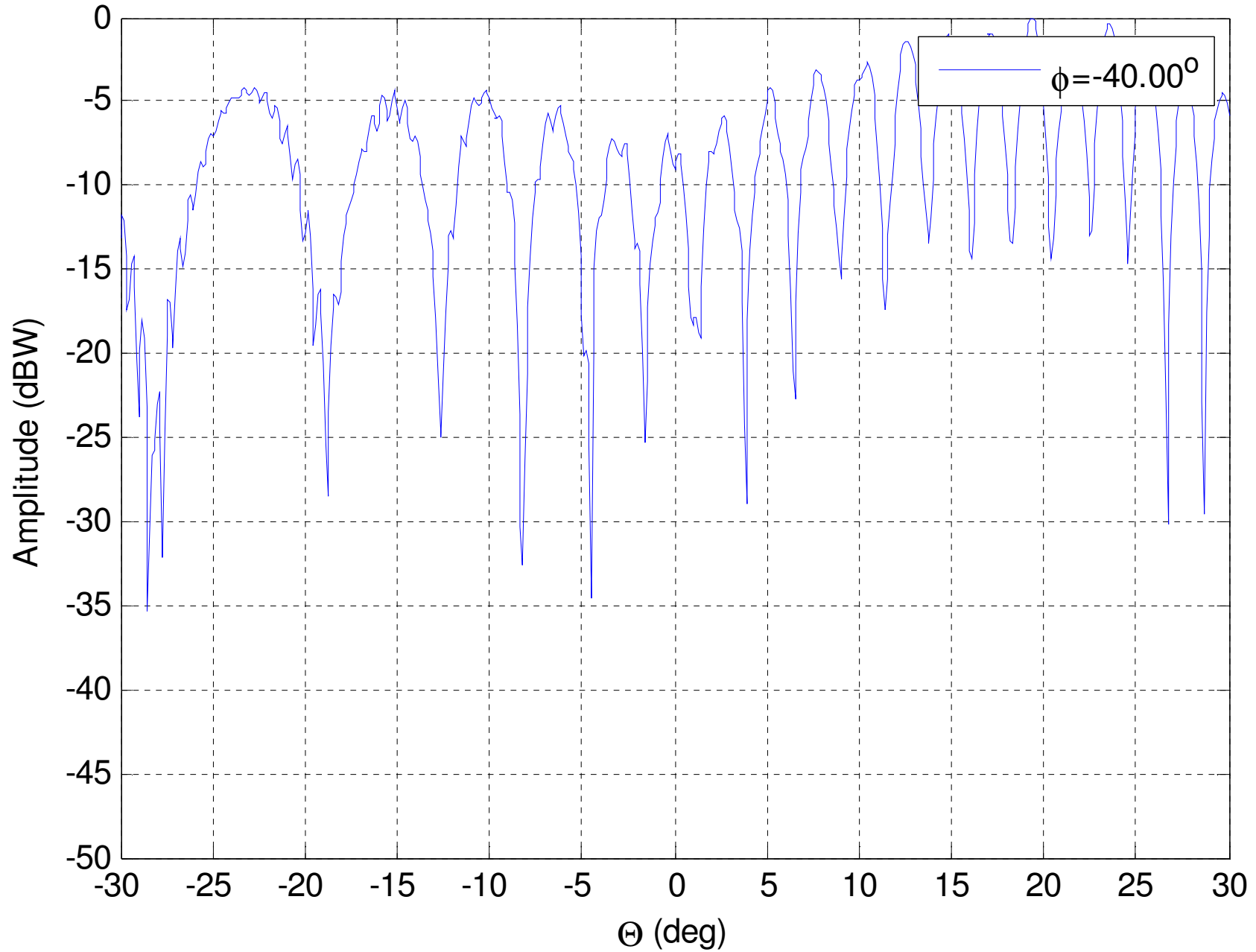
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -12.91 dBW, Date: 16-Dec-2011



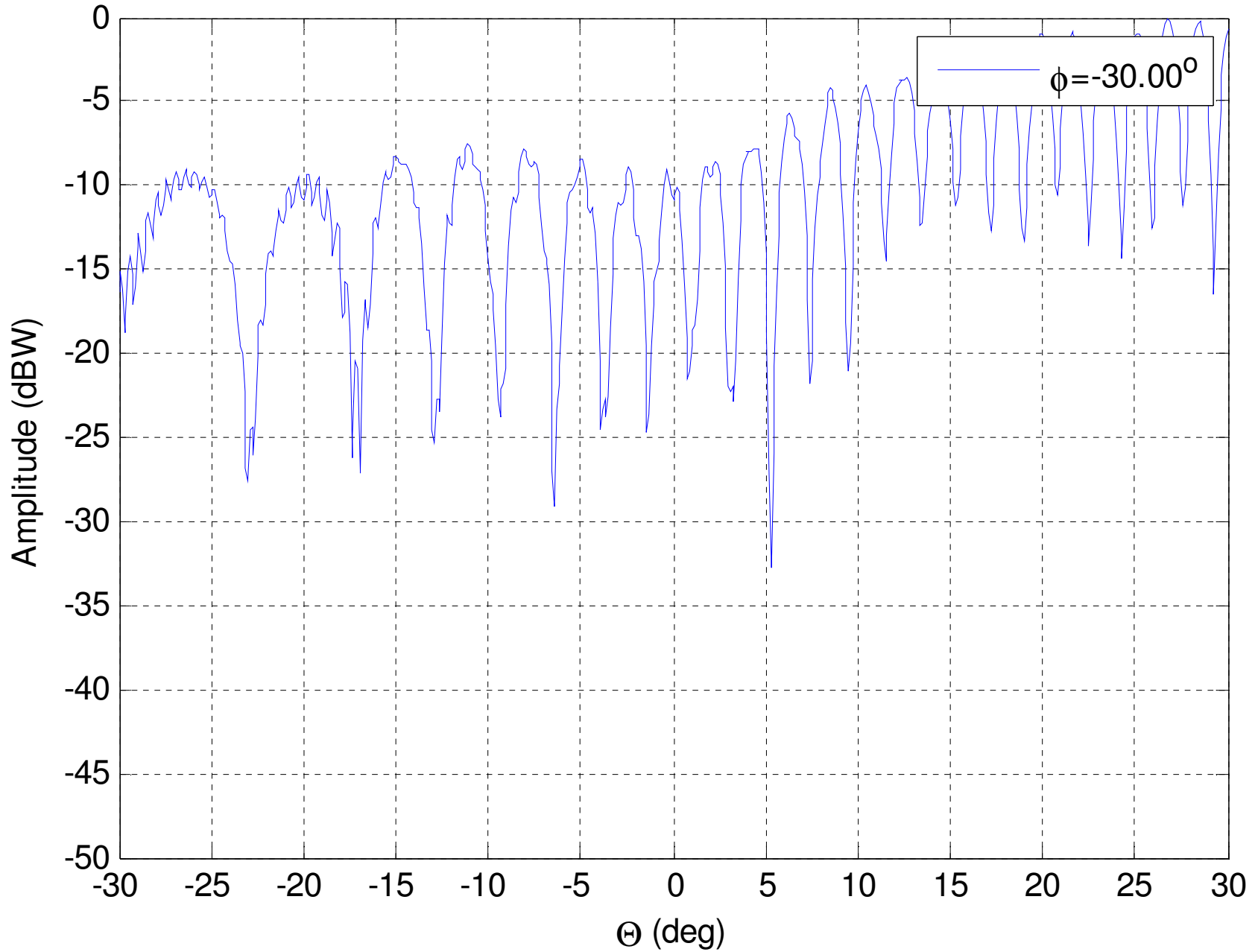
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -10.49 dBW, Date: 16-Dec-2011



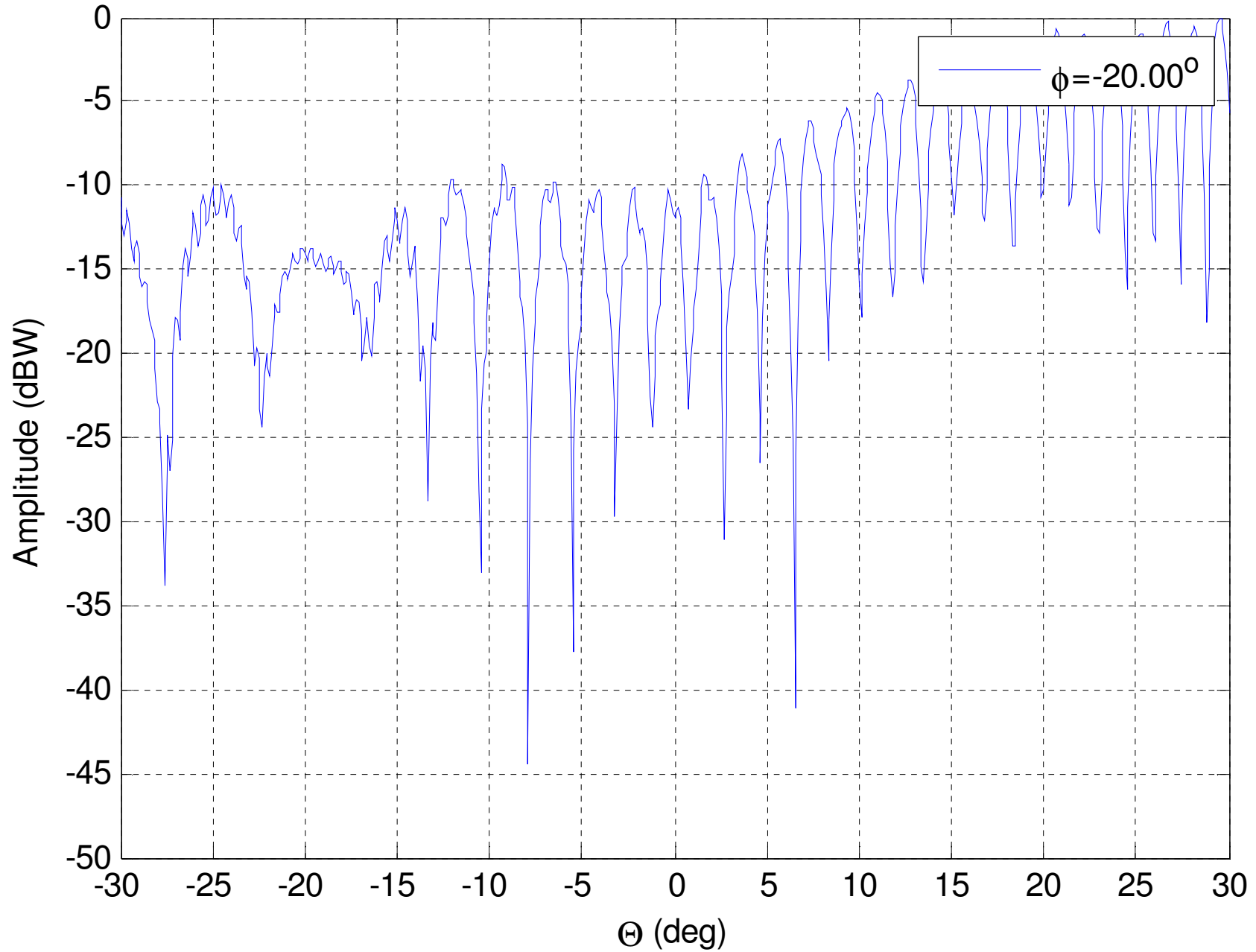
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -8.56 dBW, Date: 16-Dec-2011



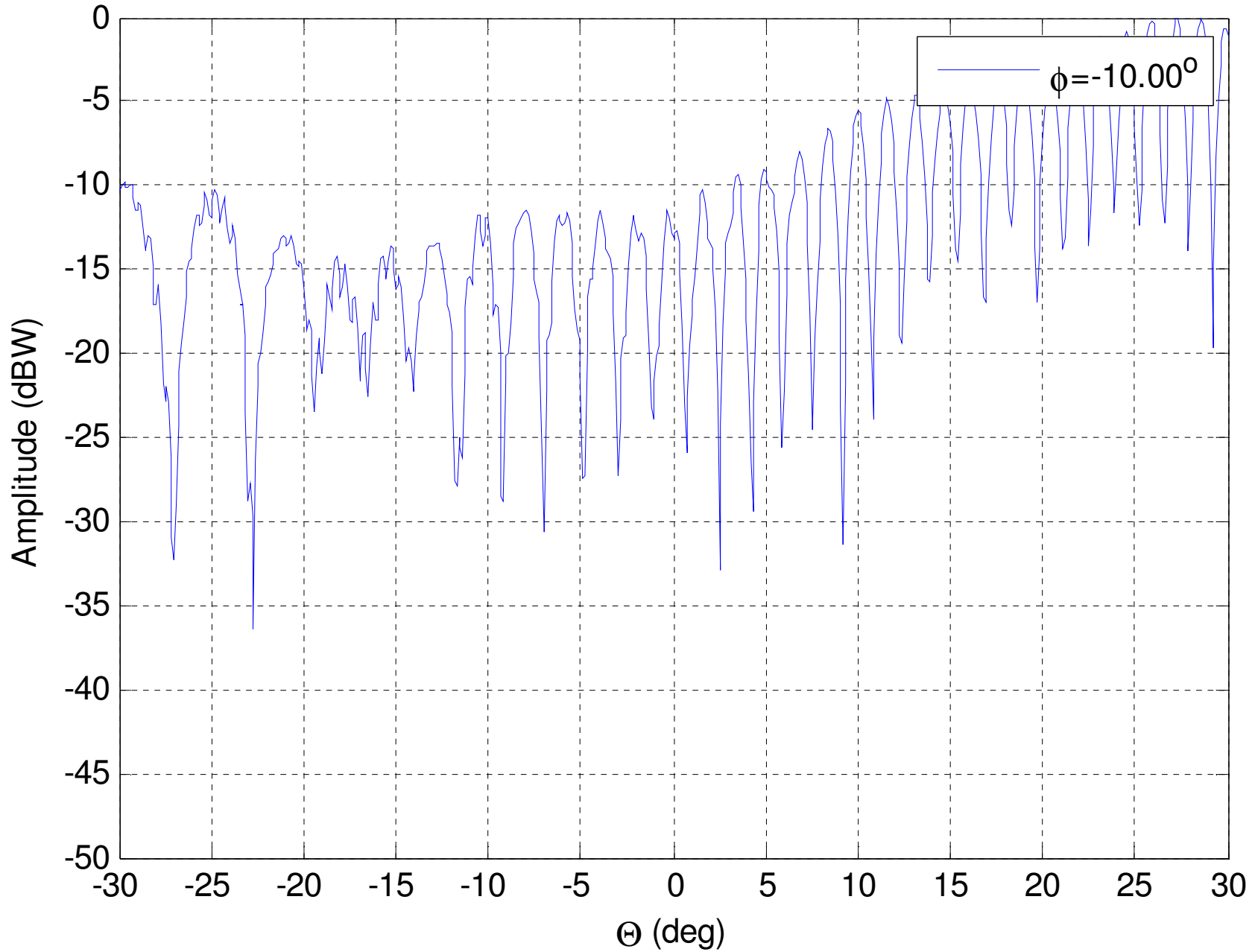
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -7.46 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

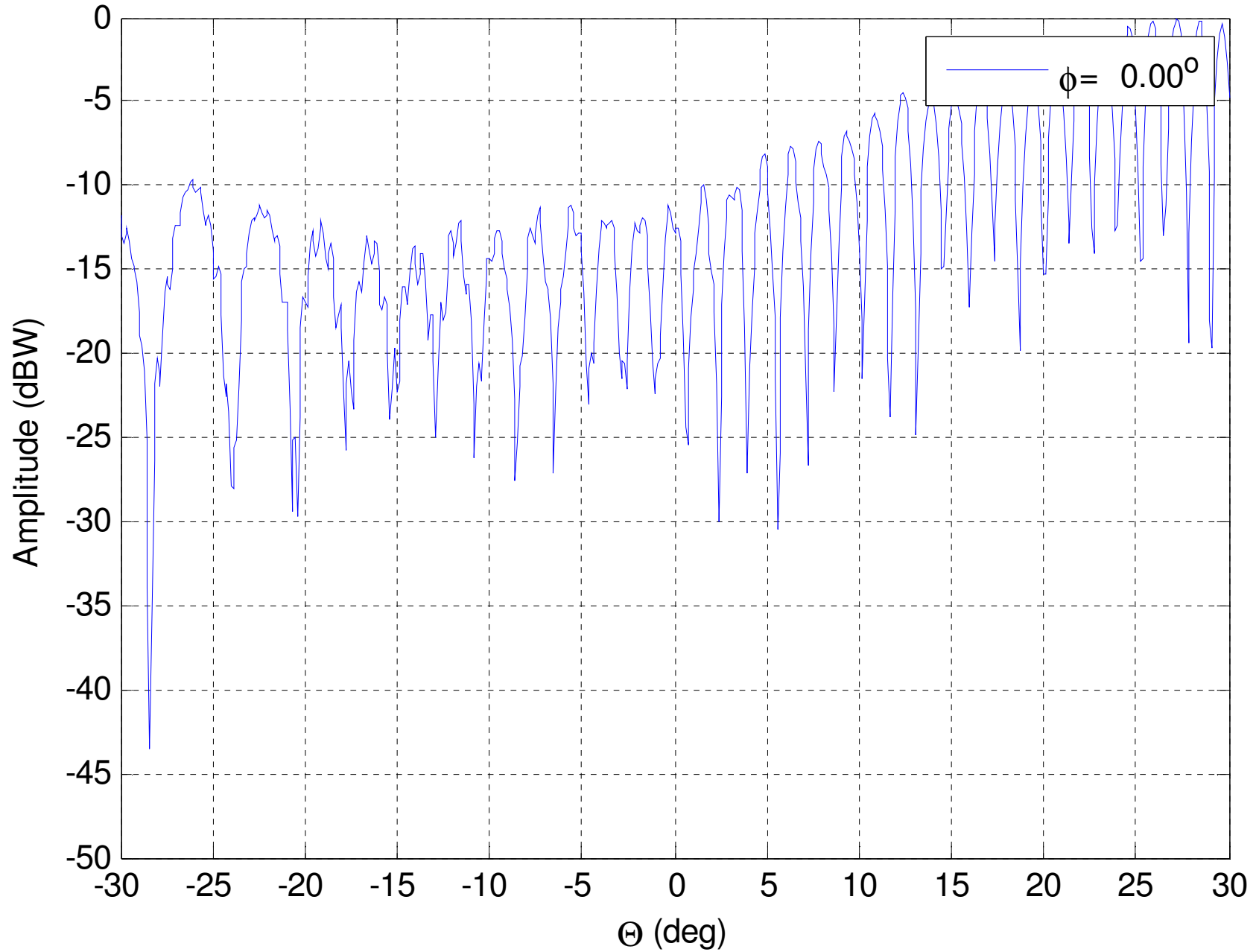
Input file: tx-17.3-rhcp--10.cut, Peak: -6.26 dBW, Date: 16-Dec-2011





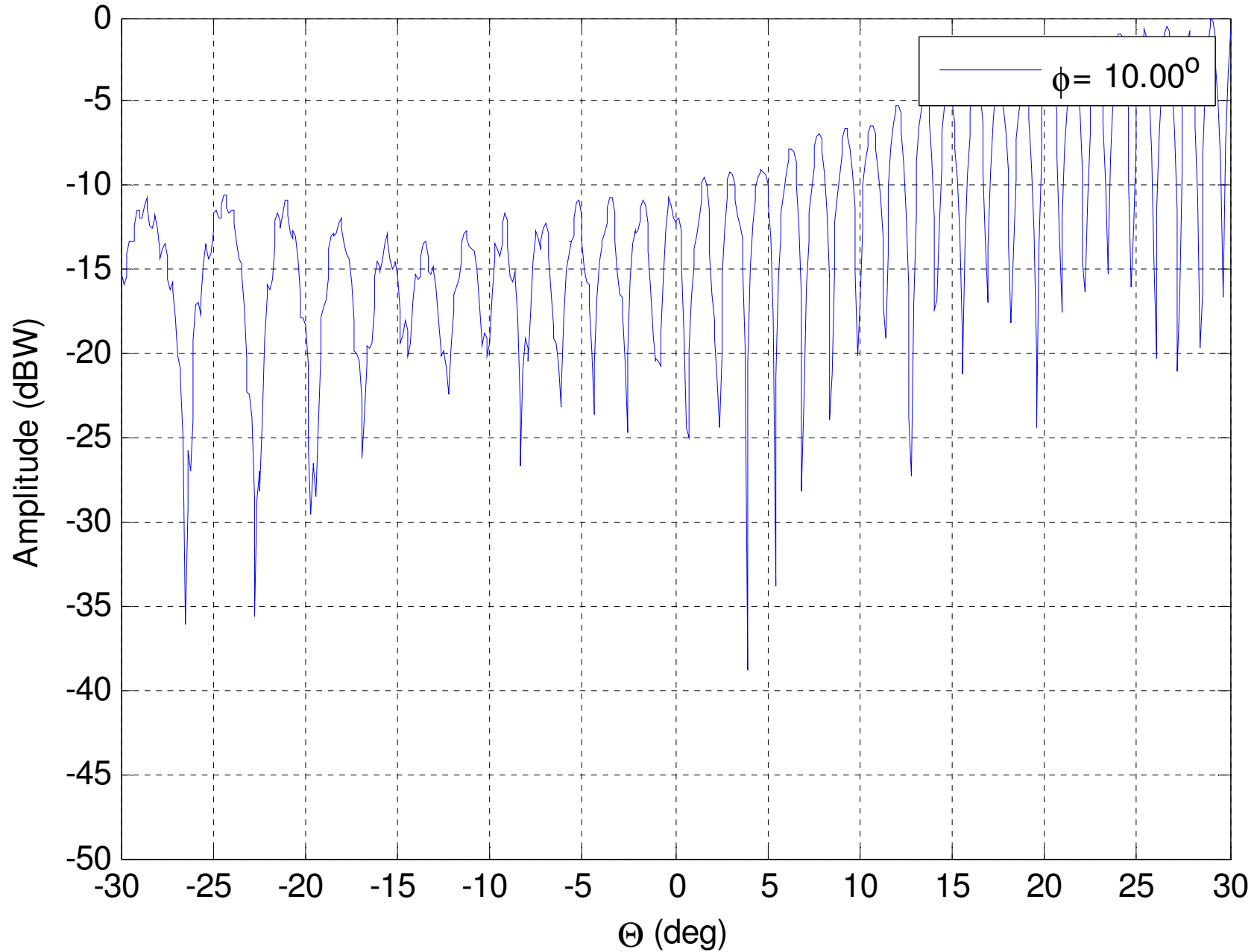
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -6.59 dBW, Date: 16-Dec-2011



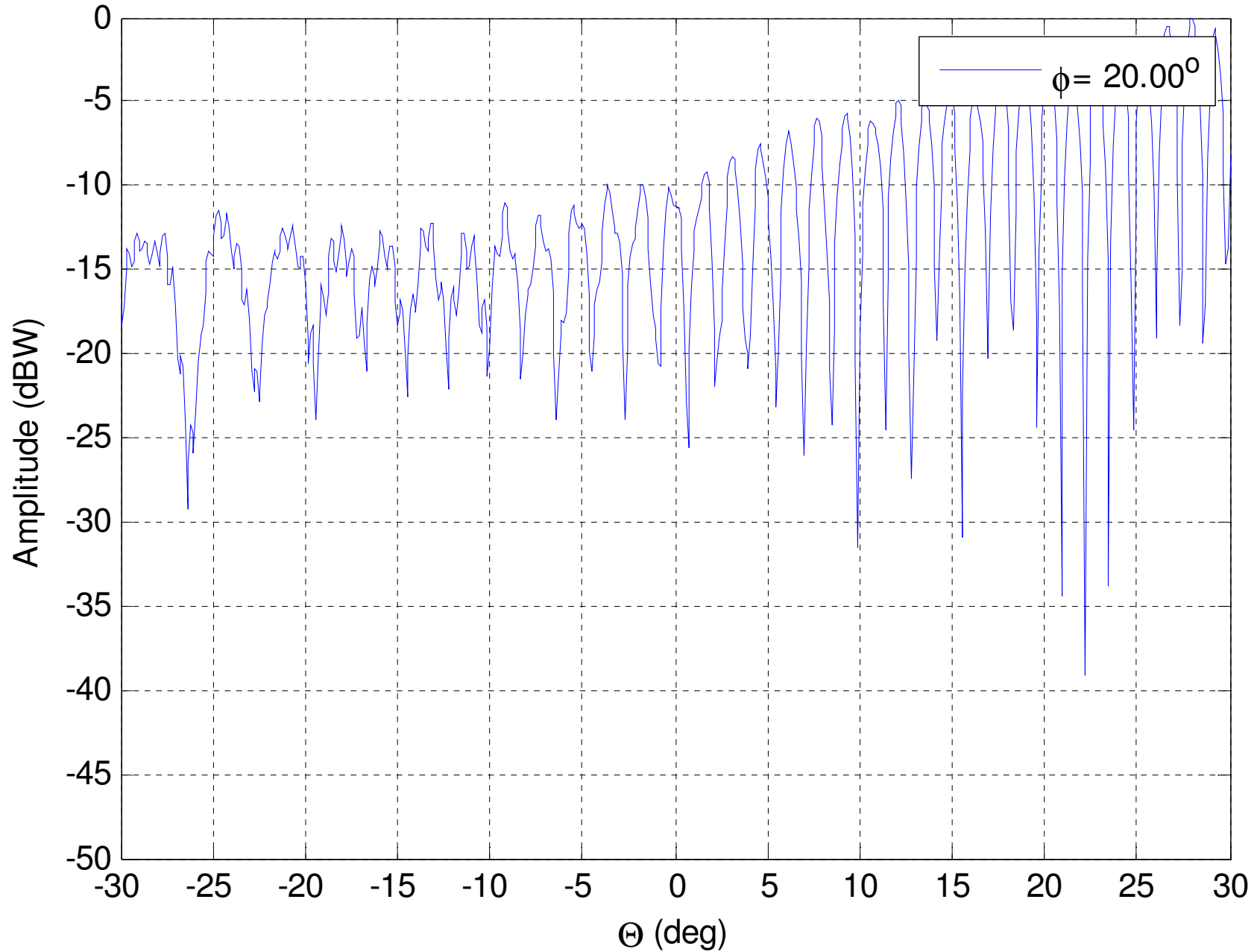
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -7.19 dBW, Date: 16-Dec-2011



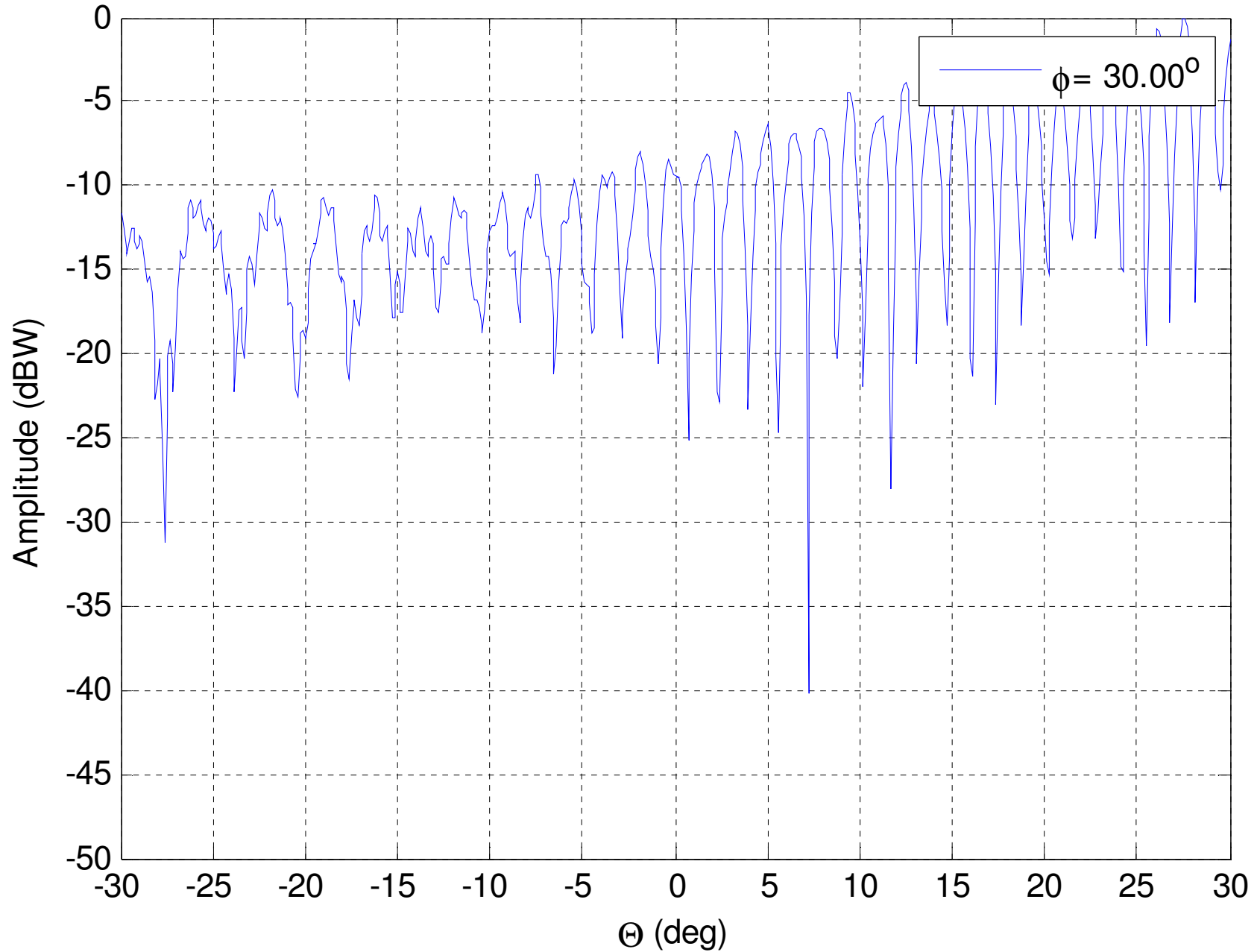
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -7.94 dBW, Date: 16-Dec-2011



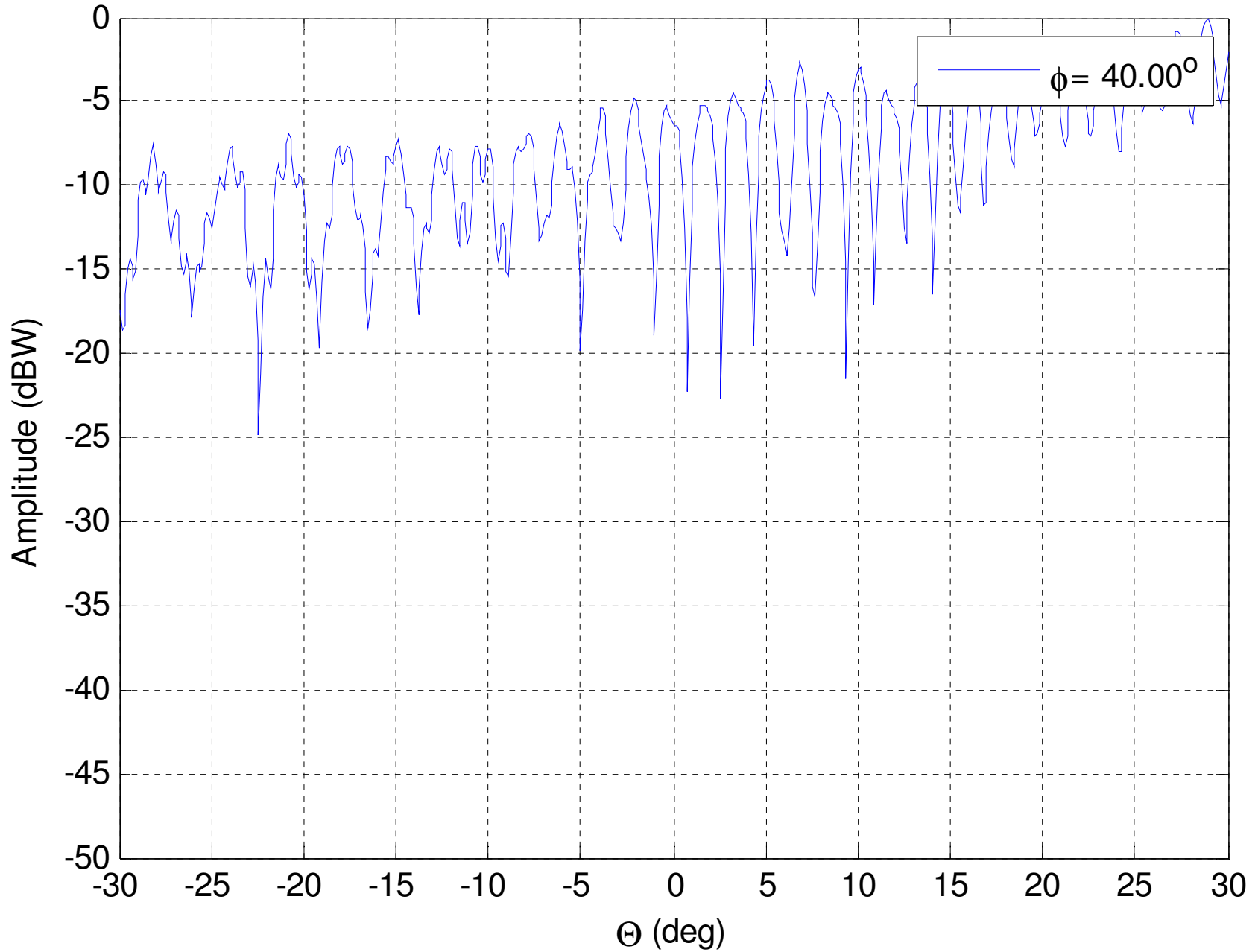
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -9.80 dBW, Date: 16-Dec-2011



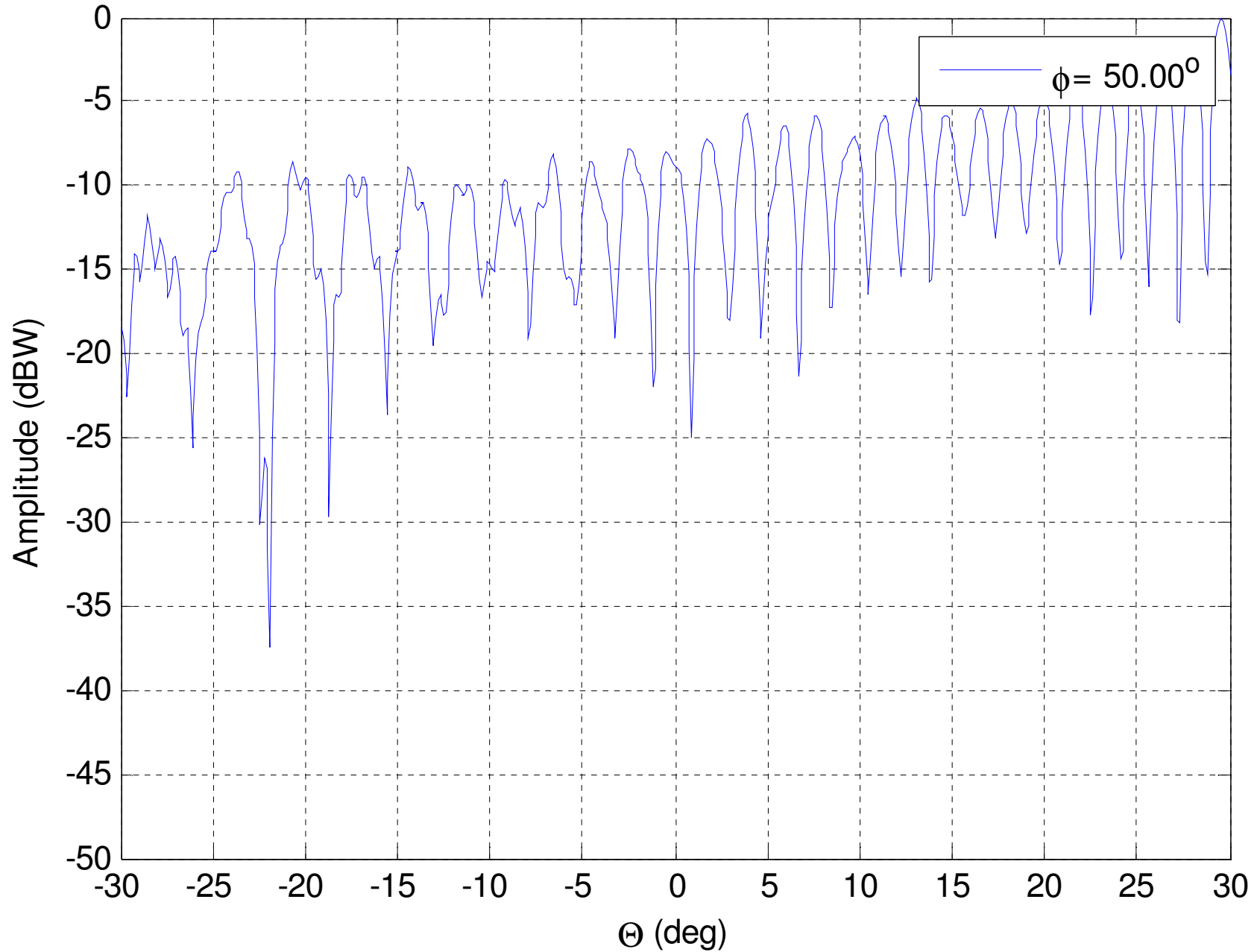
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -13.04 dBW, Date: 16-Dec-2011



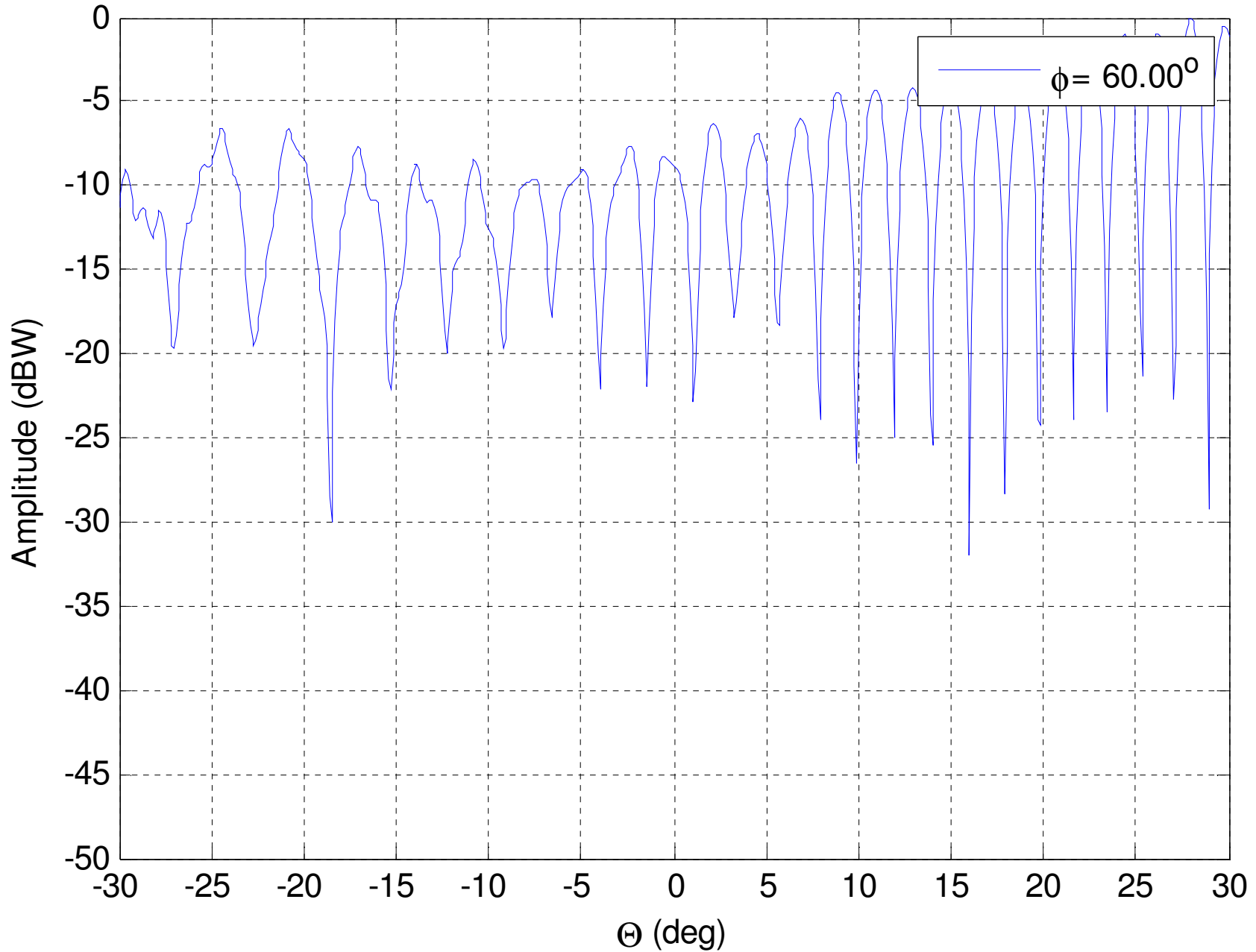
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -10.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-60.cut, Peak: -10.66 dBW, Date: 16-Dec-2011

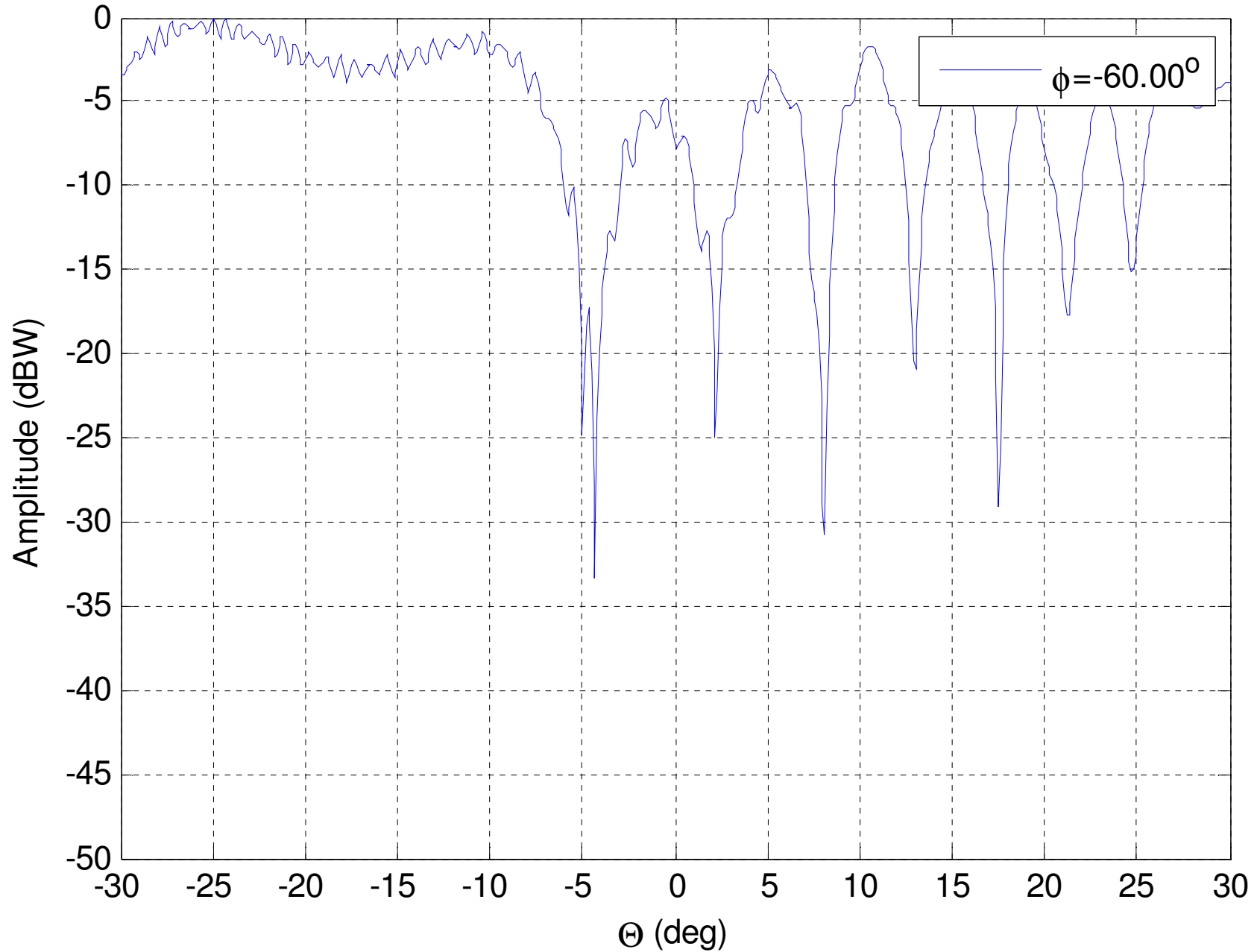


# LHCP at 17.3 GHz



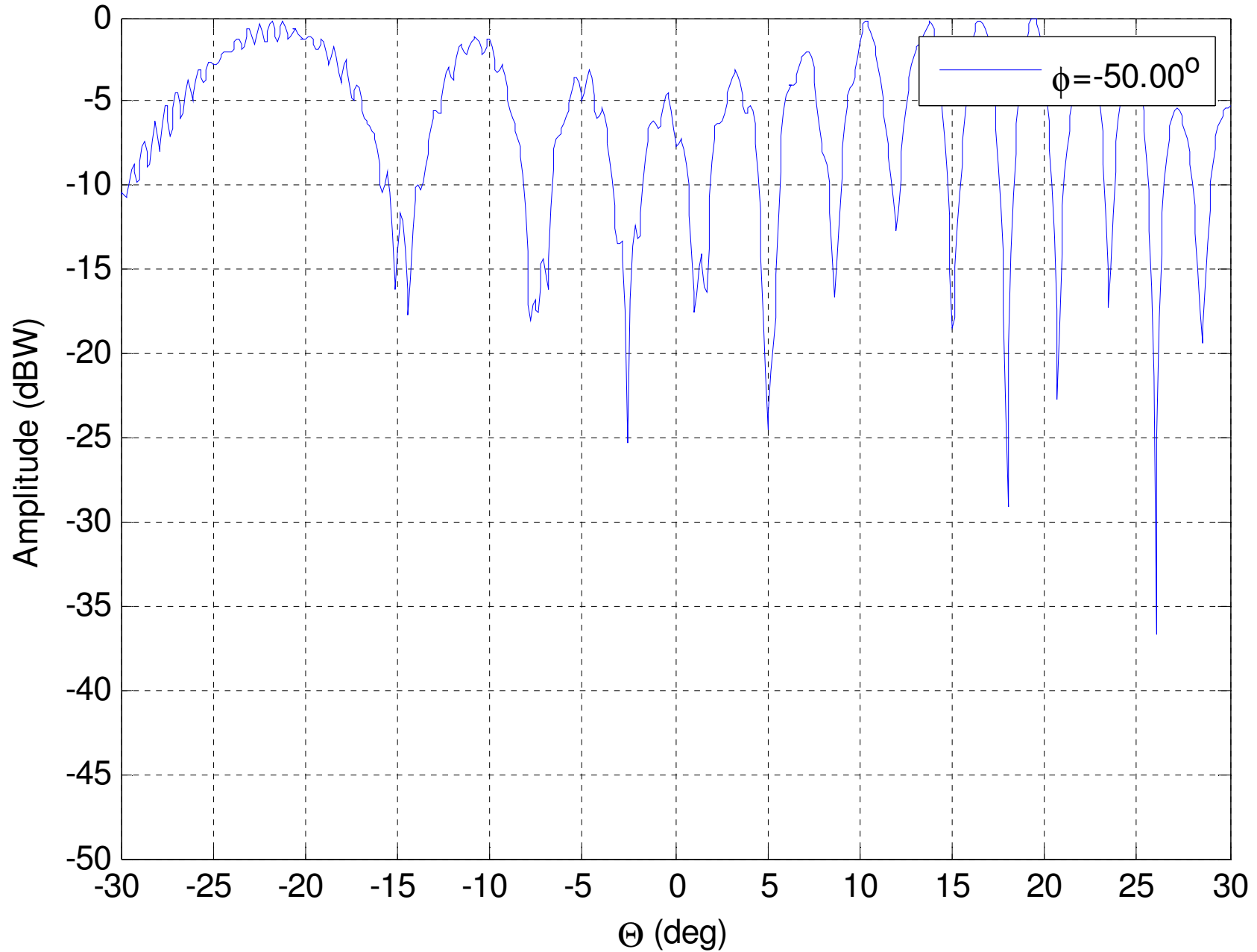
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -12.50 dBW, Date: 16-Dec-2011



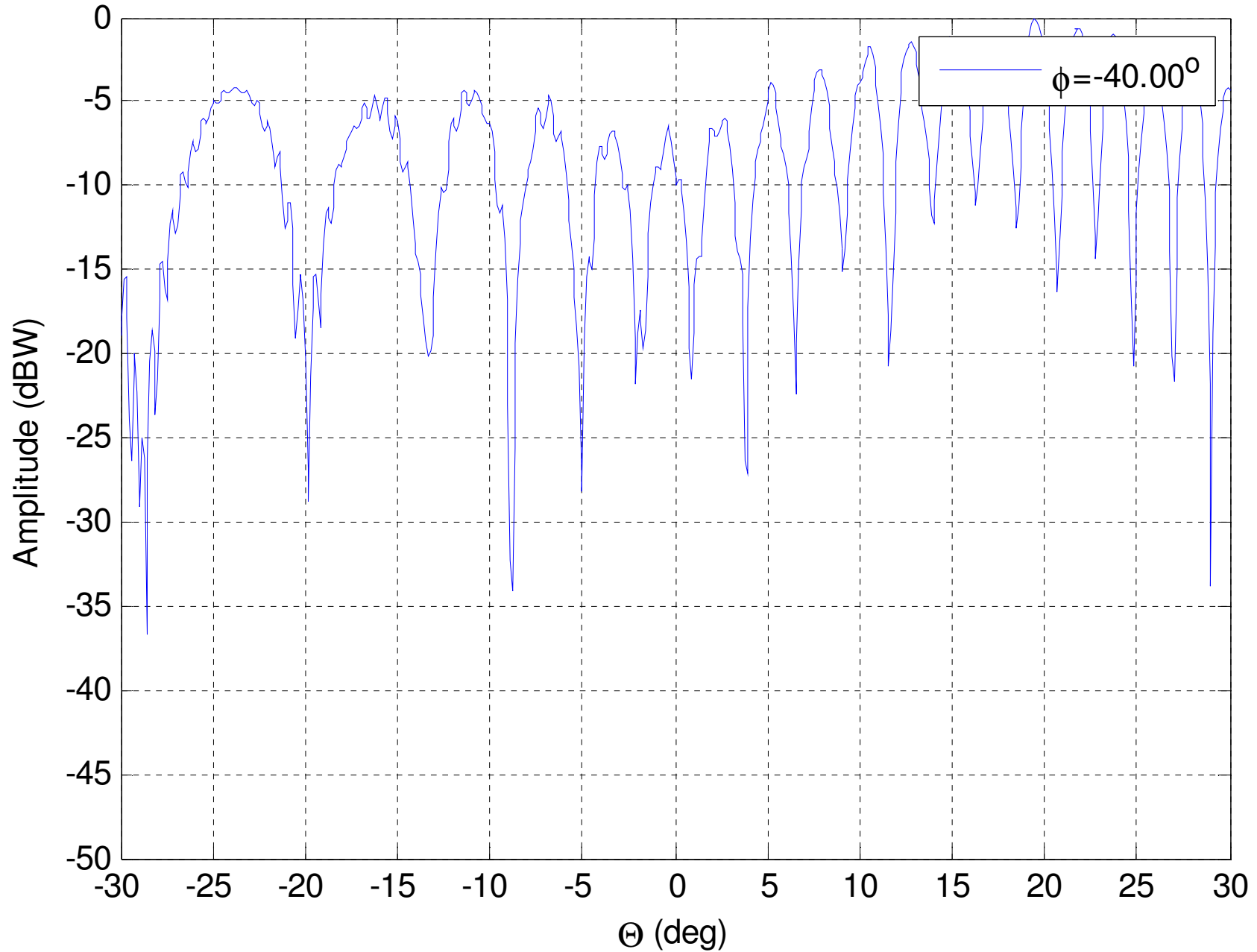
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -12.71 dBW, Date: 16-Dec-2011



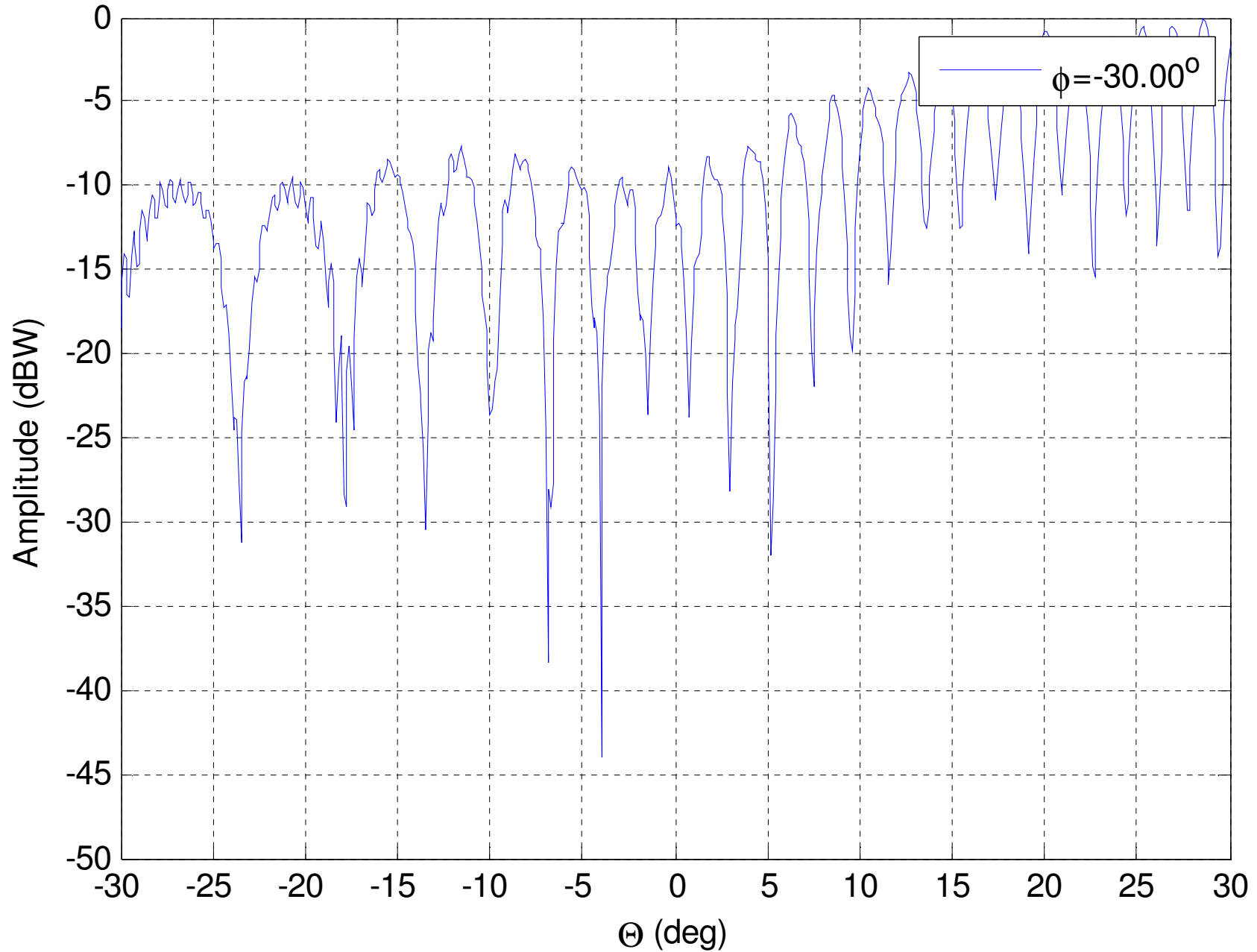
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -10.63 dBW, Date: 16-Dec-2011



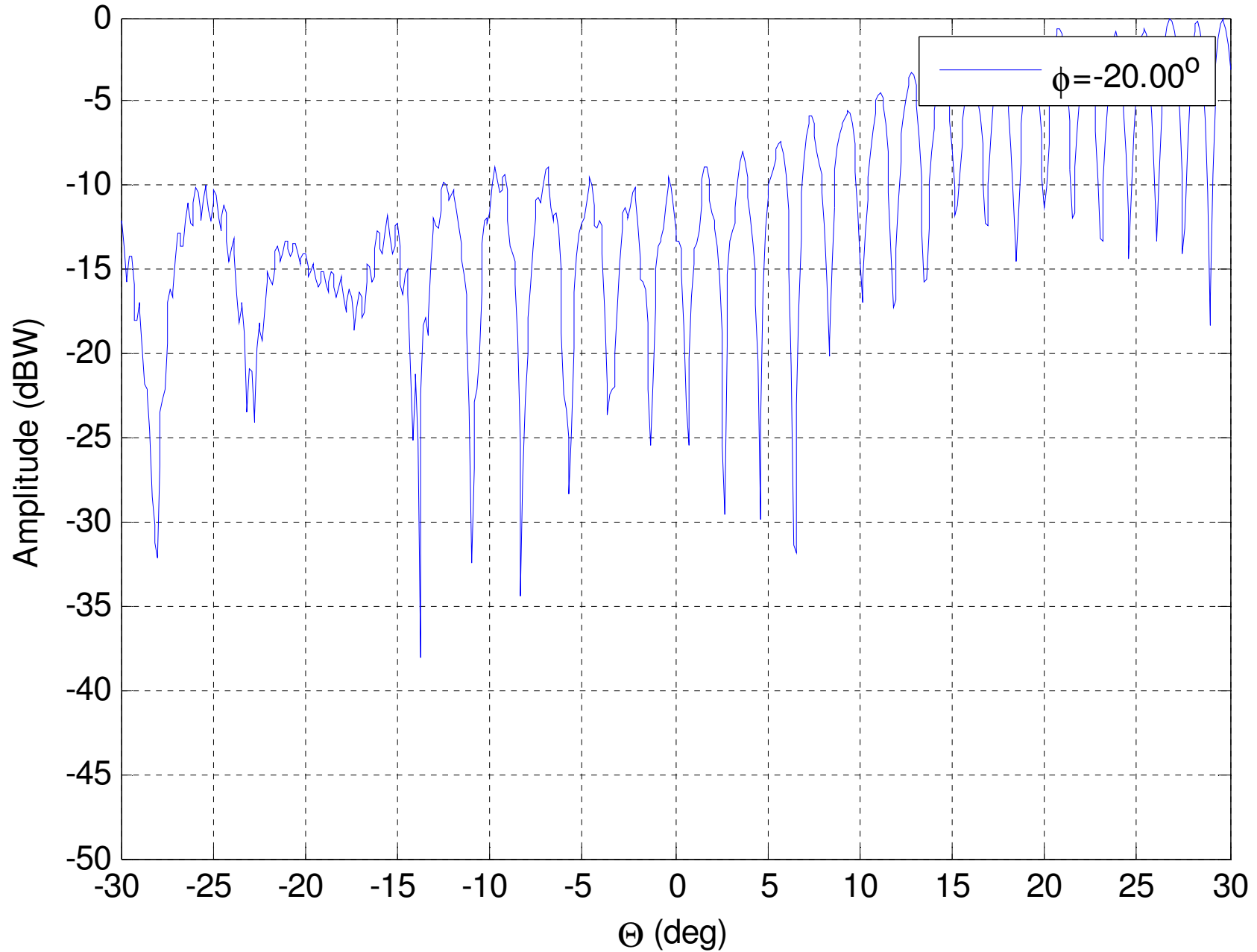
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -8.27 dBW, Date: 16-Dec-2011



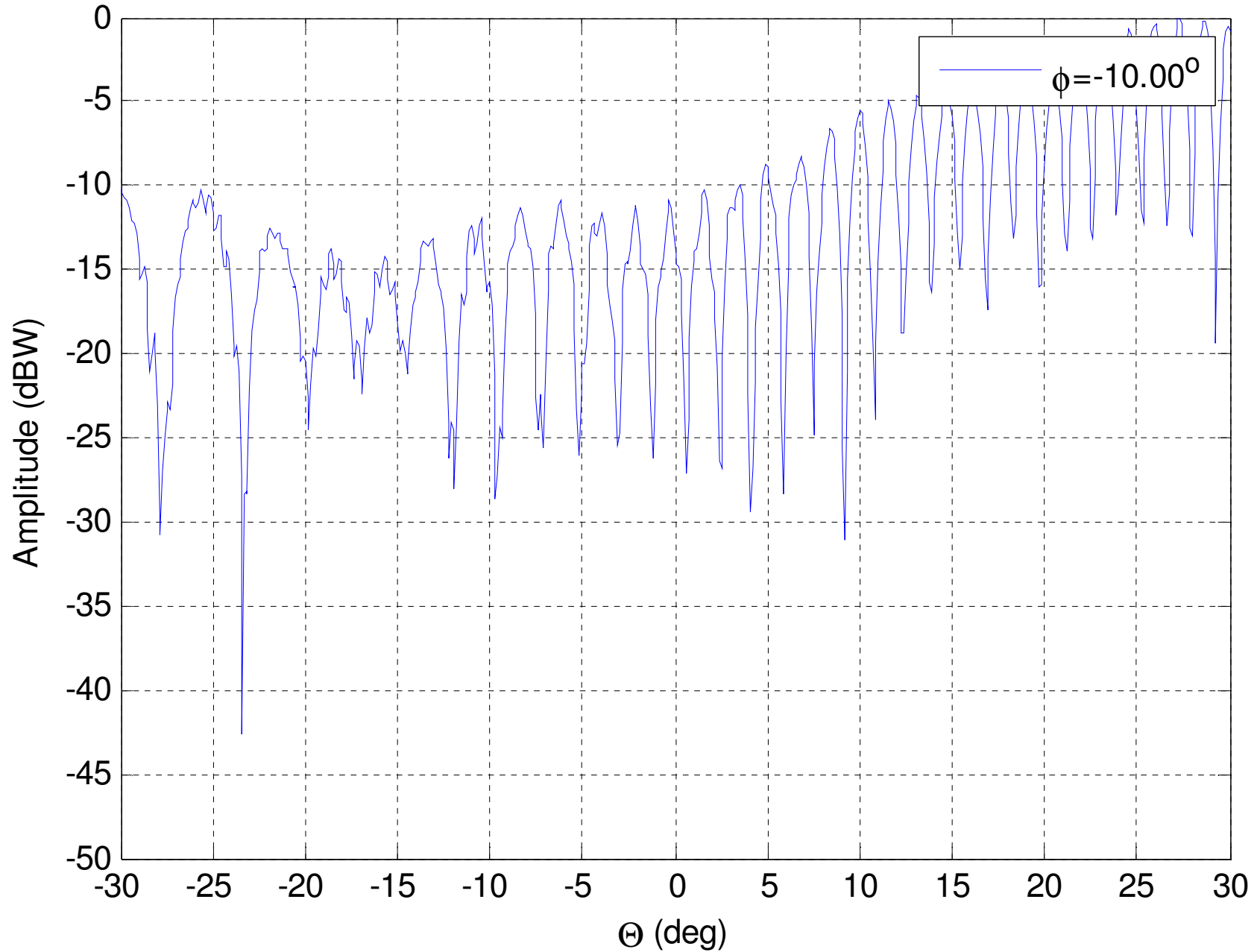
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -7.49 dBW, Date: 16-Dec-2011



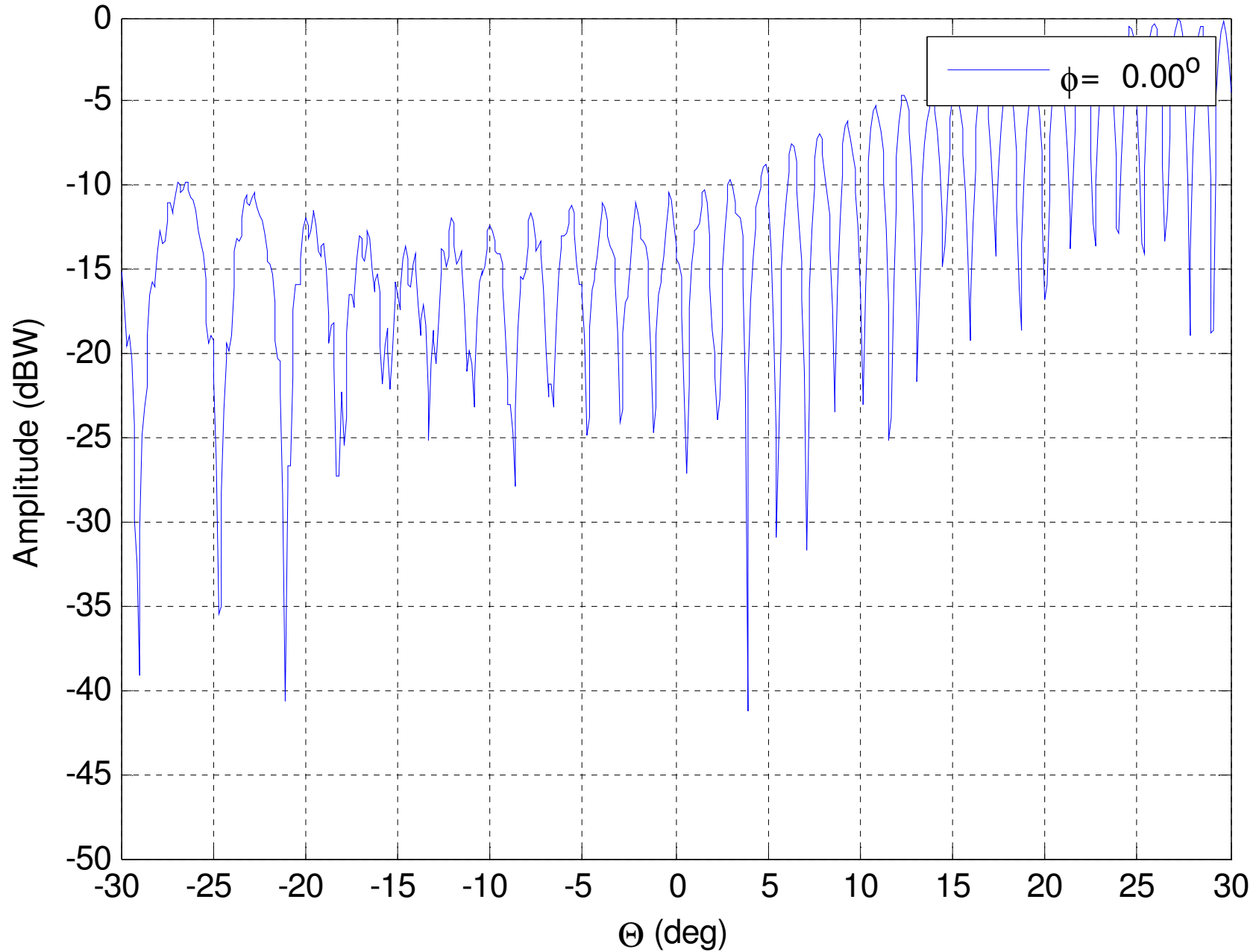
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -6.14 dBW, Date: 16-Dec-2011



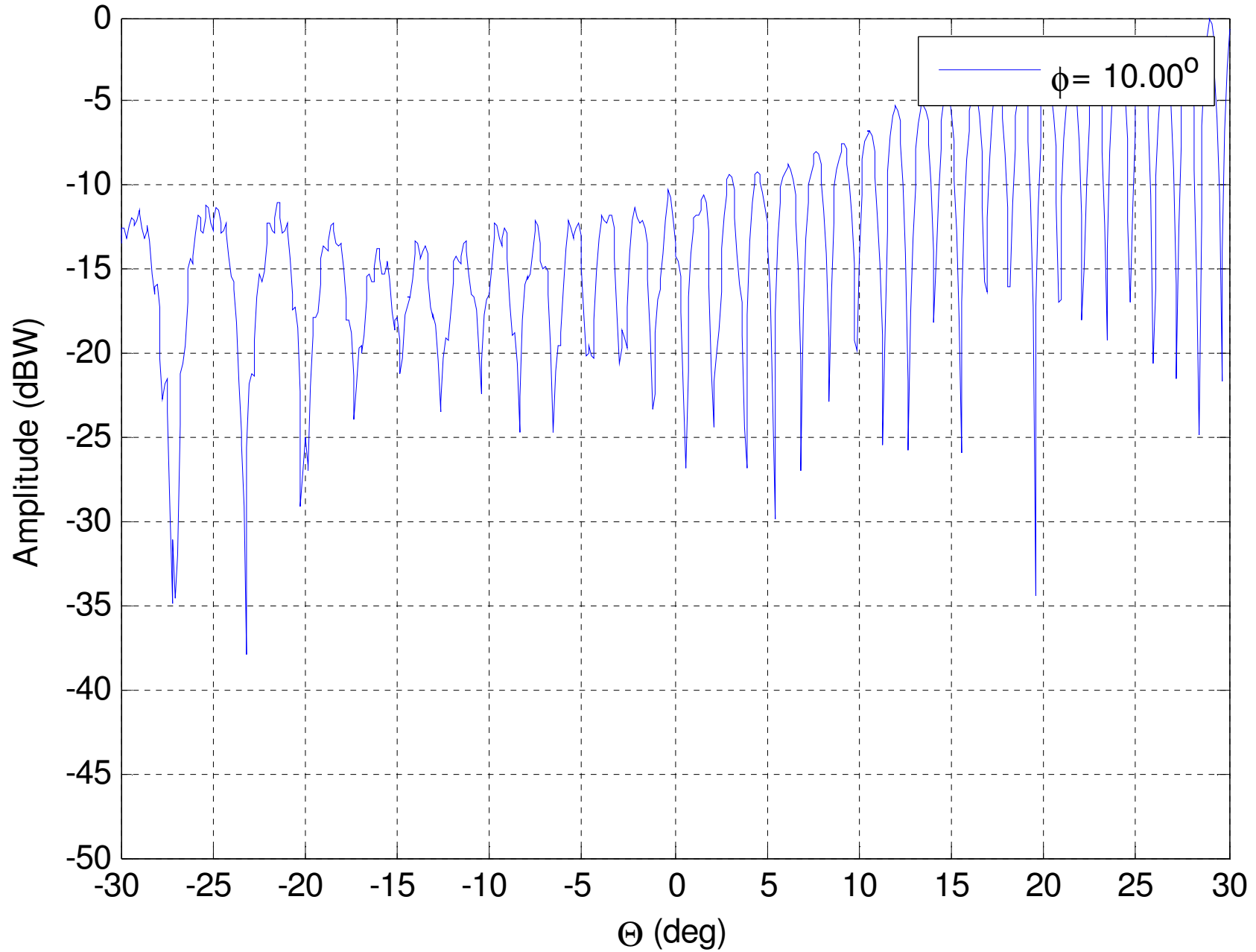
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -6.55 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

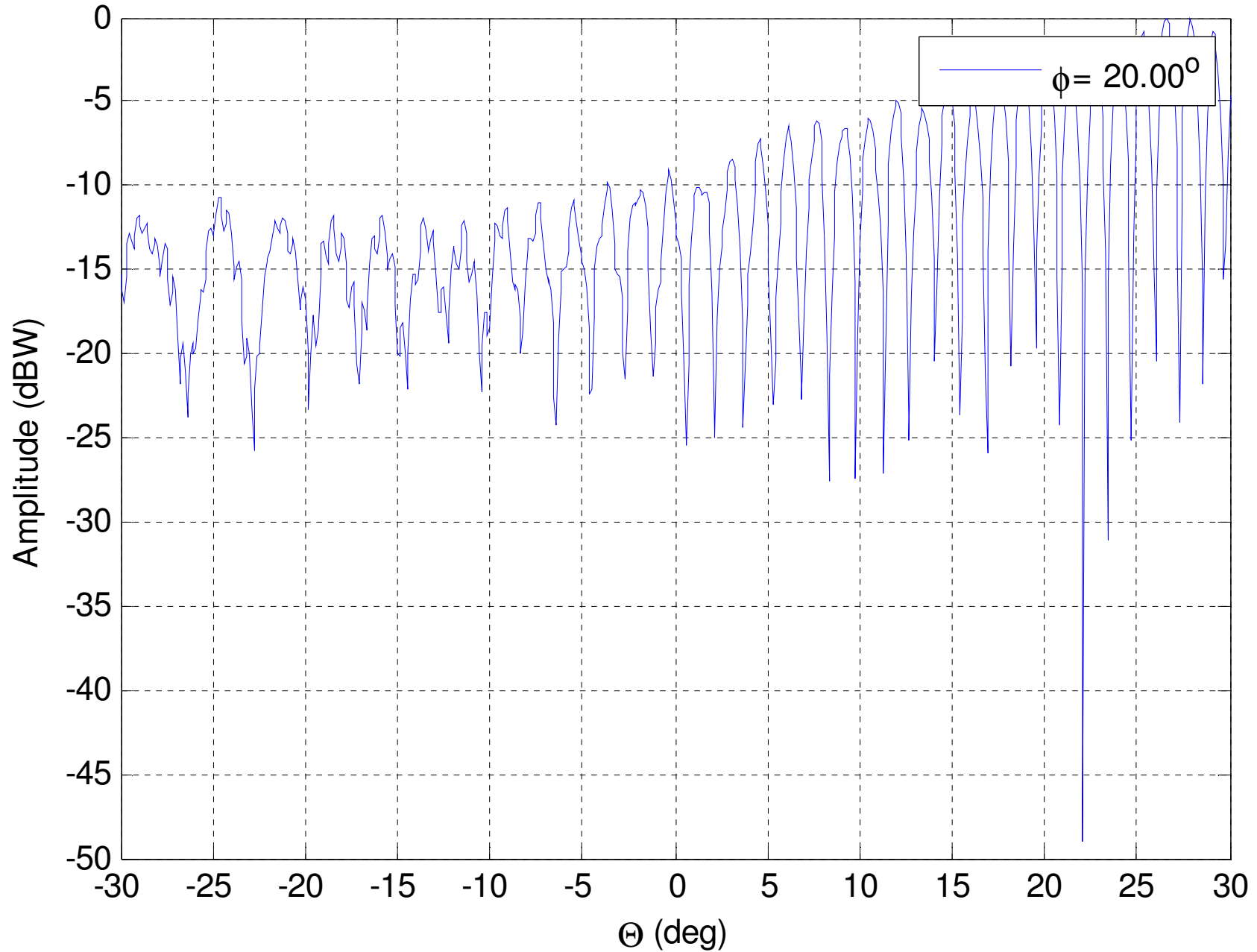
Input file: tx-17.3-lhcp-10.cut, Peak: -6.83 dBW, Date: 16-Dec-2011





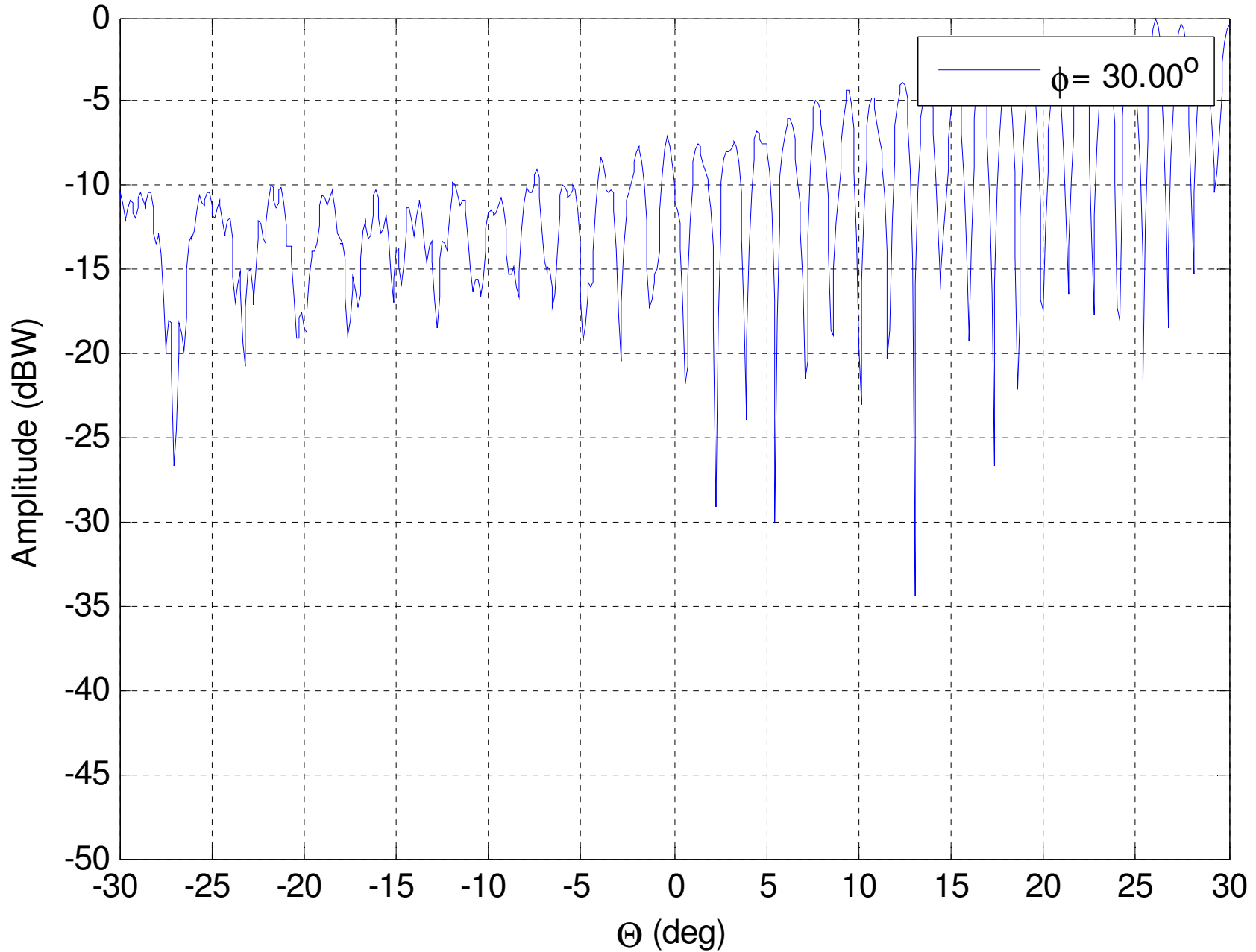
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -8.02 dBW, Date: 16-Dec-2011



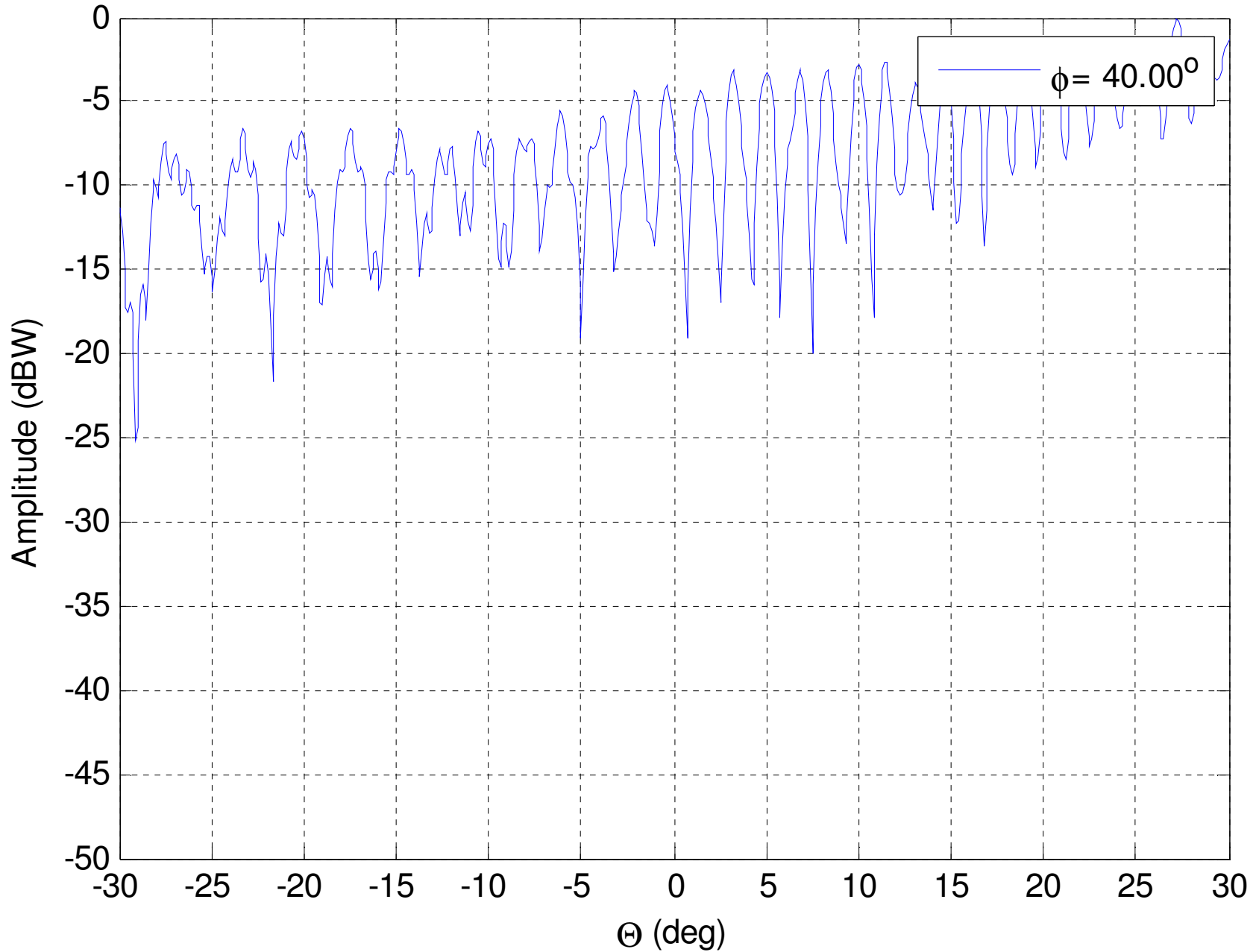
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -10.18 dBW, Date: 16-Dec-2011



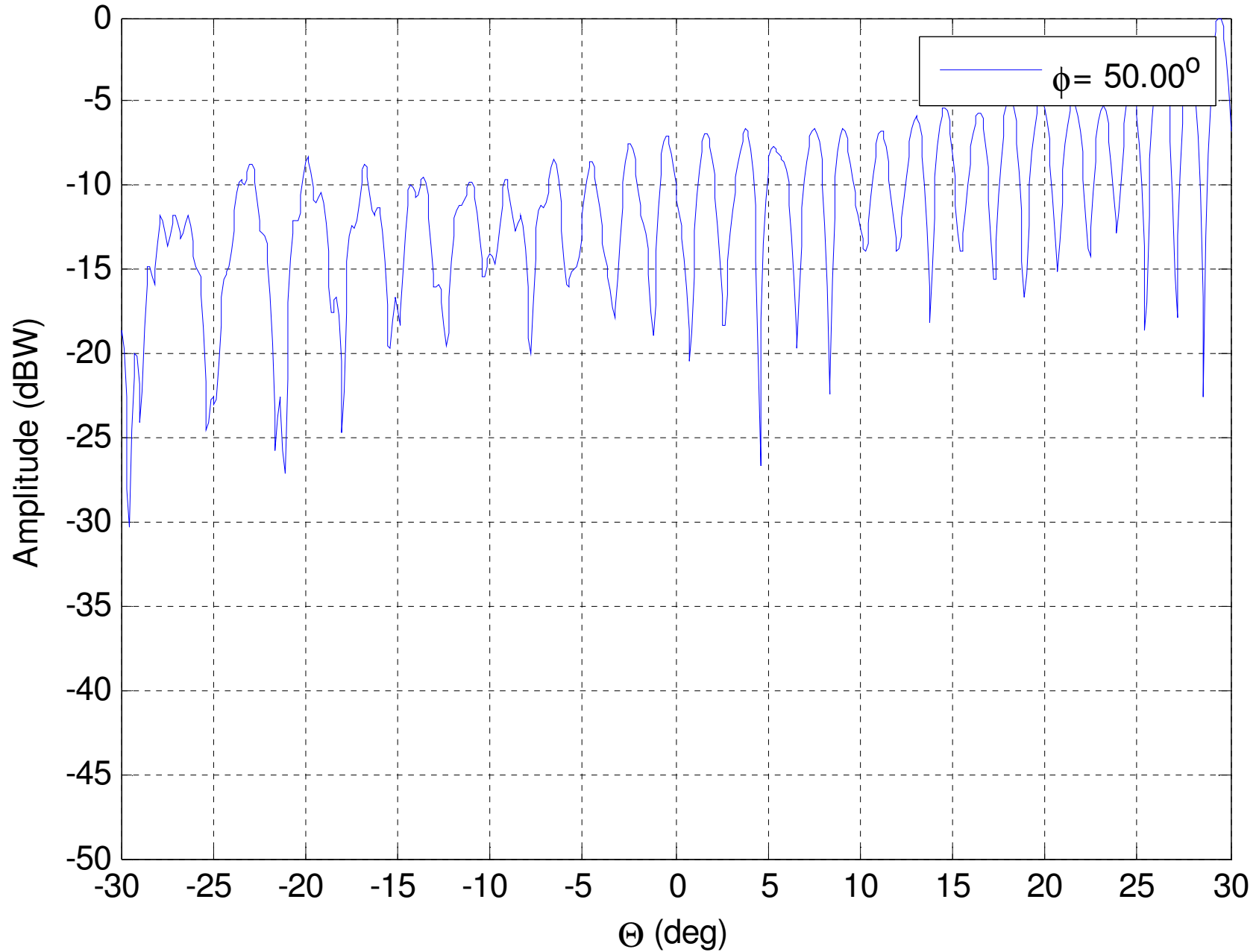
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -13.17 dBW, Date: 16-Dec-2011



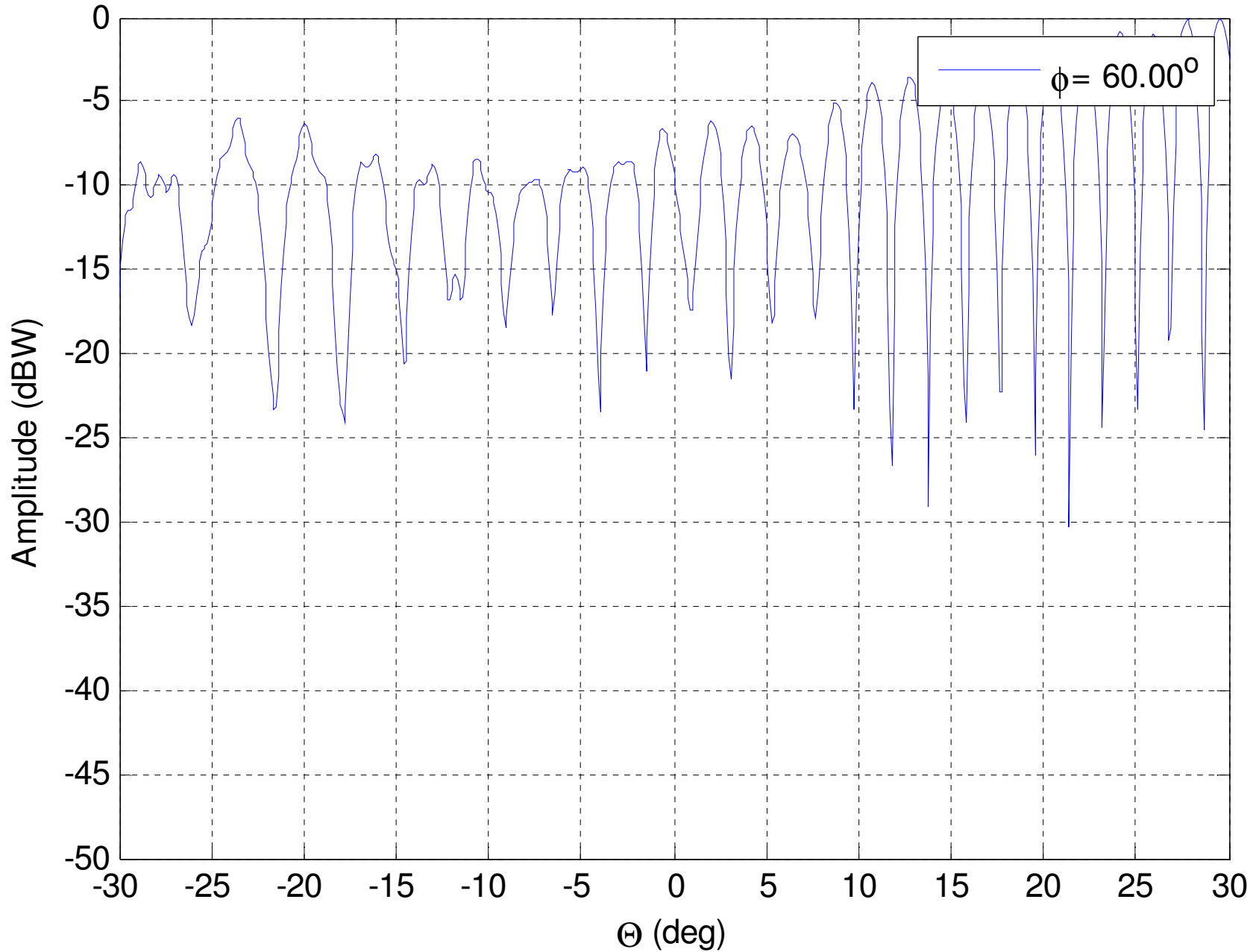
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -10.26 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

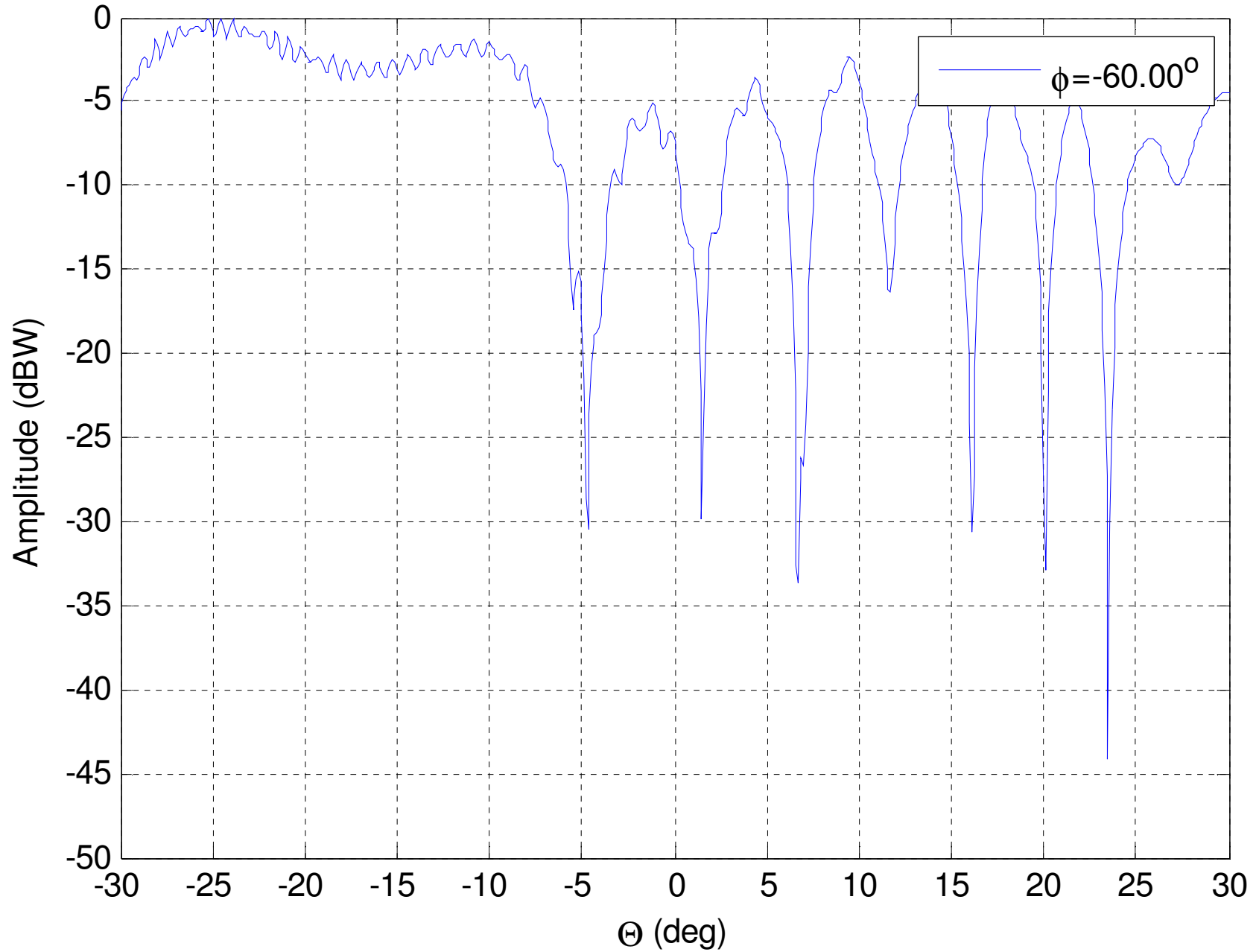
Input file: tx-17.3-lhcp-60.cut, Peak: -10.85 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

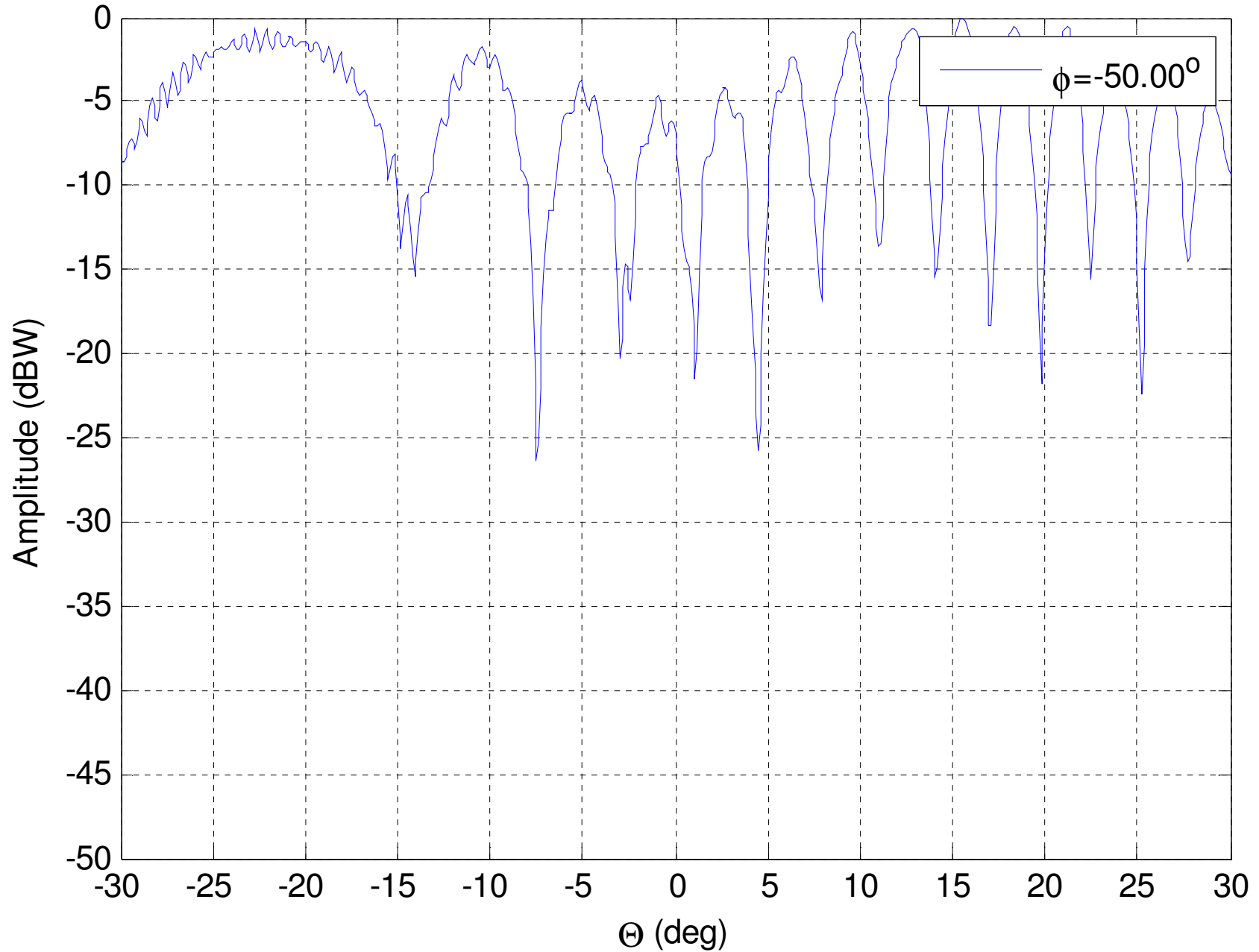
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -12.05 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

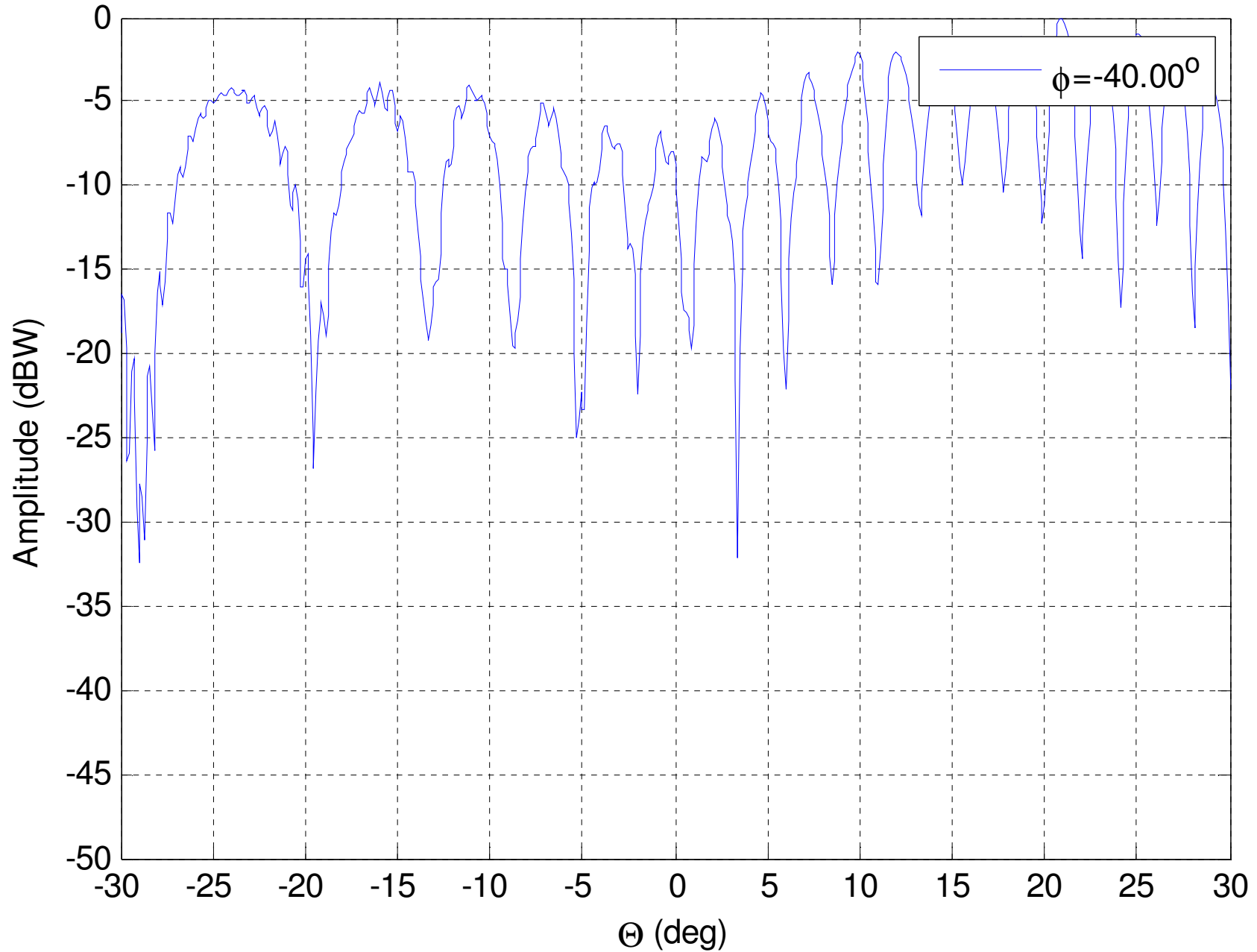
Input file: tx-17.5-rhcp--50.cut, Peak: -12.51 dBW, Date: 16-Dec-2011





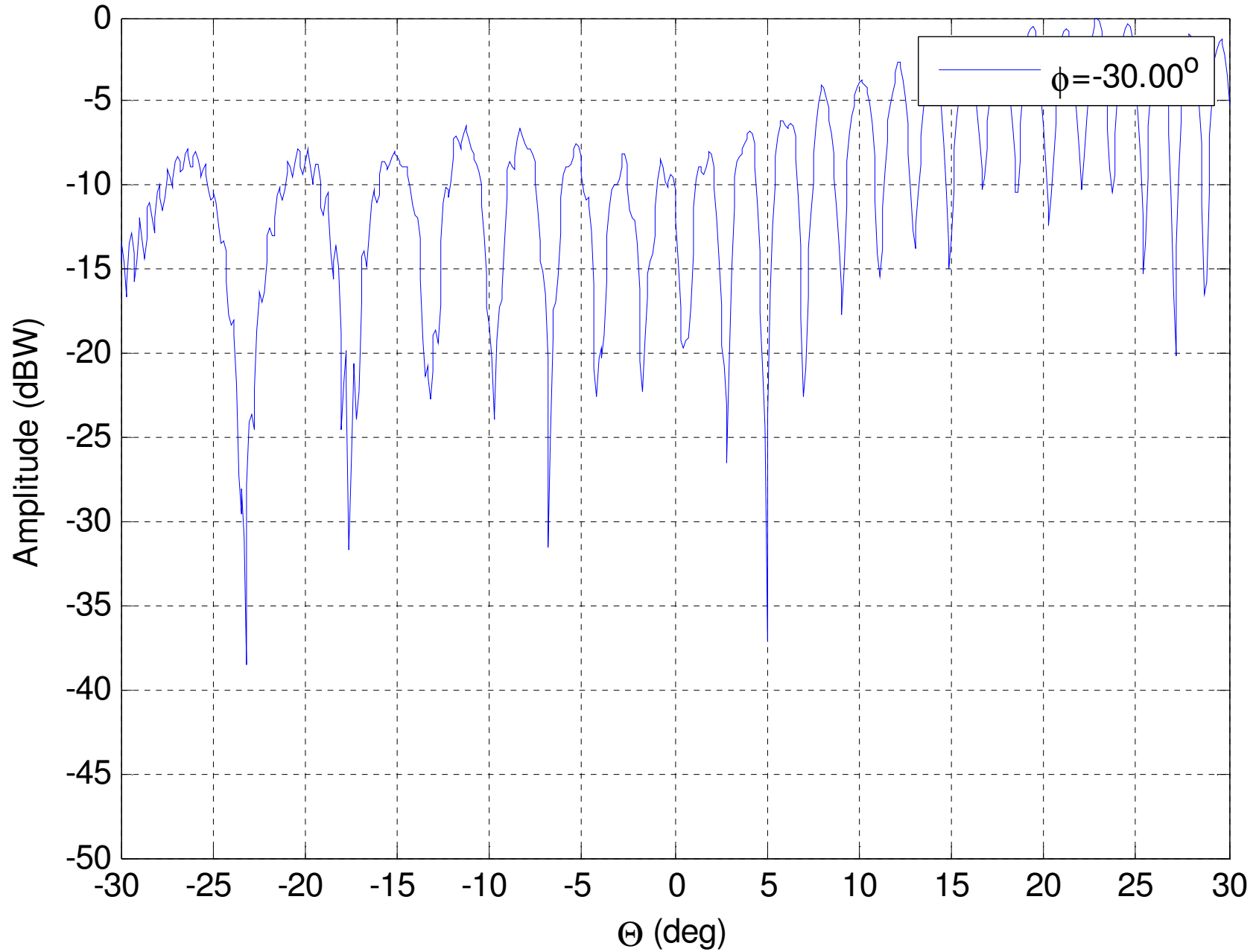
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -10.63 dBW, Date: 16-Dec-2011



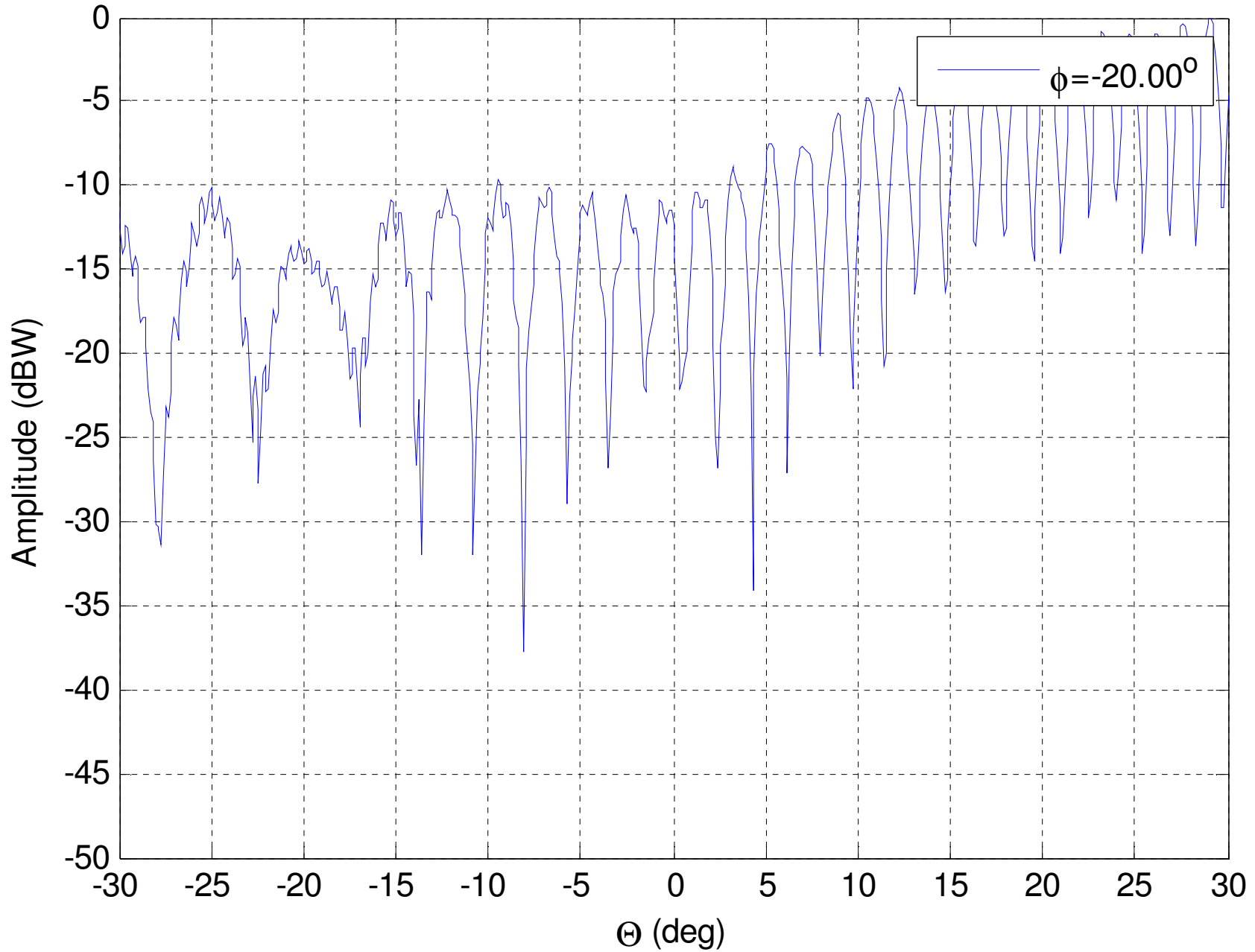
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -9.13 dBW, Date: 16-Dec-2011



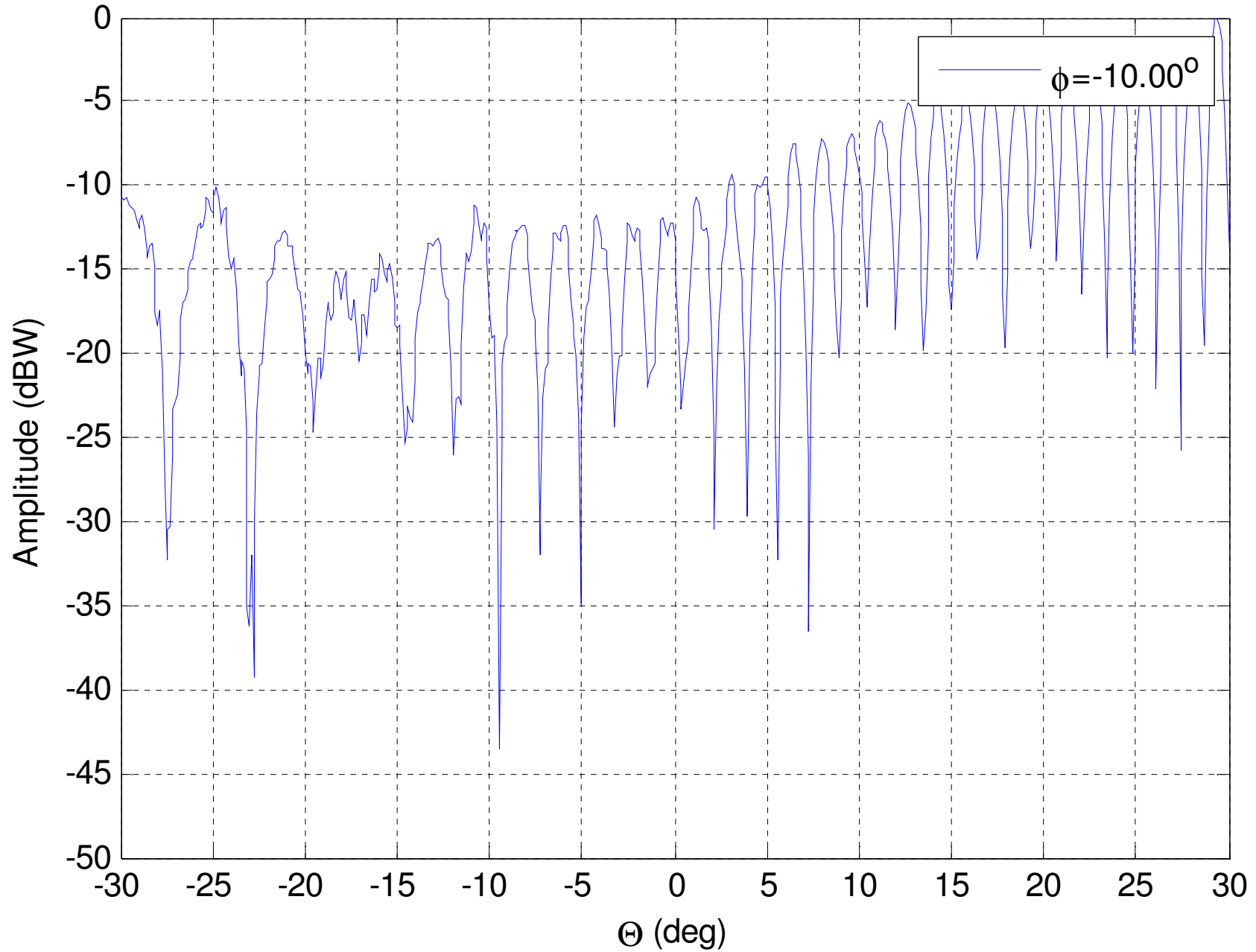
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -6.99 dBW, Date: 16-Dec-2011



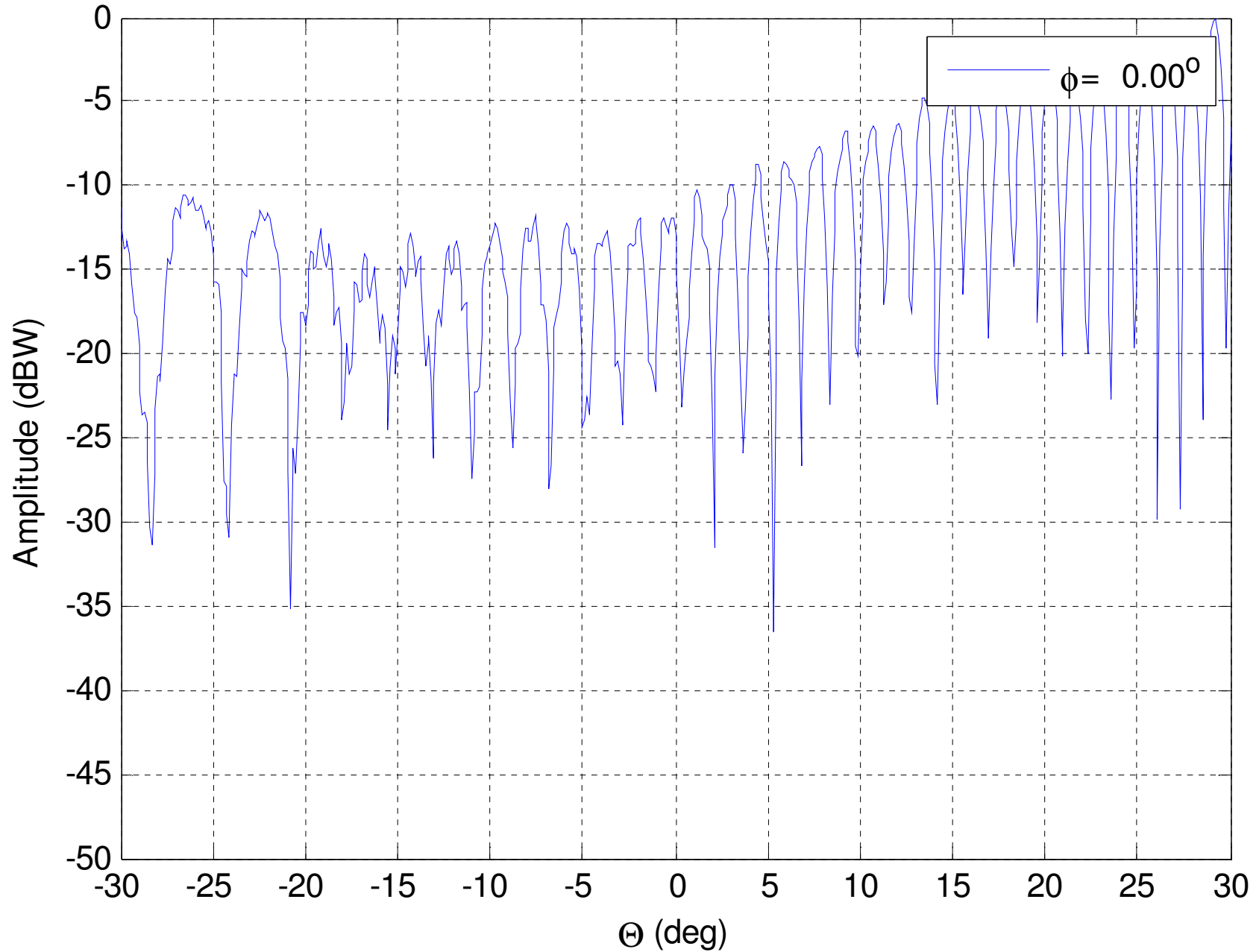
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -6.16 dBW, Date: 16-Dec-2011



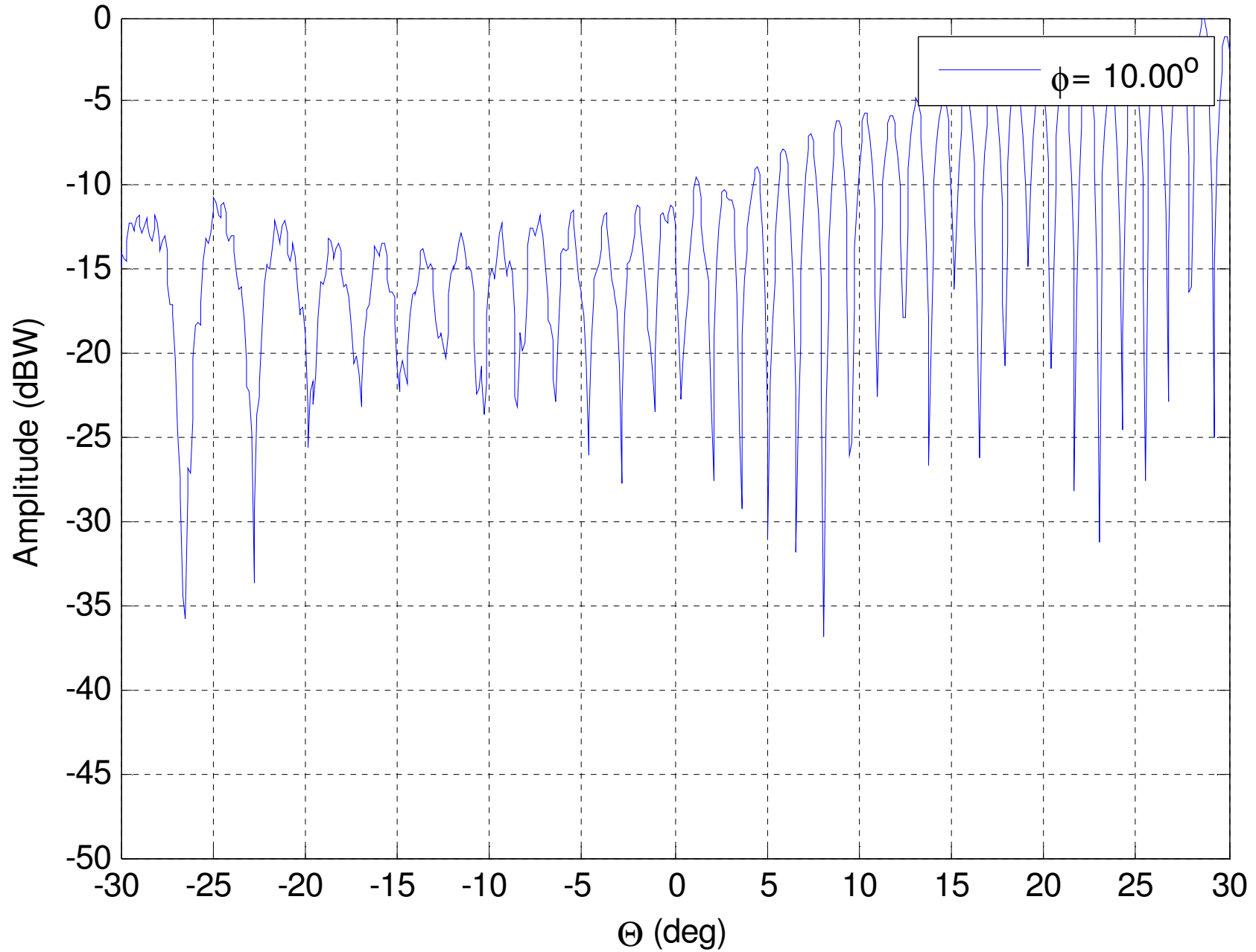
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -6.41 dBW, Date: 16-Dec-2011



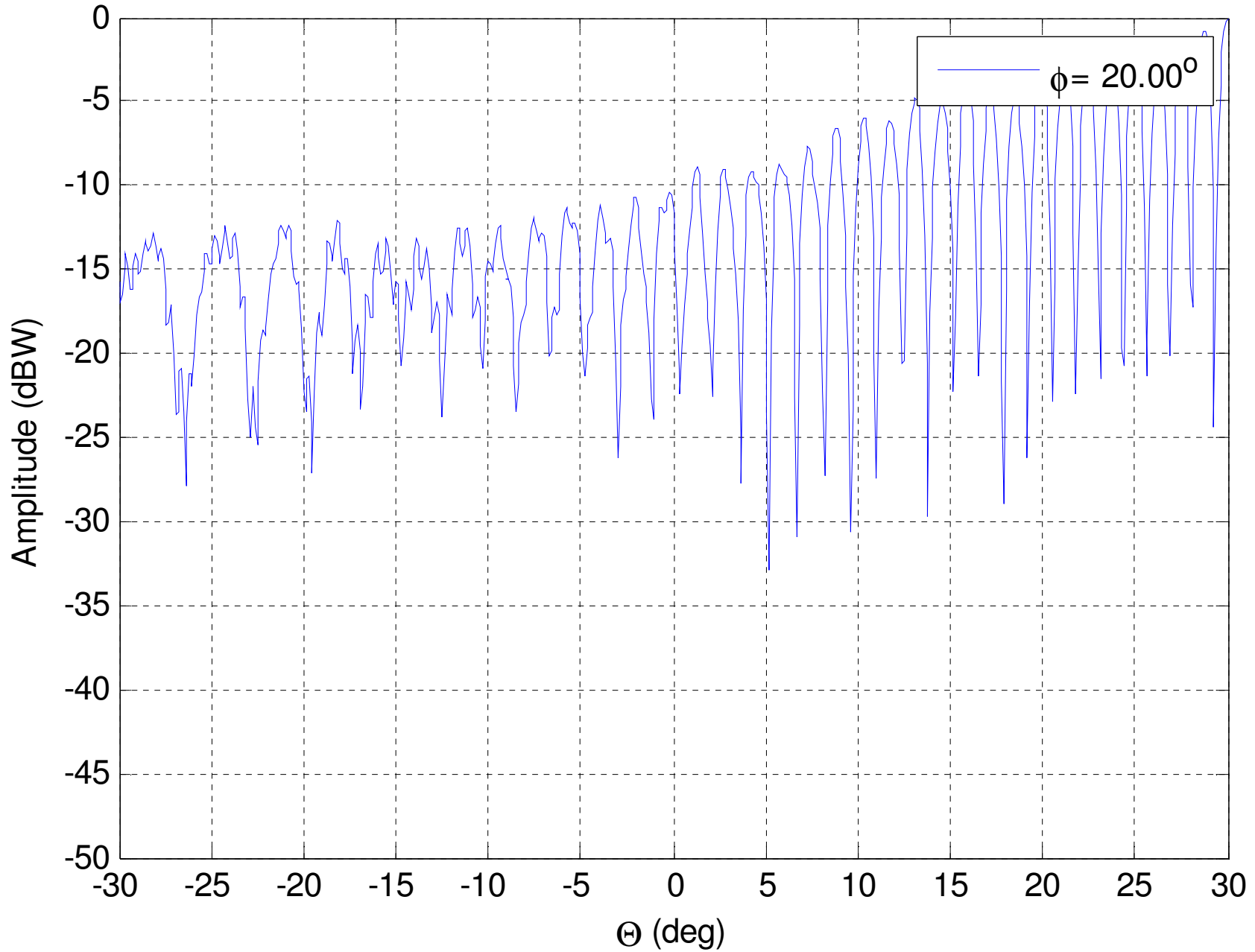
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -7.07 dBW, Date: 16-Dec-2011



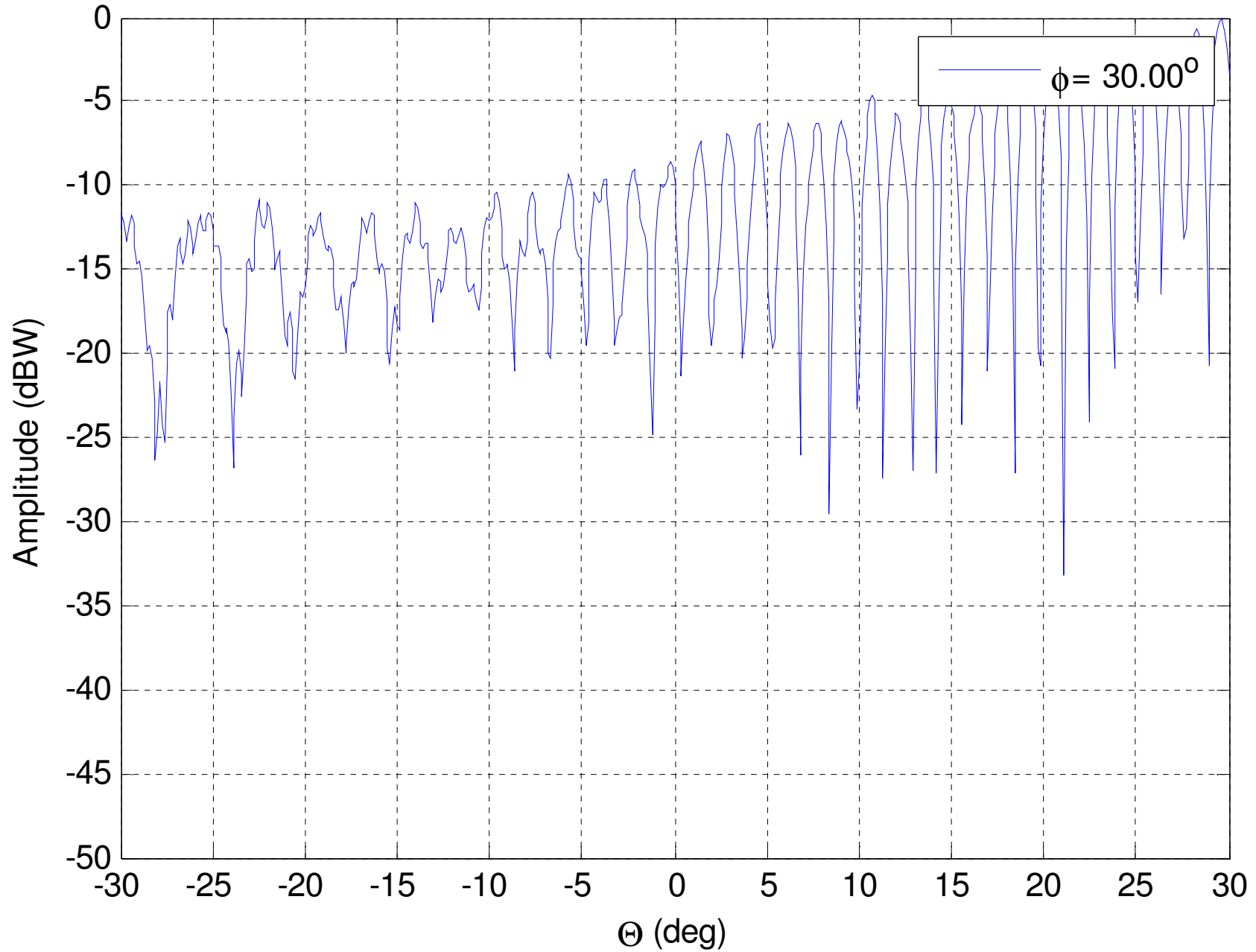
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -7.76 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

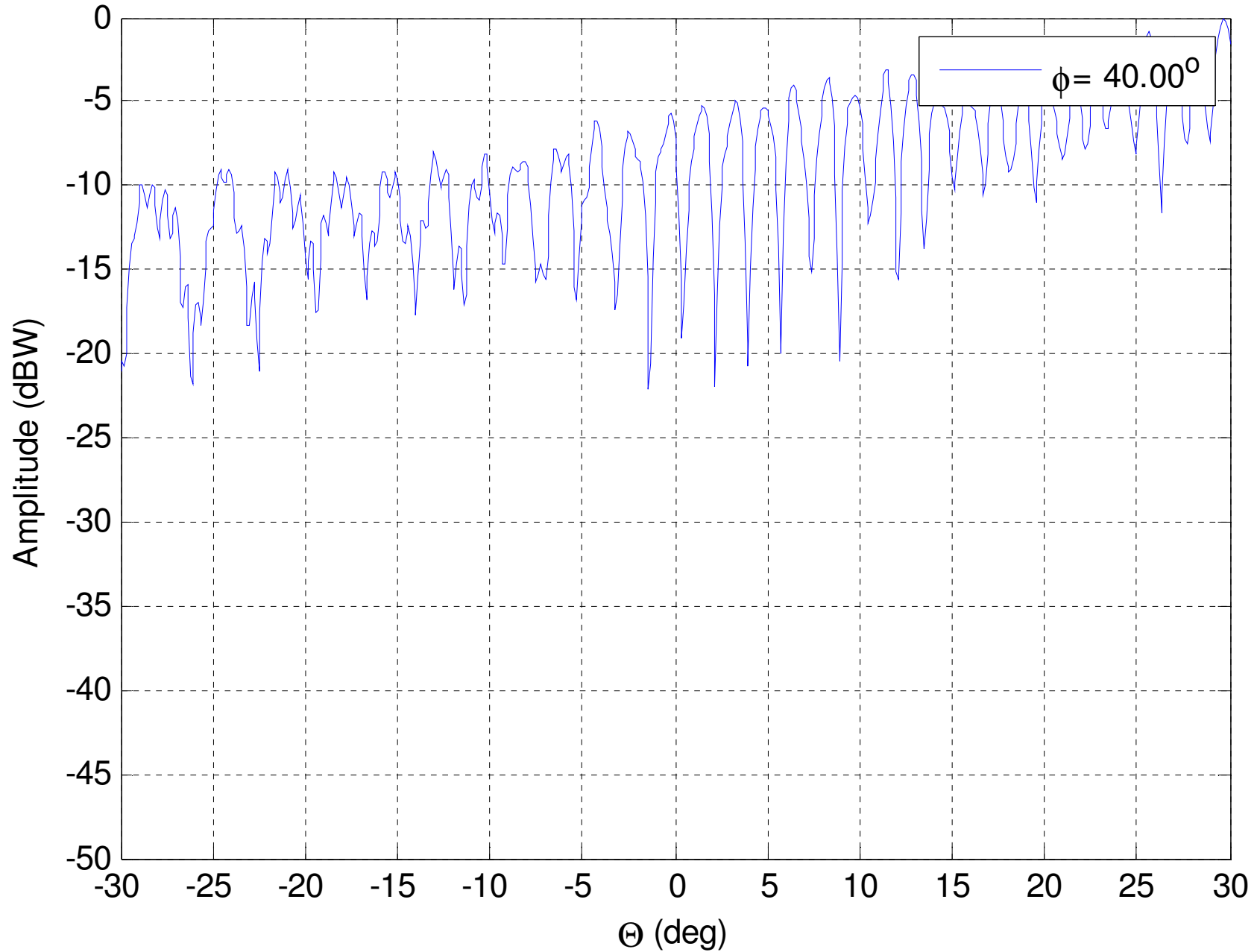
Input file: tx-17.5-rhcp-30.cut, Peak: -9.53 dBW, Date: 16-Dec-2011





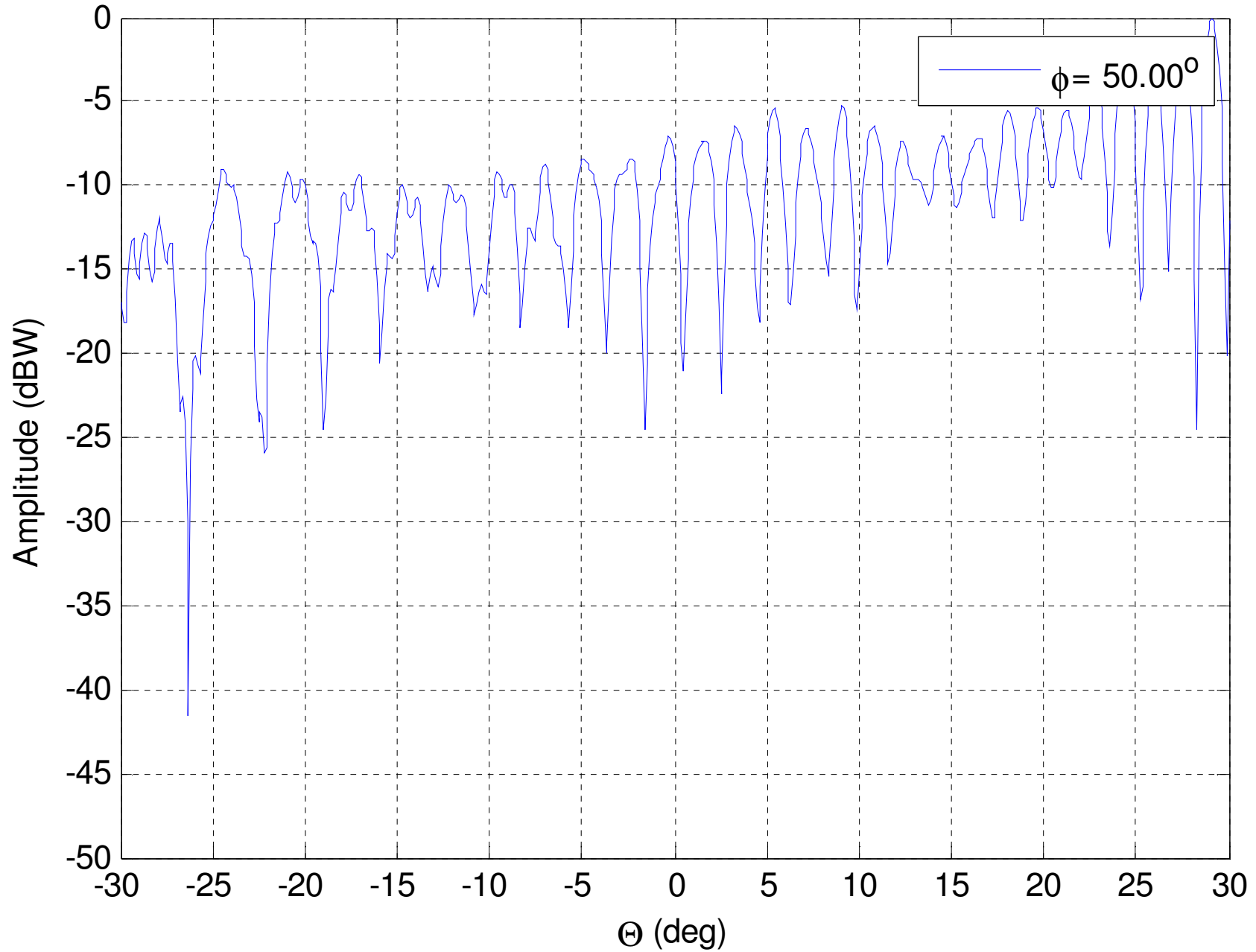
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -12.26 dBW, Date: 16-Dec-2011



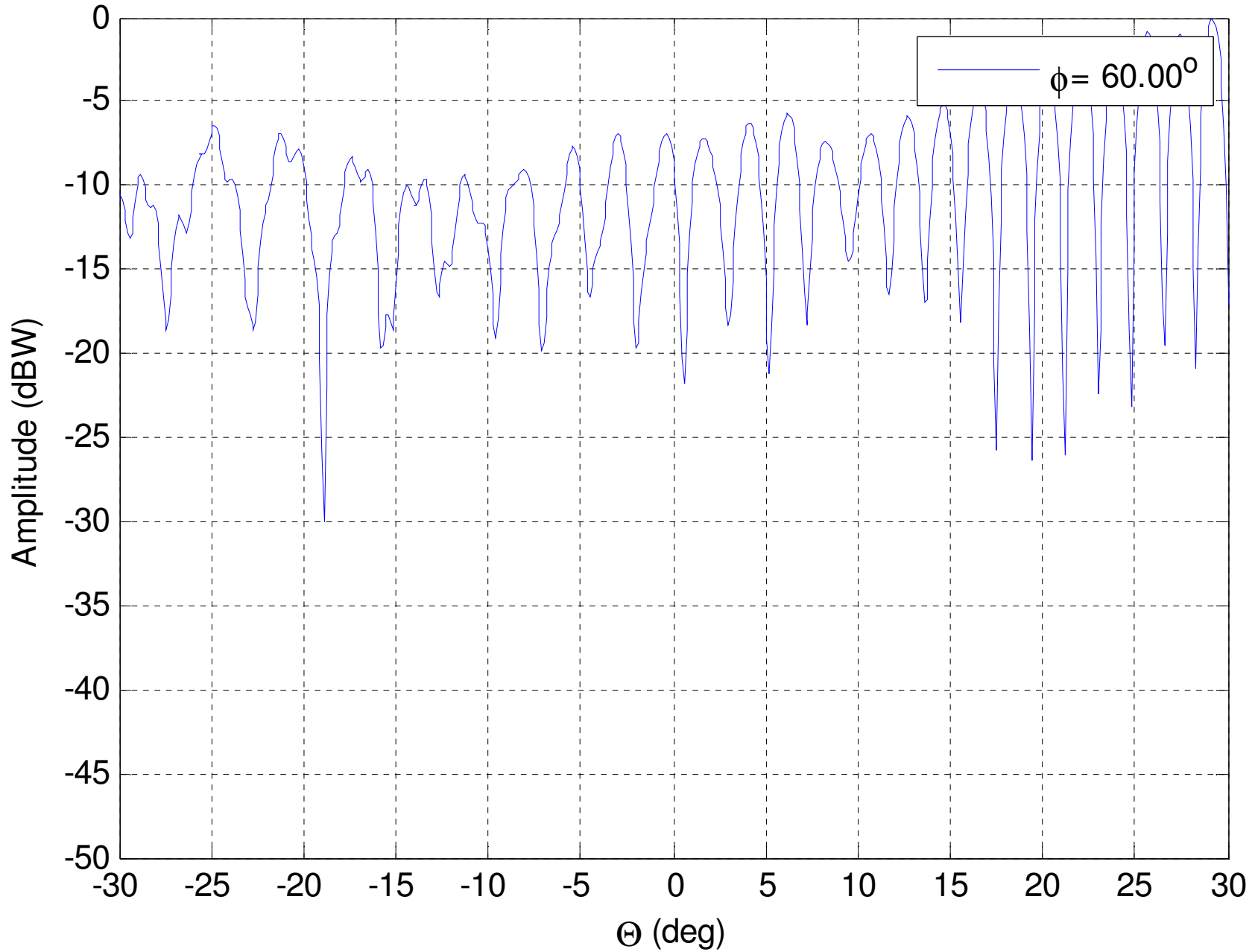
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -10.88 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

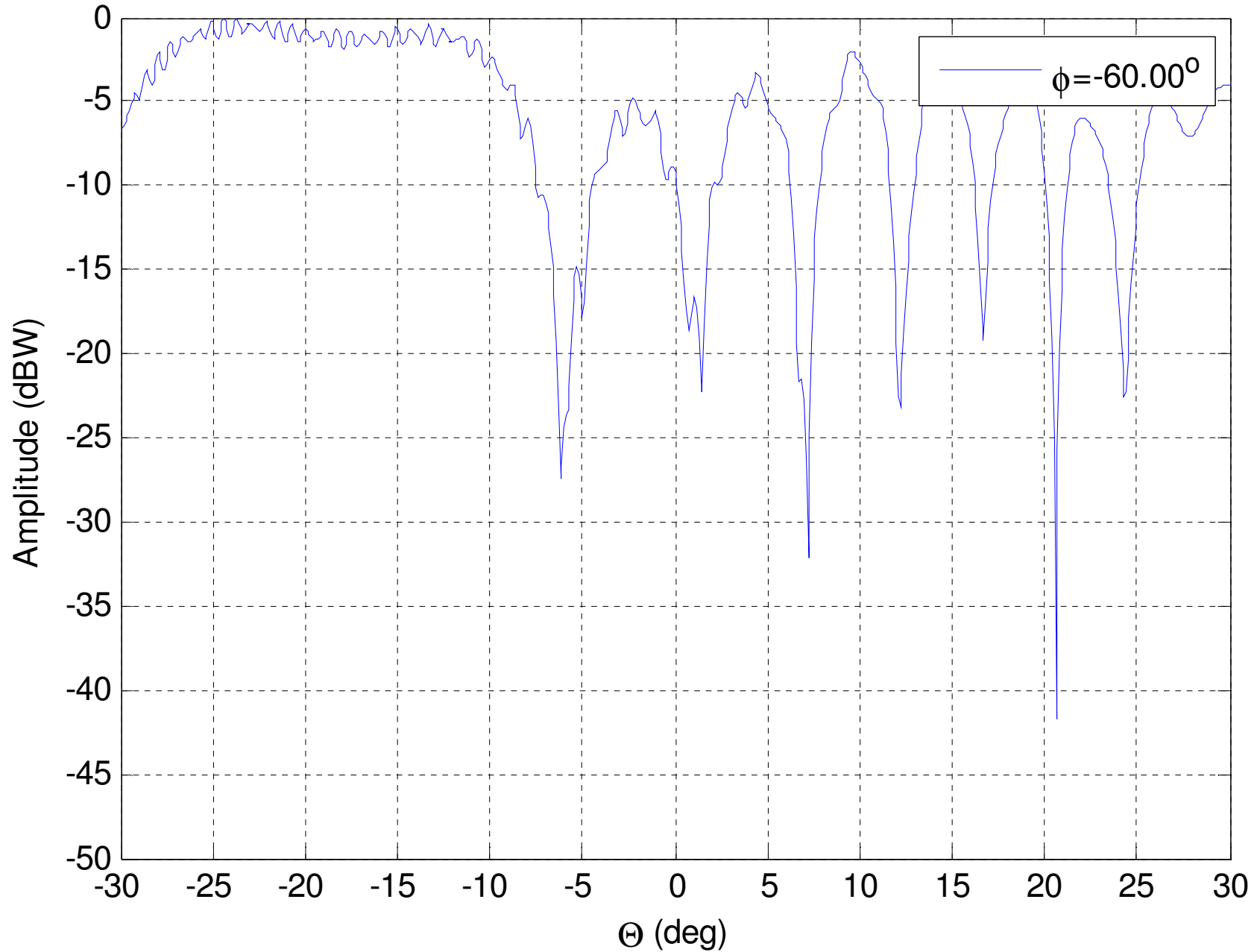
Input file: tx-17.5-rhcp-60.cut, Peak: -10.90 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

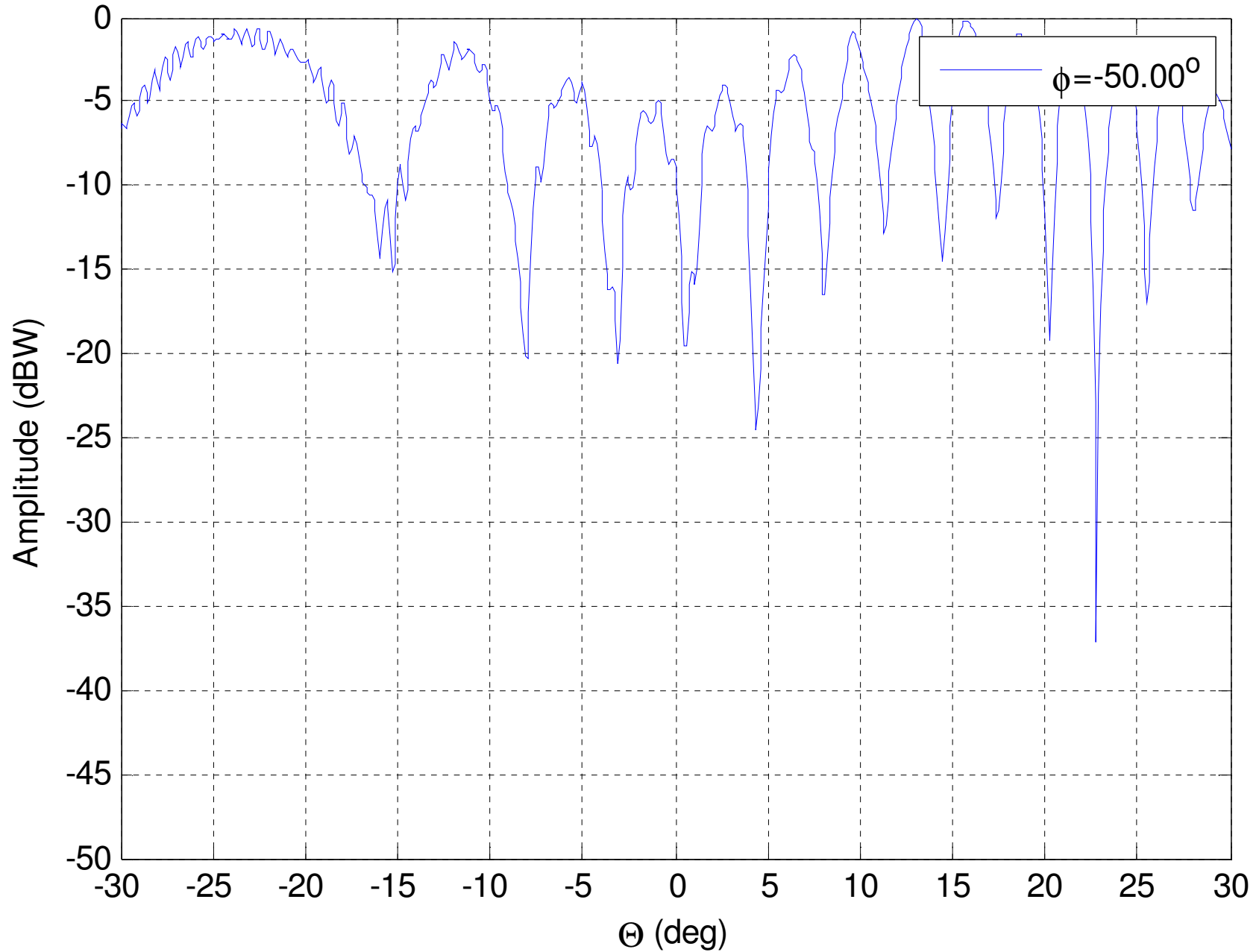
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -12.24 dBW, Date: 16-Dec-2011



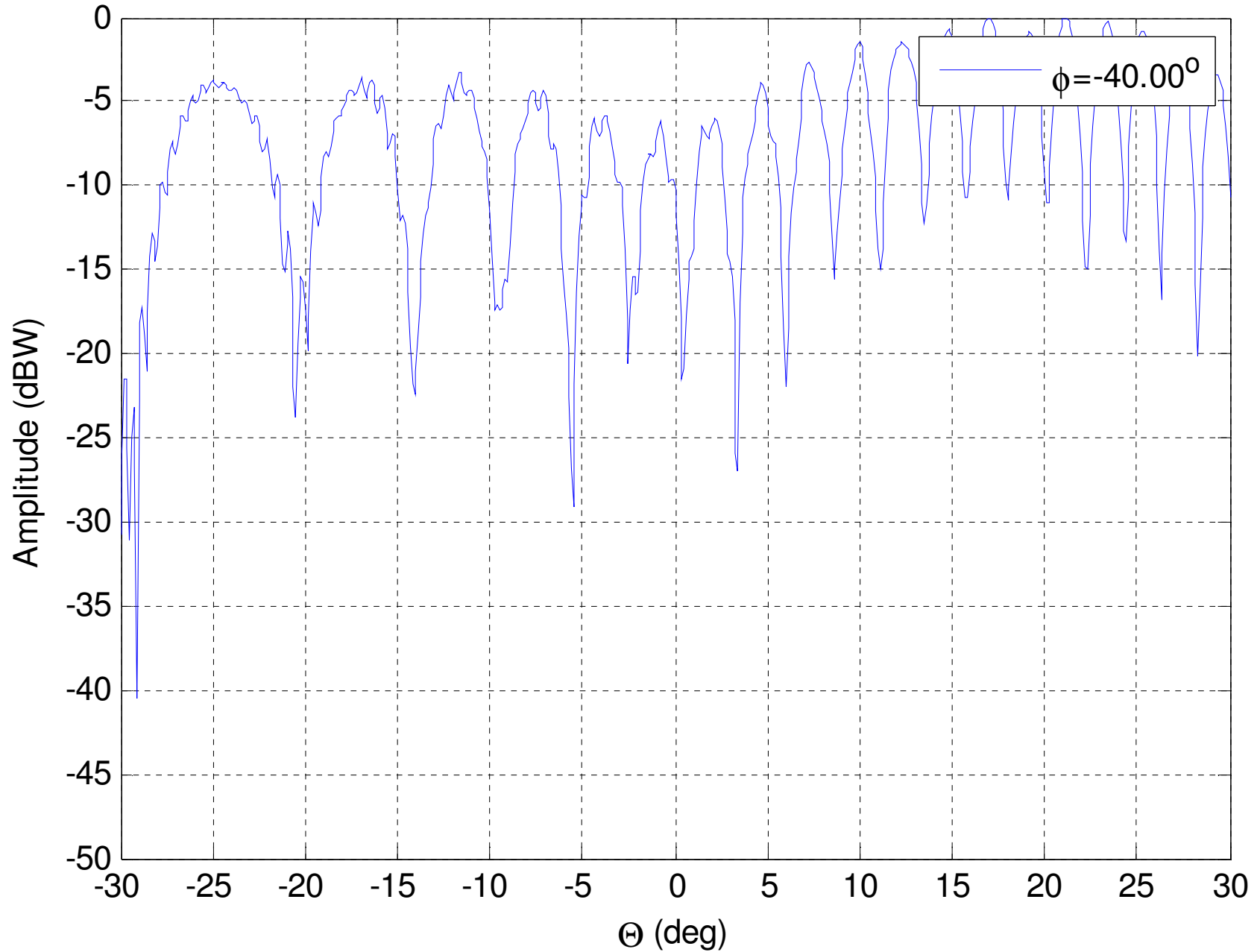
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -12.51 dBW, Date: 16-Dec-2011



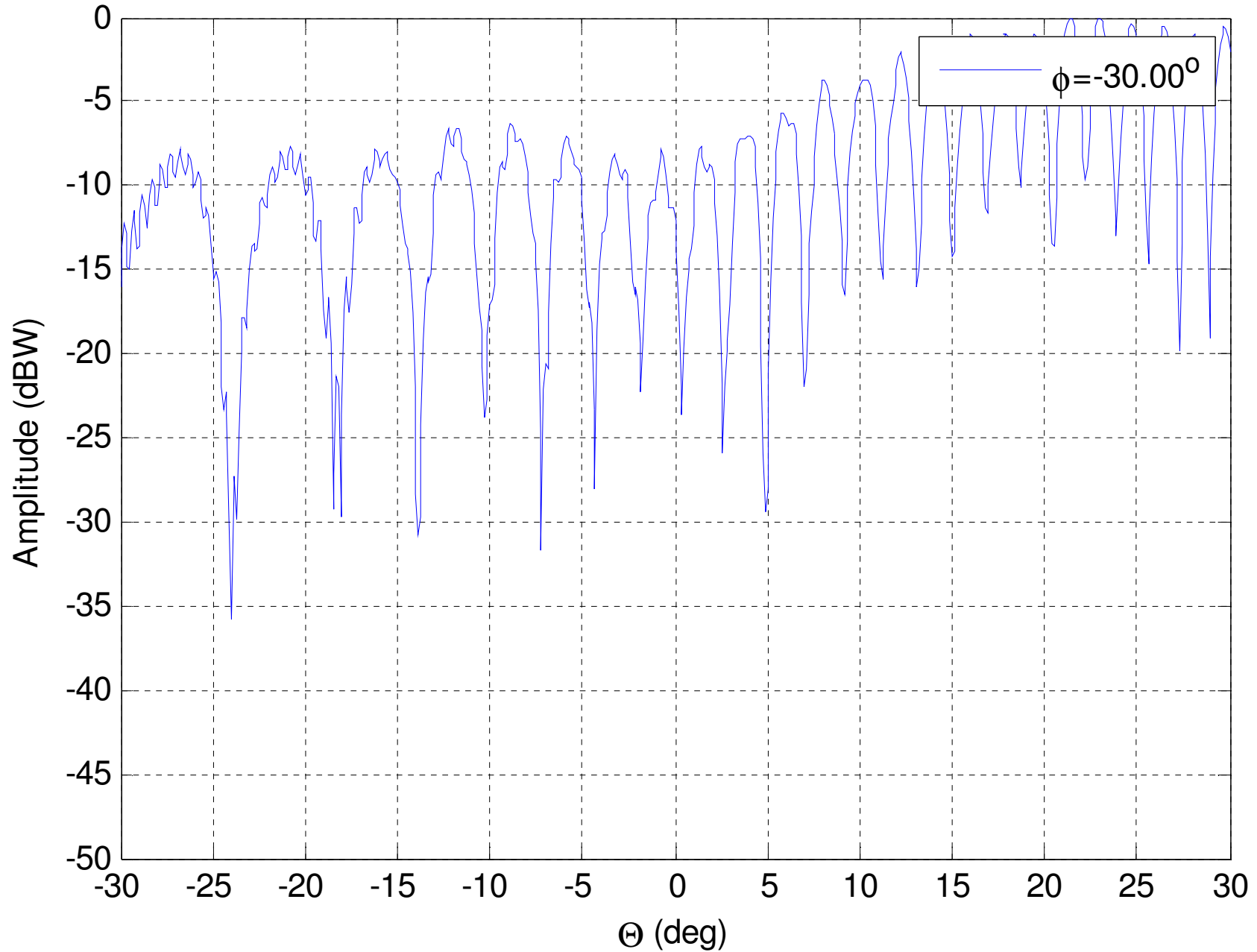
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -11.15 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

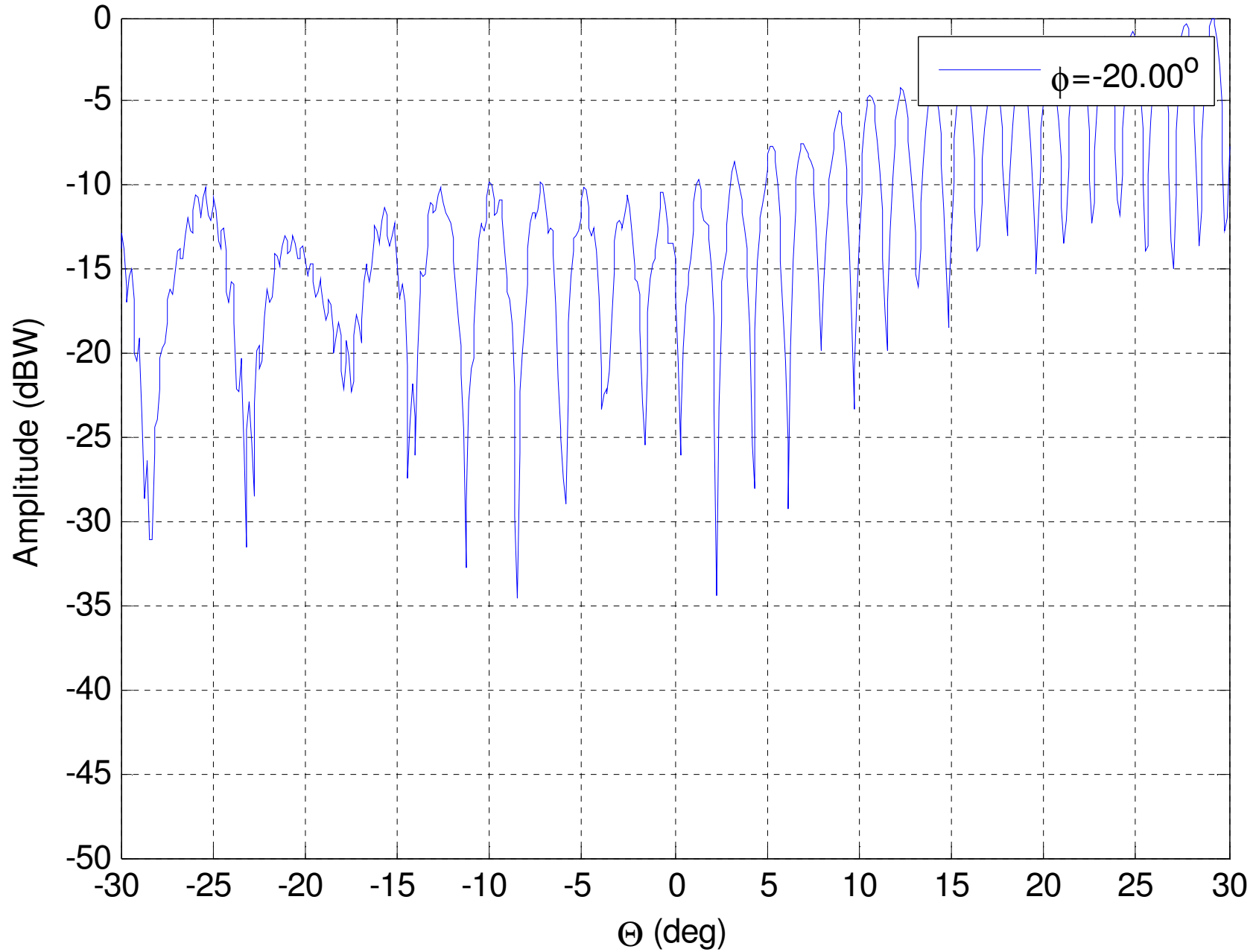
Input file: tx-17.5-lhcp--30.cut, Peak: -9.36 dBW, Date: 16-Dec-2011





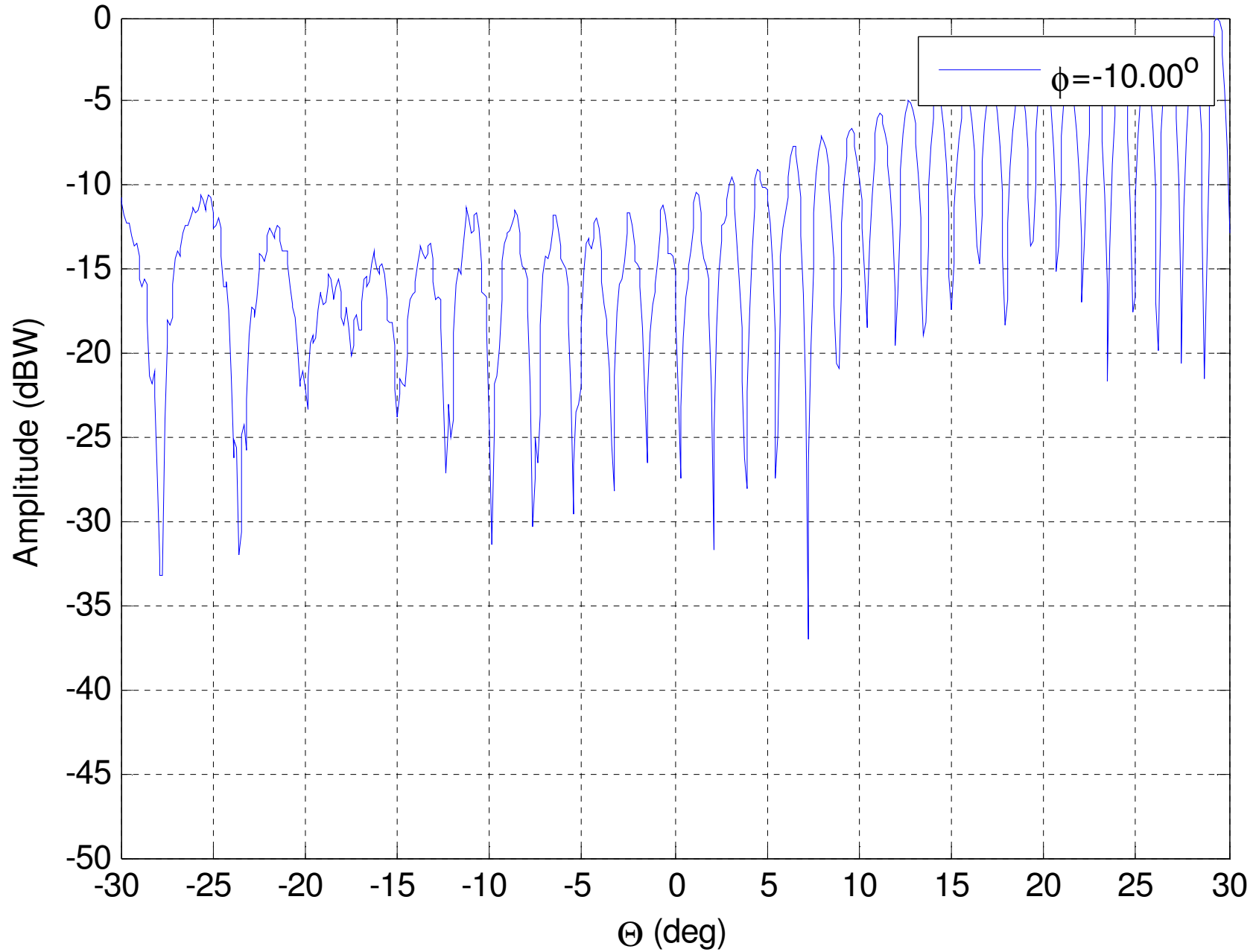
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -7.02 dBW, Date: 16-Dec-2011



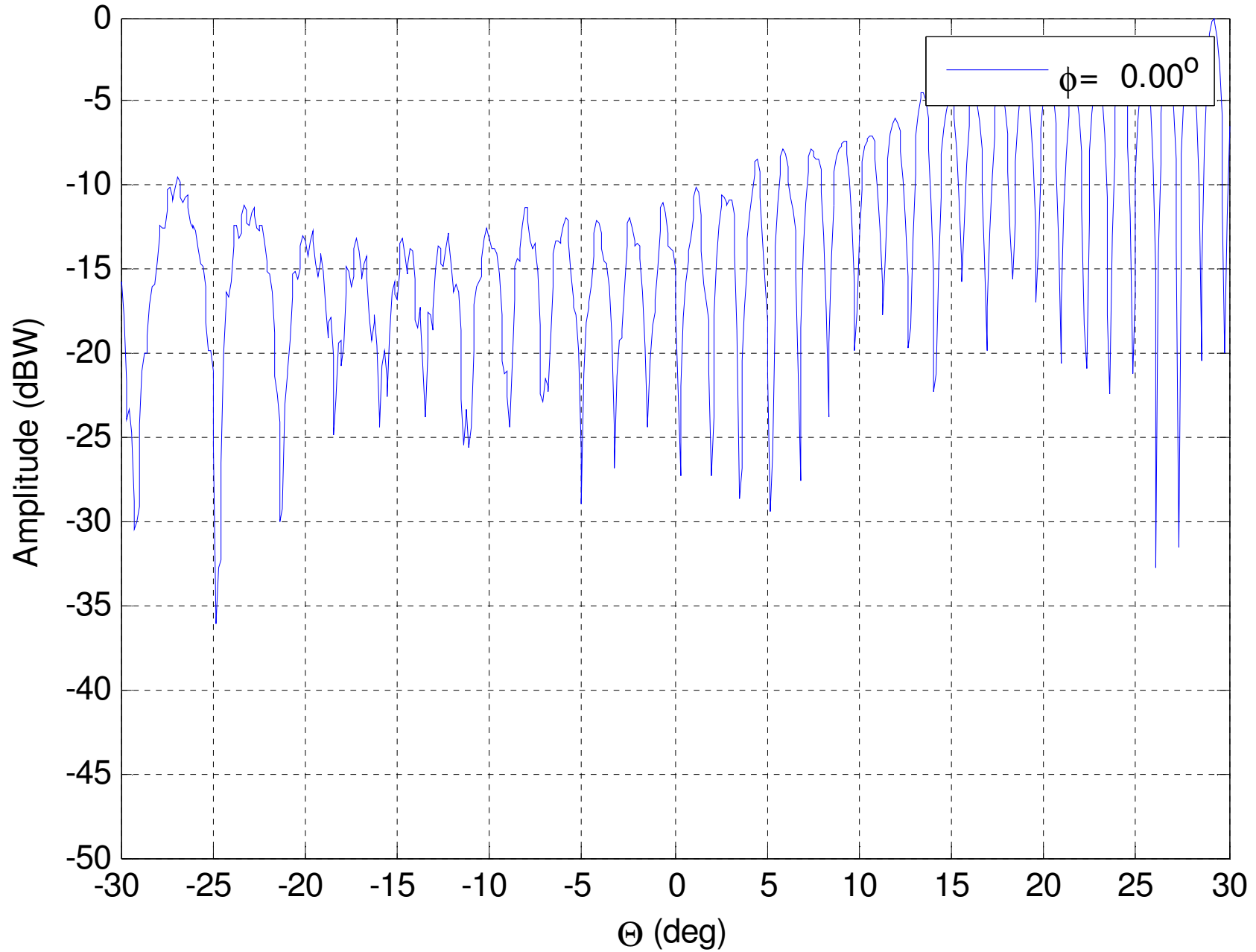
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -6.24 dBW, Date: 16-Dec-2011



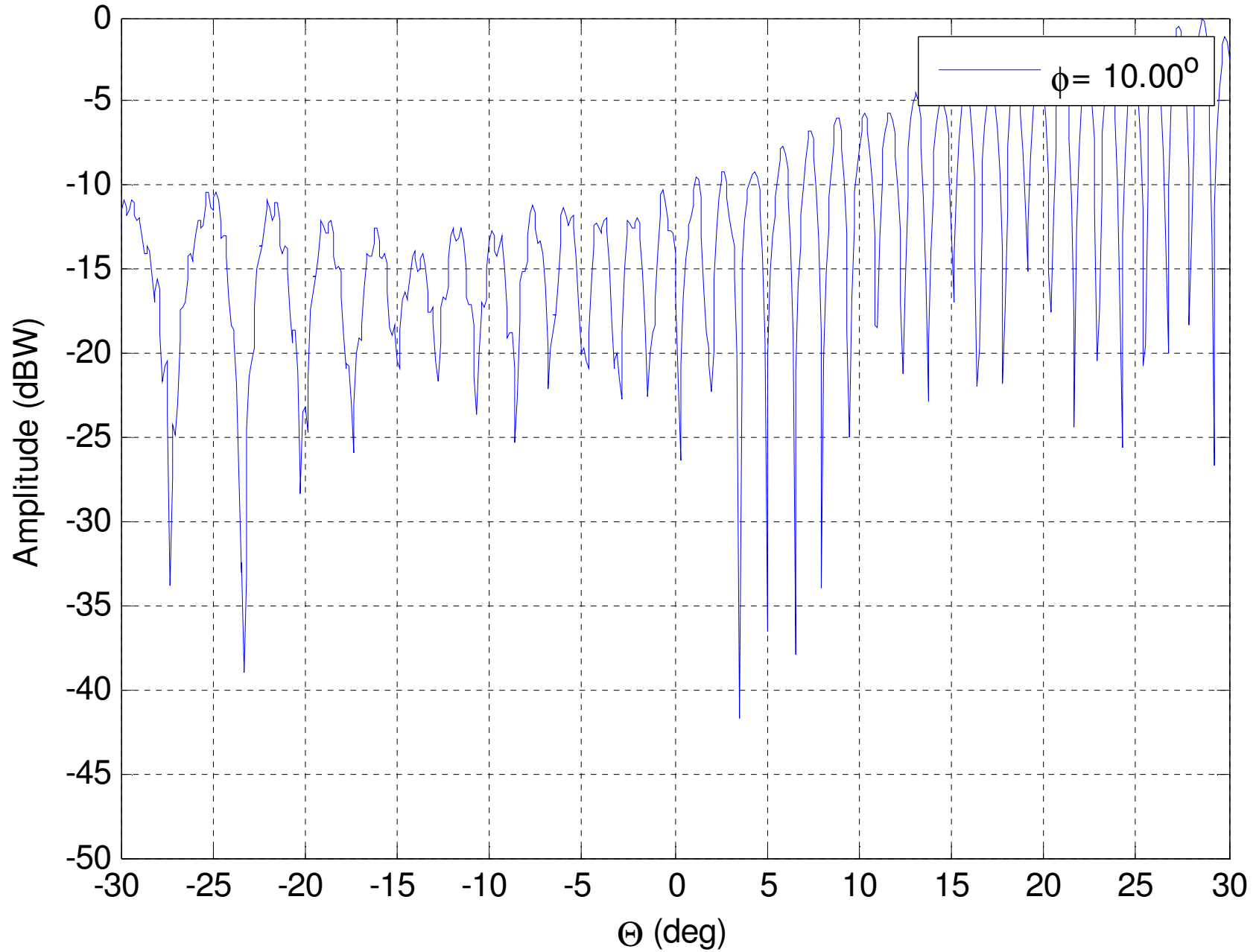
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -6.49 dBW, Date: 16-Dec-2011



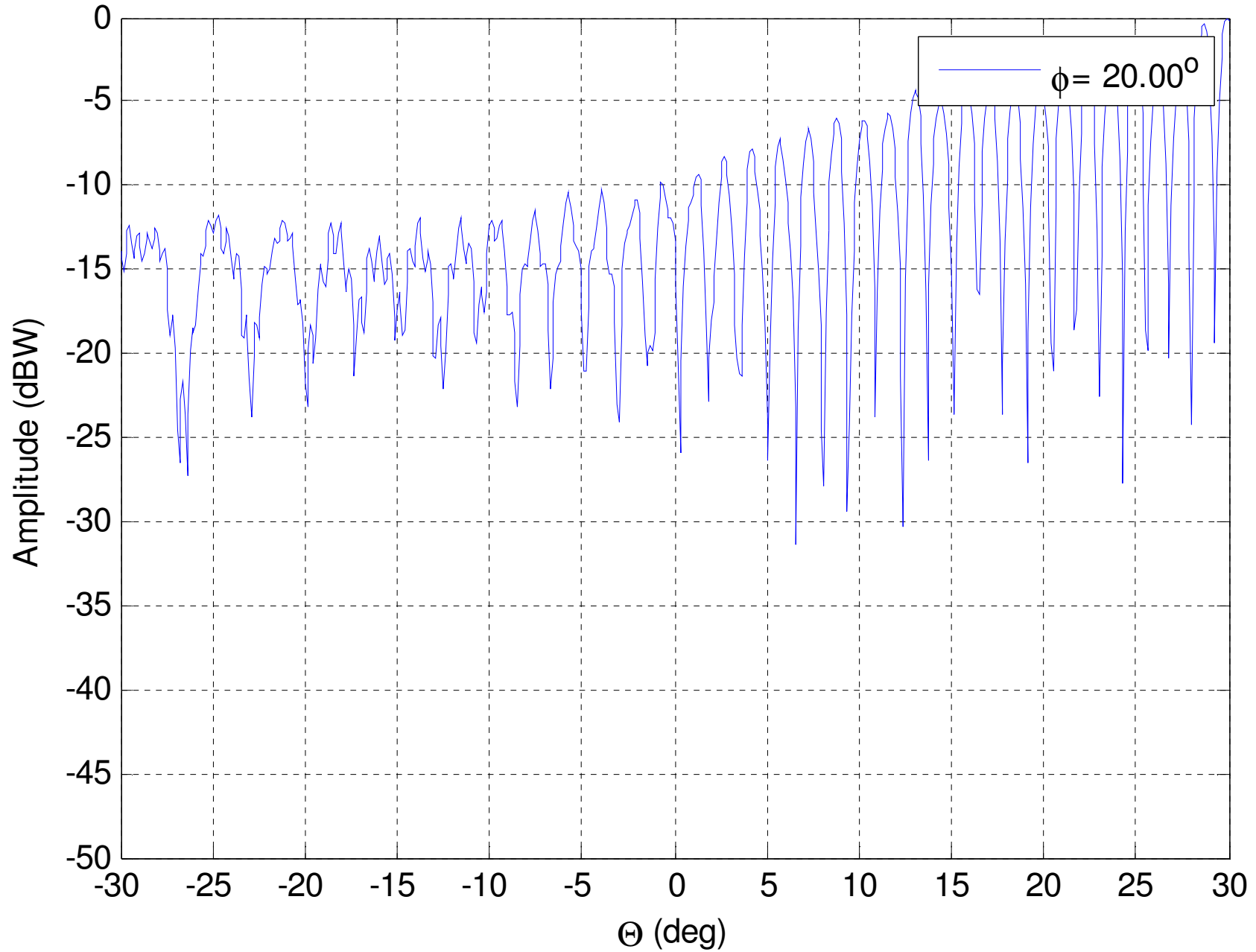
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -7.37 dBW, Date: 16-Dec-2011



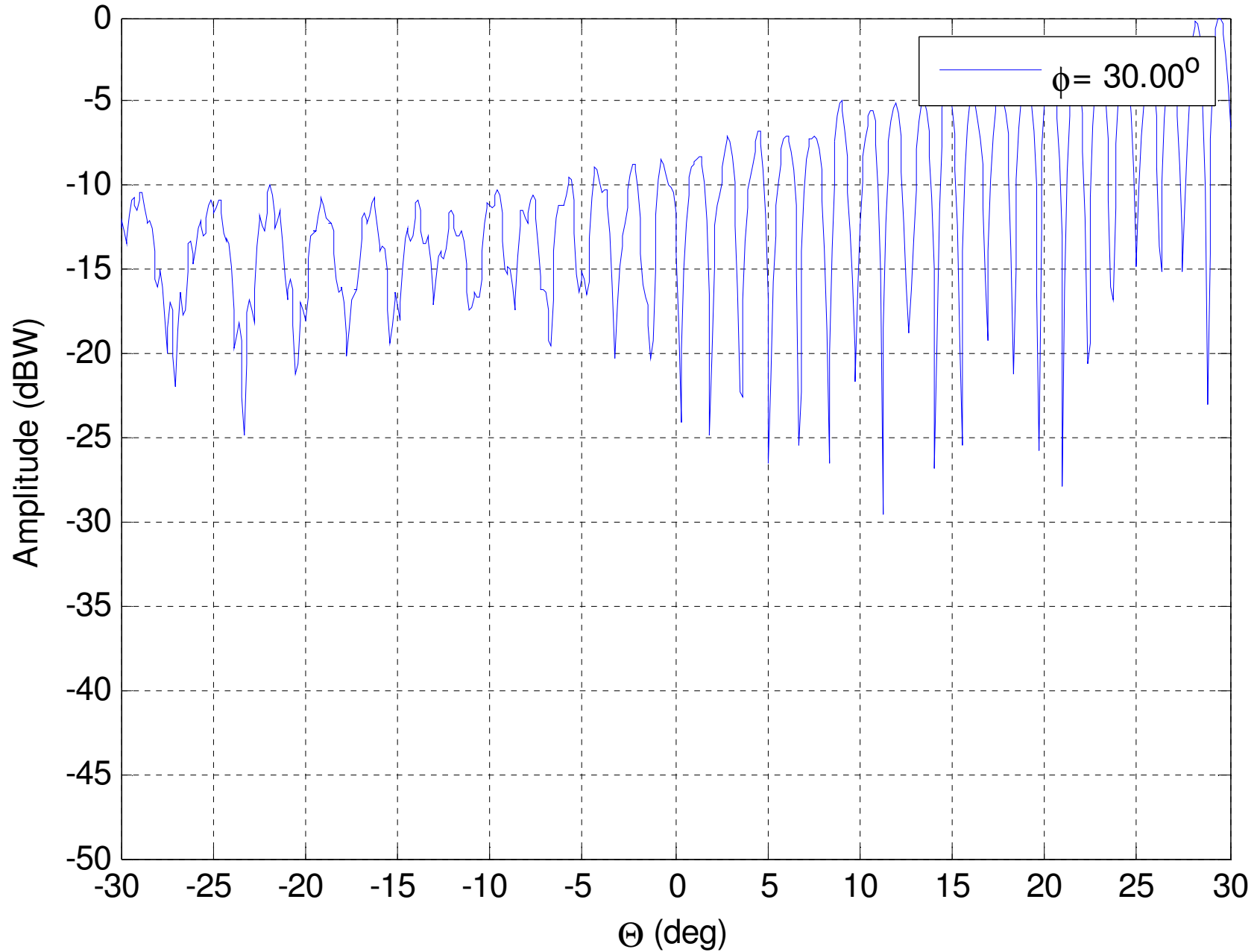
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -8.05 dBW, Date: 16-Dec-2011



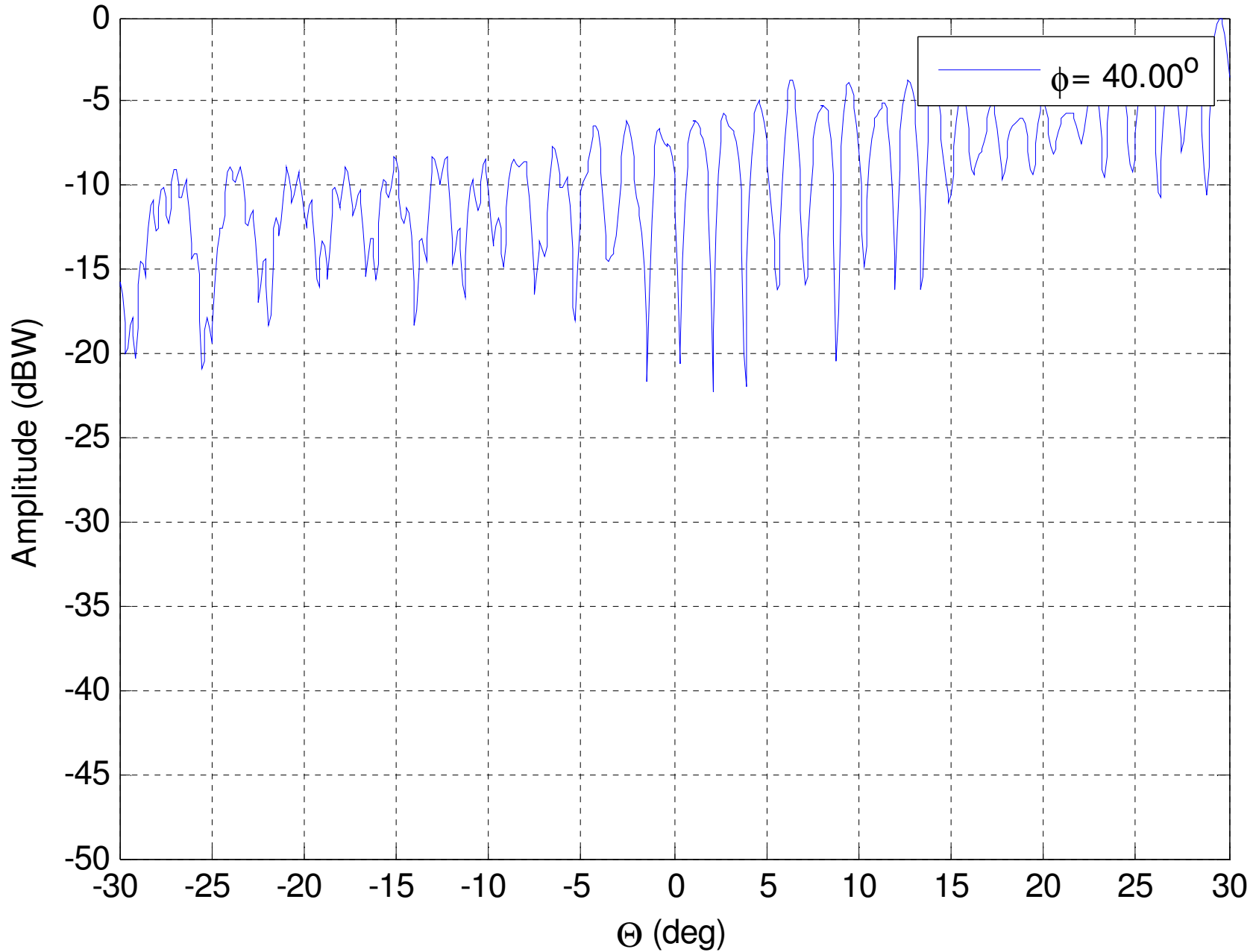
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -9.77 dBW, Date: 16-Dec-2011



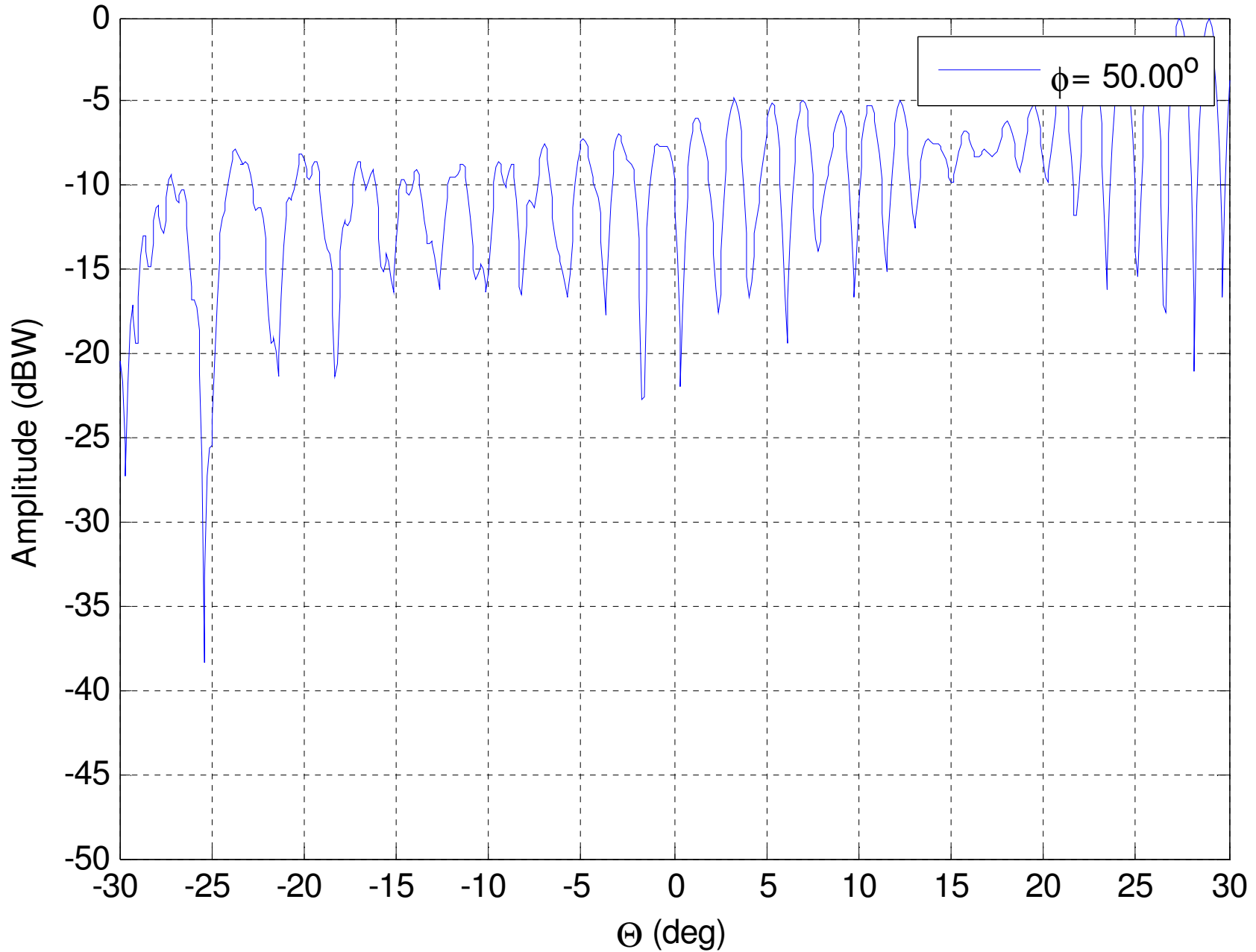
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -12.00 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

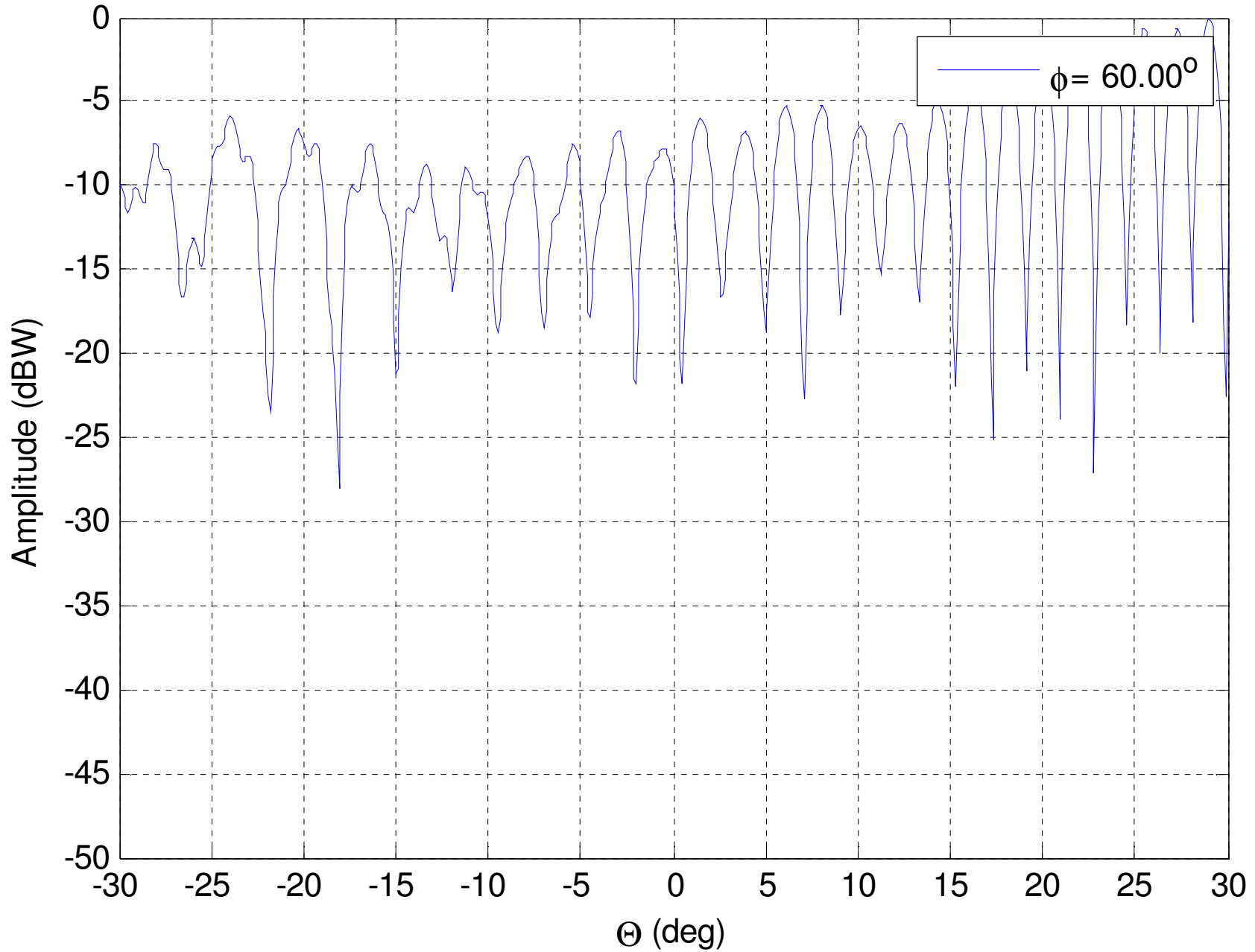
Input file: tx-17.5-lhcp-50.cut, Peak: -11.71 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

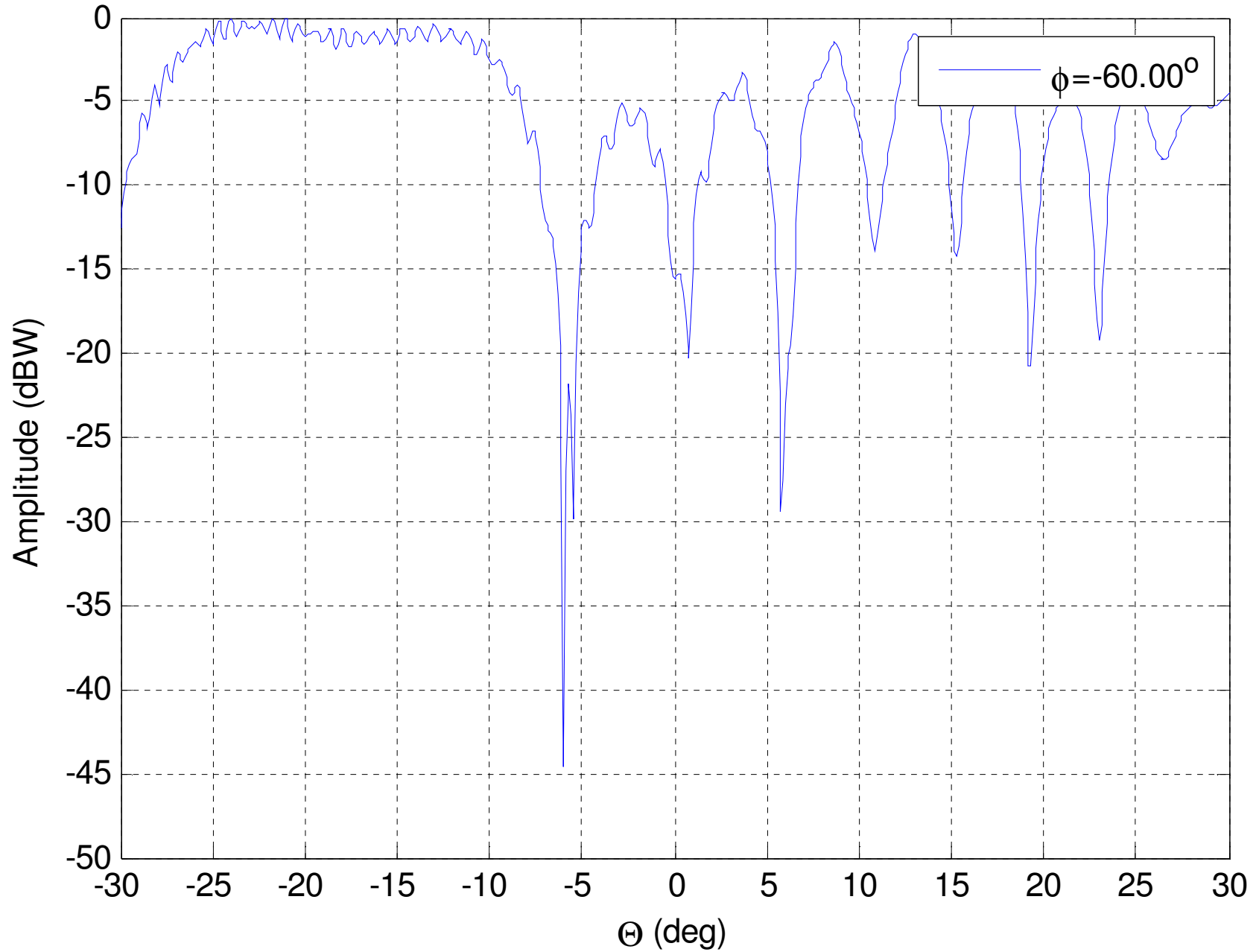
Input file: tx-17.5-lhcp-60.cut, Peak: -11.23 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

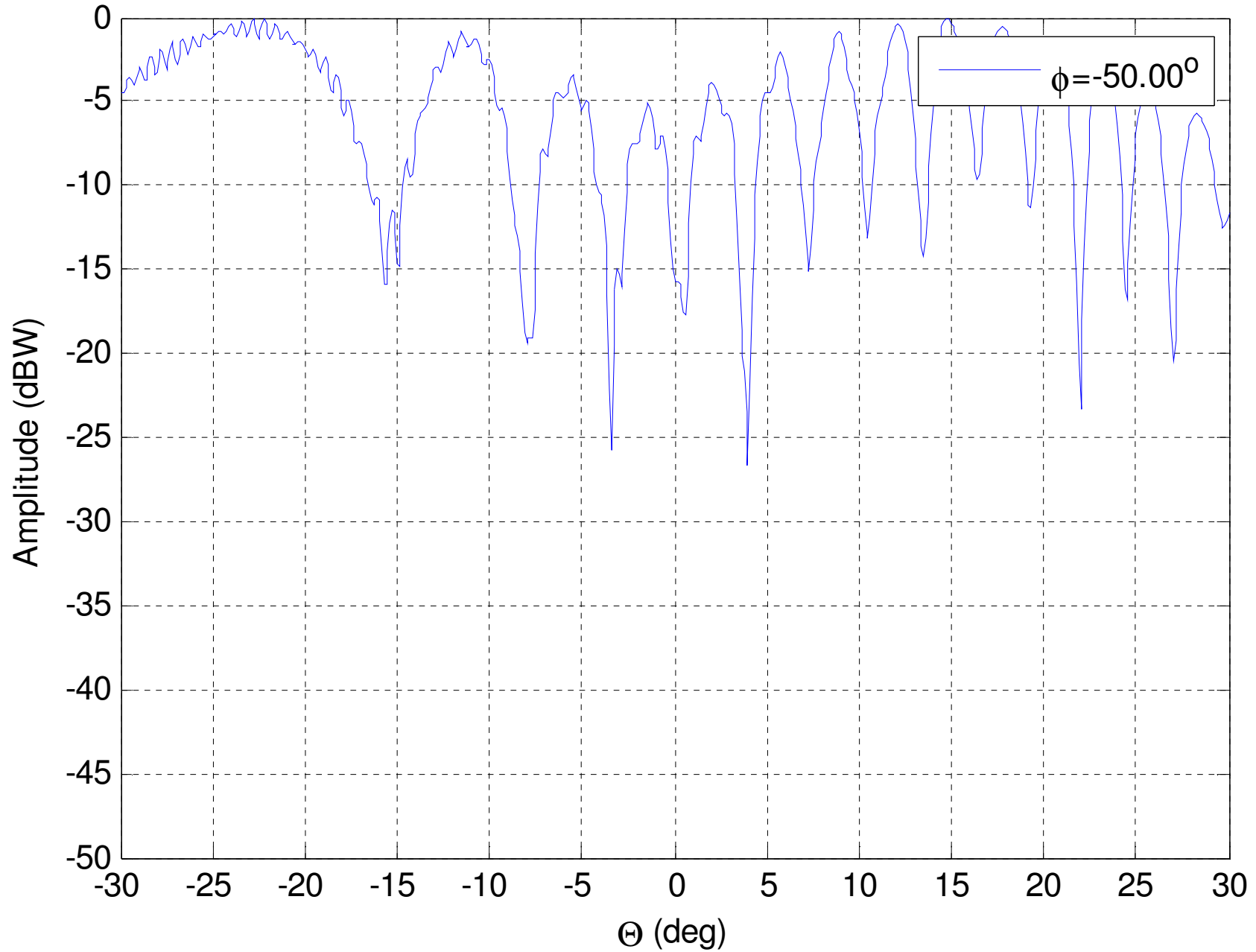
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -12.84 dBW, Date: 16-Dec-2011



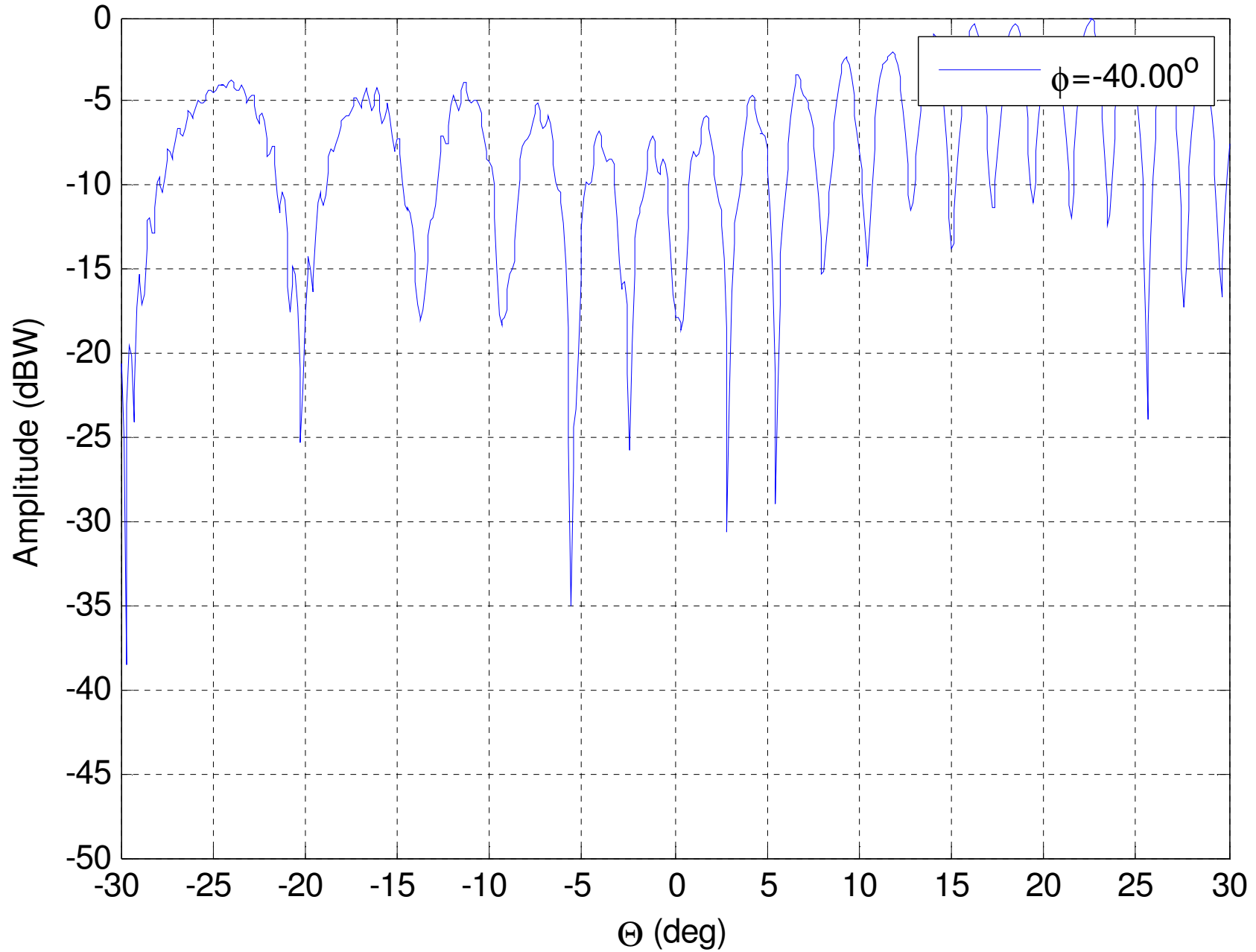
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -12.78 dBW, Date: 16-Dec-2011



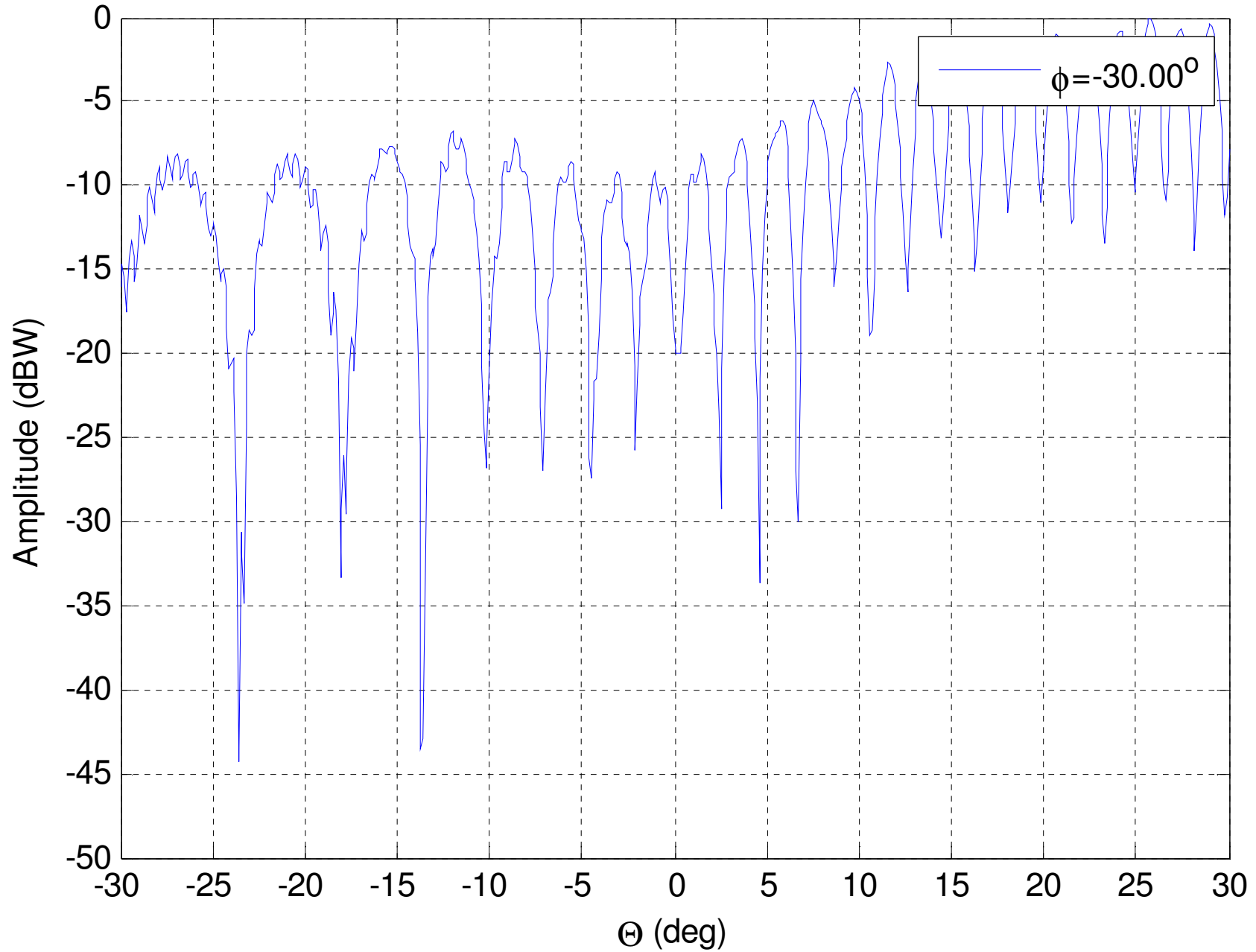
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -10.82 dBW, Date: 16-Dec-2011



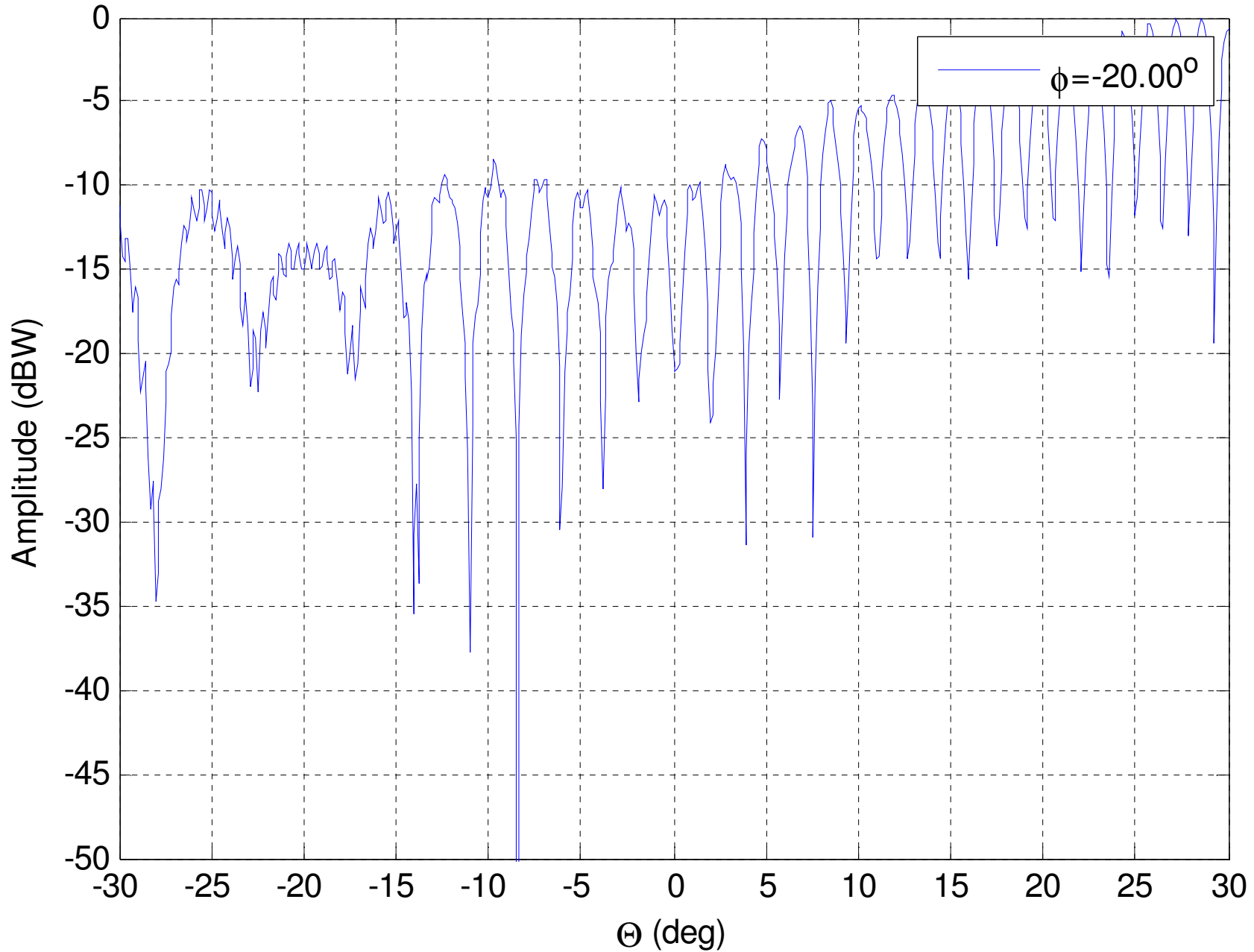
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -8.81 dBW, Date: 16-Dec-2011



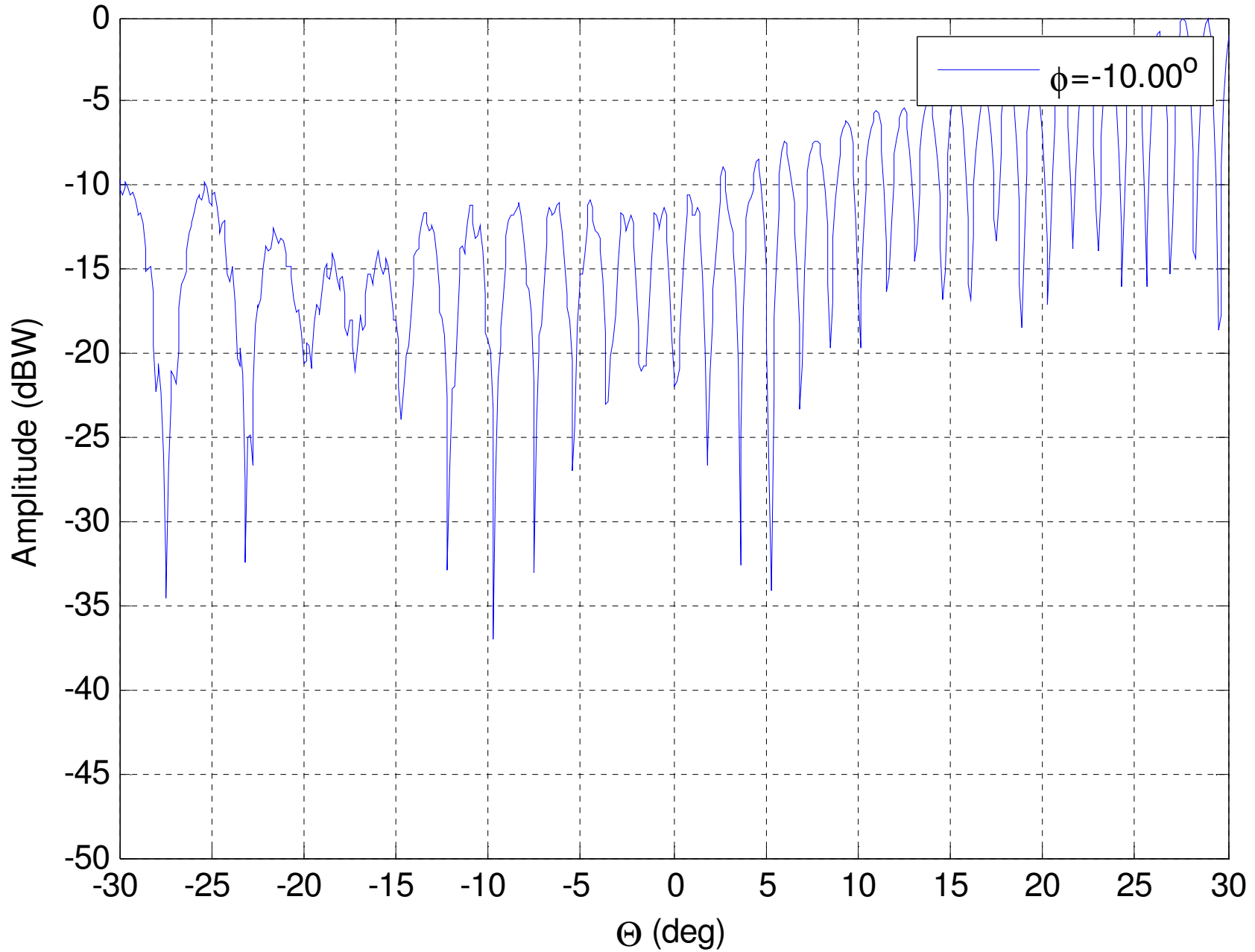
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -7.75 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

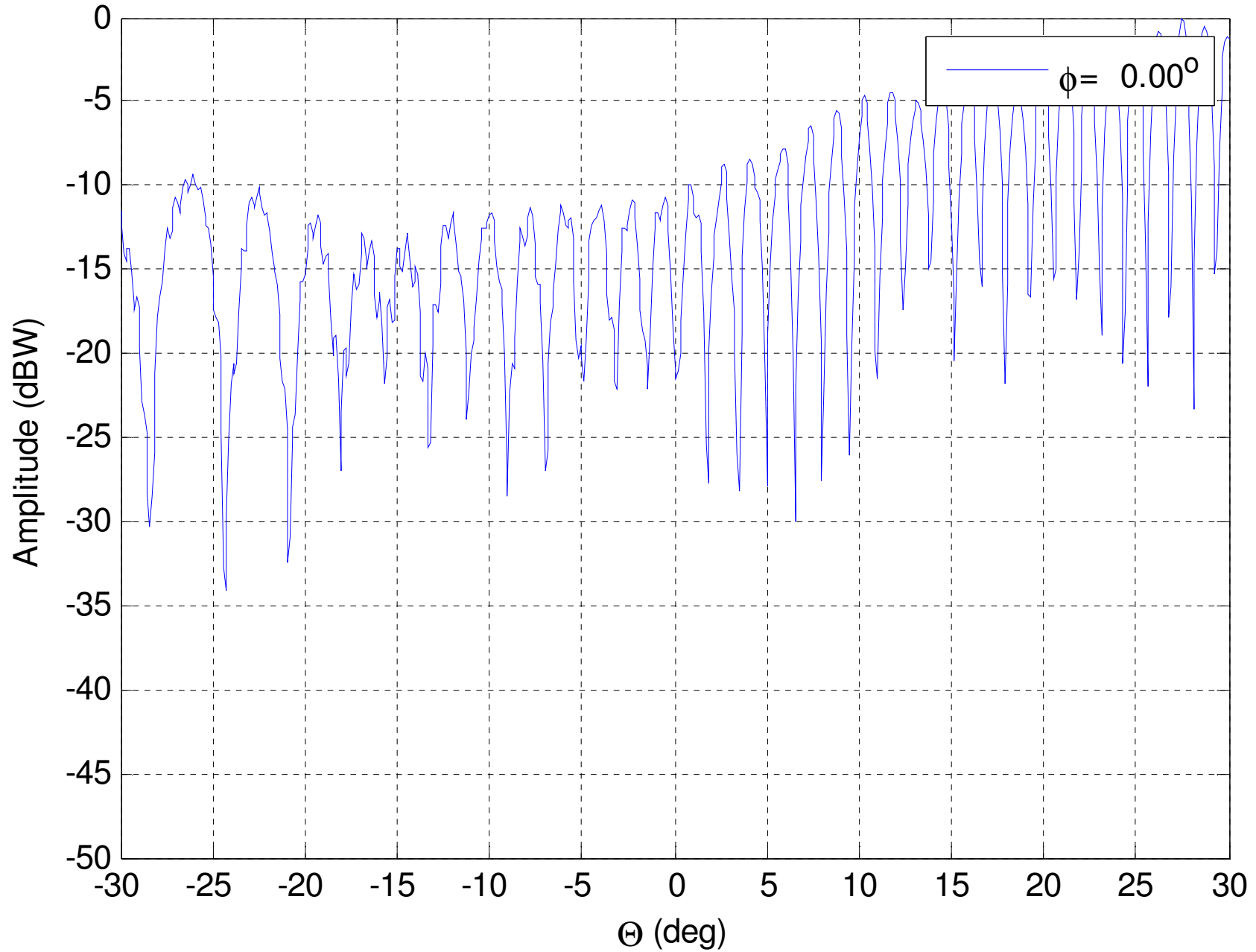
Input file: tx-17.7-rhcp--10.cut, Peak: -7.00 dBW, Date: 16-Dec-2011





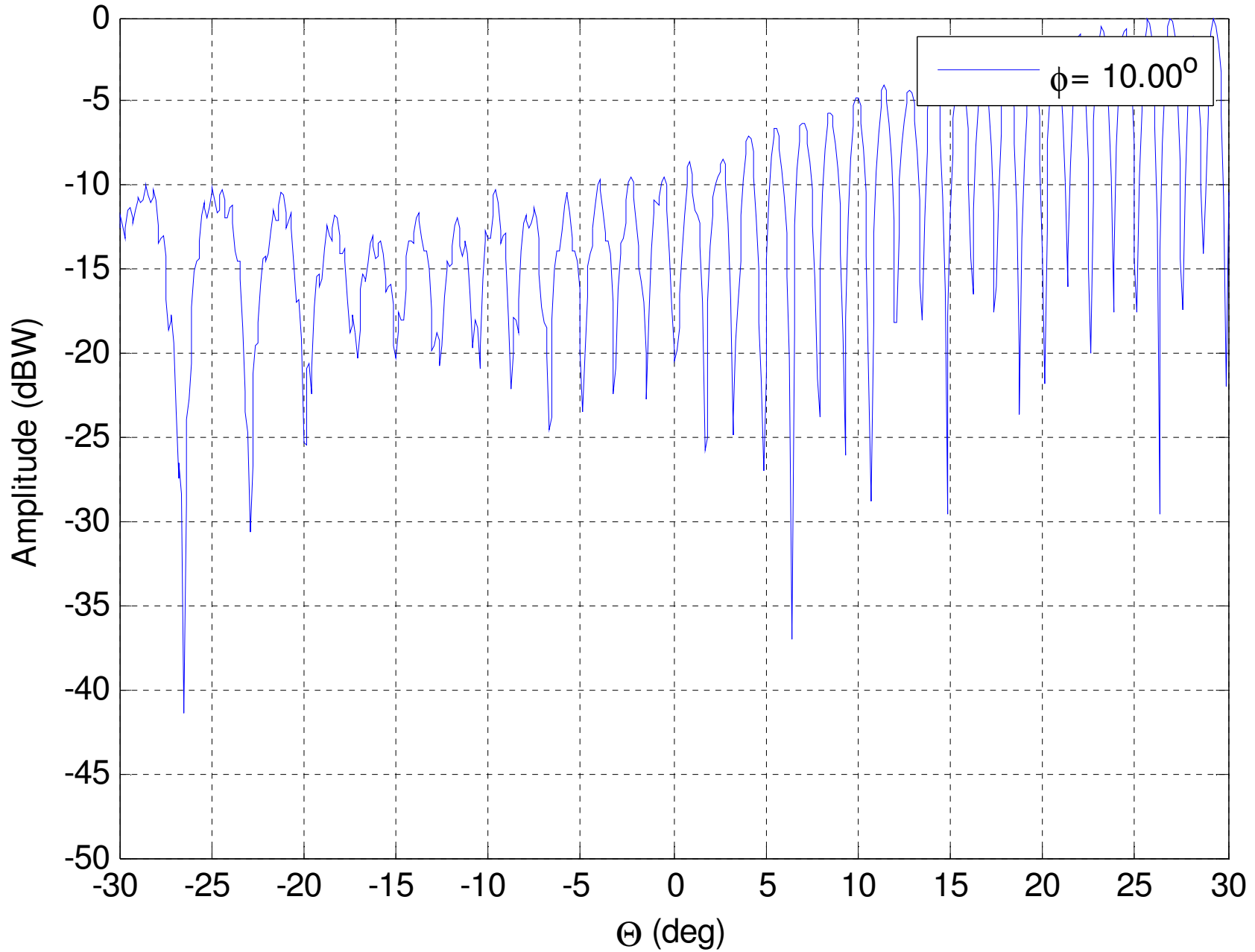
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -7.44 dBW, Date: 16-Dec-2011



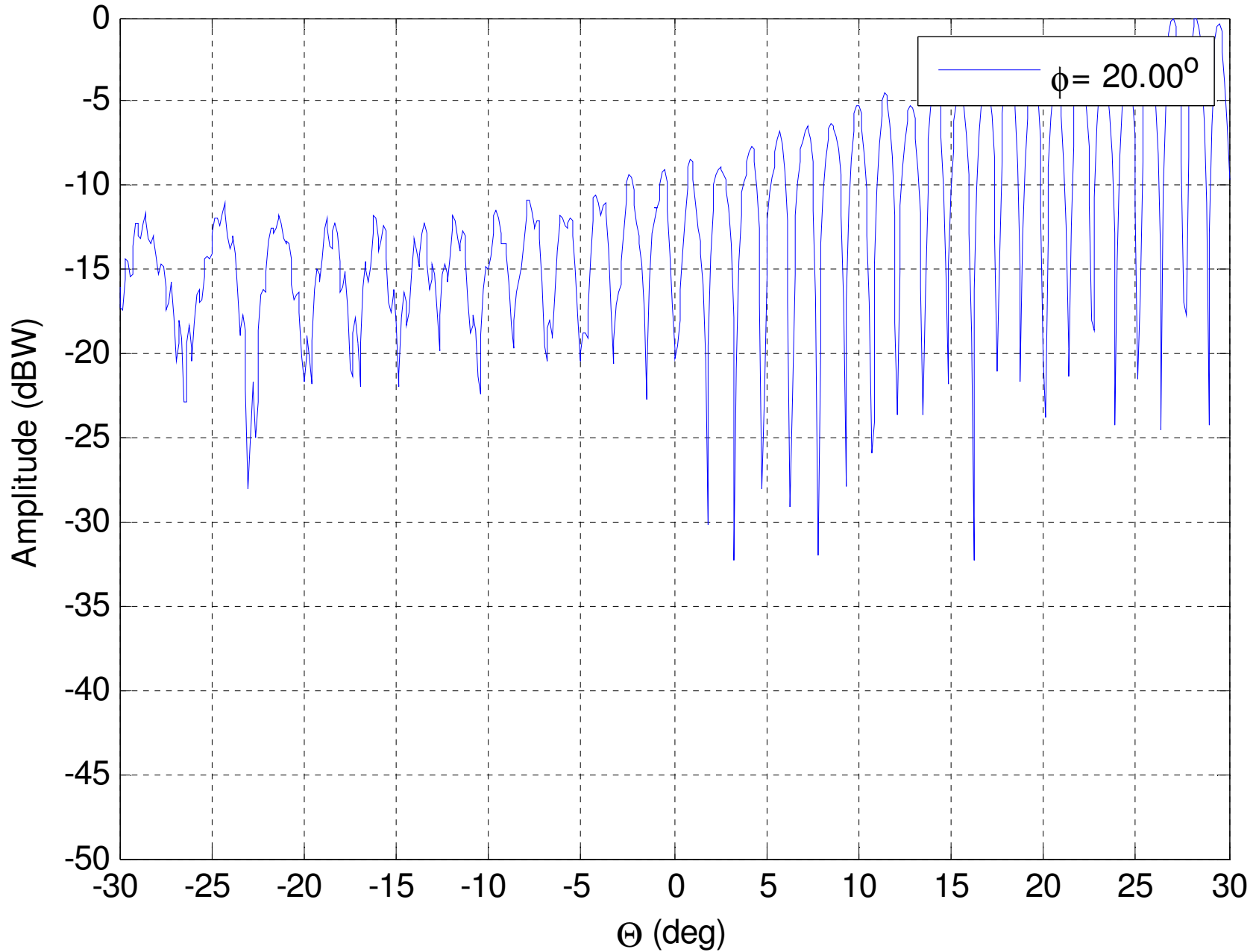
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -8.56 dBW, Date: 16-Dec-2011



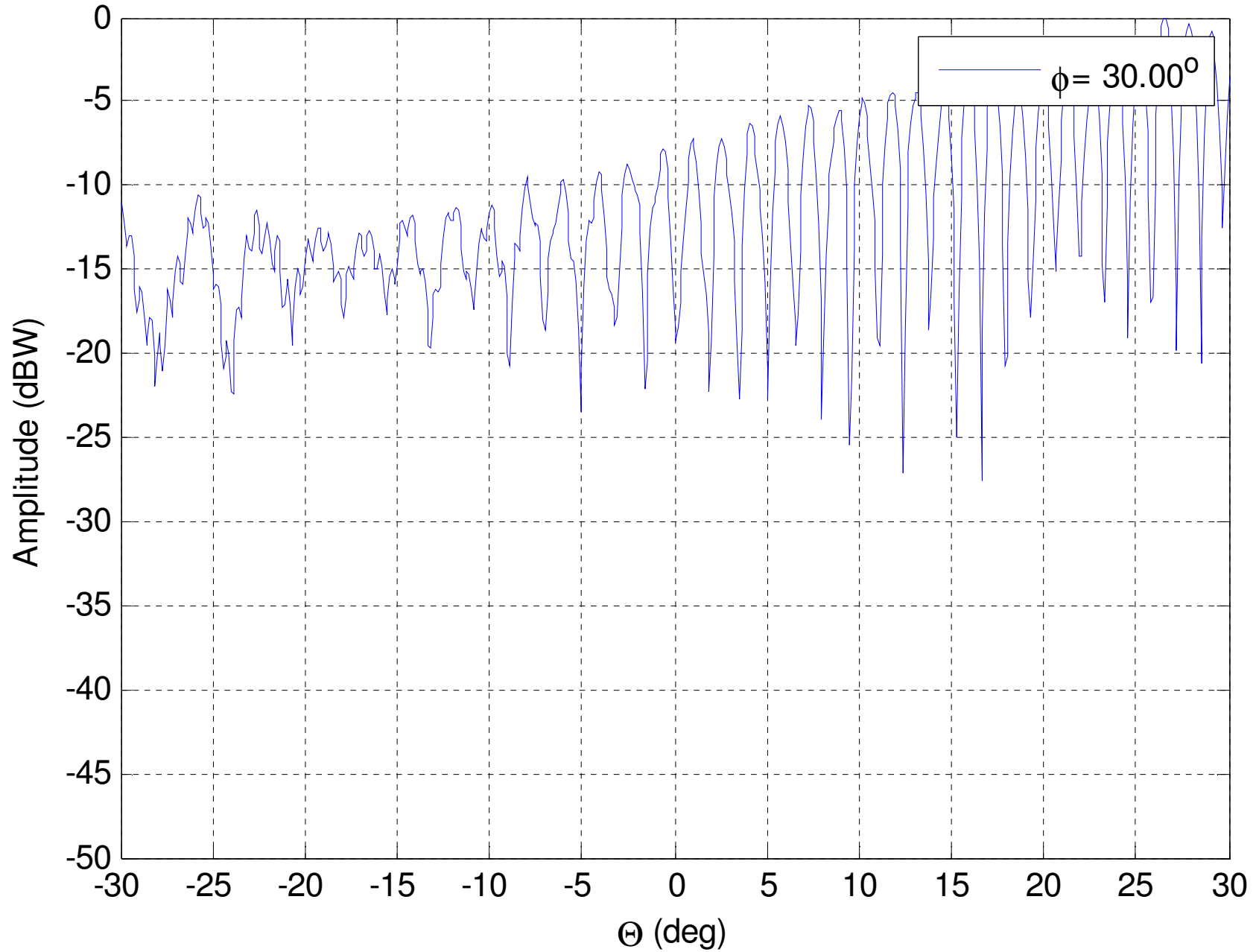
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -8.77 dBW, Date: 16-Dec-2011



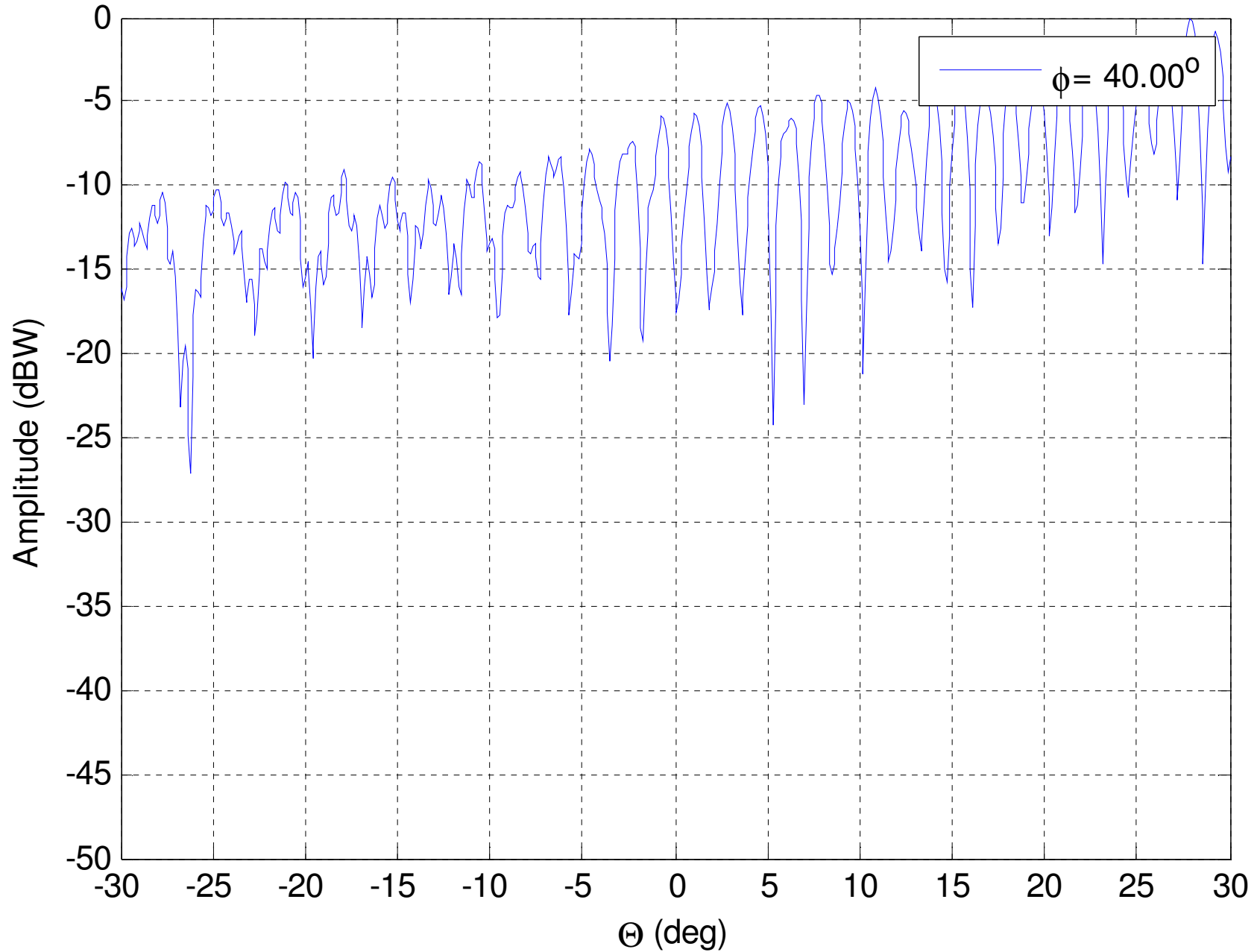
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -9.90 dBW, Date: 16-Dec-2011



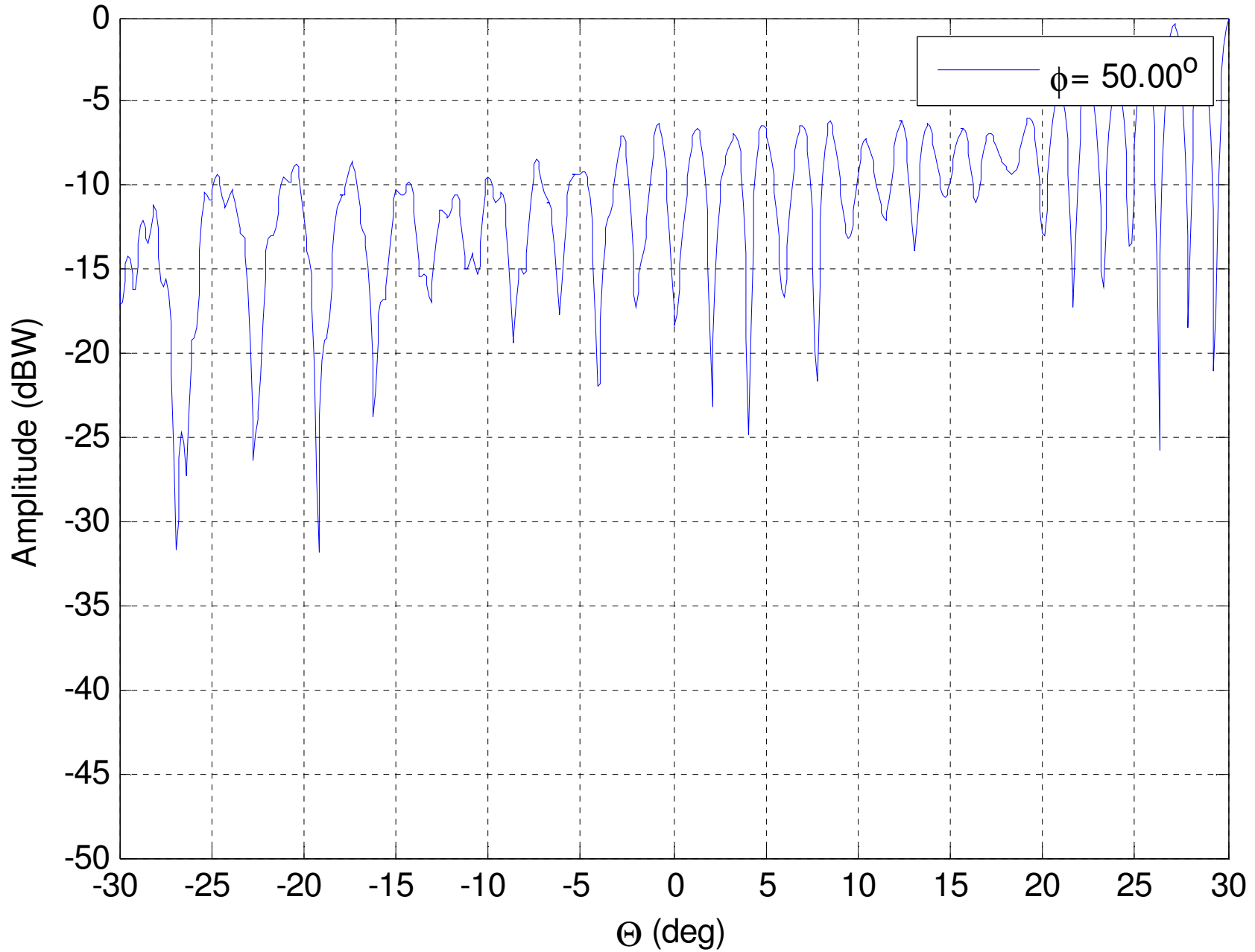
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -11.67 dBW, Date: 16-Dec-2011



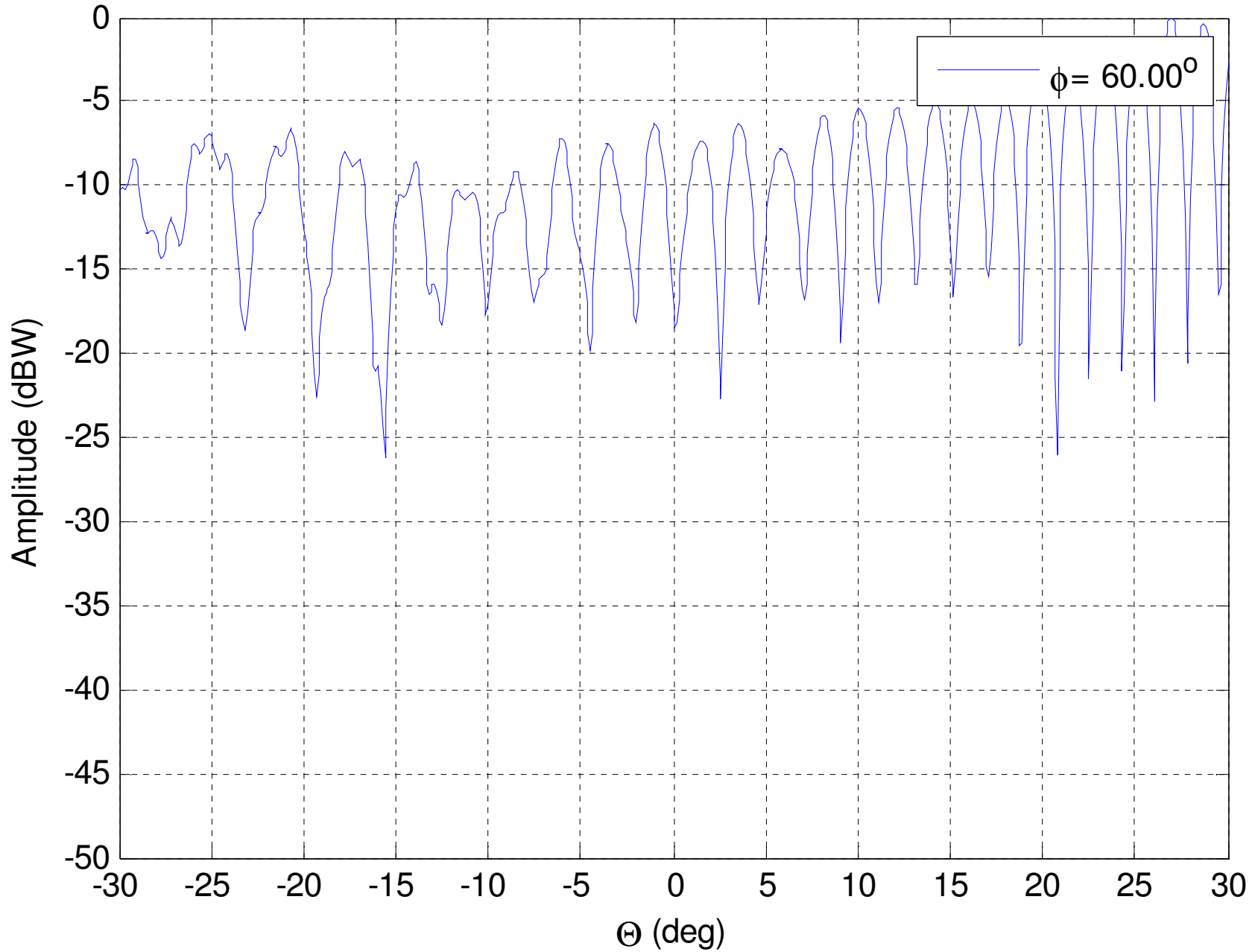
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -11.12 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-60.cut, Peak: -11.07 dBW, Date: 16-Dec-2011

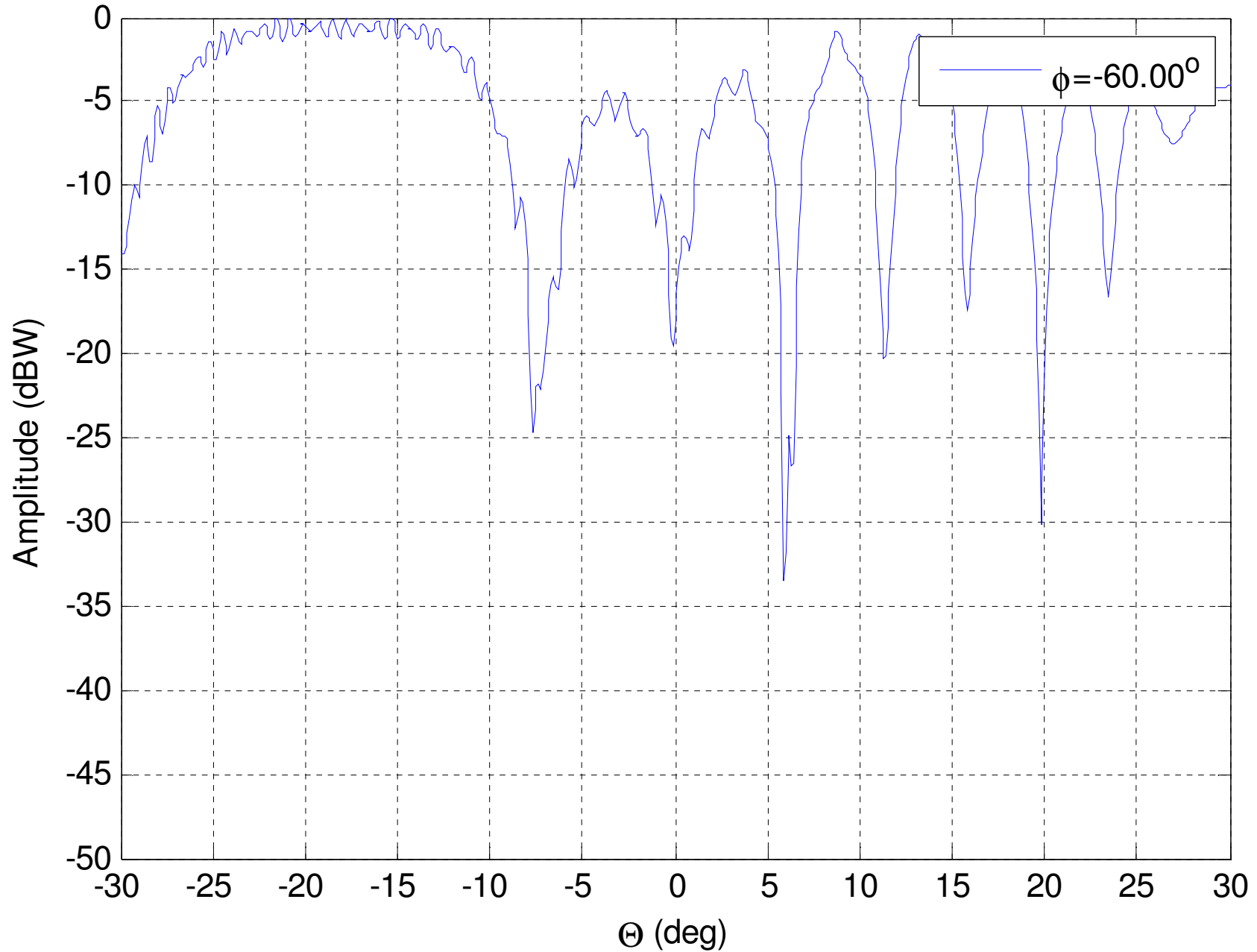


# LHCP at 17.7 GHz



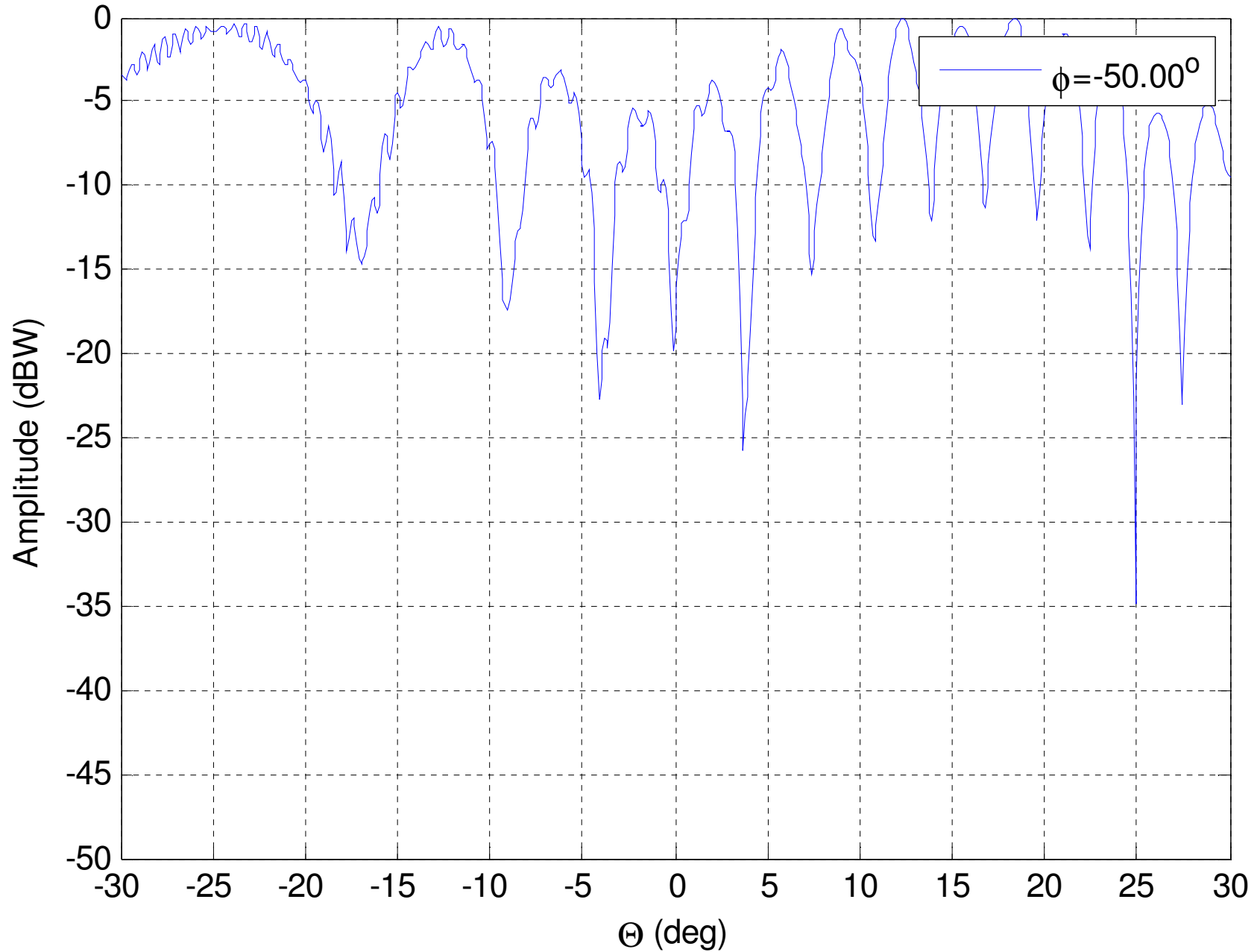
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -13.27 dBW, Date: 16-Dec-2011



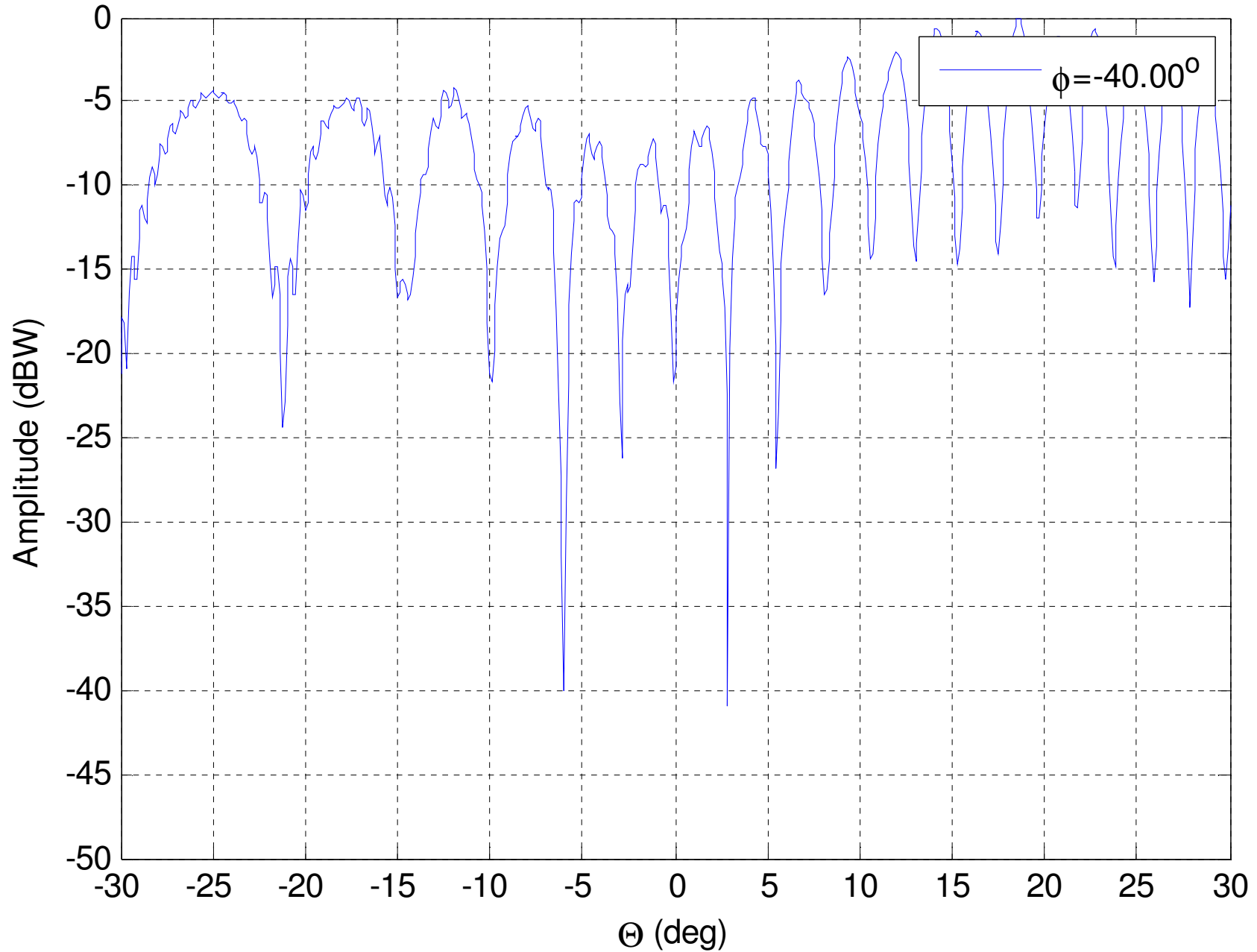
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -12.88 dBW, Date: 16-Dec-2011



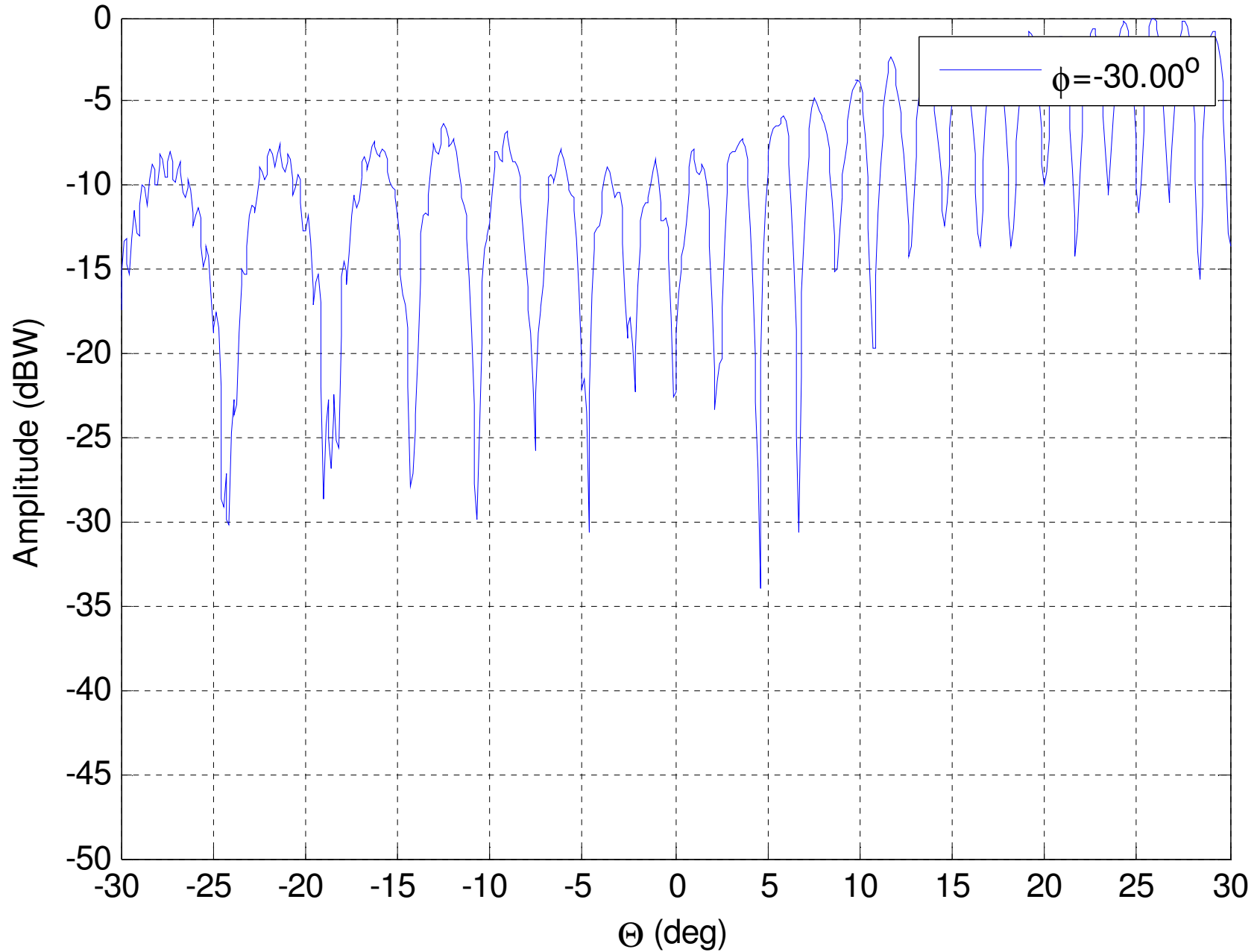
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -10.55 dBW, Date: 16-Dec-2011



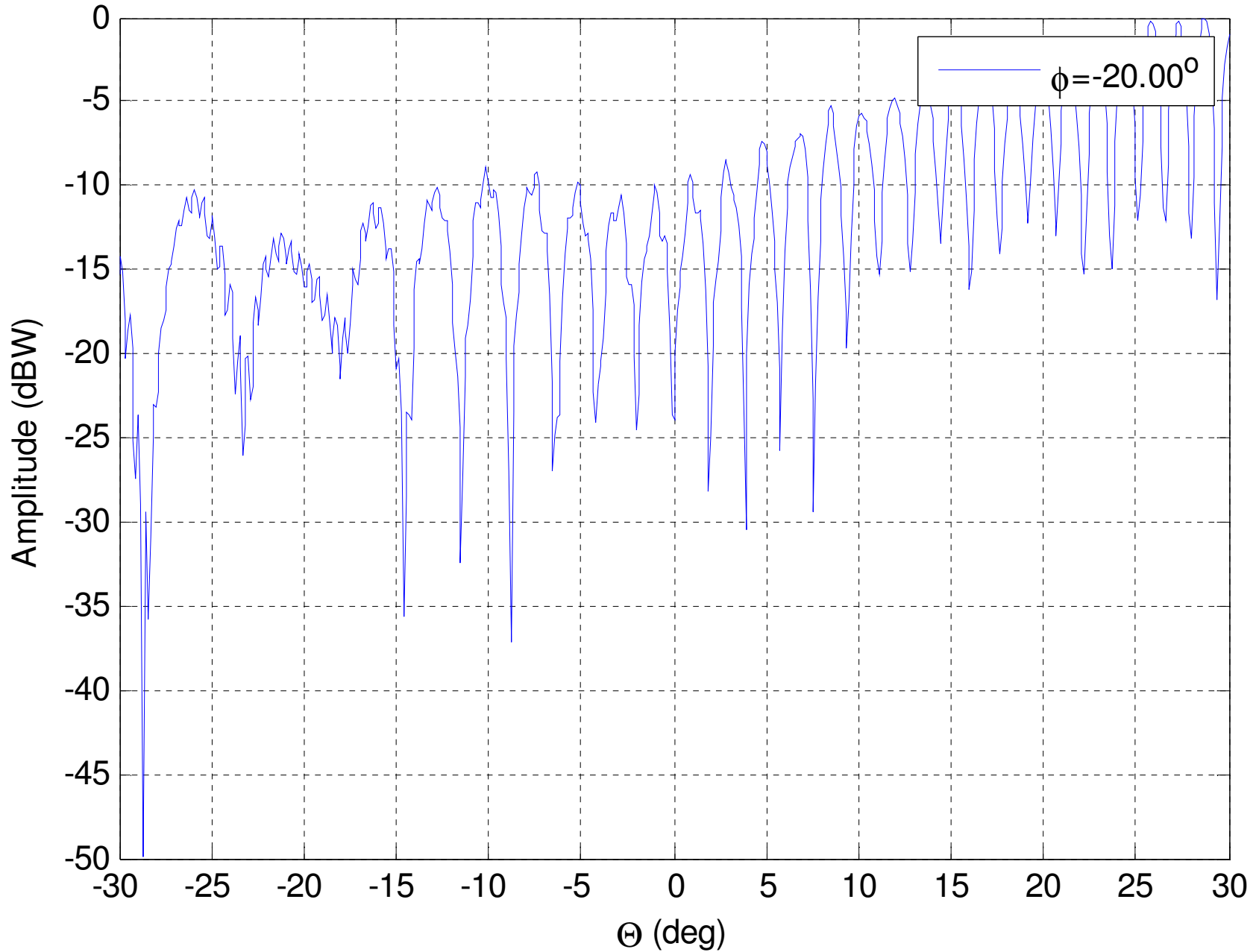
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -9.07 dBW, Date: 16-Dec-2011



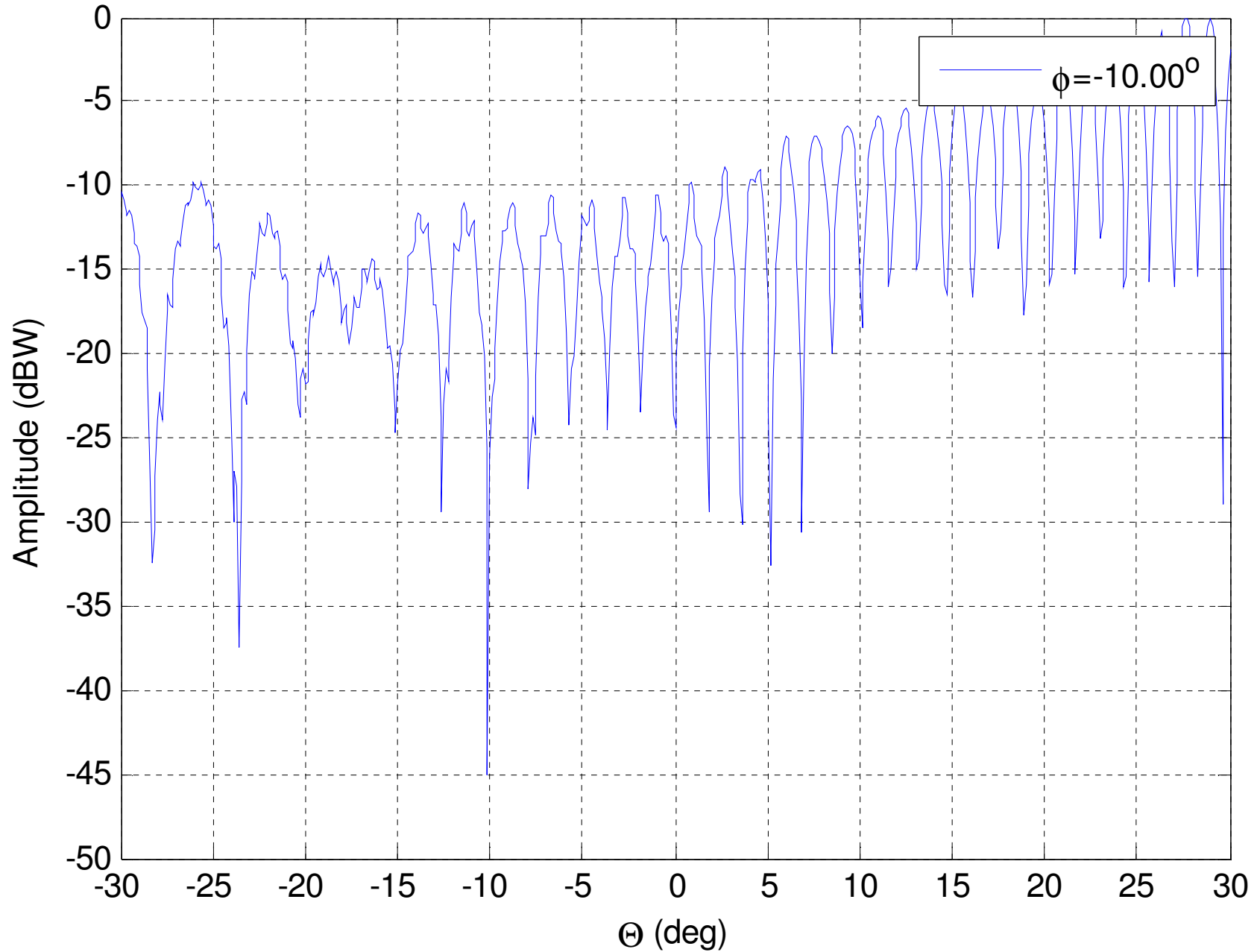
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -7.40 dBW, Date: 16-Dec-2011



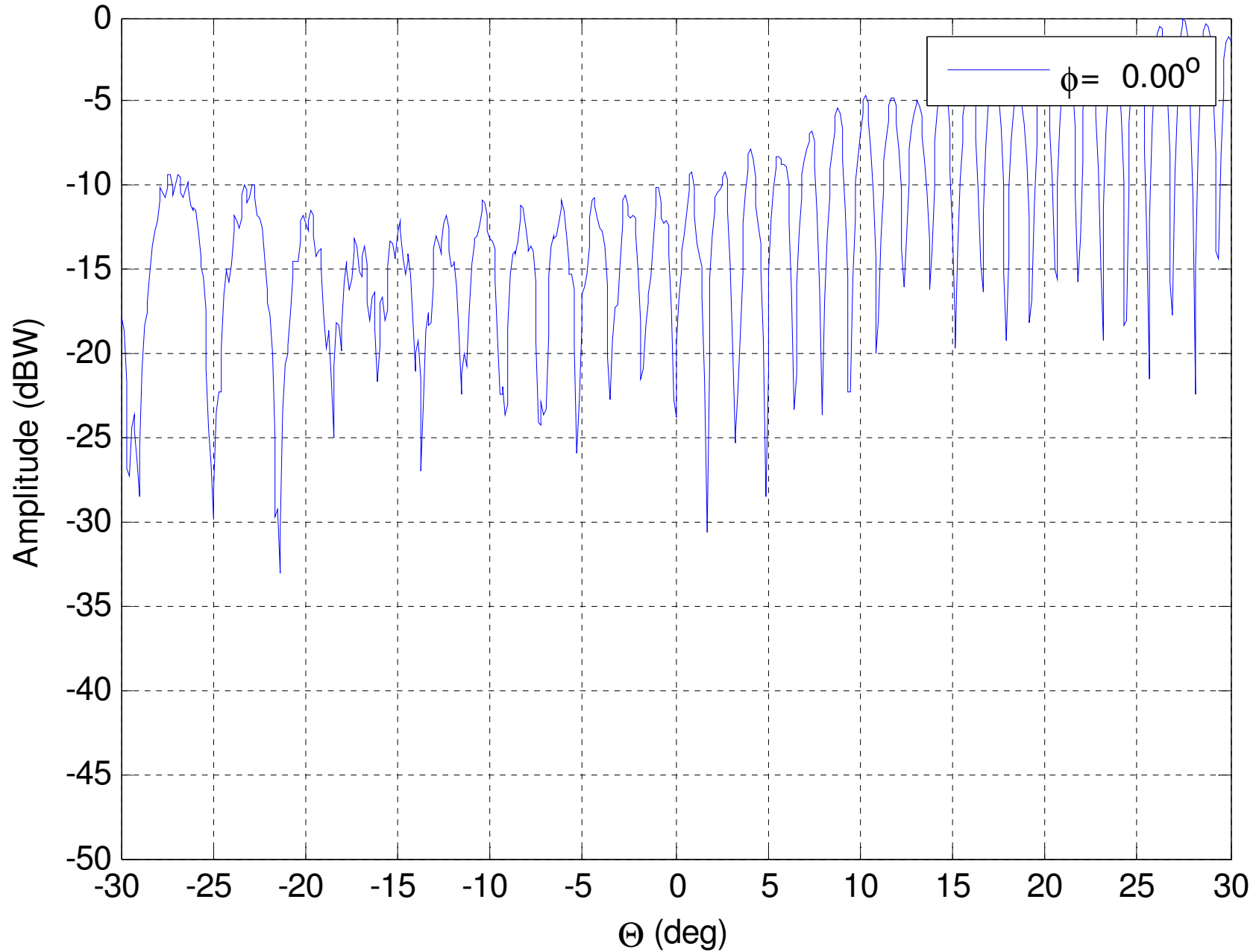
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -6.95 dBW, Date: 16-Dec-2011



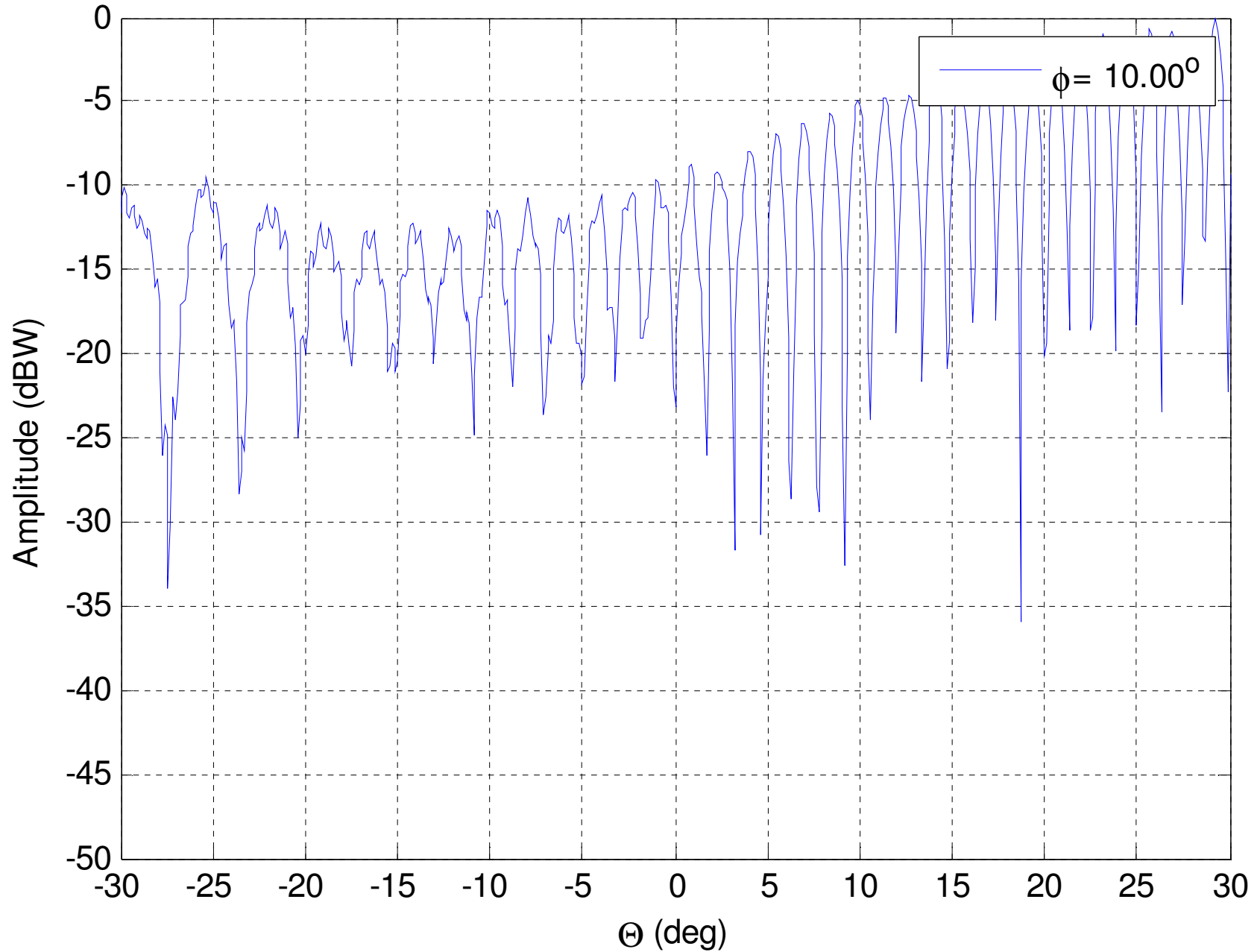
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -7.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

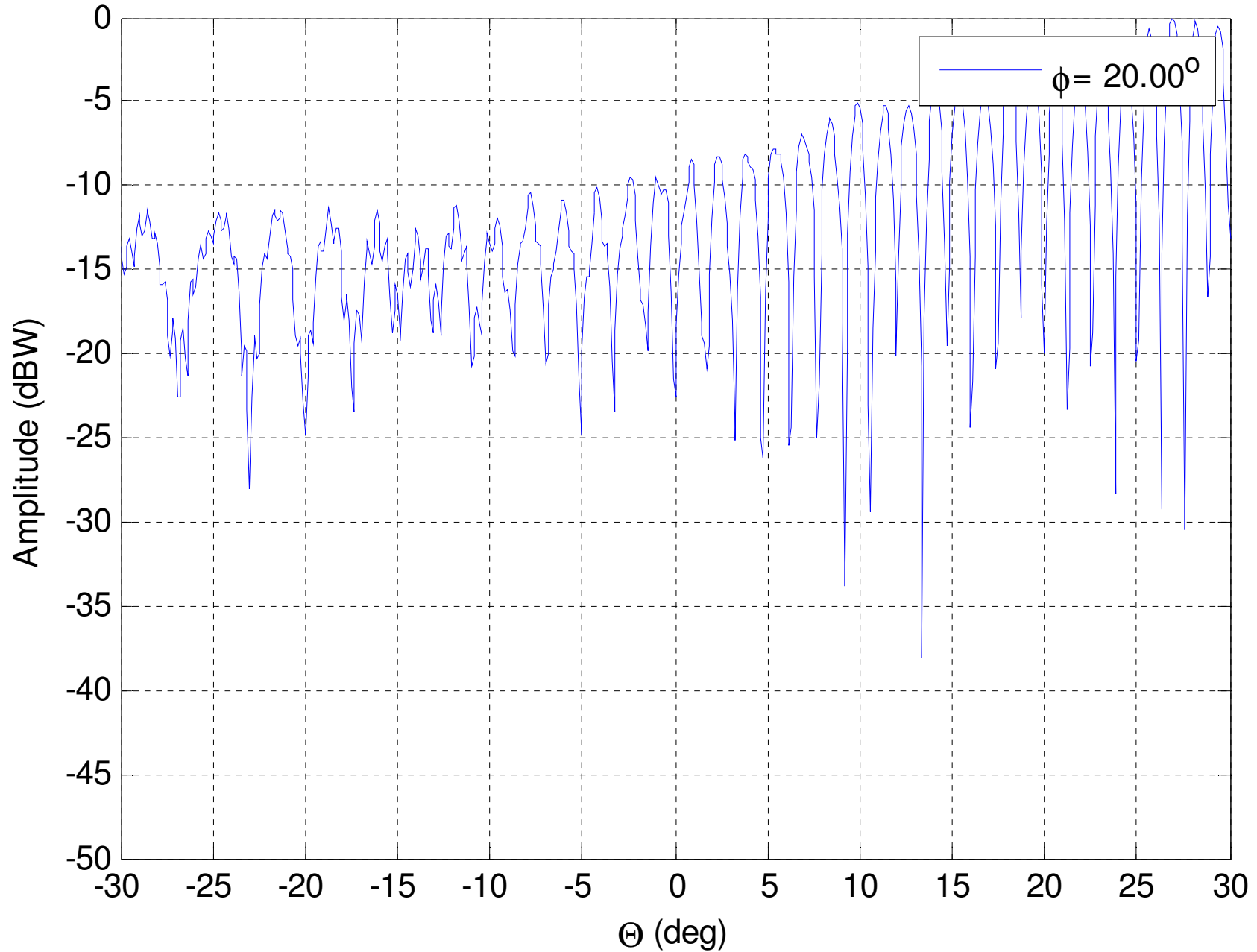
Input file: tx-17.7-lhcp-10.cut, Peak: -8.15 dBW, Date: 16-Dec-2011





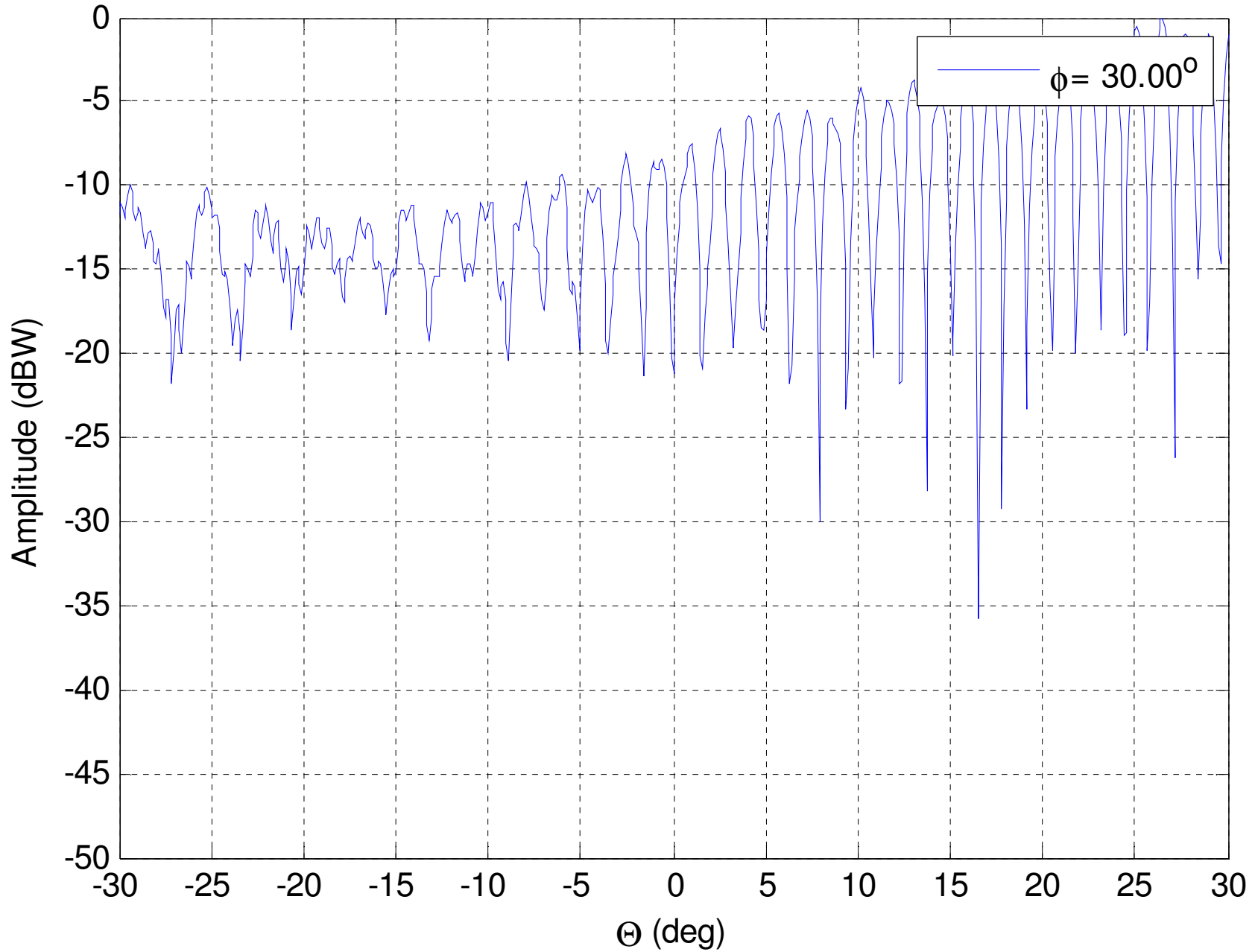
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -8.67 dBW, Date: 16-Dec-2011



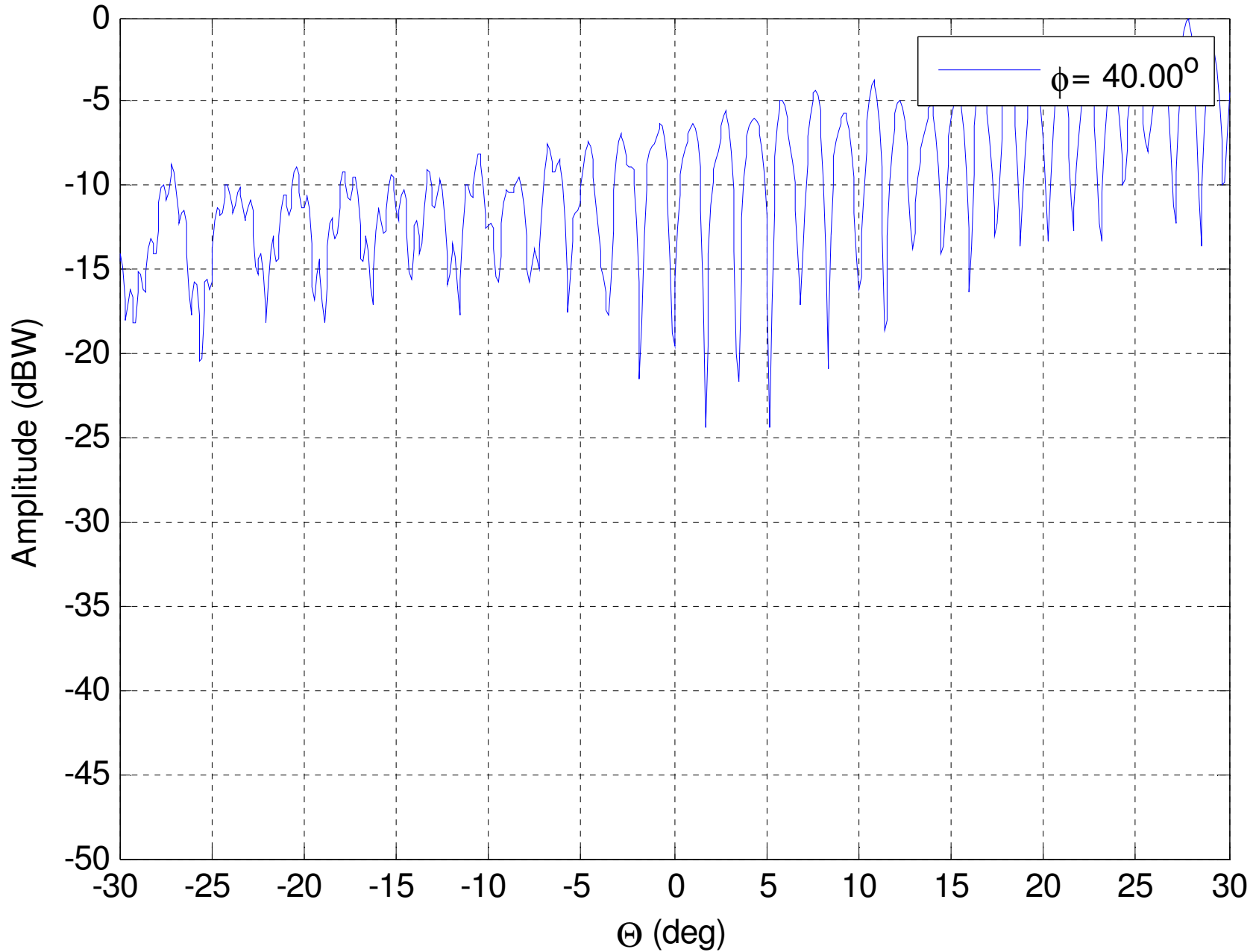
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -10.04 dBW, Date: 16-Dec-2011



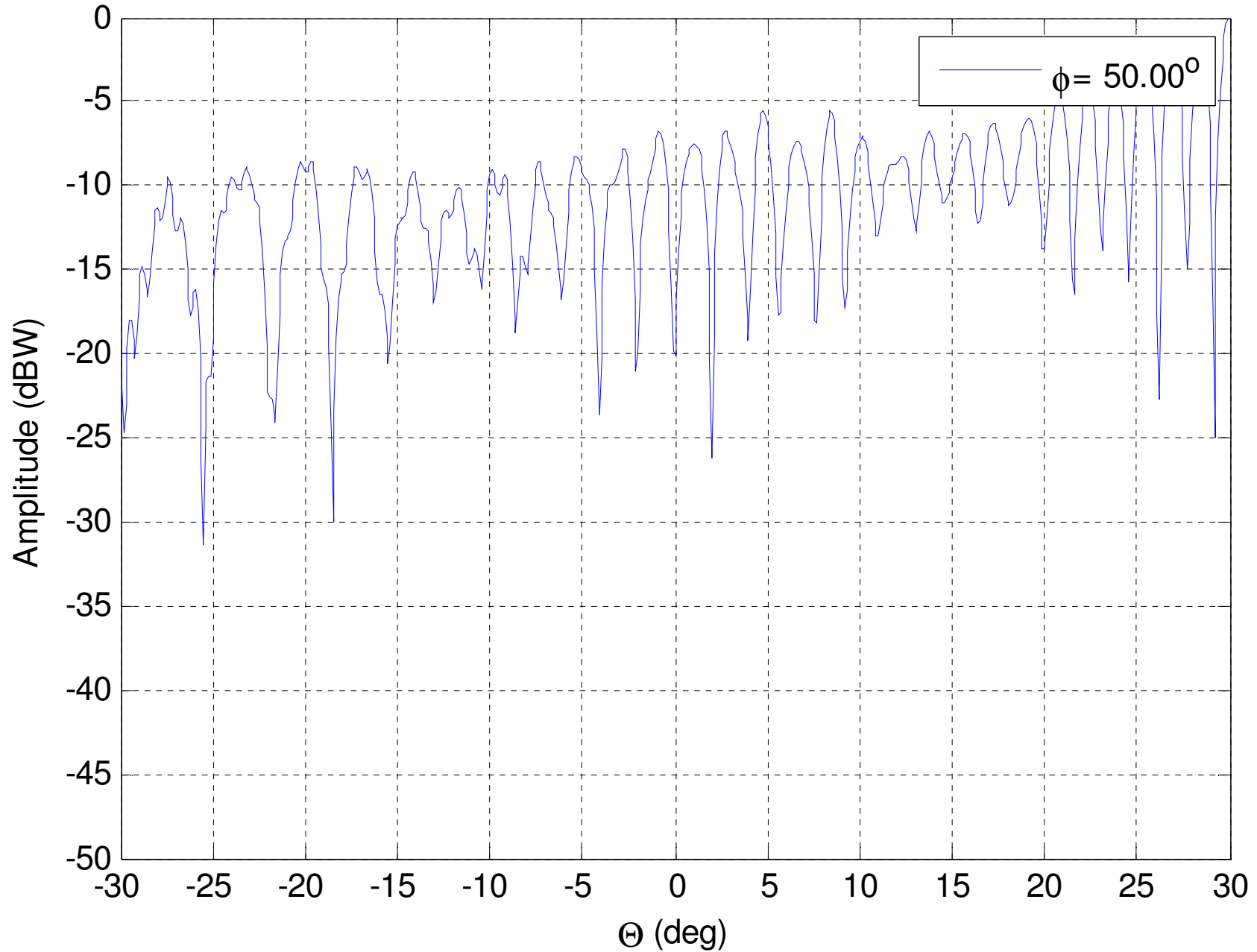
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -11.84 dBW, Date: 16-Dec-2011



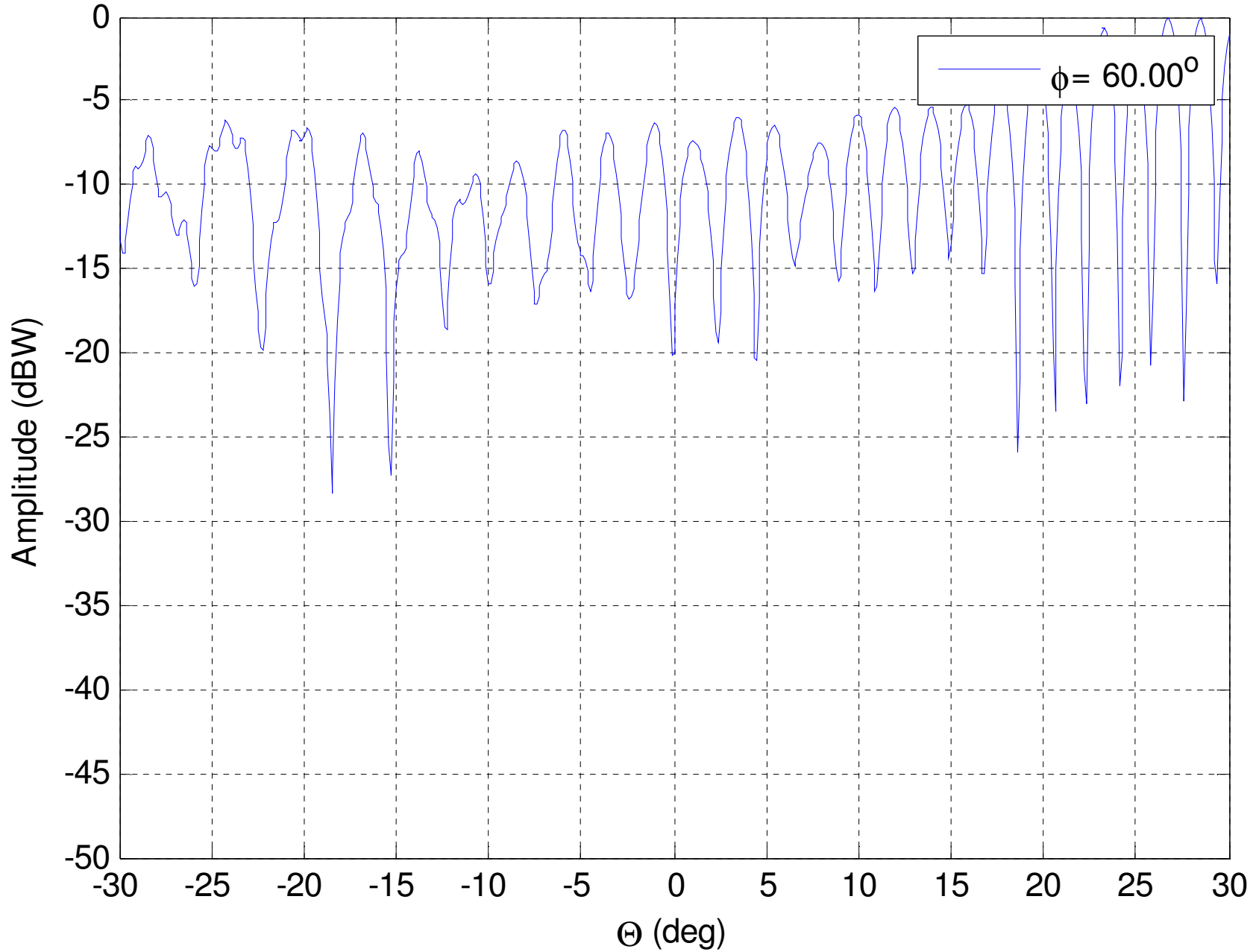
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -11.12 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -11.28 dBW, Date: 16-Dec-2011



December 13, 2011

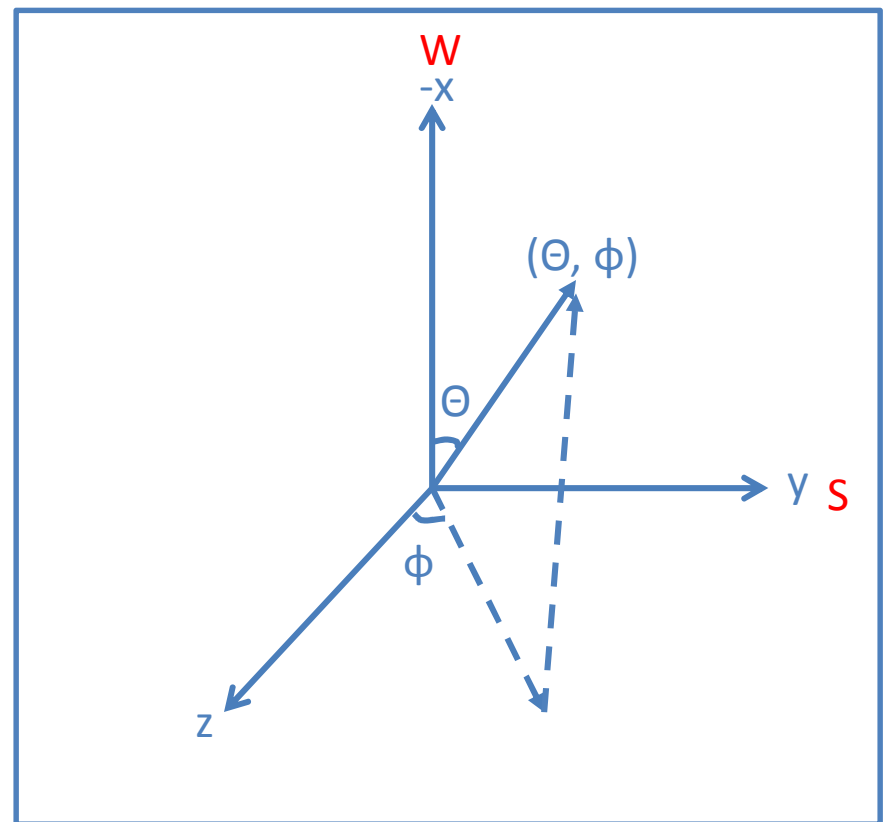
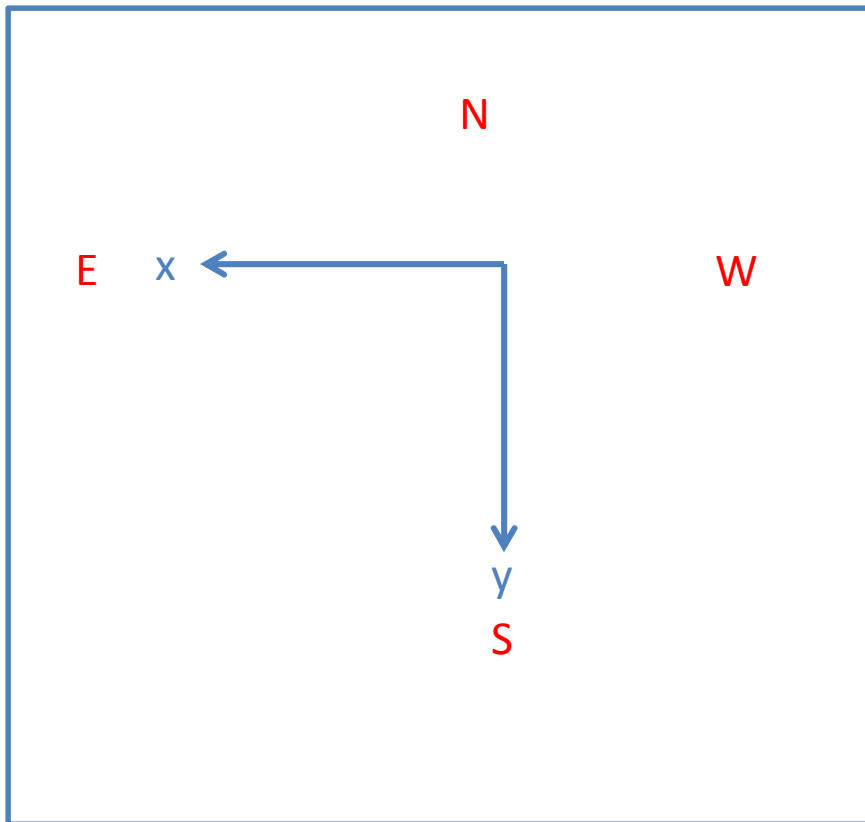
Updated: May 15, 2012

# 119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 50

## Maximum Allowable EIRP to meet the -117dBW/m<sup>2</sup>/100 kHz

| Maximum EIRP Allowed                                 |         |
|--|---------|
| Spec Max flux density, dBW/m <sup>2</sup> /100kHz    | -117    |
| Desired channel band width, MHz                      | 25.8    |
| Symbol rate band width modification factor           | 1       |
| Effective channel bandwidth, MHz                     | 25.8    |
| Effective bandwidth, dB-100kHz                       | 24.1    |
| Flux density allowed per channel, dBW/m <sup>2</sup> | -92.9   |
| R, radial distance to GEO, km                        | 42164.0 |
| Angle of separation between satellites, deg          | 0.1     |
| range between satellites, km                         | 73.59   |
| Spreading factor, dB/m <sup>2</sup>                  | -108.3  |
| Atmospheric loss, dB                                 | 0       |
| Max satellite EIRP allowed, dBW                      | 15.4    |

# Coordinate System





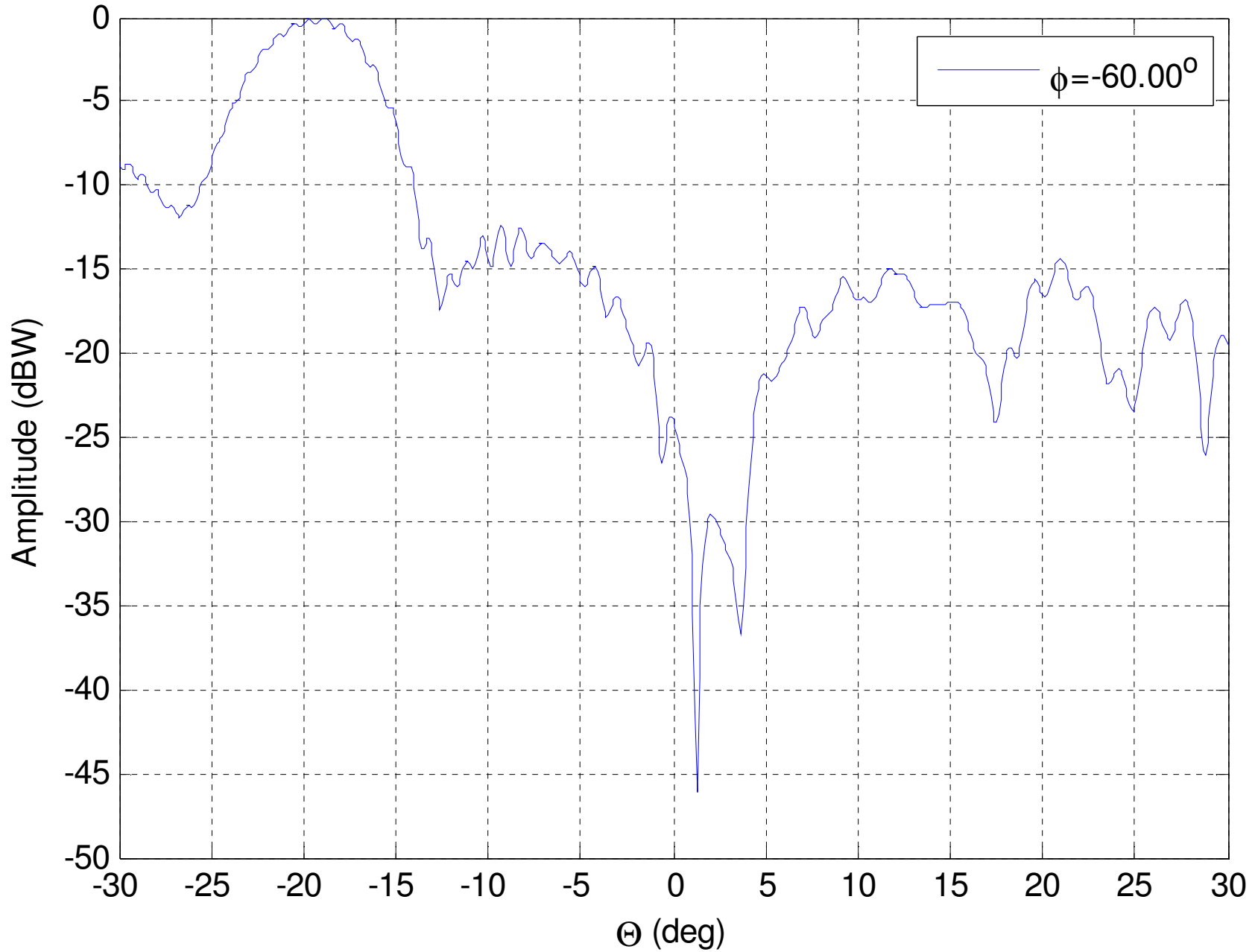
# Spot Beam50, -X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

**RHCP at 17.3 GHz**

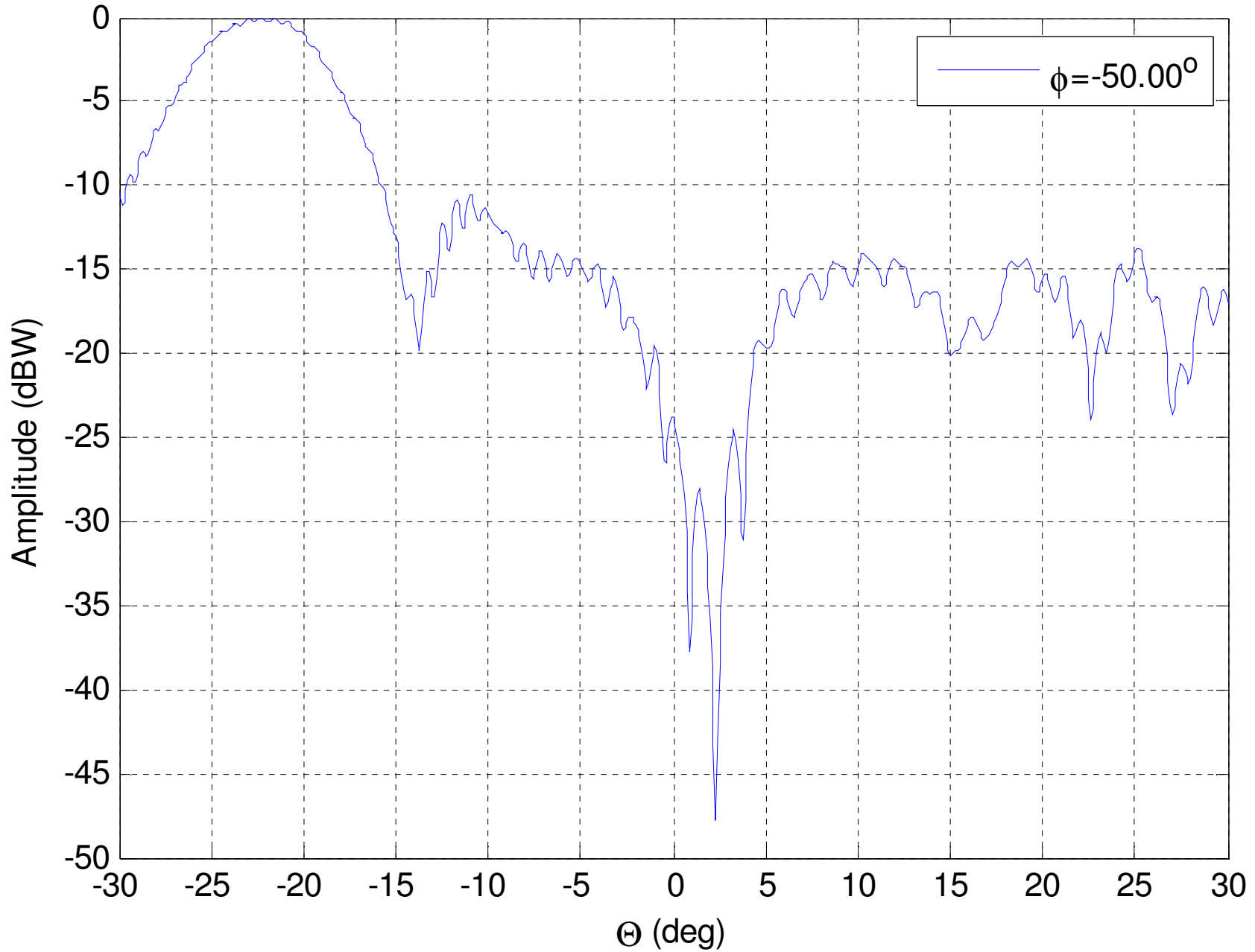
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -3.78 dBW, Date: 16-Dec-2011



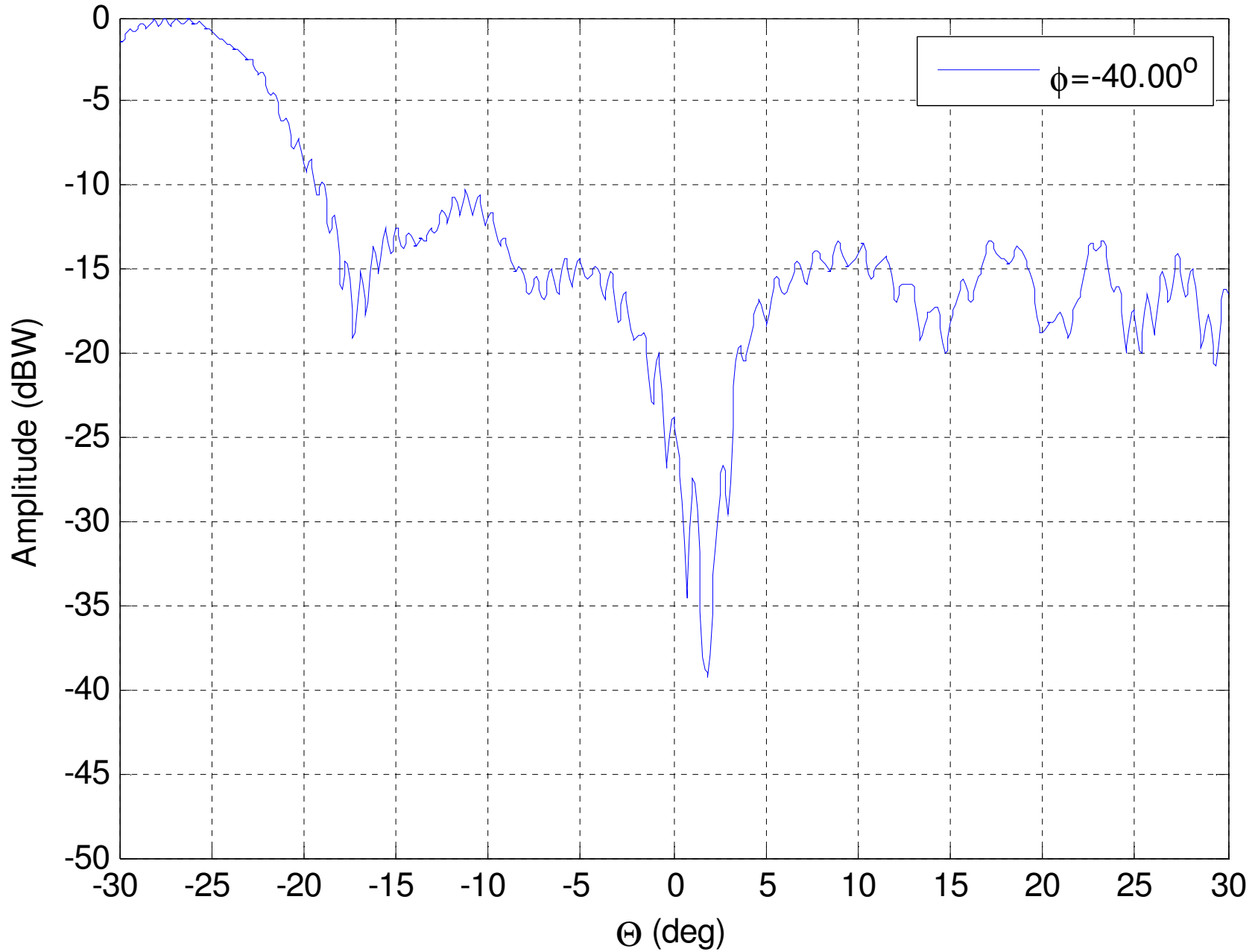
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -3.93 dBW, Date: 16-Dec-2011



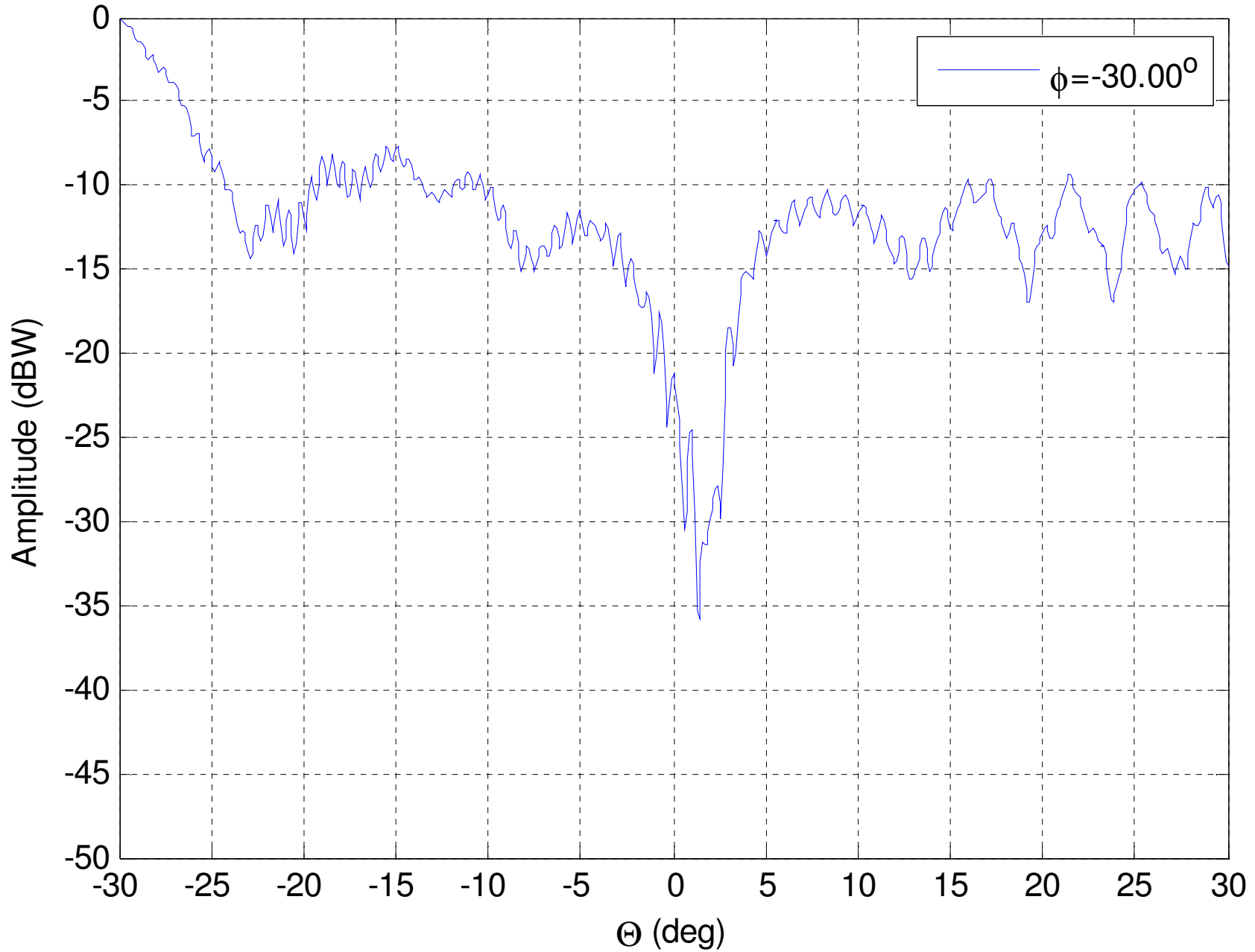
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -3.84 dBW, Date: 16-Dec-2011



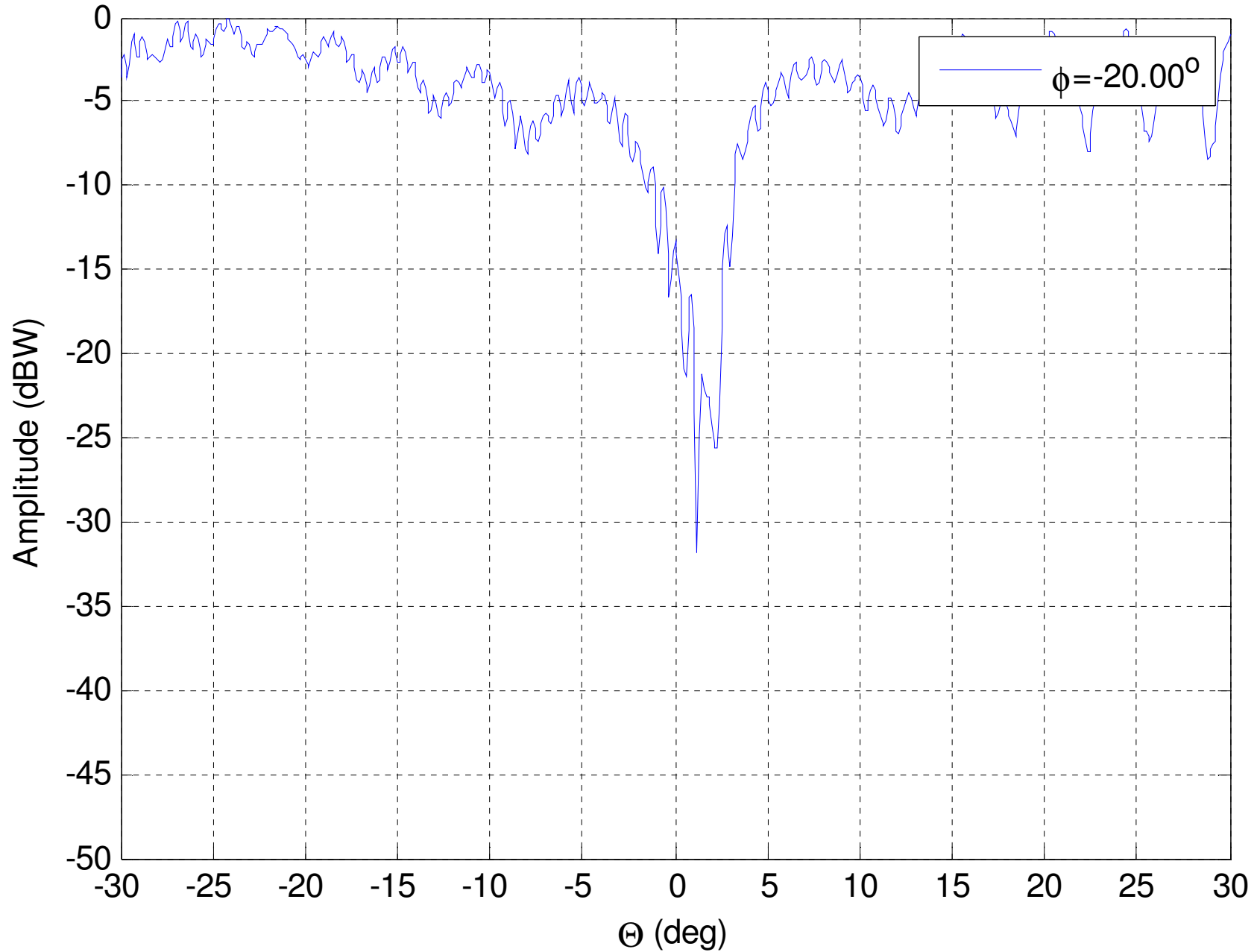
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -6.55 dBW, Date: 16-Dec-2011



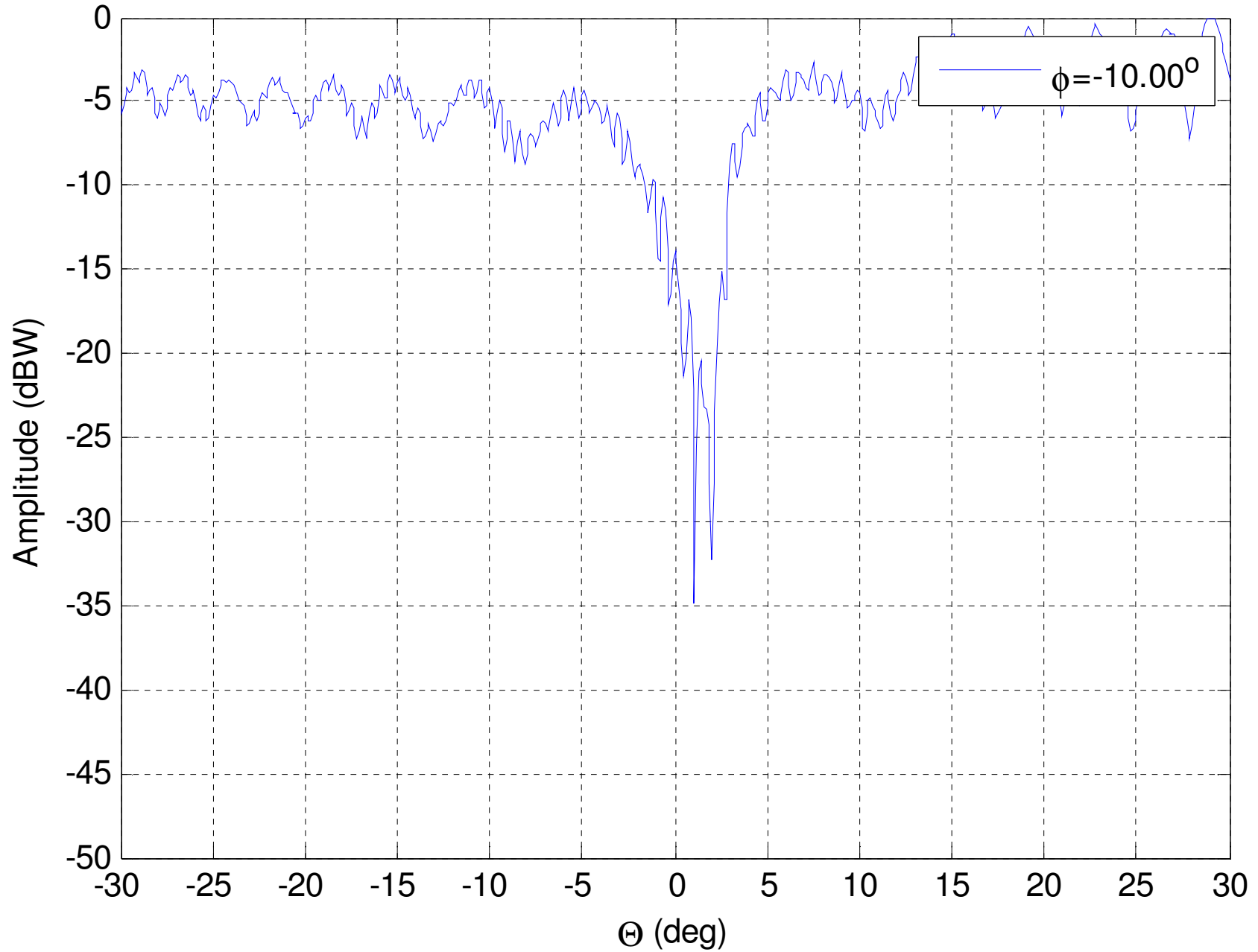
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -14.34 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

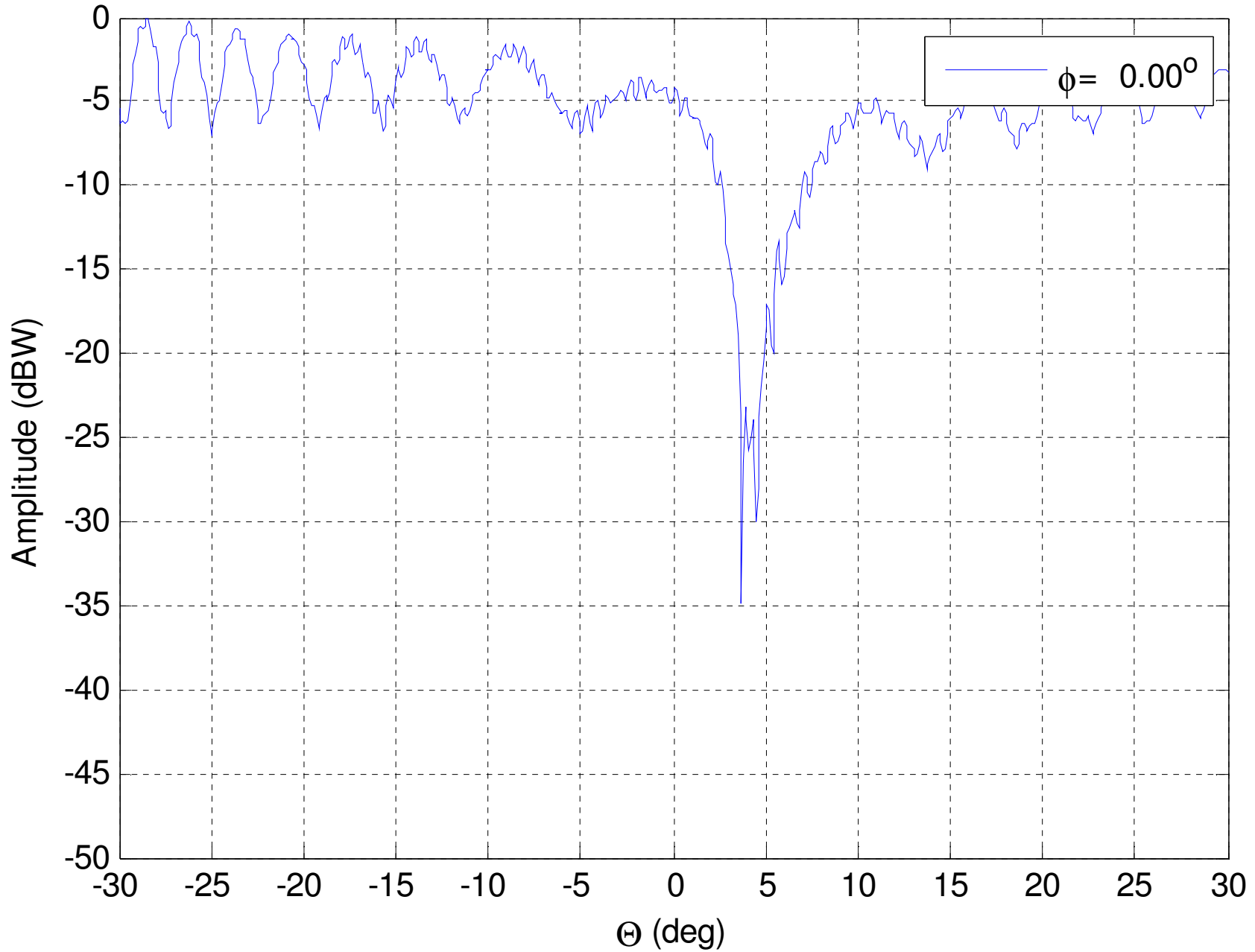
Input file: tx-17.3-rhcp--10.cut, Peak: -13.79 dBW, Date: 16-Dec-2011





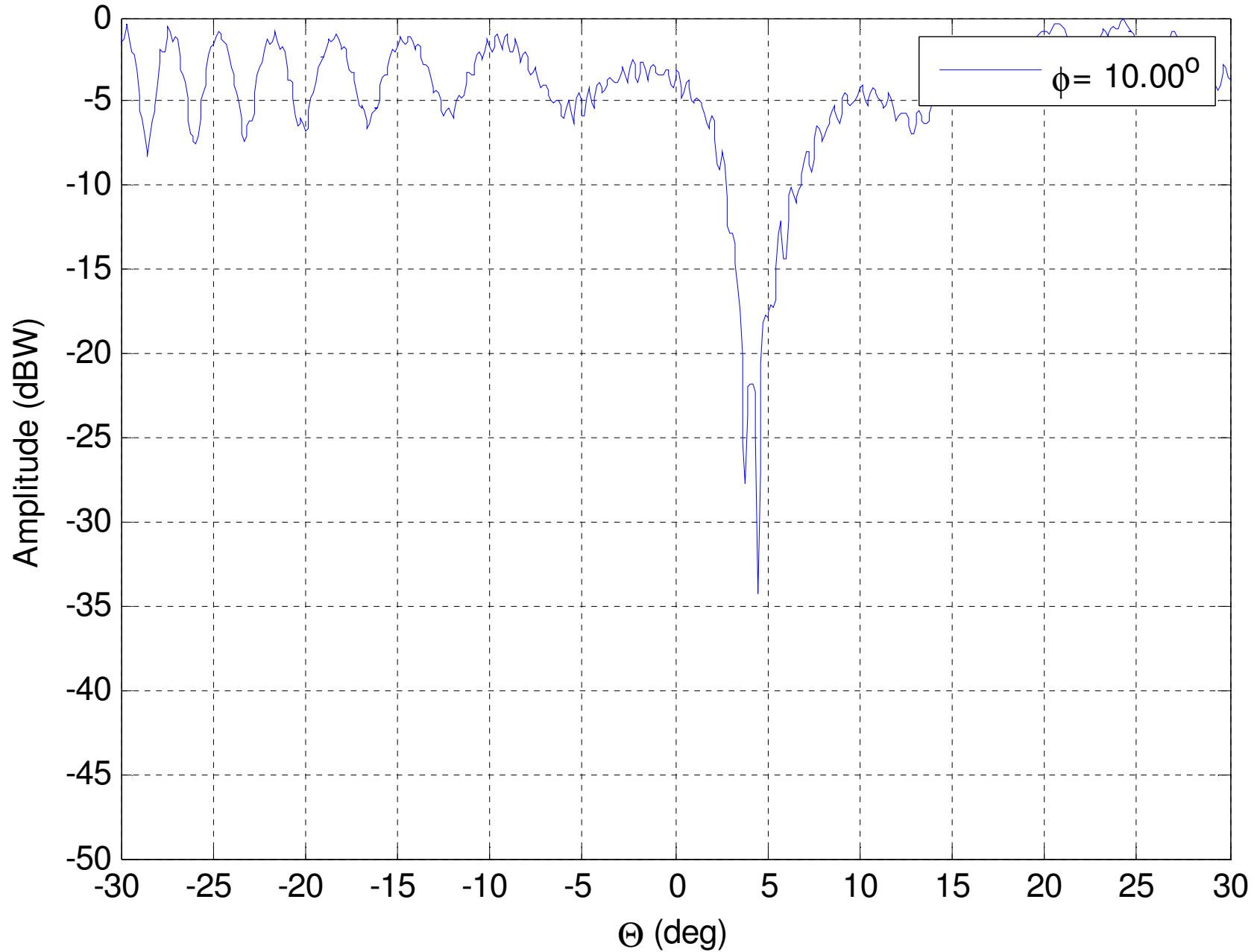
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -13.33 dBW, Date: 16-Dec-2011



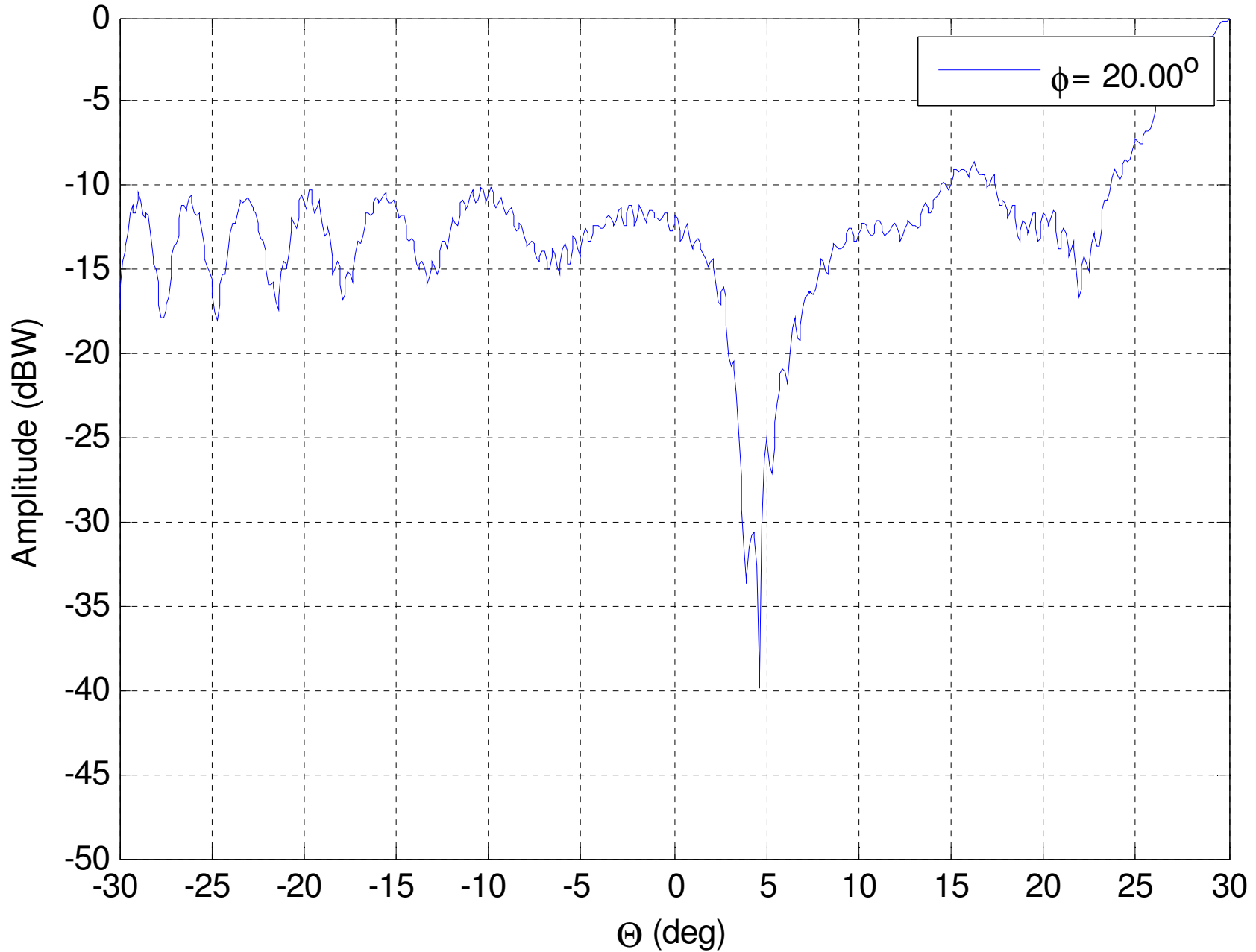
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -14.31 dBW, Date: 16-Dec-2011



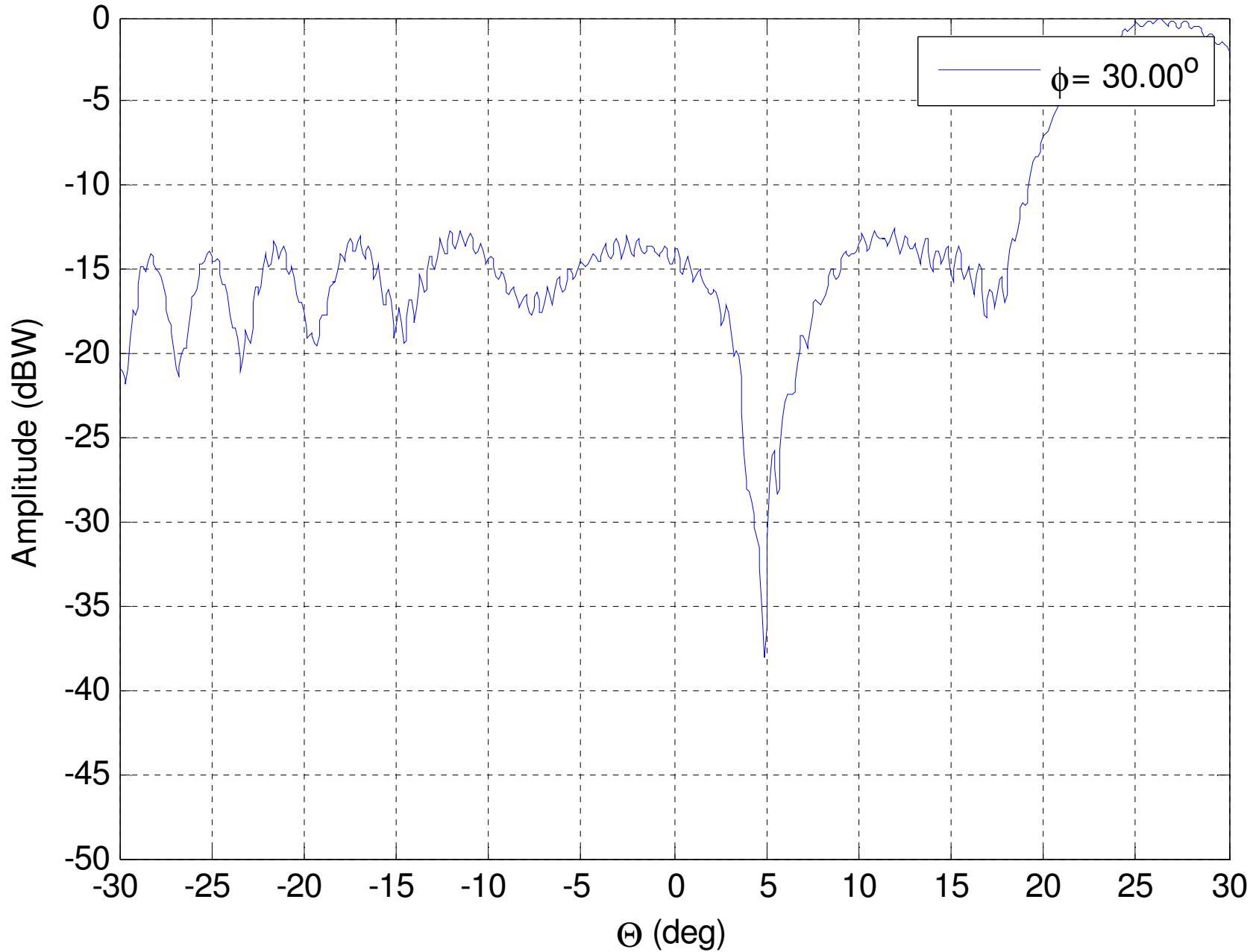
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -5.73 dBW, Date: 16-Dec-2011



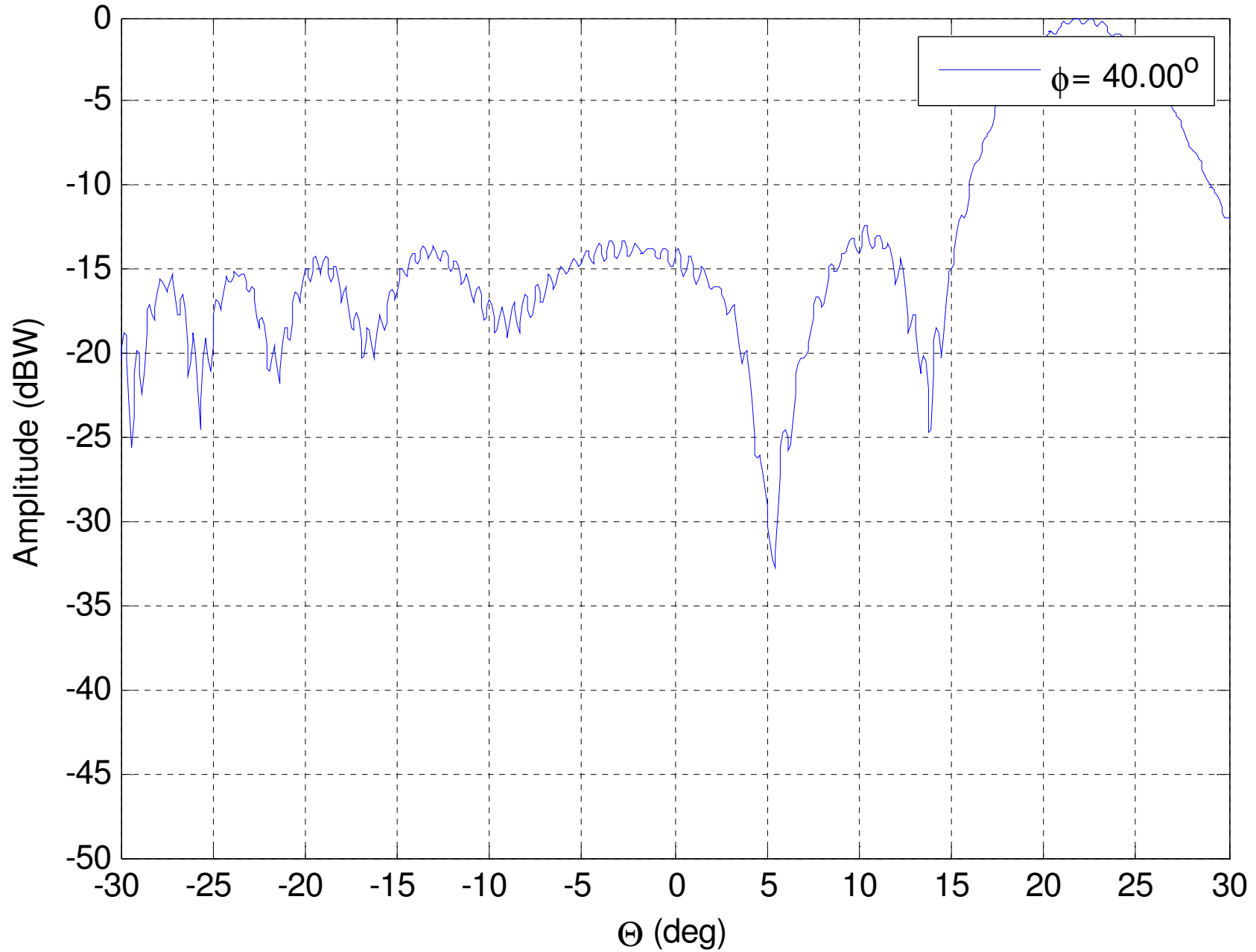
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -3.75 dBW, Date: 16-Dec-2011



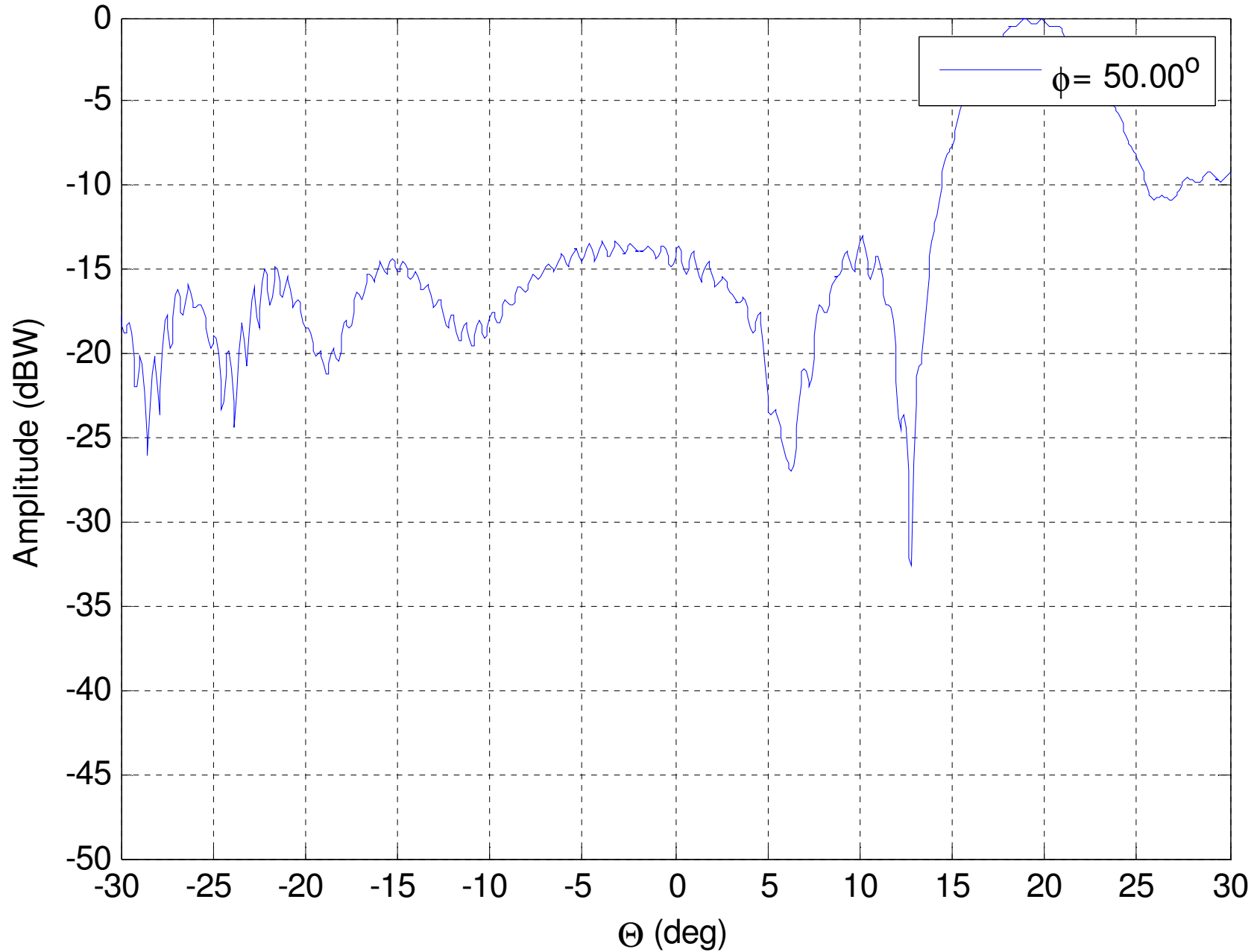
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -3.65 dBW, Date: 16-Dec-2011



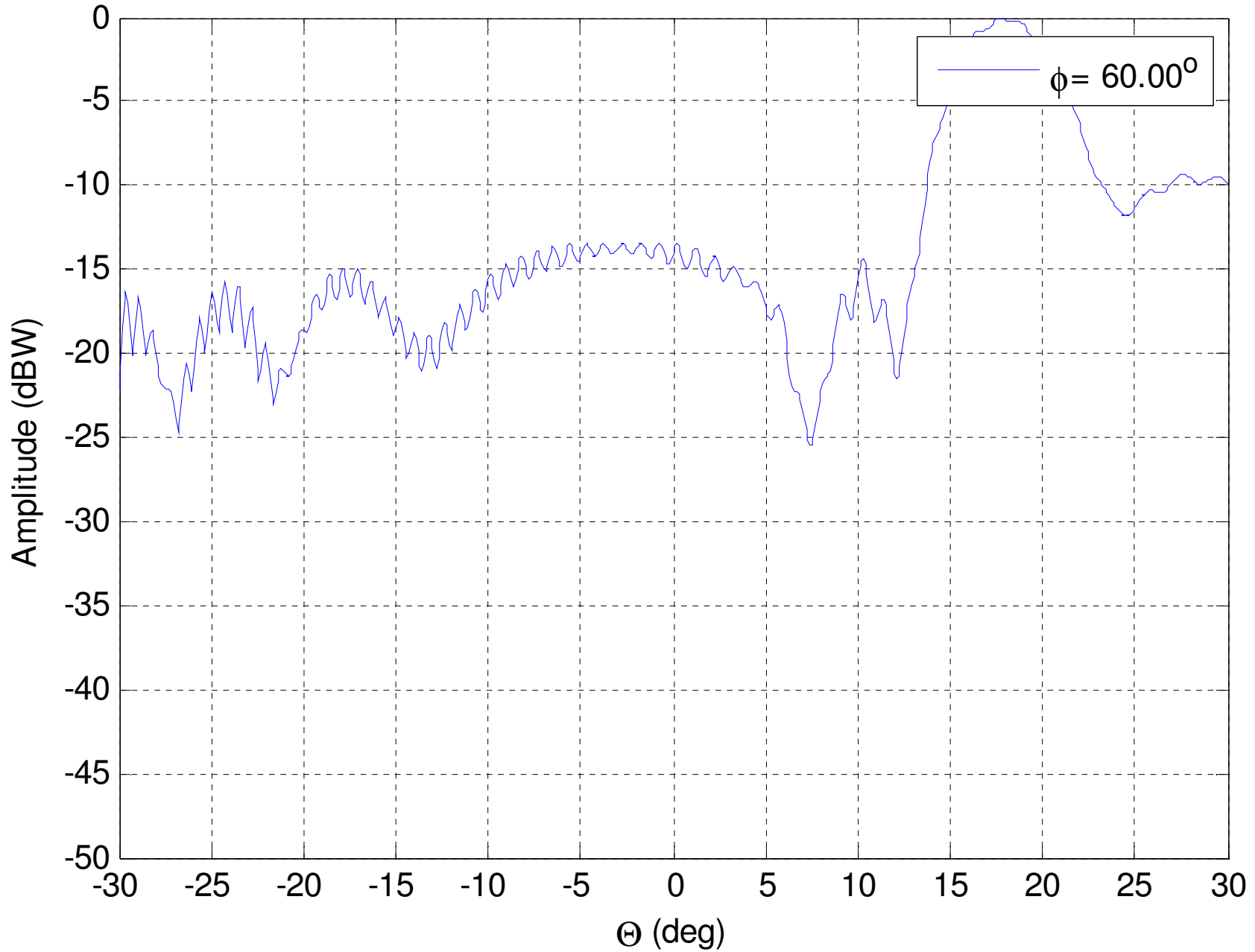
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -3.78 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-60.cut, Peak: -3.94 dBW, Date: 16-Dec-2011

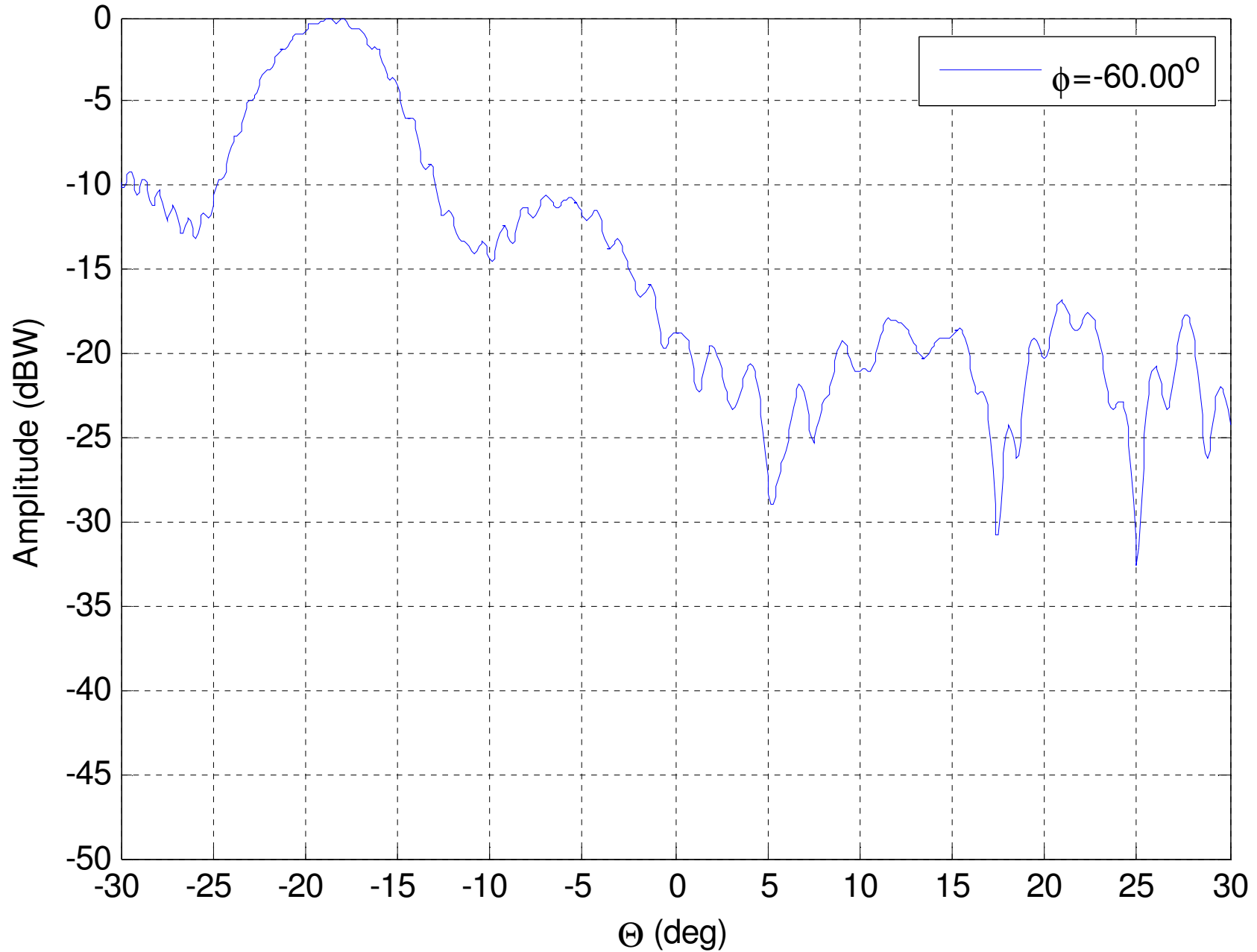


# LHCP at 17.3 GHz



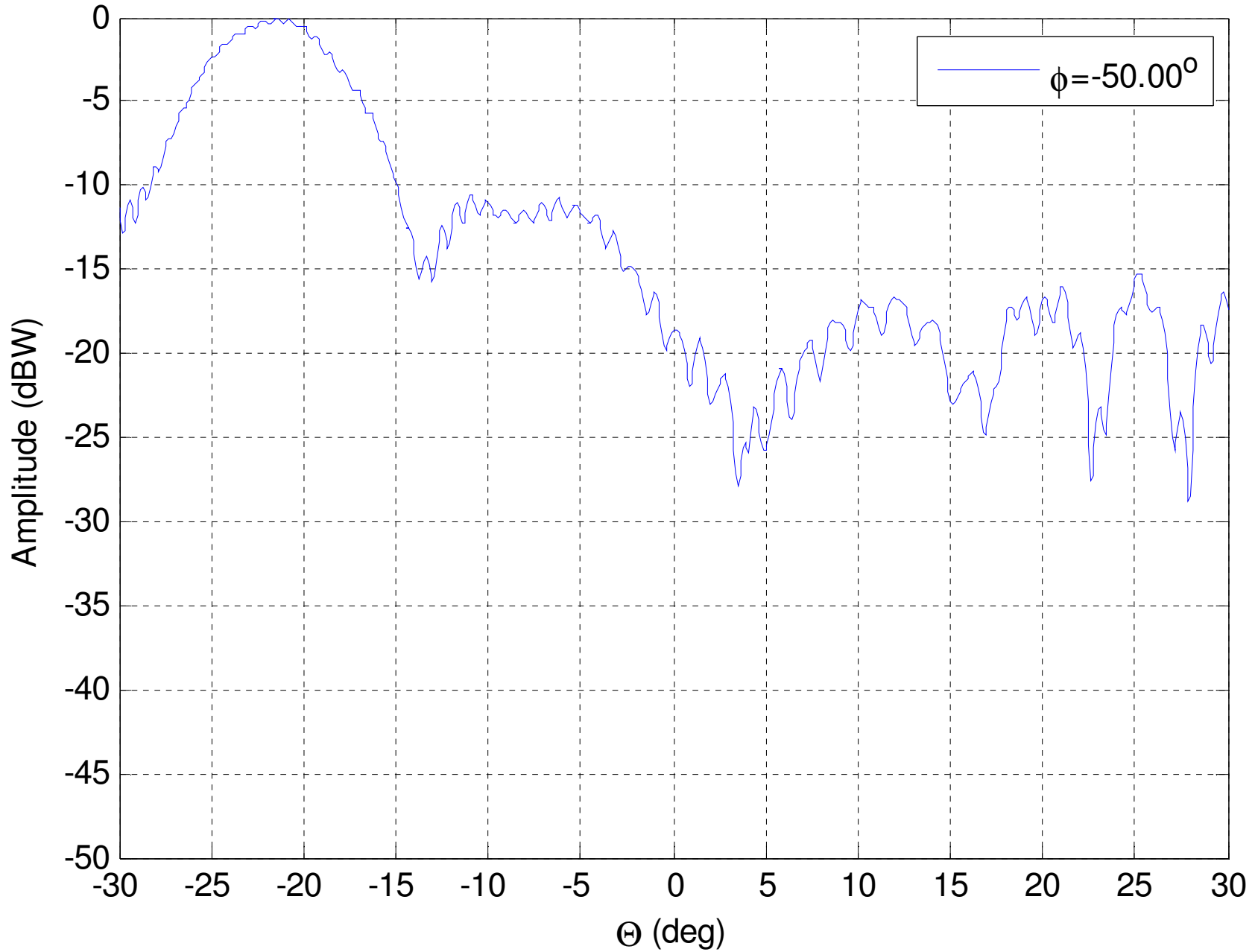
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -3.52 dBW, Date: 16-Dec-2011



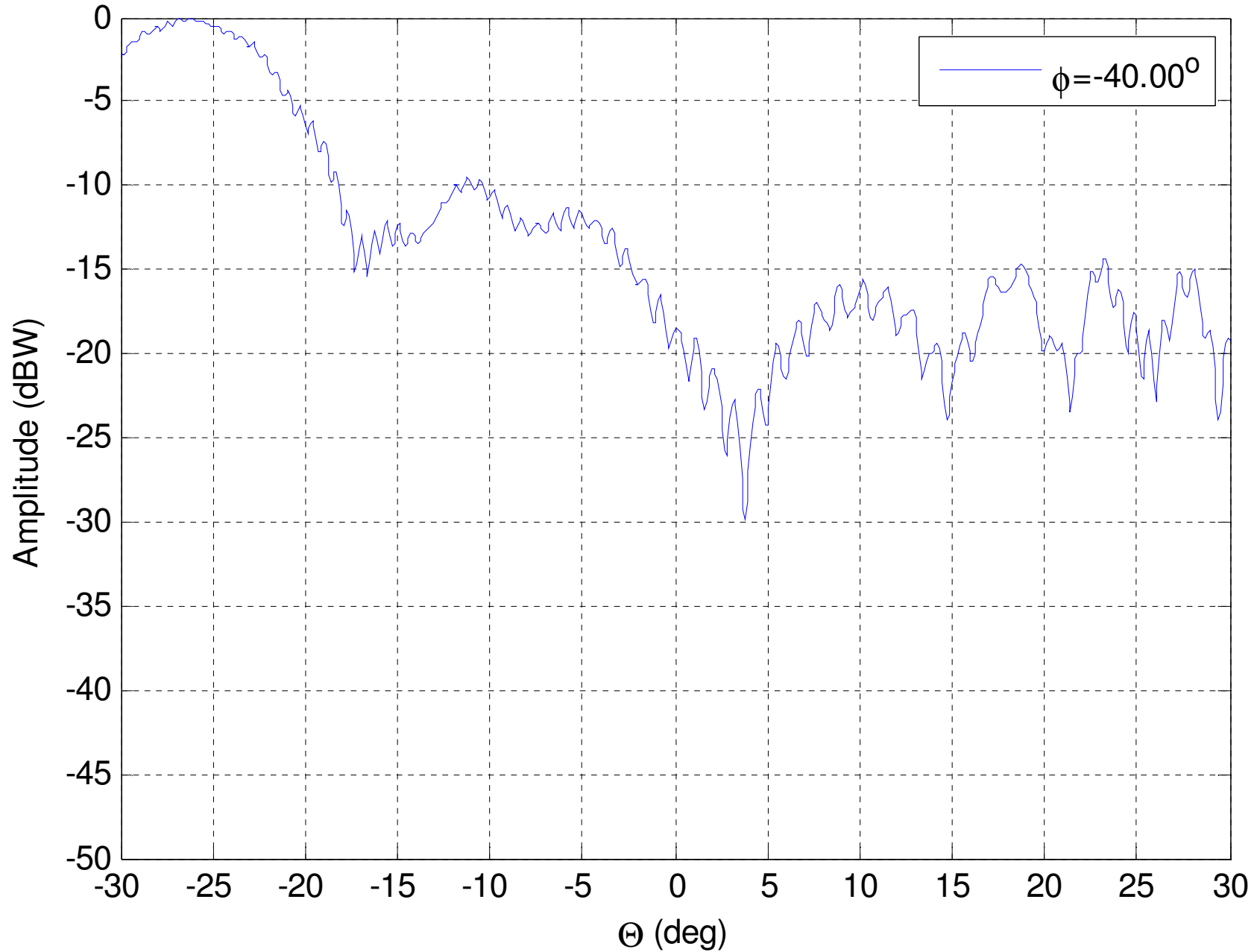
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -3.59 dBW, Date: 16-Dec-2011



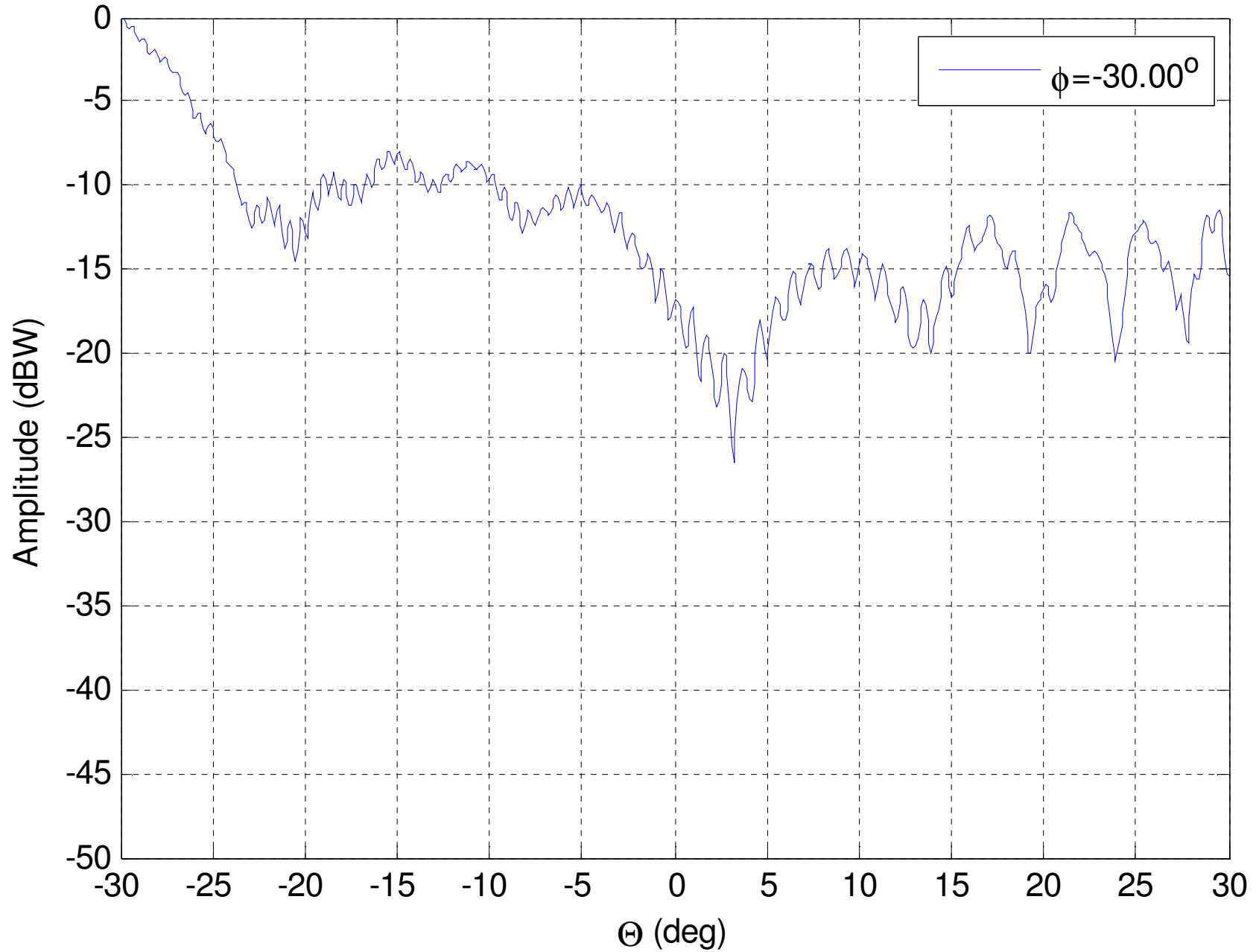
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -3.69 dBW, Date: 16-Dec-2011



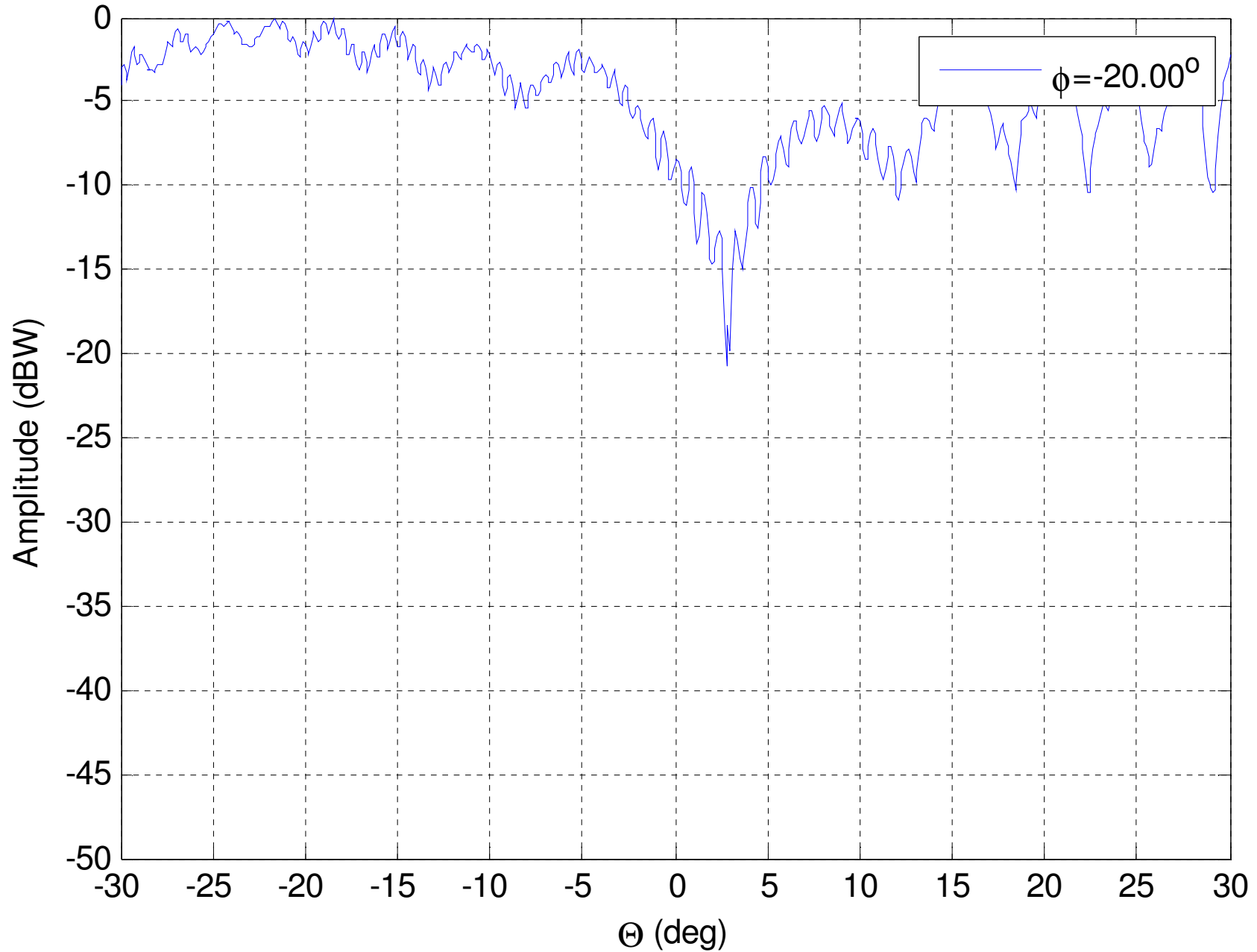
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -5.40 dBW, Date: 16-Dec-2011



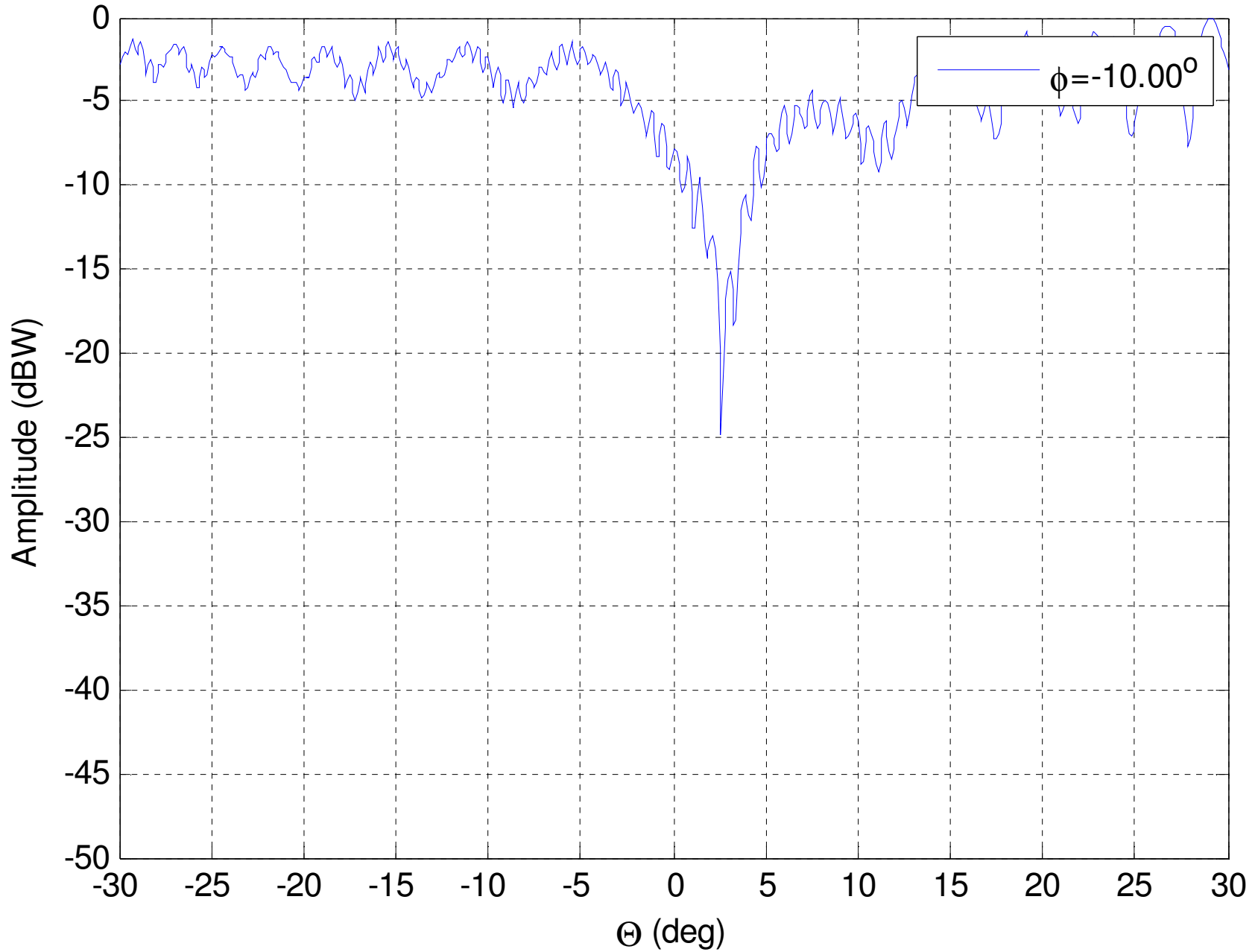
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -13.69 dBW, Date: 16-Dec-2011



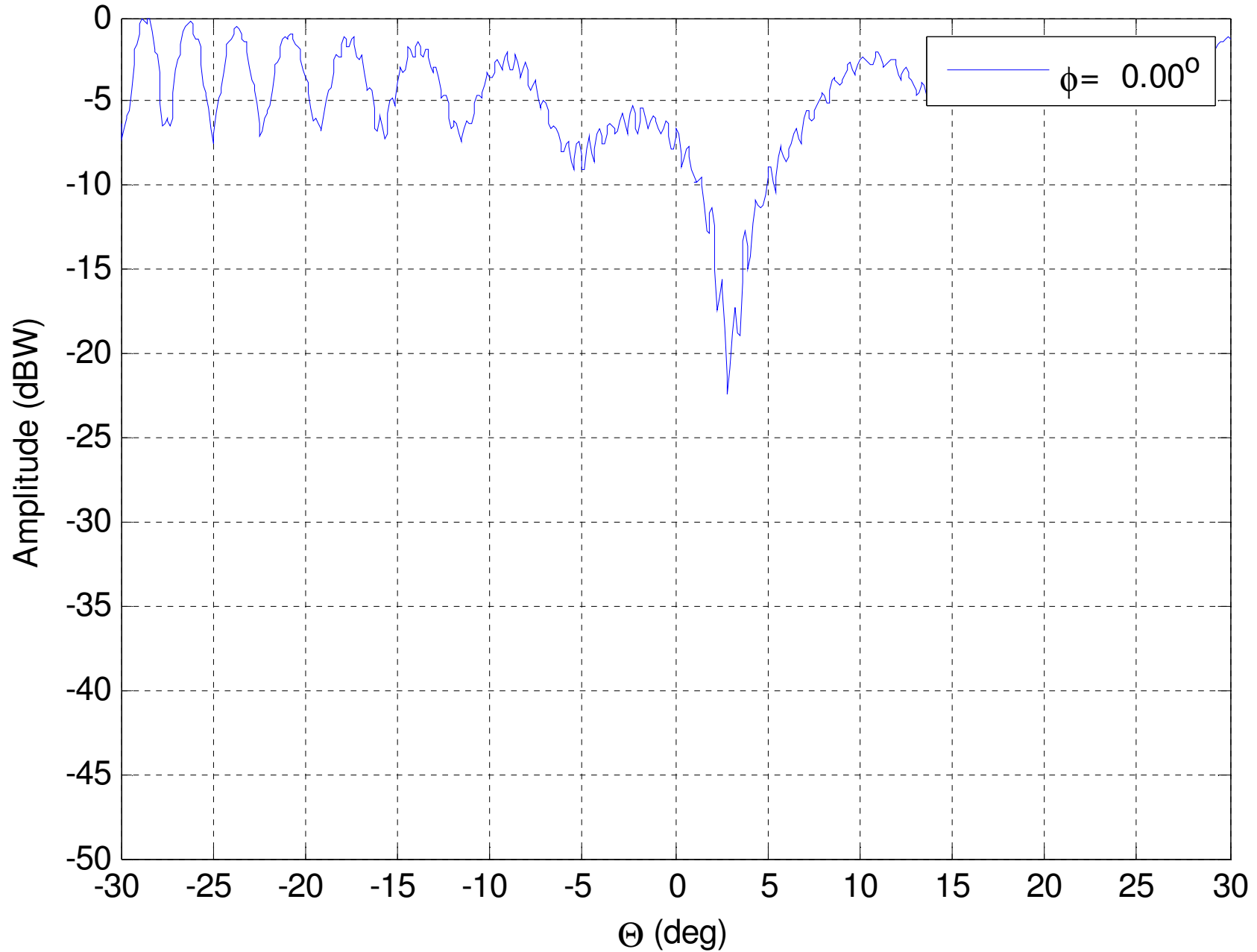
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -14.35 dBW, Date: 16-Dec-2011



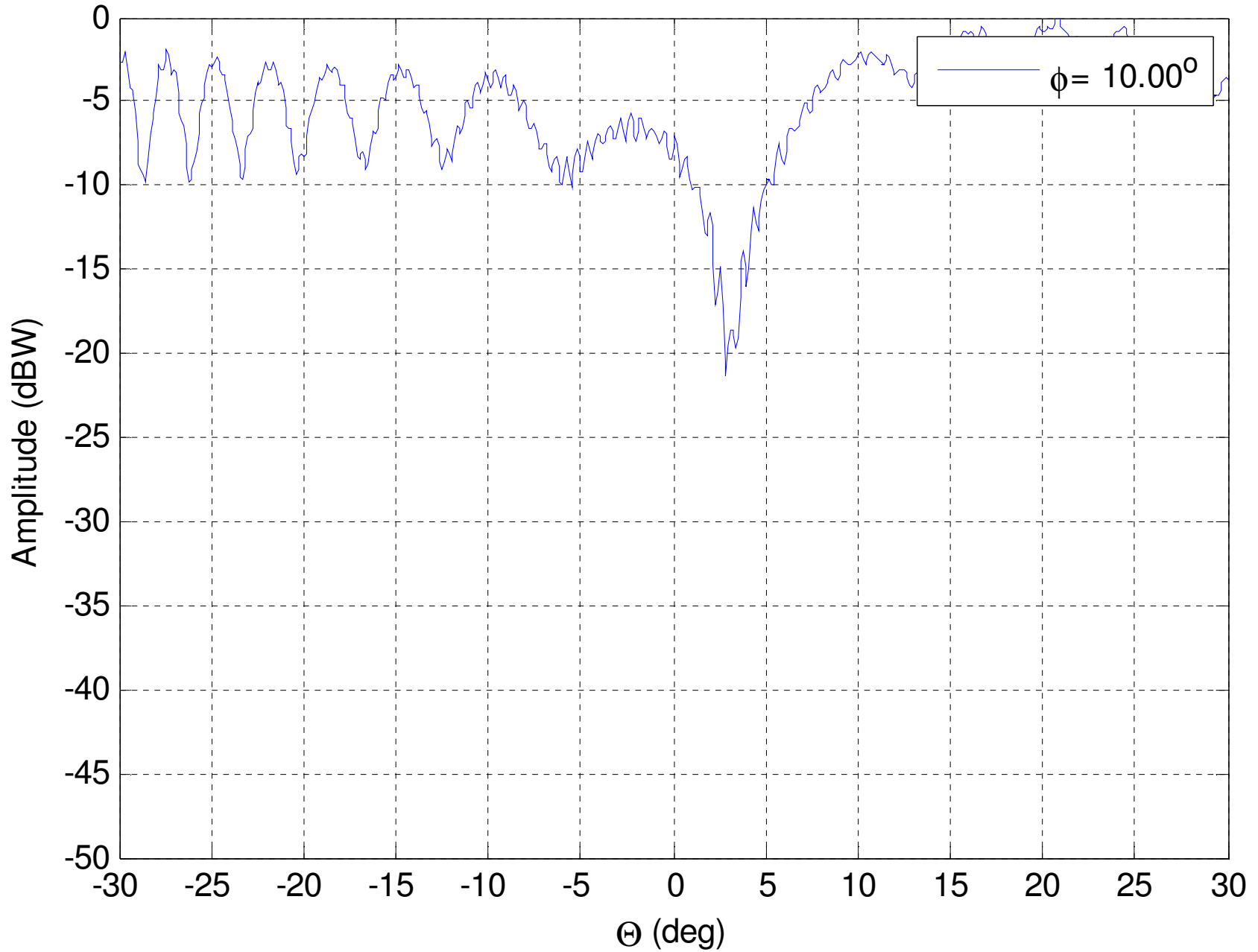
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -13.87 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

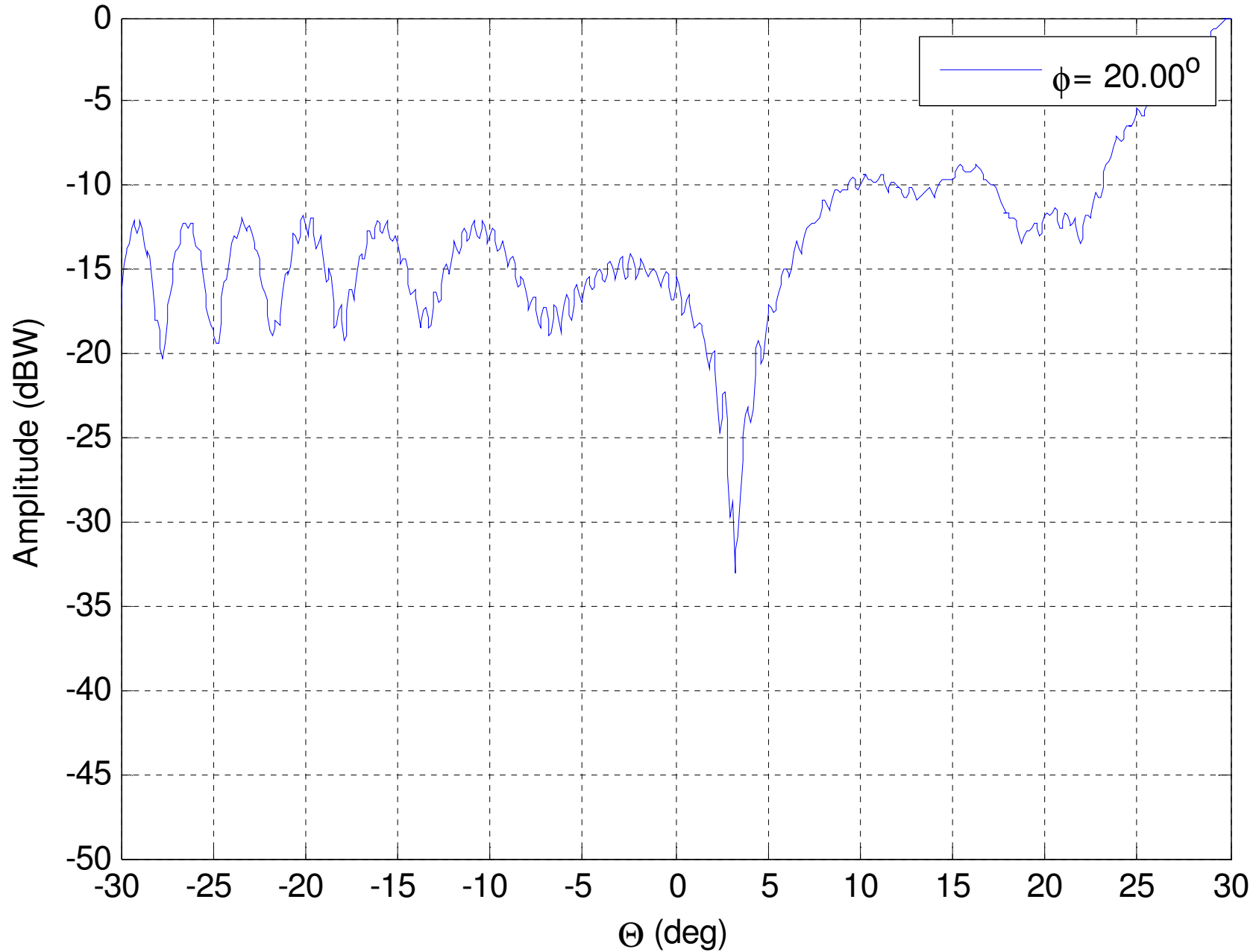
Input file: tx-17.3-lhcp-10.cut, Peak: -13.28 dBW, Date: 16-Dec-2011





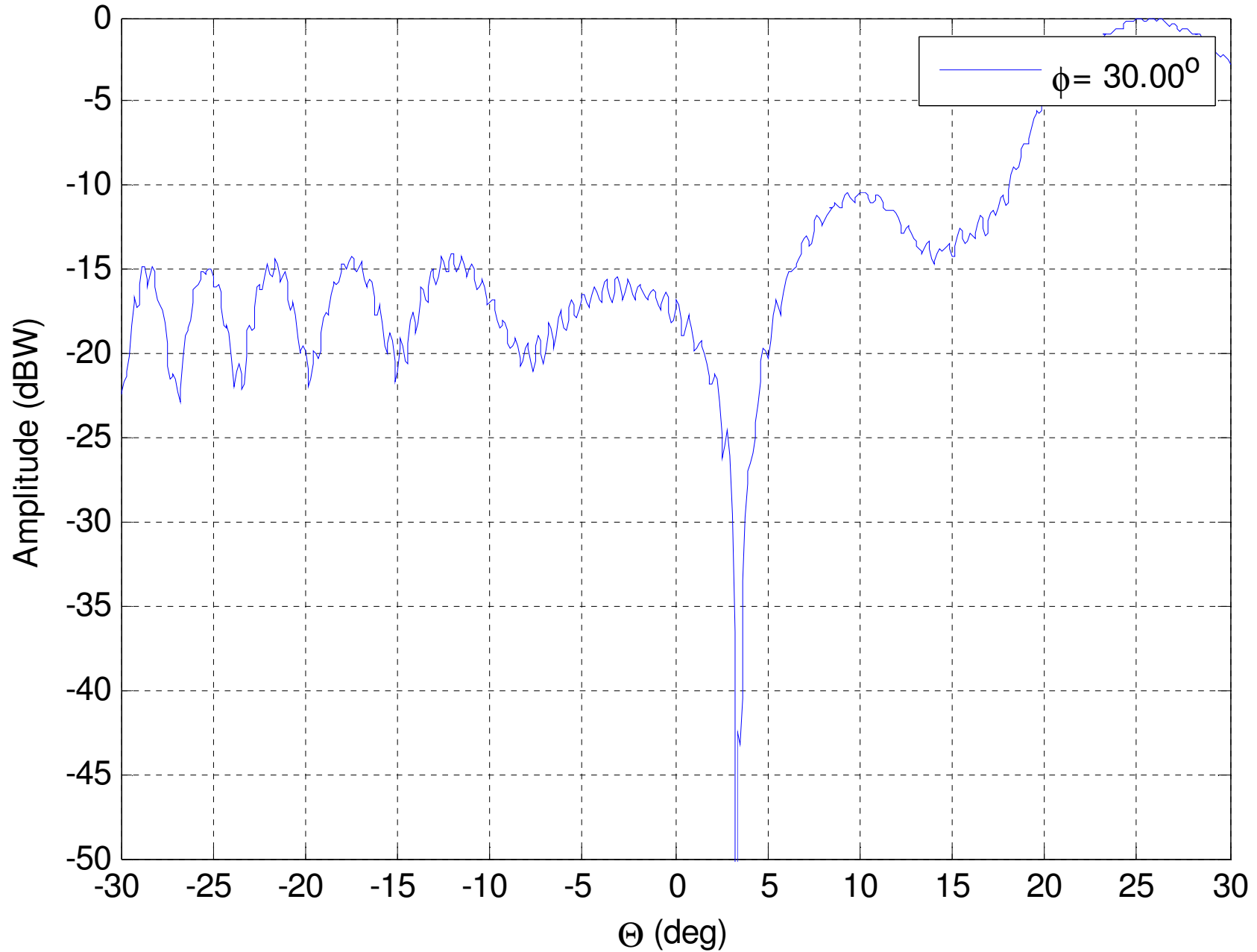
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -4.96 dBW, Date: 16-Dec-2011



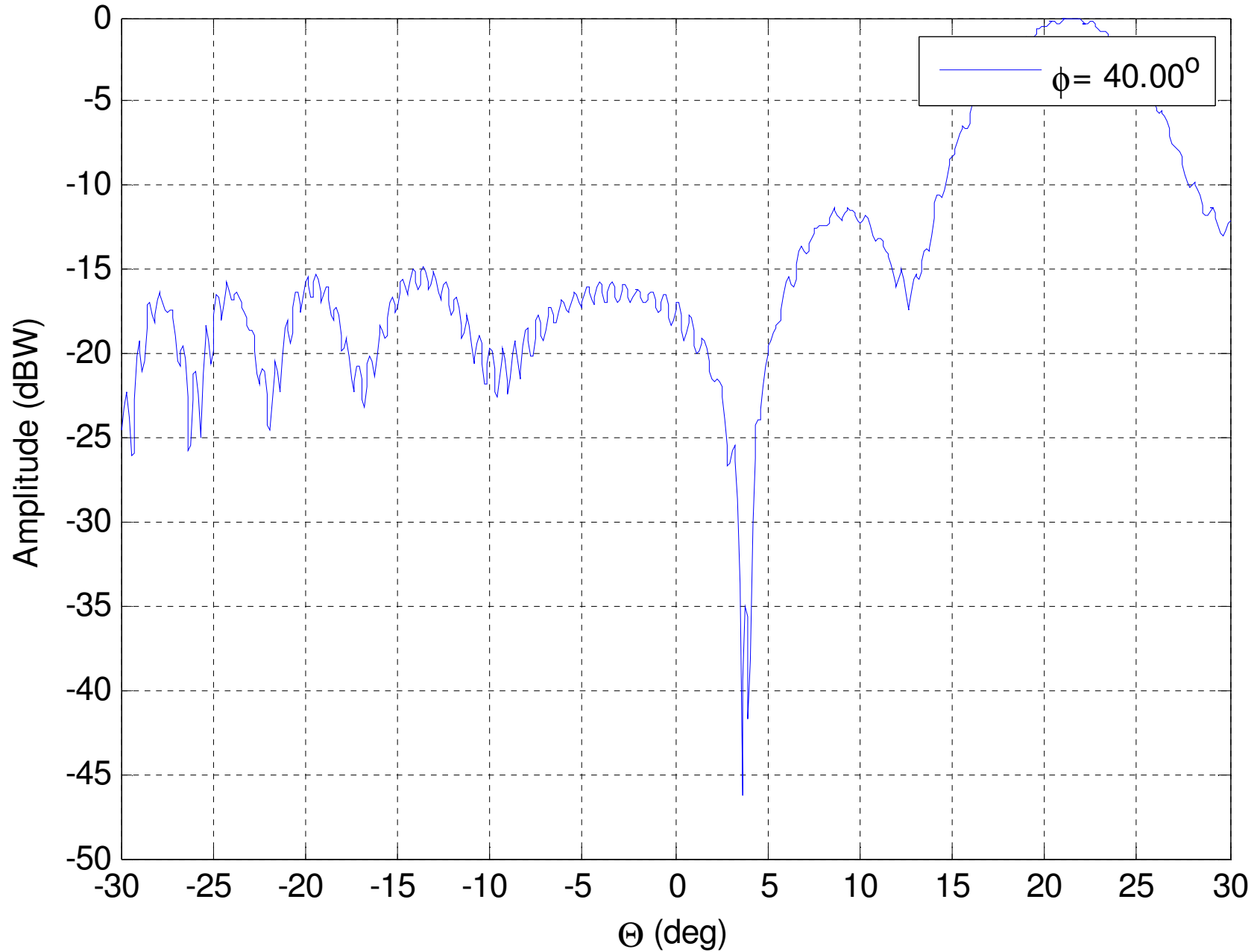
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -3.65 dBW, Date: 16-Dec-2011



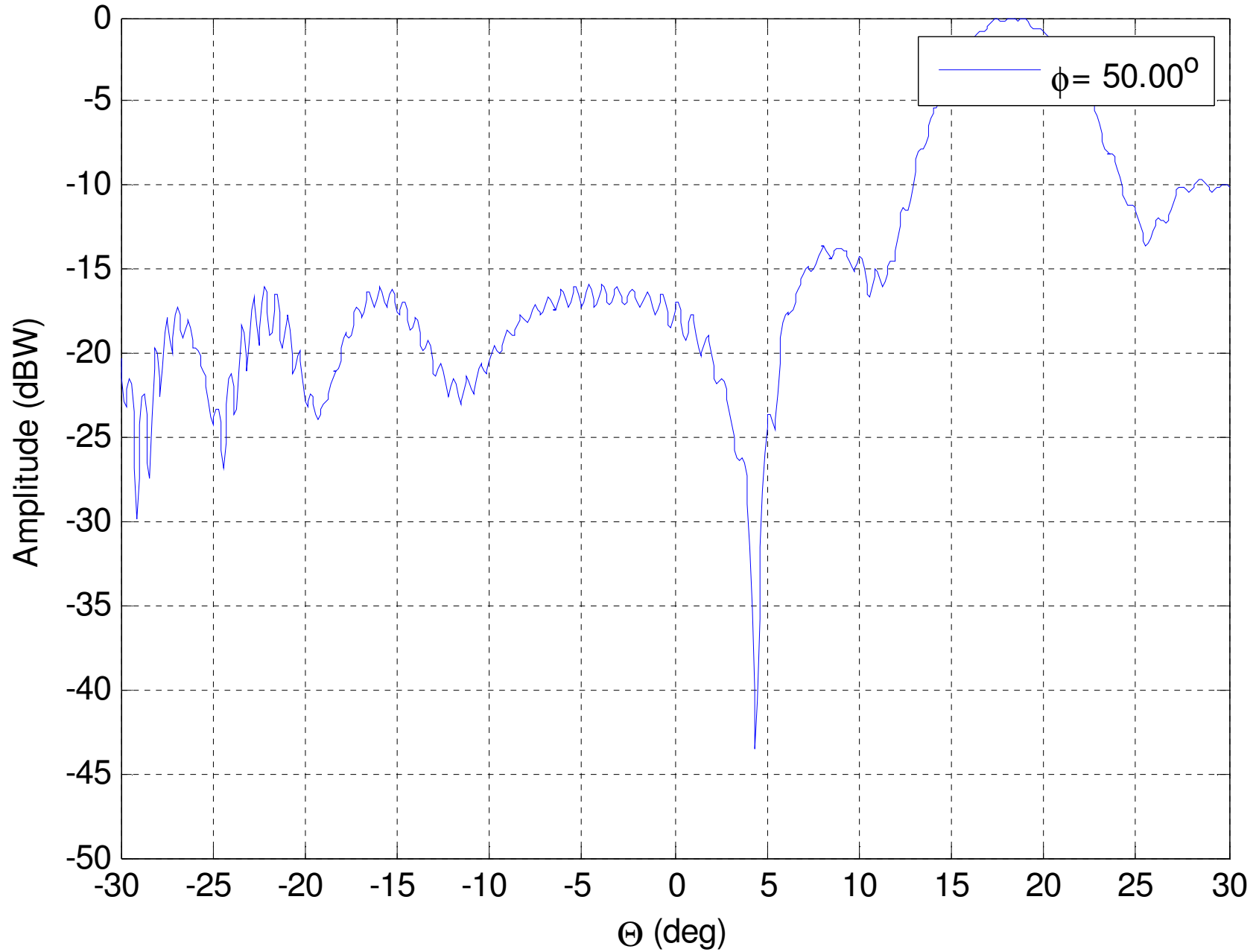
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -3.55 dBW, Date: 16-Dec-2011



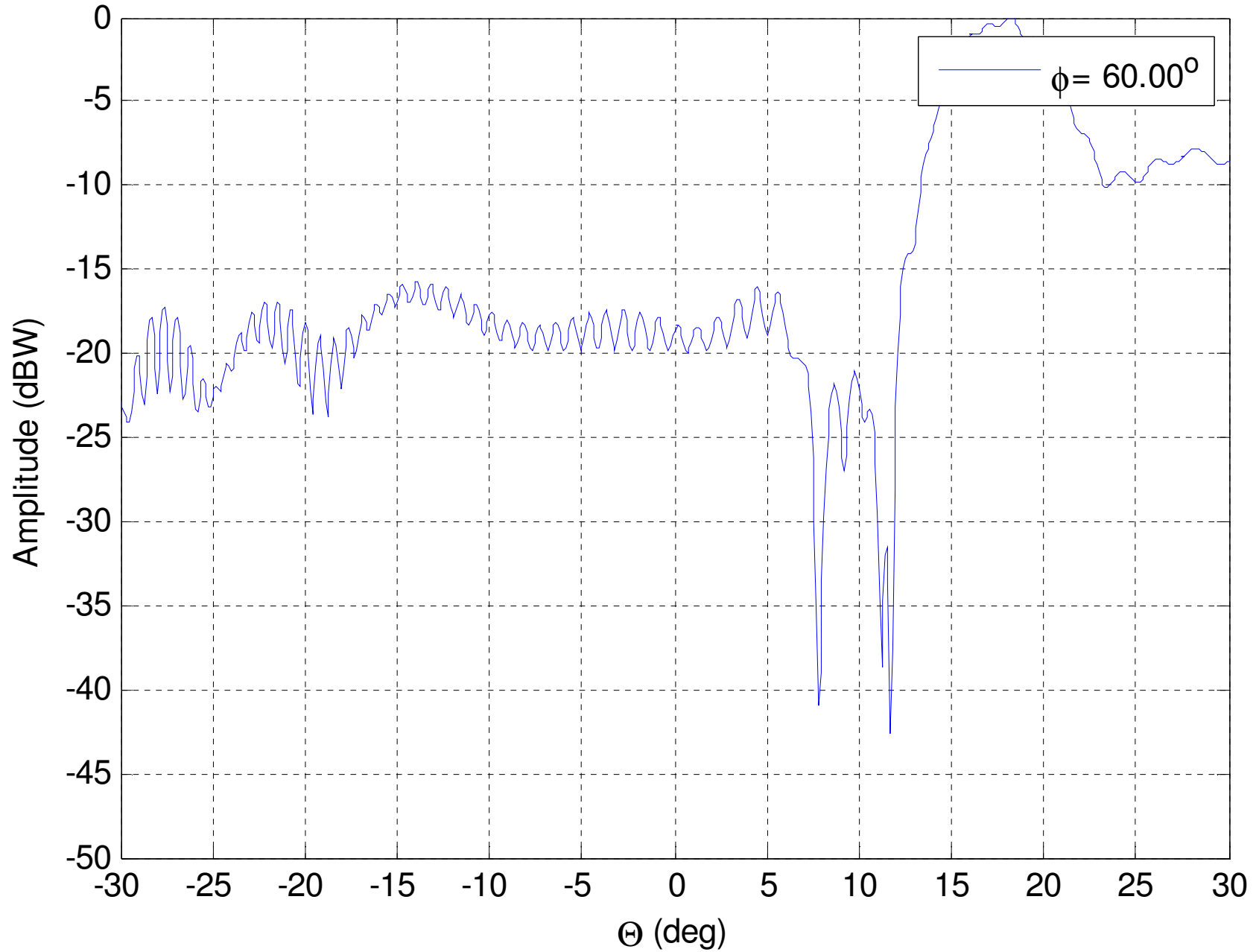
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -3.53 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

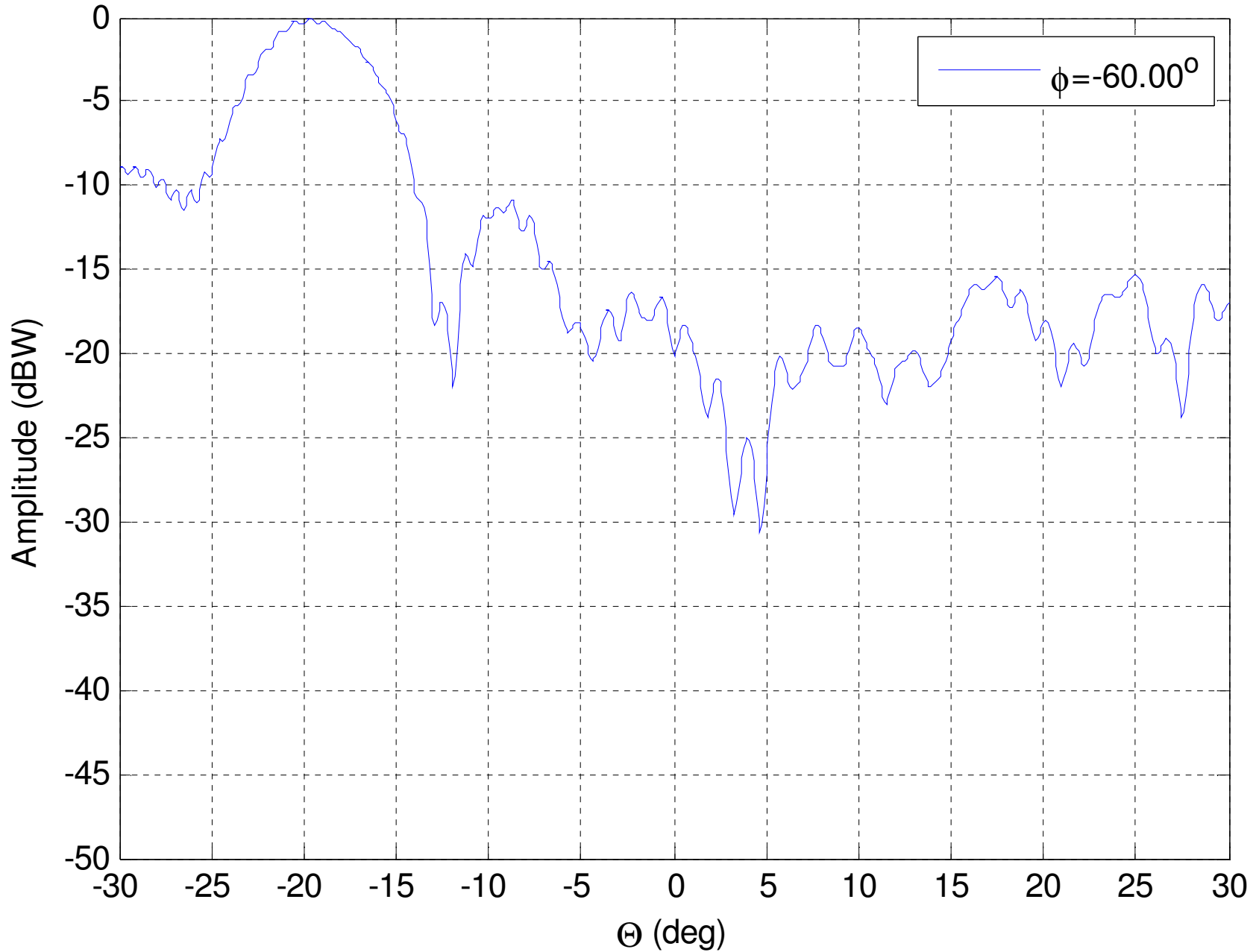
Input file: tx-17.3-lhcp-60.cut, Peak: -3.71 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

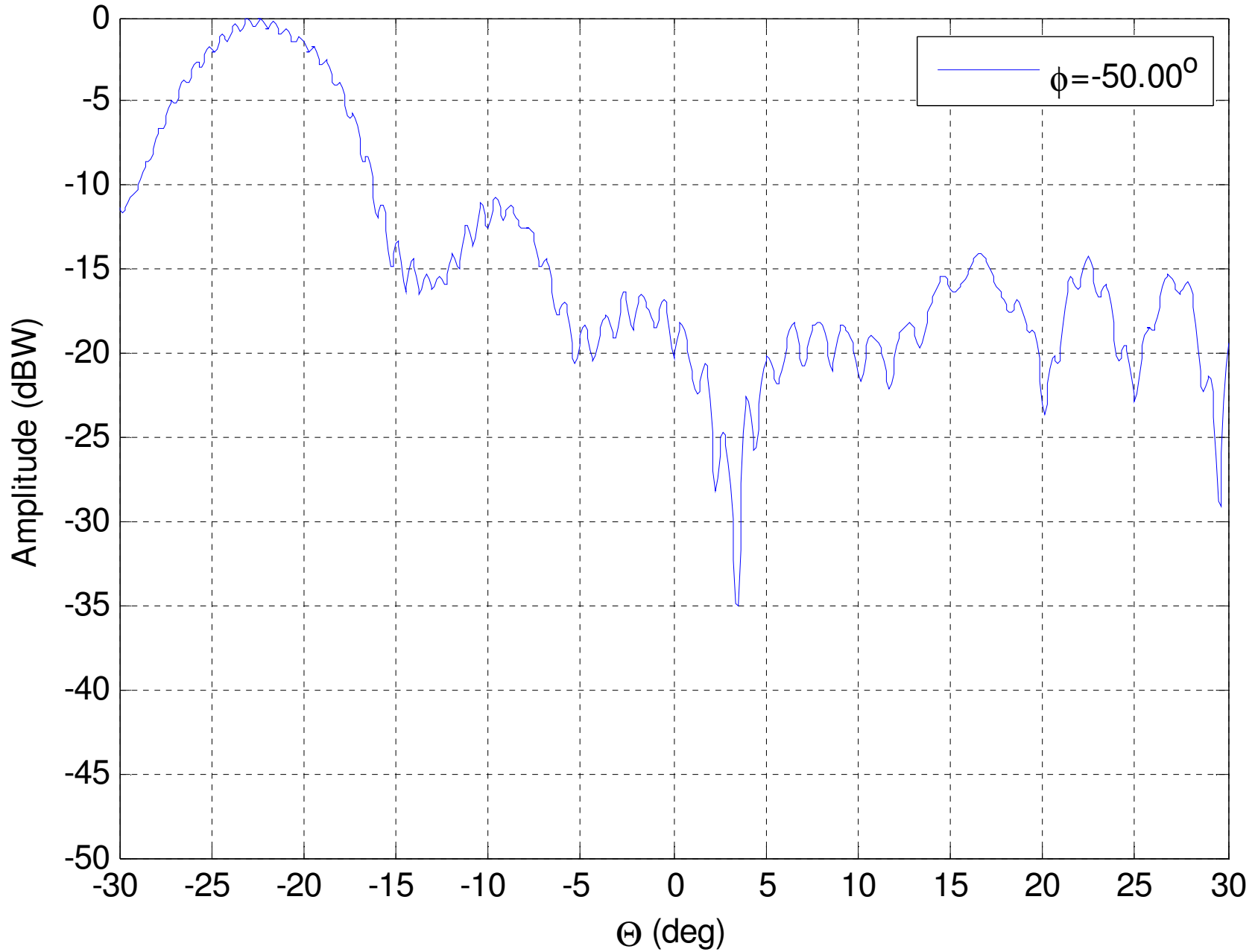
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -3.74 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

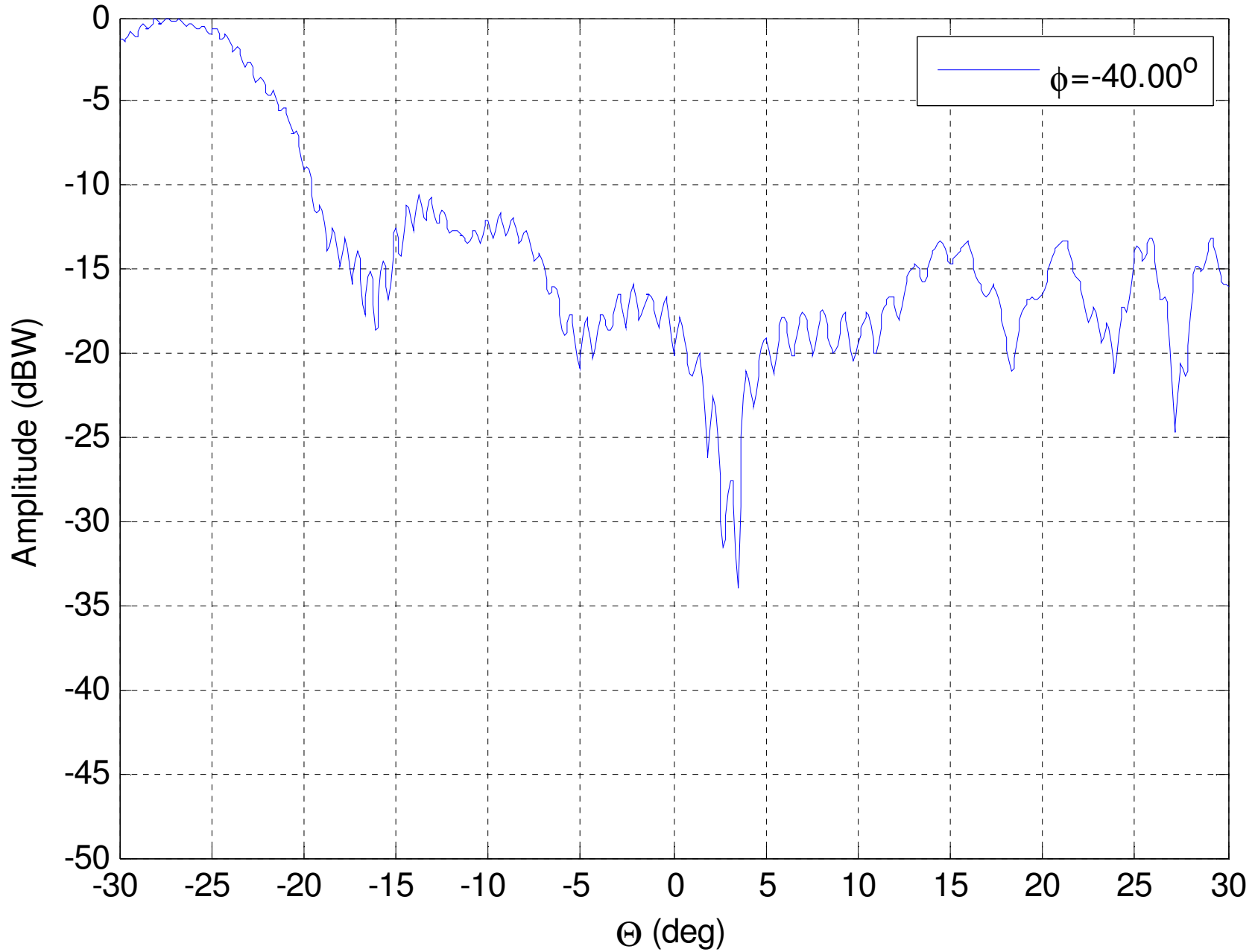
Input file: tx-17.5-rhcp--50.cut, Peak: -3.60 dBW, Date: 16-Dec-2011





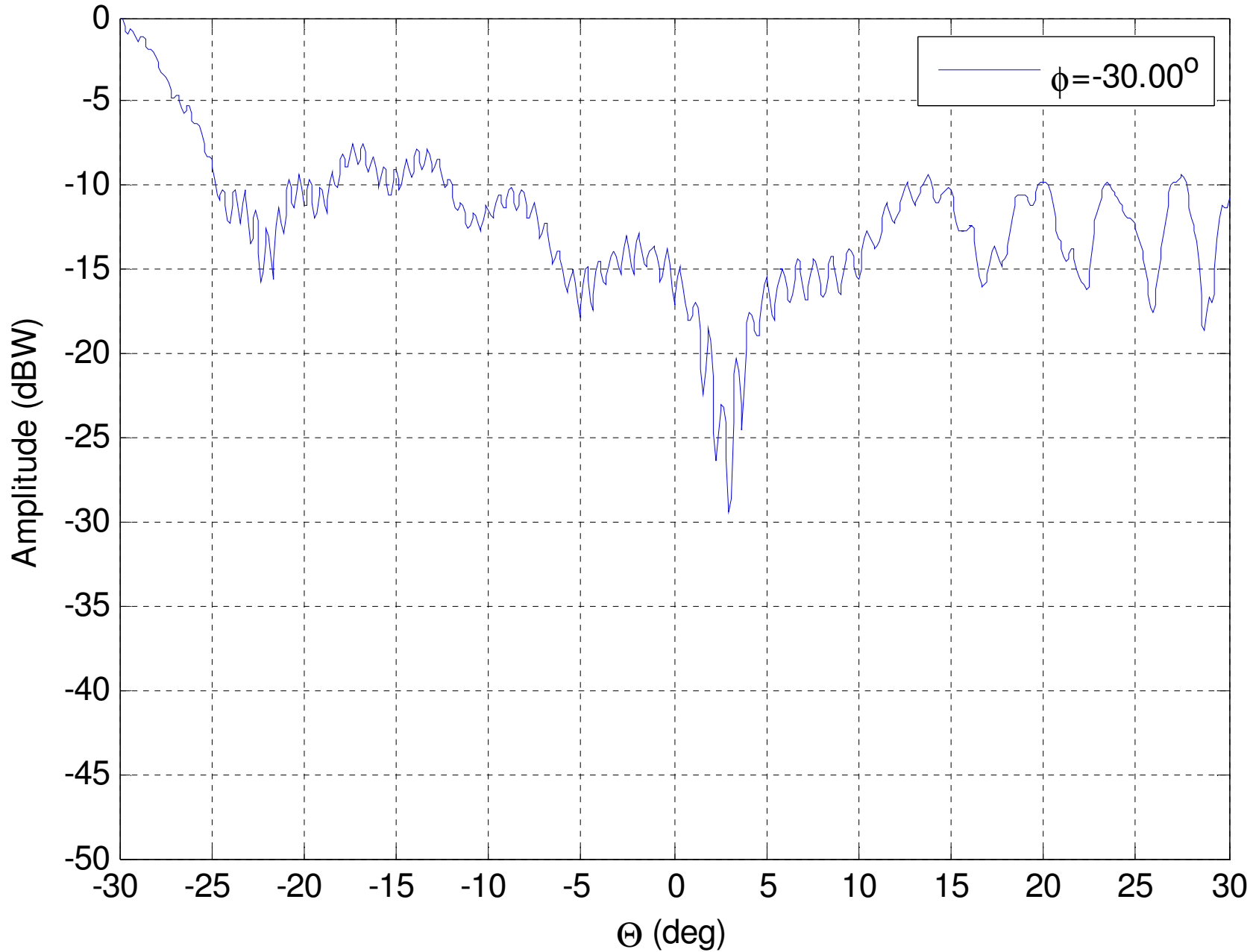
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -3.76 dBW, Date: 16-Dec-2011



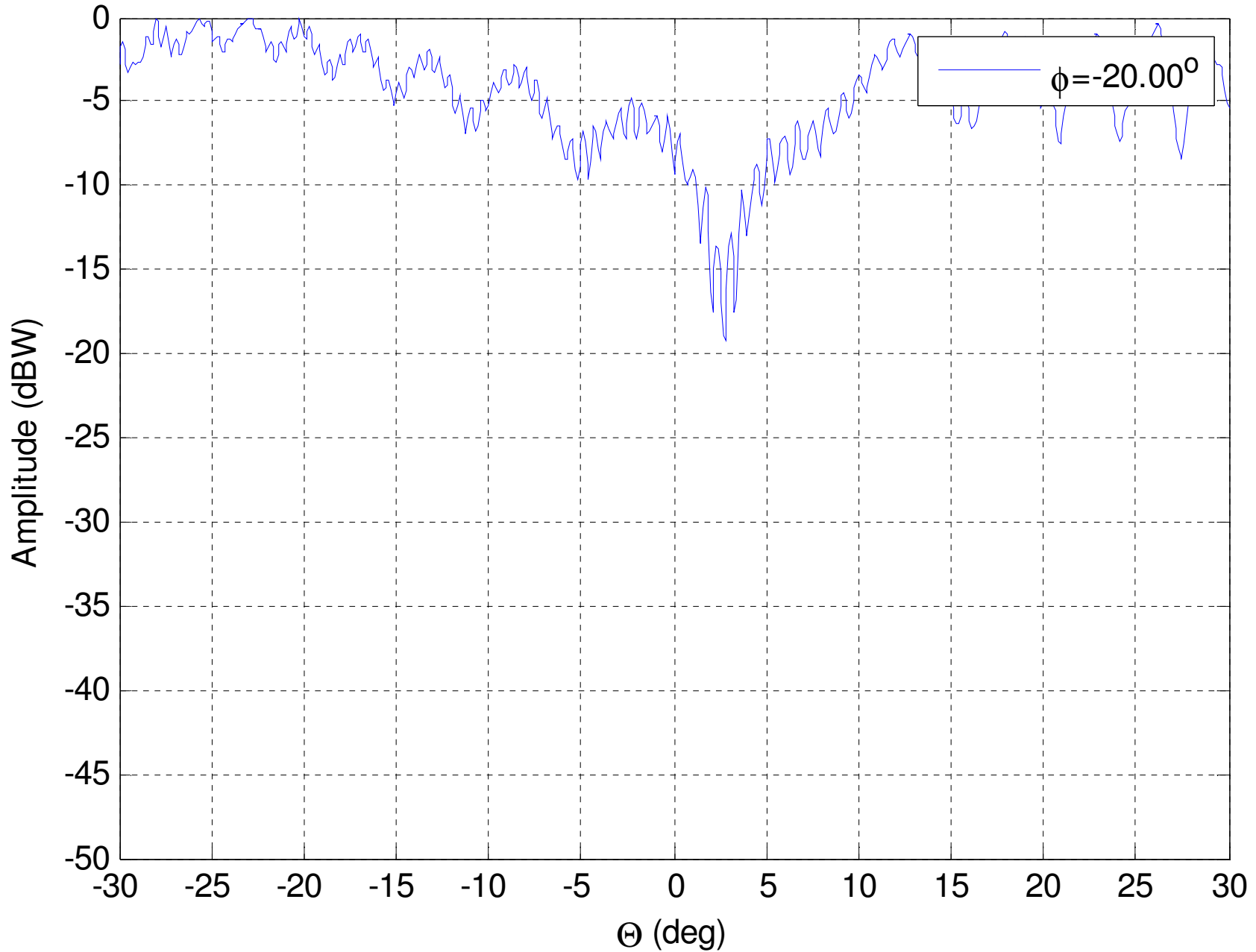
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -6.70 dBW, Date: 16-Dec-2011



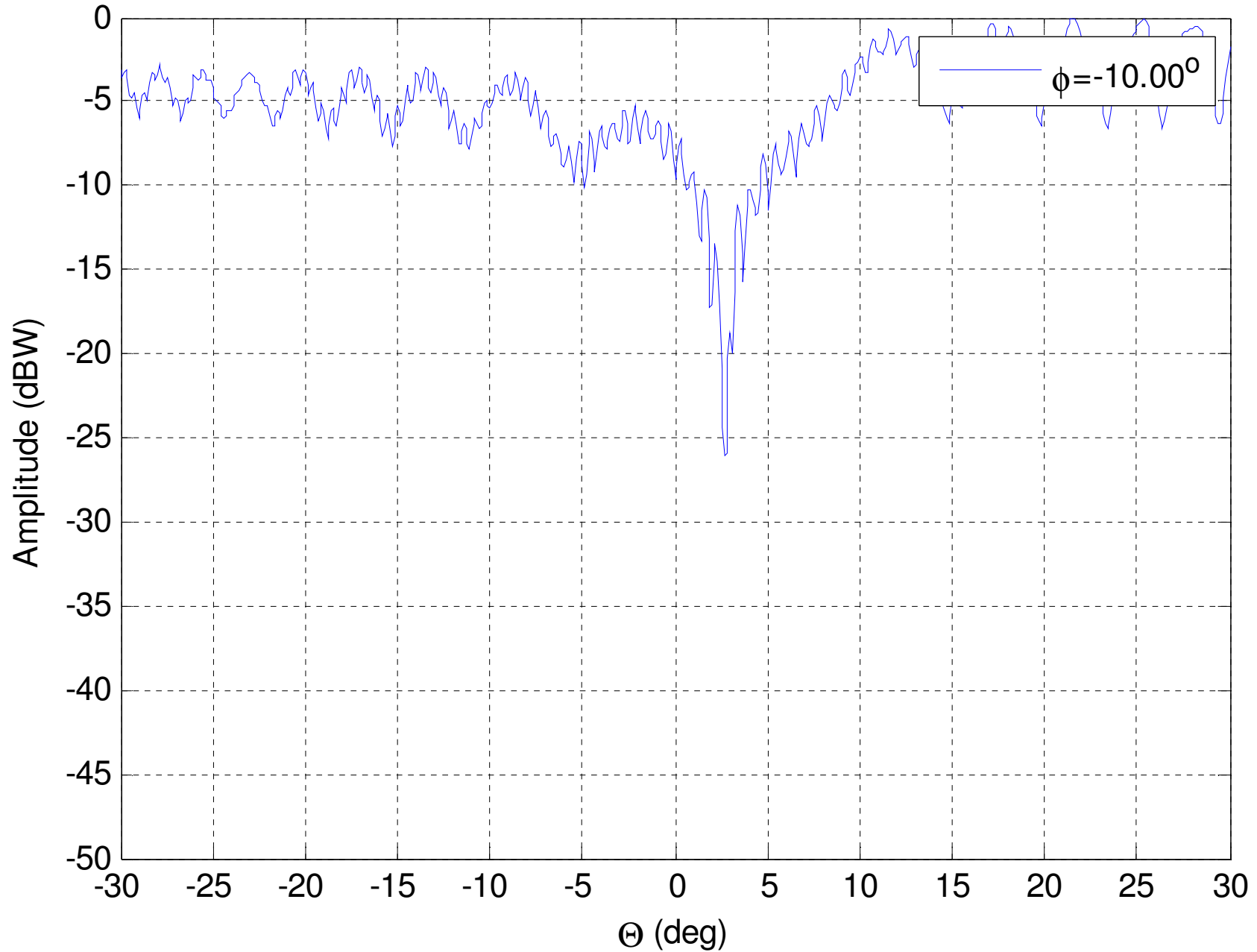
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -14.55 dBW, Date: 16-Dec-2011



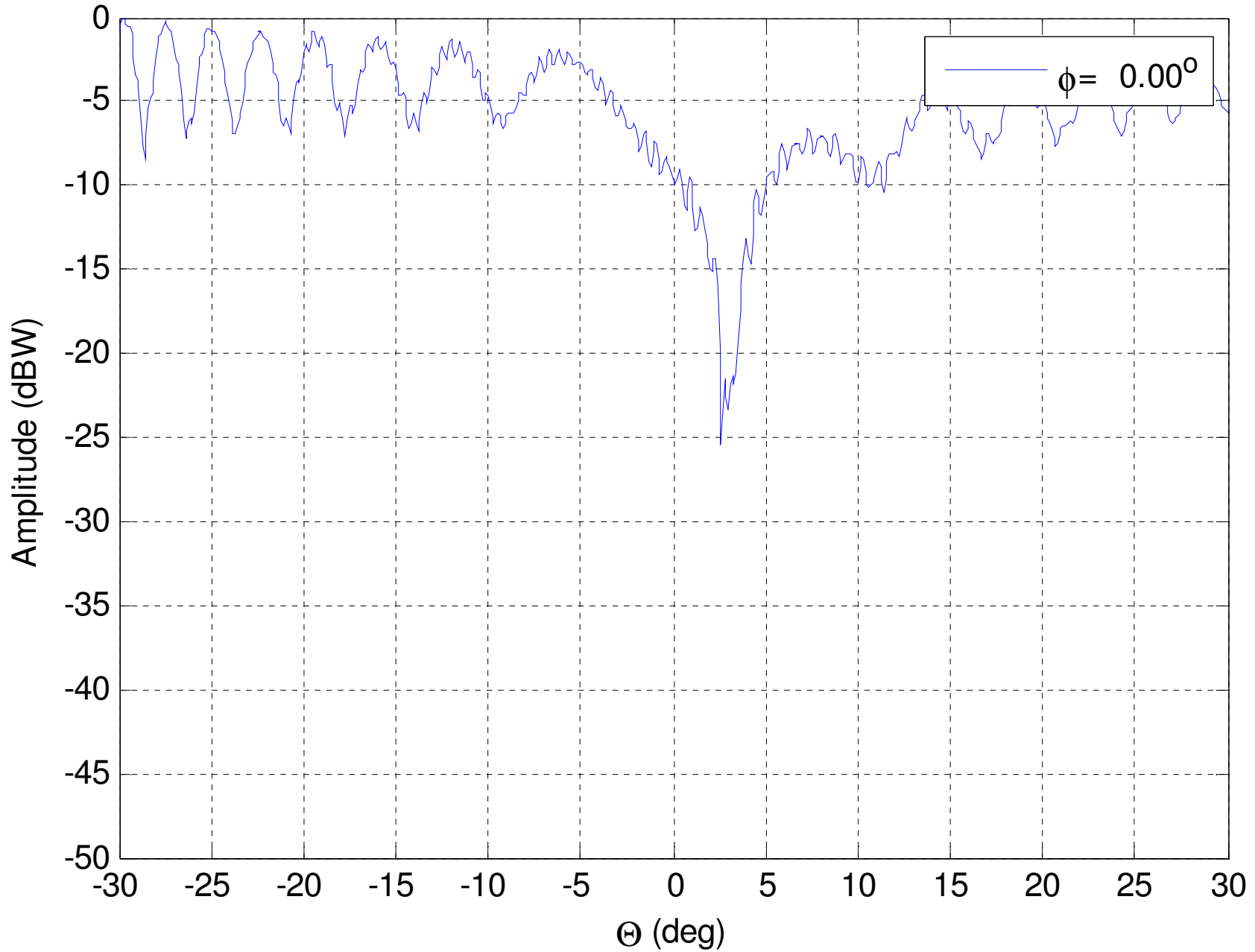
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -14.15 dBW, Date: 16-Dec-2011



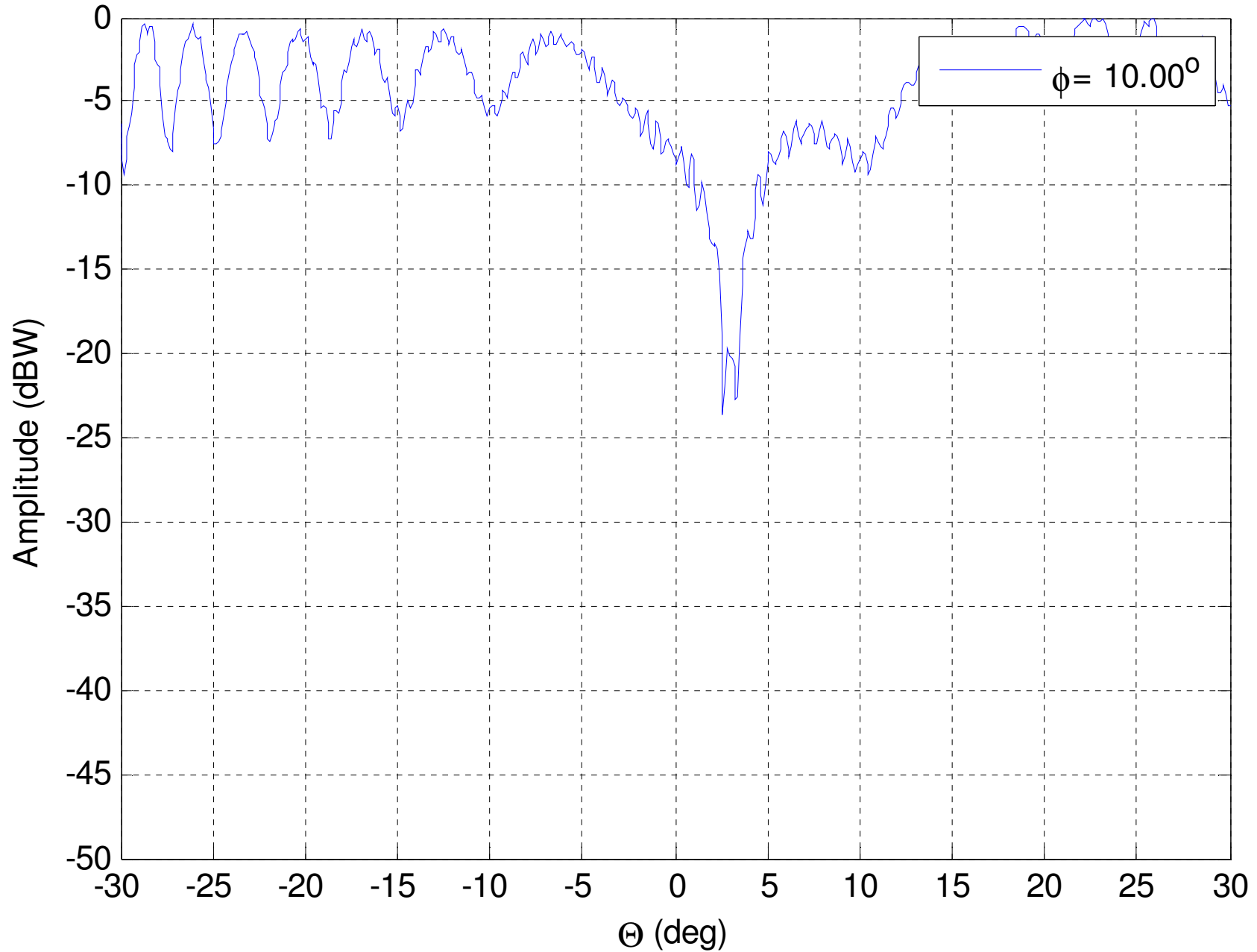
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -13.27 dBW, Date: 16-Dec-2011



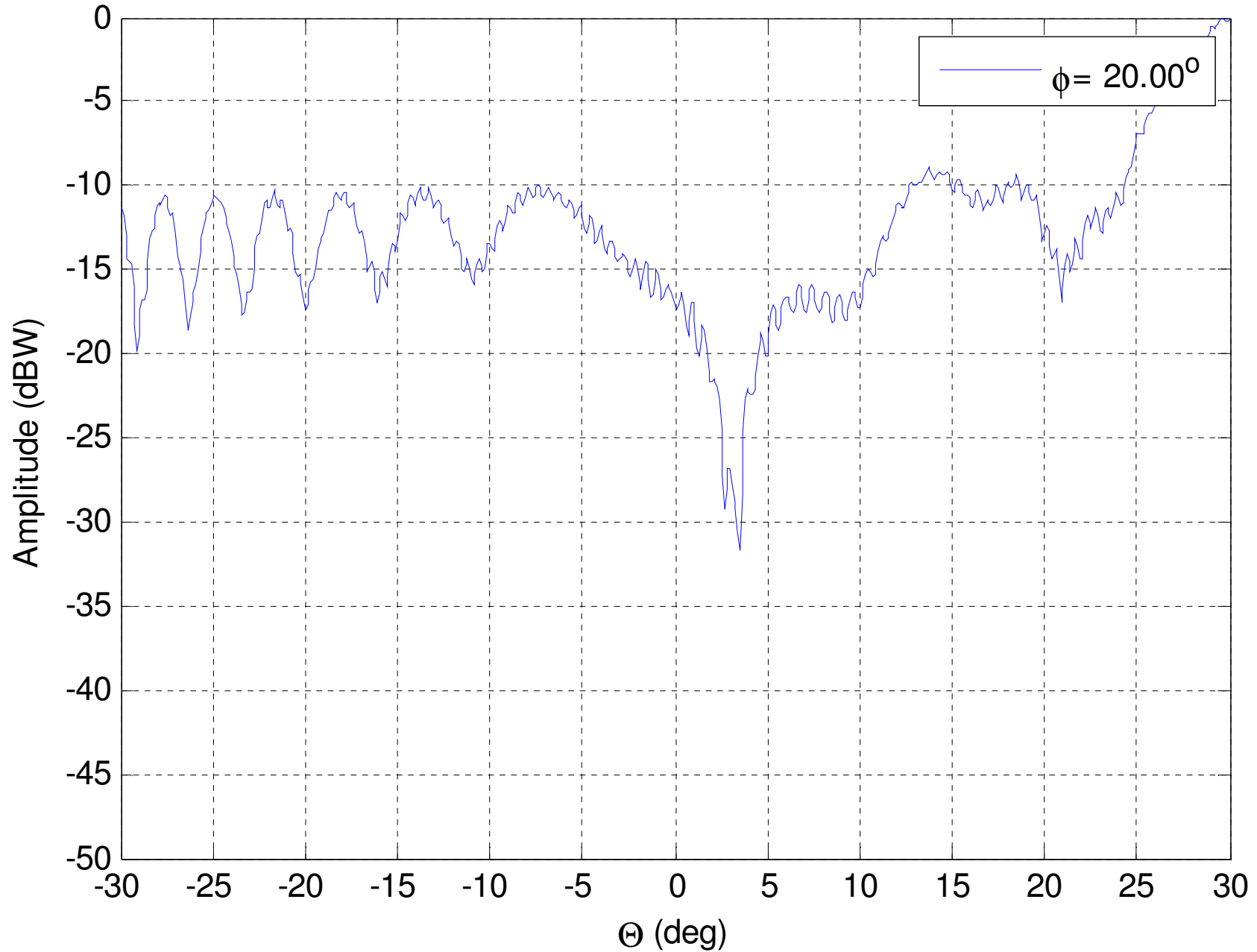
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -14.54 dBW, Date: 16-Dec-2011



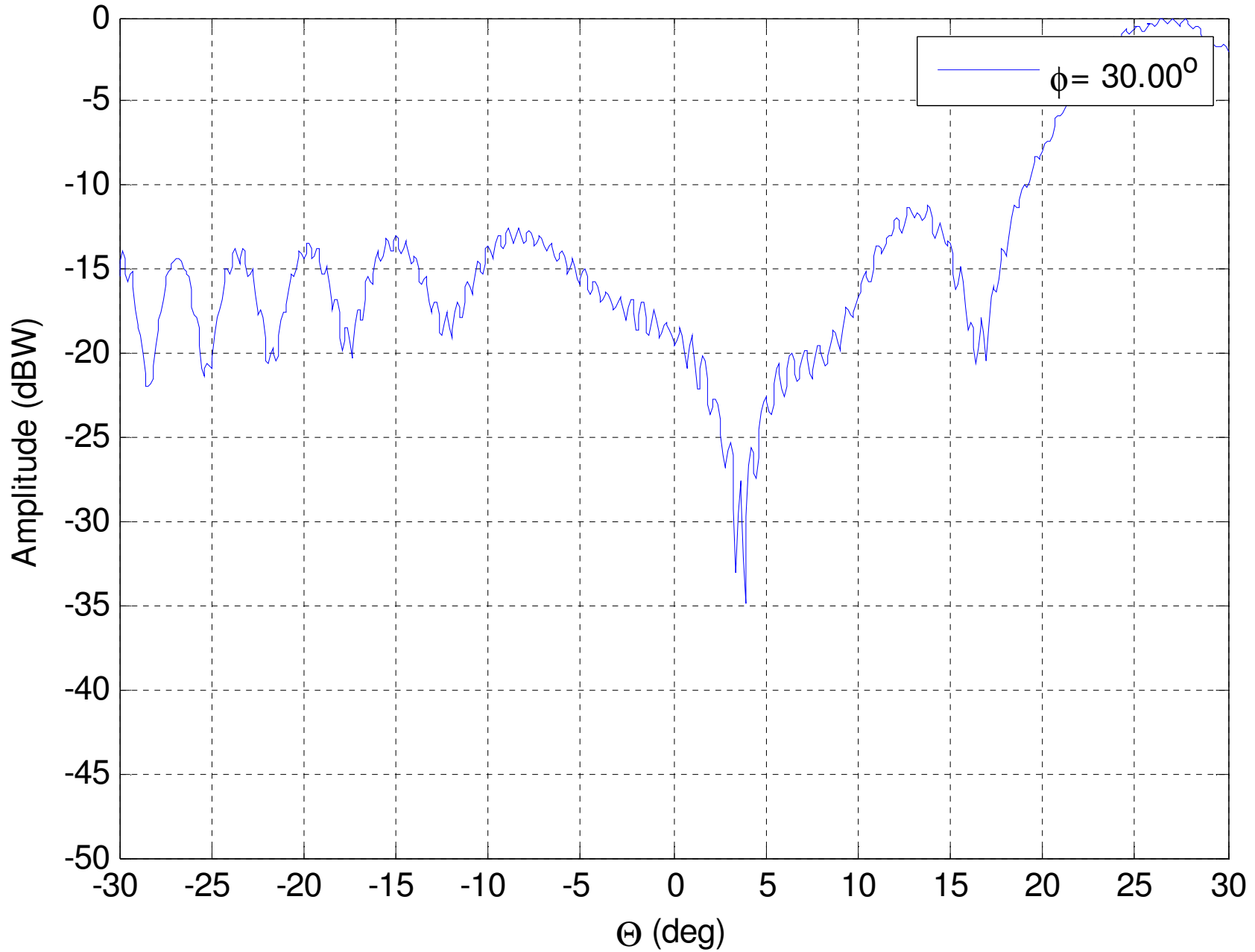
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -5.85 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

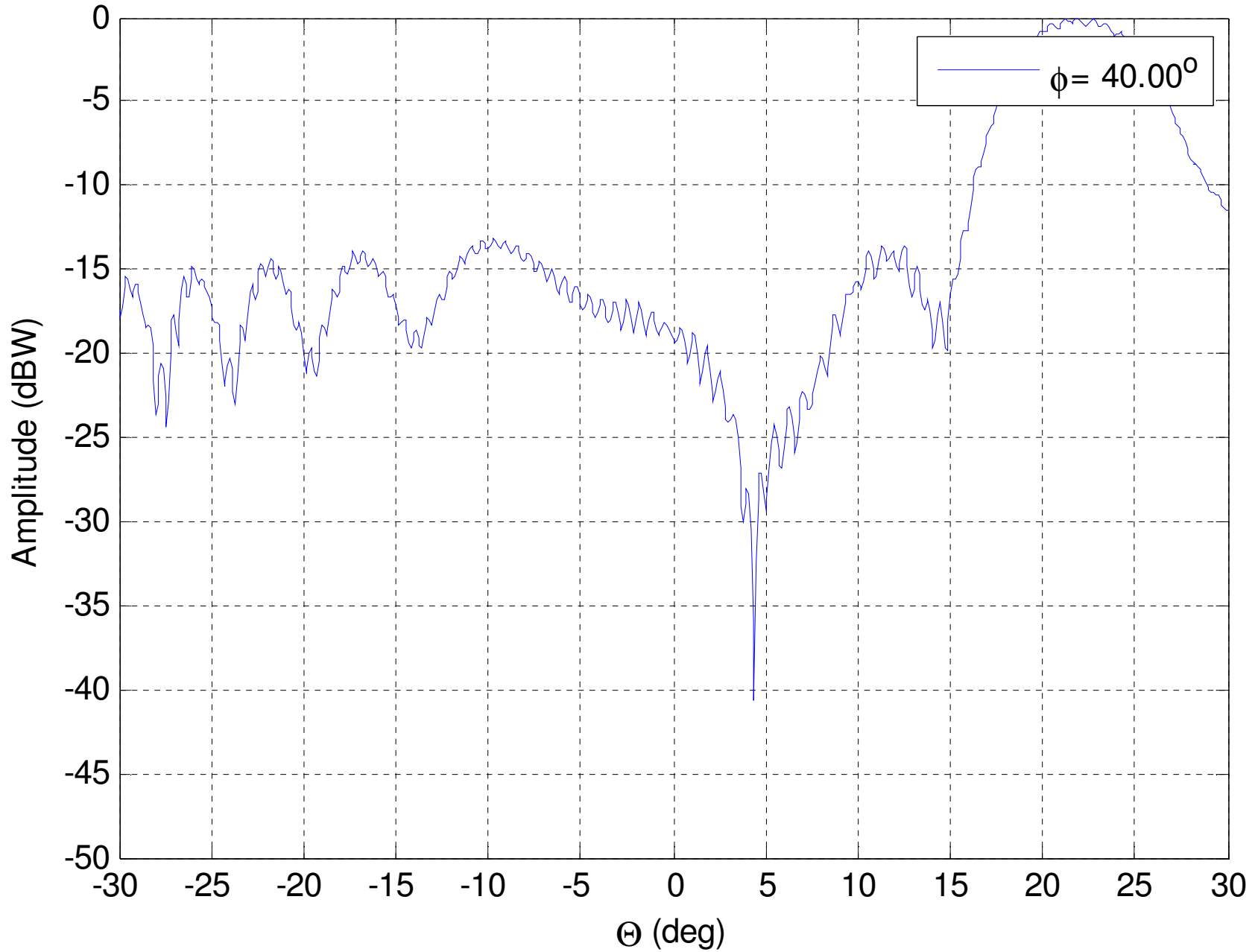
Input file: tx-17.5-rhcp-30.cut, Peak: -3.69 dBW, Date: 16-Dec-2011





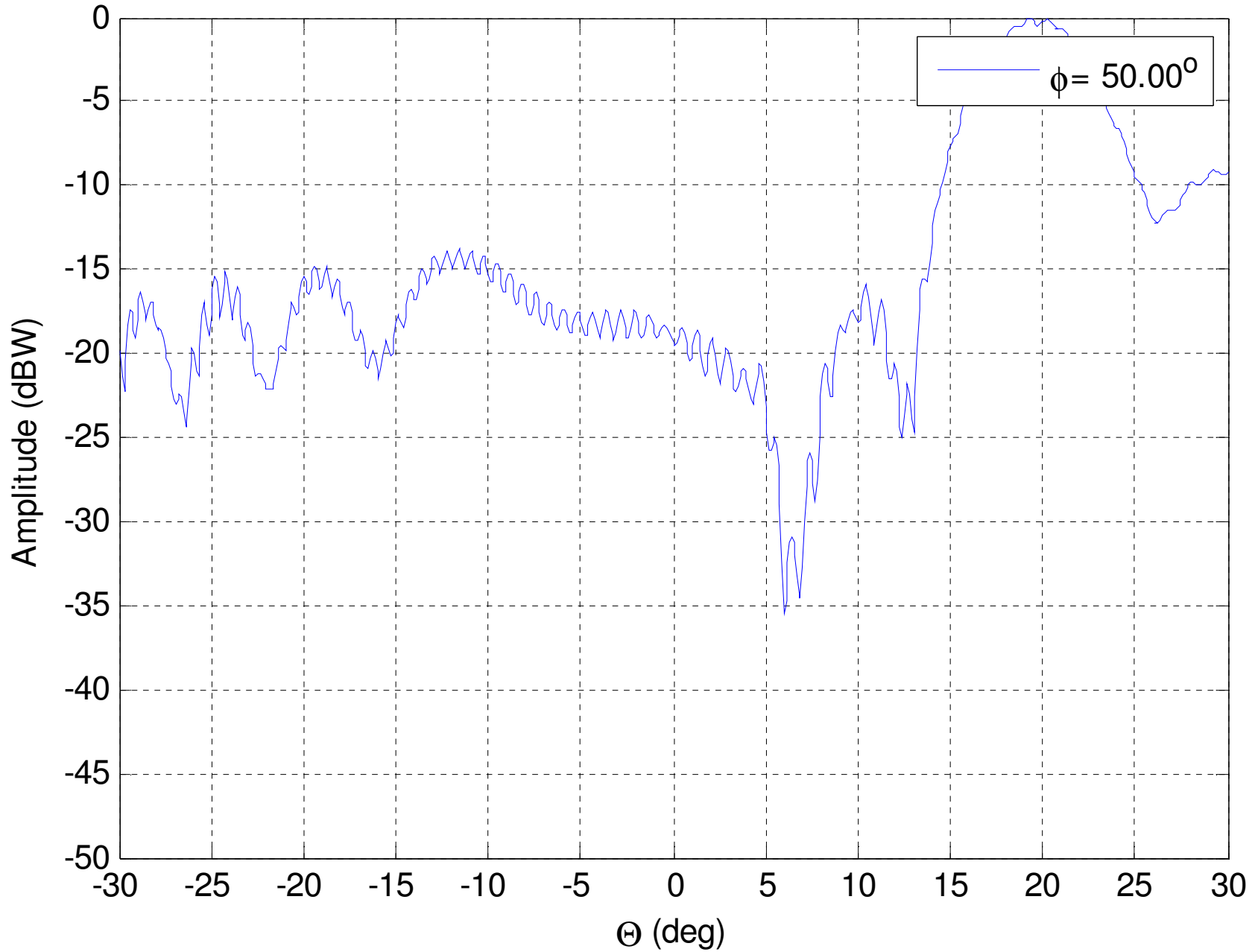
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -3.80 dBW, Date: 16-Dec-2011



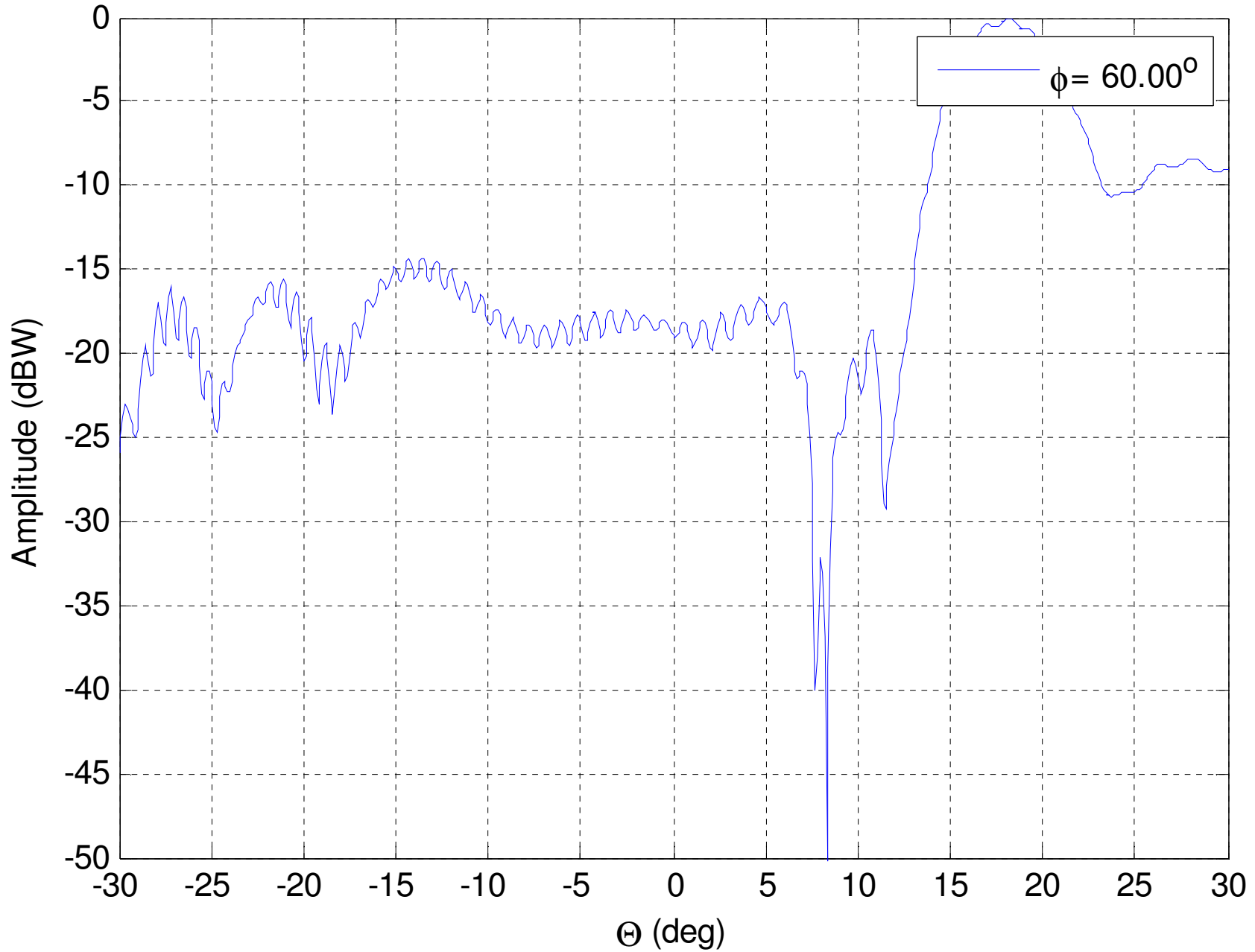
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -3.68 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

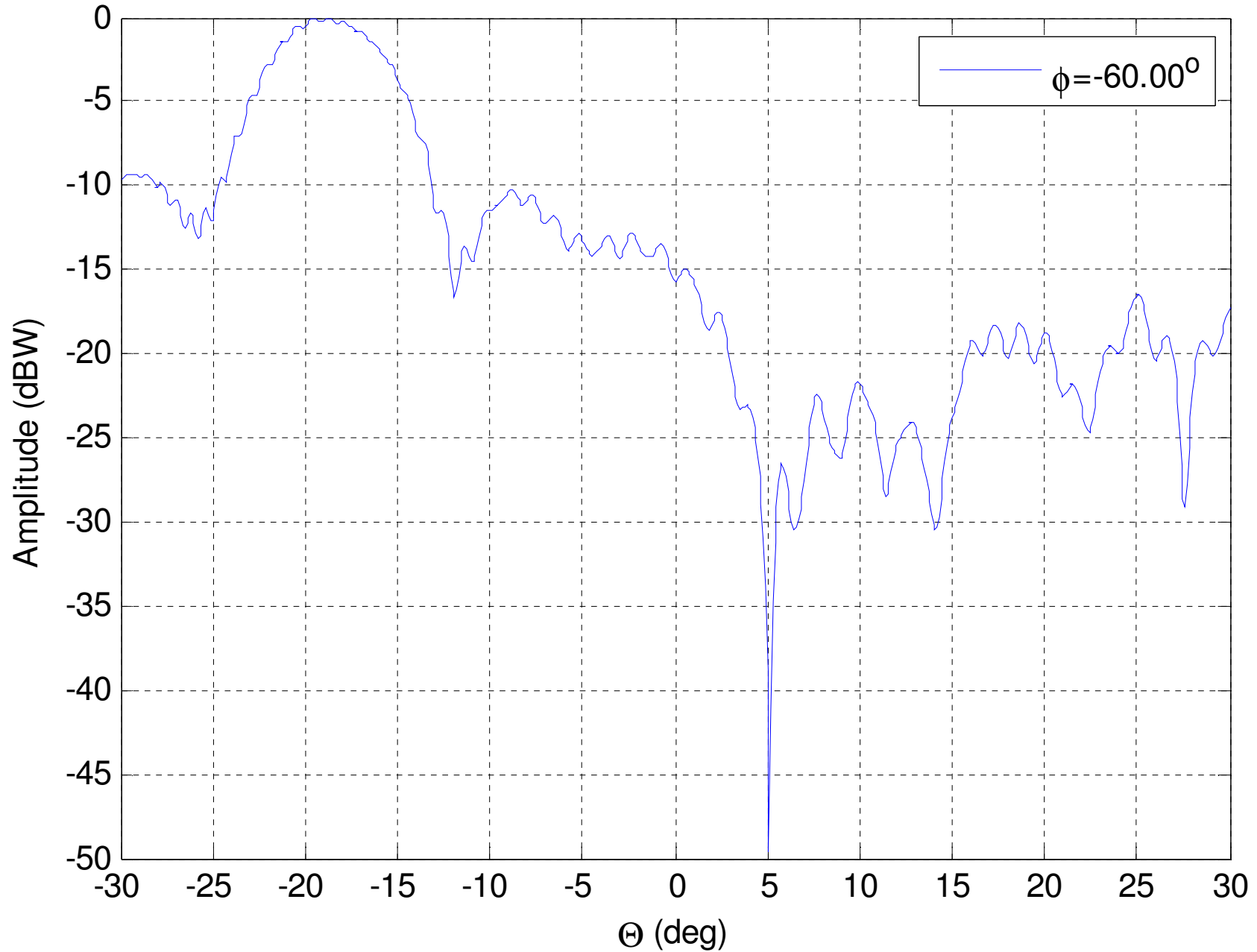
Input file: tx-17.5-rhcp-60.cut, Peak: -4.07 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

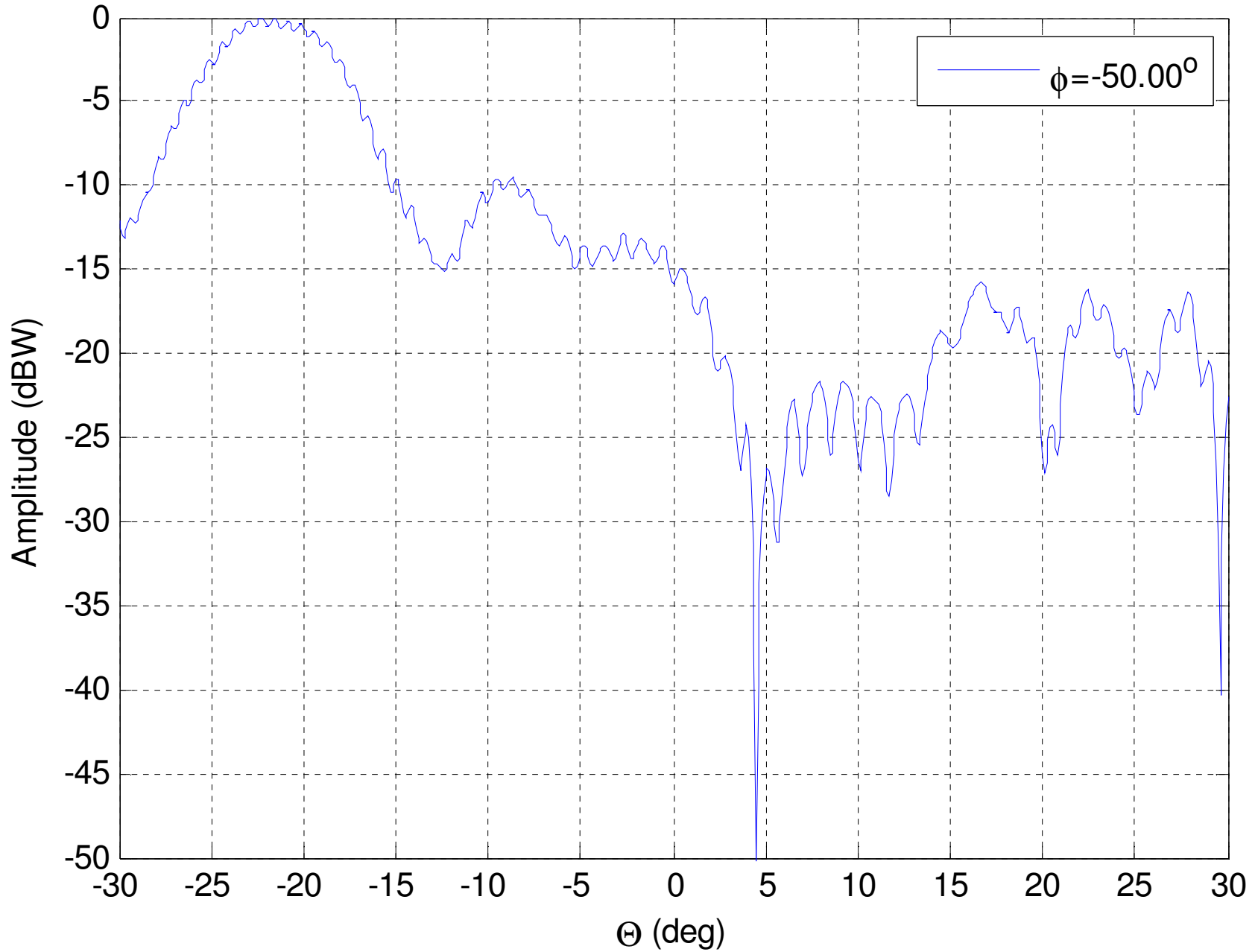
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -3.69 dBW, Date: 16-Dec-2011



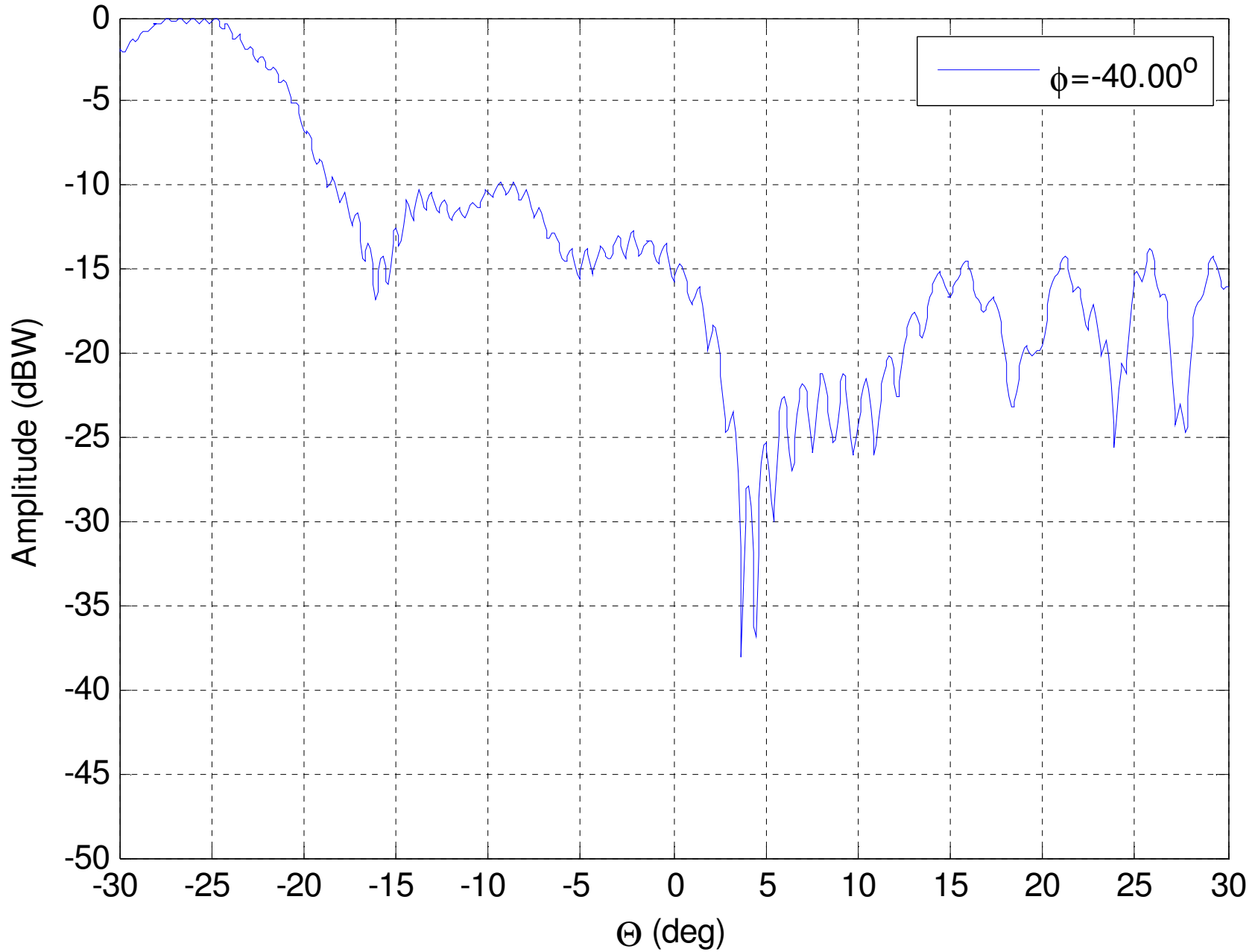
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -3.59 dBW, Date: 16-Dec-2011



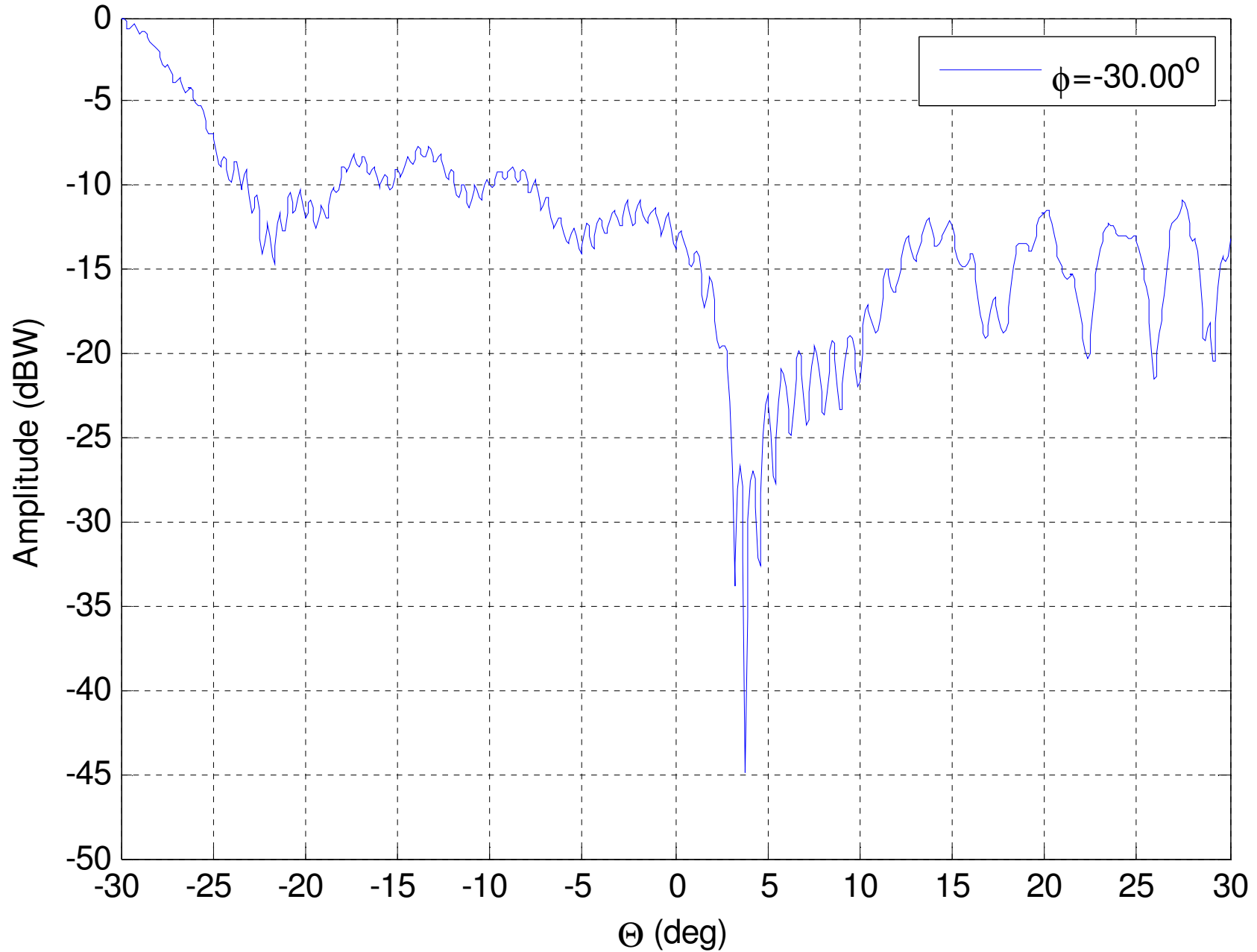
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -3.75 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

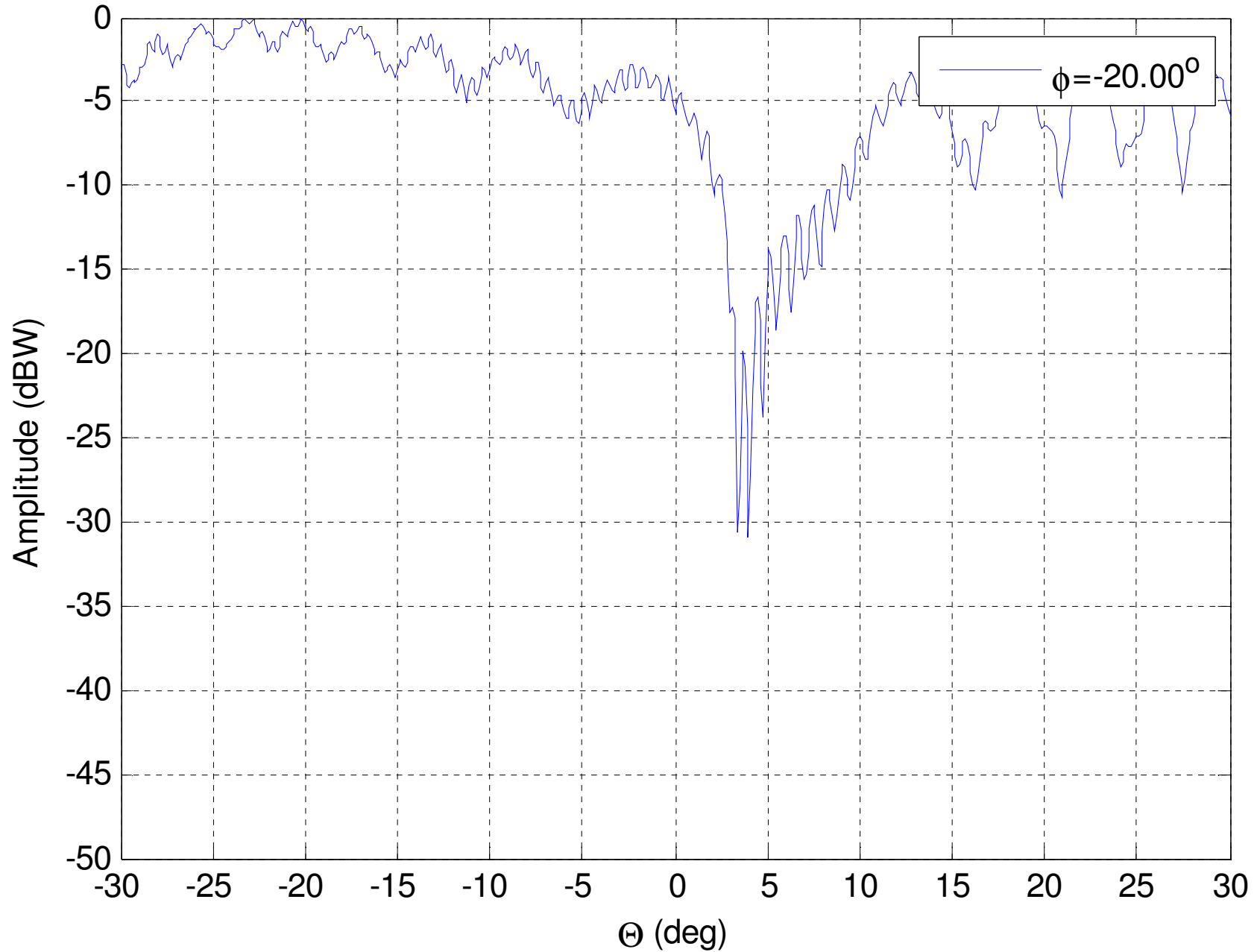
Input file: tx-17.5-lhcp--30.cut, Peak: -5.66 dBW, Date: 16-Dec-2011





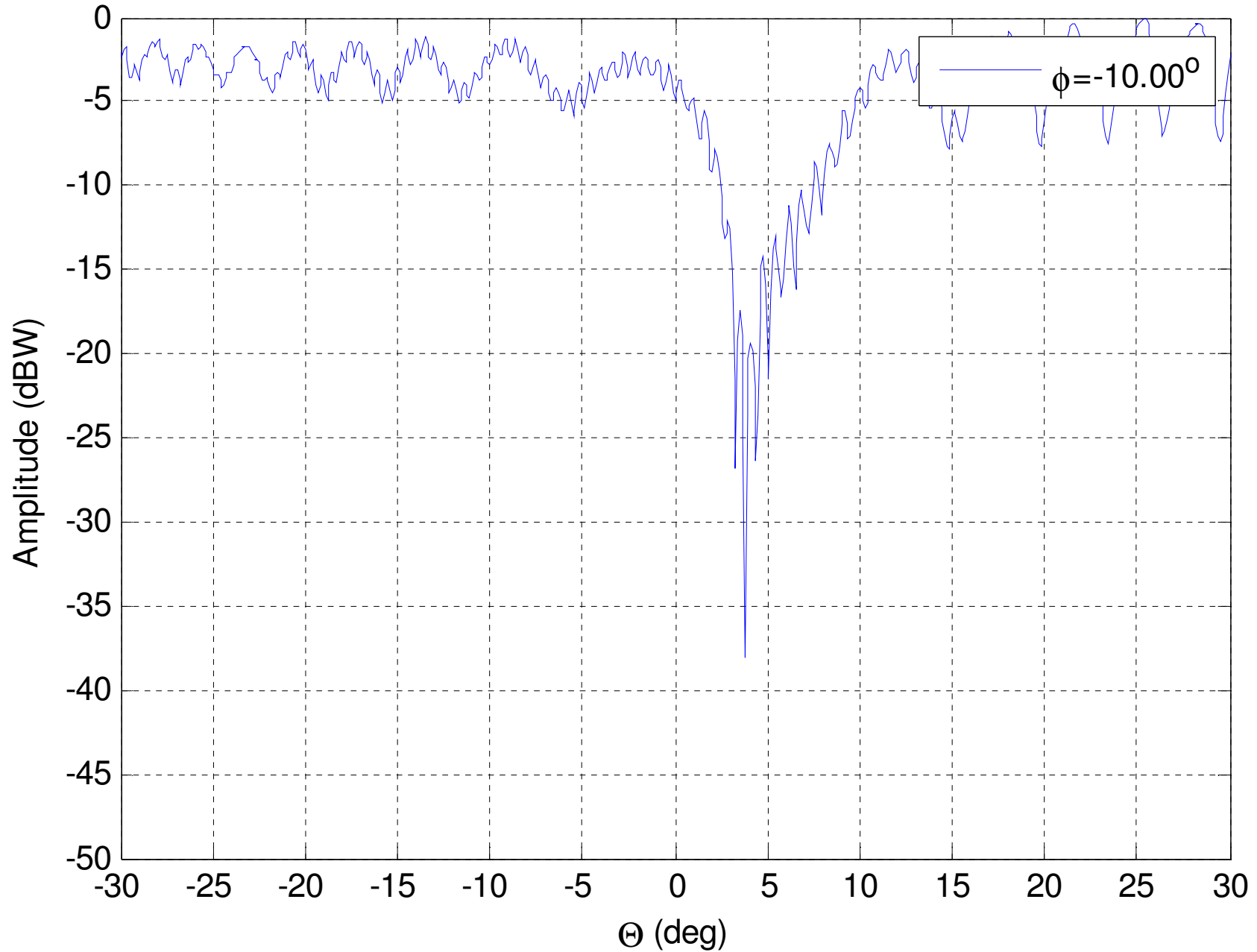
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -13.72 dBW, Date: 16-Dec-2011



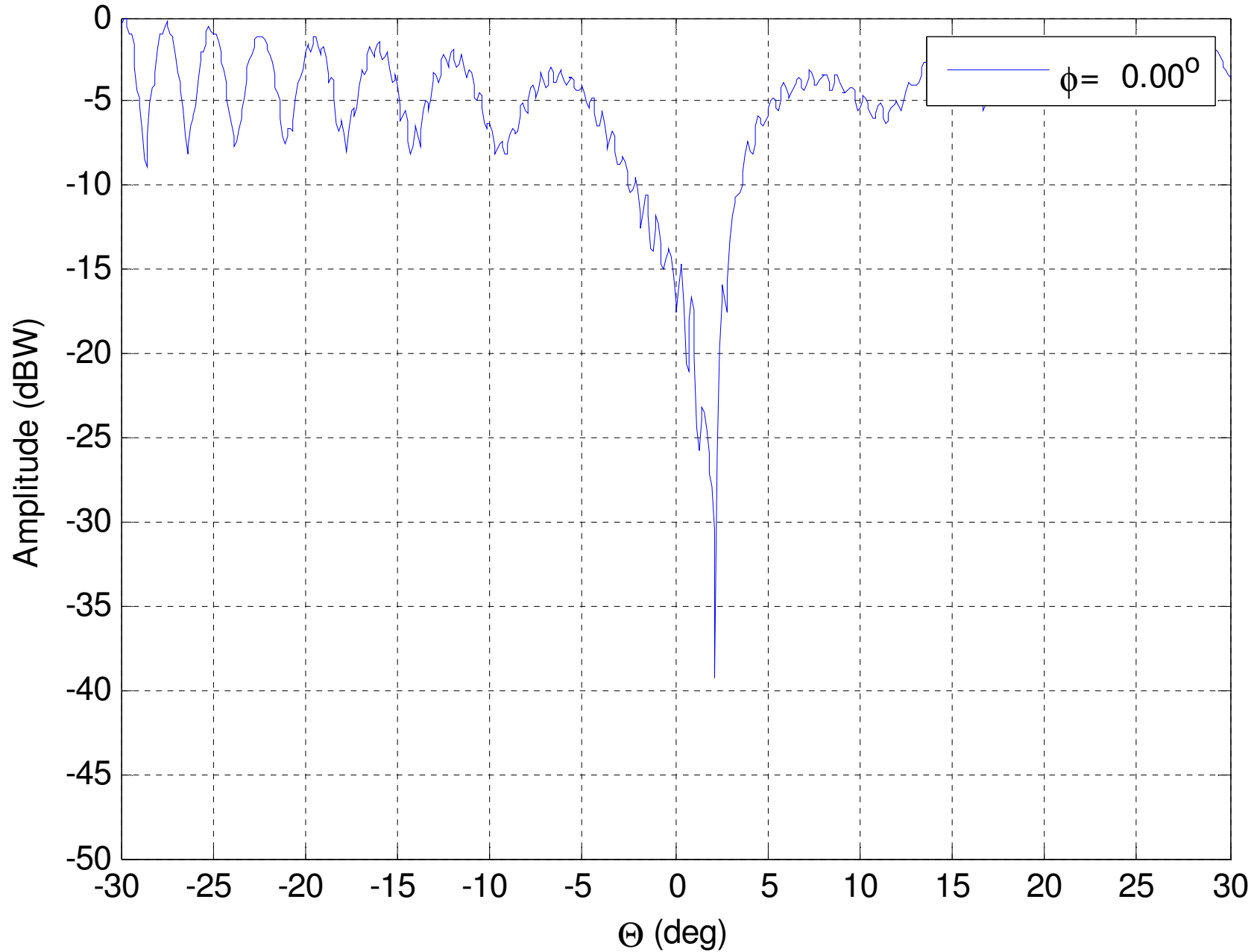
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -14.53 dBW, Date: 16-Dec-2011



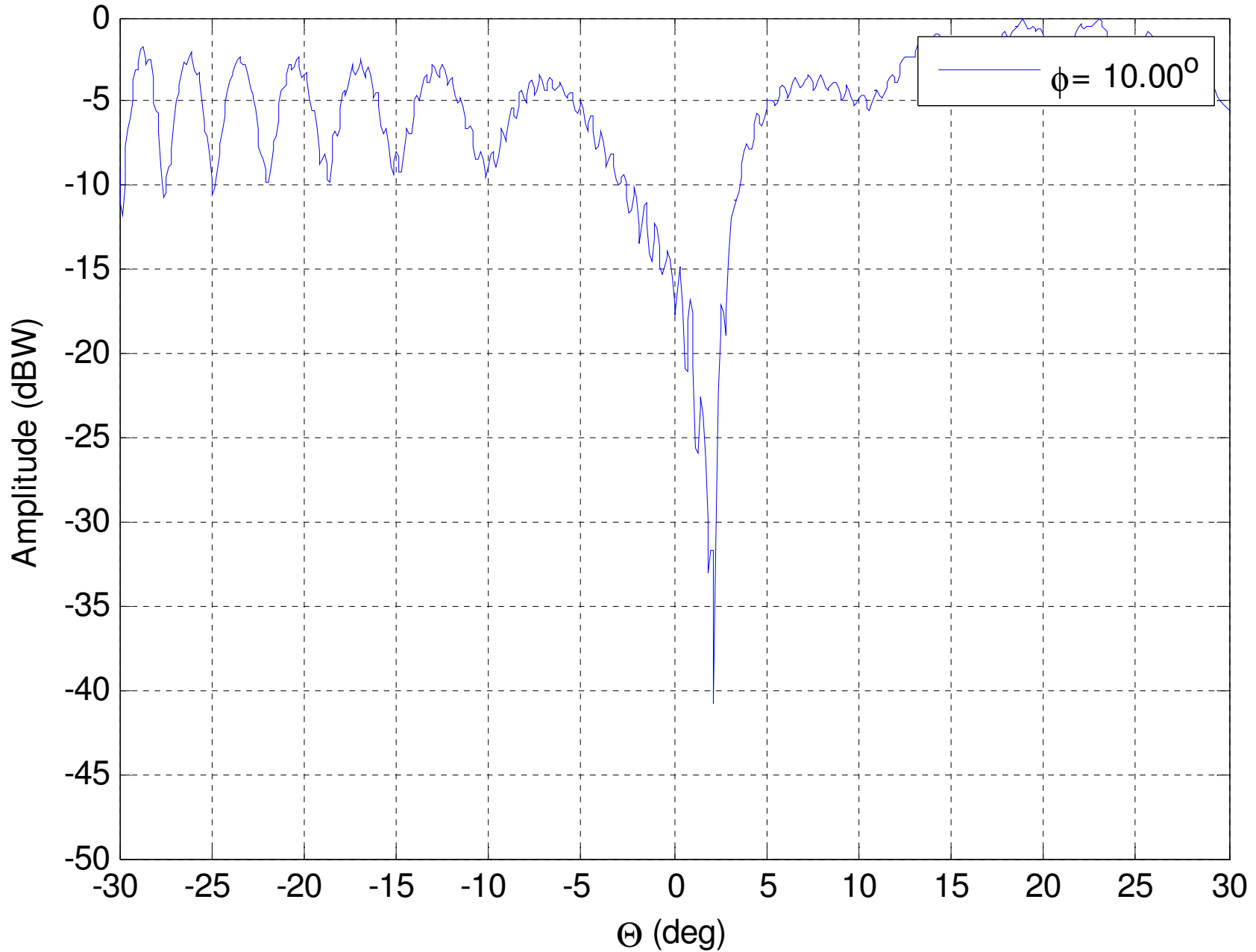
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -13.57 dBW, Date: 16-Dec-2011



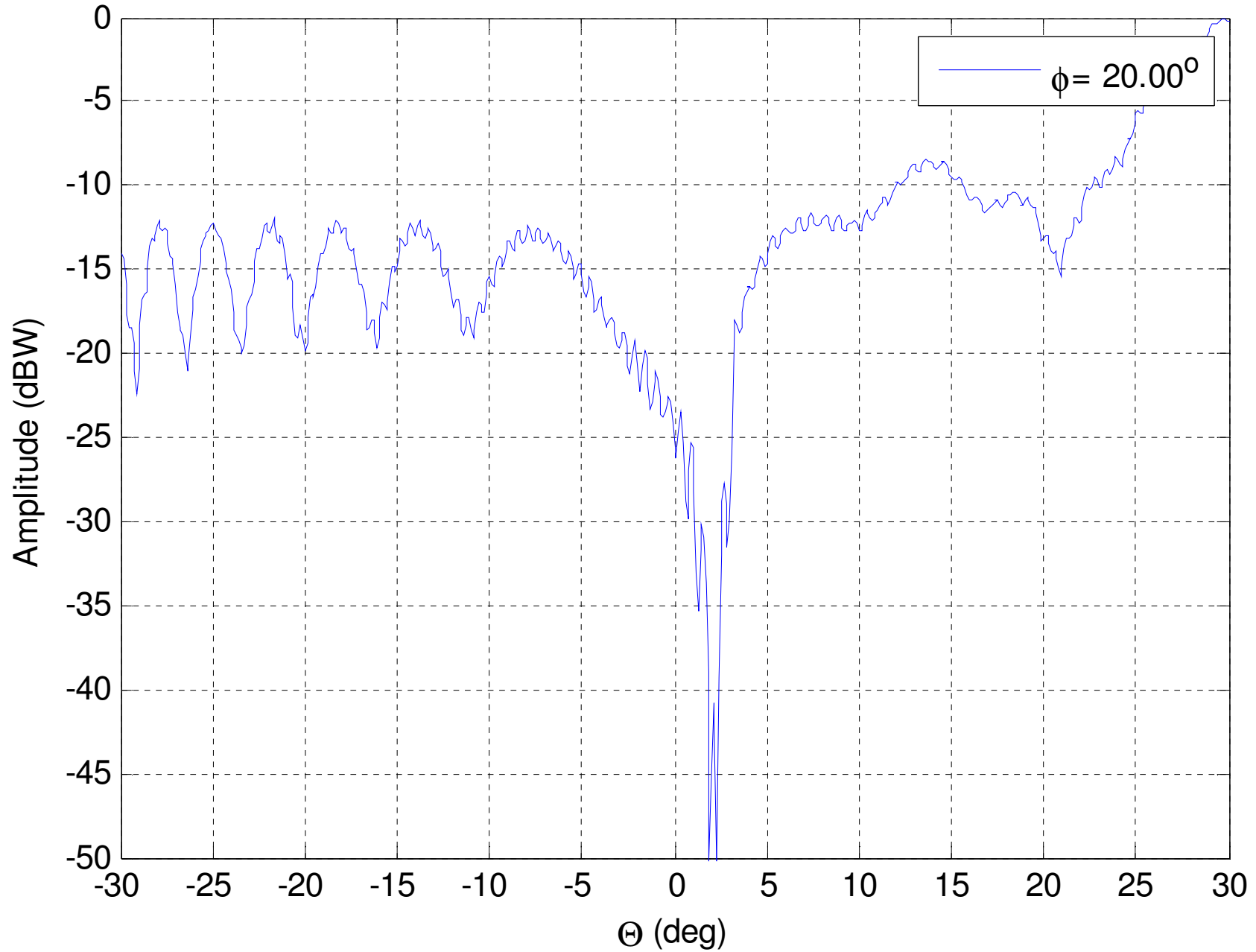
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -13.40 dBW, Date: 16-Dec-2011



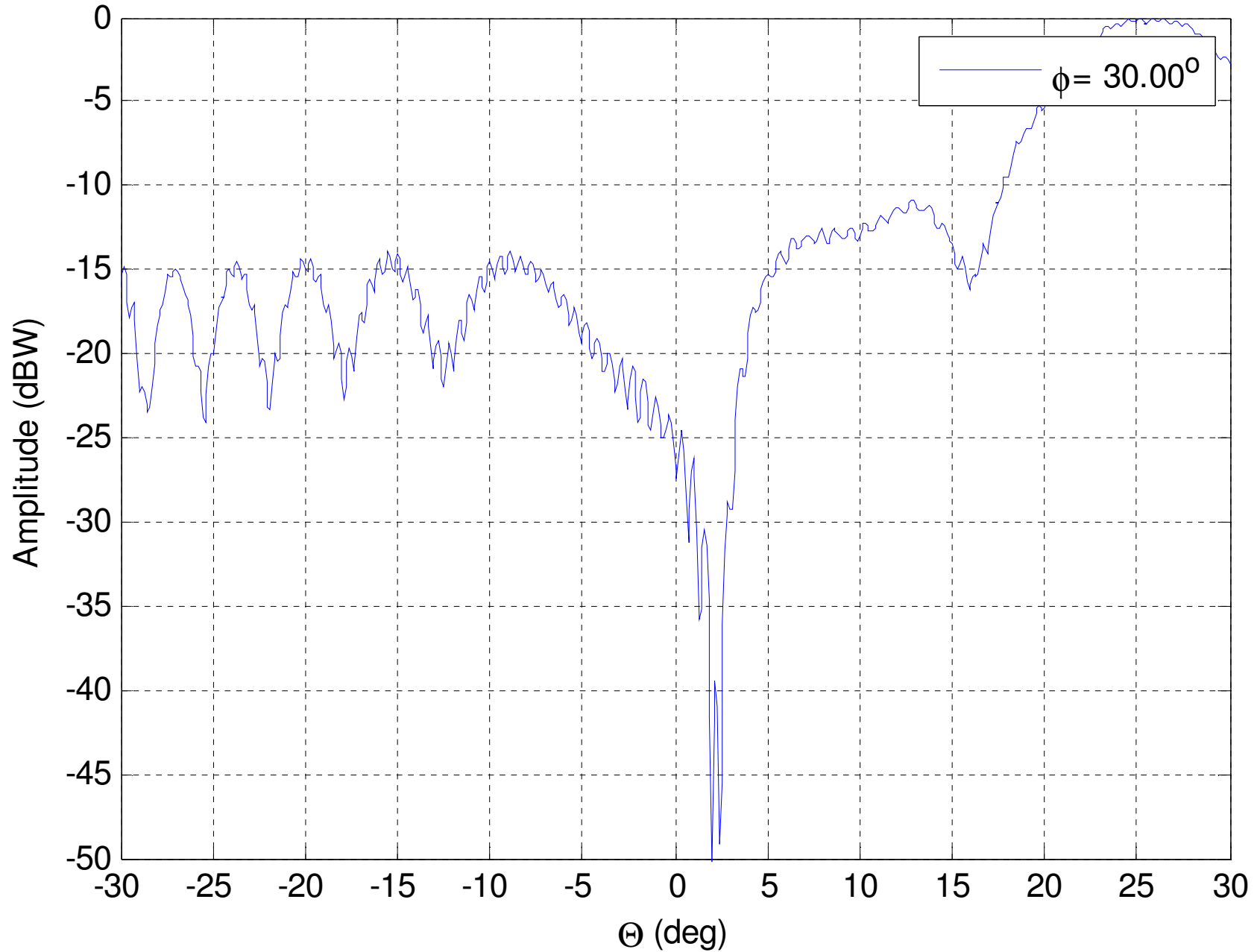
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -4.84 dBW, Date: 16-Dec-2011



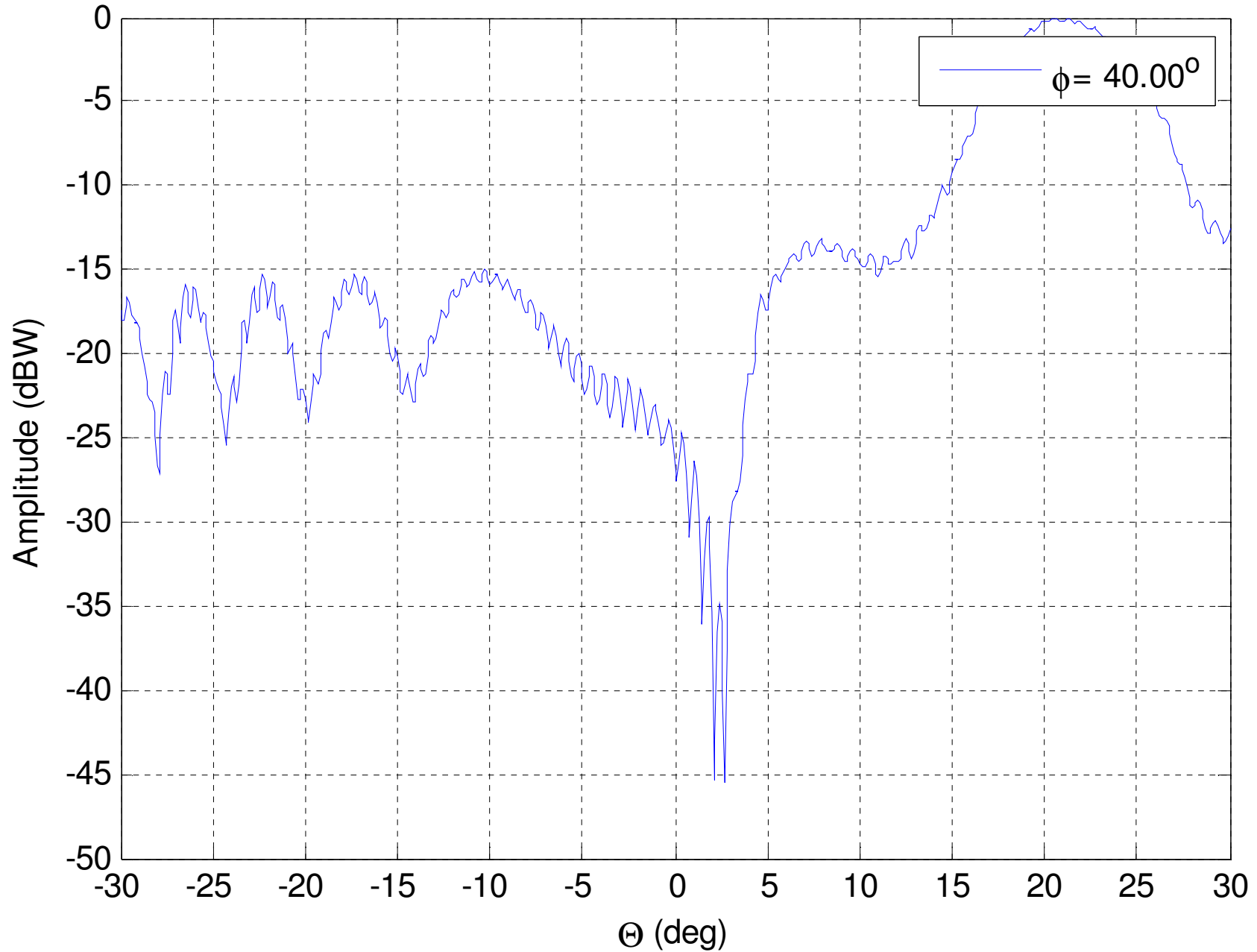
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -3.70 dBW, Date: 16-Dec-2011



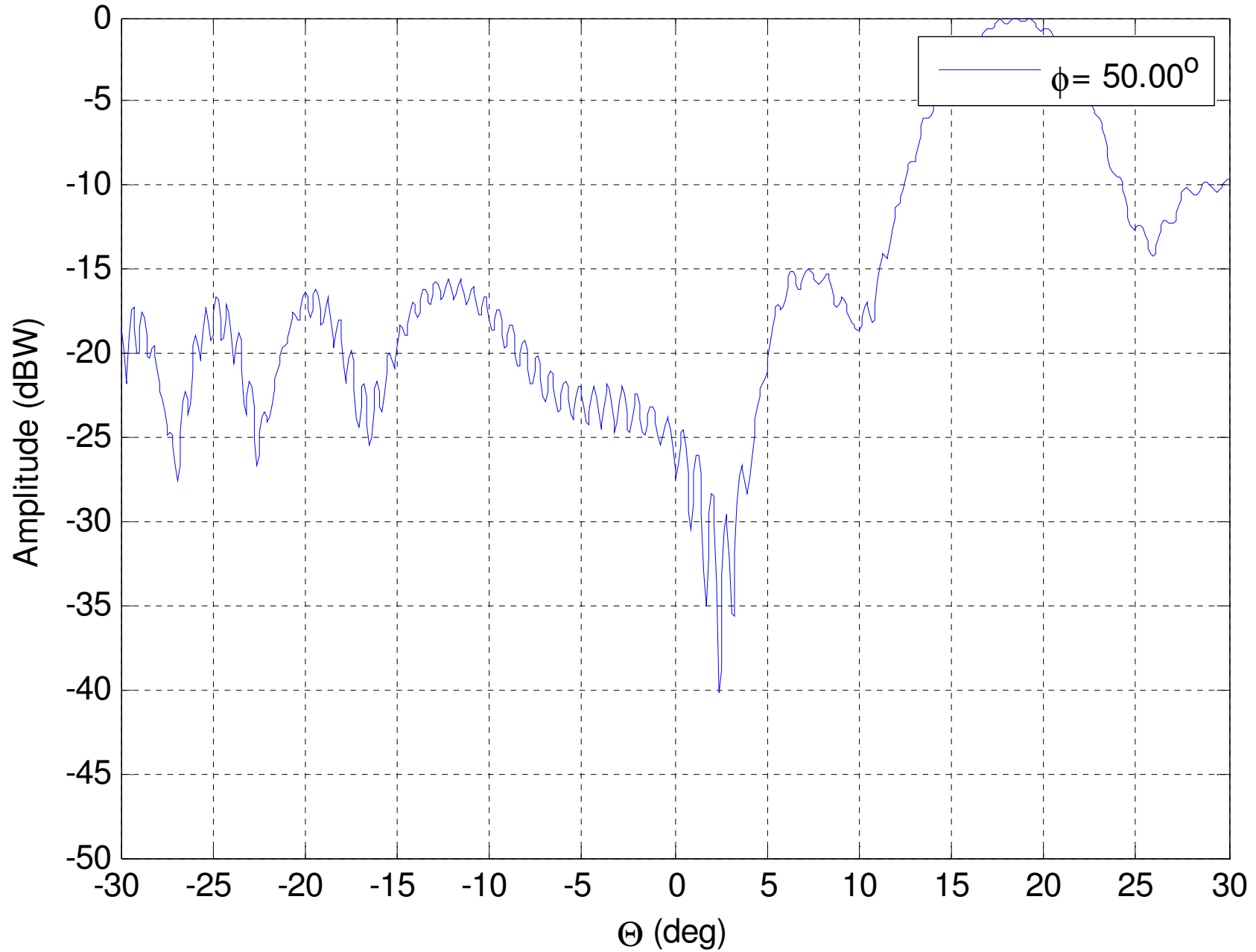
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -3.48 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

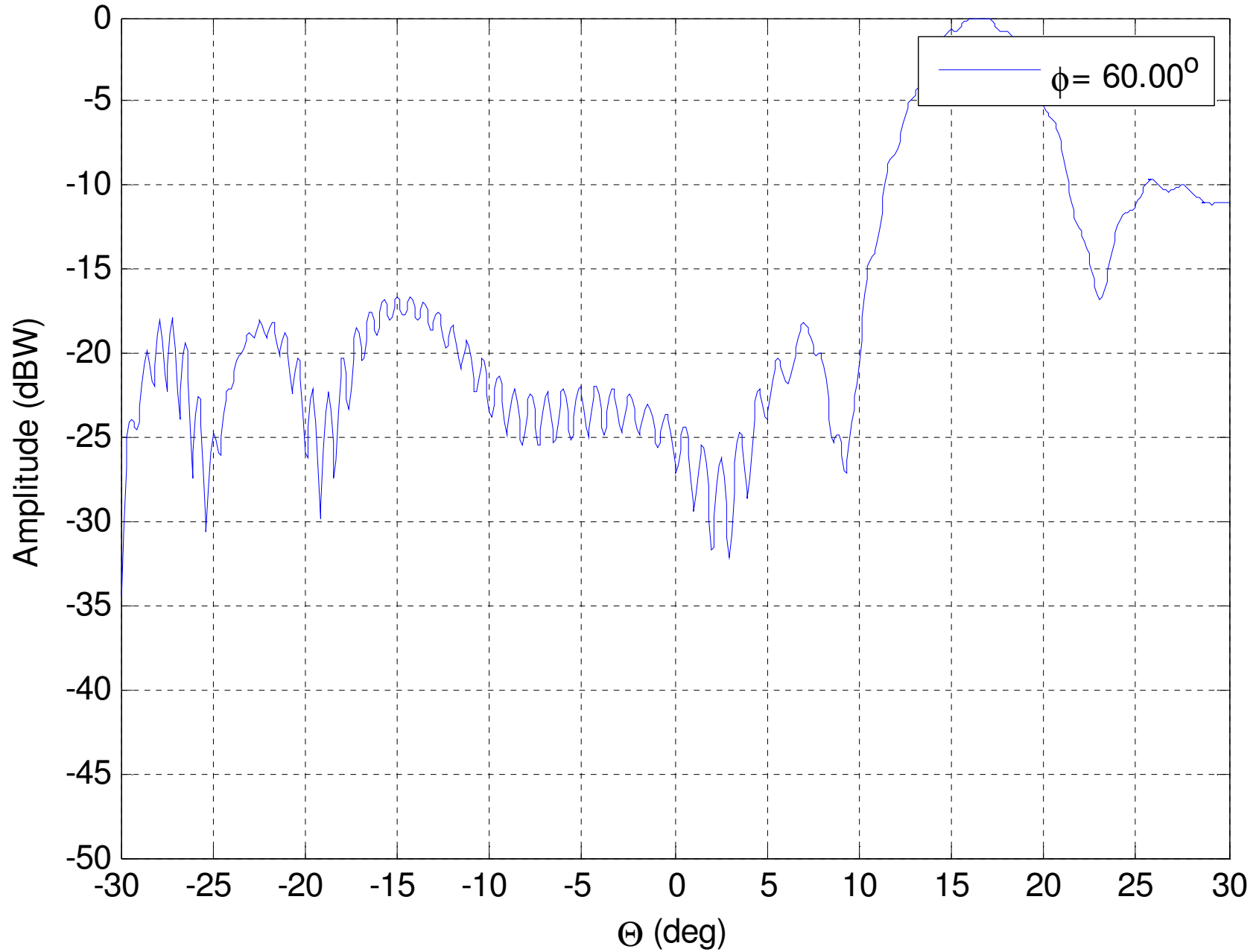
Input file: tx-17.5-lhcp-50.cut, Peak: -3.65 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

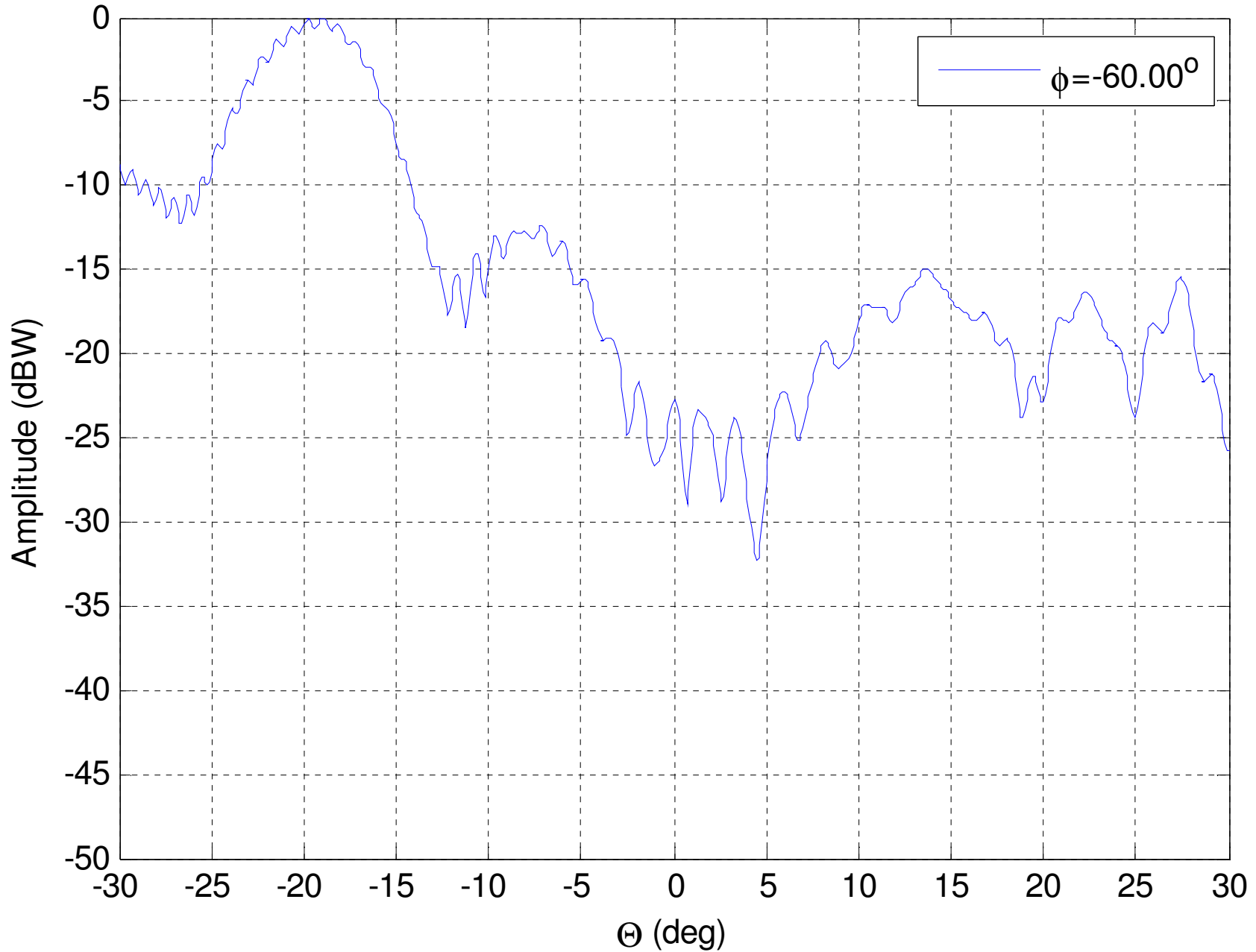
Input file: tx-17.5-lhcp-60.cut, Peak: -3.84 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

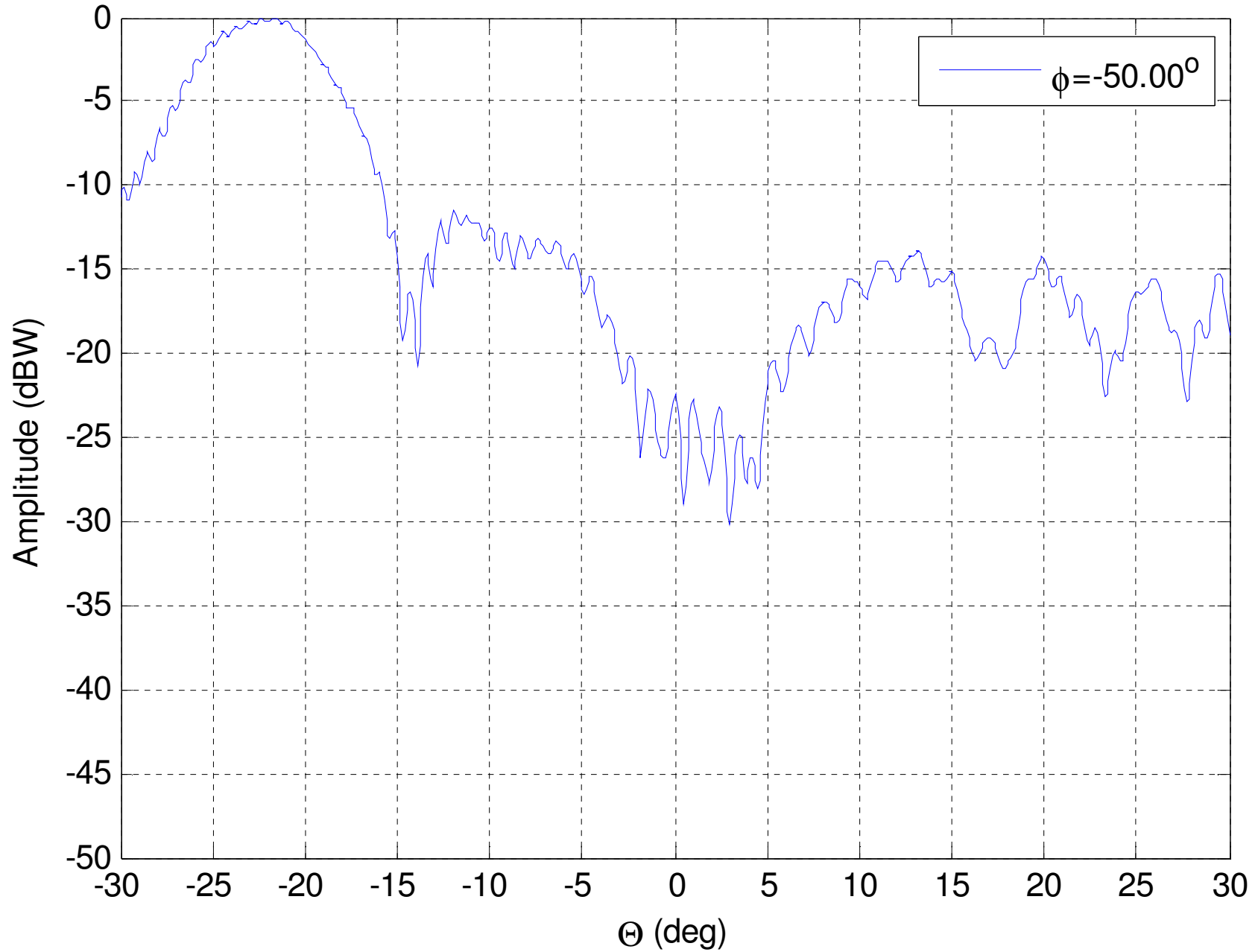
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -3.48 dBW, Date: 16-Dec-2011



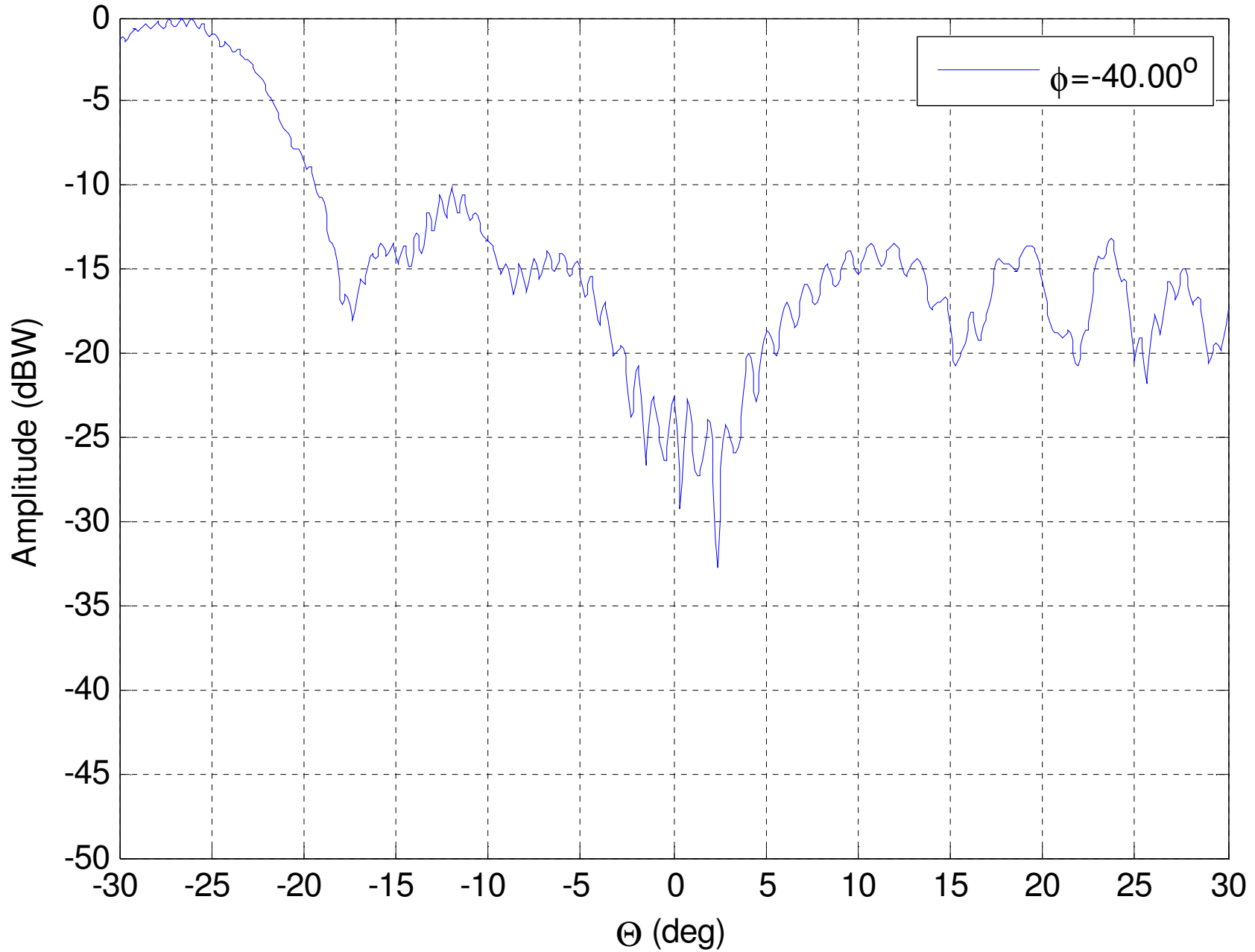
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -3.76 dBW, Date: 16-Dec-2011



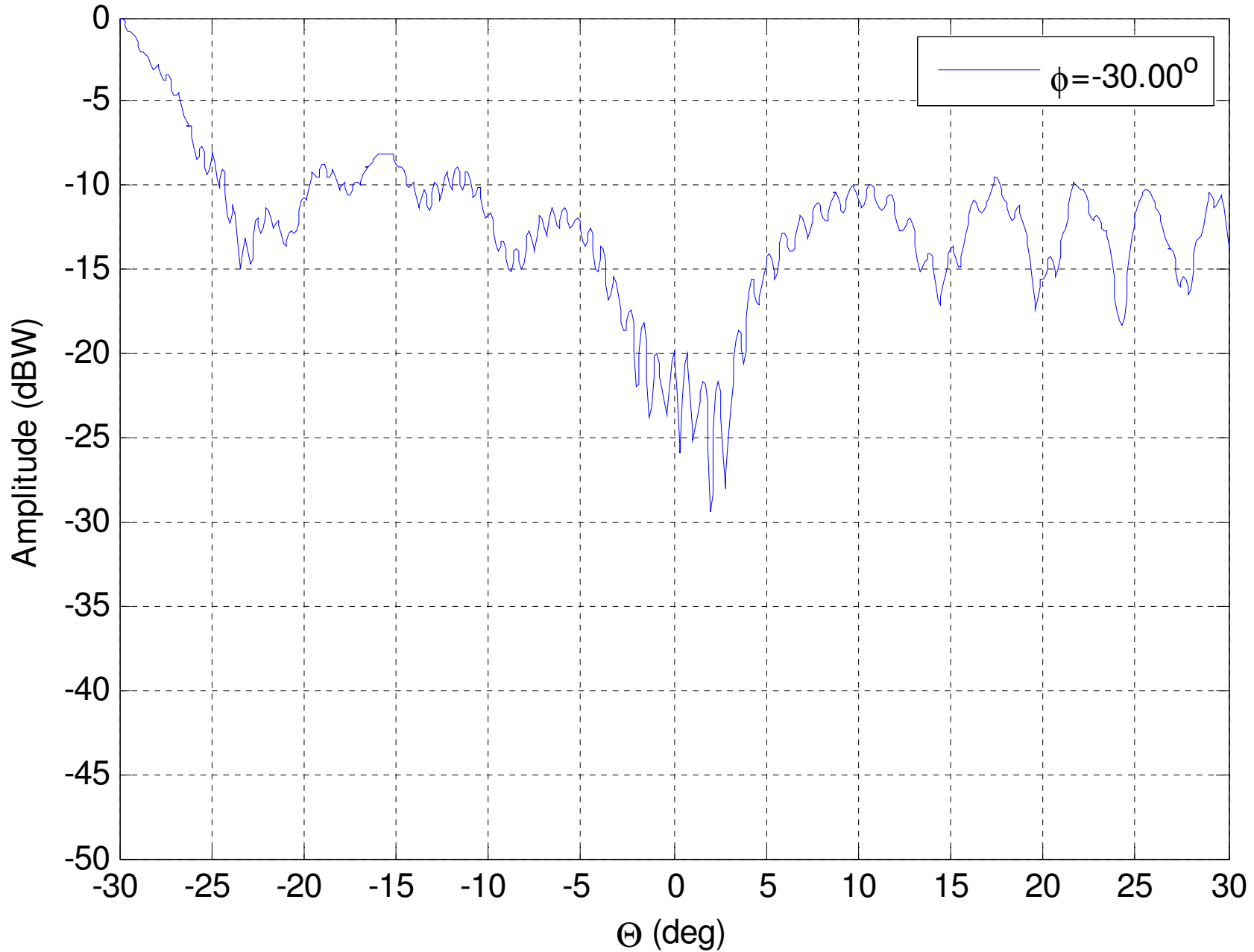
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -3.66 dBW, Date: 16-Dec-2011



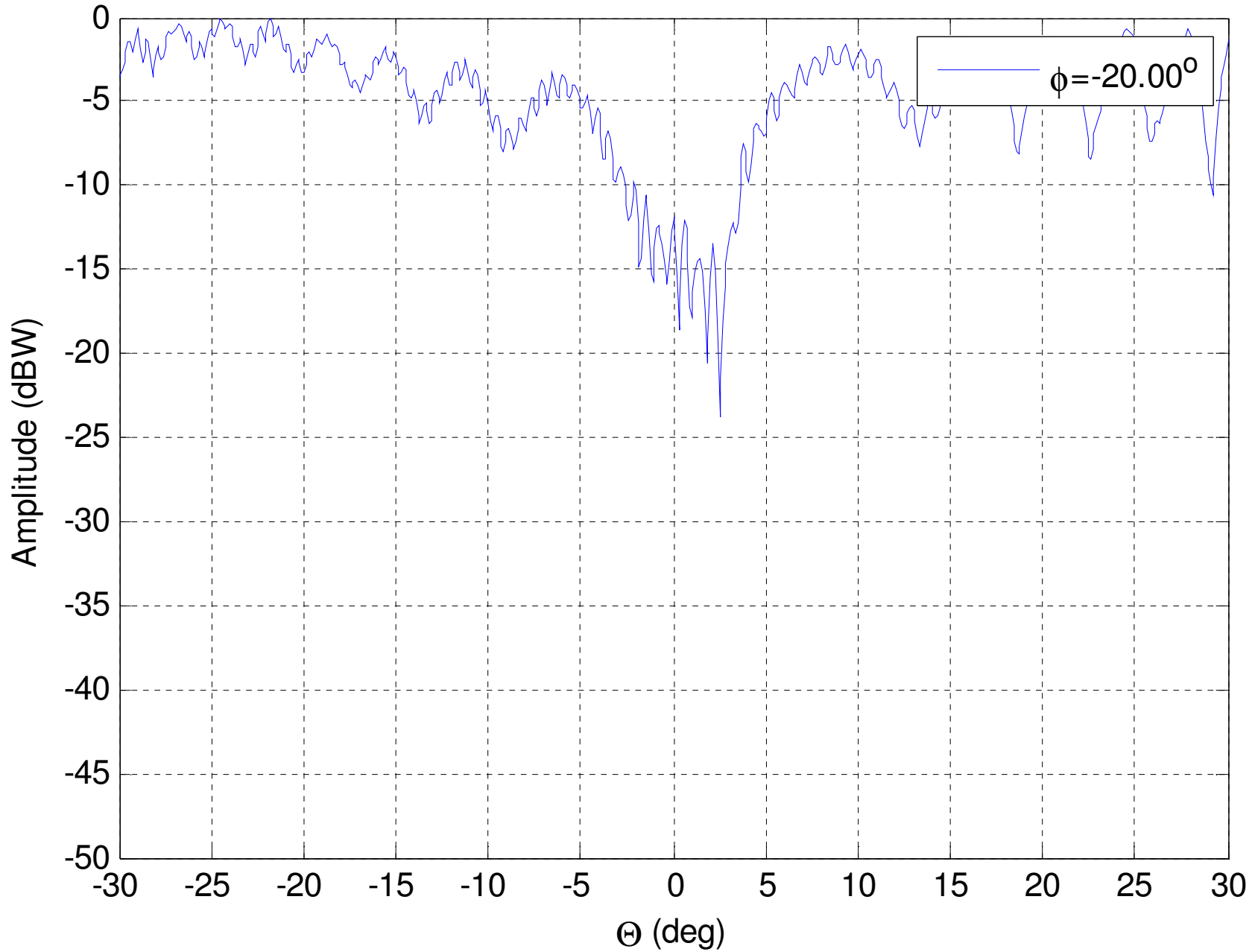
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -6.45 dBW, Date: 16-Dec-2011



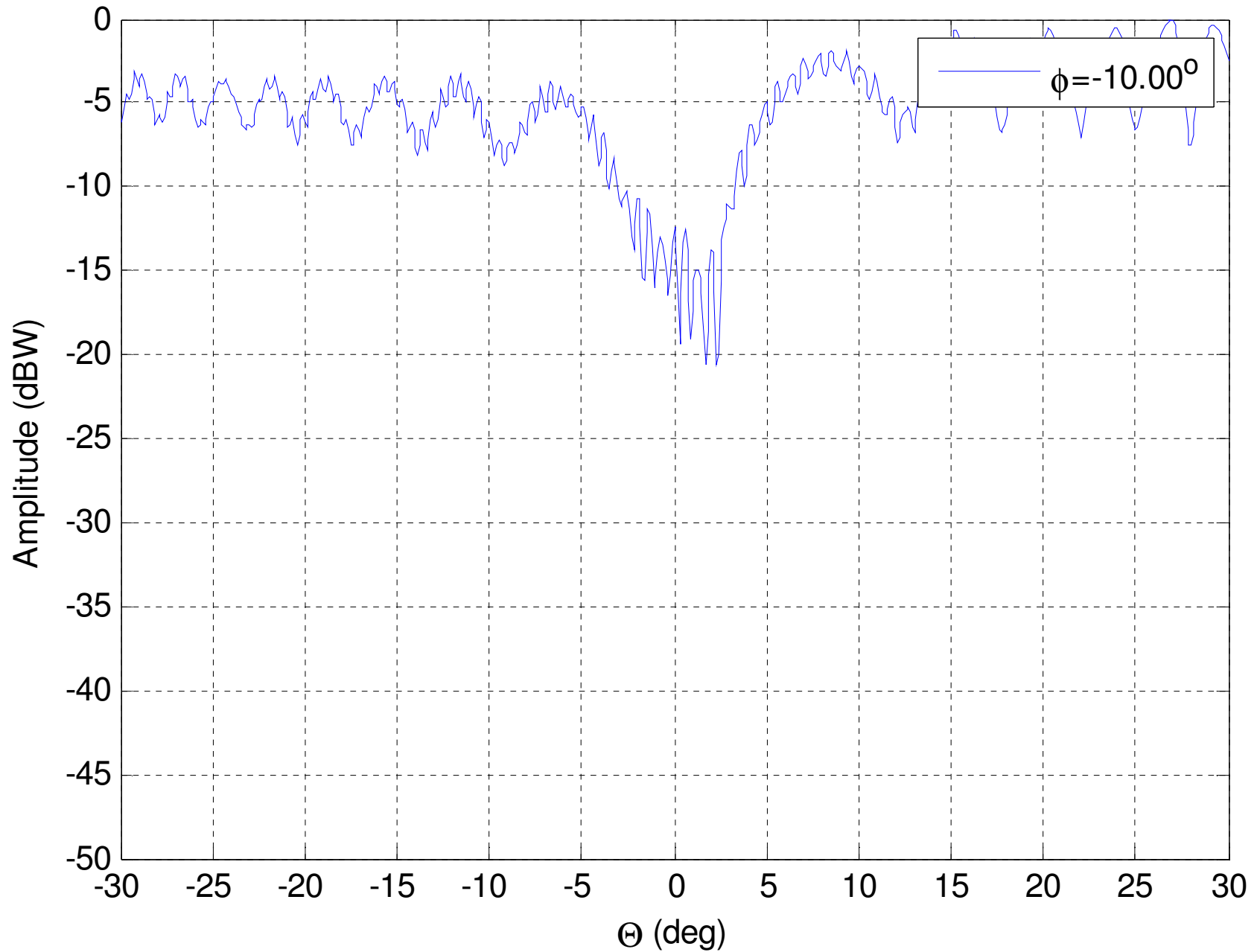
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -14.31 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

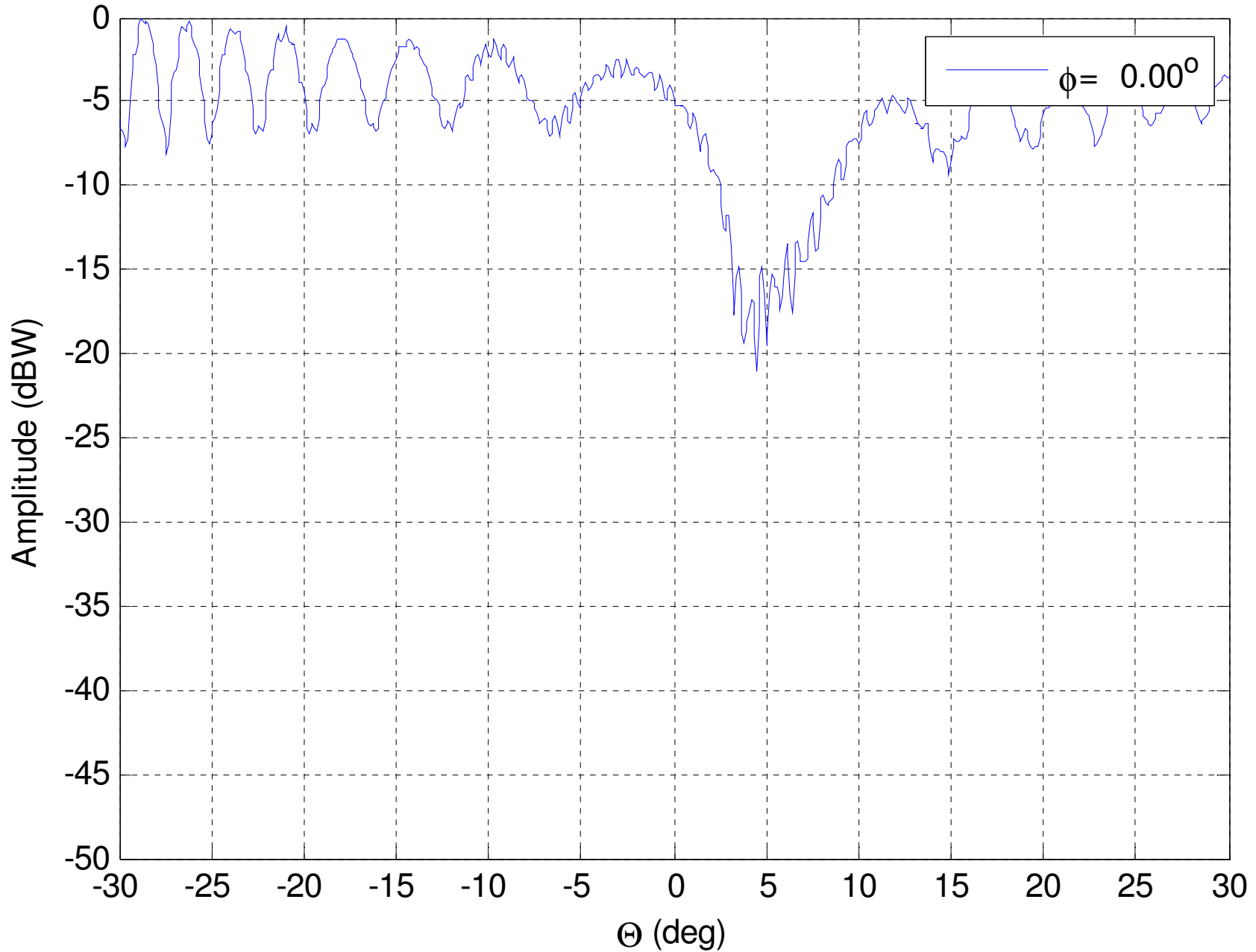
Input file: tx-17.7-rhcp--10.cut, Peak: -13.81 dBW, Date: 16-Dec-2011





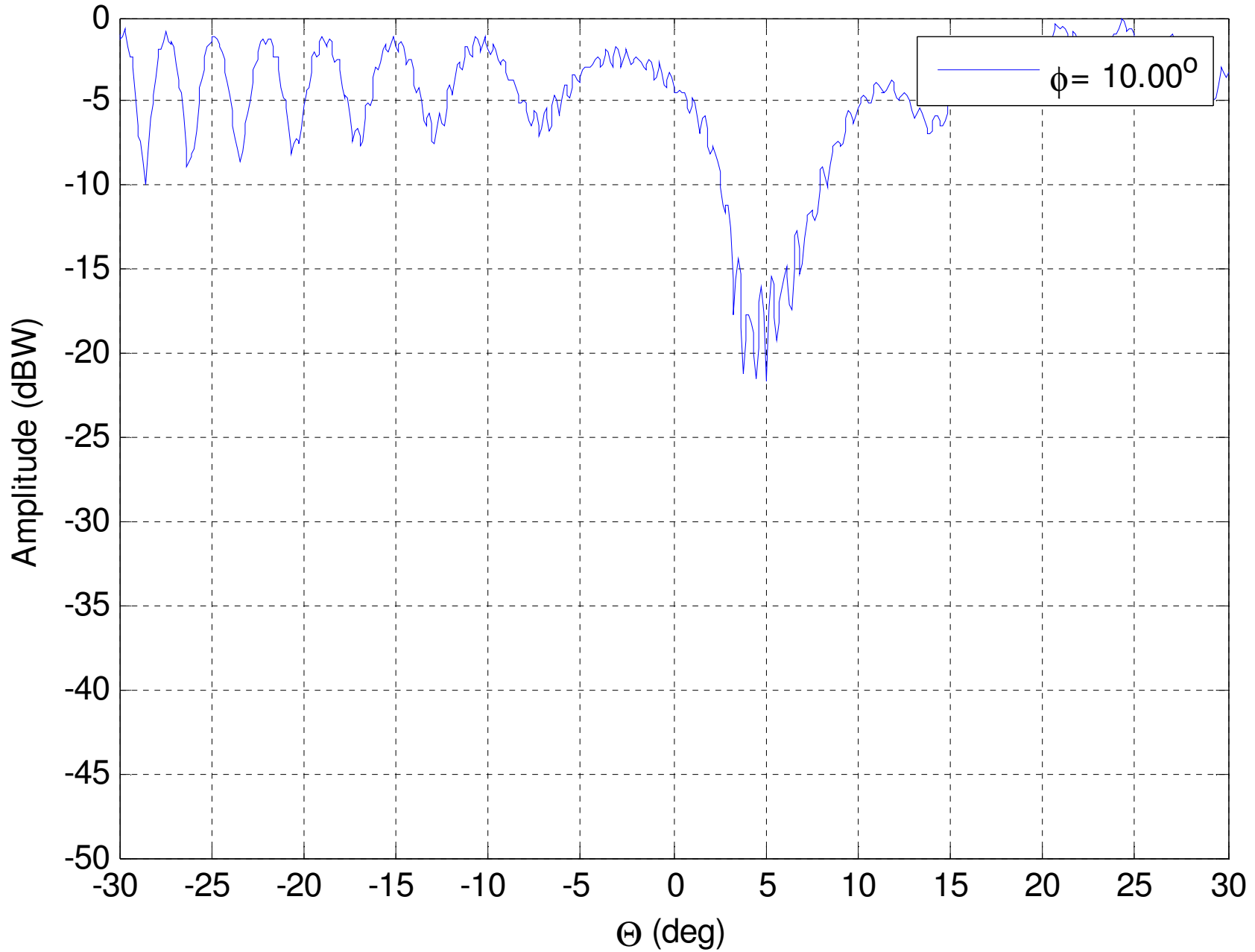
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -13.32 dBW, Date: 16-Dec-2011



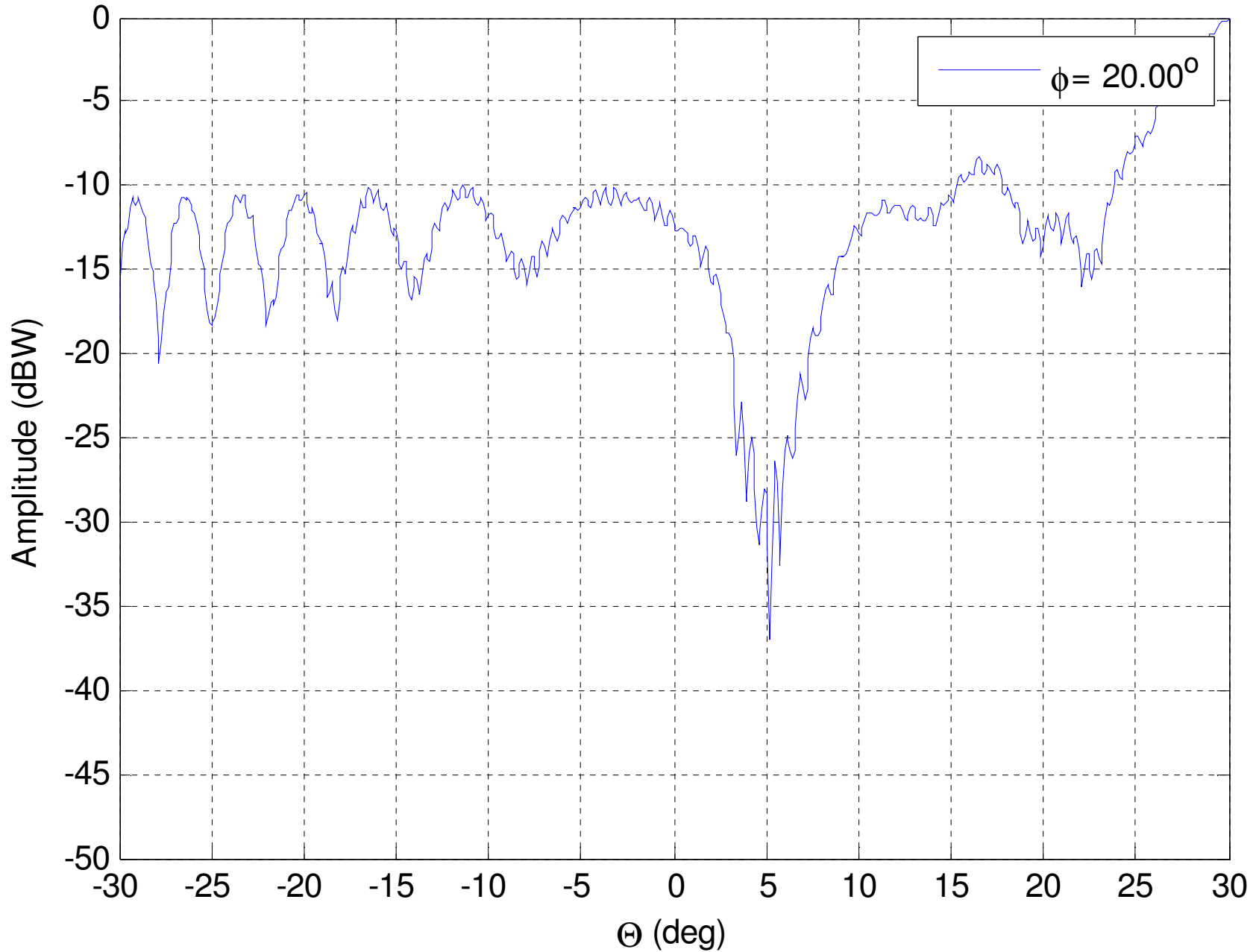
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -14.06 dBW, Date: 16-Dec-2011



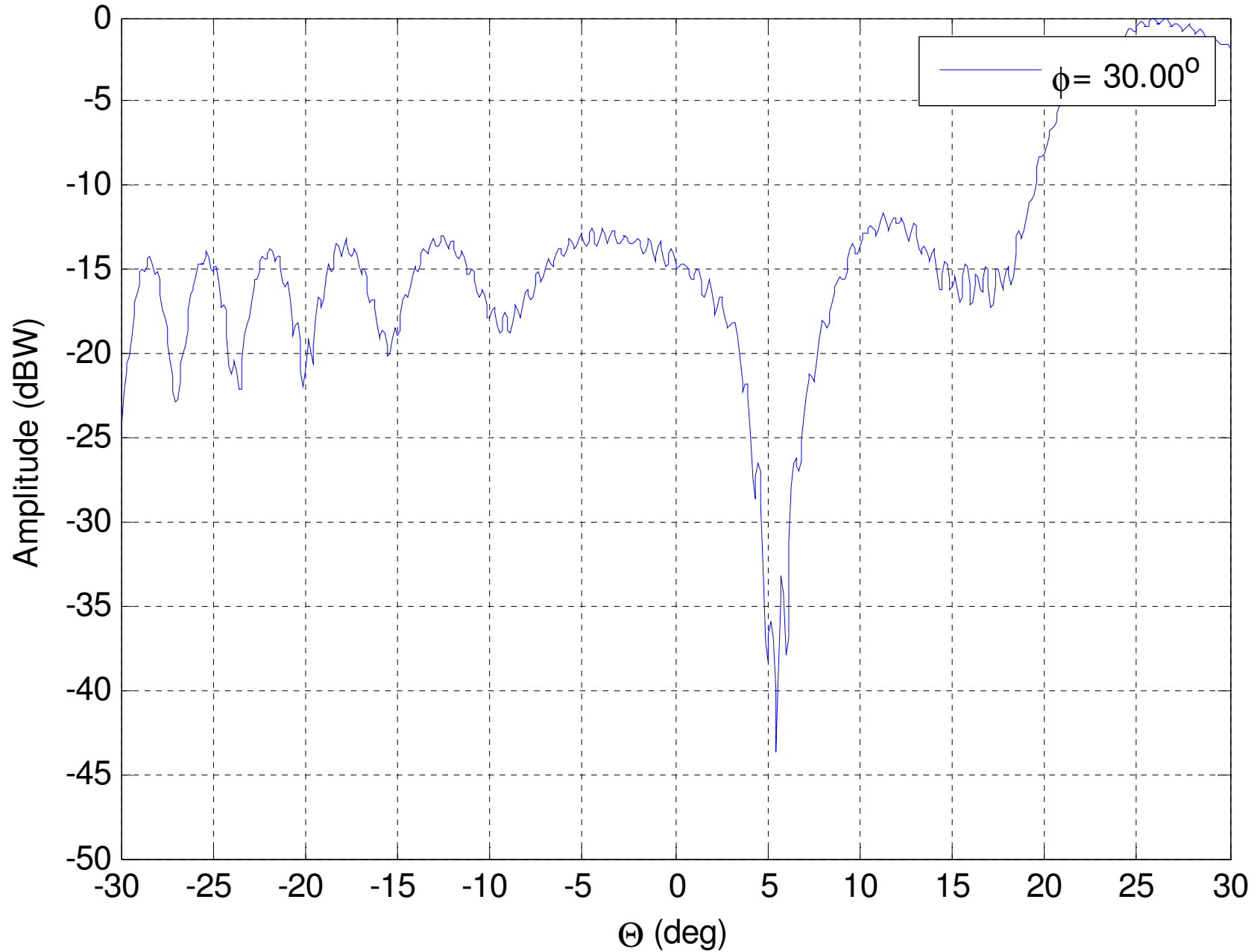
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -5.85 dBW, Date: 16-Dec-2011



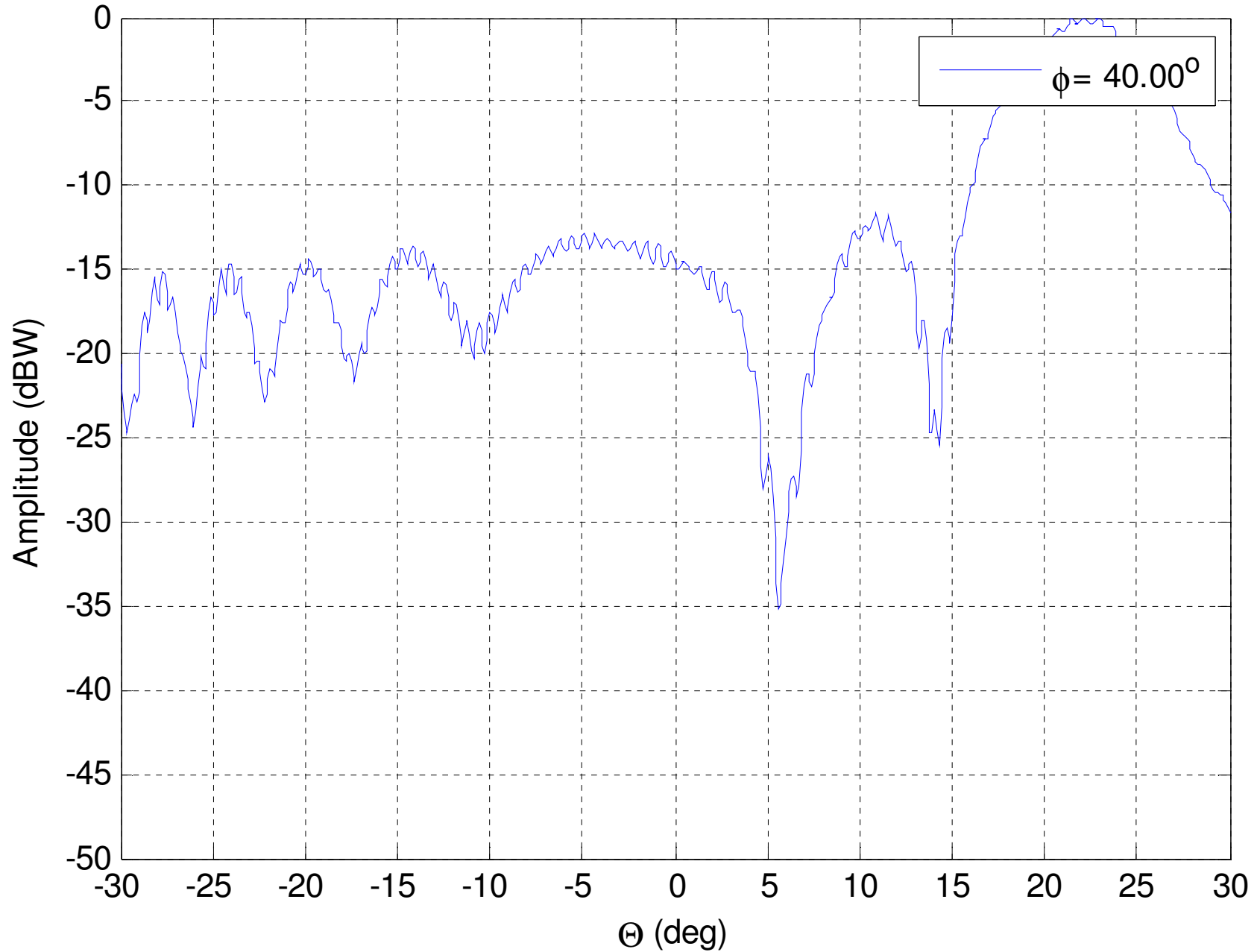
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -3.61 dBW, Date: 16-Dec-2011



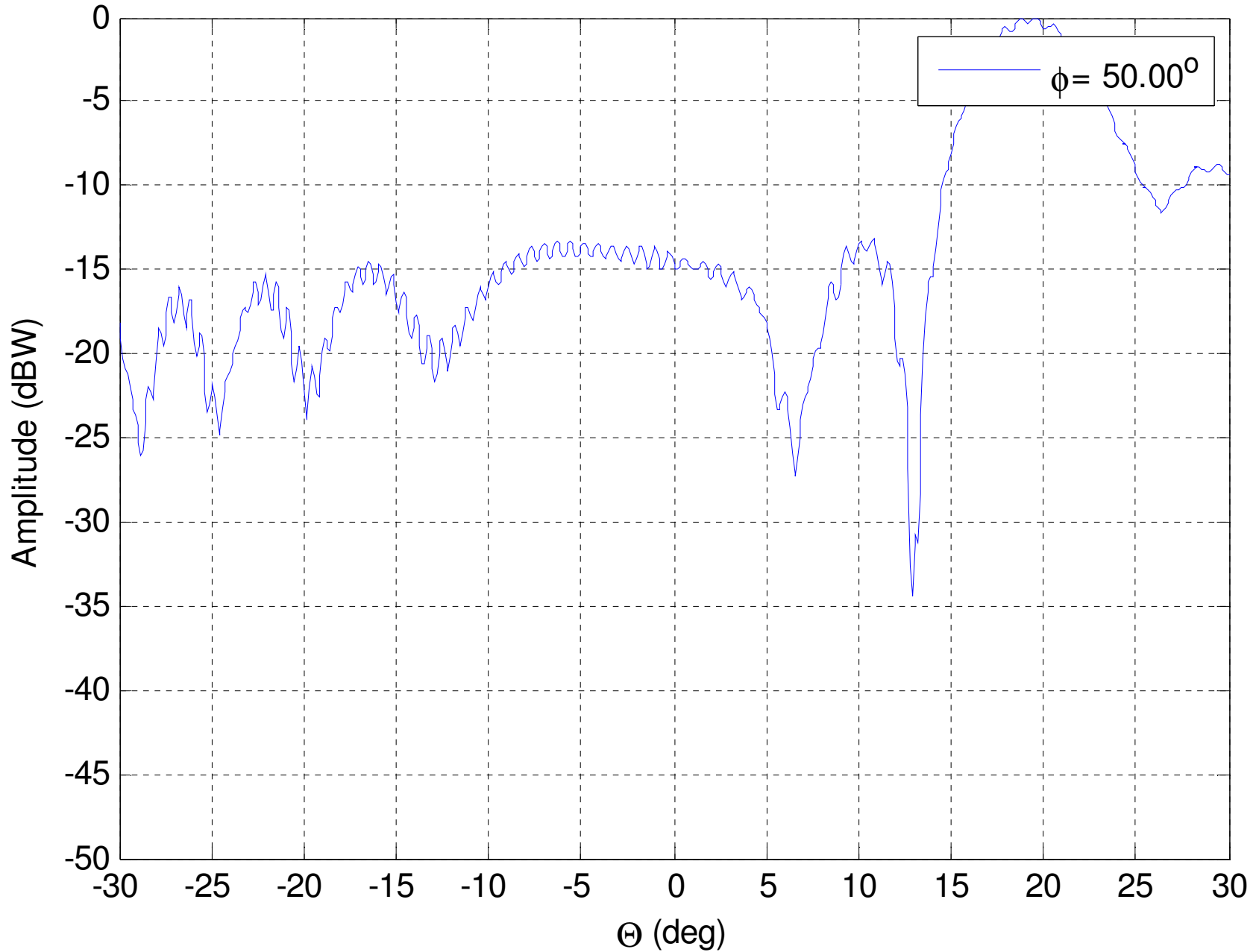
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -3.59 dBW, Date: 16-Dec-2011



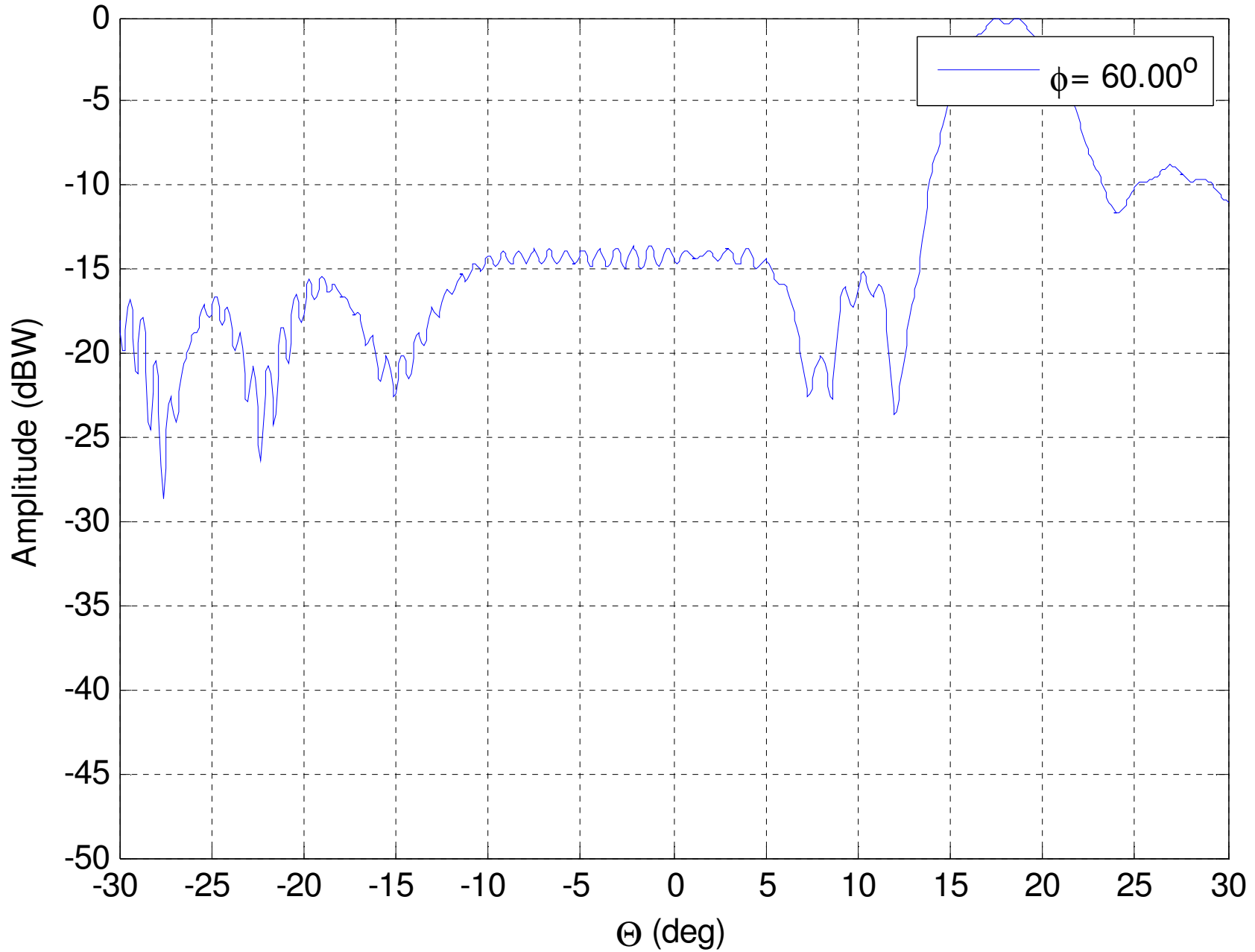
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -3.58 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-60.cut, Peak: -3.90 dBW, Date: 16-Dec-2011

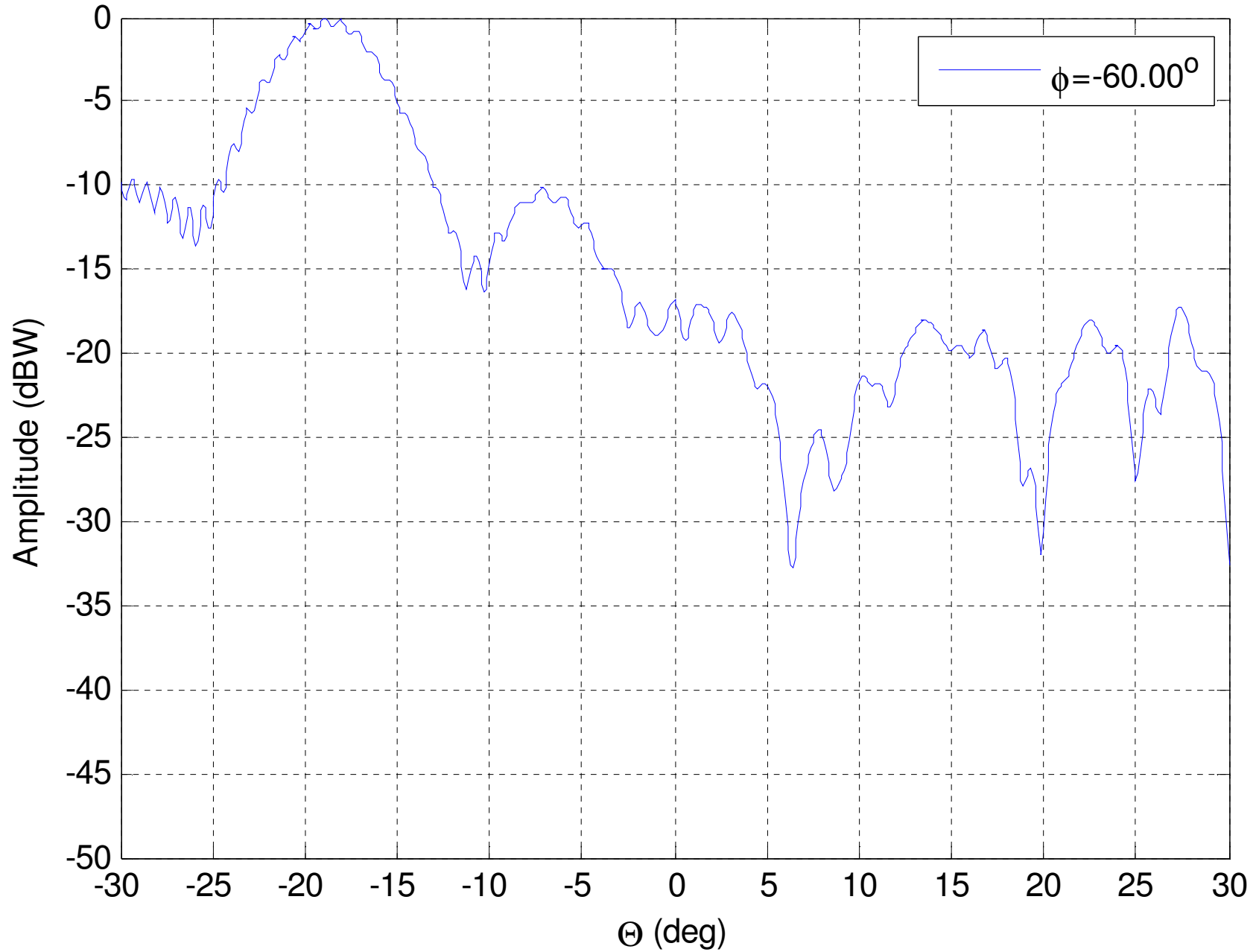


# LHCP at 17.7 GHz



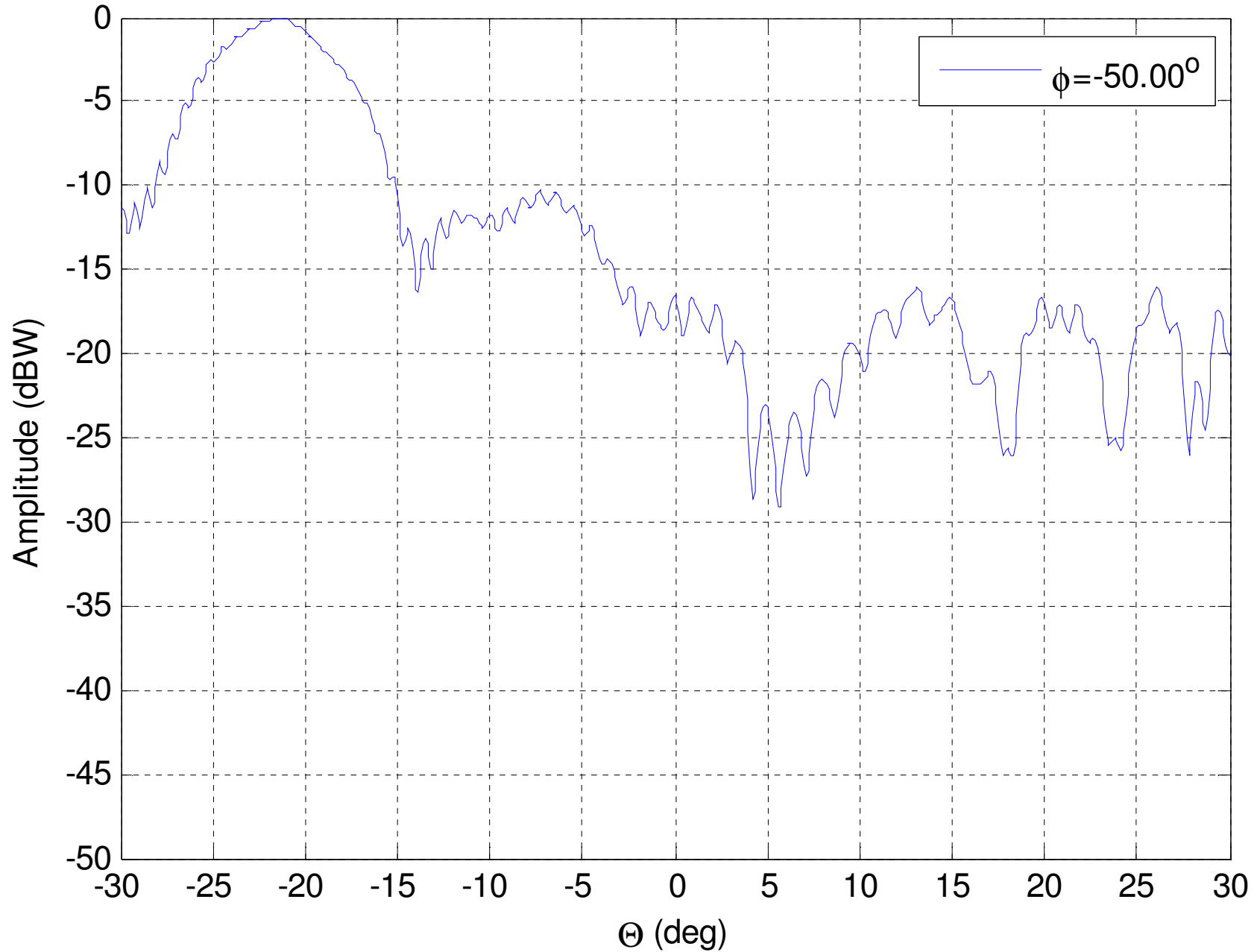
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -3.21 dBW, Date: 16-Dec-2011



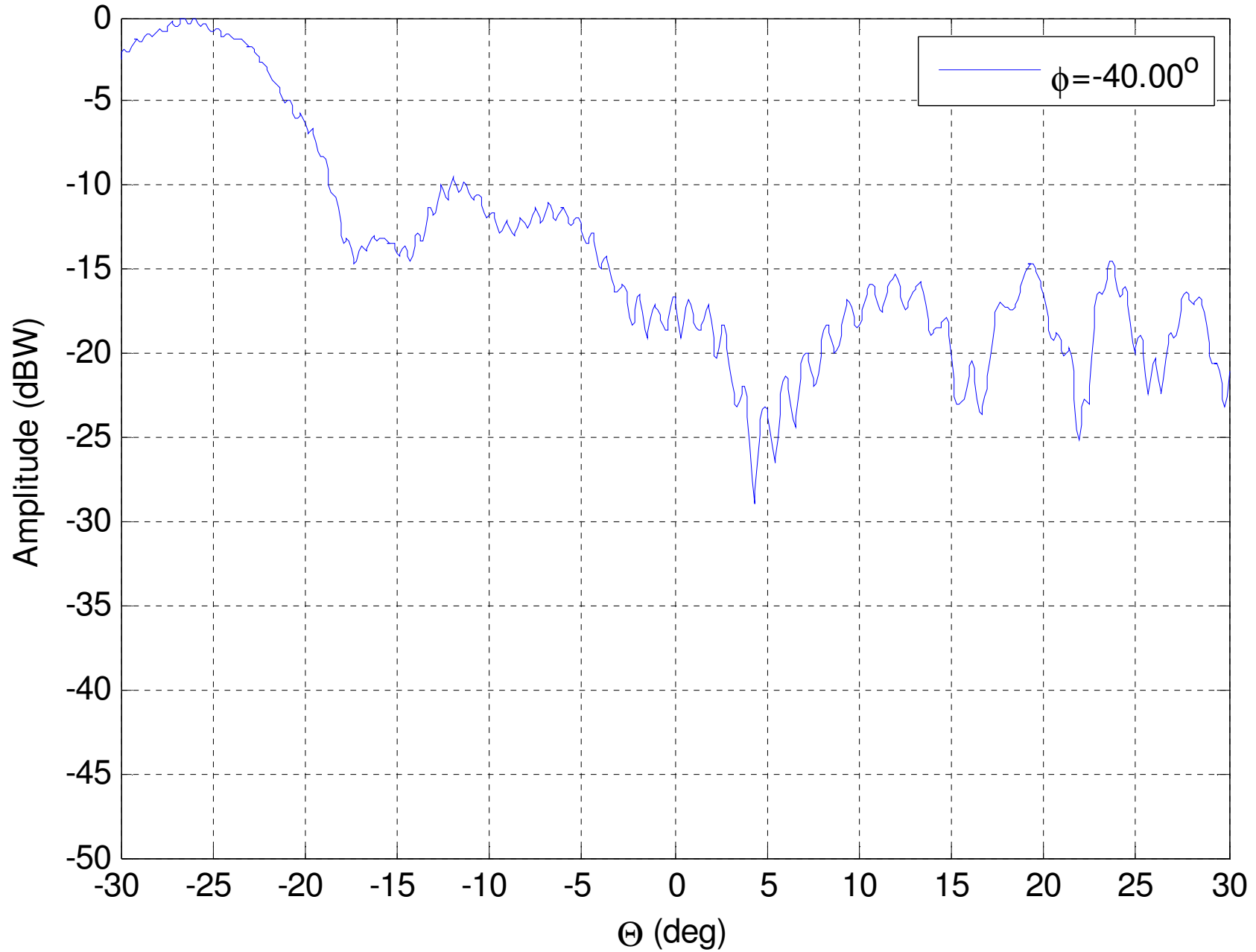
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -3.53 dBW, Date: 16-Dec-2011



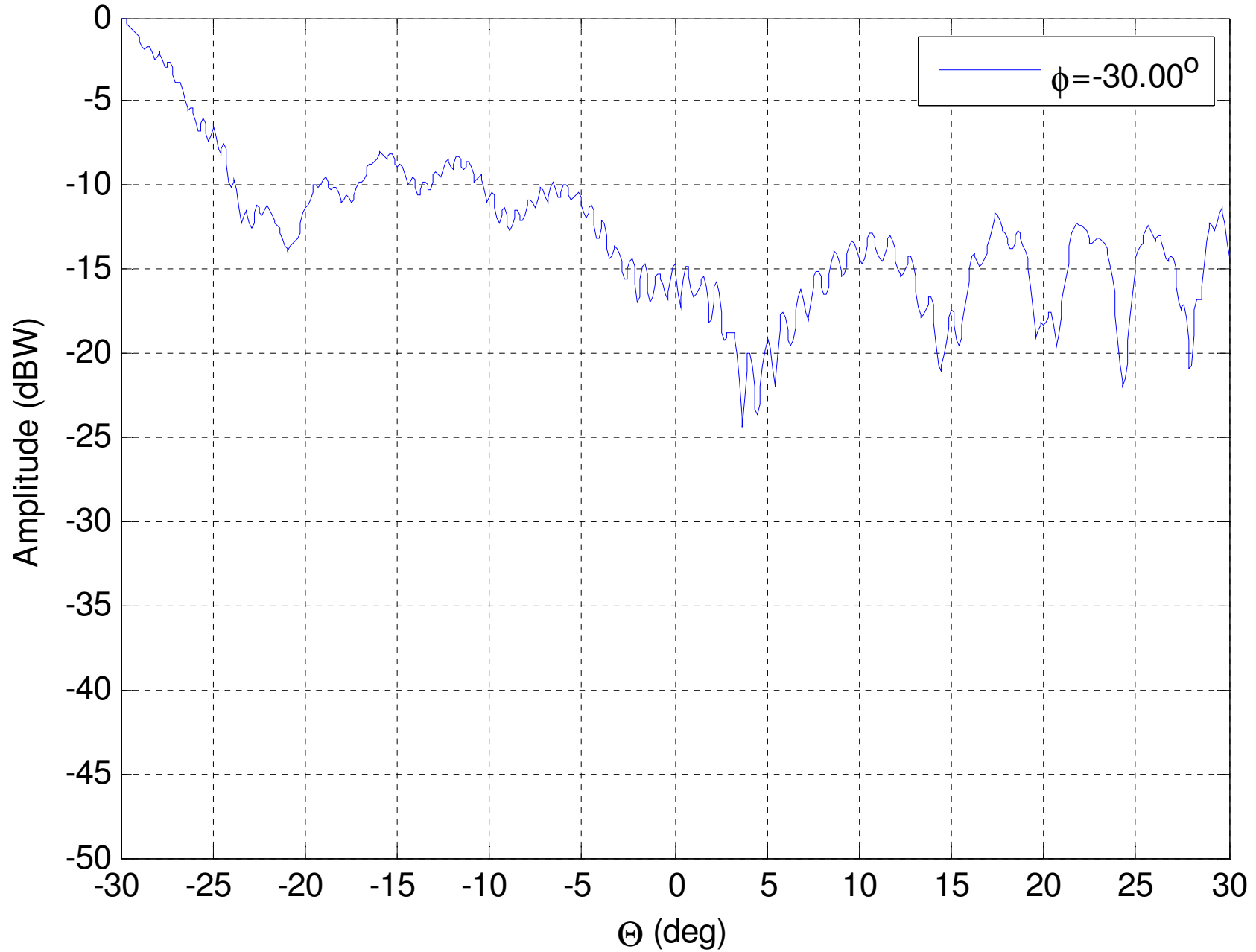
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -3.46 dBW, Date: 16-Dec-2011



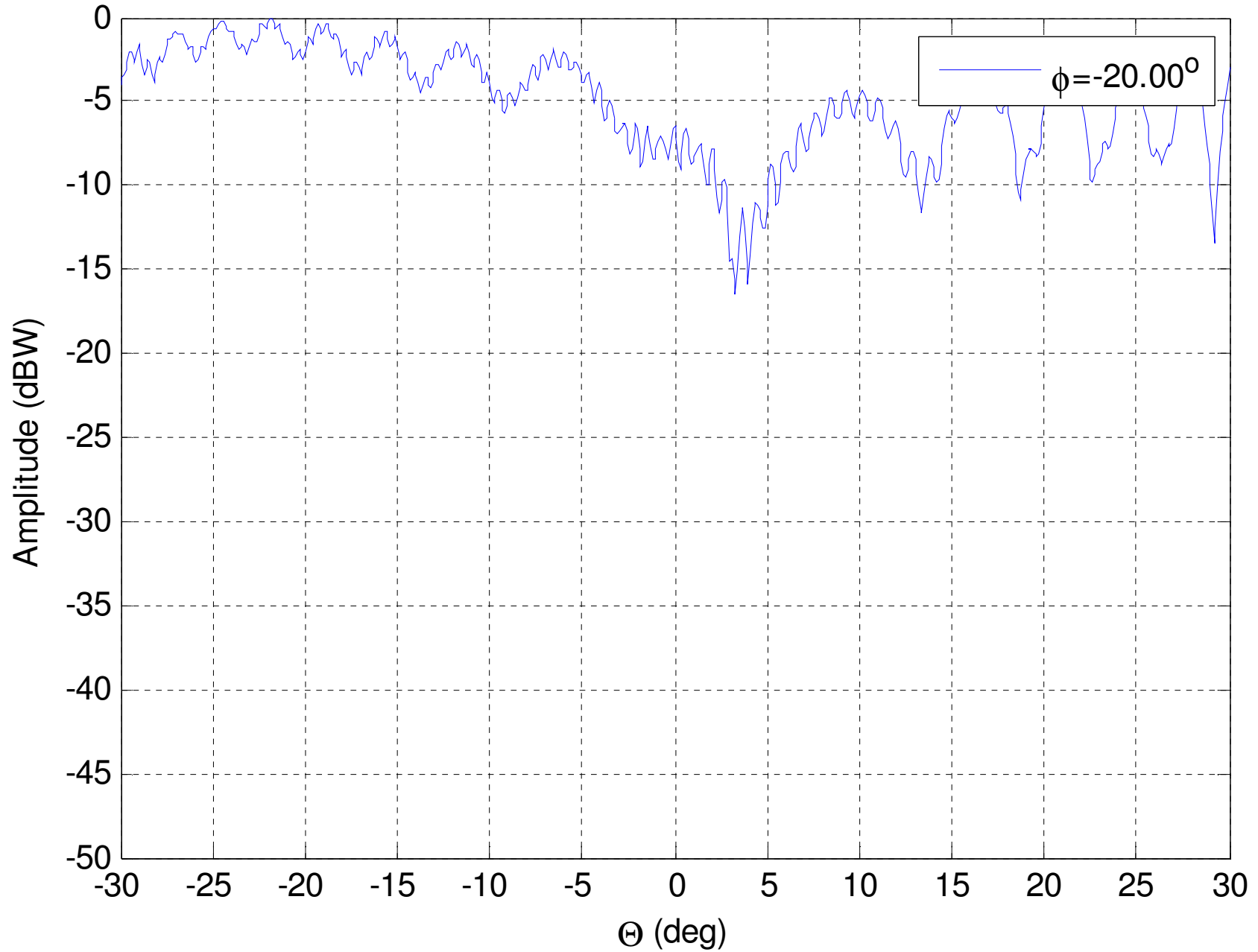
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -5.42 dBW, Date: 16-Dec-2011



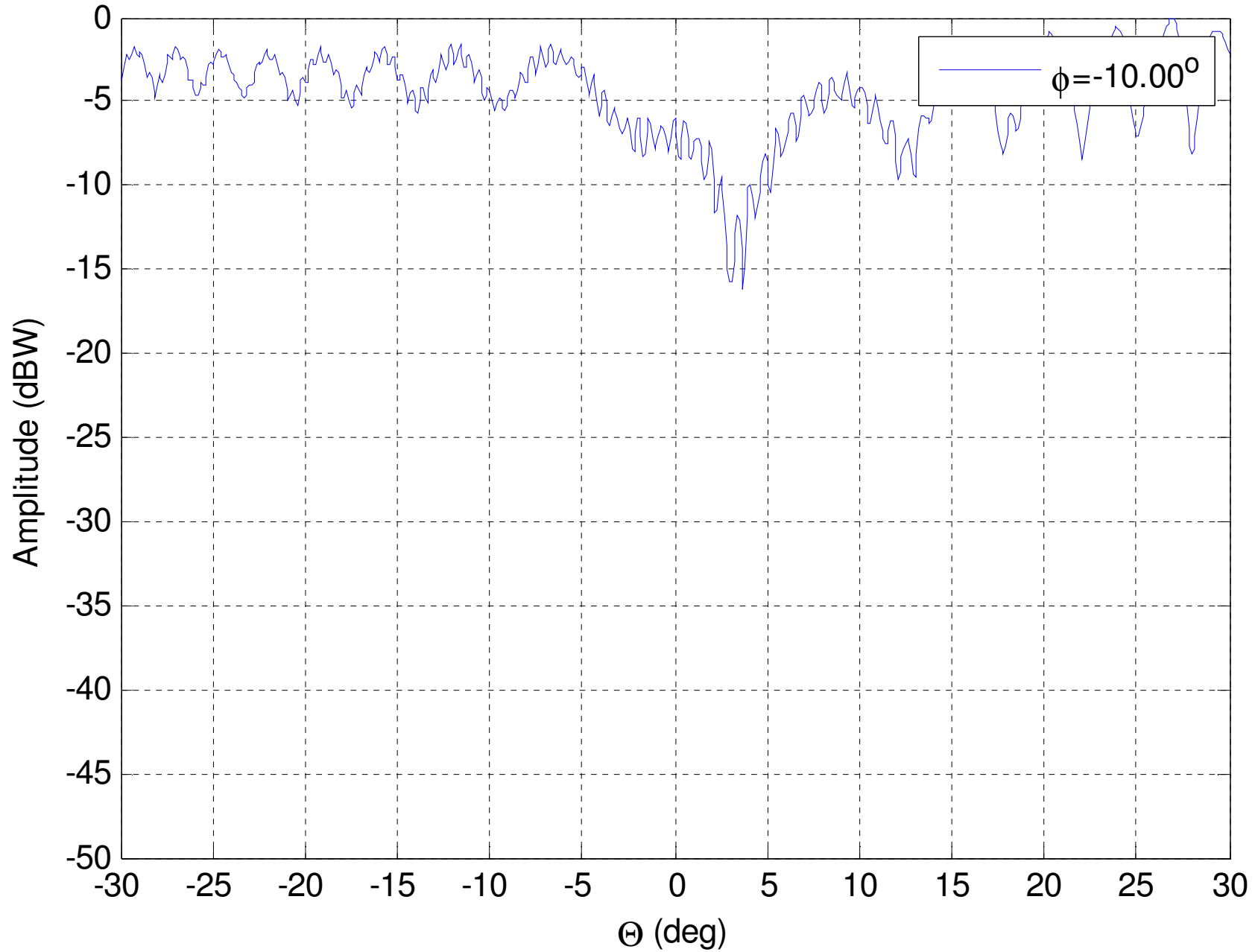
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -13.58 dBW, Date: 16-Dec-2011



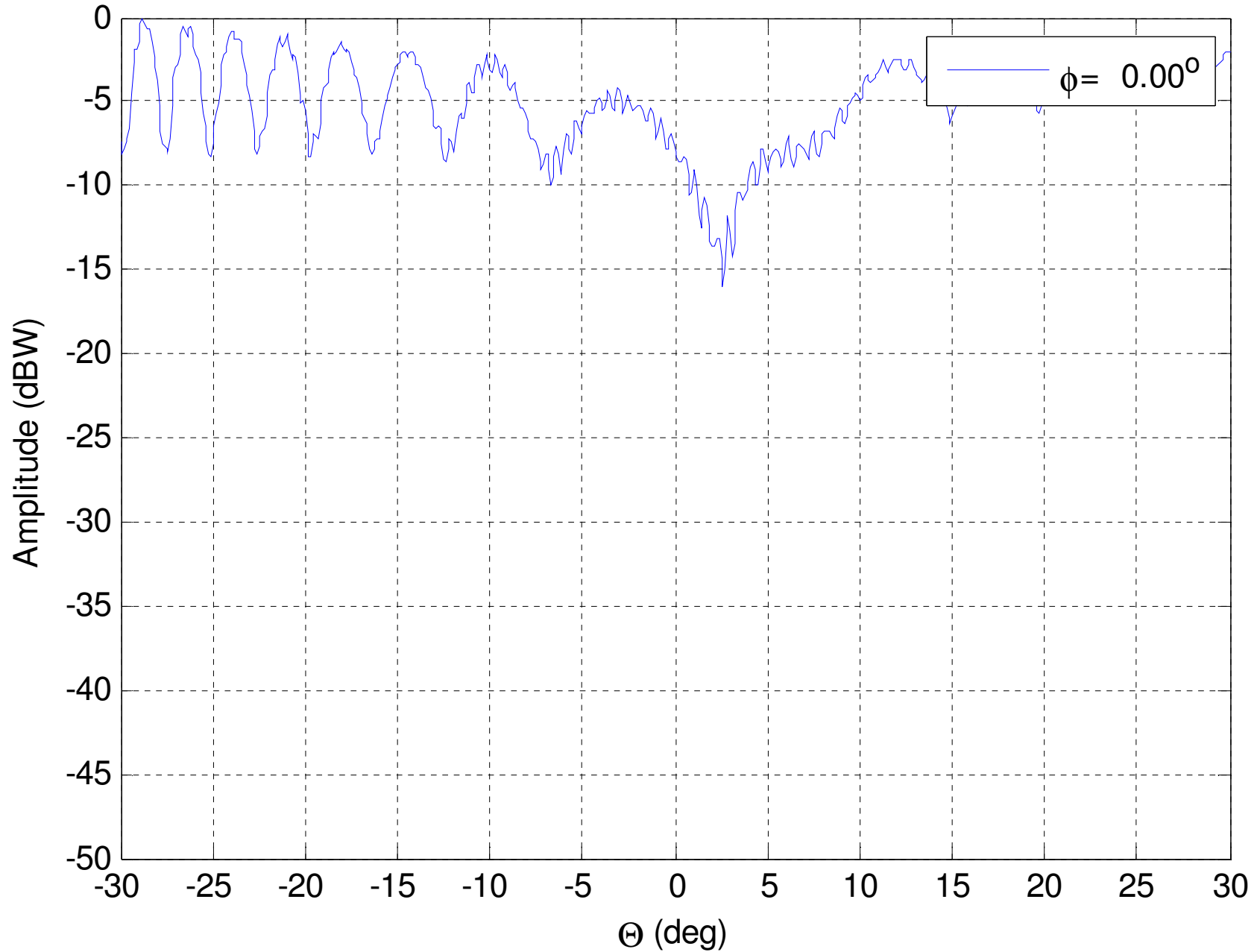
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -14.10 dBW, Date: 16-Dec-2011



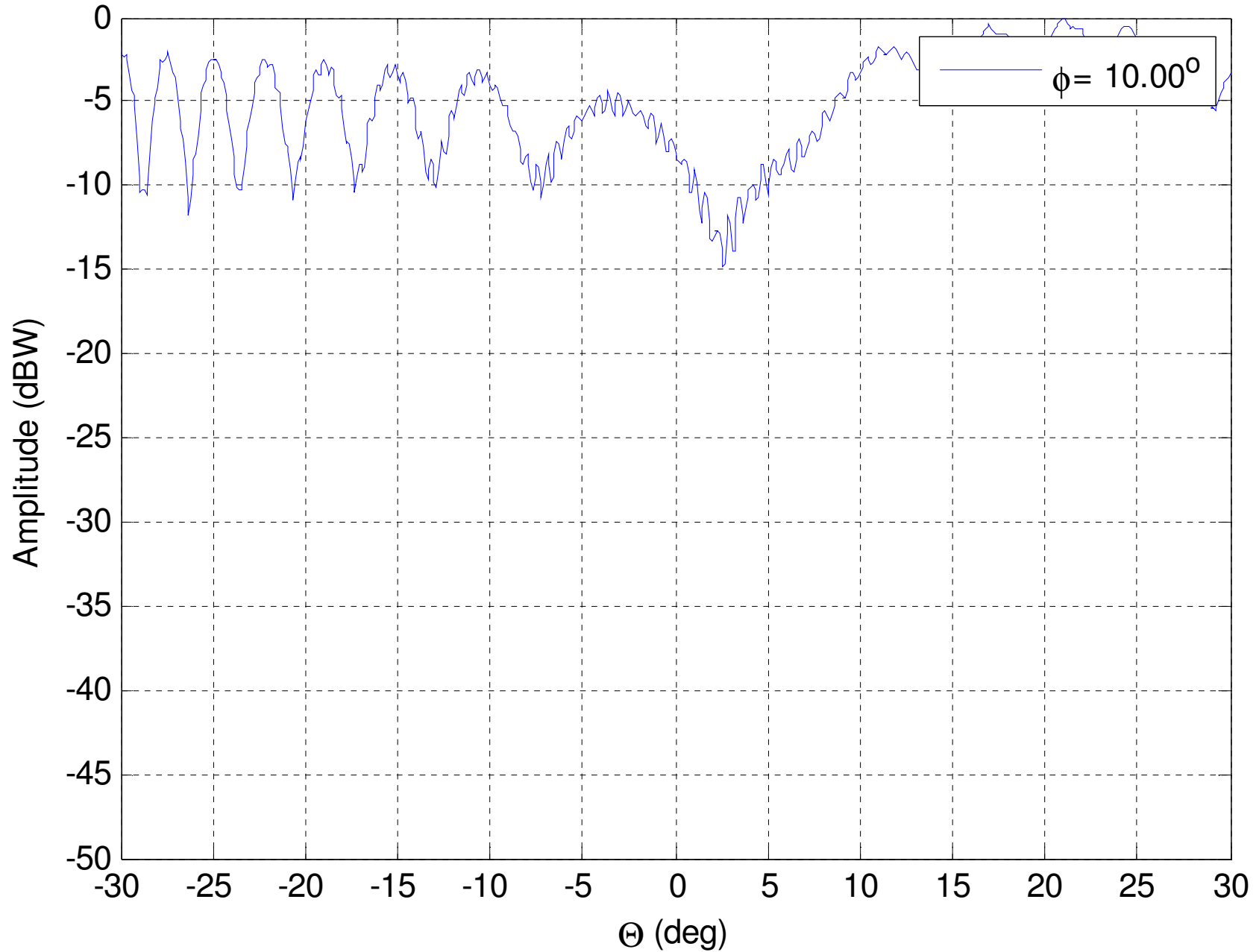
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -13.47 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

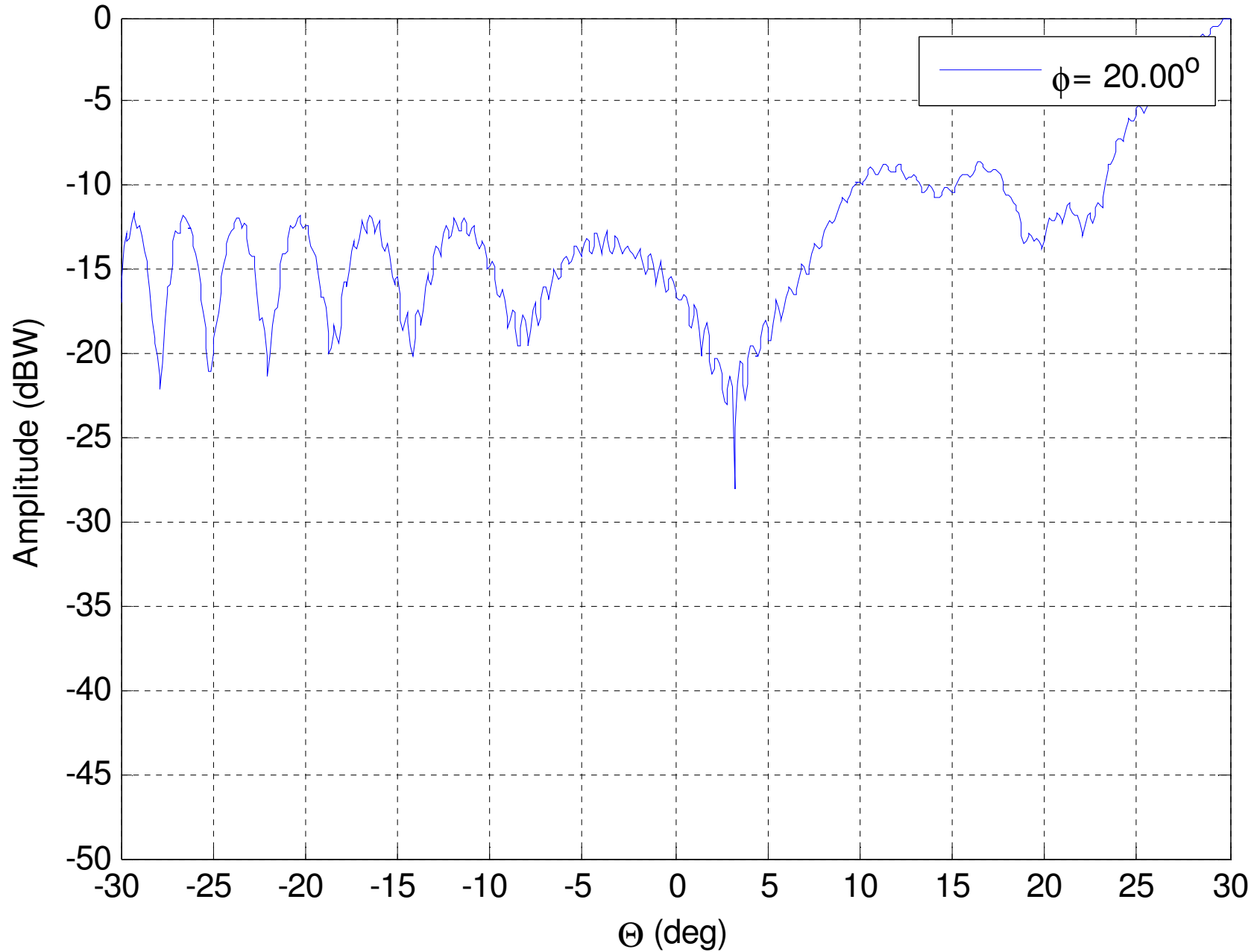
Input file: tx-17.7-lhcp-10.cut, Peak: -13.30 dBW, Date: 16-Dec-2011





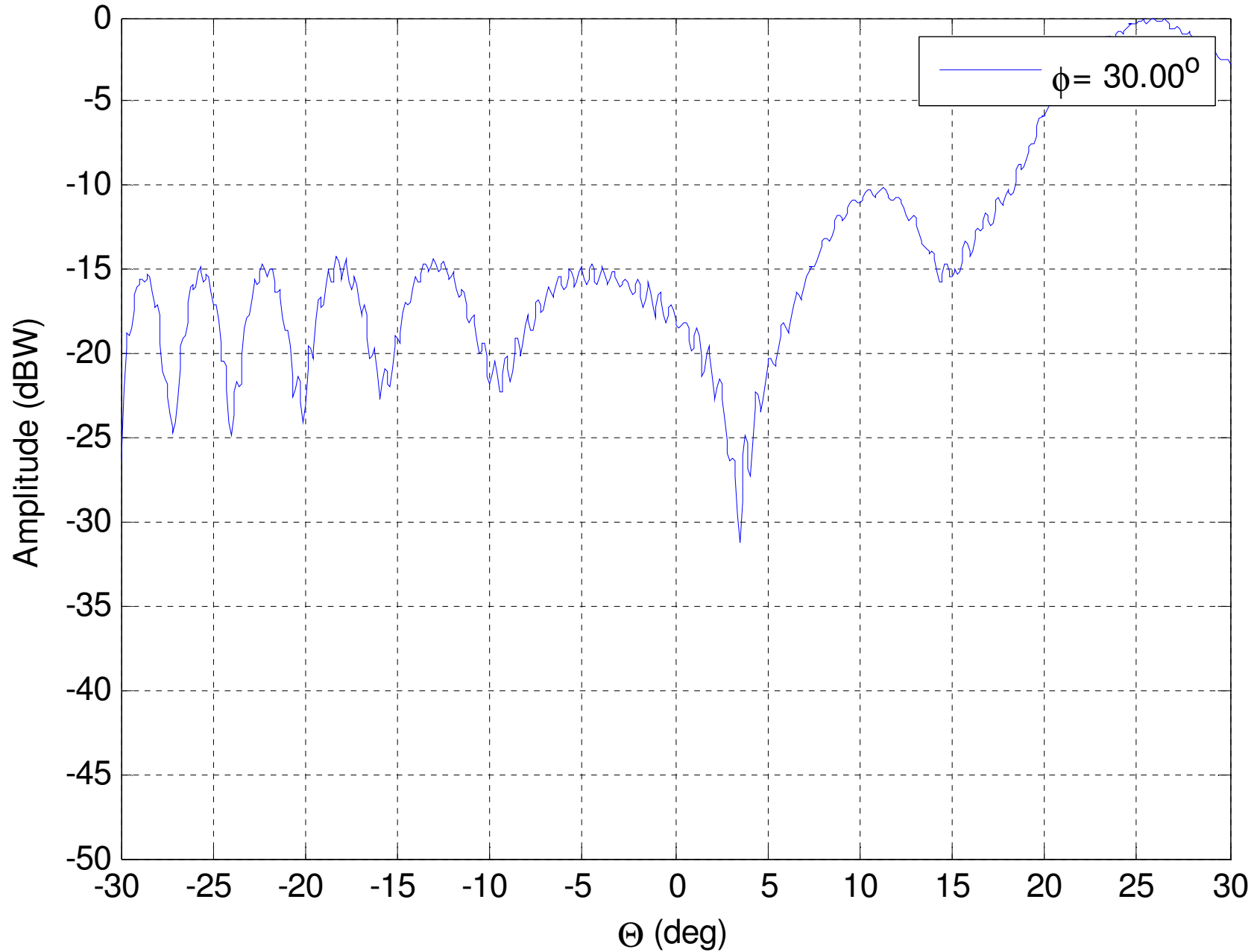
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -5.09 dBW, Date: 16-Dec-2011



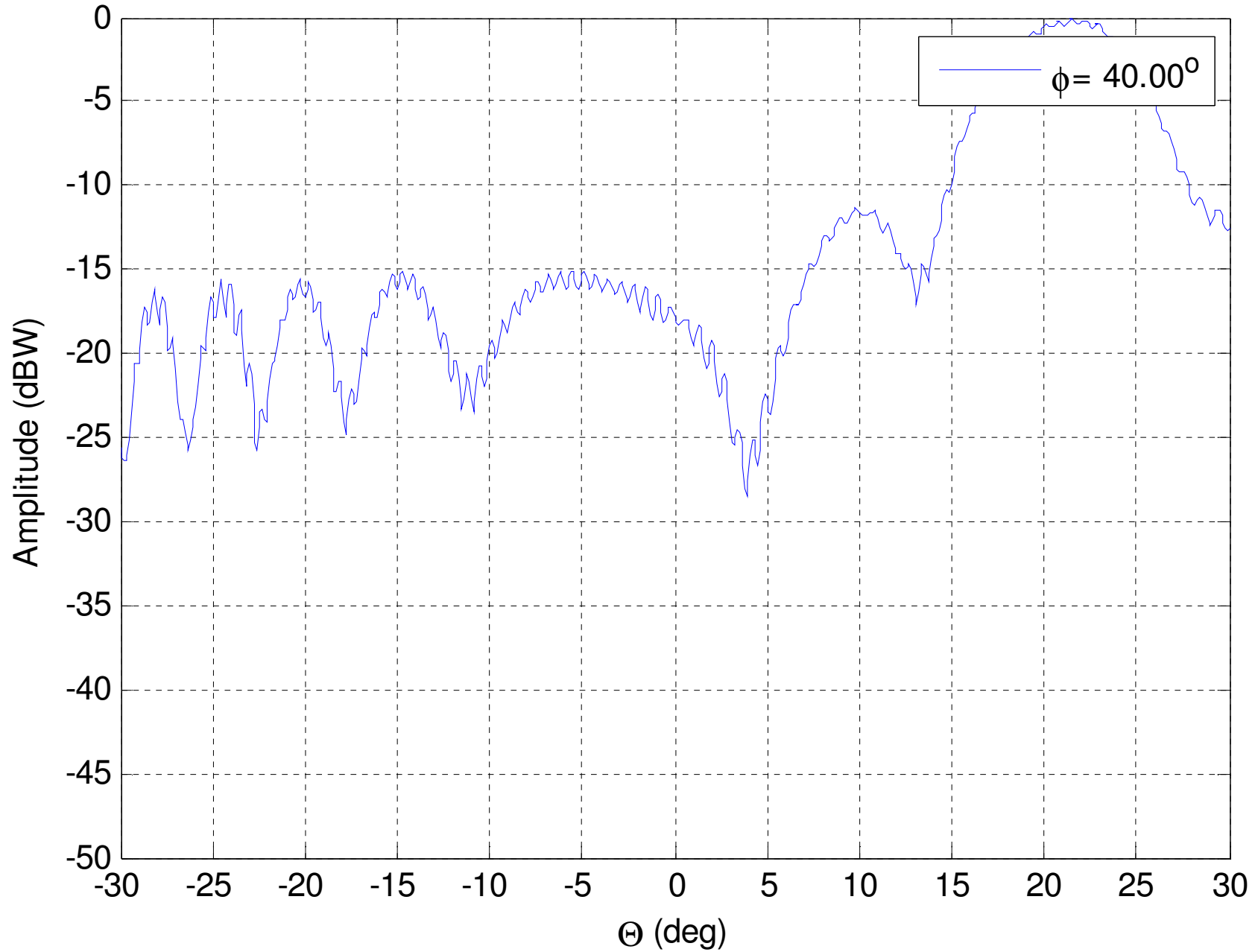
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -3.44 dBW, Date: 16-Dec-2011



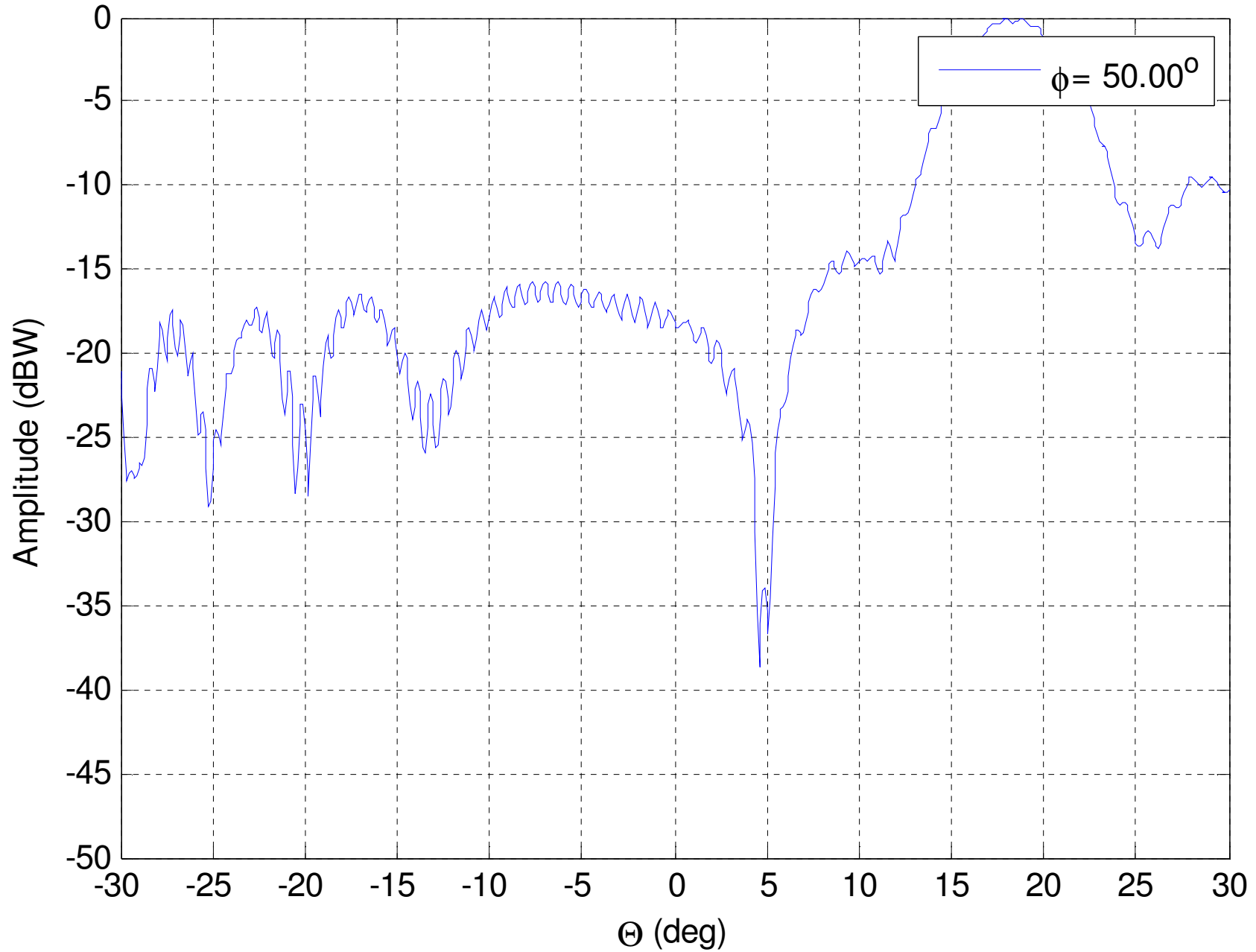
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -3.48 dBW, Date: 16-Dec-2011



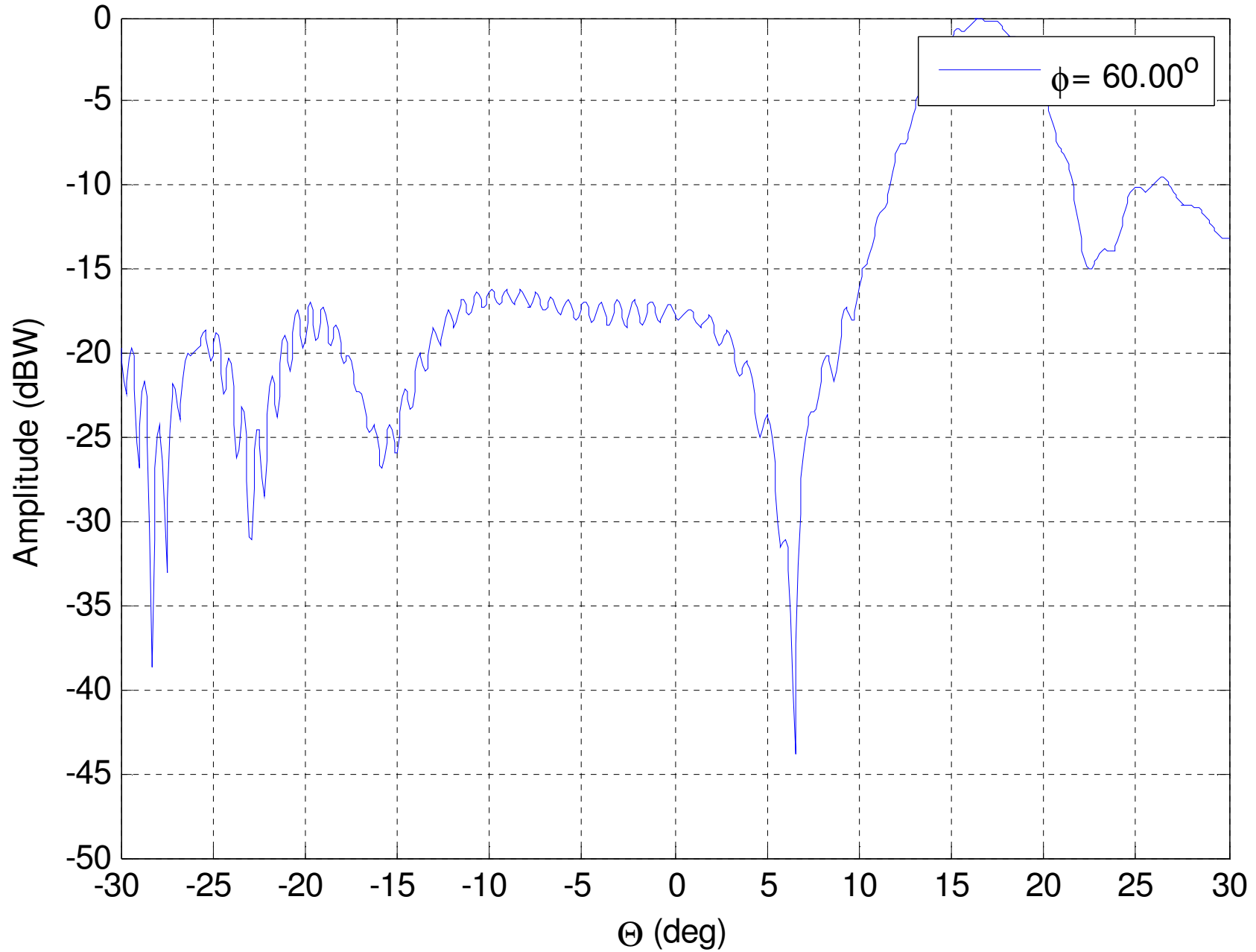
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -3.27 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -3.76 dBW, Date: 16-Dec-2011



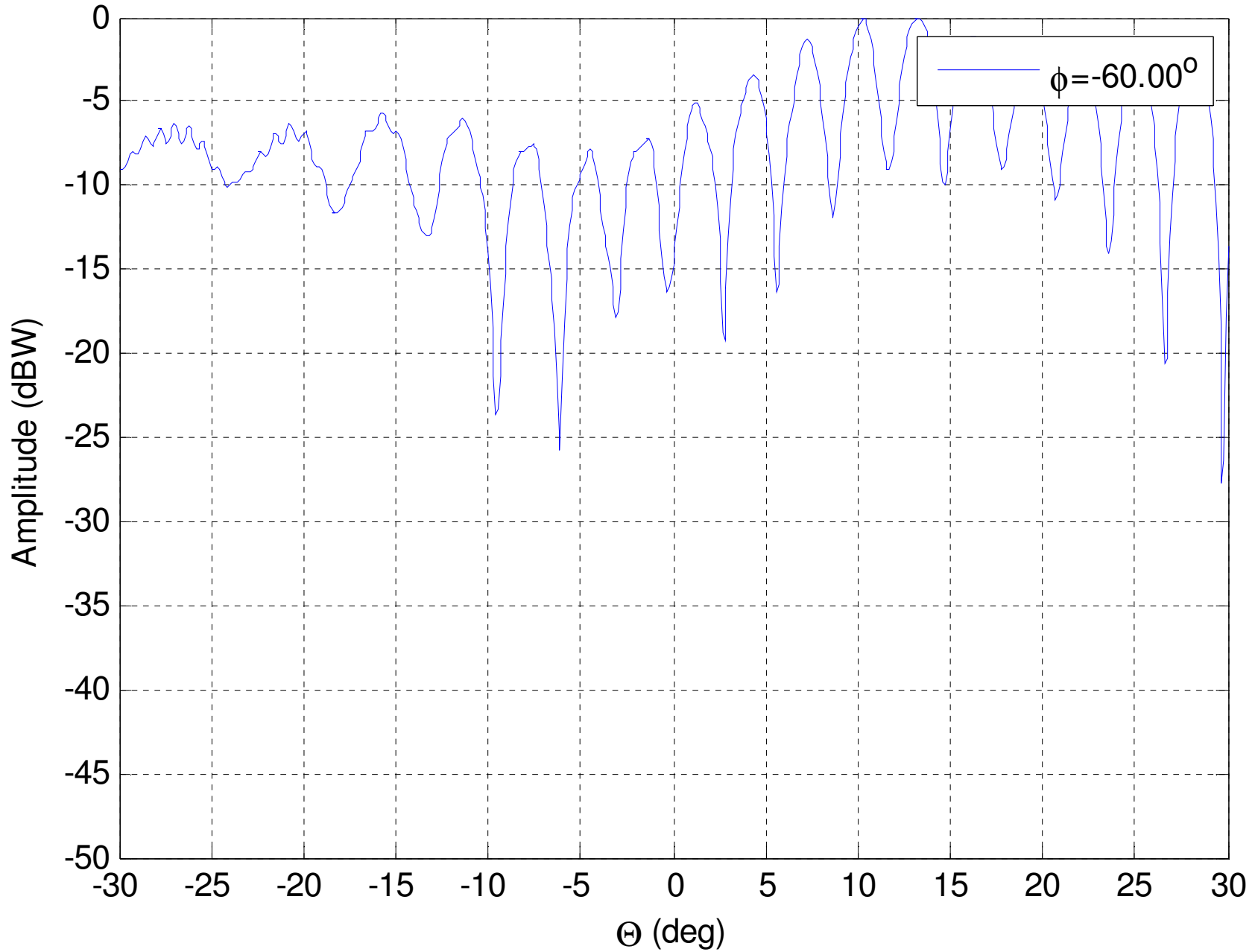
# Spot Beam50, +X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : = +X-axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

# RHCP at 17.3 GHz

# Normalized pattern cuts - farfield

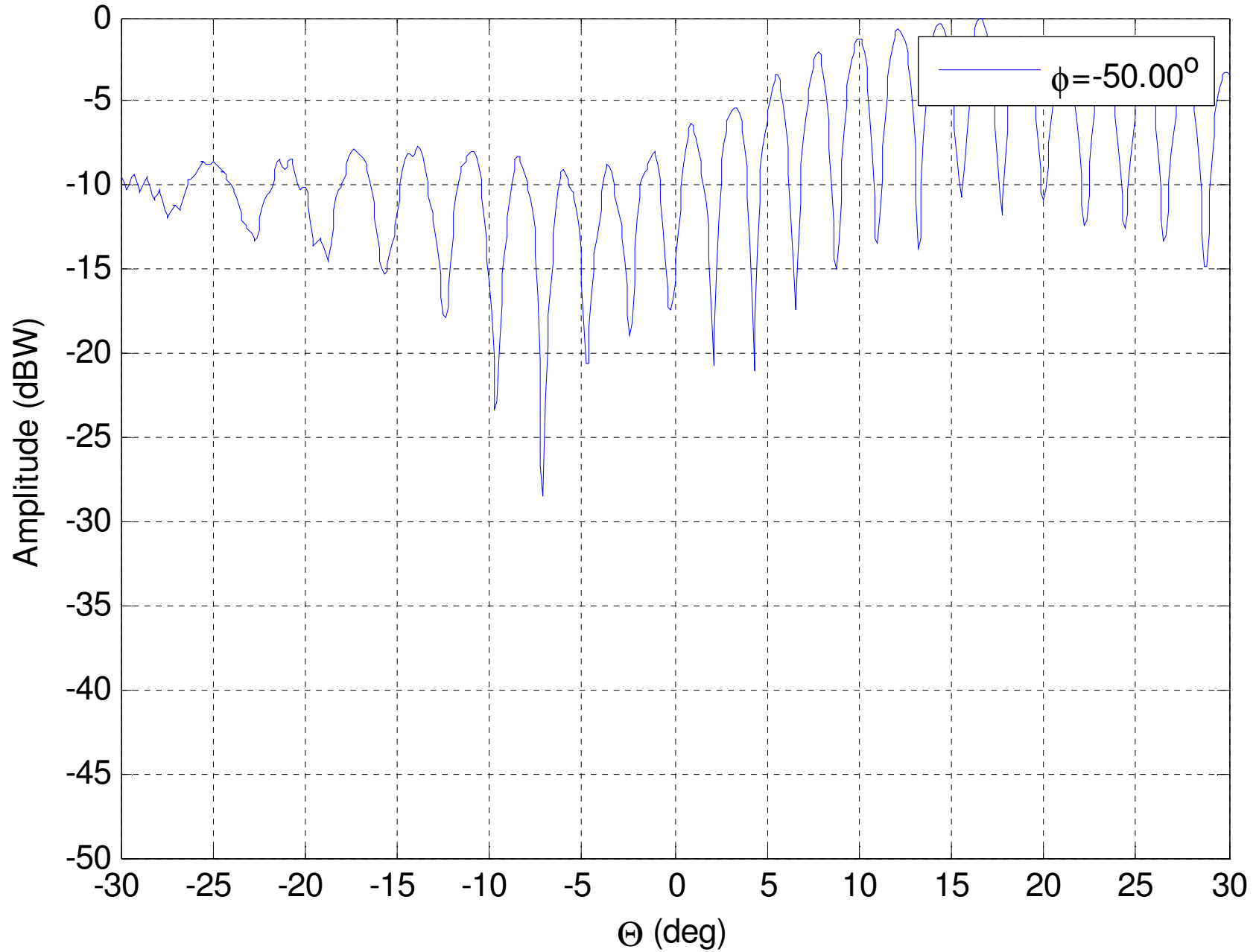
Input file: tx-17.3-rhcp--60.cut, Peak: -7.93 dBW, Date: 16-Dec-2011





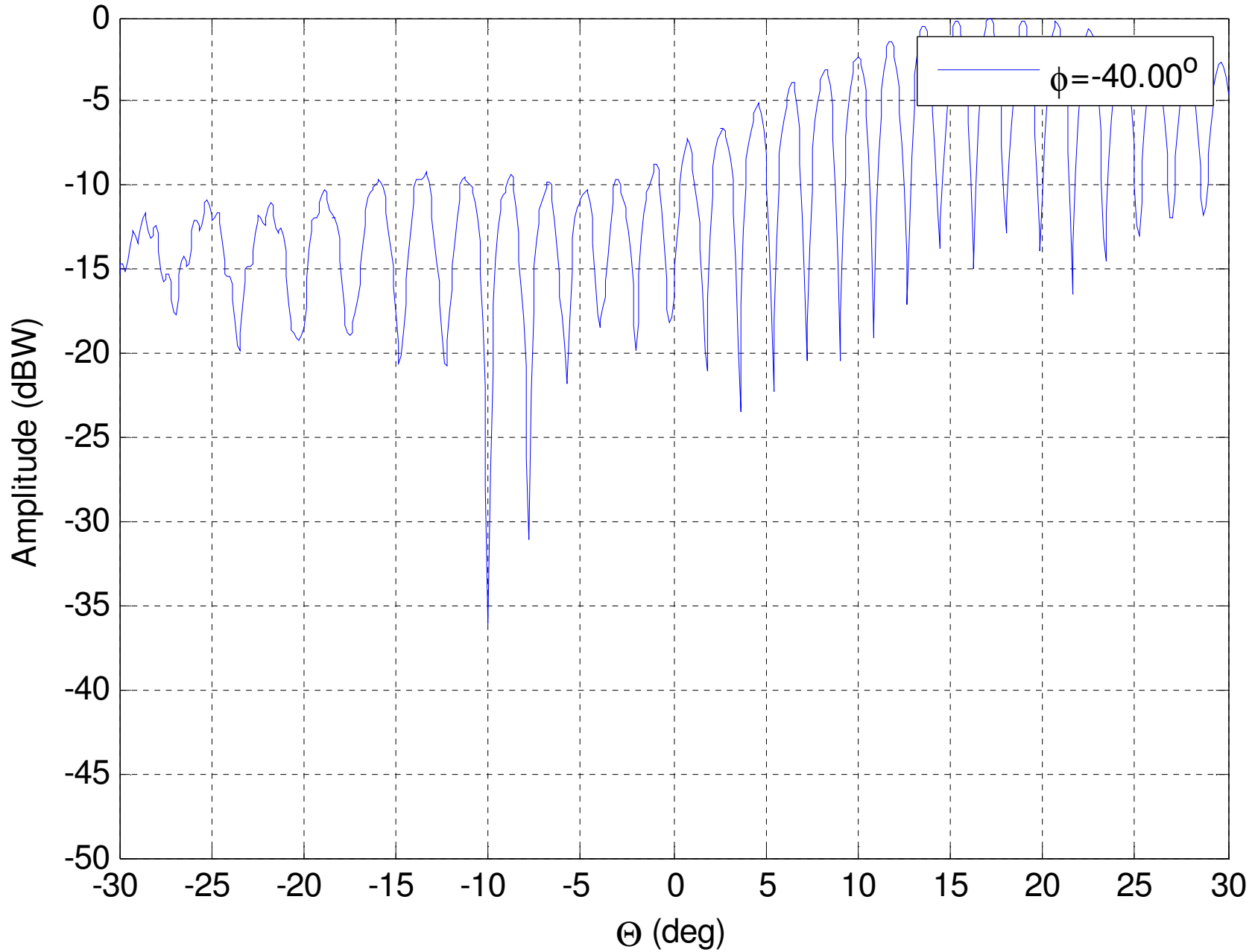
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -6.76 dBW, Date: 16-Dec-2011



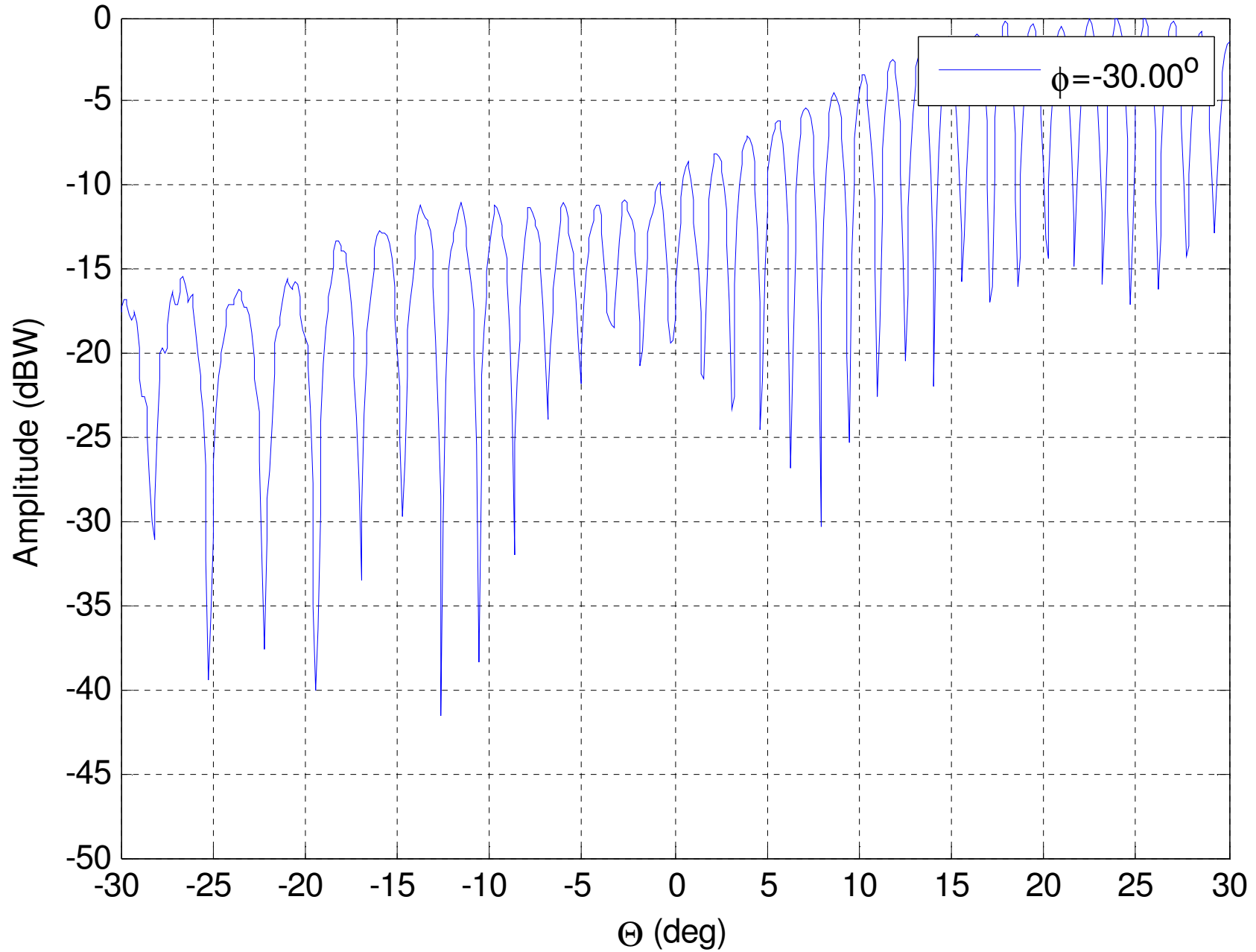
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -5.90 dBW, Date: 16-Dec-2011



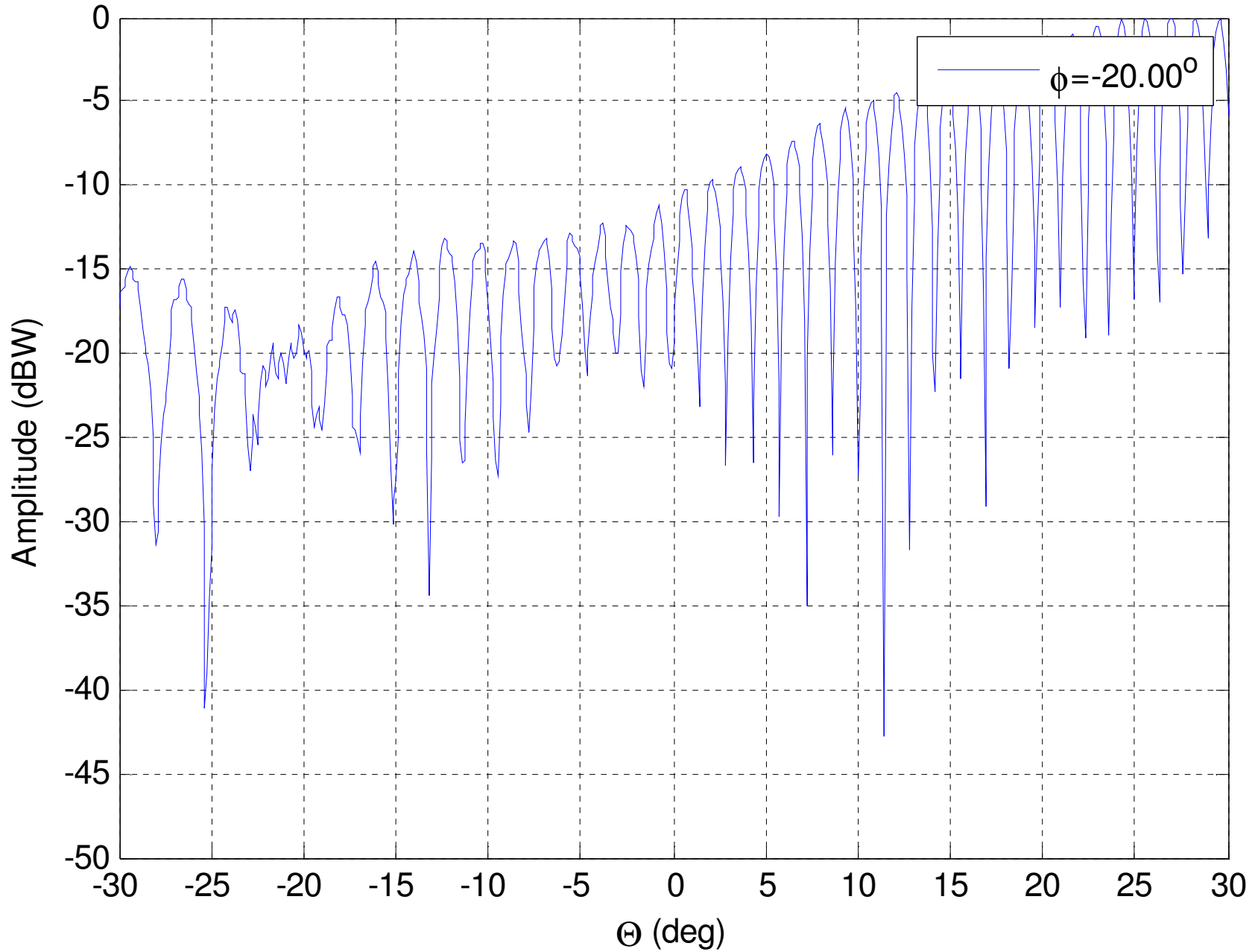
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -4.59 dBW, Date: 16-Dec-2011



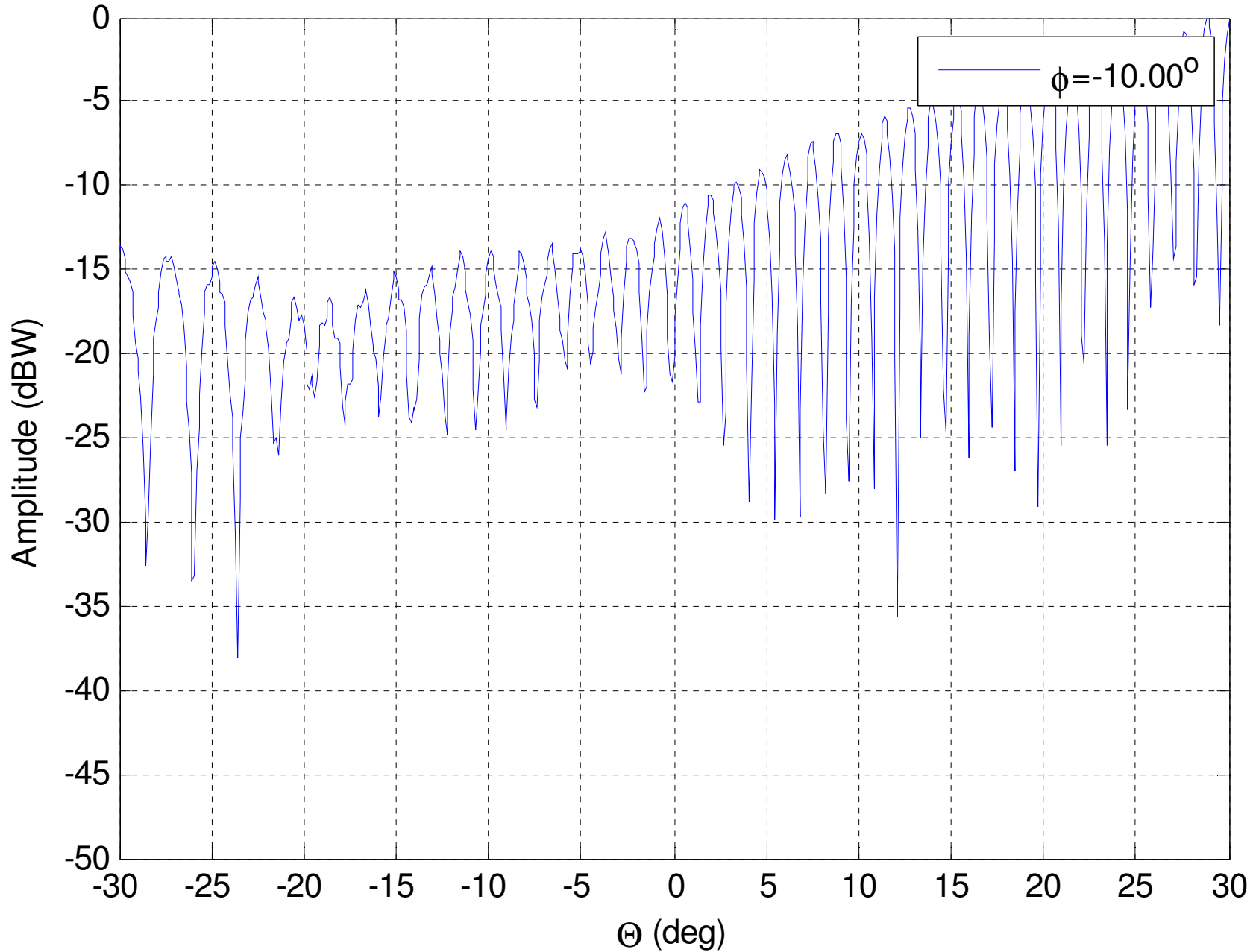
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -3.10 dBW, Date: 16-Dec-2011



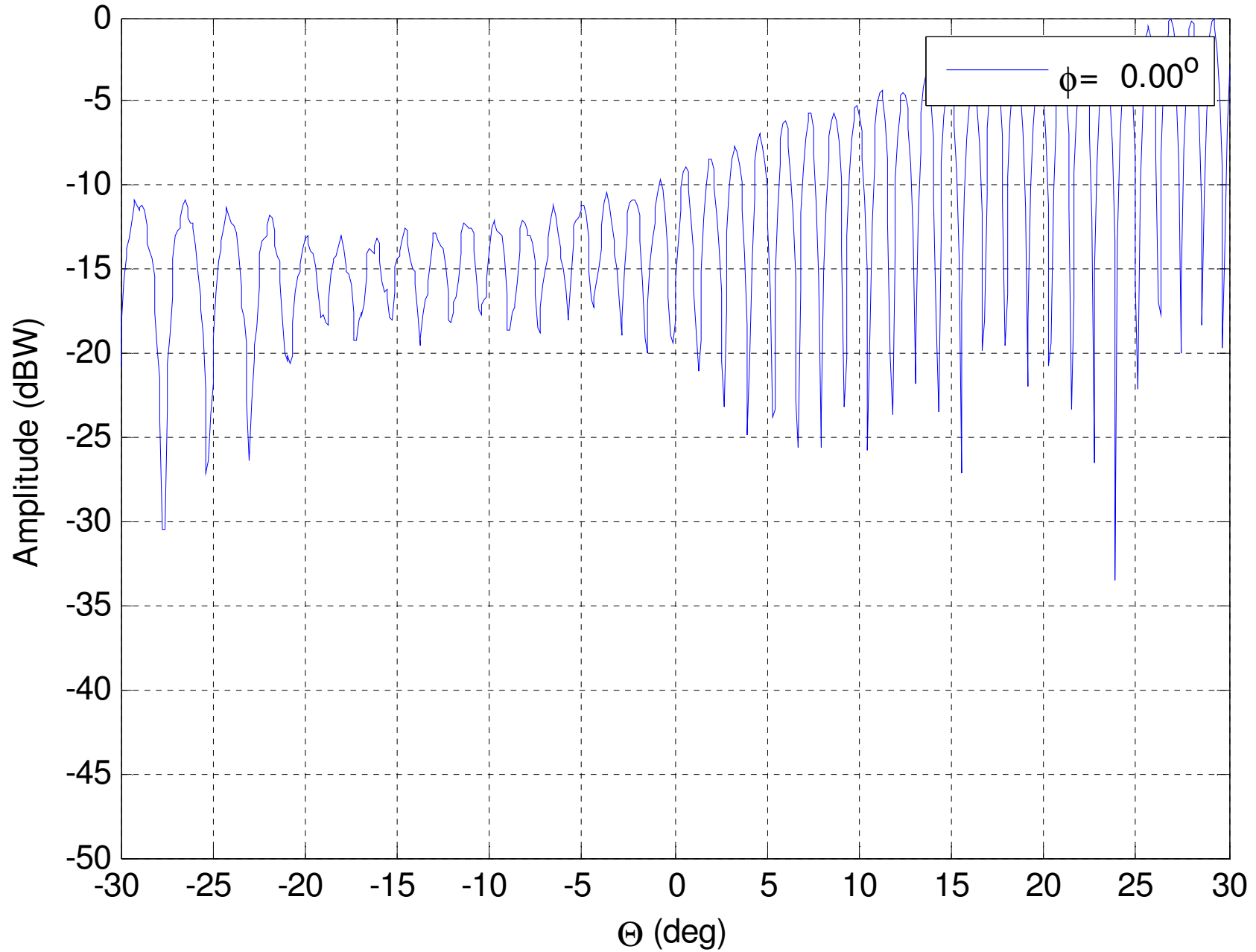
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -2.35 dBW, Date: 16-Dec-2011



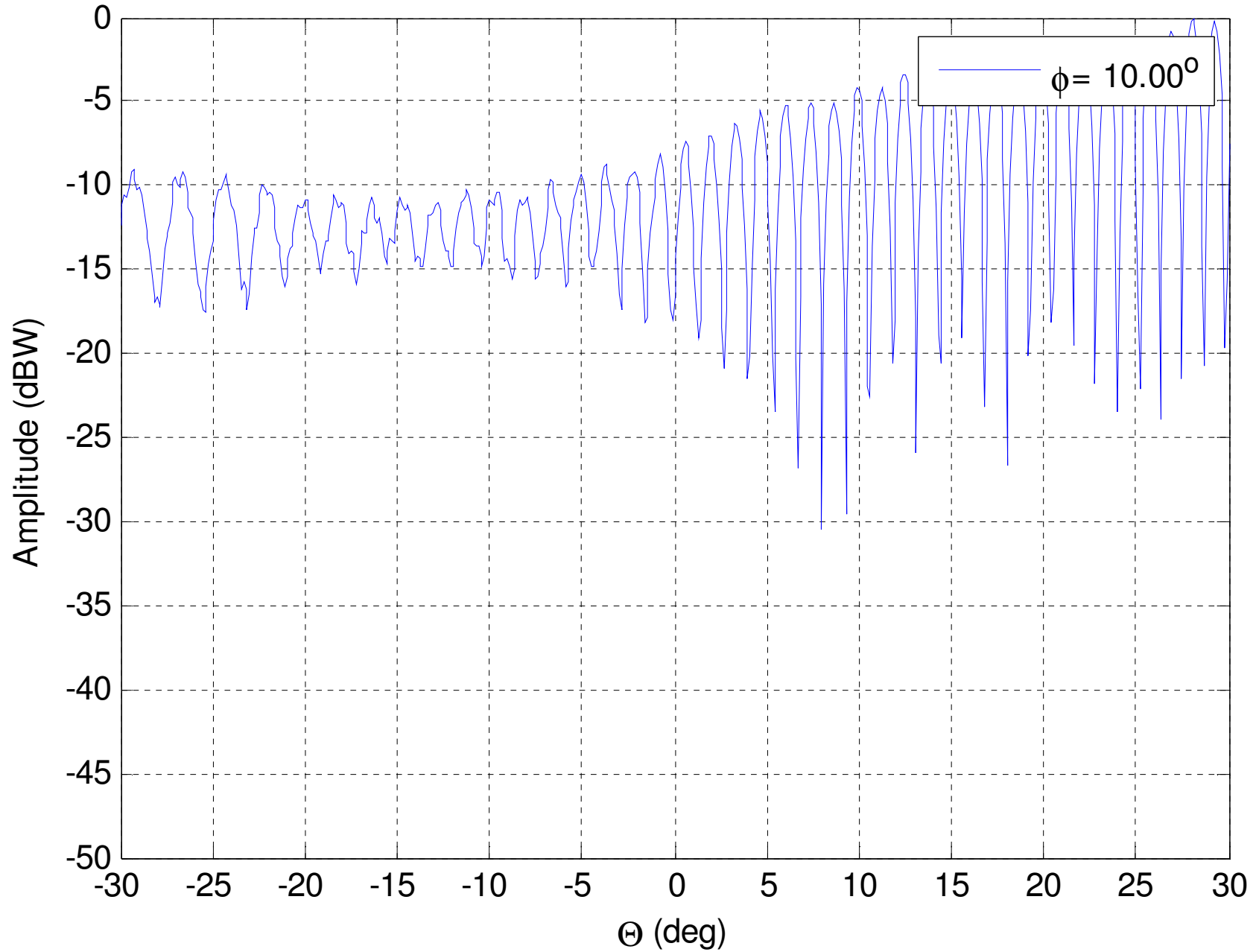
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -4.56 dBW, Date: 16-Dec-2011



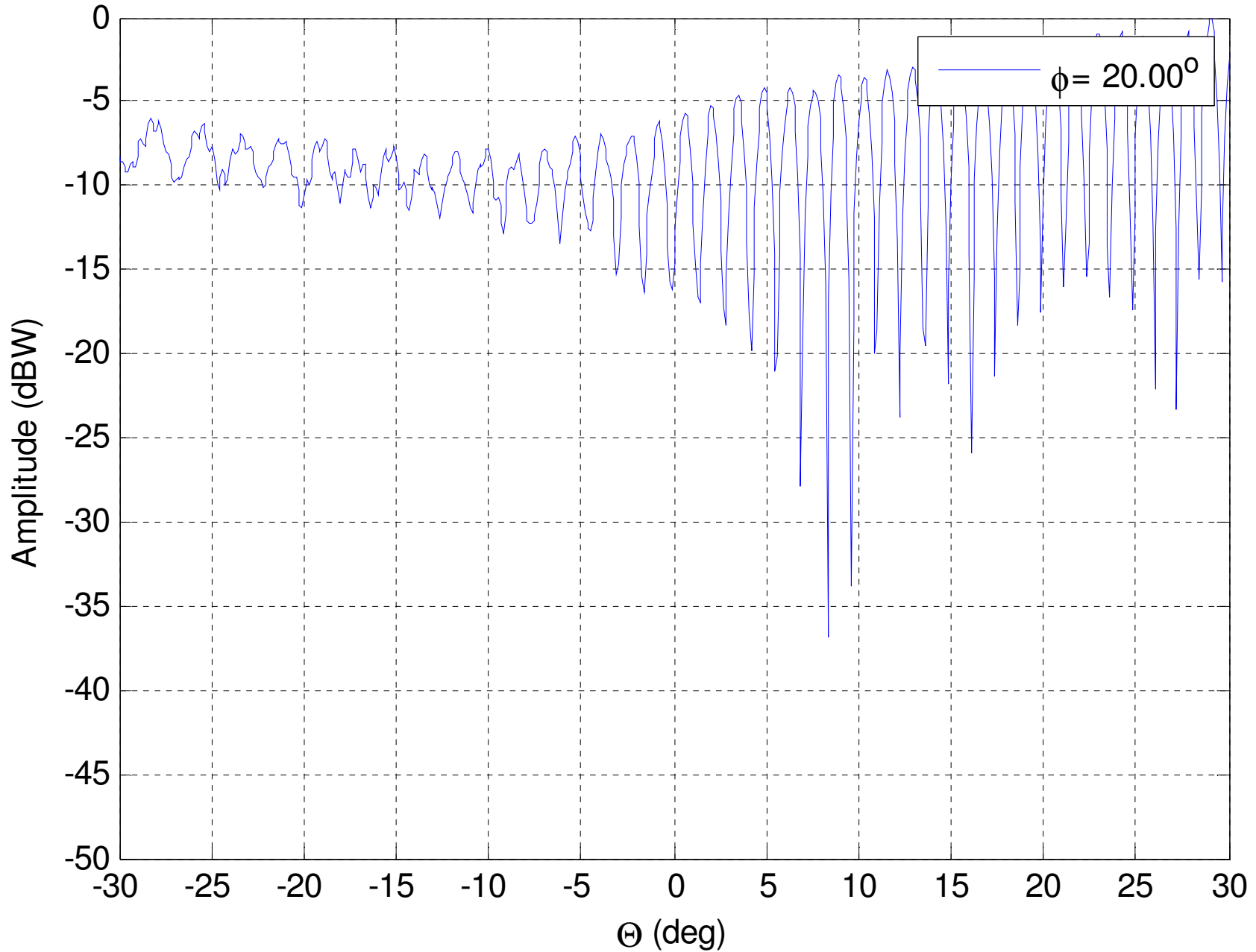
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -6.01 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

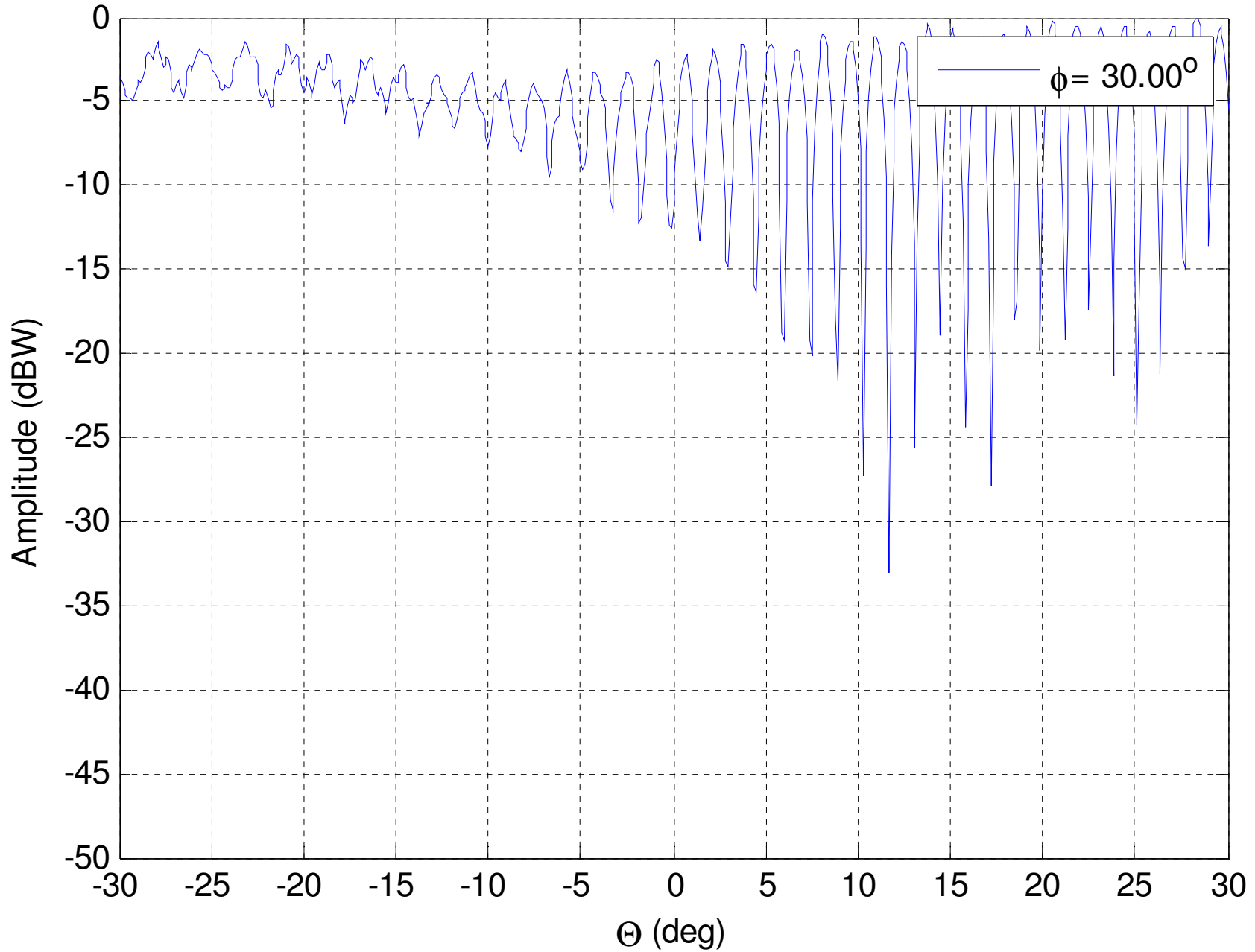
Input file: tx-17.3-rhcp-20.cut, Peak: -7.81 dBW, Date: 16-Dec-2011





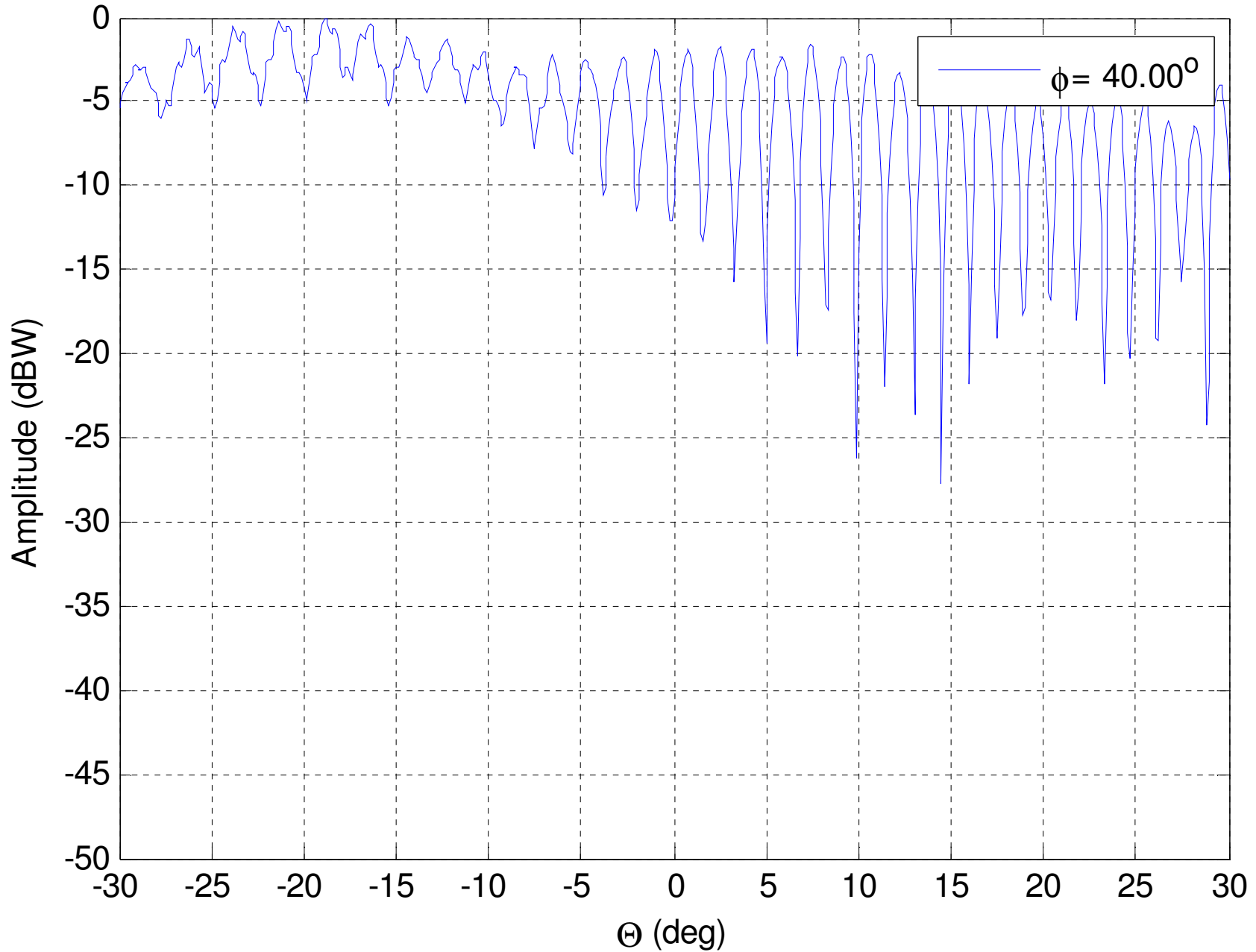
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -11.29 dBW, Date: 16-Dec-2011



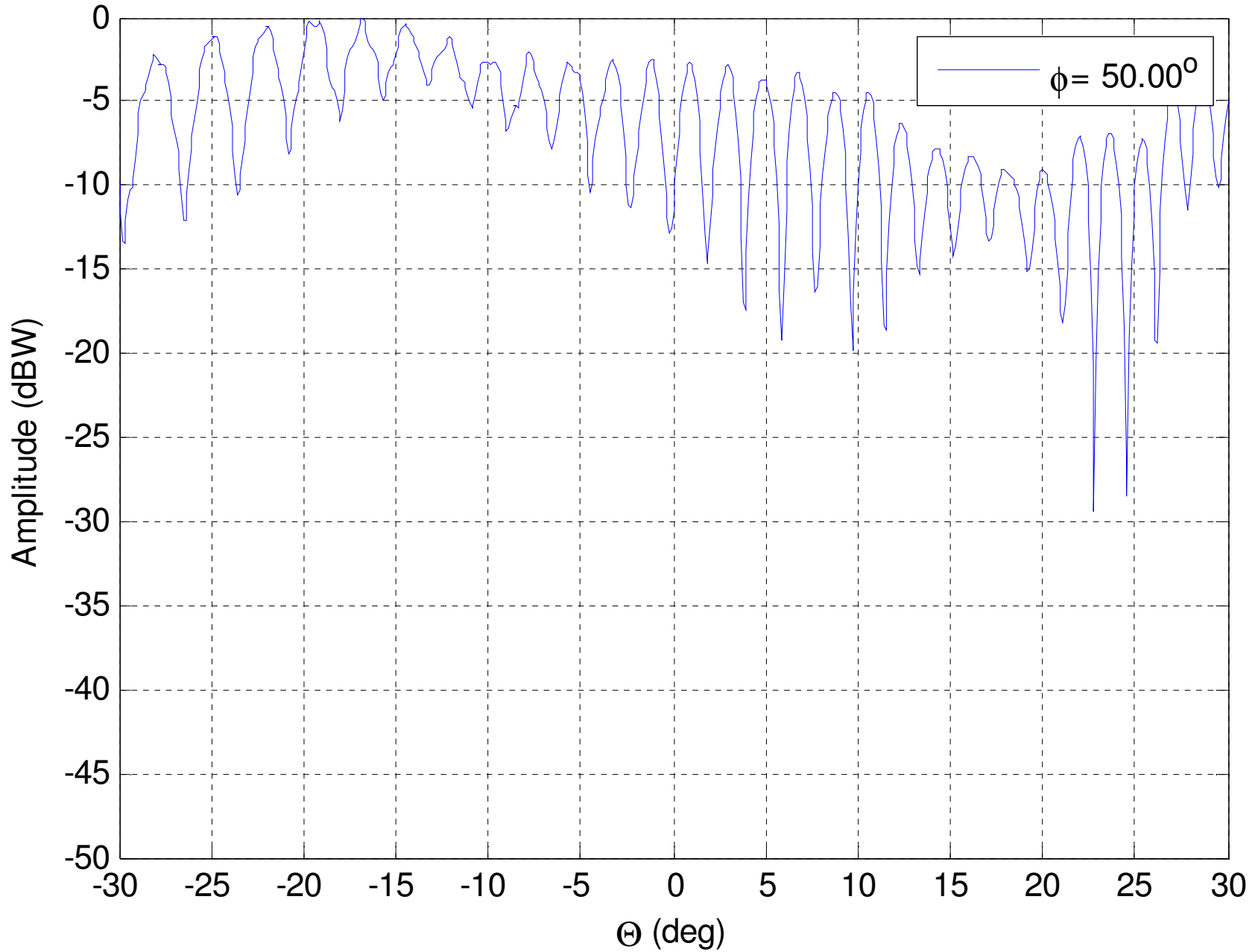
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -11.76 dBW, Date: 16-Dec-2011



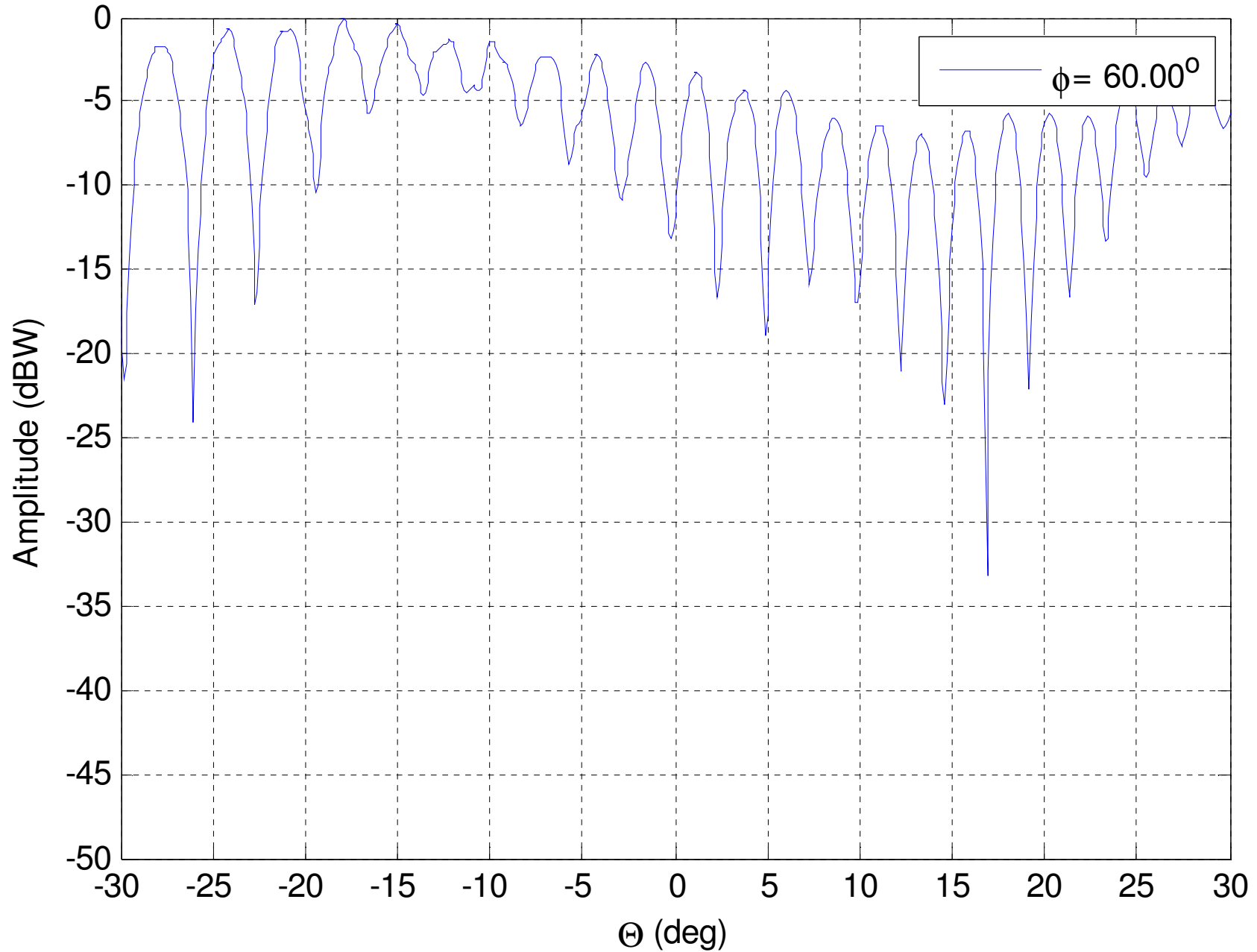
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -11.11 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

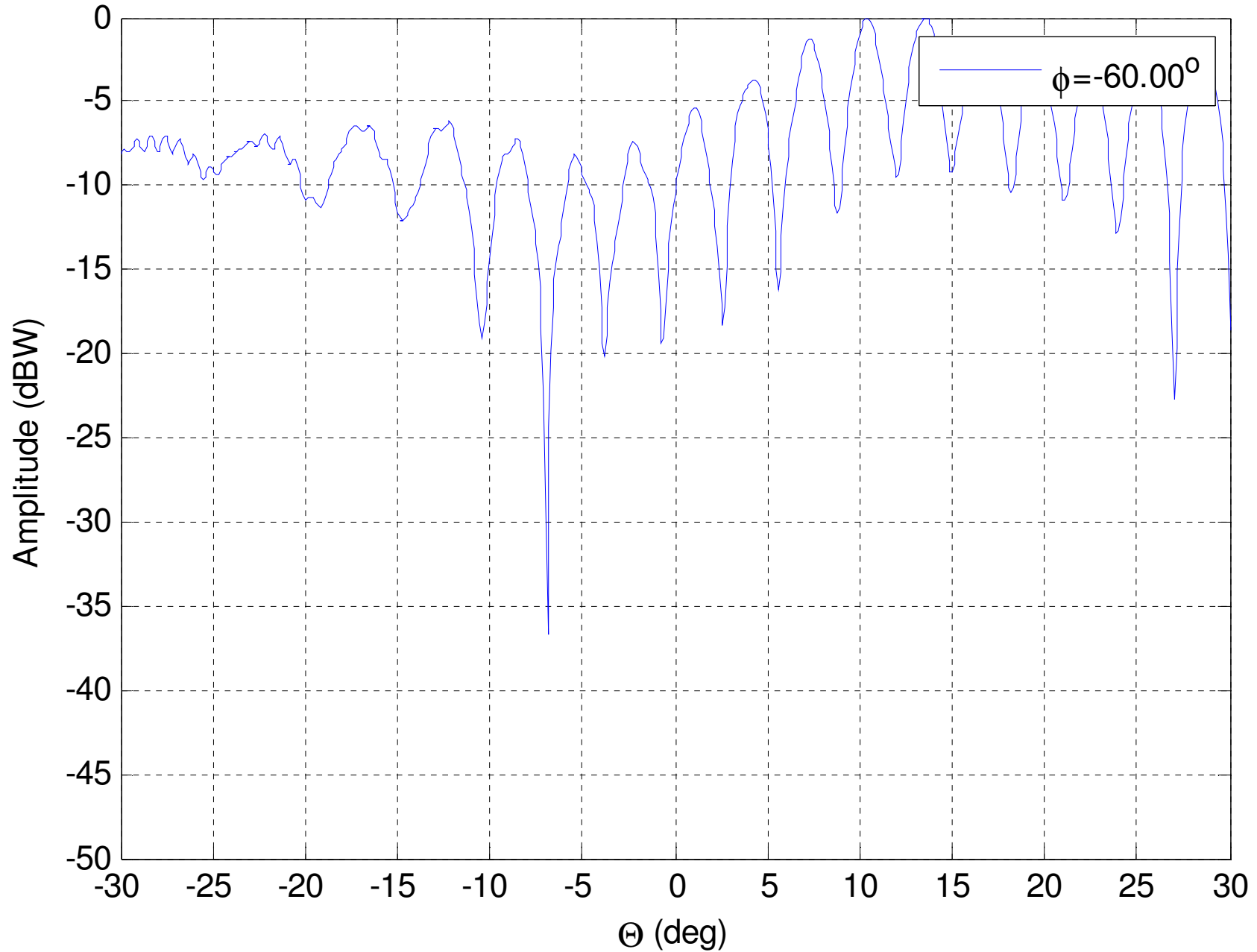
Input file: tx-17.3-rhcp-60.cut, Peak: -10.79 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

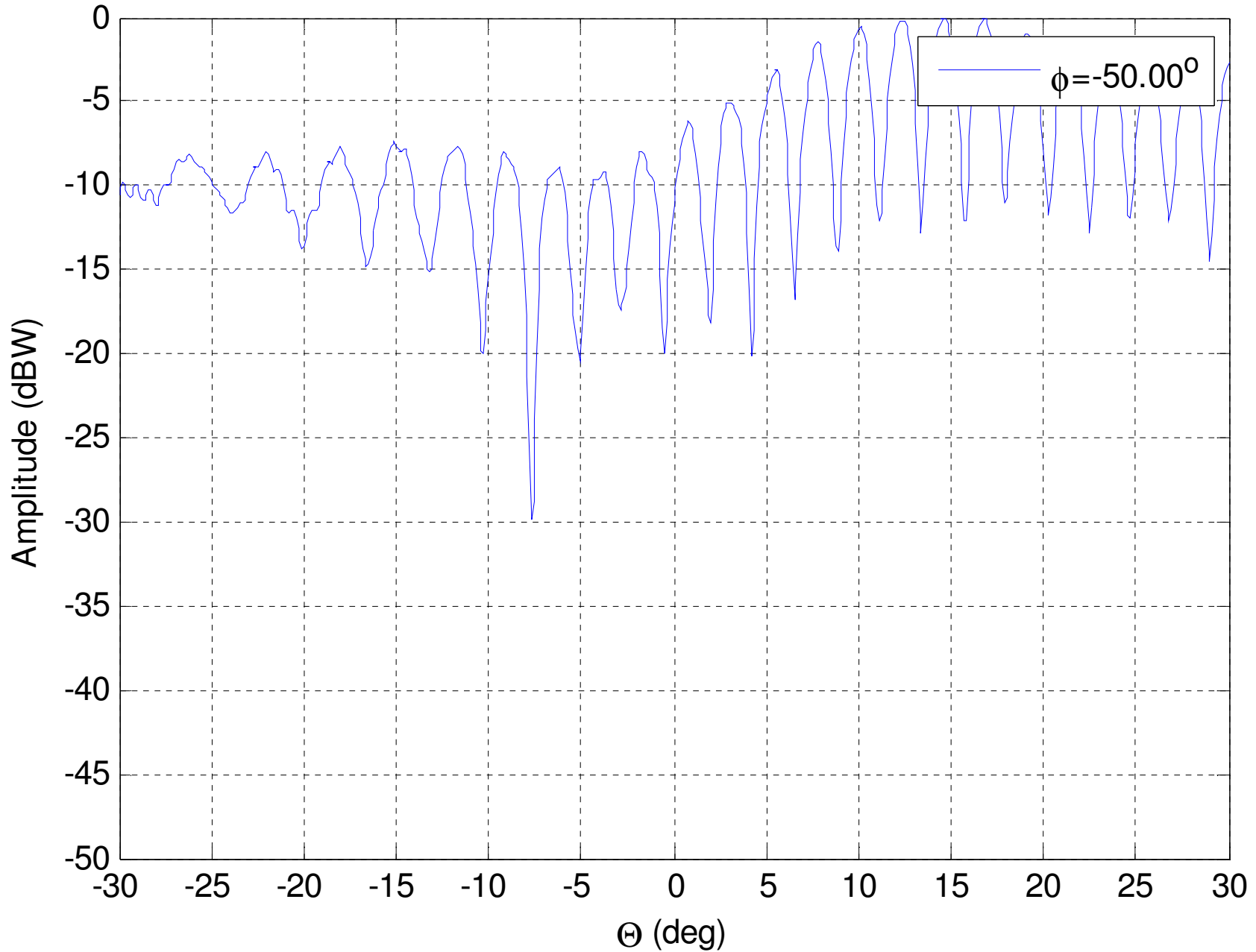
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -7.84 dBW, Date: 16-Dec-2011



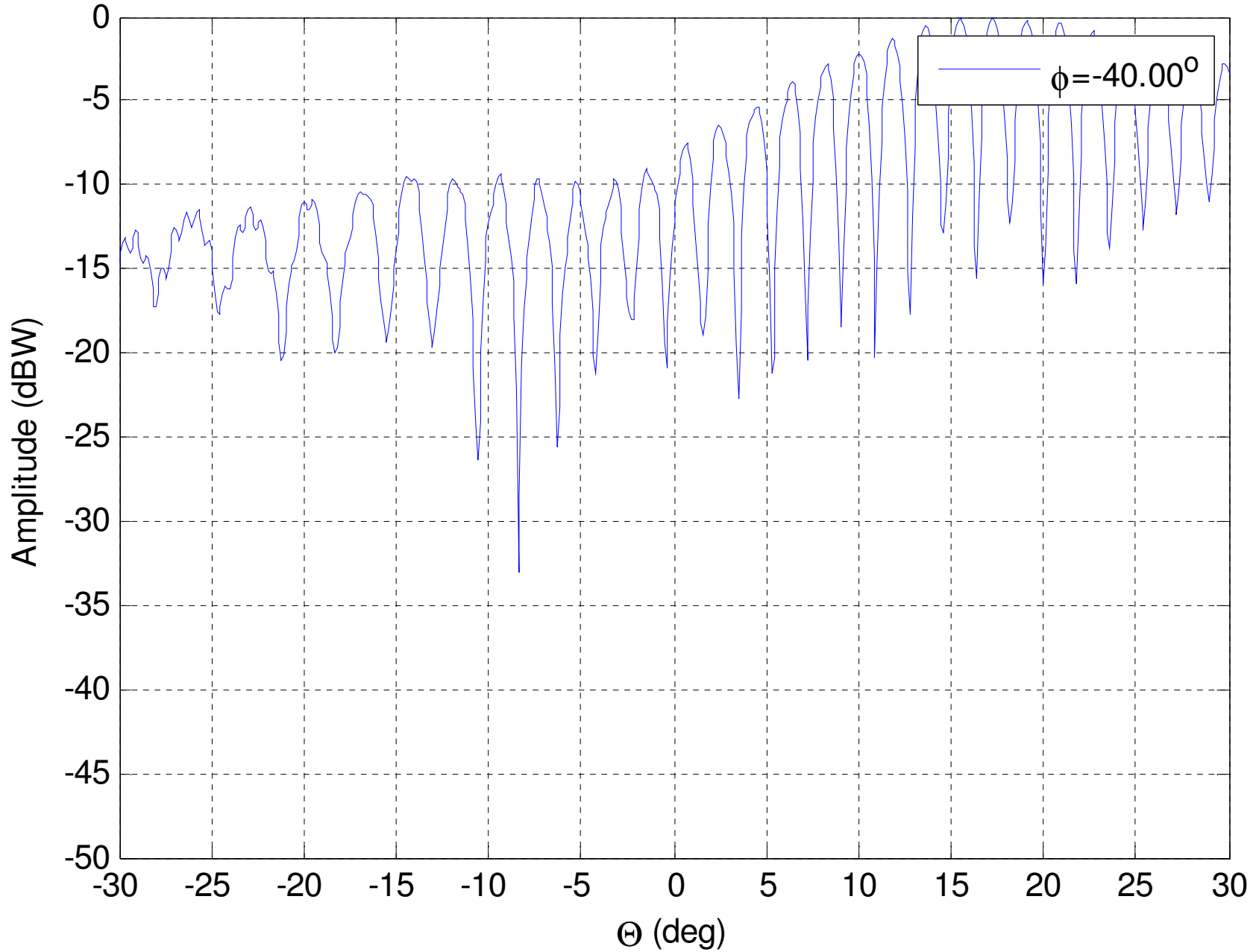
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -7.18 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

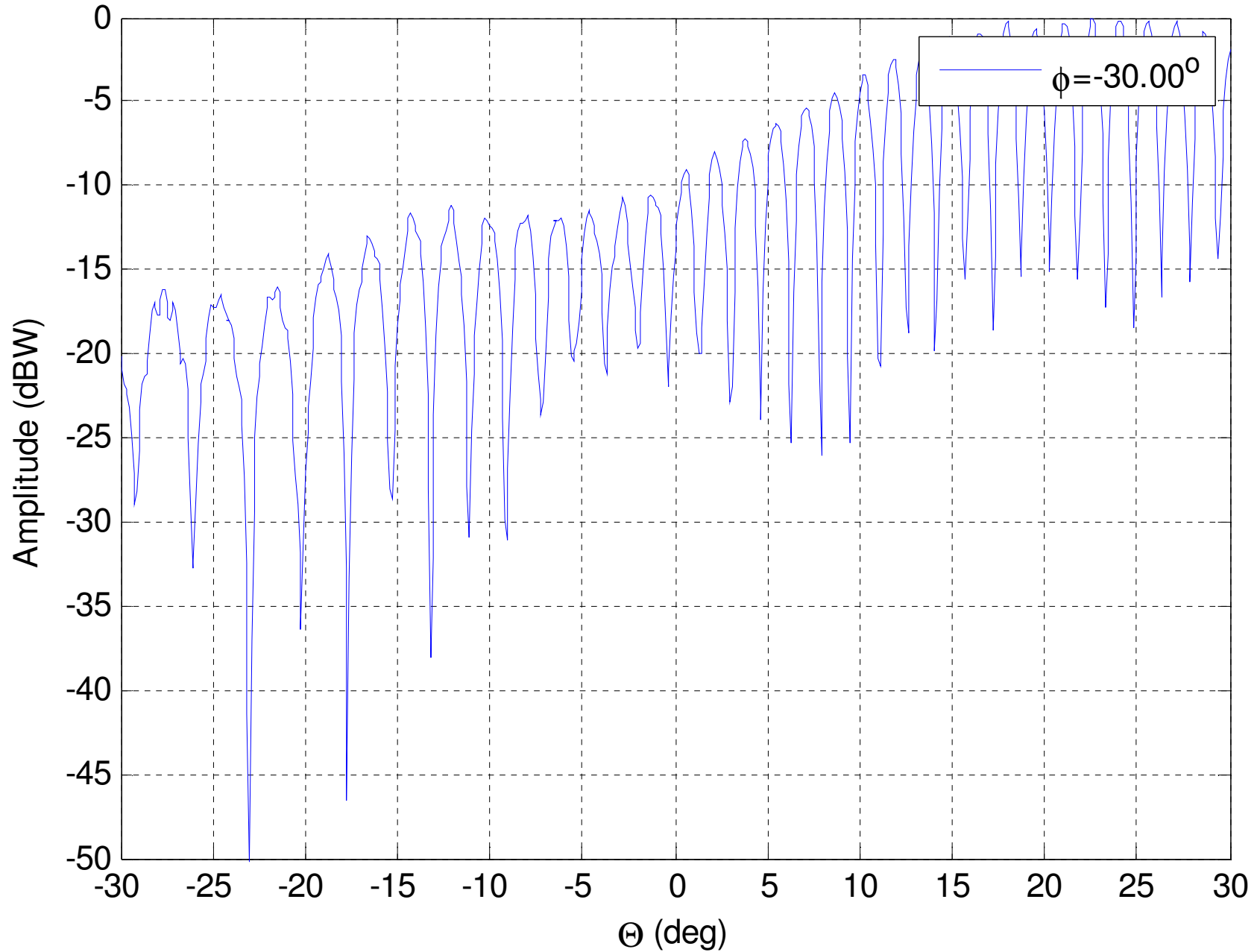
Input file: tx-17.3-lhcp--40.cut, Peak: -5.97 dBW, Date: 16-Dec-2011





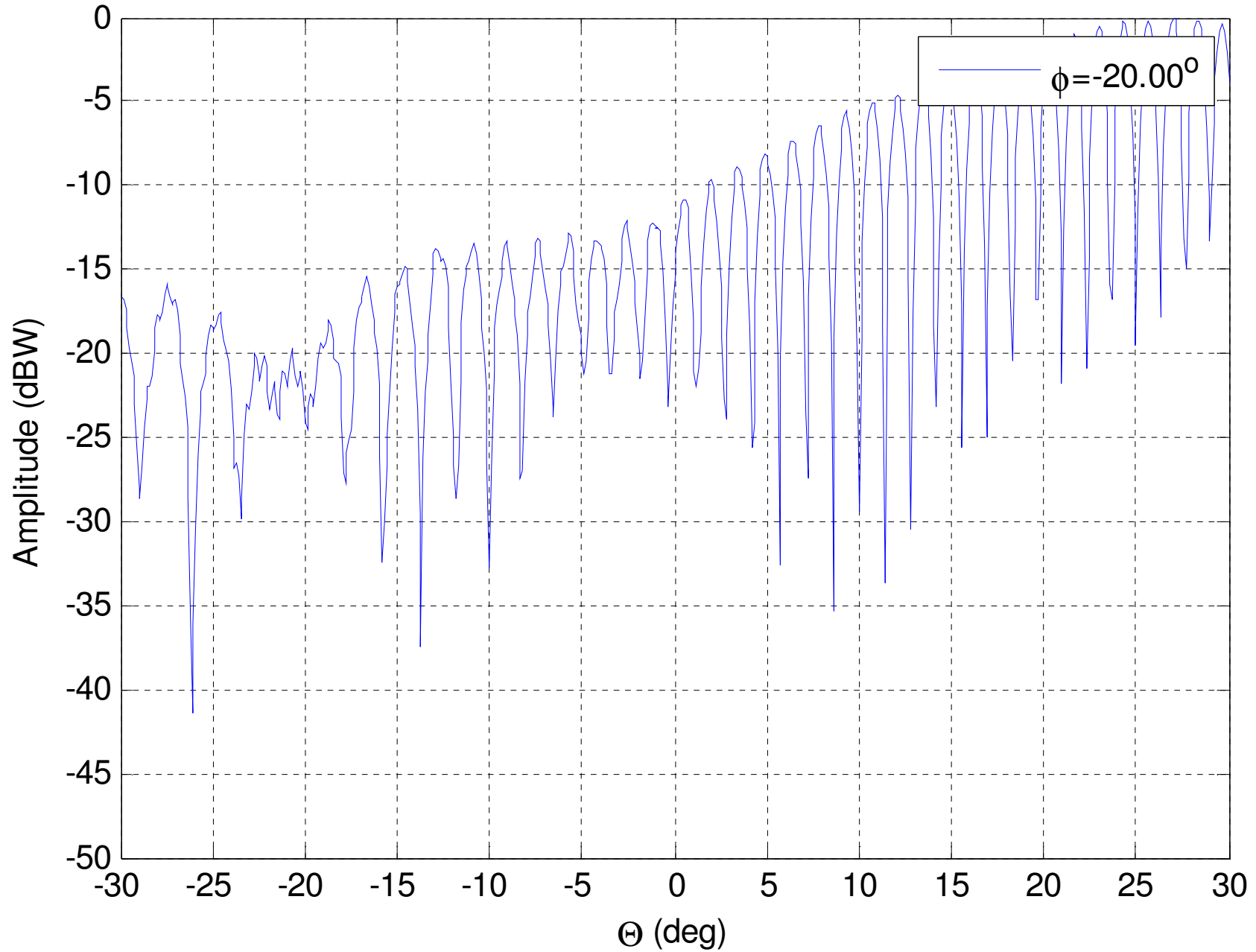
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -4.52 dBW, Date: 16-Dec-2011



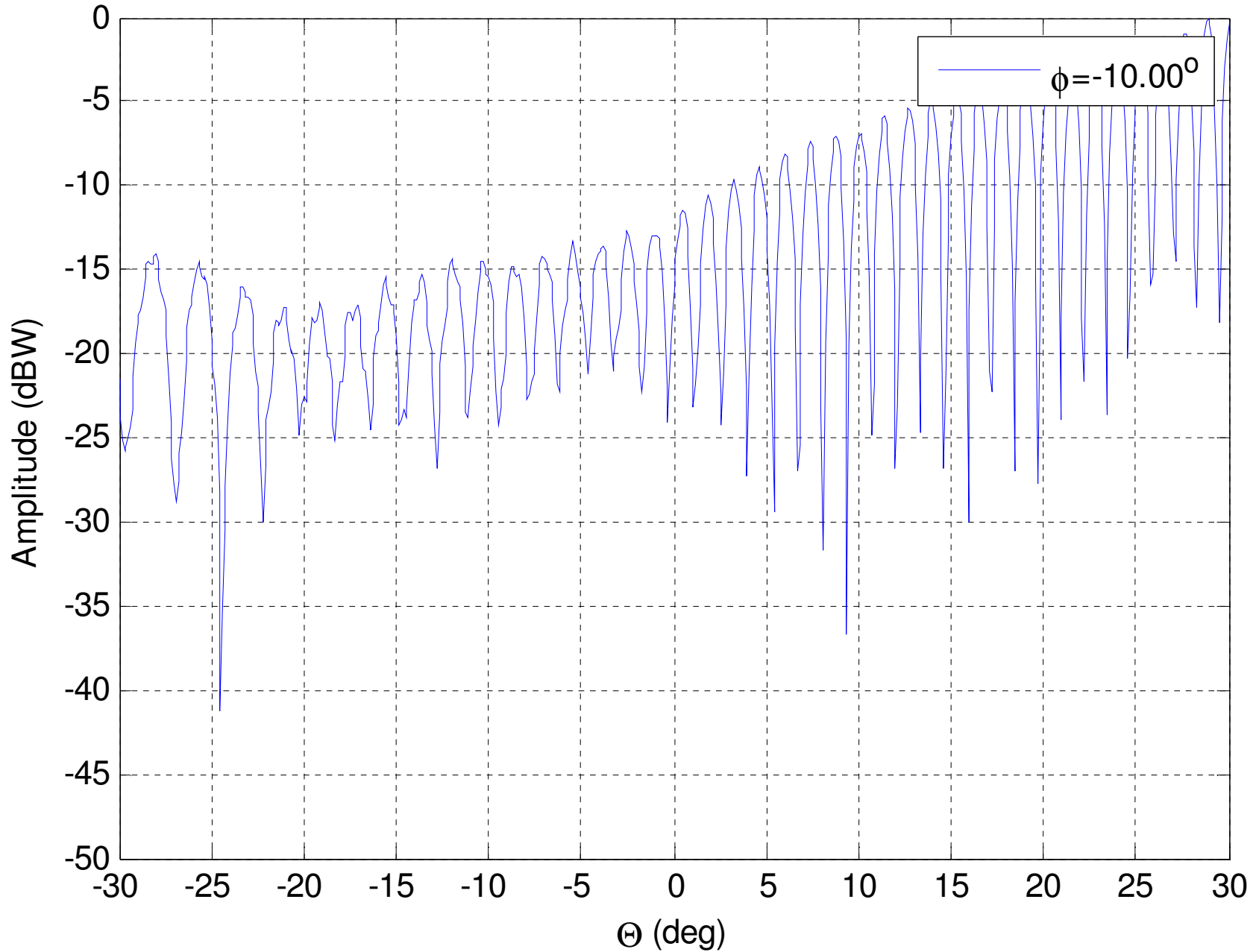
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -2.96 dBW, Date: 16-Dec-2011



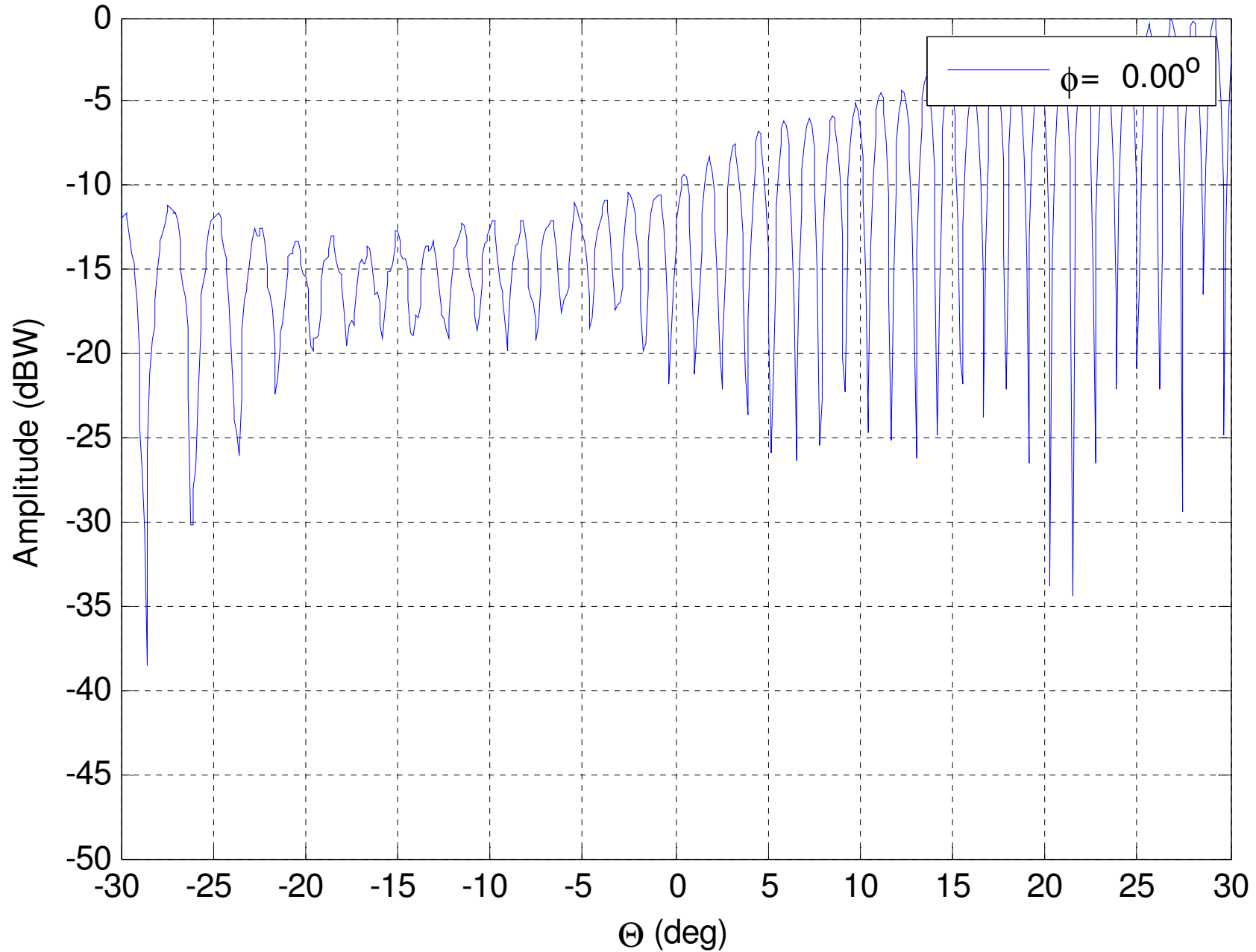
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -2.30 dBW, Date: 16-Dec-2011



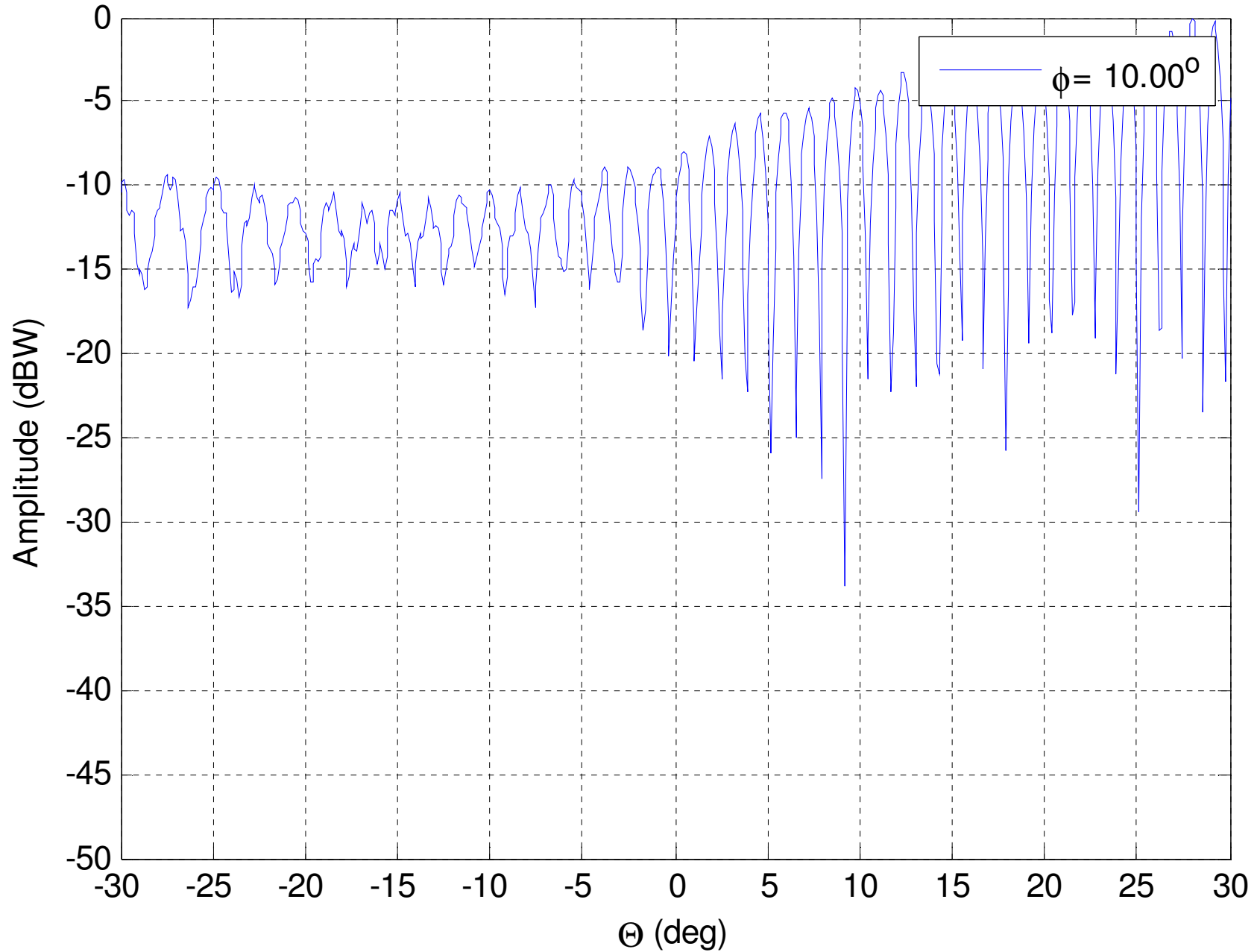
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -4.58 dBW, Date: 16-Dec-2011



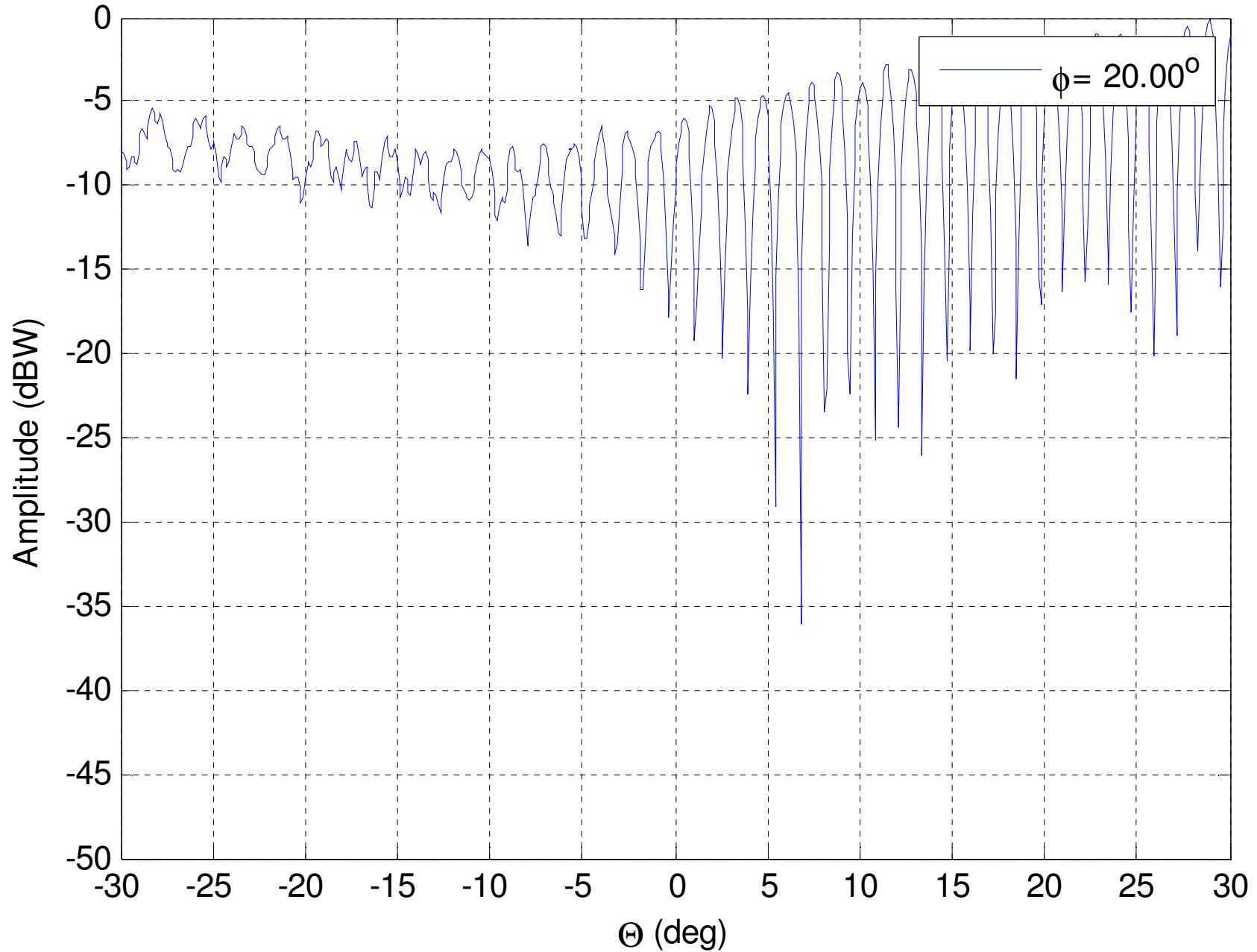
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -6.05 dBW, Date: 16-Dec-2011



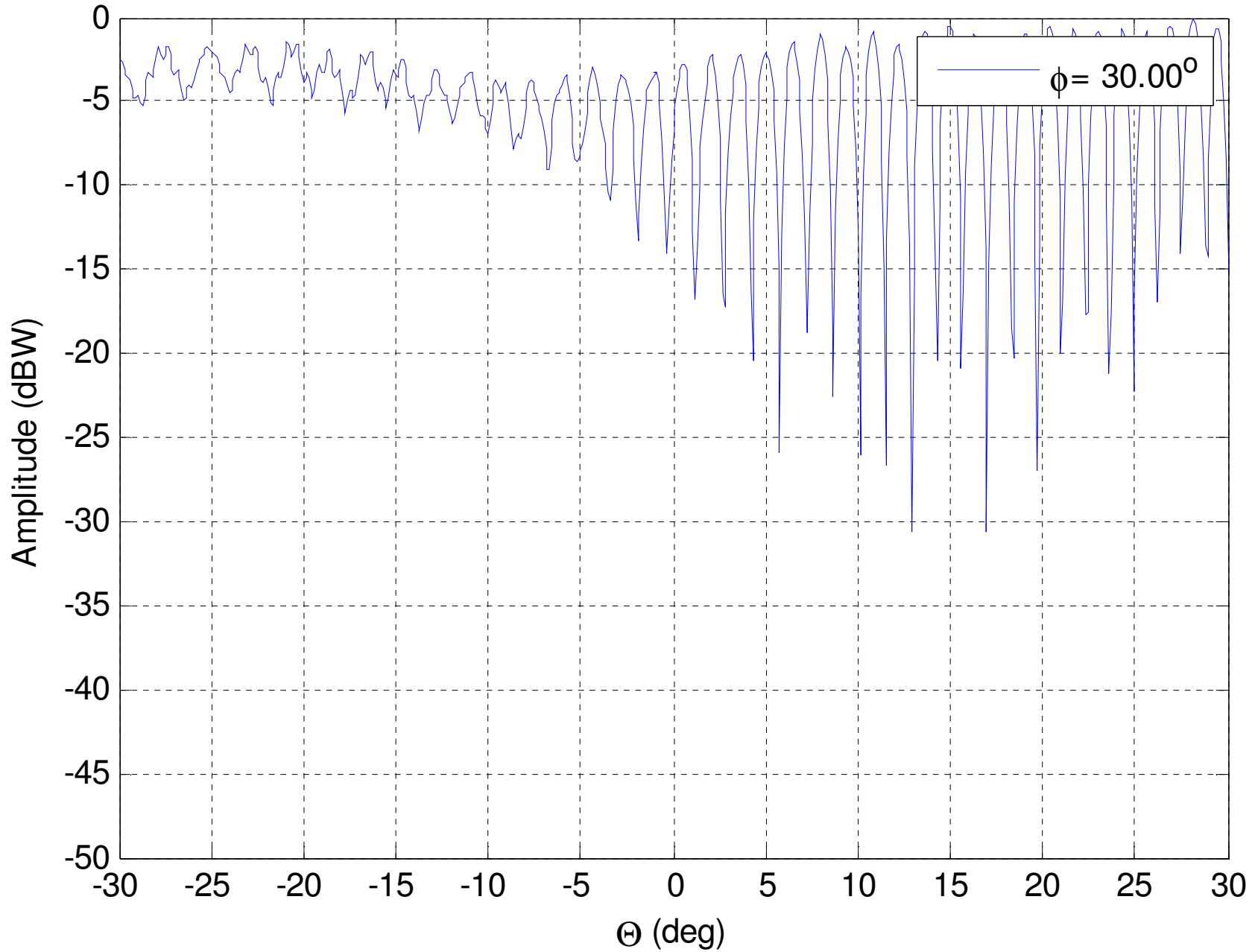
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -8.04 dBW, Date: 16-Dec-2011



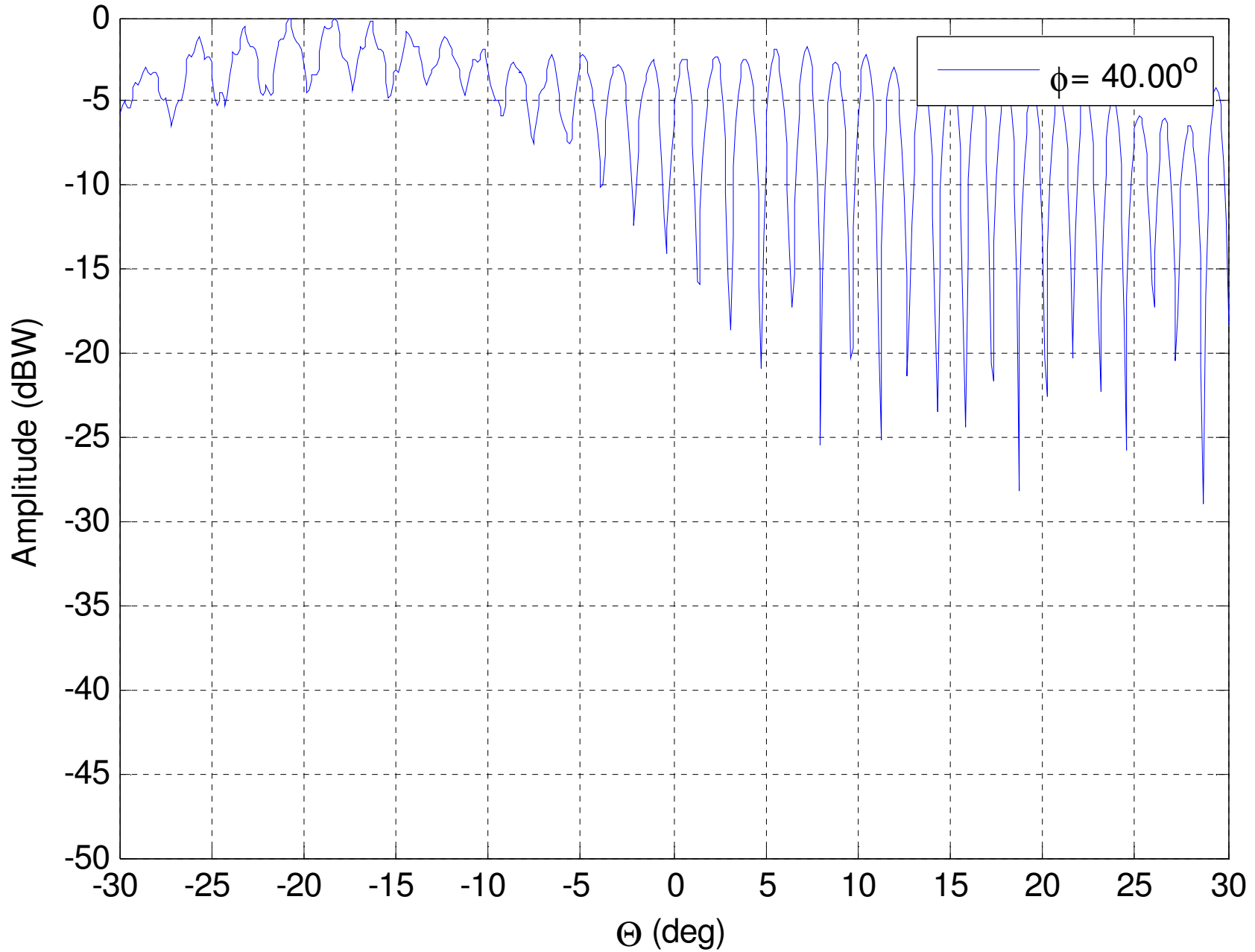
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -11.39 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

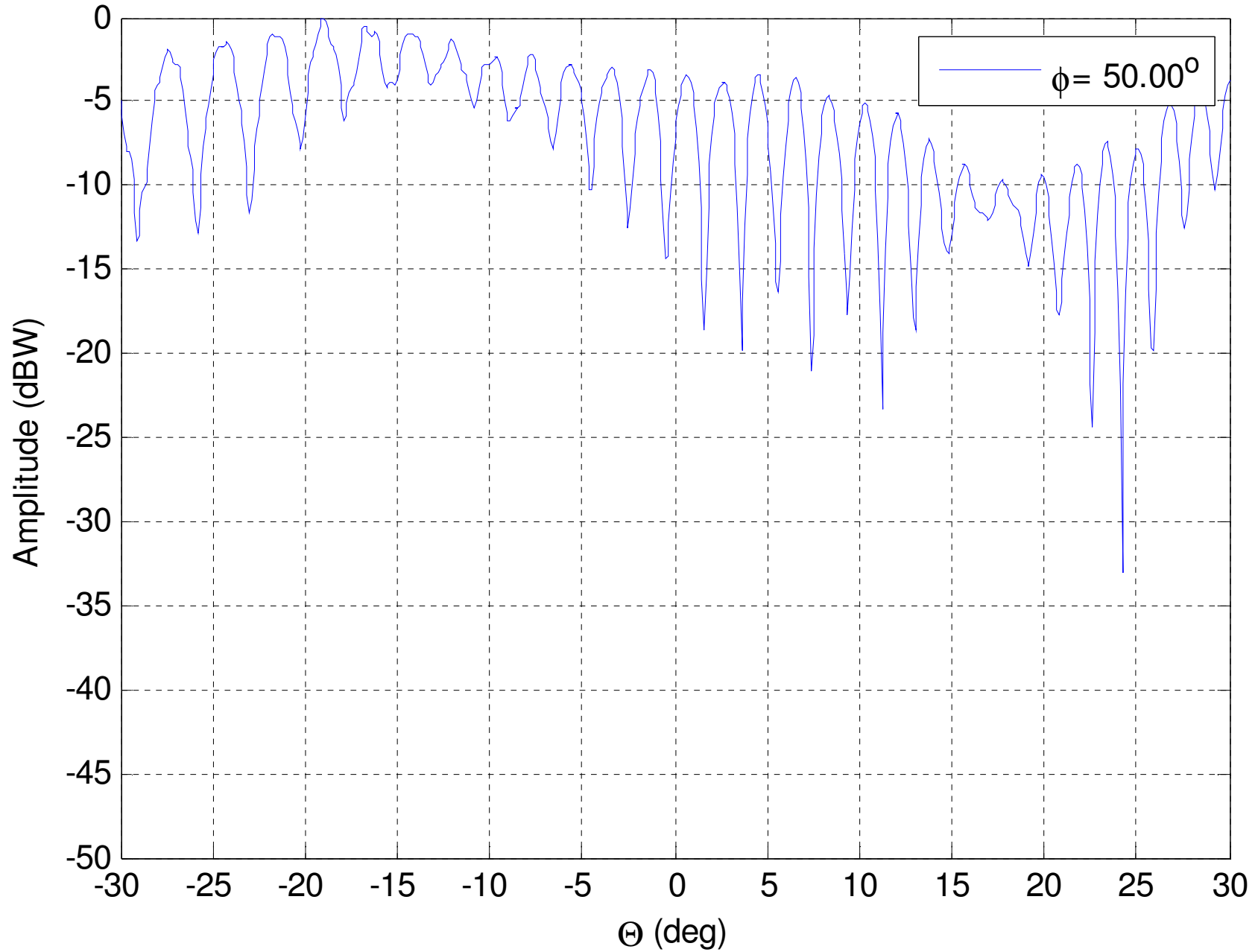
Input file: tx-17.3-lhcp-40.cut, Peak: -11.84 dBW, Date: 16-Dec-2011





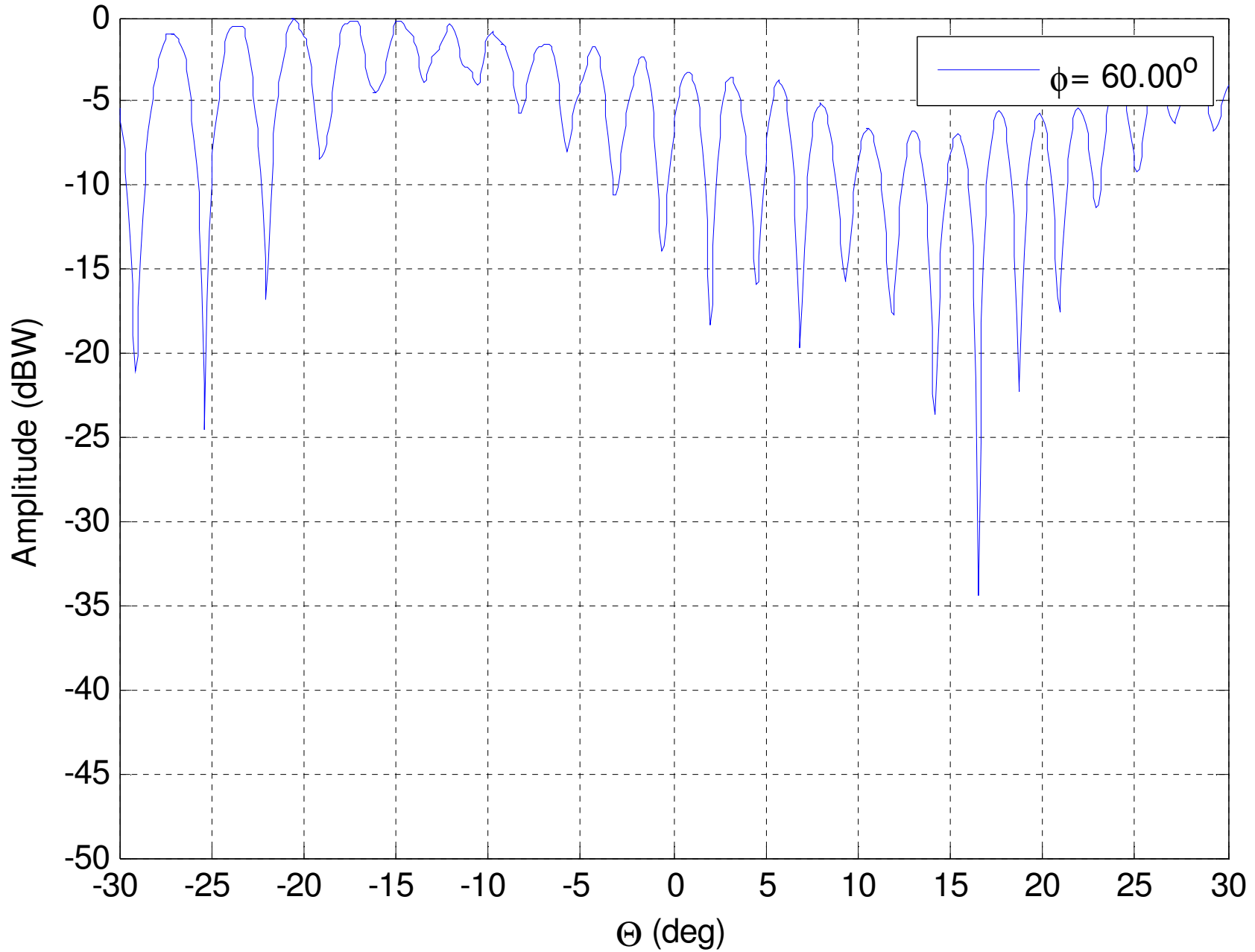
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -10.99 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

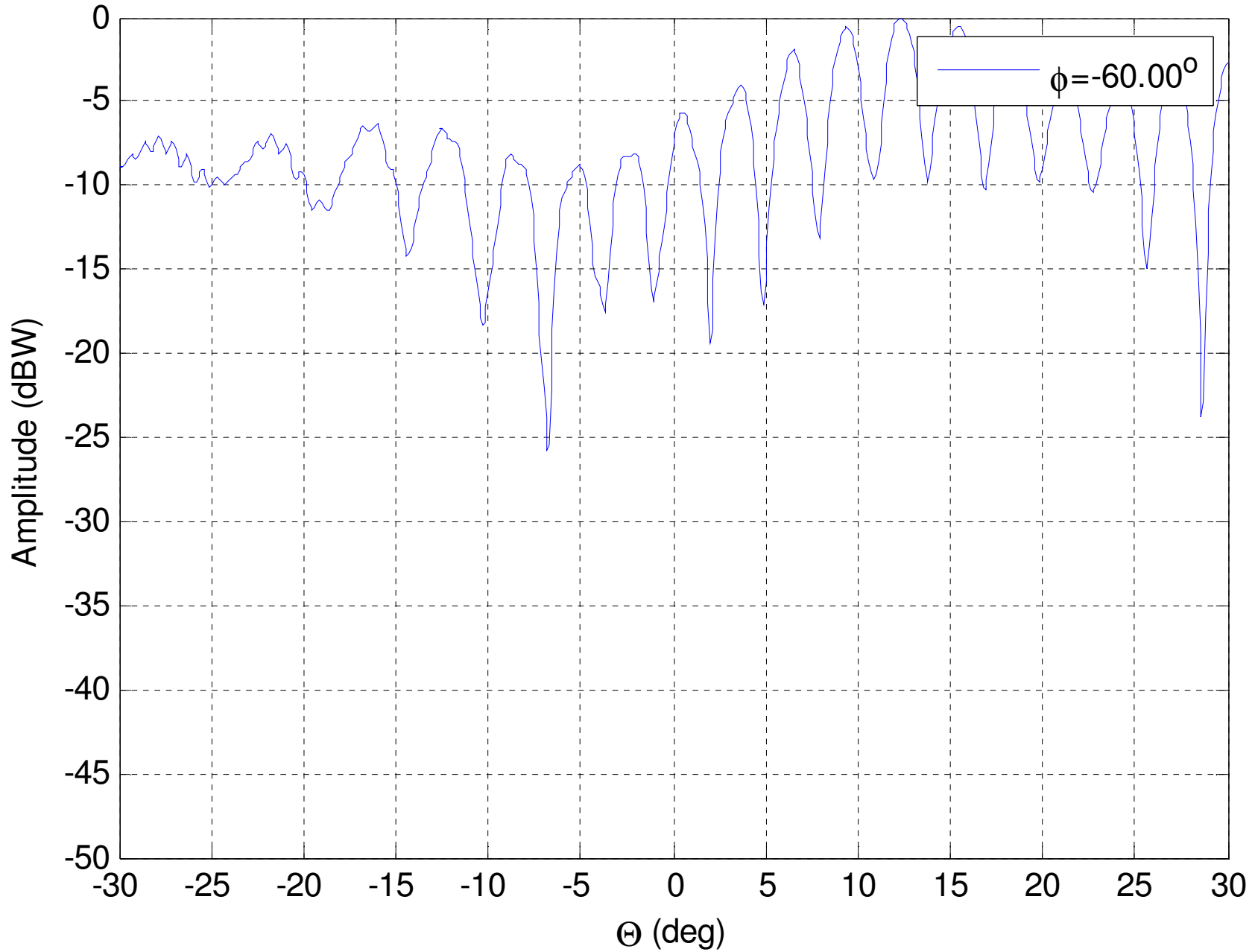
Input file: tx-17.3-lhcp-60.cut, Peak: -11.34 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

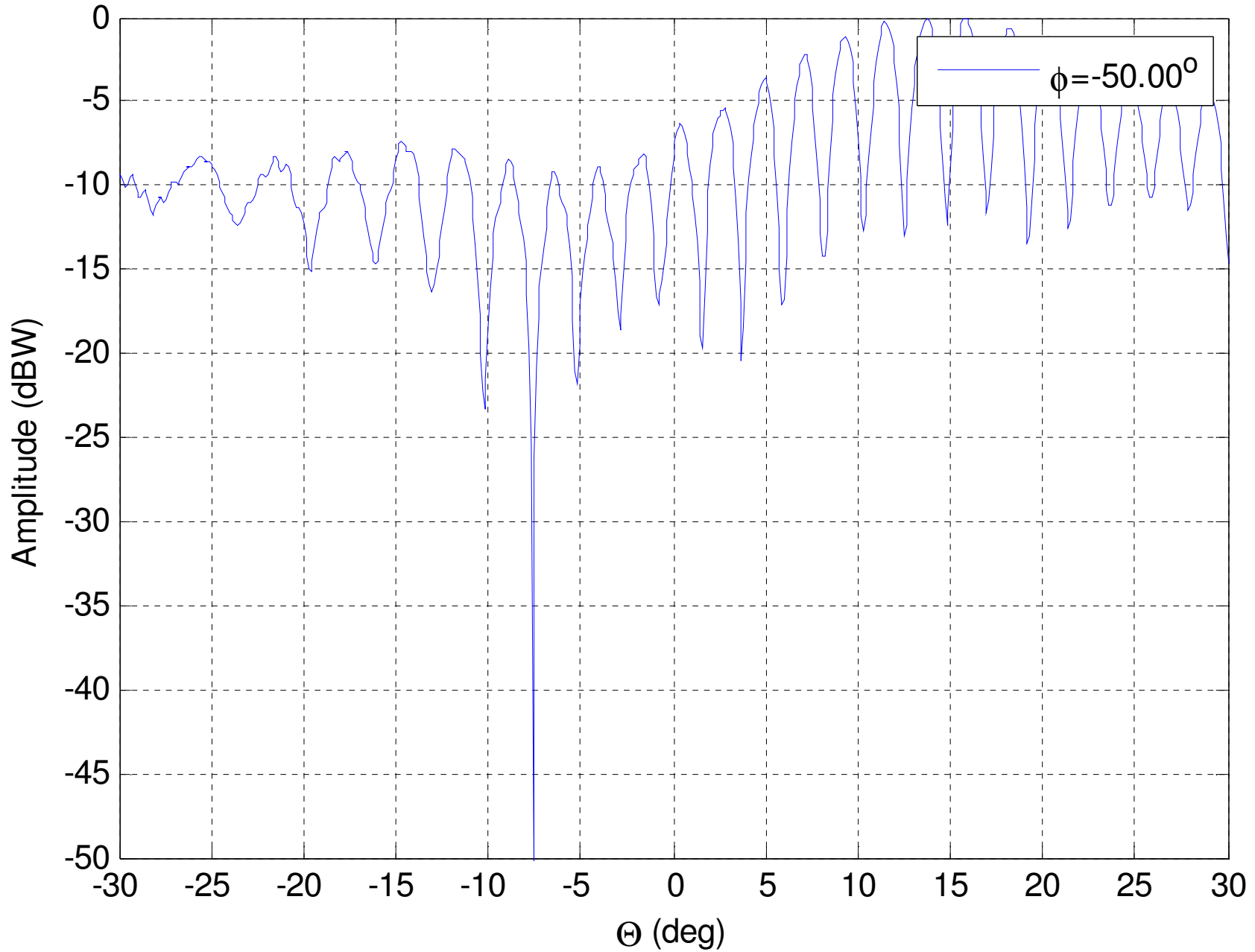
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -7.52 dBW, Date: 16-Dec-2011



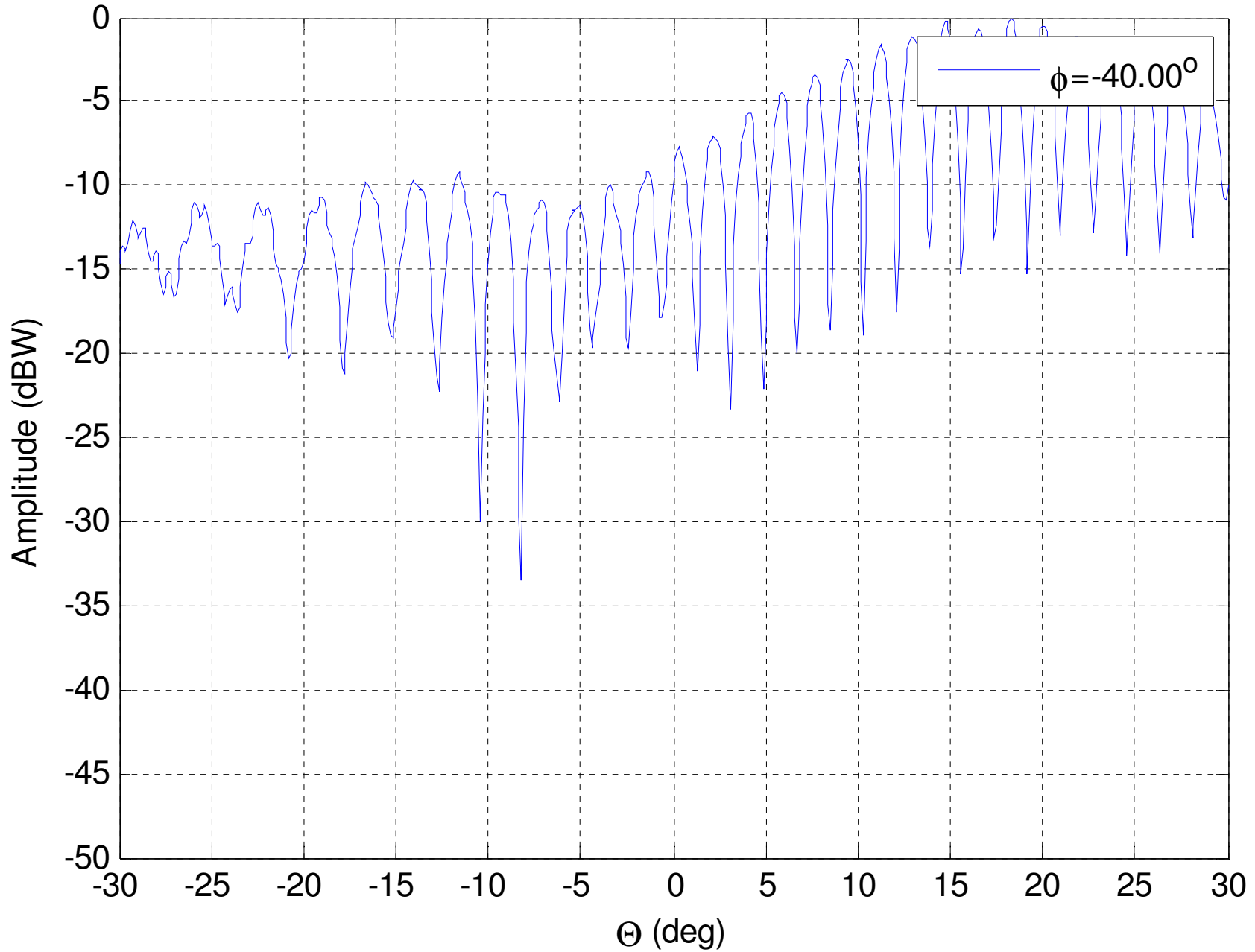
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -6.86 dBW, Date: 16-Dec-2011



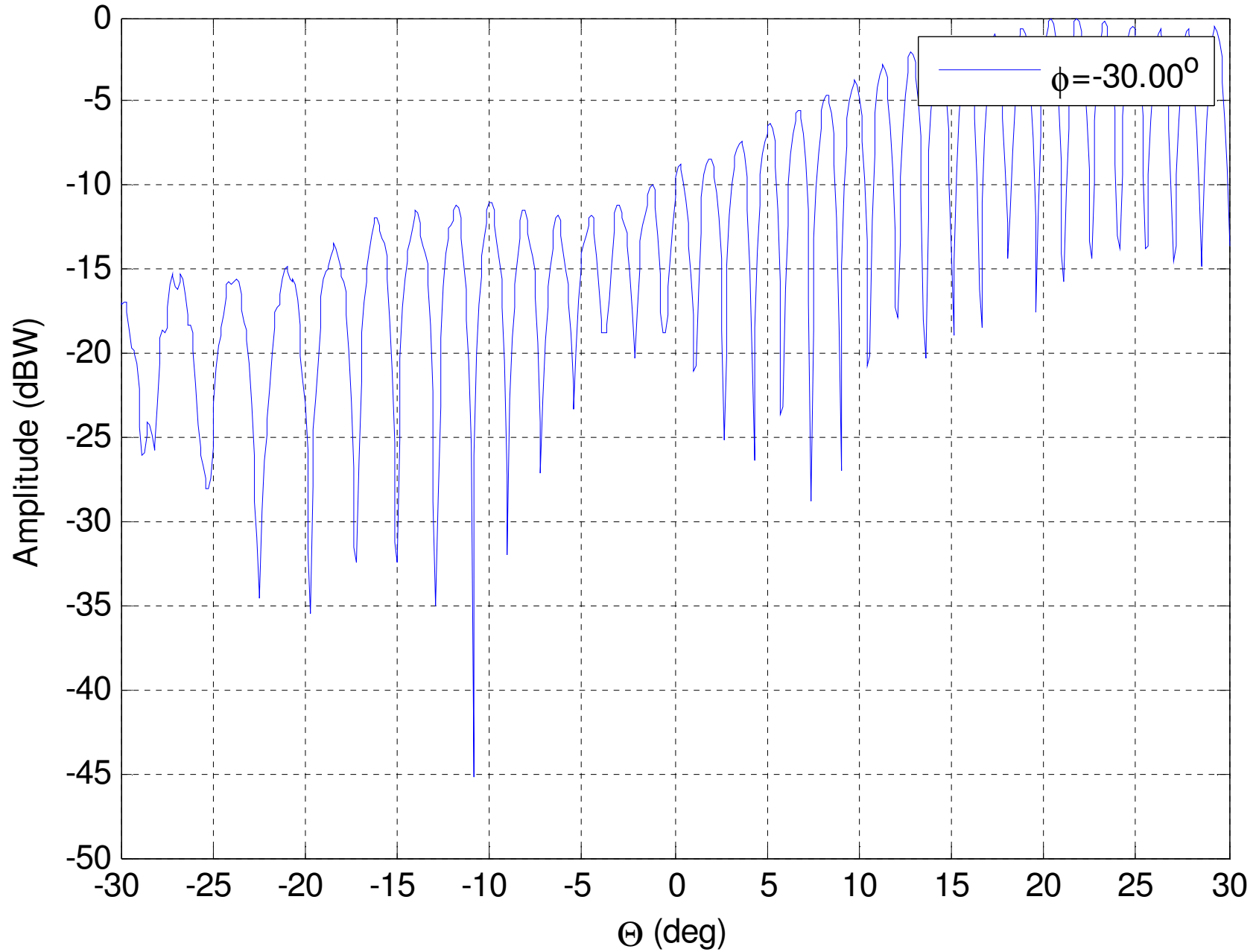
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -5.56 dBW, Date: 16-Dec-2011



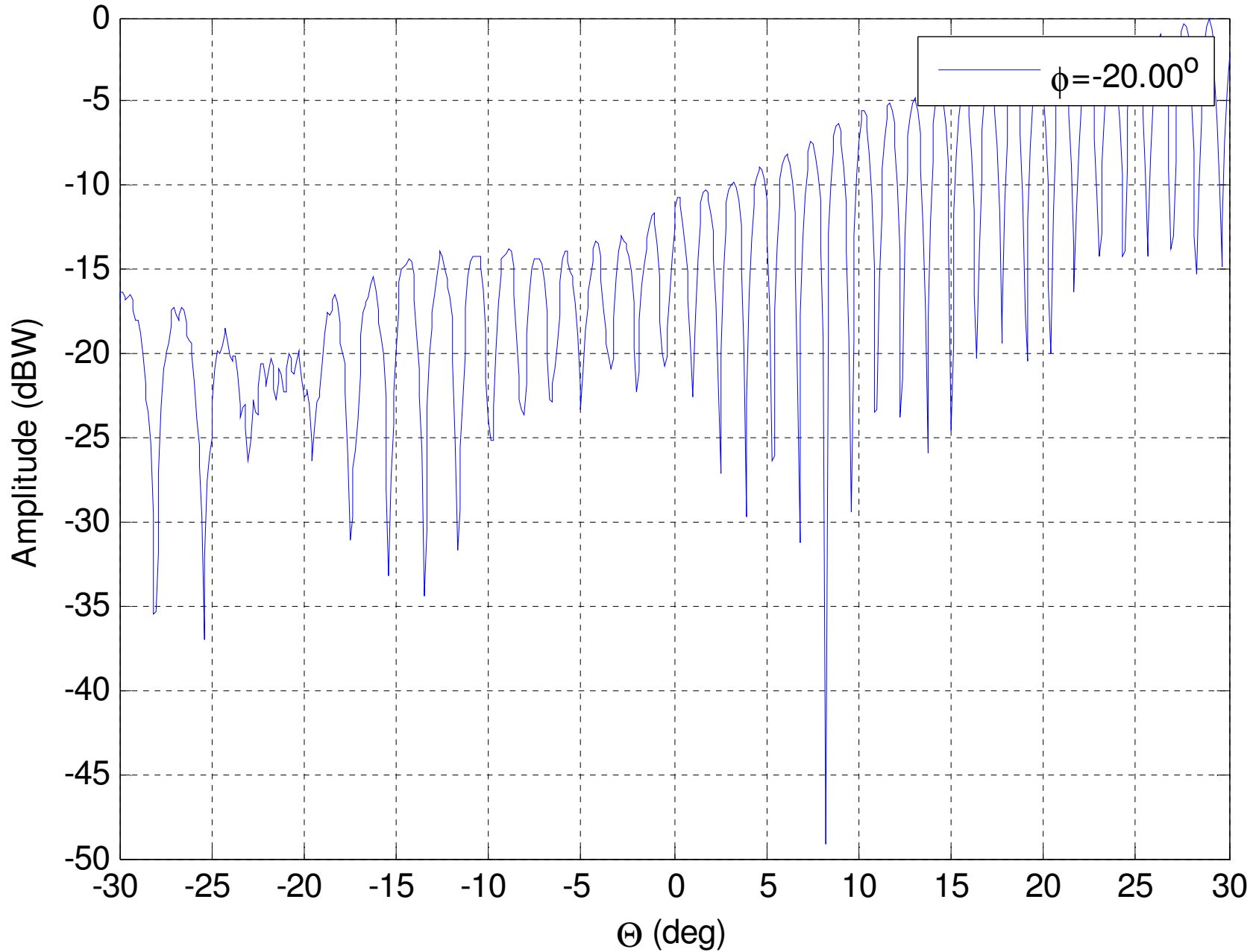
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -4.47 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

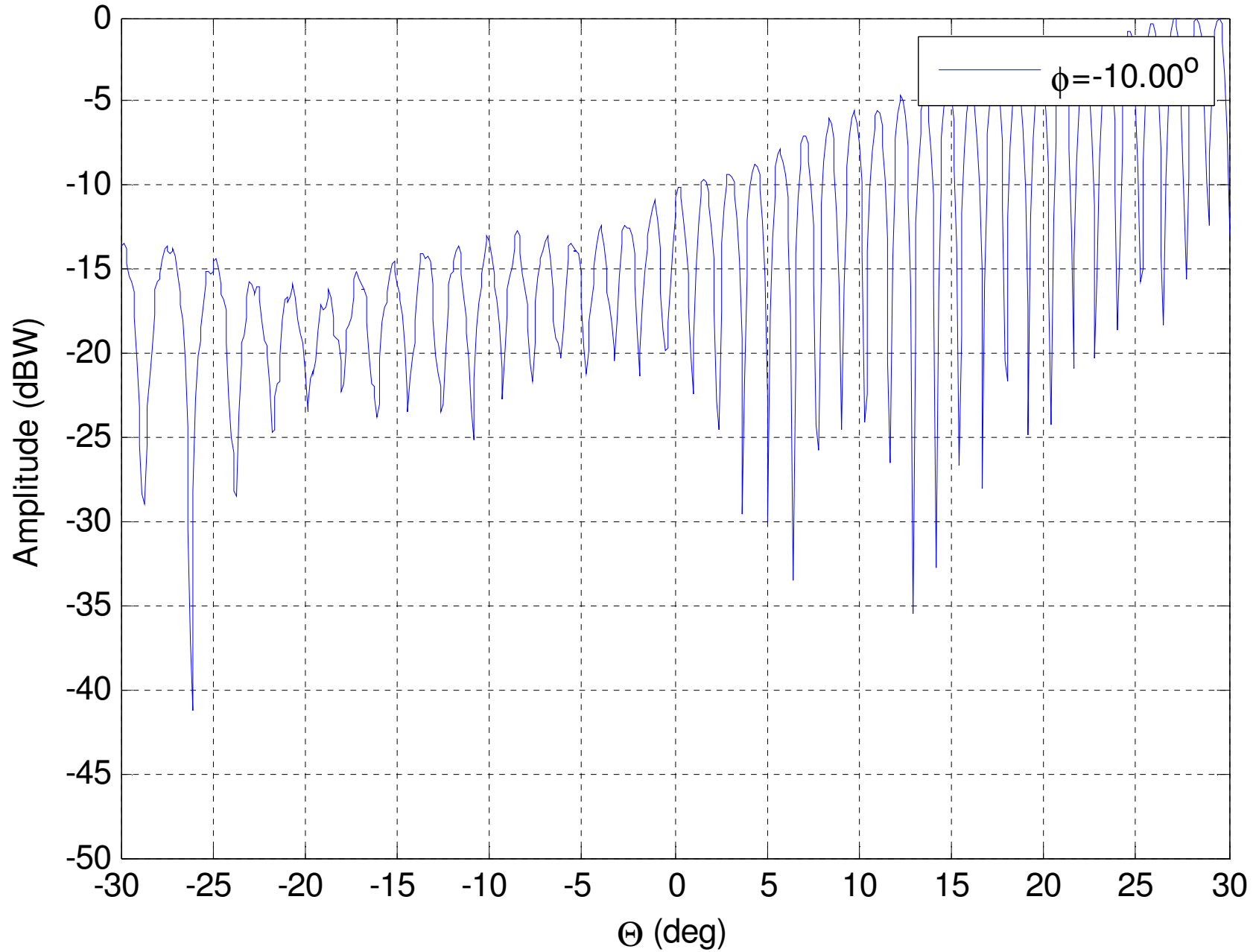
Input file: tx-17.5-rhcp--20.cut, Peak: -2.59 dBW, Date: 16-Dec-2011





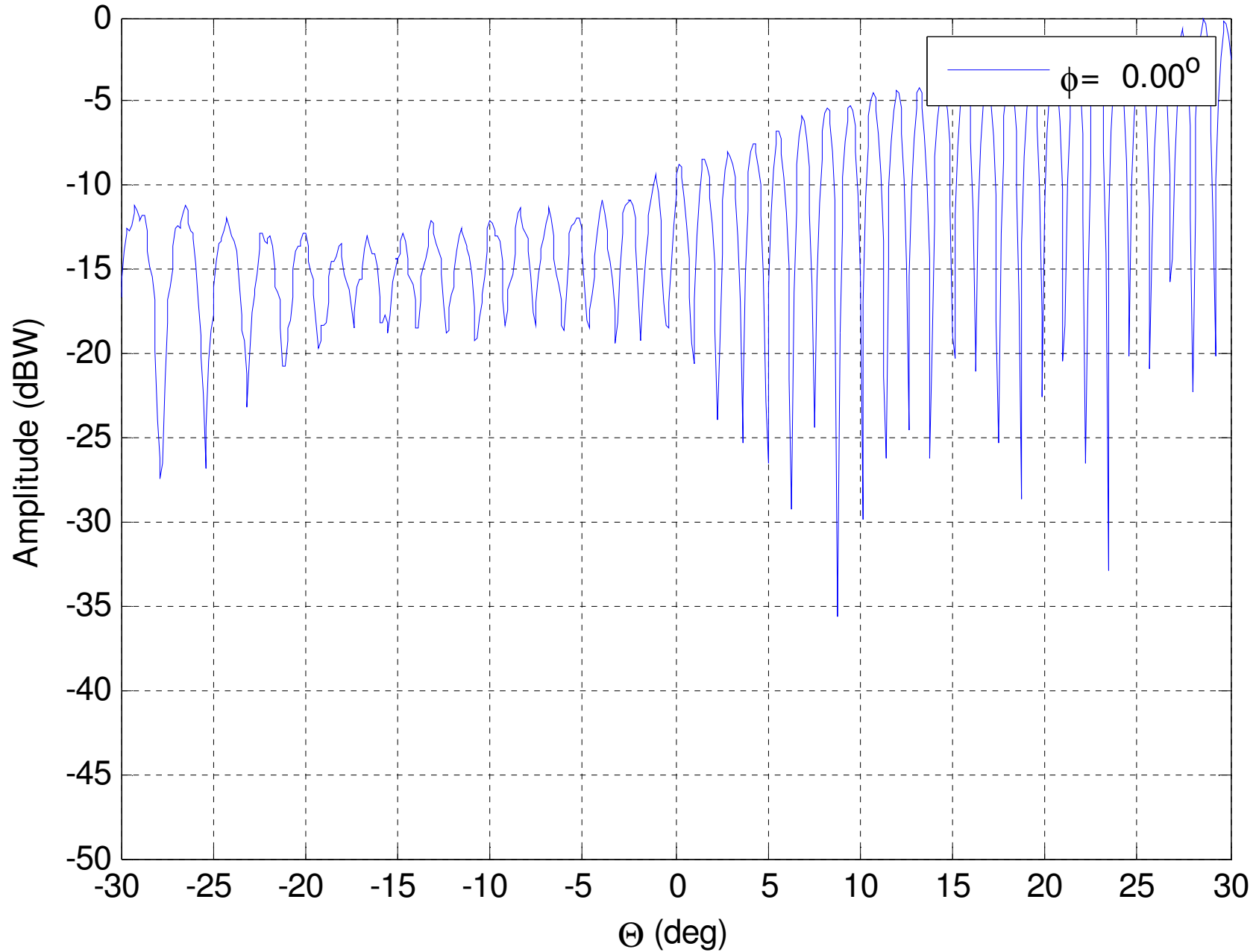
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -3.28 dBW, Date: 16-Dec-2011



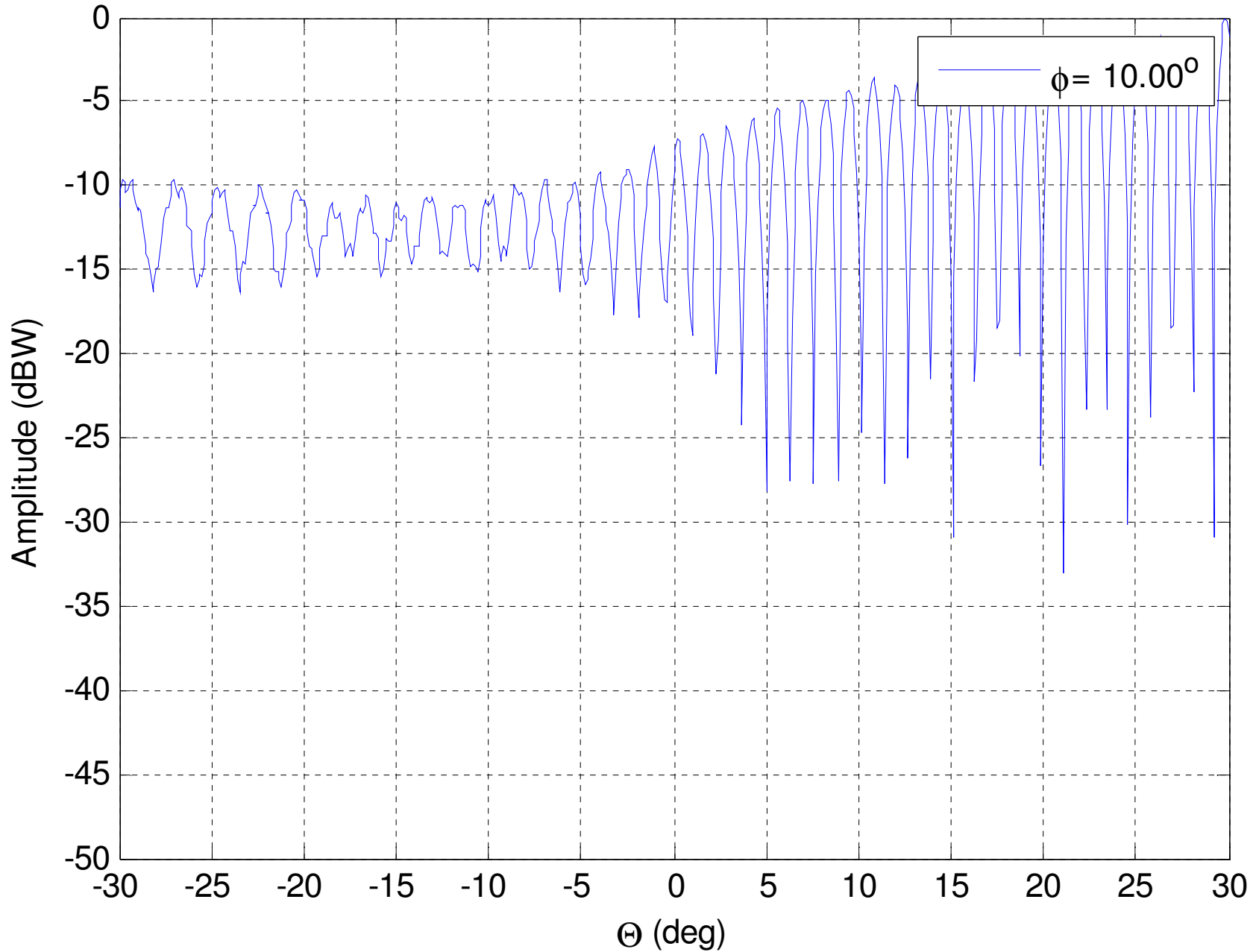
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -4.60 dBW, Date: 16-Dec-2011



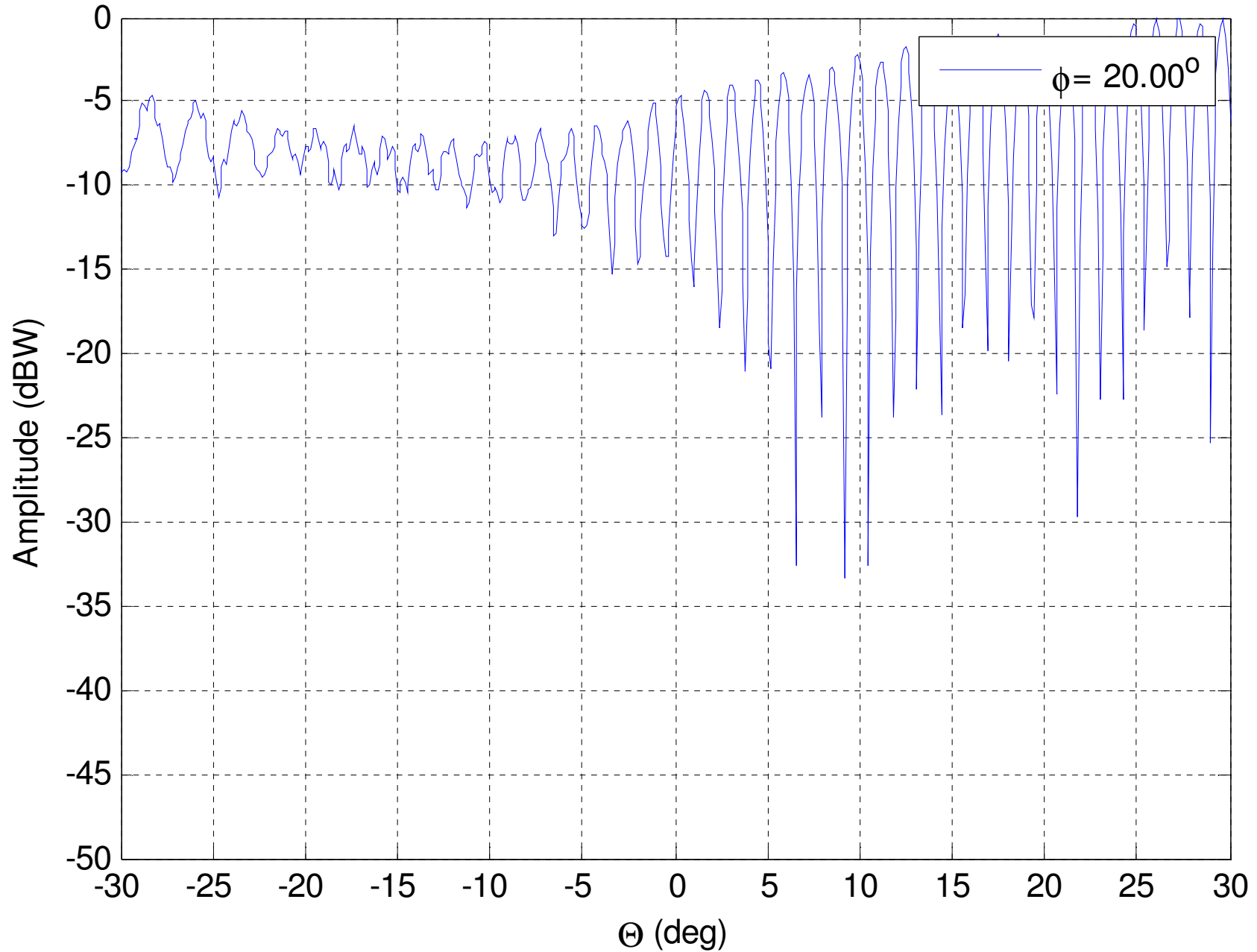
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -6.11 dBW, Date: 16-Dec-2011



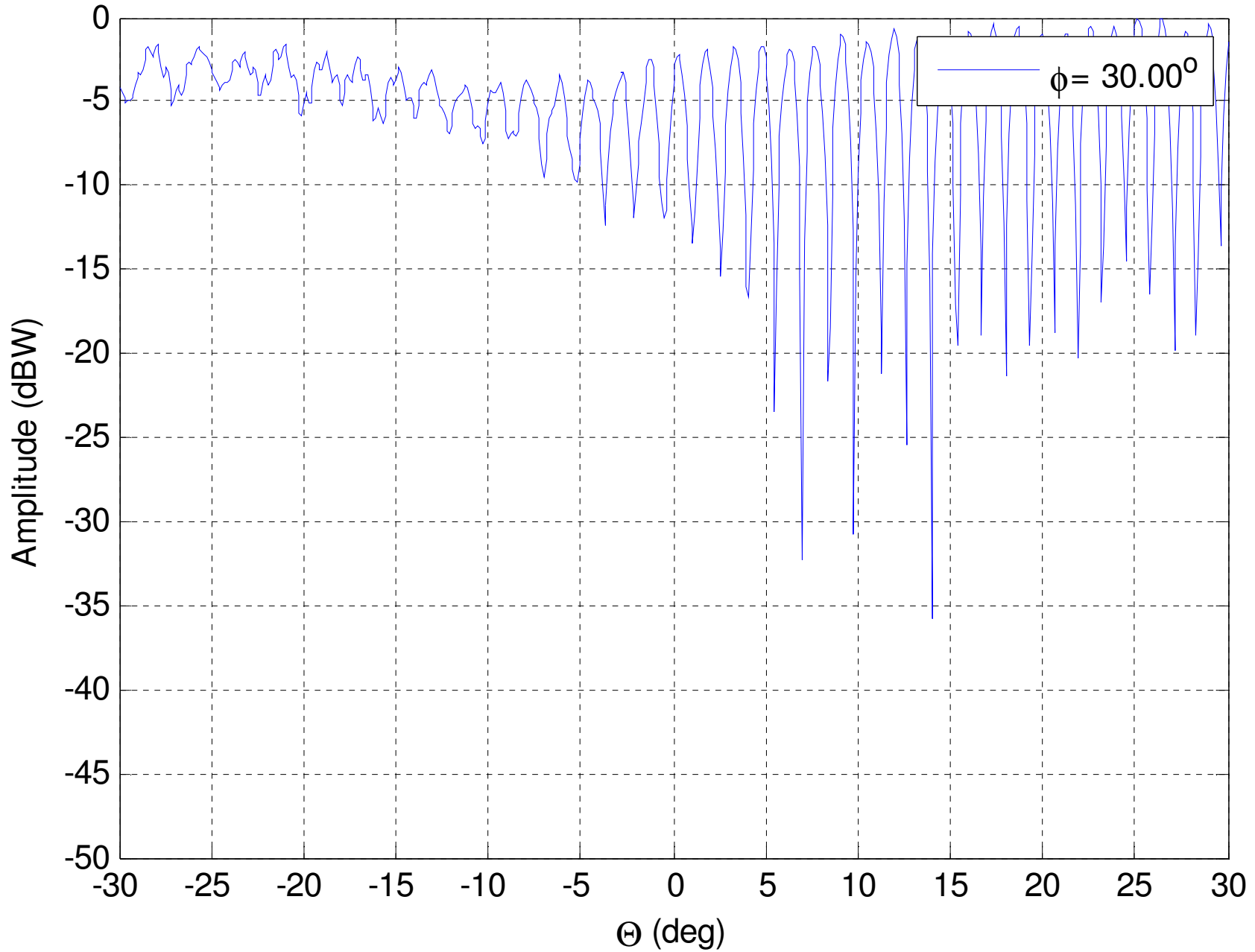
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -8.71 dBW, Date: 16-Dec-2011



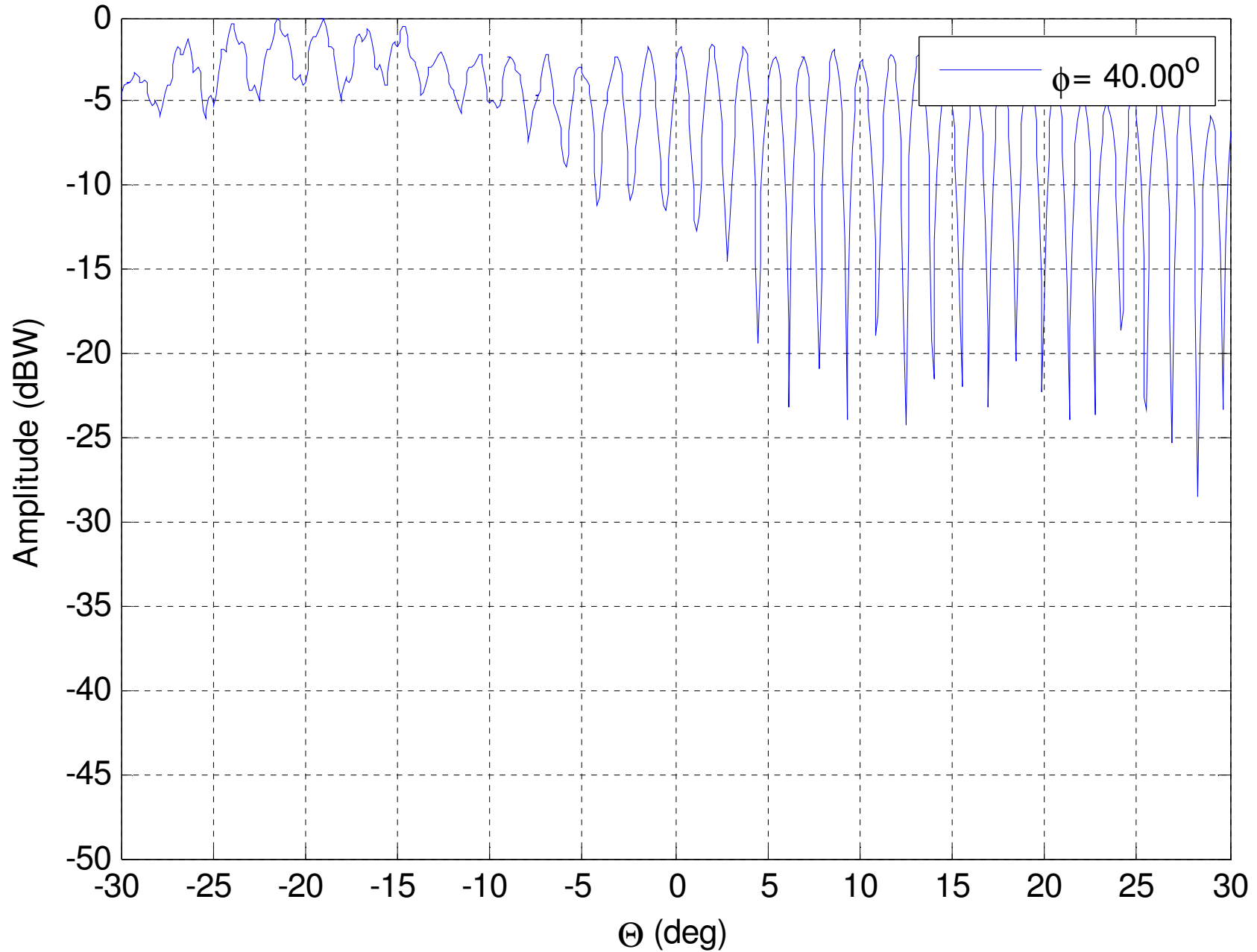
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -11.21 dBW, Date: 16-Dec-2011



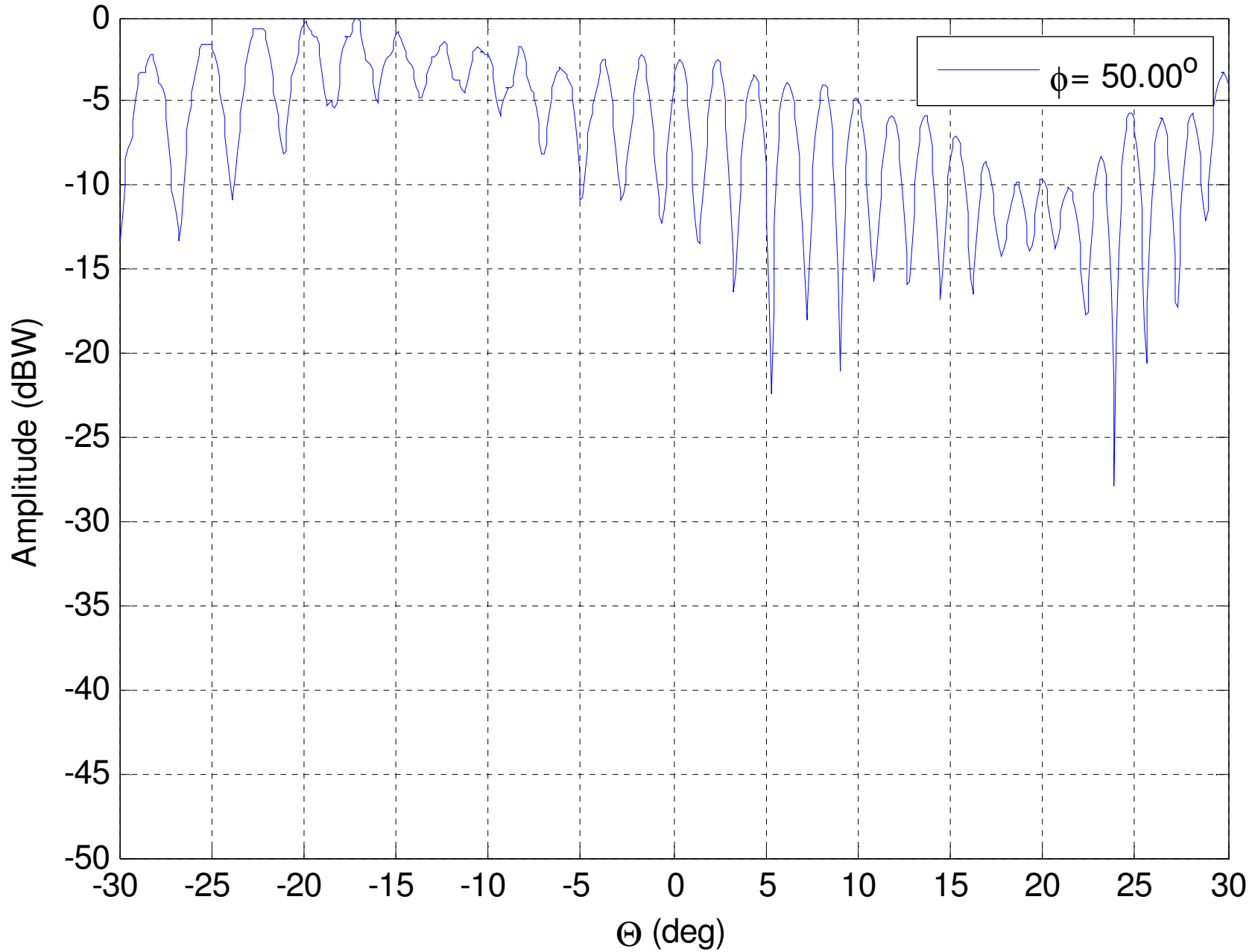
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -11.70 dBW, Date: 16-Dec-2011



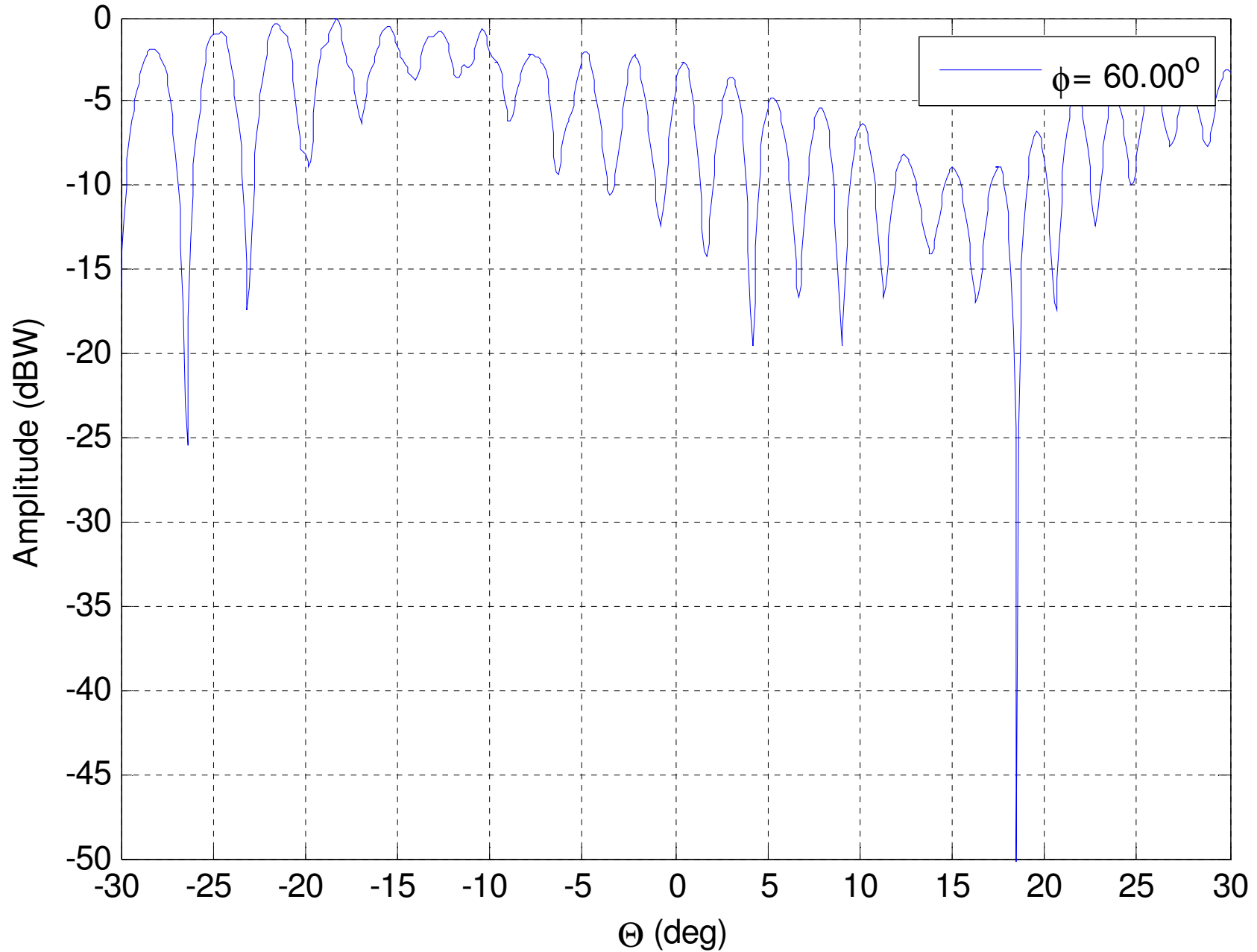
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -11.02 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-60.cut, Peak: -10.83 dBW, Date: 16-Dec-2011

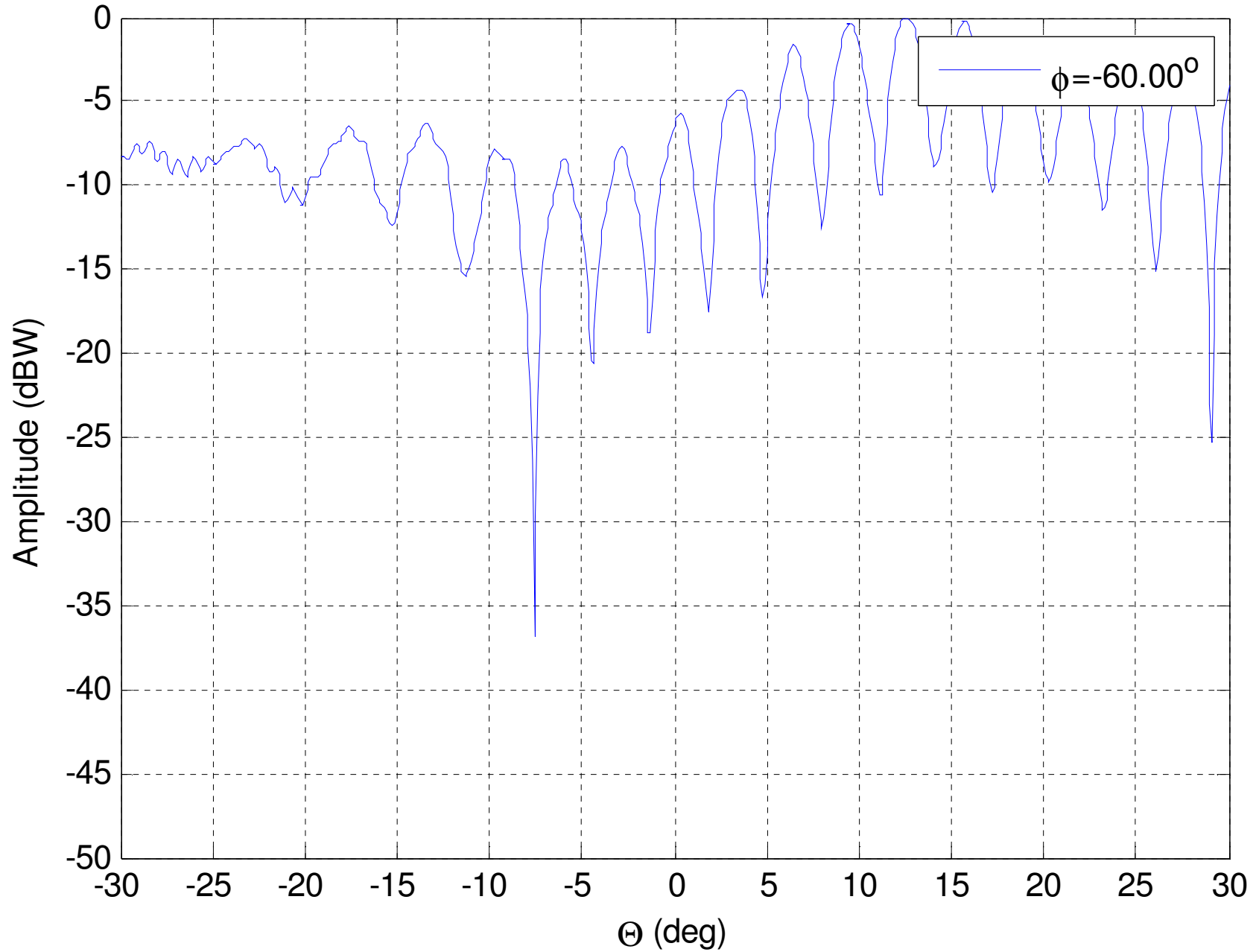




# LHCP at 17.5 GHz

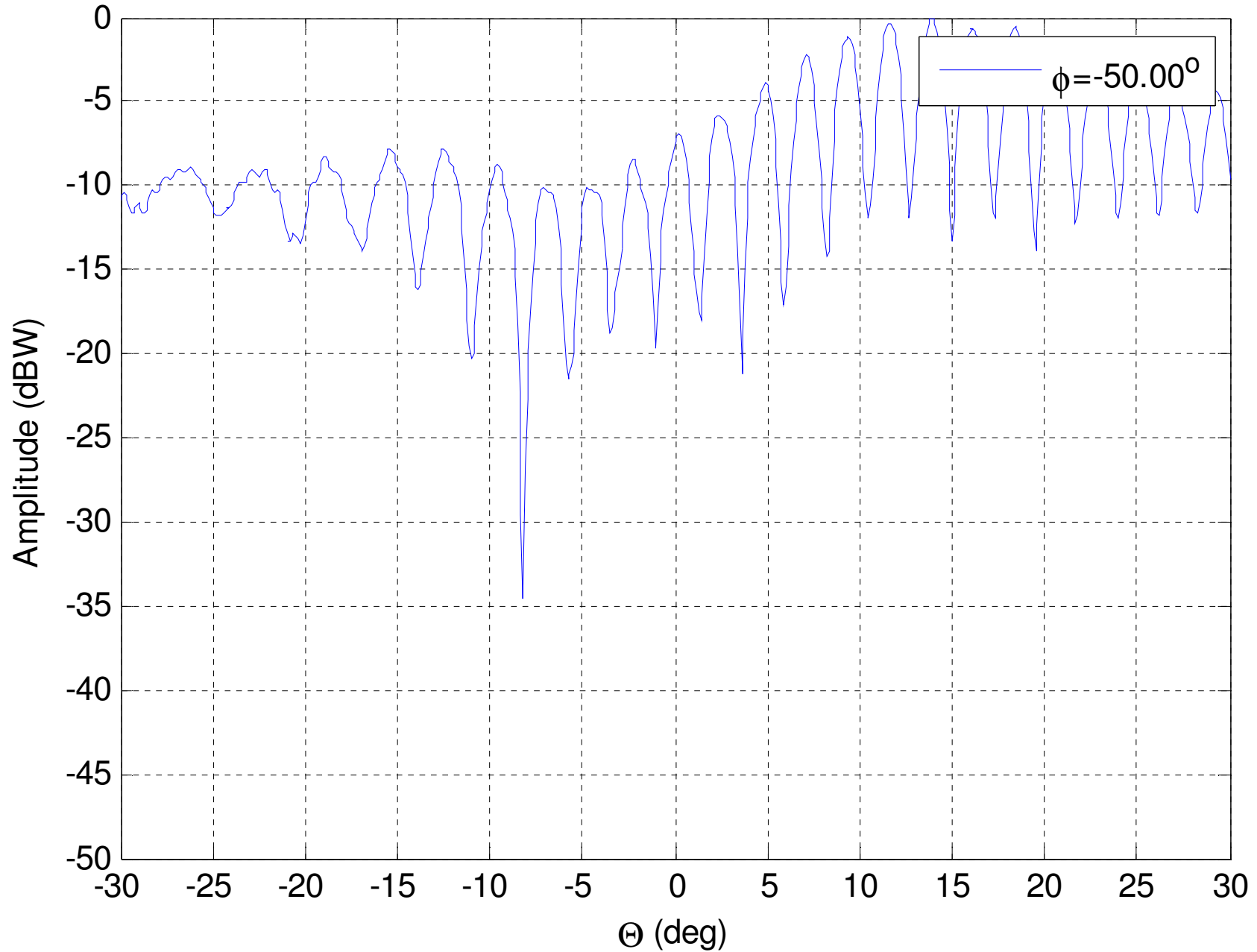
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -7.72 dBW, Date: 16-Dec-2011



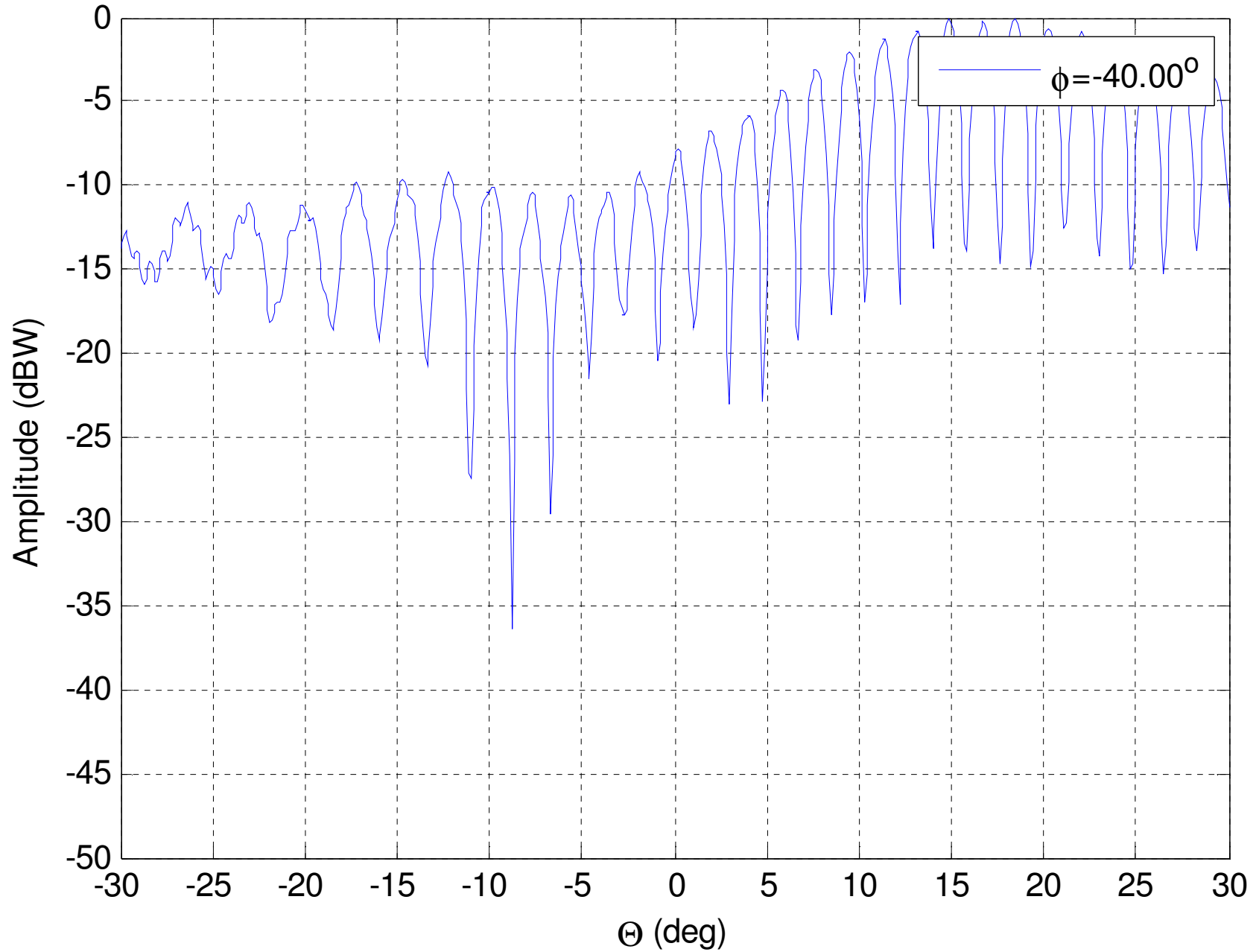
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -6.65 dBW, Date: 16-Dec-2011



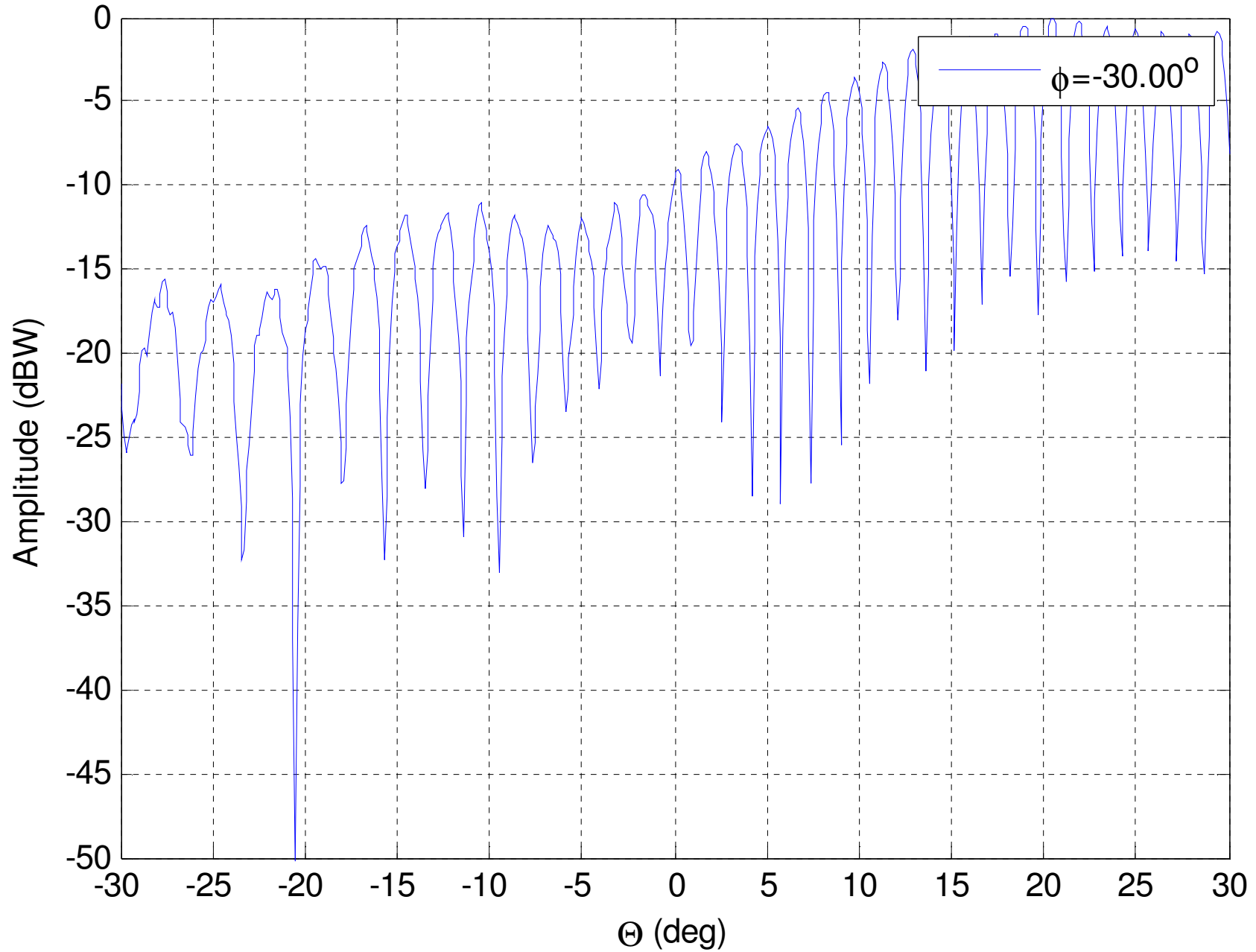
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -5.78 dBW, Date: 16-Dec-2011



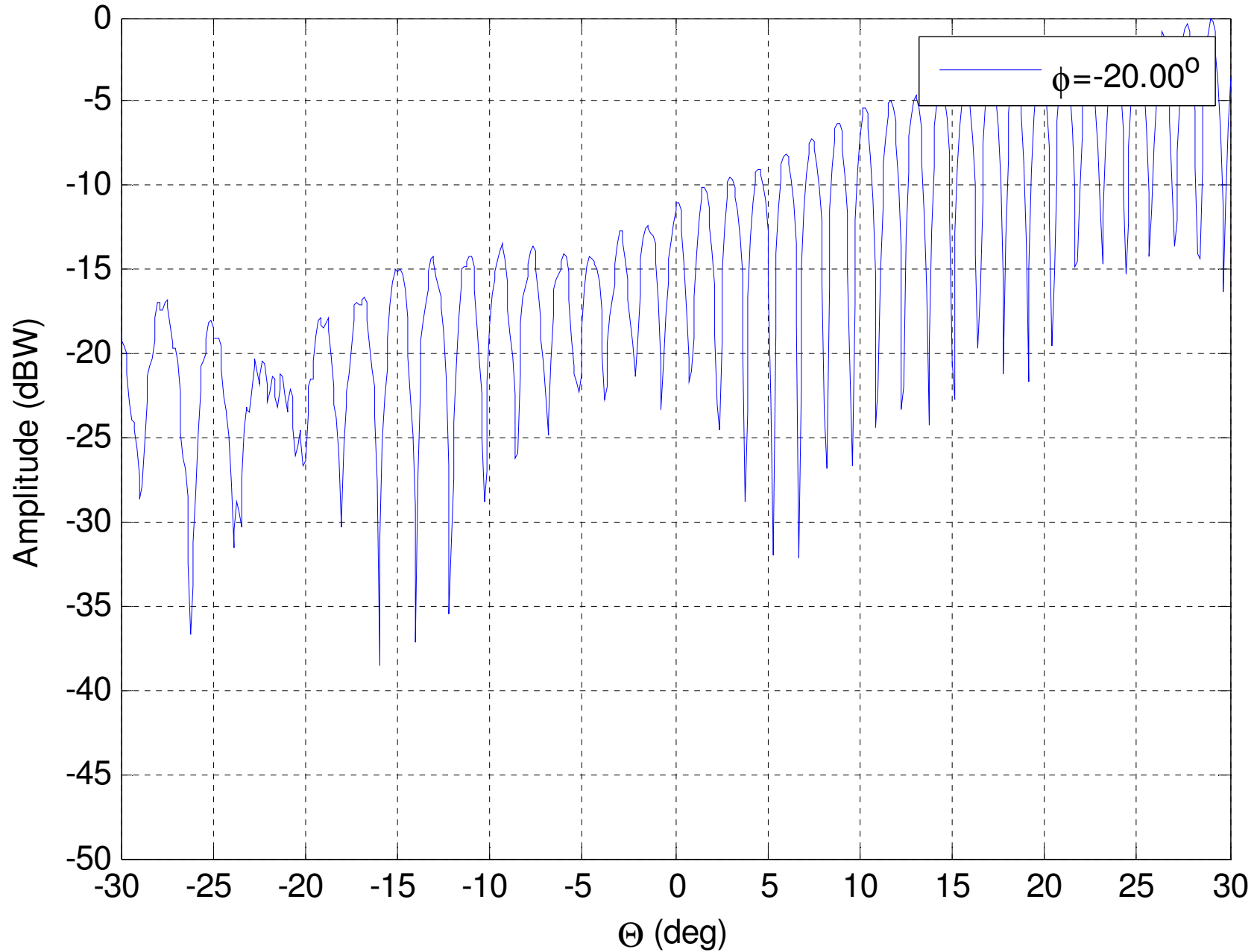
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -4.53 dBW, Date: 16-Dec-2011



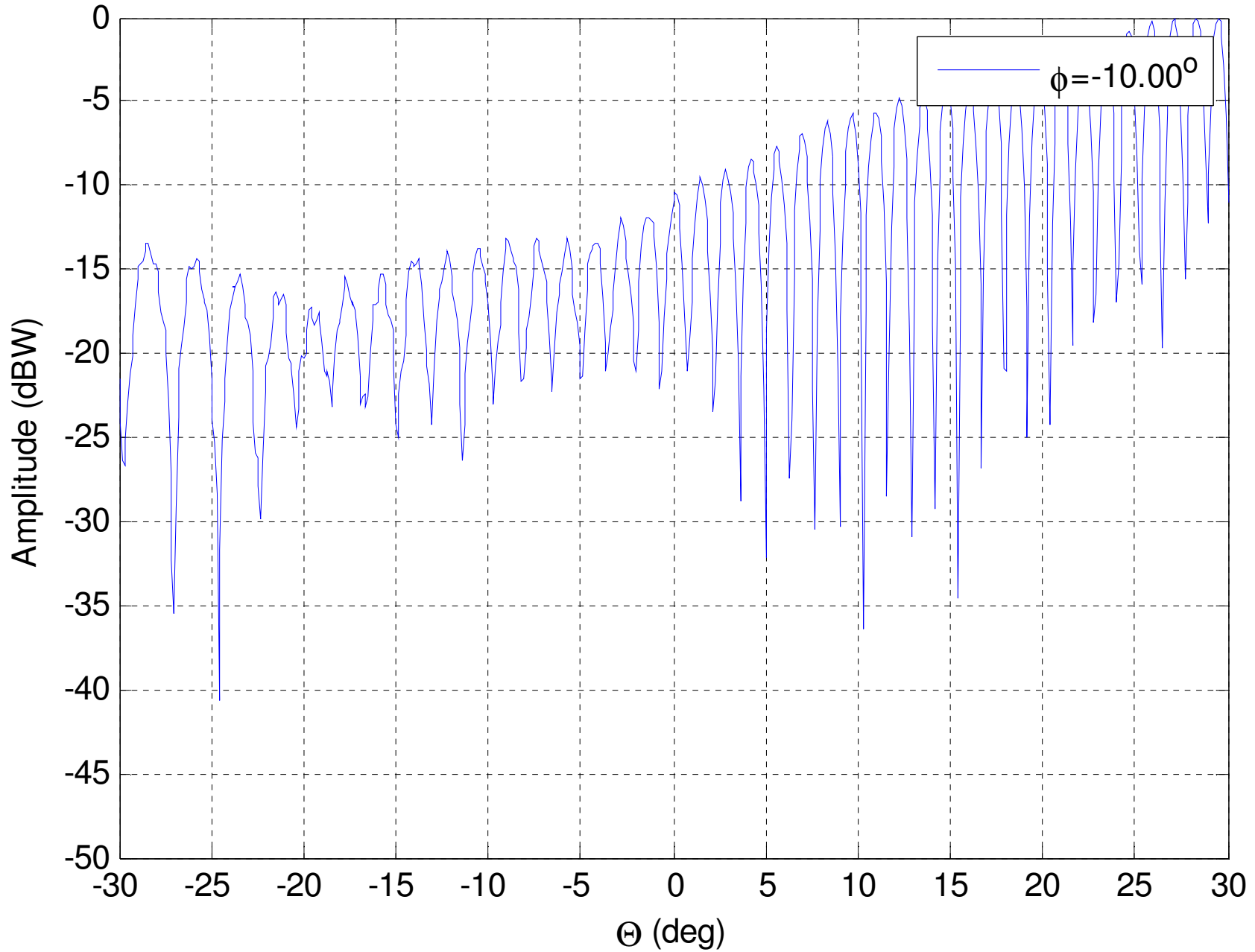
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -2.65 dBW, Date: 16-Dec-2011



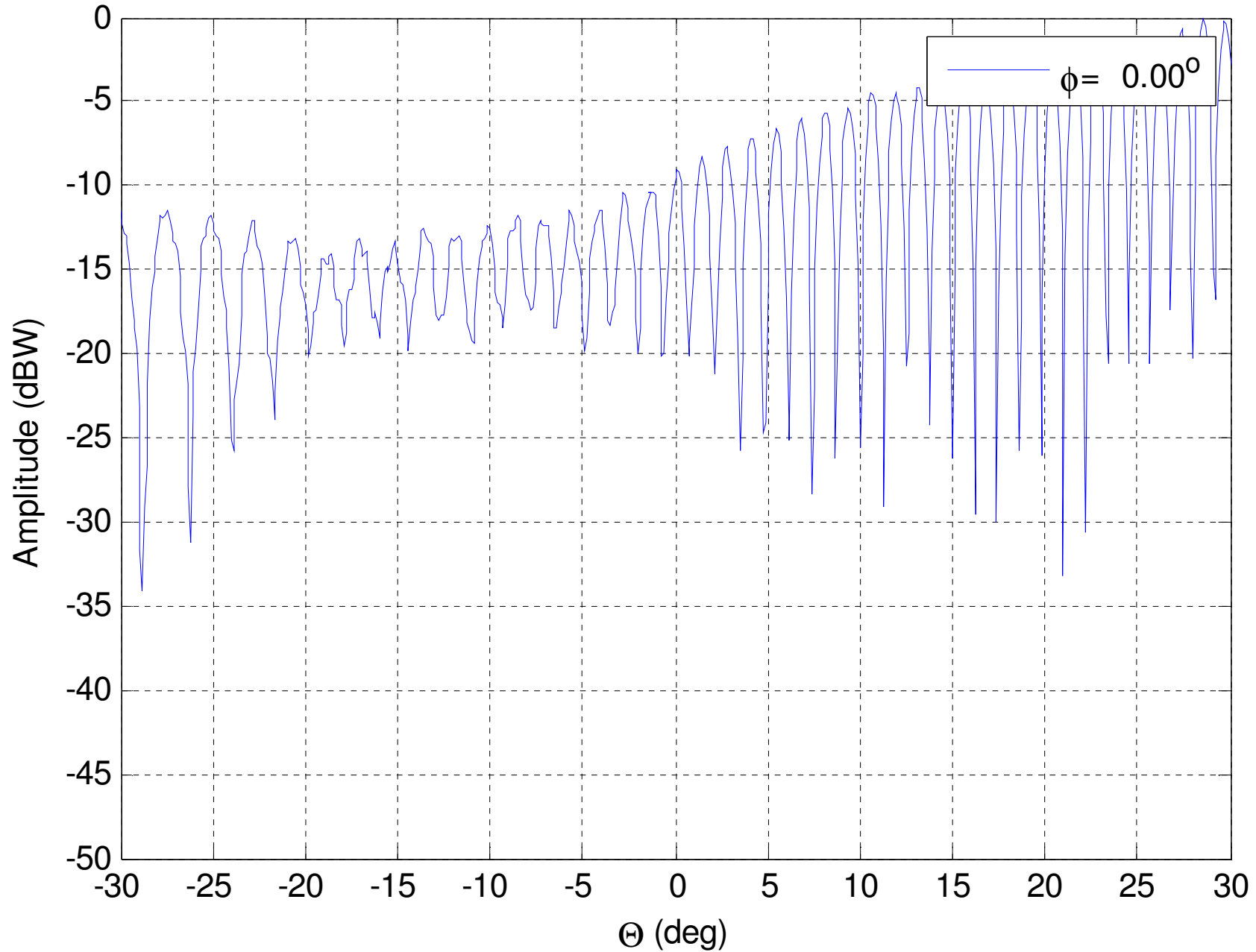
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -3.21 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

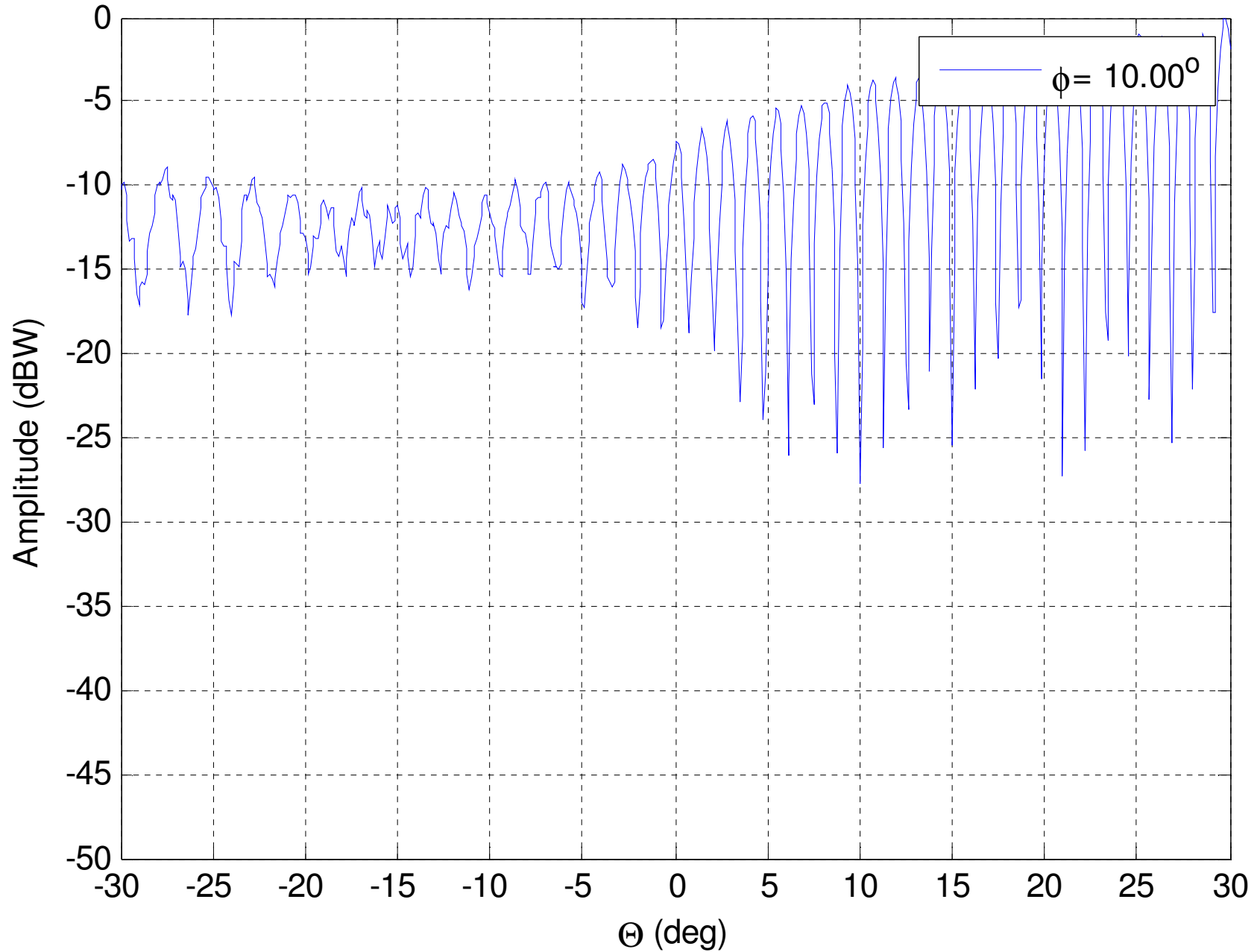
Input file: tx-17.5-lhcp-0.cut, Peak: -4.62 dBW, Date: 16-Dec-2011





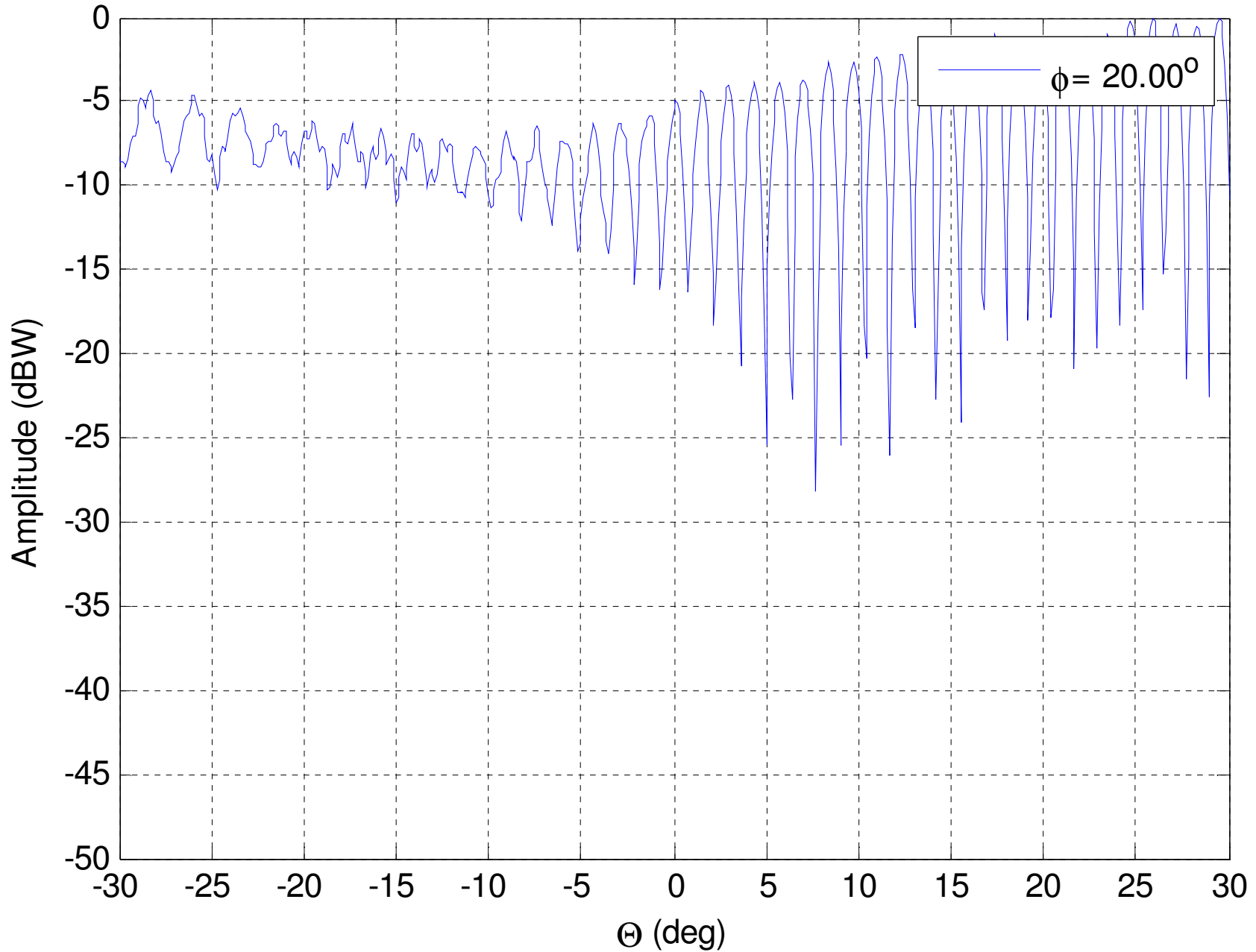
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -6.27 dBW, Date: 16-Dec-2011



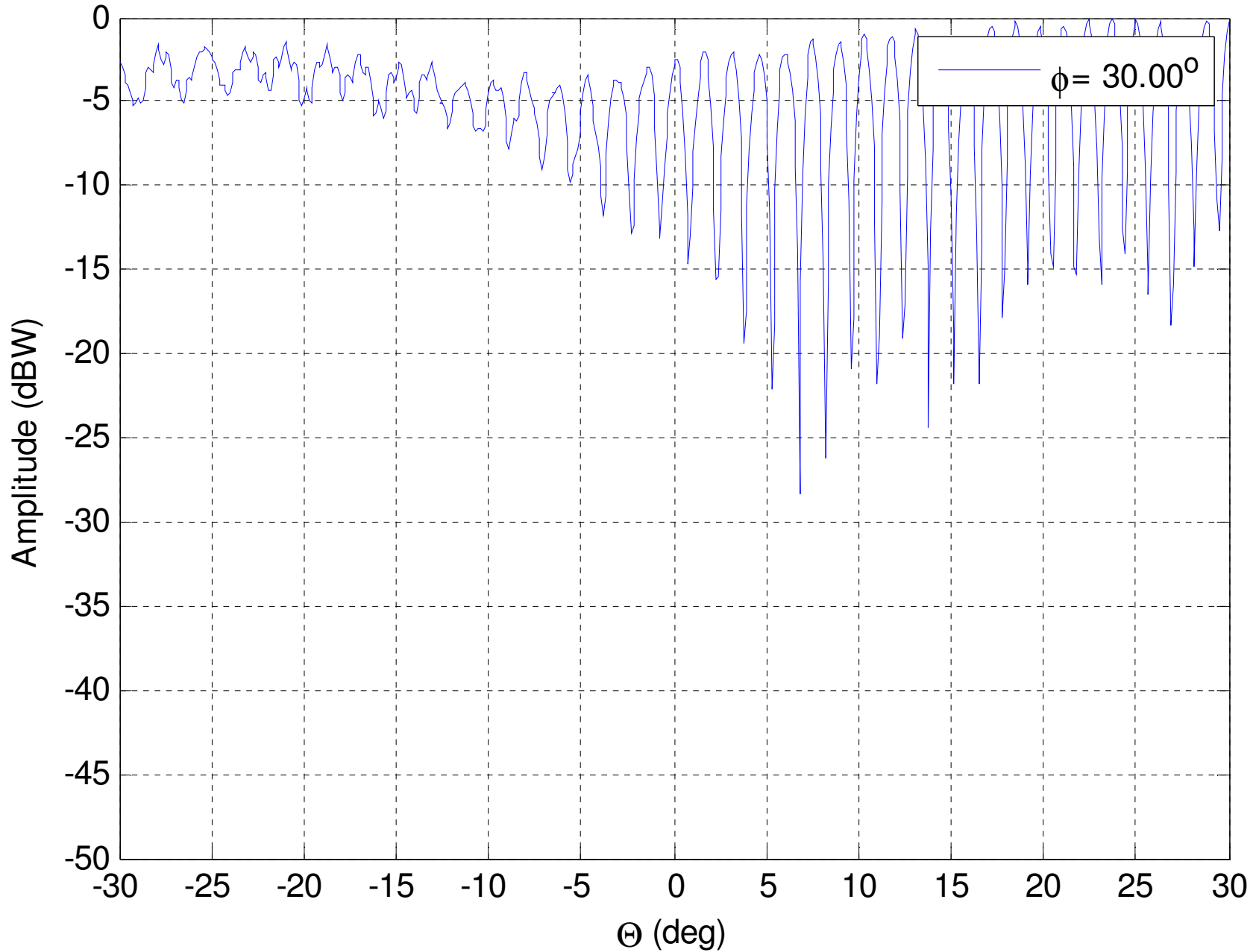
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -8.74 dBW, Date: 16-Dec-2011



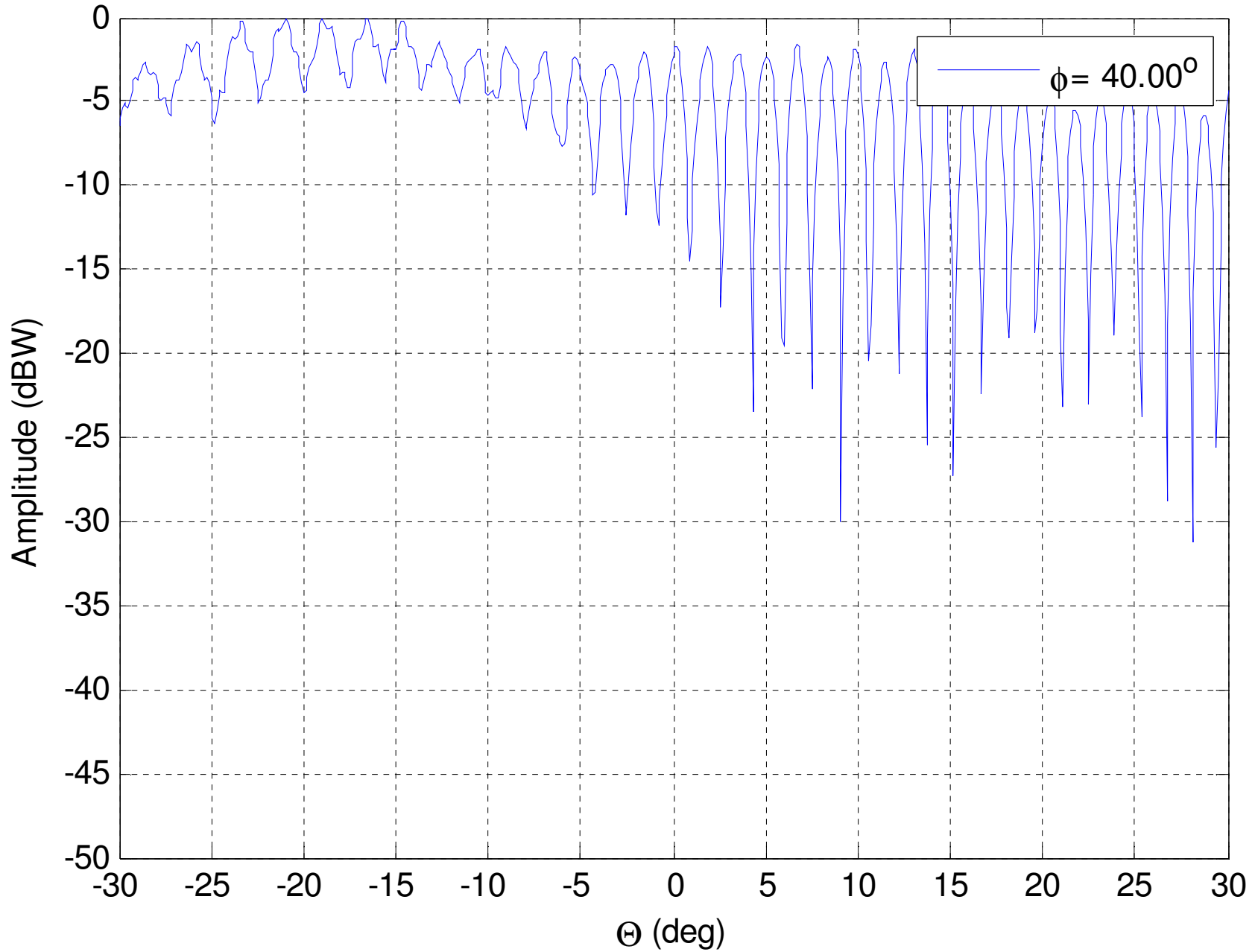
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -11.30 dBW, Date: 16-Dec-2011



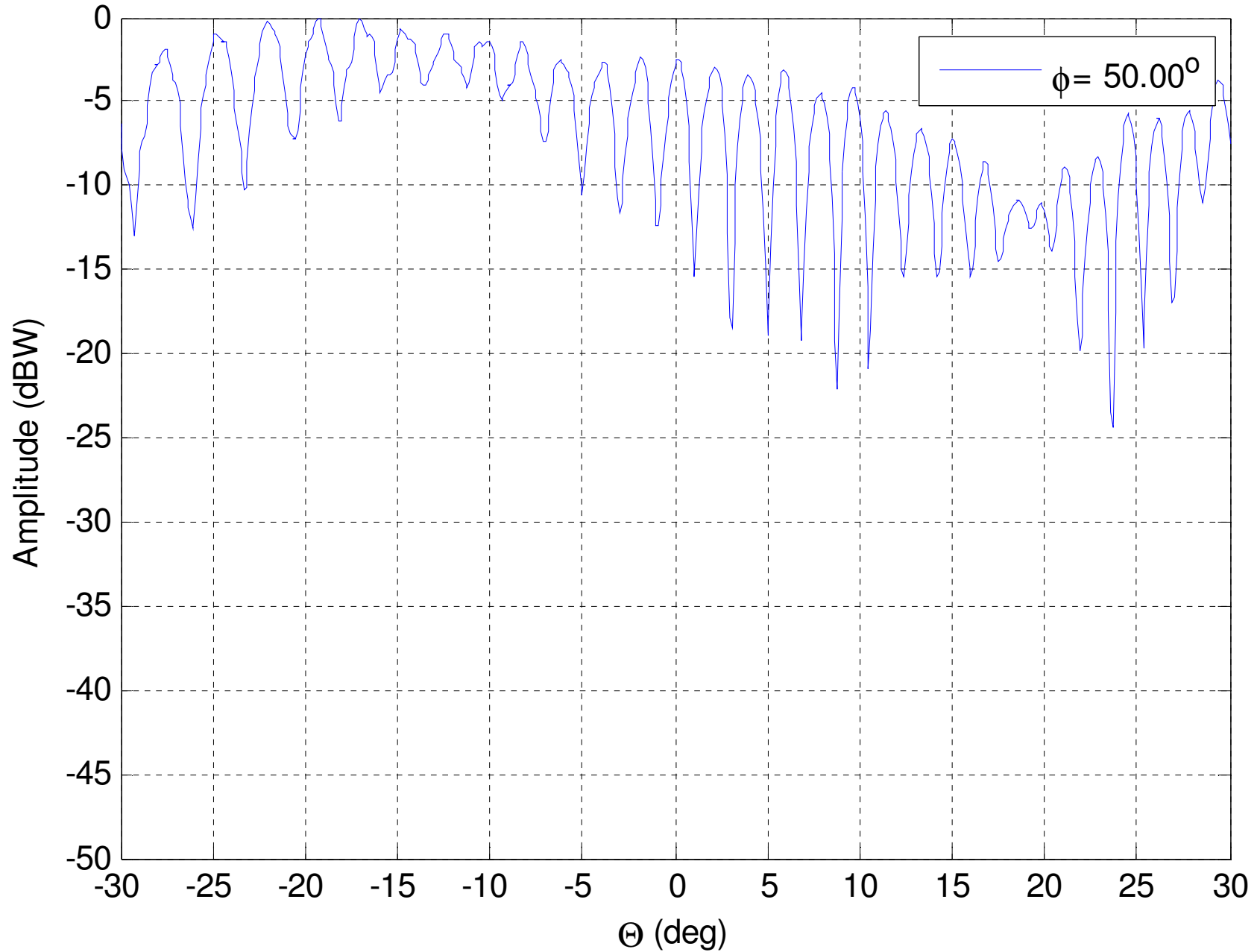
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -11.96 dBW, Date: 16-Dec-2011



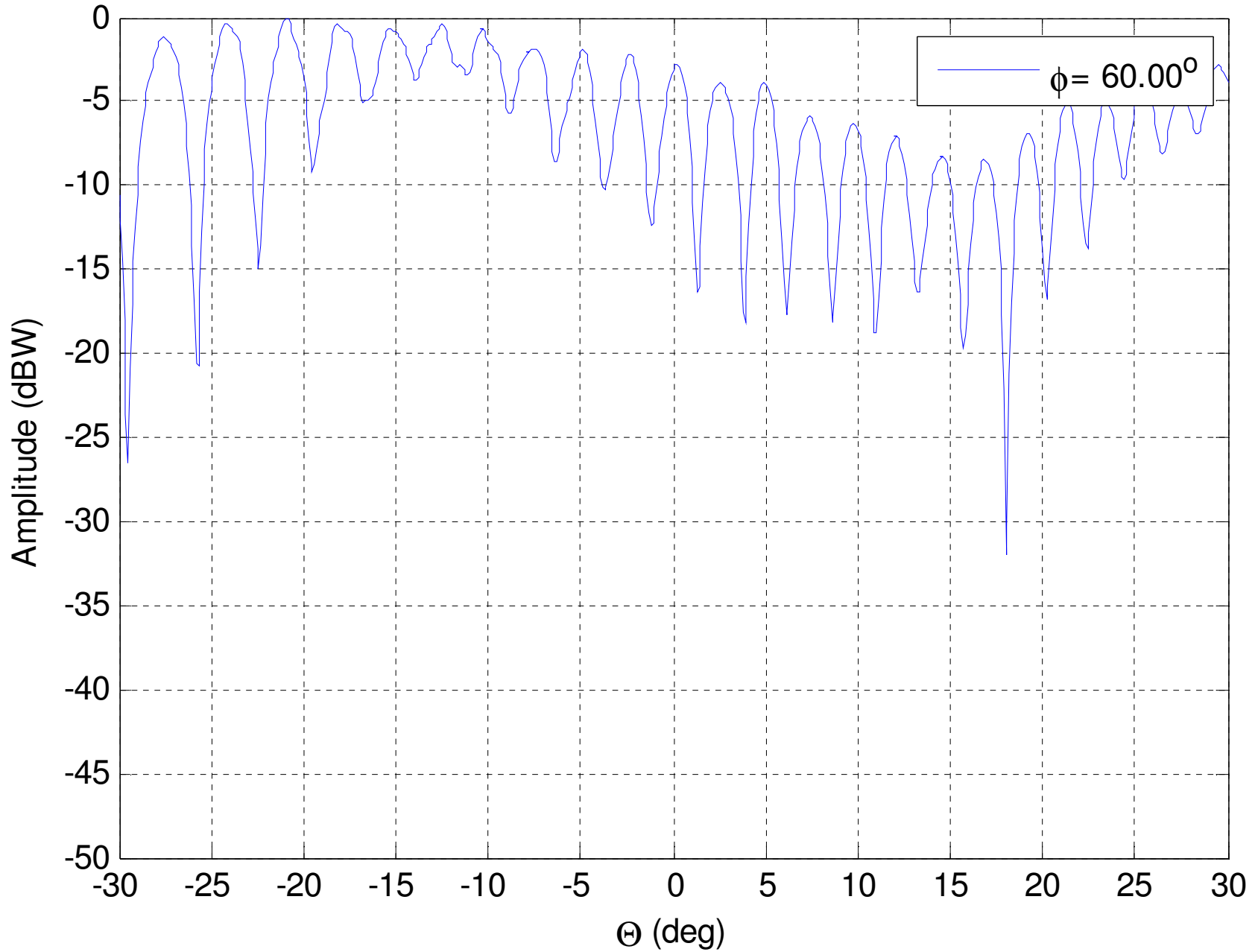
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -11.31 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

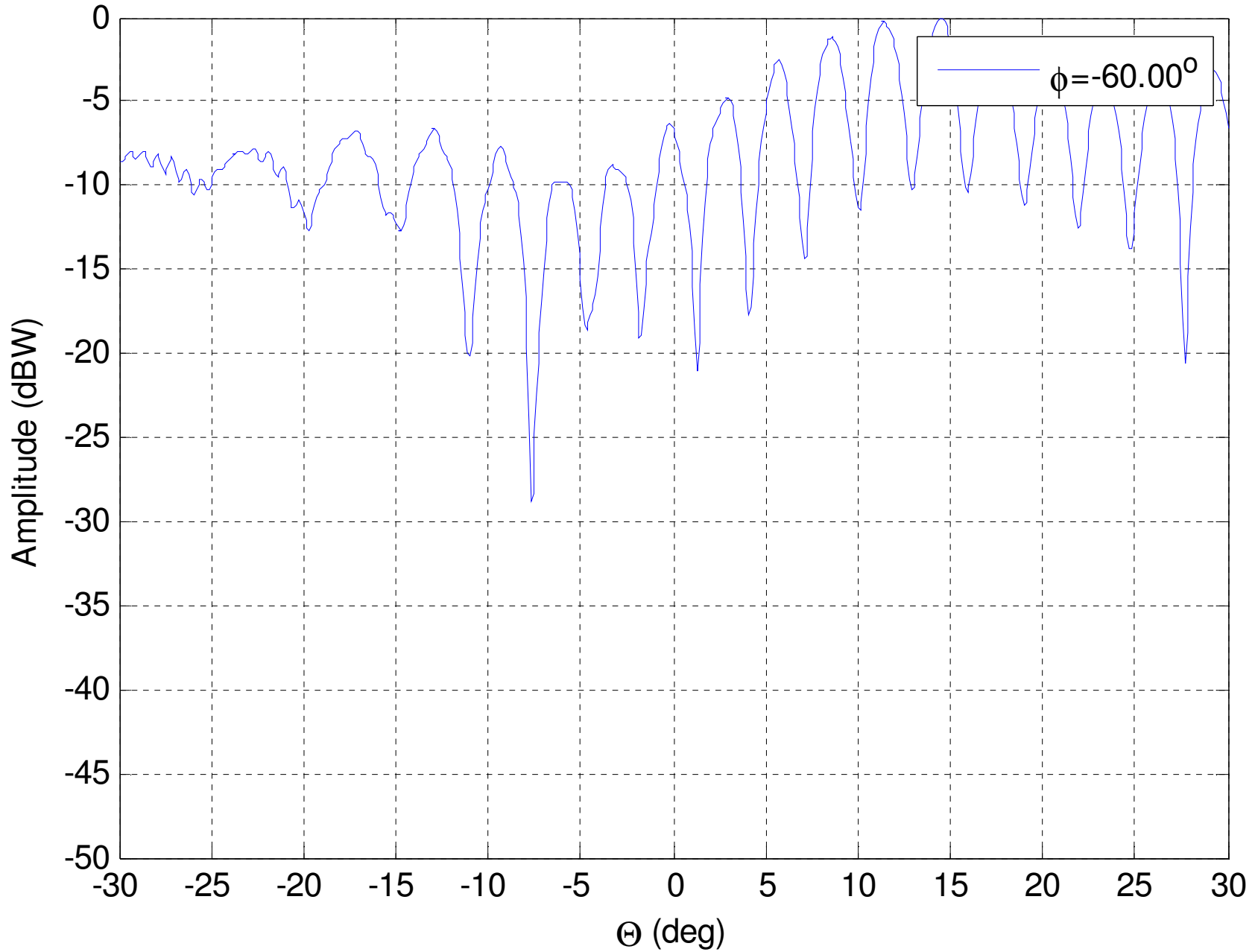
Input file: tx-17.5-lhcp-60.cut, Peak: -11.04 dBW, Date: 16-Dec-2011



**RHCP at 17.7 GHz**

# Normalized pattern cuts - farfield

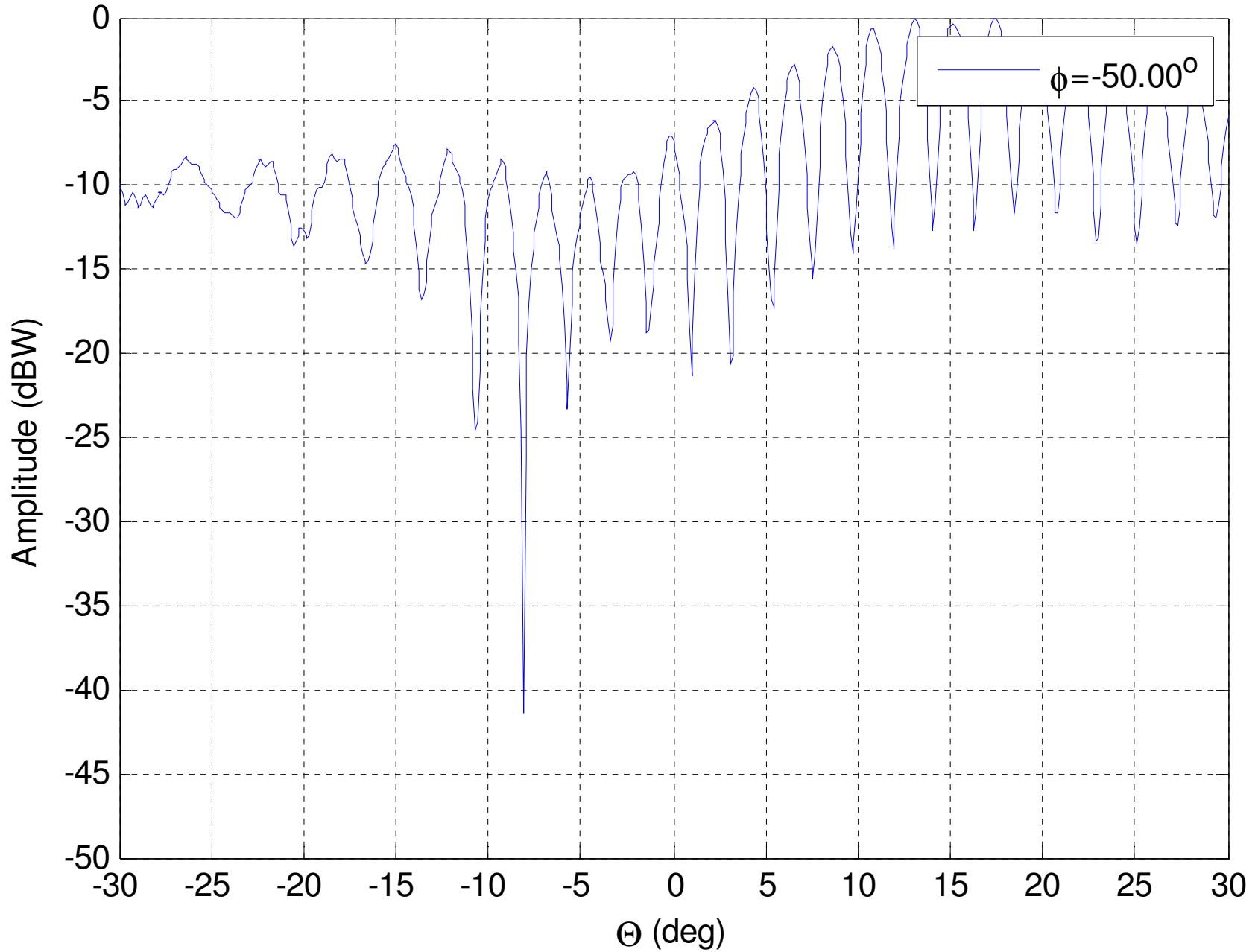
Input file: tx-17.7-rhcp--60.cut, Peak: -7.43 dBW, Date: 16-Dec-2011





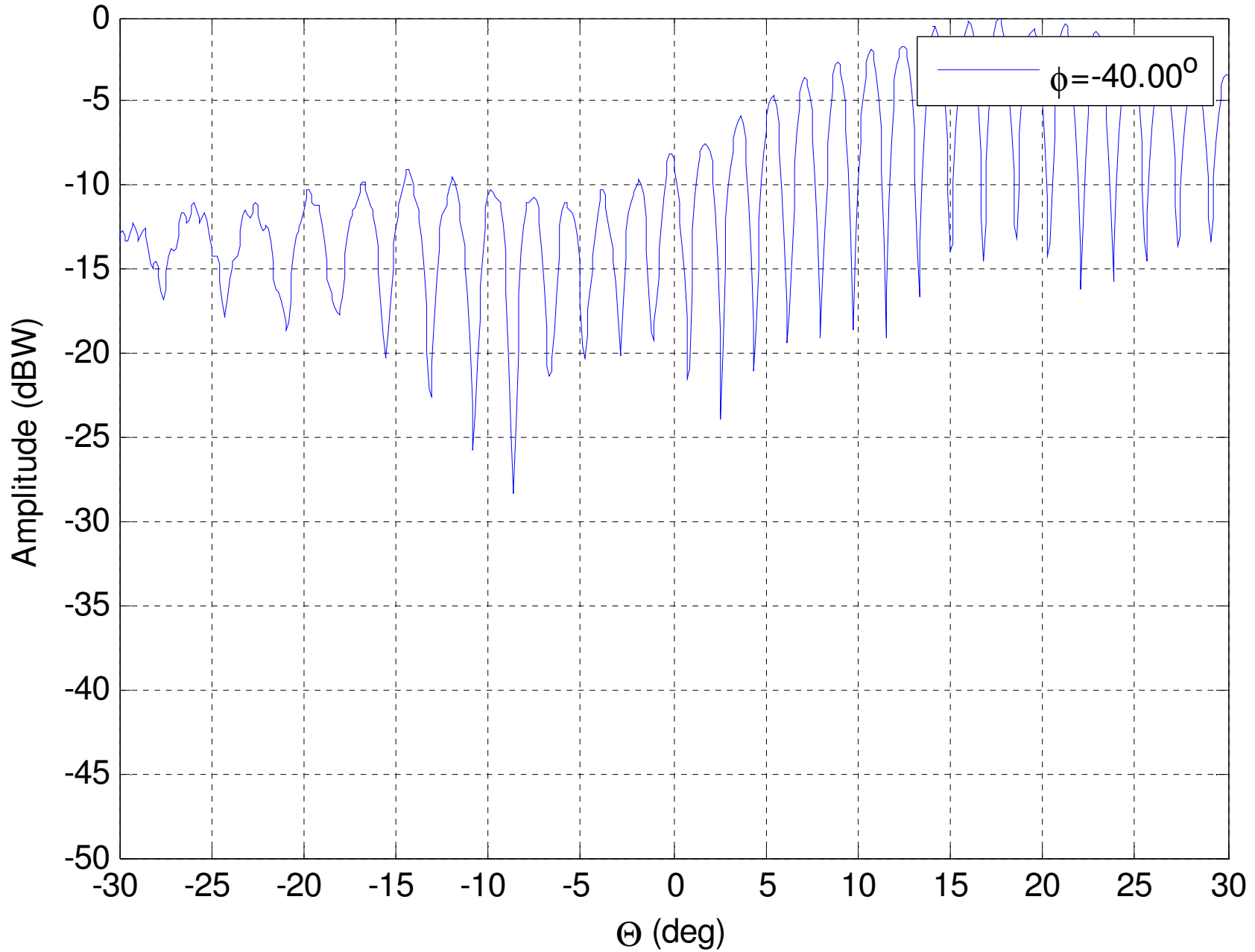
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -6.72 dBW, Date: 16-Dec-2011



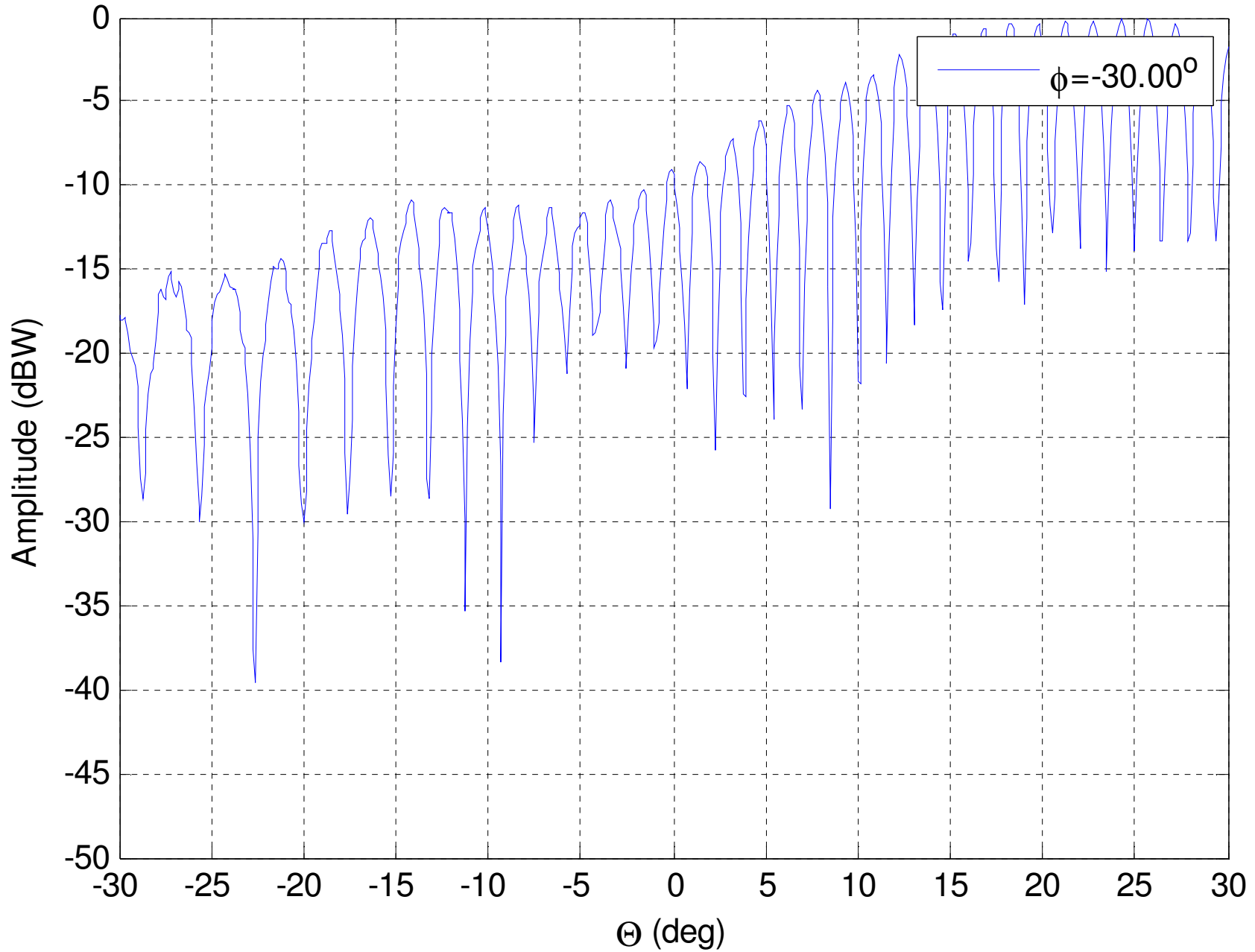
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -5.66 dBW, Date: 16-Dec-2011



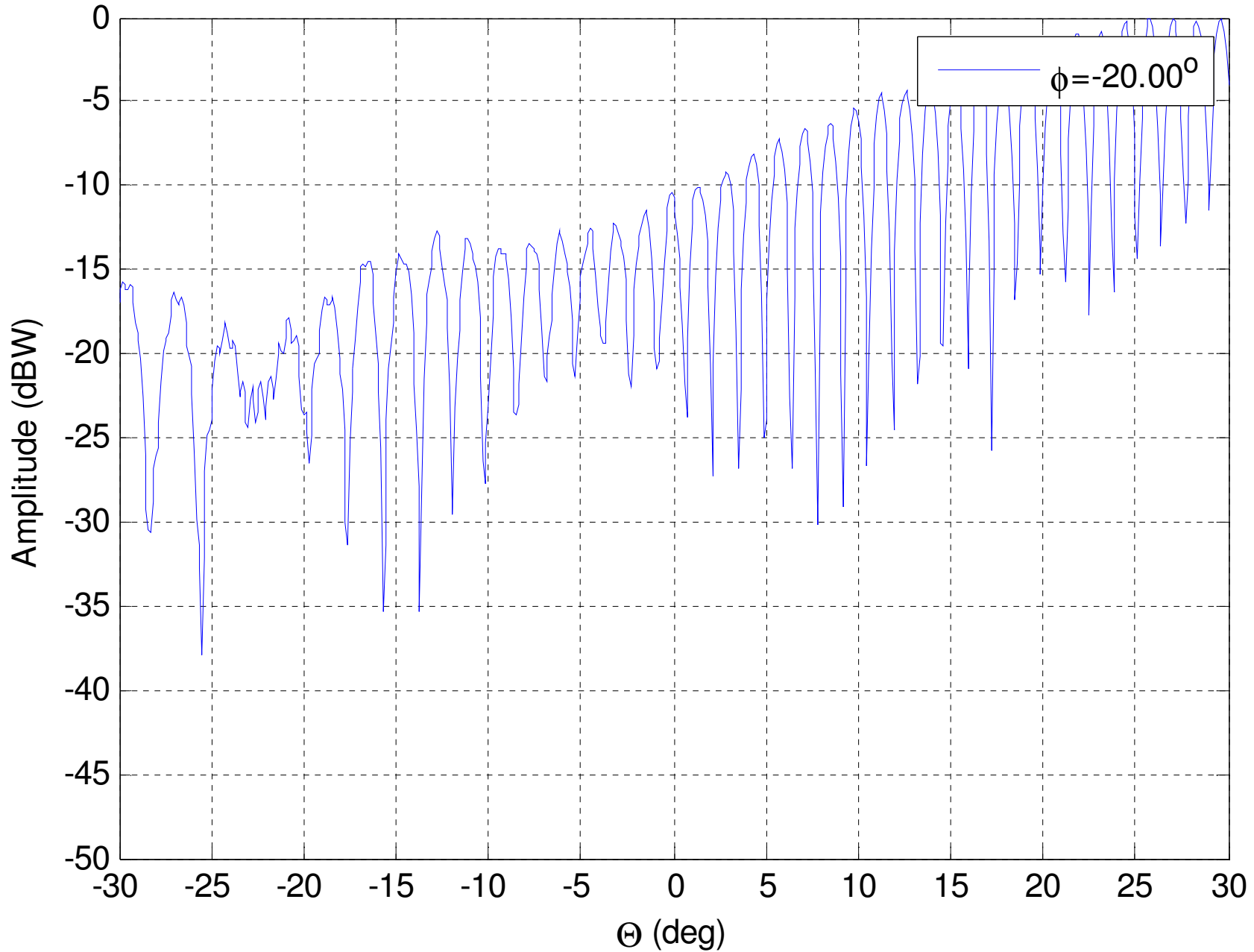
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -4.76 dBW, Date: 16-Dec-2011



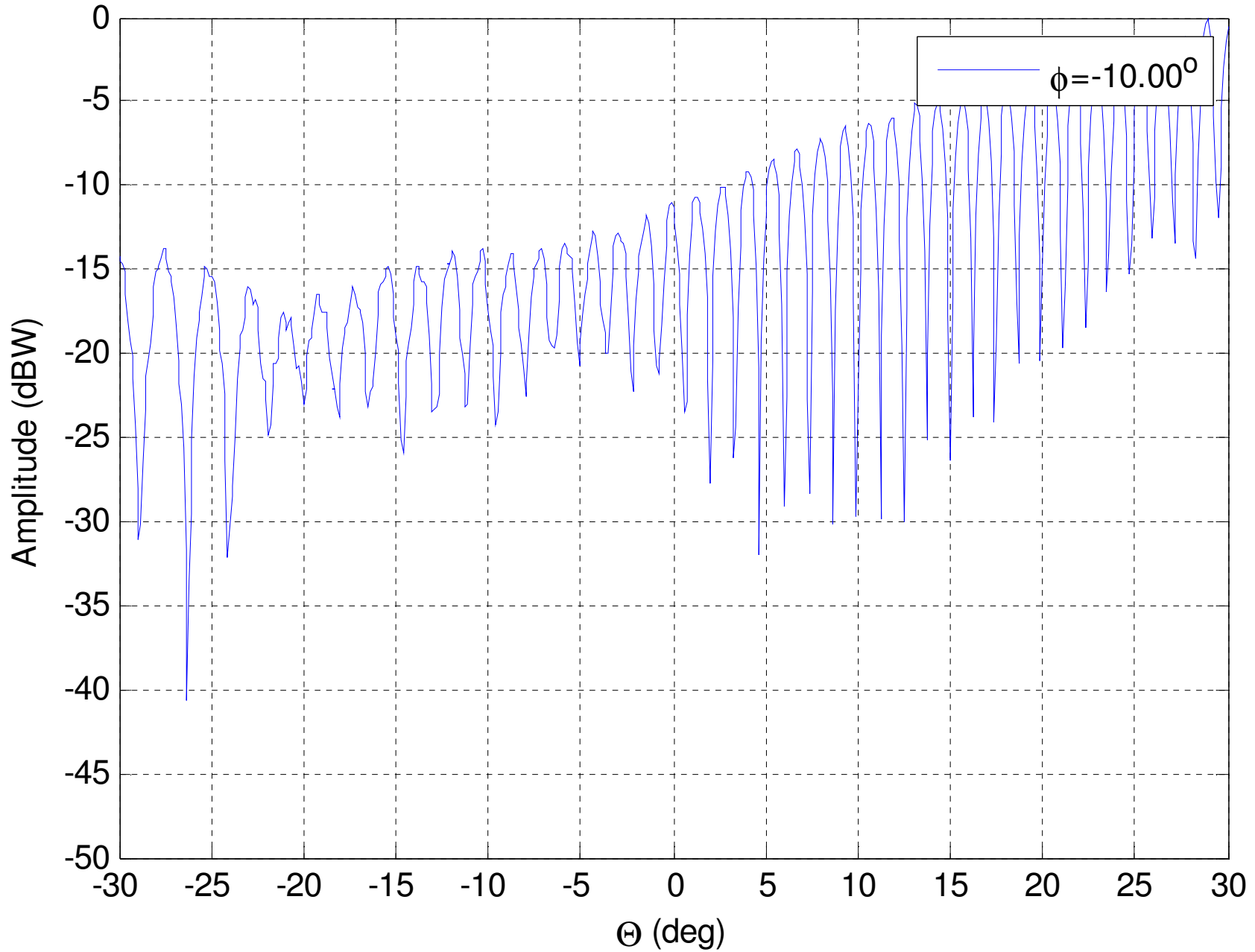
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -3.35 dBW, Date: 16-Dec-2011



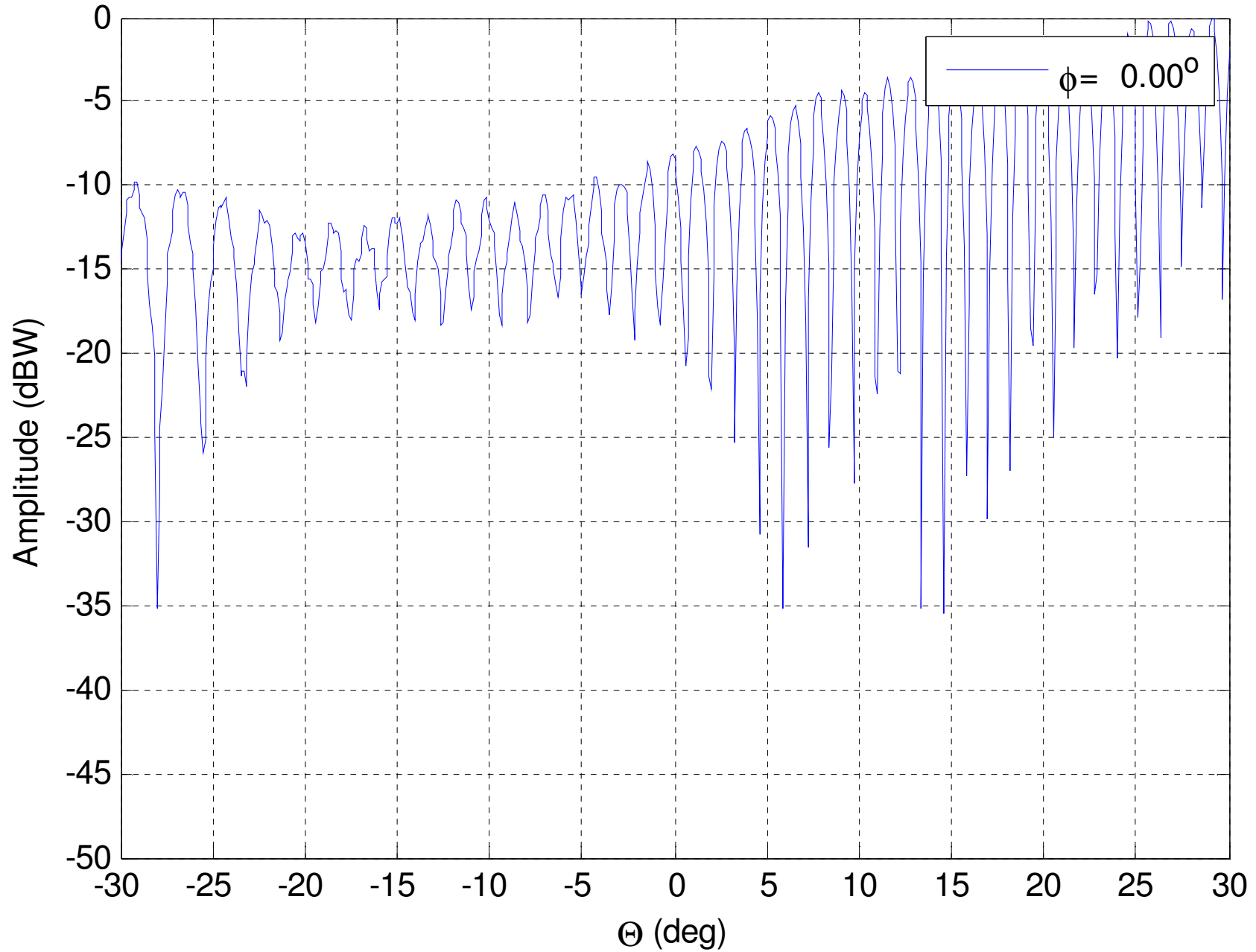
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -2.78 dBW, Date: 16-Dec-2011



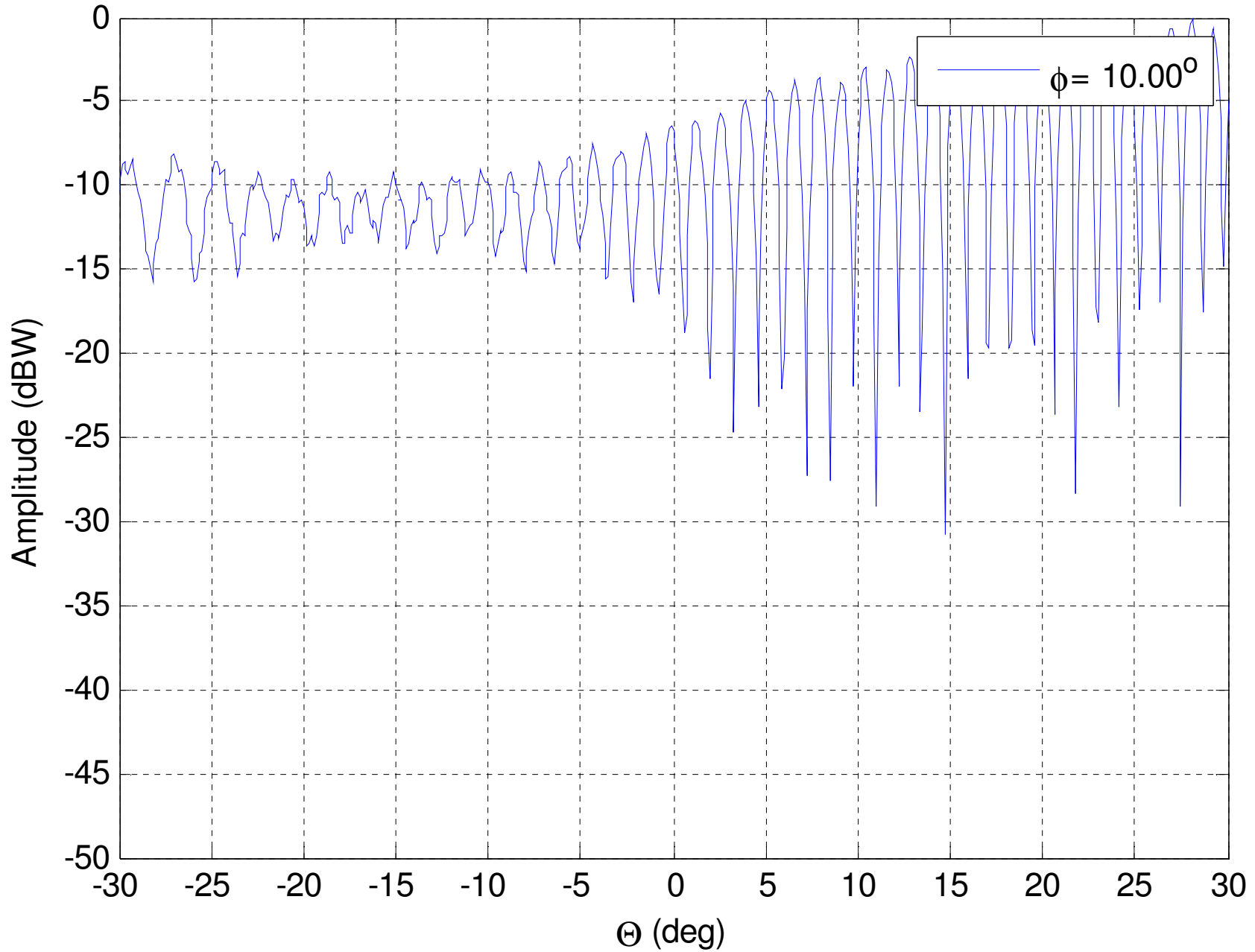
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -5.68 dBW, Date: 16-Dec-2011



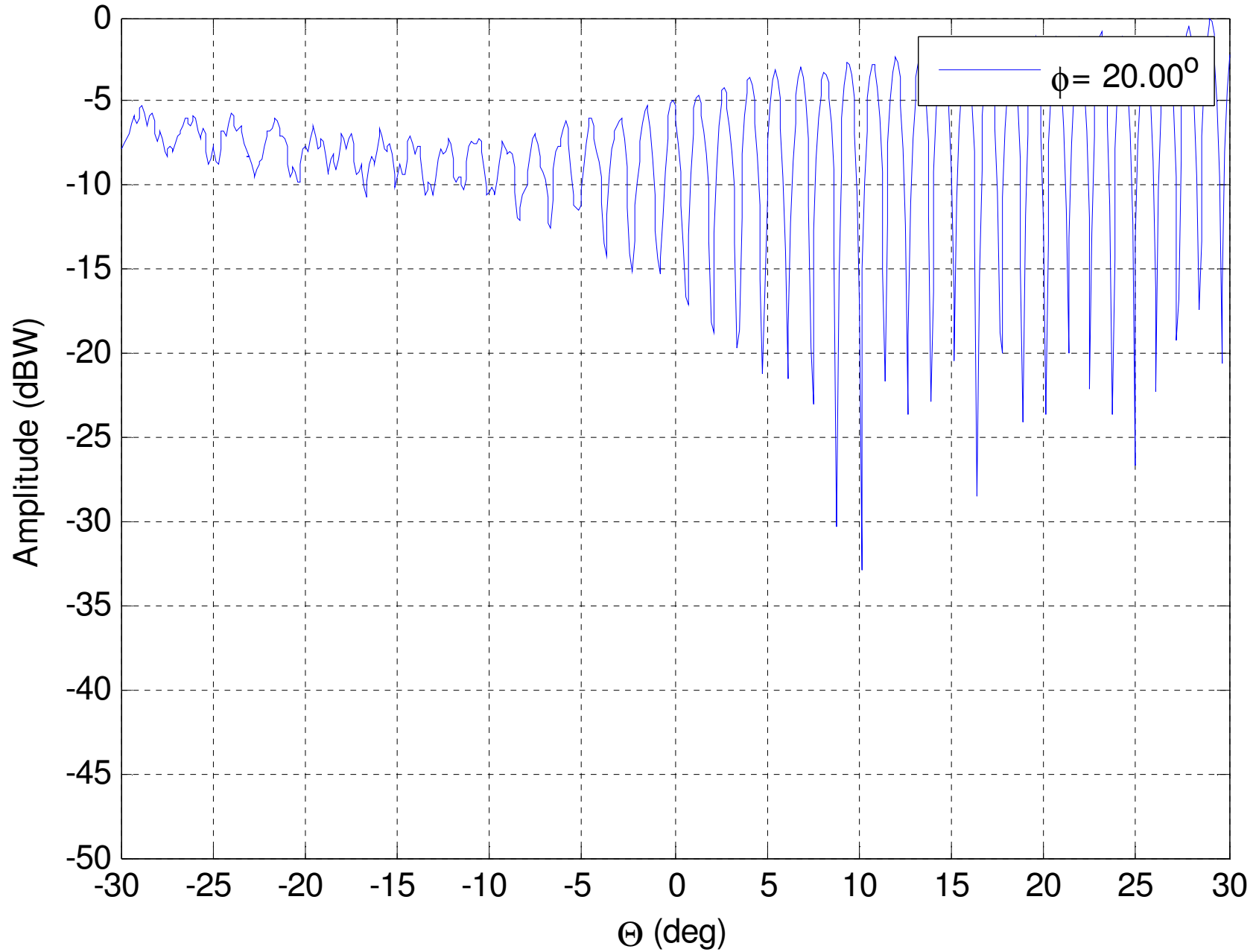
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -7.34 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

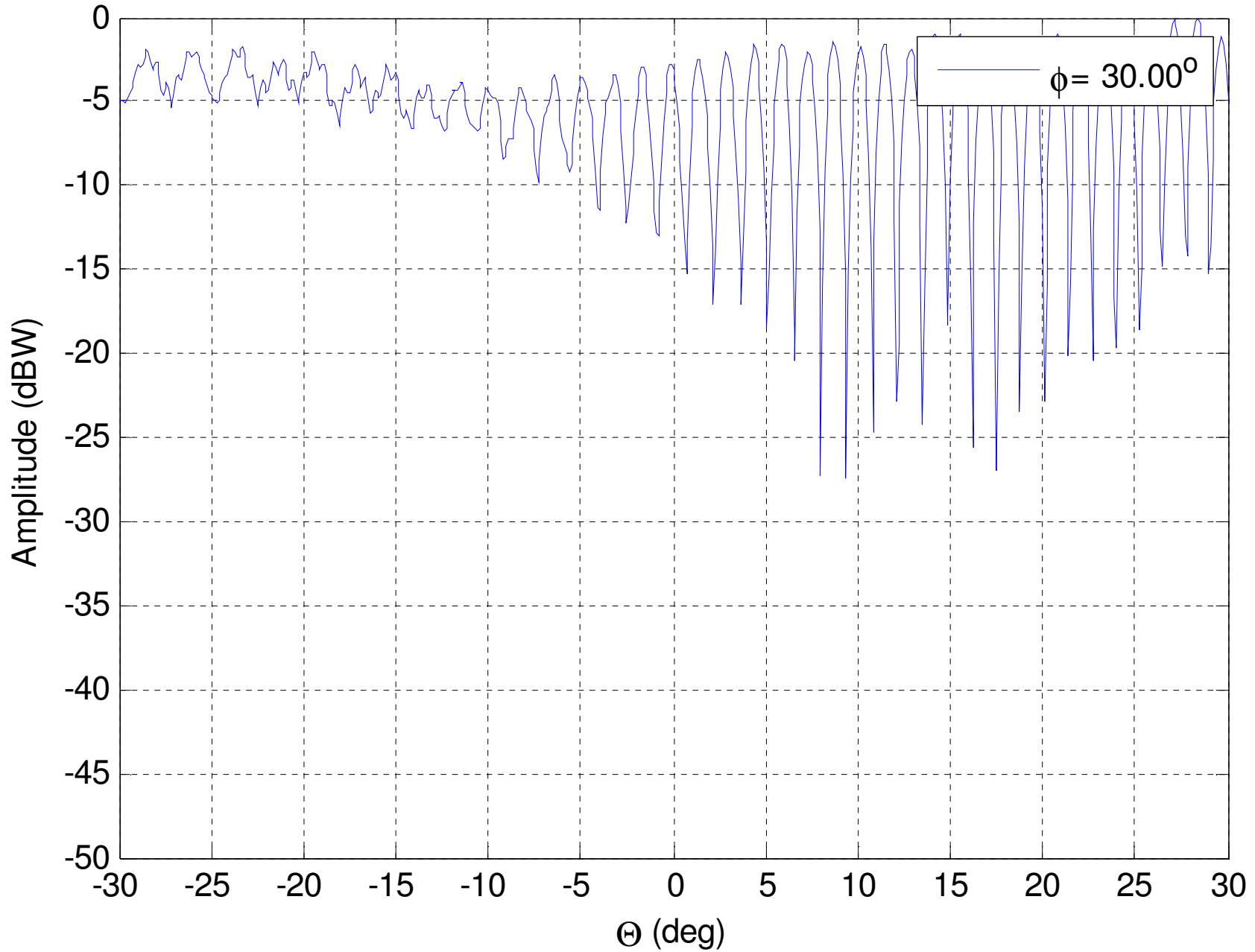
Input file: tx-17.7-rhcp-20.cut, Peak: -8.80 dBW, Date: 16-Dec-2011





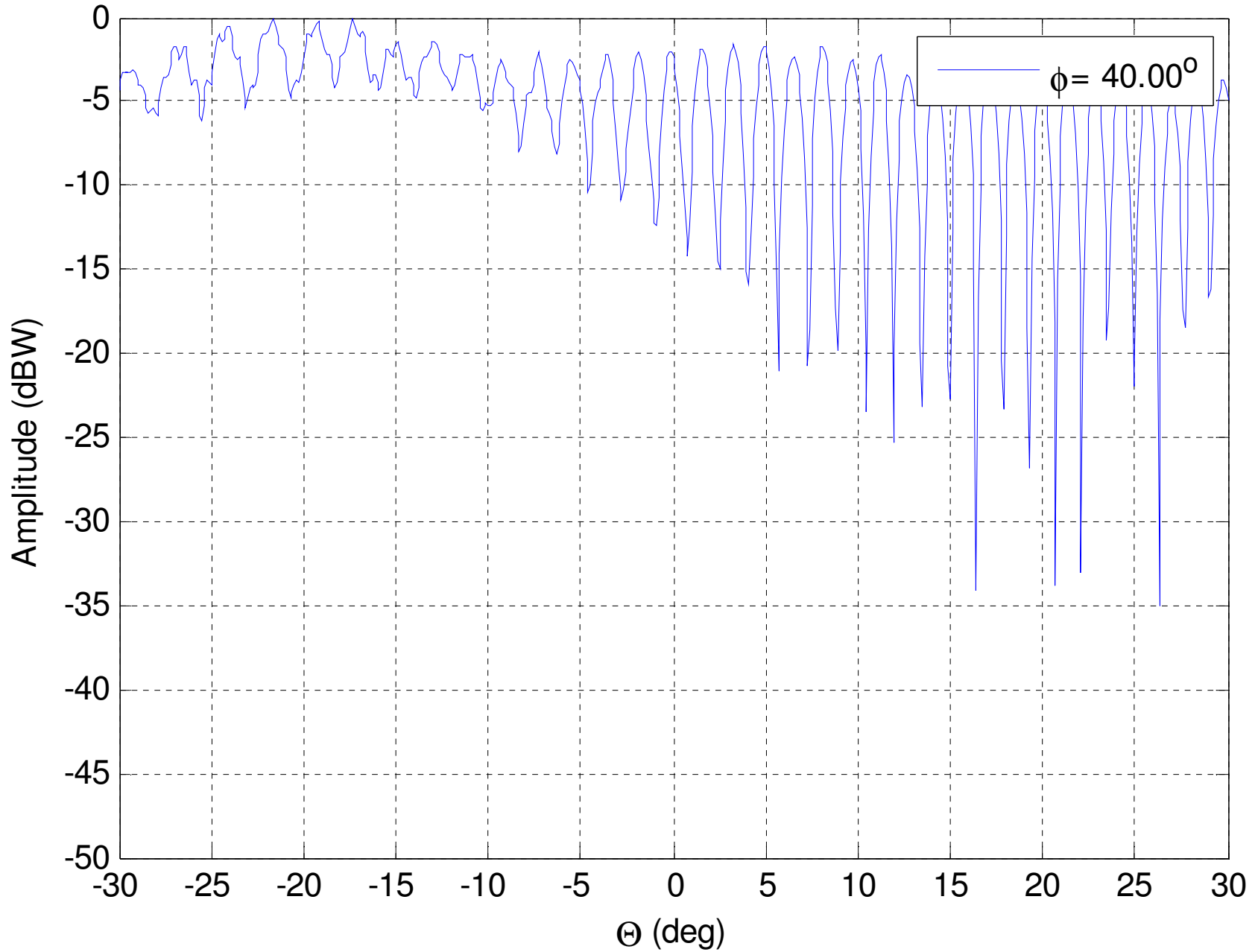
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -10.99 dBW, Date: 16-Dec-2011



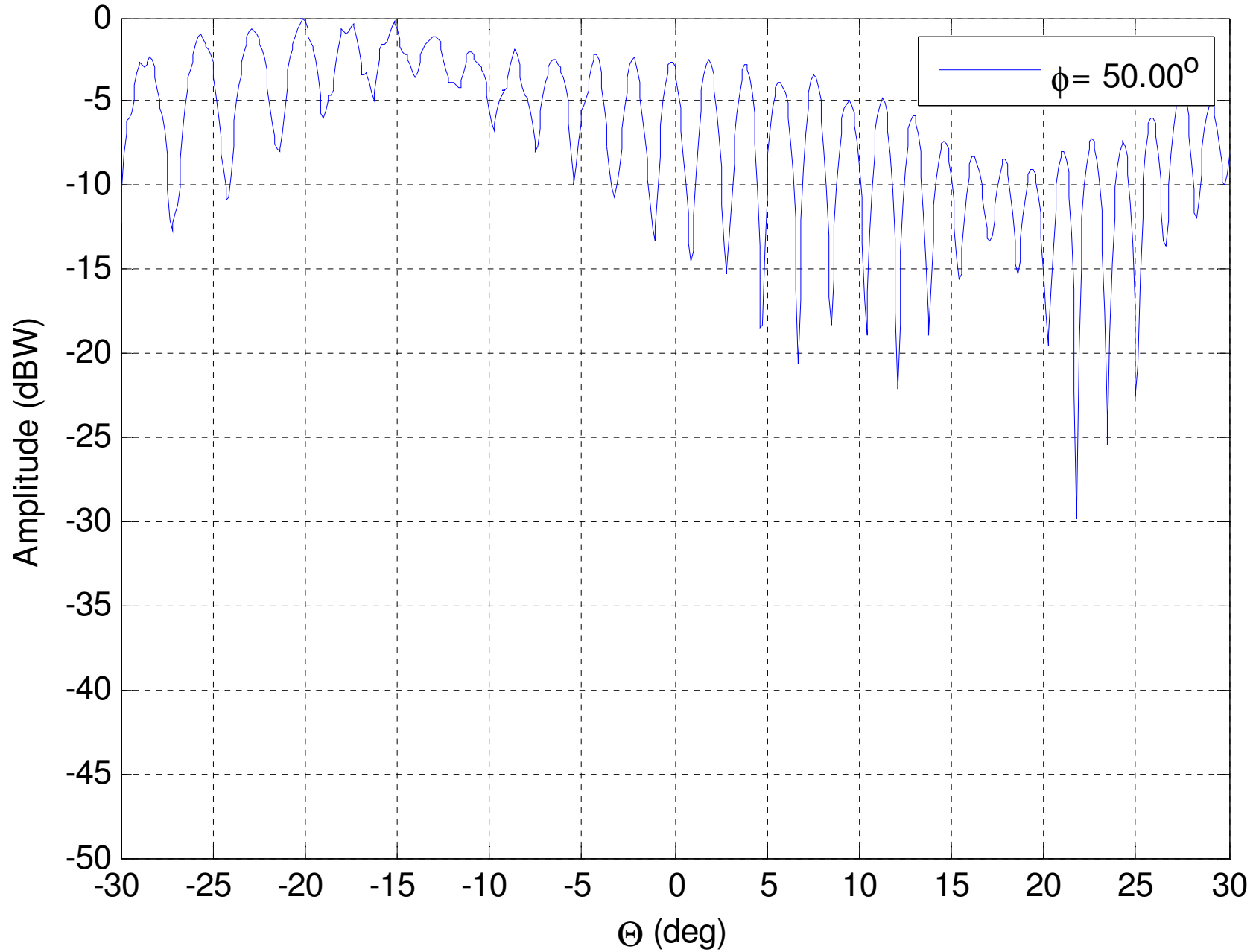
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -11.70 dBW, Date: 16-Dec-2011



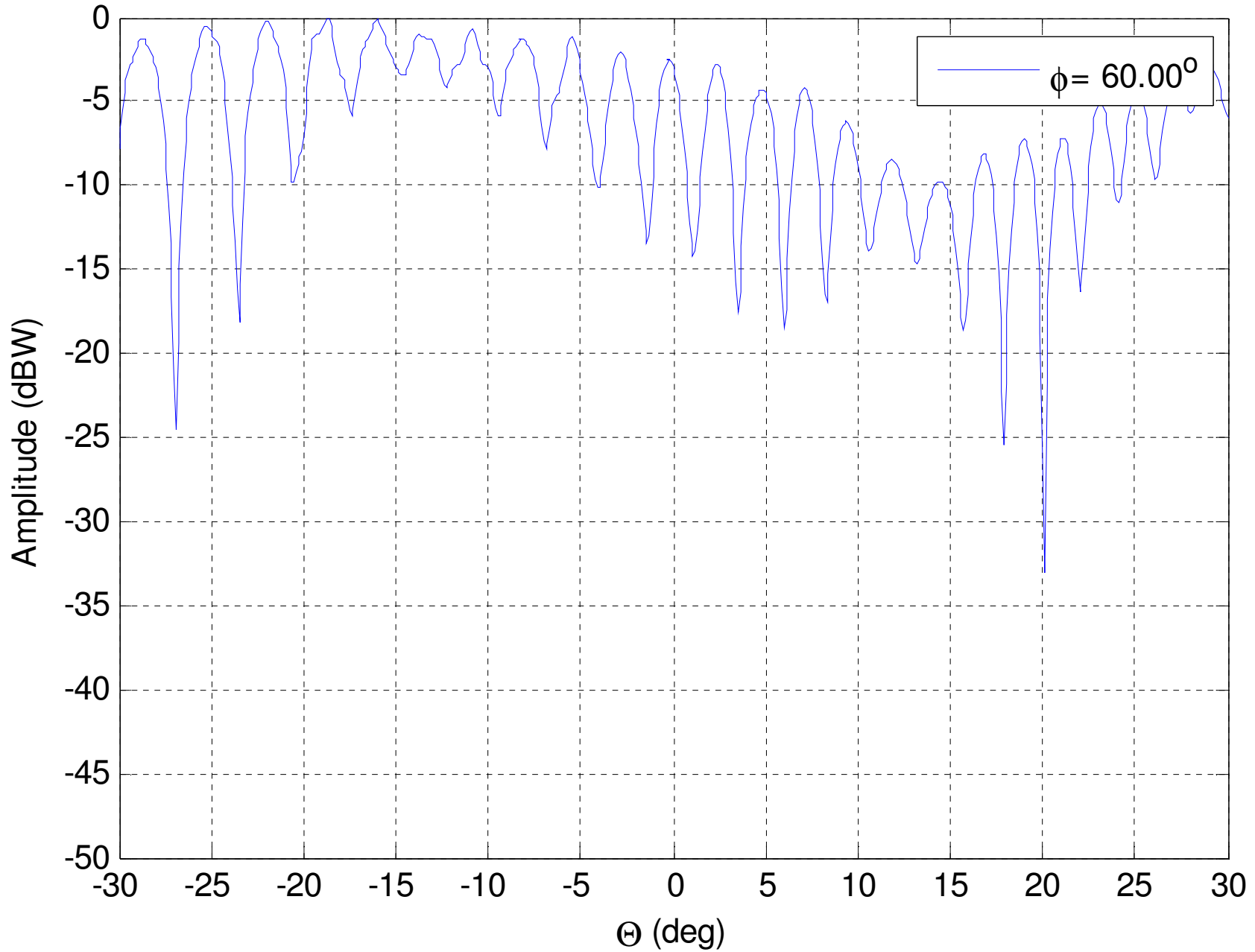
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -11.10 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

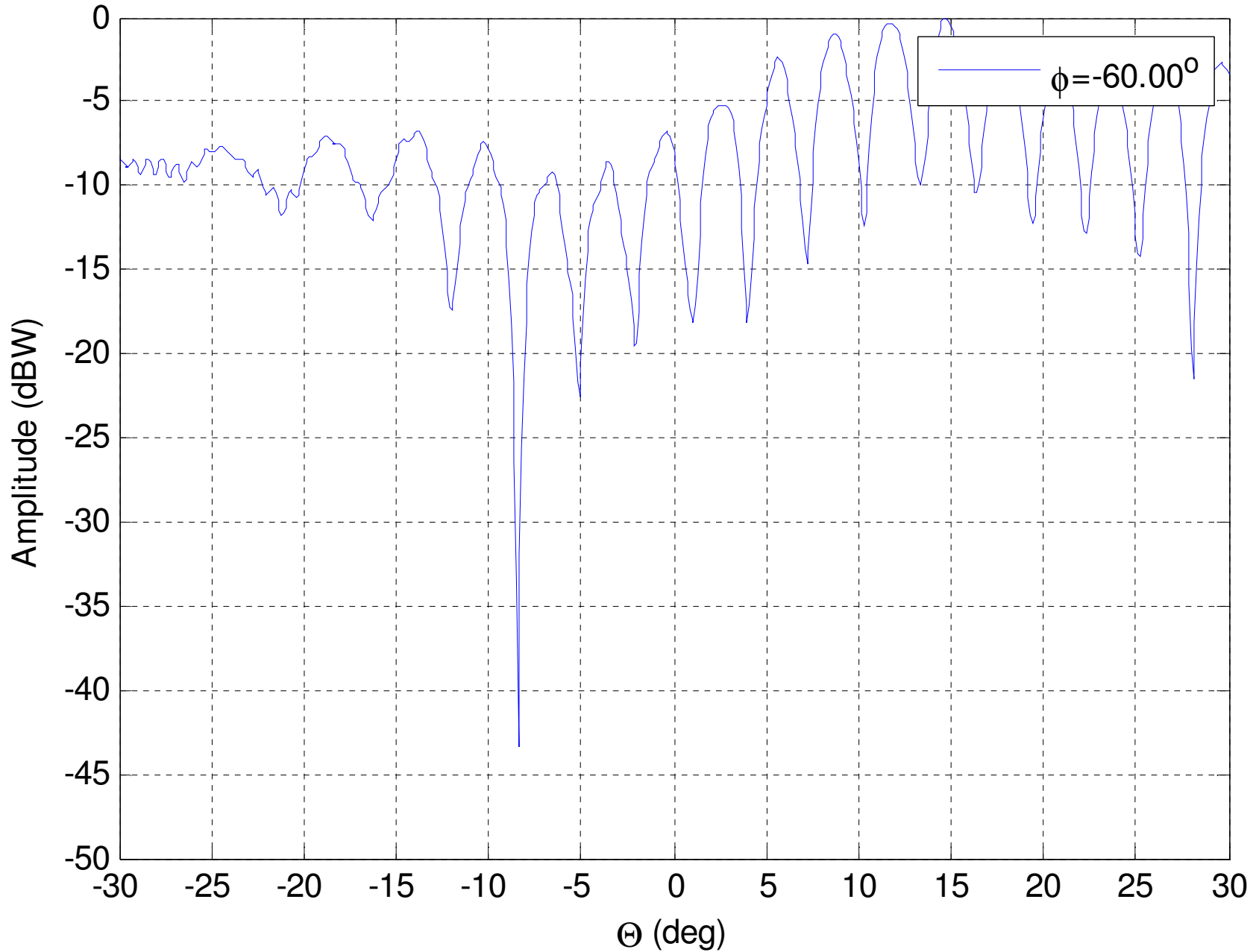
Input file: tx-17.7-rhcp-60.cut, Peak: -11.19 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

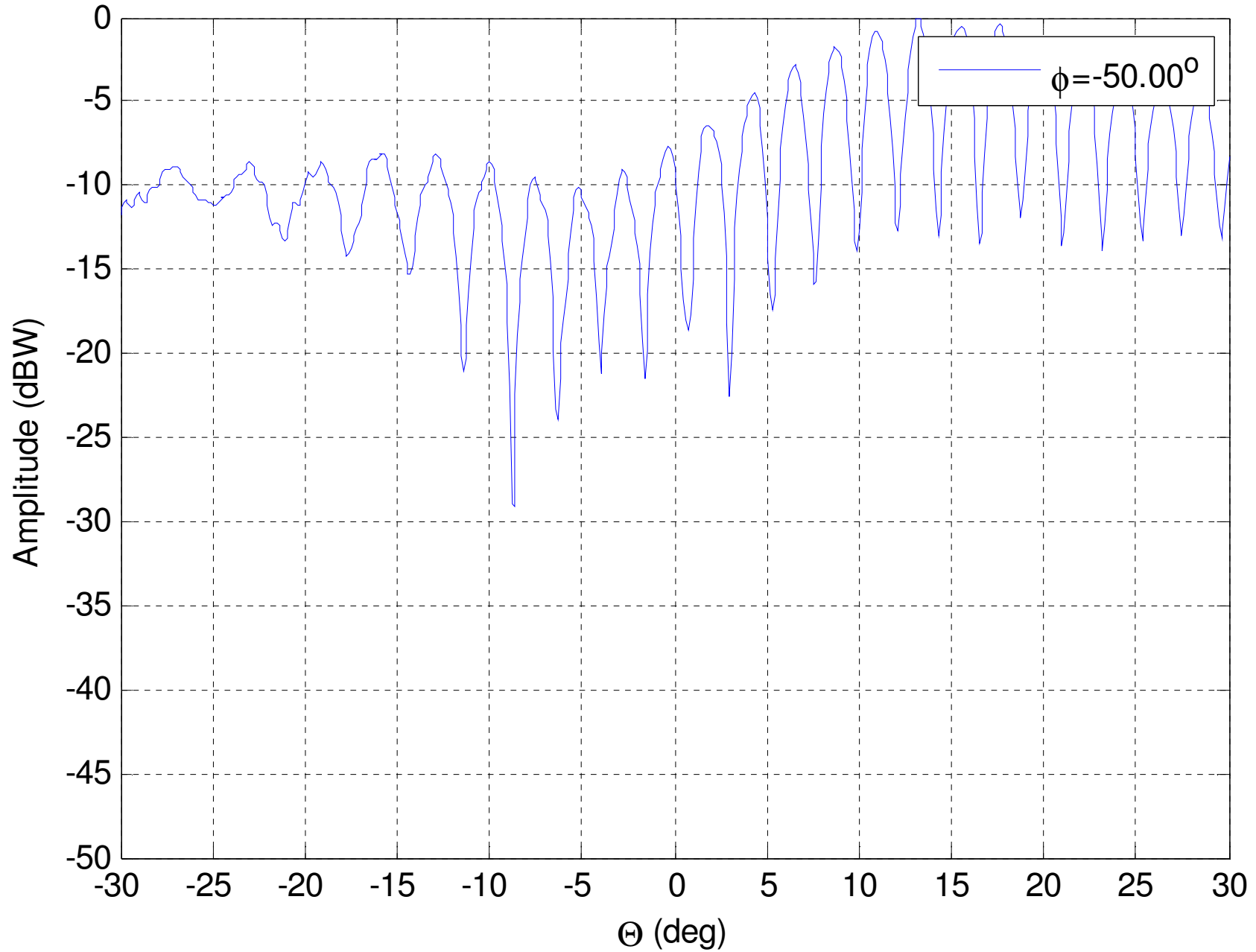
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -7.56 dBW, Date: 16-Dec-2011



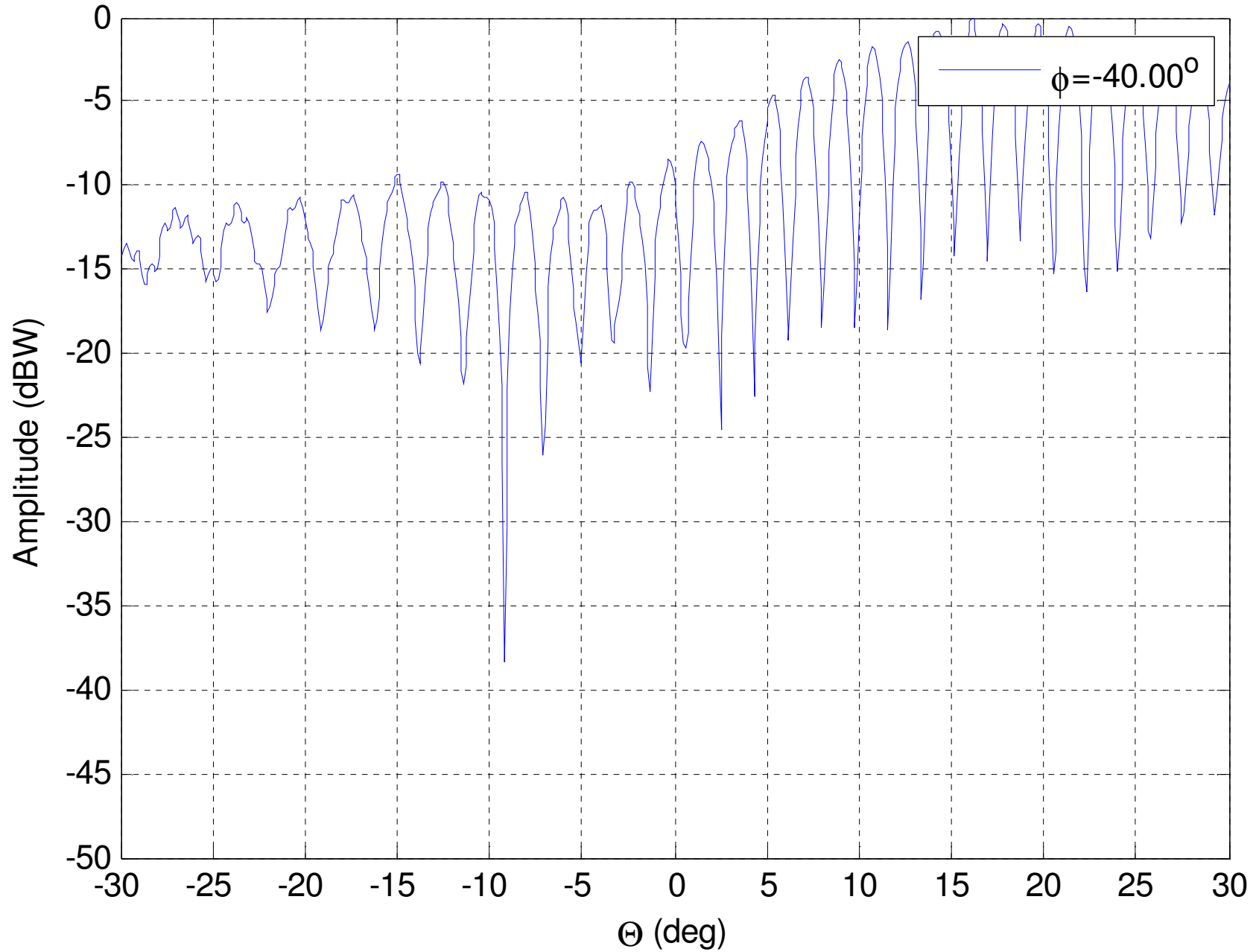
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -6.60 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

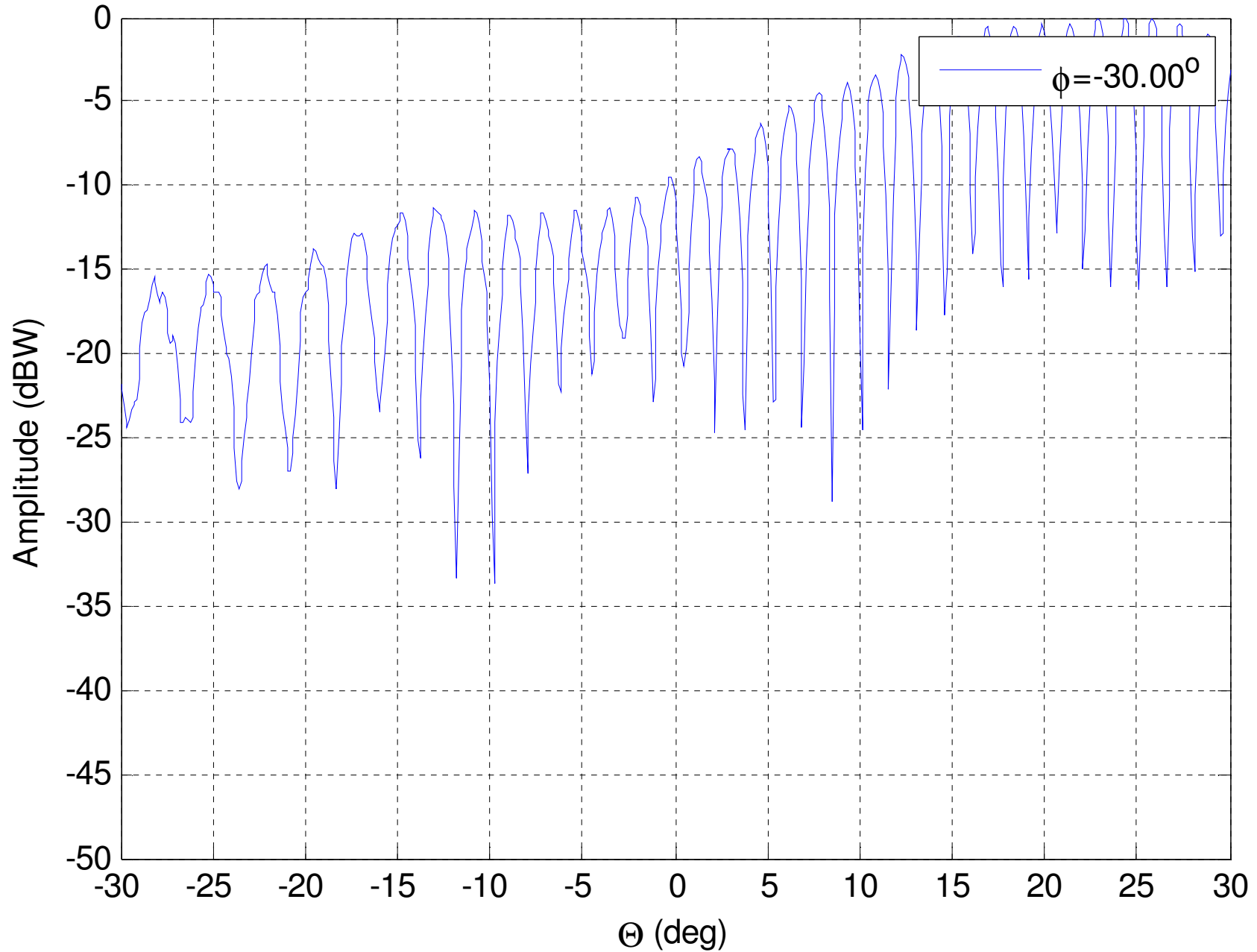
Input file: tx-17.7-lhcp--40.cut, Peak: -5.68 dBW, Date: 16-Dec-2011





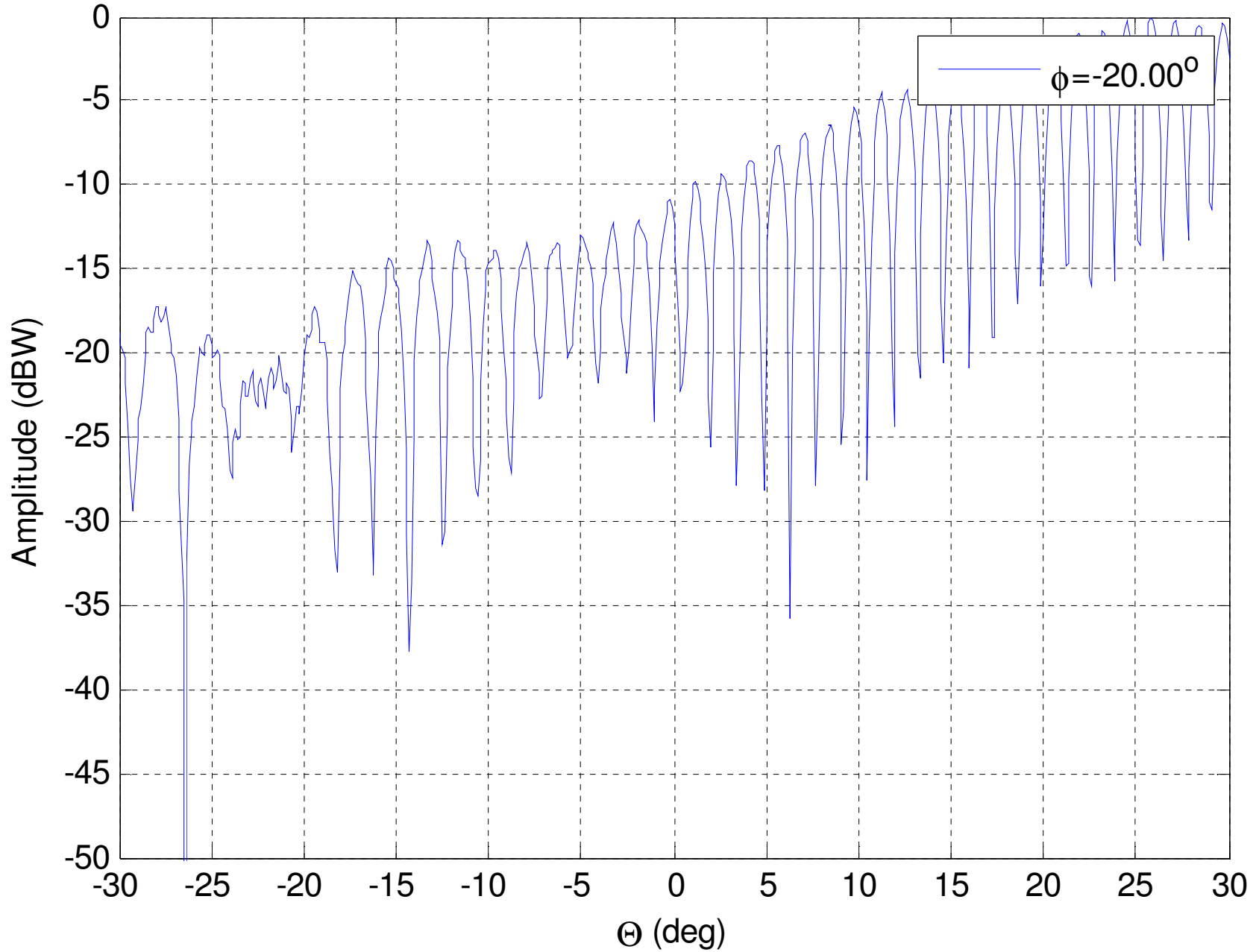
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -4.73 dBW, Date: 16-Dec-2011



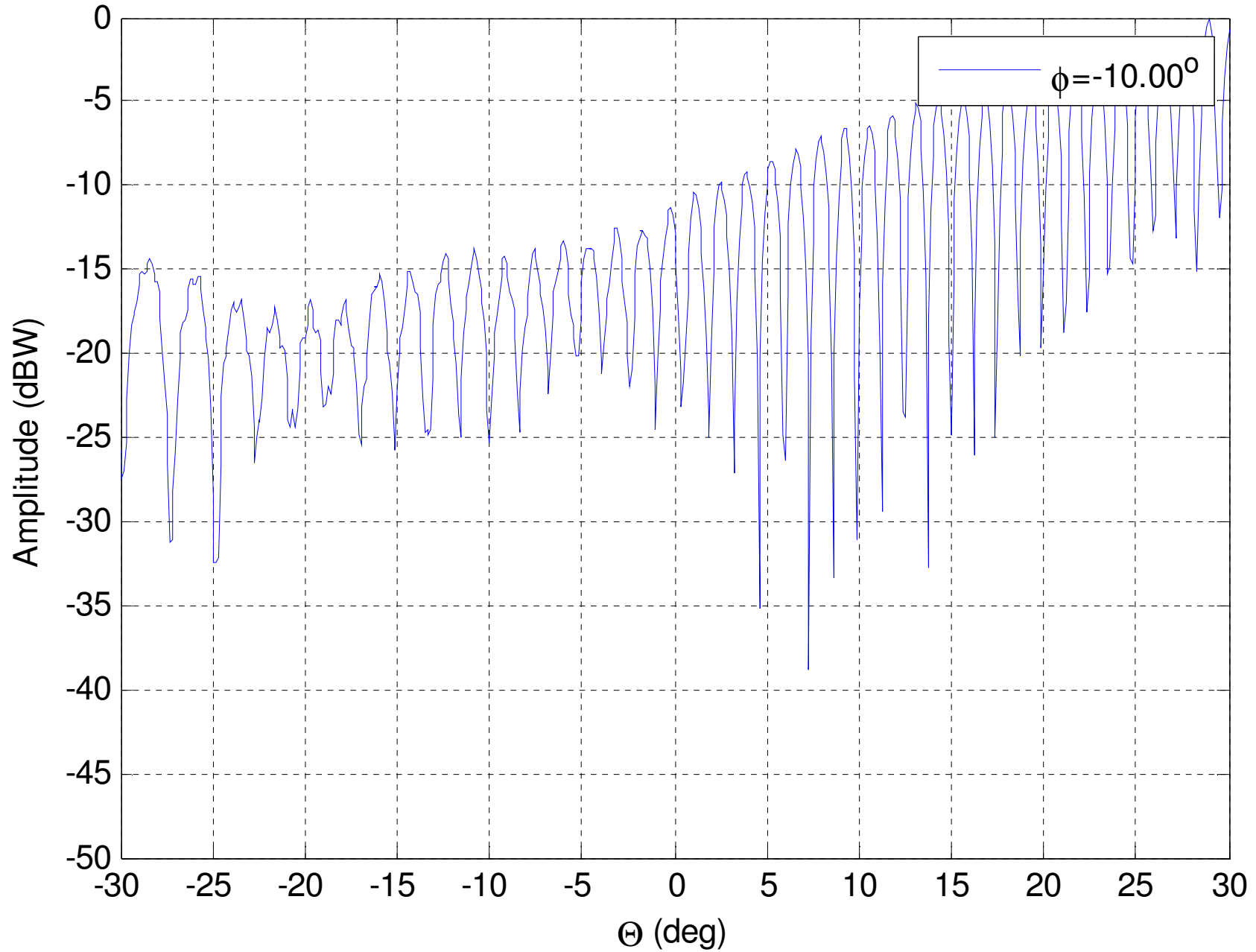
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -3.24 dBW, Date: 16-Dec-2011



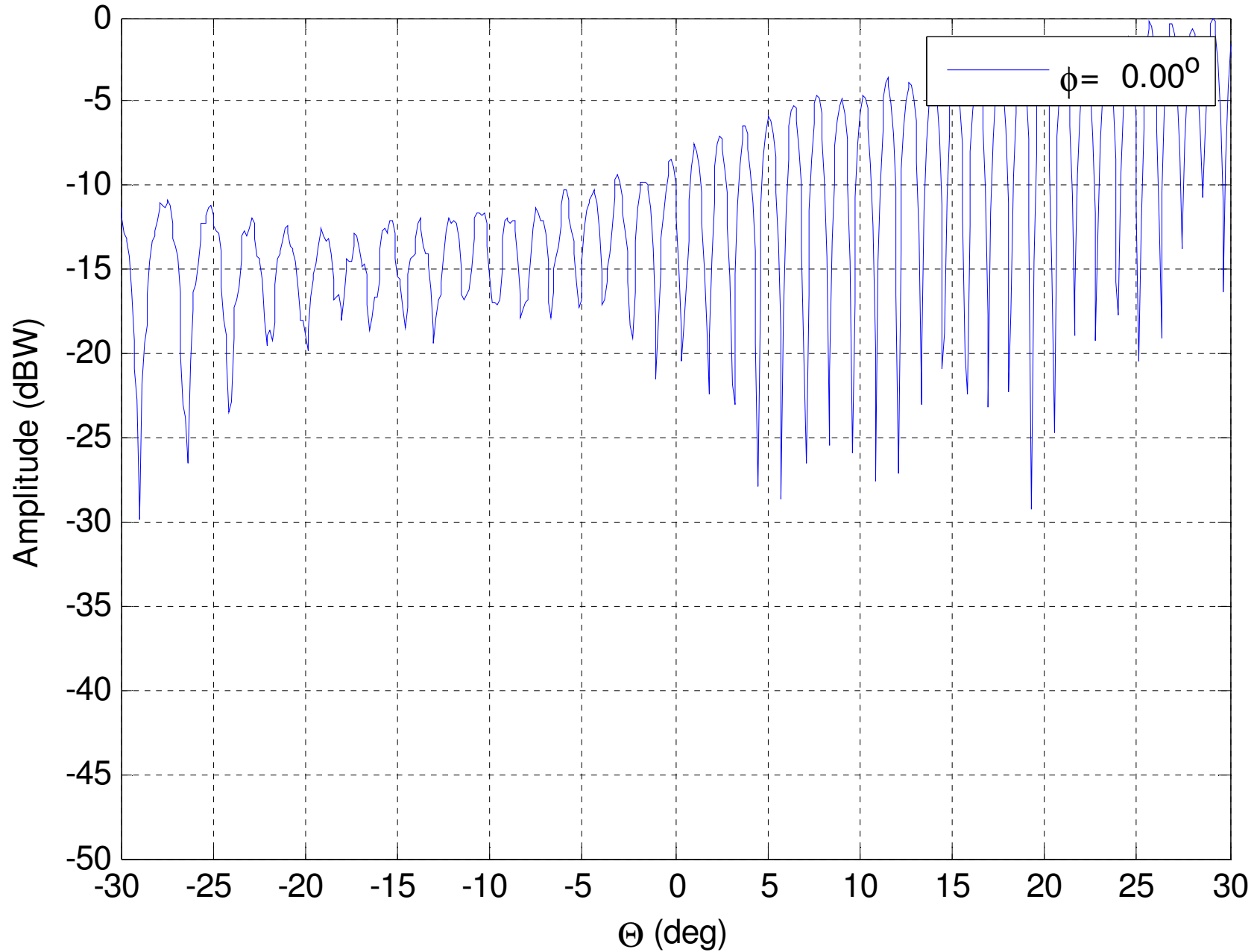
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -2.75 dBW, Date: 16-Dec-2011



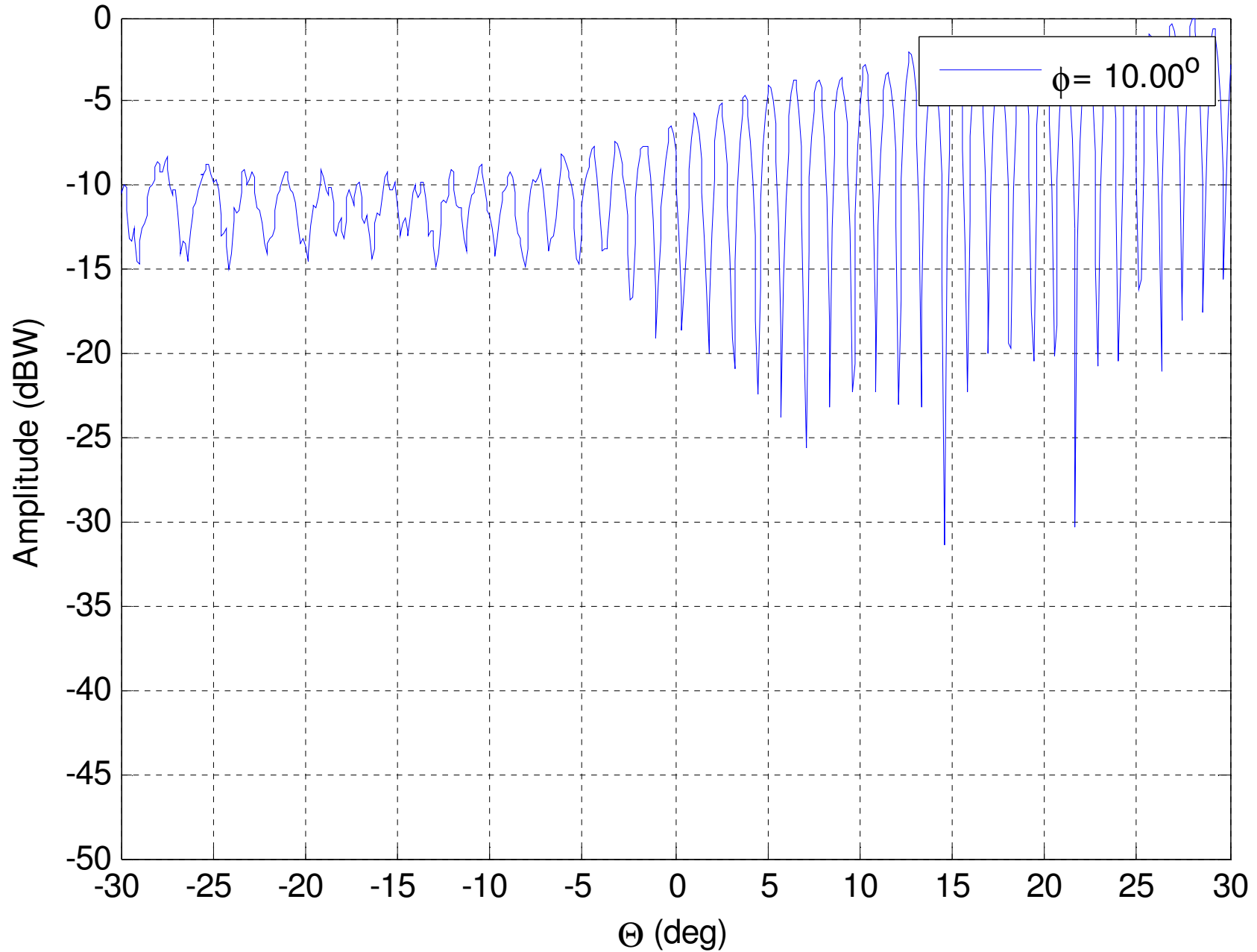
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -5.59 dBW, Date: 16-Dec-2011



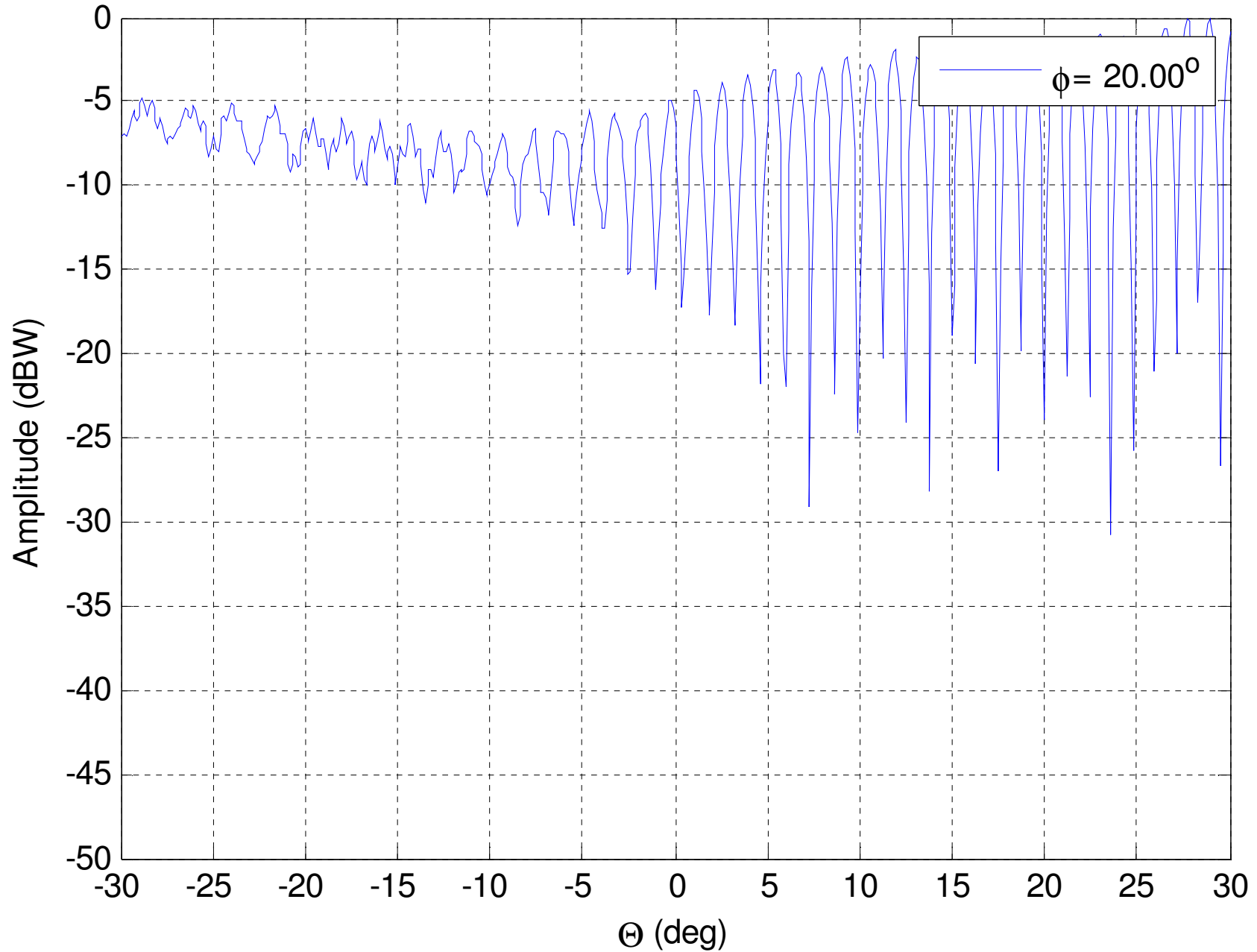
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -7.56 dBW, Date: 16-Dec-2011



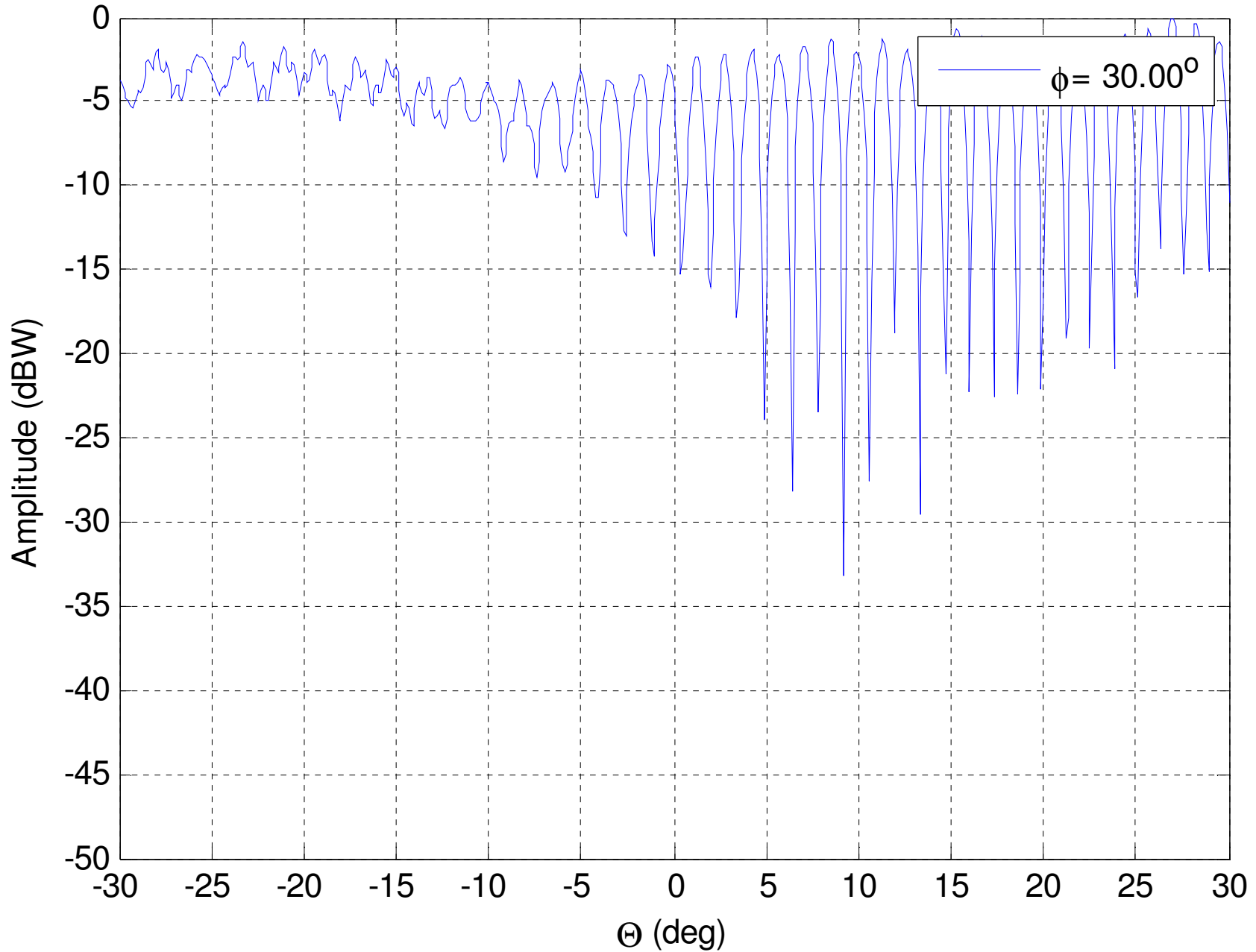
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -9.10 dBW, Date: 16-Dec-2011



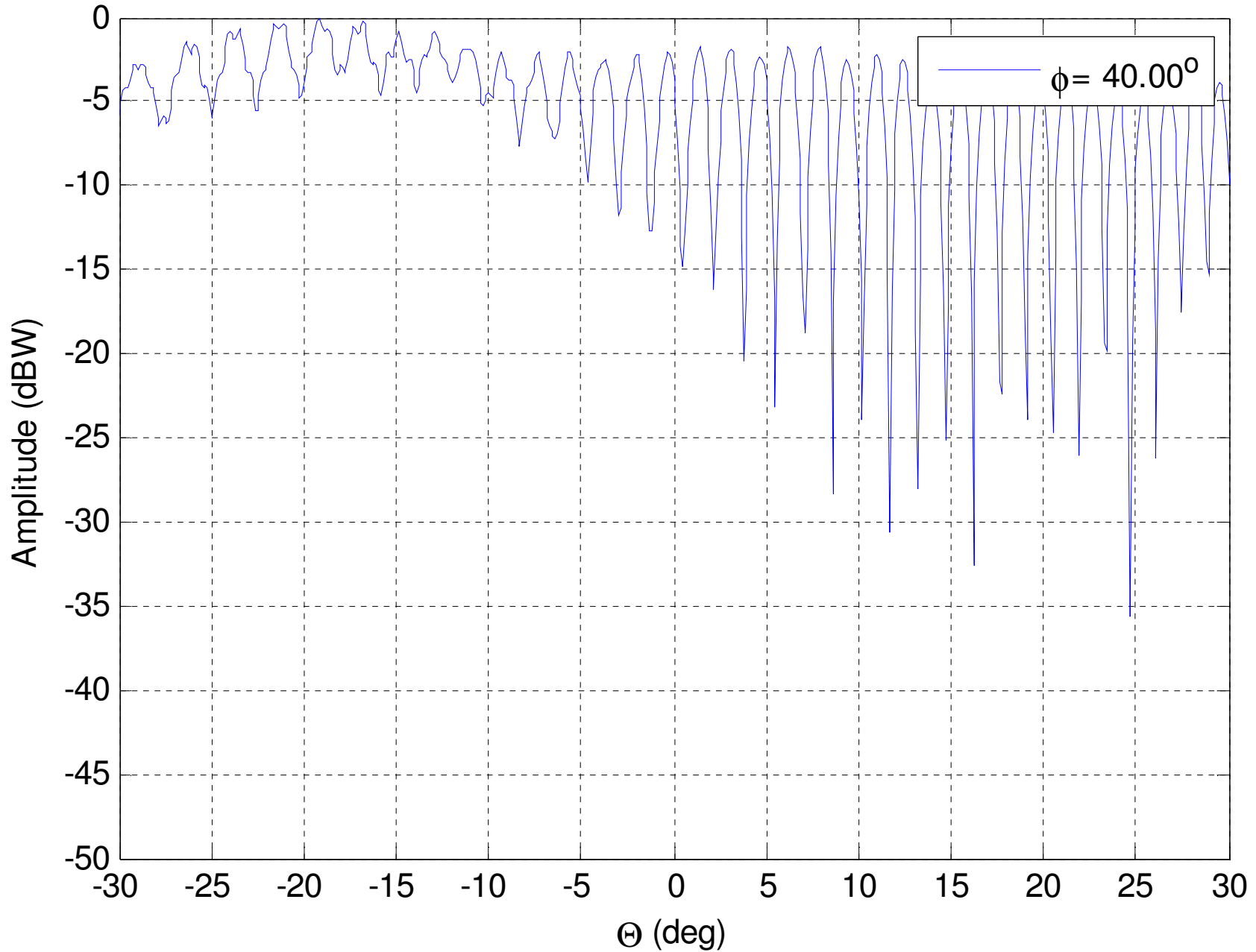
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -11.12 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

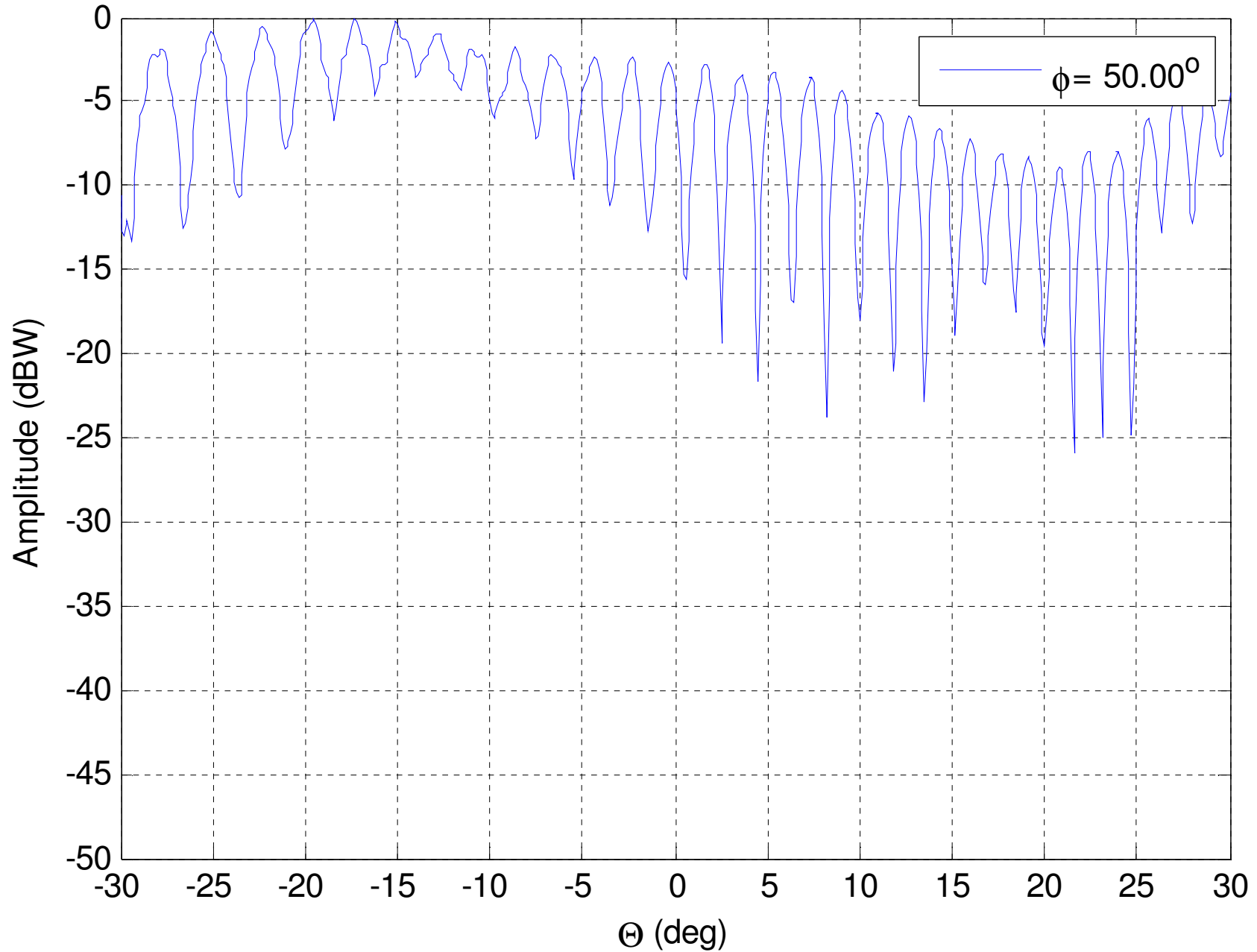
Input file: tx-17.7-lhcp-40.cut, Peak: -11.88 dBW, Date: 16-Dec-2011





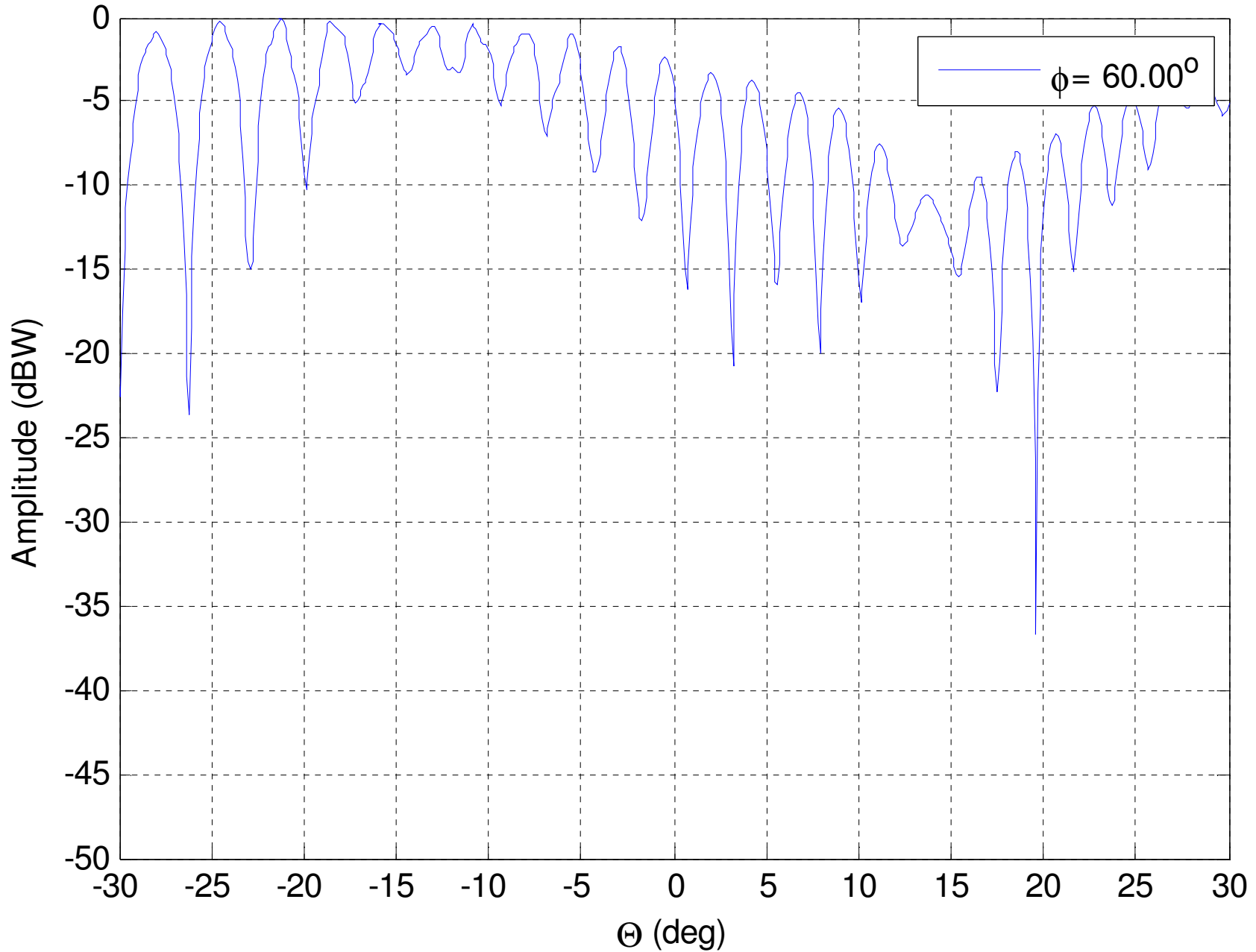
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -11.24 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -11.41 dBW, Date: 16-Dec-2011



December 13, 2011

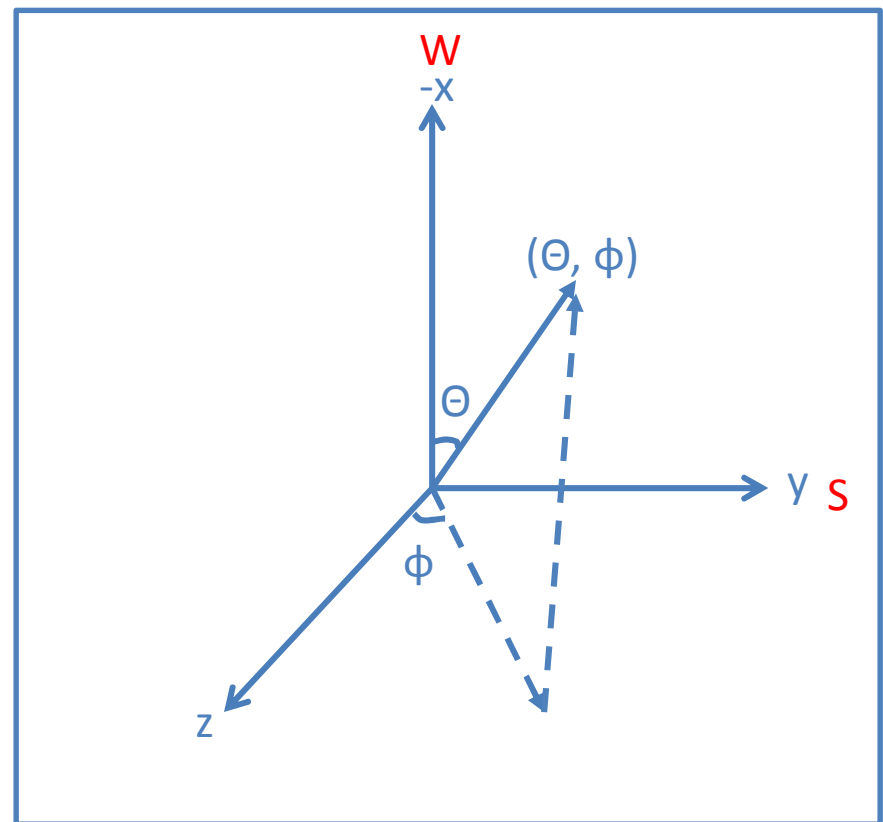
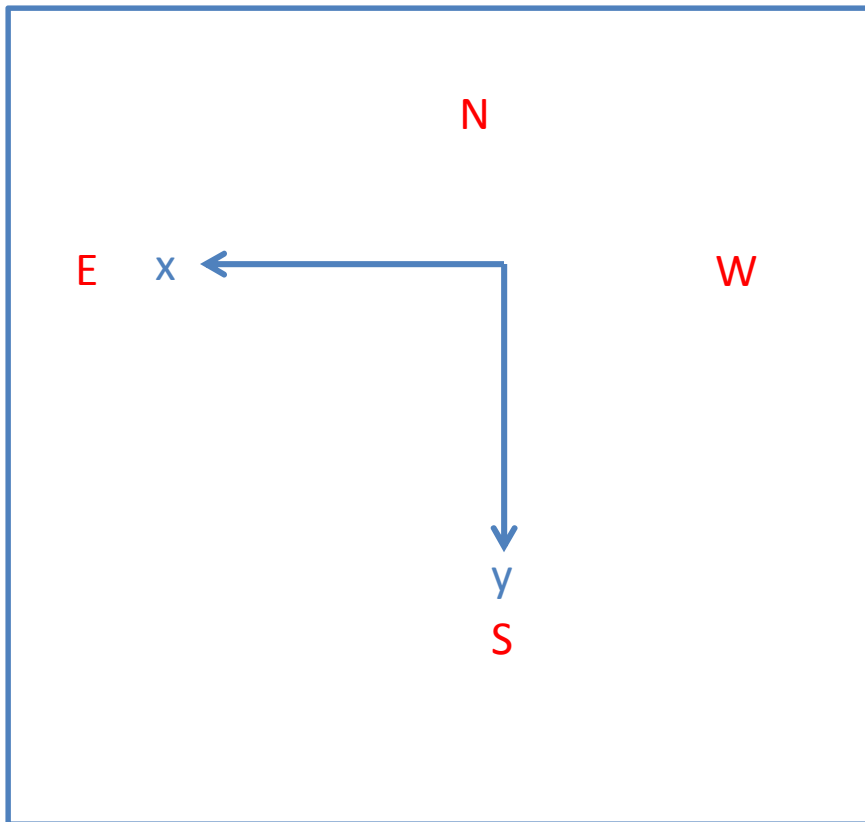
Updated: May 15, 2012

# 119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 51

## Maximum Allowable EIRP to meet the -117dBW/m<sup>2</sup>/100 kHz

| Maximum EIRP Allowed                                 |         |
|--|---------|
| Spec Max flux density, dBW/m <sup>2</sup> /100kHz    | -117    |
| Desired channel band width, MHz                      | 25.8    |
| Symbol rate band width modification factor           | 1       |
| Effective channel bandwidth, MHz                     | 25.8    |
| Effective bandwidth, dB-100kHz                       | 24.1    |
| Flux density allowed per channel, dBW/m <sup>2</sup> | -92.9   |
| R, radial distance to GEO, km                        | 42164.0 |
| Angle of separation between satellites, deg          | 0.1     |
| range between satellites, km                         | 73.59   |
| Spreading factor, dB/m <sup>2</sup>                  | -108.3  |
| Atmospheric loss, dB                                 | 0       |
| Max satellite EIRP allowed, dBW                      | 15.4    |

# Coordinate System



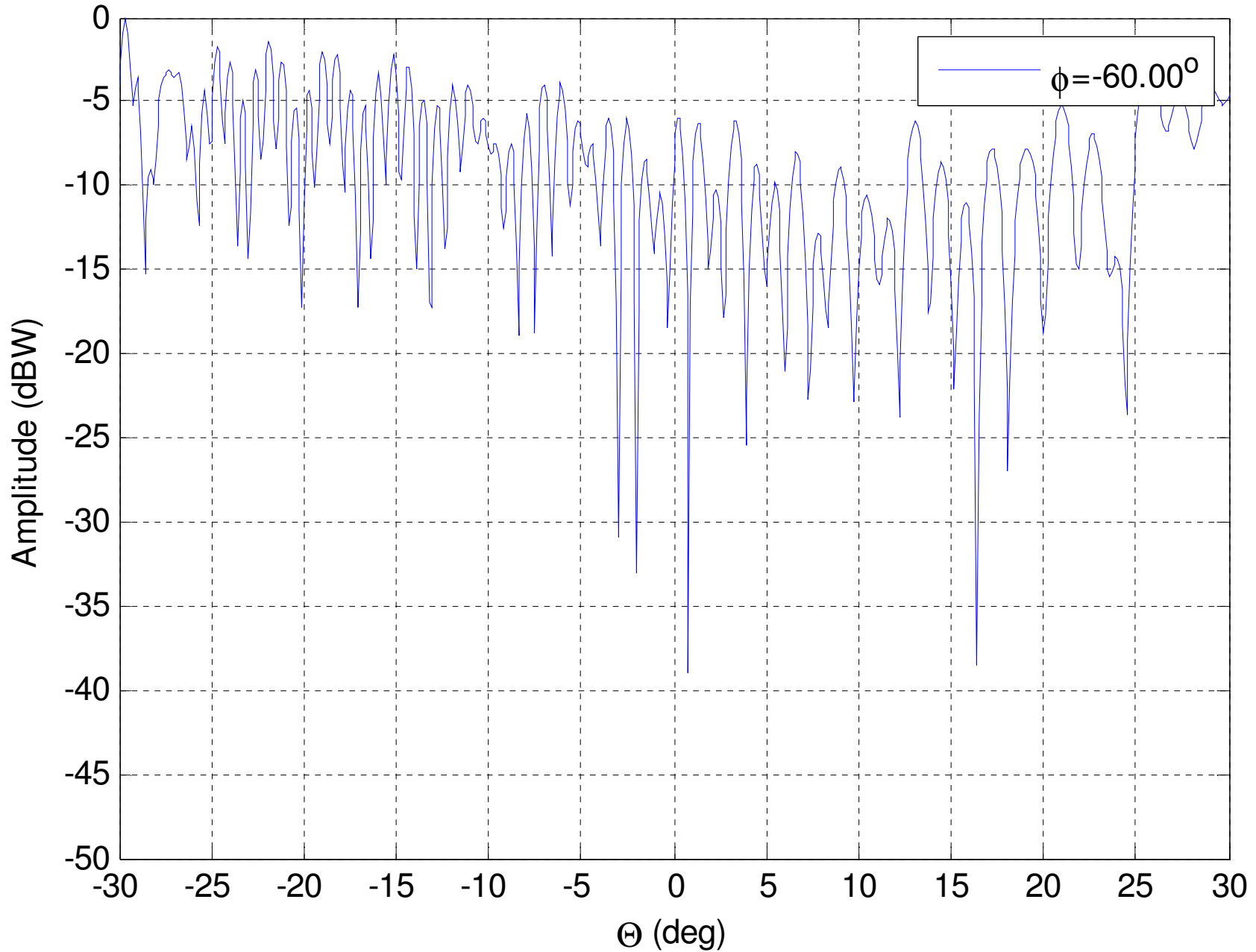
# Spot Beam51, -X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

**RHCP at 17.3 GHz**

# Normalized pattern cuts - farfield

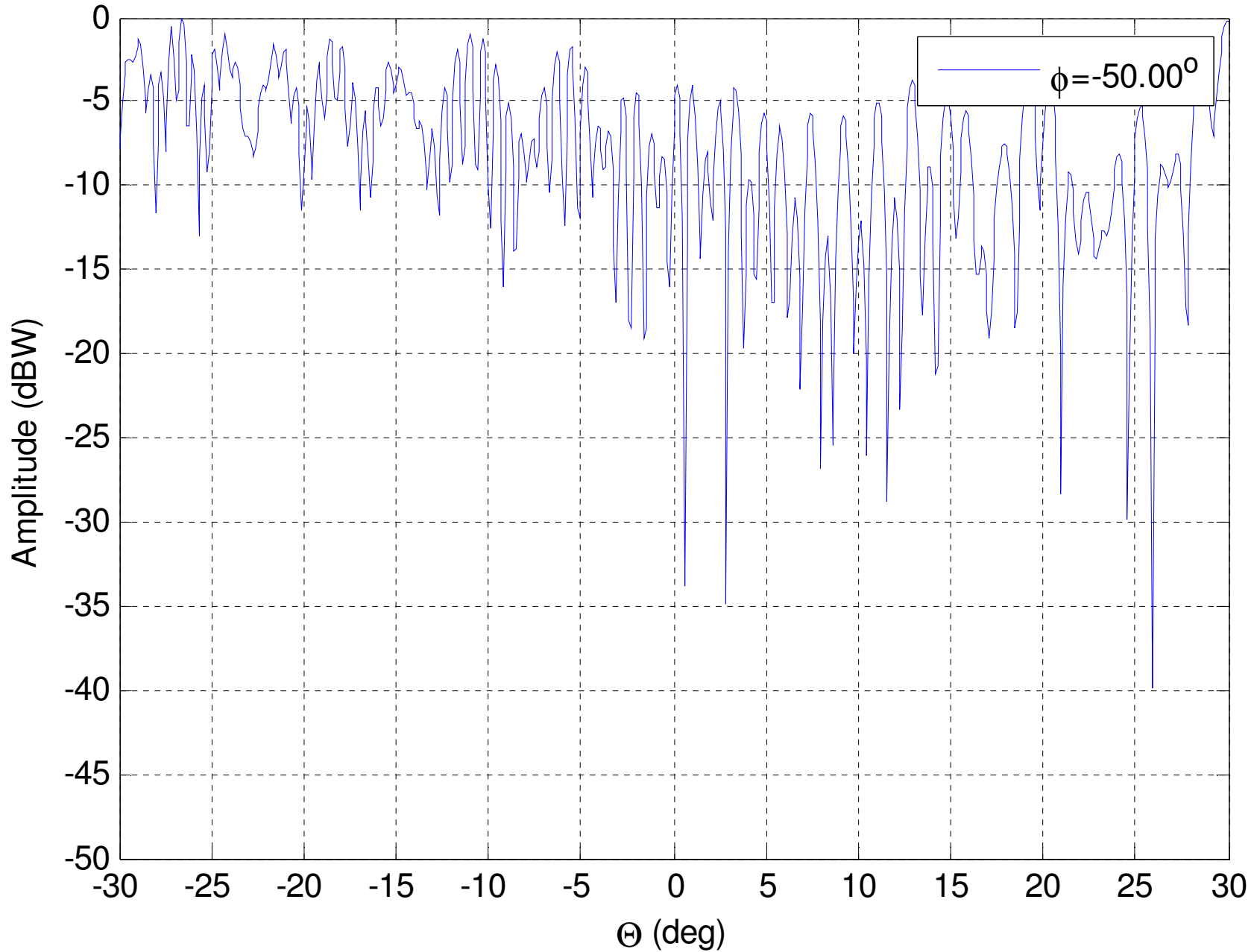
Input file: tx-17.3-rhcp--60.cut, Peak: -3.60 dBW, Date: 16-Dec-2011





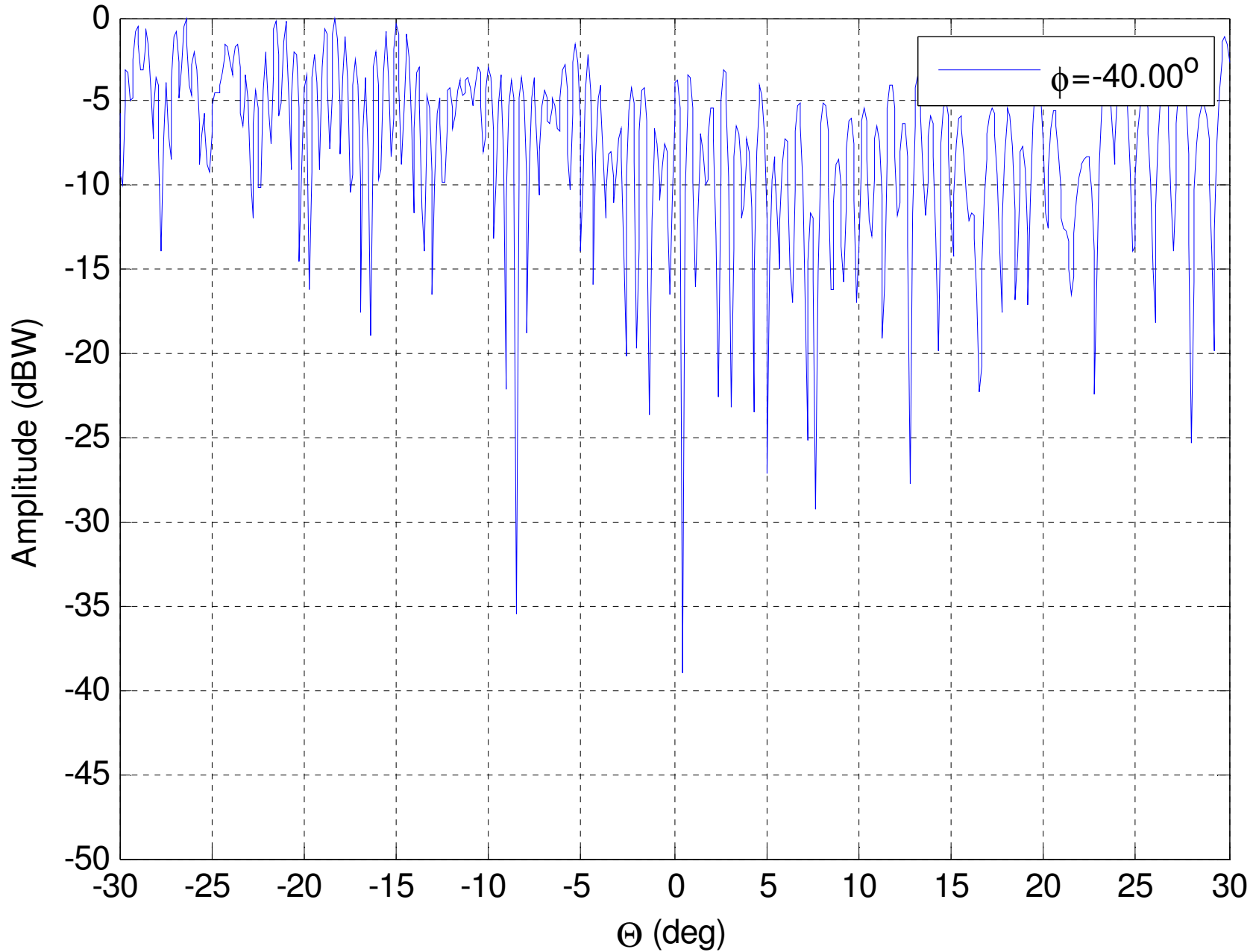
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -5.55 dBW, Date: 16-Dec-2011



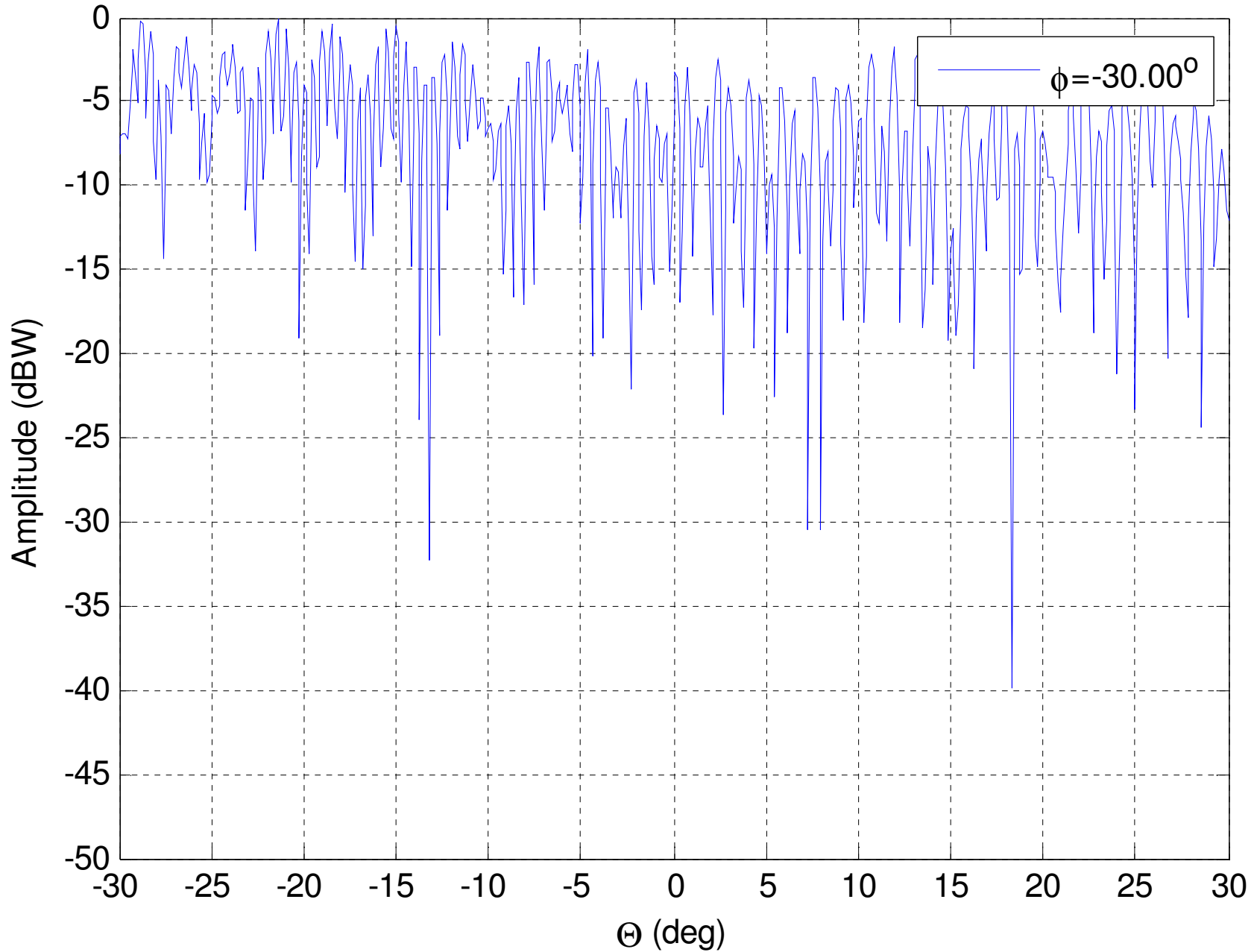
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -6.06 dBW, Date: 16-Dec-2011



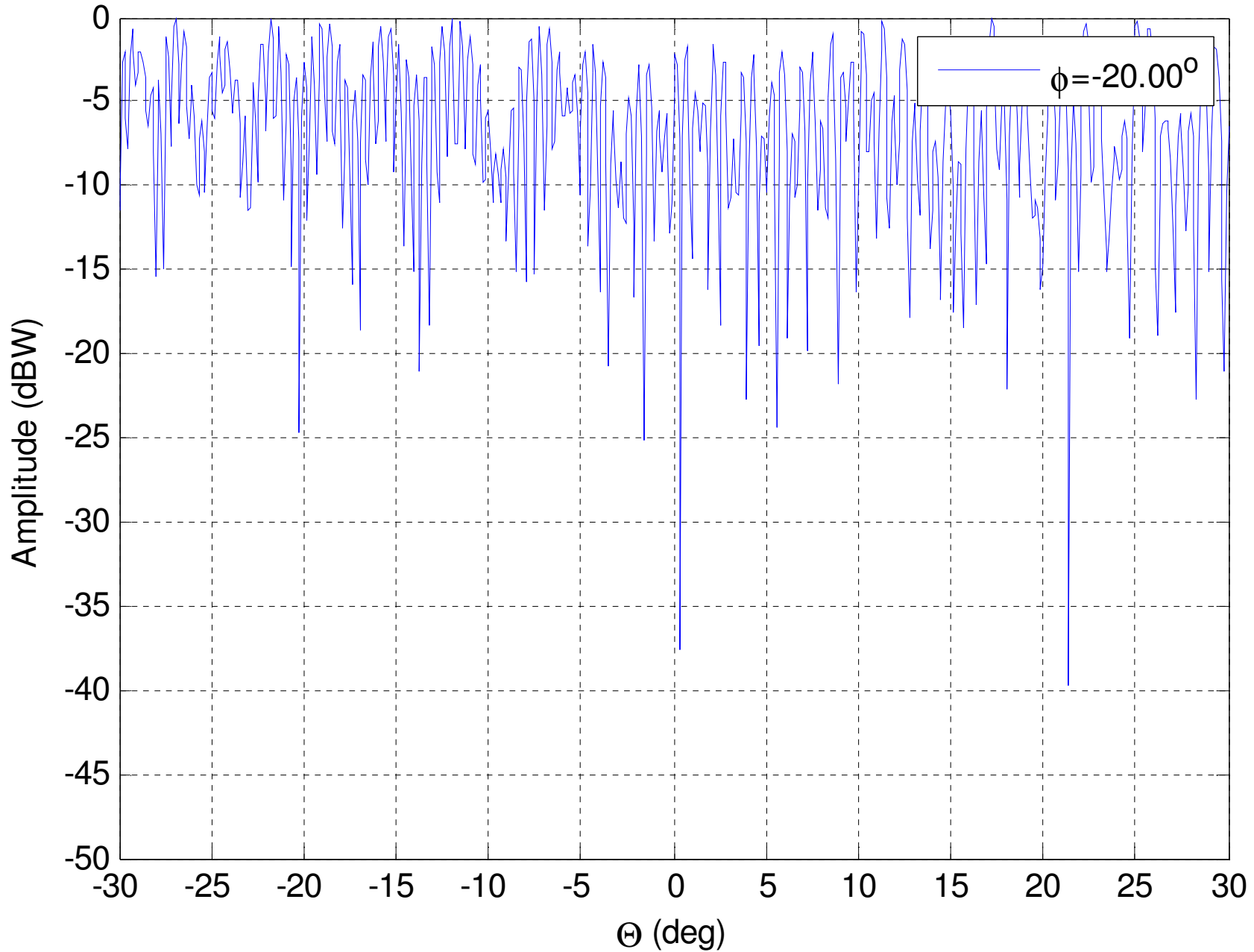
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -6.55 dBW, Date: 16-Dec-2011



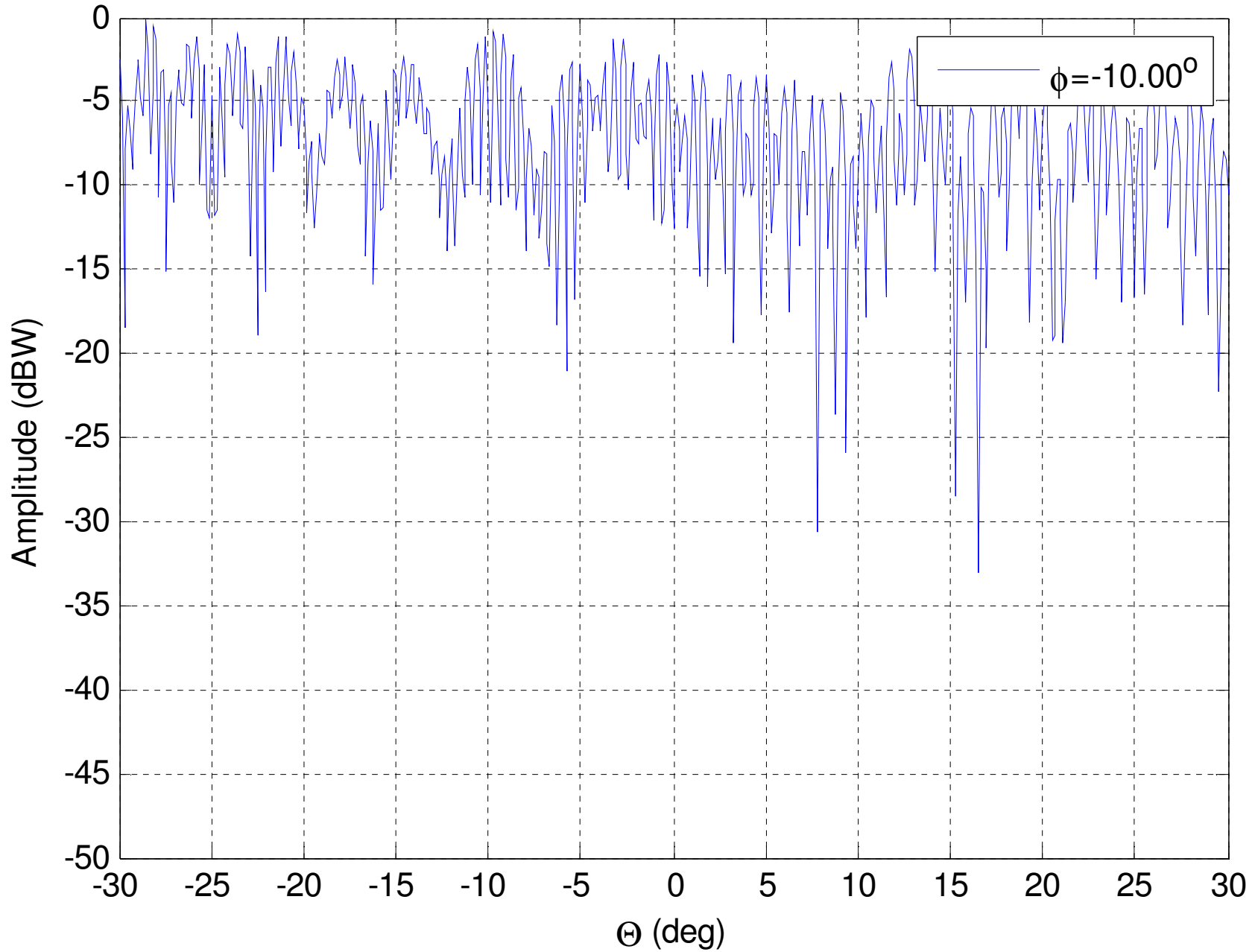
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -7.58 dBW, Date: 16-Dec-2011



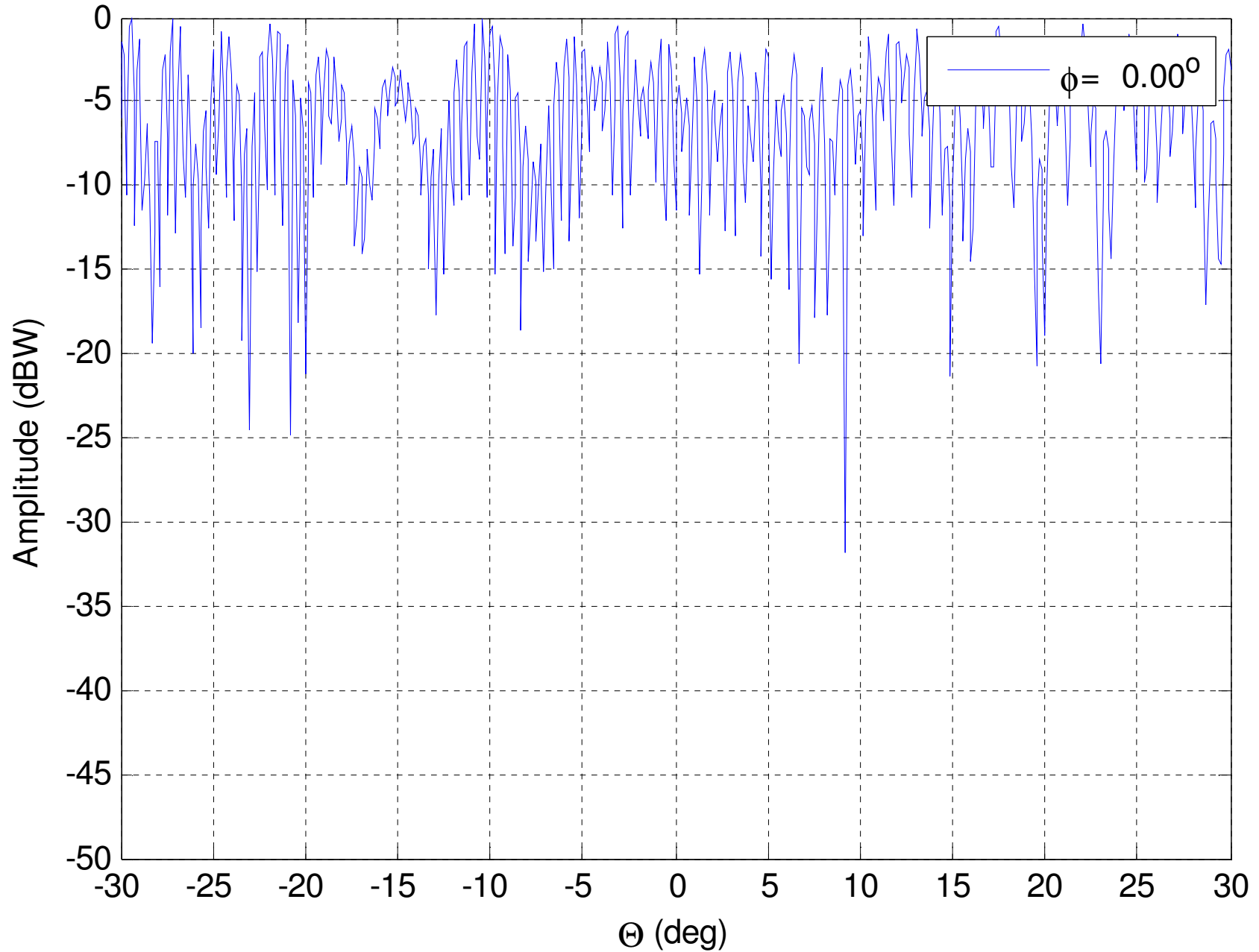
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -6.85 dBW, Date: 16-Dec-2011



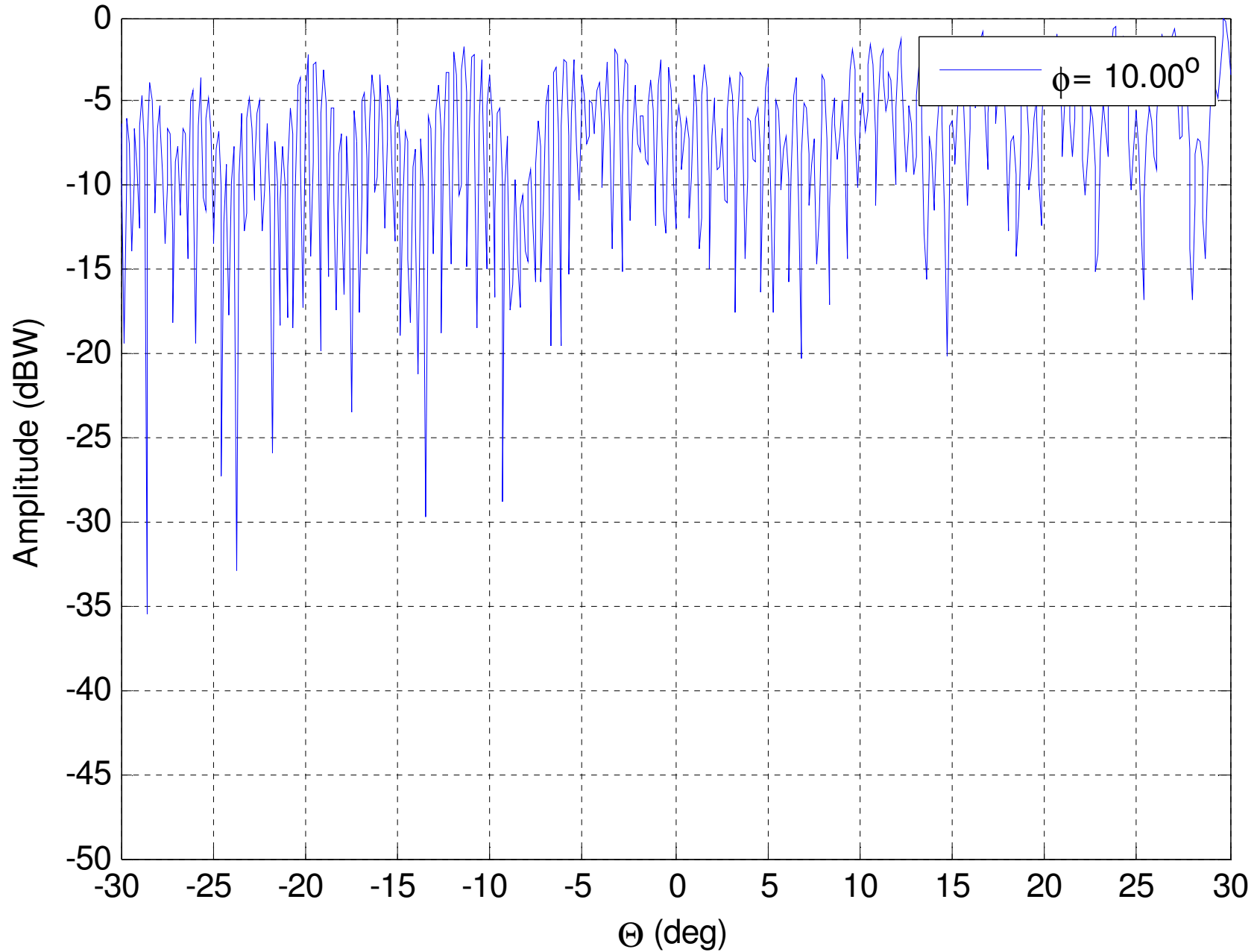
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -7.94 dBW, Date: 16-Dec-2011



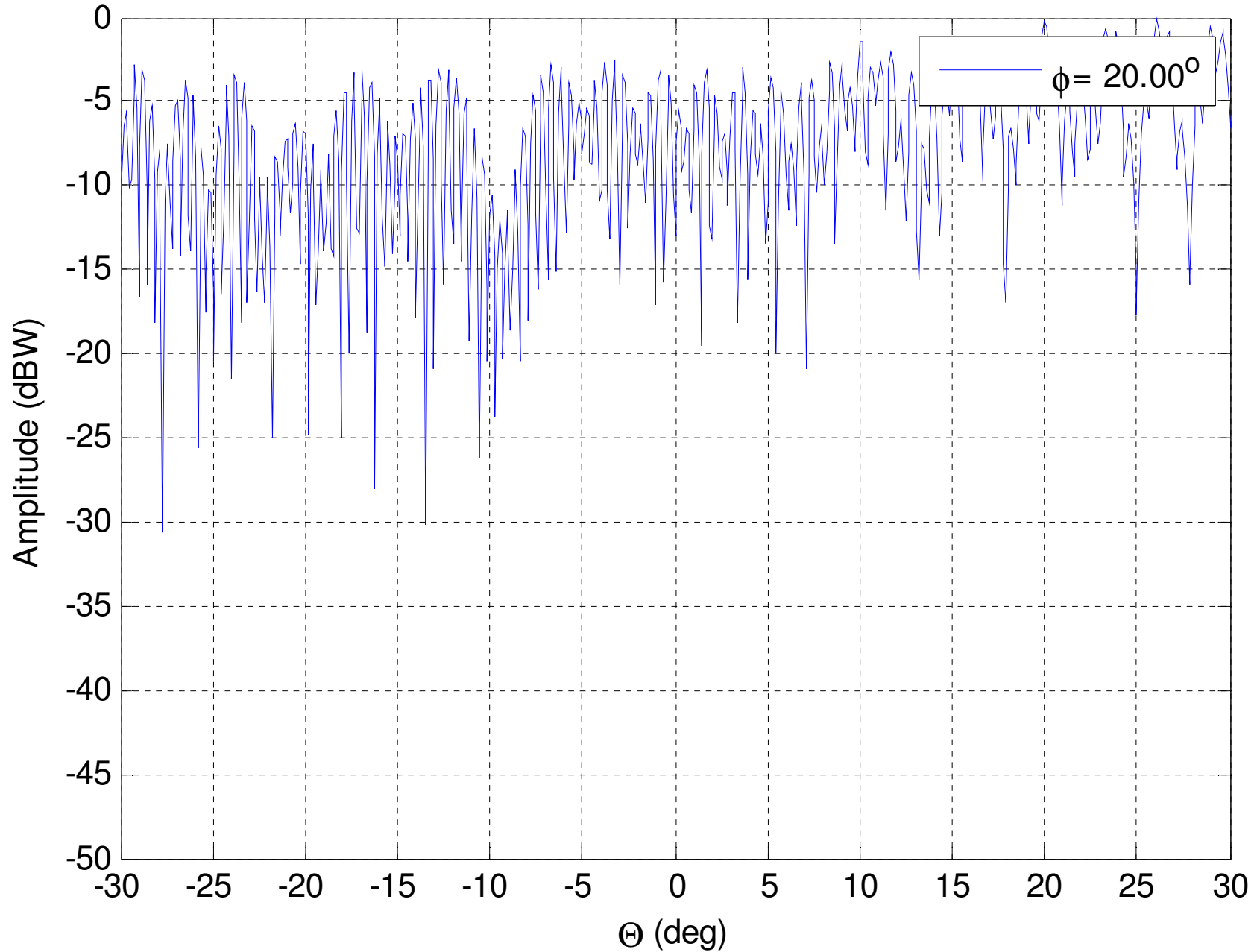
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -6.76 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

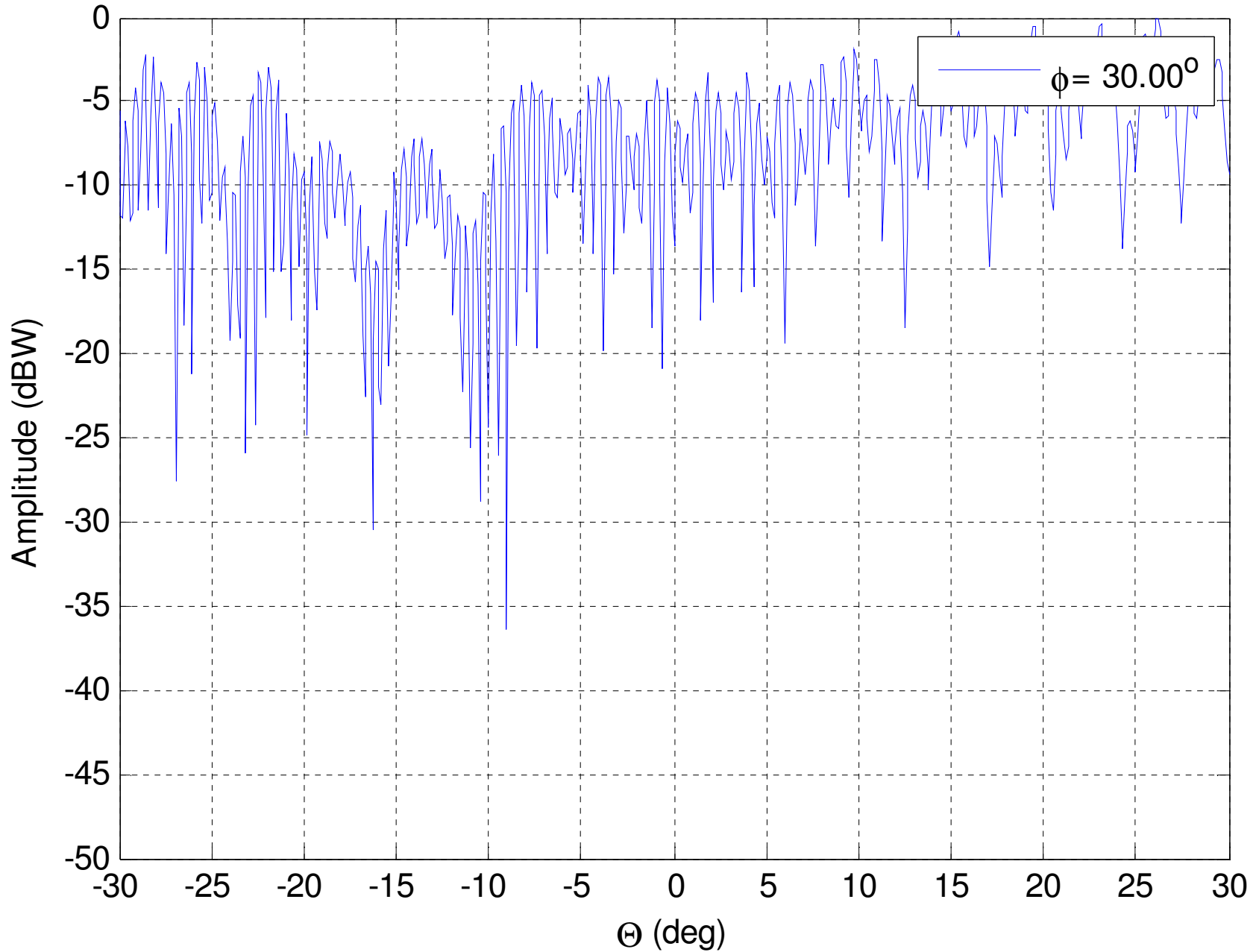
Input file: tx-17.3-rhcp-20.cut, Peak: -6.32 dBW, Date: 16-Dec-2011





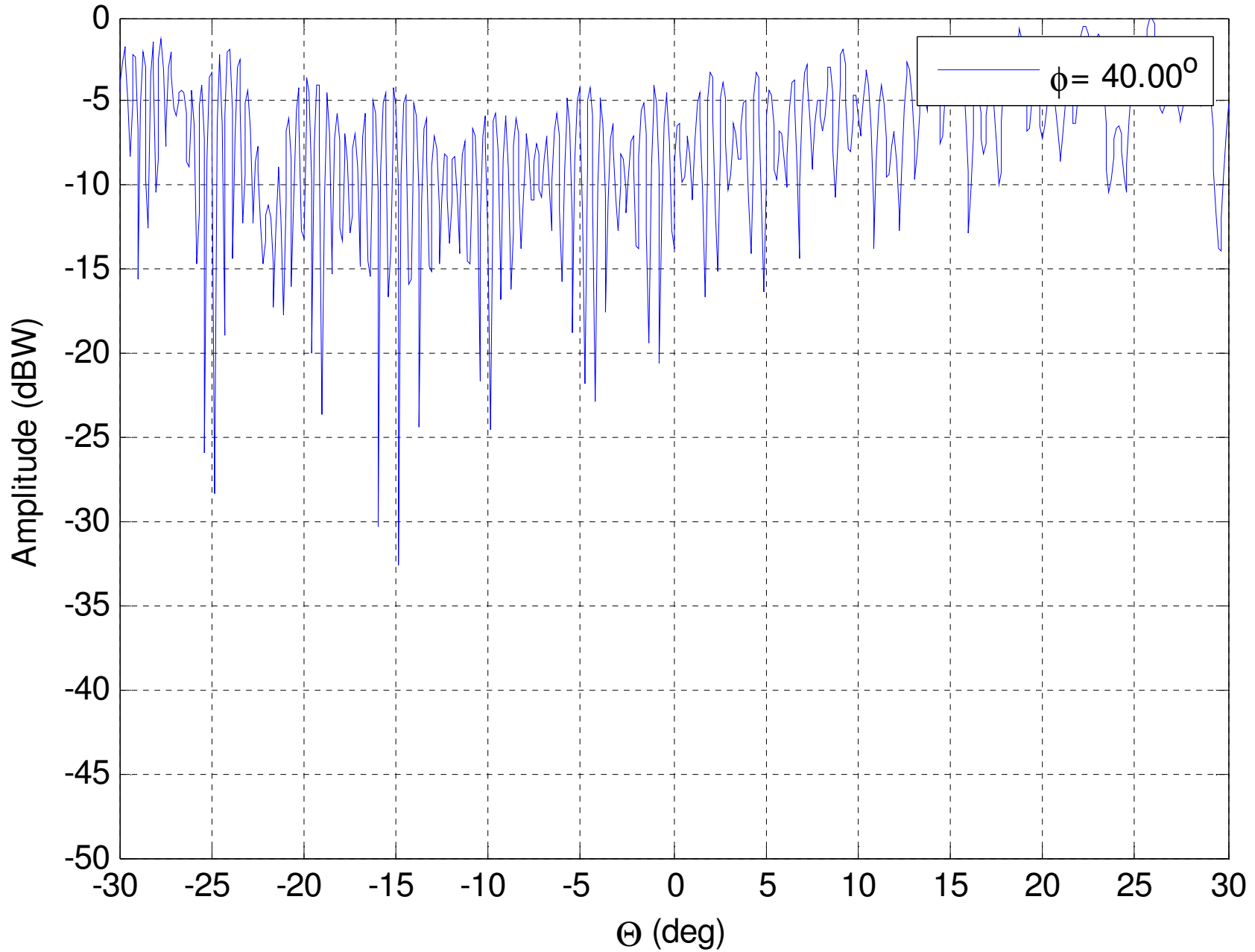
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -5.74 dBW, Date: 16-Dec-2011



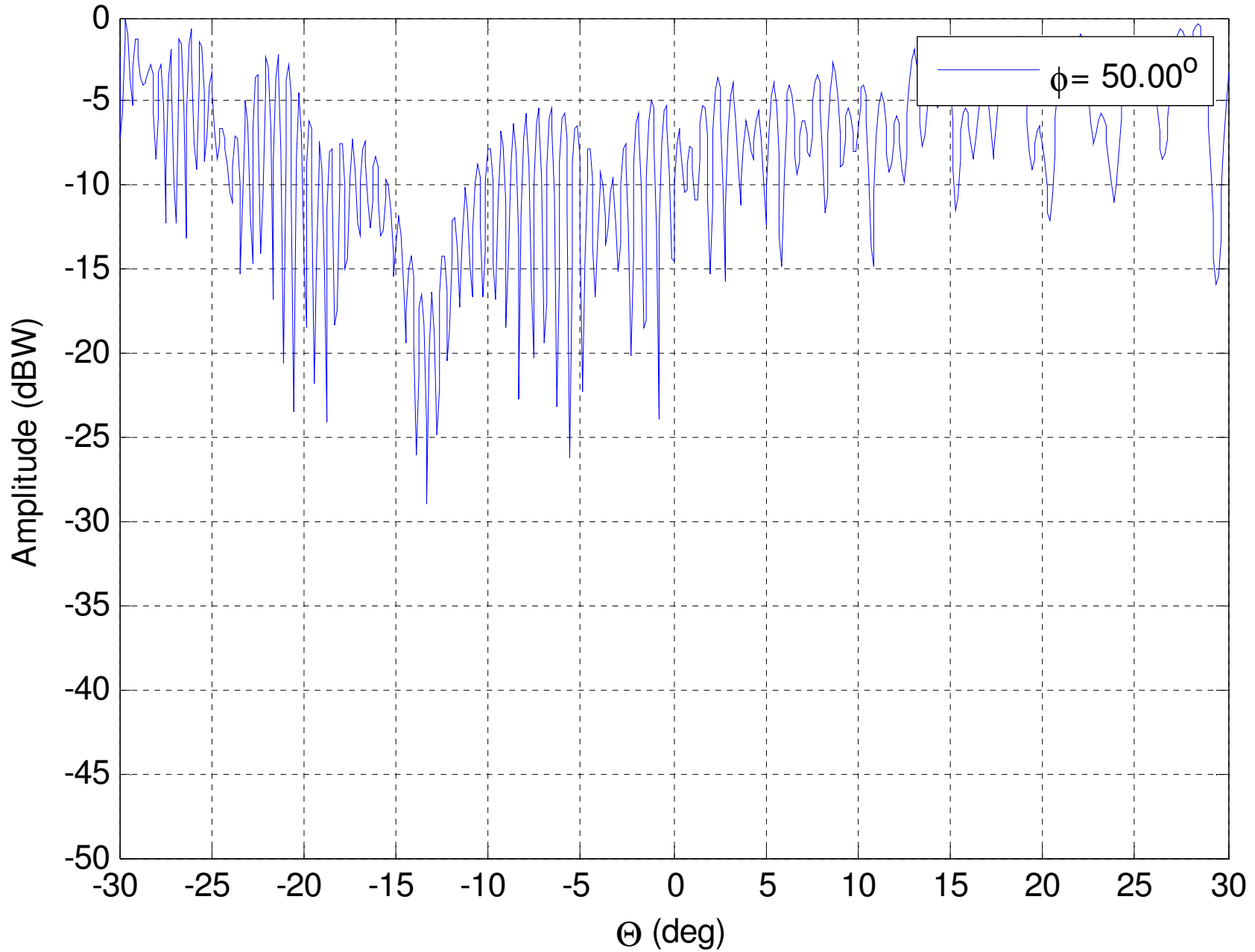
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -5.57 dBW, Date: 16-Dec-2011



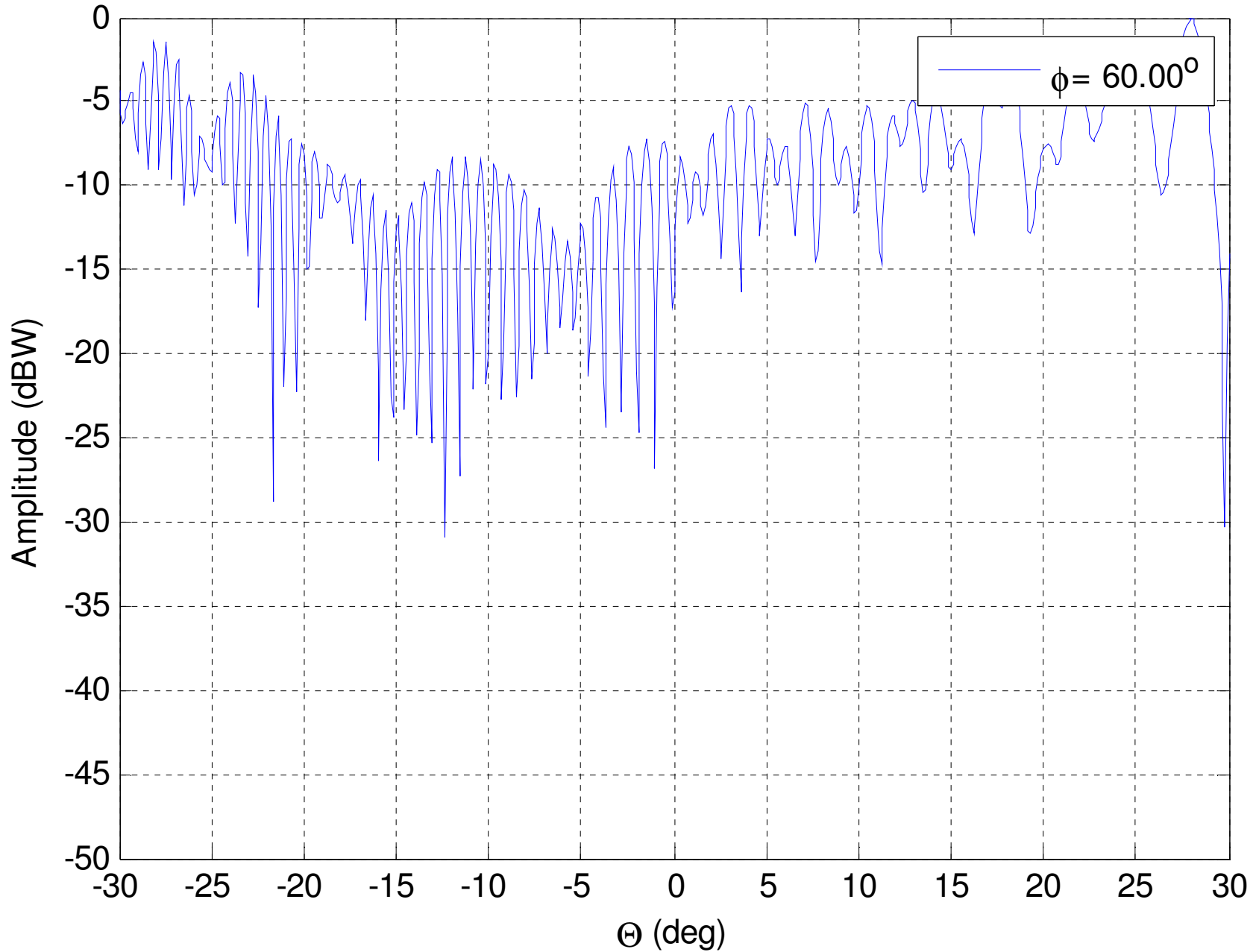
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -4.86 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

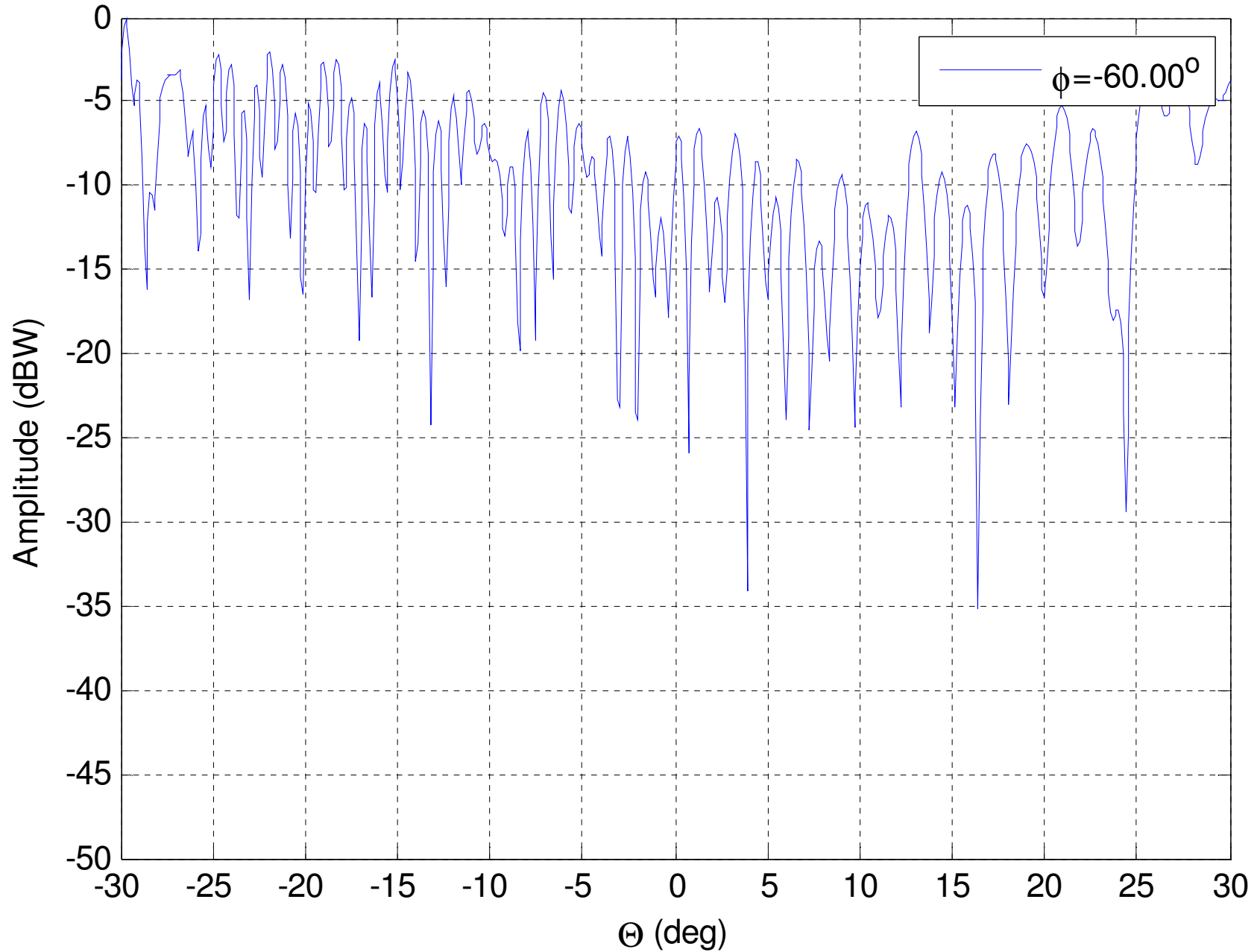
Input file: tx-17.3-rhcp-60.cut, Peak: -2.99 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

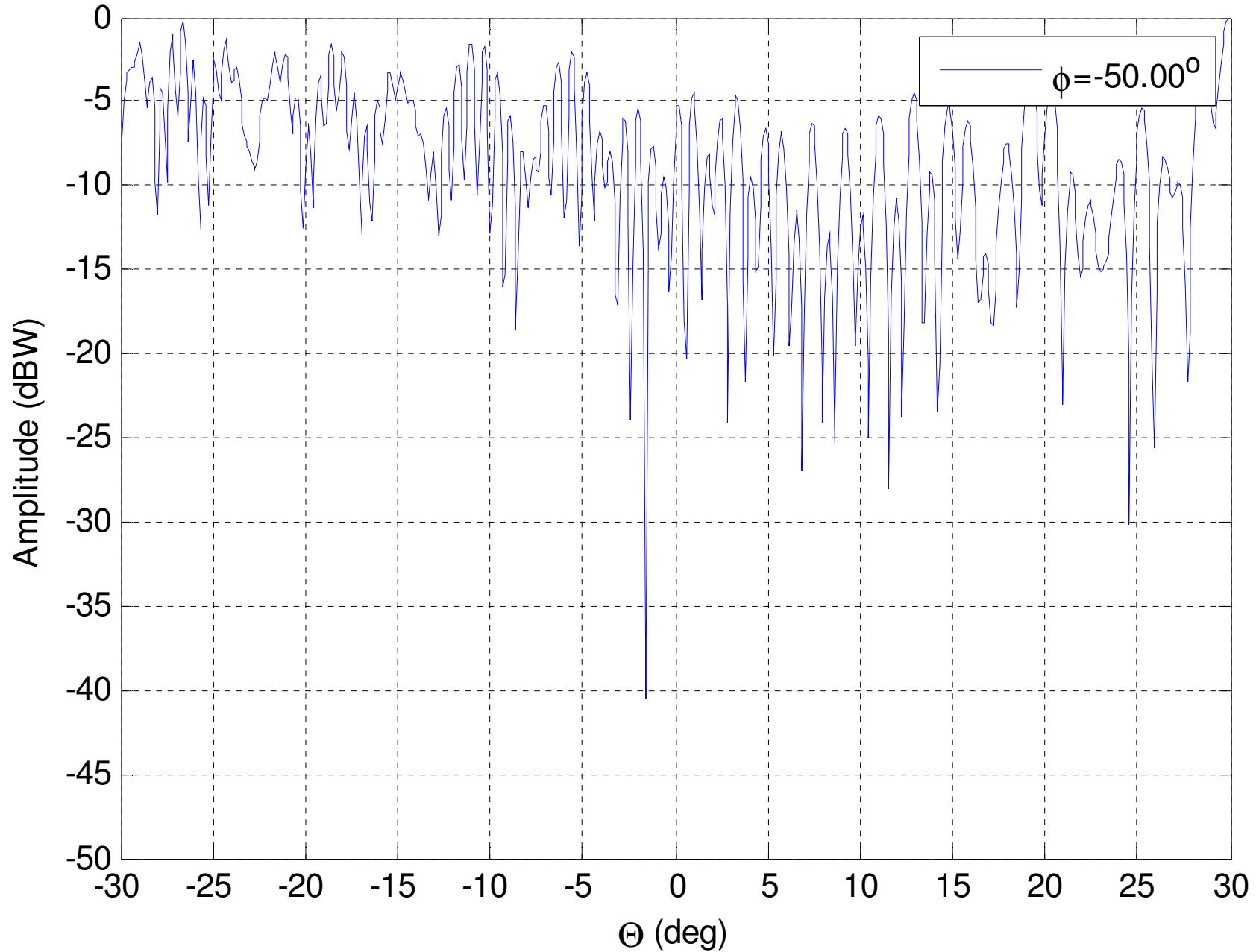
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -3.04 dBW, Date: 16-Dec-2011



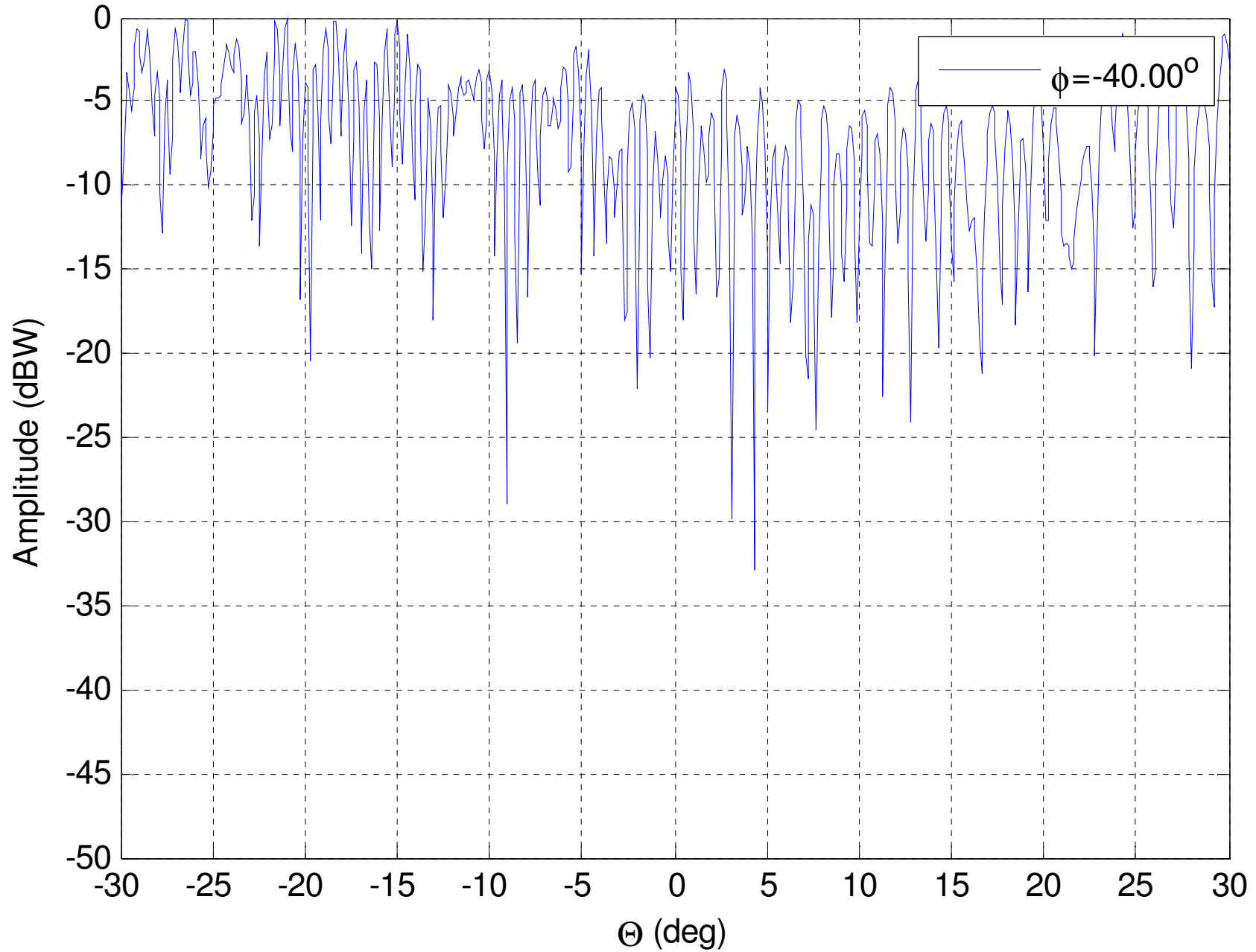
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -5.03 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

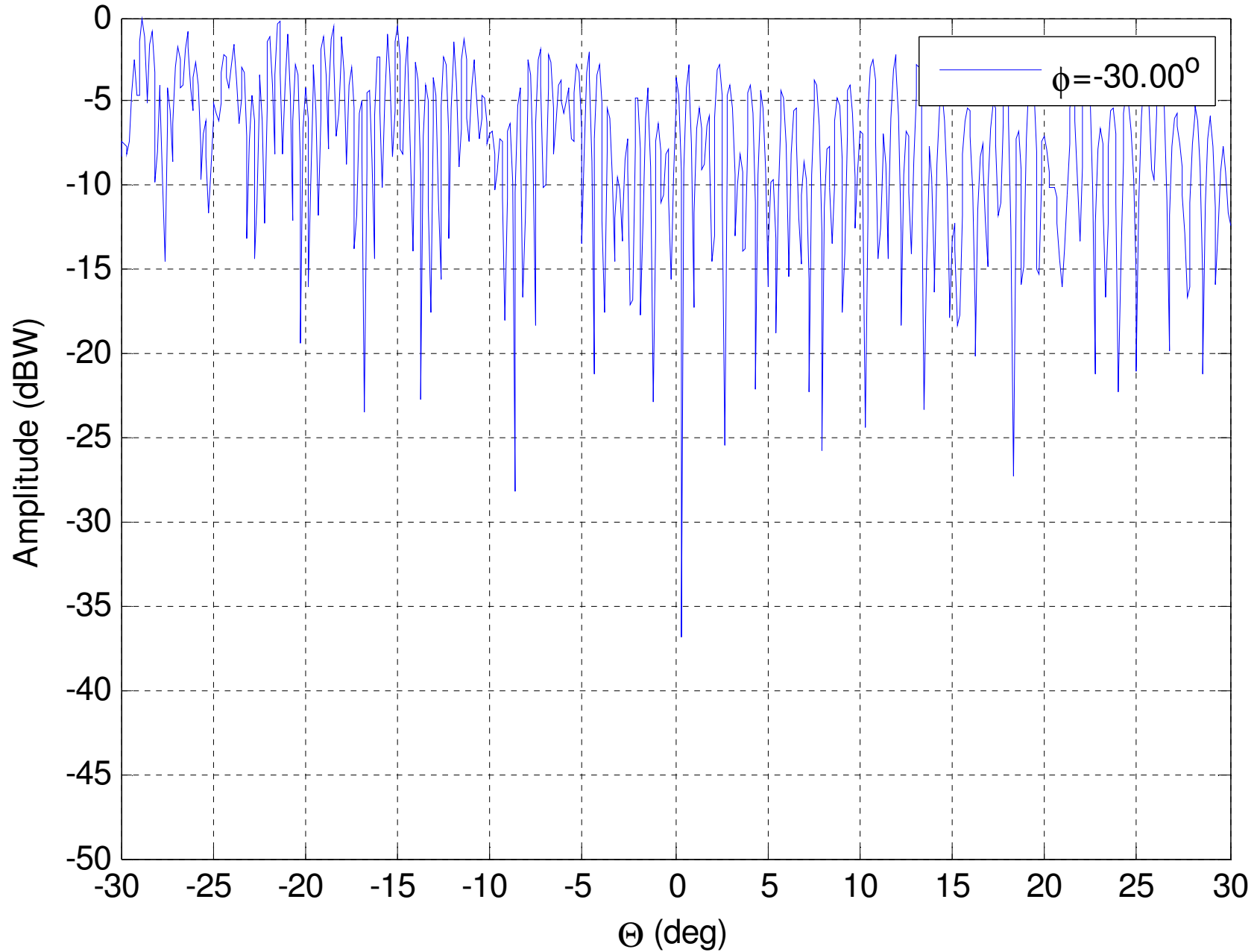
Input file: tx-17.3-lhcp--40.cut, Peak: -6.08 dBW, Date: 16-Dec-2011





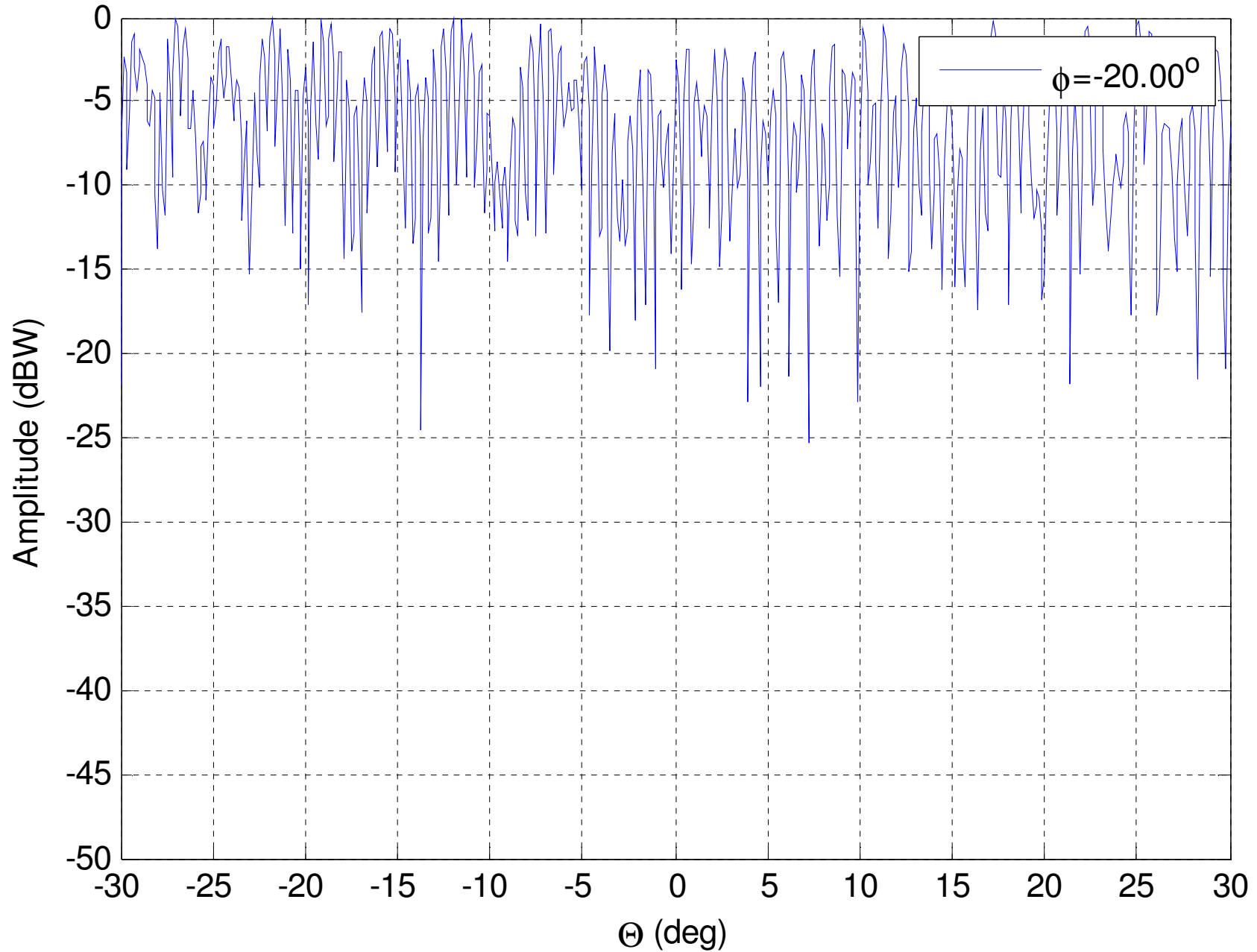
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -6.55 dBW, Date: 16-Dec-2011



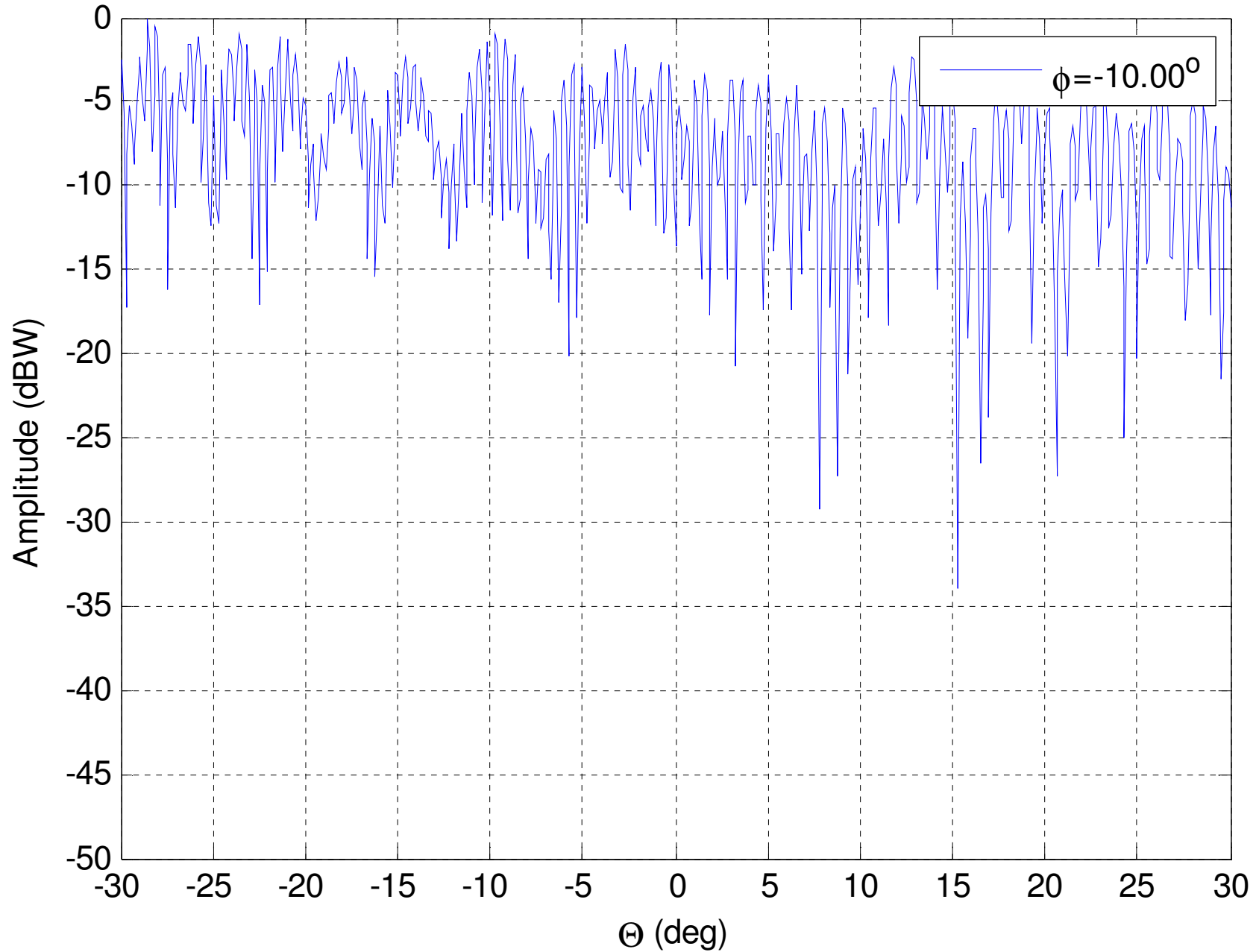
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -7.74 dBW, Date: 16-Dec-2011



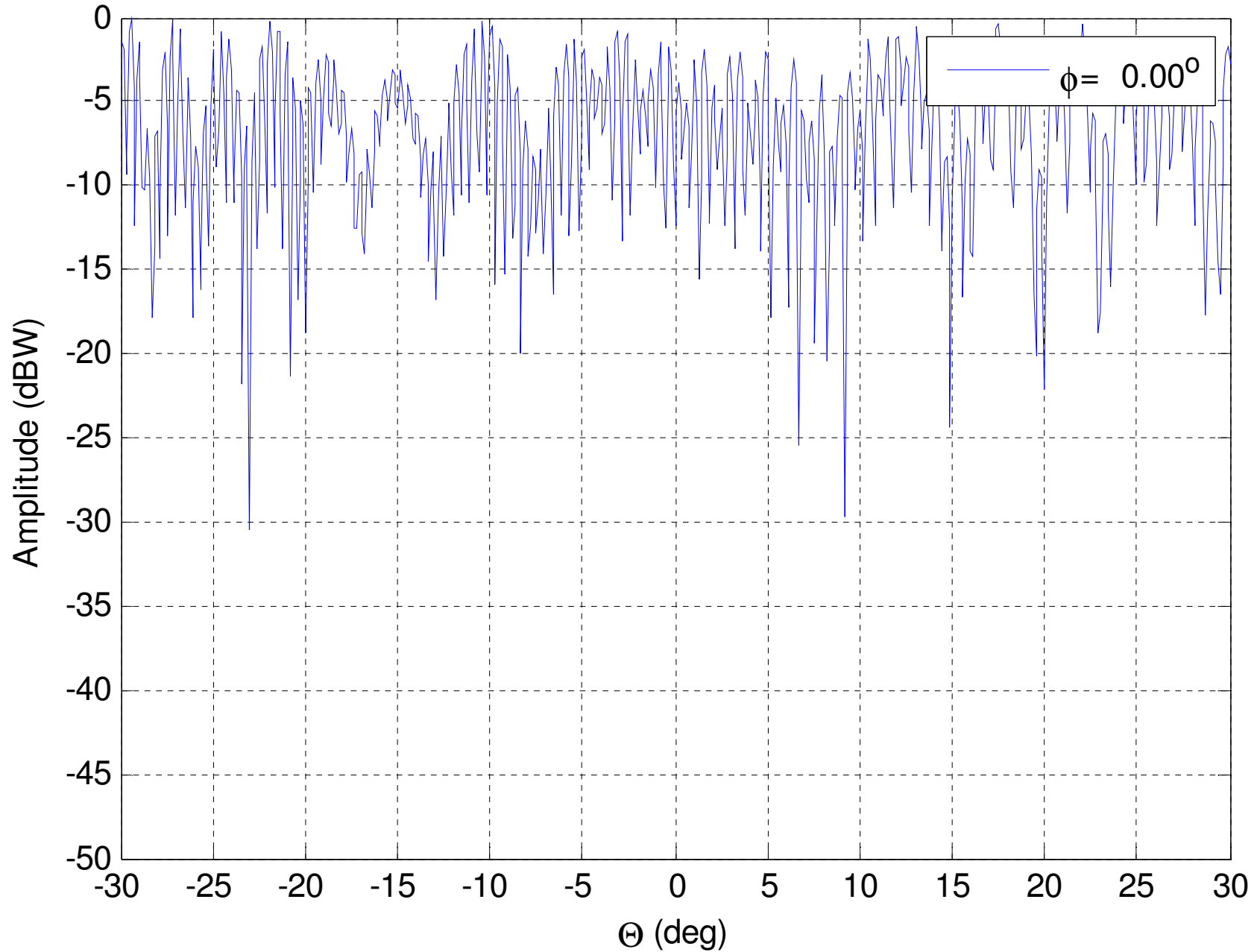
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -6.82 dBW, Date: 16-Dec-2011



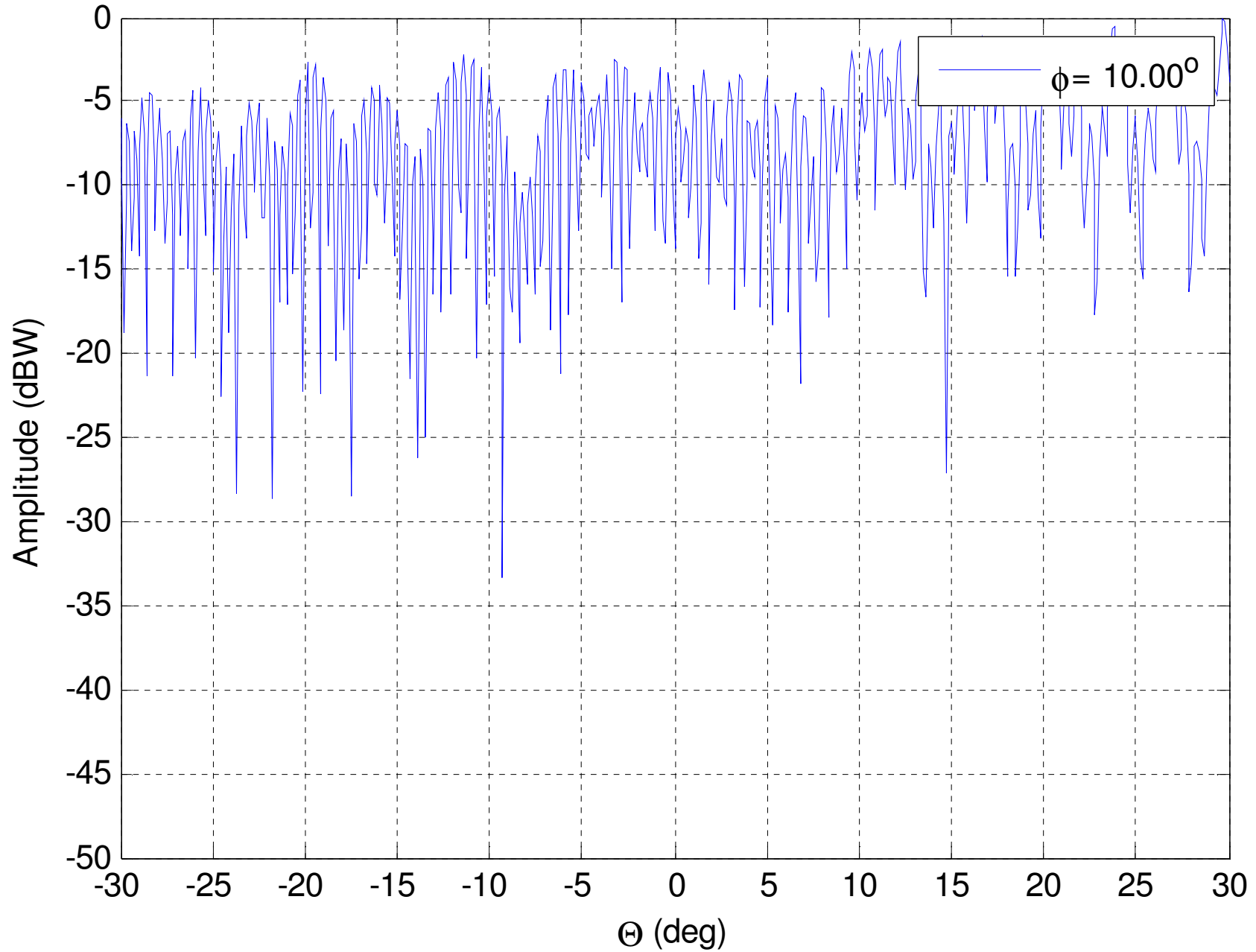
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -8.05 dBW, Date: 16-Dec-2011



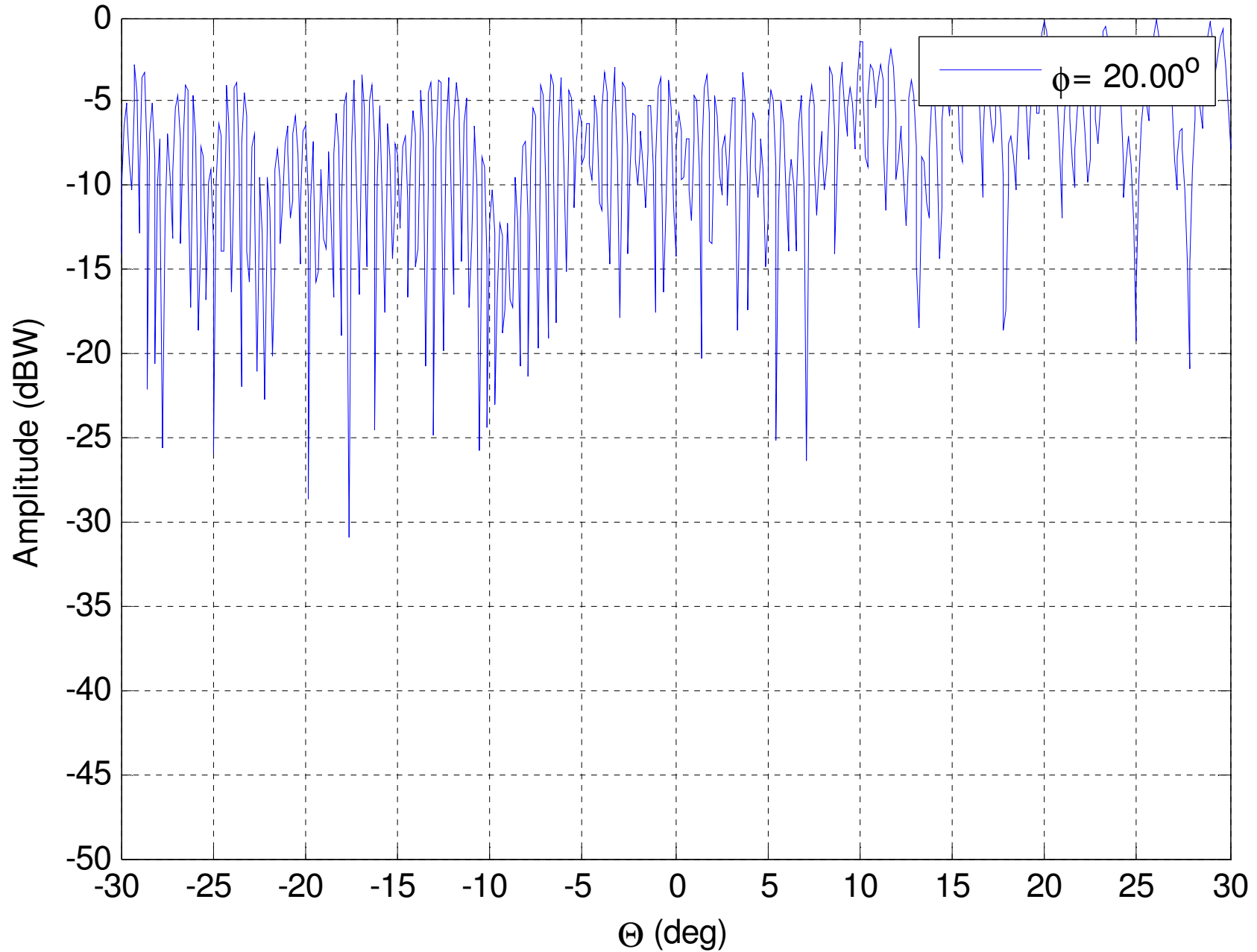
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -6.60 dBW, Date: 16-Dec-2011



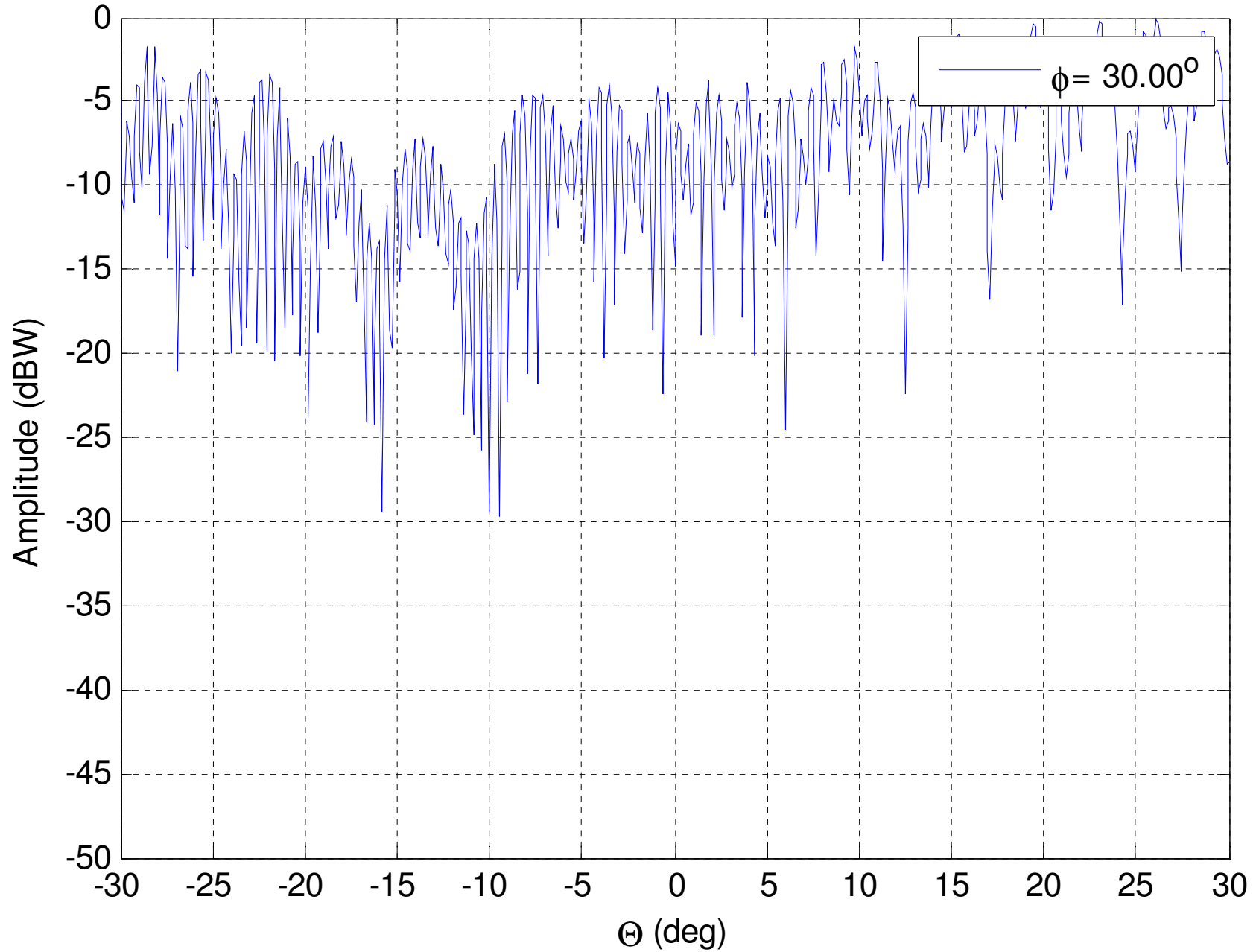
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -6.19 dBW, Date: 16-Dec-2011



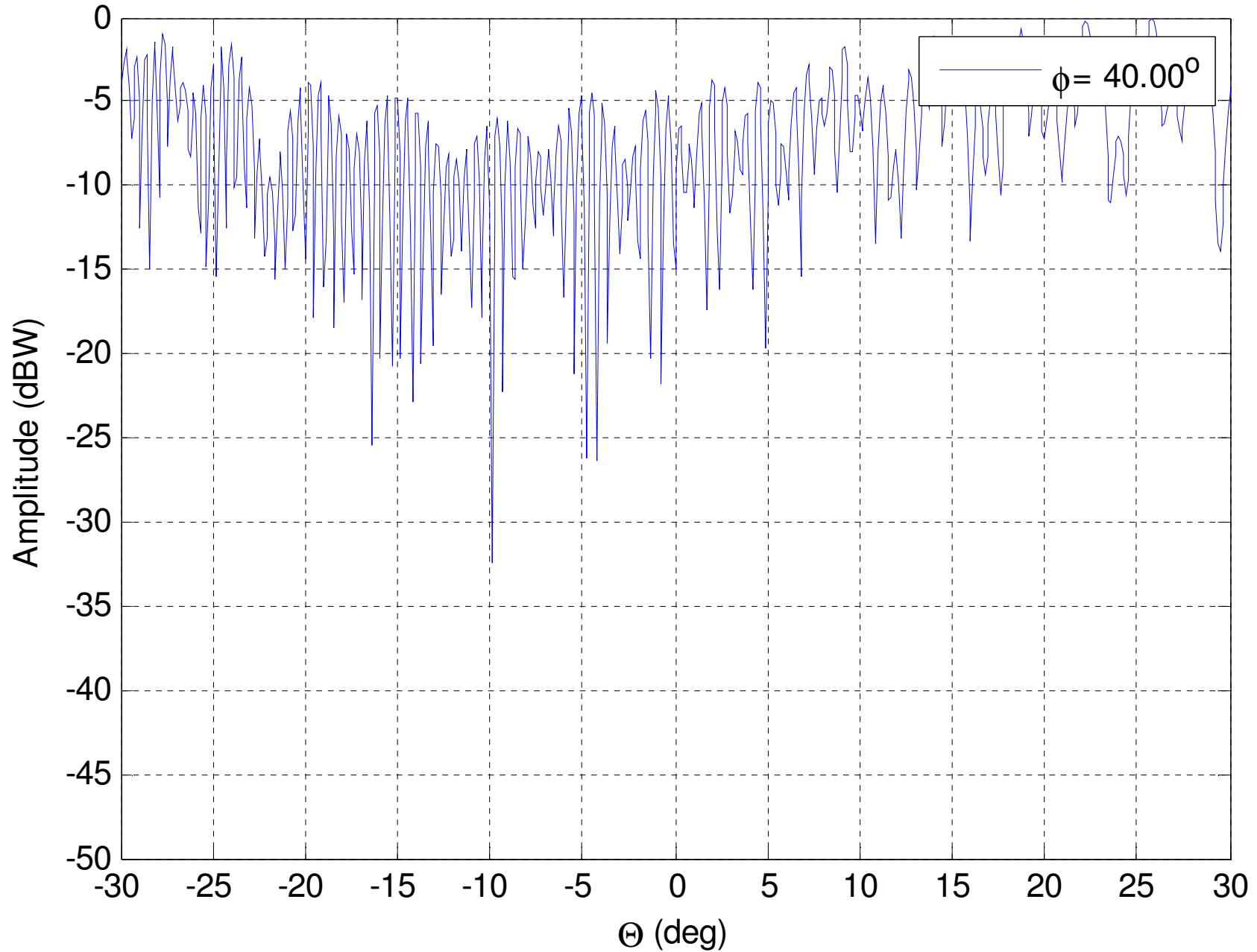
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -5.60 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

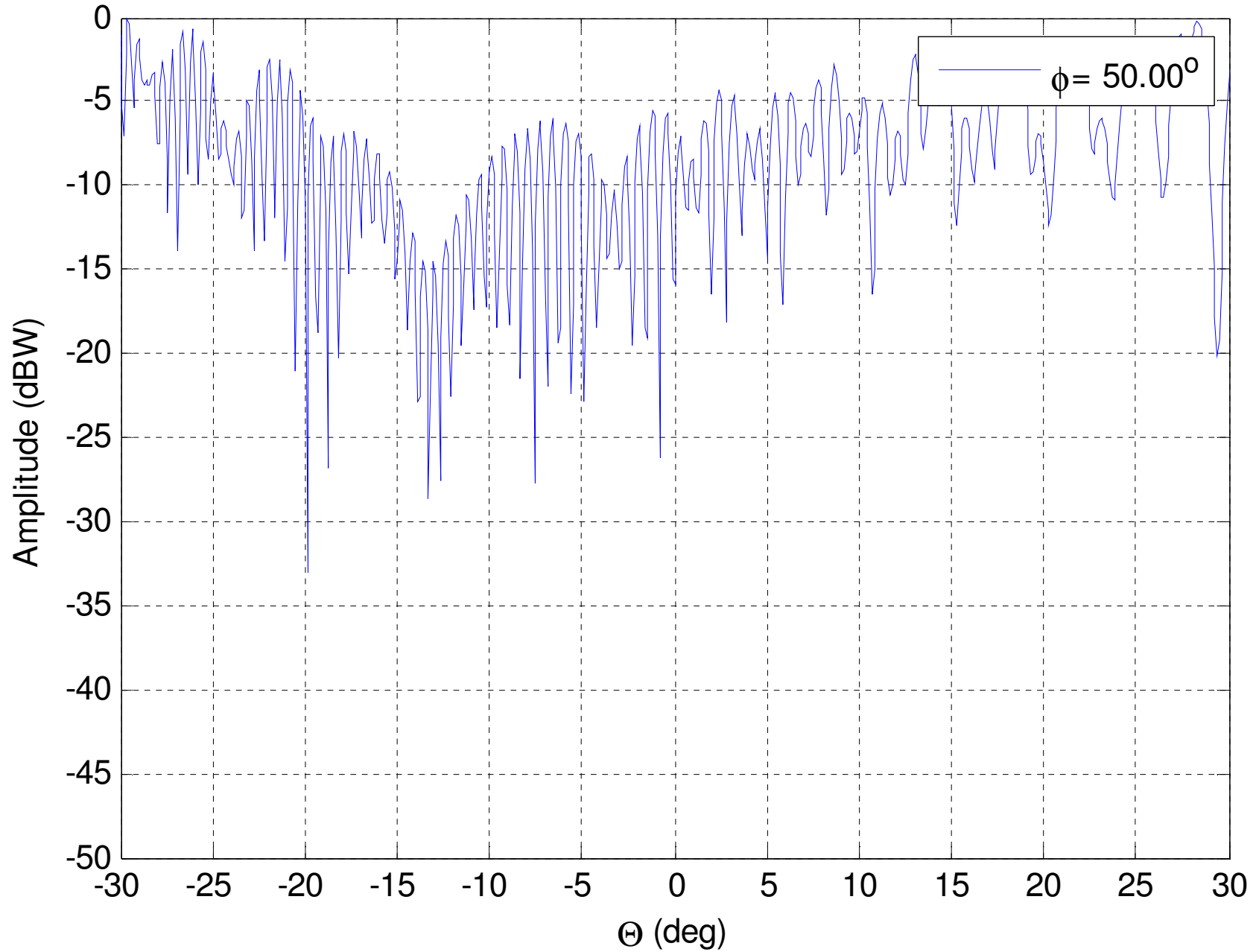
Input file: tx-17.3-lhcp-40.cut, Peak: -5.45 dBW, Date: 16-Dec-2011





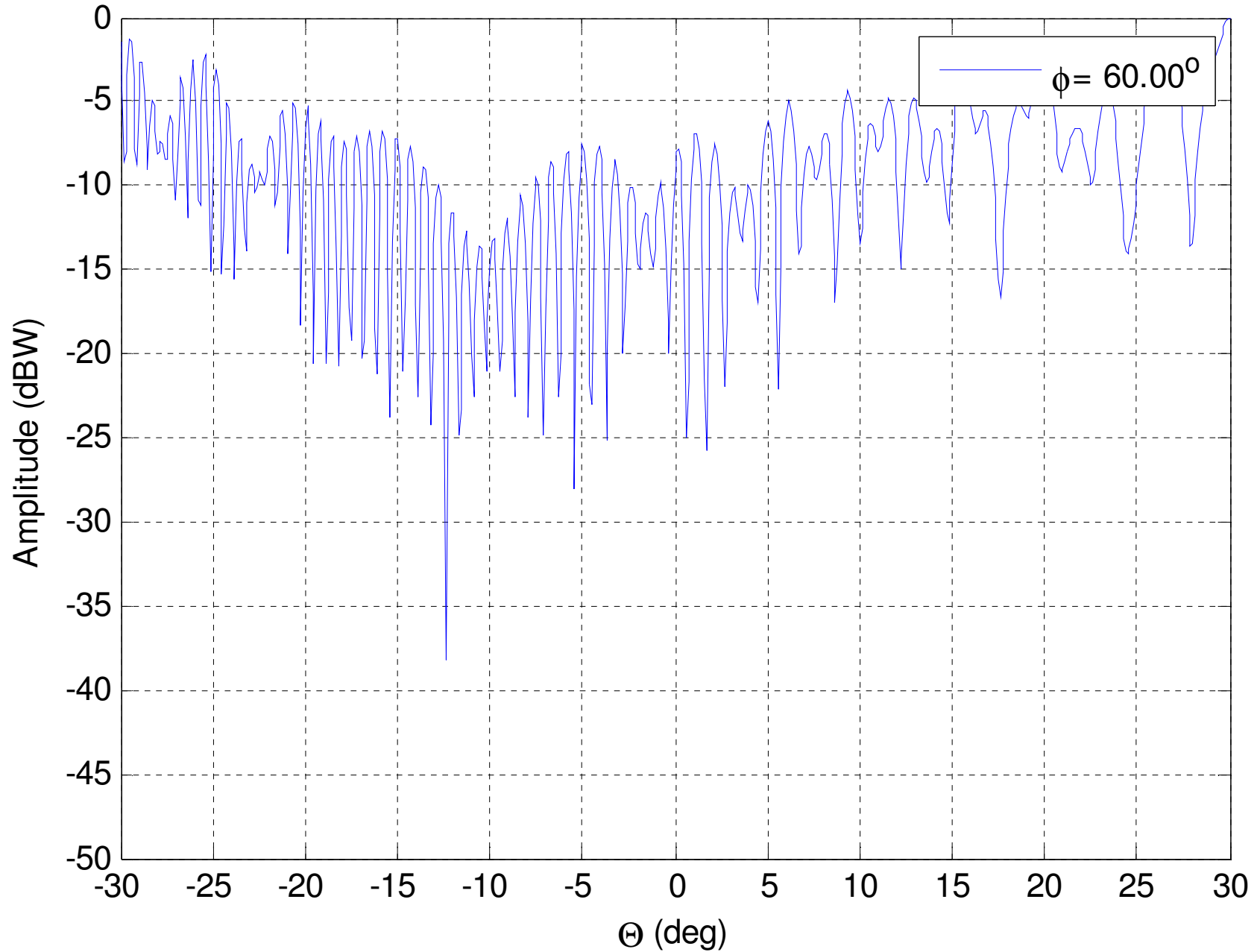
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -4.50 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

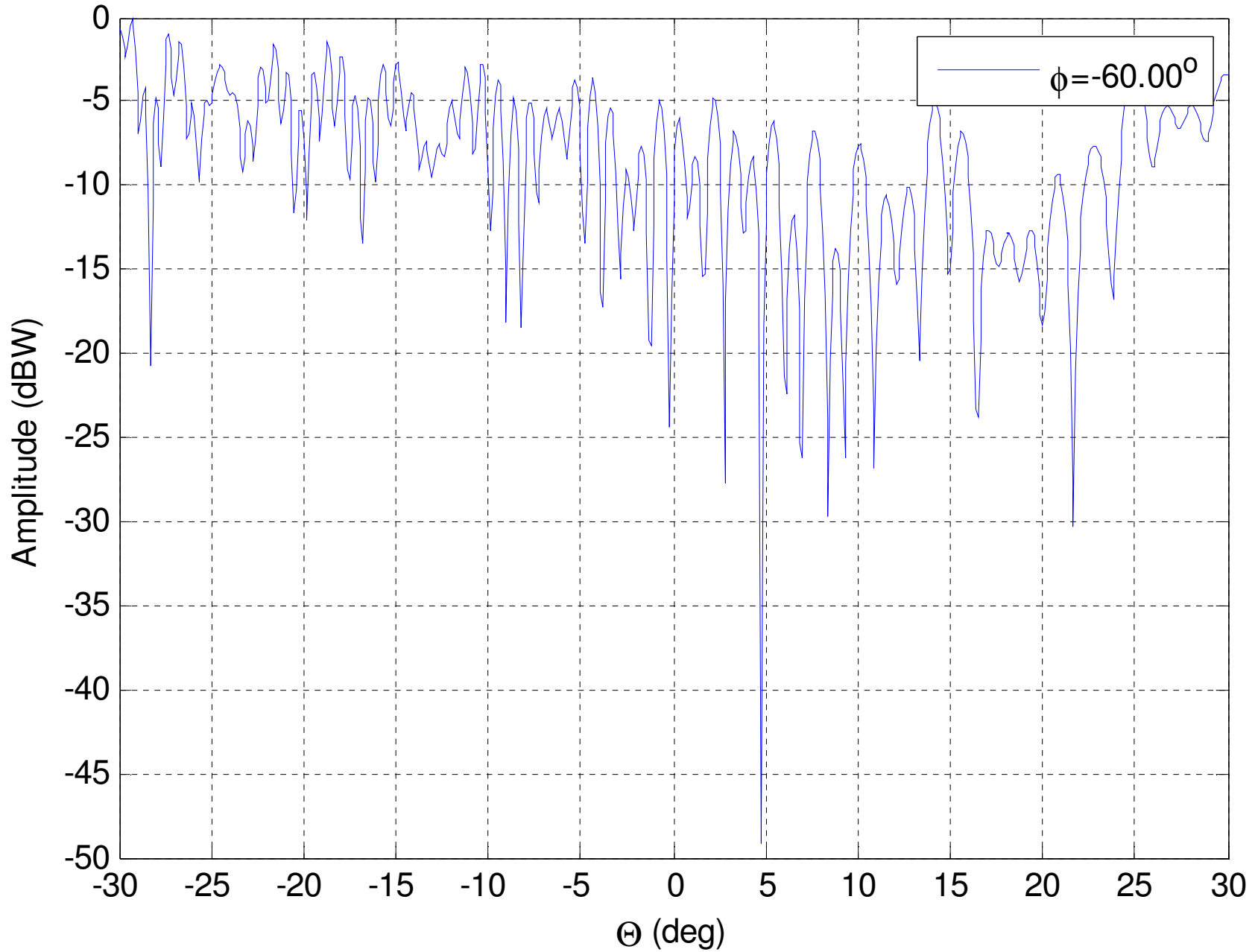
Input file: tx-17.3-lhcp-60.cut, Peak: -2.67 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

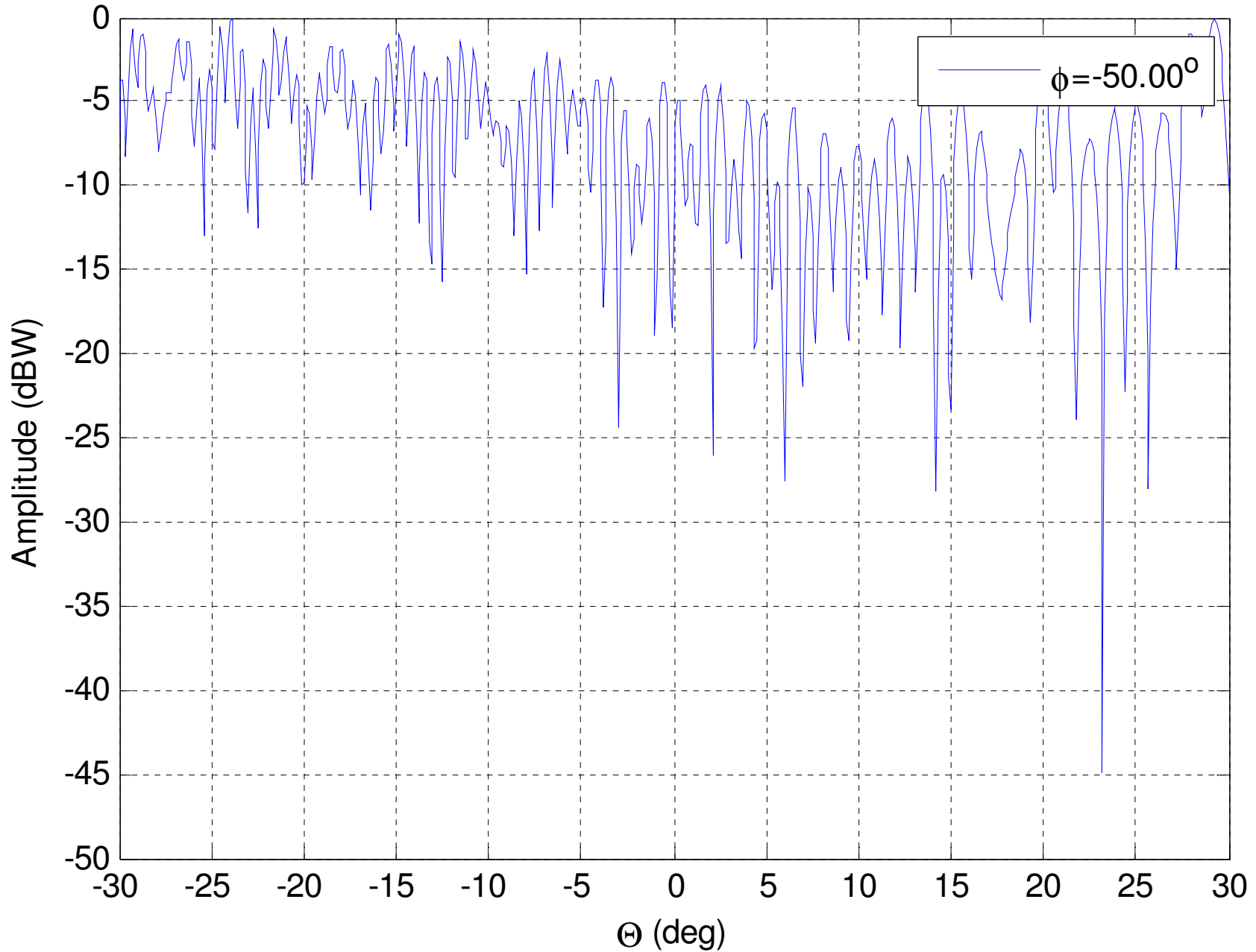
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -4.43 dBW, Date: 16-Dec-2011



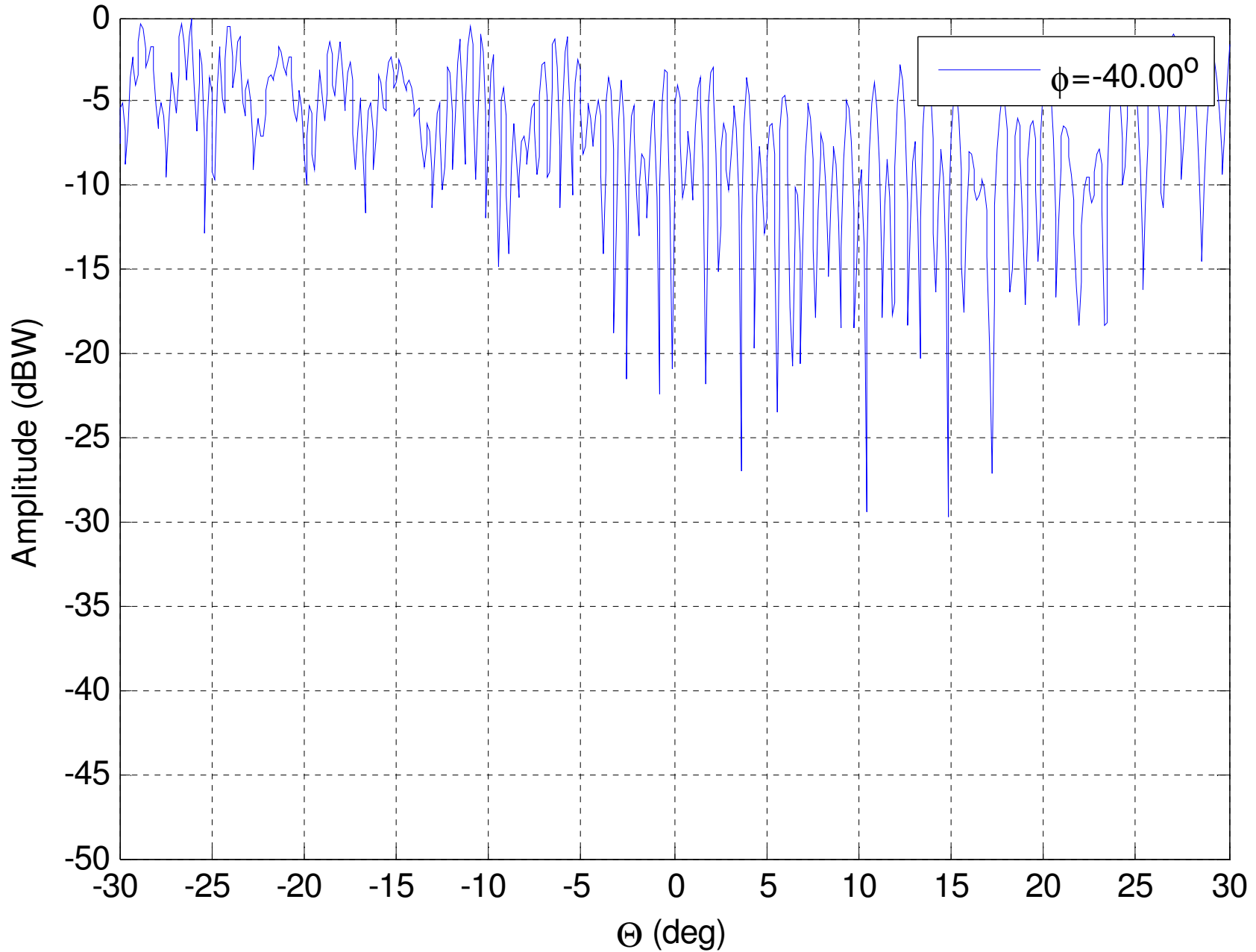
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -5.54 dBW, Date: 16-Dec-2011



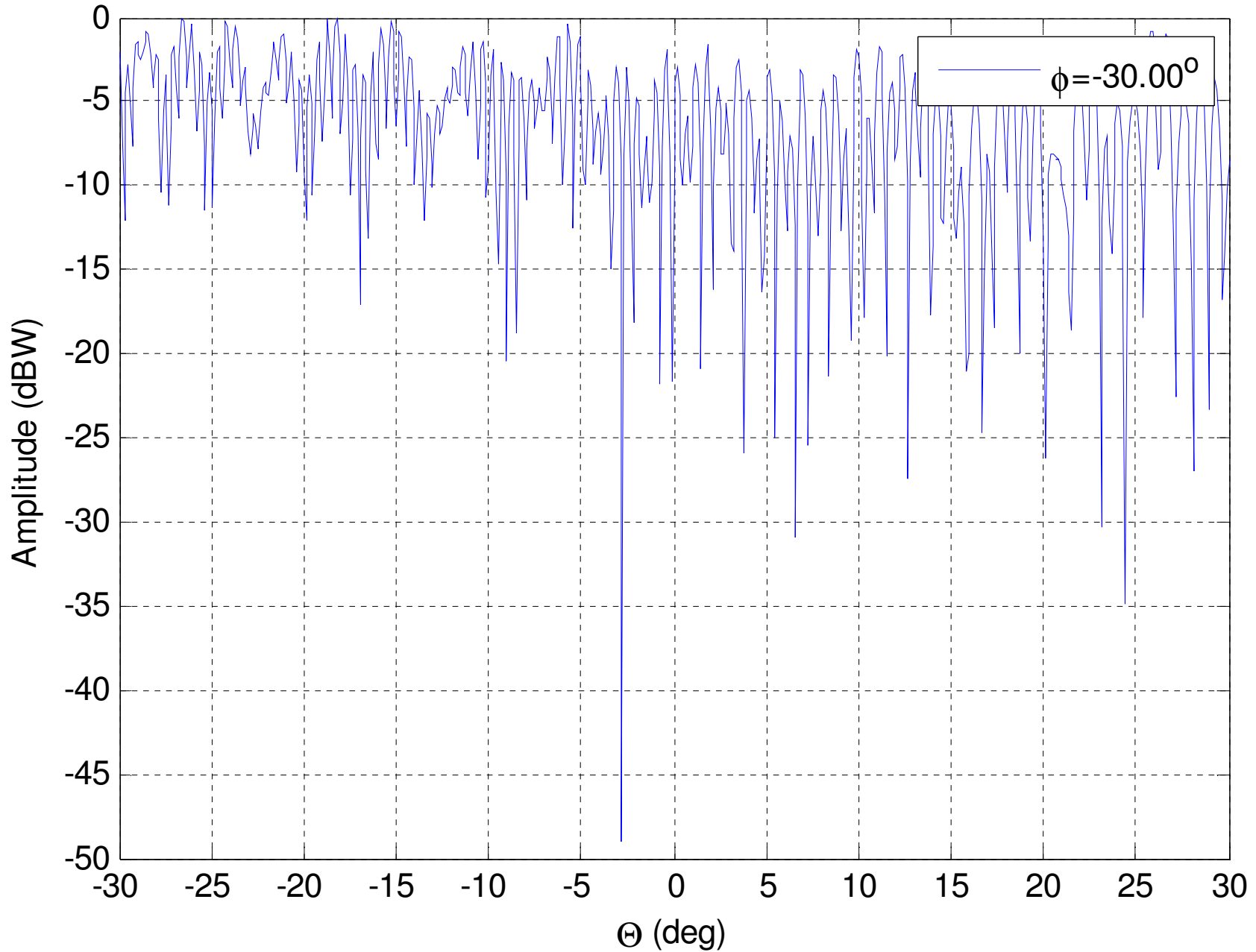
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -6.25 dBW, Date: 16-Dec-2011



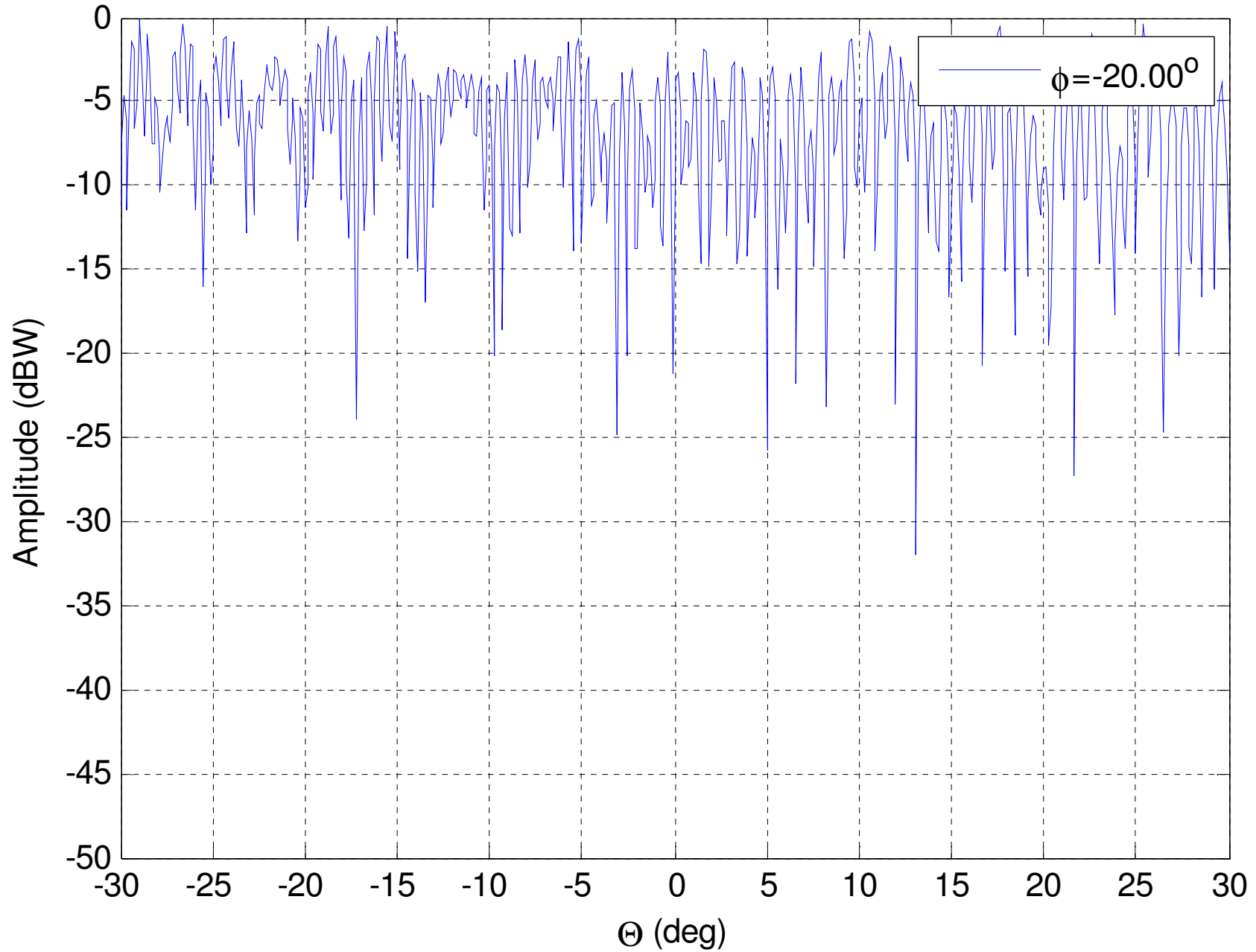
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -7.25 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

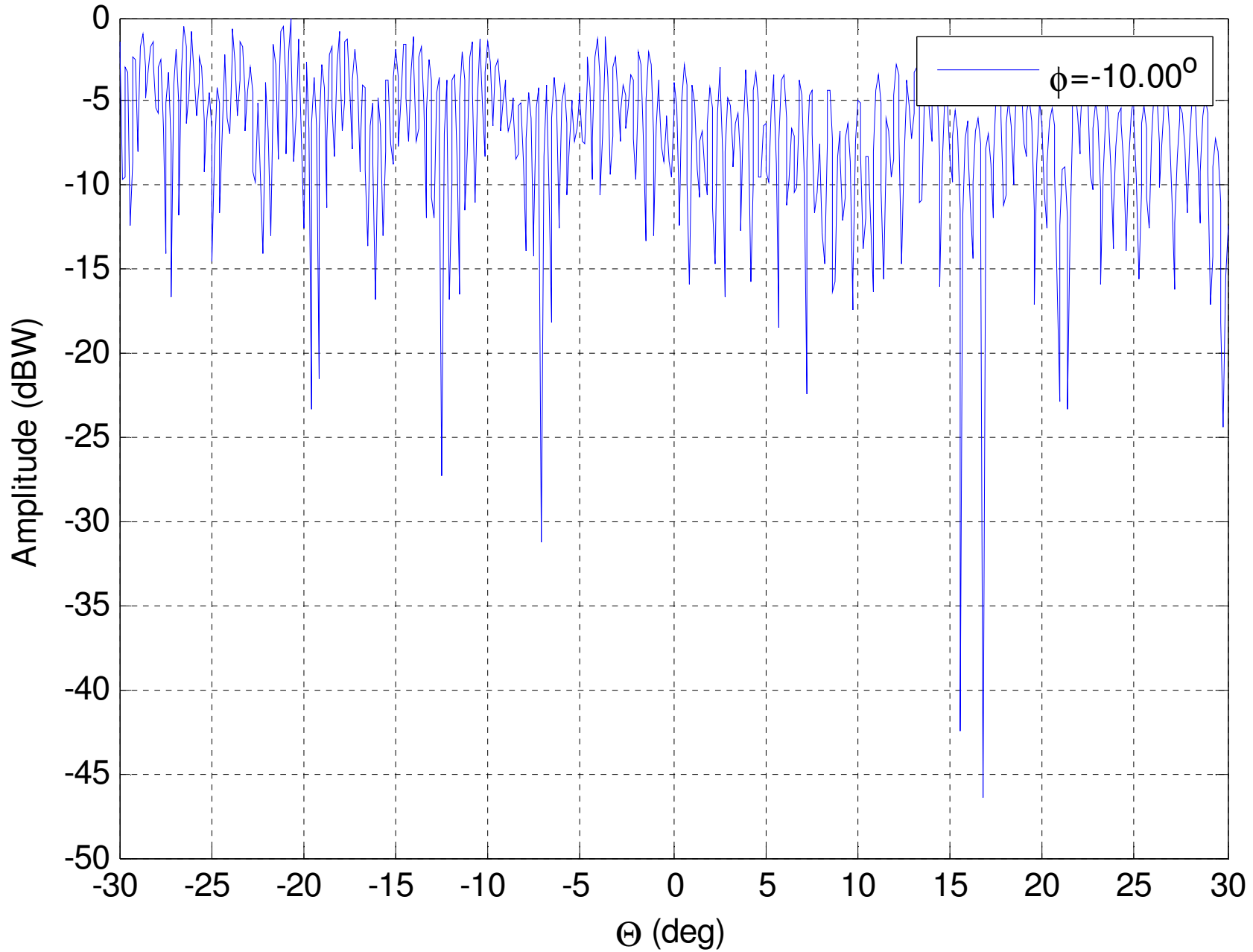
Input file: tx-17.5-rhcp--20.cut, Peak: -7.17 dBW, Date: 16-Dec-2011





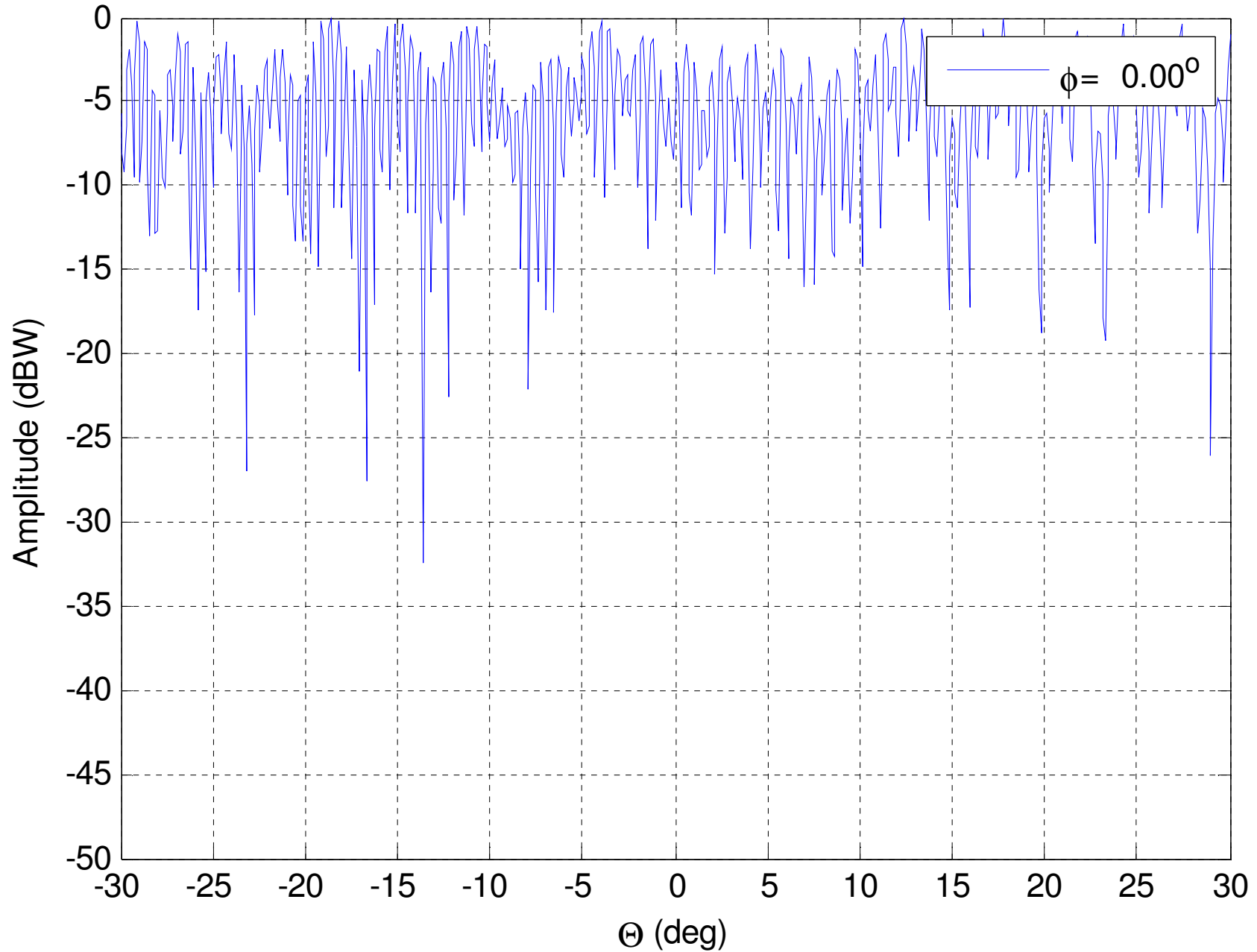
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -6.89 dBW, Date: 16-Dec-2011



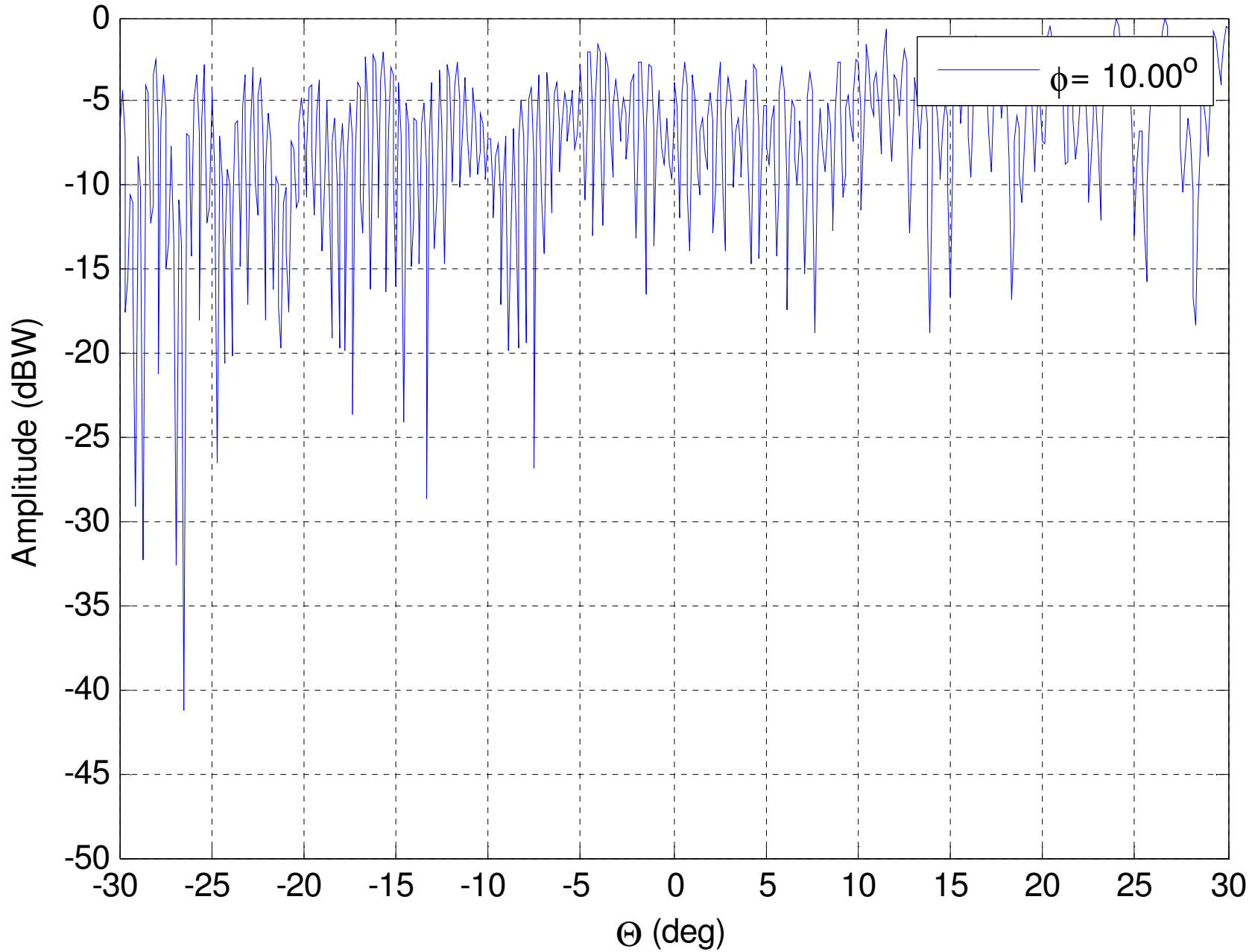
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -8.03 dBW, Date: 16-Dec-2011



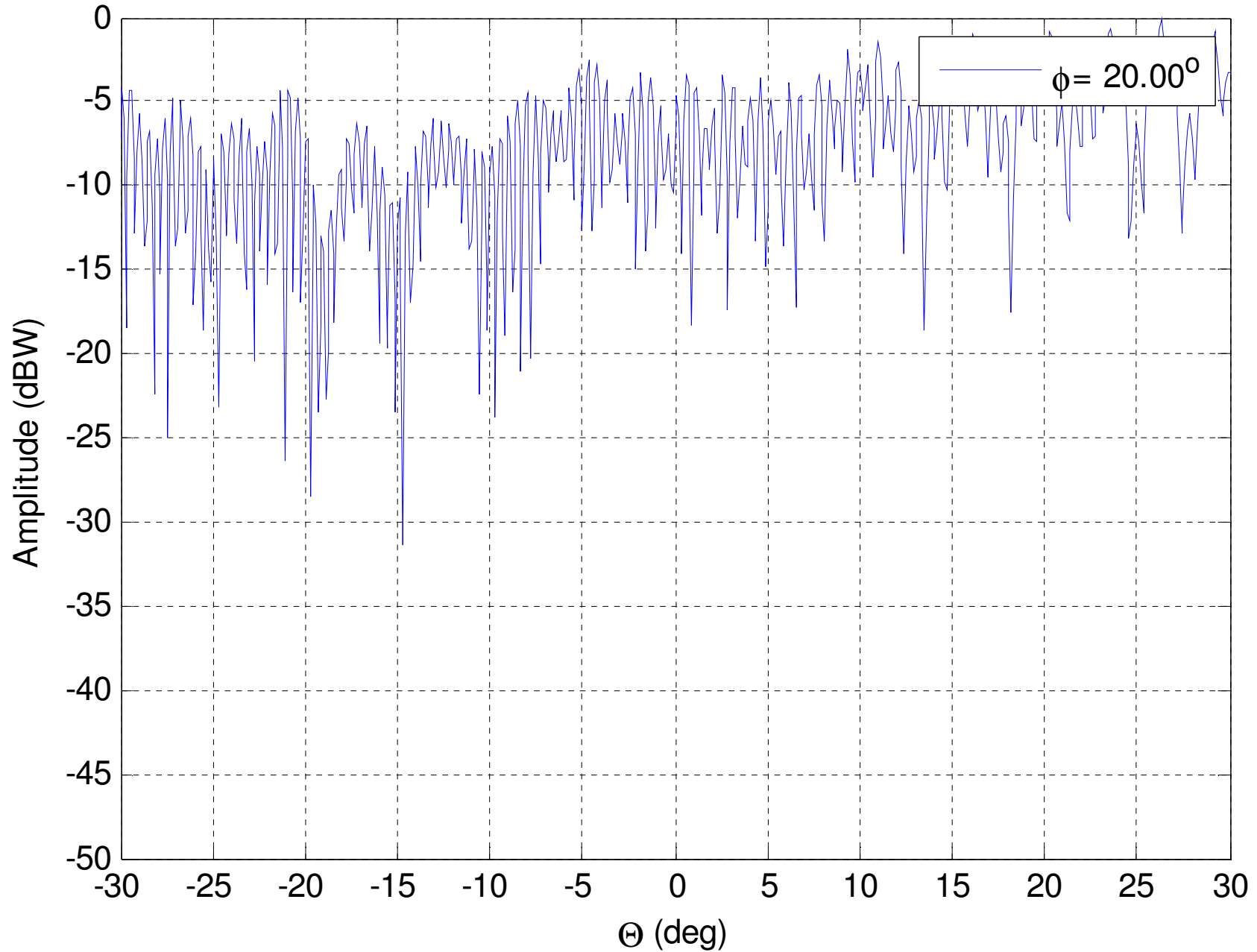
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -6.89 dBW, Date: 16-Dec-2011



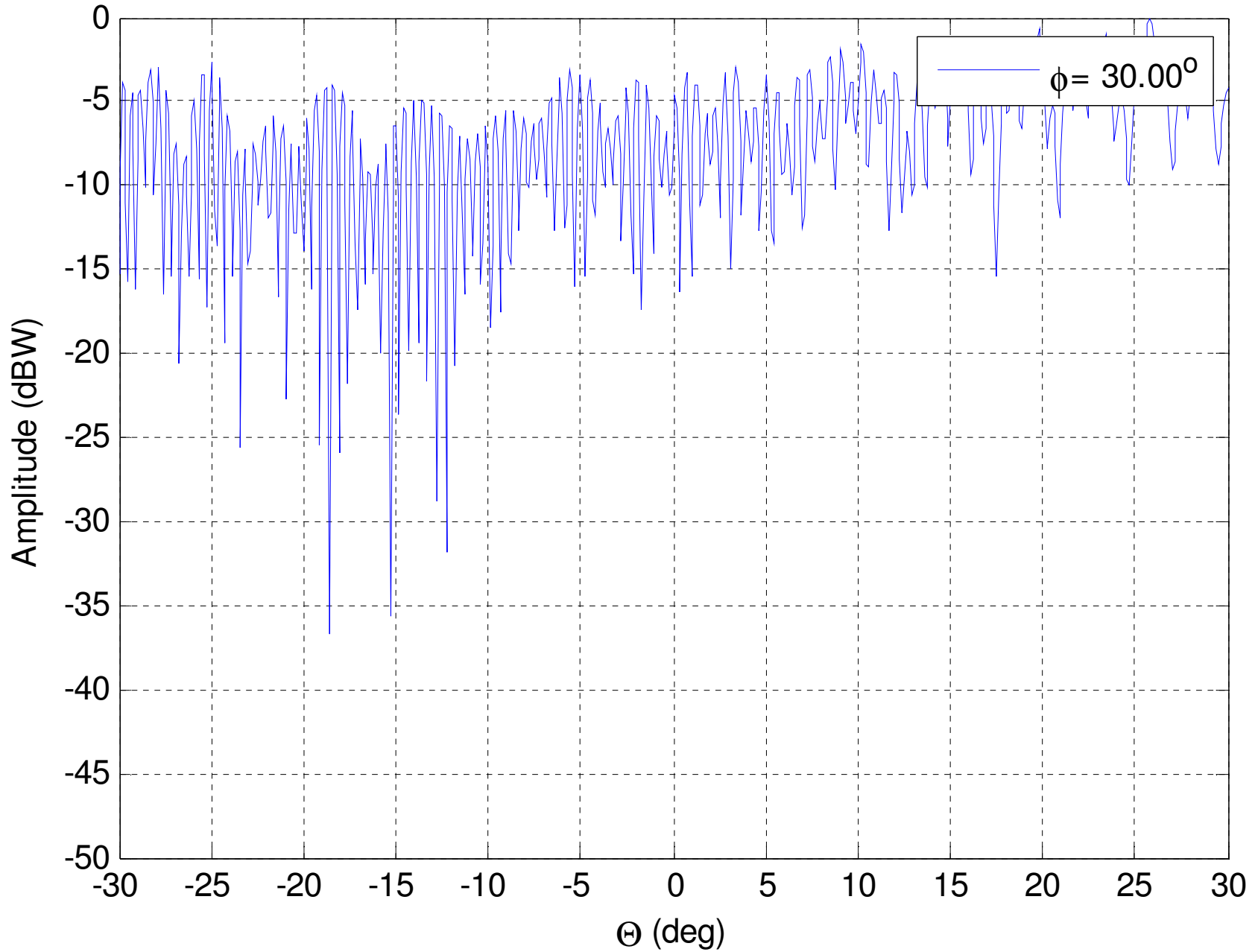
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -6.09 dBW, Date: 16-Dec-2011



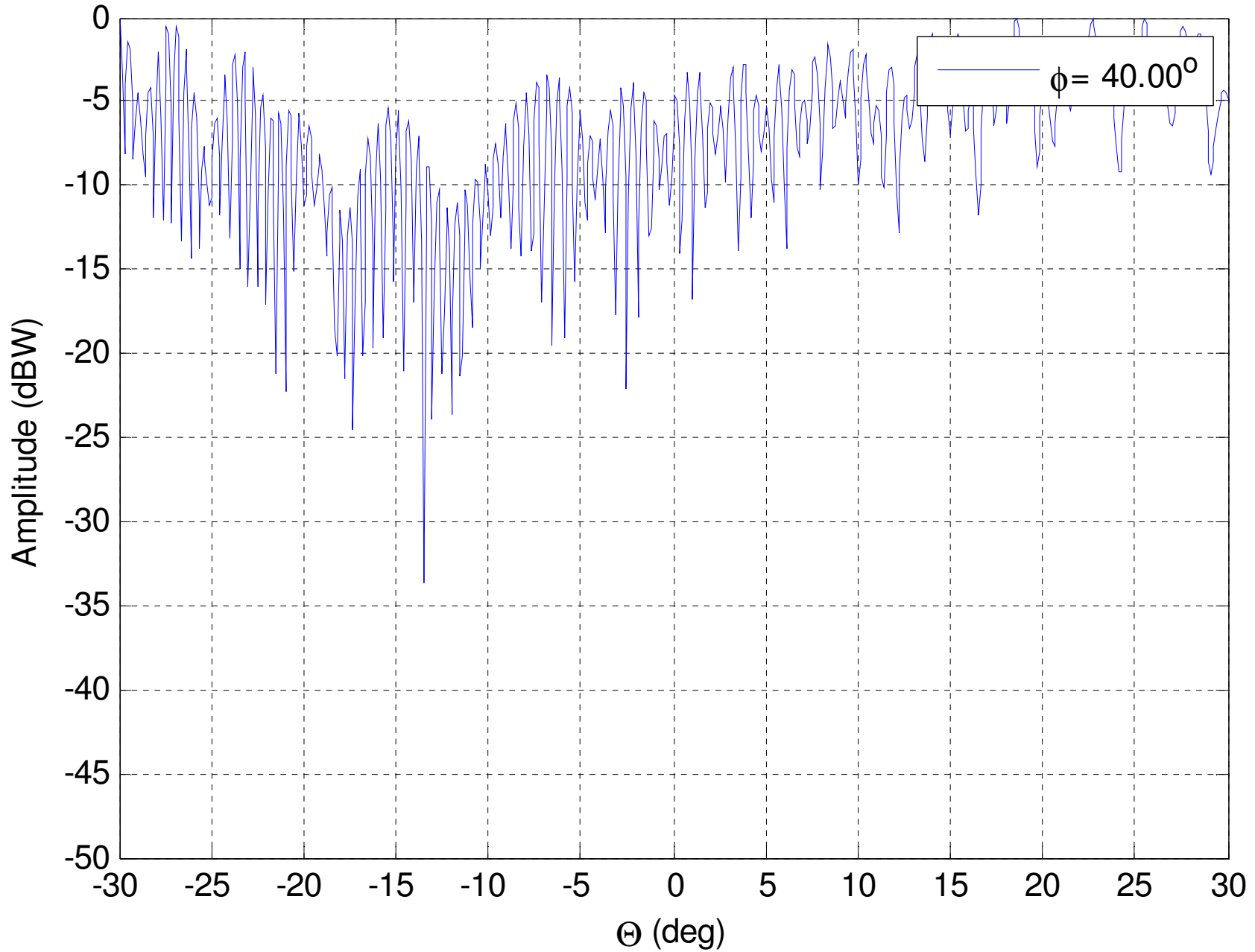
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -6.04 dBW, Date: 16-Dec-2011



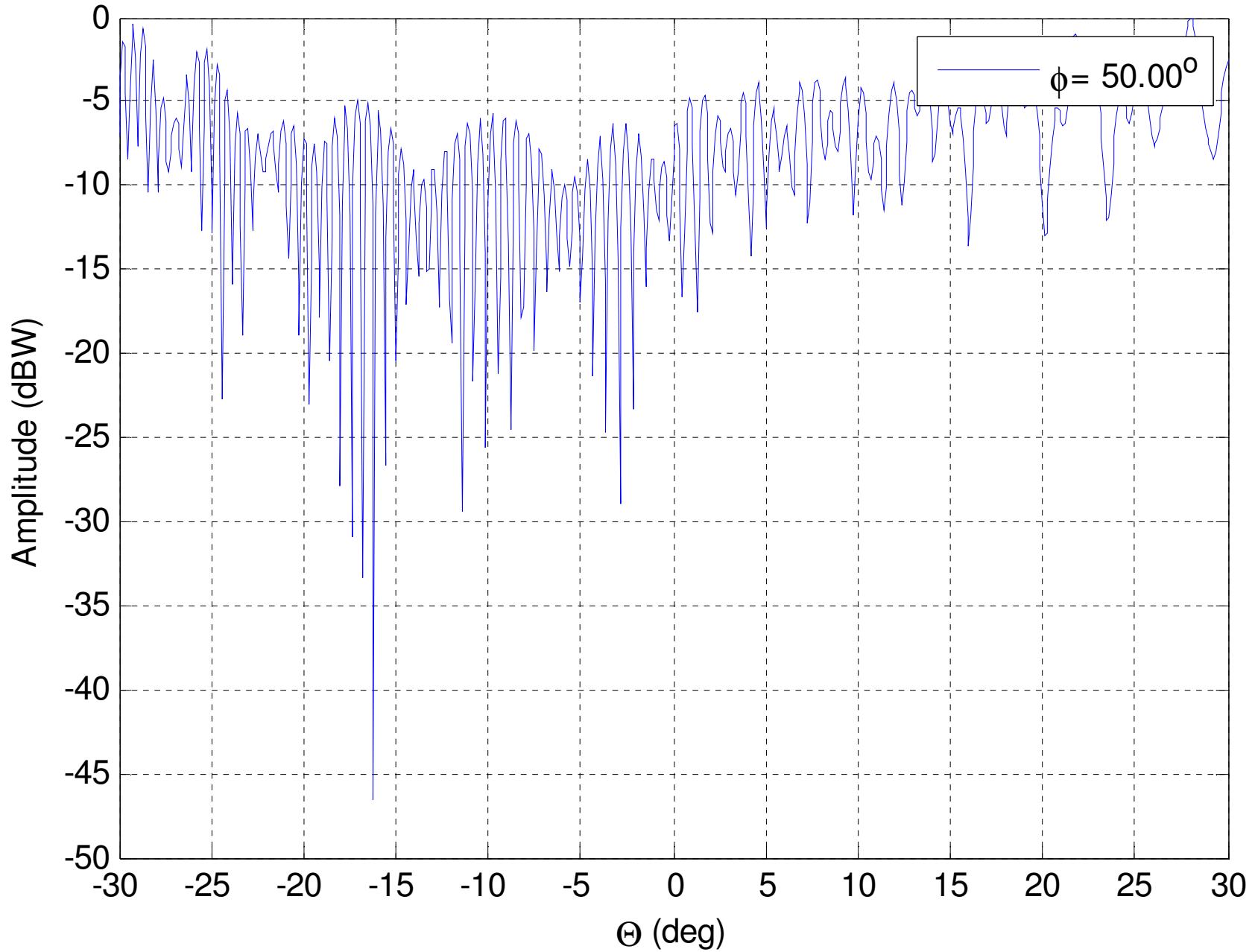
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -6.11 dBW, Date: 16-Dec-2011



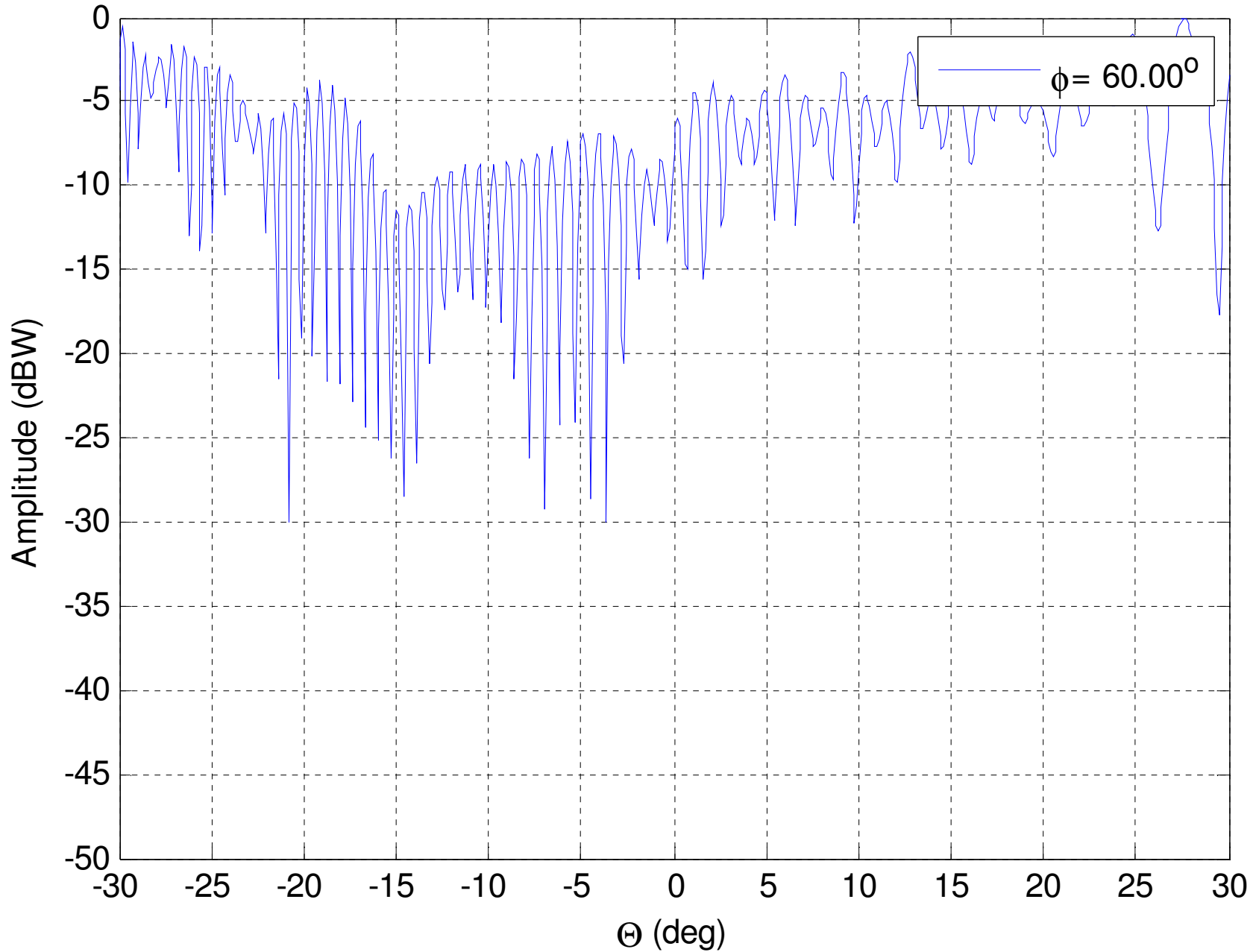
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -4.41 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-60.cut, Peak: -4.62 dBW, Date: 16-Dec-2011

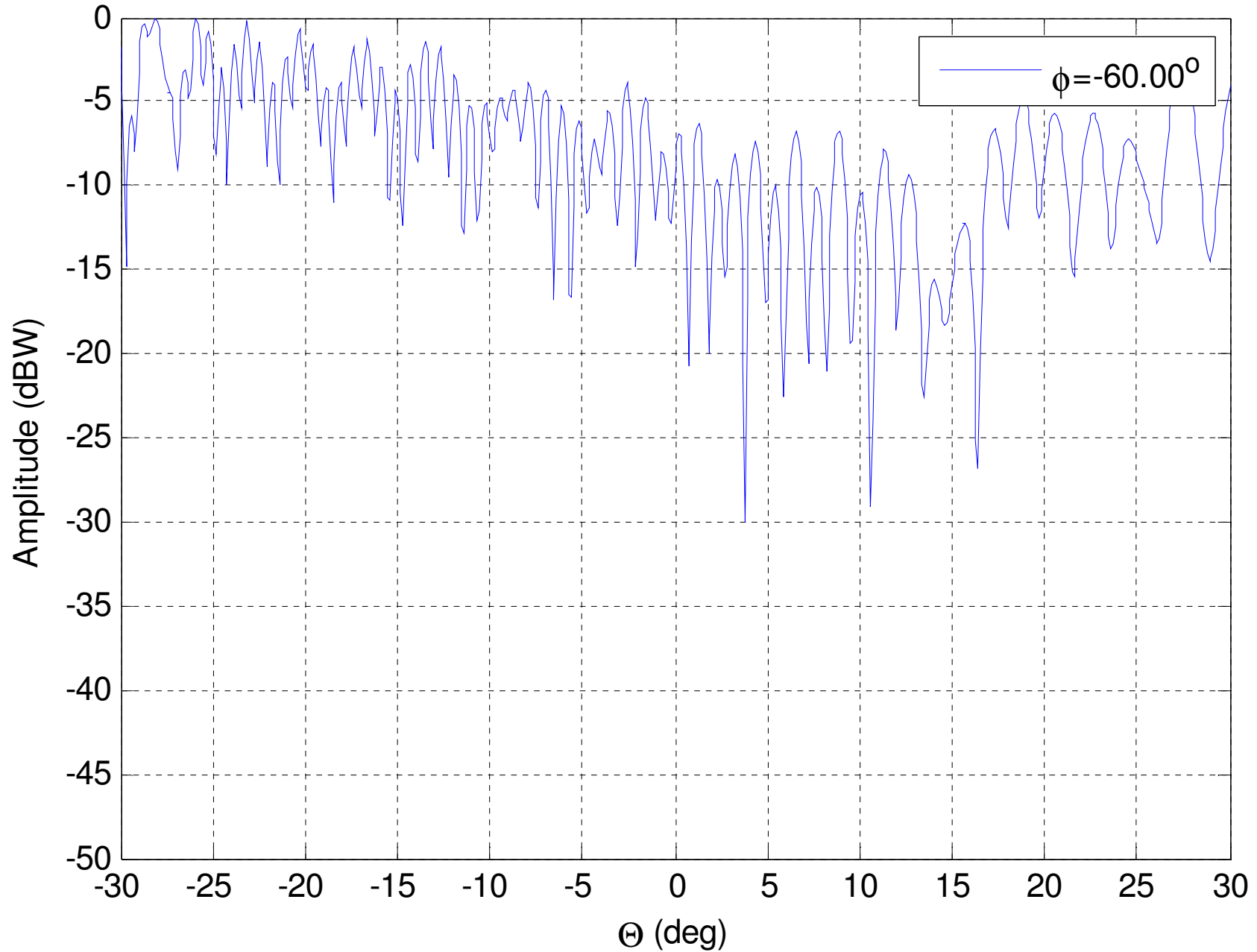




# LHCP at 17.5 GHz

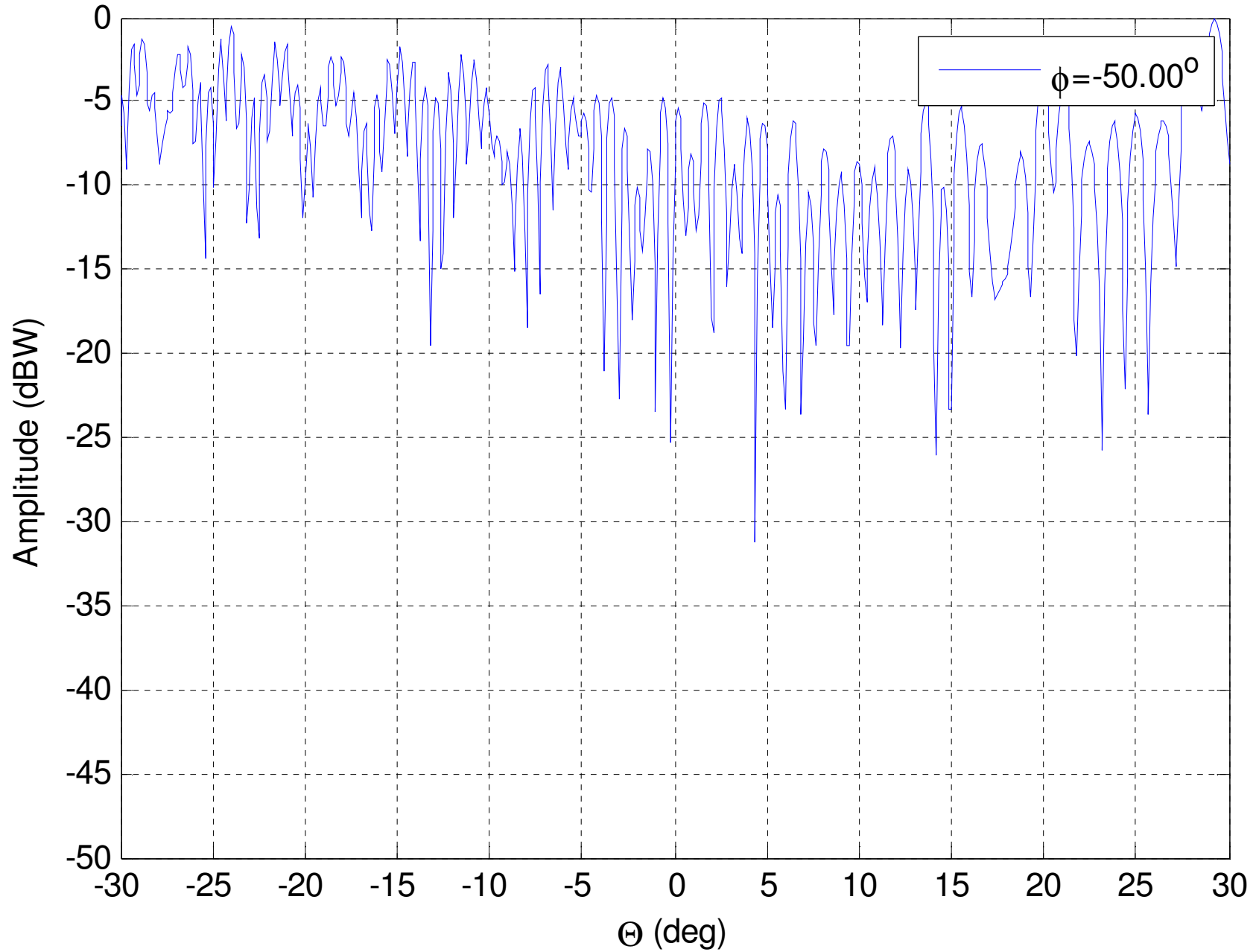
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -4.18 dBW, Date: 16-Dec-2011



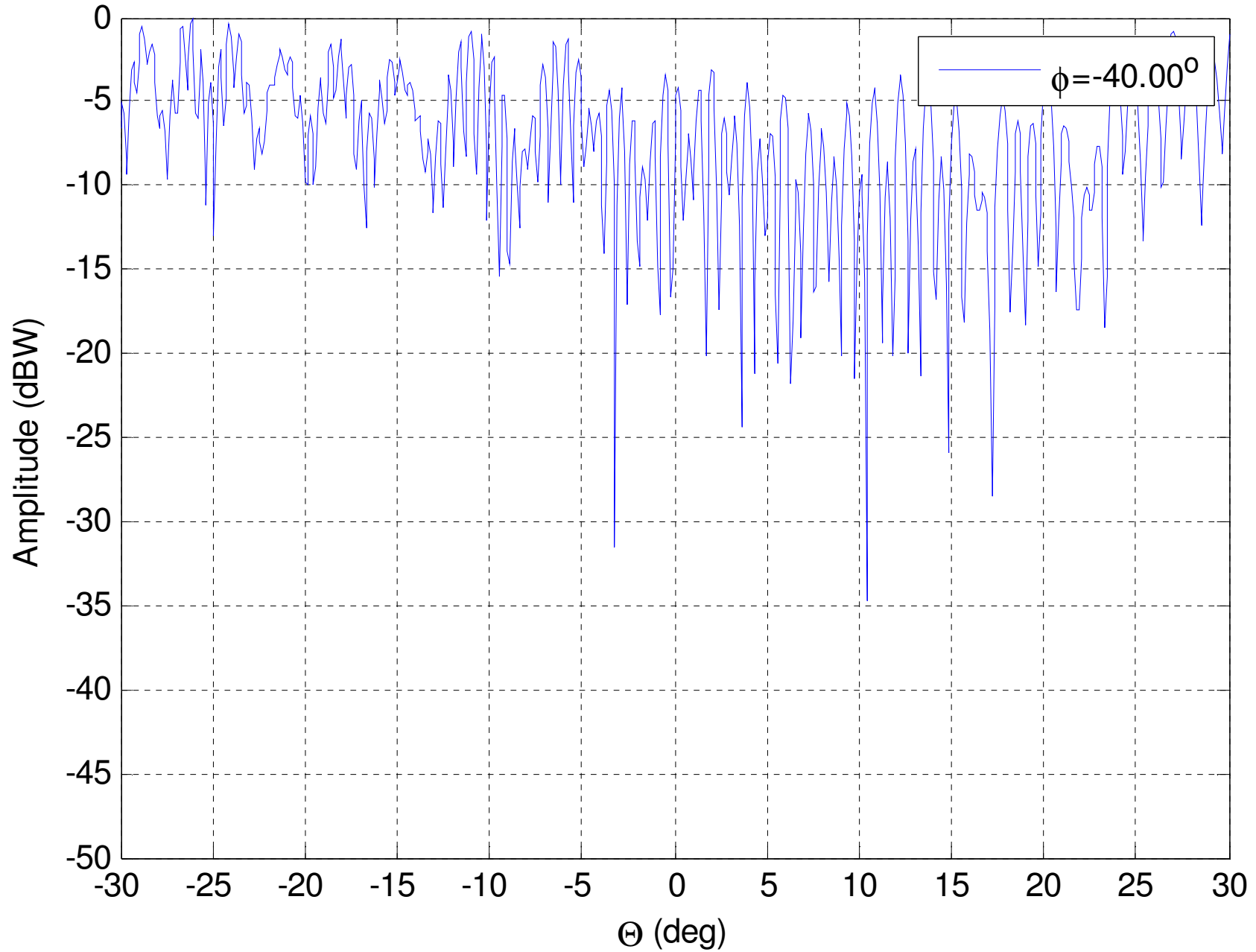
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -4.78 dBW, Date: 16-Dec-2011



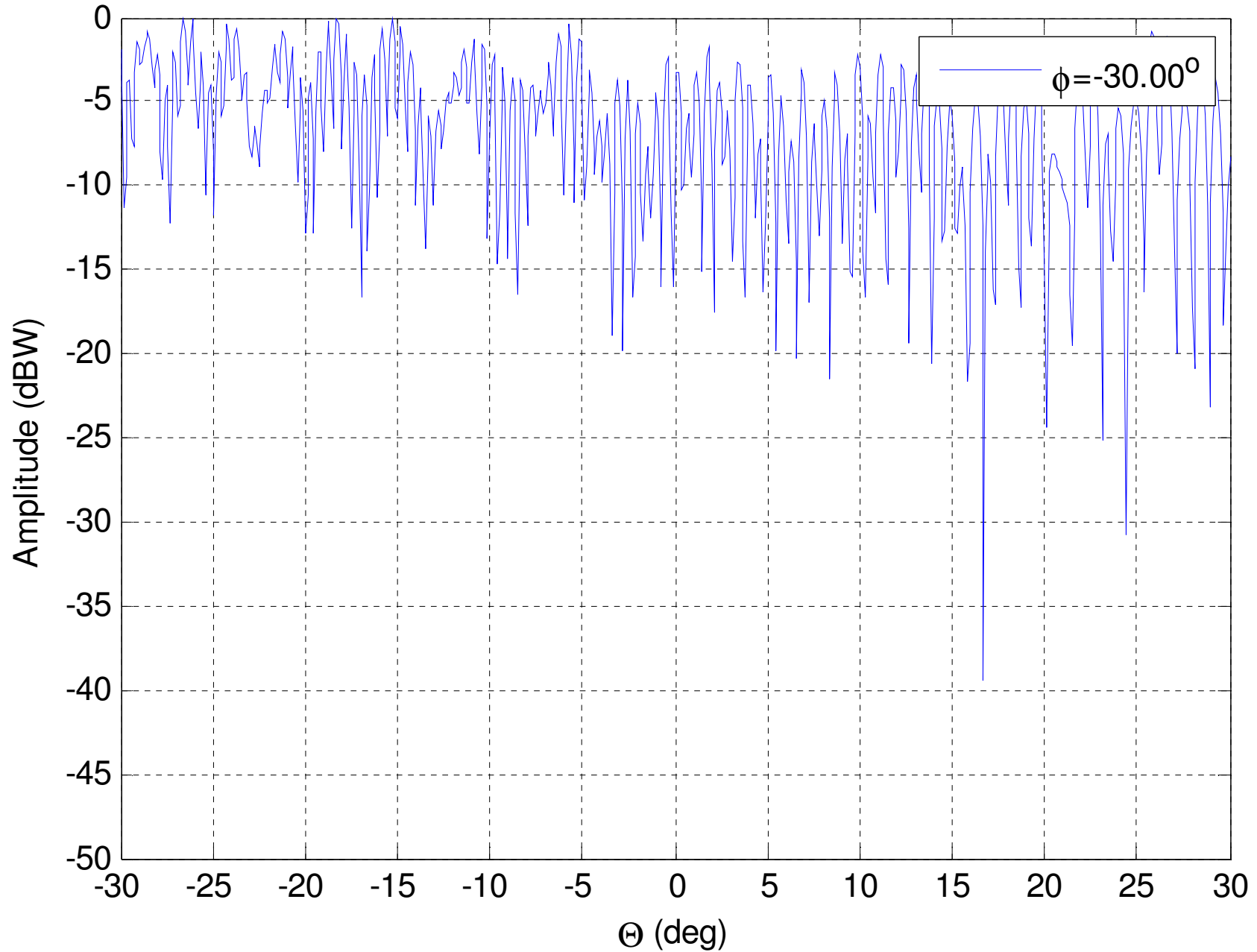
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -6.10 dBW, Date: 16-Dec-2011



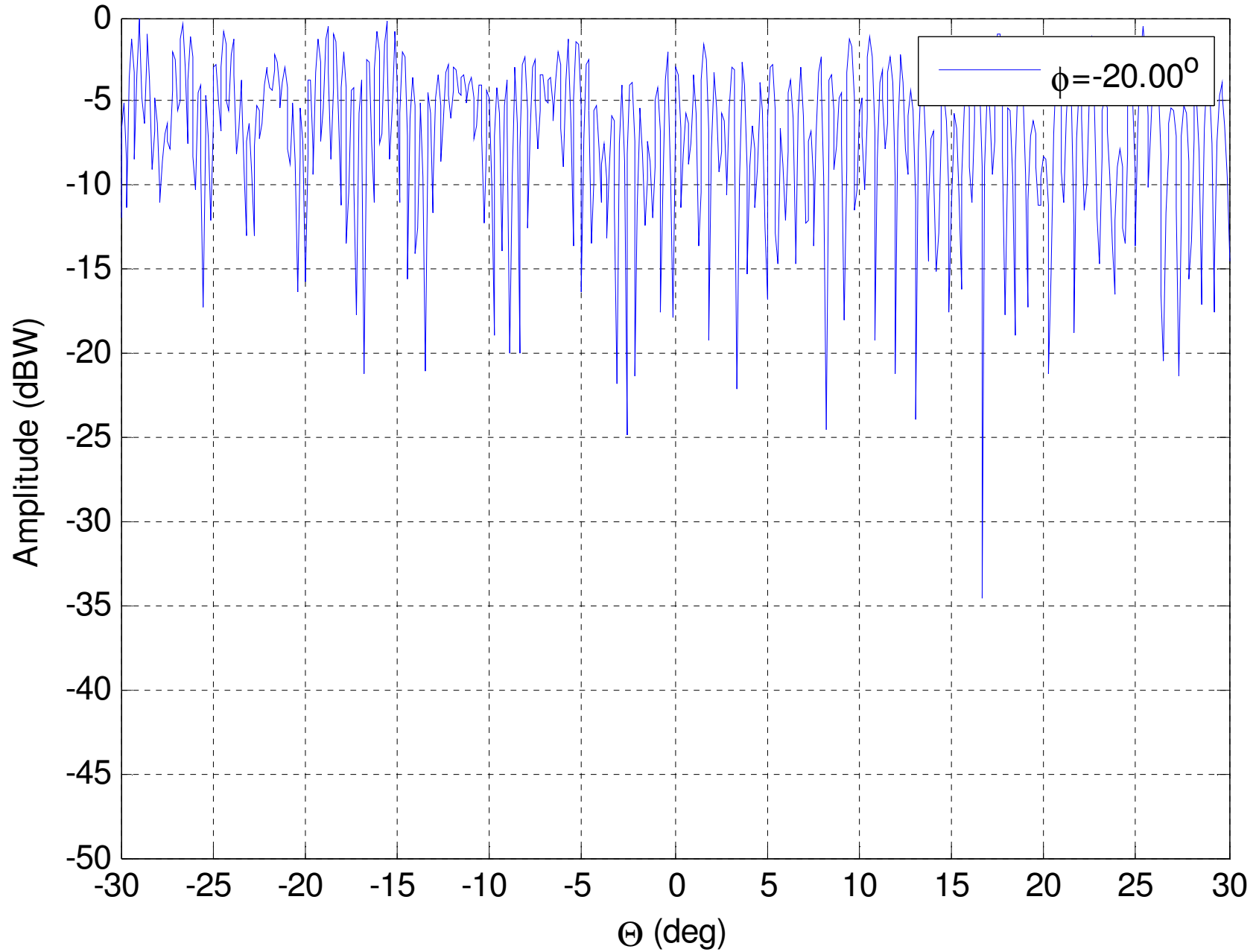
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -7.22 dBW, Date: 16-Dec-2011



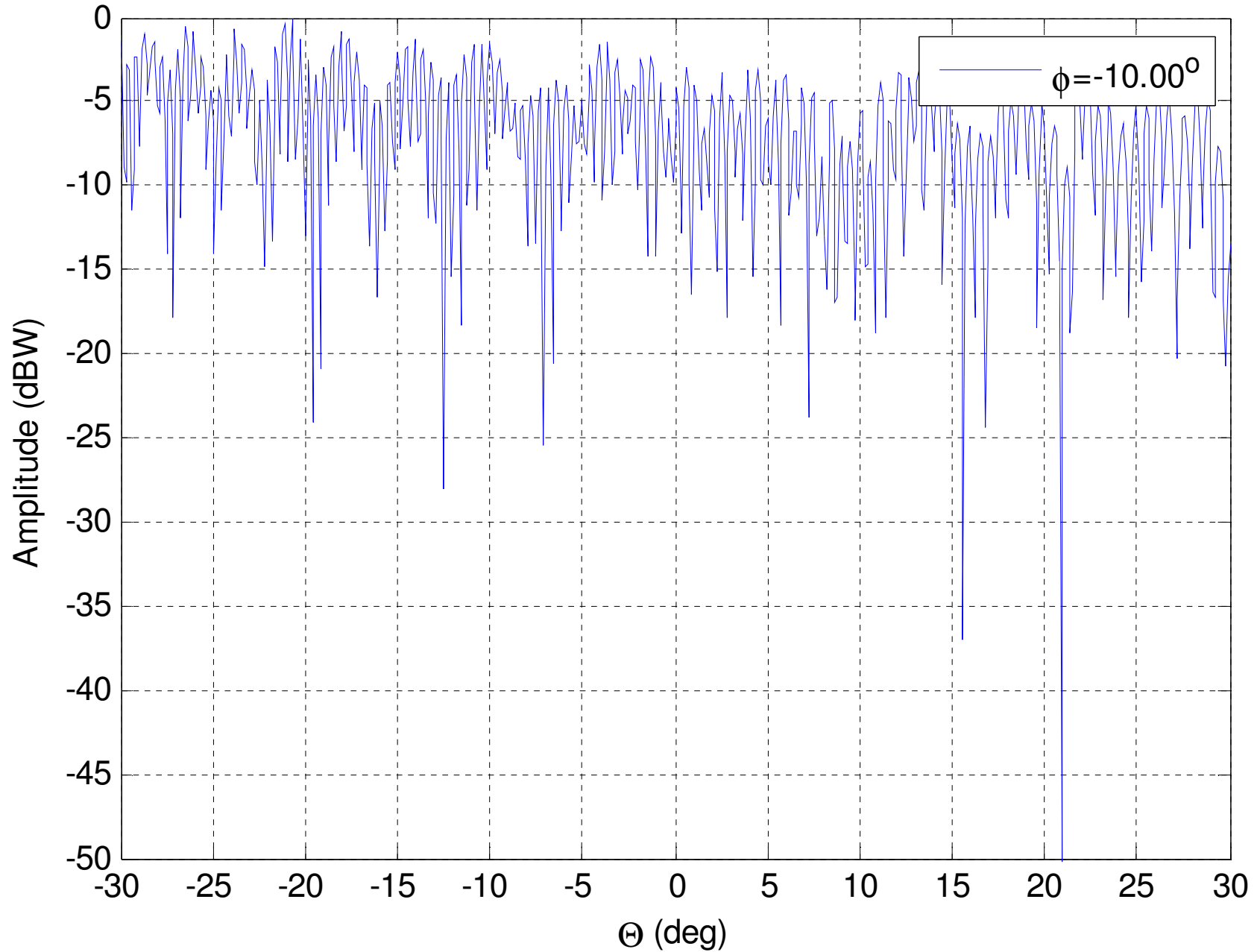
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -7.34 dBW, Date: 16-Dec-2011



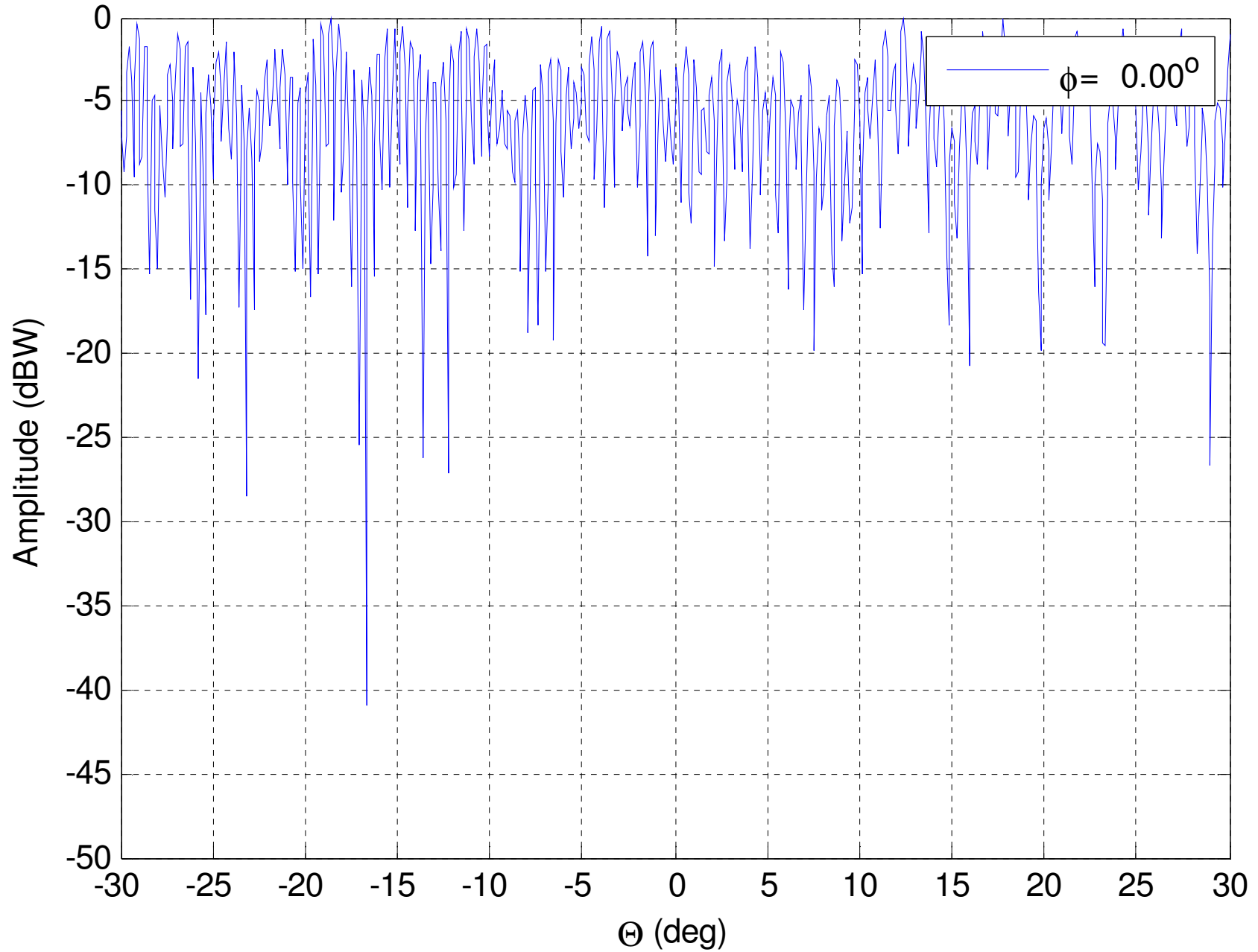
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -6.91 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

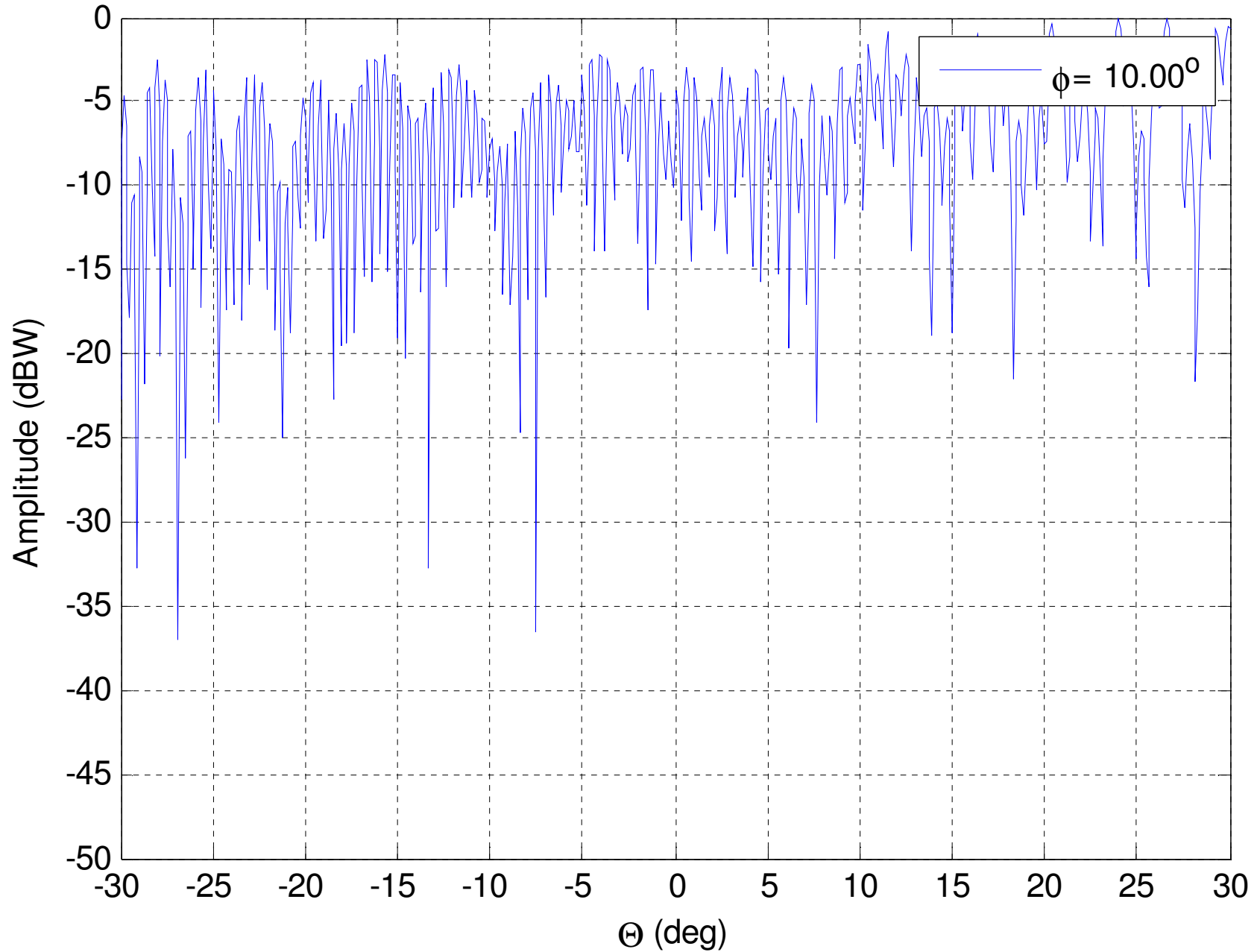
Input file: tx-17.5-lhcp-0.cut, Peak: -8.07 dBW, Date: 16-Dec-2011





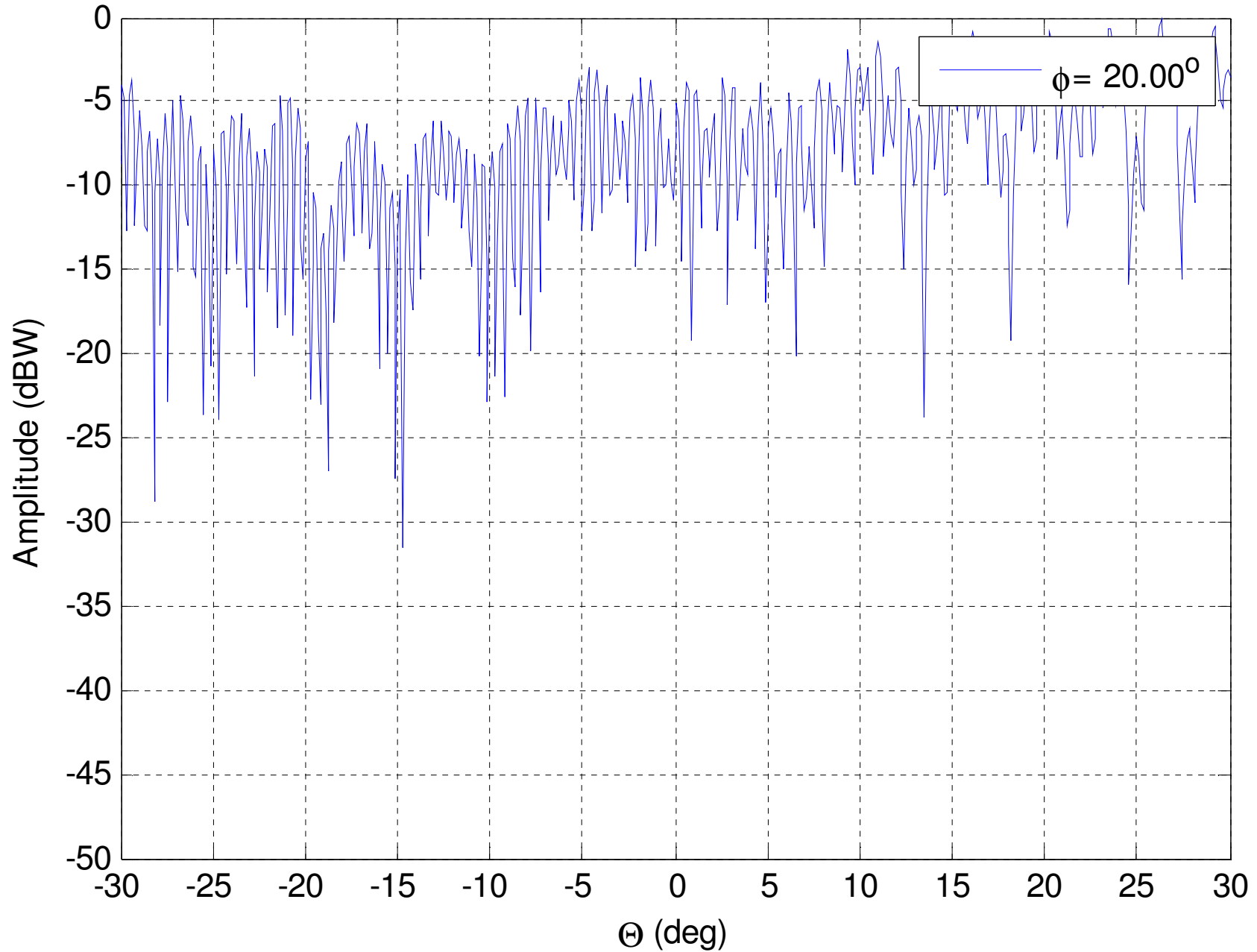
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -6.81 dBW, Date: 16-Dec-2011



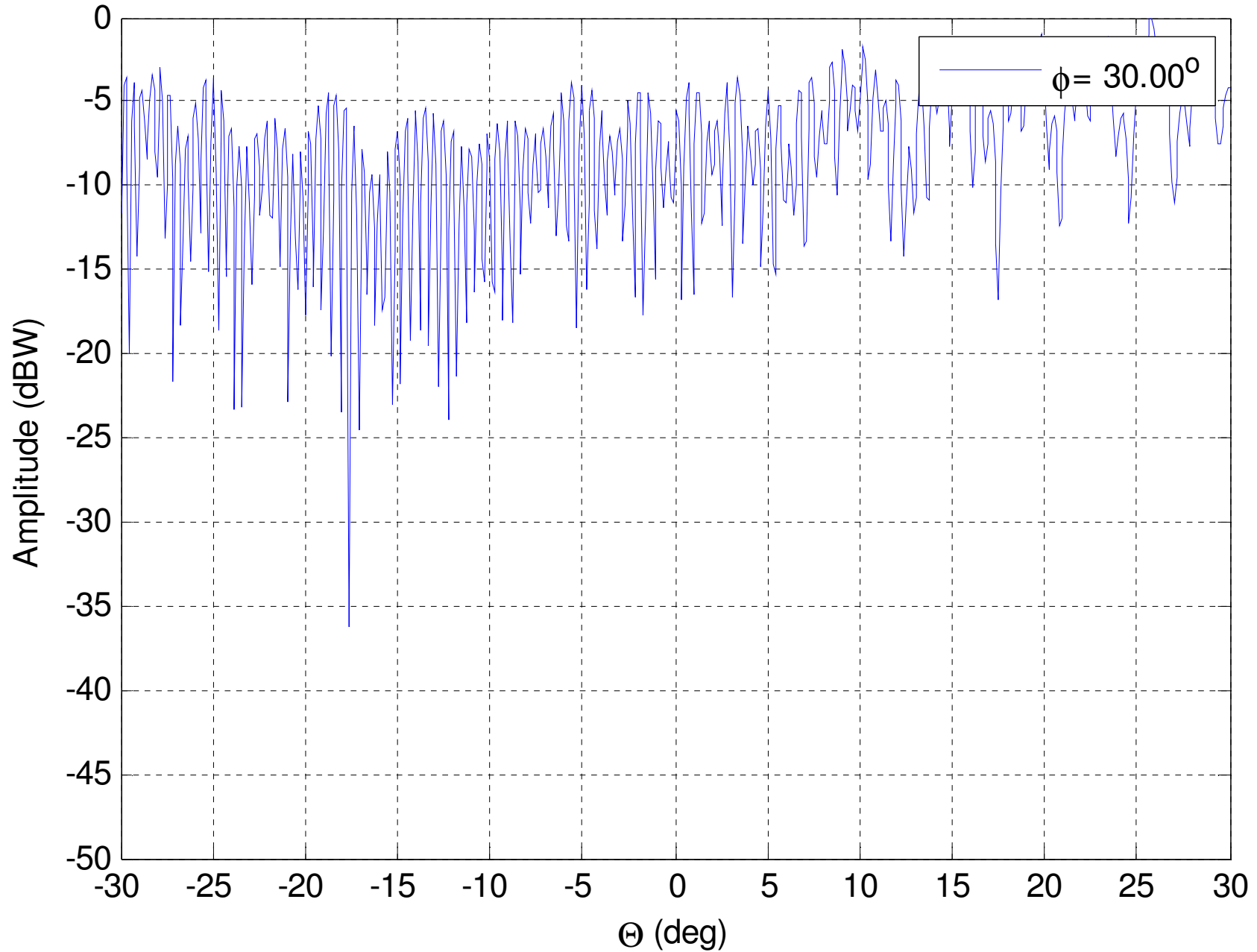
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -6.01 dBW, Date: 16-Dec-2011



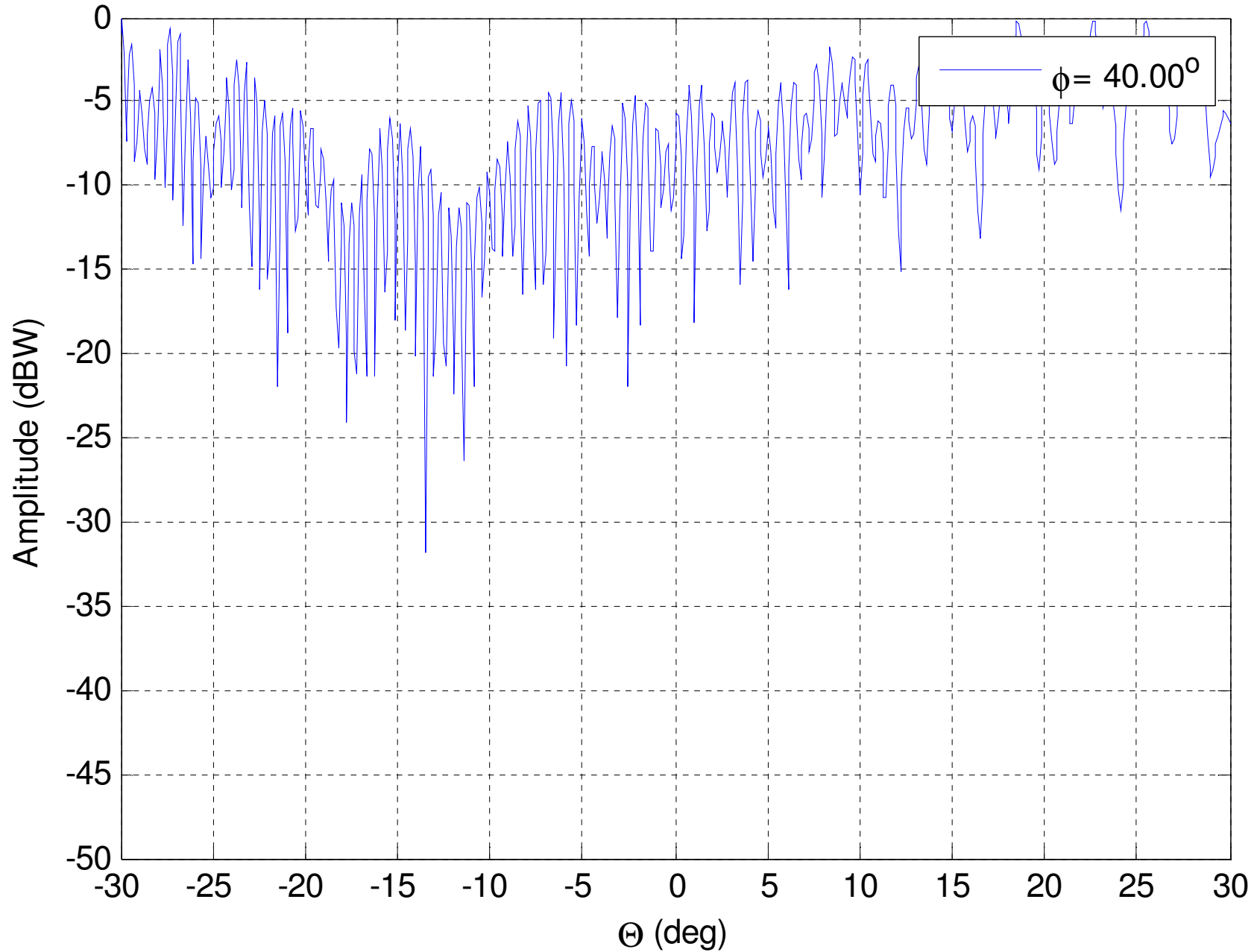
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -5.68 dBW, Date: 16-Dec-2011



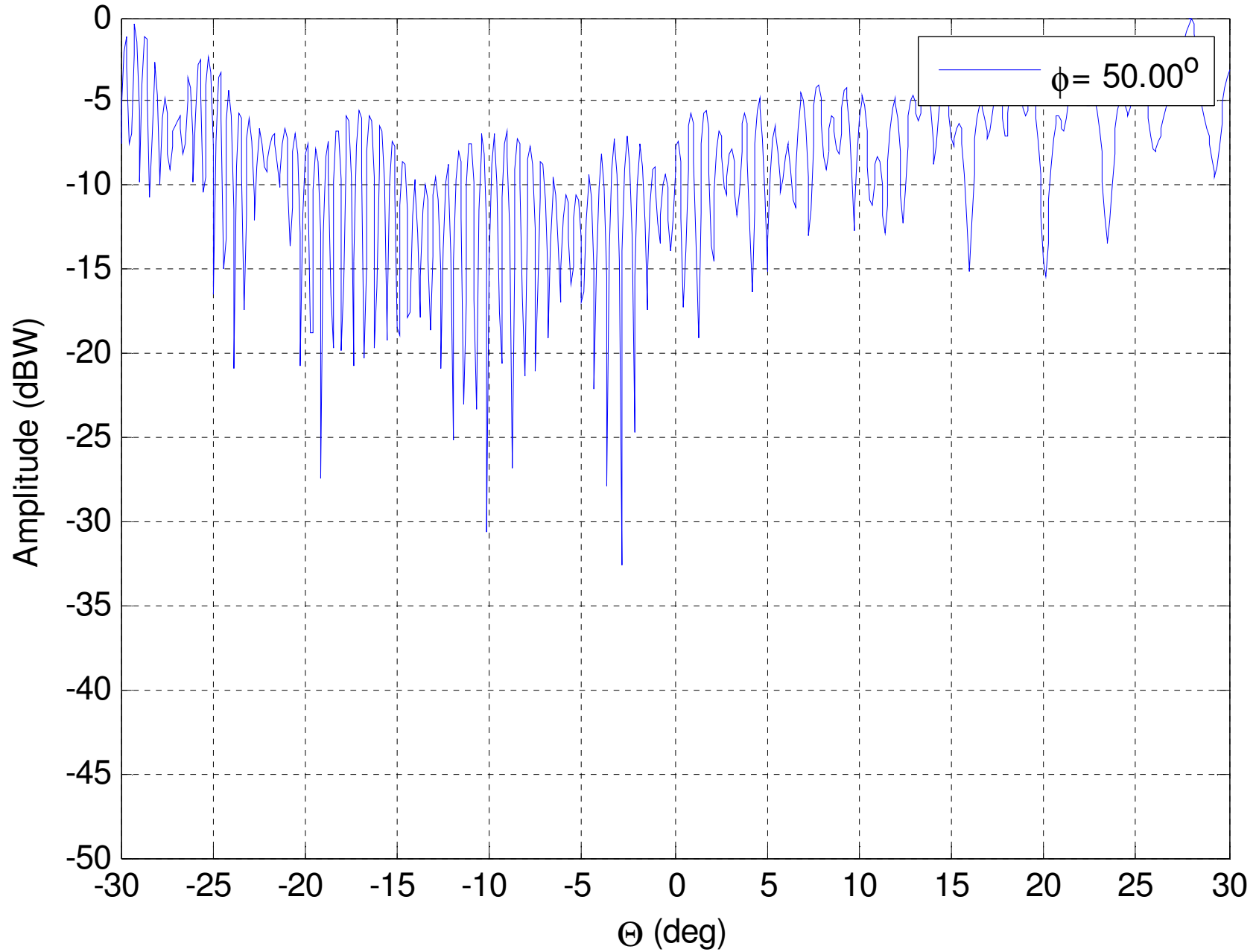
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -5.59 dBW, Date: 16-Dec-2011



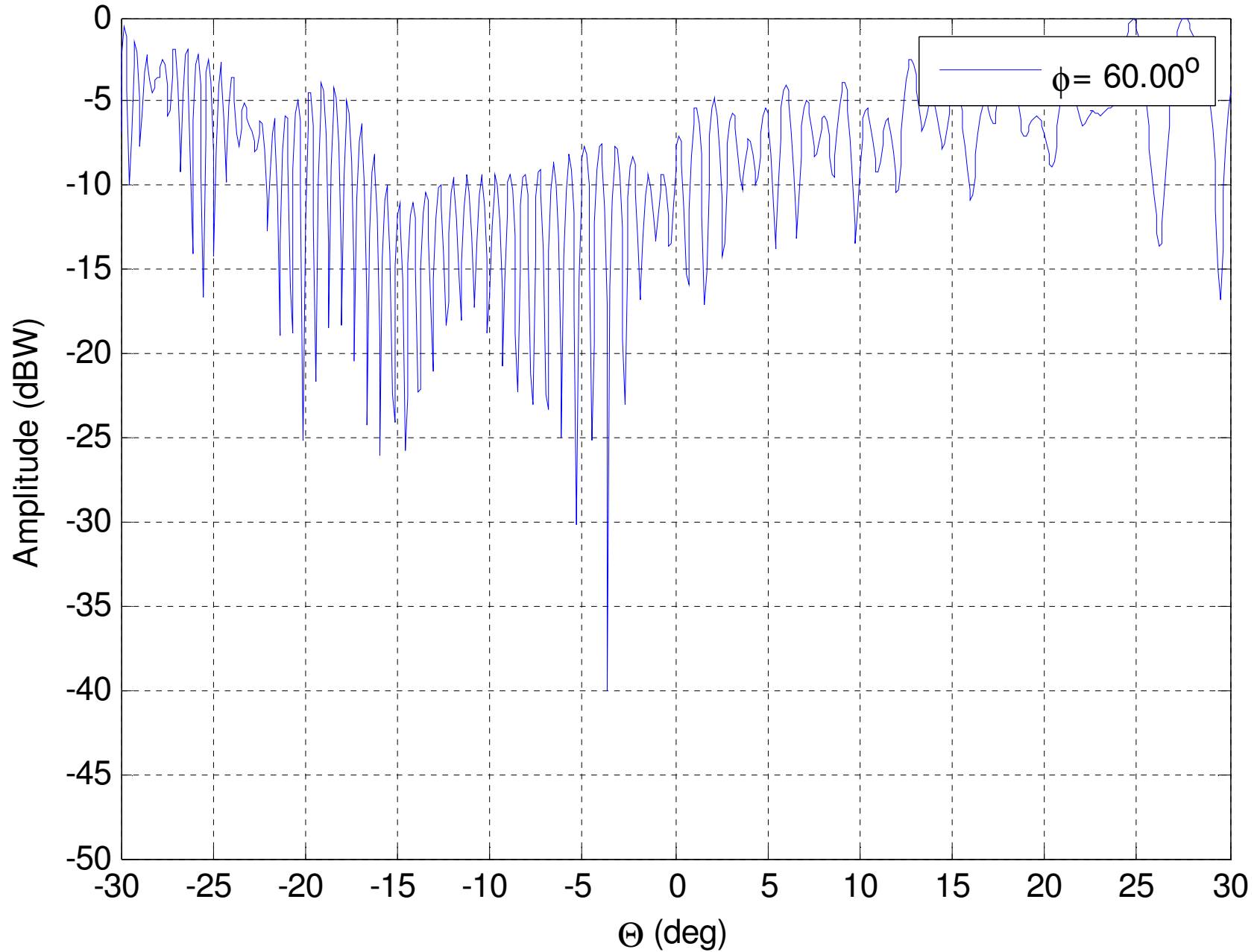
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -3.78 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

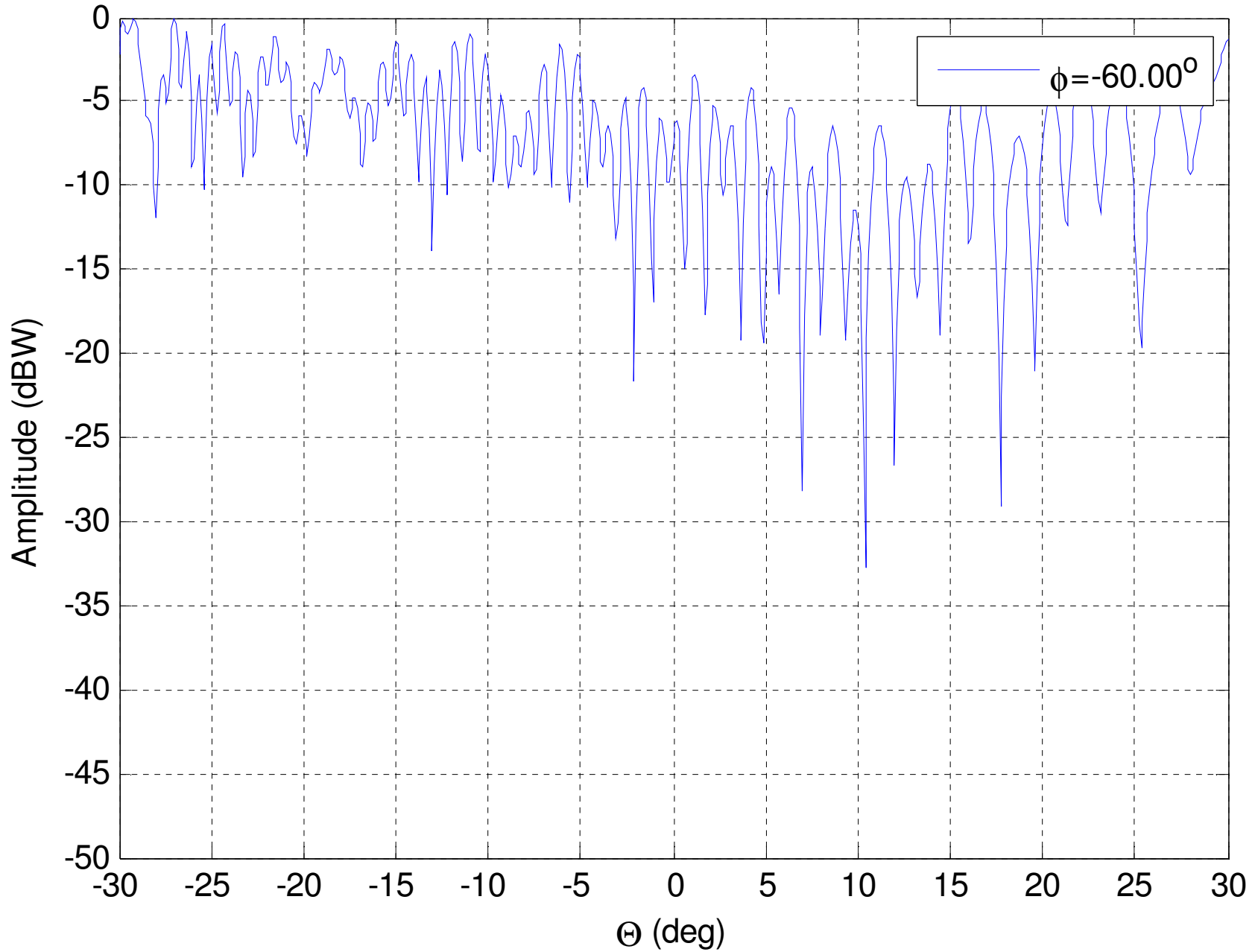
Input file: tx-17.5-lhcp-60.cut, Peak: -4.01 dBW, Date: 16-Dec-2011



**RHCP at 17.7 GHz**

# Normalized pattern cuts - farfield

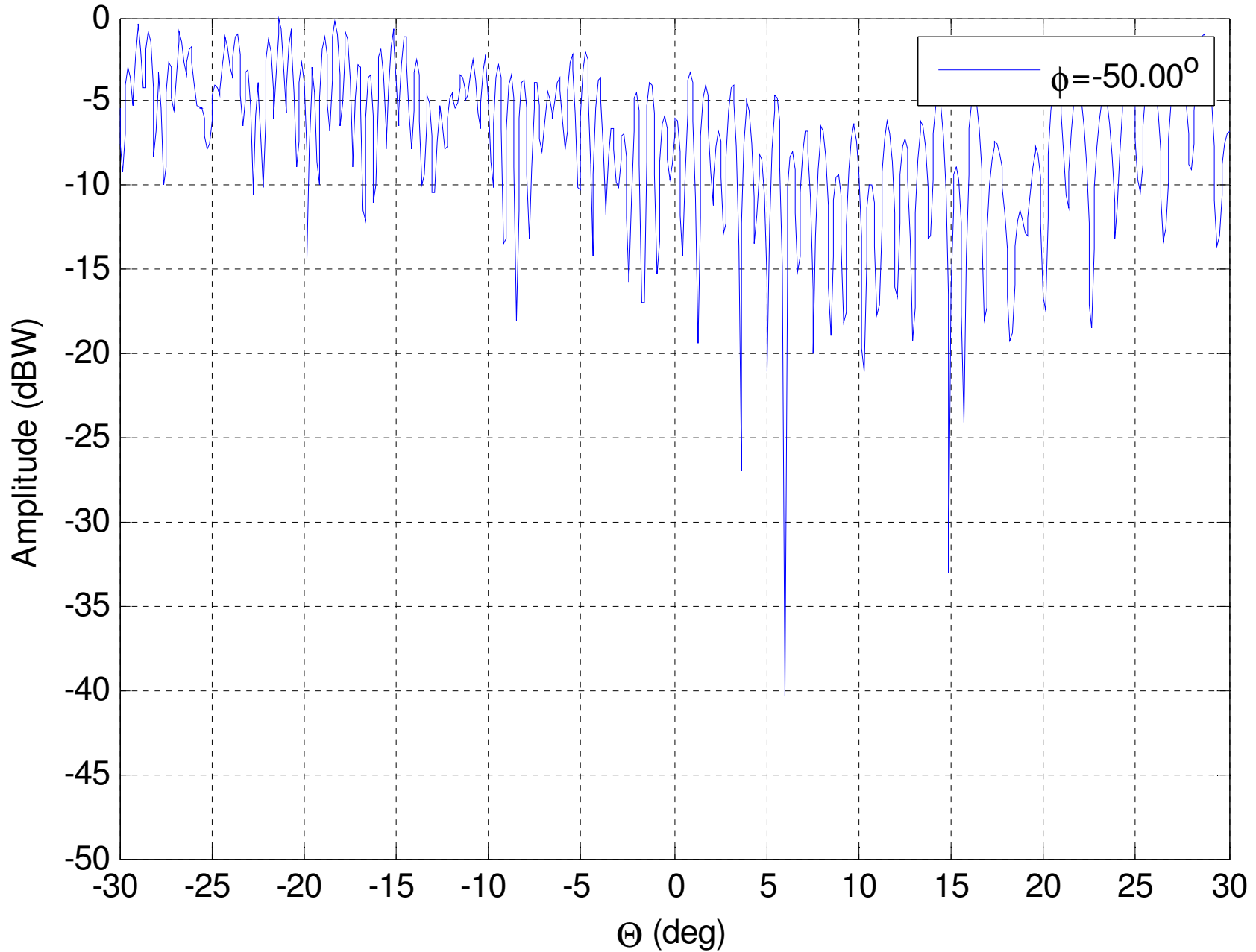
Input file: tx-17.7-rhcp--60.cut, Peak: -5.48 dBW, Date: 16-Dec-2011





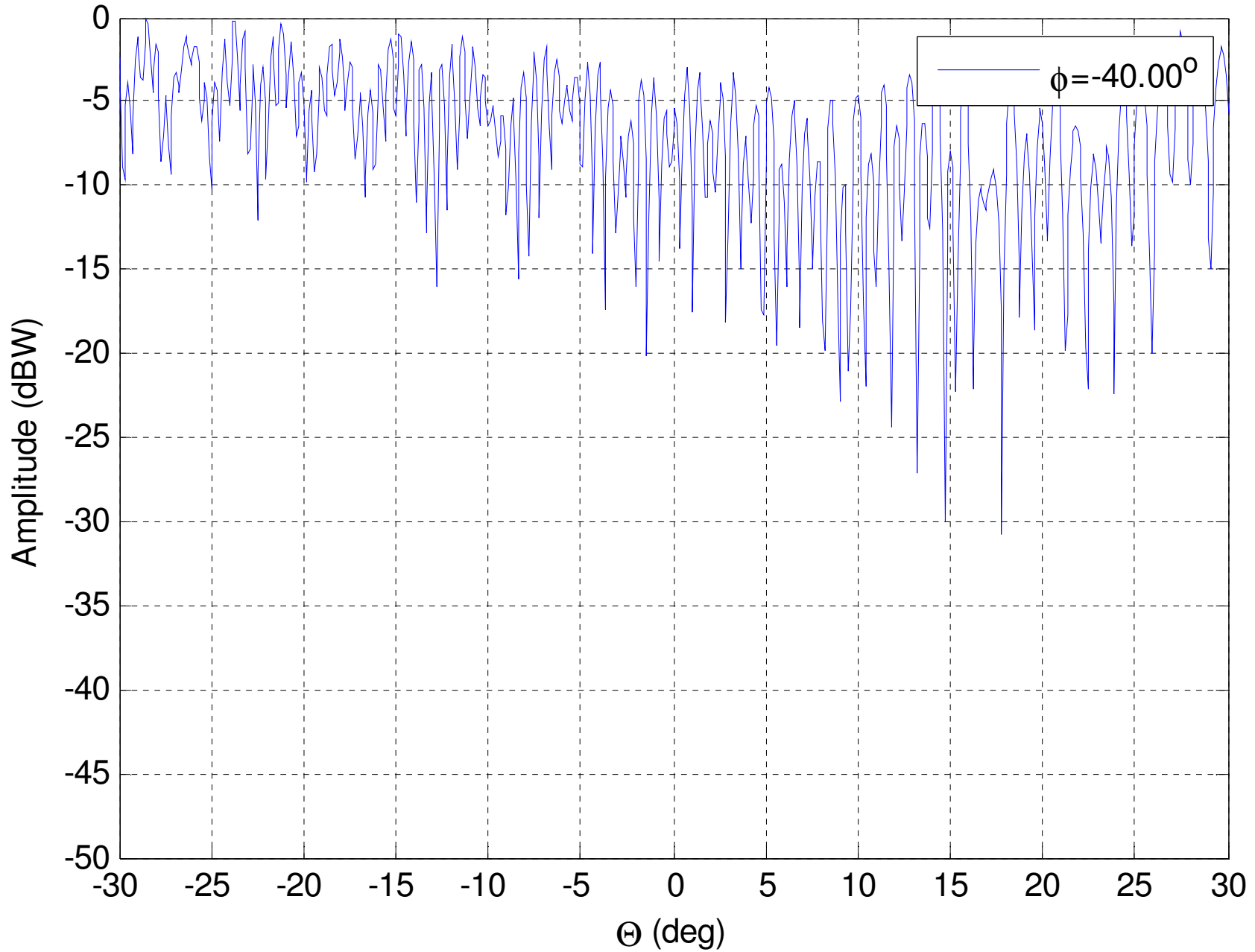
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -5.75 dBW, Date: 16-Dec-2011



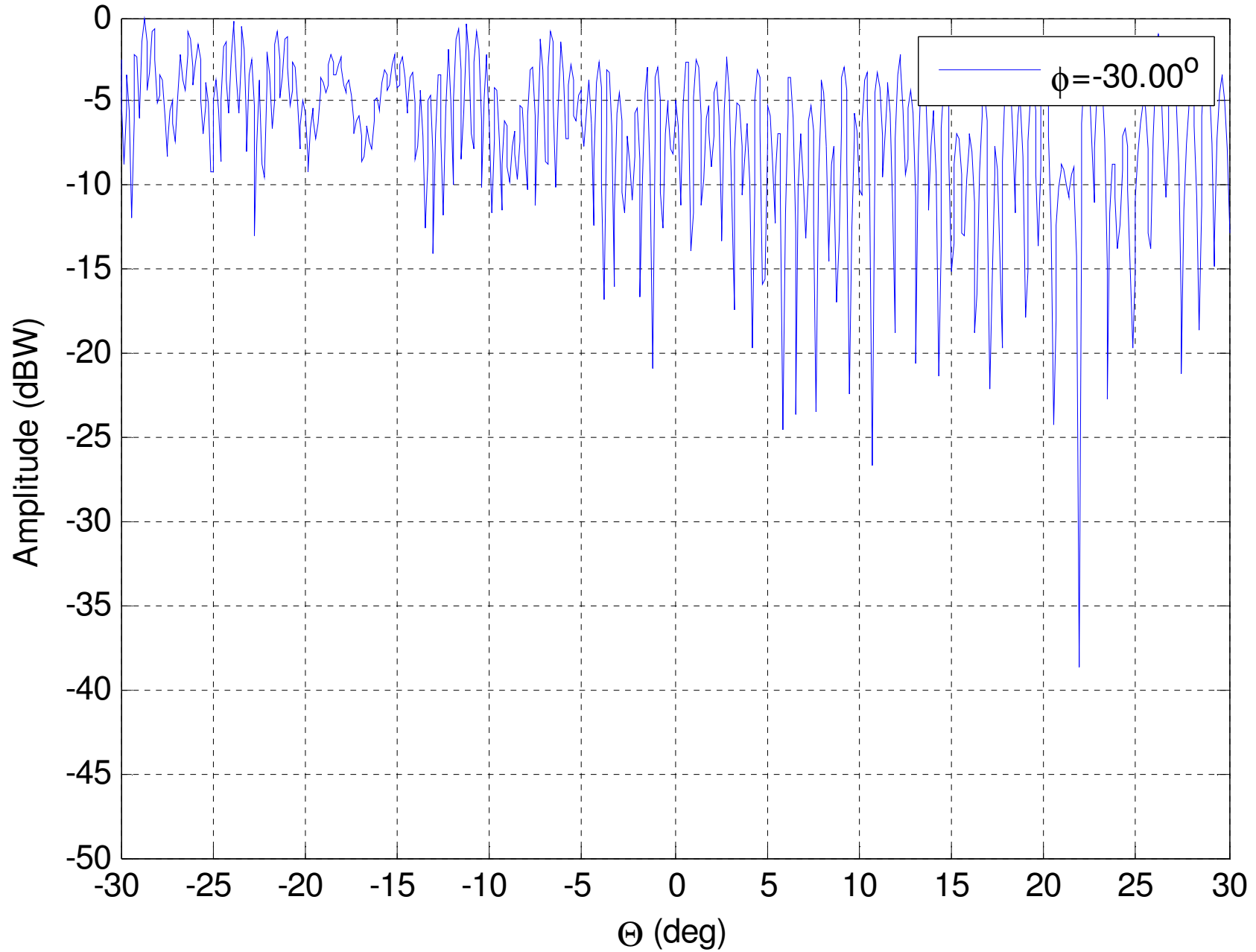
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -6.21 dBW, Date: 16-Dec-2011



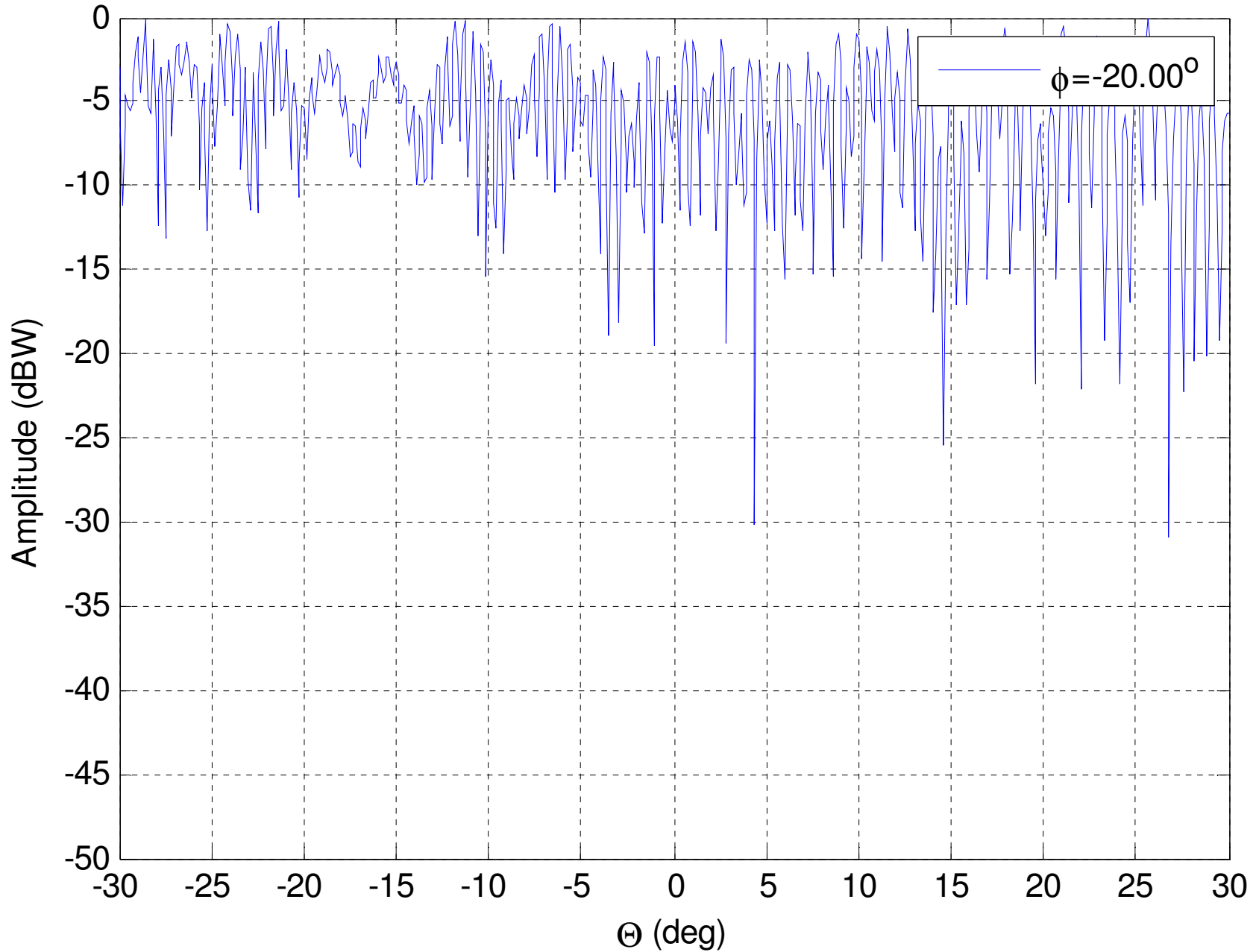
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -6.82 dBW, Date: 16-Dec-2011



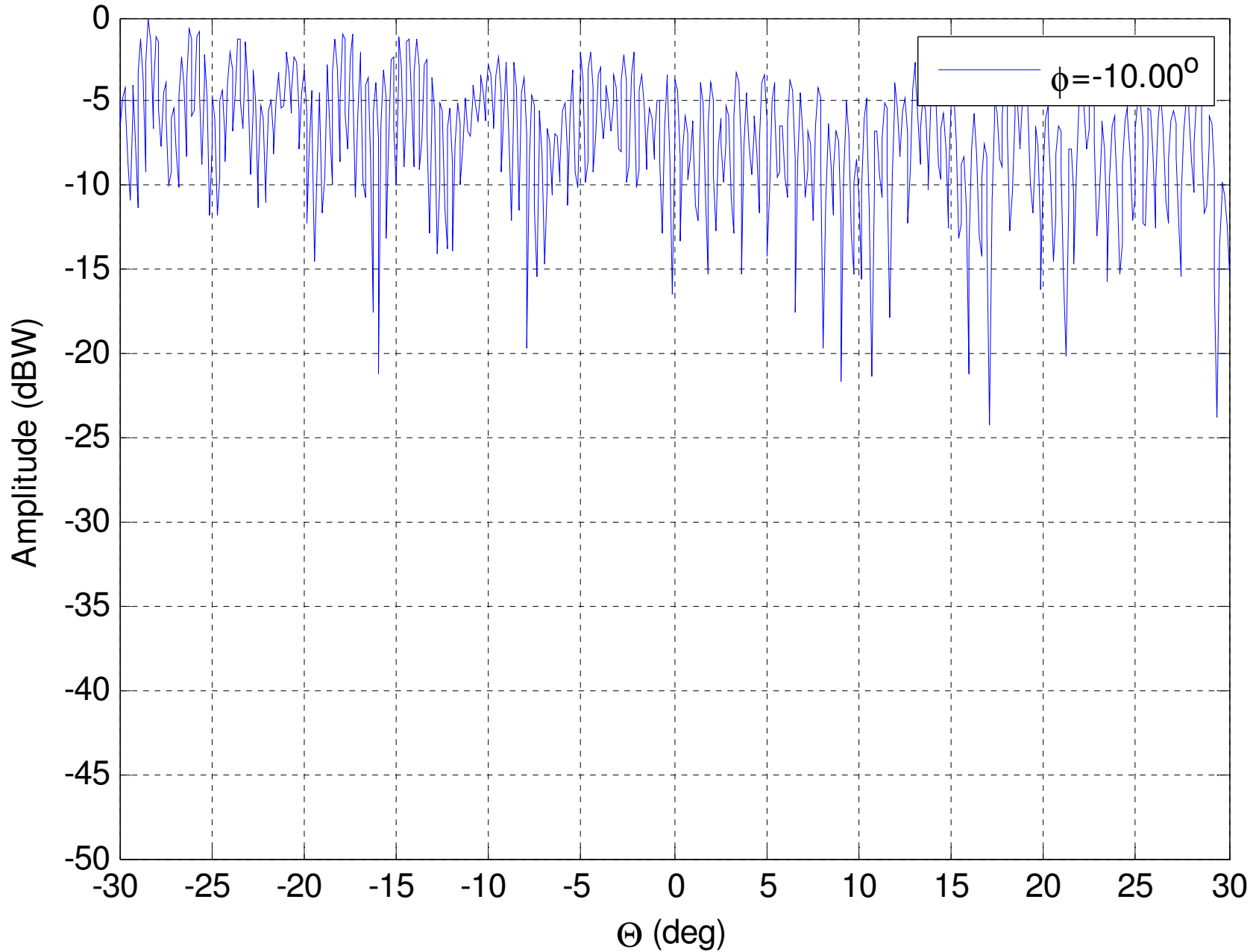
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -7.75 dBW, Date: 16-Dec-2011



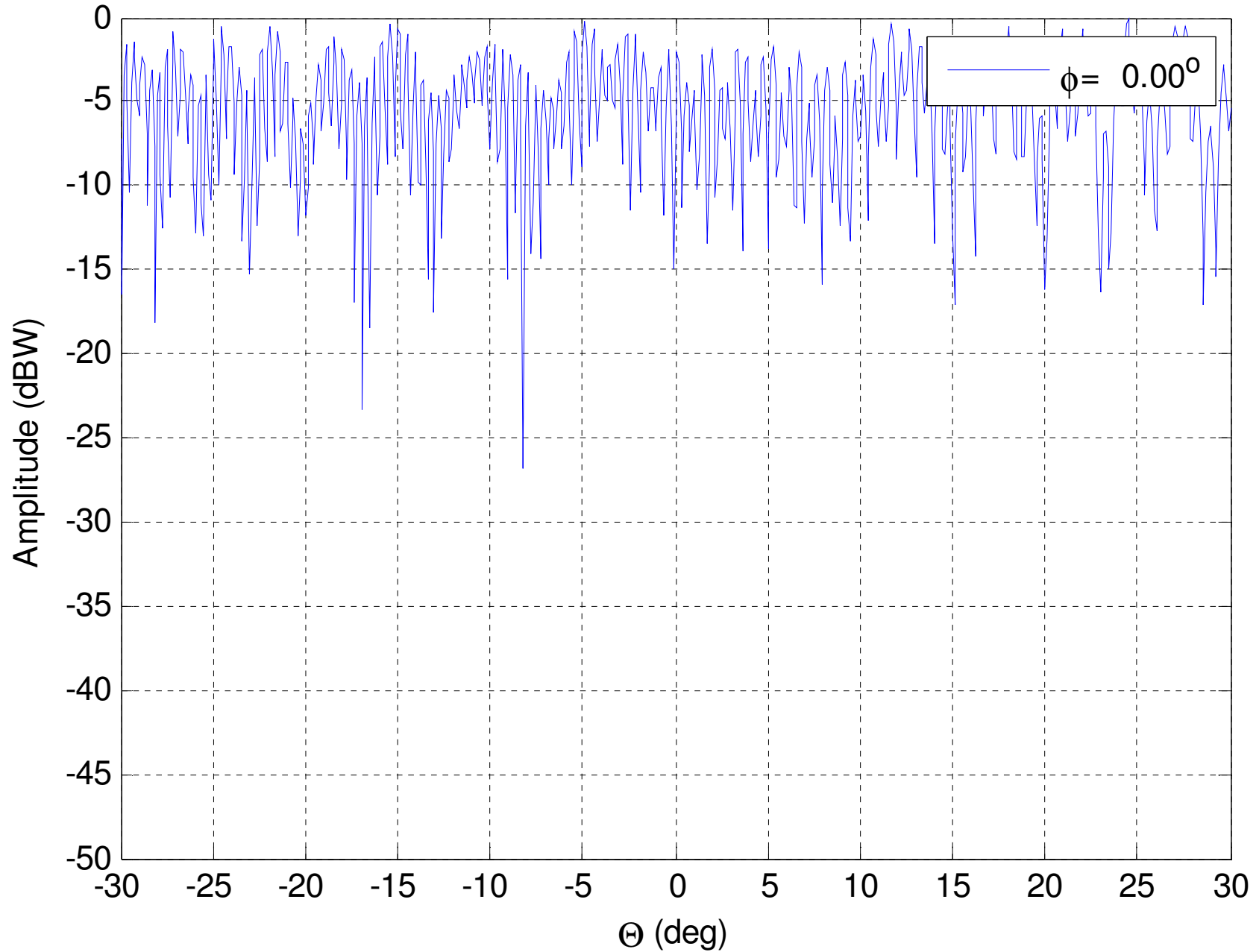
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -6.31 dBW, Date: 16-Dec-2011



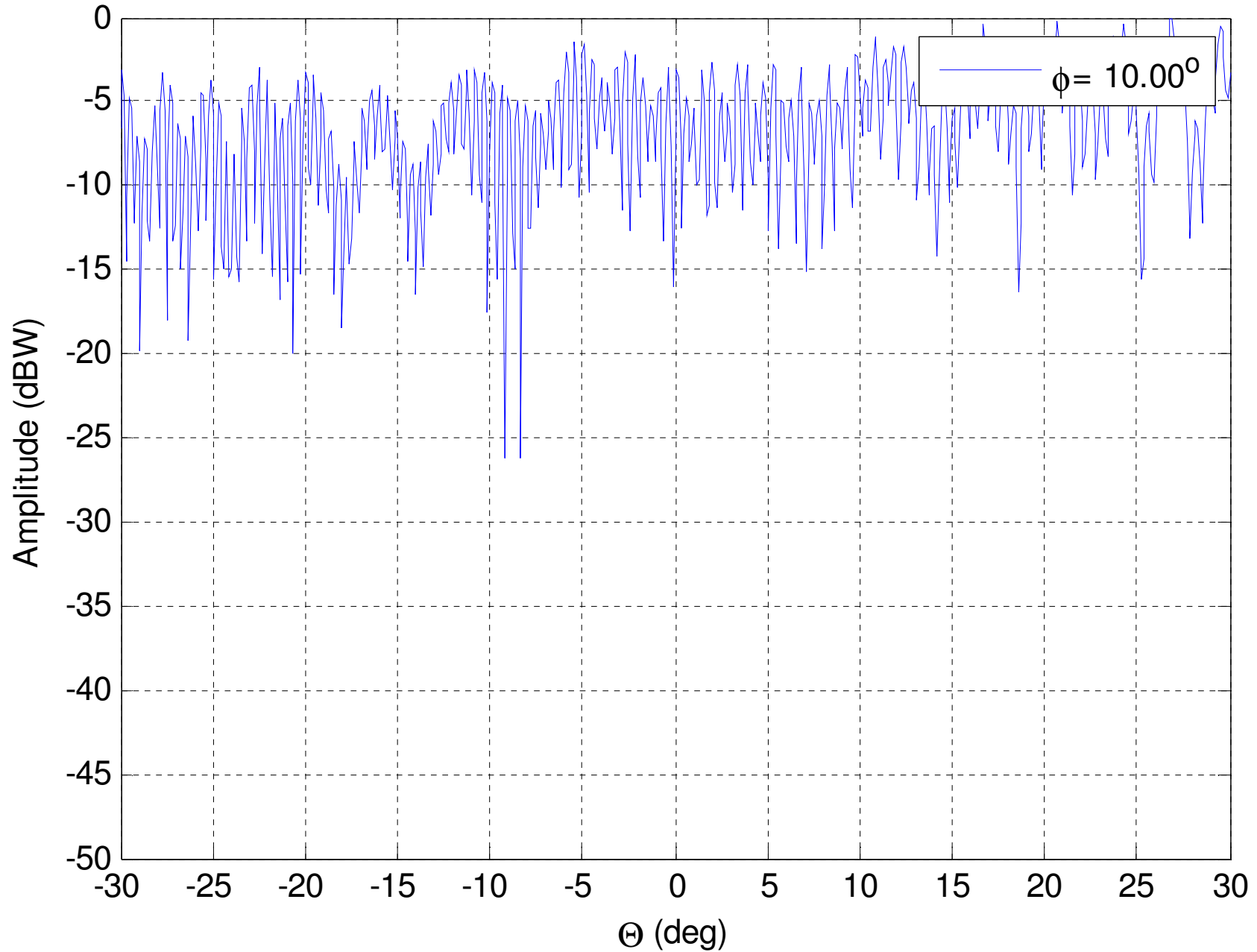
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -8.01 dBW, Date: 16-Dec-2011



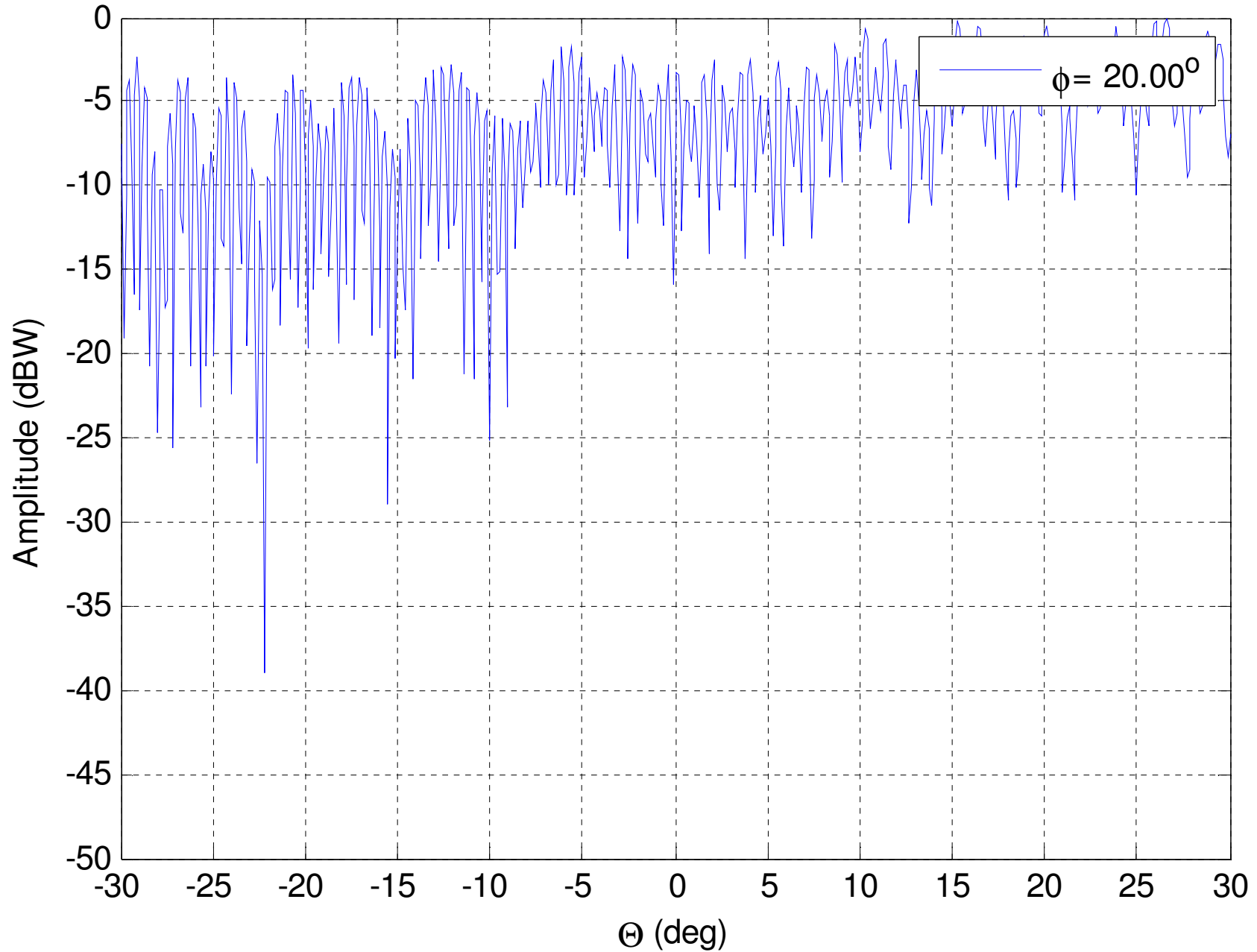
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -6.97 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

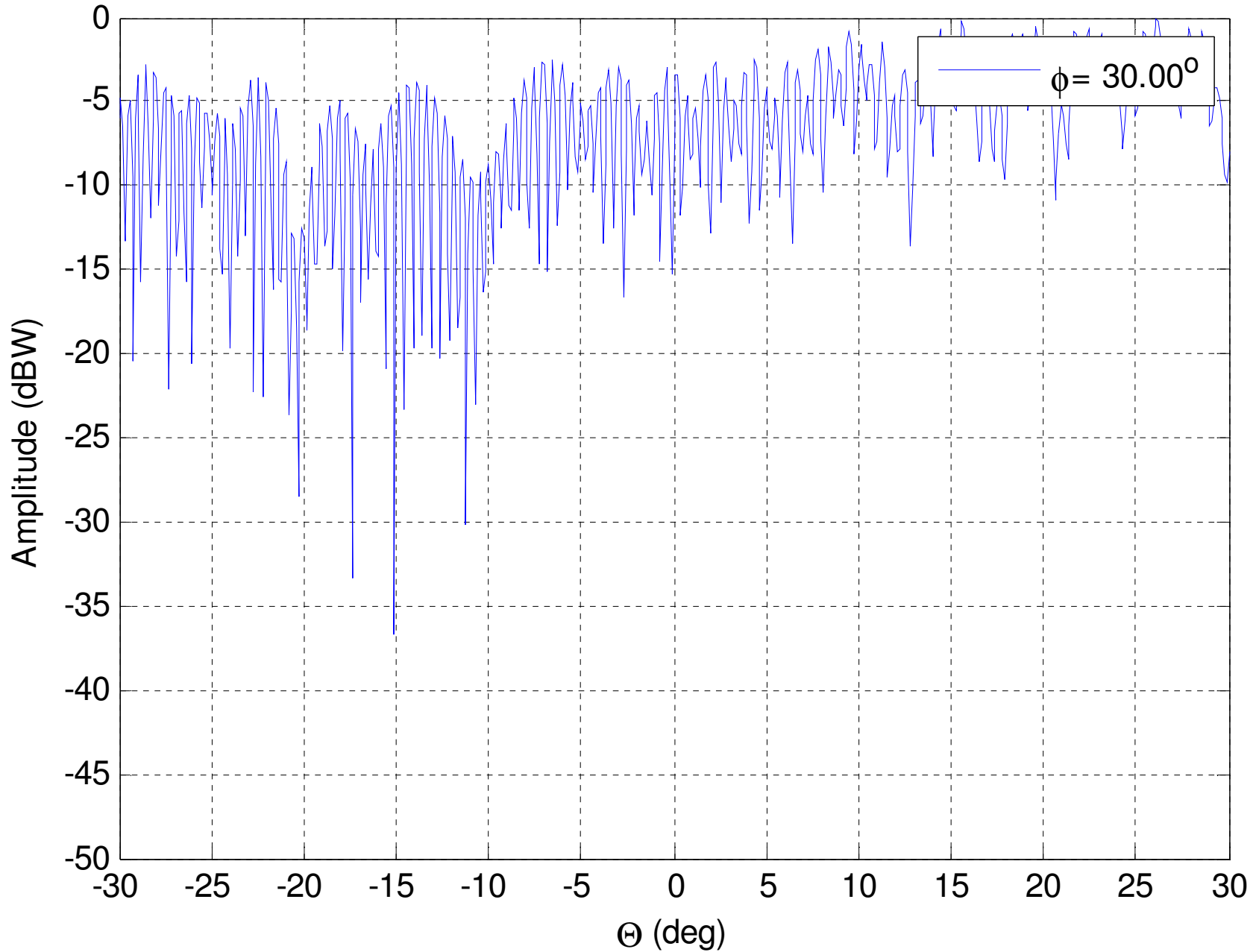
Input file: tx-17.7-rhcp-20.cut, Peak: -6.89 dBW, Date: 16-Dec-2011





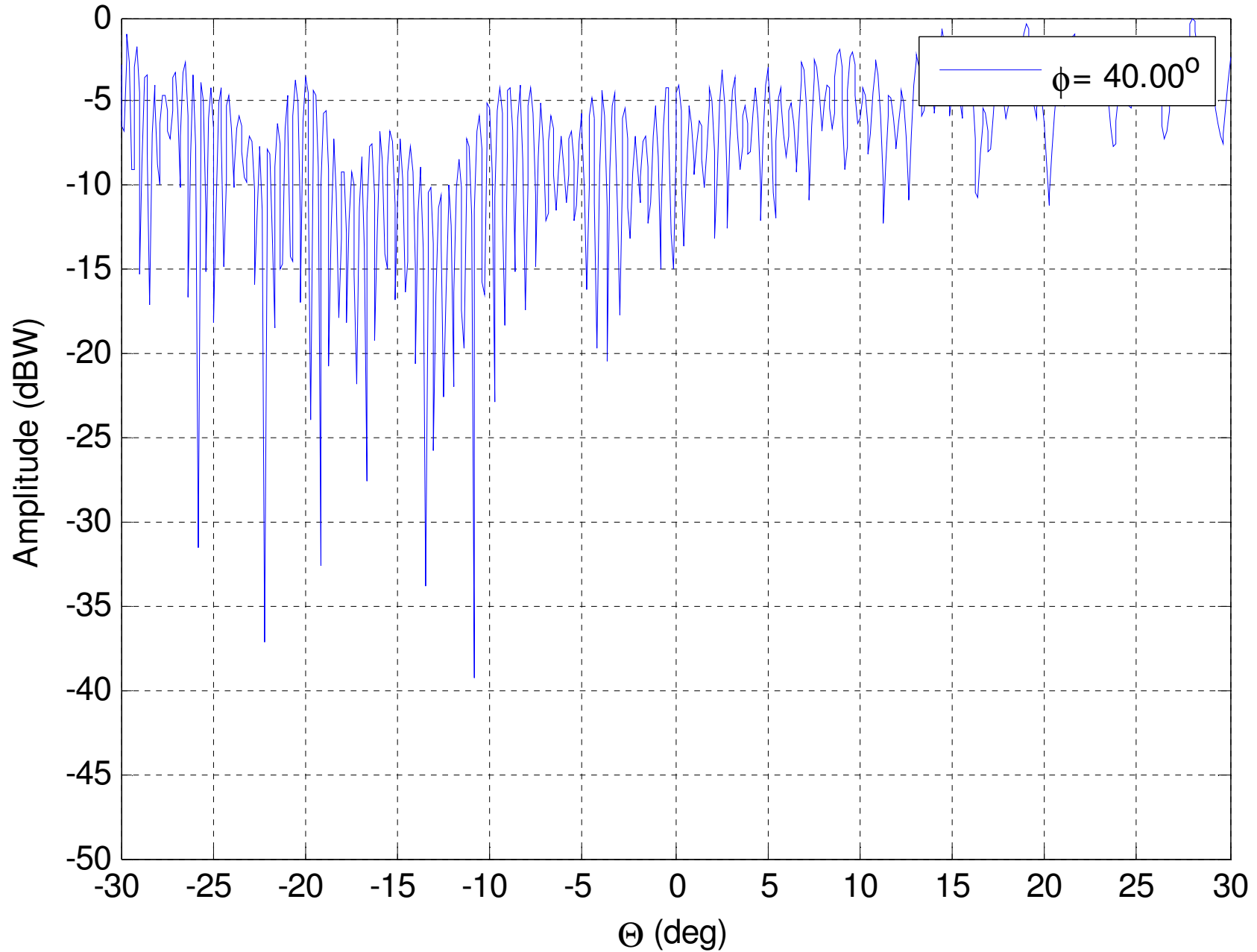
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -6.68 dBW, Date: 16-Dec-2011



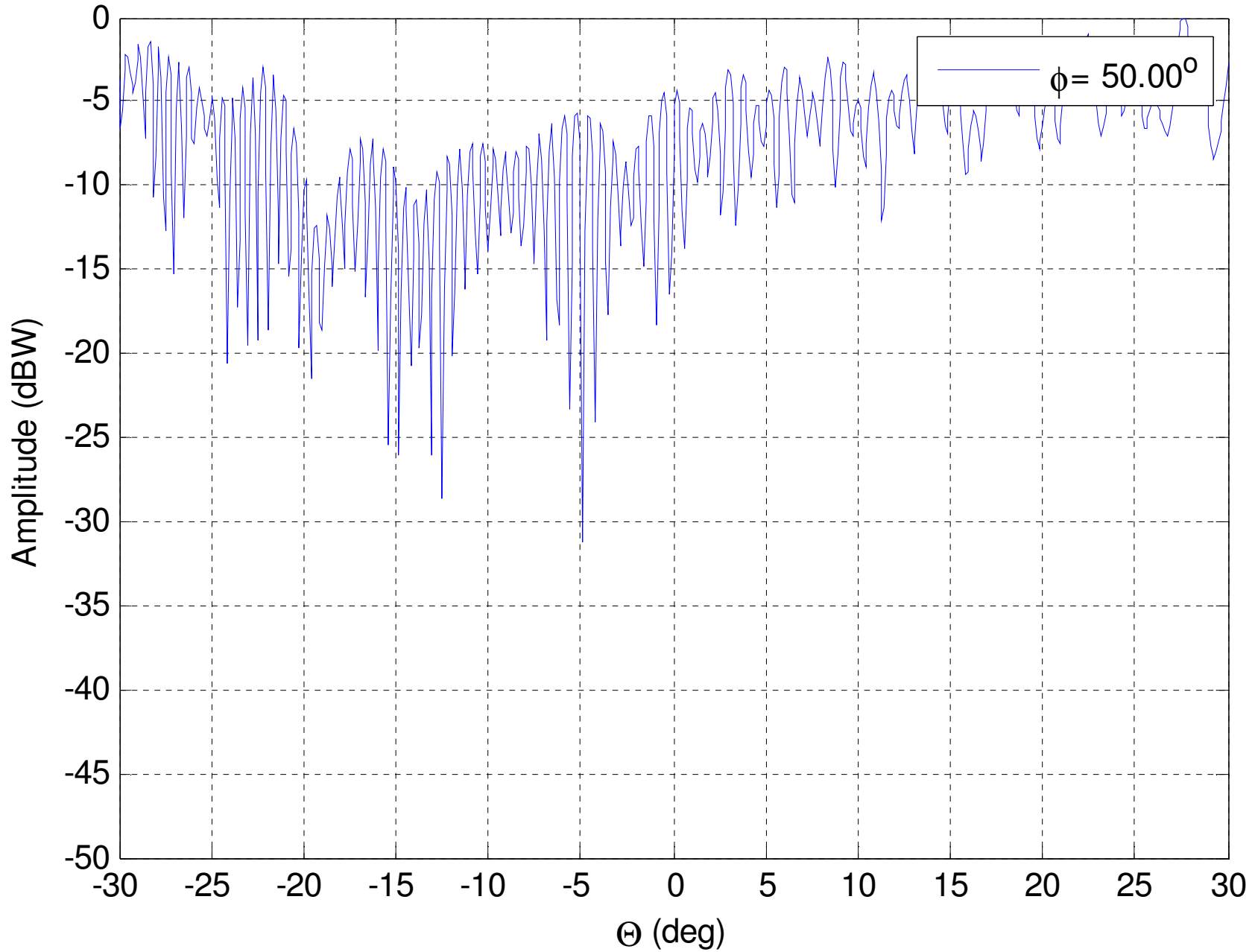
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -5.82 dBW, Date: 16-Dec-2011



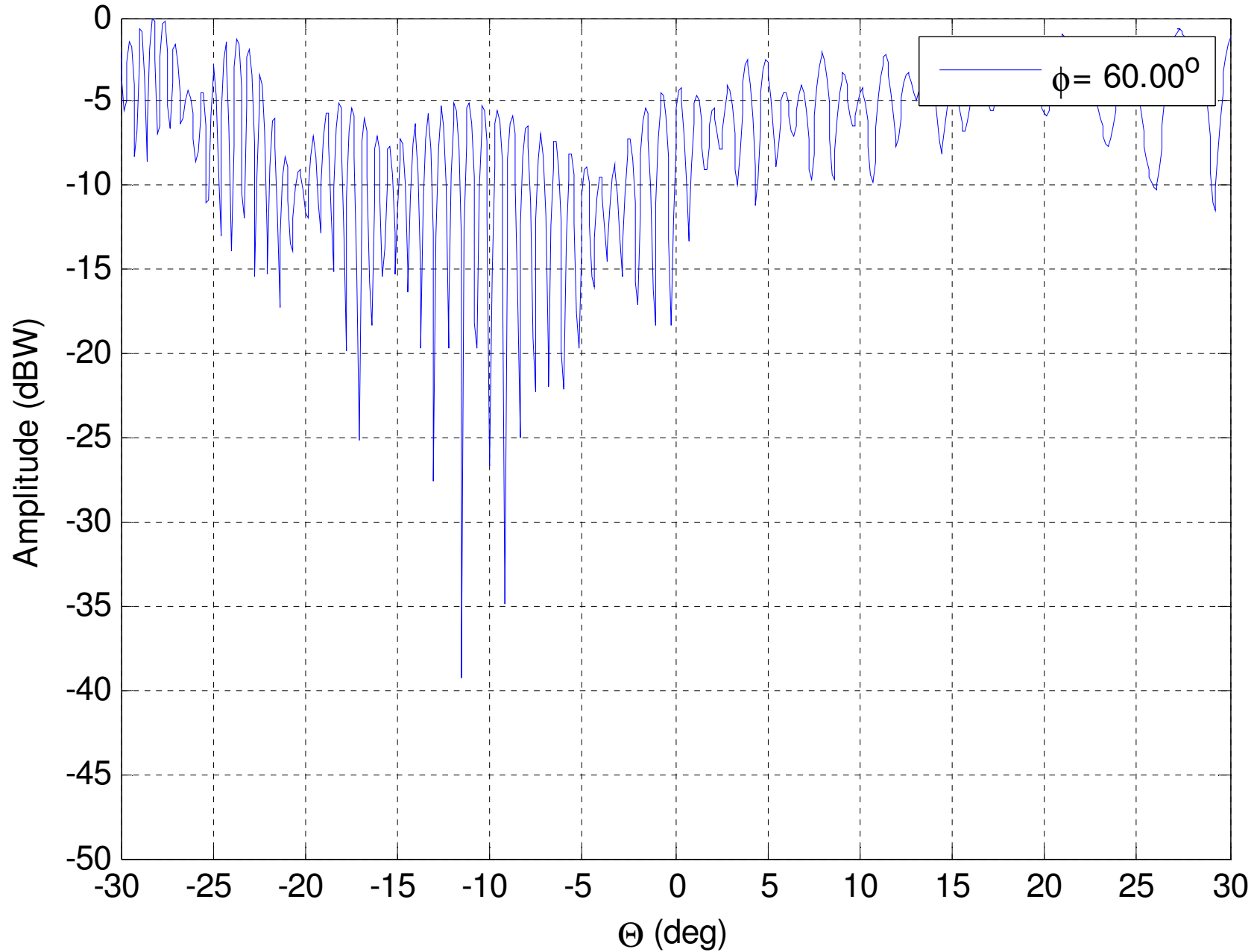
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -5.32 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

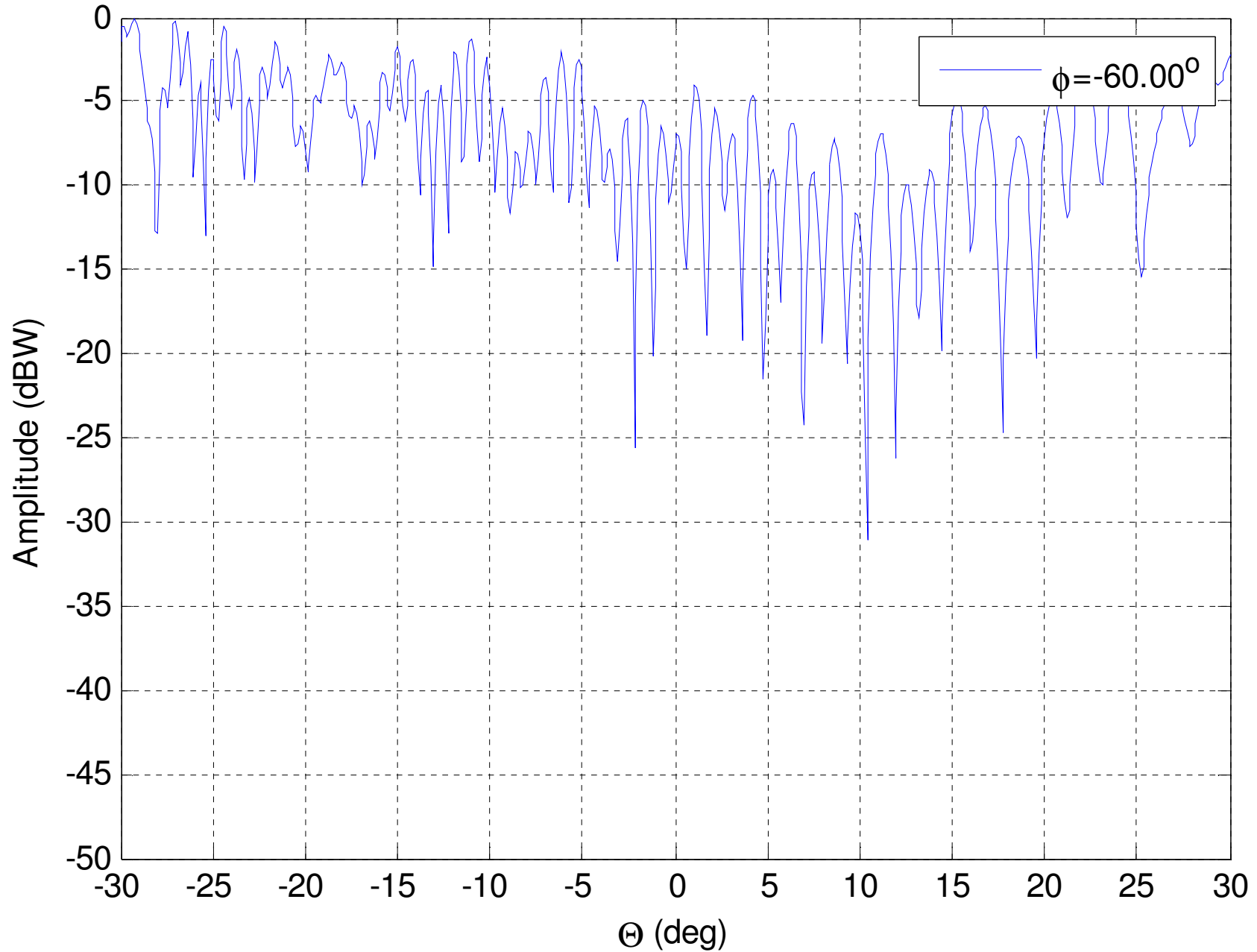
Input file: tx-17.7-rhcp-60.cut, Peak: -5.55 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

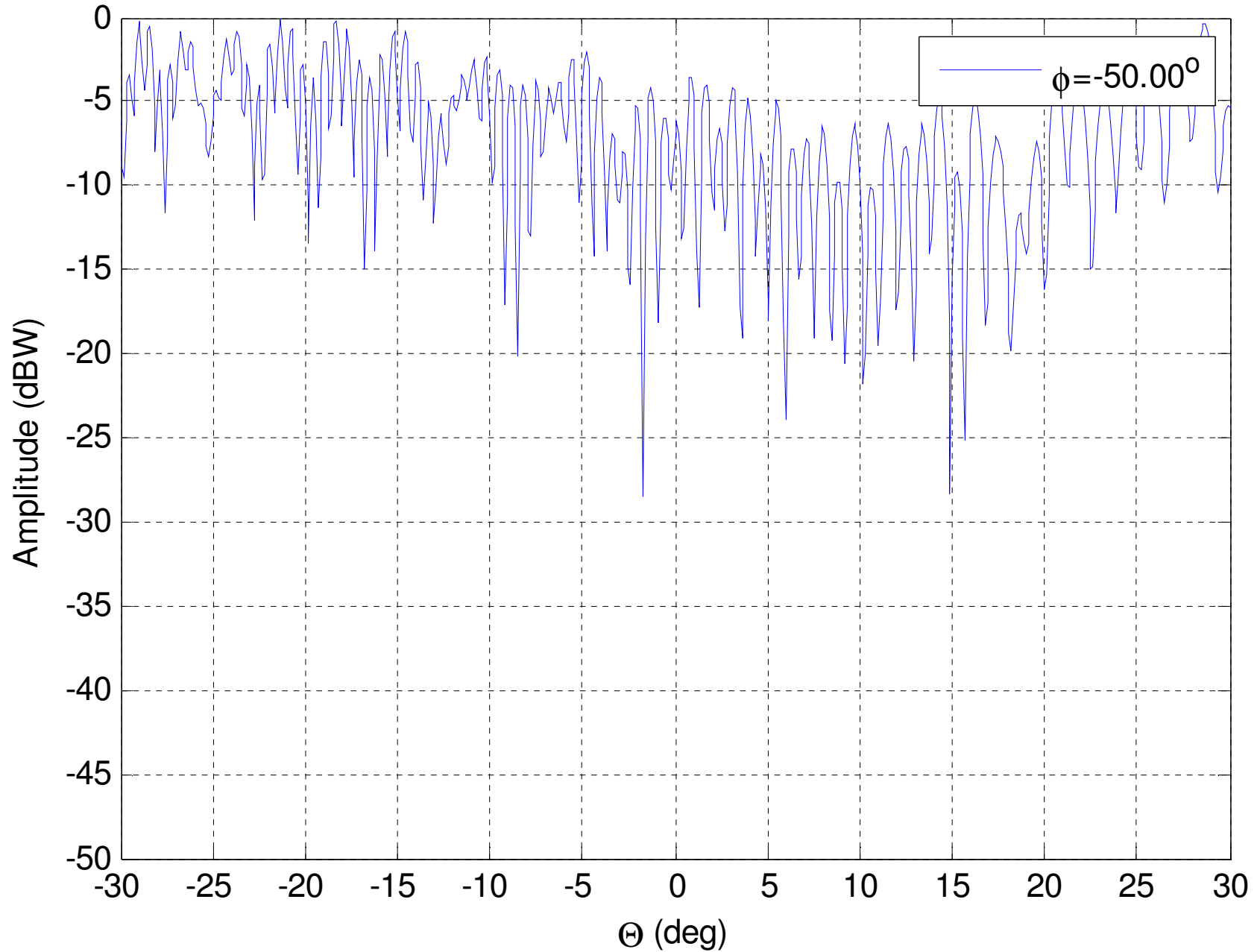
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -4.98 dBW, Date: 16-Dec-2011



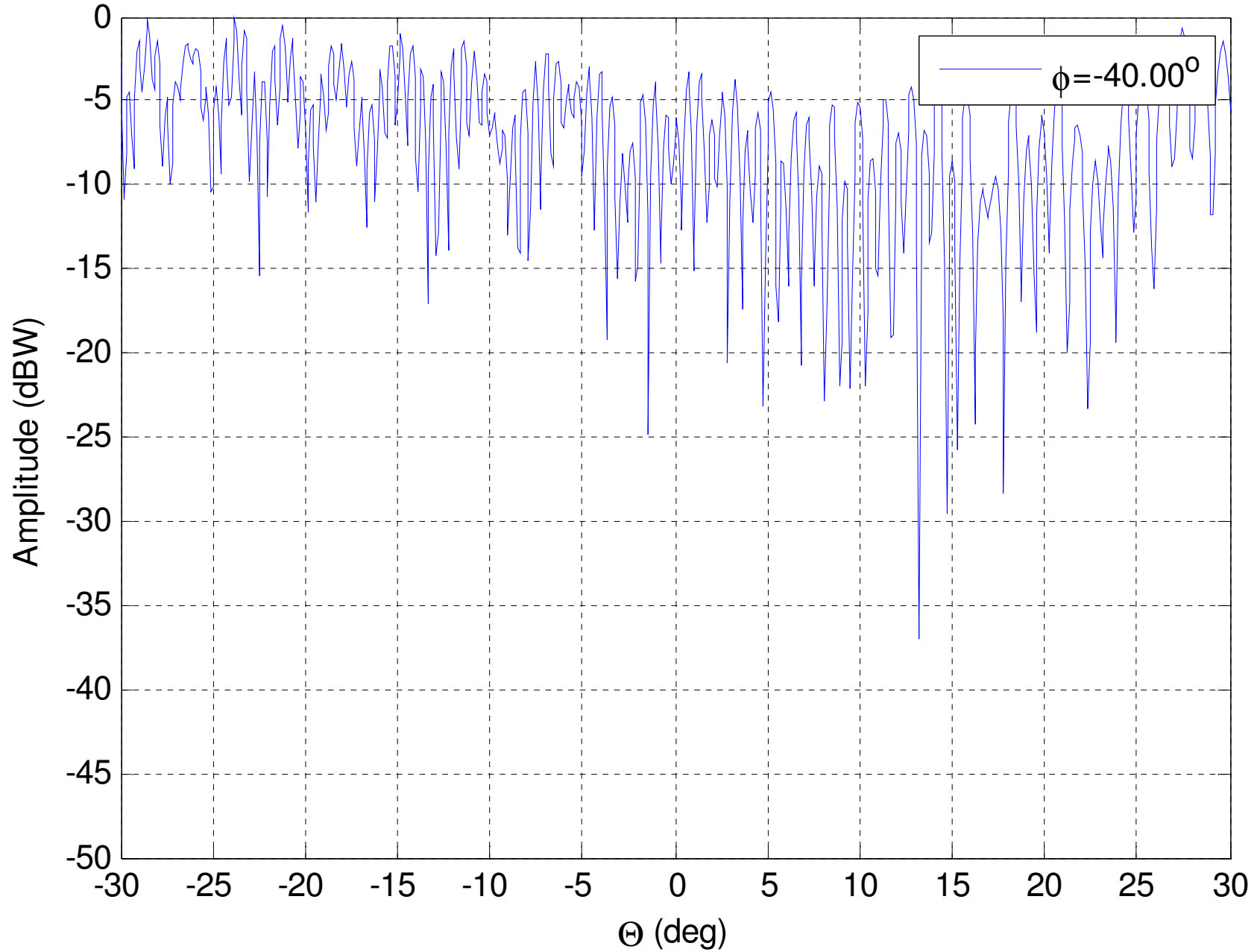
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -5.69 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

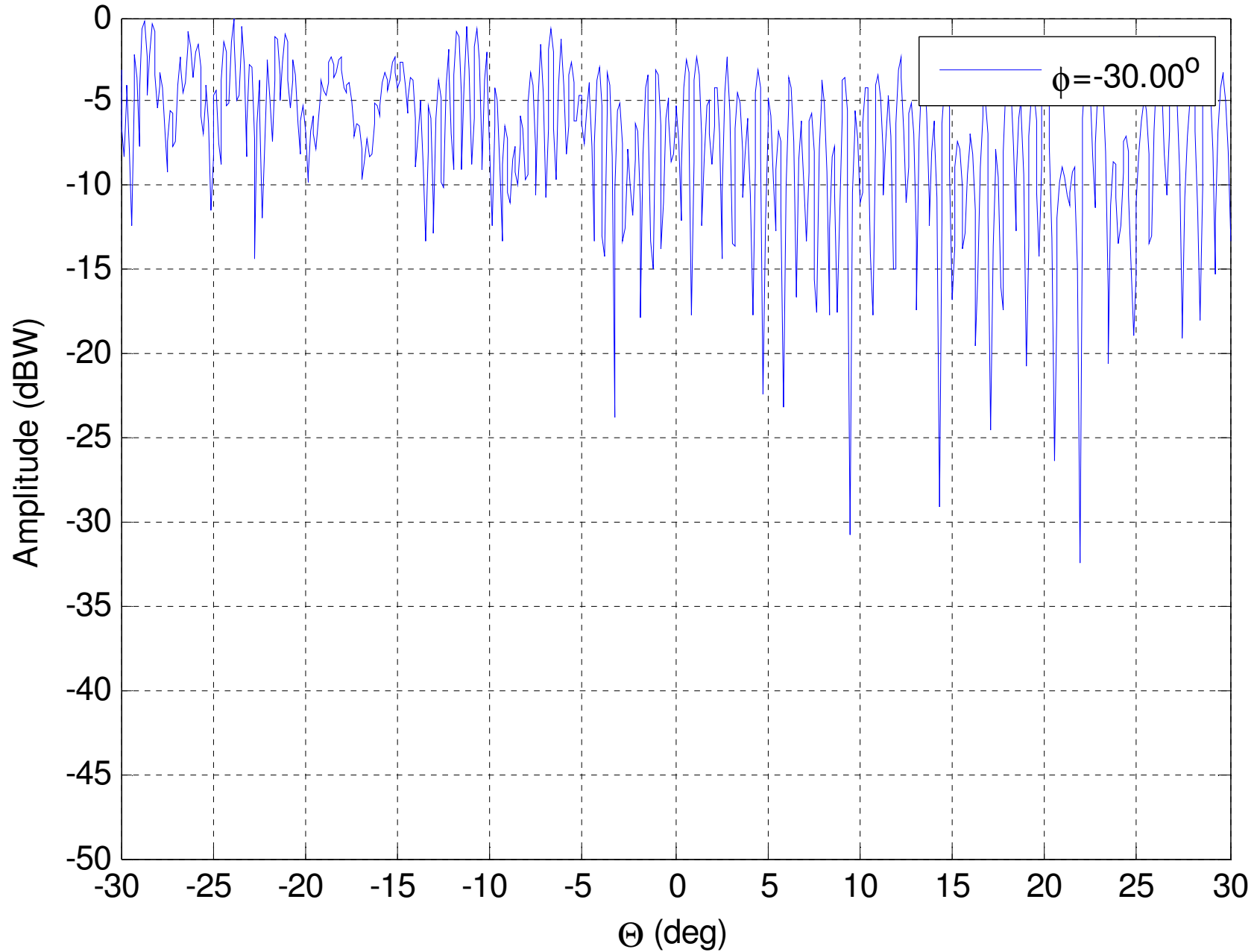
Input file: tx-17.7-lhcp--40.cut, Peak: -5.95 dBW, Date: 16-Dec-2011





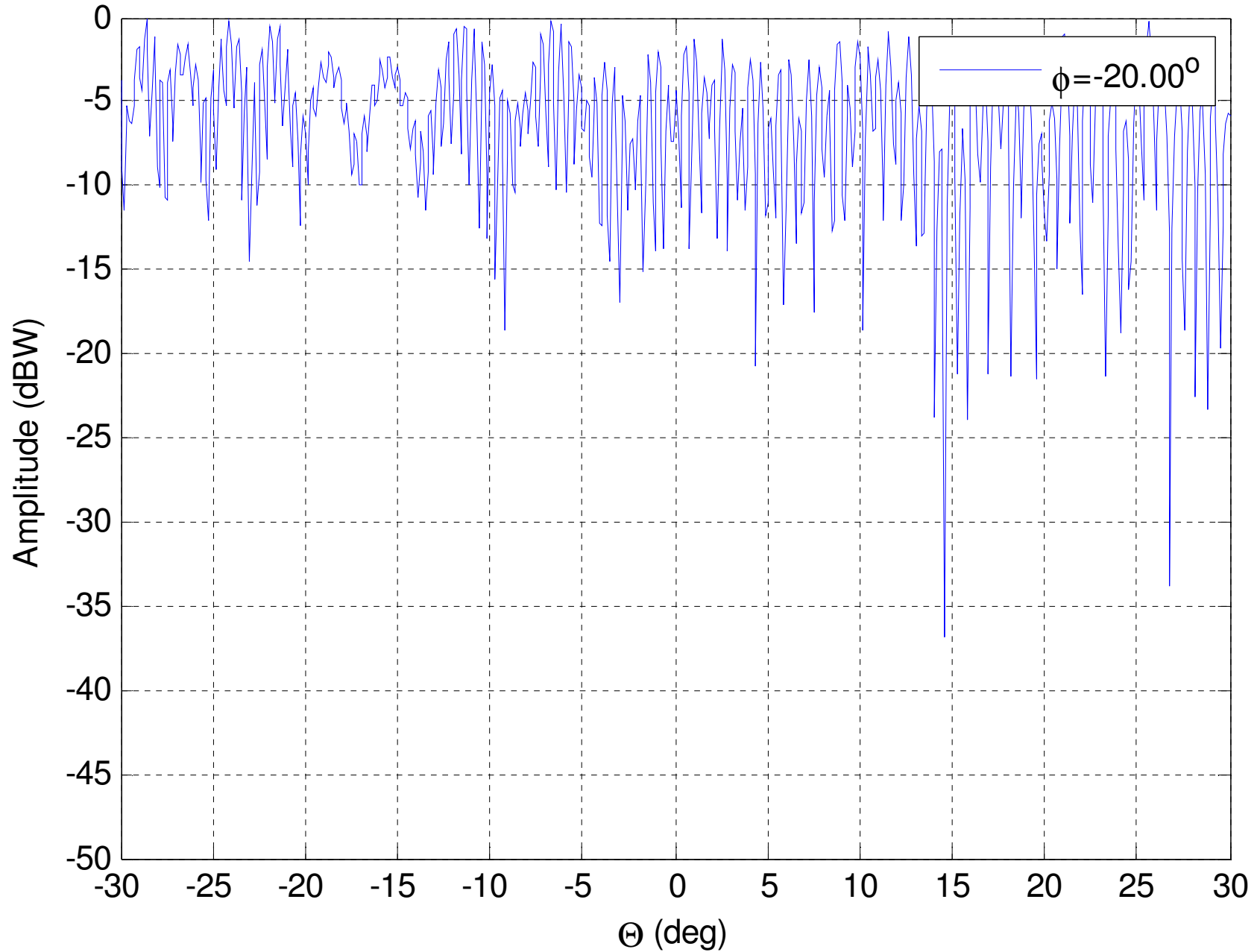
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -6.84 dBW, Date: 16-Dec-2011



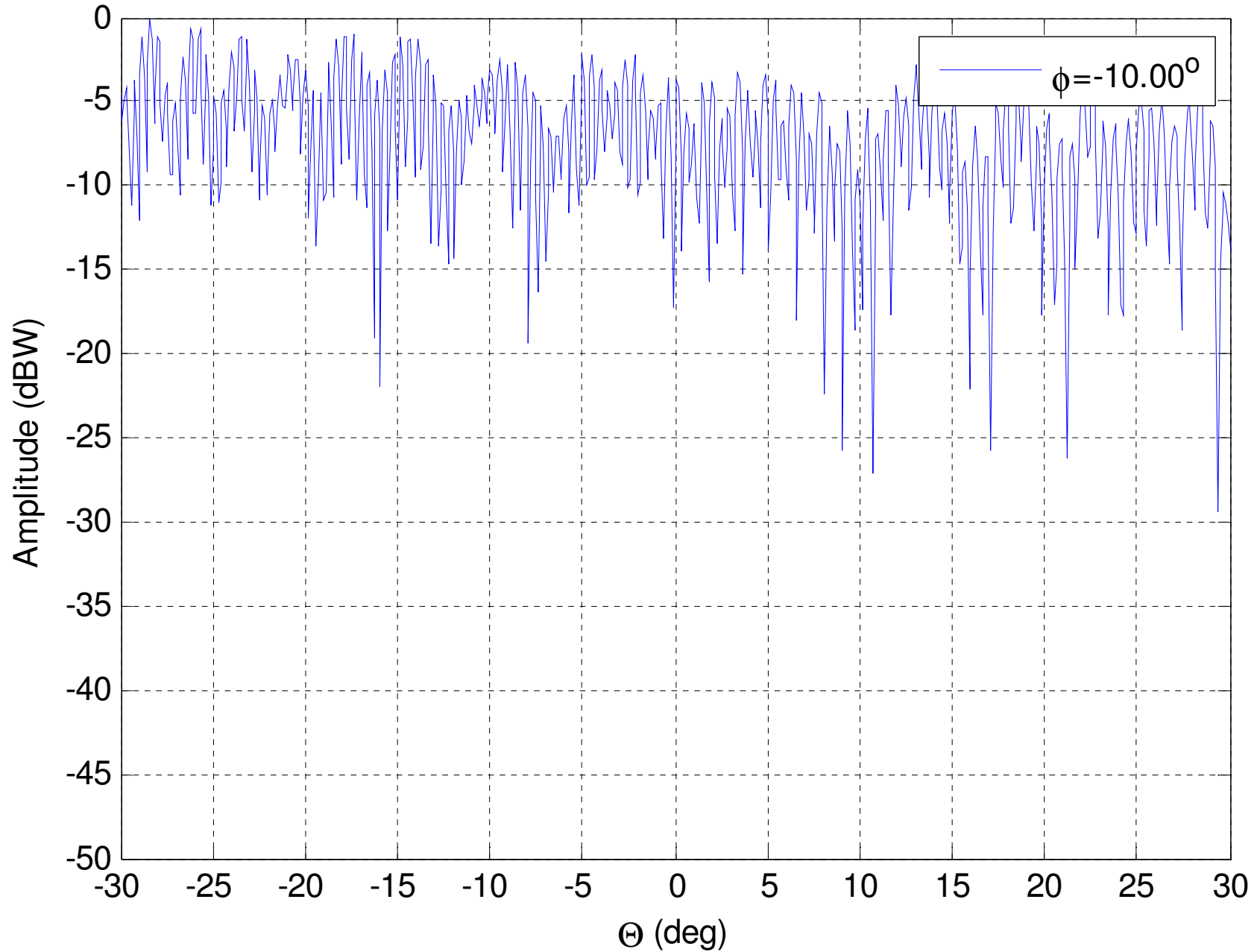
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -7.76 dBW, Date: 16-Dec-2011



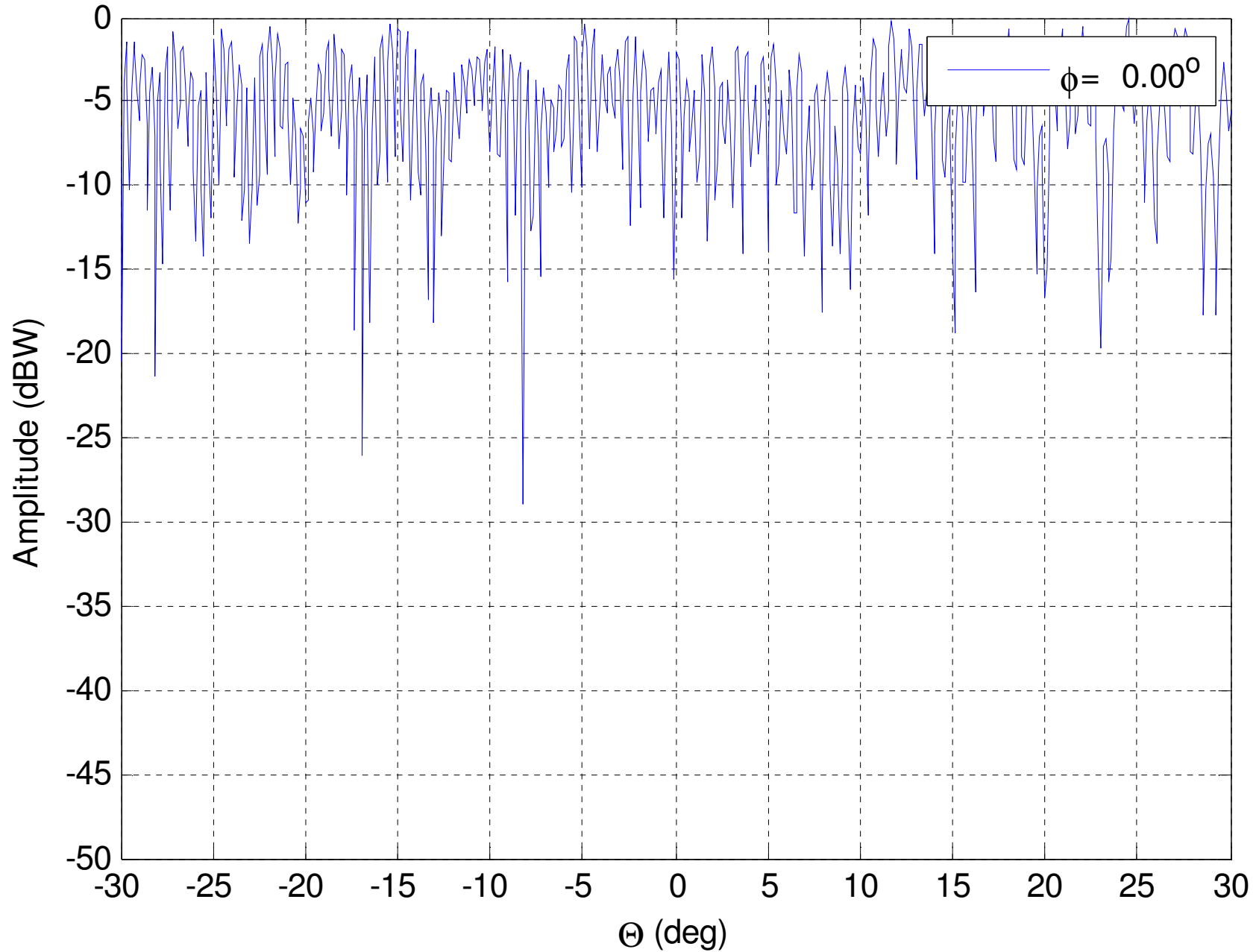
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -6.36 dBW, Date: 16-Dec-2011



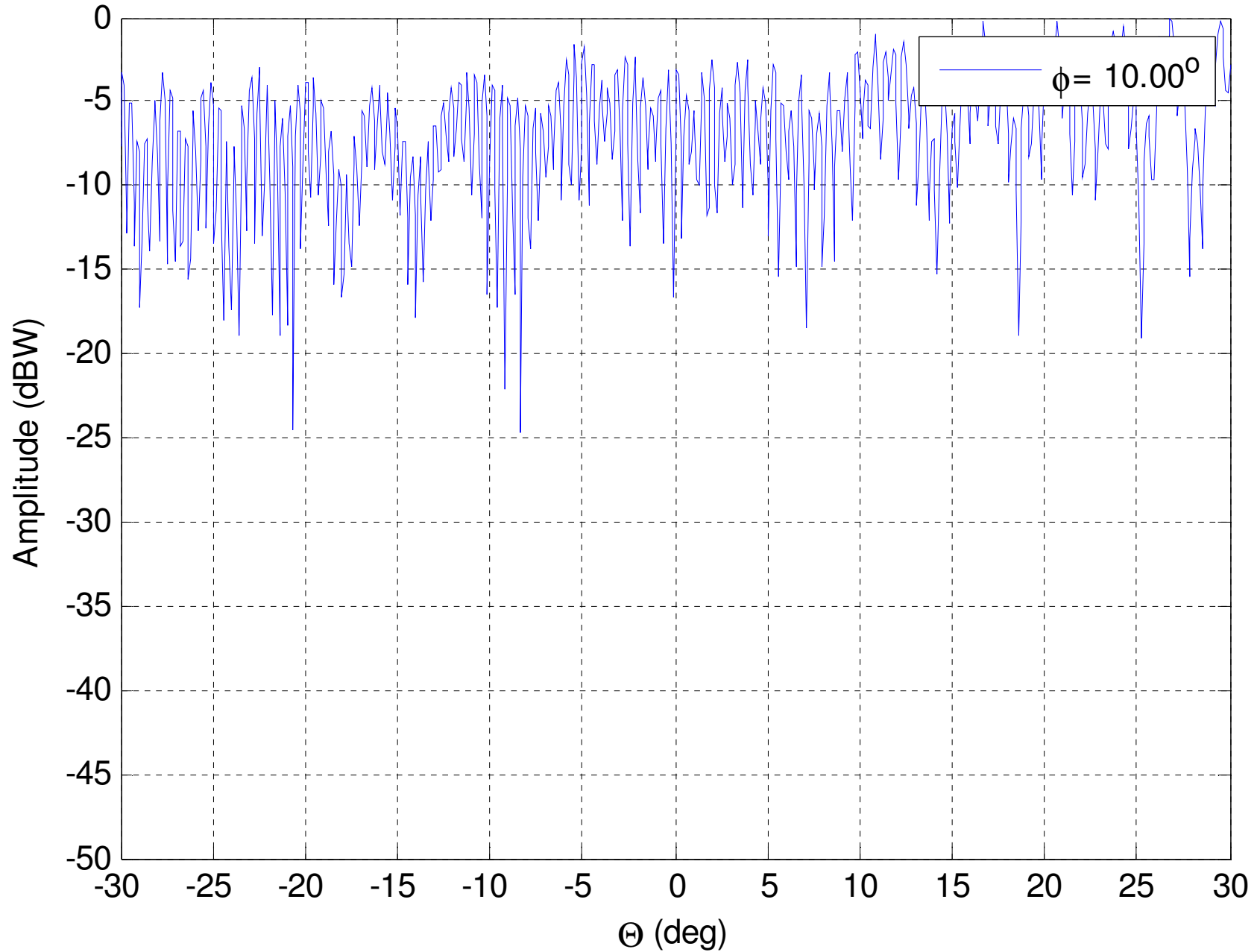
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -8.13 dBW, Date: 16-Dec-2011



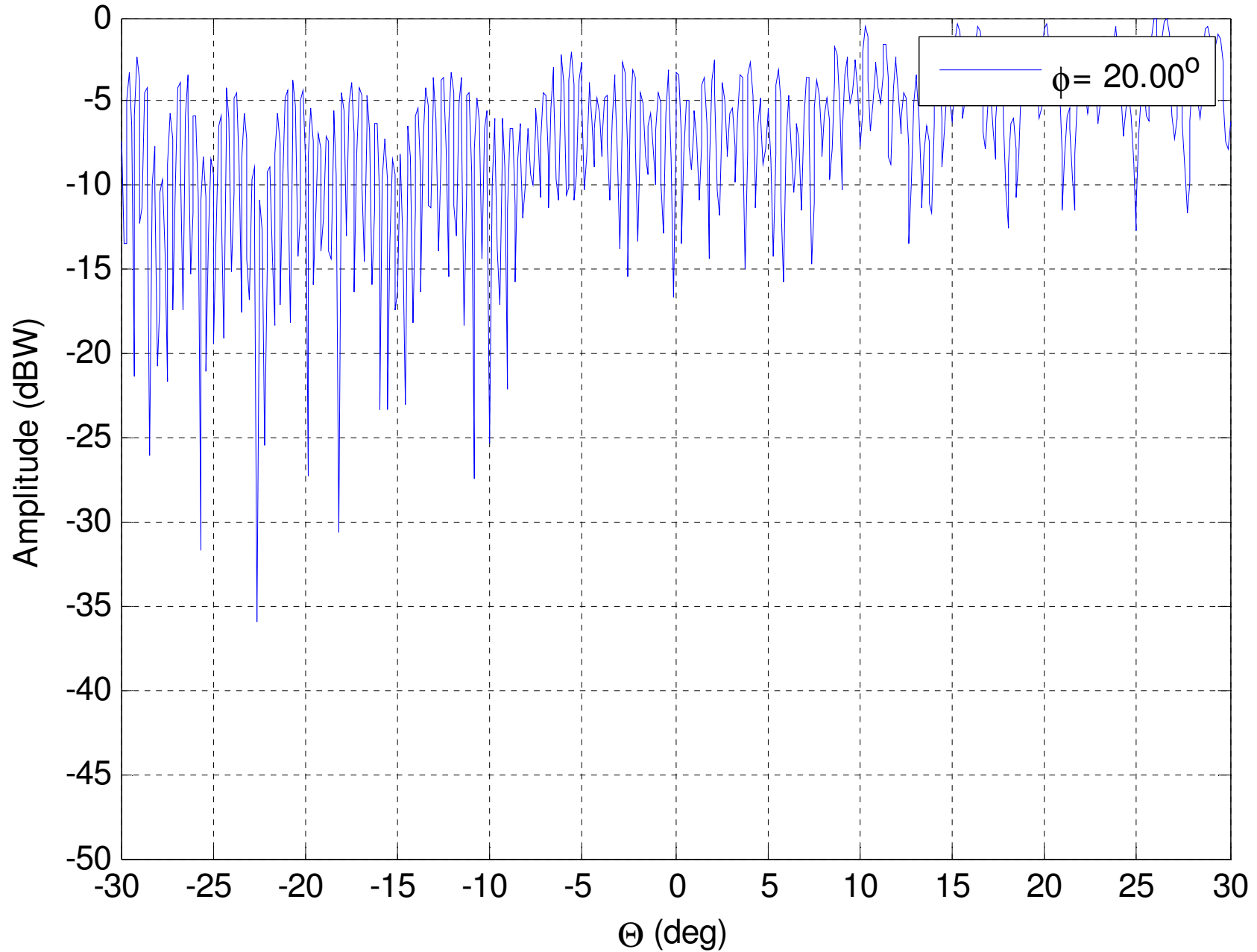
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -7.06 dBW, Date: 16-Dec-2011



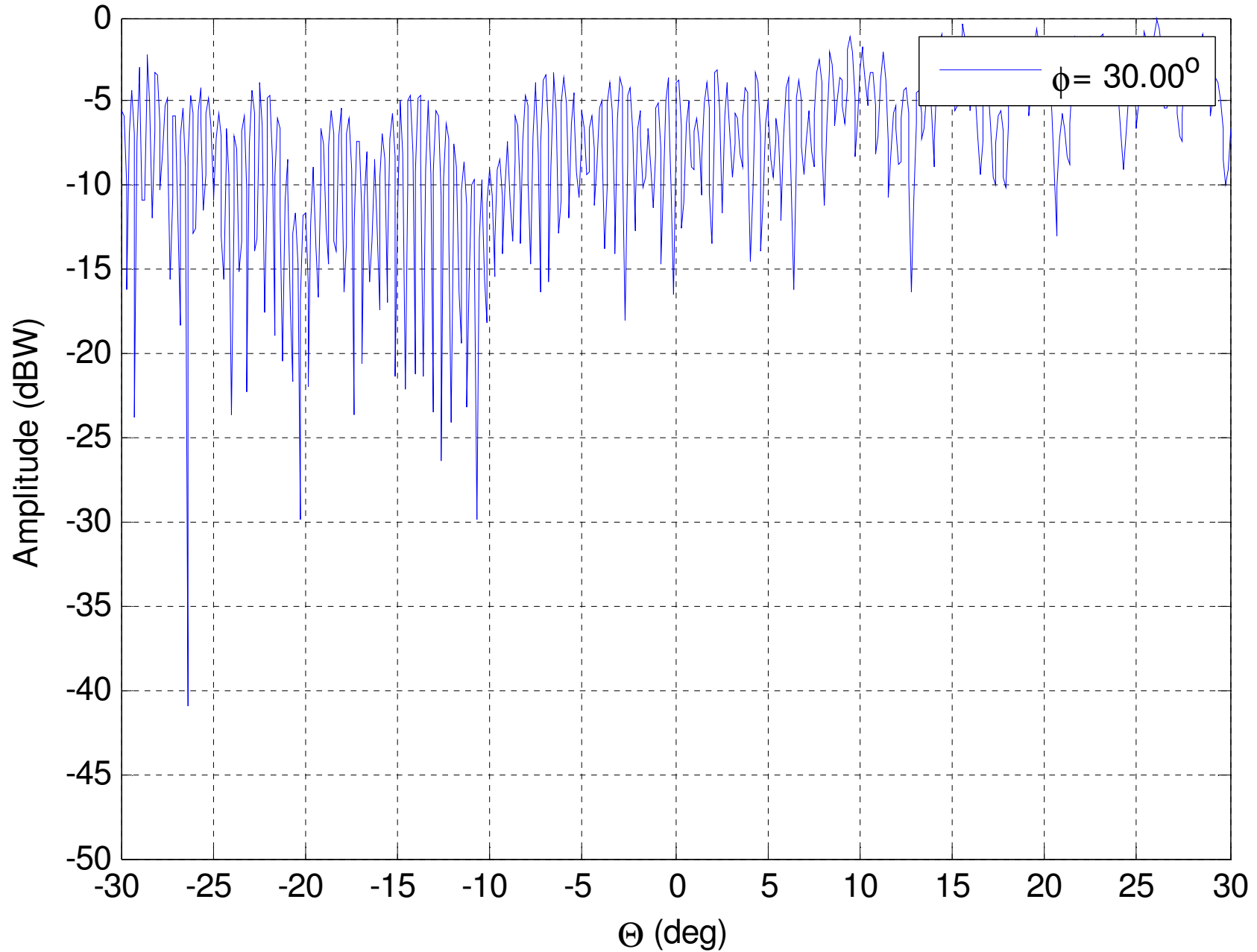
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -6.84 dBW, Date: 16-Dec-2011



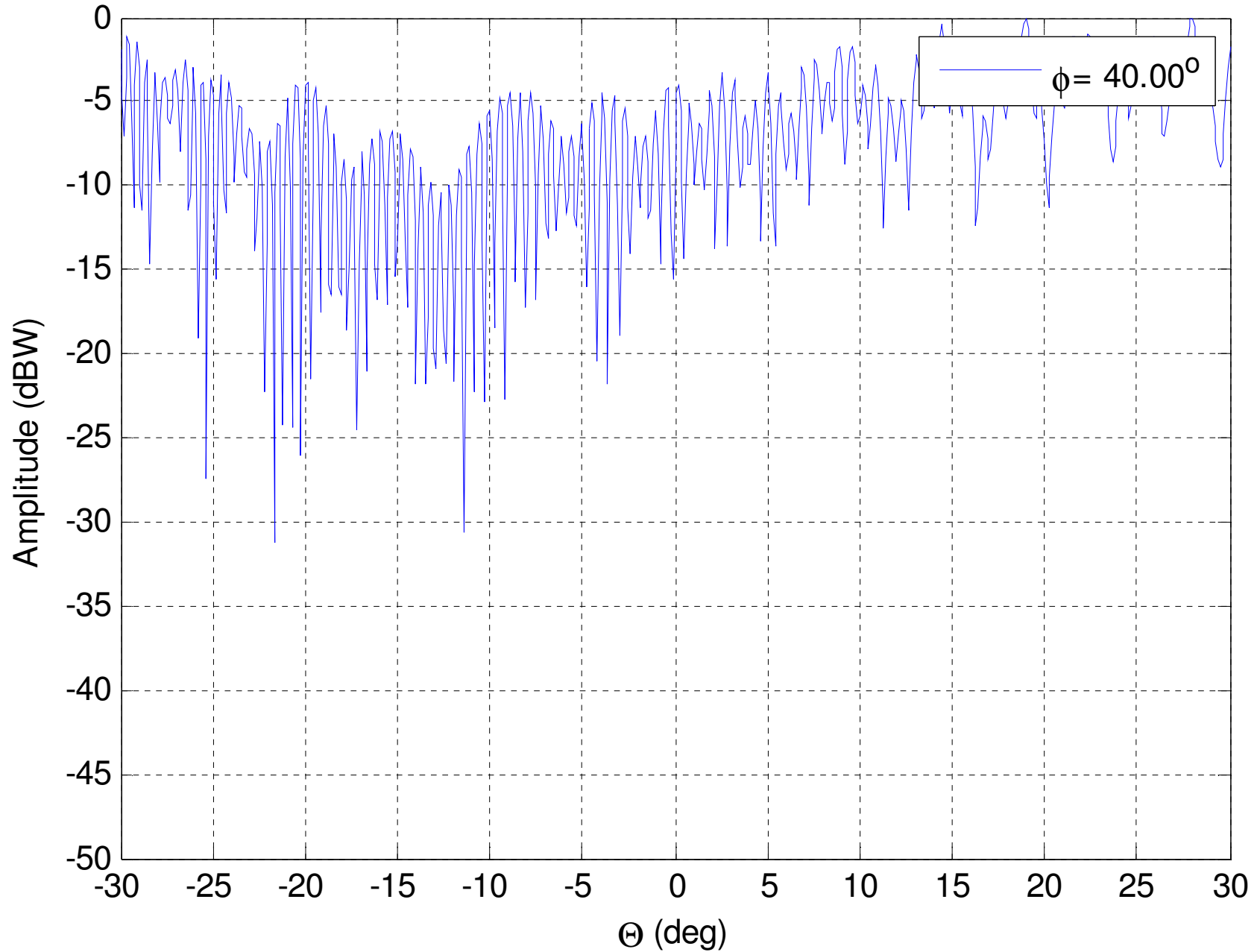
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -6.30 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

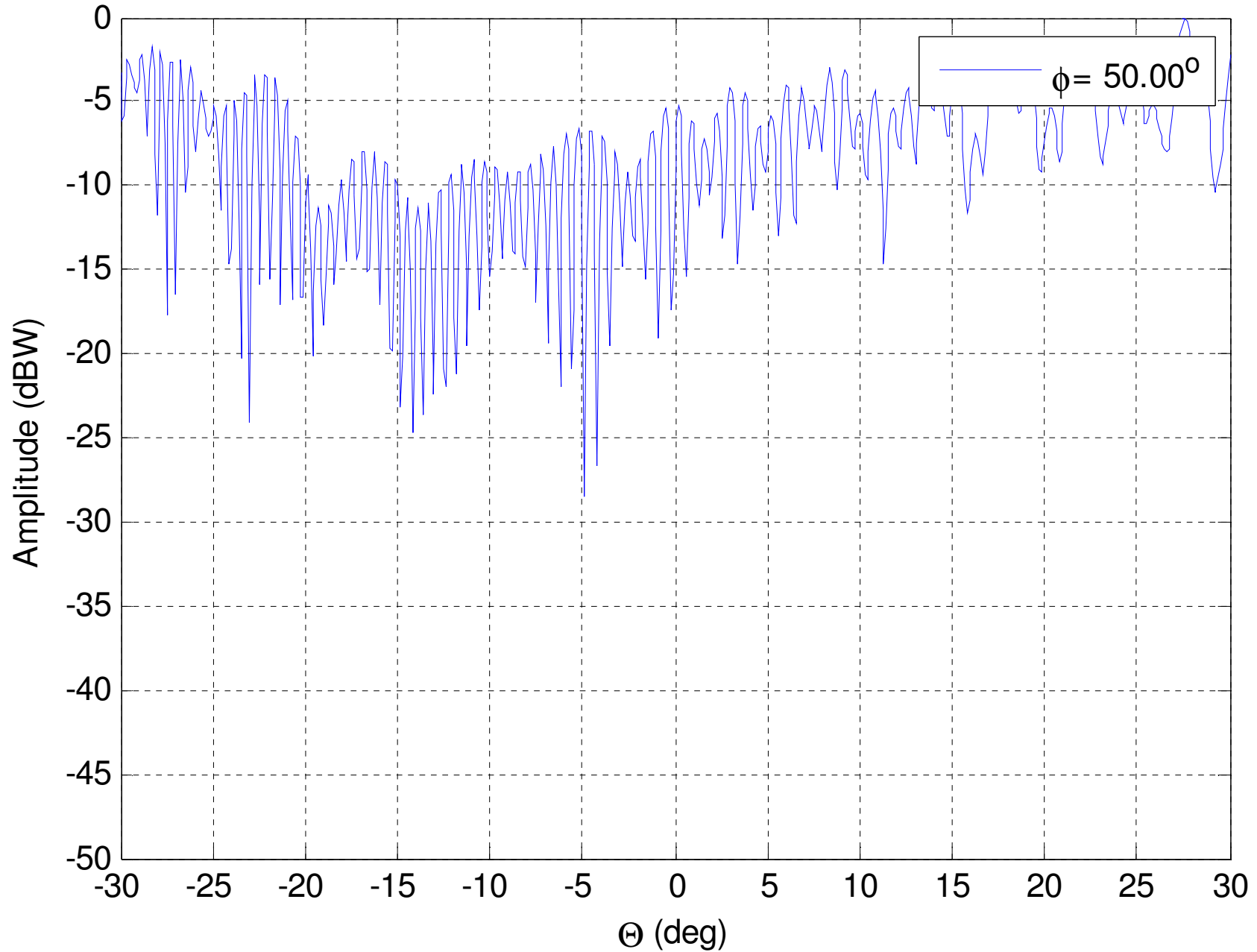
Input file: tx-17.7-lhcp-40.cut, Peak: -5.84 dBW, Date: 16-Dec-2011





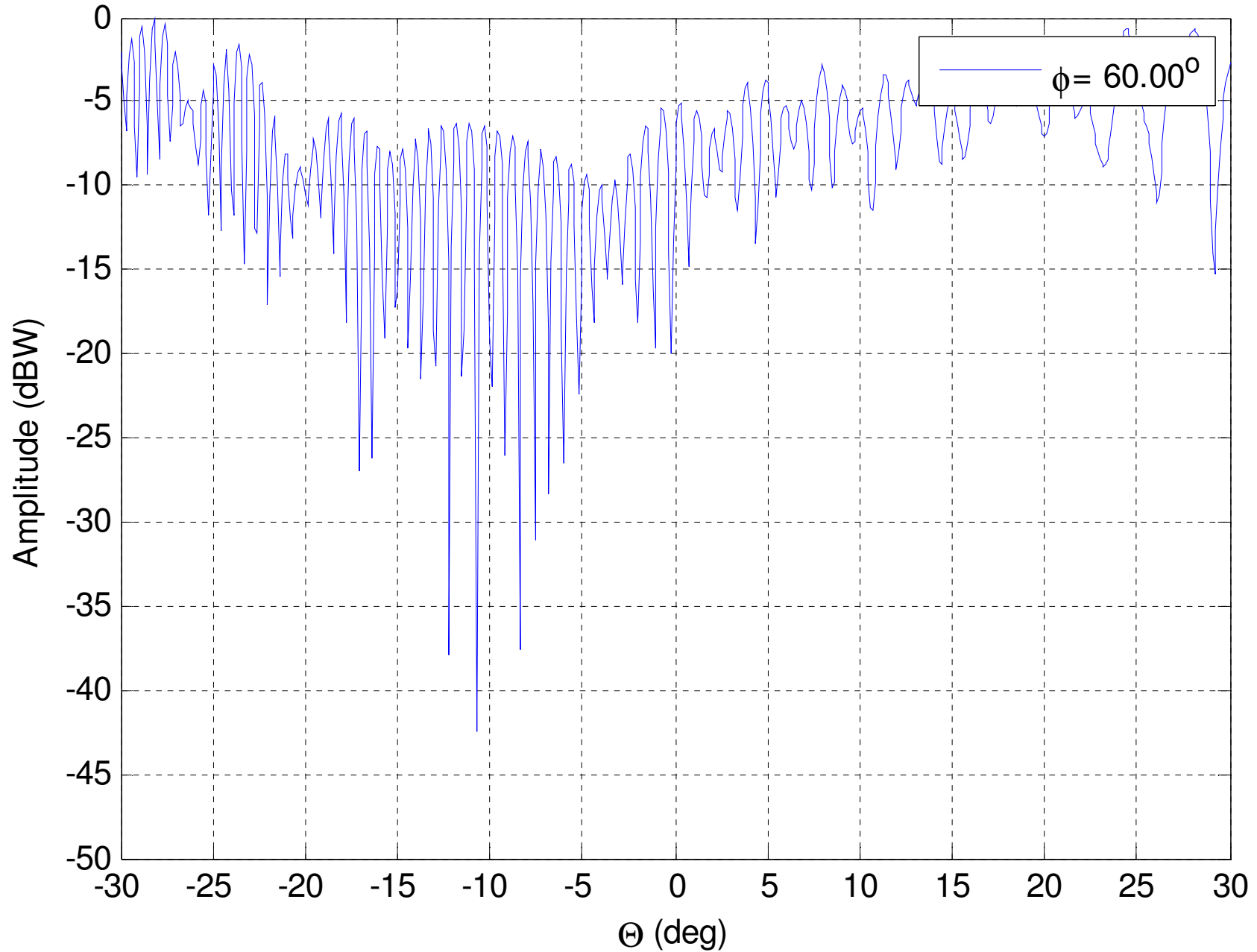
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -4.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -4.67 dBW, Date: 16-Dec-2011



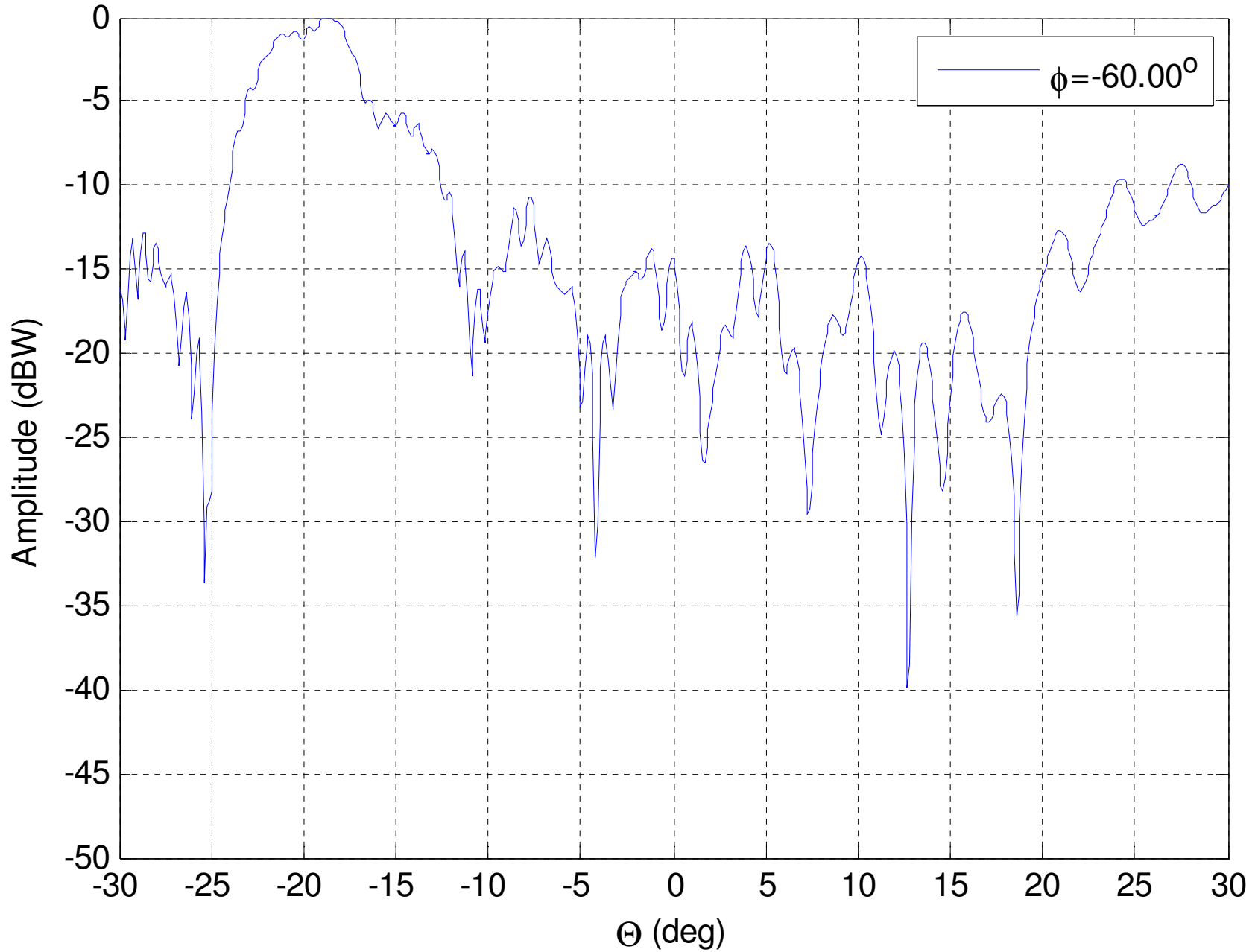
# Spot Beam51, +X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : = +X-axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

# RHCP at 17.3 GHz

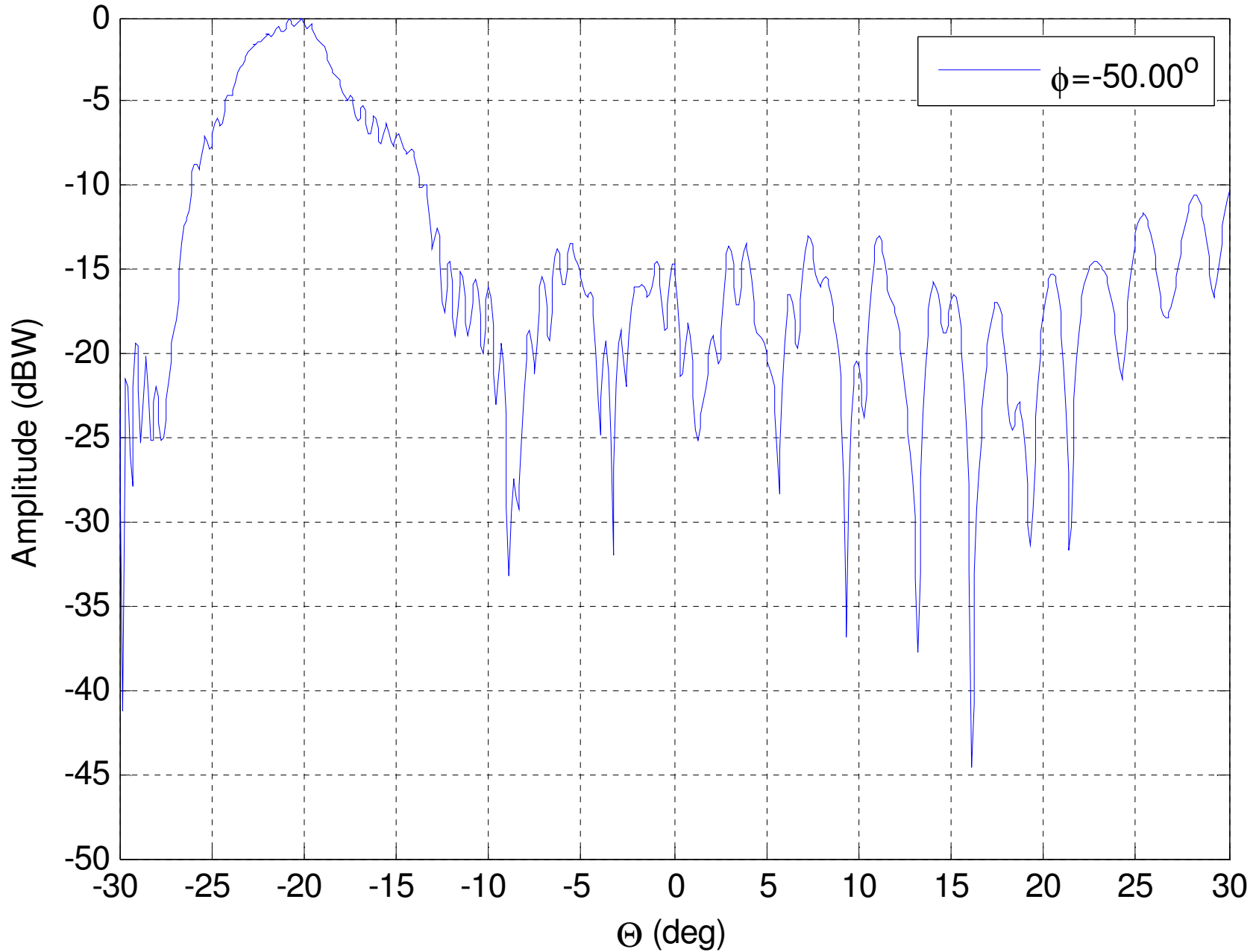
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: 2.29 dBW, Date: 16-Dec-2011



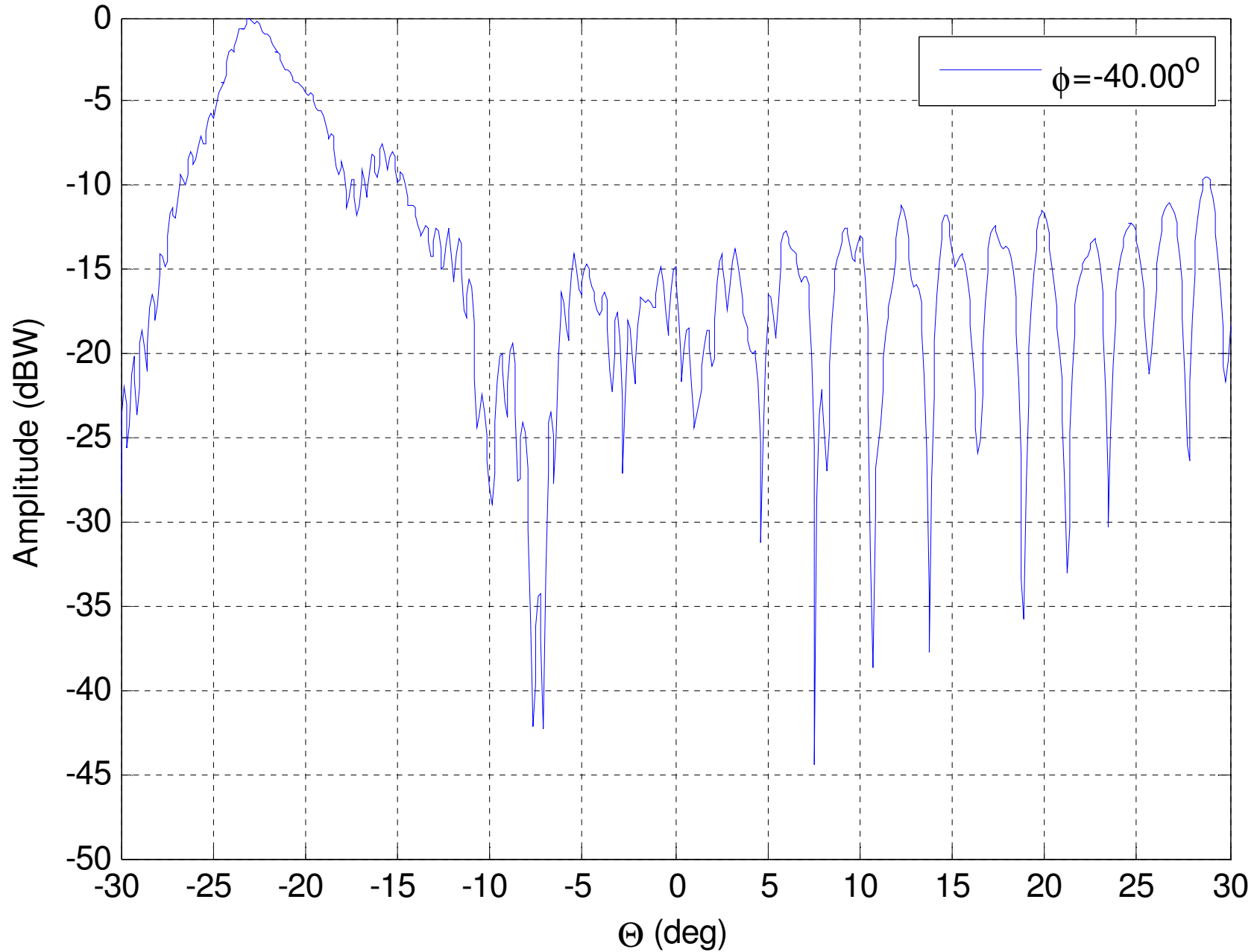
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: 2.57 dBW, Date: 16-Dec-2011



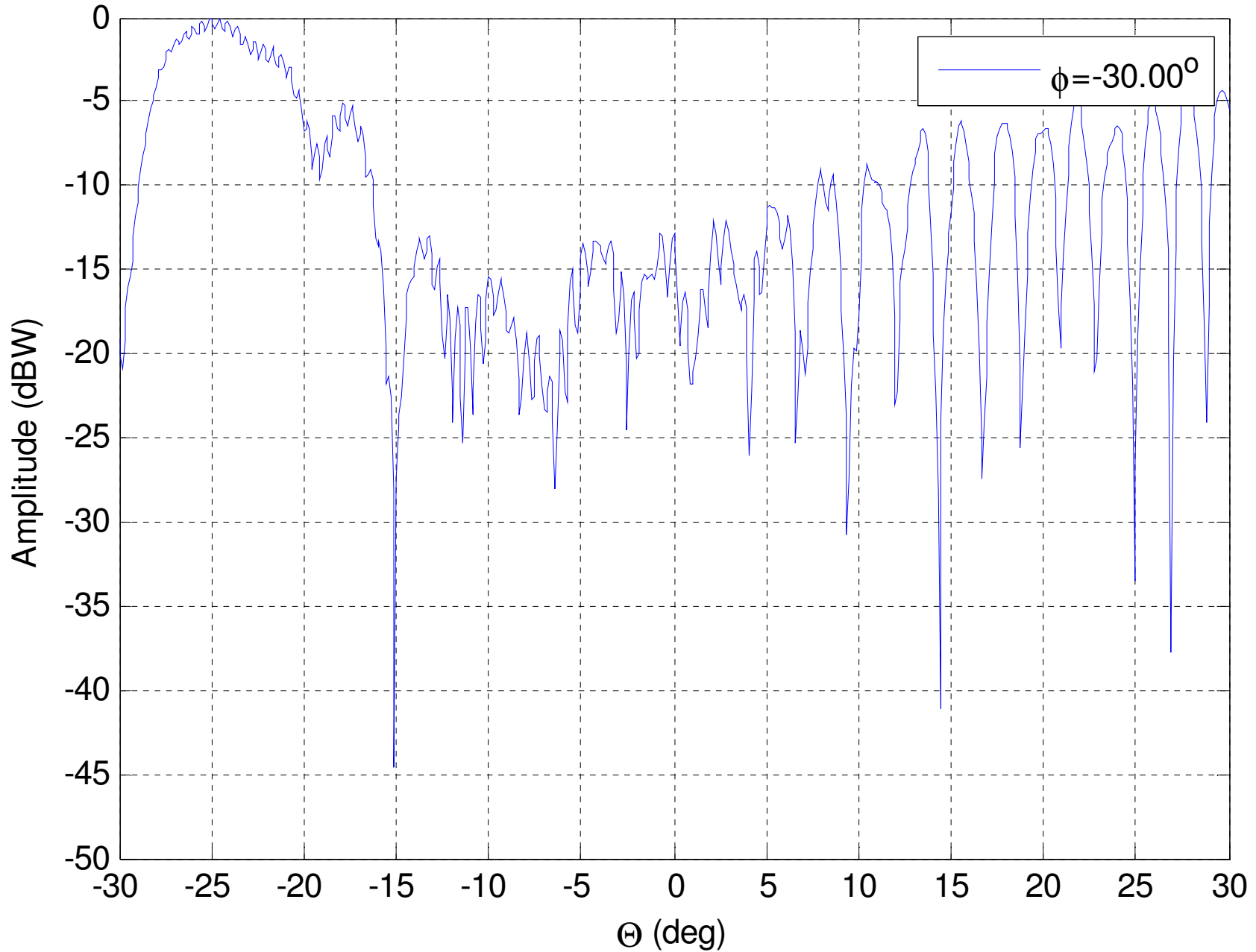
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: 2.76 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

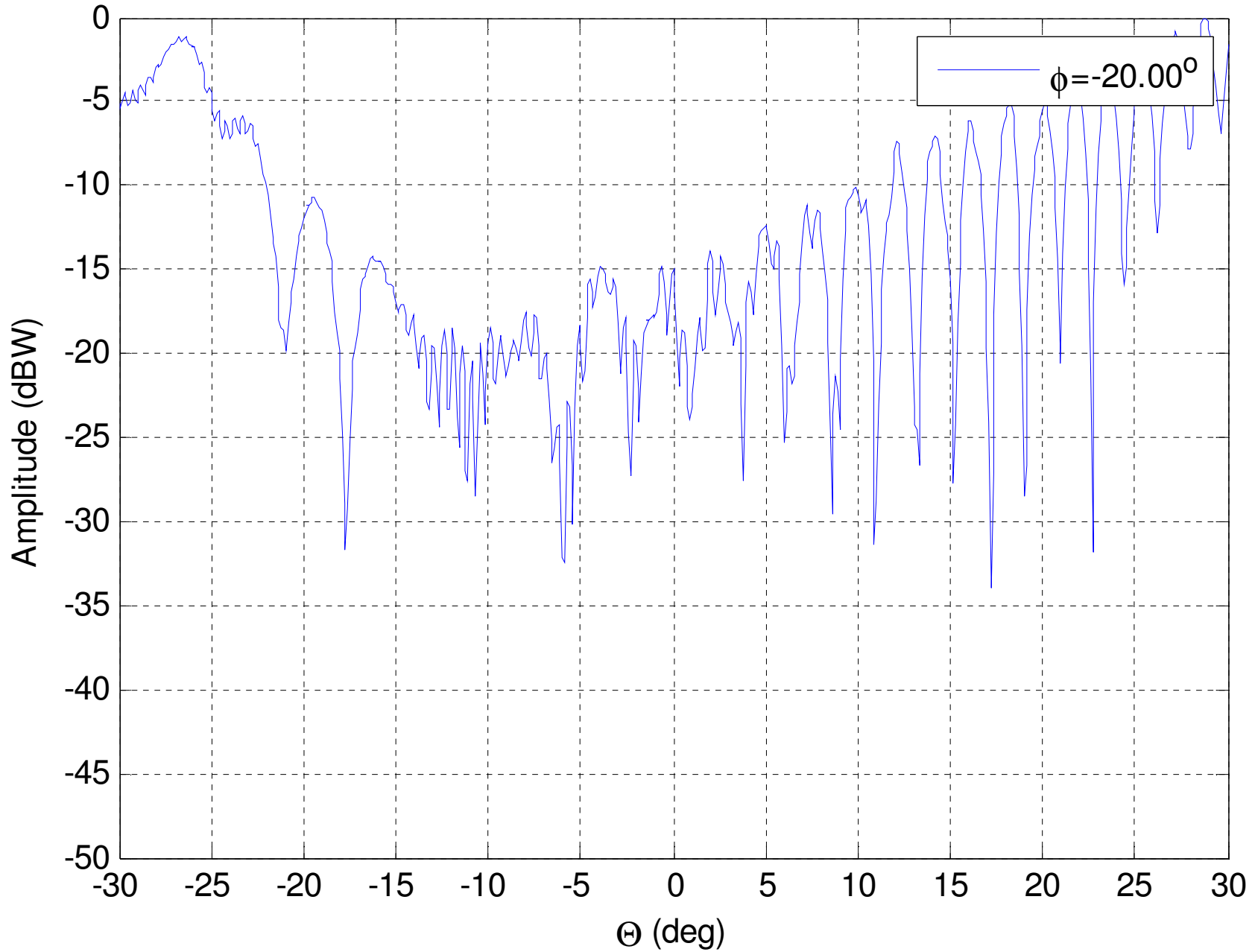
Input file: tx-17.3-rhcp--30.cut, Peak: 0.74 dBW, Date: 16-Dec-2011





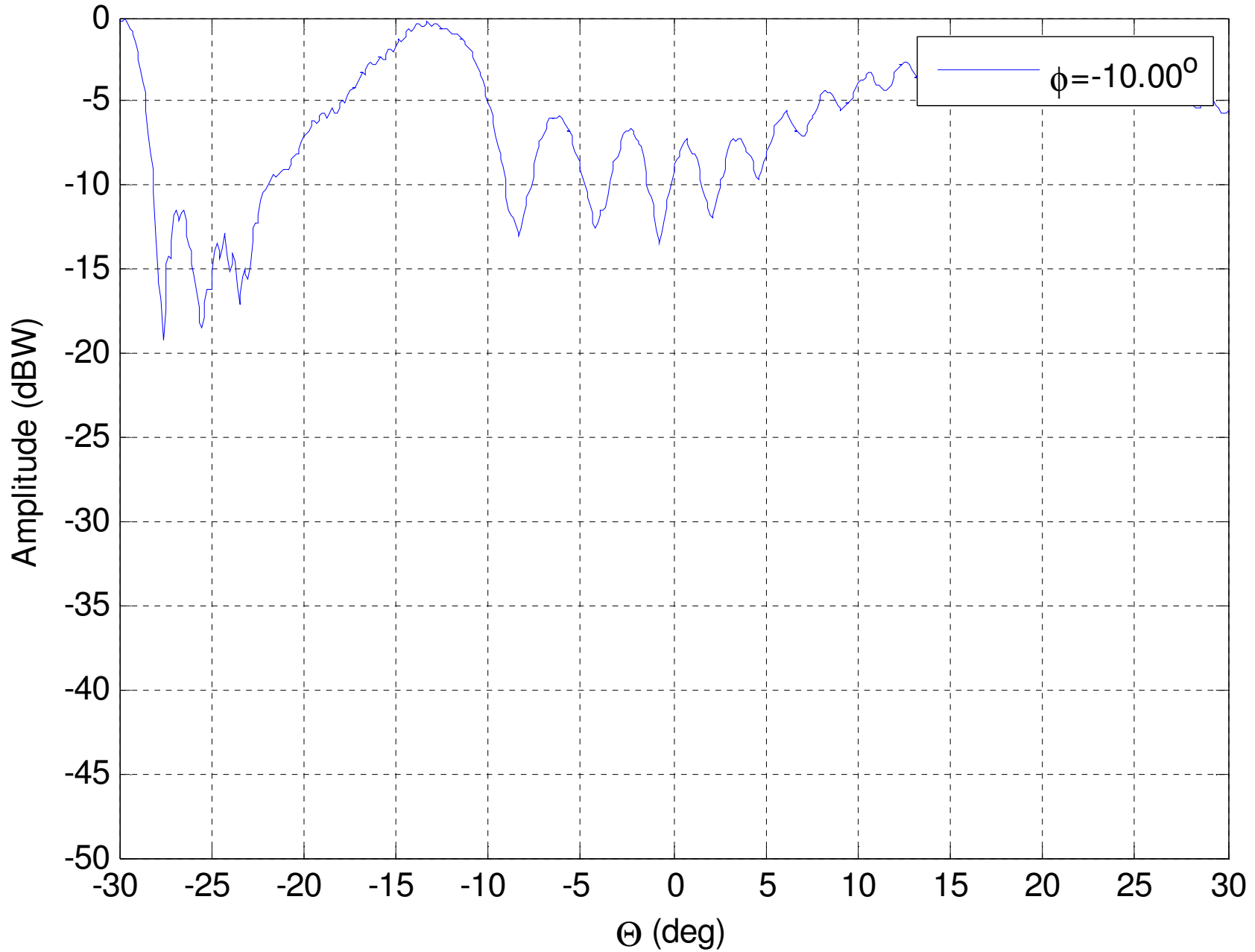
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: 2.87 dBW, Date: 16-Dec-2011



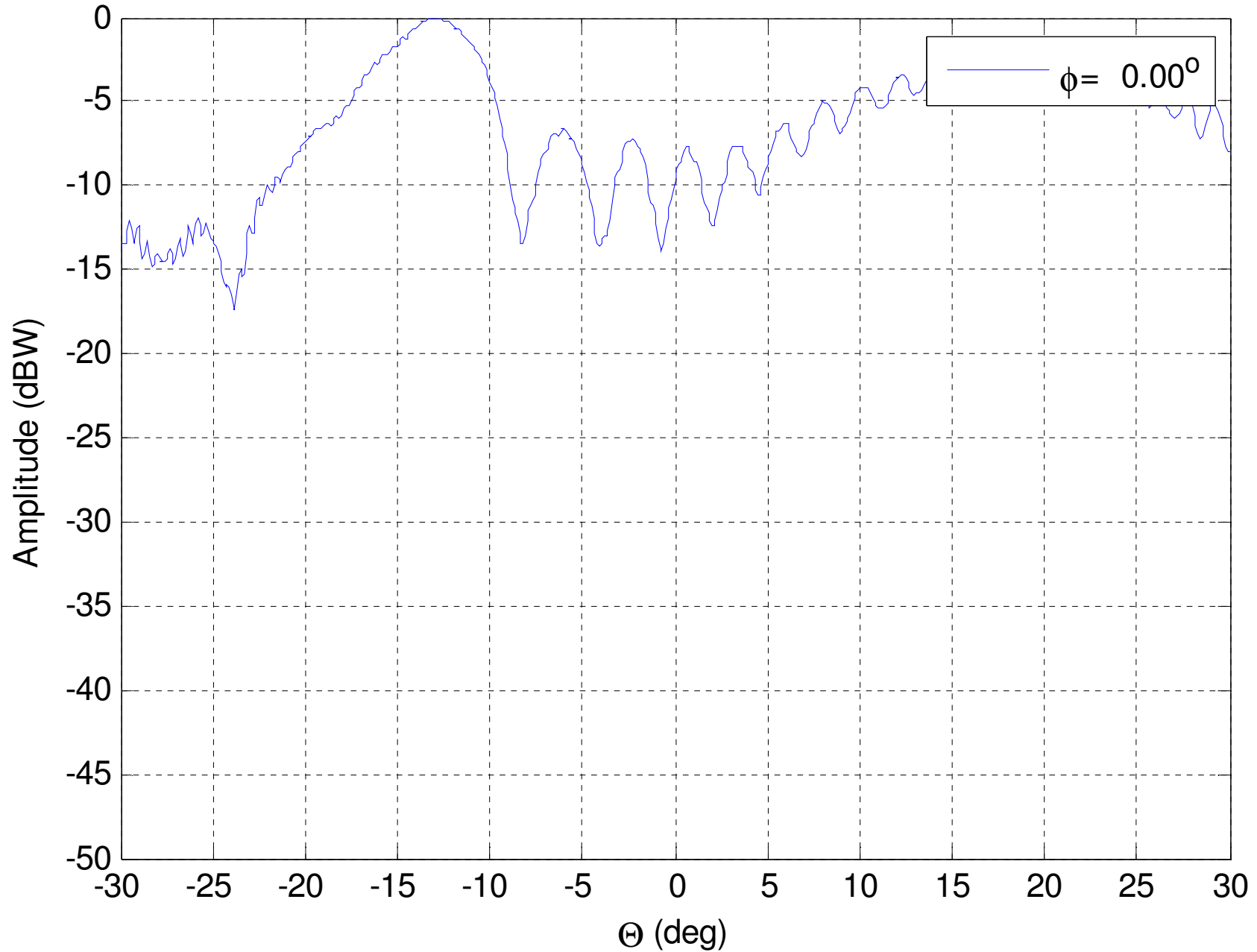
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: 7.60 dBW, Date: 16-Dec-2011



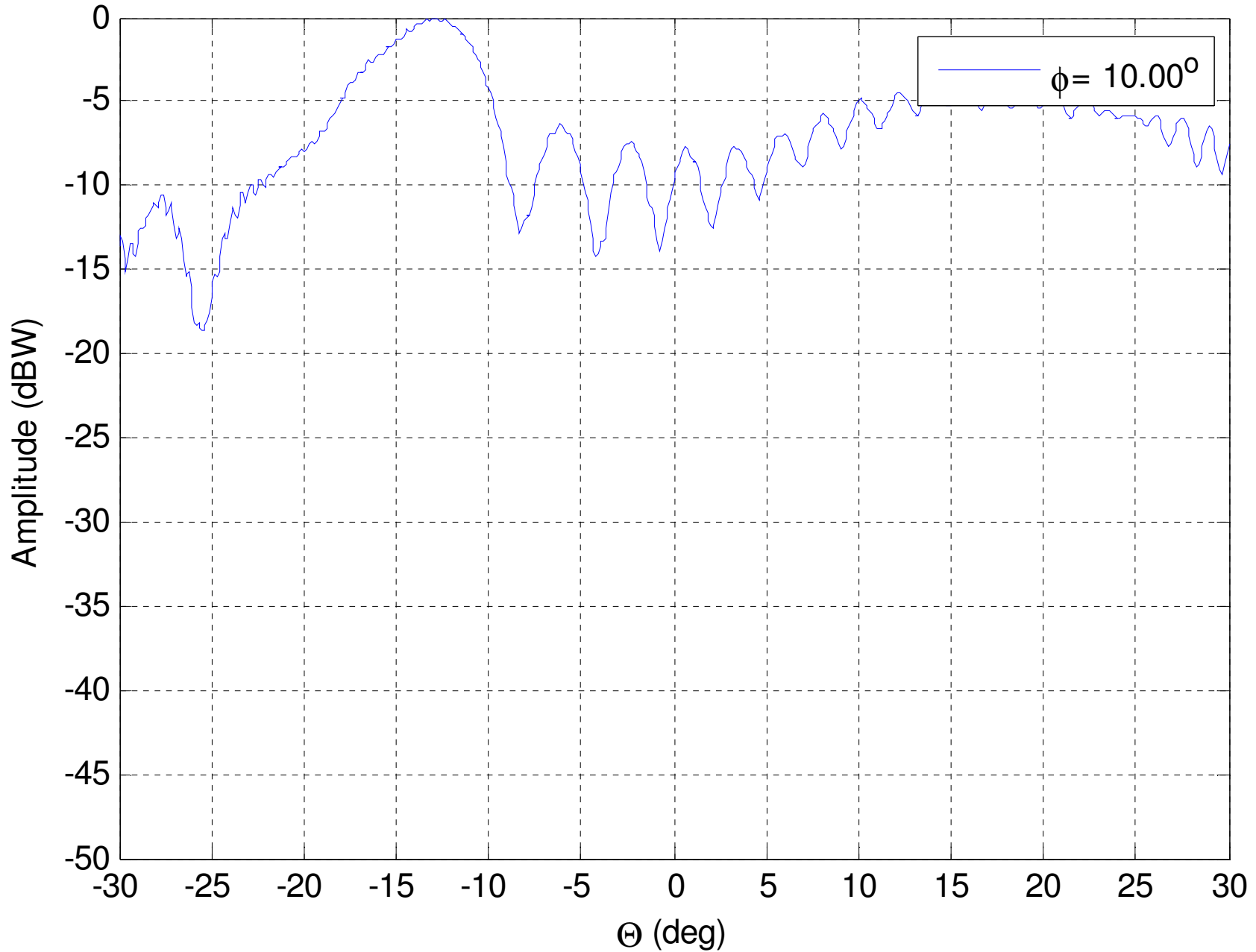
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: 8.06 dBW, Date: 16-Dec-2011



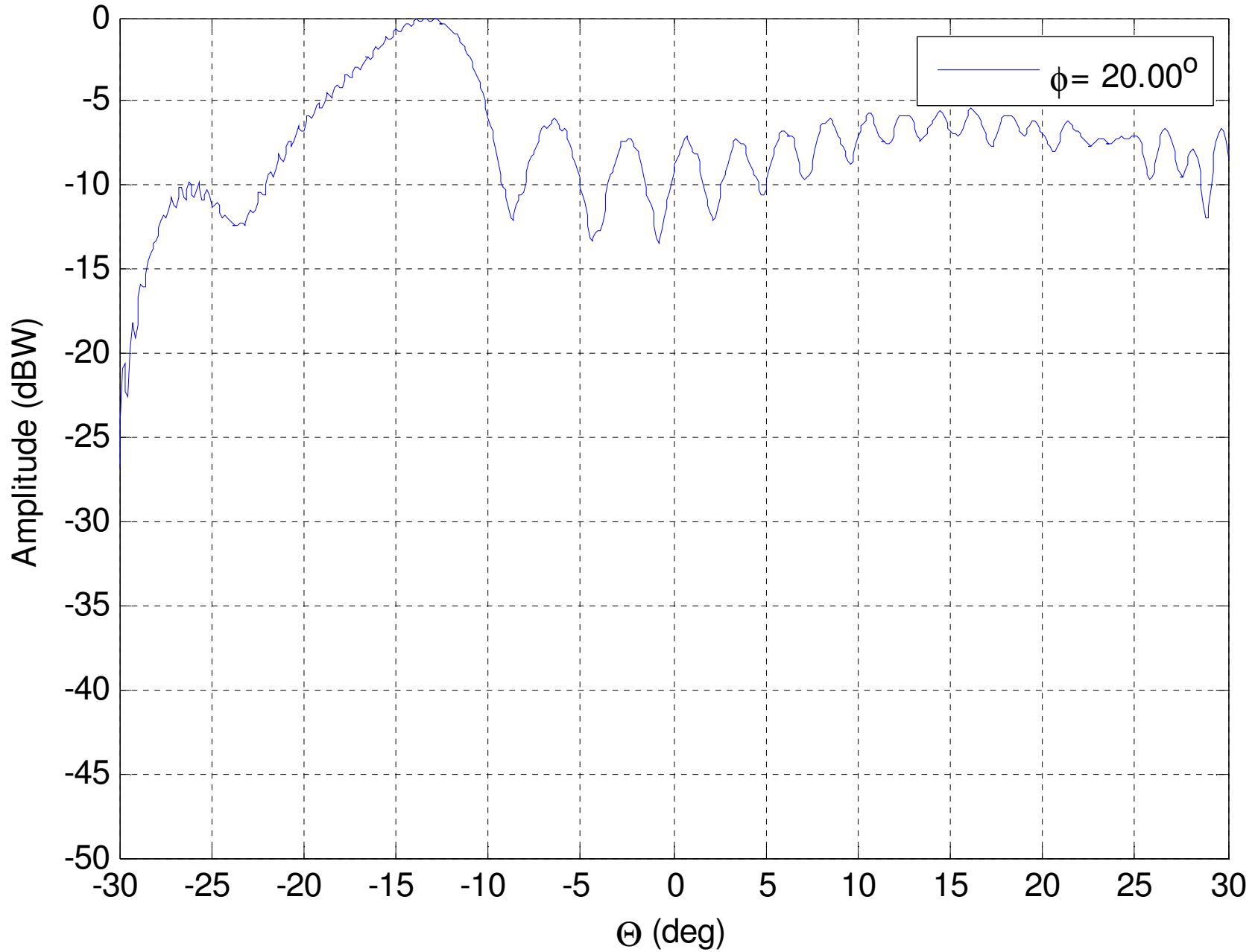
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: 8.09 dBW, Date: 16-Dec-2011



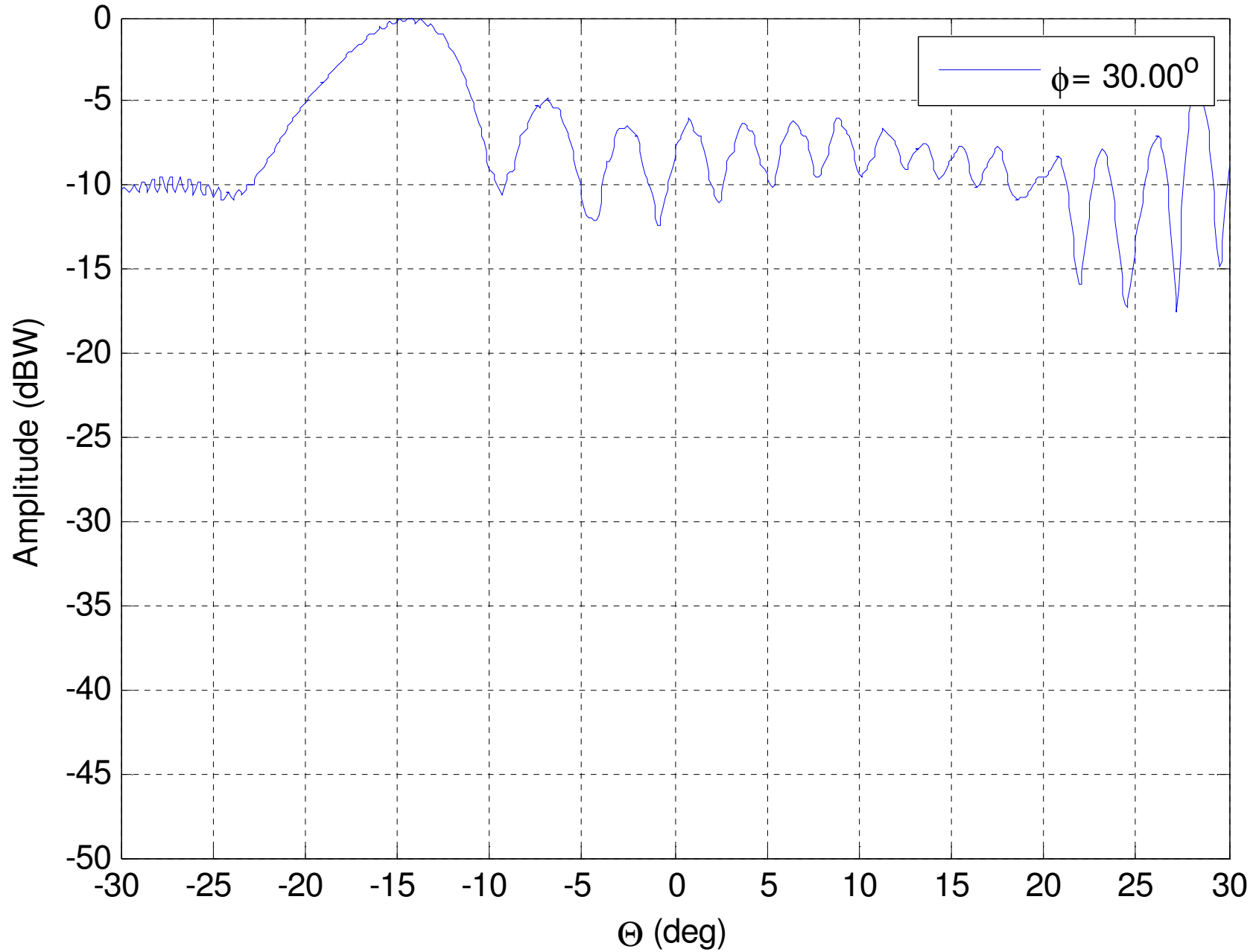
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: 7.63 dBW, Date: 16-Dec-2011



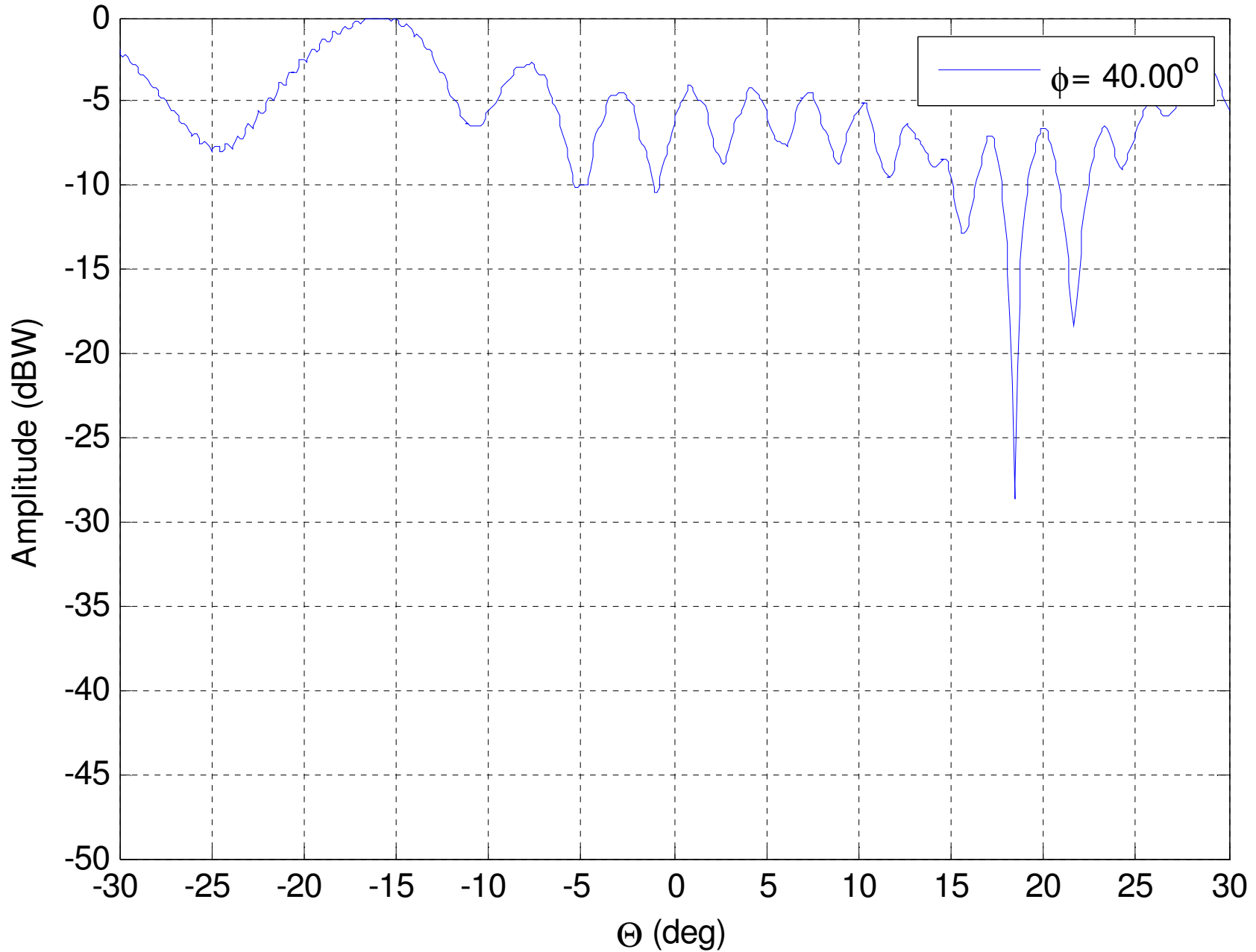
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: 6.65 dBW, Date: 16-Dec-2011



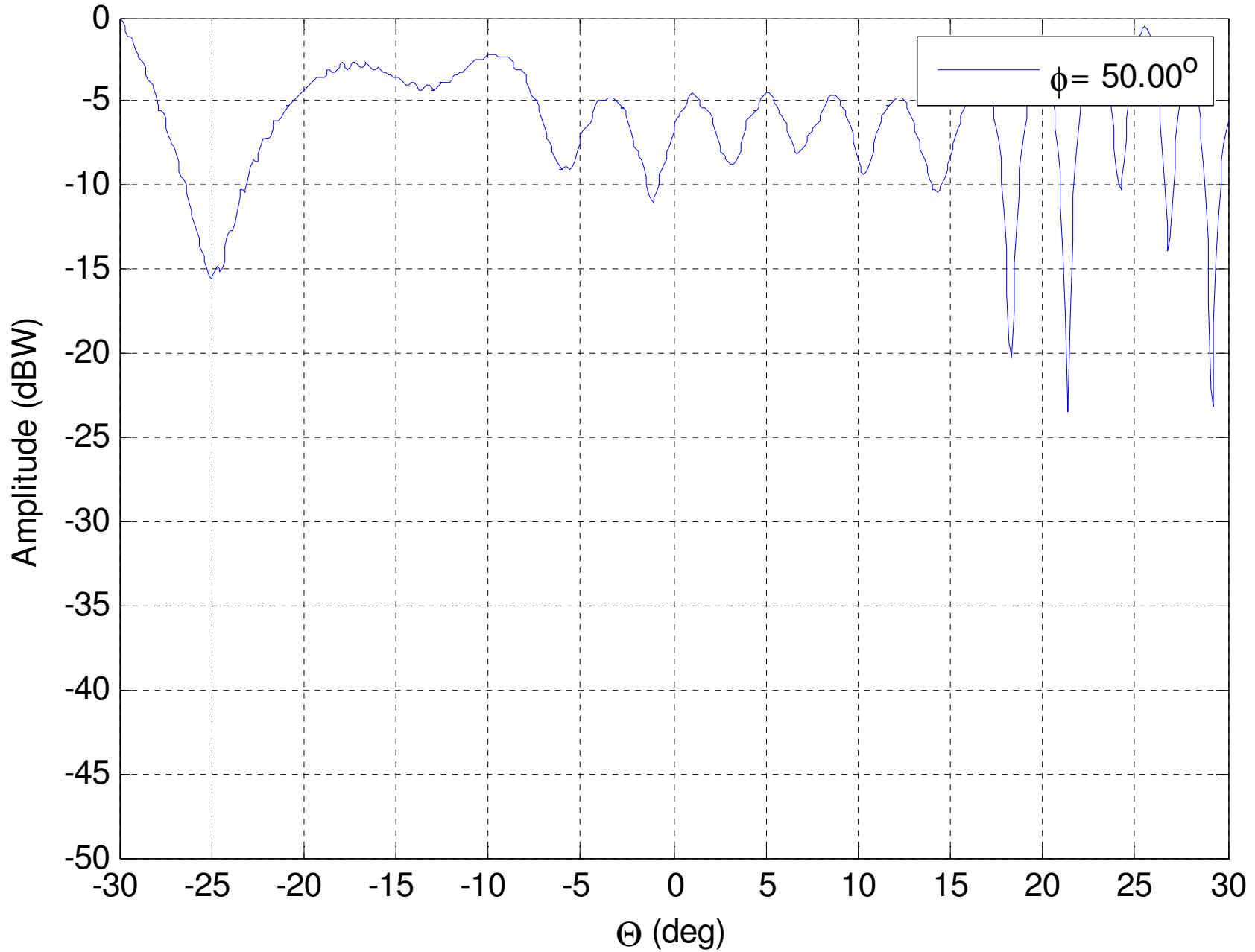
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: 4.68 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

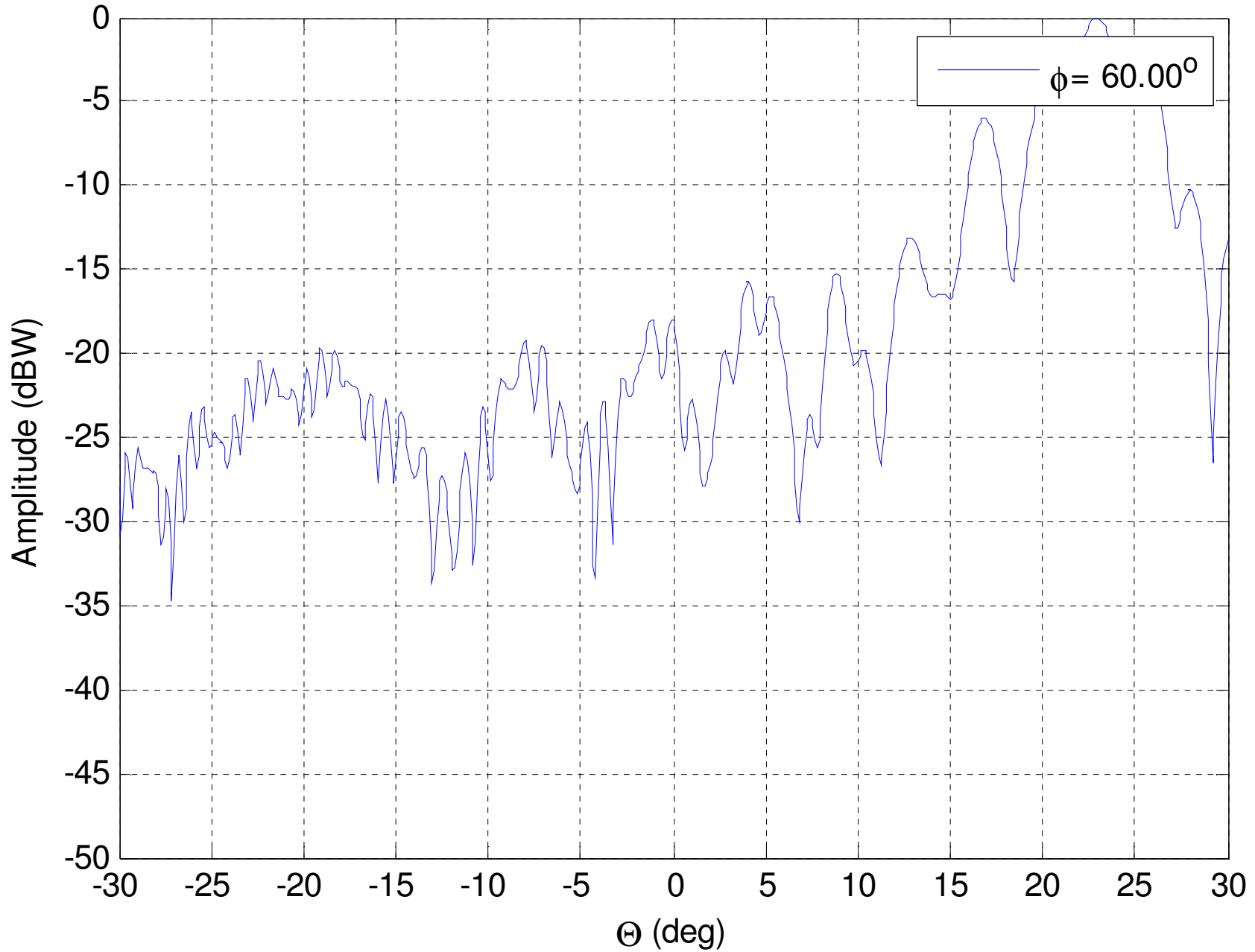
Input file: tx-17.3-rhcp-50.cut, Peak: 5.17 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

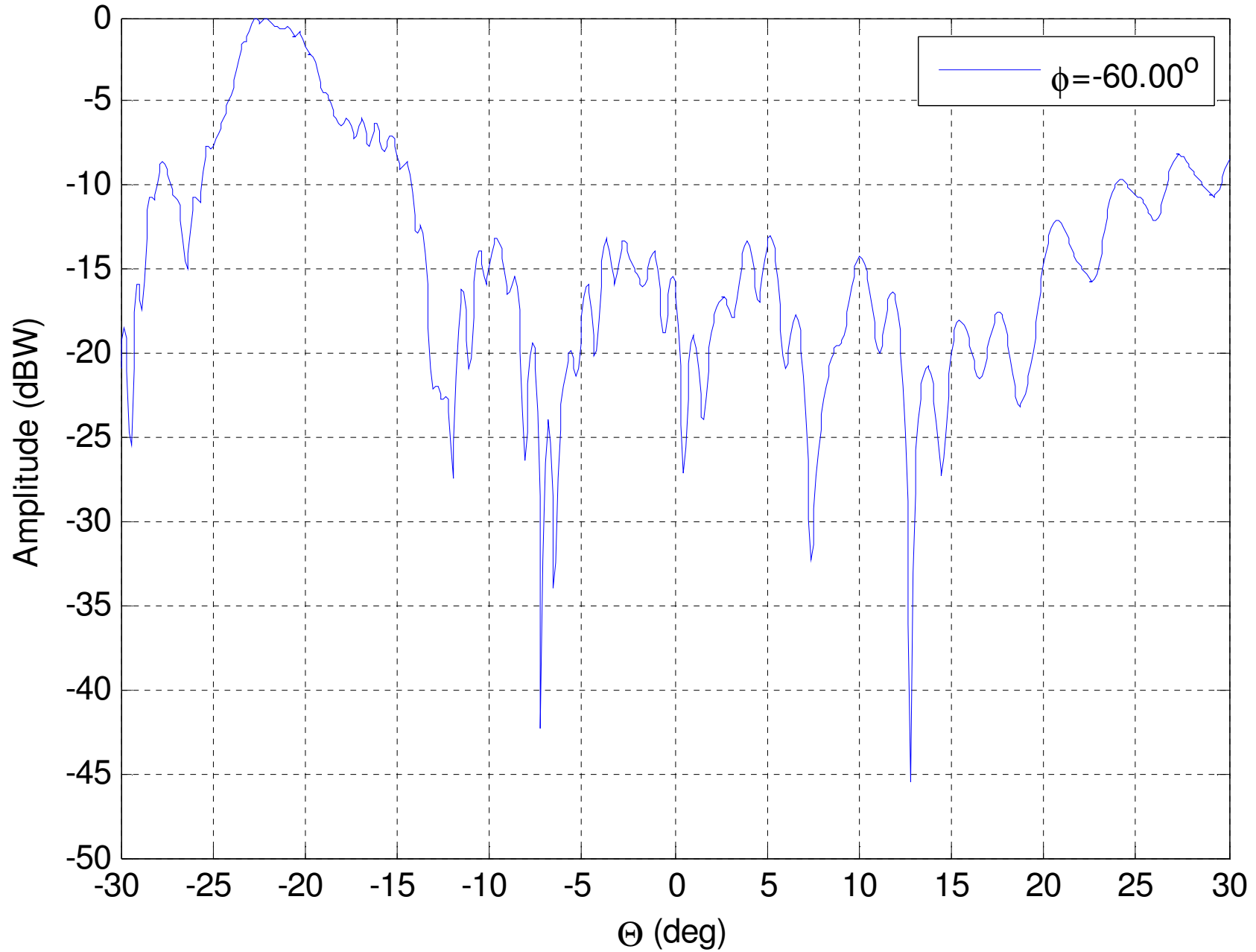
Input file: tx-17.3-rhcp-60.cut, Peak: 5.95 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

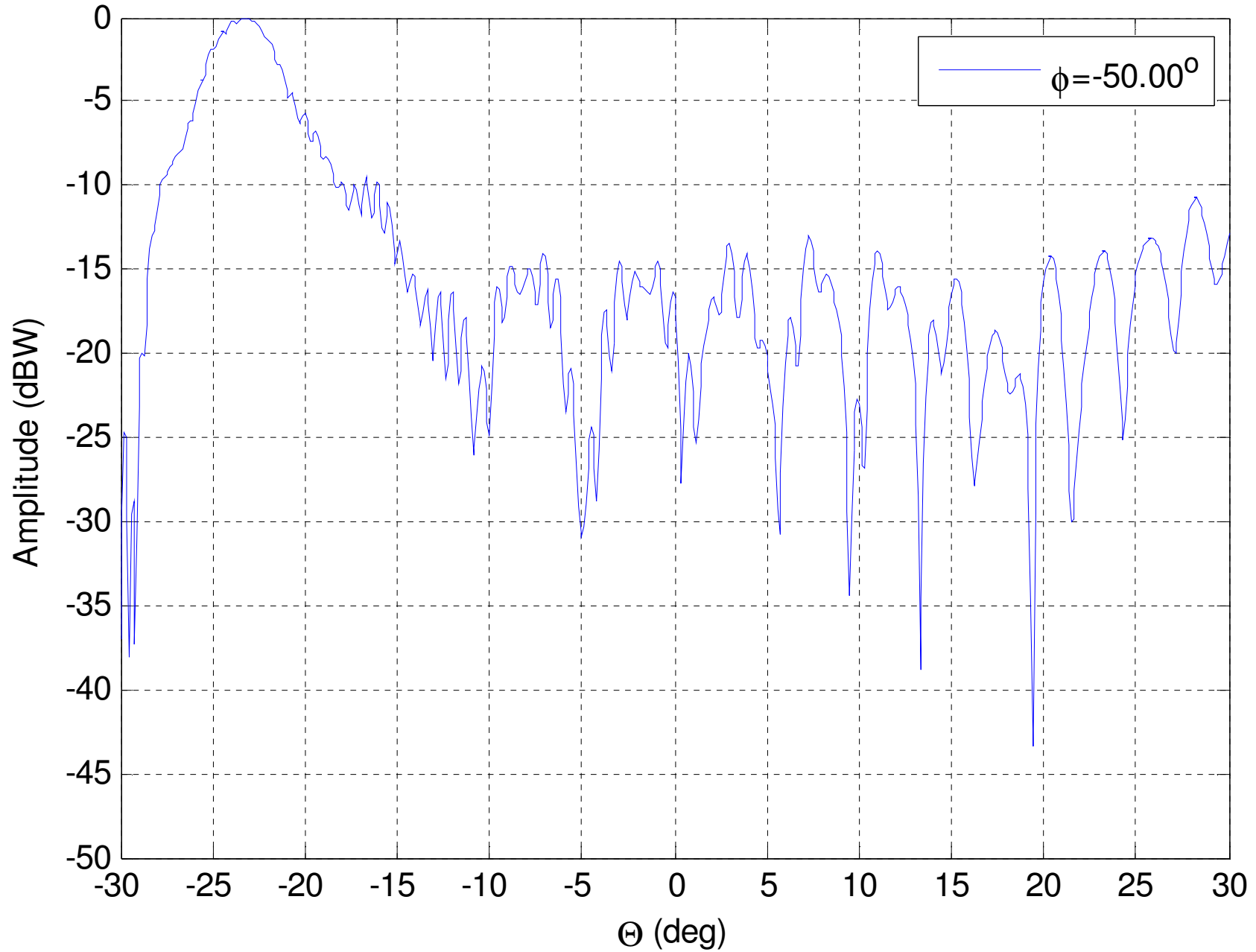
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: 1.64 dBW, Date: 16-Dec-2011



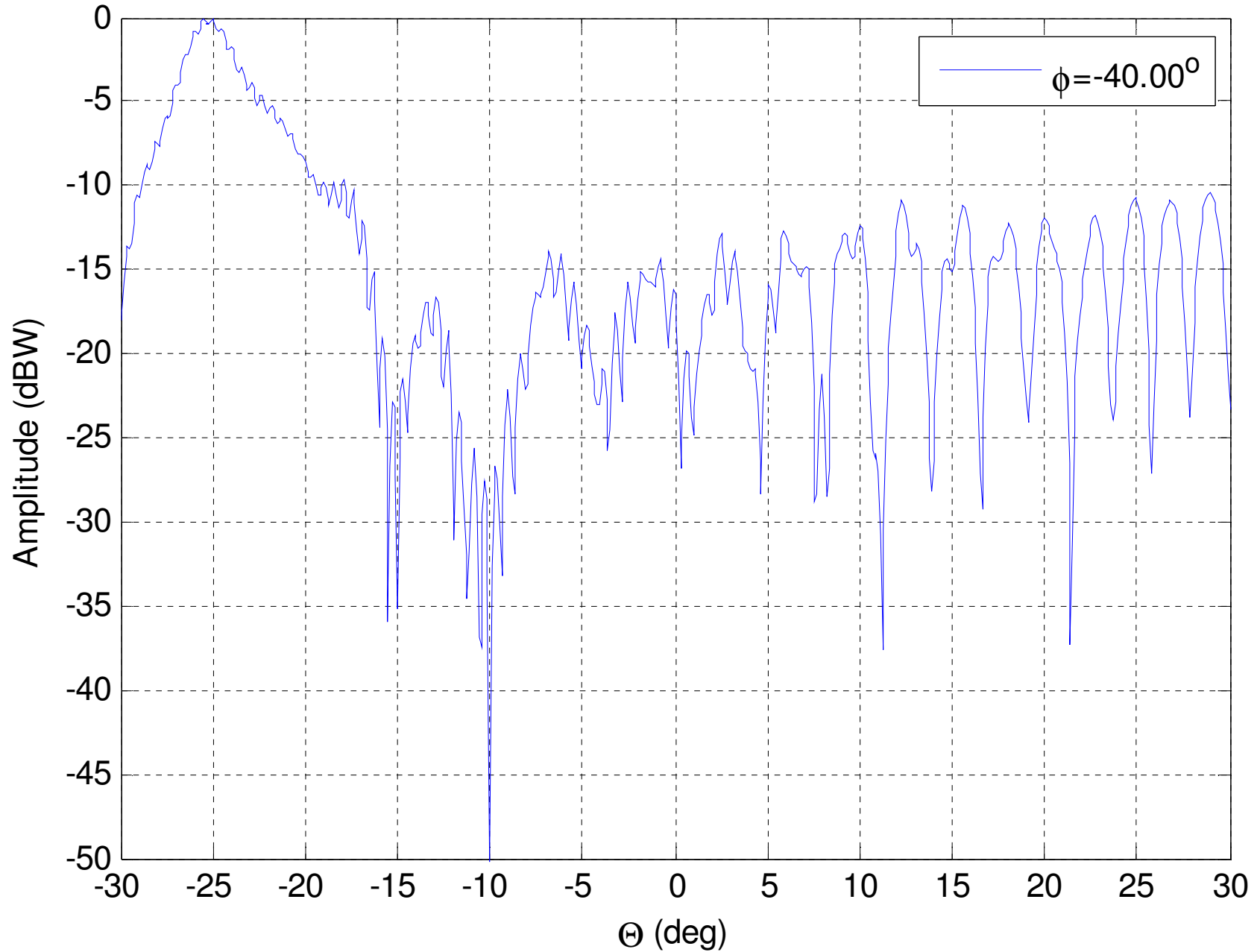
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: 2.55 dBW, Date: 16-Dec-2011



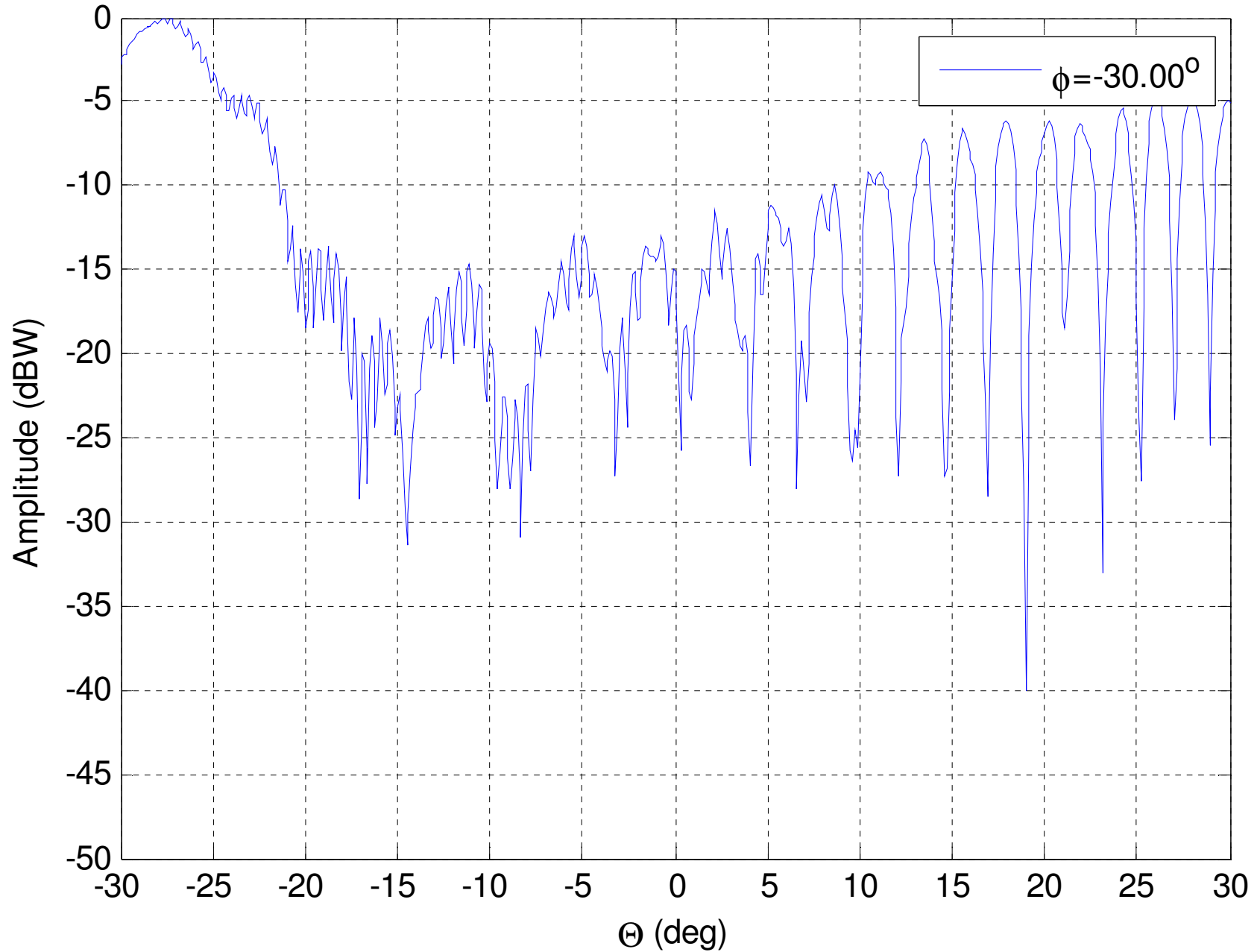
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: 2.42 dBW, Date: 16-Dec-2011



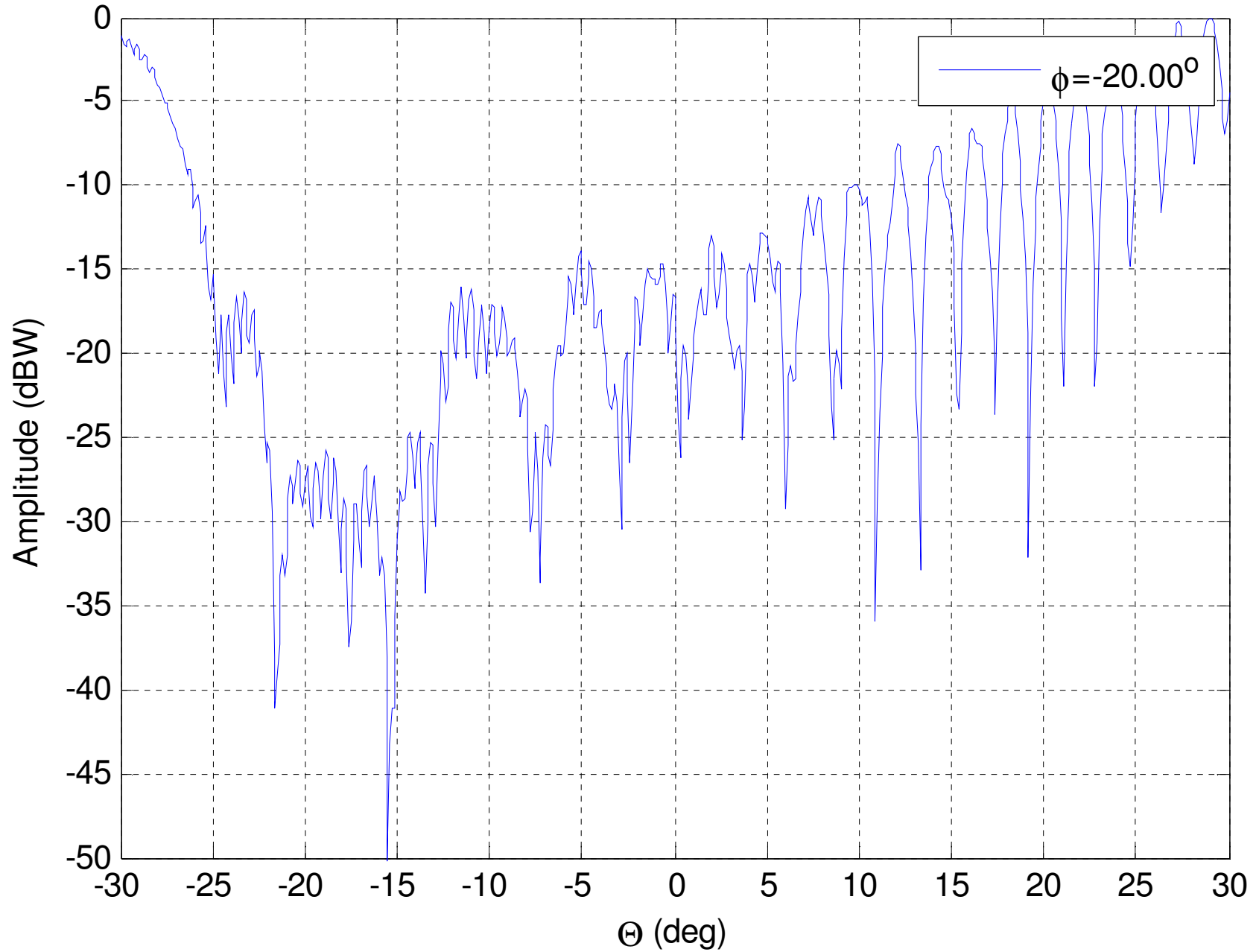
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: 1.07 dBW, Date: 16-Dec-2011



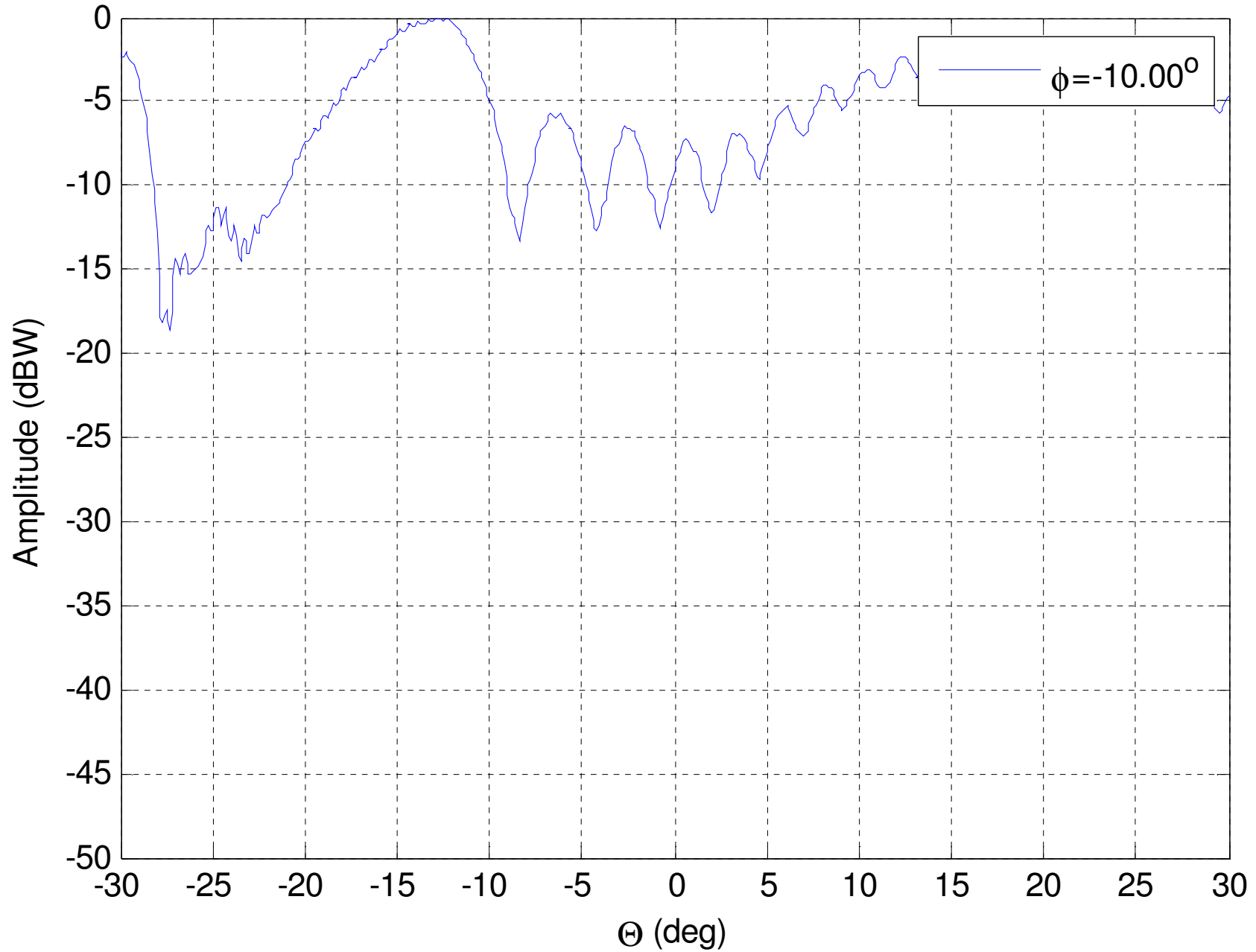
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: 2.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

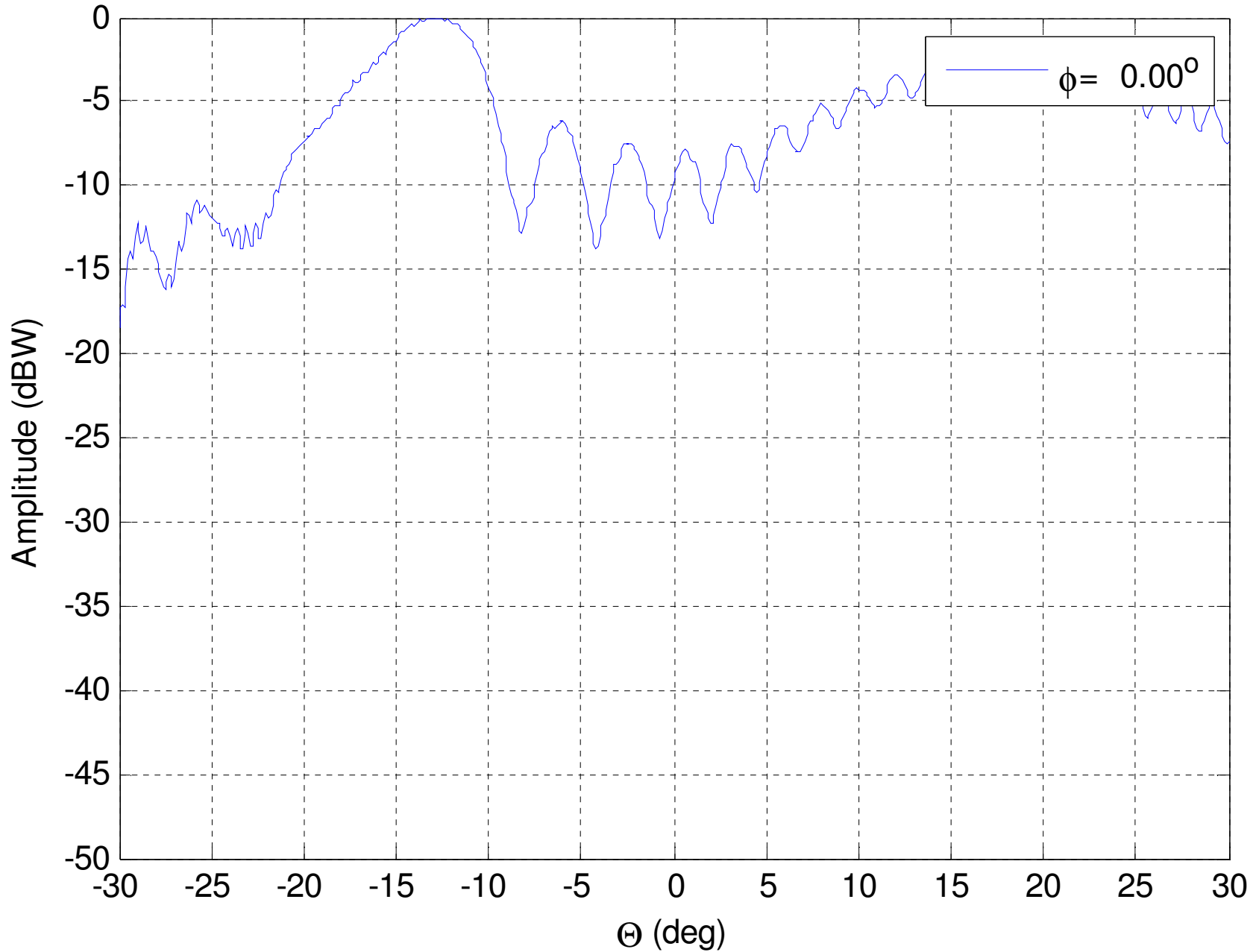
Input file: tx-17.3-lhcp--10.cut, Peak: 7.36 dBW, Date: 16-Dec-2011





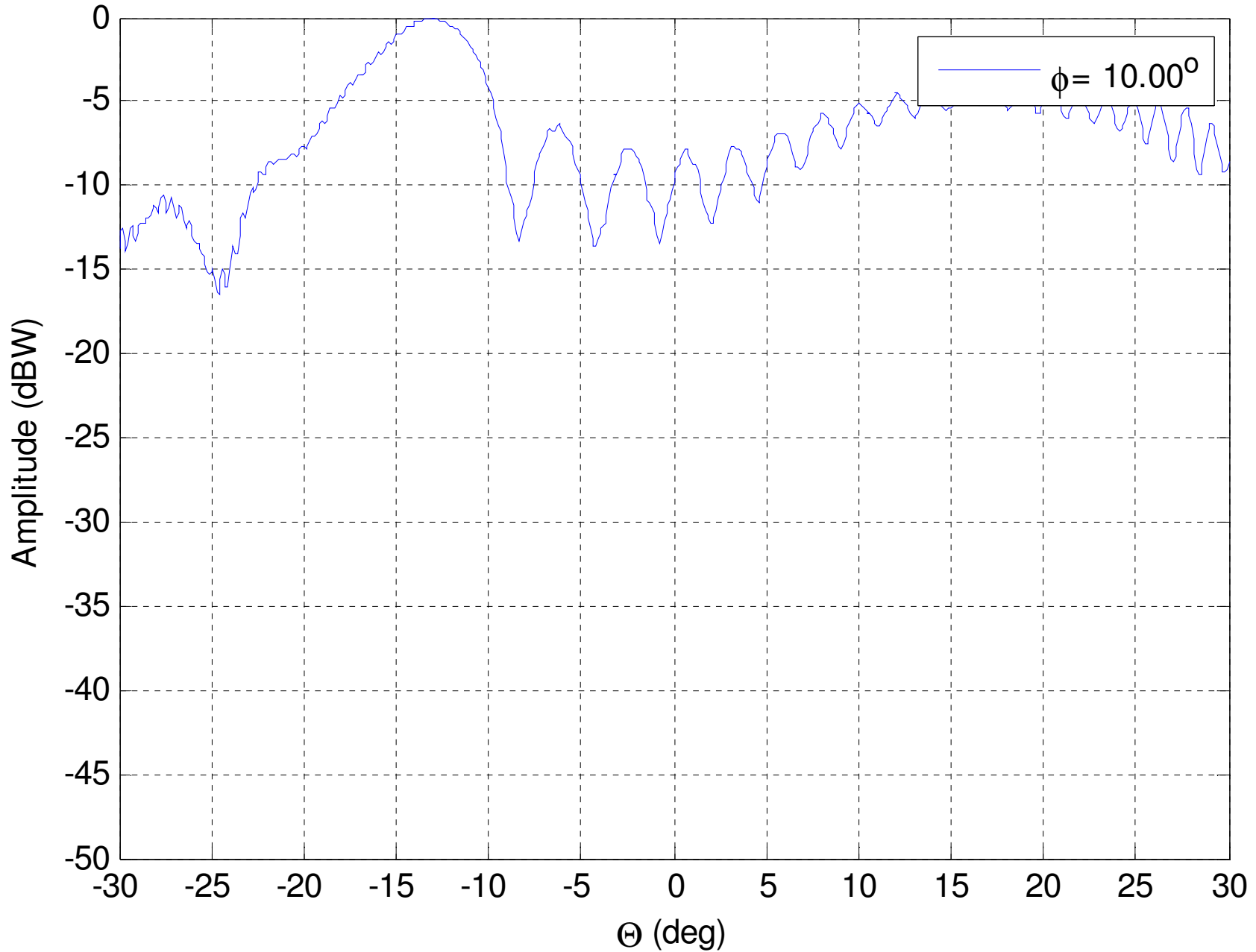
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: 7.97 dBW, Date: 16-Dec-2011



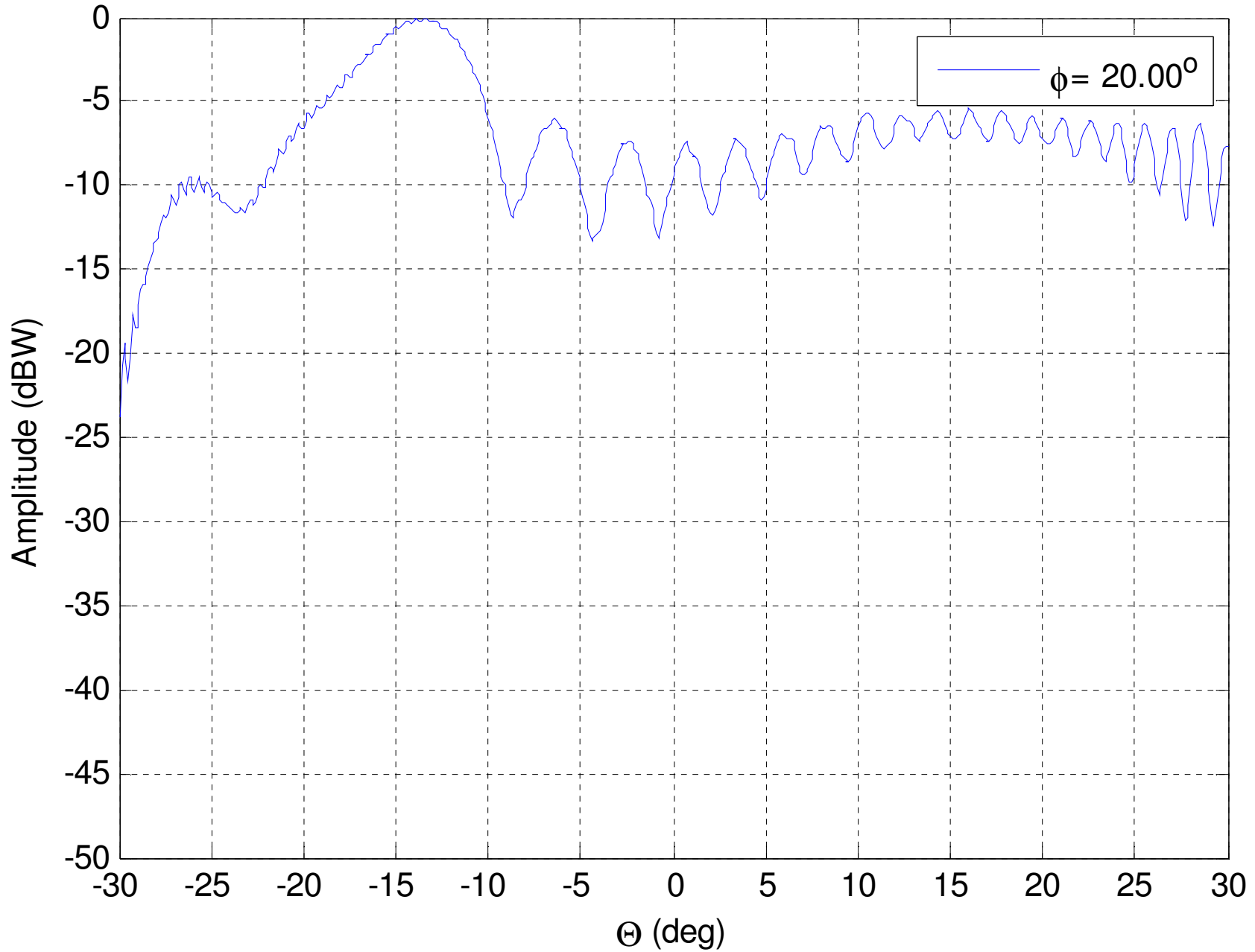
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: 8.09 dBW, Date: 16-Dec-2011



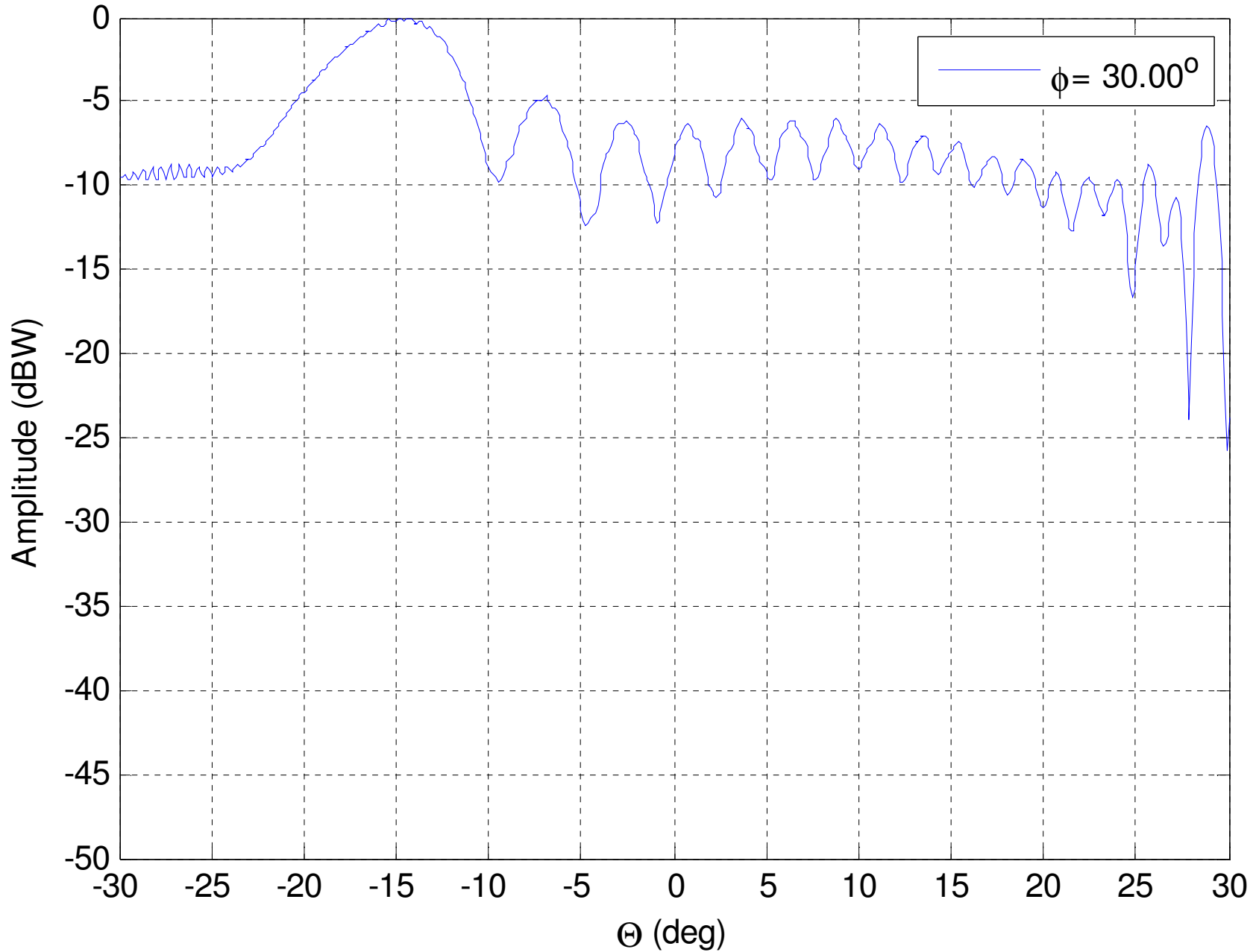
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: 7.68 dBW, Date: 16-Dec-2011



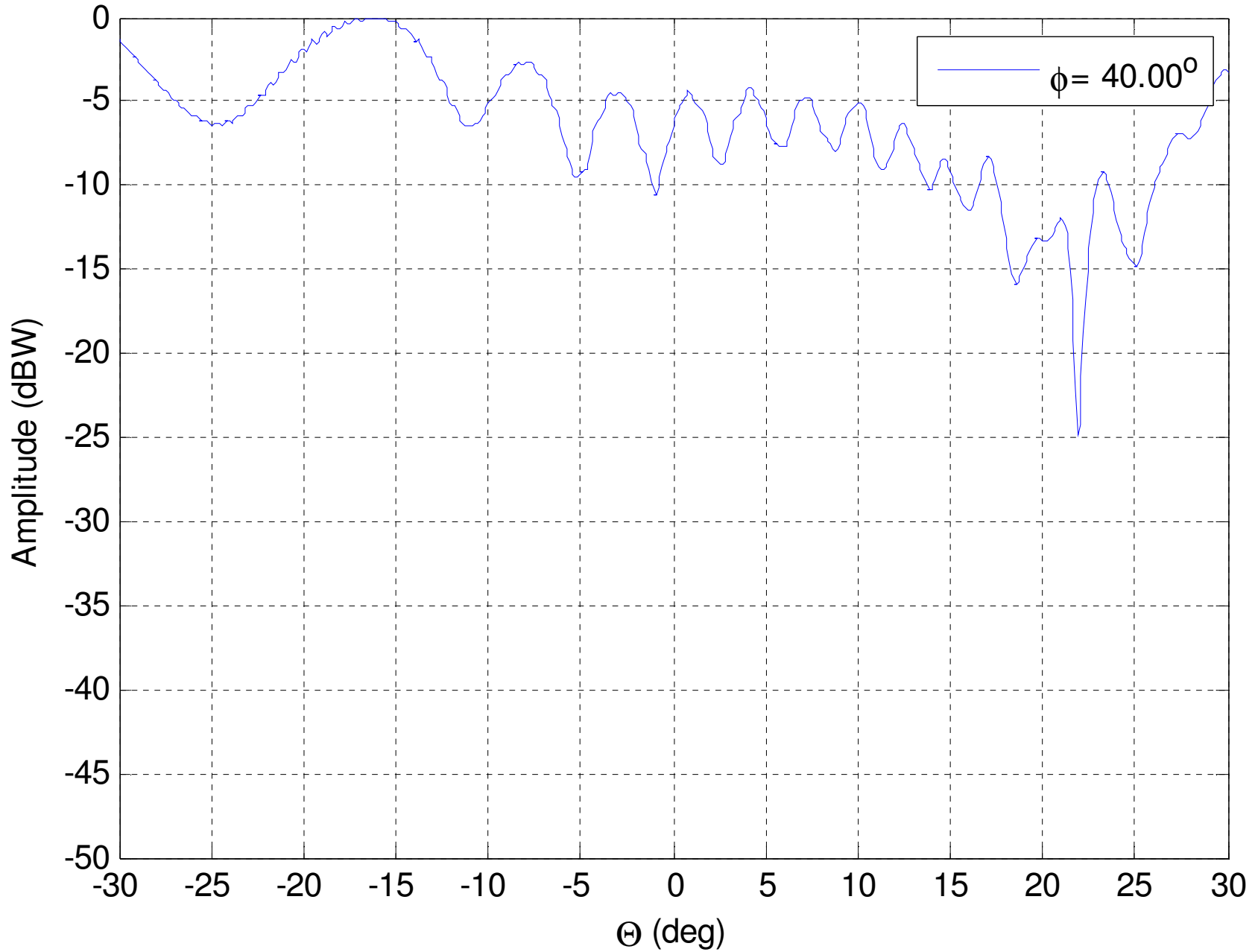
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: 6.54 dBW, Date: 16-Dec-2011



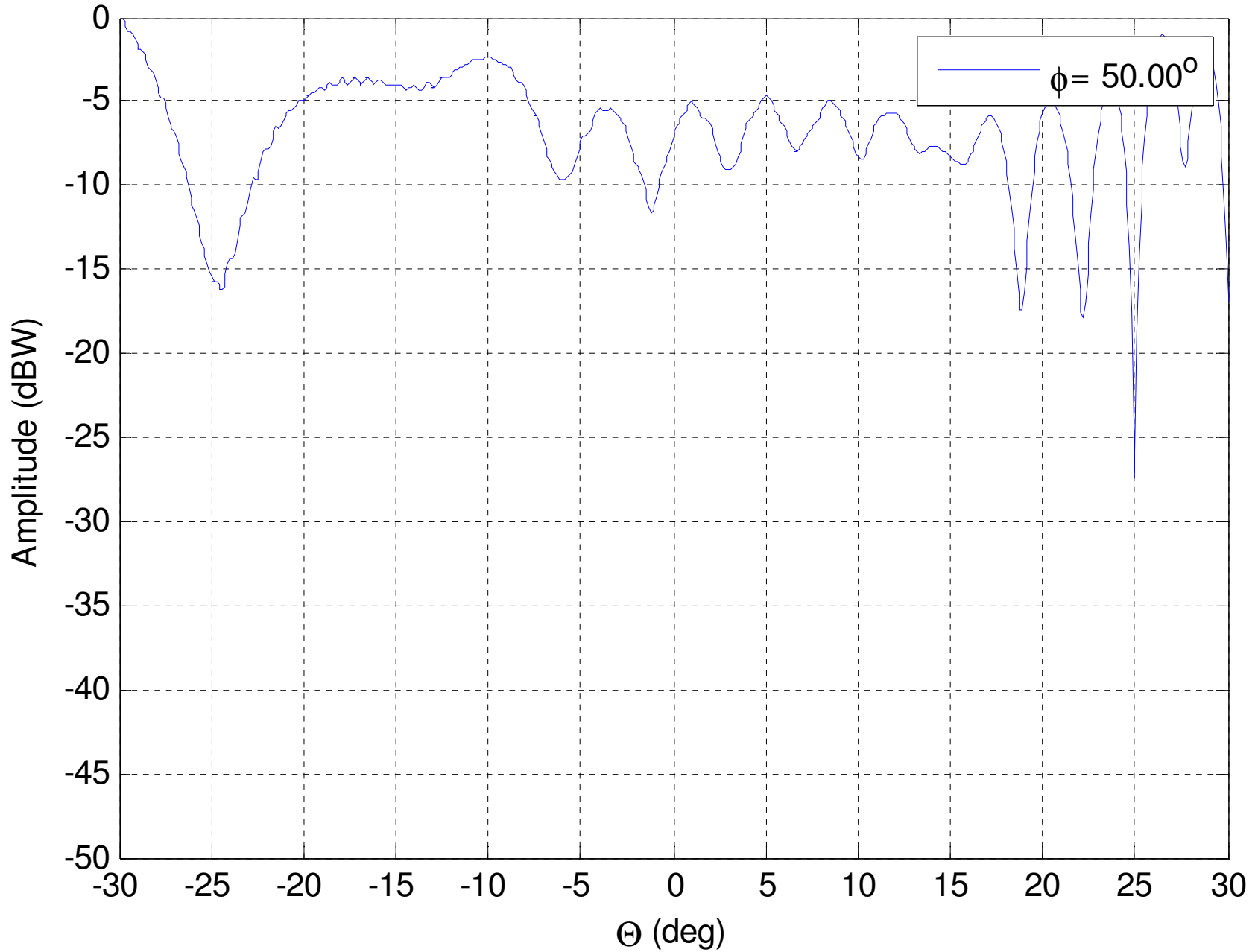
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: 4.74 dBW, Date: 16-Dec-2011



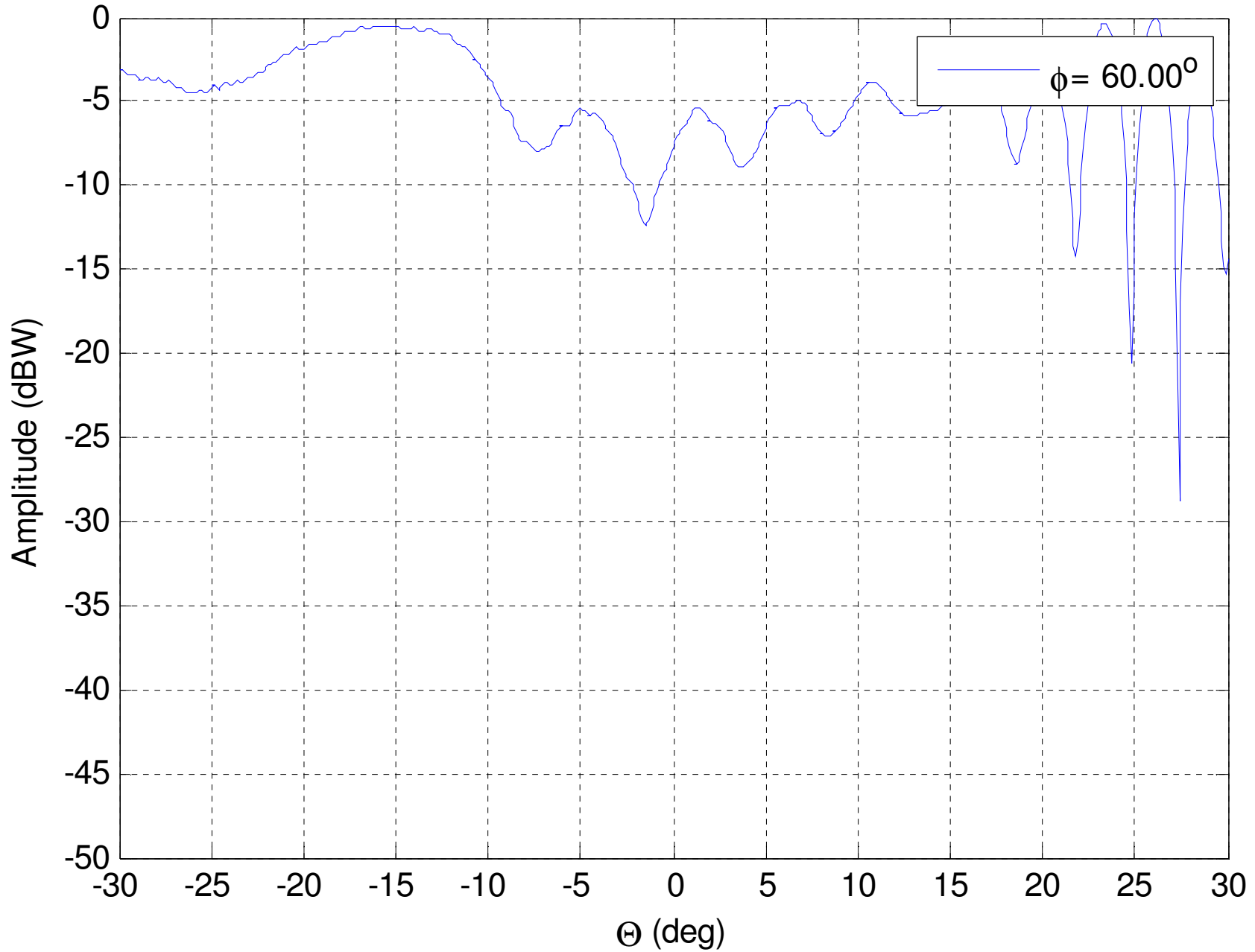
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: 5.47 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-60.cut, Peak: 6.03 dBW, Date: 16-Dec-2011

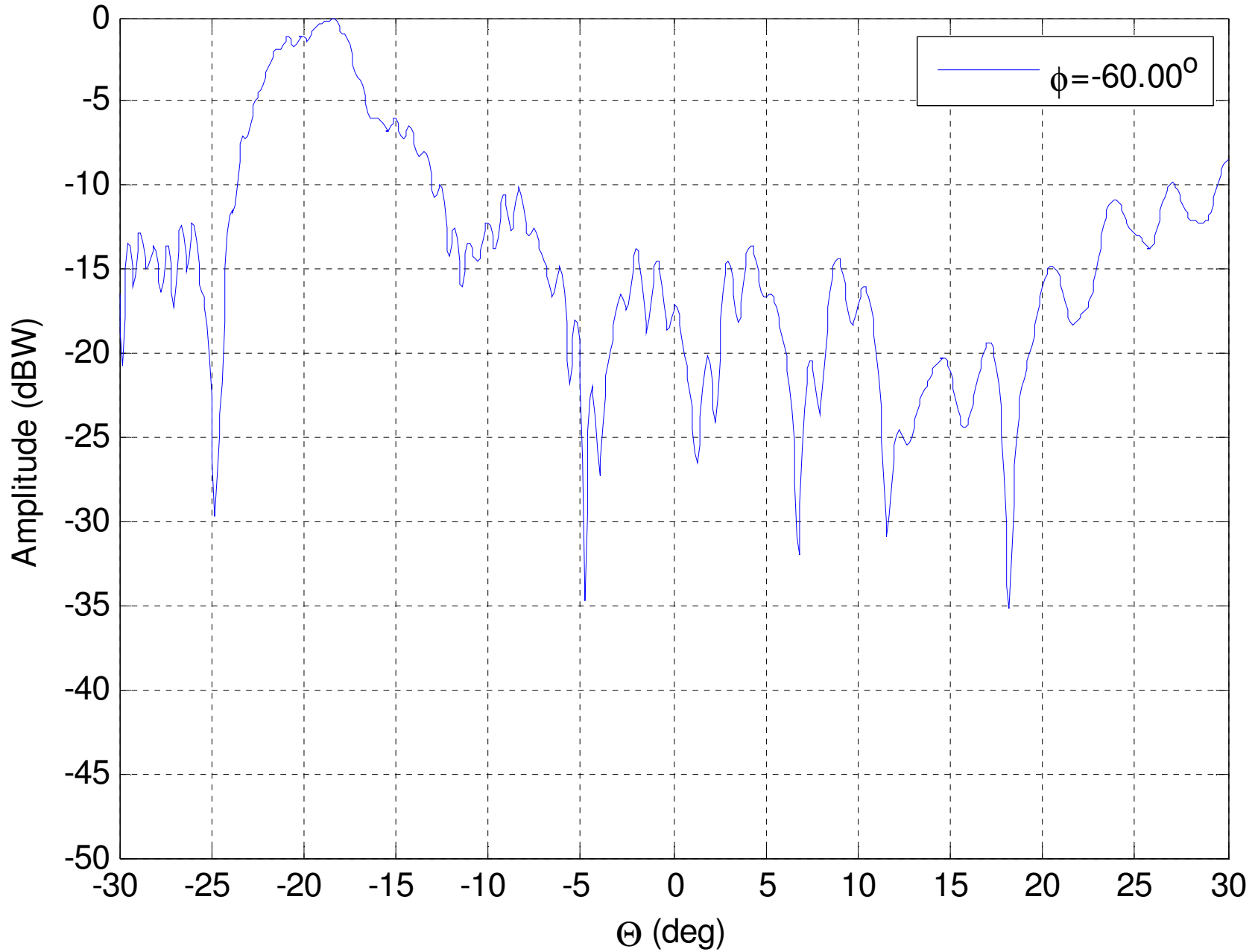


# RHCP at 17.5 GHz



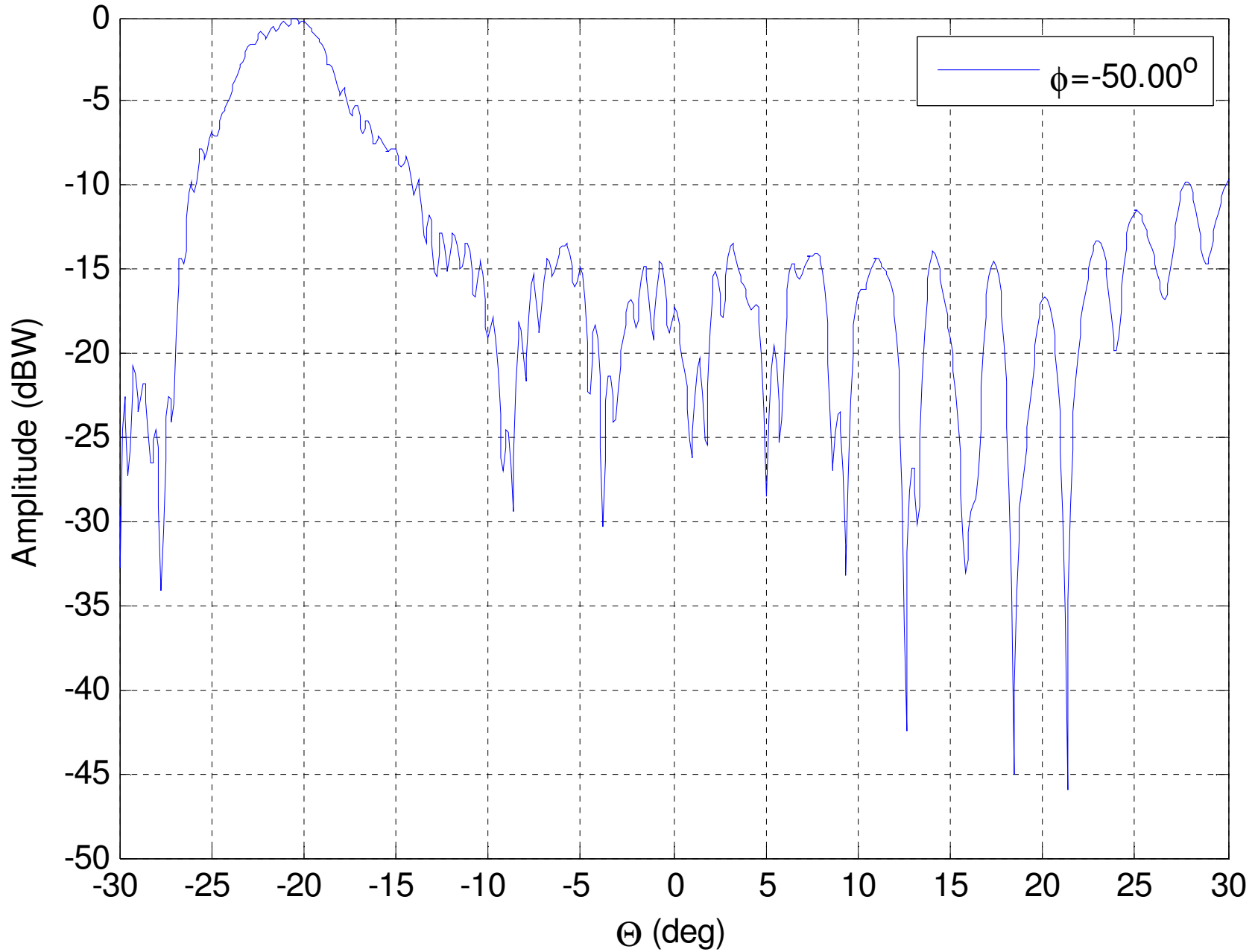
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: 2.21 dBW, Date: 16-Dec-2011



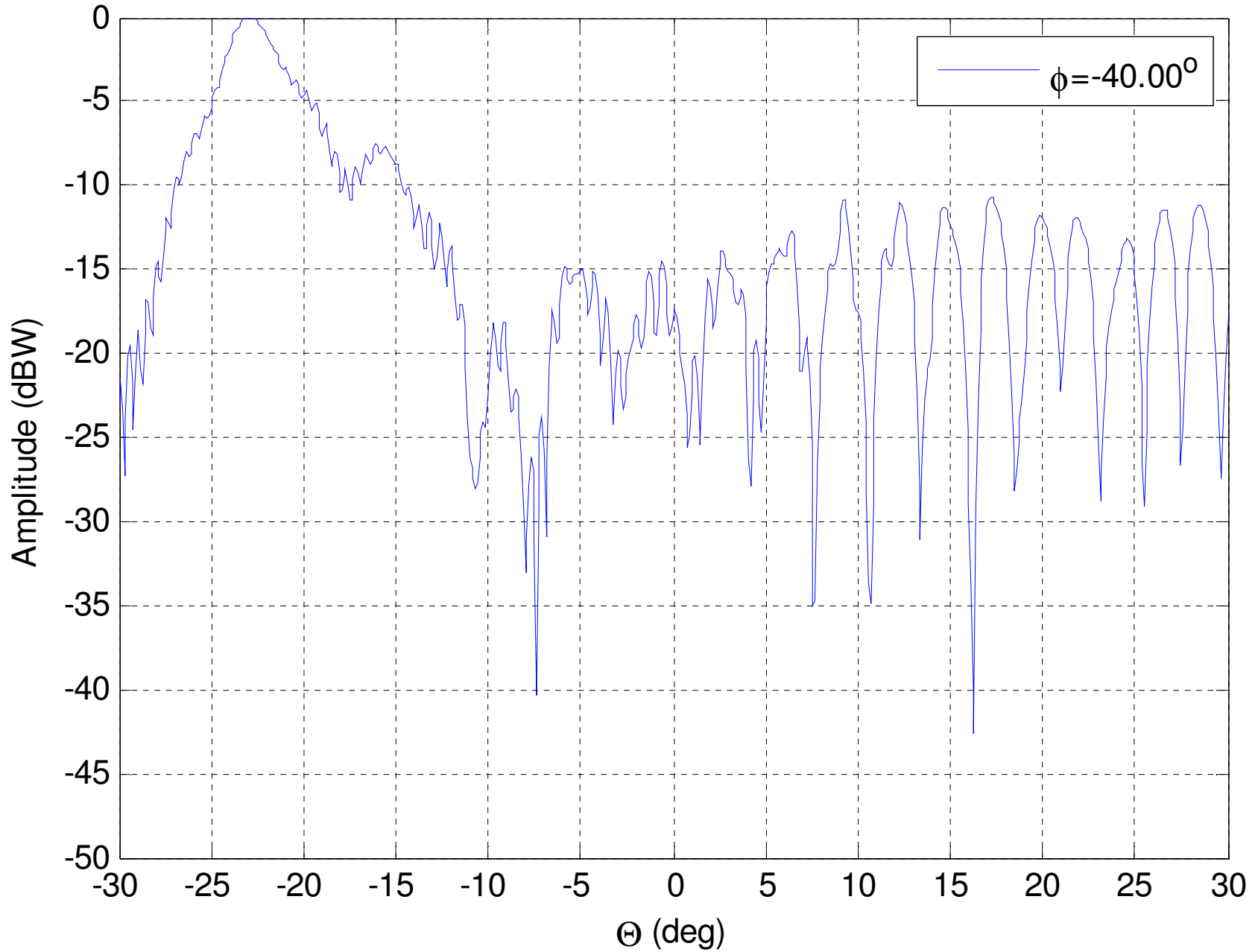
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: 2.37 dBW, Date: 16-Dec-2011



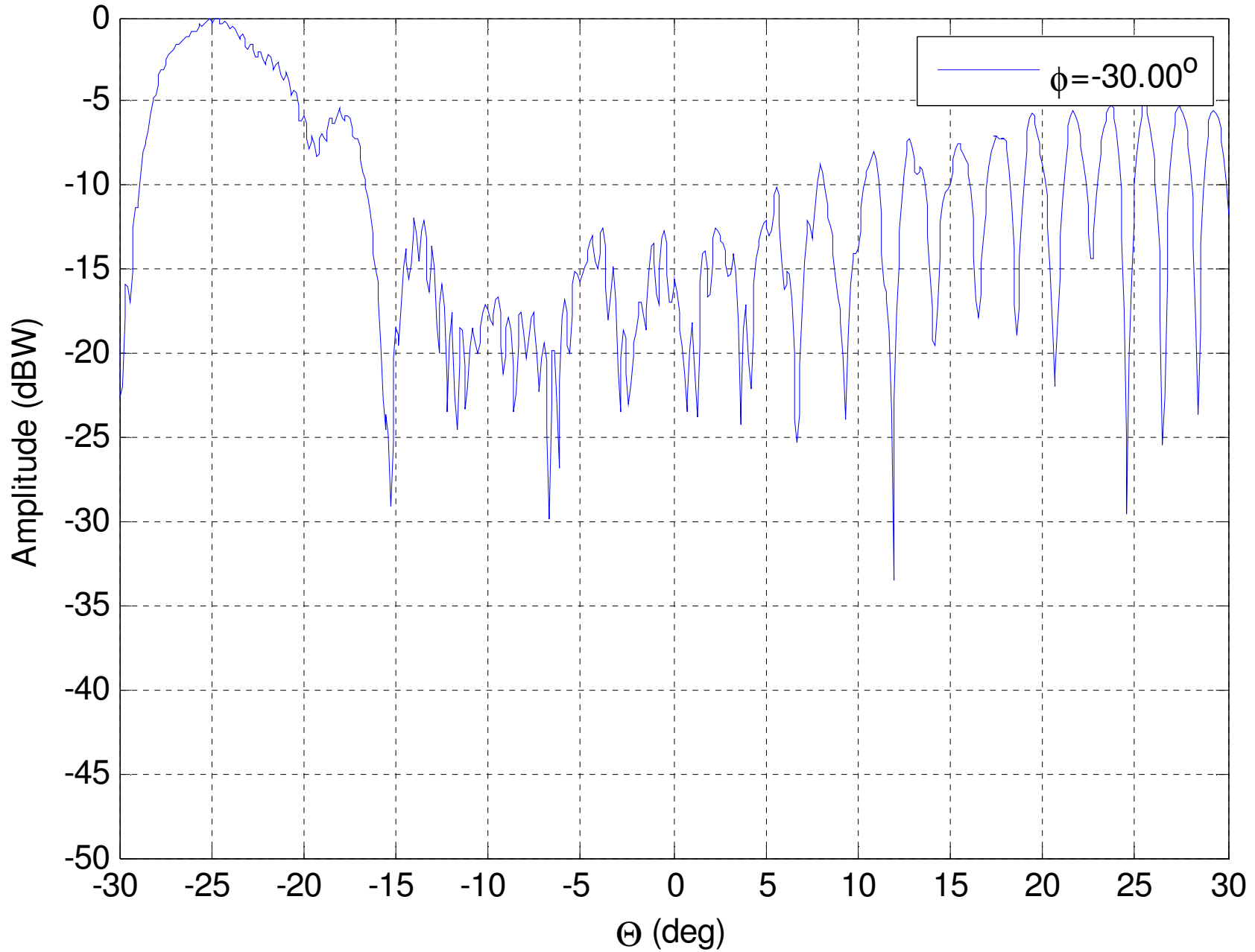
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: 2.50 dBW, Date: 16-Dec-2011



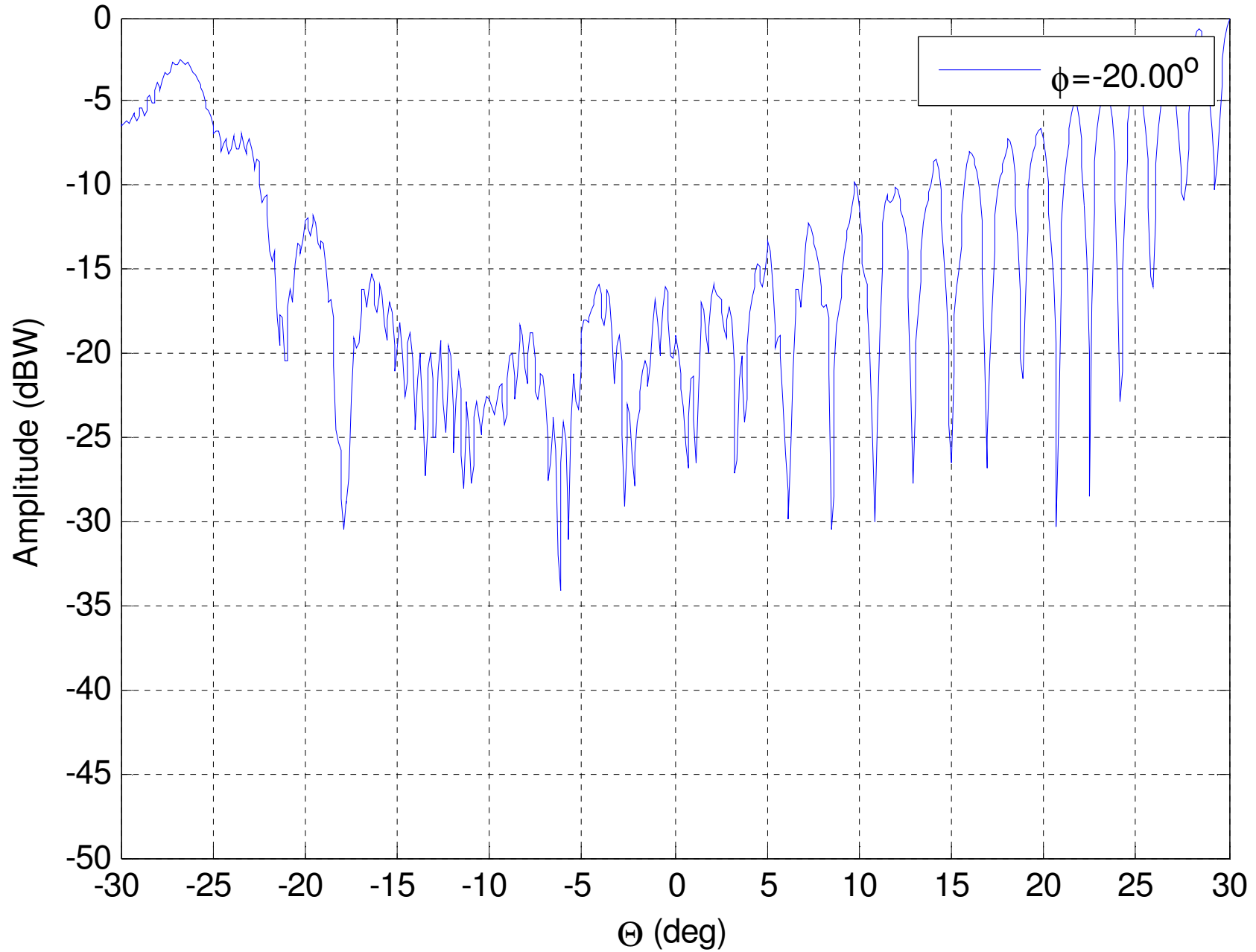
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: 0.77 dBW, Date: 16-Dec-2011



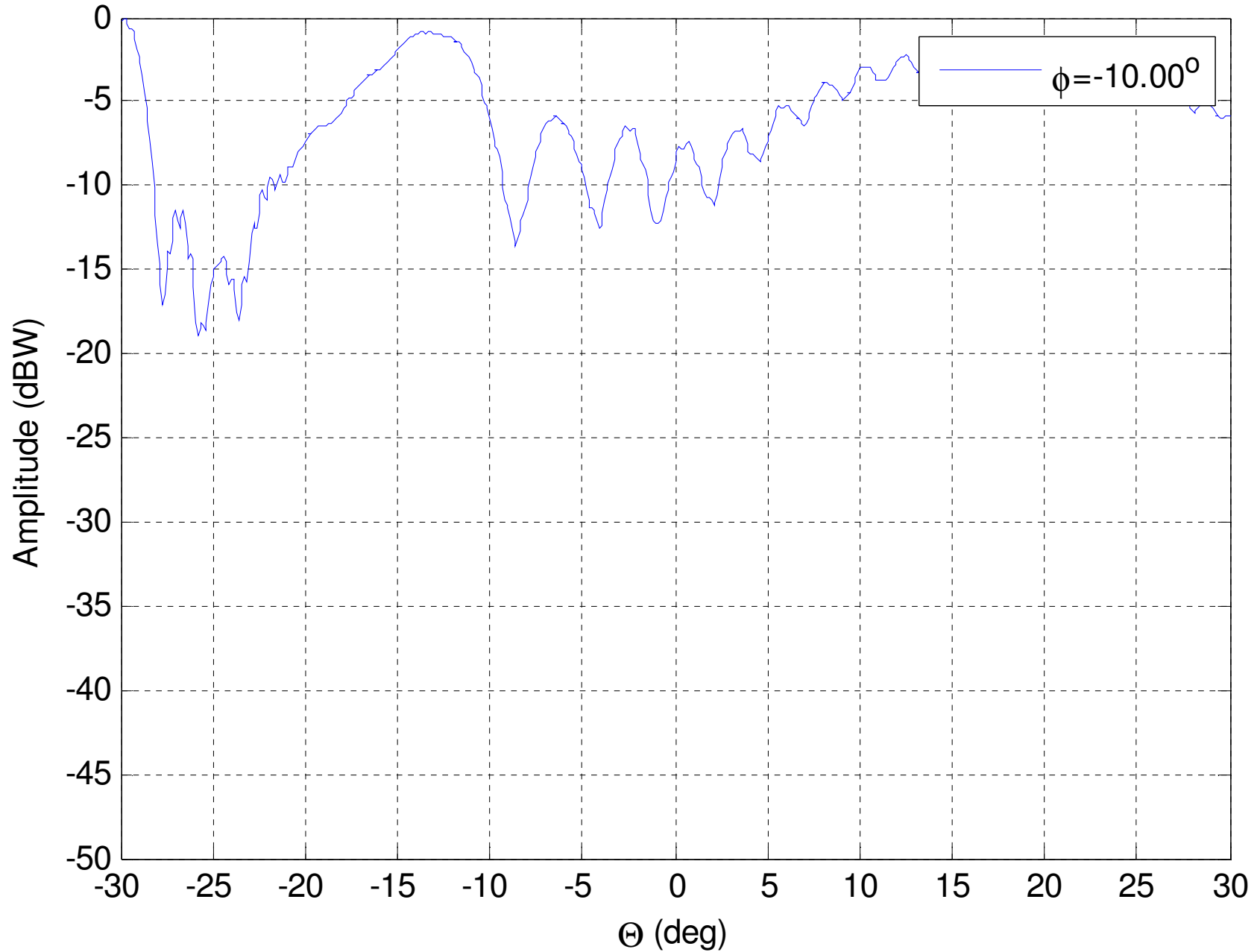
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: 4.08 dBW, Date: 16-Dec-2011



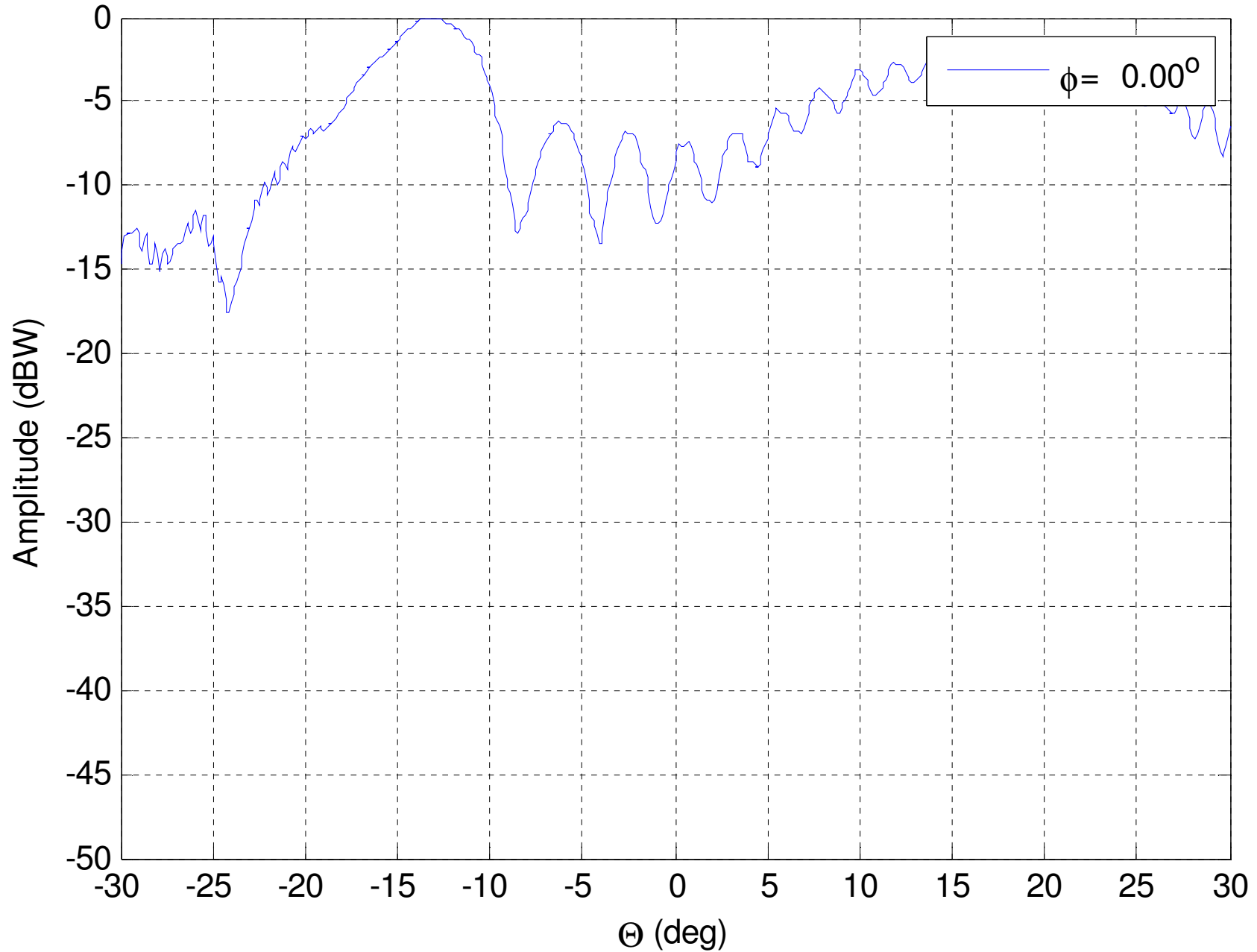
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: 7.60 dBW, Date: 16-Dec-2011



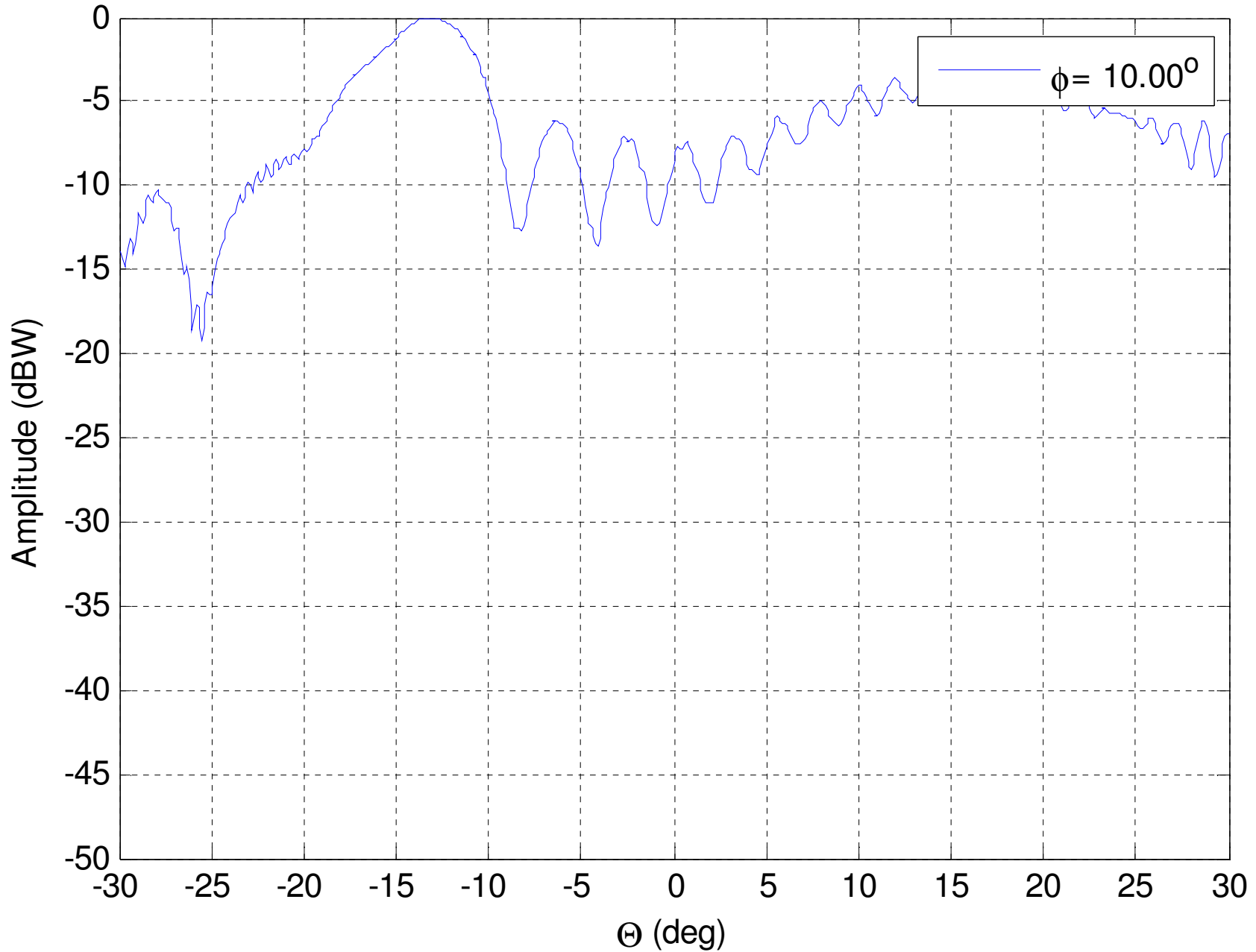
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: 7.61 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

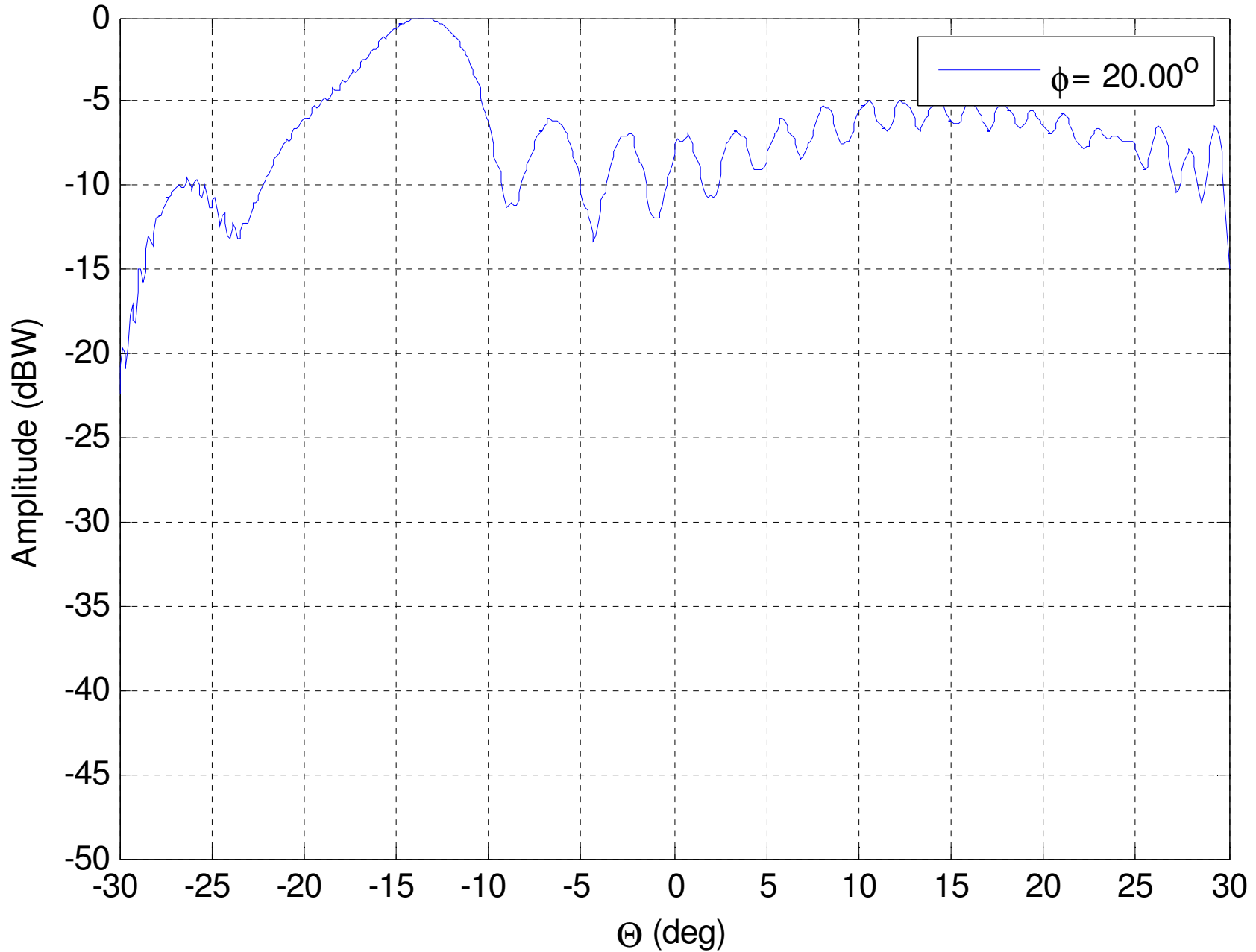
Input file: tx-17.5-rhcp-10.cut, Peak: 7.69 dBW, Date: 16-Dec-2011





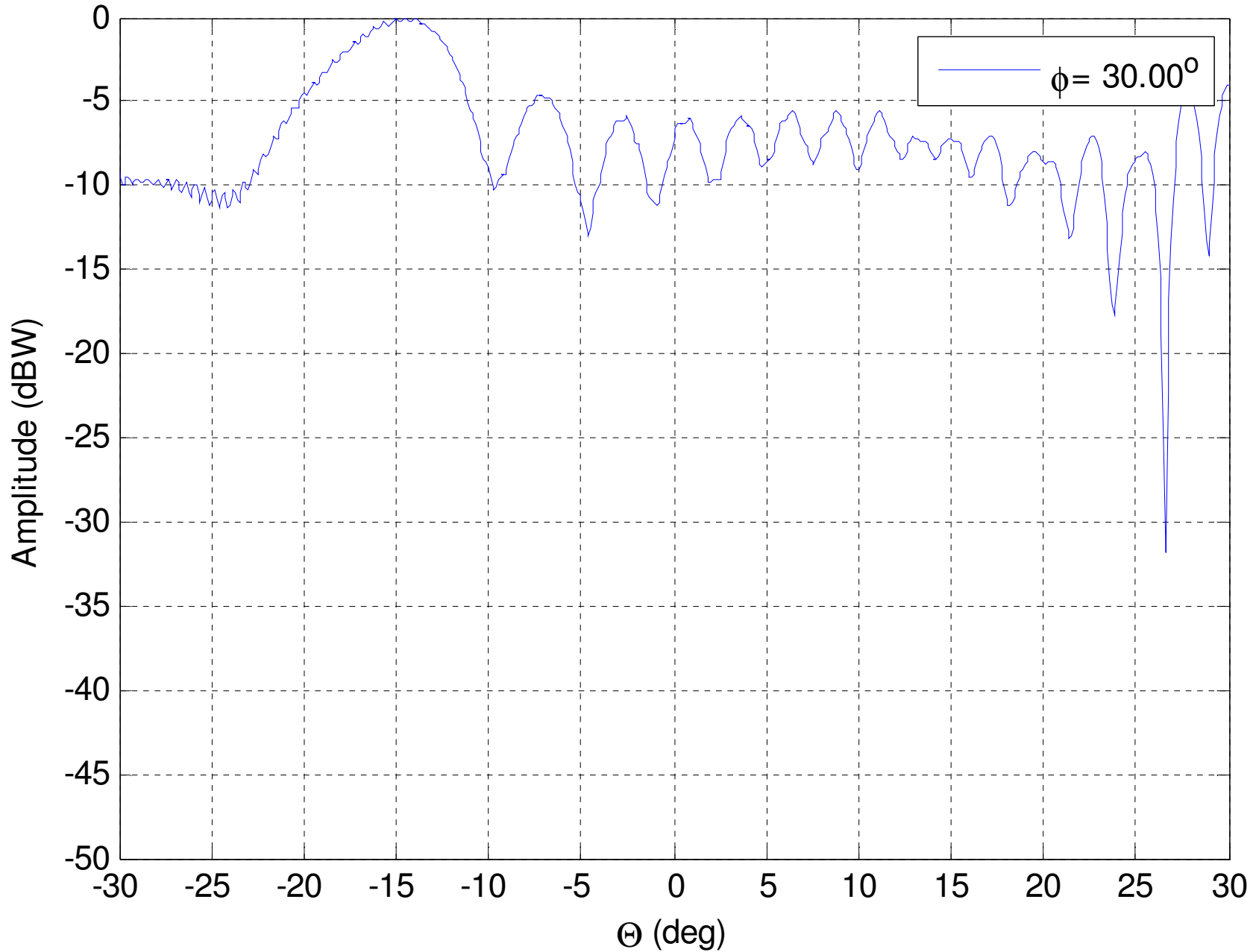
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: 7.27 dBW, Date: 16-Dec-2011



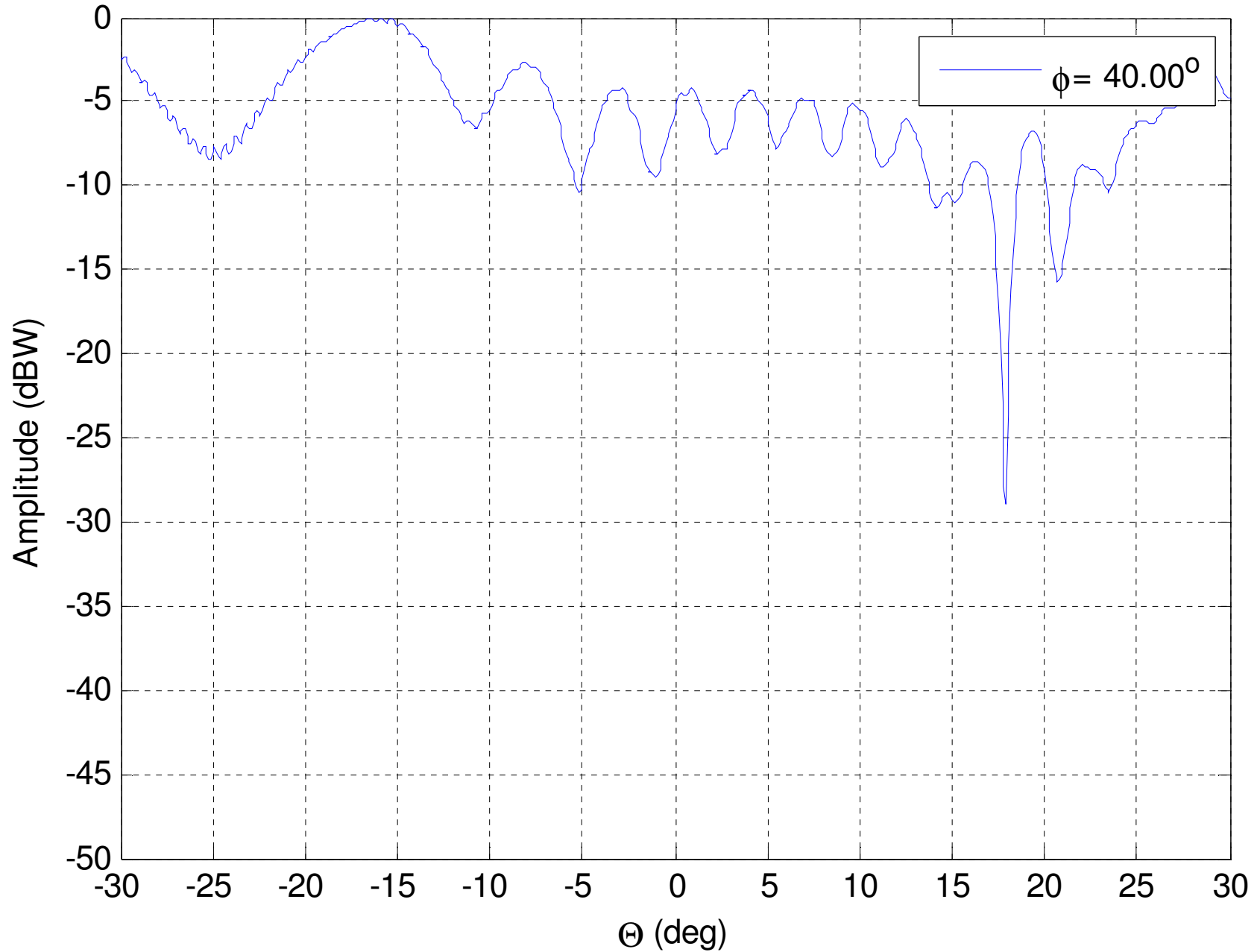
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: 6.32 dBW, Date: 16-Dec-2011



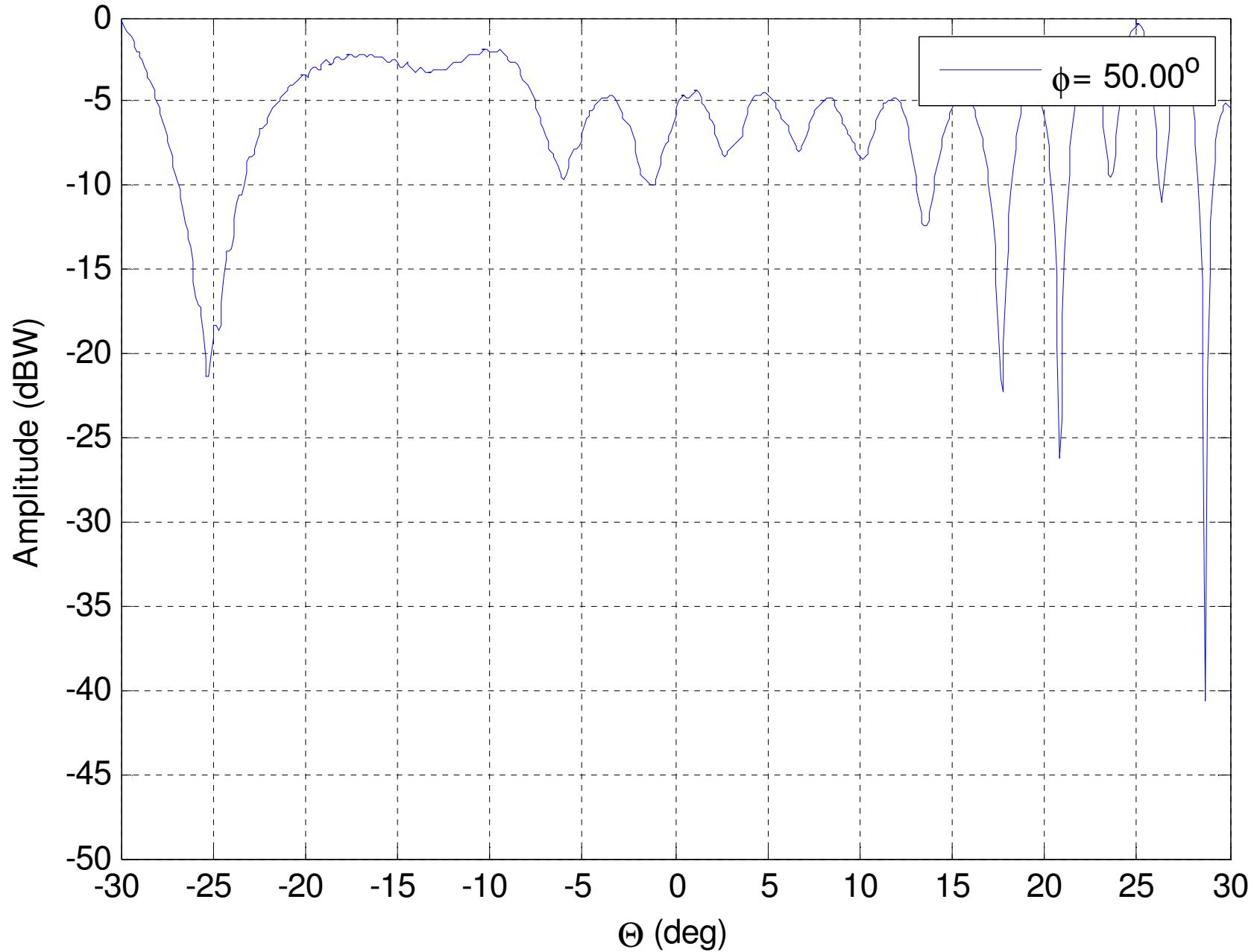
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: 4.63 dBW, Date: 16-Dec-2011



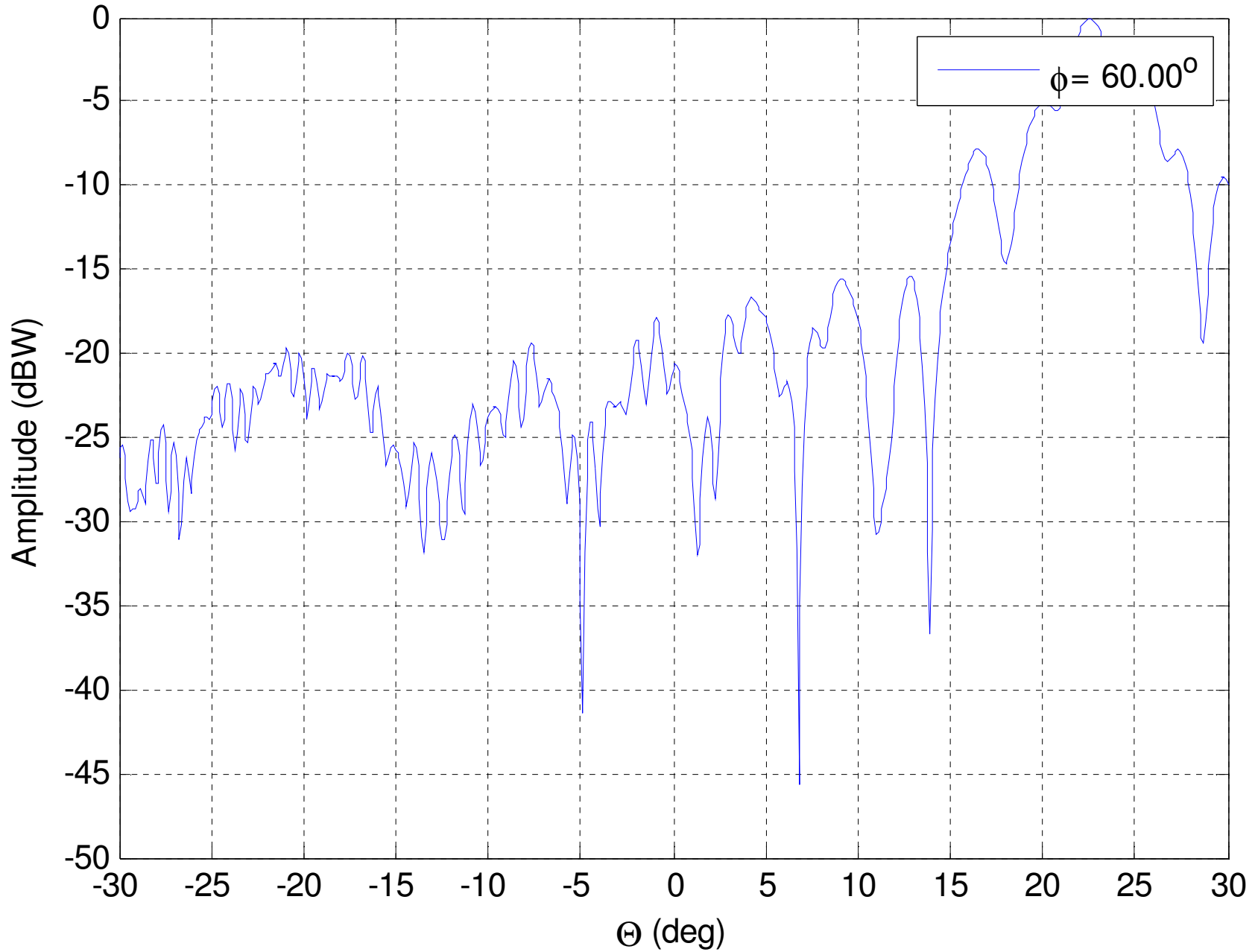
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: 4.91 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

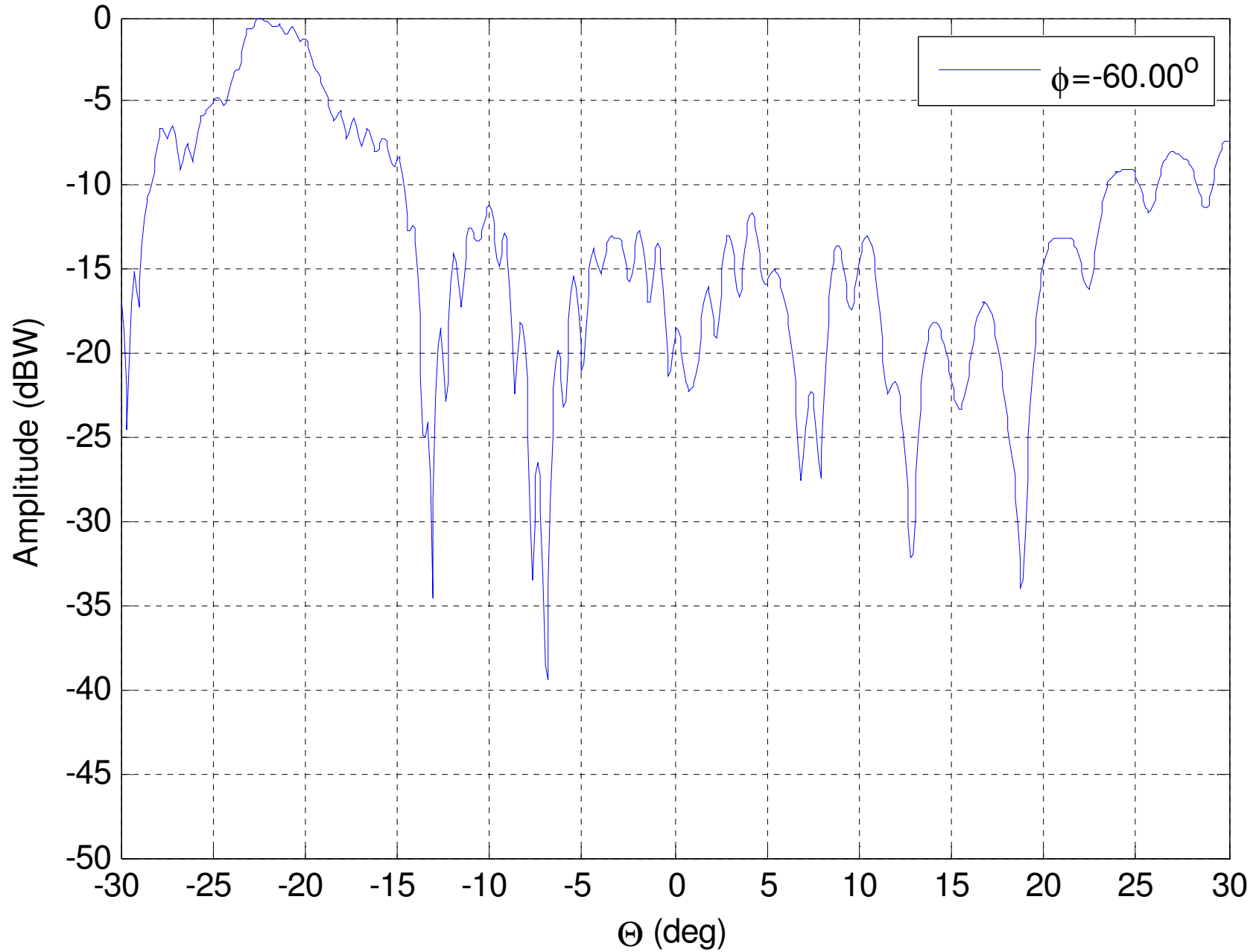
Input file: tx-17.5-rhcp-60.cut, Peak: 5.75 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

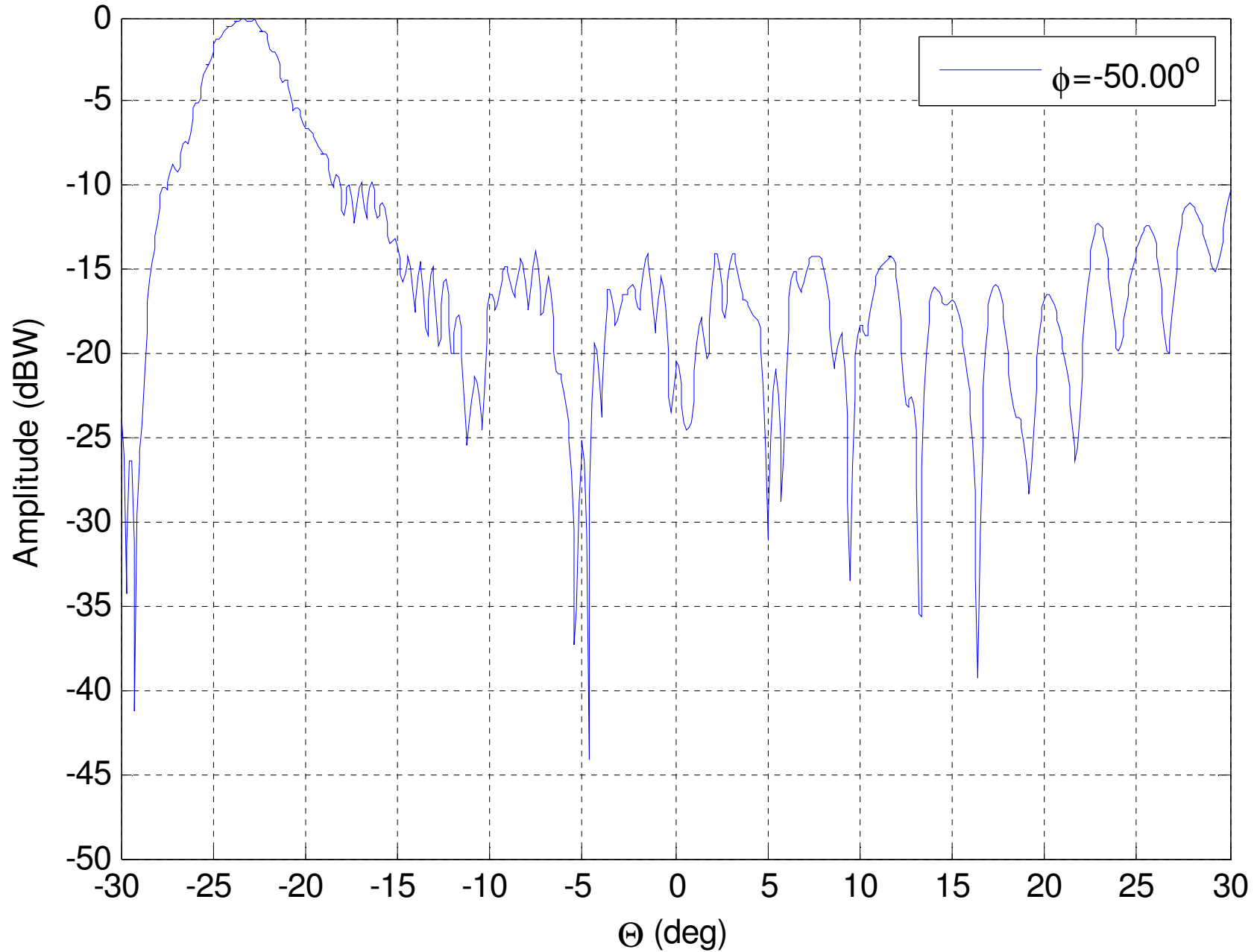
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: 0.46 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

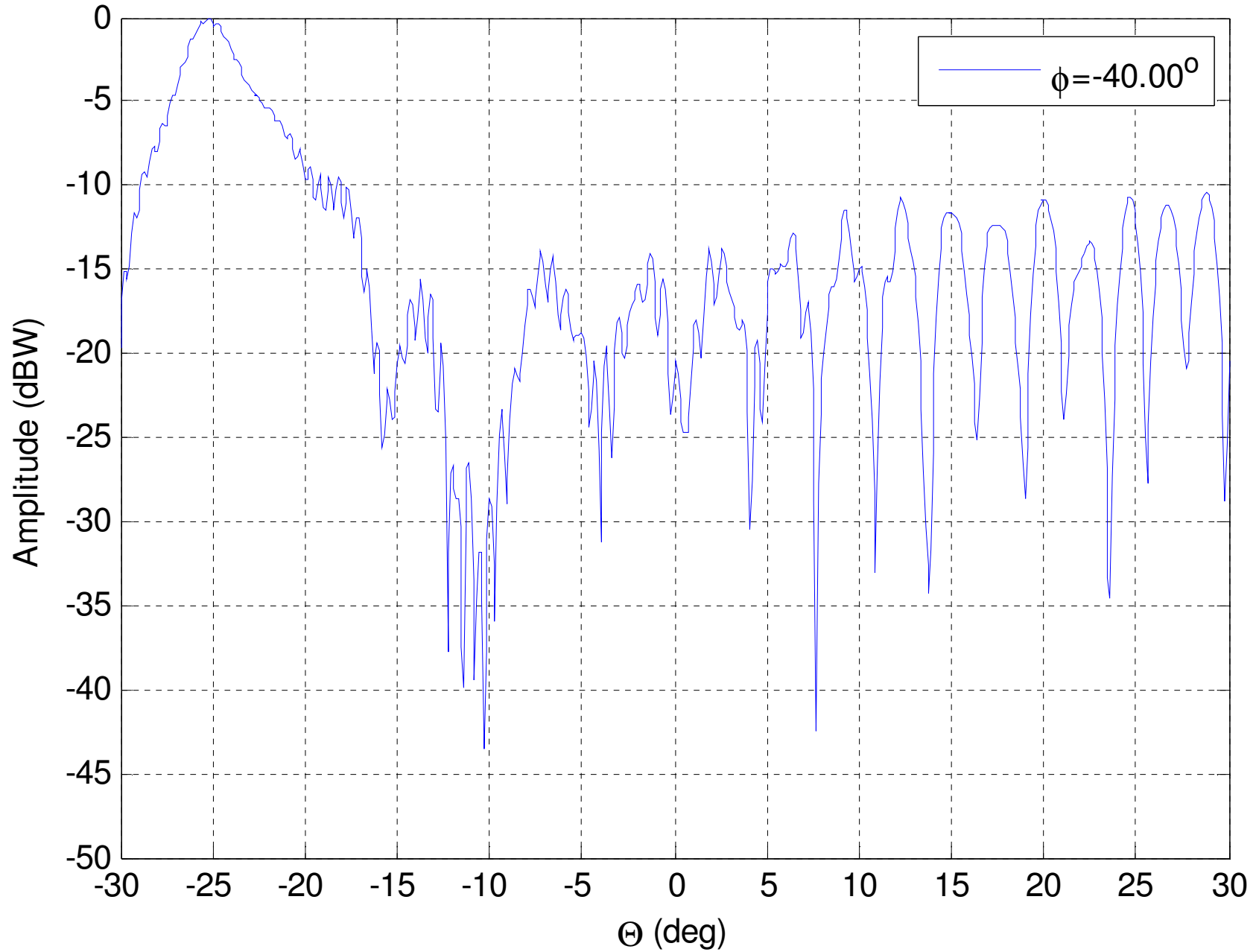
Input file: tx-17.5-lhcp--50.cut, Peak: 2.39 dBW, Date: 16-Dec-2011





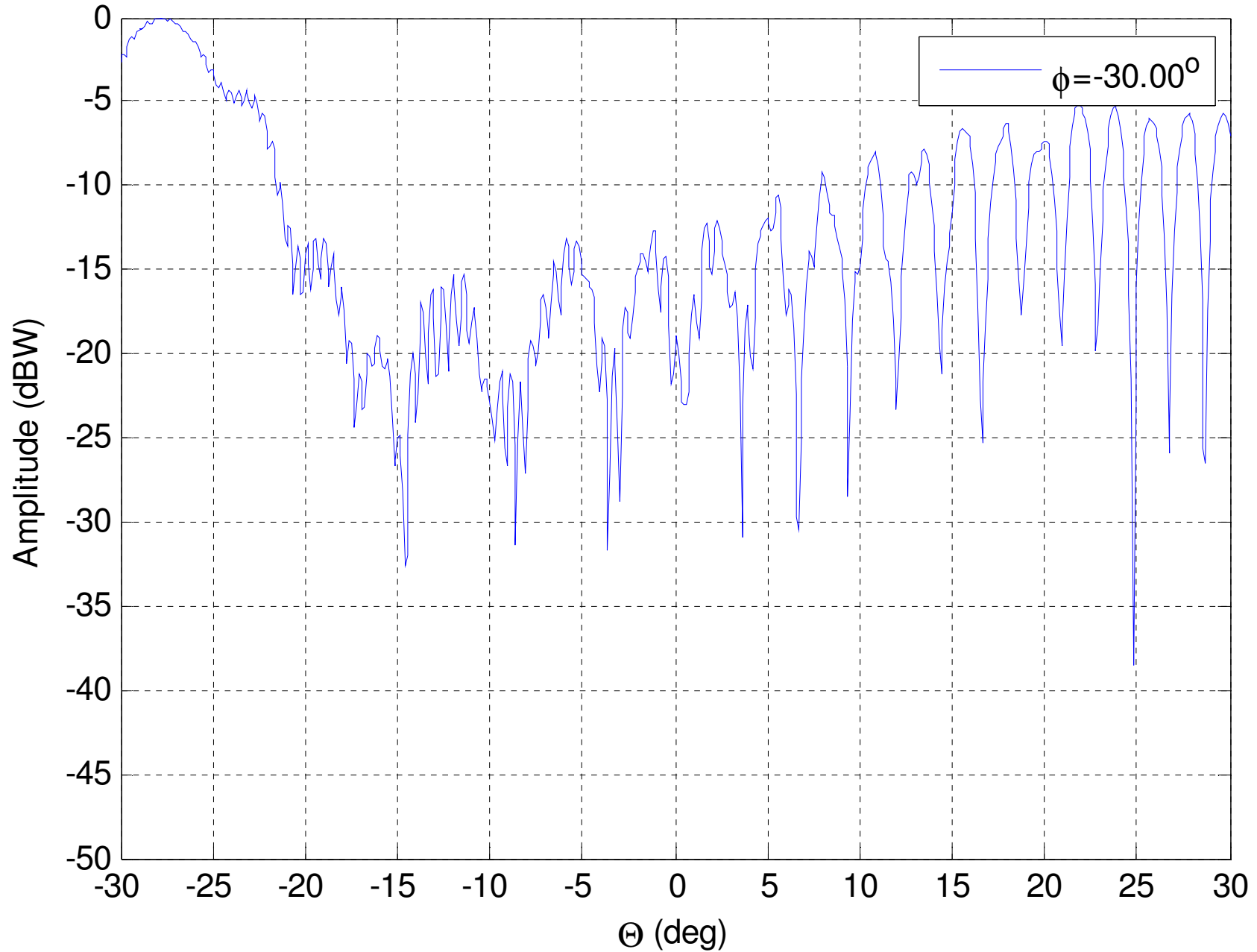
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: 2.45 dBW, Date: 16-Dec-2011



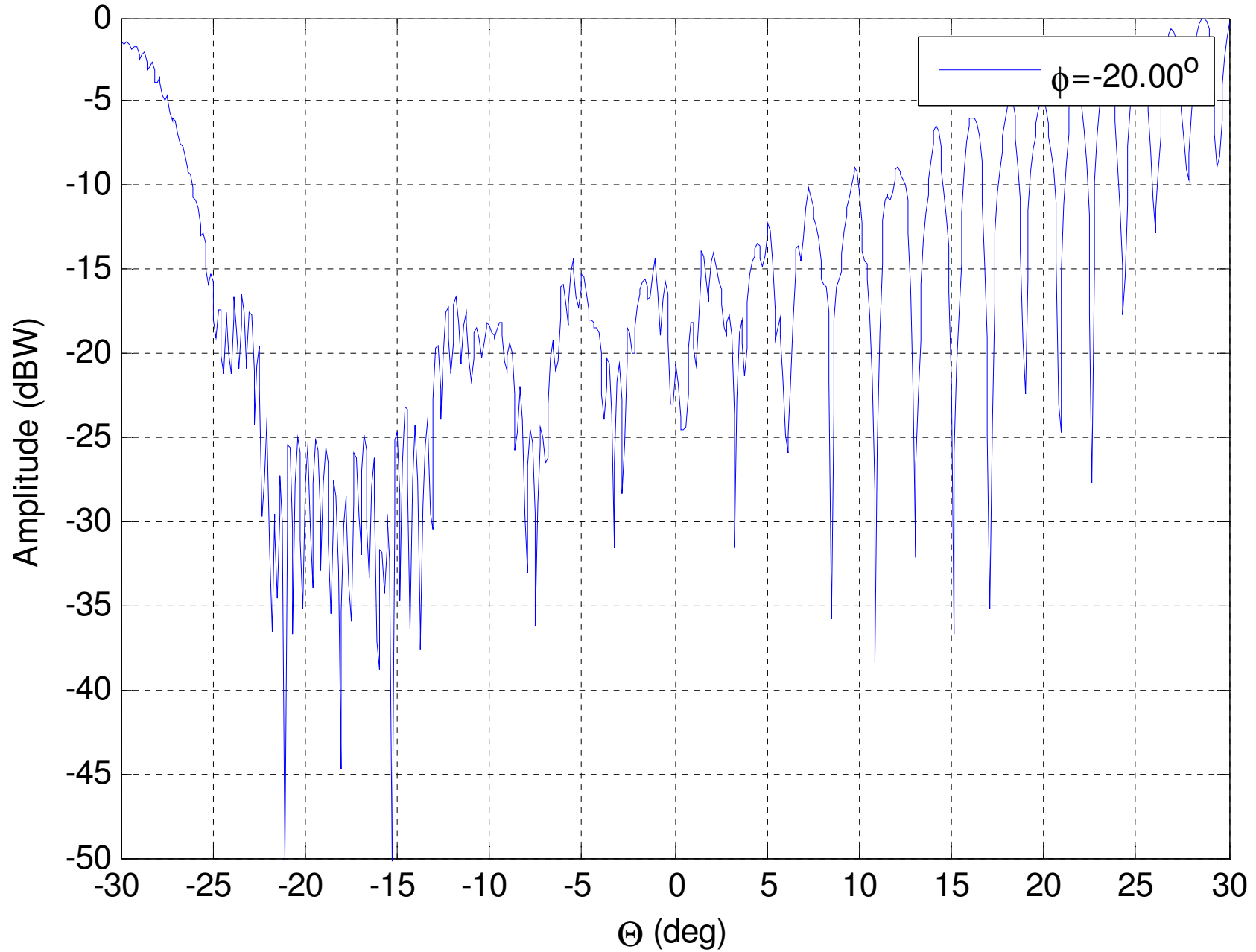
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: 0.86 dBW, Date: 16-Dec-2011



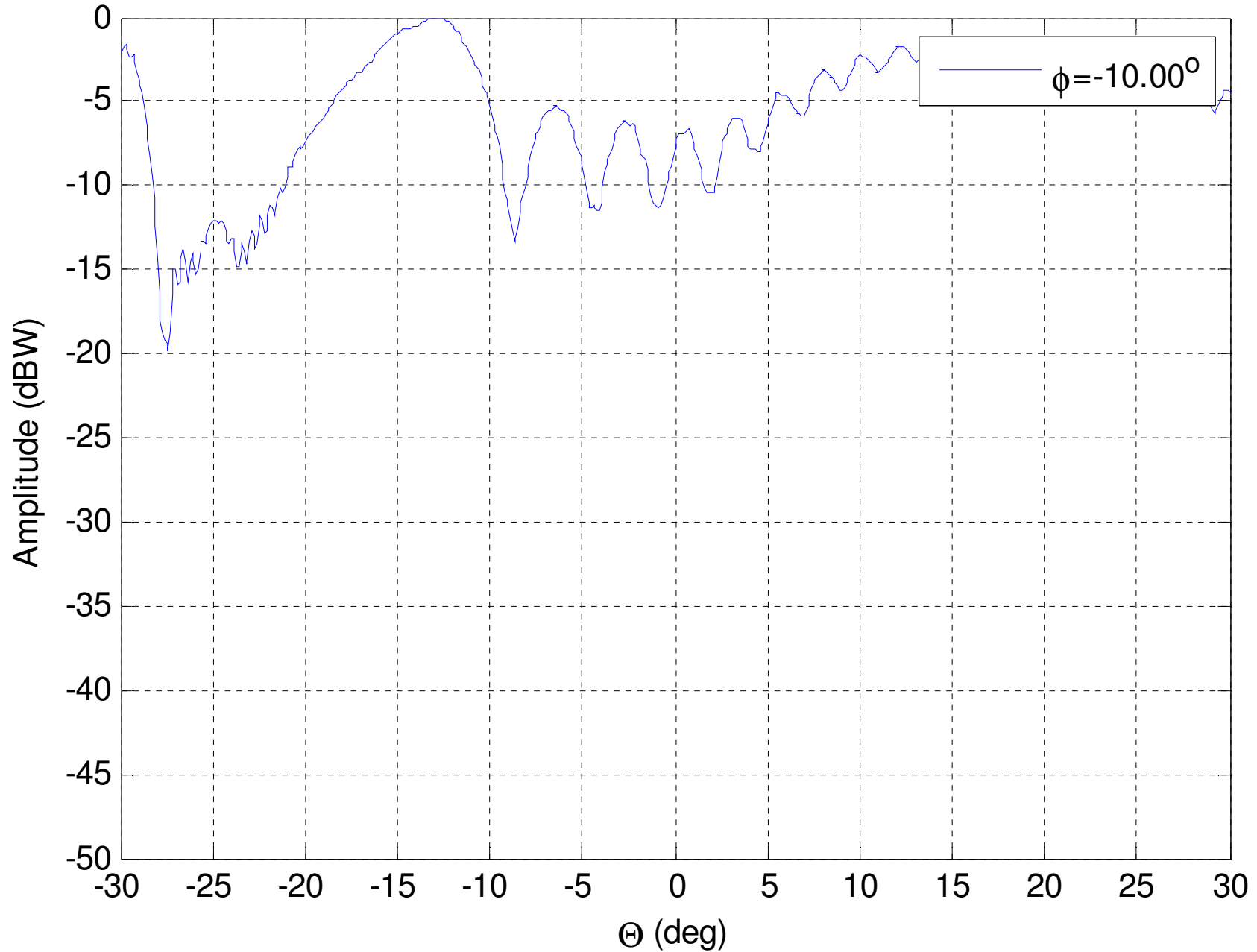
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: 2.48 dBW, Date: 16-Dec-2011



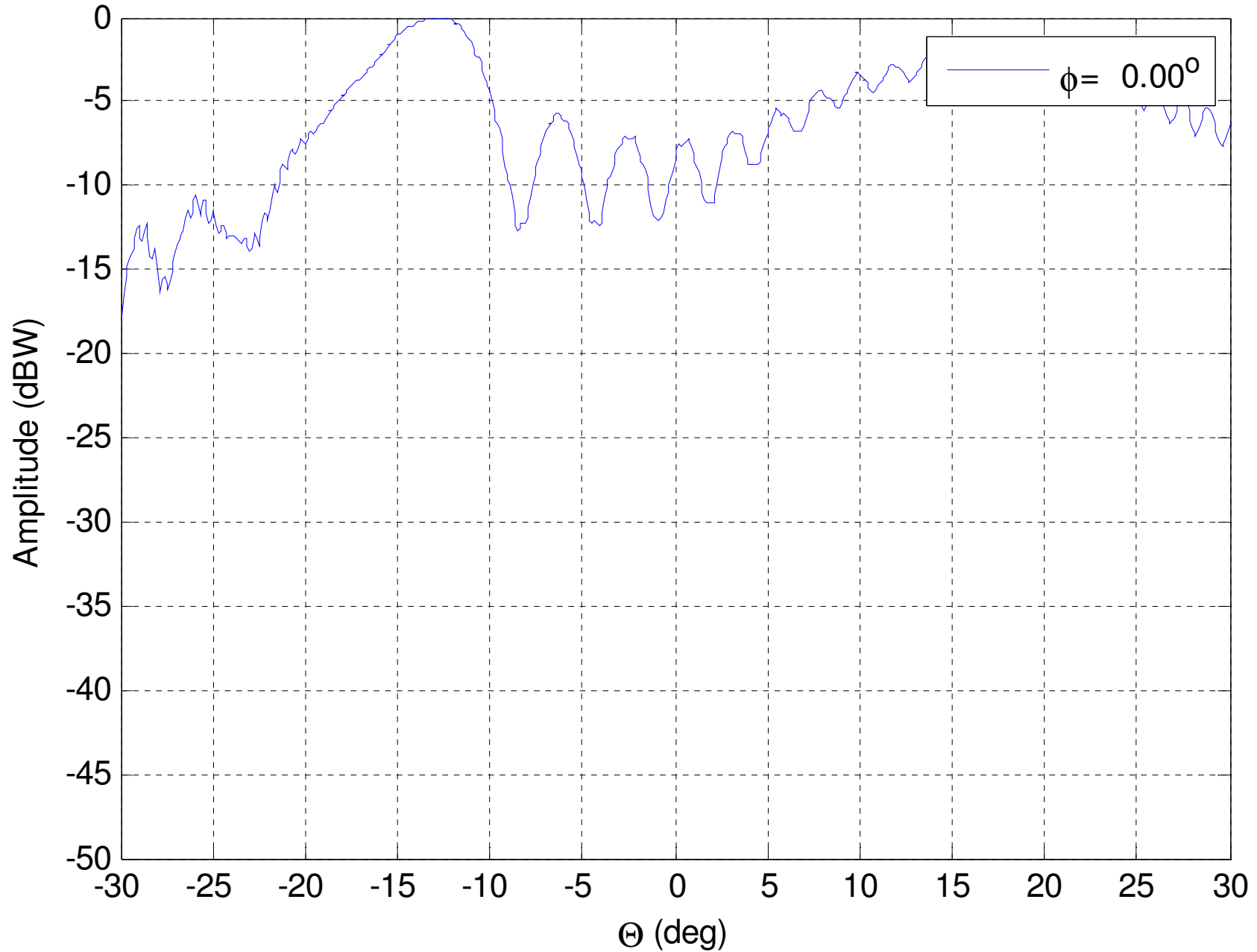
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: 6.91 dBW, Date: 16-Dec-2011



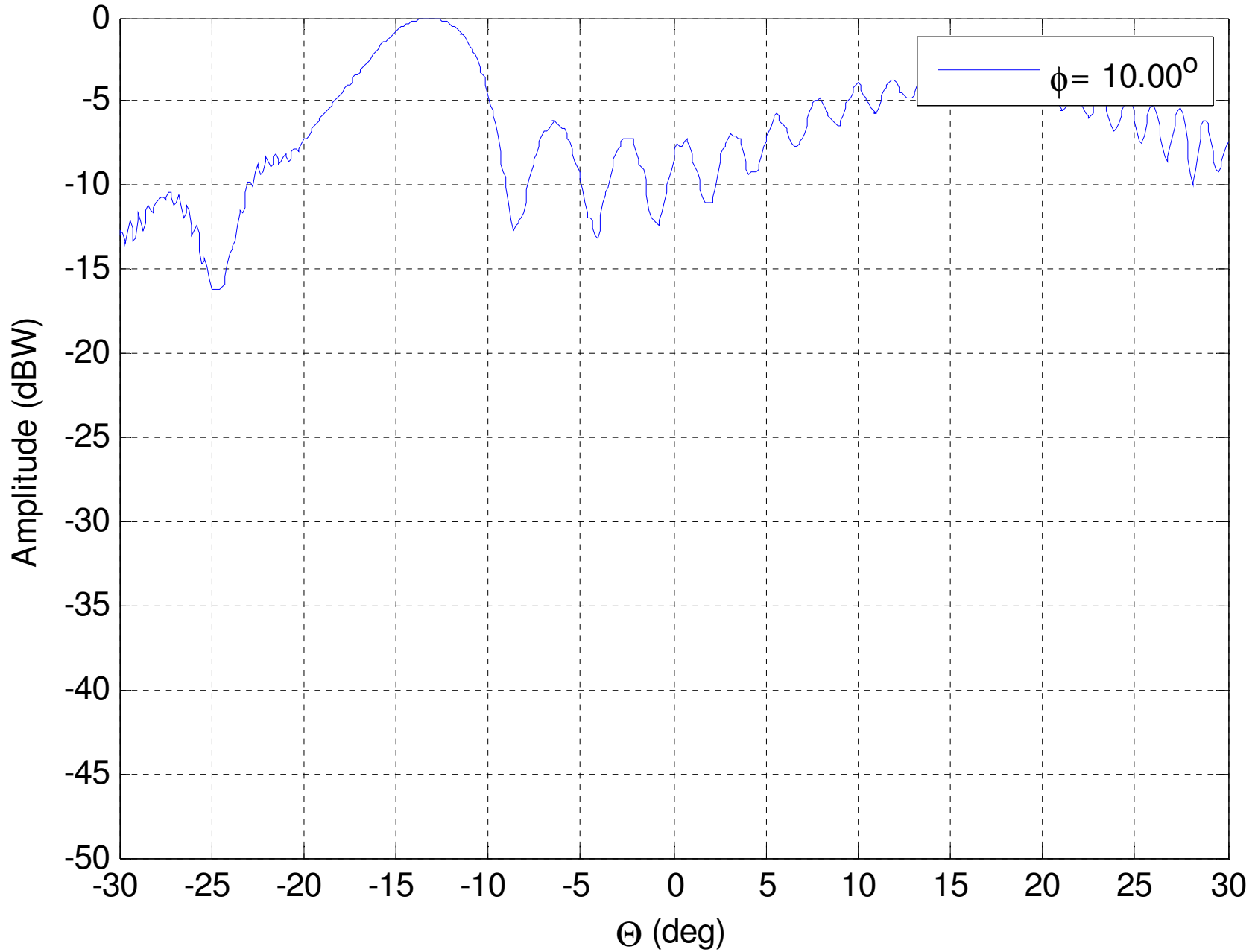
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: 7.56 dBW, Date: 16-Dec-2011



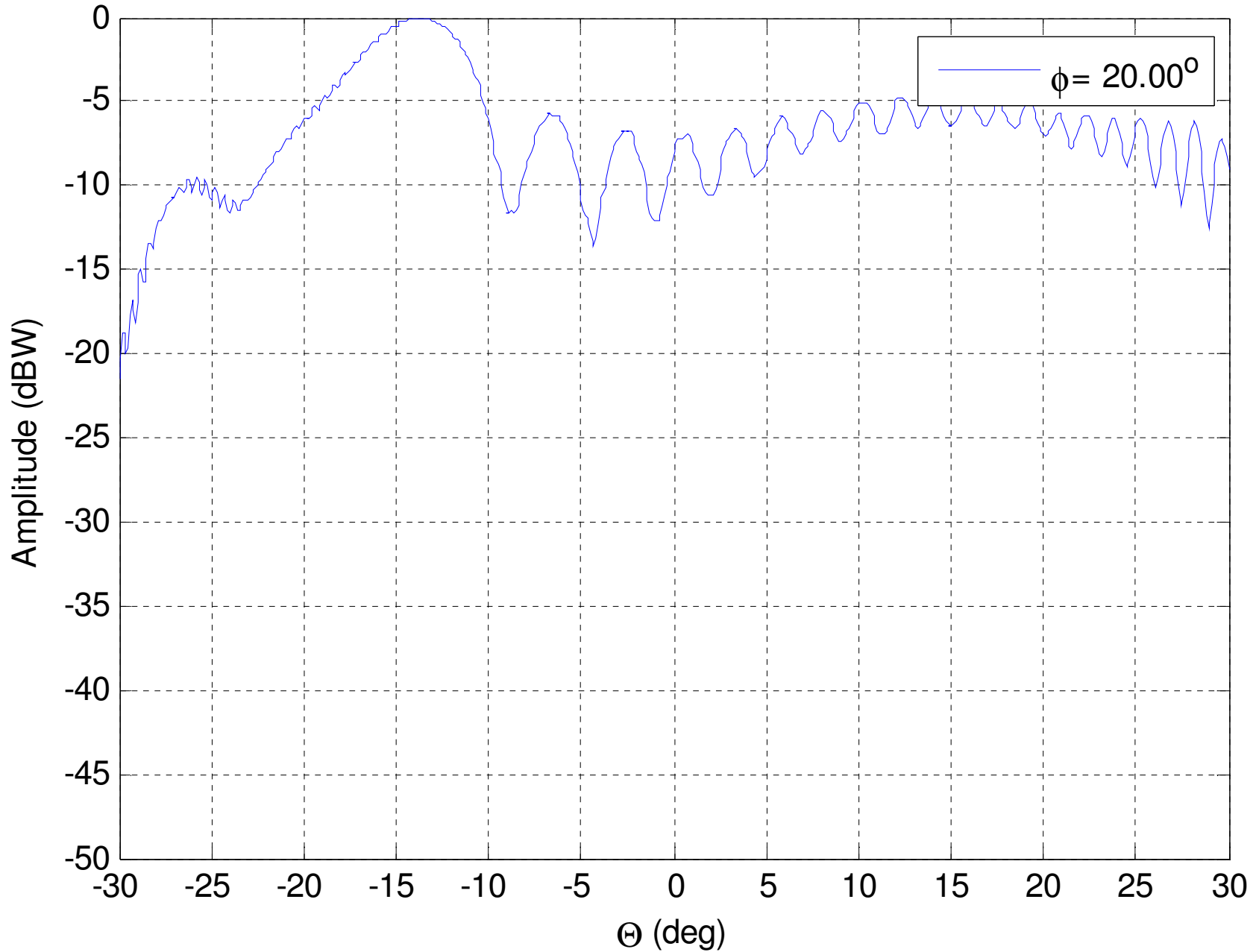
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: 7.61 dBW, Date: 16-Dec-2011



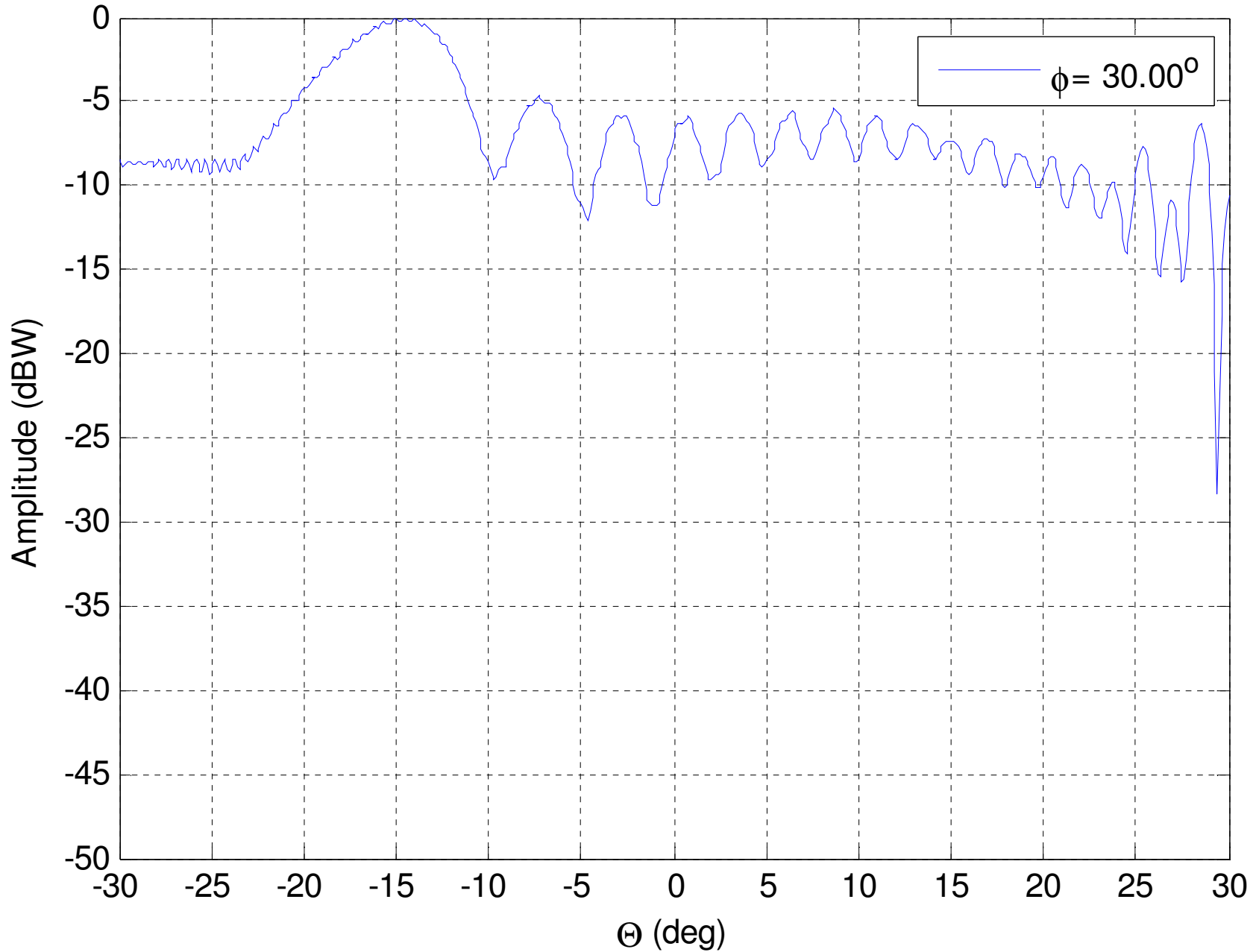
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: 7.22 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

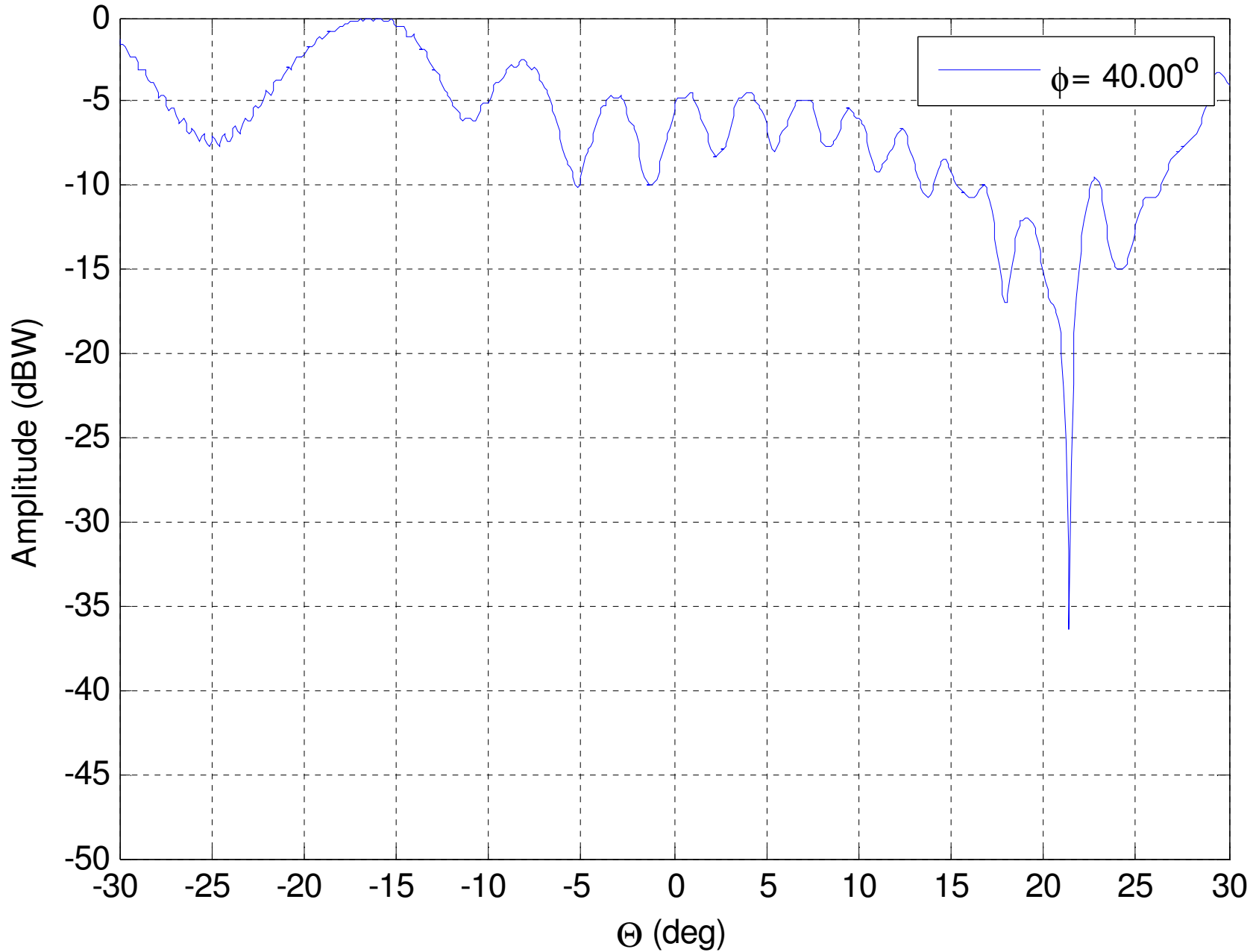
Input file: tx-17.5-lhcp-30.cut, Peak: 6.23 dBW, Date: 16-Dec-2011





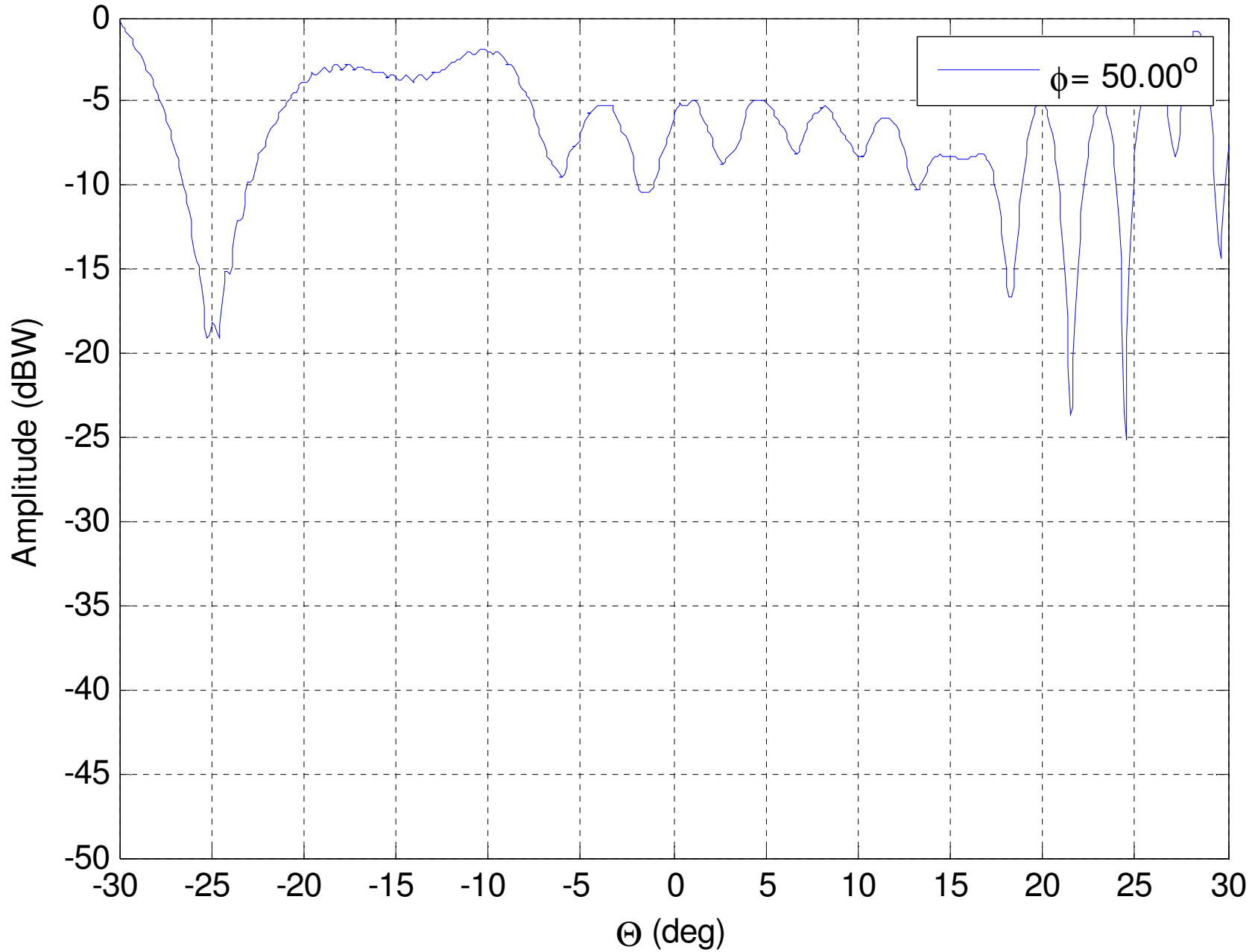
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: 4.80 dBW, Date: 16-Dec-2011



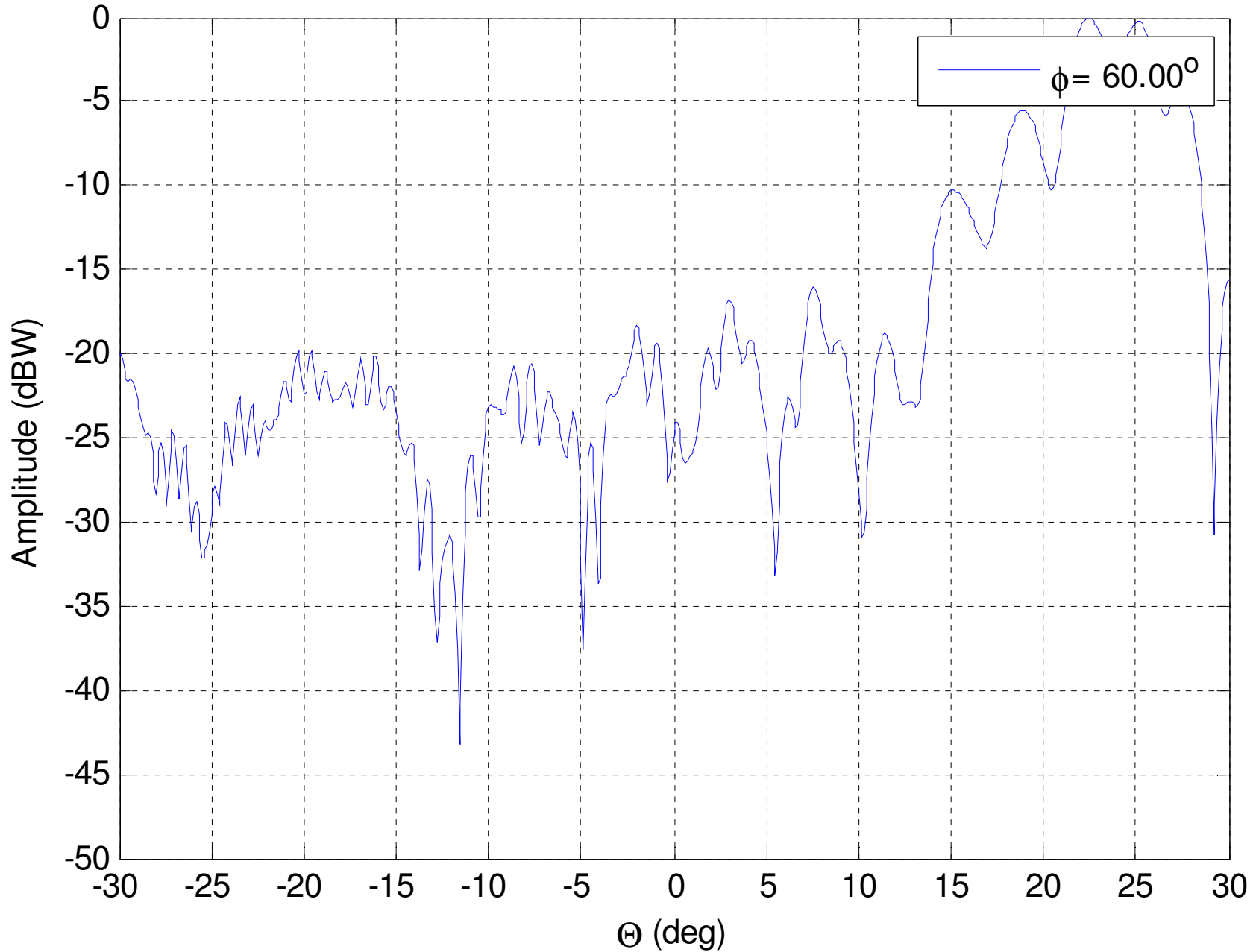
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: 5.24 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

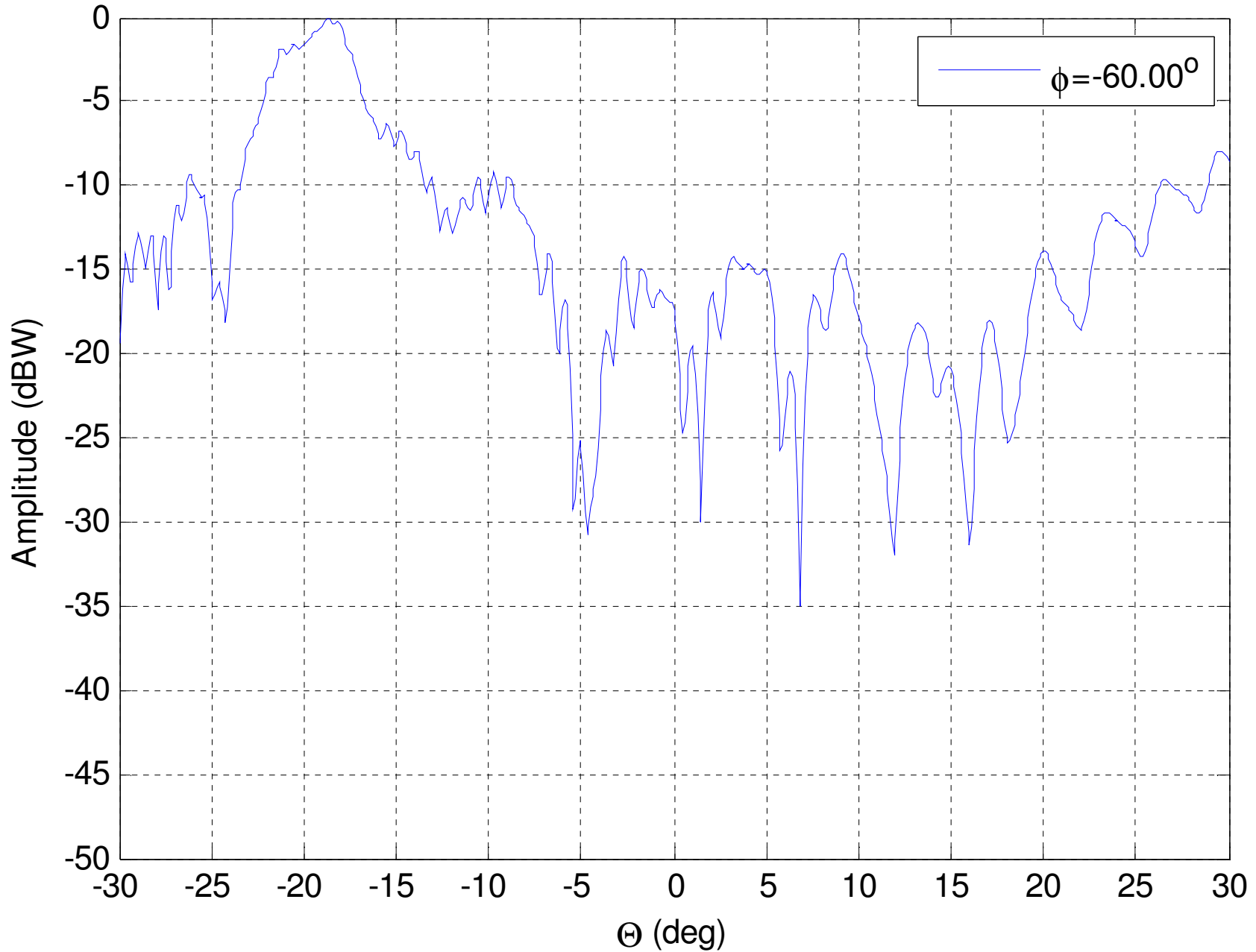
Input file: tx-17.5-lhcp-60.cut, Peak: 6.14 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

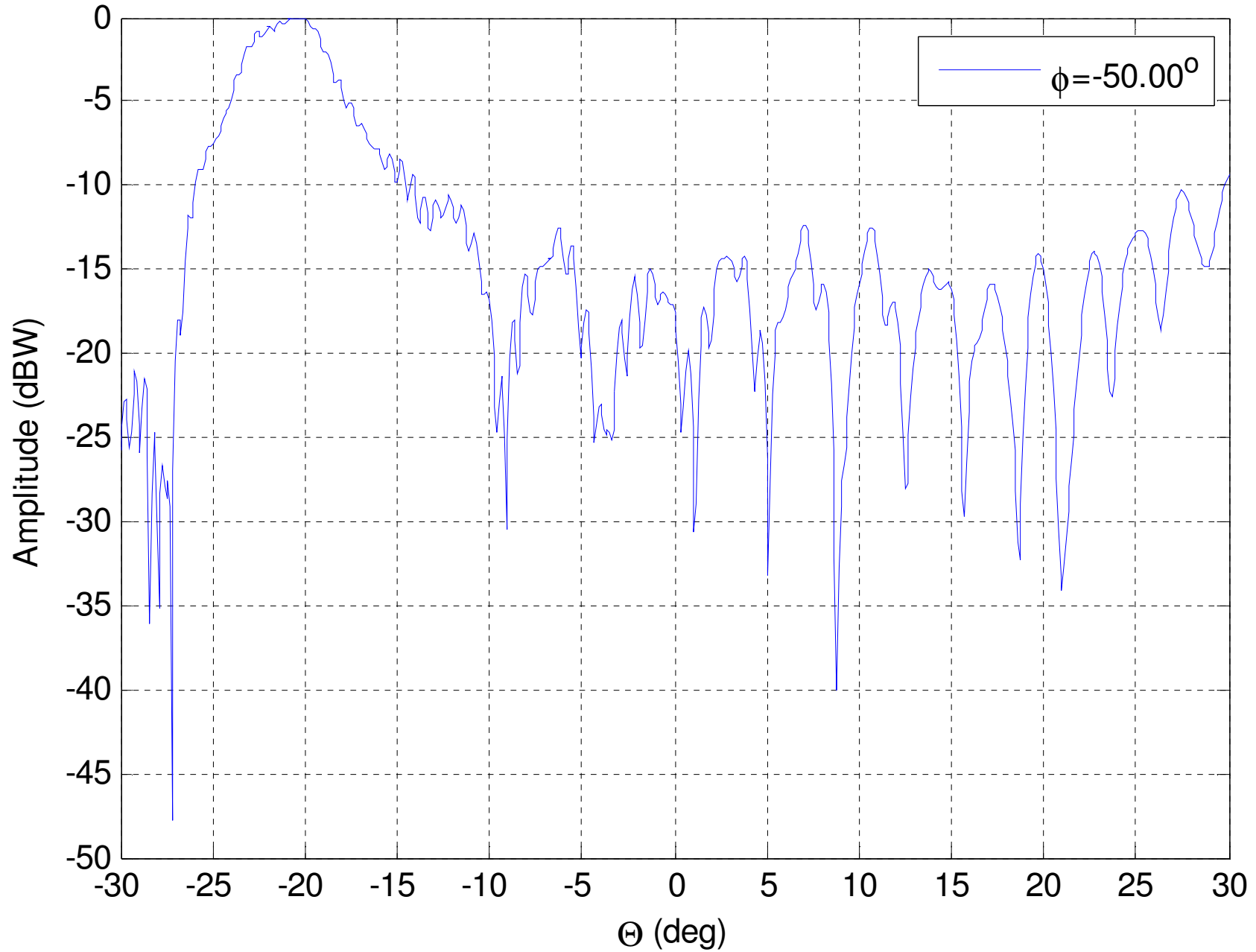
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: 1.72 dBW, Date: 16-Dec-2011



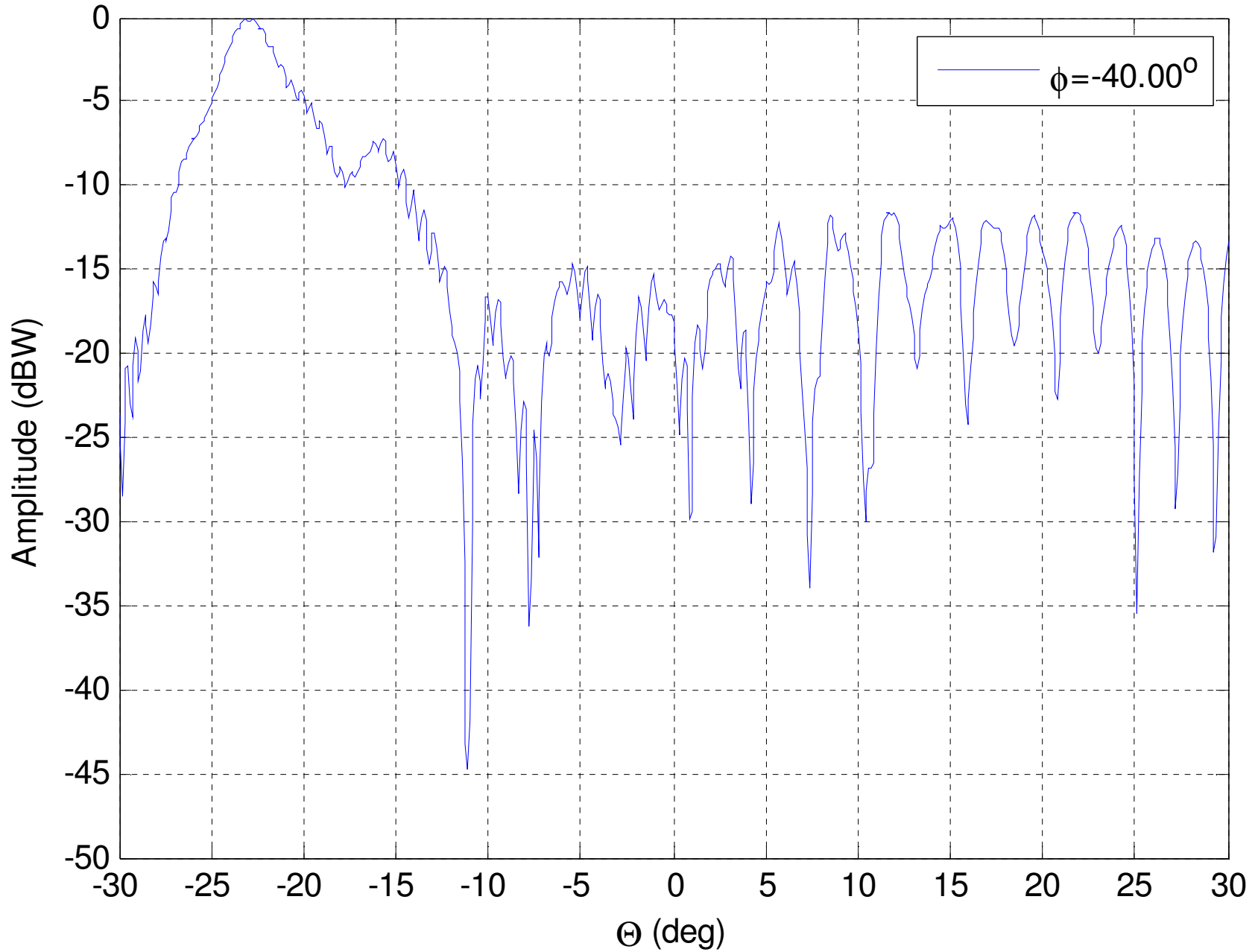
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: 1.90 dBW, Date: 16-Dec-2011



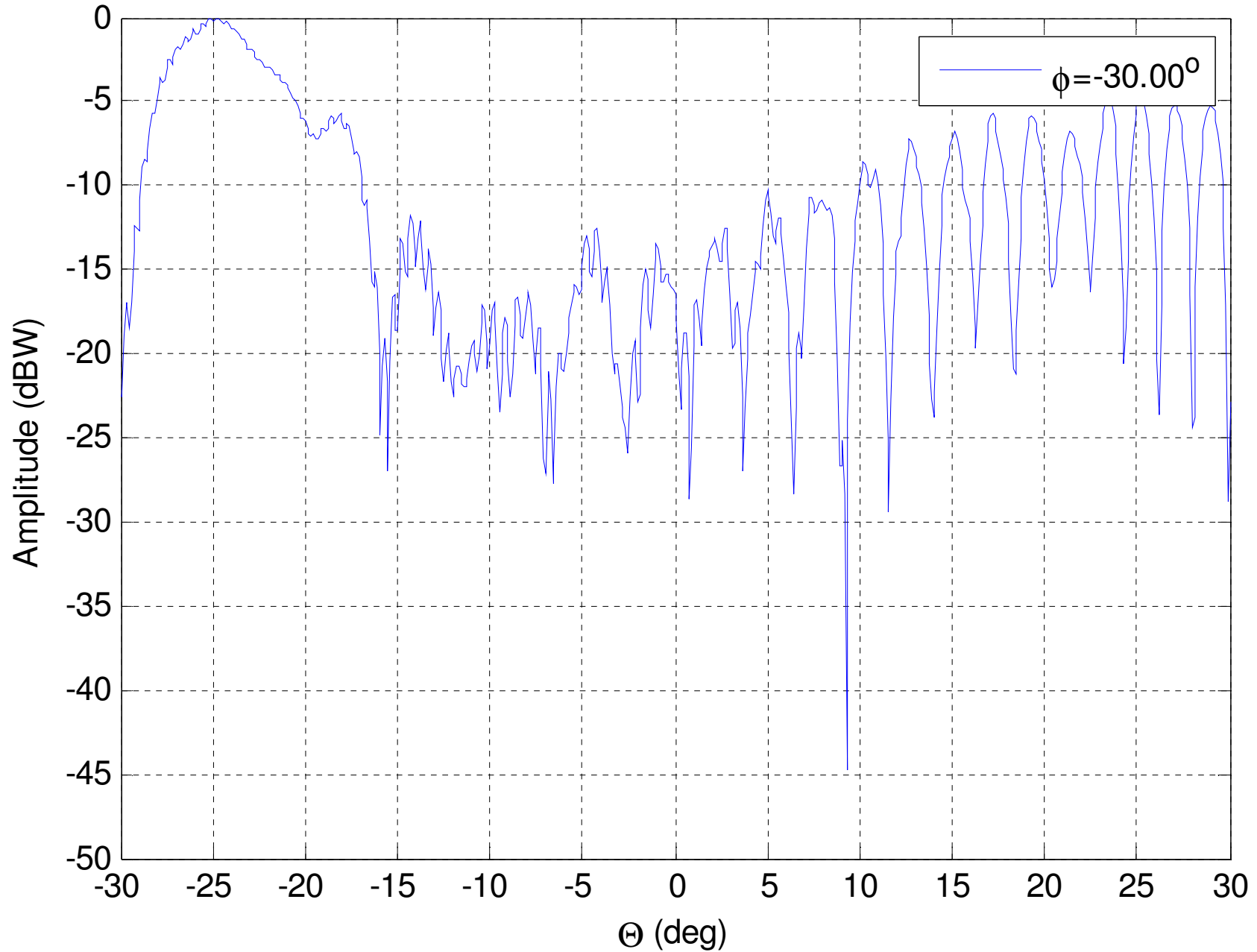
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: 2.49 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

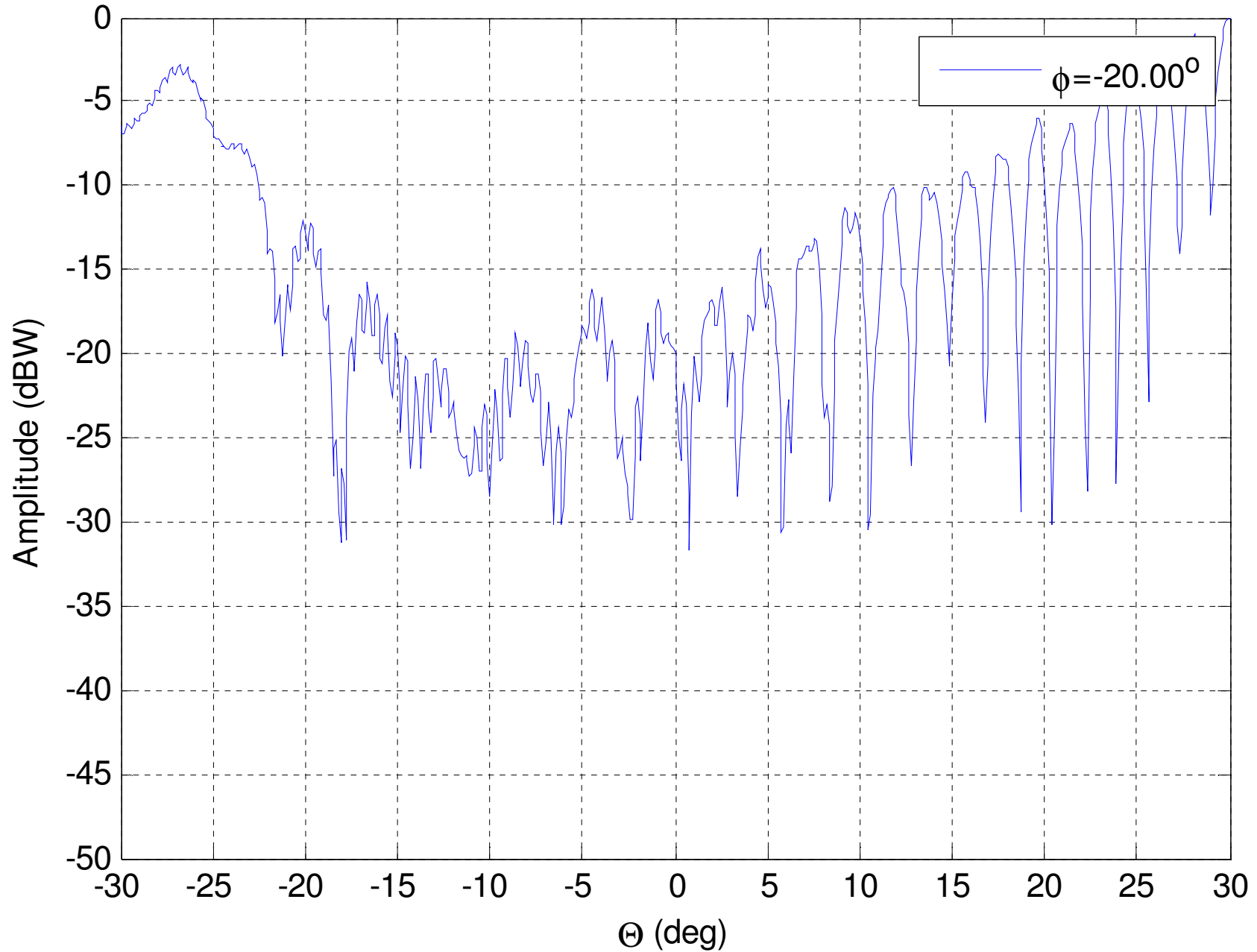
Input file: tx-17.7-rhcp--30.cut, Peak: 0.89 dBW, Date: 16-Dec-2011





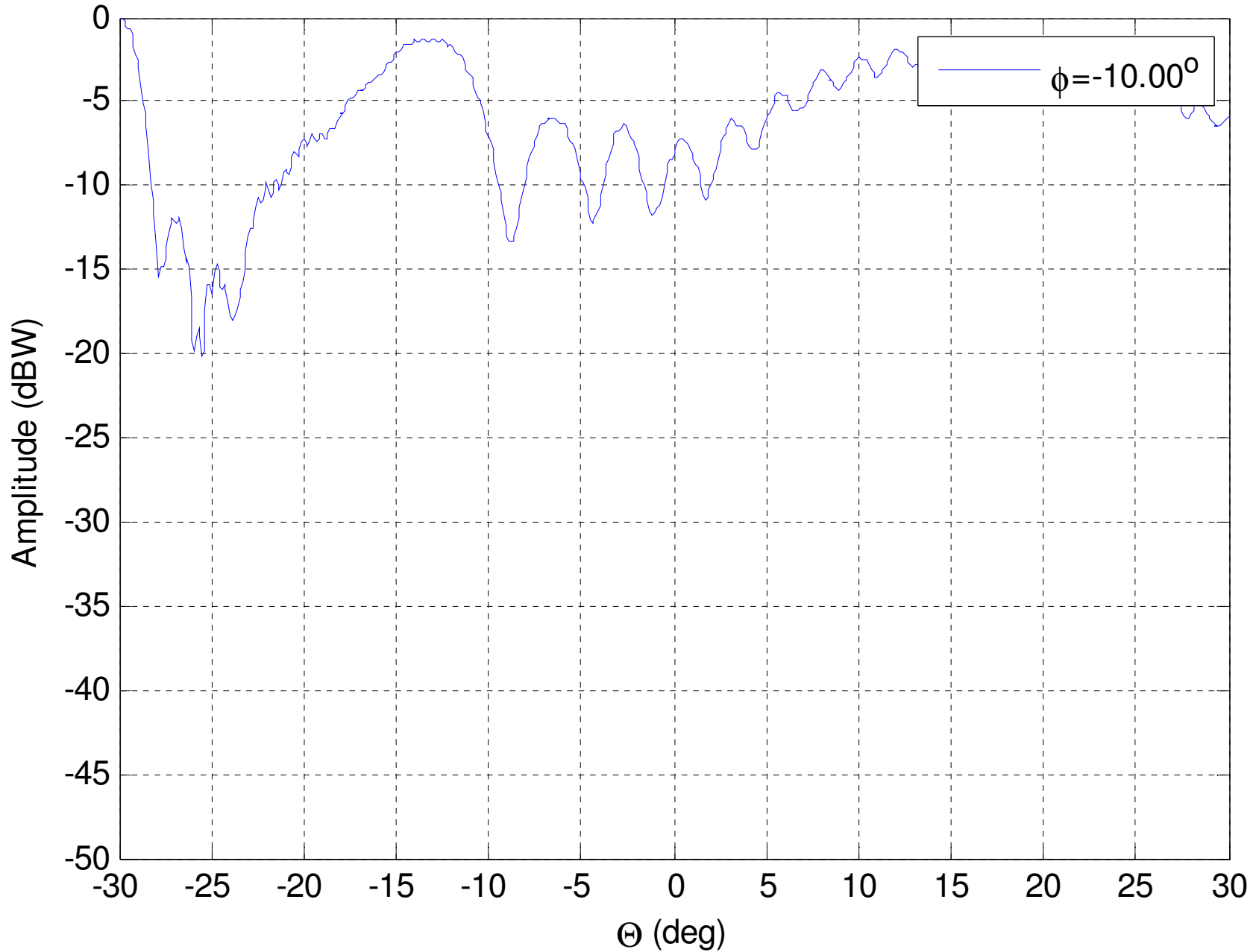
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: 4.37 dBW, Date: 16-Dec-2011



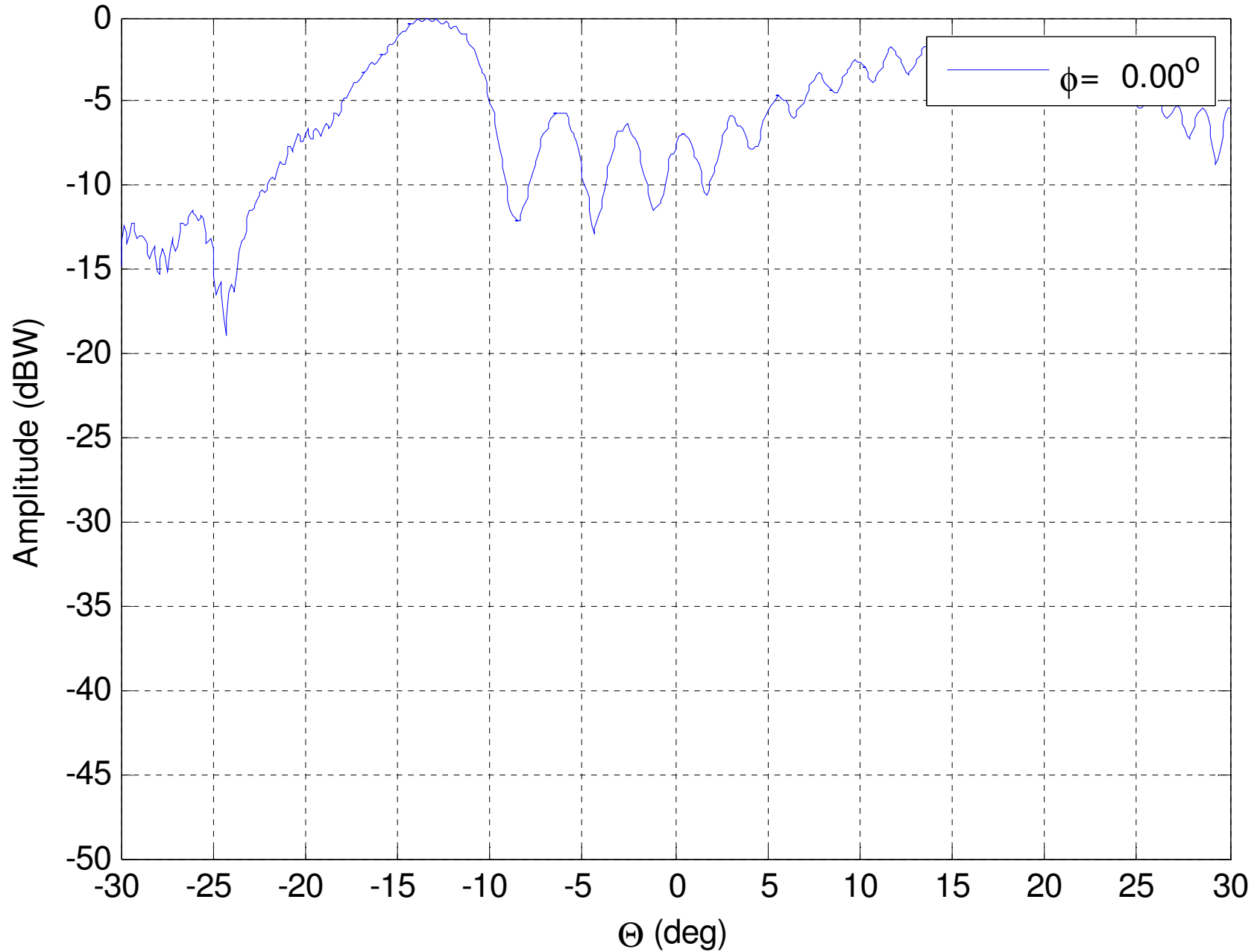
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: 7.54 dBW, Date: 16-Dec-2011



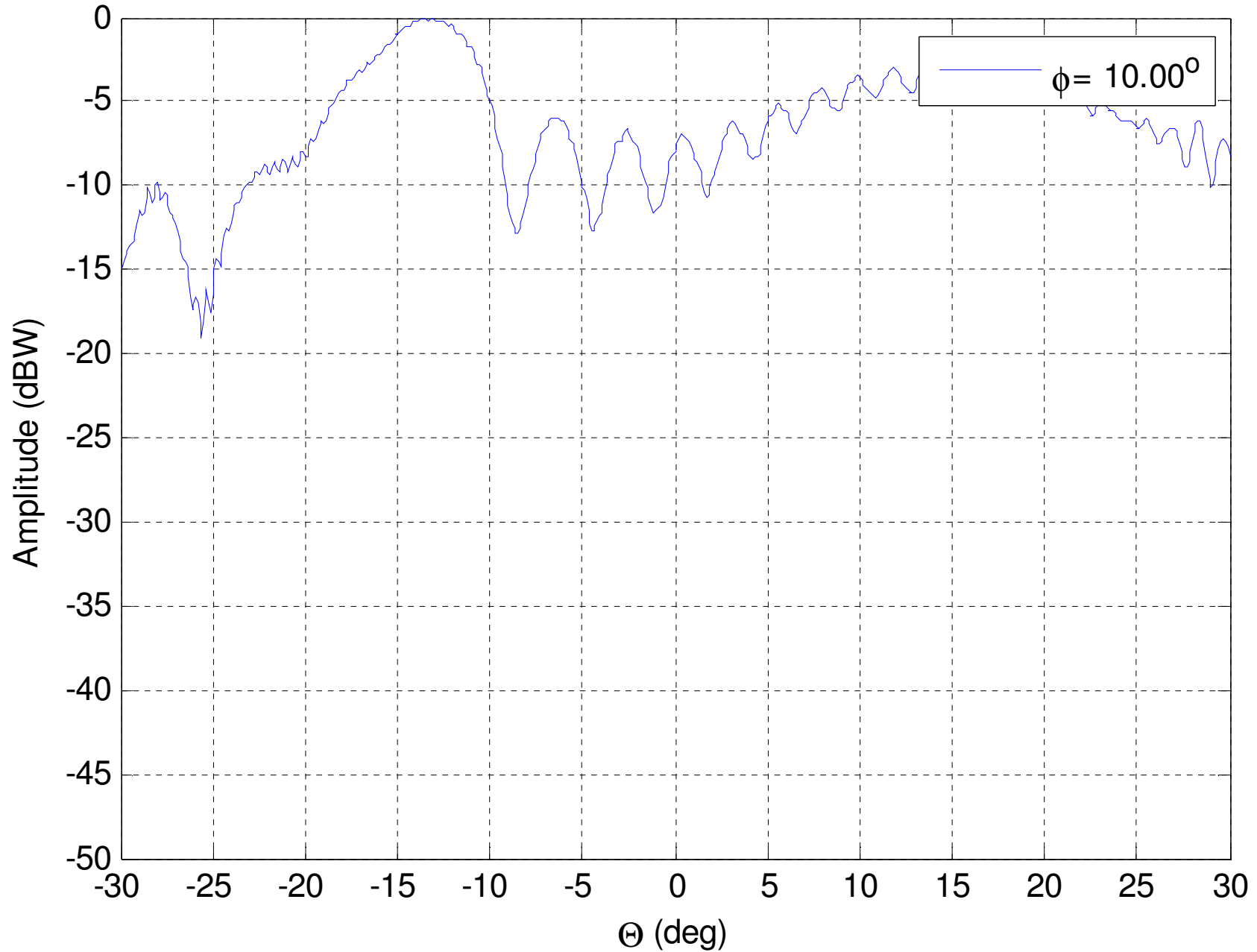
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: 7.22 dBW, Date: 16-Dec-2011



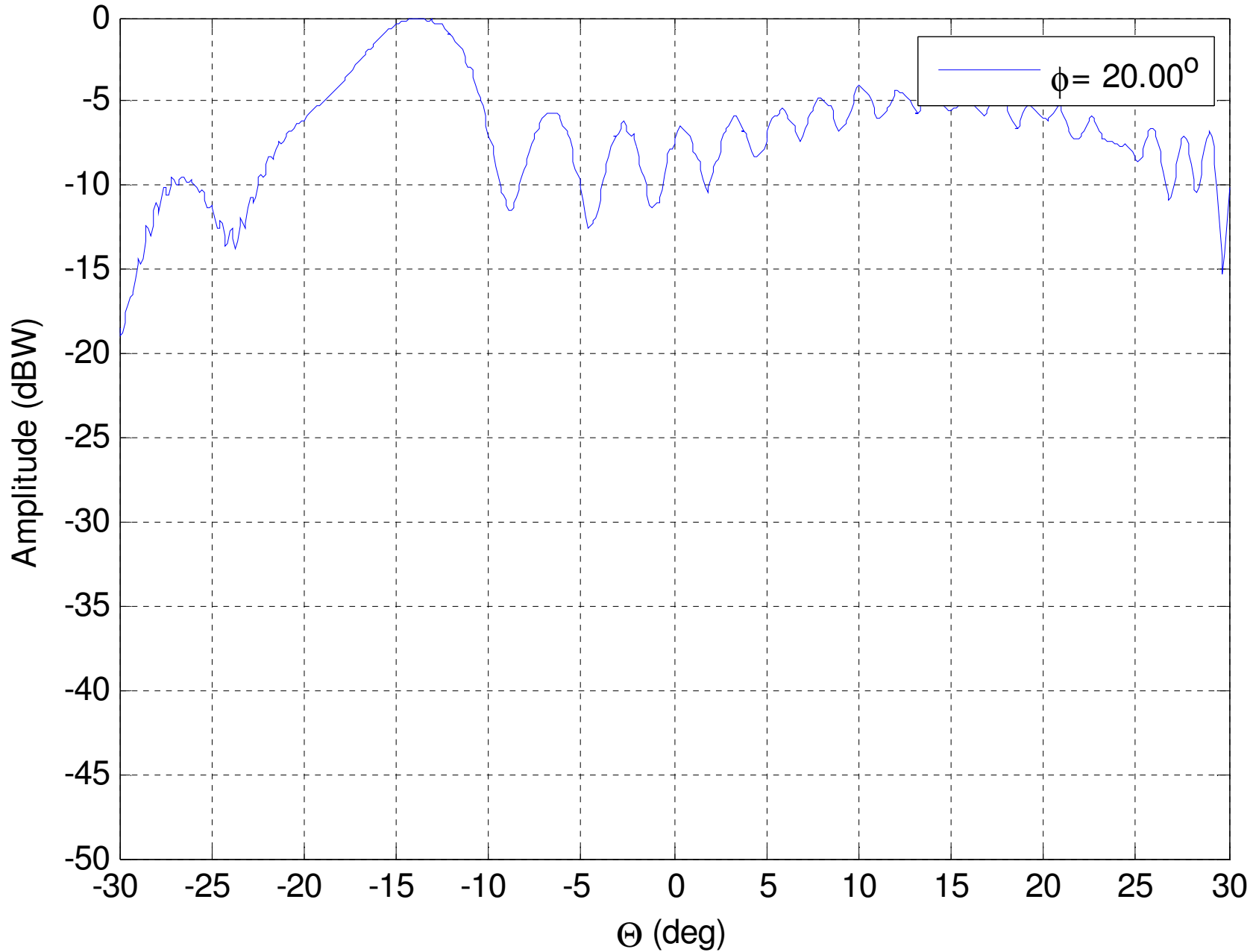
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: 7.35 dBW, Date: 16-Dec-2011



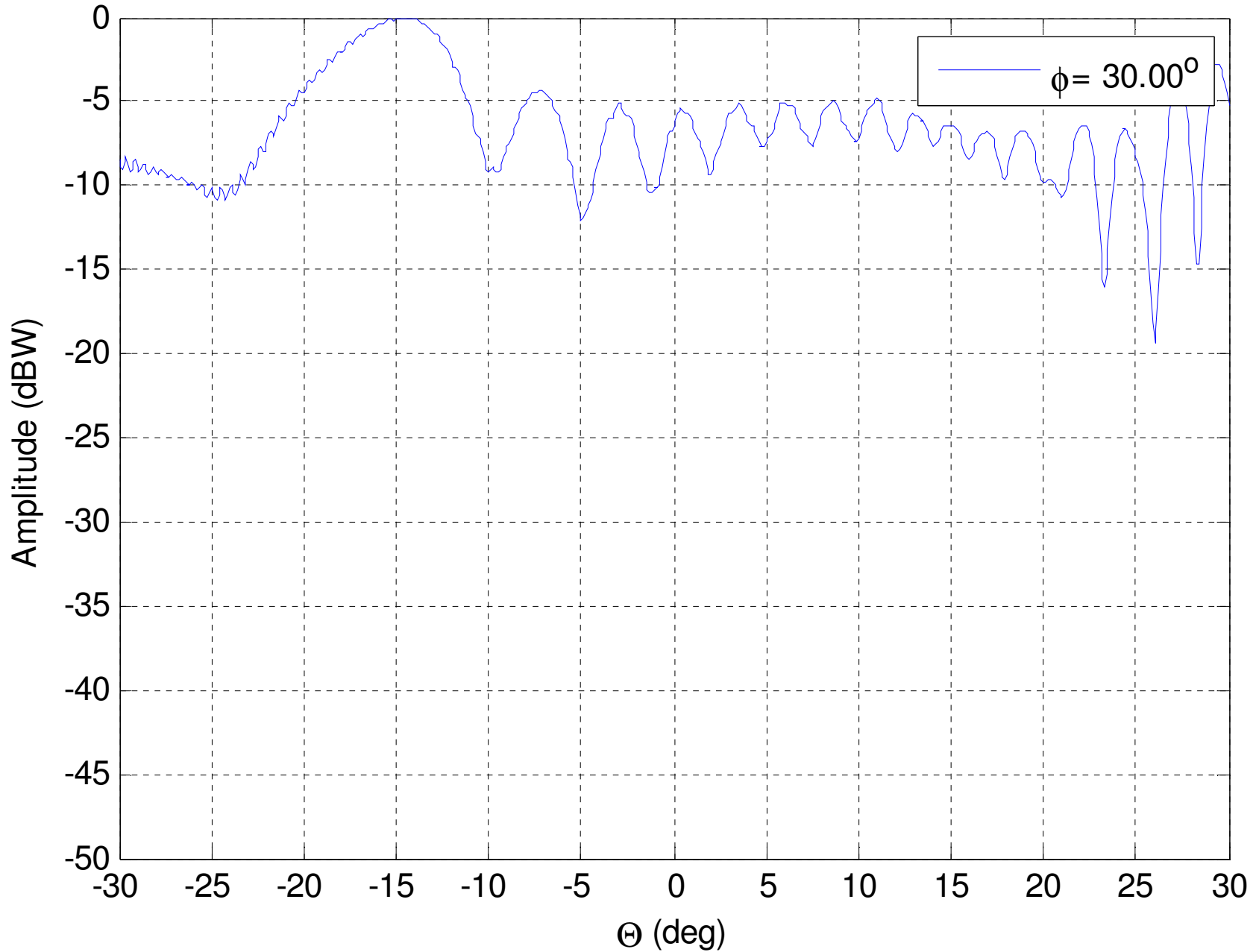
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: 6.91 dBW, Date: 16-Dec-2011



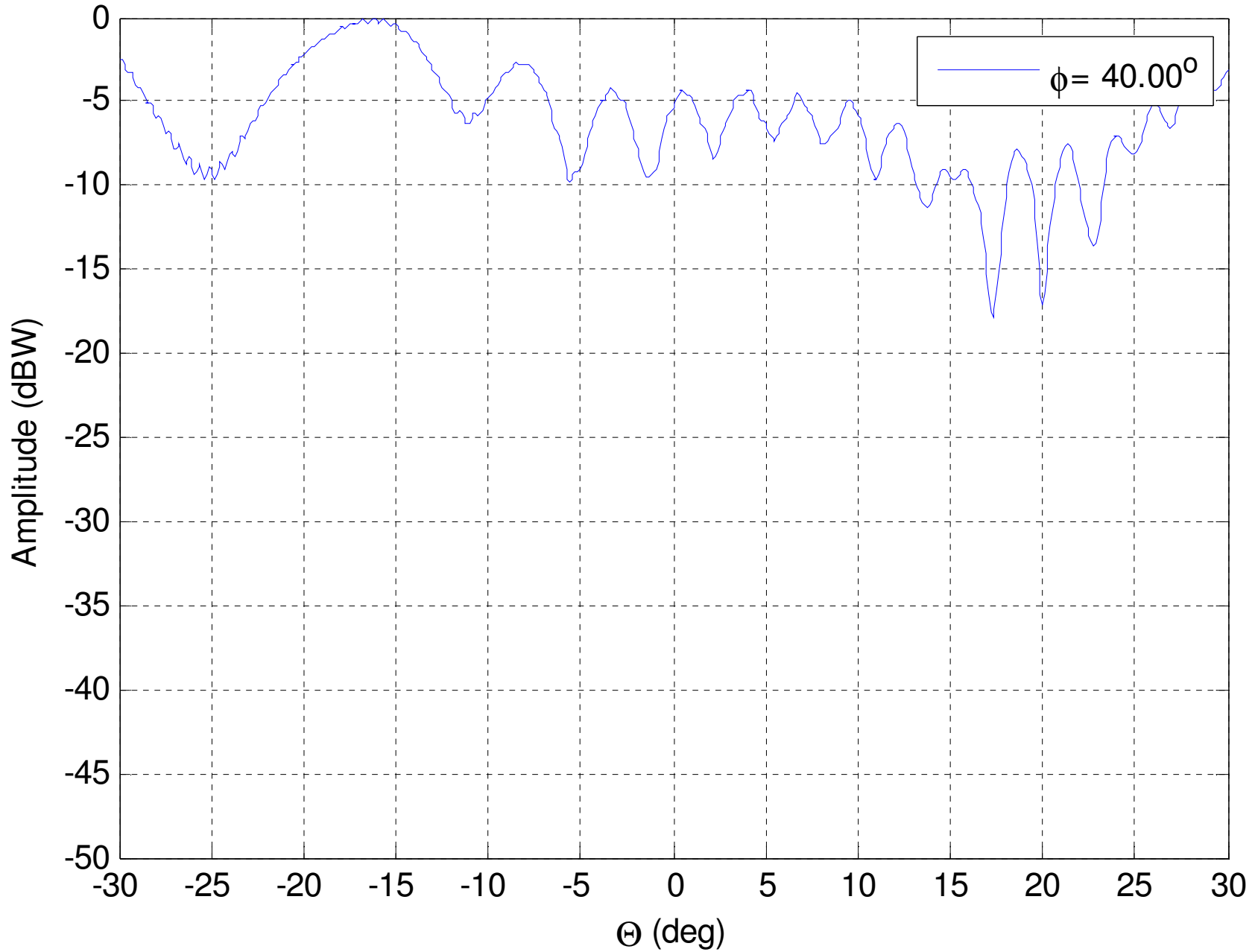
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: 5.87 dBW, Date: 16-Dec-2011



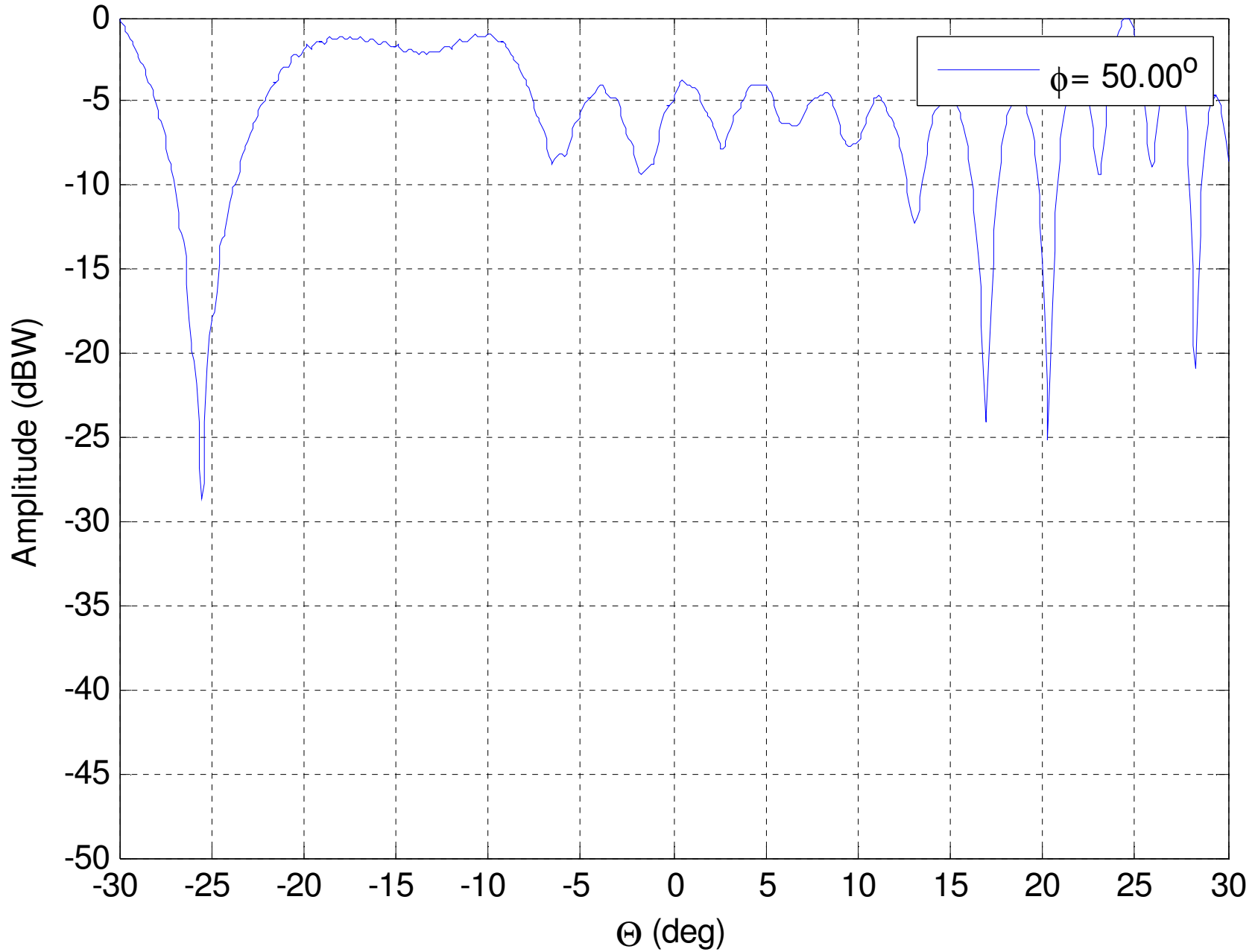
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: 4.76 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

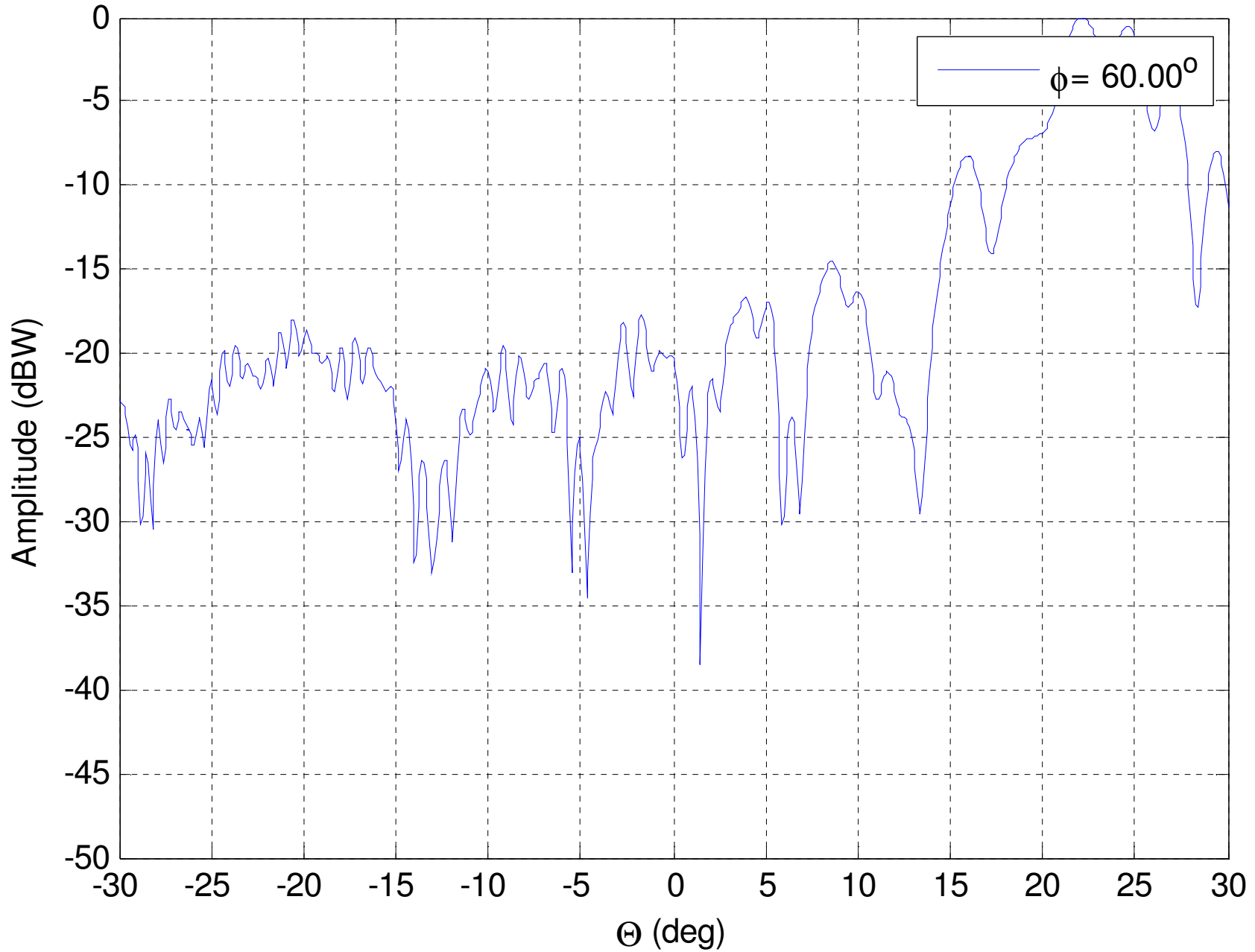
Input file: tx-17.7-rhcp-50.cut, Peak: 4.26 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

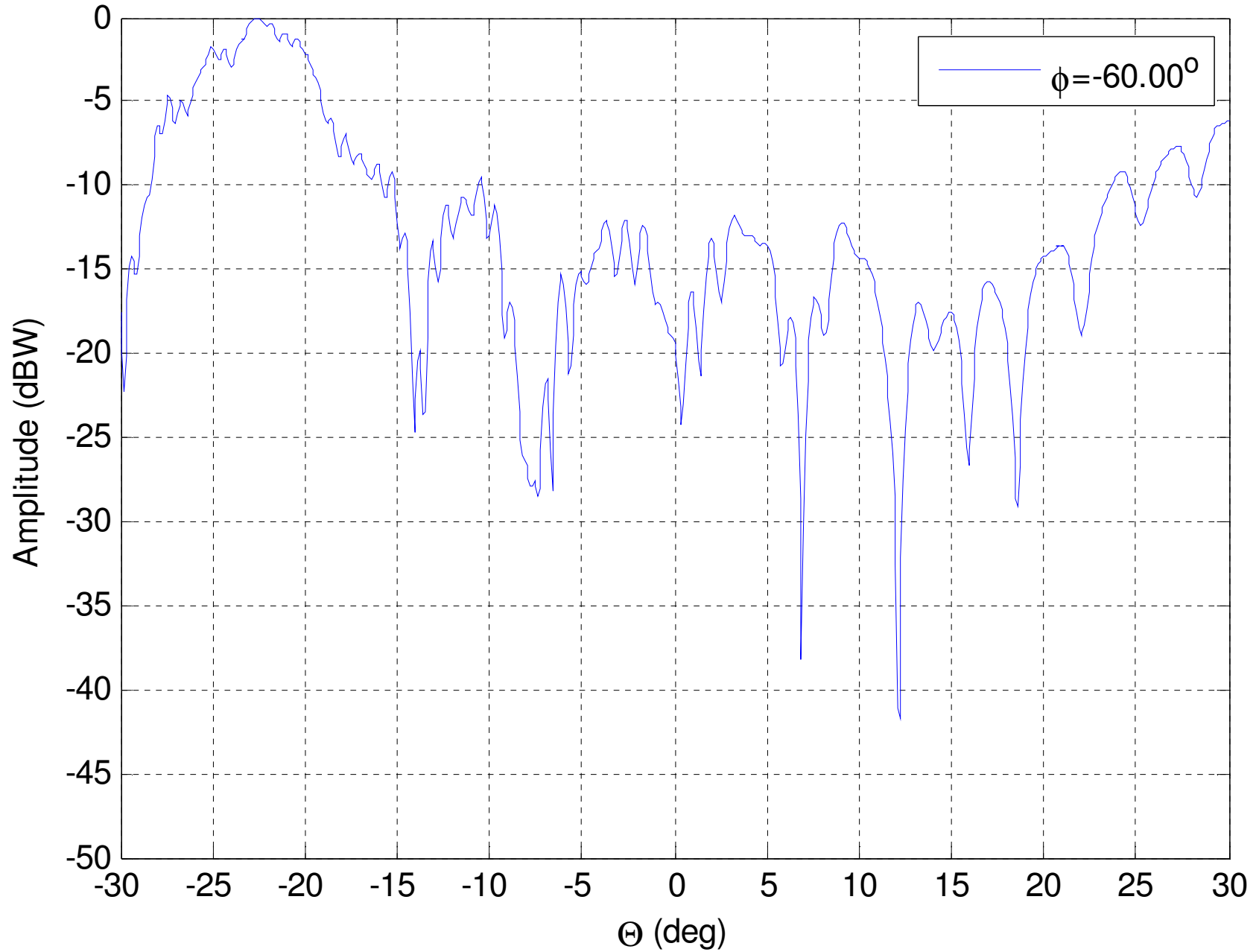
Input file: tx-17.7-rhcp-60.cut, Peak: 4.60 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

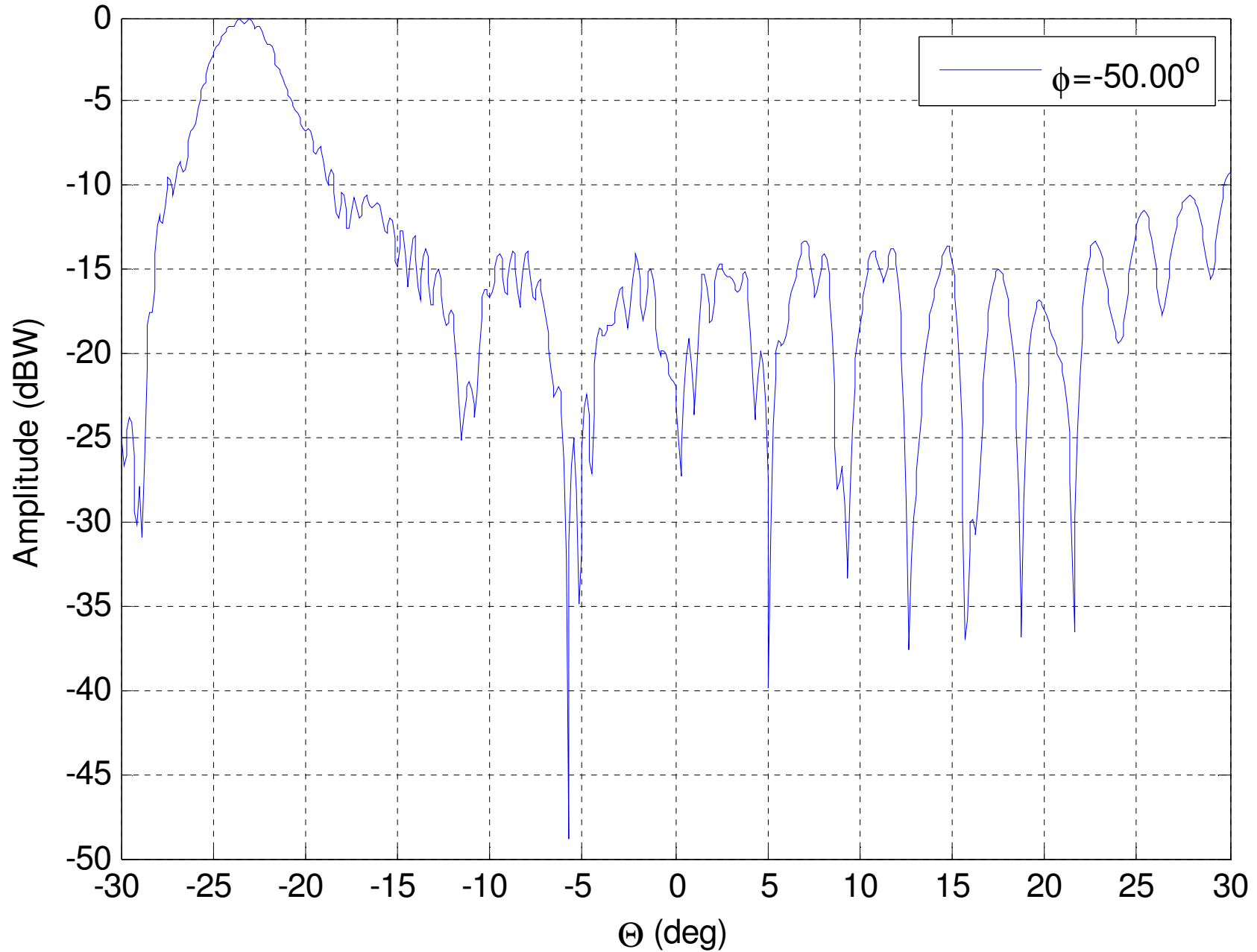
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -0.48 dBW, Date: 16-Dec-2011



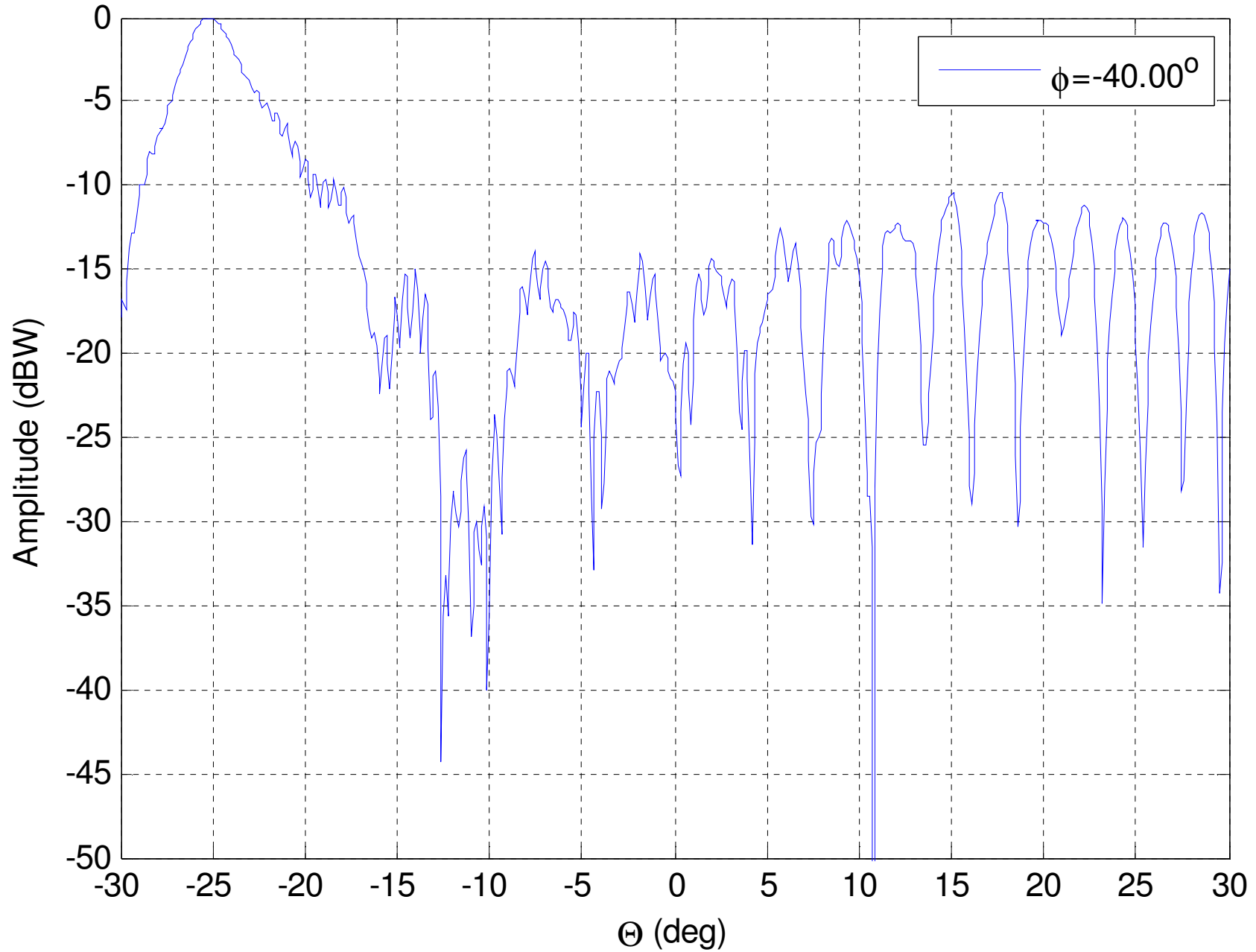
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: 2.15 dBW, Date: 16-Dec-2011



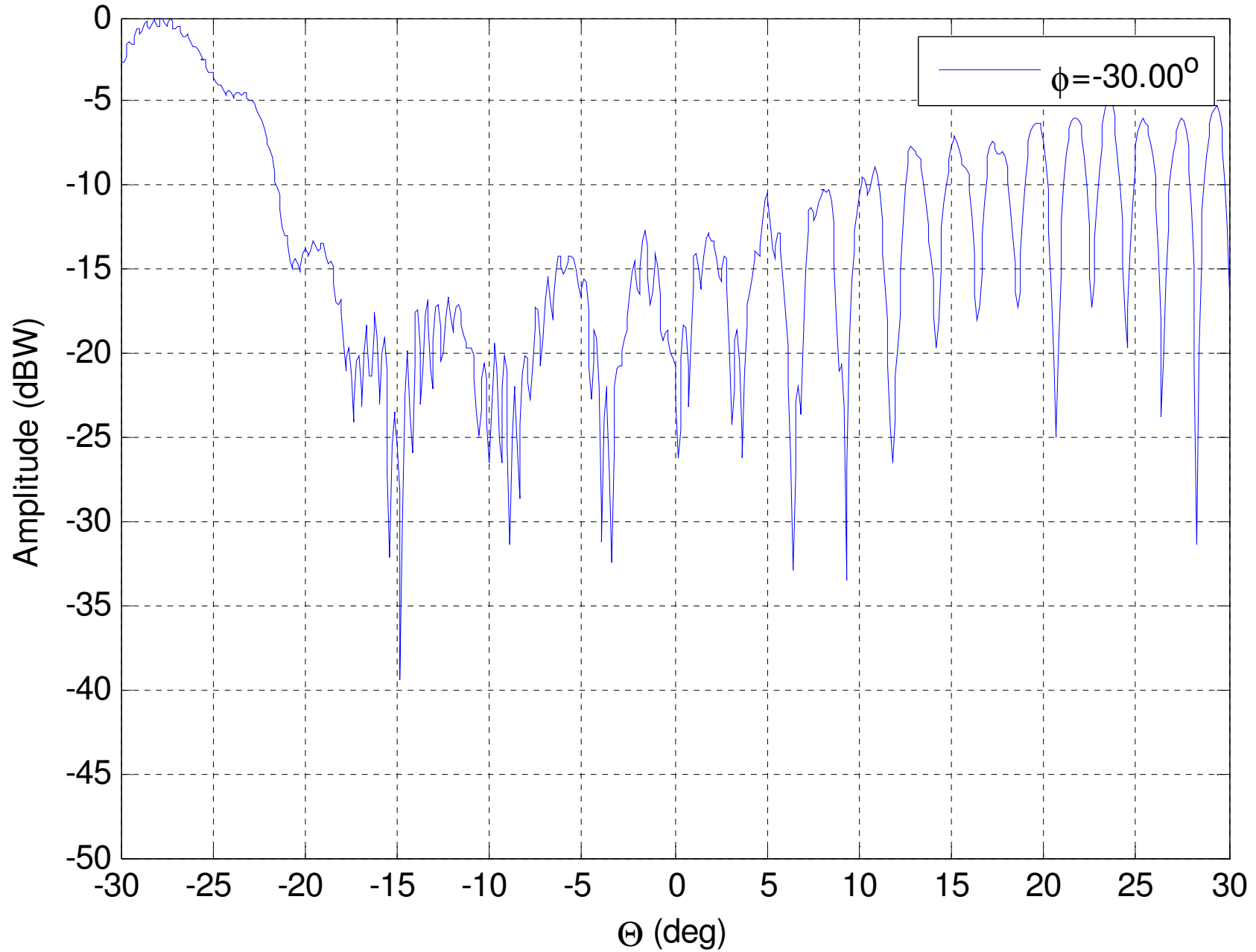
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: 2.32 dBW, Date: 16-Dec-2011



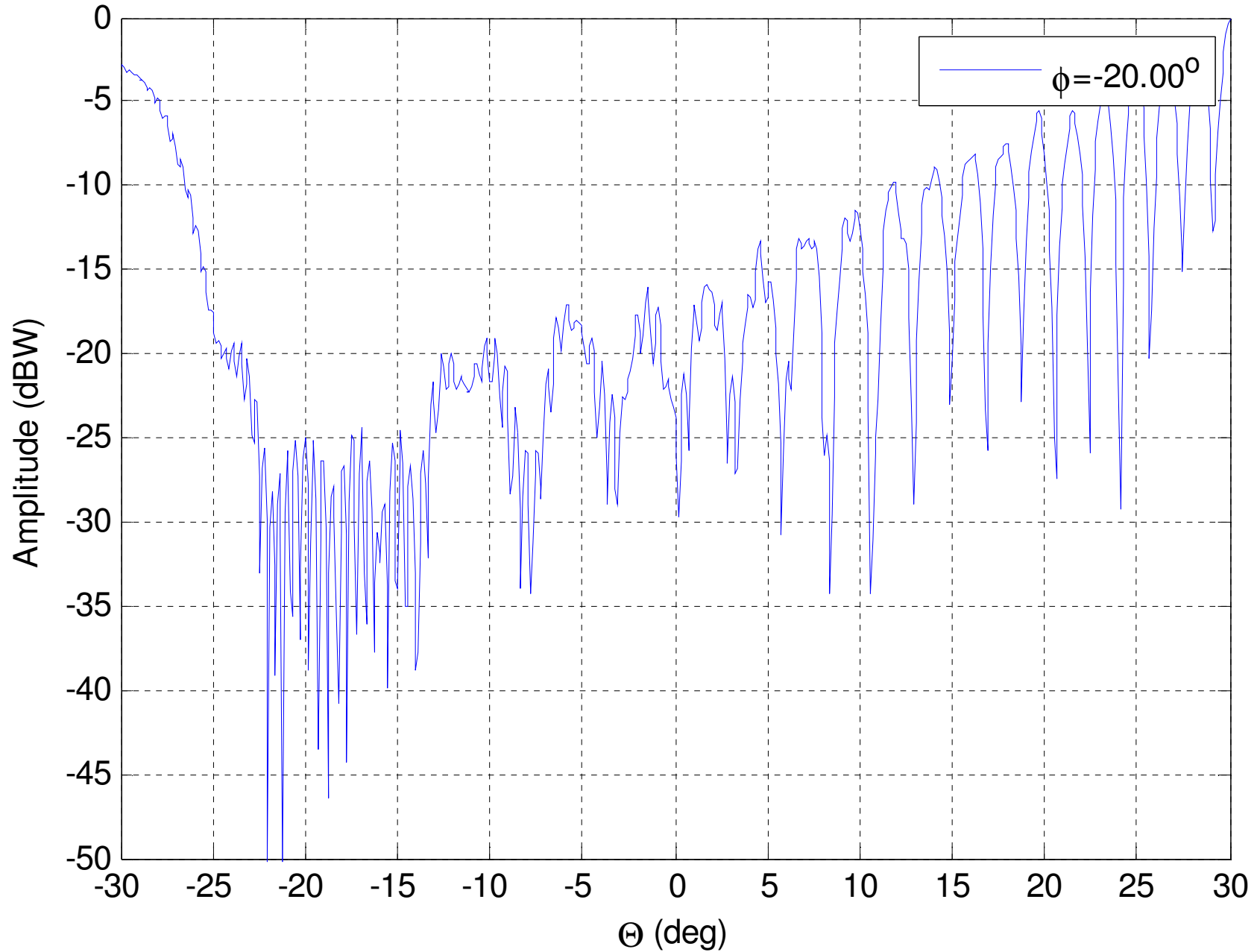
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: 0.93 dBW, Date: 16-Dec-2011



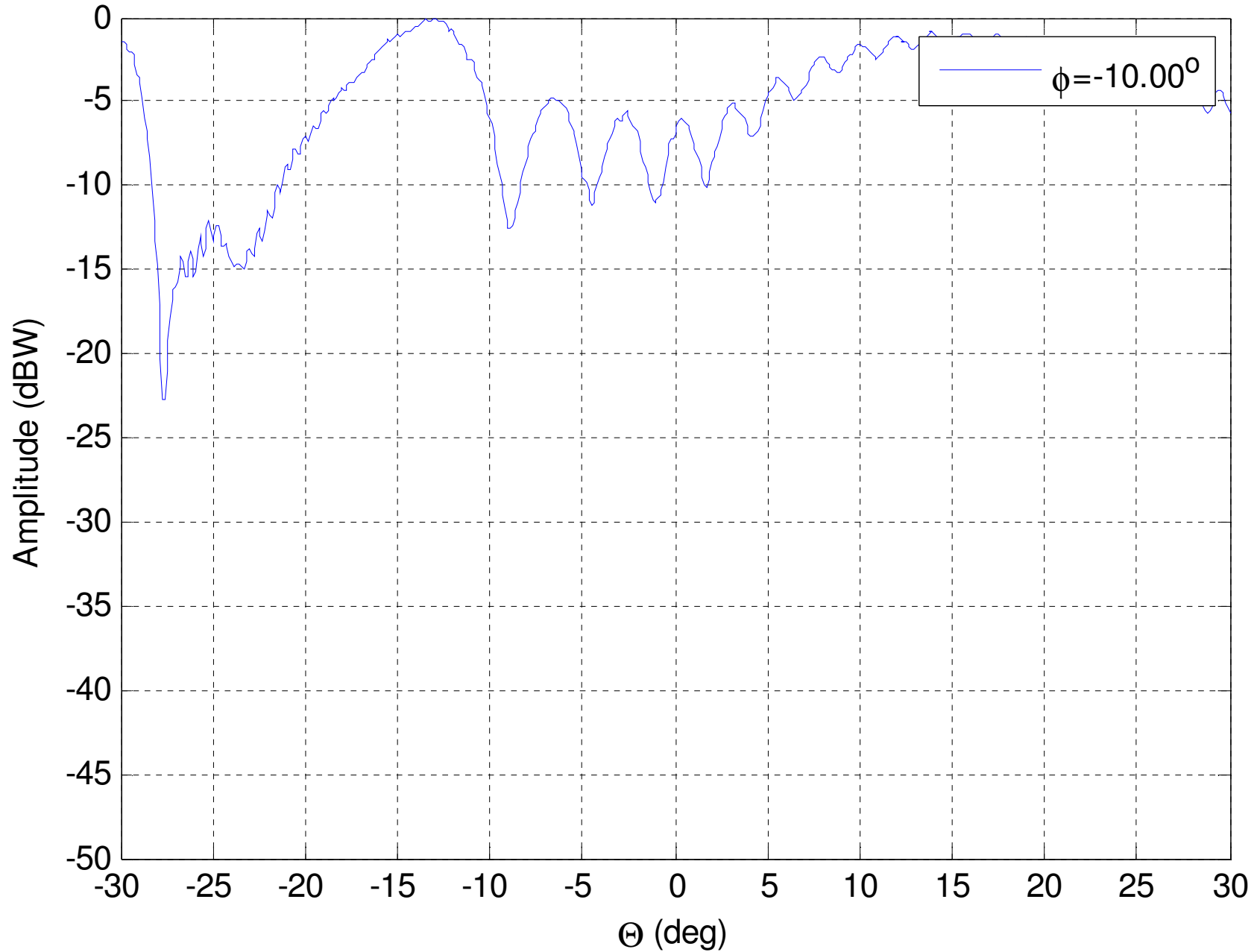
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: 3.92 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

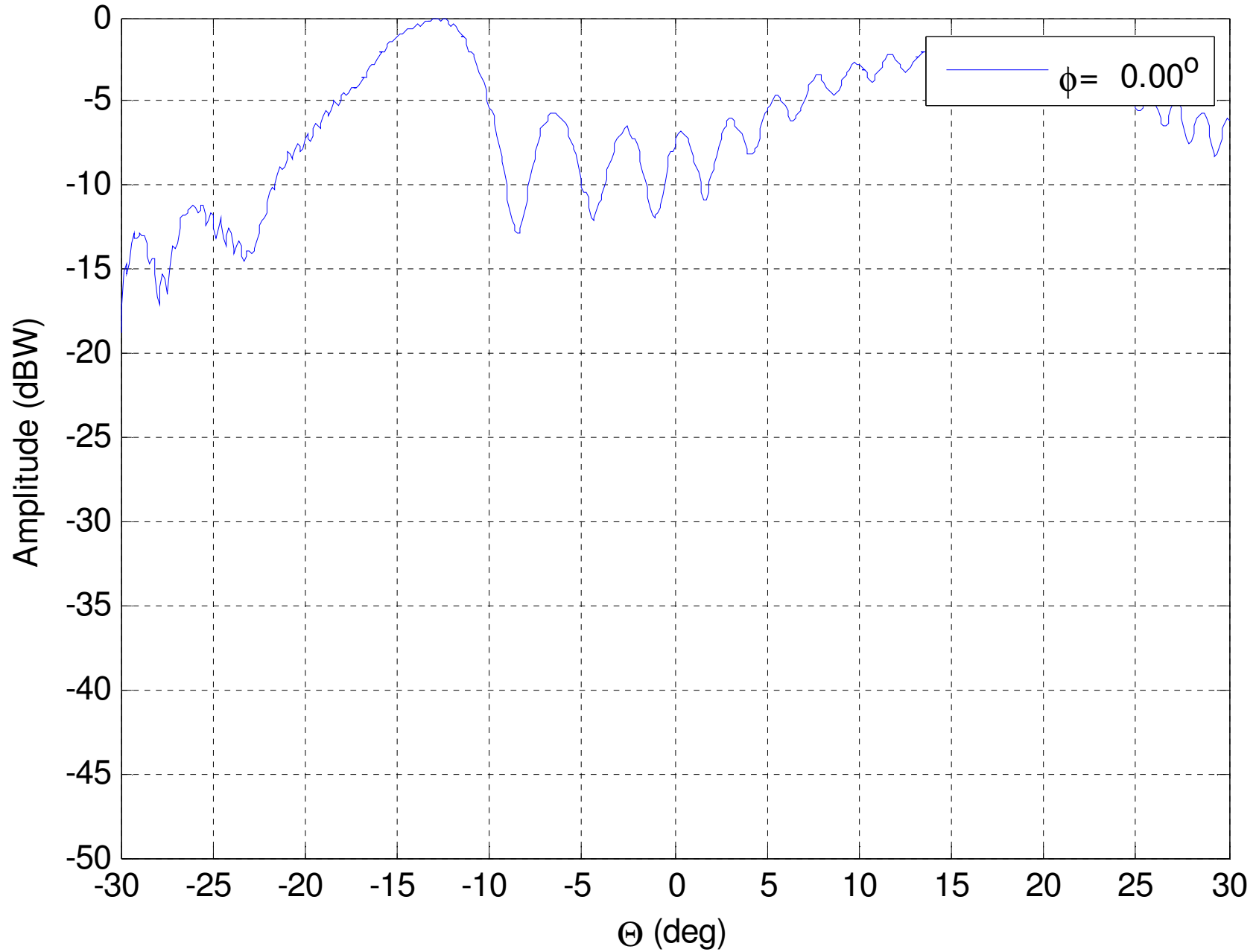
Input file: tx-17.7-lhcp--10.cut, Peak: 6.58 dBW, Date: 16-Dec-2011





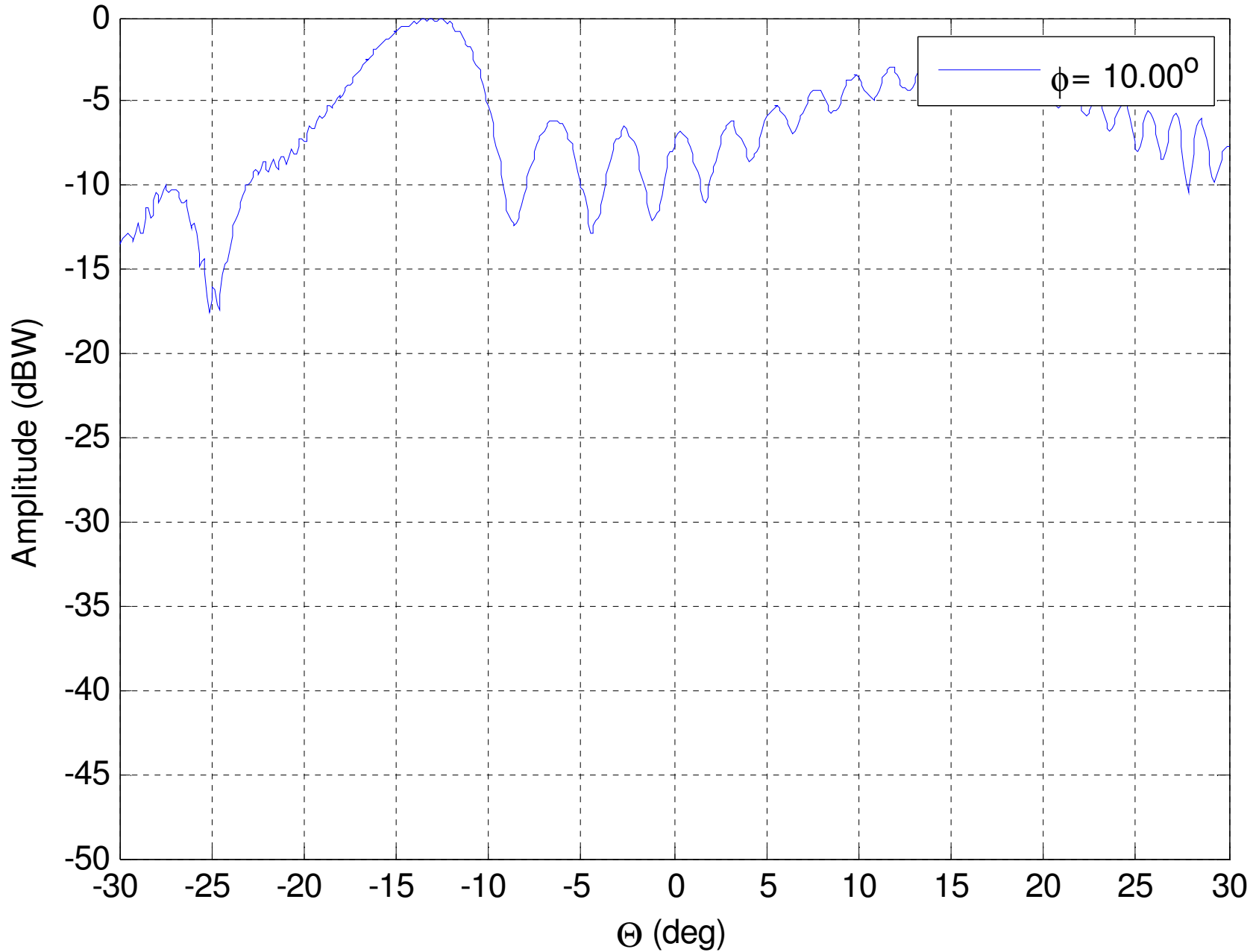
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: 7.33 dBW, Date: 16-Dec-2011



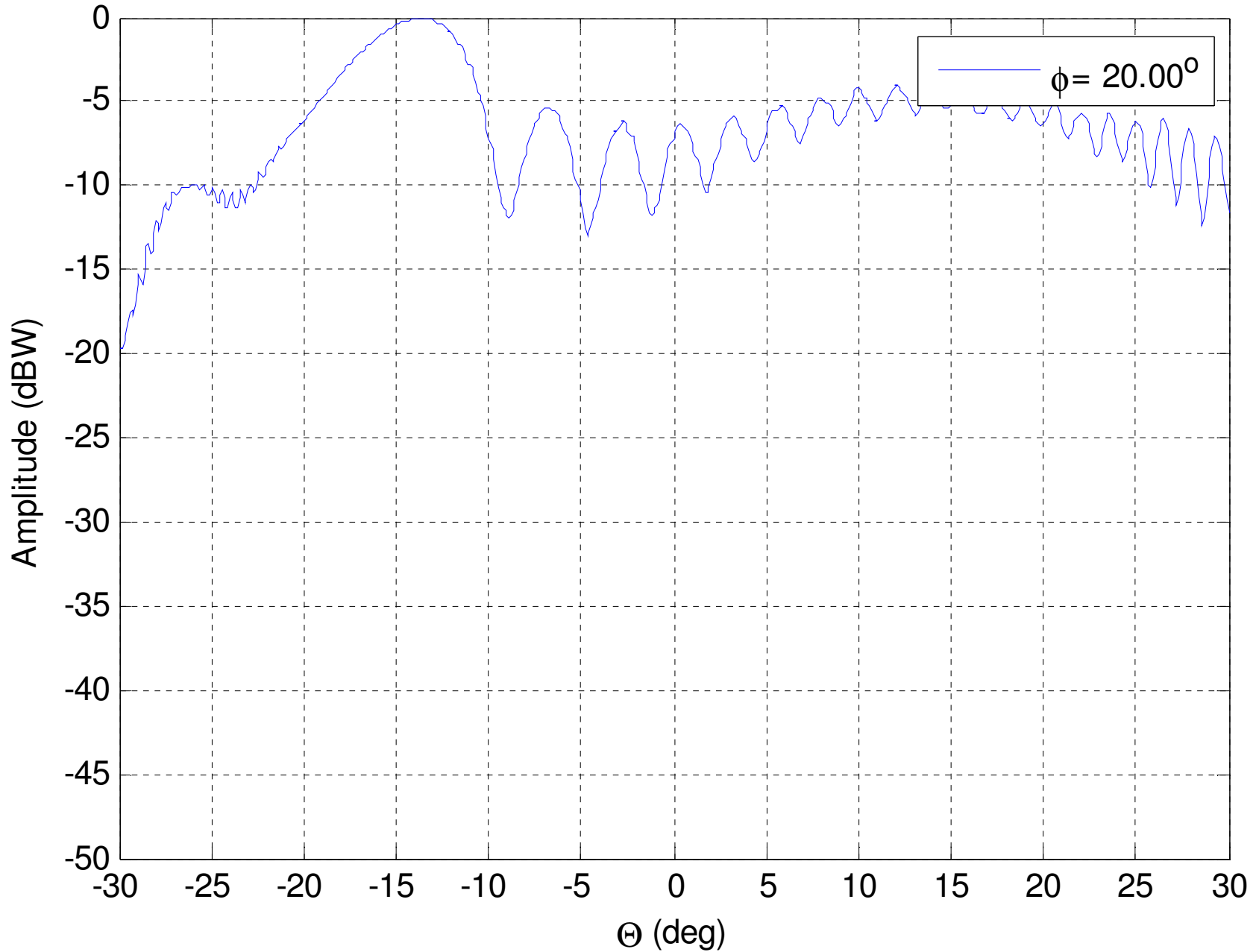
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: 7.34 dBW, Date: 16-Dec-2011



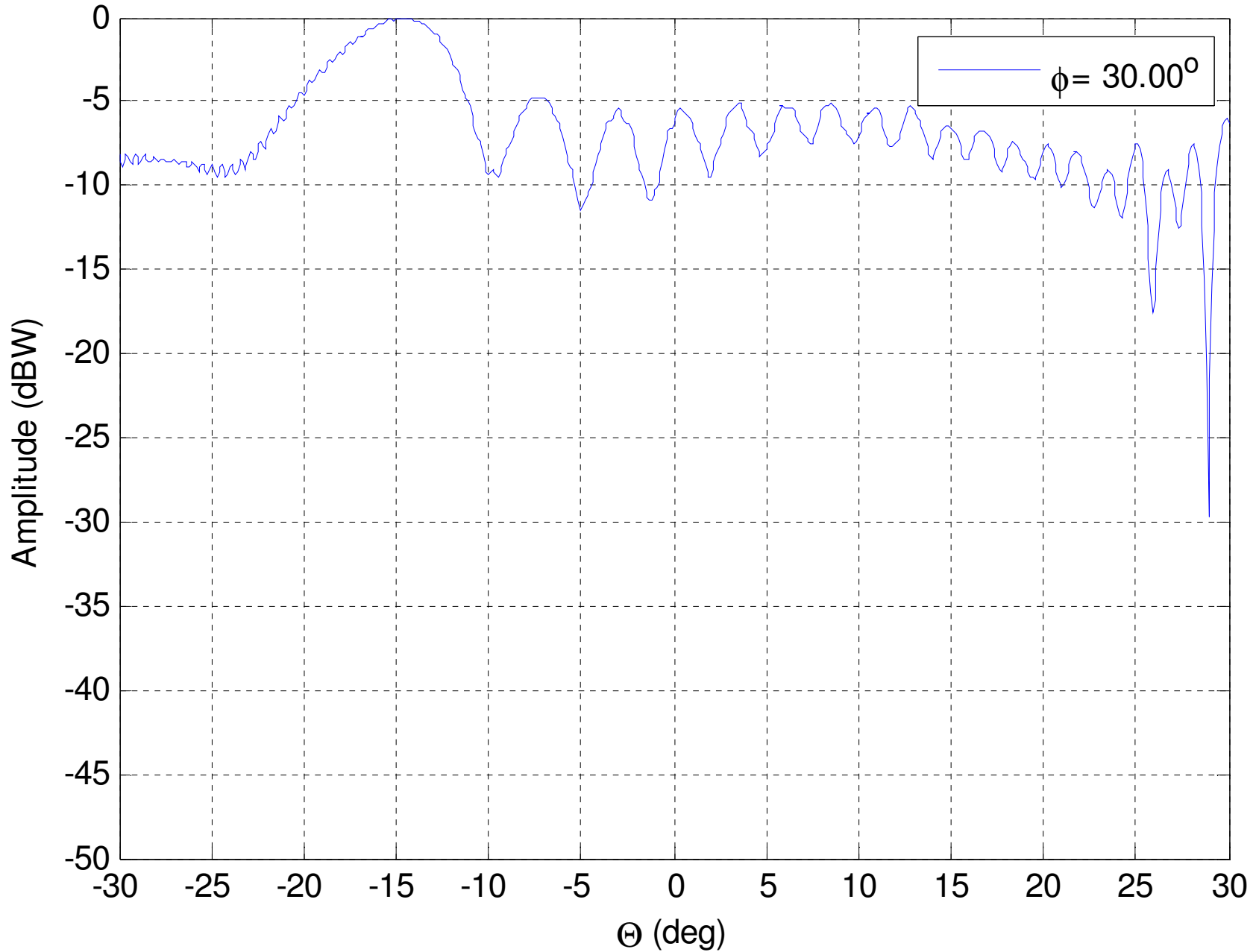
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: 6.87 dBW, Date: 16-Dec-2011



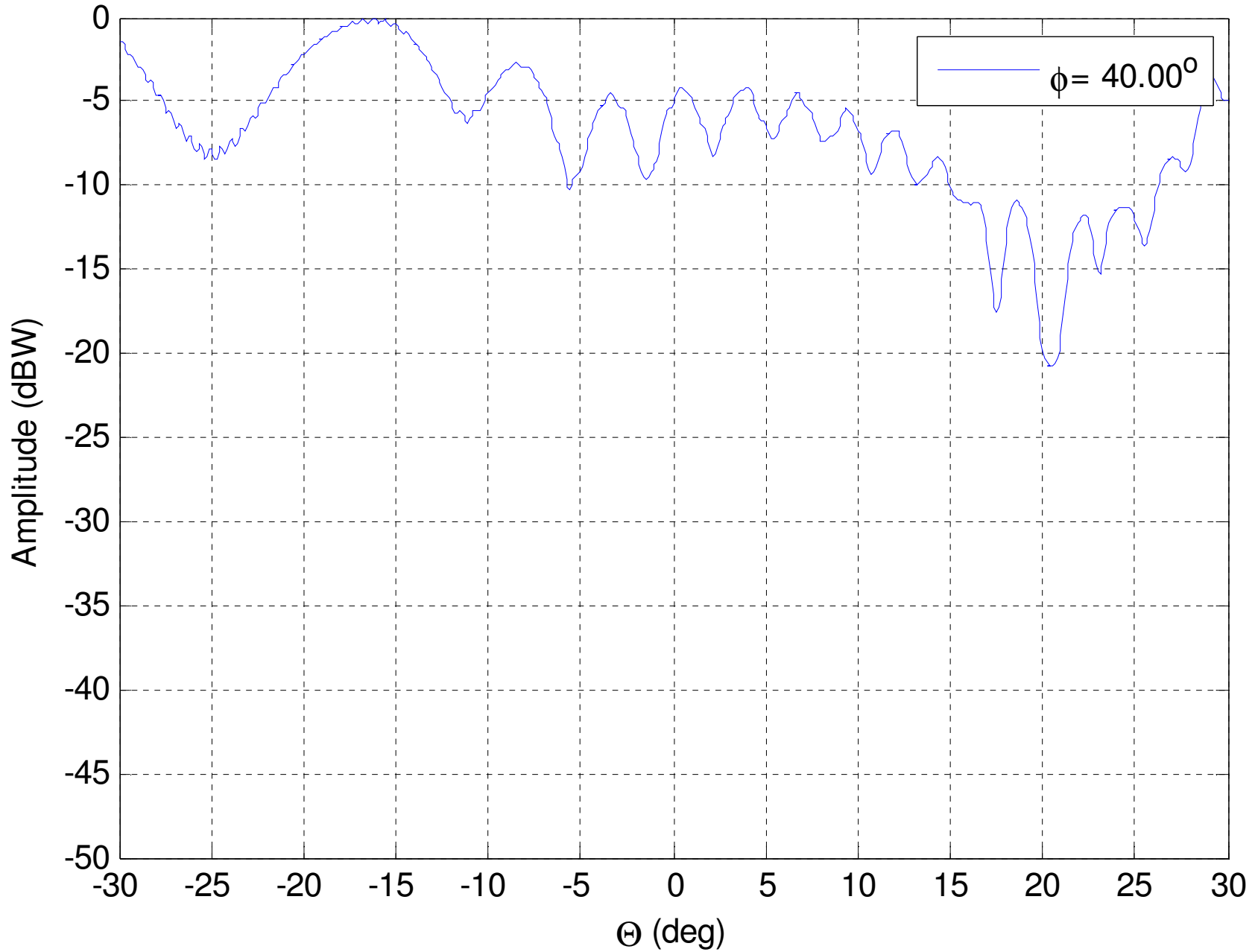
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: 5.98 dBW, Date: 16-Dec-2011



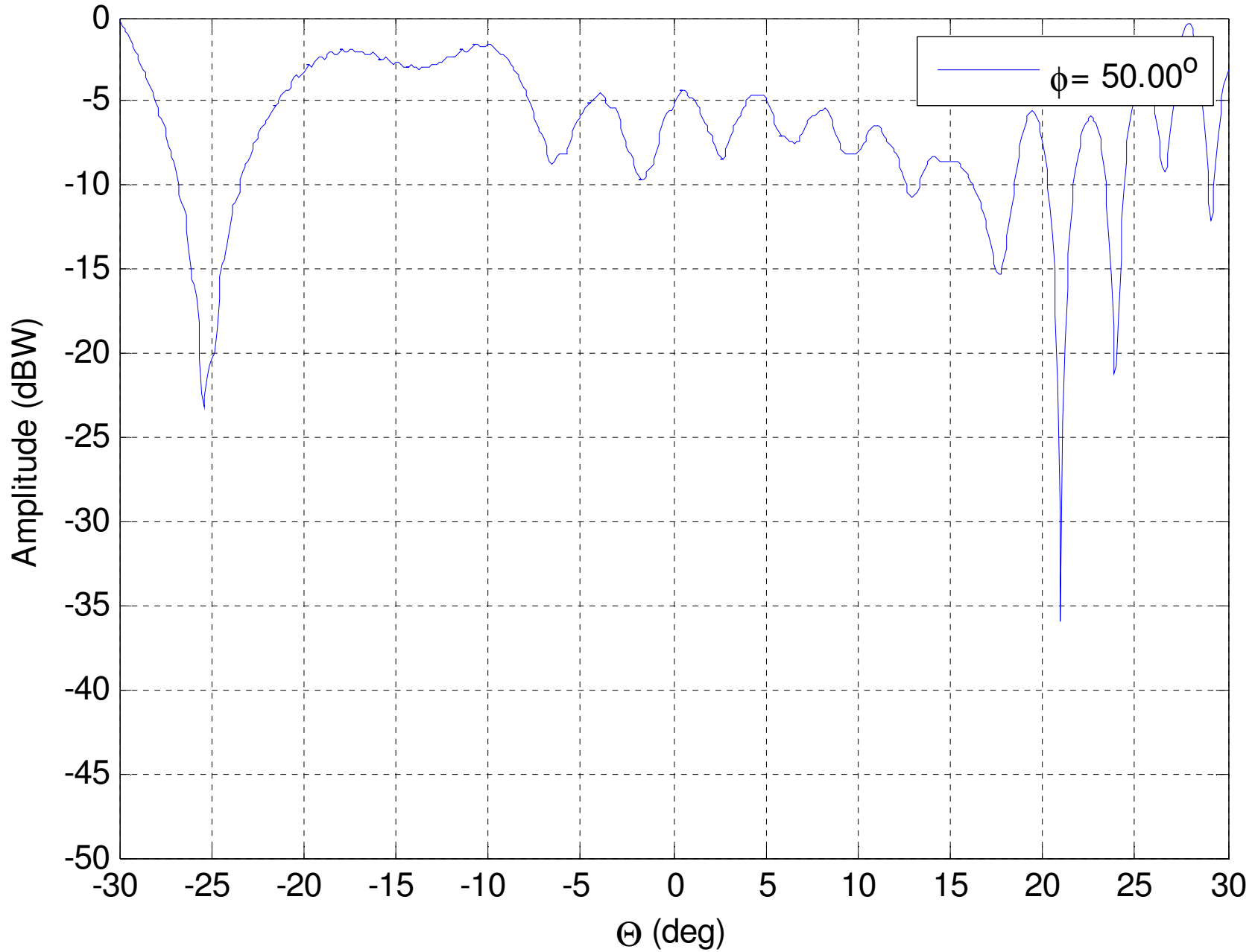
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: 4.78 dBW, Date: 16-Dec-2011



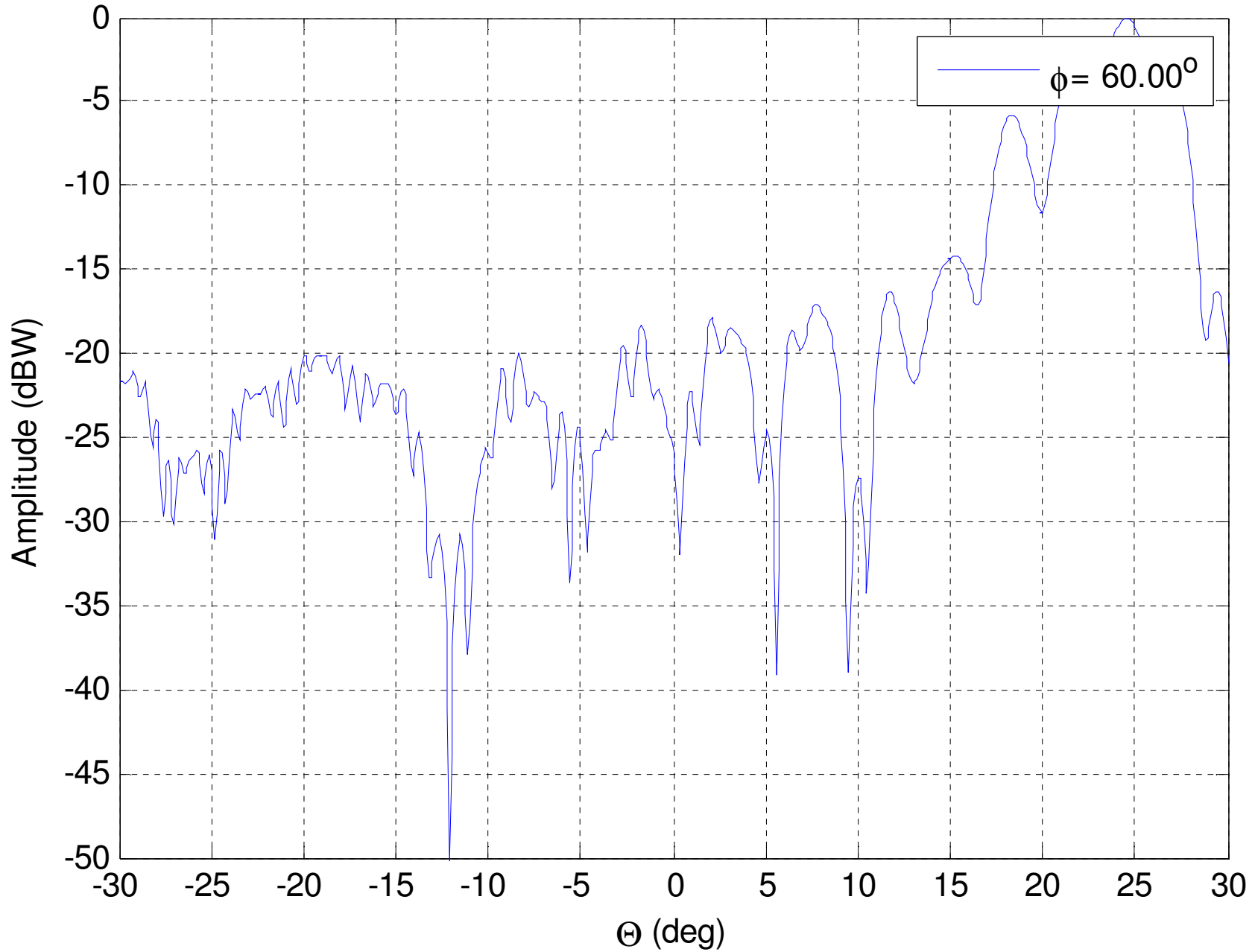
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: 4.95 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: 5.97 dBW, Date: 16-Dec-2011



December 13, 2011

Updated: May 15, 2012

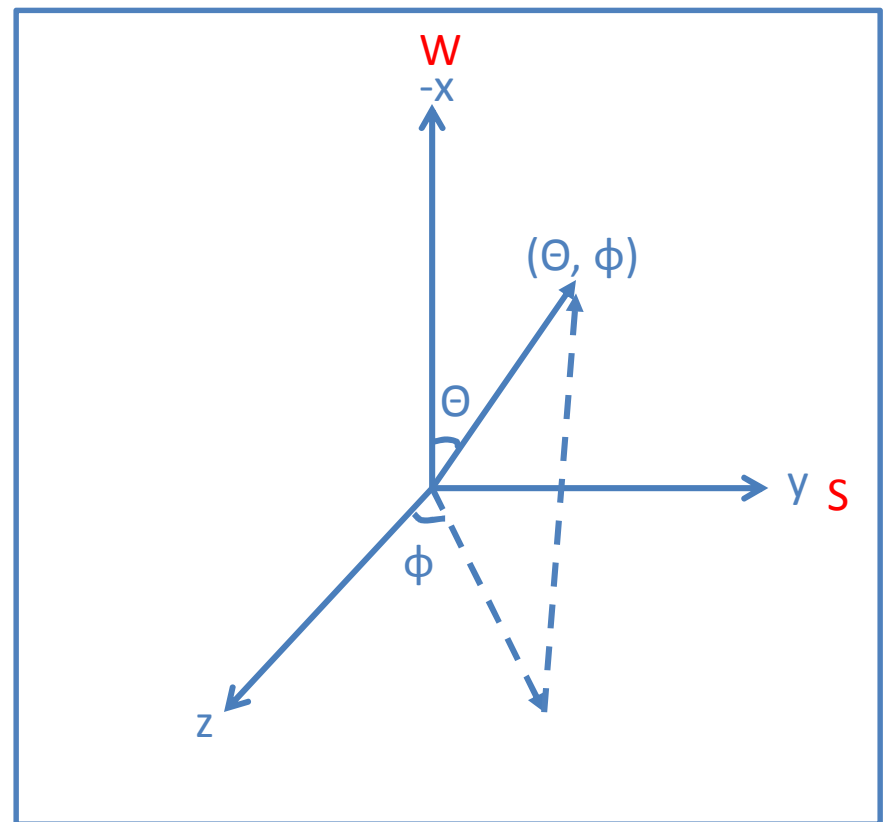
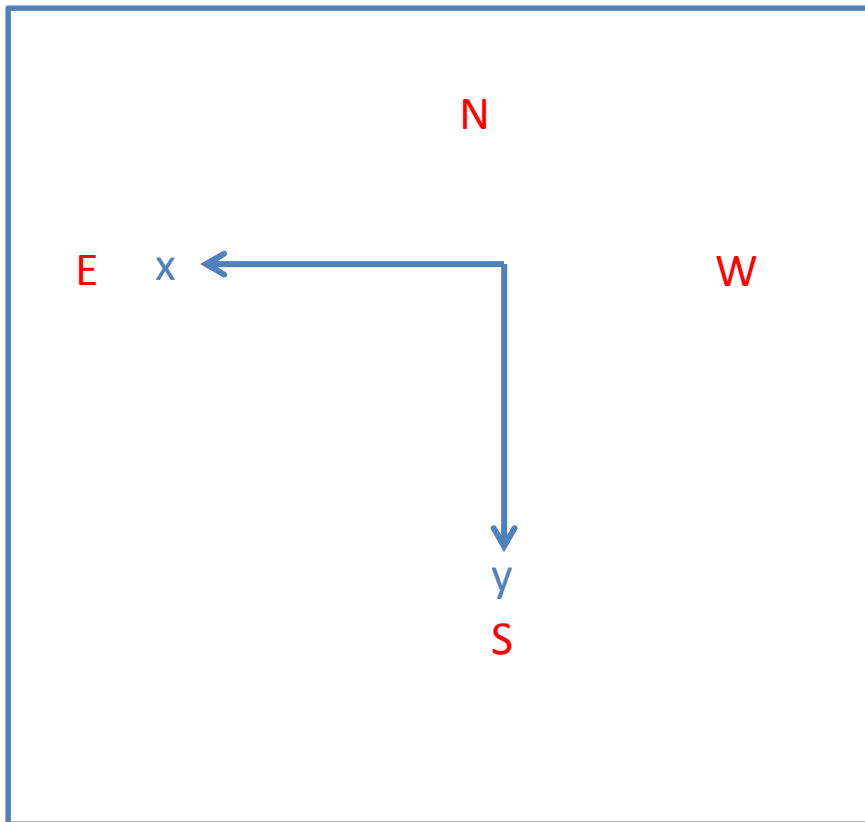
# 119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 52



## Maximum Allowable EIRP to meet the -117dBW/m<sup>2</sup>/100 kHz

| Maximum EIRP Allowed                                 |         |
|--|---------|
| Spec Max flux density, dBW/m <sup>2</sup> /100kHz    | -117    |
| Desired channel band width, MHz                      | 25.8    |
| Symbol rate band width modification factor           | 1       |
| Effective channel bandwidth, MHz                     | 25.8    |
| Effective bandwidth, dB-100kHz                       | 24.1    |
| Flux density allowed per channel, dBW/m <sup>2</sup> | -92.9   |
| R, radial distance to GEO, km                        | 42164.0 |
| Angle of separation between satellites, deg          | 0.1     |
| range between satellites, km                         | 73.59   |
| Spreading factor, dB/m <sup>2</sup>                  | -108.3  |
| Atmospheric loss, dB                                 | 0       |
| Max satellite EIRP allowed, dBW                      | 15.4    |

# Coordinate System



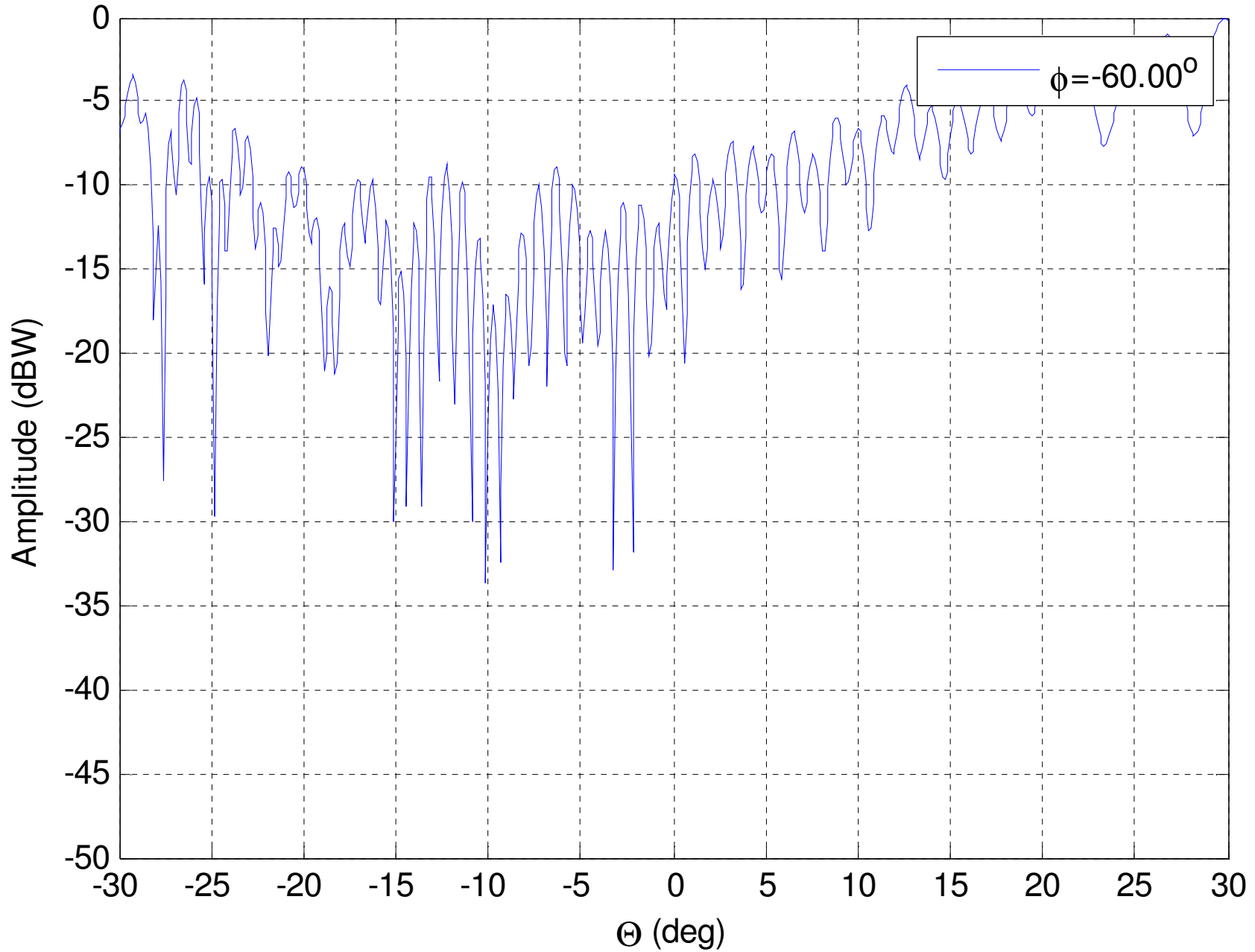
# Spot Beam52, -X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

**RHCP at 17.3 GHz**

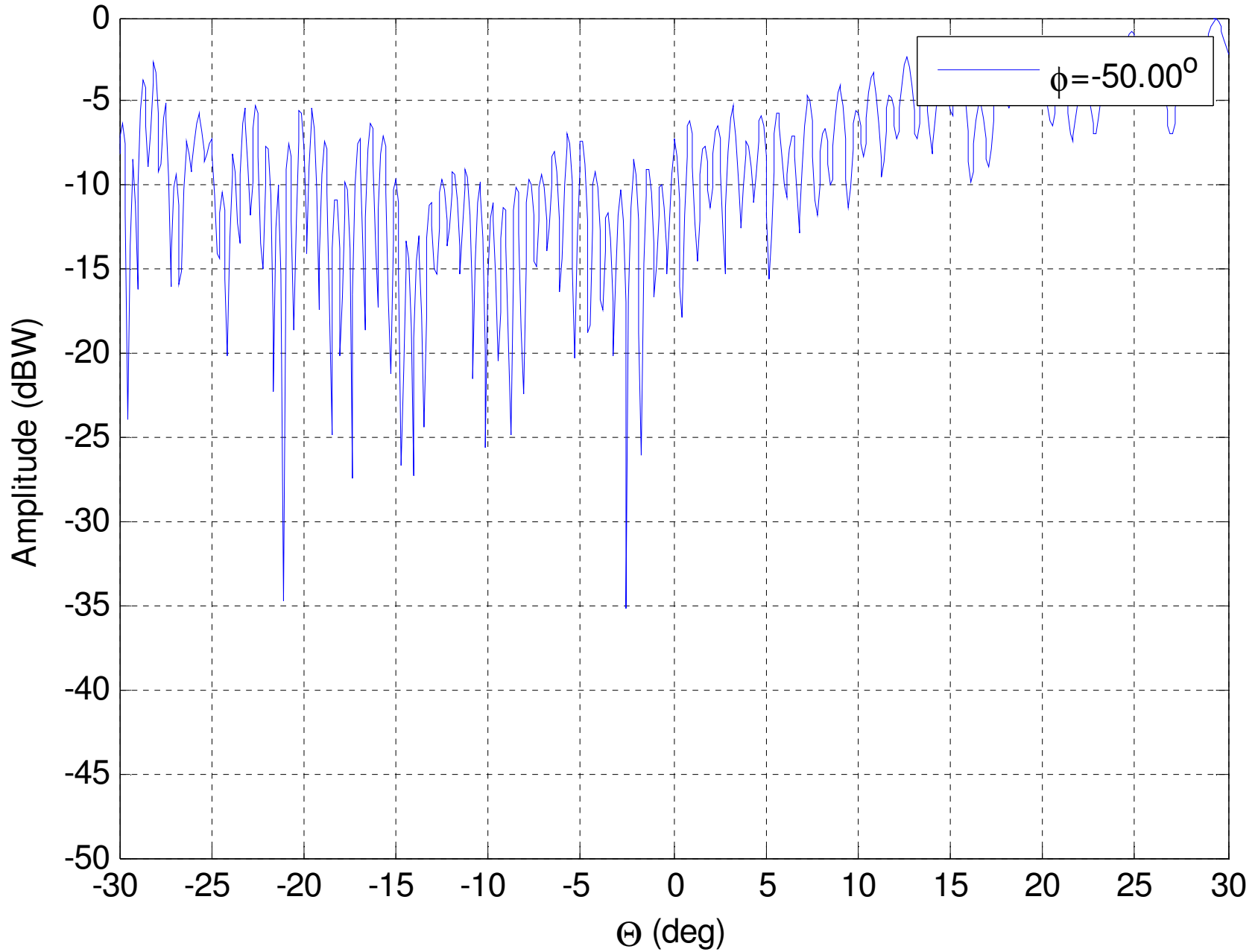
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: 0.56 dBW, Date: 16-Dec-2011



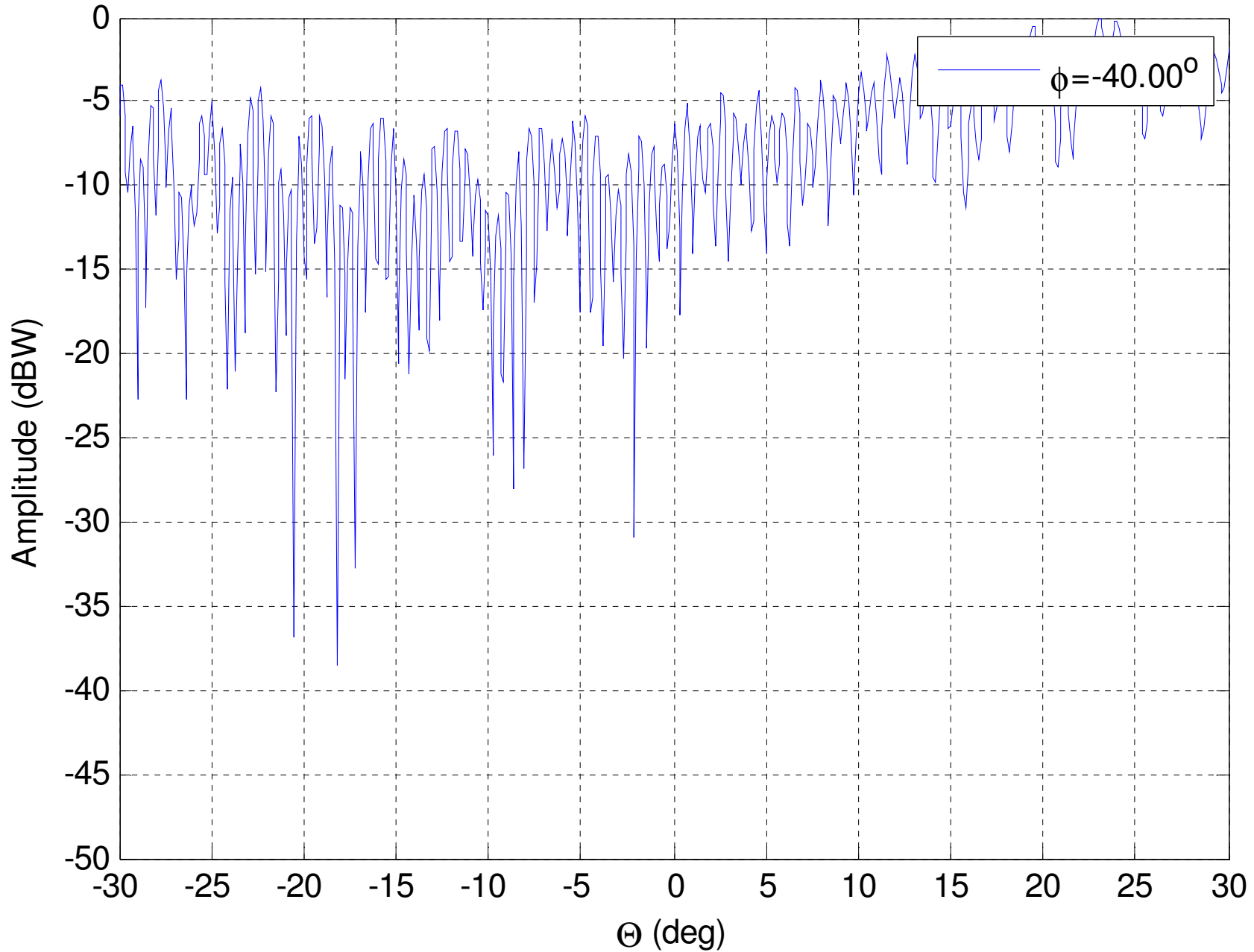
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -1.50 dBW, Date: 16-Dec-2011



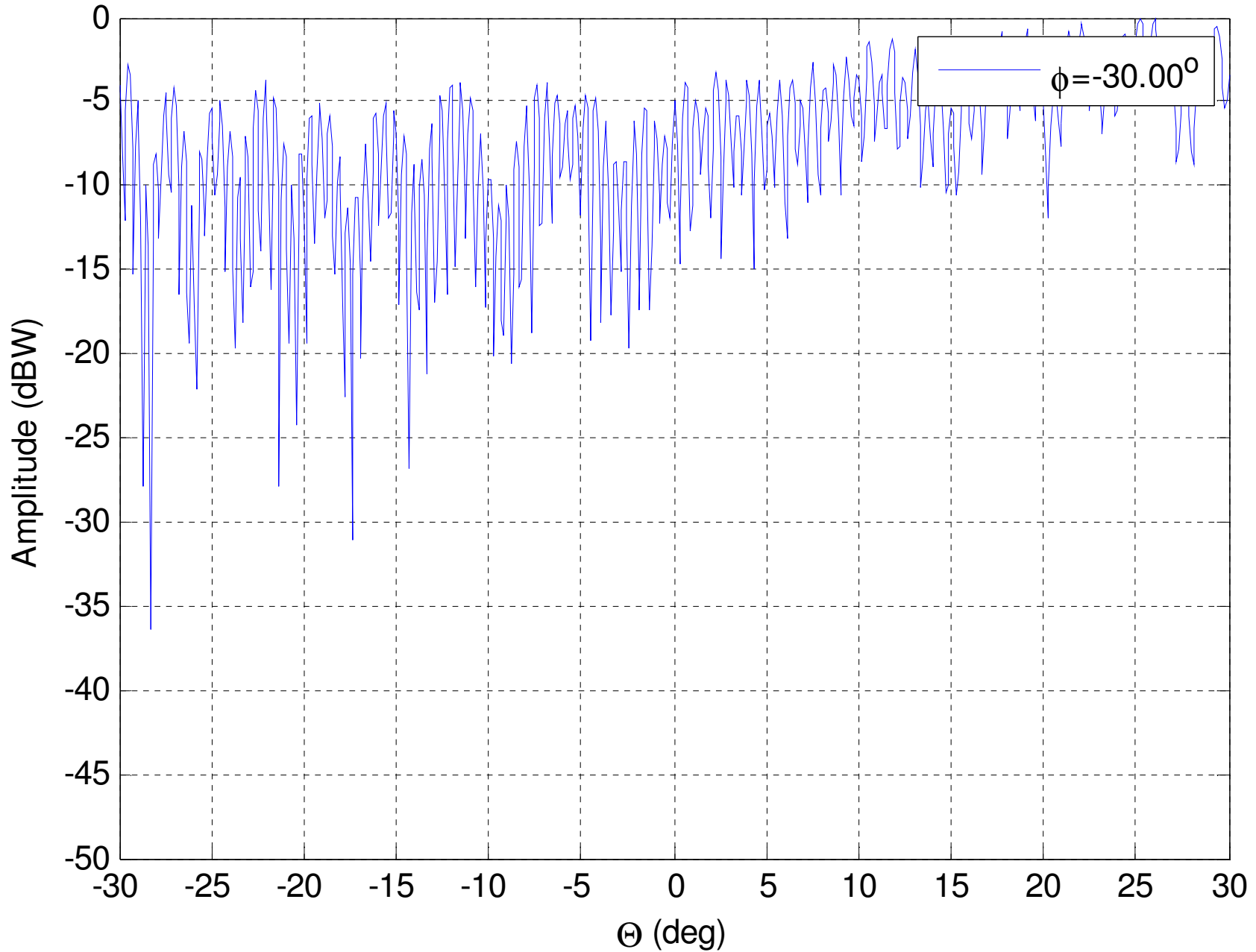
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -2.63 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

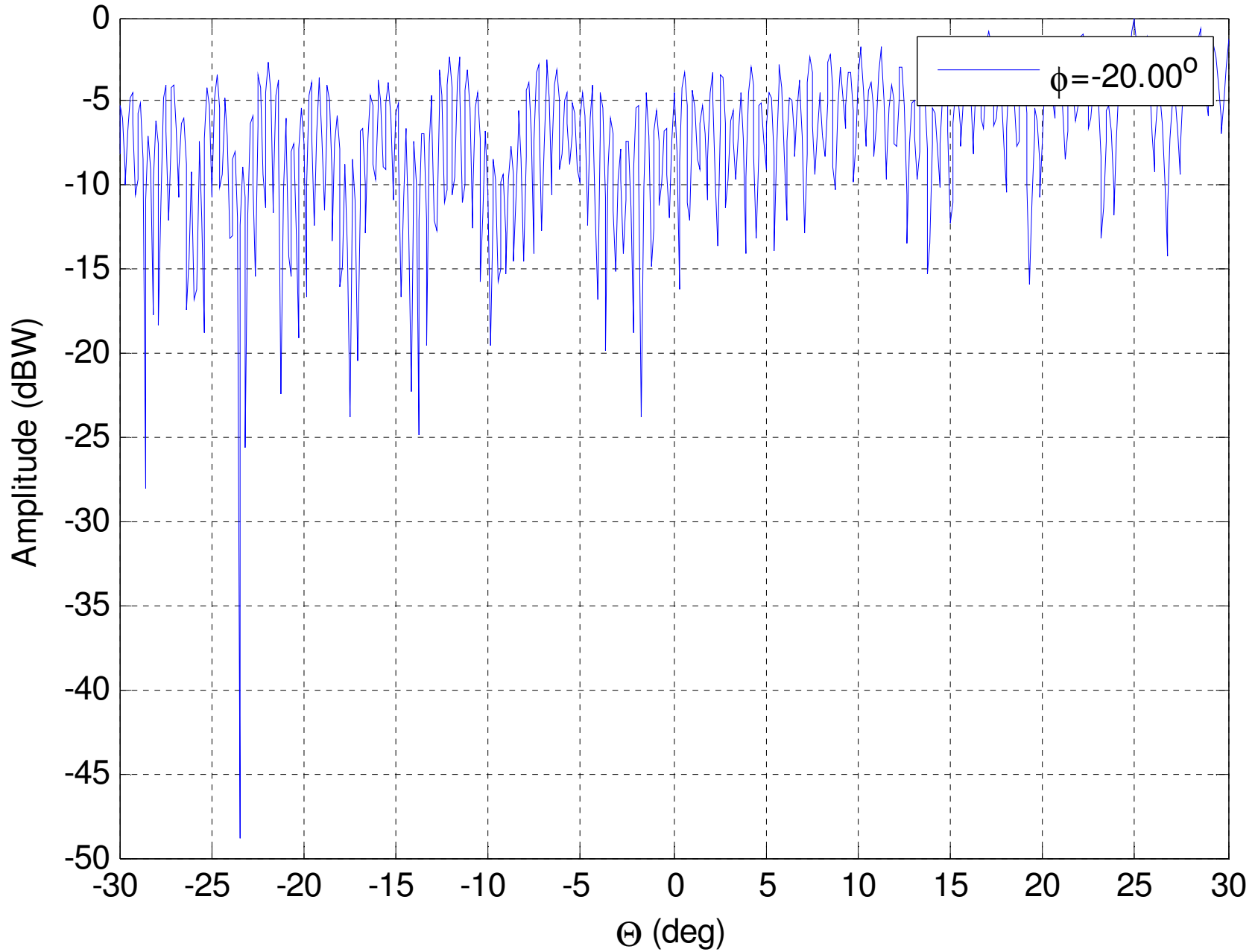
Input file: tx-17.3-rhcp--30.cut, Peak: -4.10 dBW, Date: 16-Dec-2011





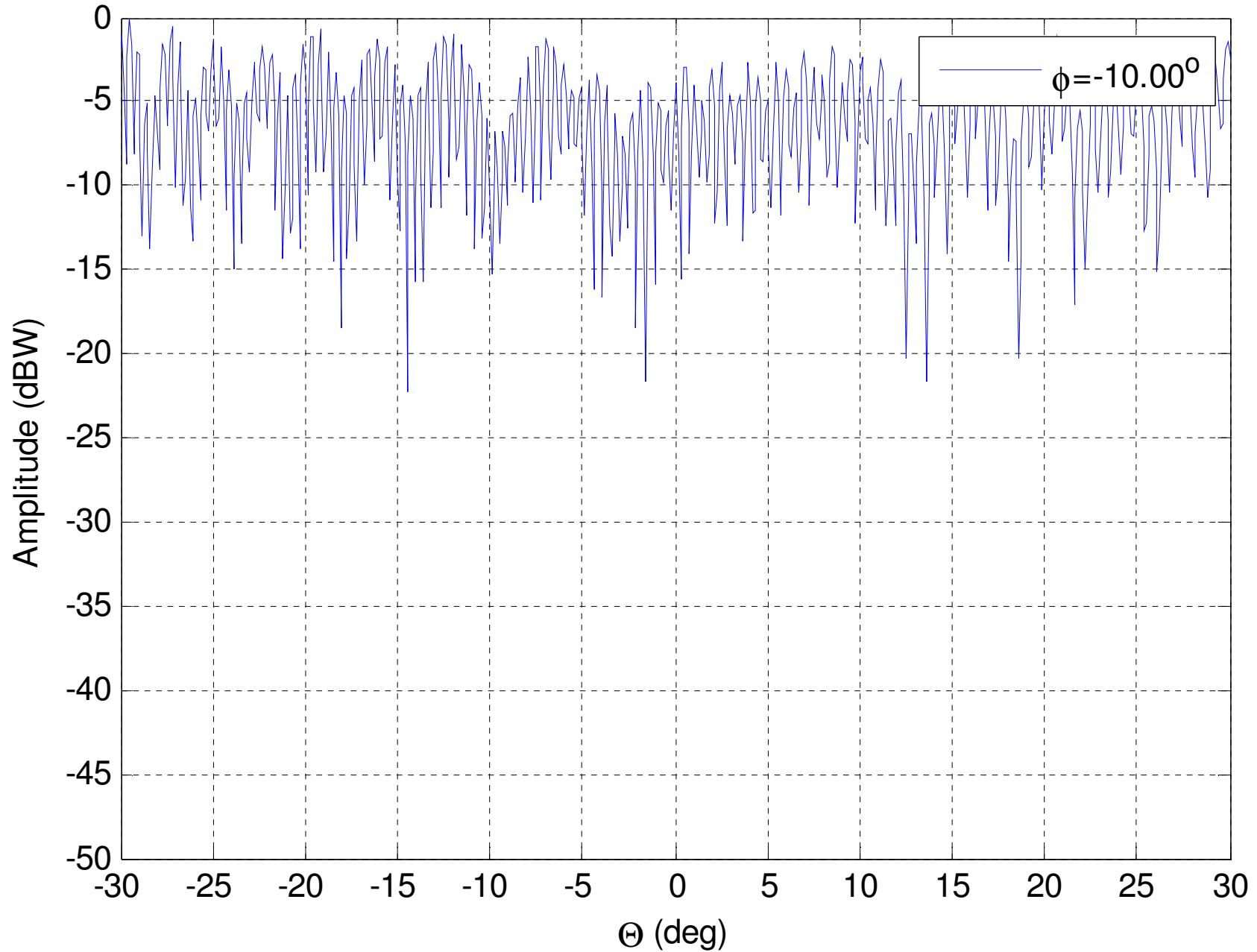
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -4.65 dBW, Date: 16-Dec-2011



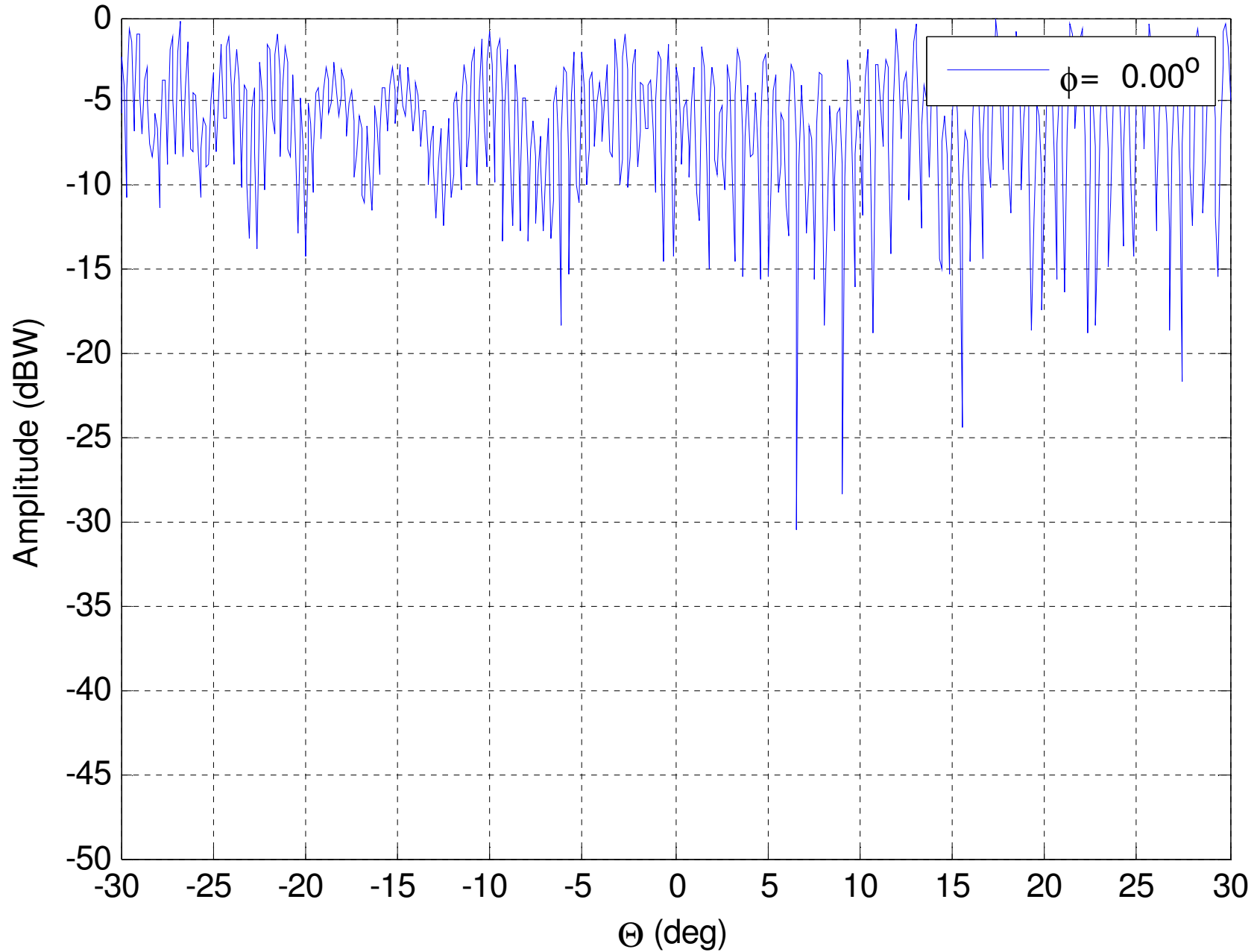
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -5.30 dBW, Date: 16-Dec-2011



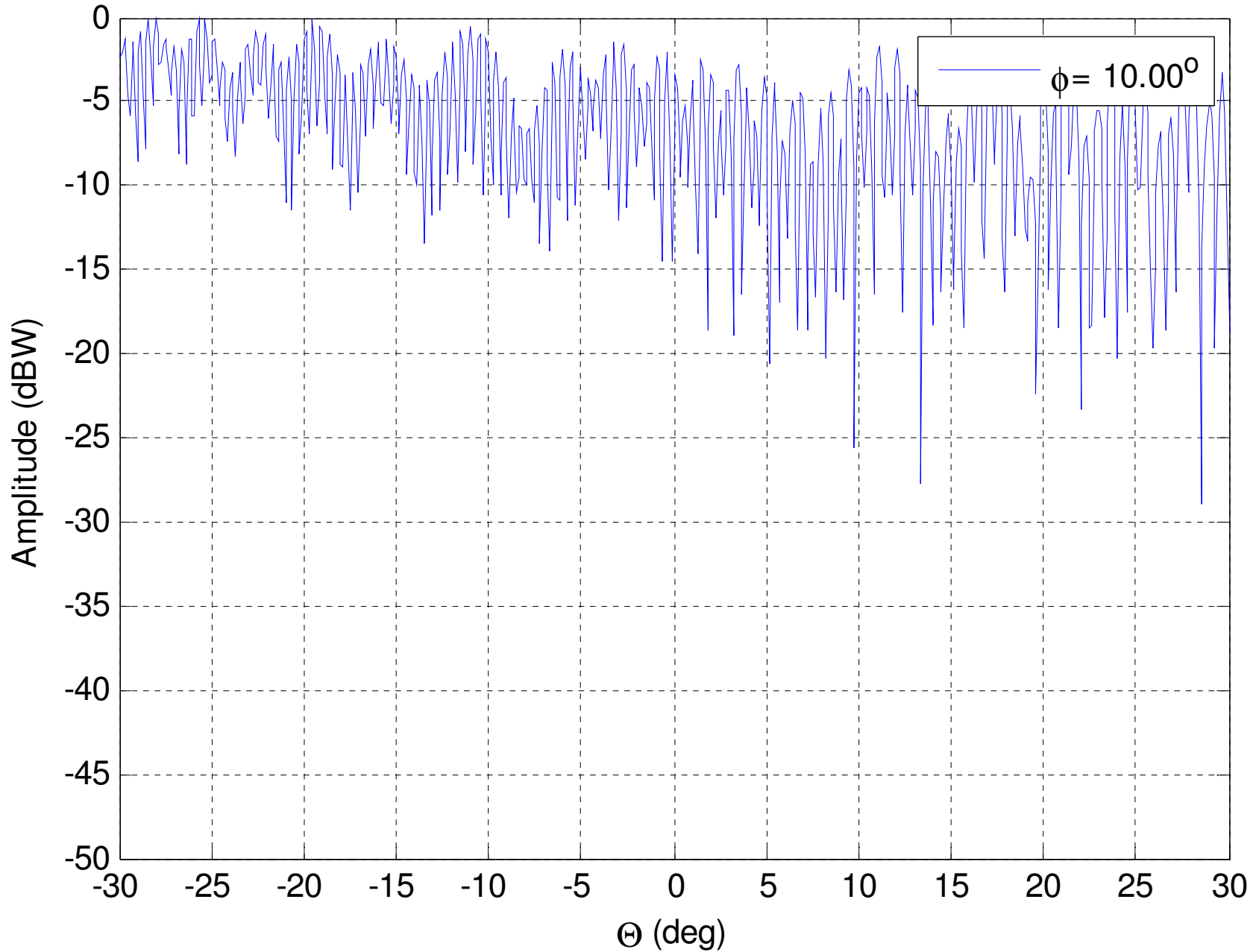
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -5.71 dBW, Date: 16-Dec-2011



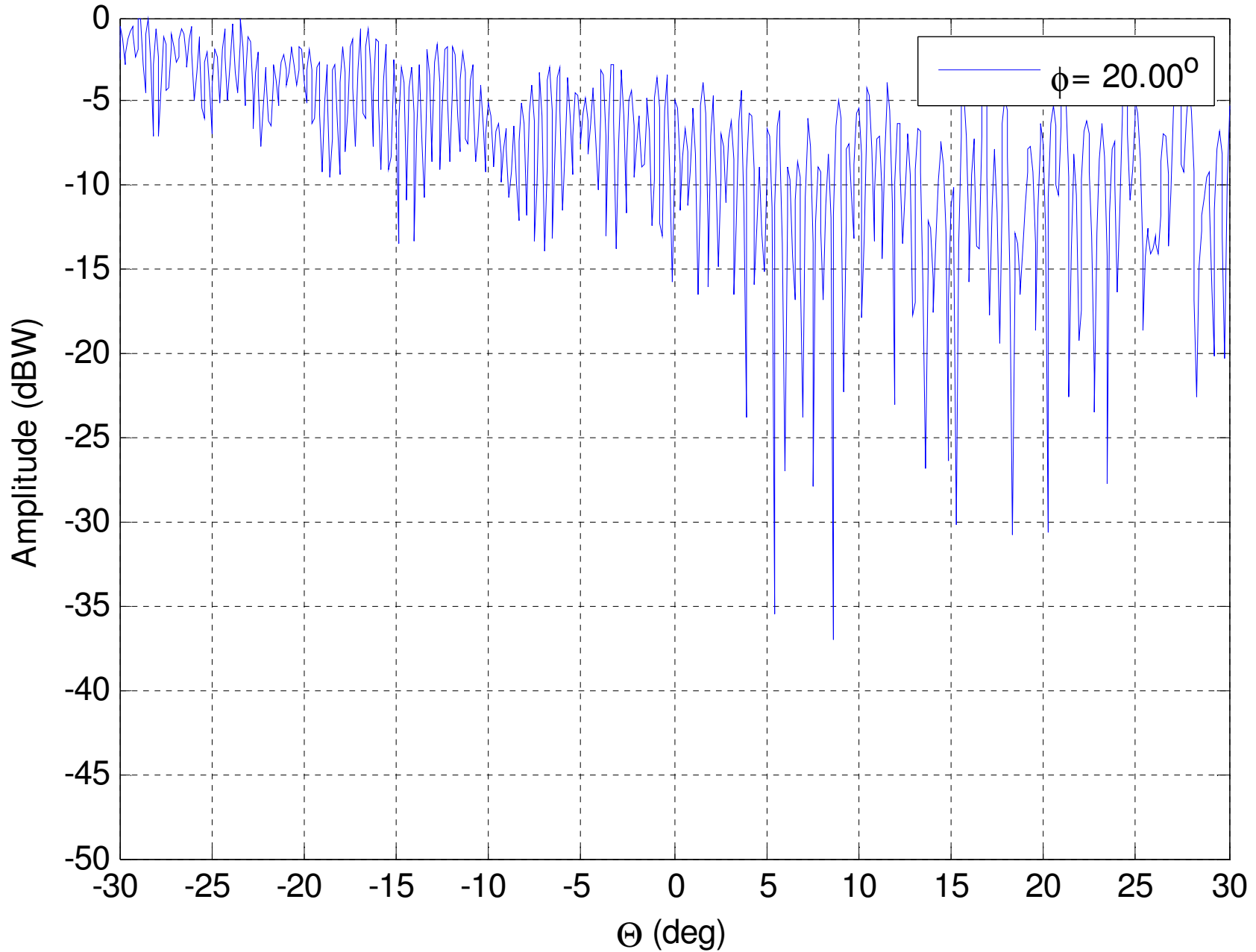
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -5.22 dBW, Date: 16-Dec-2011



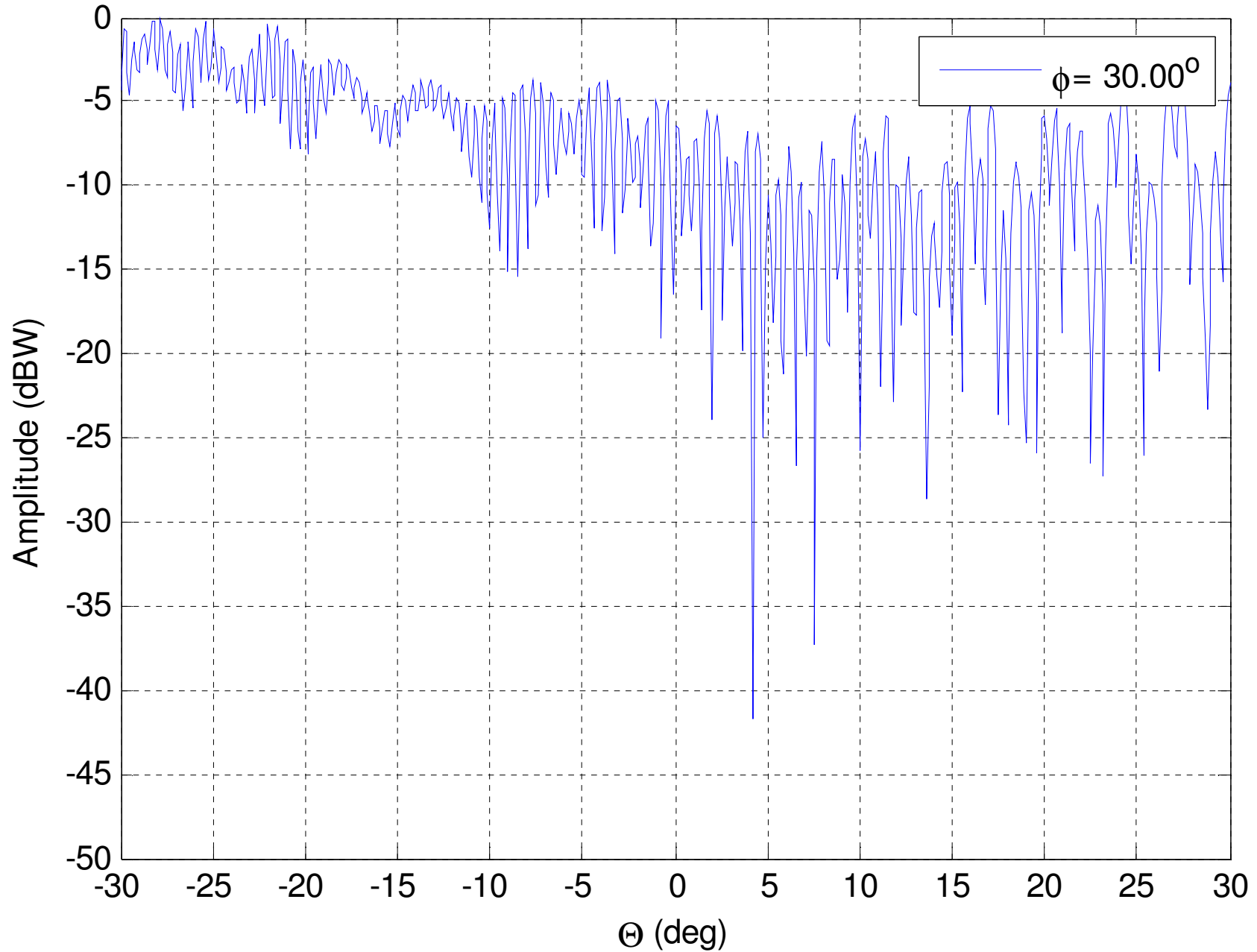
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -3.78 dBW, Date: 16-Dec-2011



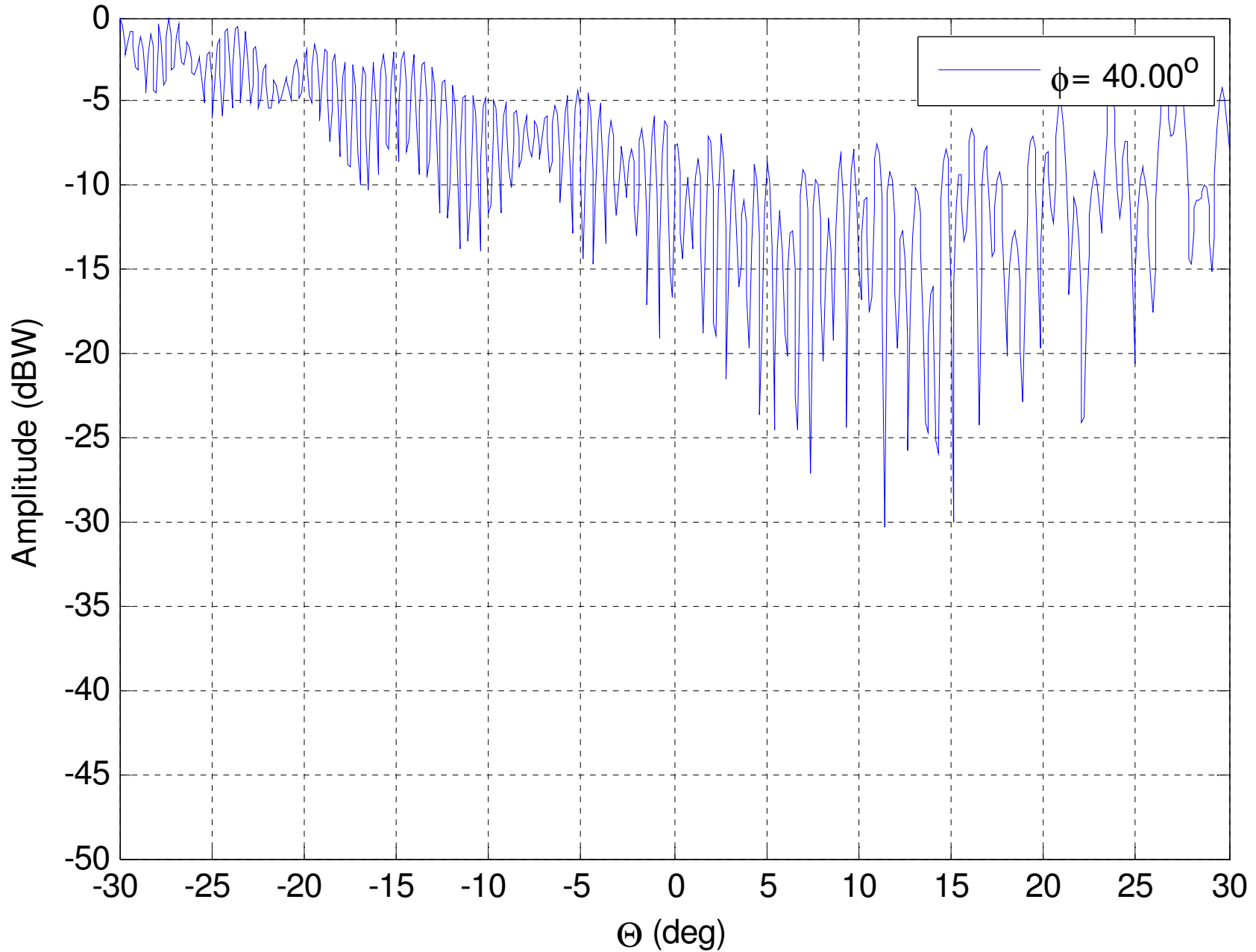
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -2.36 dBW, Date: 16-Dec-2011



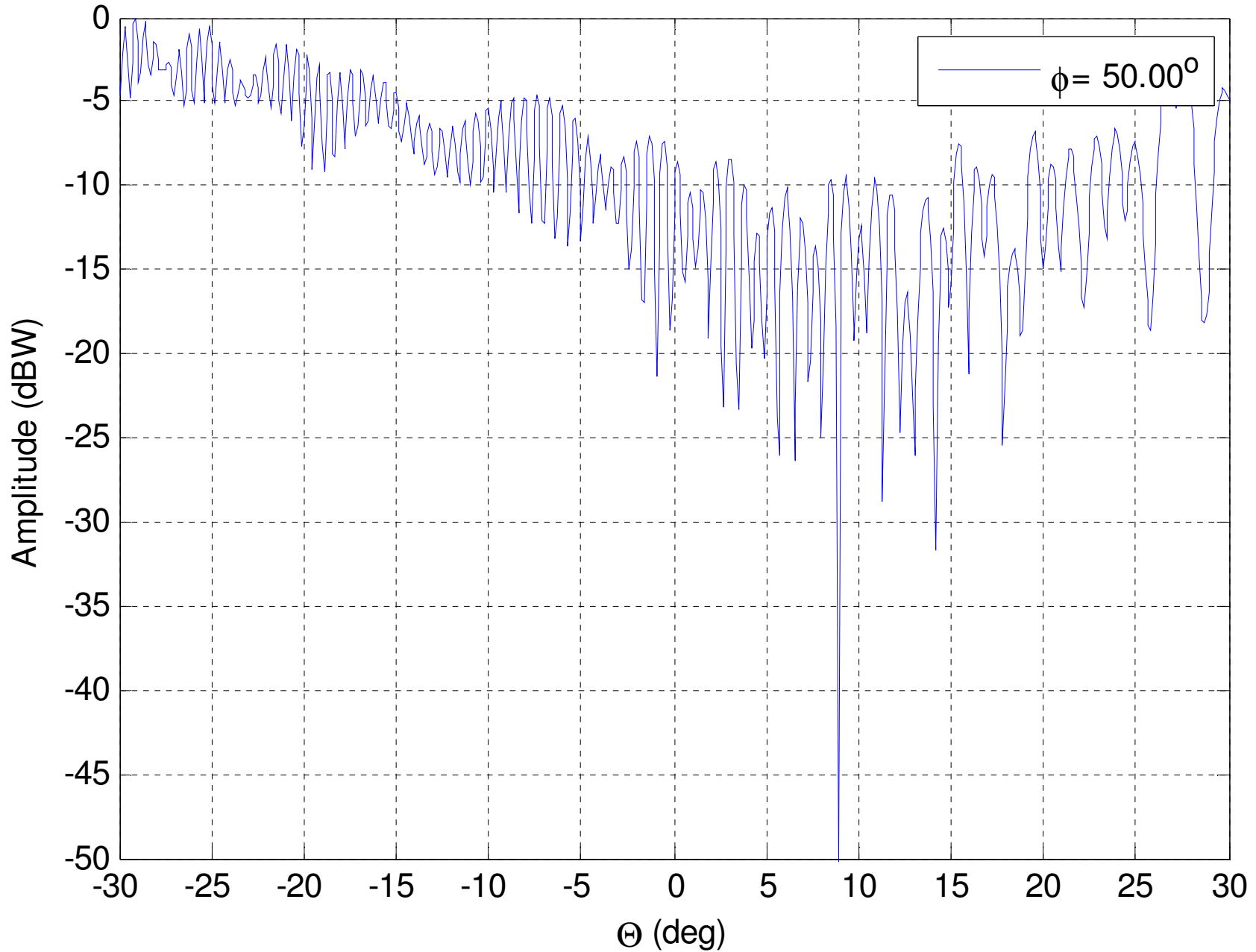
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -1.18 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

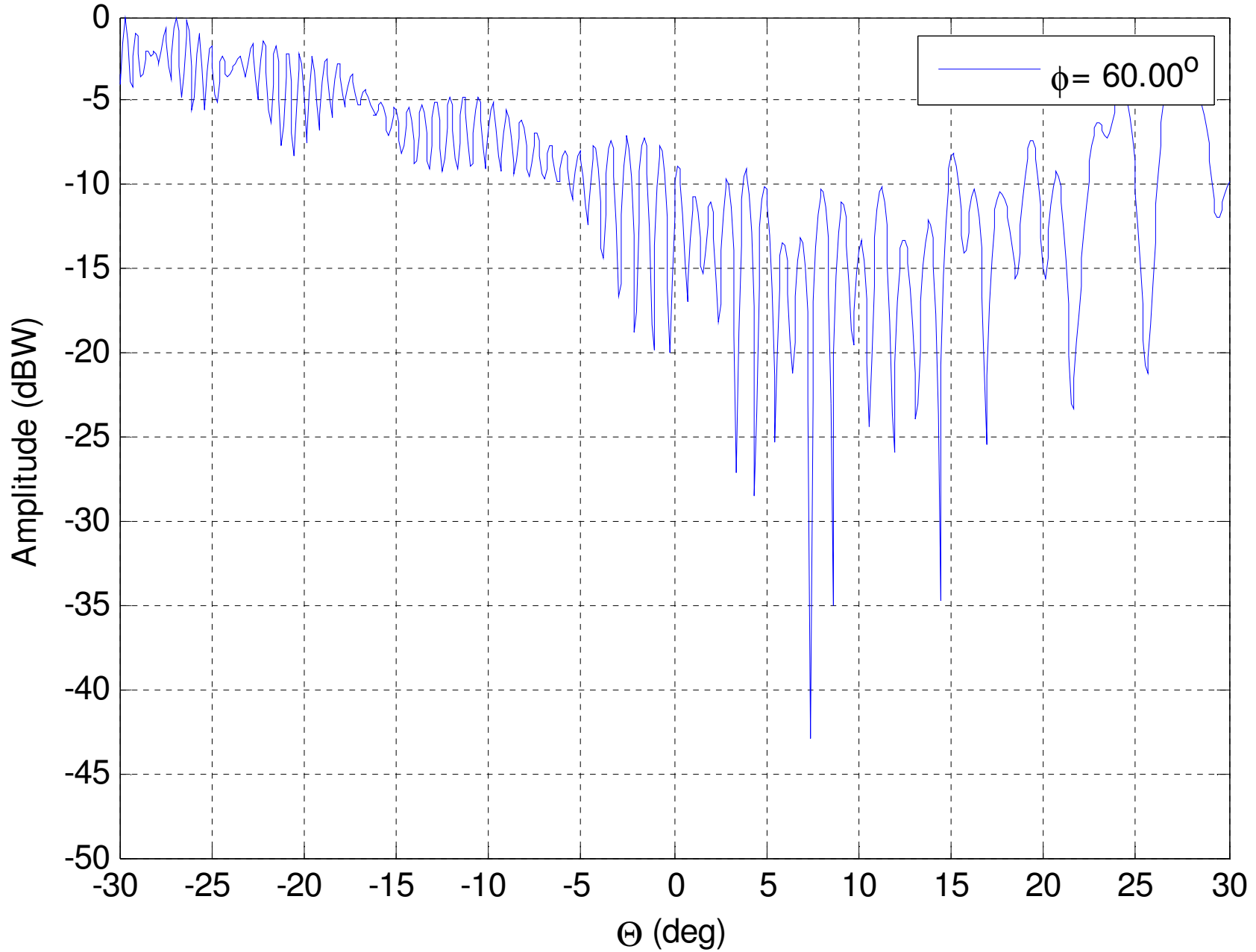
Input file: tx-17.3-rhcp-50.cut, Peak: 0.07 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

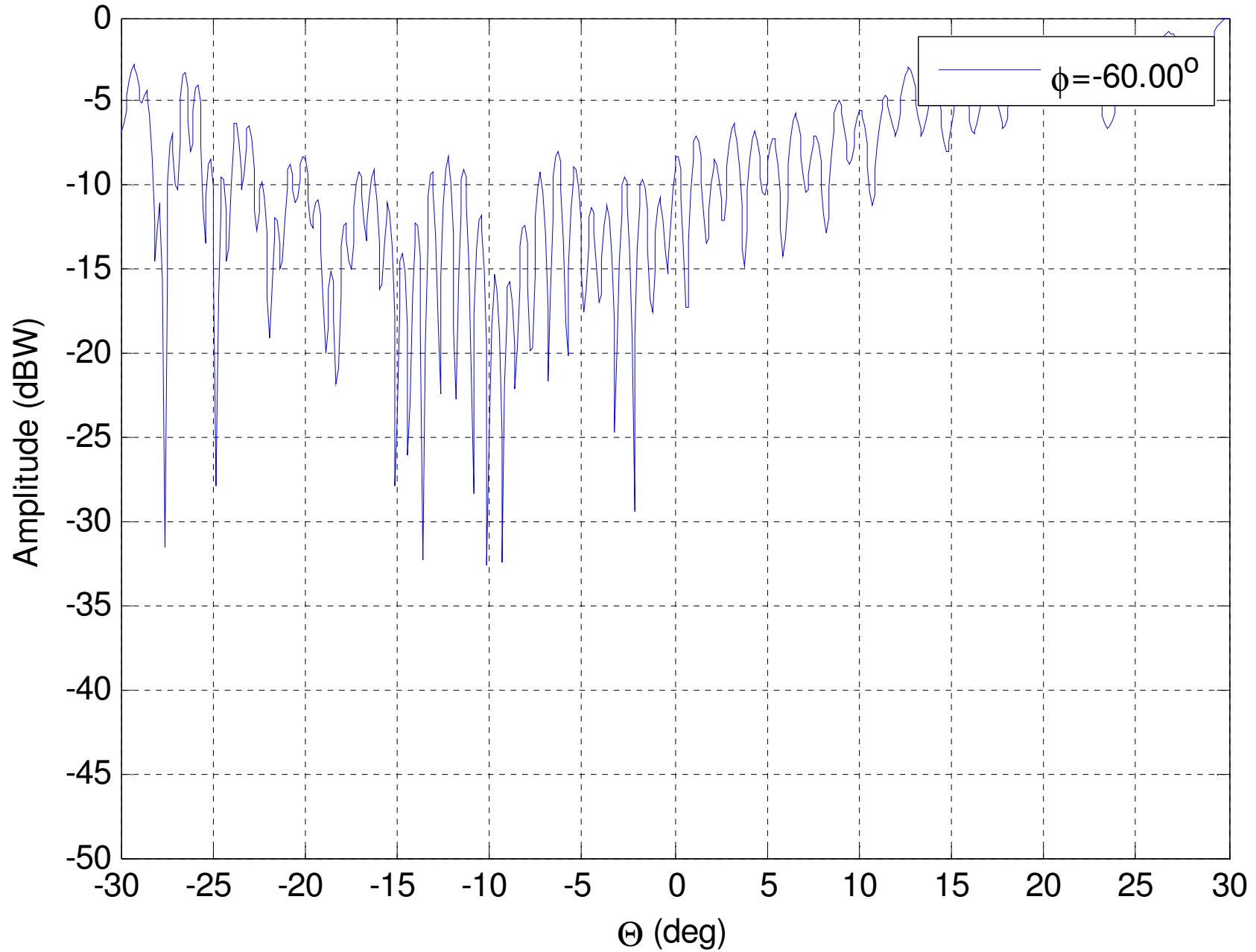
Input file: tx-17.3-rhcp-60.cut, Peak: 0.39 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

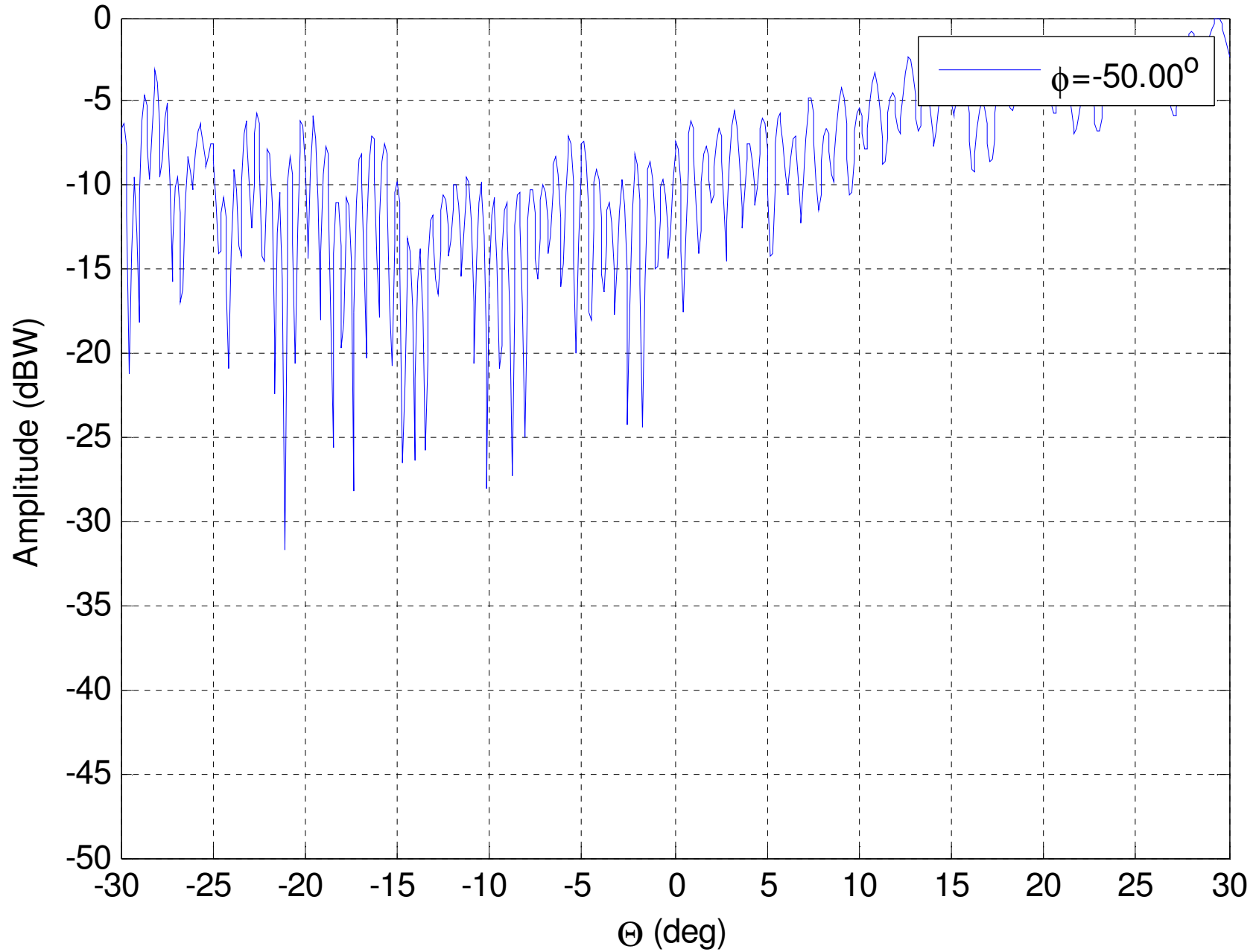
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -0.07 dBW, Date: 16-Dec-2011



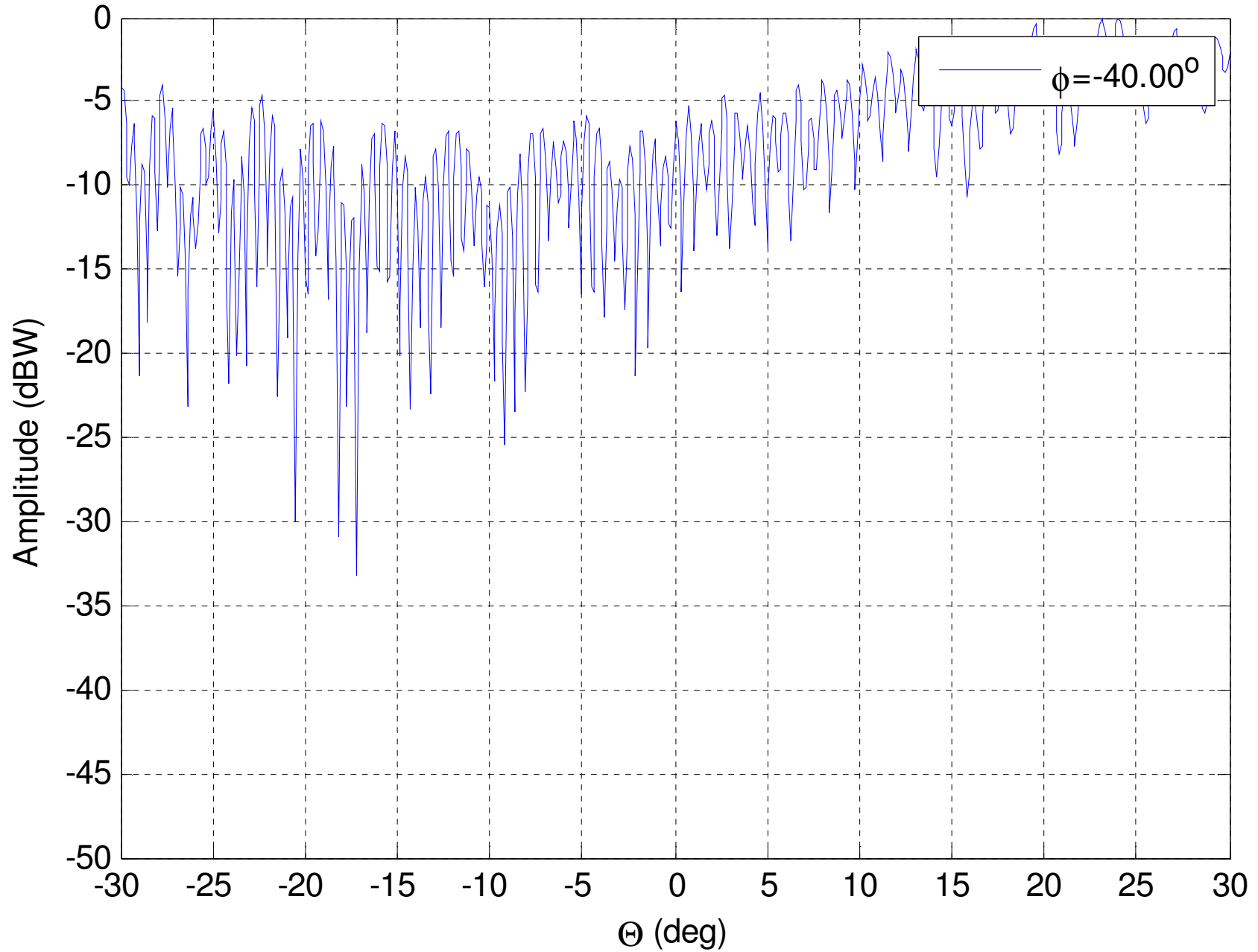
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -0.99 dBW, Date: 16-Dec-2011



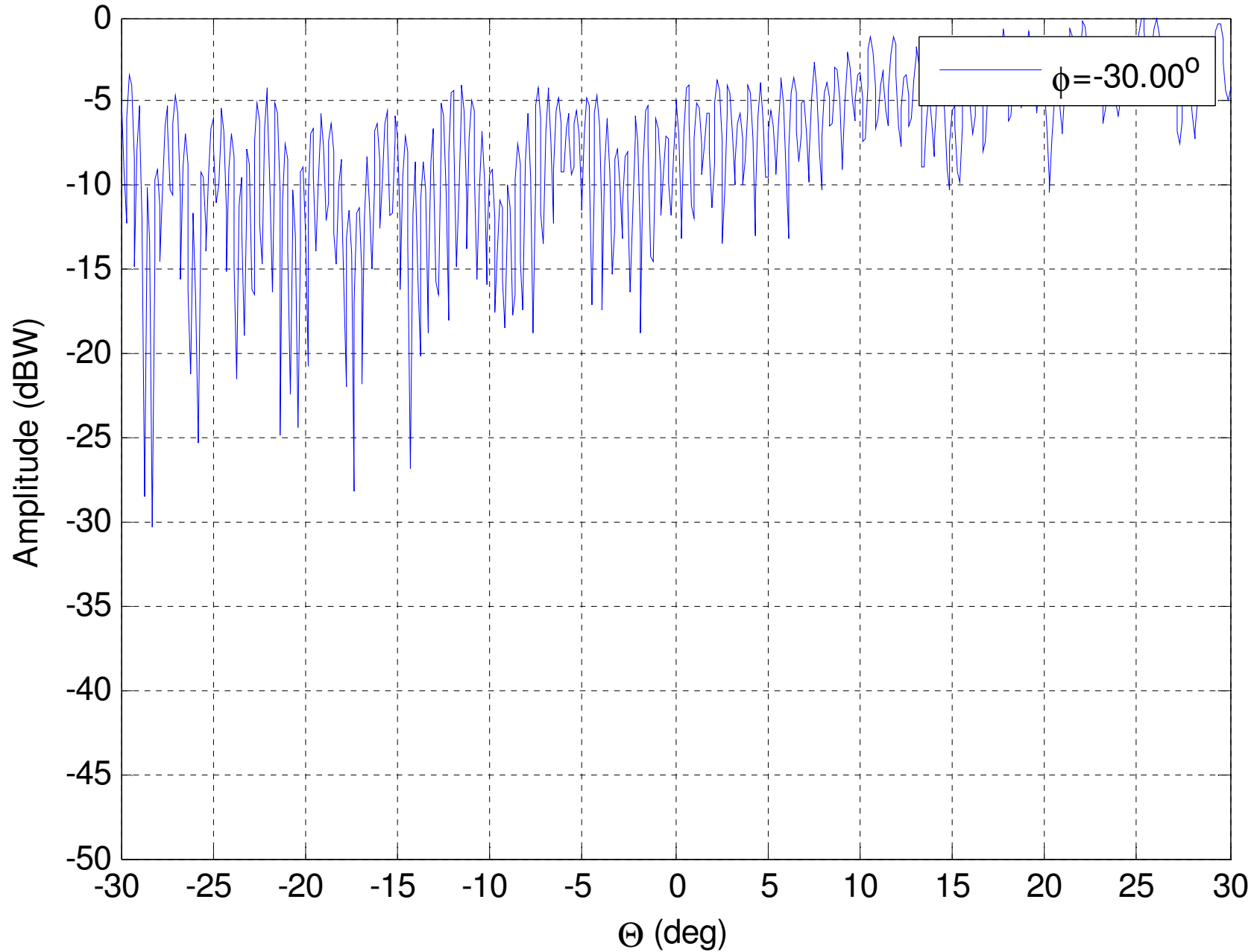
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -2.28 dBW, Date: 16-Dec-2011



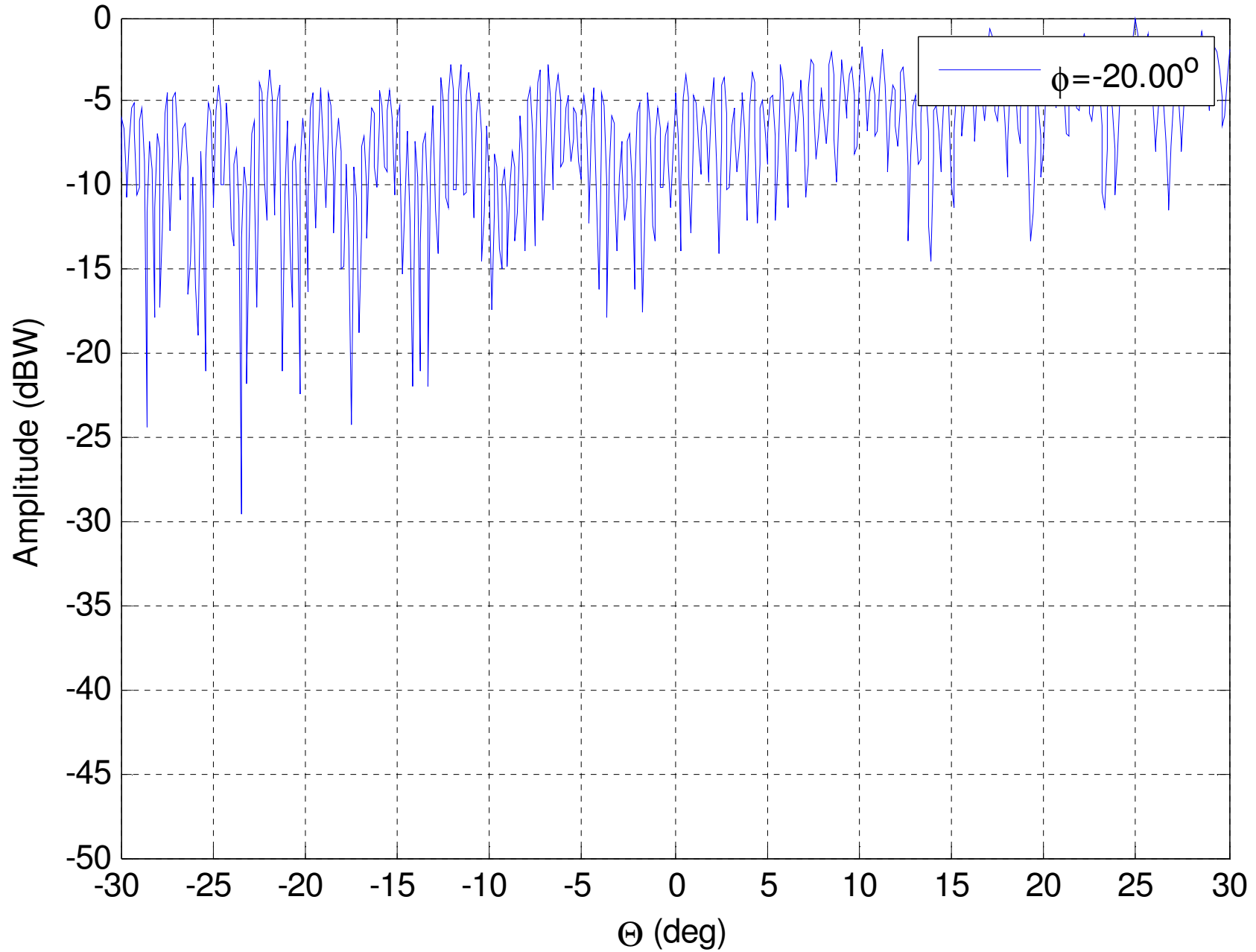
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -3.55 dBW, Date: 16-Dec-2011



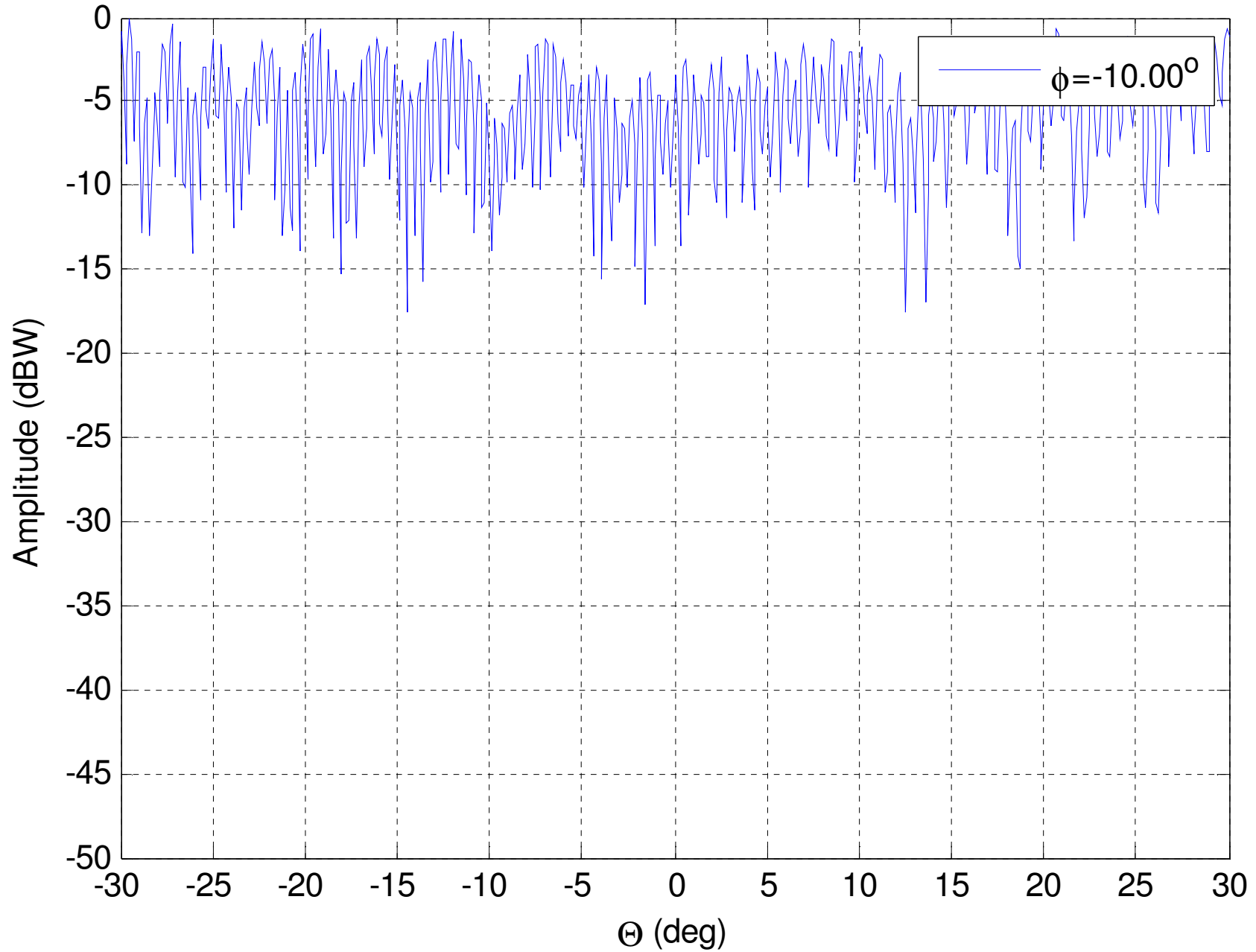
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -4.01 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

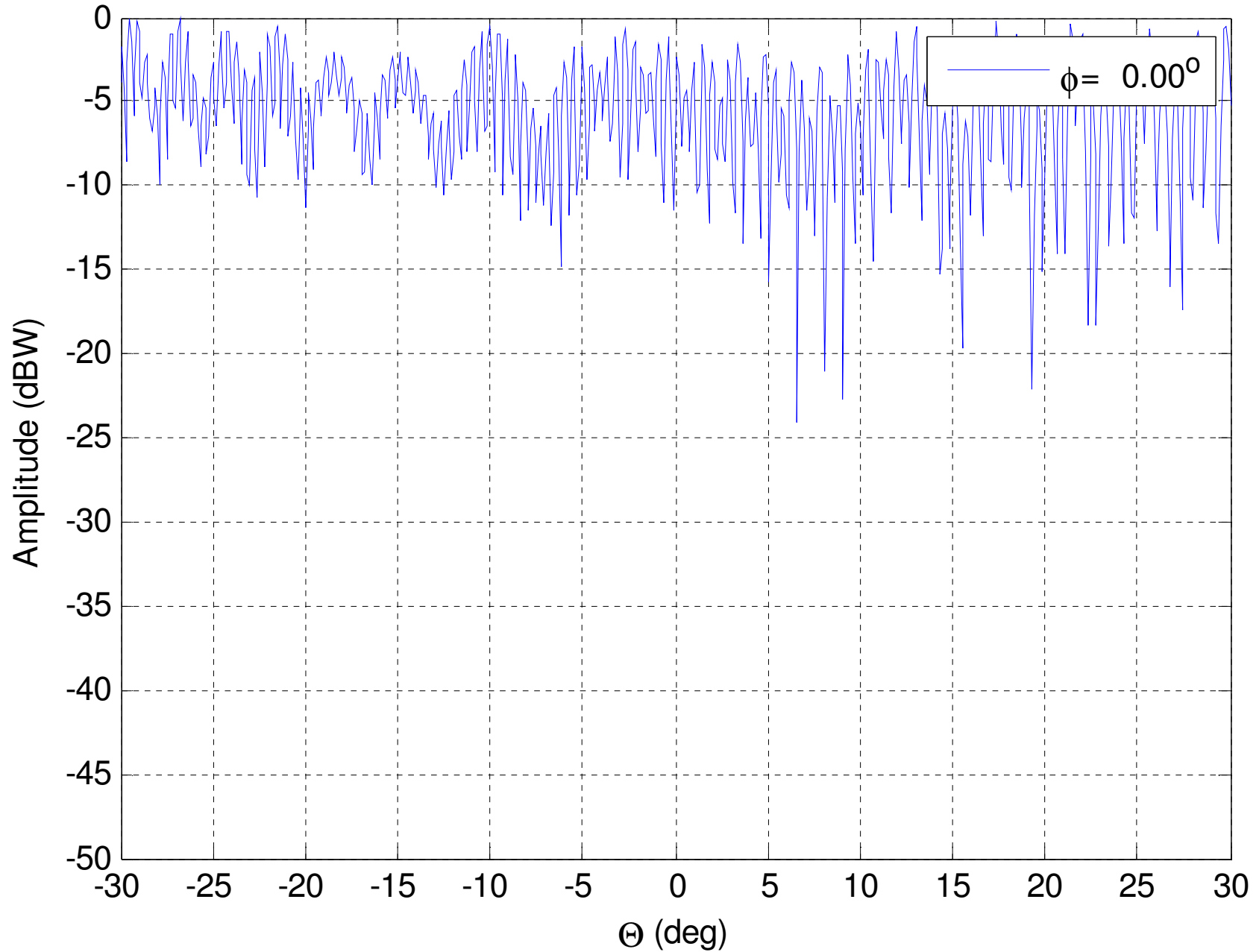
Input file: tx-17.3-lhcp--10.cut, Peak: -5.19 dBW, Date: 16-Dec-2011





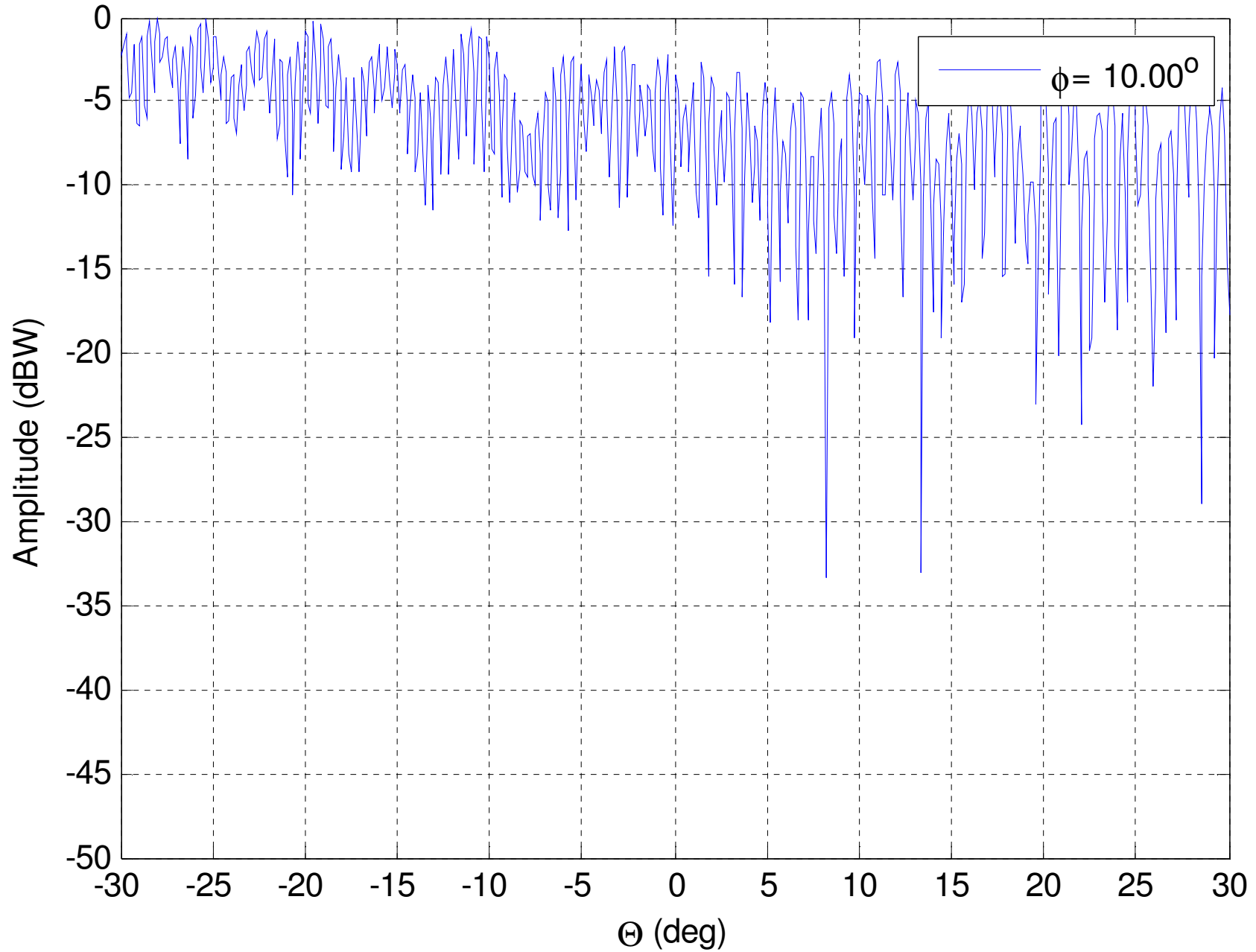
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -5.39 dBW, Date: 16-Dec-2011



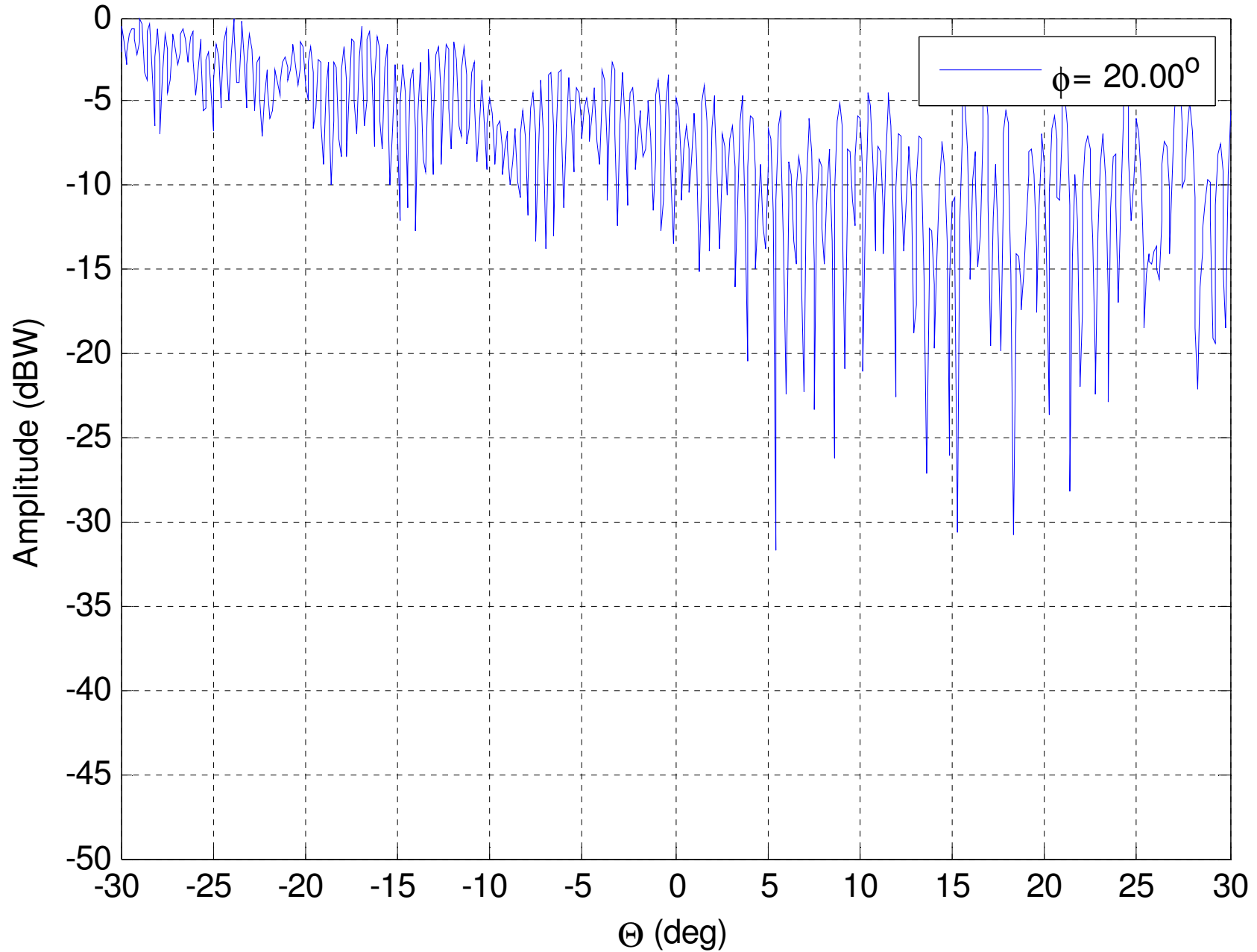
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -4.38 dBW, Date: 16-Dec-2011



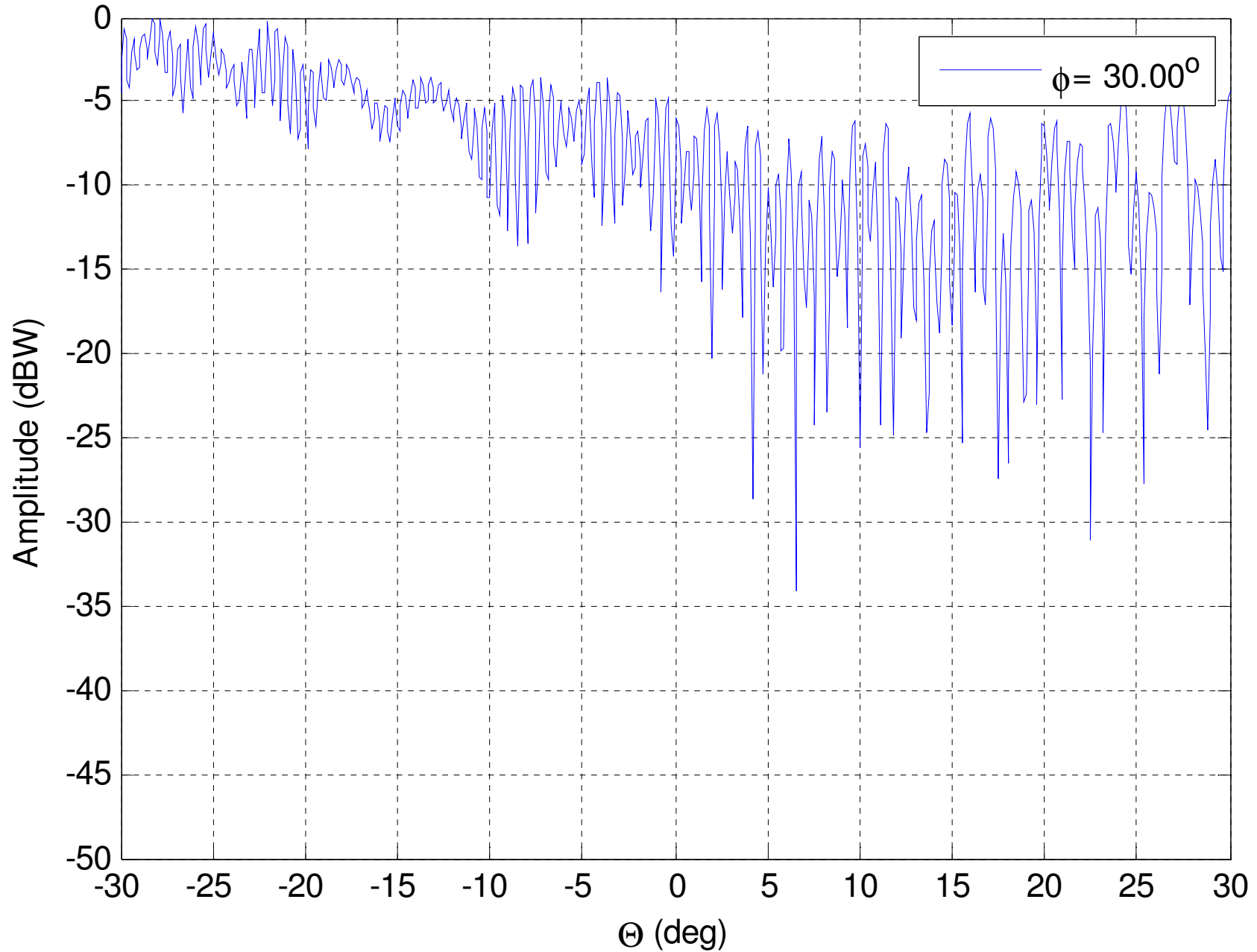
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -3.05 dBW, Date: 16-Dec-2011



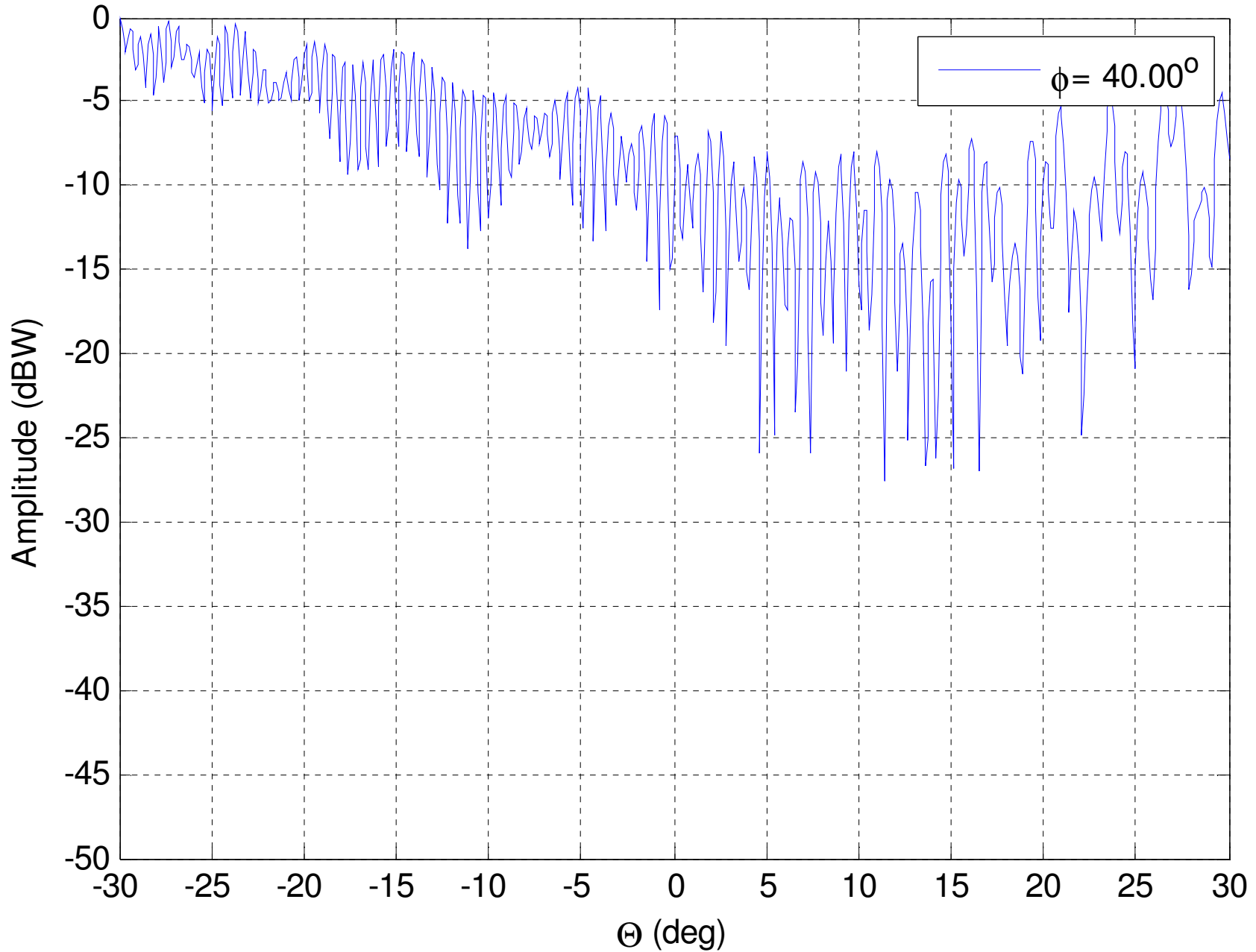
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -1.84 dBW, Date: 16-Dec-2011



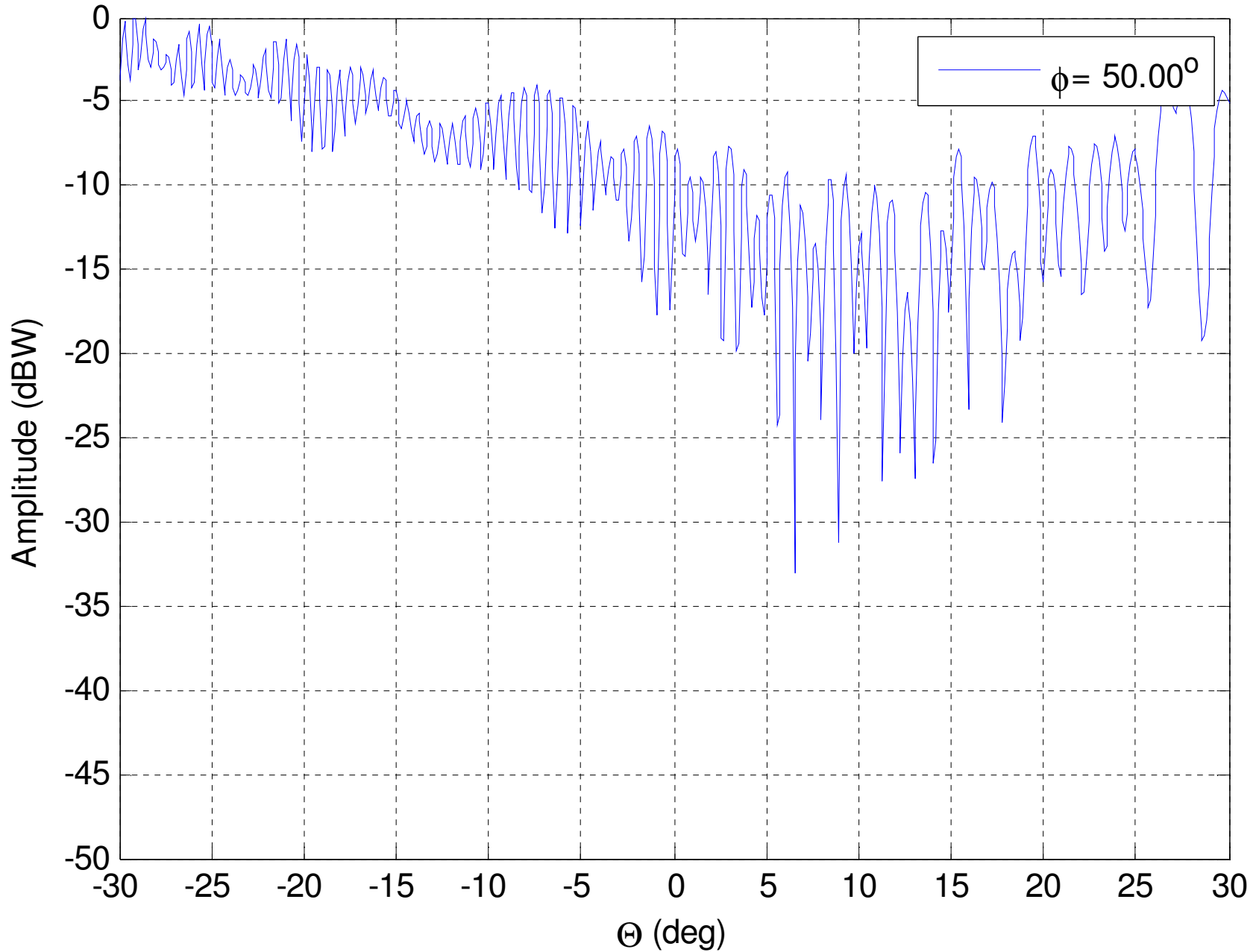
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -0.80 dBW, Date: 16-Dec-2011



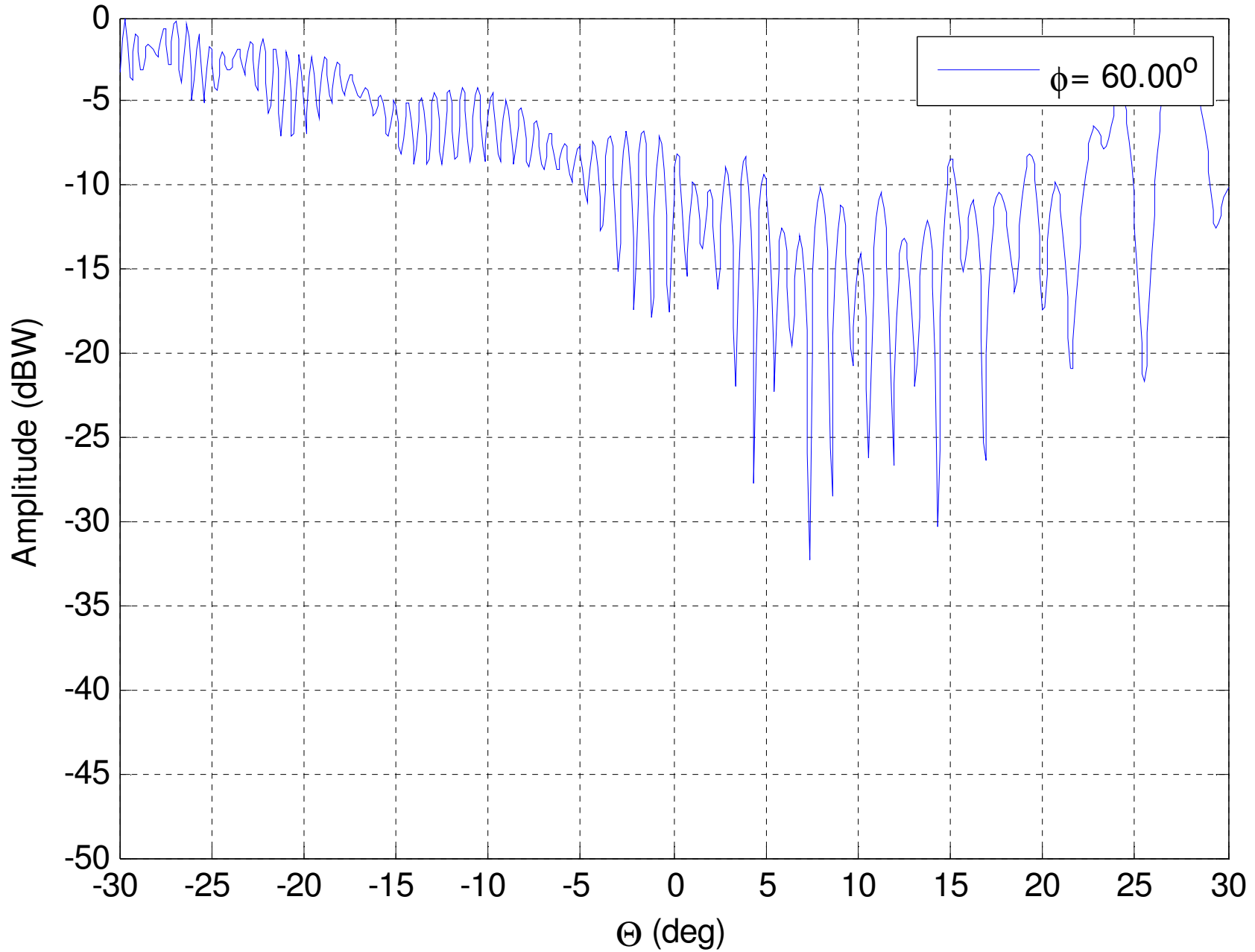
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: 0.15 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-60.cut, Peak: 0.50 dBW, Date: 16-Dec-2011

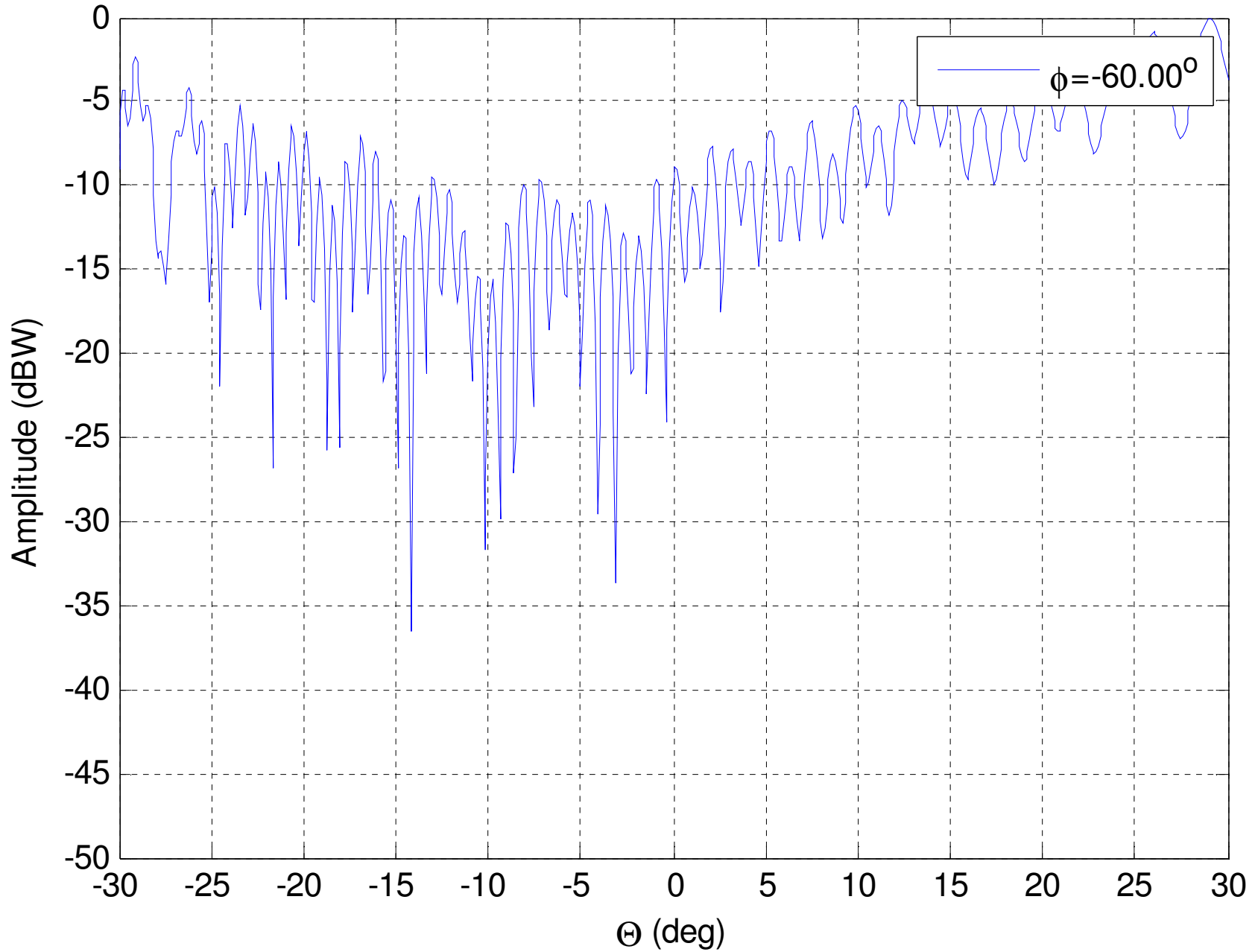


# RHCP at 17.5 GHz



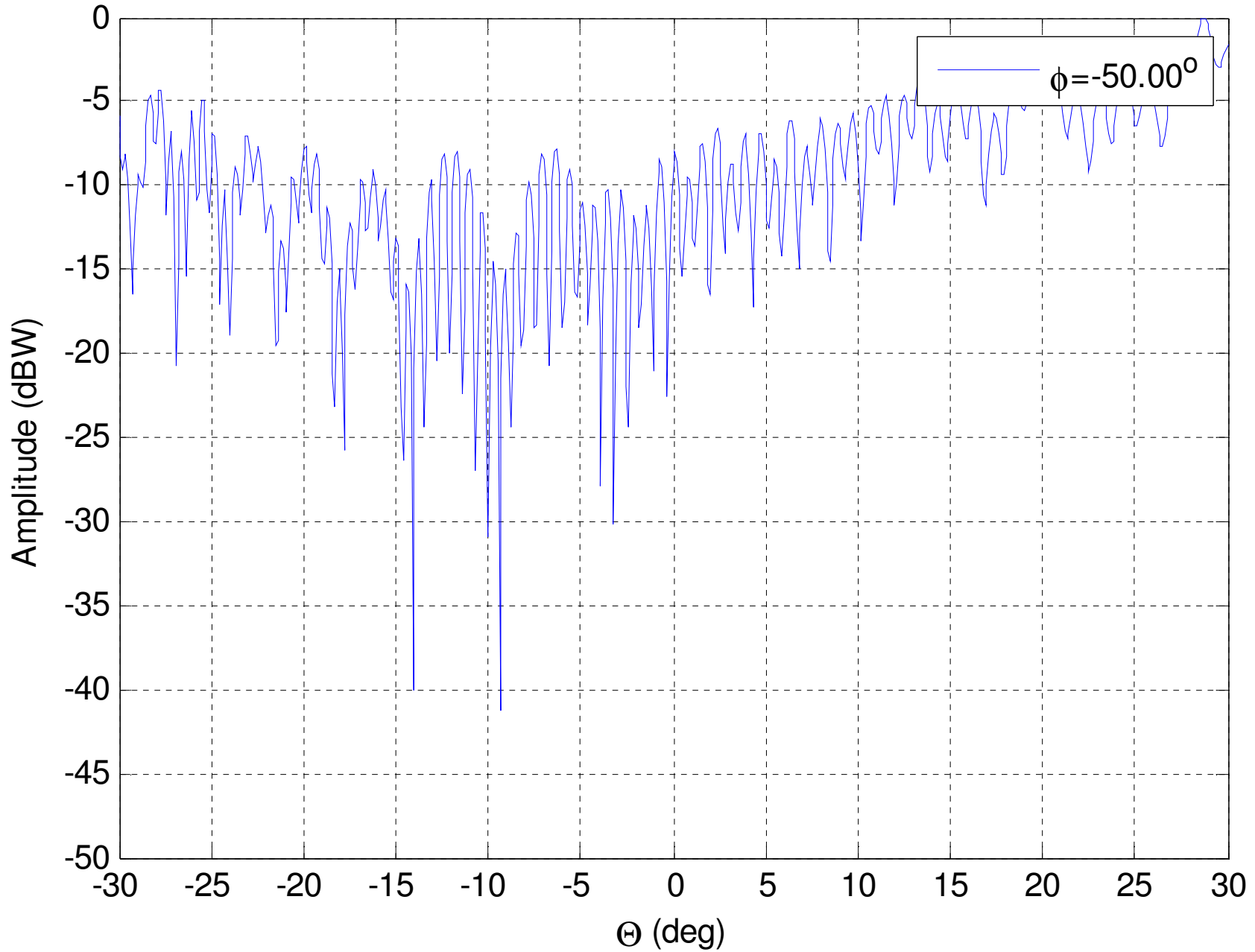
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: 0.13 dBW, Date: 16-Dec-2011



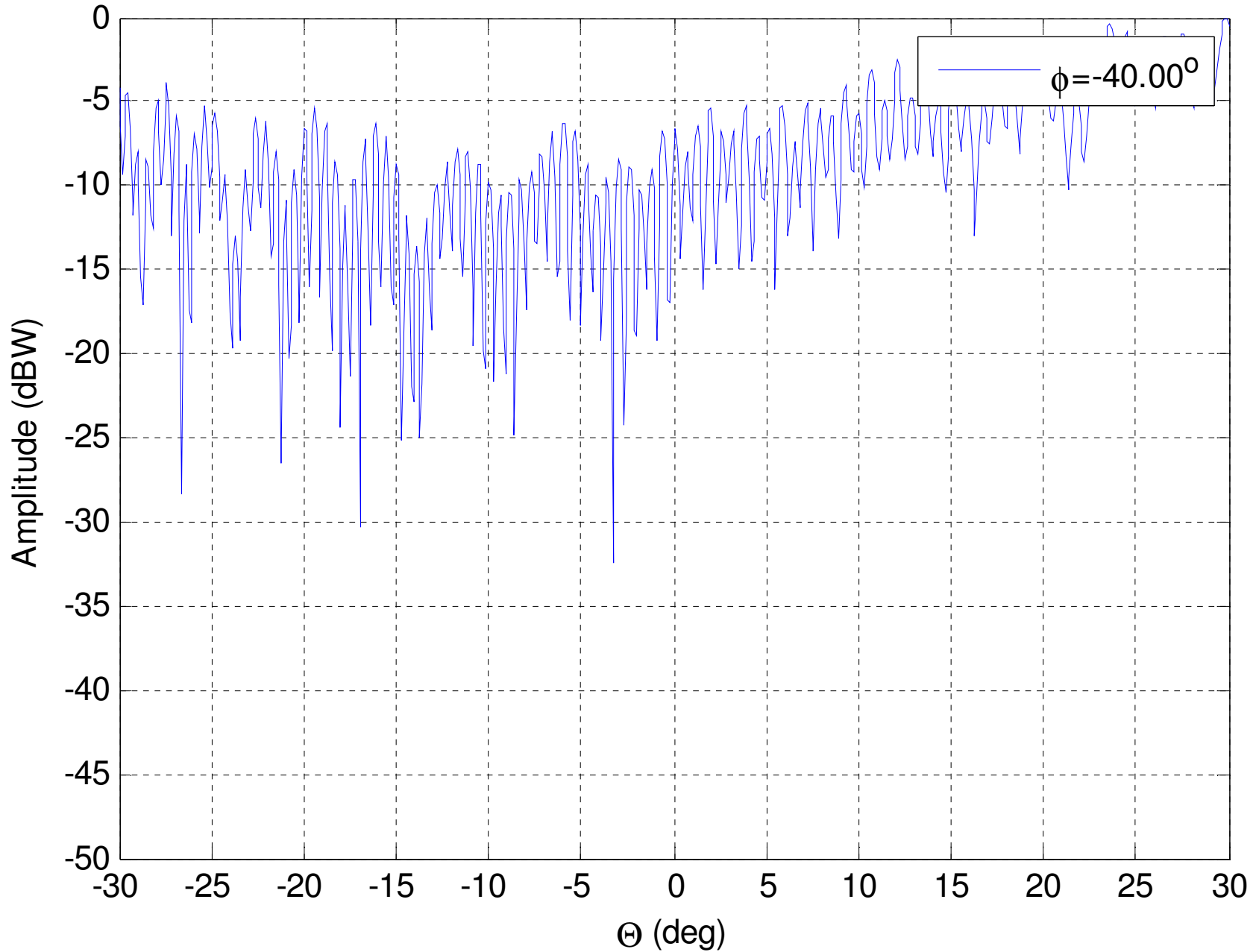
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -0.83 dBW, Date: 16-Dec-2011



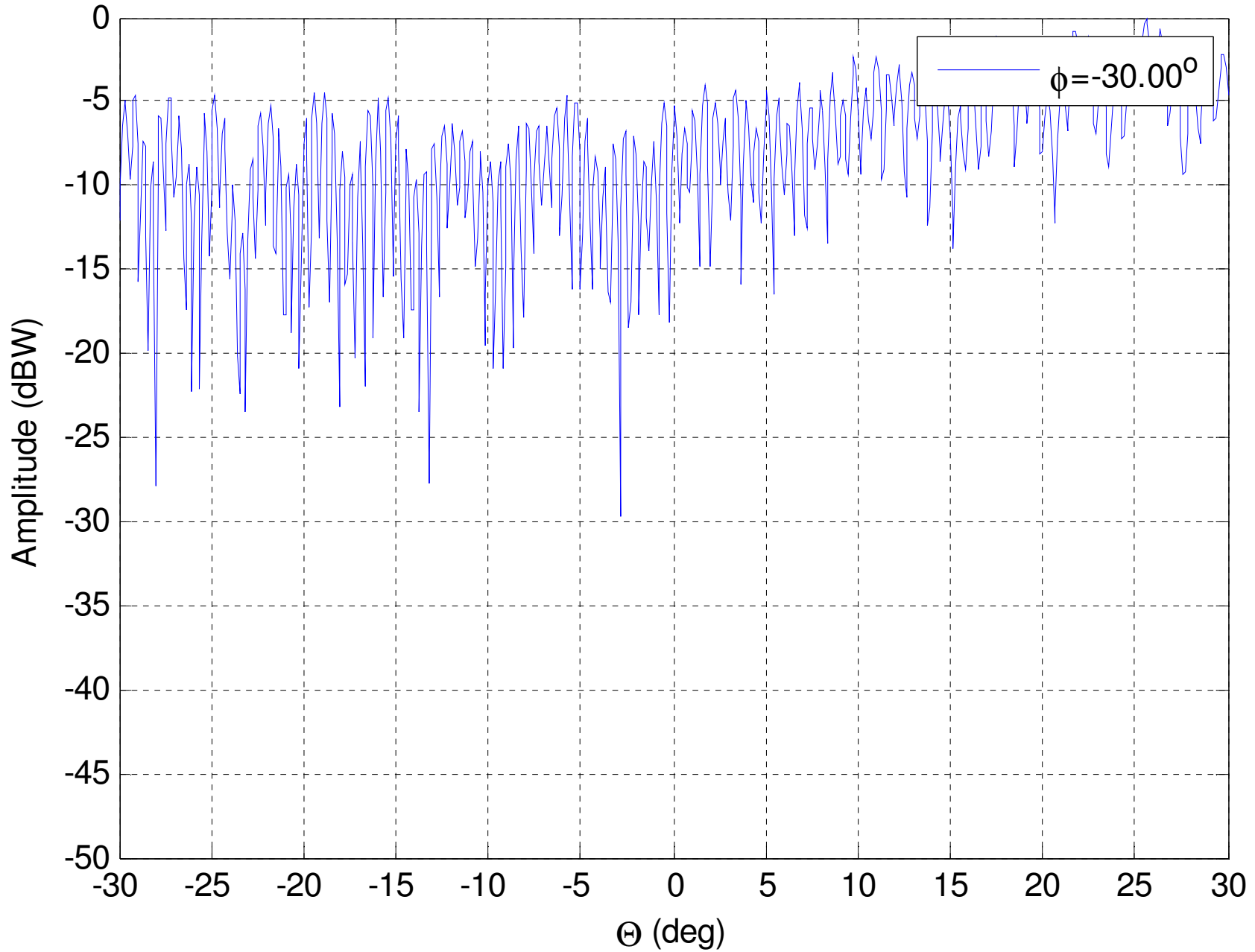
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -2.30 dBW, Date: 16-Dec-2011



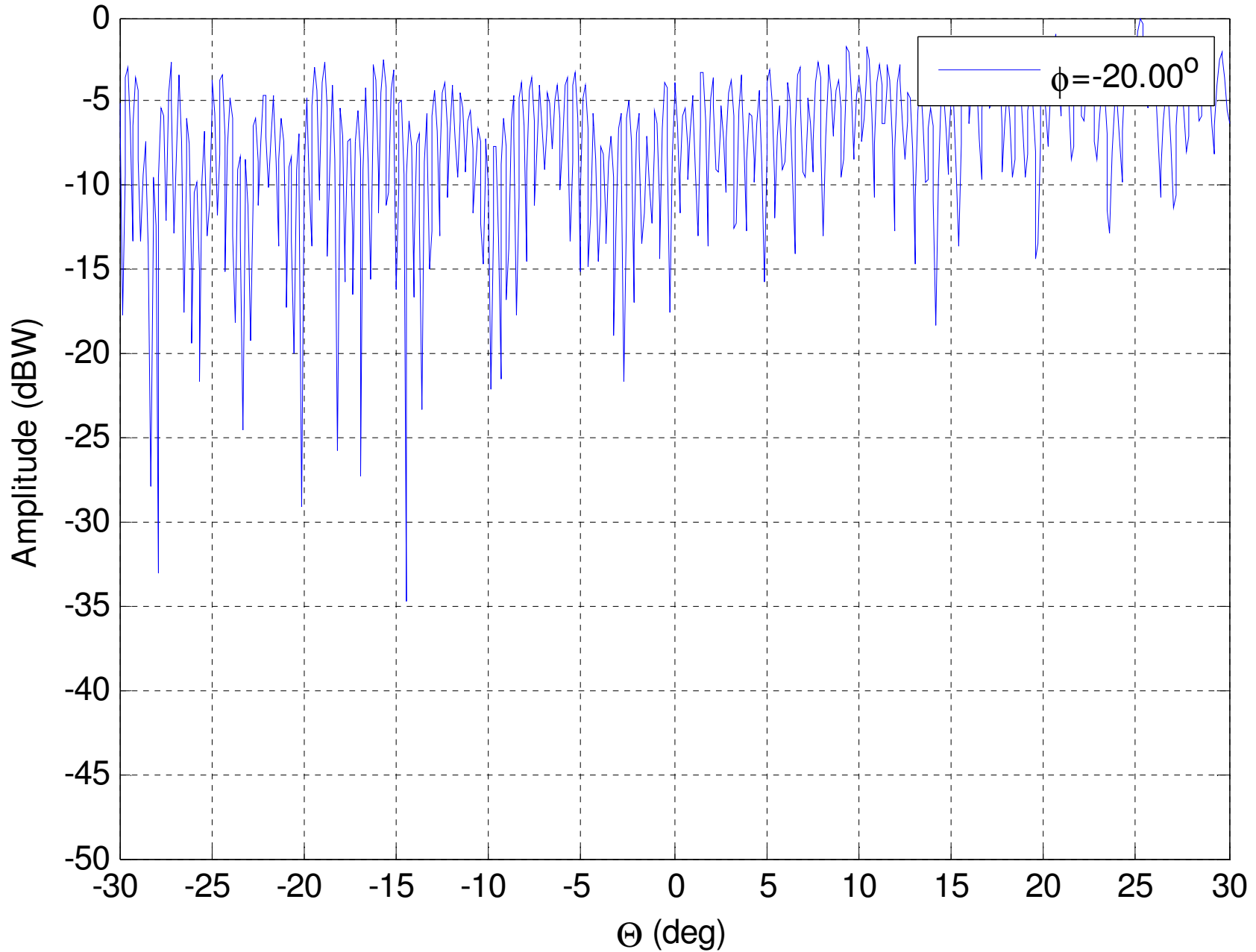
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -3.74 dBW, Date: 16-Dec-2011



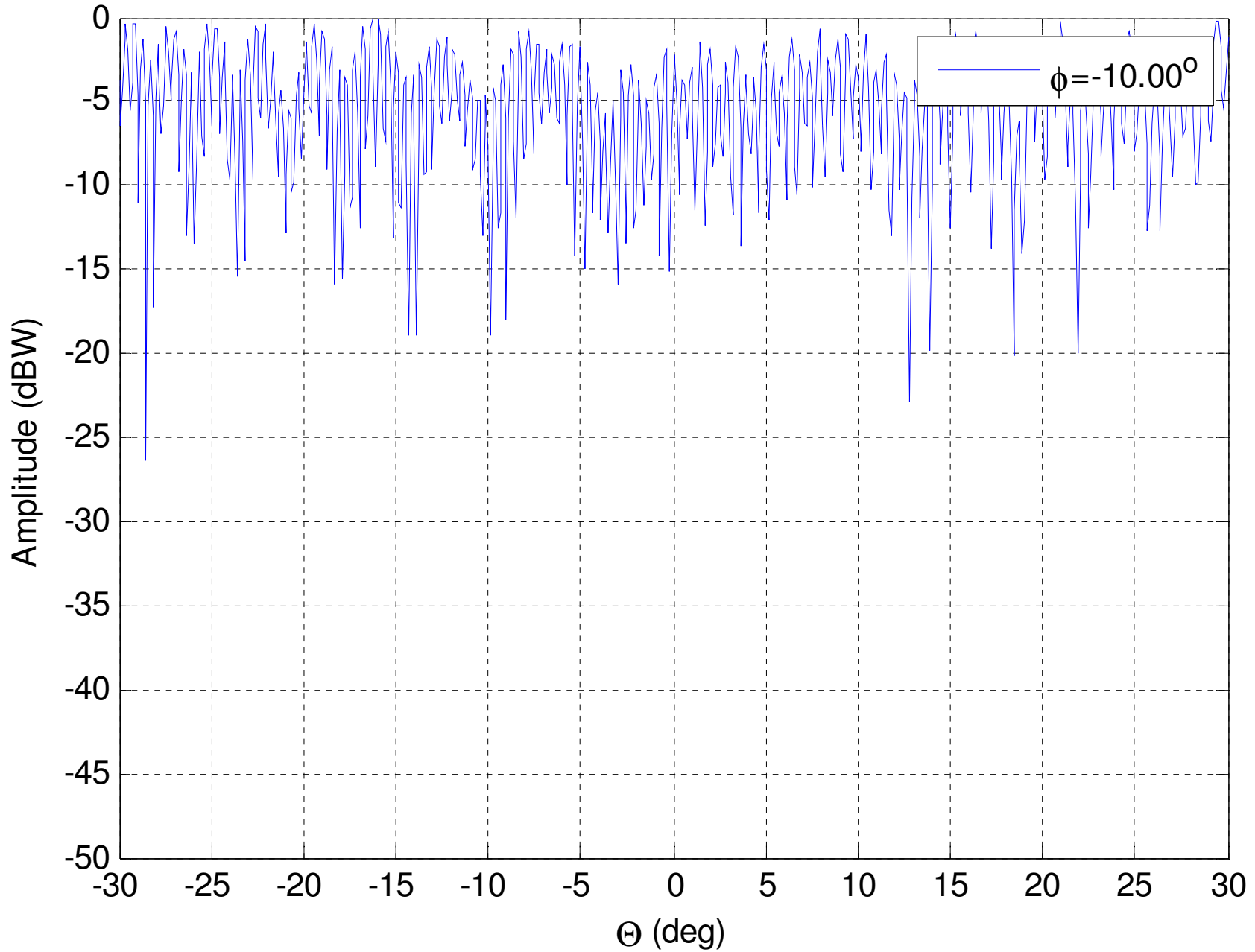
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -5.09 dBW, Date: 16-Dec-2011



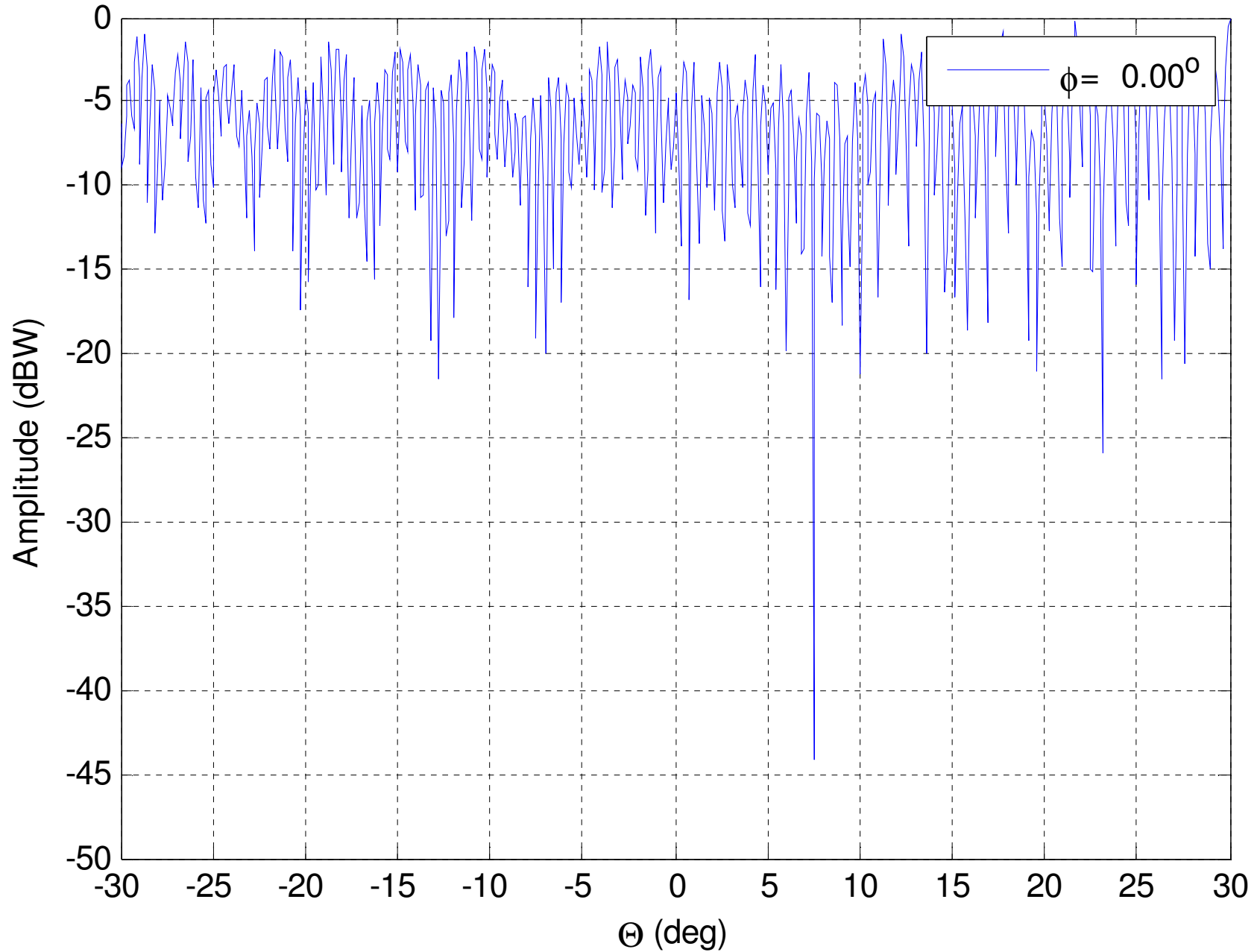
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -6.91 dBW, Date: 16-Dec-2011



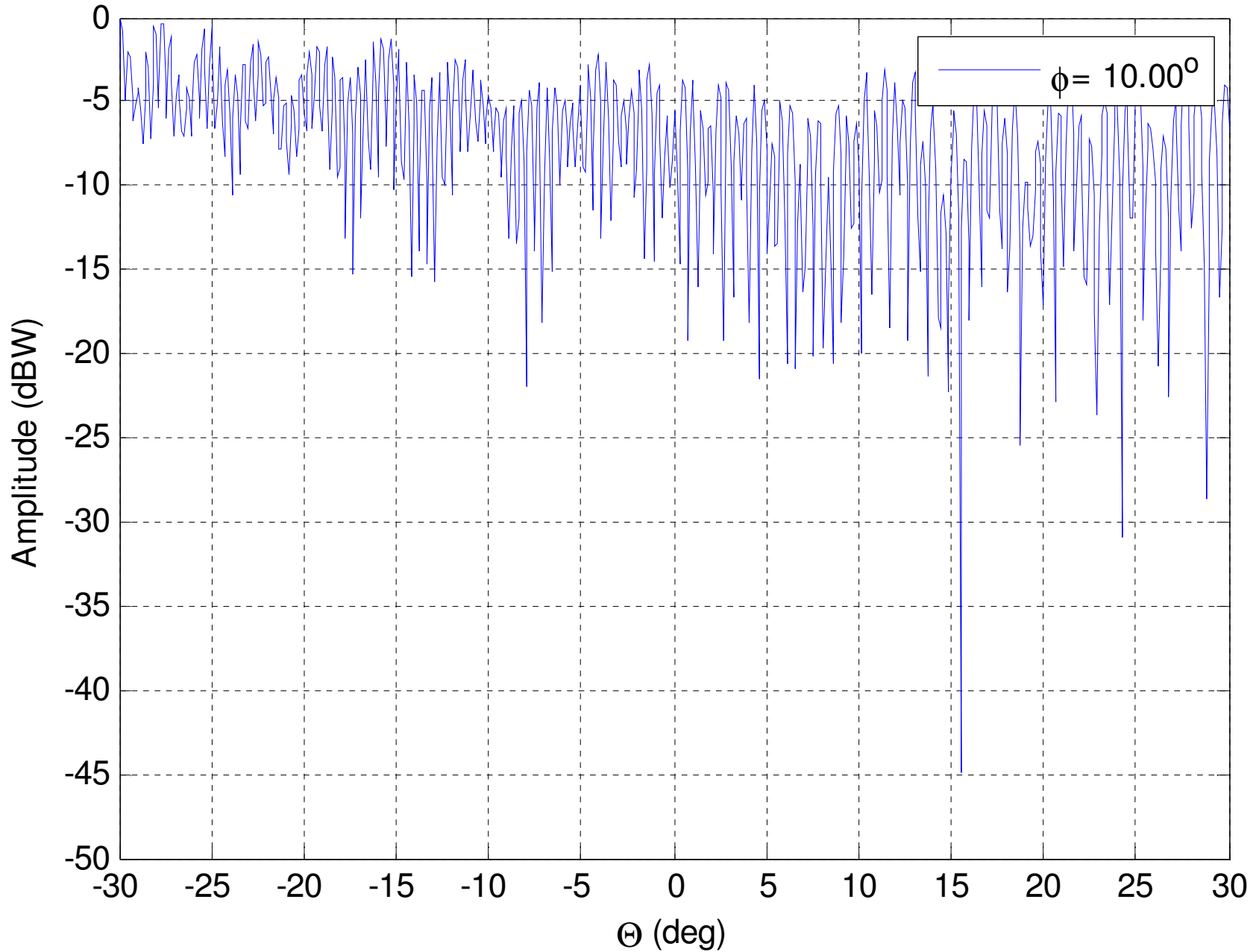
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -5.73 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

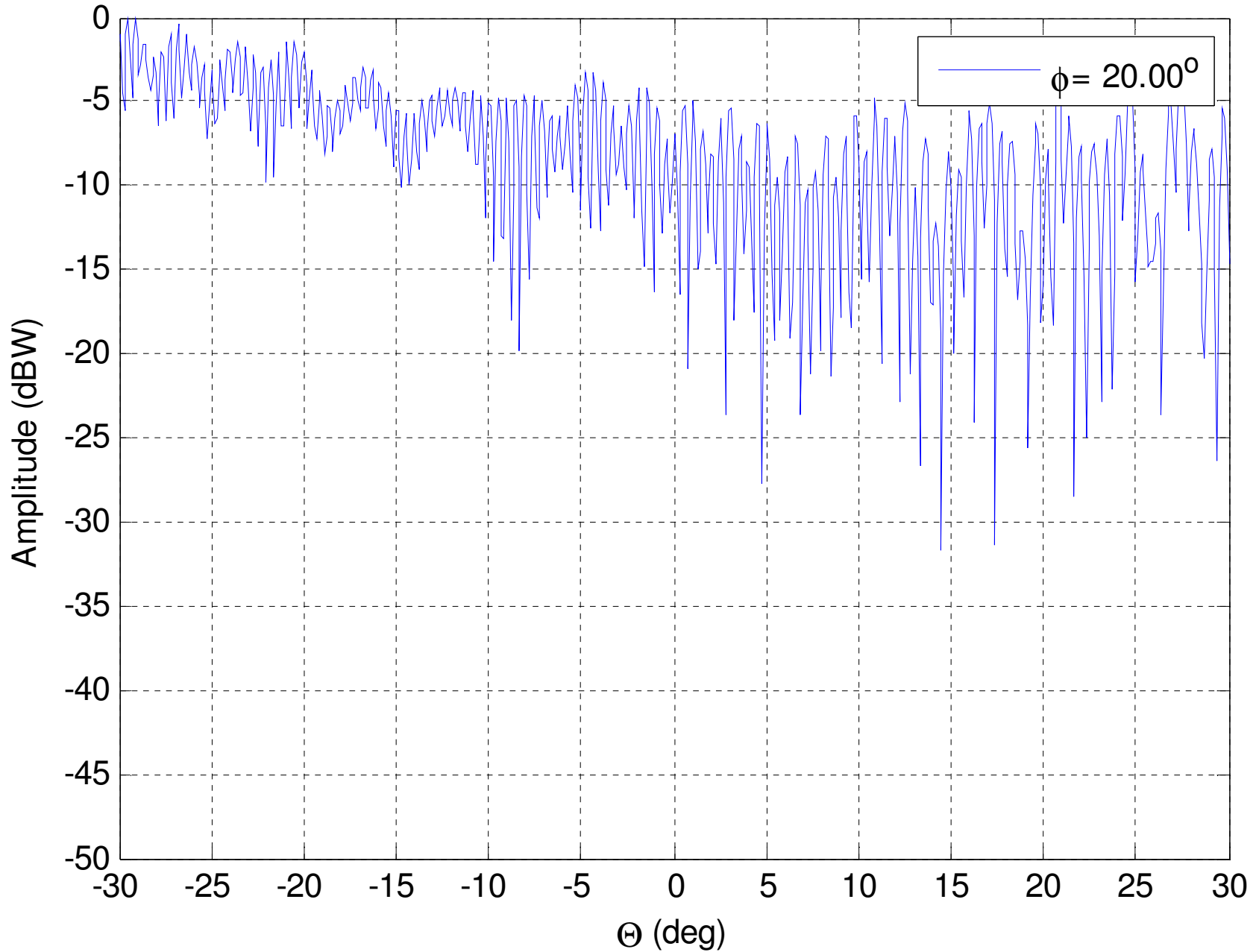
Input file: tx-17.5-rhcp-10.cut, Peak: -4.76 dBW, Date: 16-Dec-2011





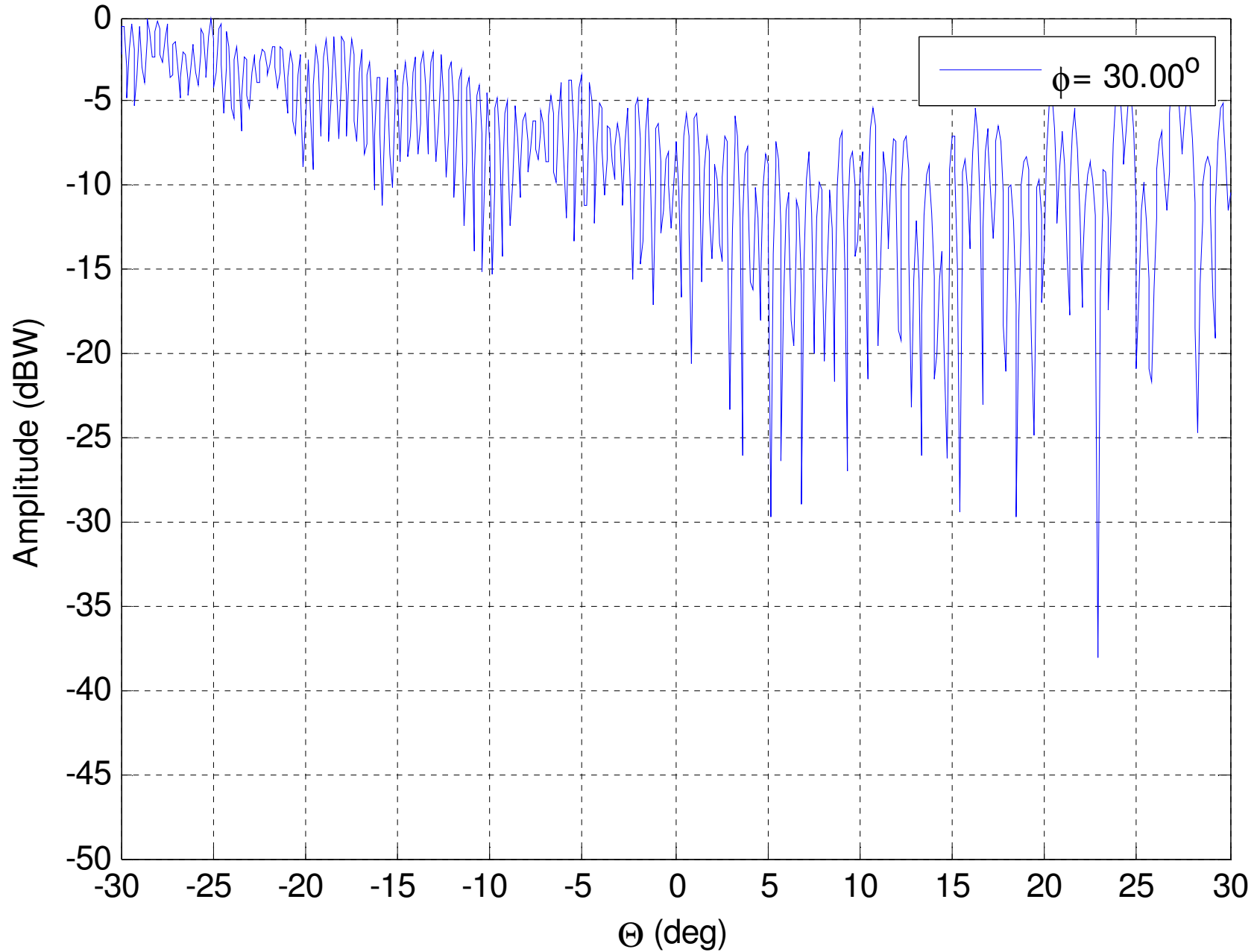
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -3.36 dBW, Date: 16-Dec-2011



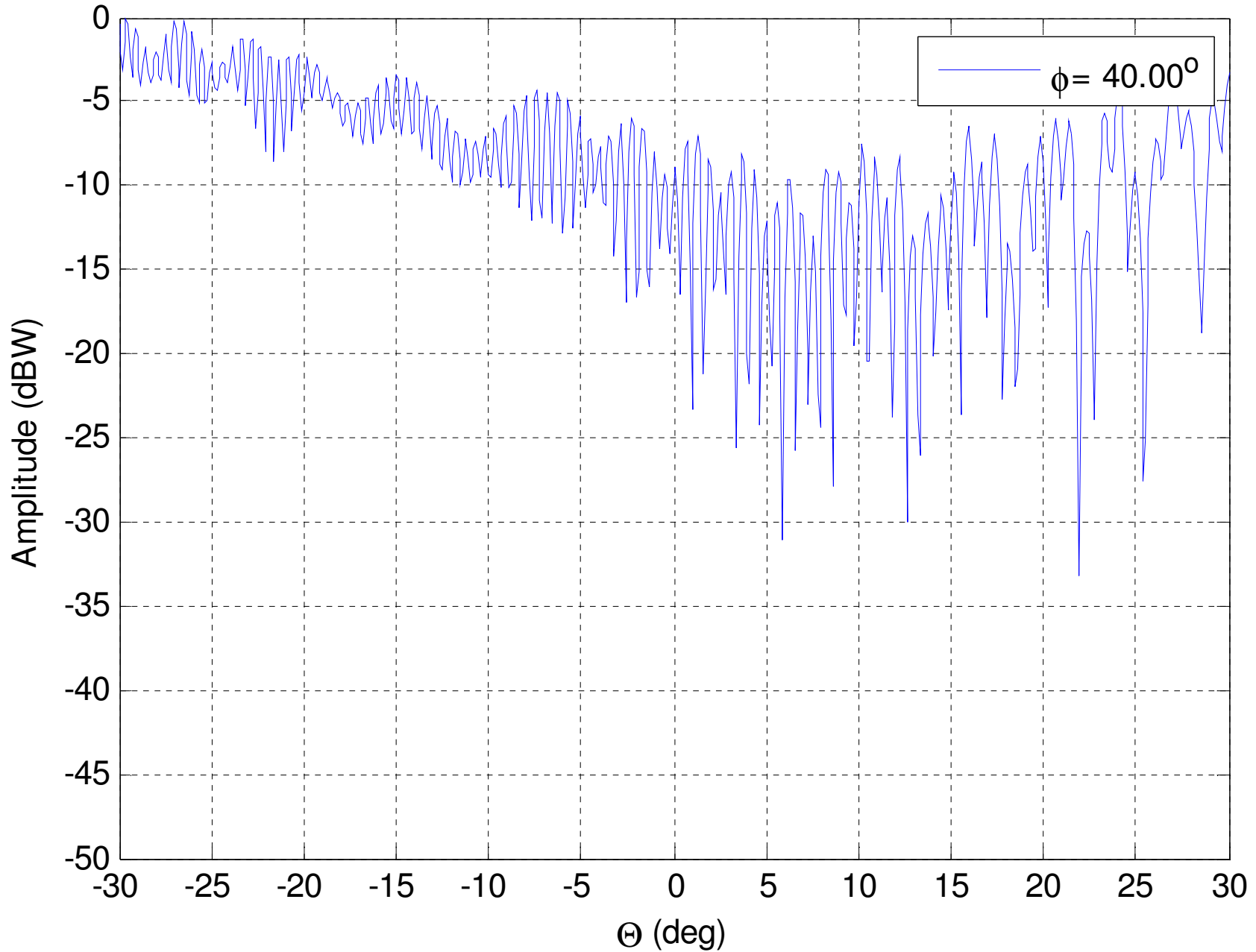
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -2.73 dBW, Date: 16-Dec-2011



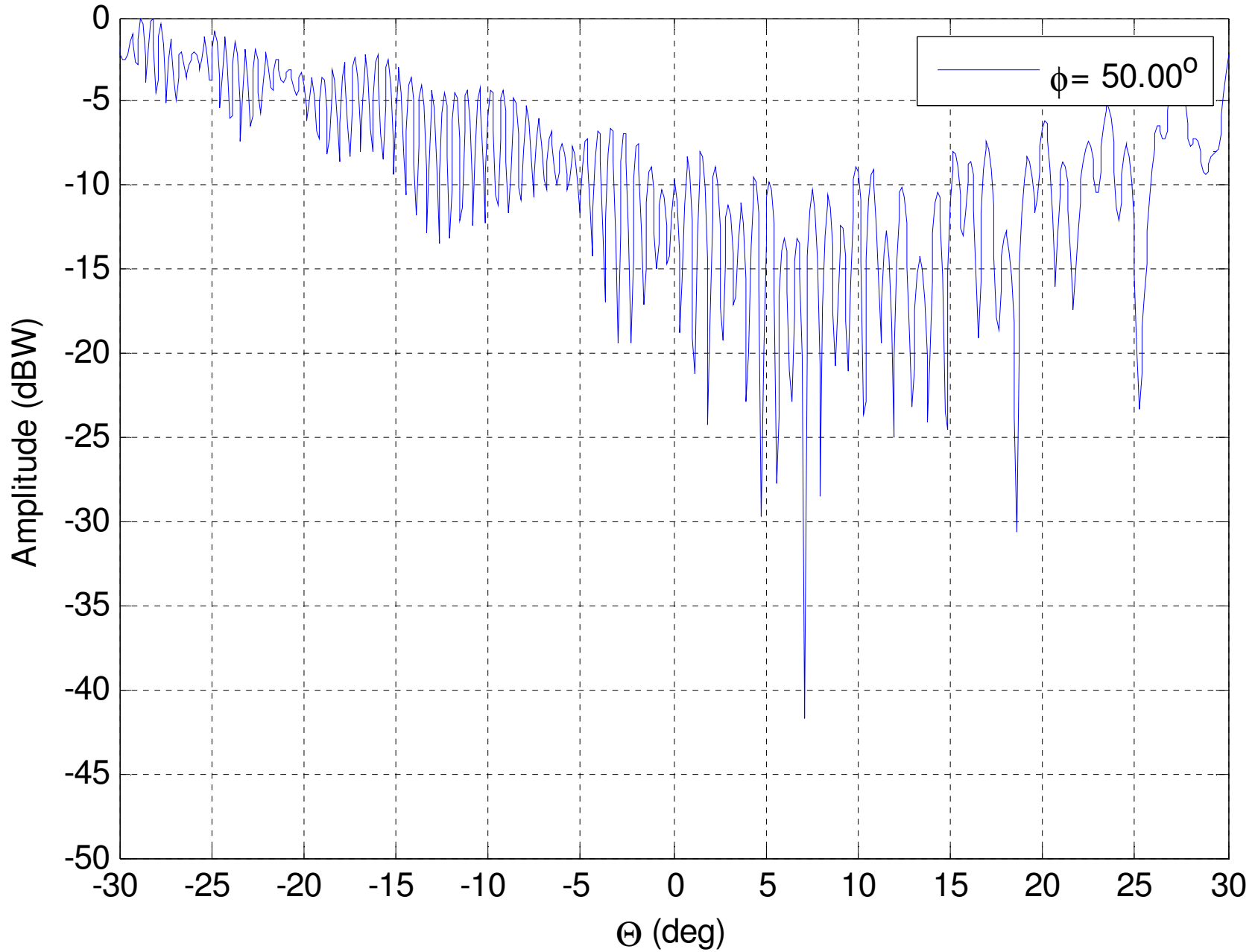
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -1.19 dBW, Date: 16-Dec-2011



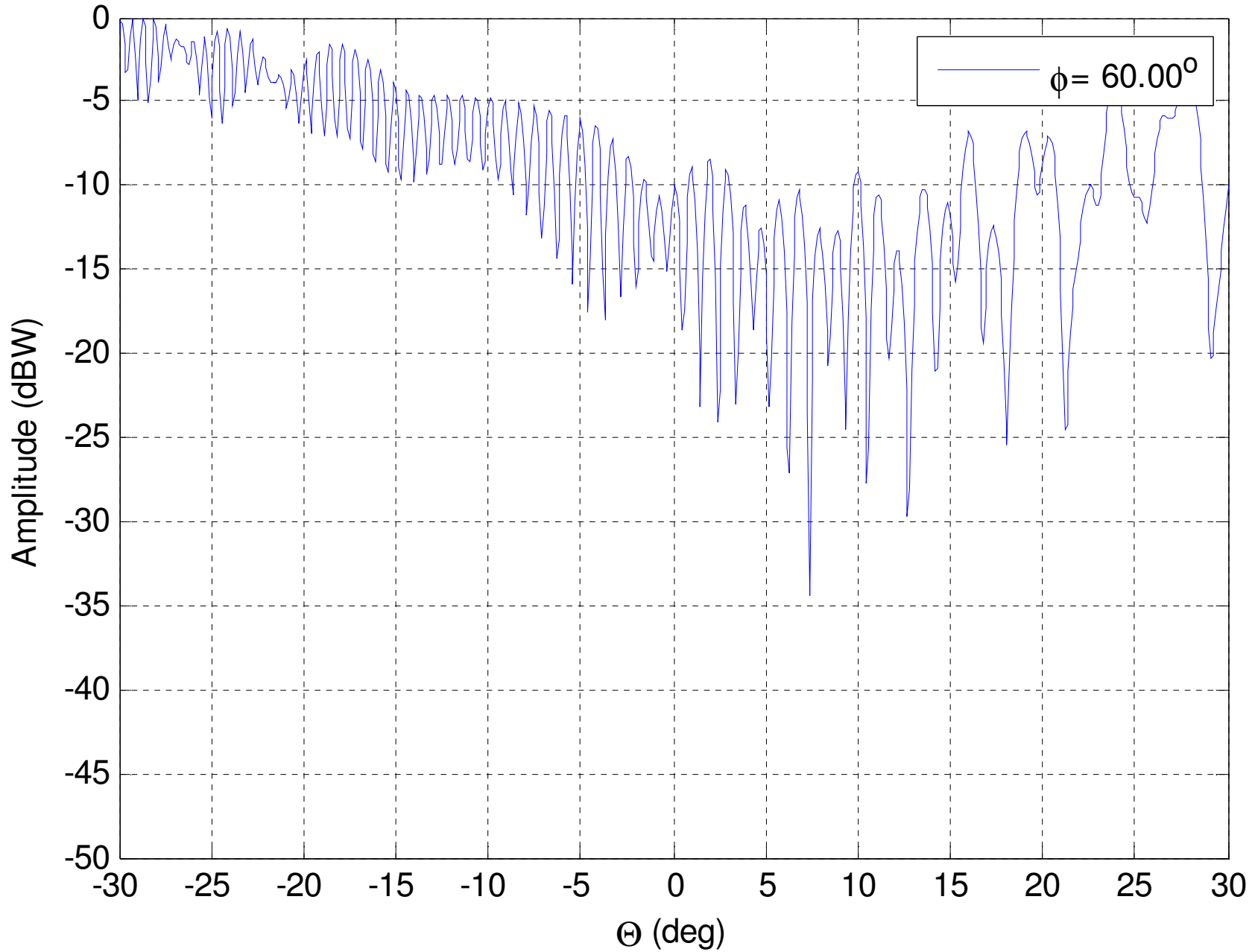
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -0.36 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

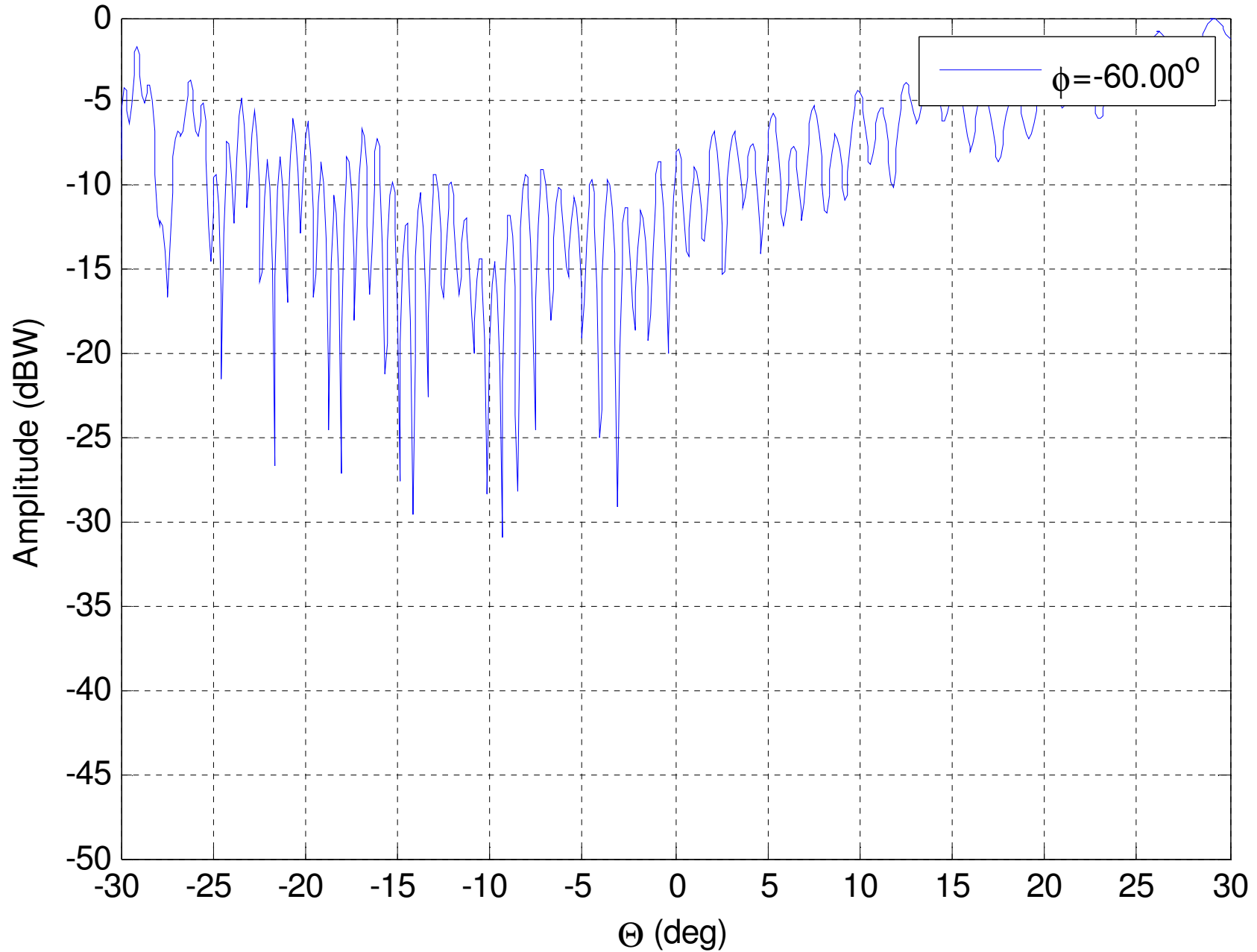
Input file: tx-17.5-rhcp-60.cut, Peak: -0.03 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

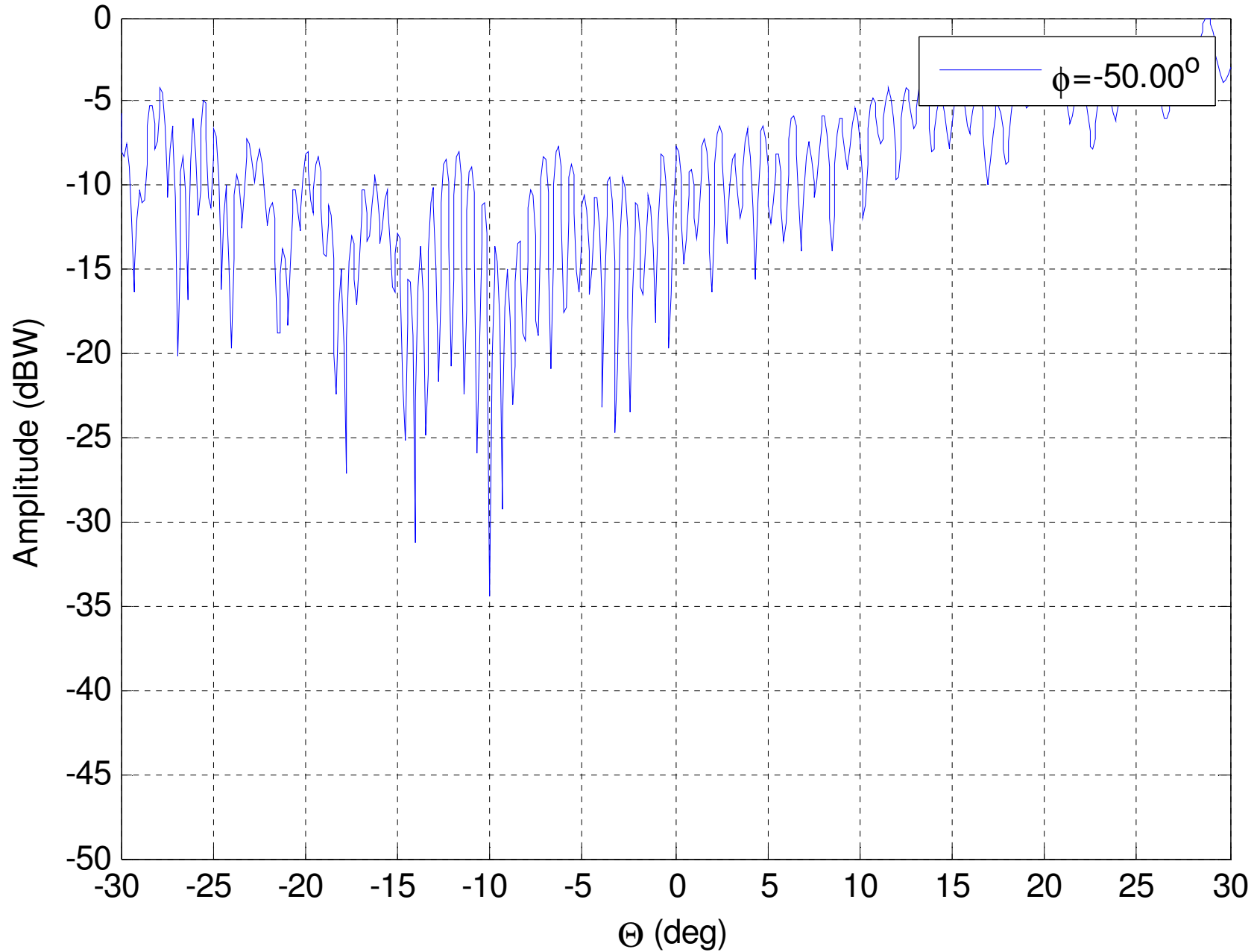
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -0.48 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

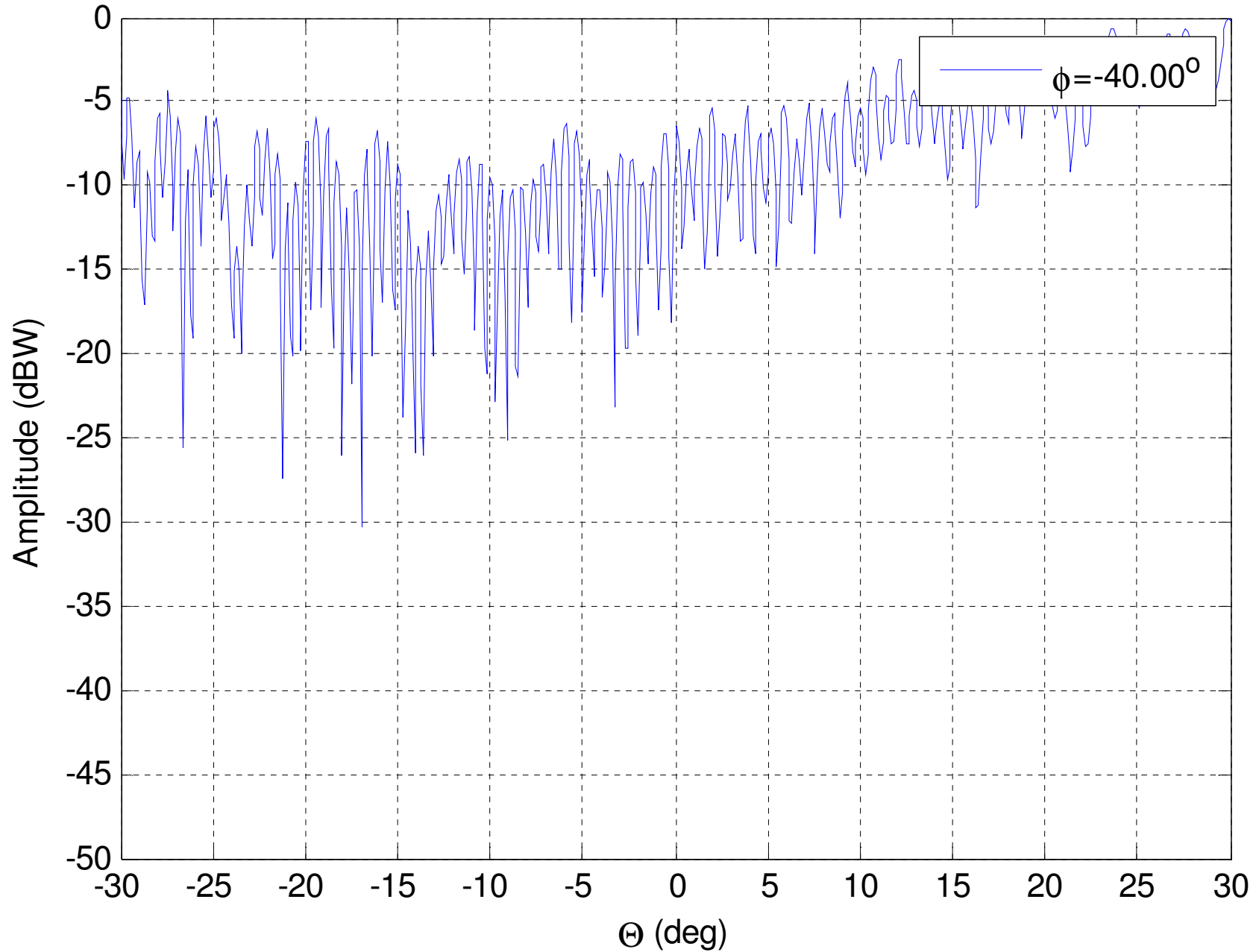
Input file: tx-17.5-lhcp--50.cut, Peak: -0.71 dBW, Date: 16-Dec-2011





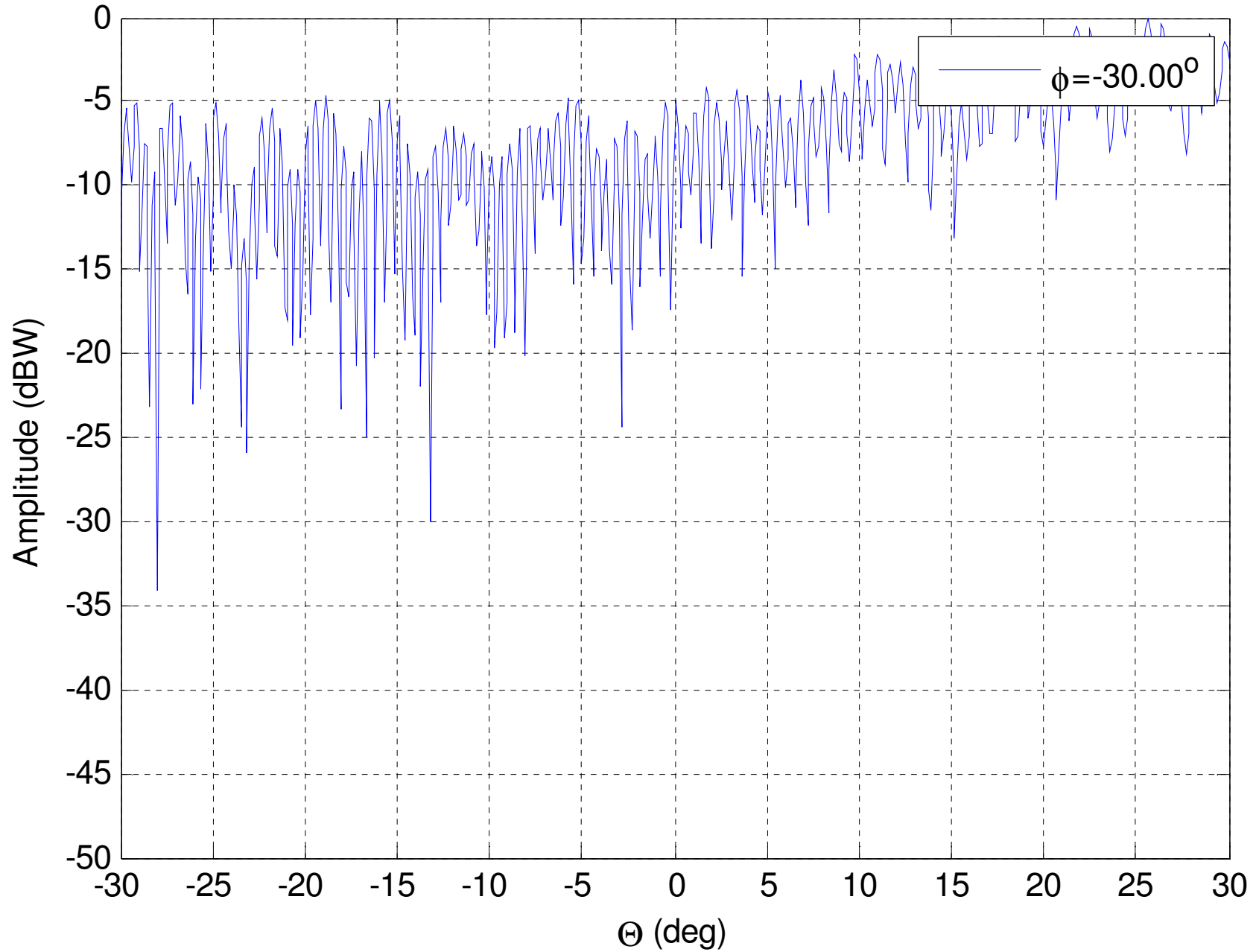
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -1.83 dBW, Date: 16-Dec-2011



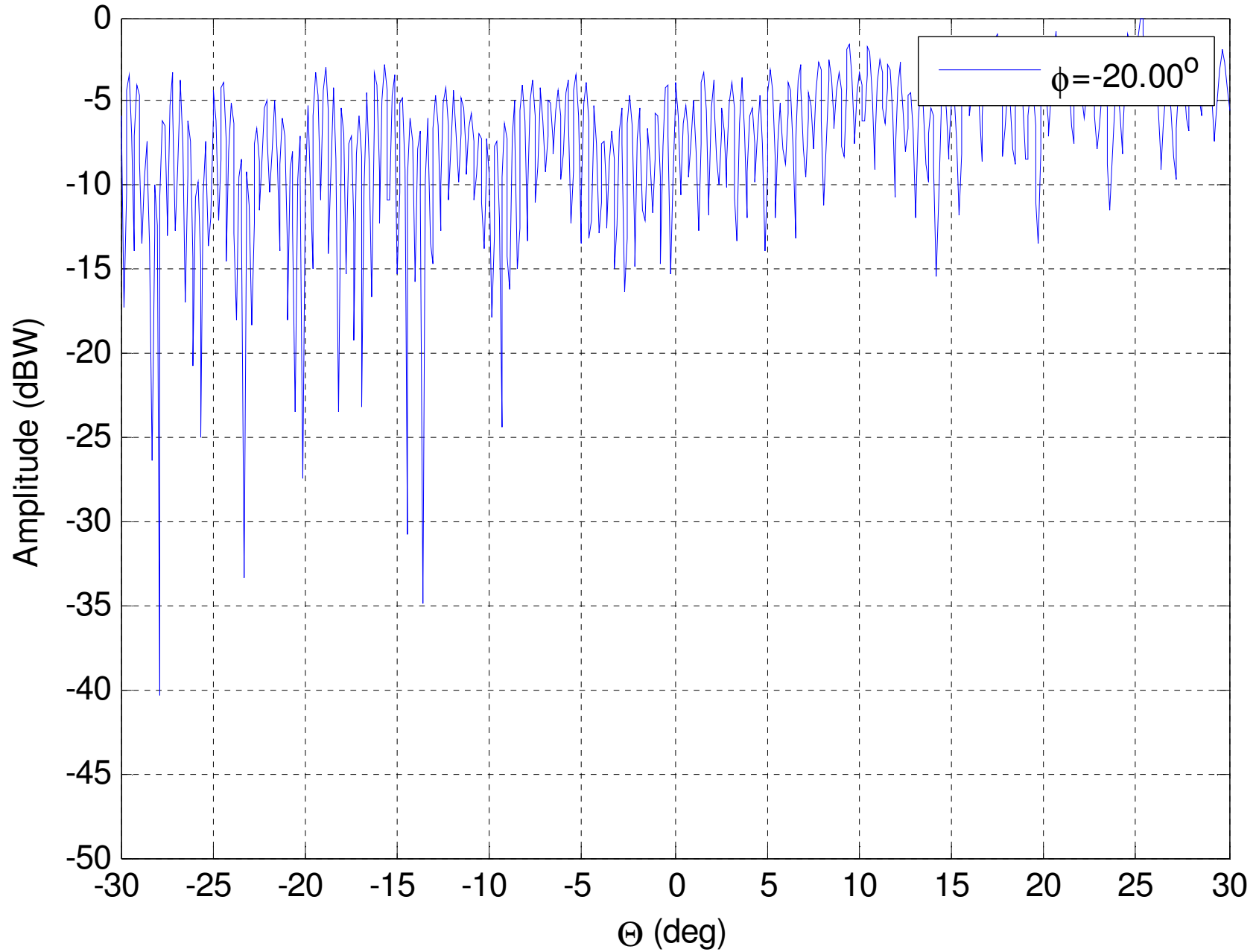
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -3.35 dBW, Date: 16-Dec-2011



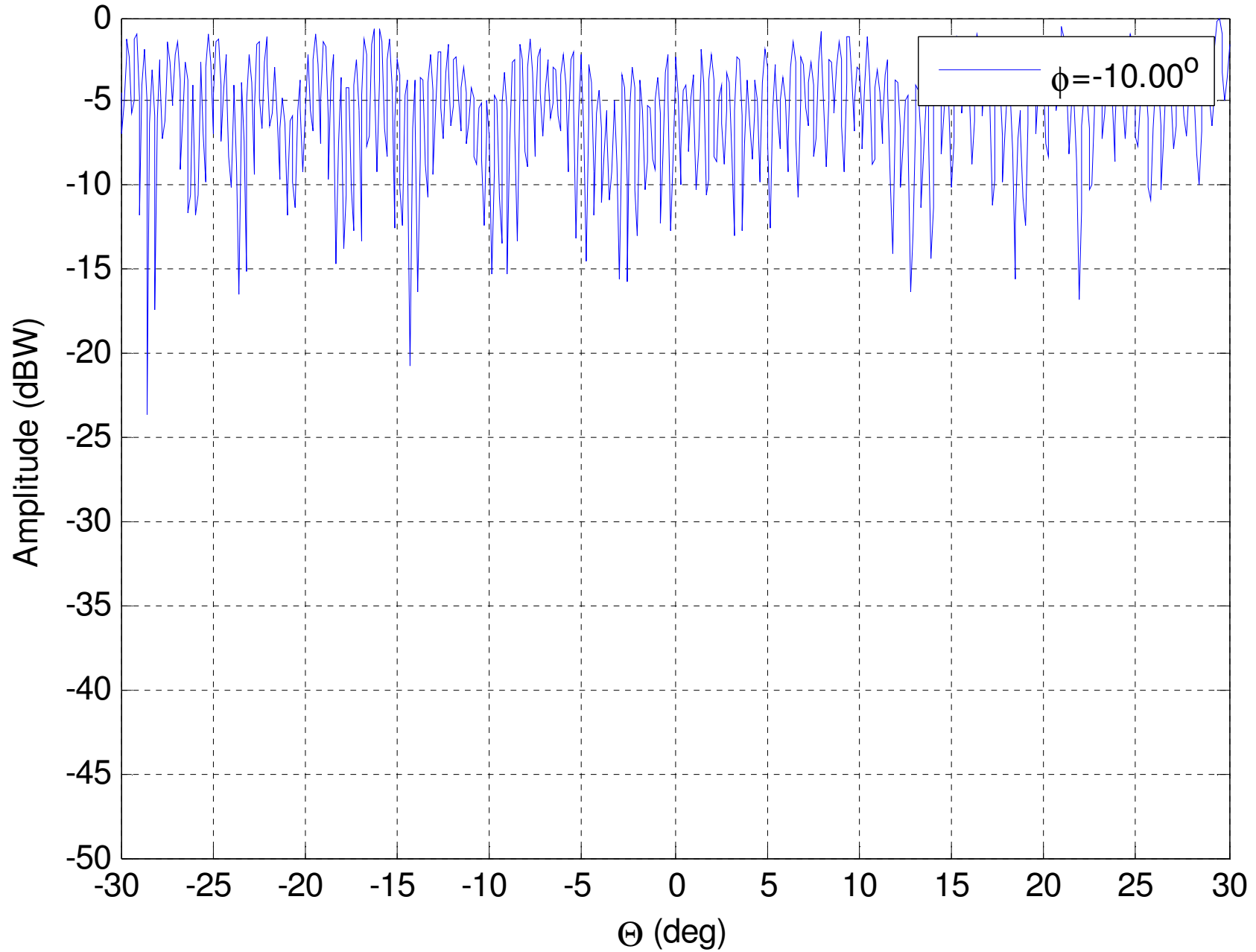
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -4.51 dBW, Date: 16-Dec-2011



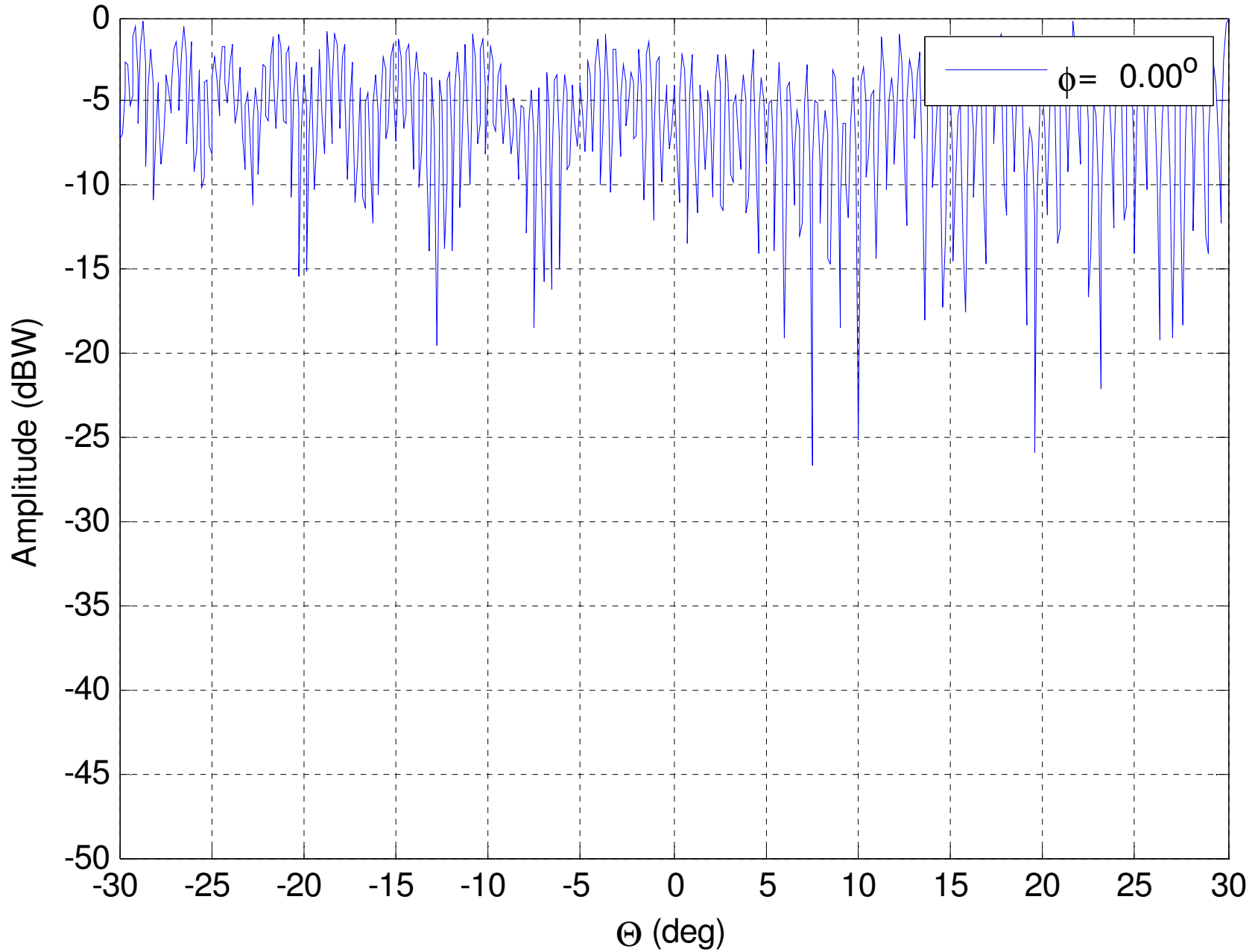
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -6.01 dBW, Date: 16-Dec-2011



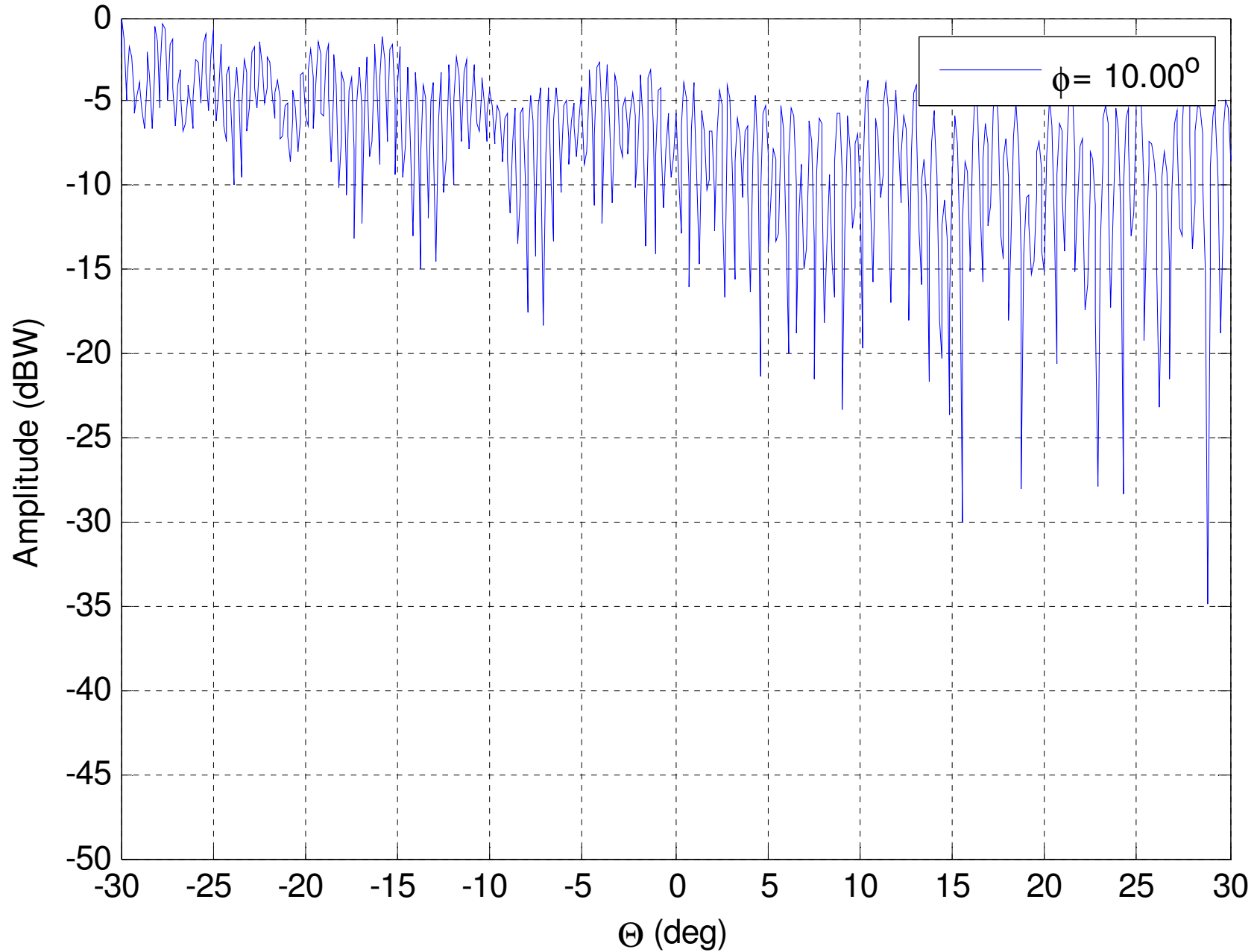
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -5.55 dBW, Date: 16-Dec-2011



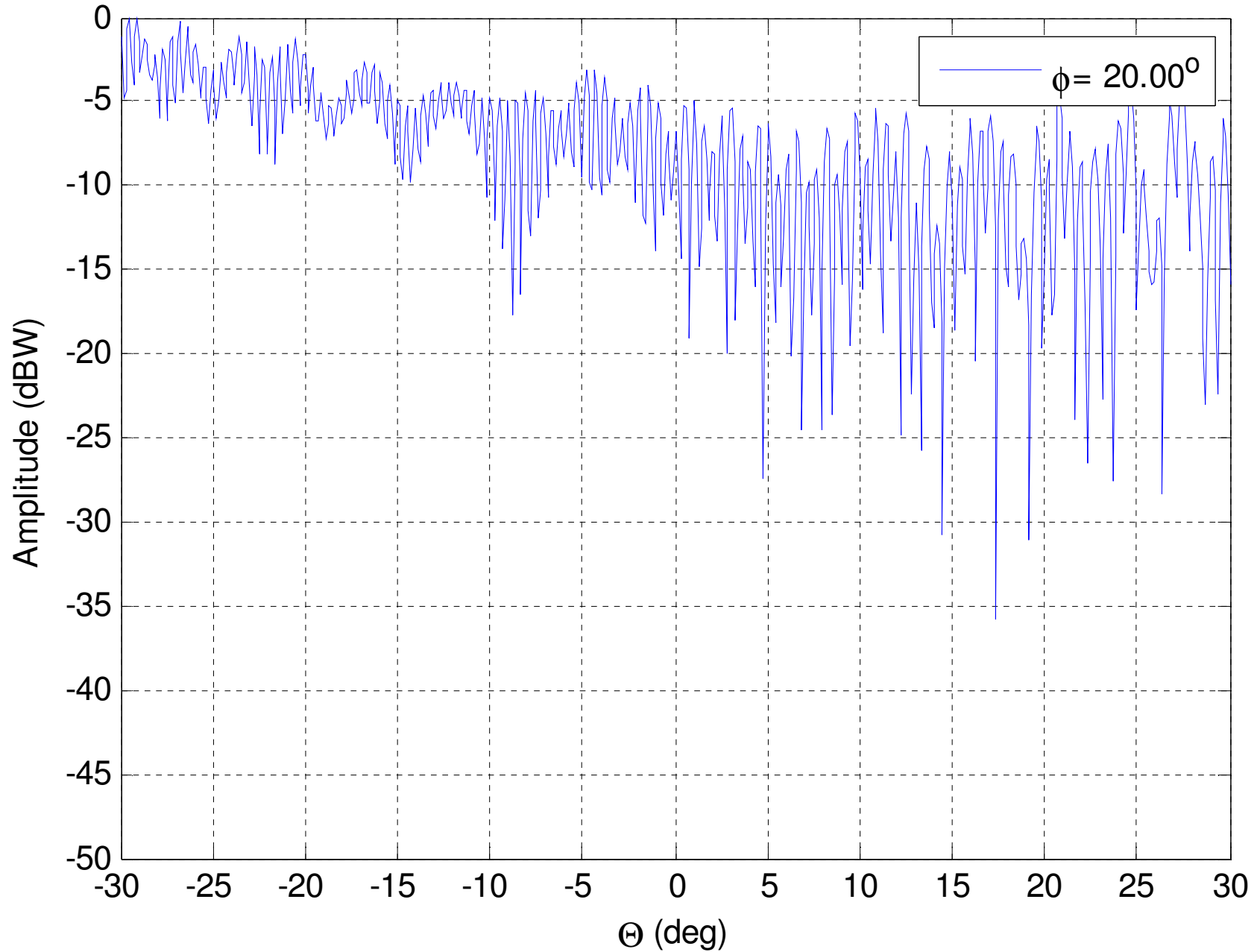
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -3.88 dBW, Date: 16-Dec-2011



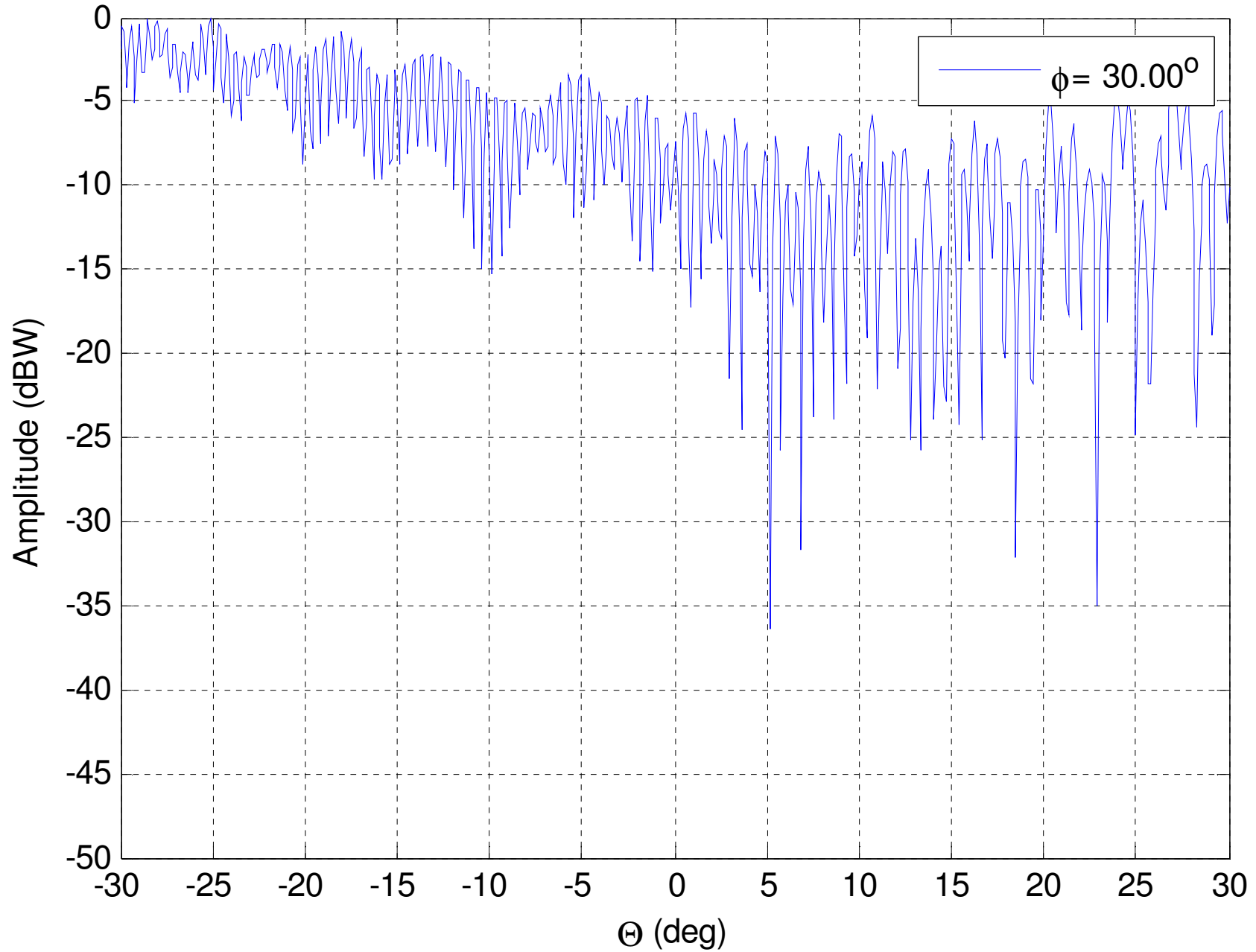
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -2.80 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

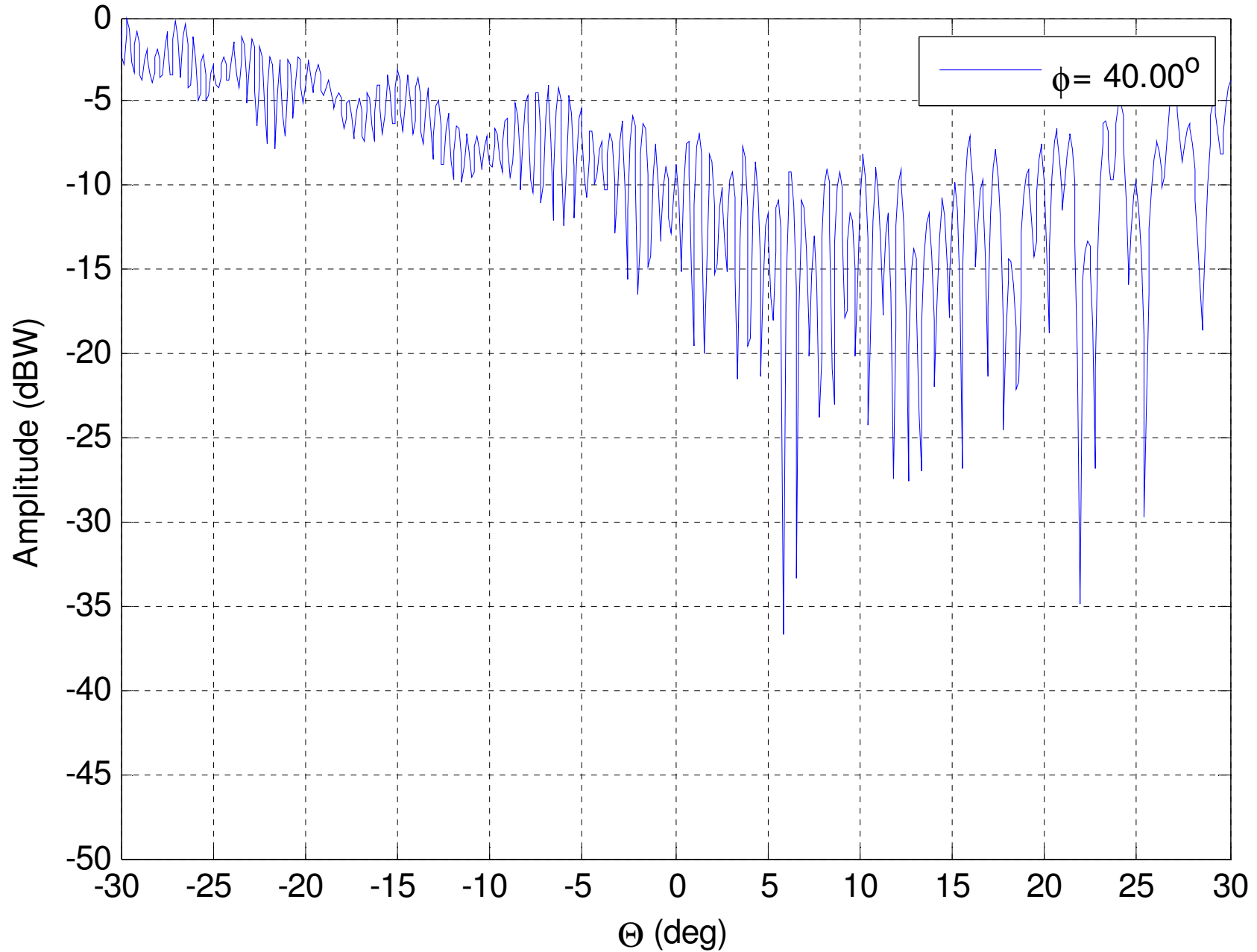
Input file: tx-17.5-lhcp-30.cut, Peak: -2.20 dBW, Date: 16-Dec-2011





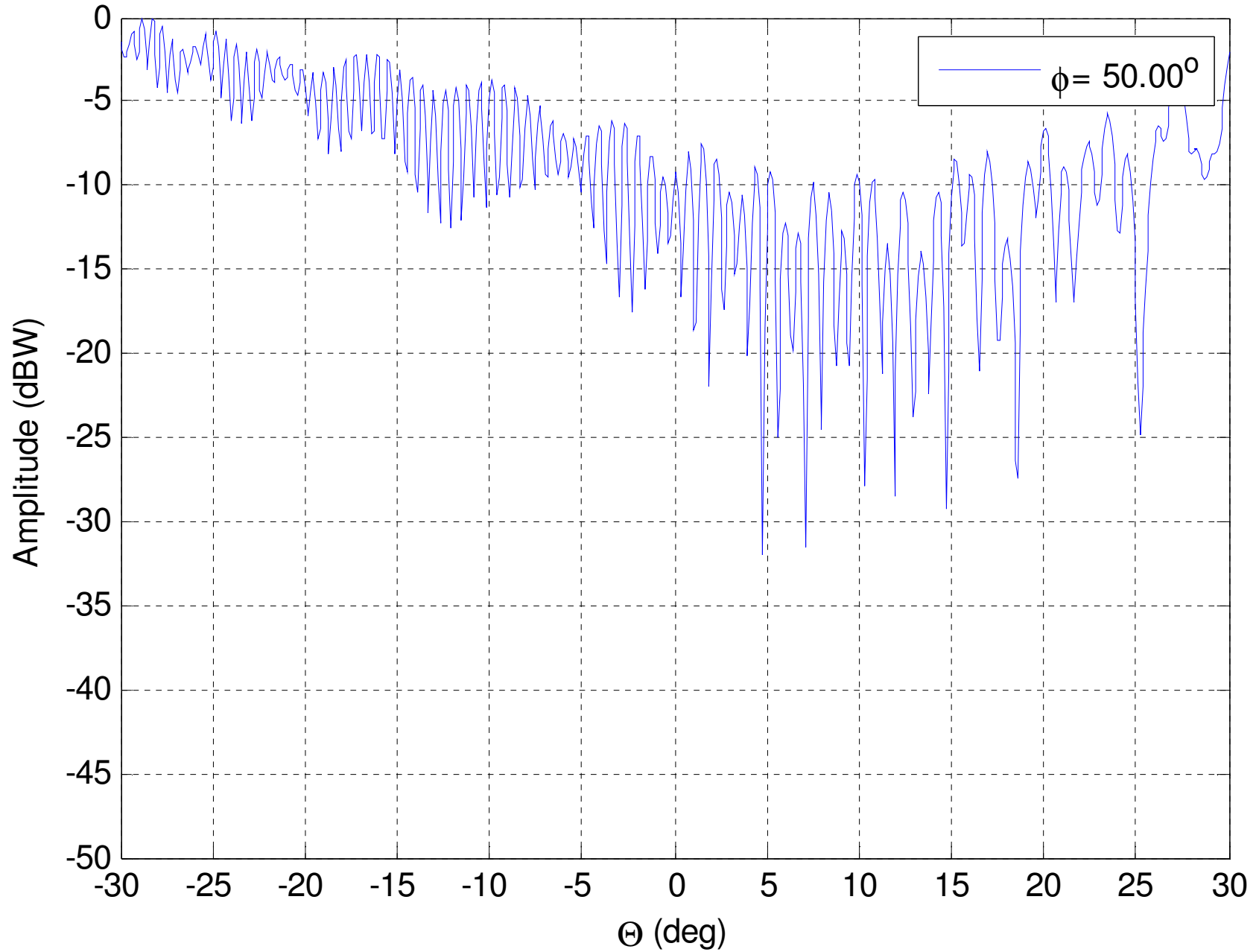
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -0.72 dBW, Date: 16-Dec-2011



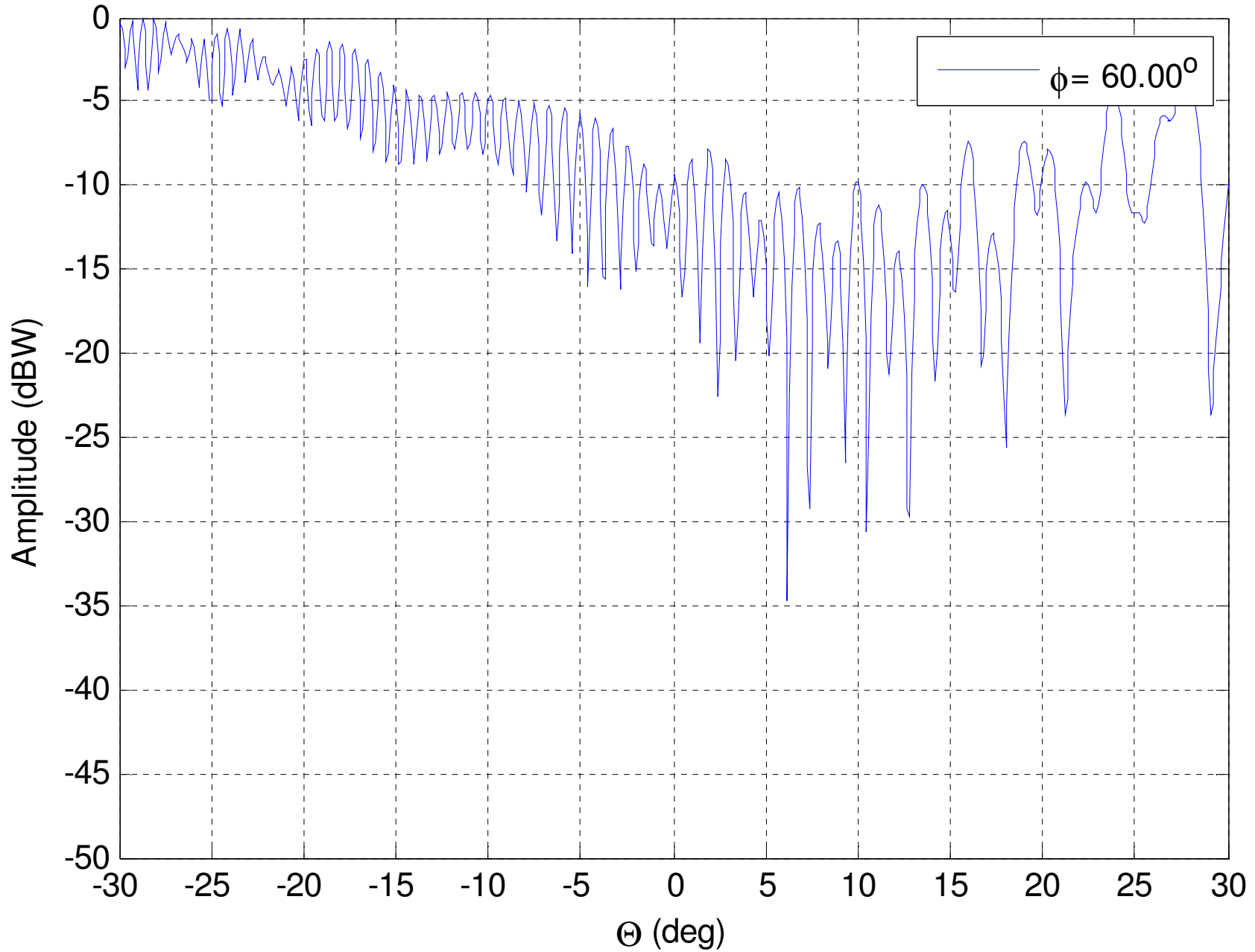
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -0.13 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

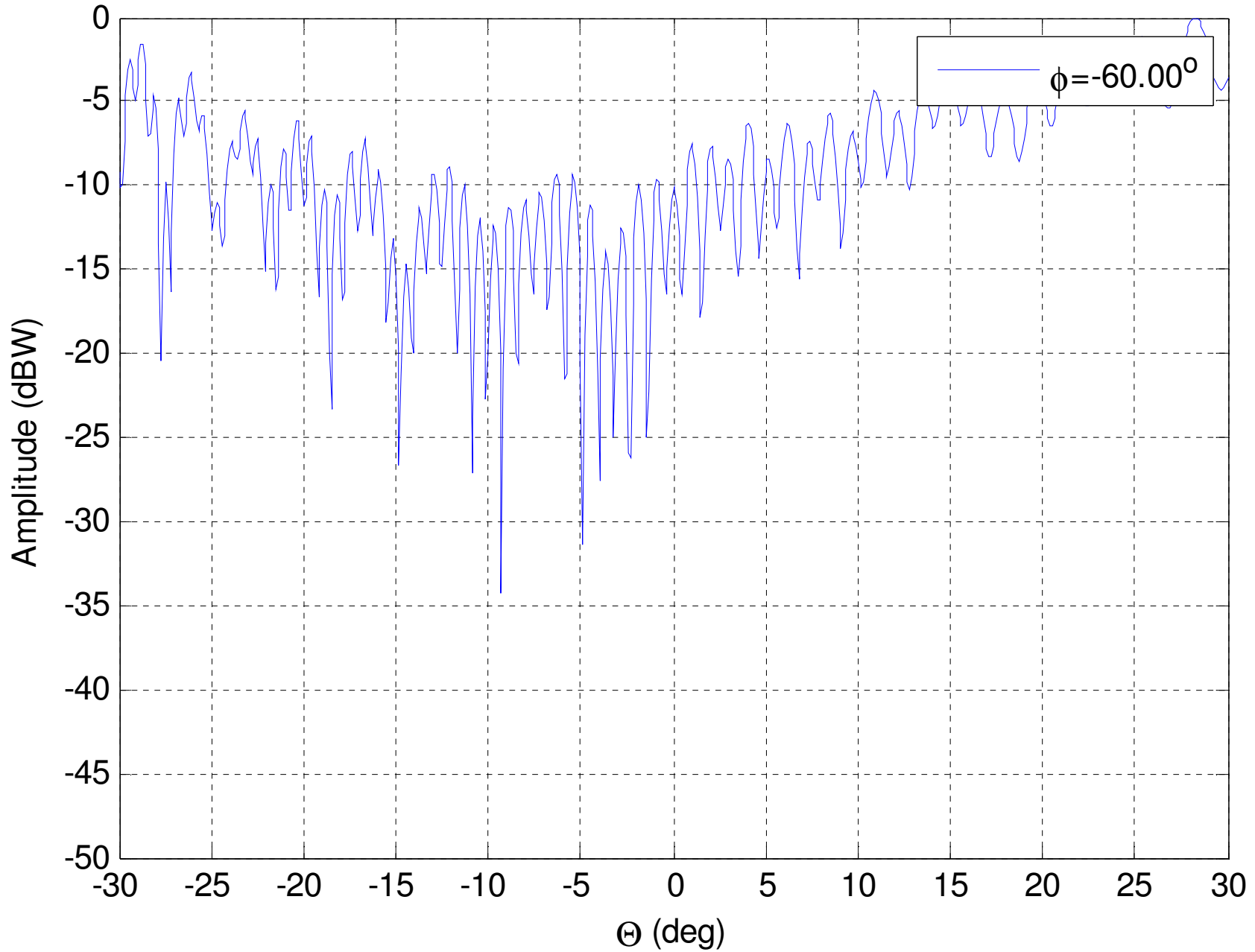
Input file: tx-17.5-lhcp-60.cut, Peak: 0.14 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

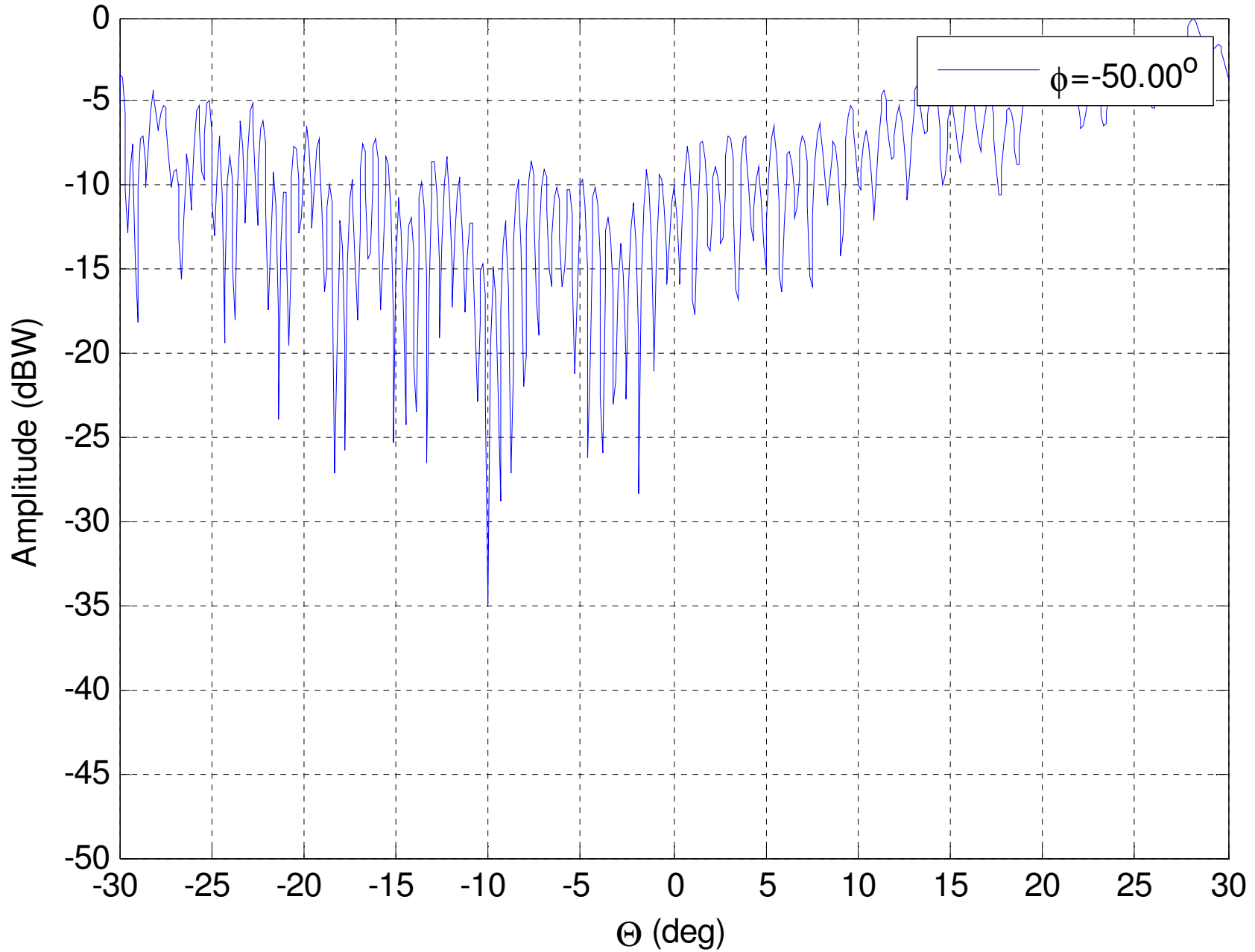
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -0.76 dBW, Date: 16-Dec-2011



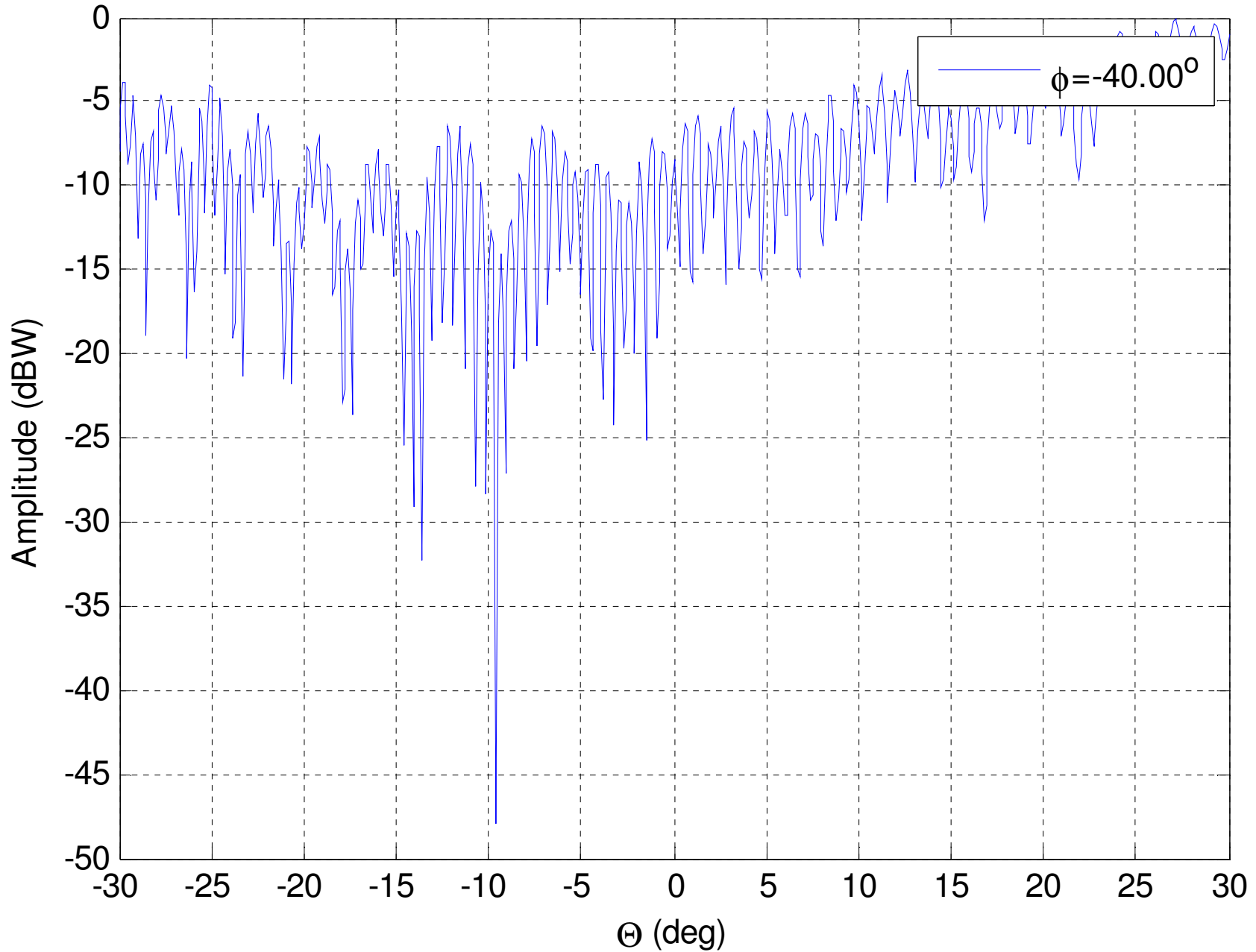
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -1.02 dBW, Date: 16-Dec-2011



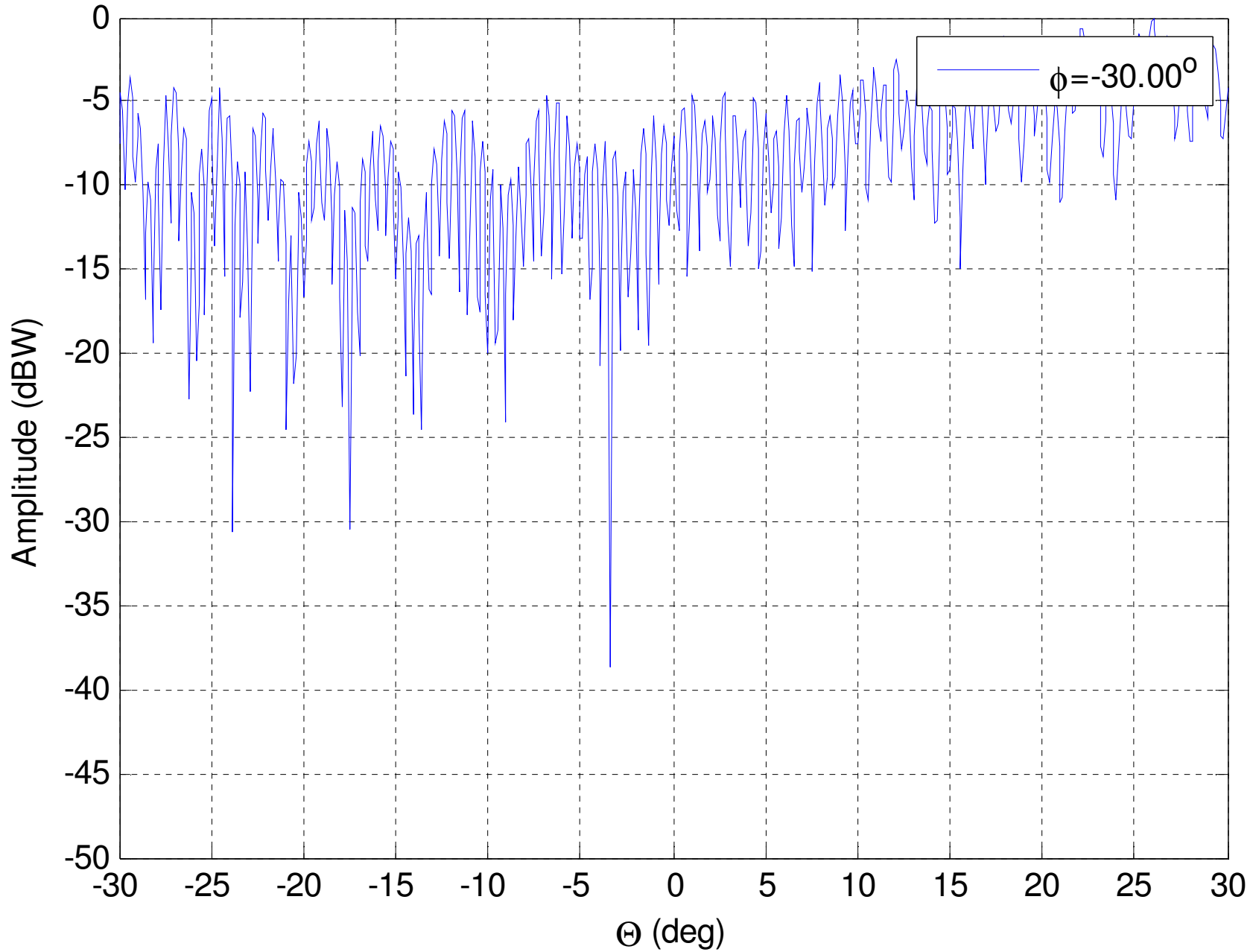
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -2.51 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

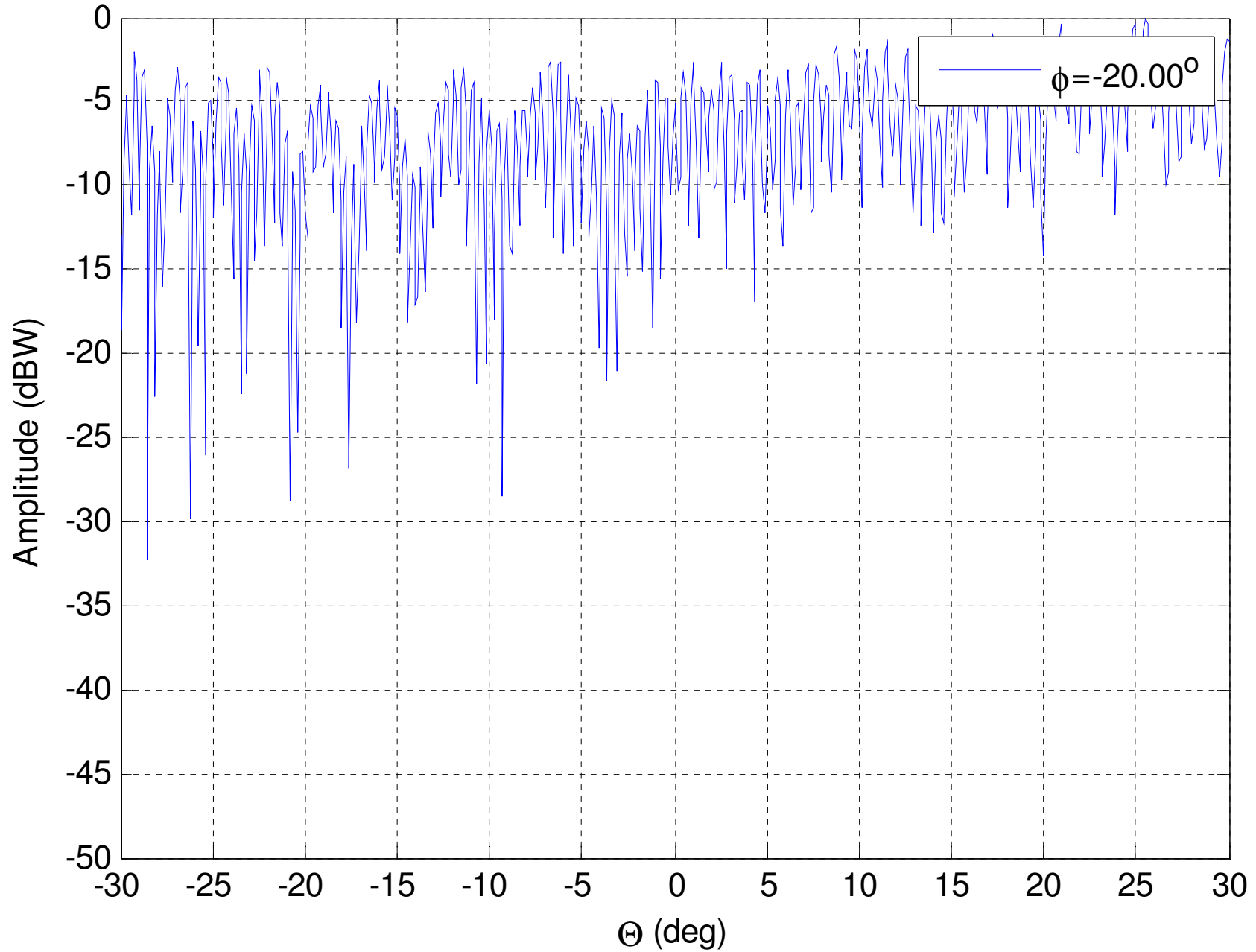
Input file: tx-17.7-rhcp--30.cut, Peak: -3.81 dBW, Date: 16-Dec-2011





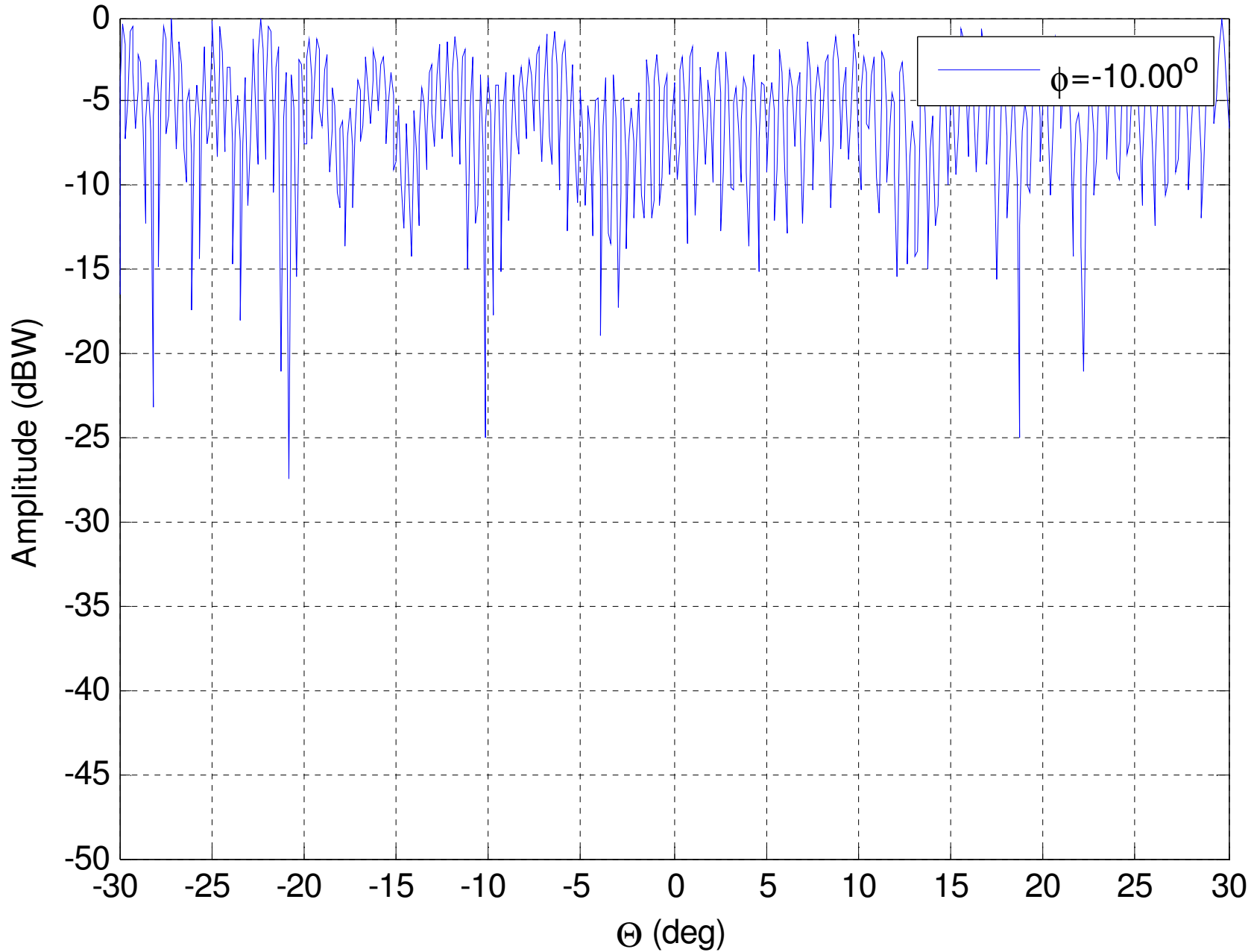
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -5.87 dBW, Date: 16-Dec-2011



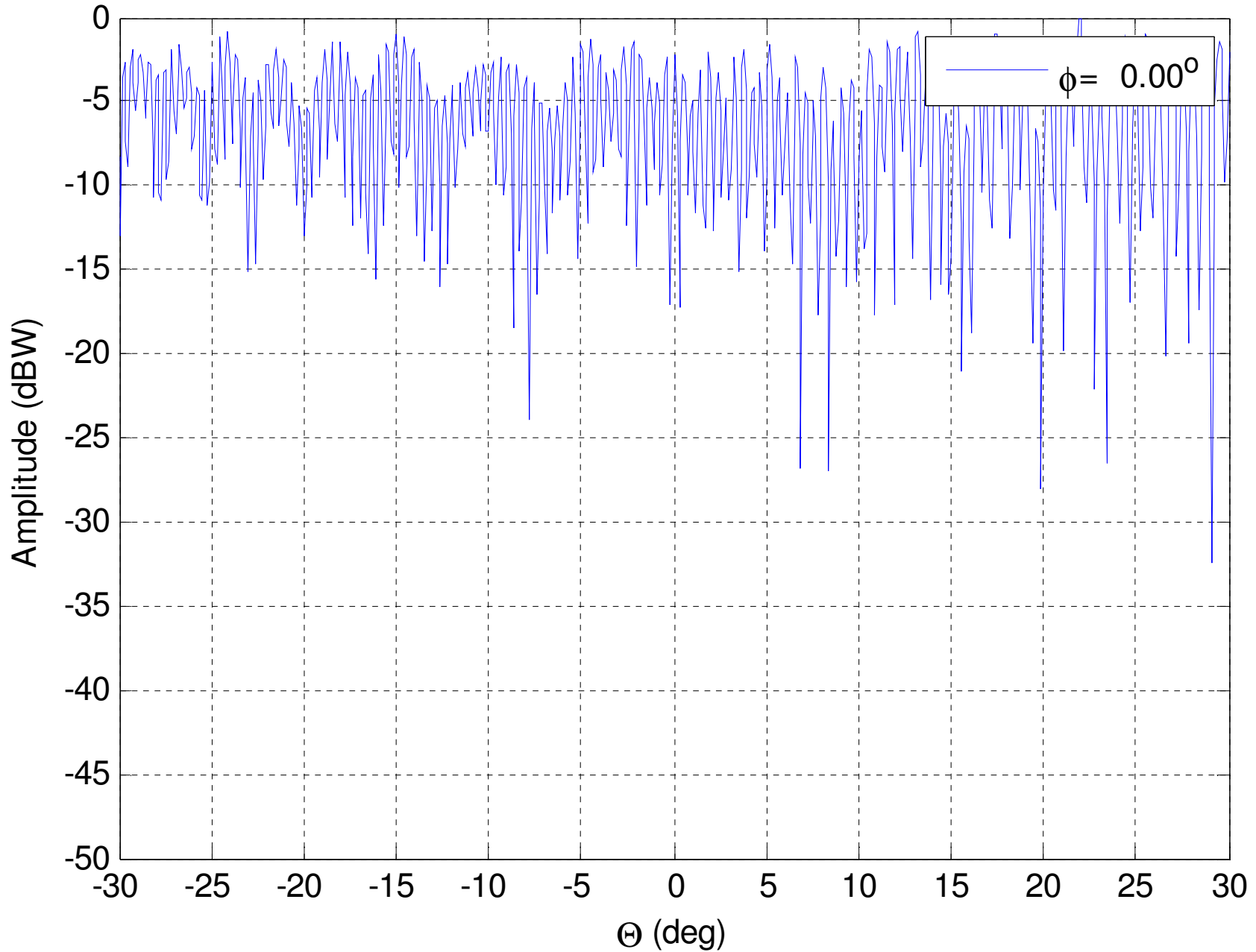
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -7.01 dBW, Date: 16-Dec-2011



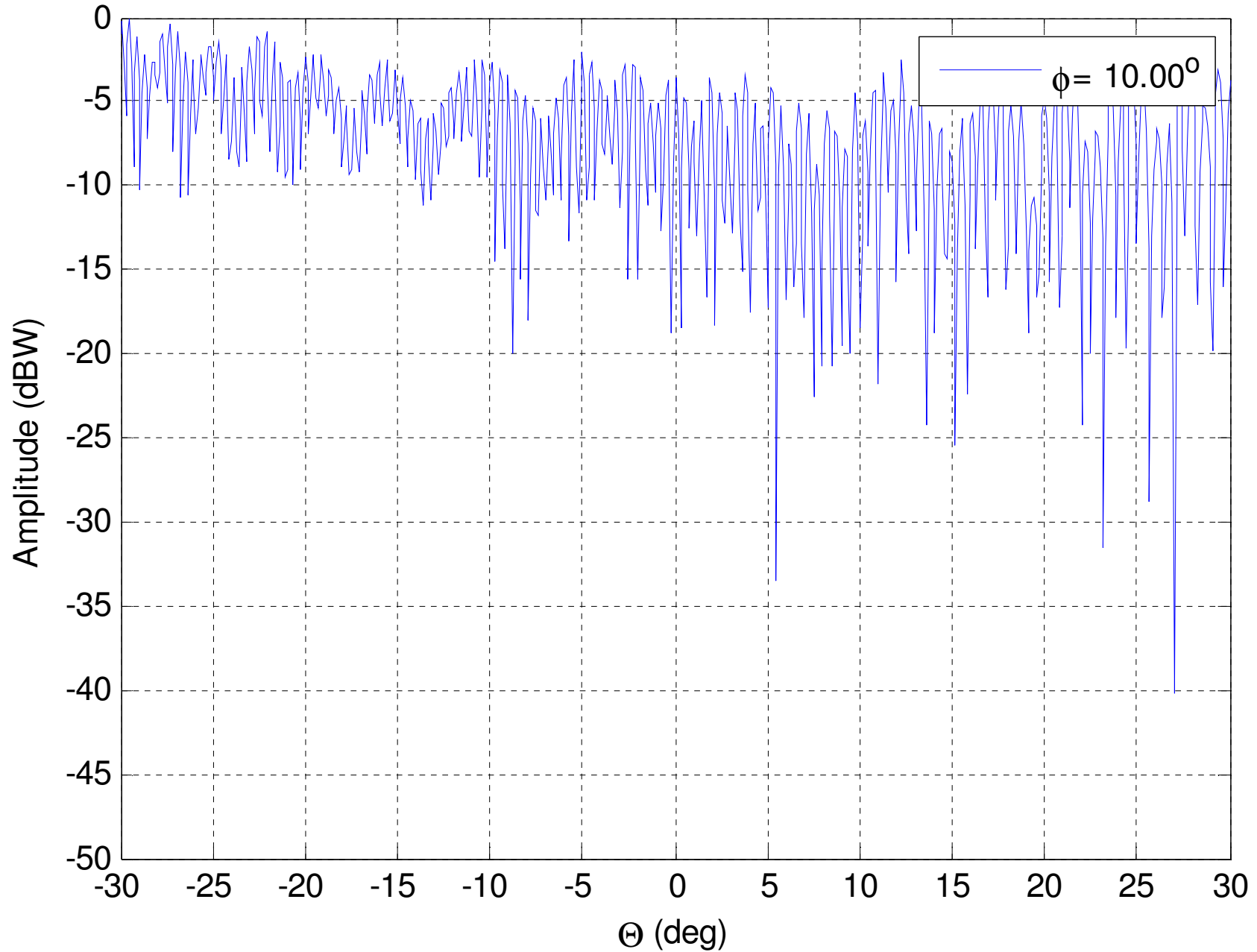
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -6.71 dBW, Date: 16-Dec-2011



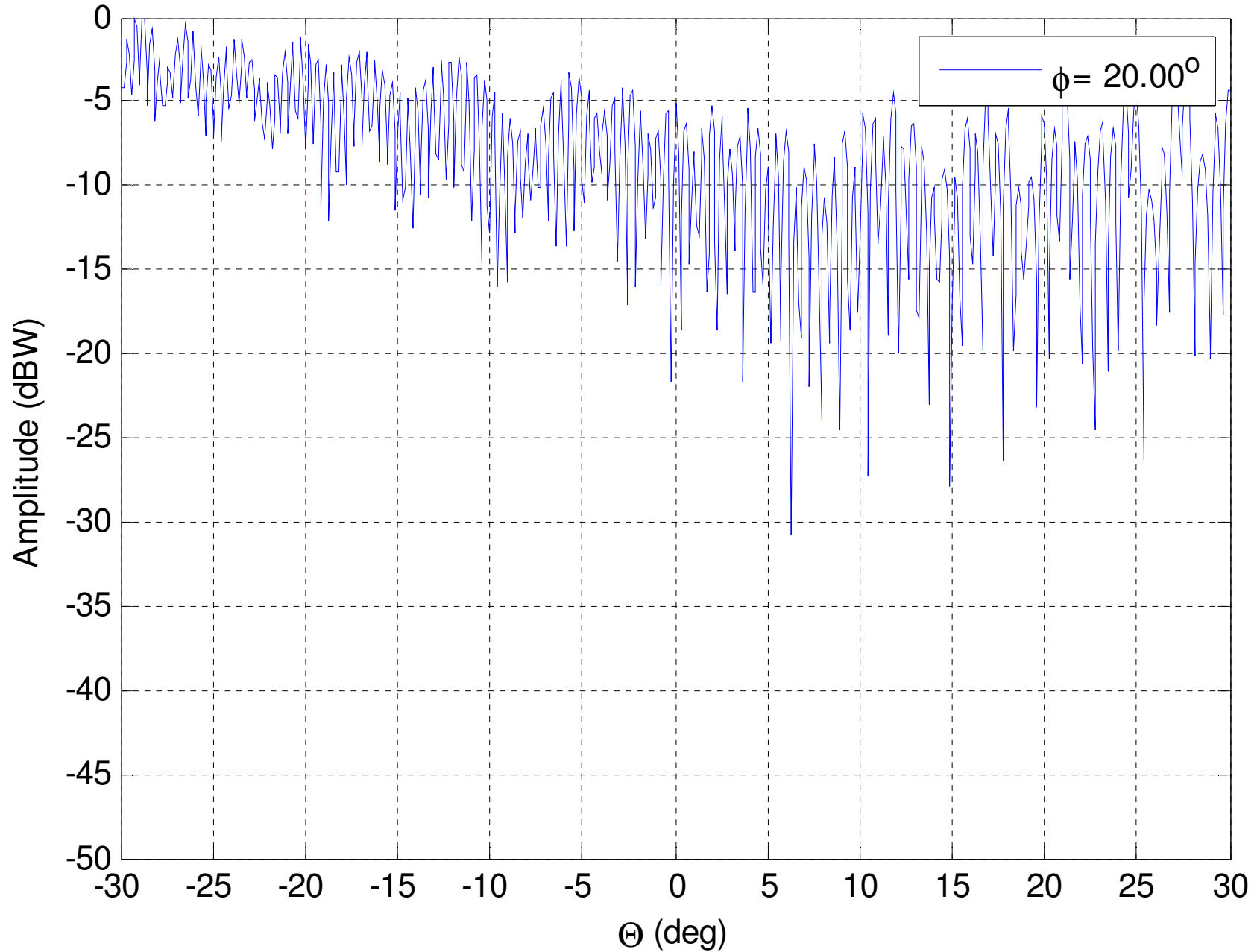
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -5.35 dBW, Date: 16-Dec-2011



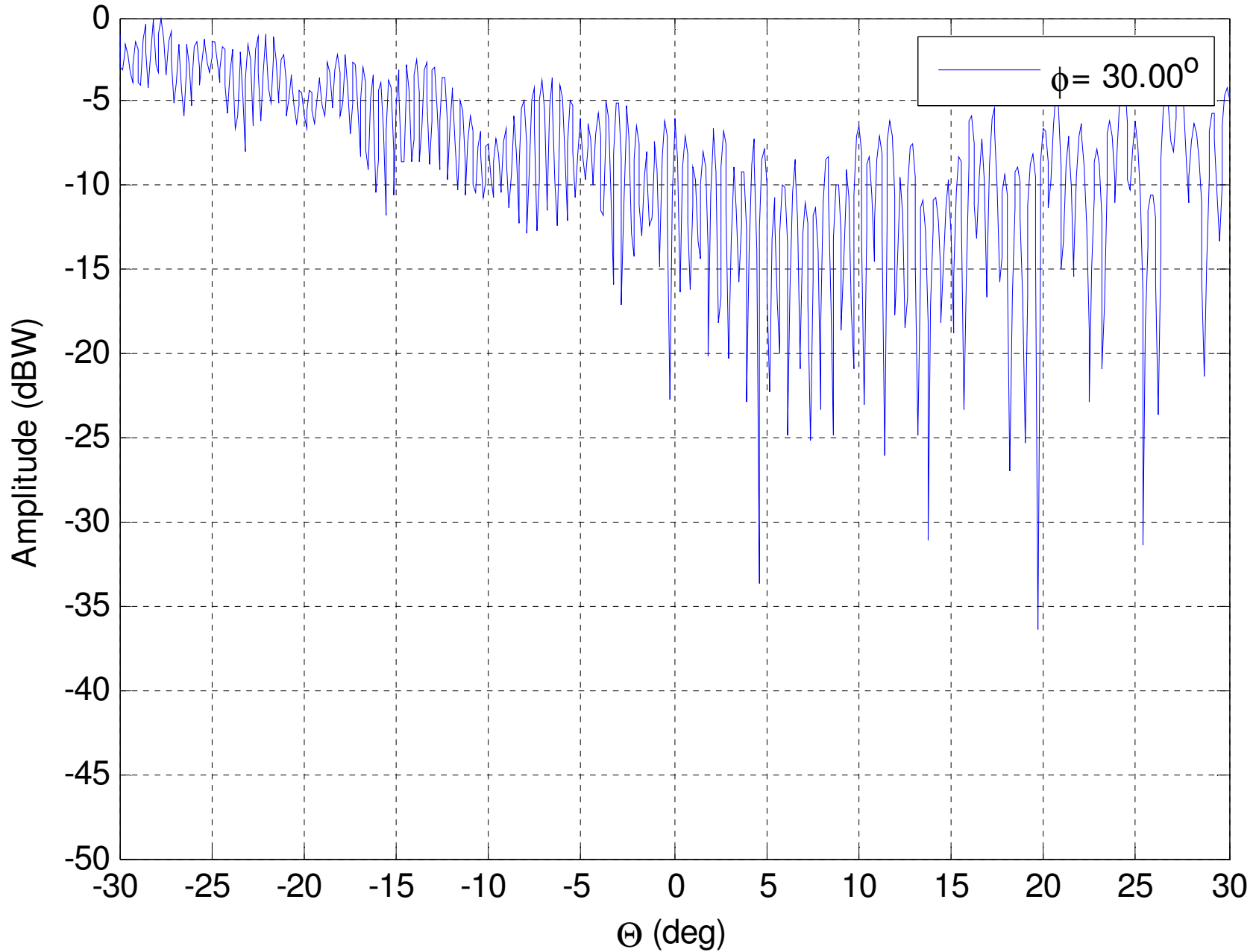
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -3.73 dBW, Date: 16-Dec-2011



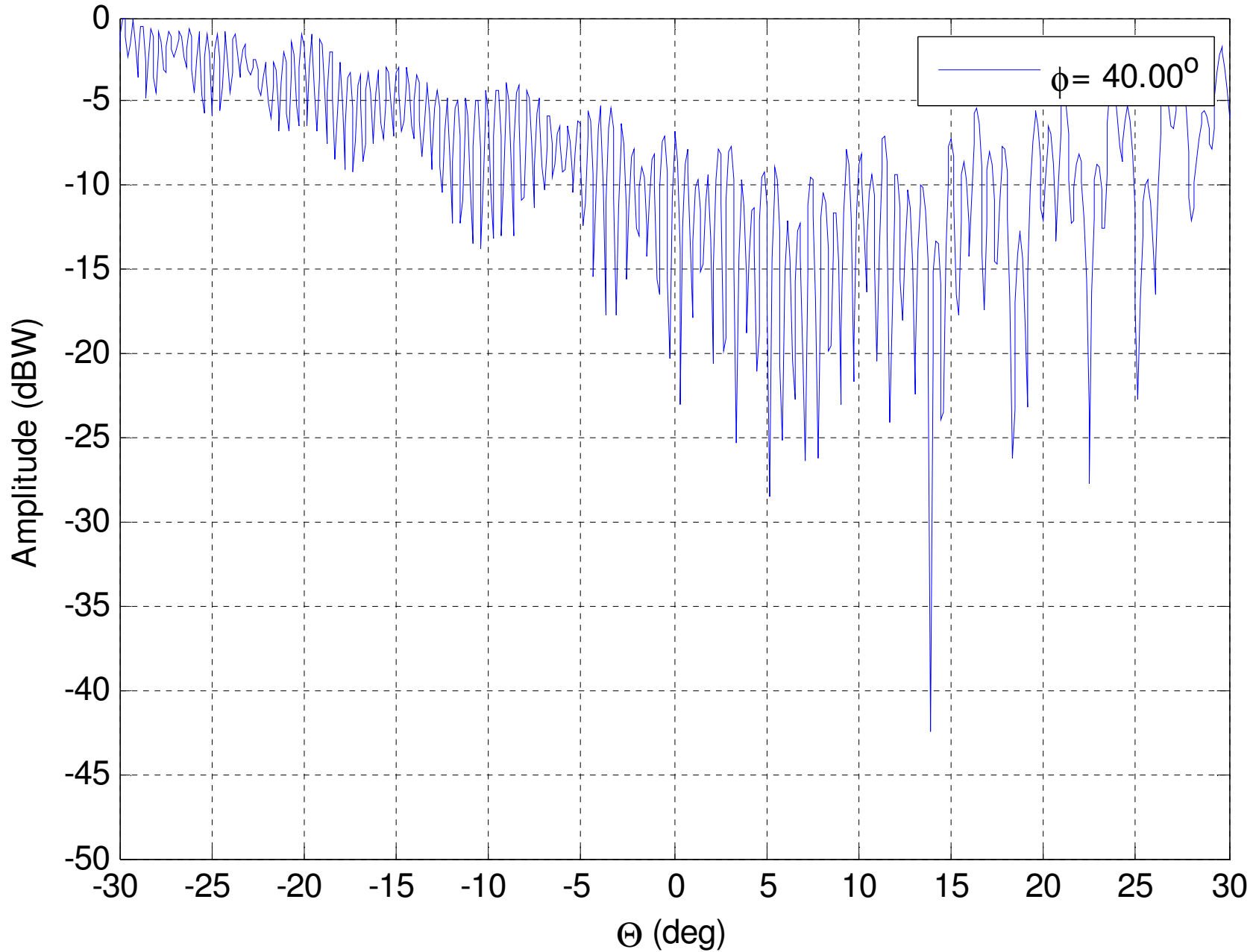
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -2.71 dBW, Date: 16-Dec-2011



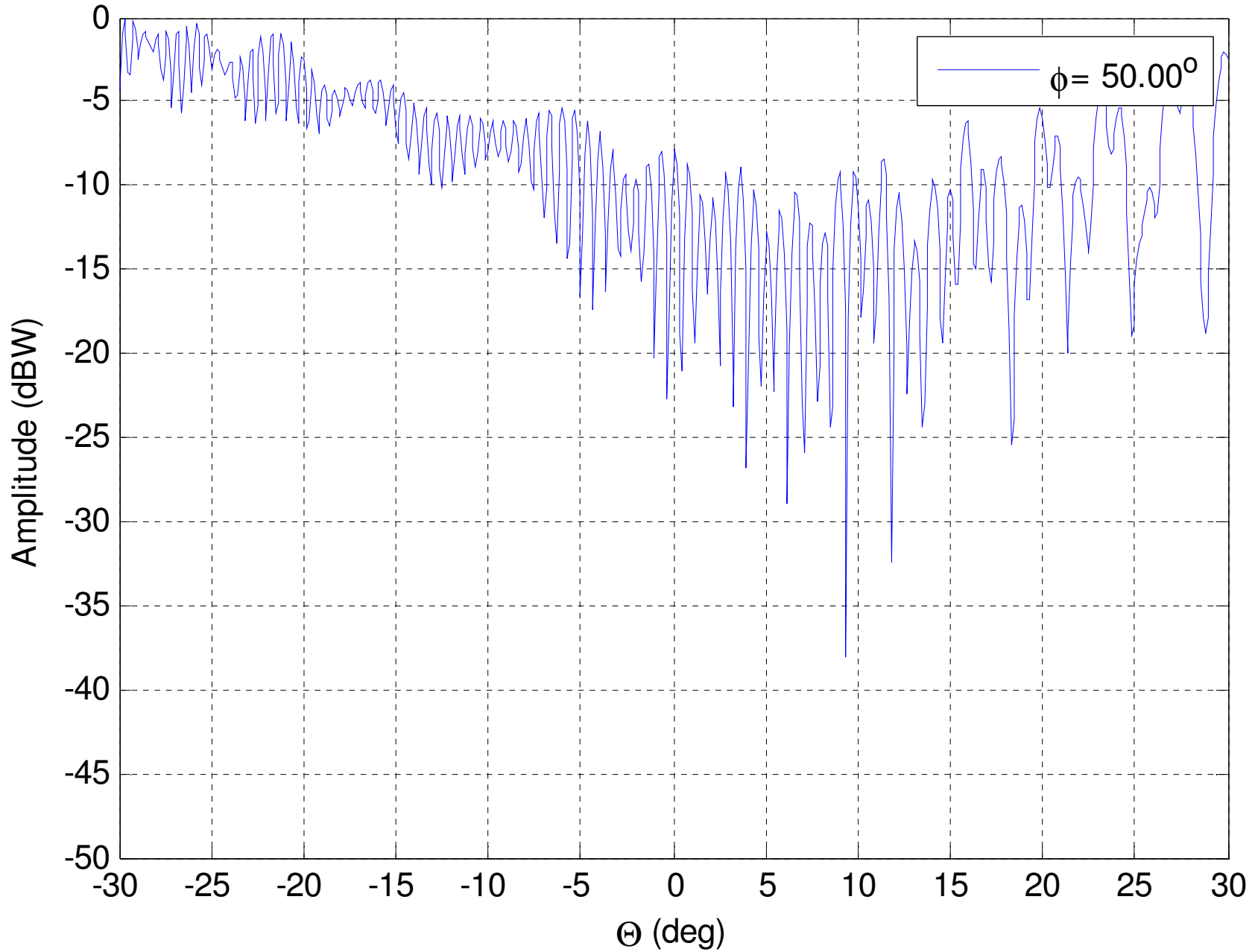
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -1.84 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

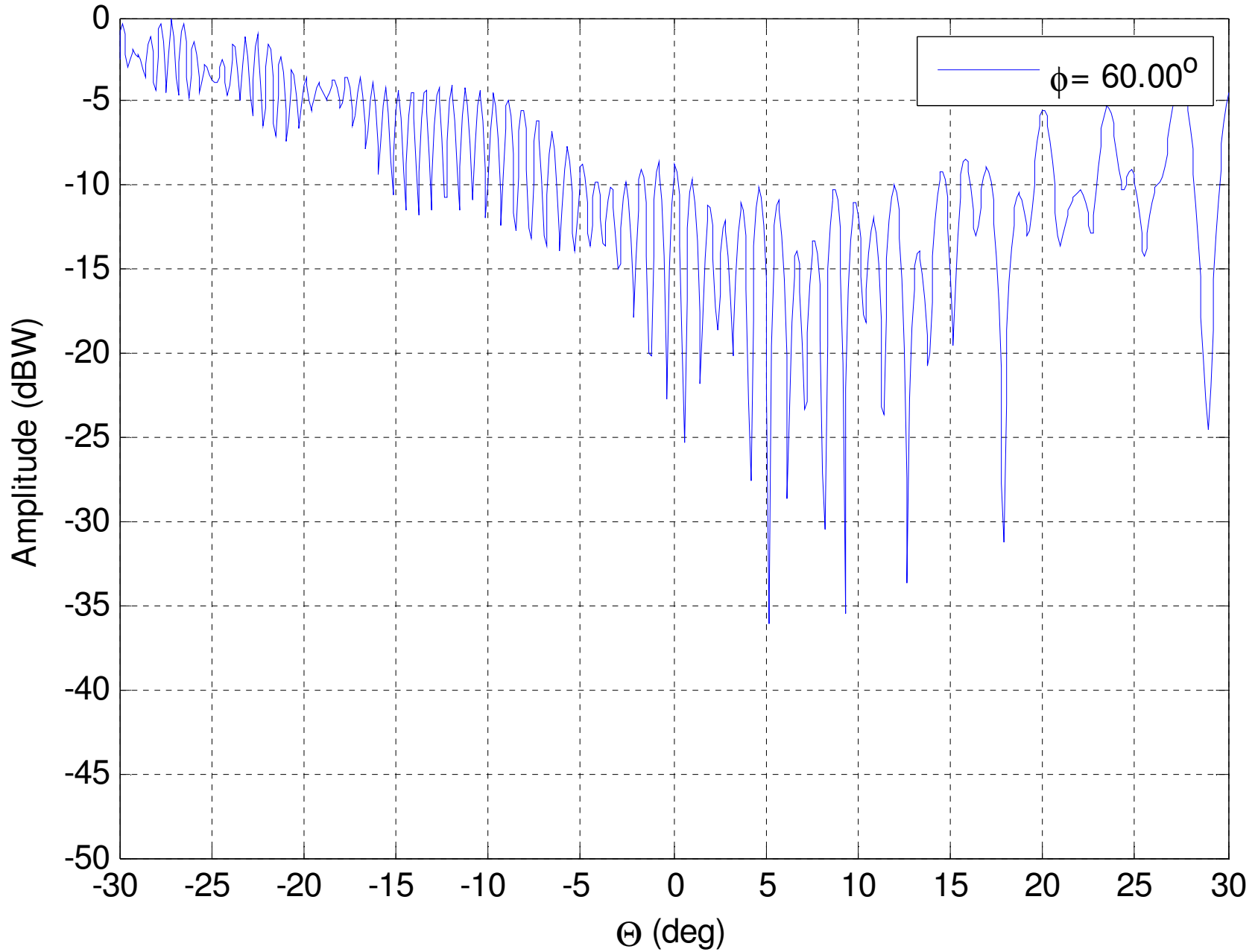
Input file: tx-17.7-rhcp-50.cut, Peak: -0.79 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

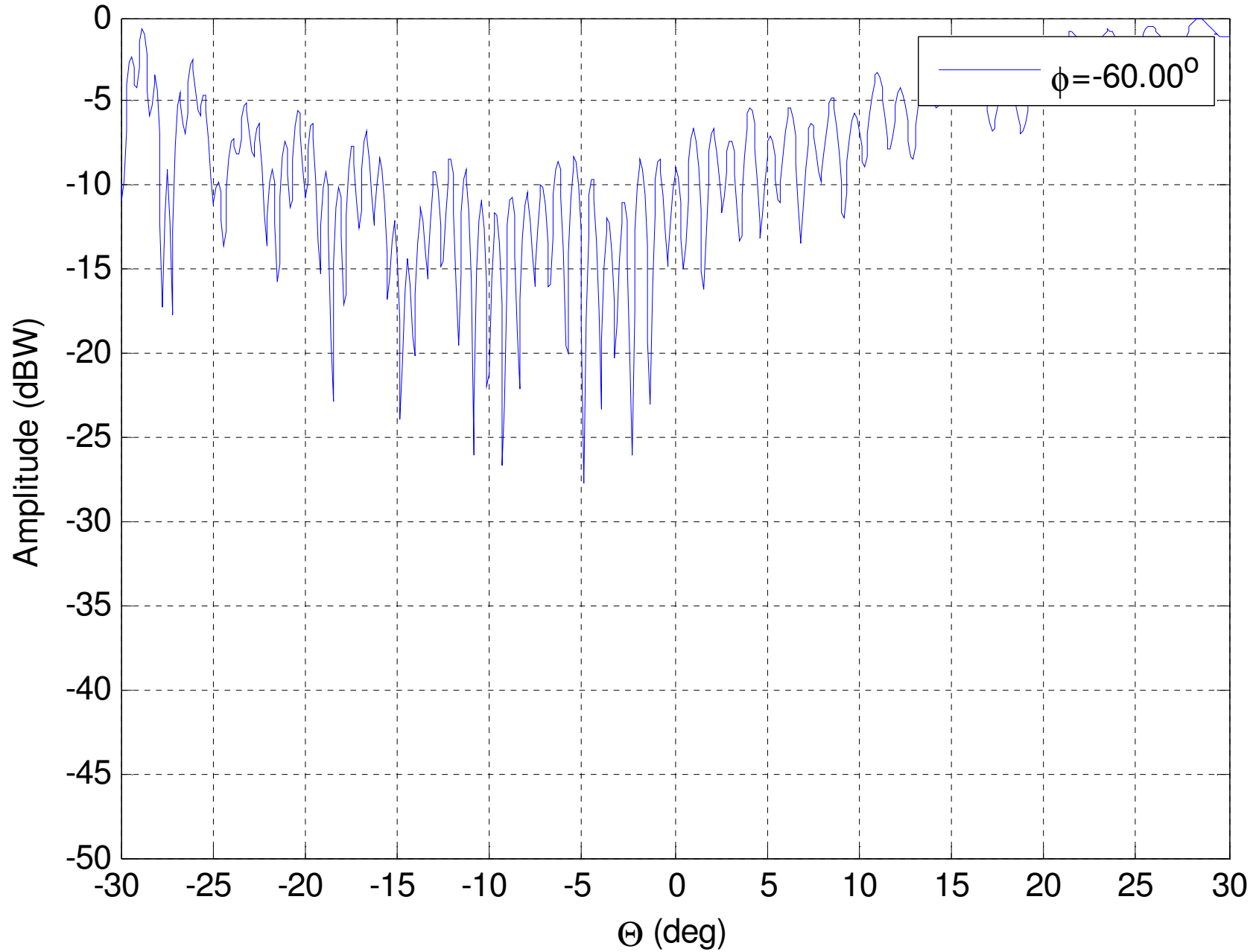
Input file: tx-17.7-rhcp-60.cut, Peak: 0.16 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

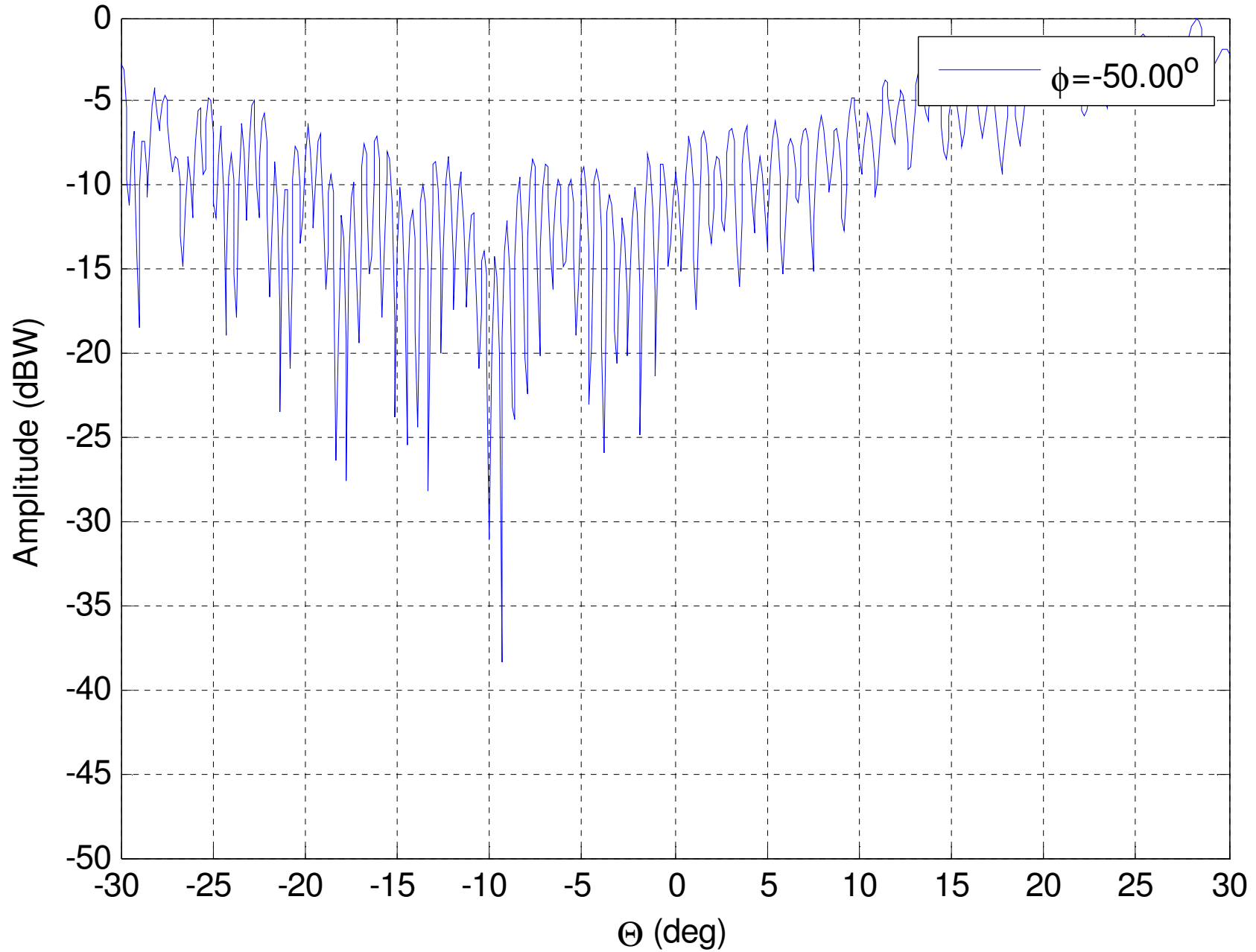
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -1.44 dBW, Date: 16-Dec-2011



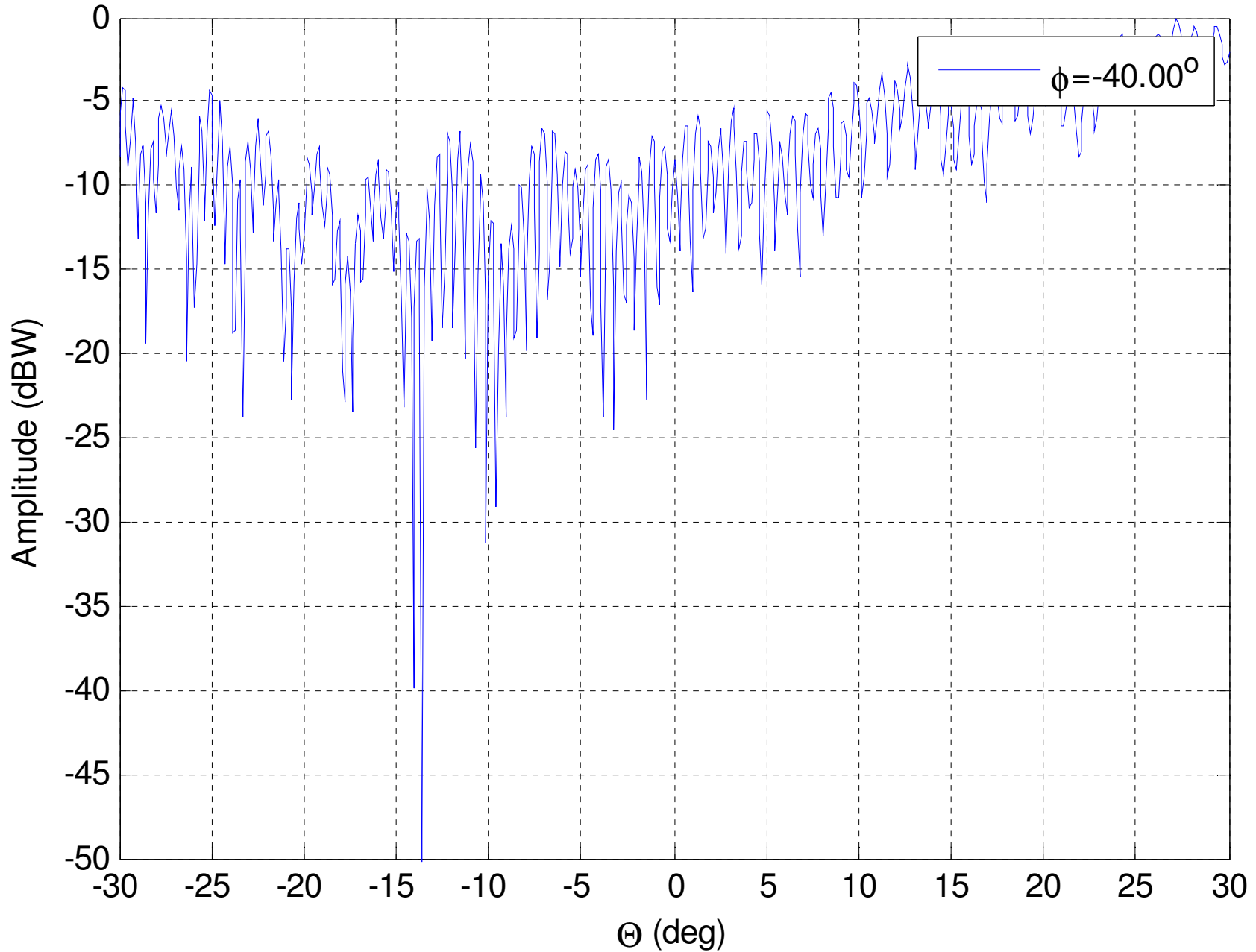
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -1.23 dBW, Date: 16-Dec-2011



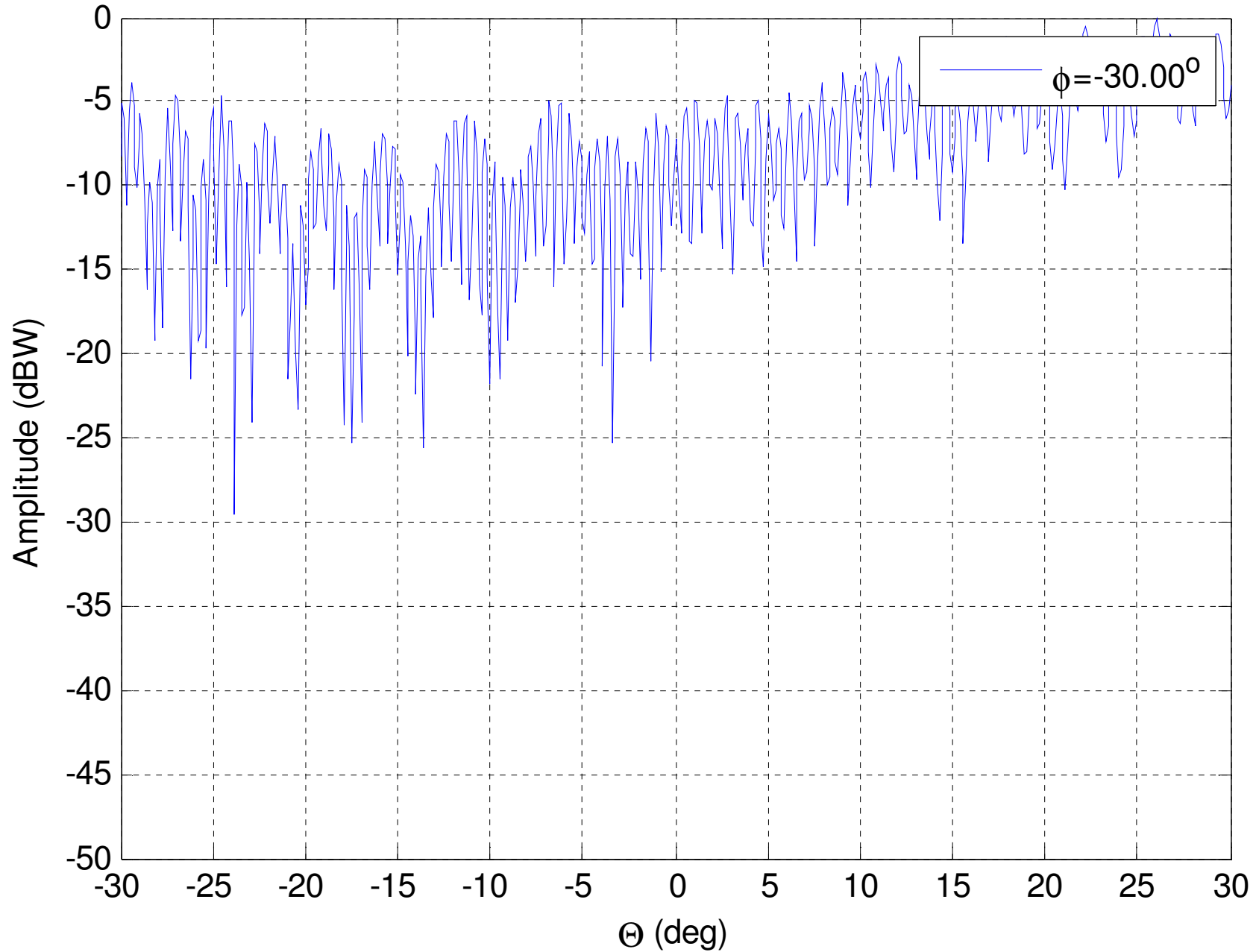
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -2.18 dBW, Date: 16-Dec-2011



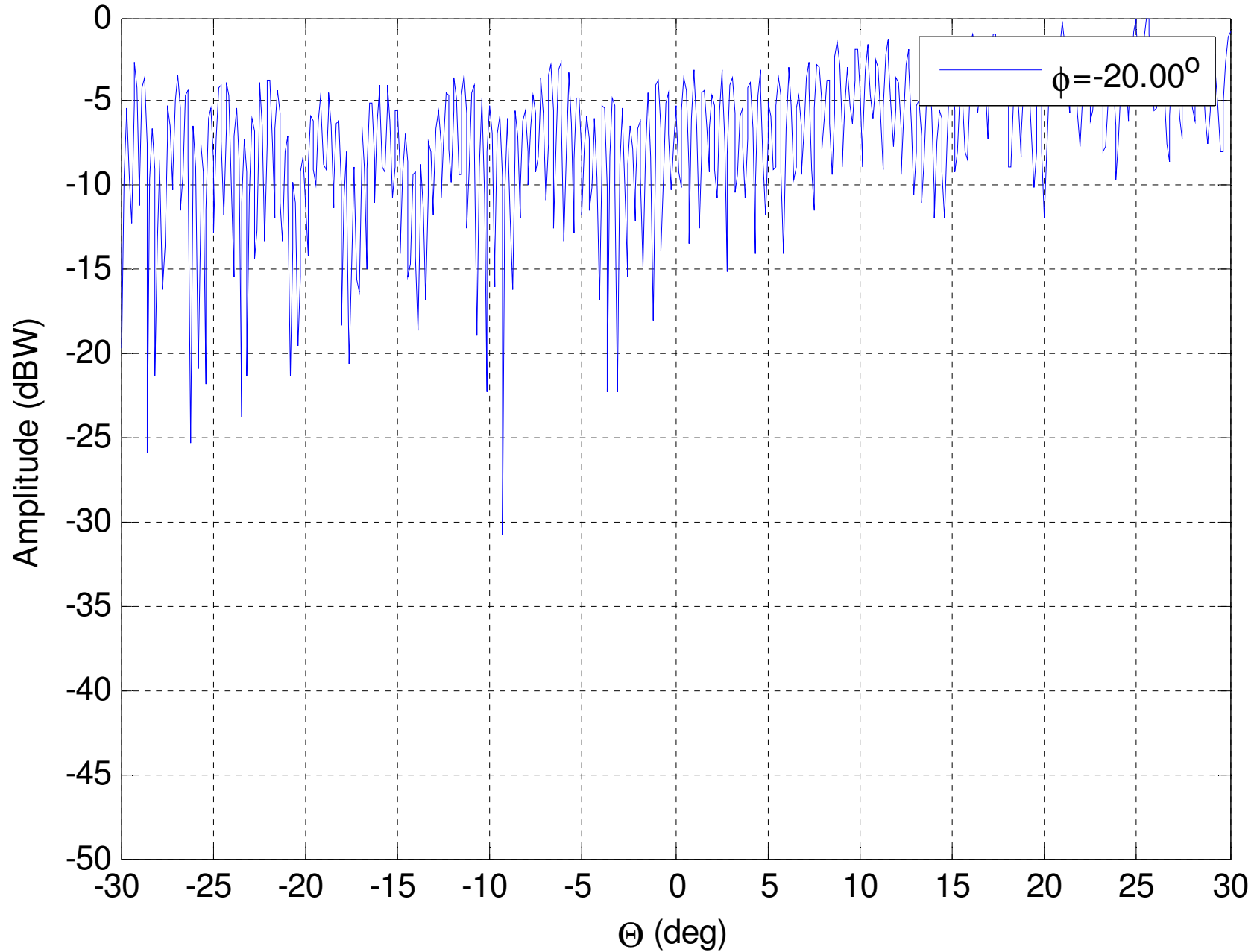
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -3.34 dBW, Date: 16-Dec-2011



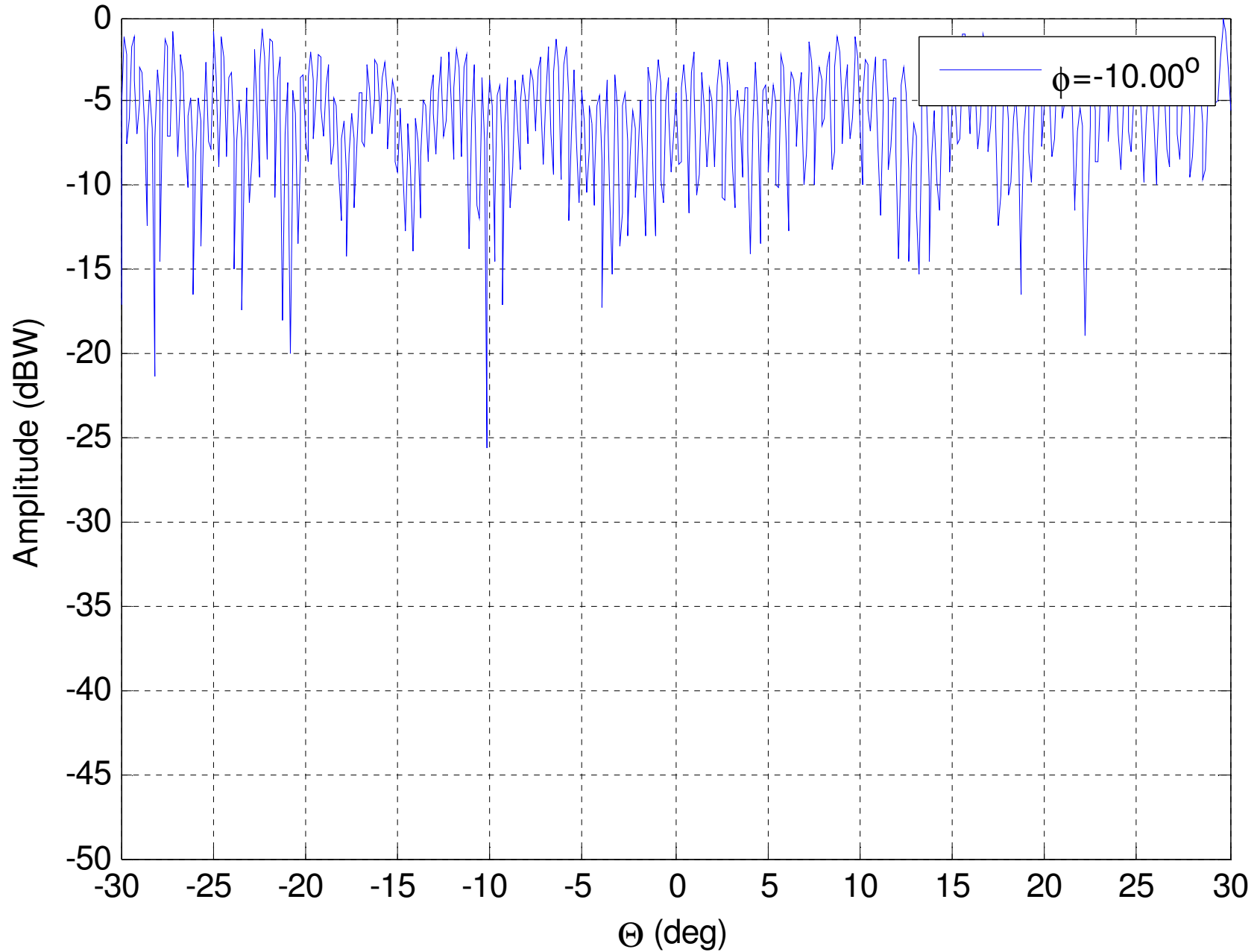
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -5.33 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

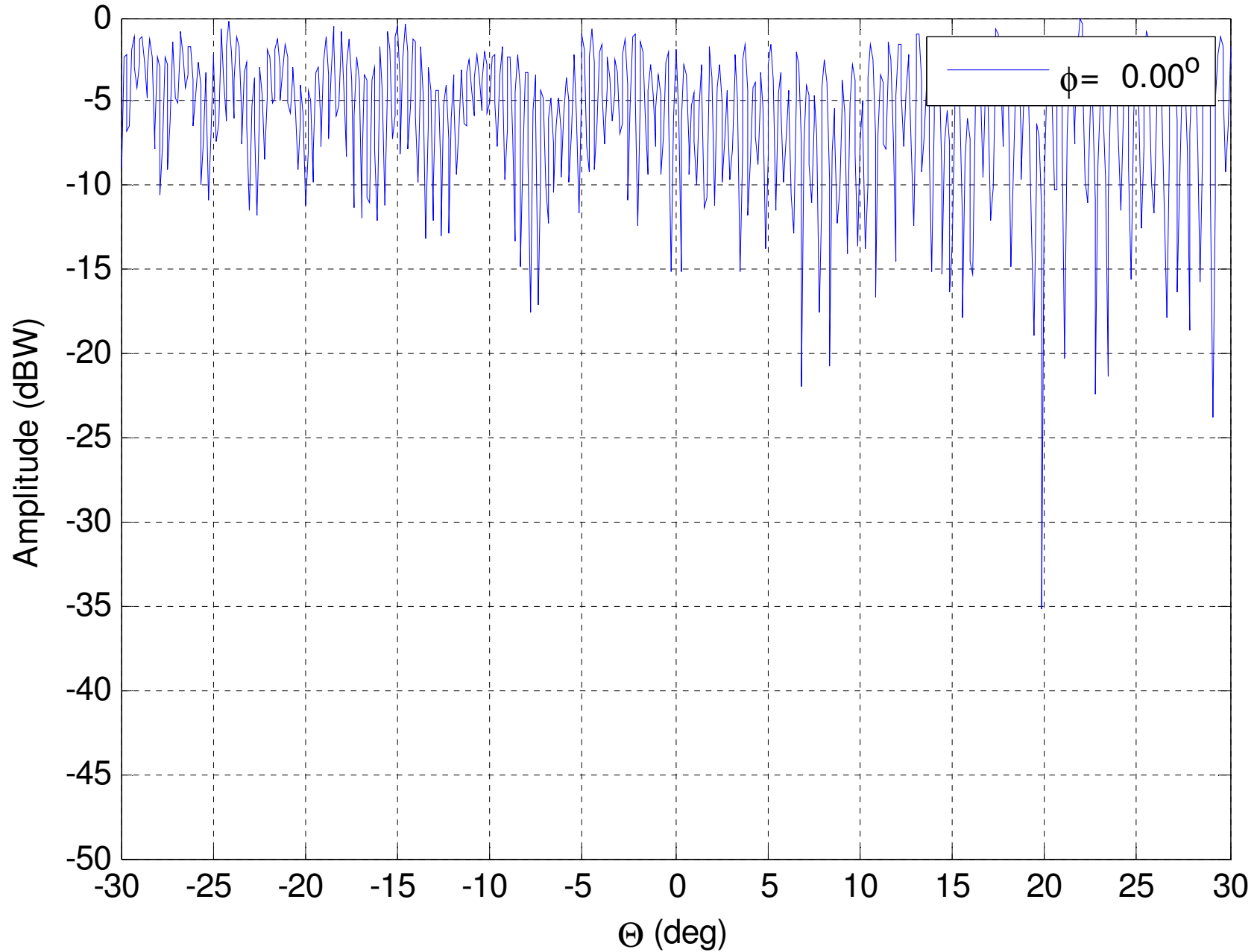
Input file: tx-17.7-lhcp--10.cut, Peak: -6.15 dBW, Date: 16-Dec-2011





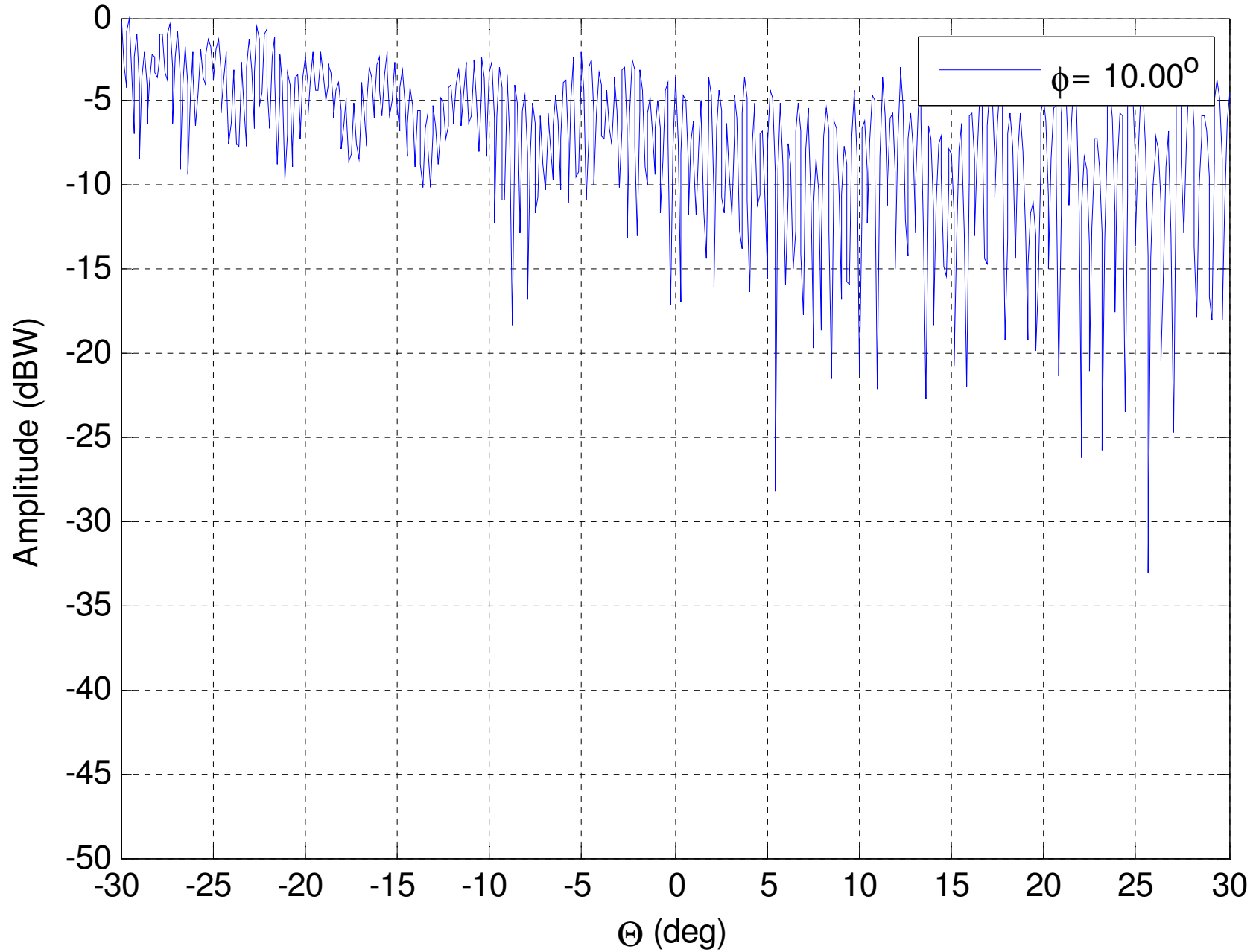
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -6.47 dBW, Date: 16-Dec-2011



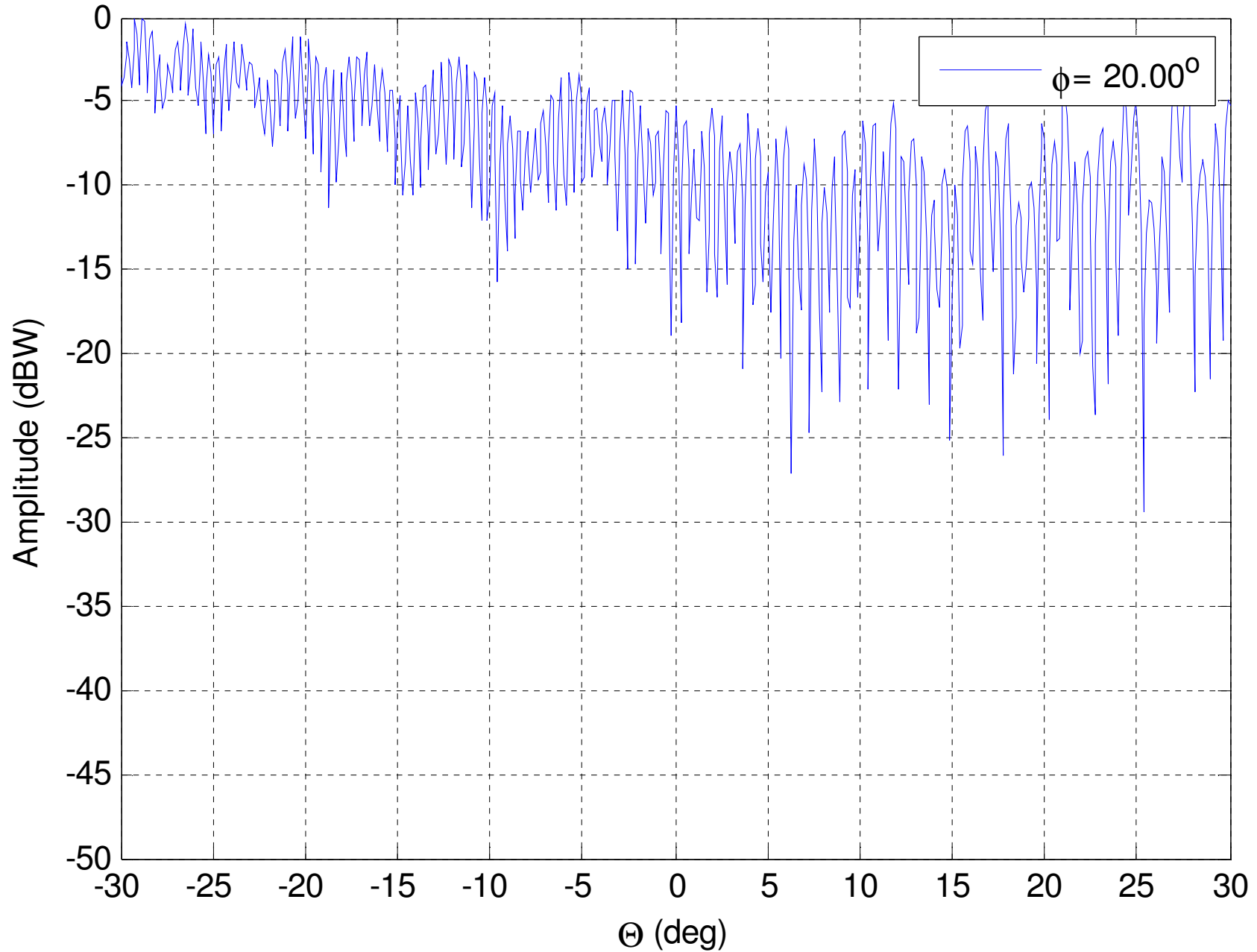
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -4.72 dBW, Date: 16-Dec-2011



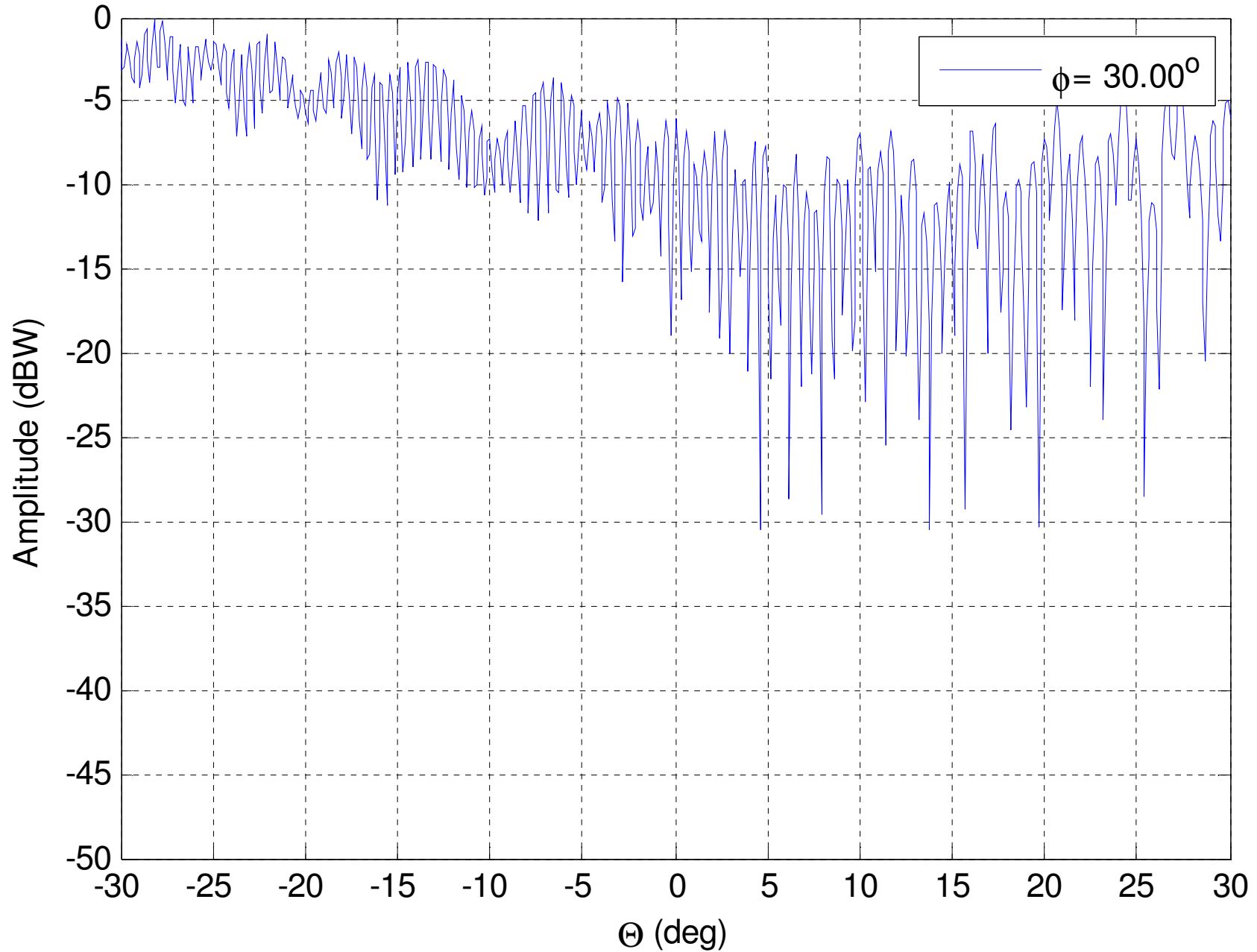
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -3.04 dBW, Date: 16-Dec-2011



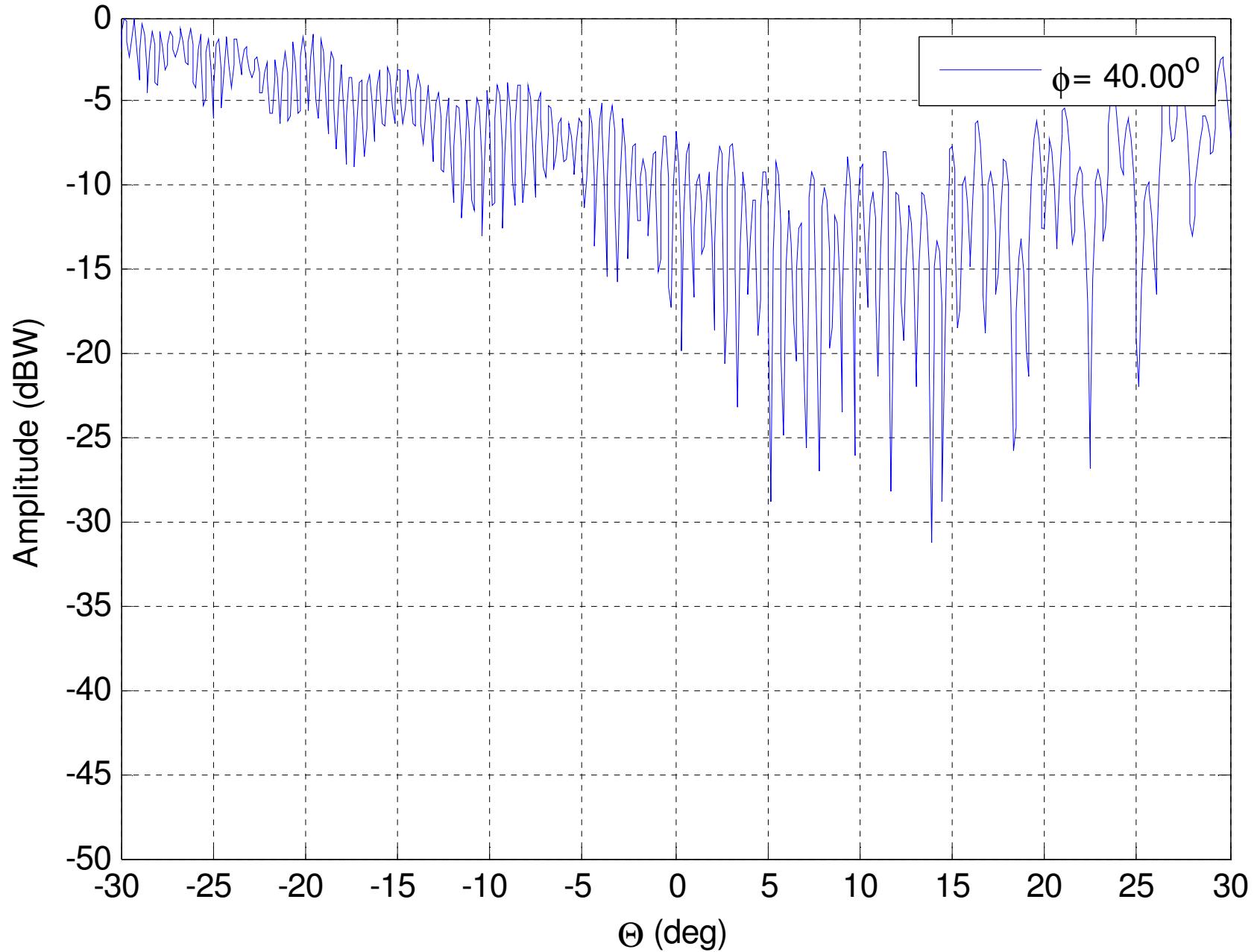
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -2.08 dBW, Date: 16-Dec-2011



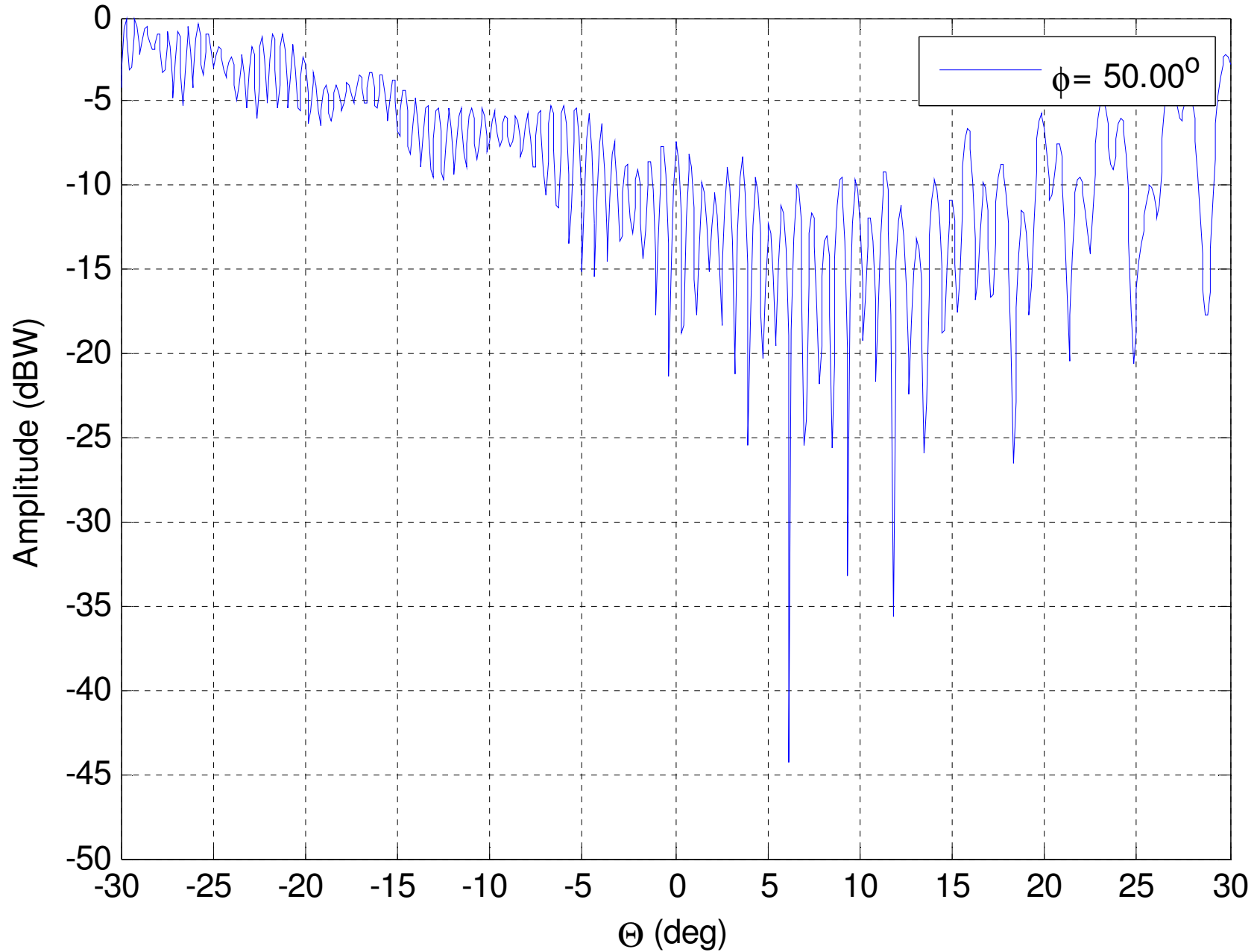
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -1.32 dBW, Date: 16-Dec-2011



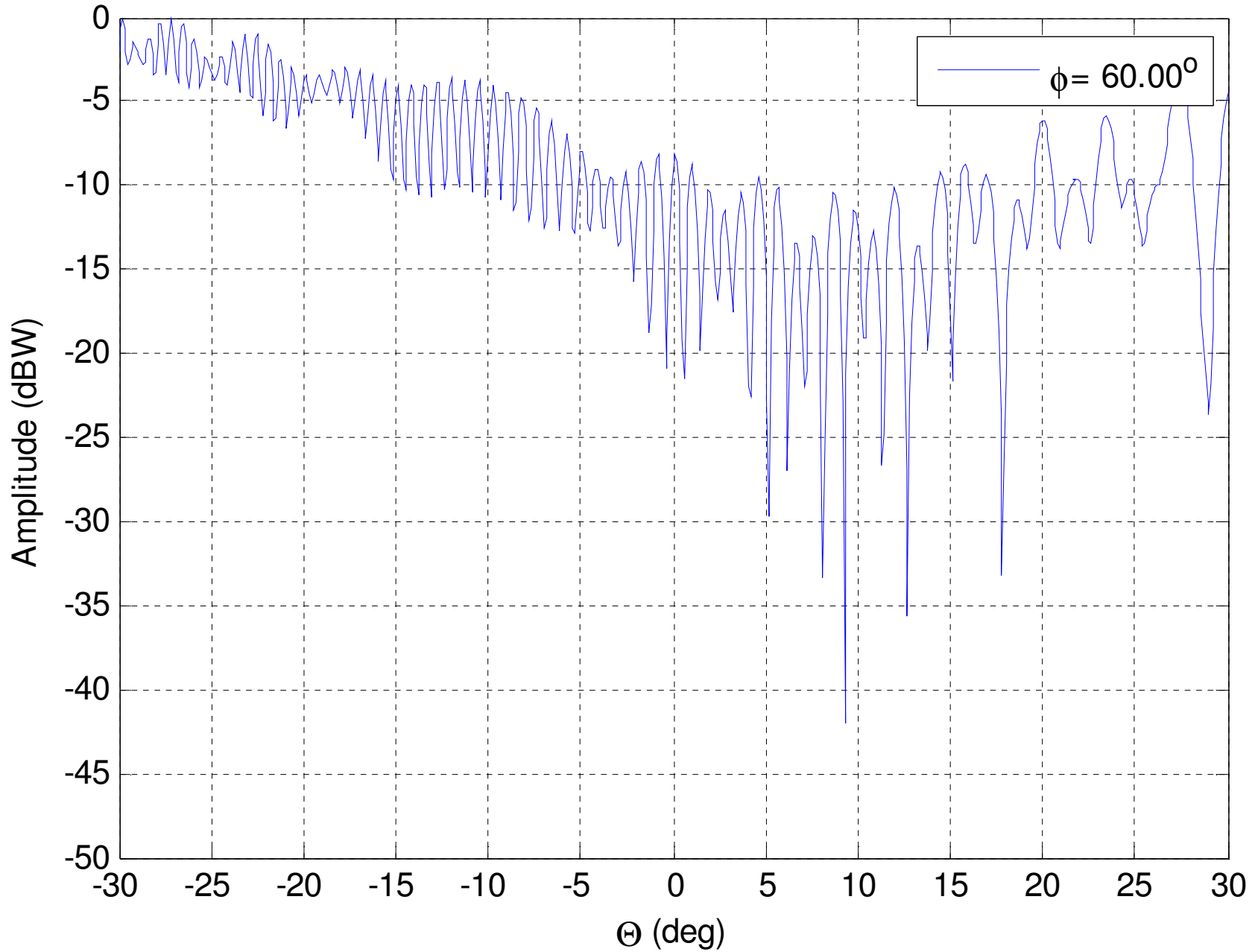
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -0.52 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: 0.22 dBW, Date: 16-Dec-2011



# Spot Beam52, +X Axis Plots

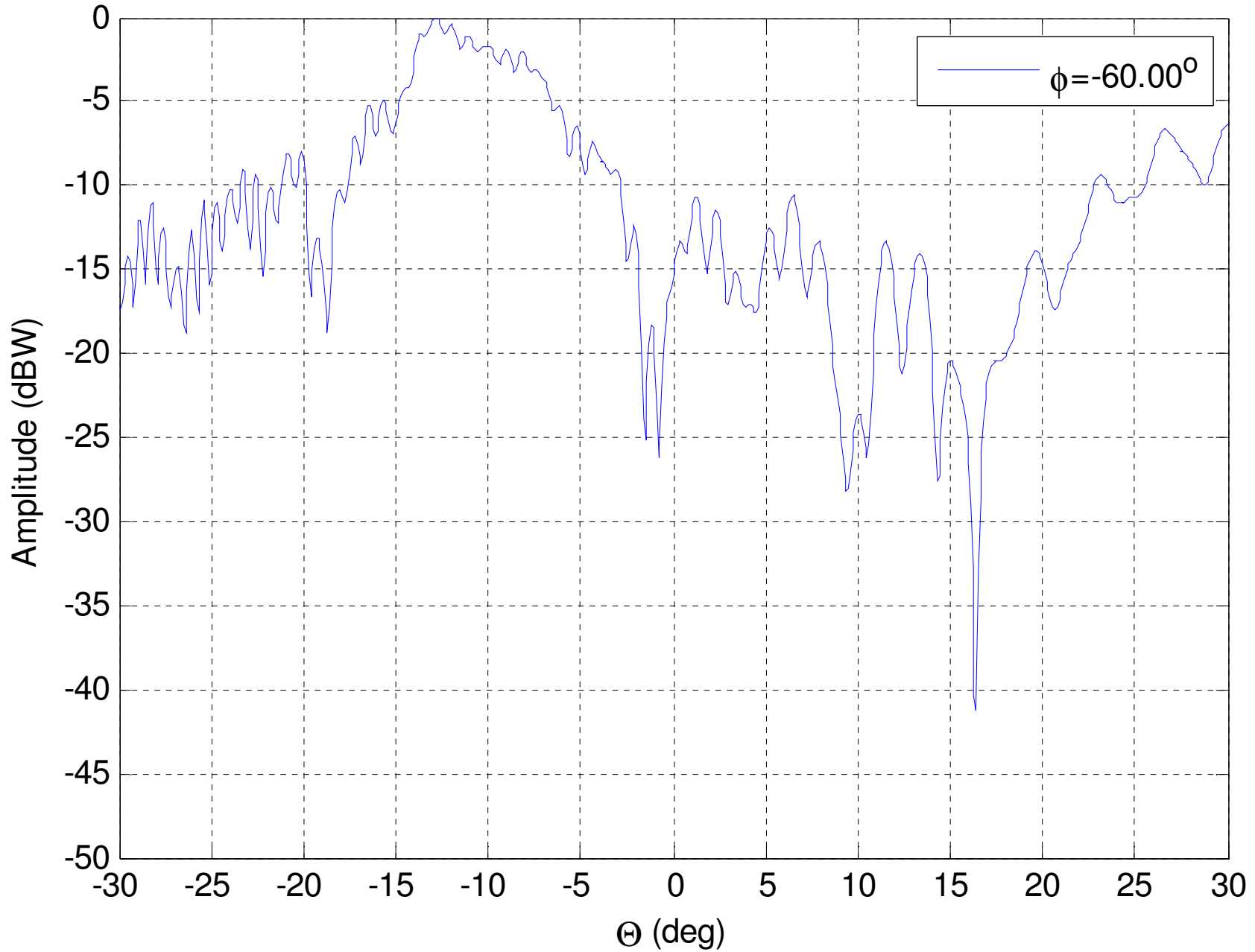
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : = +X-axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP



**RHCP at 17.3 GHz**

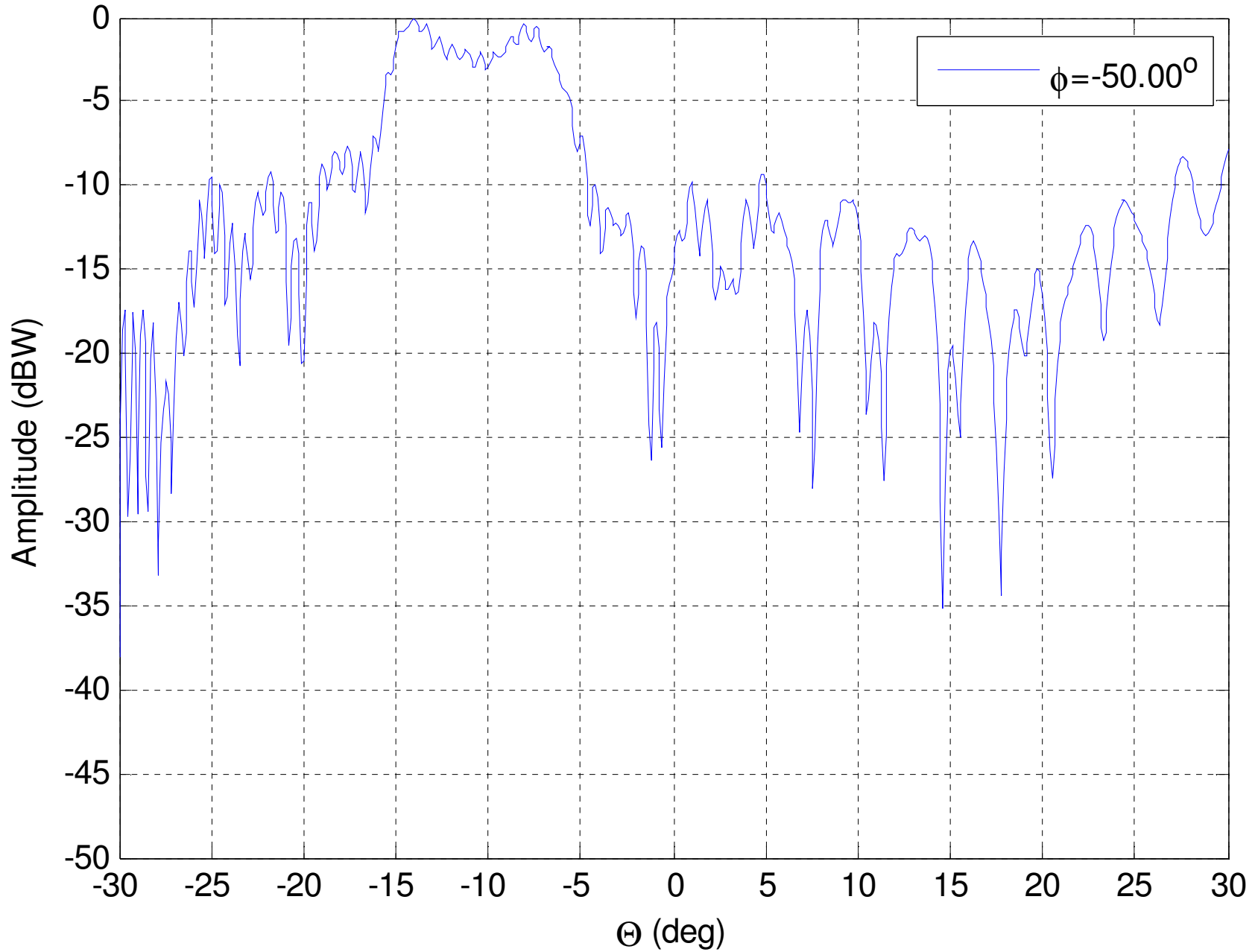
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -0.08 dBW, Date: 16-Dec-2011



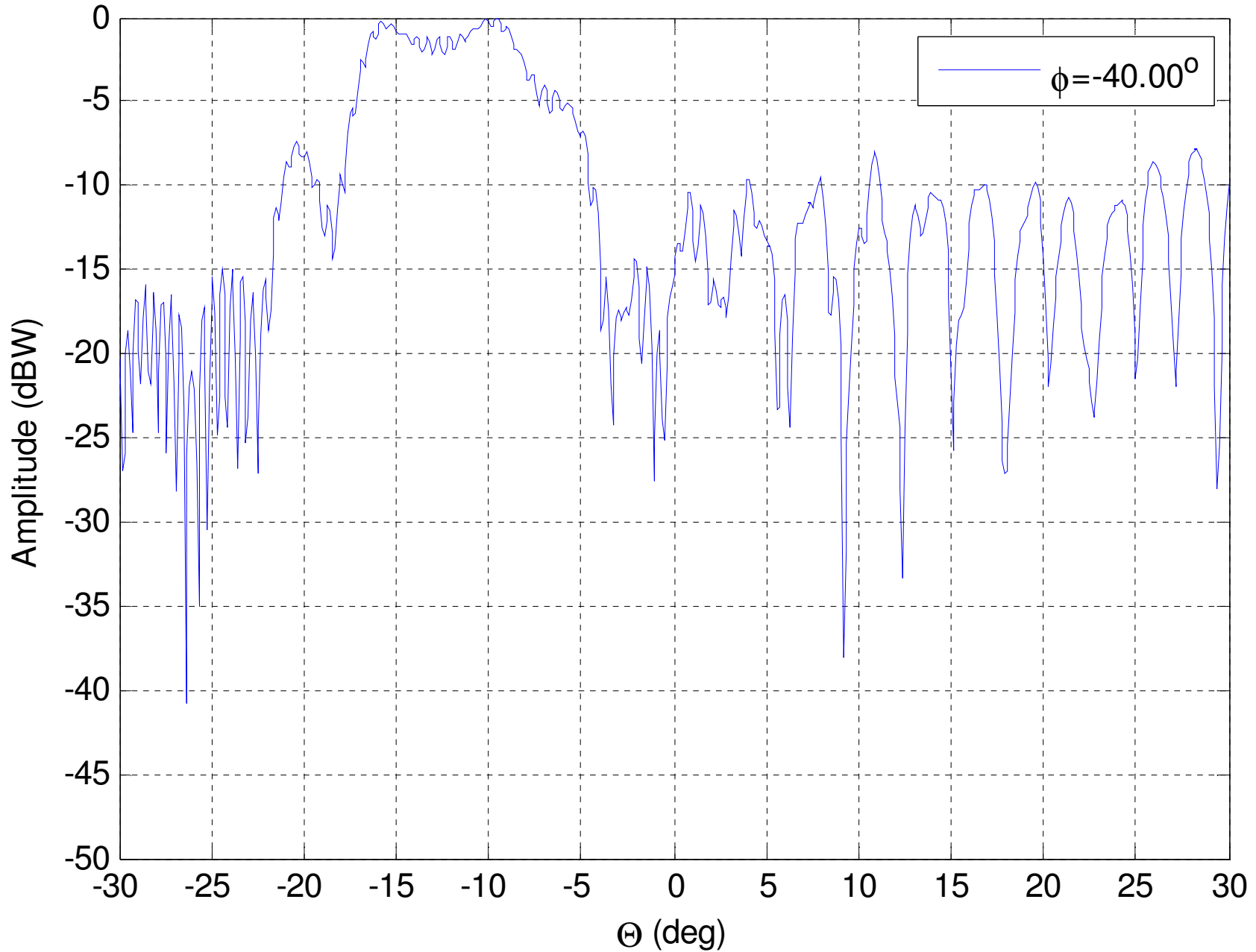
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -0.72 dBW, Date: 16-Dec-2011



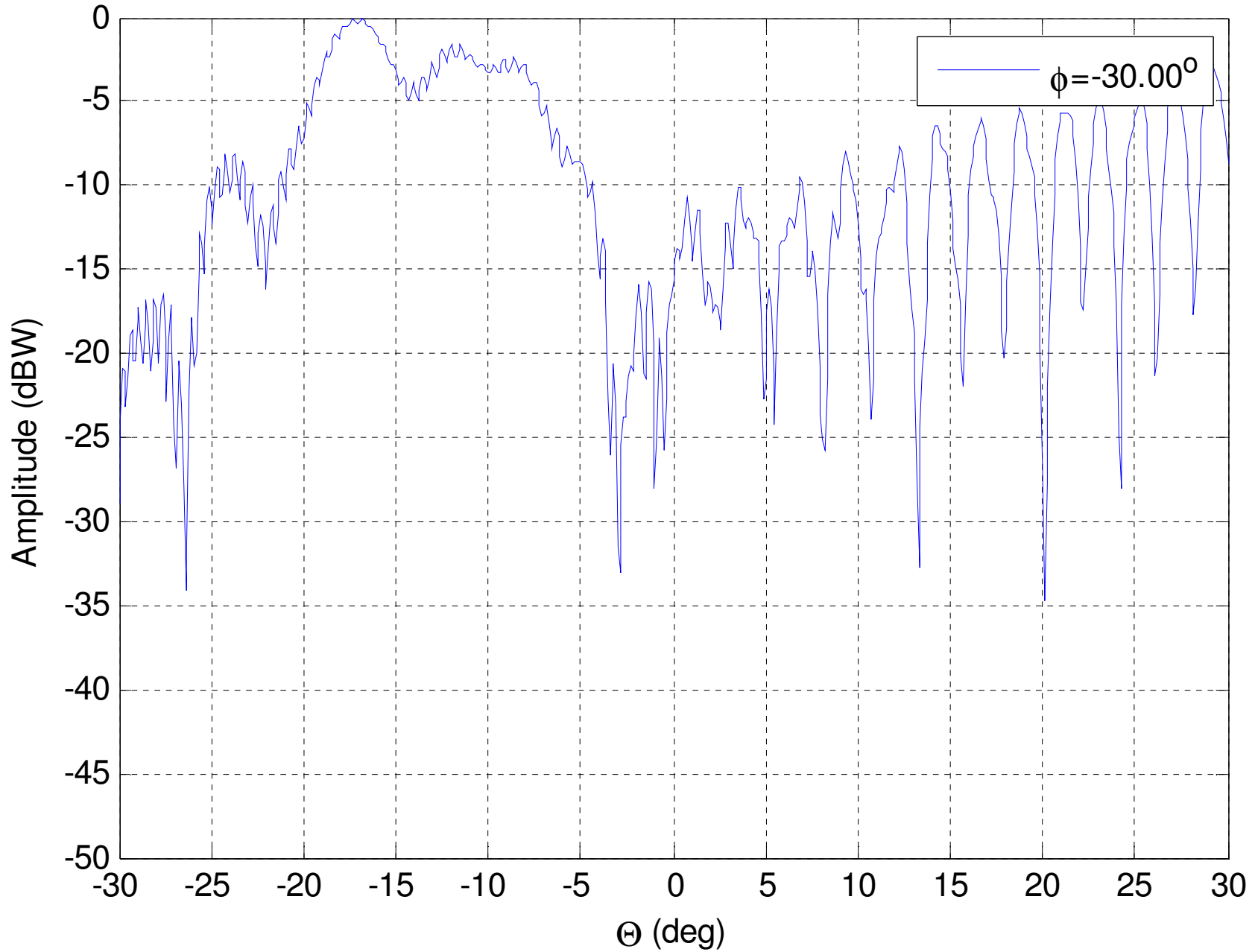
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -0.10 dBW, Date: 16-Dec-2011



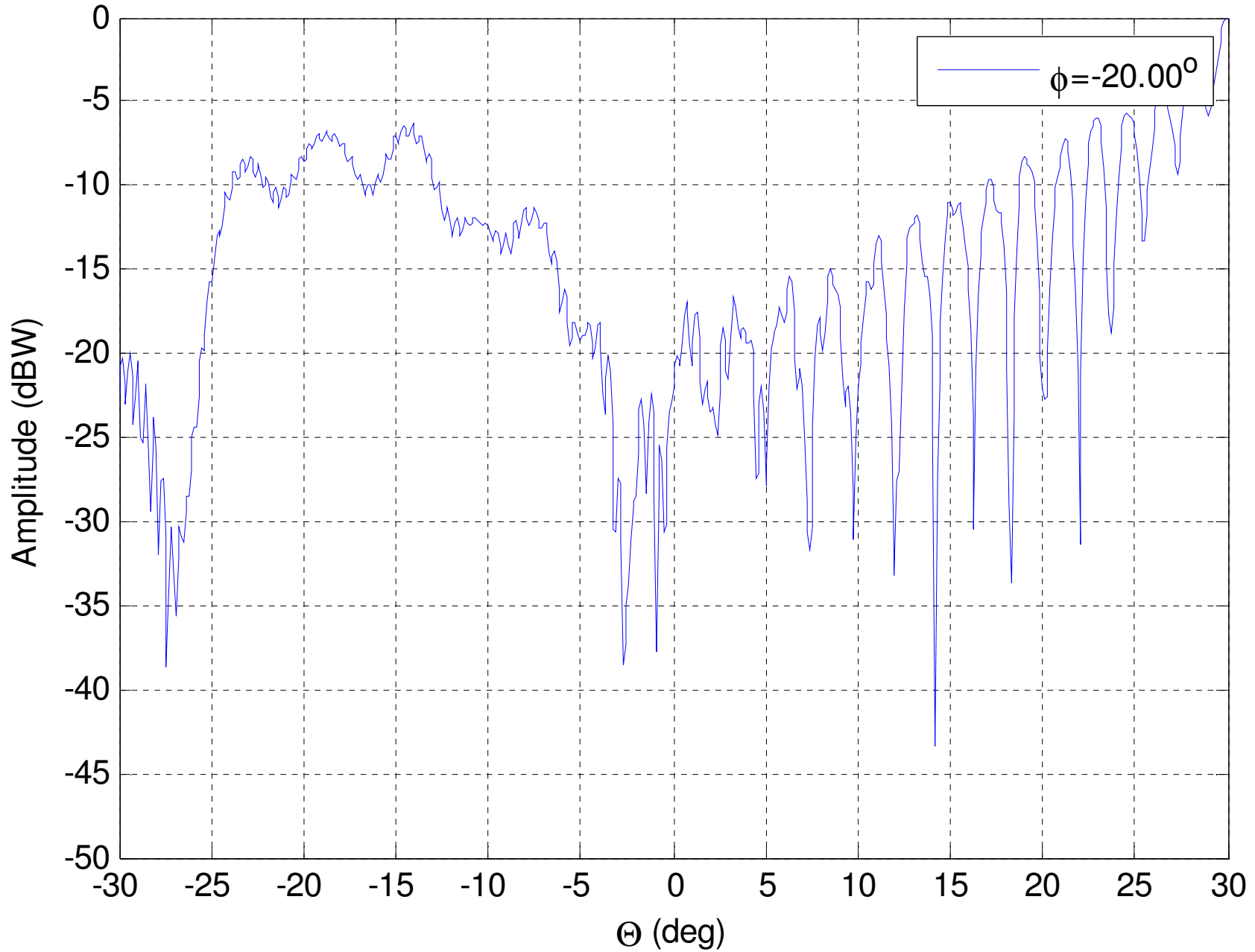
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: 0.26 dBW, Date: 16-Dec-2011



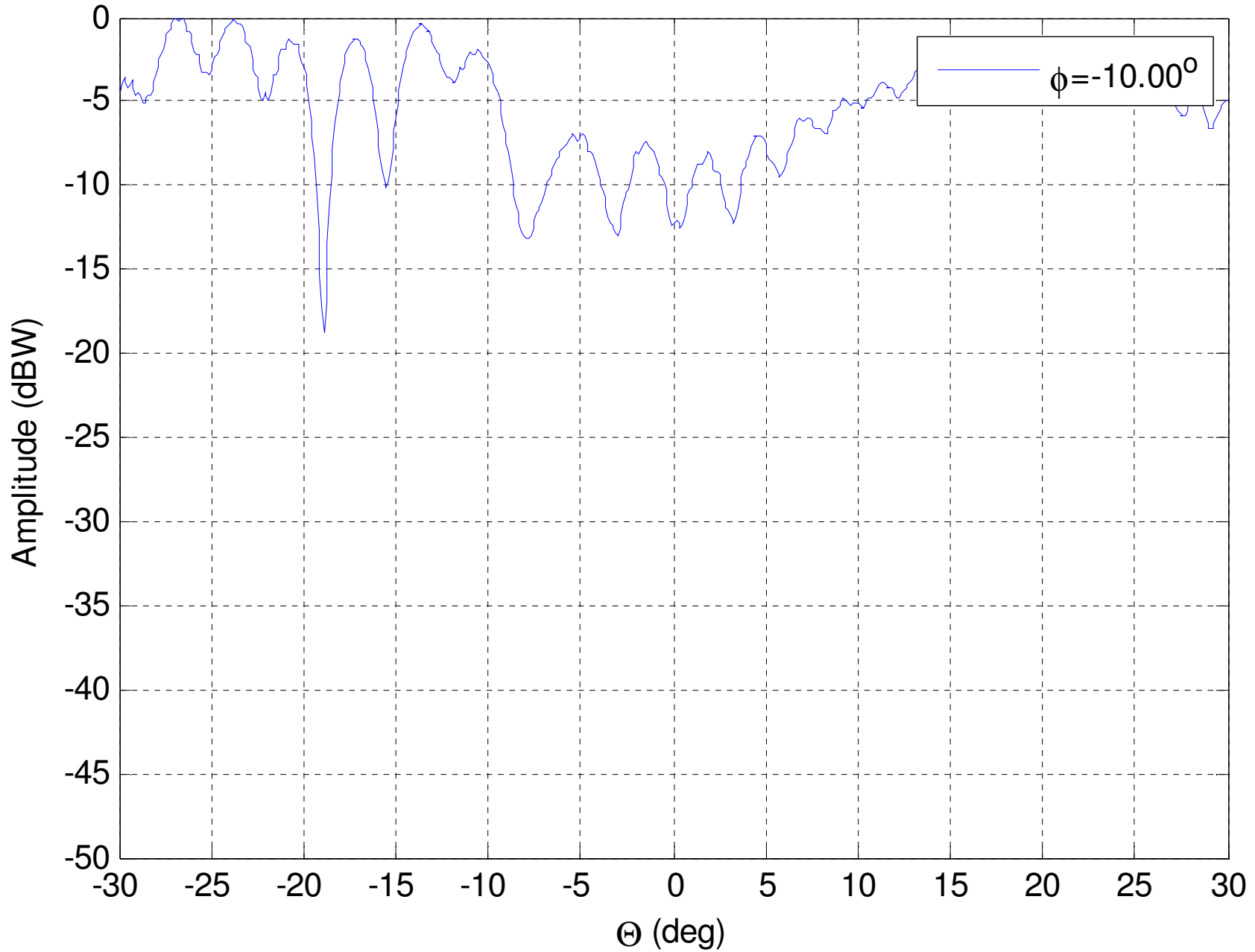
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: 6.61 dBW, Date: 16-Dec-2011



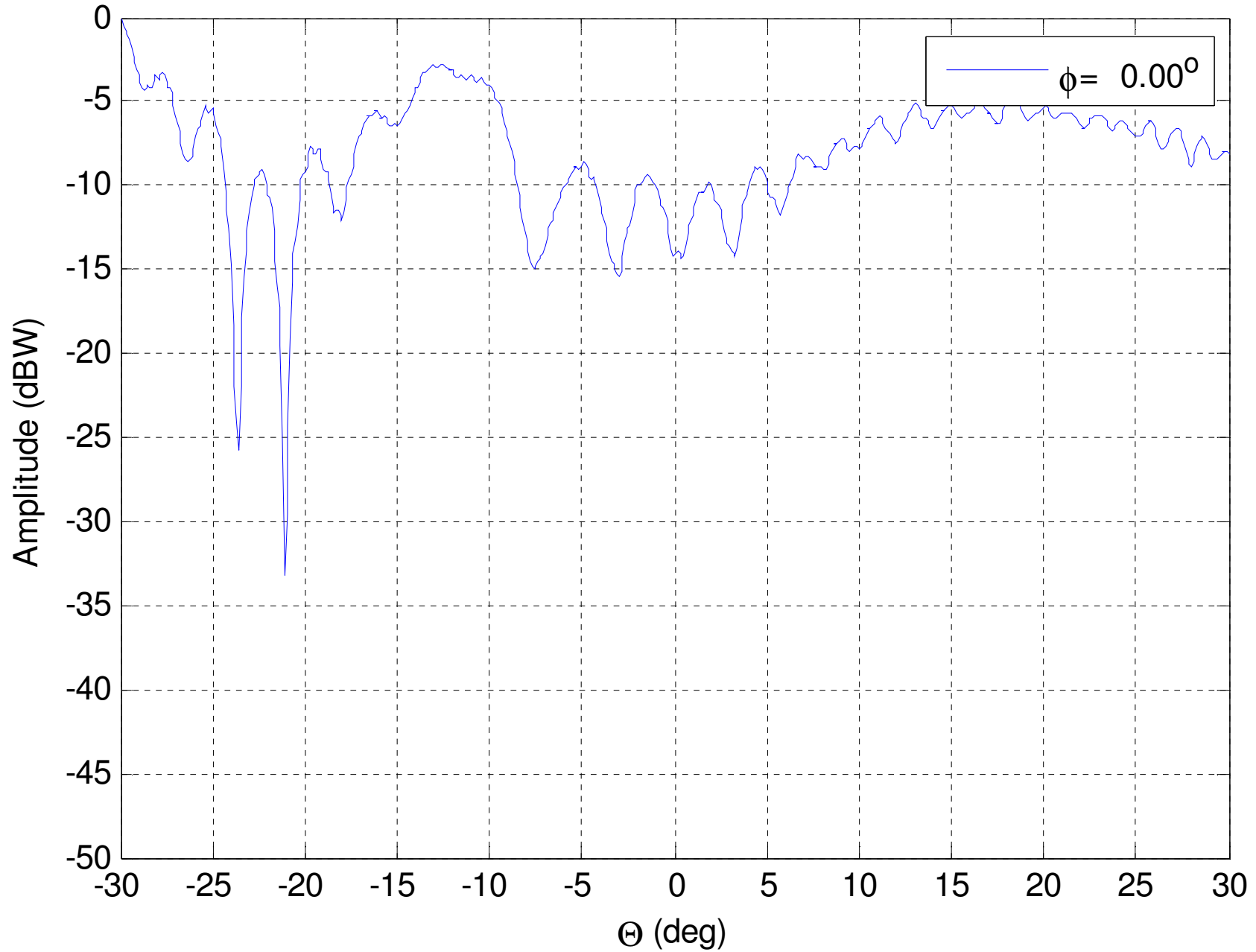
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: 7.87 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

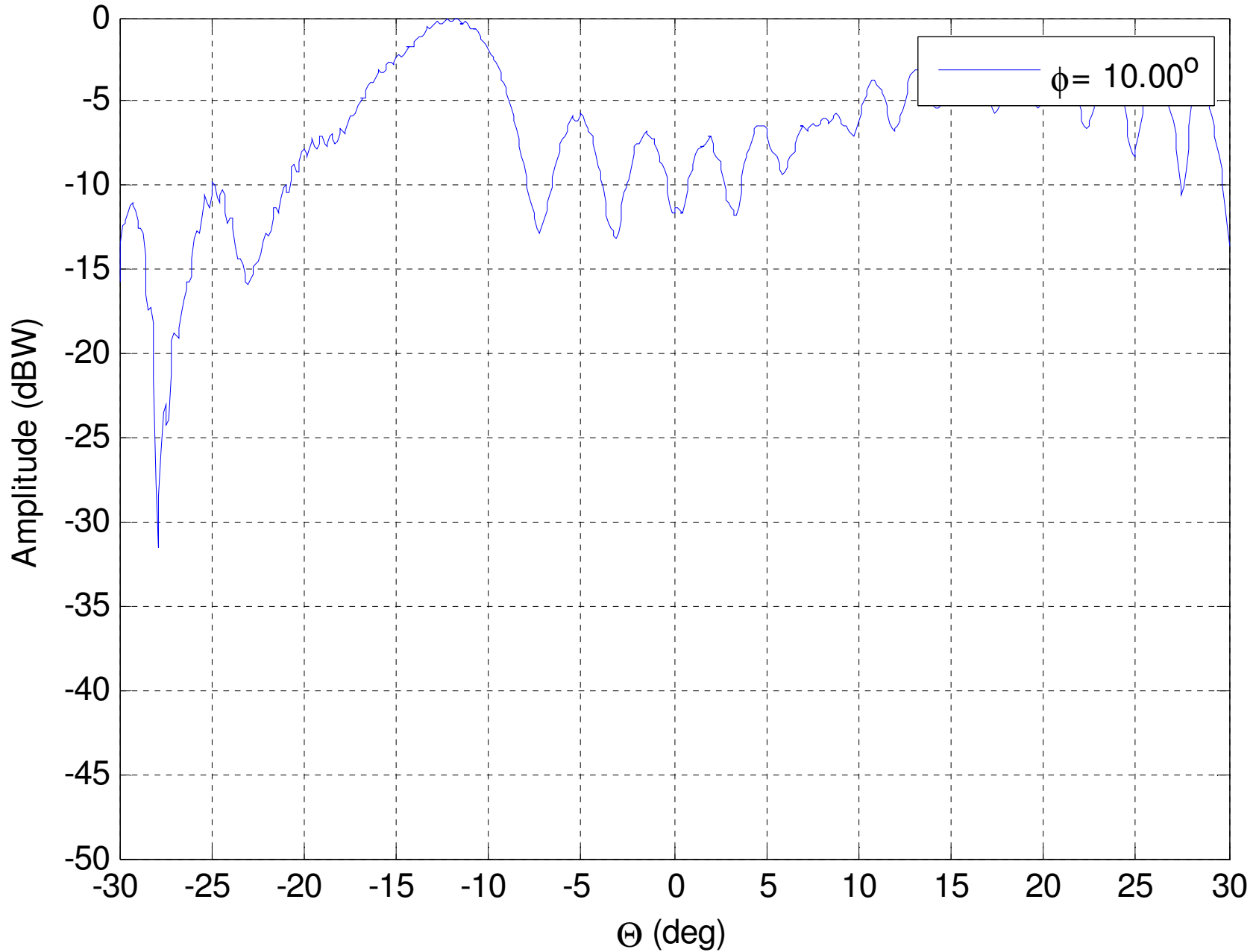
Input file: tx-17.3-rhcp-0.cut, Peak: 9.70 dBW, Date: 16-Dec-2011





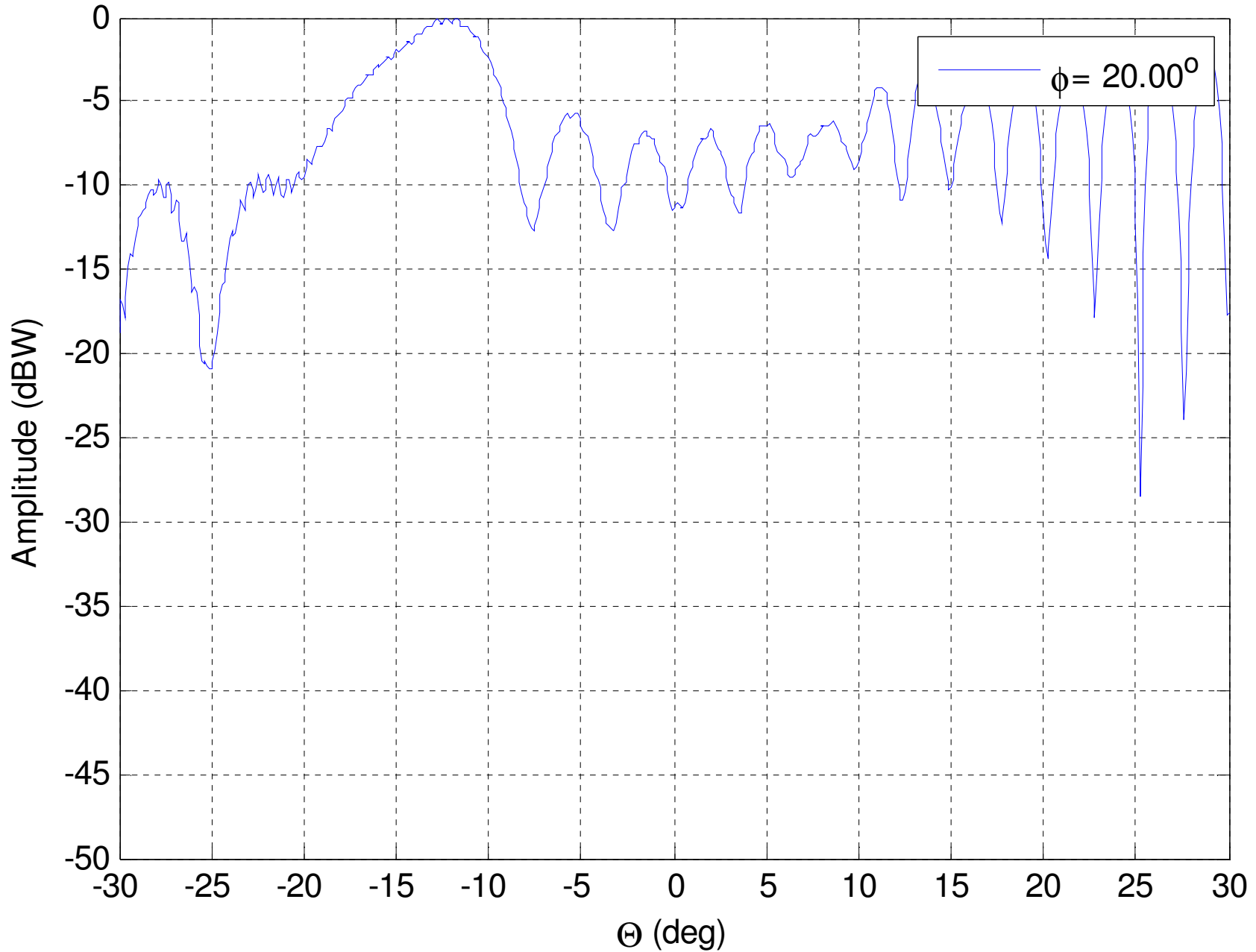
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: 7.06 dBW, Date: 16-Dec-2011



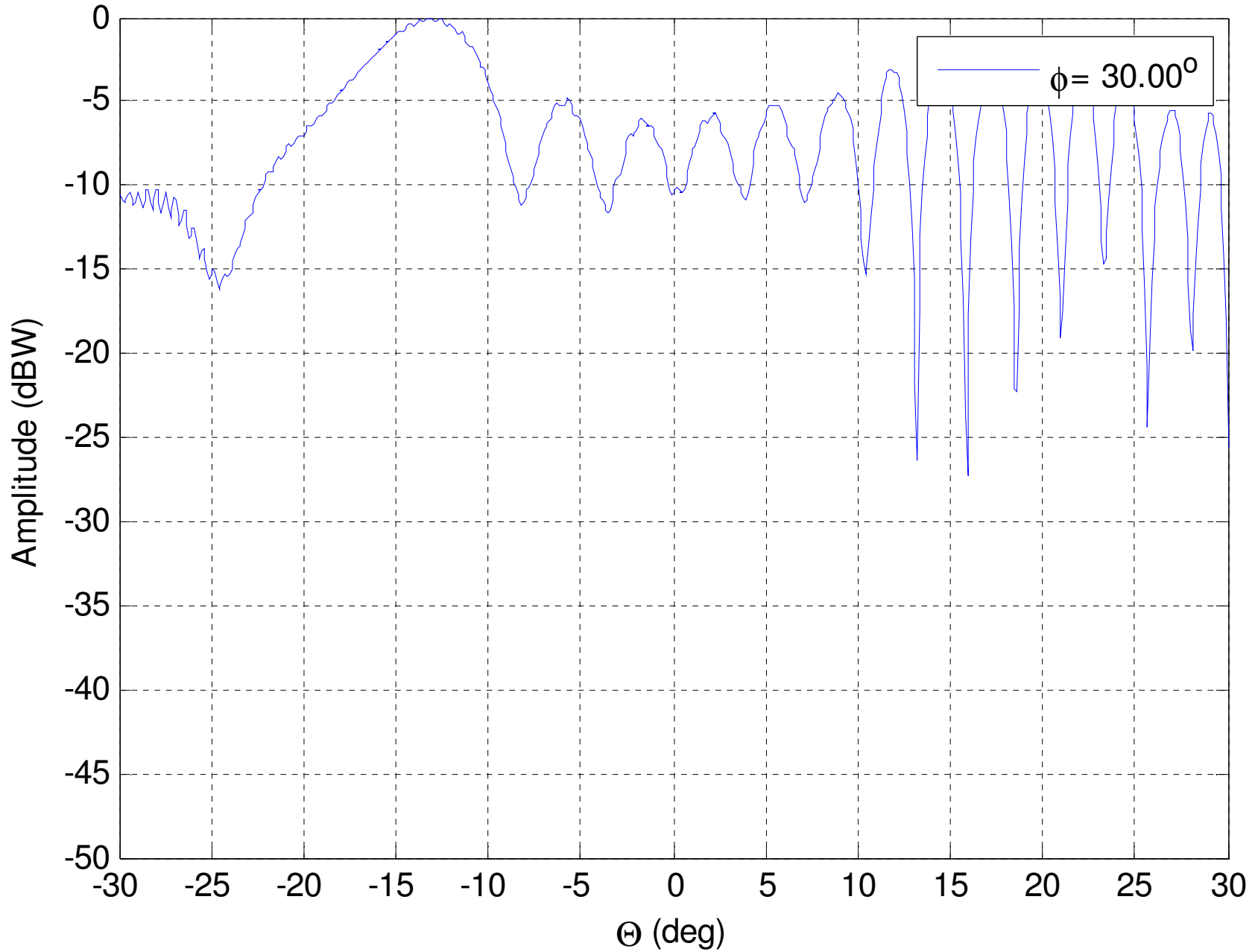
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: 6.82 dBW, Date: 16-Dec-2011



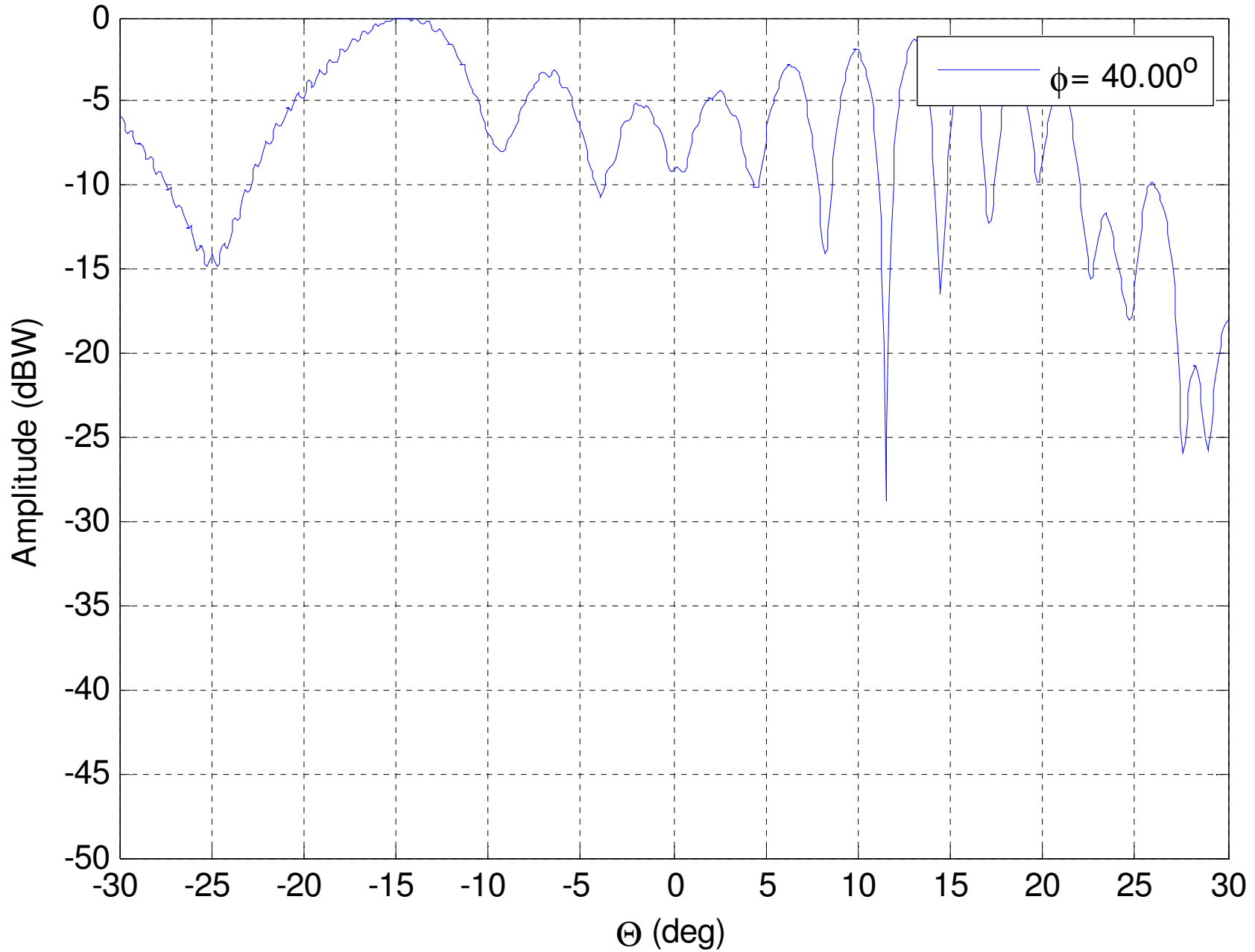
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: 5.91 dBW, Date: 16-Dec-2011



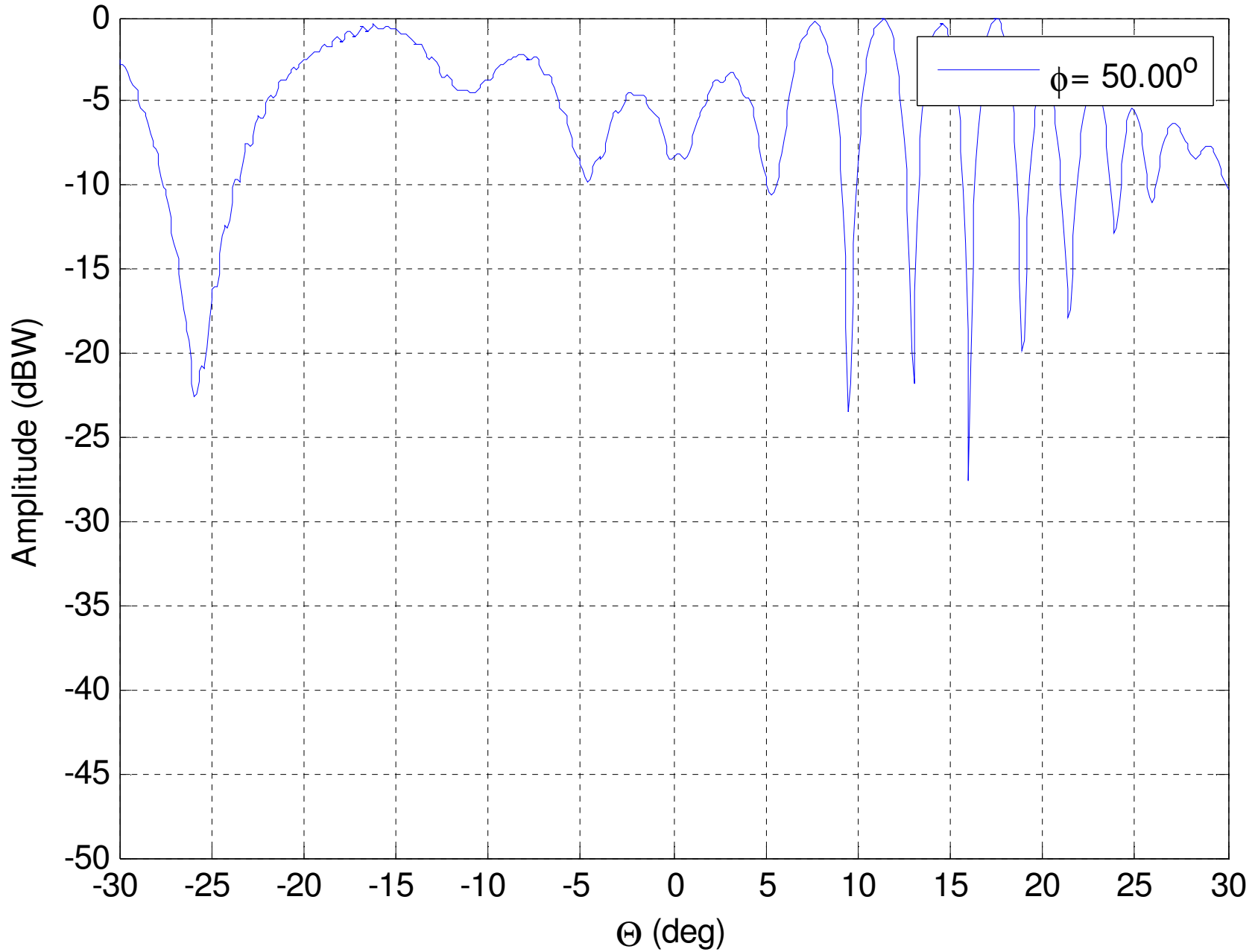
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: 4.67 dBW, Date: 16-Dec-2011



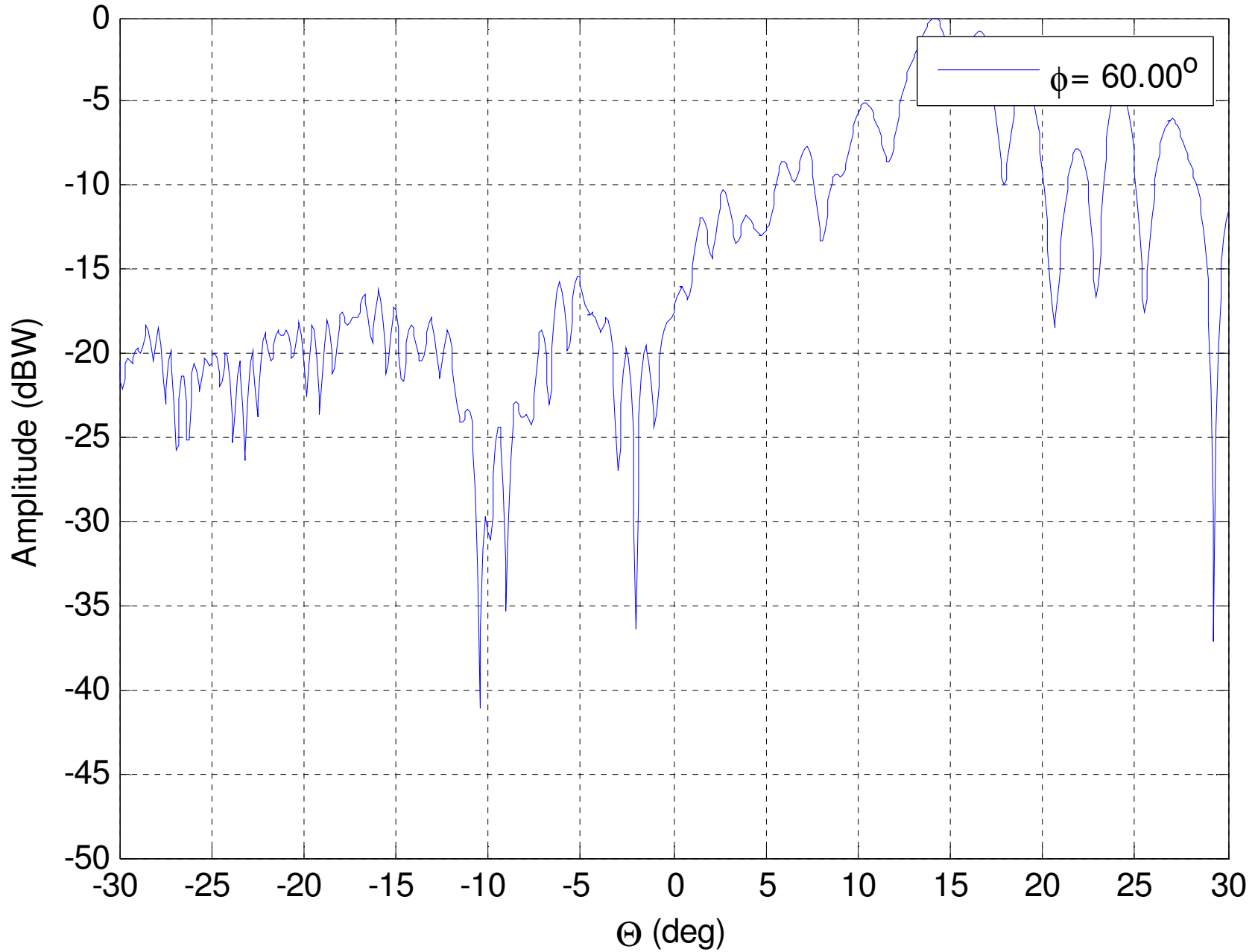
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: 3.91 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

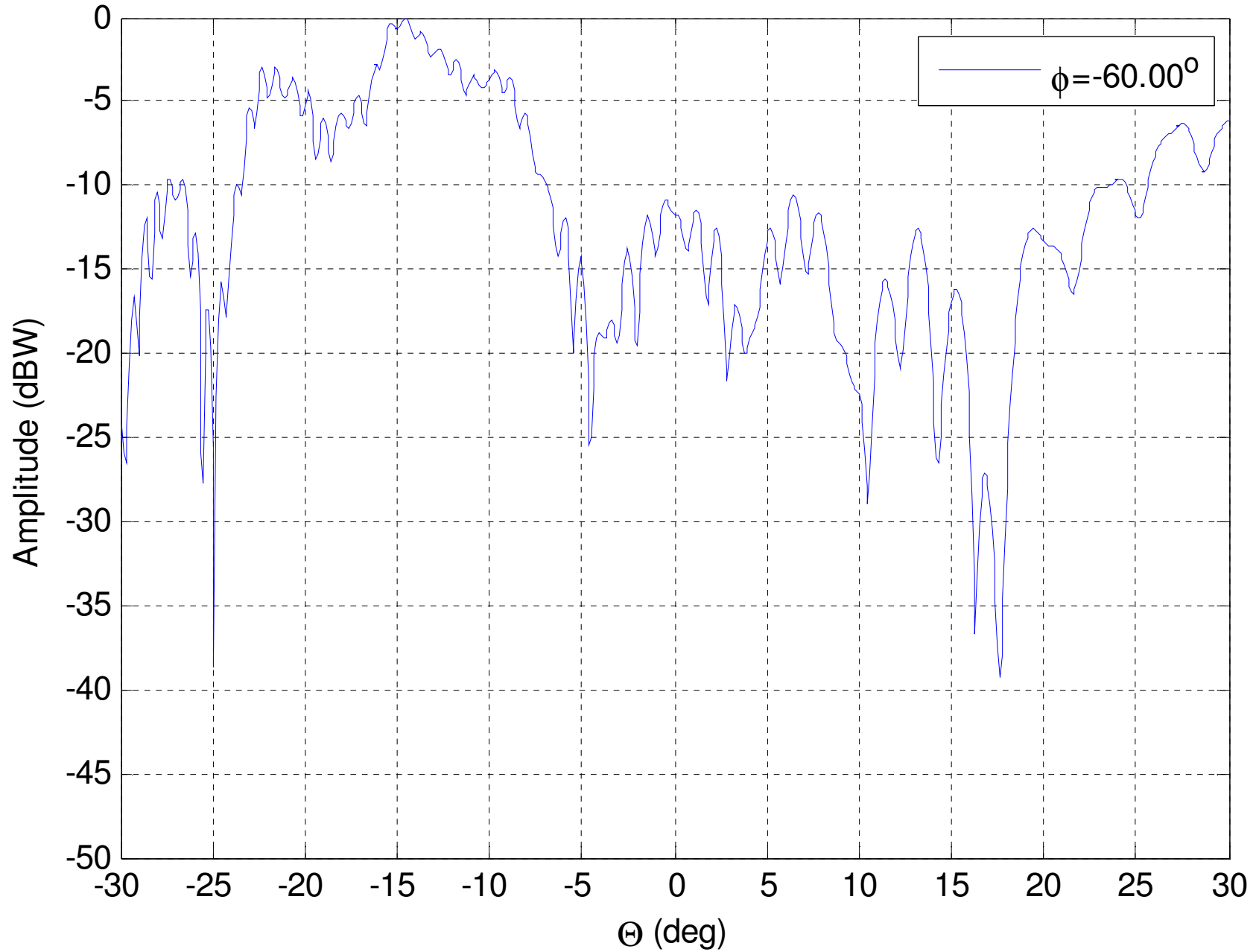
Input file: tx-17.3-rhcp-60.cut, Peak: 2.19 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

# Normalized pattern cuts - farfield

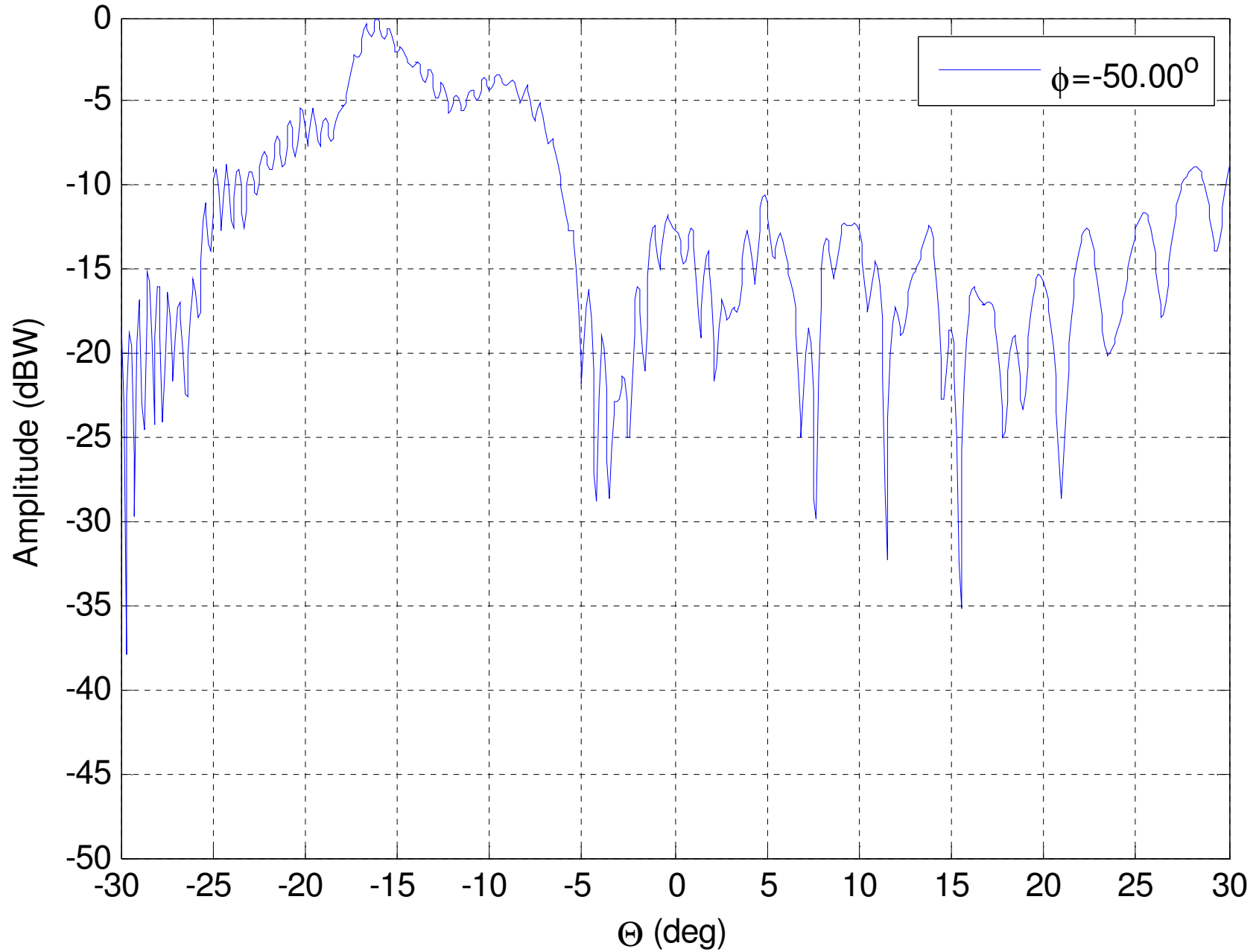
Input file: tx-17.3-lhcp--60.cut, Peak: -0.77 dBW, Date: 16-Dec-2011





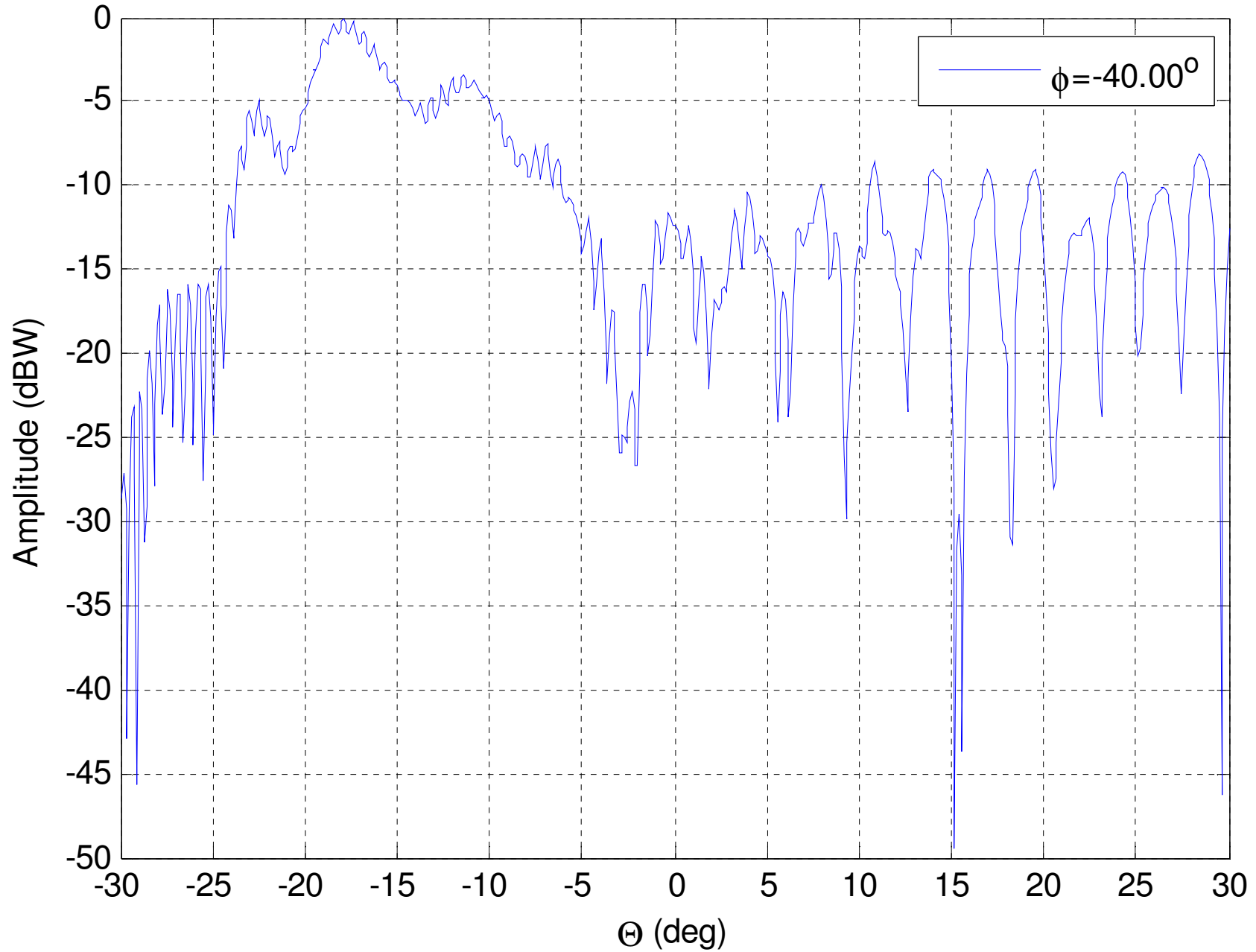
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: 0.13 dBW, Date: 16-Dec-2011



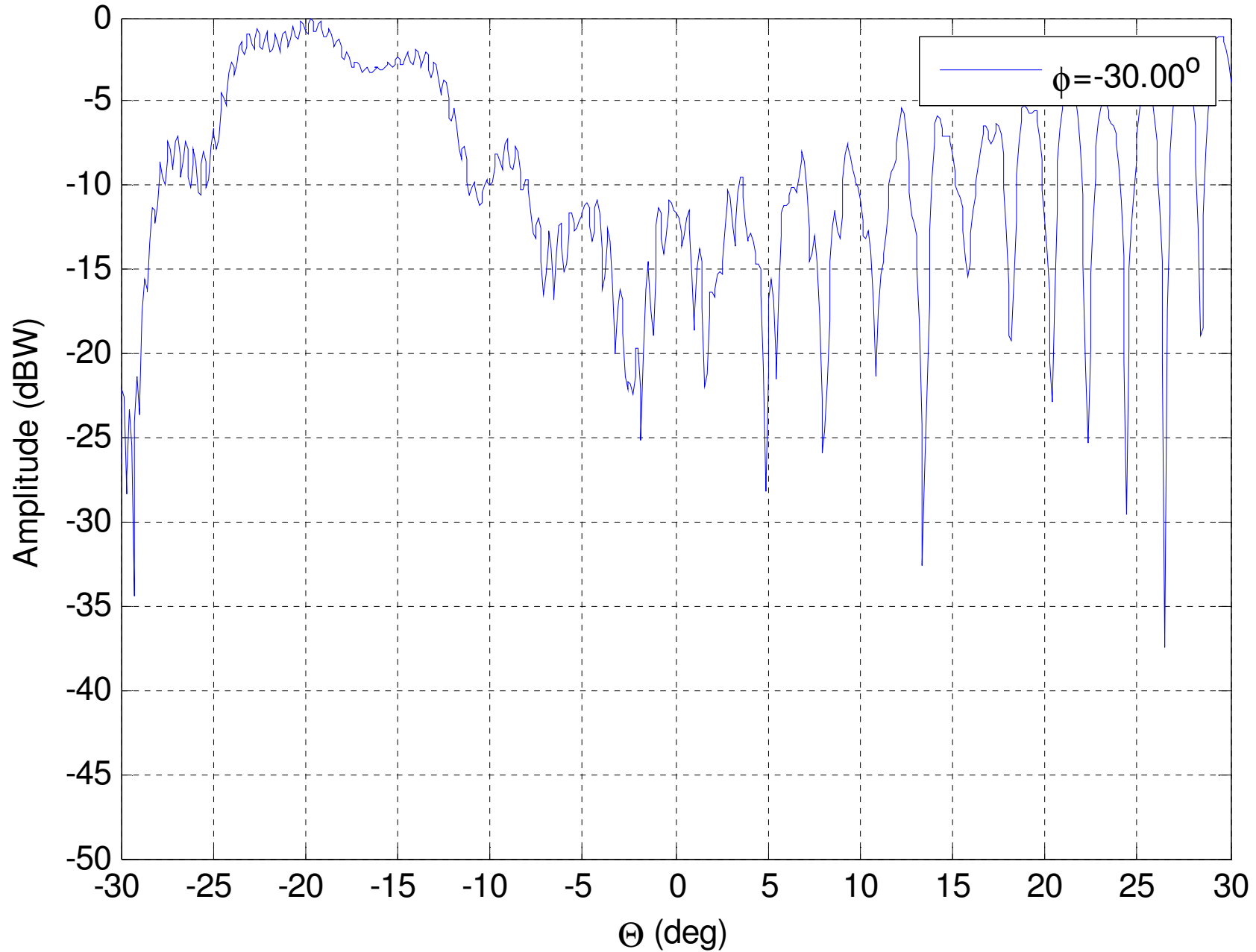
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -0.04 dBW, Date: 16-Dec-2011



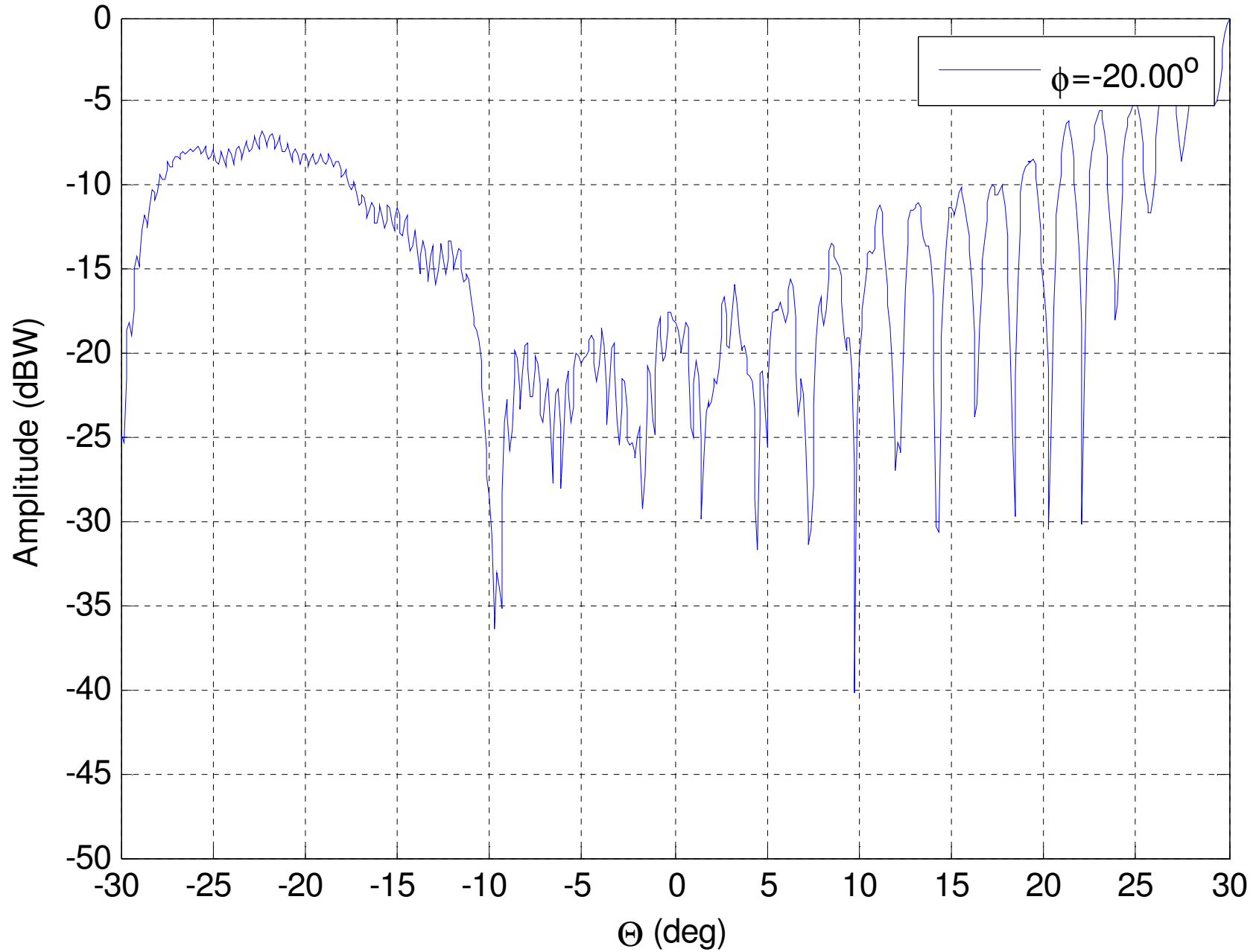
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -0.86 dBW, Date: 16-Dec-2011



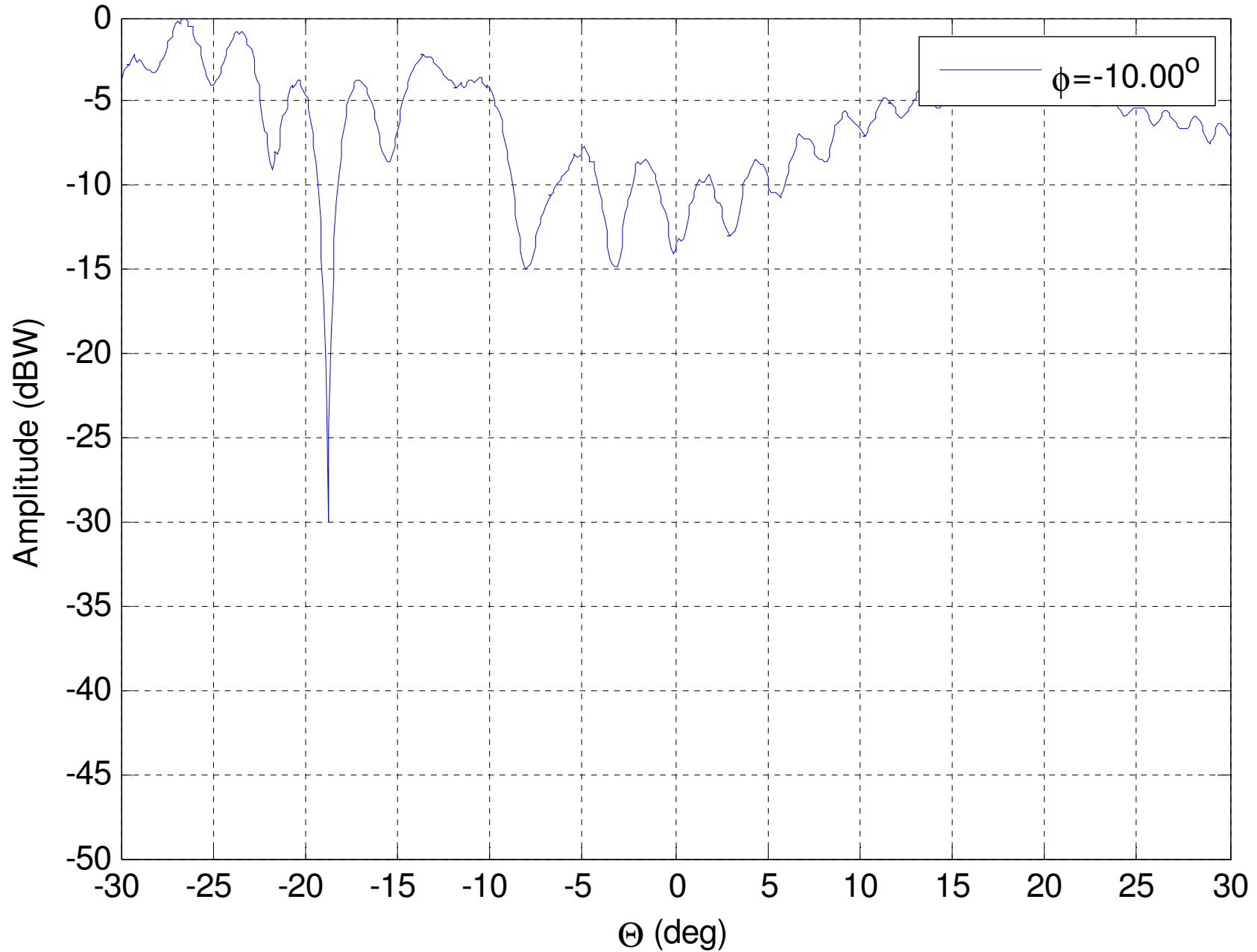
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: 5.71 dBW, Date: 16-Dec-2011



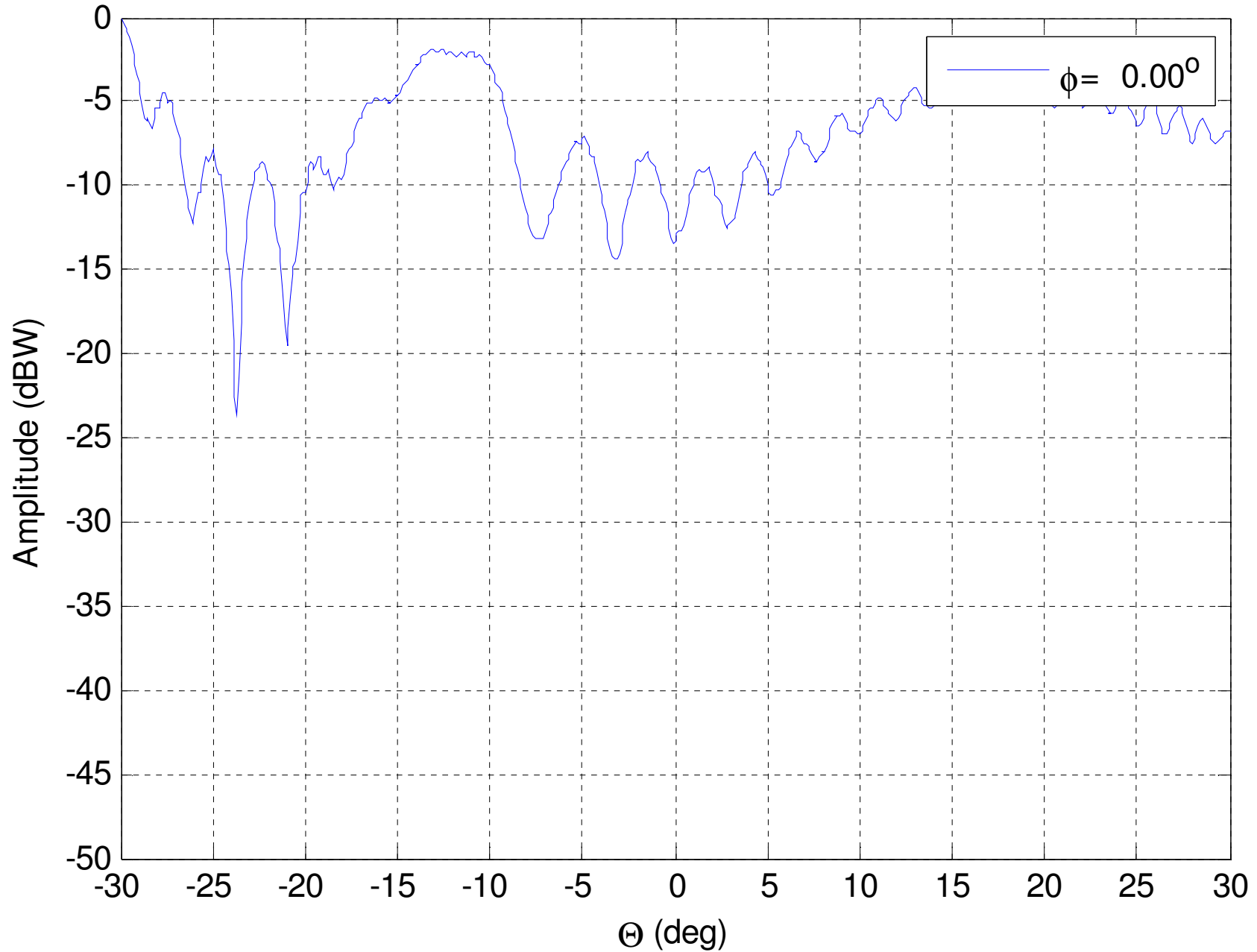
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: 9.07 dBW, Date: 16-Dec-2011



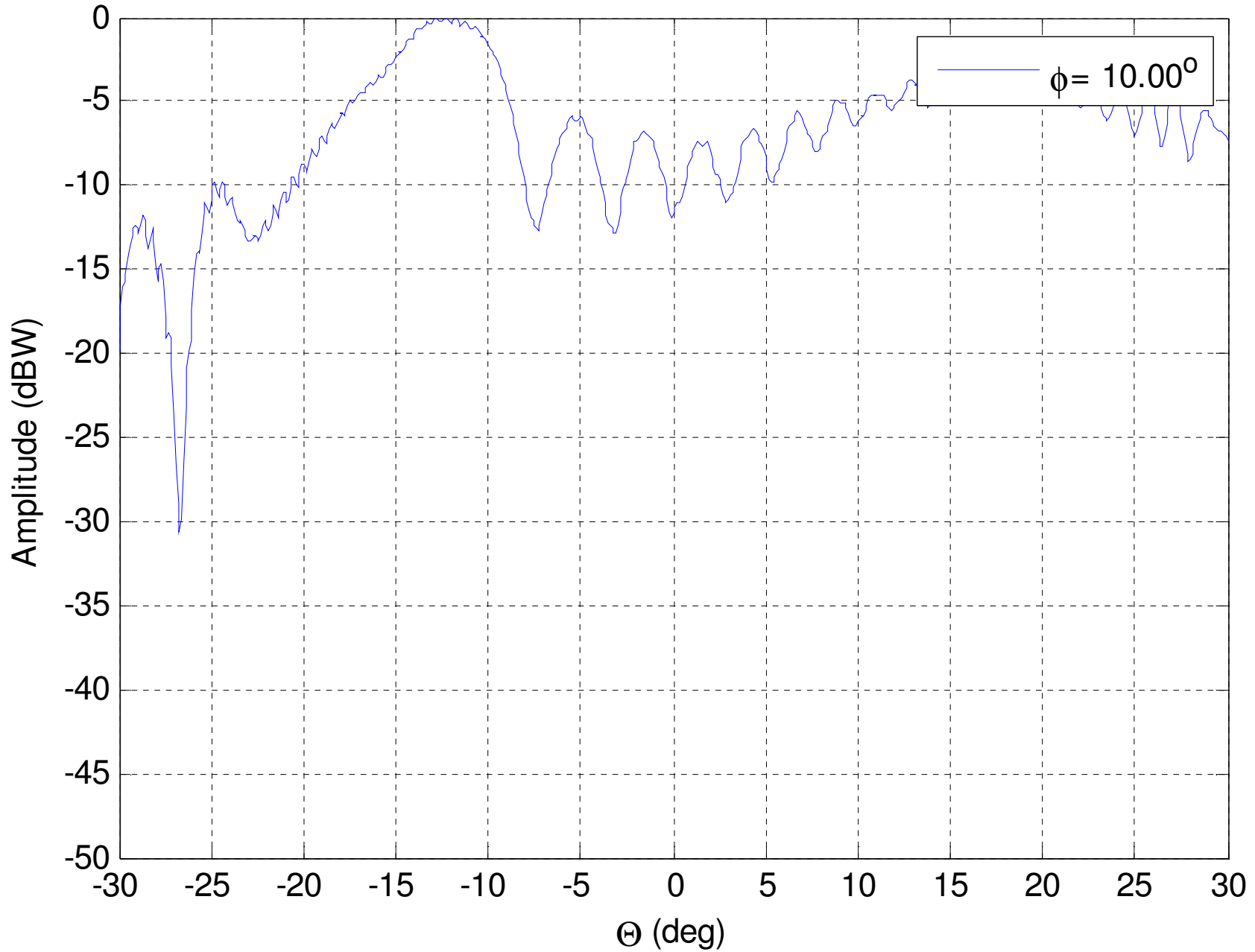
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: 8.54 dBW, Date: 16-Dec-2011



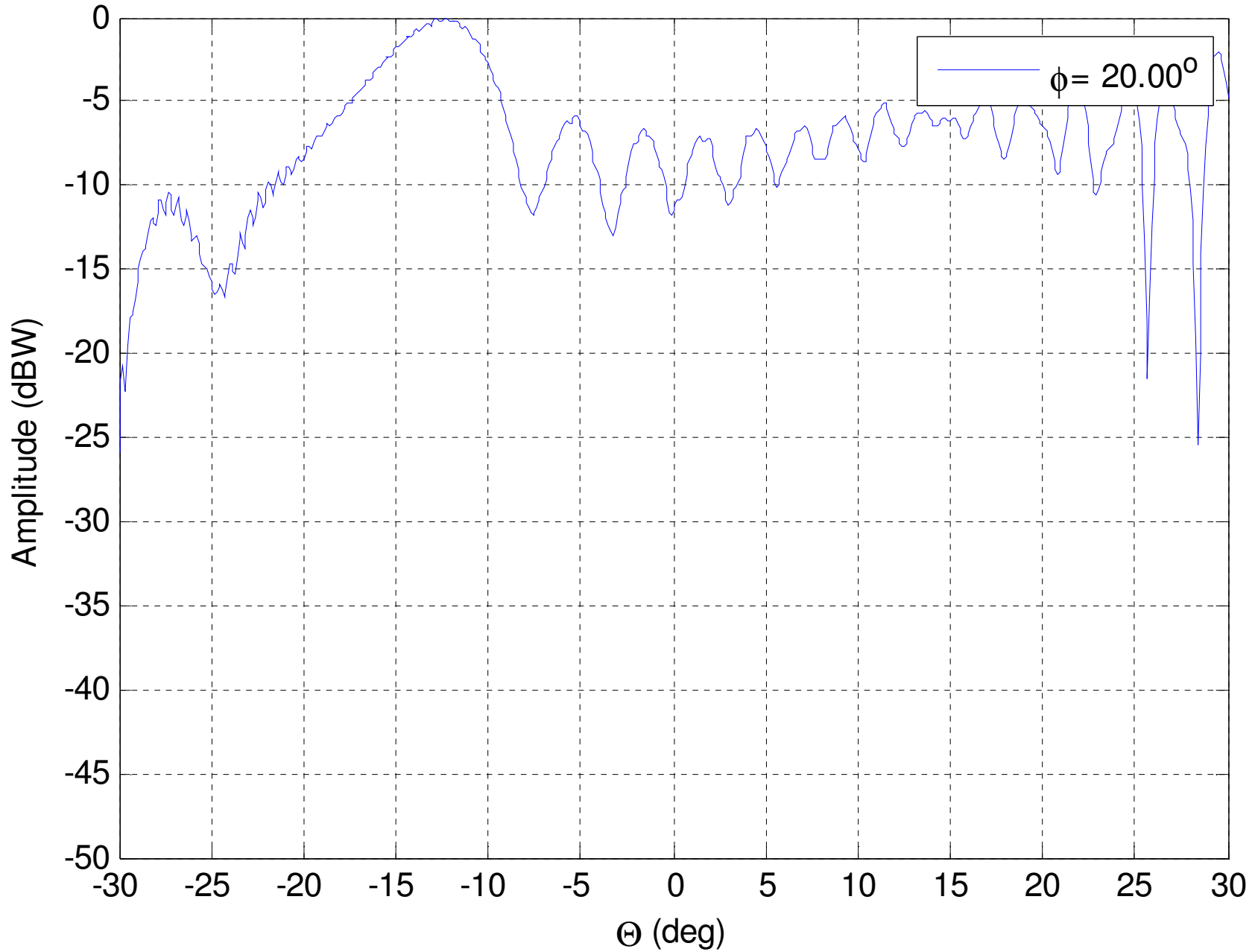
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: 6.98 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

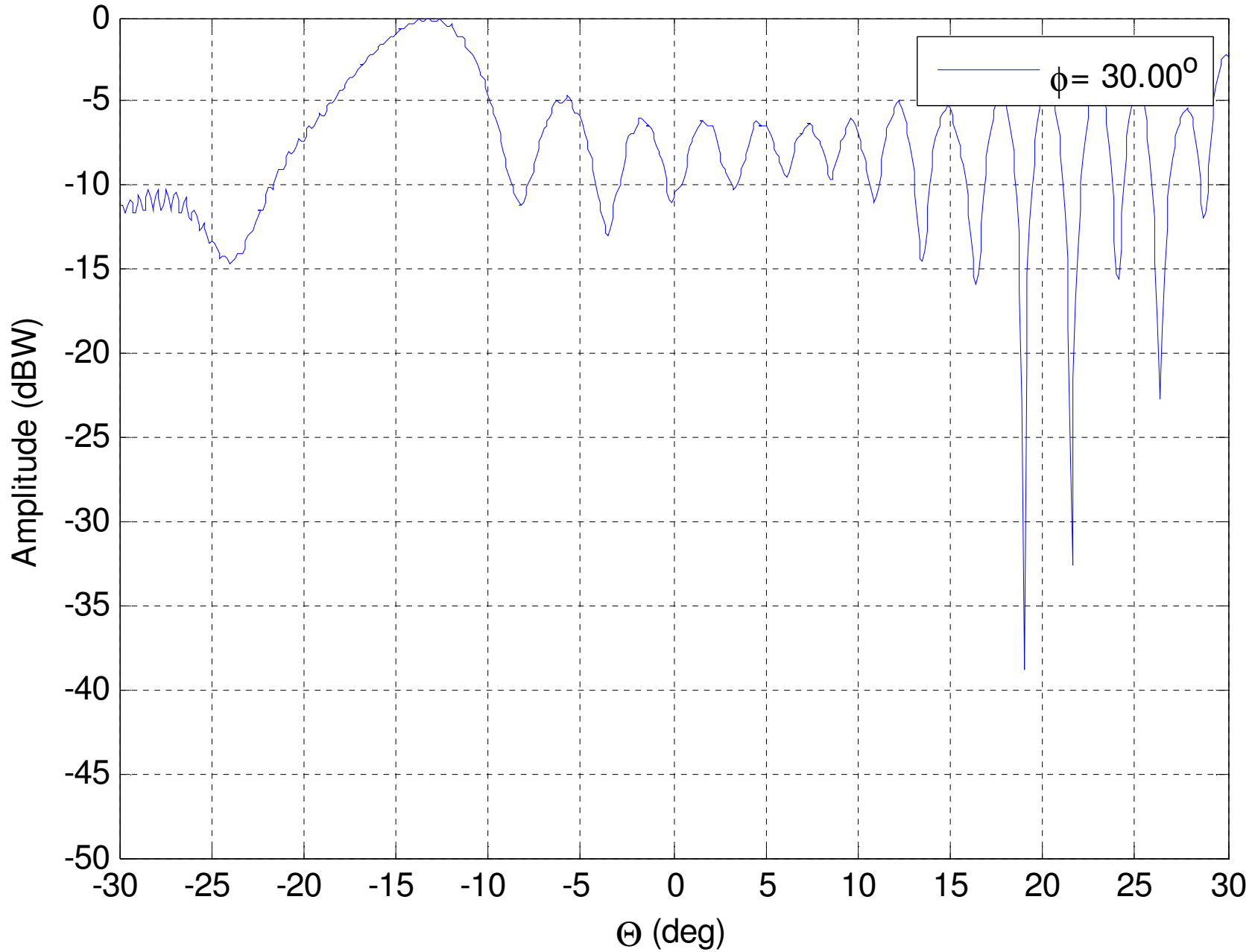
Input file: tx-17.3-lhcp-20.cut, Peak: 6.85 dBW, Date: 16-Dec-2011





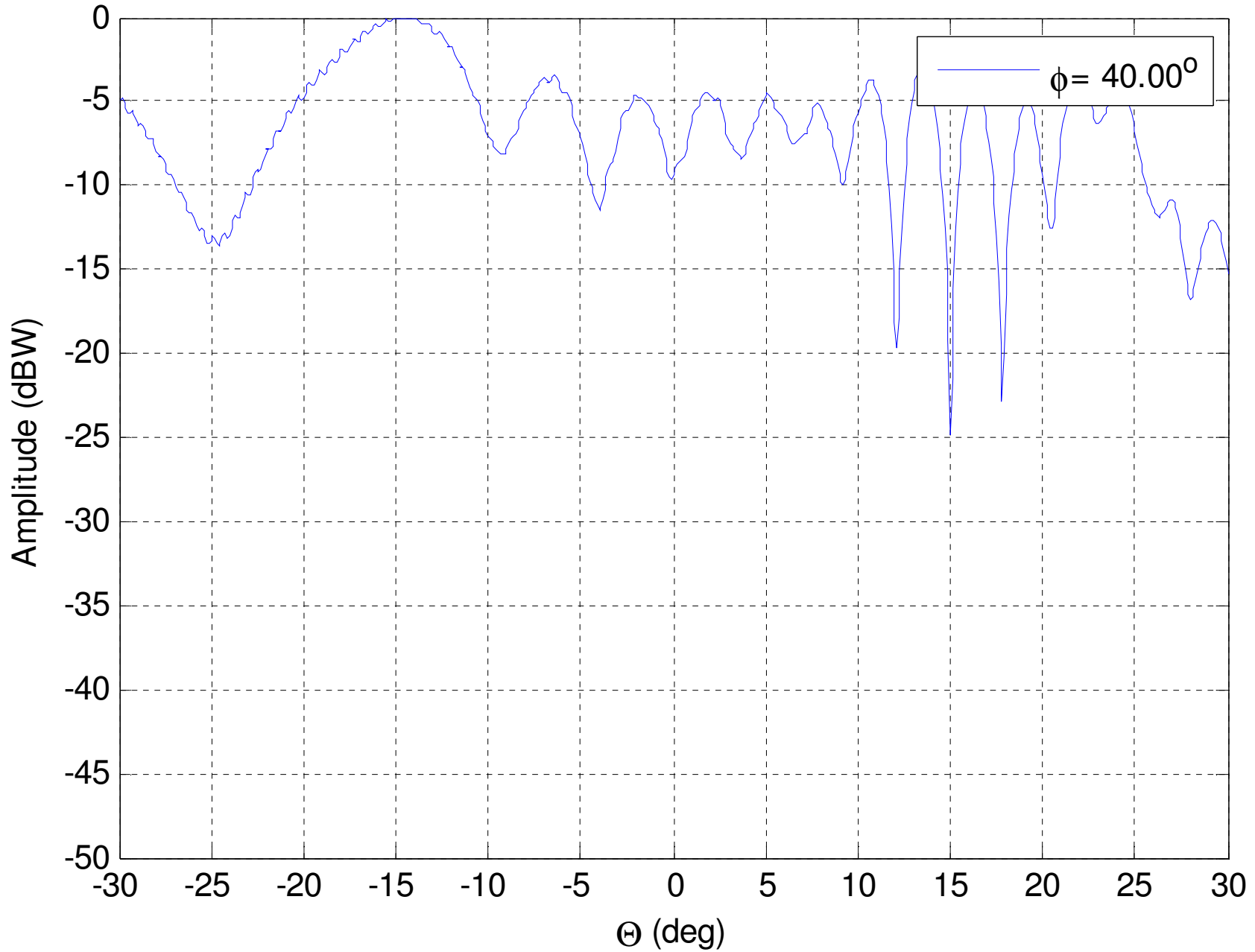
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: 6.11 dBW, Date: 16-Dec-2011



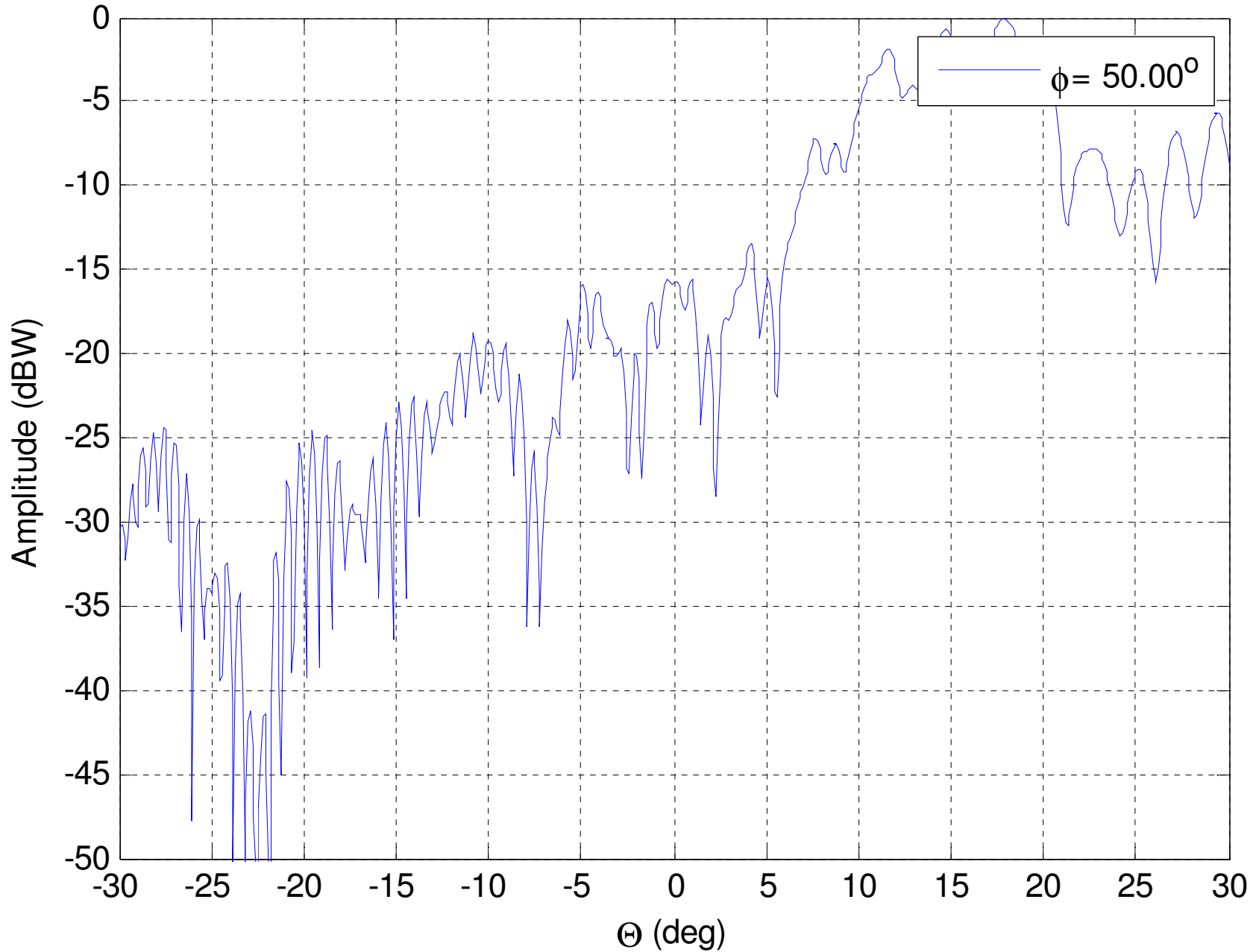
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: 4.68 dBW, Date: 16-Dec-2011



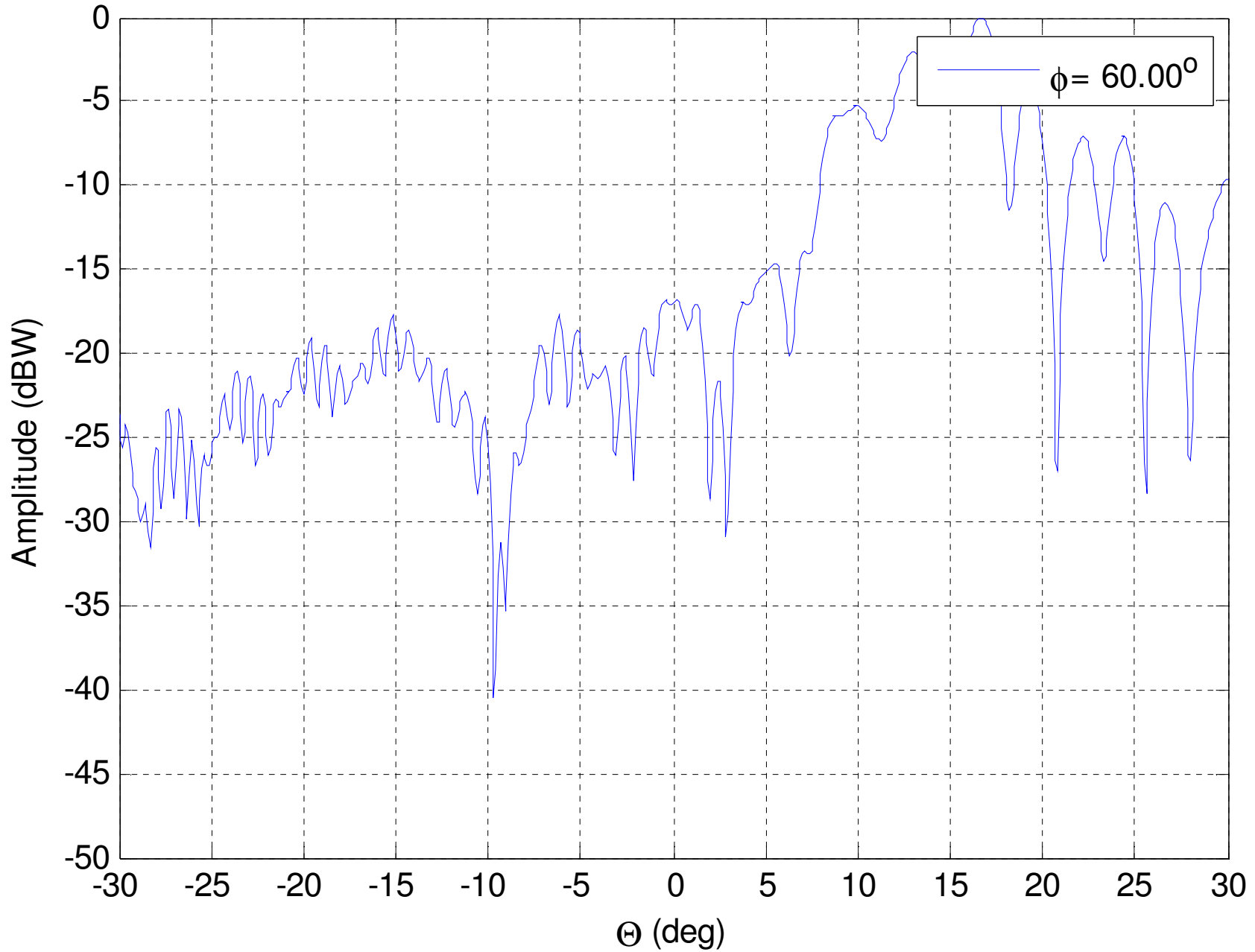
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: 3.33 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

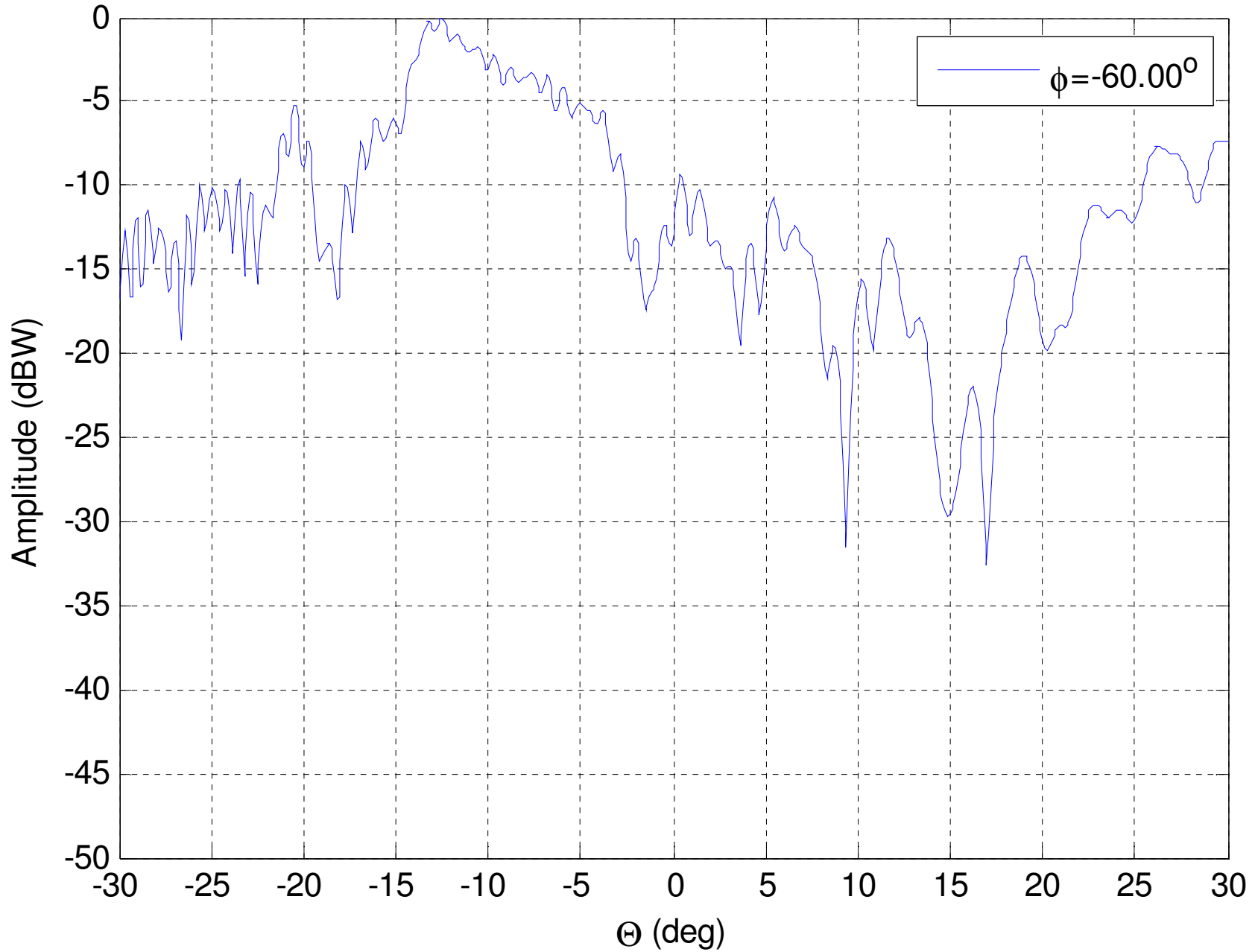
Input file: tx-17.3-lhcp-60.cut, Peak: 4.50 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

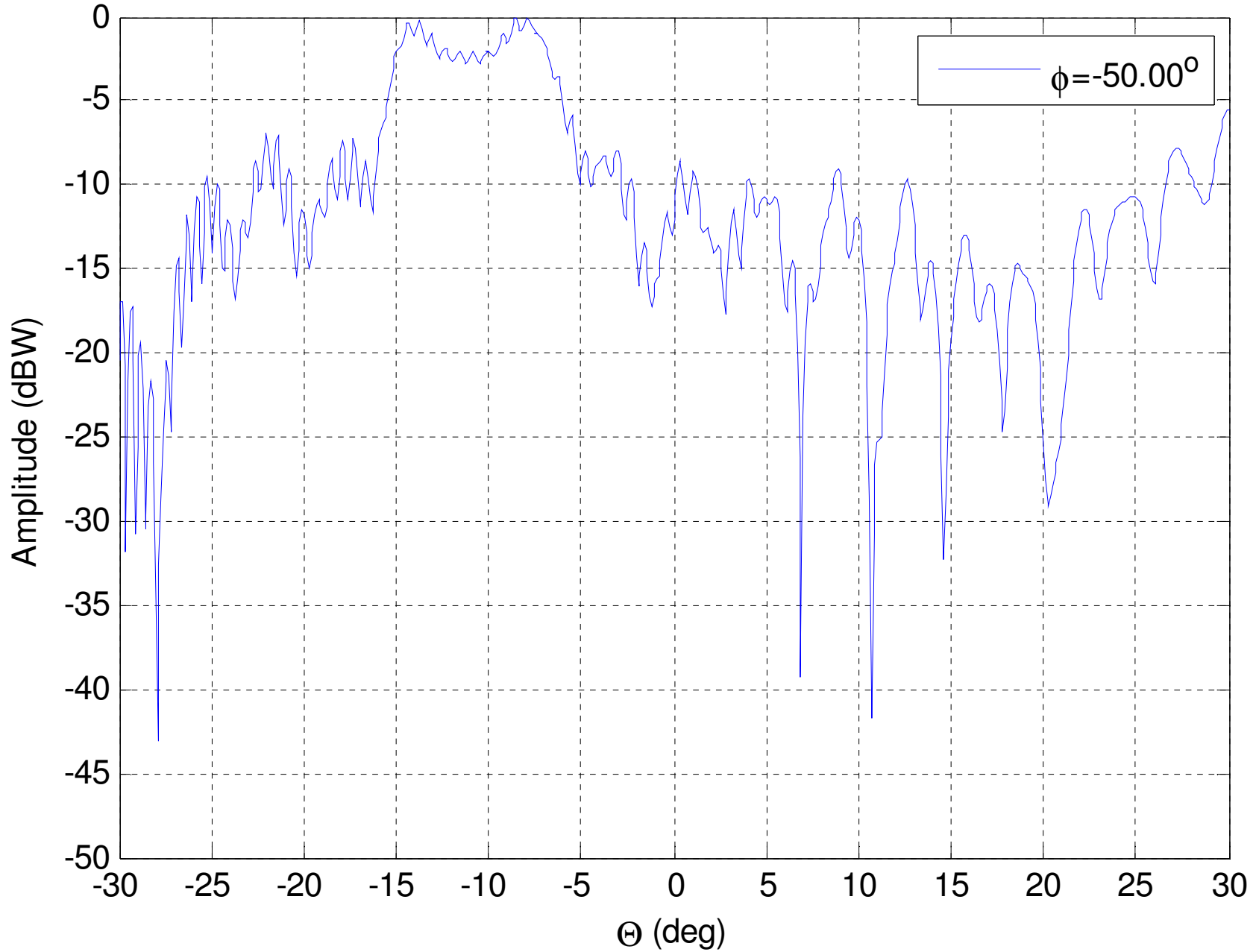
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -0.44 dBW, Date: 16-Dec-2011



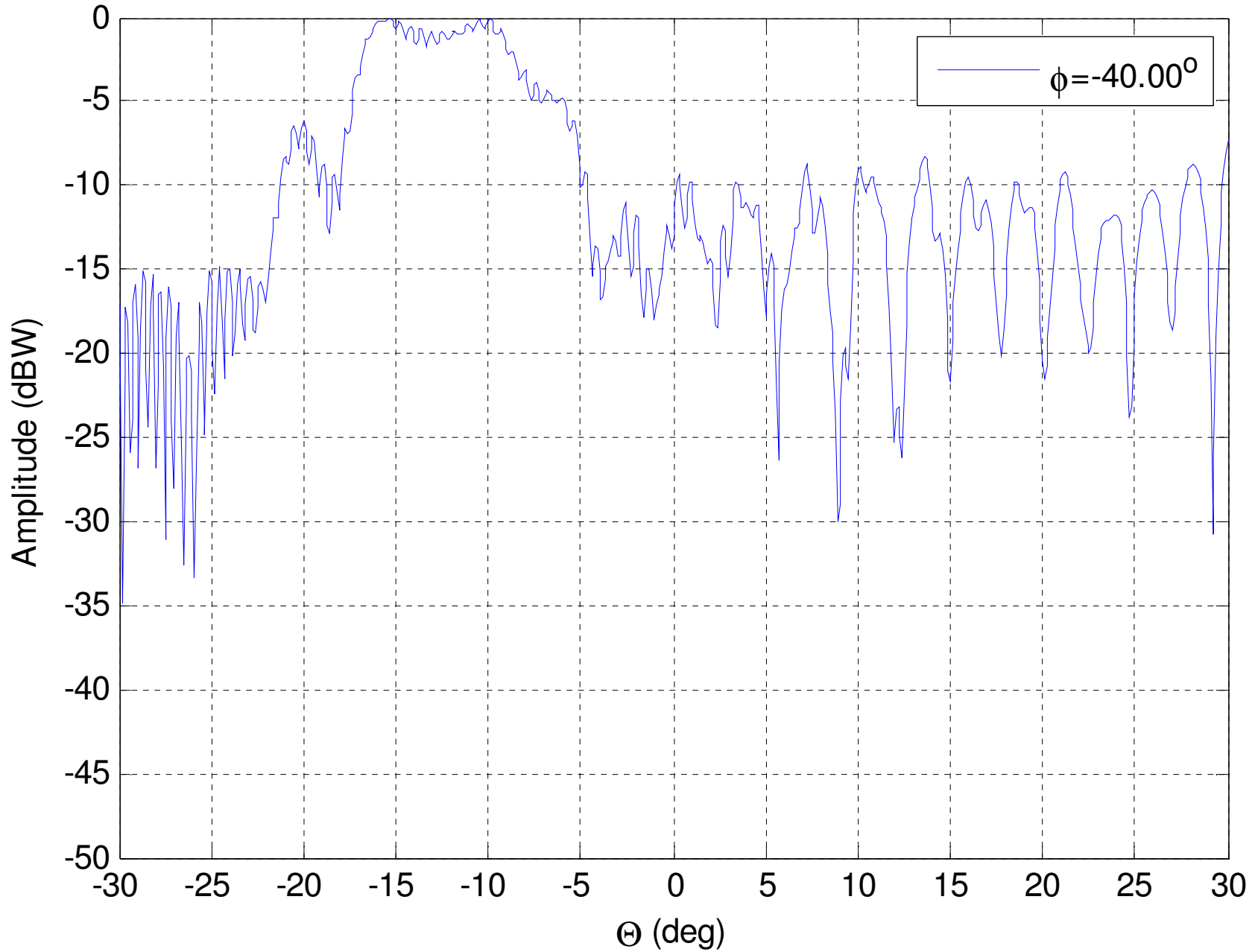
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -1.15 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

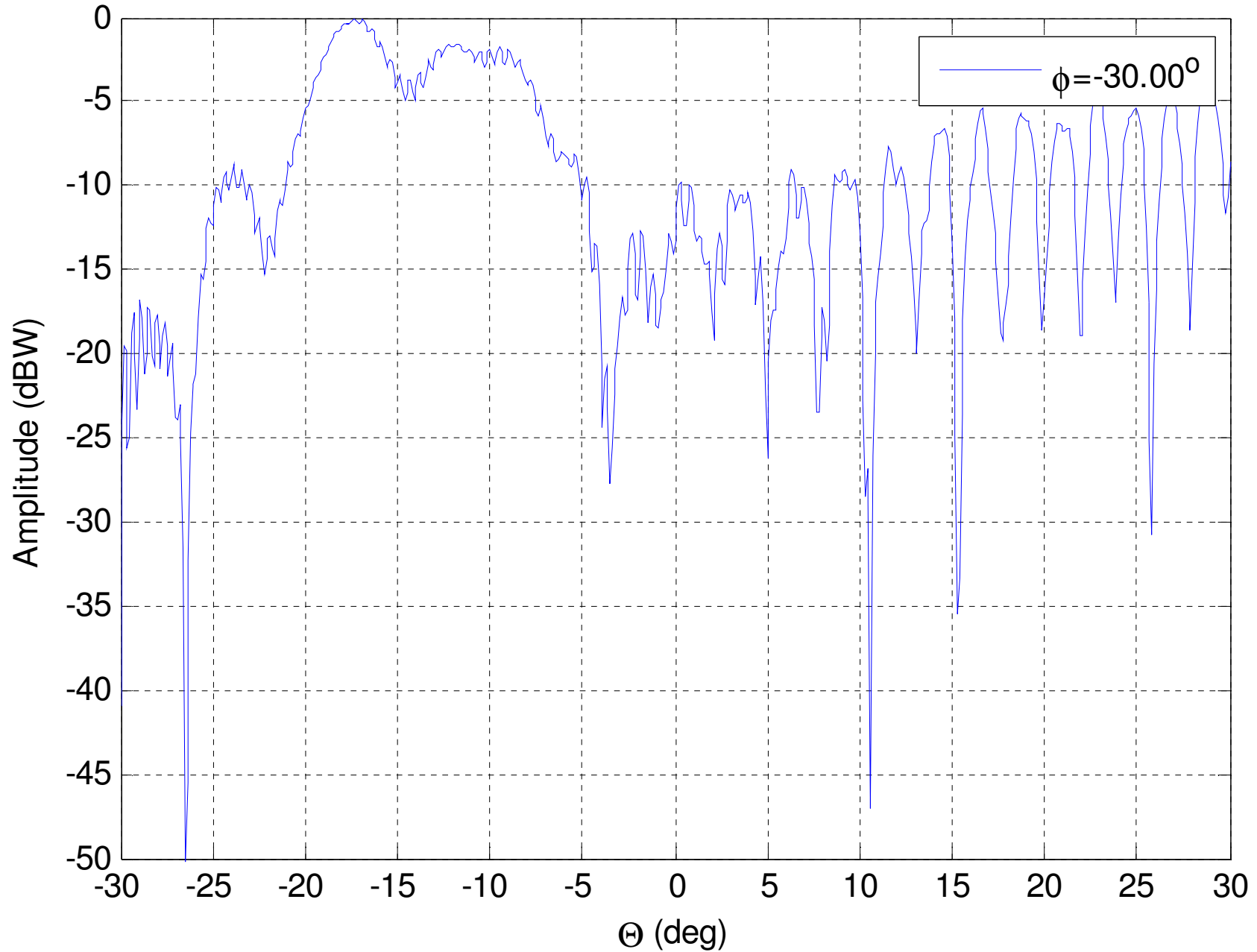
Input file: tx-17.5-rhcp--40.cut, Peak: -0.35 dBW, Date: 16-Dec-2011





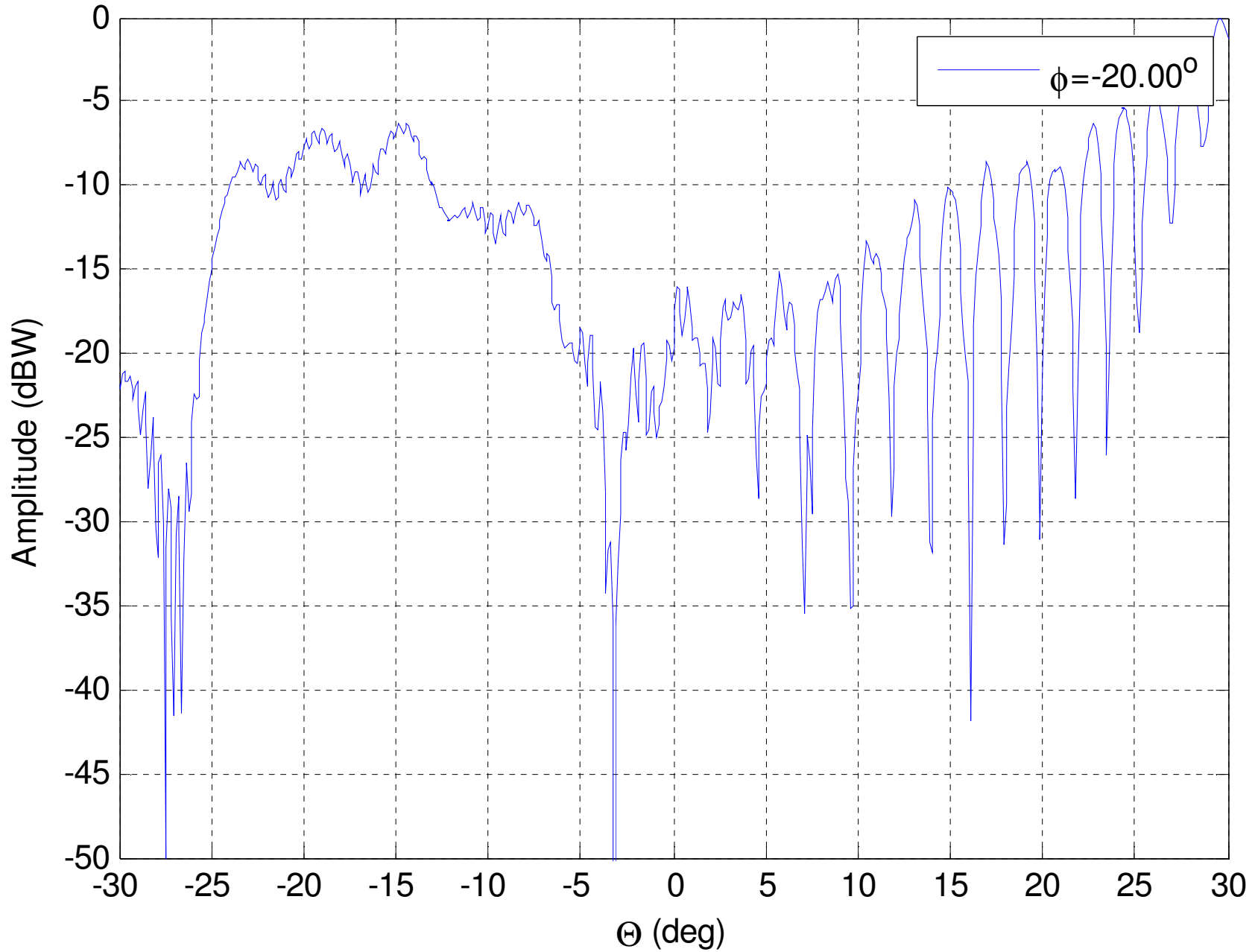
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: 0.03 dBW, Date: 16-Dec-2011



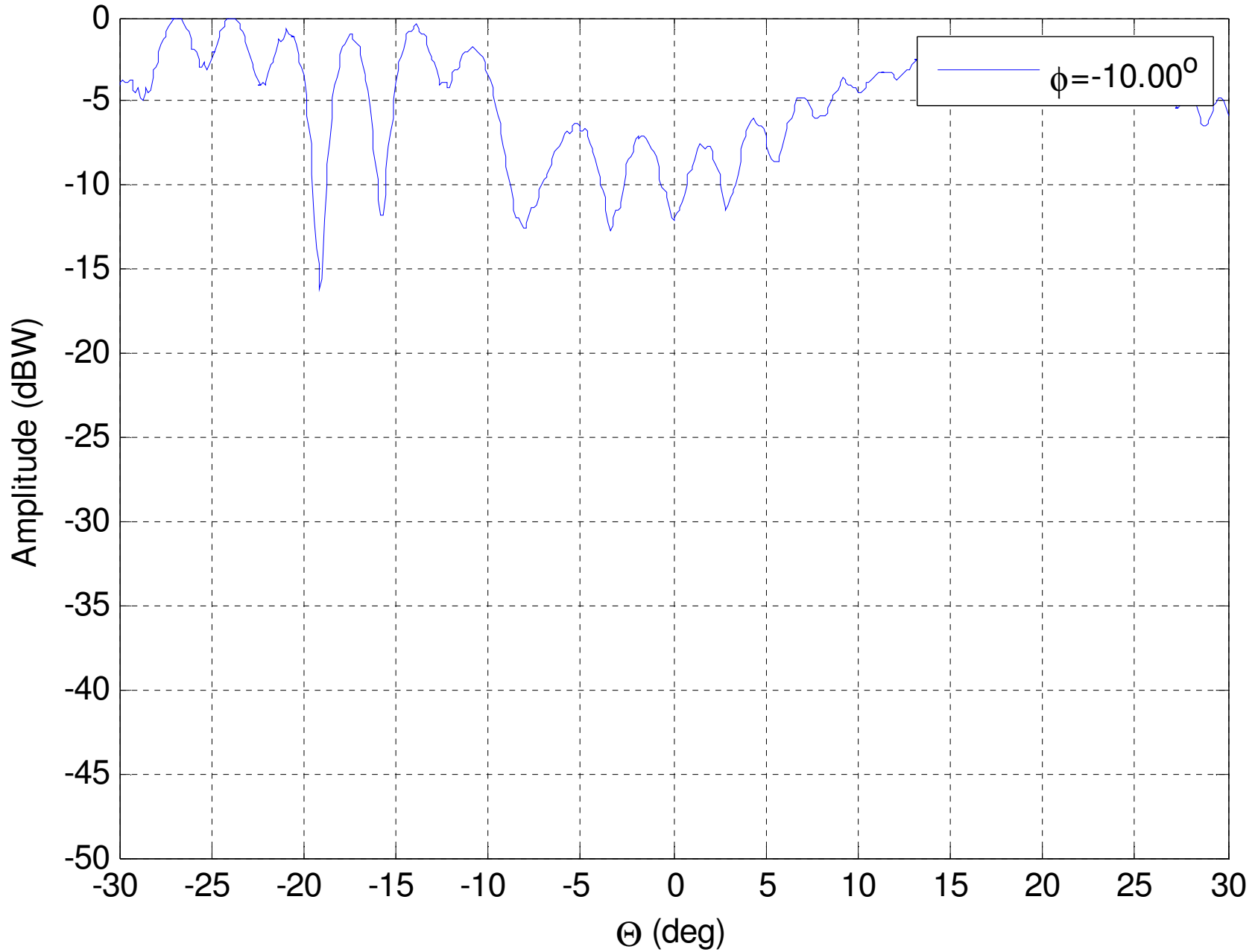
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: 6.36 dBW, Date: 16-Dec-2011



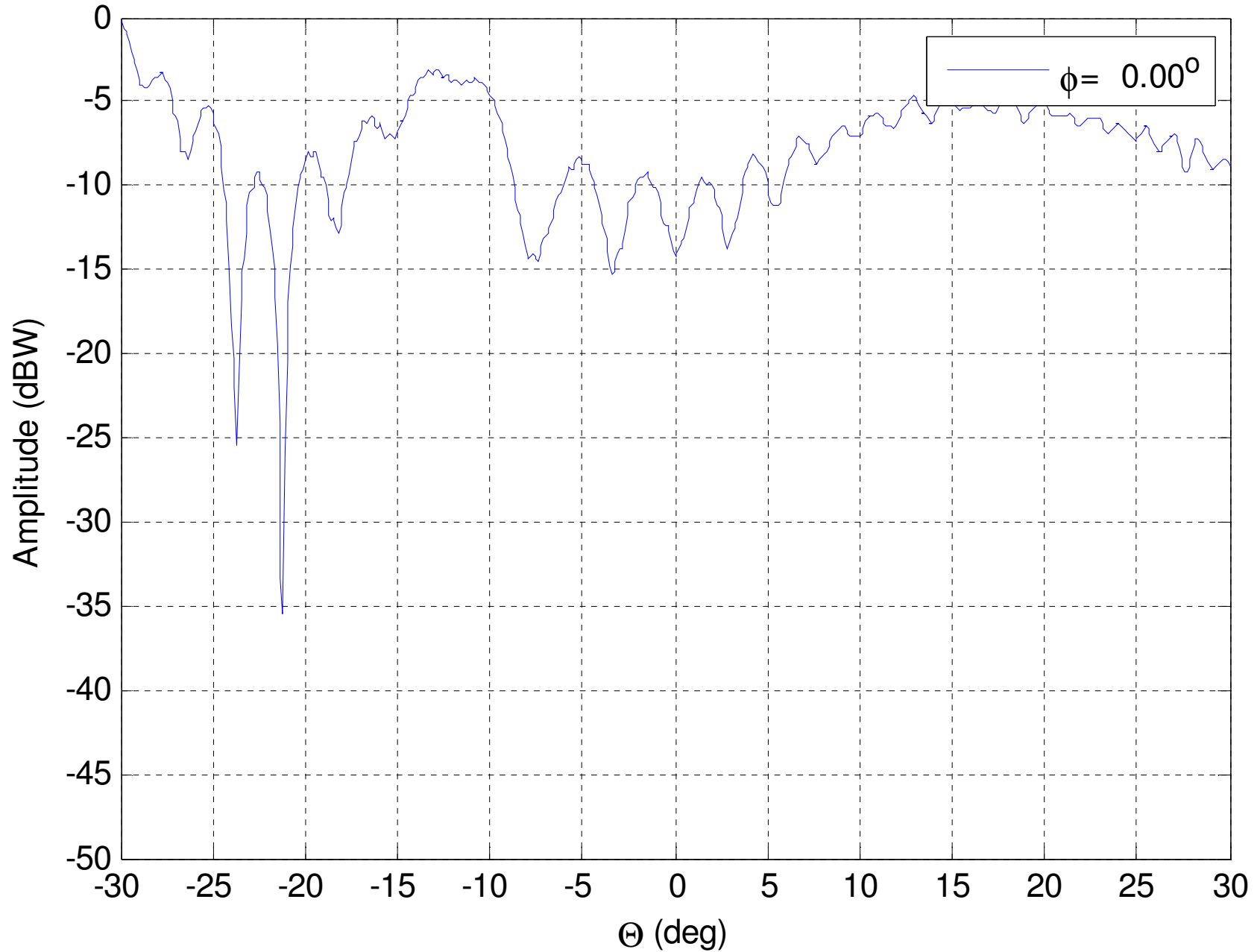
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: 7.50 dBW, Date: 16-Dec-2011



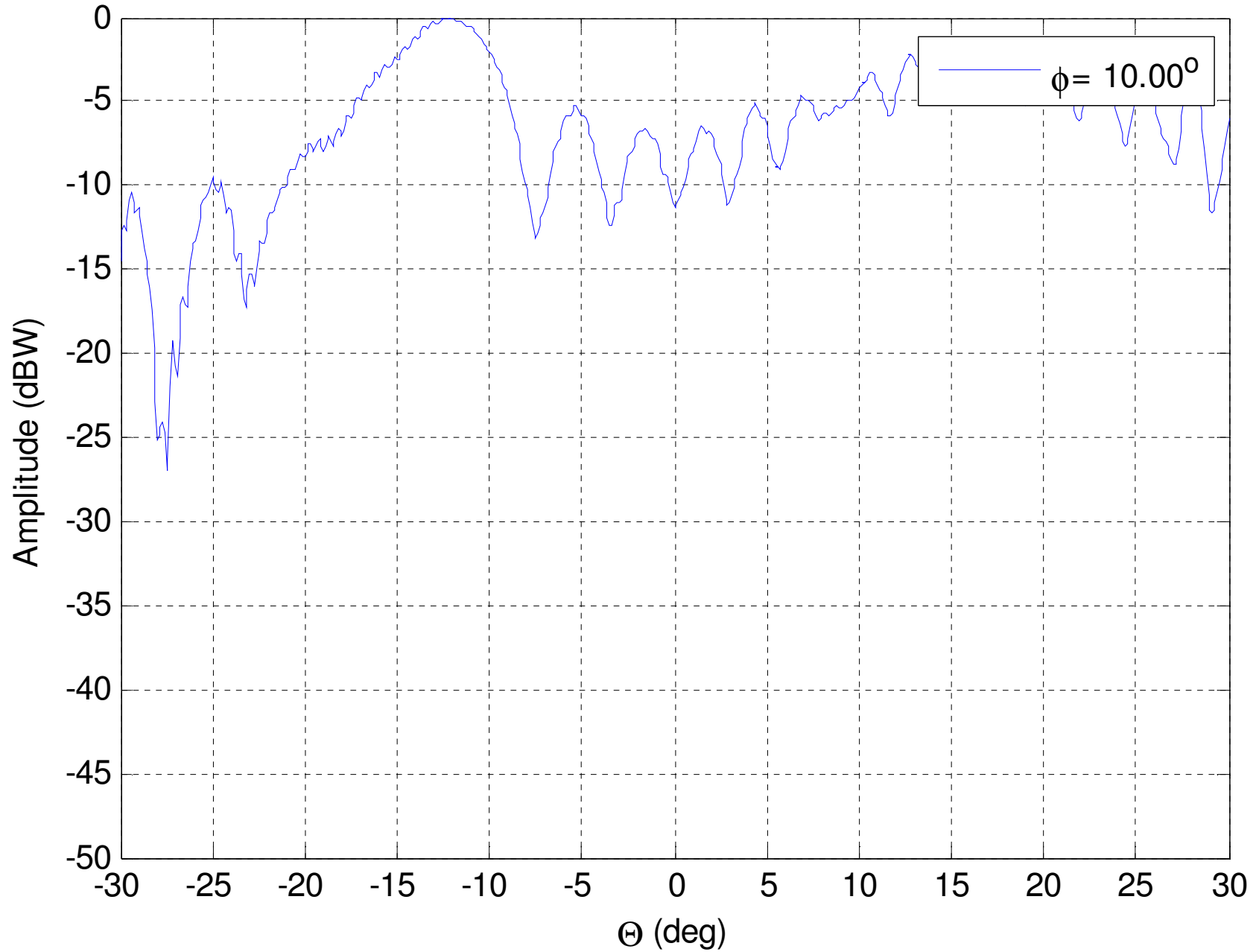
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: 9.59 dBW, Date: 16-Dec-2011



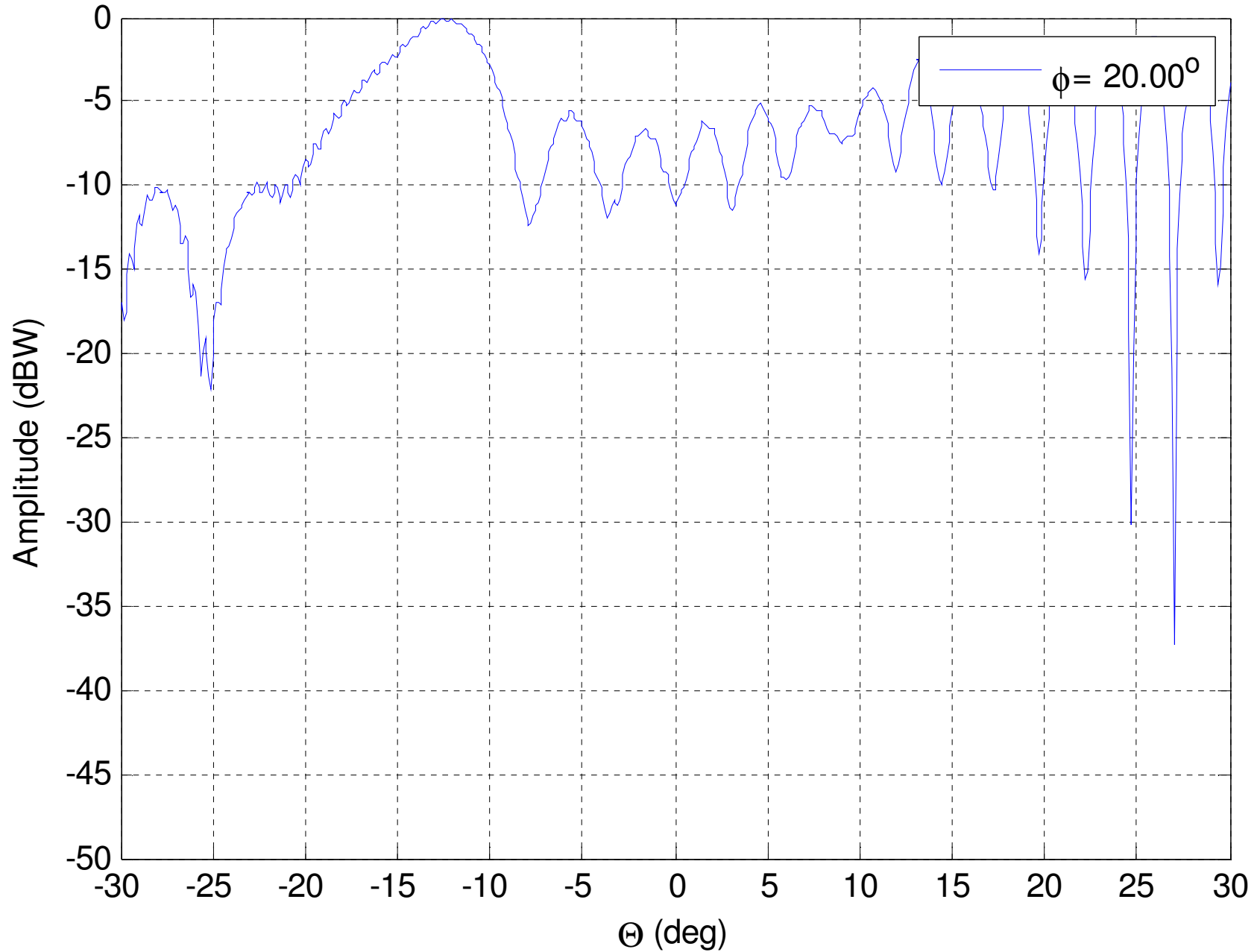
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: 6.64 dBW, Date: 16-Dec-2011



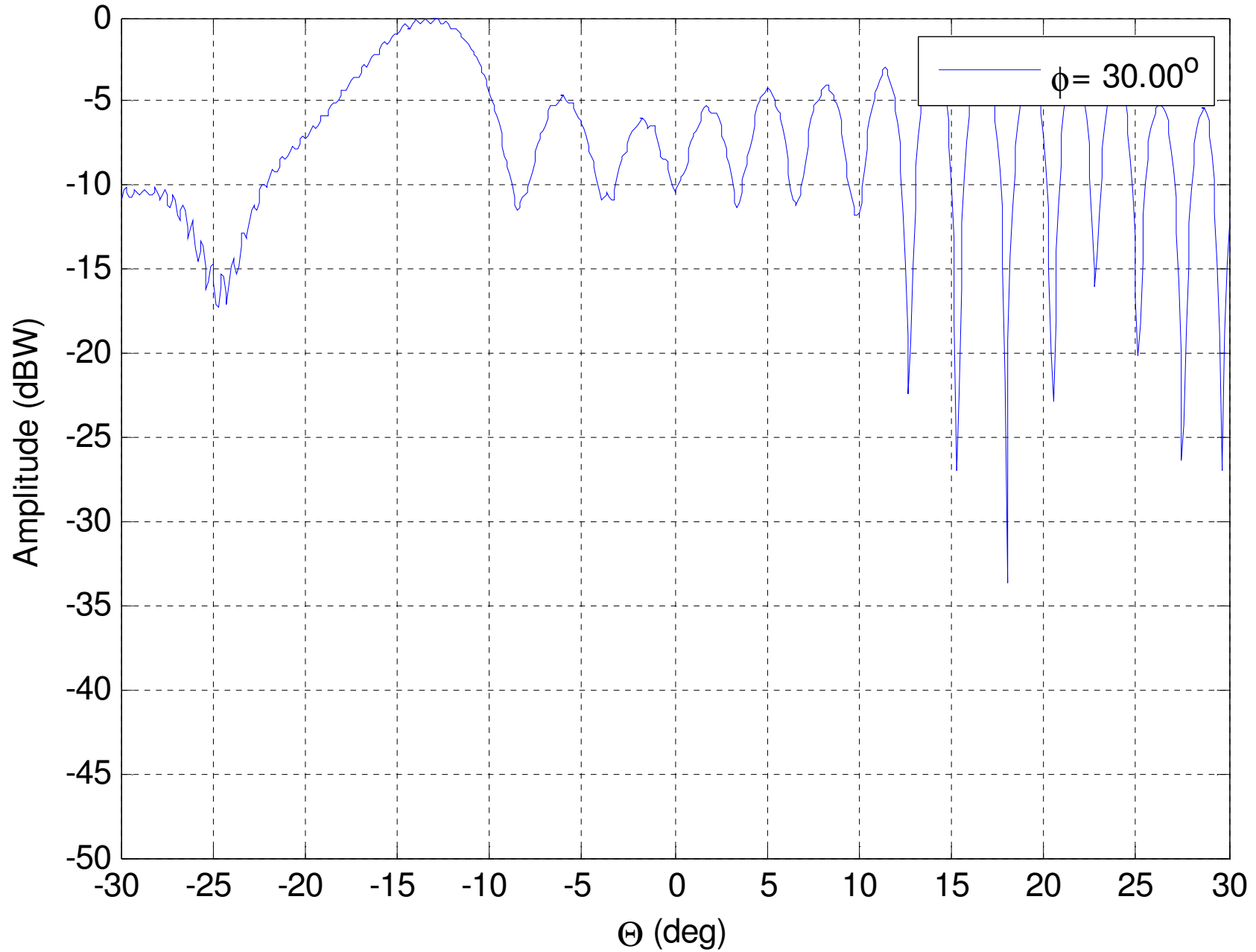
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: 6.53 dBW, Date: 16-Dec-2011



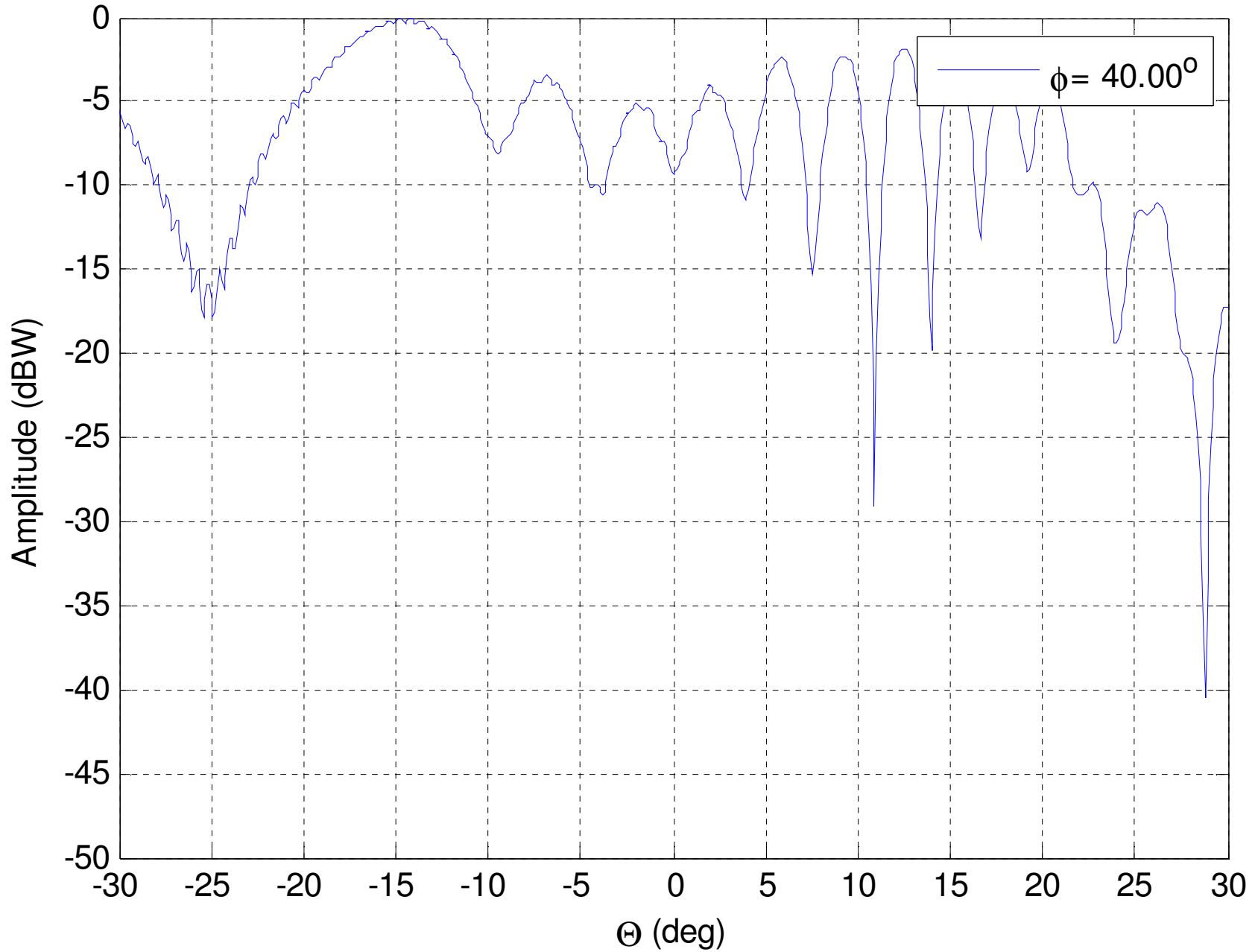
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: 5.73 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

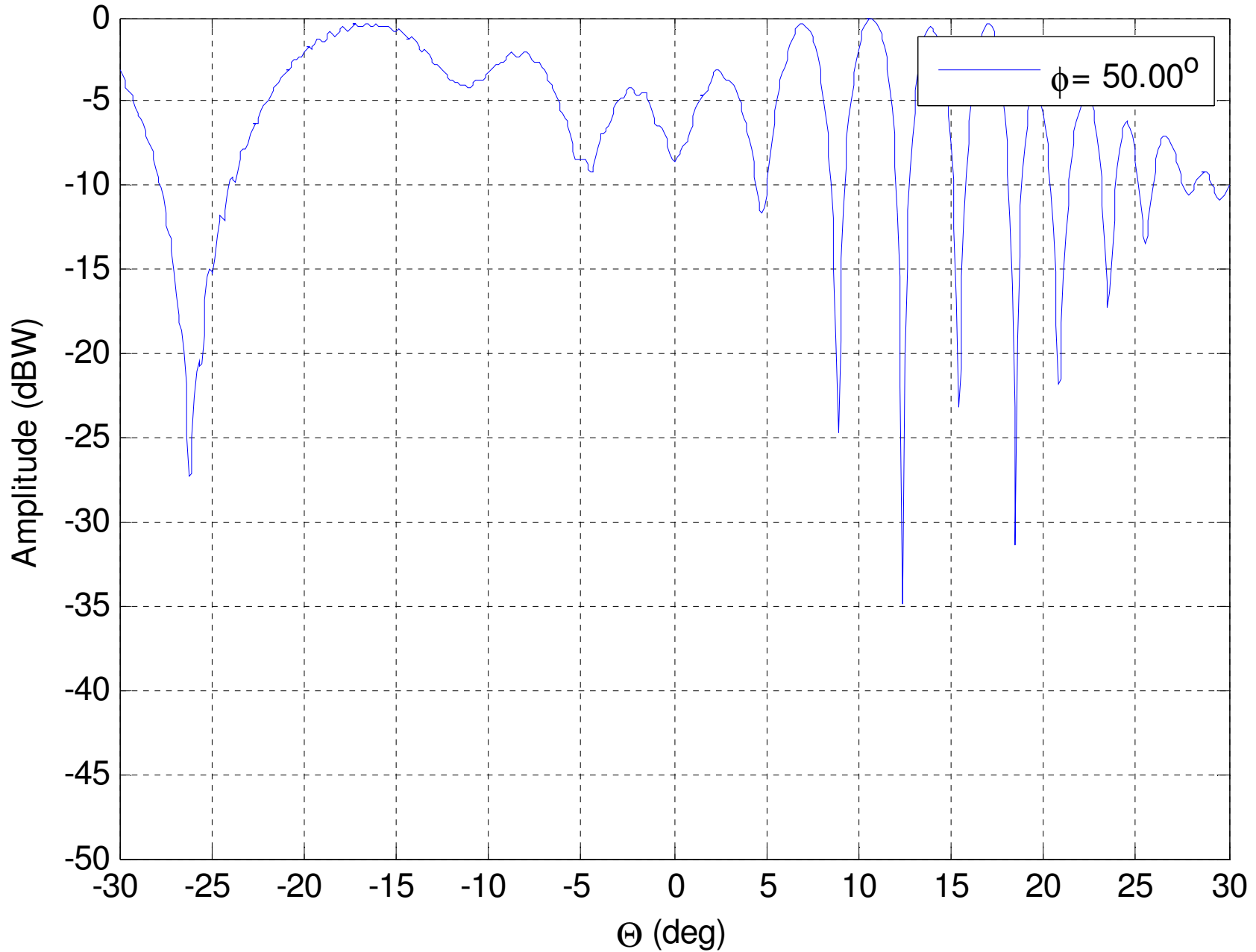
Input file: tx-17.5-rhcp-40.cut, Peak: 4.68 dBW, Date: 16-Dec-2011





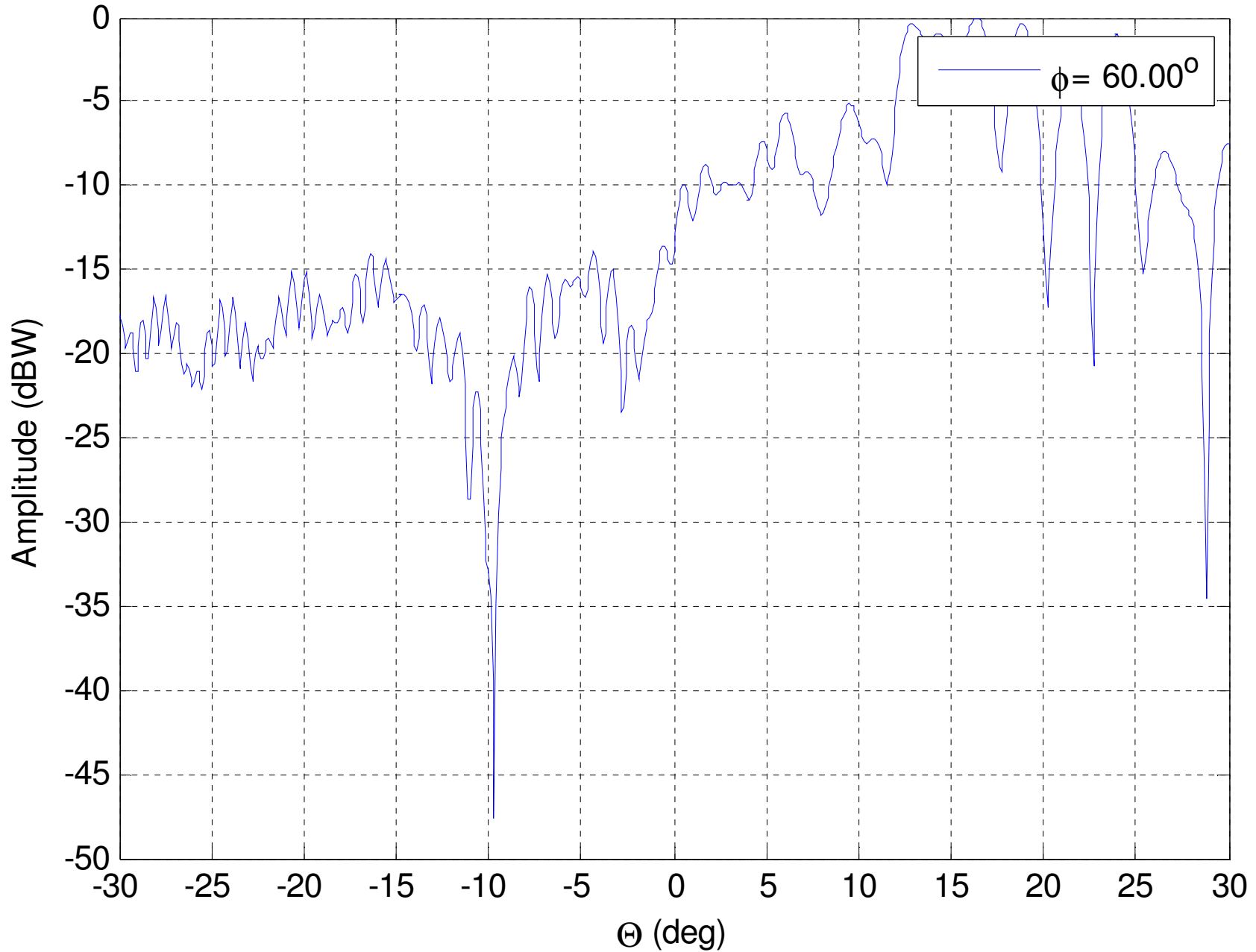
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: 3.94 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

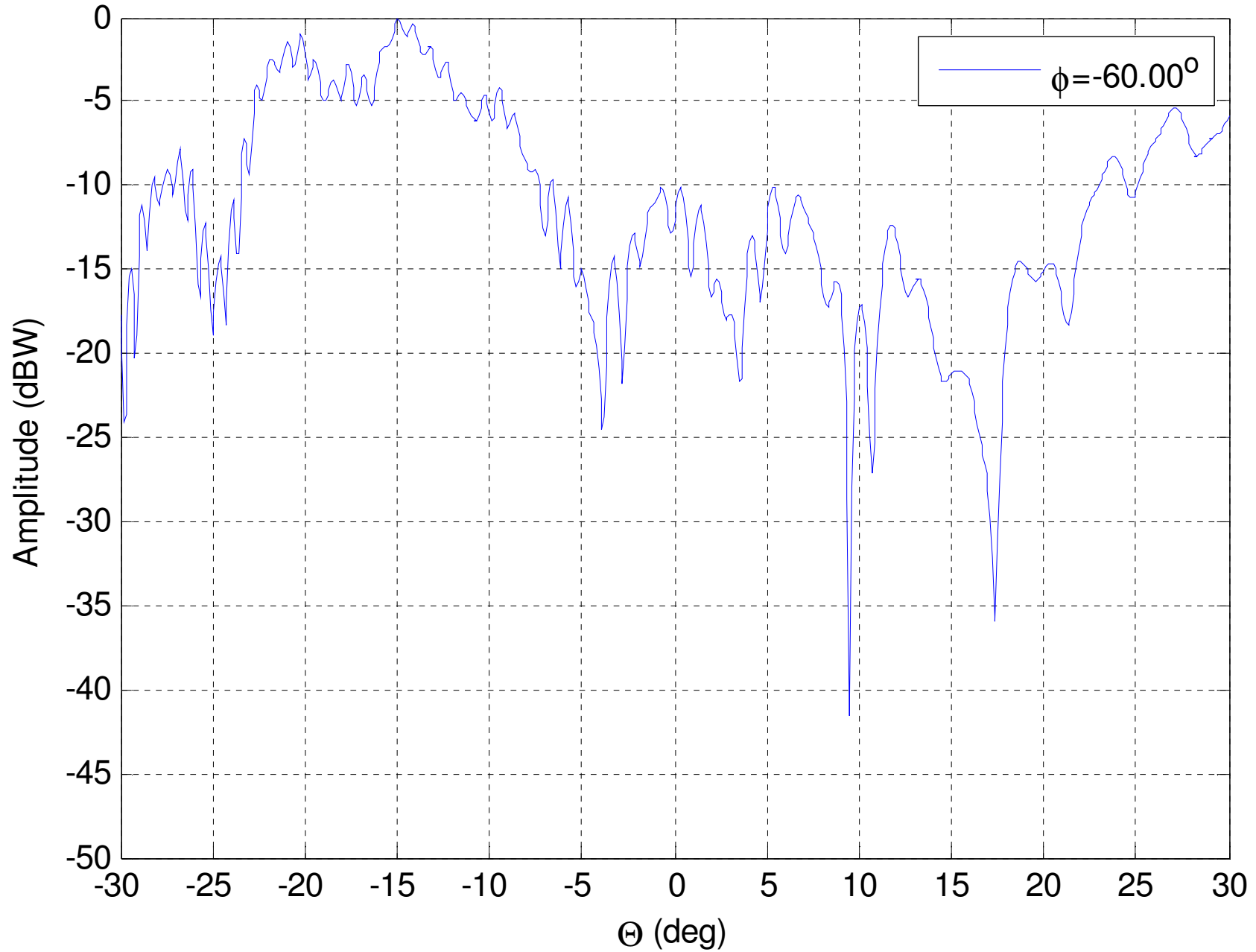
Input file: tx-17.5-rhcp-60.cut, Peak: 0.59 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

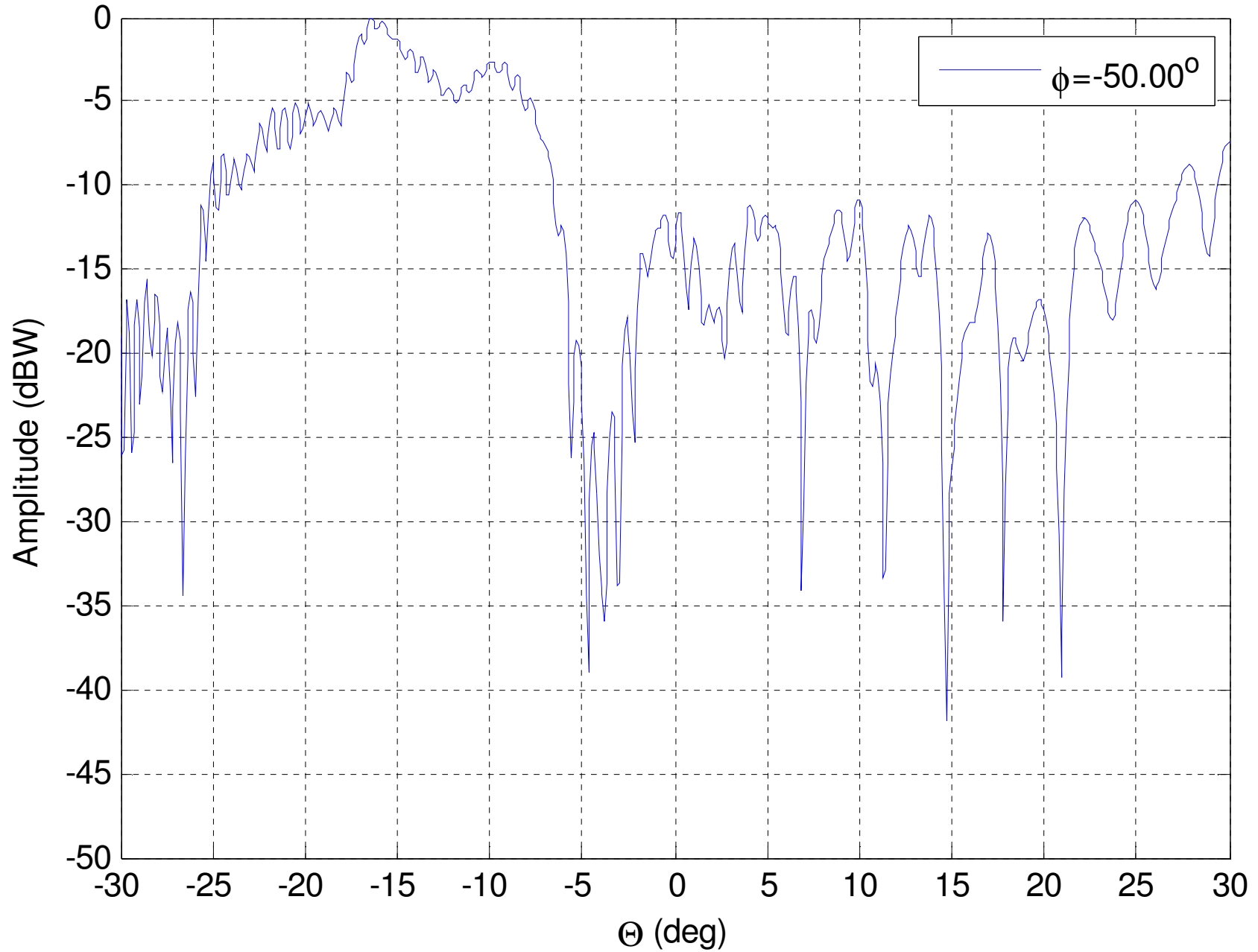
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -1.77 dBW, Date: 16-Dec-2011



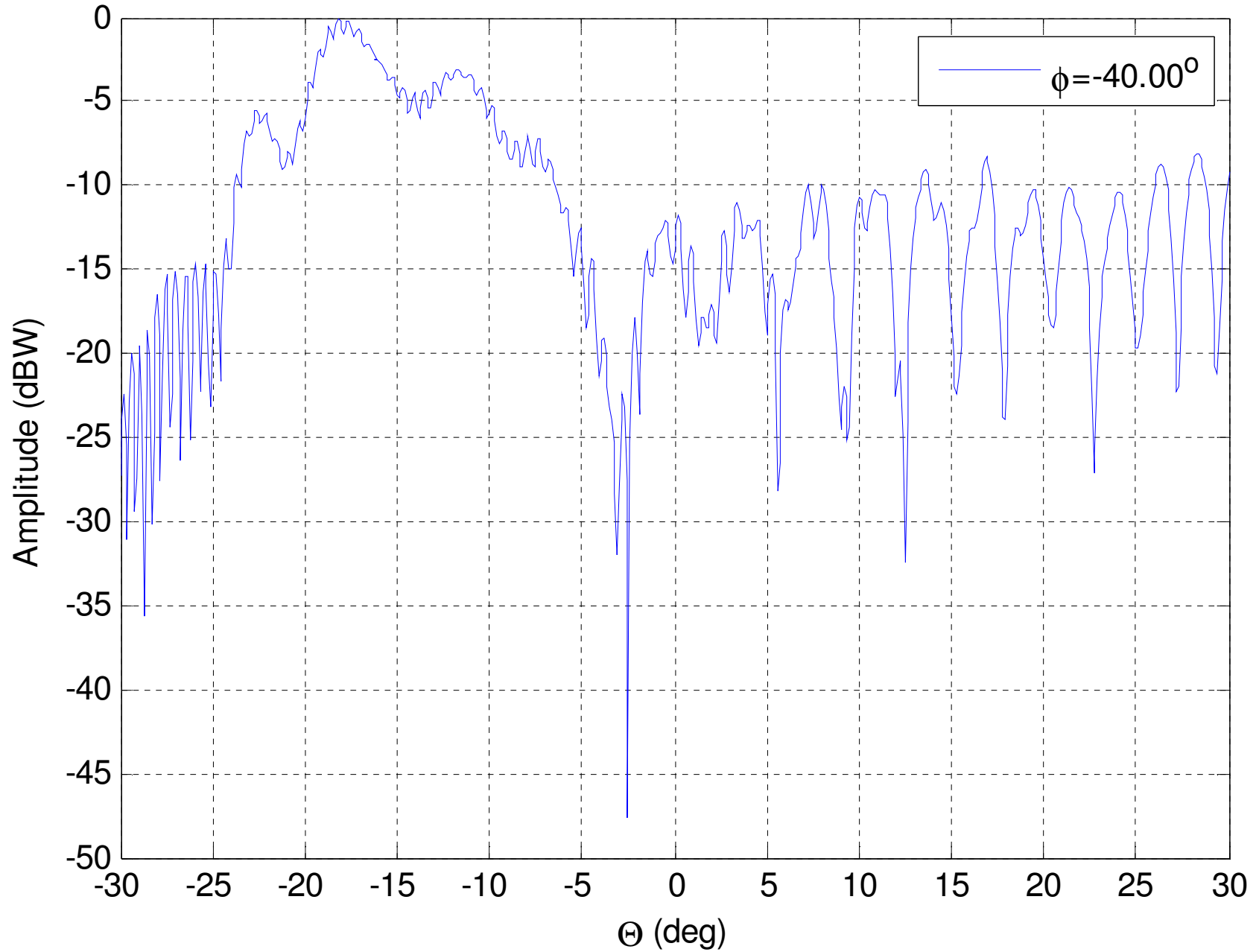
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -0.29 dBW, Date: 16-Dec-2011



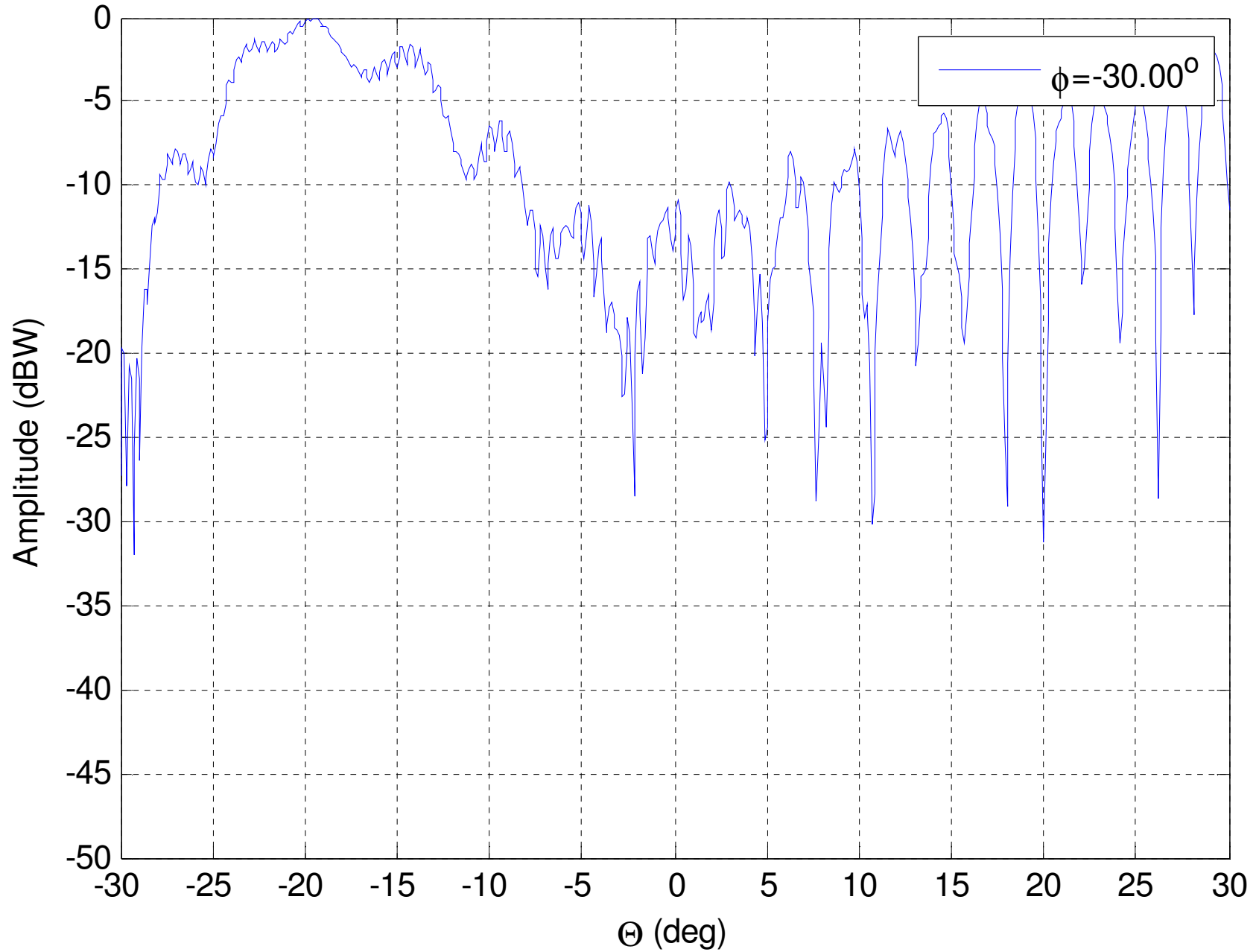
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -0.07 dBW, Date: 16-Dec-2011



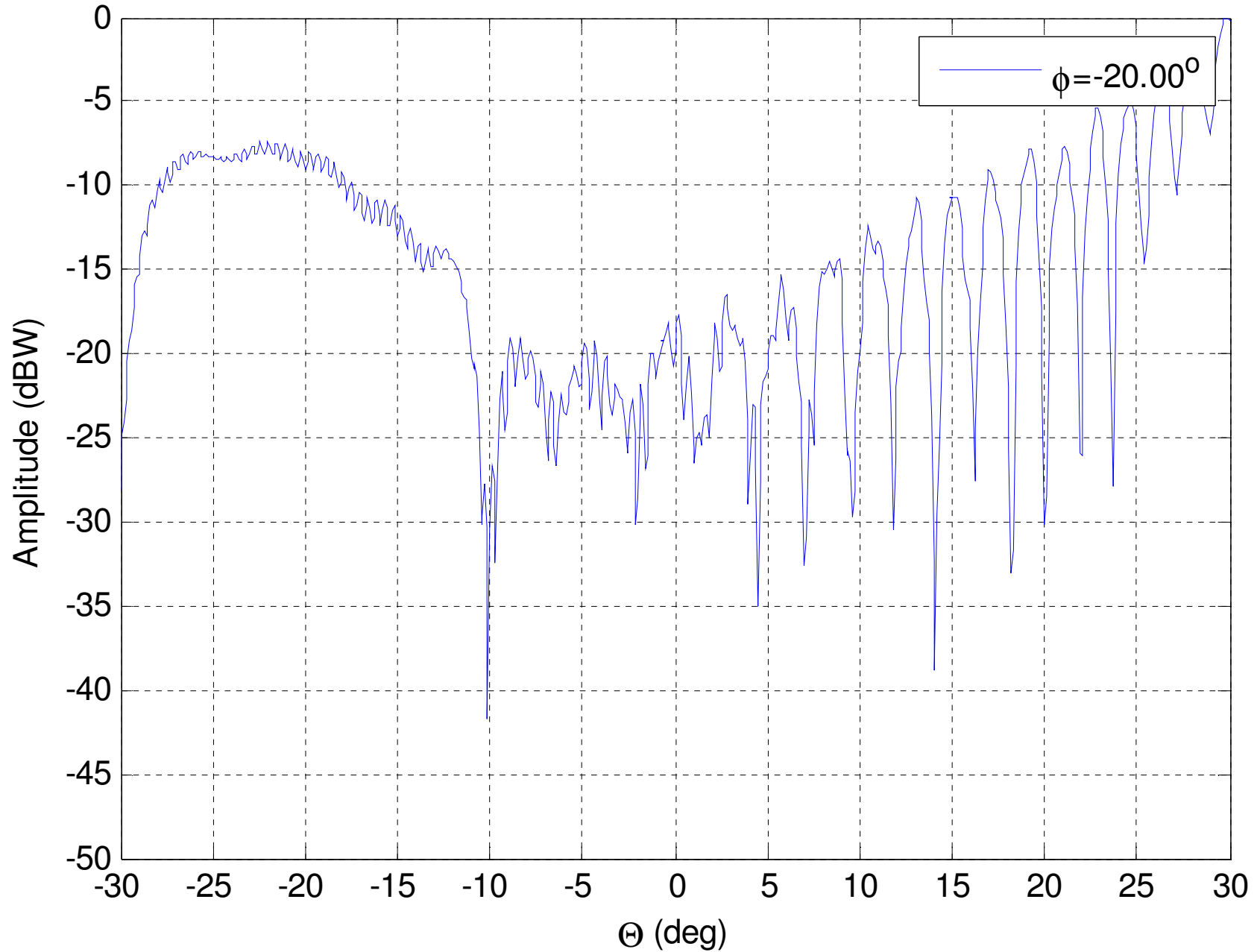
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -0.89 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

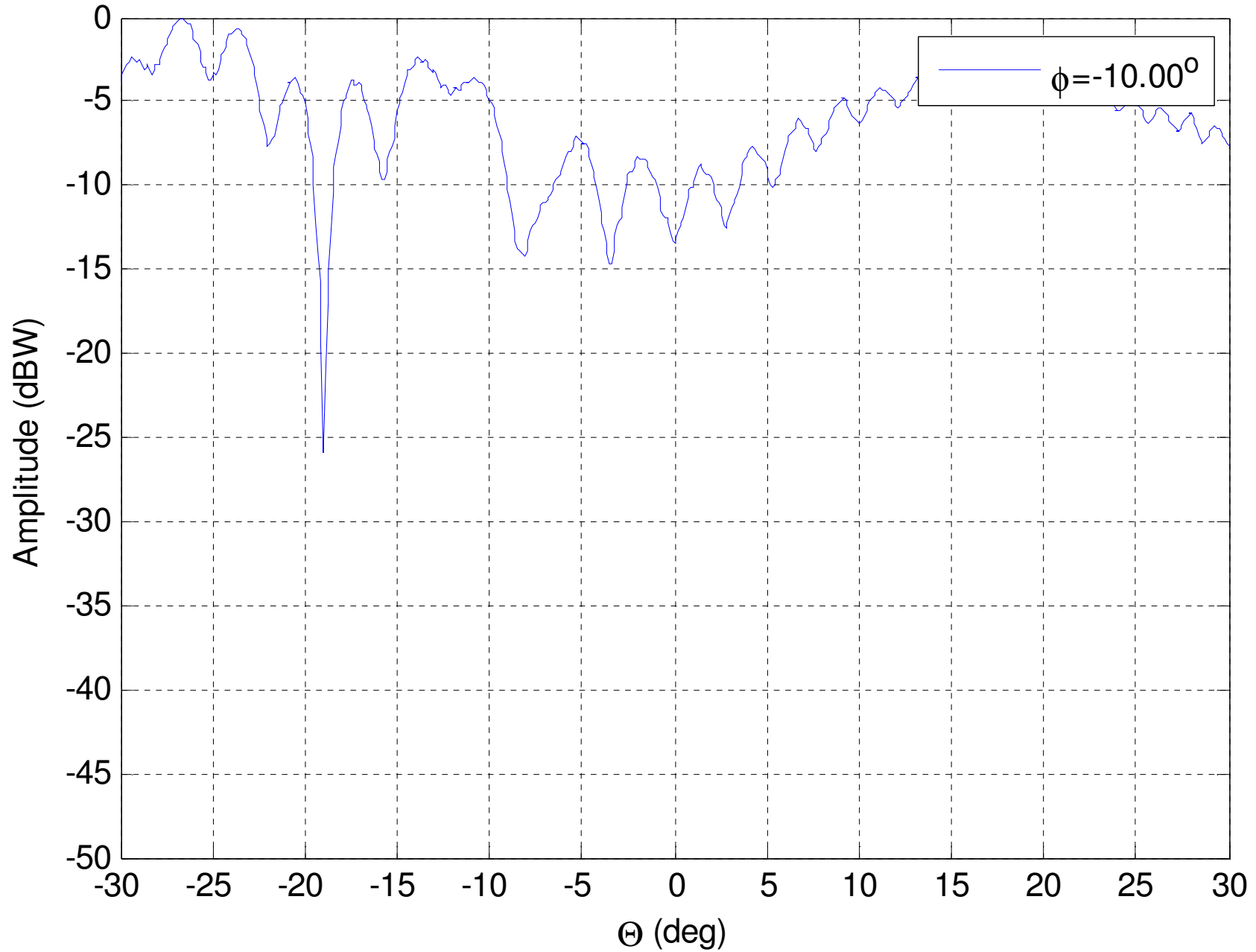
Input file: tx-17.5-lhcp--20.cut, Peak: 5.90 dBW, Date: 16-Dec-2011





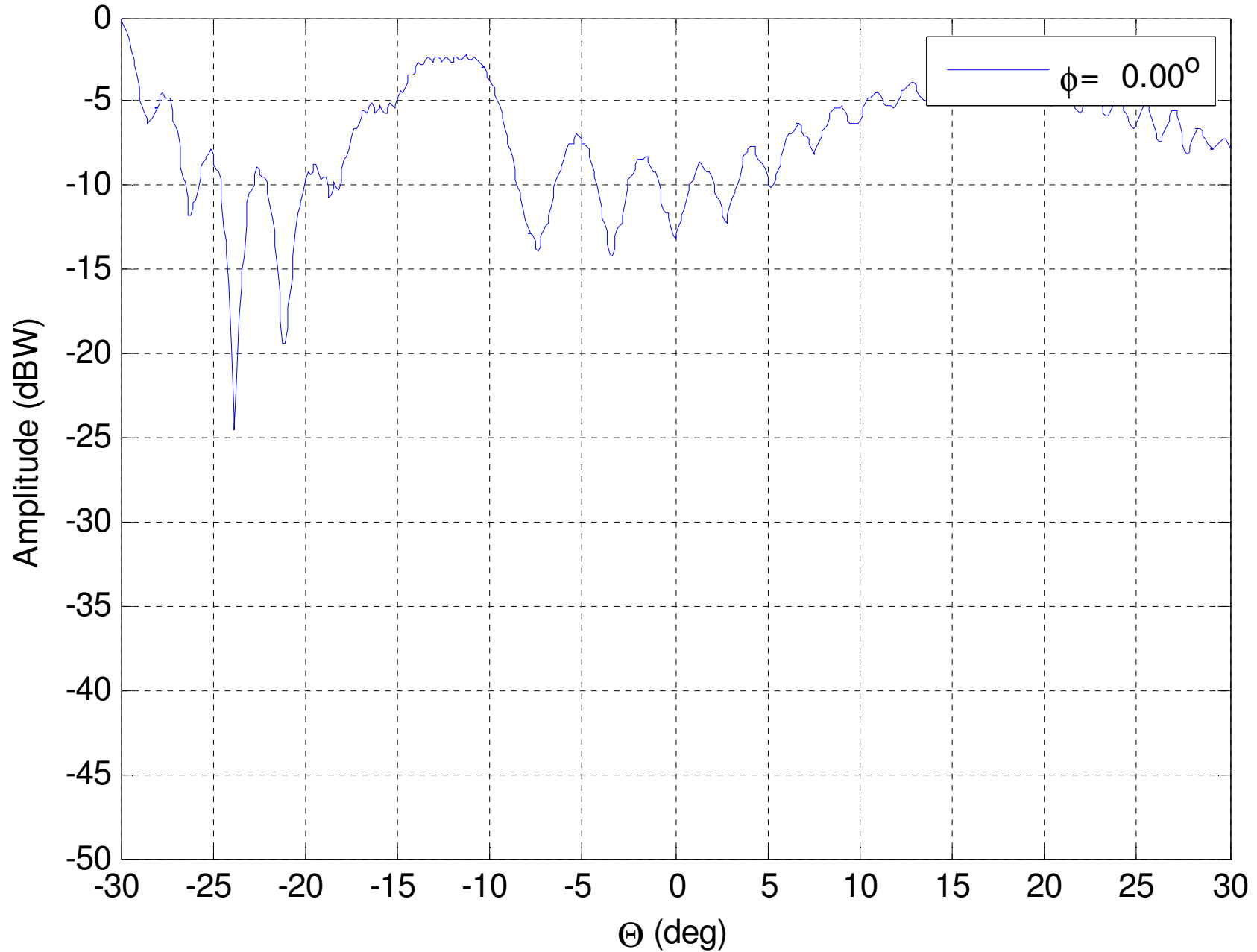
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: 8.83 dBW, Date: 16-Dec-2011



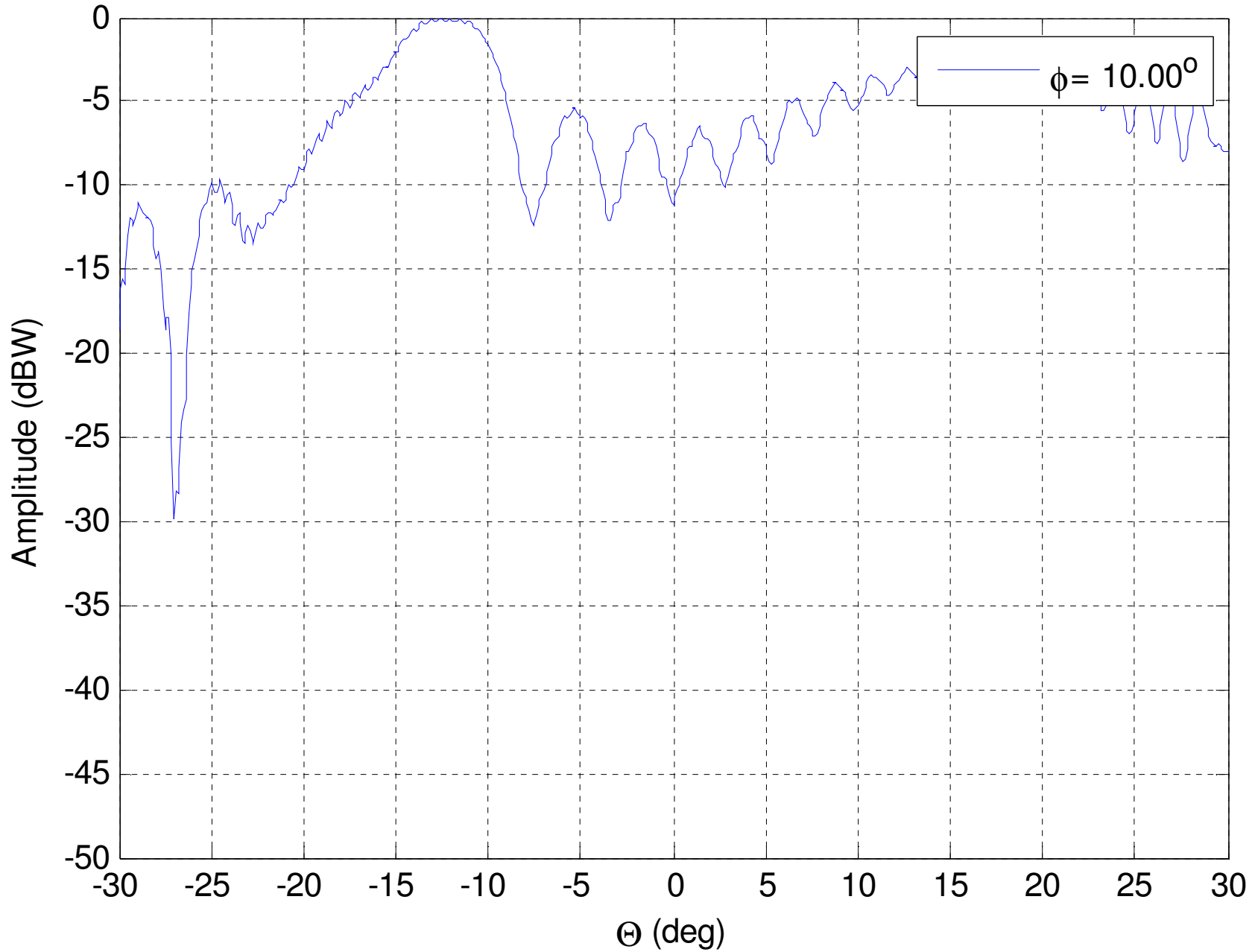
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: 8.51 dBW, Date: 16-Dec-2011



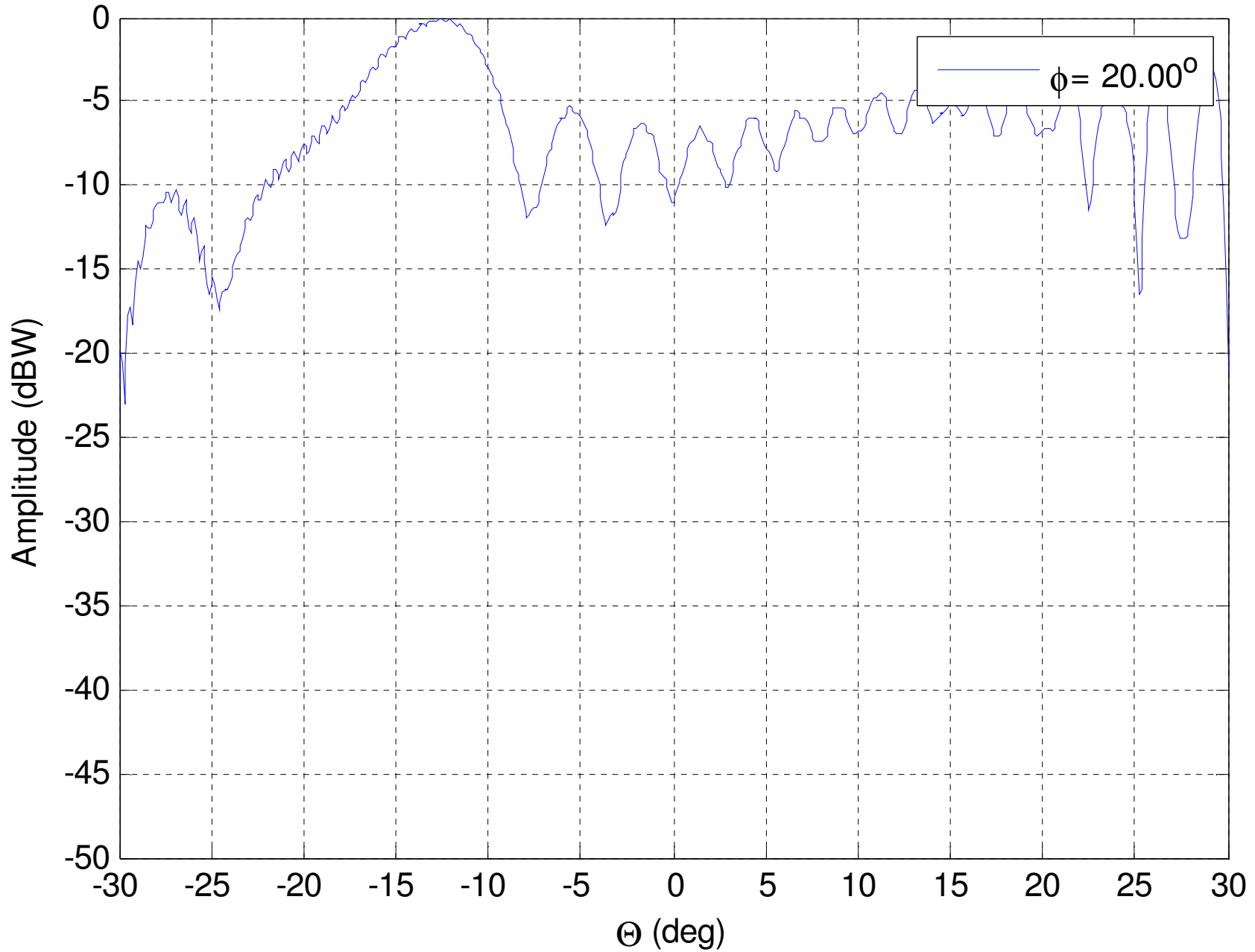
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: 6.48 dBW, Date: 16-Dec-2011



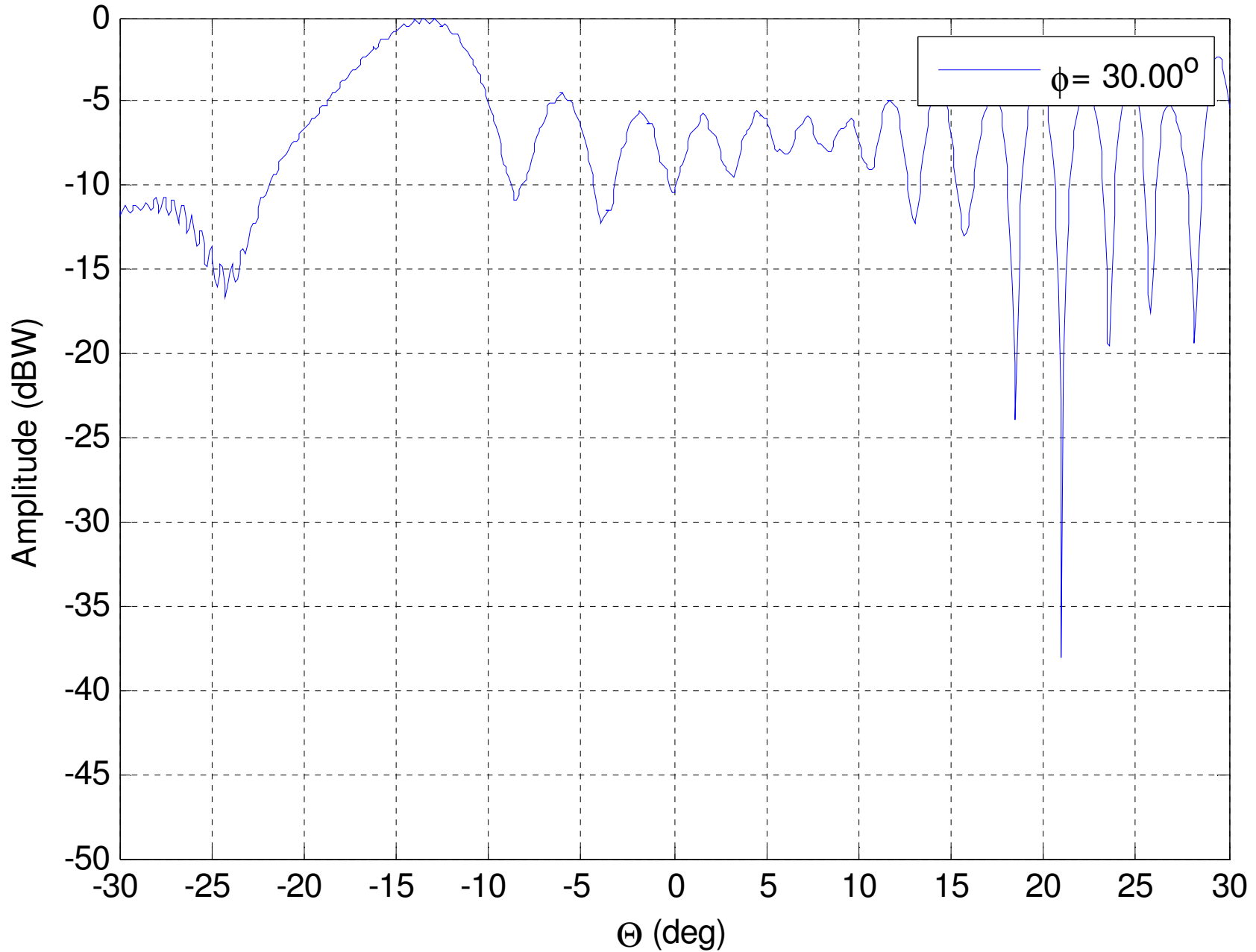
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: 6.42 dBW, Date: 16-Dec-2011



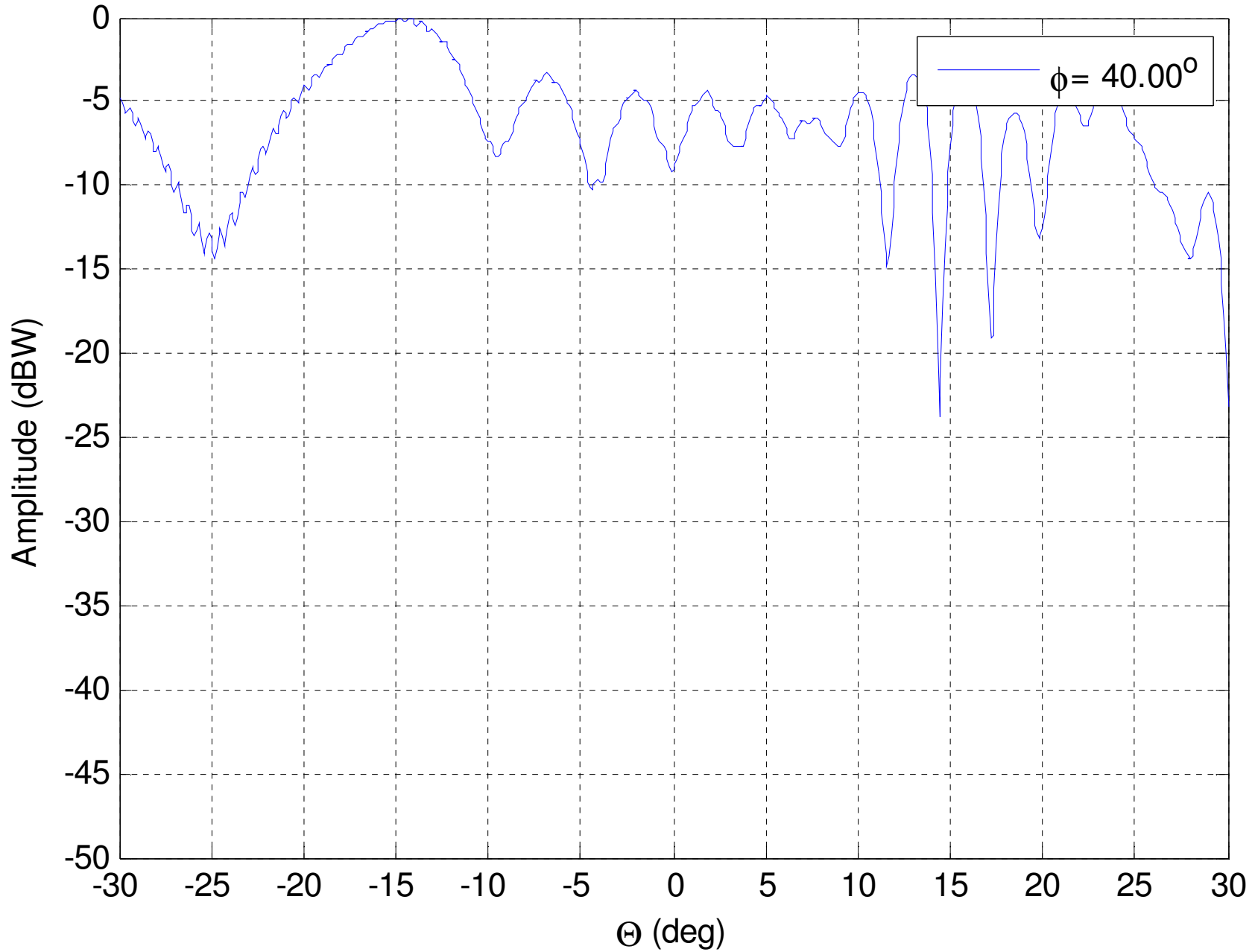
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: 5.77 dBW, Date: 16-Dec-2011



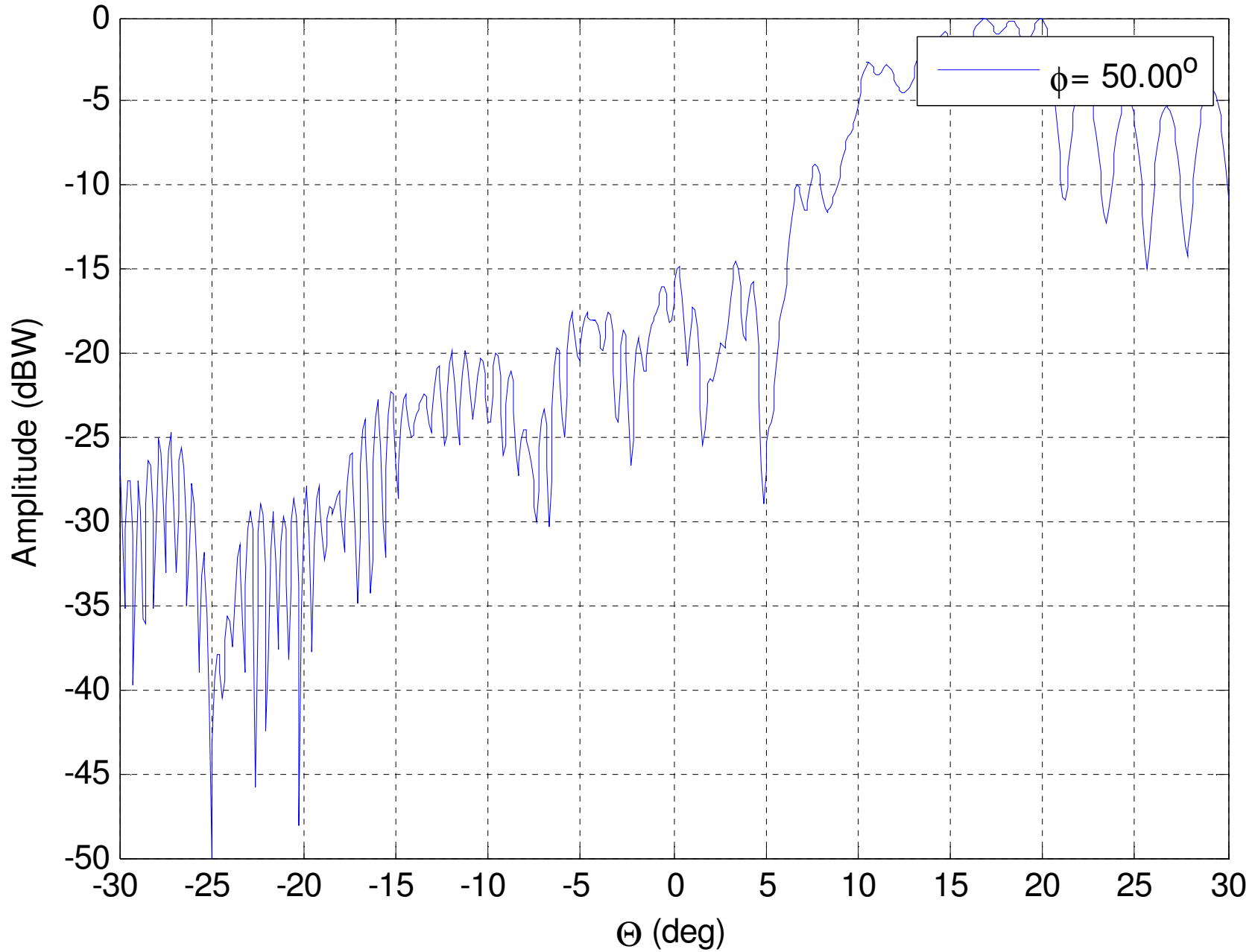
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: 4.47 dBW, Date: 16-Dec-2011



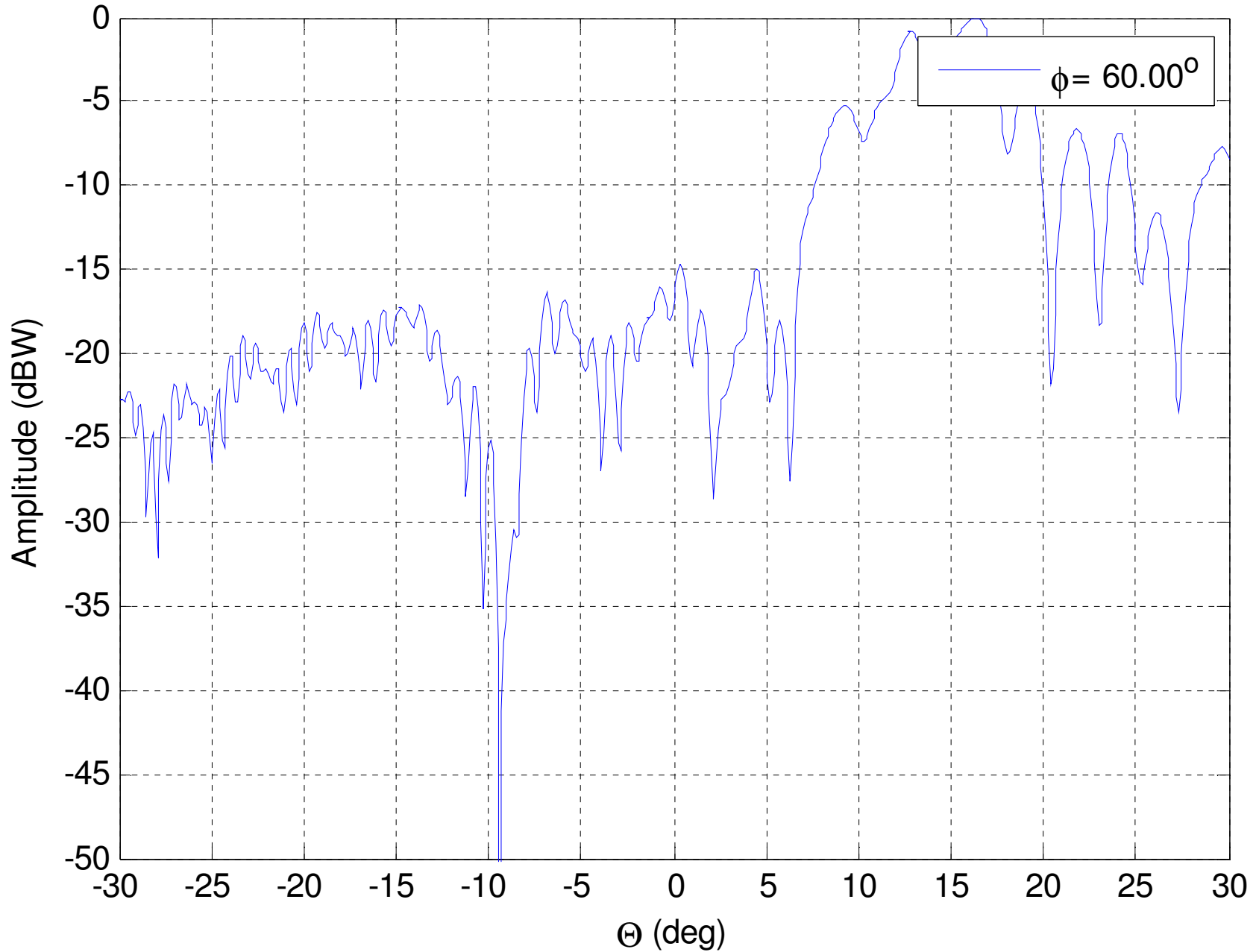
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: 3.14 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-60.cut, Peak: 2.97 dBW, Date: 16-Dec-2011

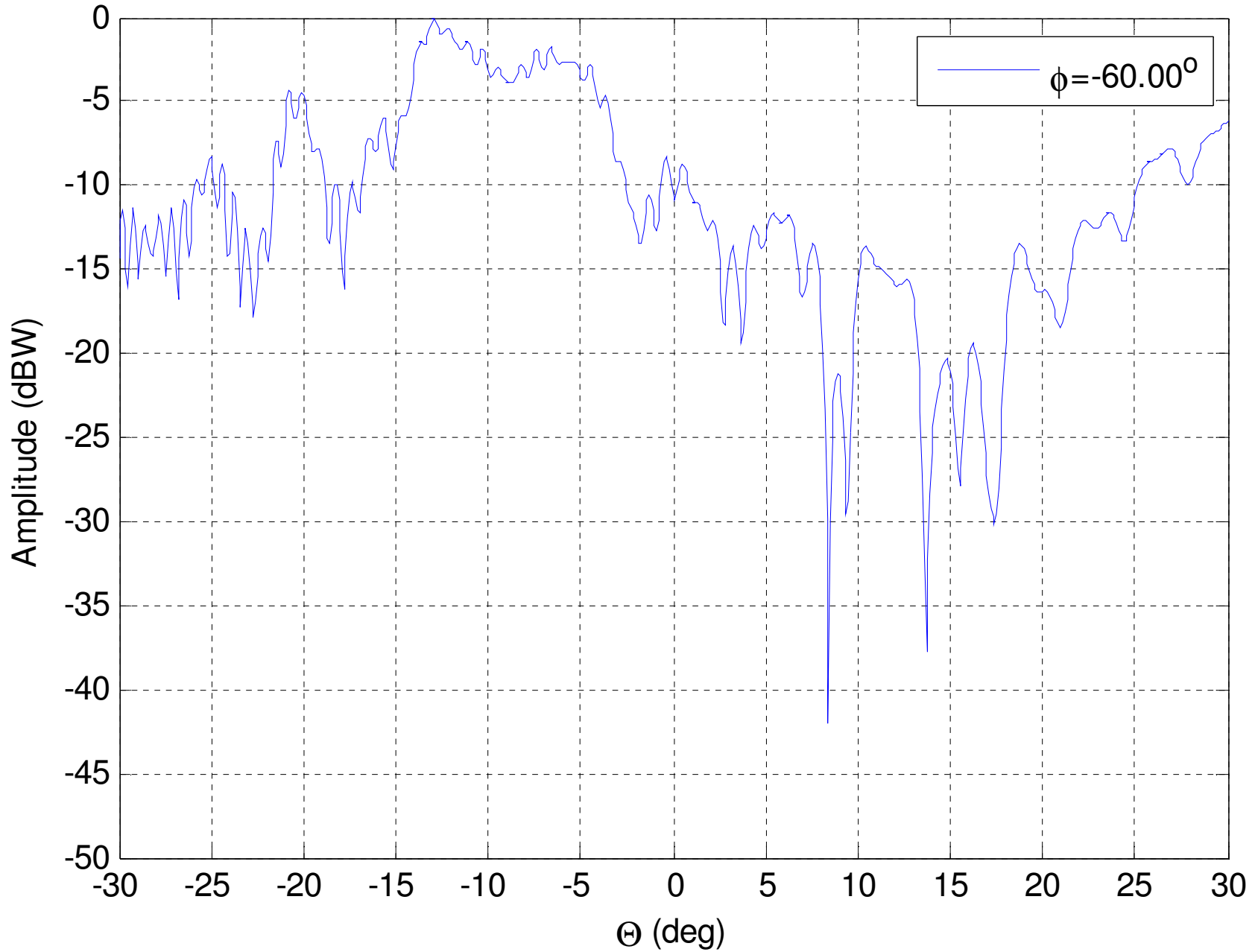




**RHCP at 17.7 GHz**

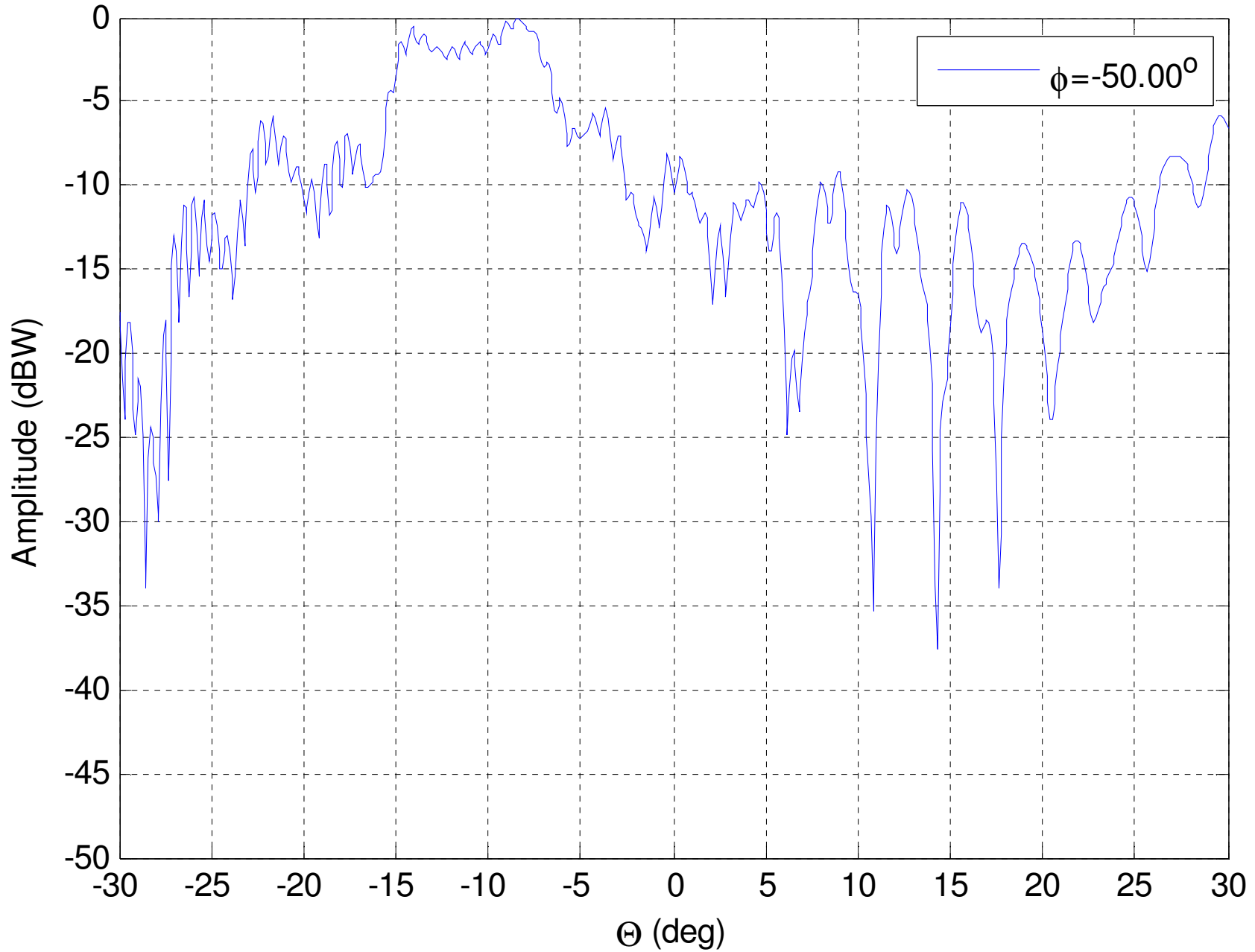
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -1.03 dBW, Date: 16-Dec-2011



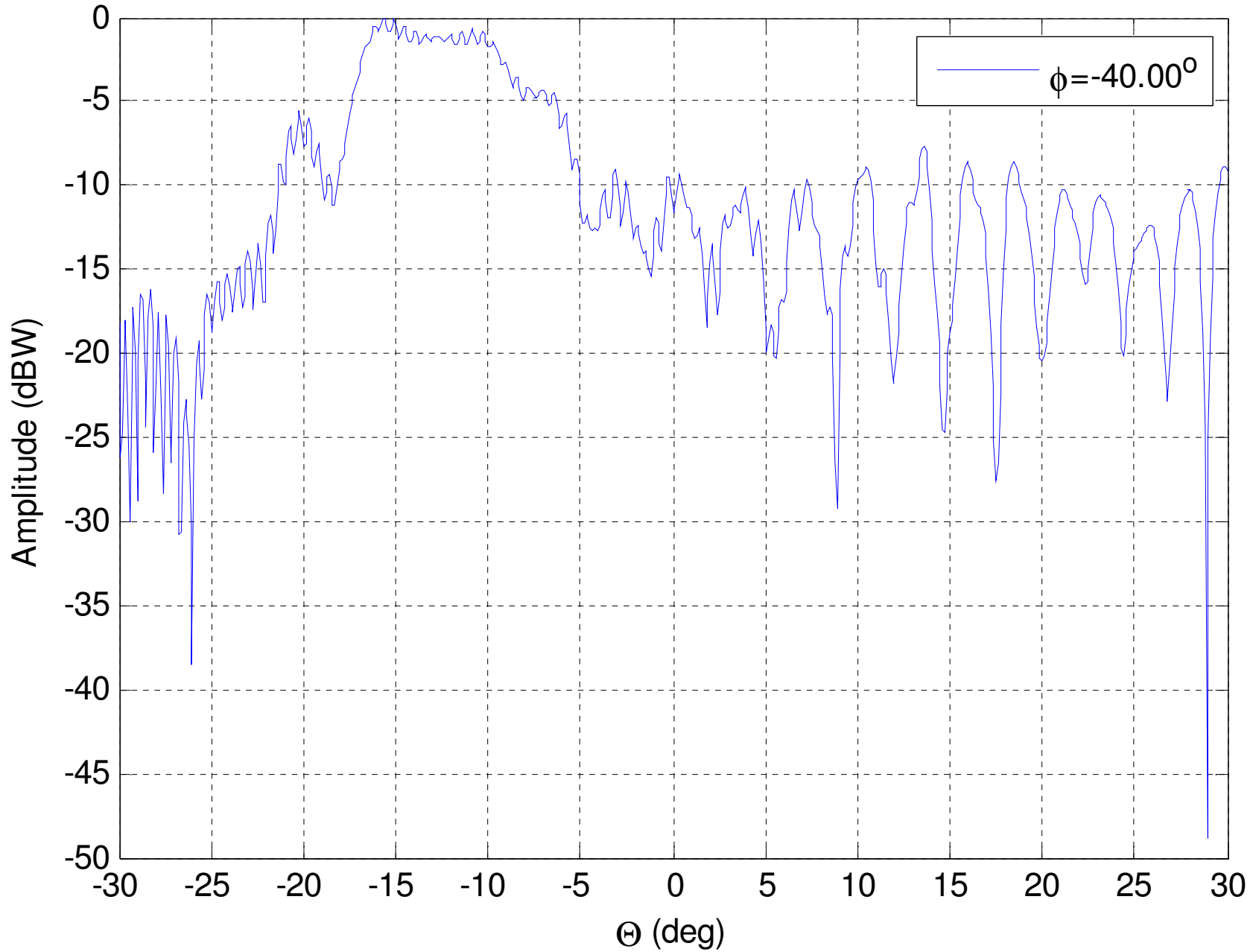
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -1.25 dBW, Date: 16-Dec-2011



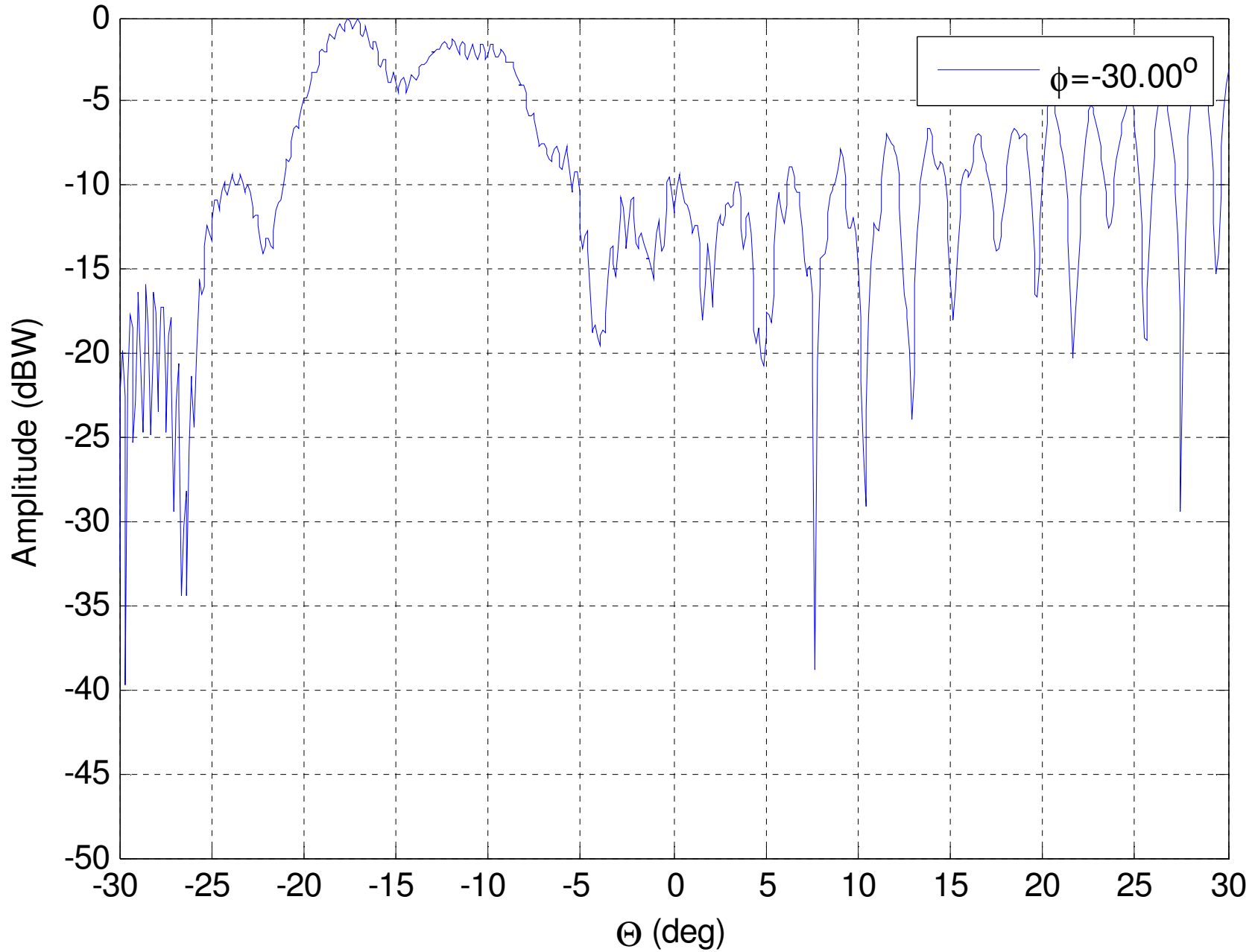
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -0.09 dBW, Date: 16-Dec-2011



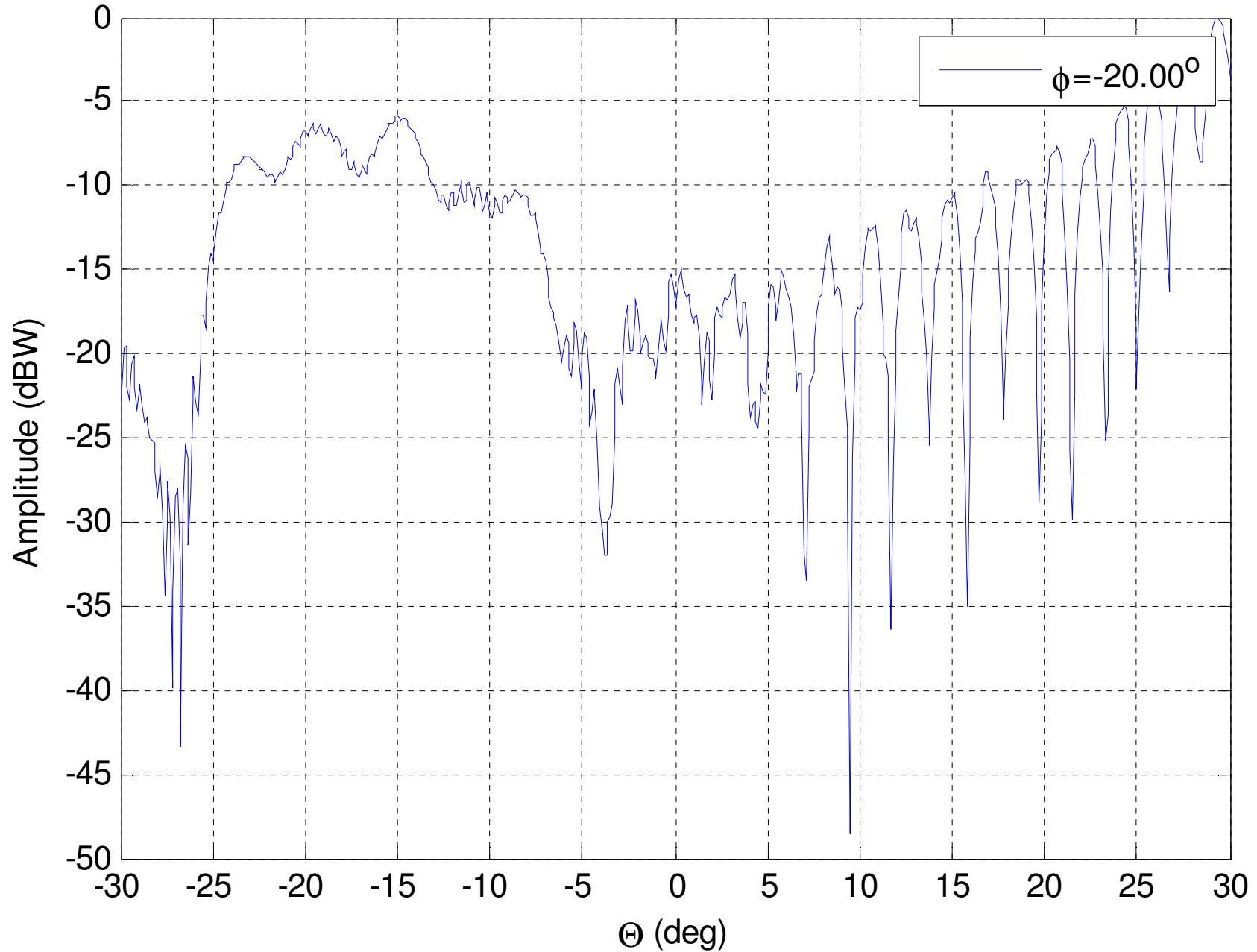
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -0.05 dBW, Date: 16-Dec-2011



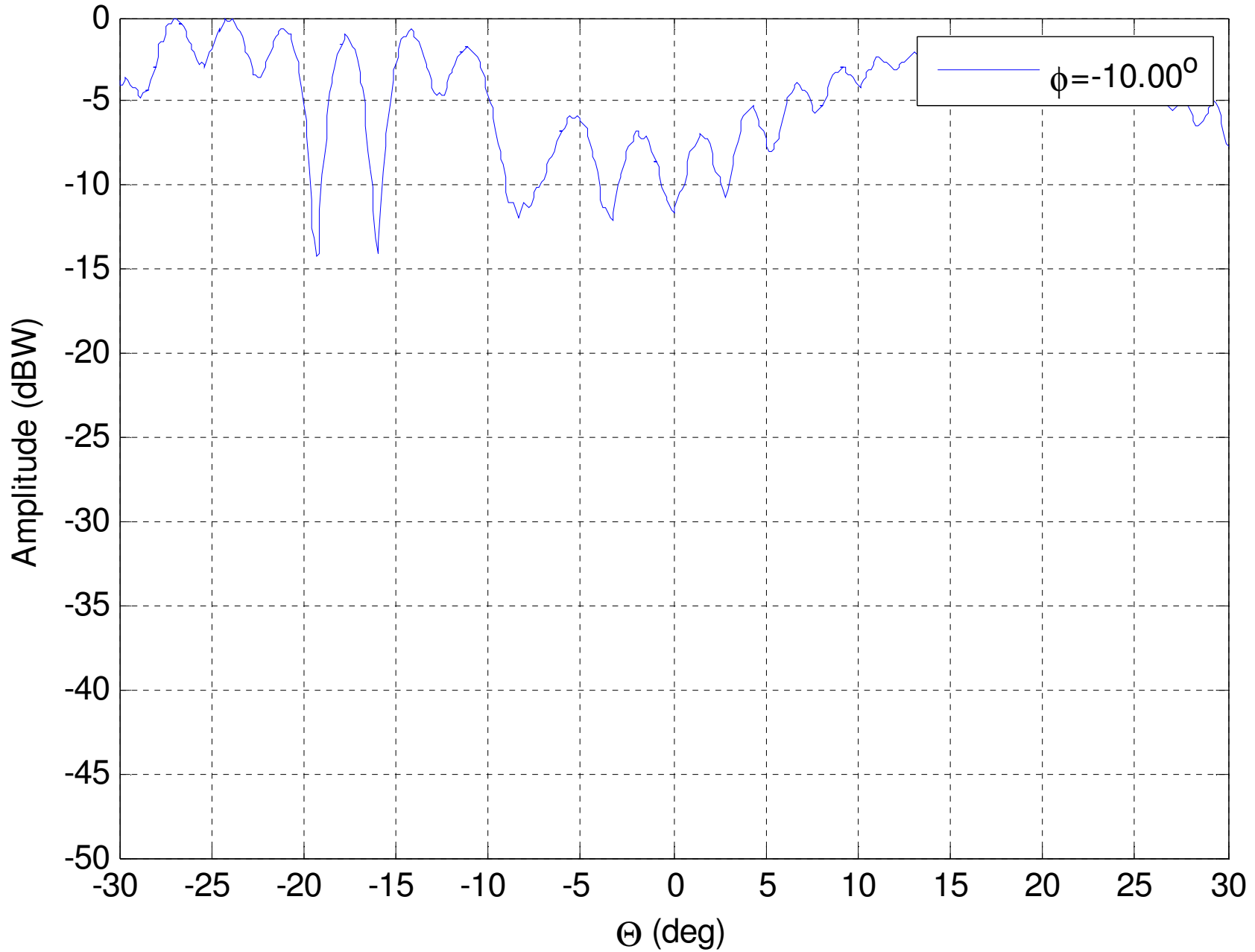
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: 5.64 dBW, Date: 16-Dec-2011



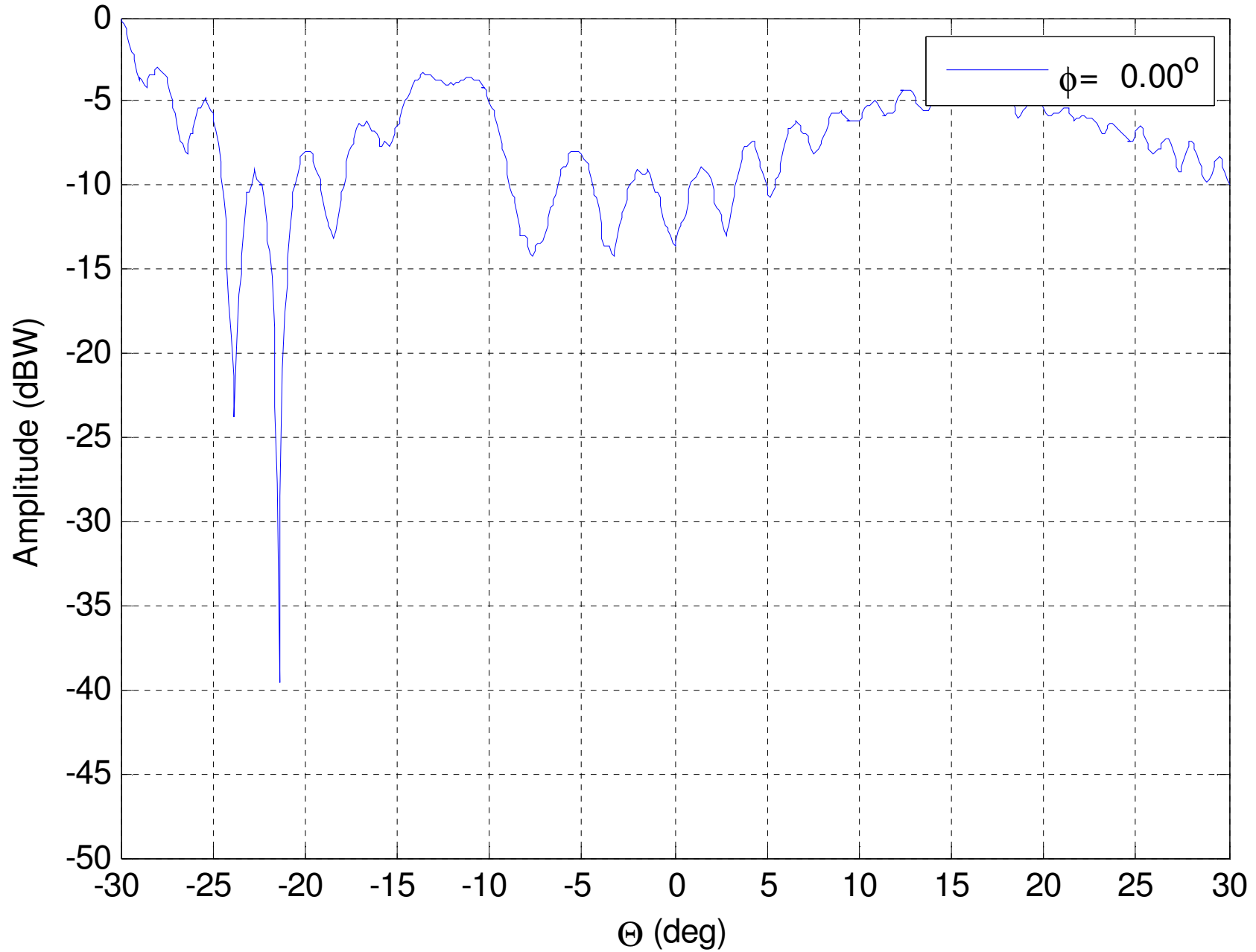
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: 7.33 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

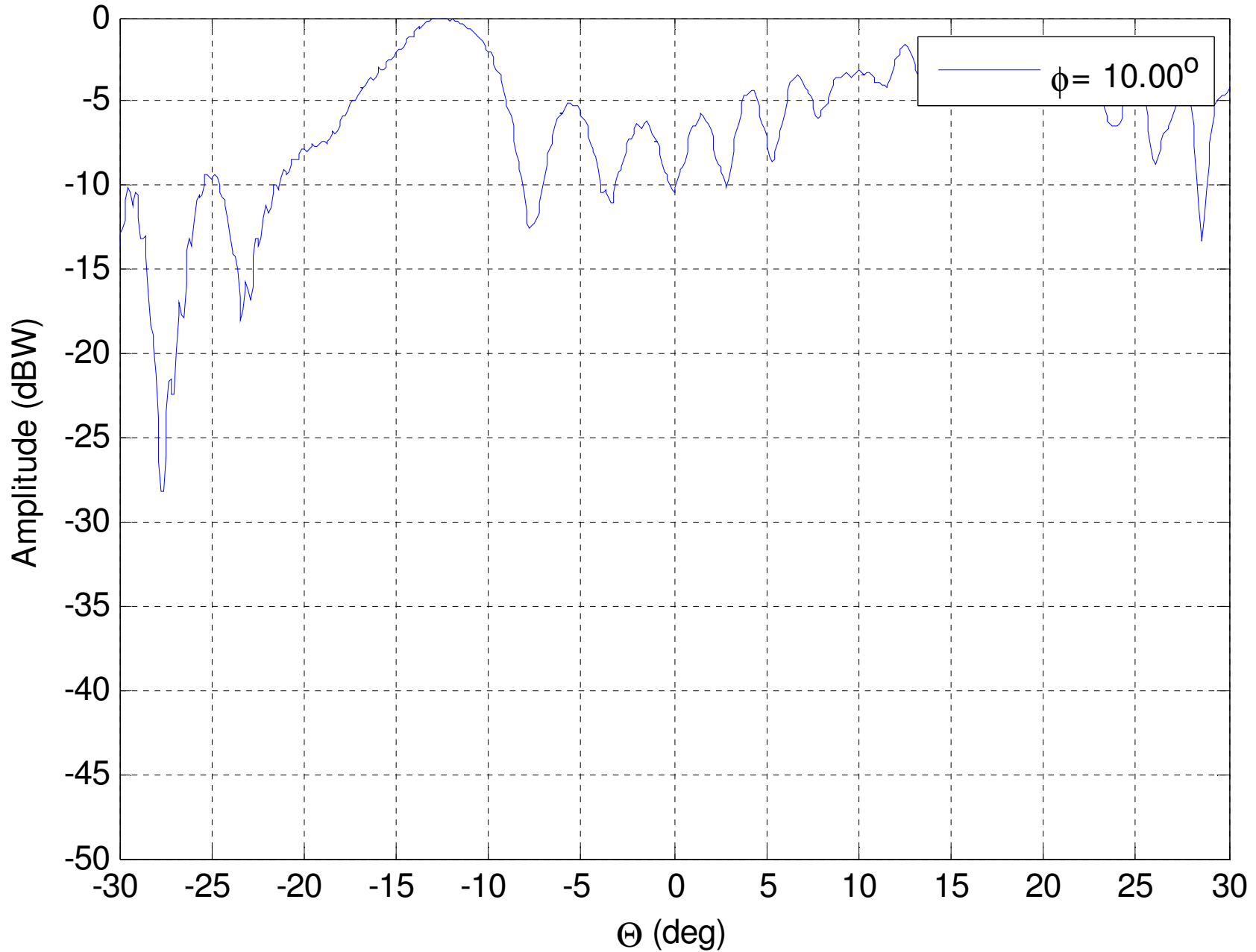
Input file: tx-17.7-rhcp-0.cut, Peak: 9.26 dBW, Date: 16-Dec-2011





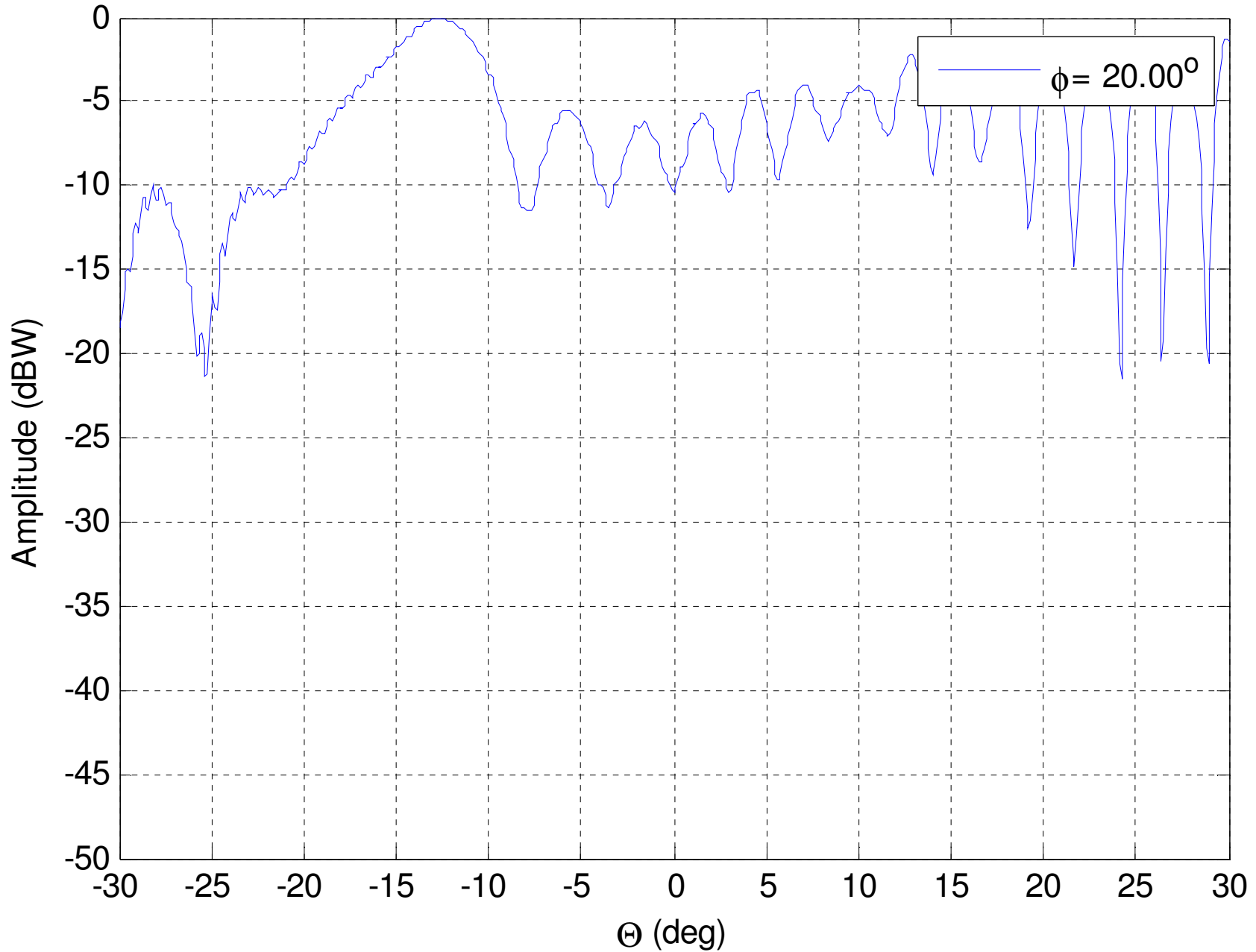
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: 6.14 dBW, Date: 16-Dec-2011



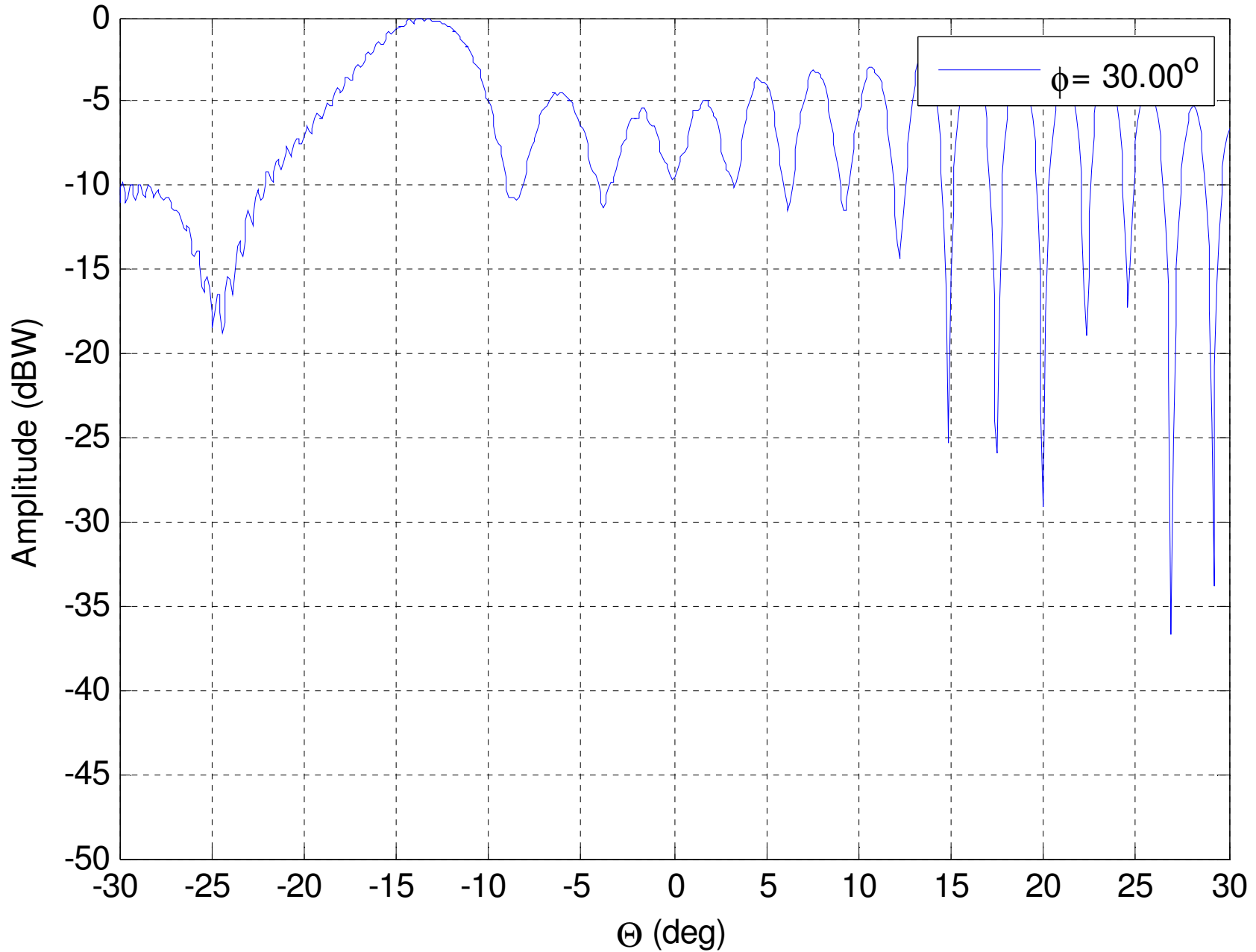
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: 6.12 dBW, Date: 16-Dec-2011



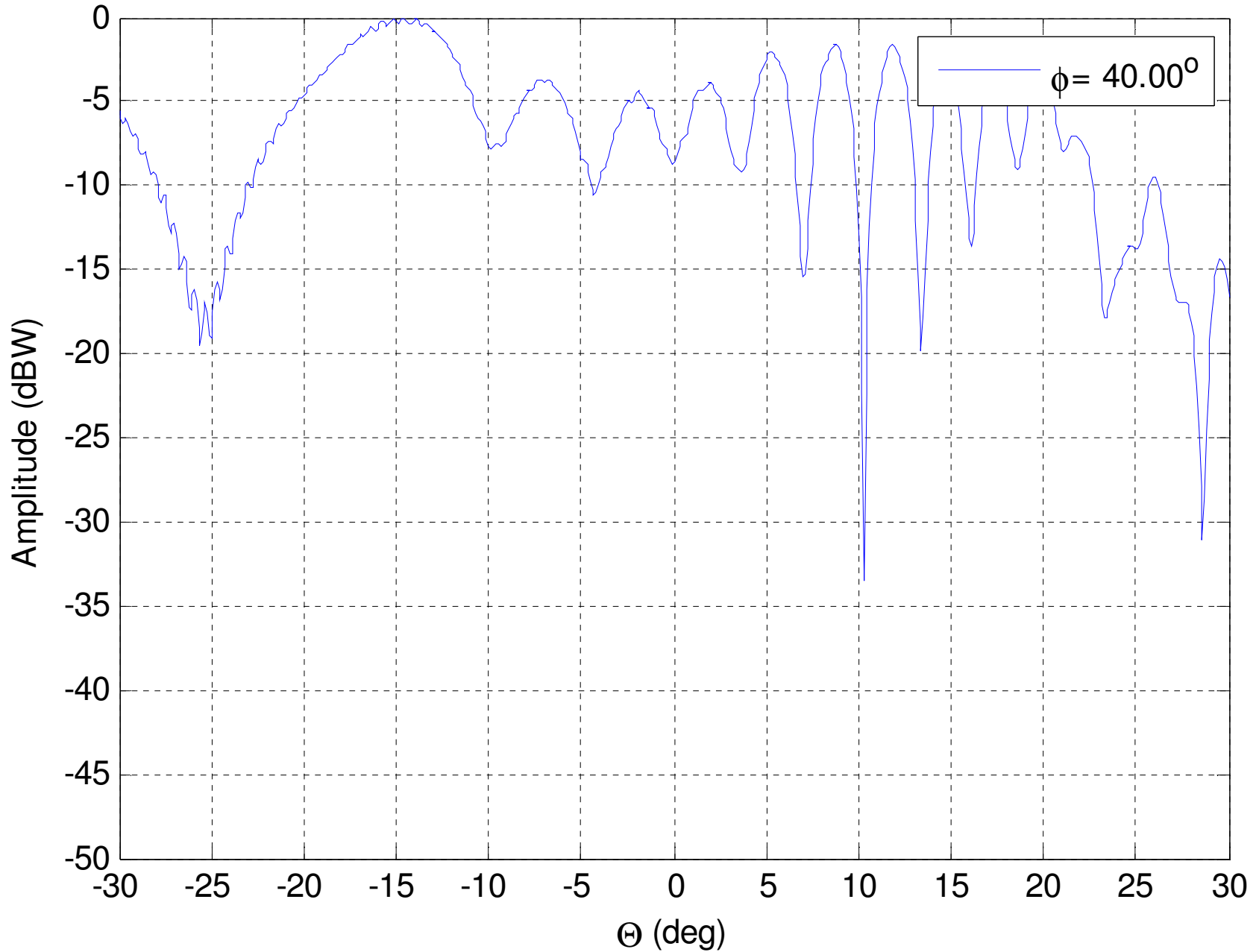
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: 5.42 dBW, Date: 16-Dec-2011



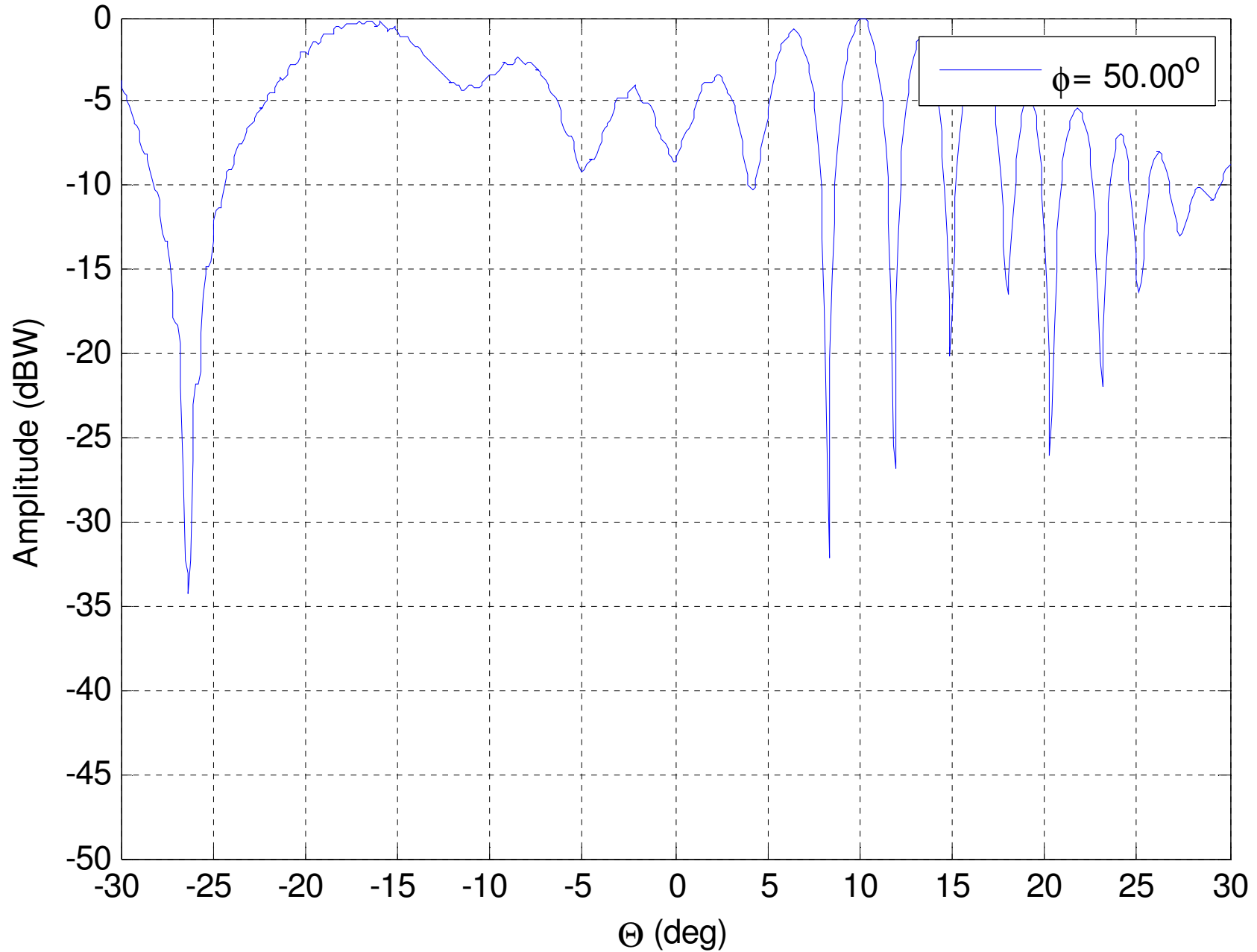
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: 4.47 dBW, Date: 16-Dec-2011



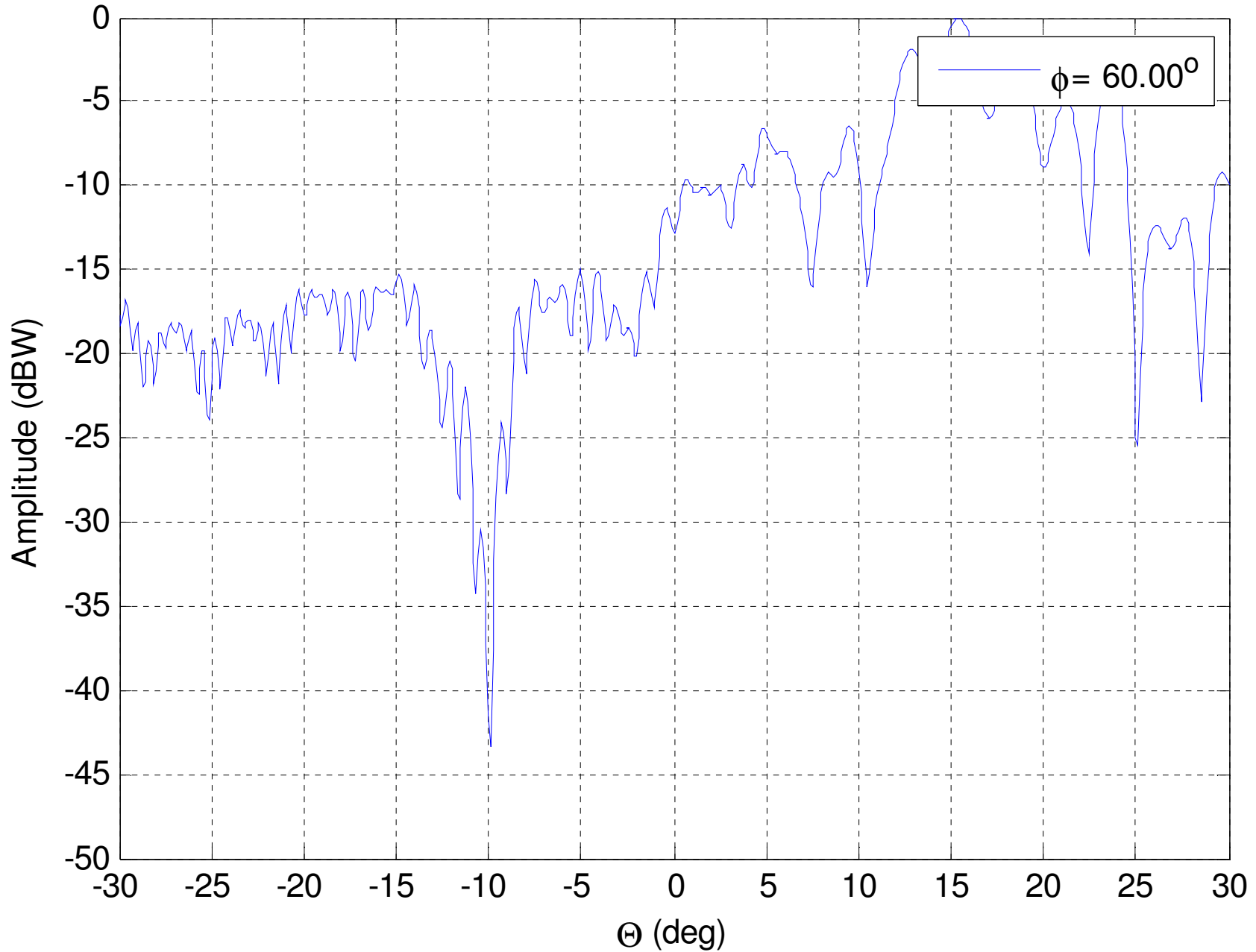
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: 4.25 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

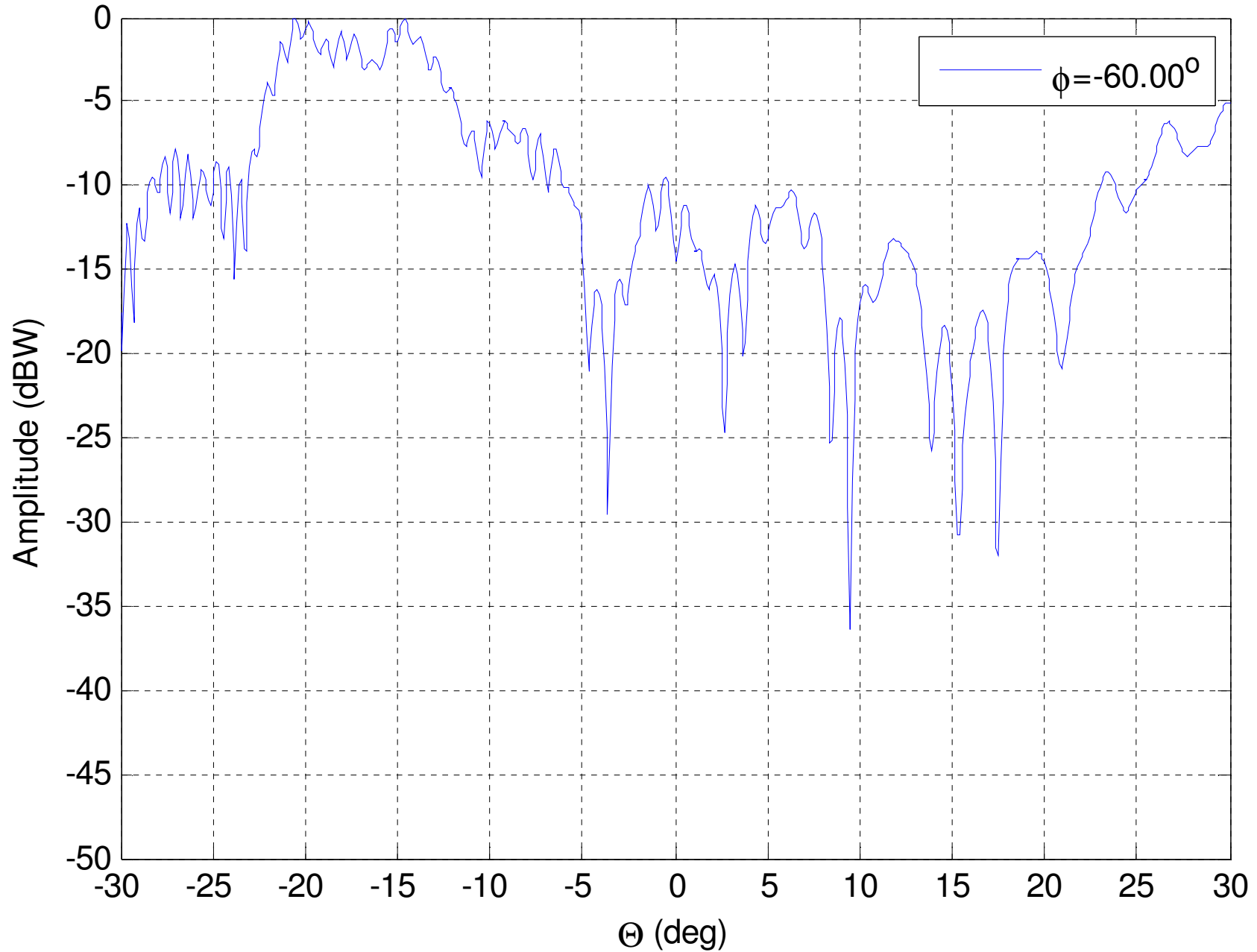
Input file: tx-17.7-rhcp-60.cut, Peak: 1.19 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

# Normalized pattern cuts - farfield

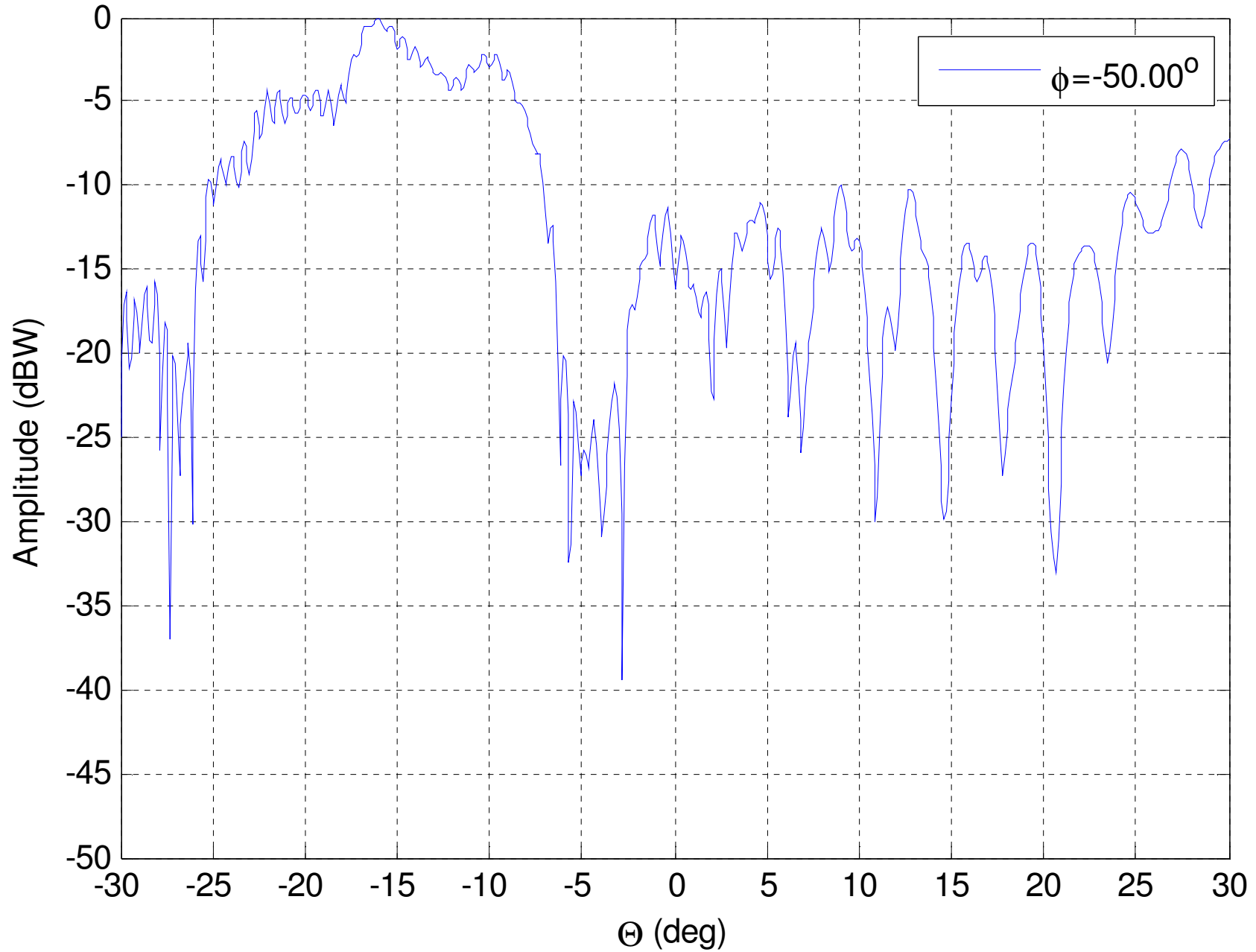
Input file: tx-17.7-lhcp--60.cut, Peak: -2.26 dBW, Date: 16-Dec-2011





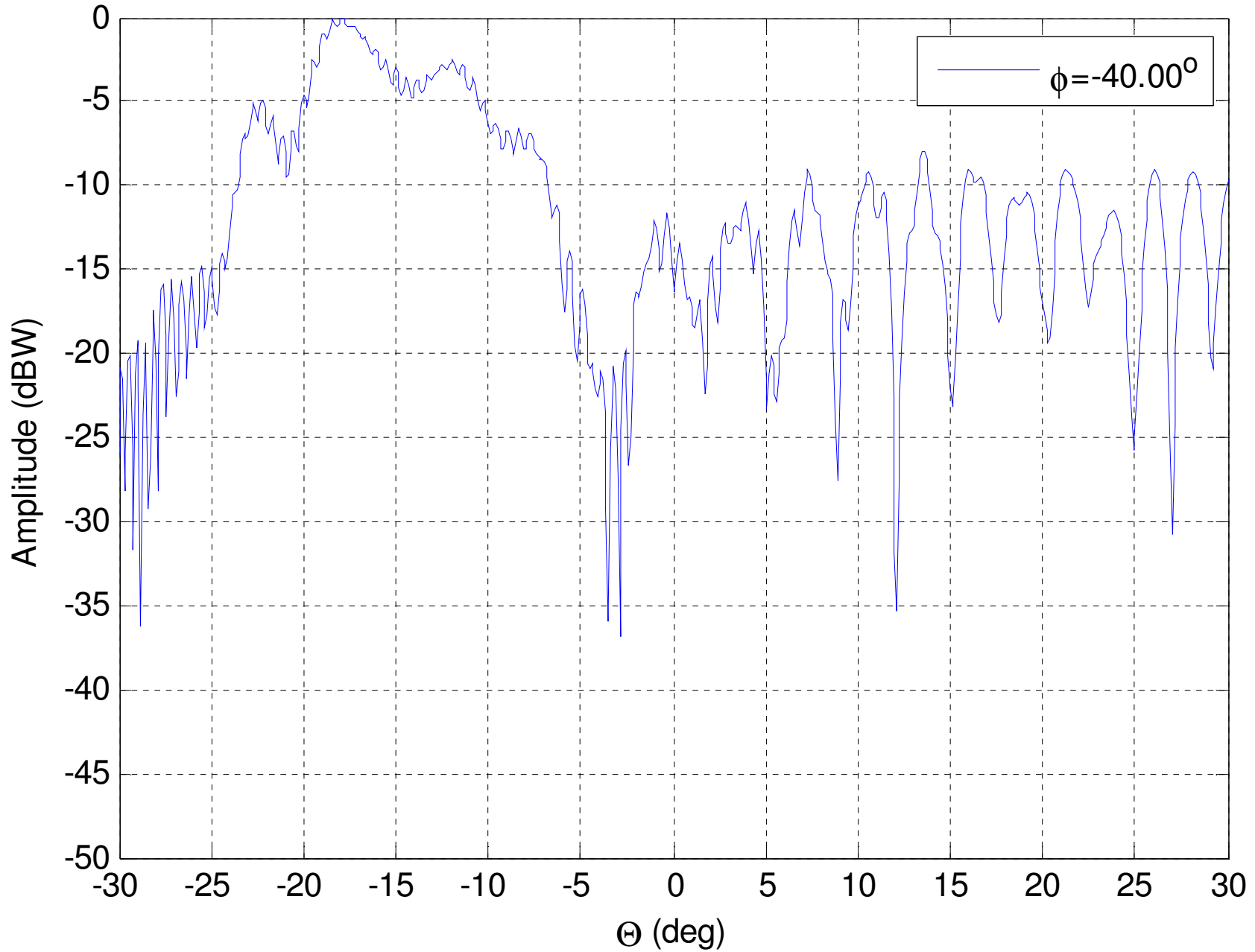
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -0.53 dBW, Date: 16-Dec-2011



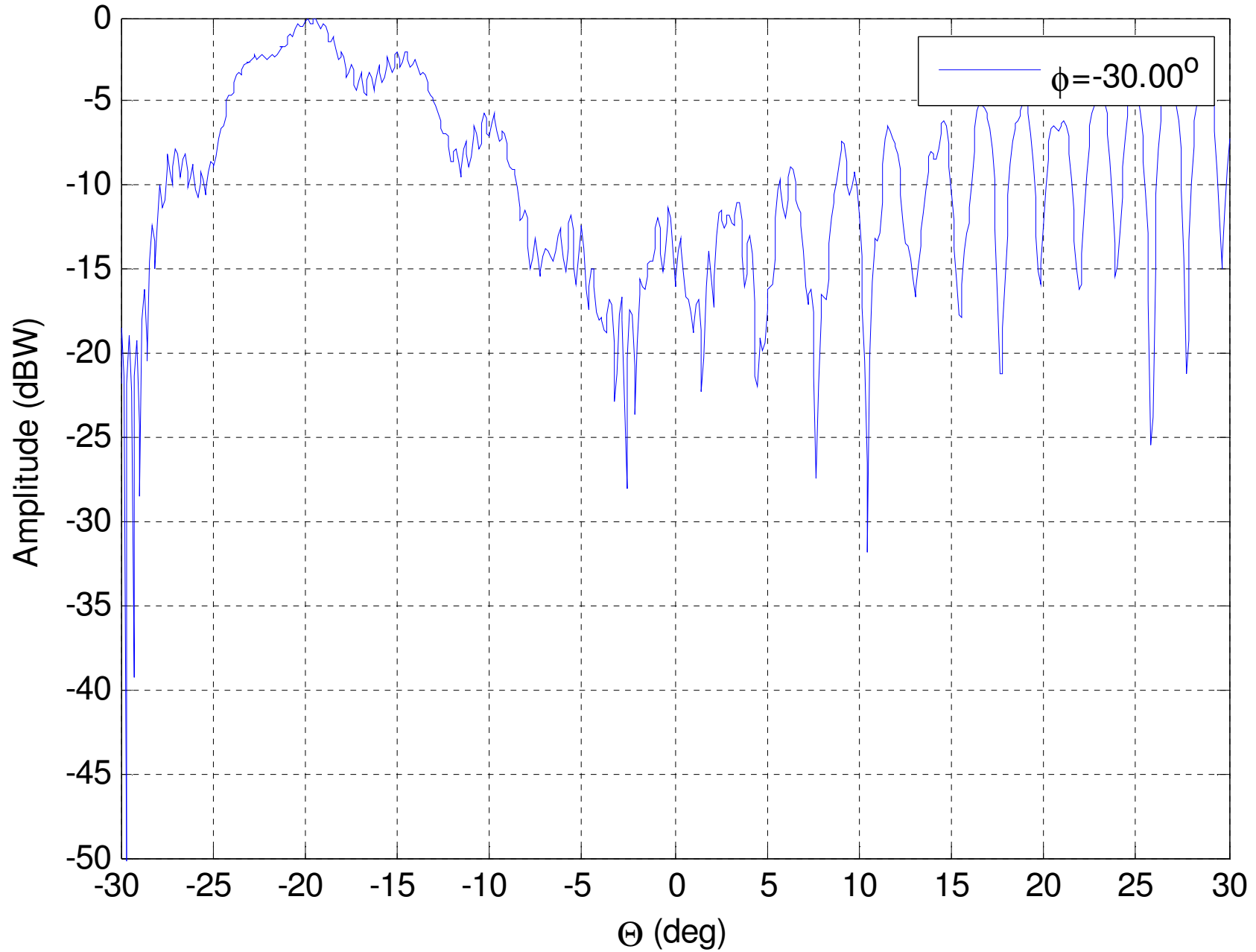
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -0.31 dBW, Date: 16-Dec-2011



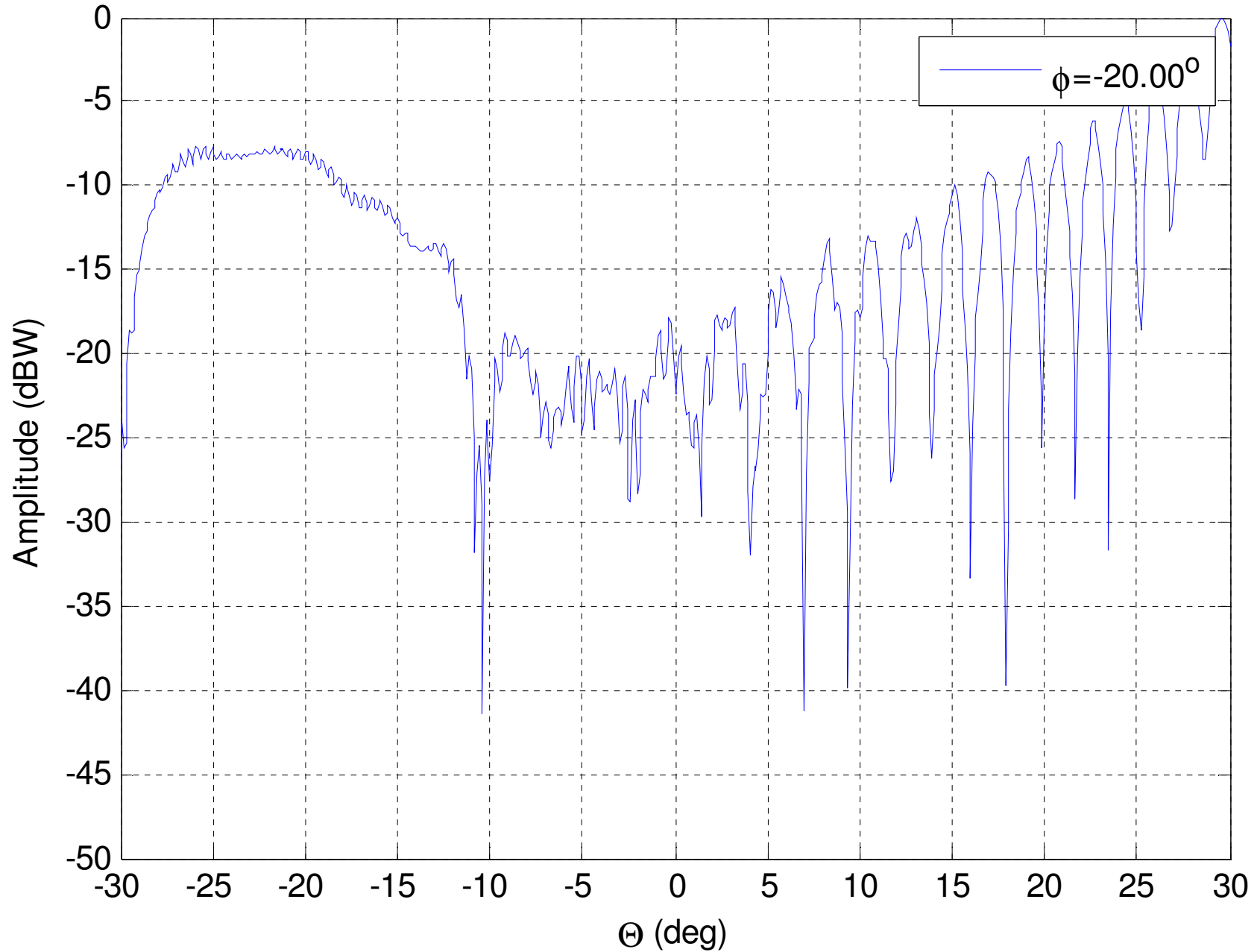
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -0.60 dBW, Date: 16-Dec-2011



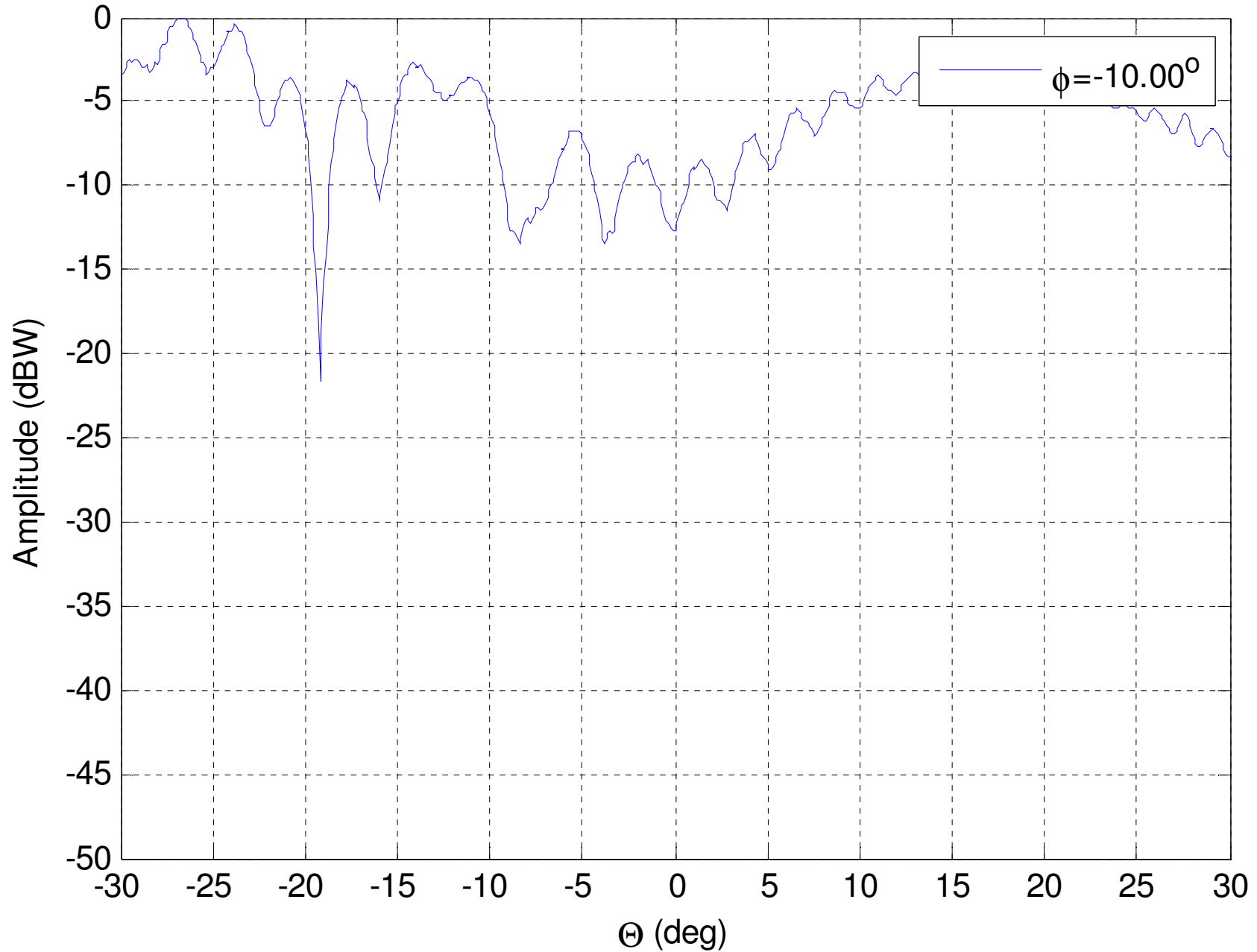
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: 5.83 dBW, Date: 16-Dec-2011



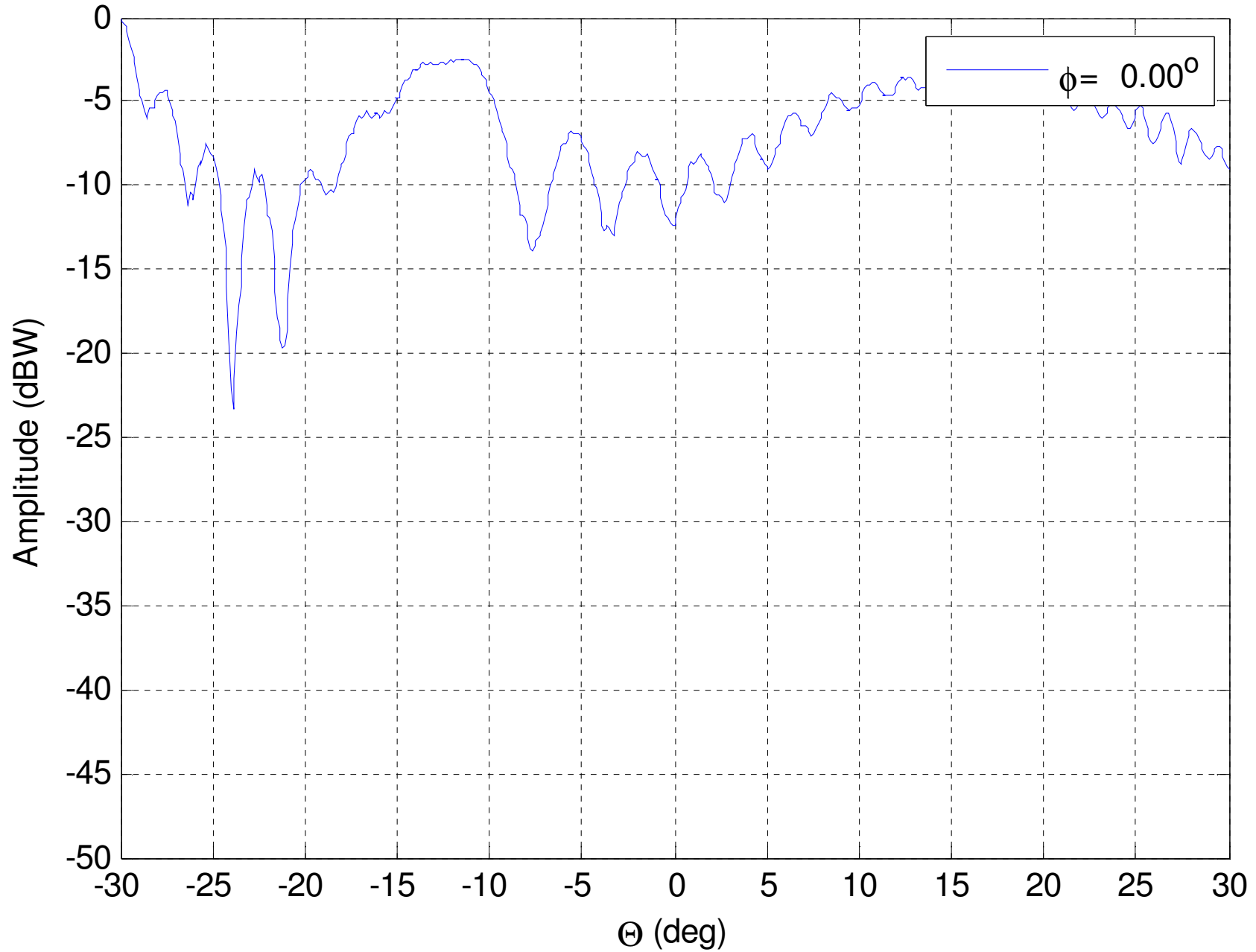
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: 8.60 dBW, Date: 16-Dec-2011



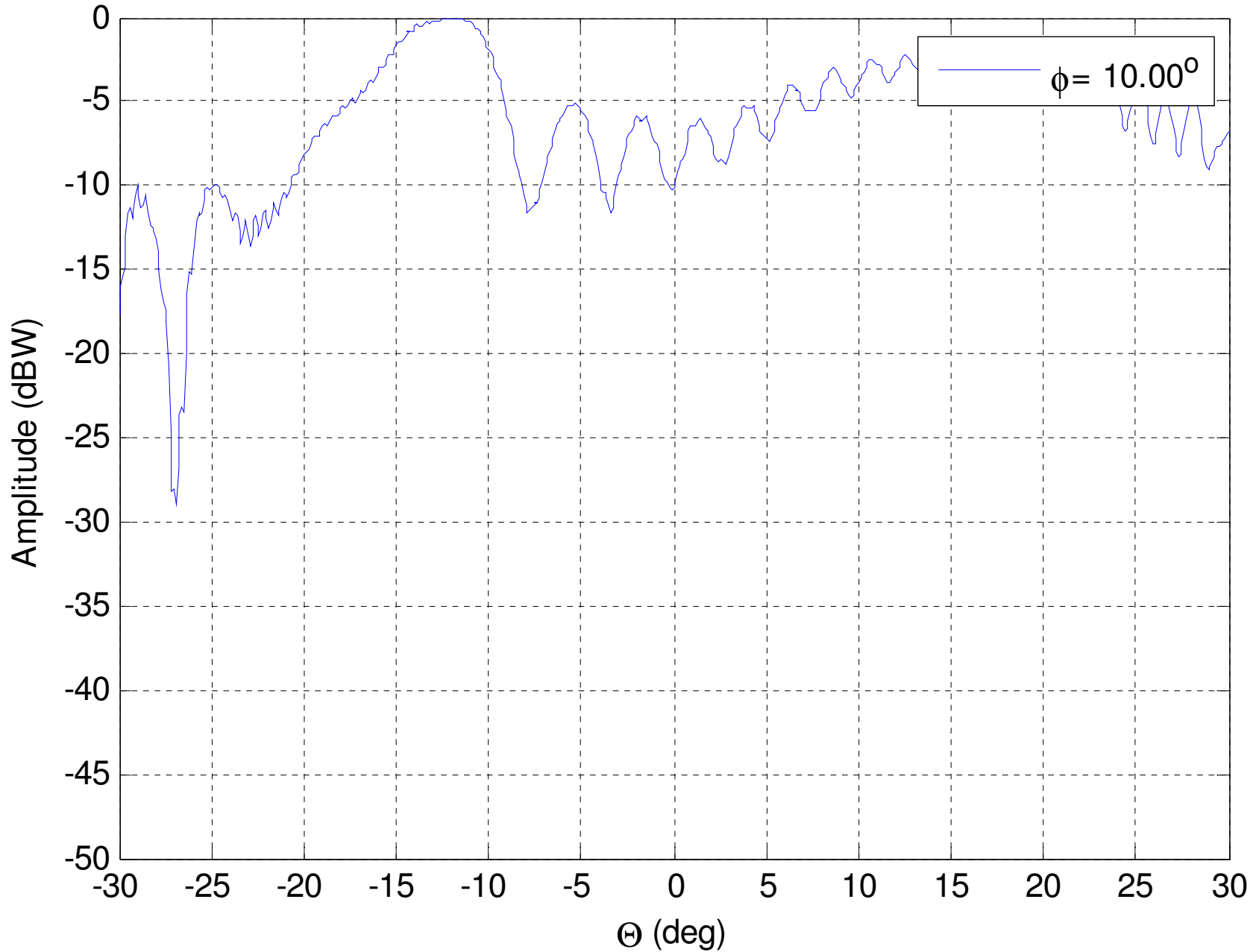
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: 8.26 dBW, Date: 16-Dec-2011



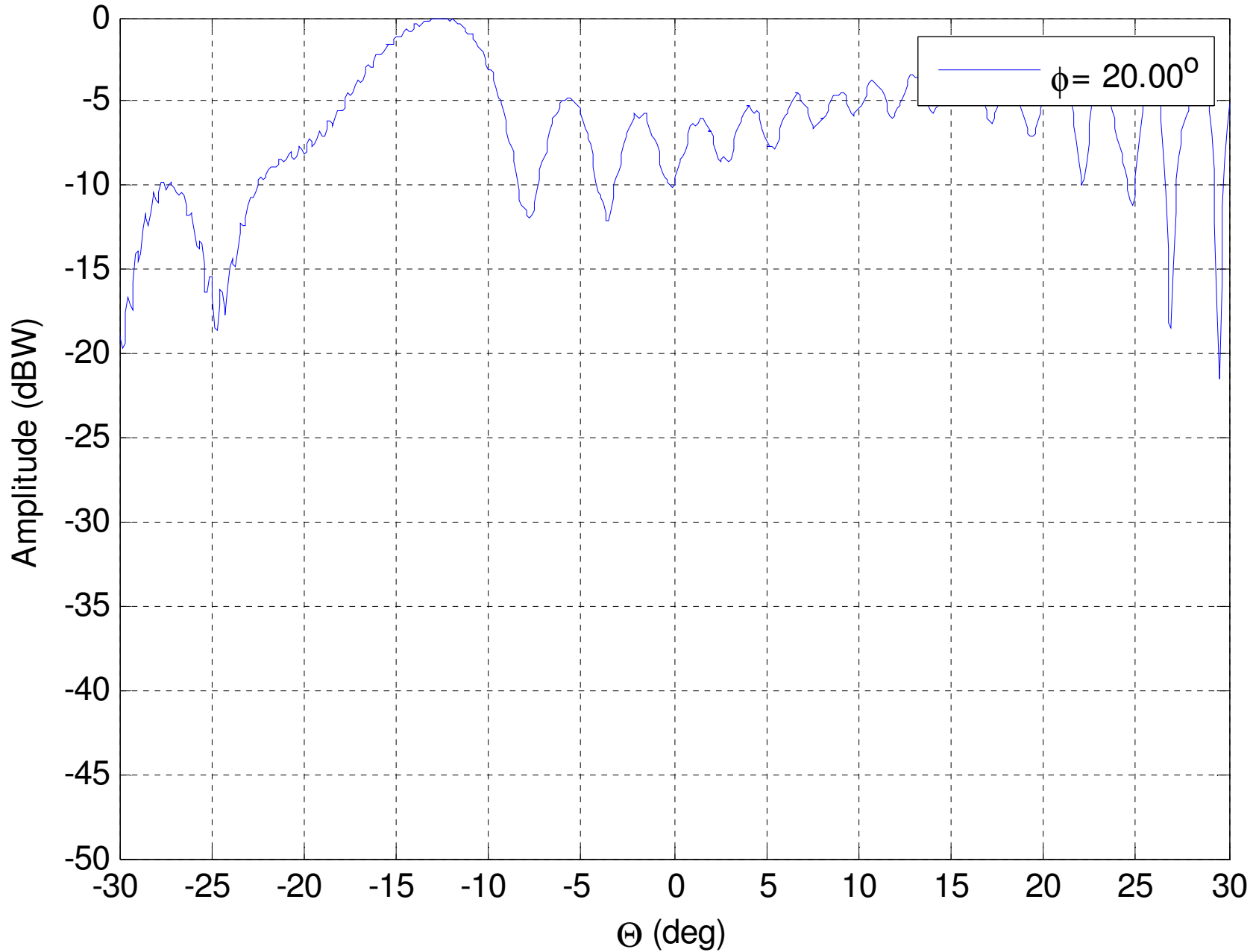
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: 6.07 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

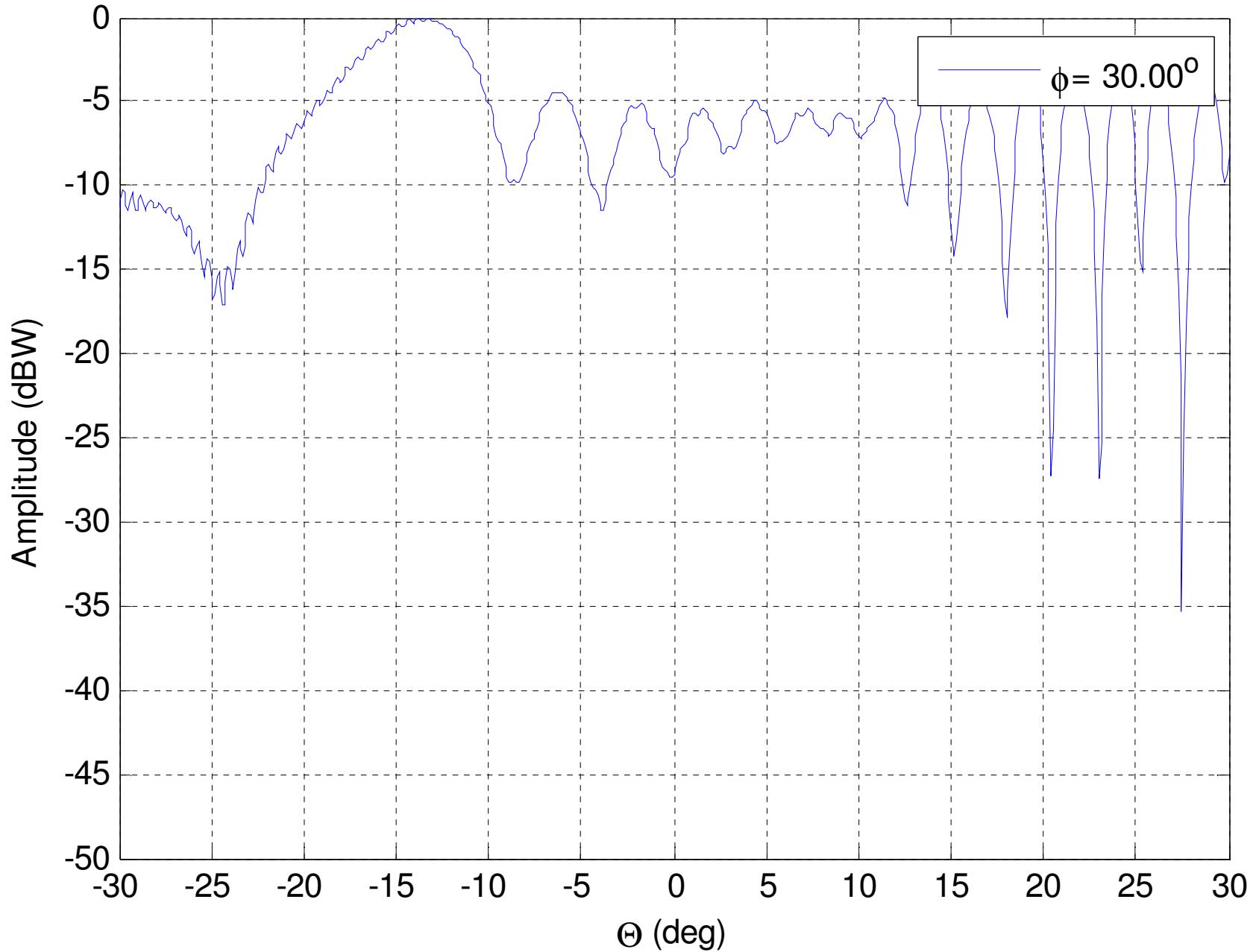
Input file: tx-17.7-lhcp-20.cut, Peak: 5.90 dBW, Date: 16-Dec-2011





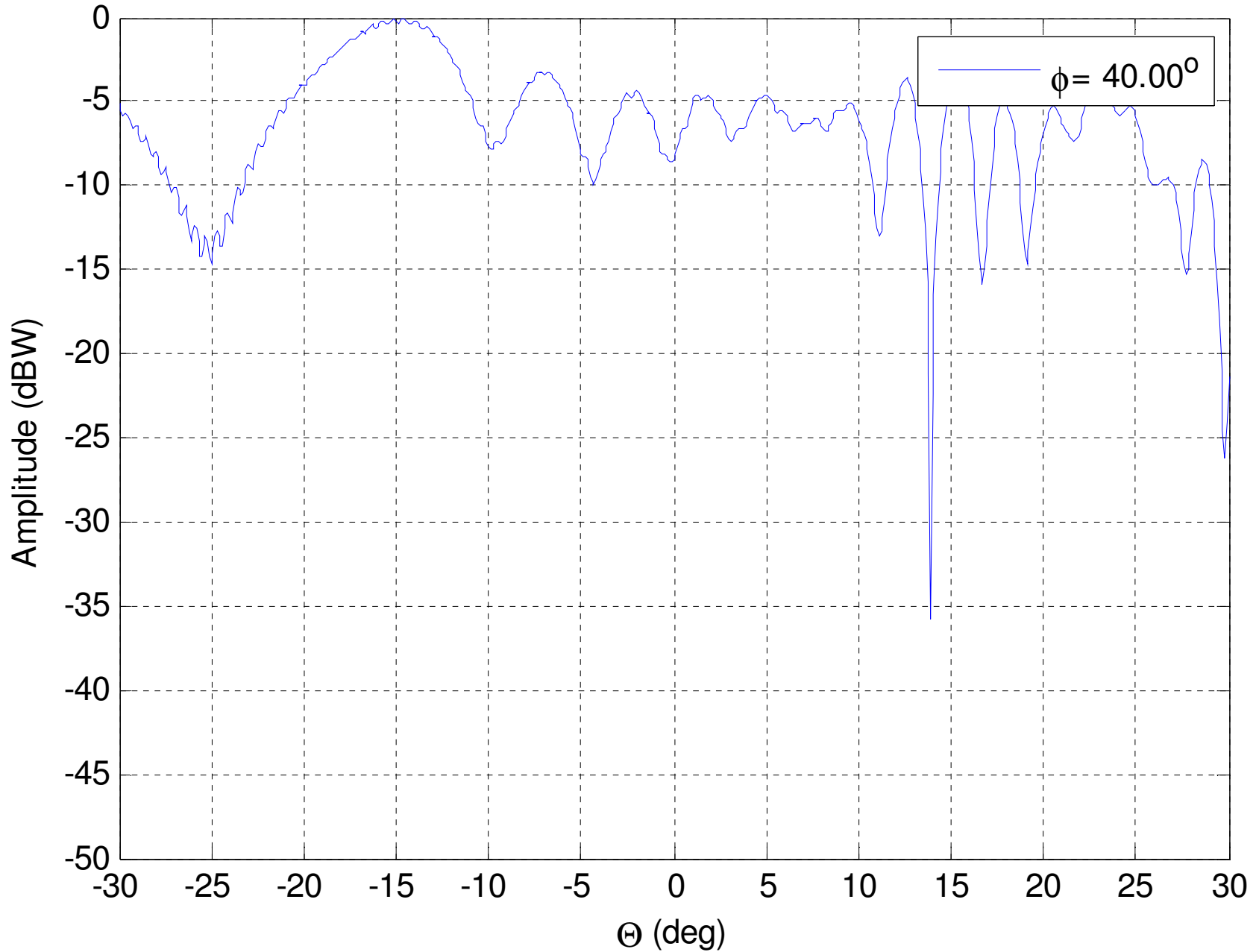
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: 5.29 dBW, Date: 16-Dec-2011



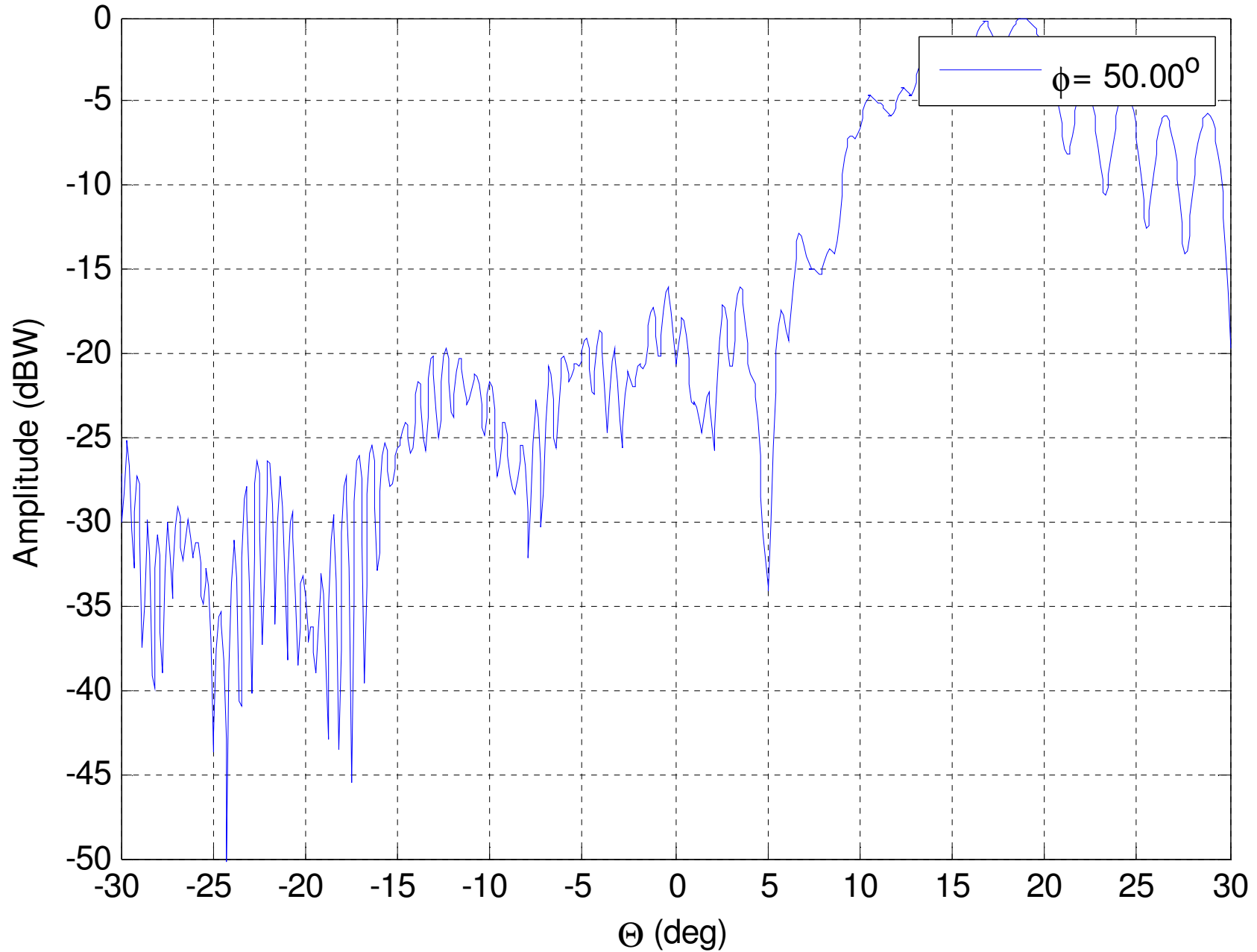
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: 4.34 dBW, Date: 16-Dec-2011



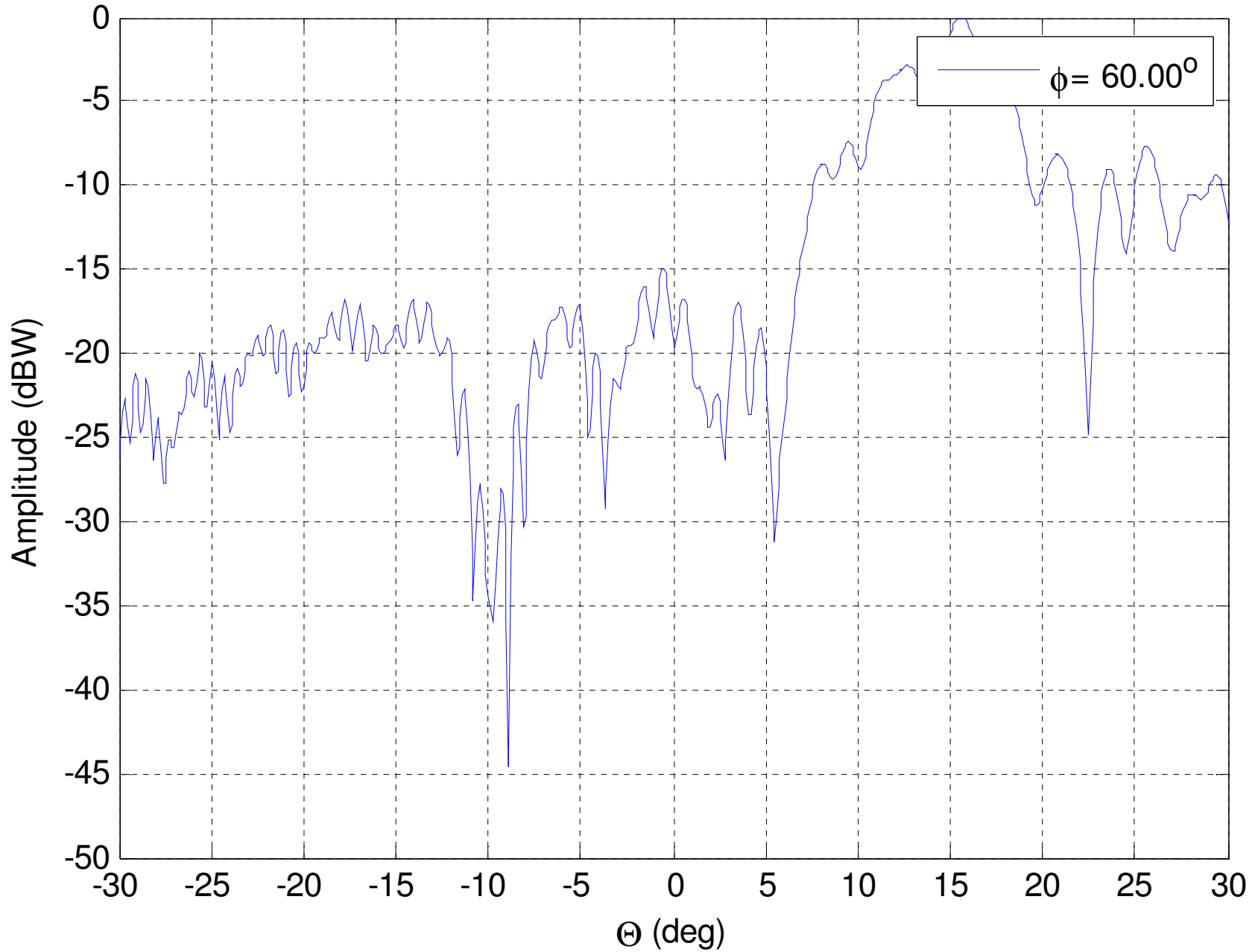
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: 3.92 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: 2.89 dBW, Date: 16-Dec-2011



December 13, 2011

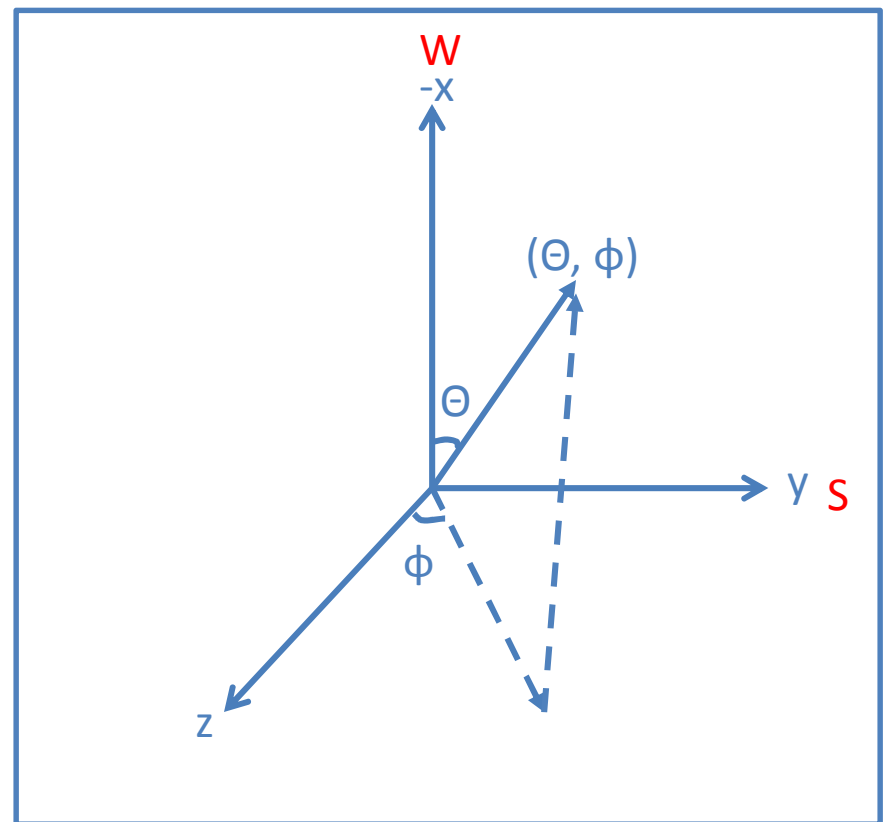
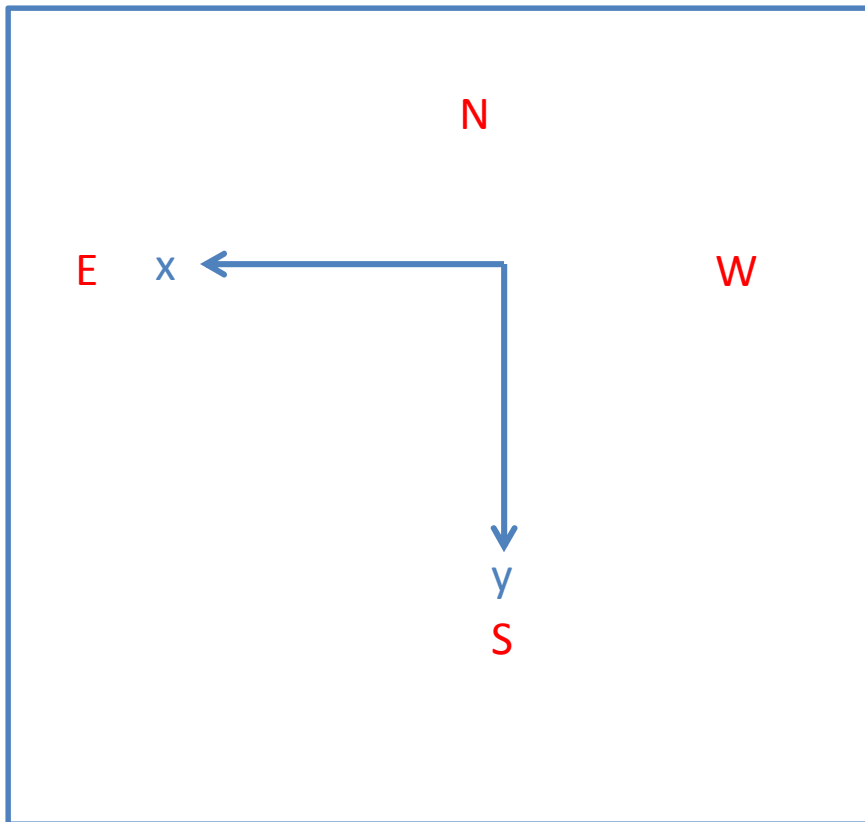
Updated: May 15, 2012

# 119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 53

## Maximum Allowable EIRP to meet the -117dBW/m<sup>2</sup>/100 kHz

| Maximum EIRP Allowed                                 |         |
|--|---------|
| Spec Max flux density, dBW/m <sup>2</sup> /100kHz    | -117    |
| Desired channel band width, MHz                      | 25.8    |
| Symbol rate band width modification factor           | 1       |
| Effective channel bandwidth, MHz                     | 25.8    |
| Effective bandwidth, dB-100kHz                       | 24.1    |
| Flux density allowed per channel, dBW/m <sup>2</sup> | -92.9   |
| R, radial distance to GEO, km                        | 42164.0 |
| Angle of separation between satellites, deg          | 0.1     |
| range between satellites, km                         | 73.59   |
| Spreading factor, dB/m <sup>2</sup>                  | -108.3  |
| Atmospheric loss, dB                                 | 0       |
| Max satellite EIRP allowed, dBW                      | 15.4    |

# Coordinate System



# Spot Beam53, -X Axis Plots

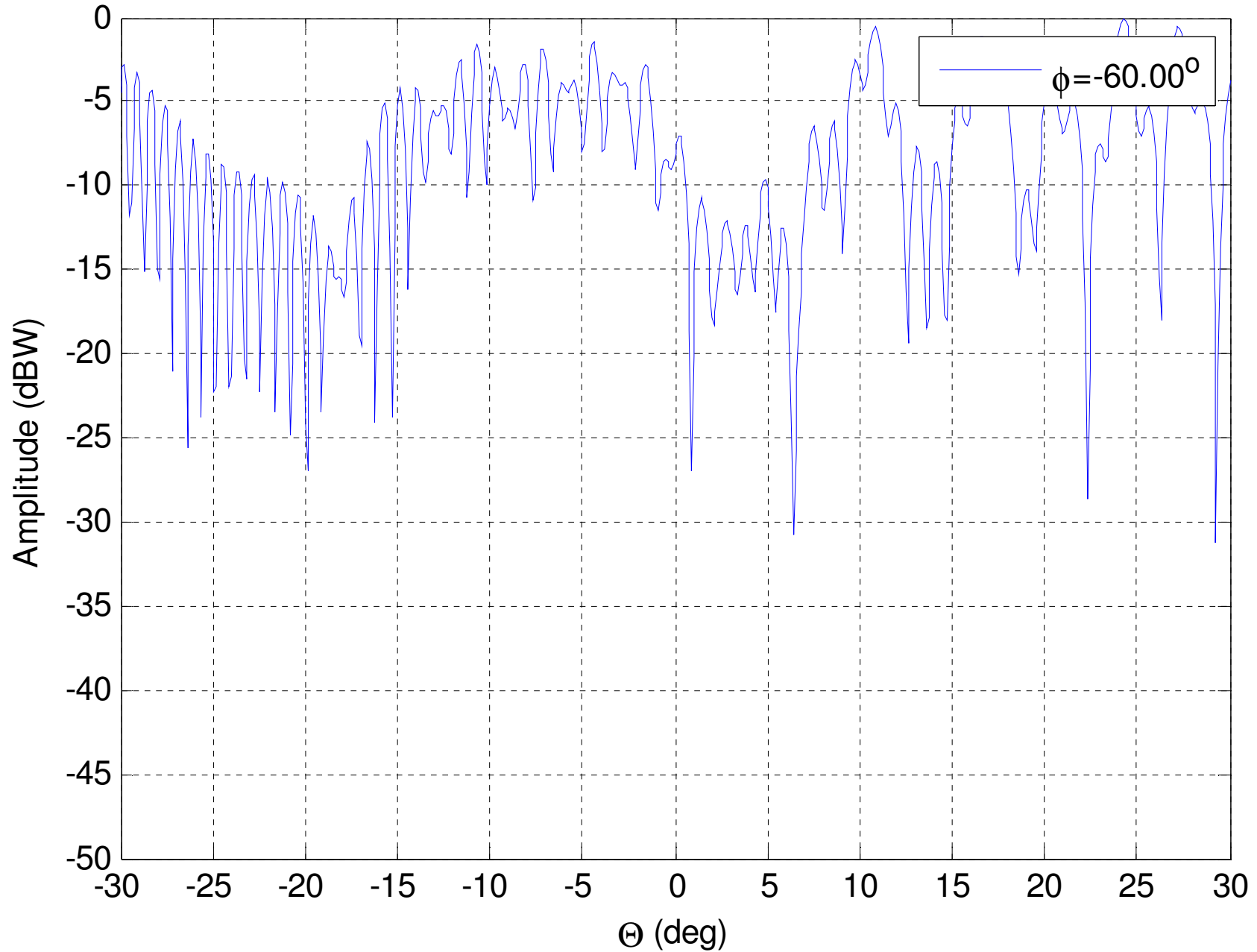
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP



**RHCP at 17.3 GHz**

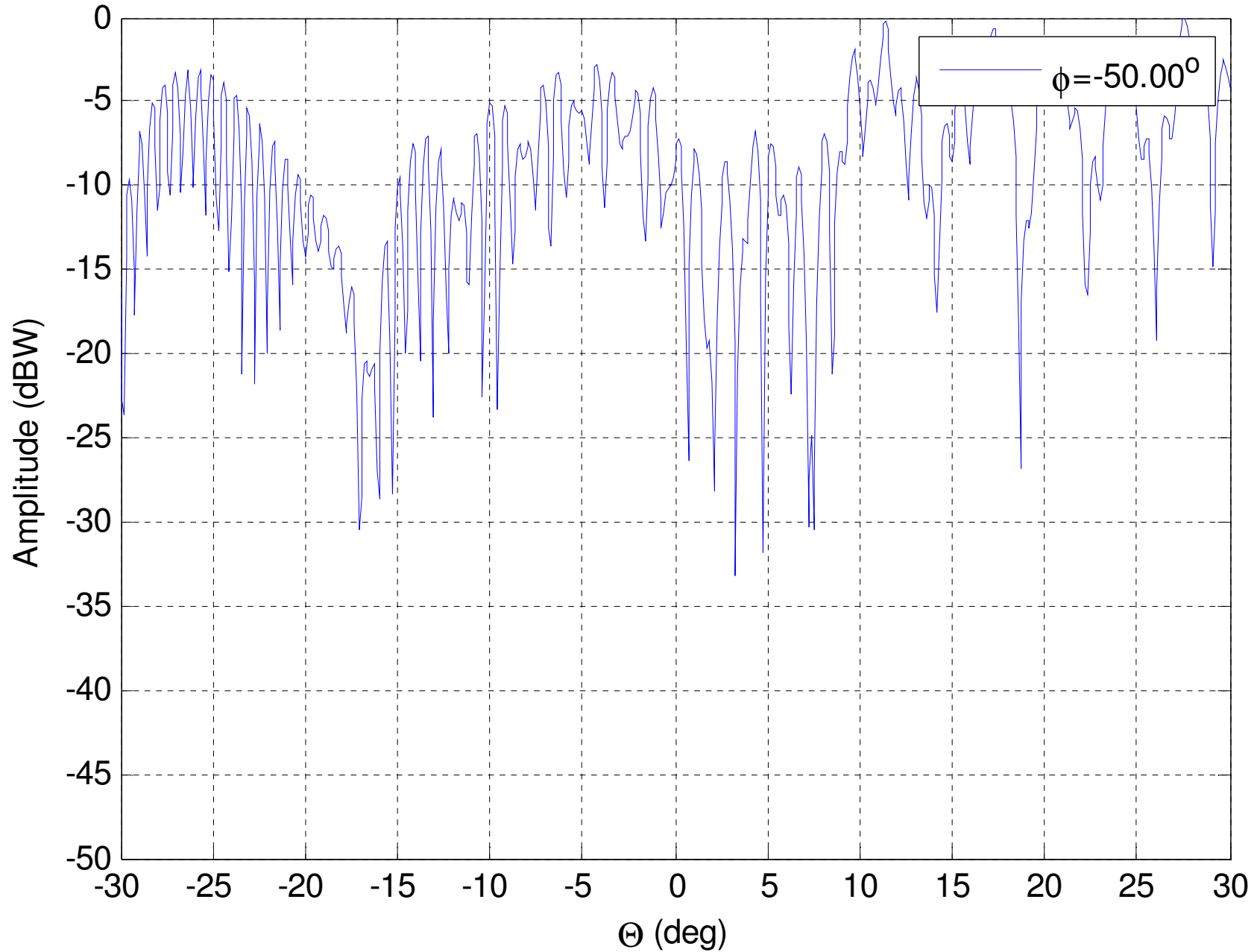
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -21.97 dBW, Date: 16-Dec-2011



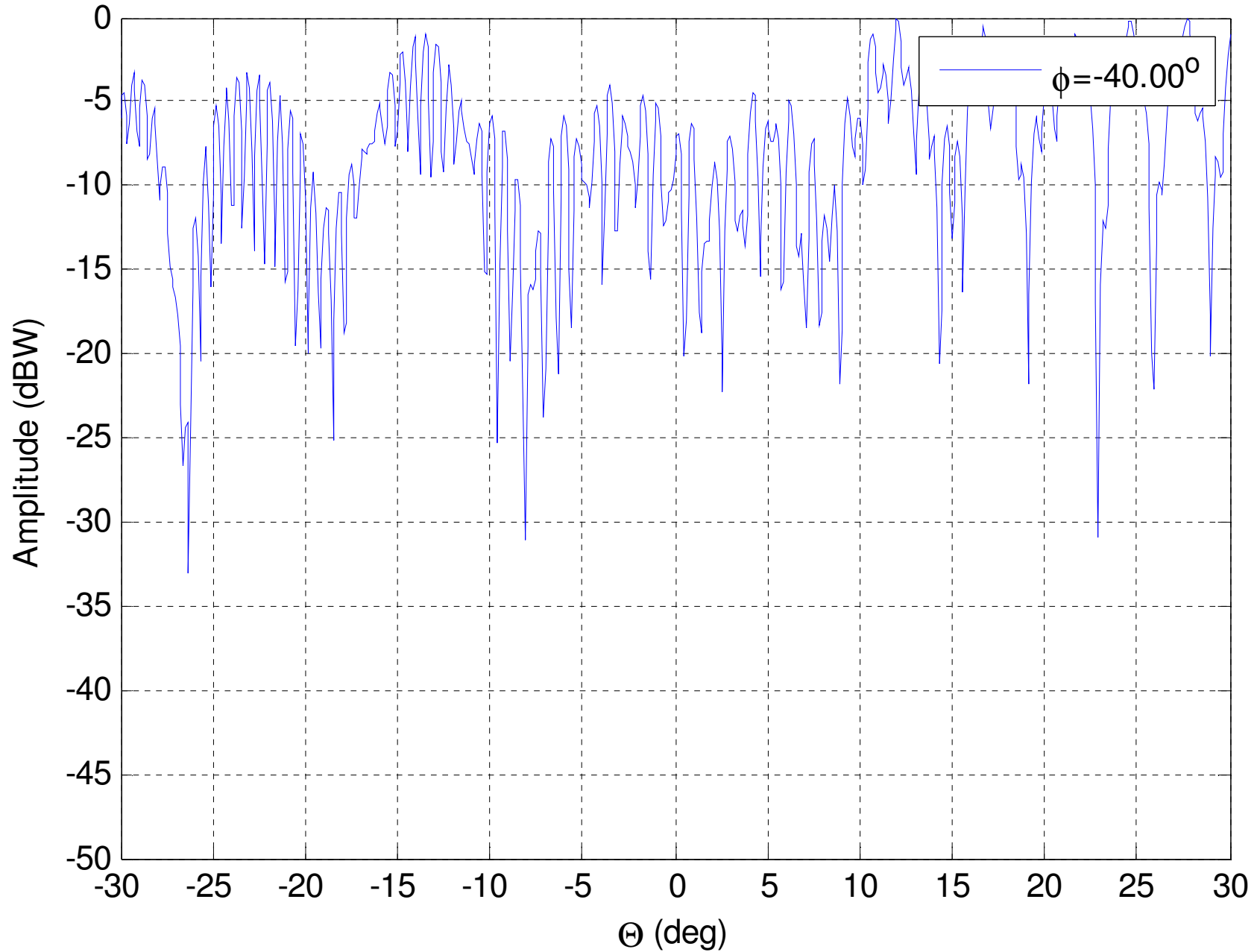
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--50.cut, Peak: -21.67 dBW, Date: 16-Dec-2011



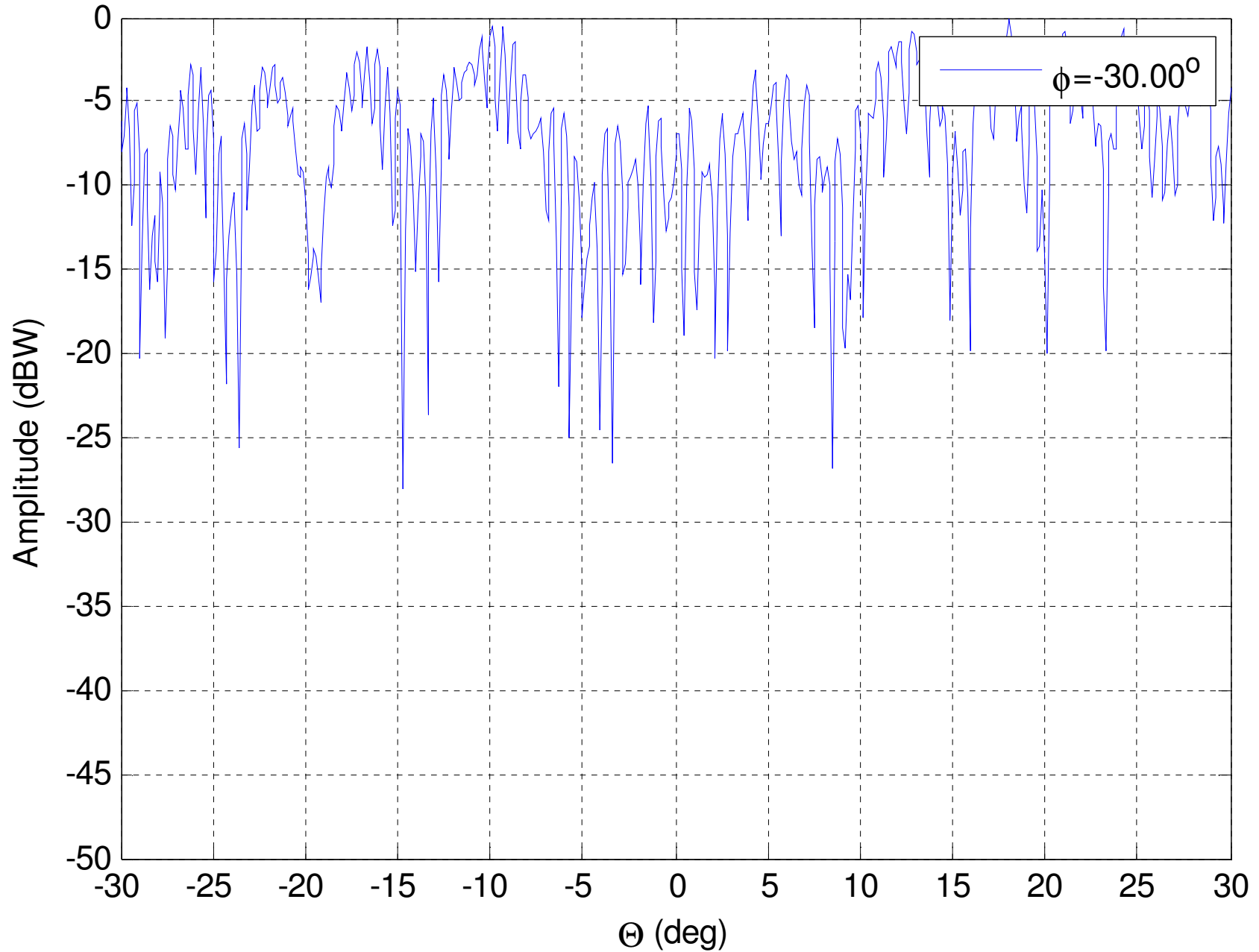
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -21.93 dBW, Date: 16-Dec-2011



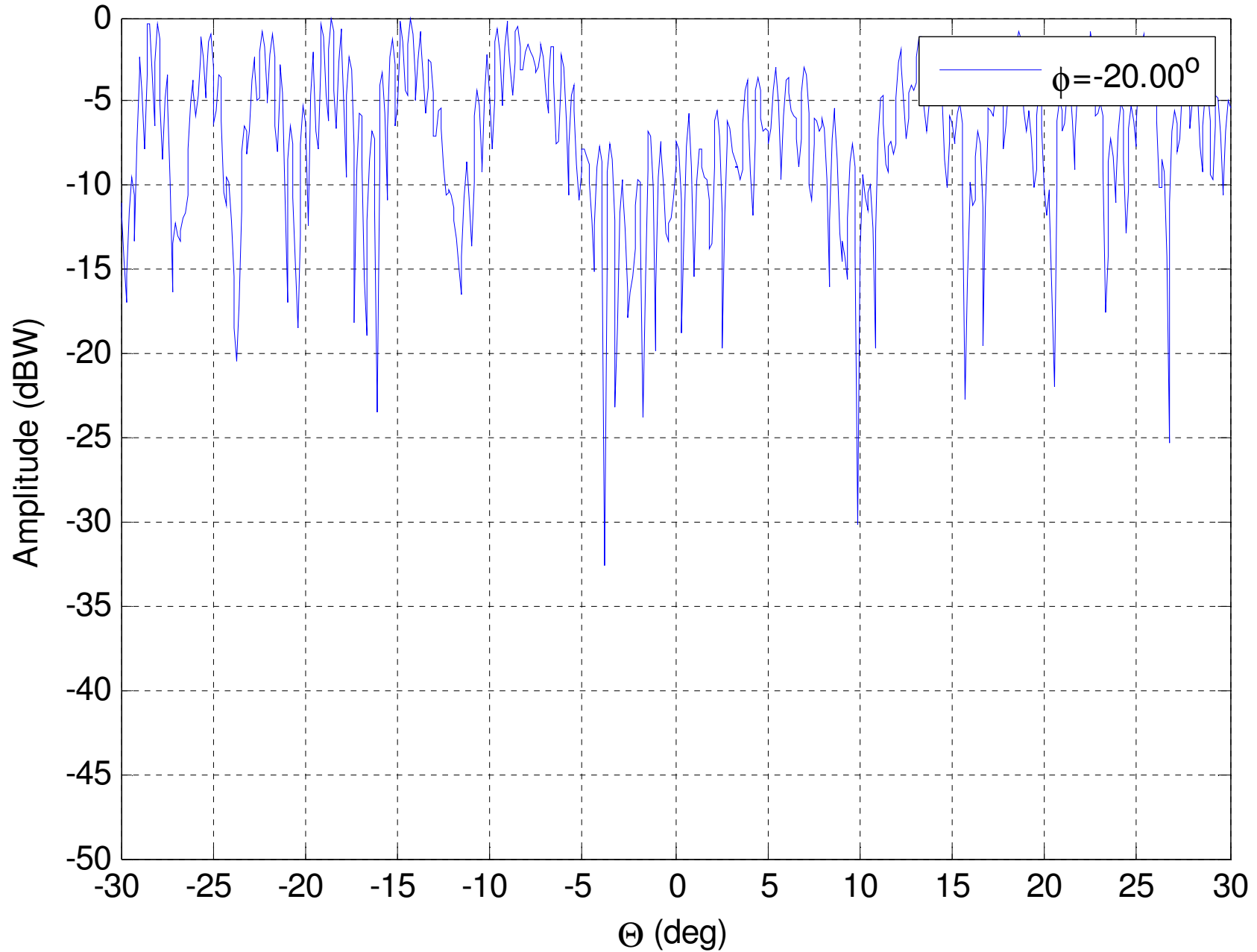
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -22.04 dBW, Date: 16-Dec-2011



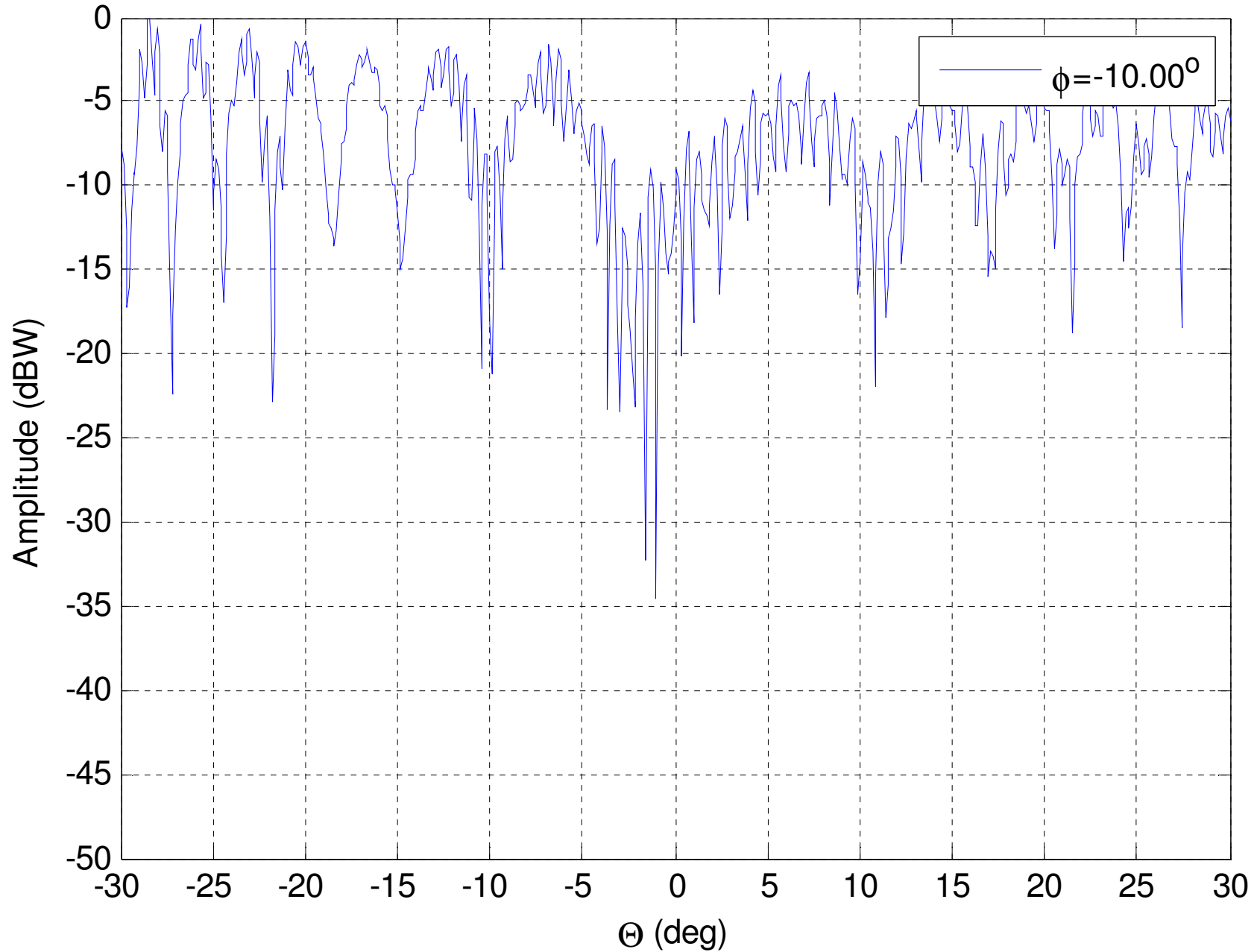
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -21.42 dBW, Date: 16-Dec-2011



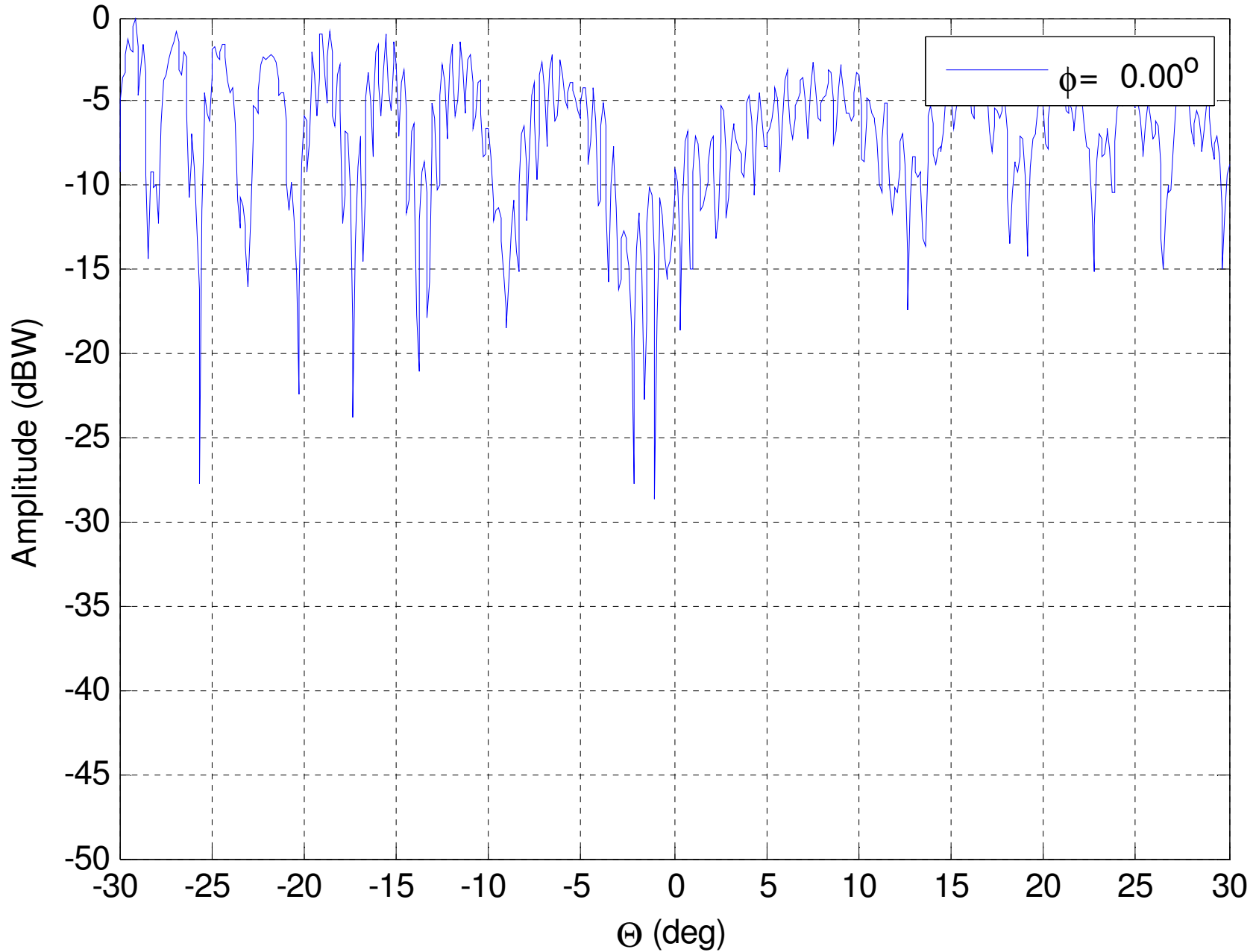
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -19.77 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

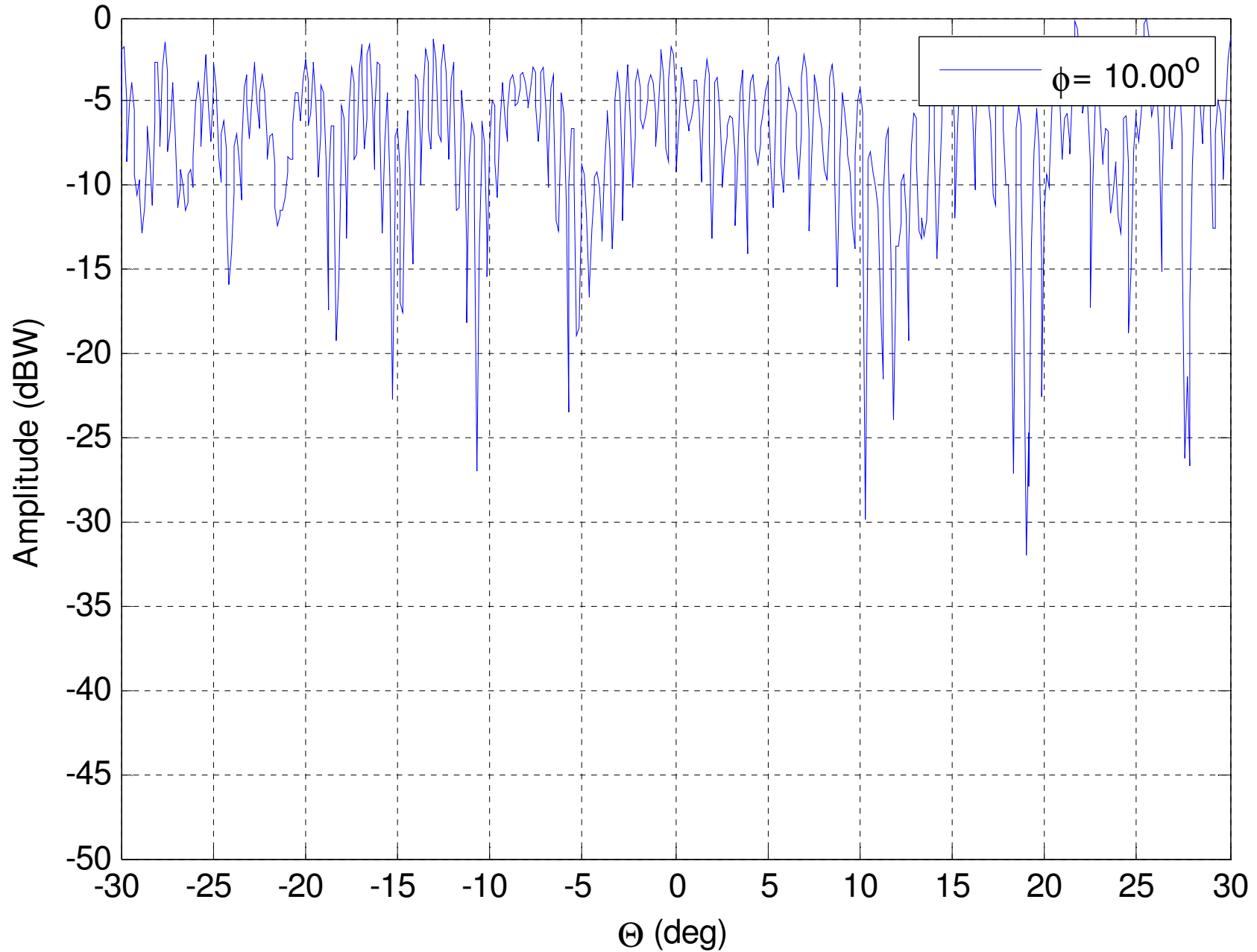
Input file: tx-17.3-rhcp-0.cut, Peak: -19.69 dBW, Date: 16-Dec-2011





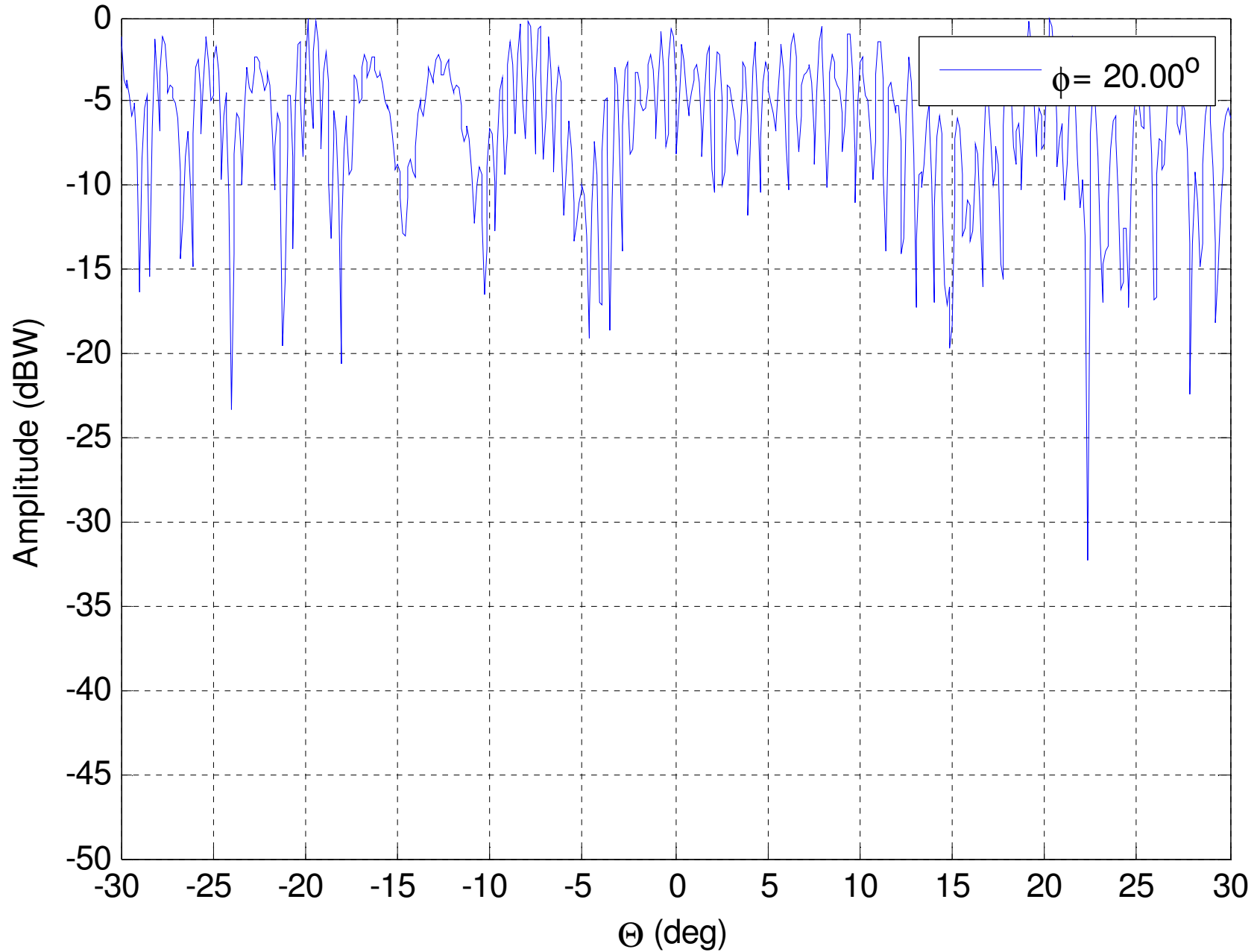
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -20.76 dBW, Date: 16-Dec-2011



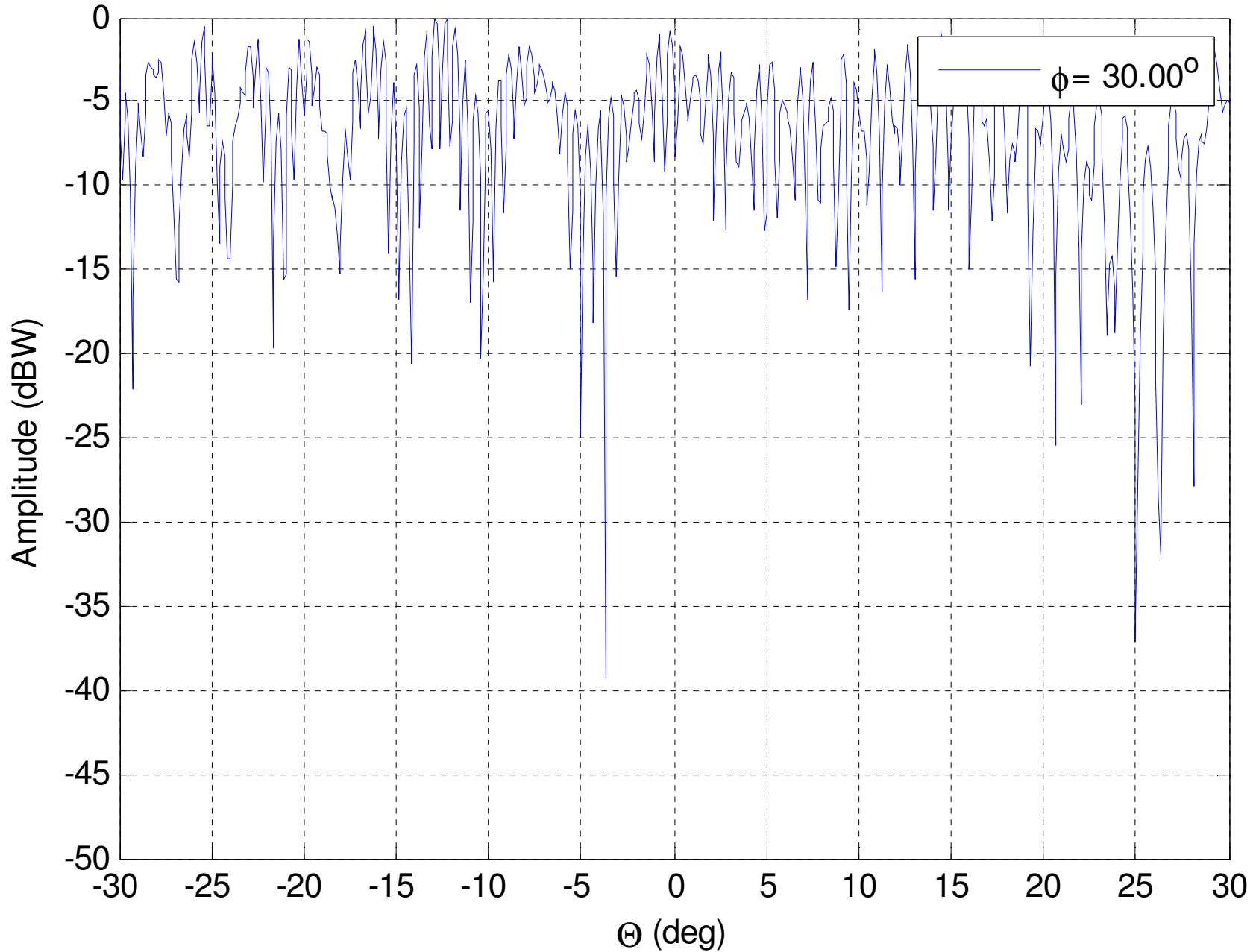
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -21.85 dBW, Date: 16-Dec-2011



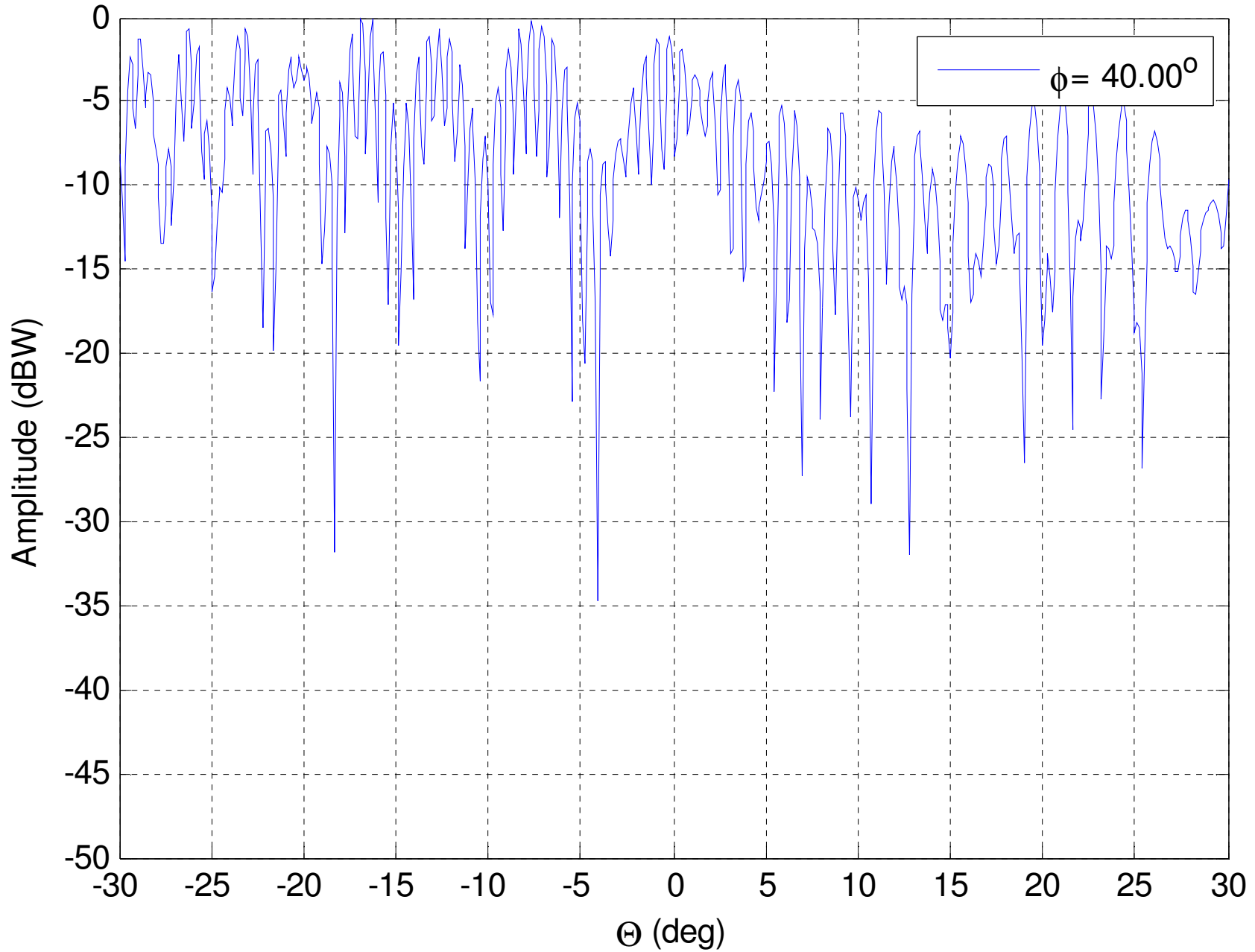
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-30.cut, Peak: -21.62 dBW, Date: 16-Dec-2011



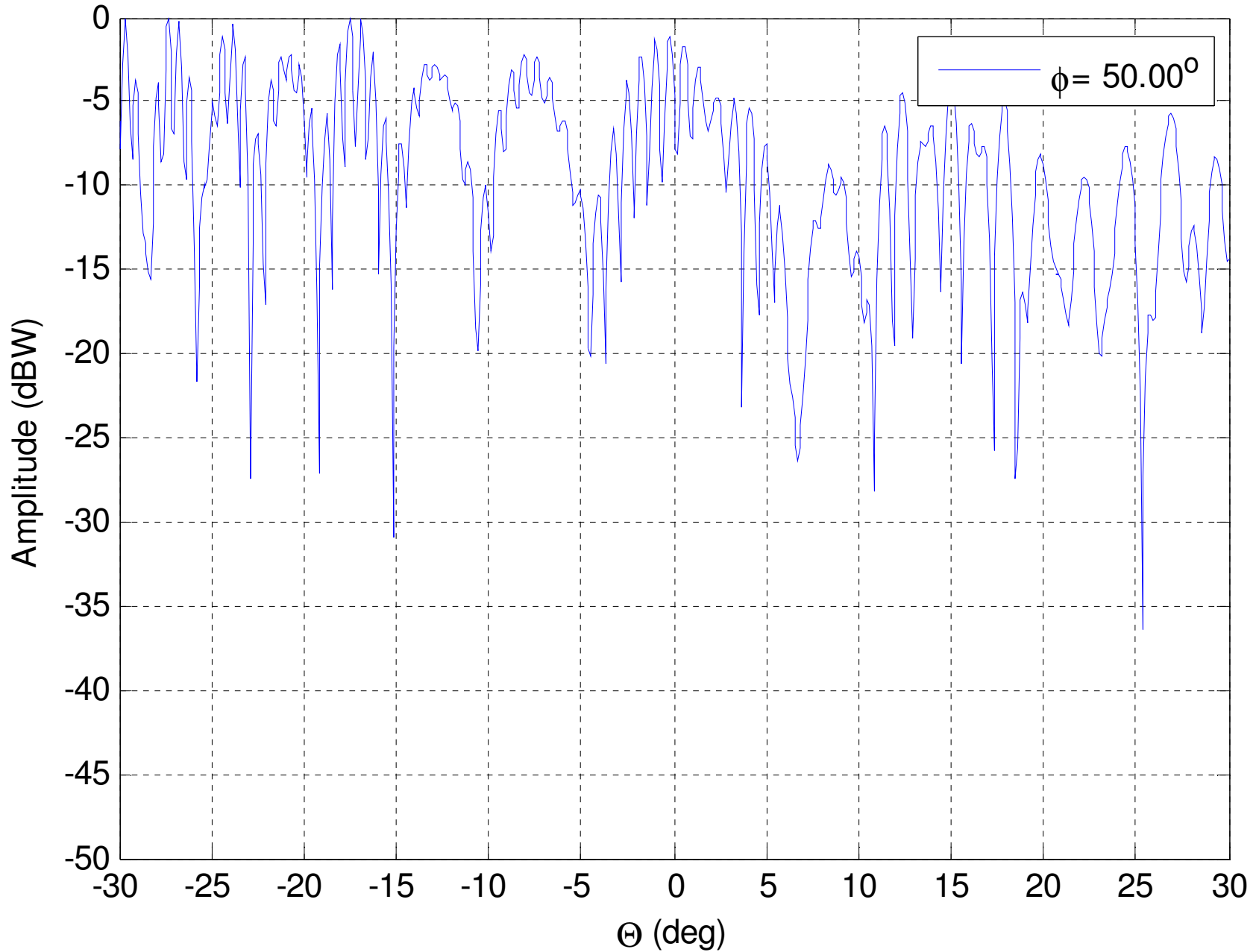
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -21.39 dBW, Date: 16-Dec-2011



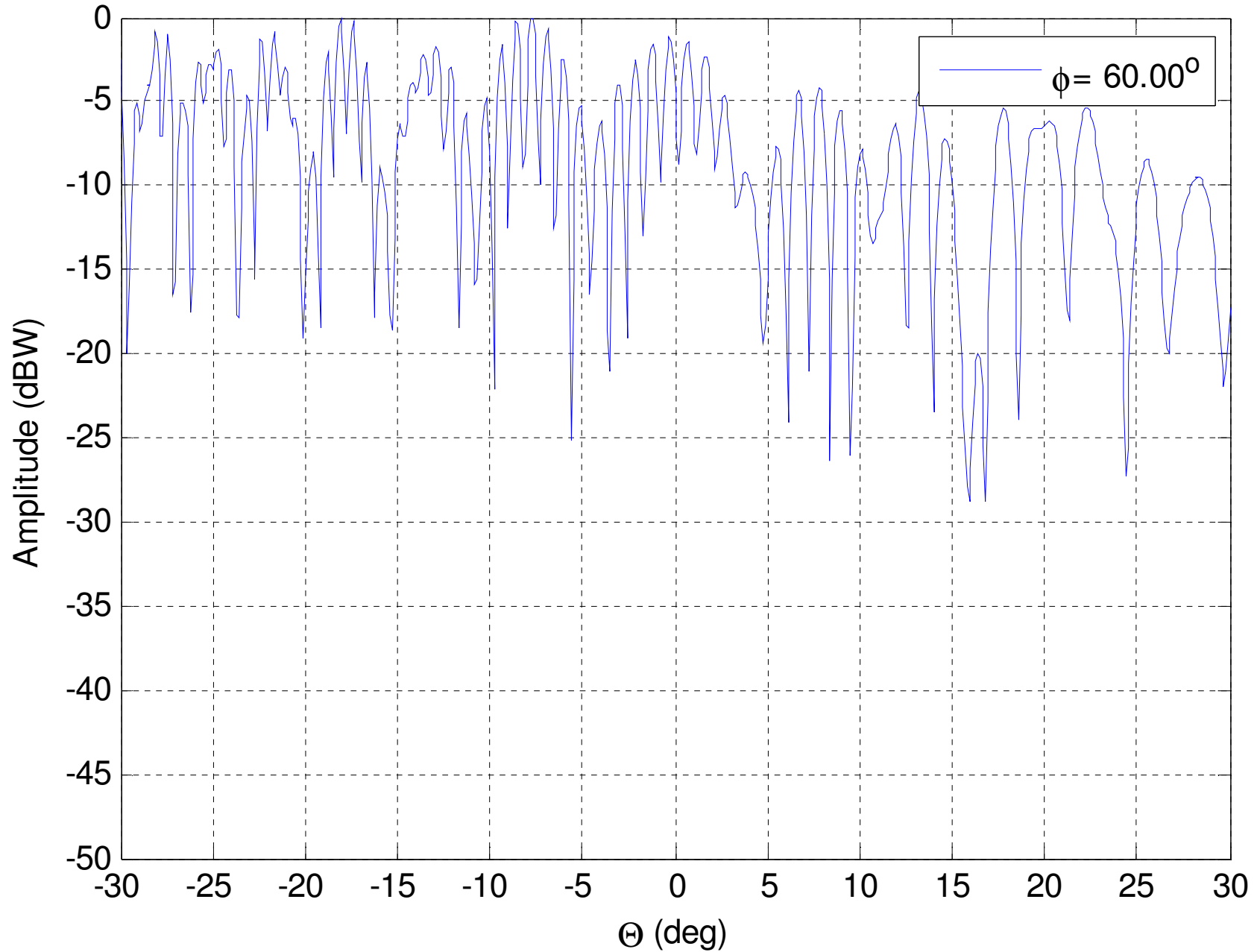
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -21.39 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

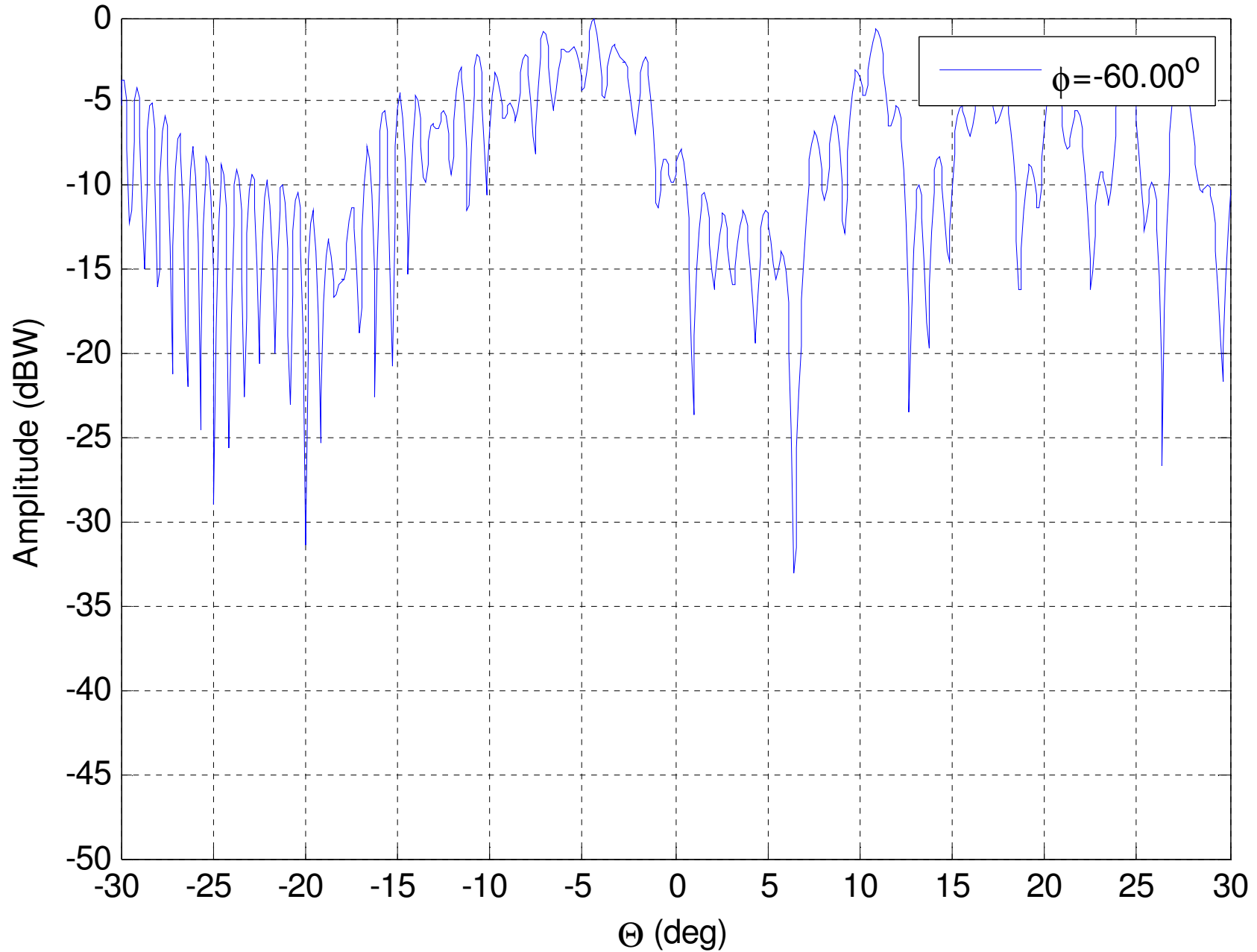
Input file: tx-17.3-rhcp-60.cut, Peak: -21.44 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

# Normalized pattern cuts - farfield

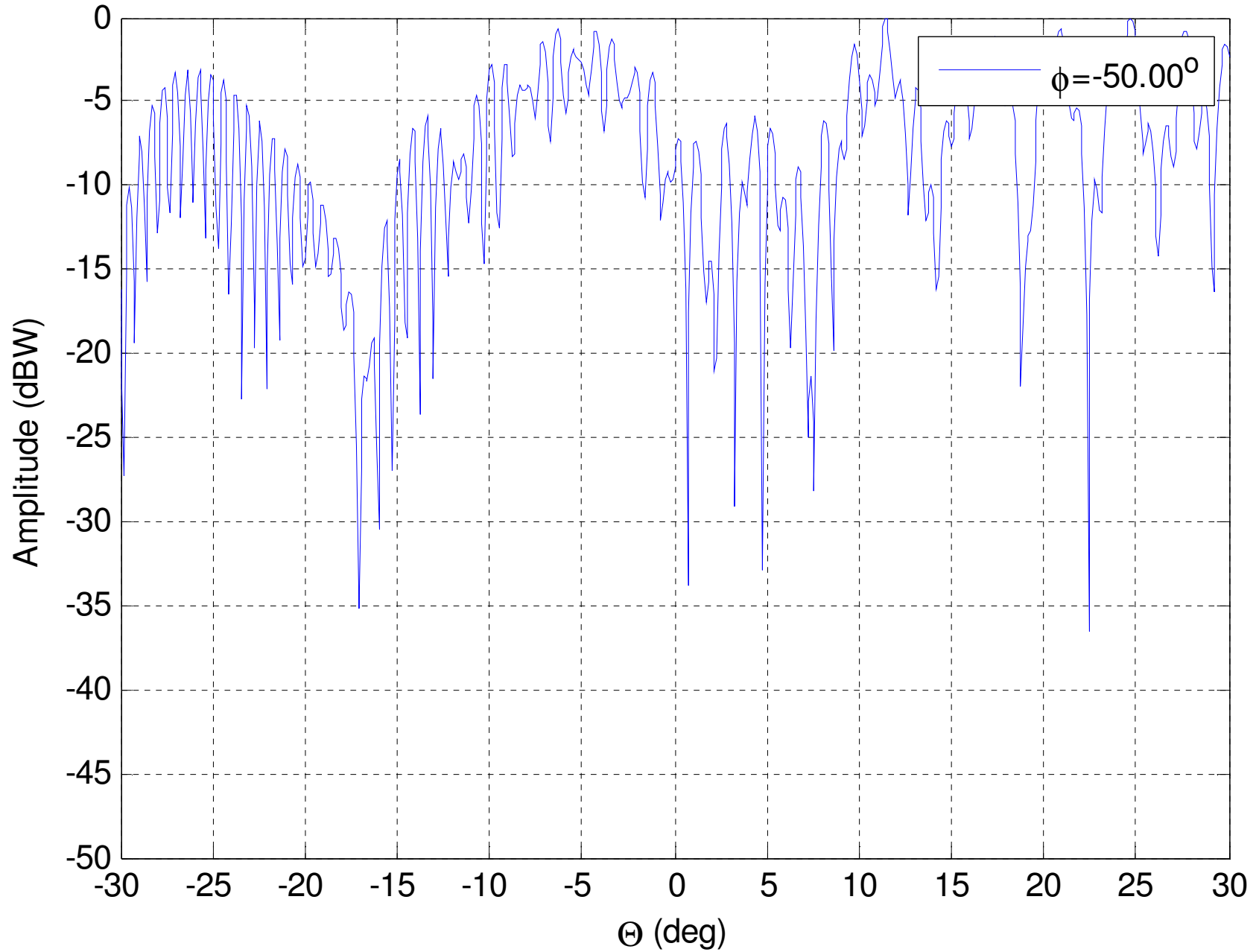
Input file: tx-17.3-lhcp--60.cut, Peak: -21.49 dBW, Date: 16-Dec-2011





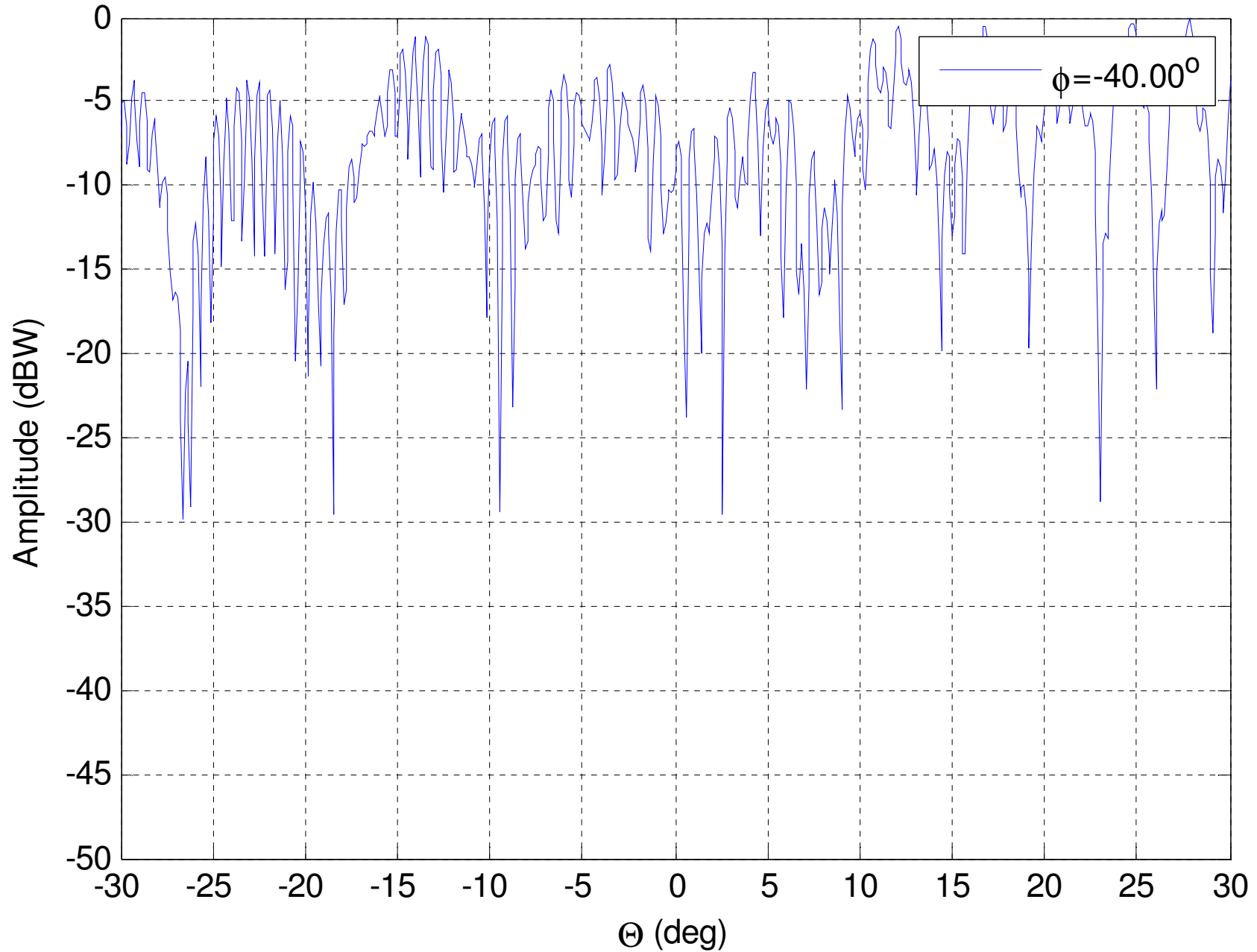
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -21.98 dBW, Date: 16-Dec-2011



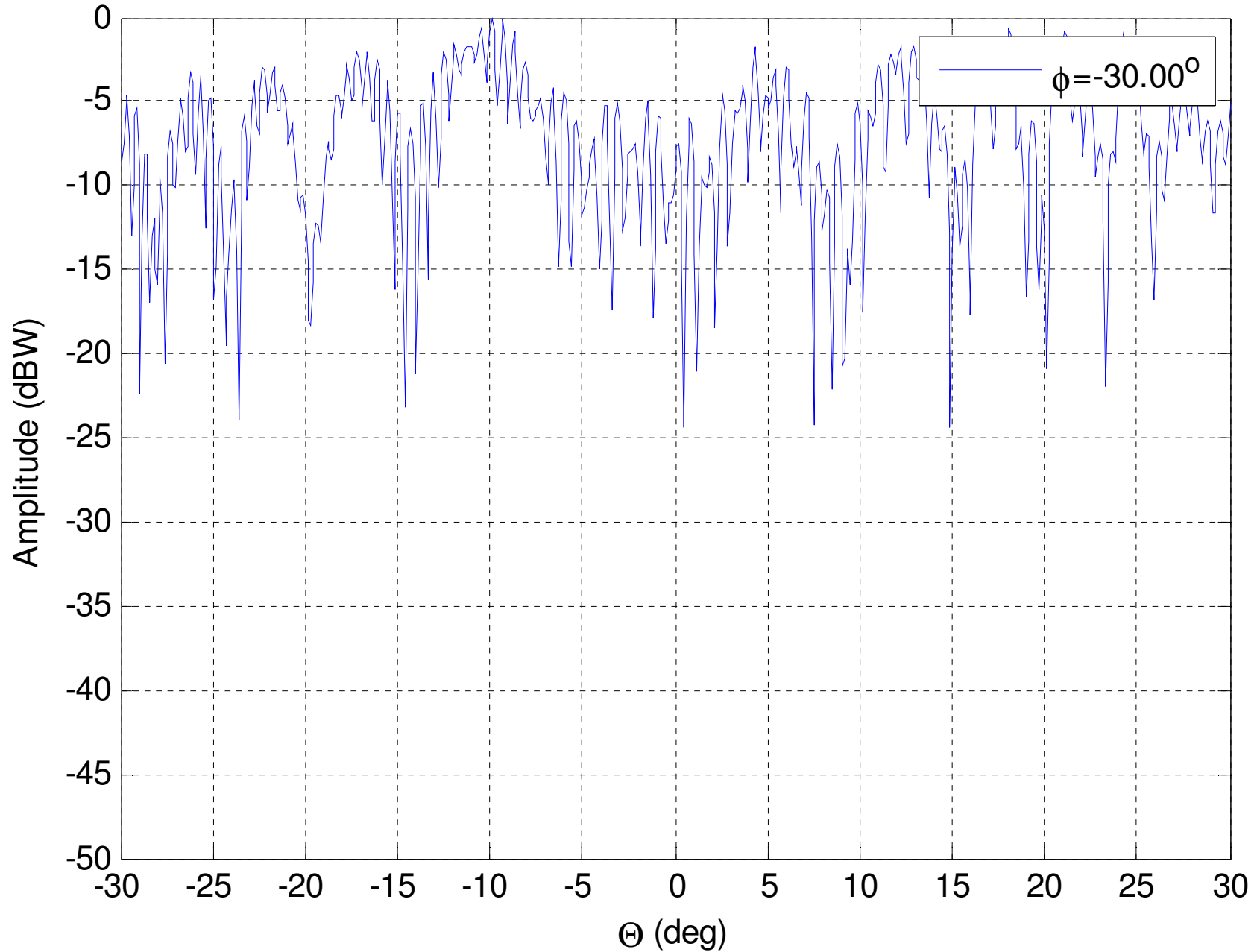
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -21.75 dBW, Date: 16-Dec-2011



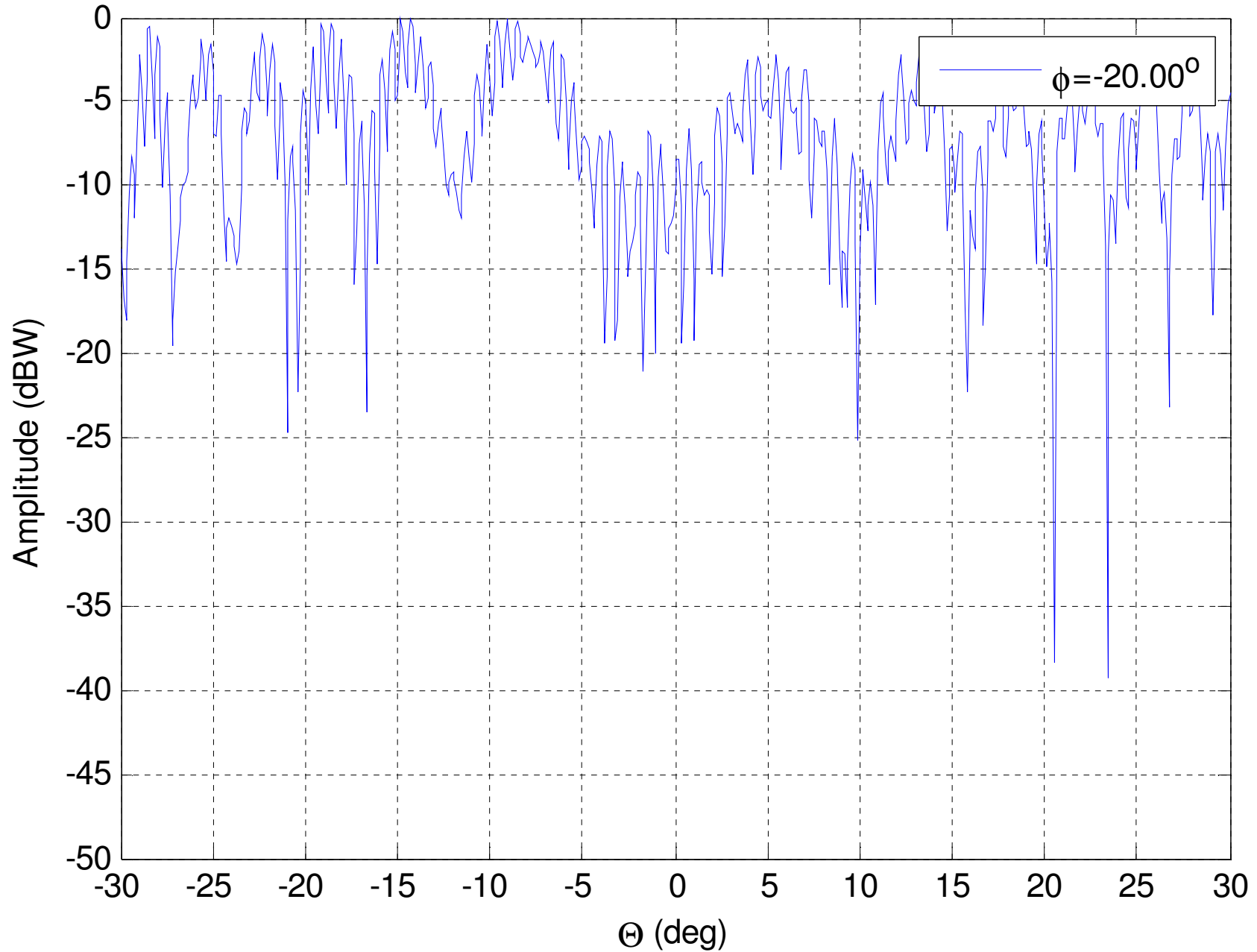
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--30.cut, Peak: -21.73 dBW, Date: 16-Dec-2011



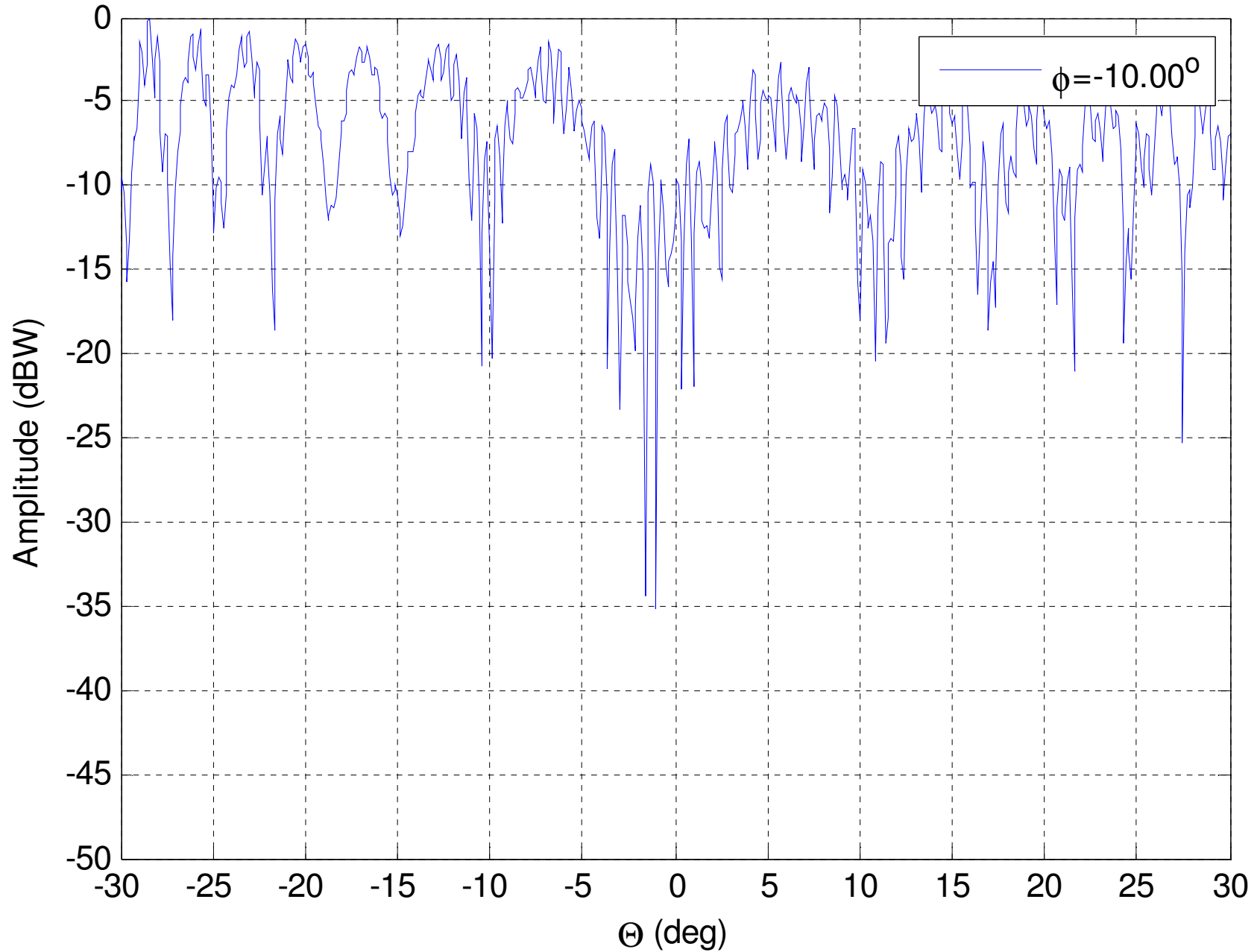
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -20.91 dBW, Date: 16-Dec-2011



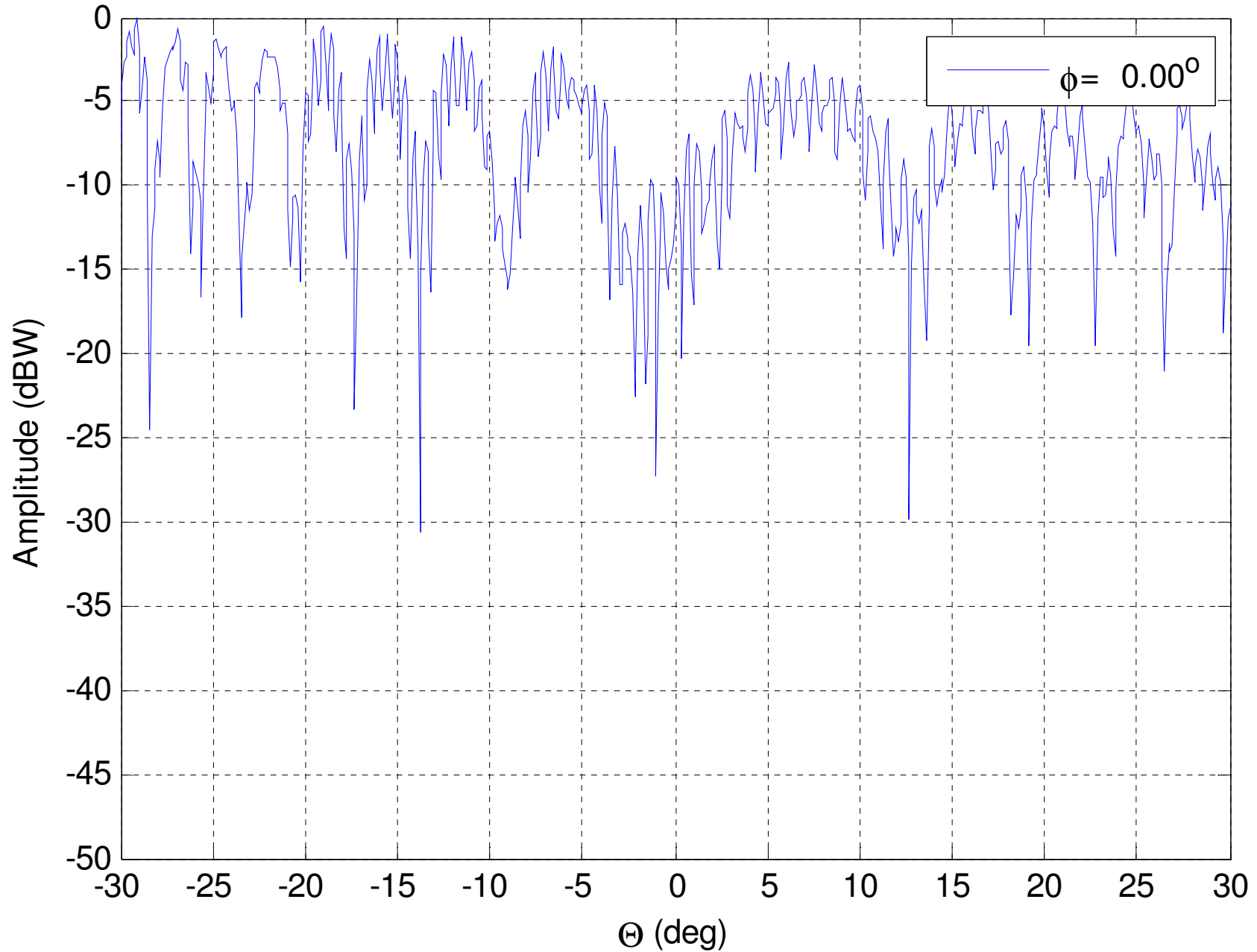
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -19.57 dBW, Date: 16-Dec-2011



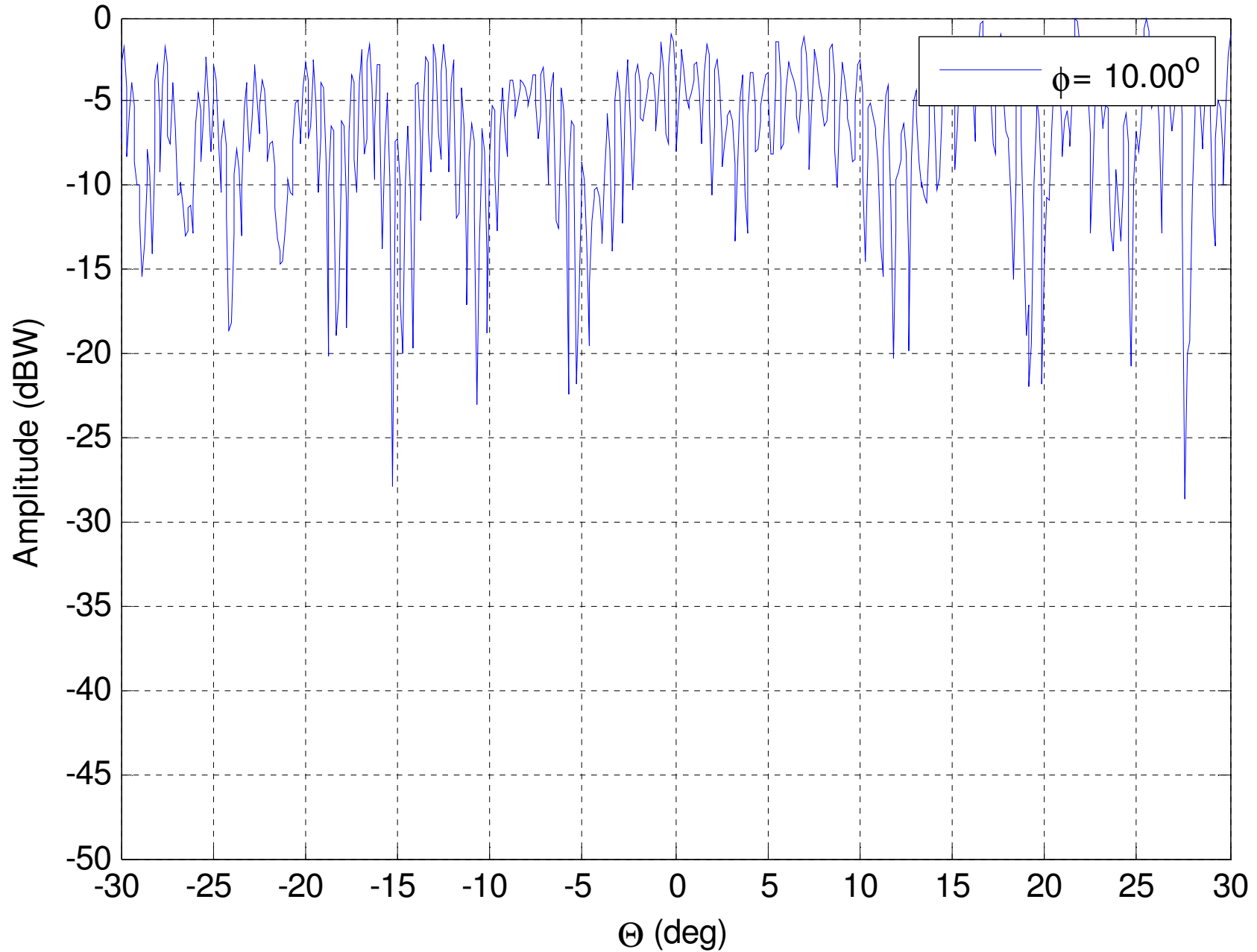
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -19.68 dBW, Date: 16-Dec-2011



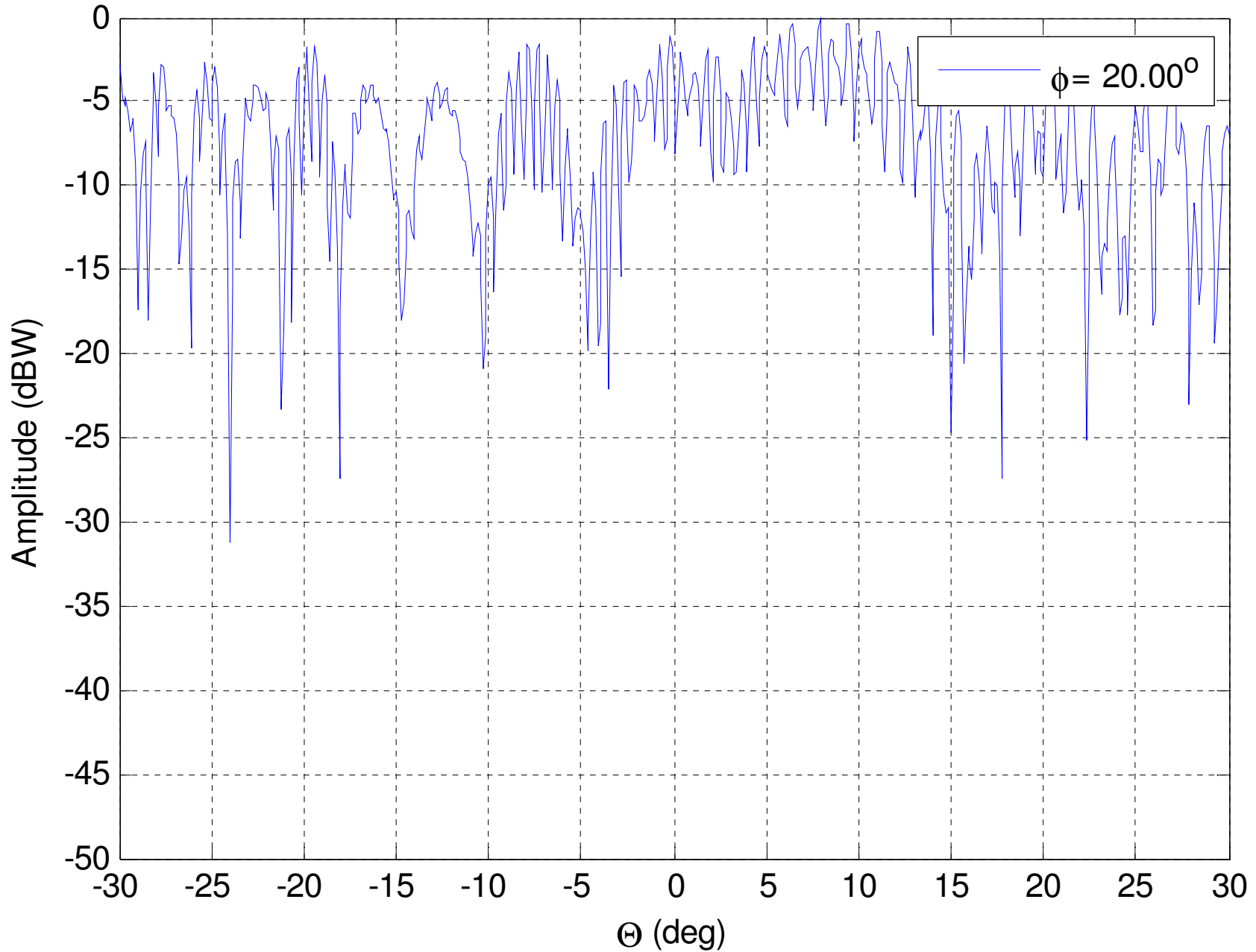
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -20.78 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

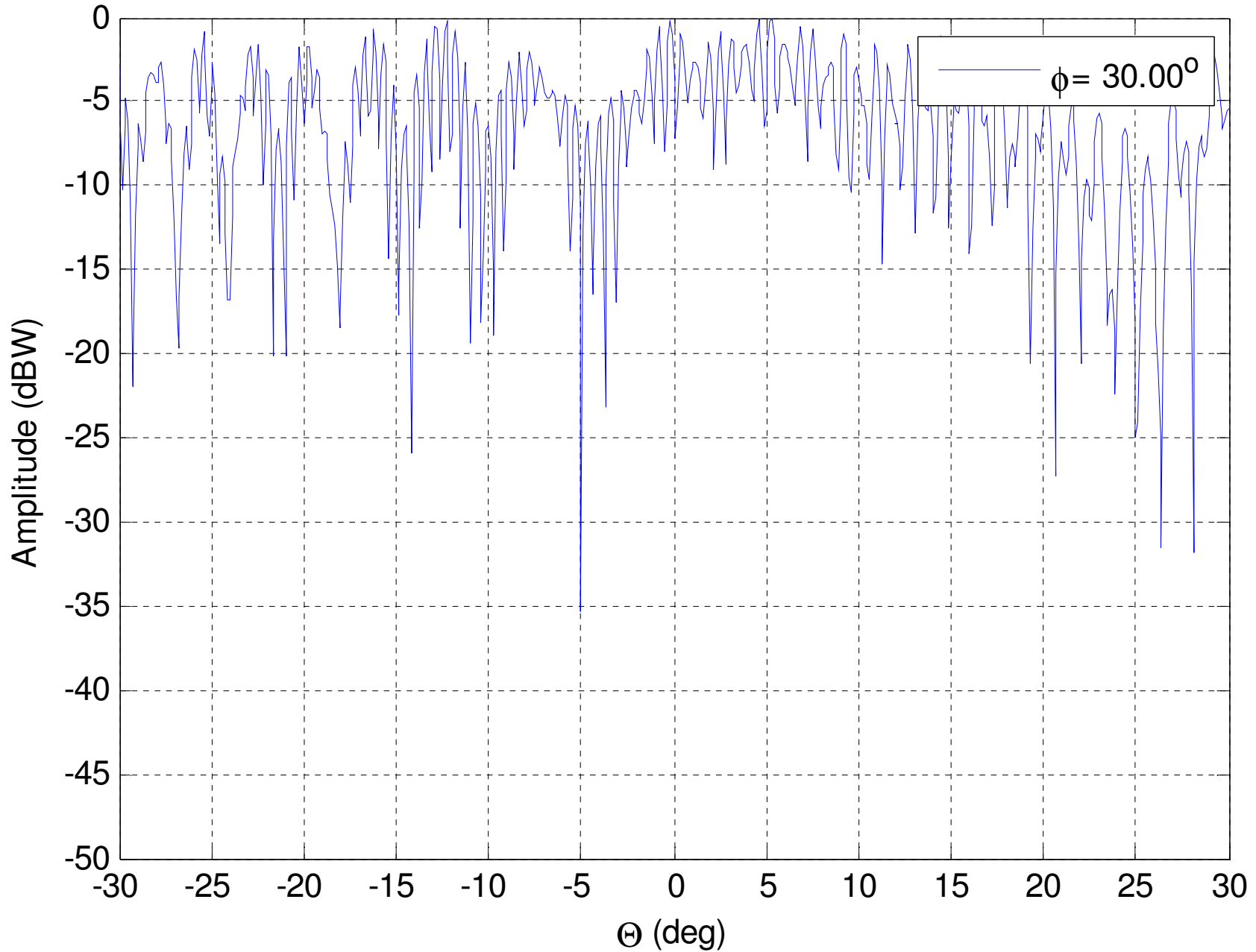
Input file: tx-17.3-lhcp-20.cut, Peak: -20.60 dBW, Date: 16-Dec-2011





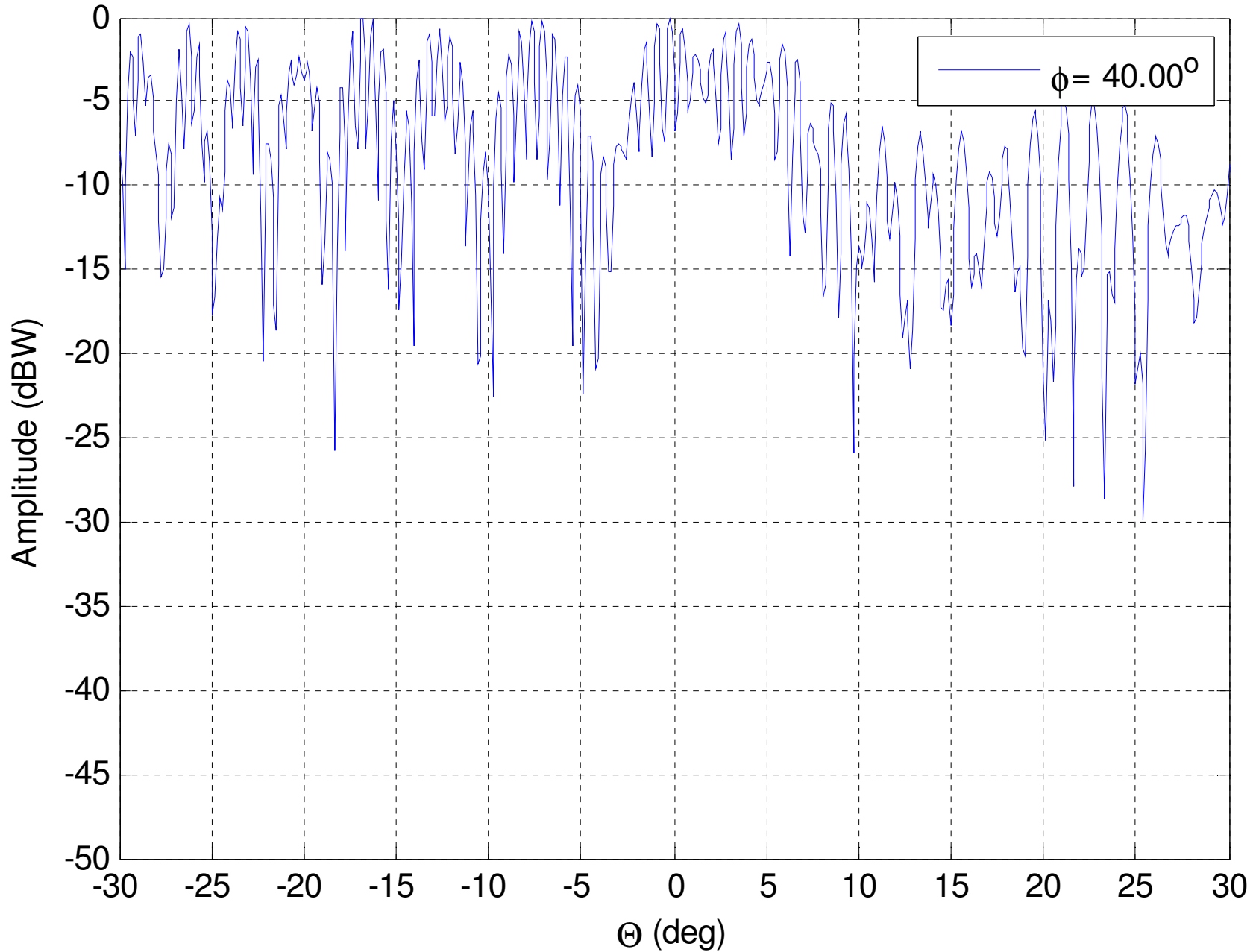
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -21.53 dBW, Date: 16-Dec-2011



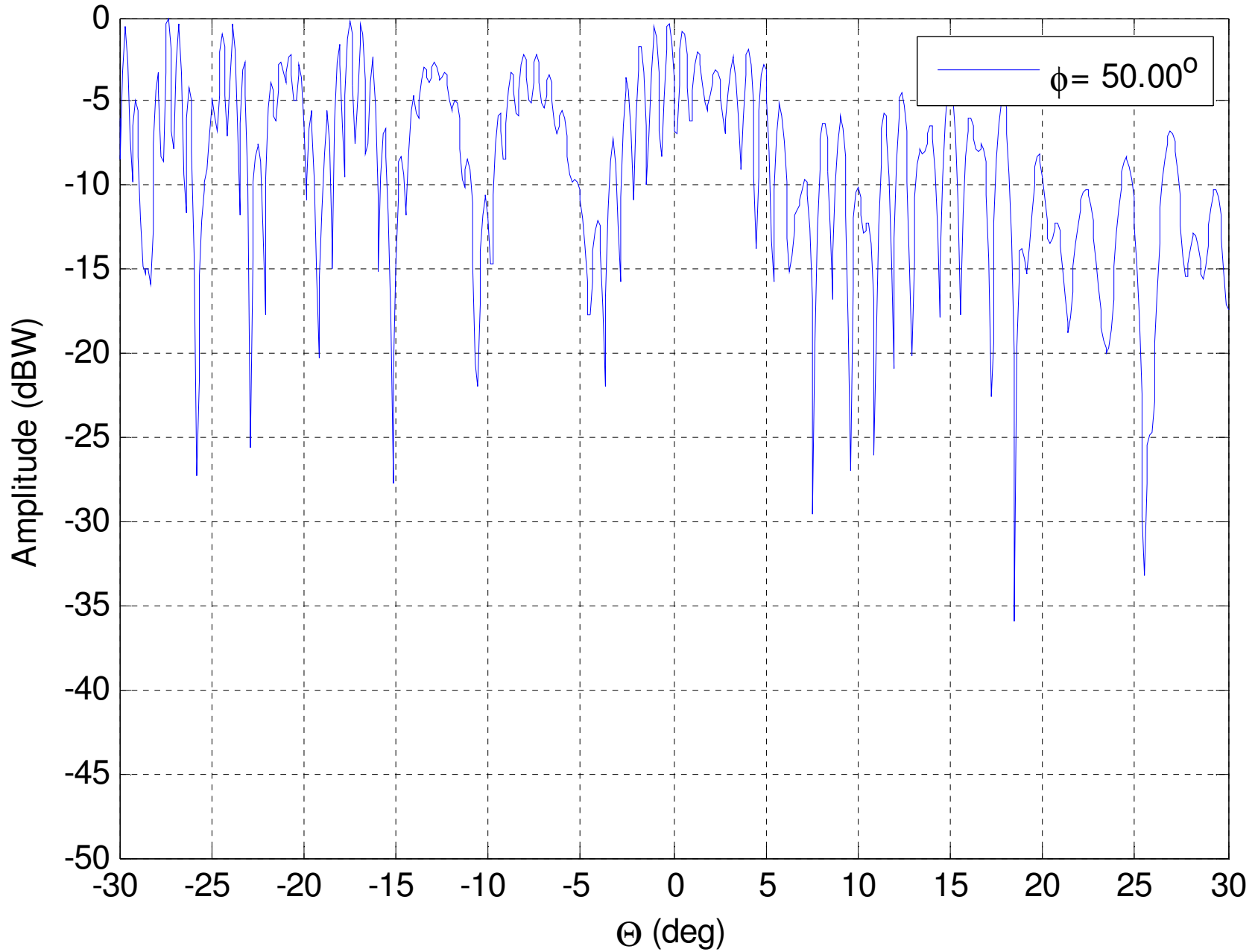
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -21.73 dBW, Date: 16-Dec-2011



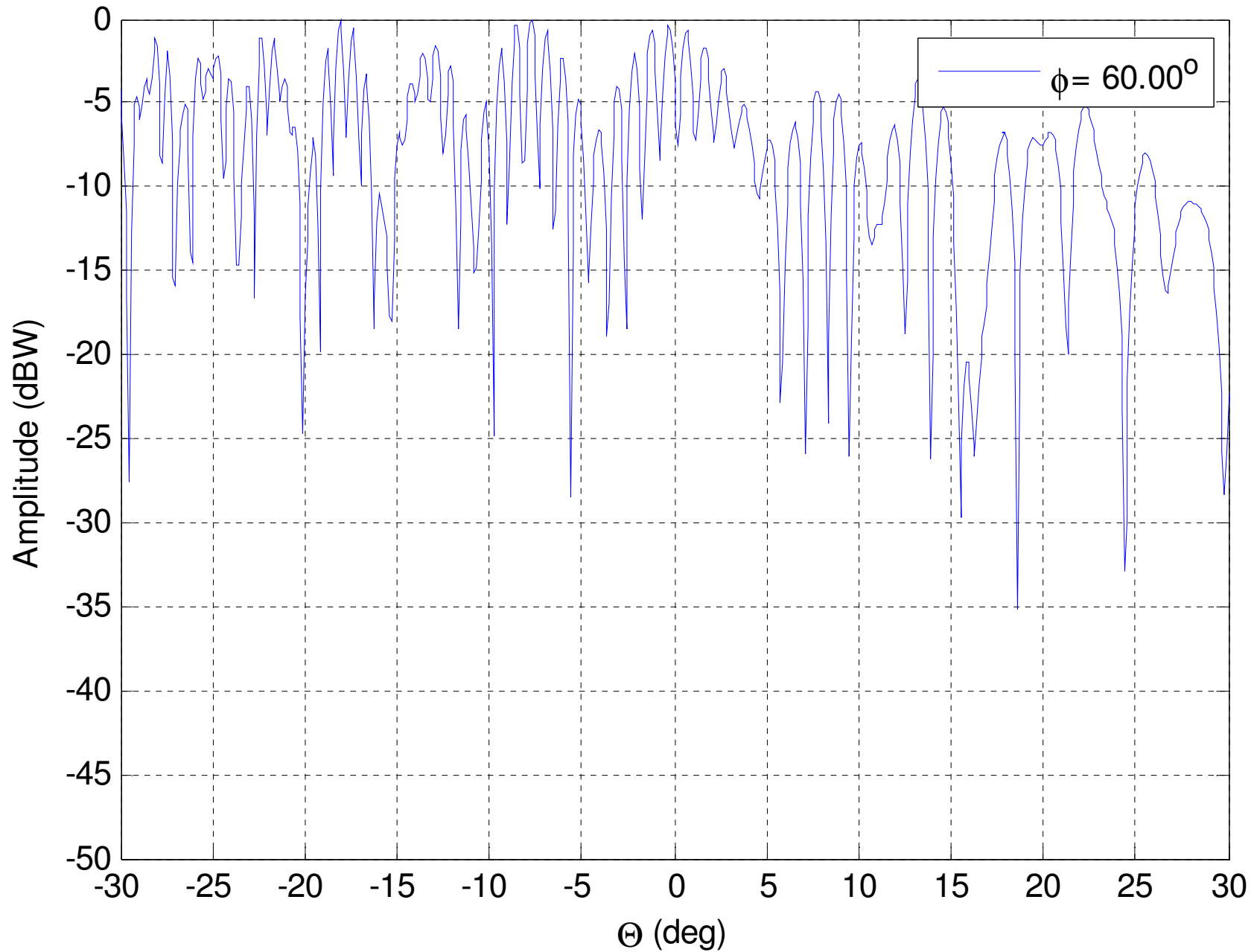
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-50.cut, Peak: -21.47 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

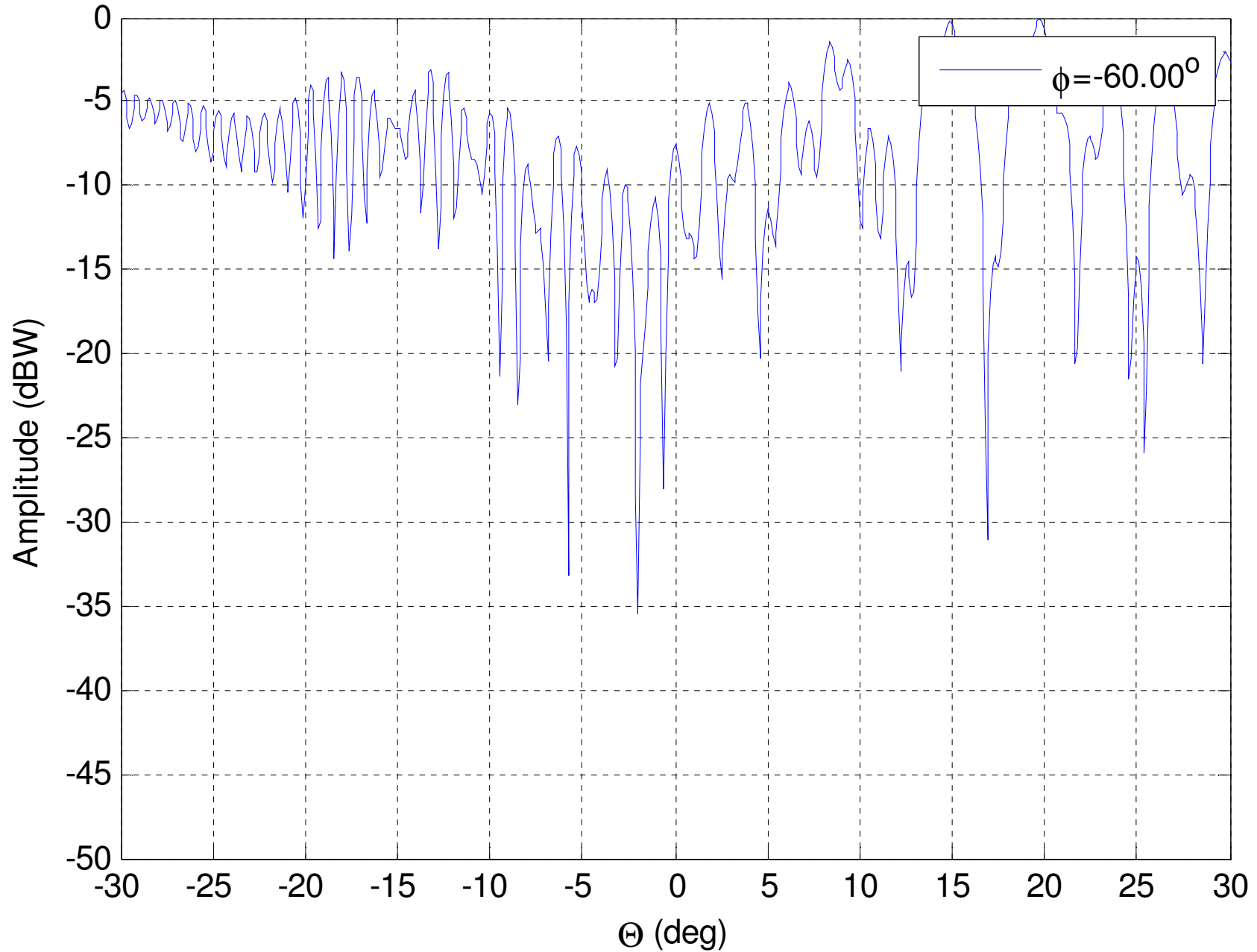
Input file: tx-17.3-lhcp-60.cut, Peak: -21.47 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

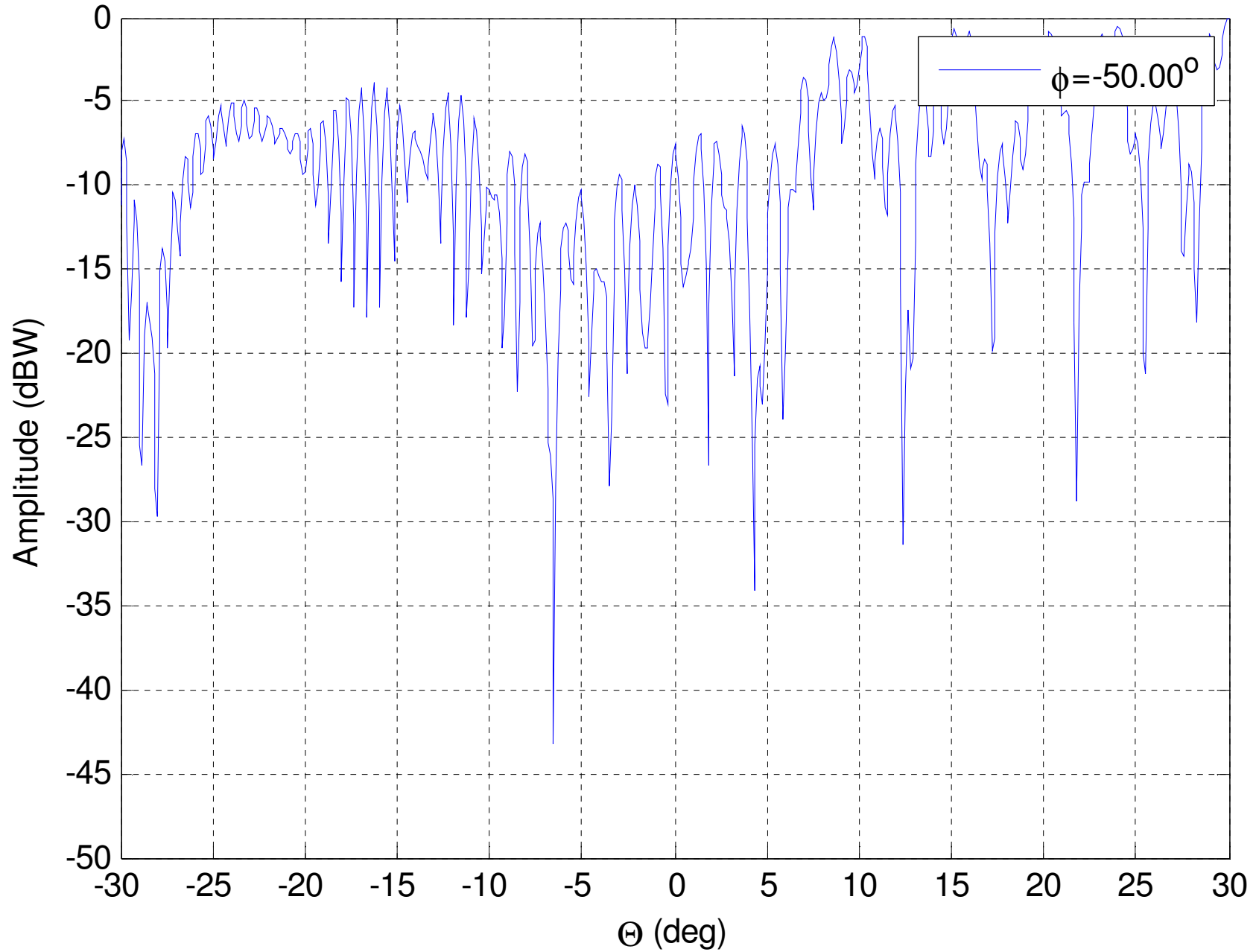
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -22.23 dBW, Date: 16-Dec-2011



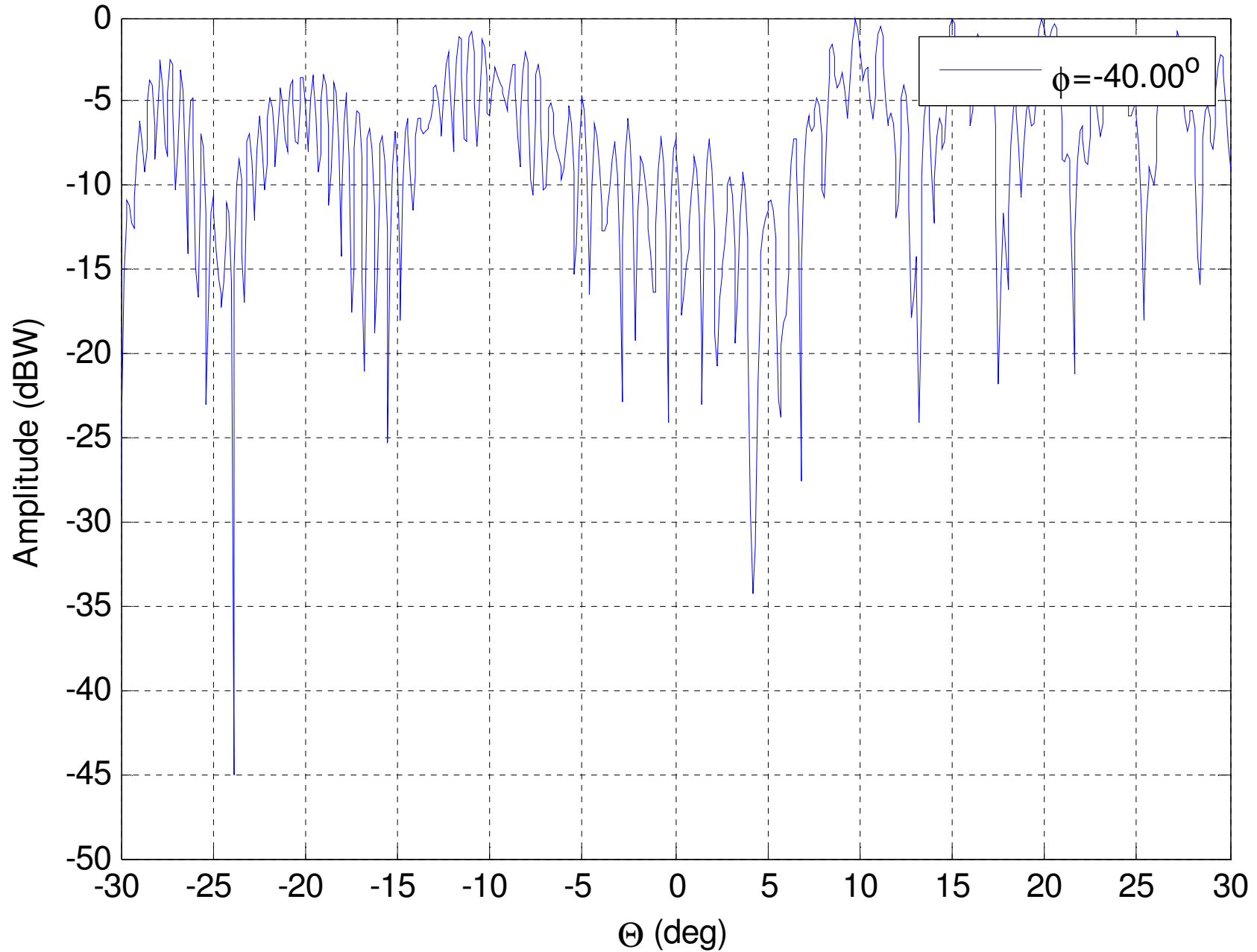
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -22.18 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

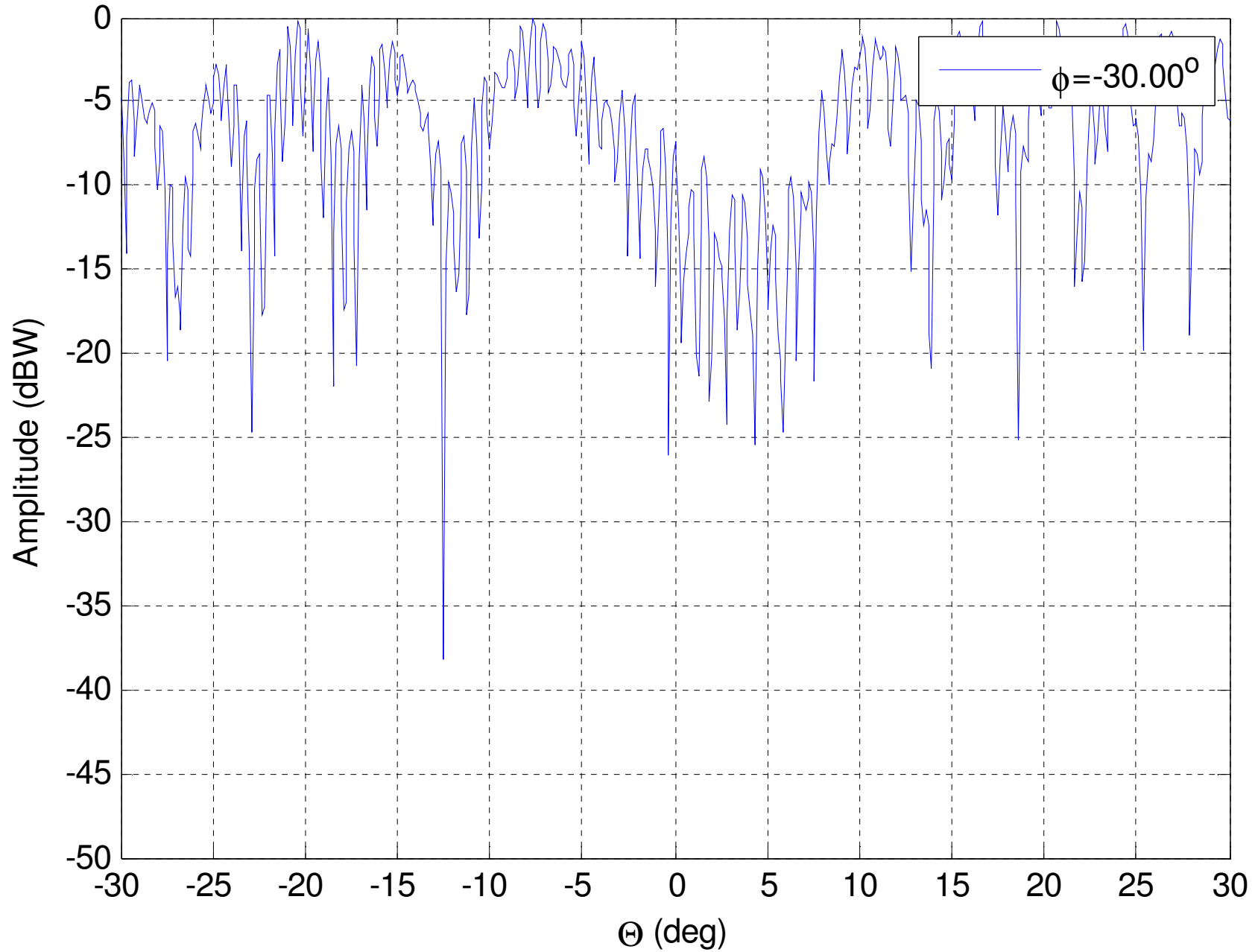
Input file: tx-17.5-rhcp--40.cut, Peak: -22.61 dBW, Date: 16-Dec-2011





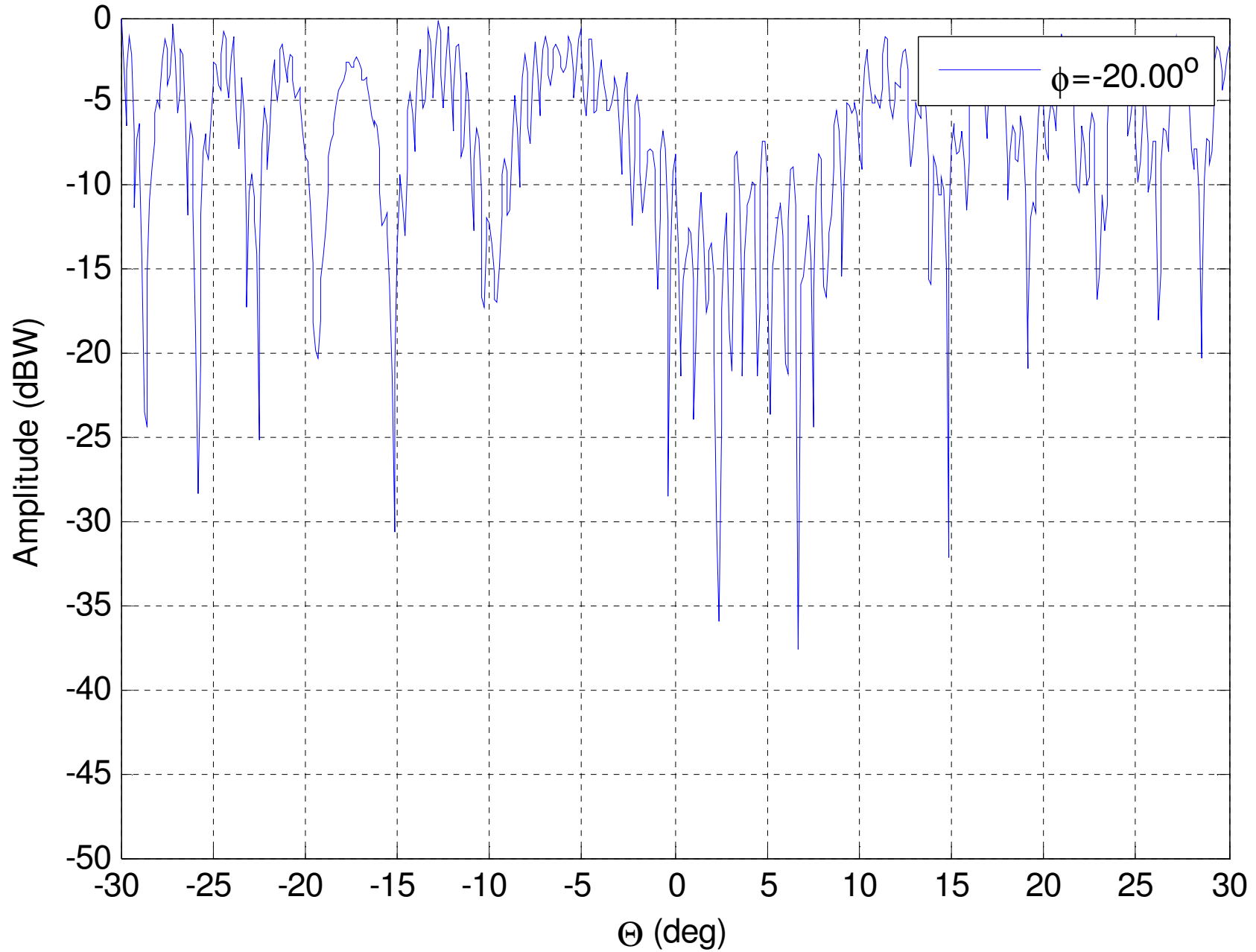
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -22.45 dBW, Date: 16-Dec-2011



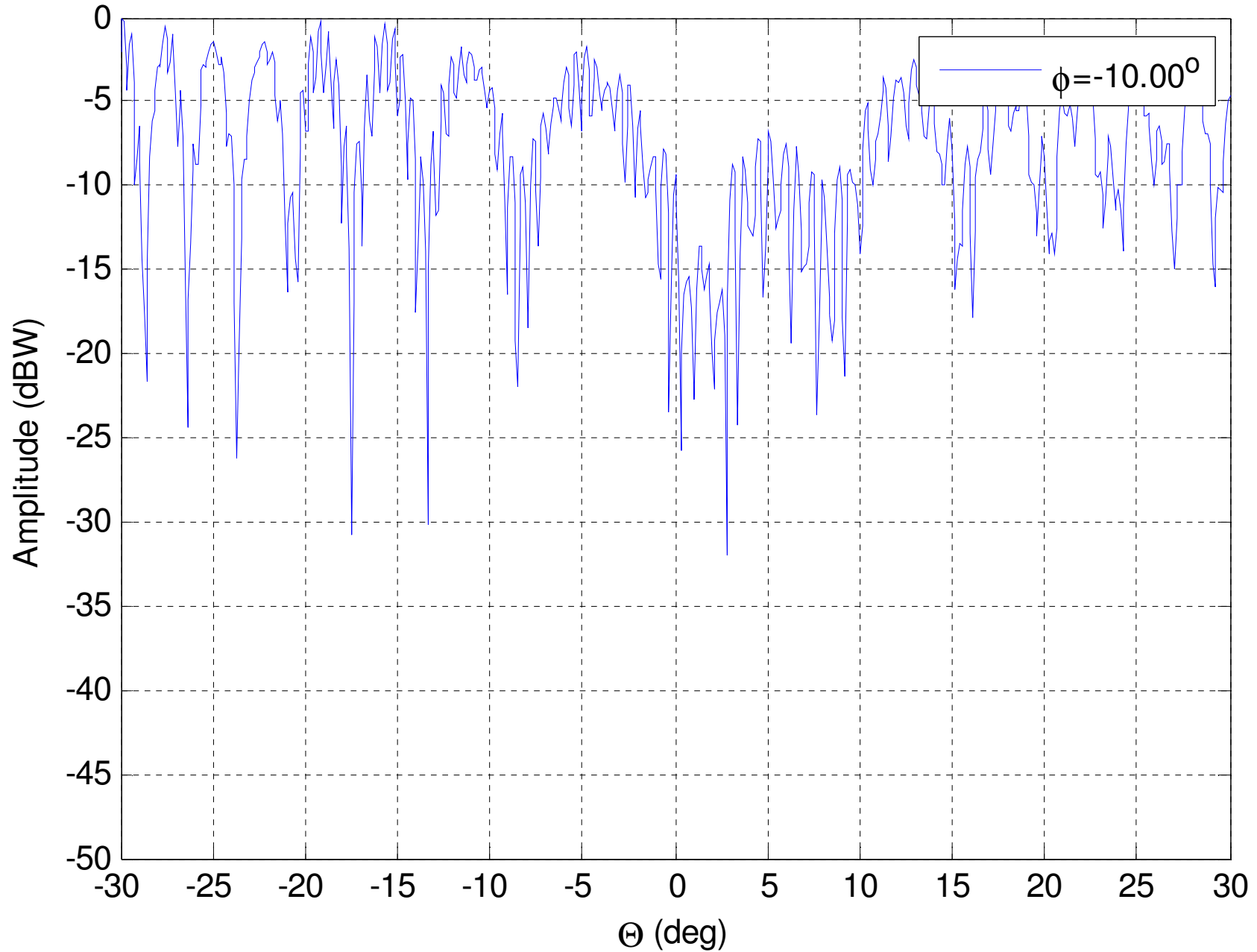
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -21.69 dBW, Date: 16-Dec-2011



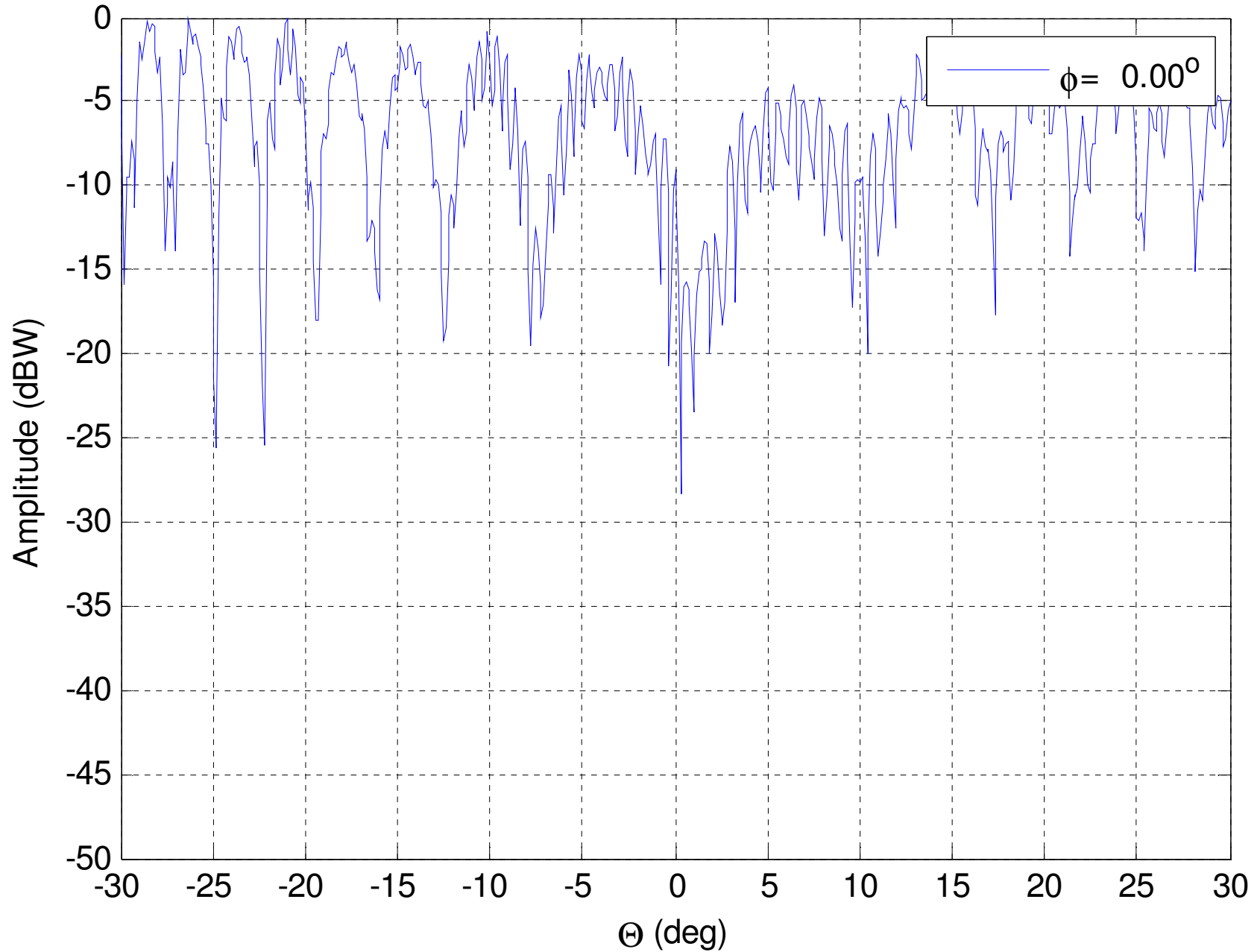
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--10.cut, Peak: -20.36 dBW, Date: 16-Dec-2011



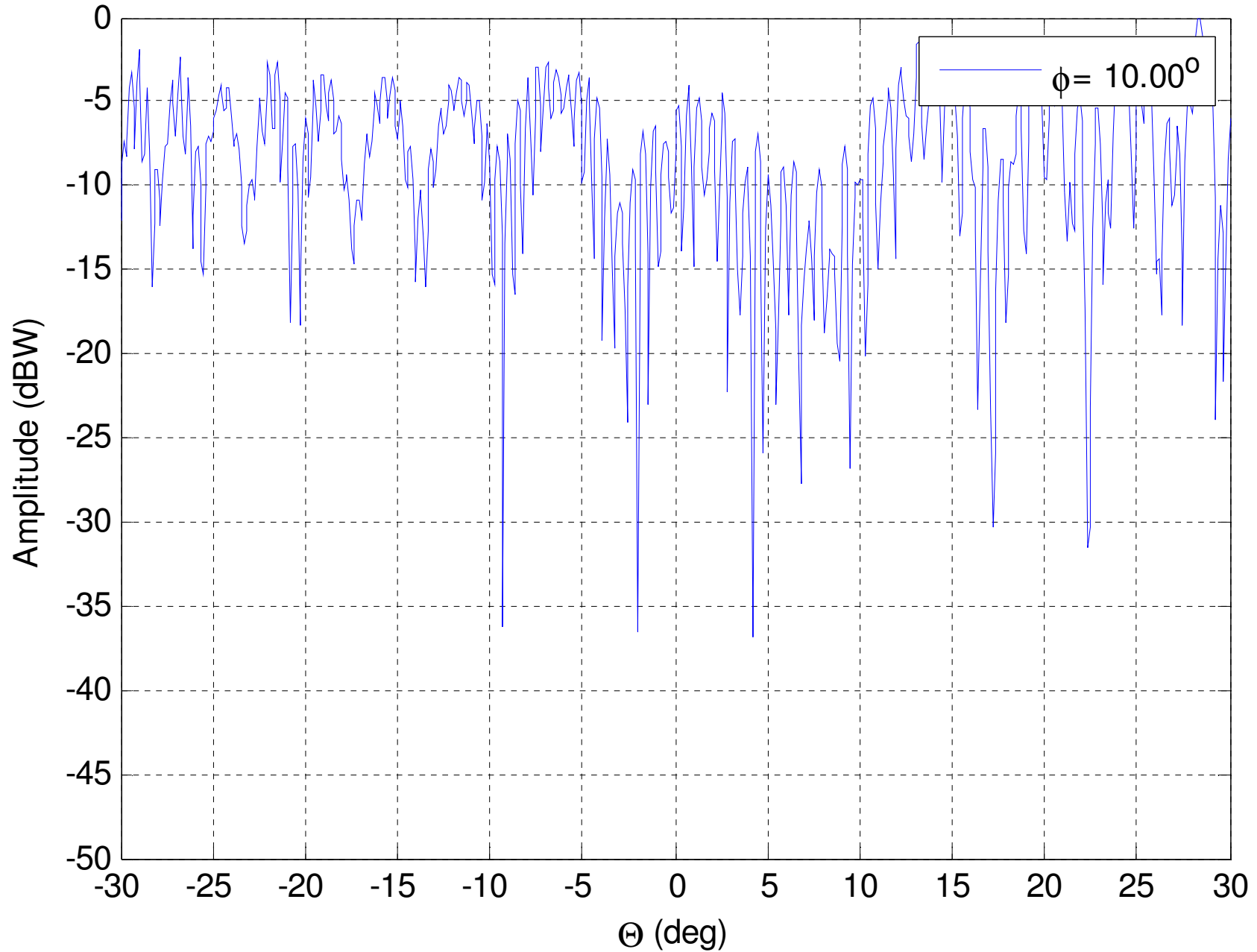
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -20.74 dBW, Date: 16-Dec-2011



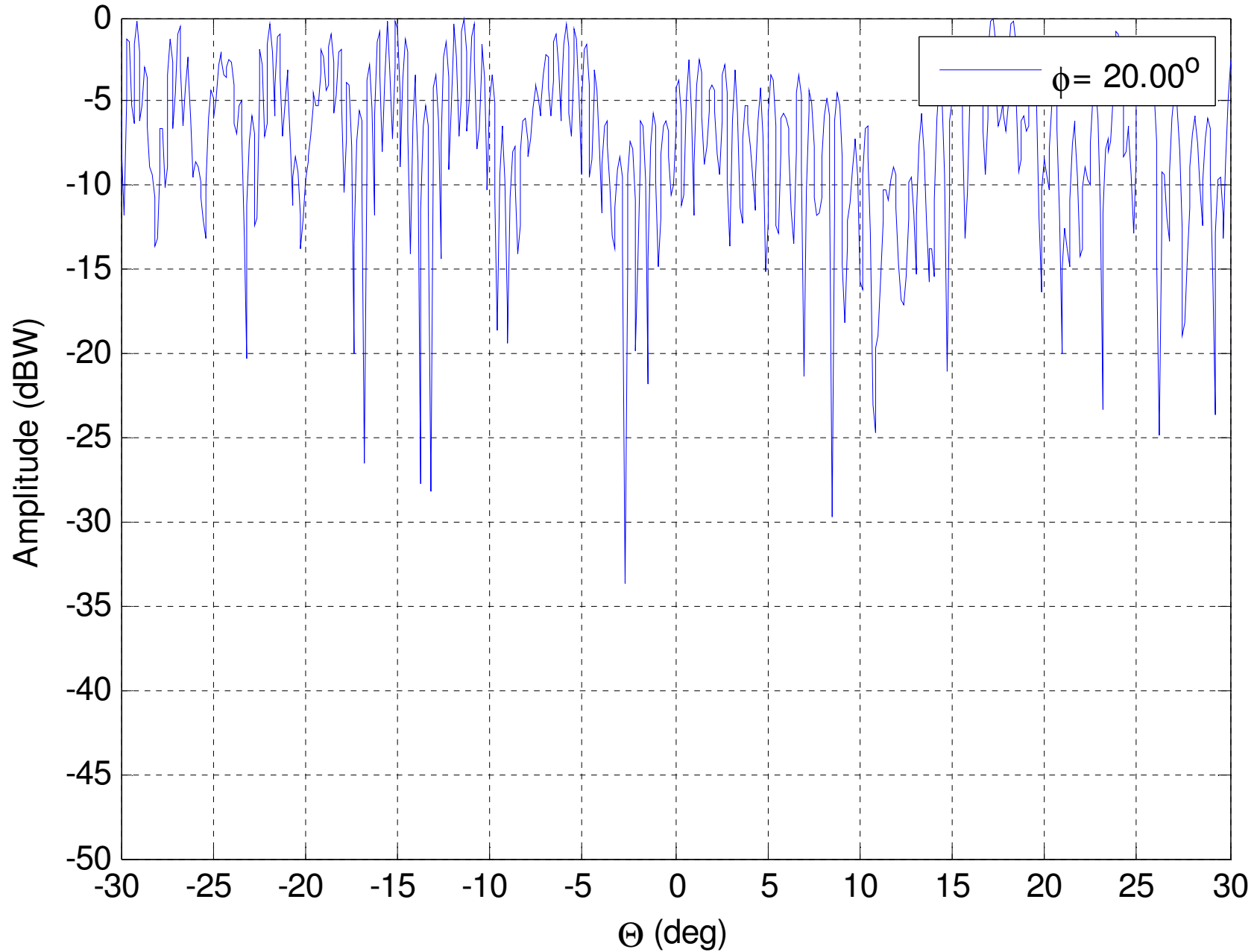
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -20.75 dBW, Date: 16-Dec-2011



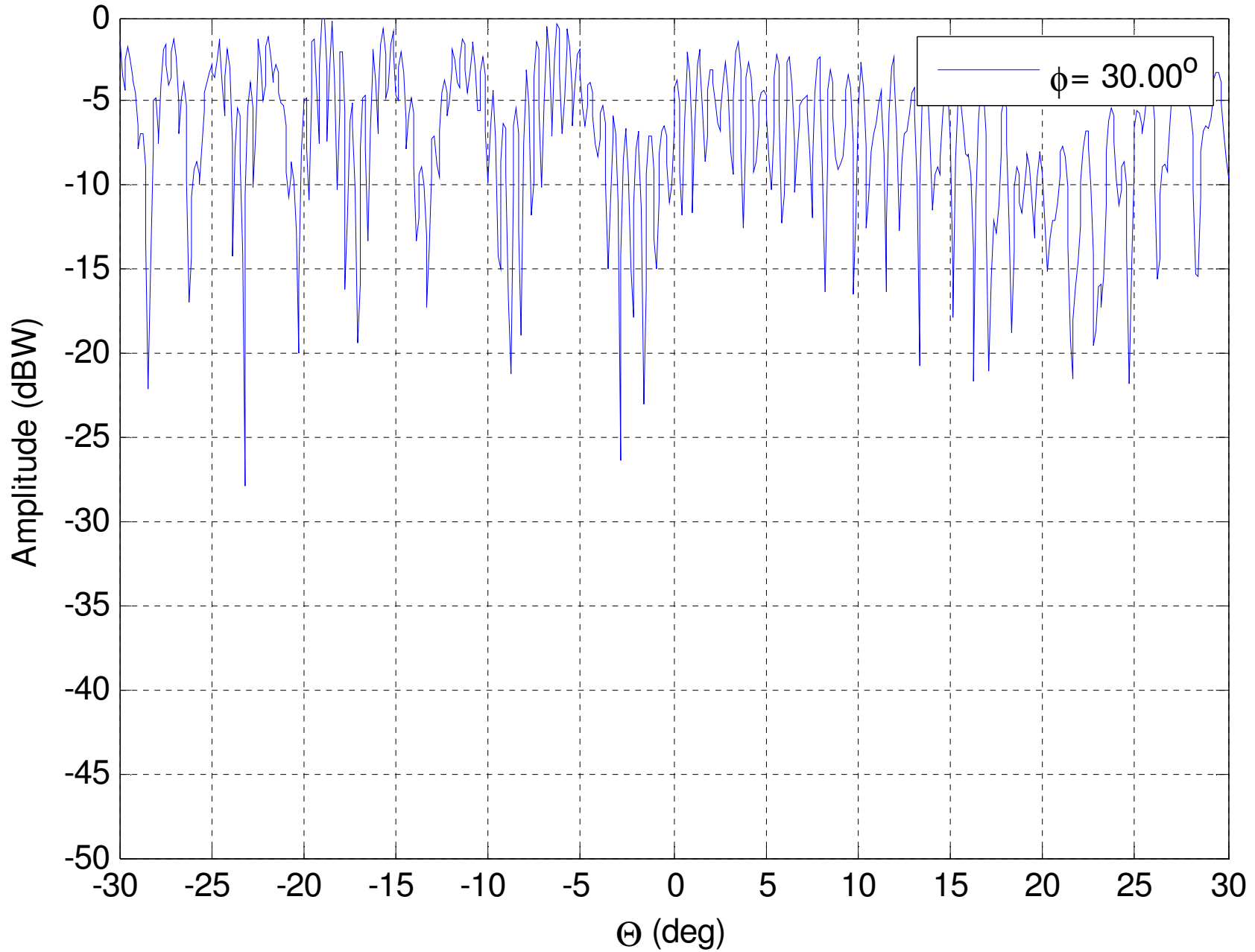
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -22.17 dBW, Date: 16-Dec-2011



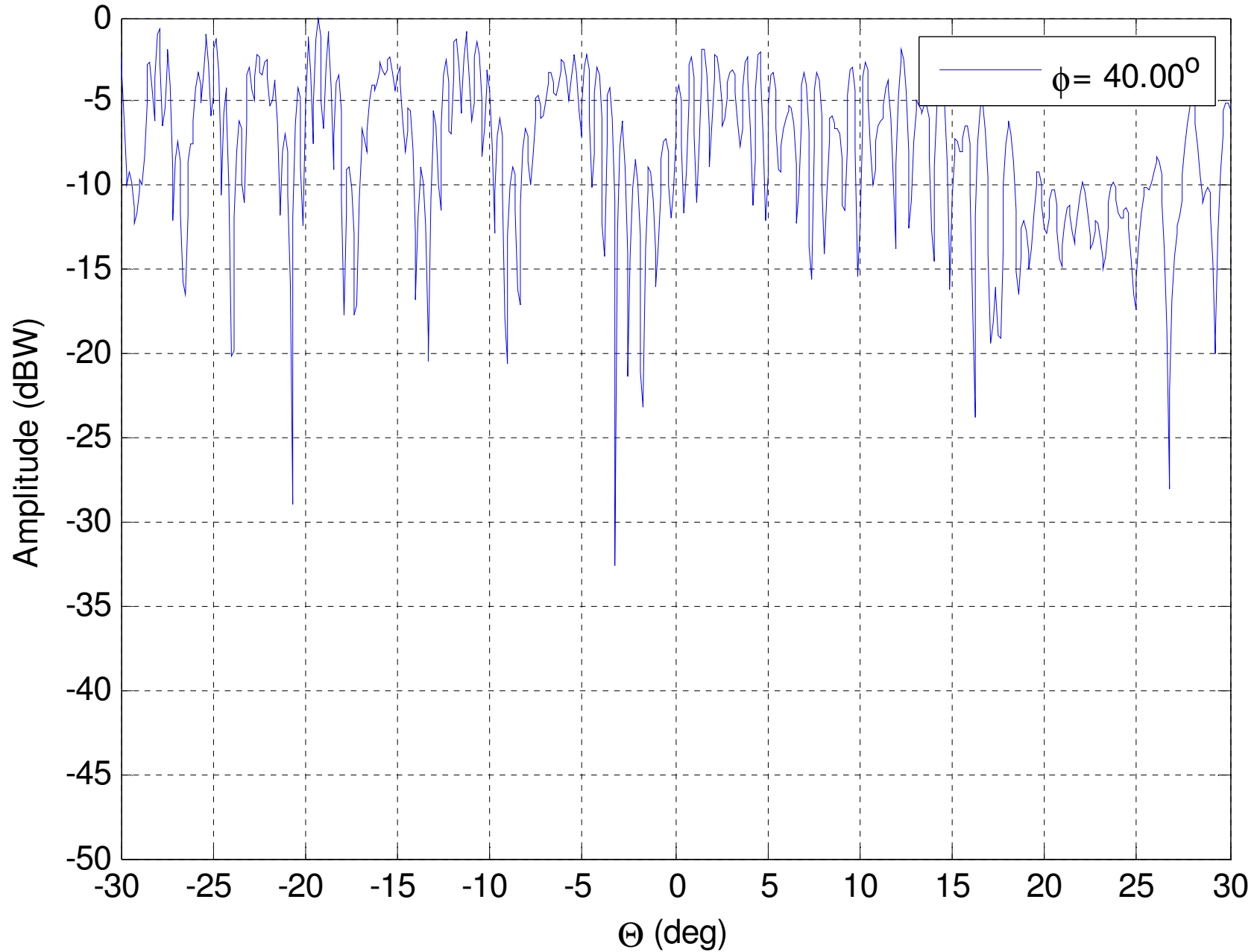
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -22.20 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

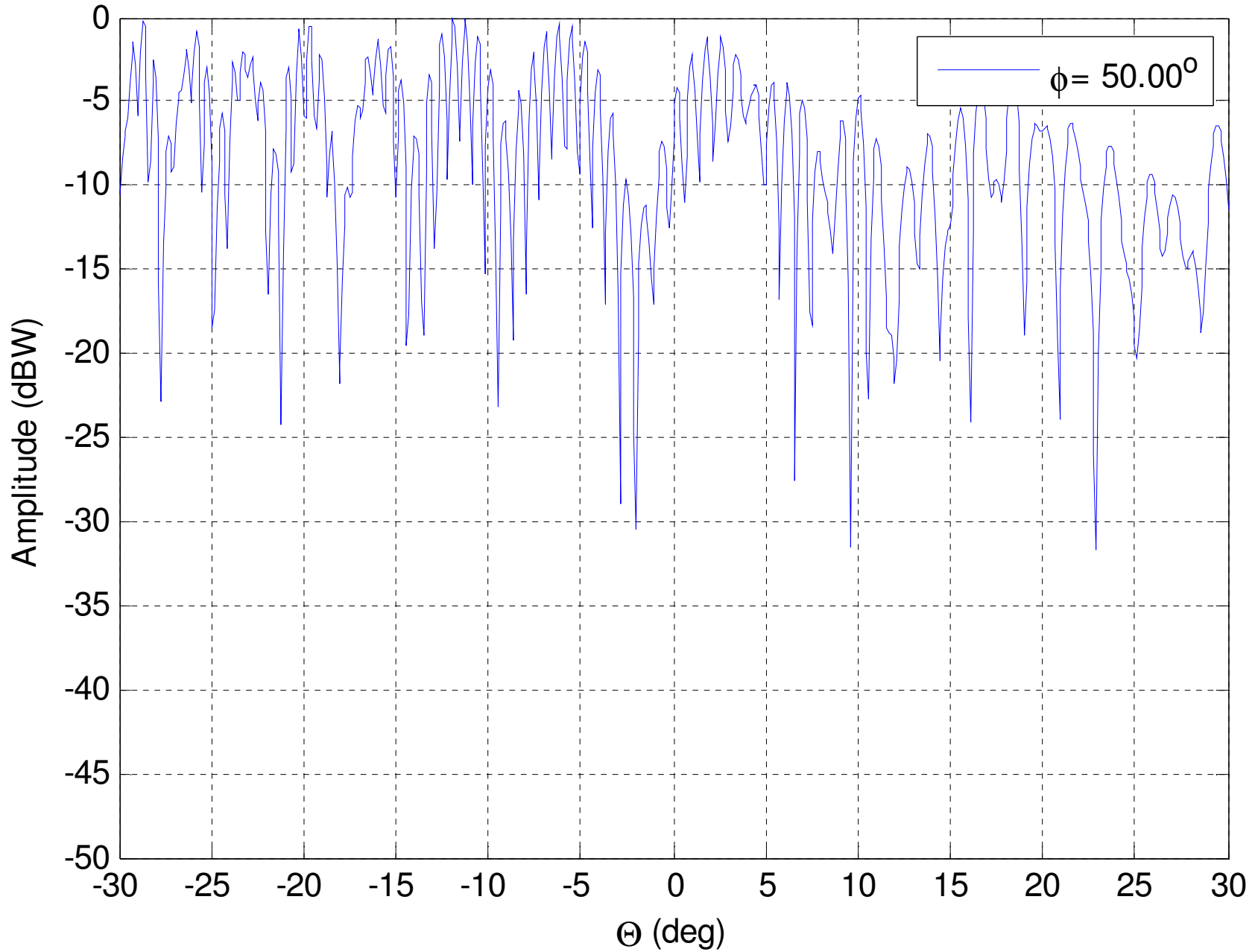
Input file: tx-17.5-rhcp-40.cut, Peak: -21.73 dBW, Date: 16-Dec-2011





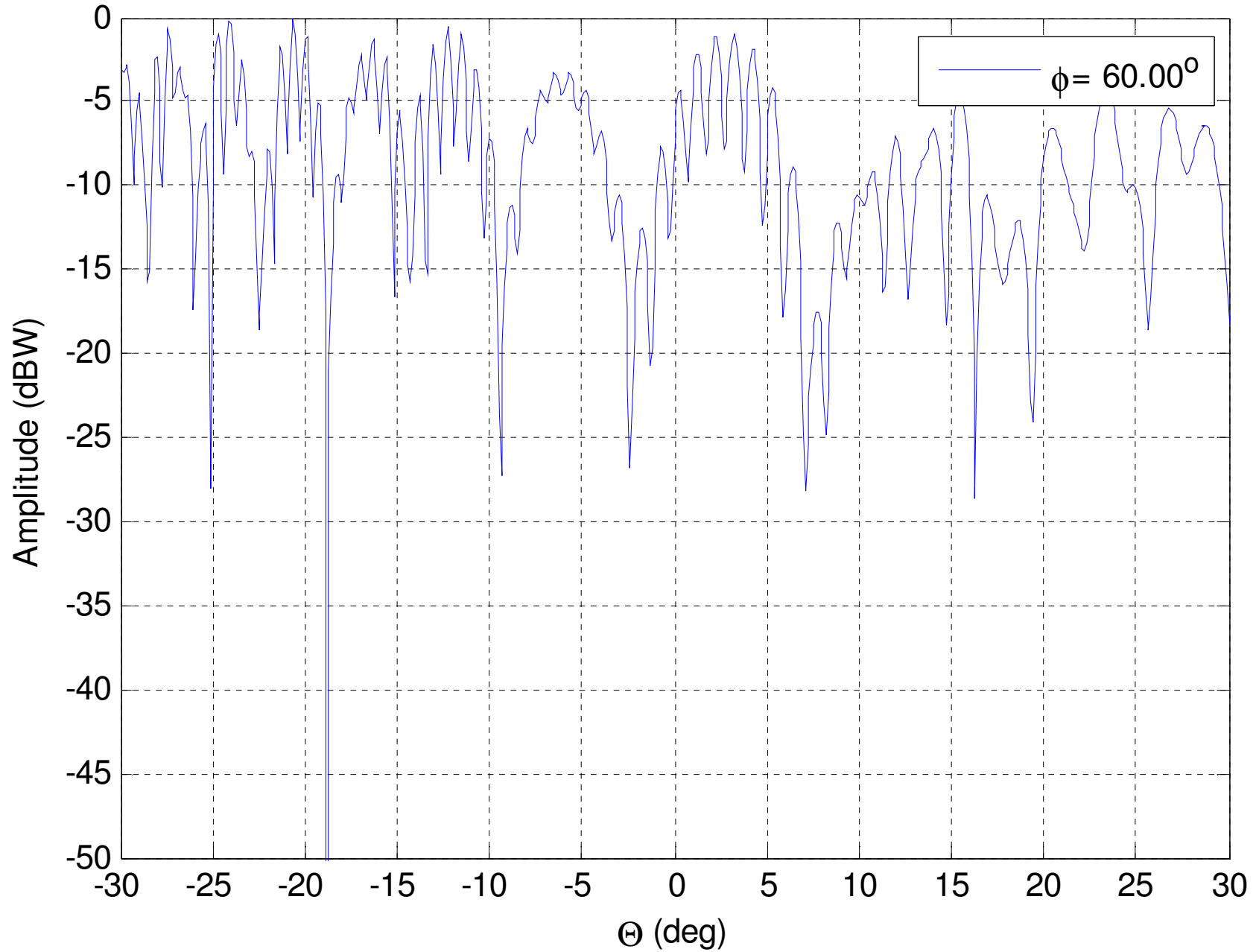
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -21.62 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

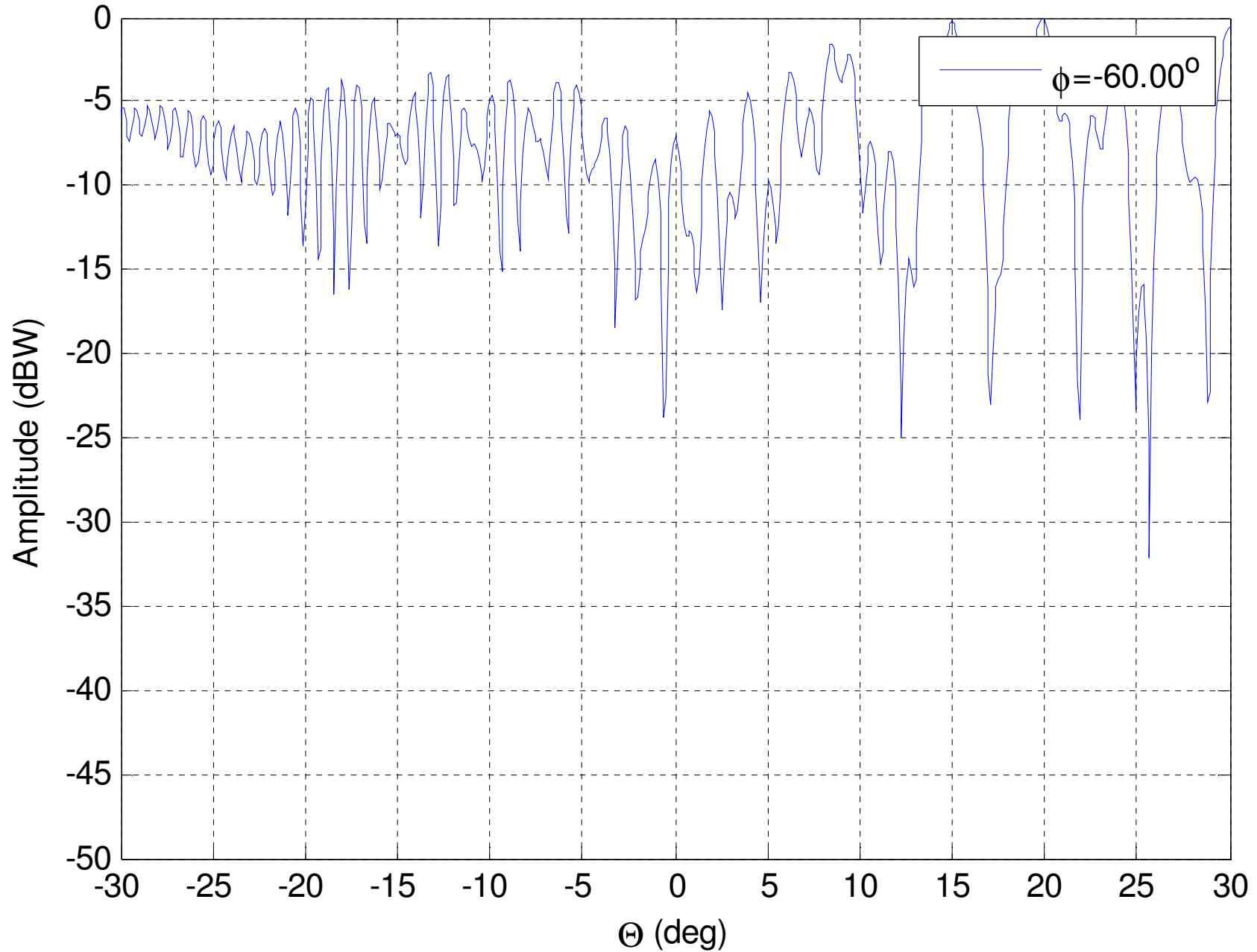
Input file: tx-17.5-rhcp-60.cut, Peak: -21.45 dBW, Date: 16-Dec-2011



# LHCP at 17.5 GHz

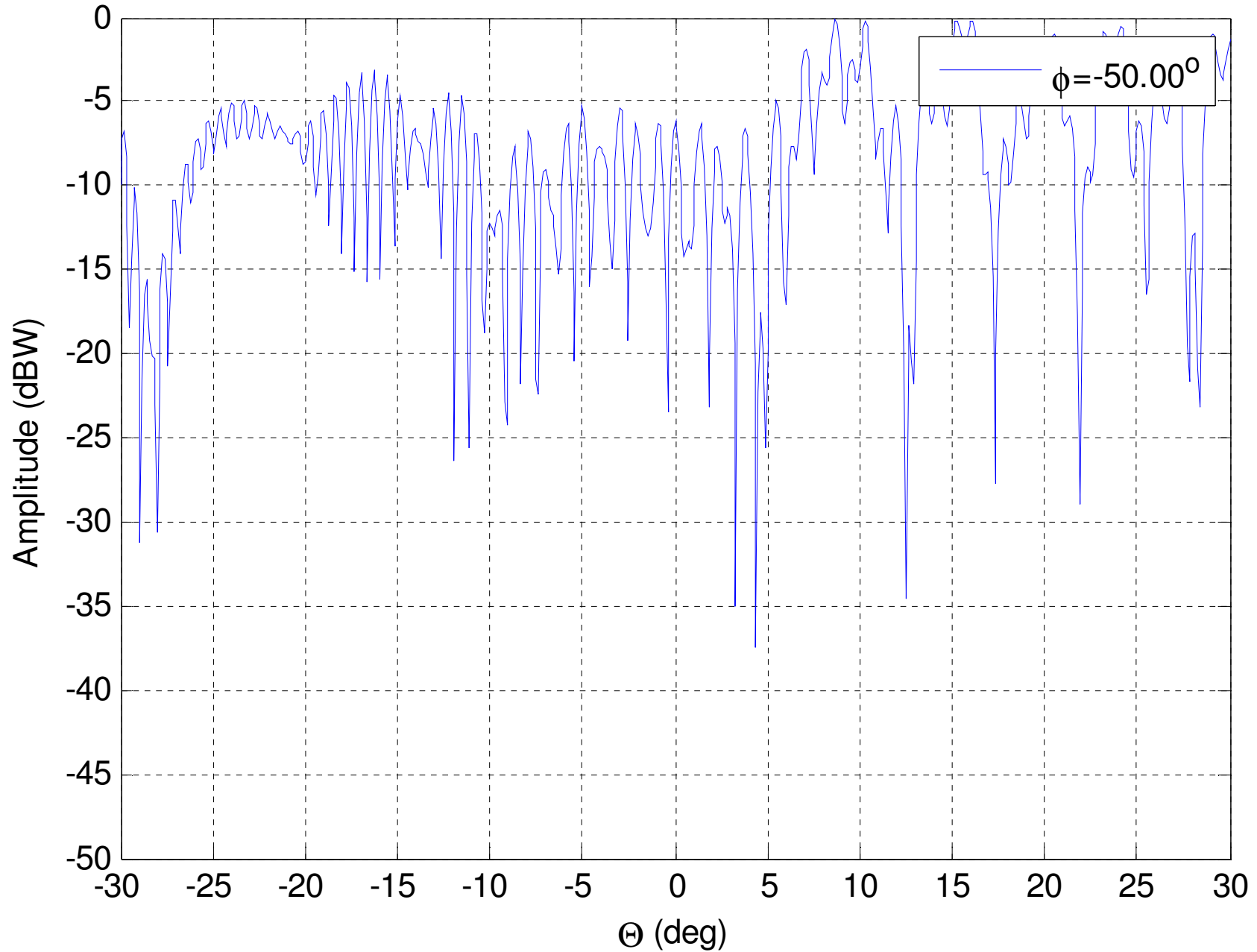
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -22.09 dBW, Date: 16-Dec-2011



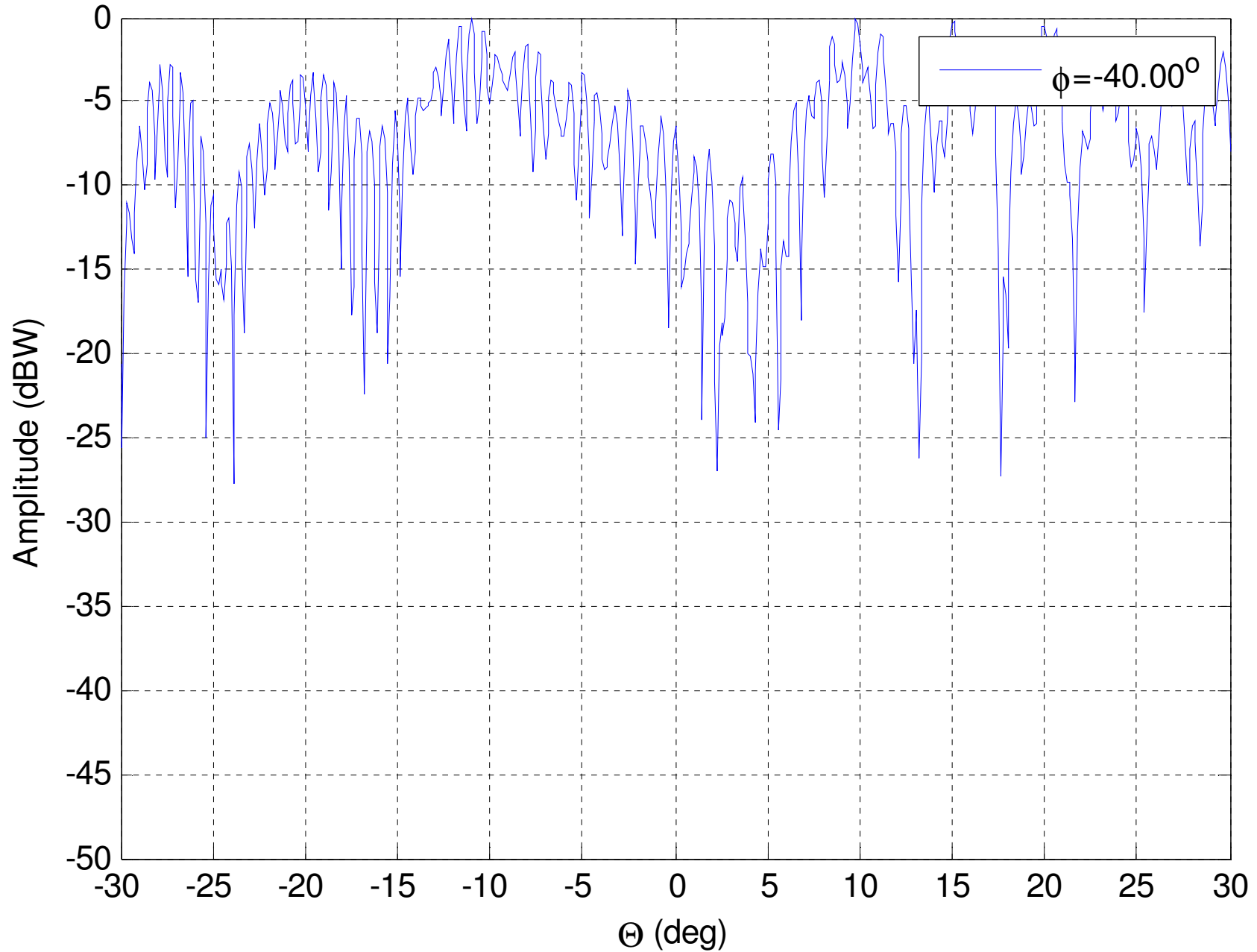
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -23.03 dBW, Date: 16-Dec-2011



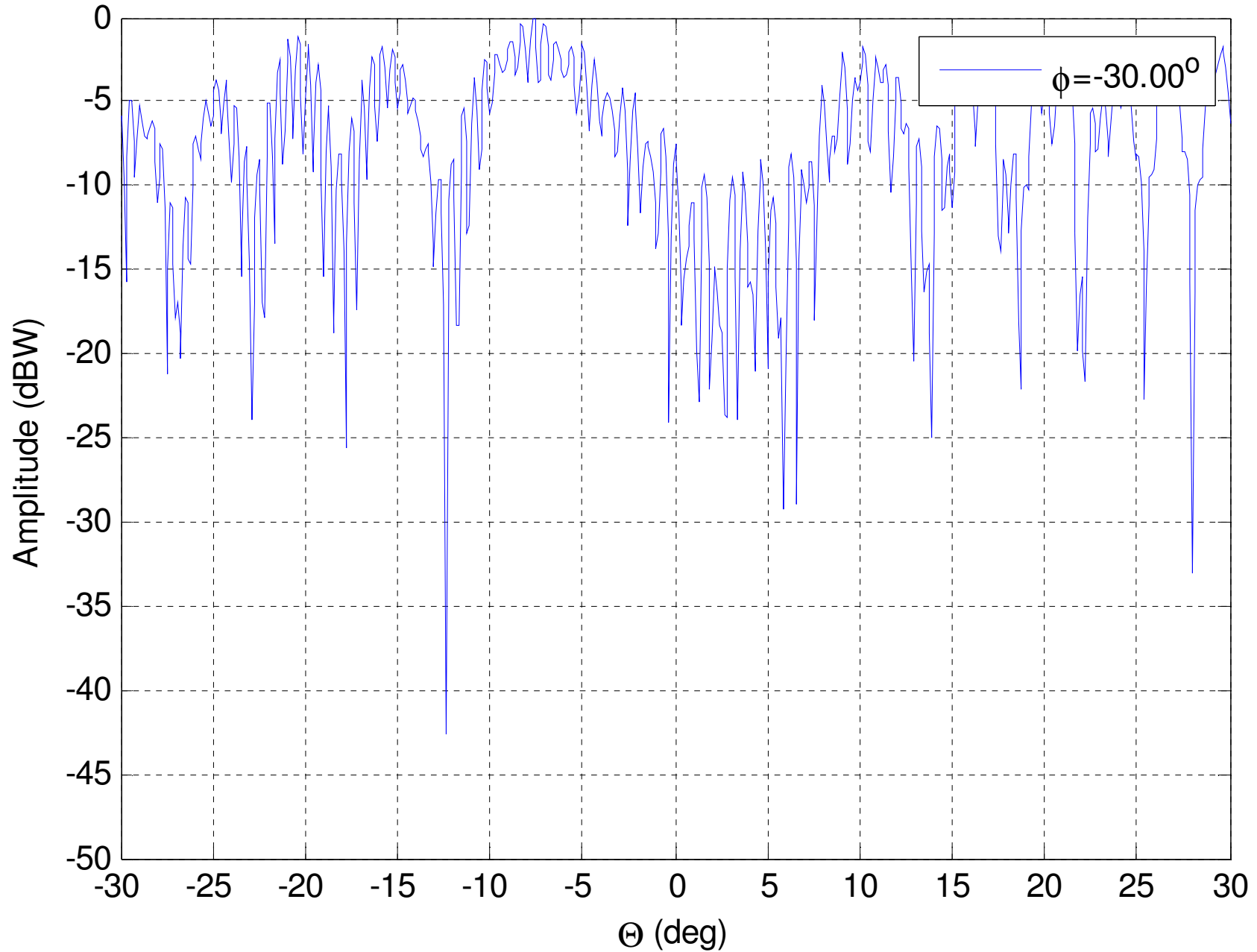
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -22.68 dBW, Date: 16-Dec-2011



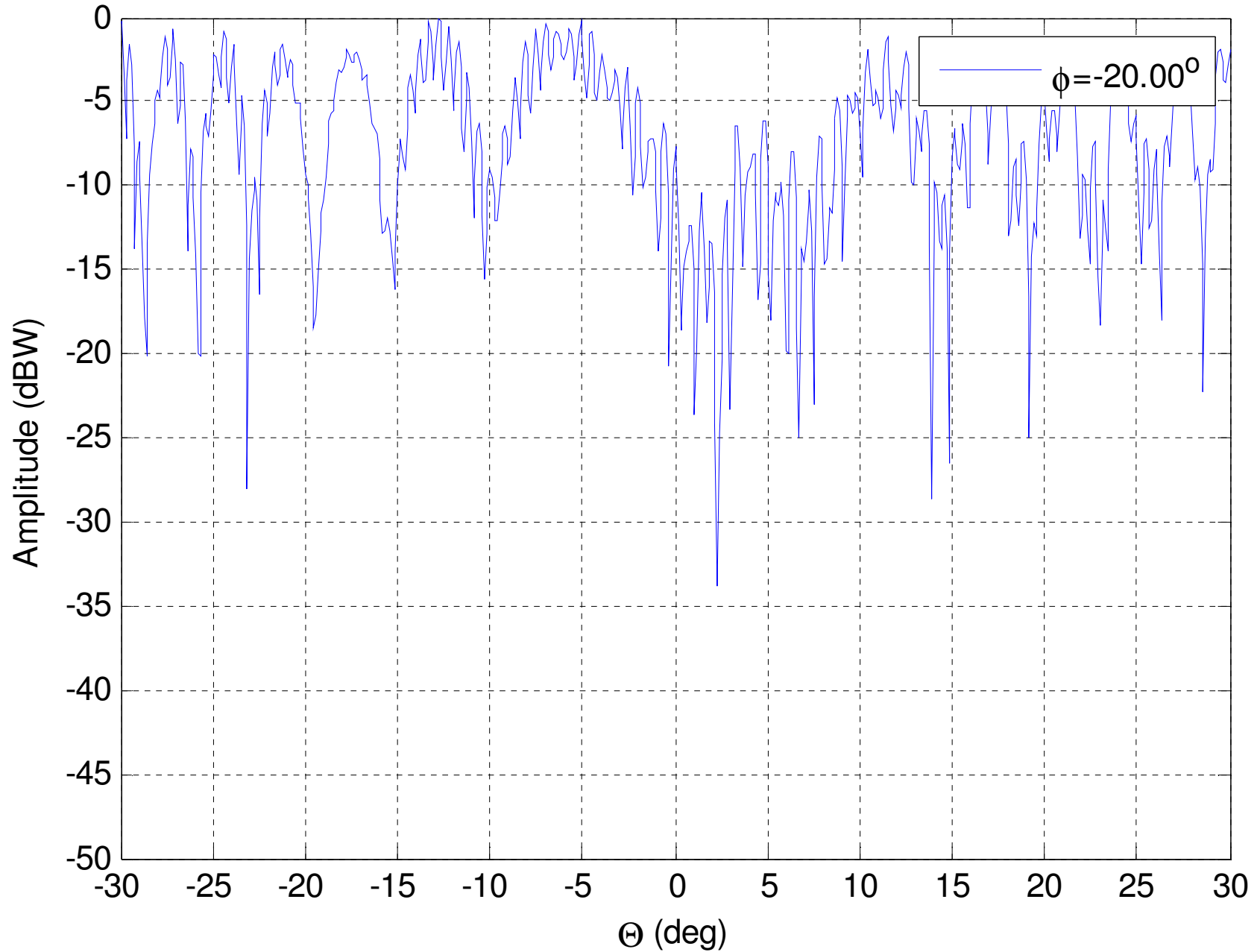
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -21.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

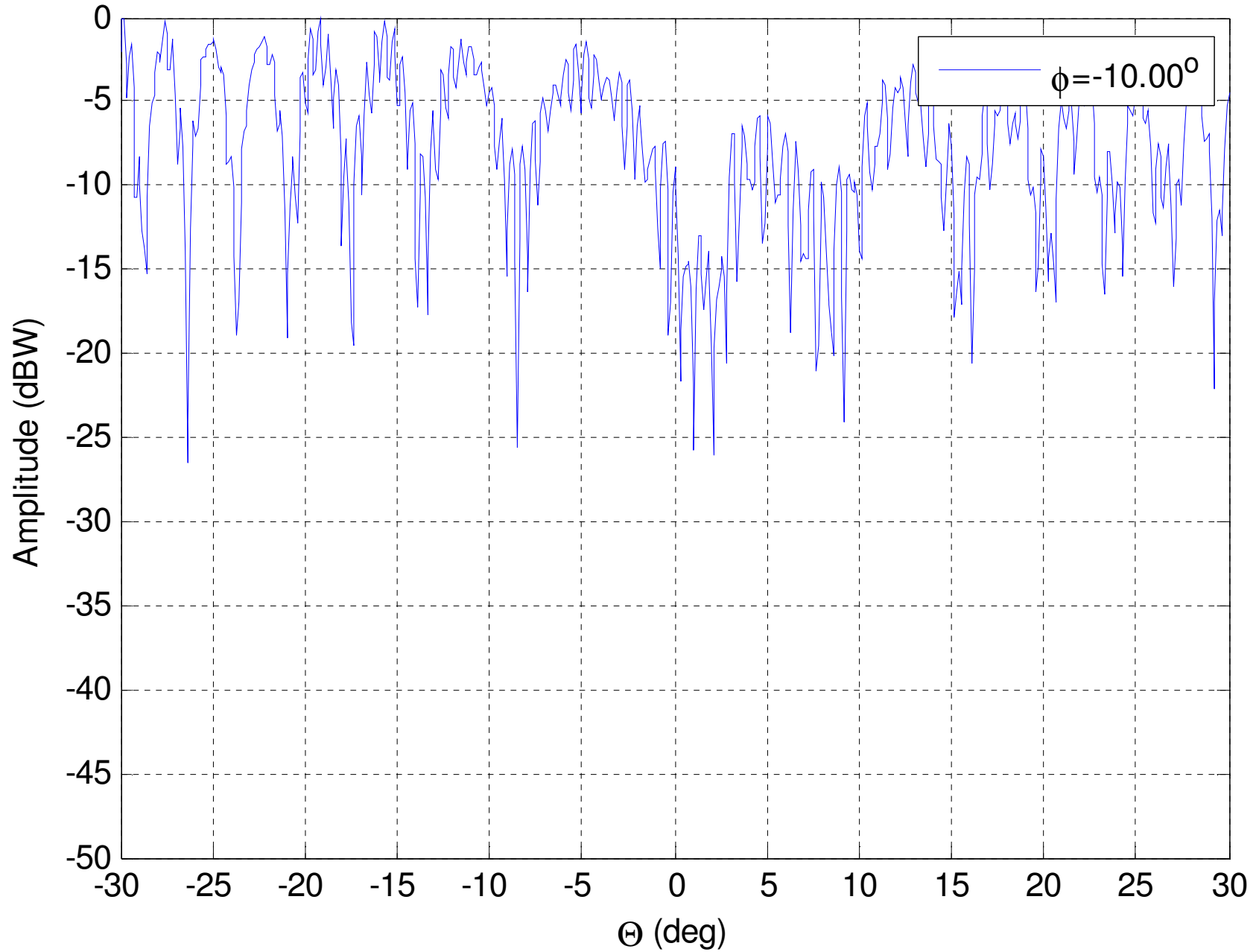
Input file: tx-17.5-lhcp--20.cut, Peak: -21.47 dBW, Date: 16-Dec-2011





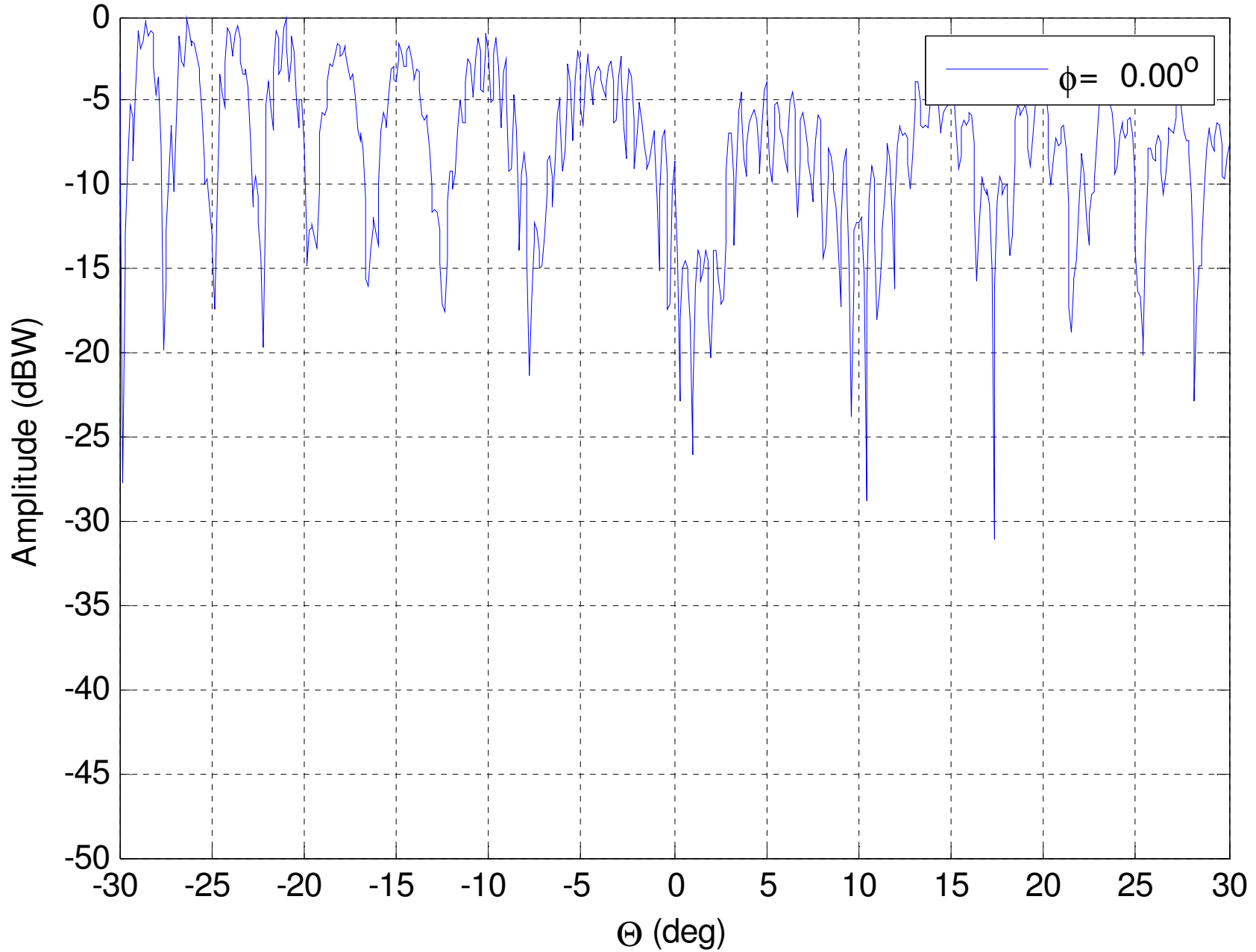
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -20.29 dBW, Date: 16-Dec-2011



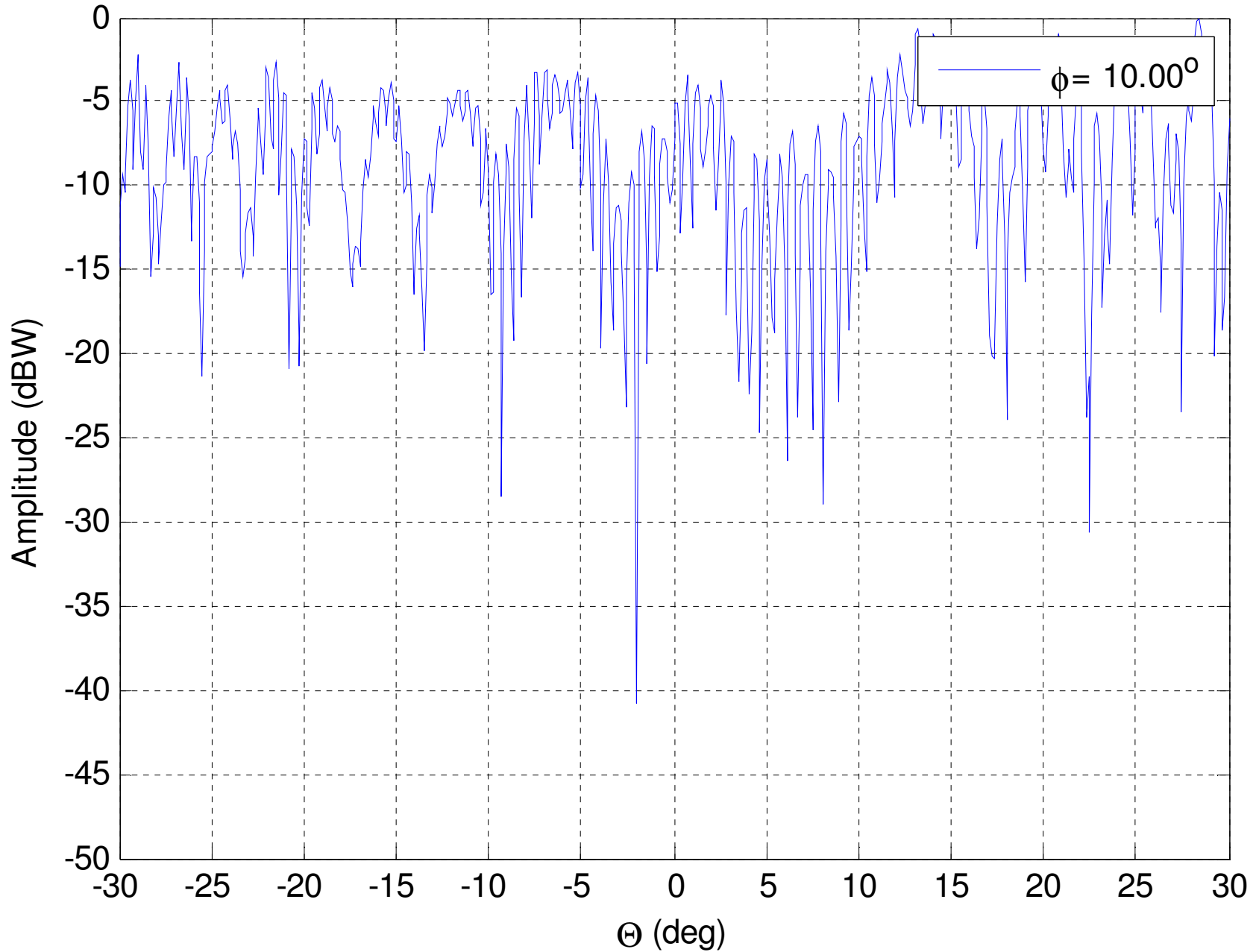
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -20.54 dBW, Date: 16-Dec-2011



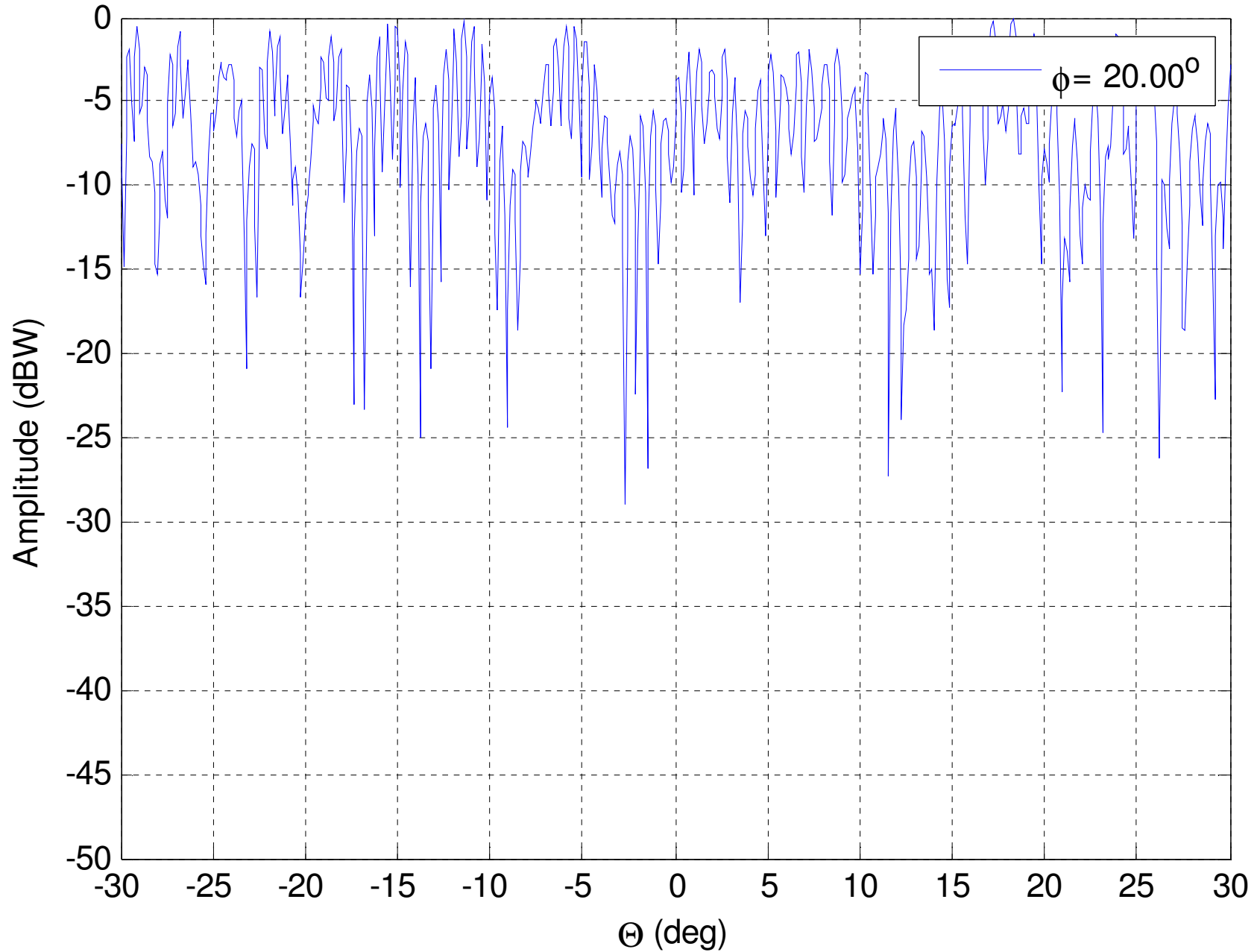
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-10.cut, Peak: -20.62 dBW, Date: 16-Dec-2011



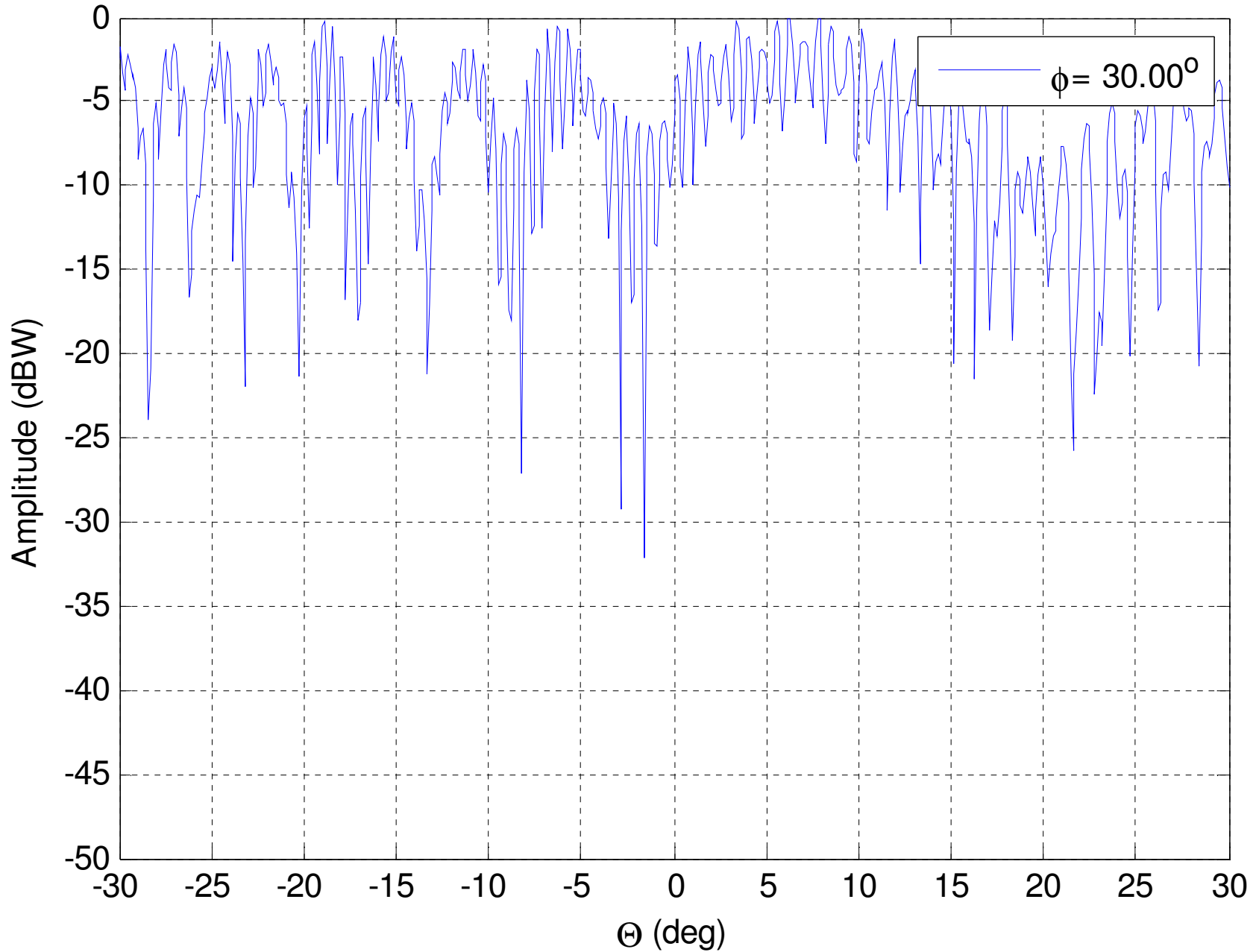
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -22.06 dBW, Date: 16-Dec-2011



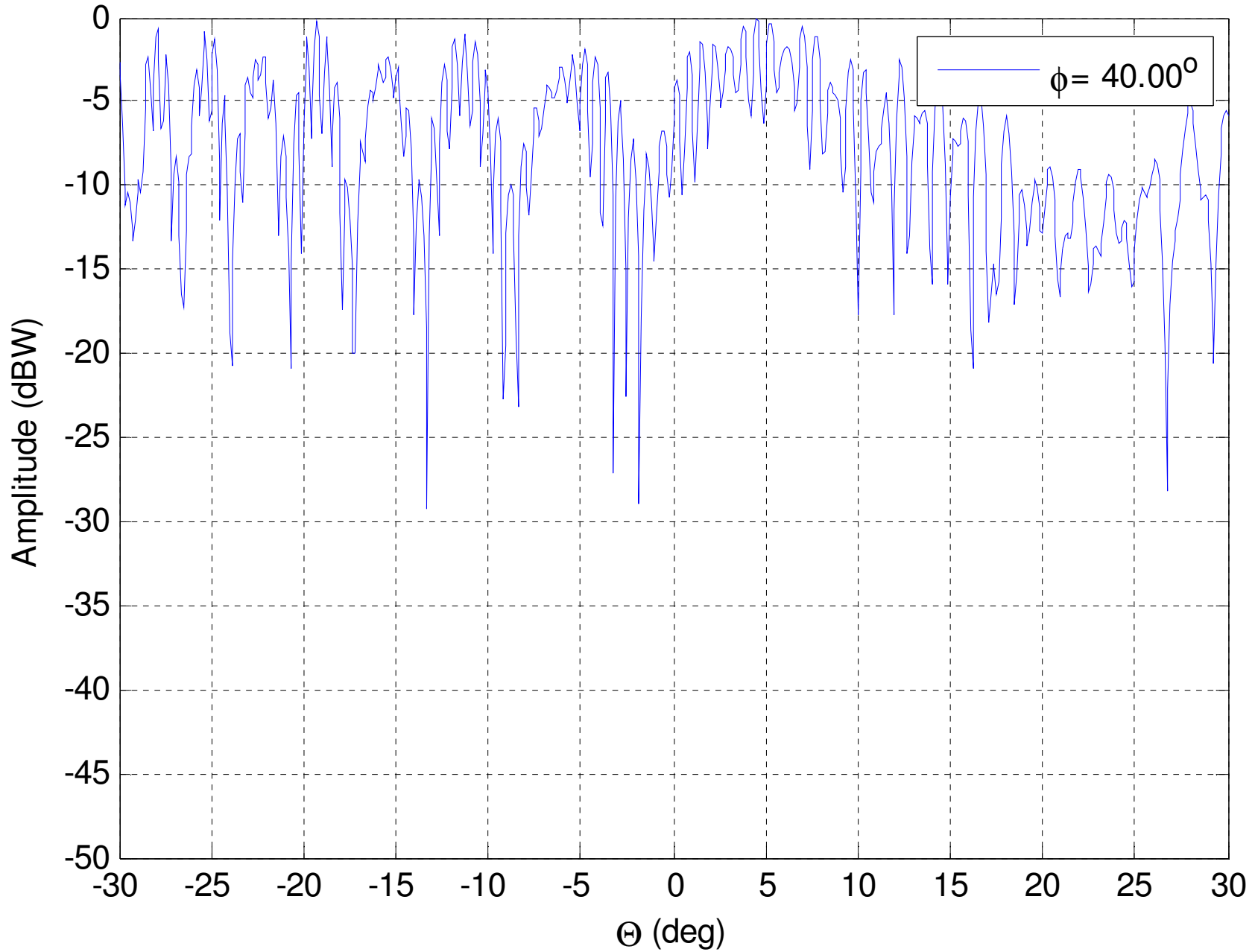
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -22.14 dBW, Date: 16-Dec-2011



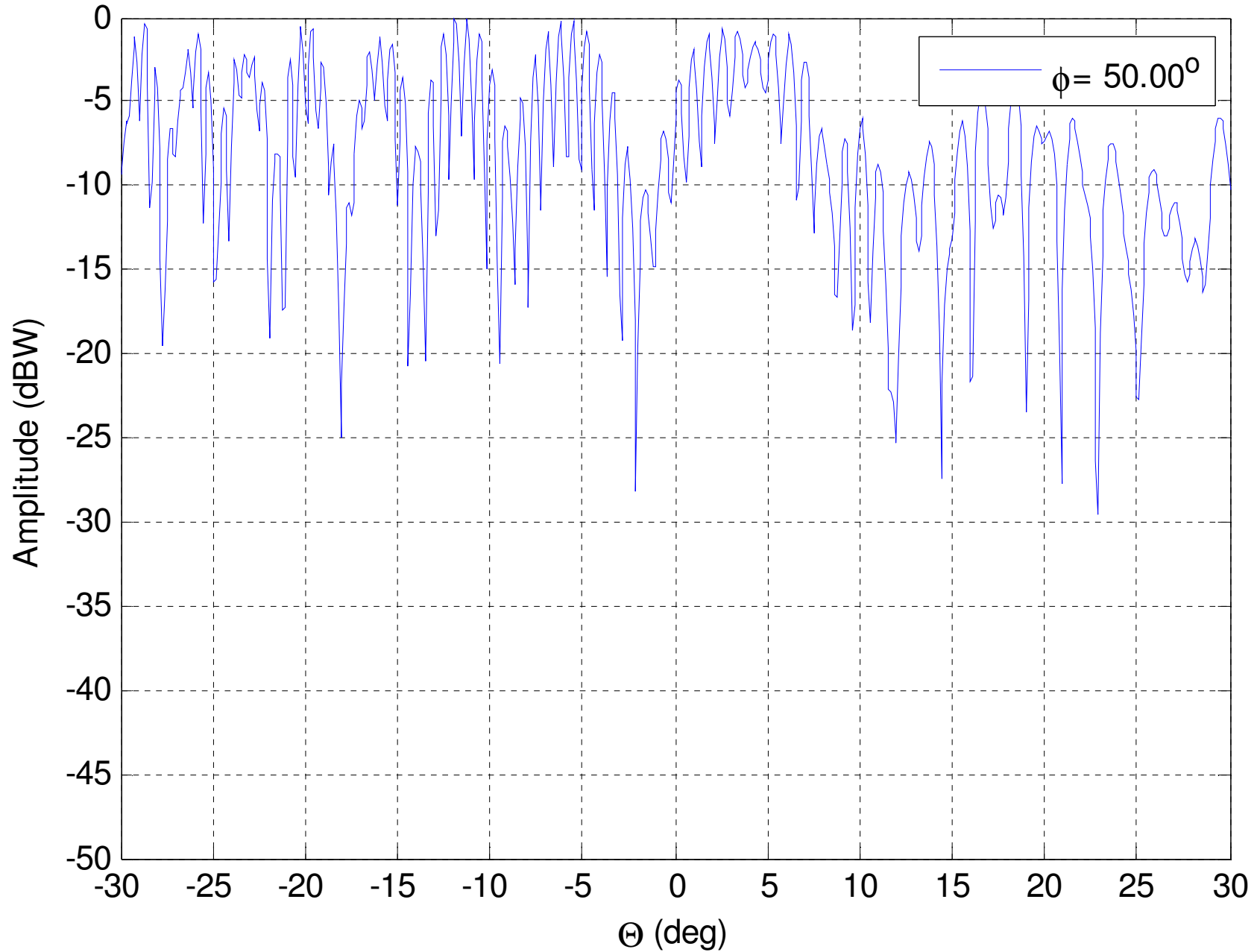
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -21.79 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -21.81 dBW, Date: 16-Dec-2011



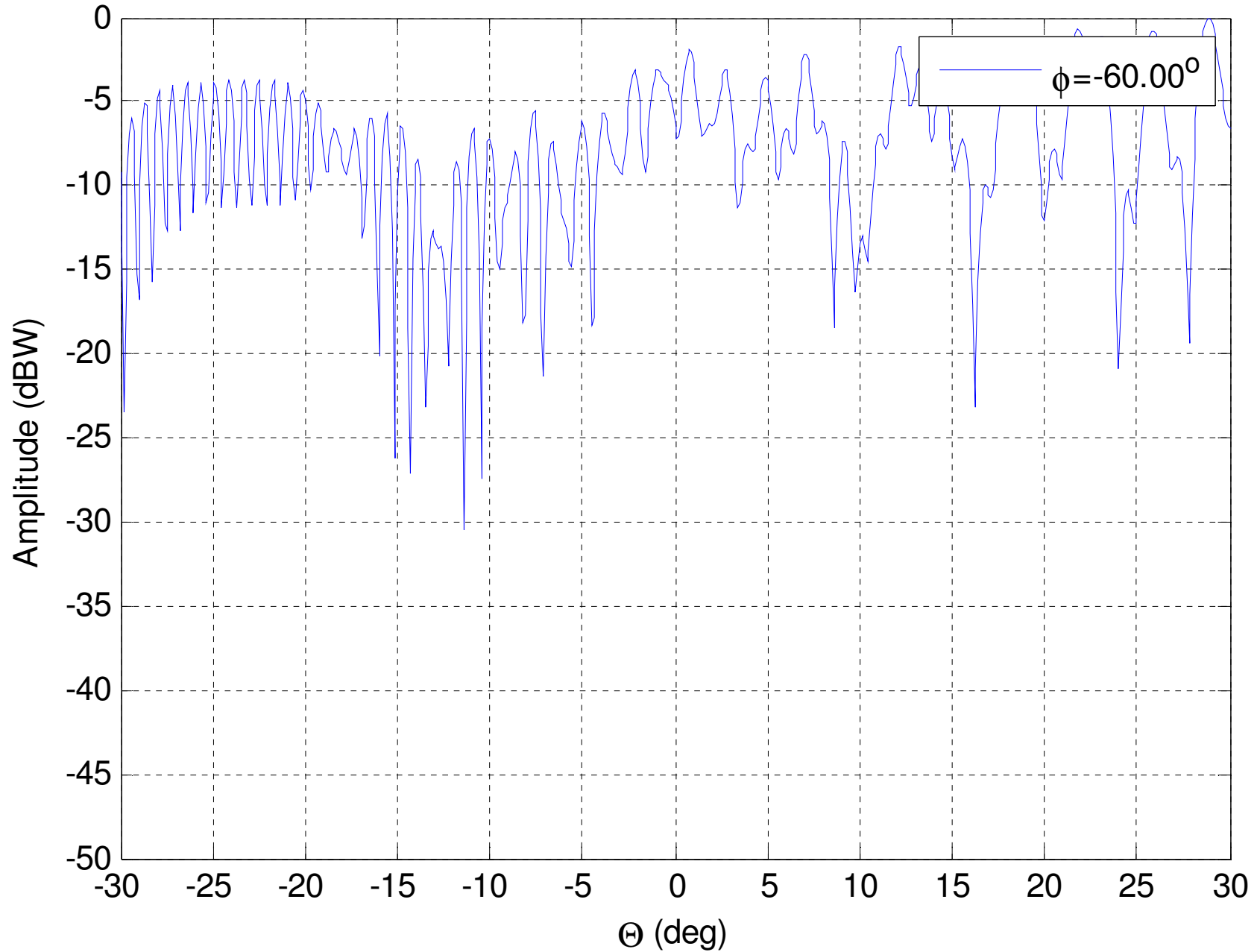




**RHCP at 17.7 GHz**

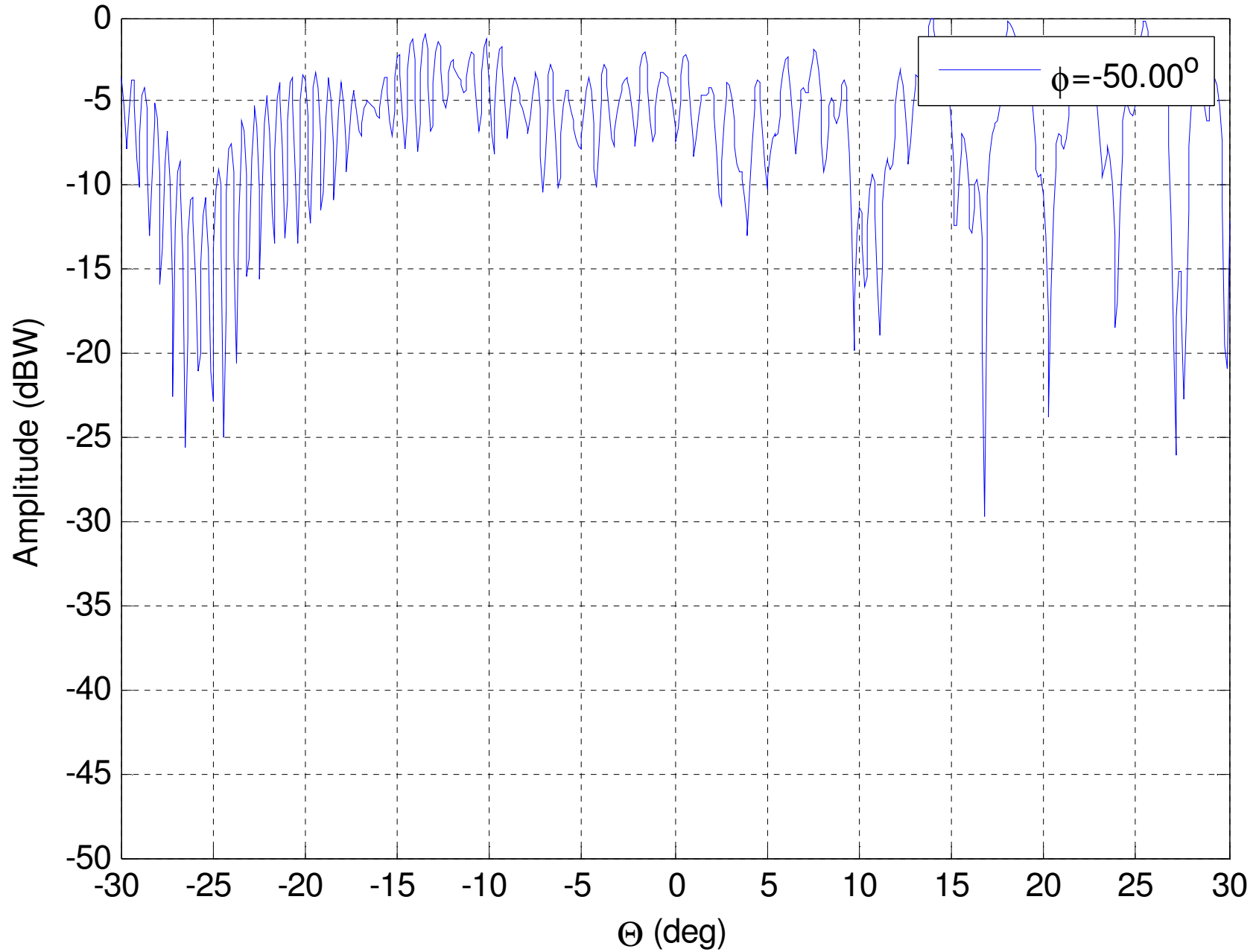
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -22.62 dBW, Date: 16-Dec-2011



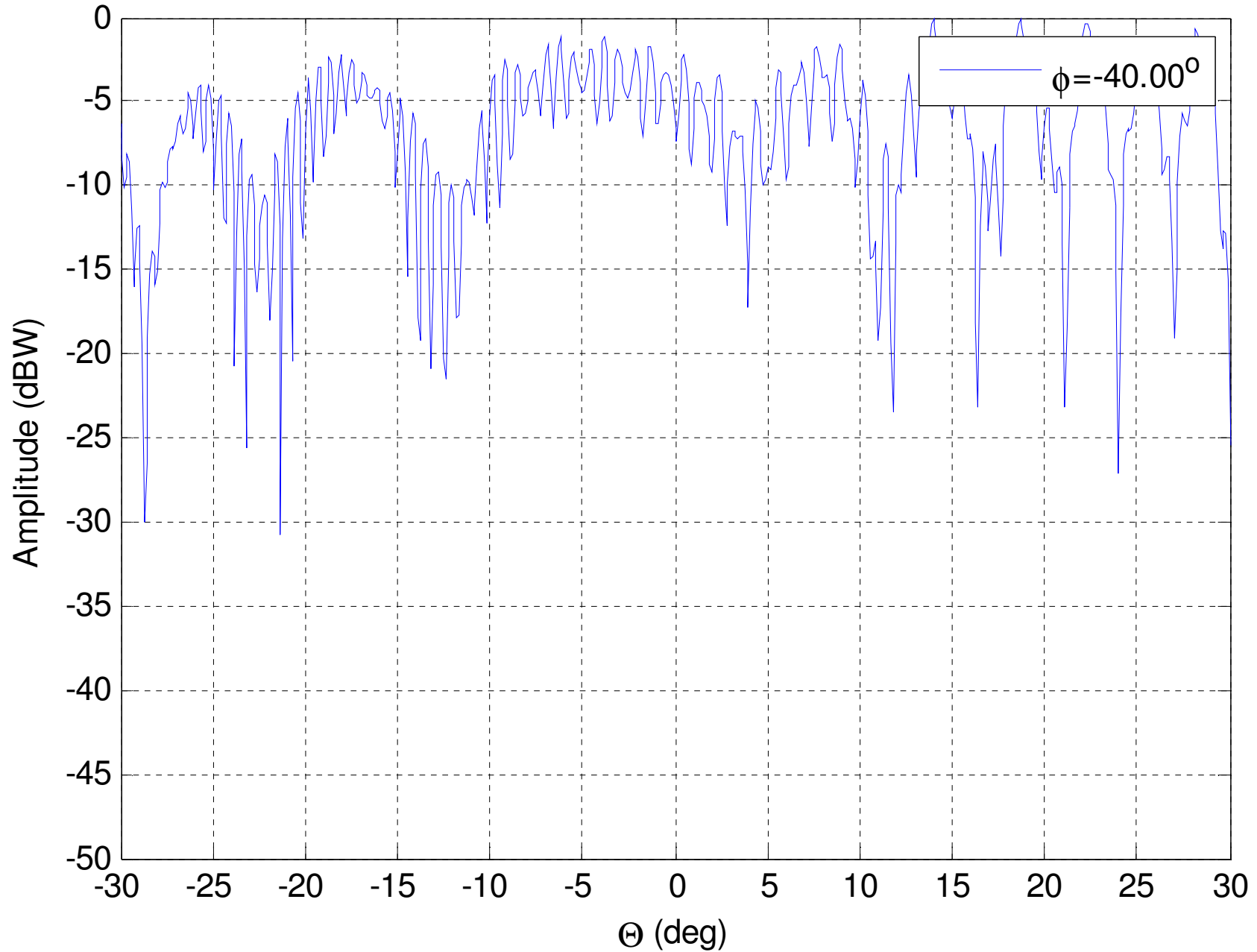
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--50.cut, Peak: -22.46 dBW, Date: 16-Dec-2011



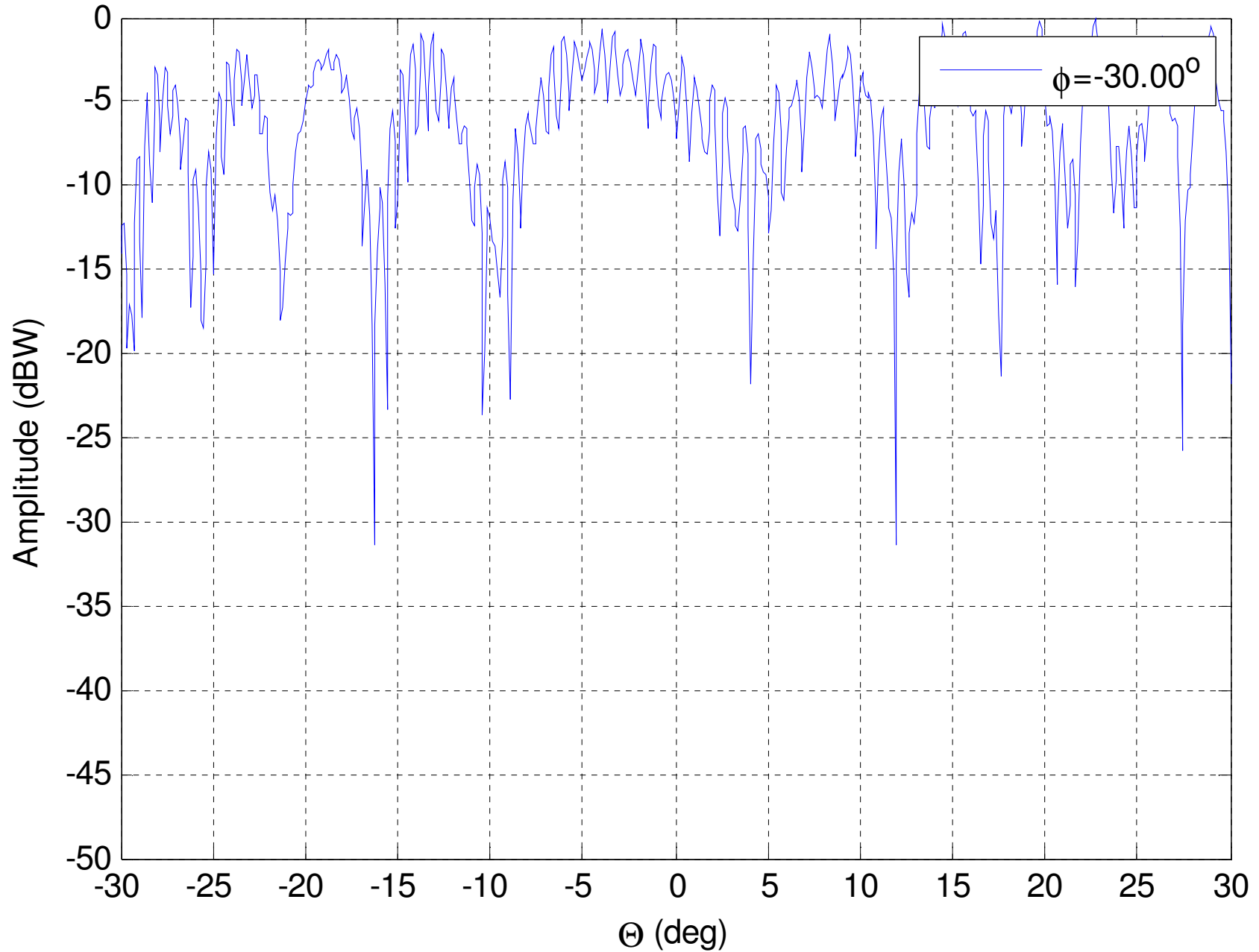
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -22.46 dBW, Date: 16-Dec-2011



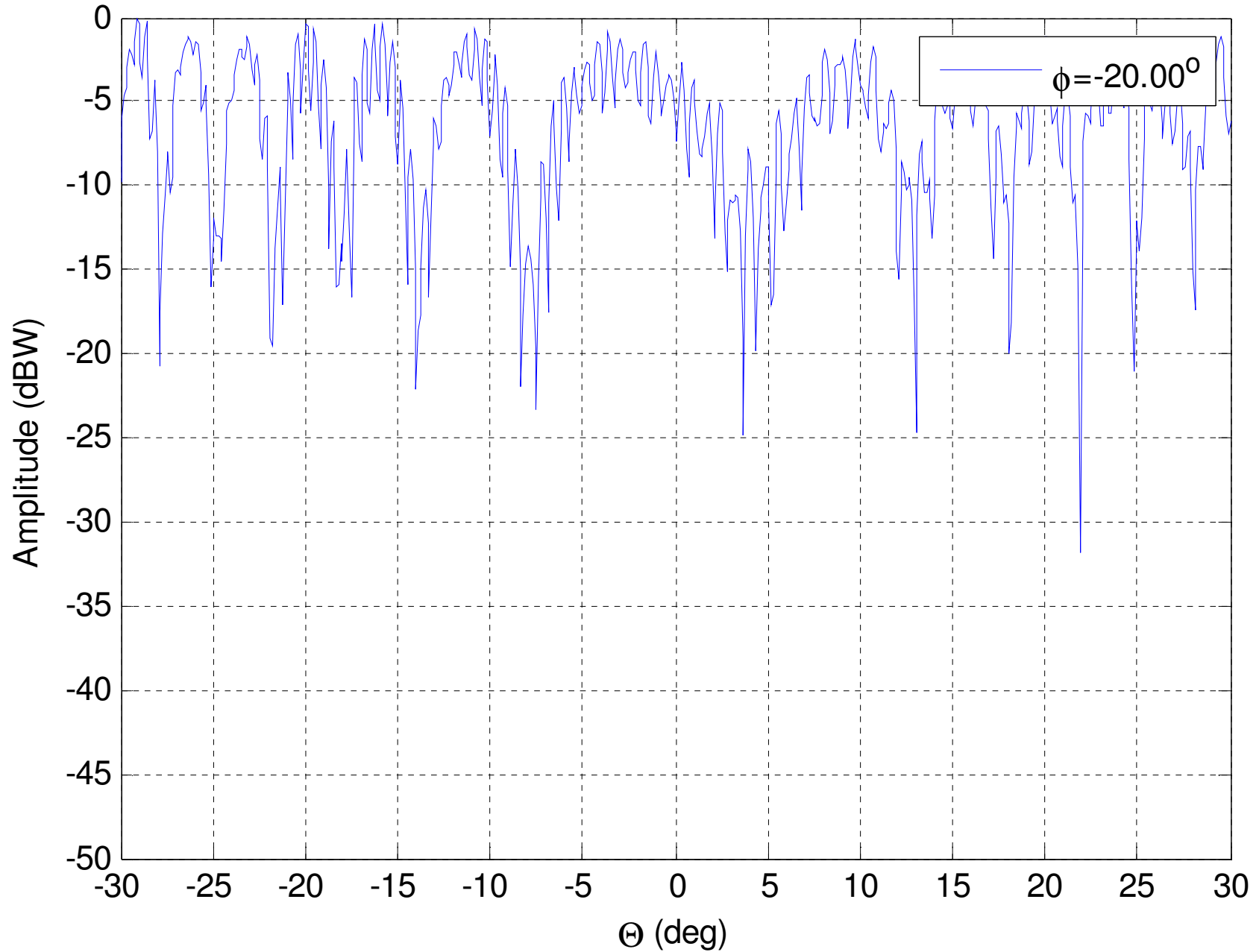
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -22.43 dBW, Date: 16-Dec-2011



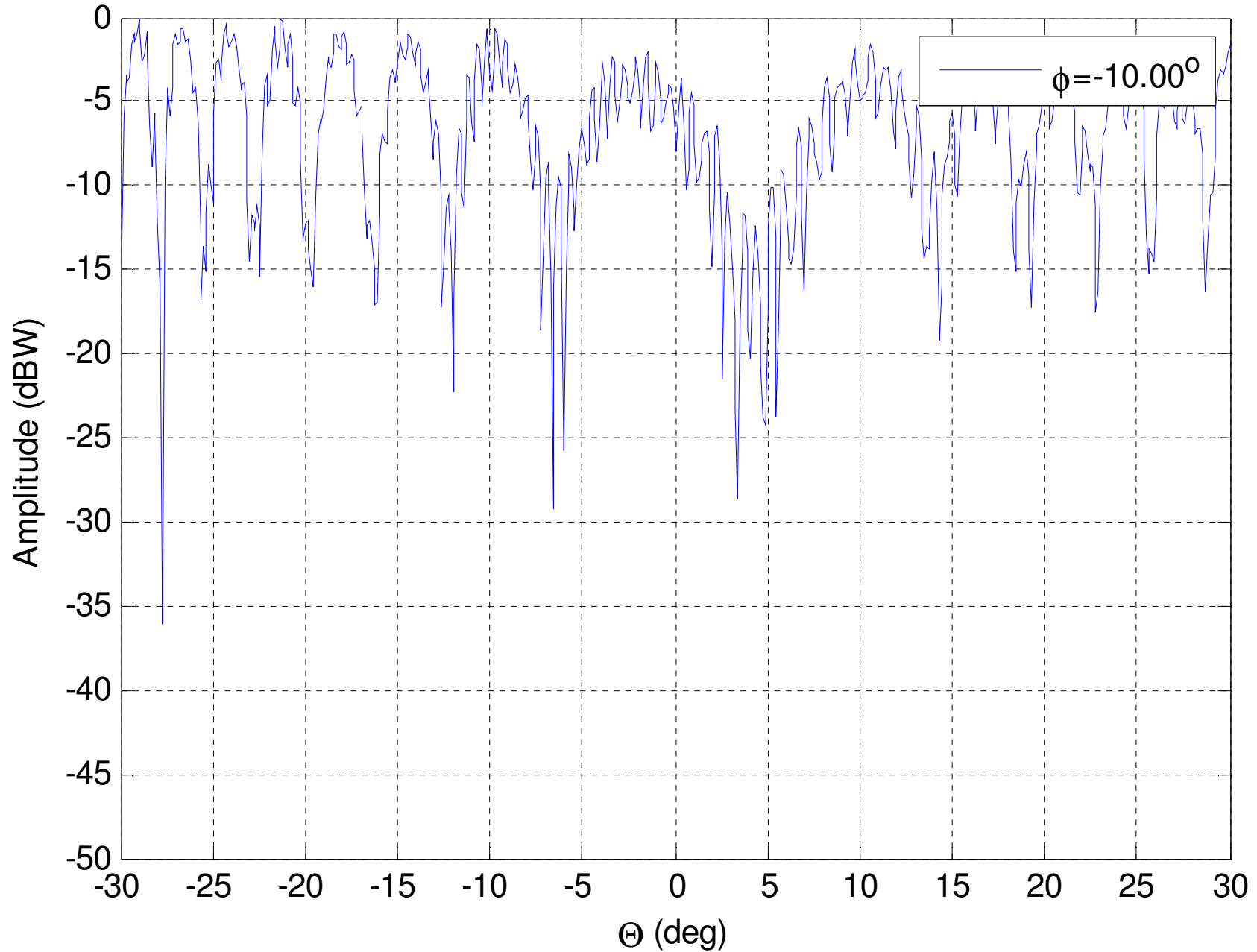
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -22.20 dBW, Date: 16-Dec-2011



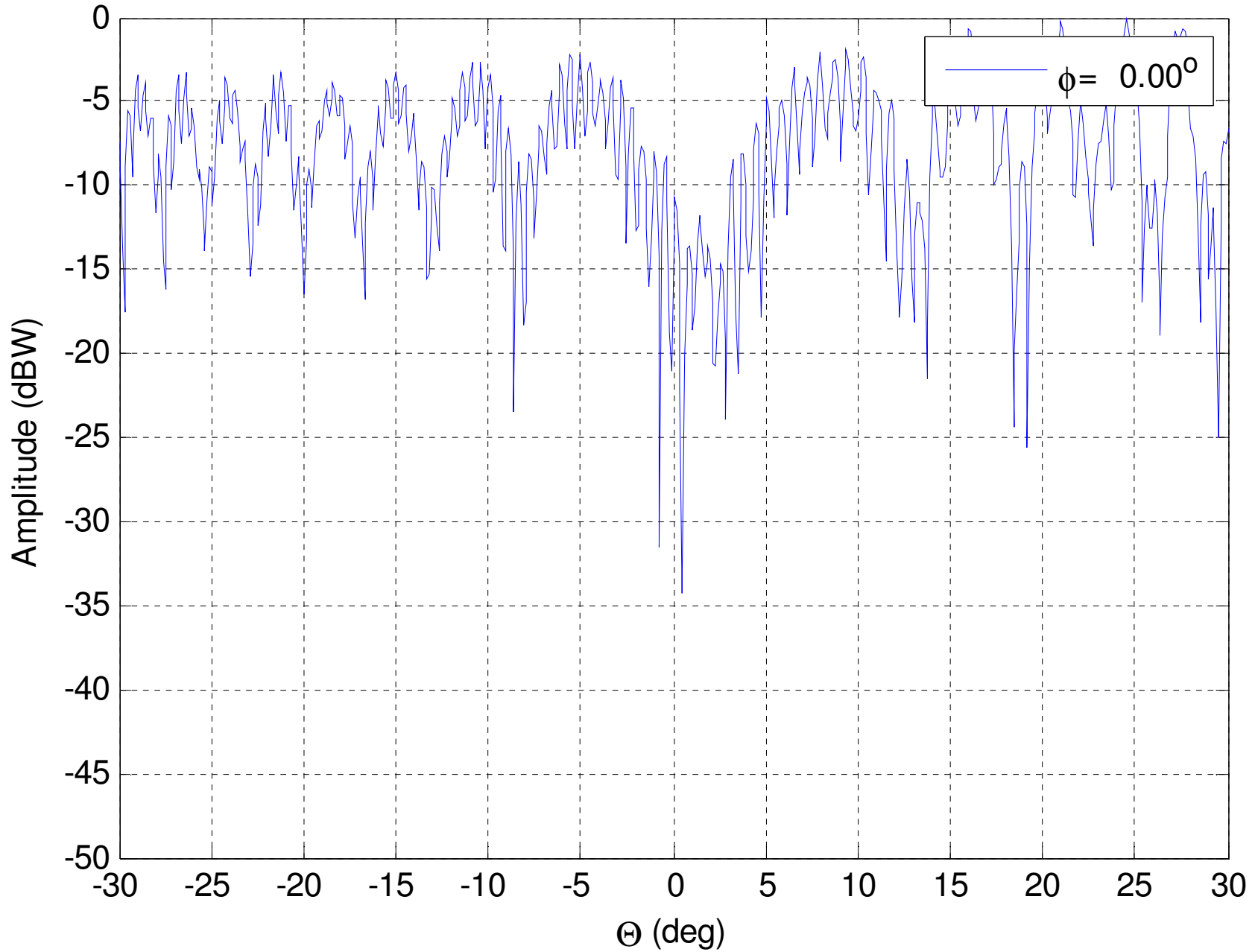
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -21.44 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

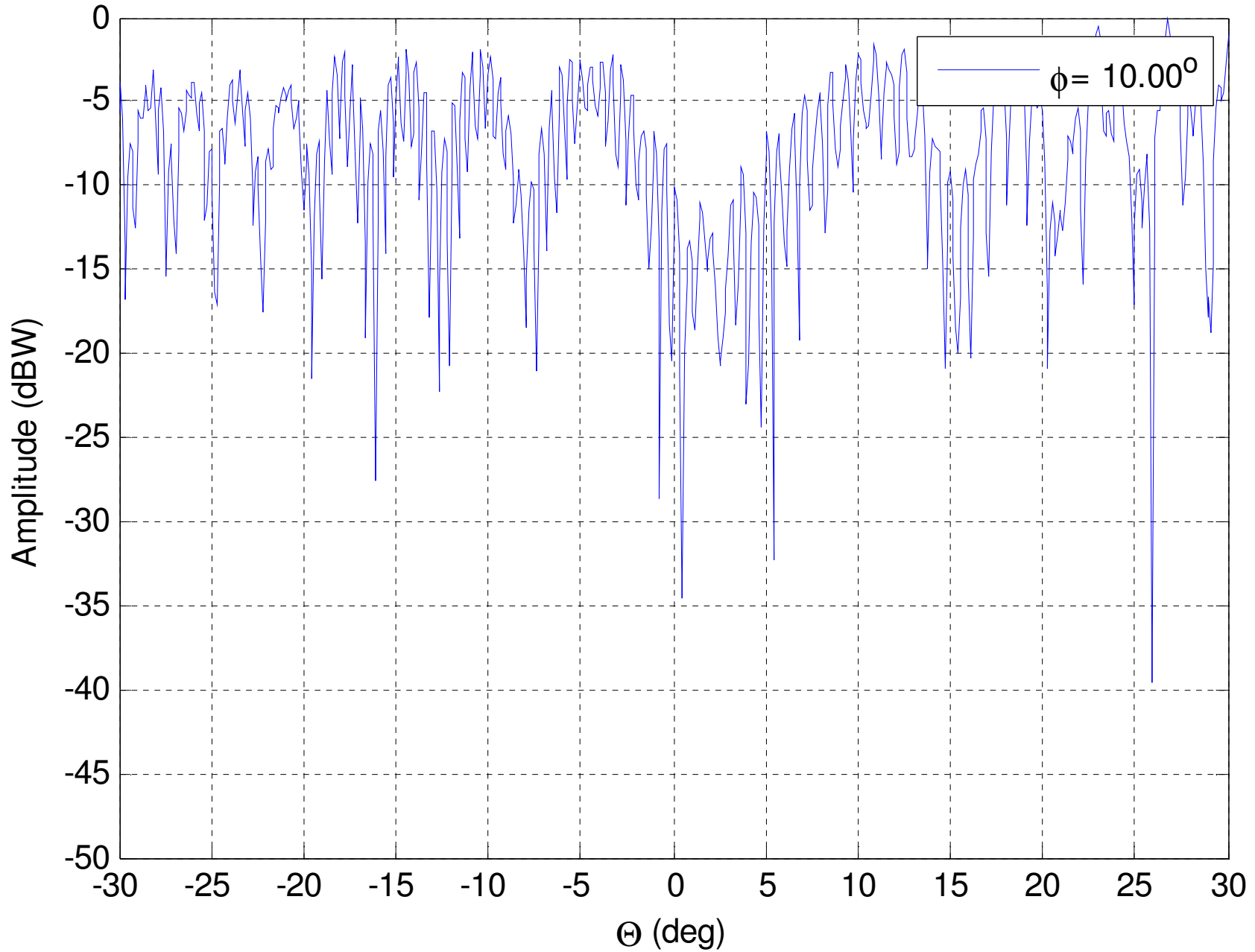
Input file: tx-17.7-rhcp-0.cut, Peak: -20.61 dBW, Date: 16-Dec-2011





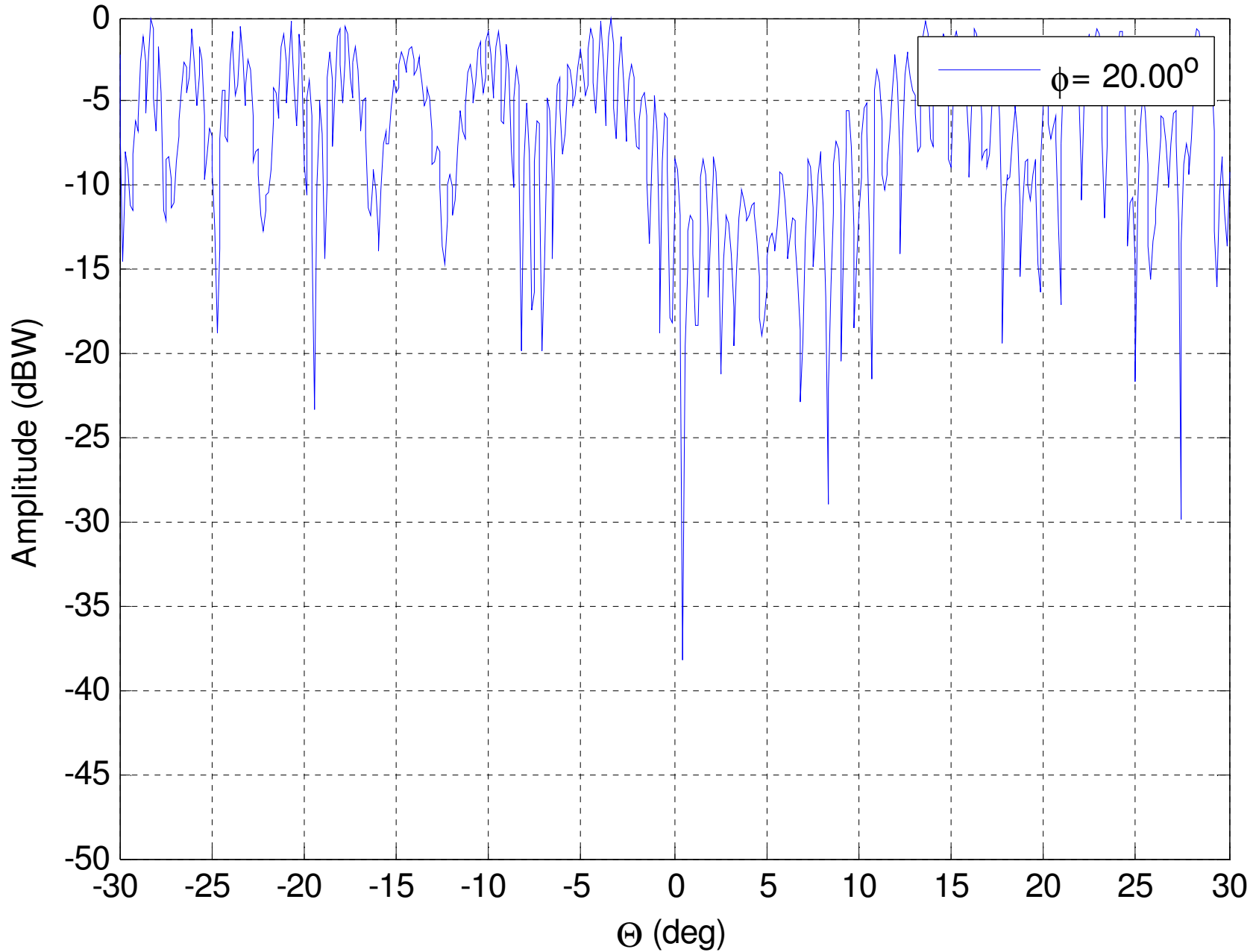
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -21.21 dBW, Date: 16-Dec-2011



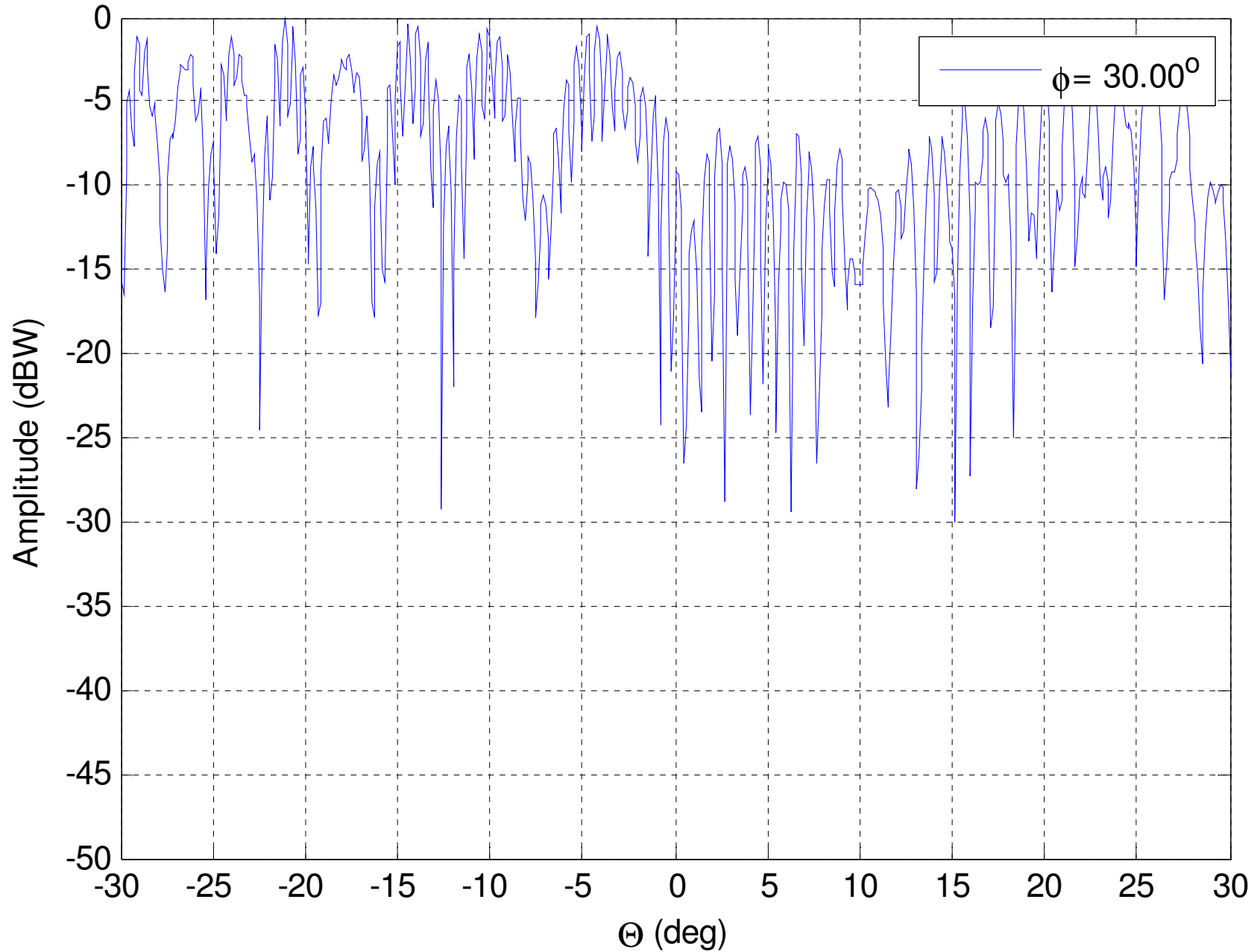
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -22.91 dBW, Date: 16-Dec-2011



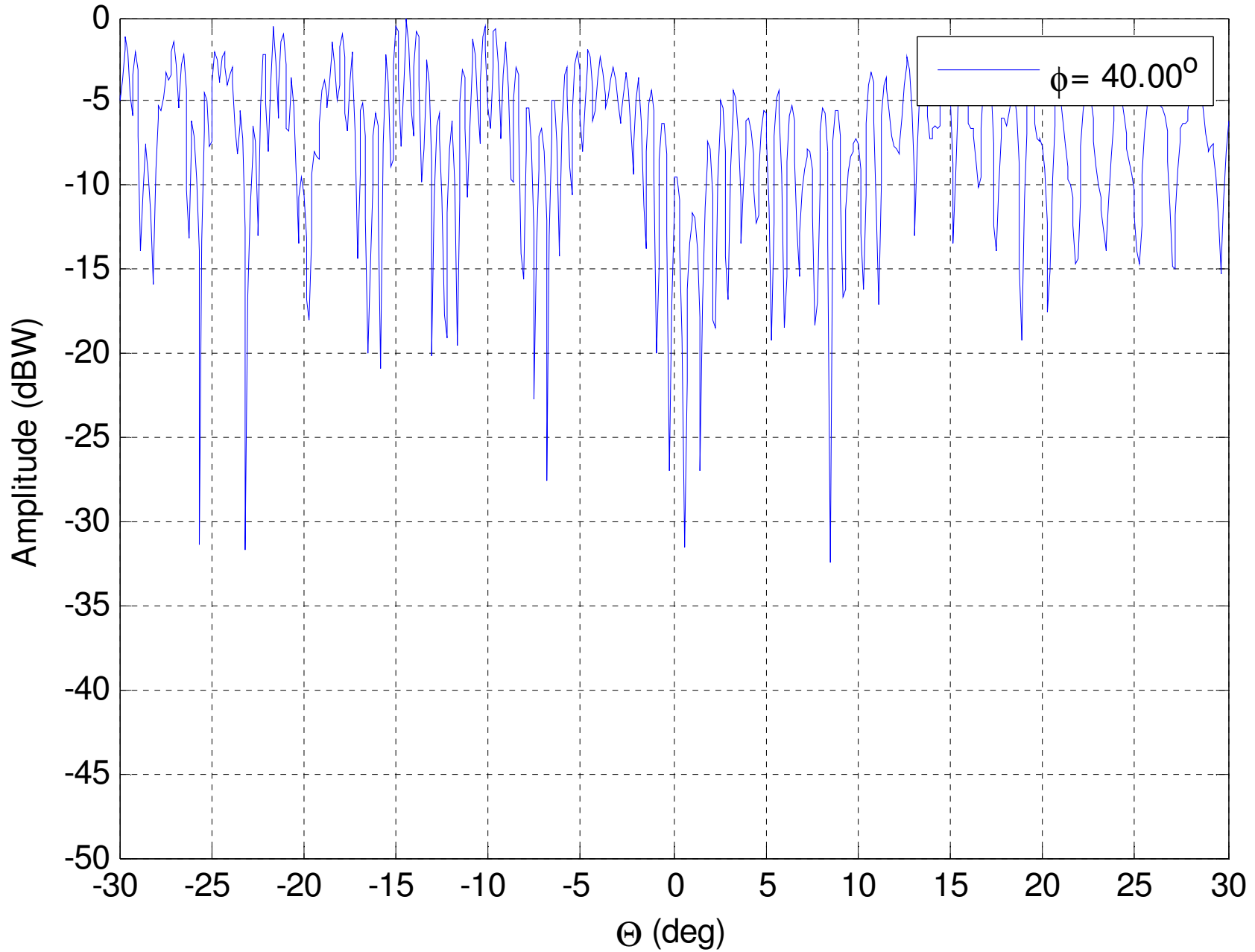
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-30.cut, Peak: -22.30 dBW, Date: 16-Dec-2011



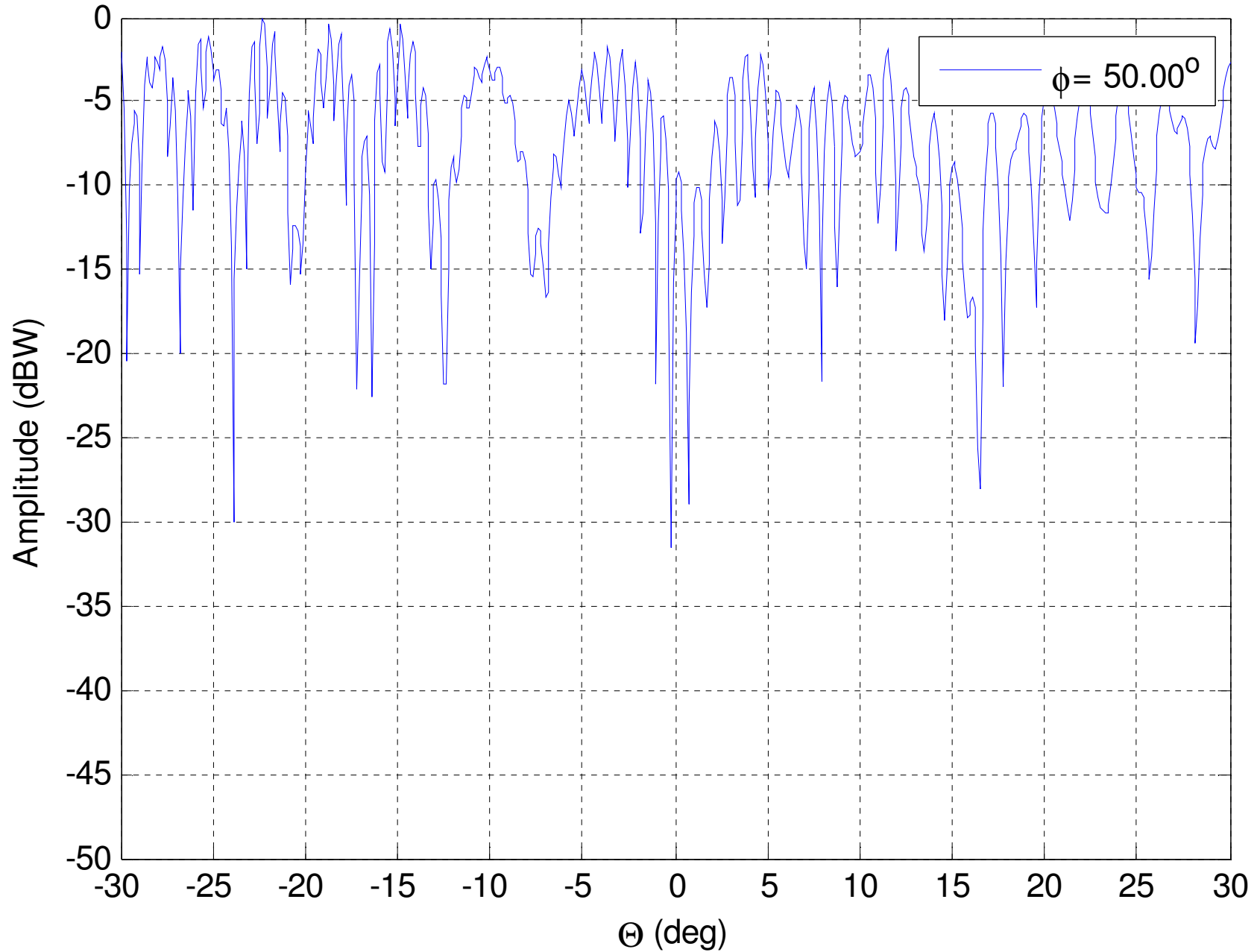
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -22.02 dBW, Date: 16-Dec-2011



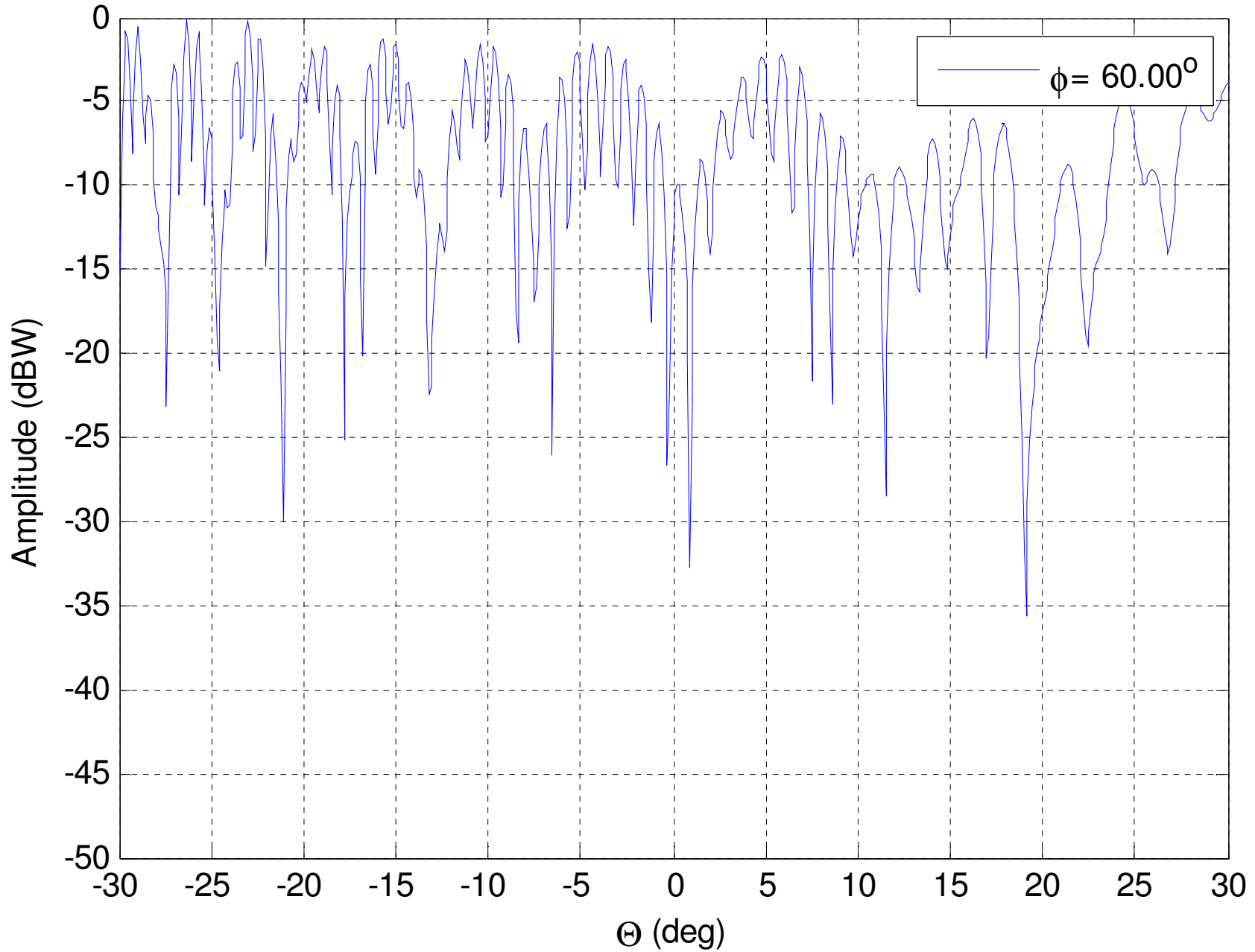
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -22.10 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

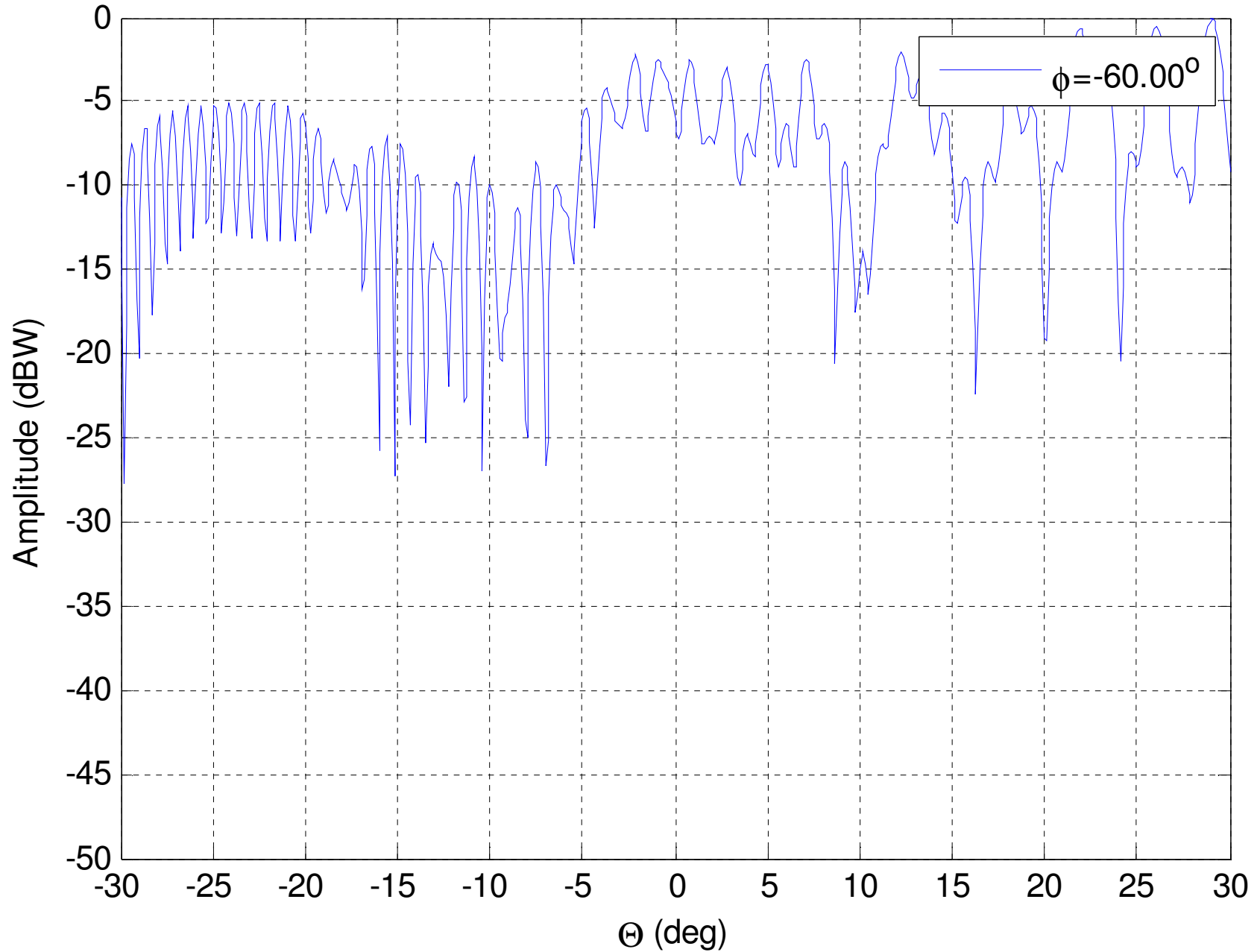
Input file: tx-17.7-rhcp-60.cut, Peak: -21.41 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

# Normalized pattern cuts - farfield

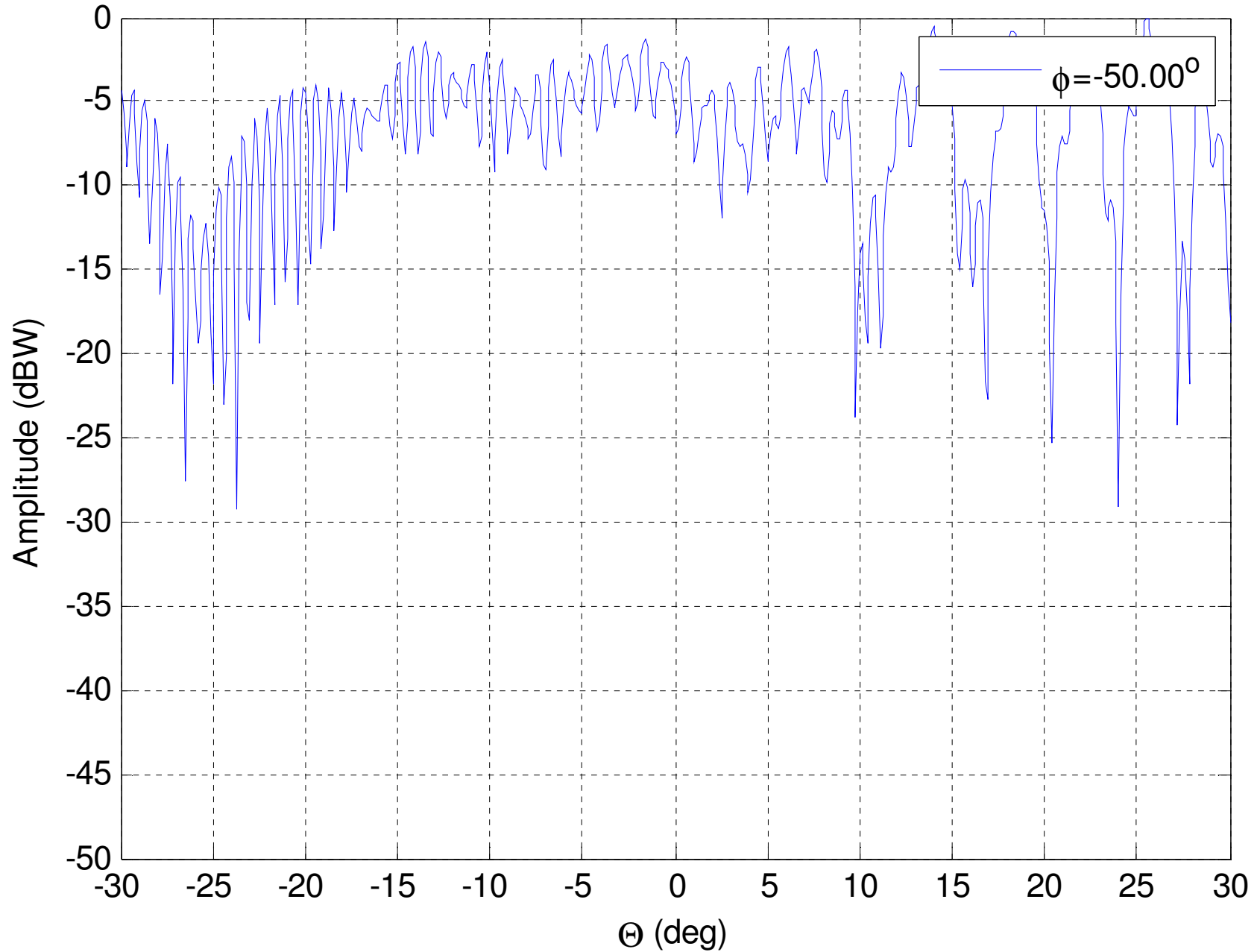
Input file: tx-17.7-lhcp--60.cut, Peak: -22.02 dBW, Date: 16-Dec-2011





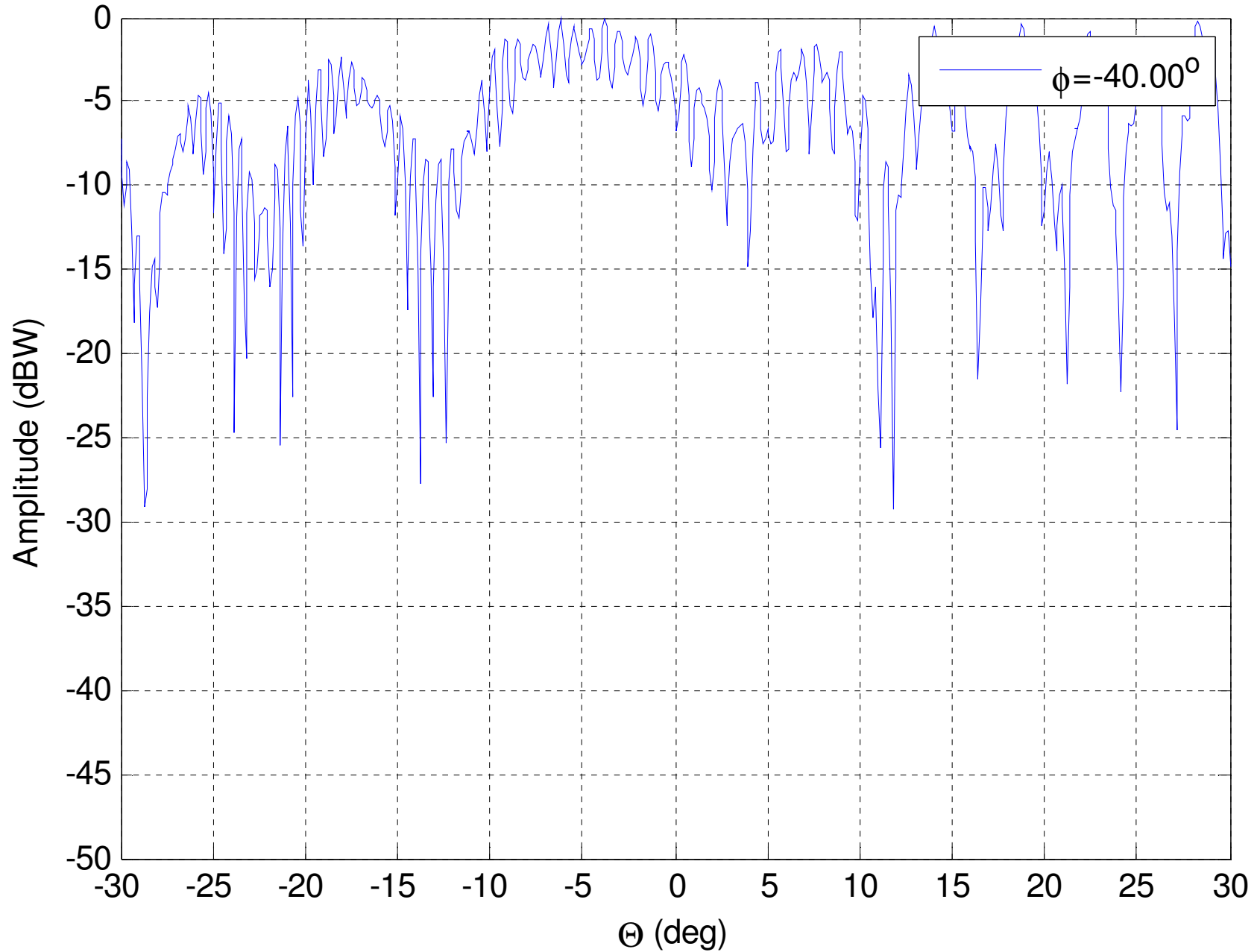
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -22.10 dBW, Date: 16-Dec-2011



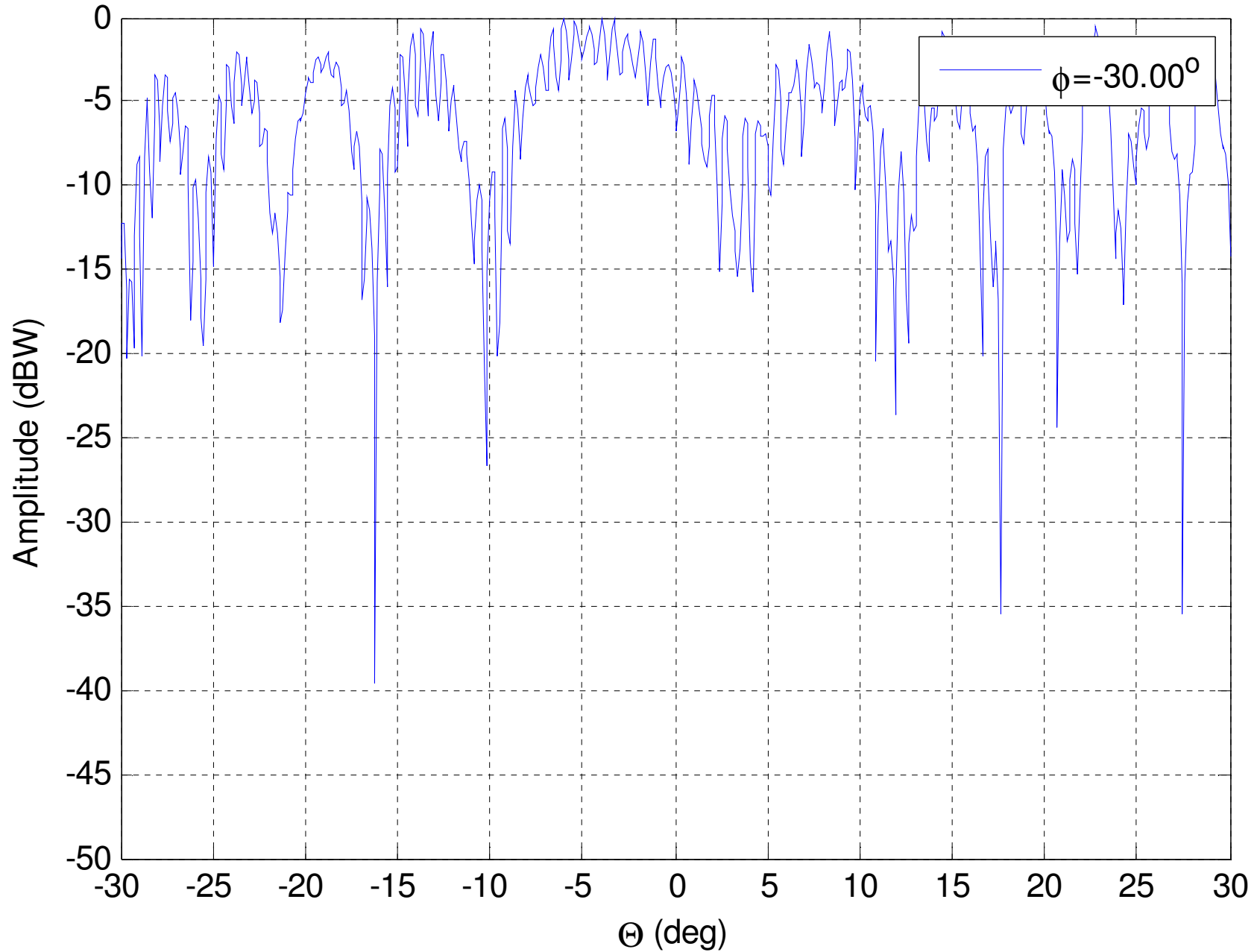
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -22.29 dBW, Date: 16-Dec-2011



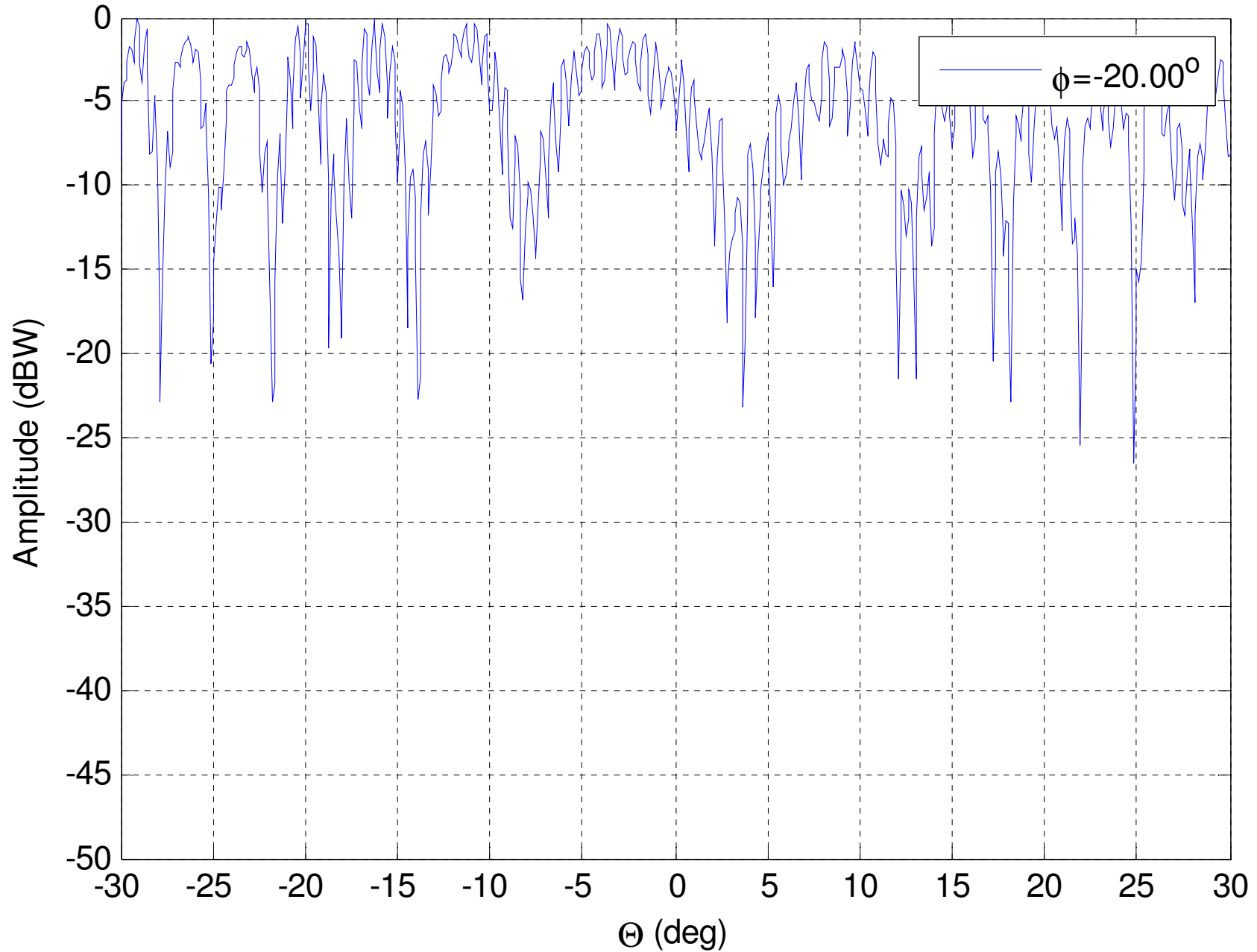
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--30.cut, Peak: -22.22 dBW, Date: 16-Dec-2011



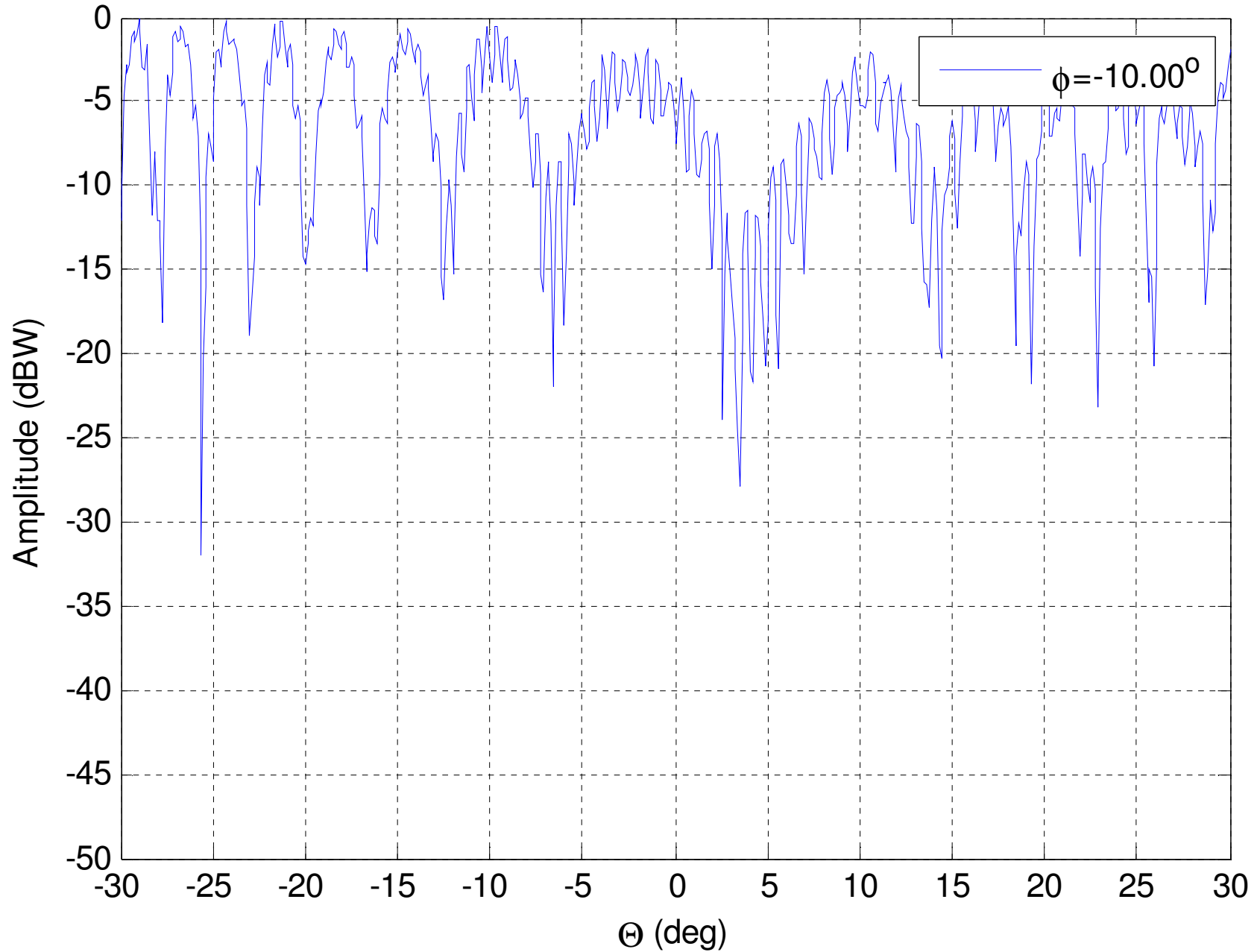
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -22.06 dBW, Date: 16-Dec-2011



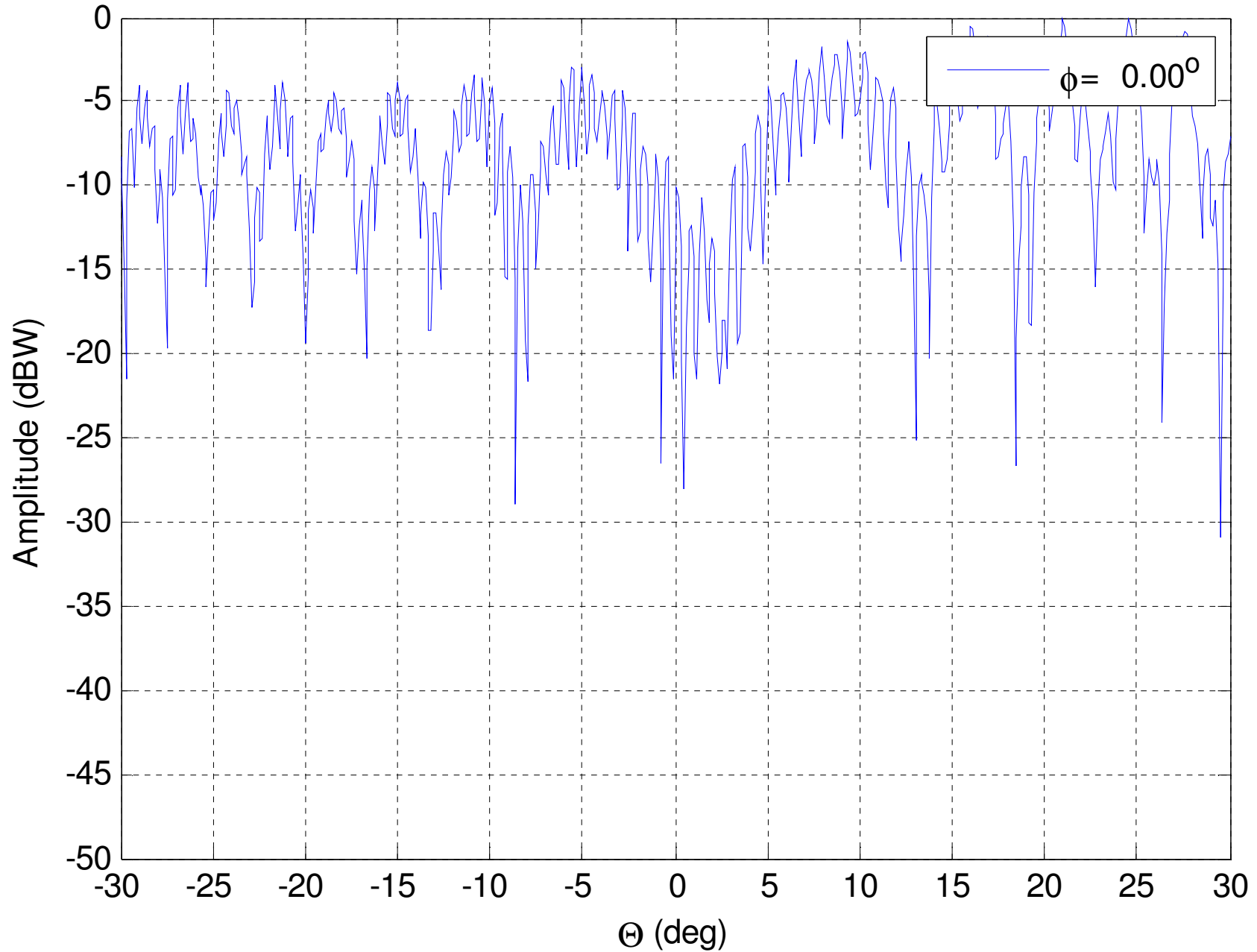
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -21.22 dBW, Date: 16-Dec-2011



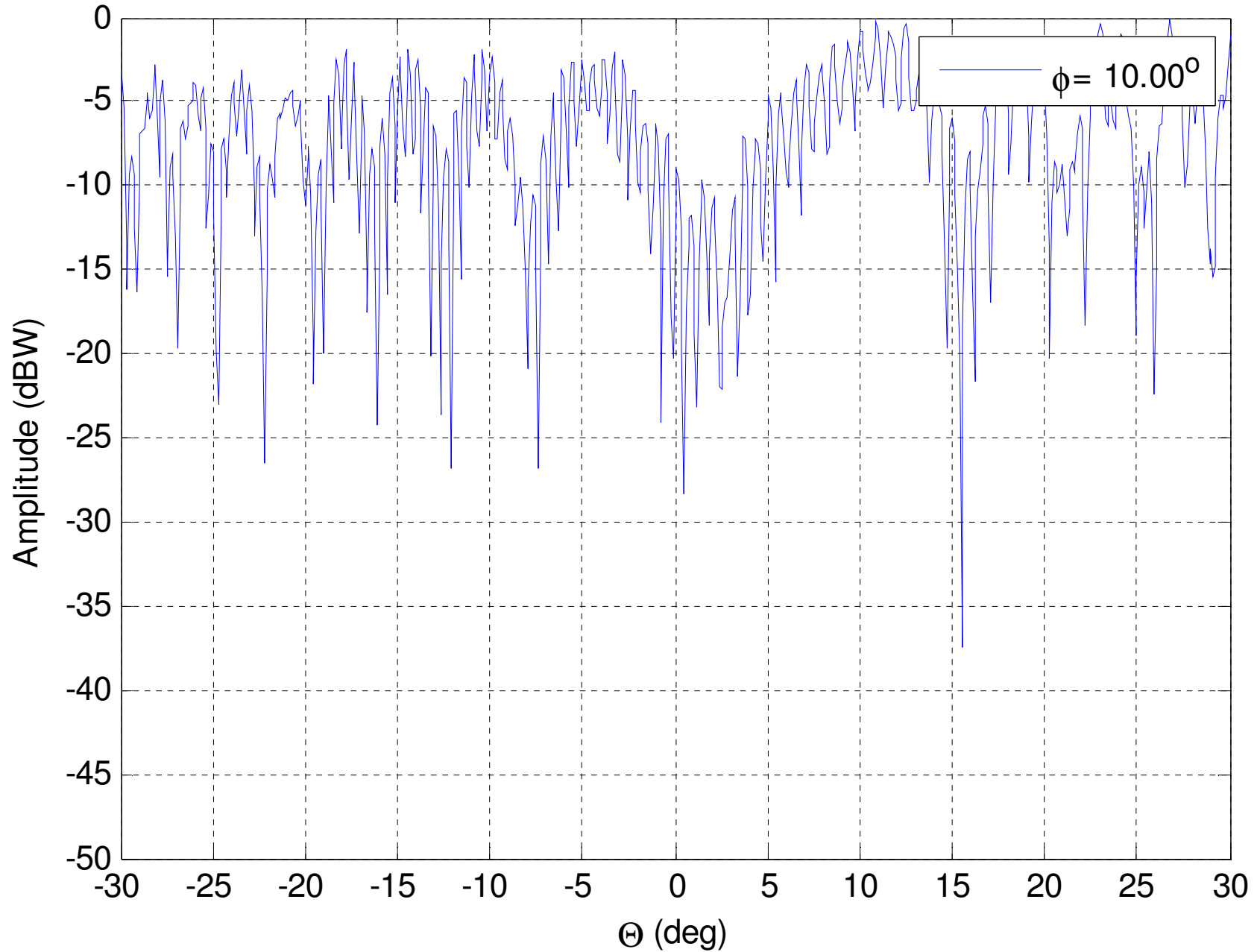
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -20.26 dBW, Date: 16-Dec-2011



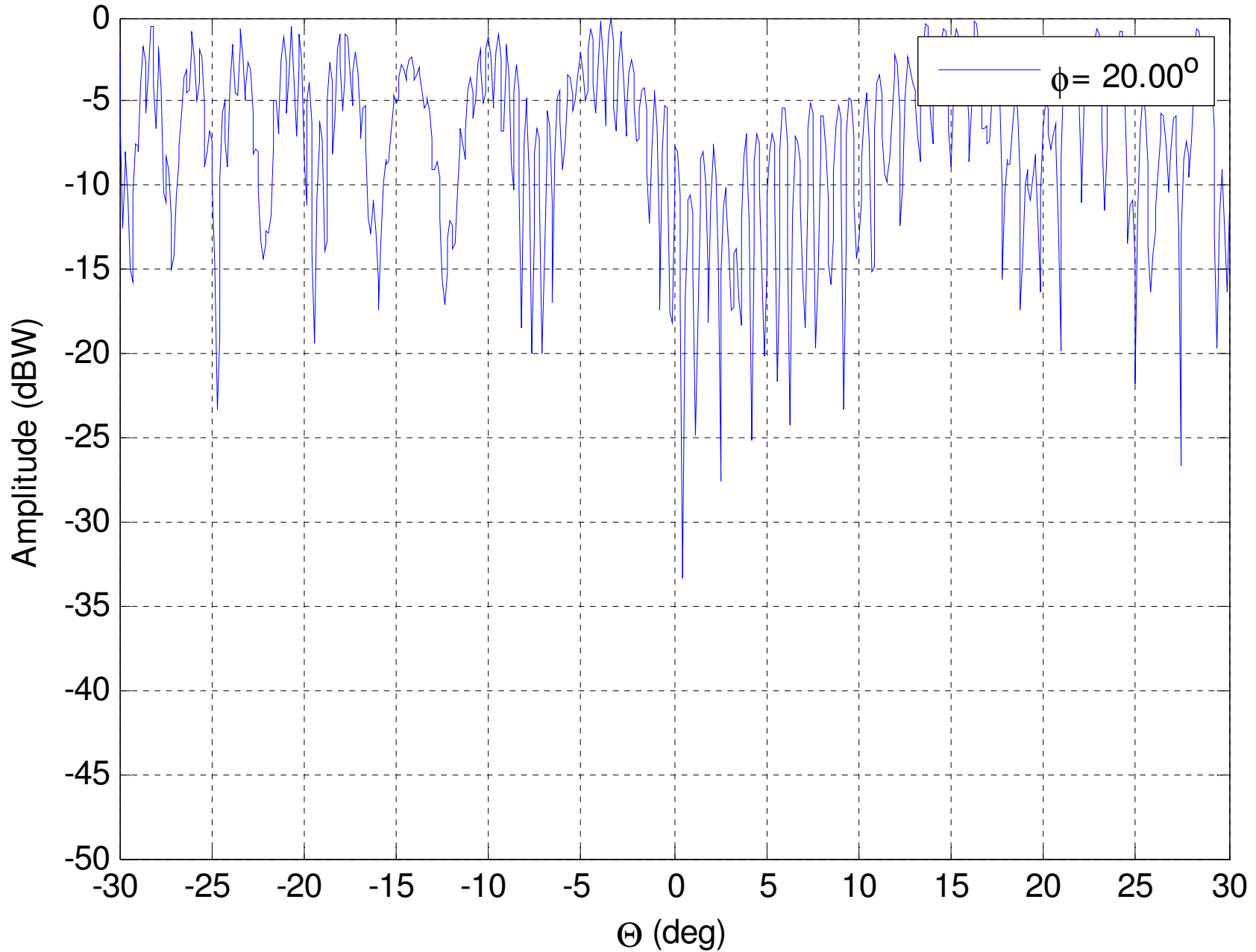
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -21.36 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

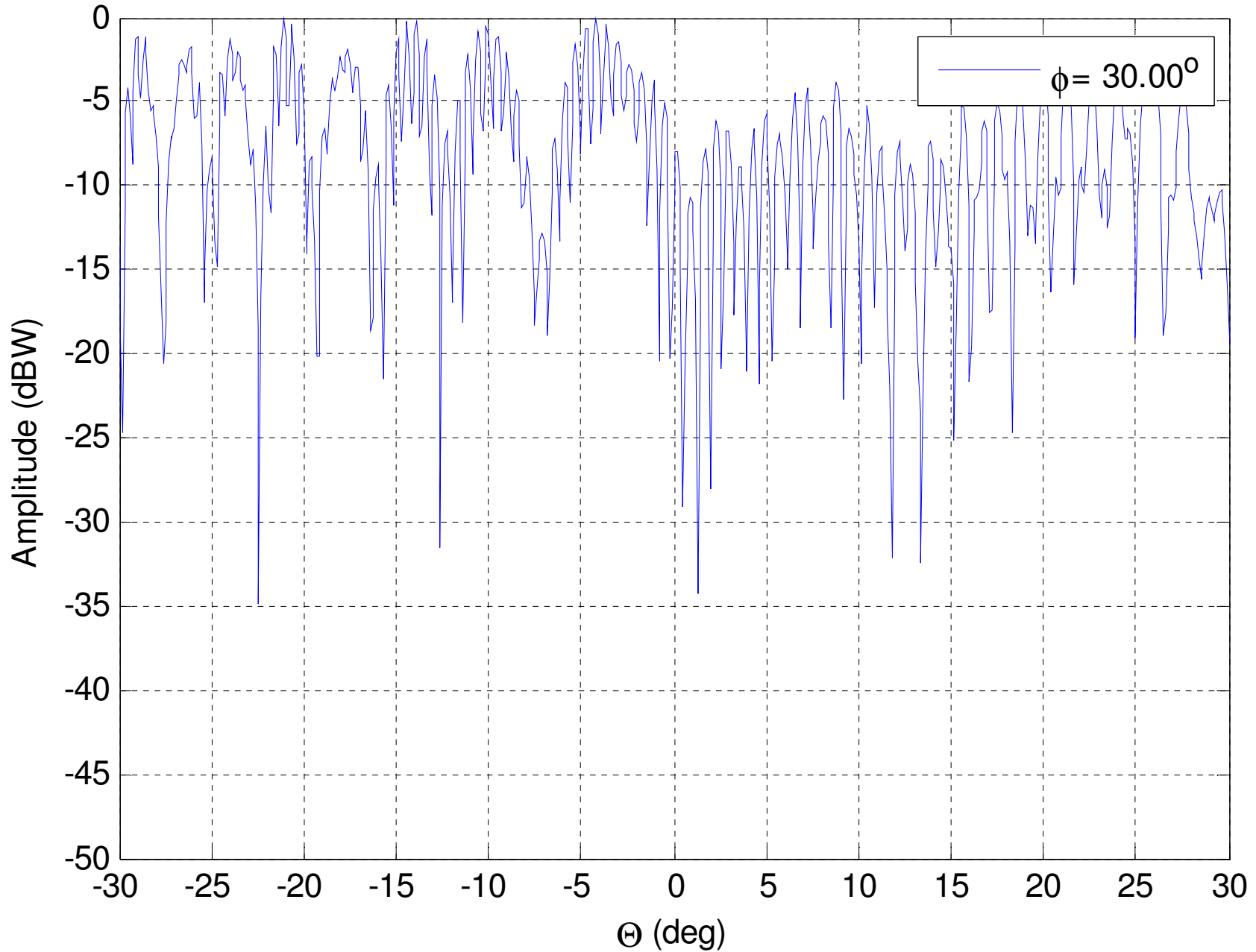
Input file: tx-17.7-lhcp-20.cut, Peak: -22.87 dBW, Date: 16-Dec-2011





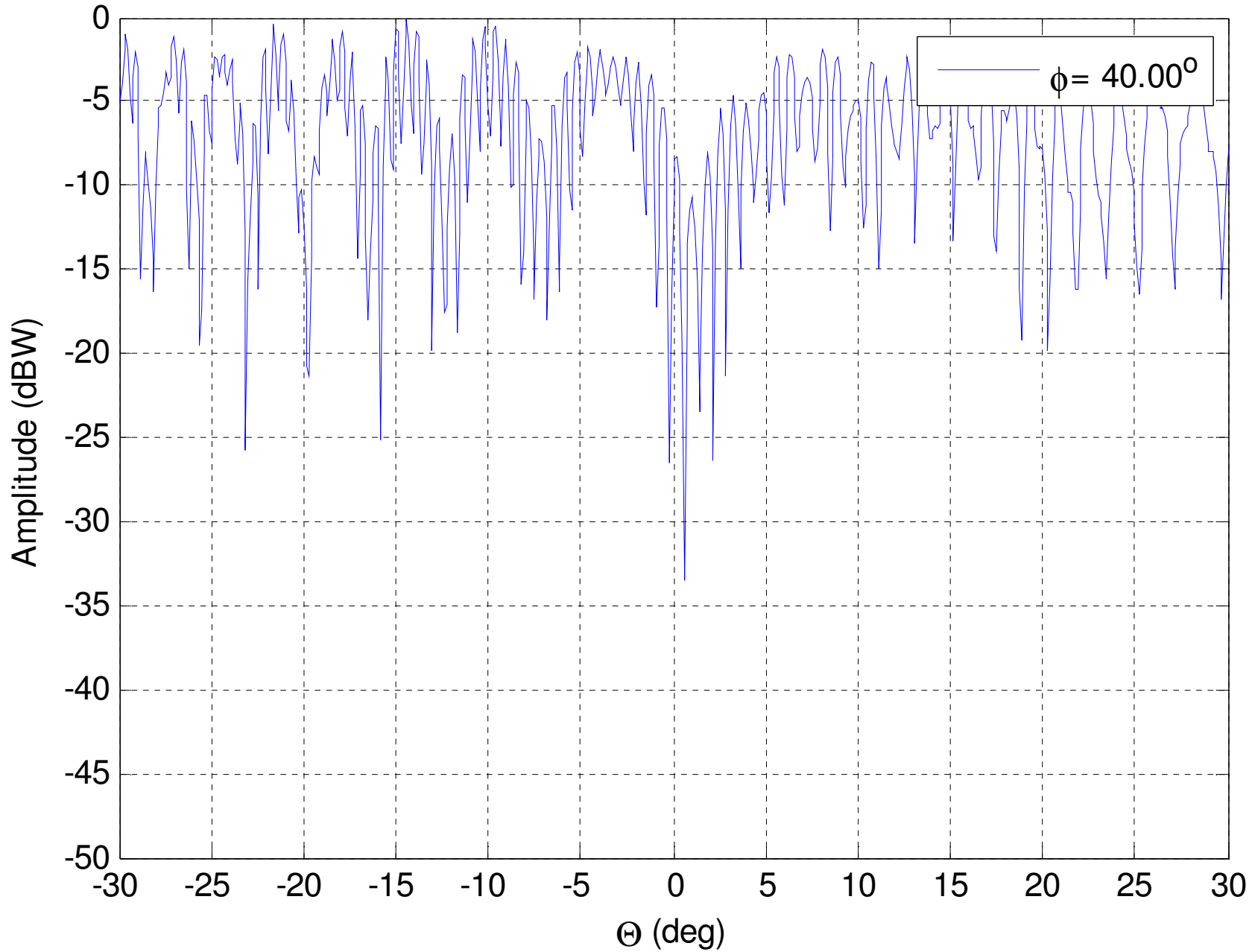
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -22.65 dBW, Date: 16-Dec-2011



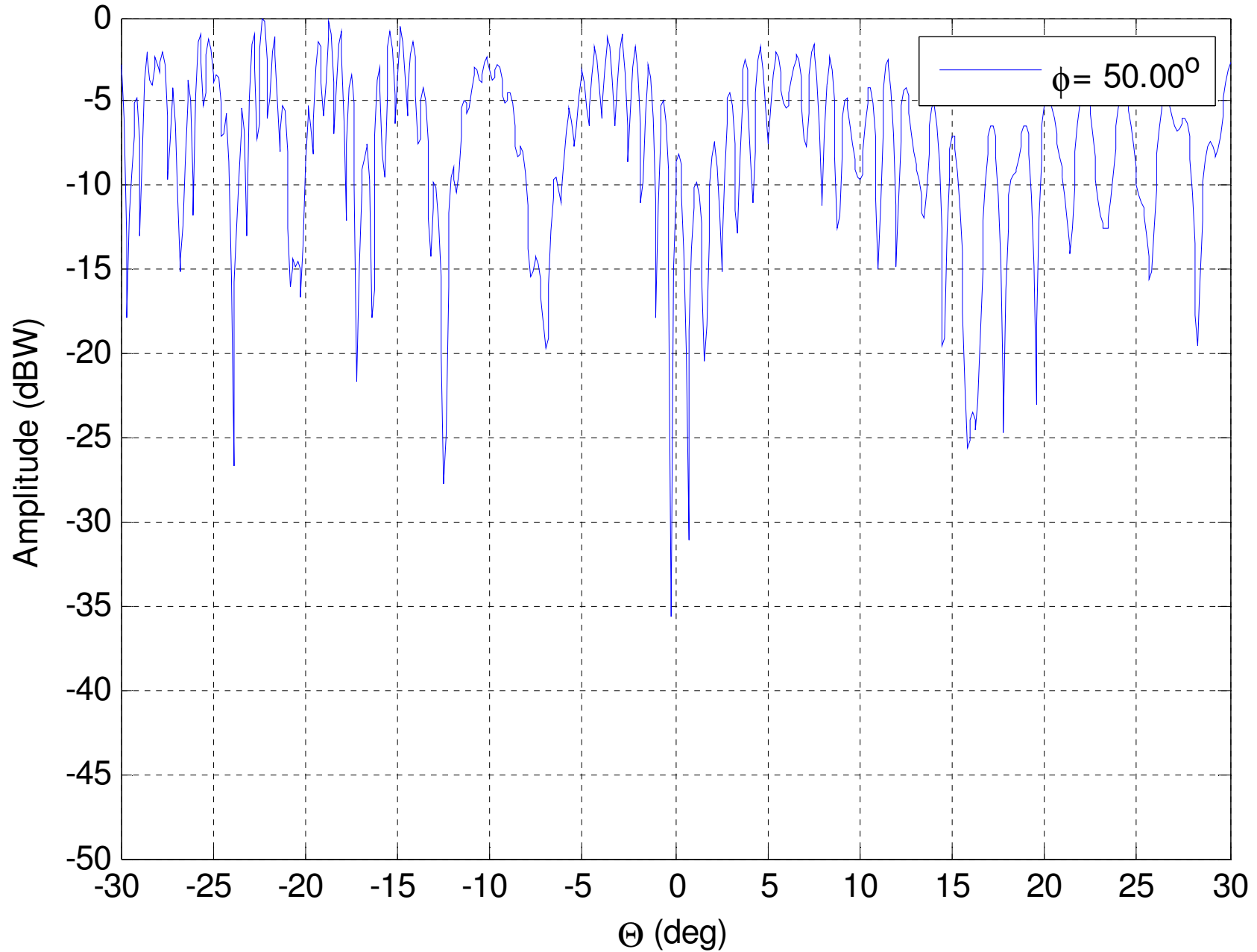
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -22.31 dBW, Date: 16-Dec-2011



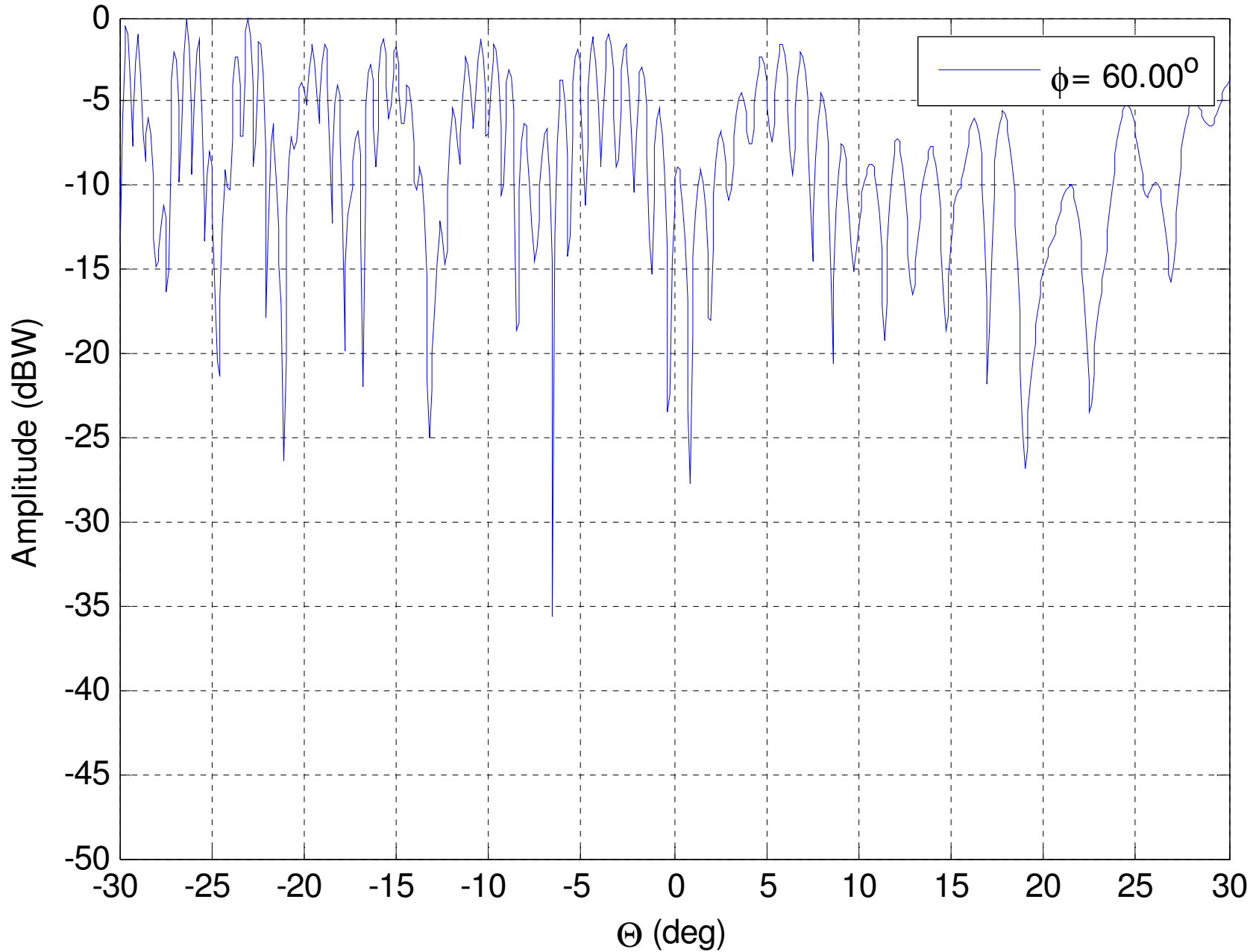
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -22.31 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -21.57 dBW, Date: 16-Dec-2011



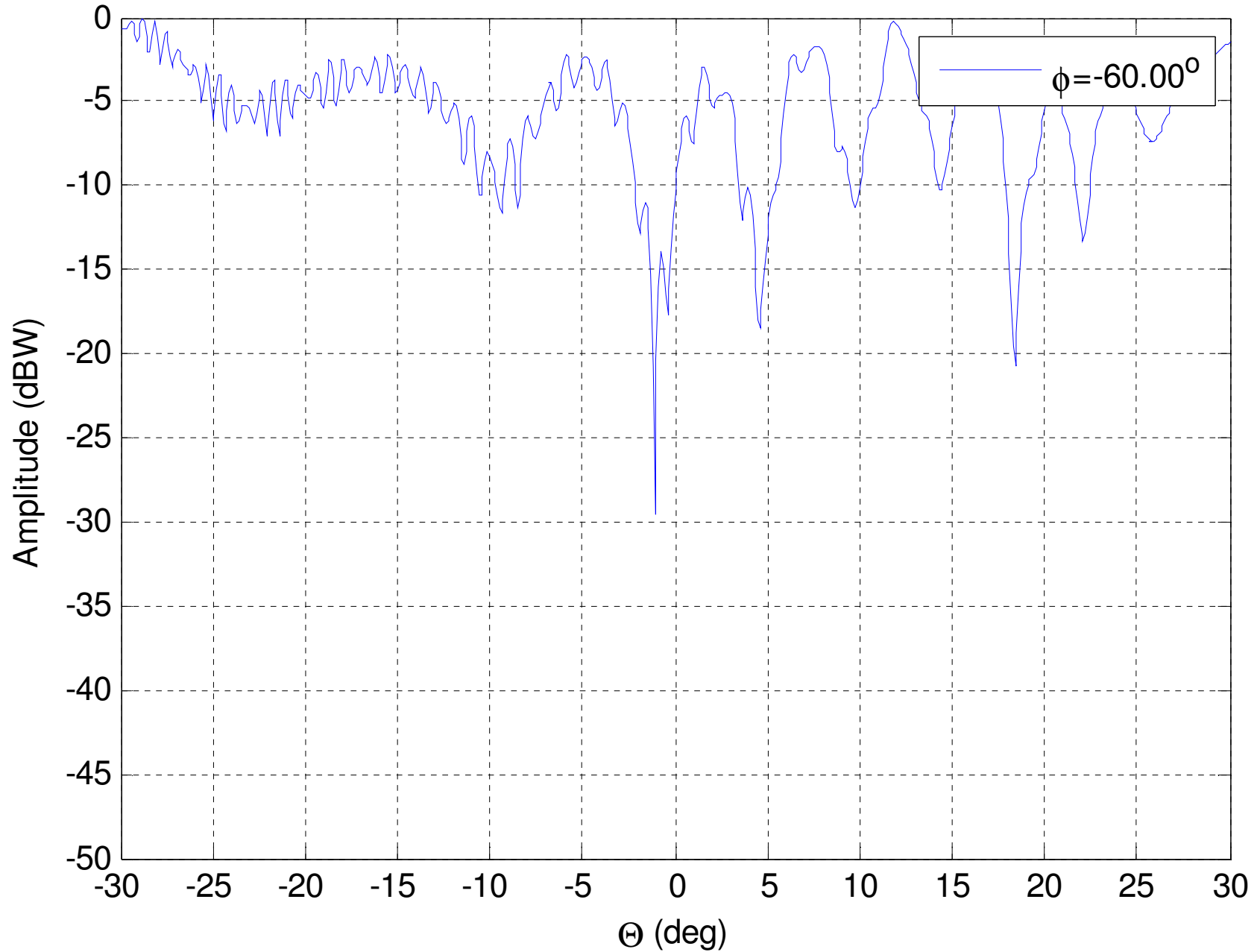
# Spot Beam53, +X Axis Plots

- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$  ( $\Theta=0$ : = +X-axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

# RHCP at 17.3 GHz

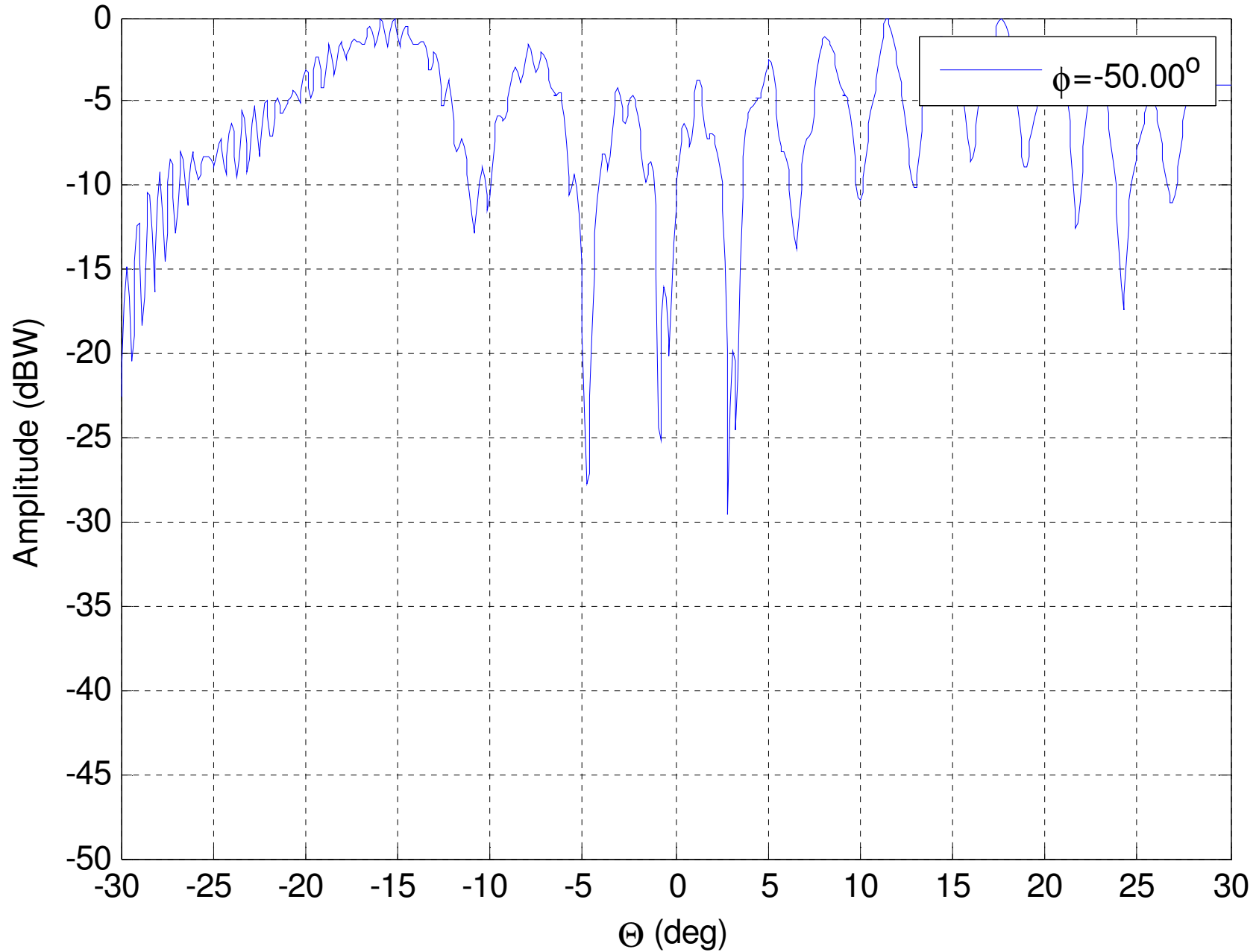
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--60.cut, Peak: -15.27 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

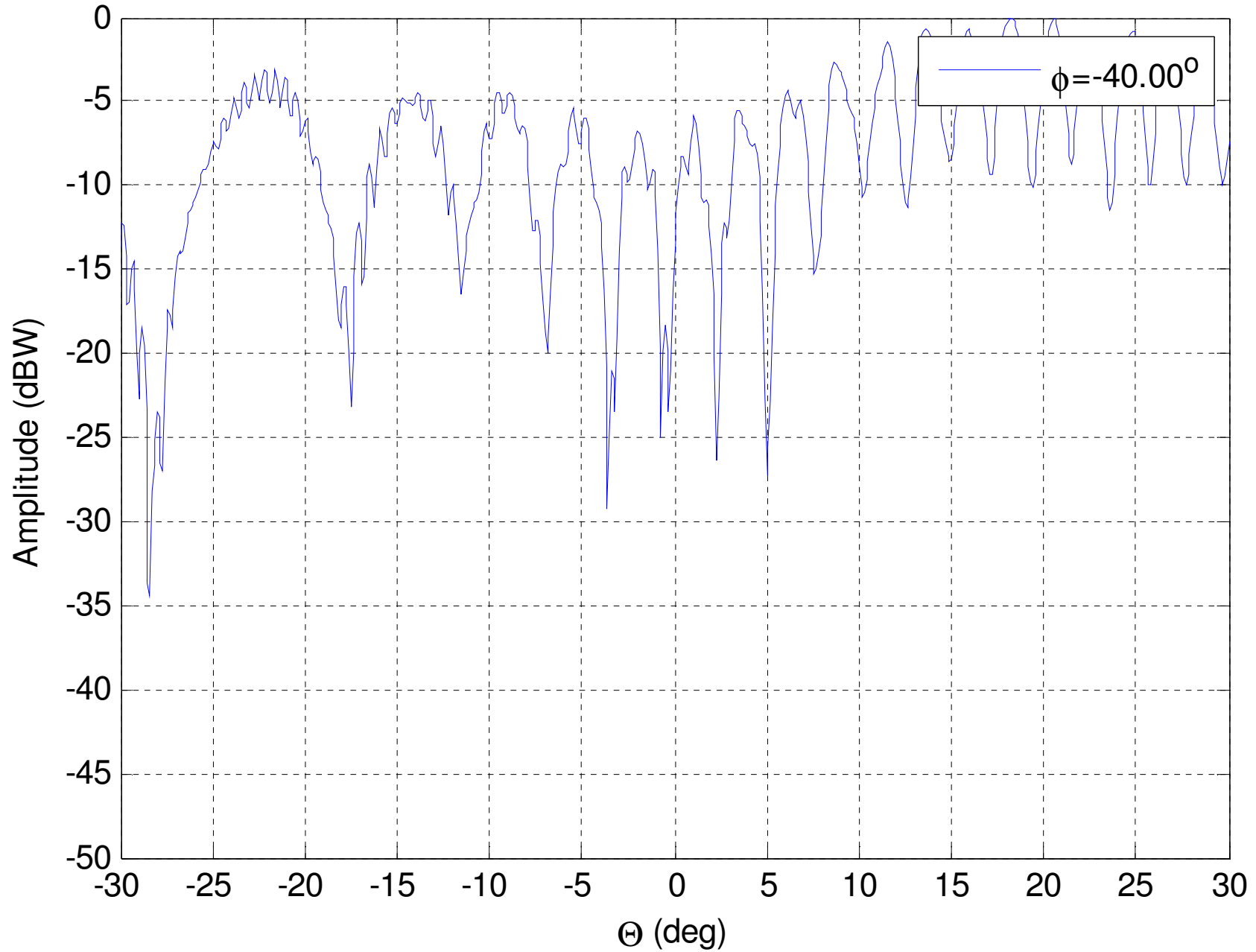
Input file: tx-17.3-rhcp--50.cut, Peak: -14.25 dBW, Date: 16-Dec-2011





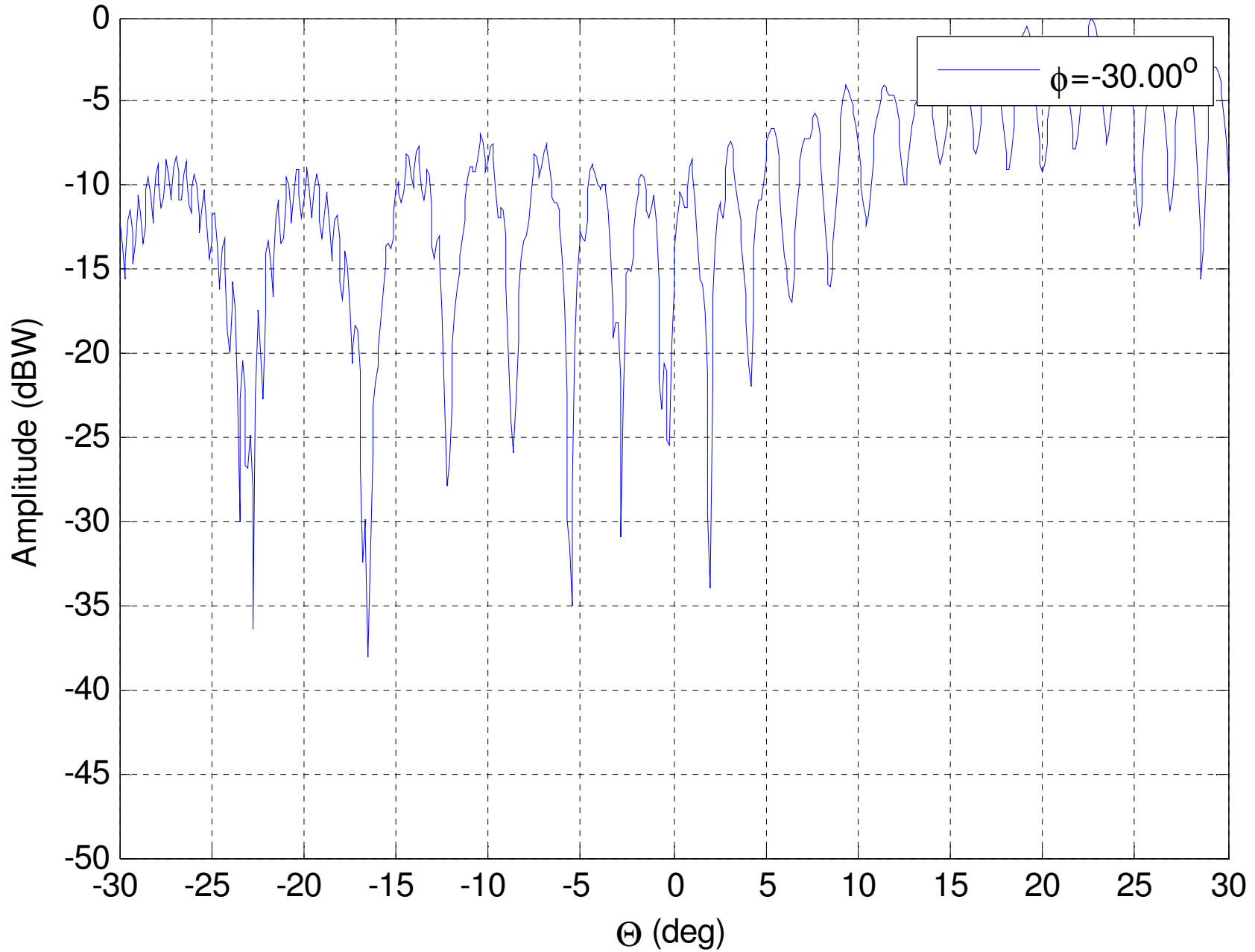
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--40.cut, Peak: -12.09 dBW, Date: 16-Dec-2011



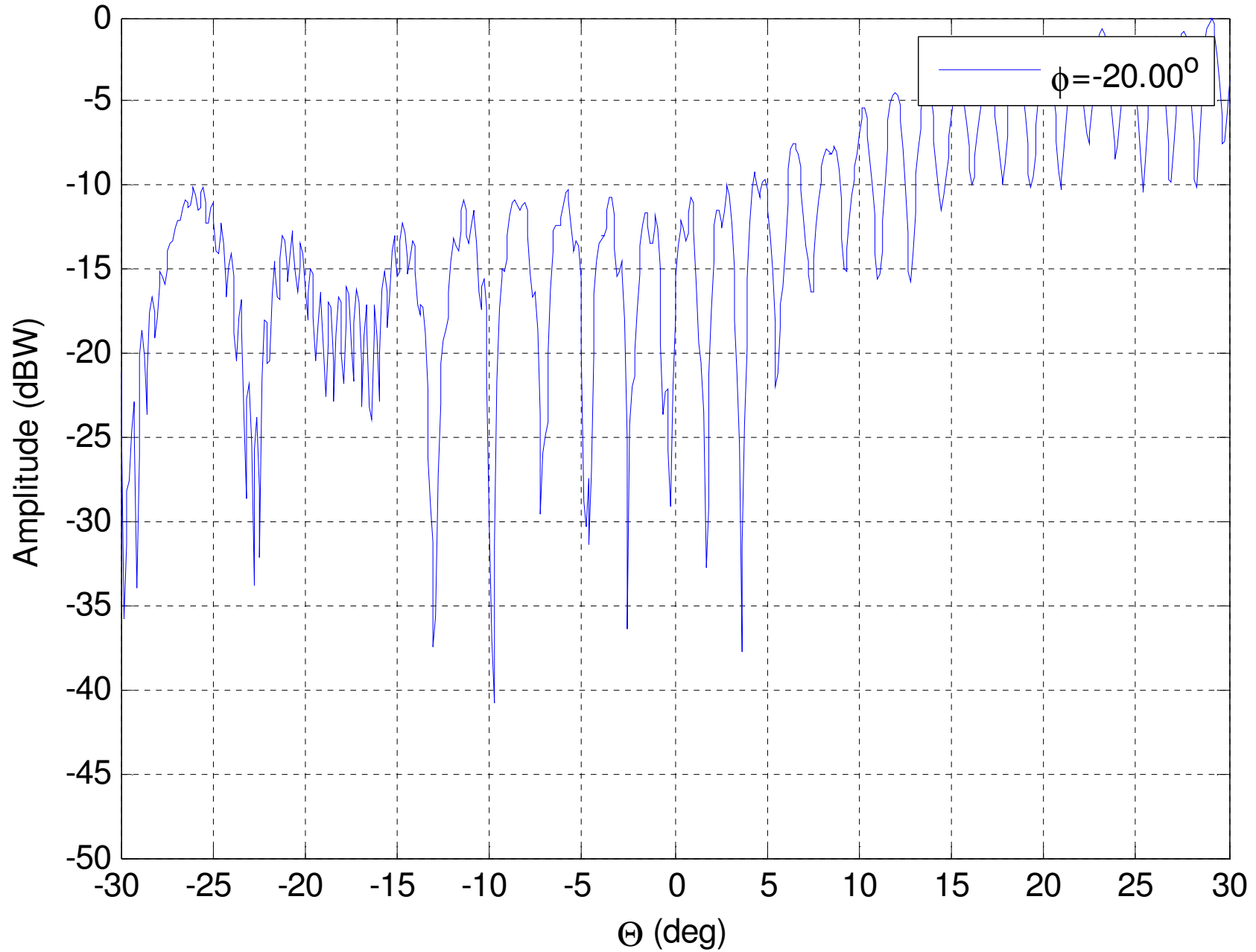
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--30.cut, Peak: -9.64 dBW, Date: 16-Dec-2011



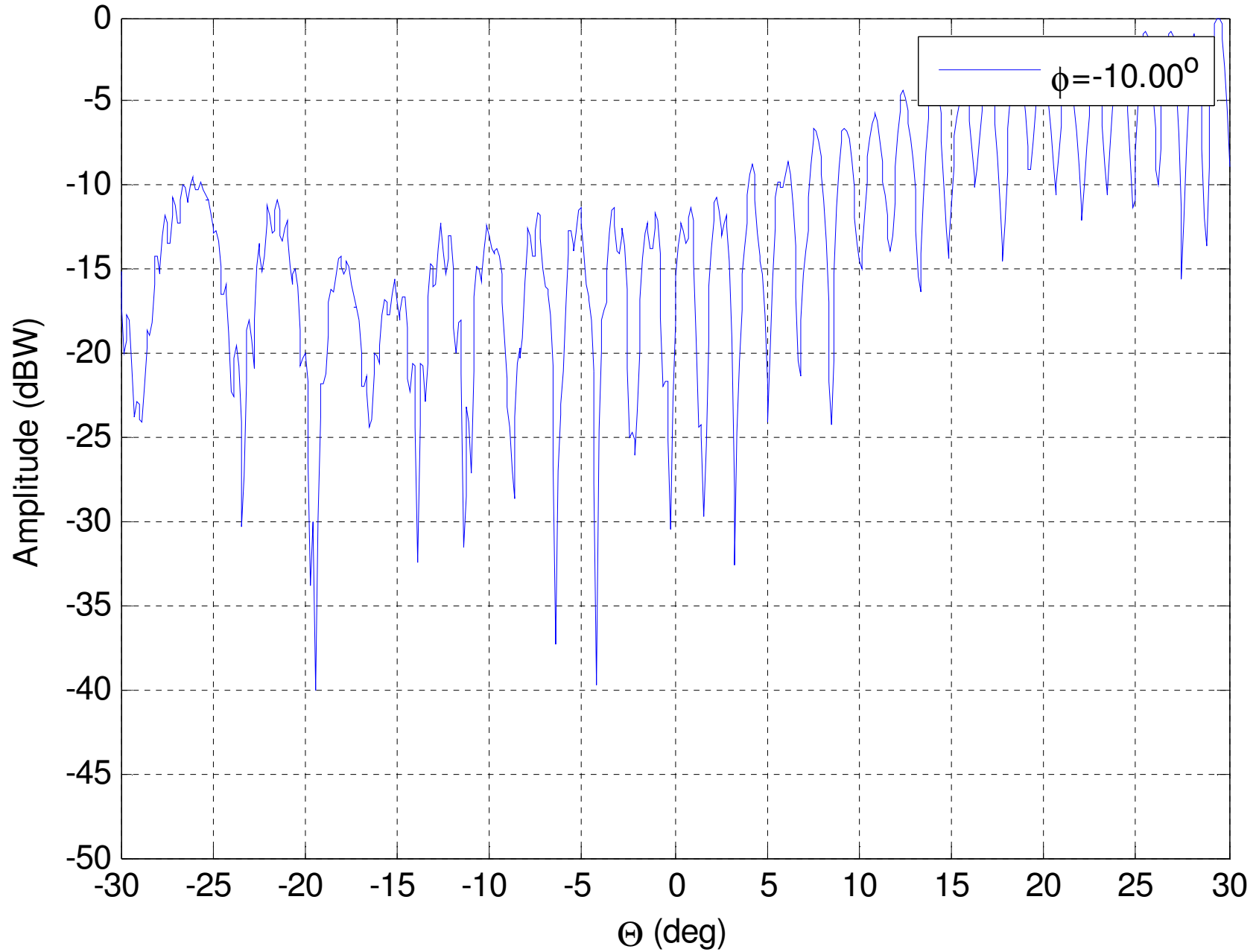
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--20.cut, Peak: -7.72 dBW, Date: 16-Dec-2011



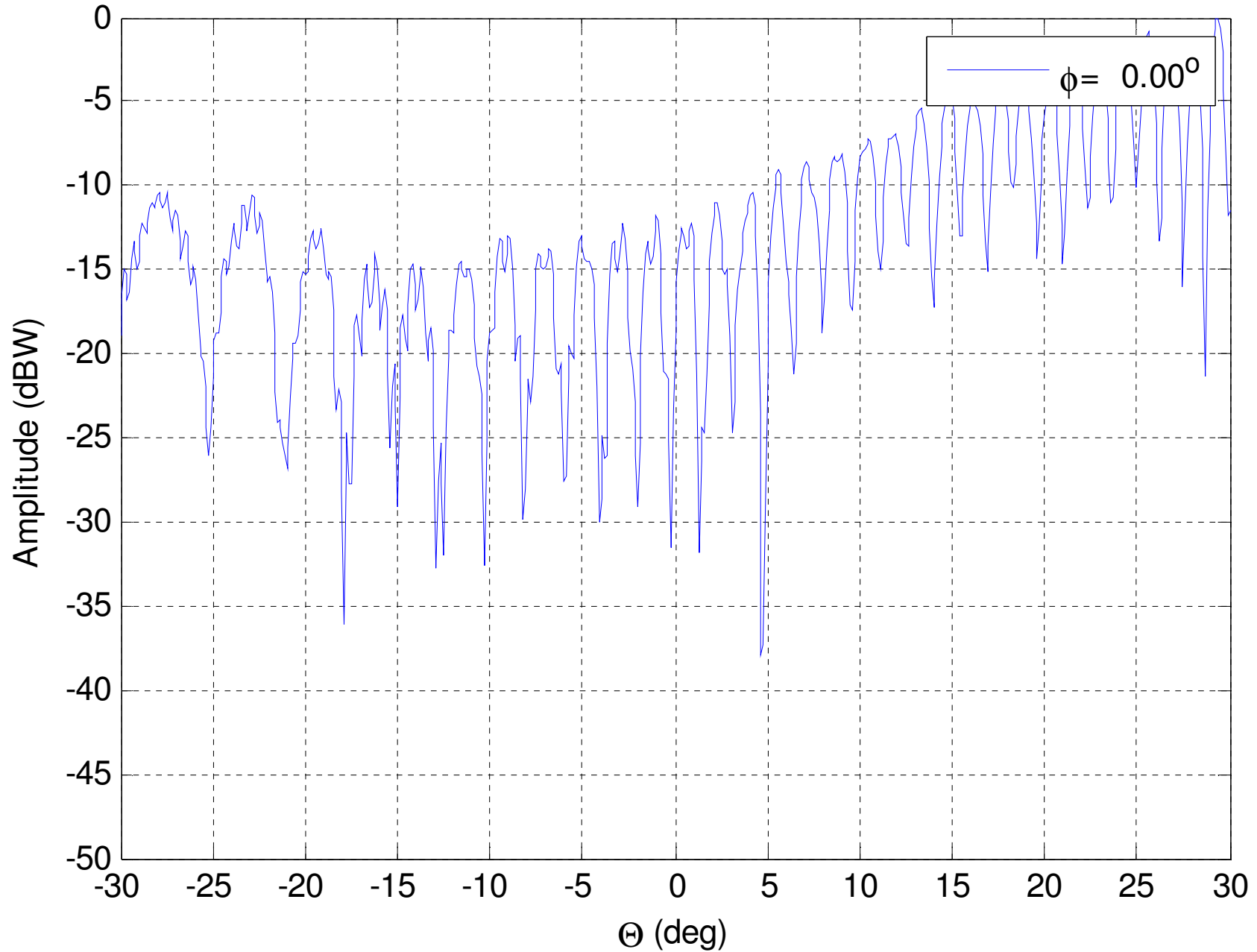
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp--10.cut, Peak: -7.44 dBW, Date: 16-Dec-2011



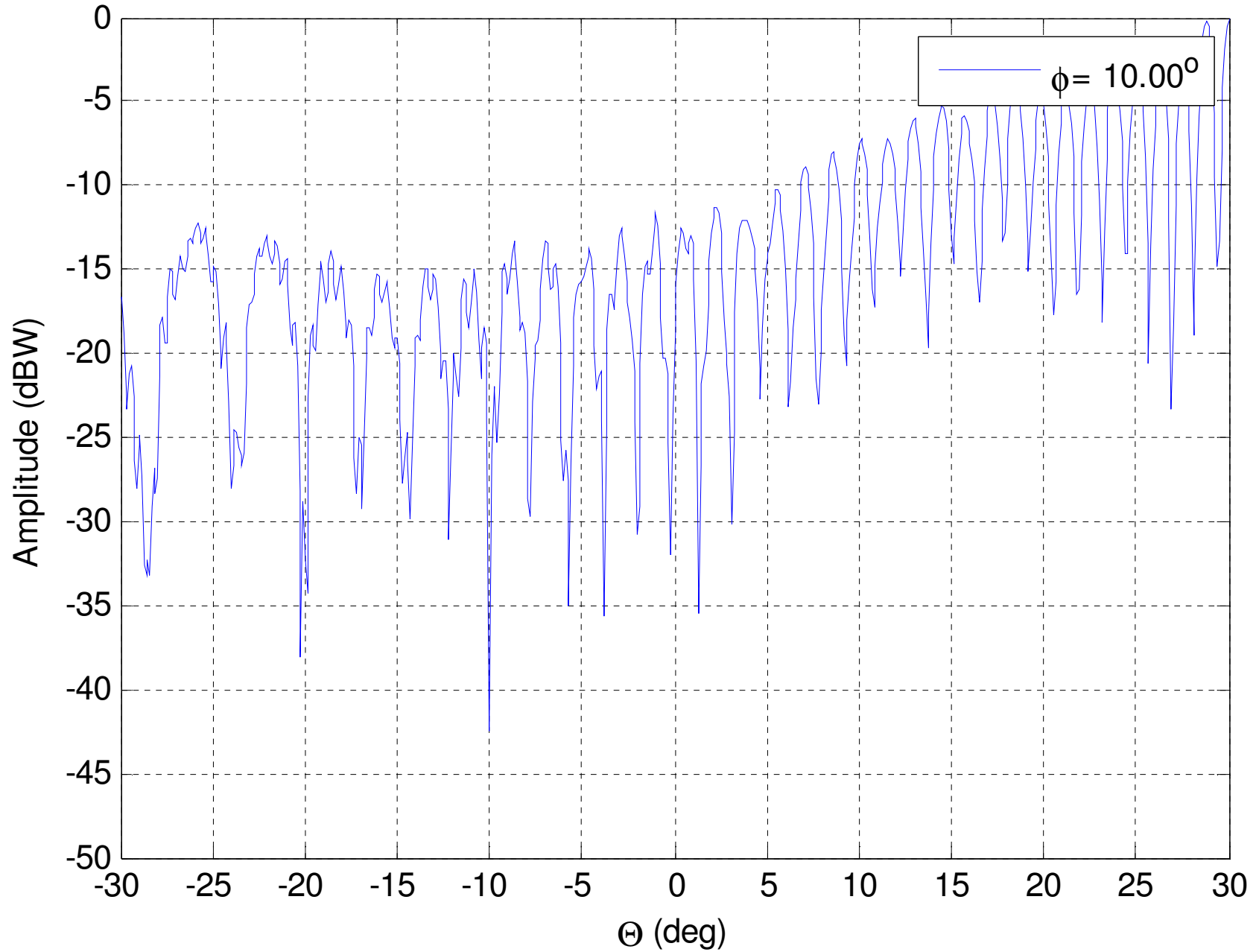
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-0.cut, Peak: -7.04 dBW, Date: 16-Dec-2011



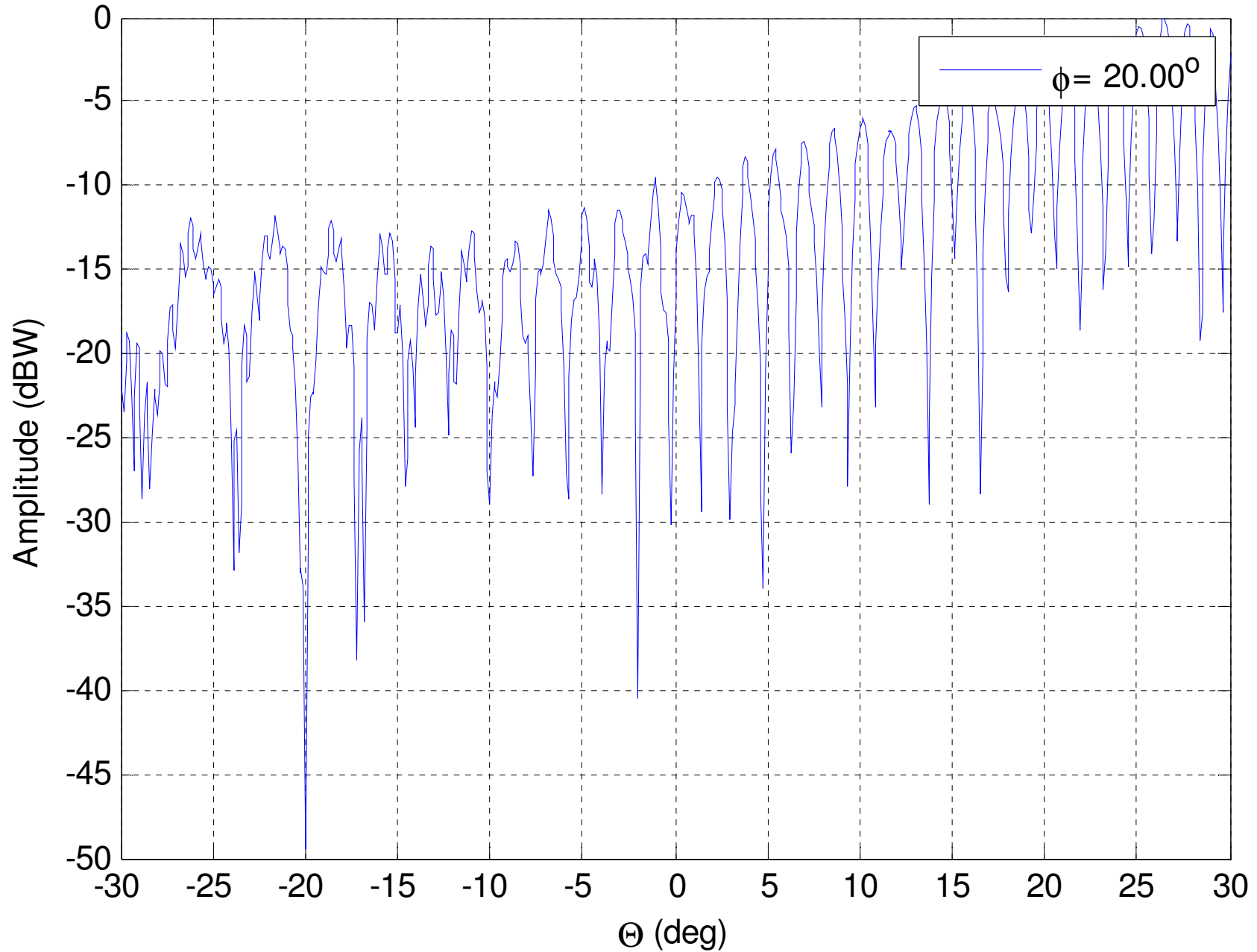
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-10.cut, Peak: -6.92 dBW, Date: 16-Dec-2011



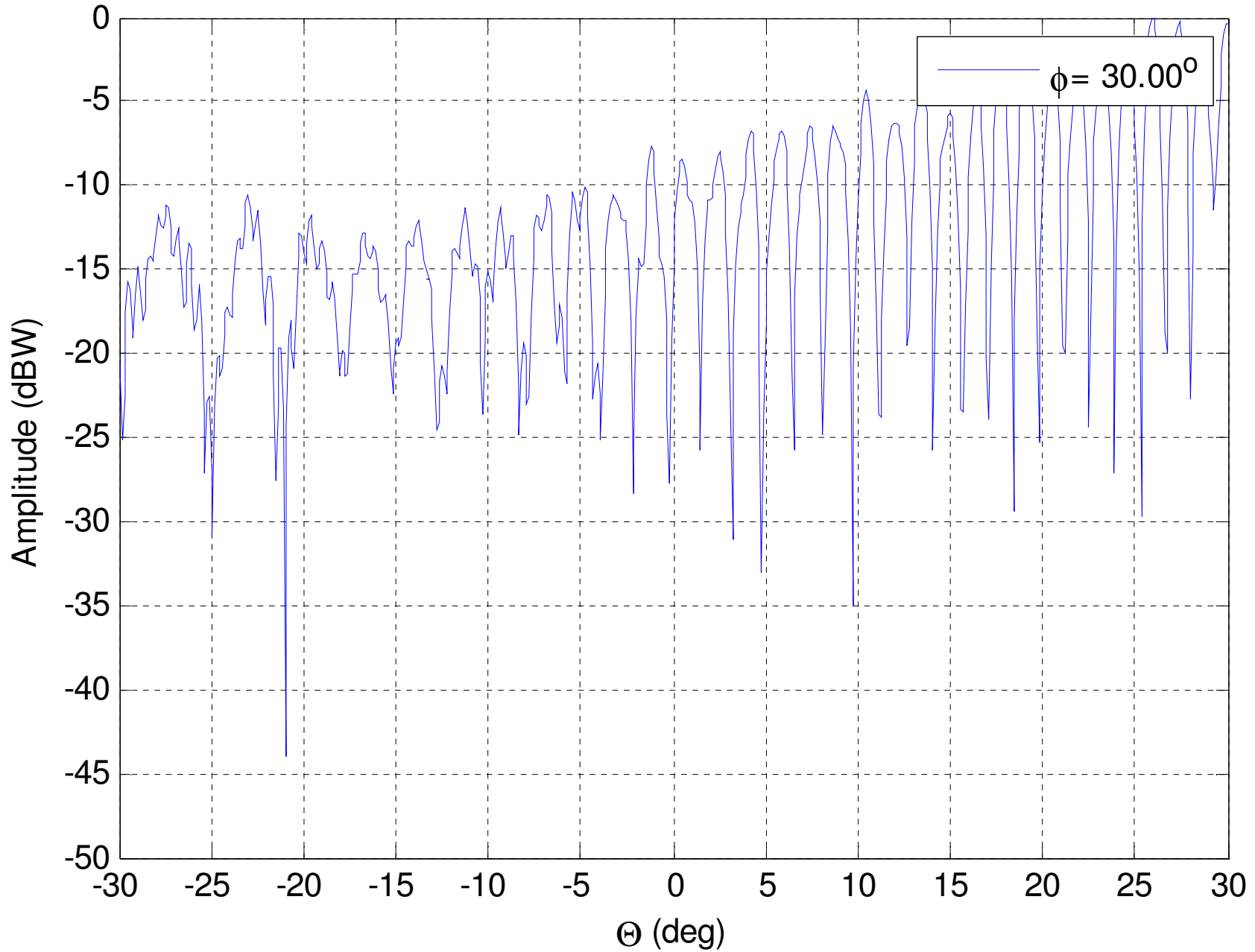
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-20.cut, Peak: -8.95 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

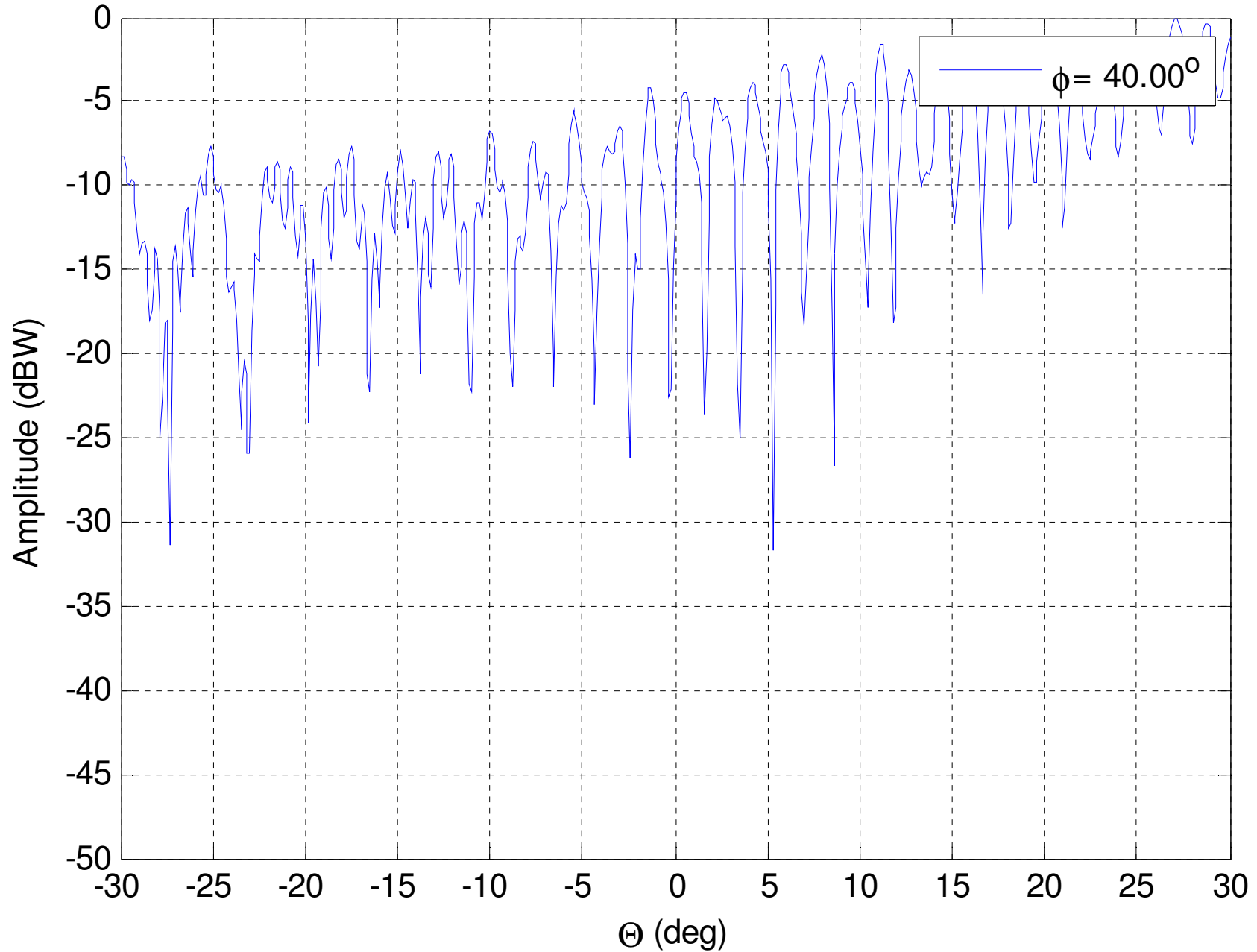
Input file: tx-17.3-rhcp-30.cut, Peak: -10.81 dBW, Date: 16-Dec-2011





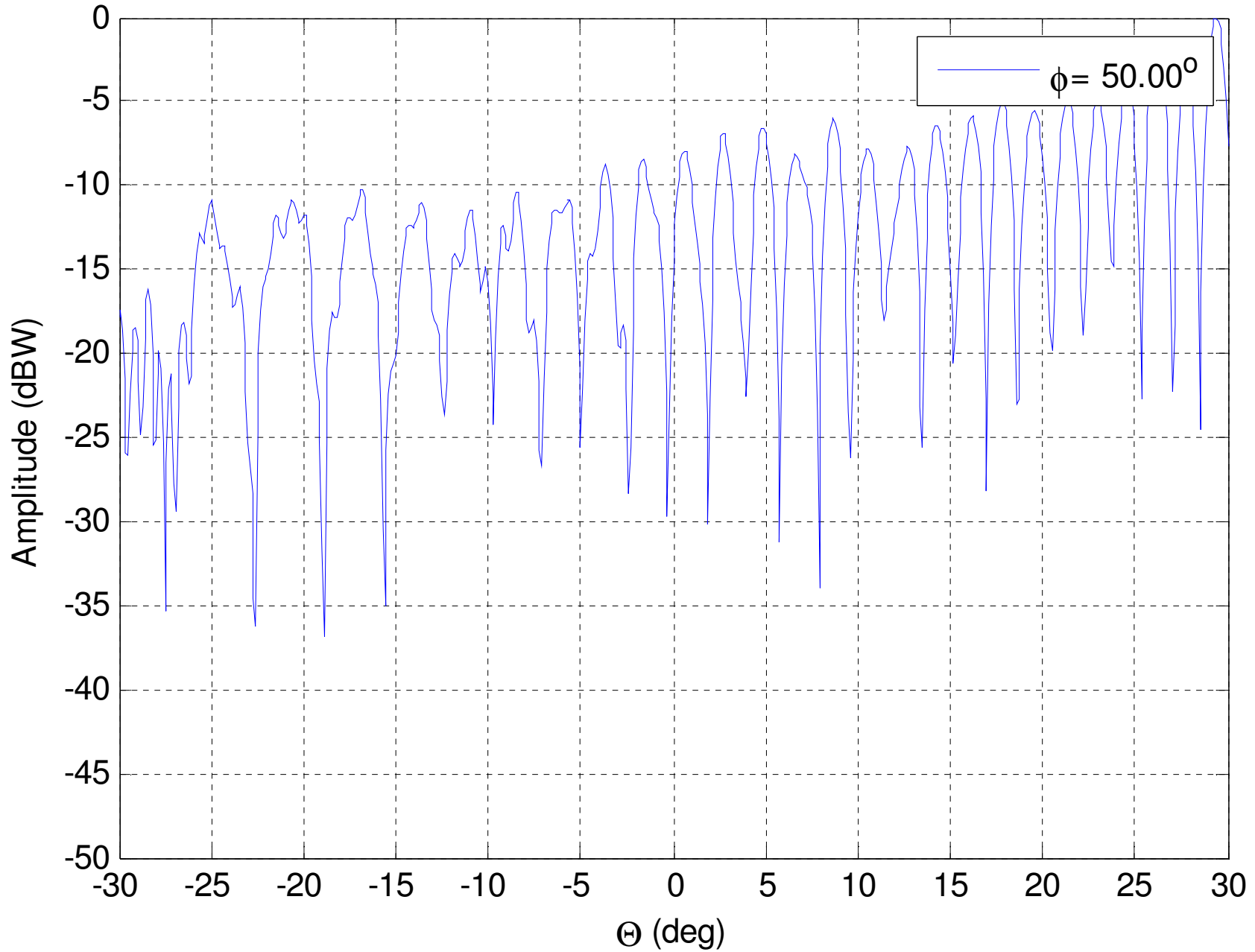
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-40.cut, Peak: -14.69 dBW, Date: 16-Dec-2011



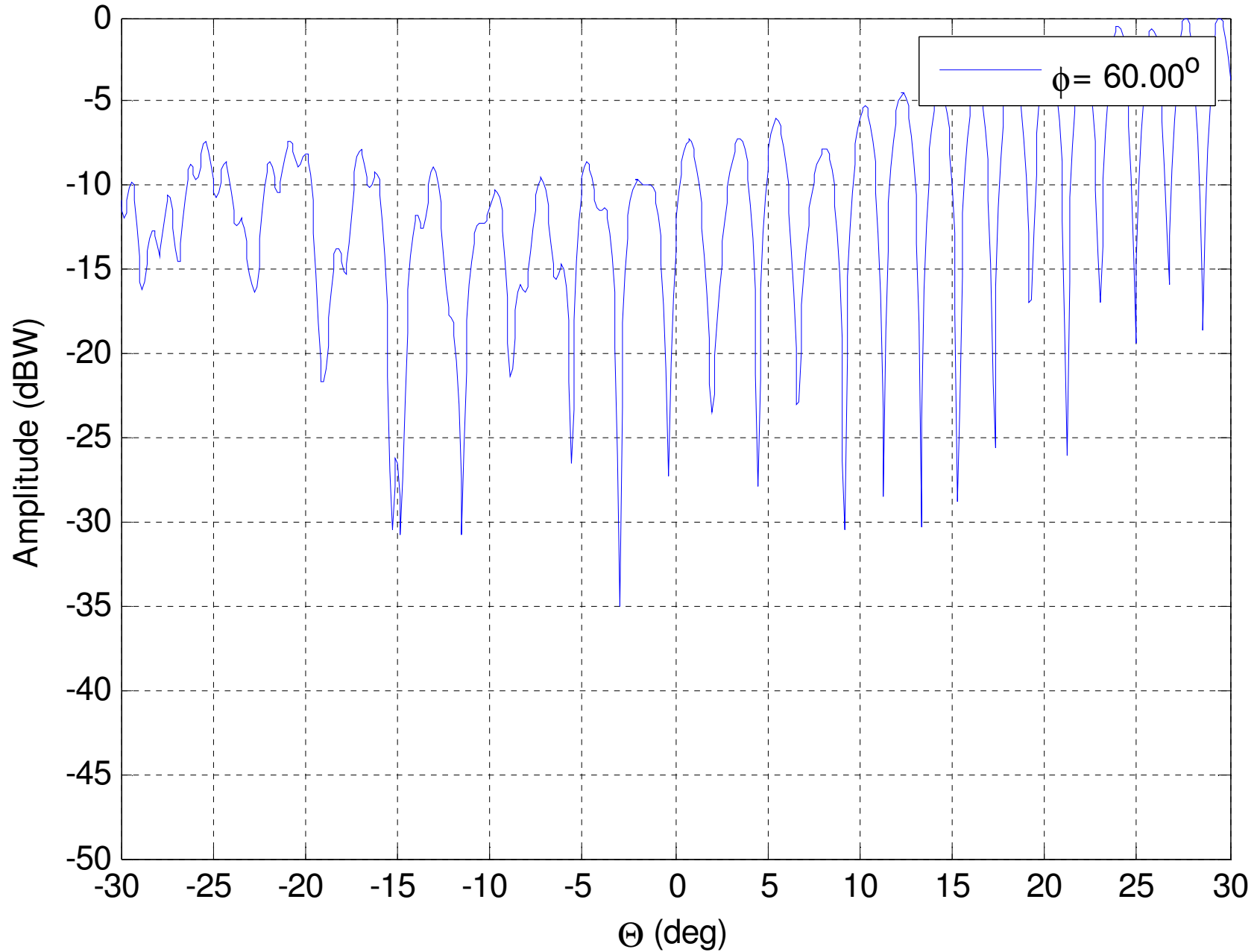
# Normalized pattern cuts - farfield

Input file: tx-17.3-rhcp-50.cut, Peak: -11.13 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

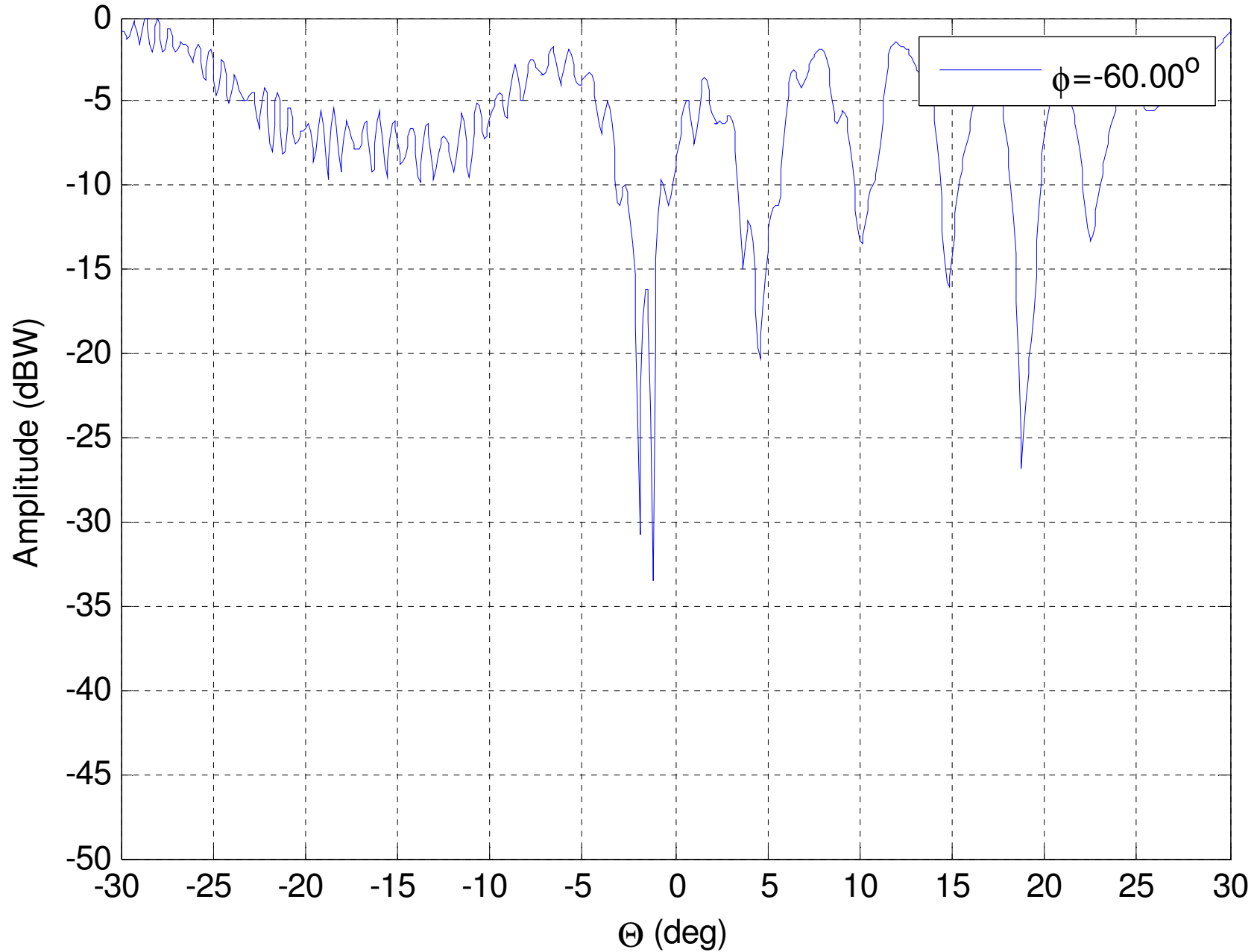
Input file: tx-17.3-rhcp-60.cut, Peak: -11.71 dBW, Date: 16-Dec-2011



# LHCP at 17.3 GHz

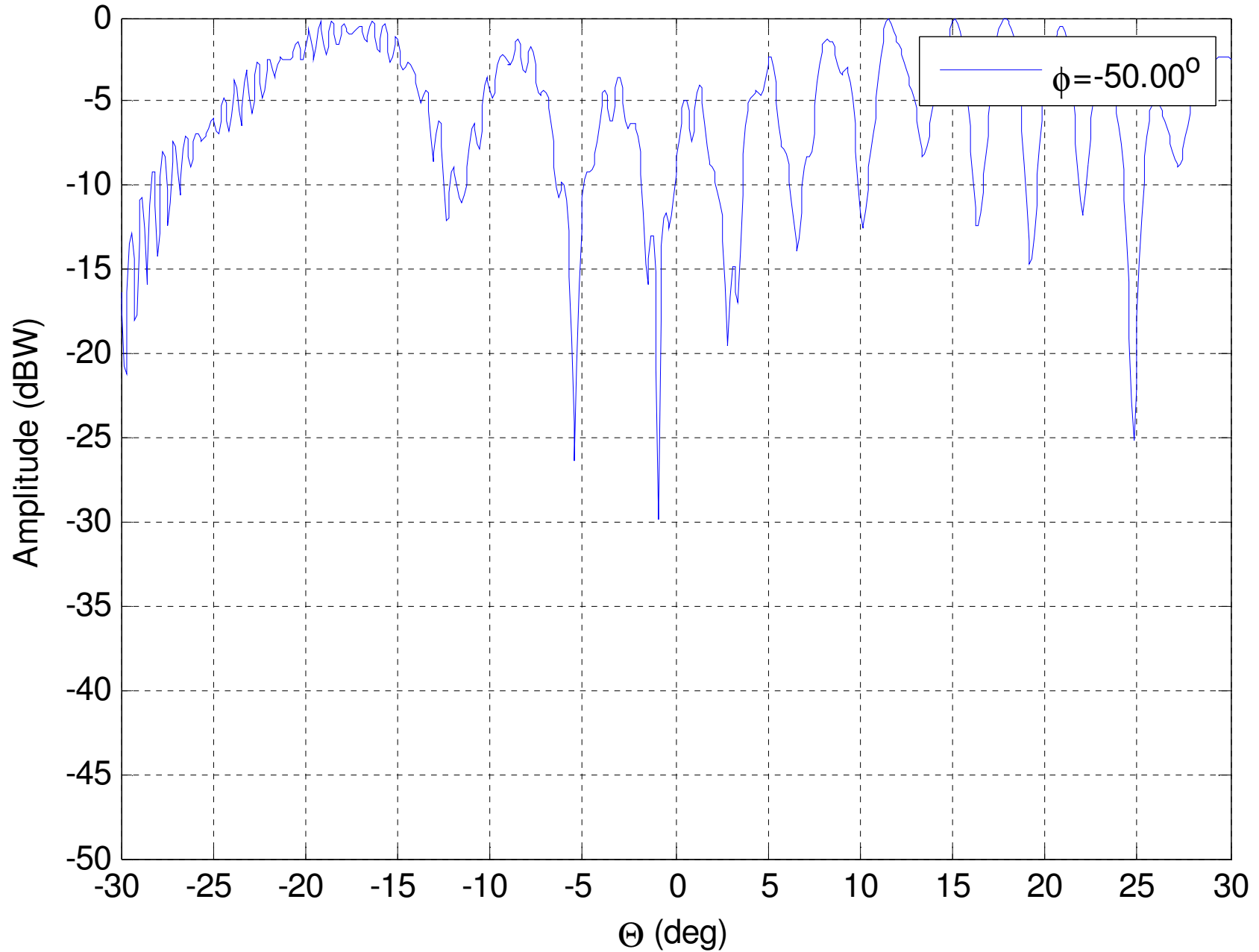
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--60.cut, Peak: -14.63 dBW, Date: 16-Dec-2011



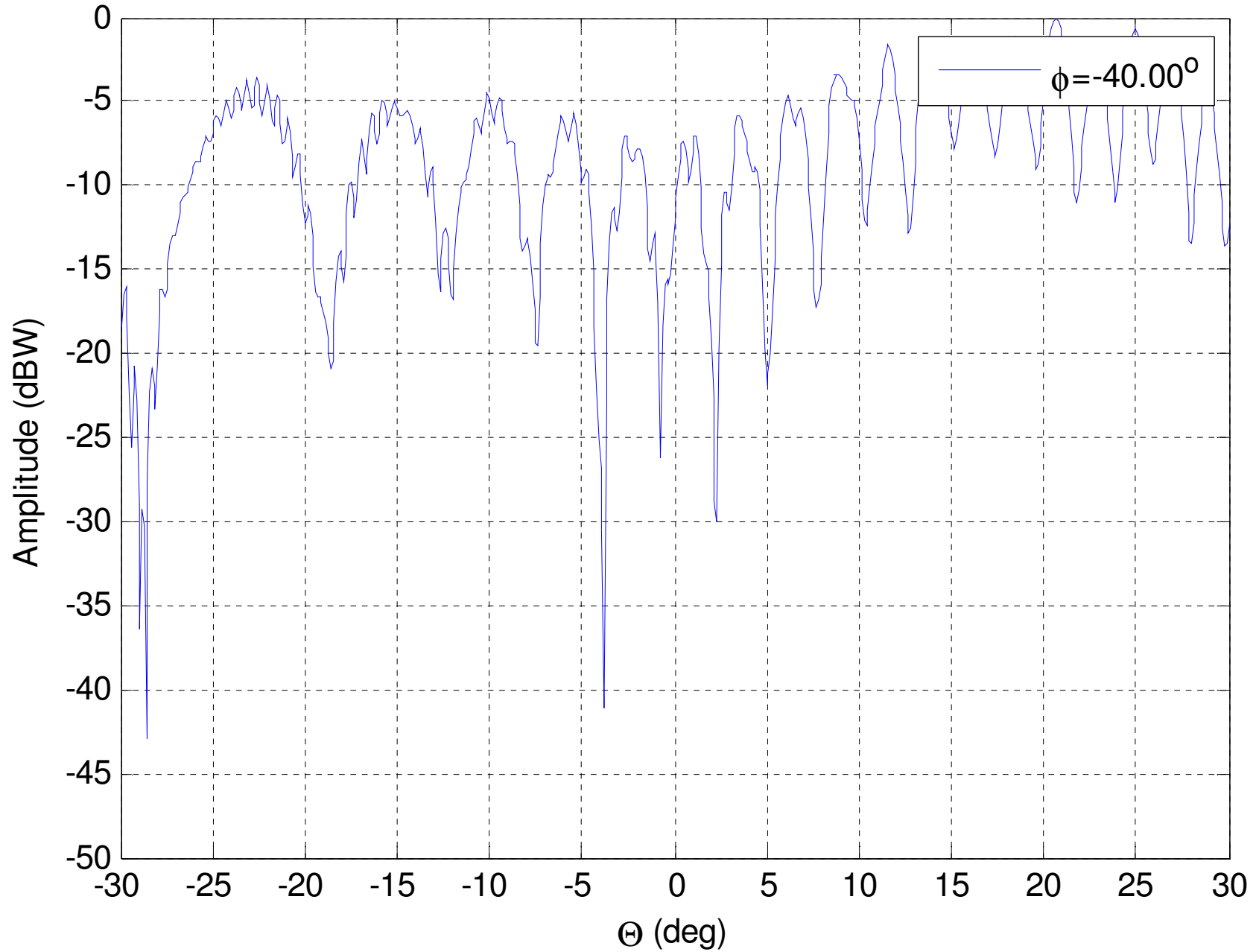
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--50.cut, Peak: -14.26 dBW, Date: 16-Dec-2011



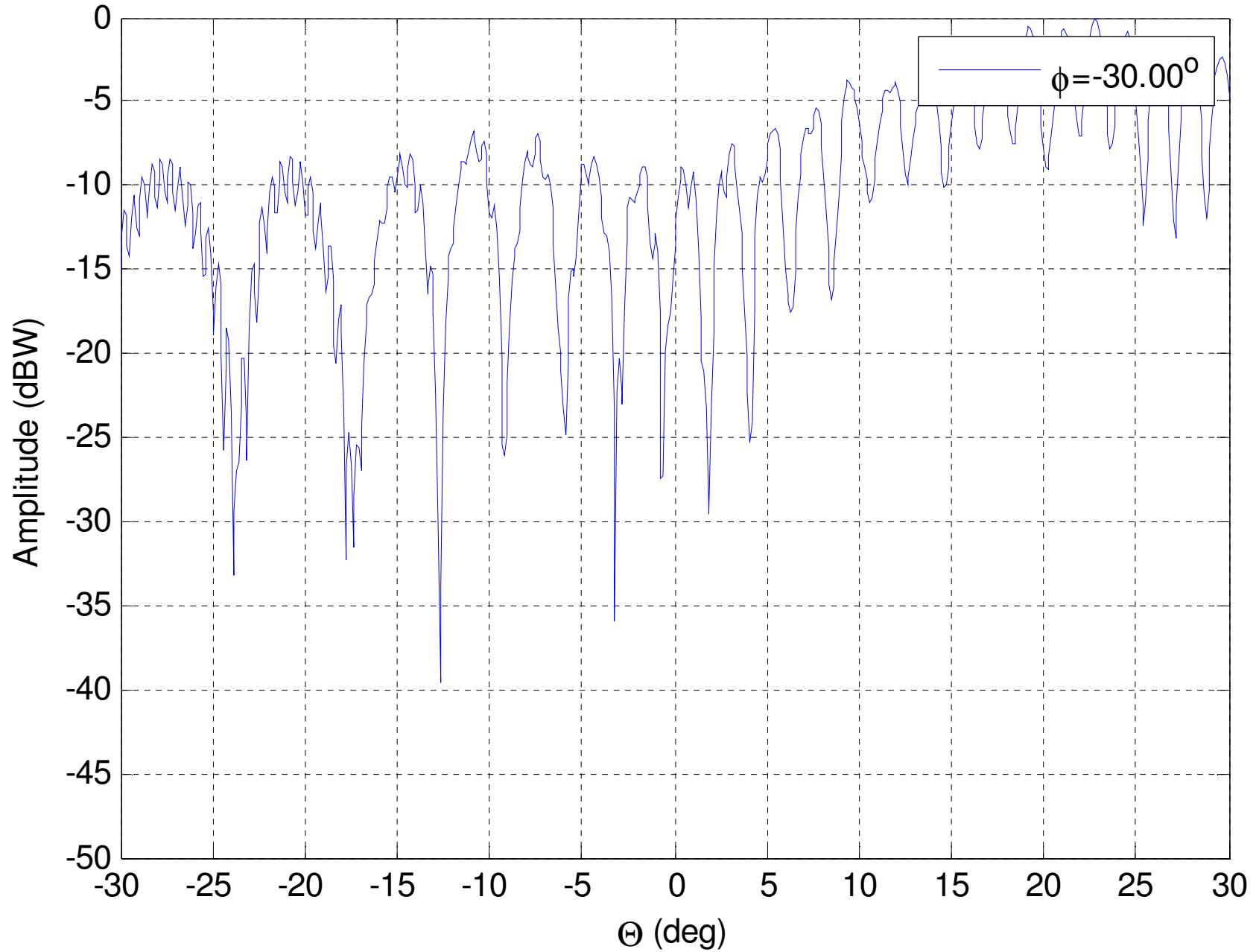
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--40.cut, Peak: -11.59 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

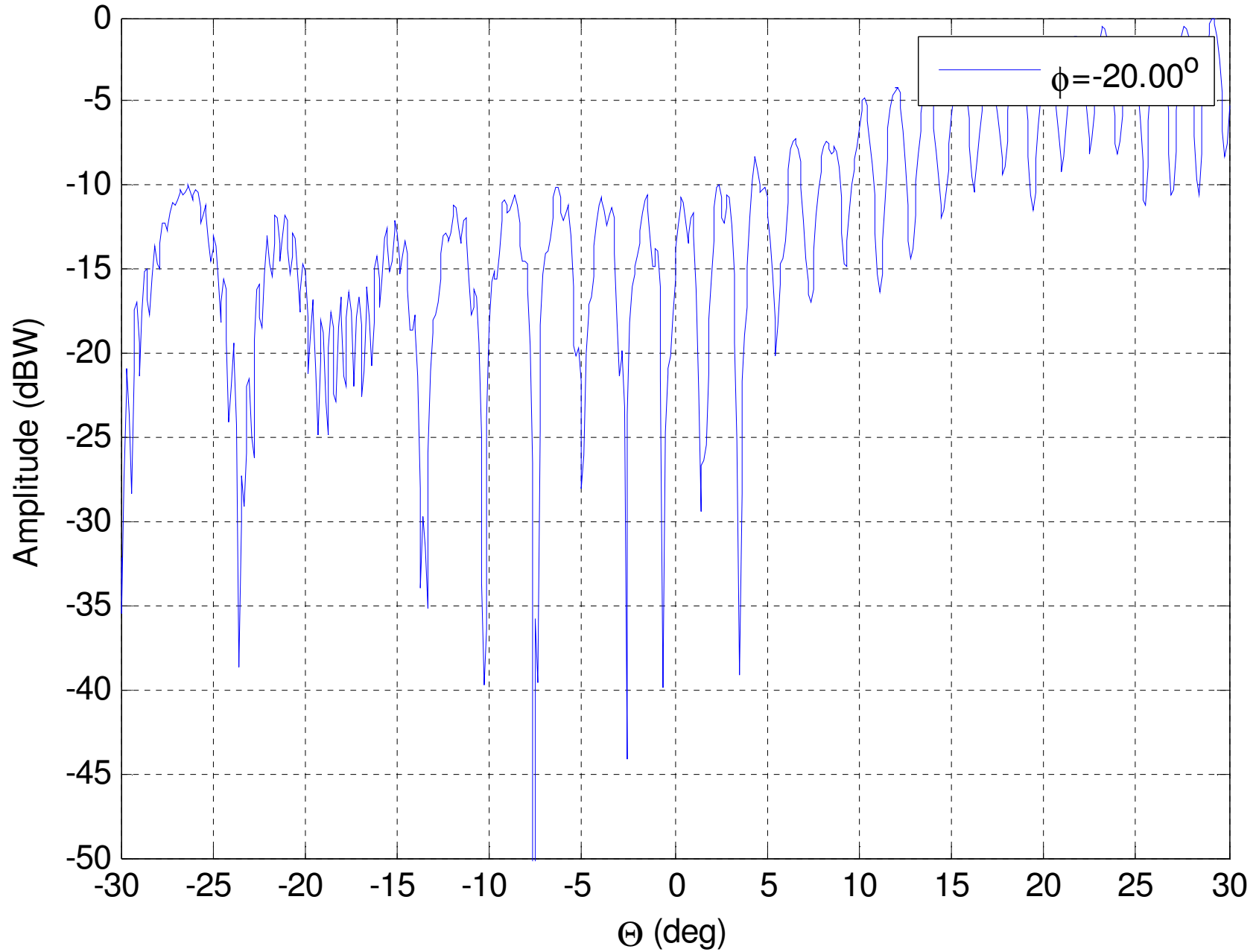
Input file: tx-17.3-lhcp--30.cut, Peak: -9.91 dBW, Date: 16-Dec-2011





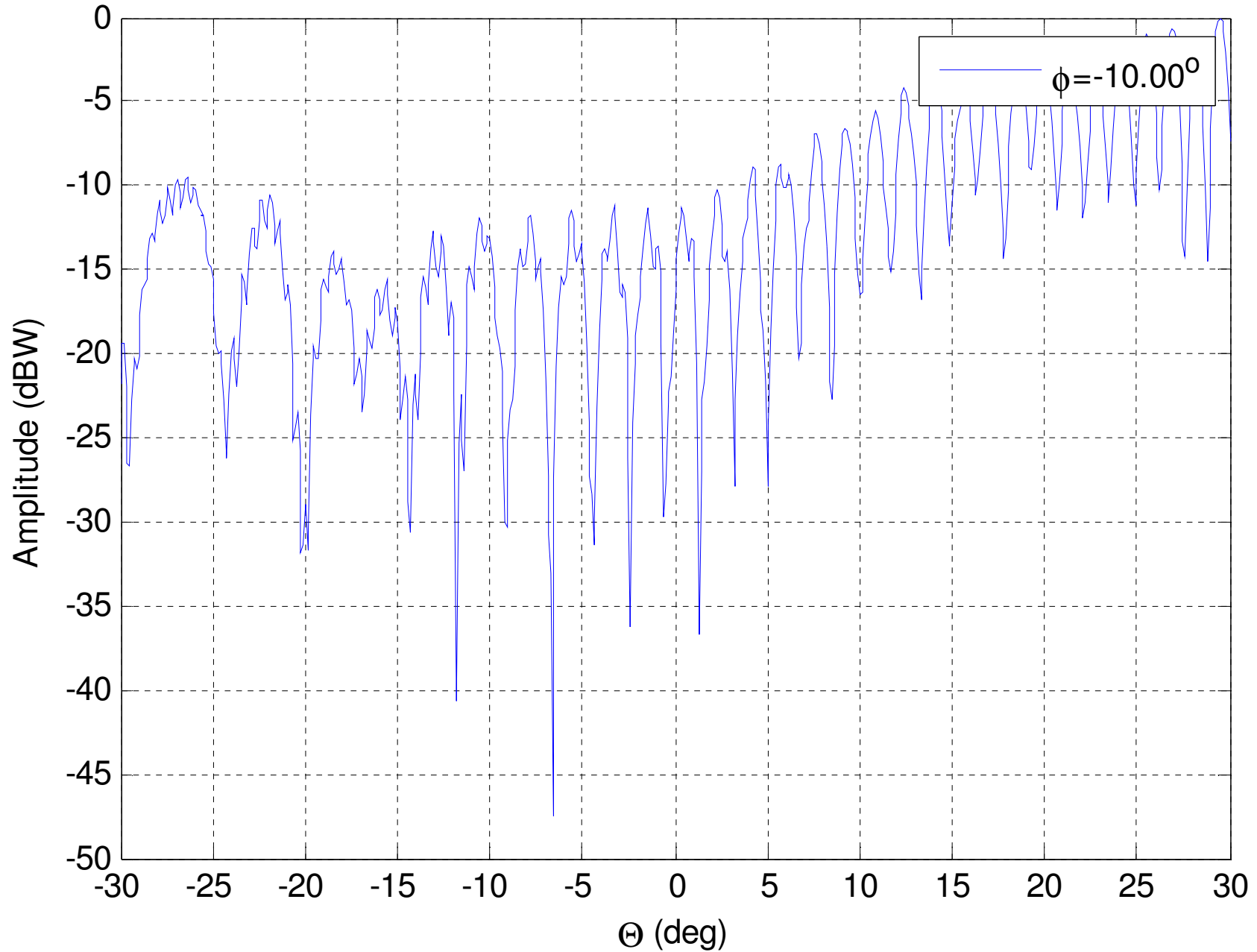
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--20.cut, Peak: -8.03 dBW, Date: 16-Dec-2011



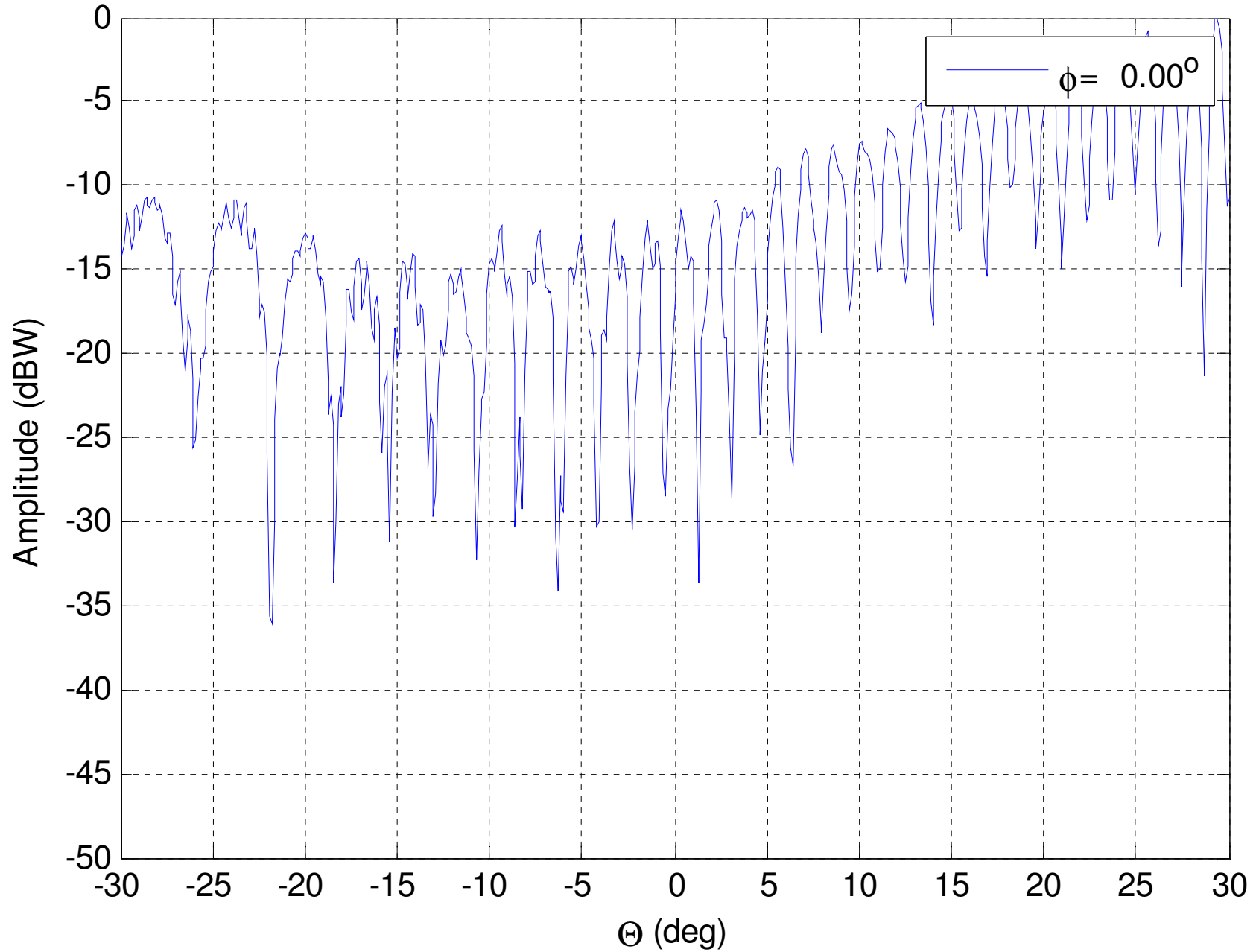
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp--10.cut, Peak: -7.34 dBW, Date: 16-Dec-2011



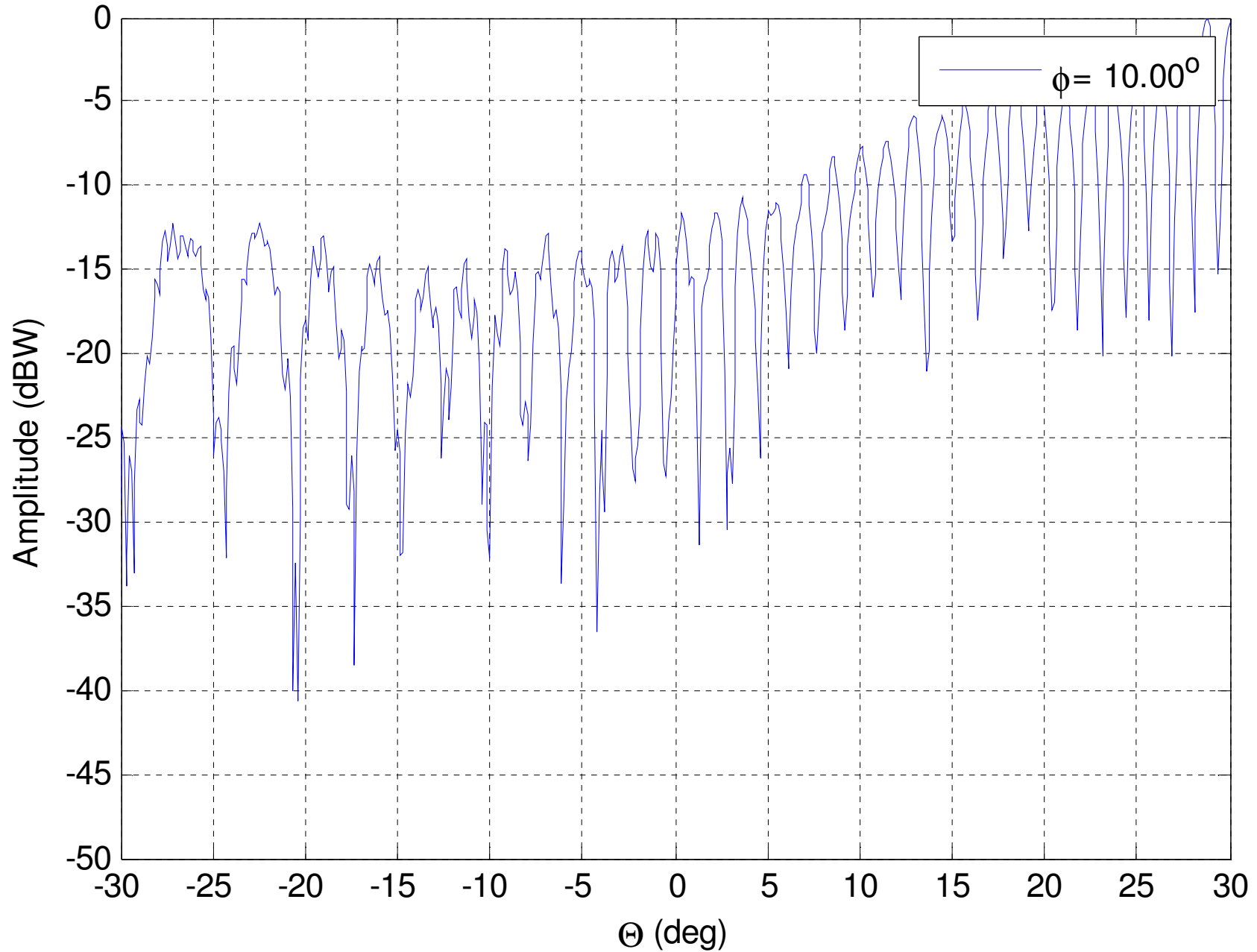
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-0.cut, Peak: -7.03 dBW, Date: 16-Dec-2011



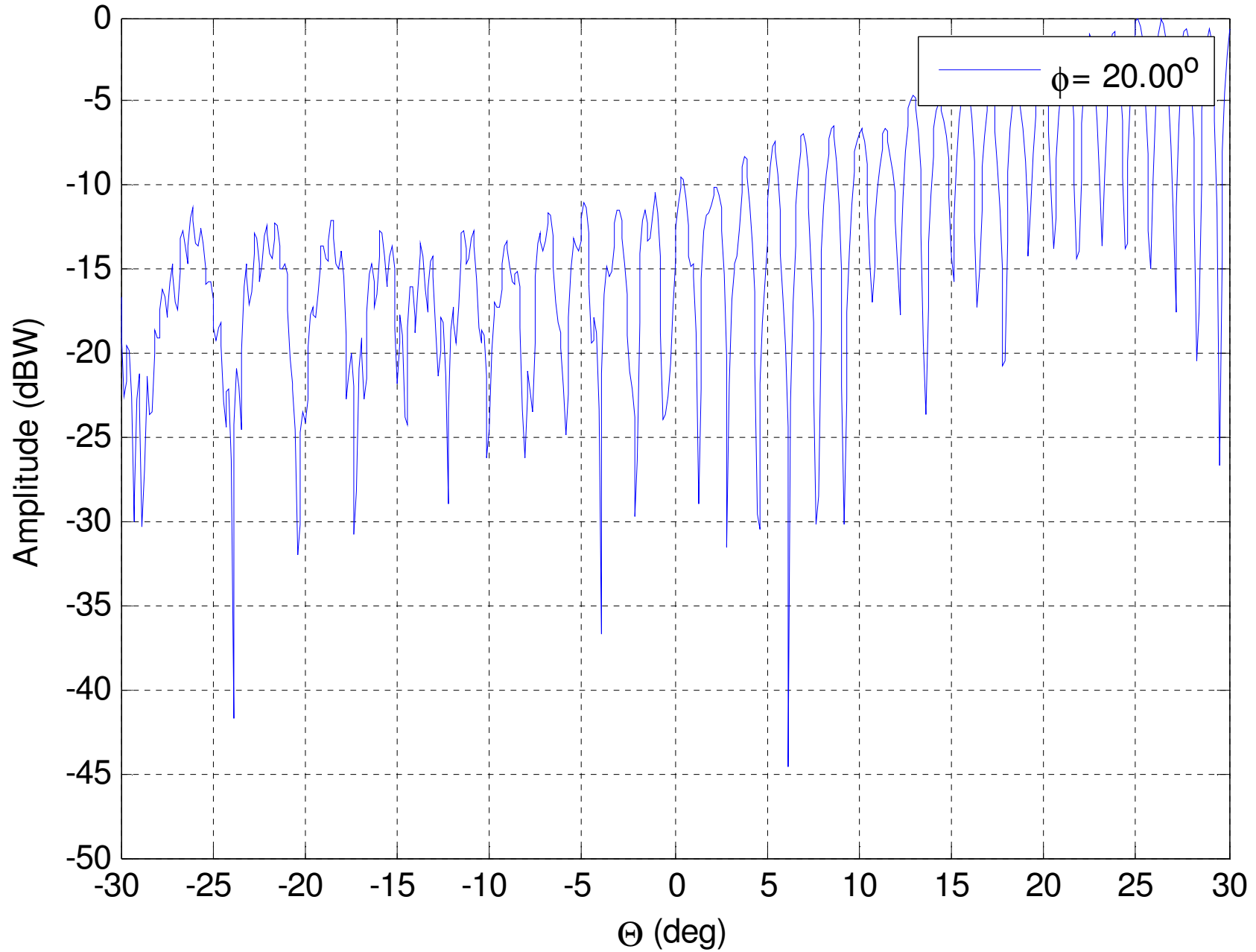
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-10.cut, Peak: -6.92 dBW, Date: 16-Dec-2011



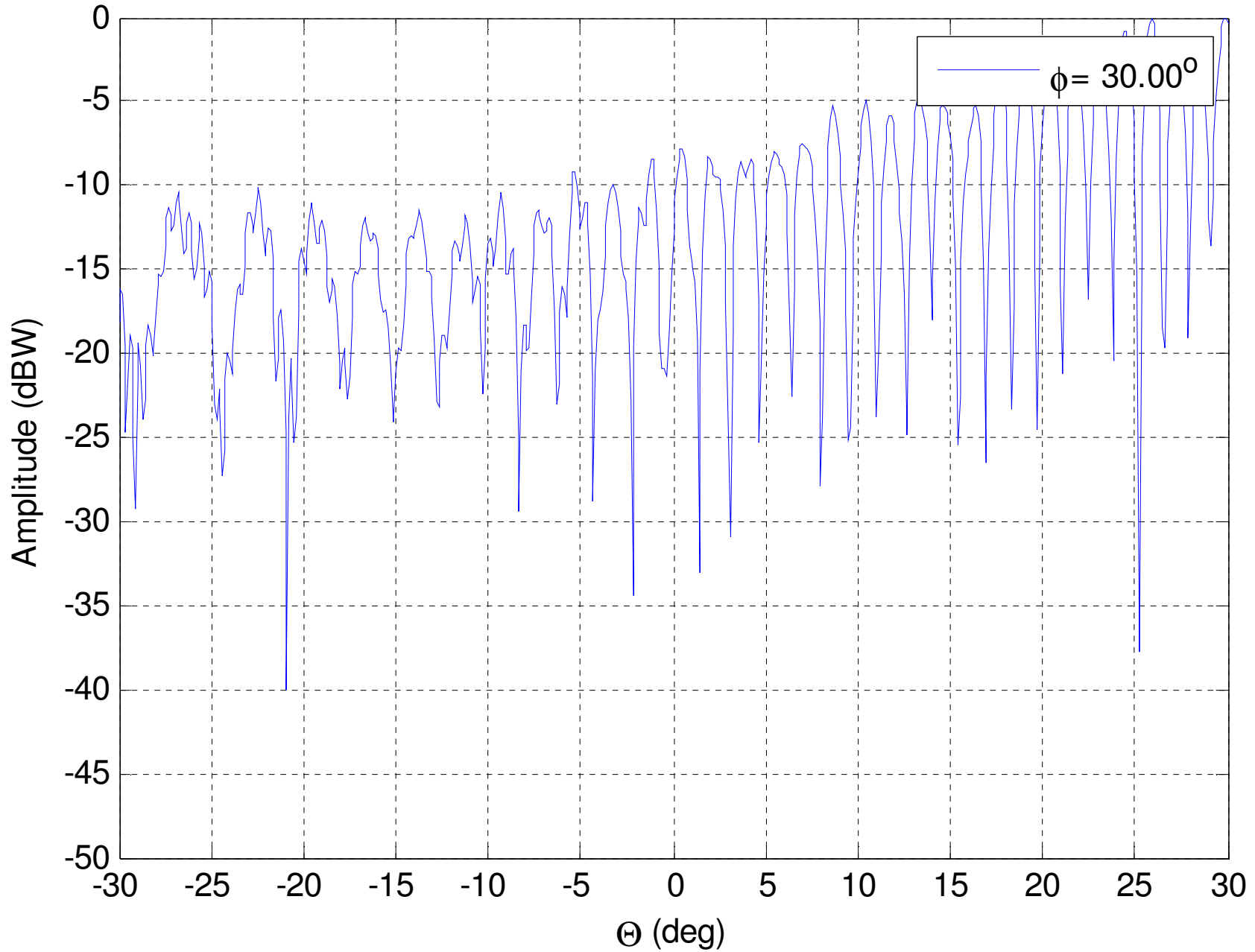
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-20.cut, Peak: -9.03 dBW, Date: 16-Dec-2011



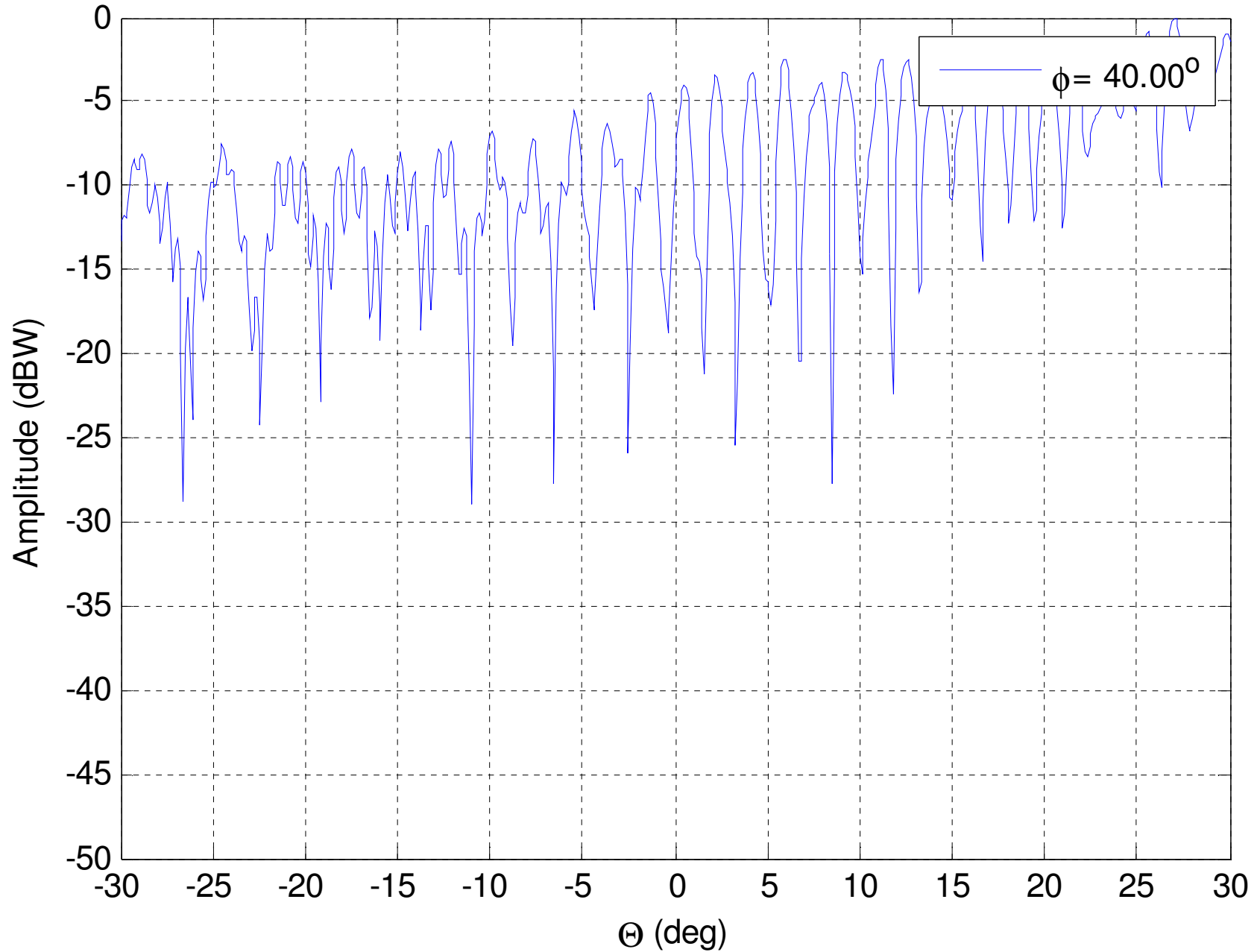
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-30.cut, Peak: -10.81 dBW, Date: 16-Dec-2011



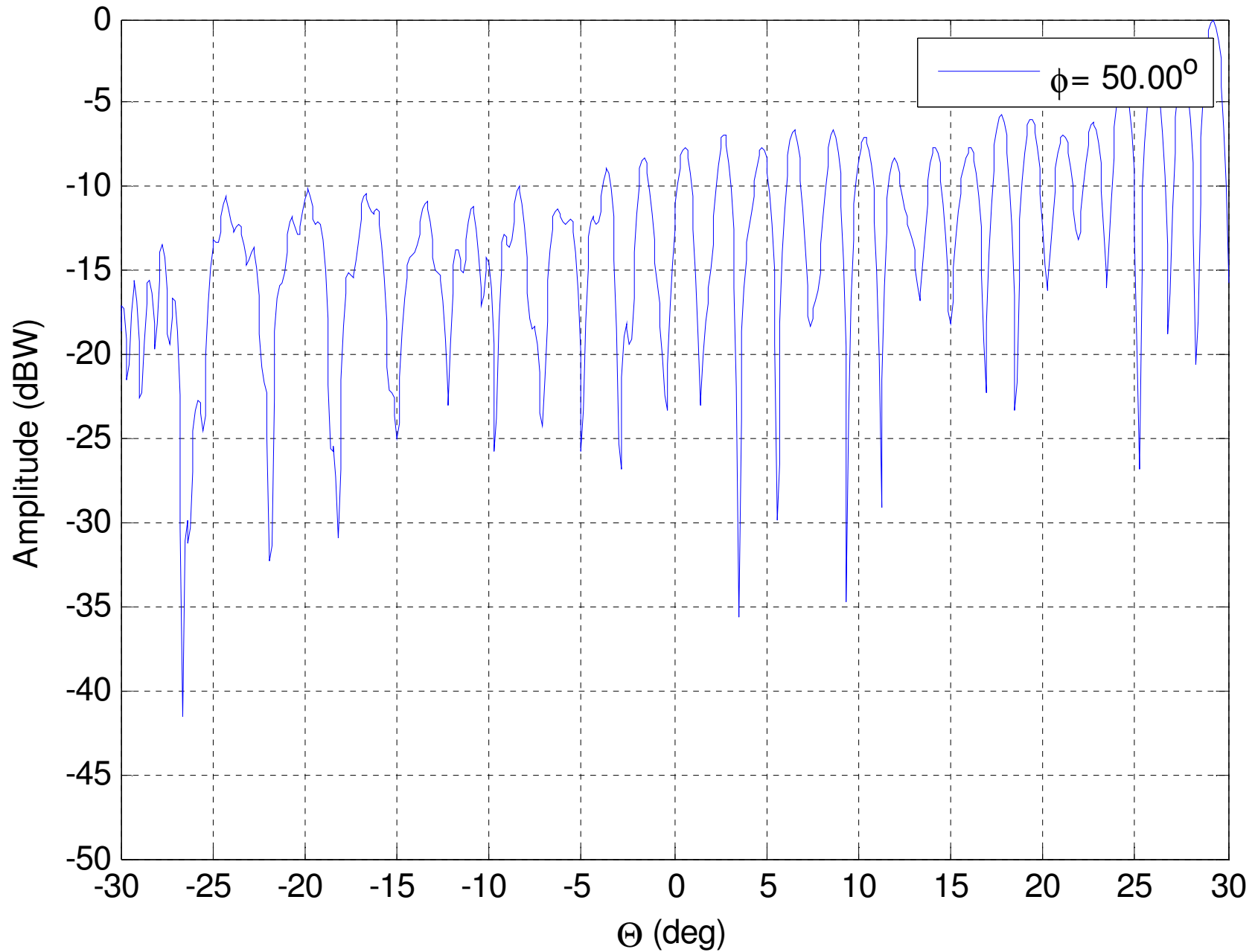
# Normalized pattern cuts - farfield

Input file: tx-17.3-lhcp-40.cut, Peak: -14.53 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

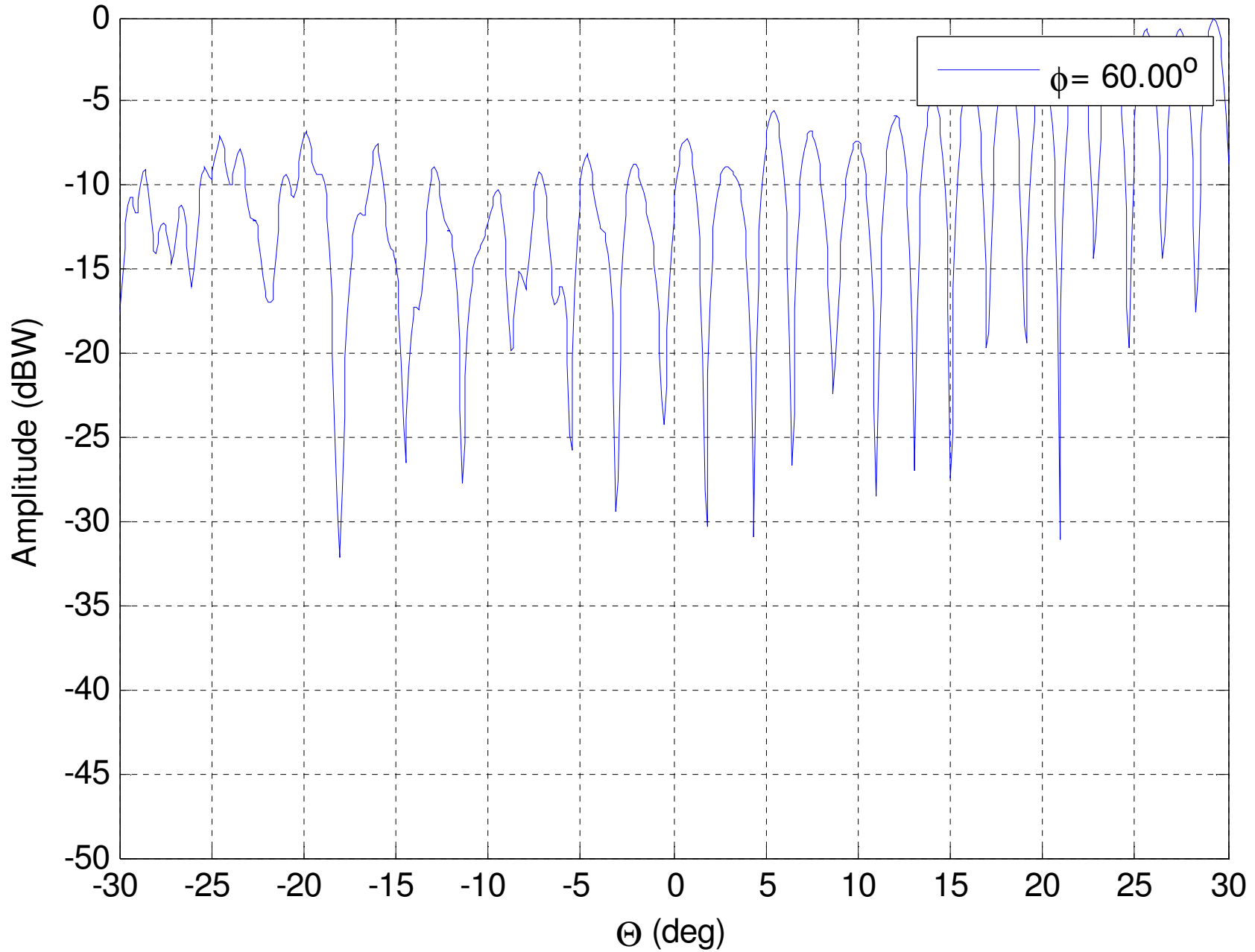
Input file: tx-17.3-lhcp-50.cut, Peak: -11.02 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

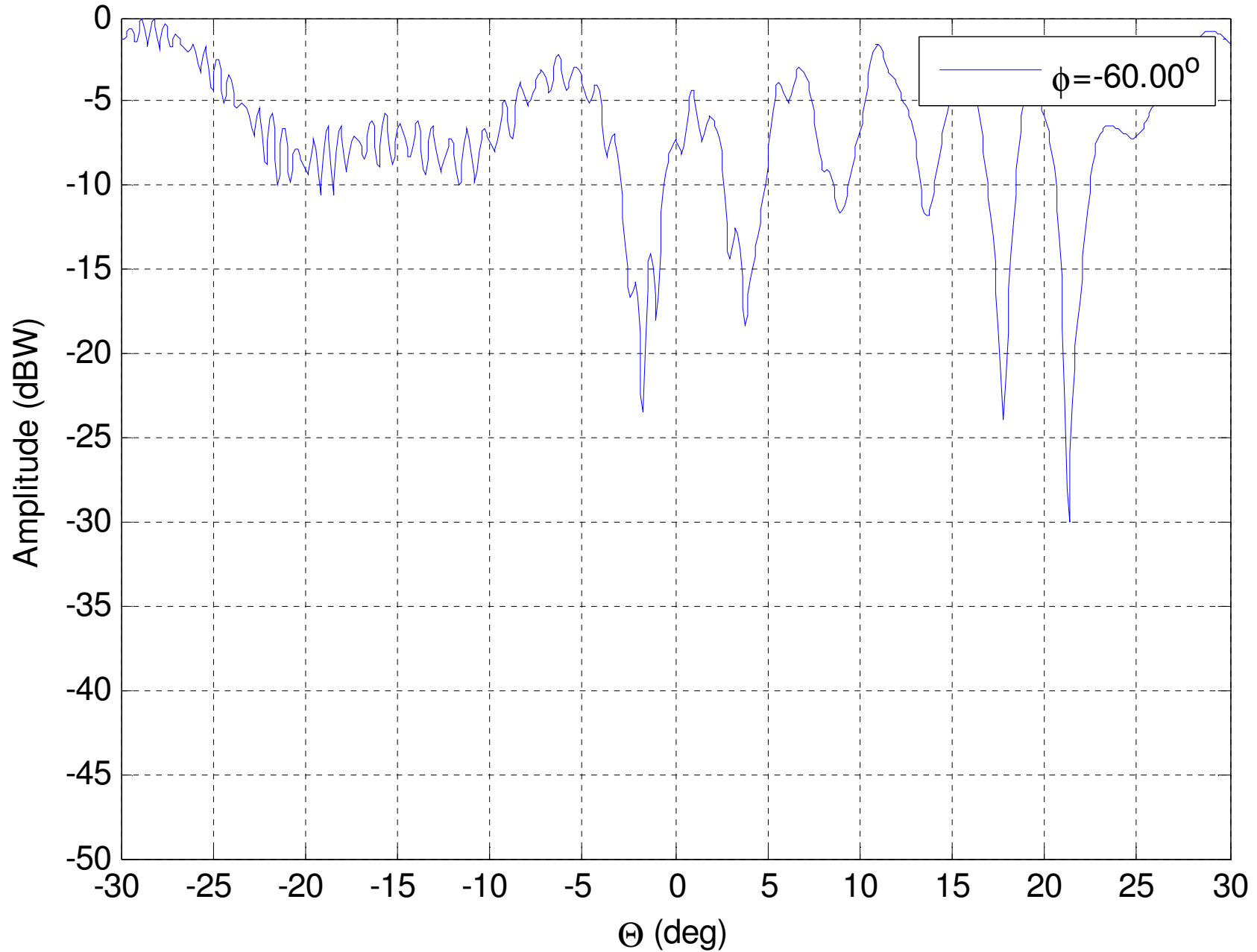
Input file: tx-17.3-lhcp-60.cut, Peak: -11.56 dBW, Date: 16-Dec-2011



# RHCP at 17.5 GHz

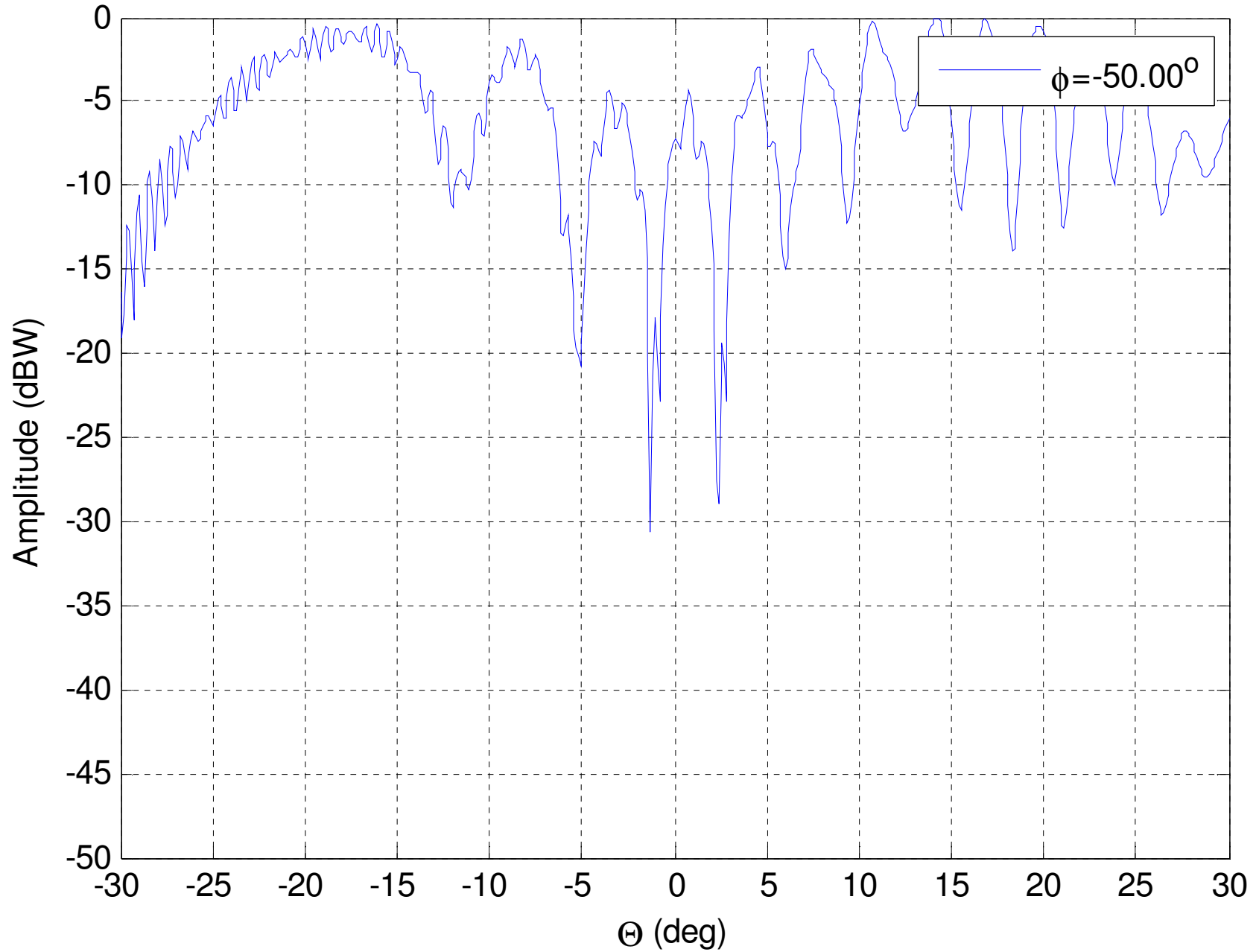
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--60.cut, Peak: -14.02 dBW, Date: 16-Dec-2011



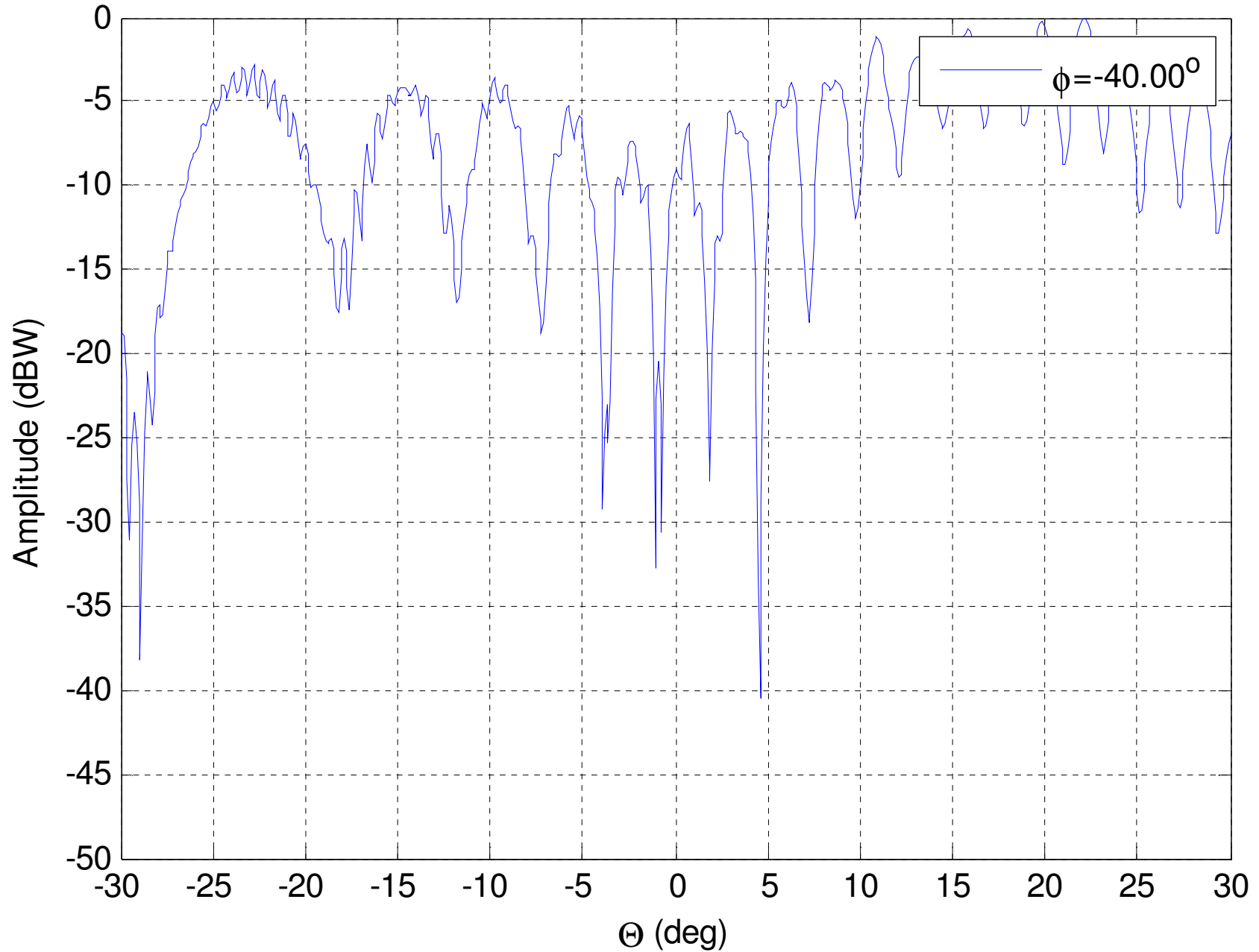
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--50.cut, Peak: -14.11 dBW, Date: 16-Dec-2011



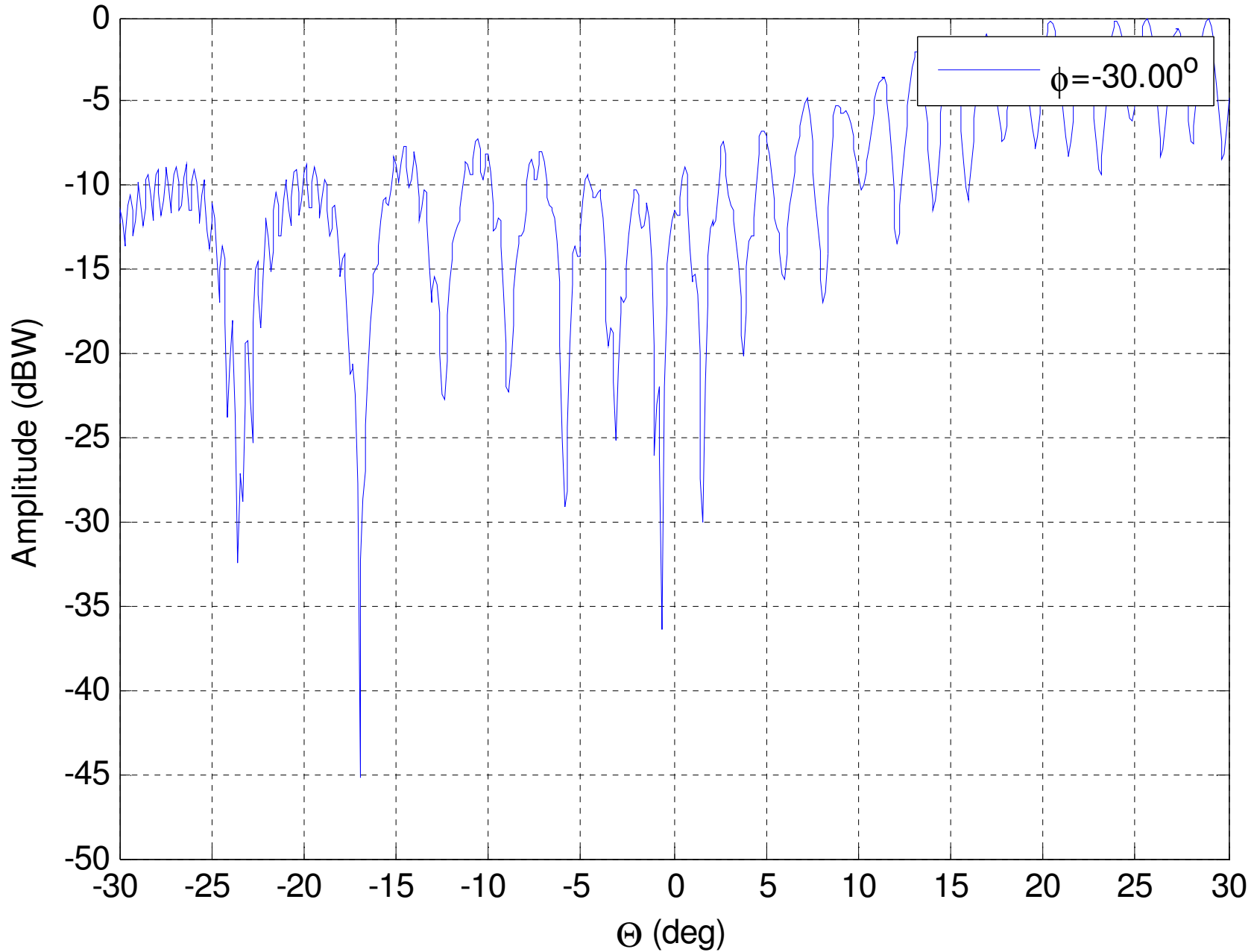
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--40.cut, Peak: -12.22 dBW, Date: 16-Dec-2011



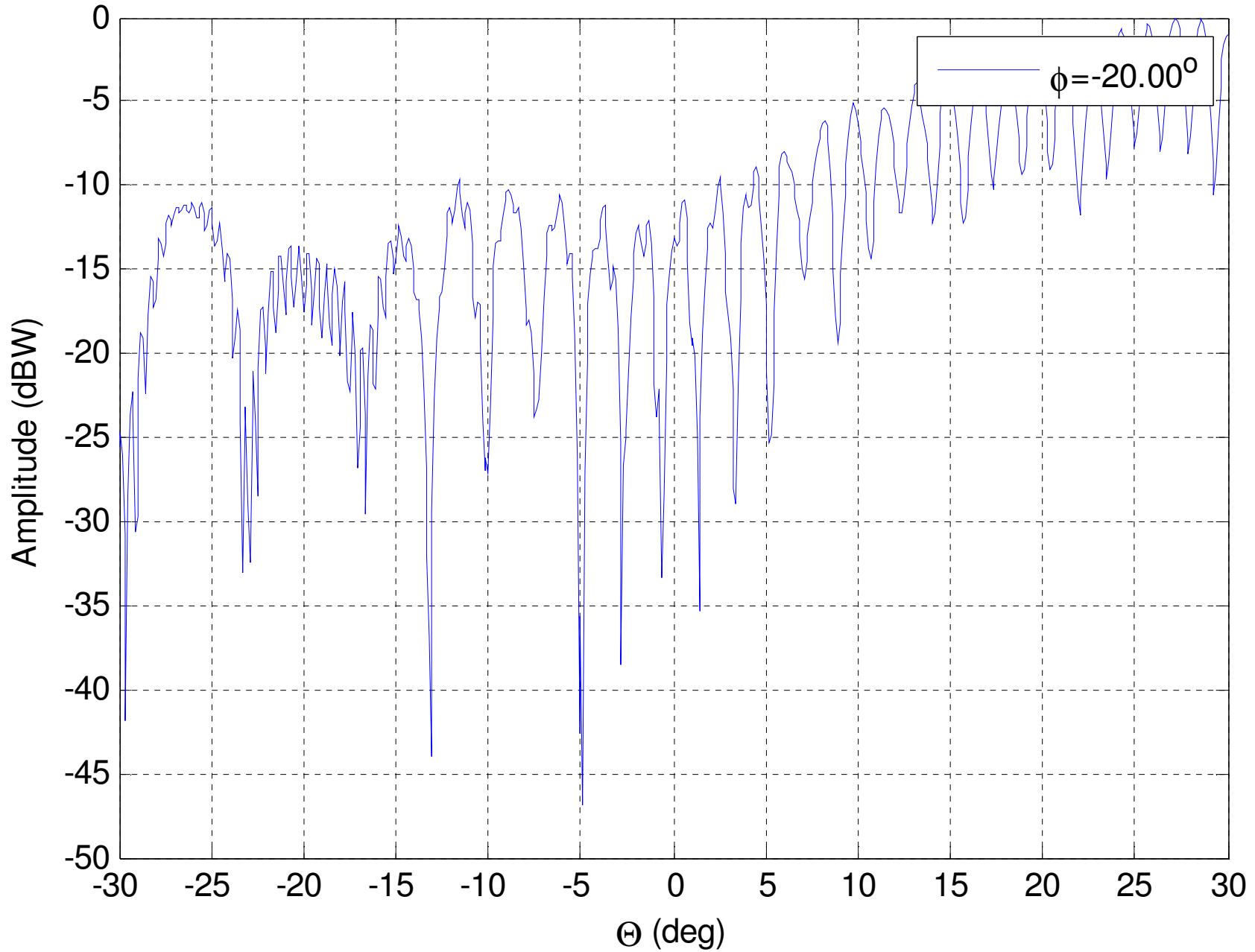
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--30.cut, Peak: -9.87 dBW, Date: 16-Dec-2011



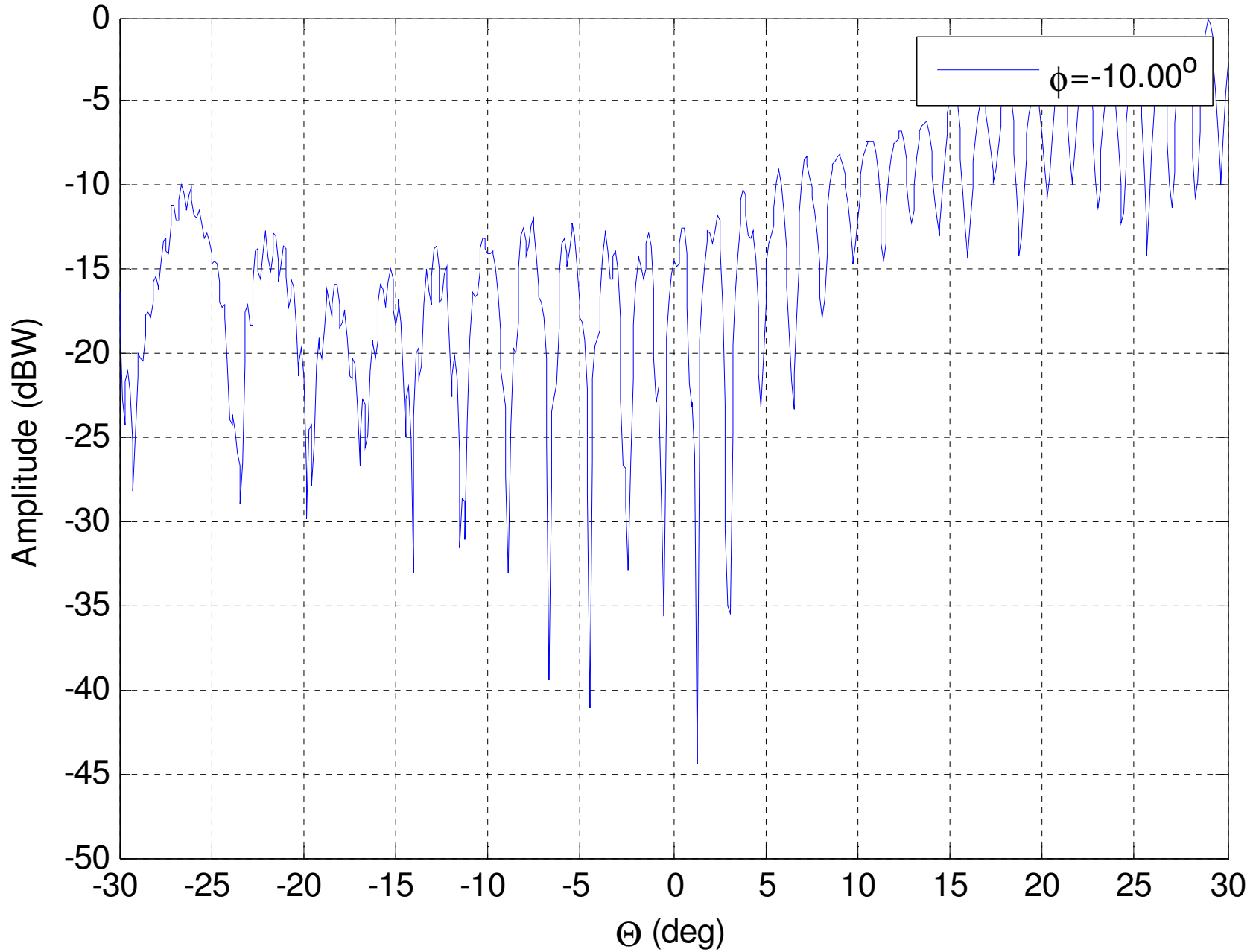
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp--20.cut, Peak: -8.11 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

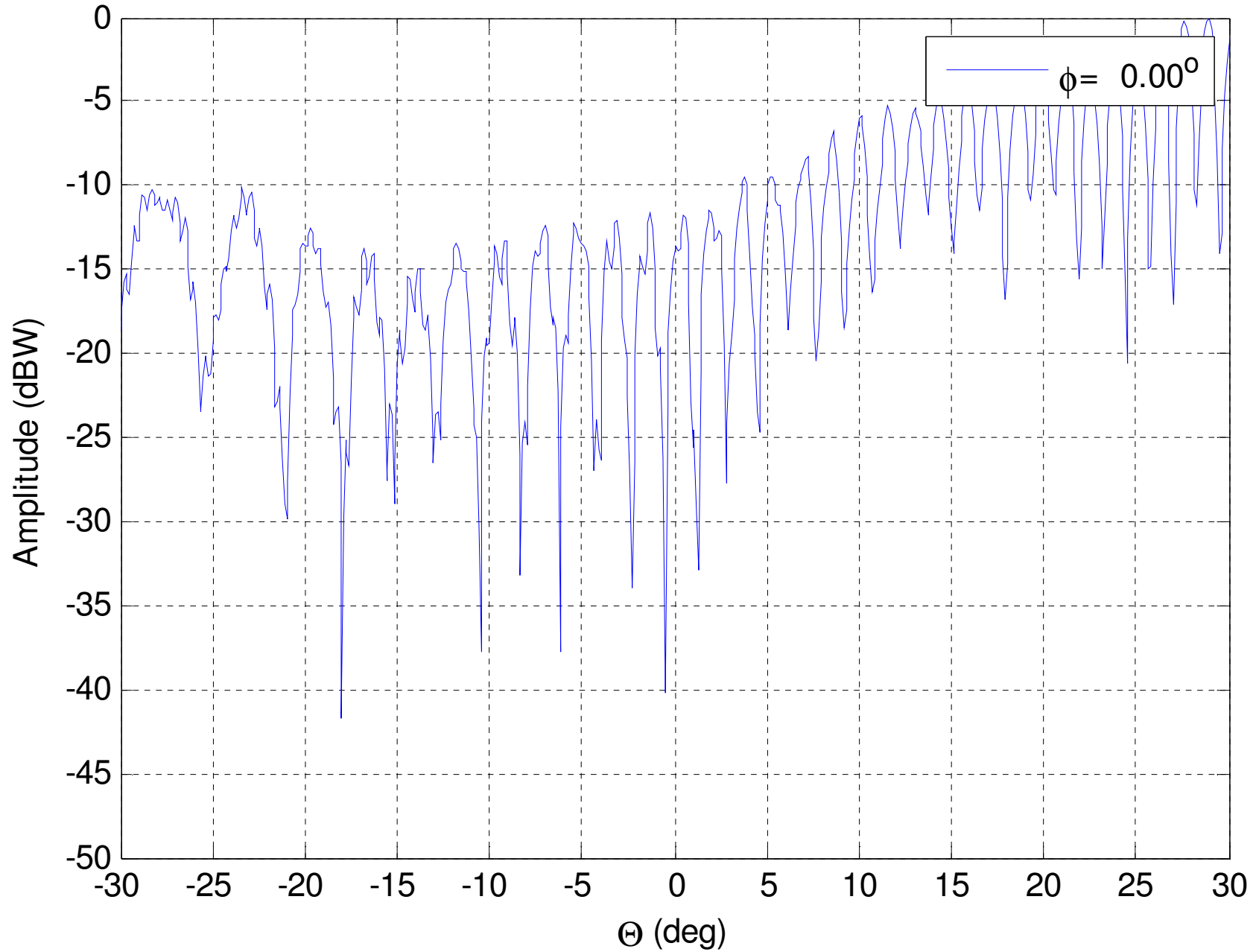
Input file: tx-17.5-rhcp--10.cut, Peak: -6.78 dBW, Date: 16-Dec-2011





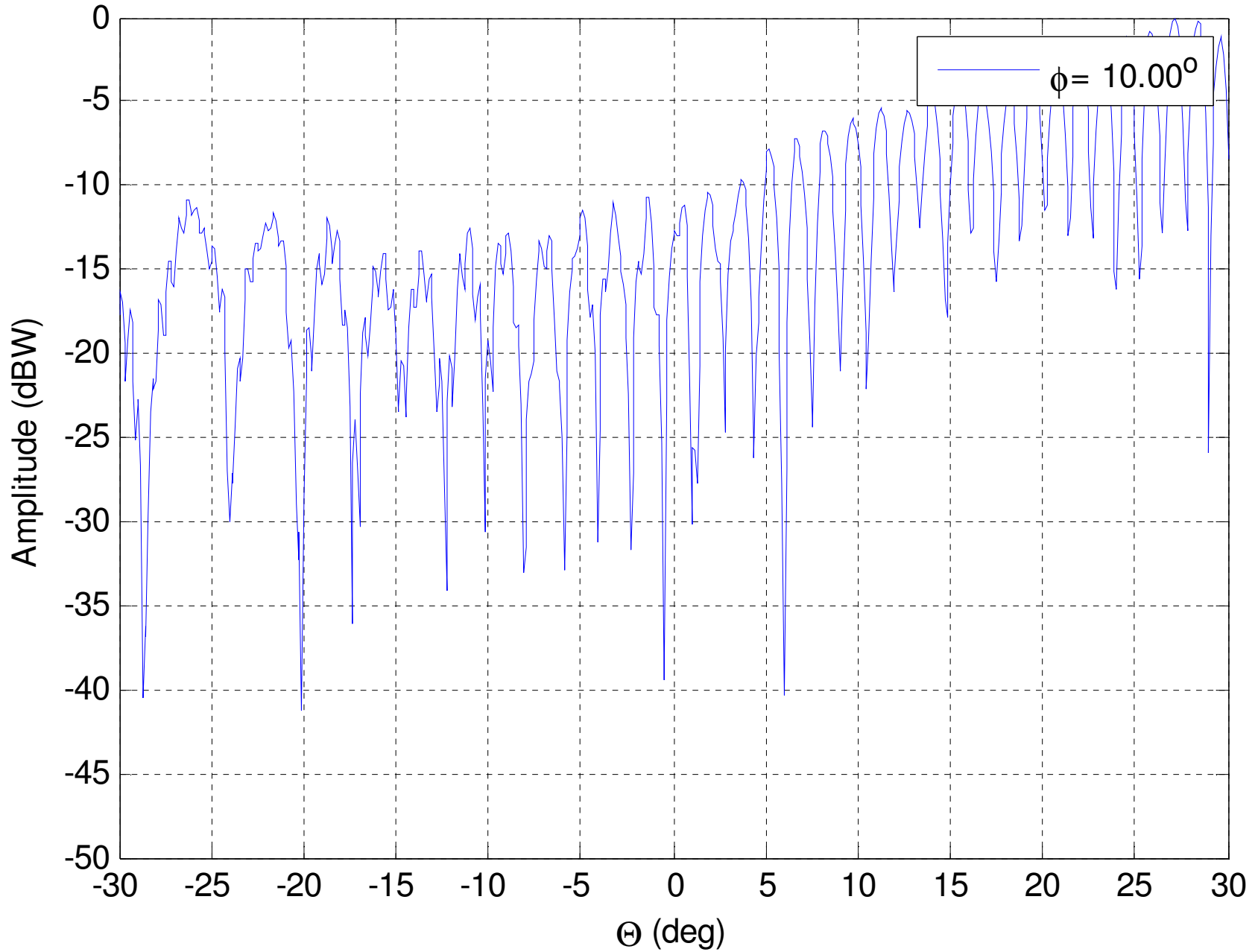
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-0.cut, Peak: -7.60 dBW, Date: 16-Dec-2011



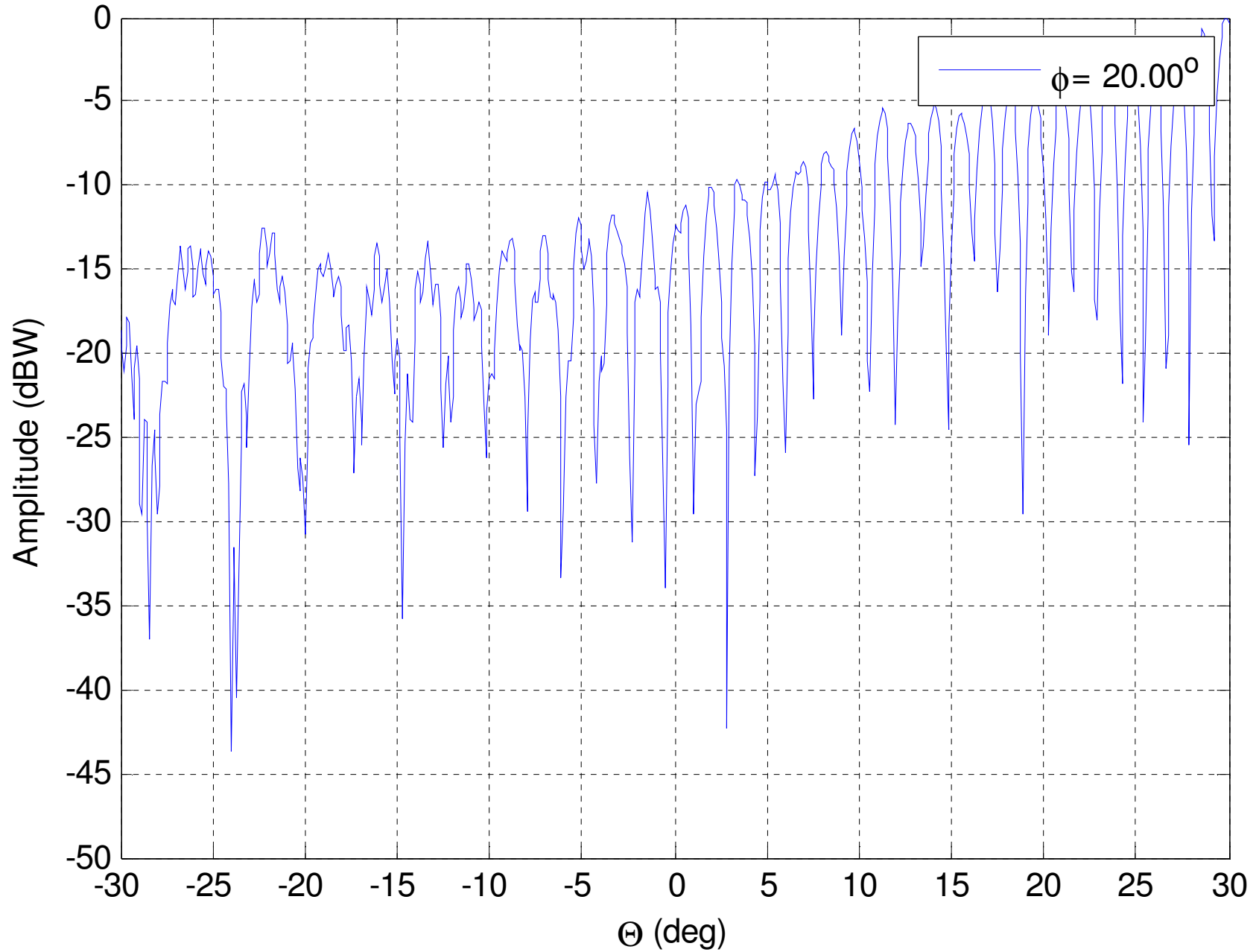
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-10.cut, Peak: -8.48 dBW, Date: 16-Dec-2011



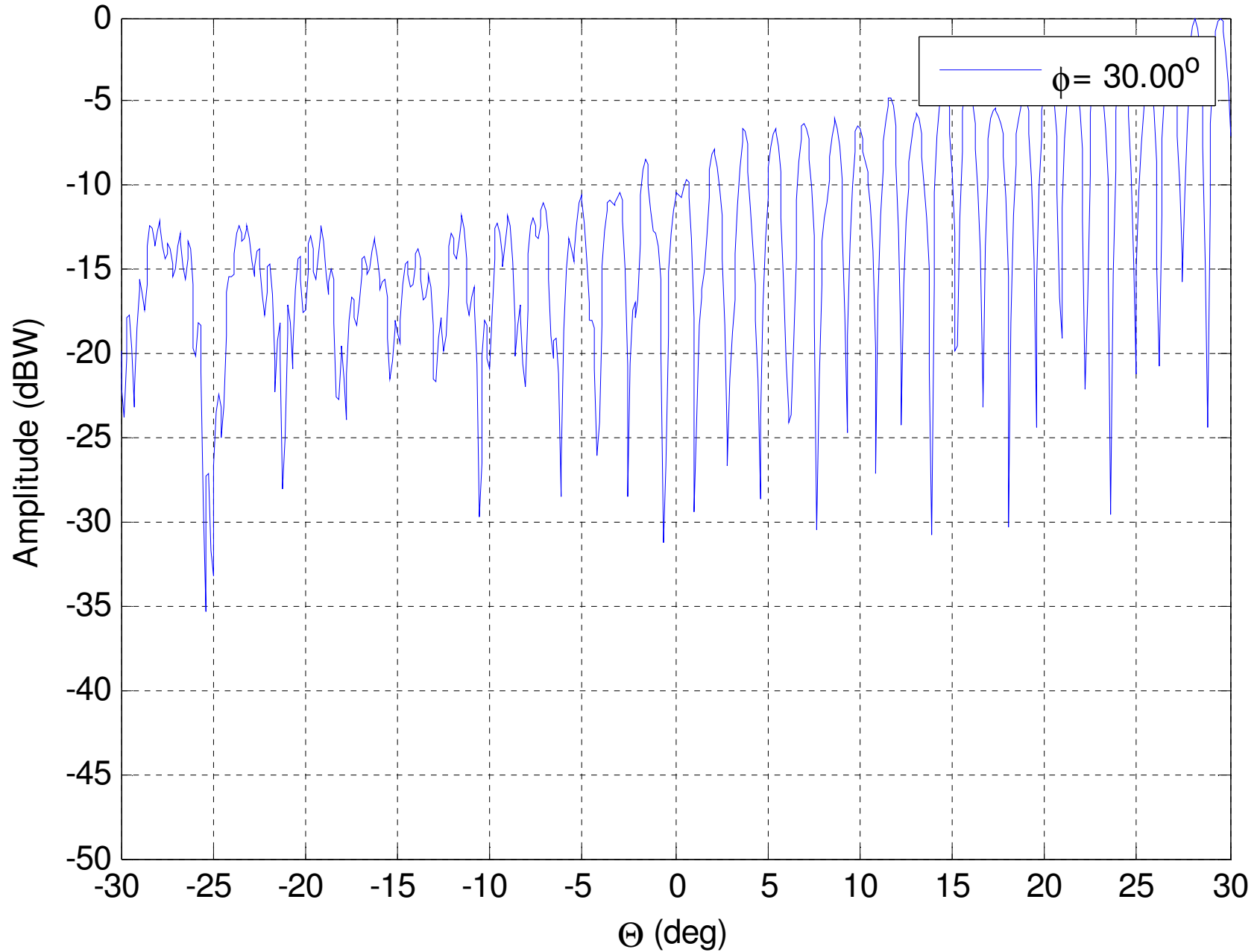
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-20.cut, Peak: -8.70 dBW, Date: 16-Dec-2011



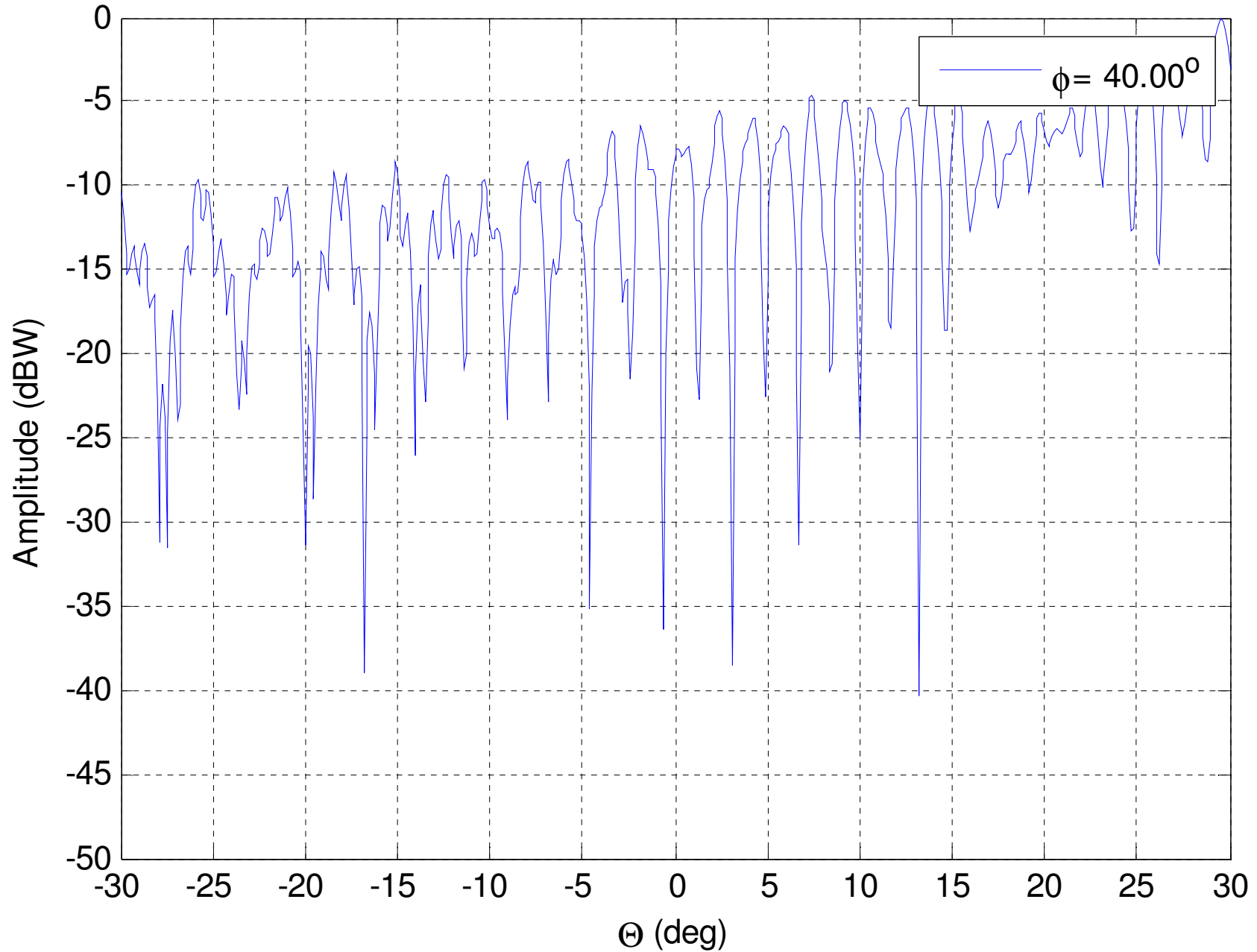
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-30.cut, Peak: -10.69 dBW, Date: 16-Dec-2011



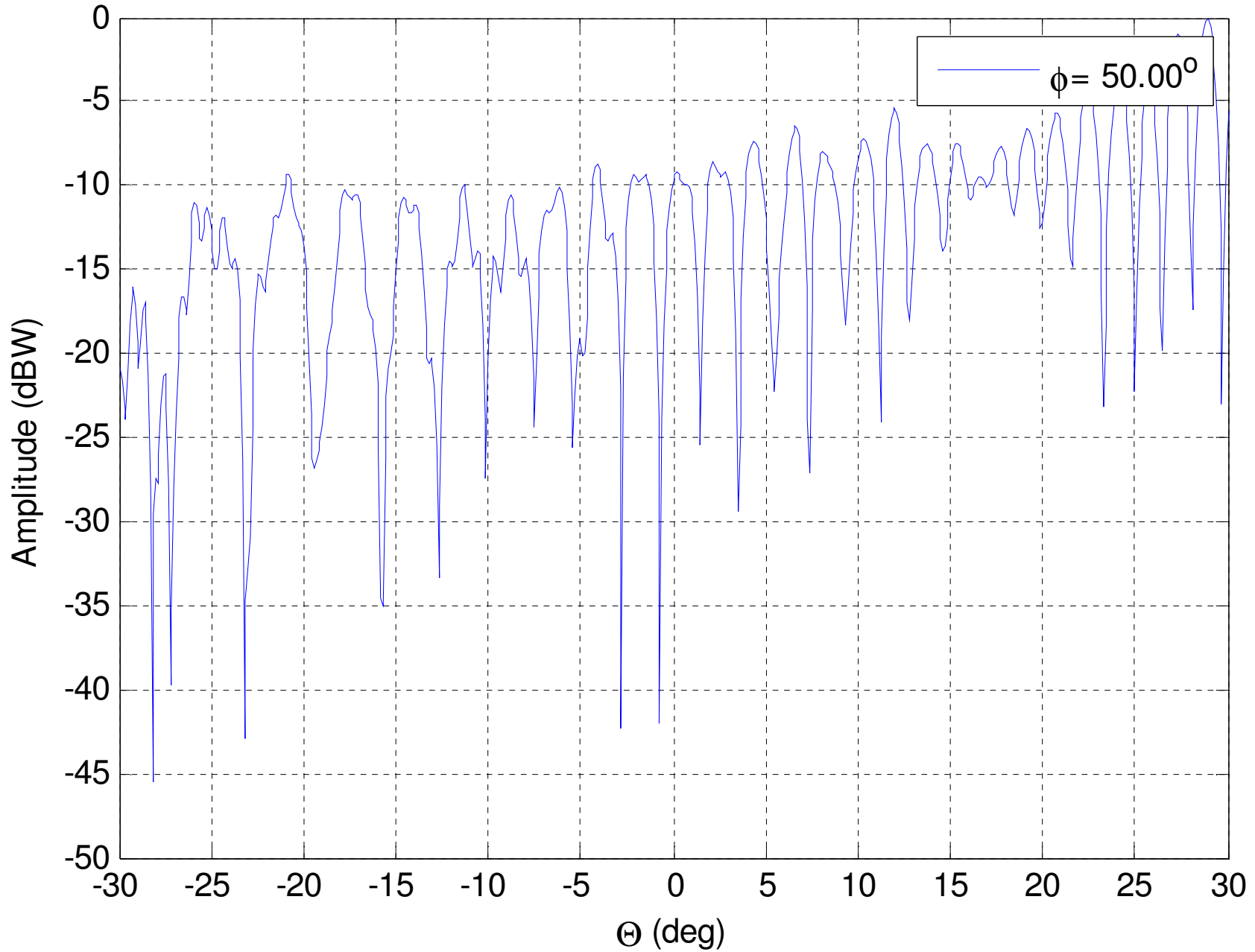
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-40.cut, Peak: -13.19 dBW, Date: 16-Dec-2011



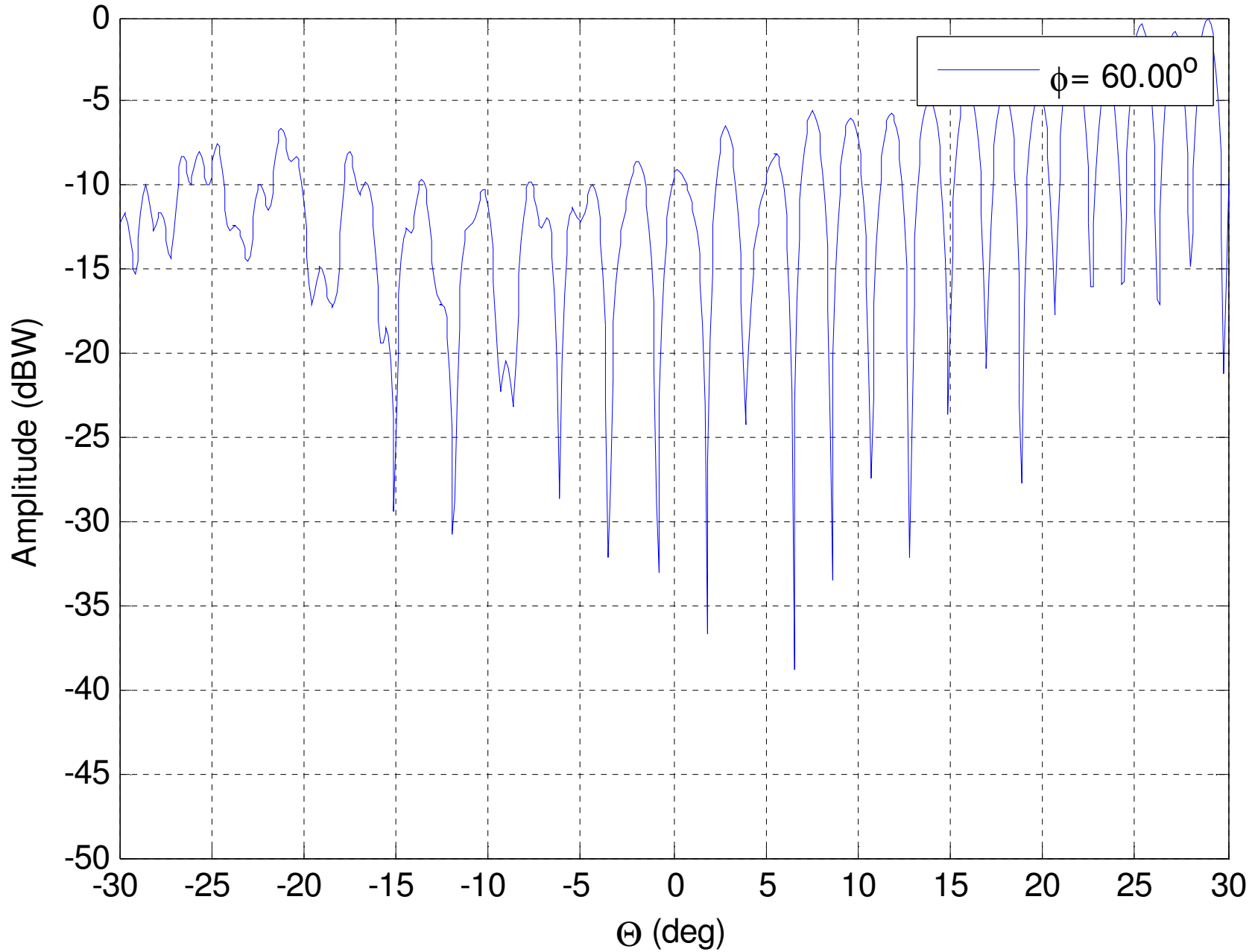
# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-50.cut, Peak: -11.69 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.5-rhcp-60.cut, Peak: -11.72 dBW, Date: 16-Dec-2011

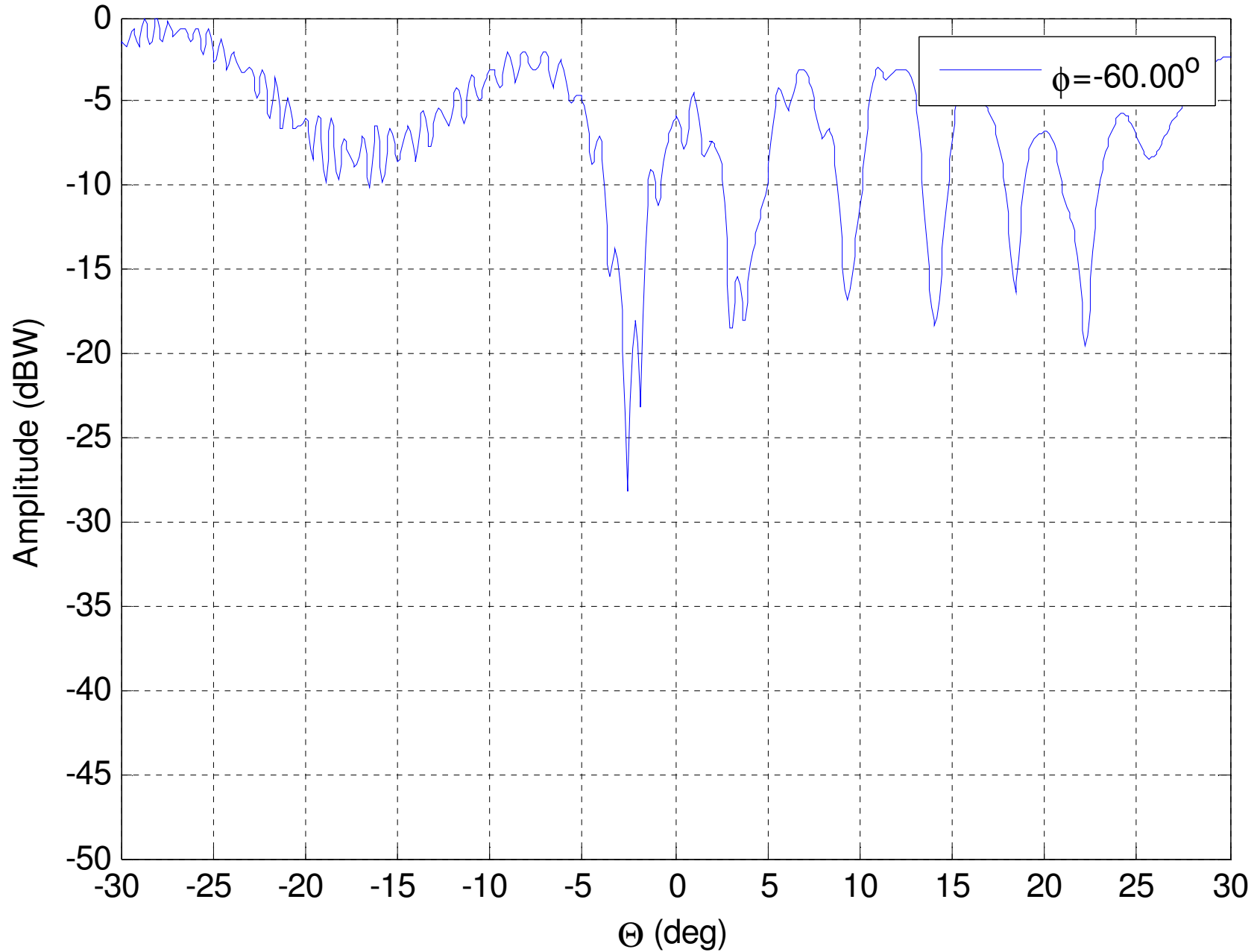


# LHCP at 17.5 GHz



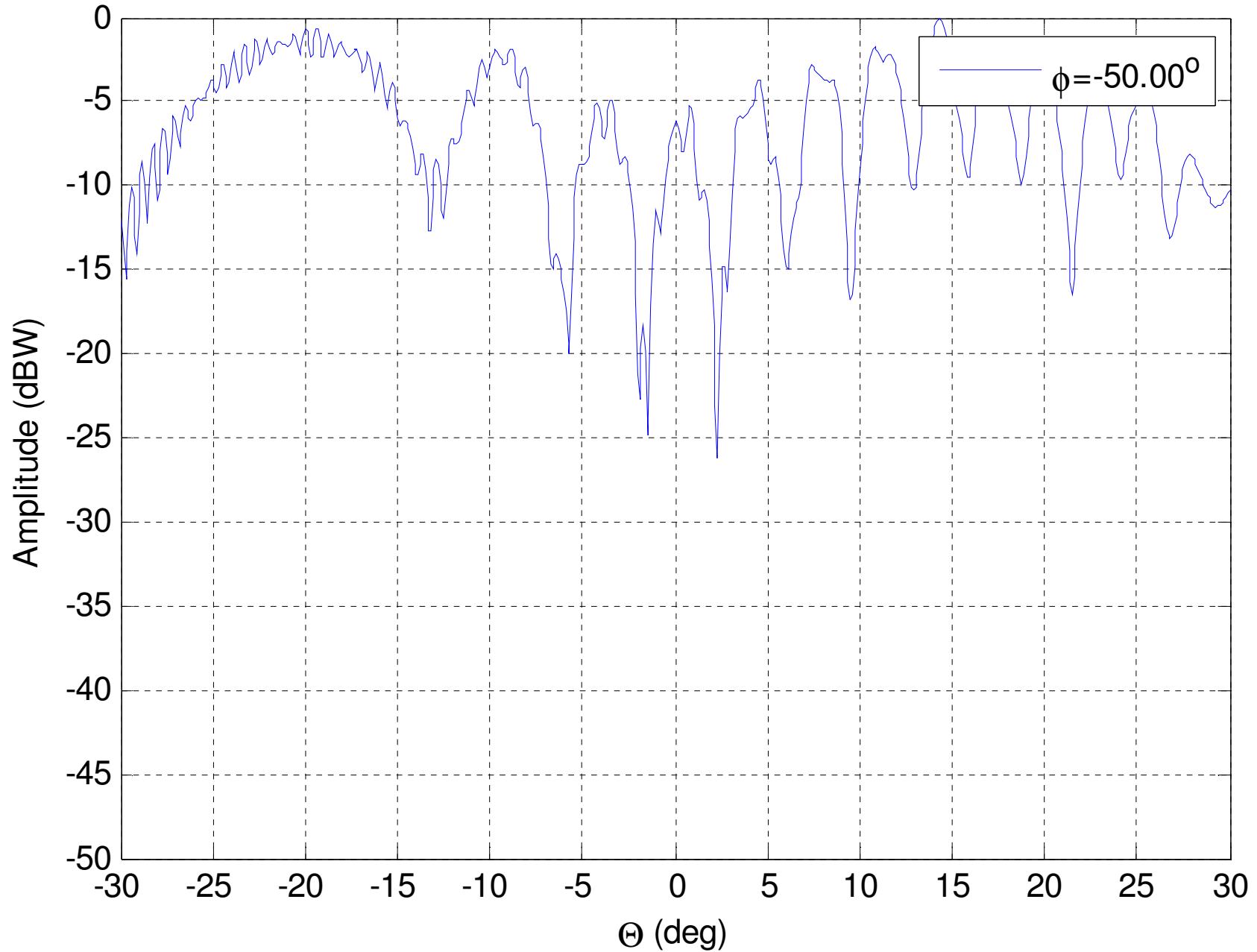
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--60.cut, Peak: -13.66 dBW, Date: 16-Dec-2011



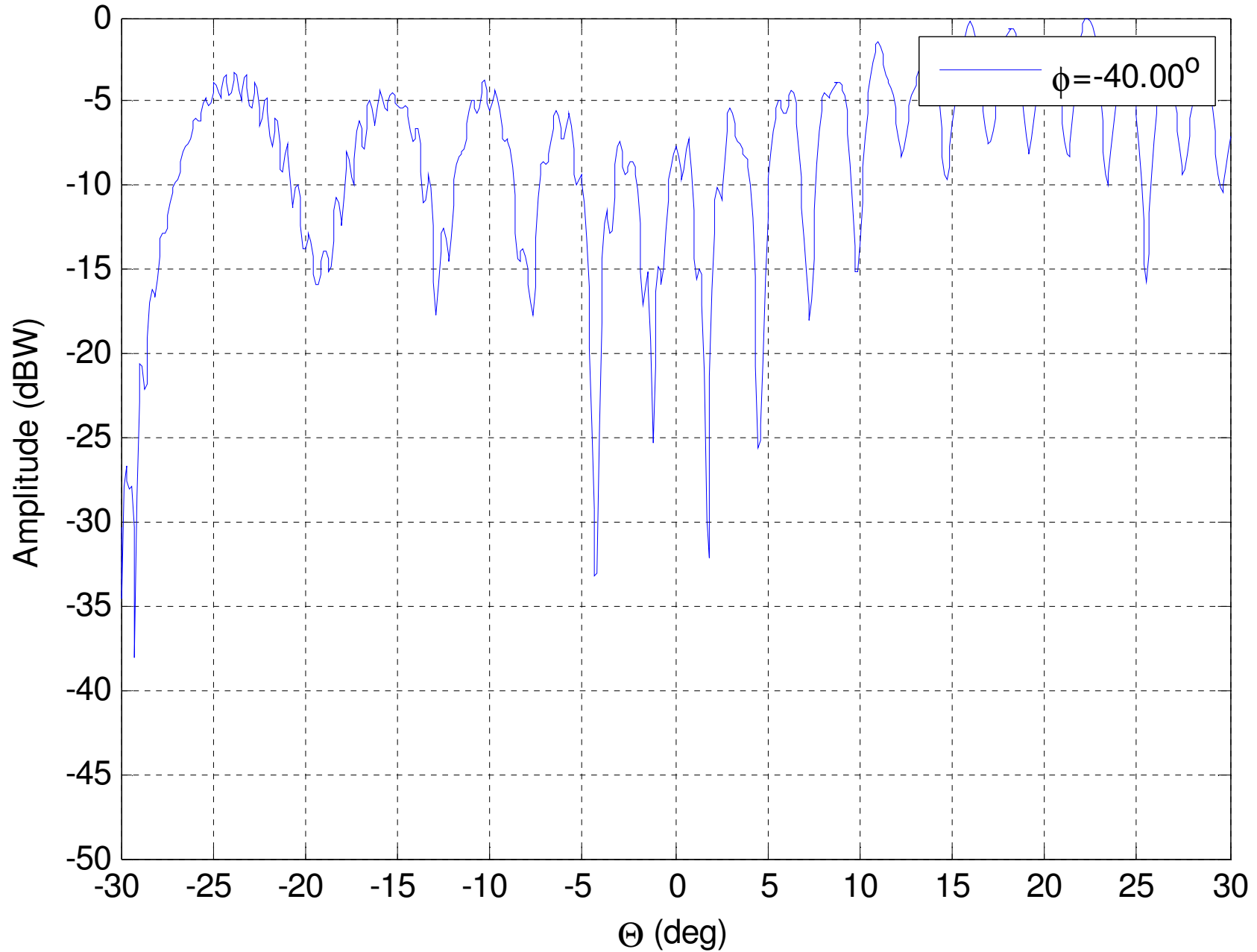
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--50.cut, Peak: -13.40 dBW, Date: 16-Dec-2011



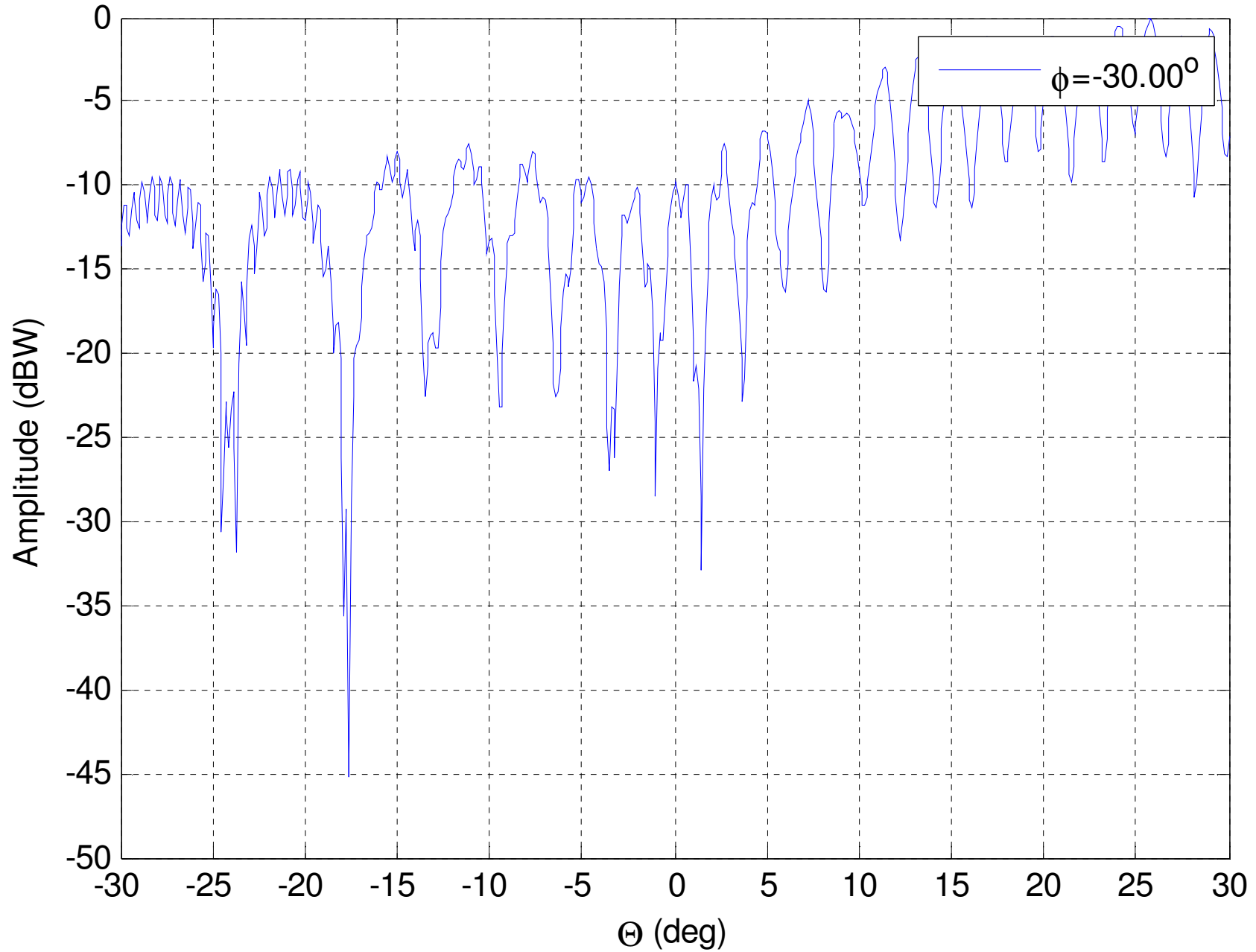
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--40.cut, Peak: -11.90 dBW, Date: 16-Dec-2011



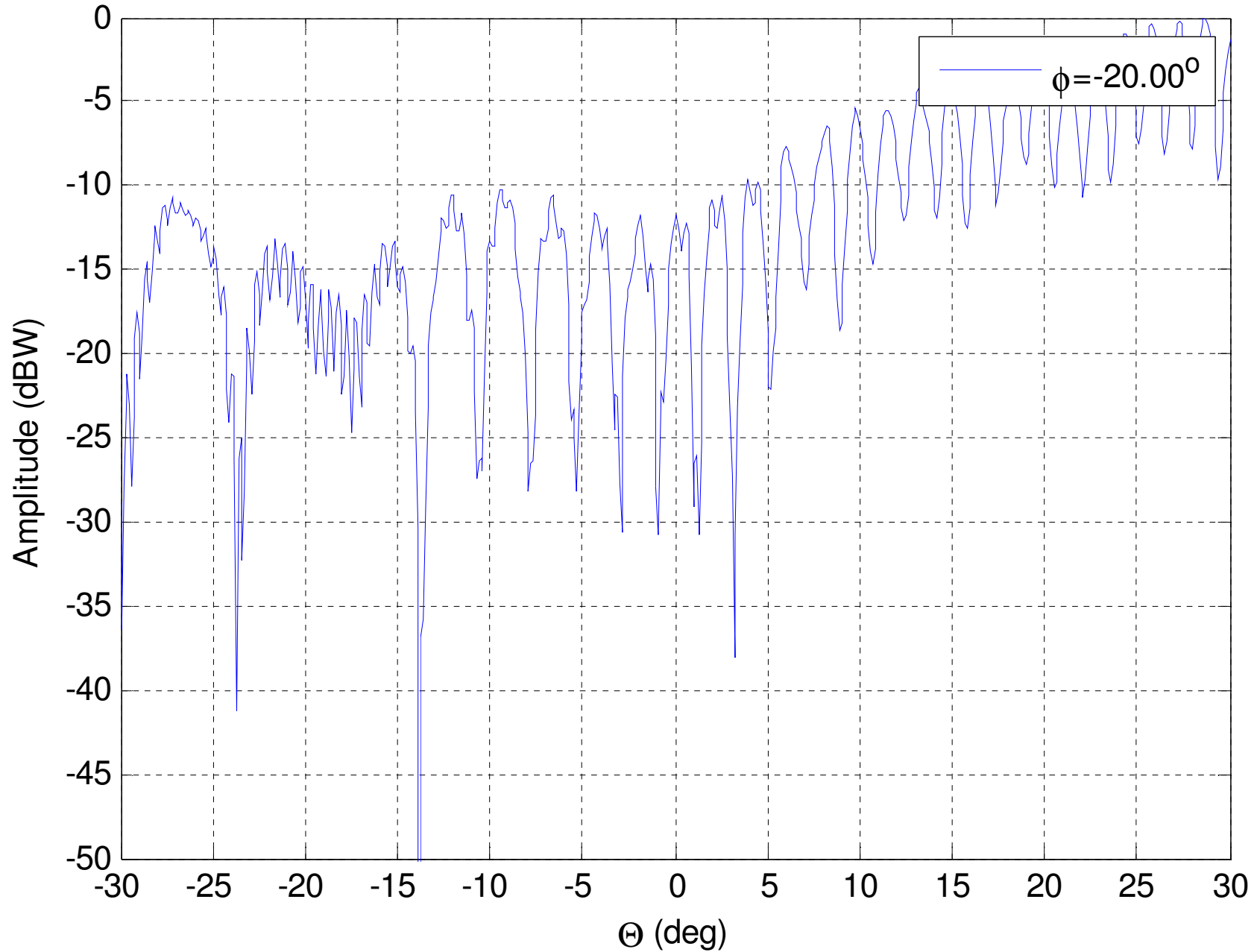
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--30.cut, Peak: -9.72 dBW, Date: 16-Dec-2011



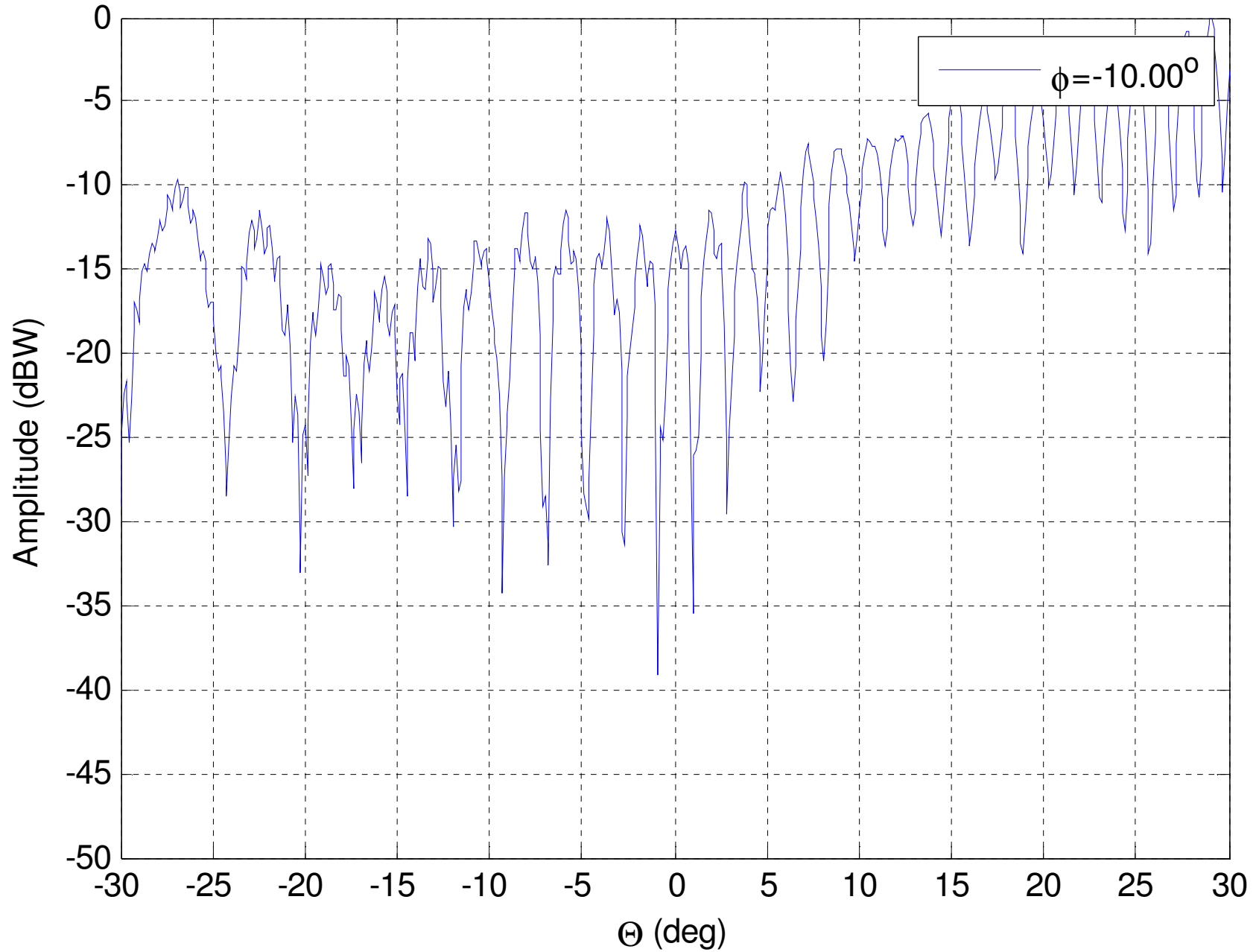
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--20.cut, Peak: -7.82 dBW, Date: 16-Dec-2011



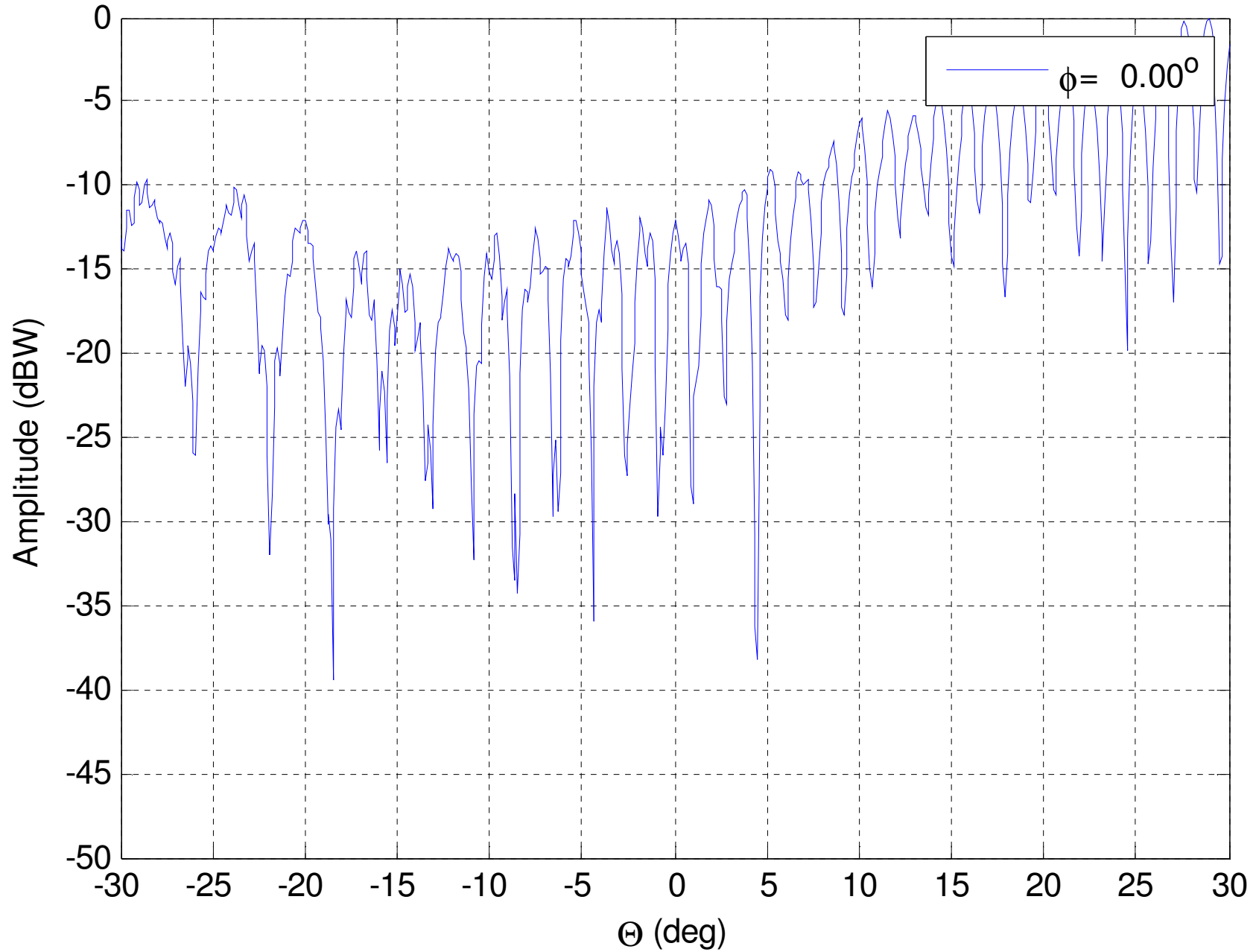
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp--10.cut, Peak: -6.93 dBW, Date: 16-Dec-2011



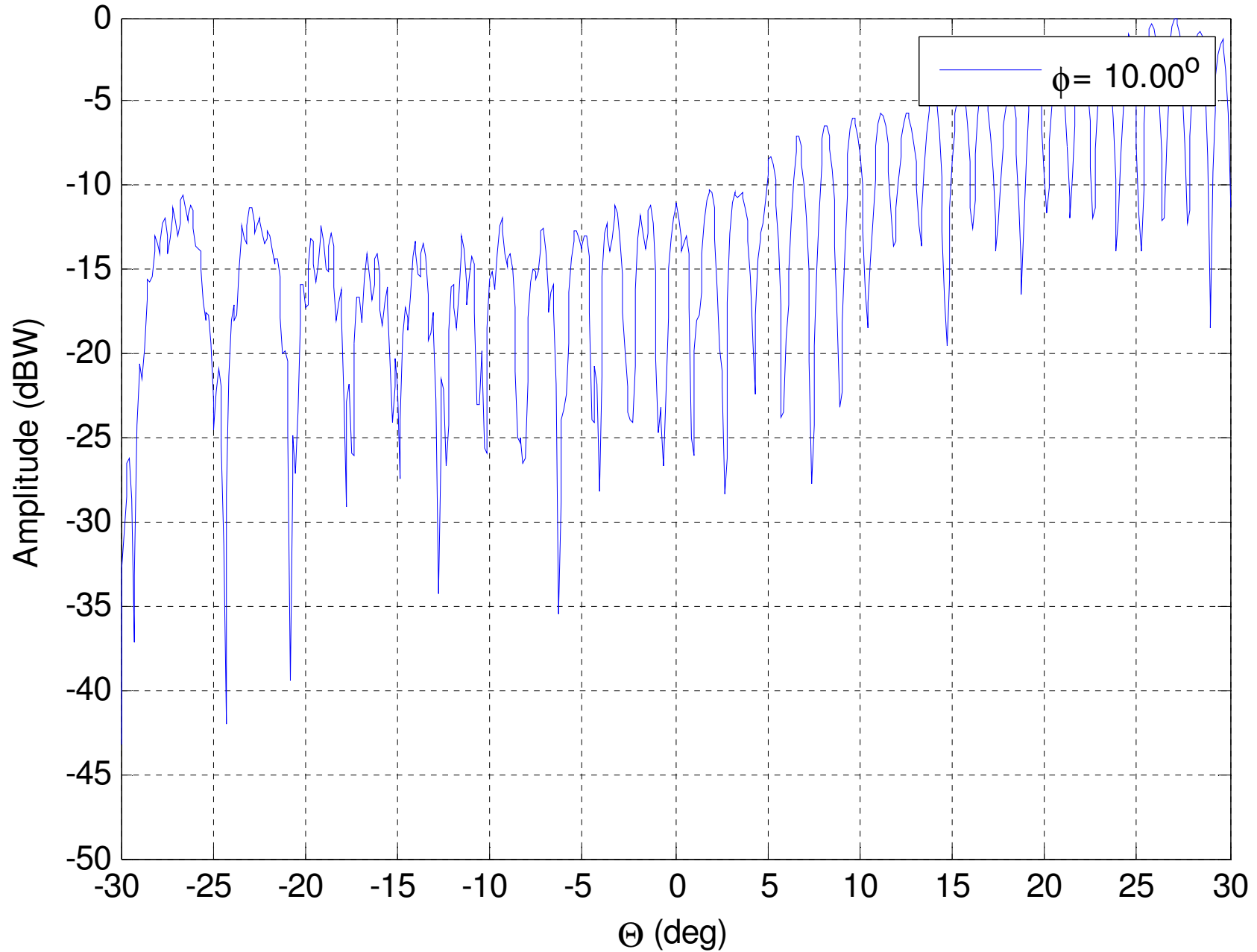
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-0.cut, Peak: -7.56 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

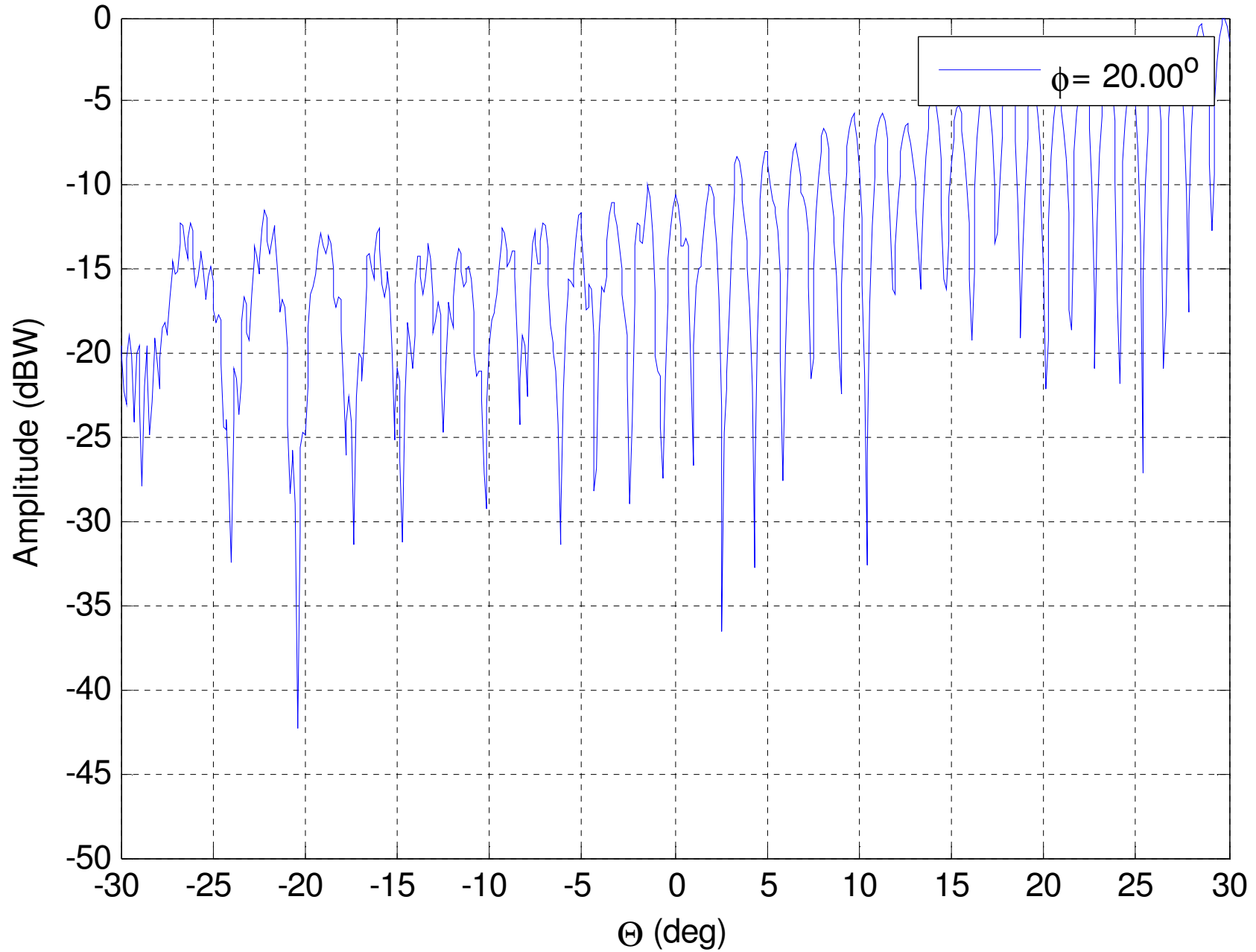
Input file: tx-17.5-lhcp-10.cut, Peak: -8.51 dBW, Date: 16-Dec-2011





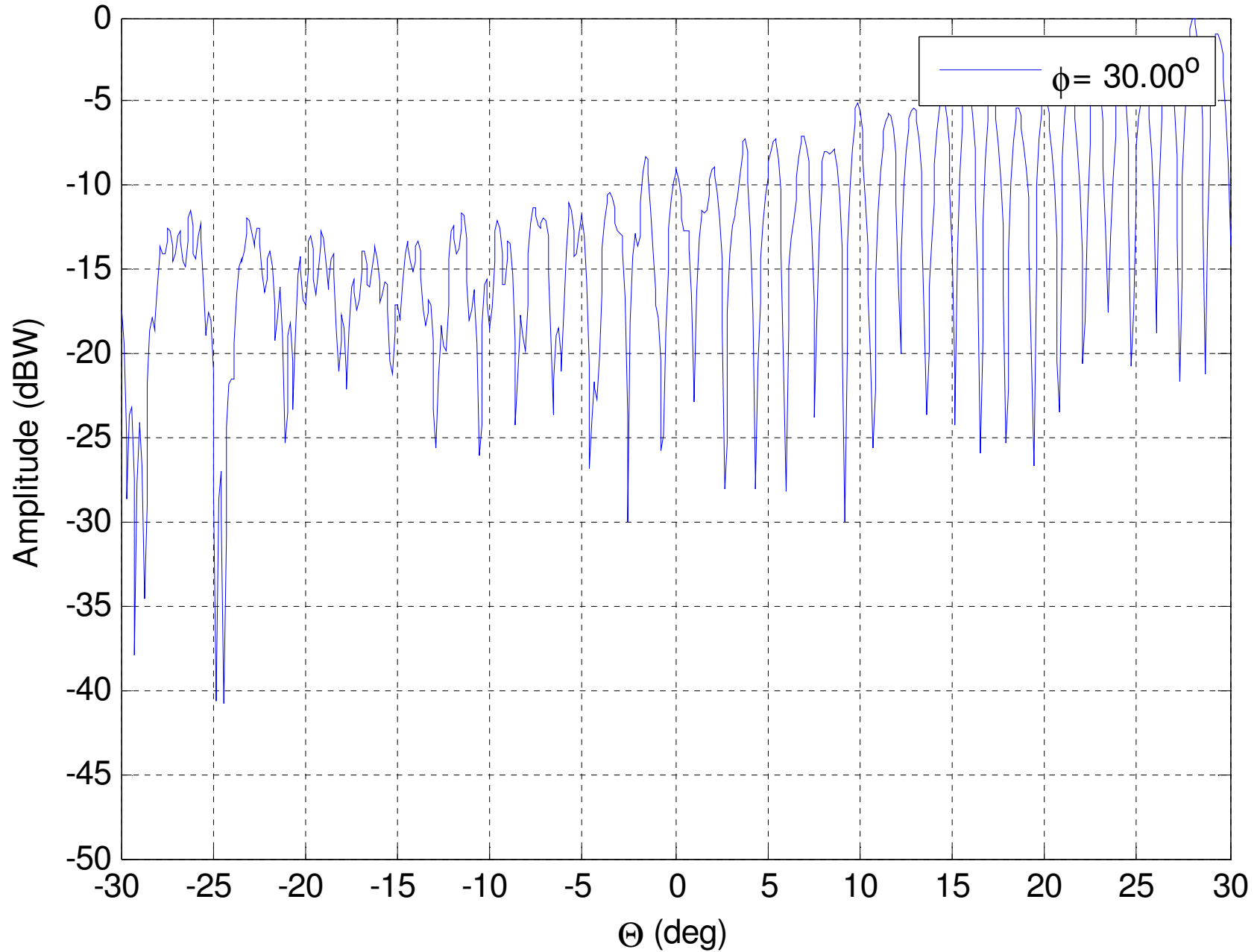
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-20.cut, Peak: -9.06 dBW, Date: 16-Dec-2011



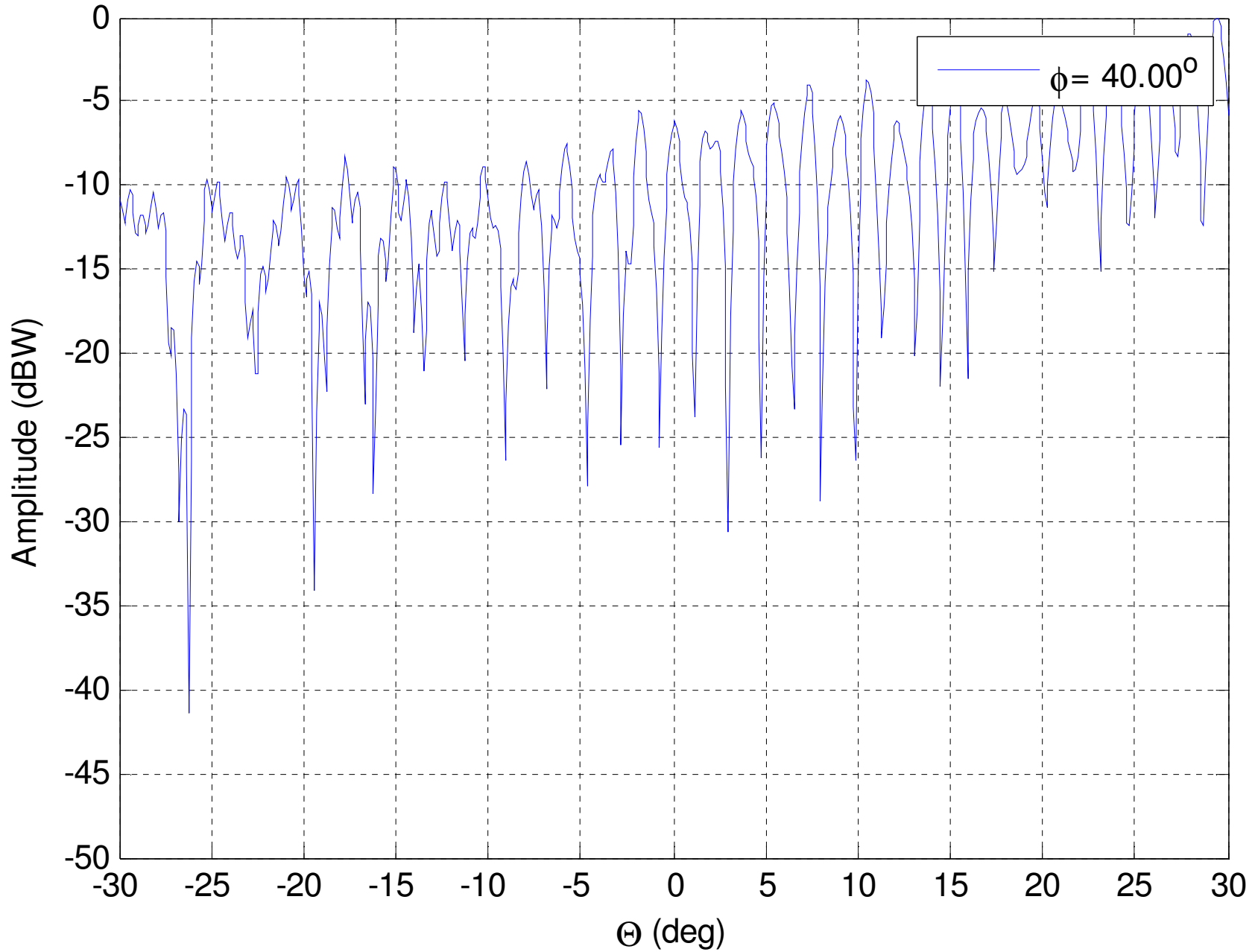
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-30.cut, Peak: -10.49 dBW, Date: 16-Dec-2011



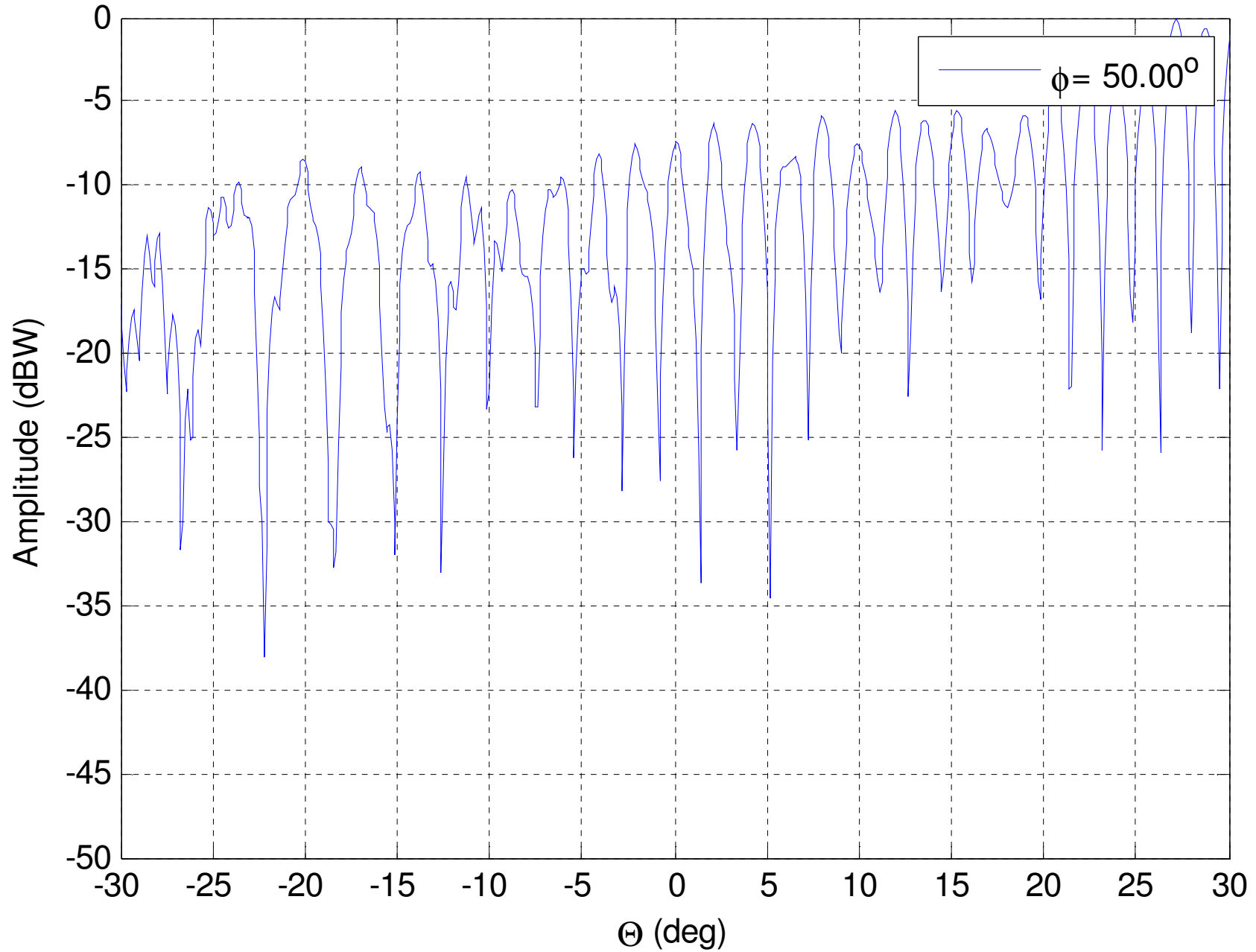
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-40.cut, Peak: -13.31 dBW, Date: 16-Dec-2011



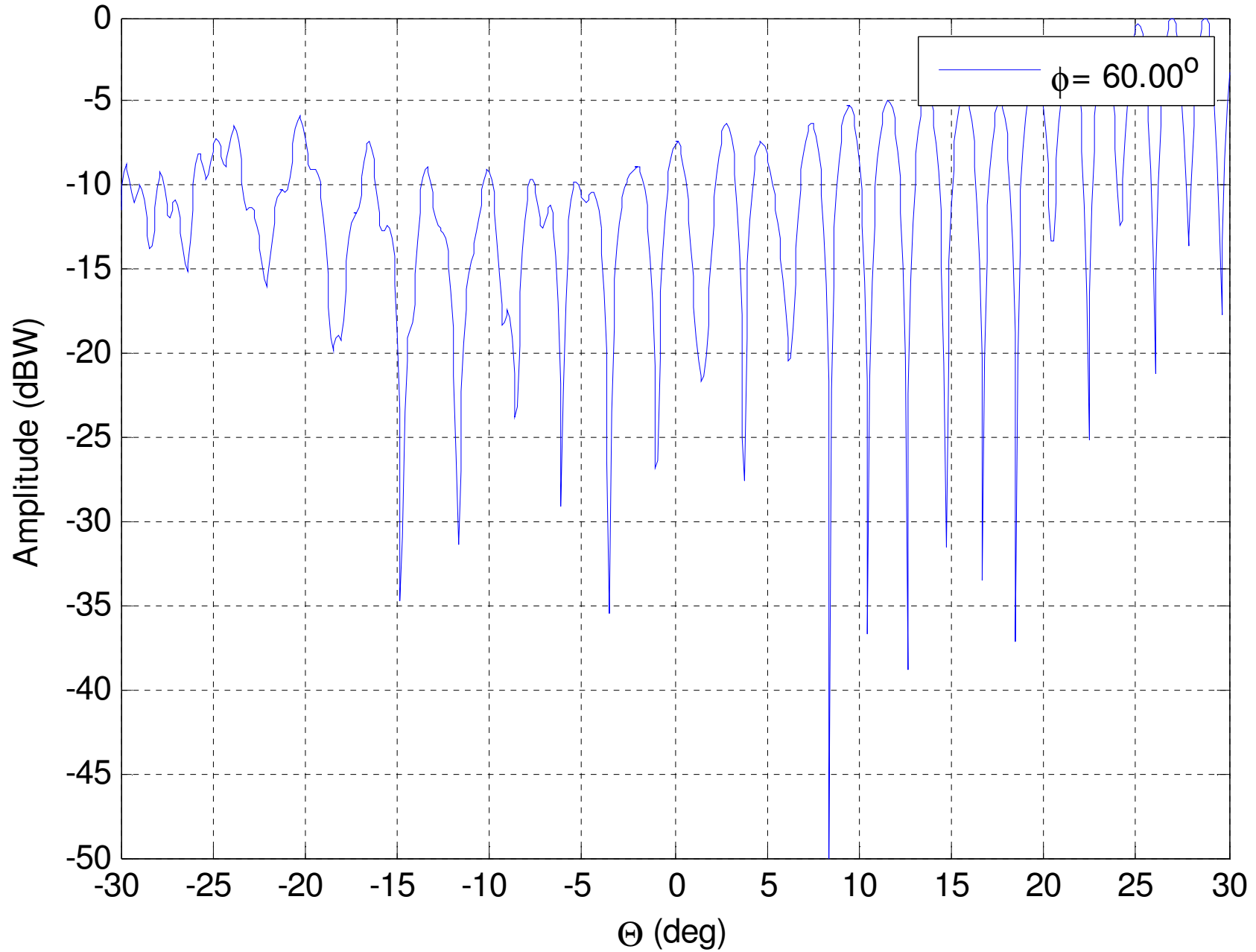
# Normalized pattern cuts - farfield

Input file: tx-17.5-lhcp-50.cut, Peak: -12.16 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

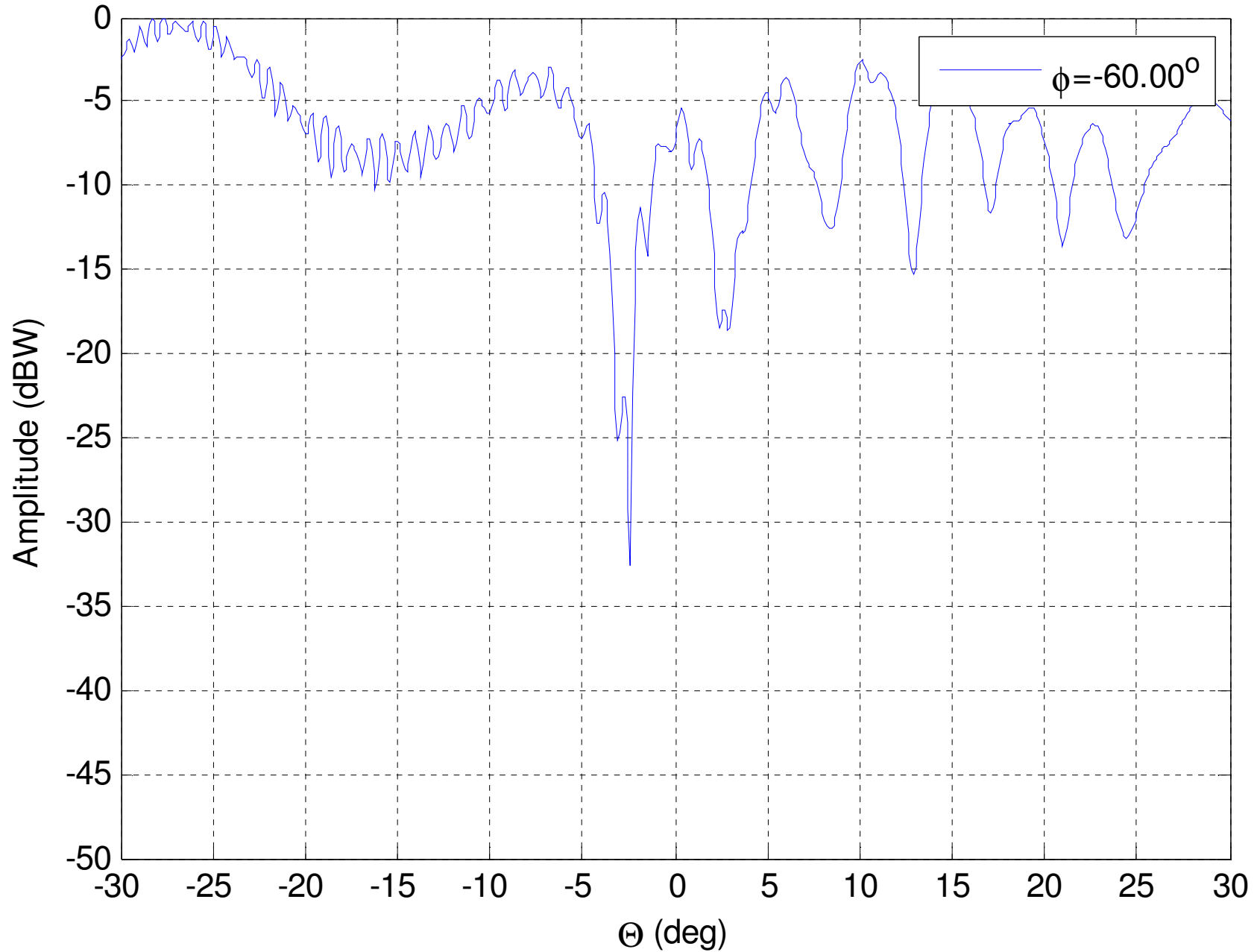
Input file: tx-17.5-lhcp-60.cut, Peak: -12.14 dBW, Date: 16-Dec-2011



# RHCP at 17.7 GHz

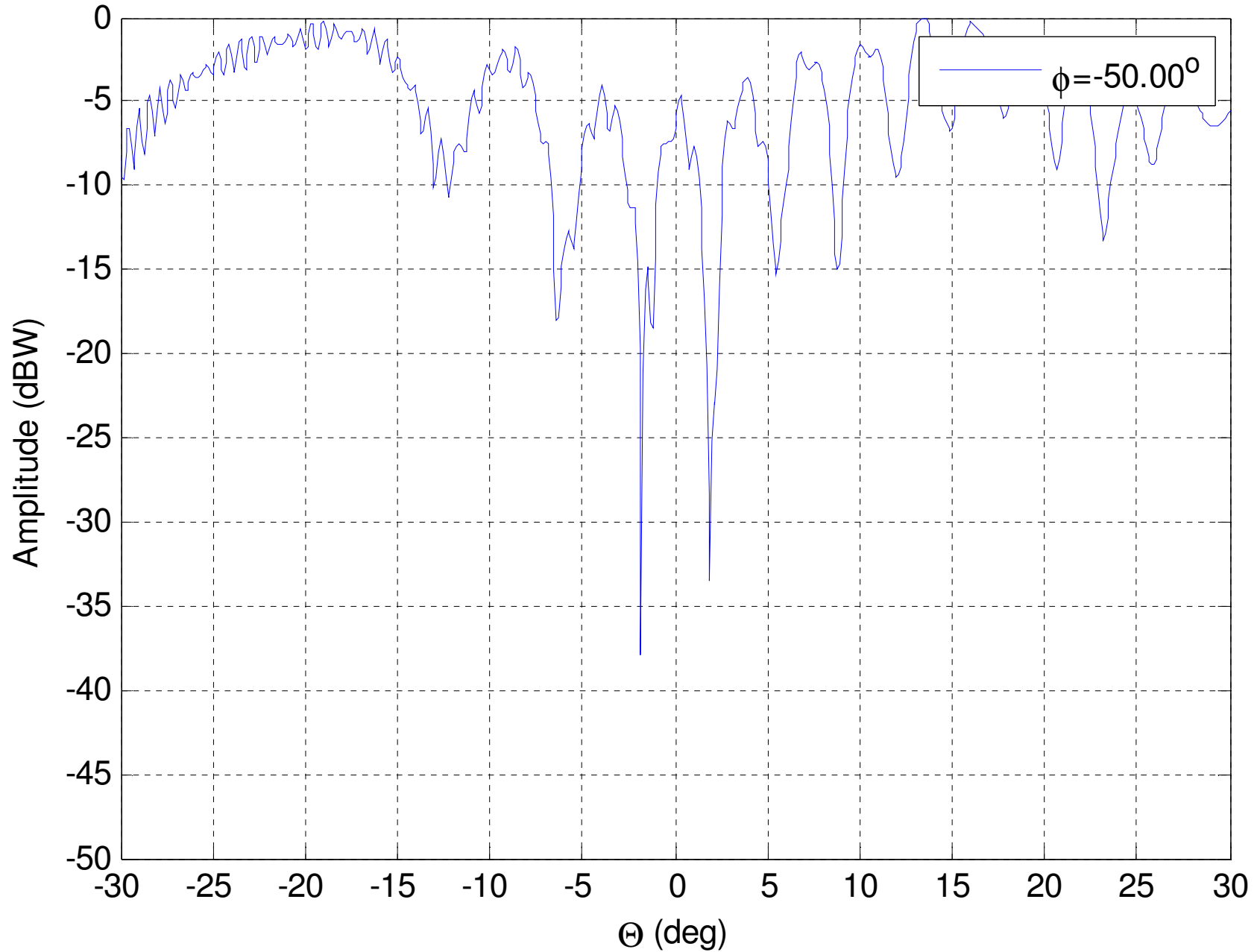
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--60.cut, Peak: -13.45 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

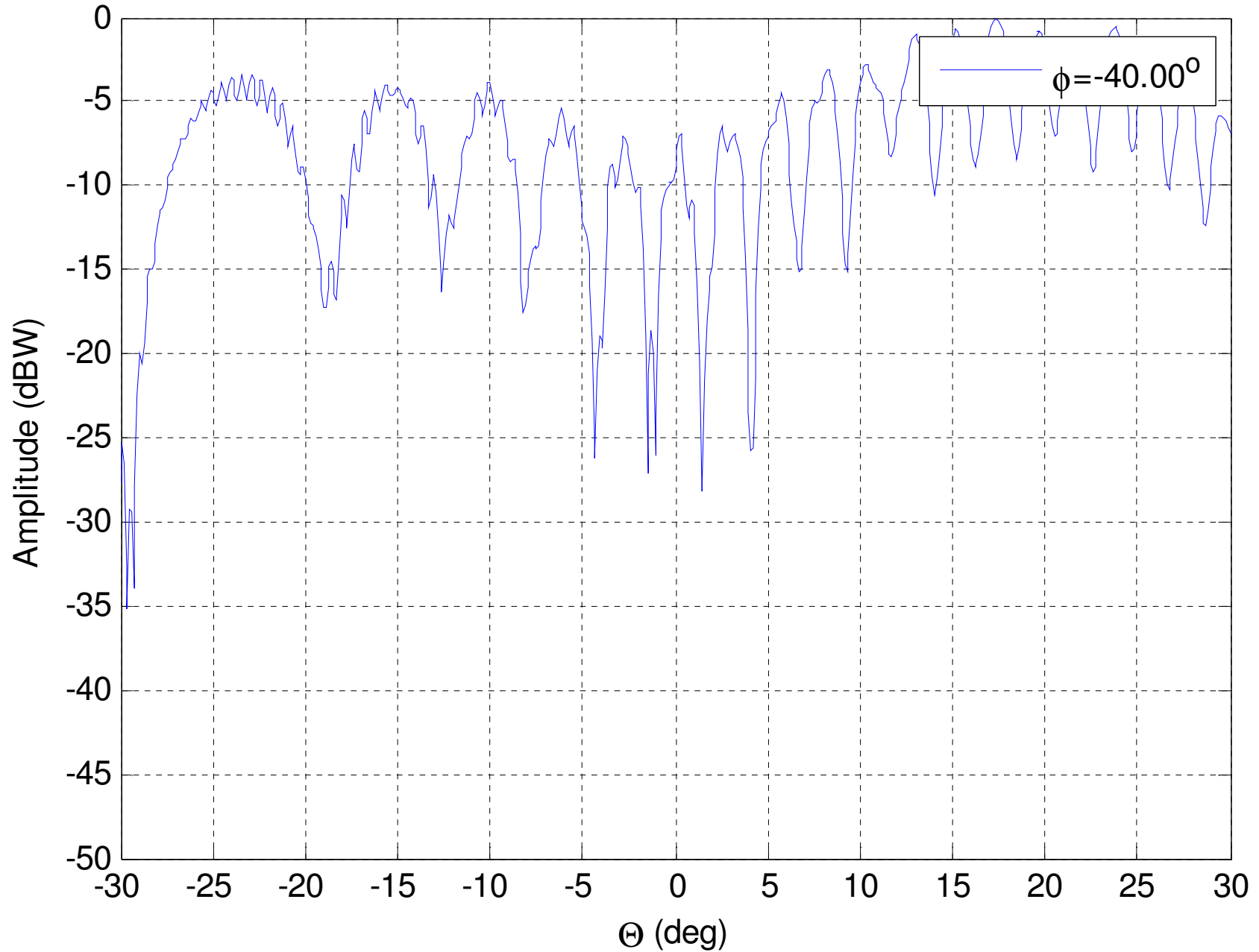
Input file: tx-17.7-rhcp--50.cut, Peak: -14.16 dBW, Date: 16-Dec-2011





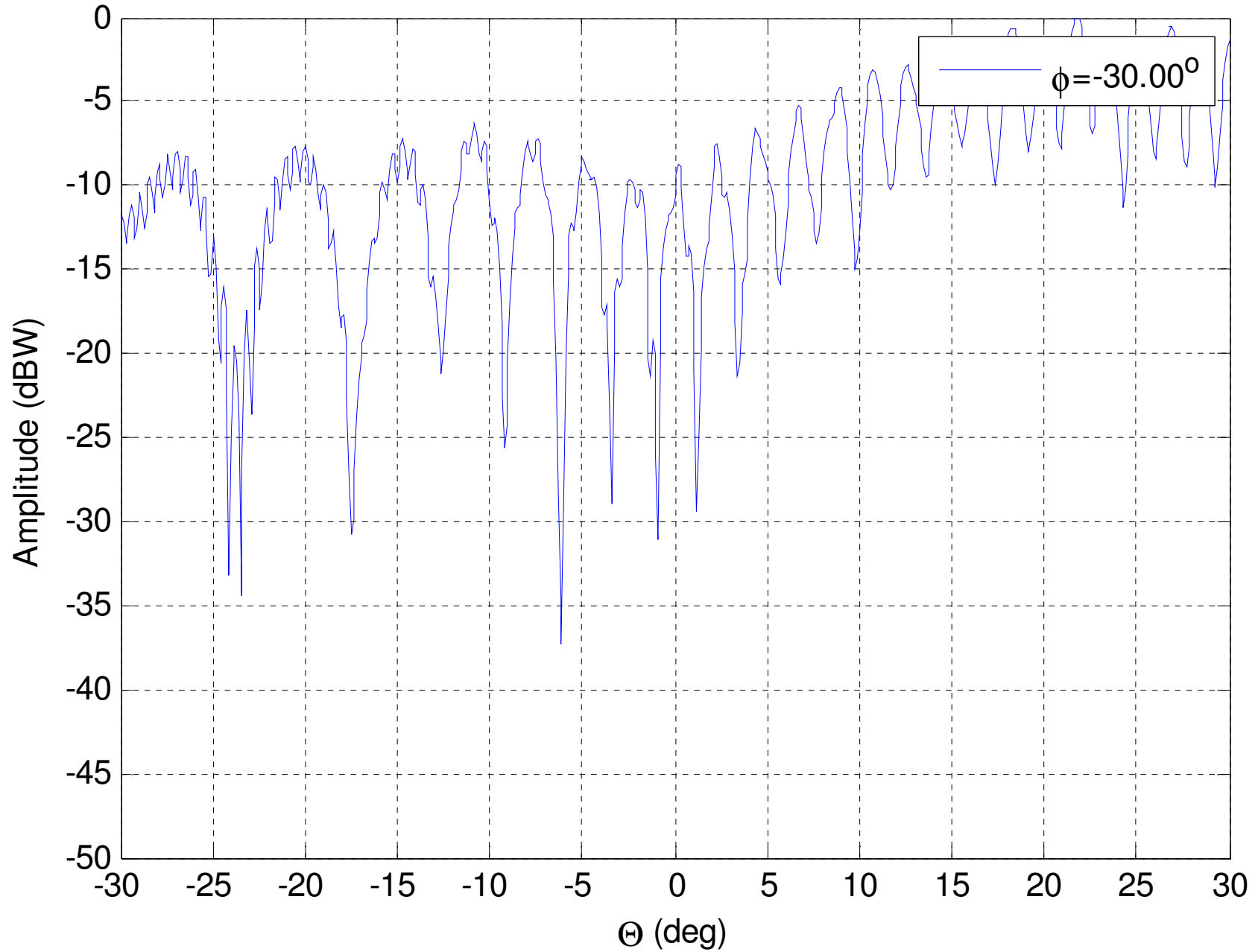
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--40.cut, Peak: -11.97 dBW, Date: 16-Dec-2011



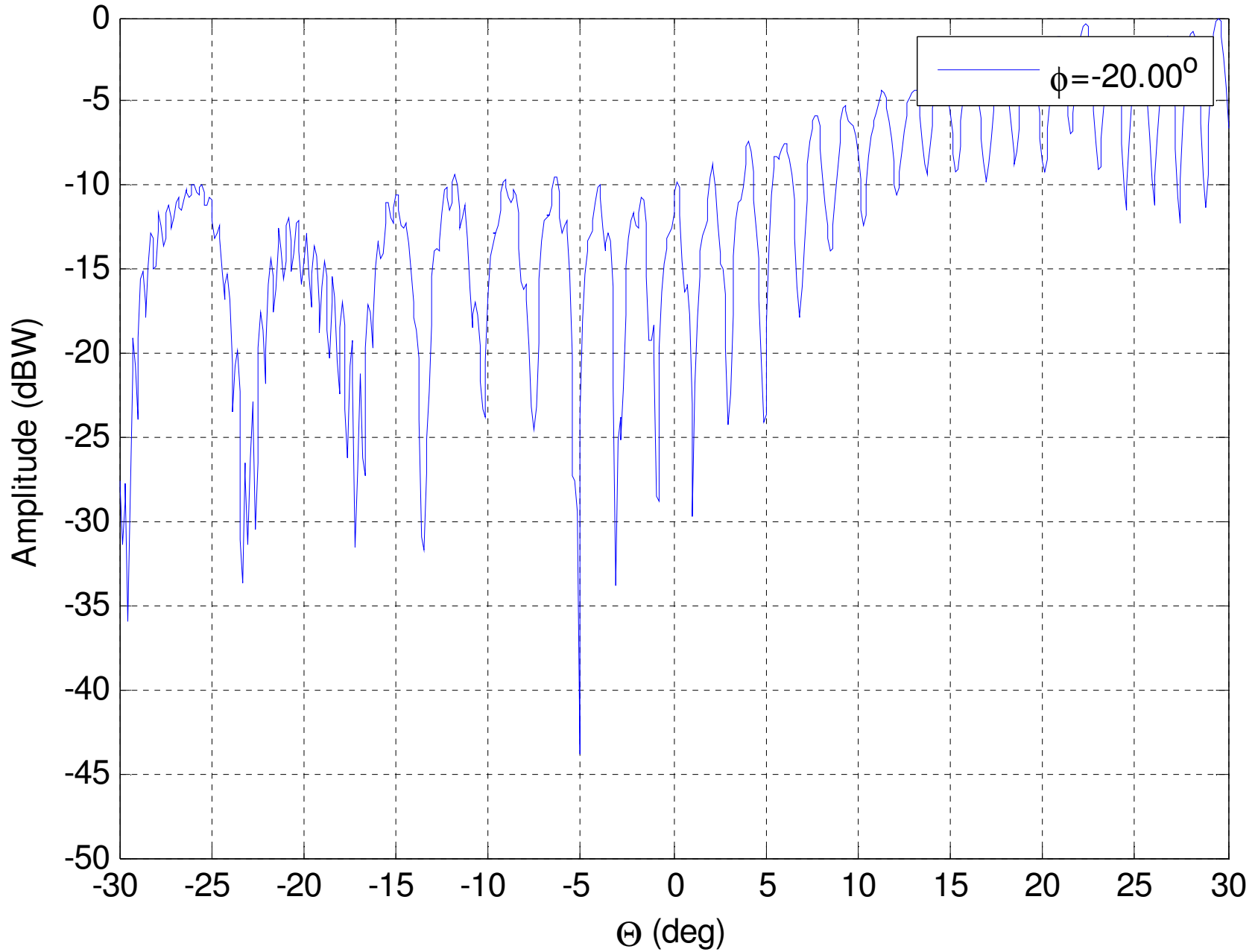
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--30.cut, Peak: -10.27 dBW, Date: 16-Dec-2011



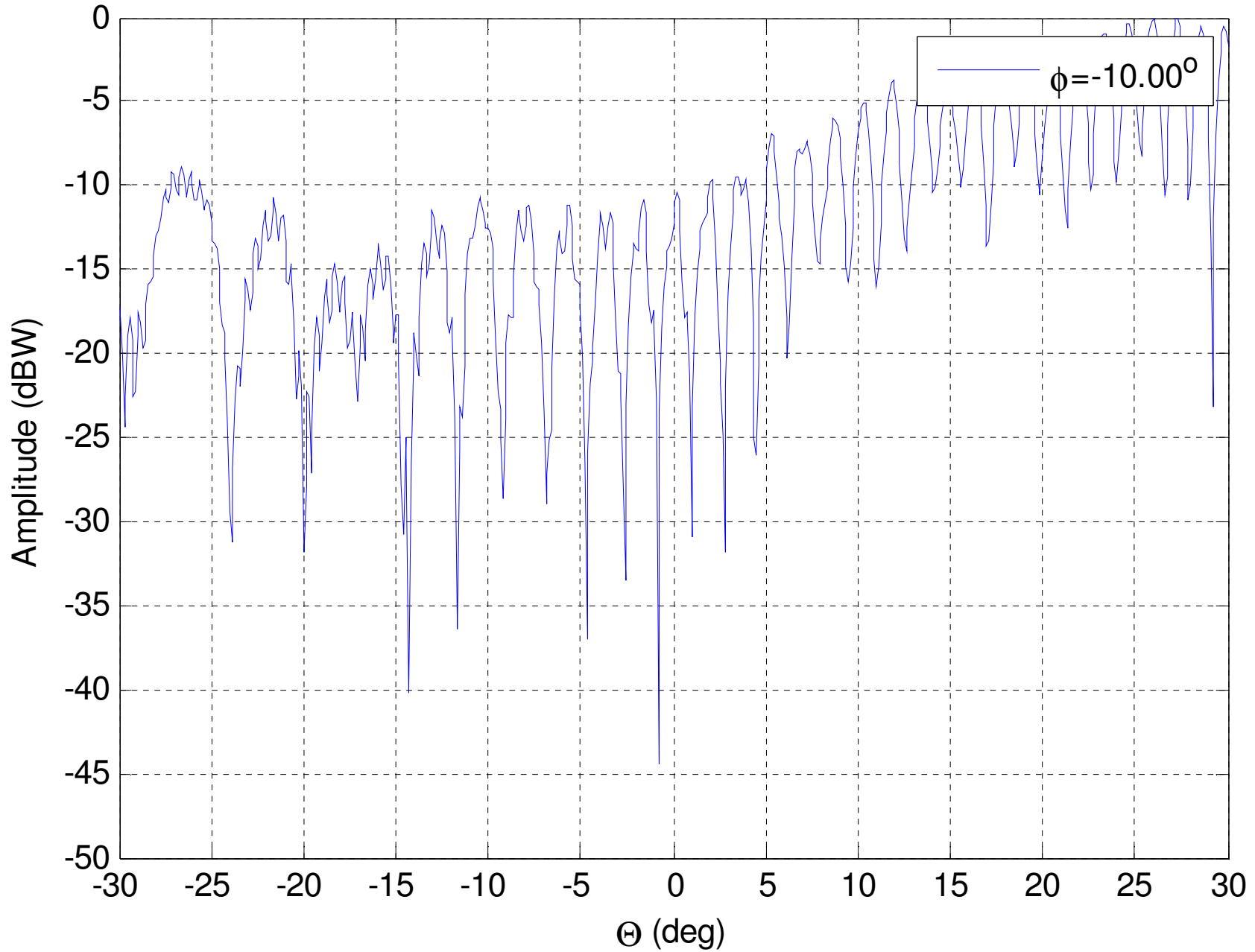
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--20.cut, Peak: -9.15 dBW, Date: 16-Dec-2011



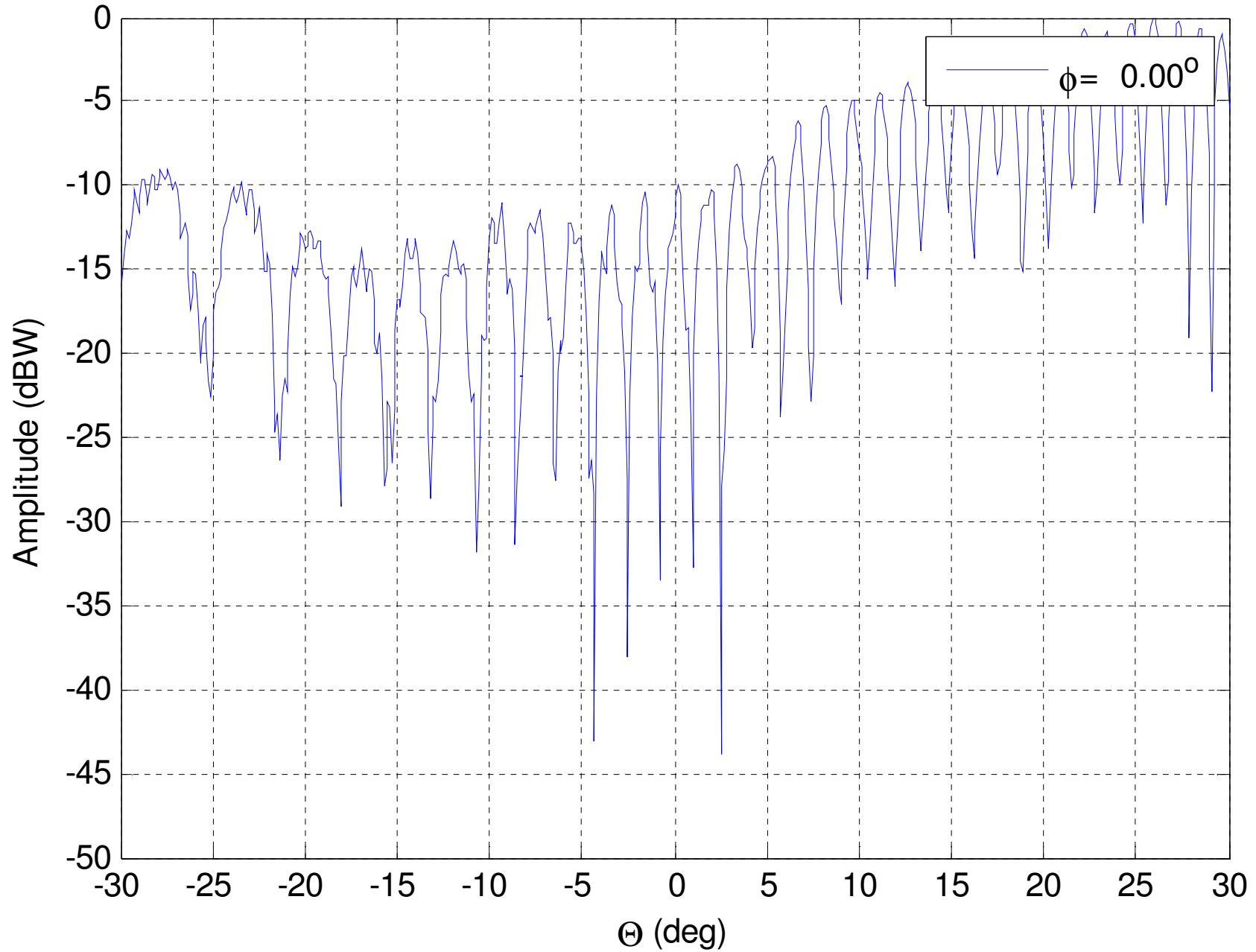
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp--10.cut, Peak: -8.62 dBW, Date: 16-Dec-2011



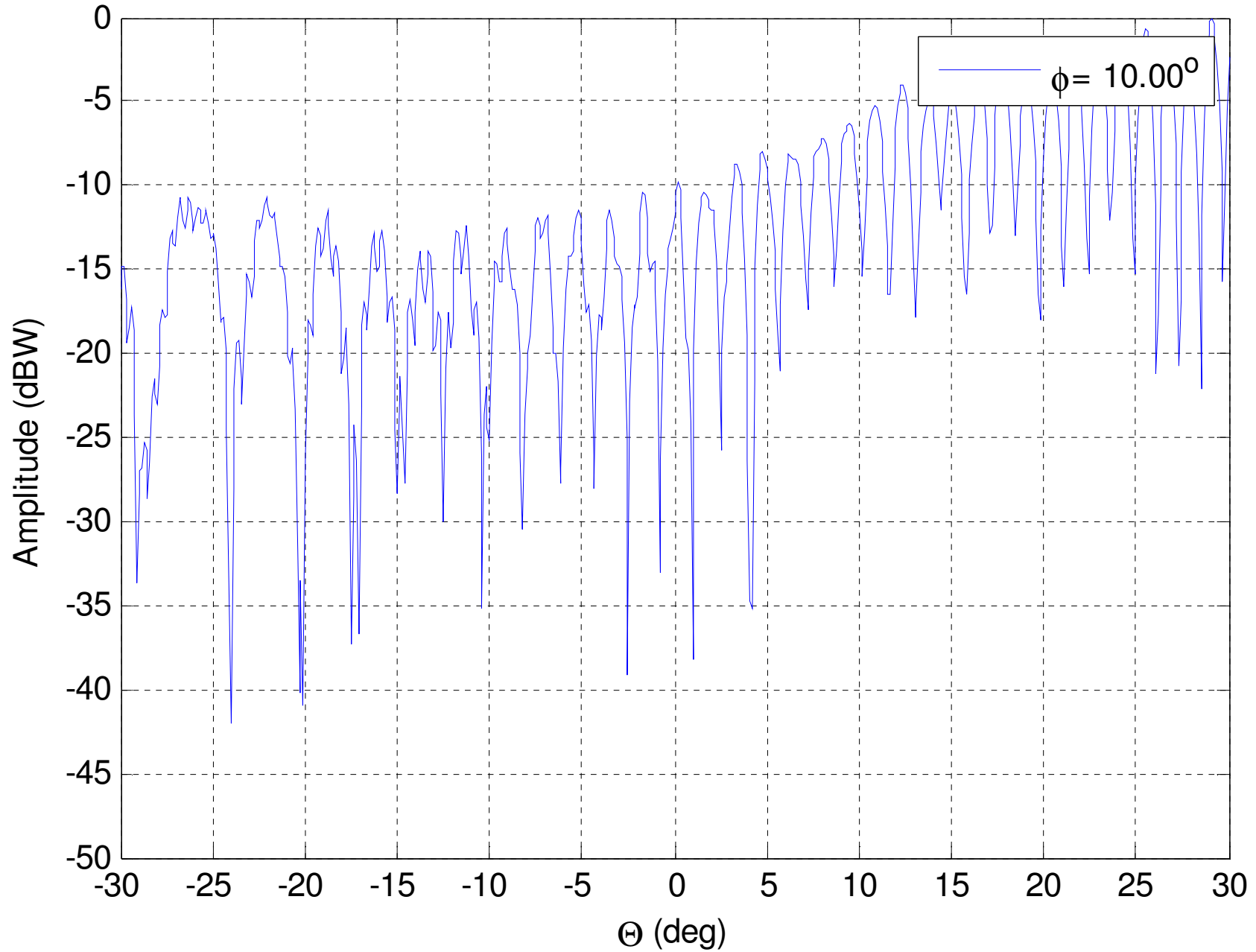
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-0.cut, Peak: -8.97 dBW, Date: 16-Dec-2011



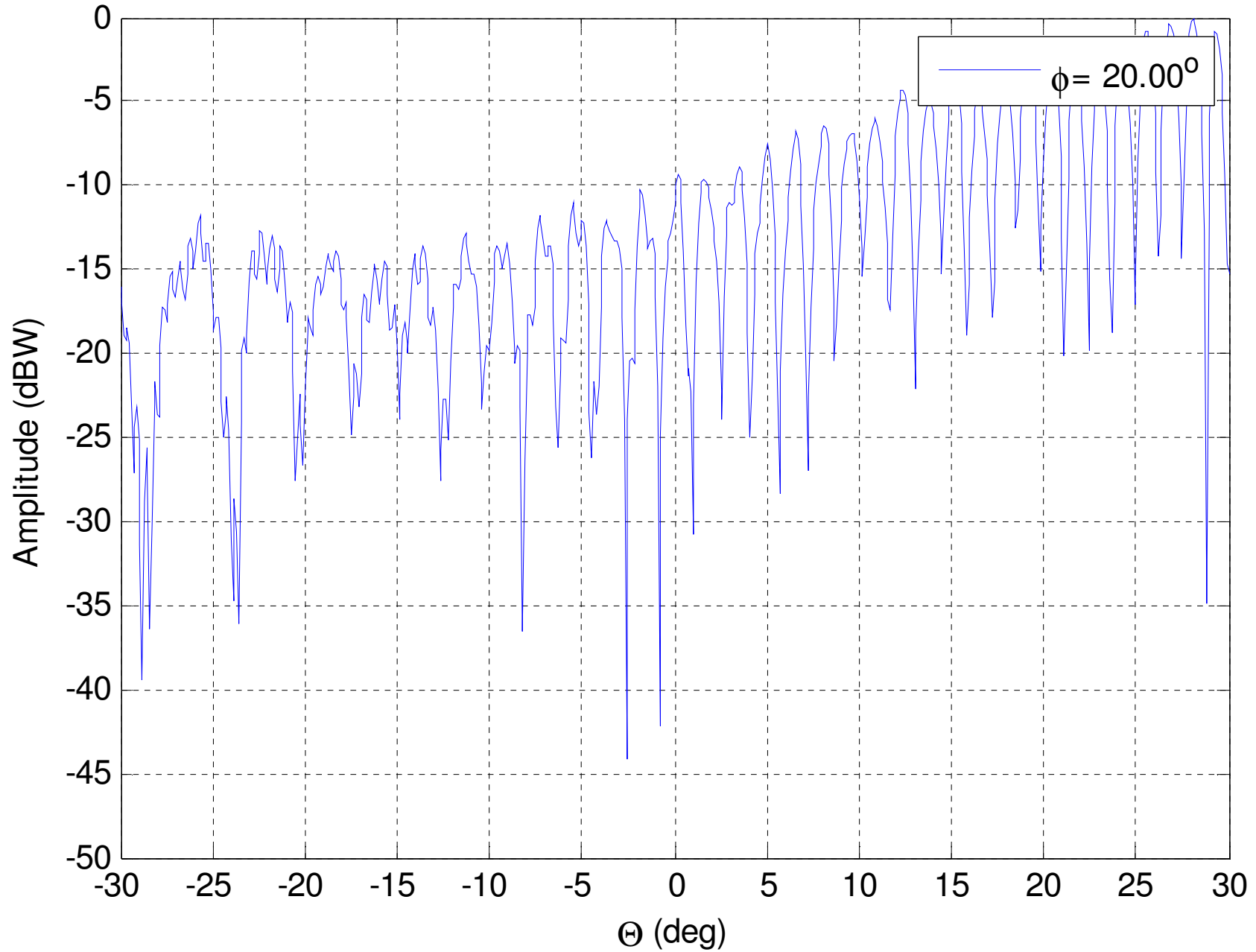
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-10.cut, Peak: -9.26 dBW, Date: 16-Dec-2011



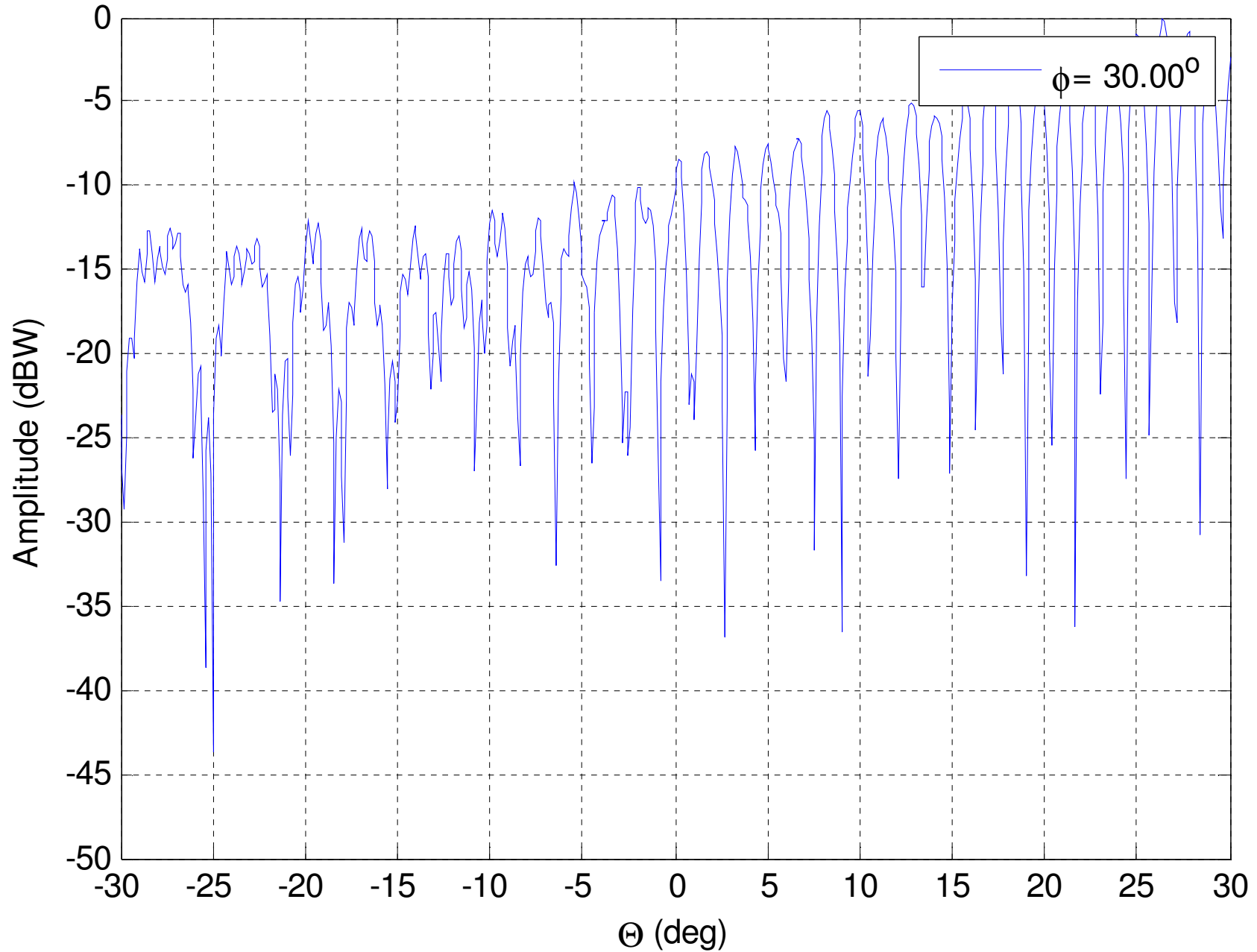
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-20.cut, Peak: -9.75 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

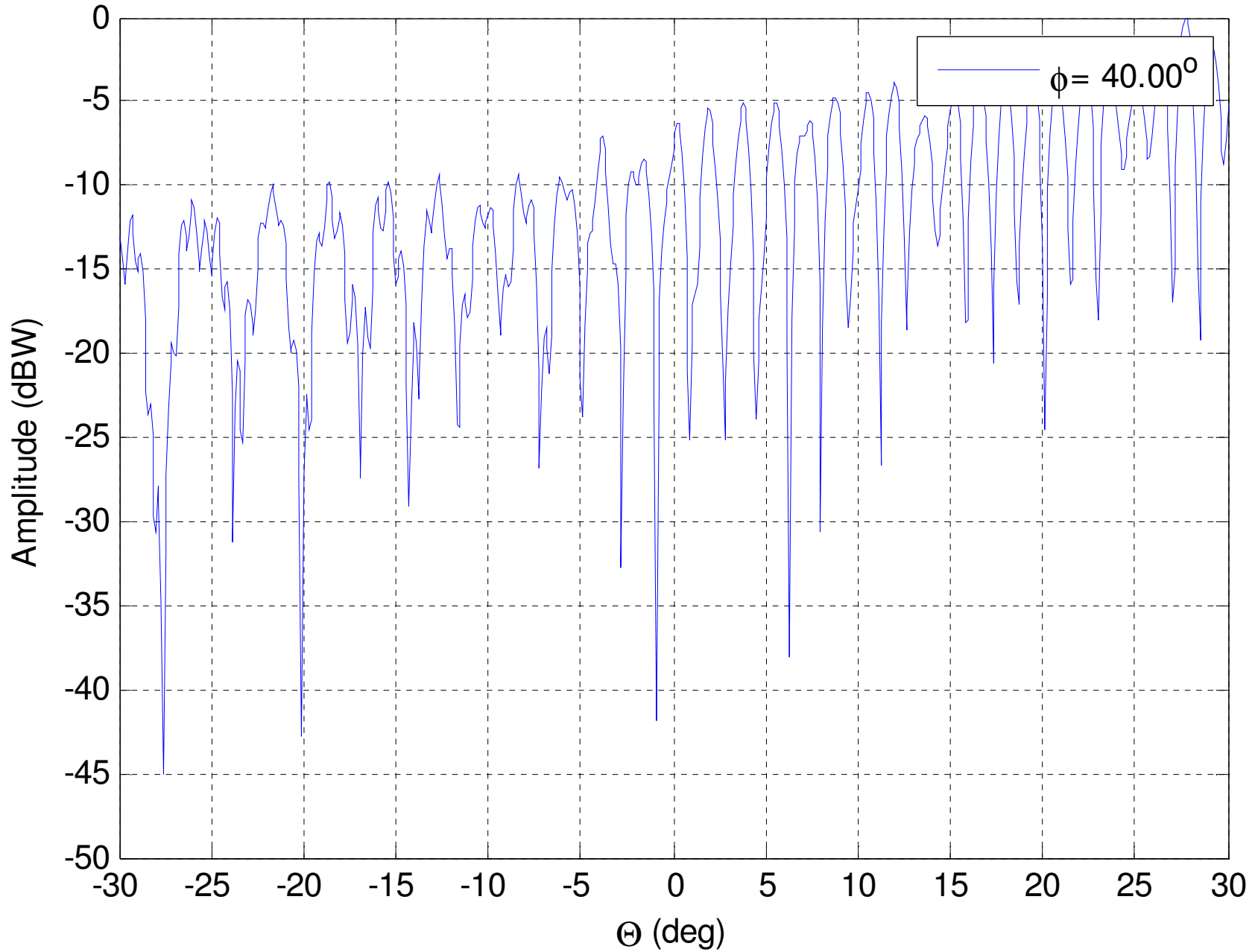
Input file: tx-17.7-rhcp-30.cut, Peak: -10.77 dBW, Date: 16-Dec-2011





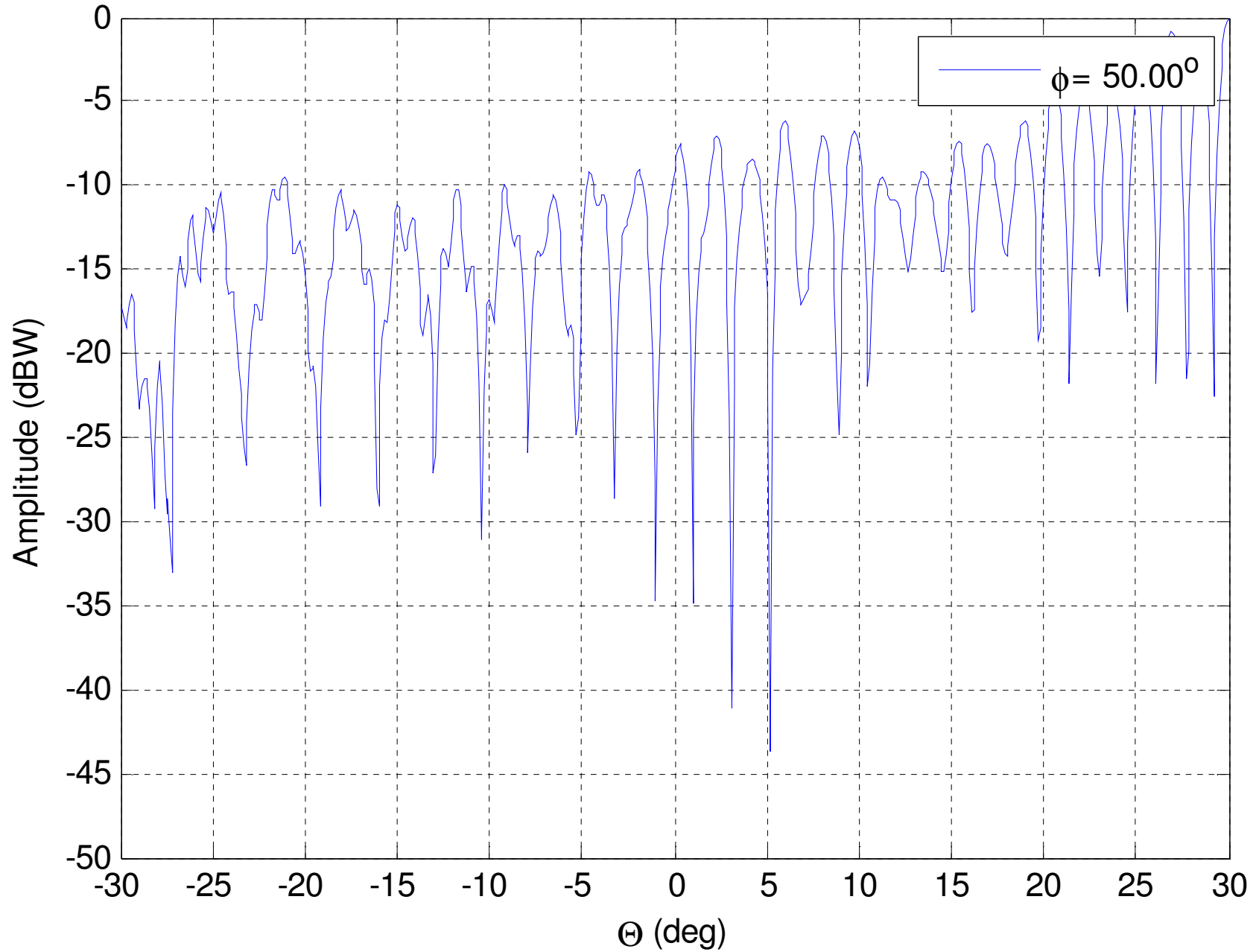
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-40.cut, Peak: -13.00 dBW, Date: 16-Dec-2011



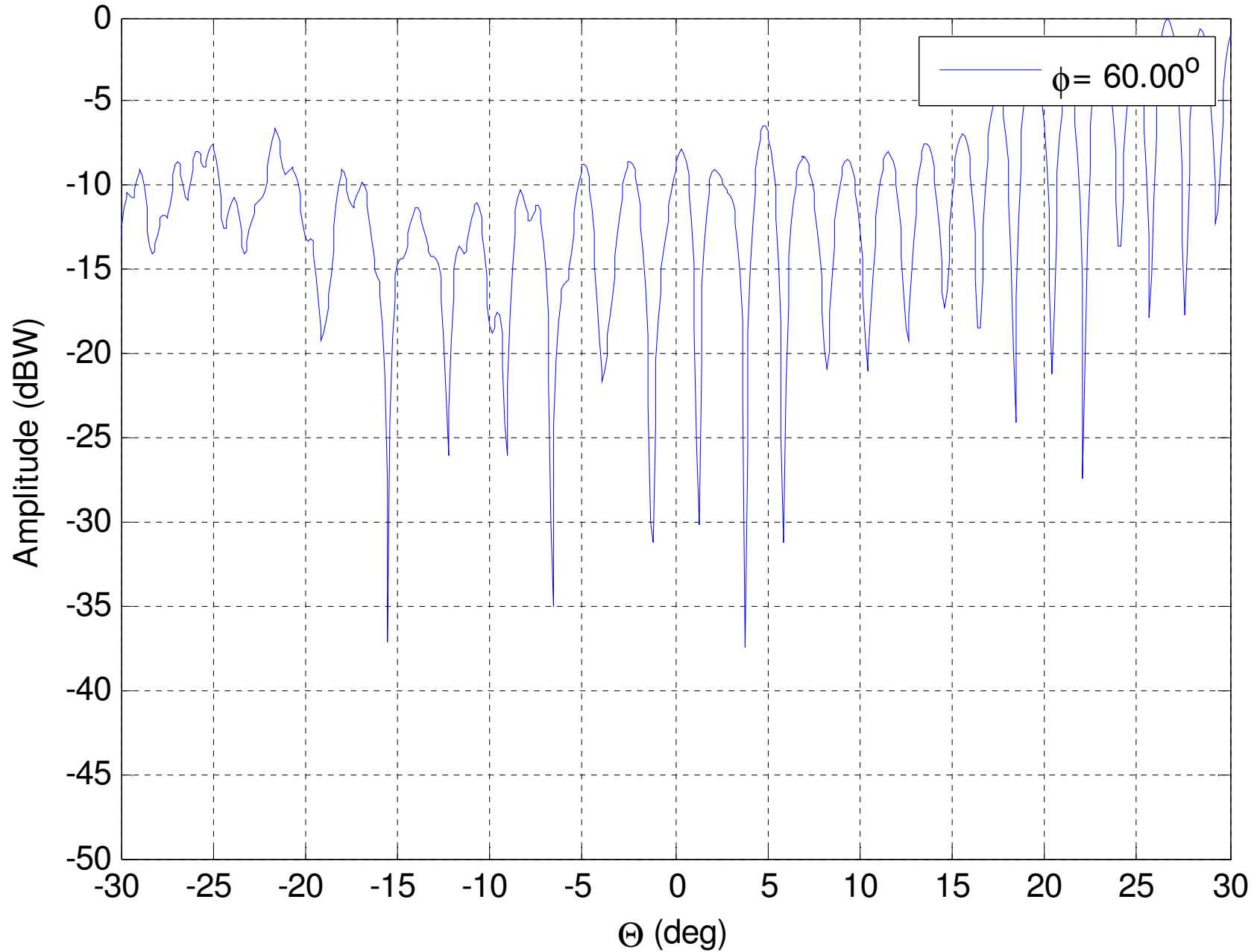
# Normalized pattern cuts - farfield

Input file: tx-17.7-rhcp-50.cut, Peak: -11.79 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

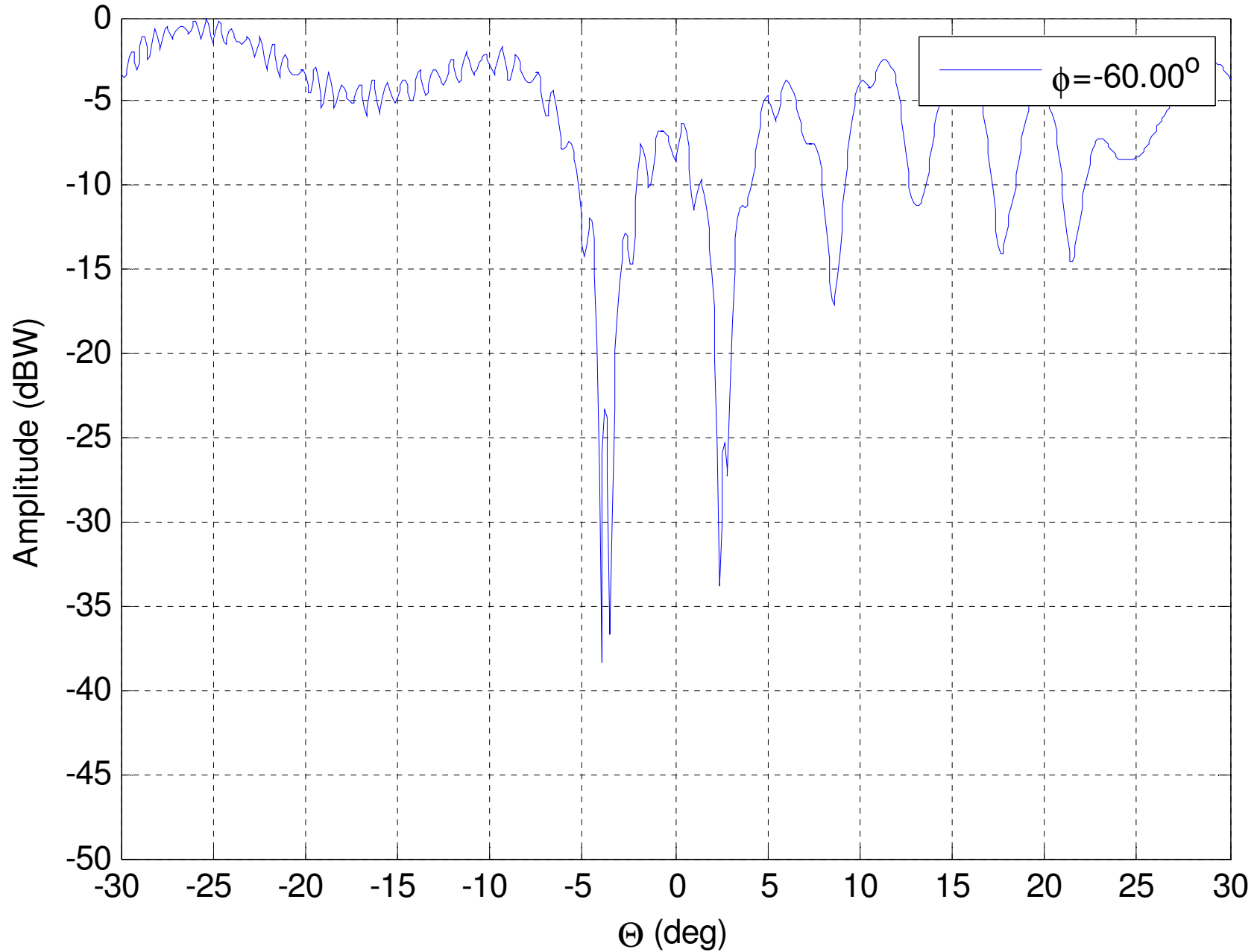
Input file: tx-17.7-rhcp-60.cut, Peak: -11.76 dBW, Date: 16-Dec-2011



# LHCP at 17.7 GHz

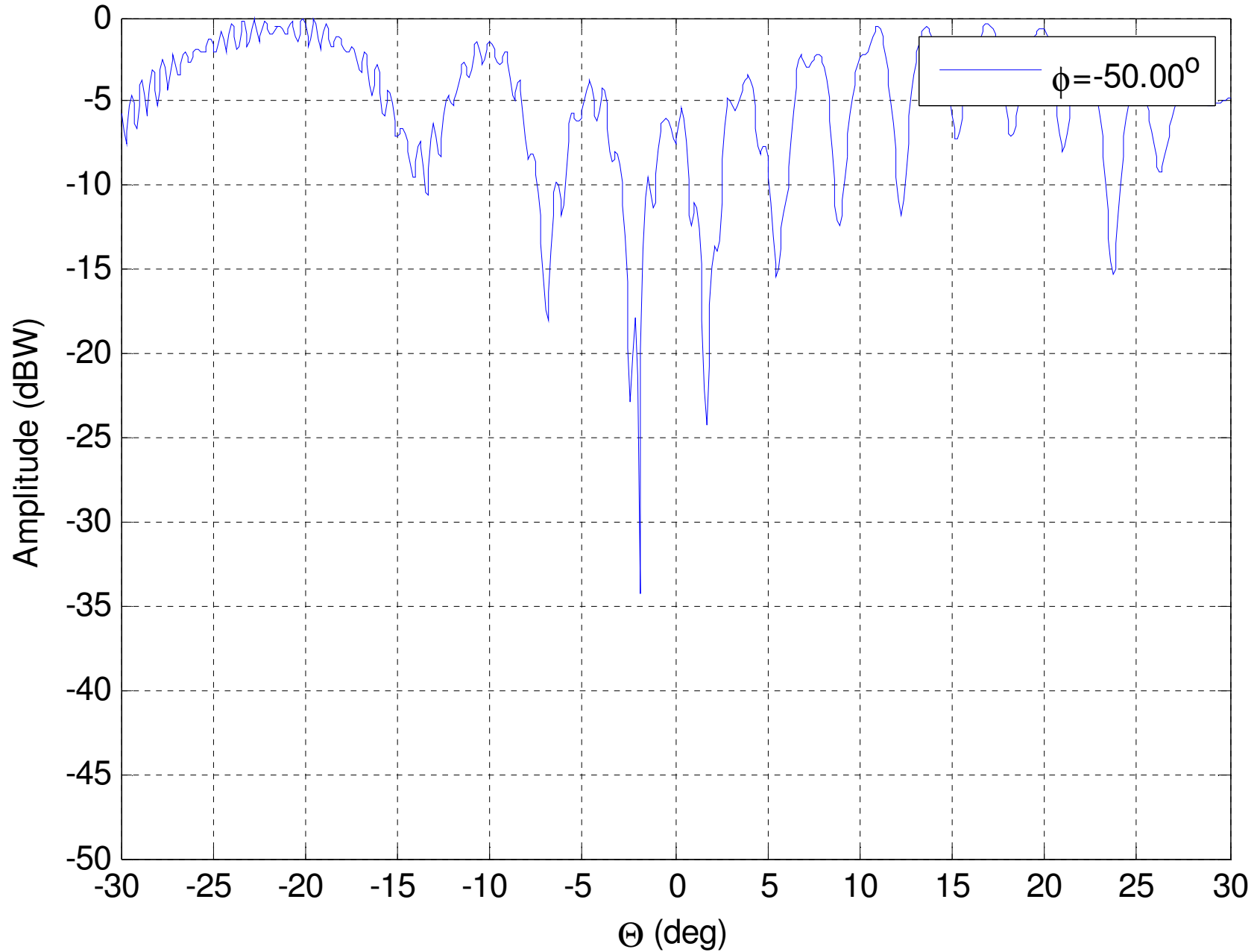
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--60.cut, Peak: -13.16 dBW, Date: 16-Dec-2011



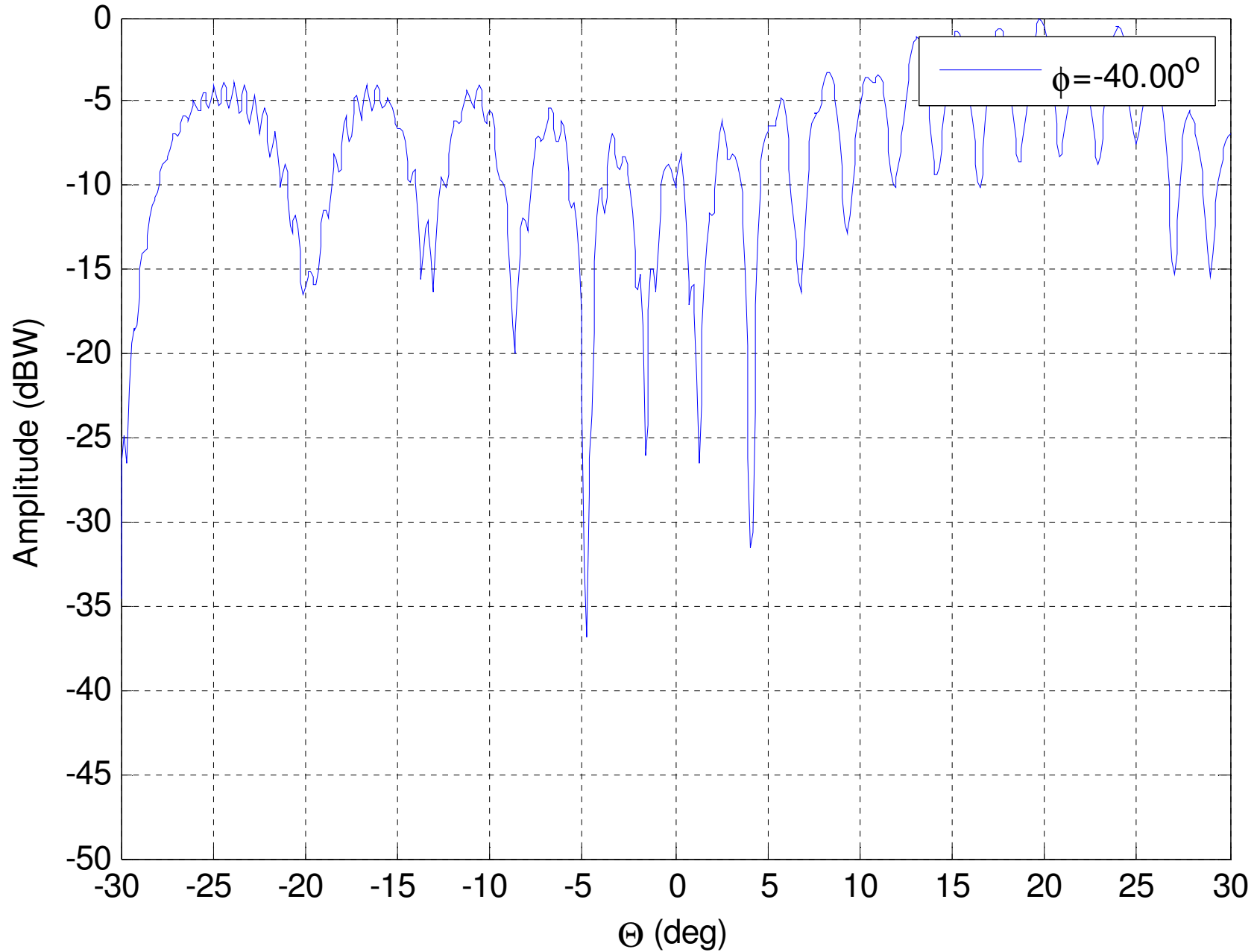
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--50.cut, Peak: -14.19 dBW, Date: 16-Dec-2011



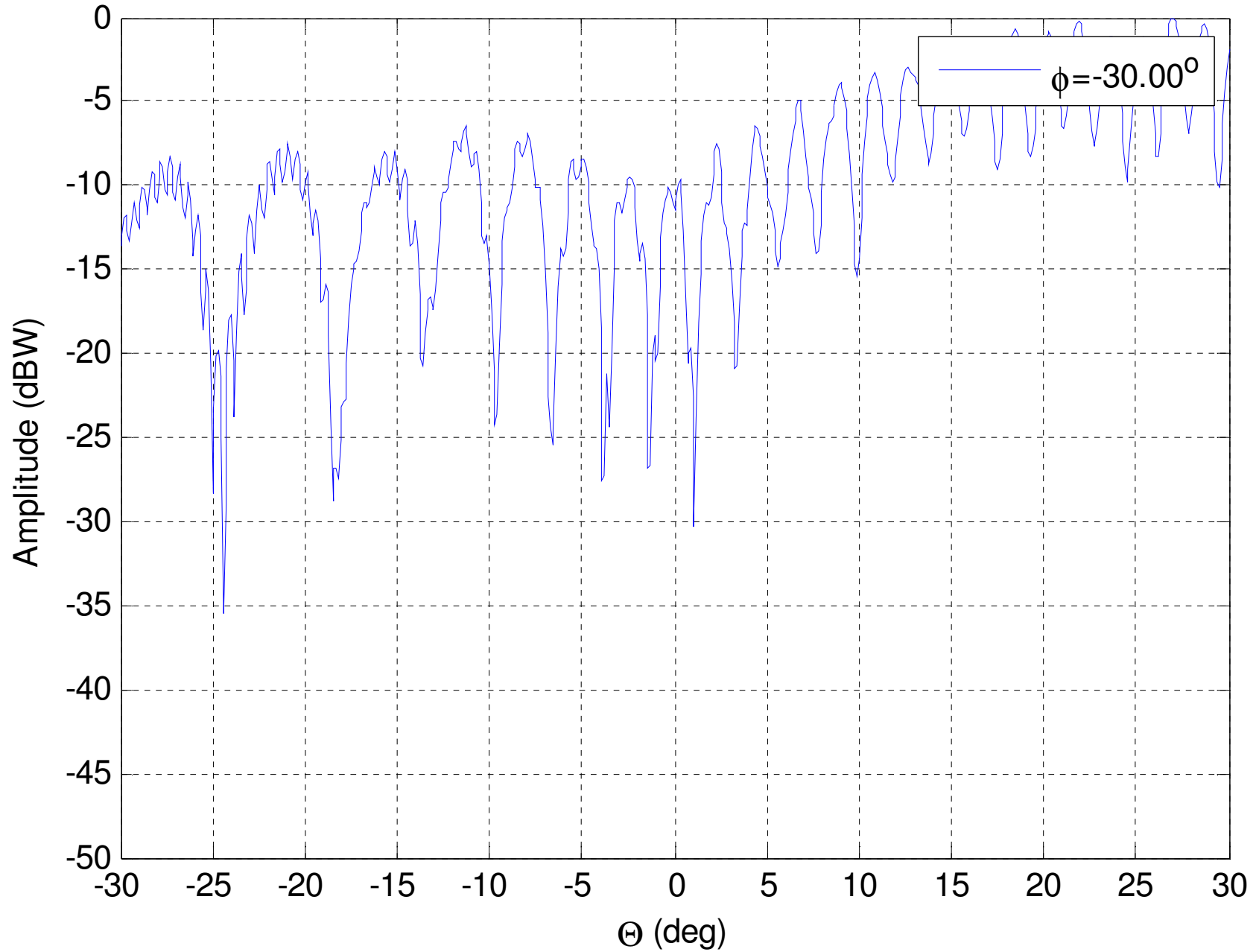
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--40.cut, Peak: -11.67 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

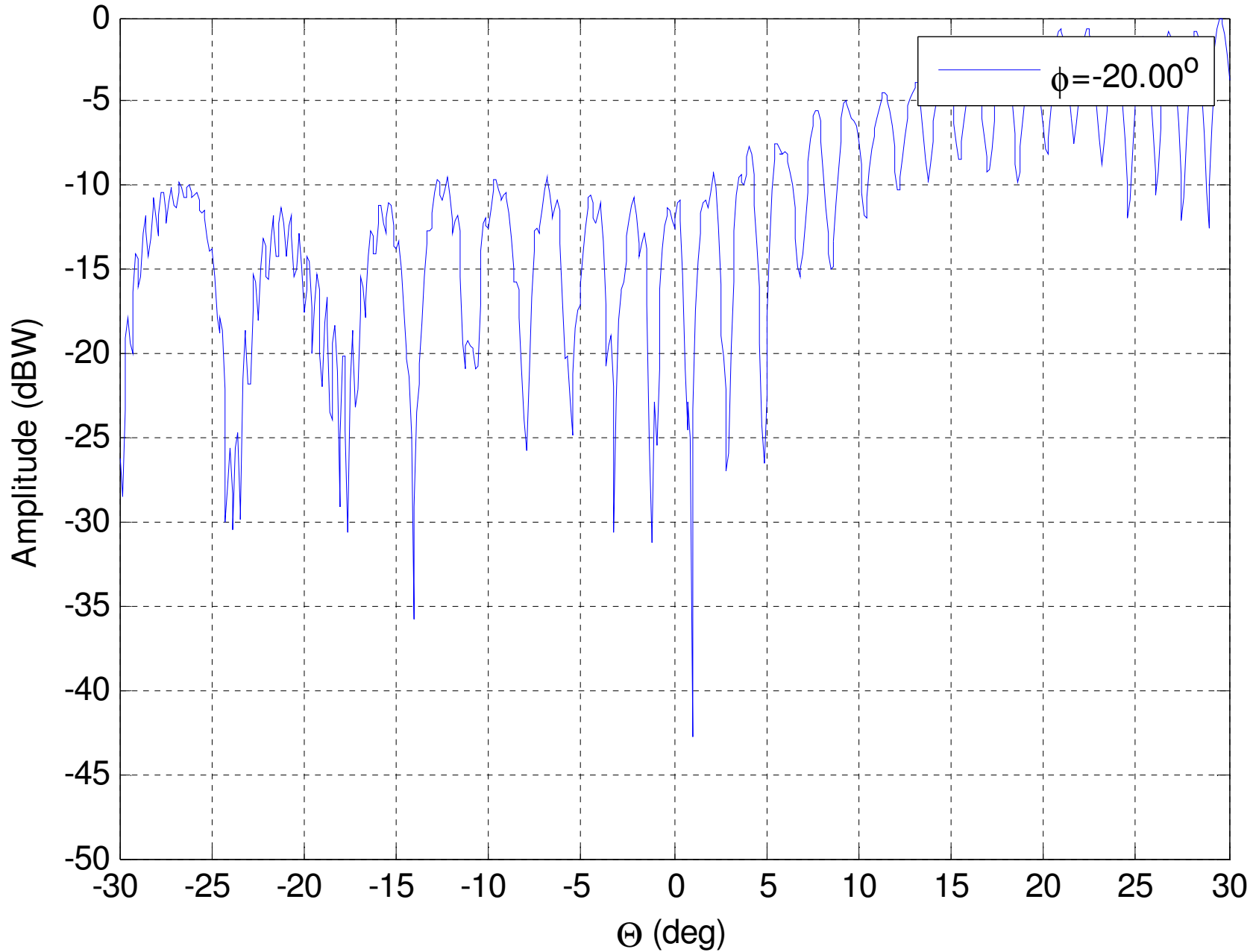
Input file: tx-17.7-lhcp--30.cut, Peak: -10.30 dBW, Date: 16-Dec-2011





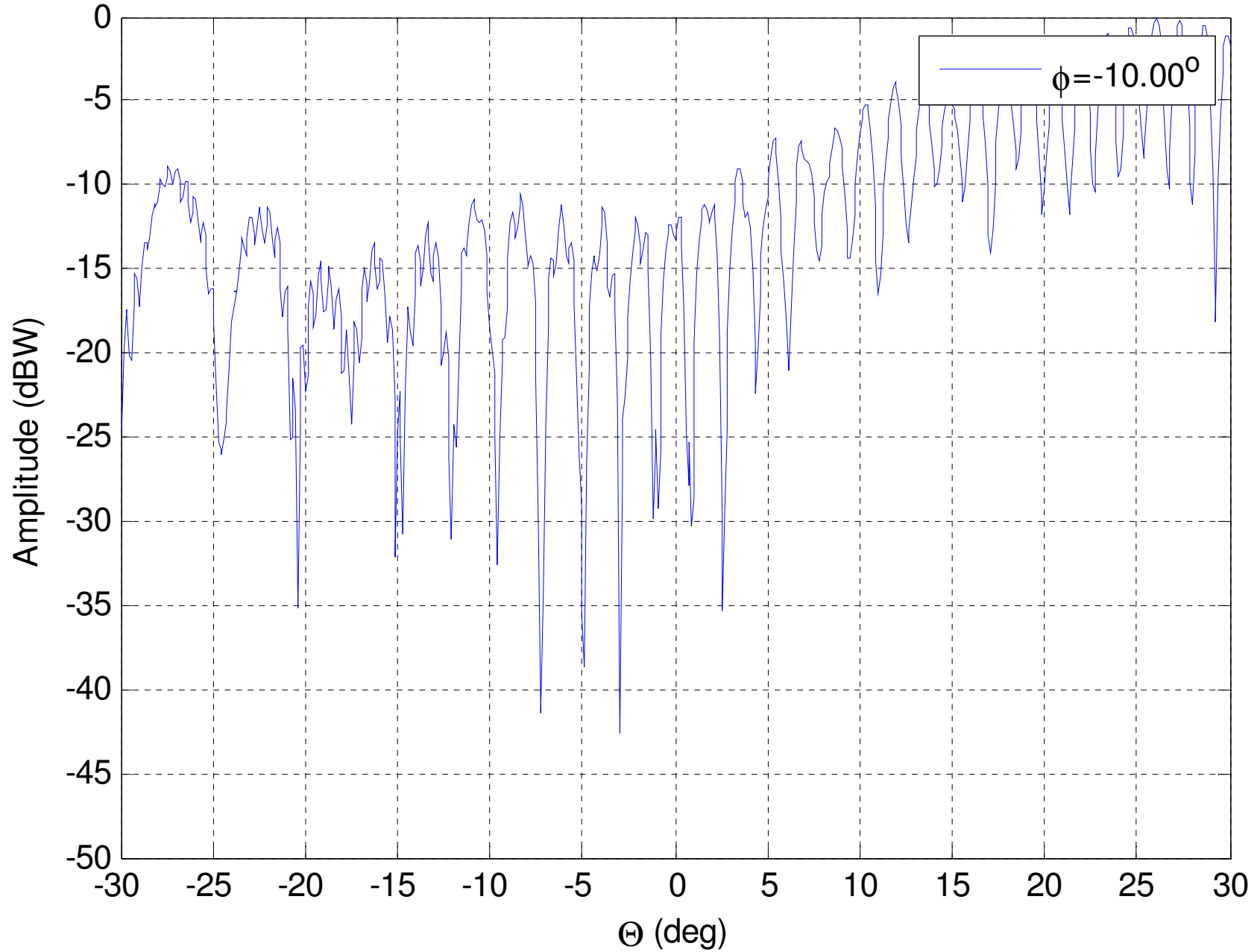
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--20.cut, Peak: -9.26 dBW, Date: 16-Dec-2011



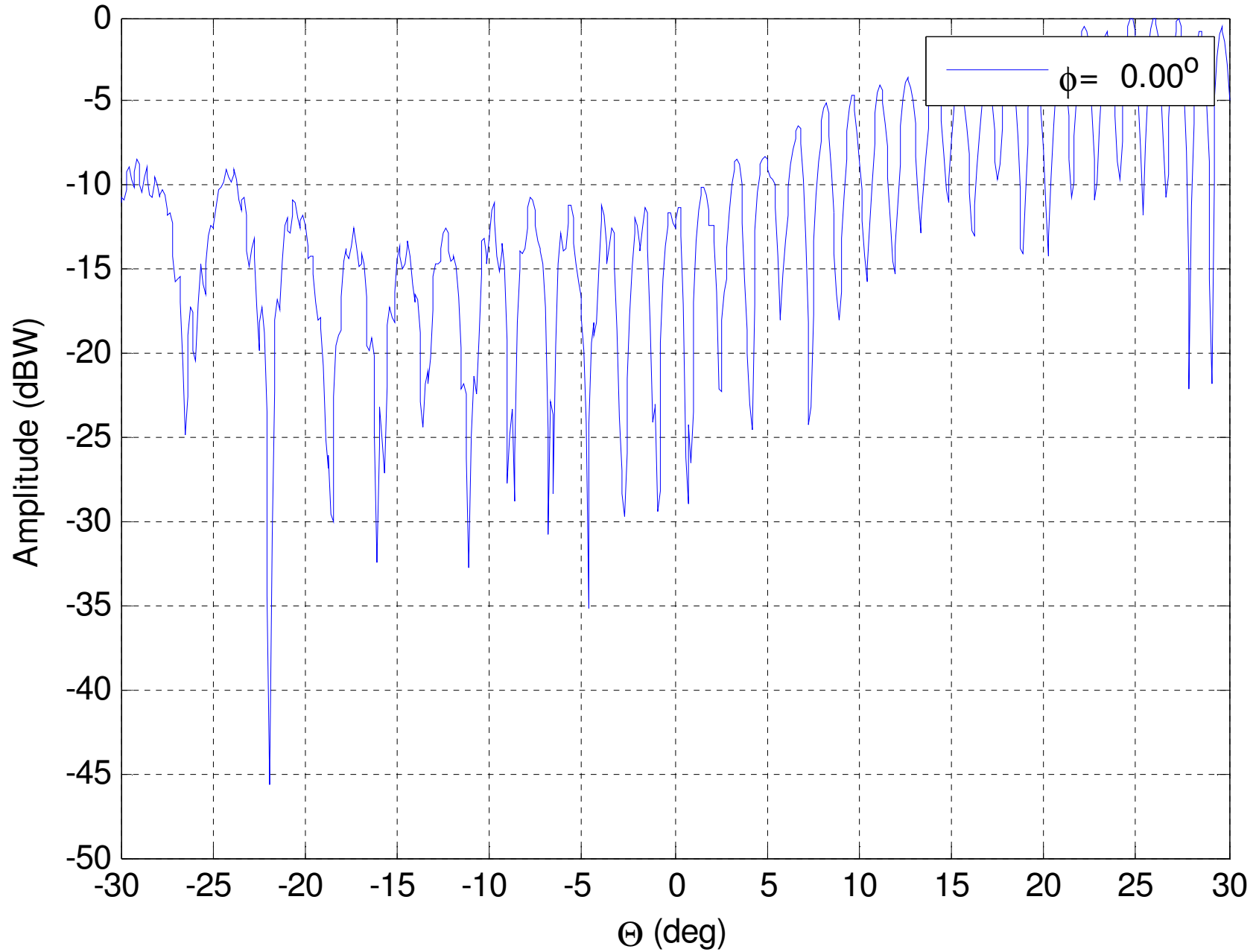
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp--10.cut, Peak: -8.38 dBW, Date: 16-Dec-2011



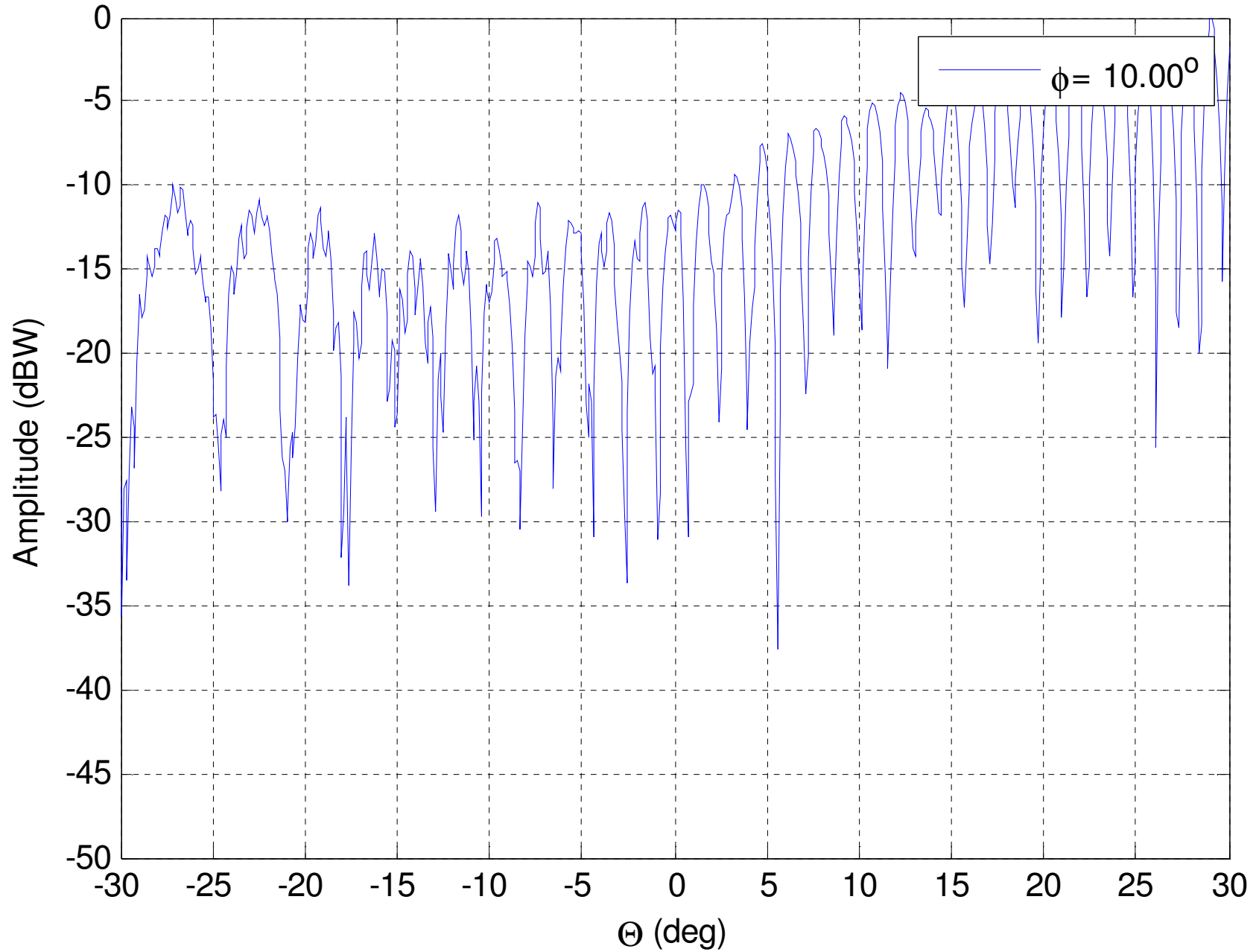
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-0.cut, Peak: -9.15 dBW, Date: 16-Dec-2011



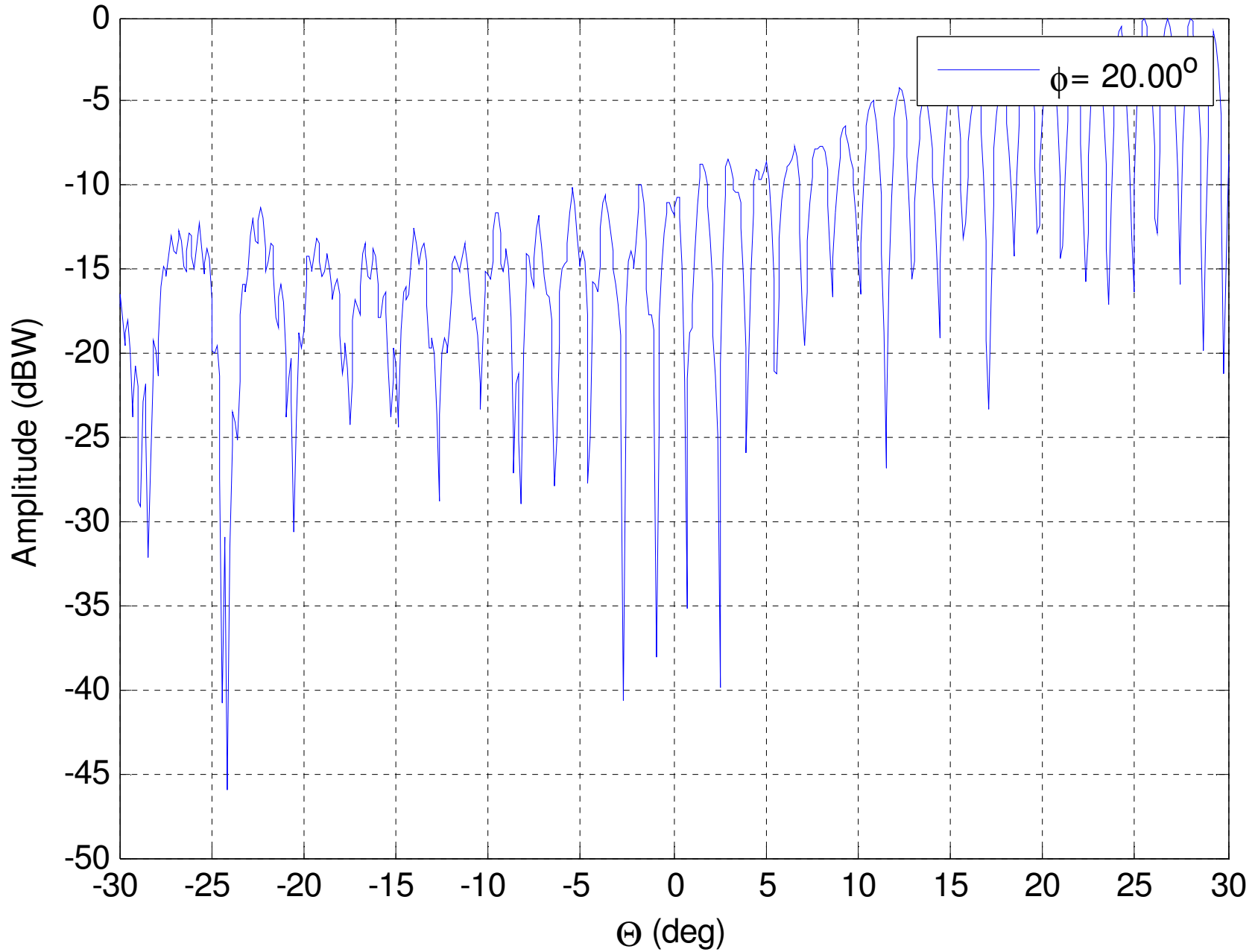
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-10.cut, Peak: -9.08 dBW, Date: 16-Dec-2011



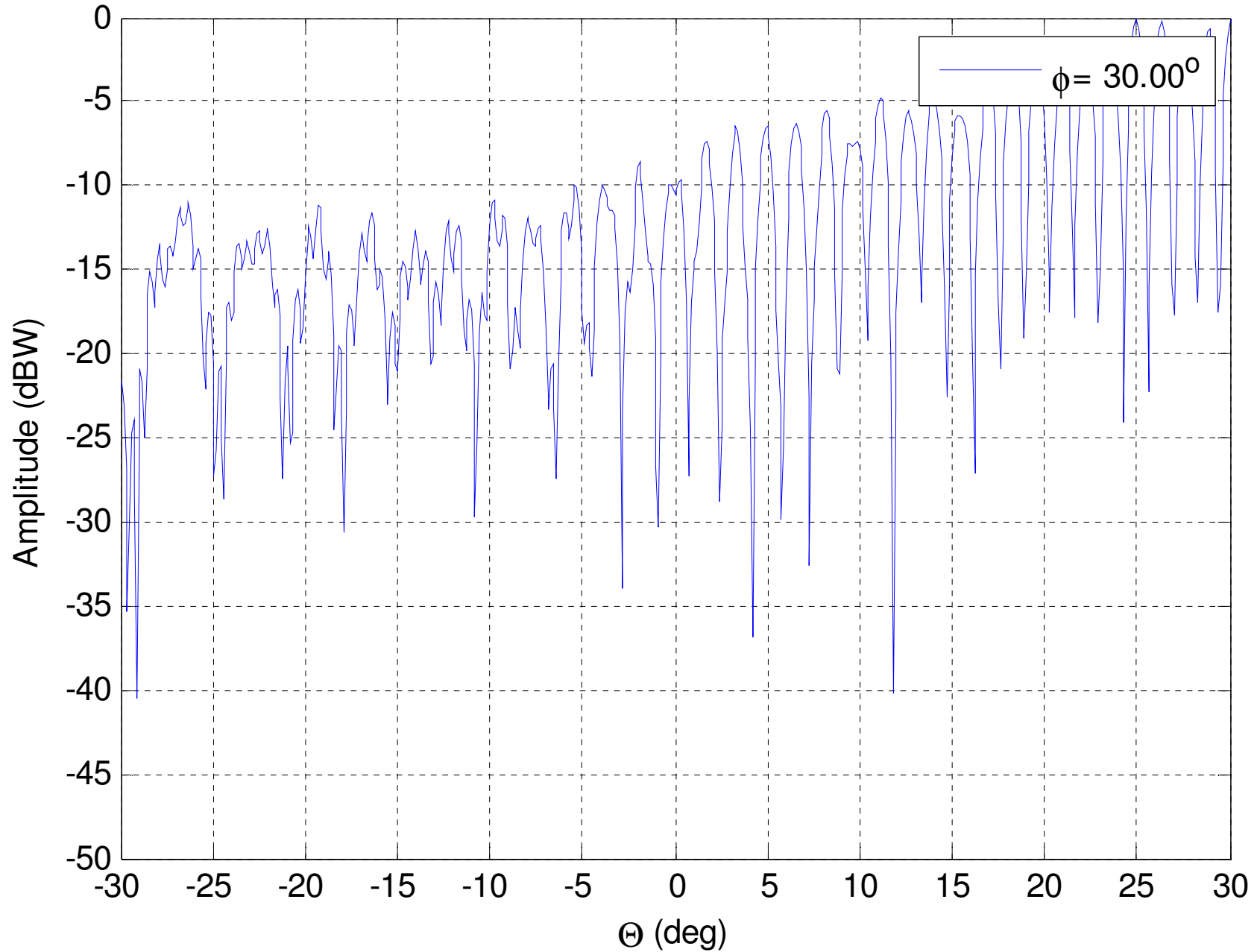
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-20.cut, Peak: -10.01 dBW, Date: 16-Dec-2011



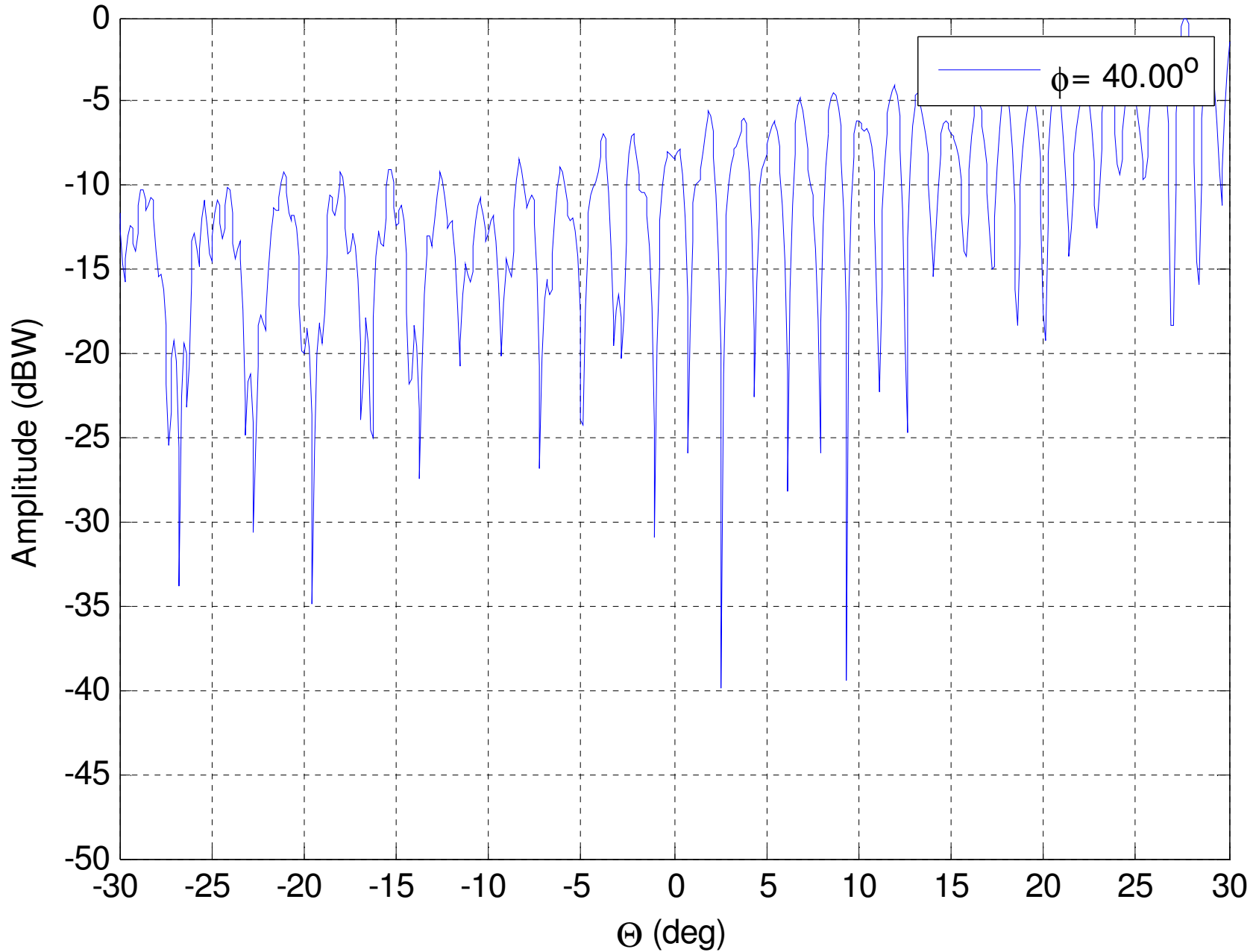
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-30.cut, Peak: -11.19 dBW, Date: 16-Dec-2011



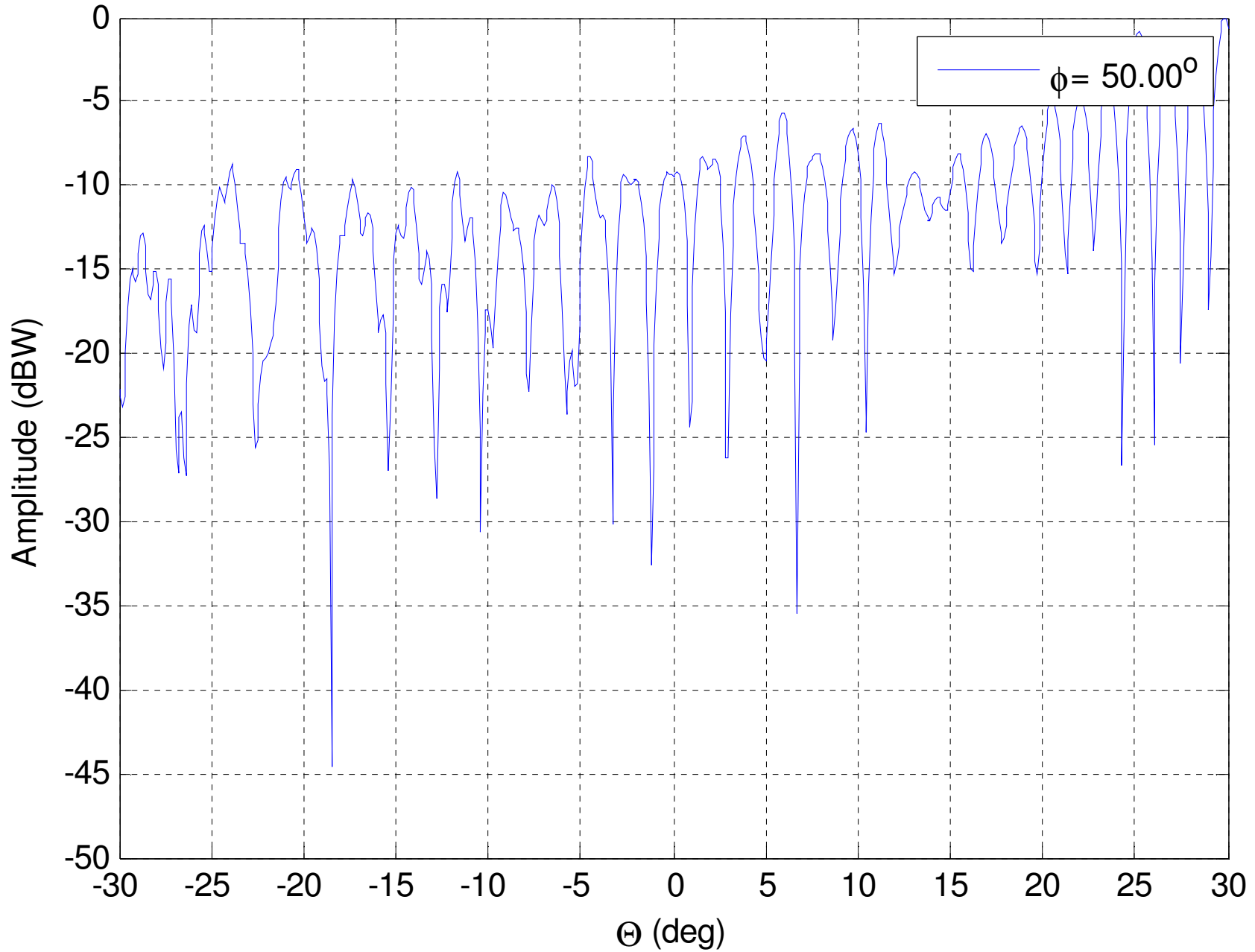
# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-40.cut, Peak: -13.27 dBW, Date: 16-Dec-2011



# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-50.cut, Peak: -12.25 dBW, Date: 16-Dec-2011





# Normalized pattern cuts - farfield

Input file: tx-17.7-lhcp-60.cut, Peak: -12.08 dBW, Date: 16-Dec-2011

