December 13, 2011

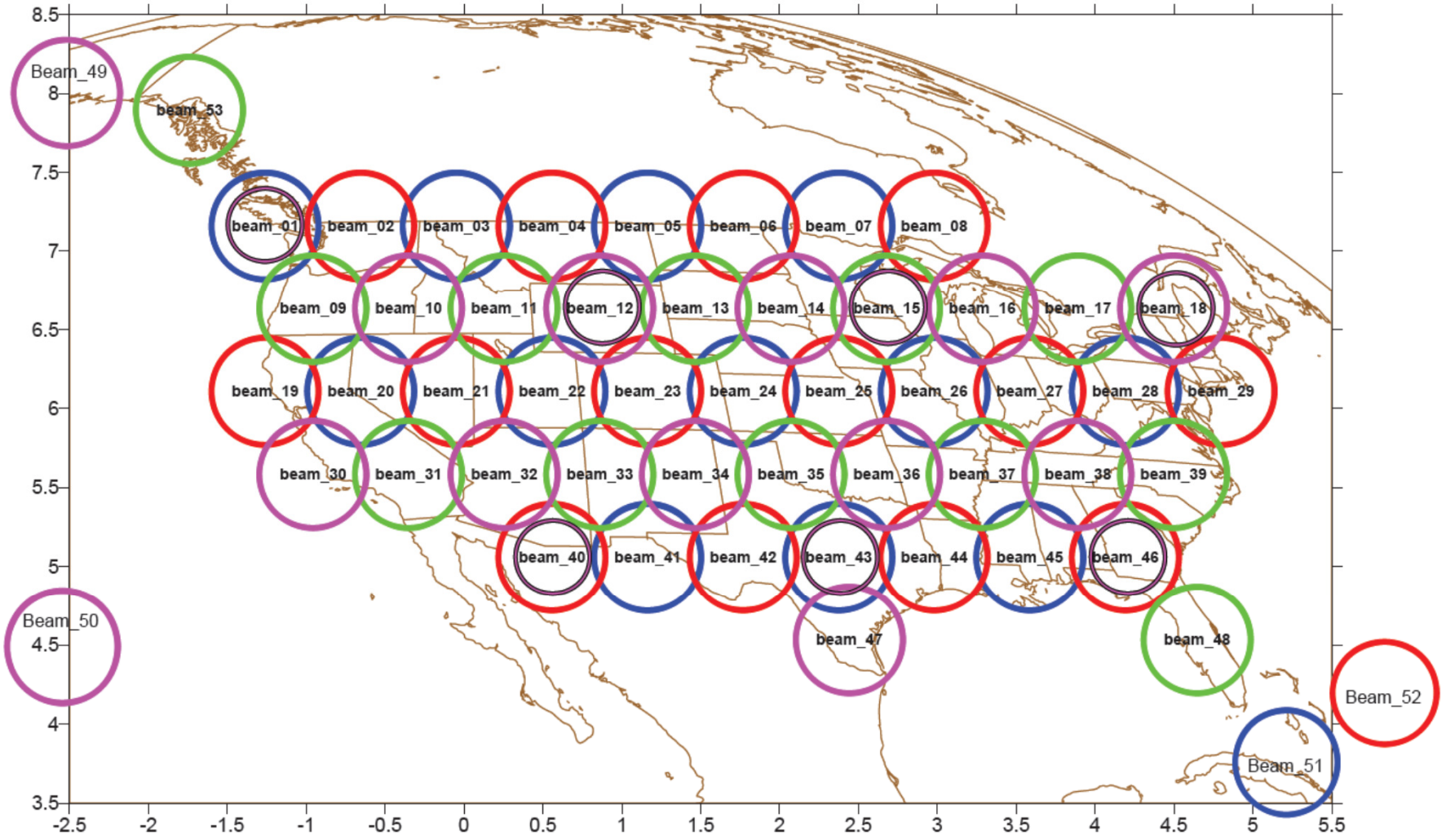
Updated: 15 May, 2012

119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 01

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

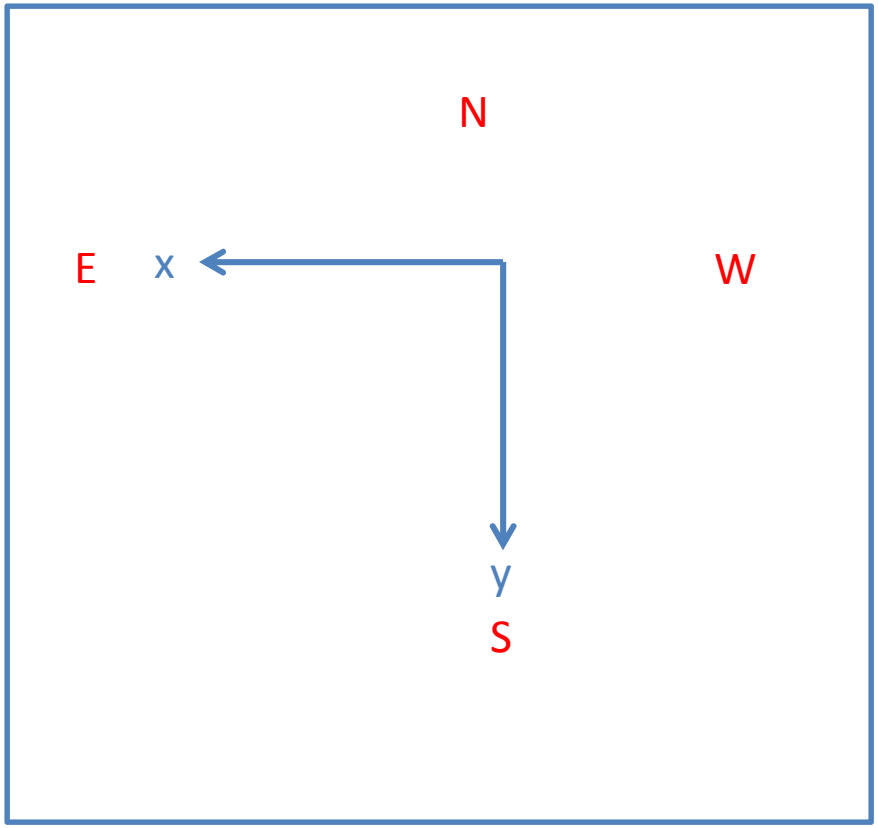
Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-117
Desired channel band width, MHz	25.8
Symbol rate band width modification factor	1
Effective channel bandwidth, MHz	25.8
Effective bandwidth, dB-100kHz	24.1
Flux density allowed per channel, dBW/m^2	-92.9
R, radial distance to GEO, km	42164.0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

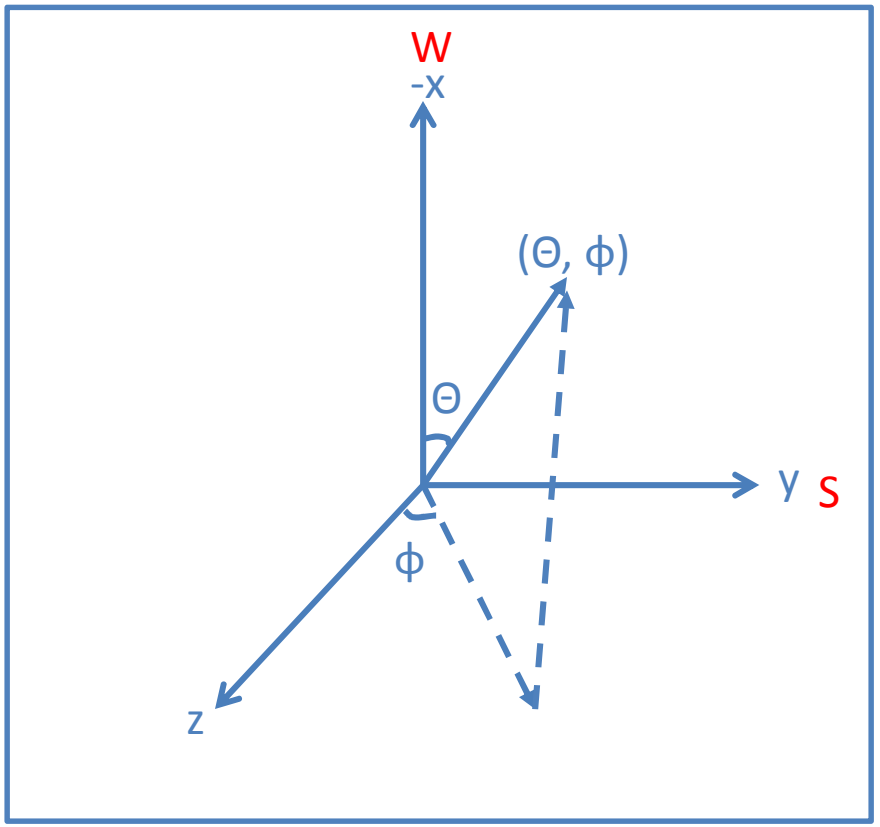
Beam Identifying Number



*** Offshore Beams are symbolic only**

Coordinate System



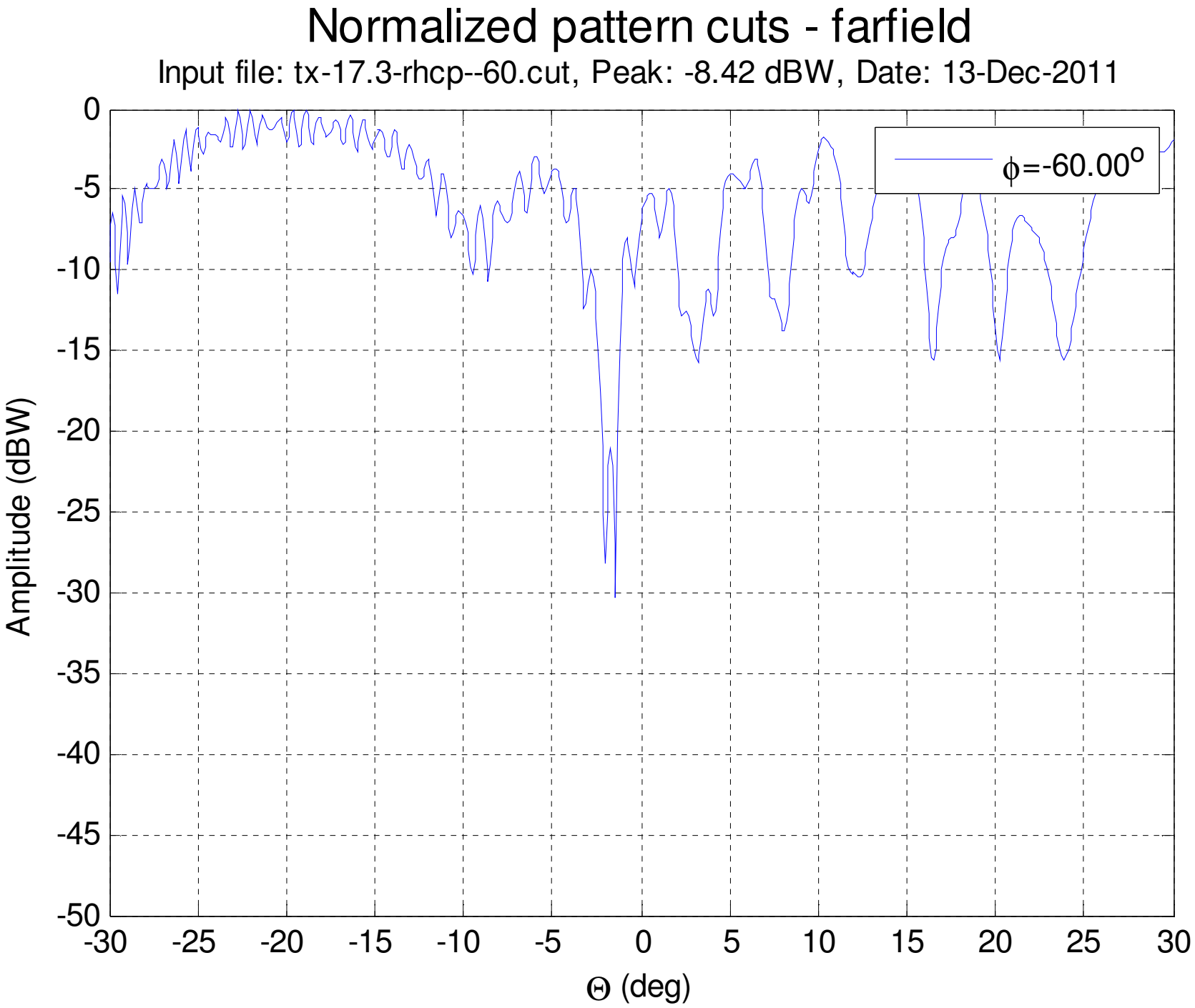


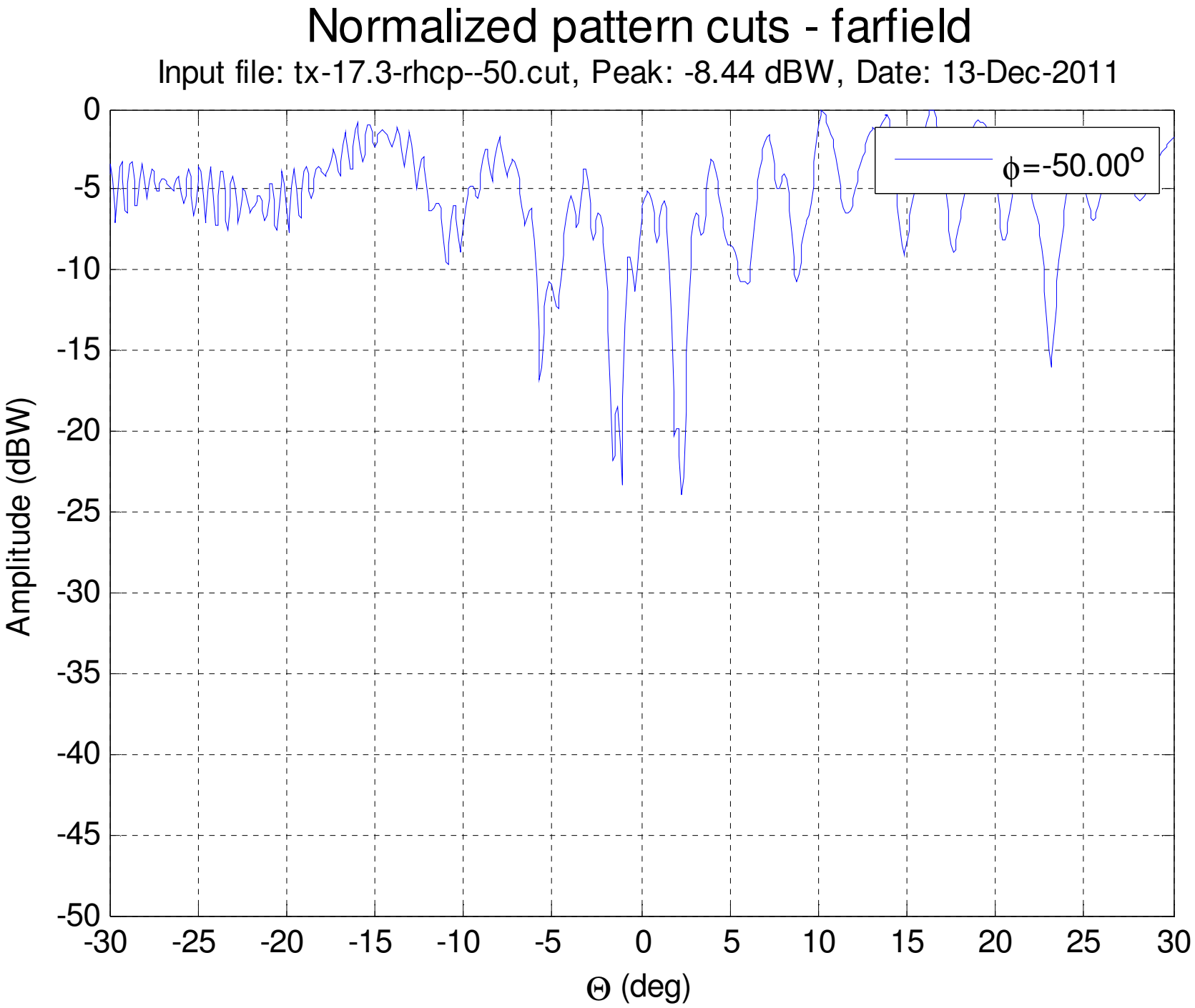
Information For All Spots

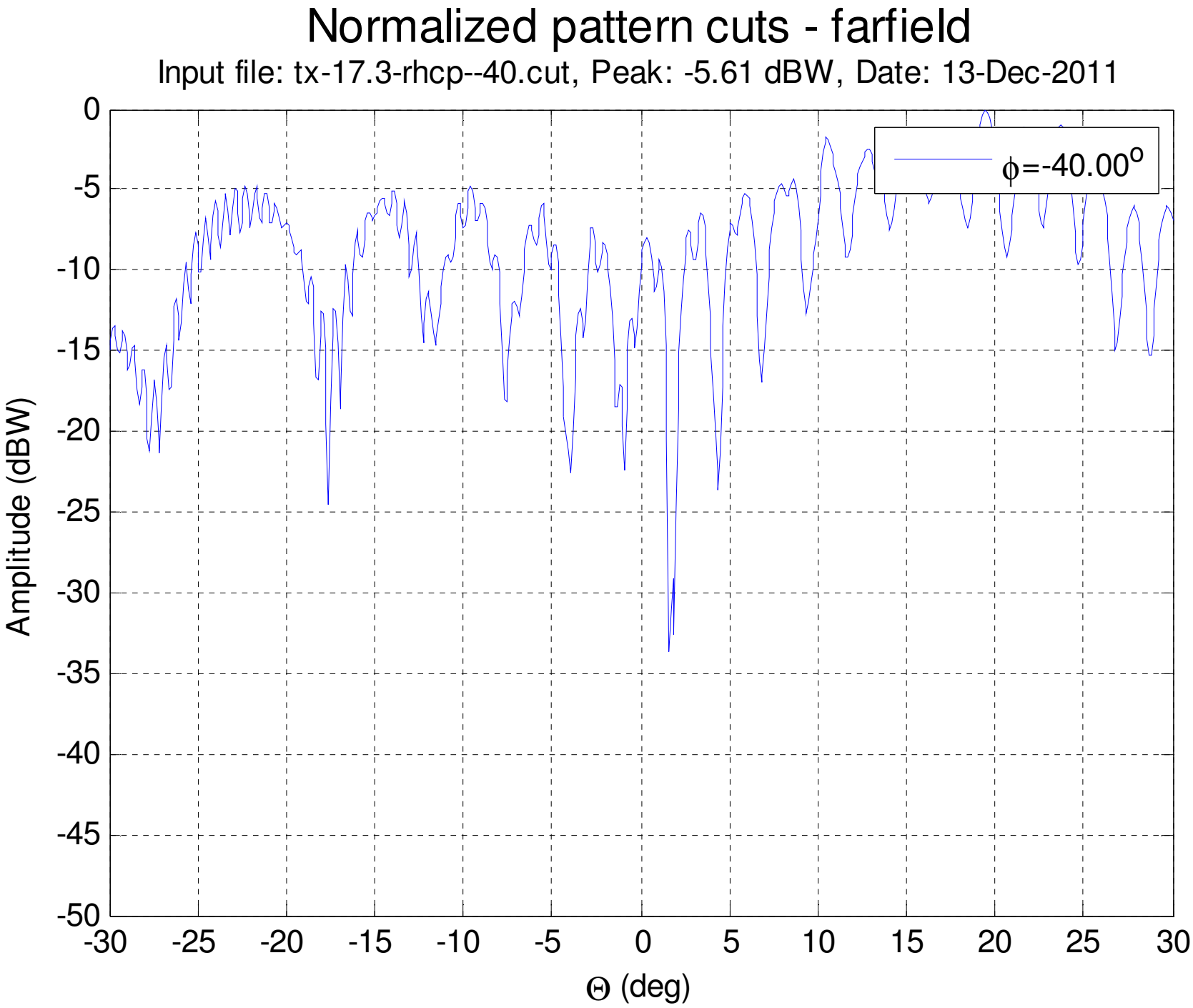
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

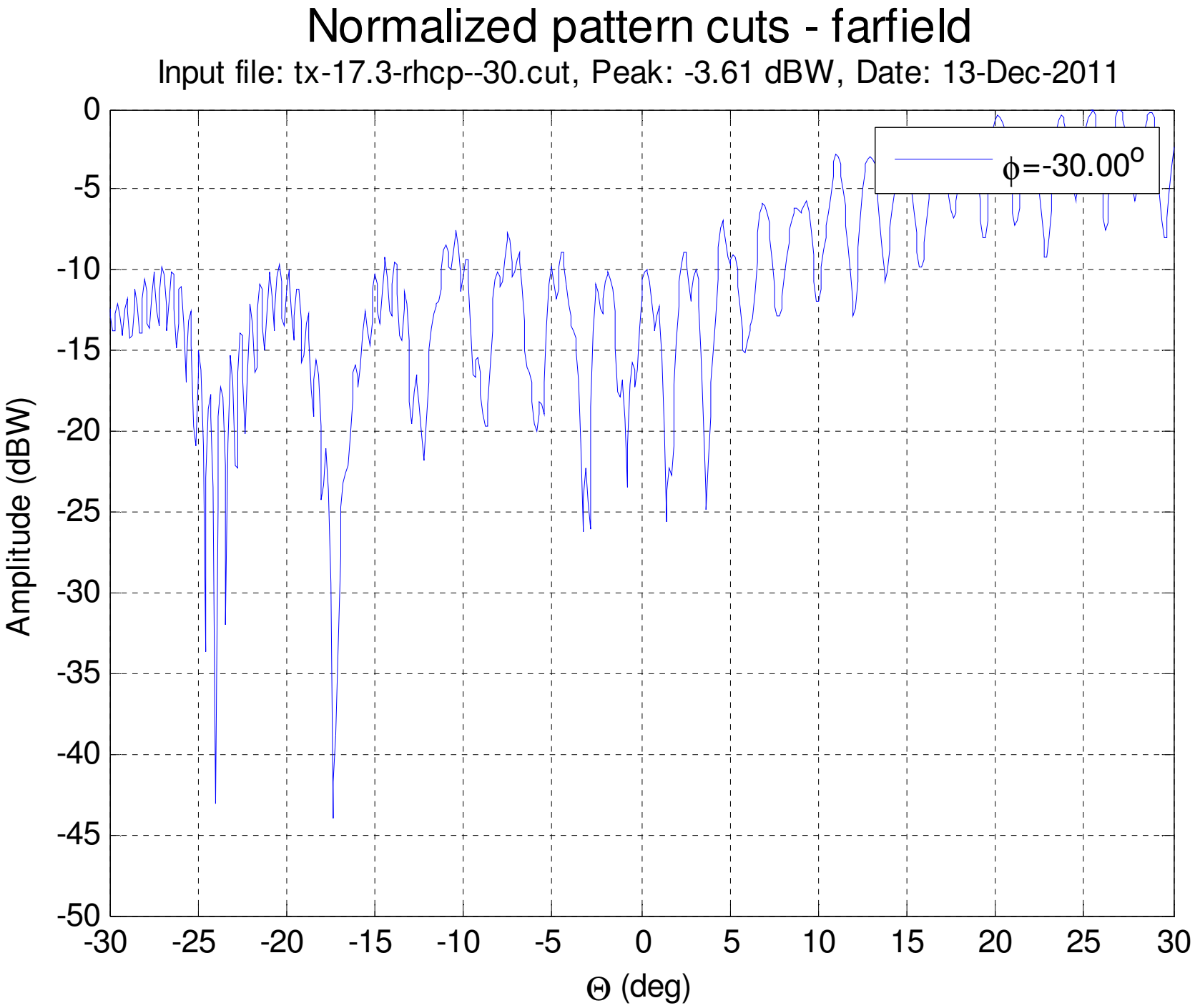
Spot Beam01, -X Axis Plots

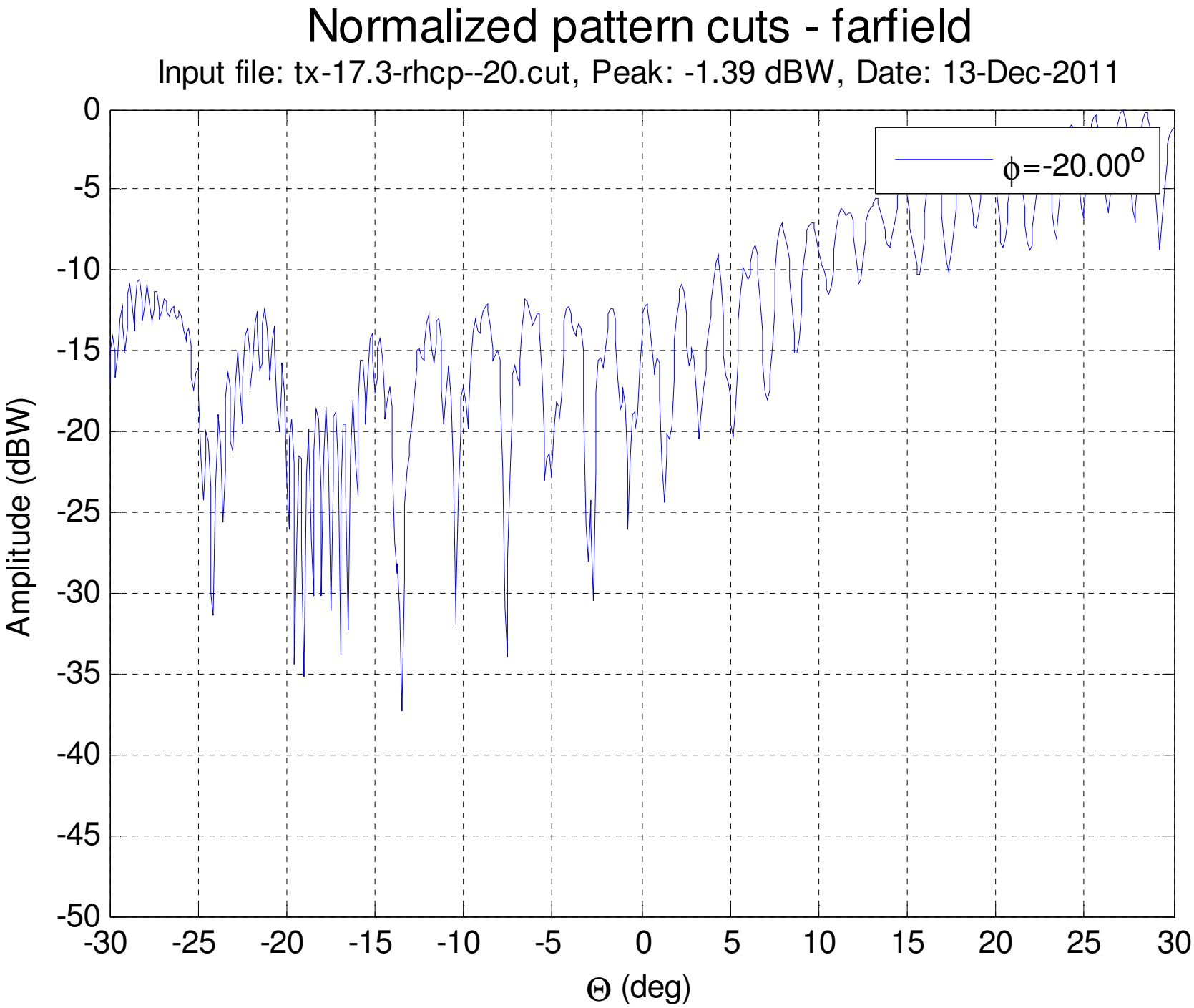
RHCP at 17.3 GHz

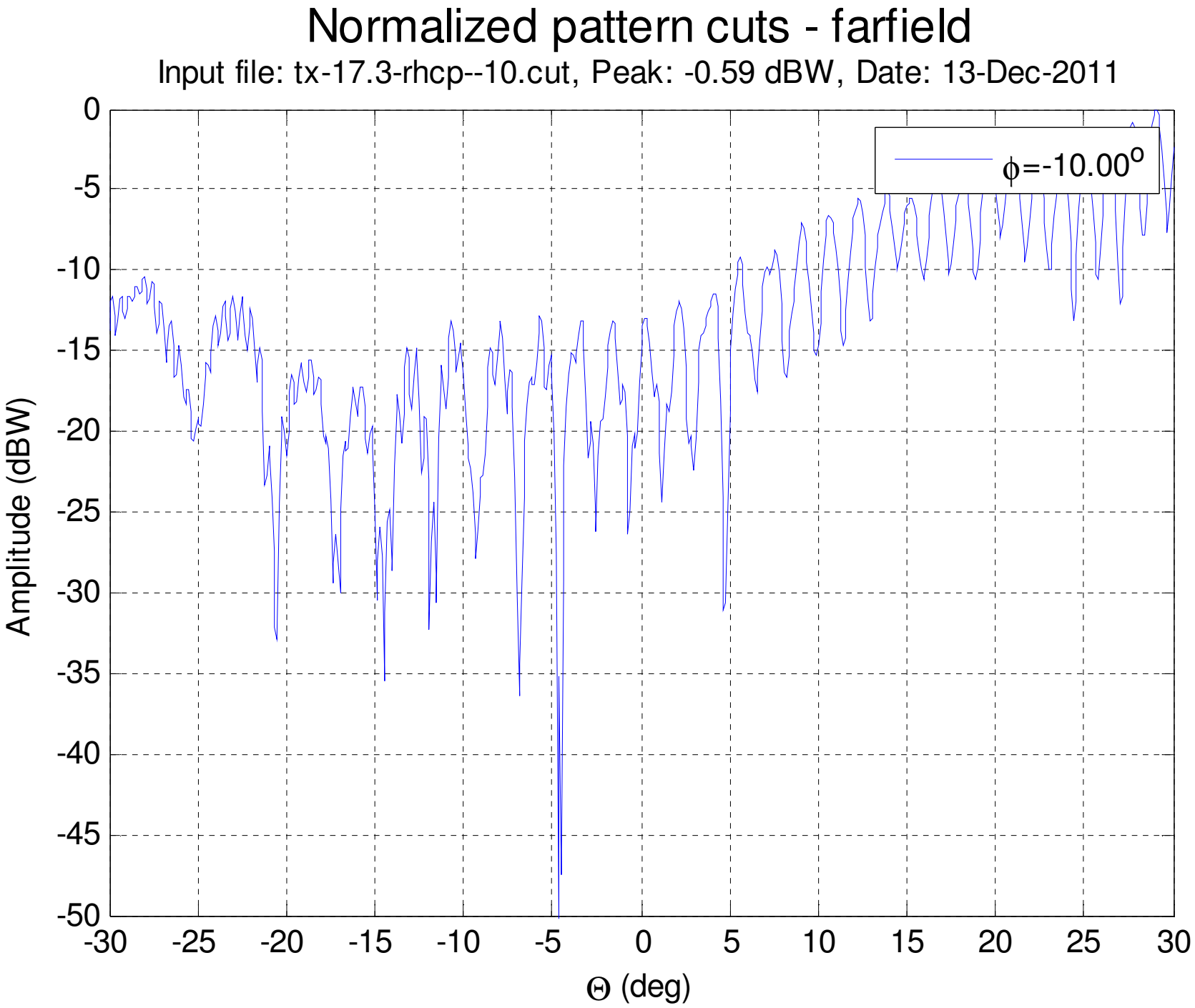

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -8.42 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

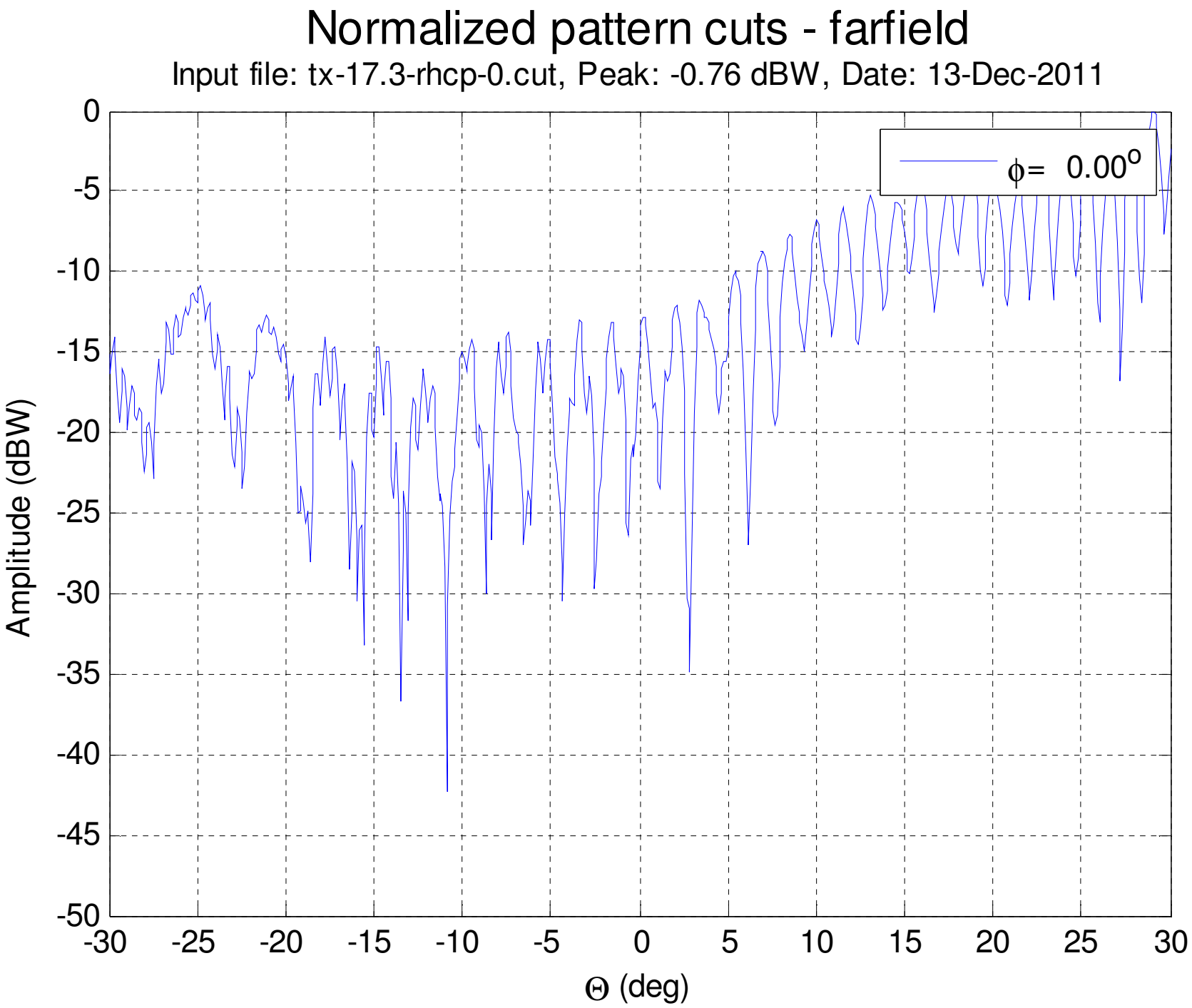

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -8.44 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

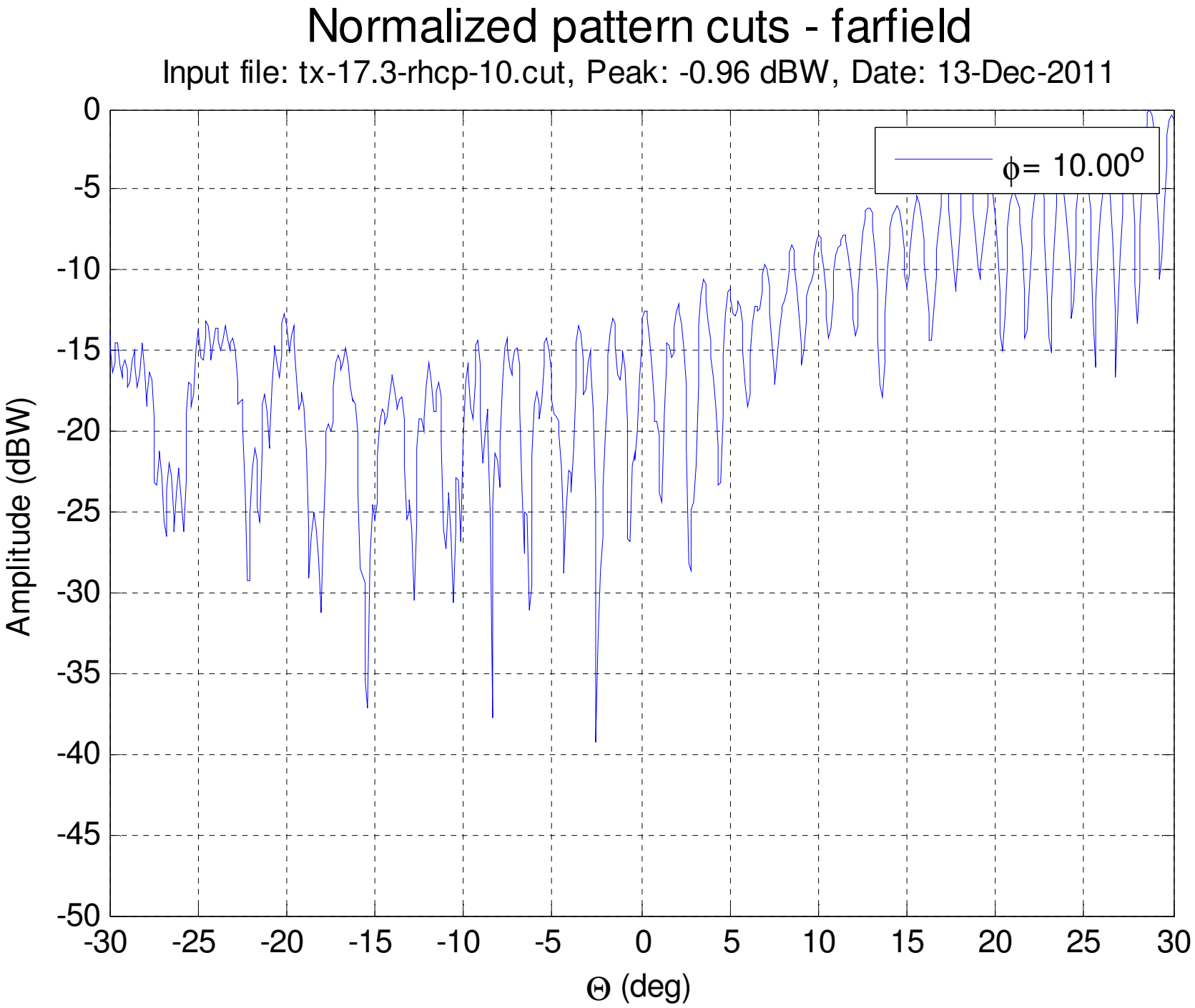

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -5.61 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

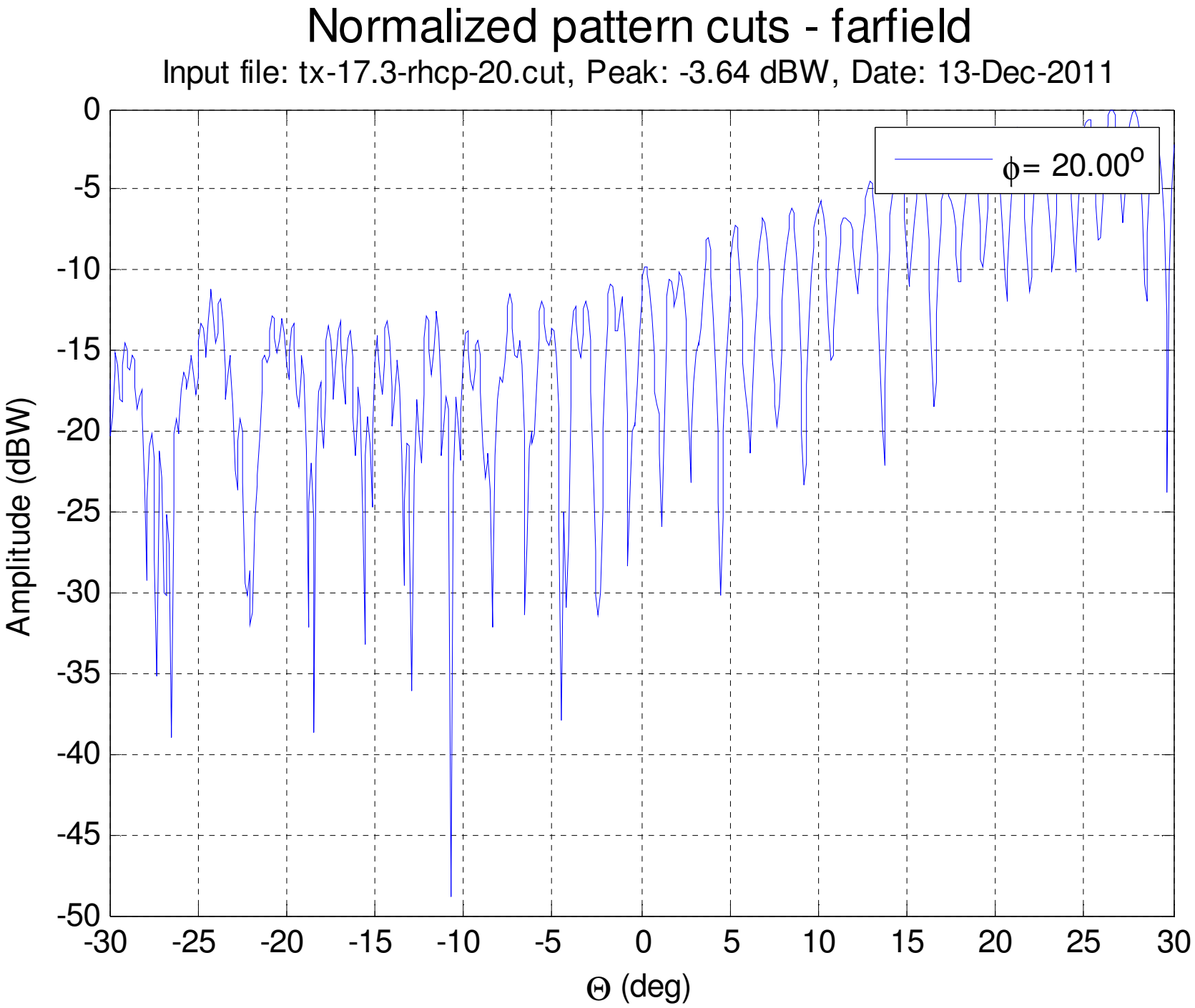

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -3.61 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

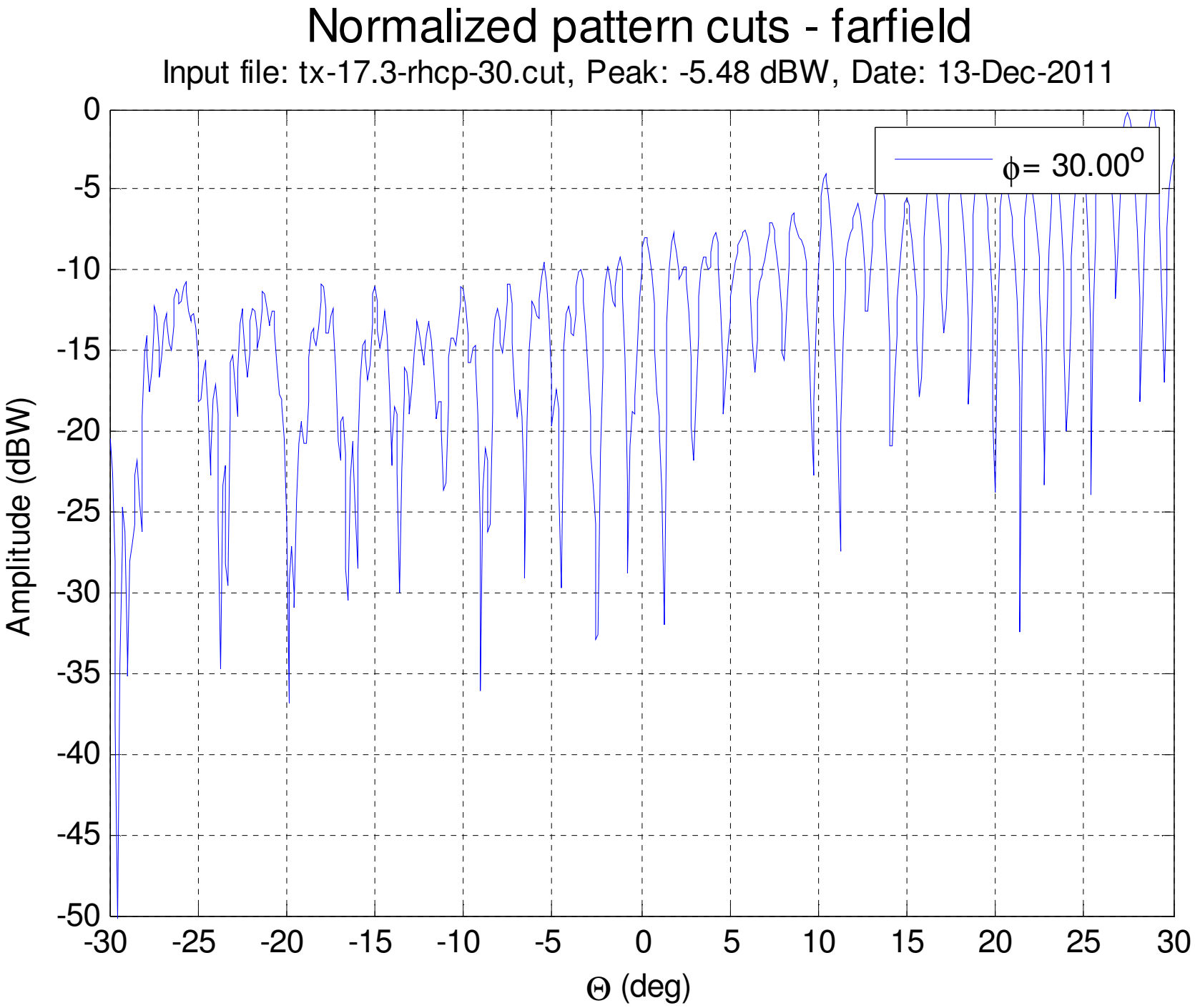

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -1.39 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

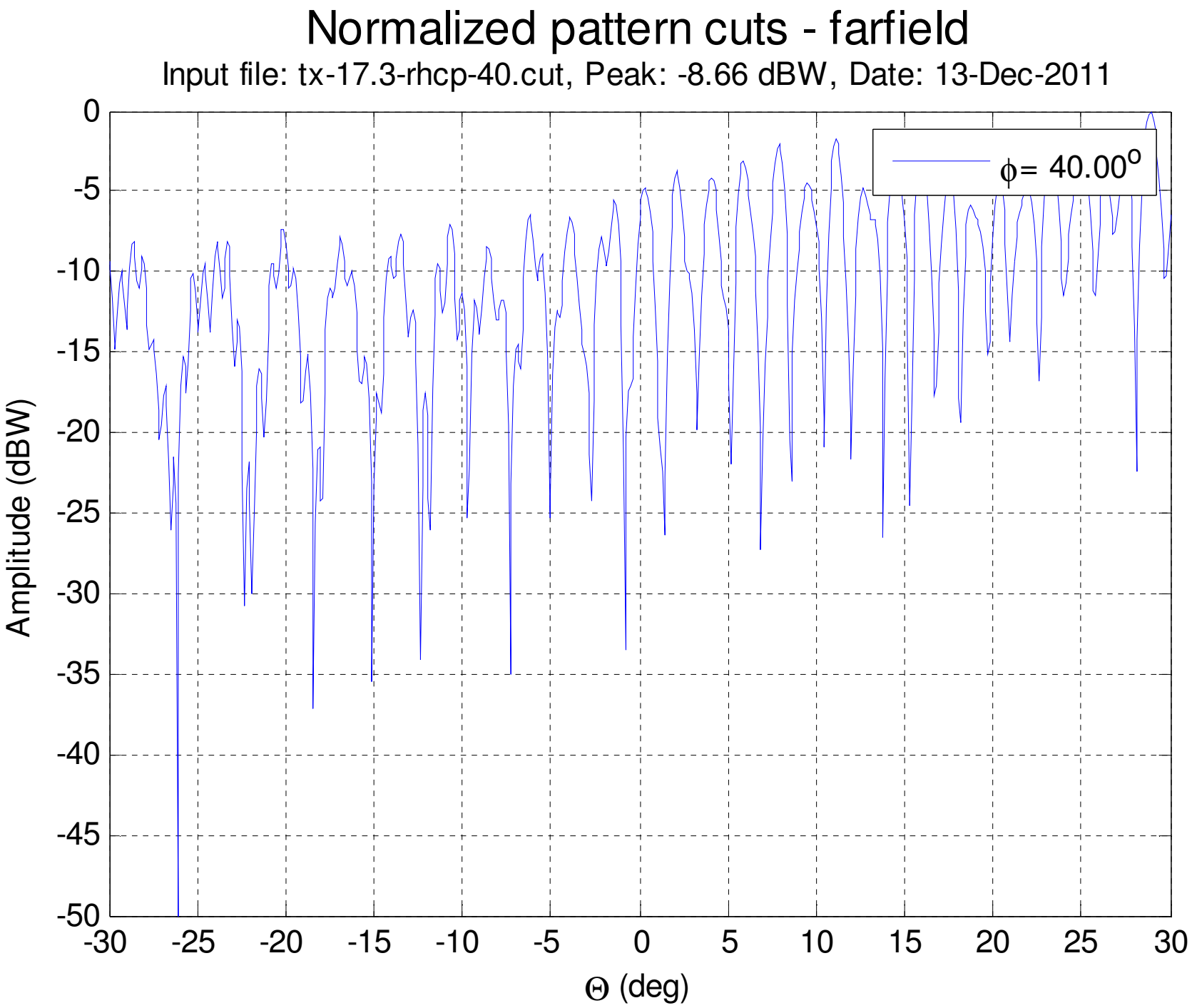

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -0.59 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

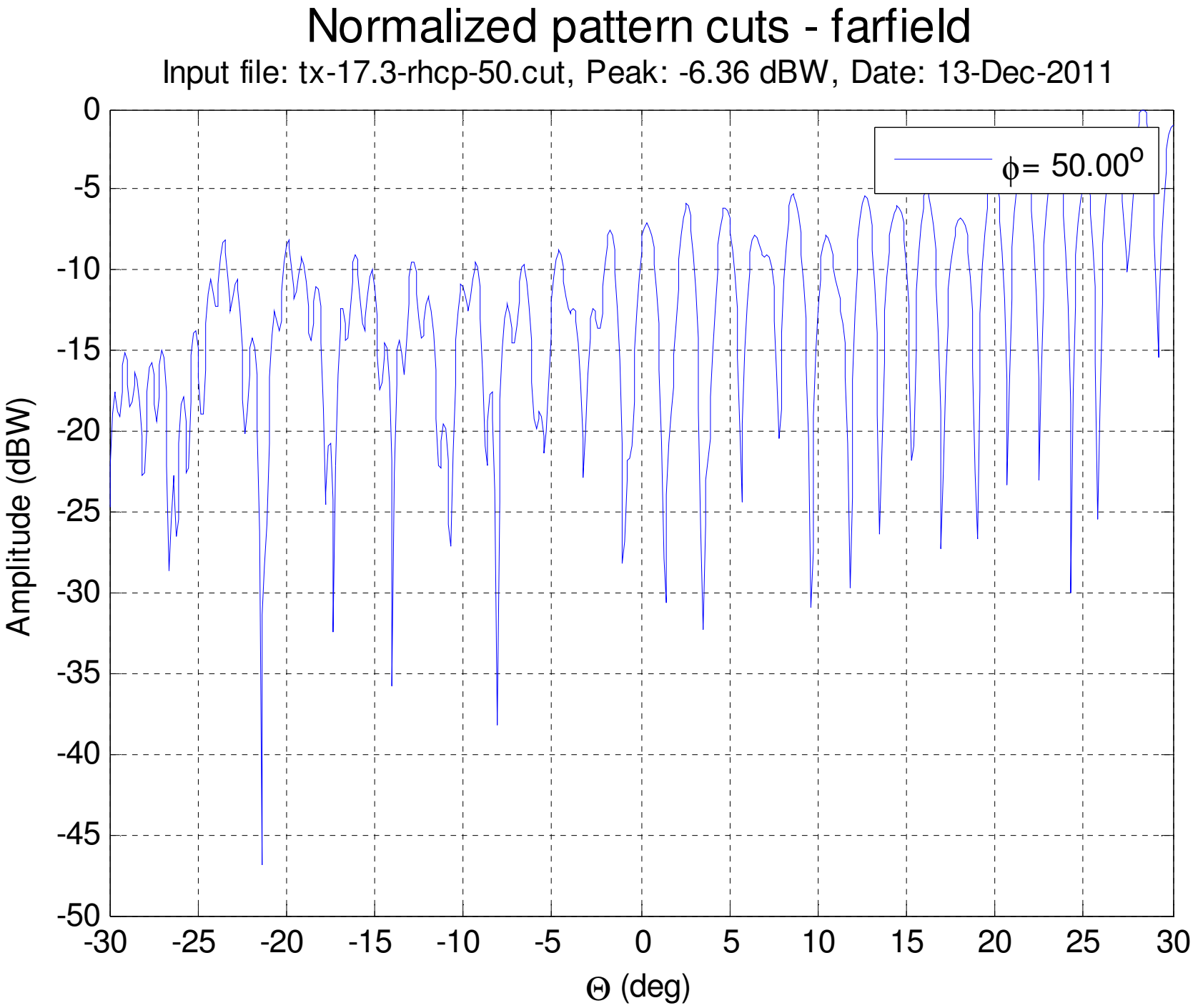

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -0.76 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

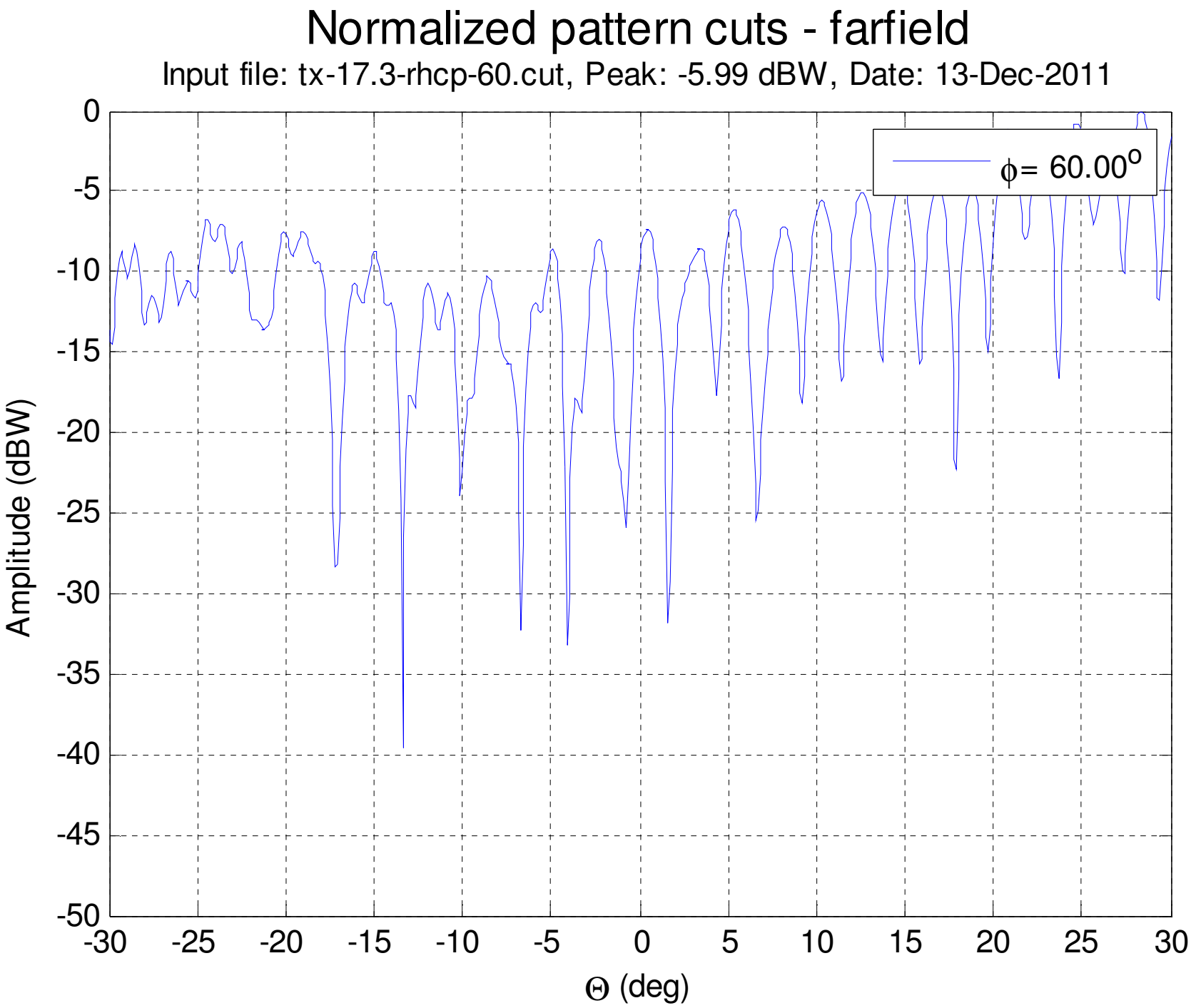

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -0.96 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -3.64 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

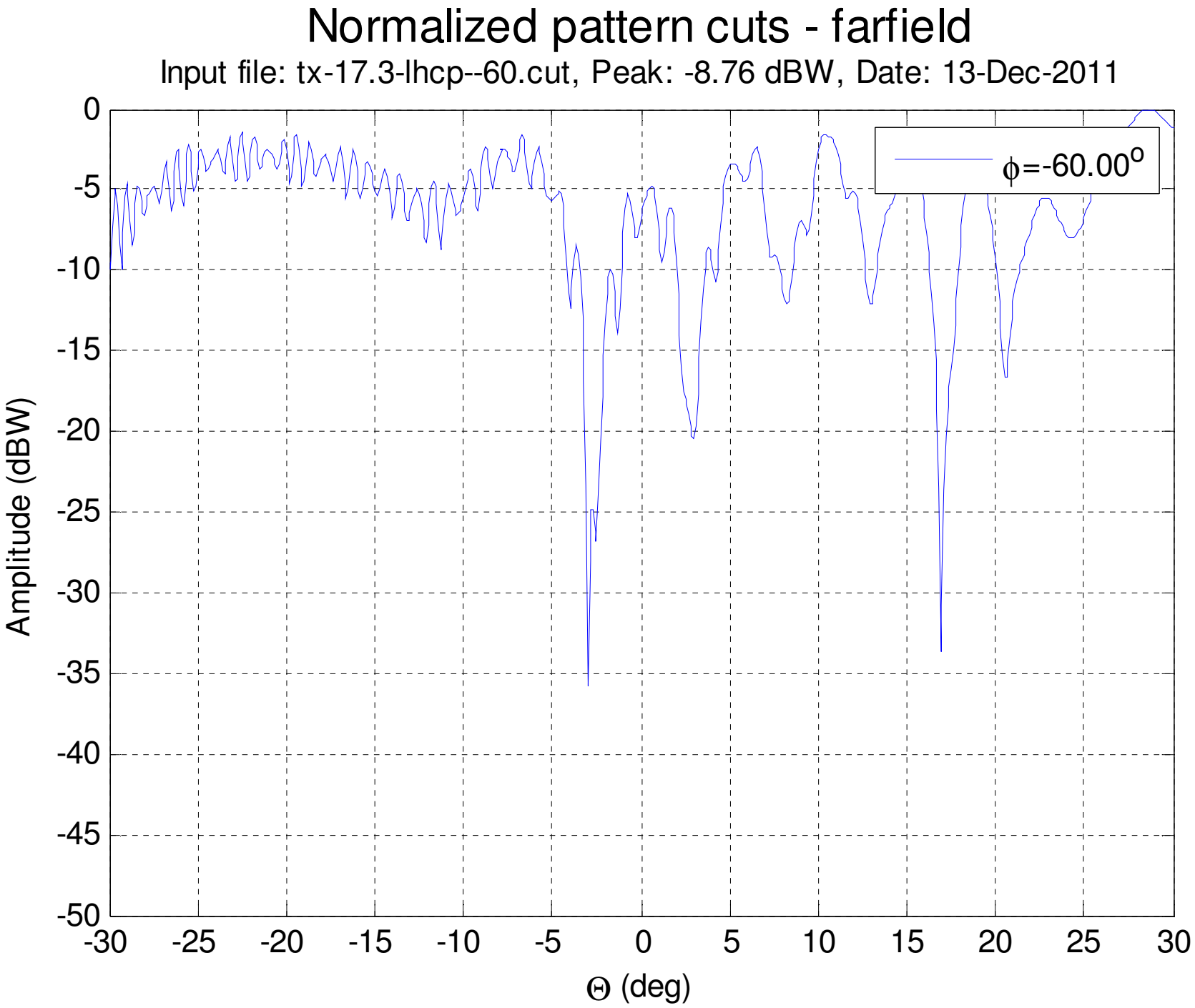

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -5.48 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

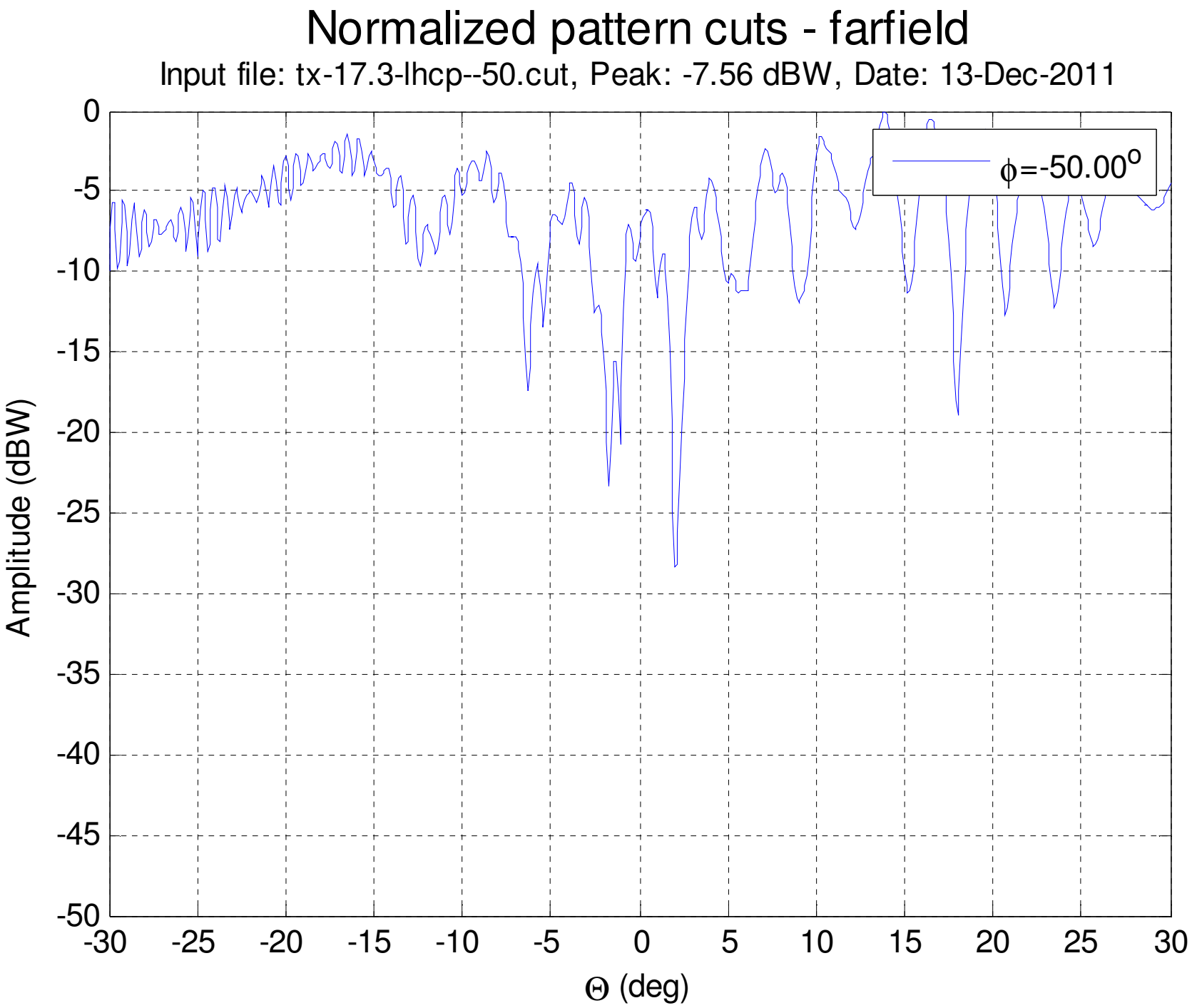

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -8.66 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

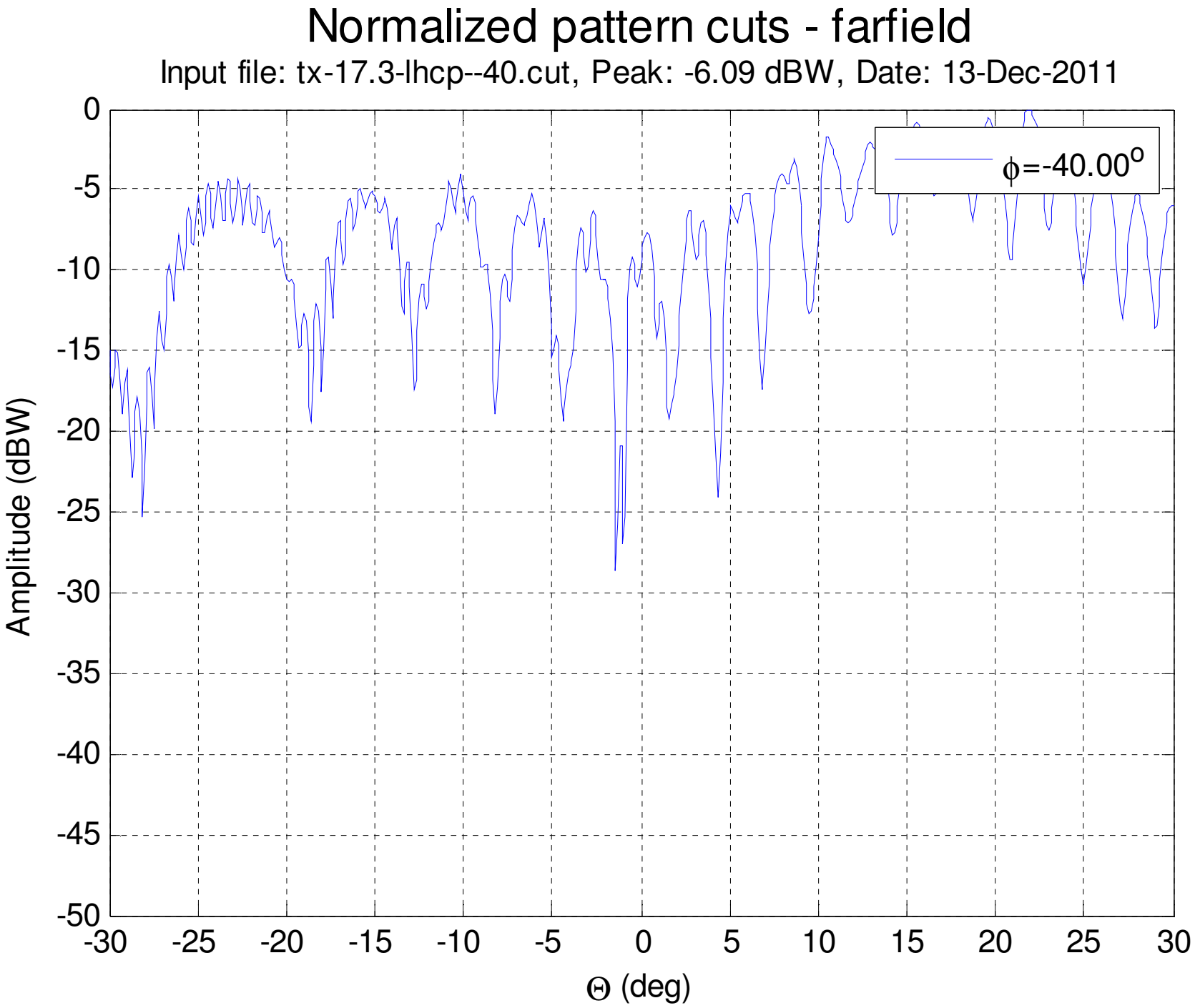

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -6.36 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

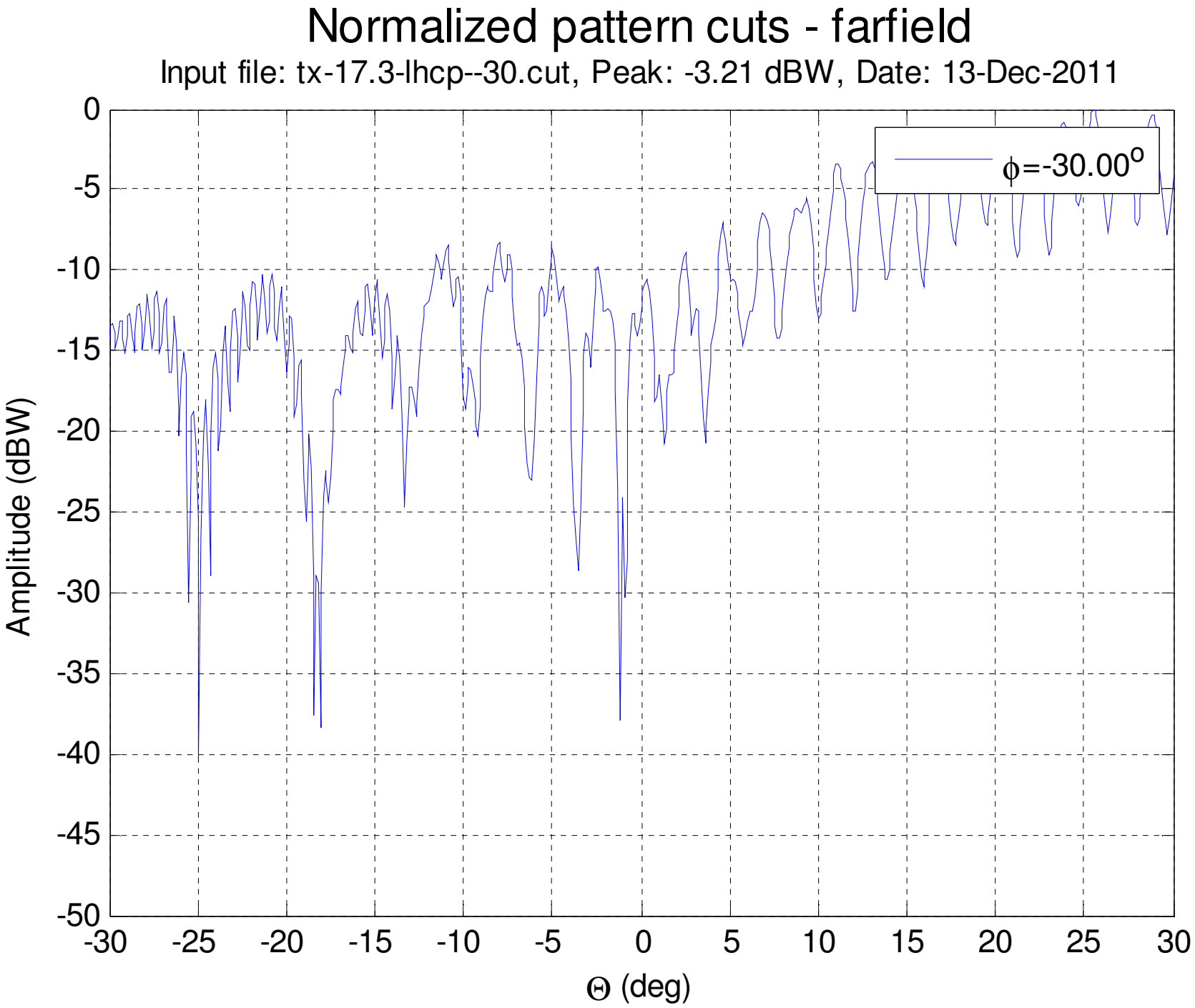

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -5.99 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

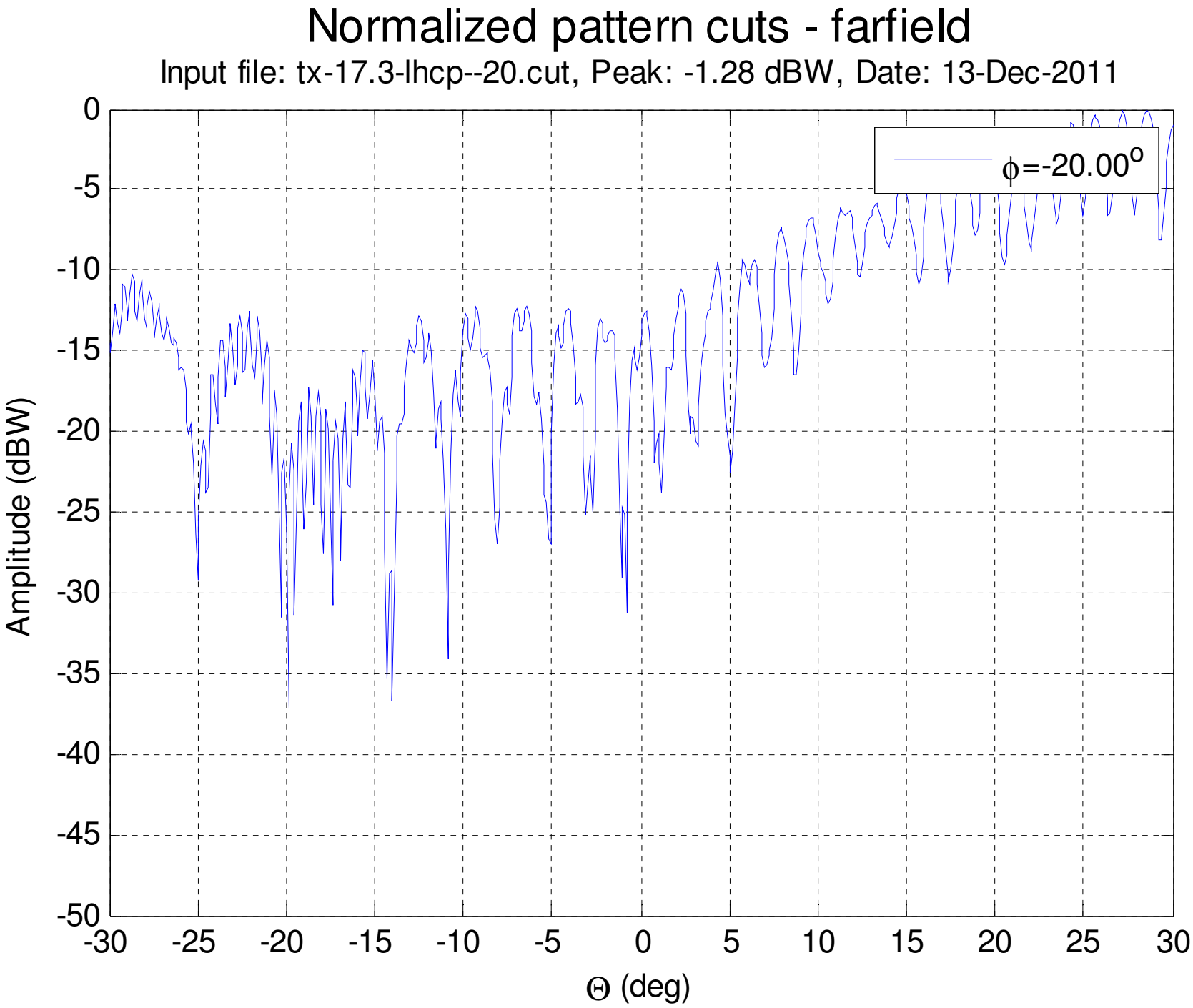
LHCP at 17.3 GHz

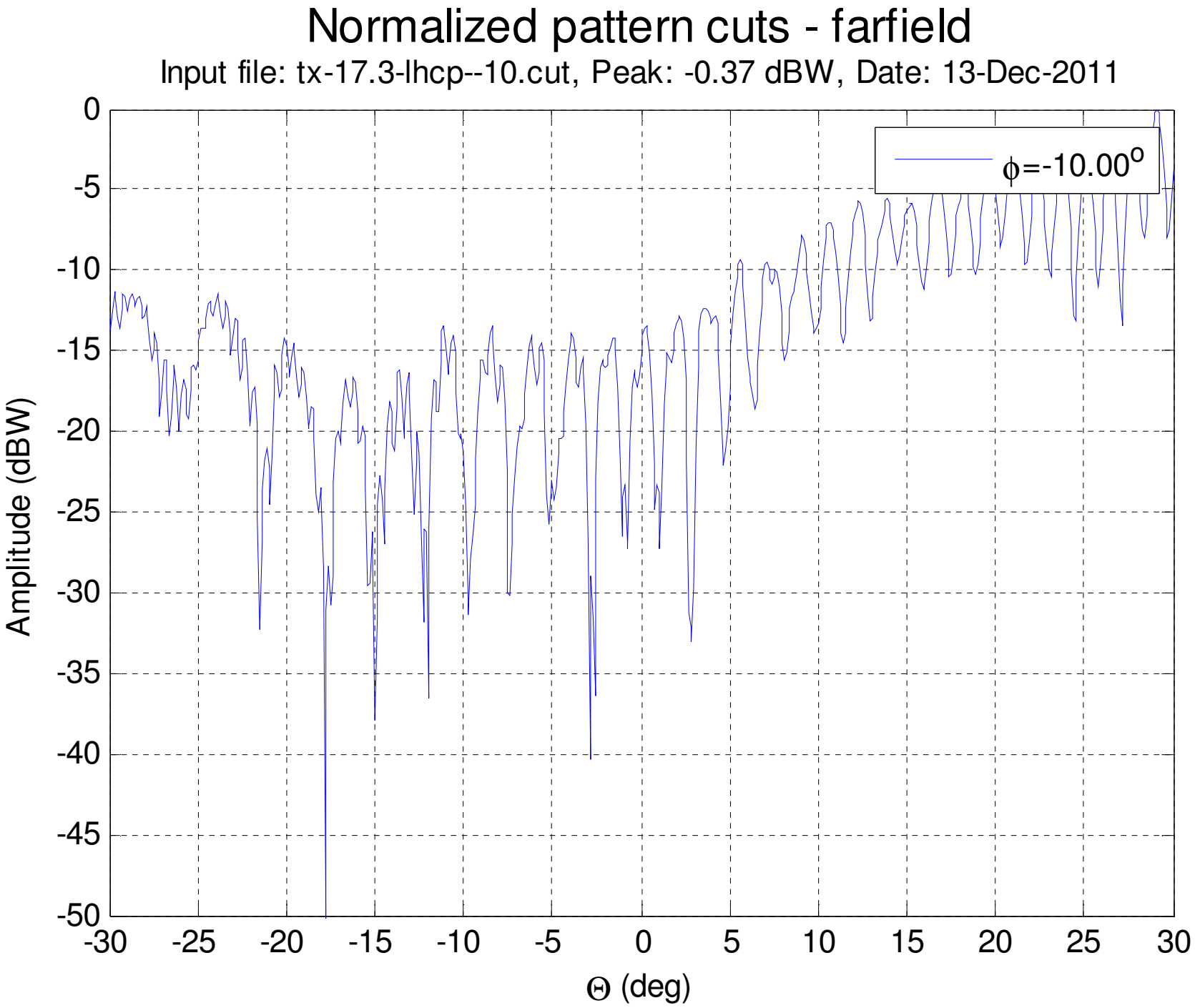

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -8.76 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

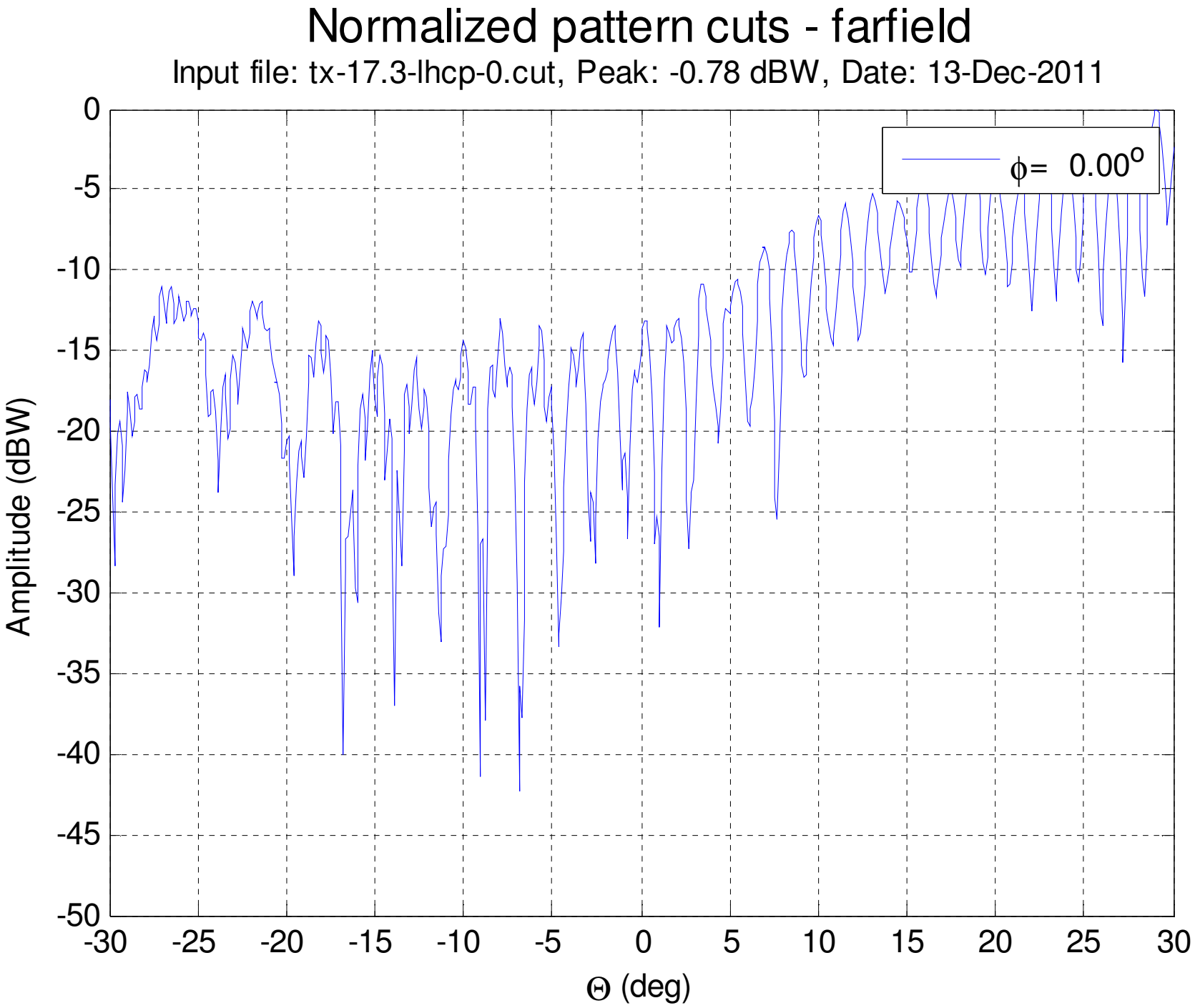

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -7.56 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

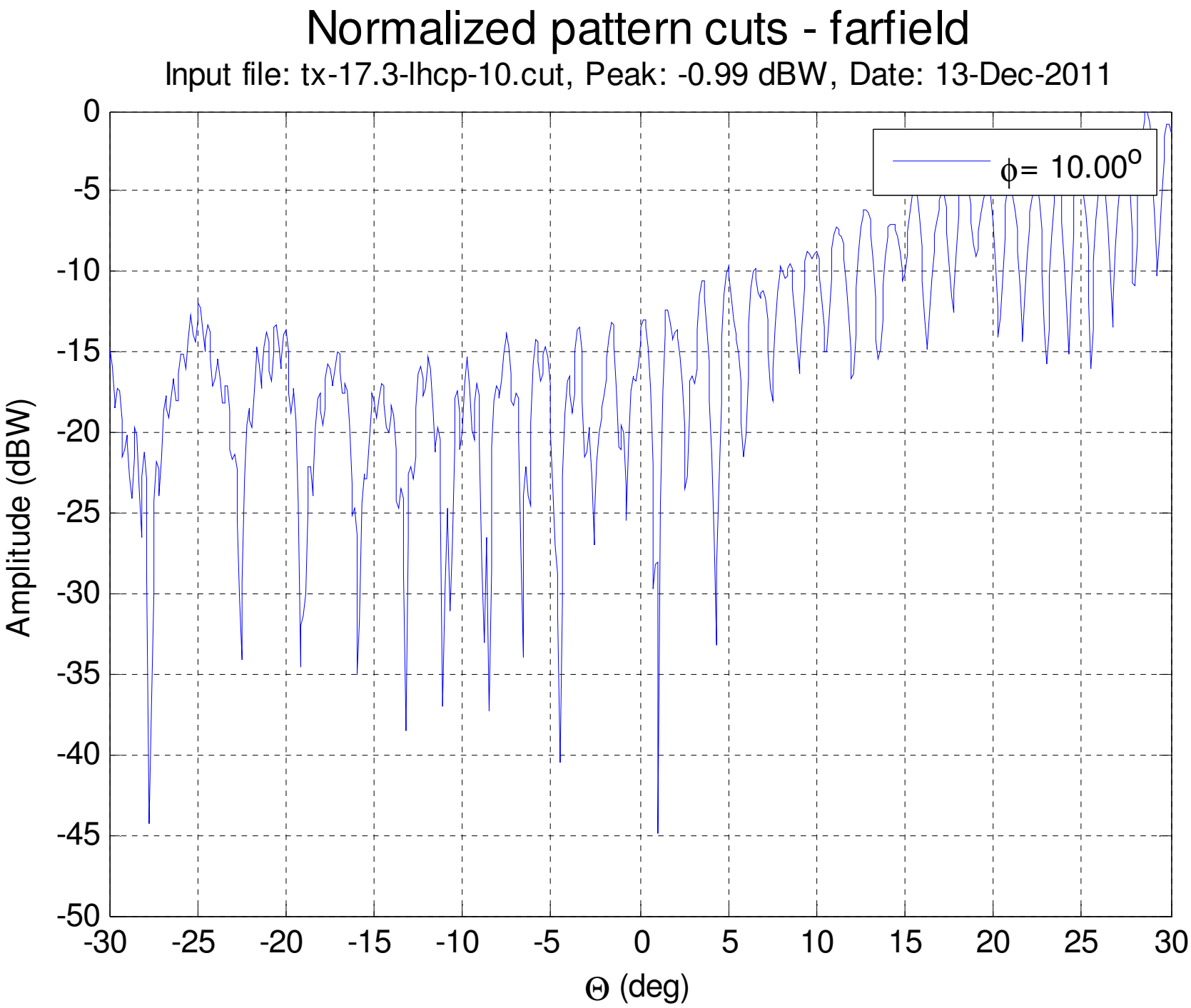

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -6.09 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

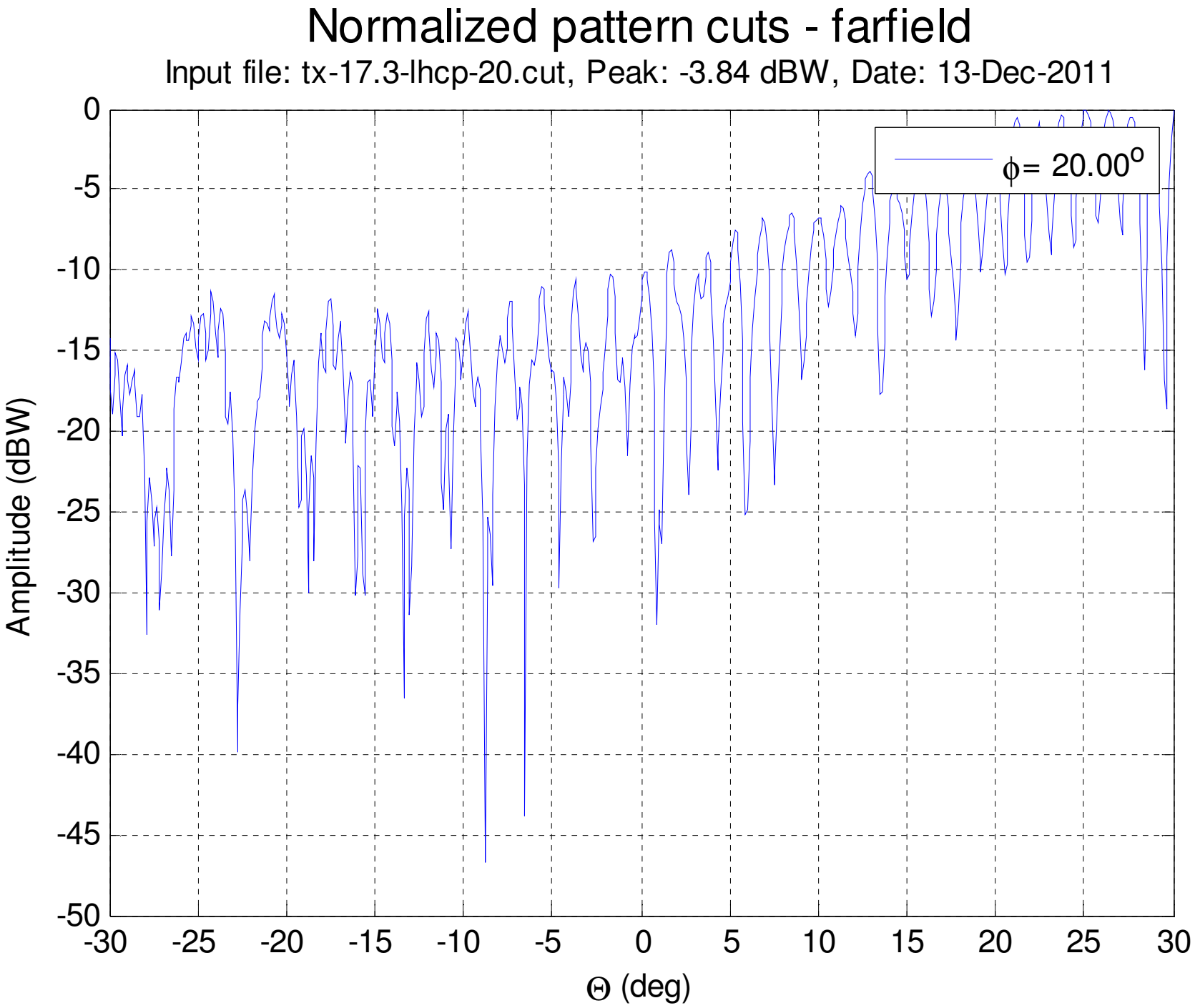

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -3.21 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

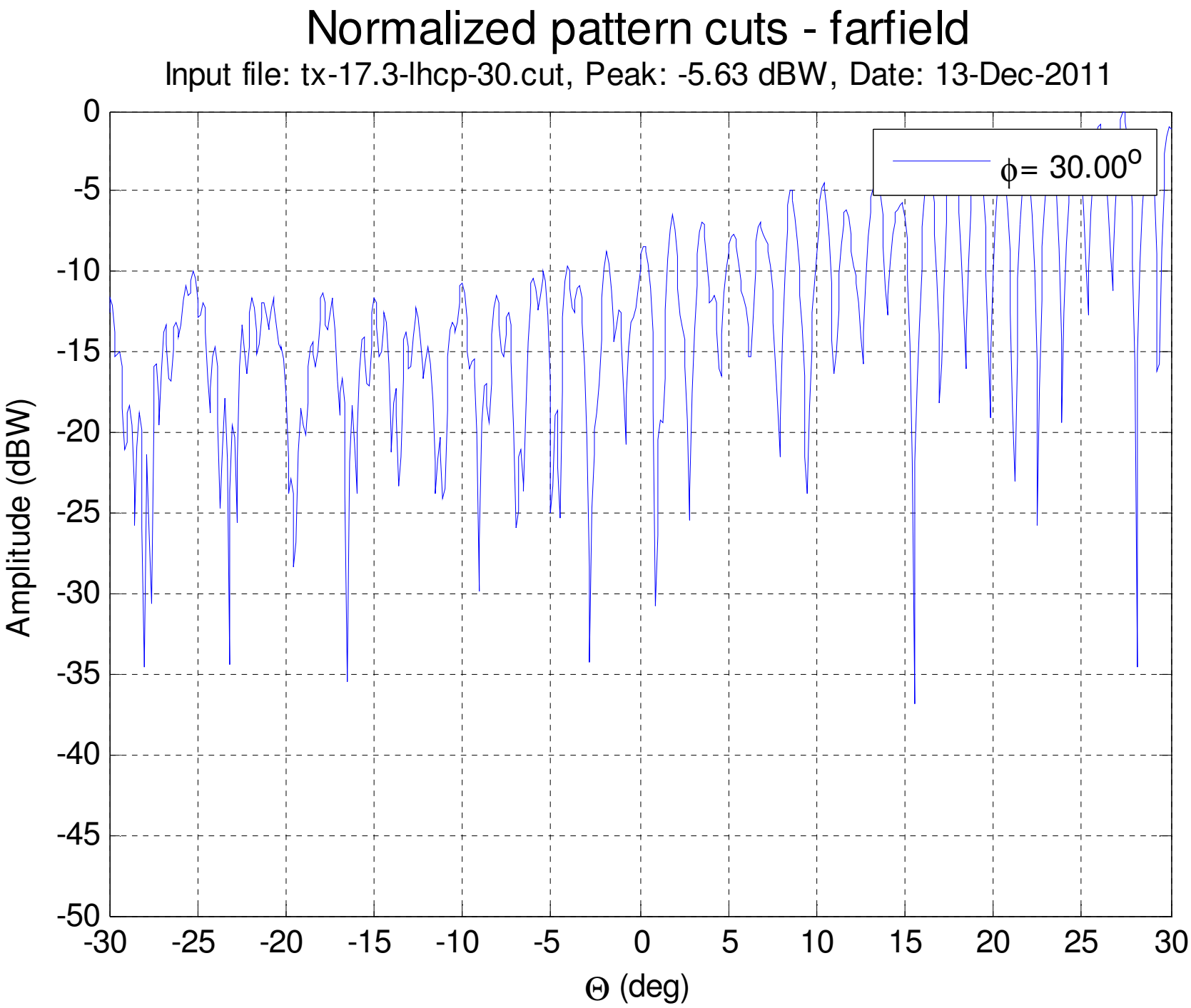

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -1.28 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

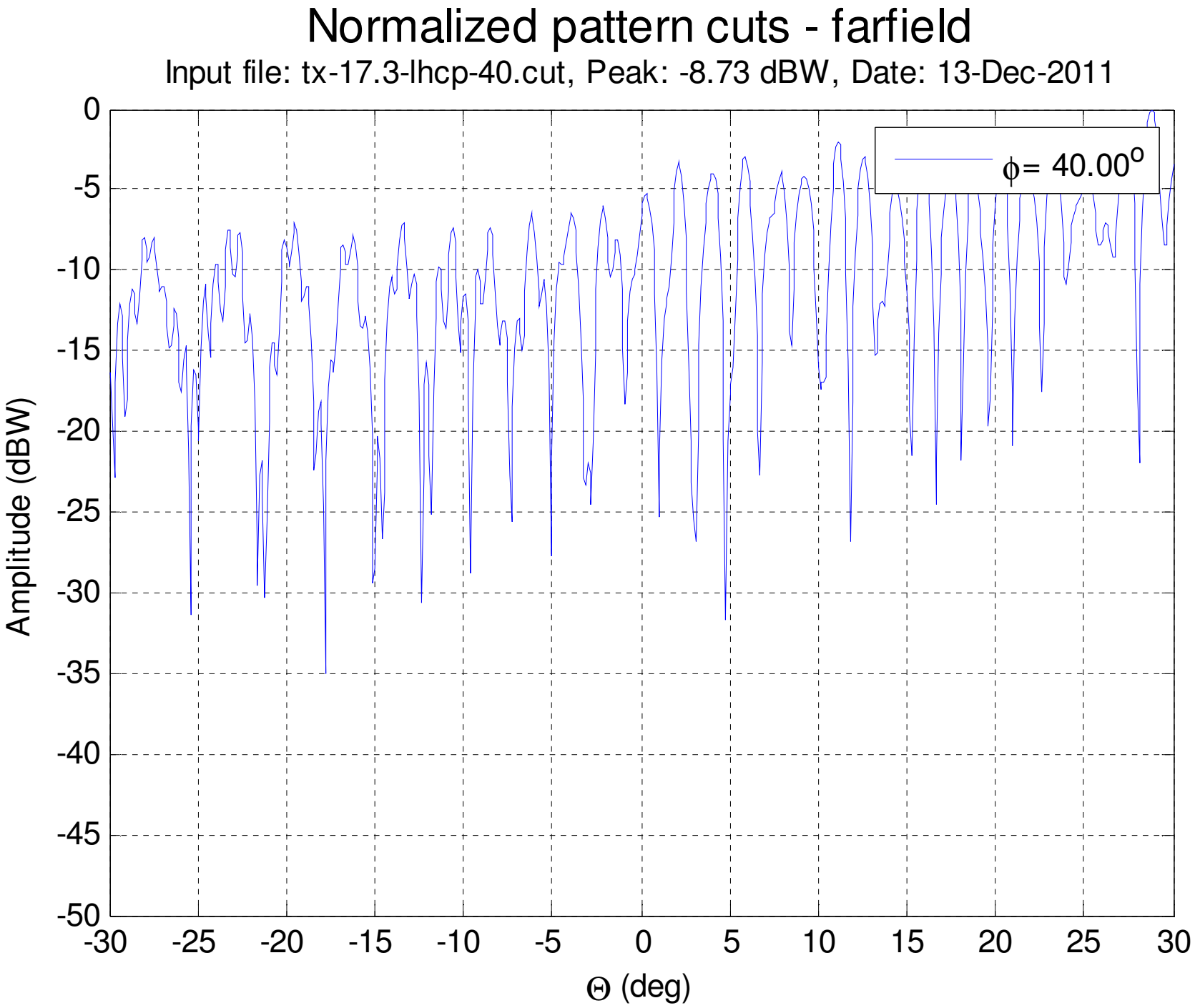

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -0.37 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

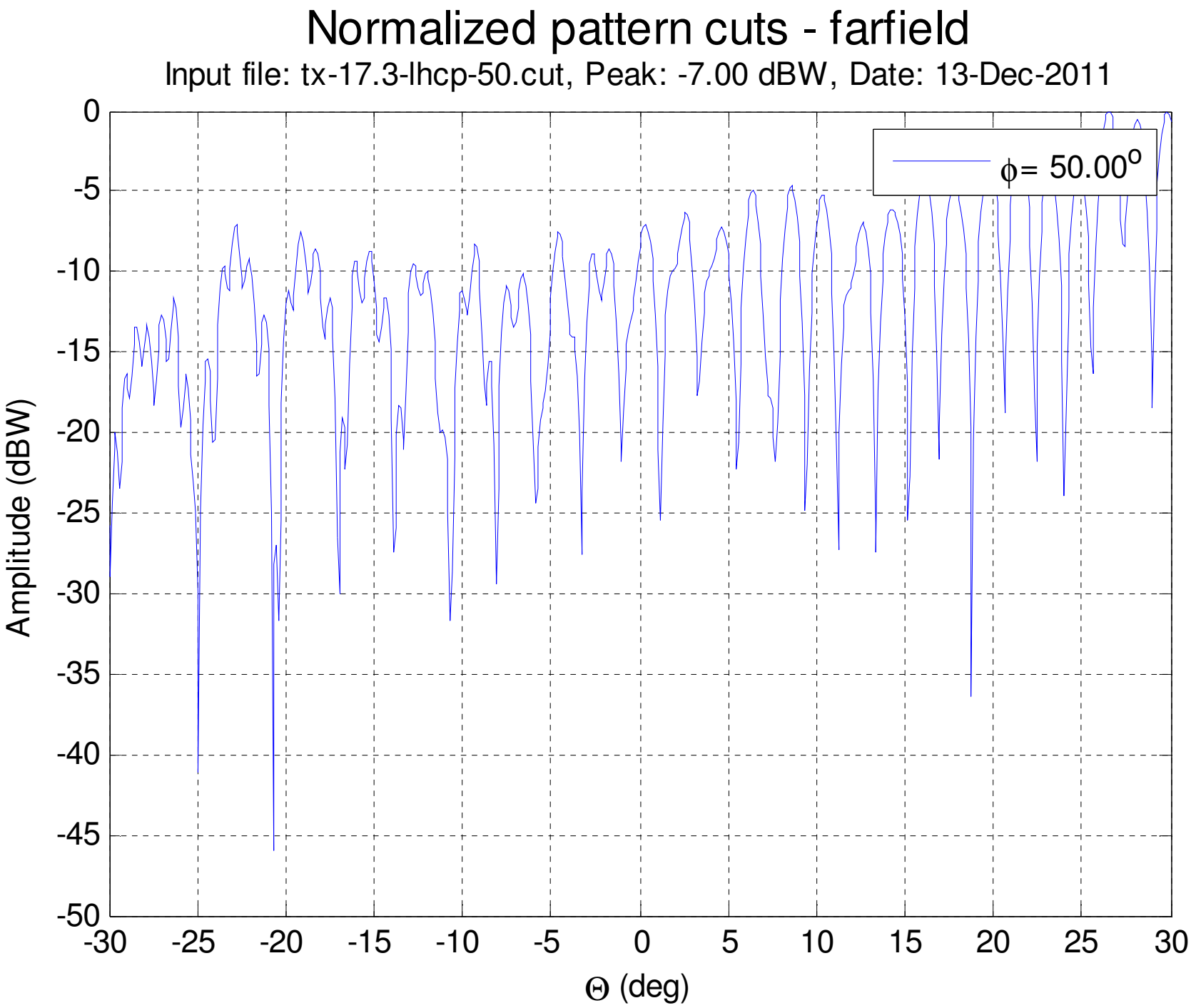

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -0.78 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

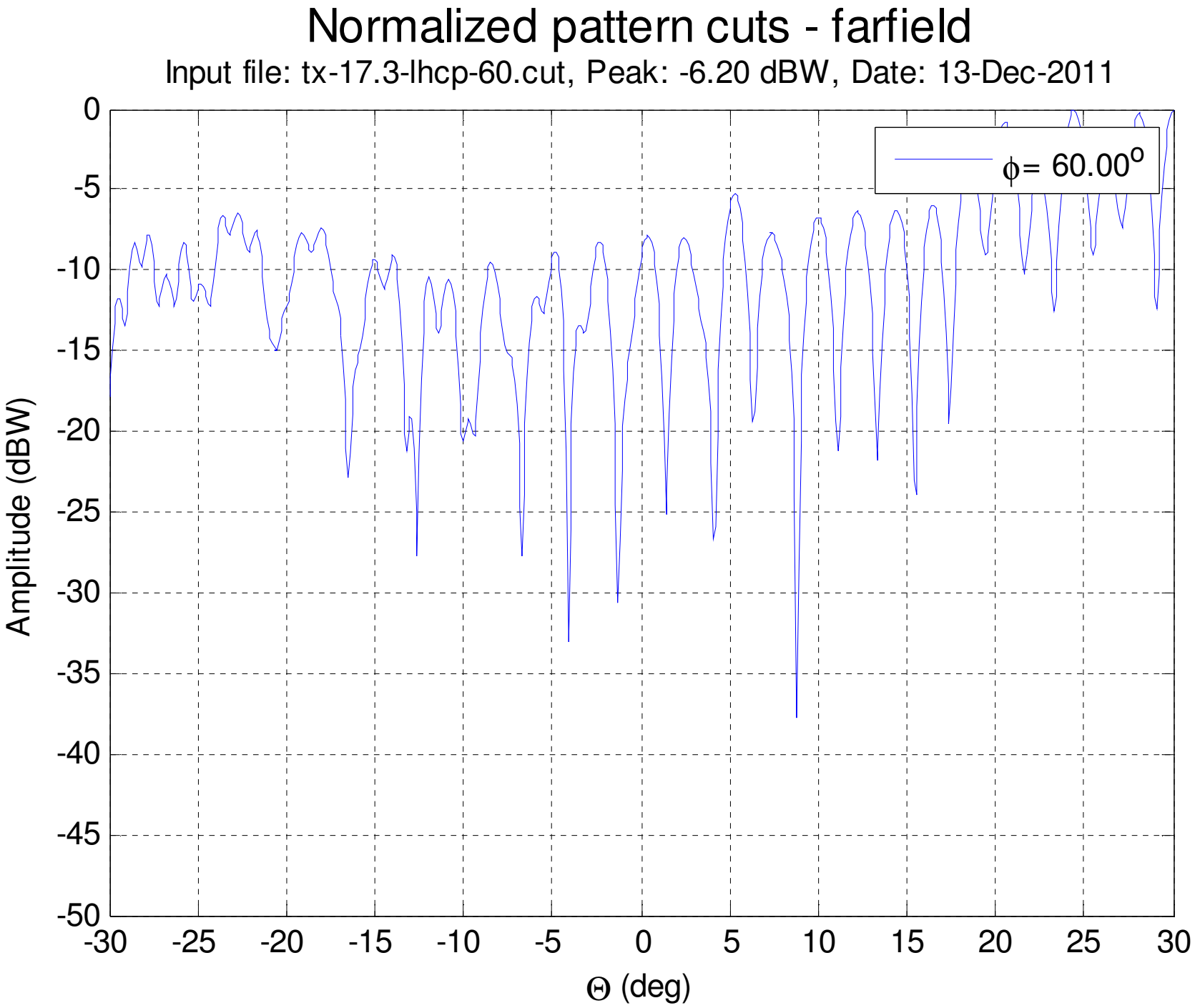

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -0.99 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -3.84 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

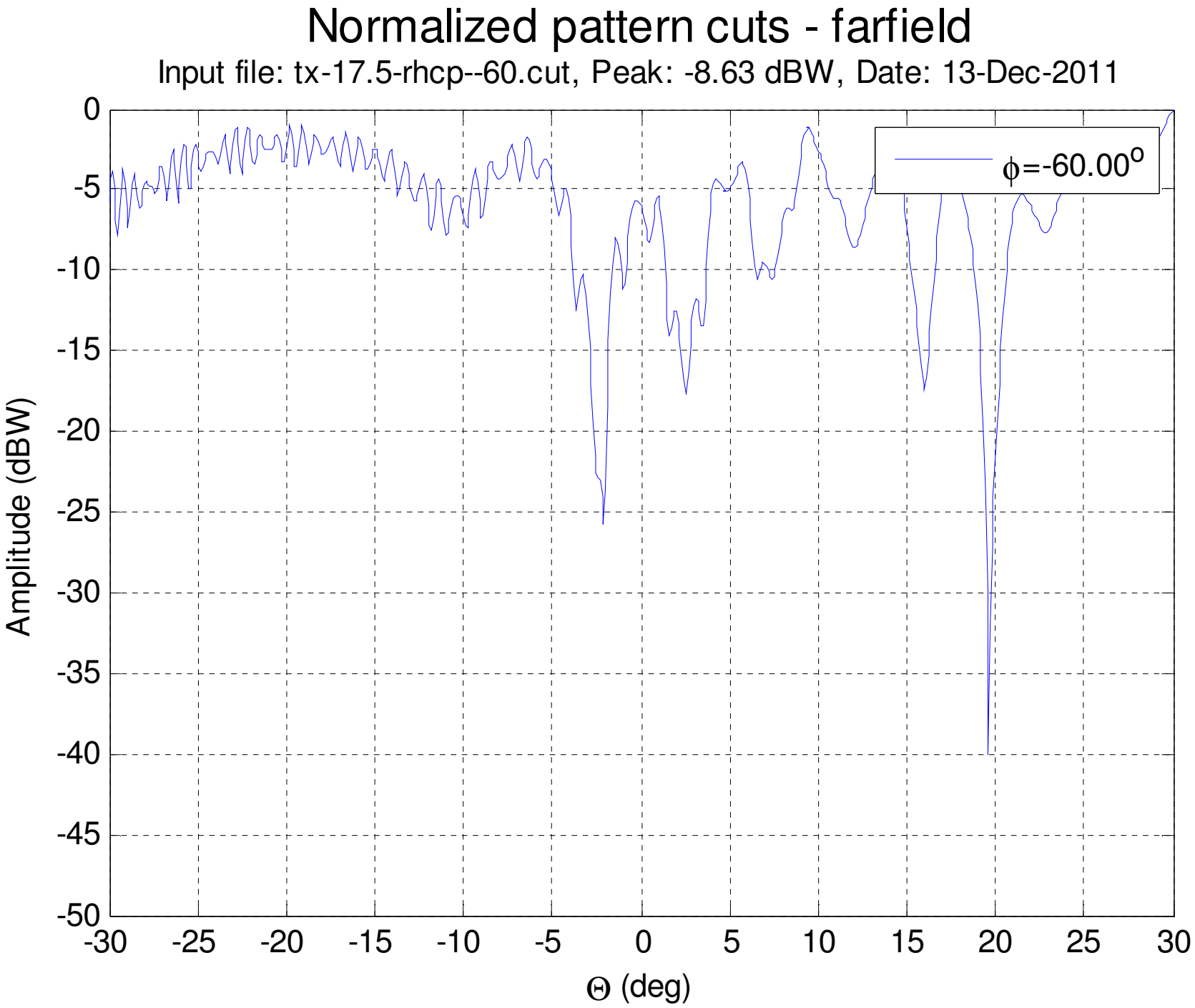

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -5.63 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

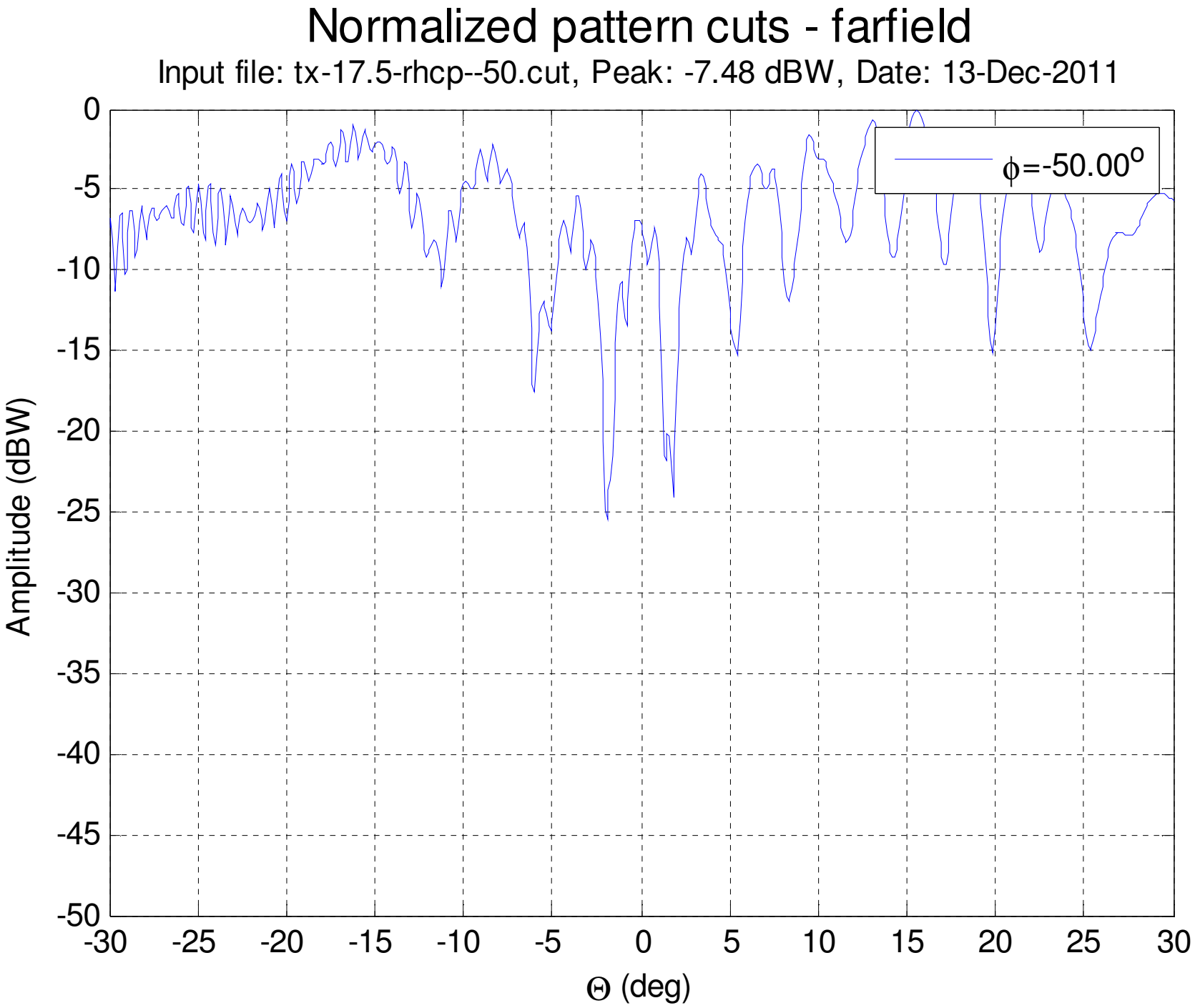

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -8.73 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

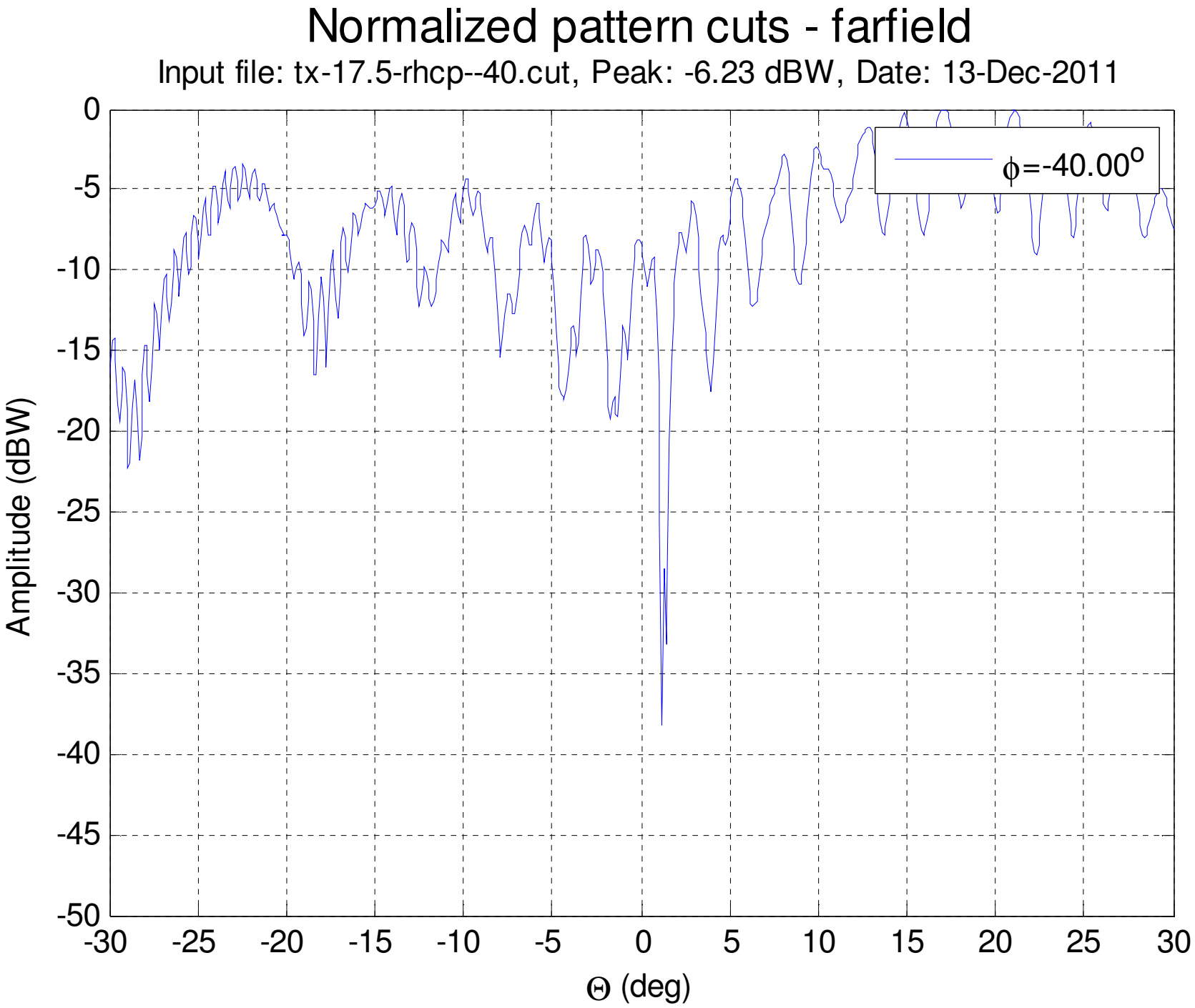

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -7.00 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

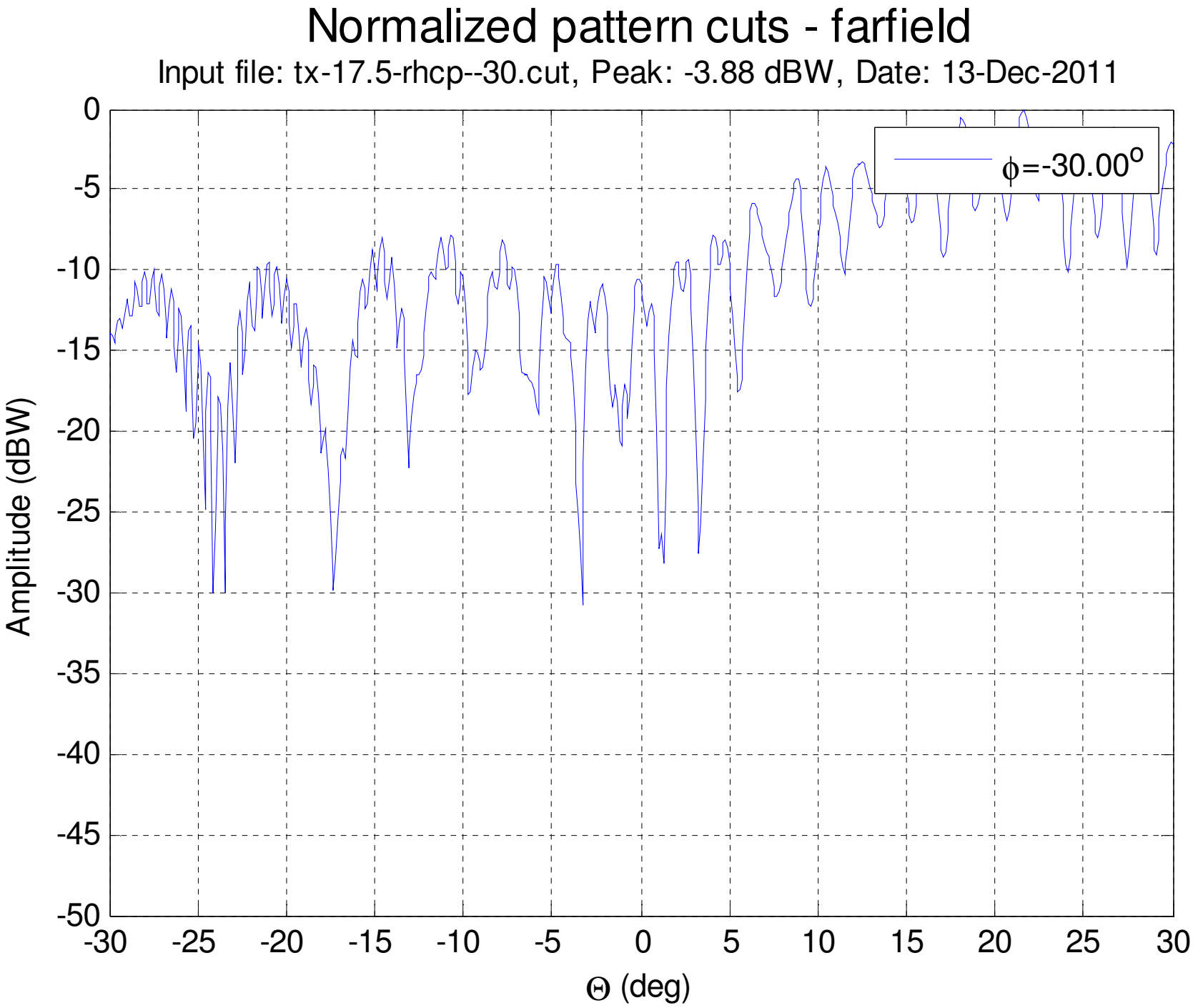

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -6.20 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

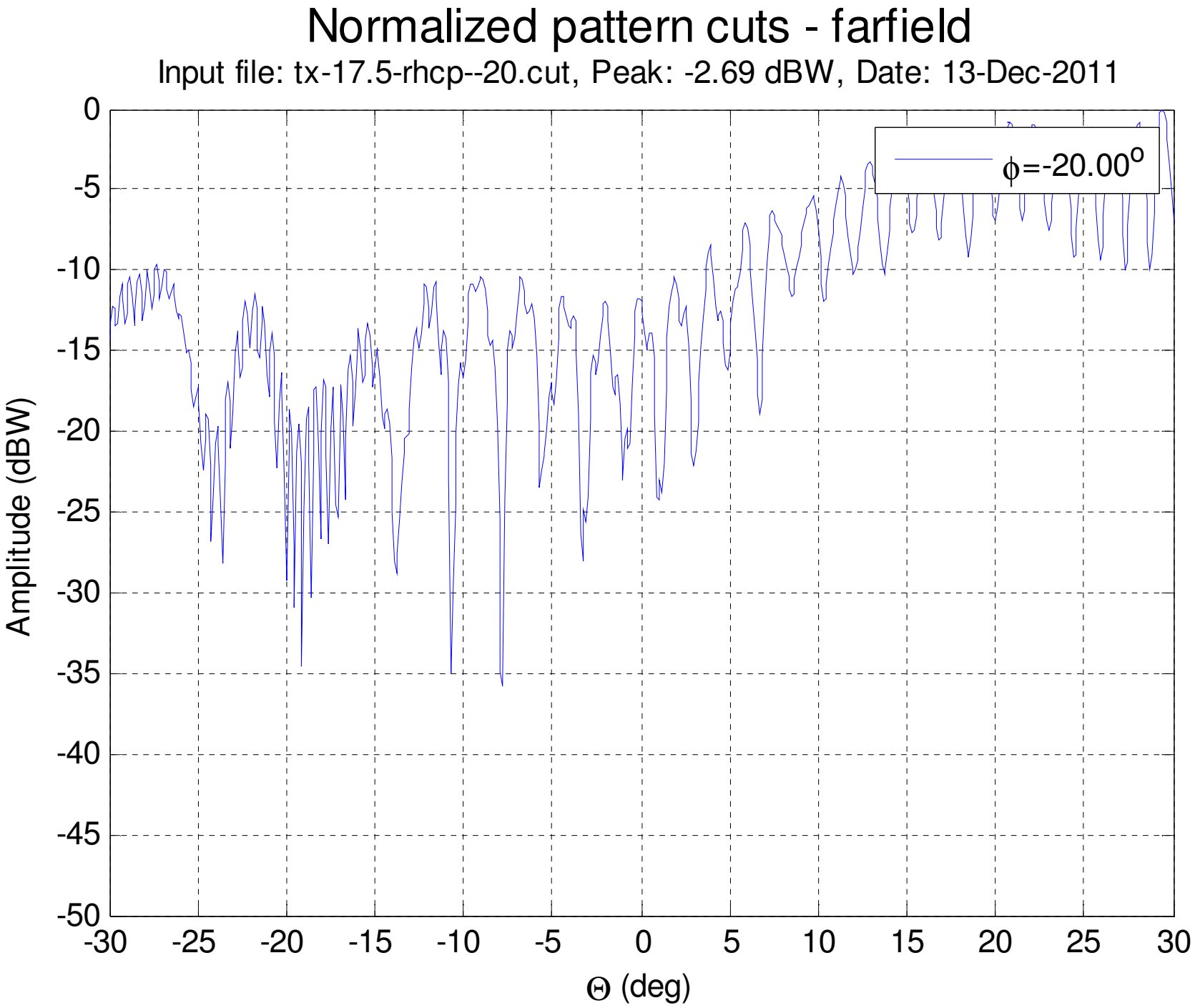
RHCP at 17.5 GHz

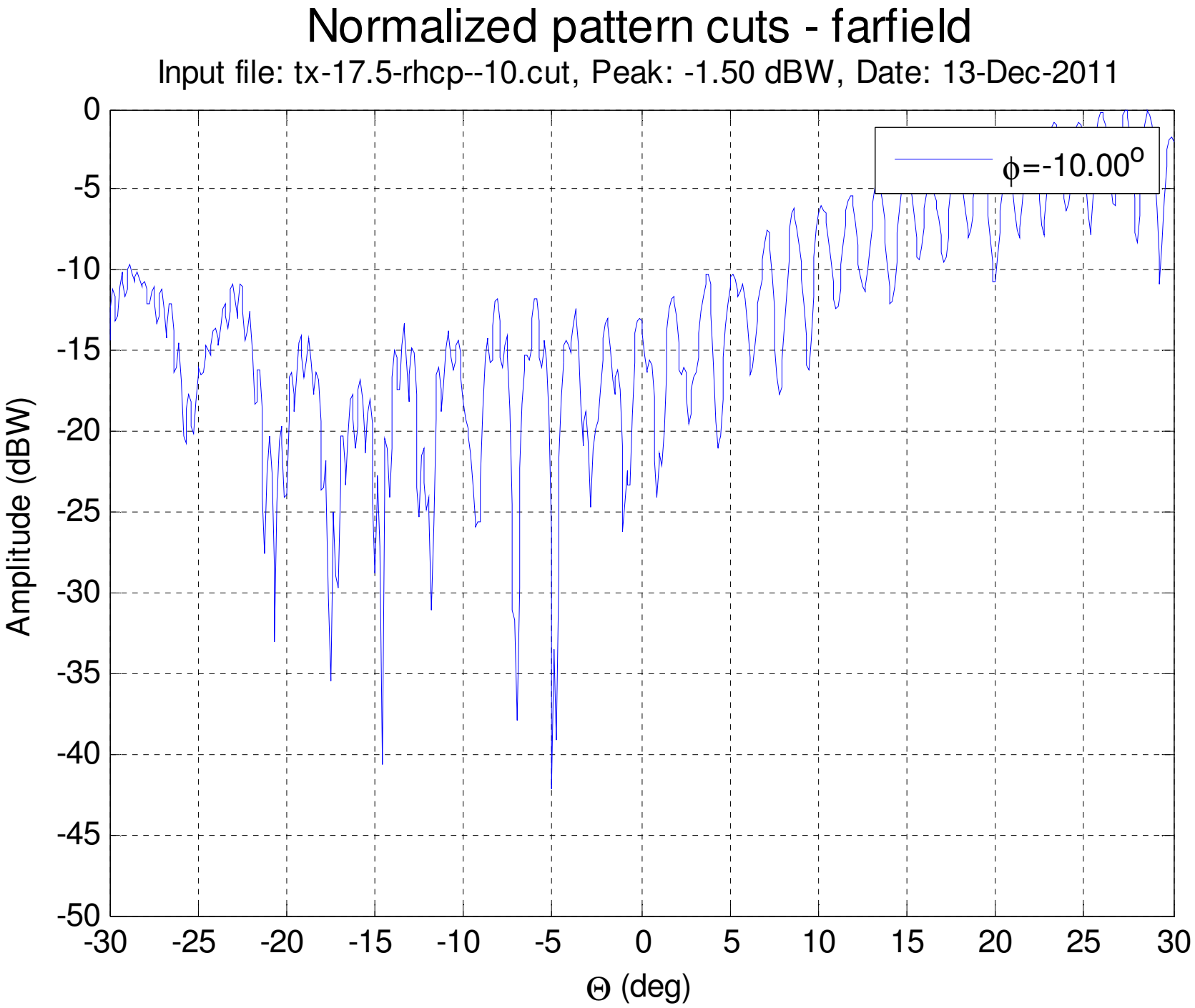

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -8.63 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

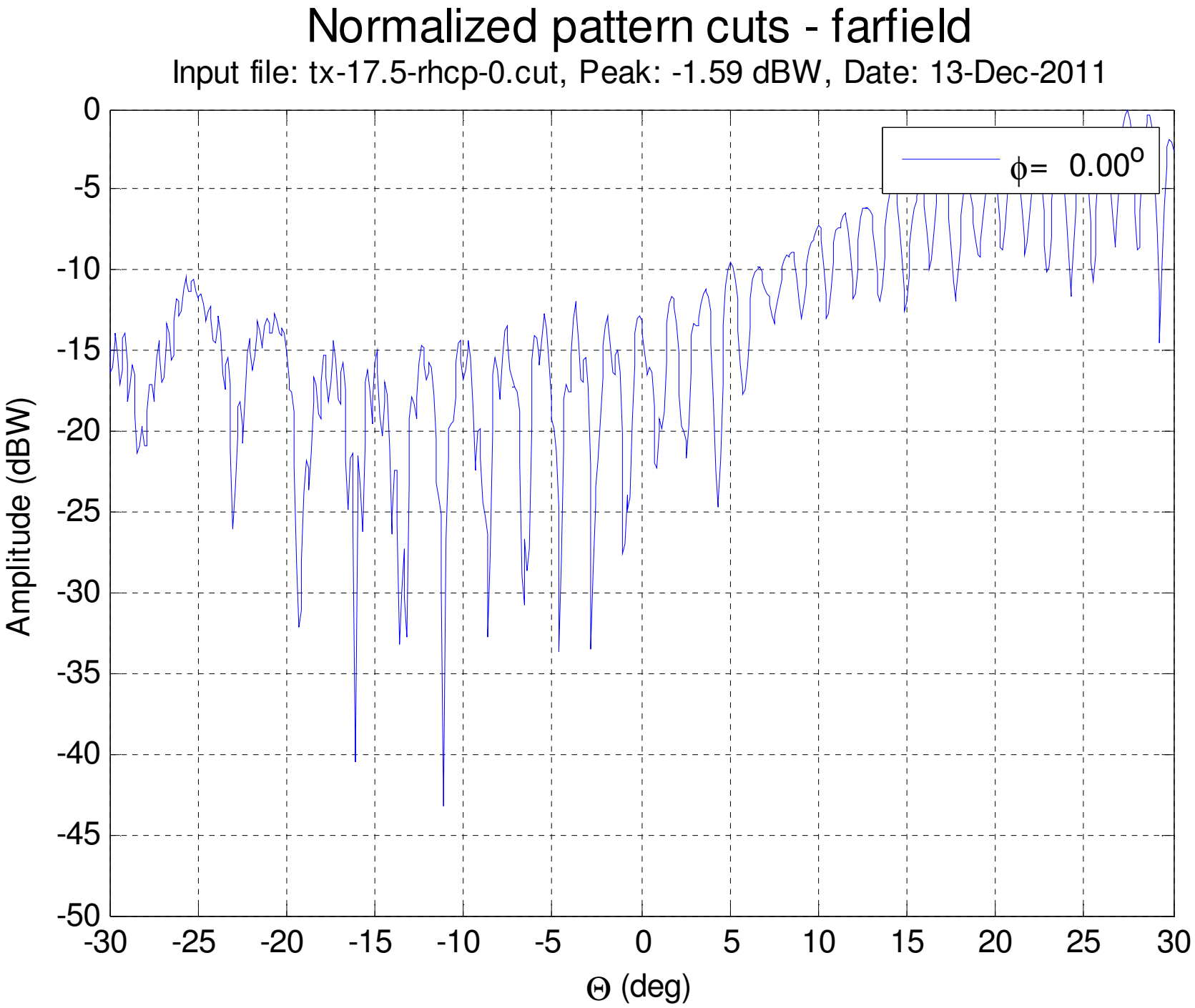

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -7.48 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

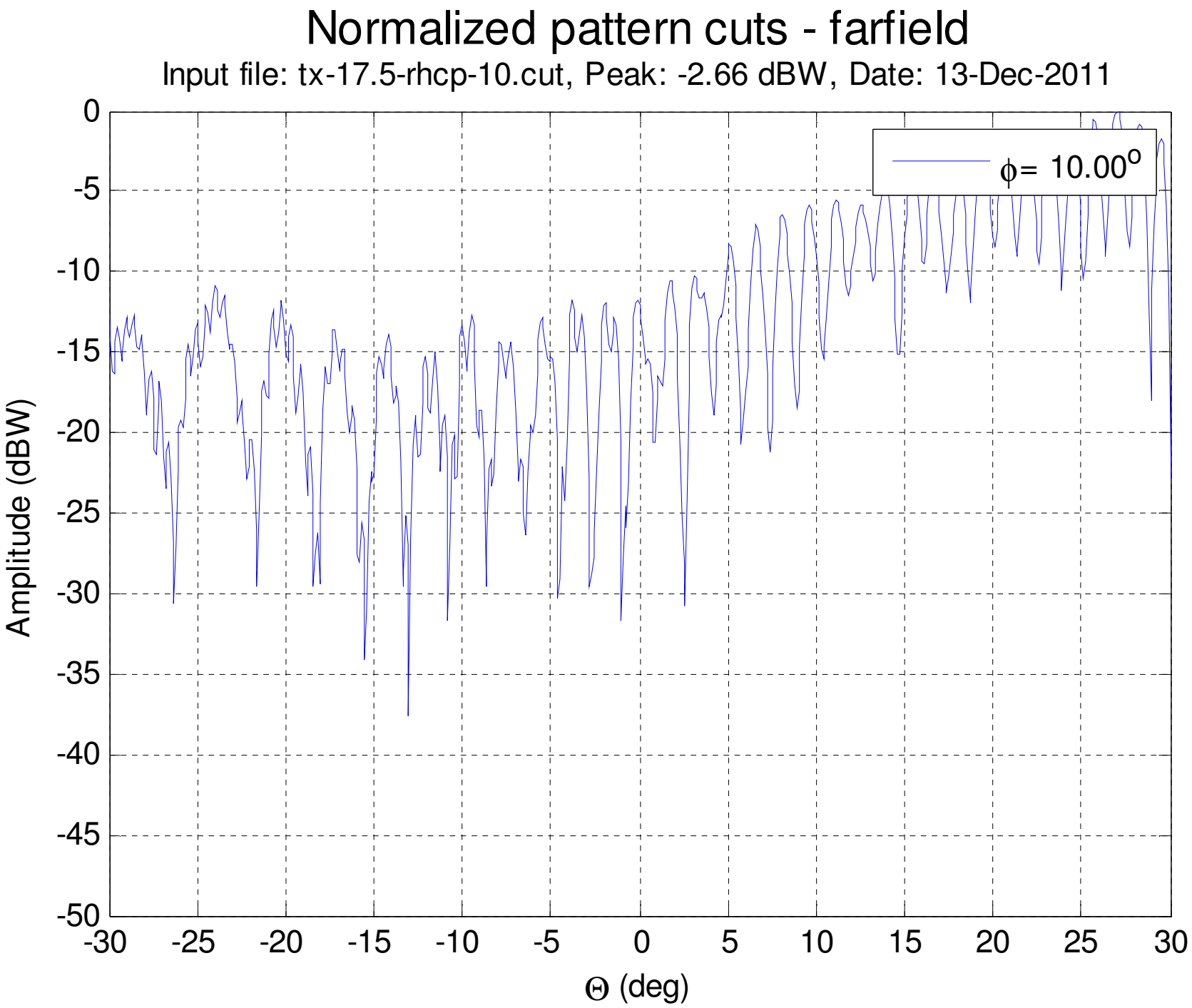

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -6.23 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

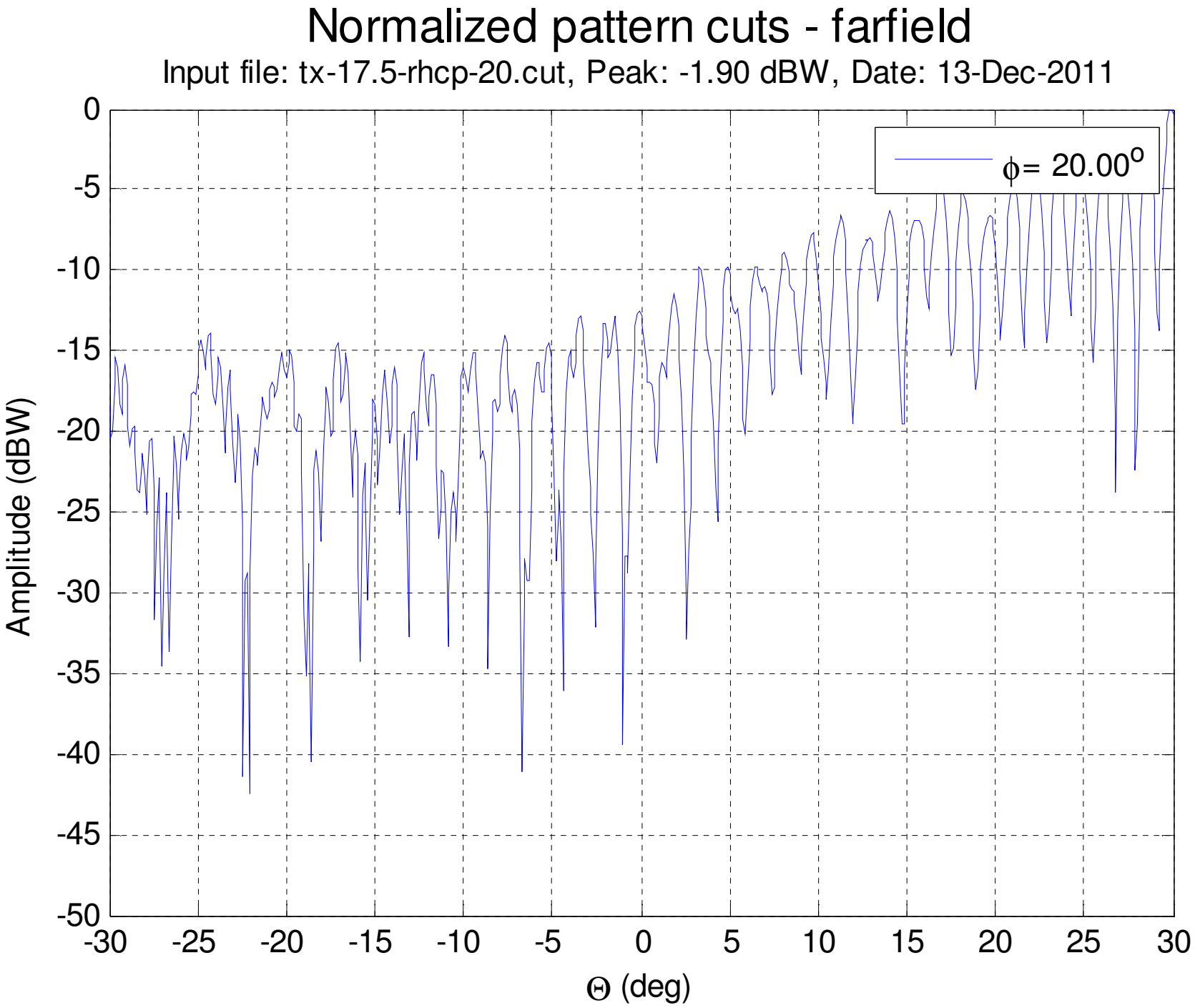

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -3.88 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

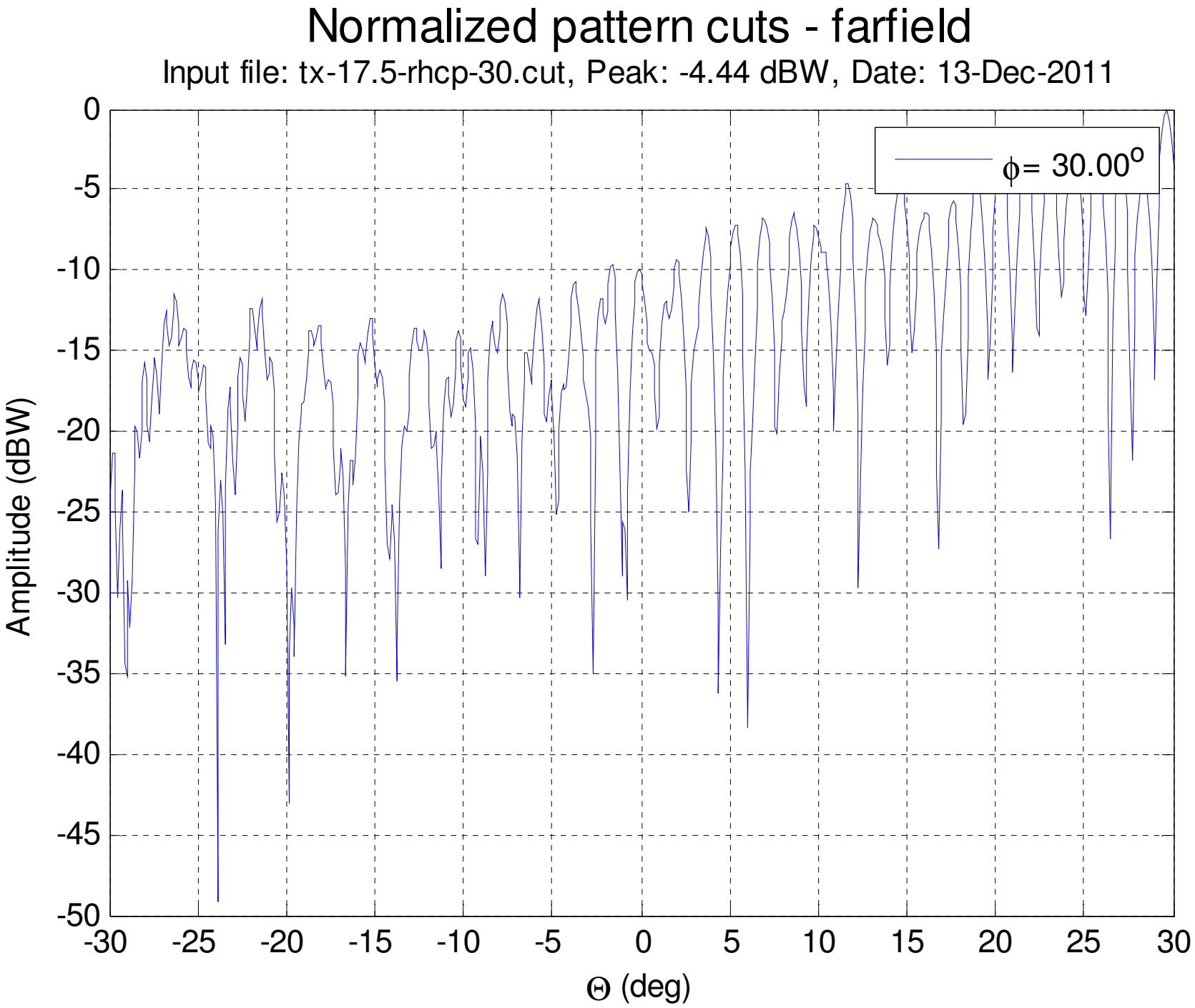

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -2.69 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

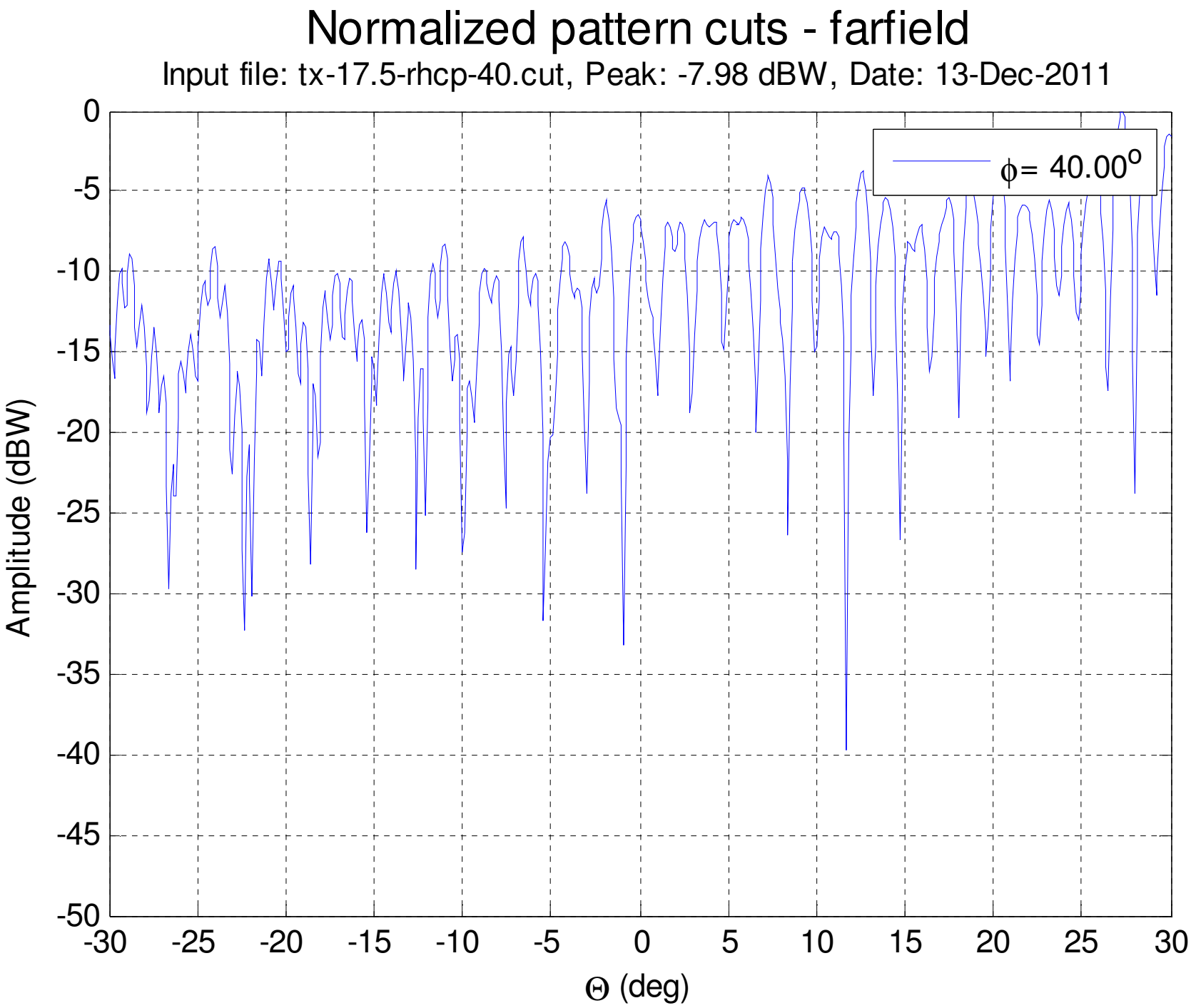

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -1.50 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

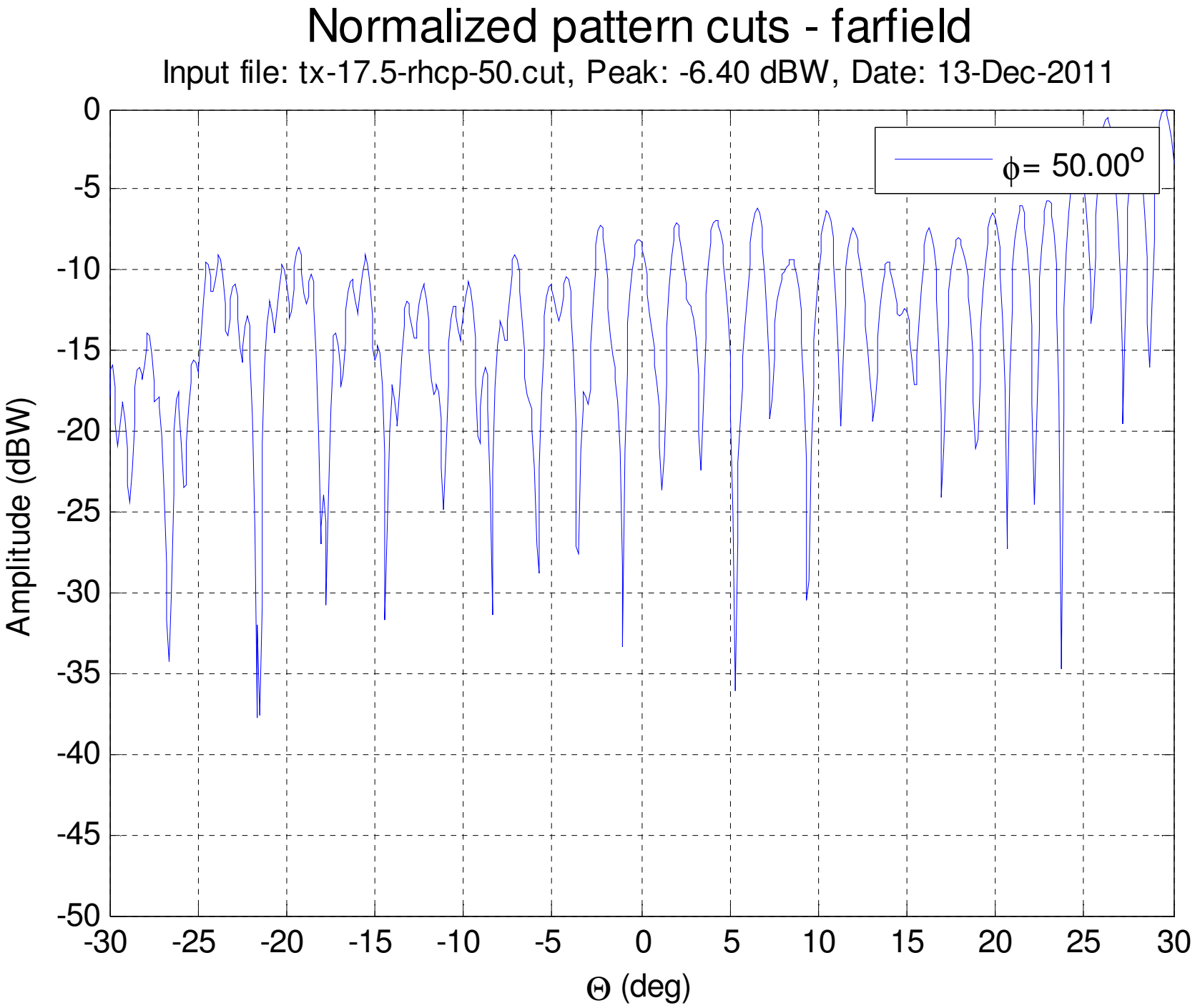

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -1.59 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

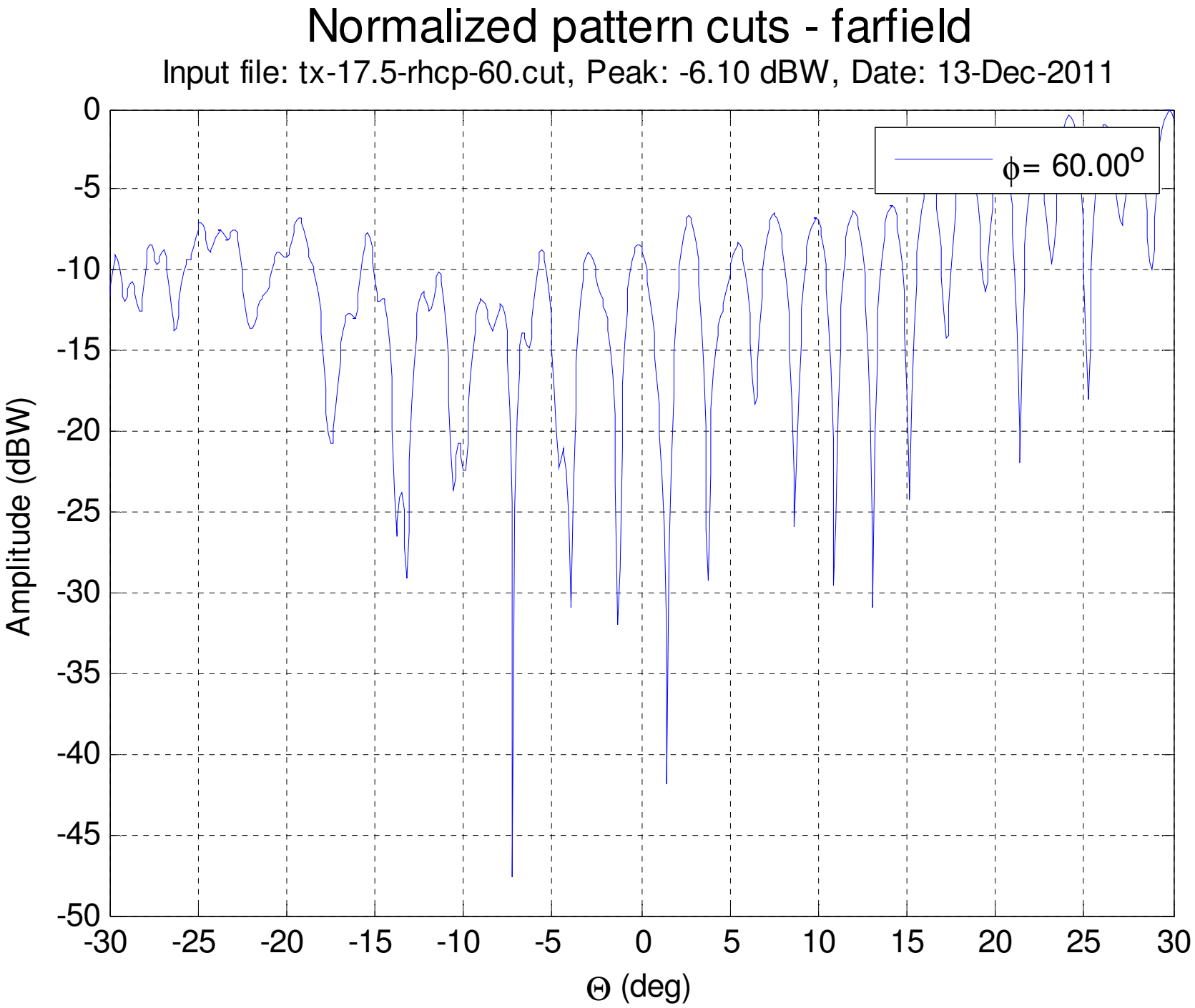

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -2.66 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -1.90 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

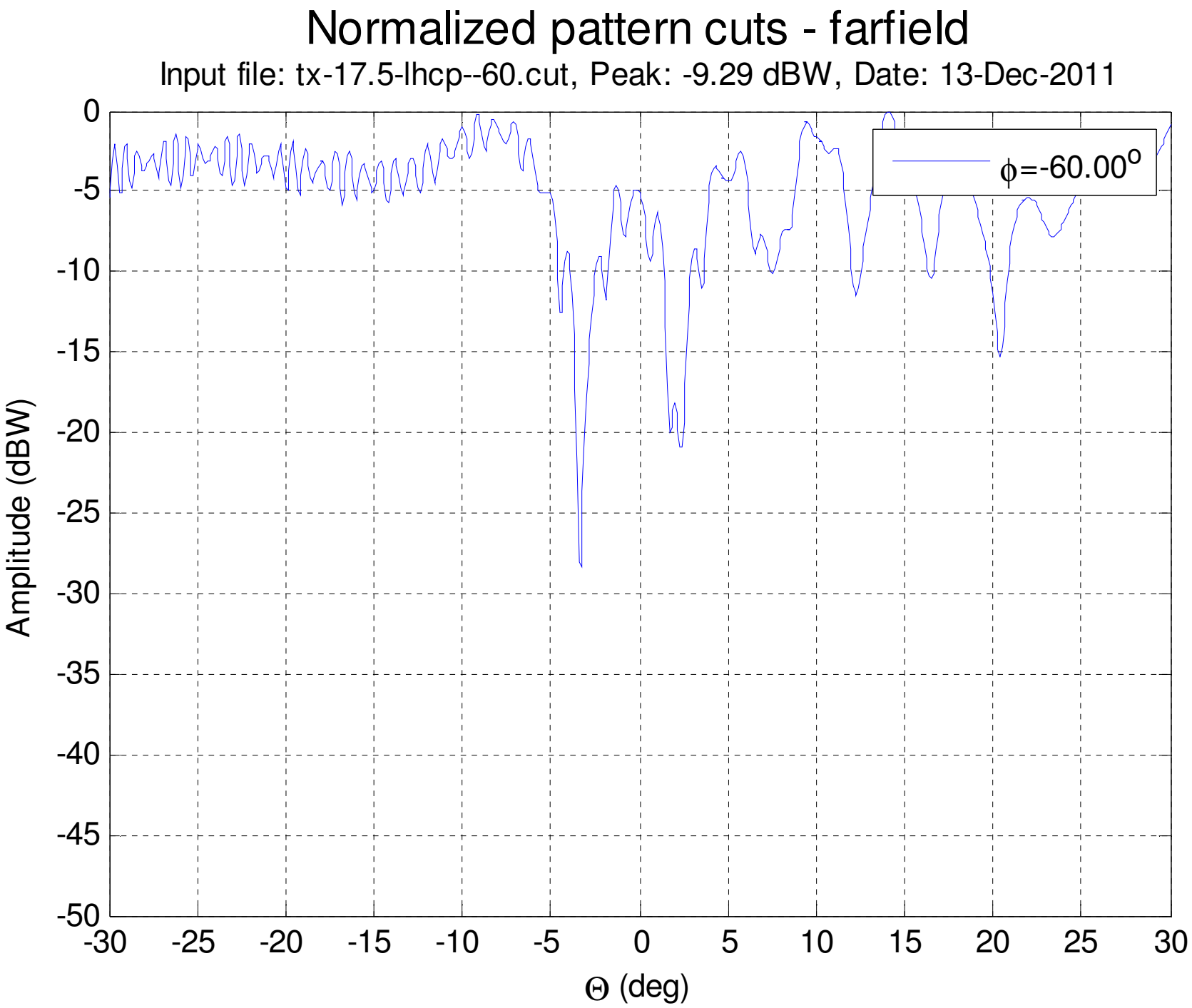

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -4.44 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

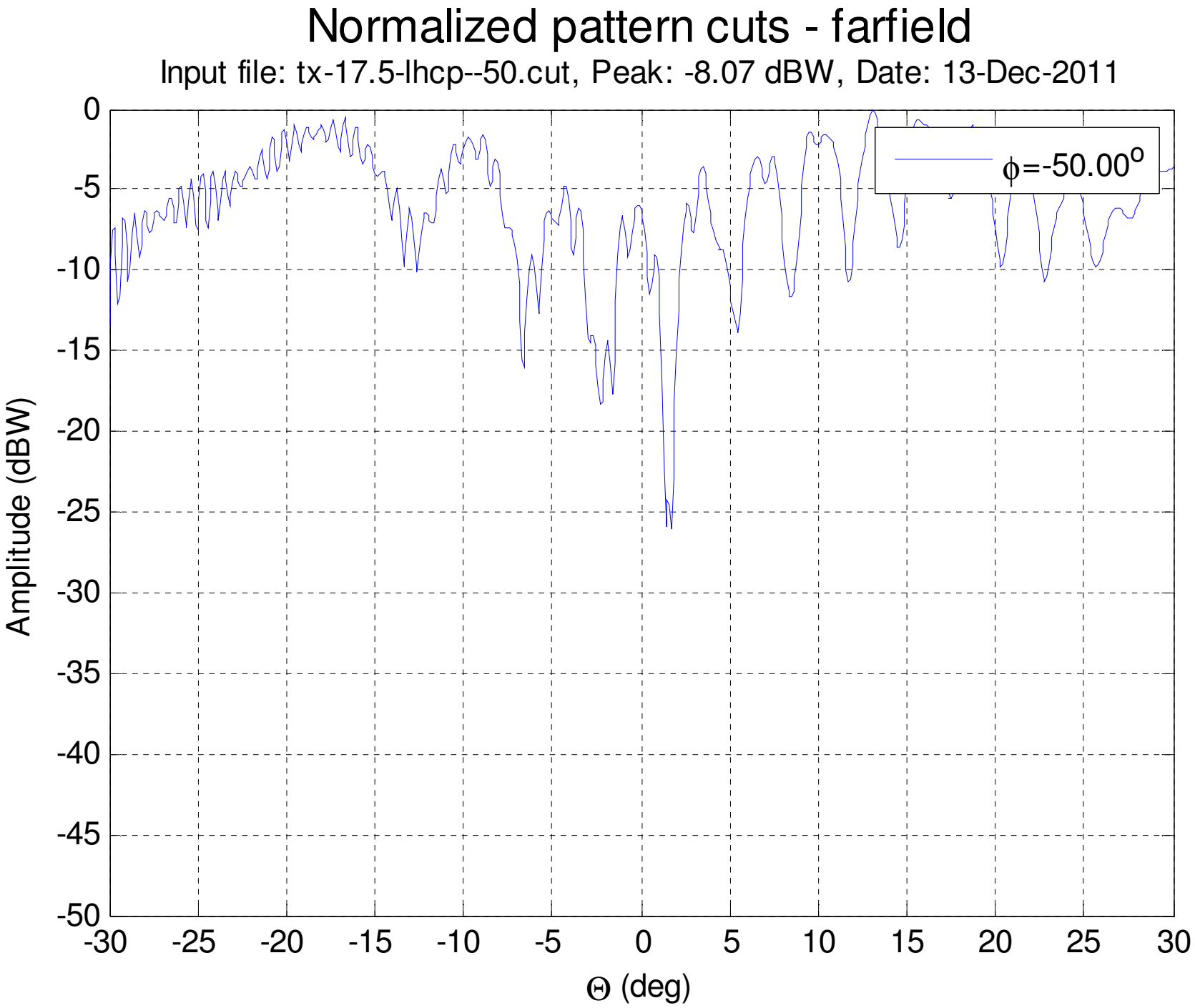

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -7.98 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

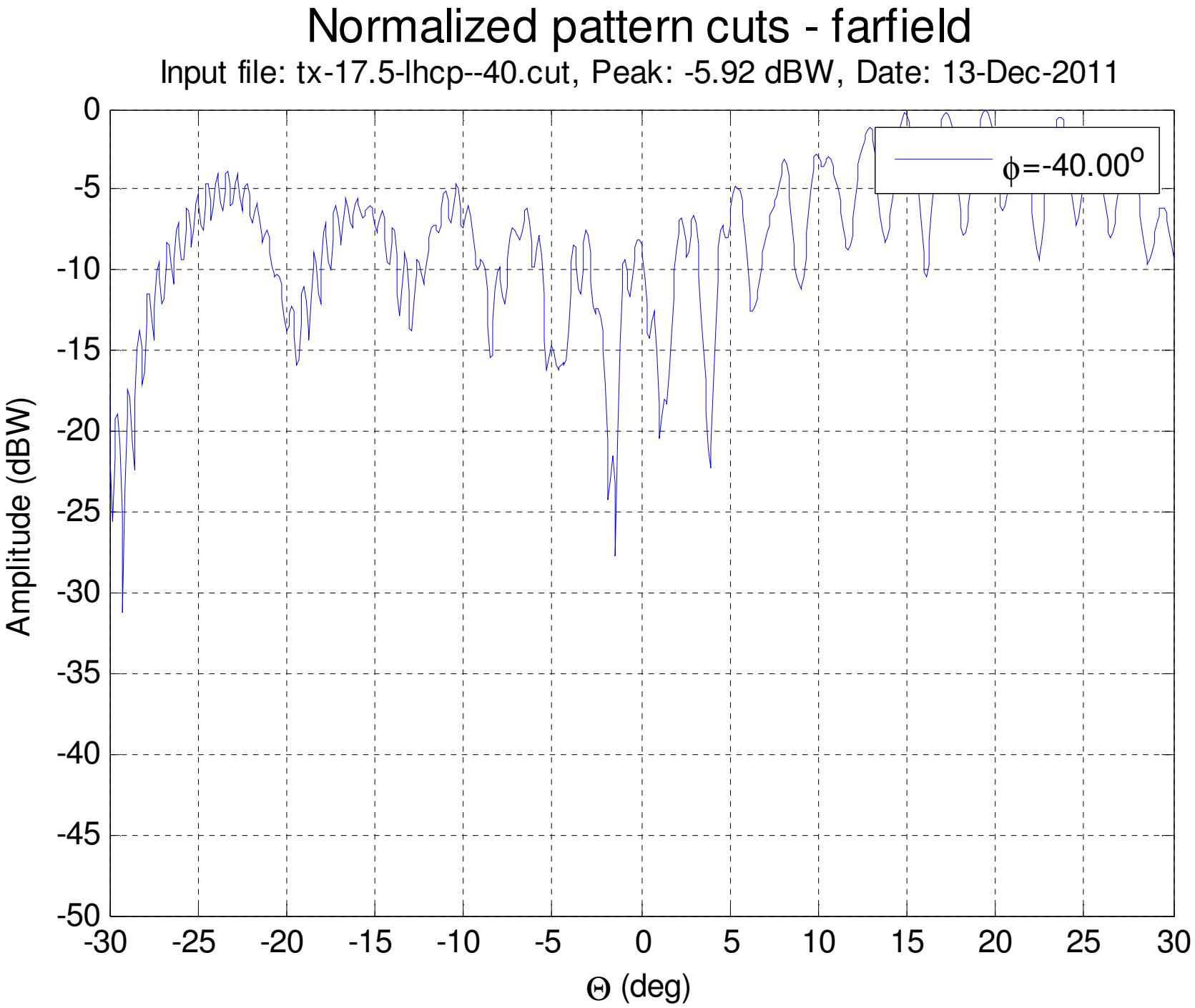

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -6.40 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

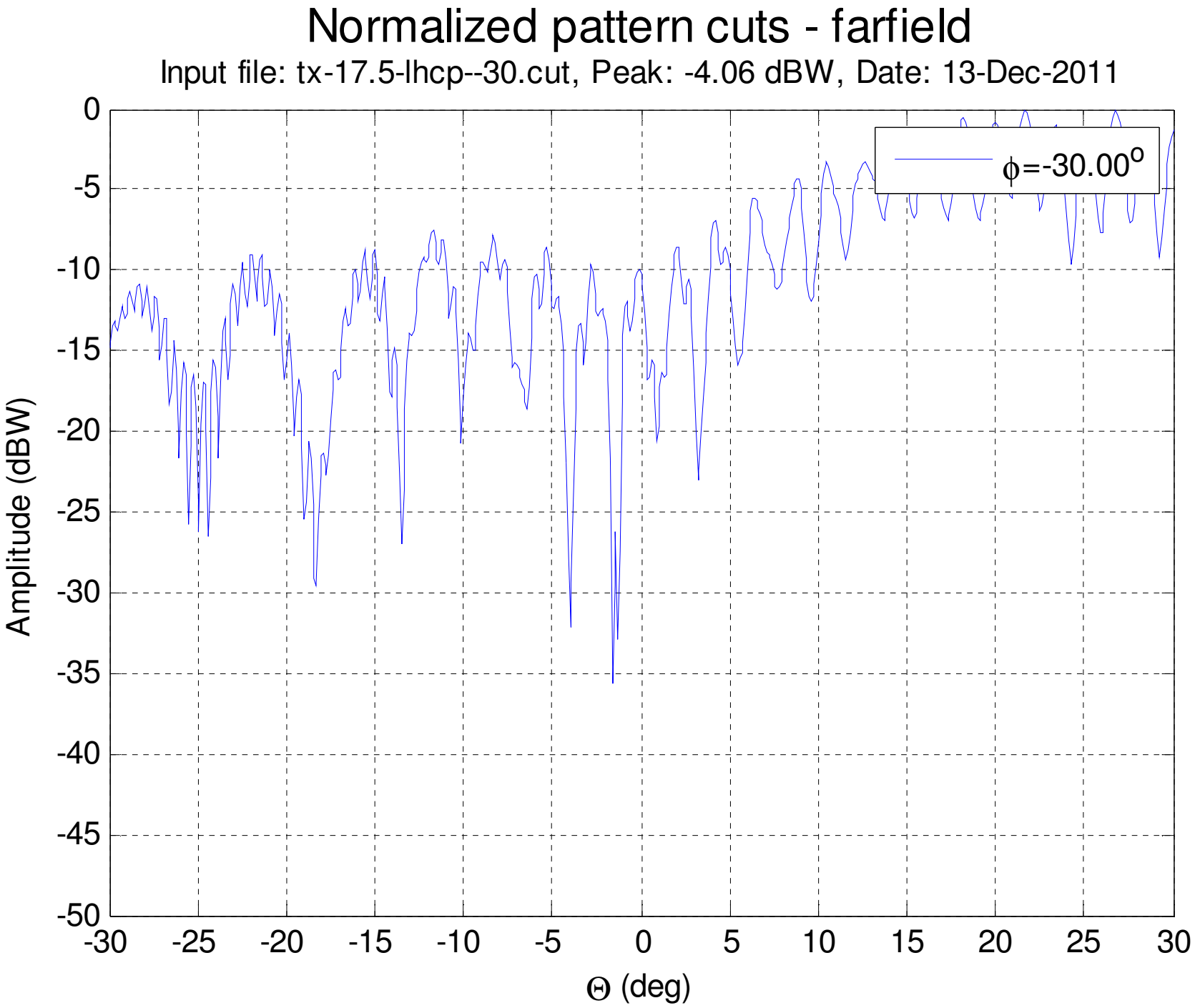

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -6.10 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

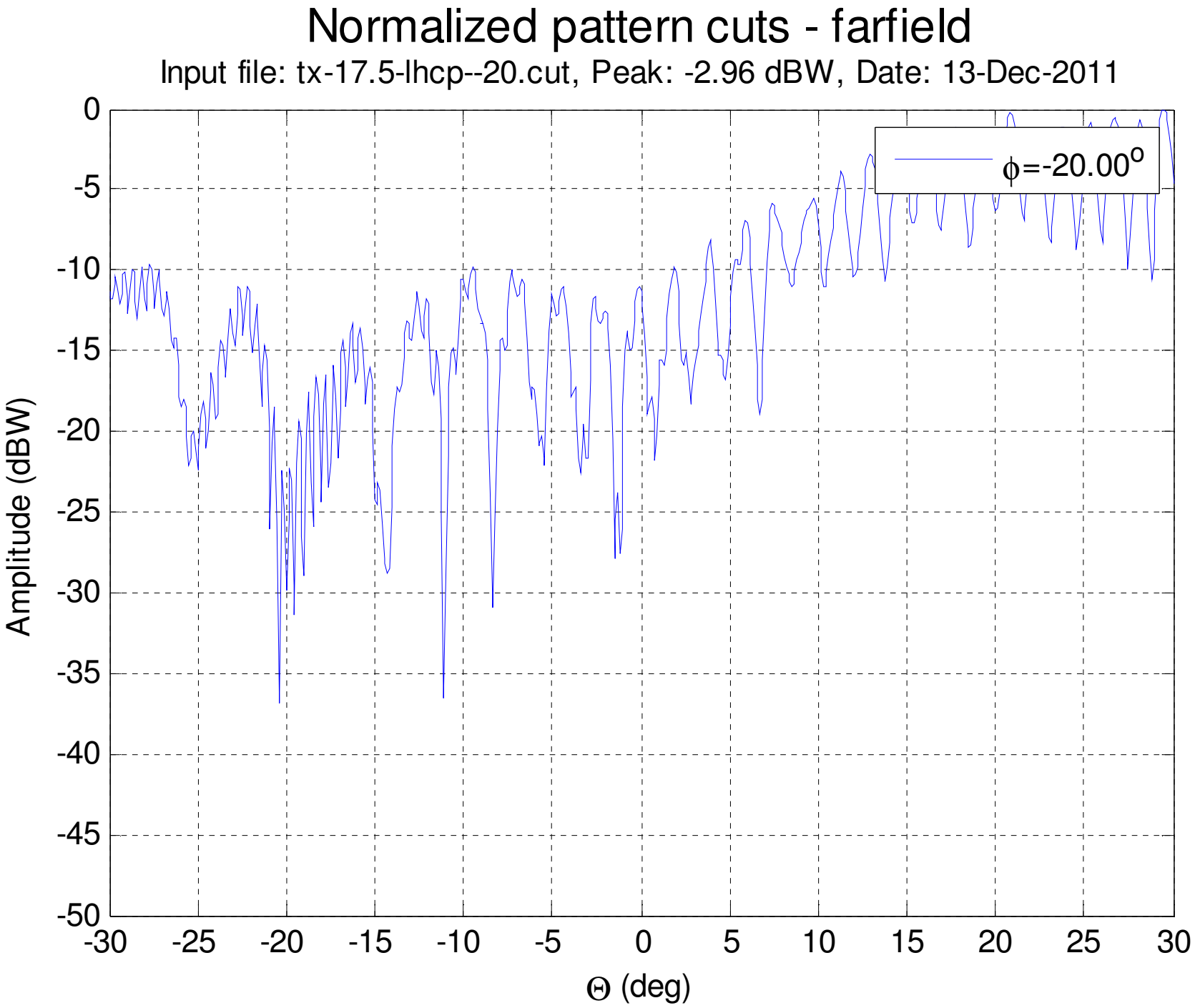
LHCP at 17.5 GHz

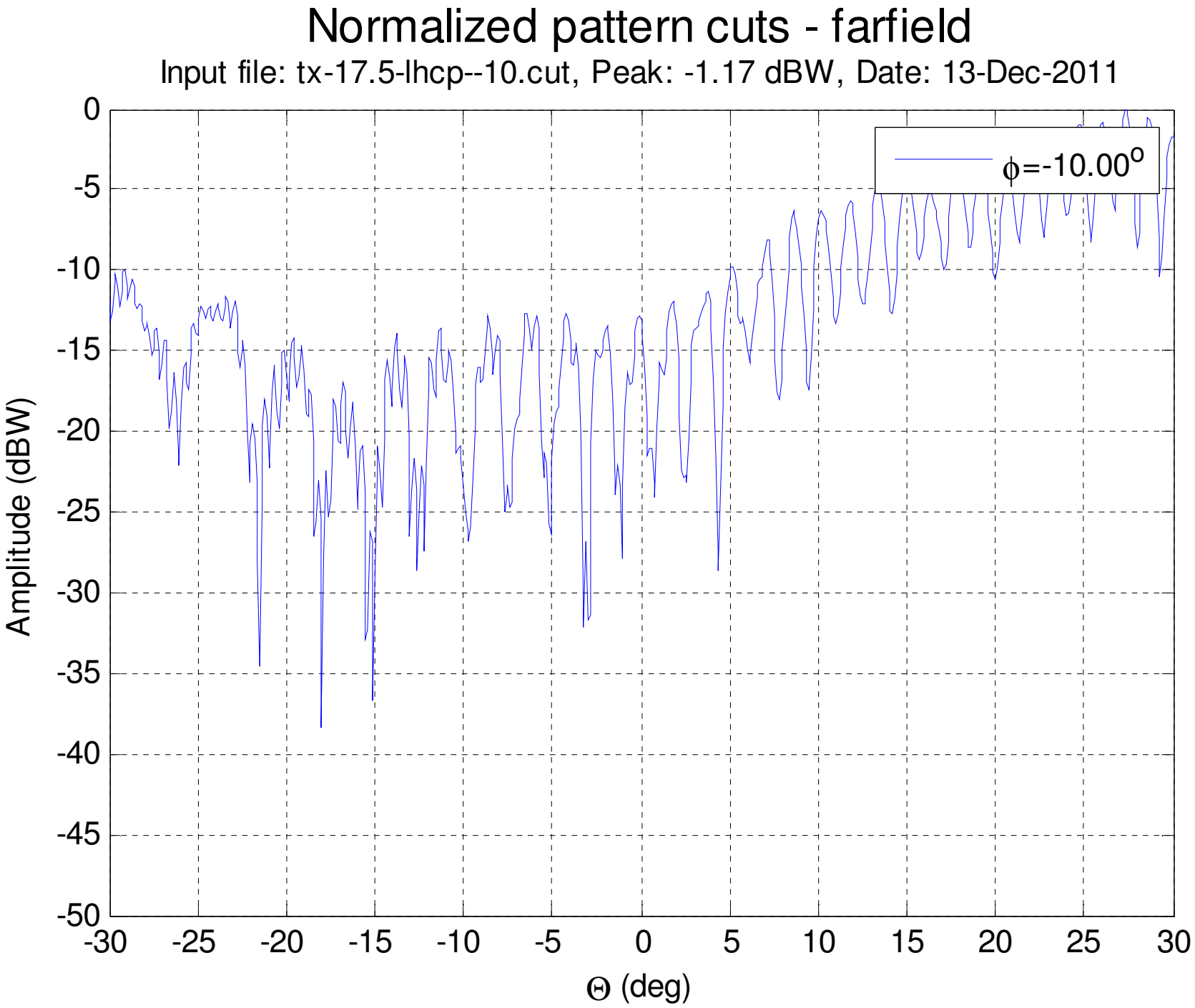

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -9.29 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

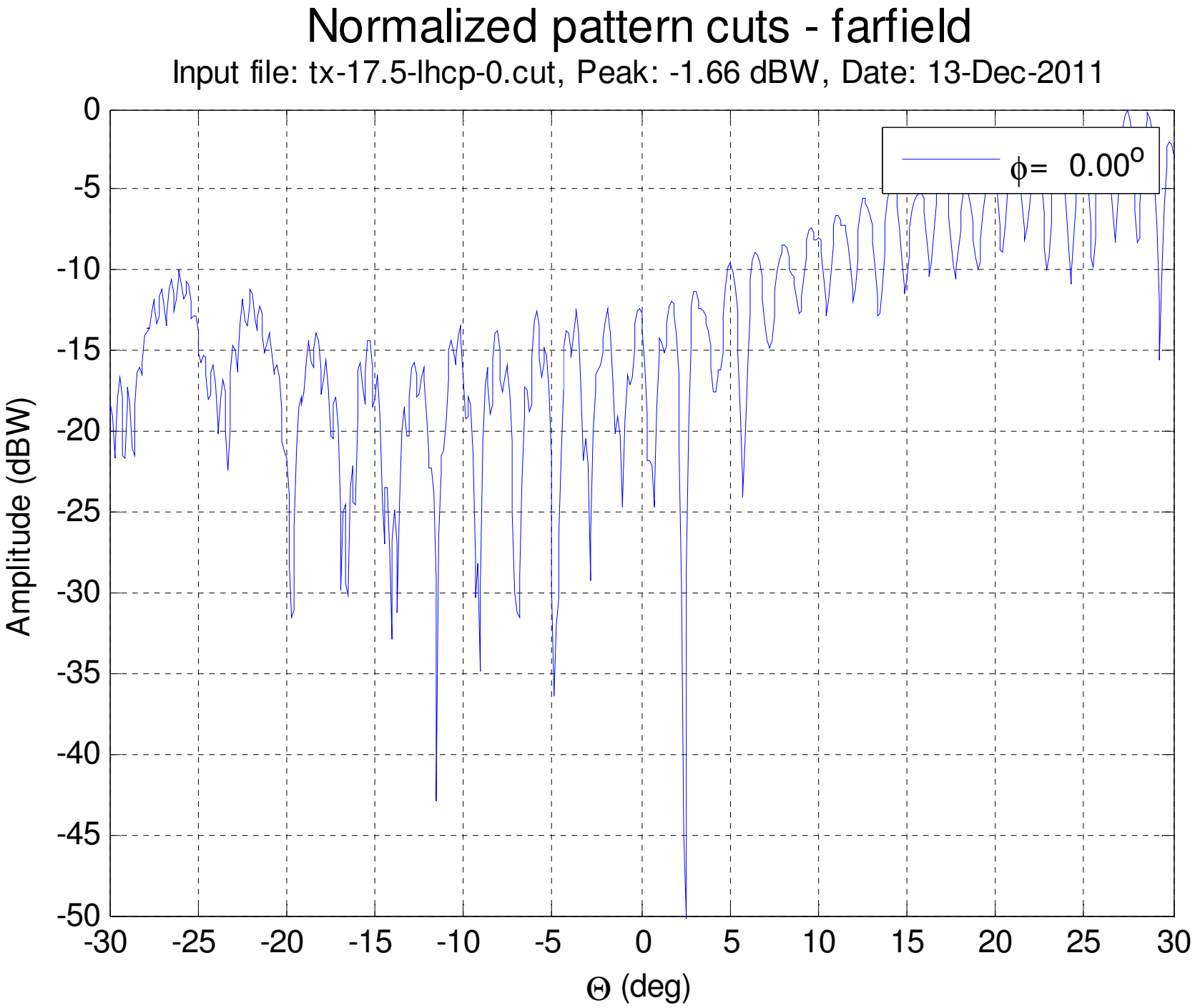

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -8.07 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

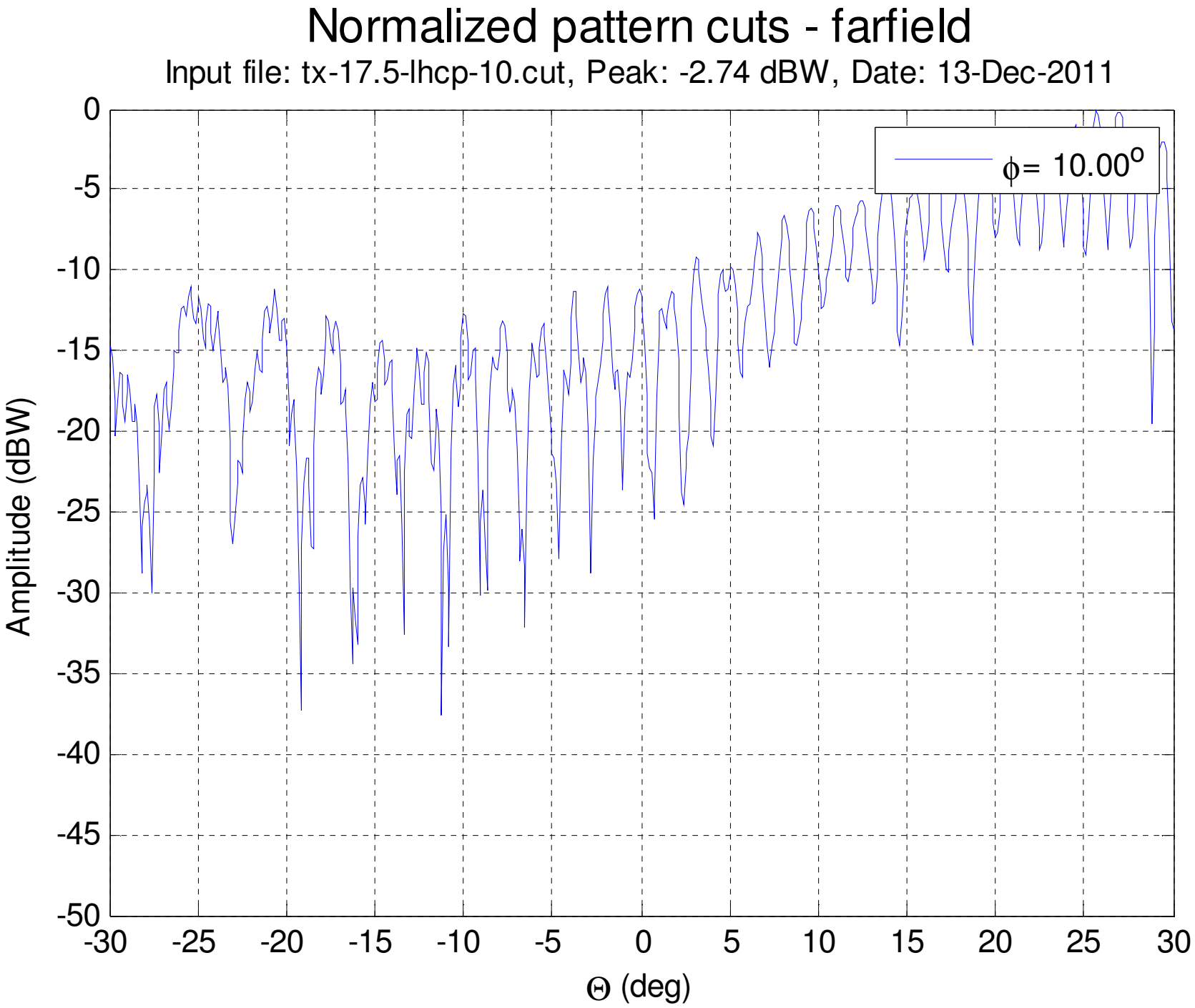

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -5.92 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

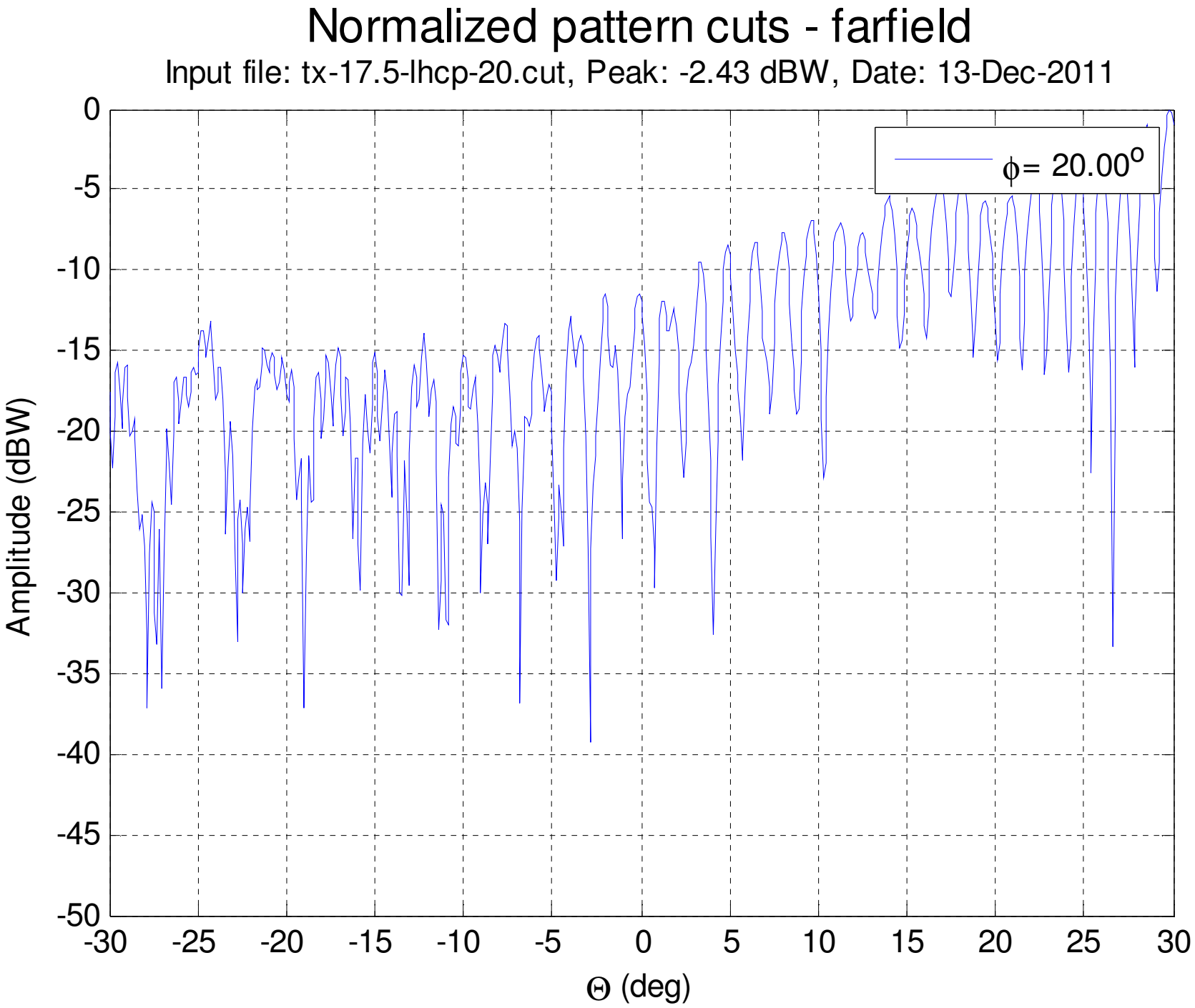

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -4.06 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

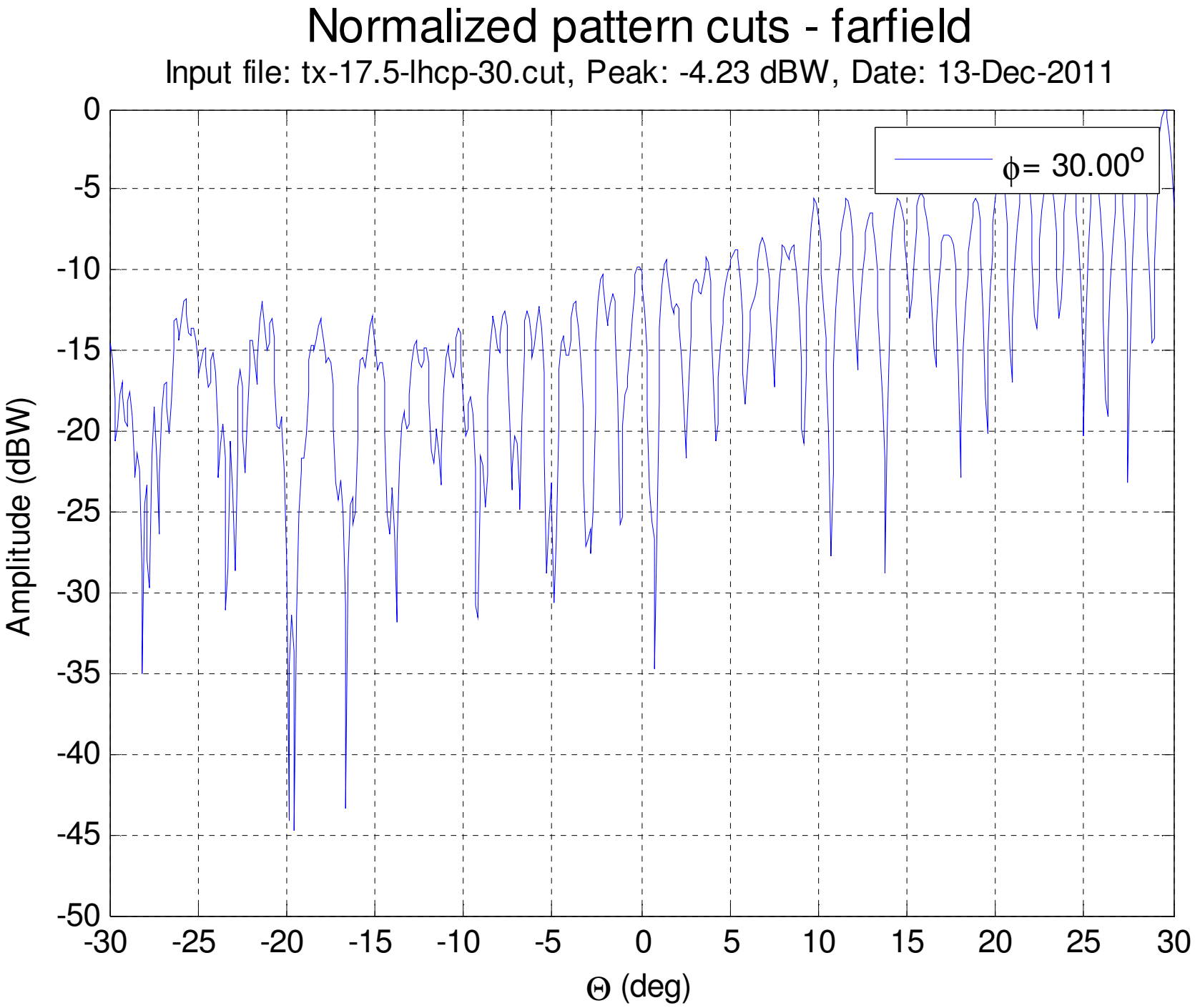

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -2.96 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

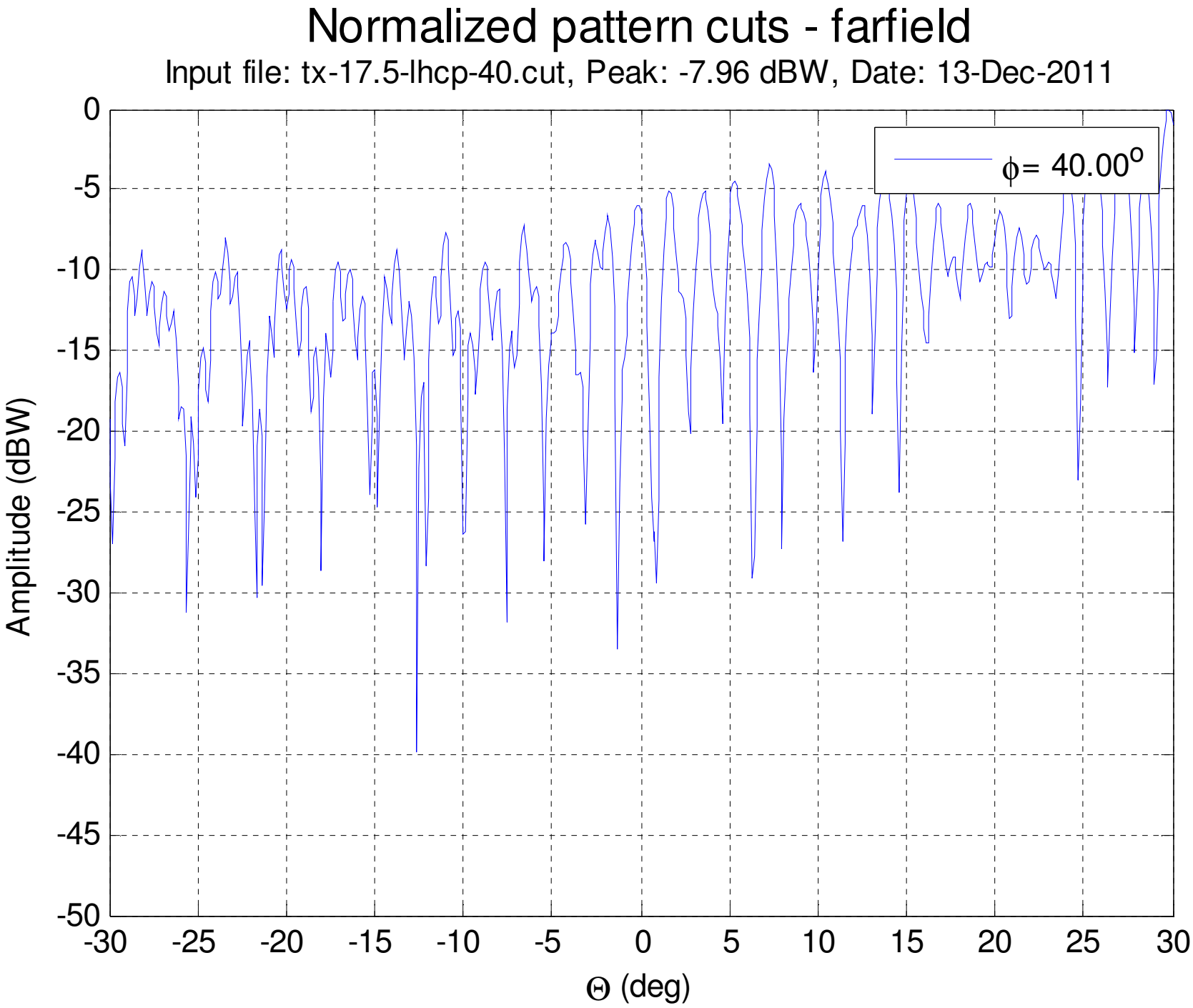

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -1.17 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

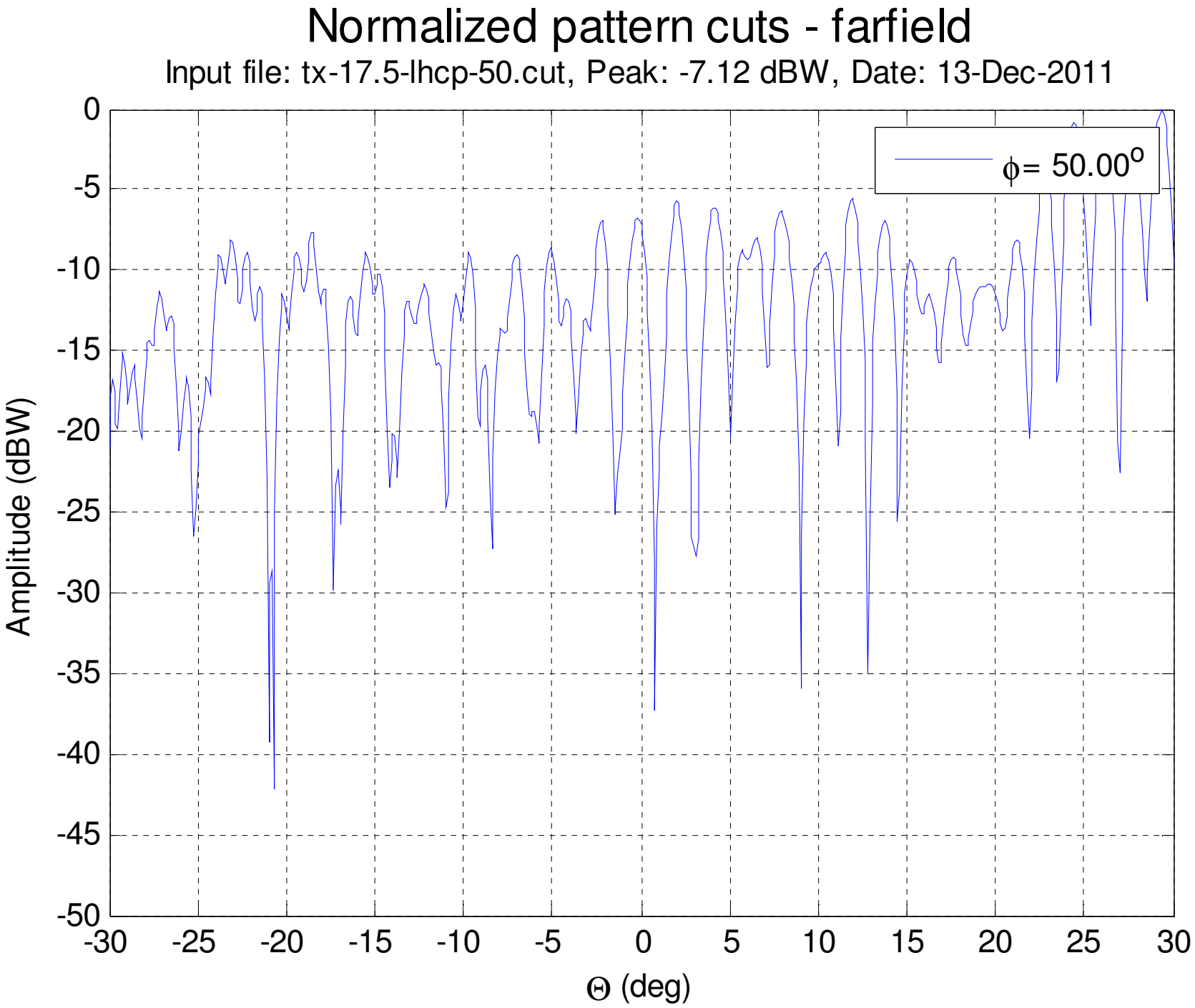

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -1.66 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

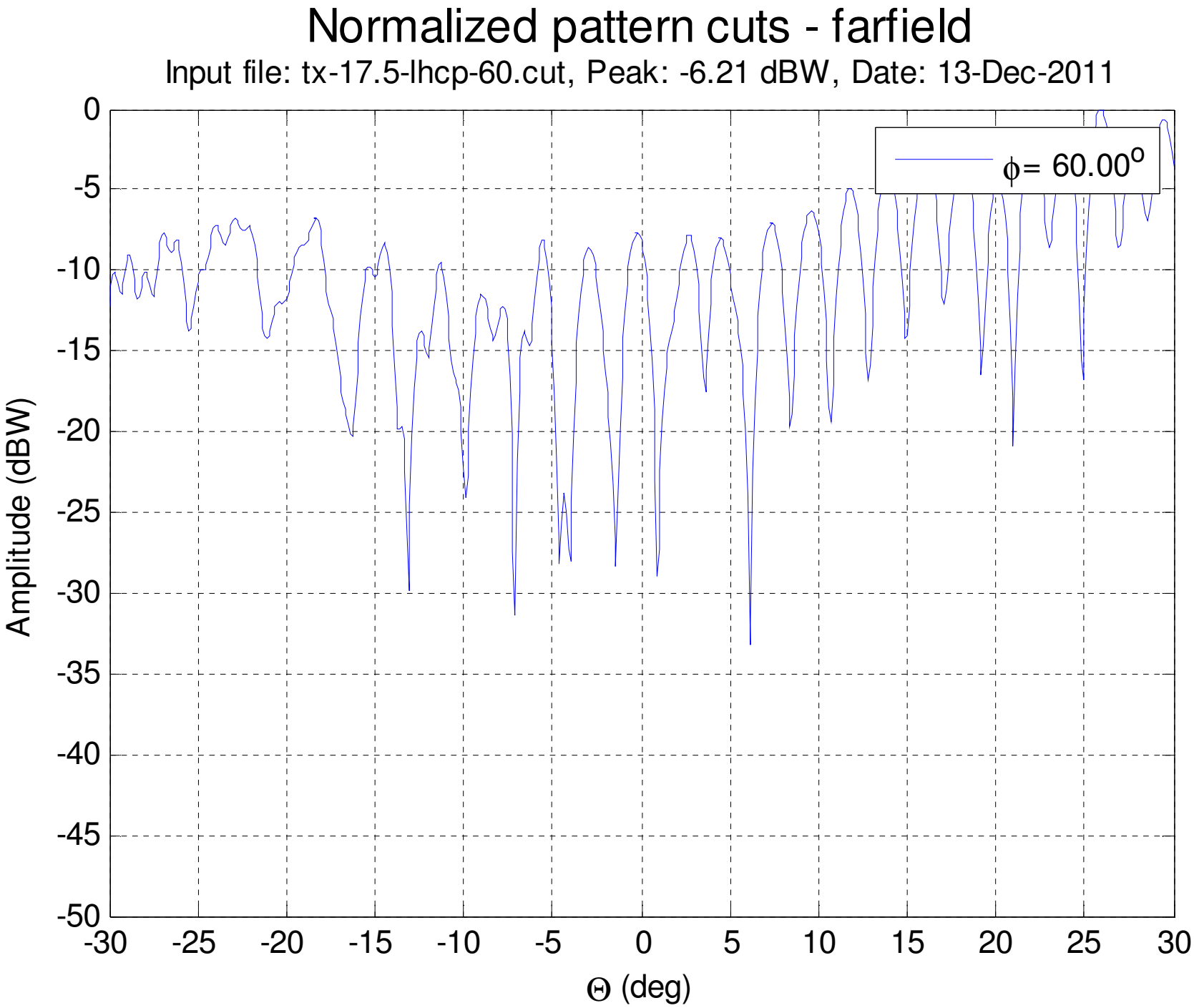

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -2.74 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -2.43 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

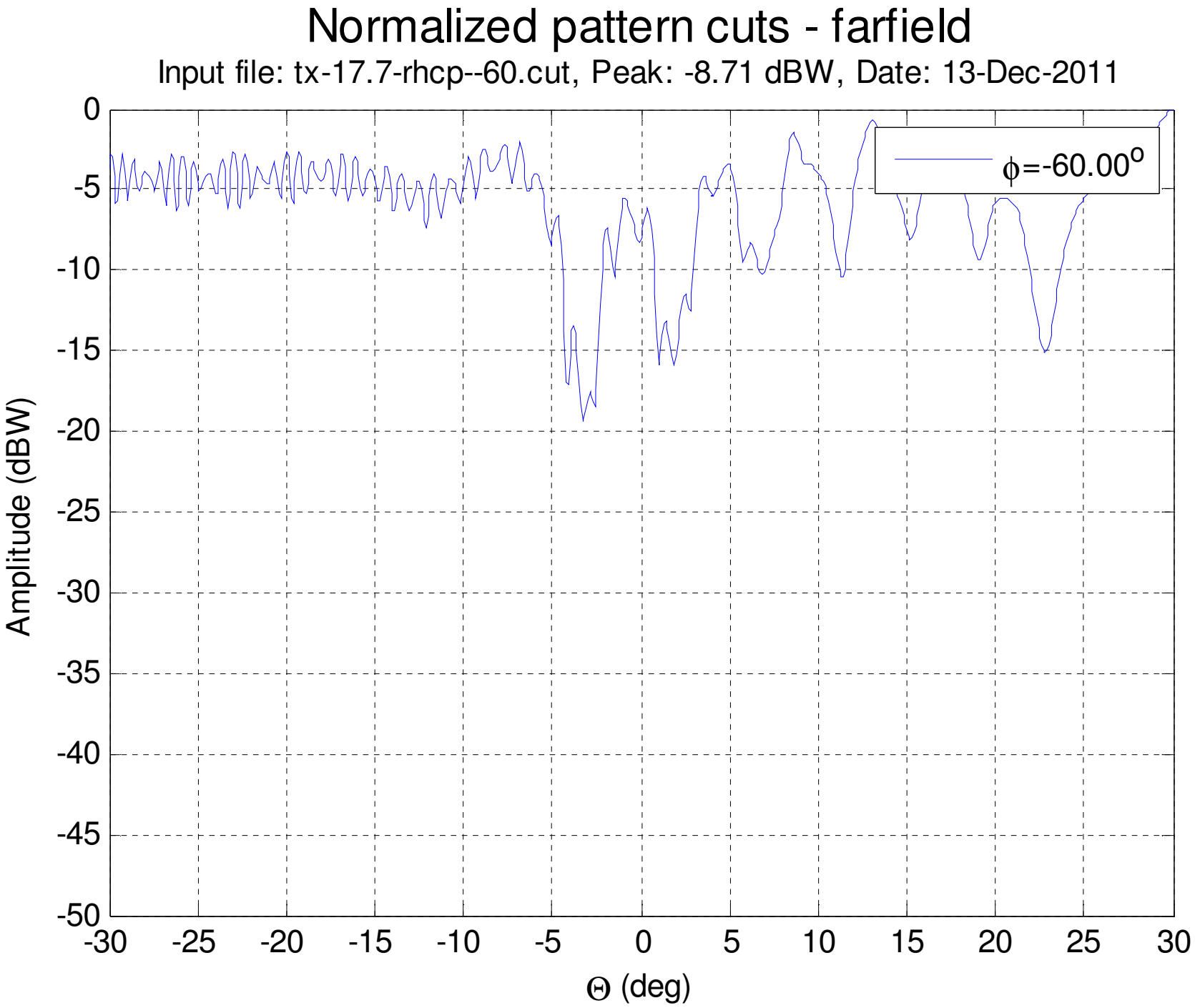

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -4.23 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

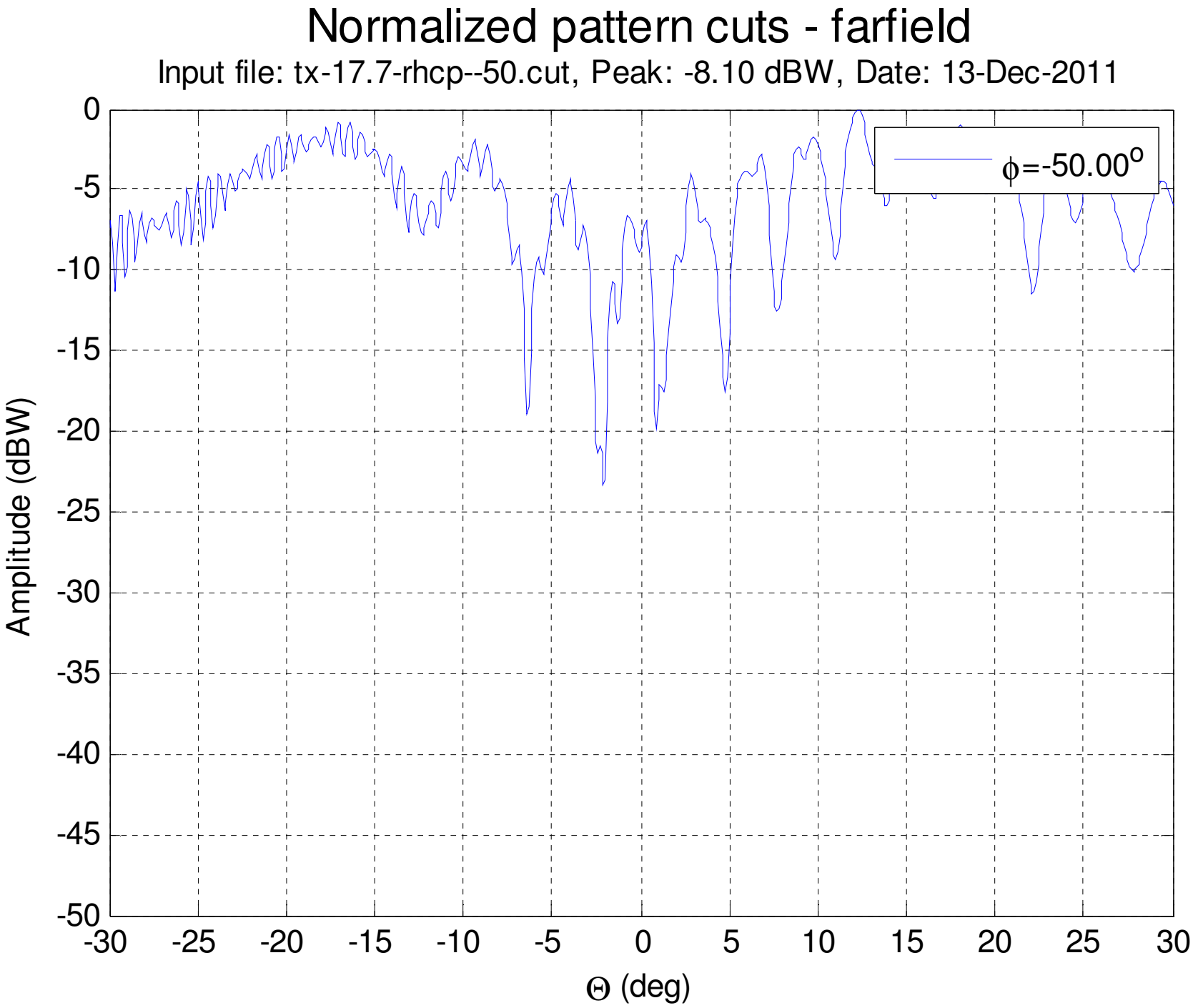

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -7.96 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

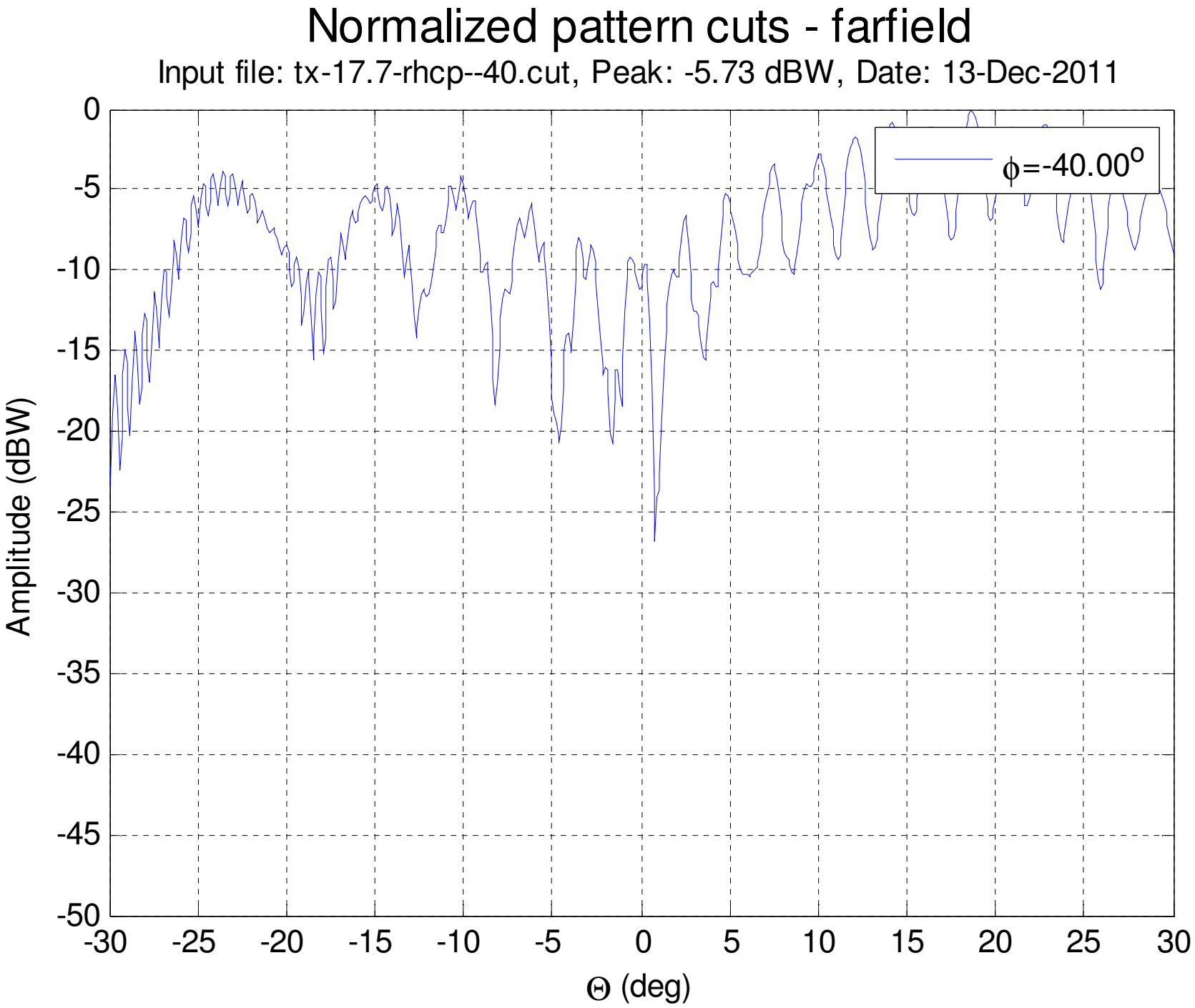

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -7.12 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

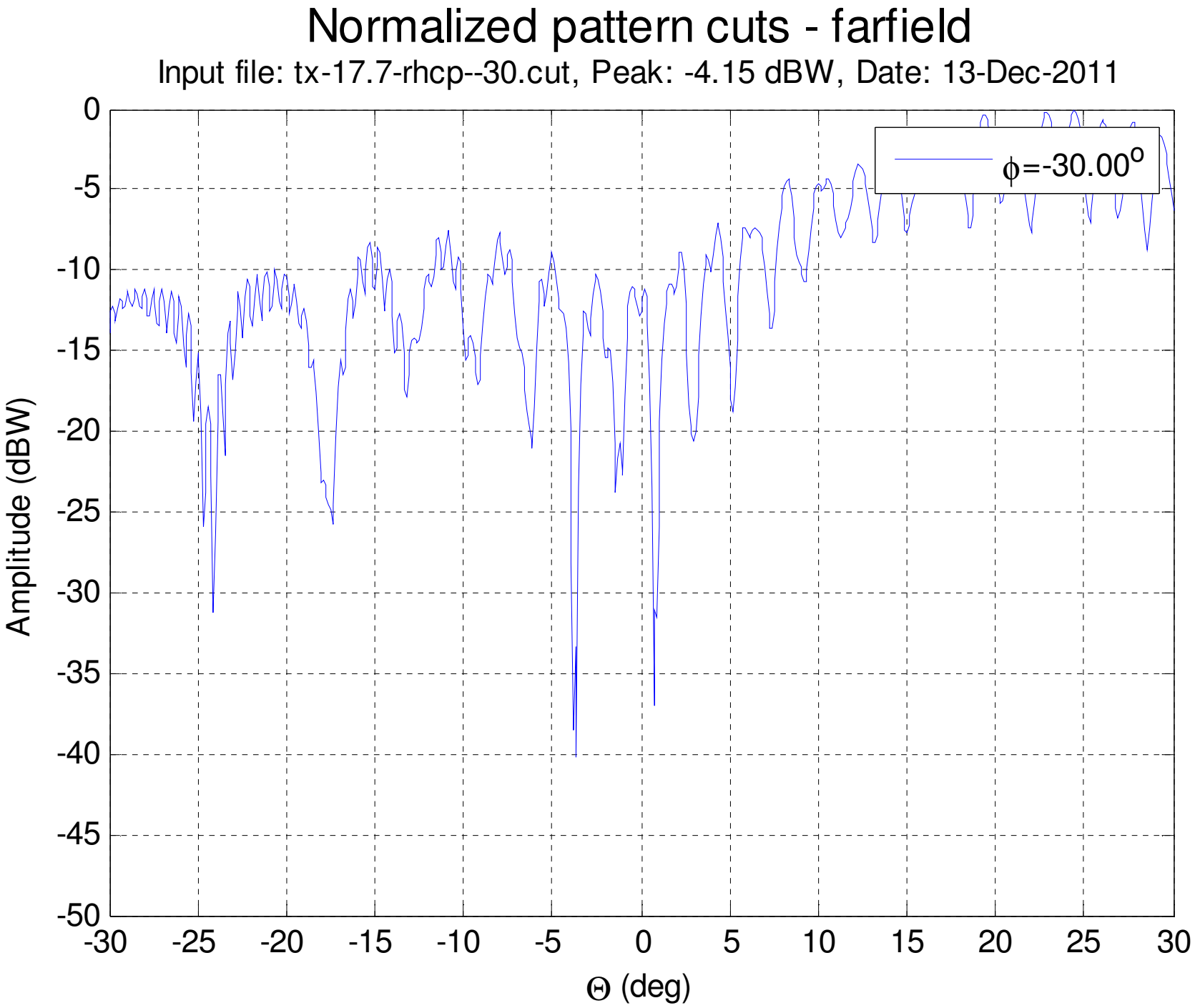

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -6.21 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

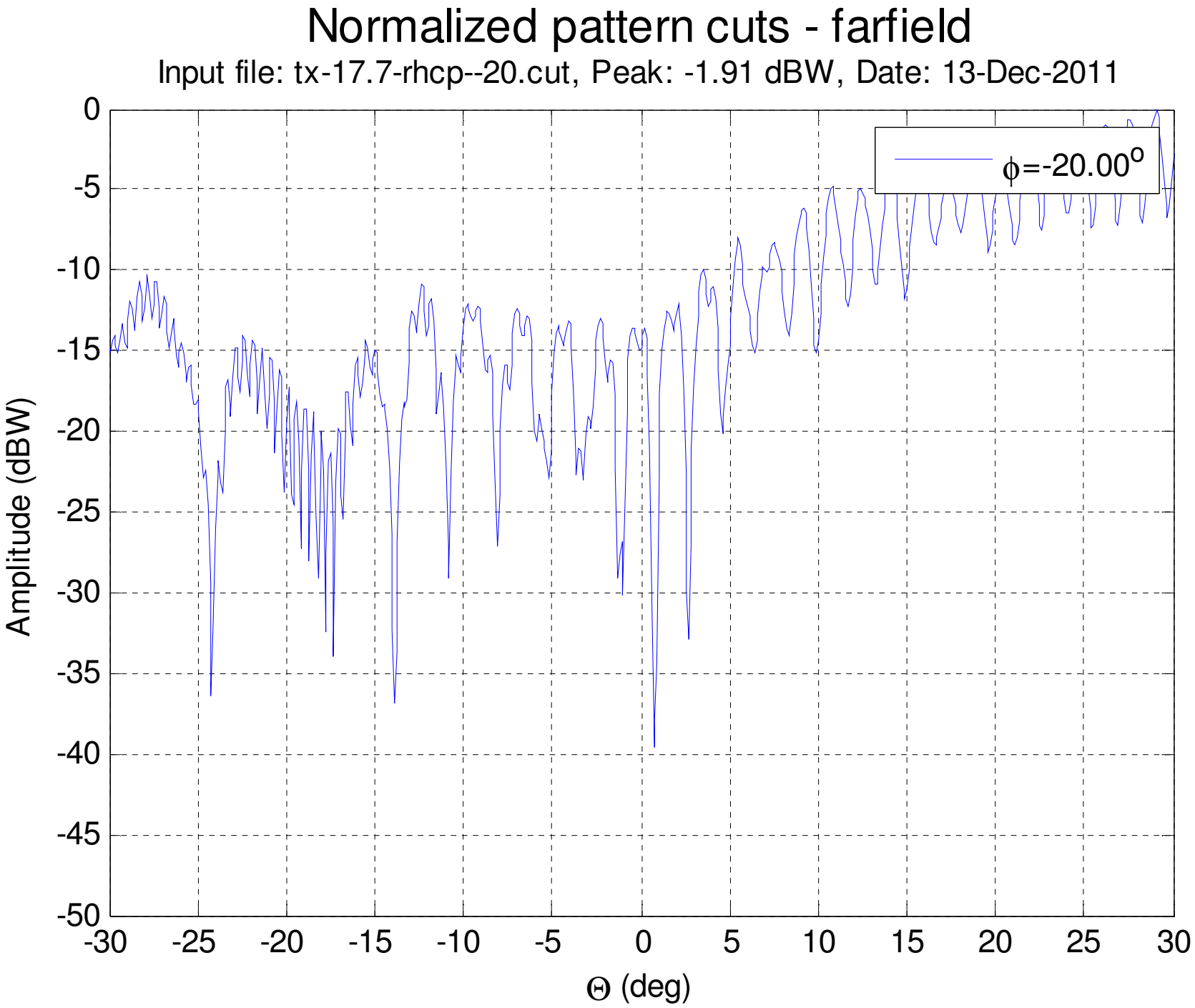
RHCP at 17.7 GHz

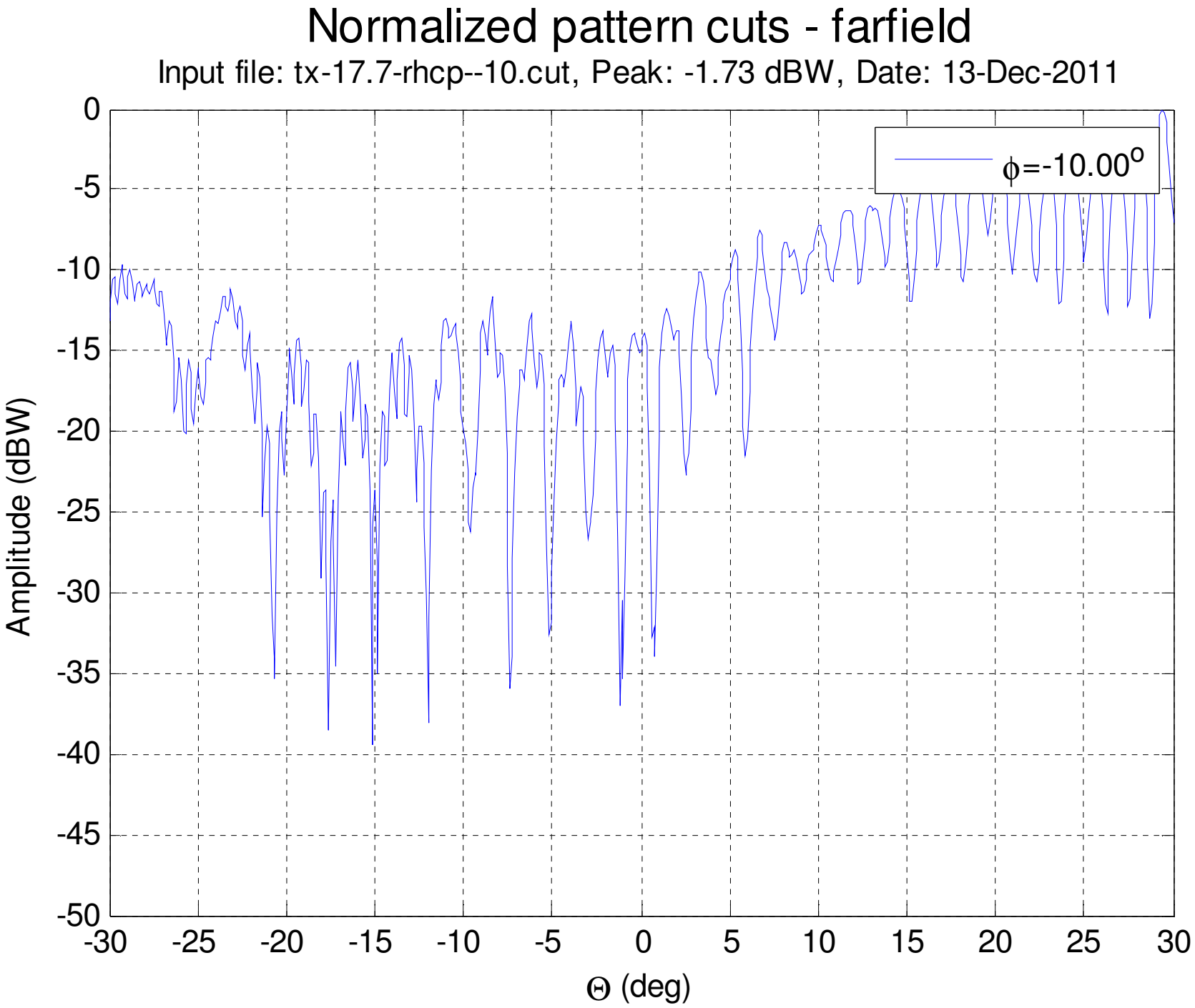

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -8.71 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

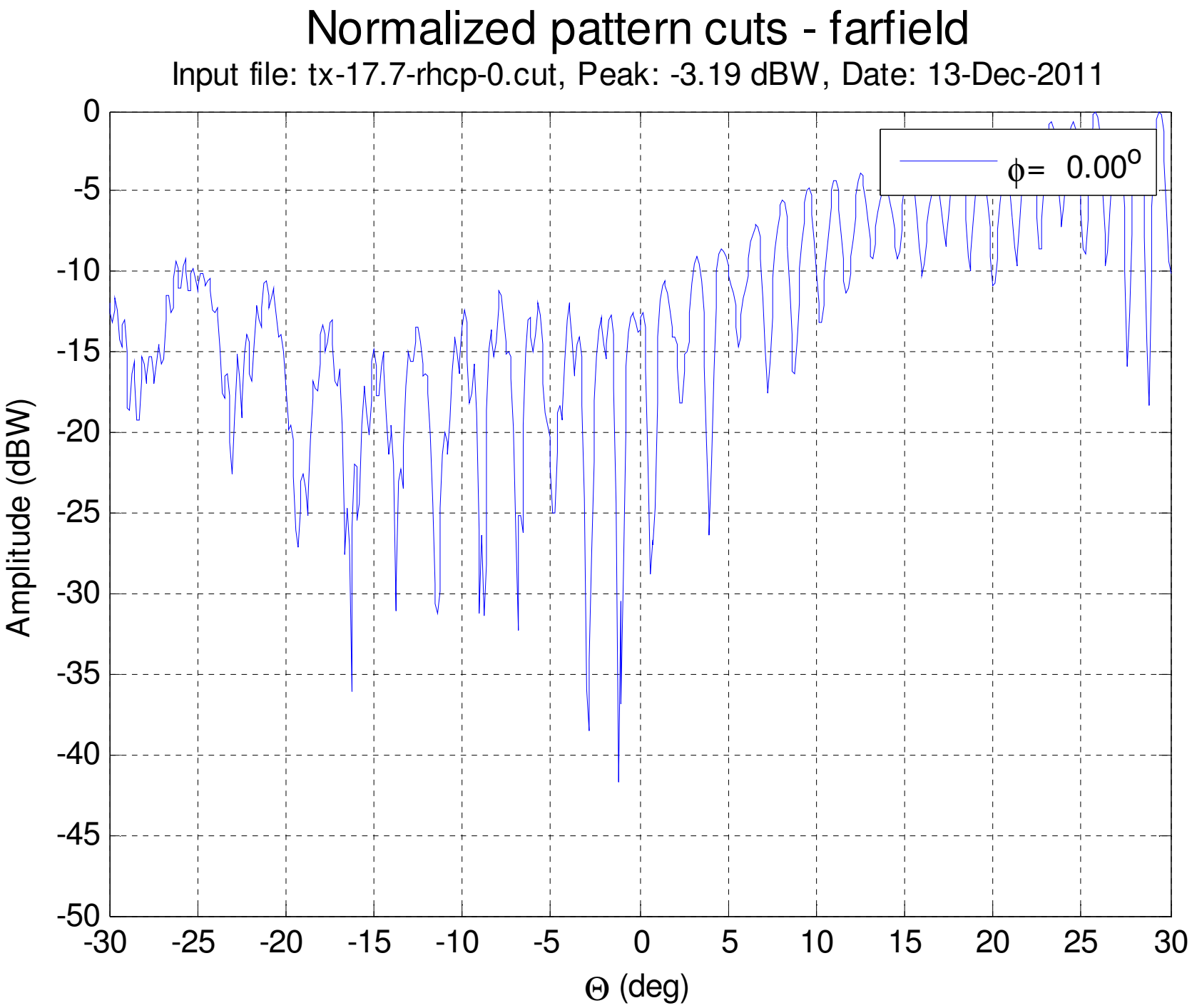

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -8.10 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

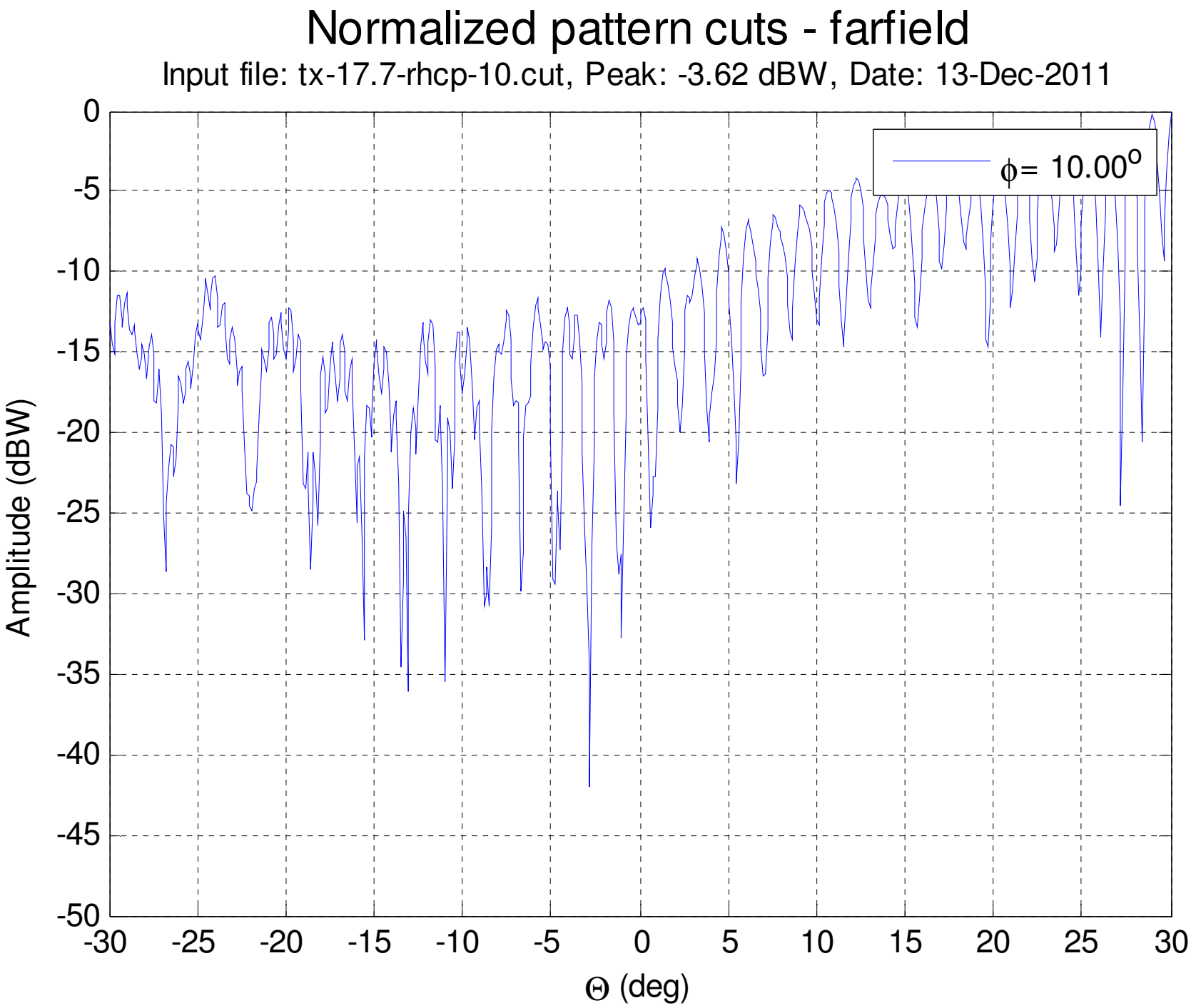

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -5.73 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

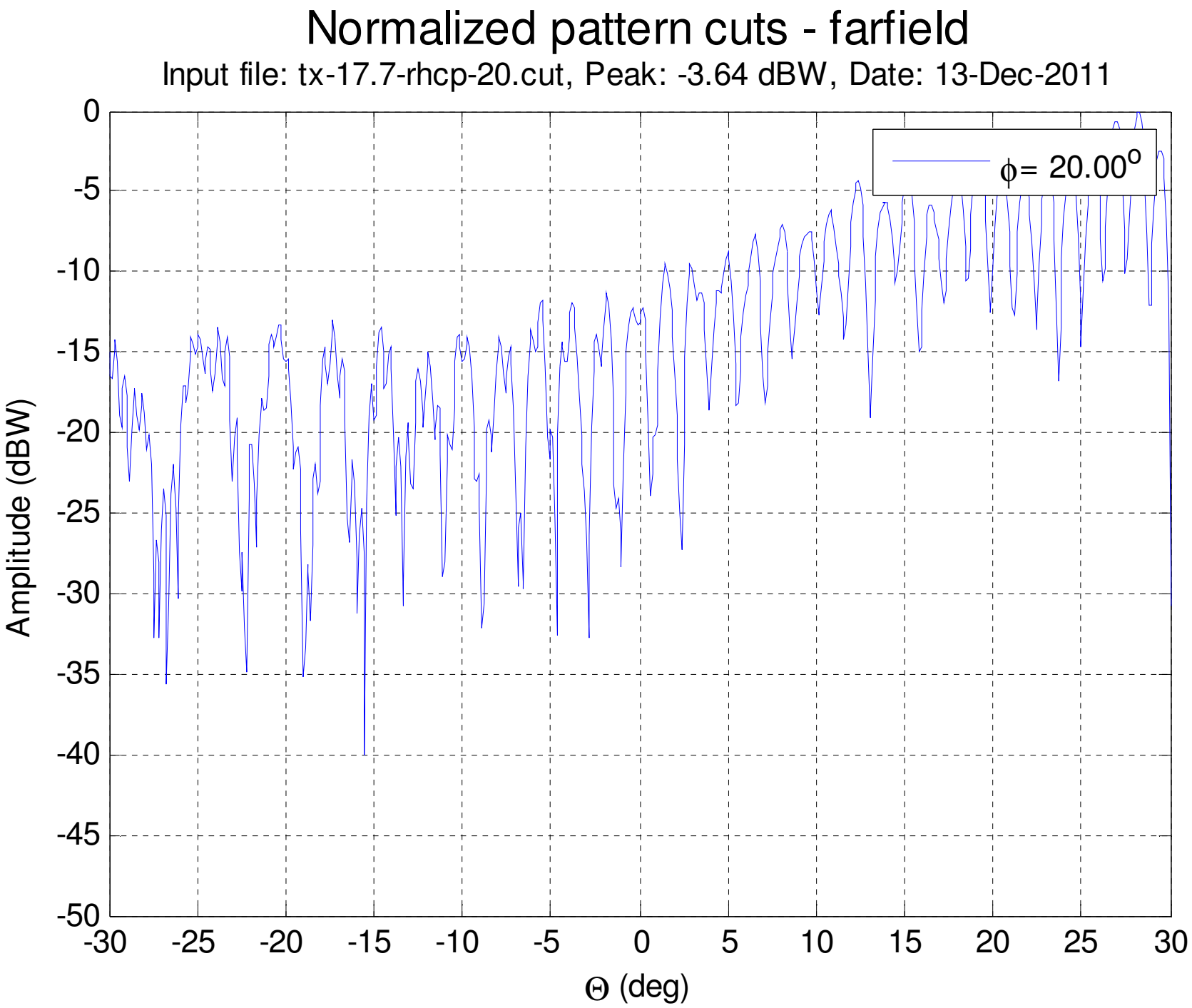

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -4.15 dBW, Date: 13-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

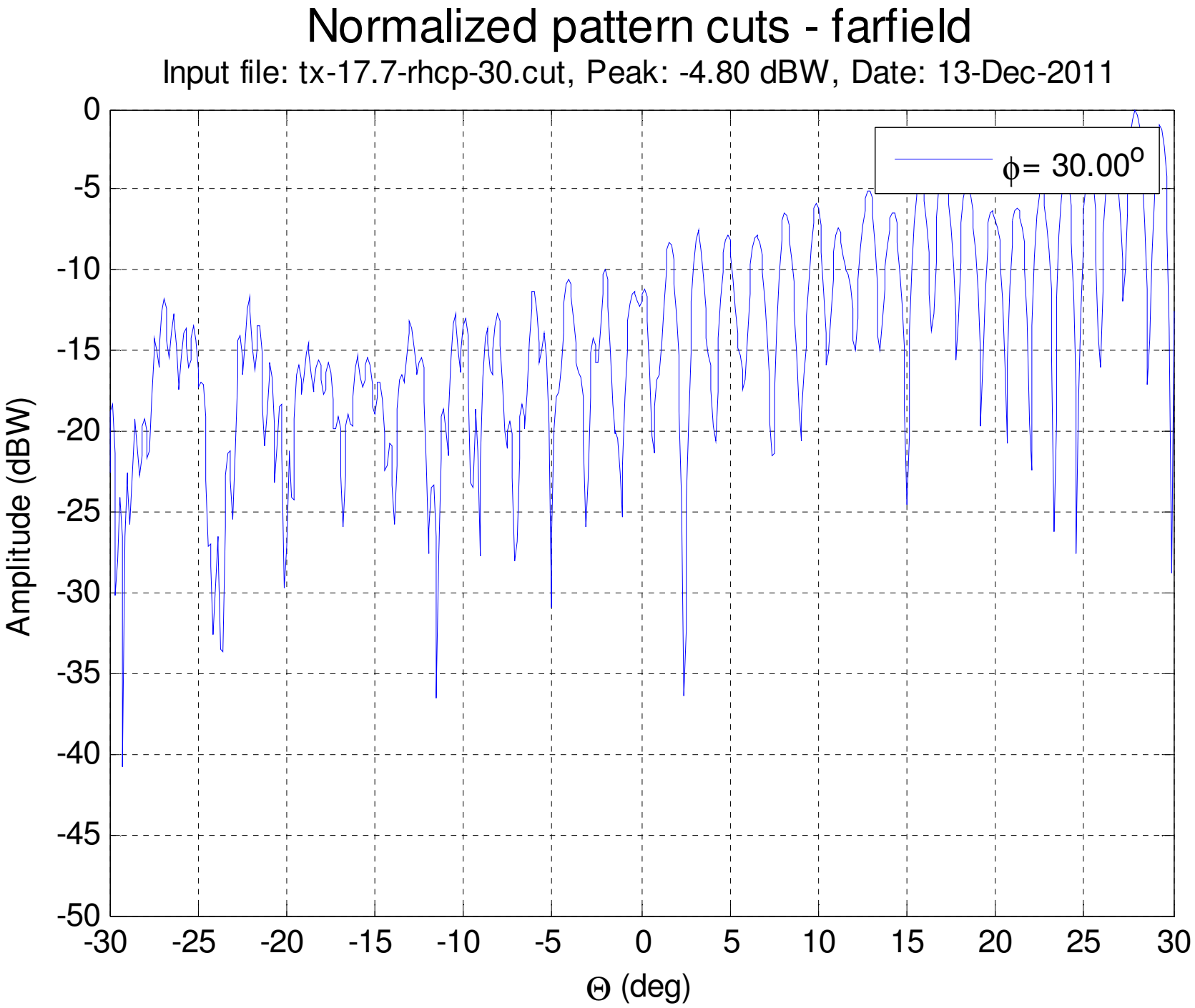

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -1.91 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

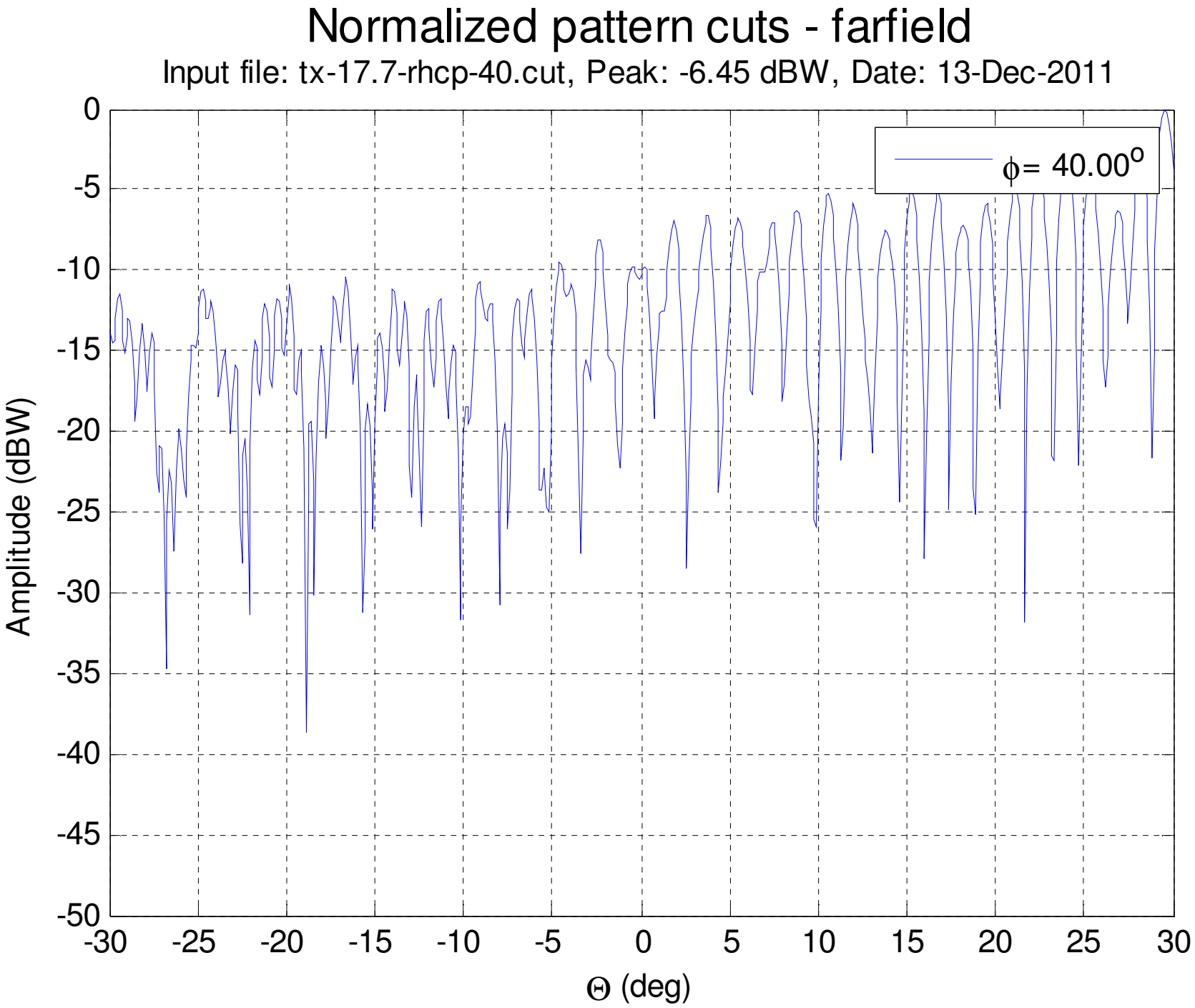

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -1.73 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

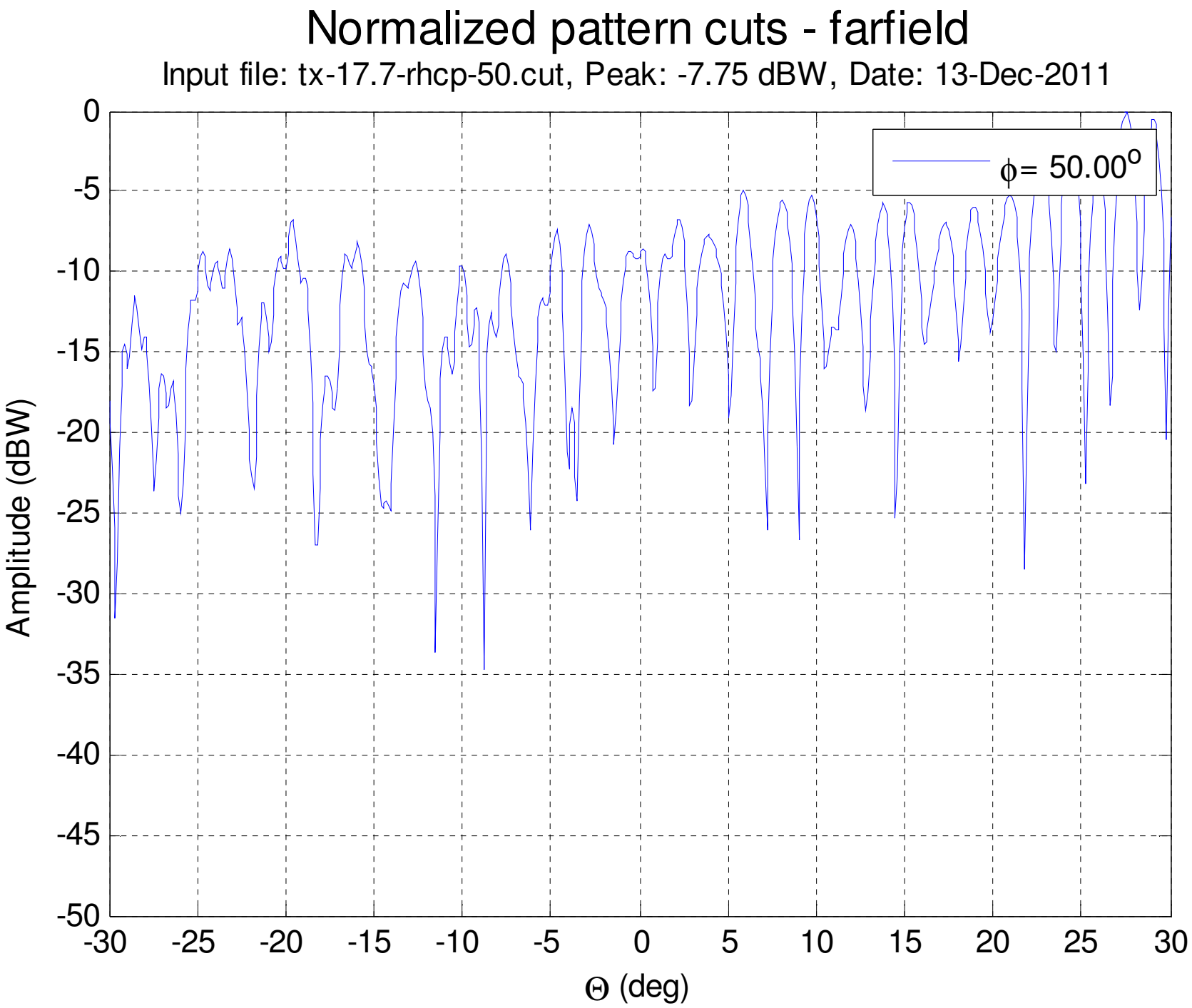

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -3.19 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

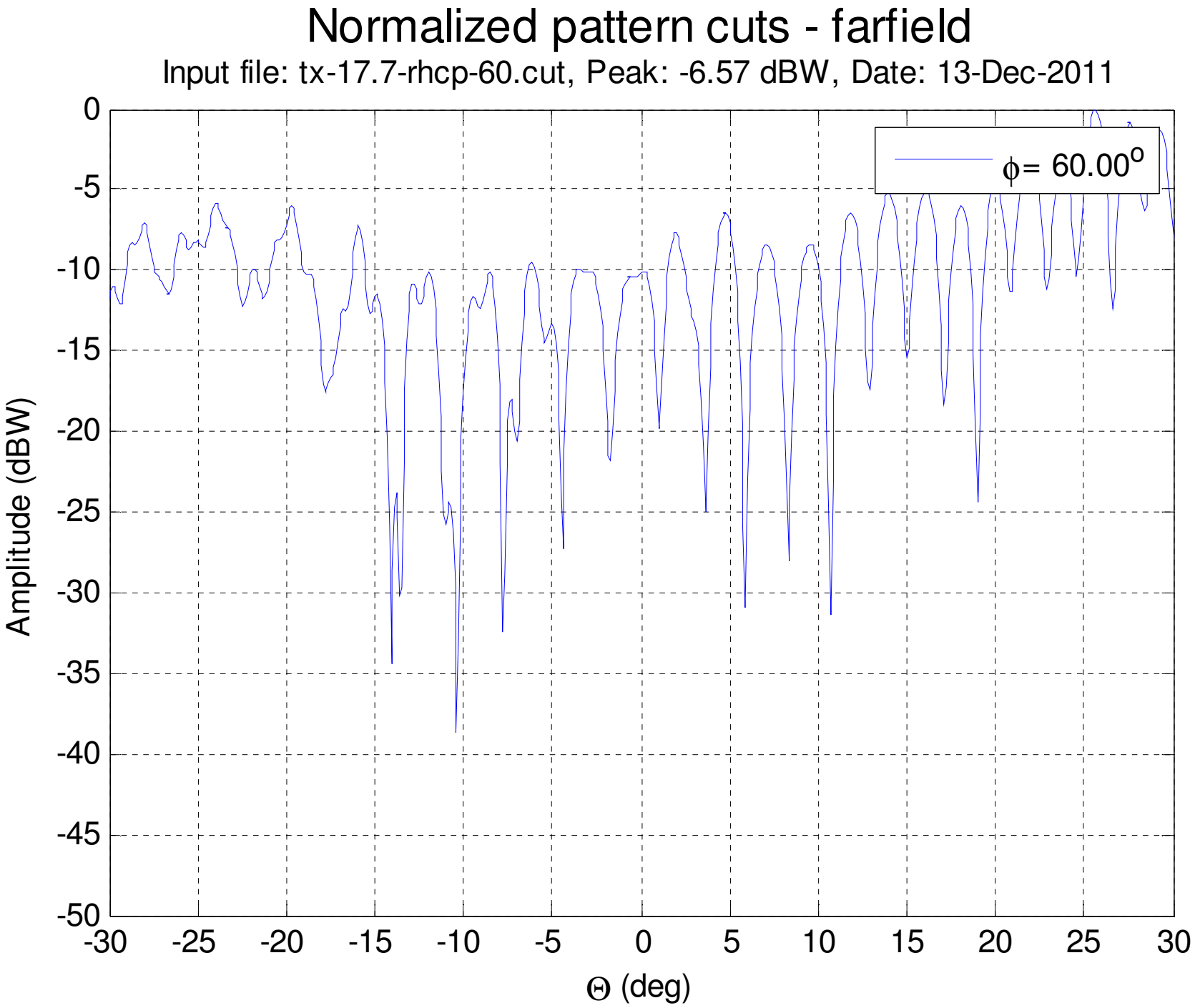

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -3.62 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -3.64 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

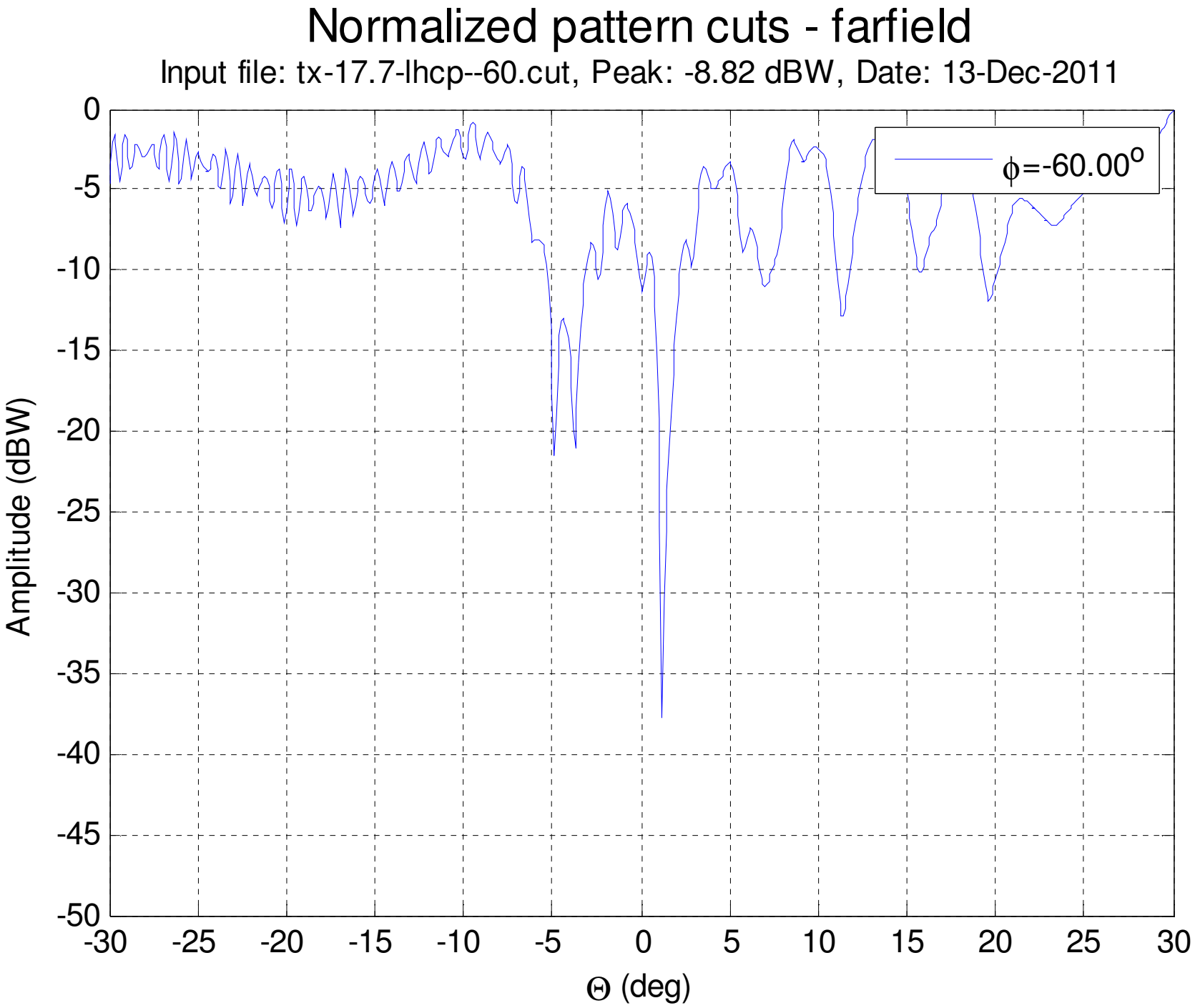

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -4.80 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

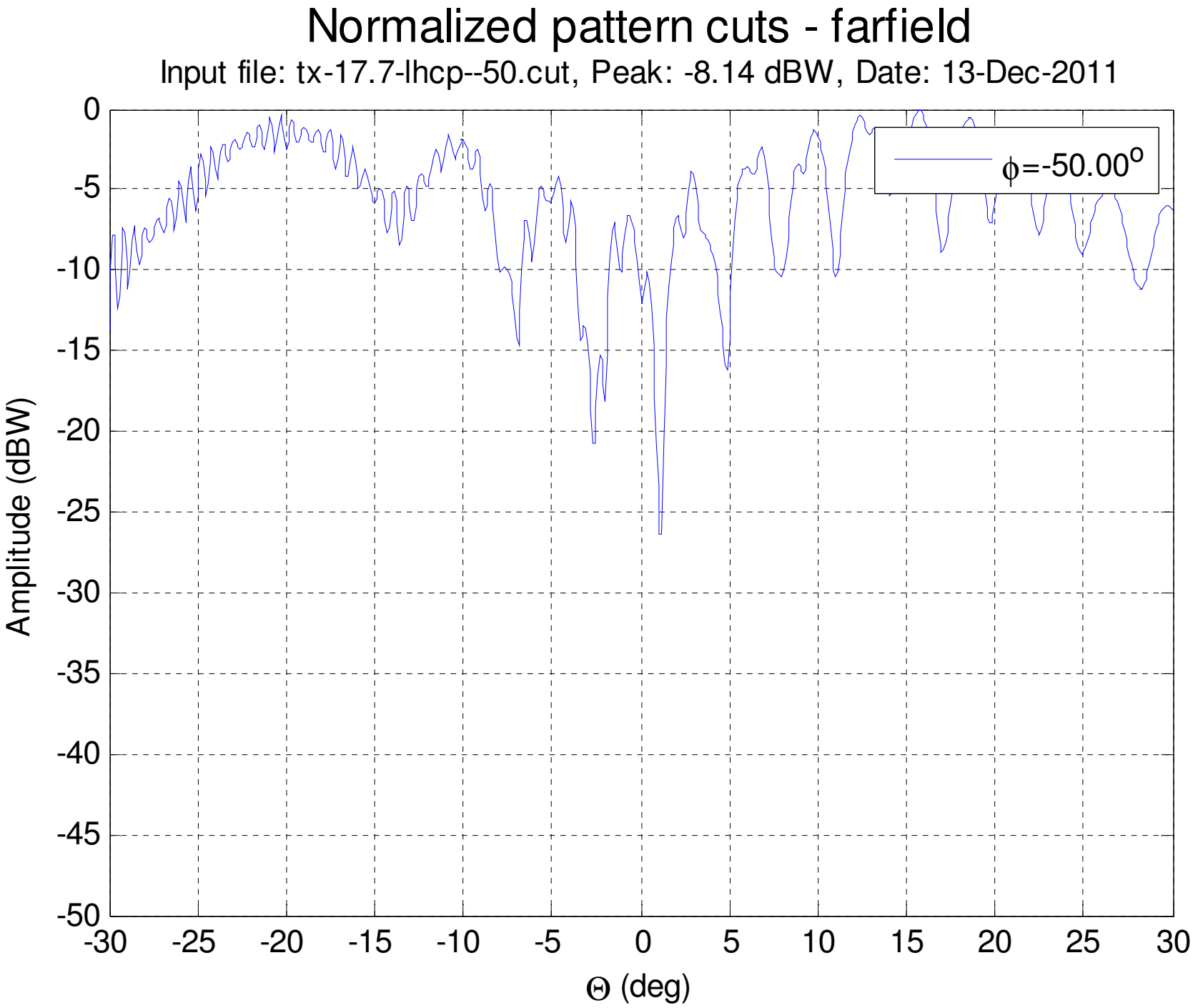

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -6.45 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

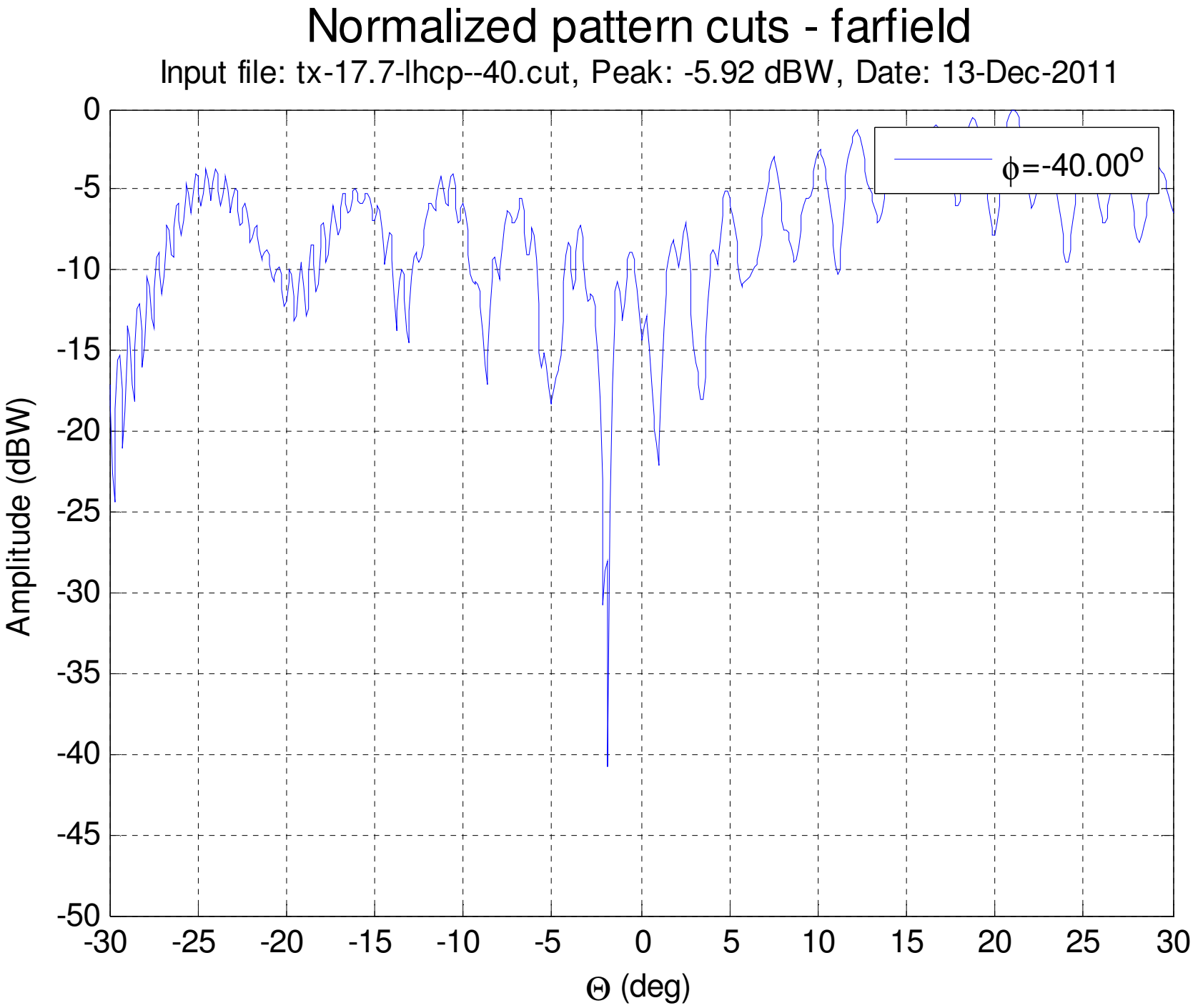

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -7.75 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

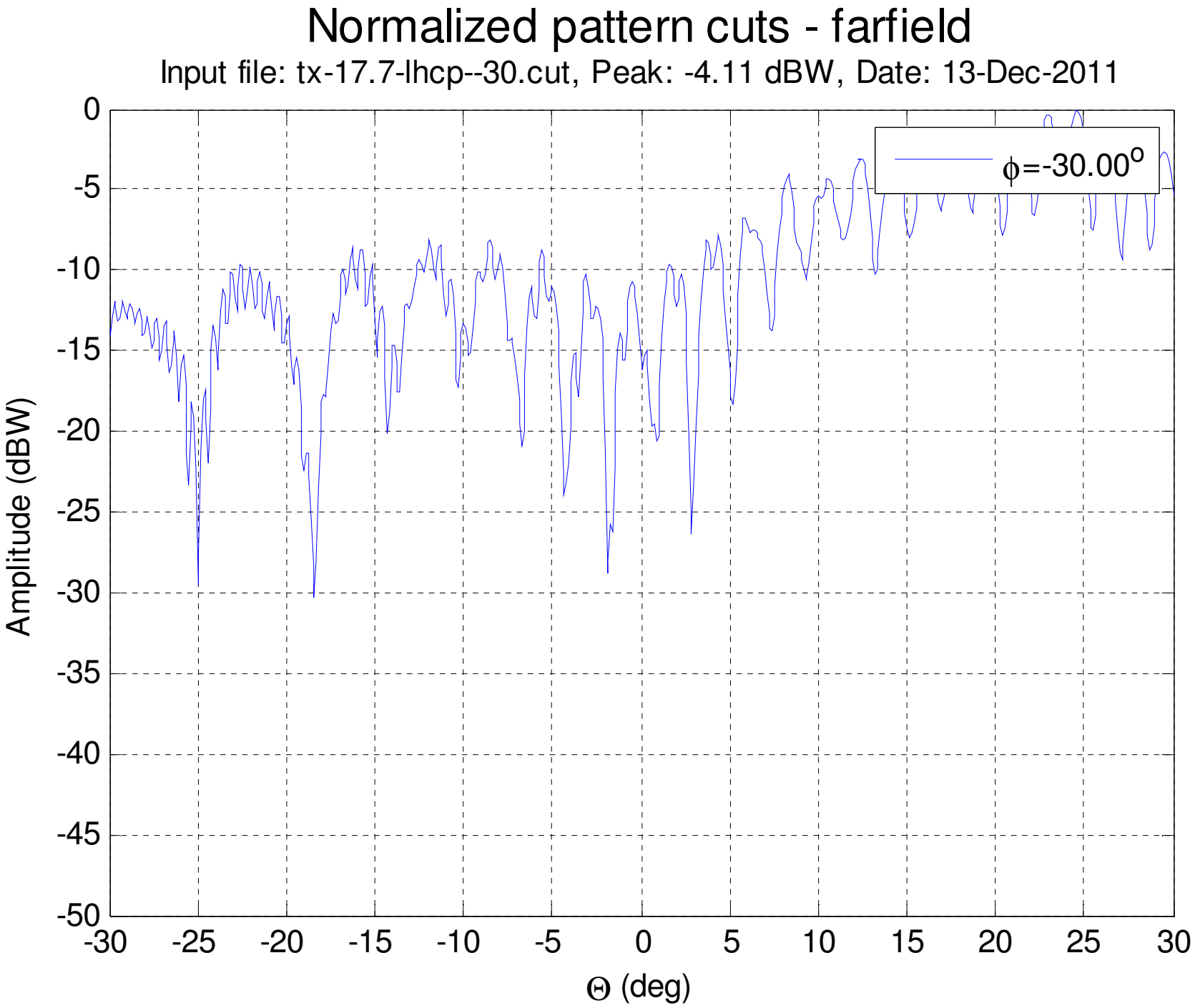

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -6.57 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

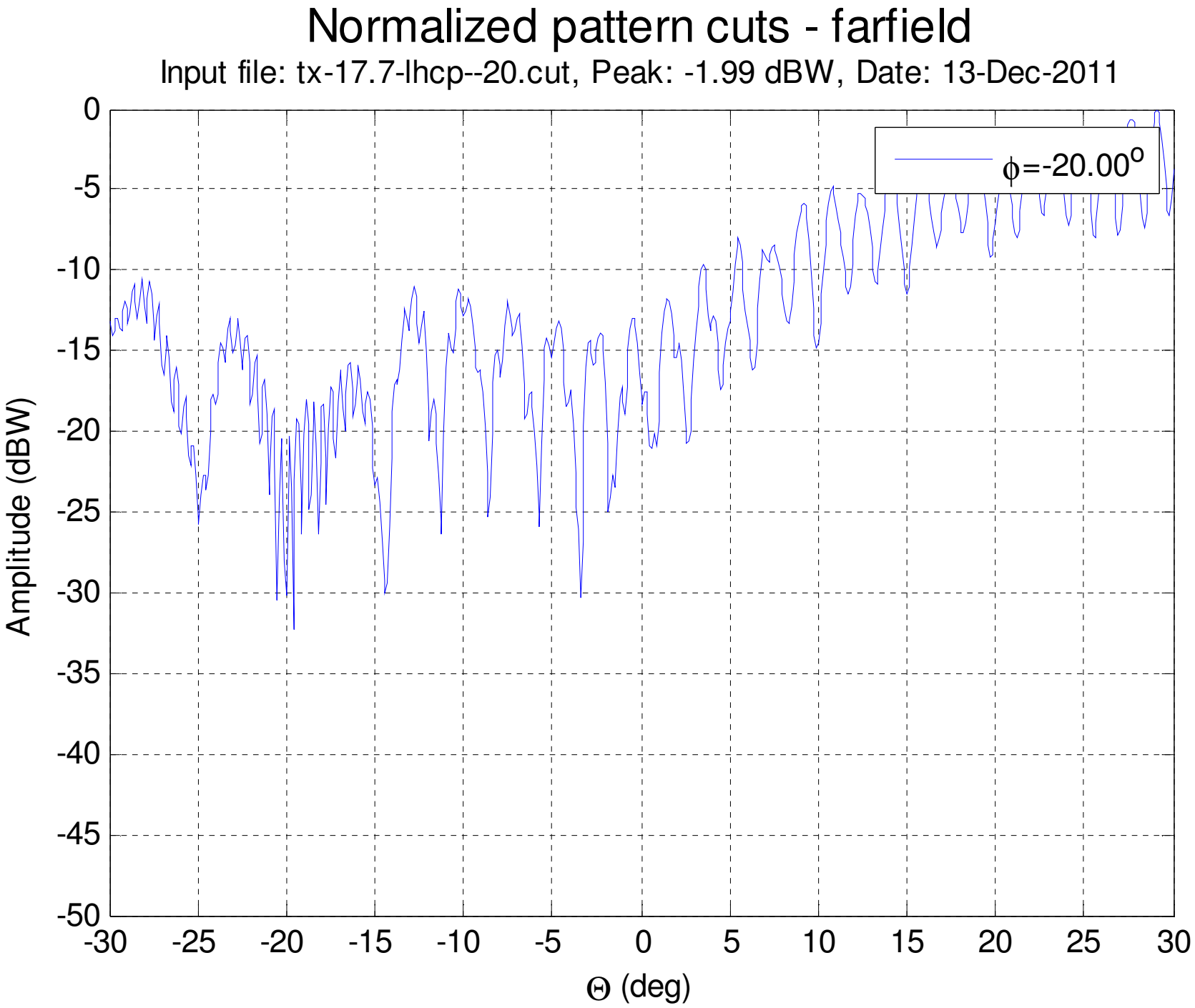
LHCP at 17.7 GHz

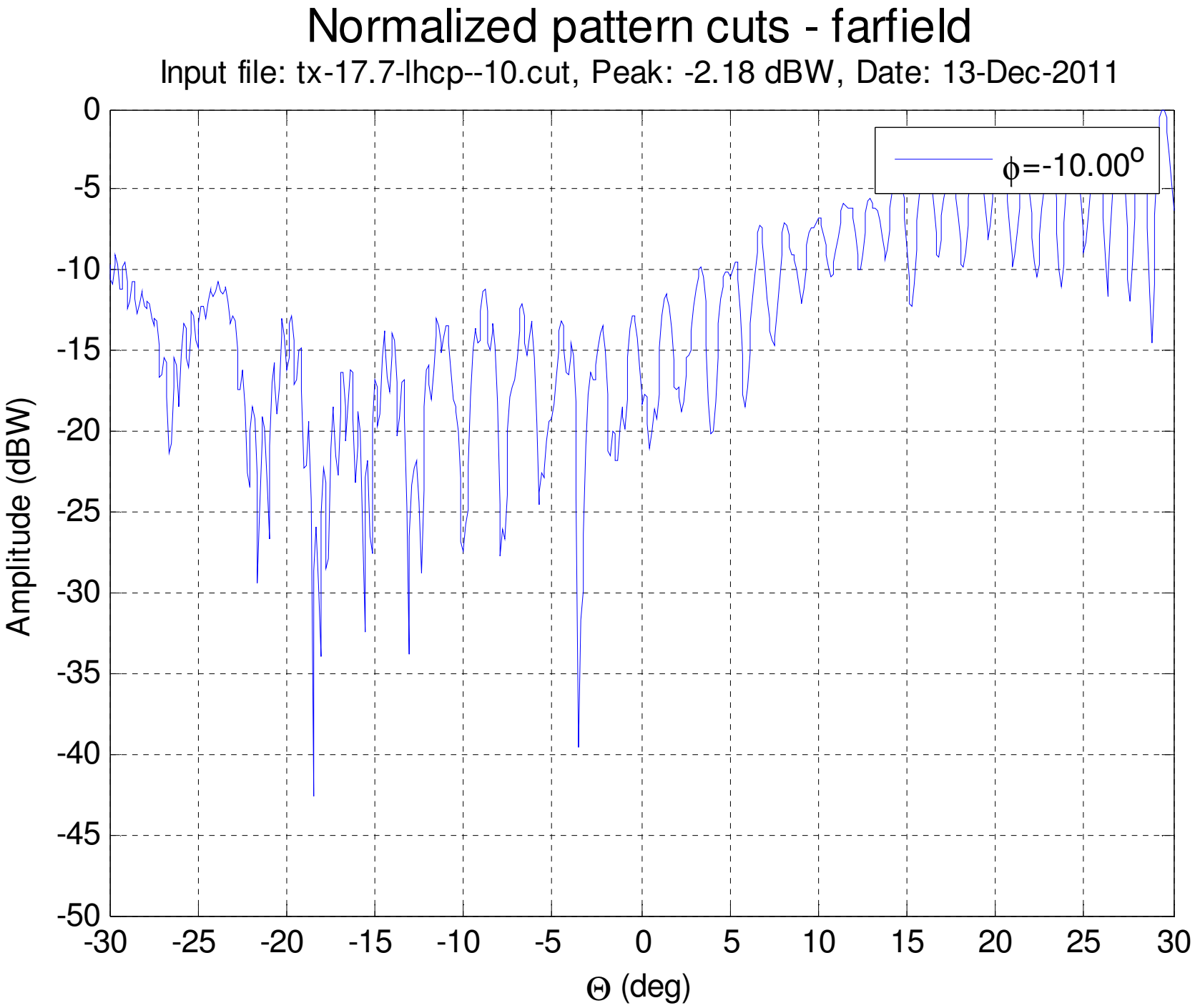

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.82 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

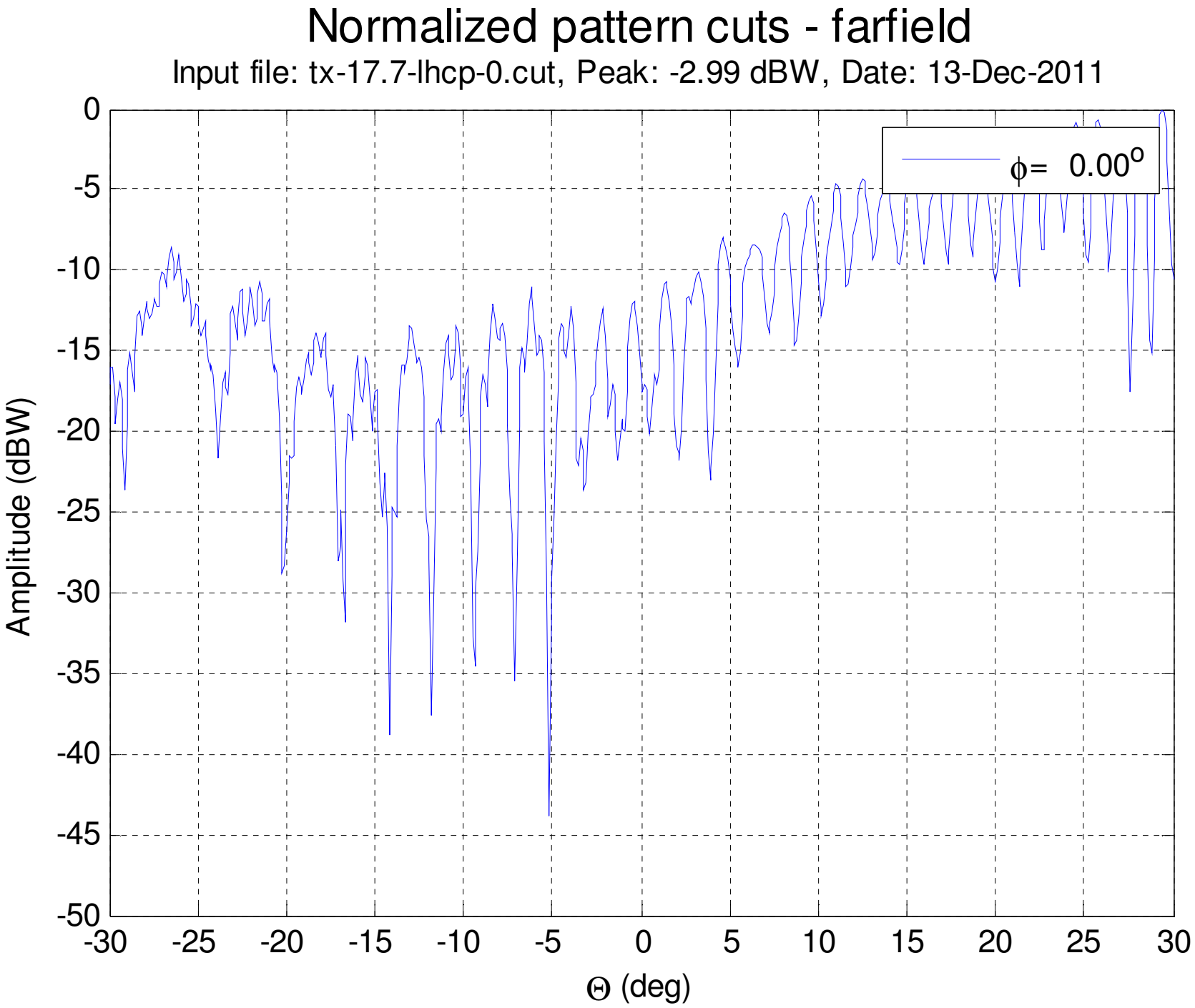

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -8.14 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

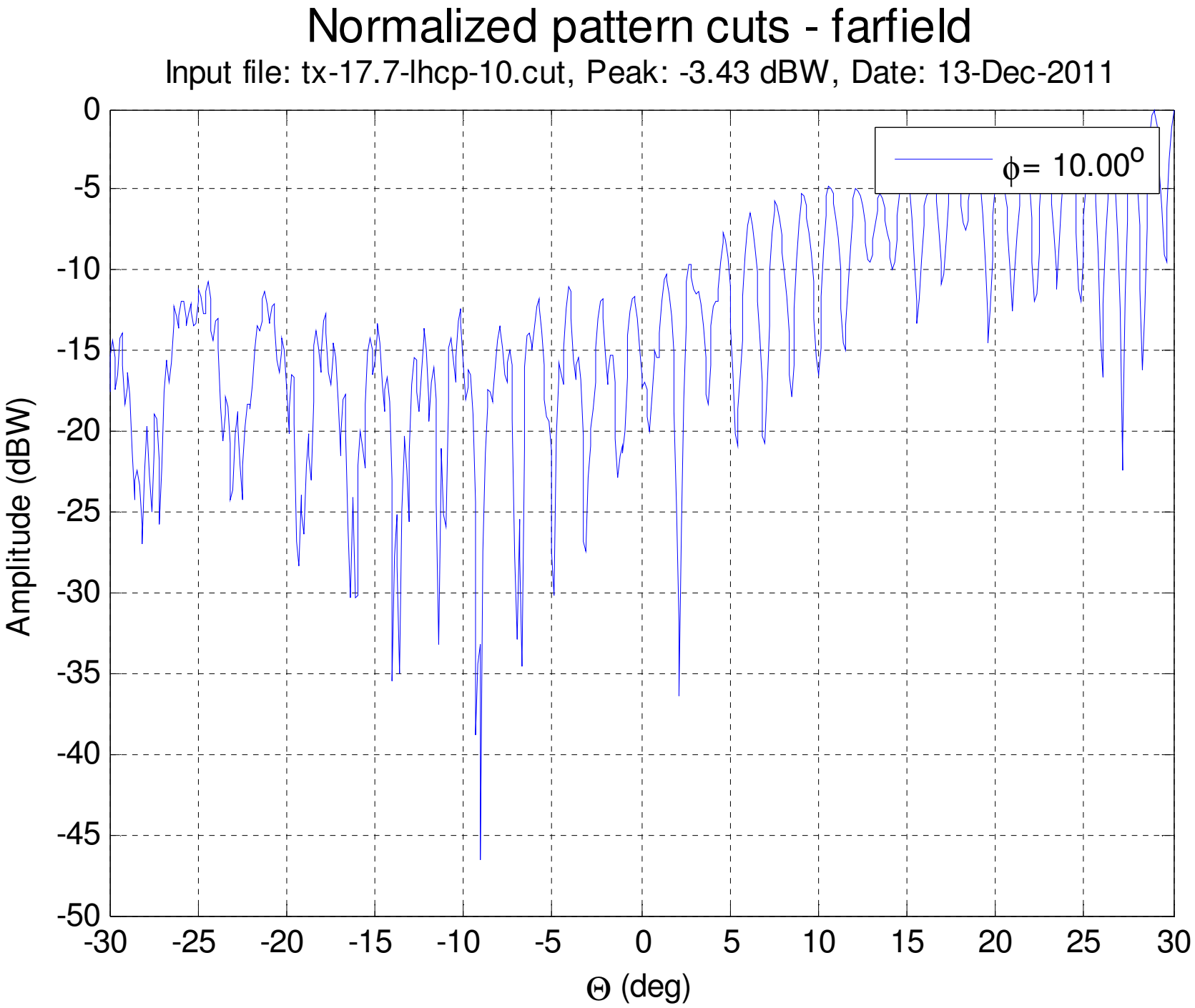

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -5.92 dBW, Date: 13-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

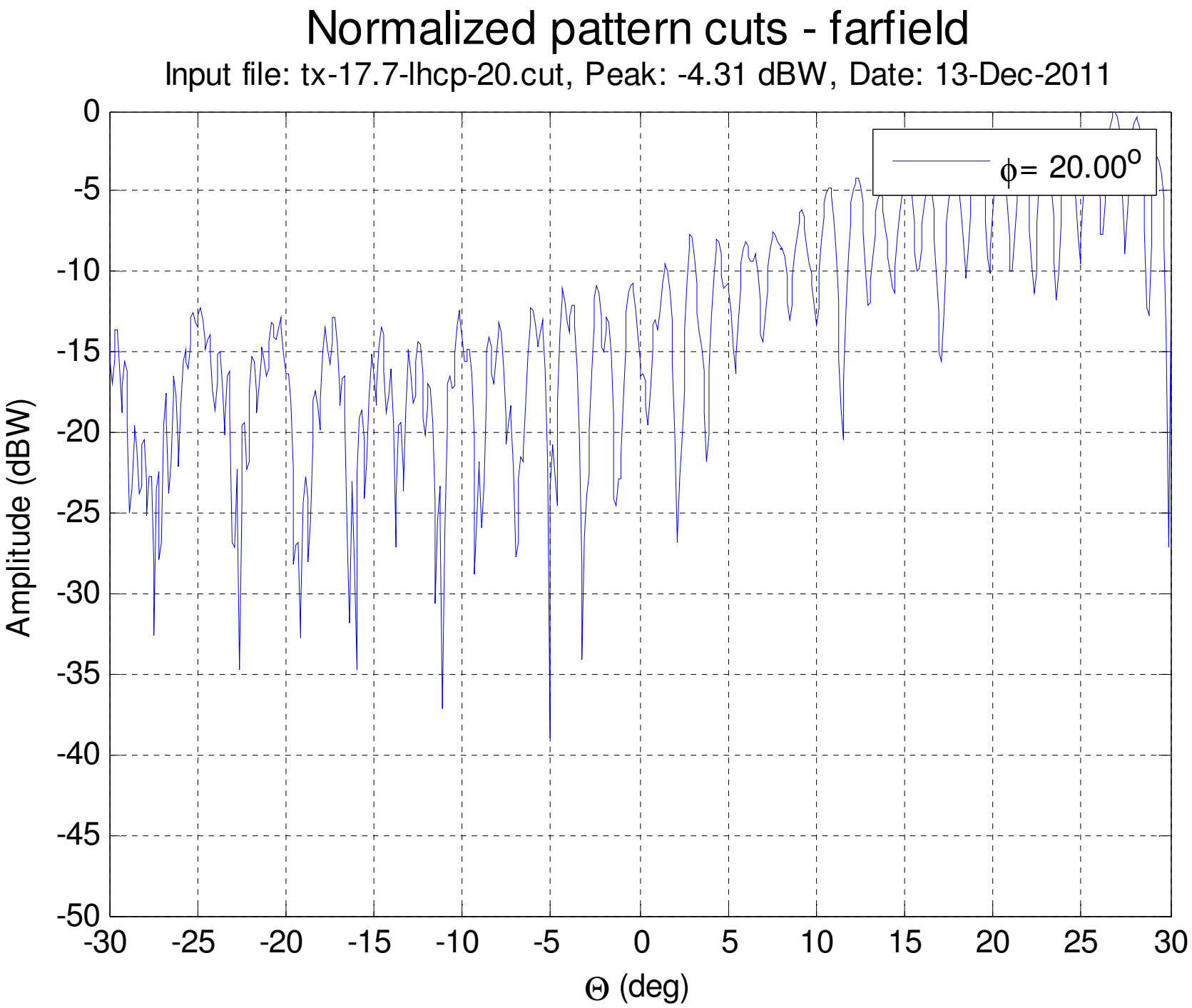

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -4.11 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

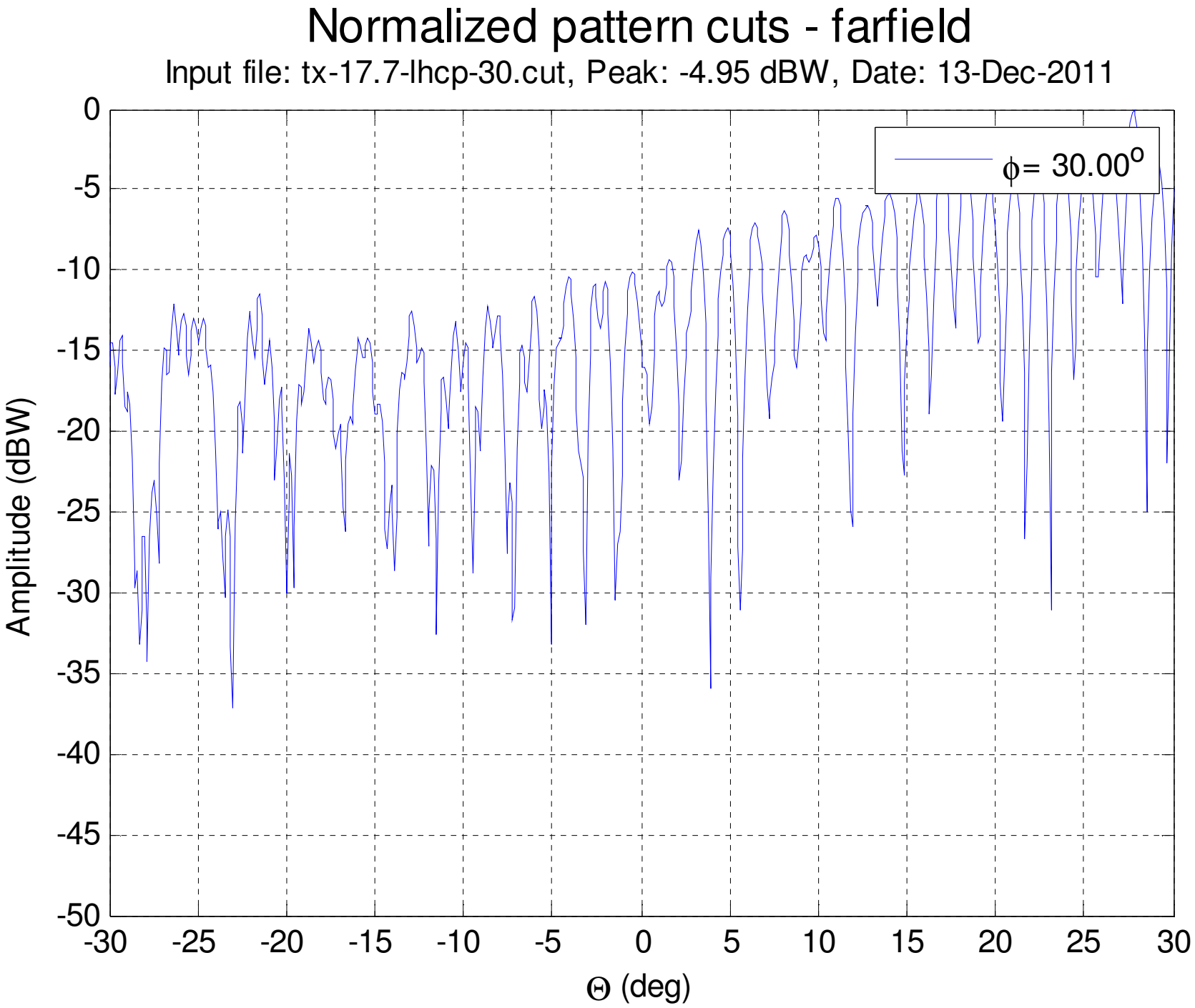

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -1.99 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

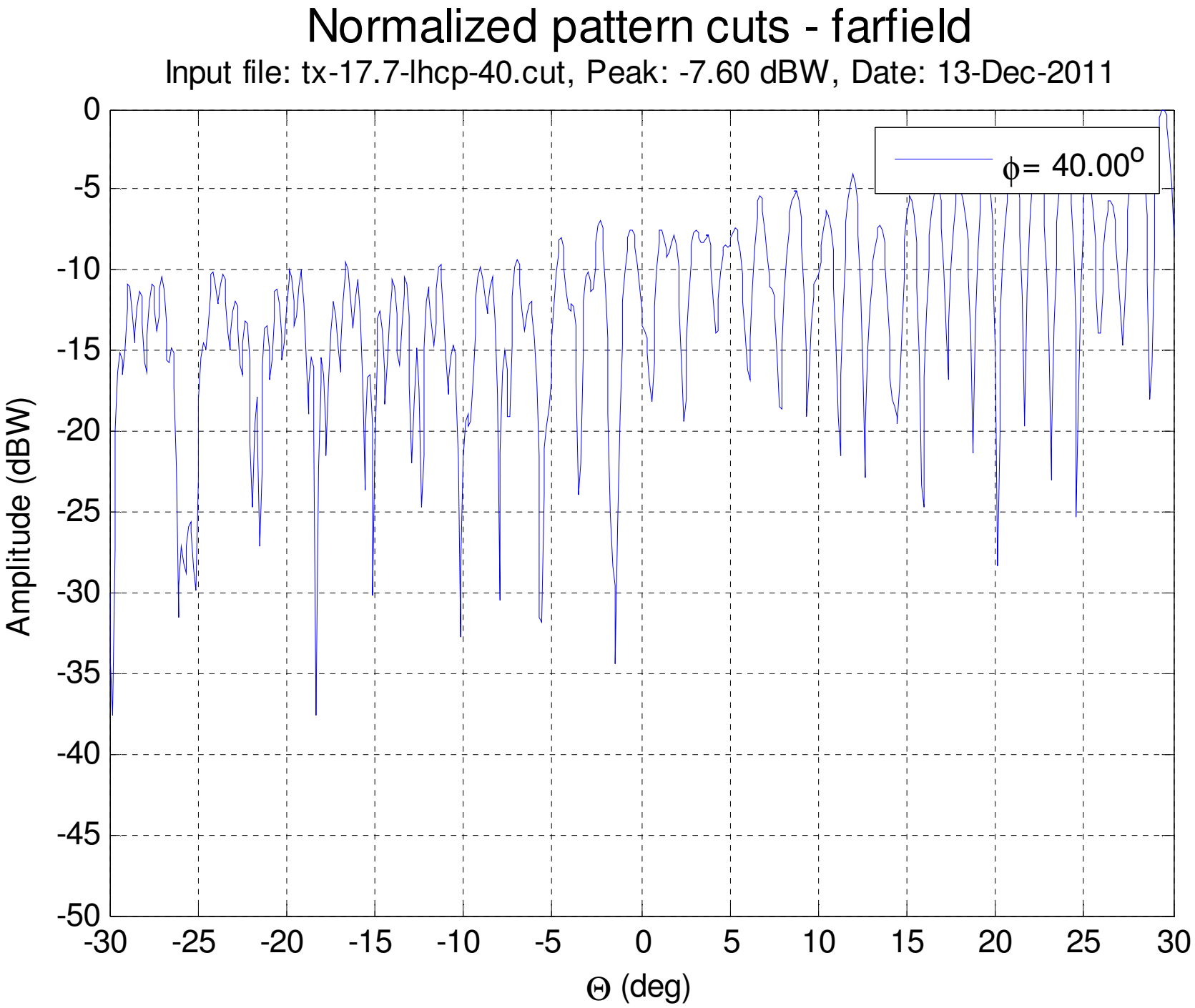

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -2.18 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

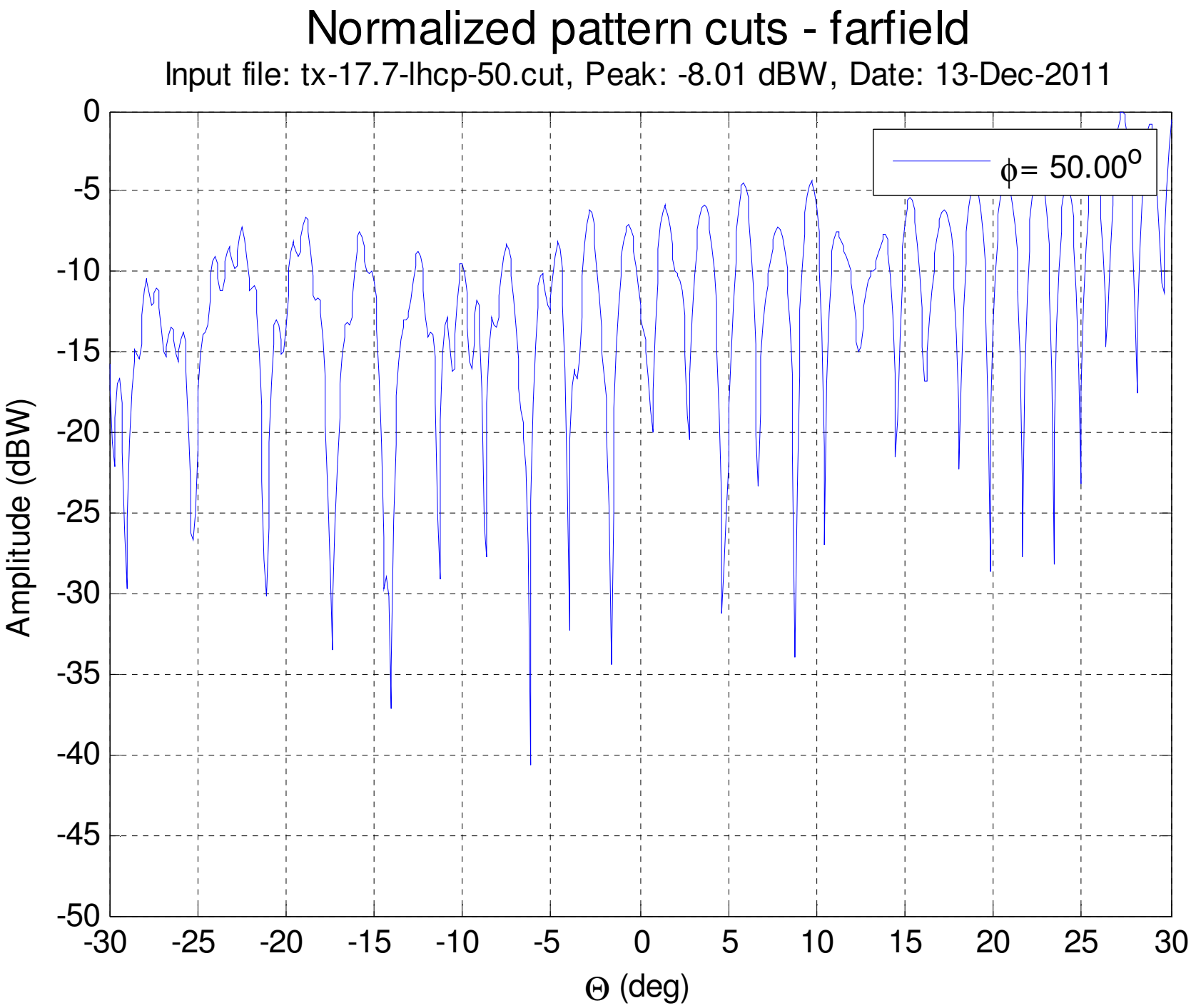

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -2.99 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

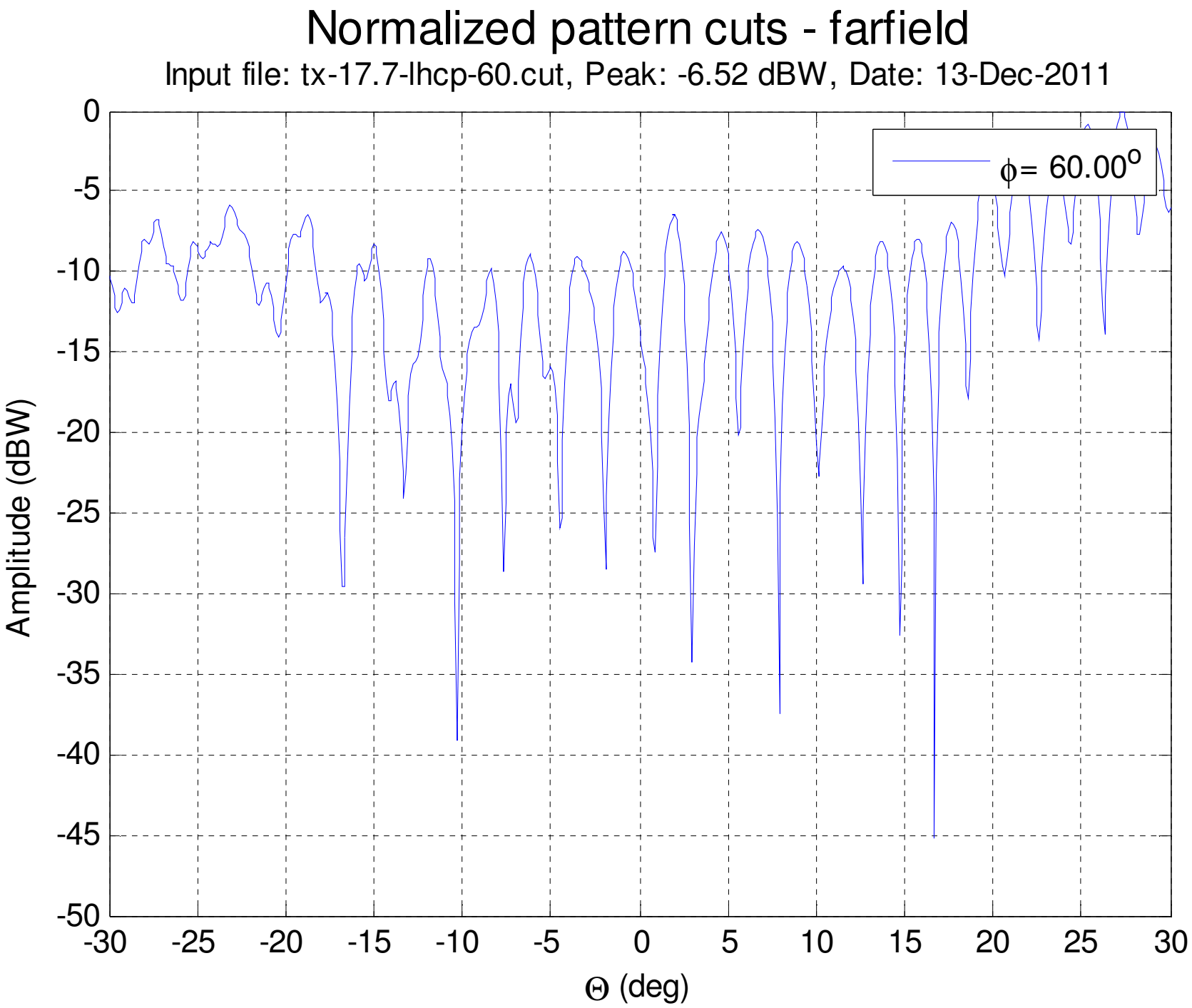

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -3.43 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -4.31 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -4.95 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -7.60 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

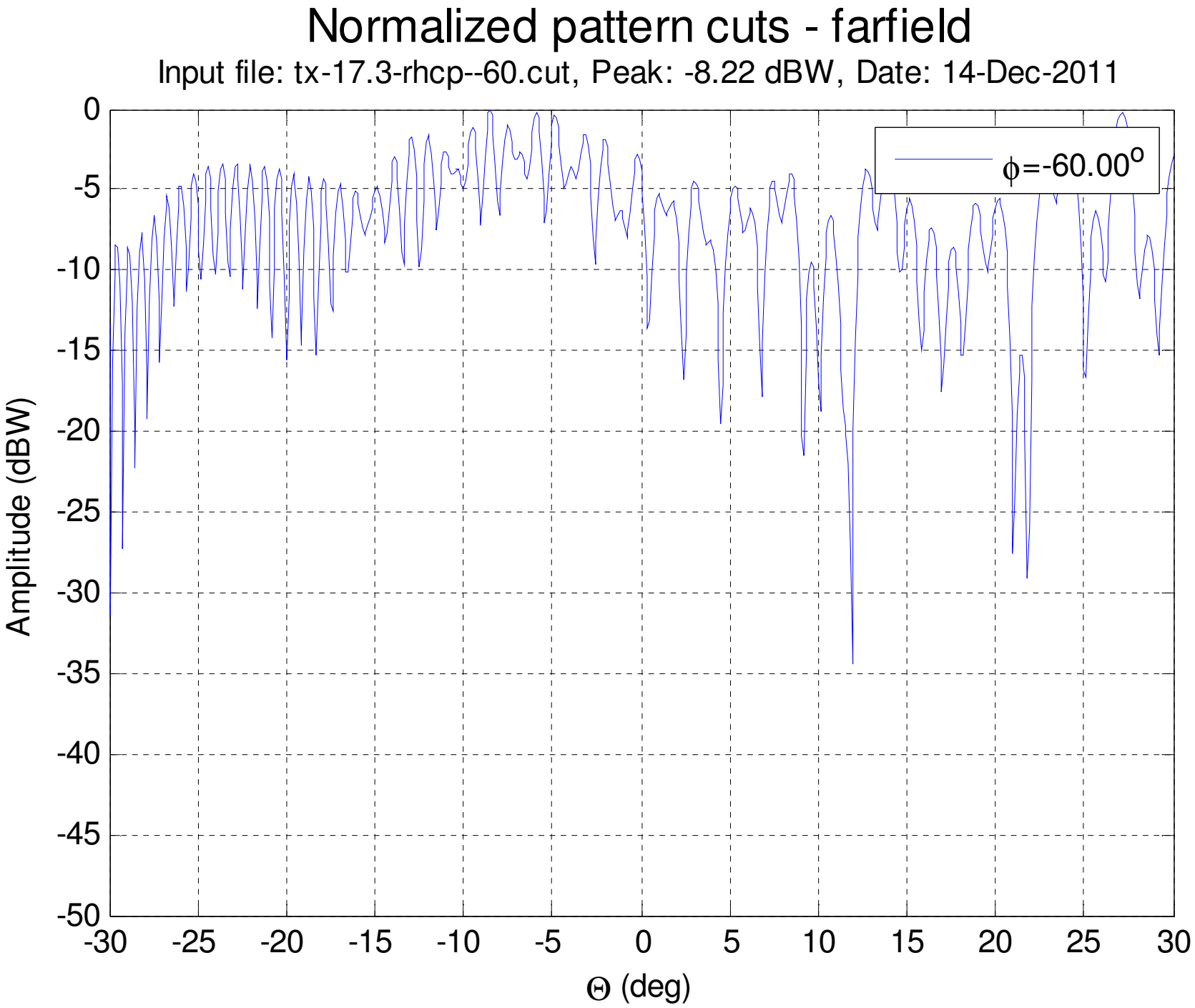

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -8.01 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

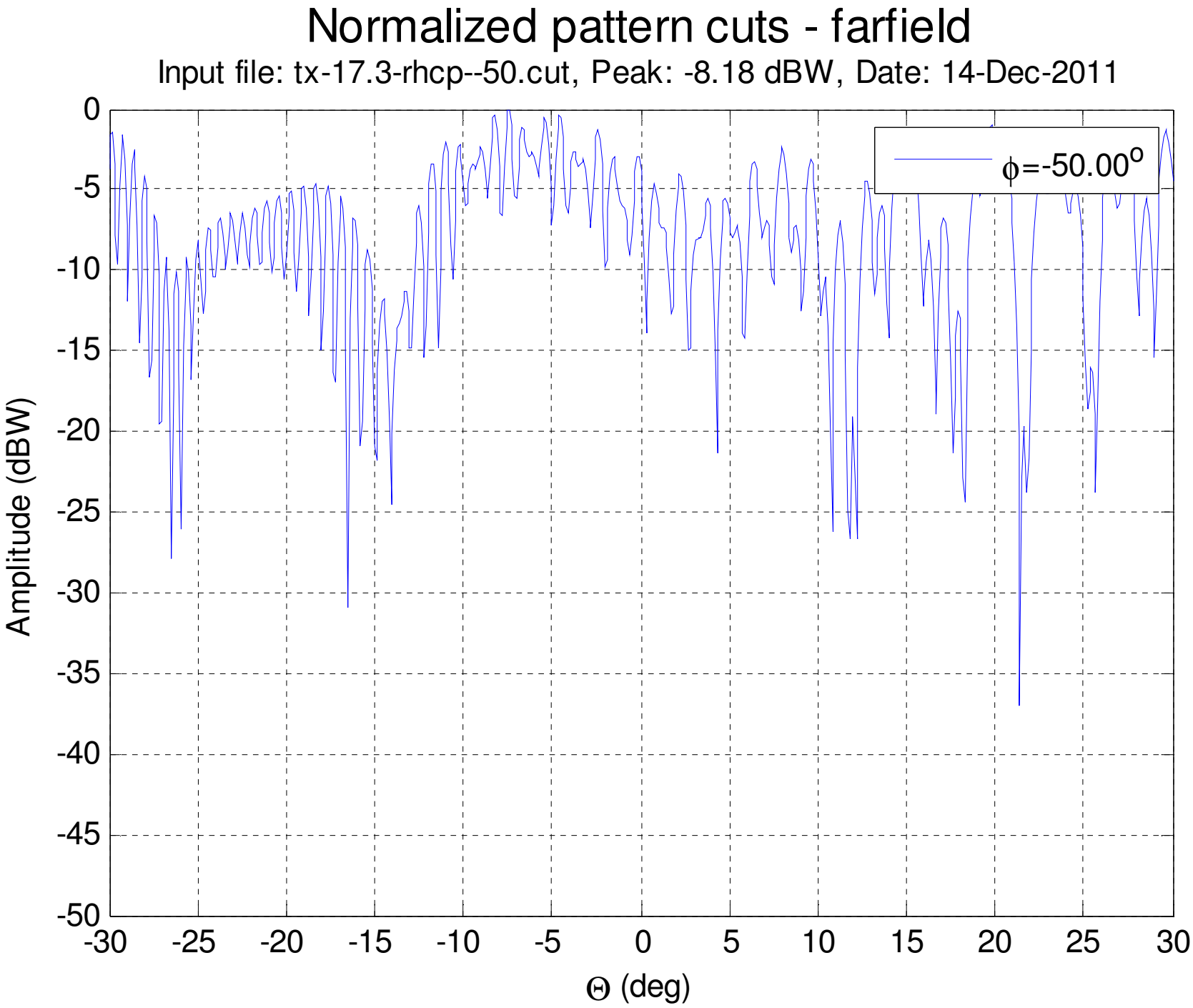

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -6.52 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

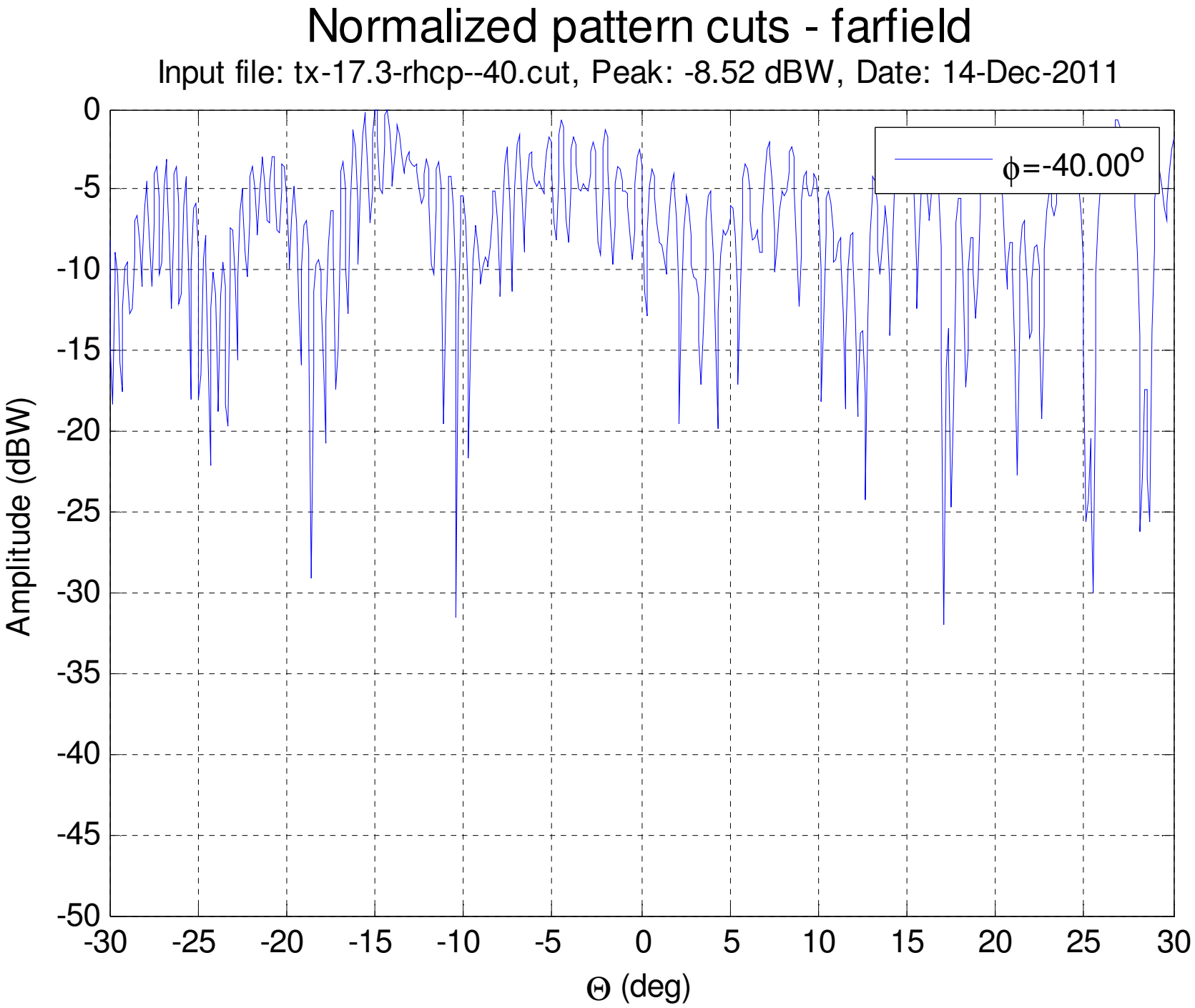
Spot Beam01, +X Axis Plots

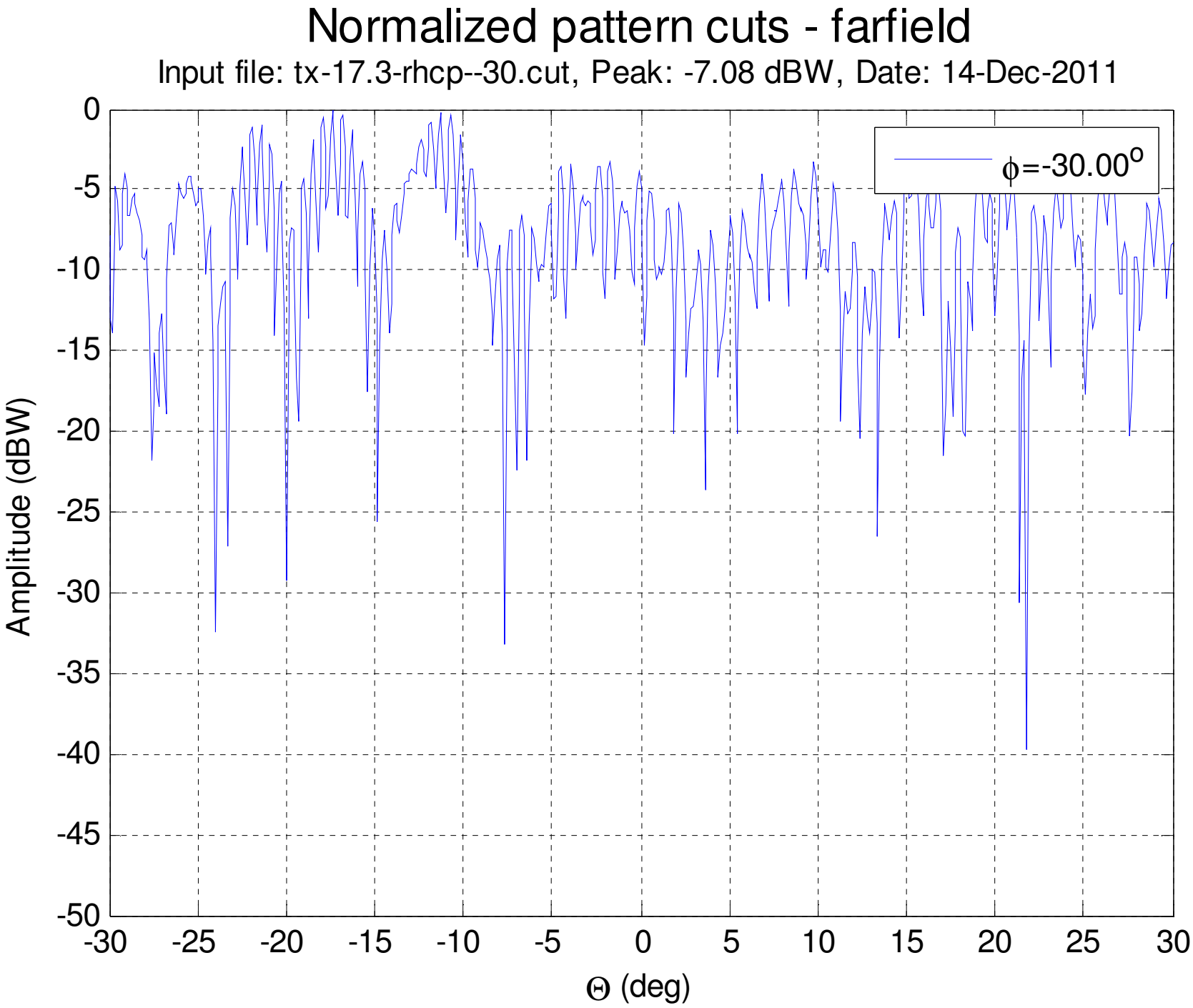
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

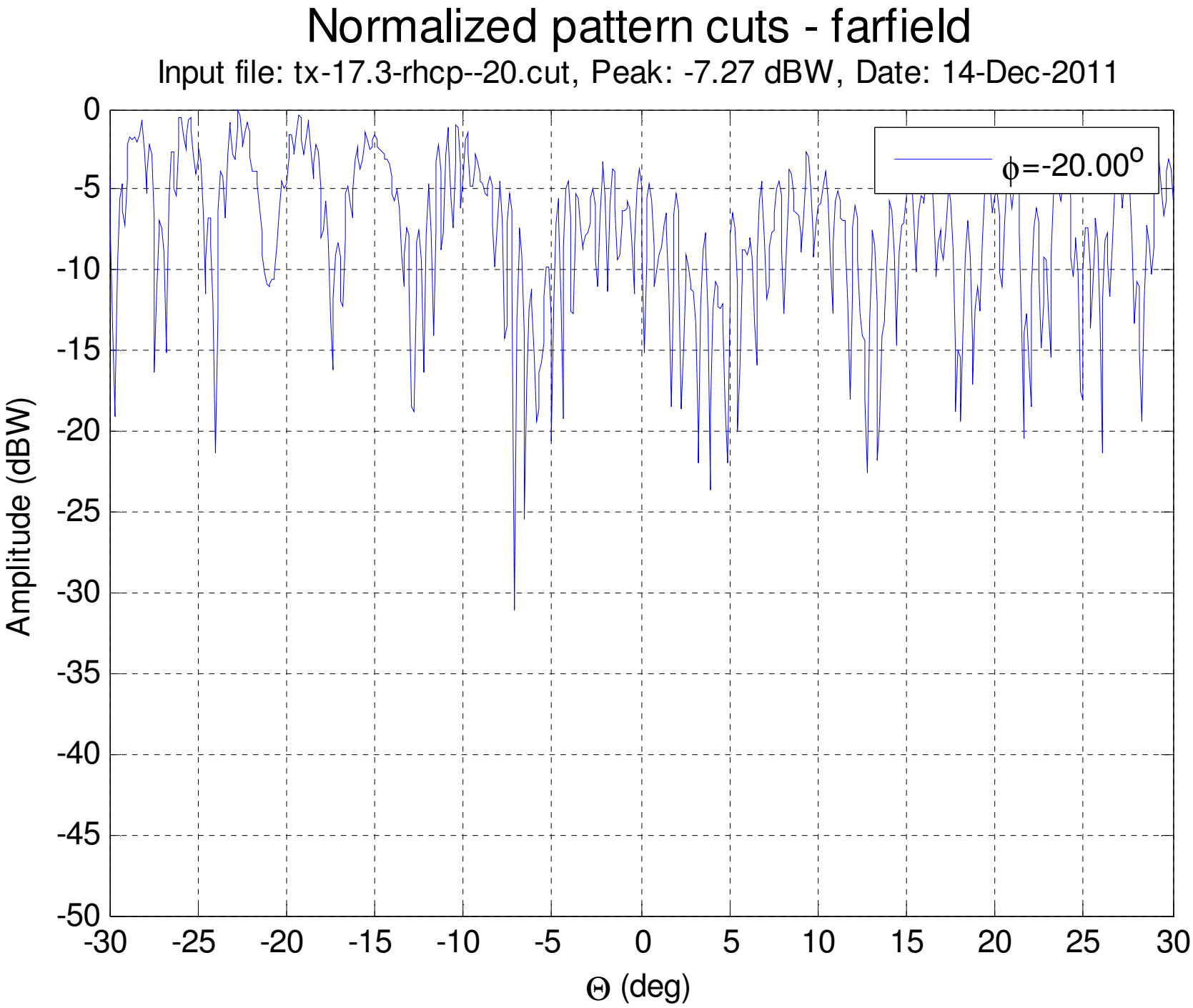
RHCP at 17.3 GHz

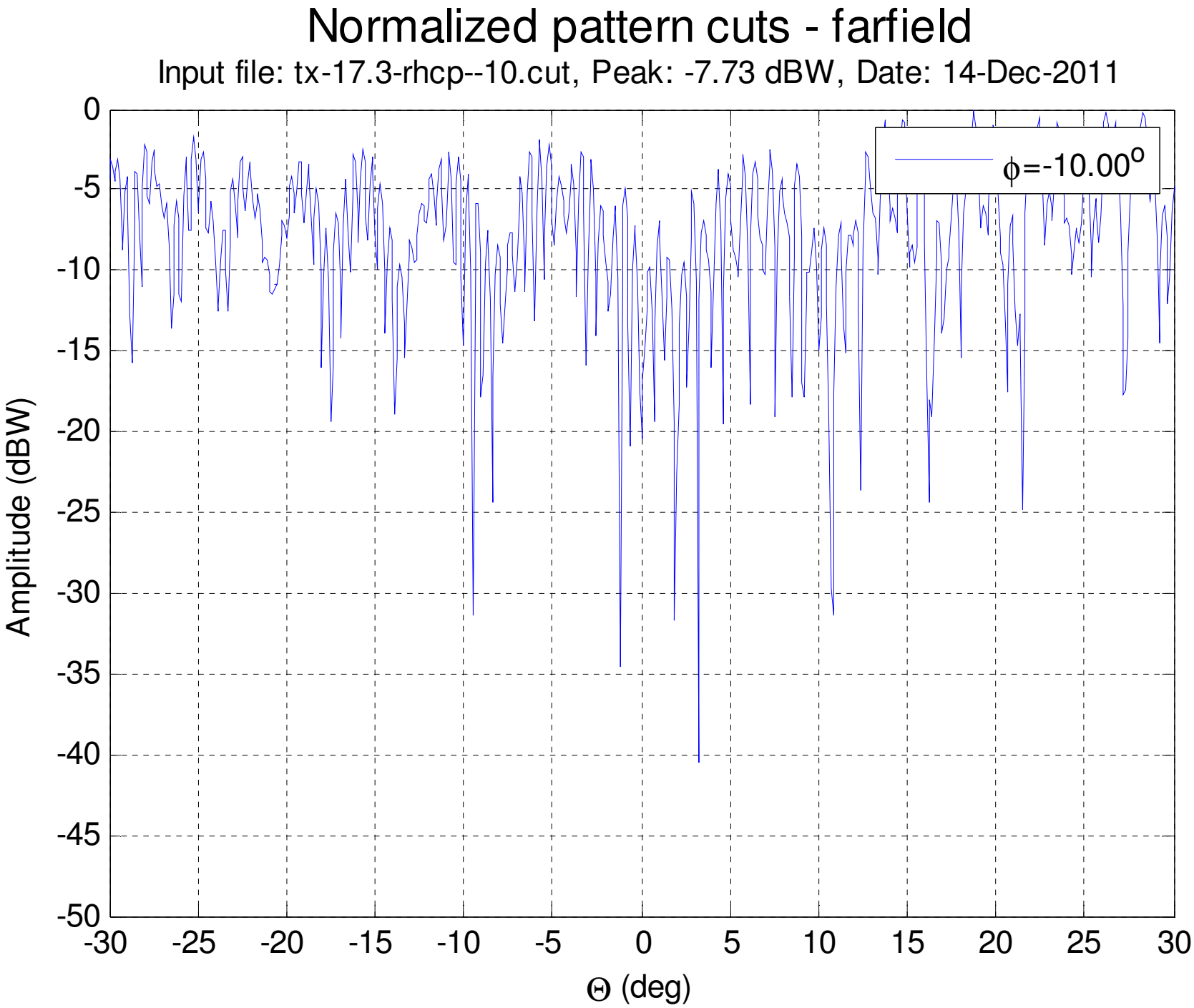

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -8.22 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

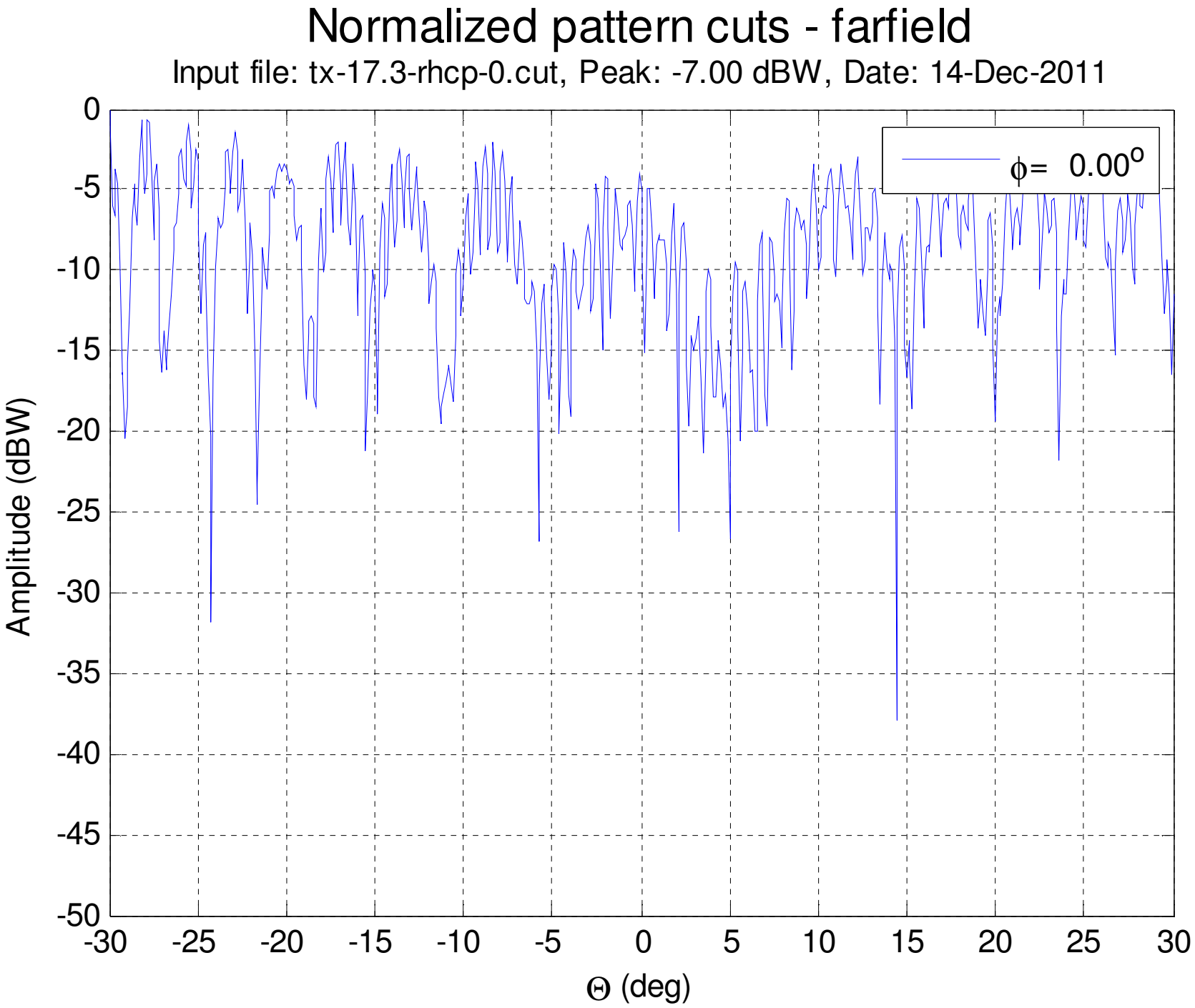

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -8.18 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

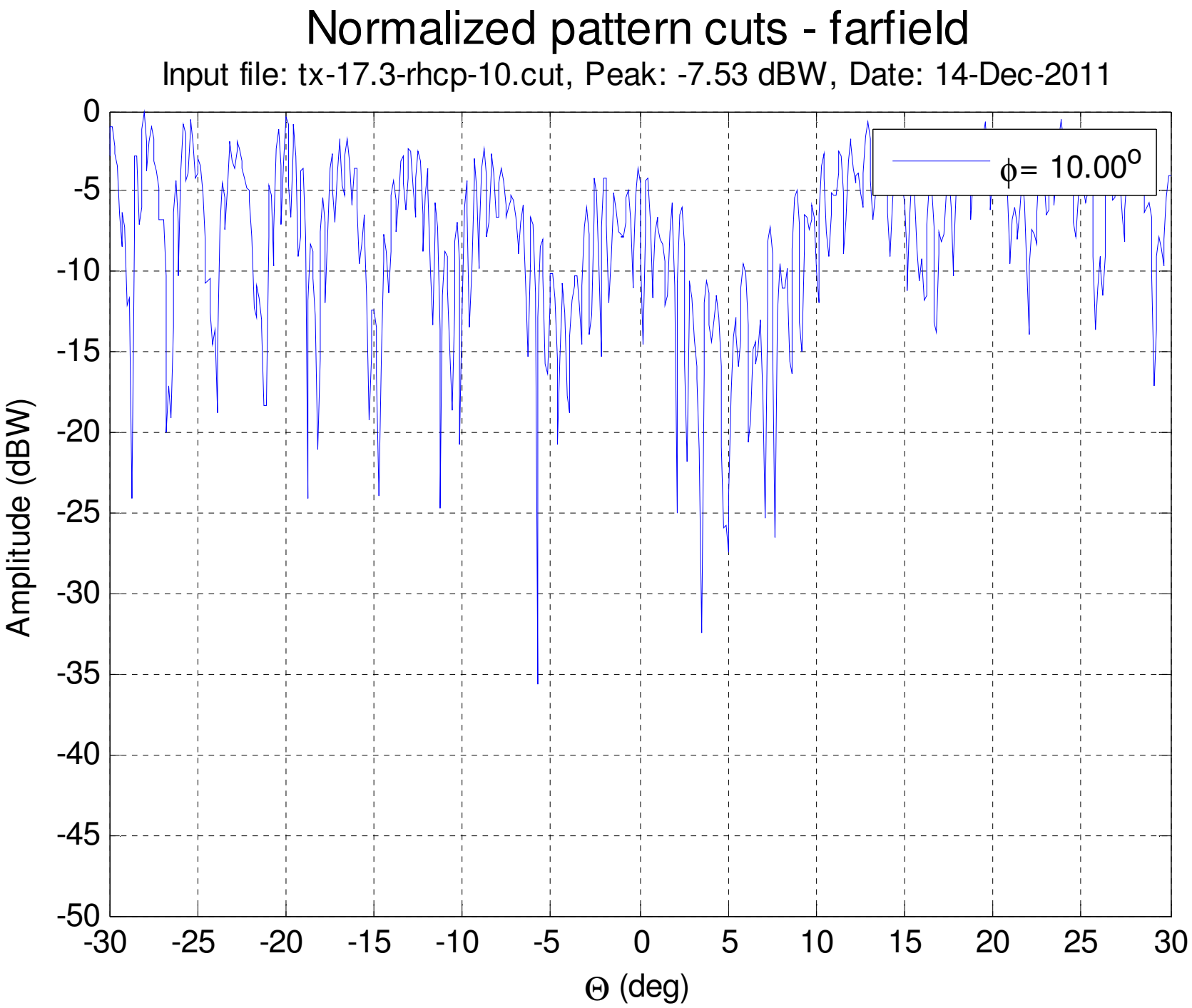

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -8.52 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

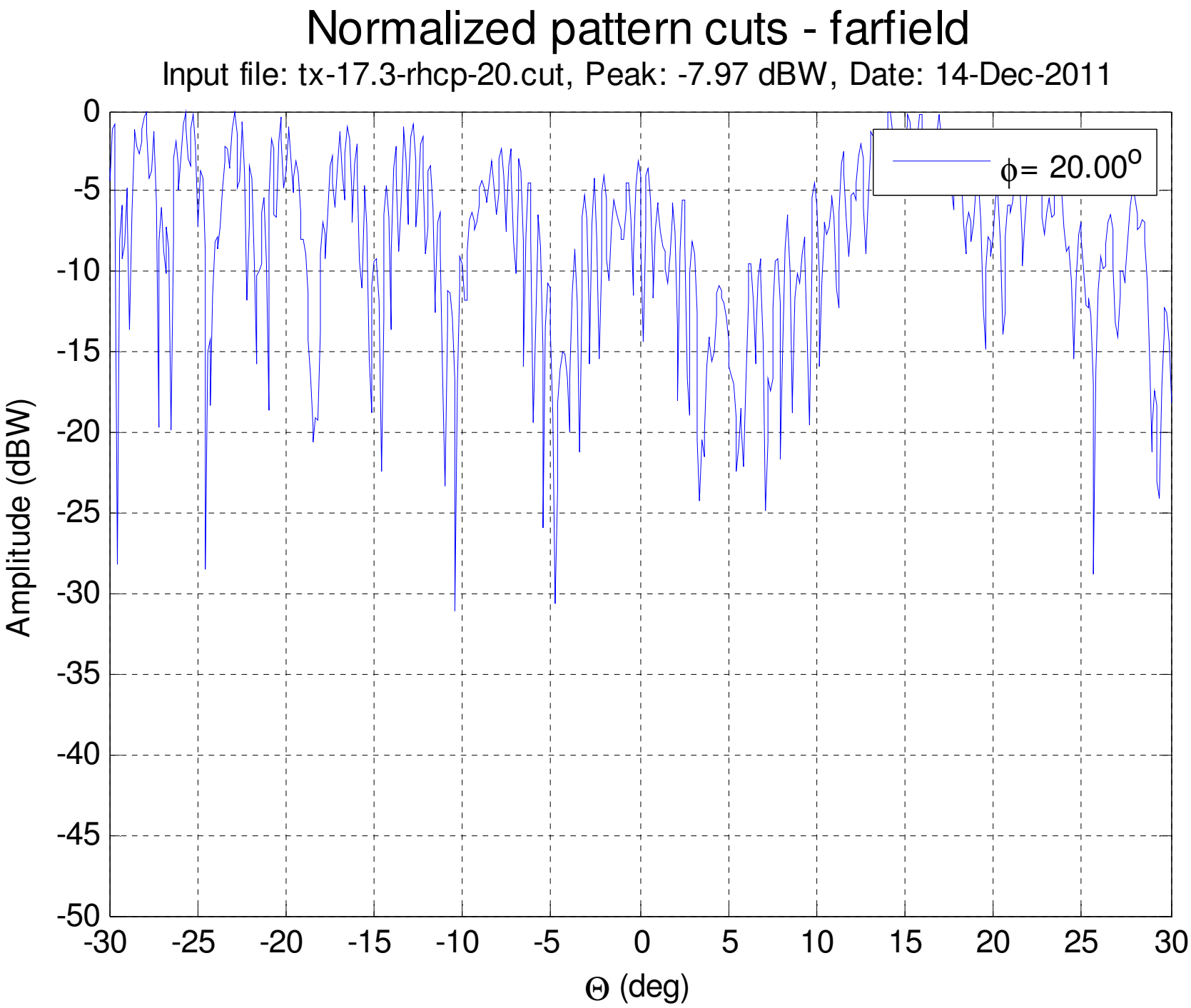

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -7.08 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

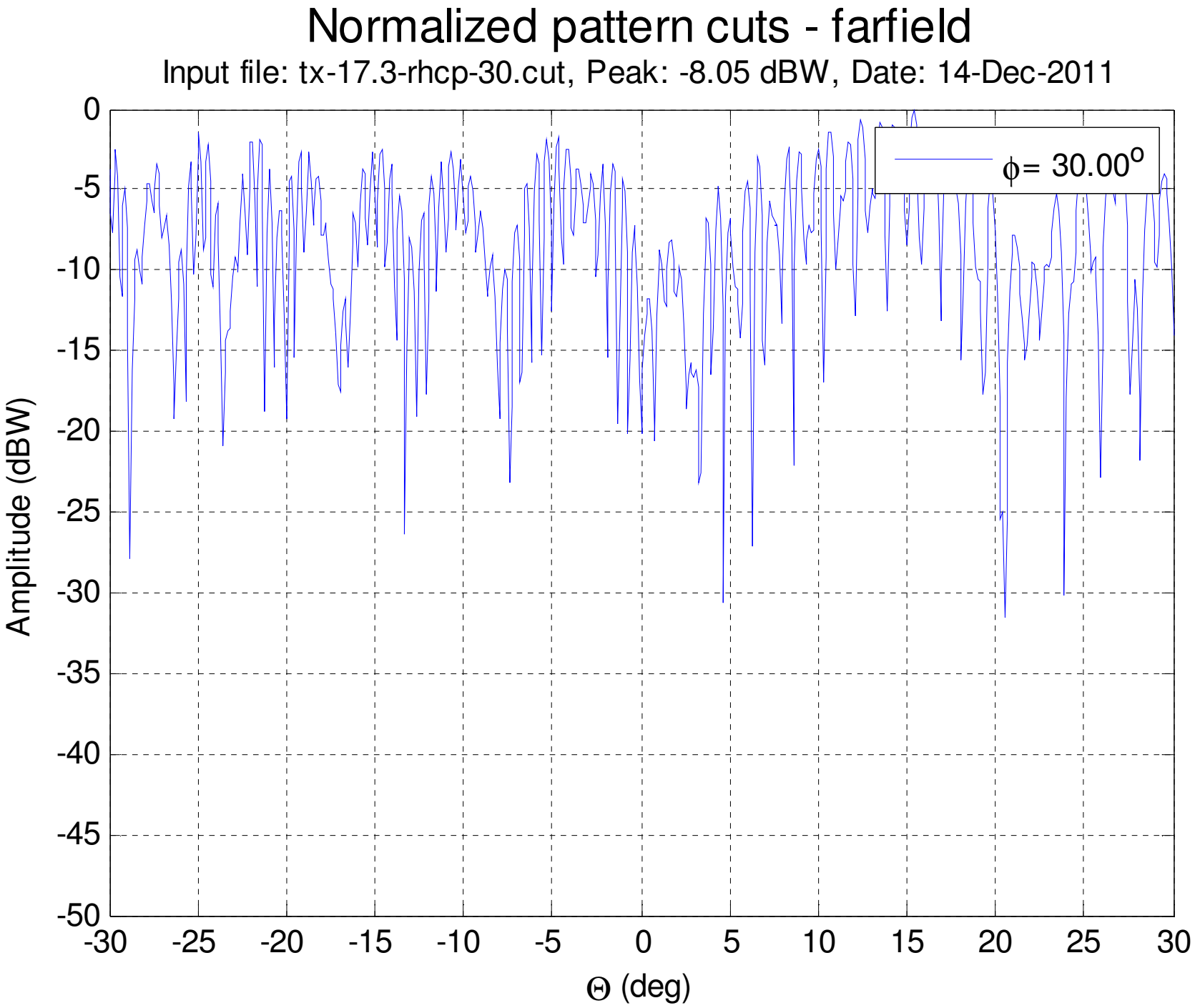

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -7.27 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

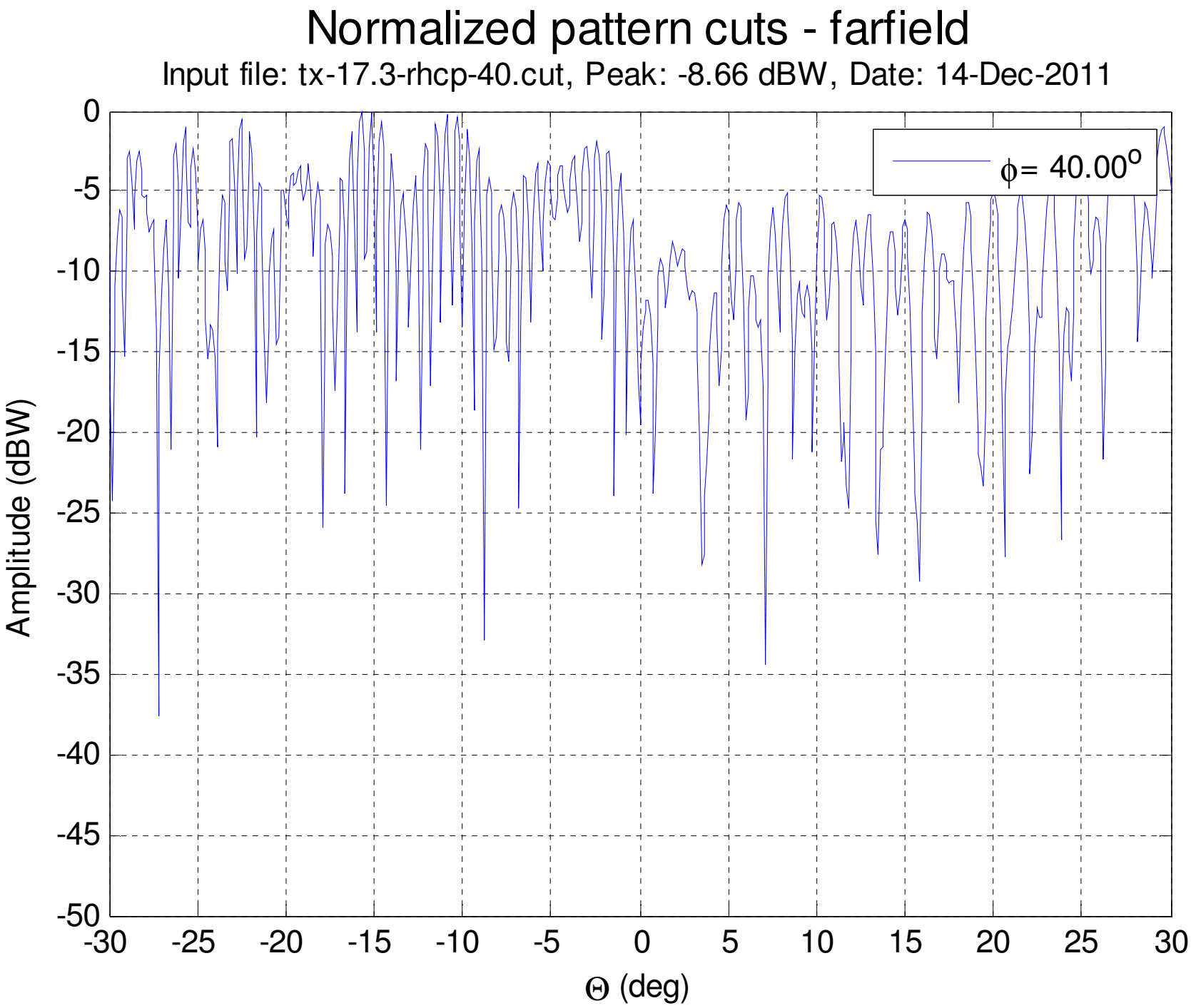

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -7.73 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

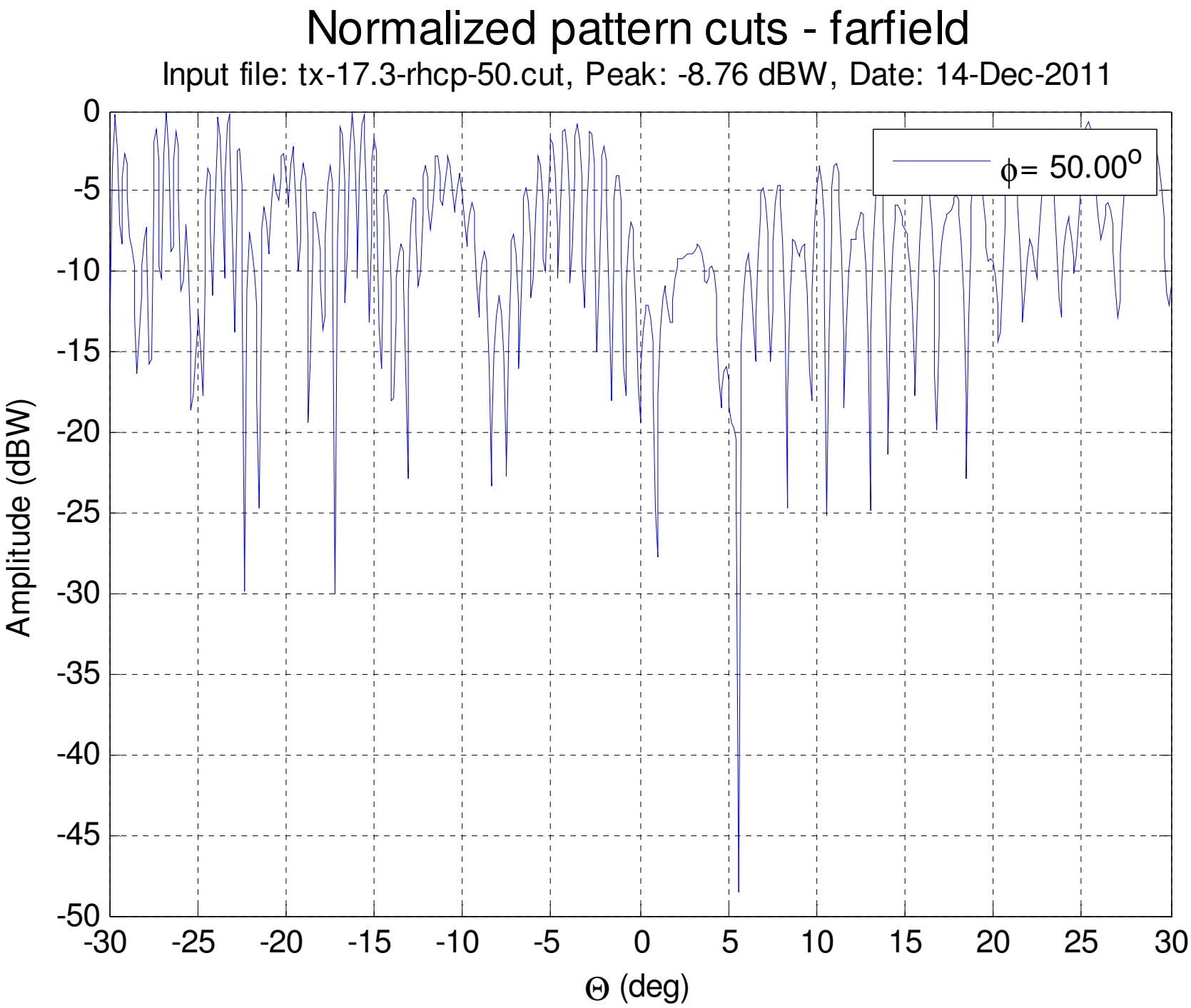

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -7.00 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

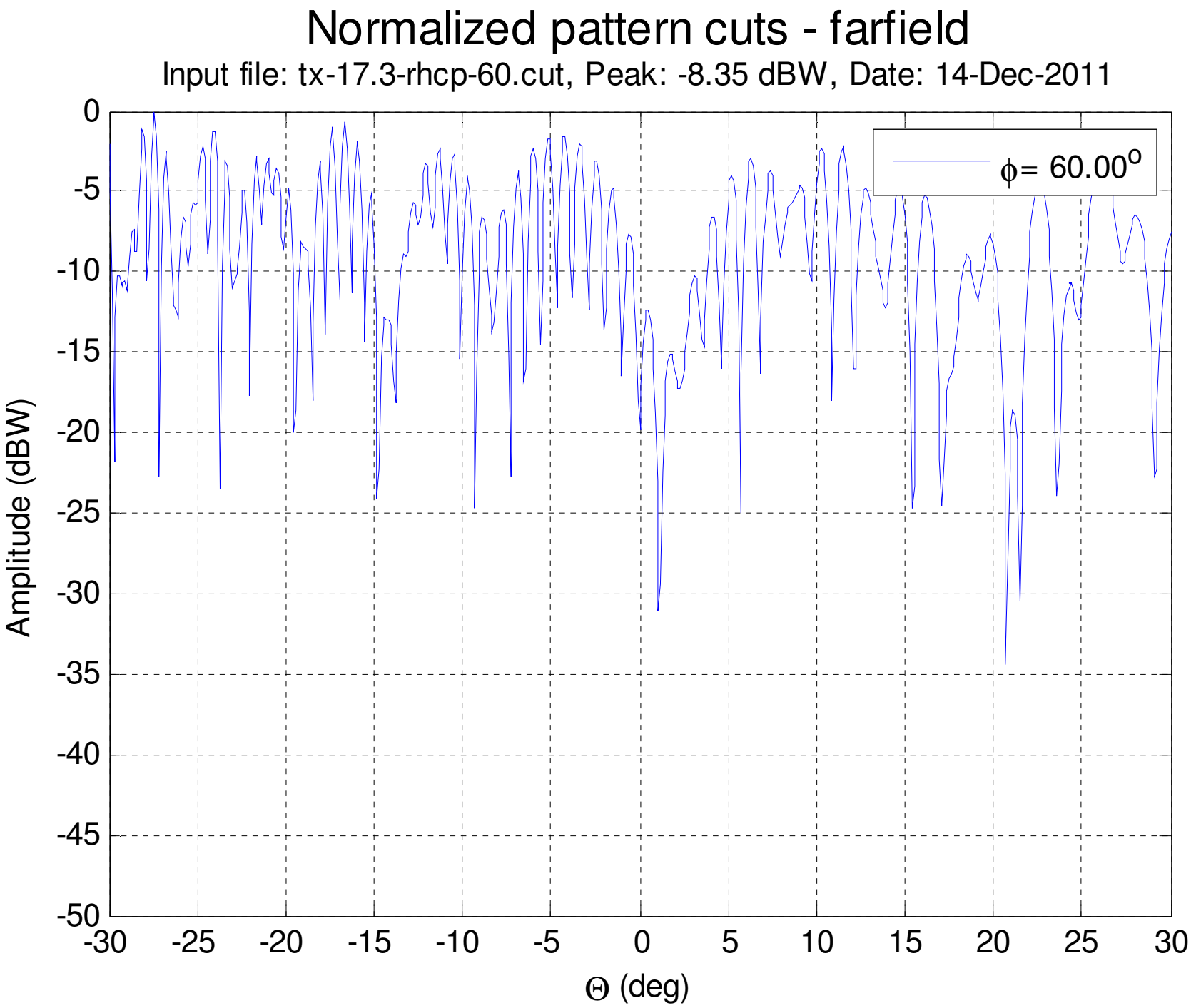

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -7.53 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -7.97 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

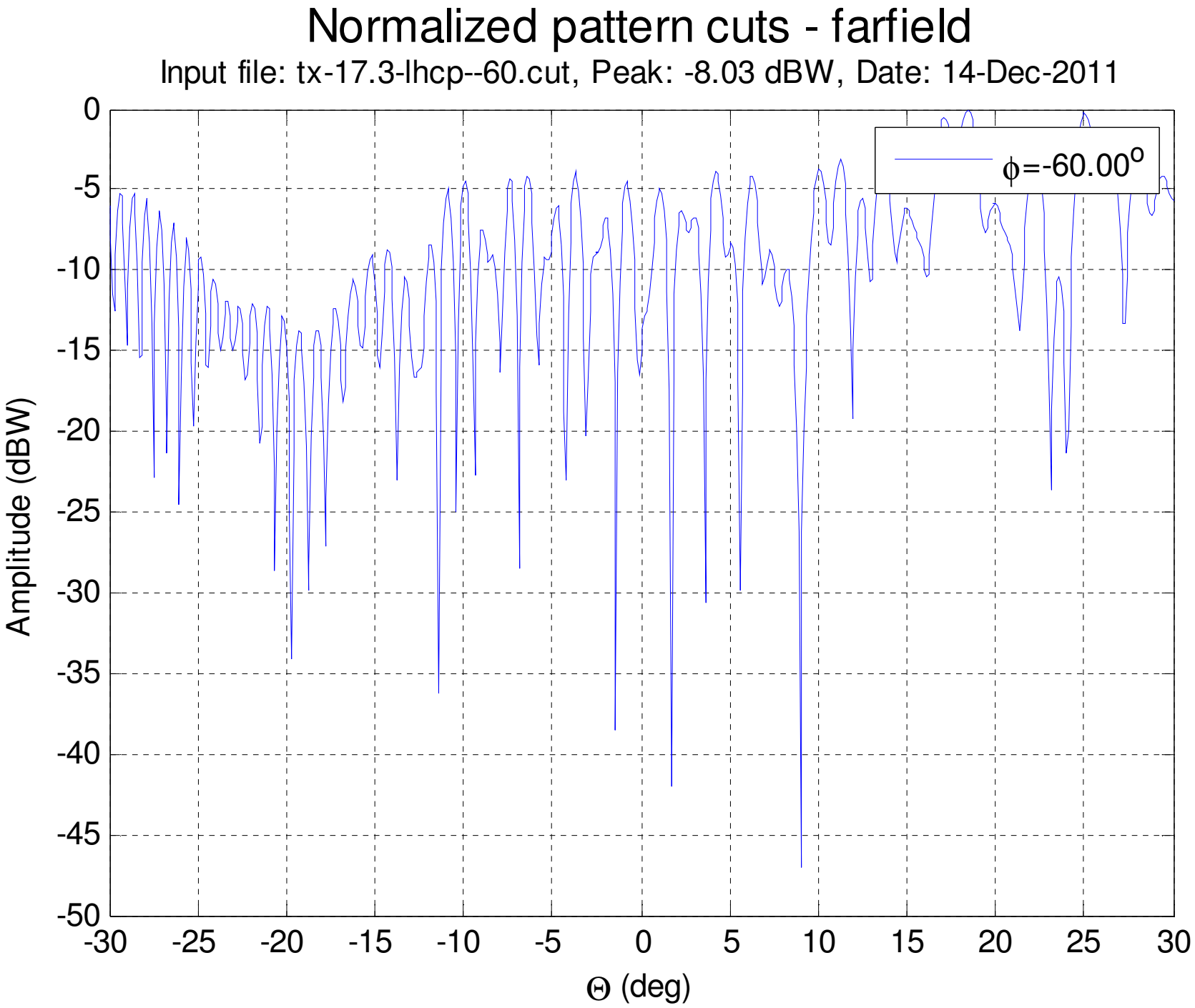

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -8.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

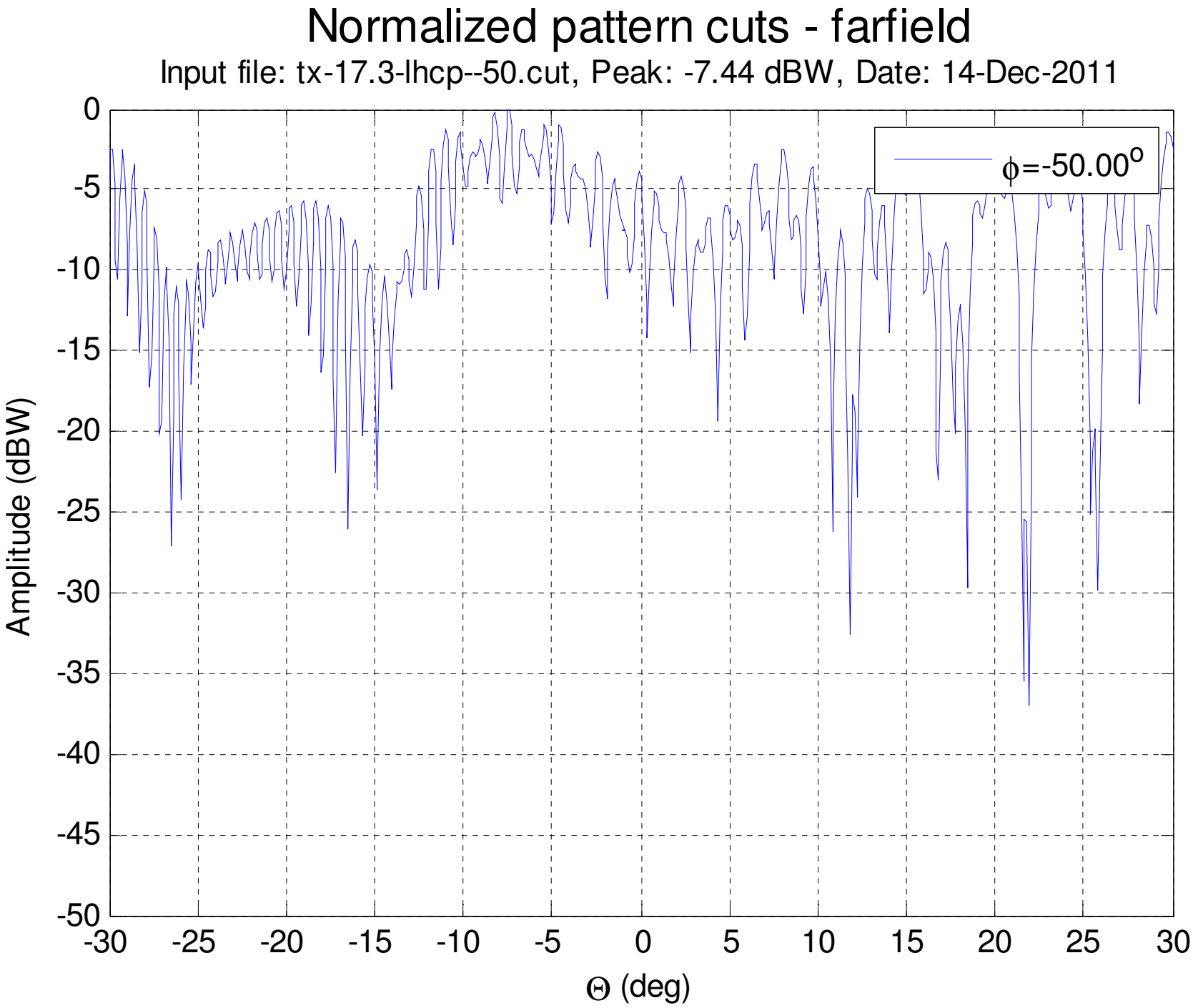

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -8.66 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

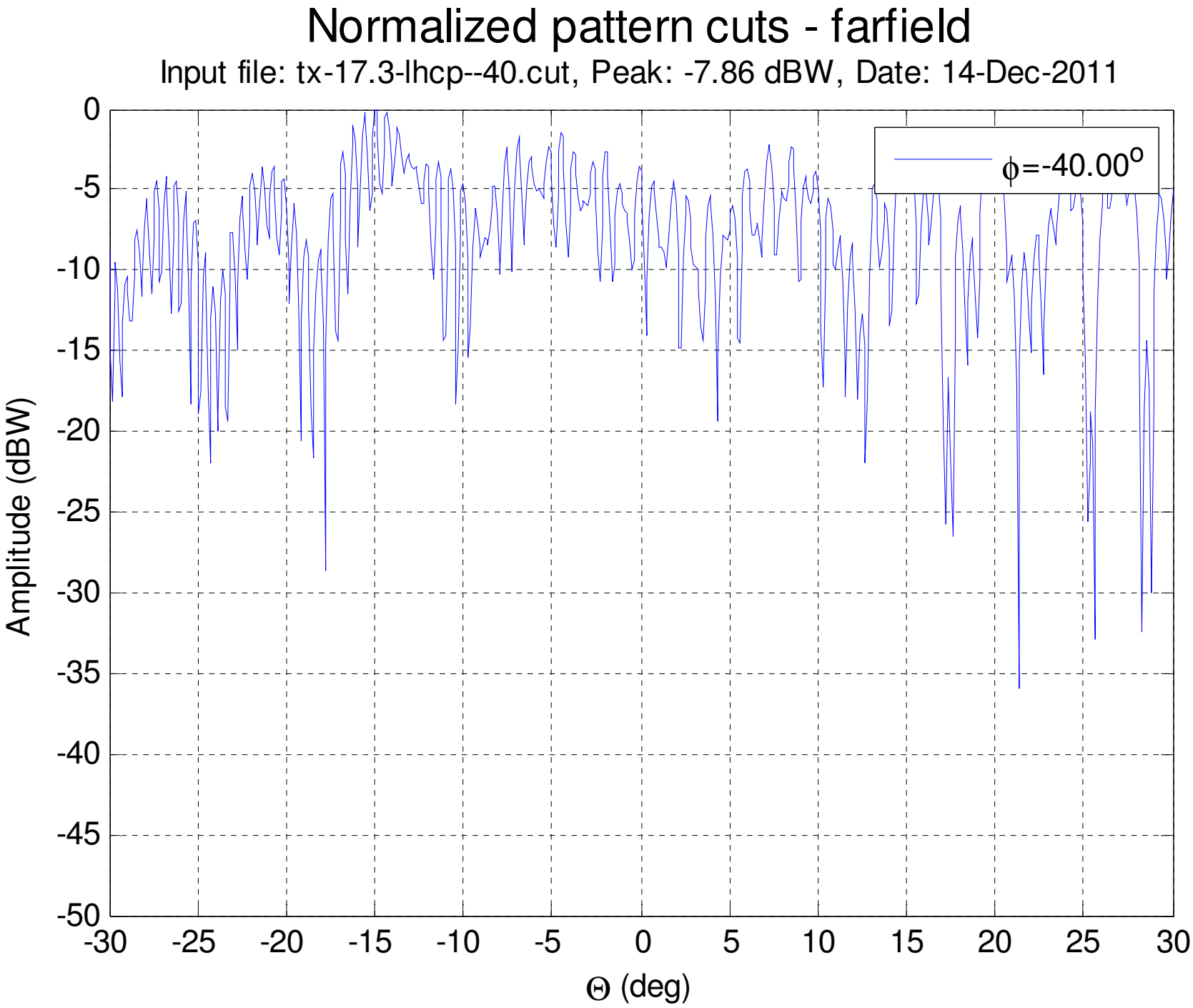

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -8.76 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

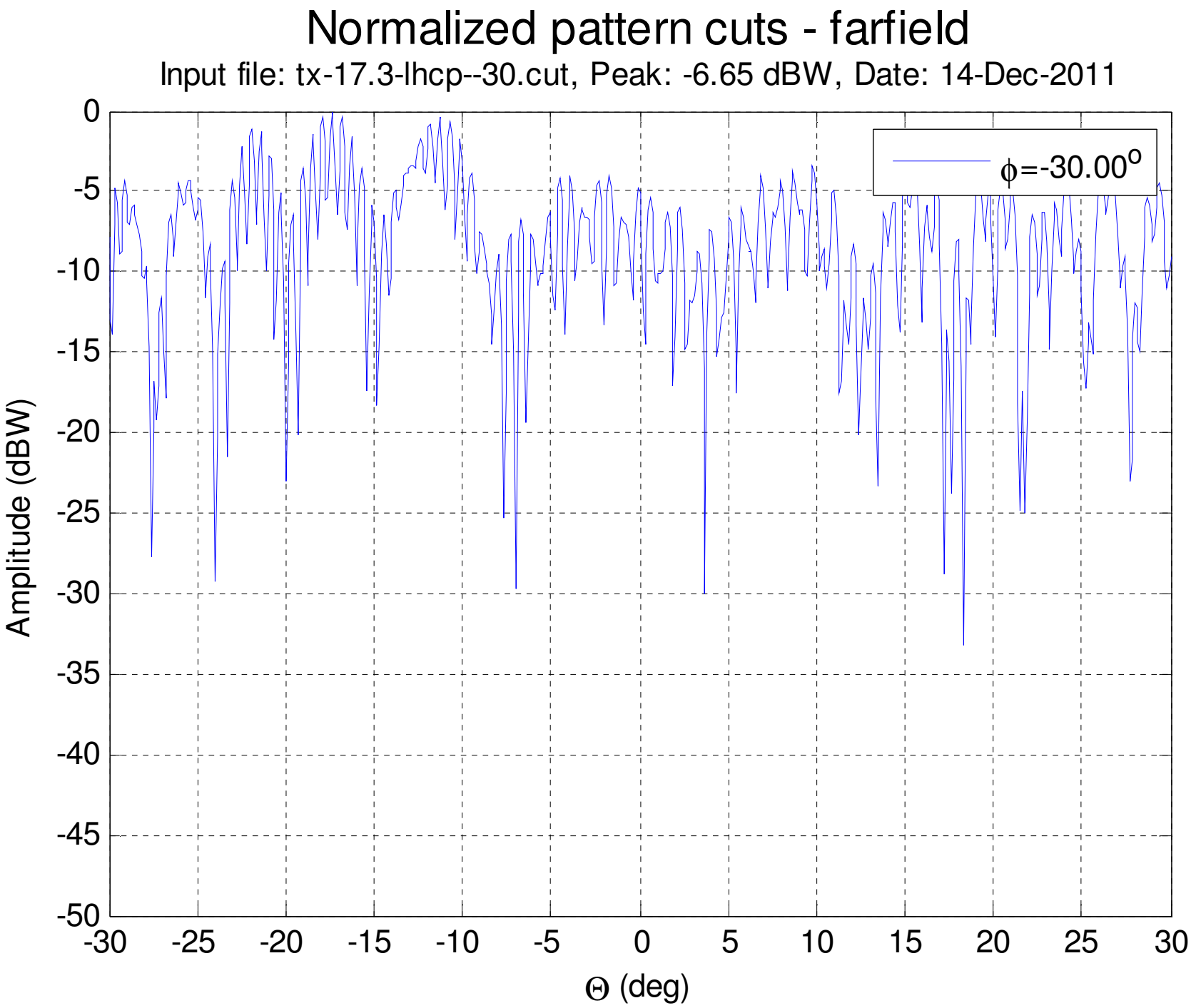

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -8.35 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

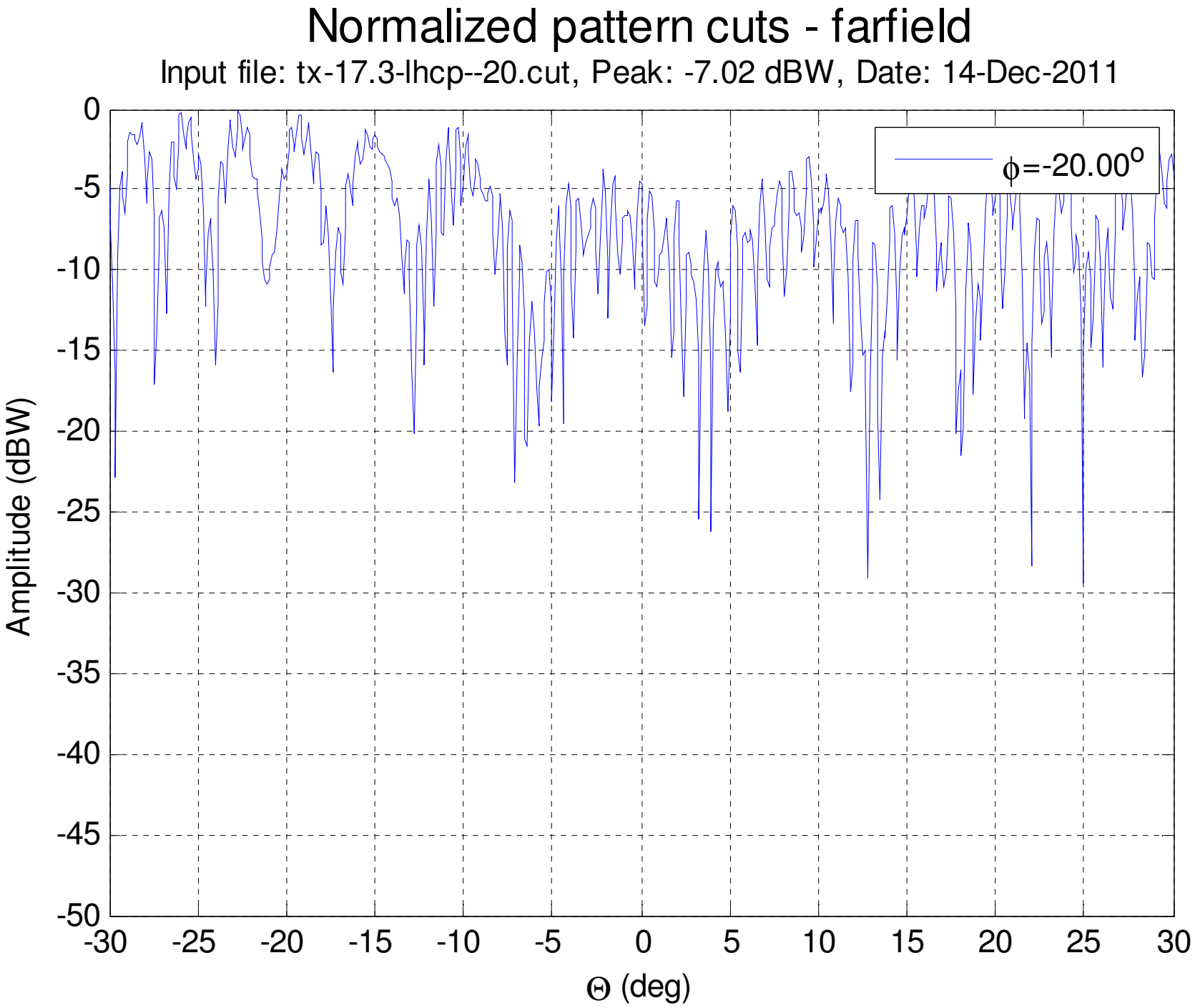
LHCP at 17.3 GHz

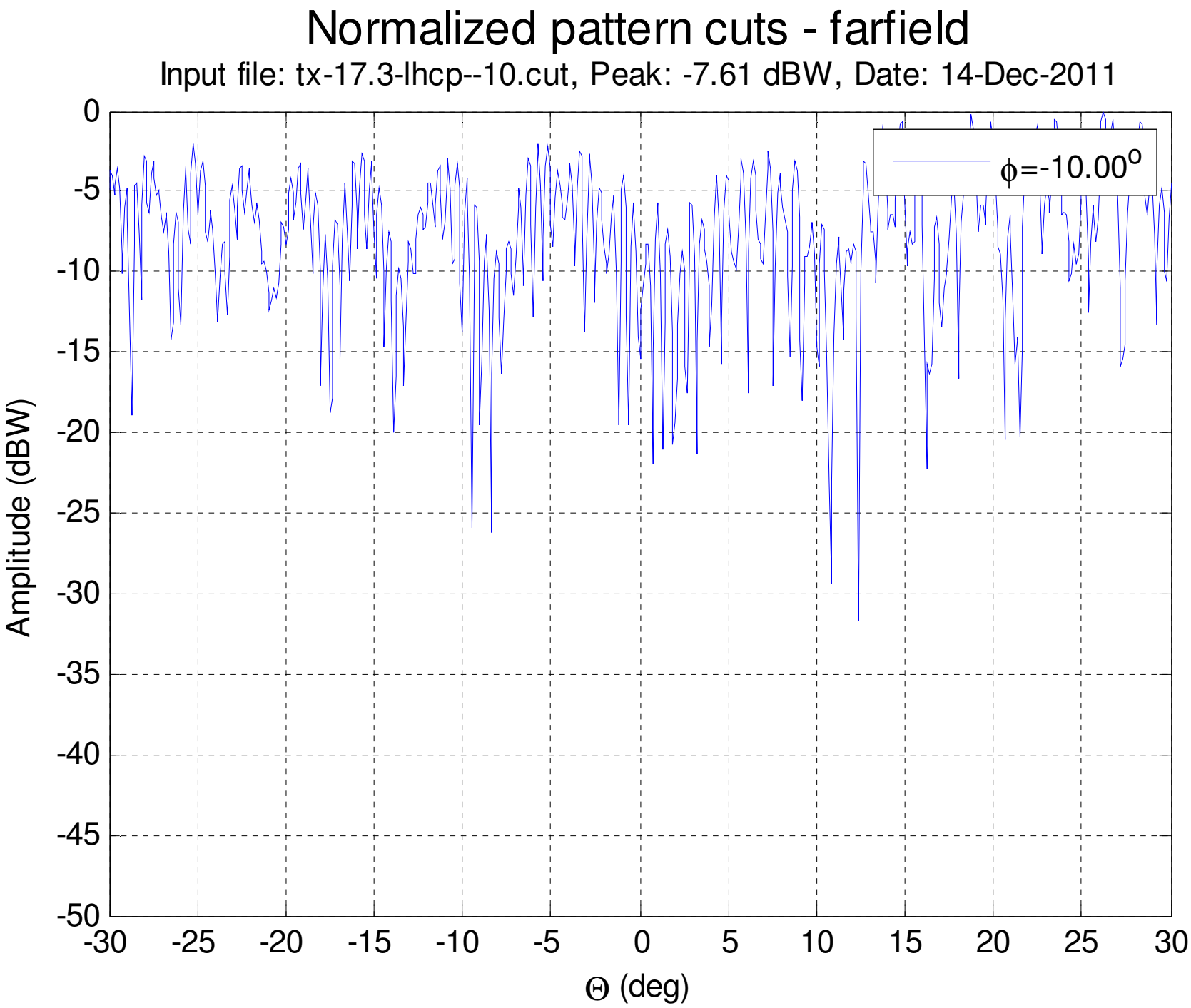

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -8.03 dBW, Date: 14-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

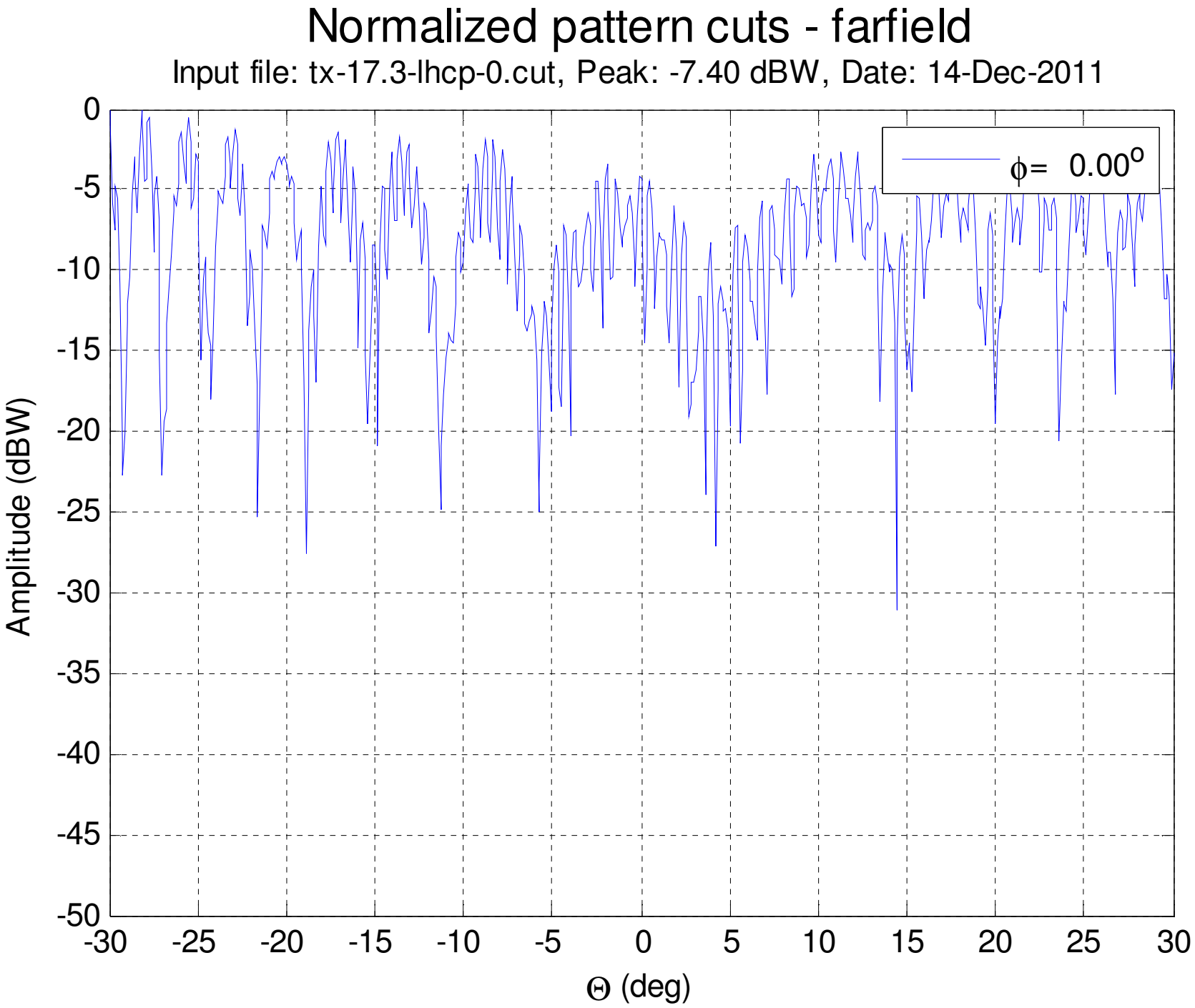

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -7.44 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

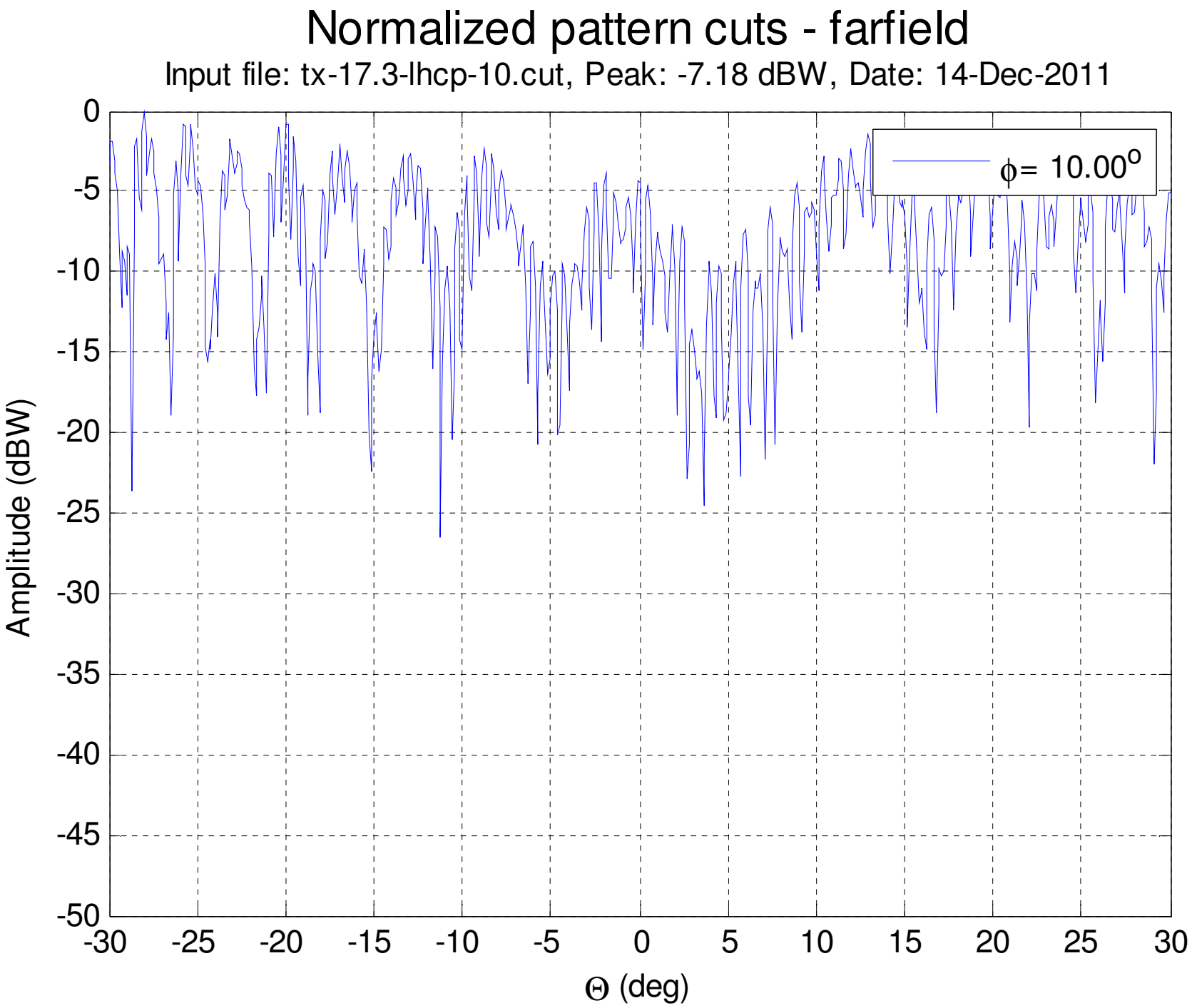

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -7.86 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

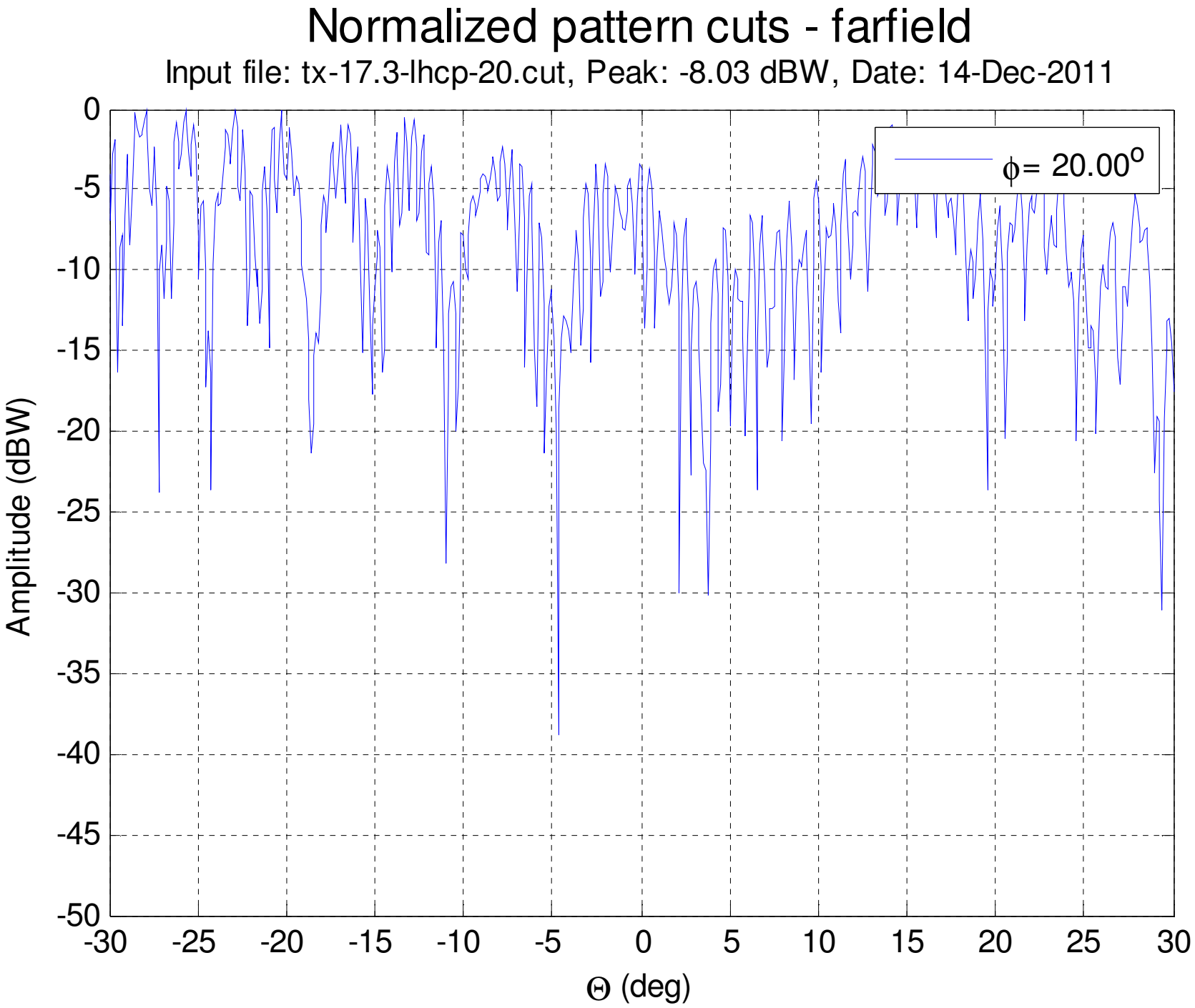

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -6.65 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

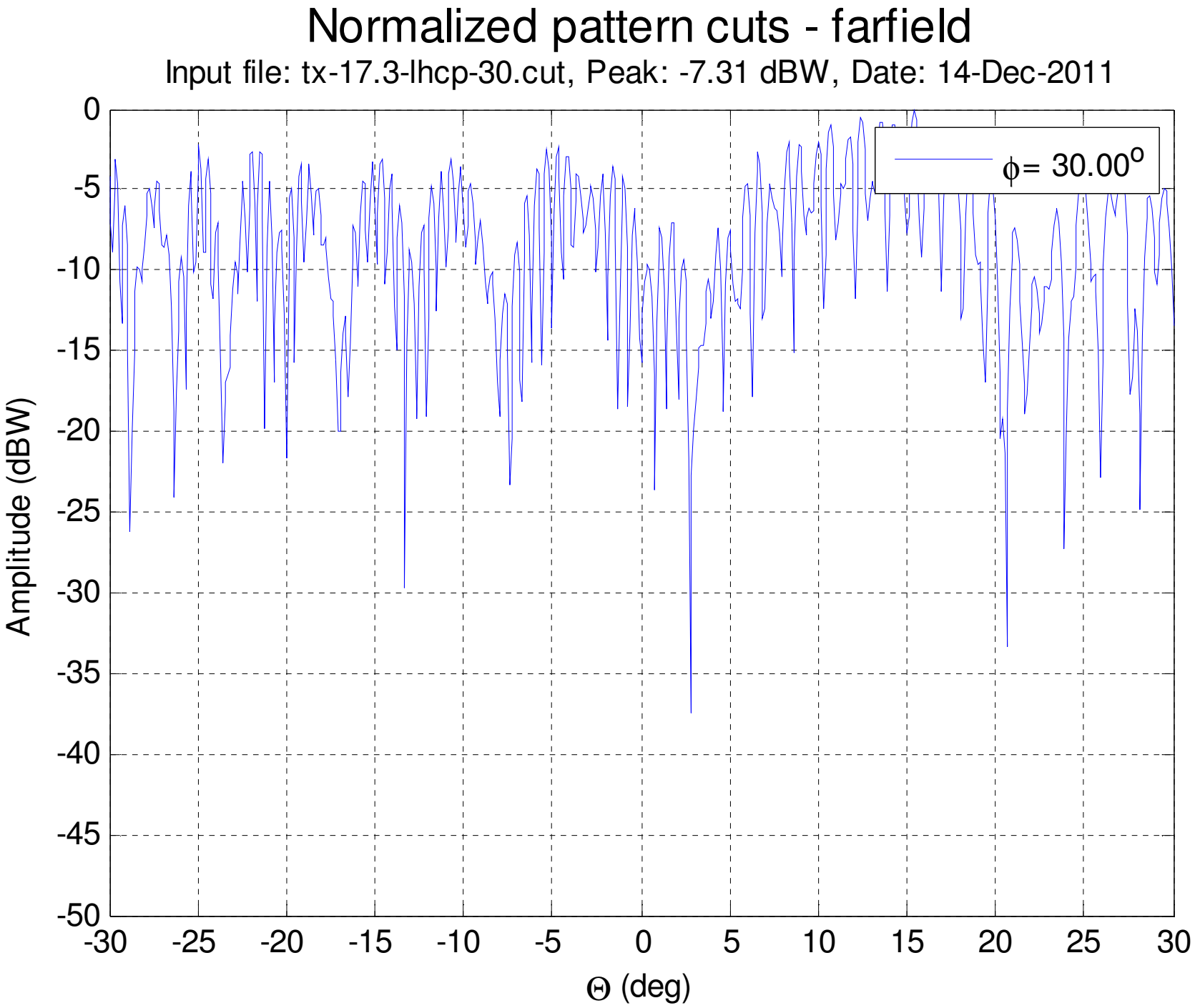

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -7.02 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

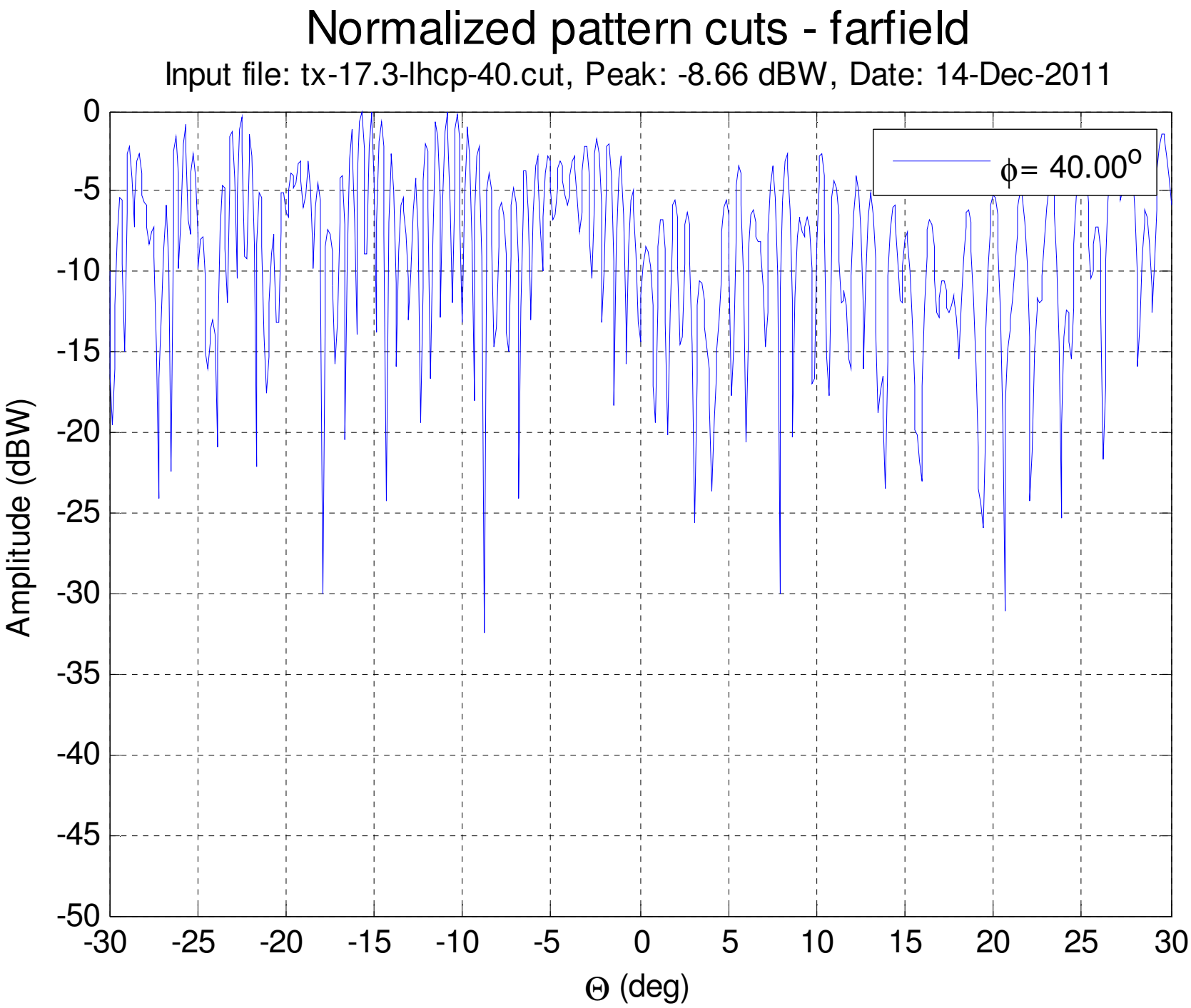

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -7.61 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

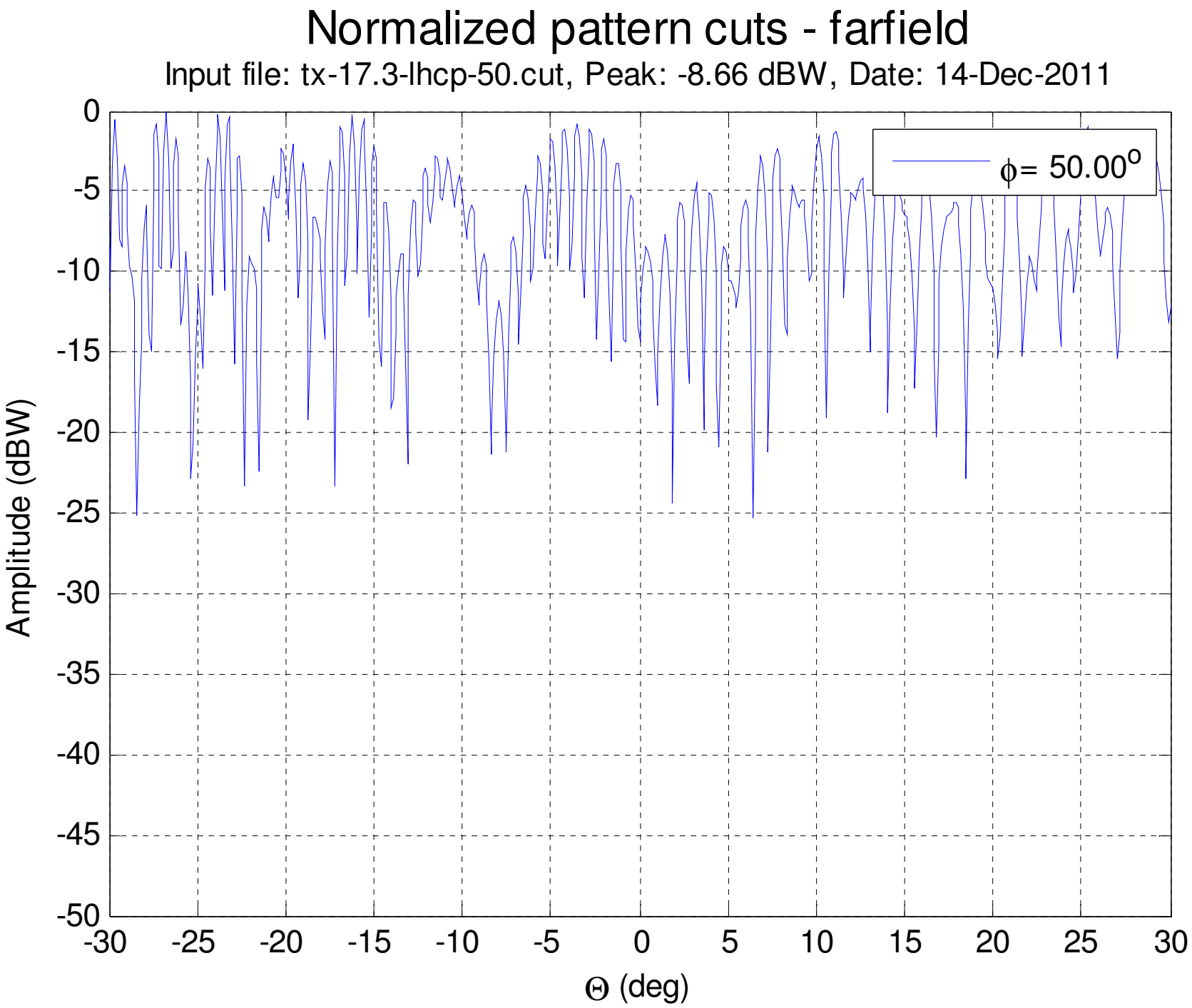

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -7.40 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

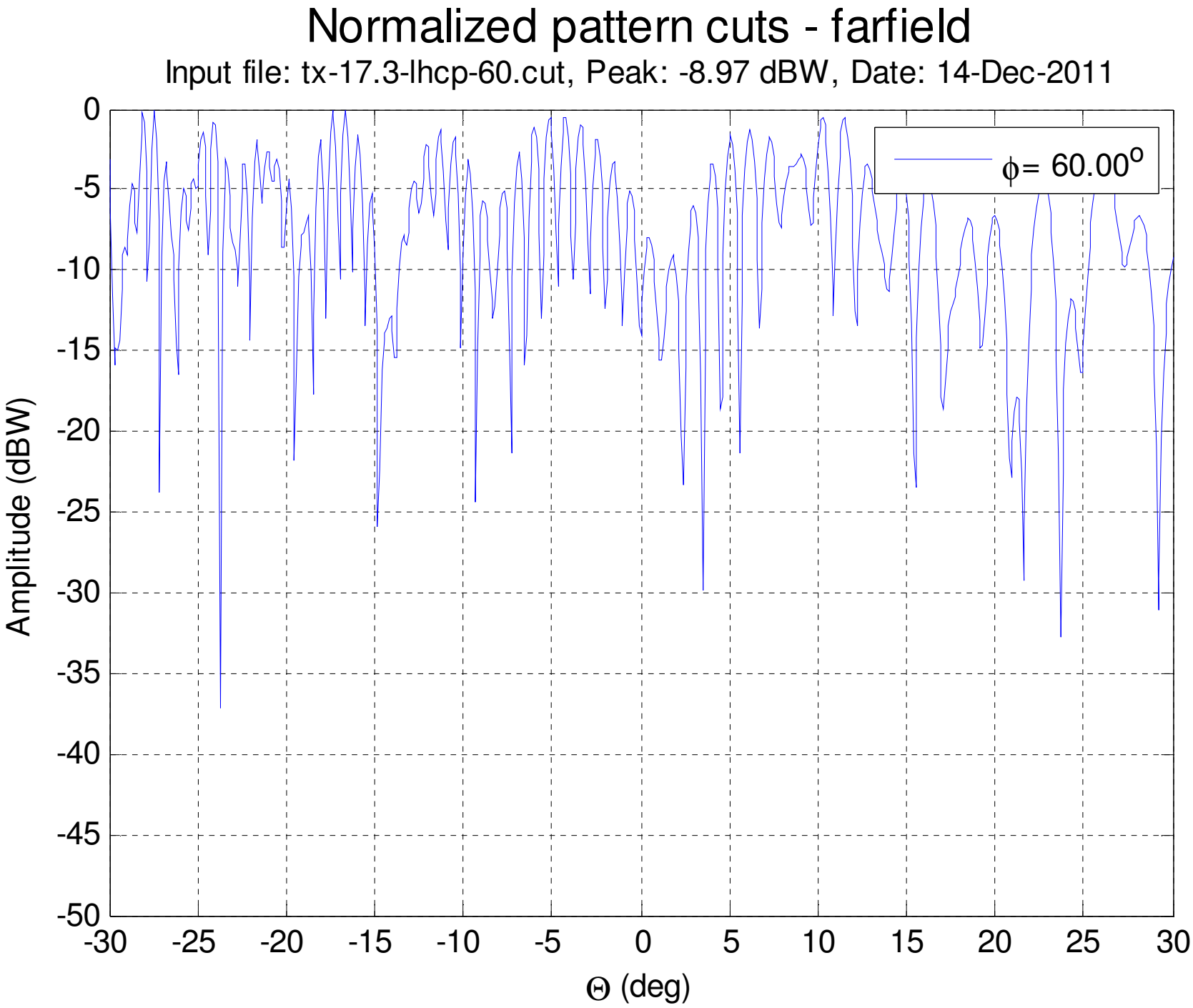

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -7.18 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -8.03 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

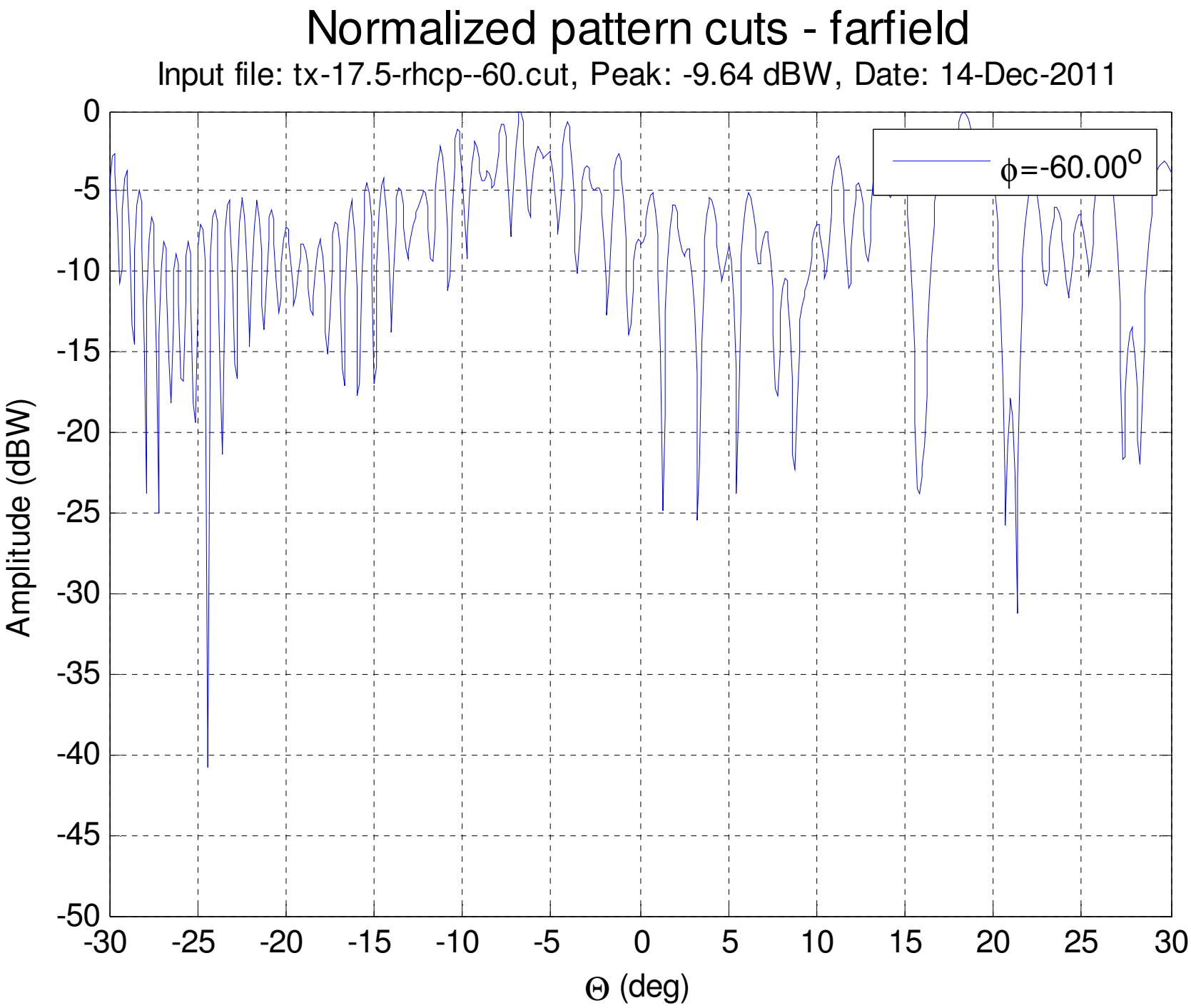

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -7.31 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

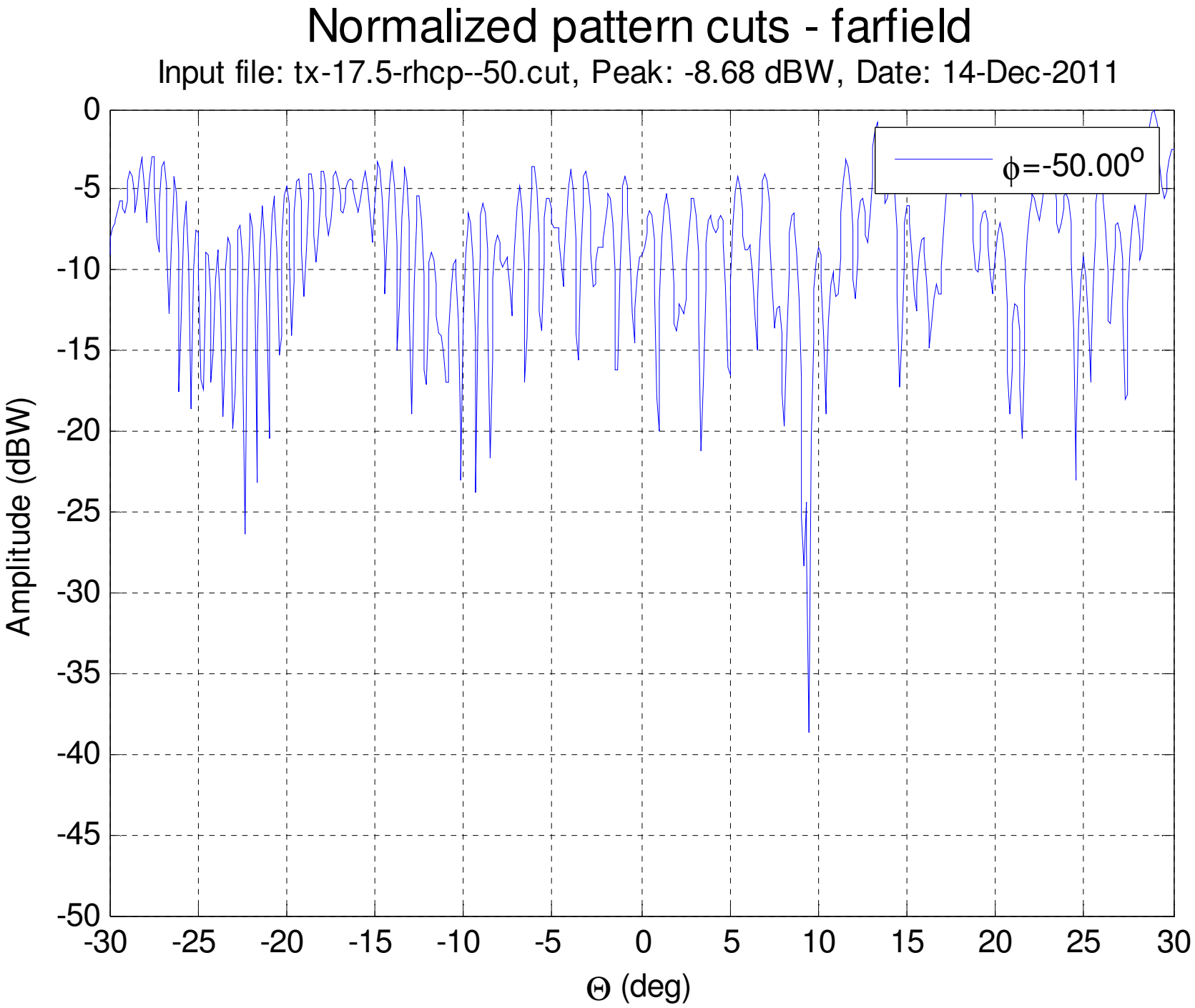

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -8.66 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

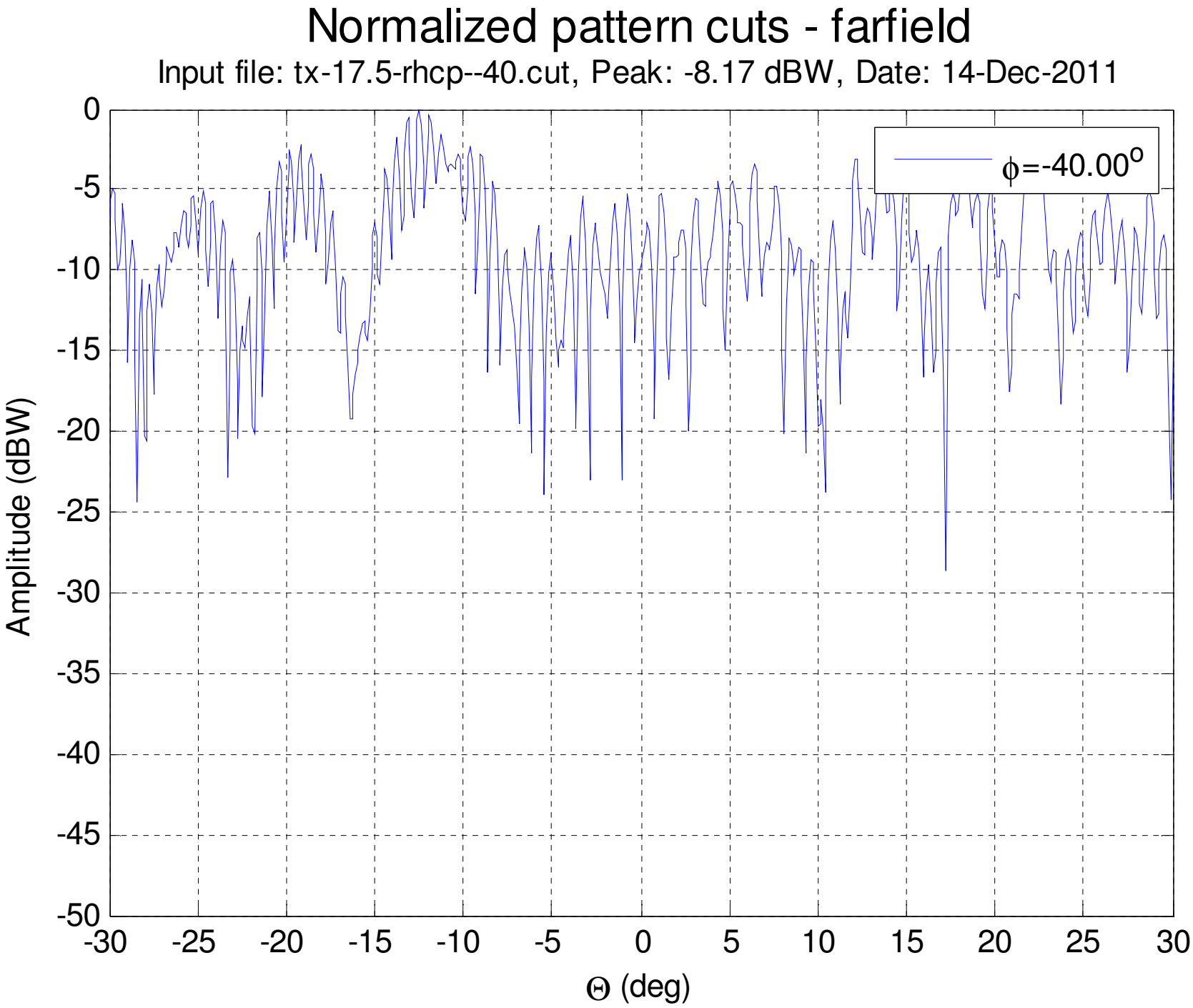

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -8.66 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

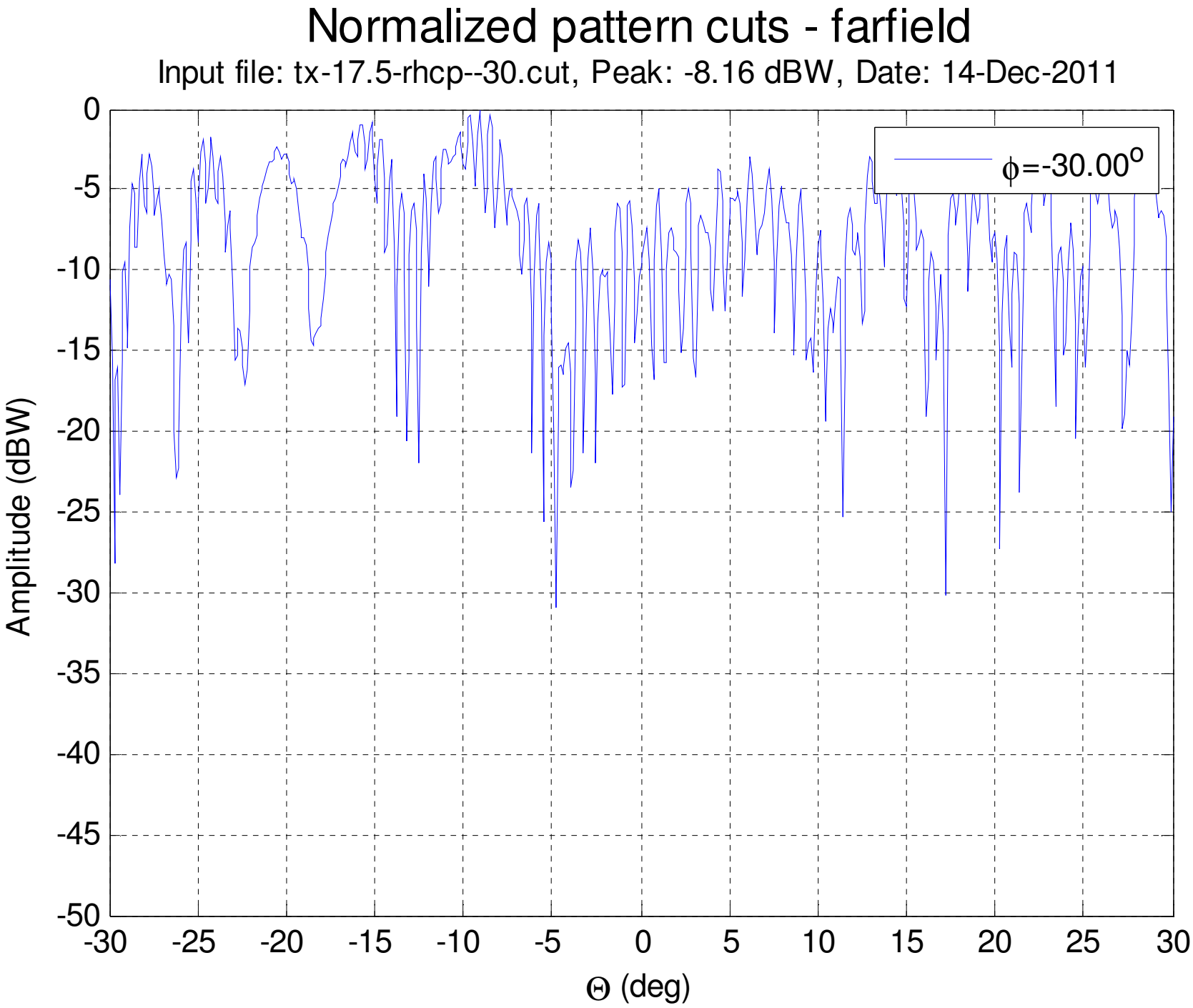

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -8.97 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

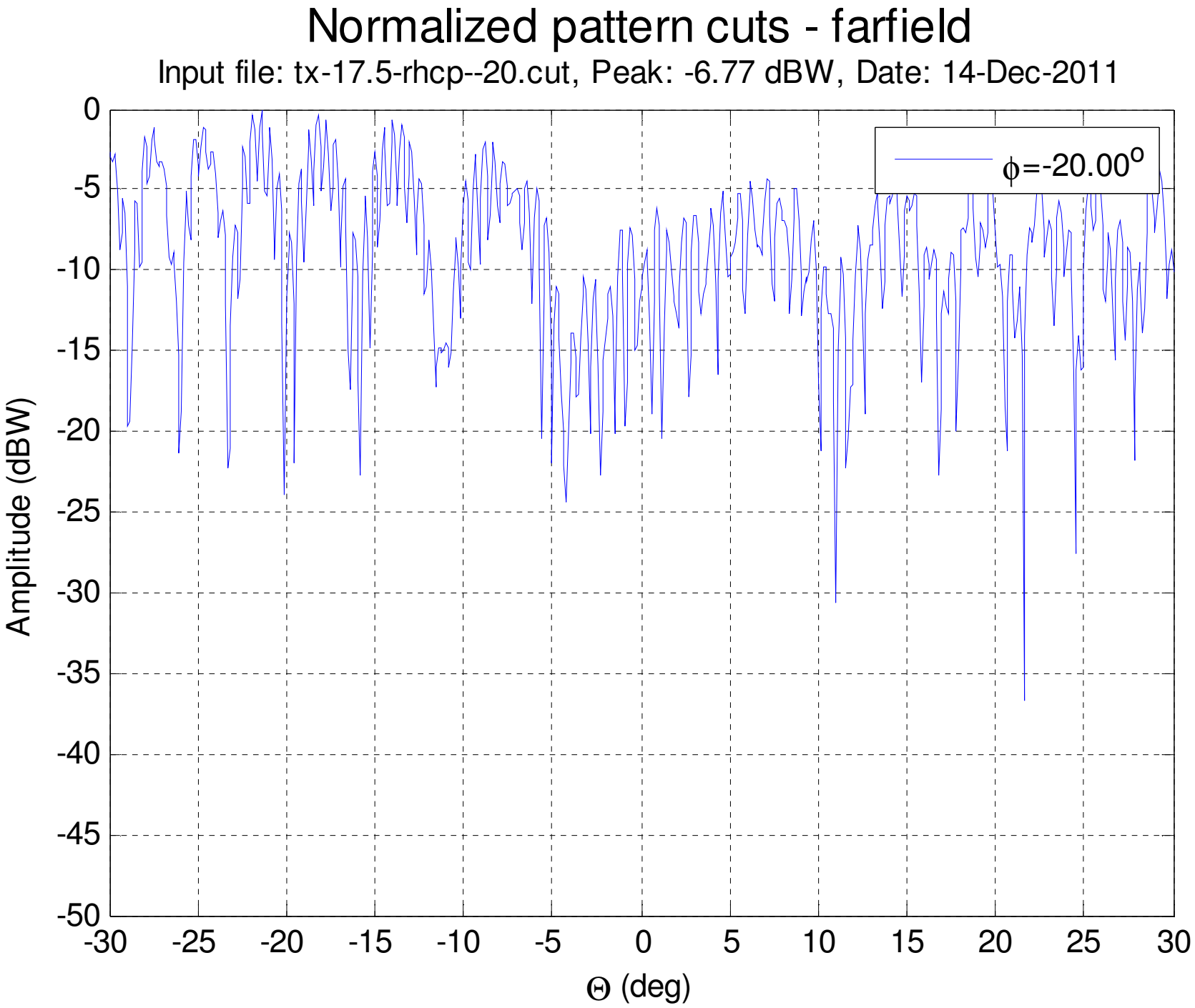
RHCP at 17.5 GHz

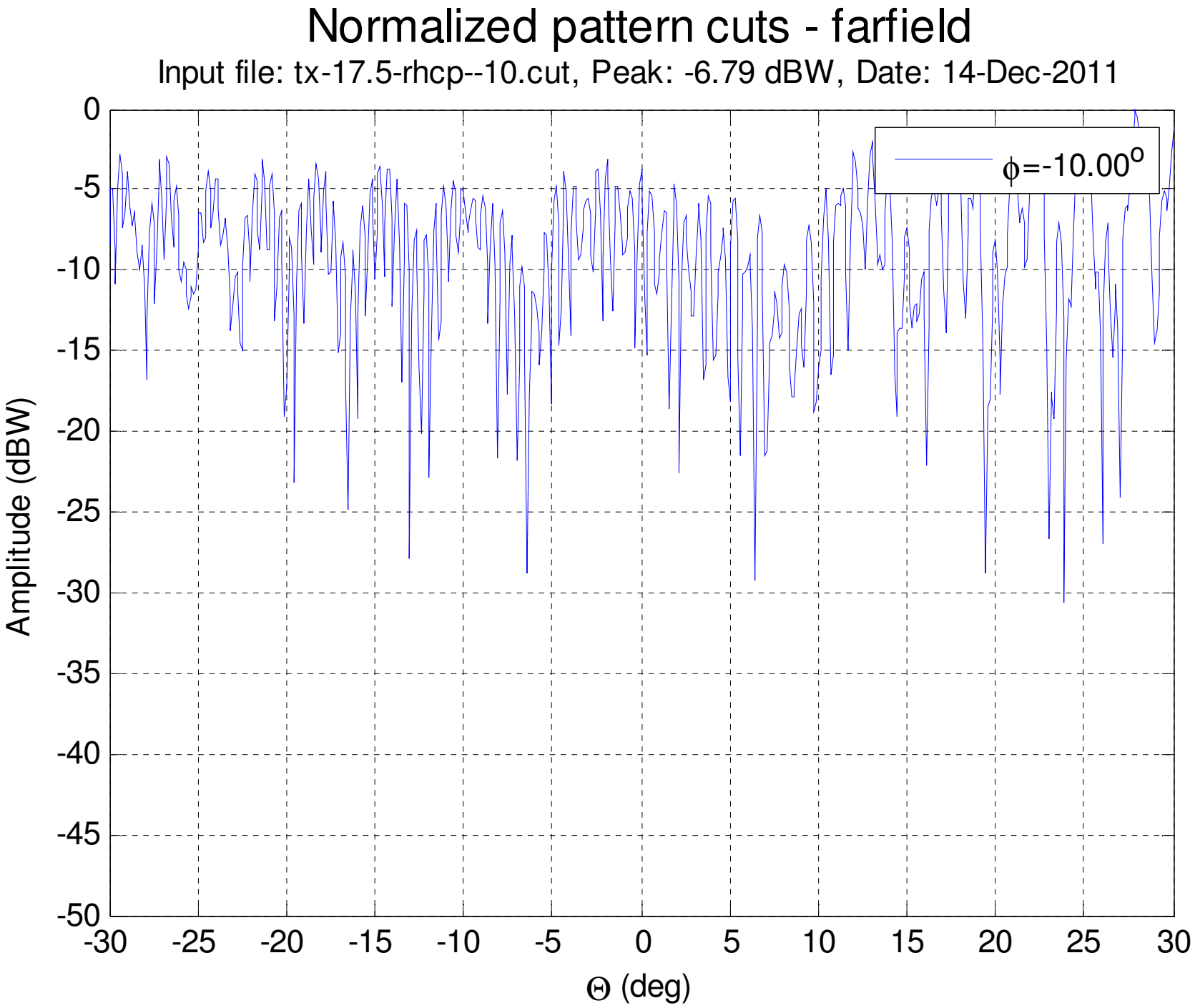

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -9.64 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

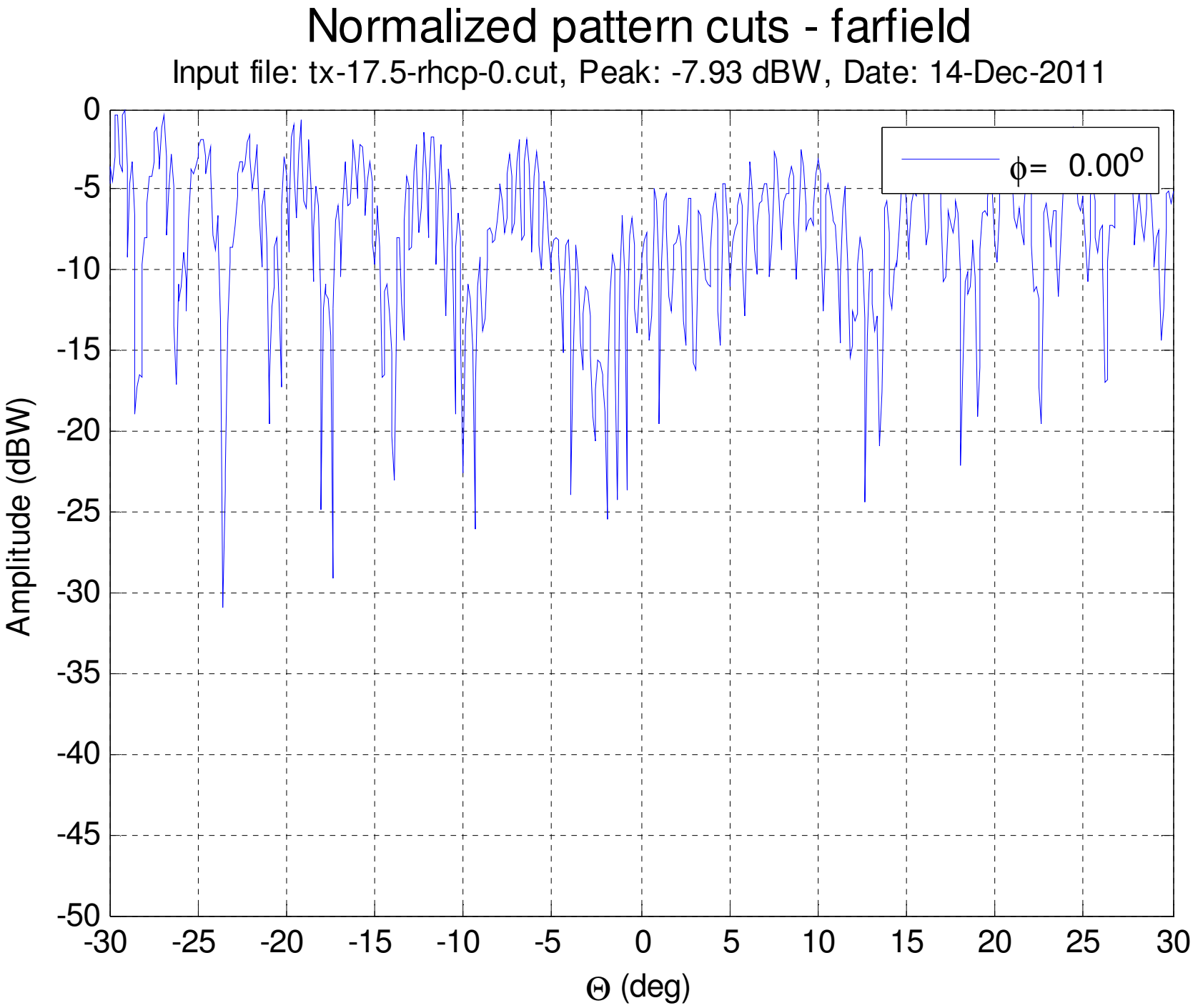

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.68 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

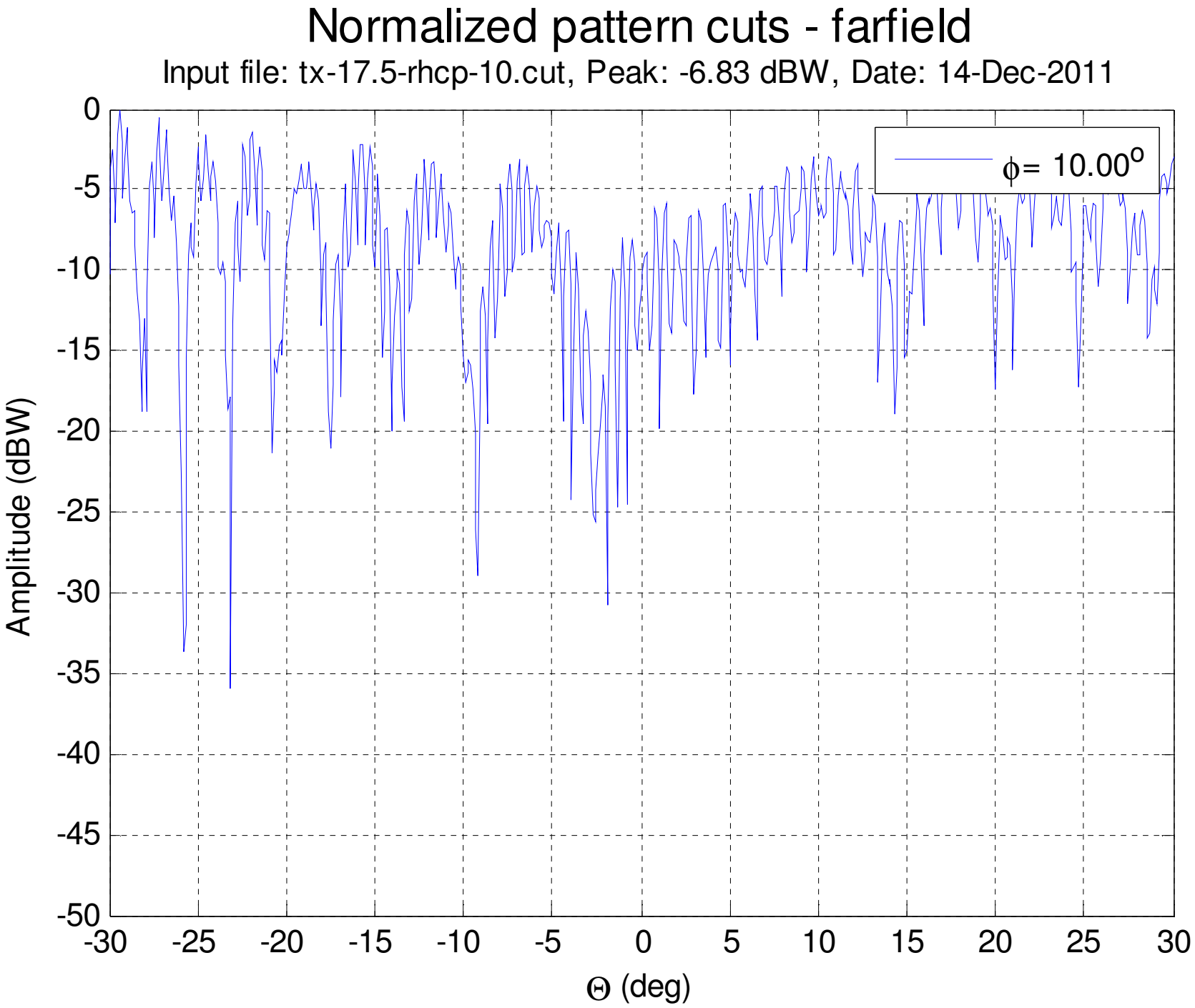

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -8.17 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

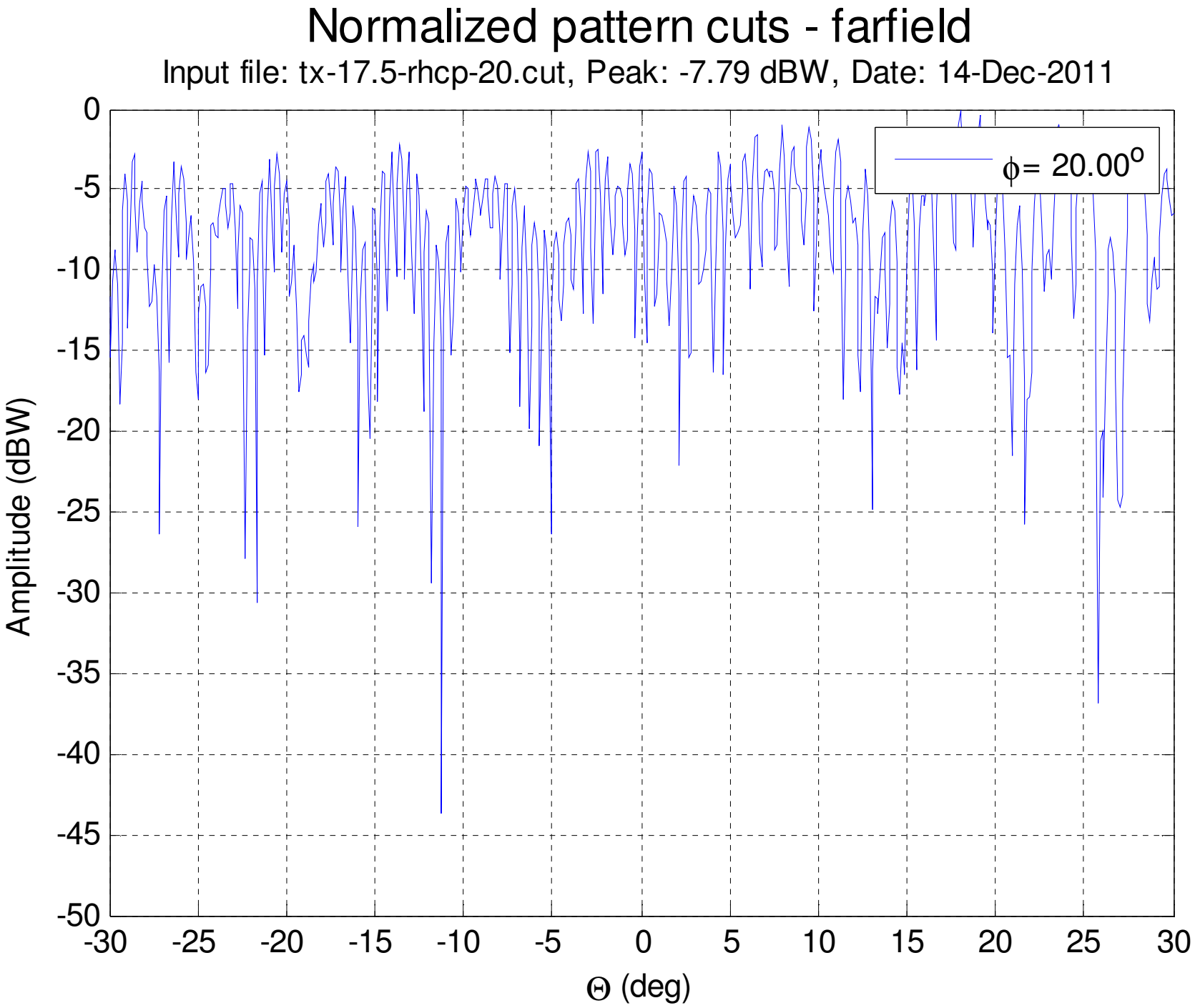

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -8.16 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

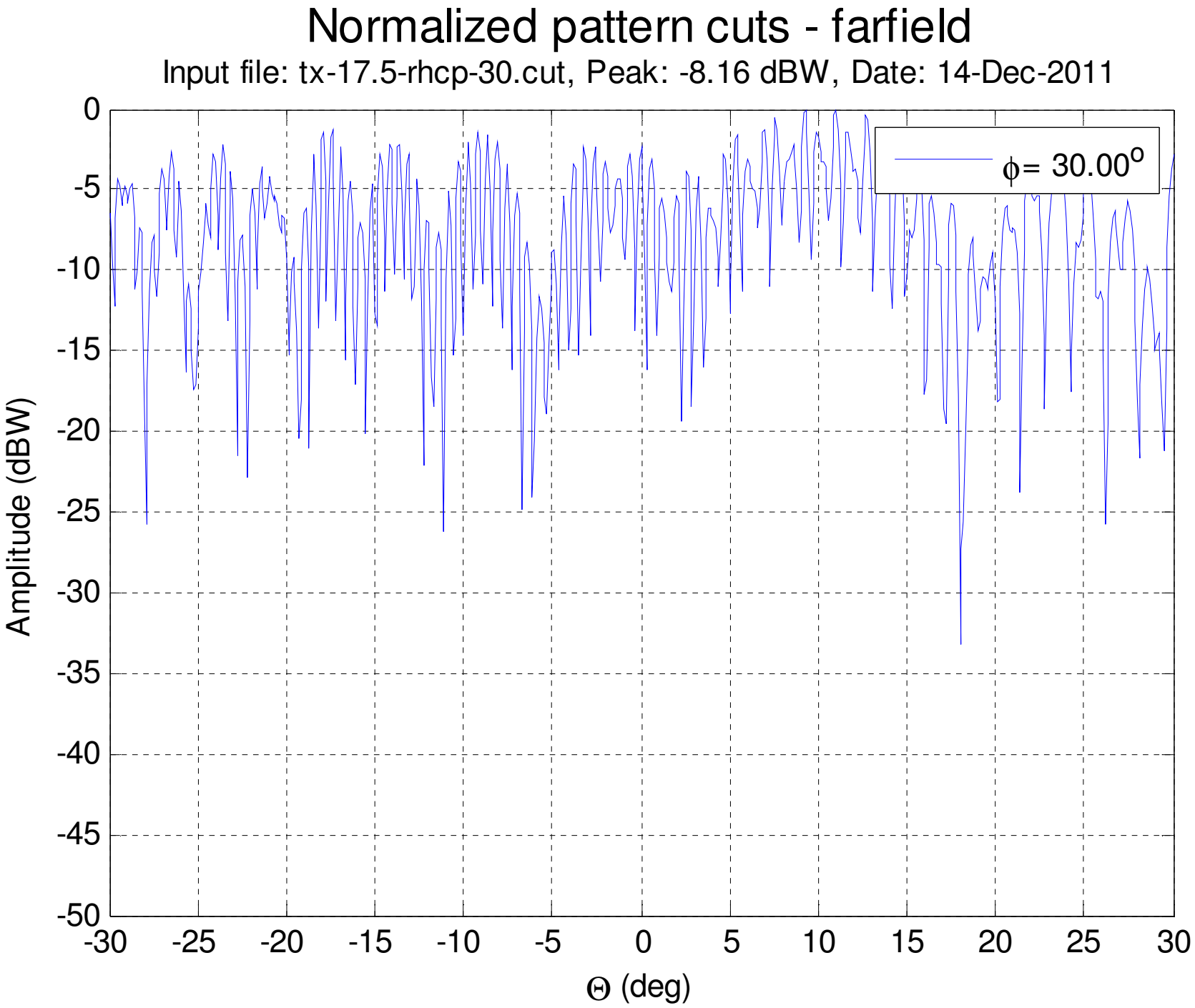

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -6.77 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

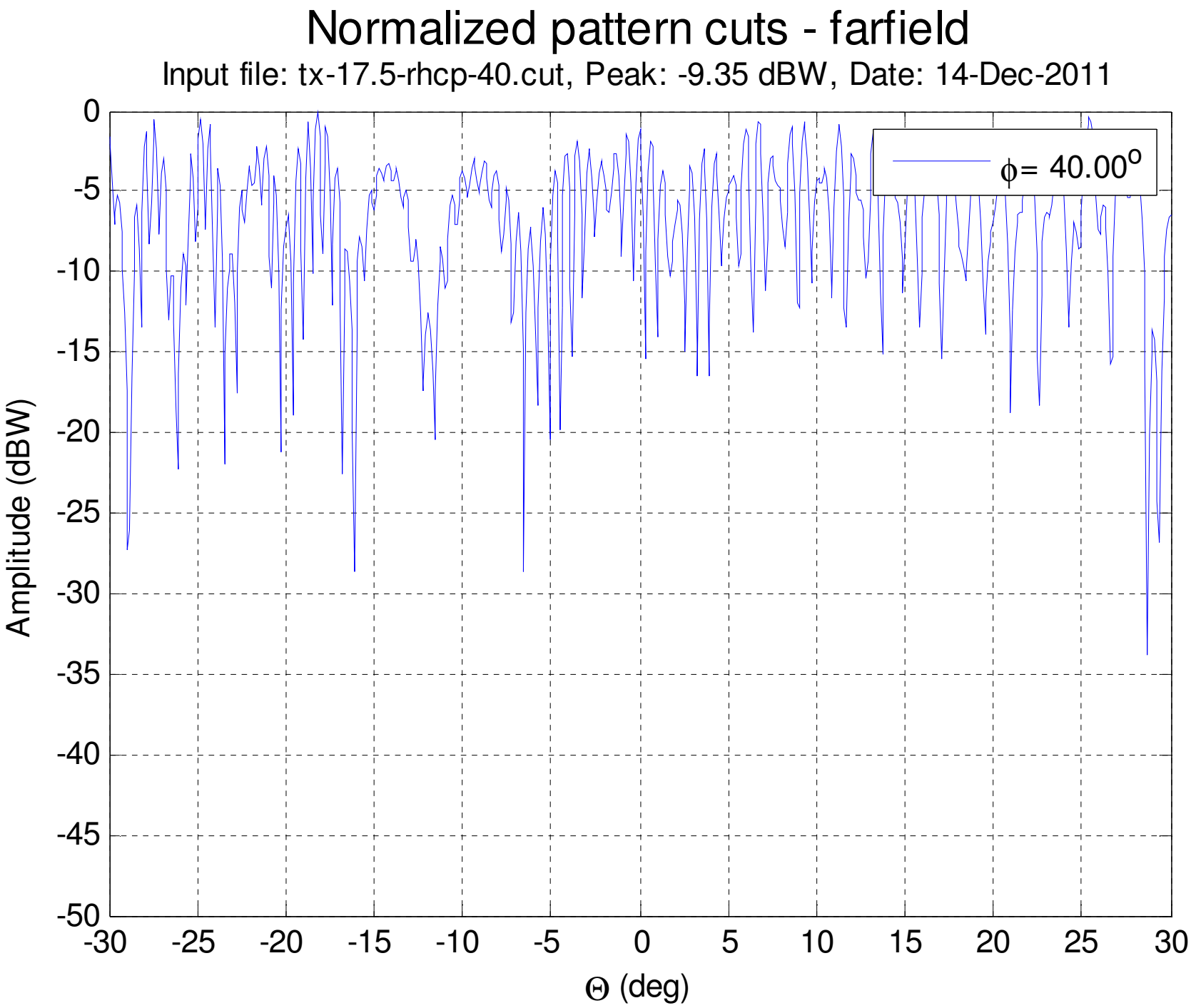

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -6.79 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

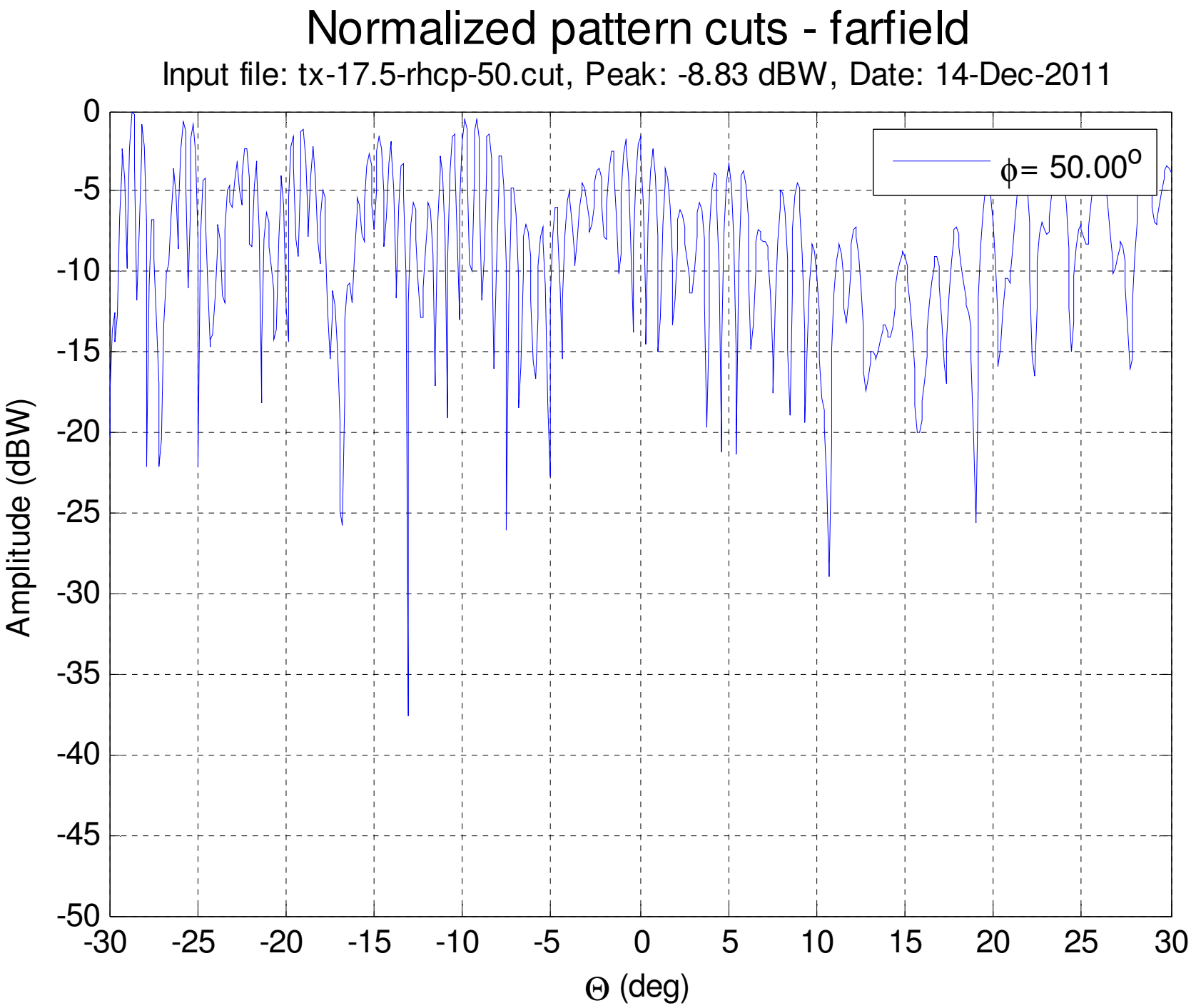

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -7.93 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

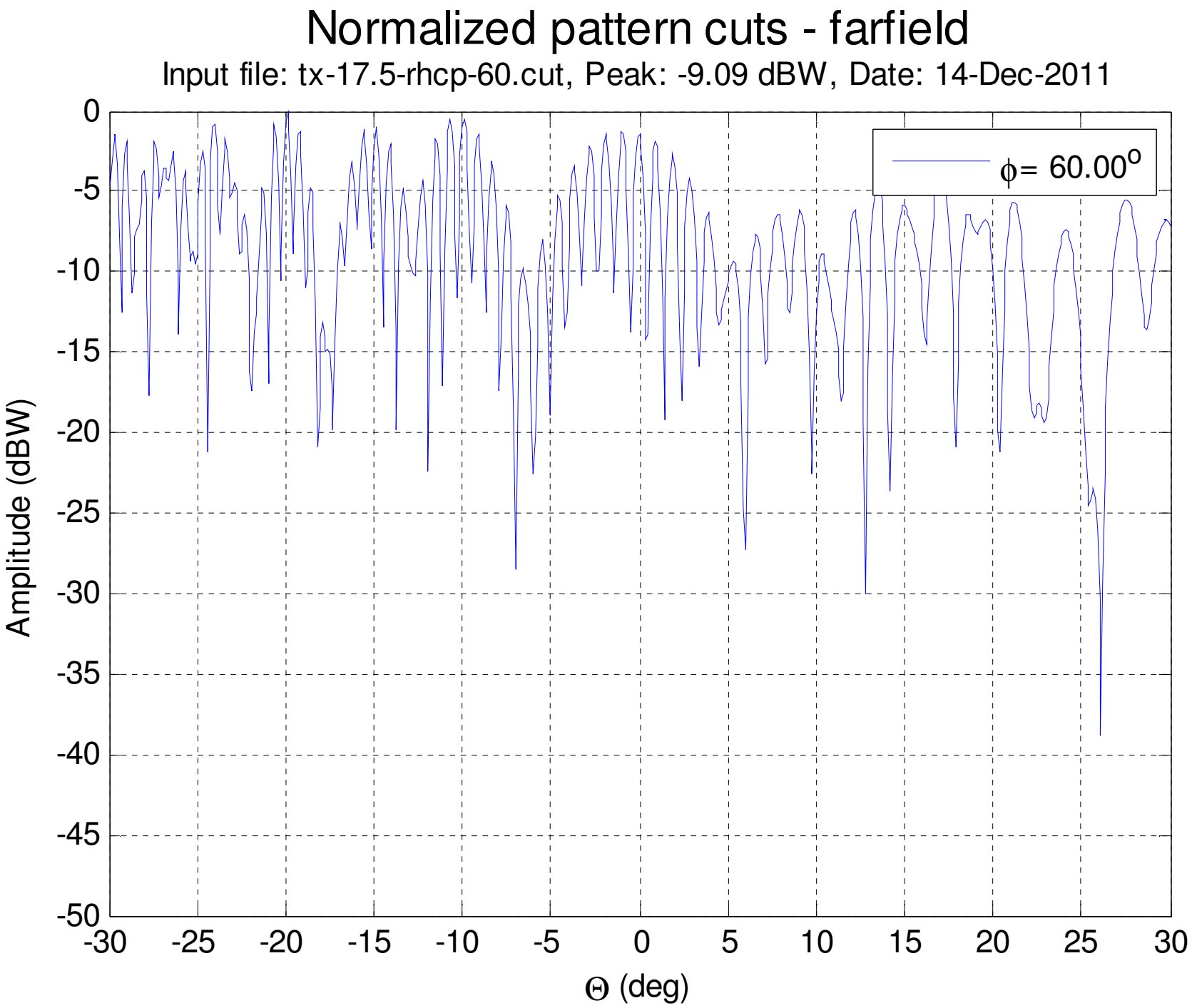

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -6.83 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -7.79 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

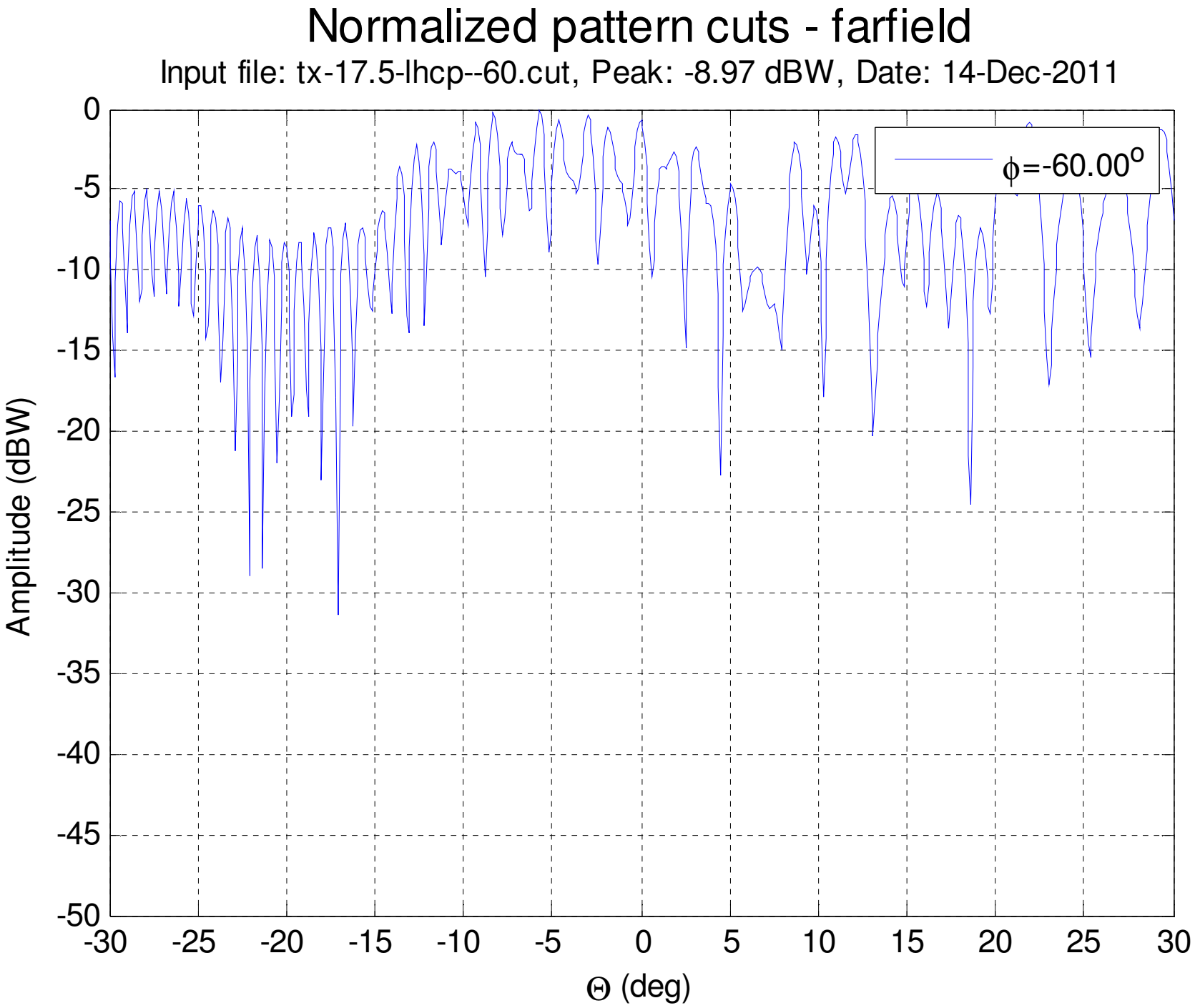

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -8.16 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

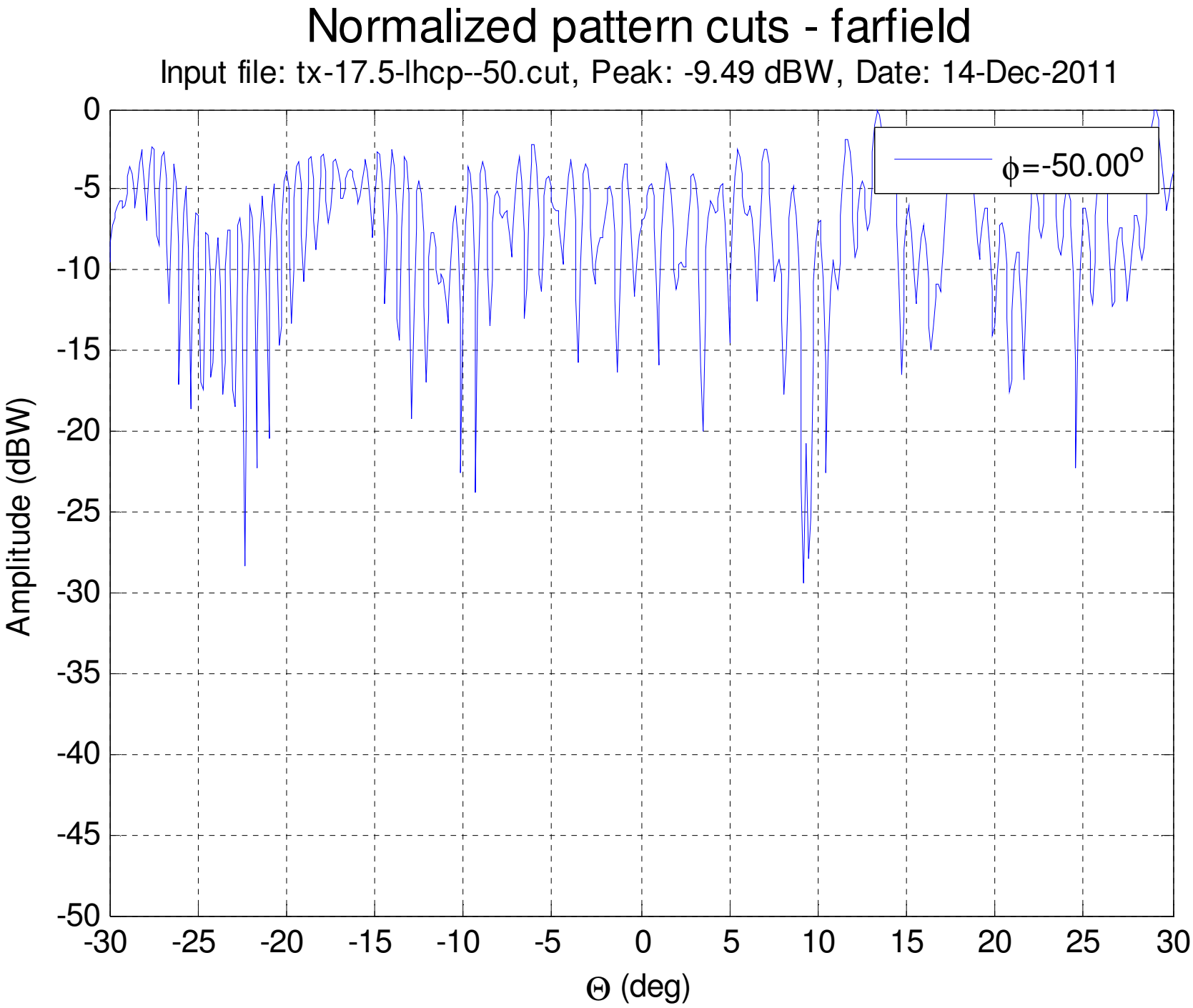

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.35 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

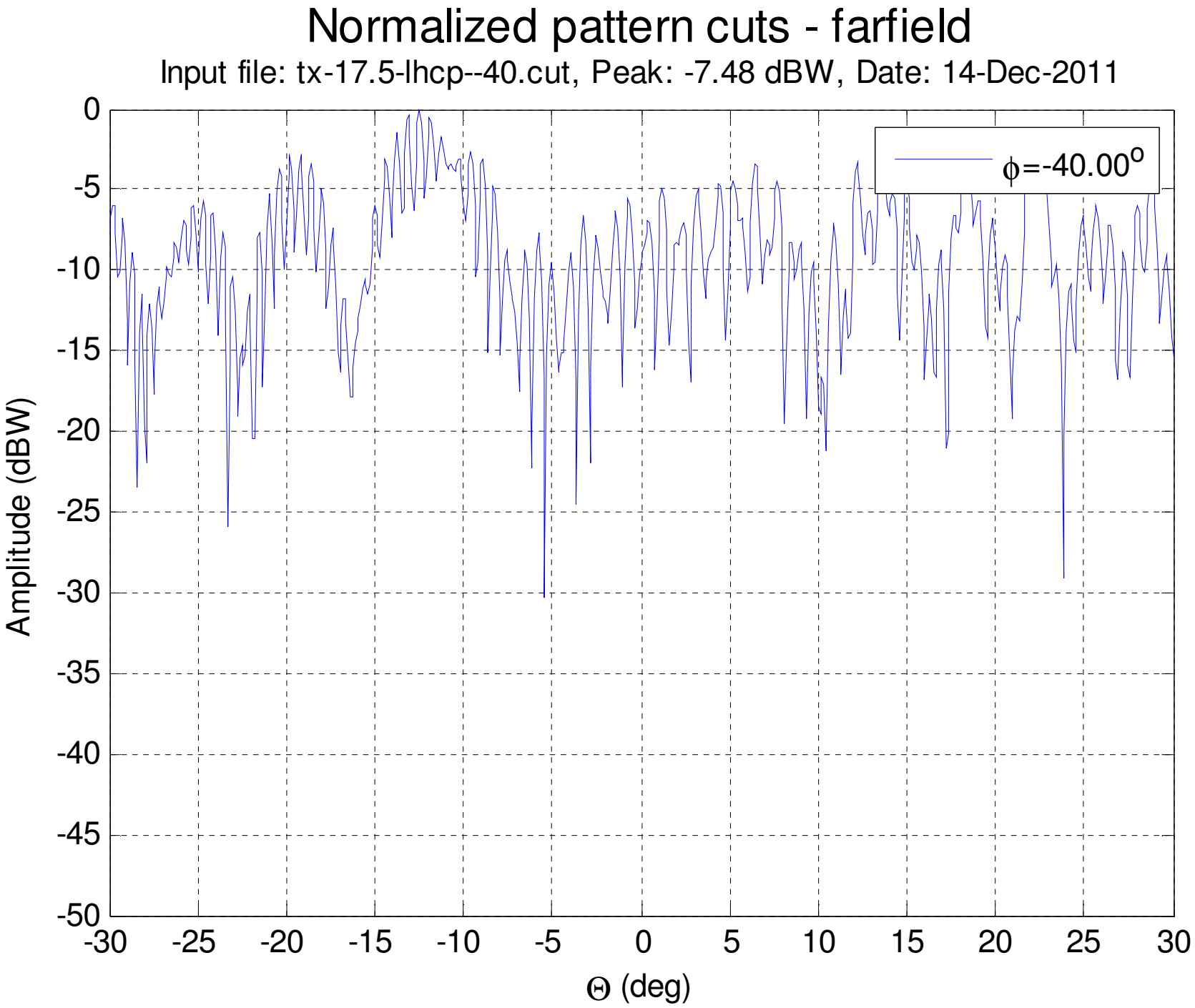

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -8.83 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

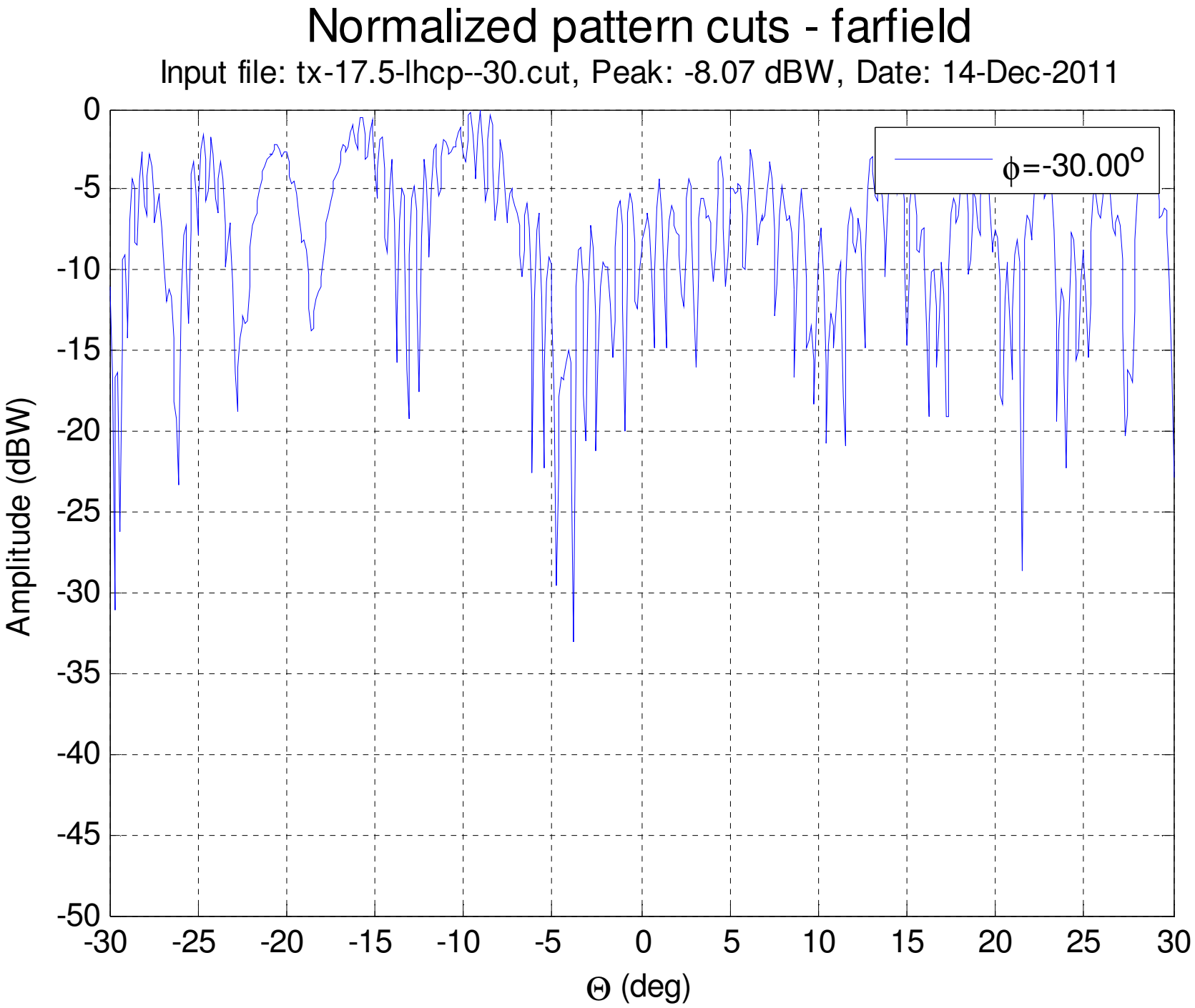

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.09 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

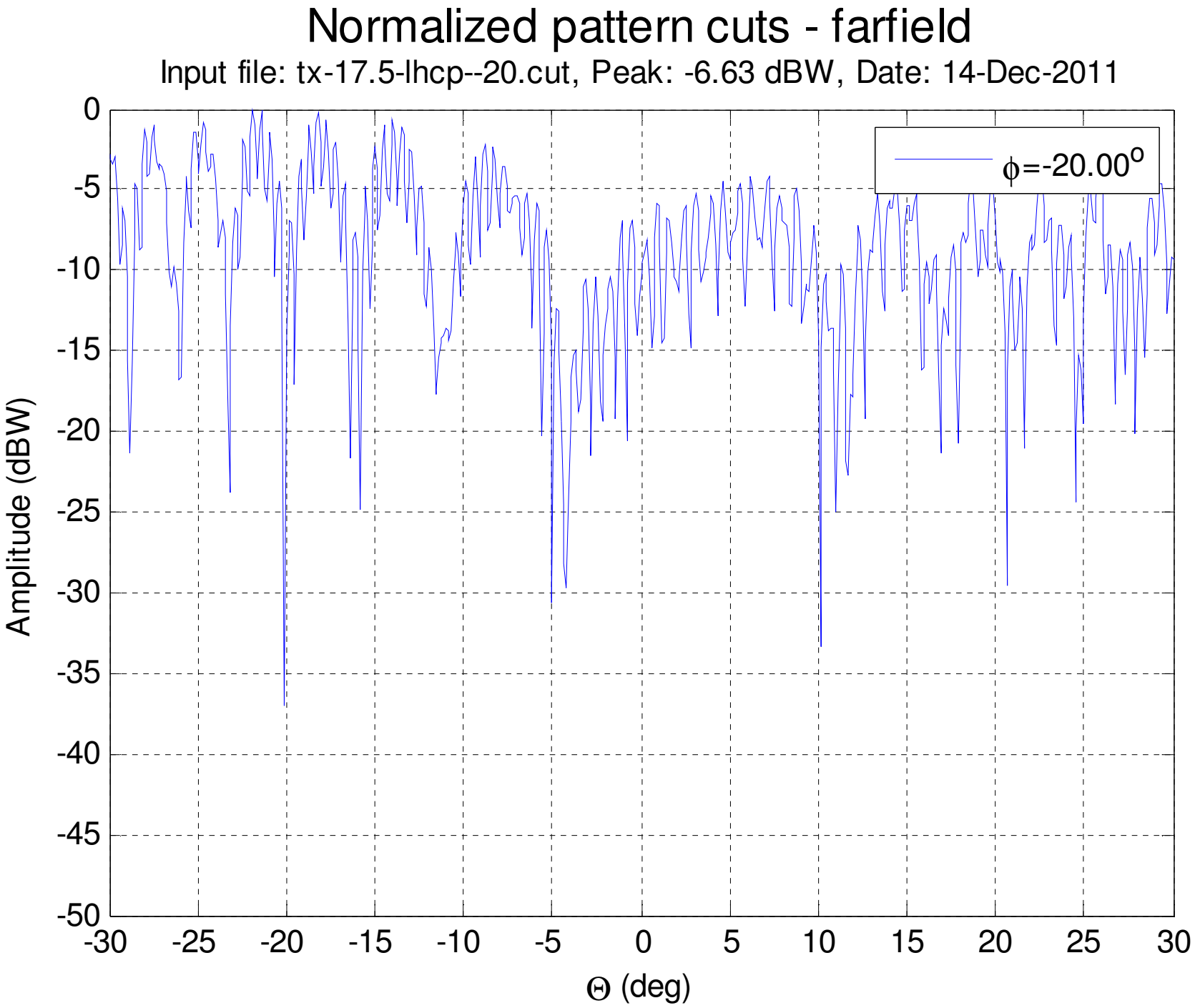
LHCP at 17.5 GHz

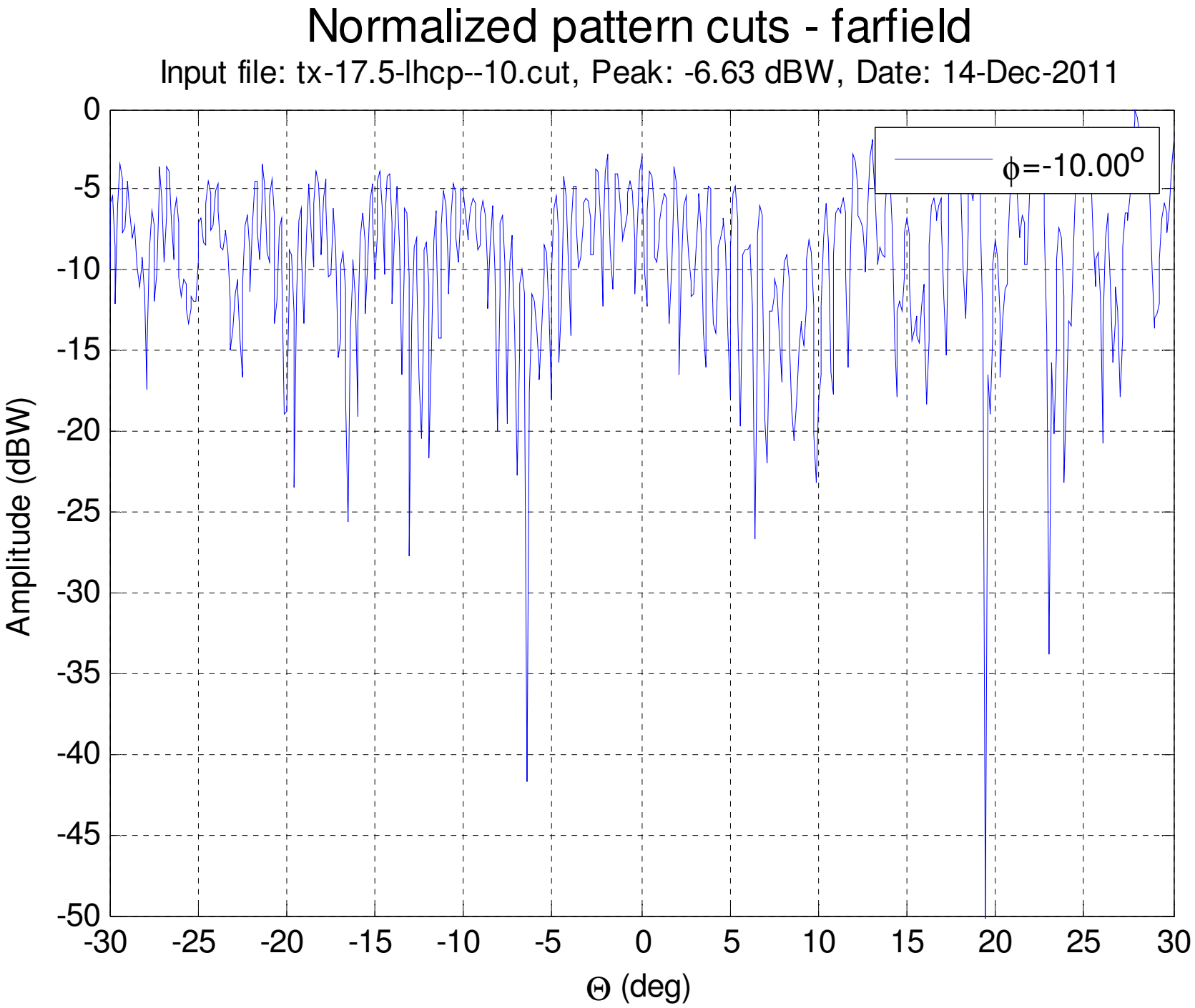

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -8.97 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

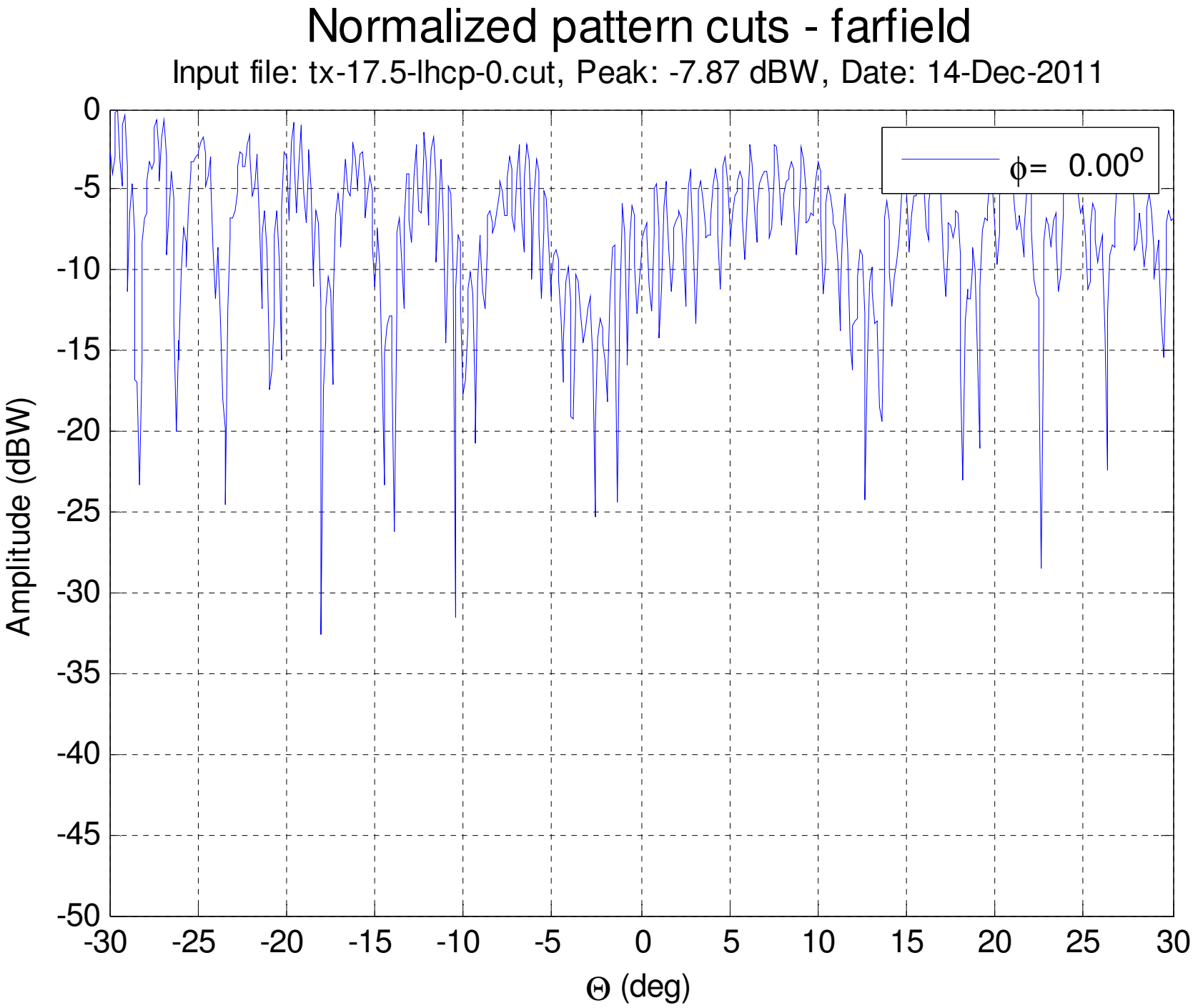

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -9.49 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

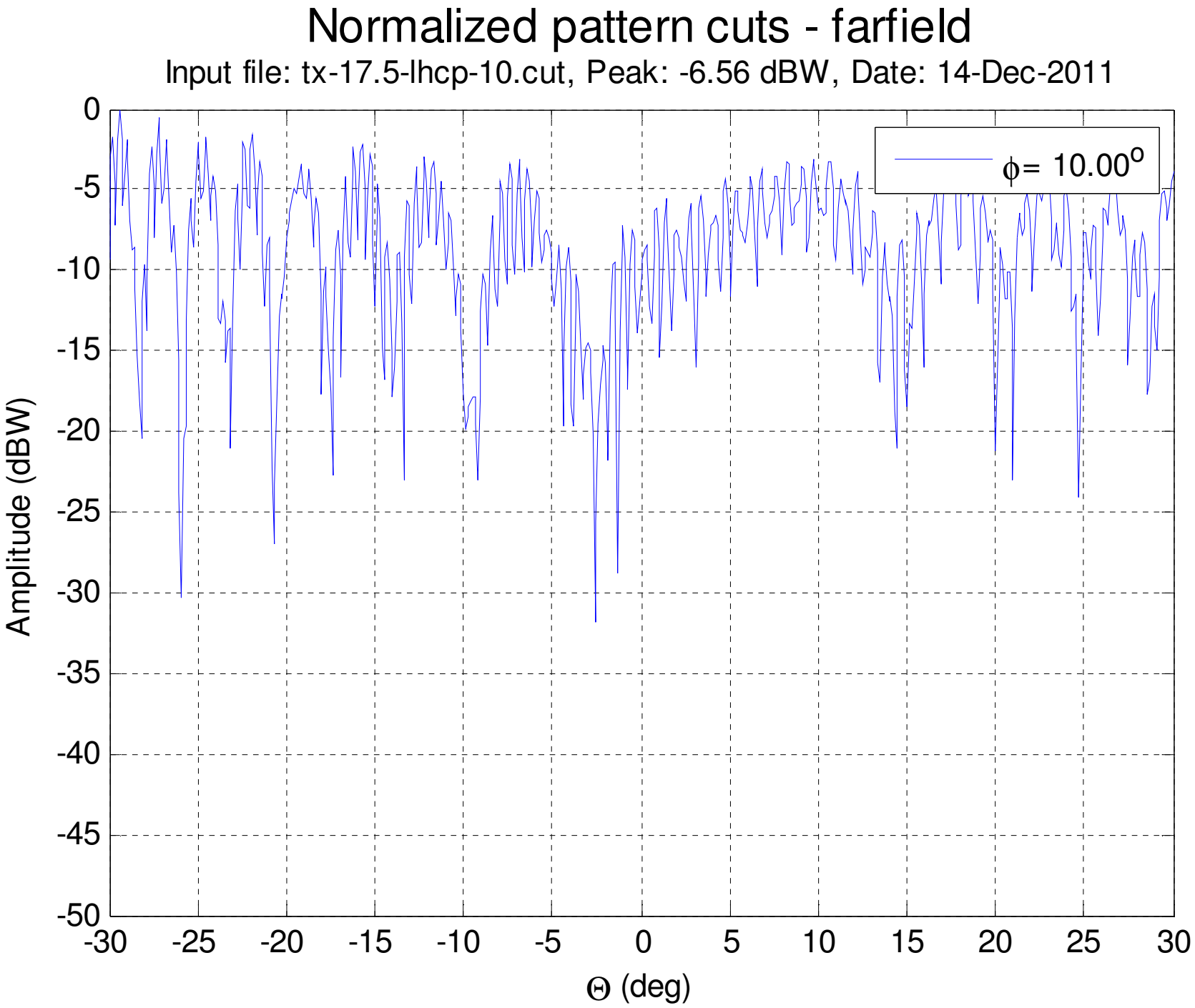

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -7.48 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

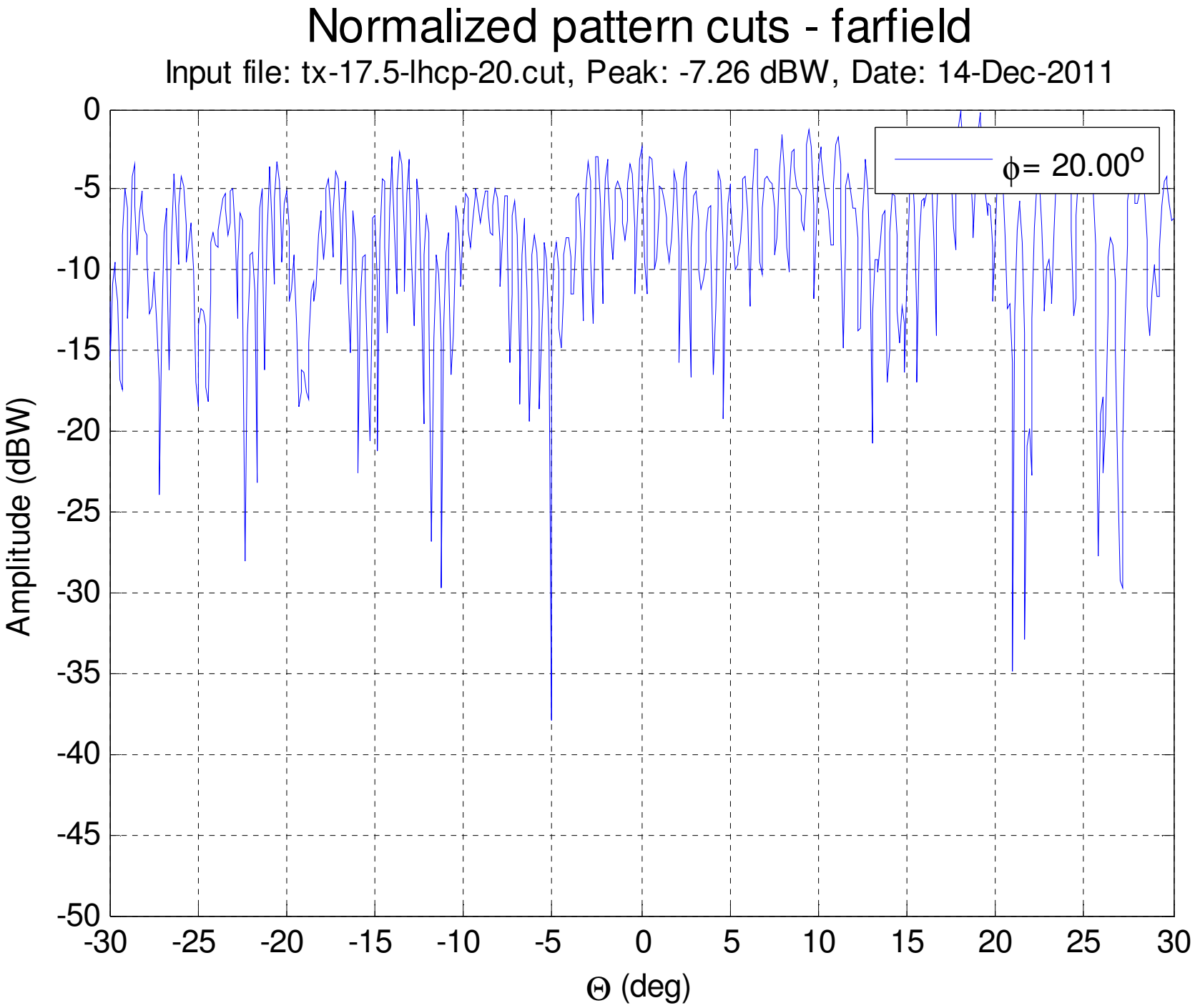

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -8.07 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

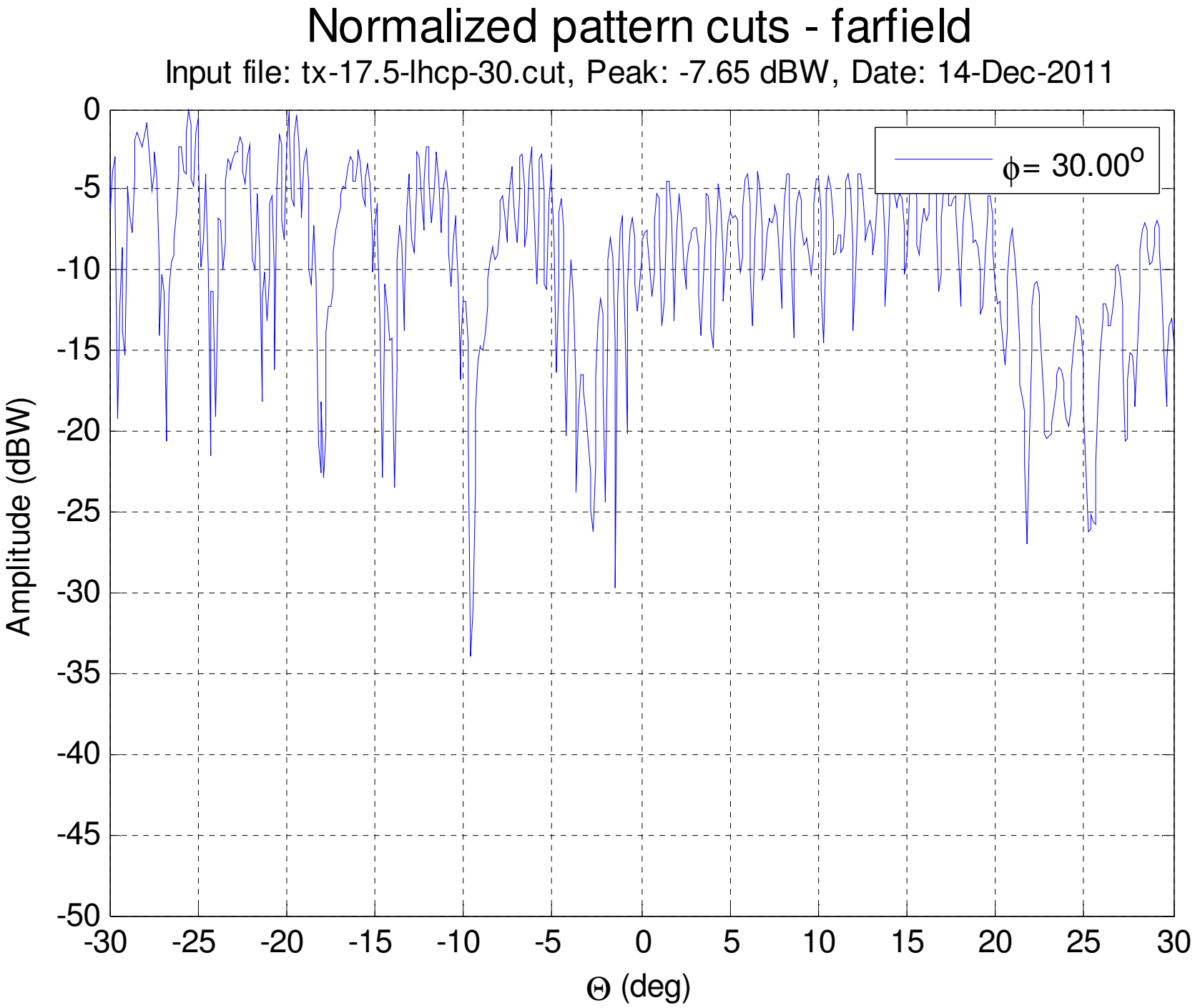

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -6.63 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

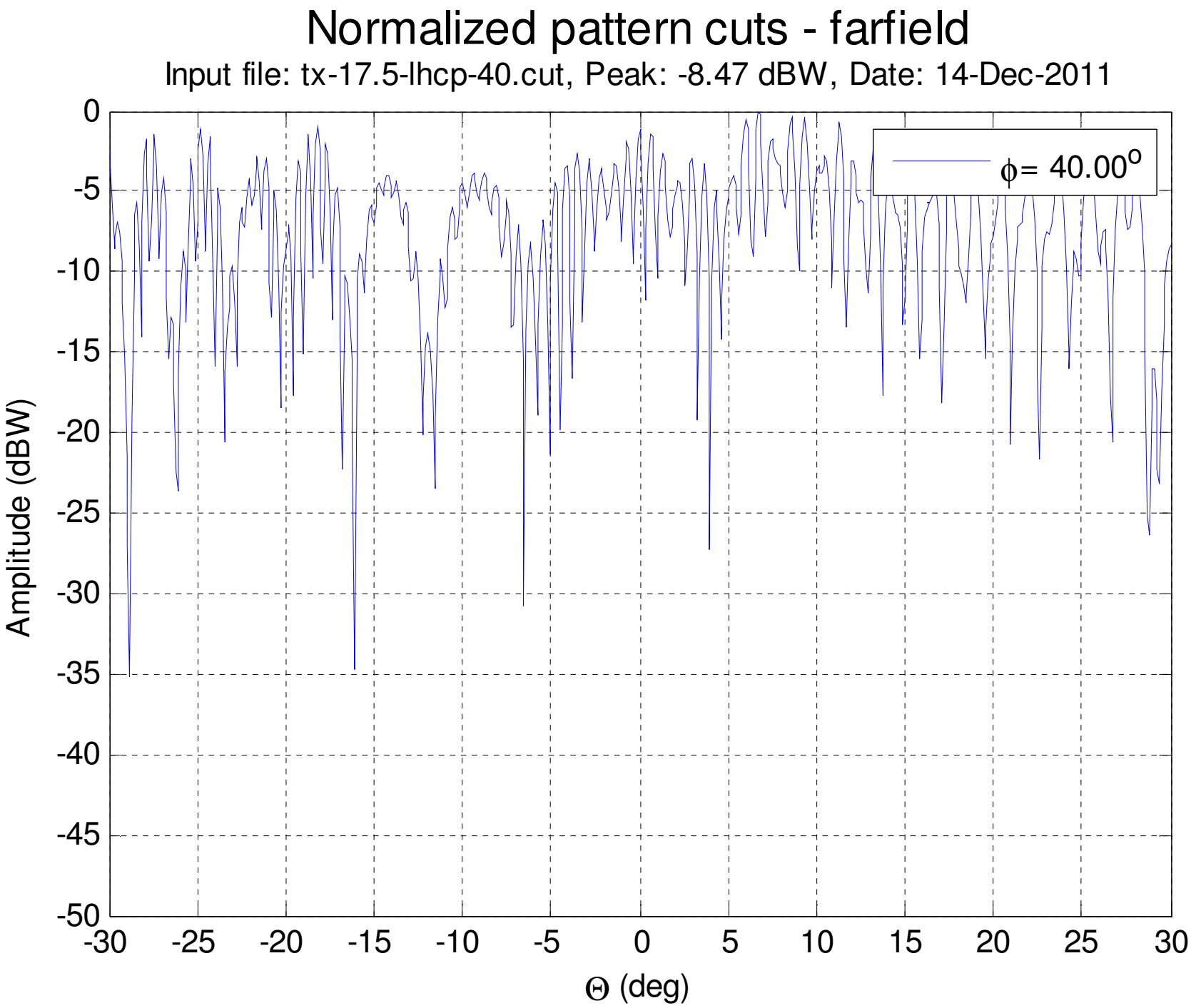

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -6.63 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

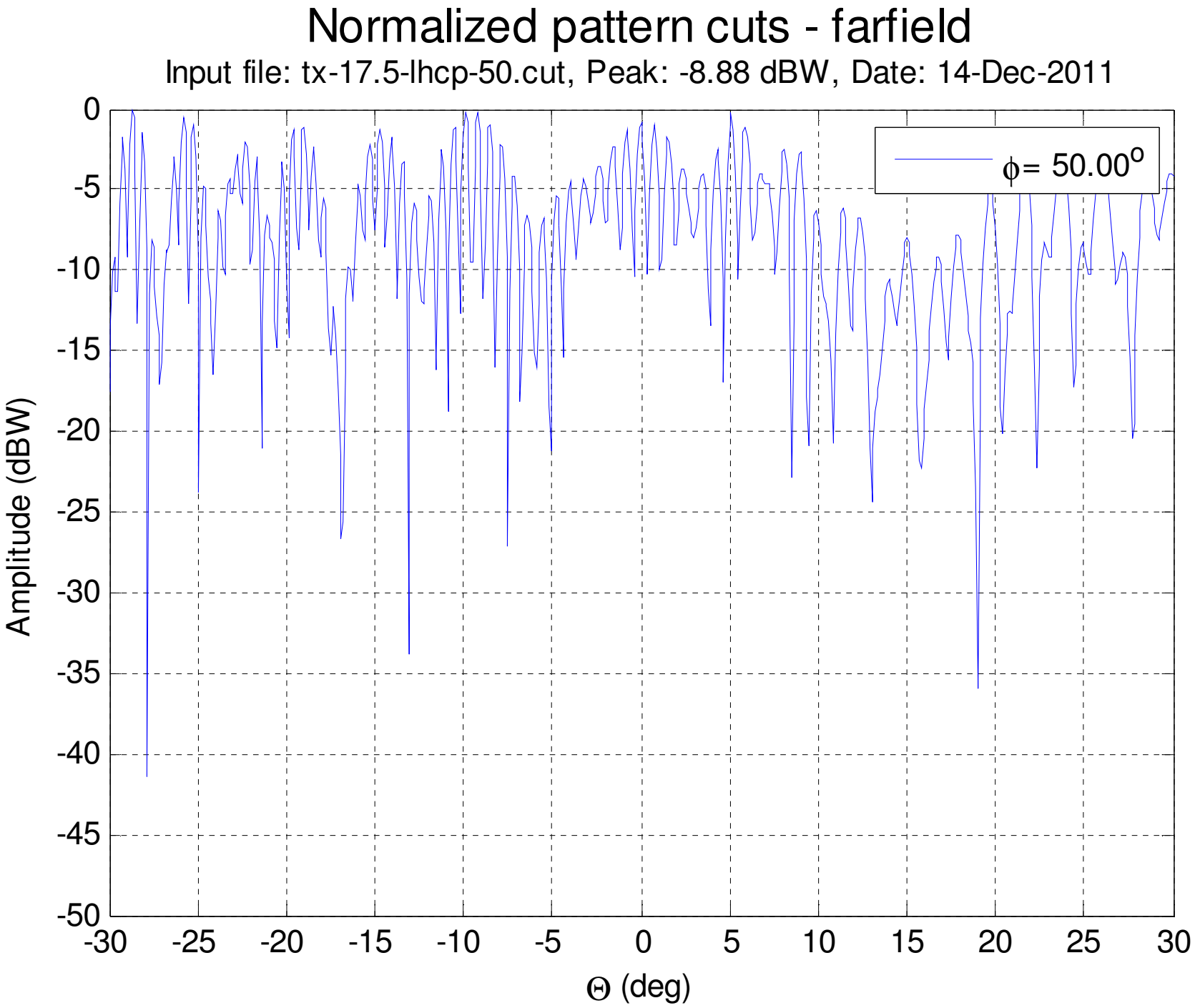

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -7.87 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

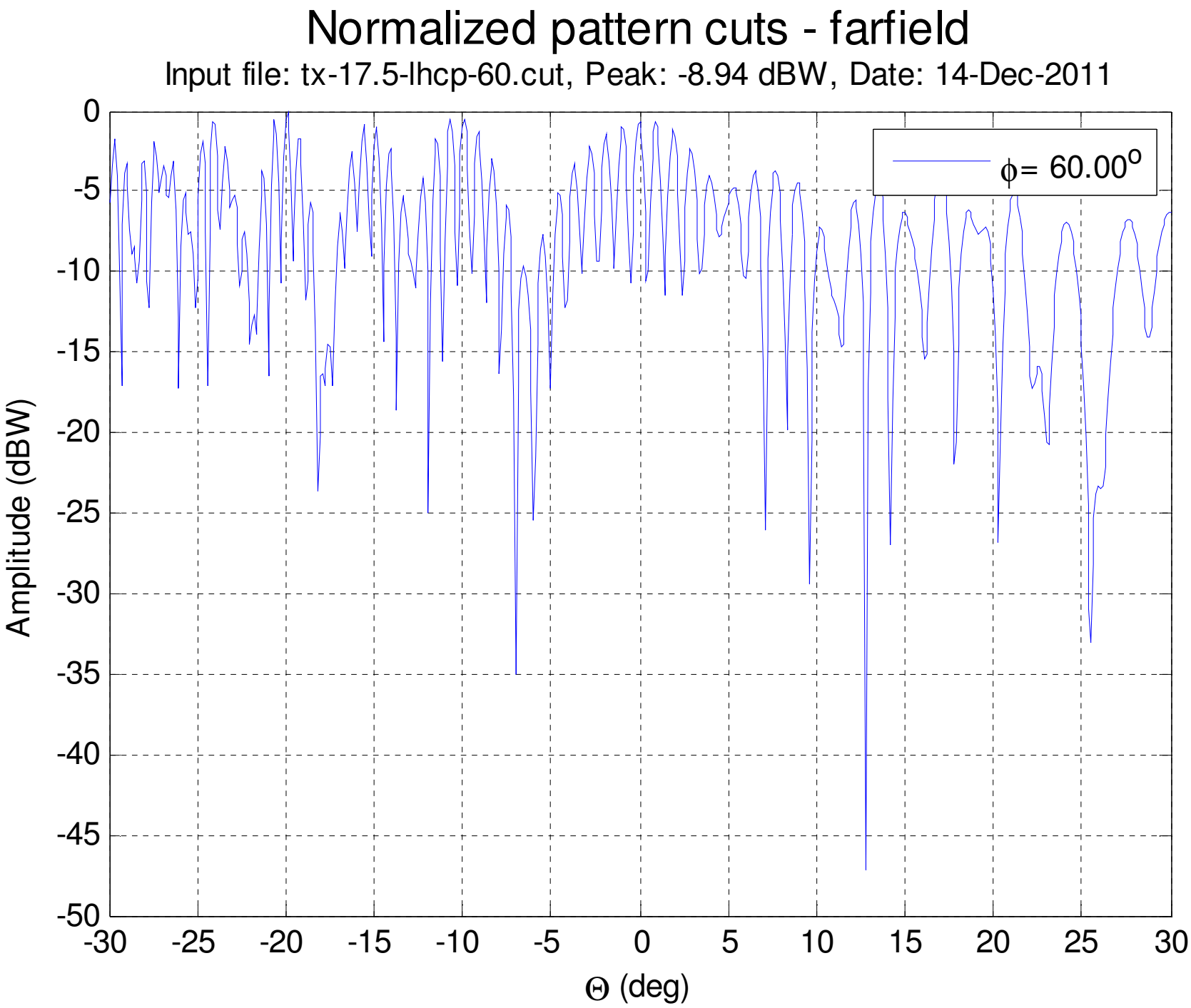

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -6.56 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.26 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

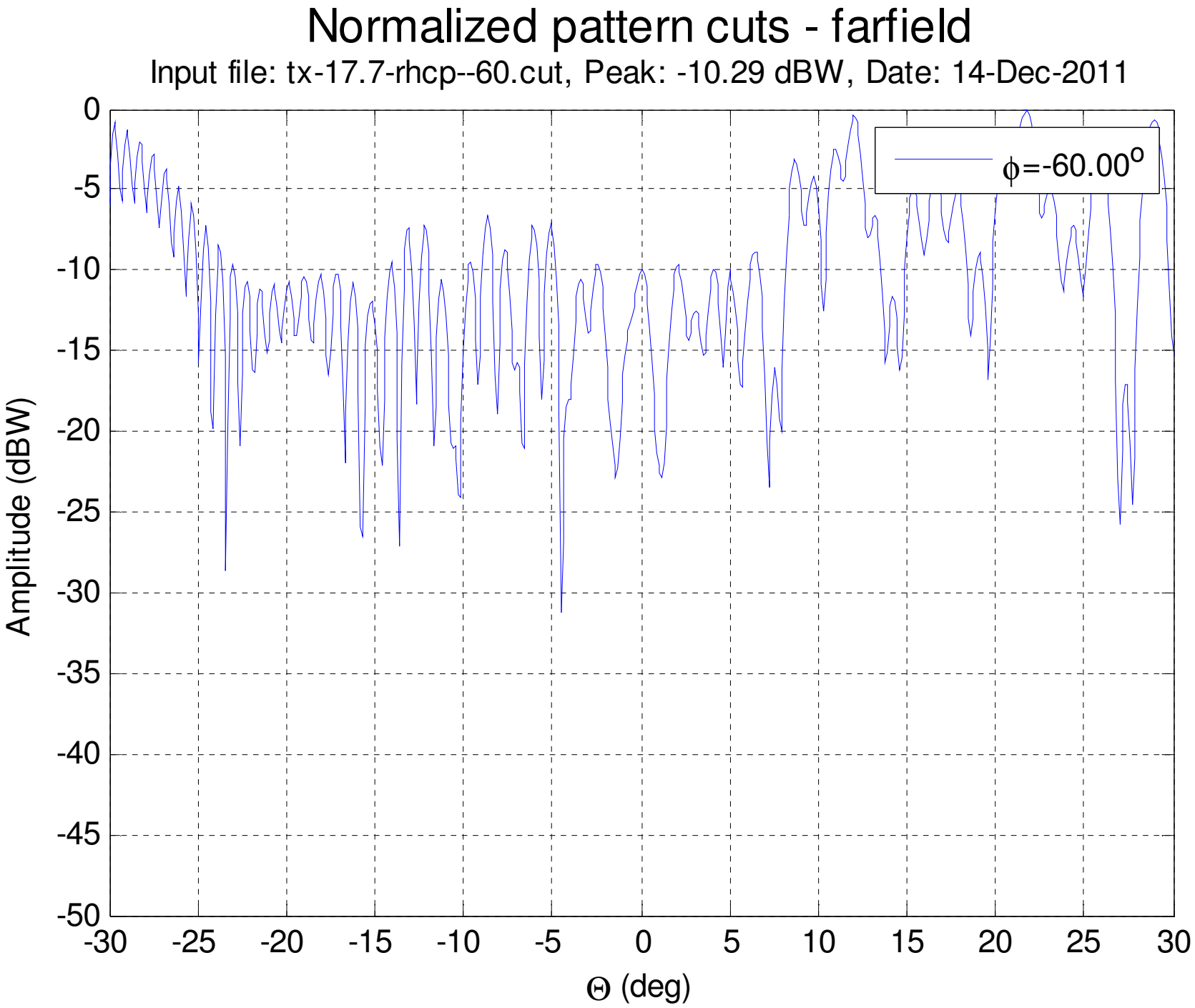

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -7.65 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

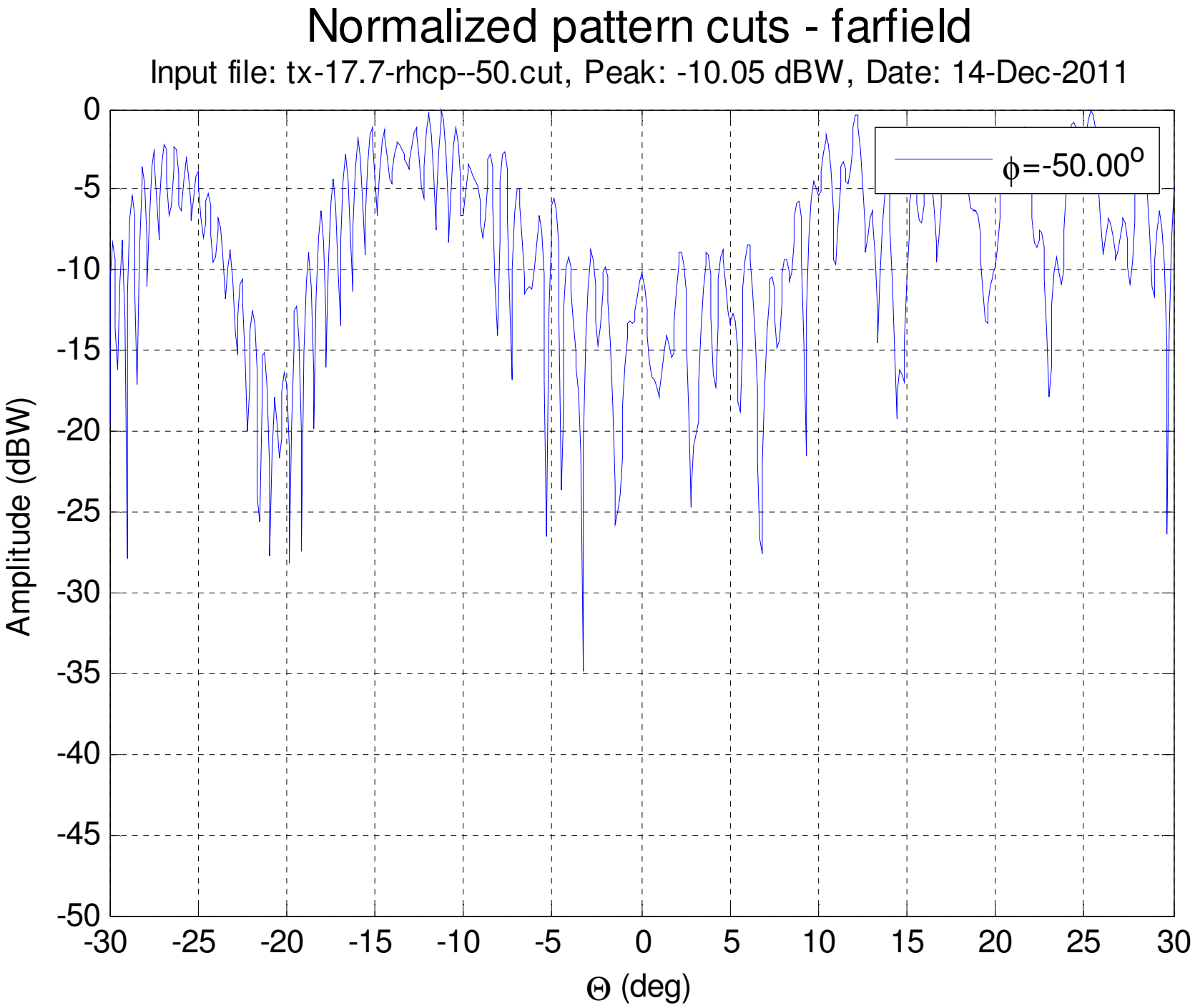

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -8.47 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

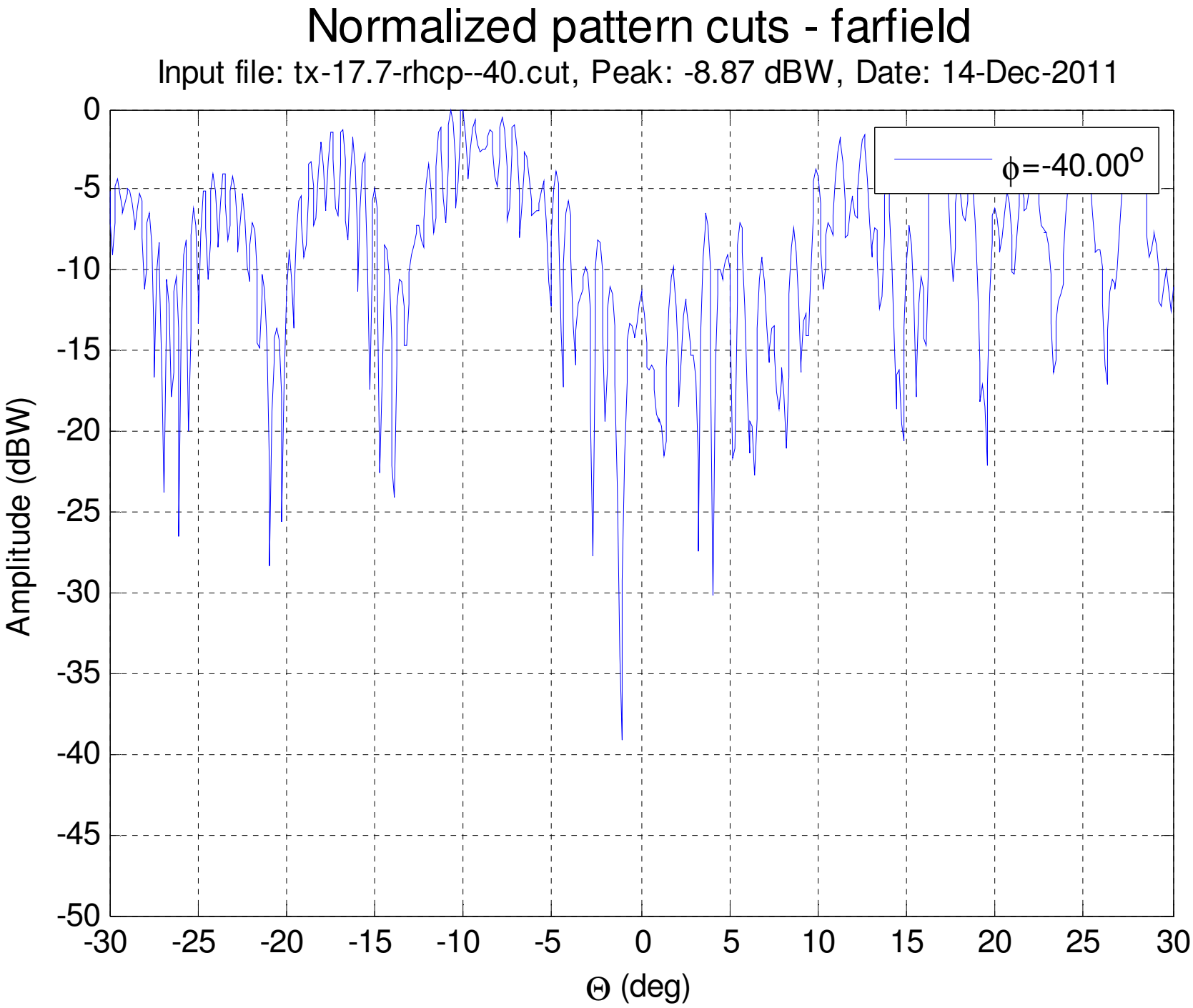

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -8.88 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

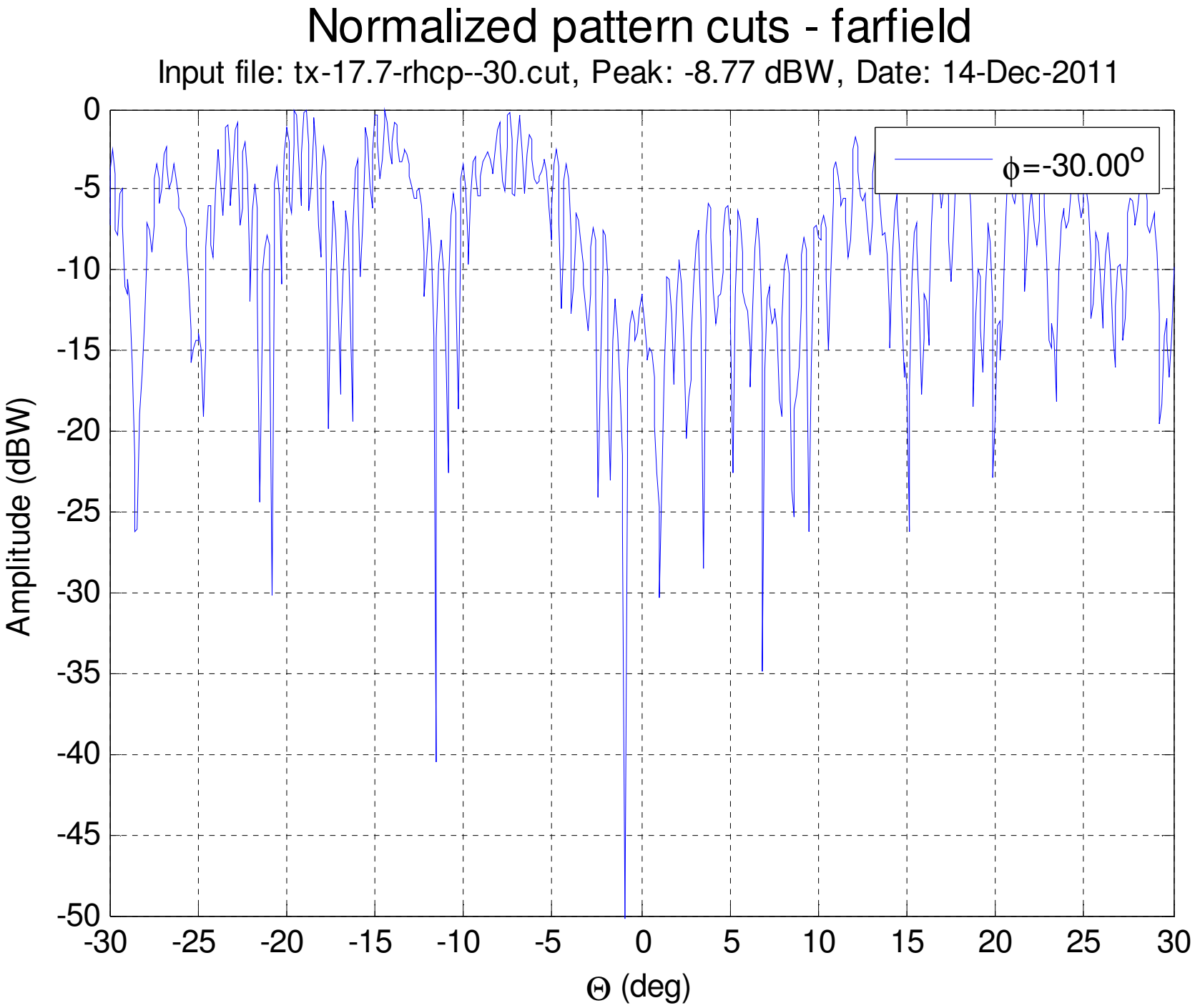

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -8.94 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

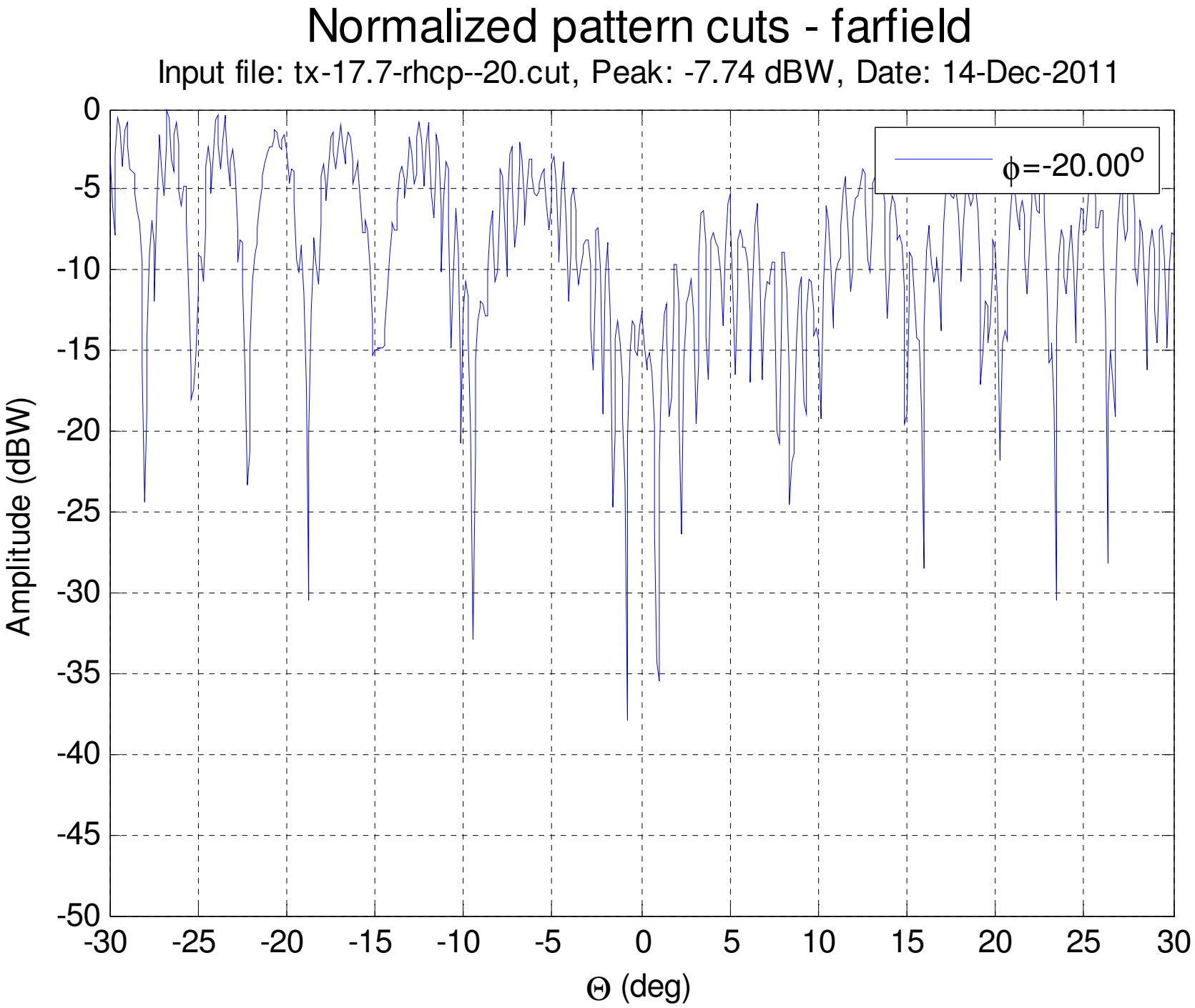
RHCP at 17.7 GHz

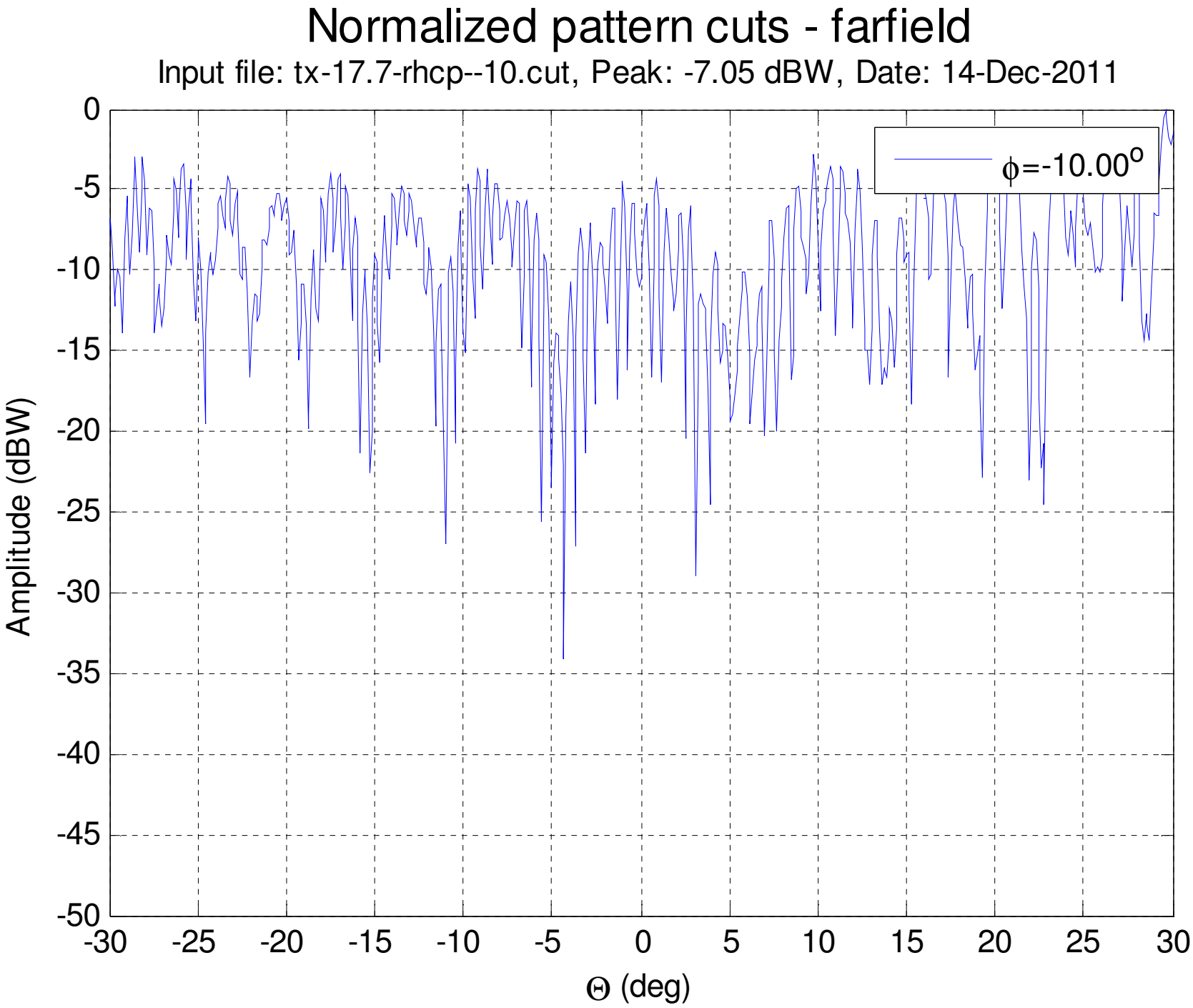

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -10.29 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

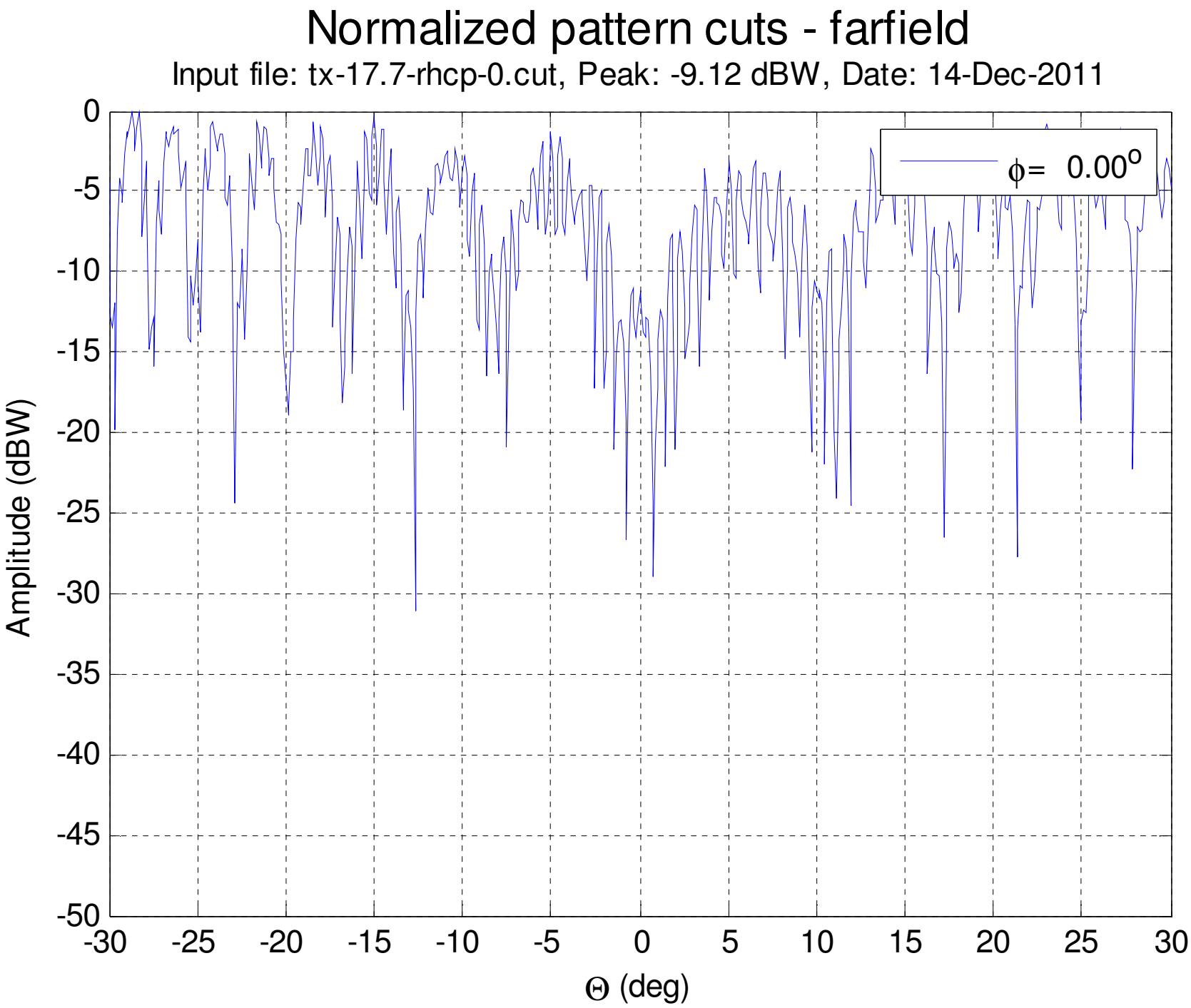

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -10.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

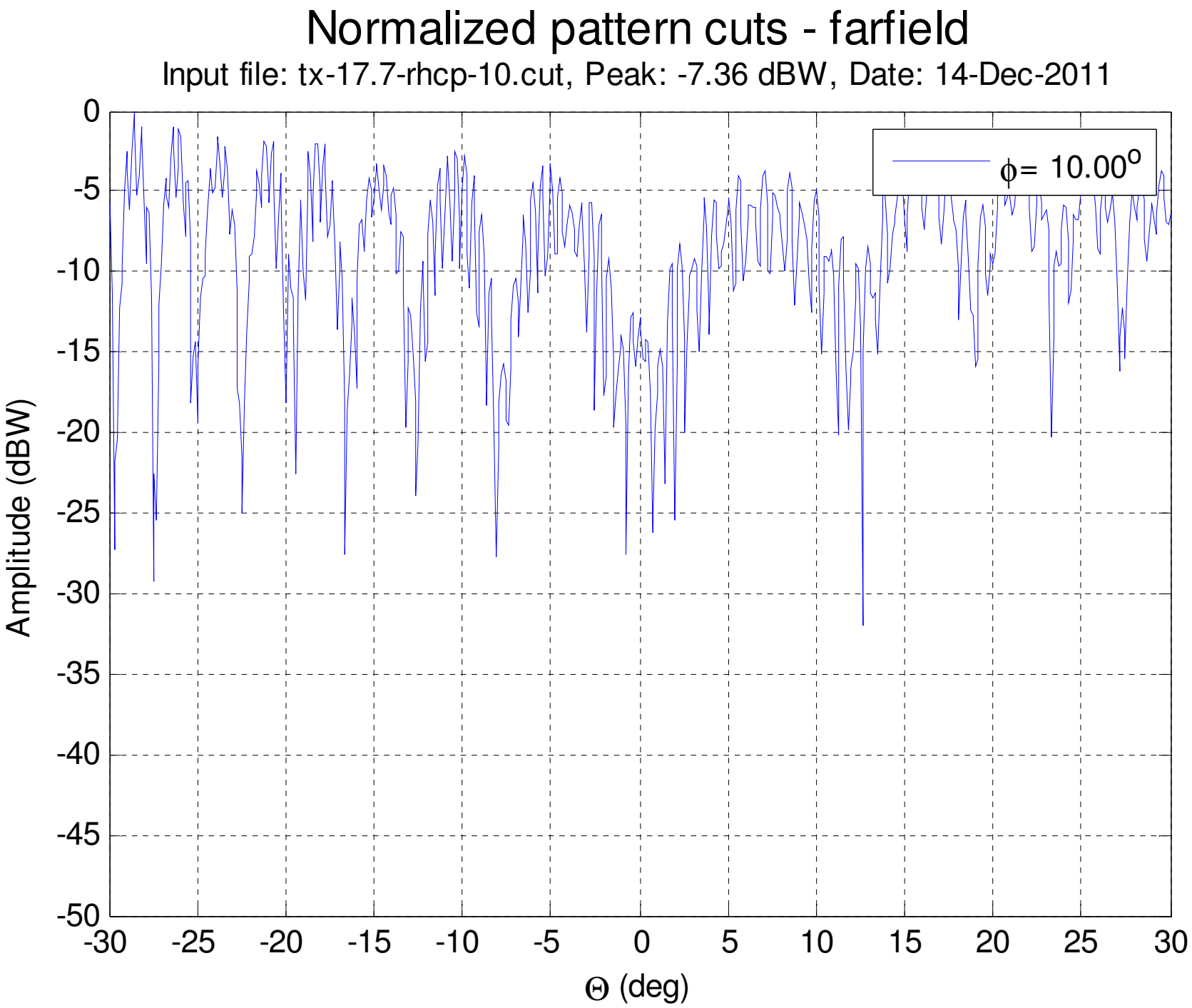

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -8.87 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

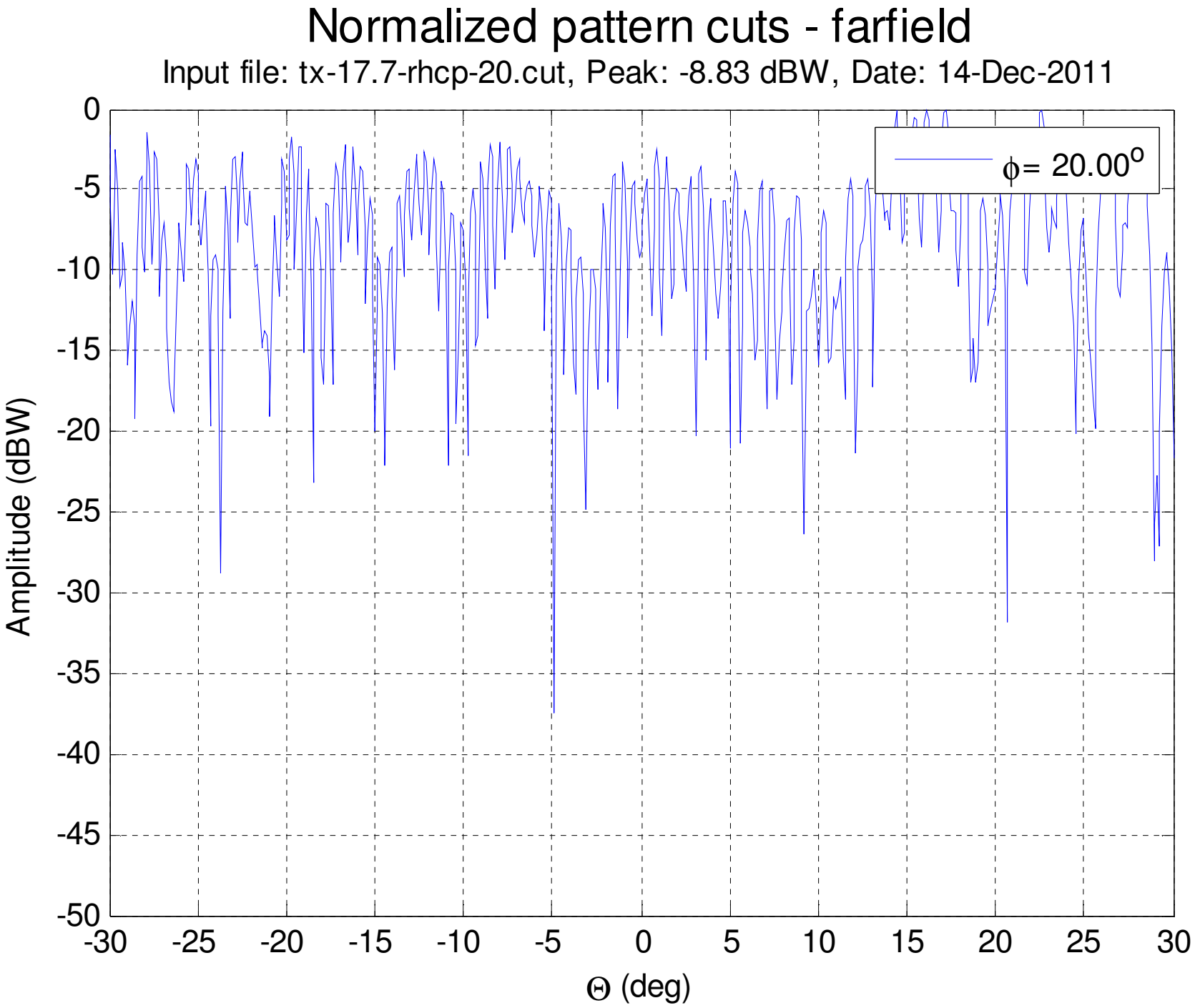

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -8.77 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

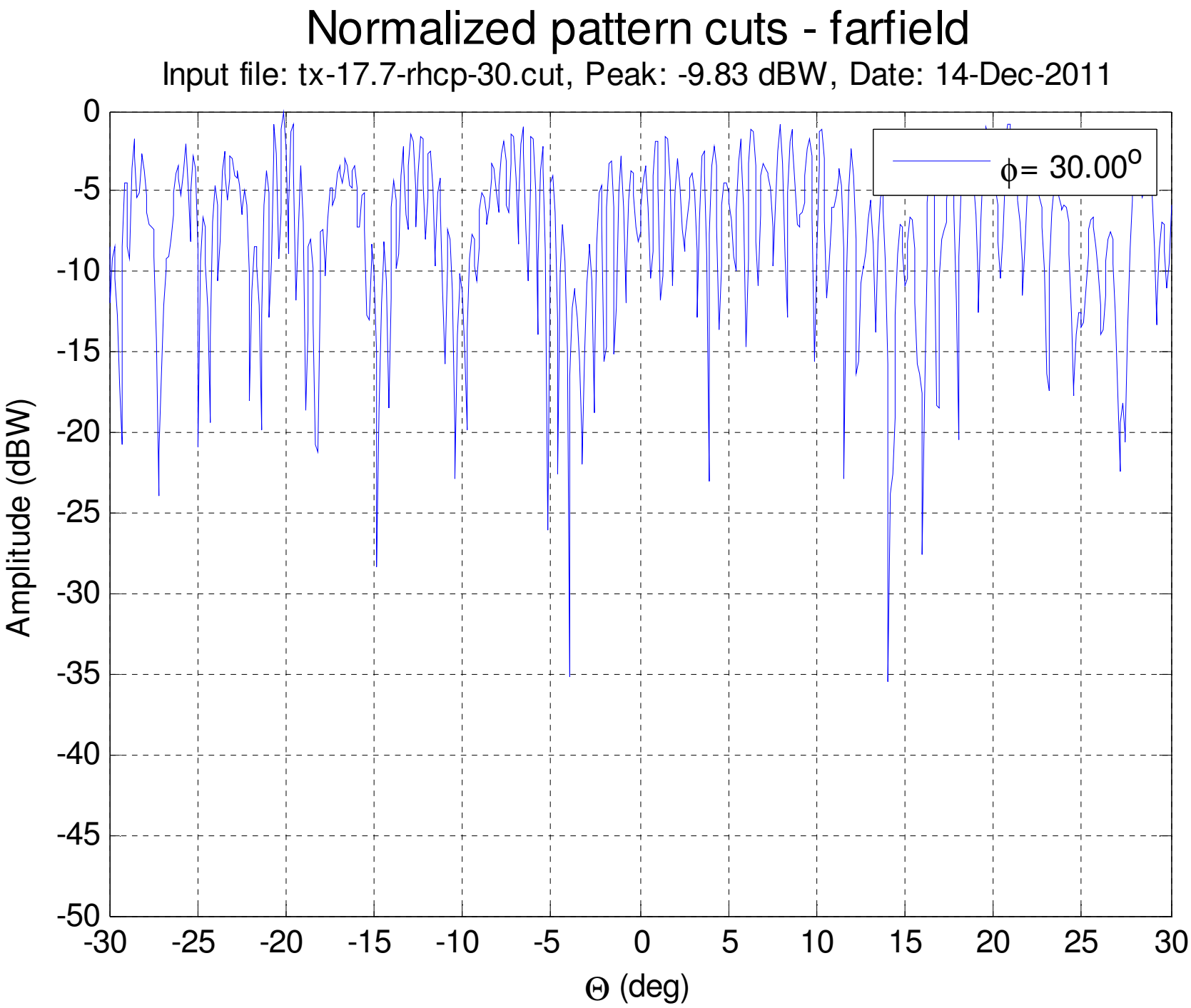

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -7.74 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

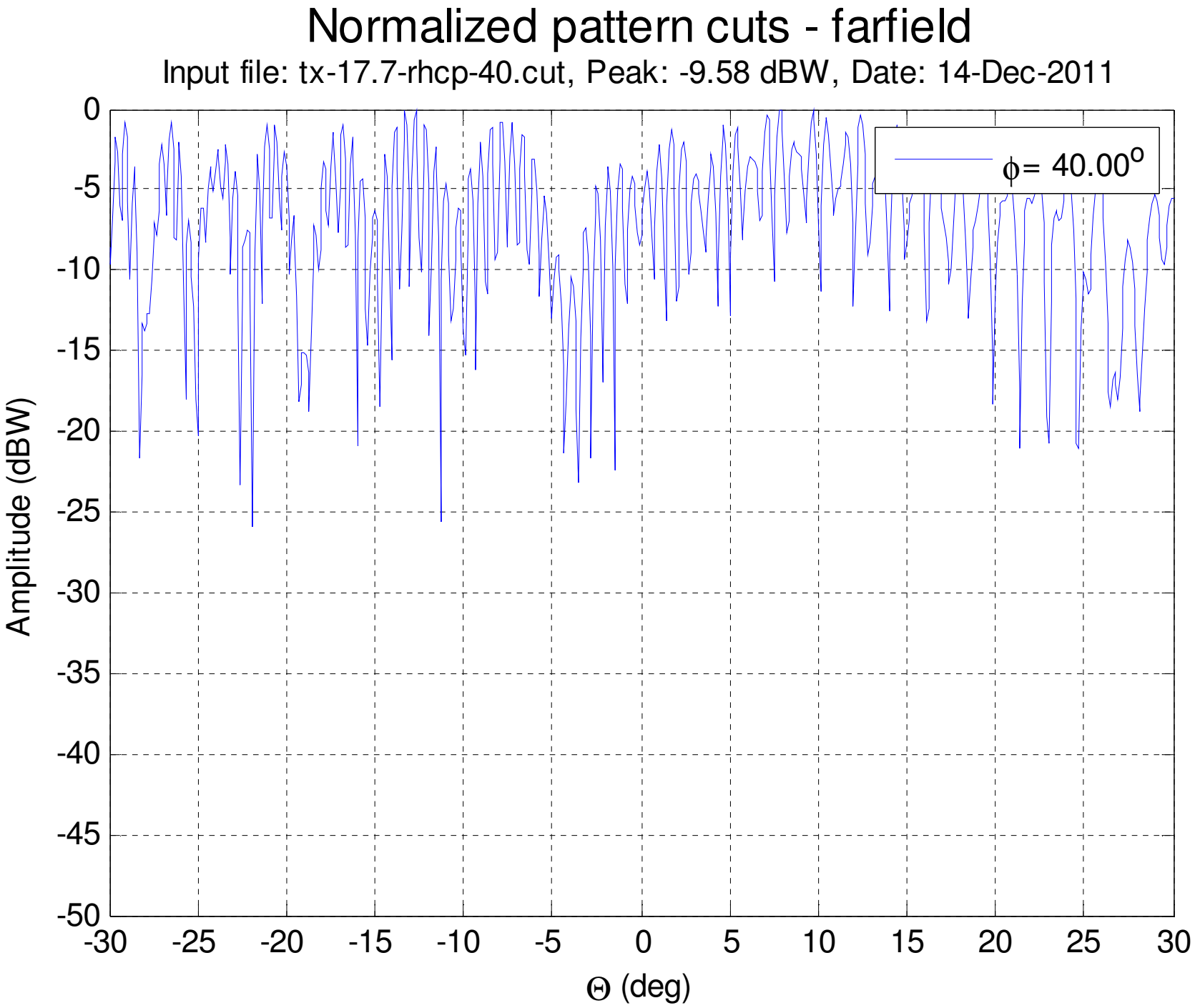

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -7.05 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

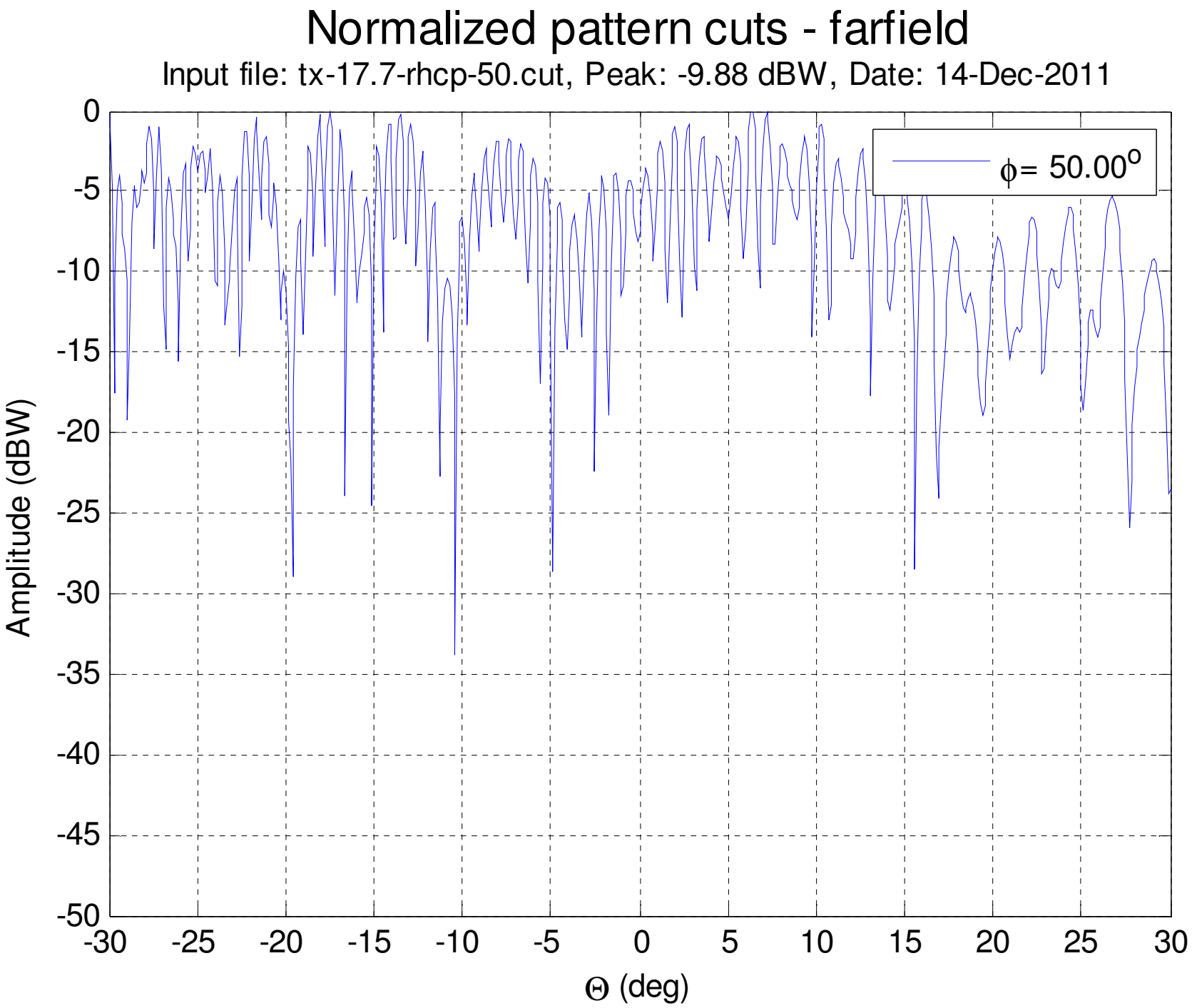

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -9.12 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

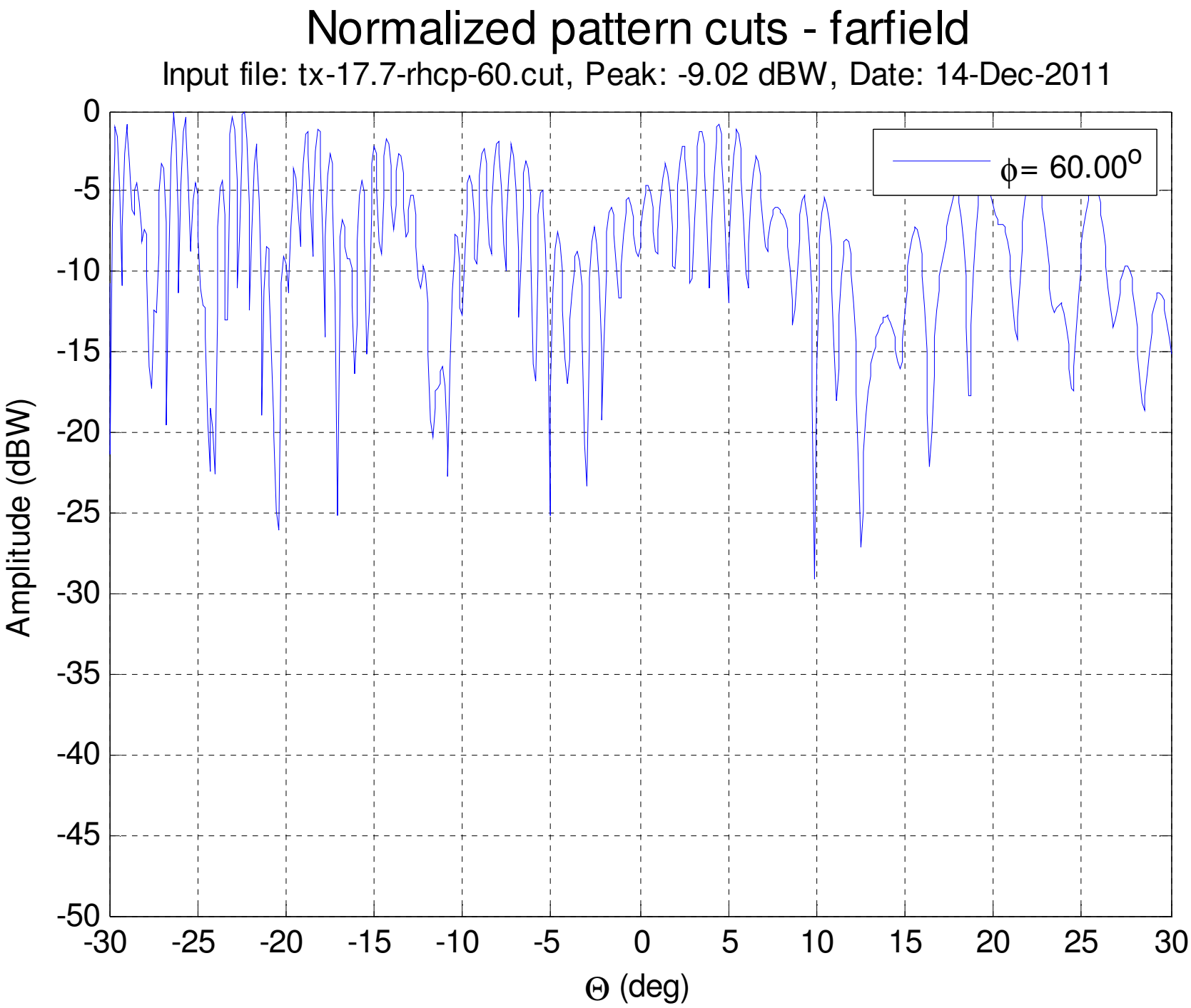

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -7.36 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -8.83 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

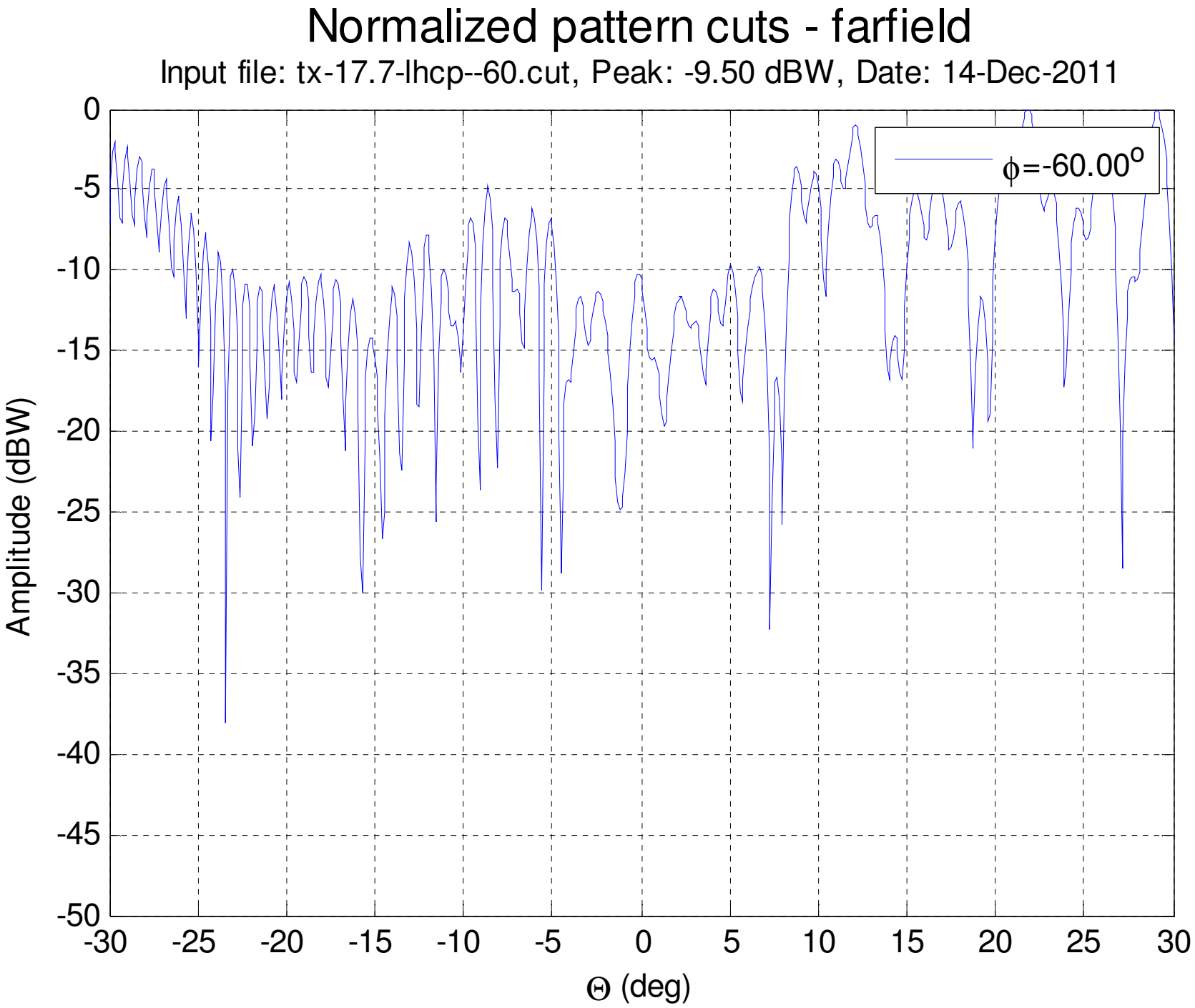

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -9.83 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

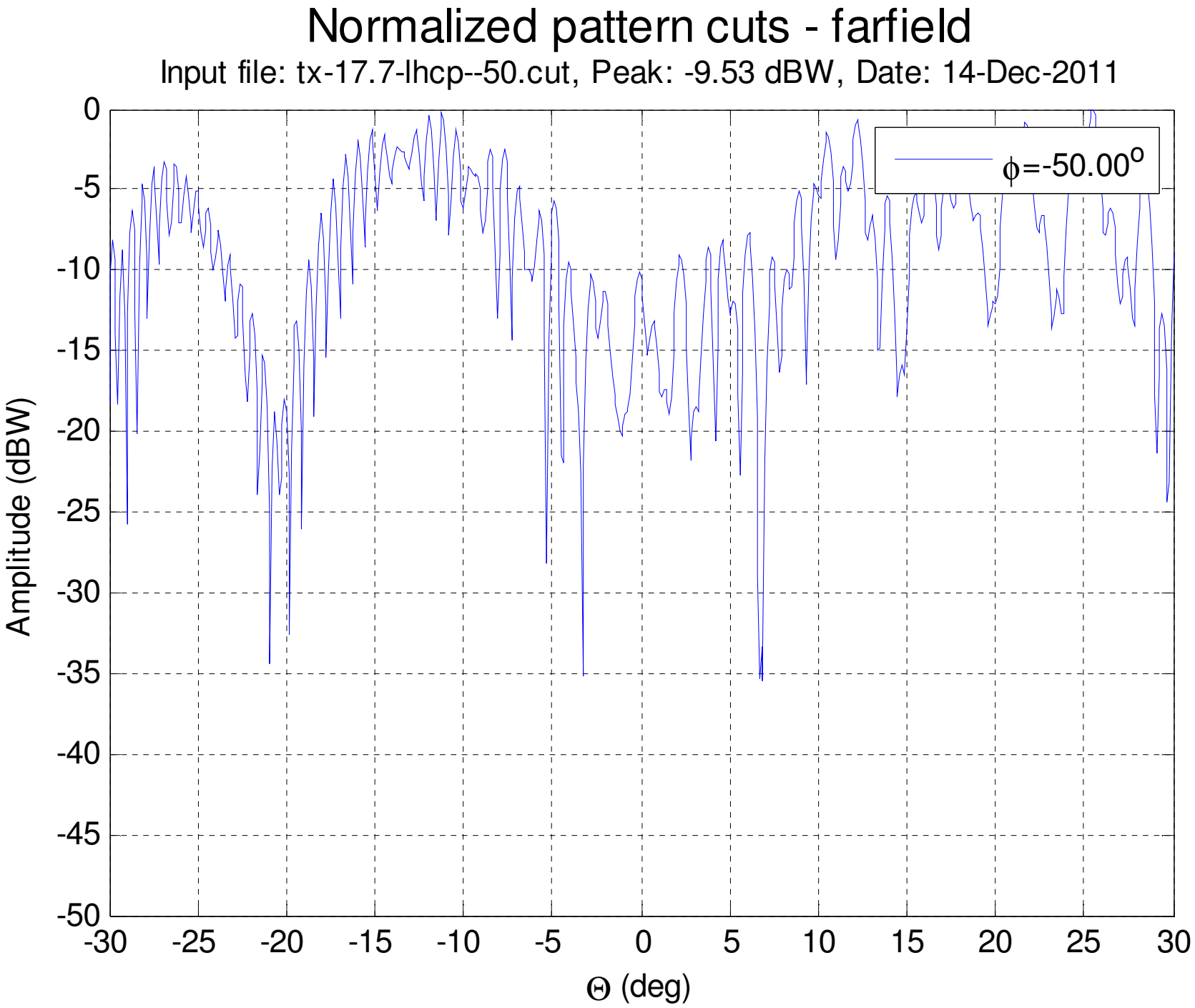

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -9.58 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

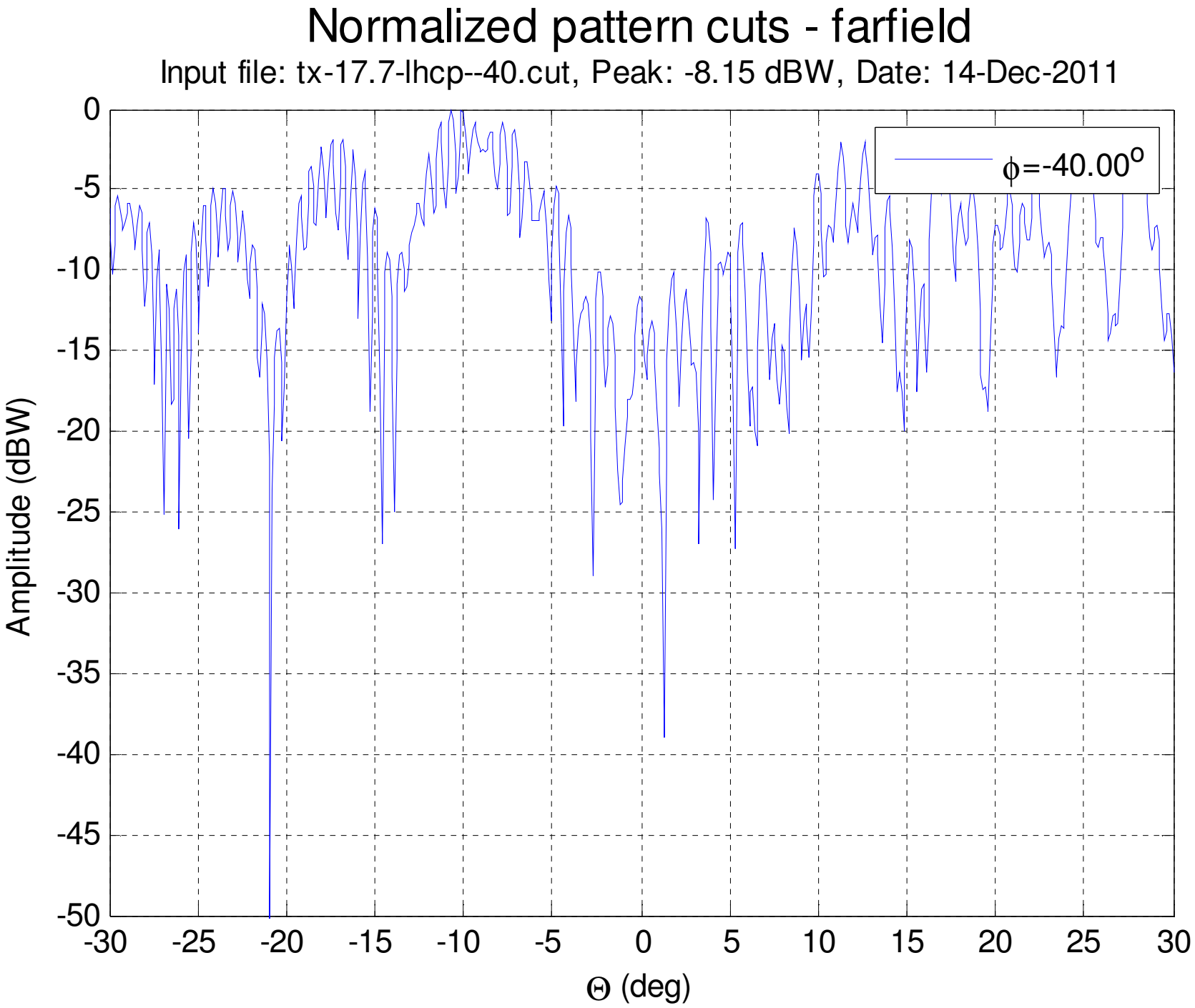

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -9.88 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

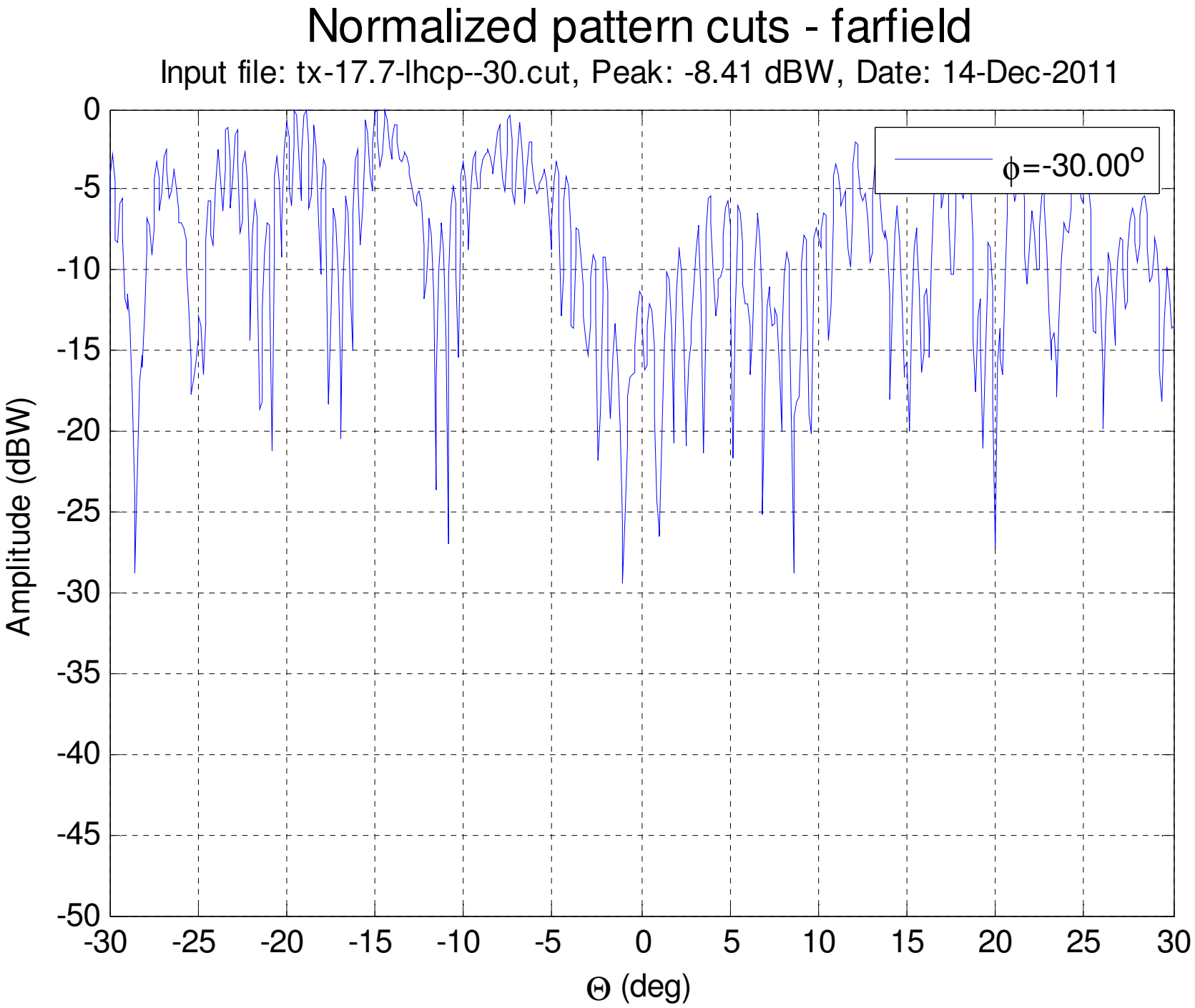

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -9.02 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

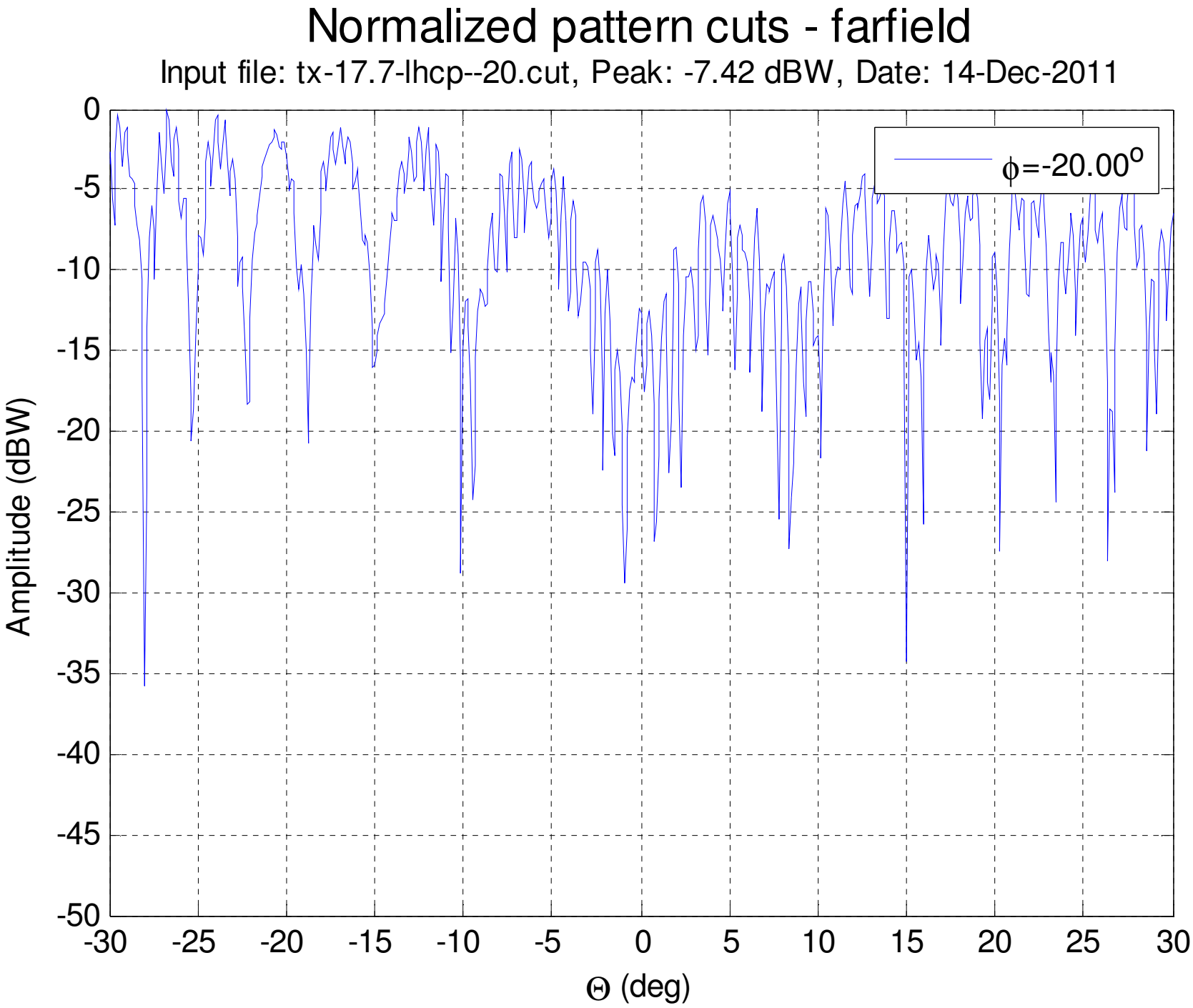
LHCP at 17.7 GHz

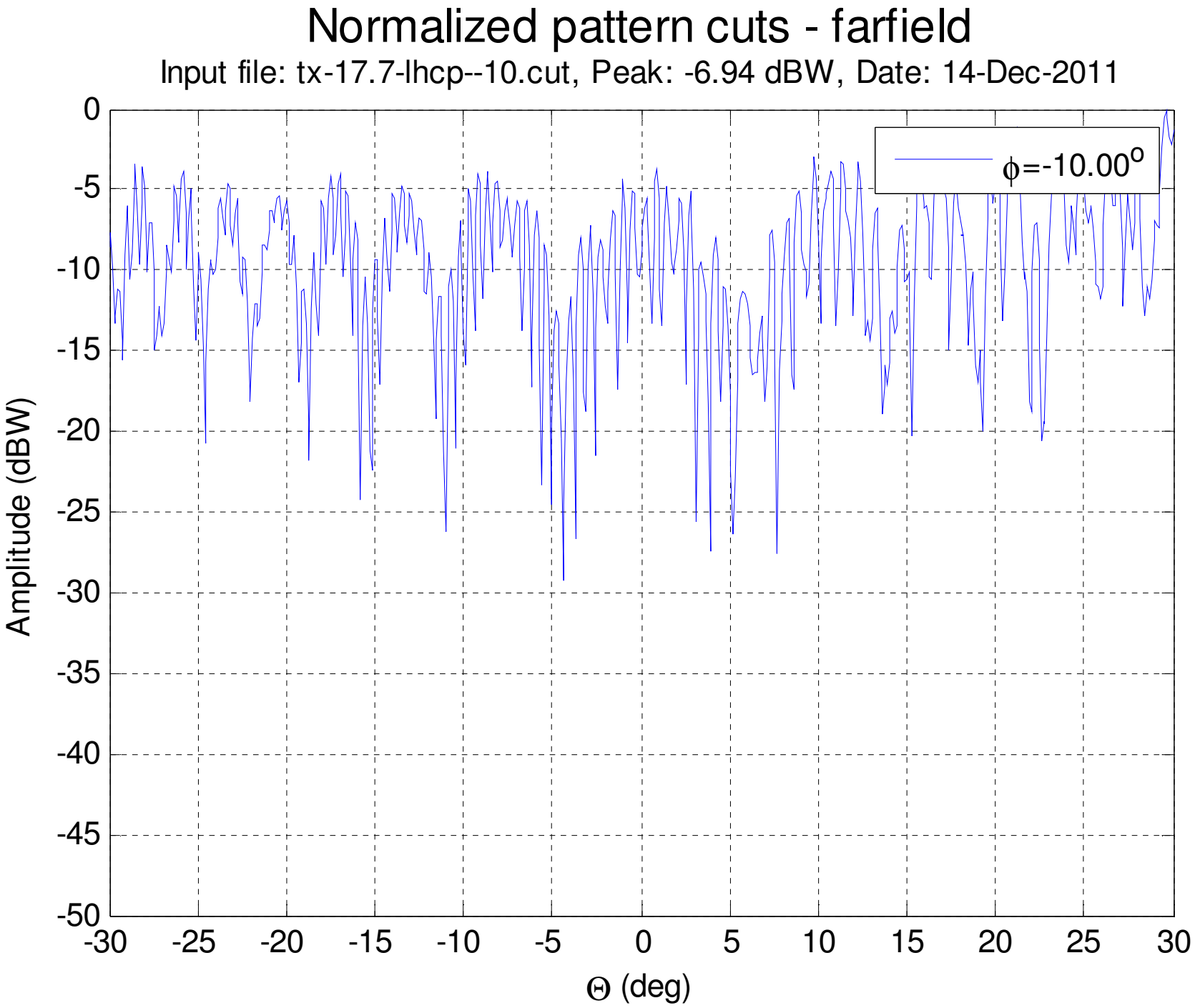

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -9.50 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

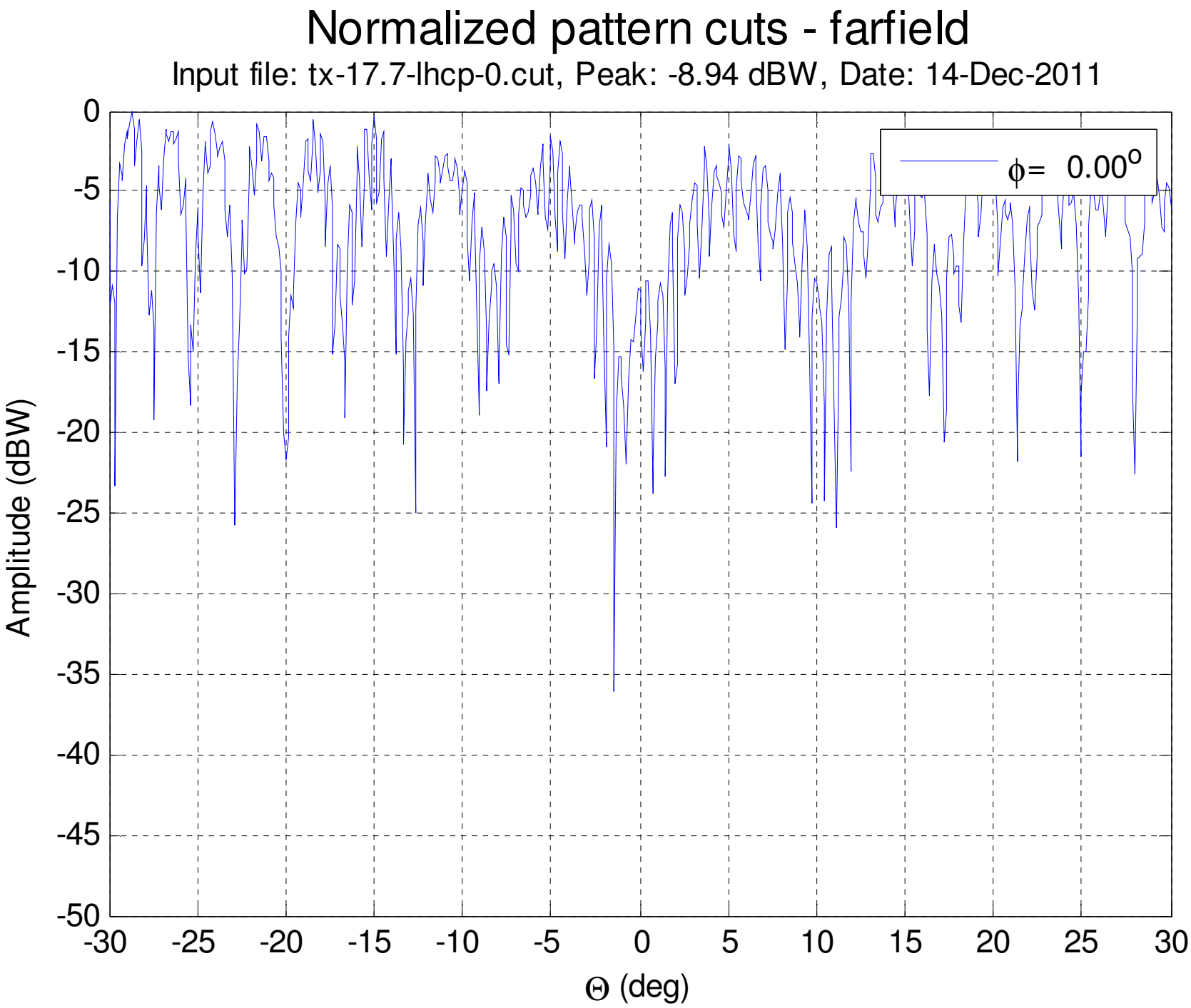

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -9.53 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

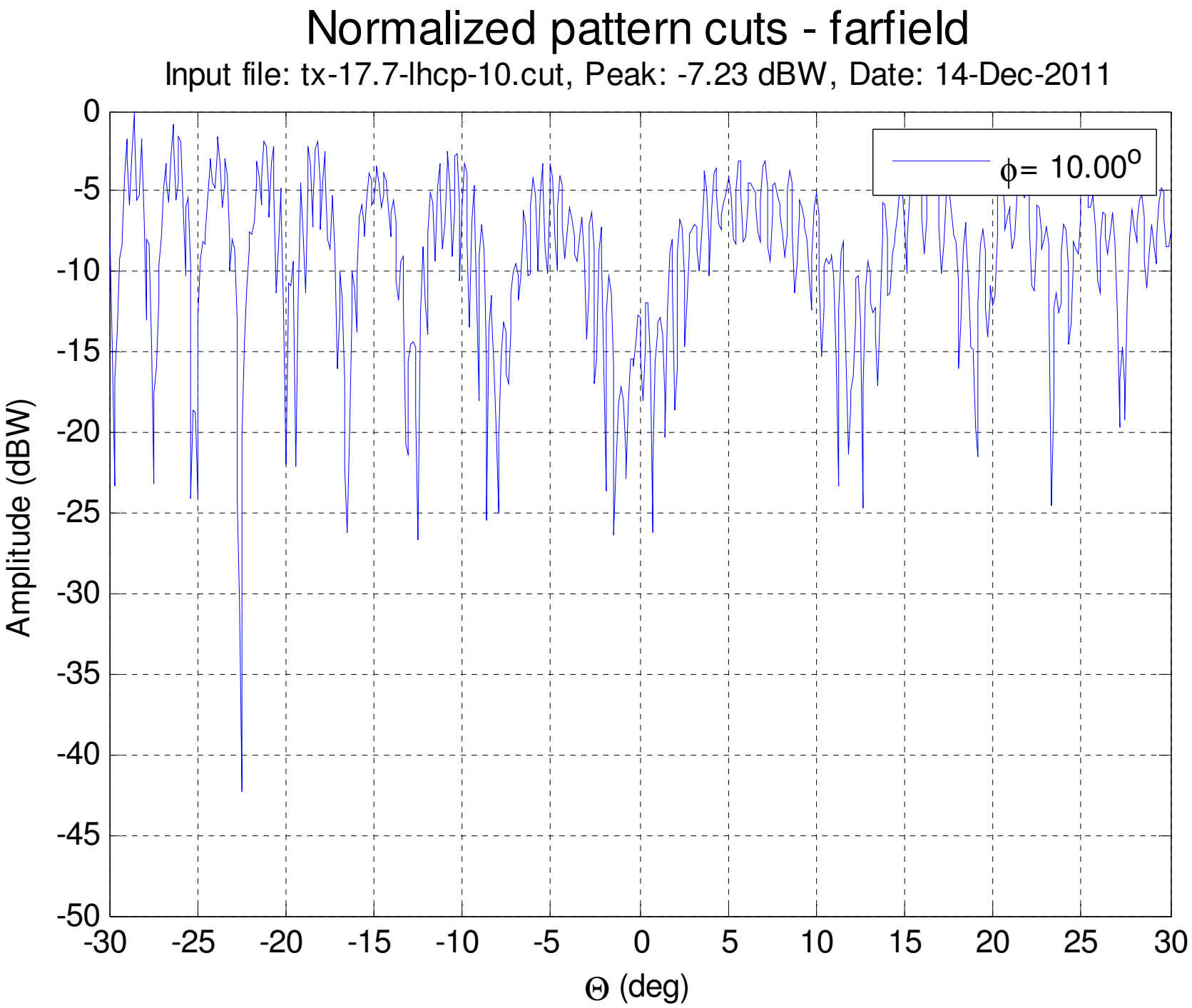

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.15 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

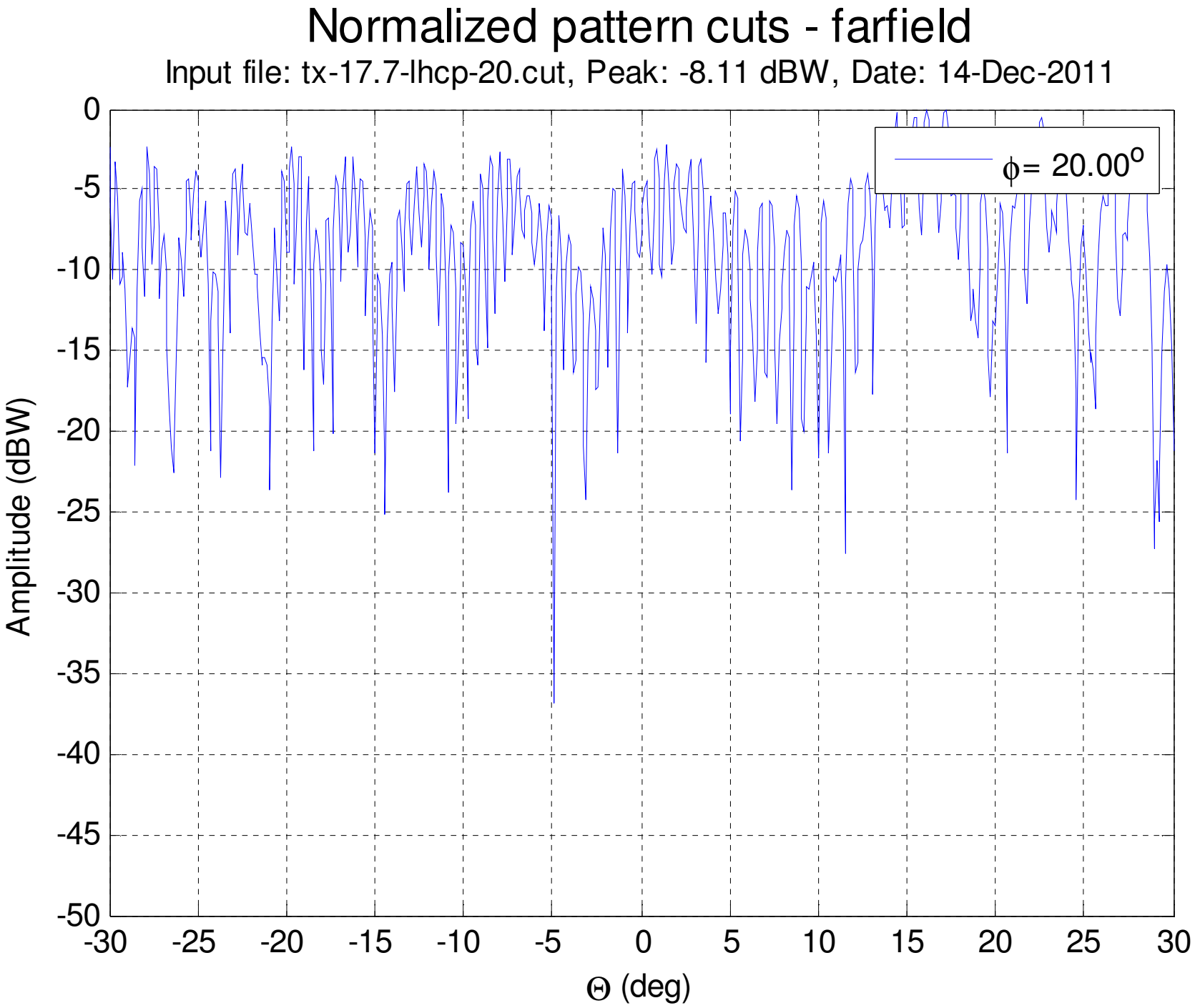

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -8.41 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

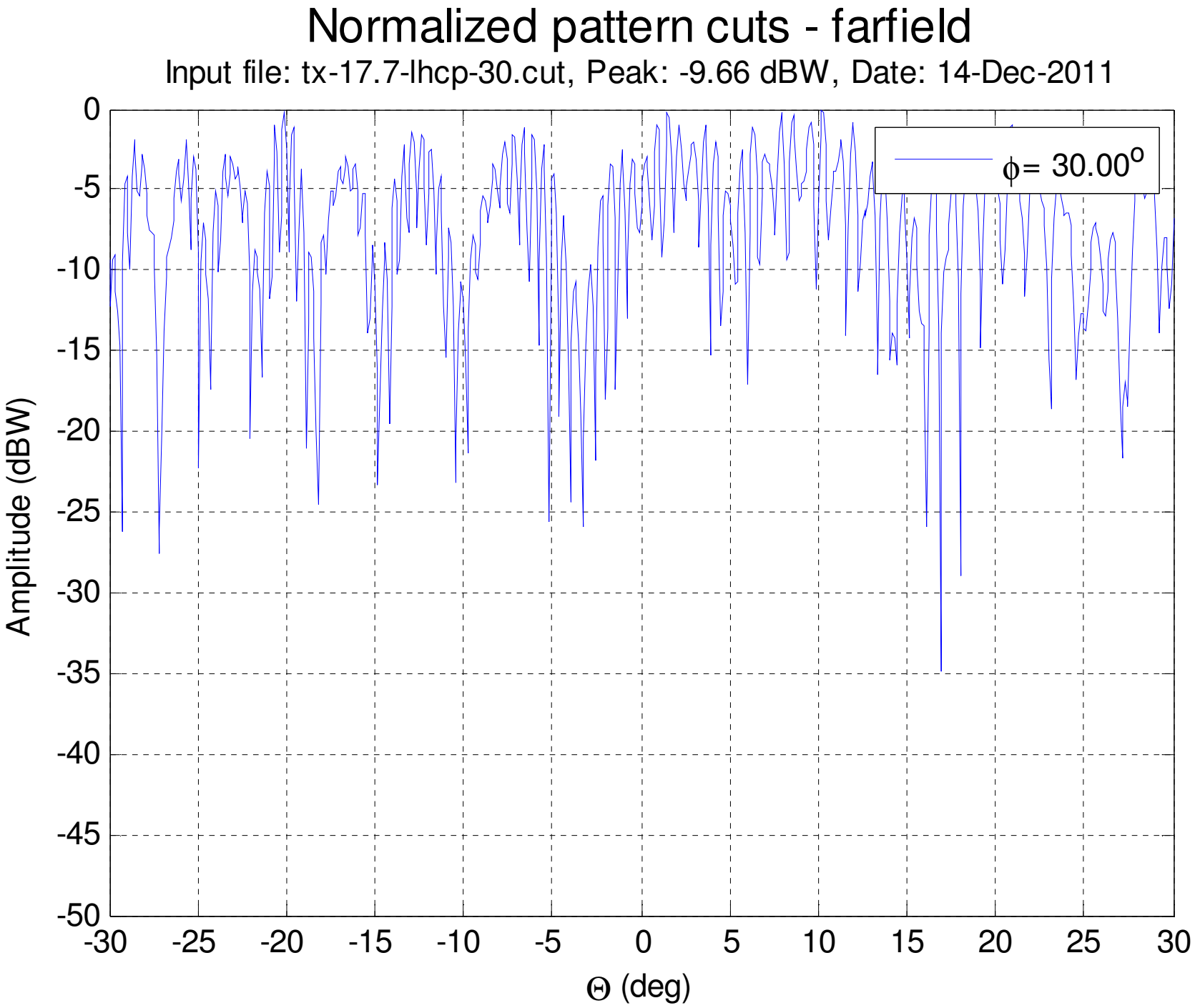

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -7.42 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

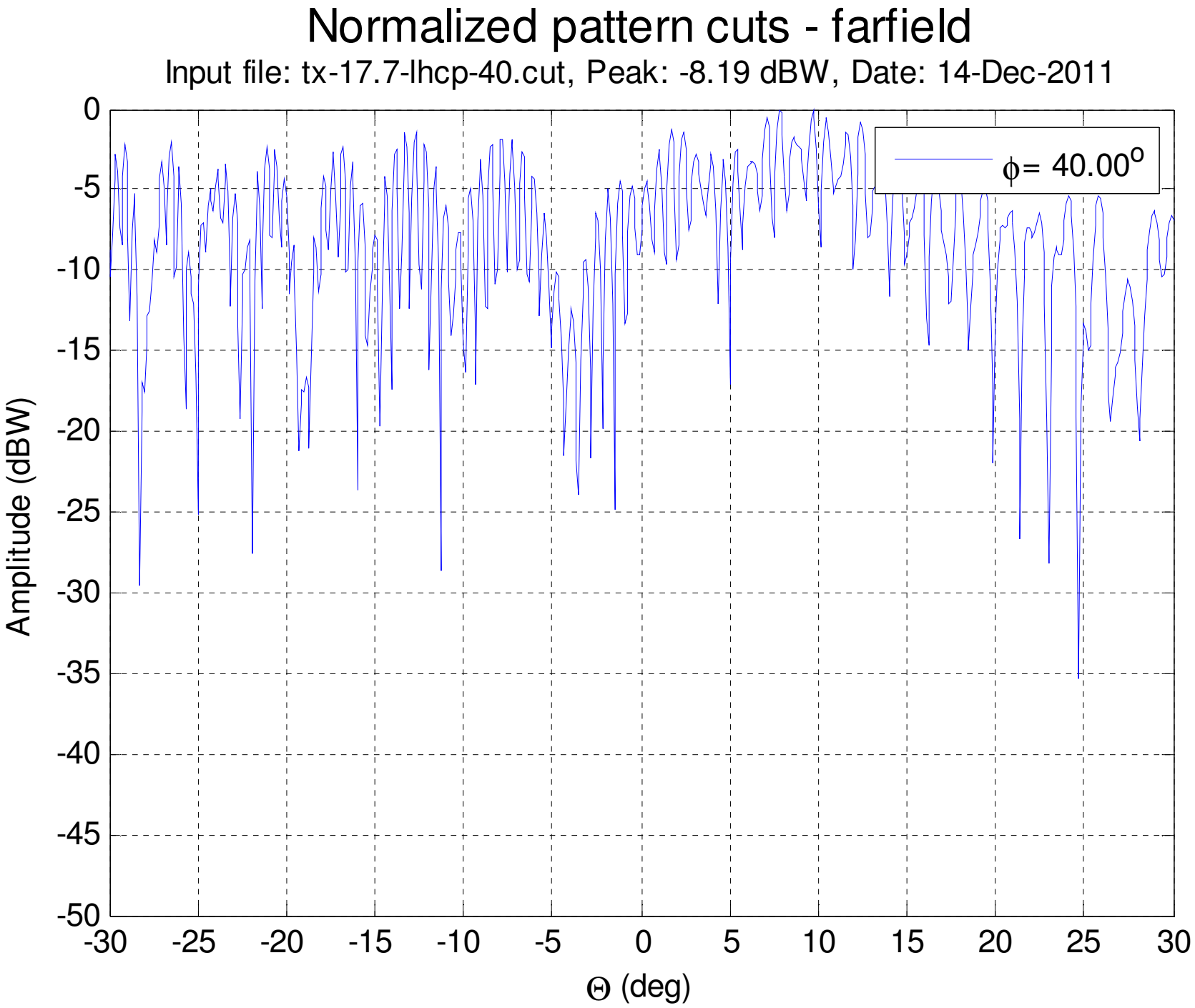

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -6.94 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

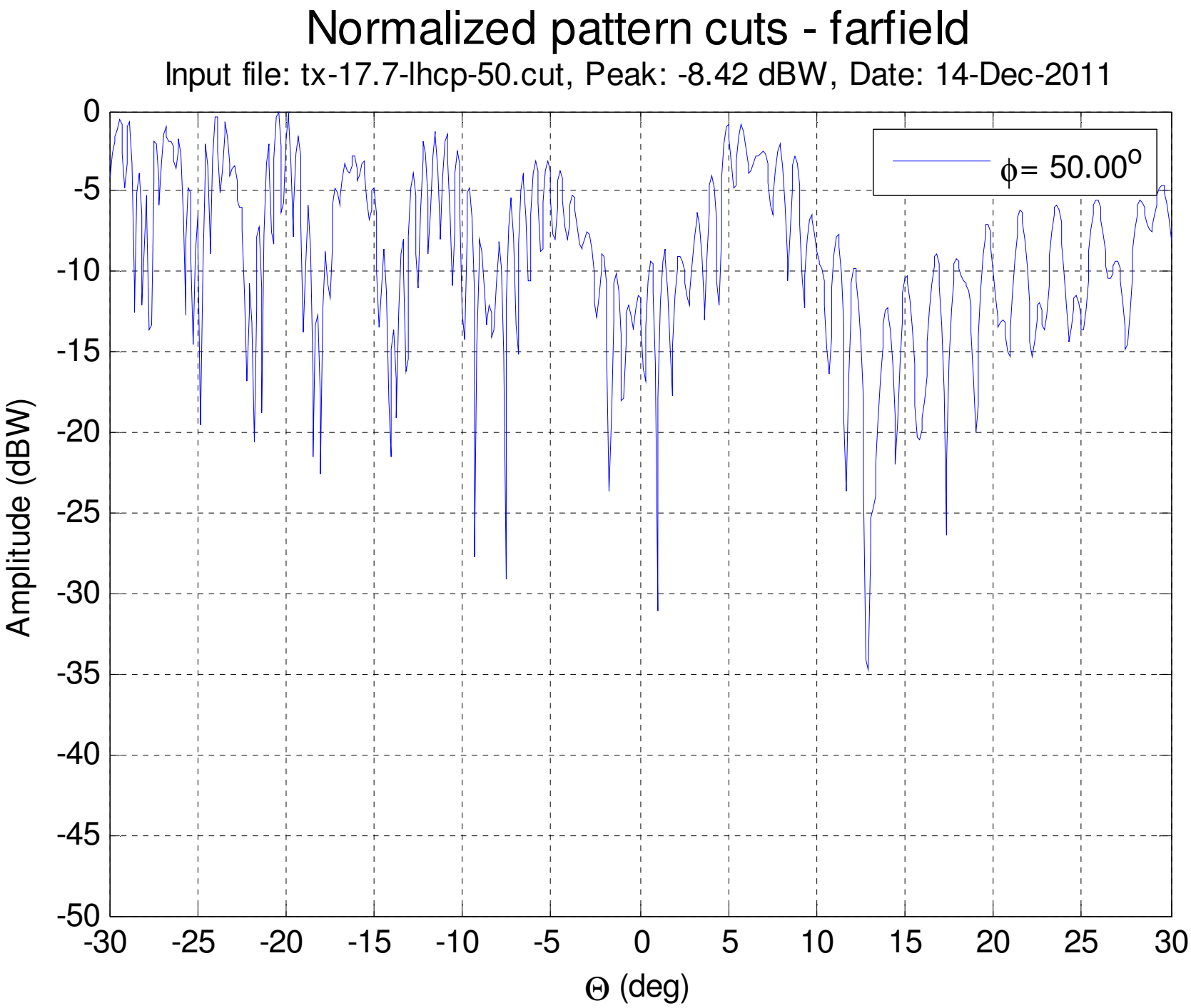

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -8.94 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

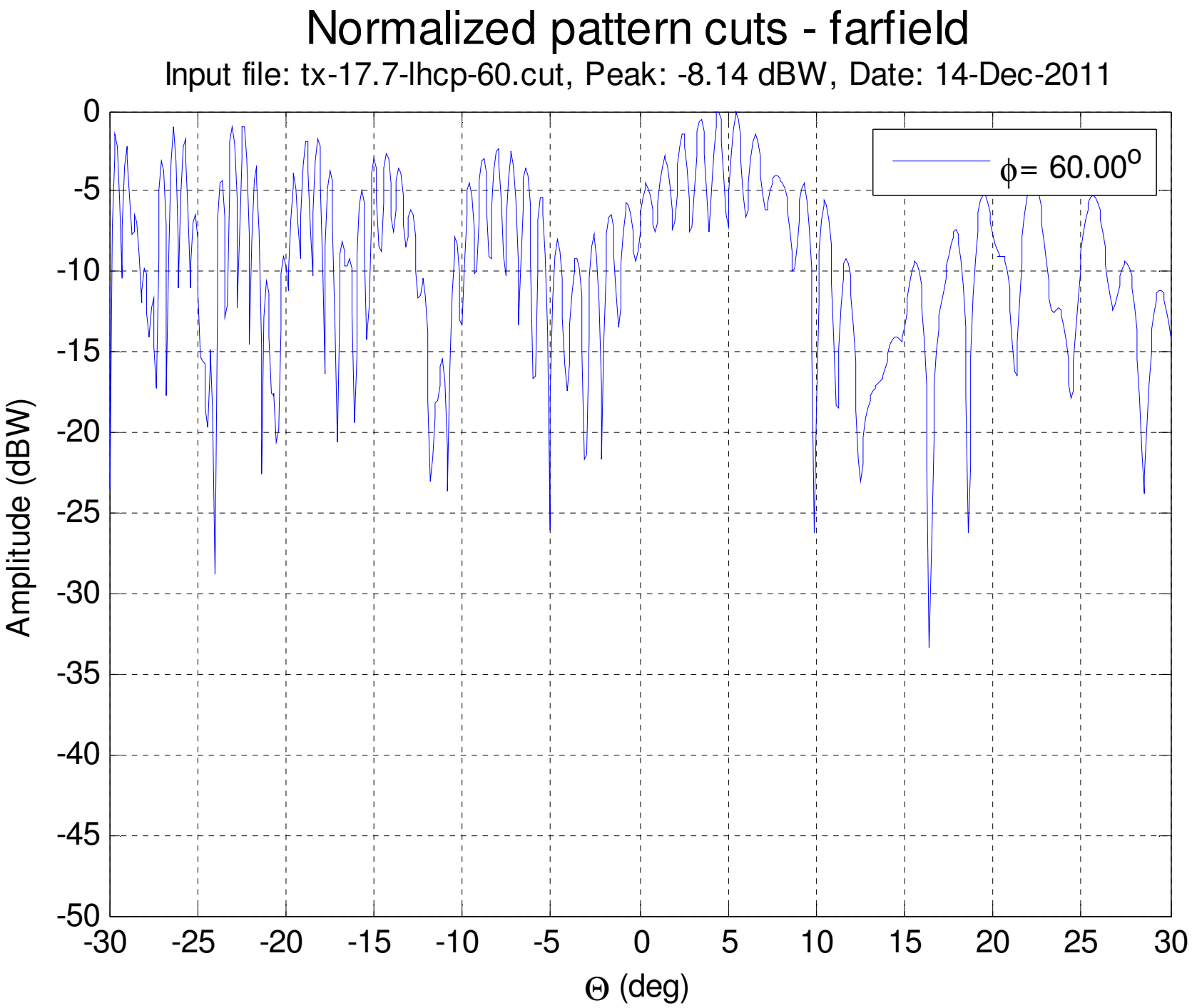

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -7.23 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -8.11 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -9.66 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -8.19 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -8.42 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -8.14 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

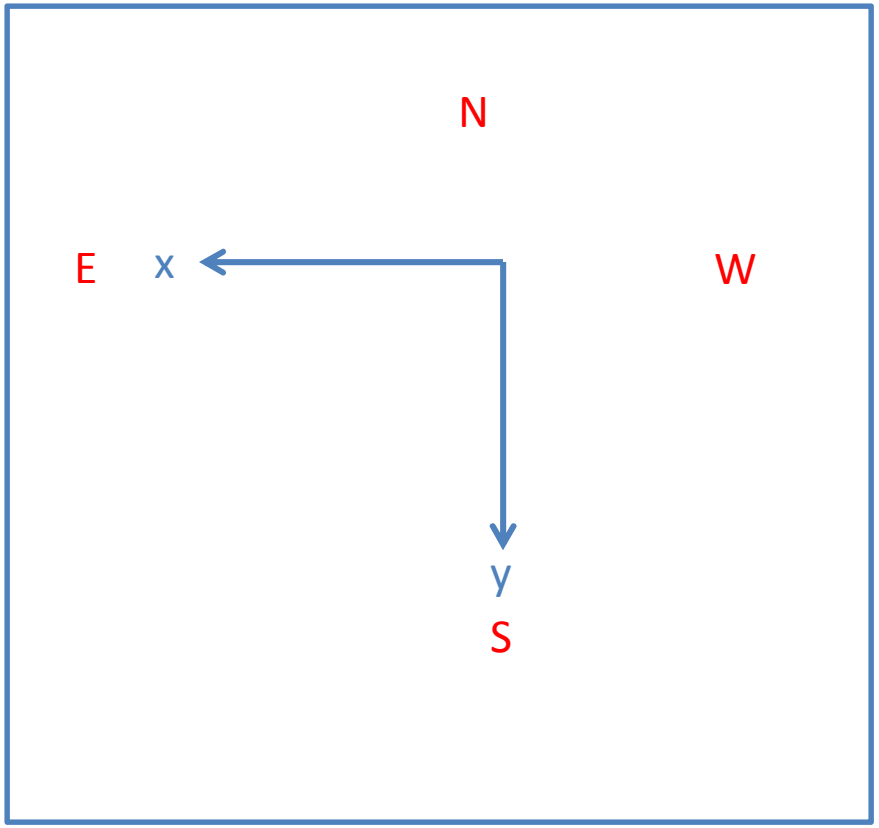
Updated: may15, 2012

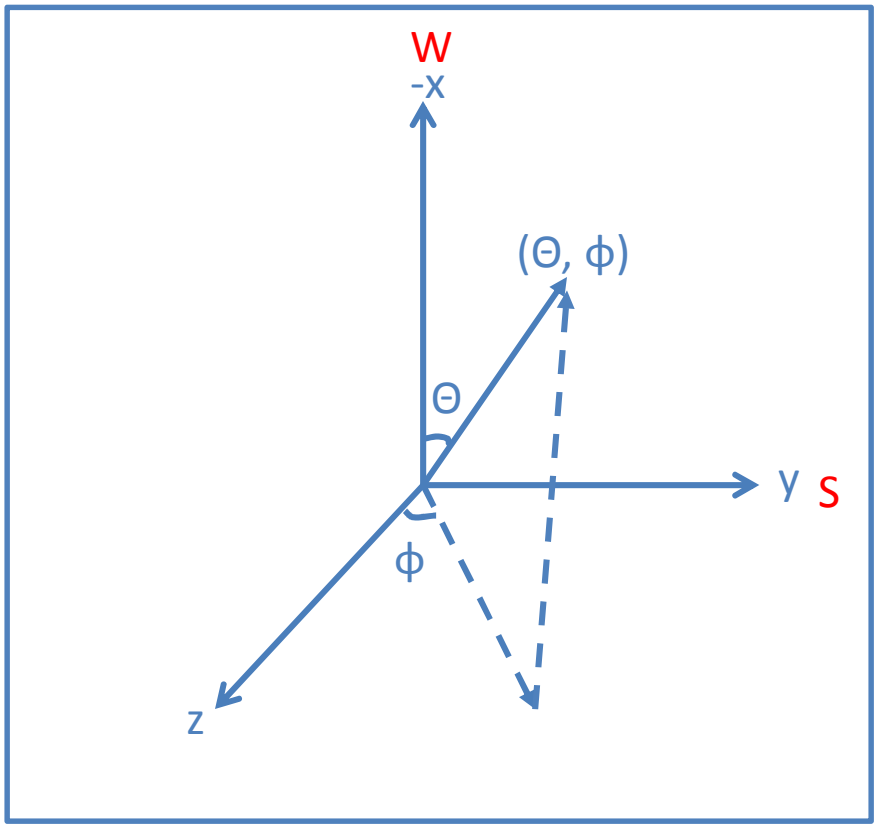
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 02

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

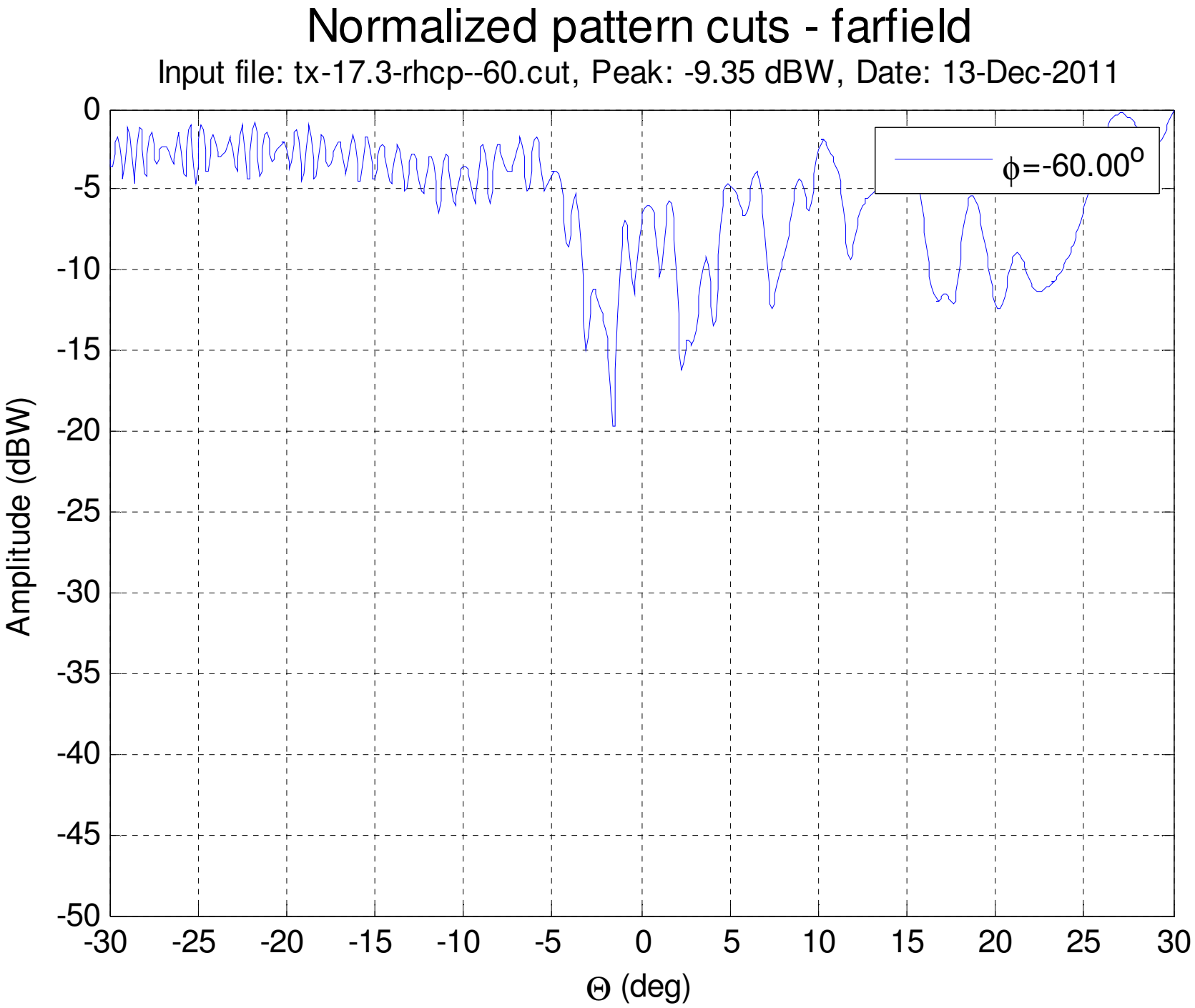


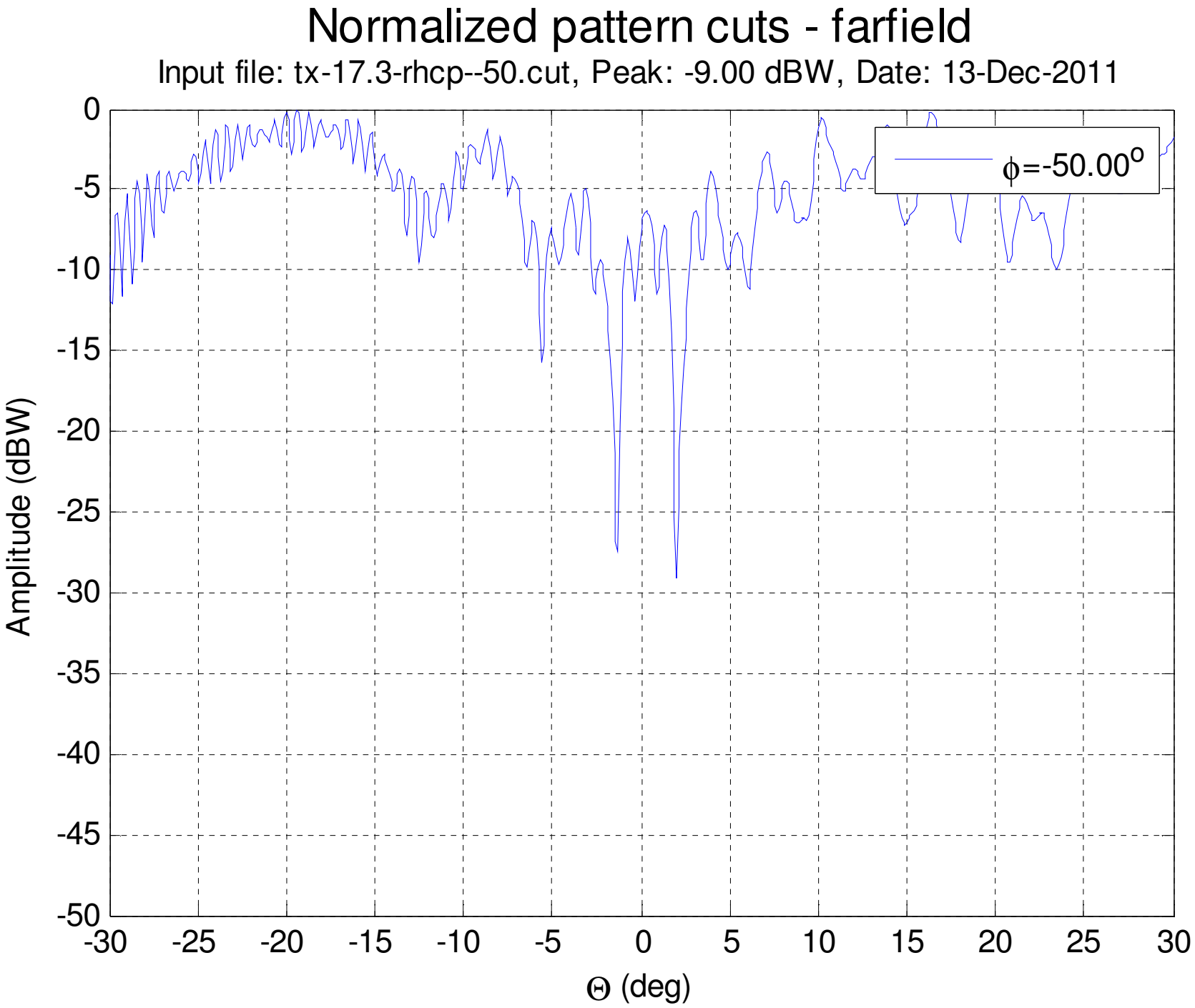


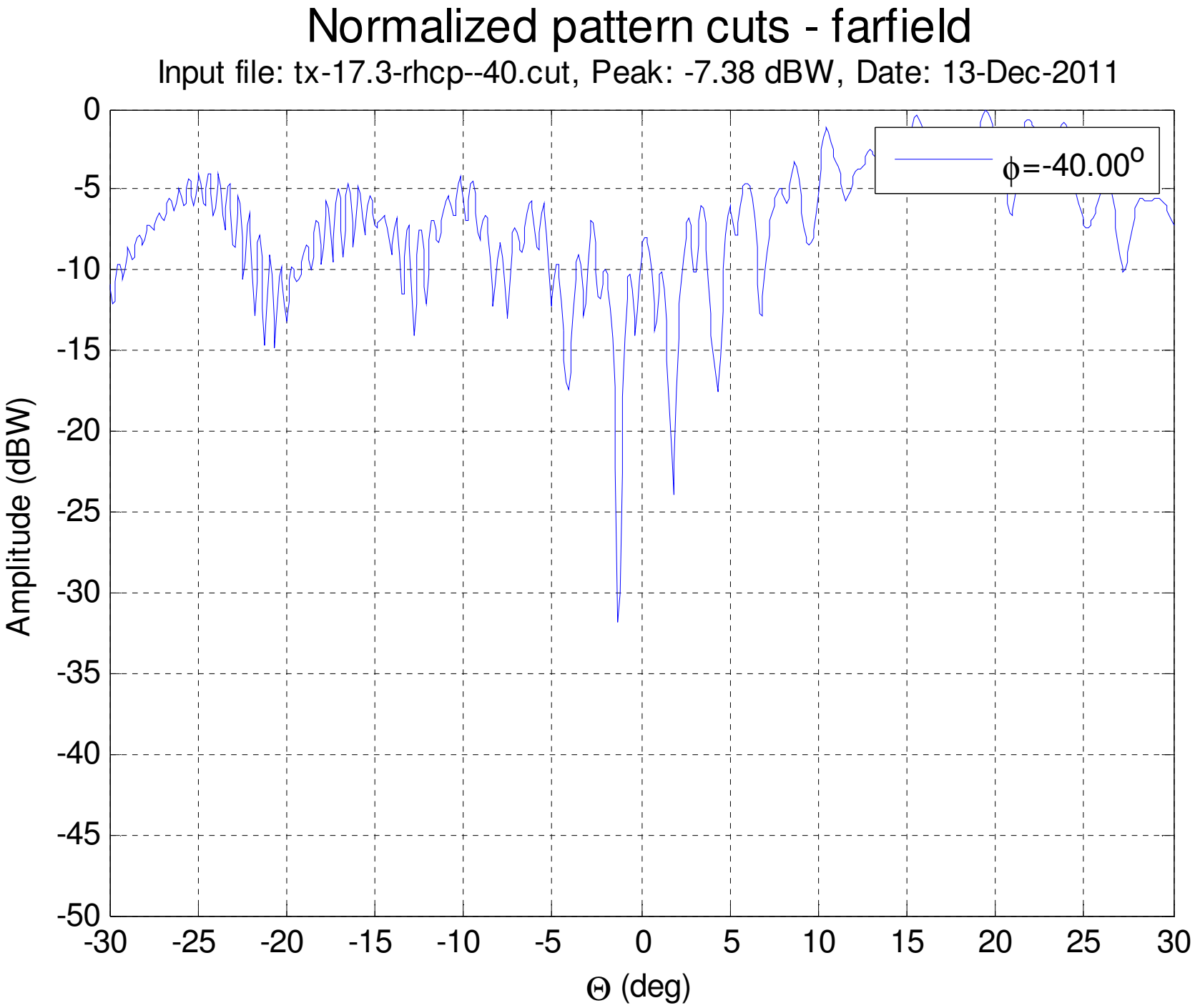
Spot Beam02, -X Axis Plots

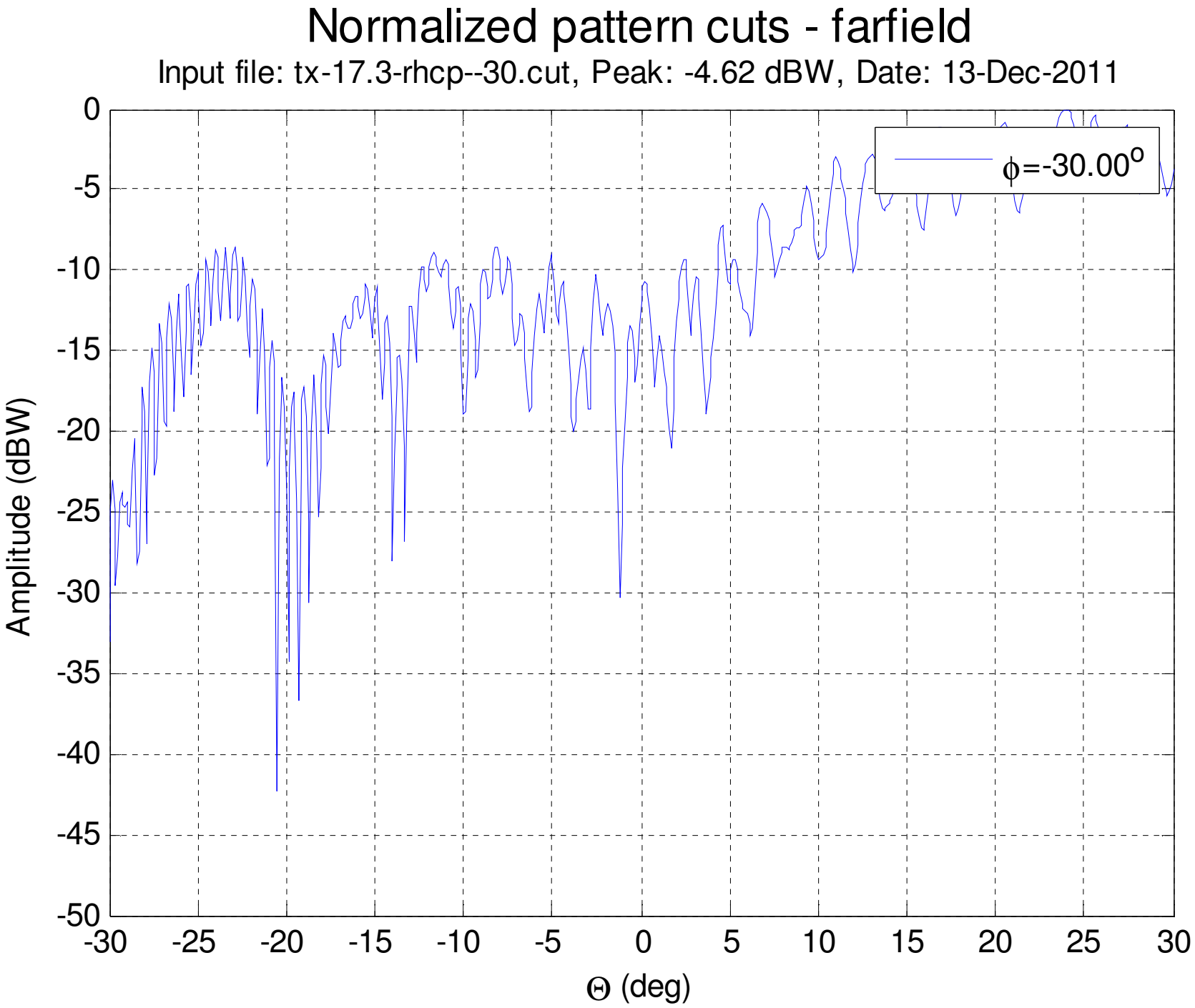
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

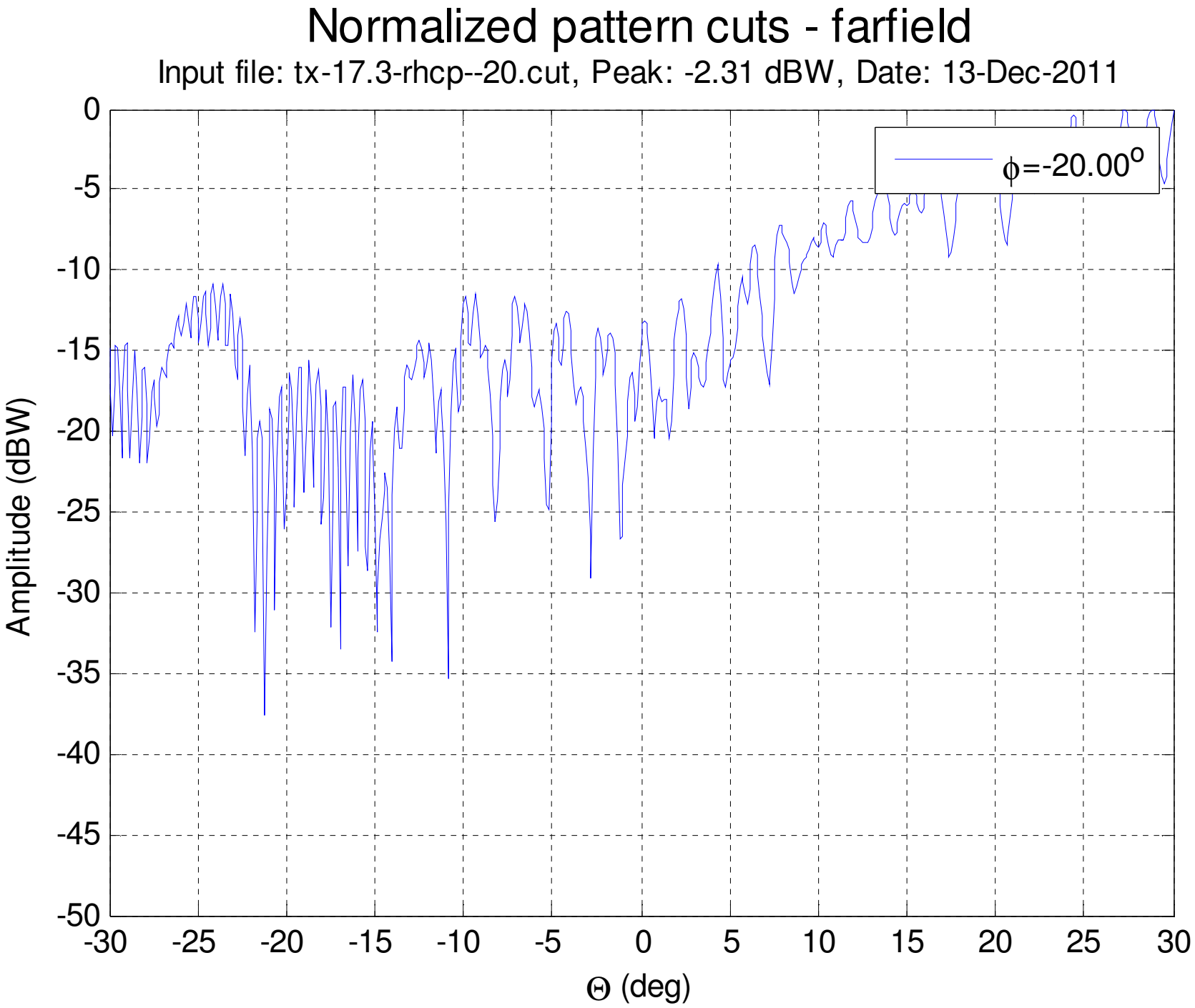
RHCP at 17.3 GHz

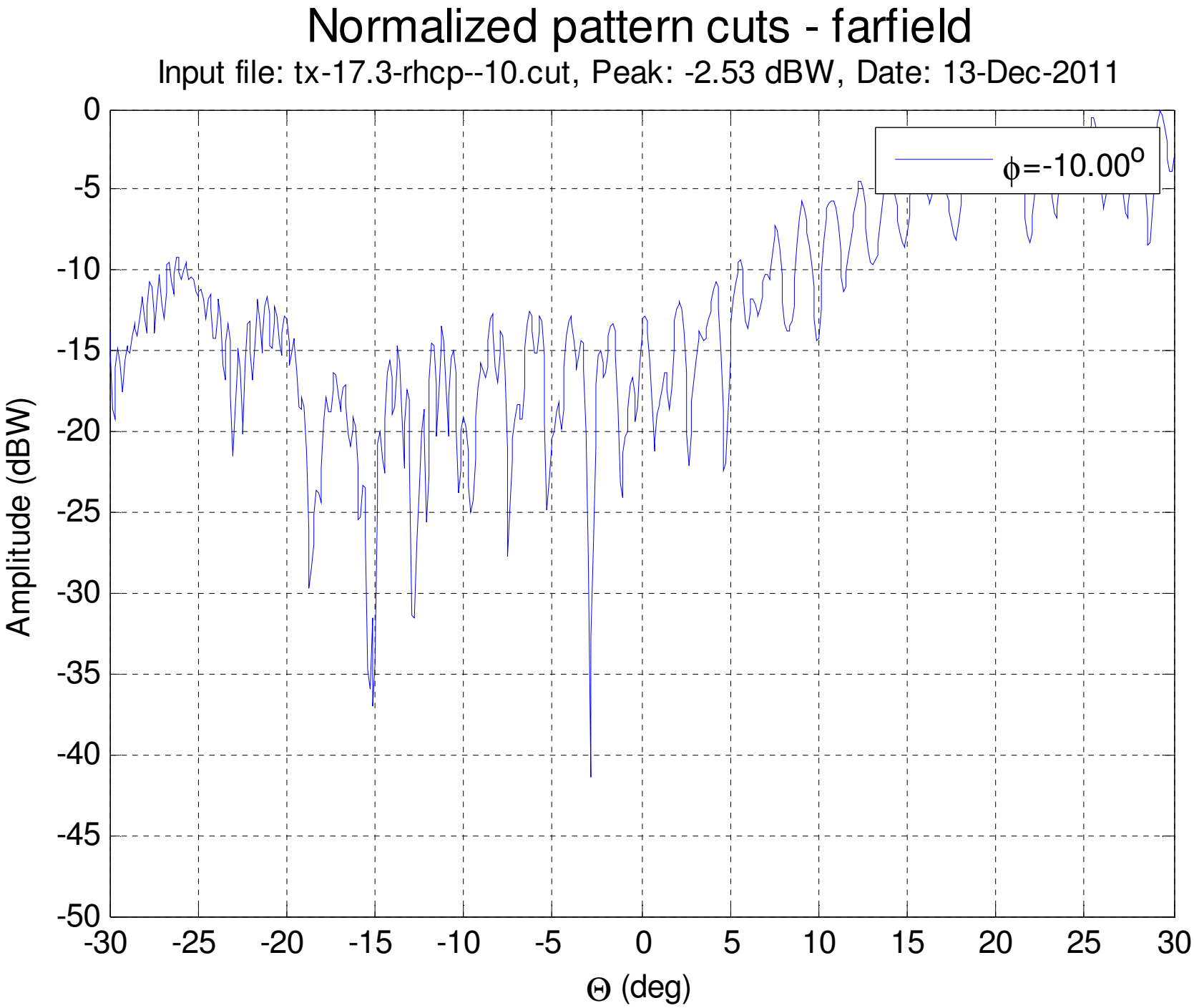

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -9.35 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

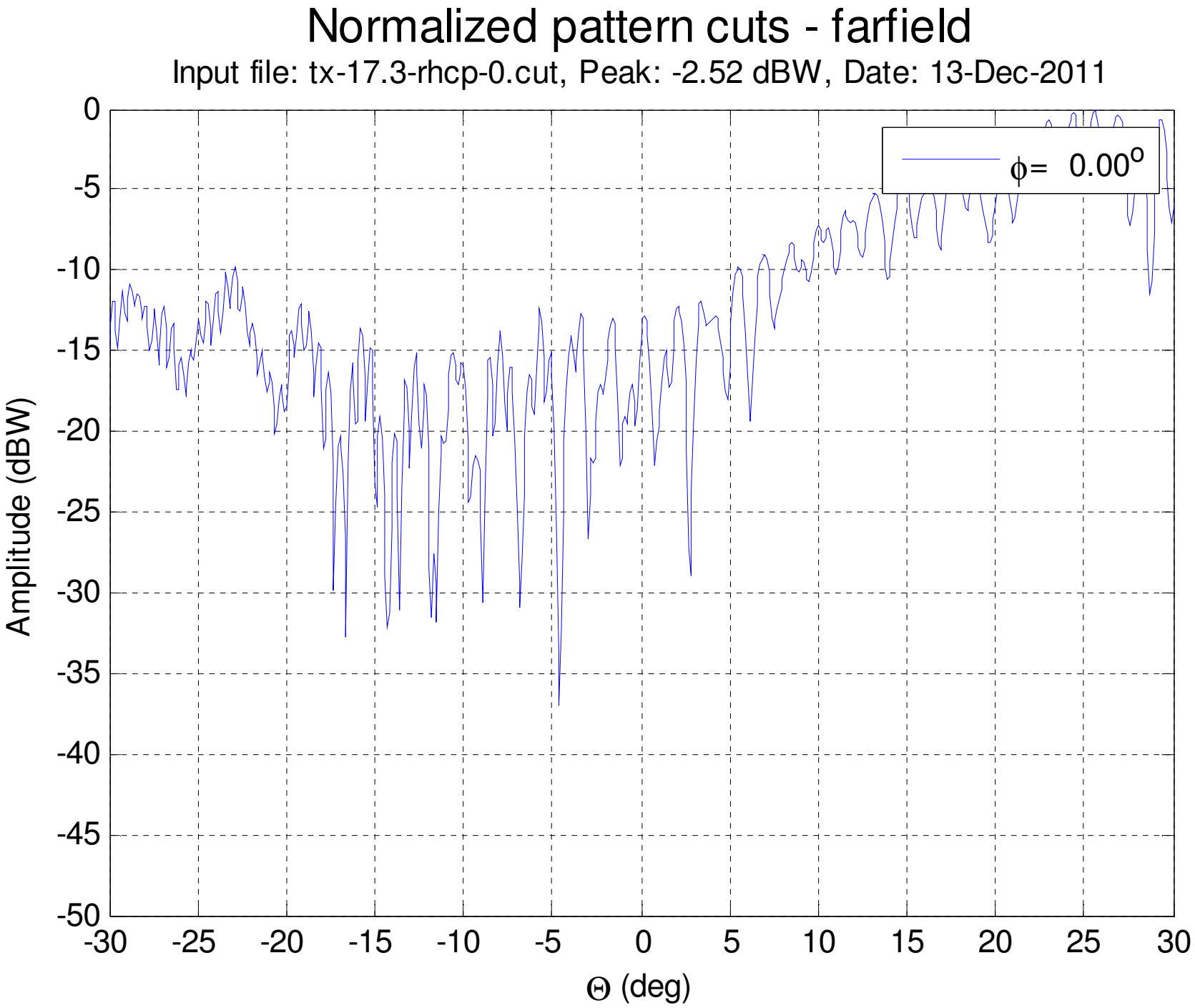

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -9.00 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

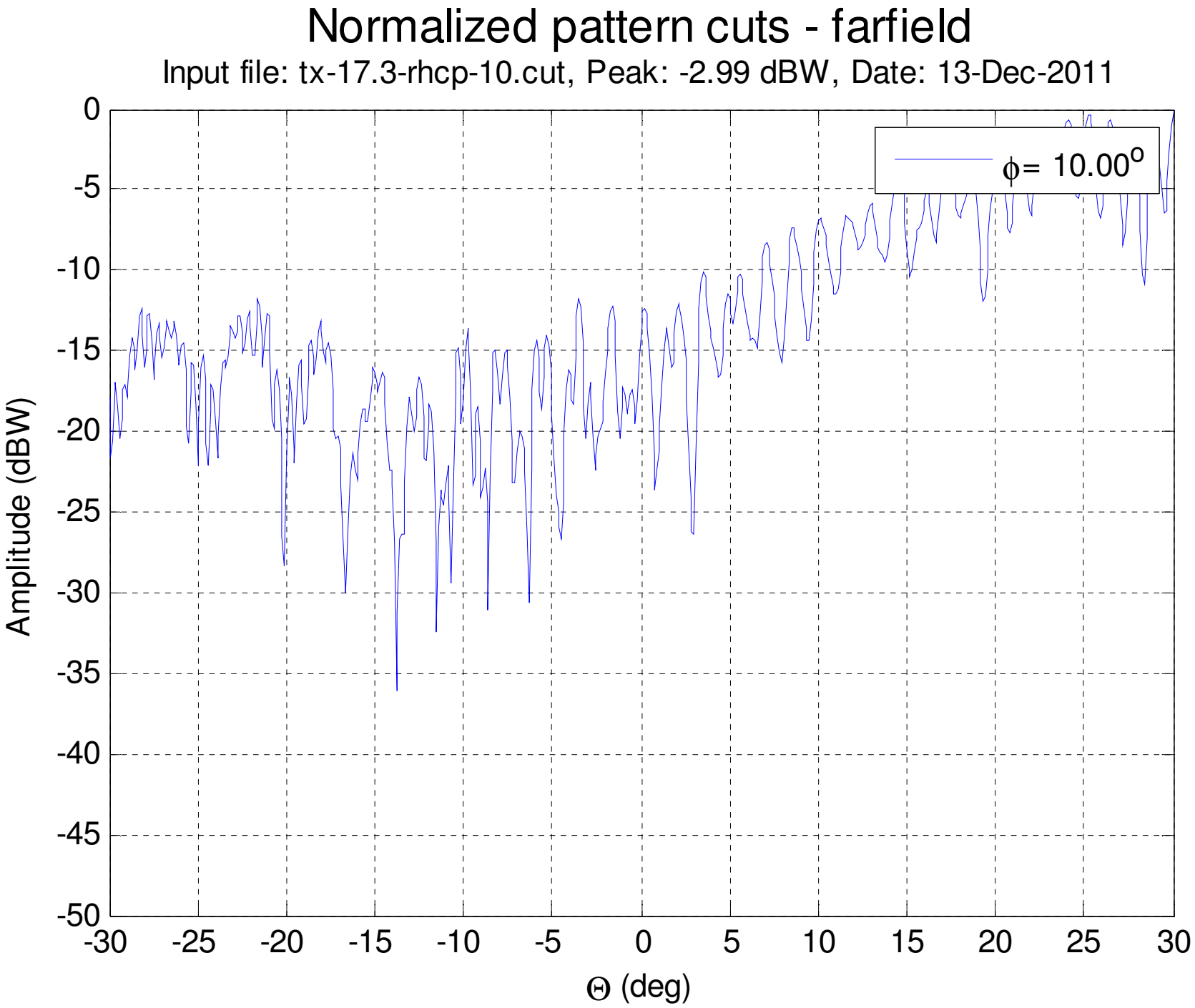

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -7.38 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

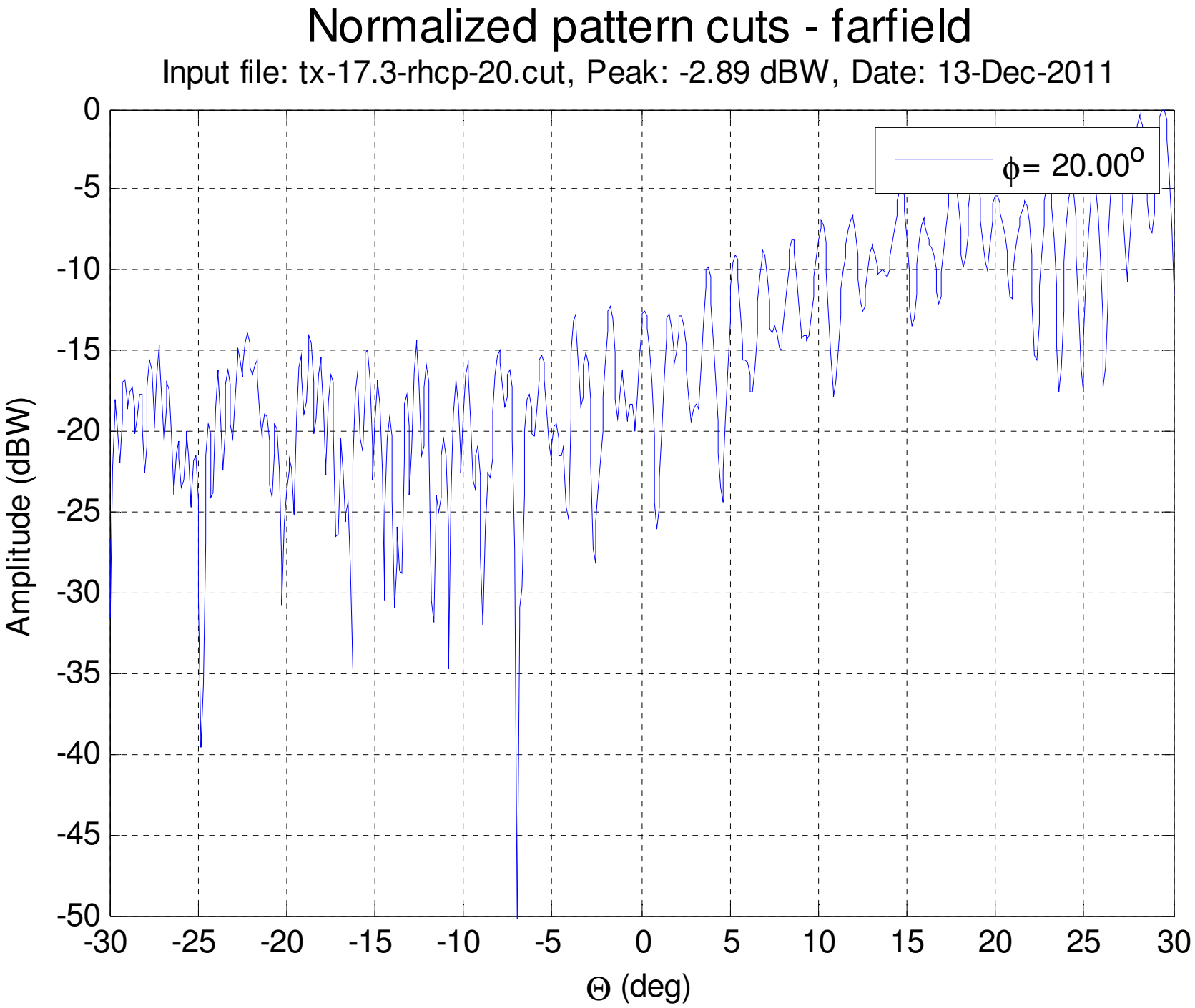

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -4.62 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

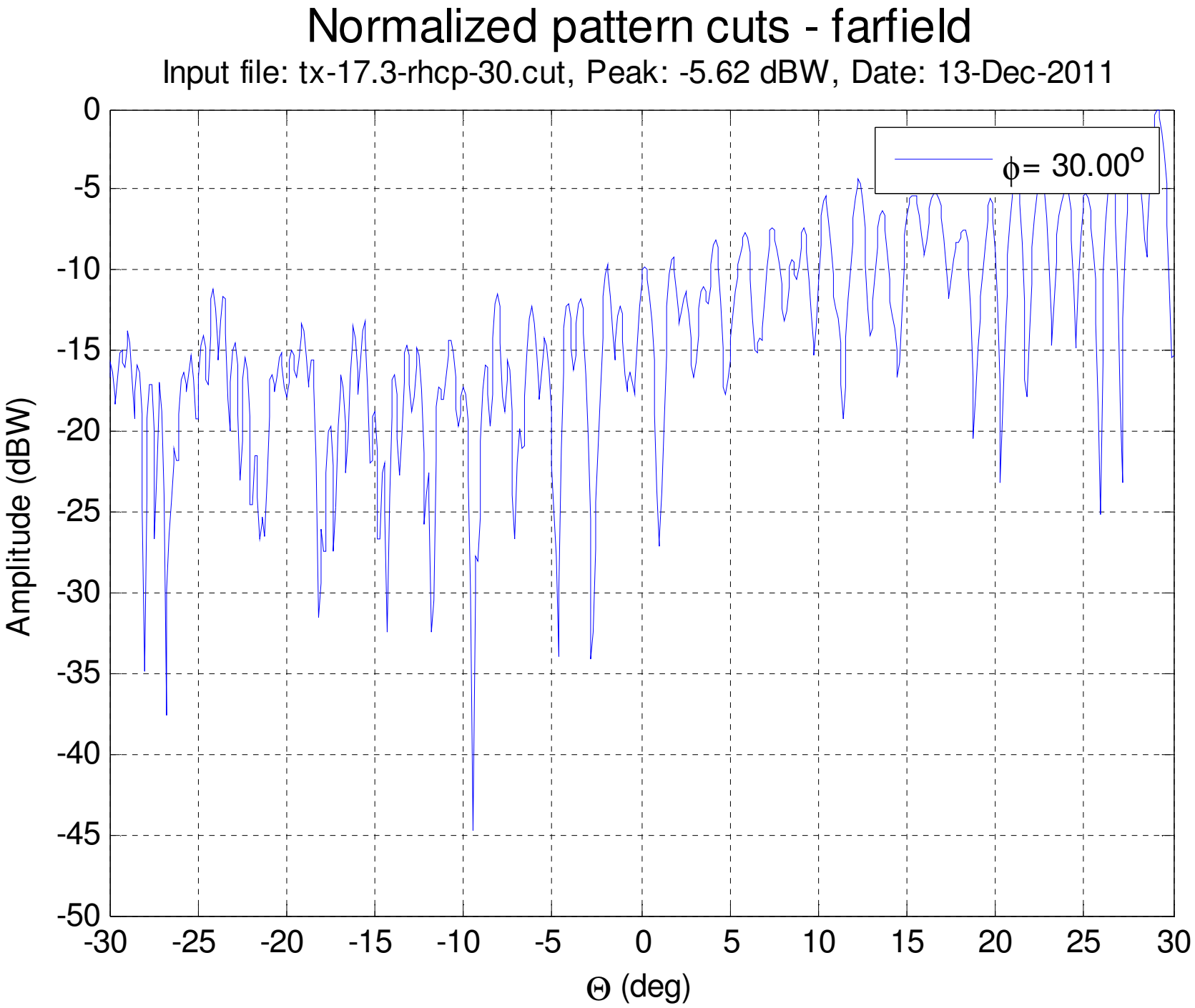

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -2.31 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

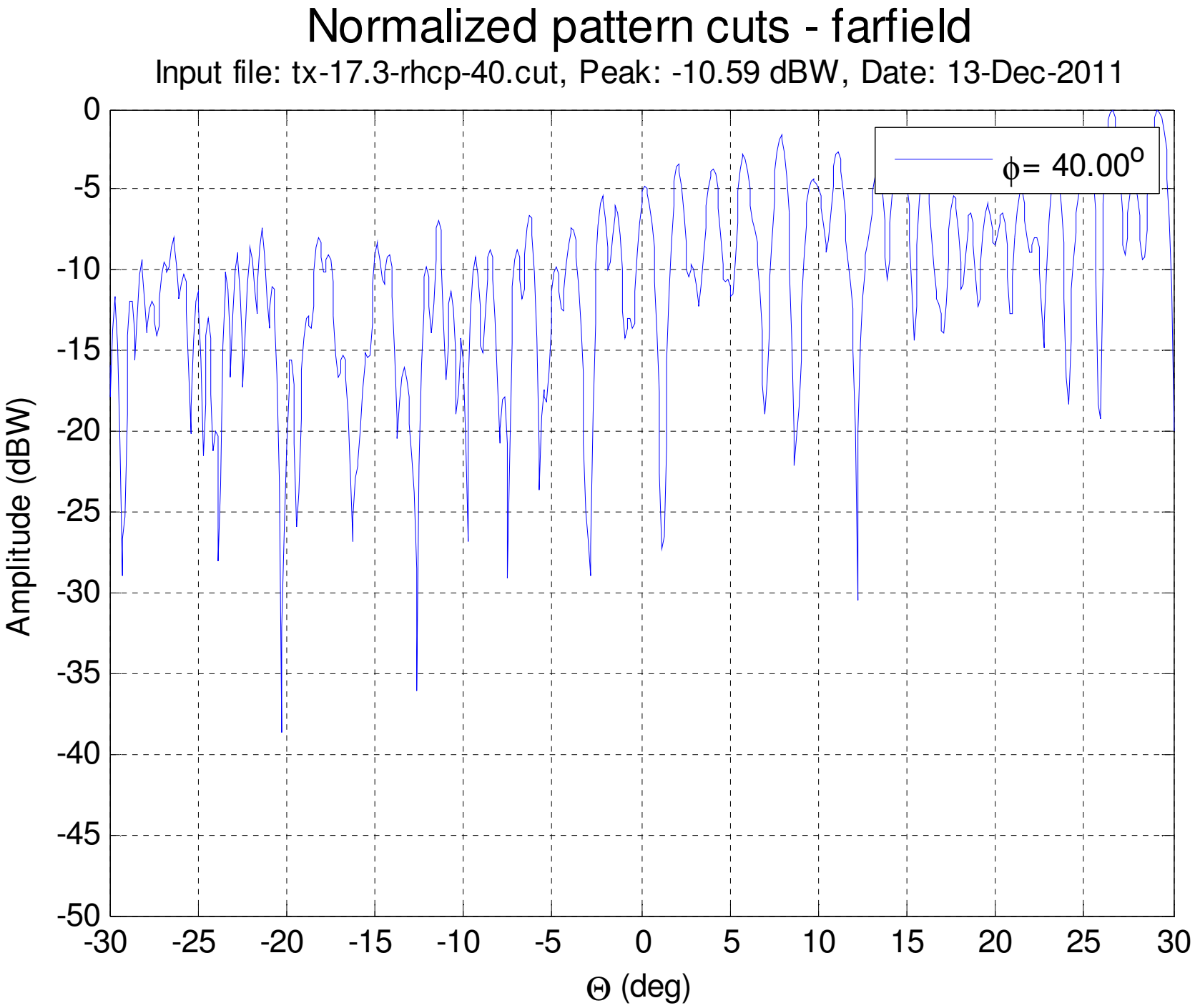

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -2.53 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

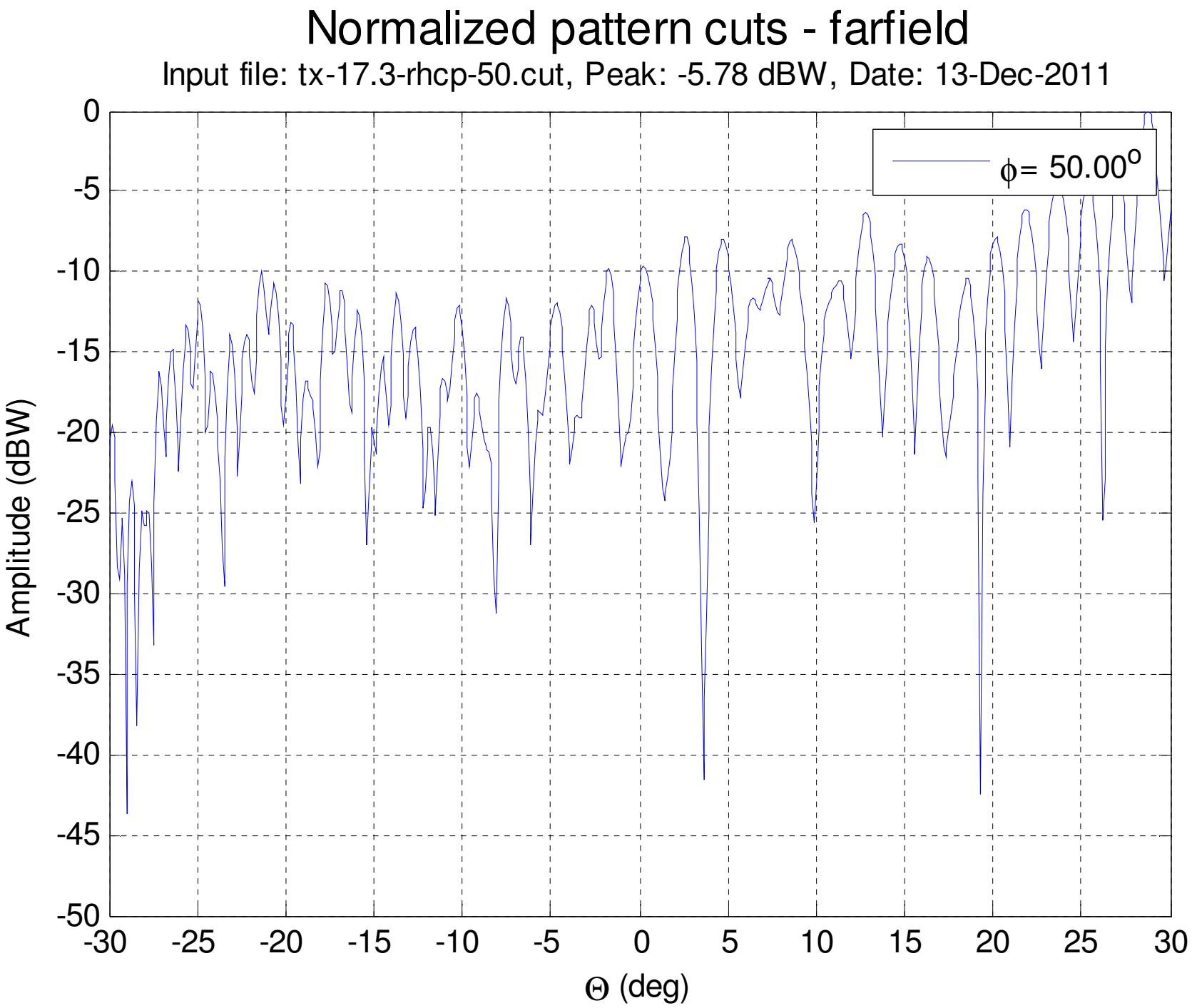

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -2.52 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

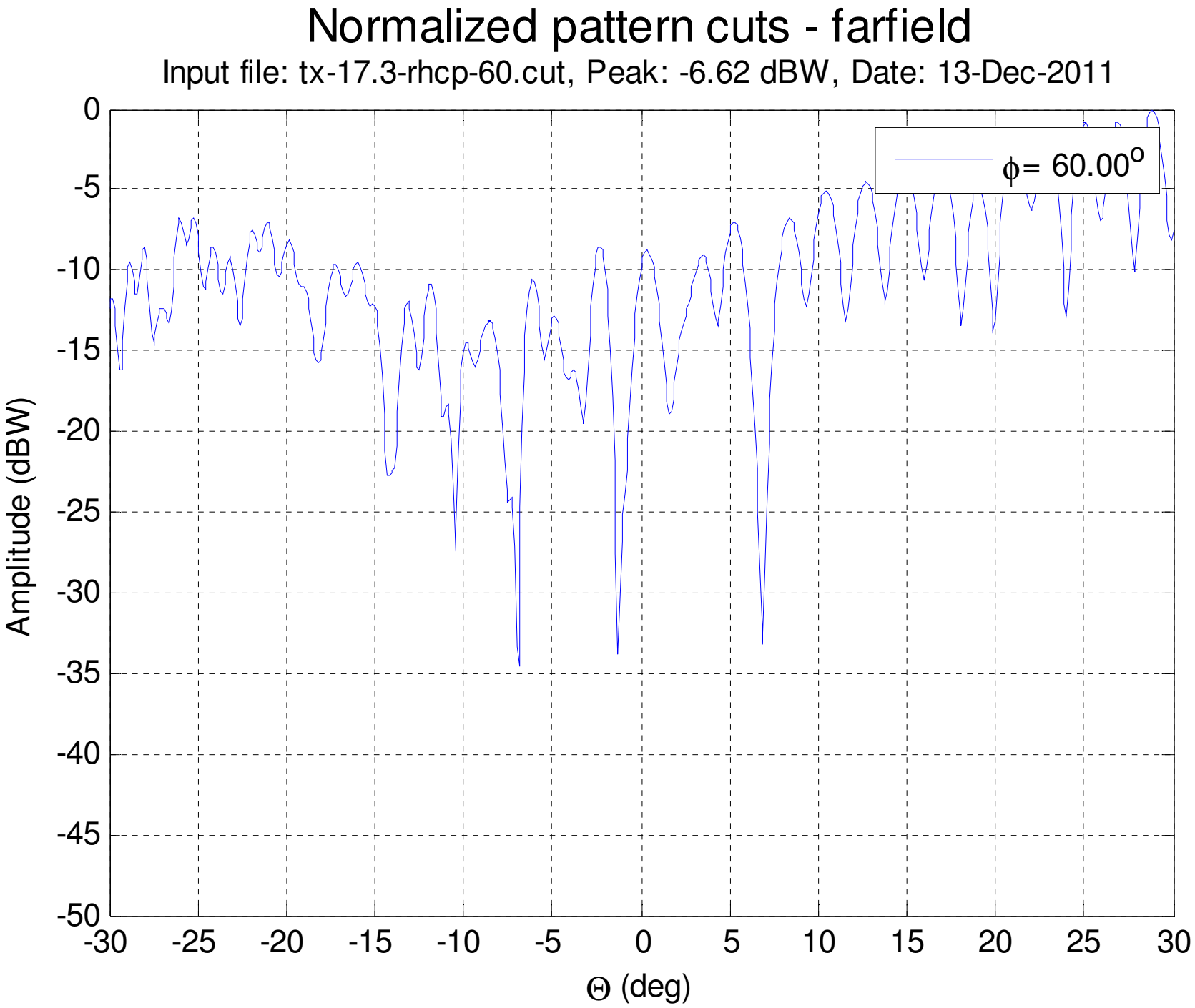

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -2.99 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -2.89 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

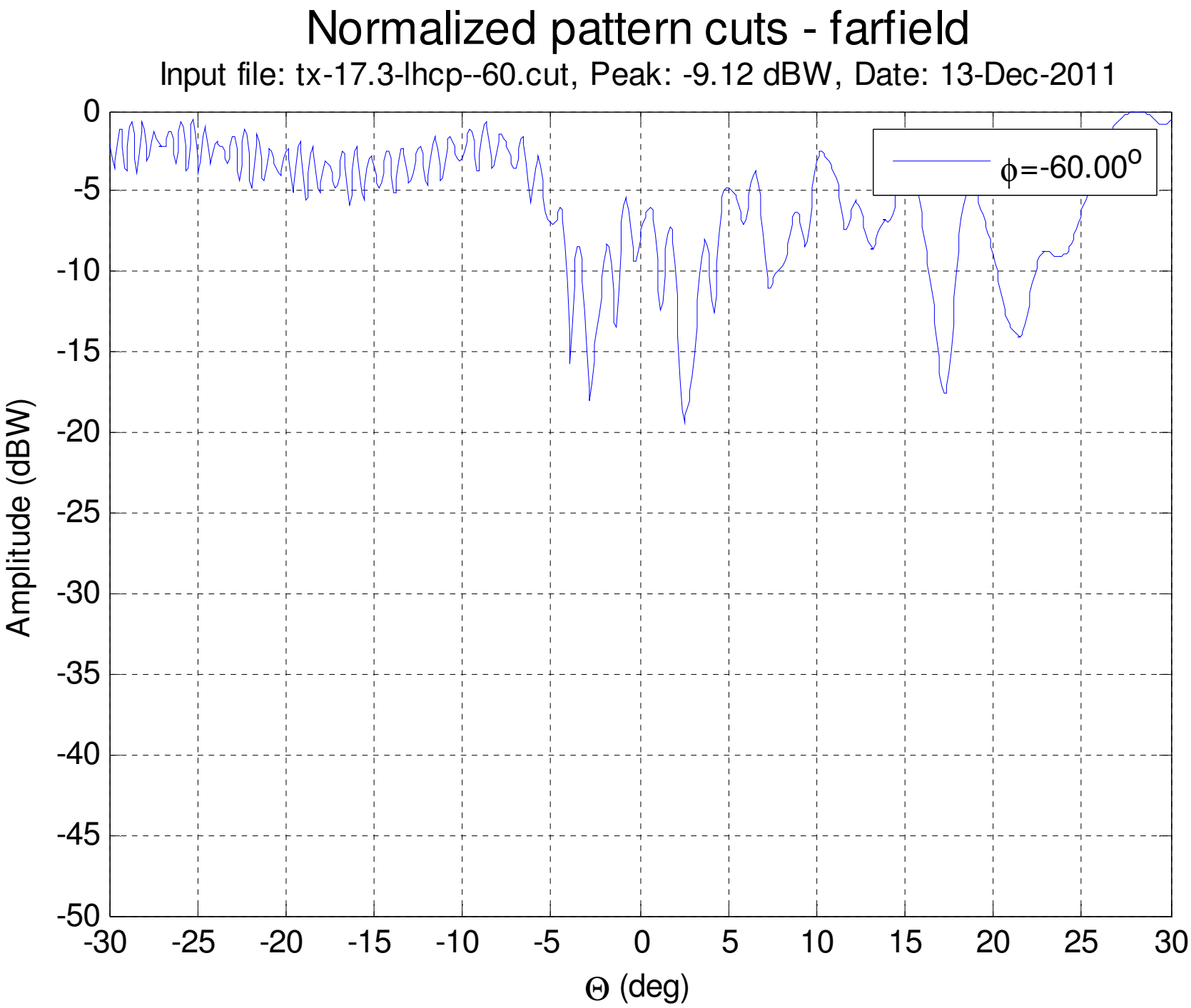

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -5.62 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

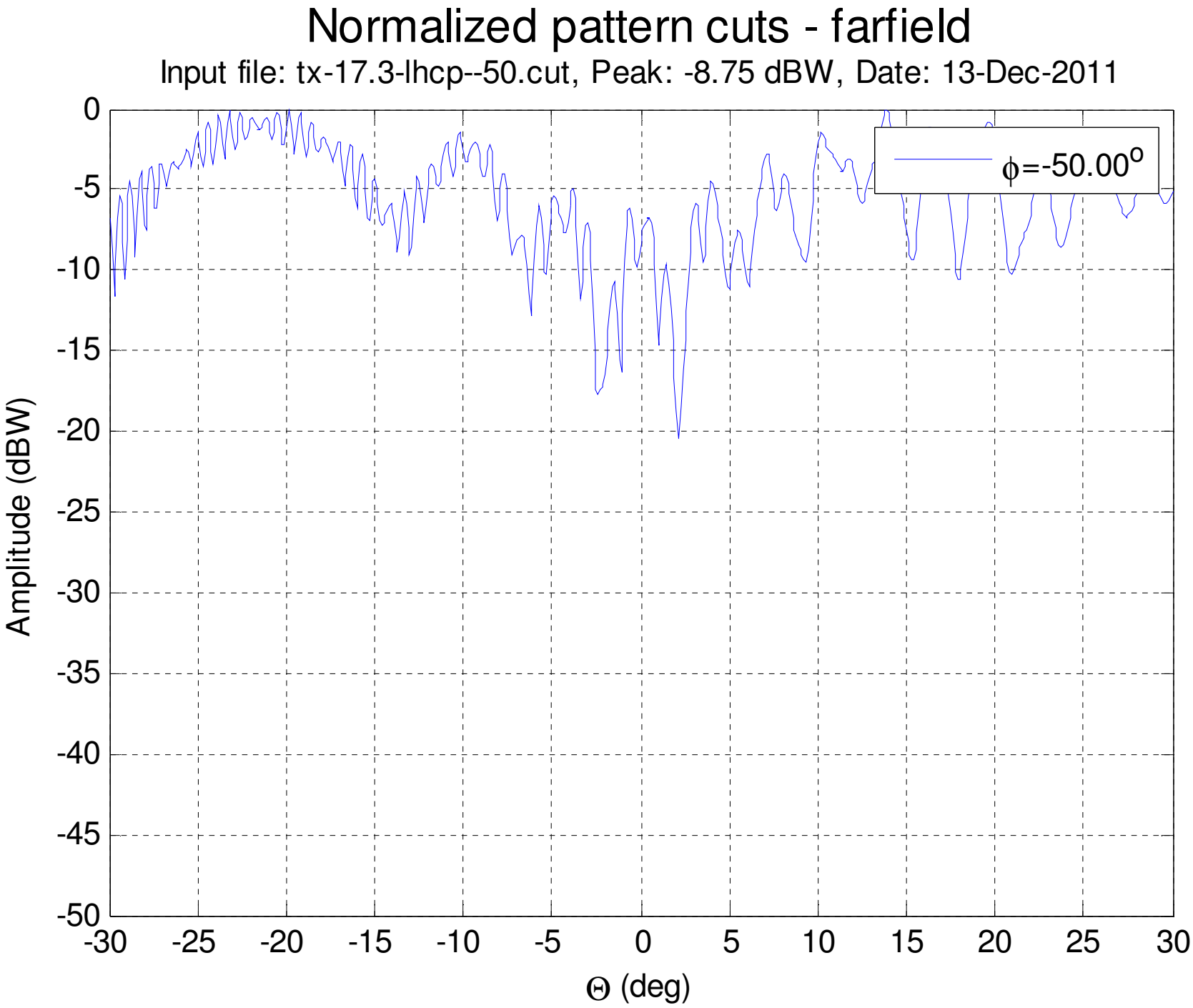

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -10.59 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

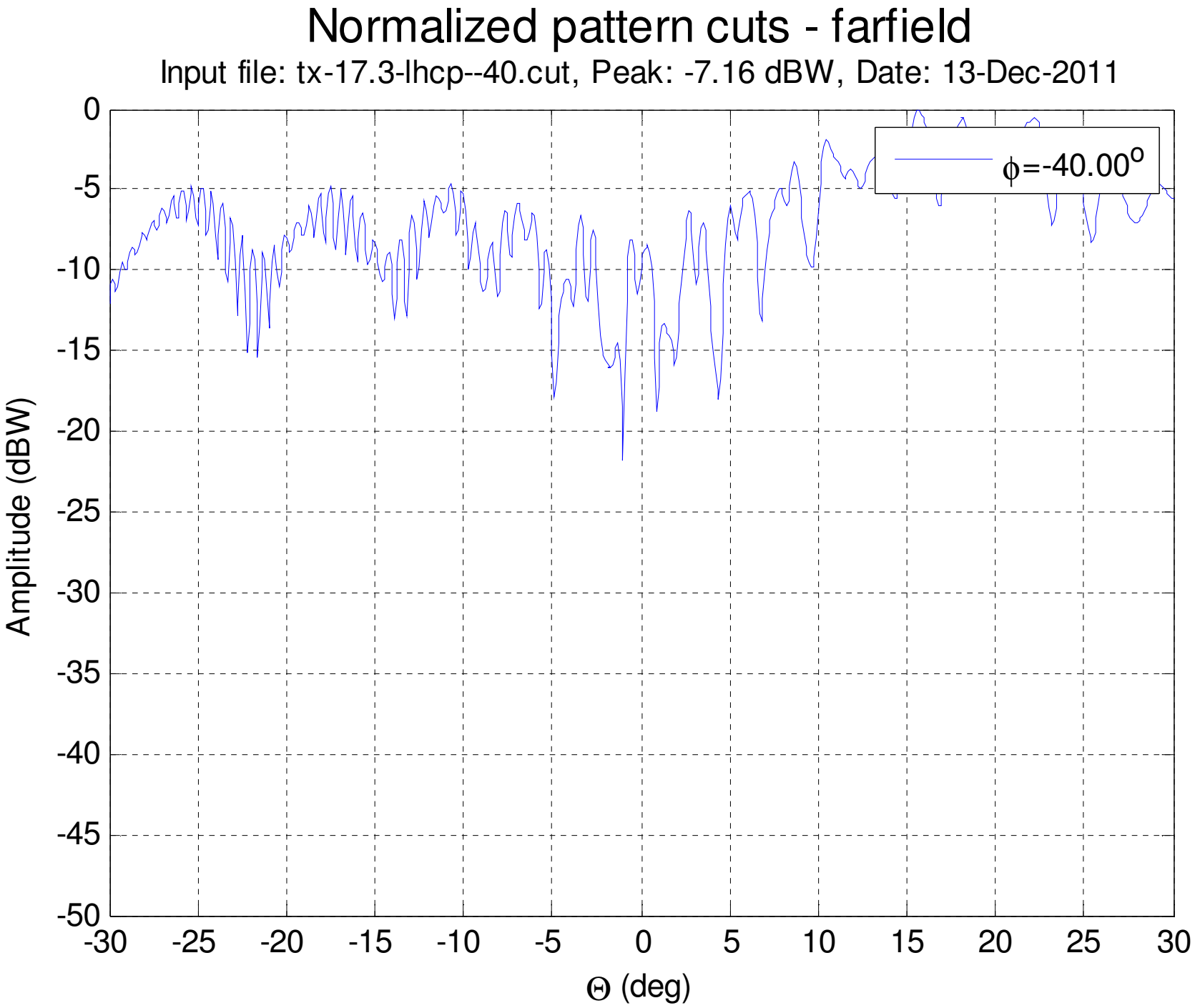

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -5.78 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

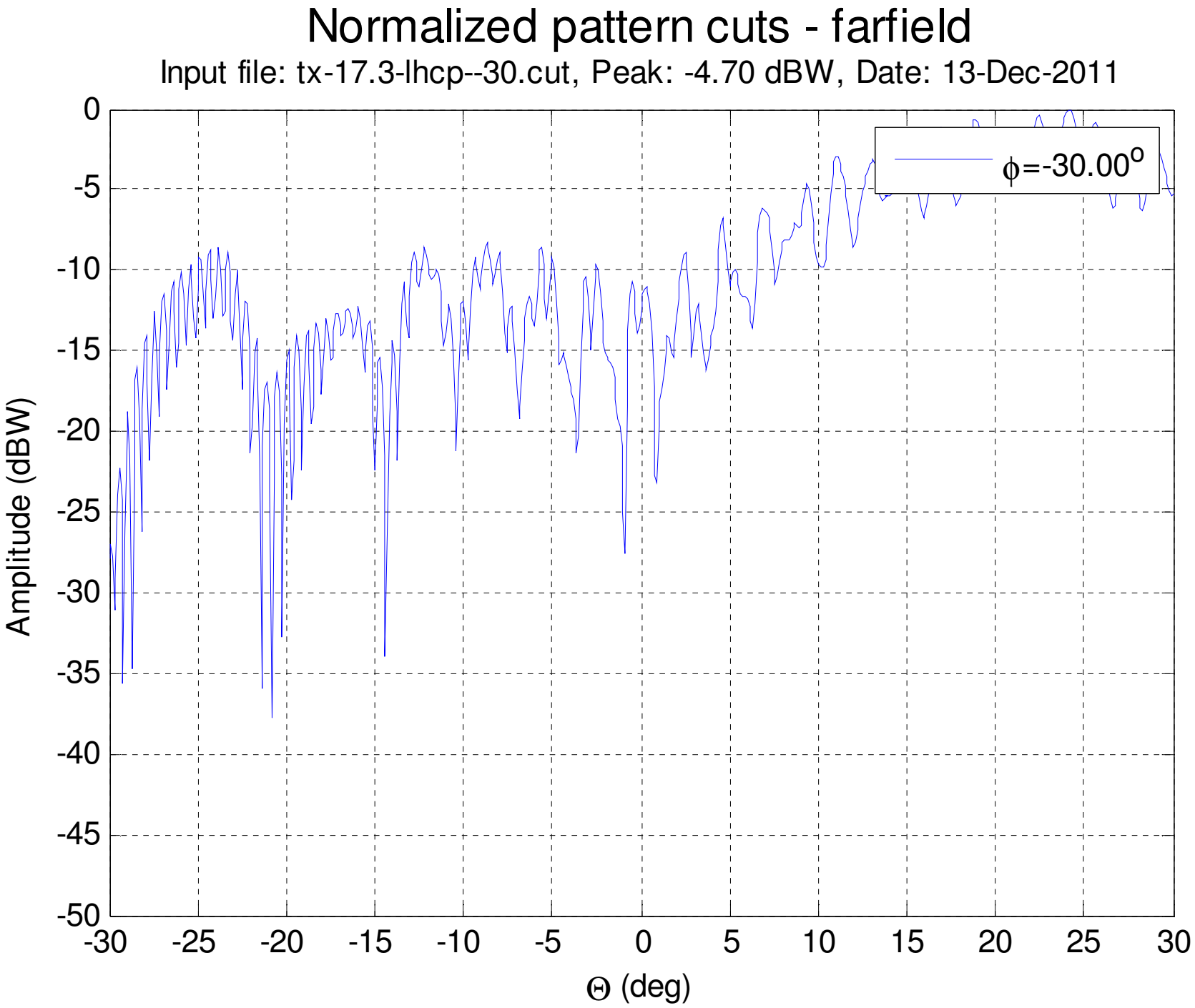

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -6.62 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

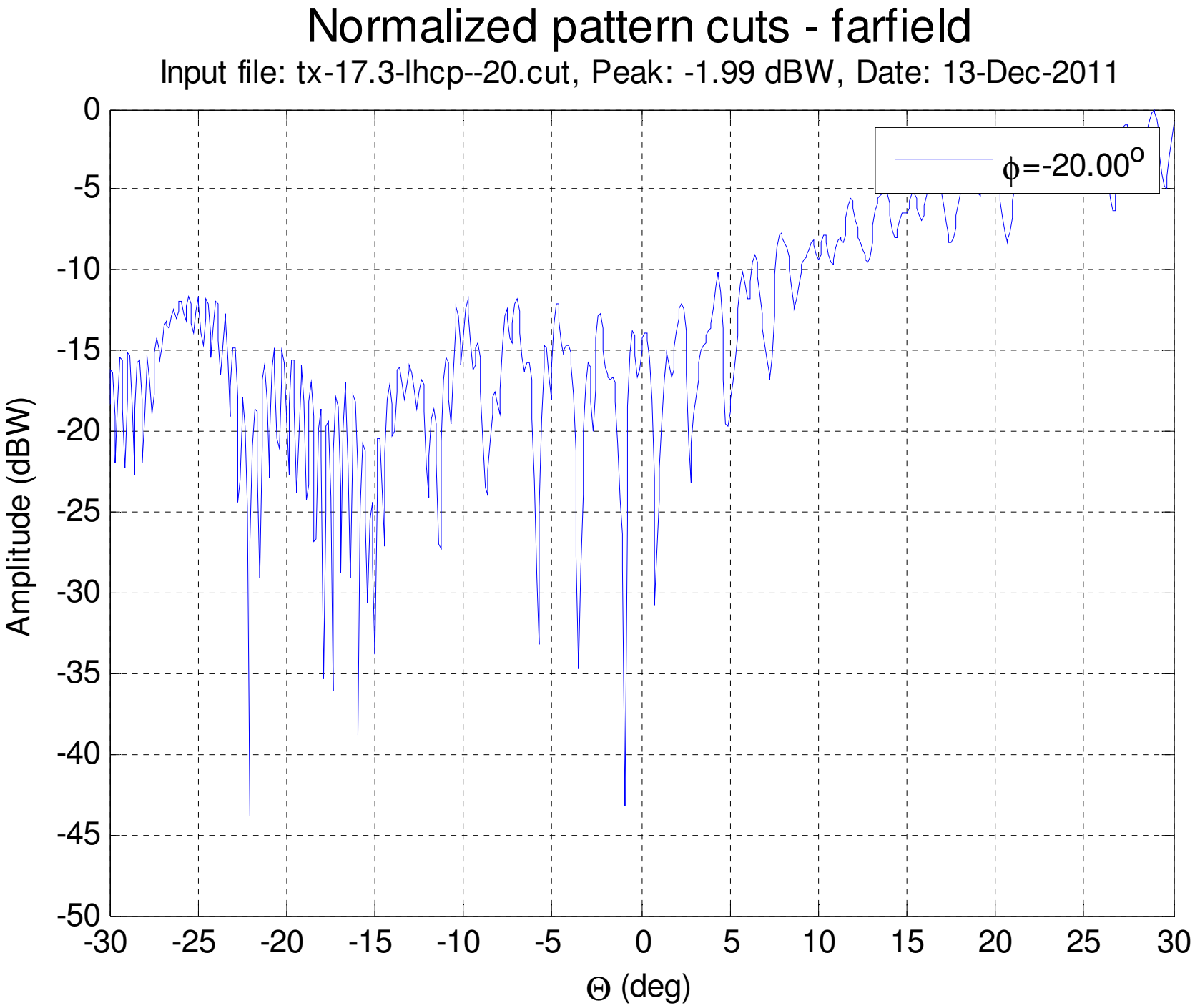
LHCP at 17.3 GHz

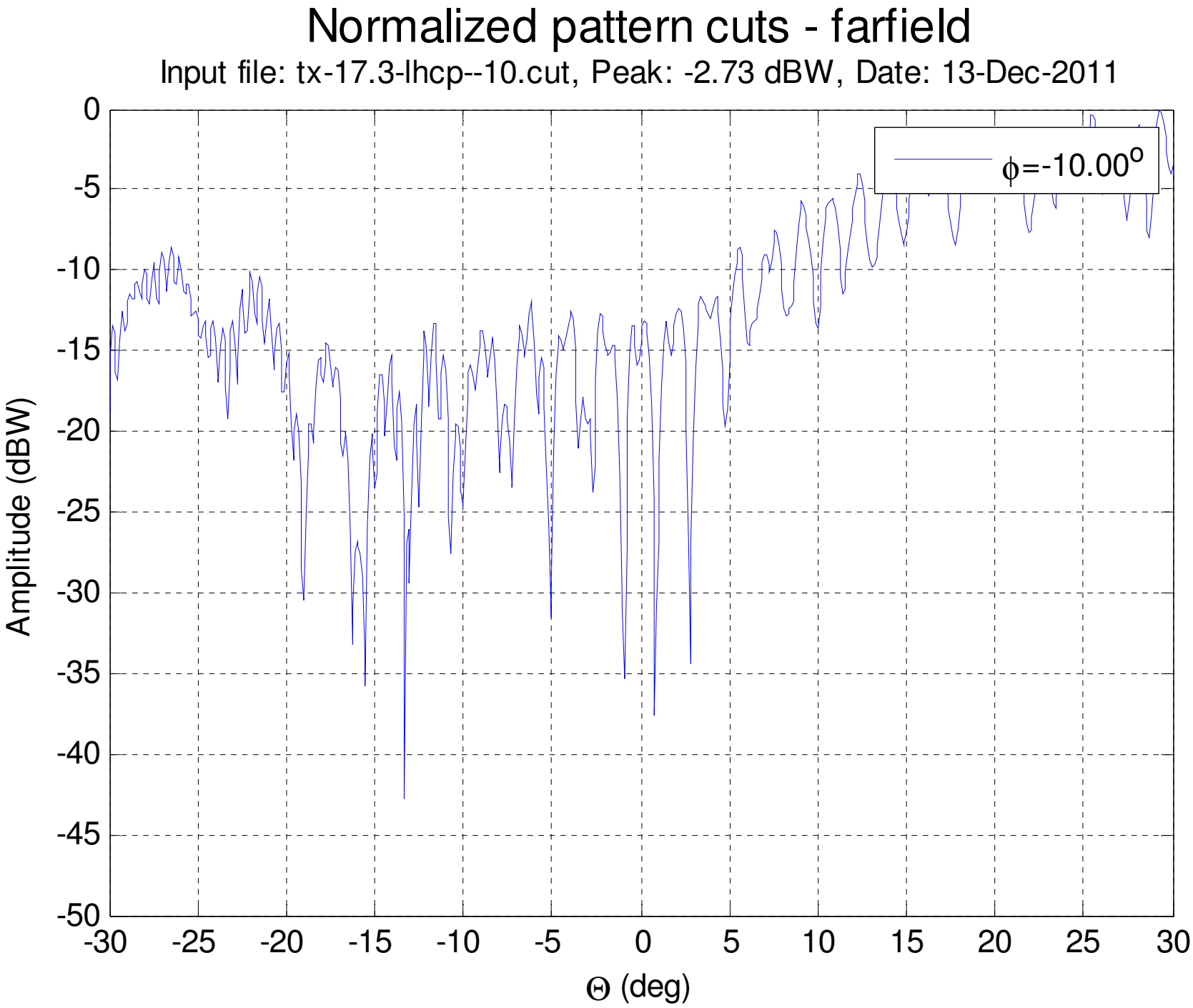

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -9.12 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

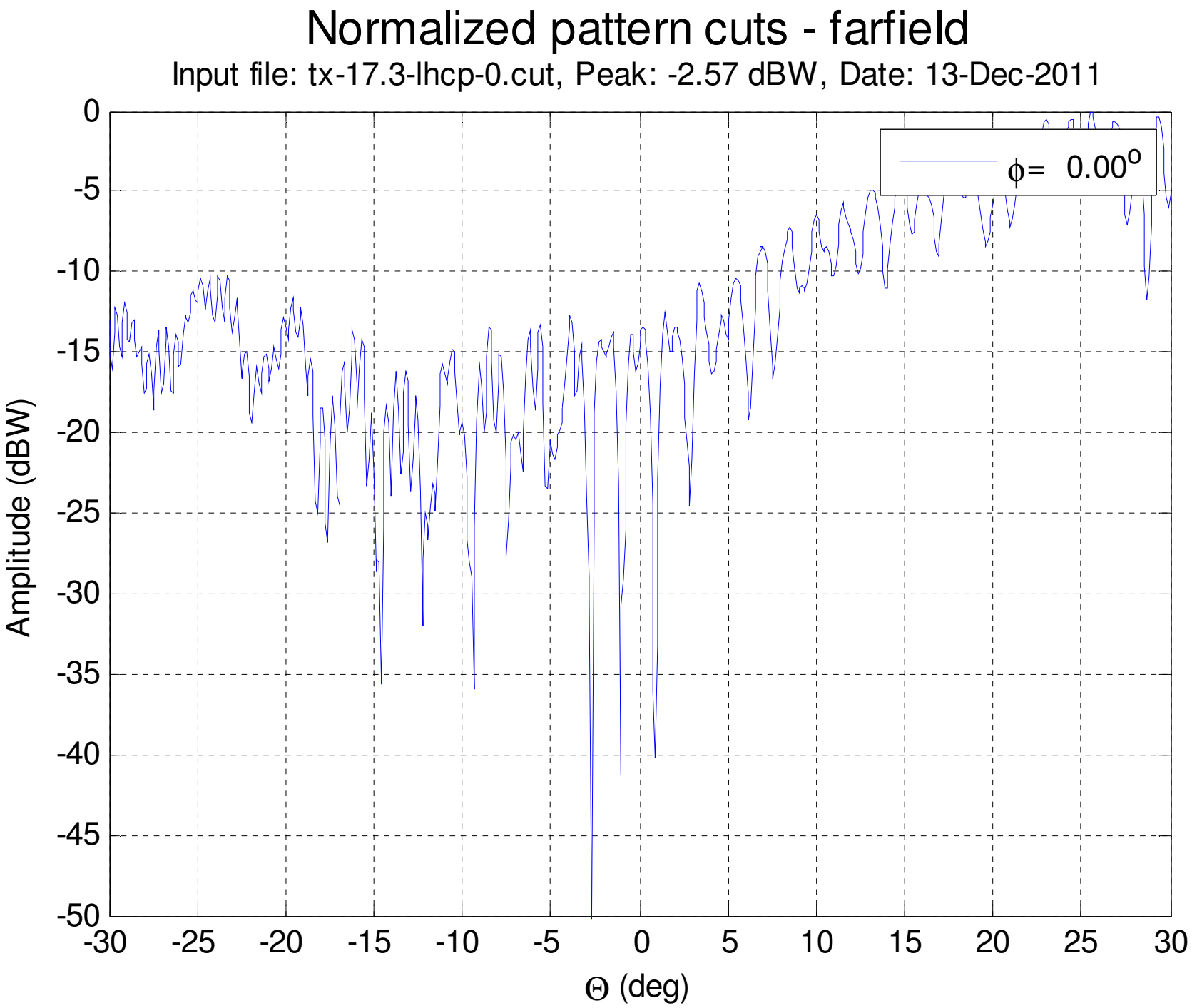

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -8.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

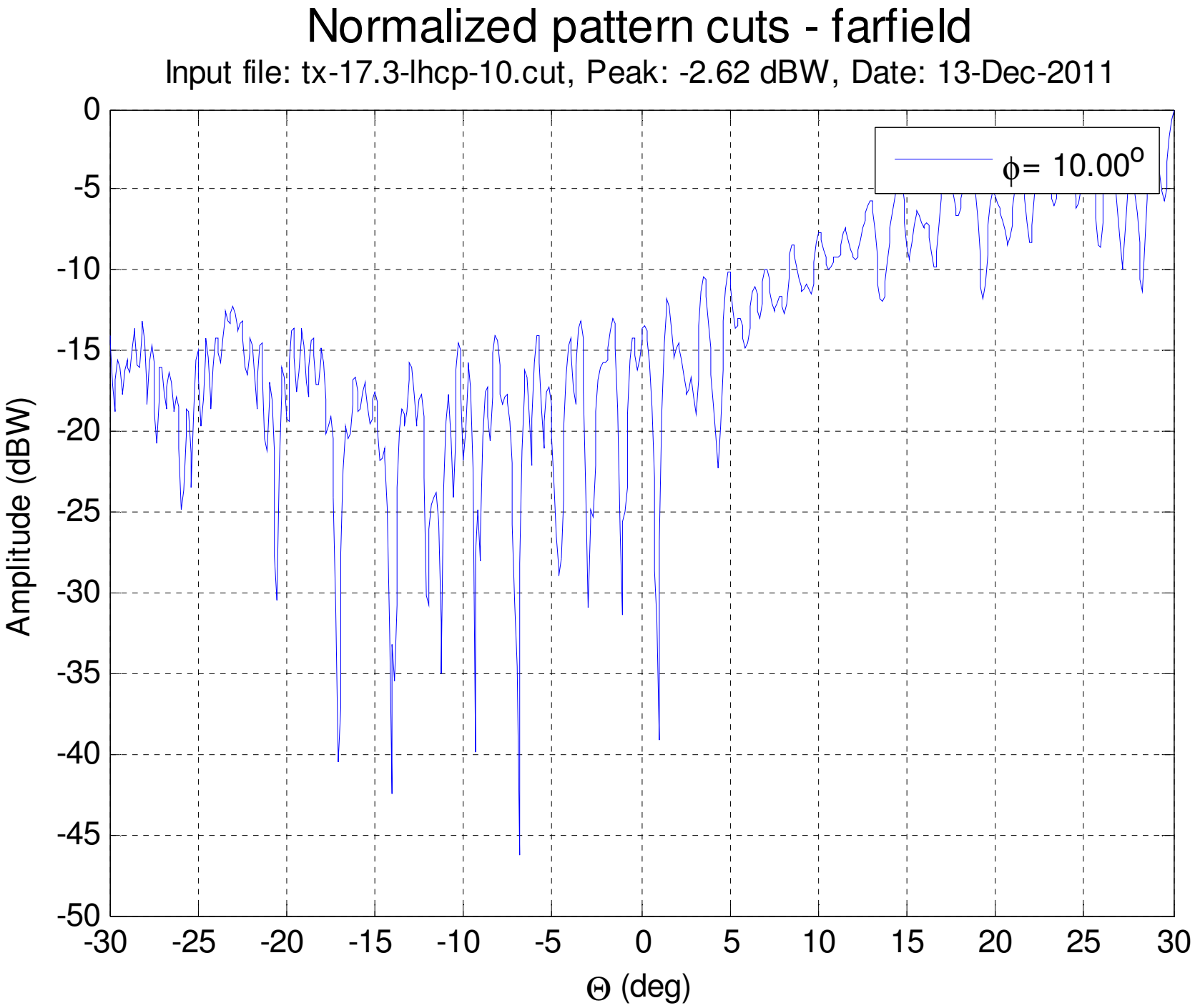

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -7.16 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

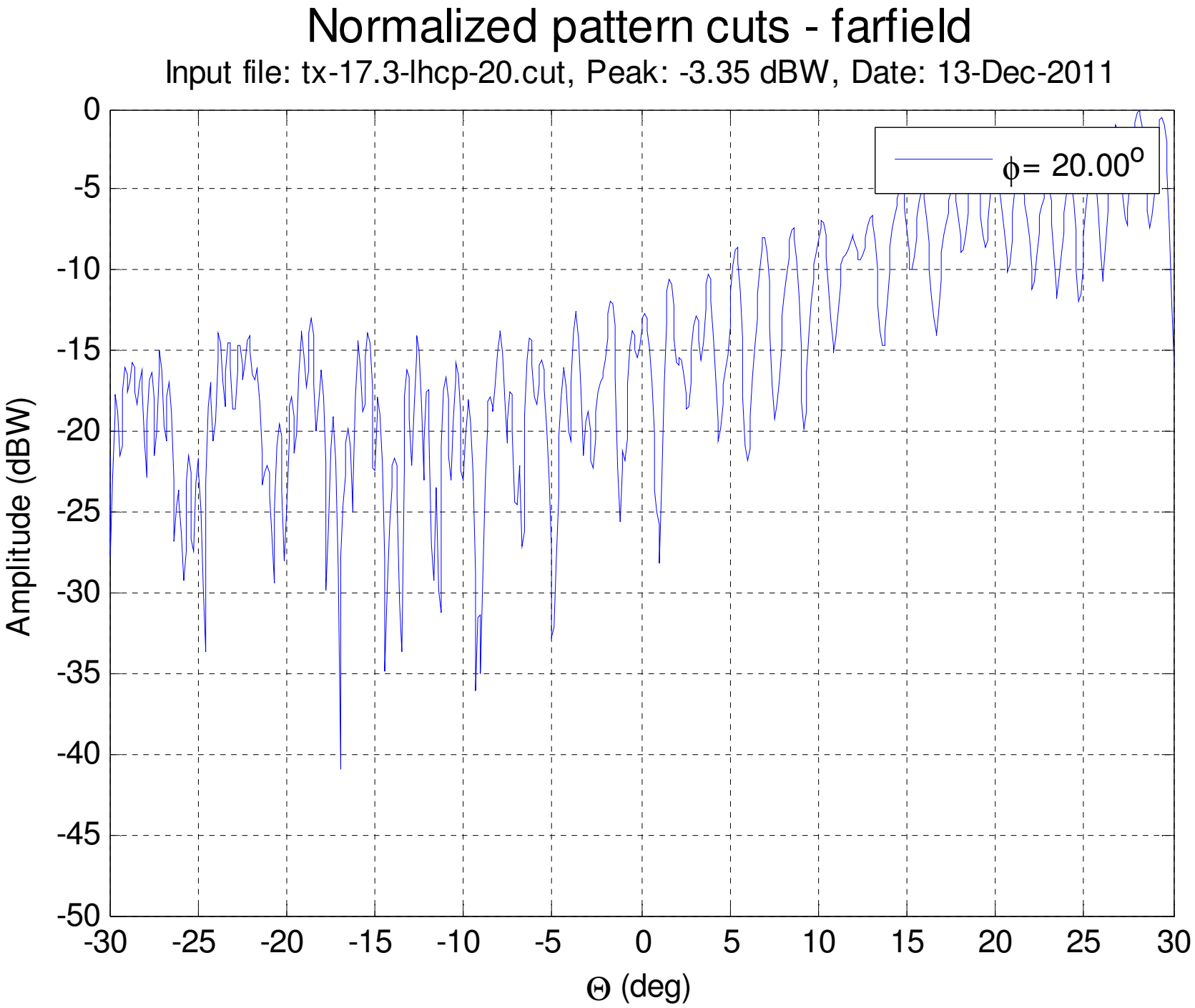

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -4.70 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

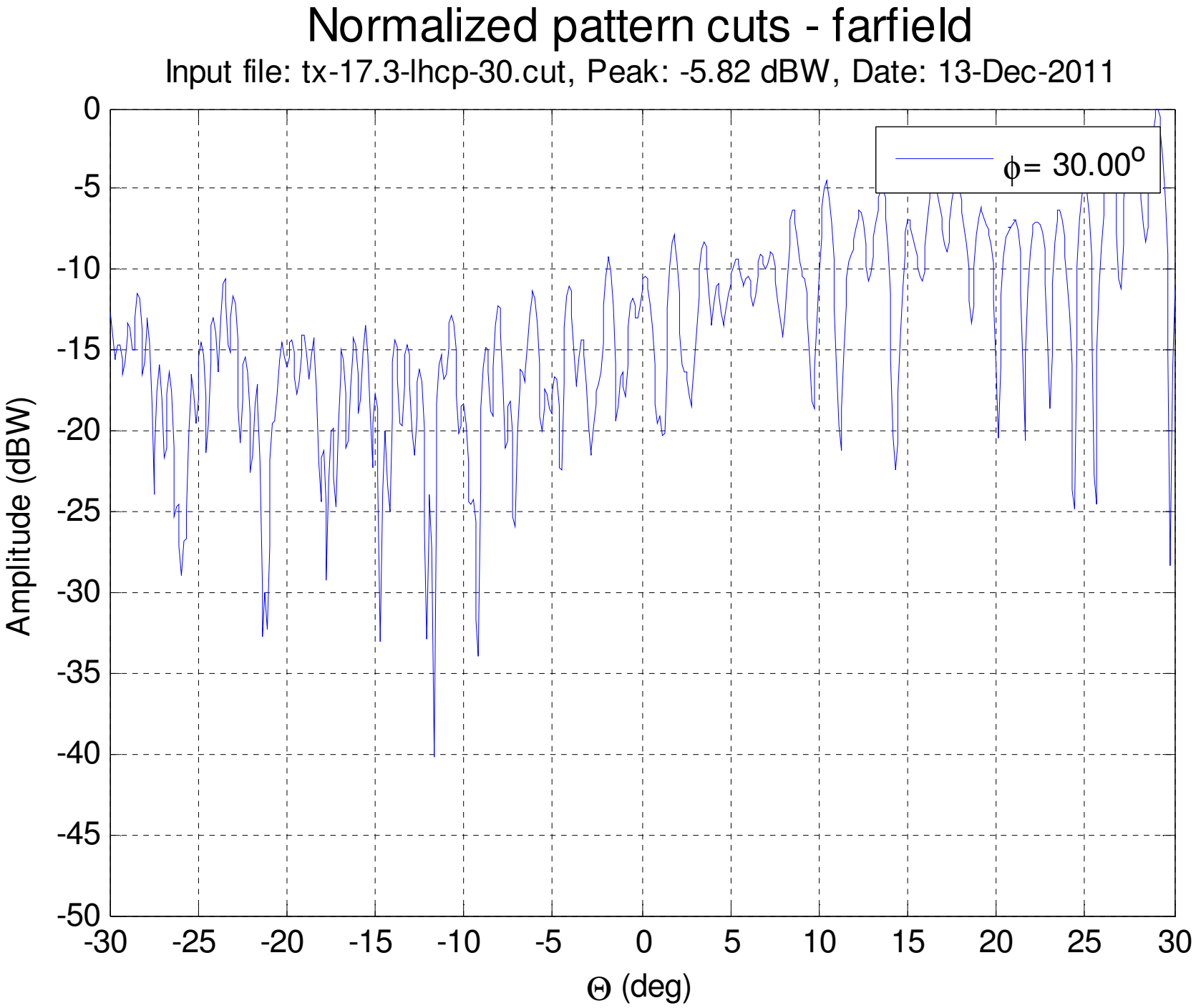

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -1.99 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

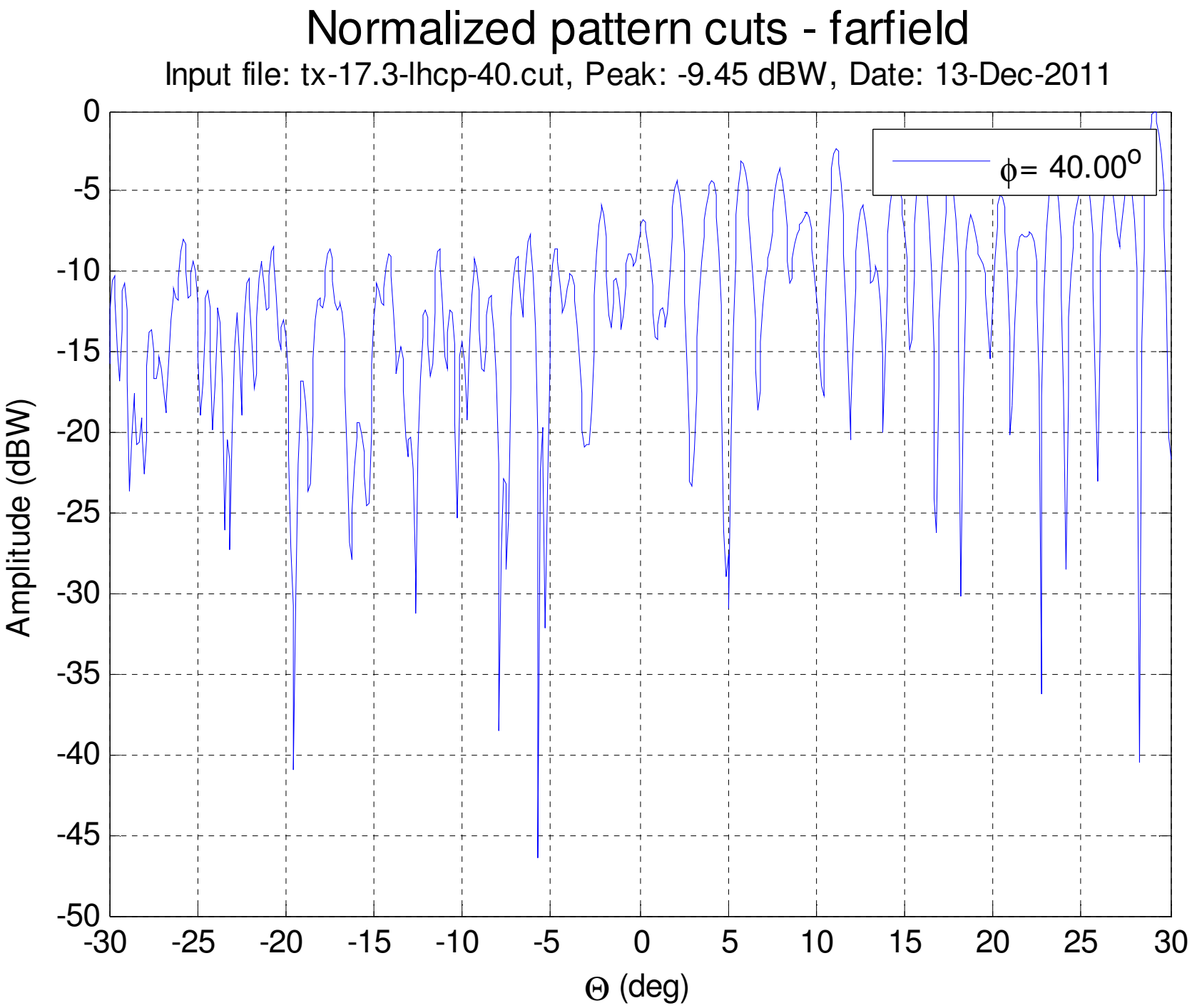

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -2.73 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

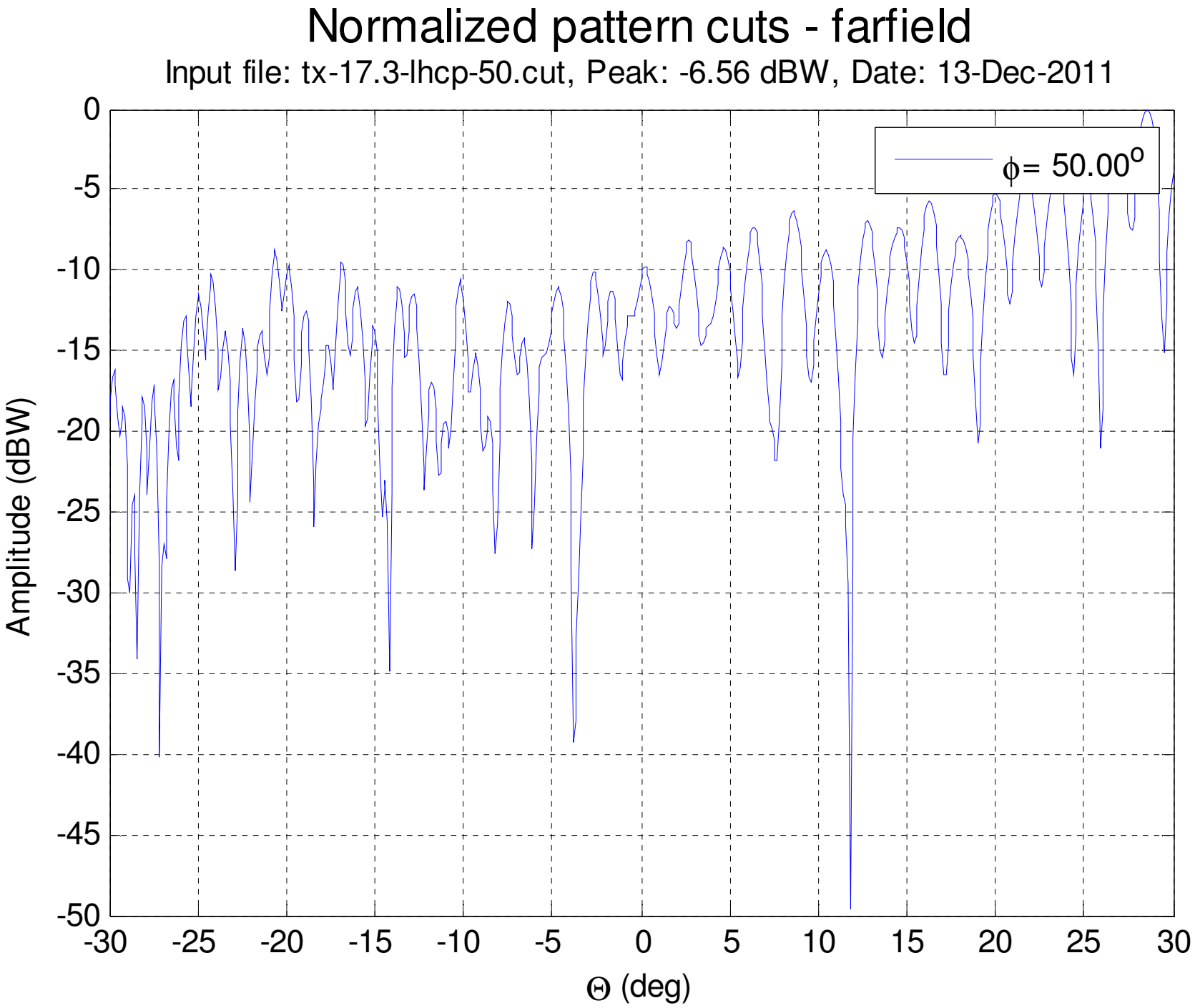

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -2.57 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

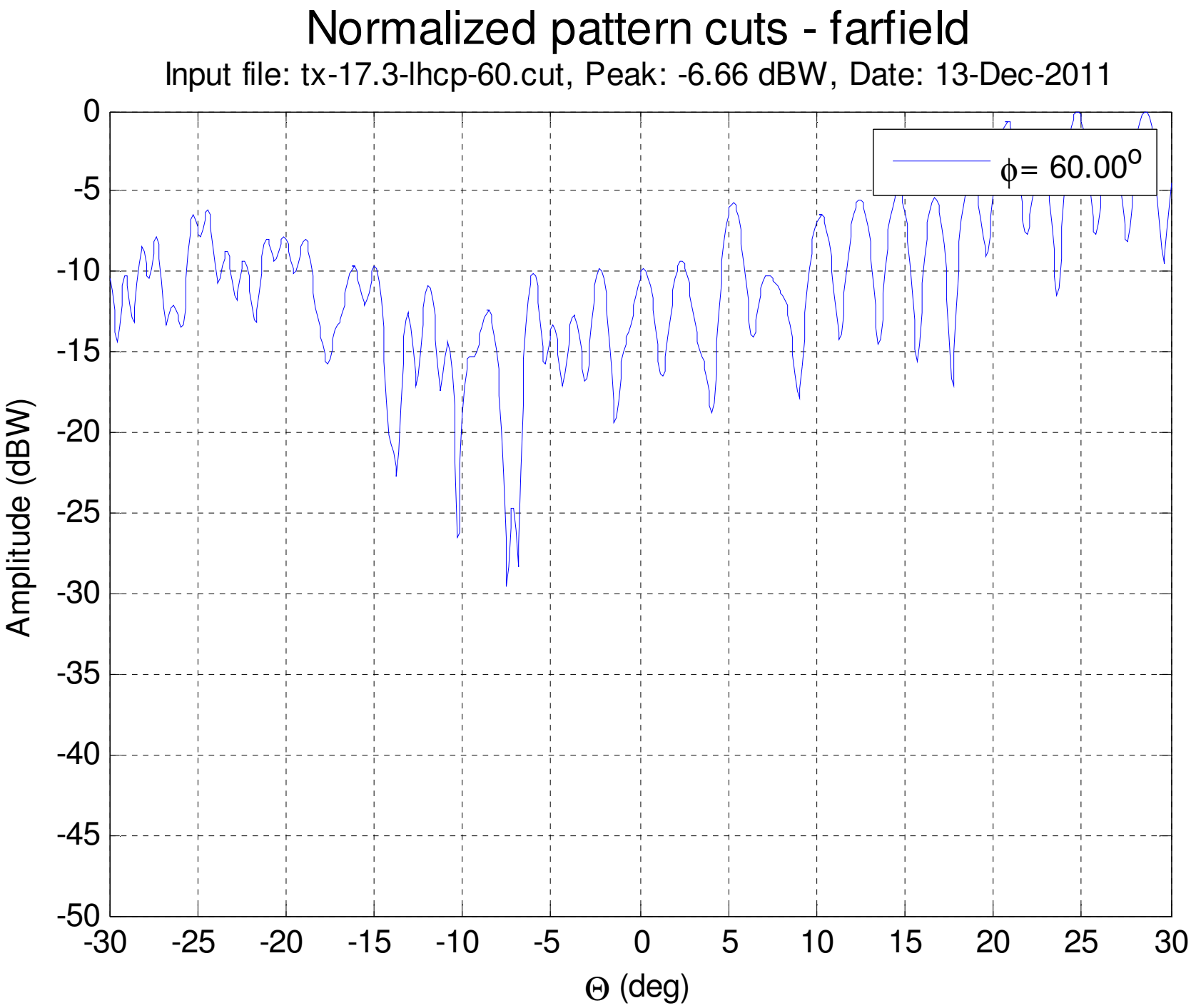

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -2.62 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -3.35 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

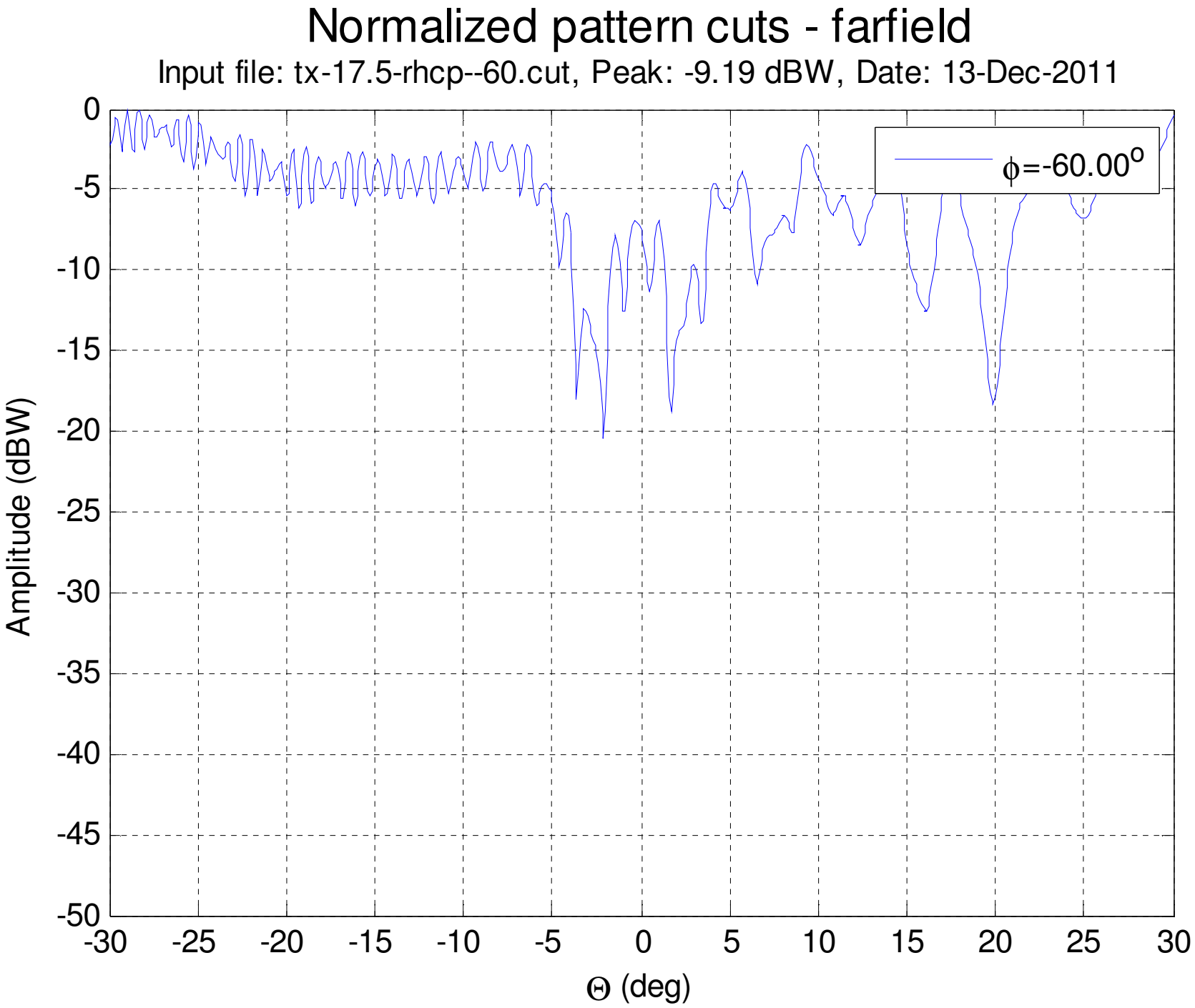

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -5.82 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

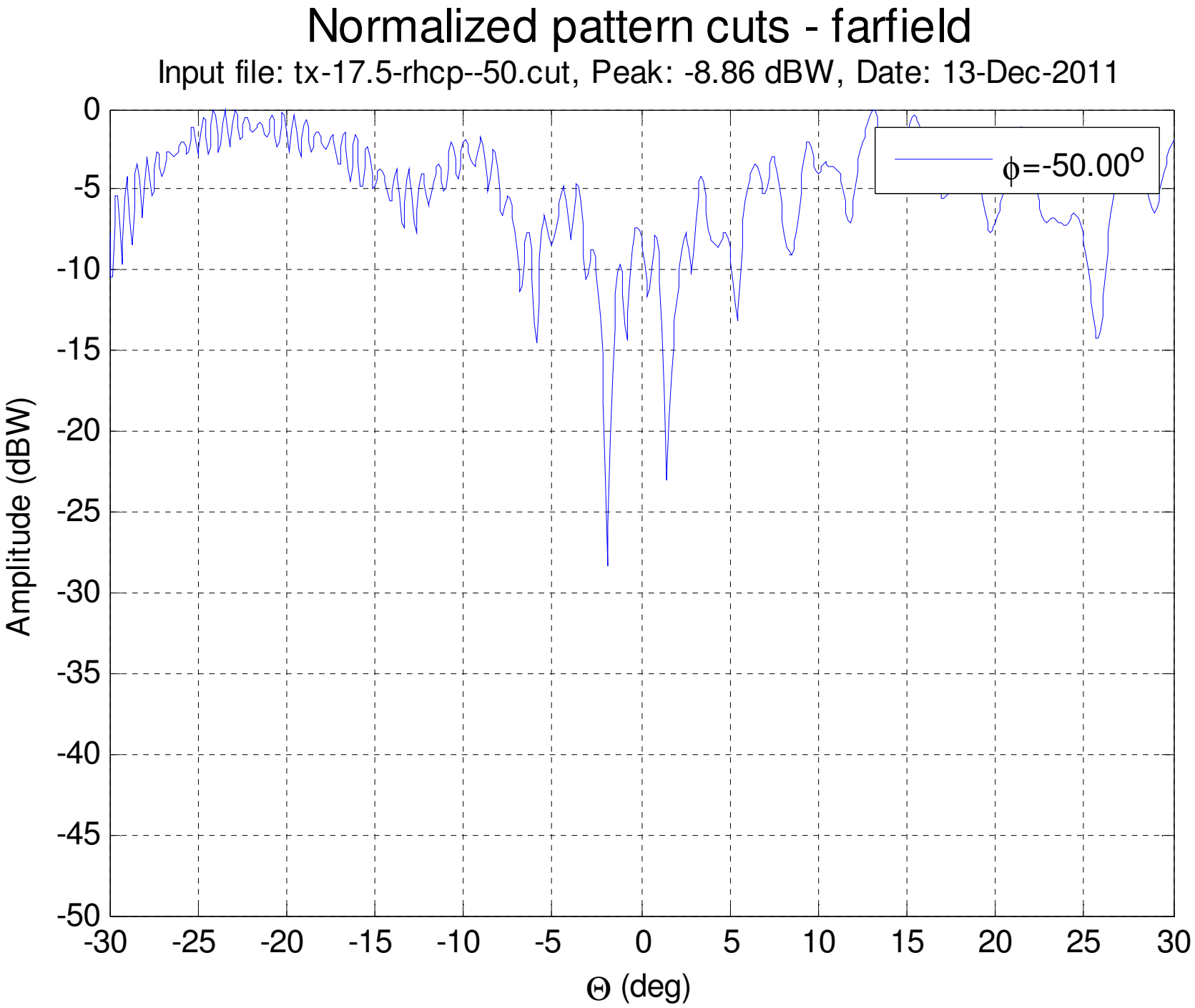

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -9.45 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

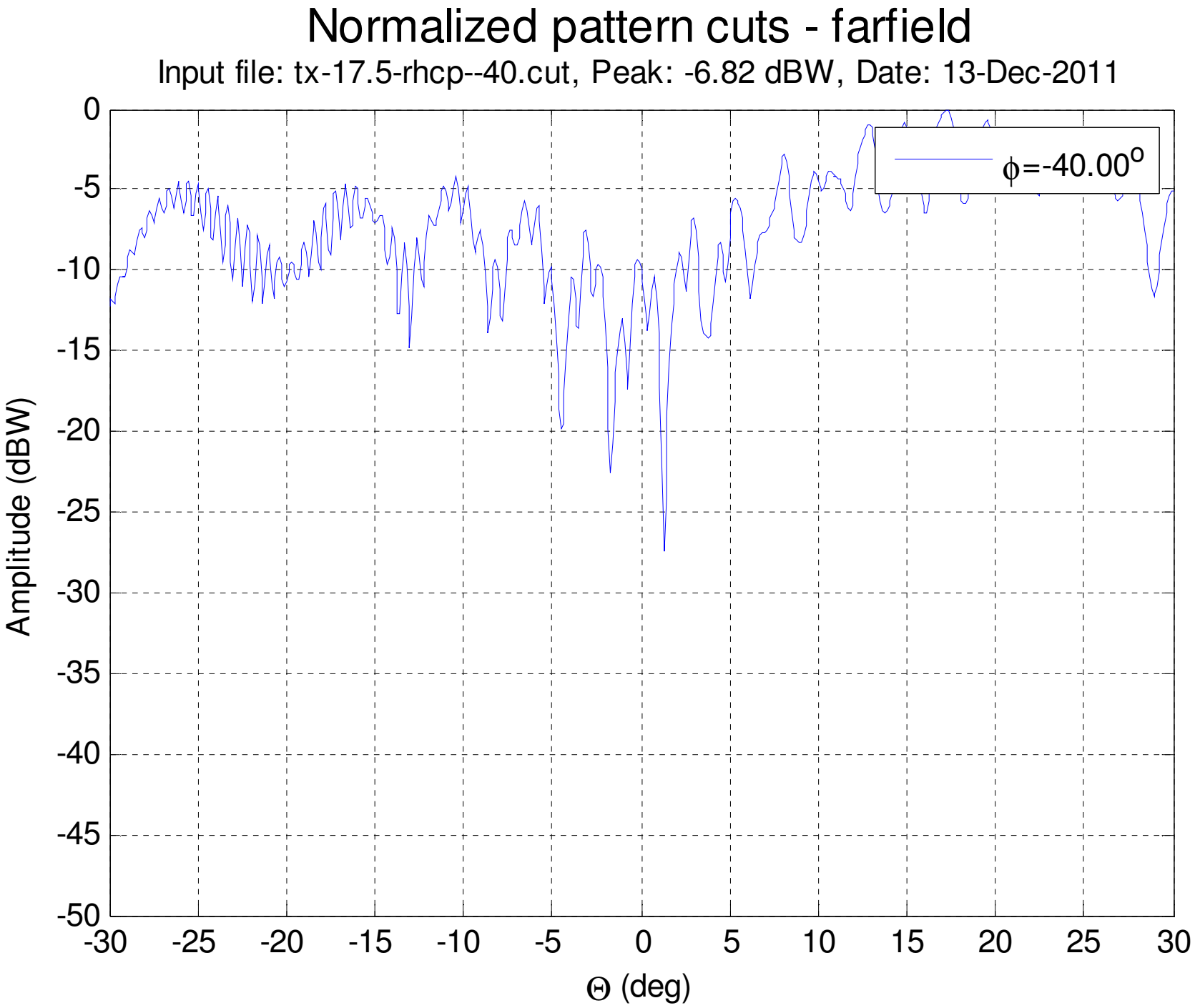

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -6.56 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

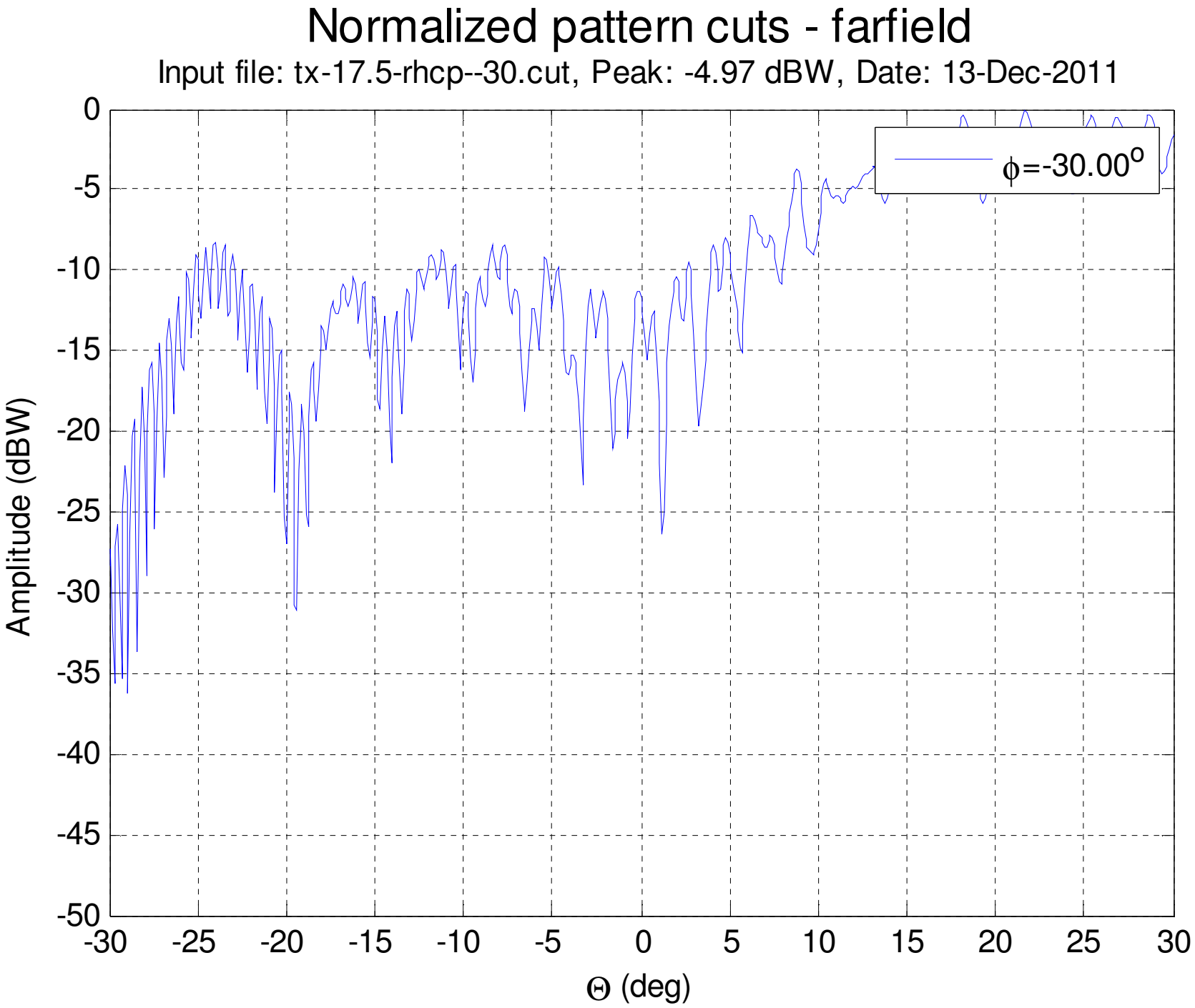

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -6.66 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

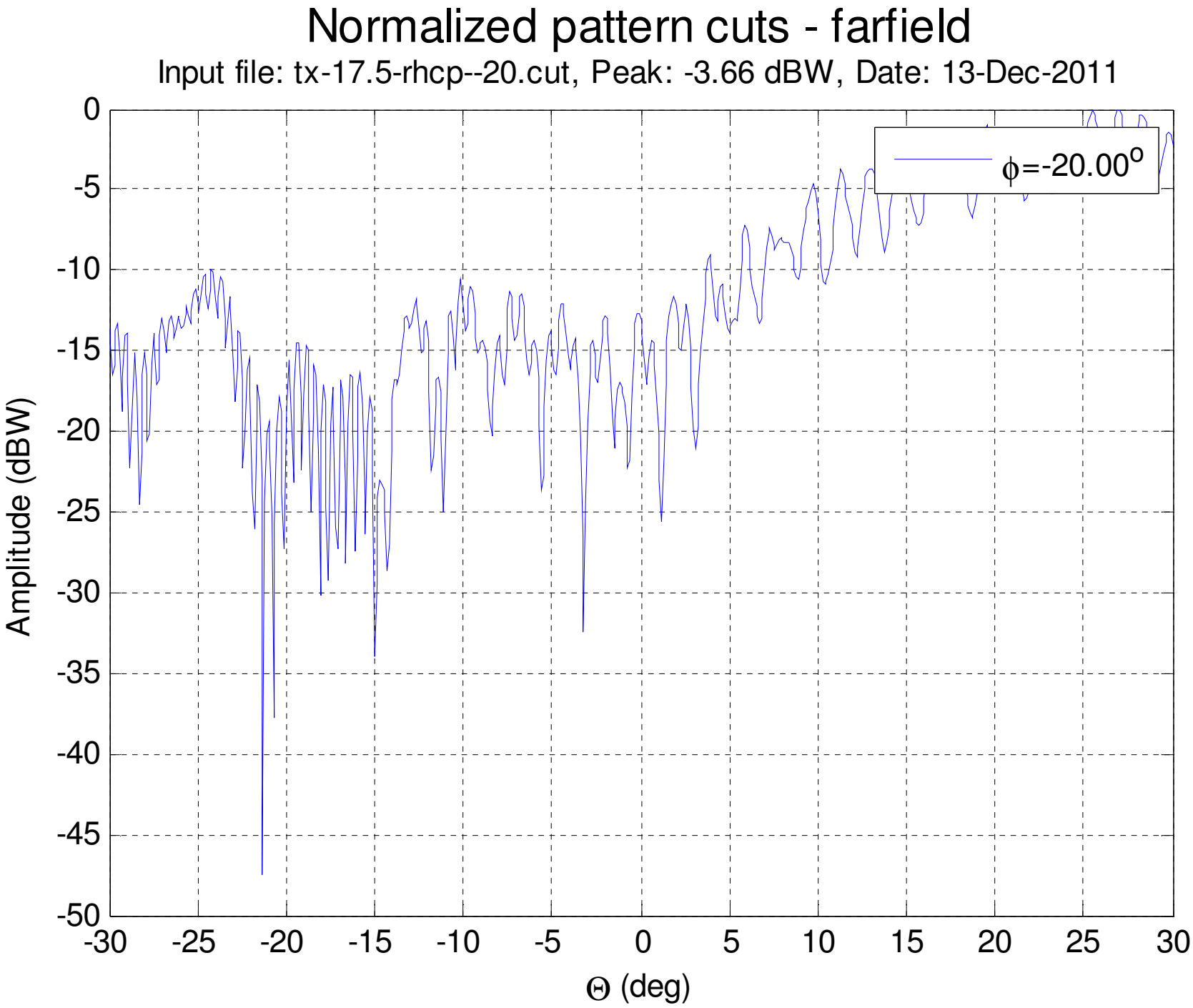
RHCP at 17.5 GHz

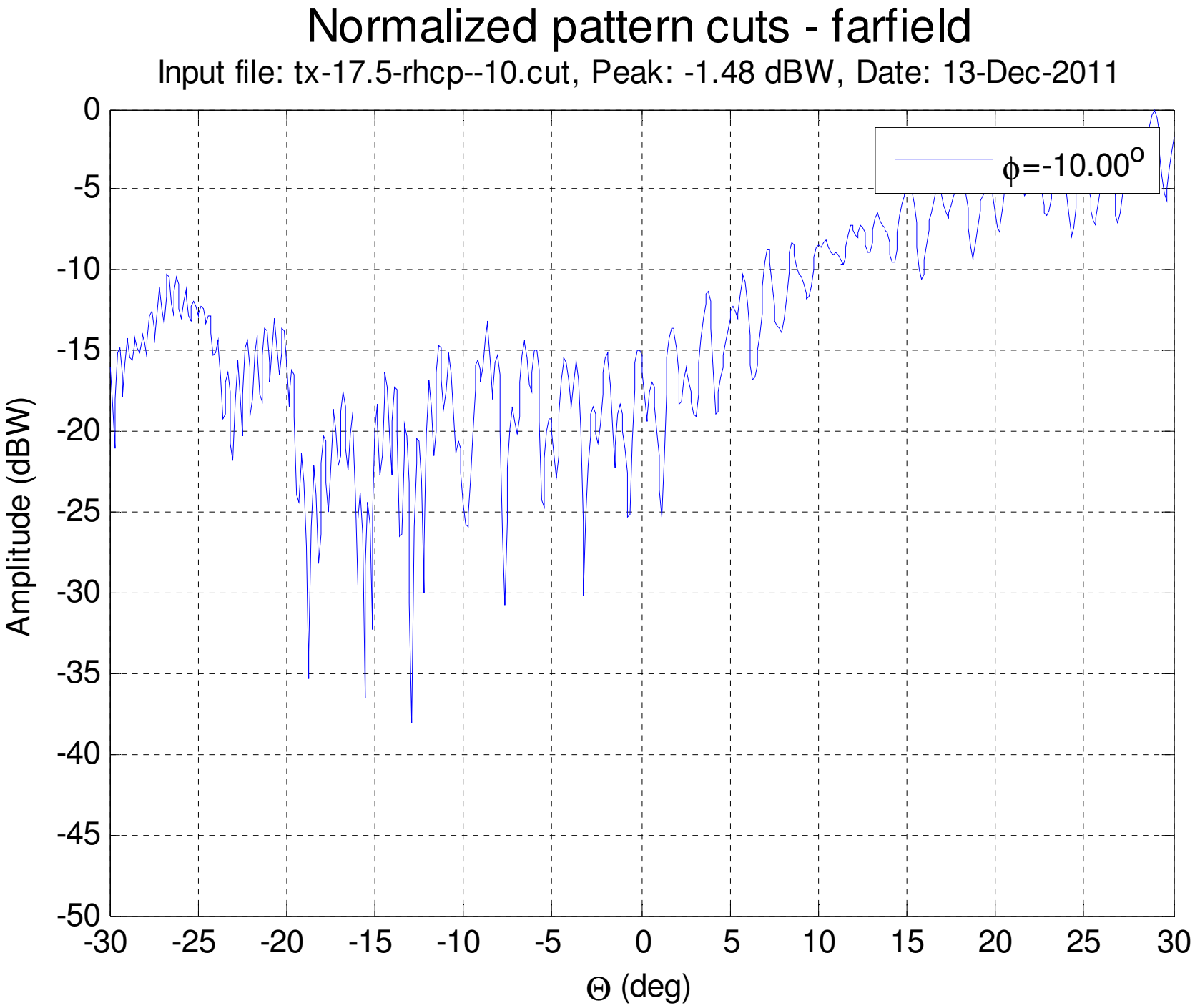

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -9.19 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

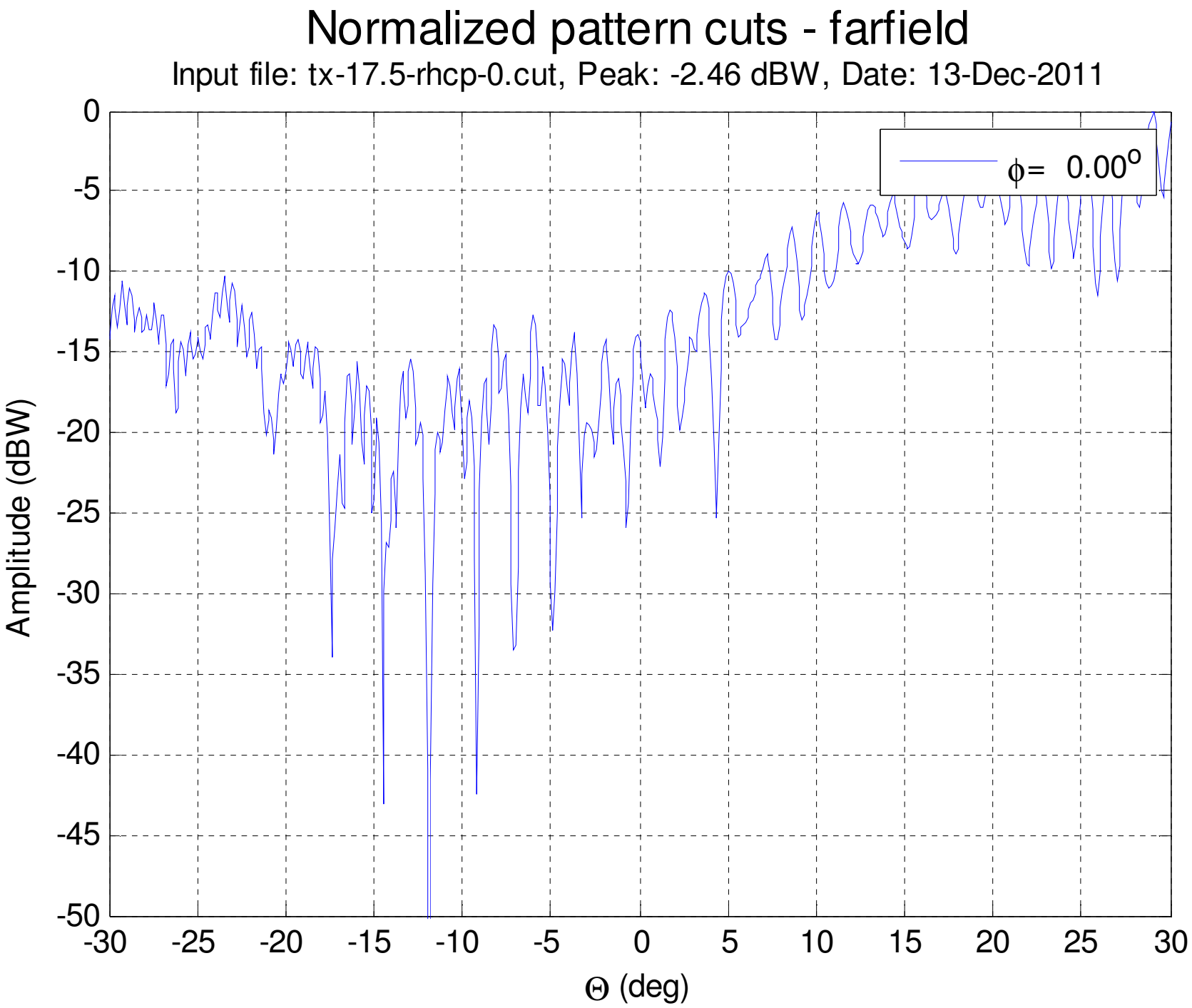

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.86 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

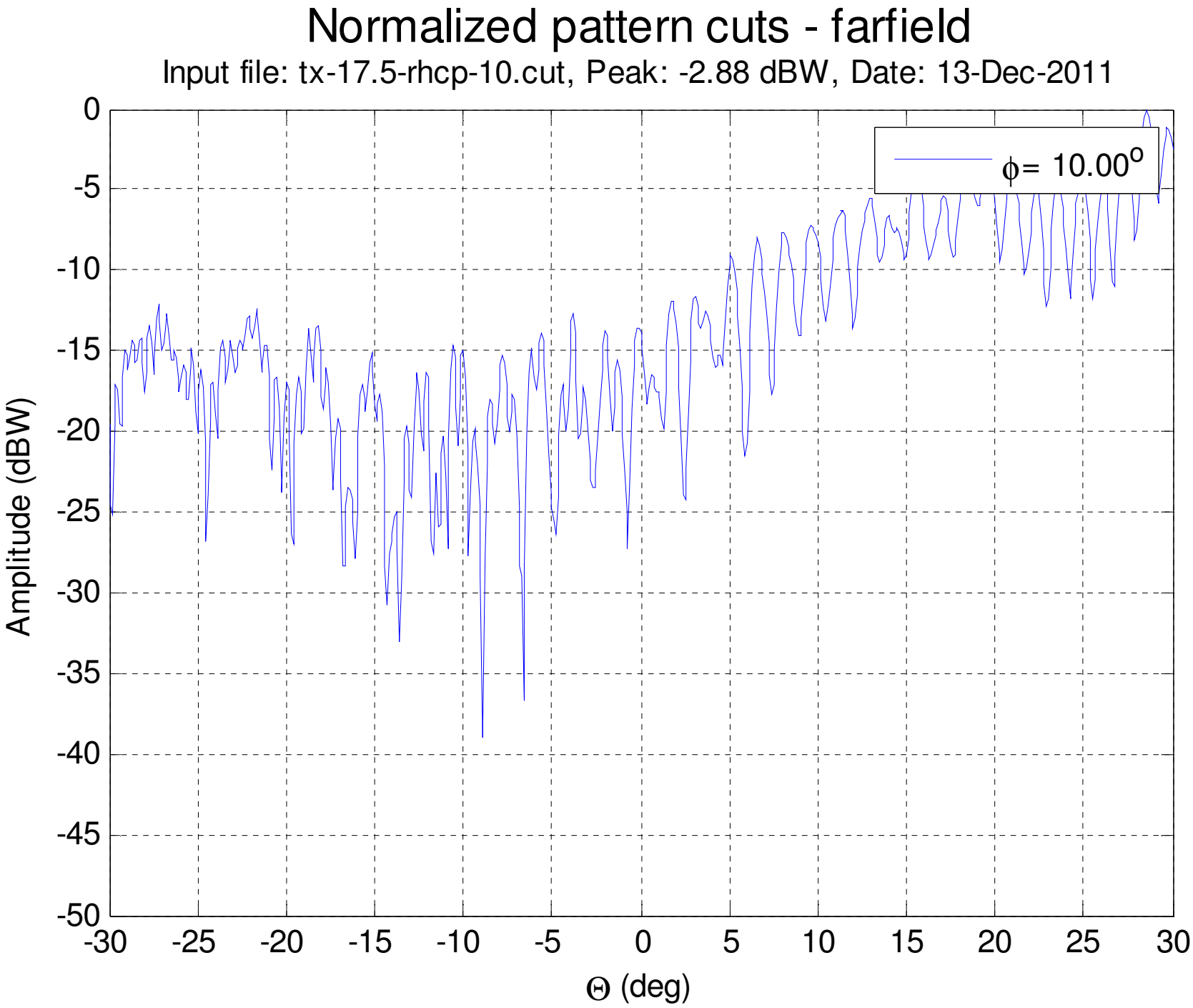

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -6.82 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

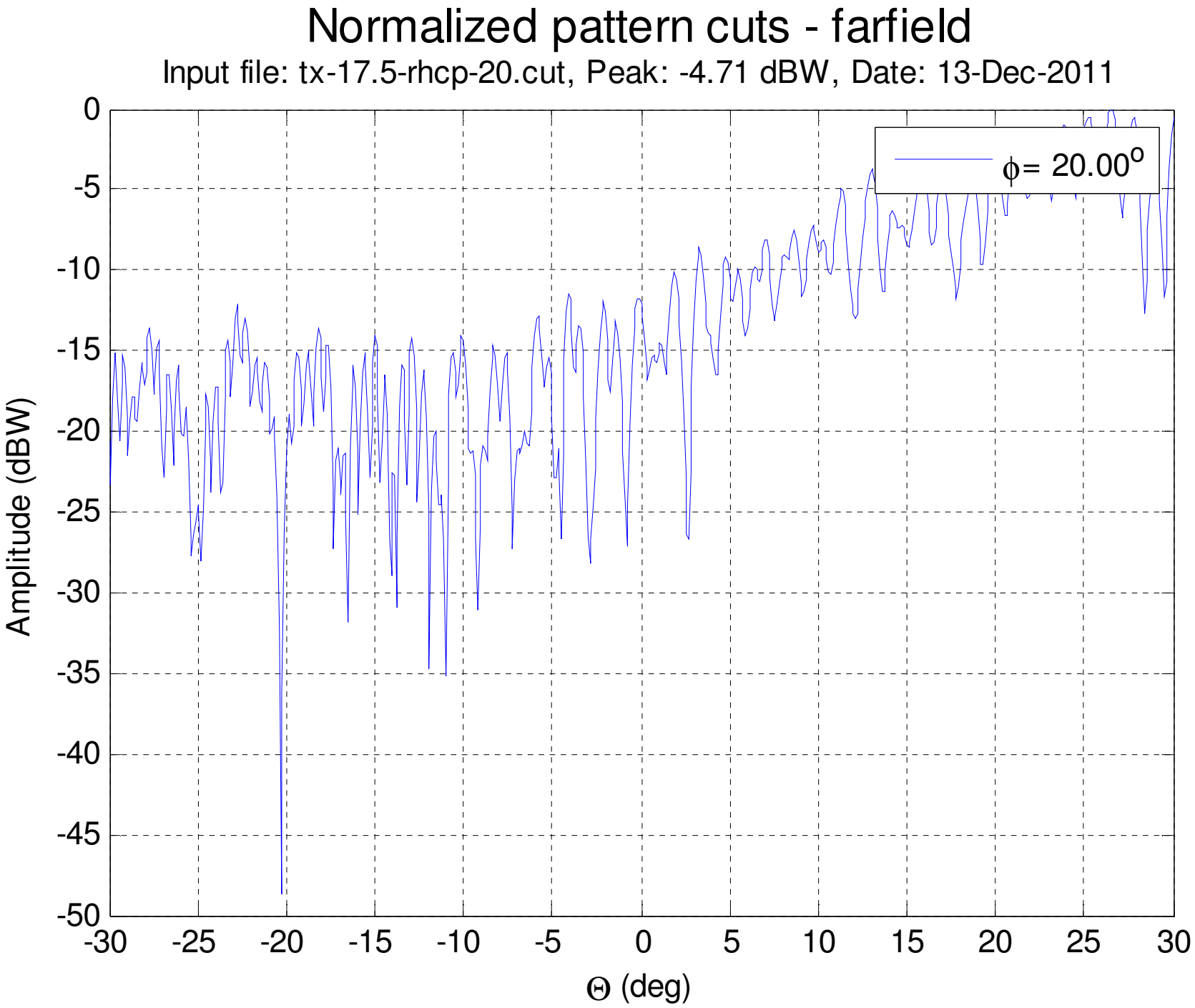

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -4.97 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

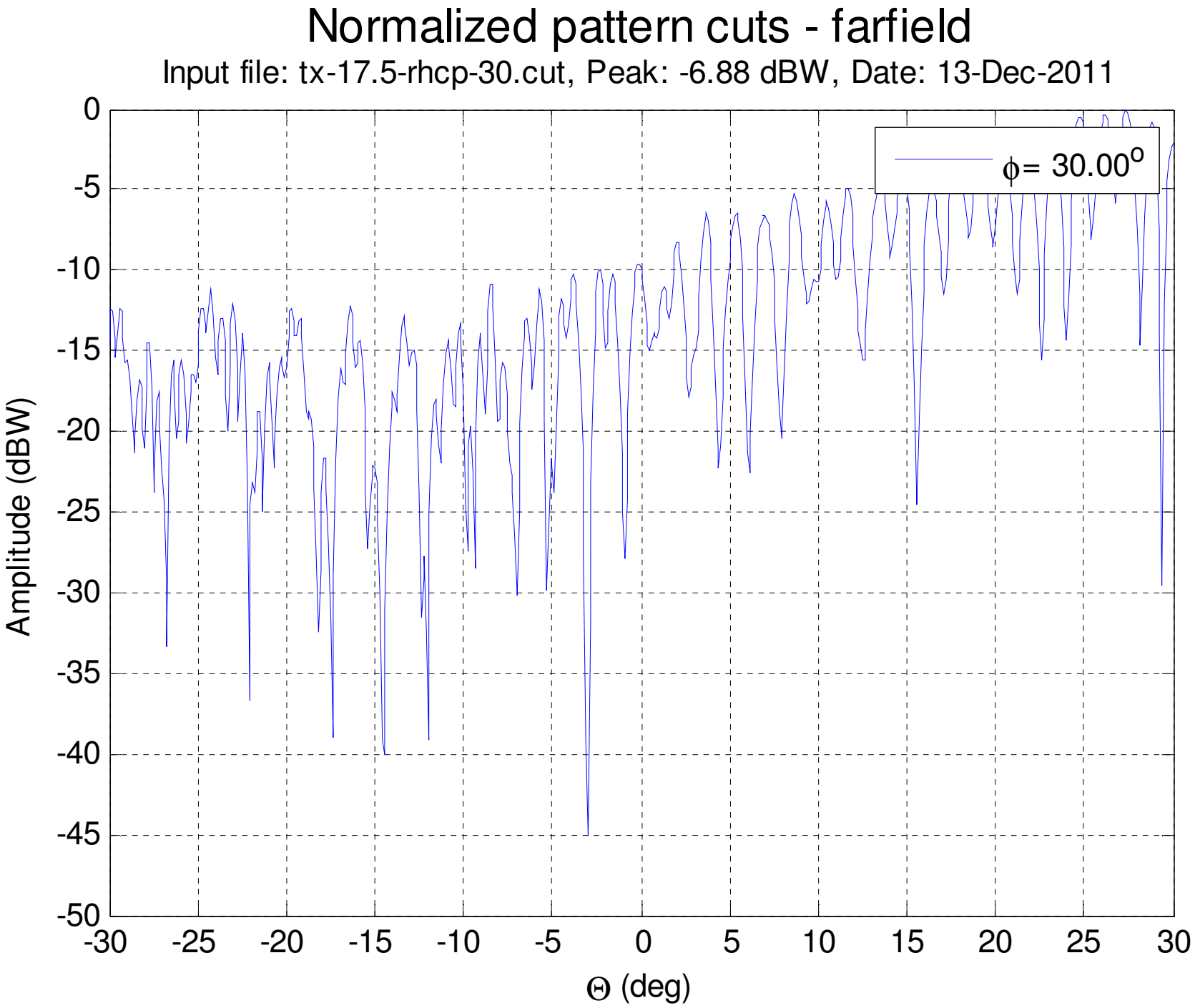

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -3.66 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

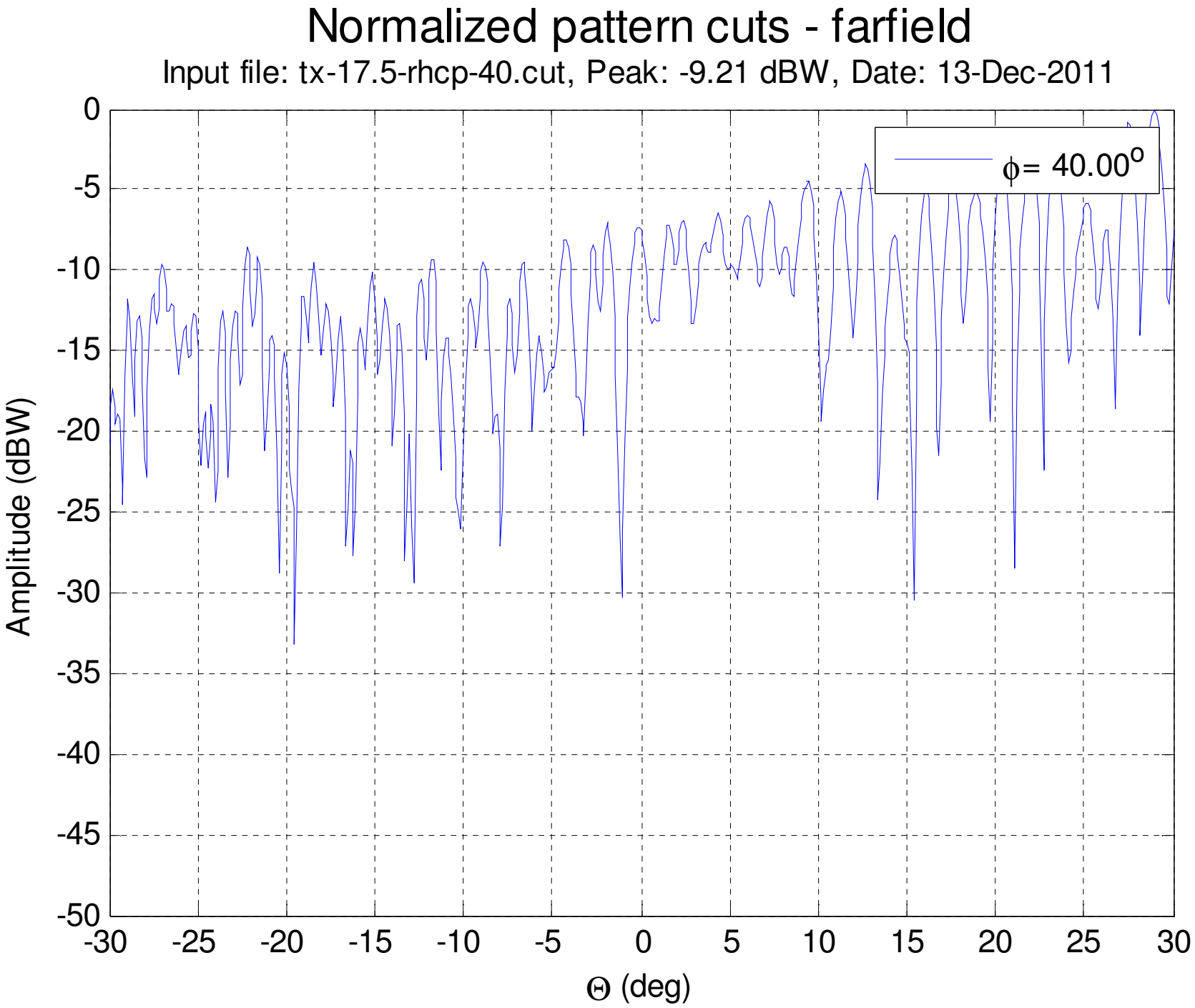

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -1.48 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

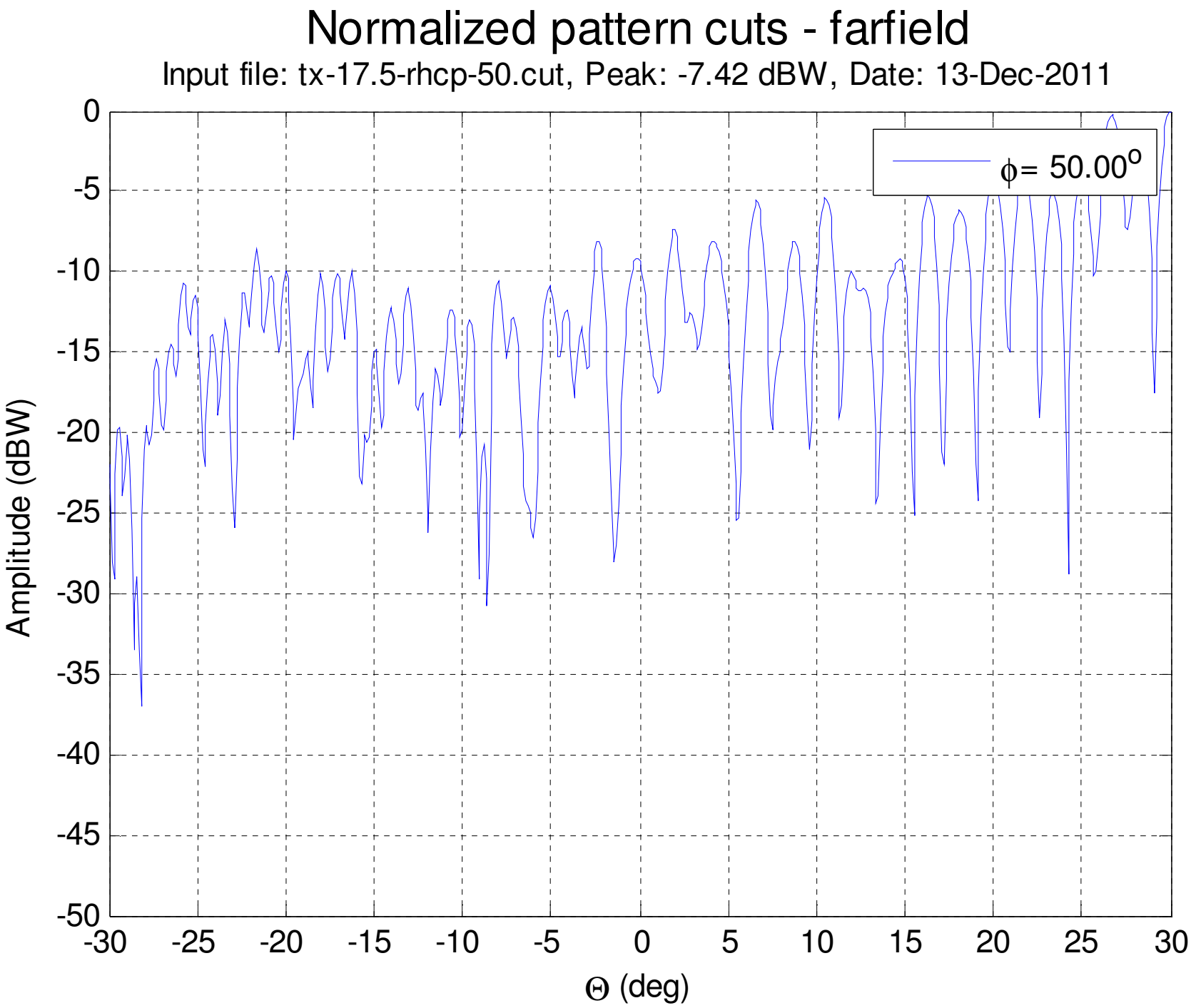

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -2.46 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

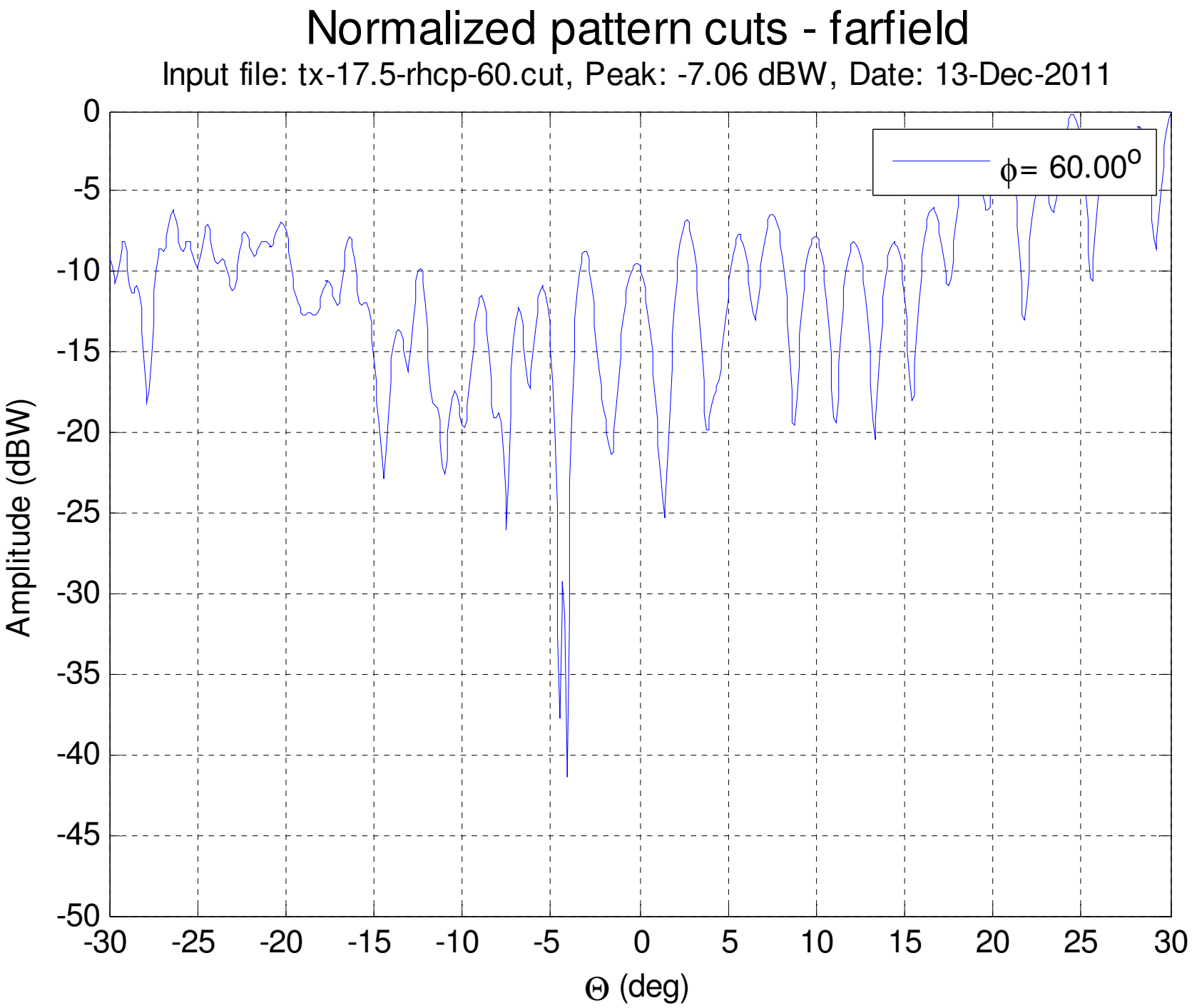

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -2.88 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -4.71 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

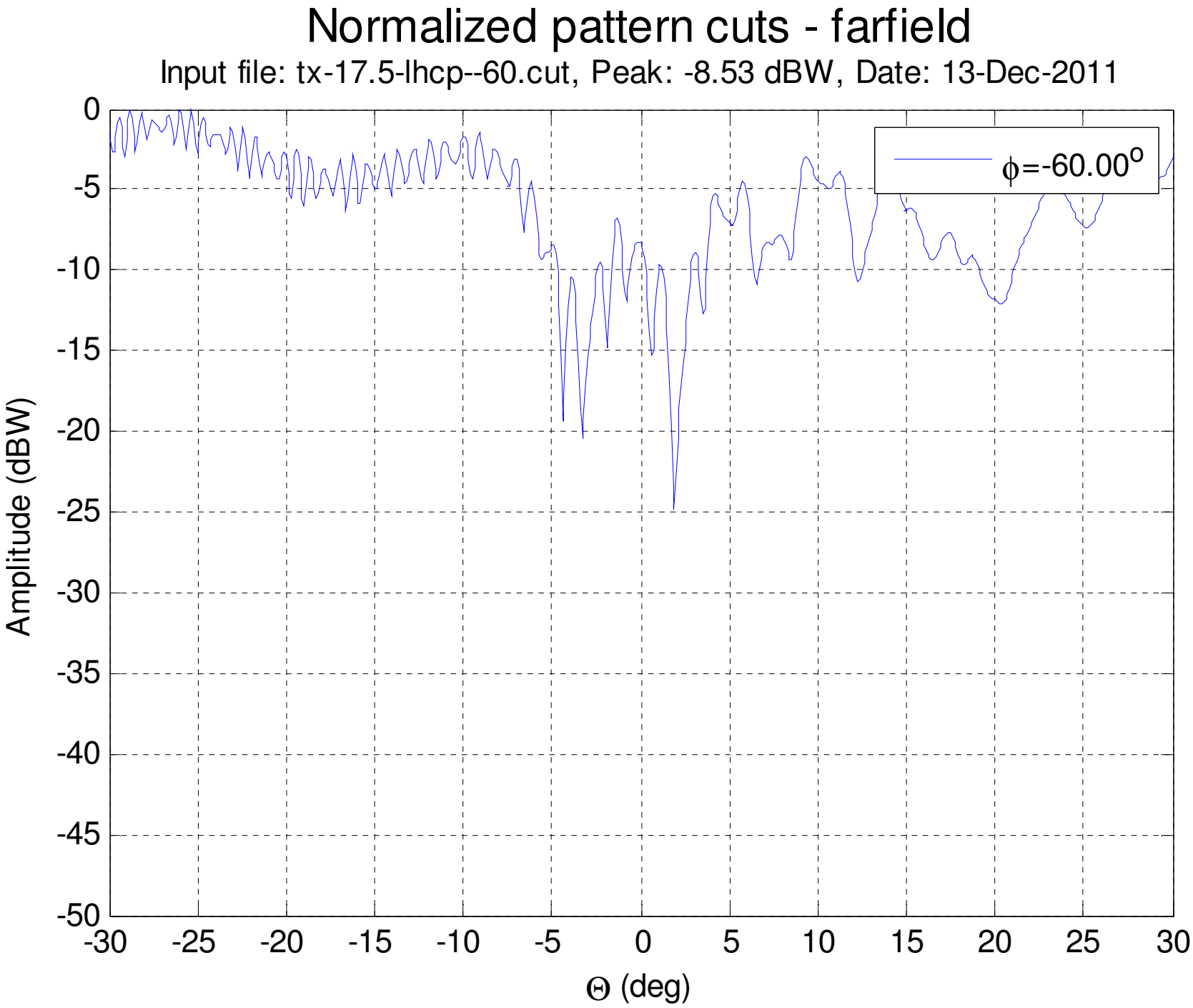

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -6.88 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

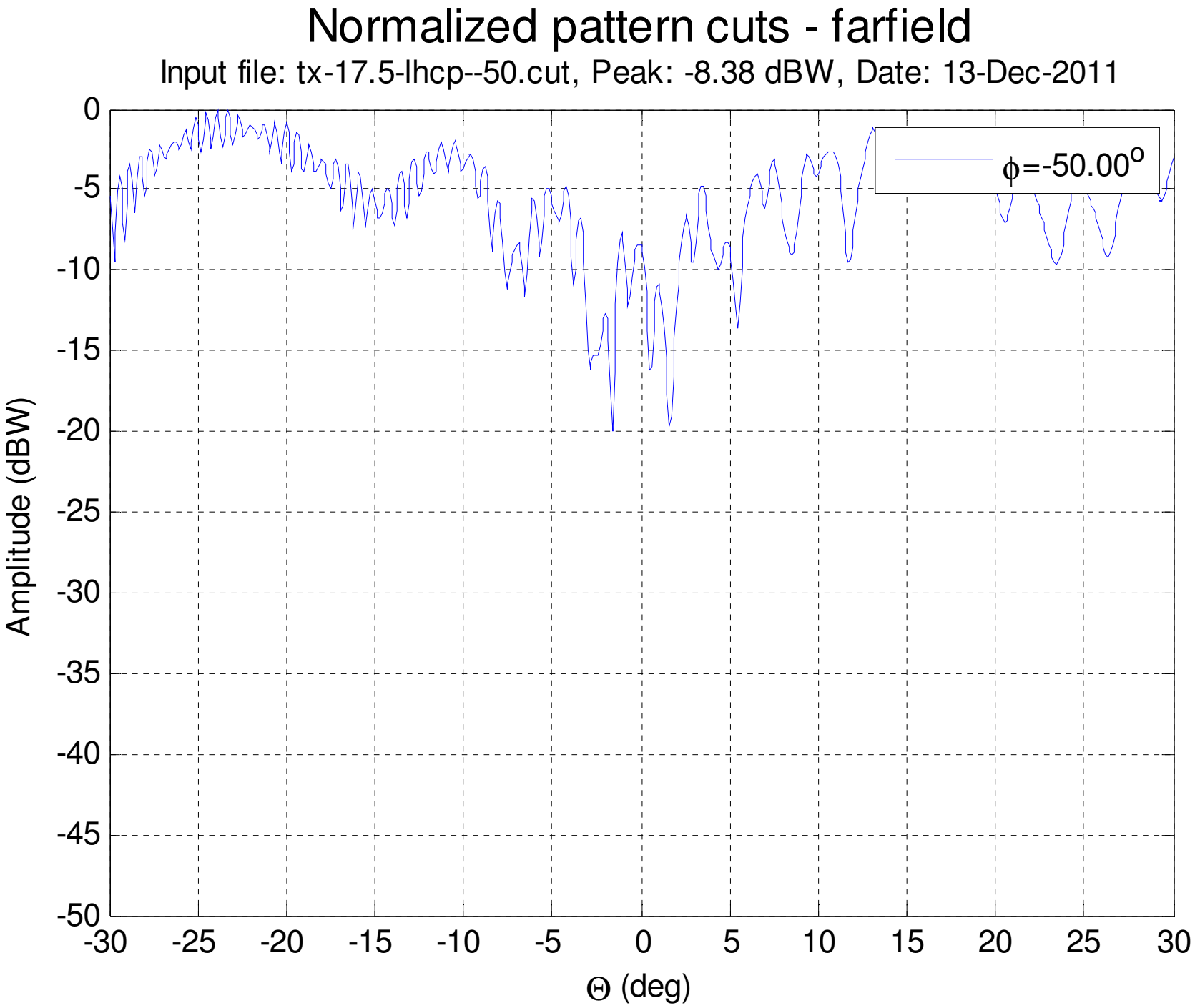

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.21 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

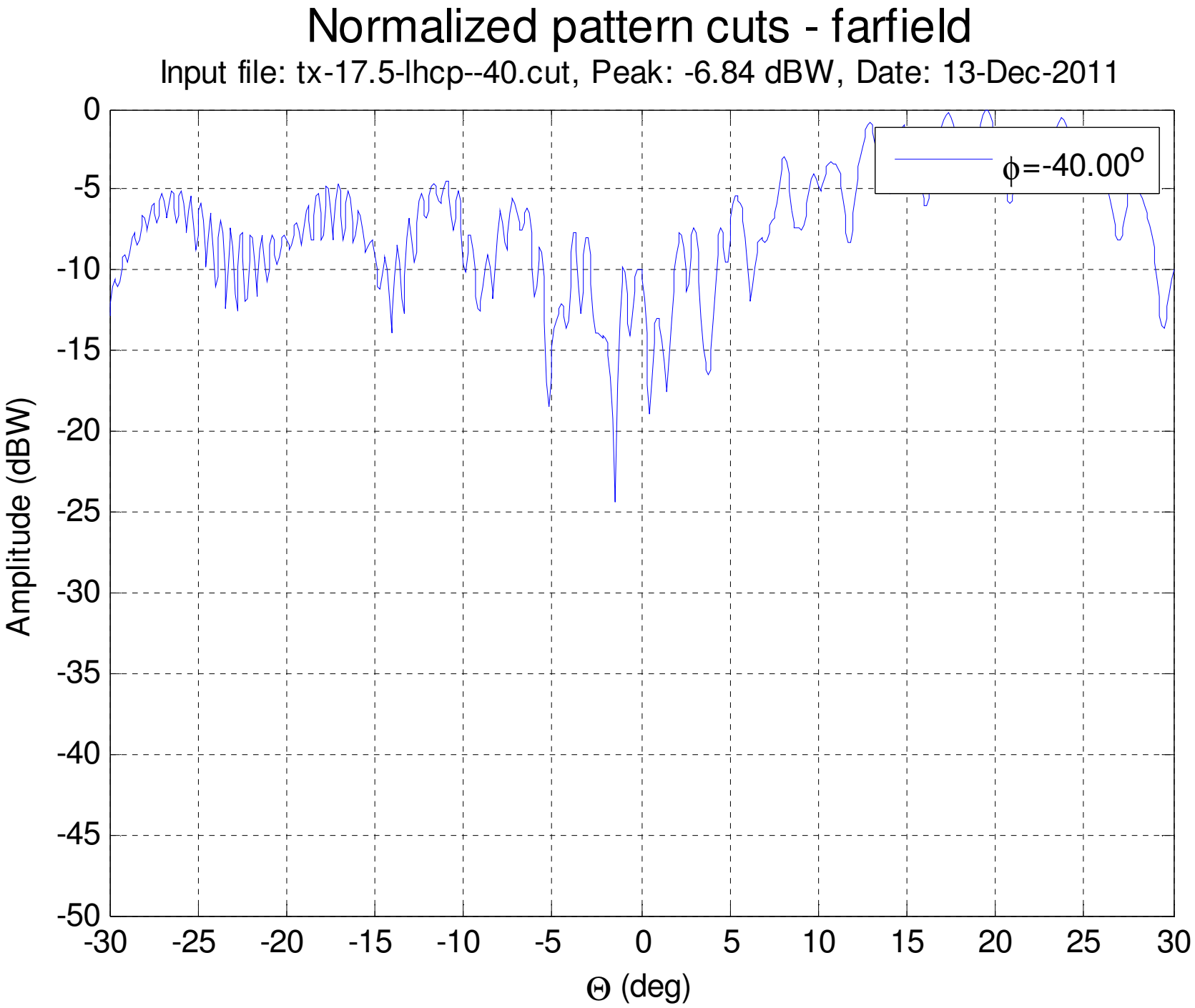

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -7.42 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

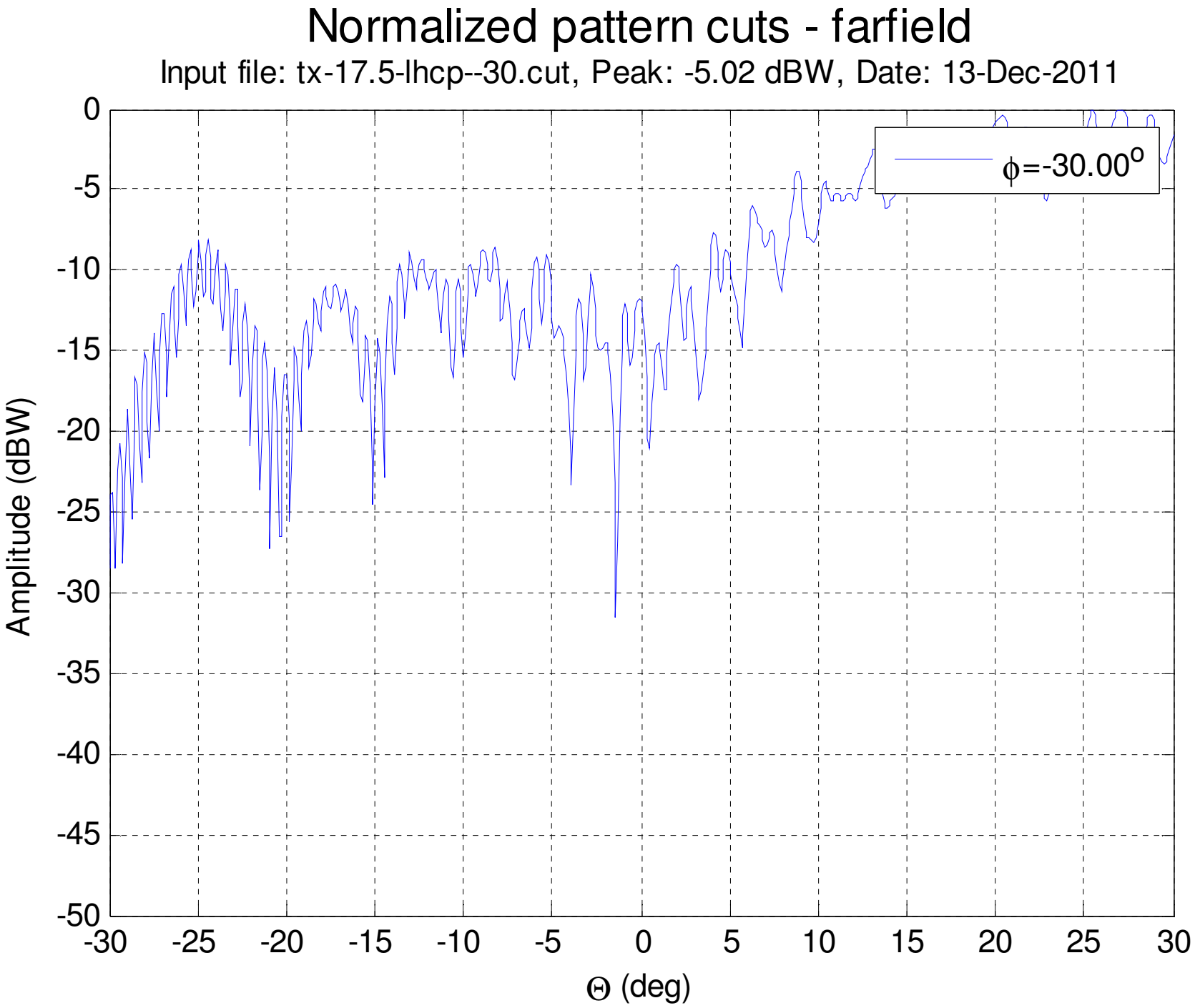

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -7.06 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

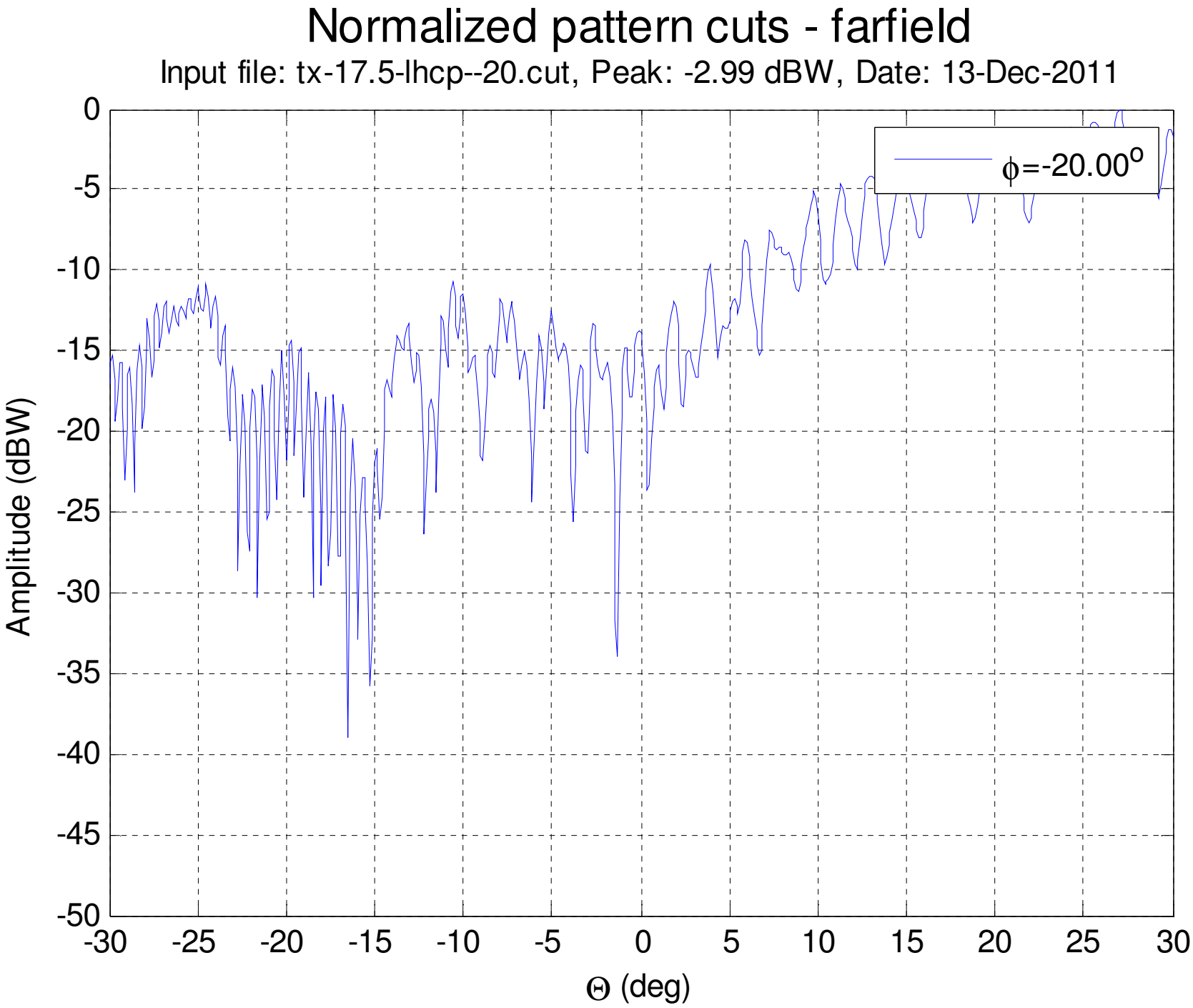
LHCP at 17.5 GHz

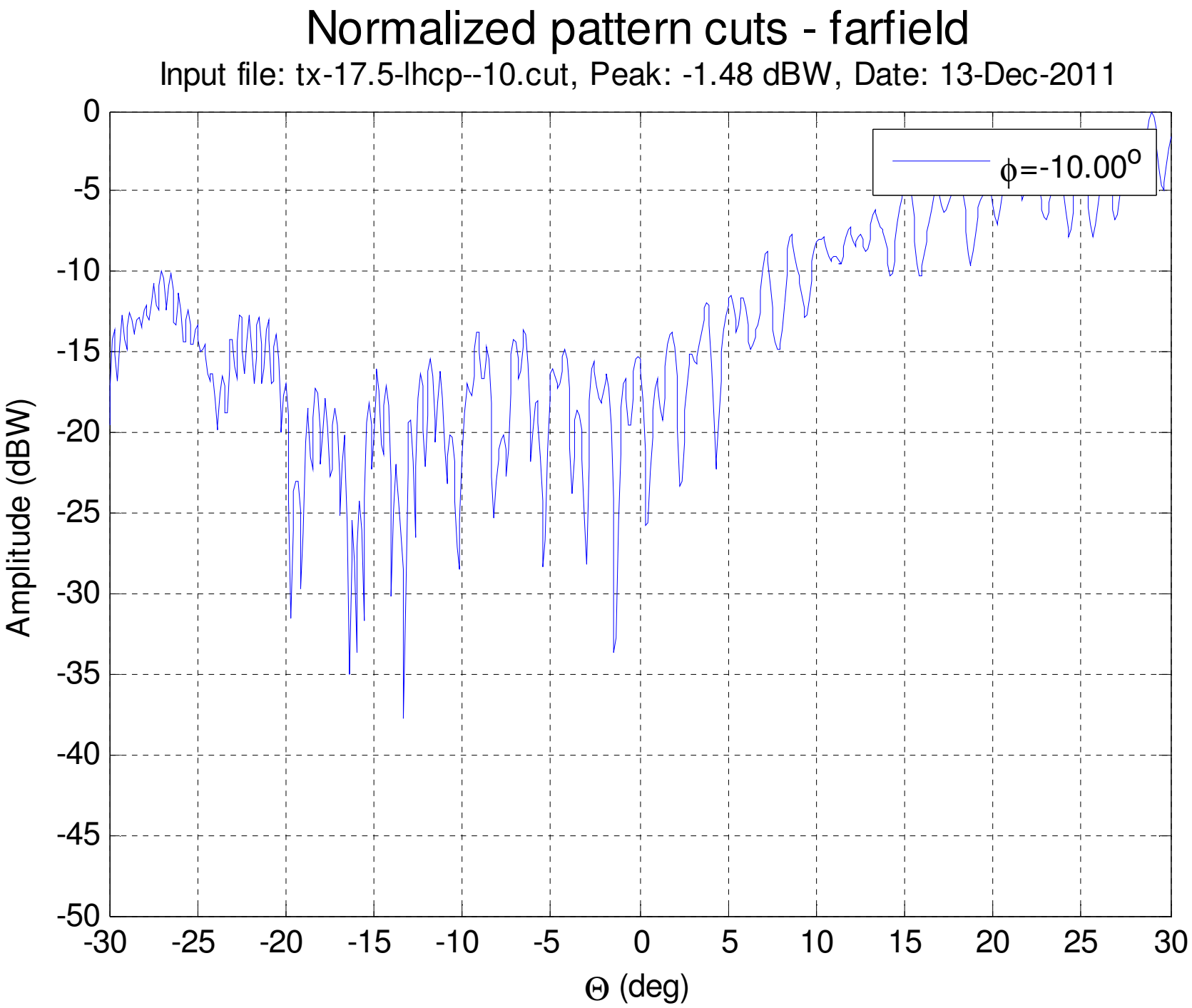

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -8.53 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

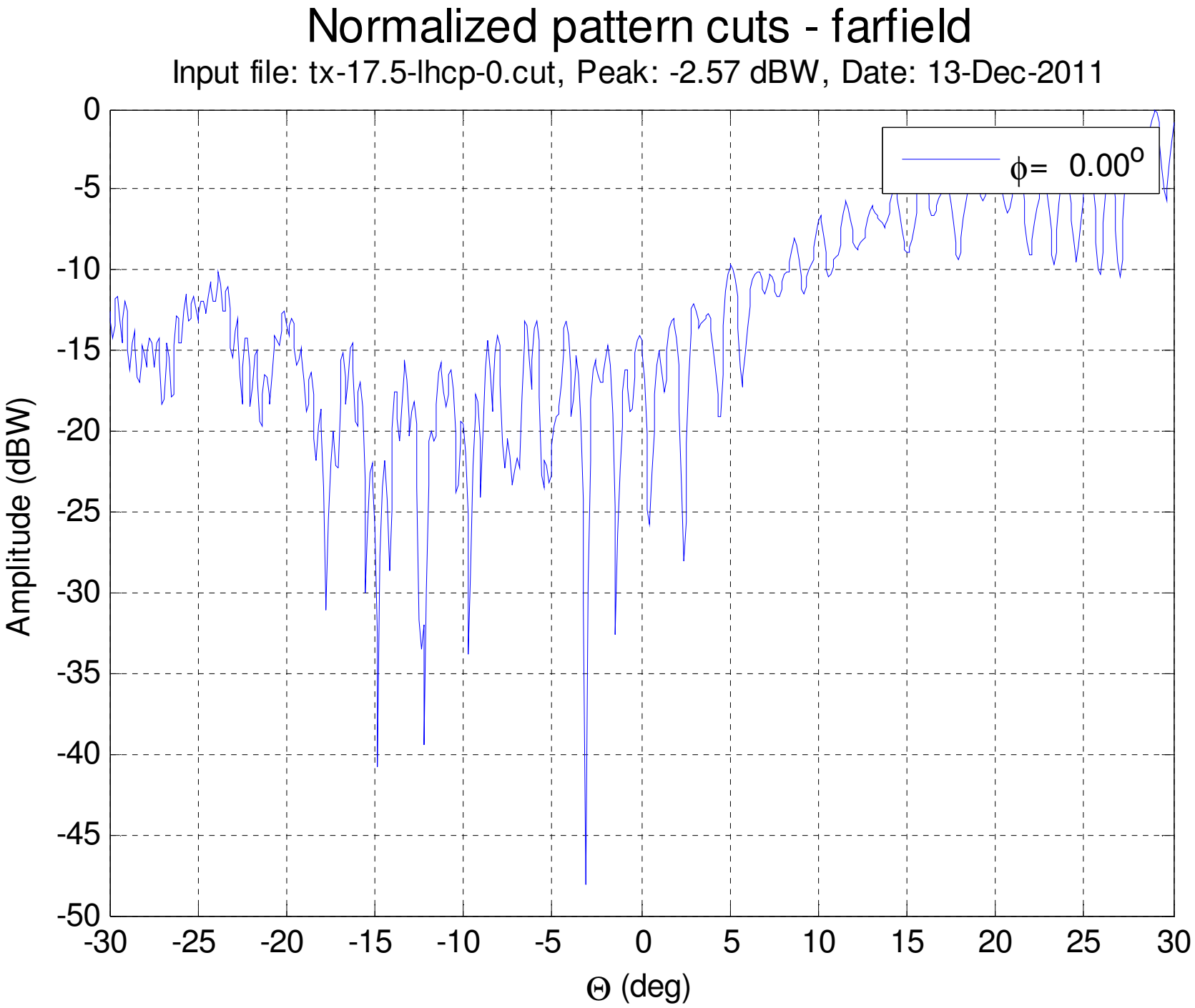

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -8.38 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

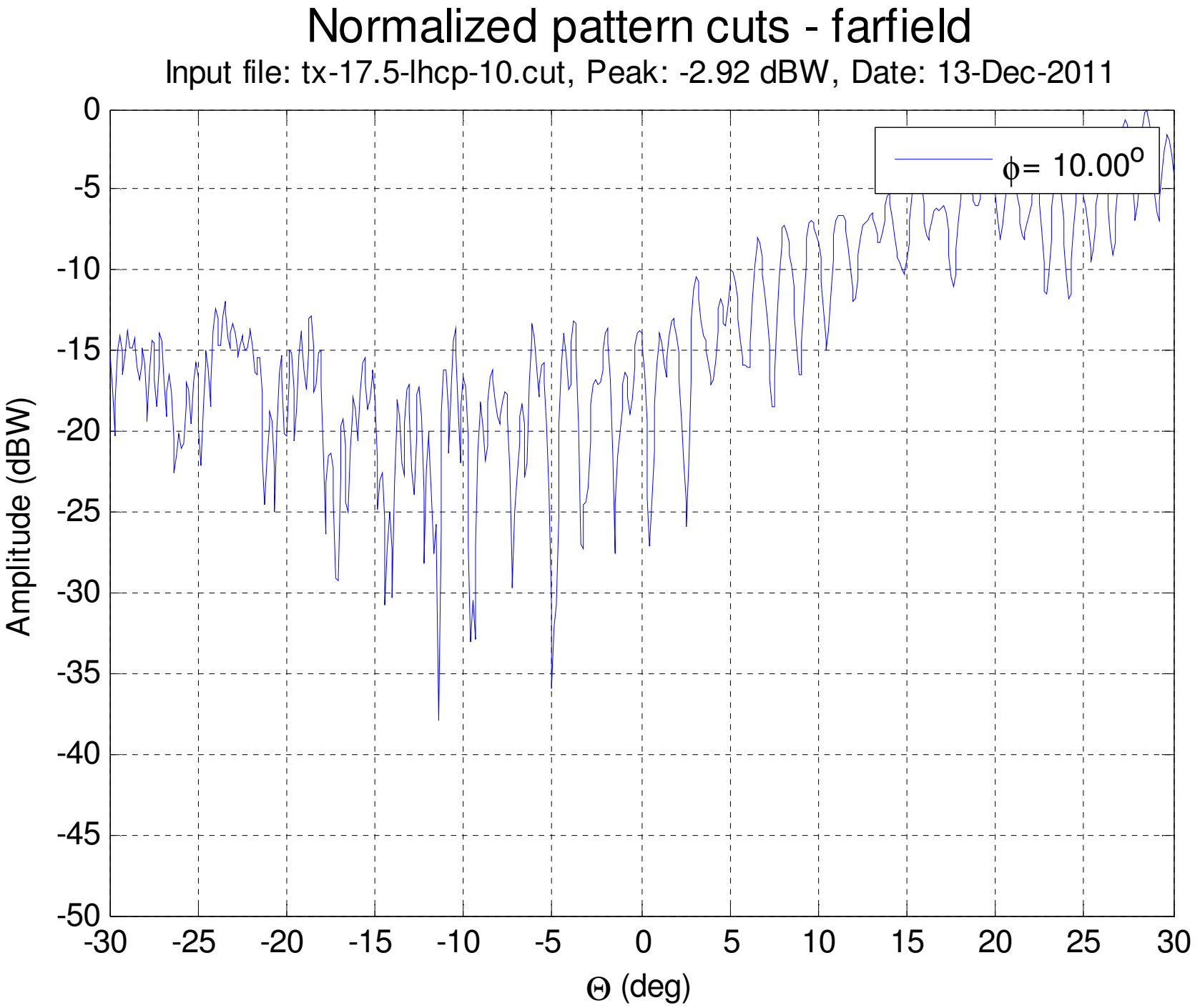

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -6.84 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

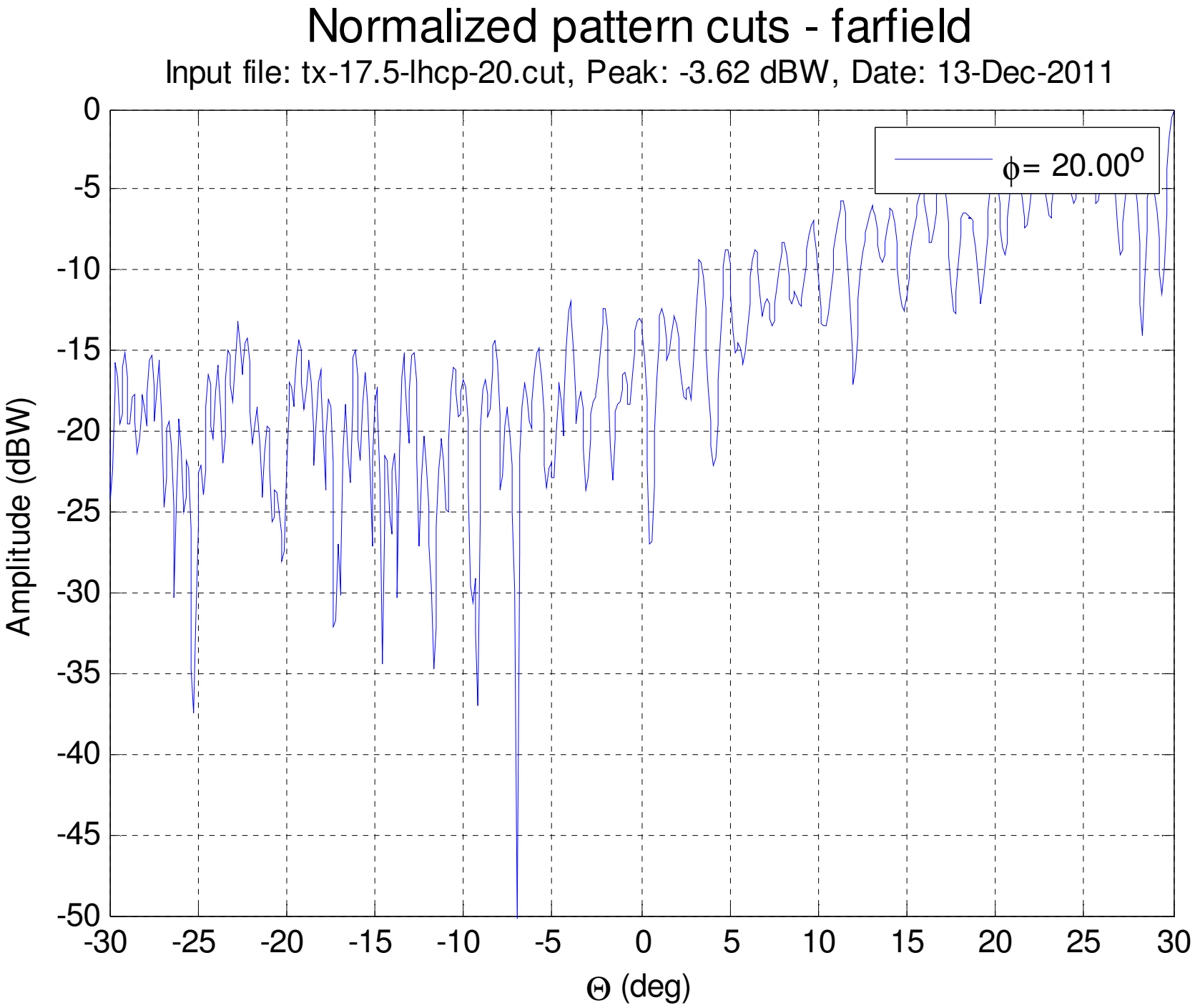

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -5.02 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

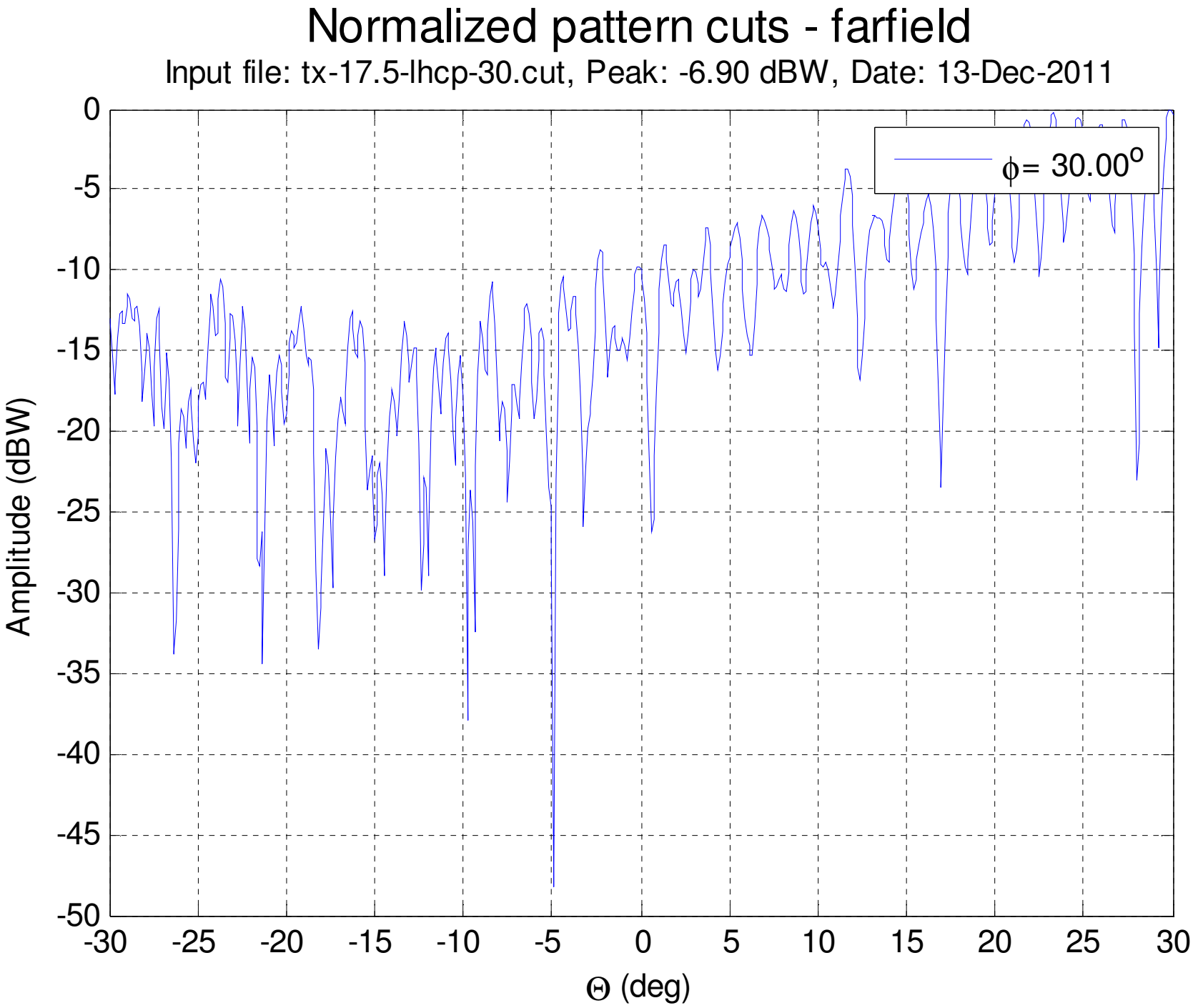

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -2.99 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

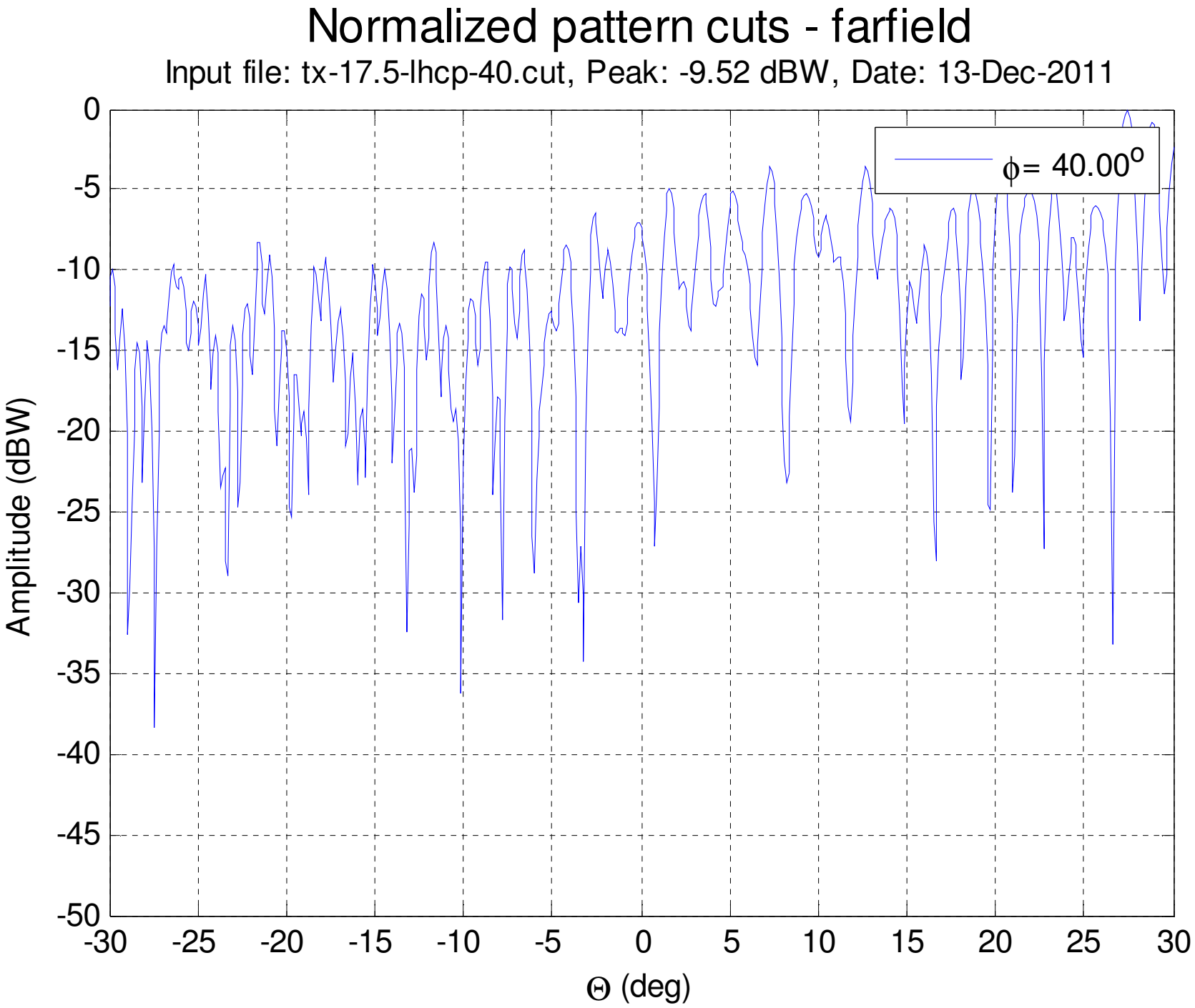

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -1.48 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

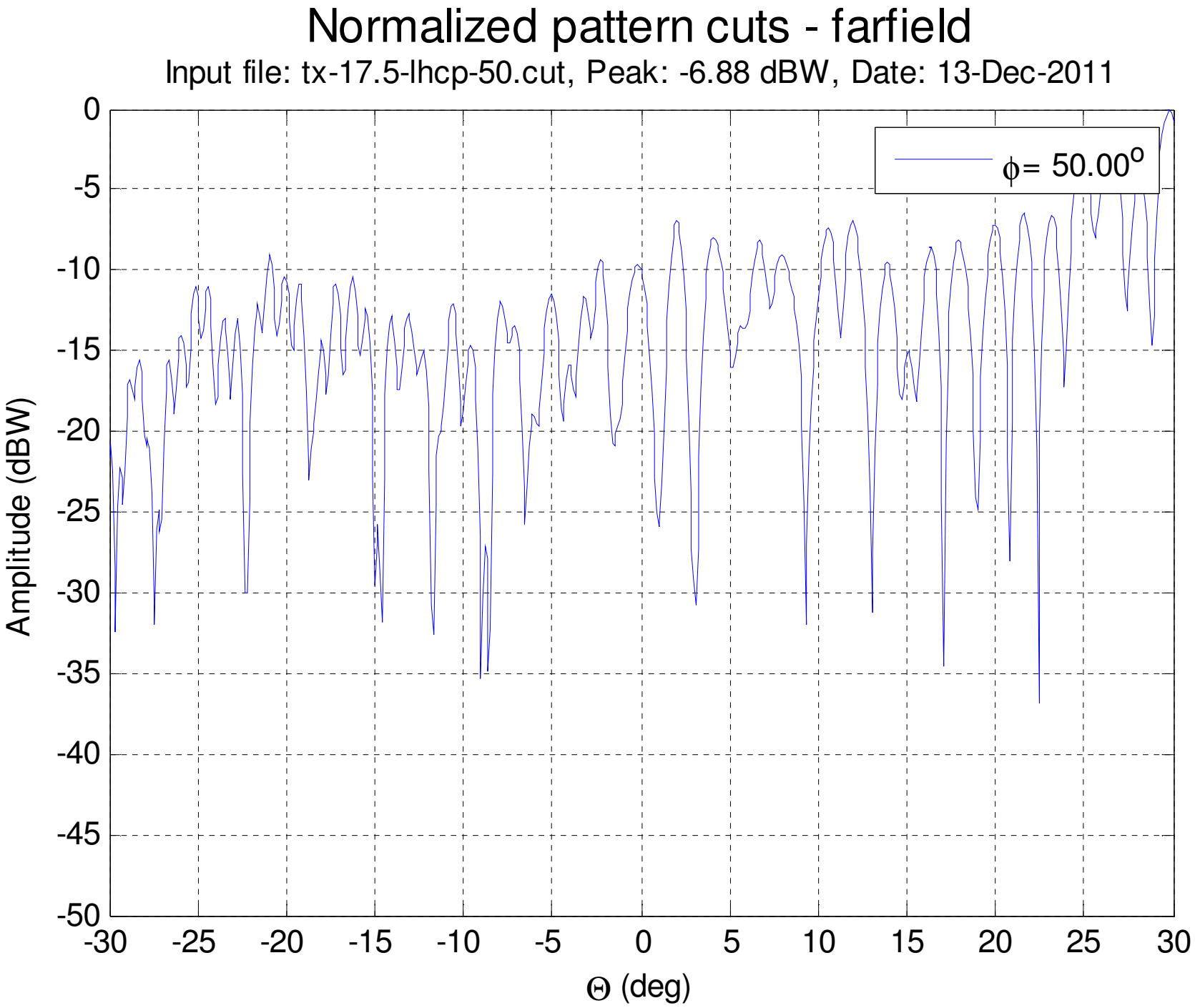

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -2.57 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

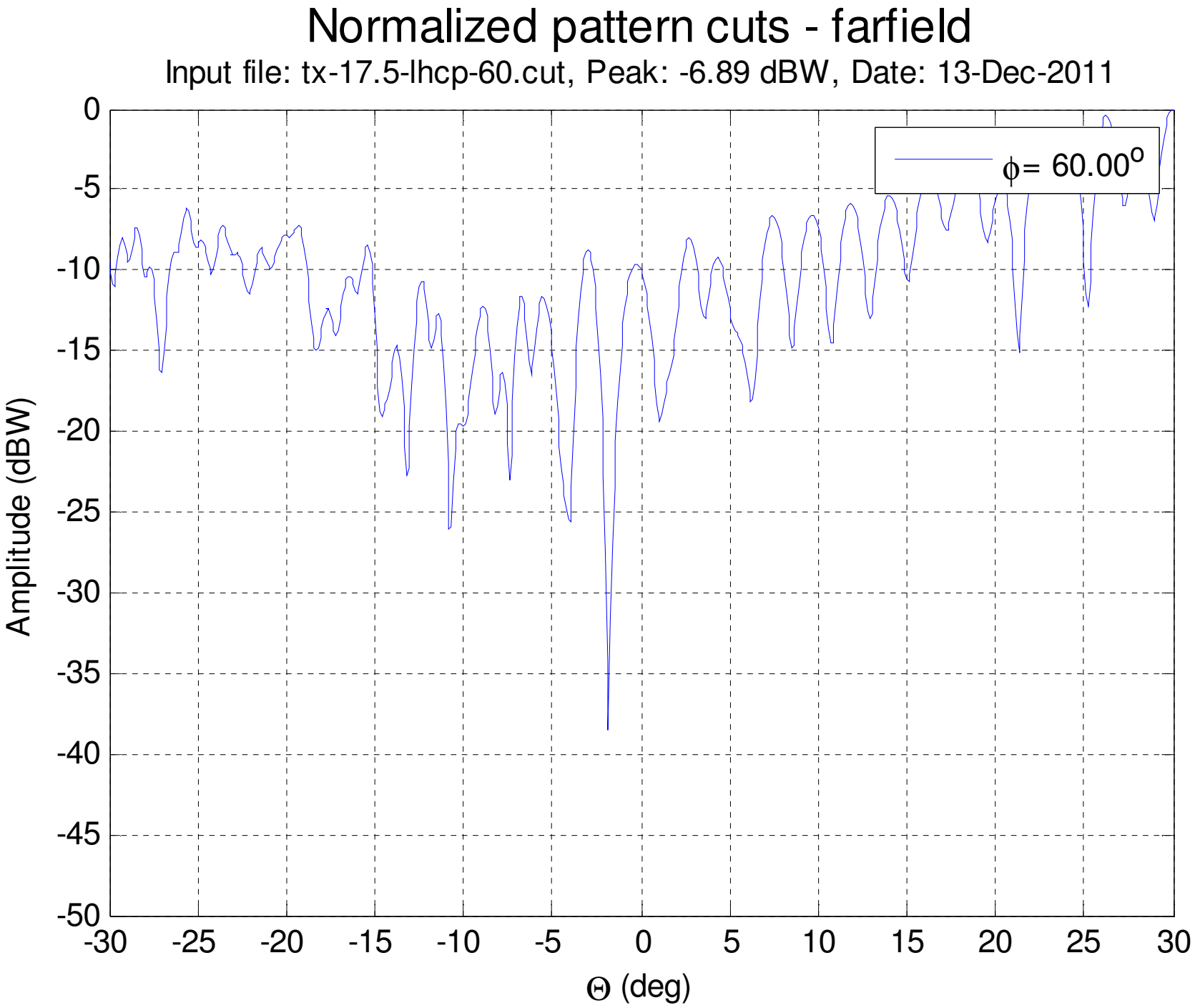

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -2.92 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -3.62 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

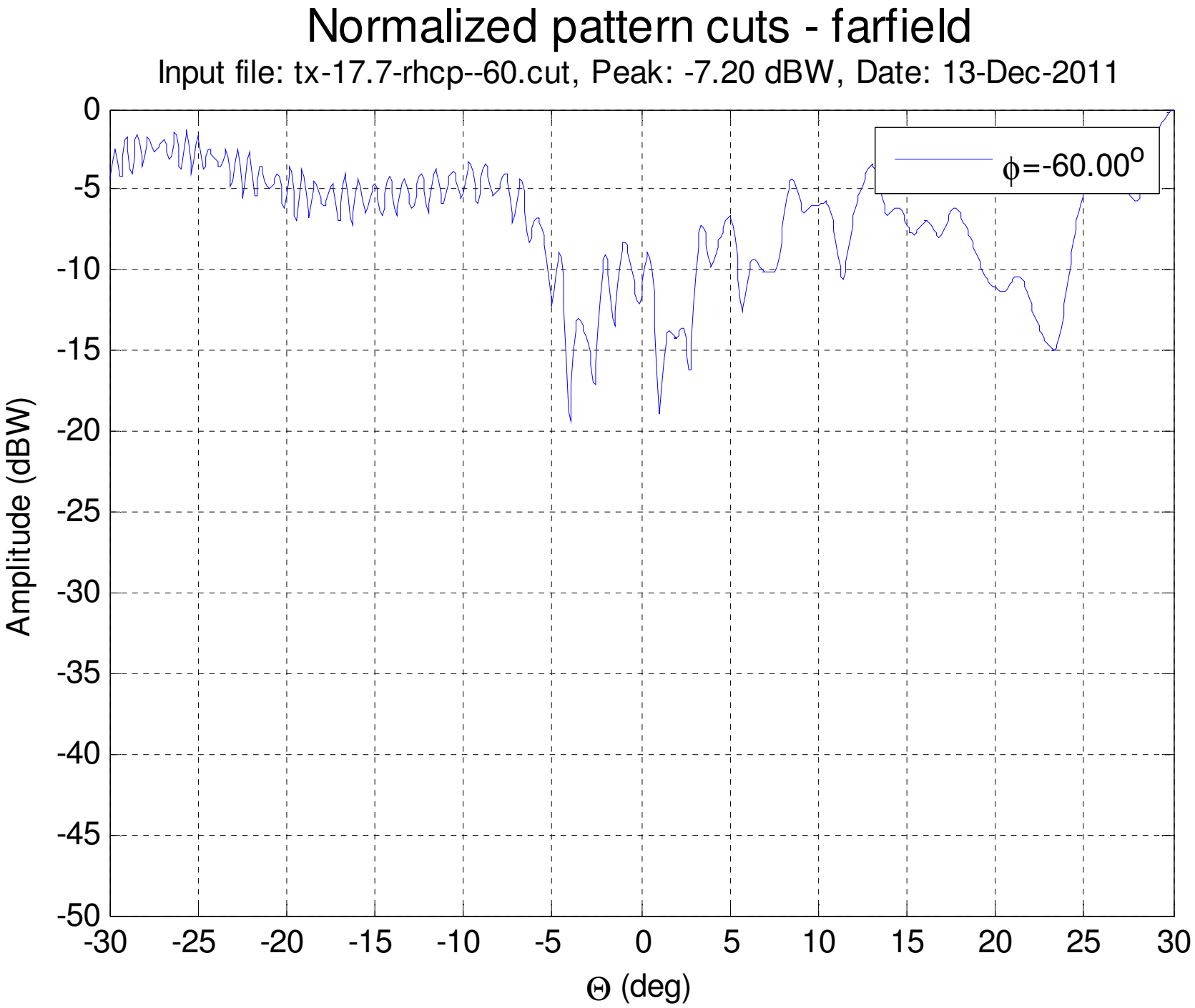

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -6.90 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

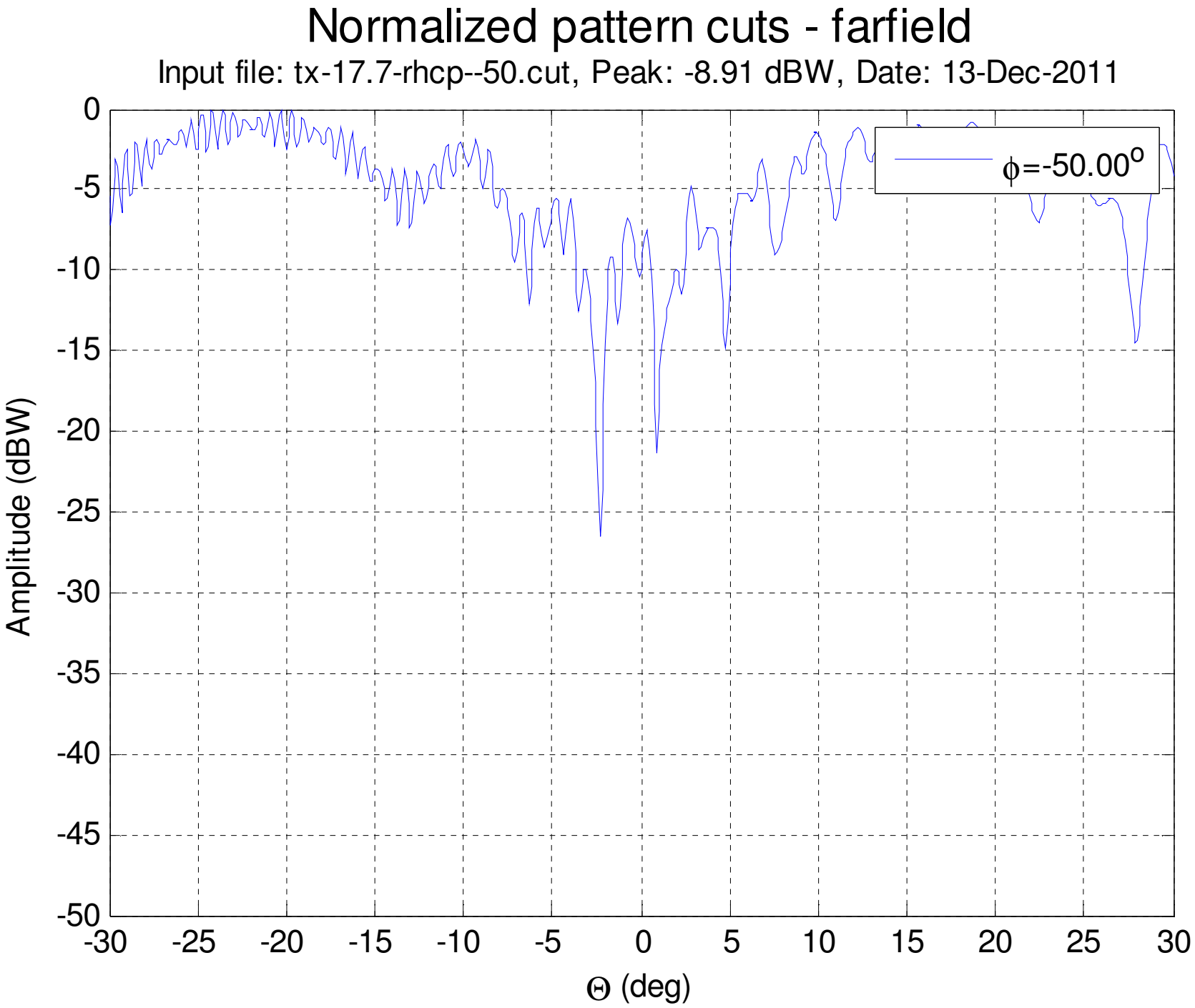

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -9.52 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

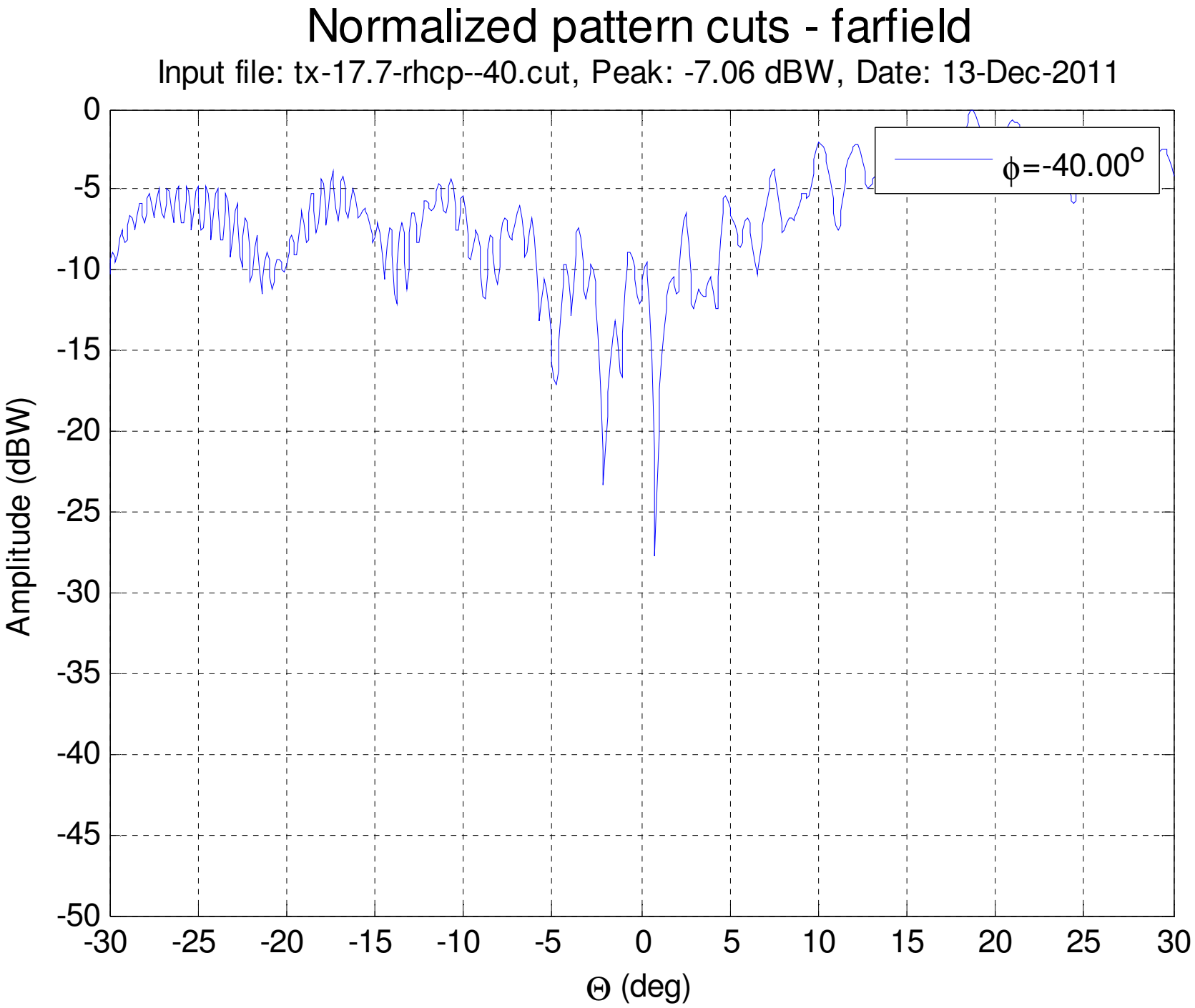

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -6.88 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

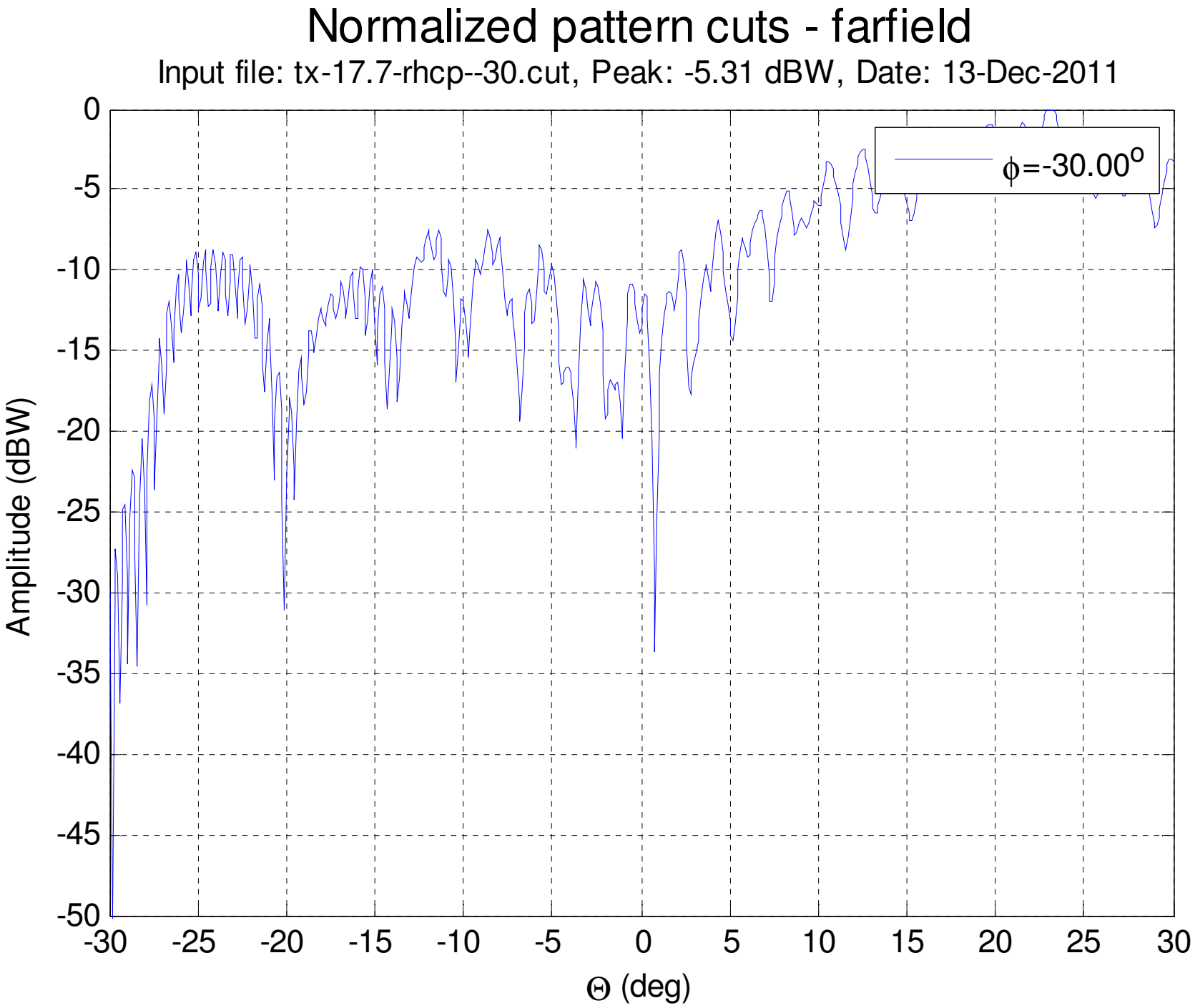

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -6.89 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

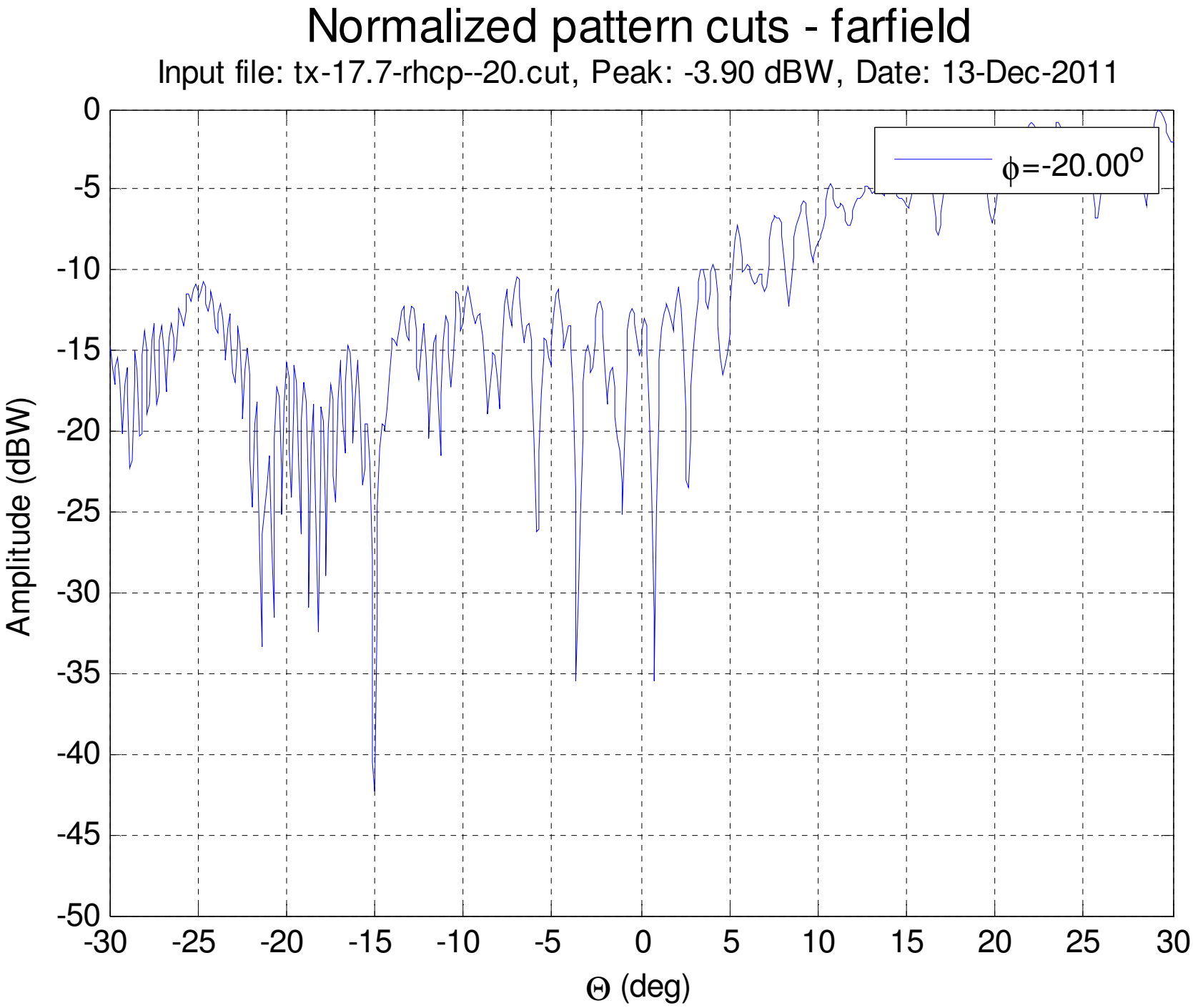
RHCP at 17.7 GHz

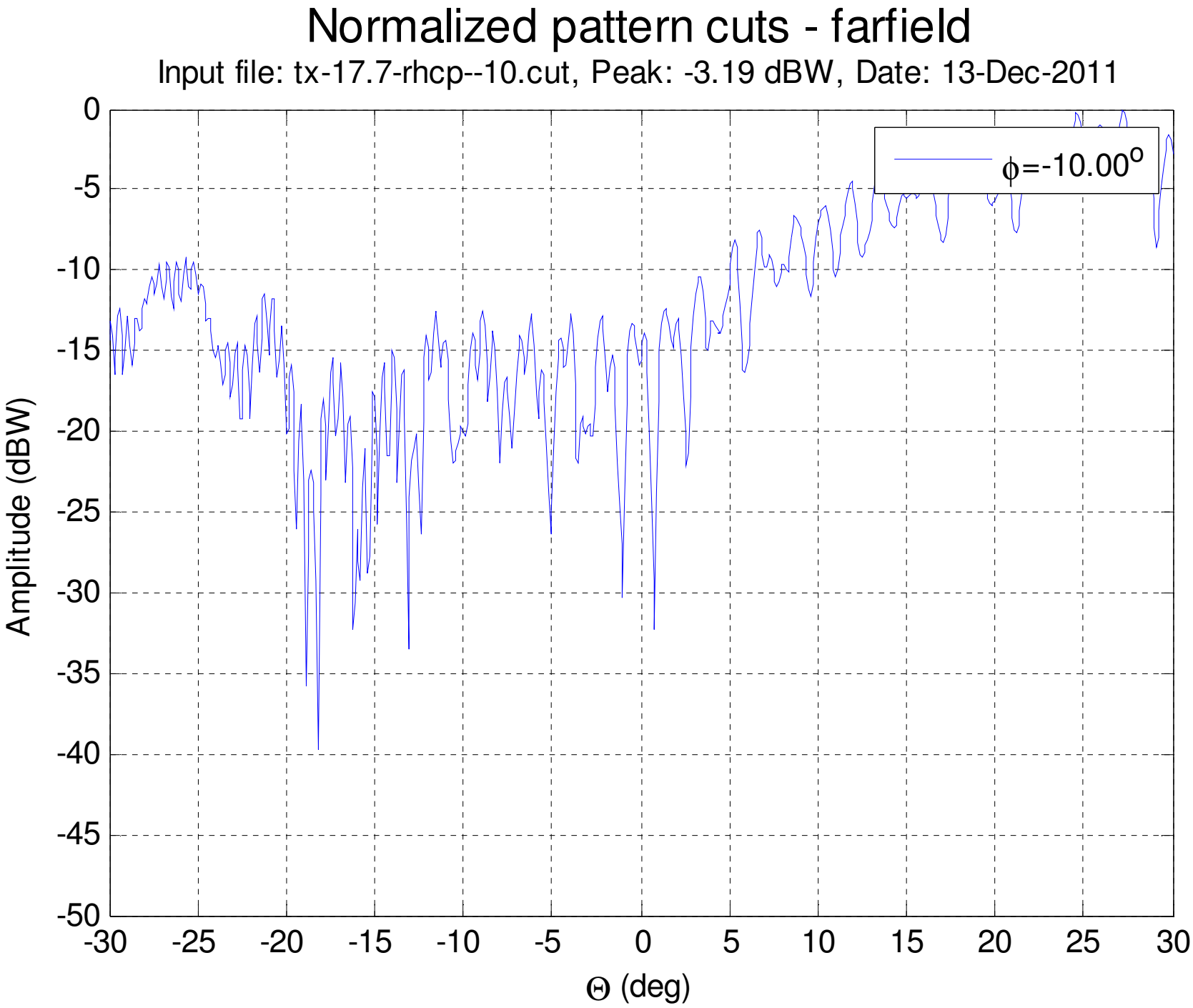

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -7.20 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

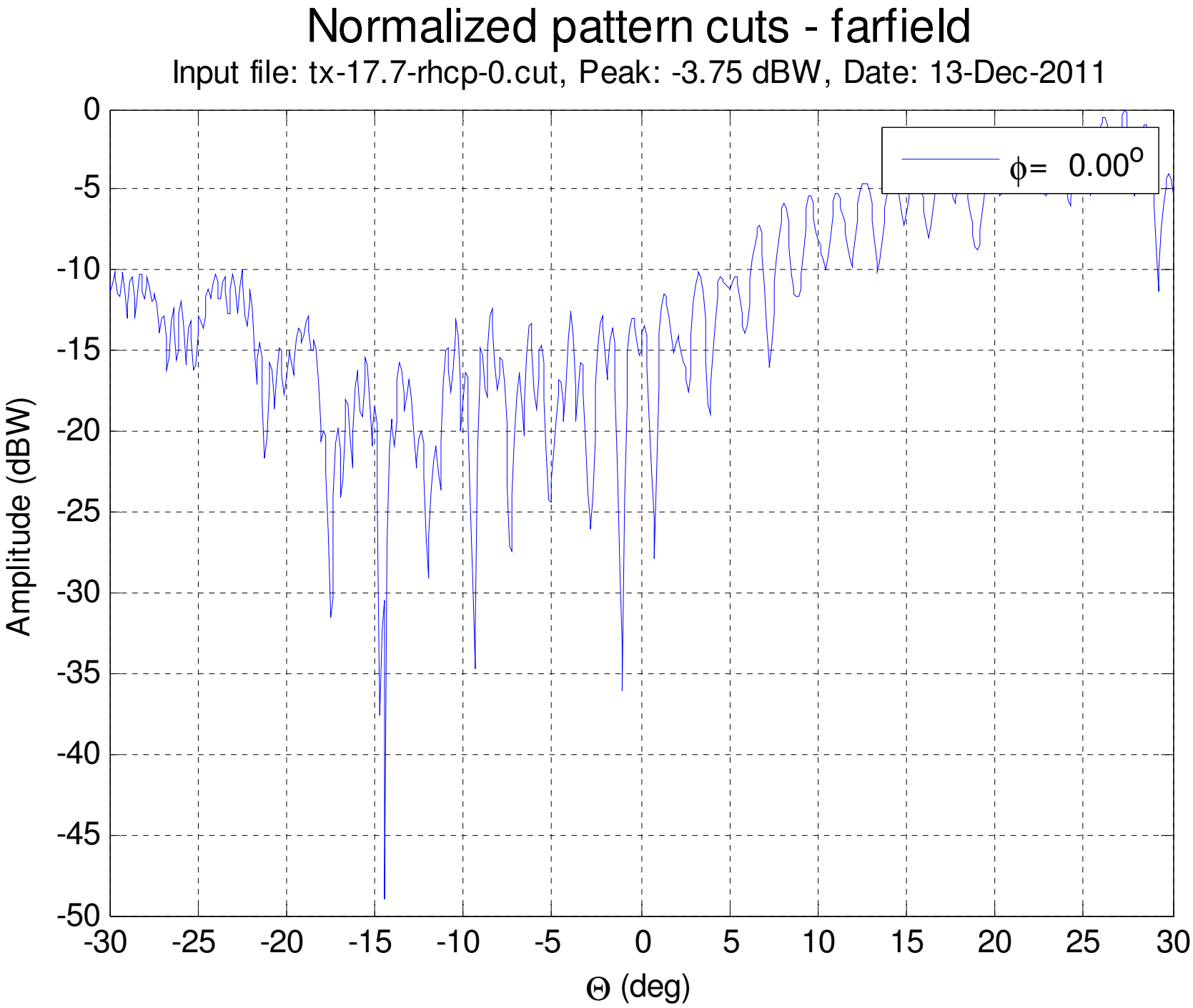

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -8.91 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

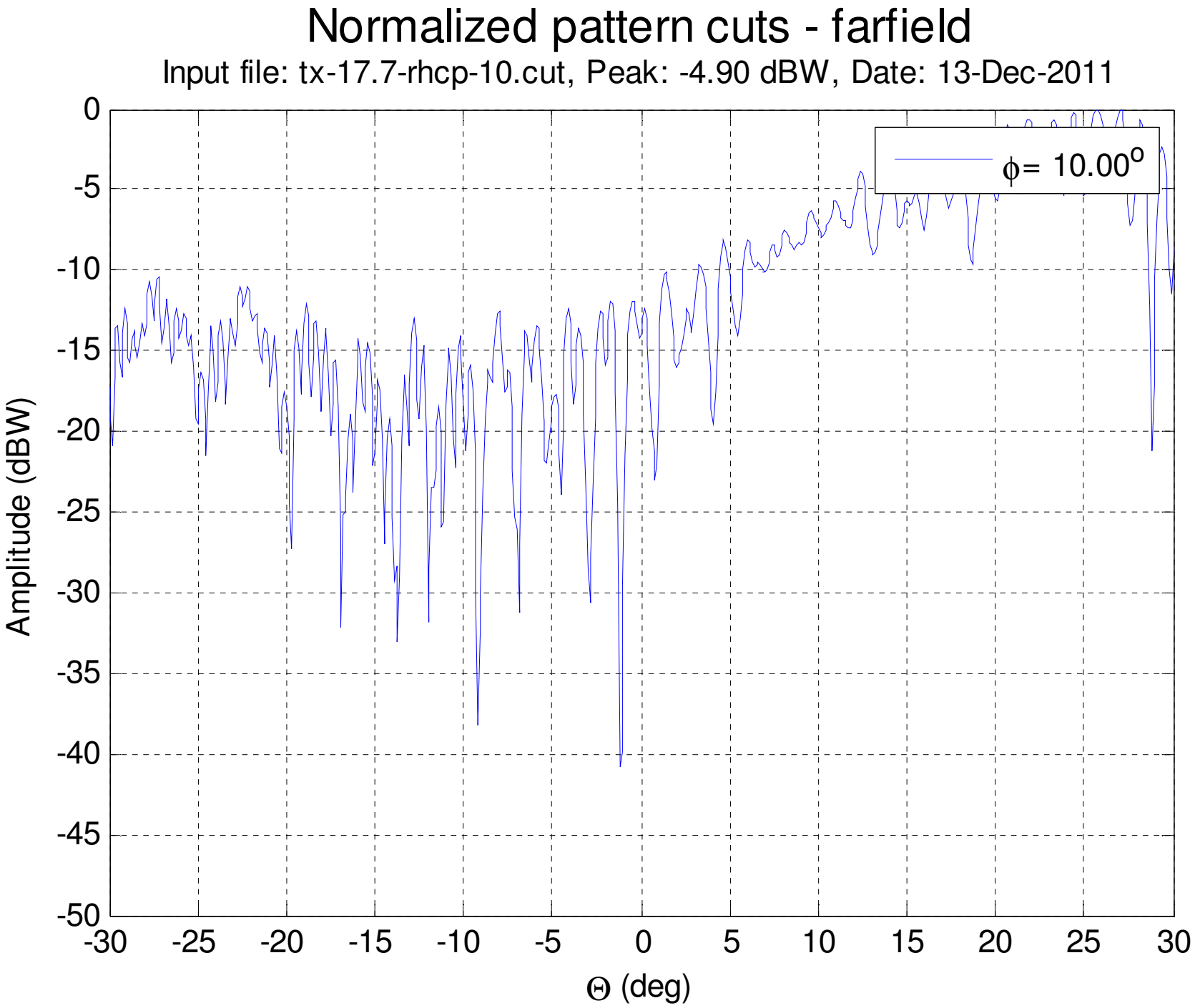

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -7.06 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

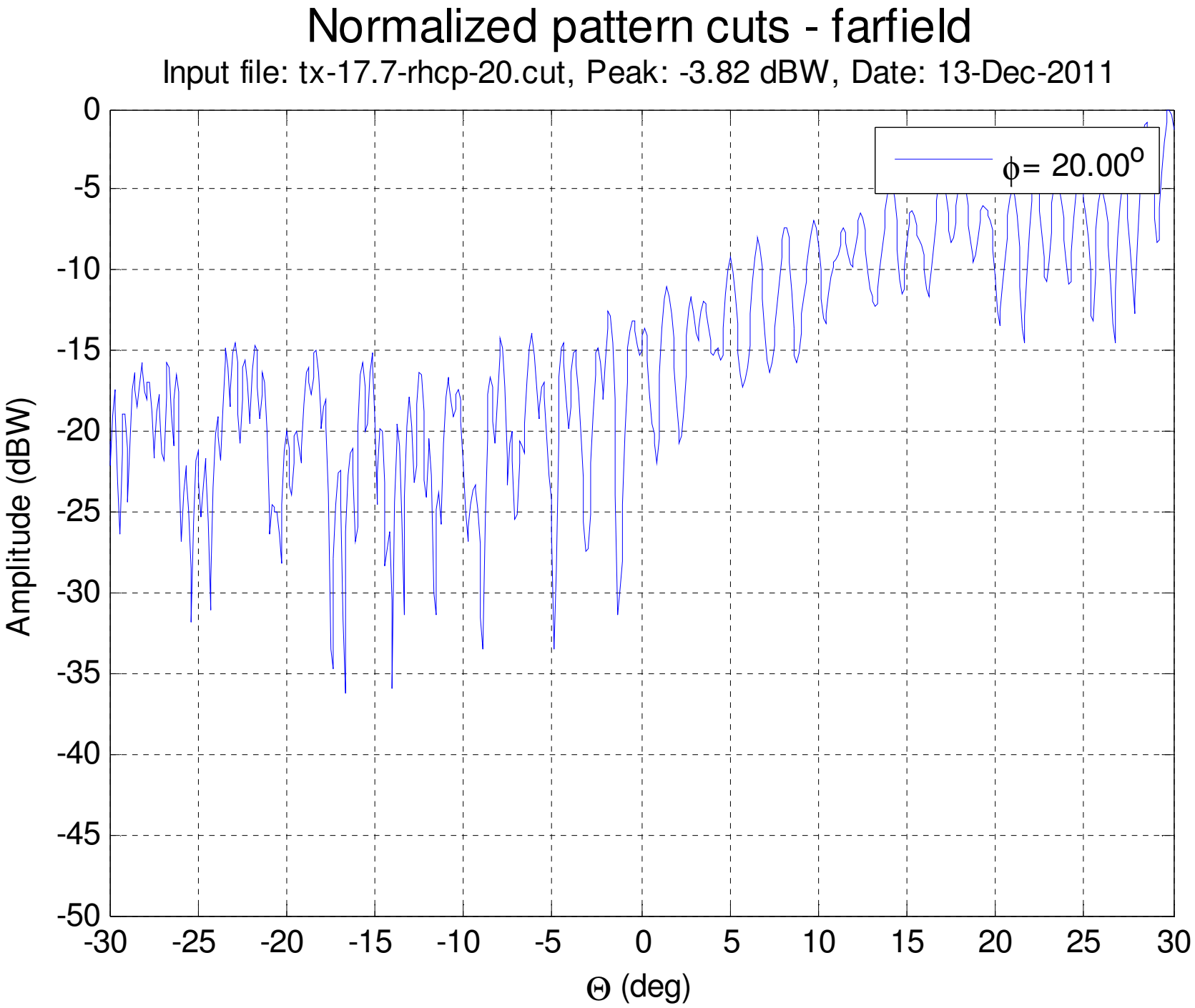

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -5.31 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

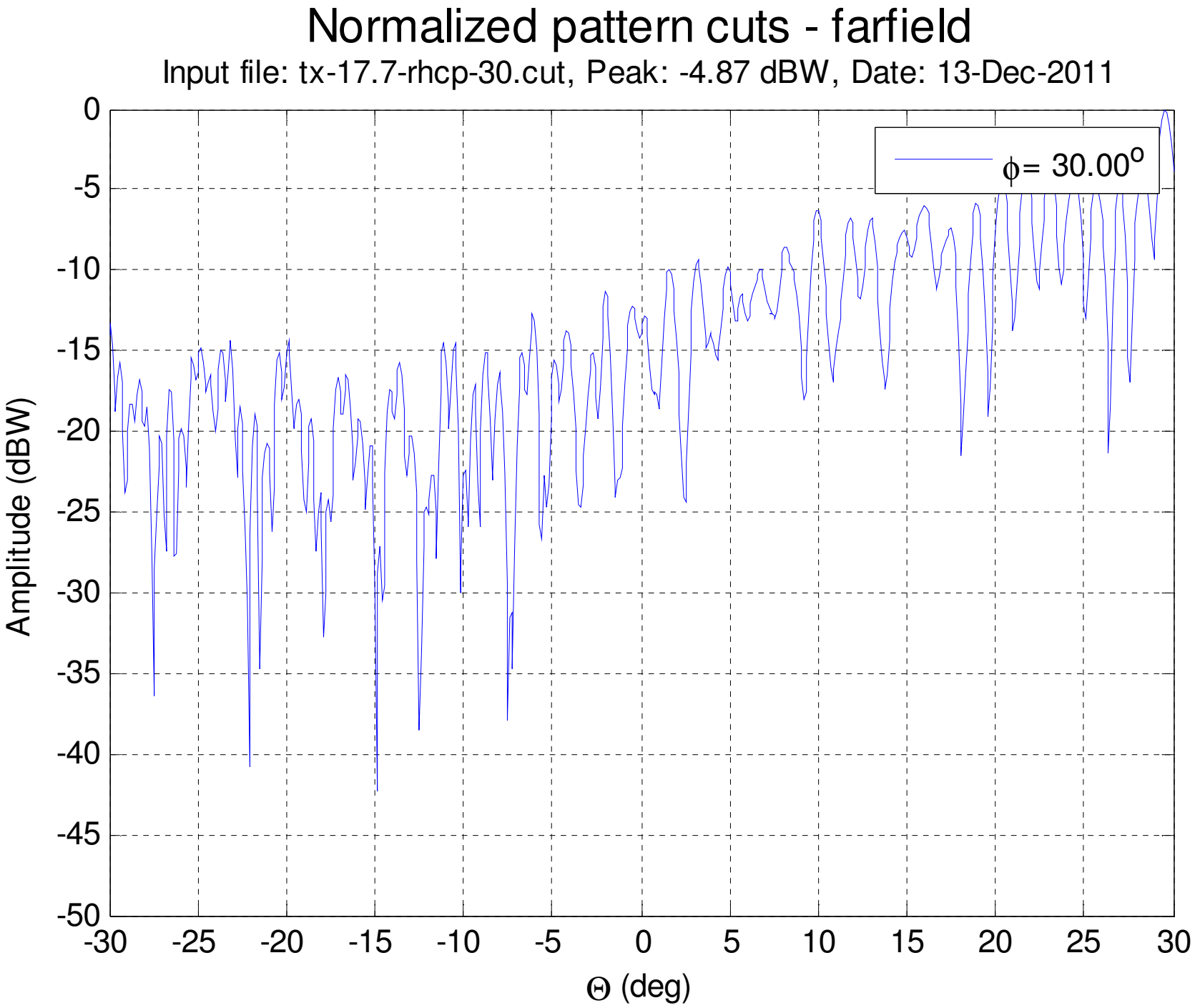

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -3.90 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

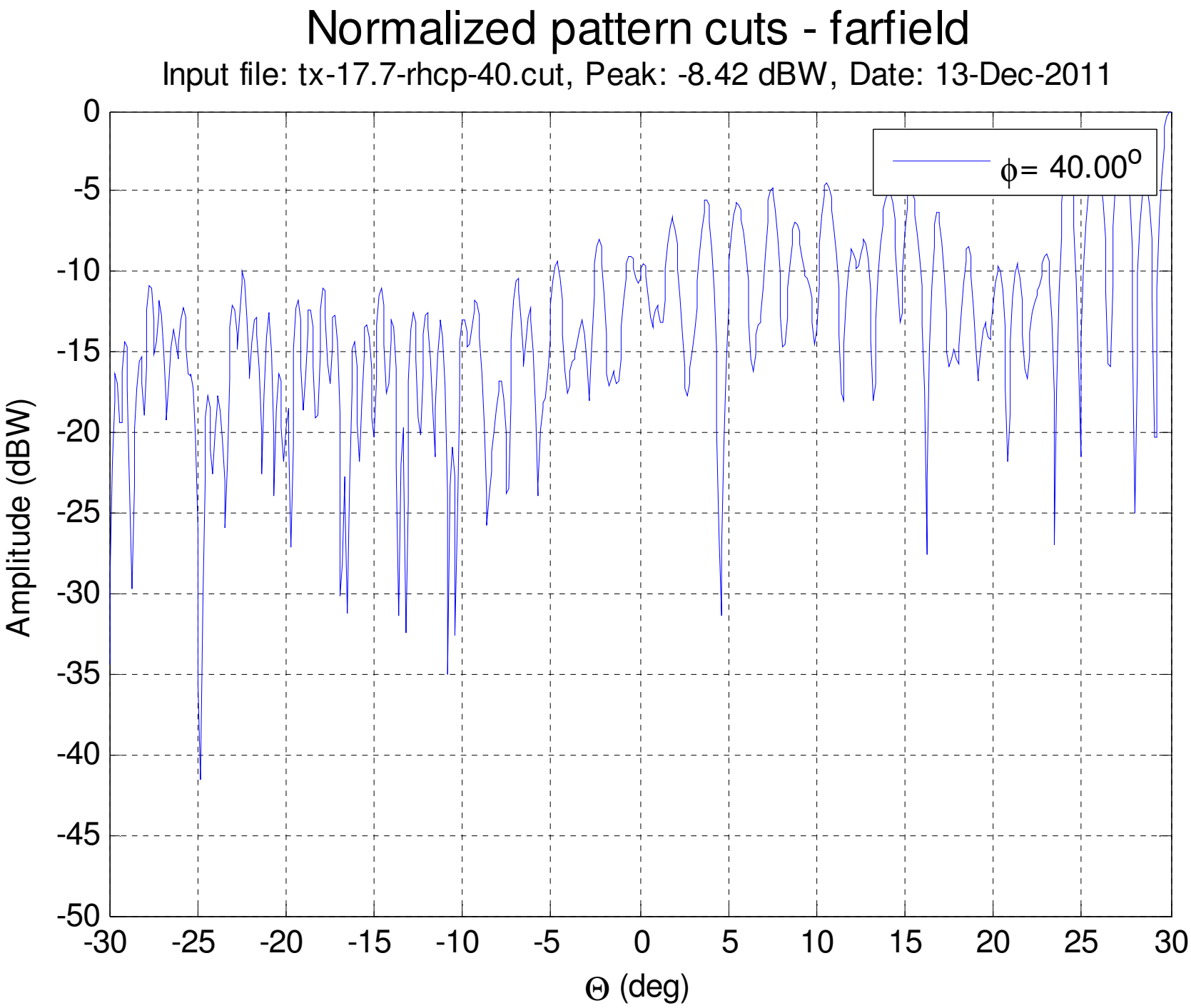

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -3.19 dBW, Date: 13-Dec-2011
φ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

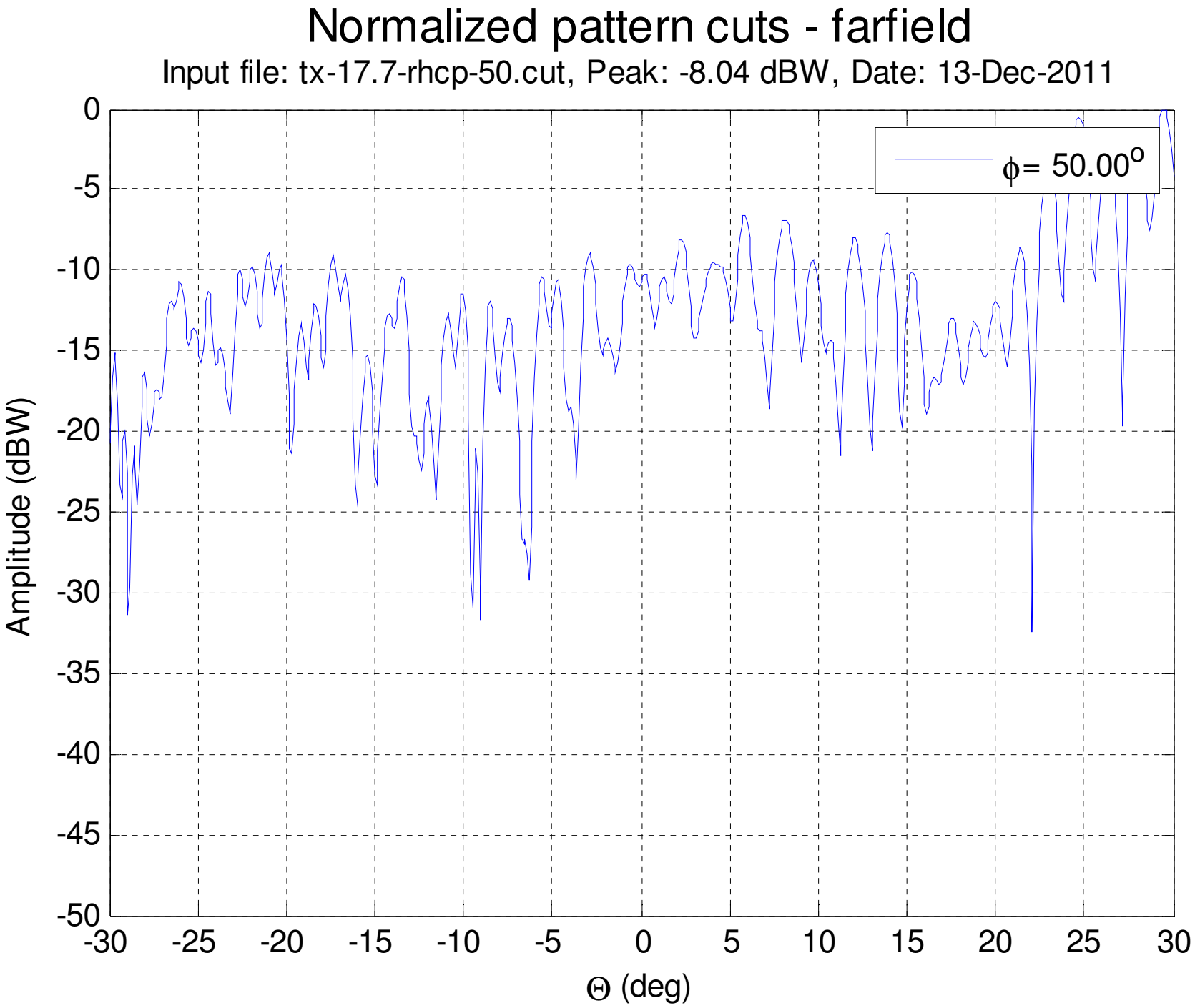

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -3.75 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

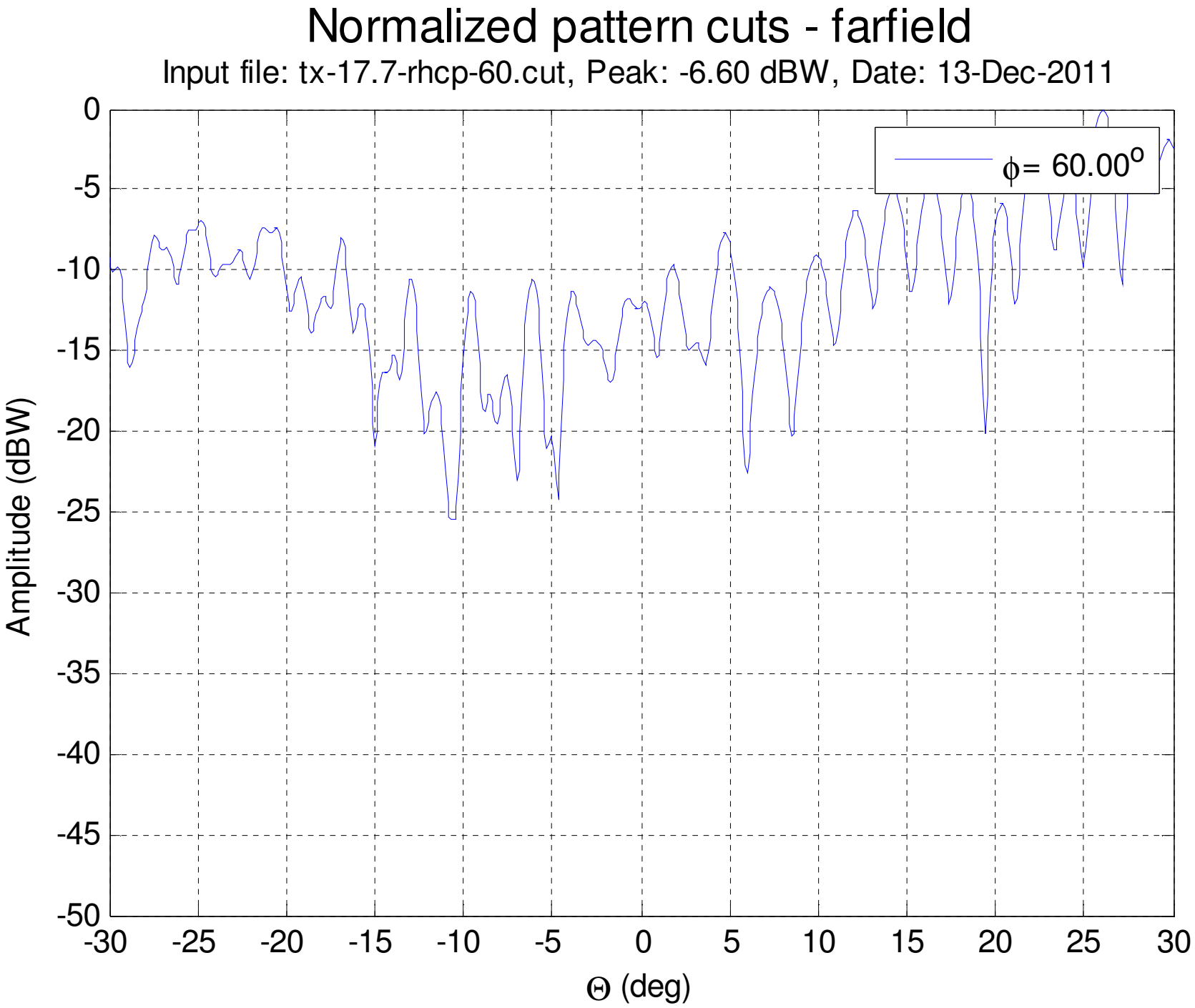

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -4.90 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -3.82 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

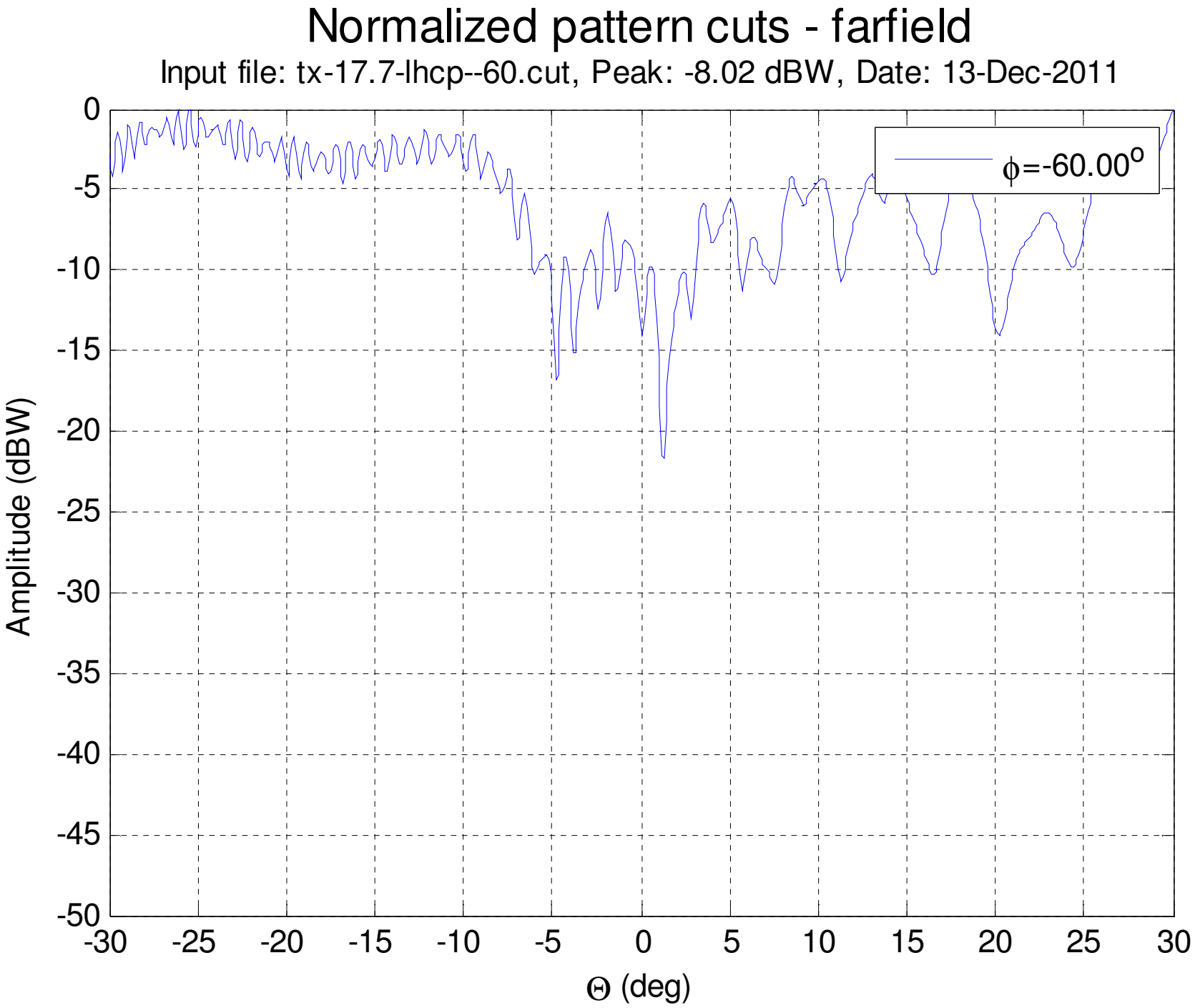

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -4.87 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

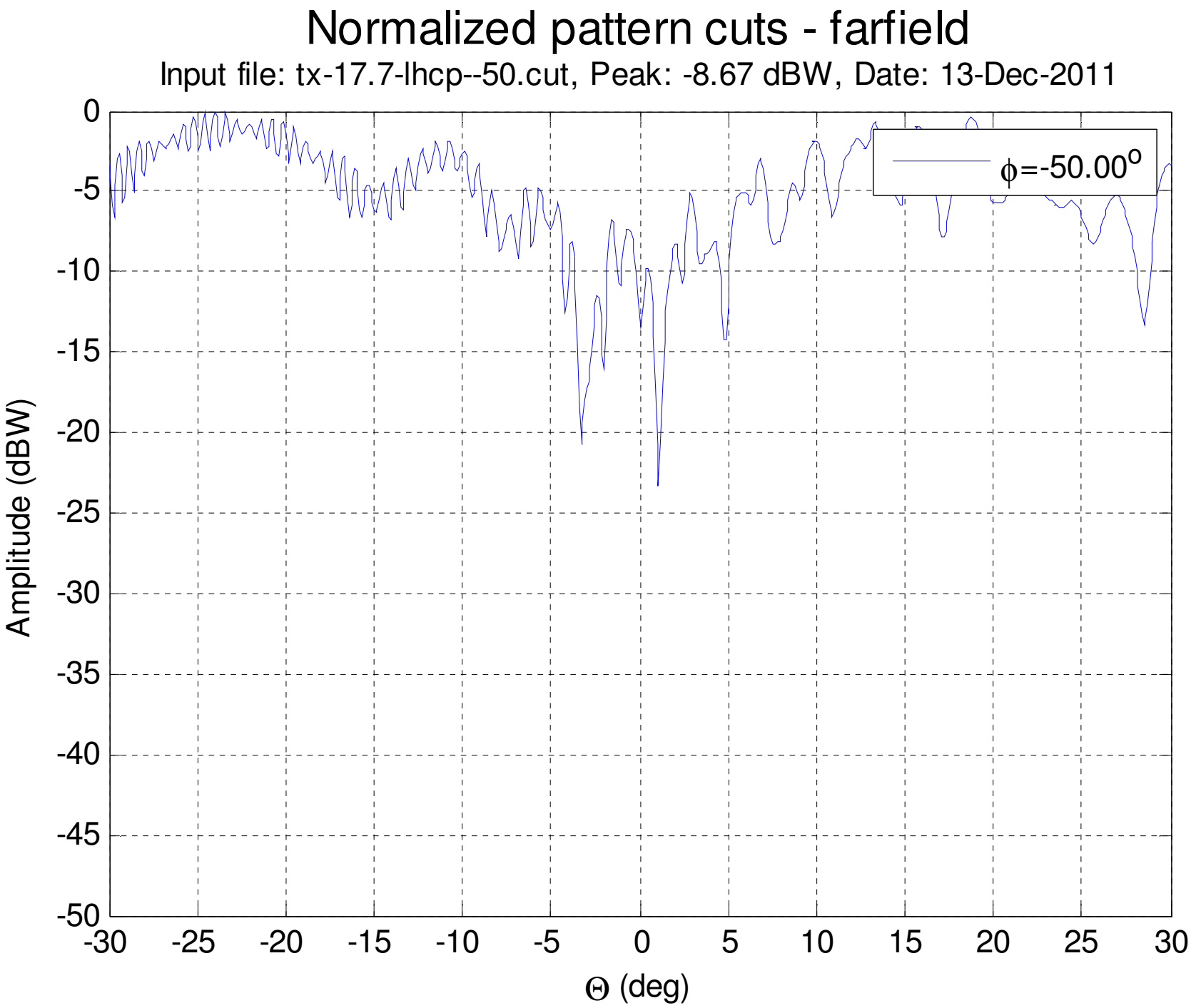

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -8.42 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

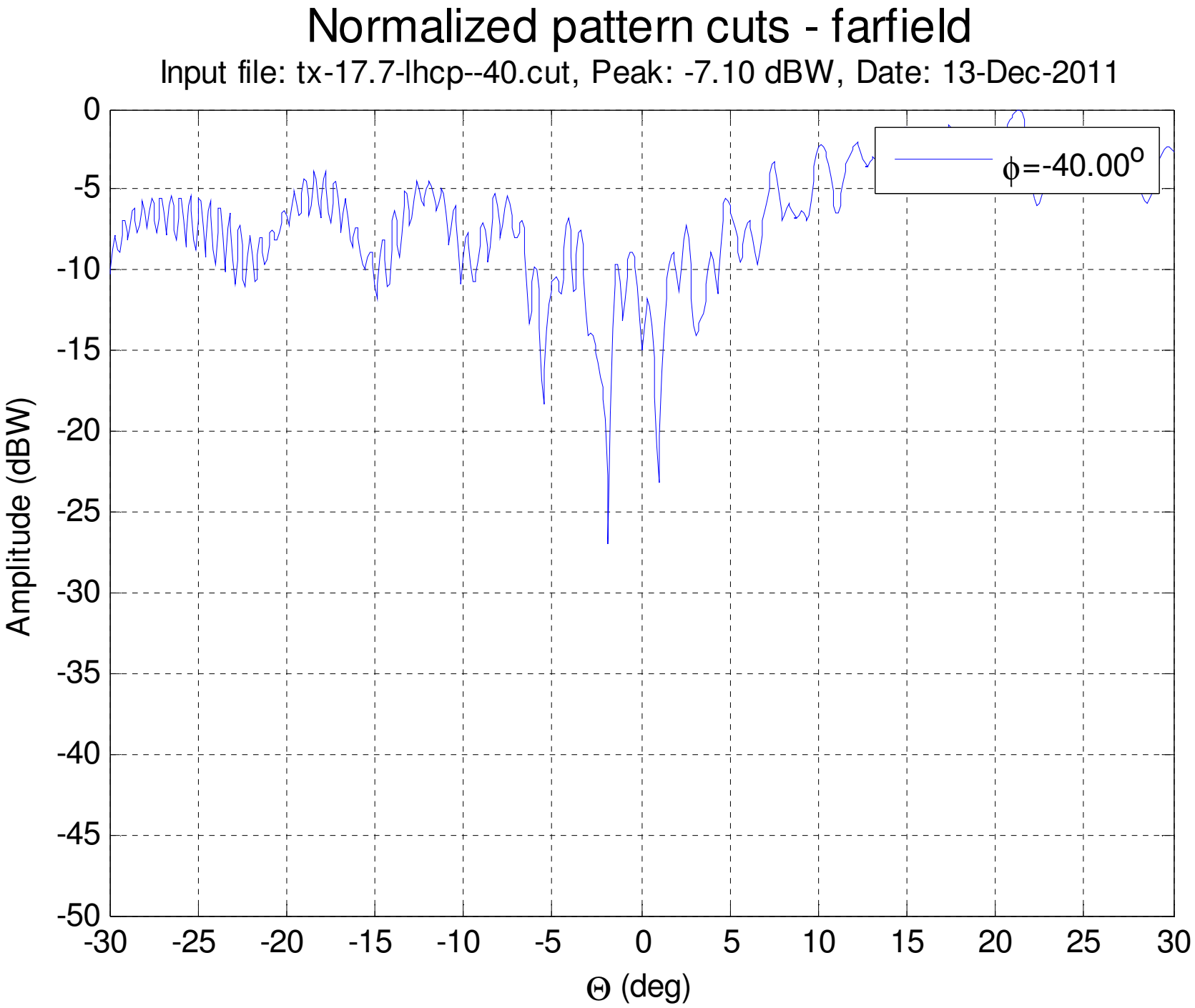

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -8.04 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

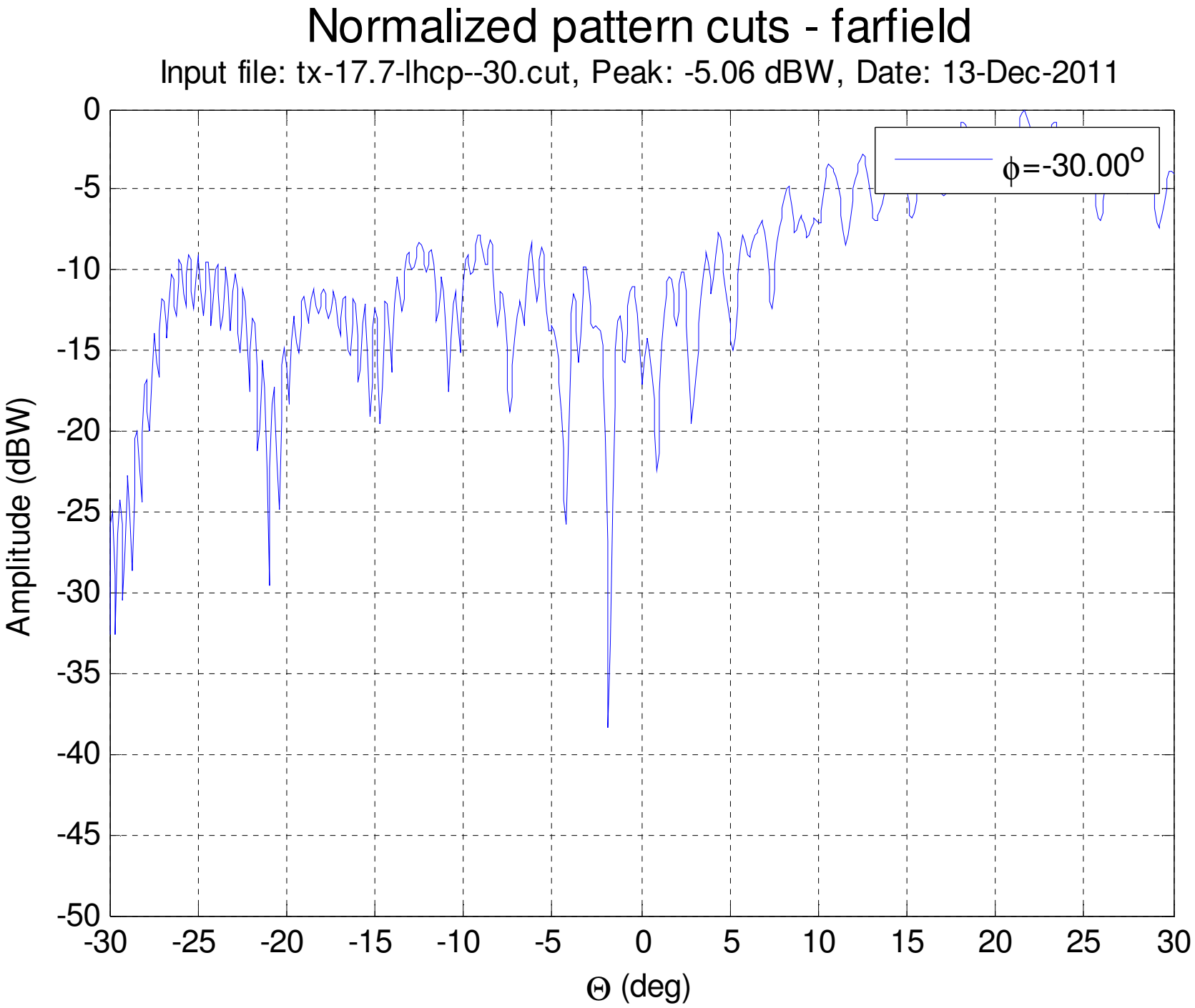

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -6.60 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

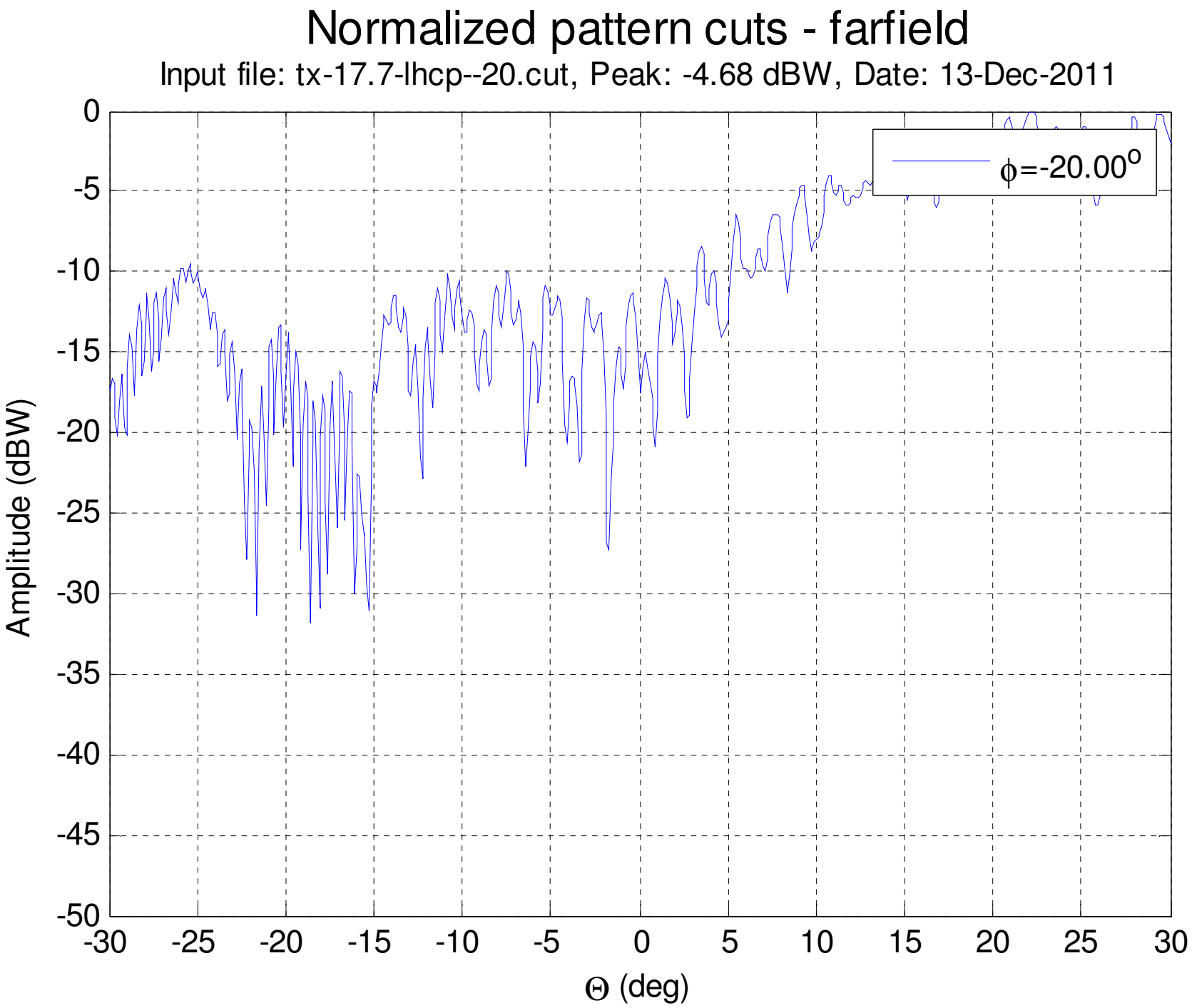
LHCP at 17.7 GHz

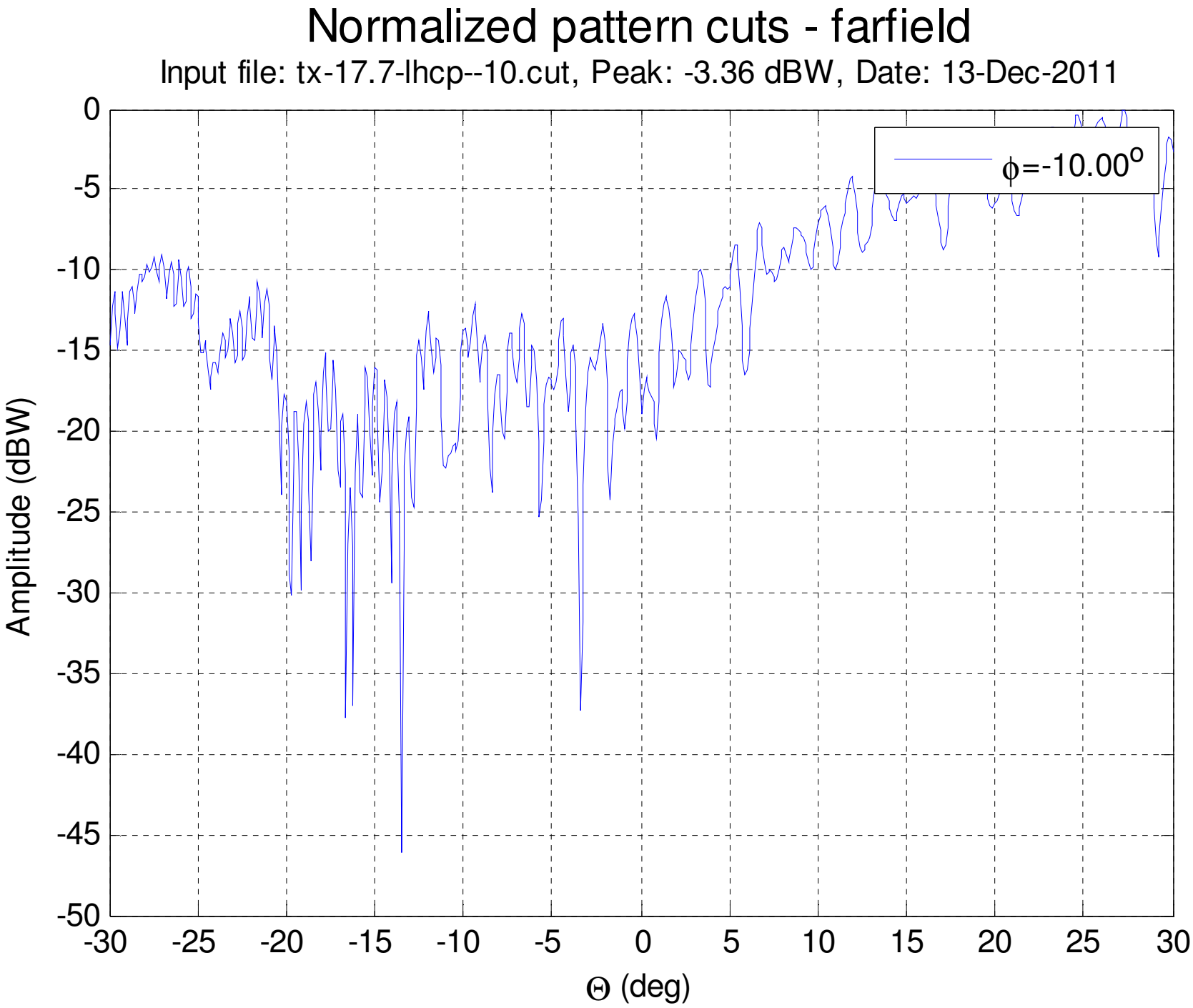

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.02 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

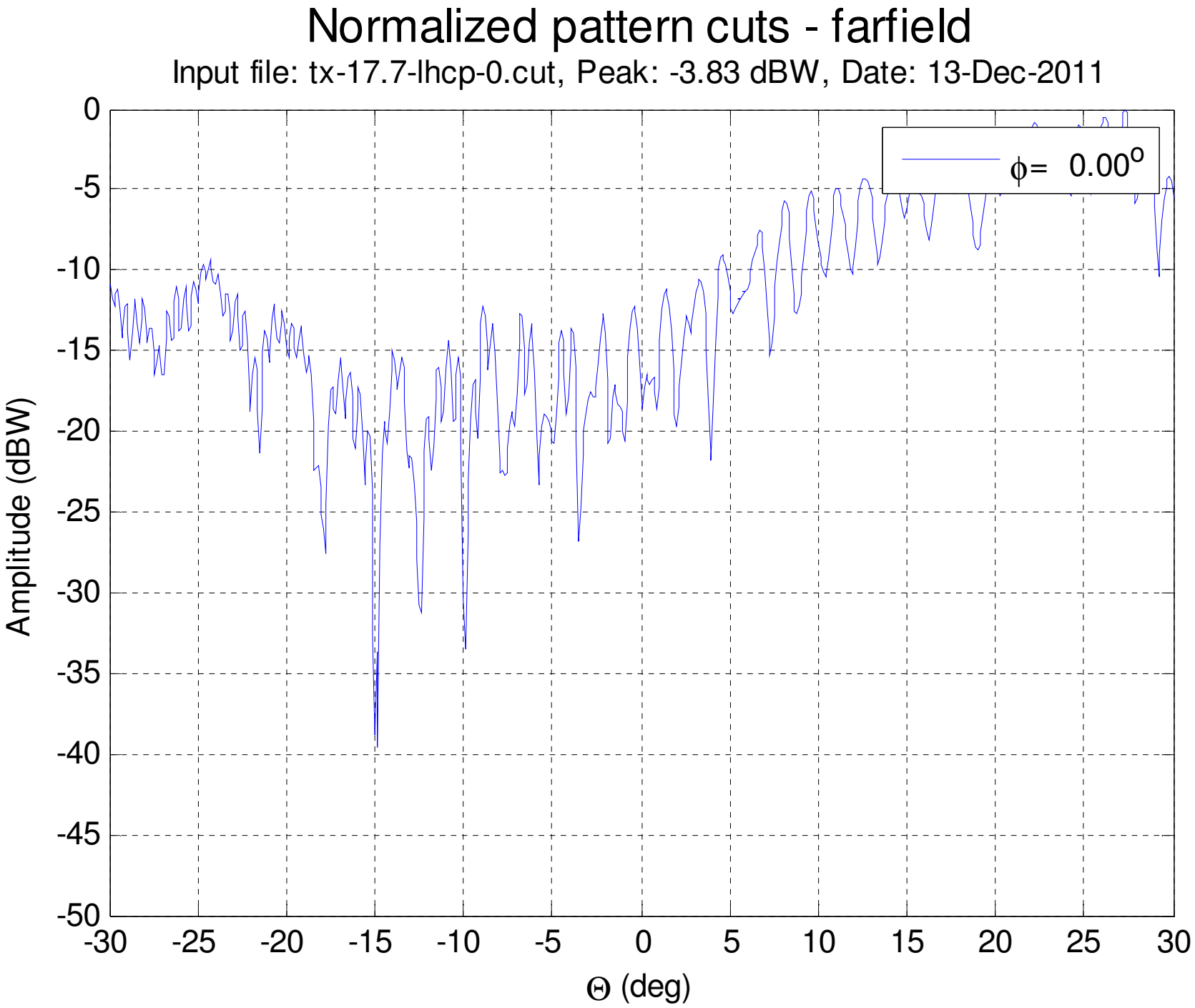

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -8.67 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

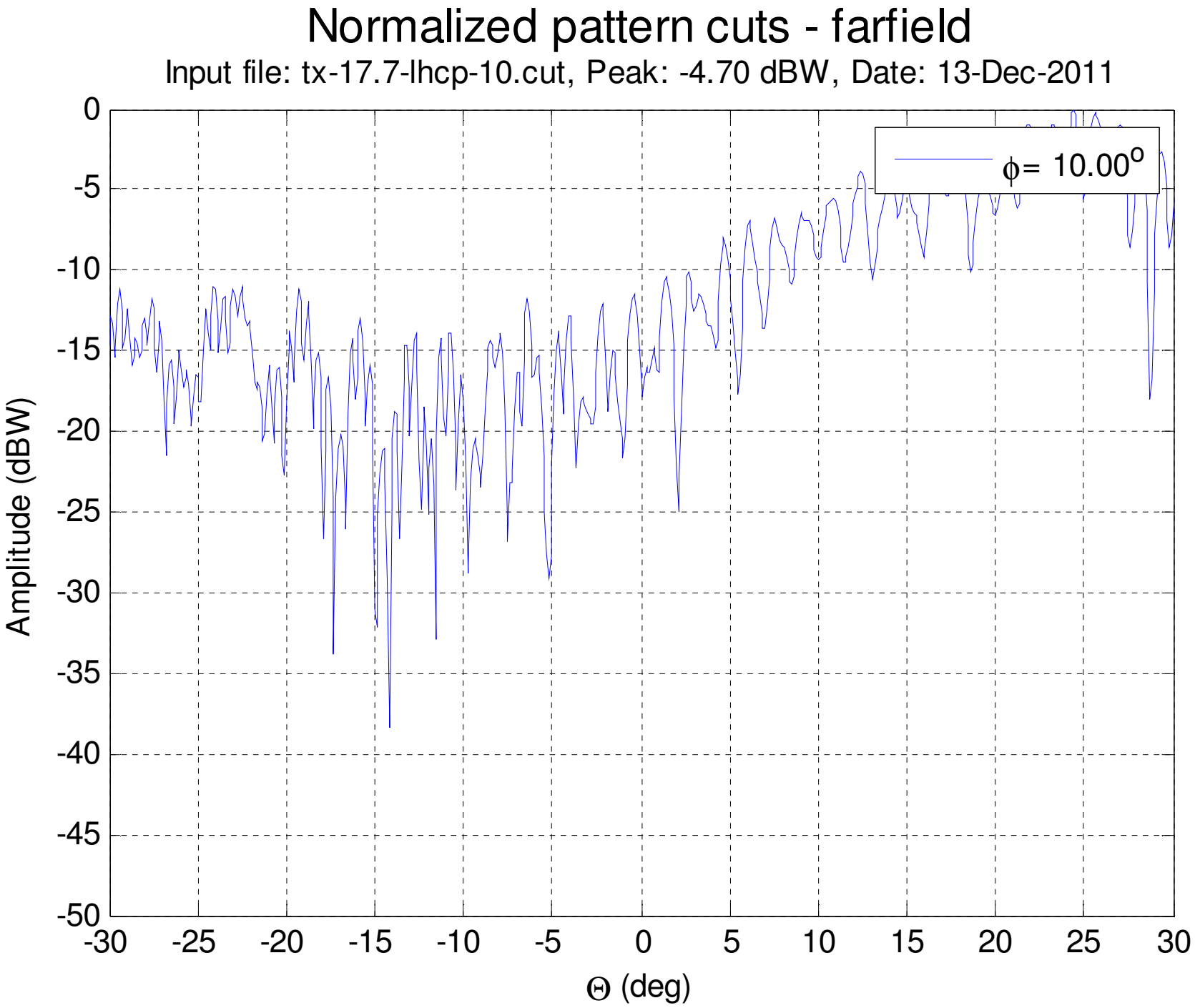

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -7.10 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

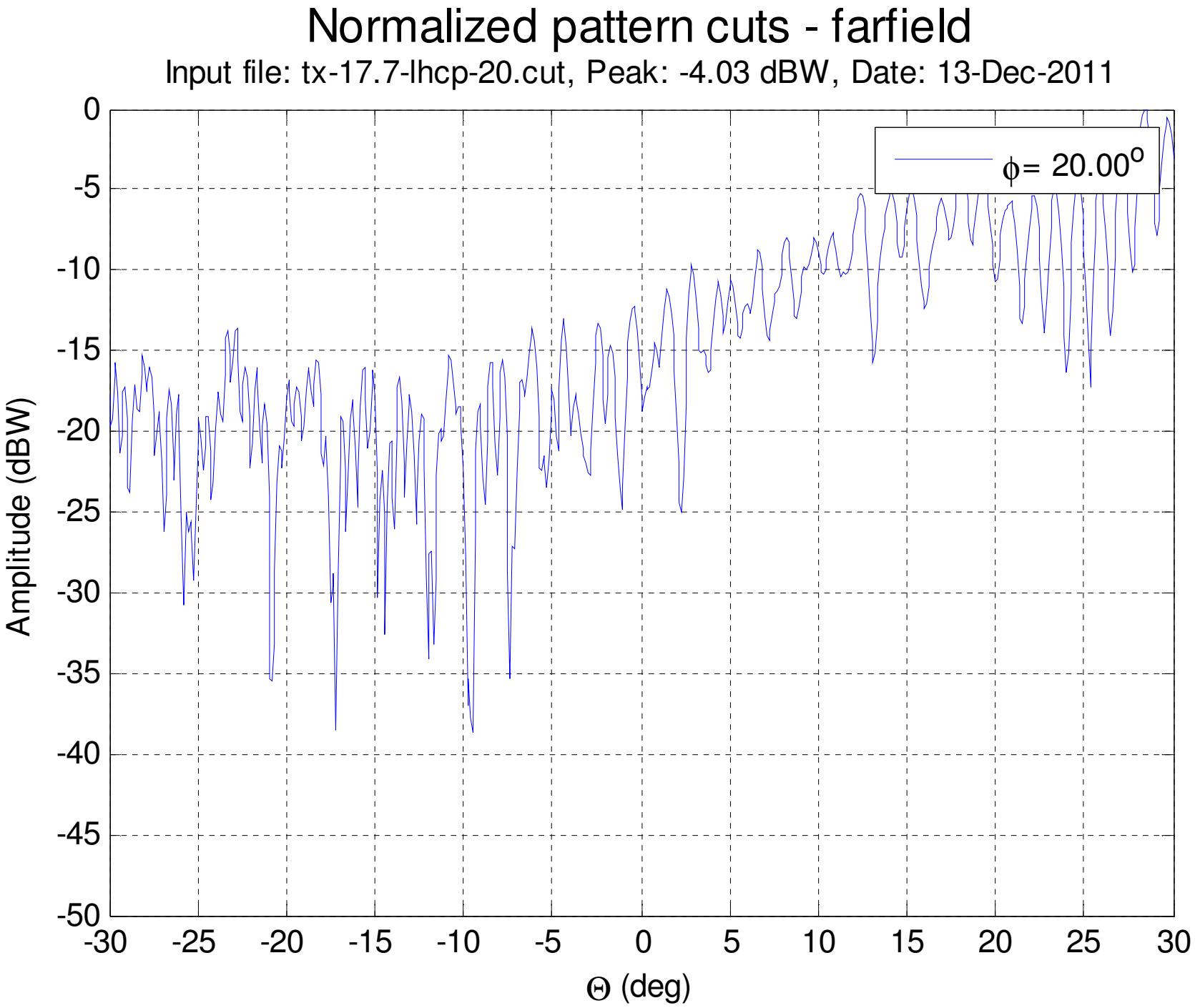

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -5.06 dBW, Date: 13-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

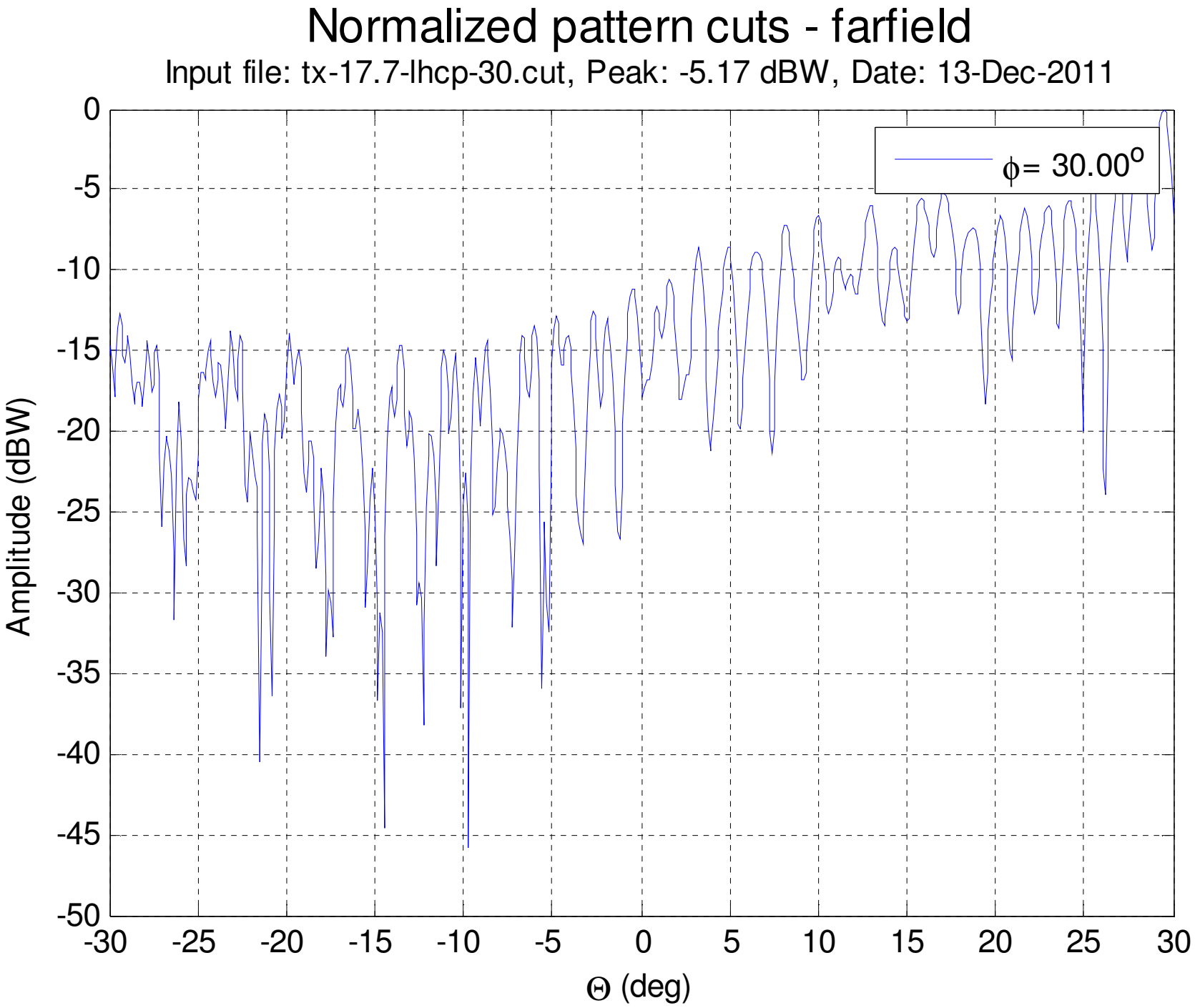

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -4.68 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

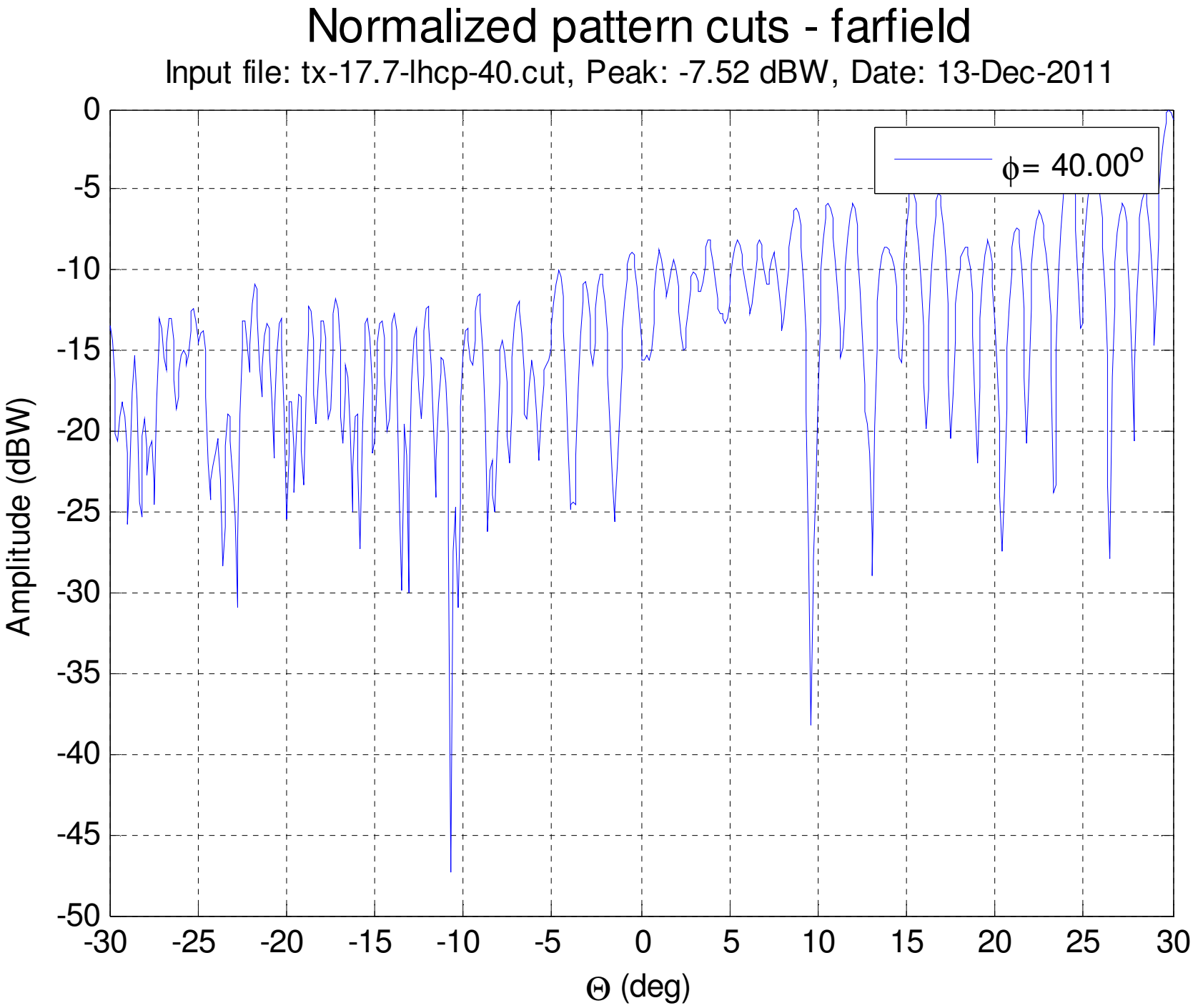

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -3.36 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

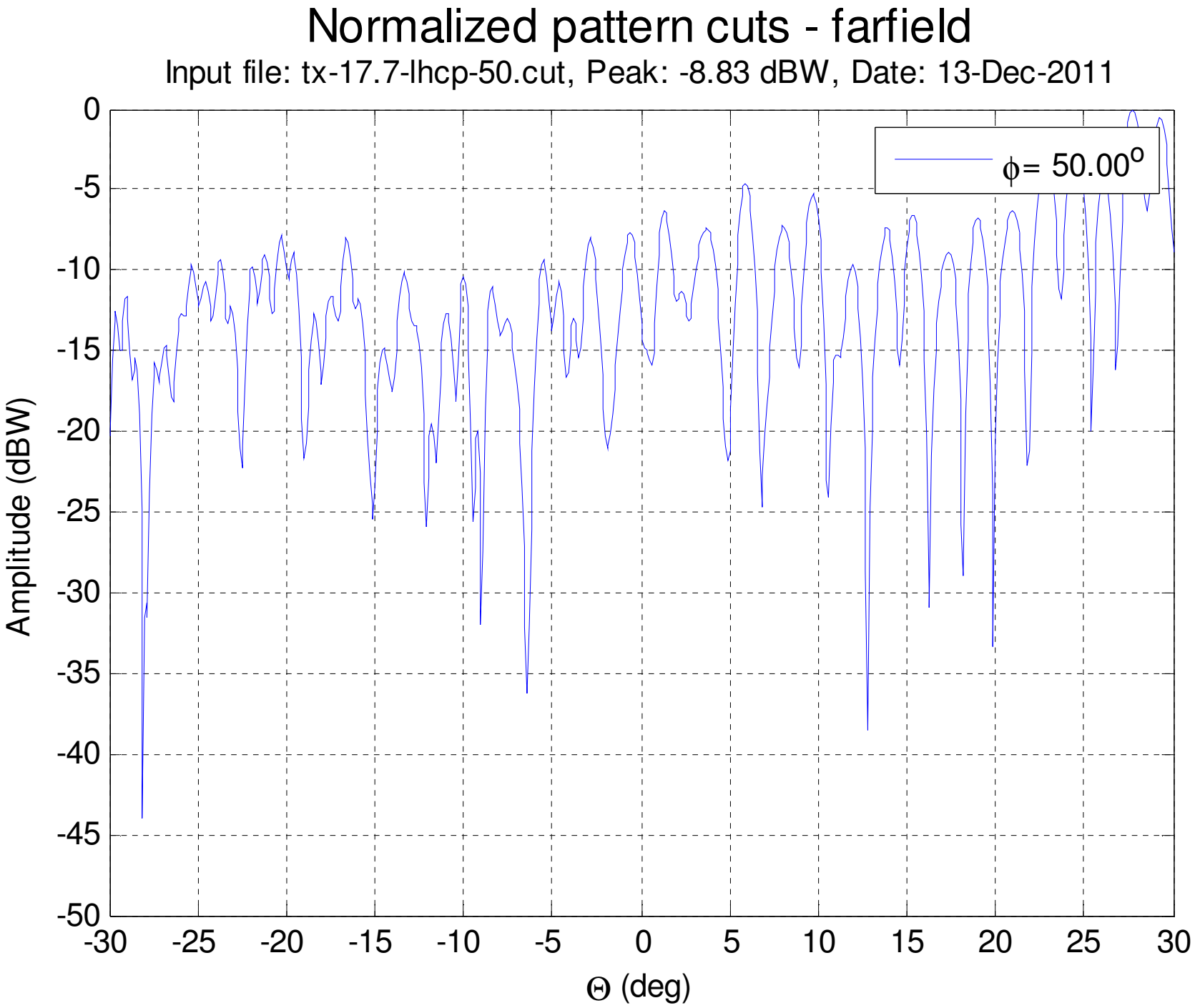

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -3.83 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

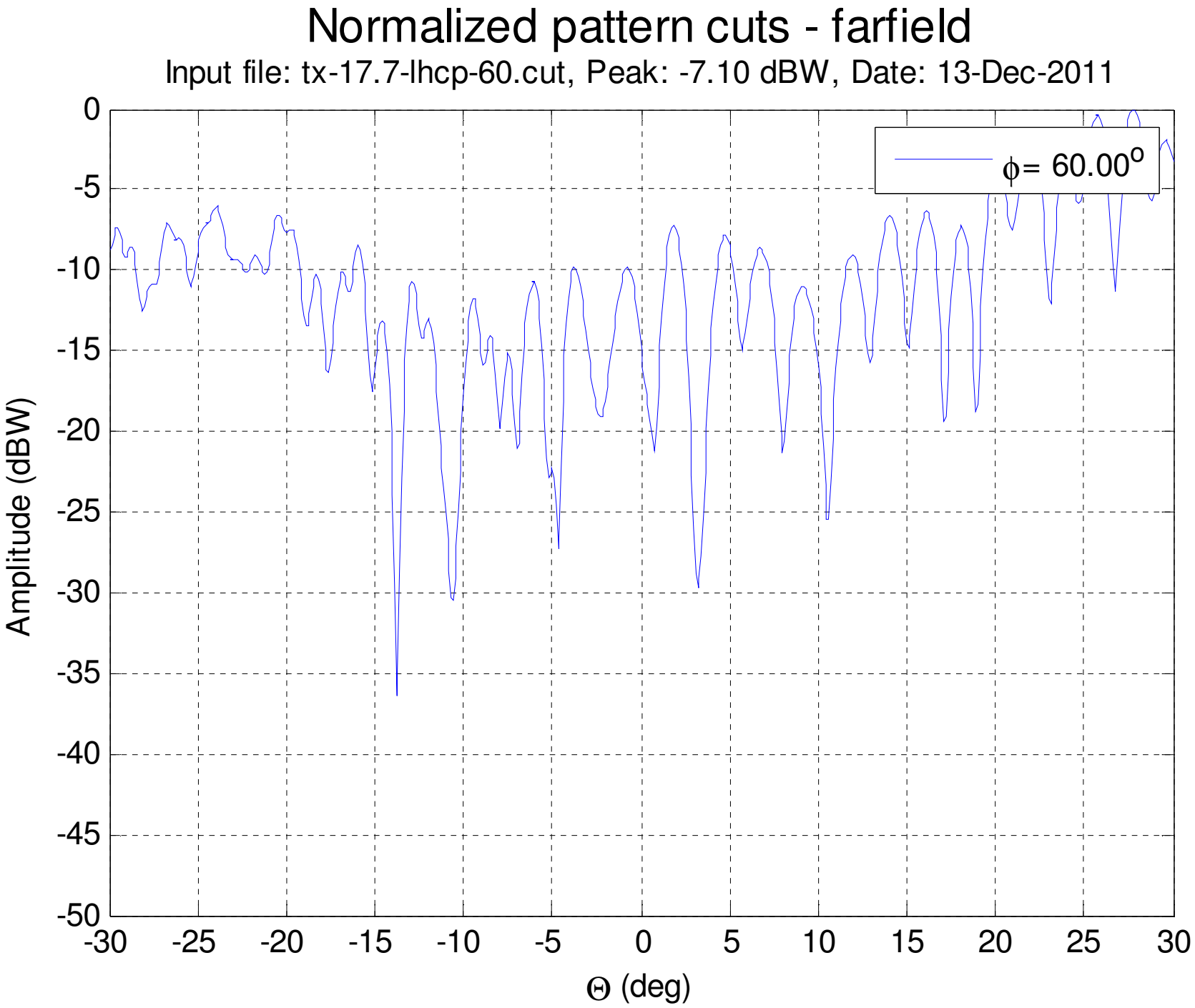

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -4.70 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -4.03 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -5.17 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -7.52 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

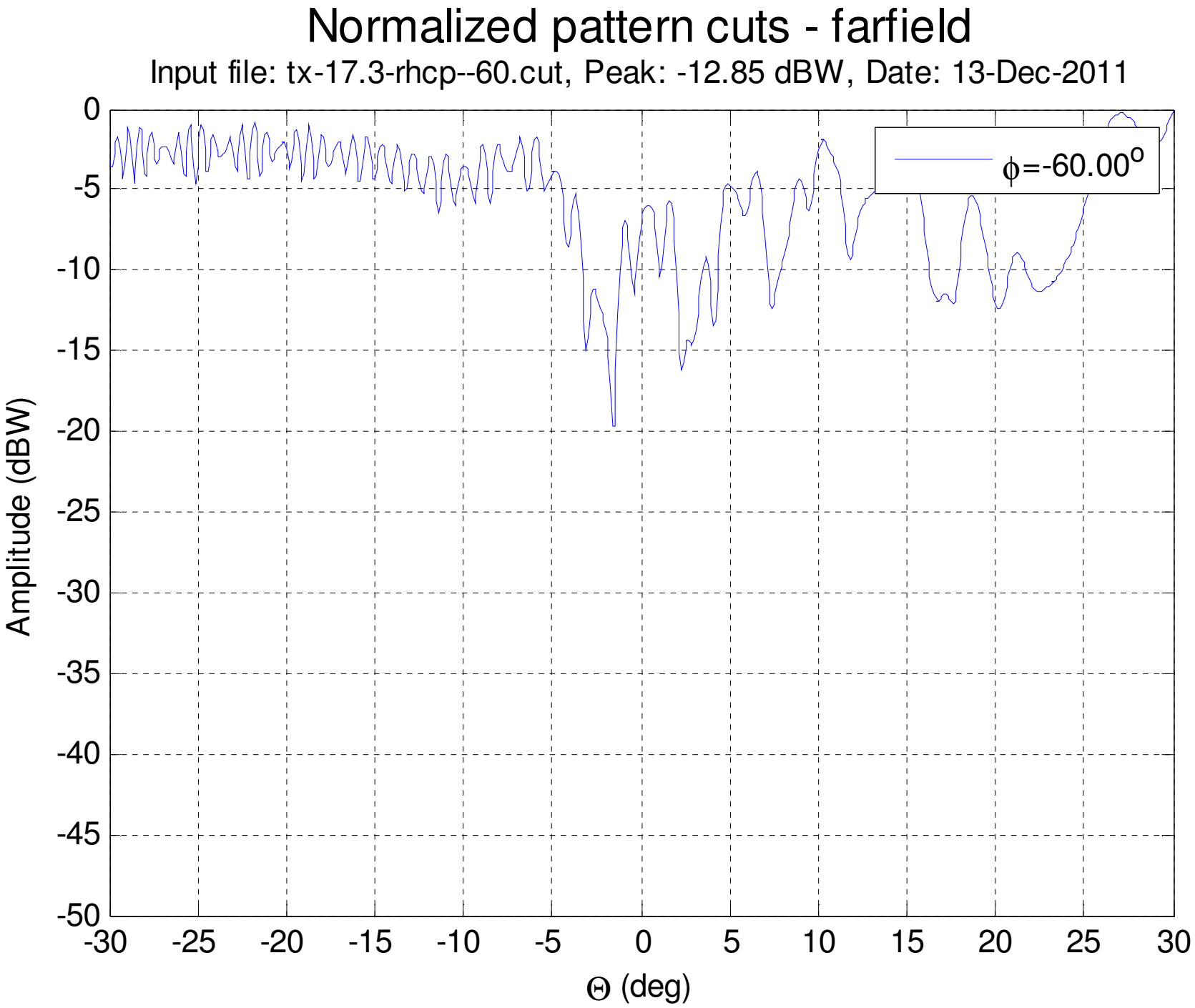

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -8.83 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

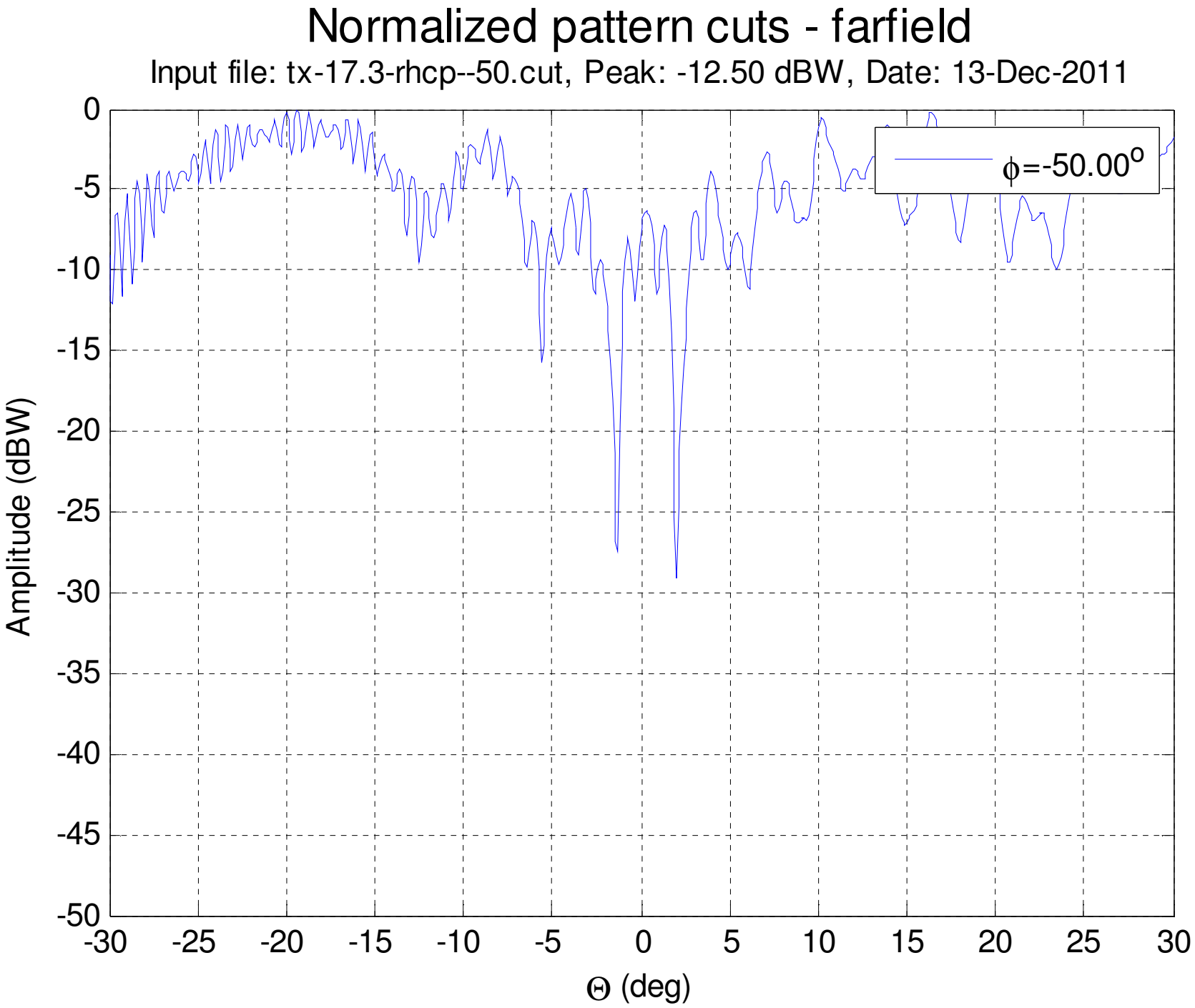

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -7.10 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

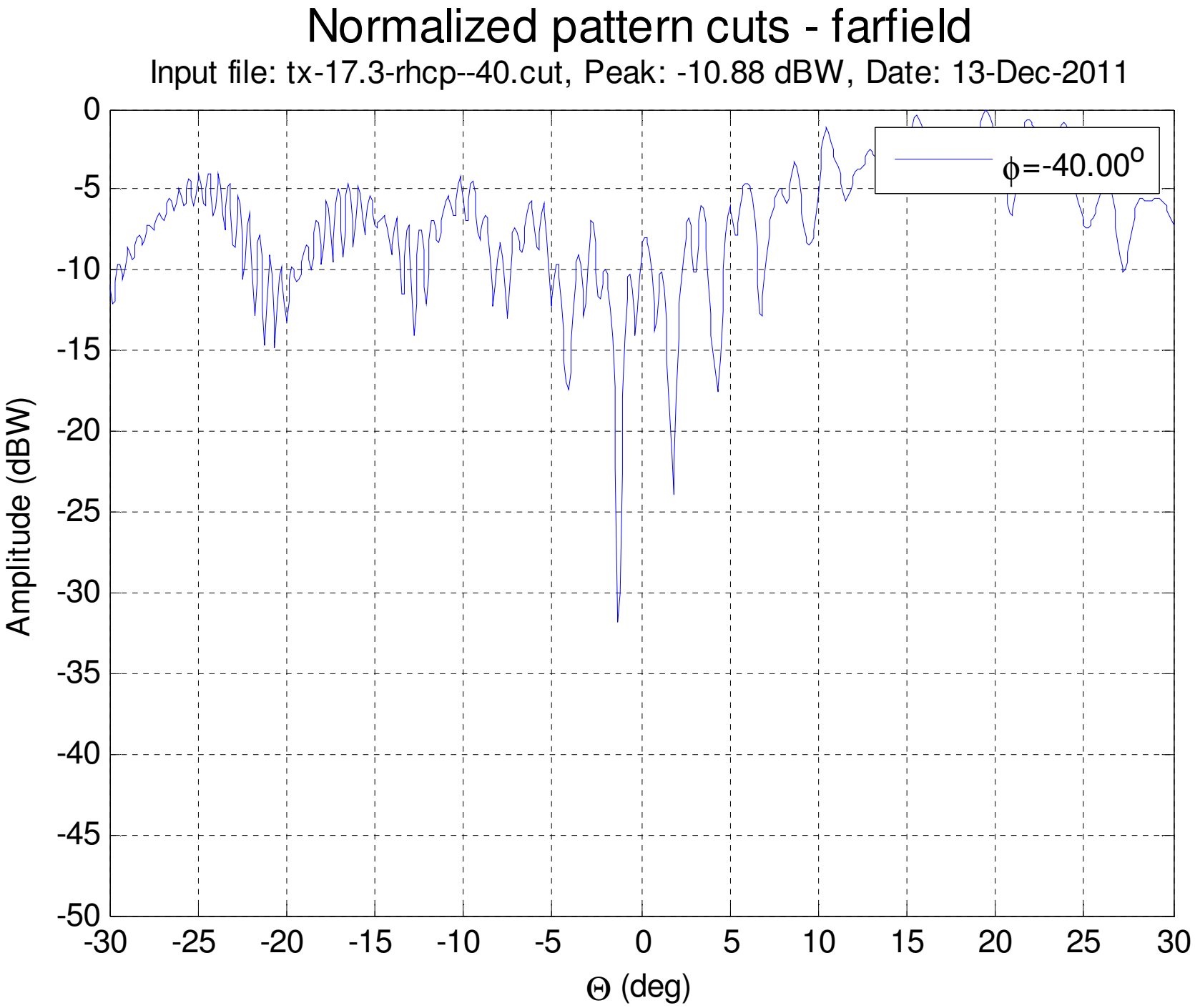
Spot Beam02, +X Axis Plots

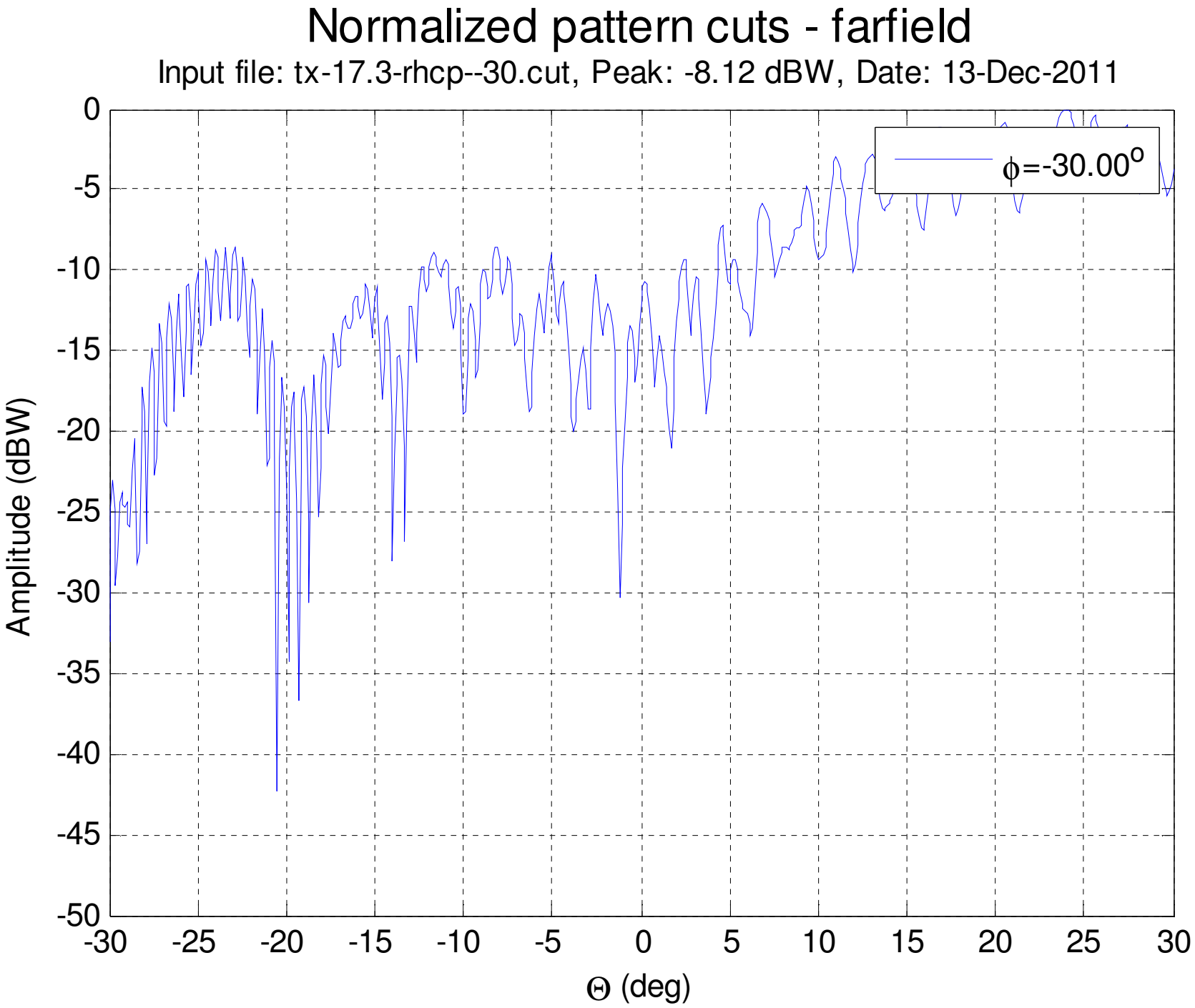
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

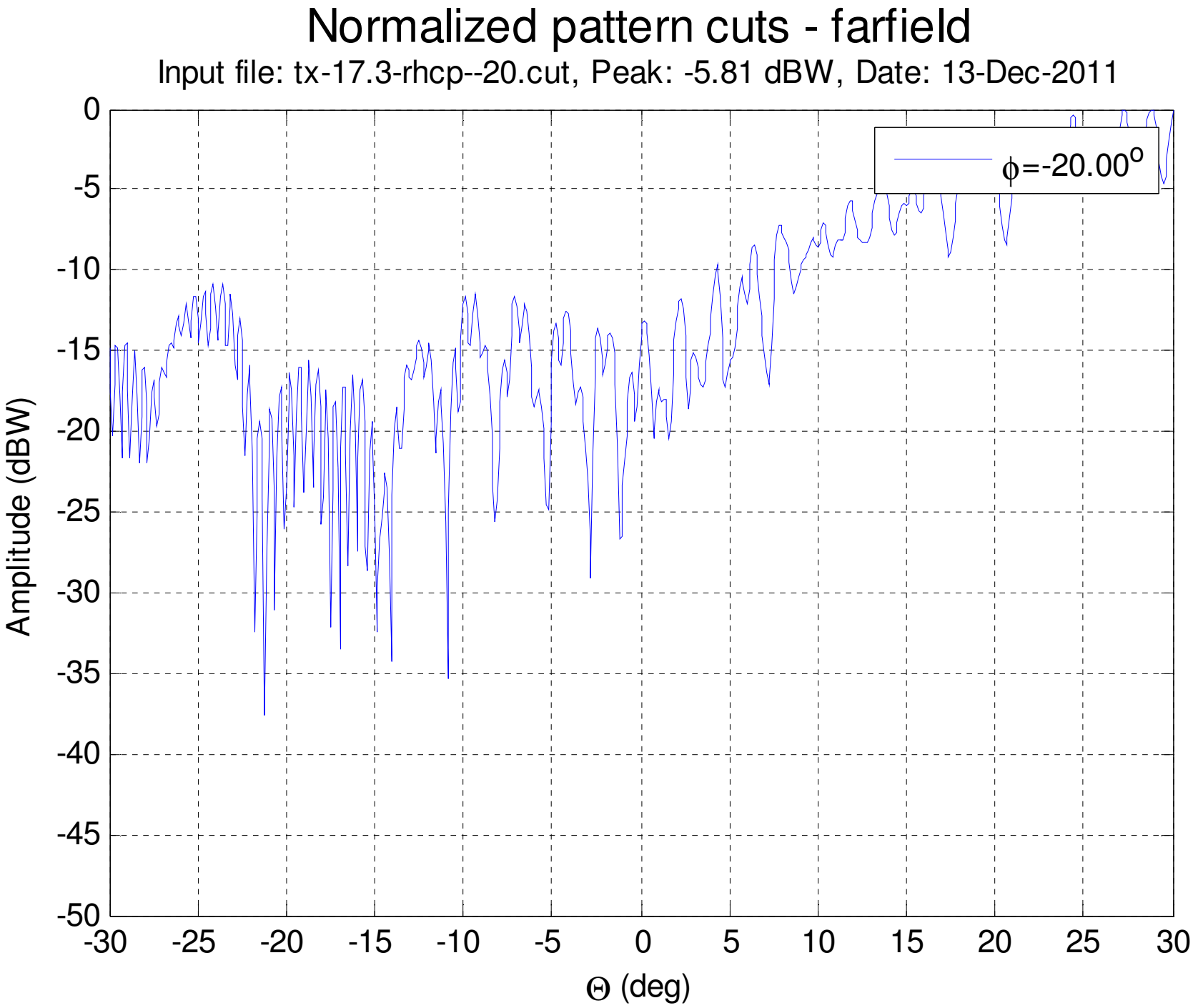
RHCP at 17.3 GHz

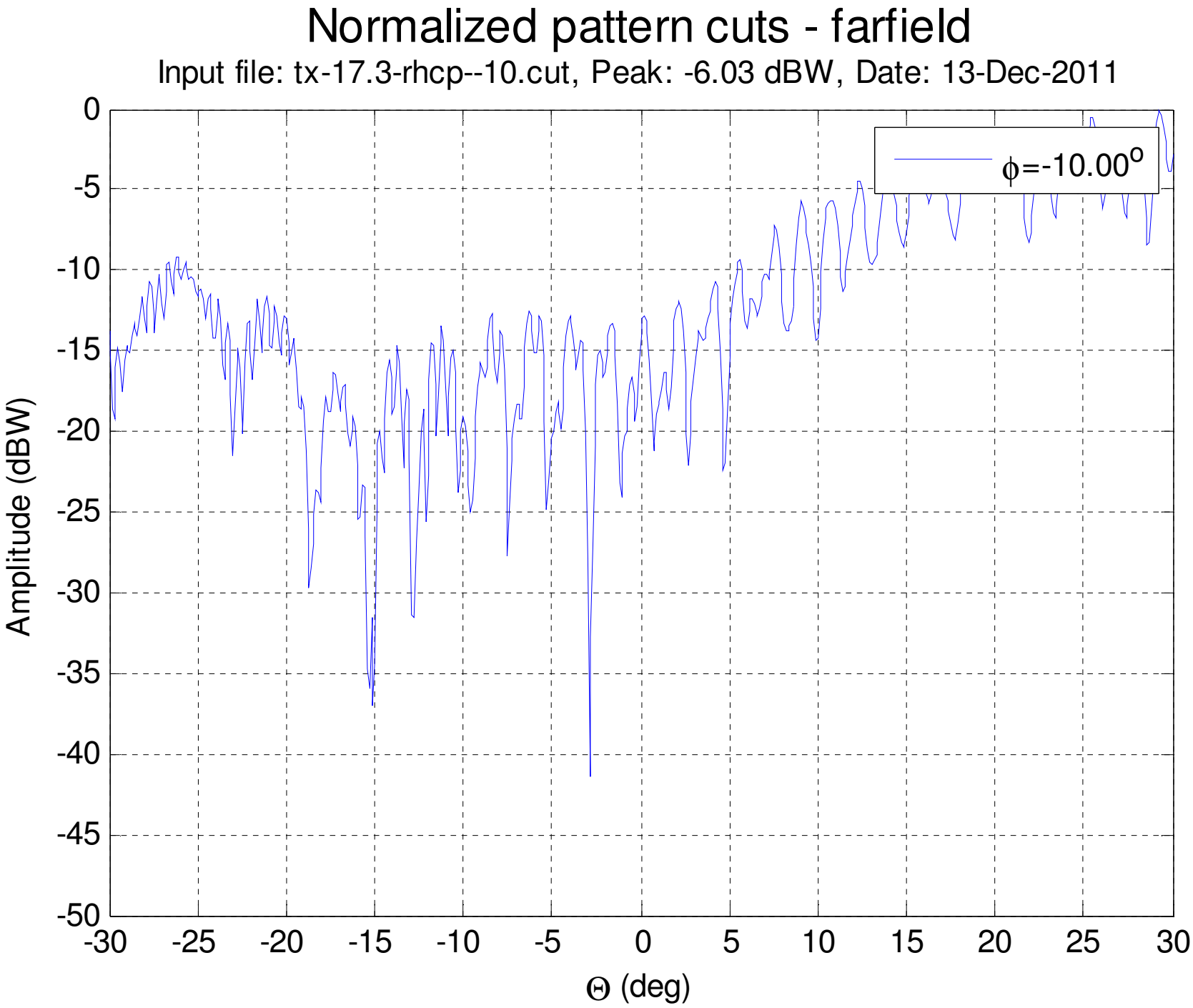

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -12.85 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

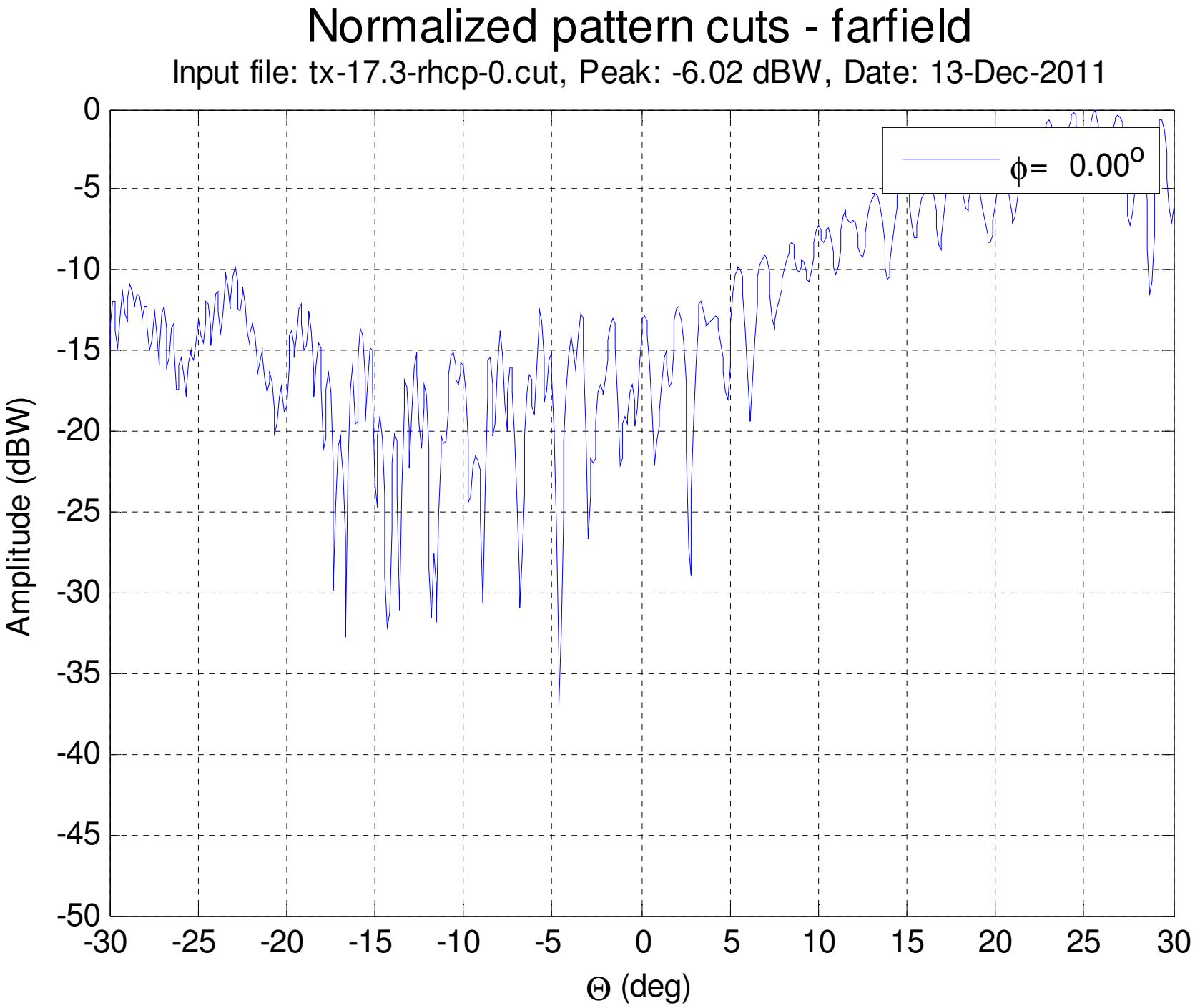

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -12.50 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

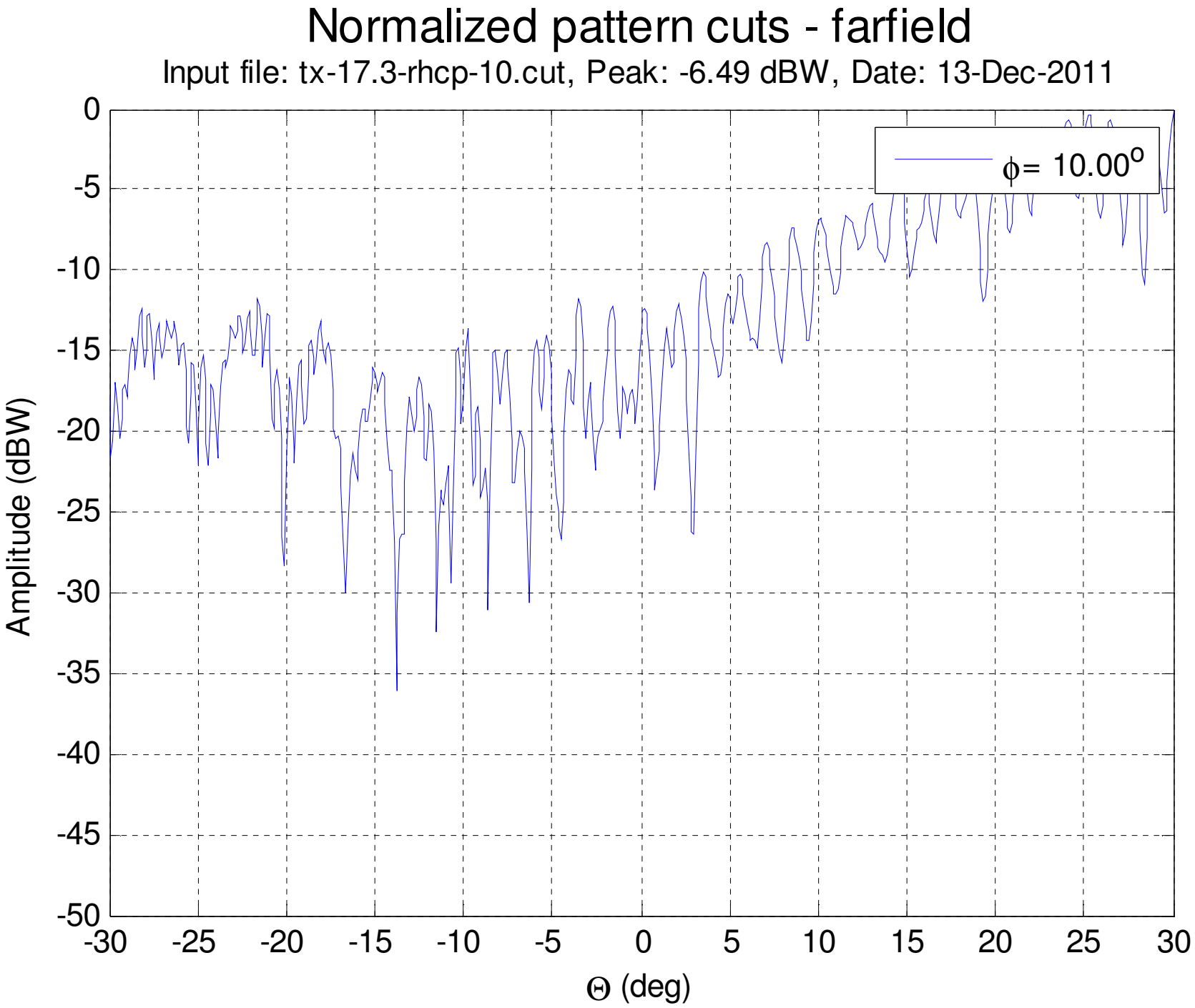

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -10.88 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

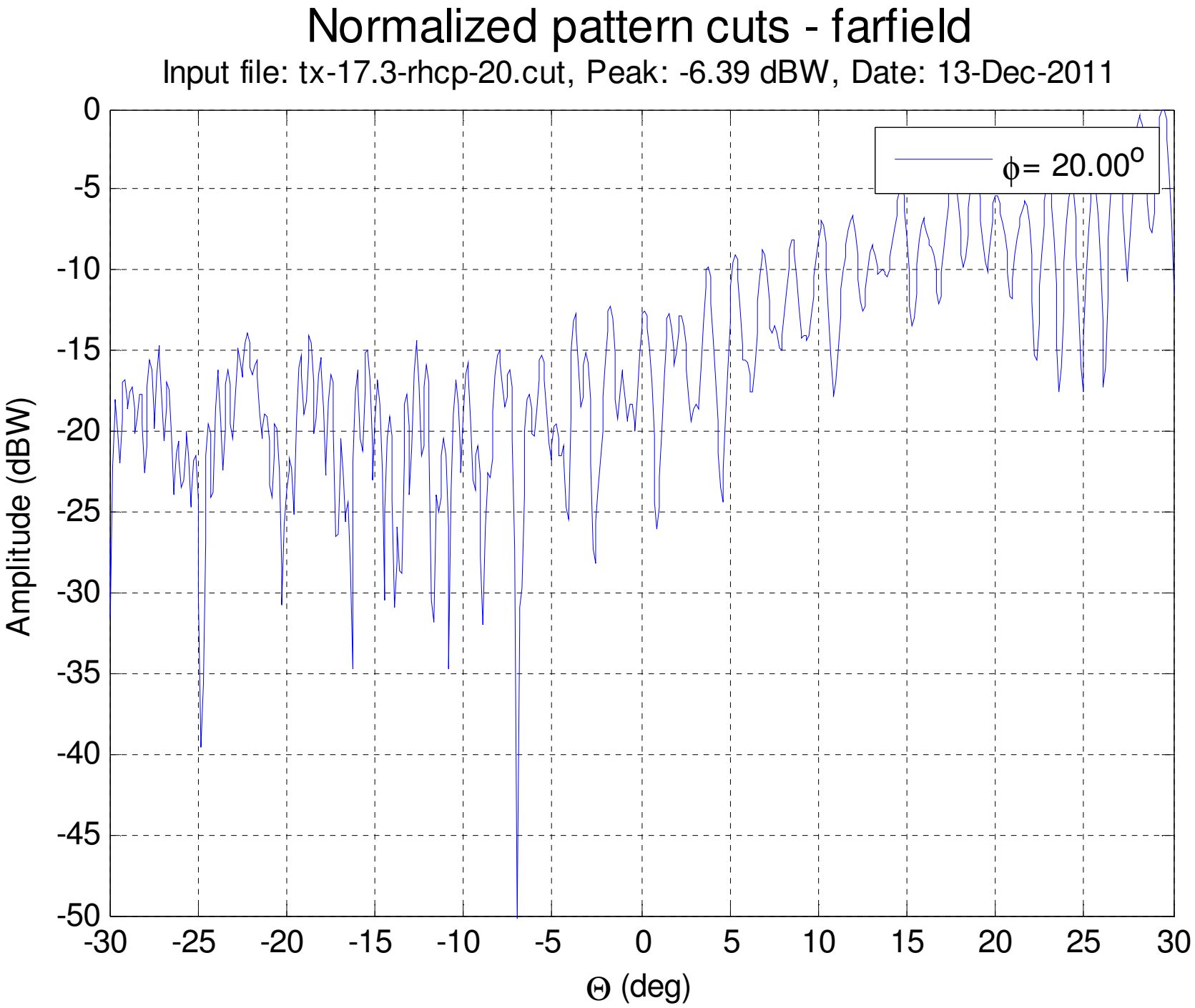

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -8.12 dBW, Date: 13-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

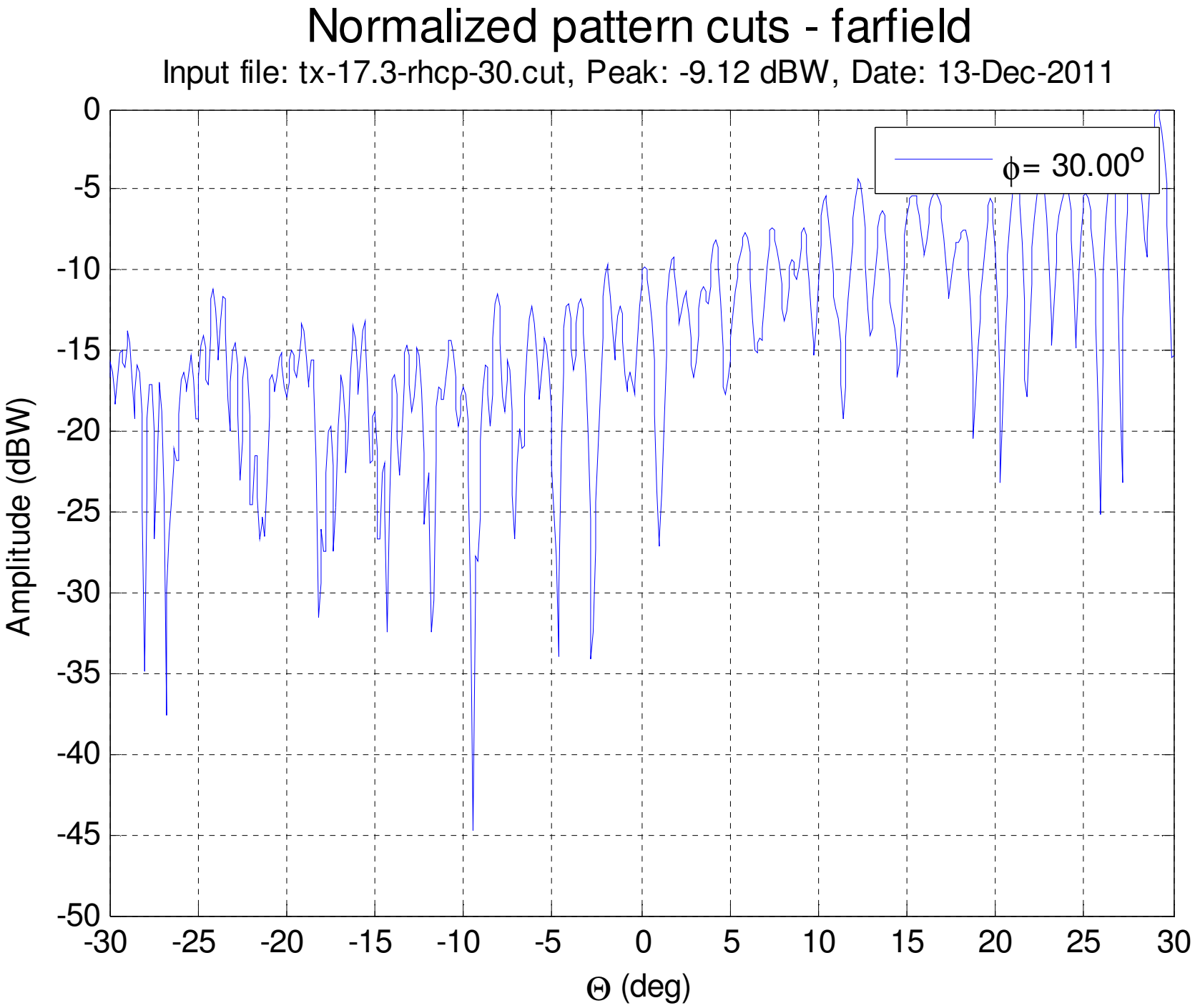

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -5.81 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

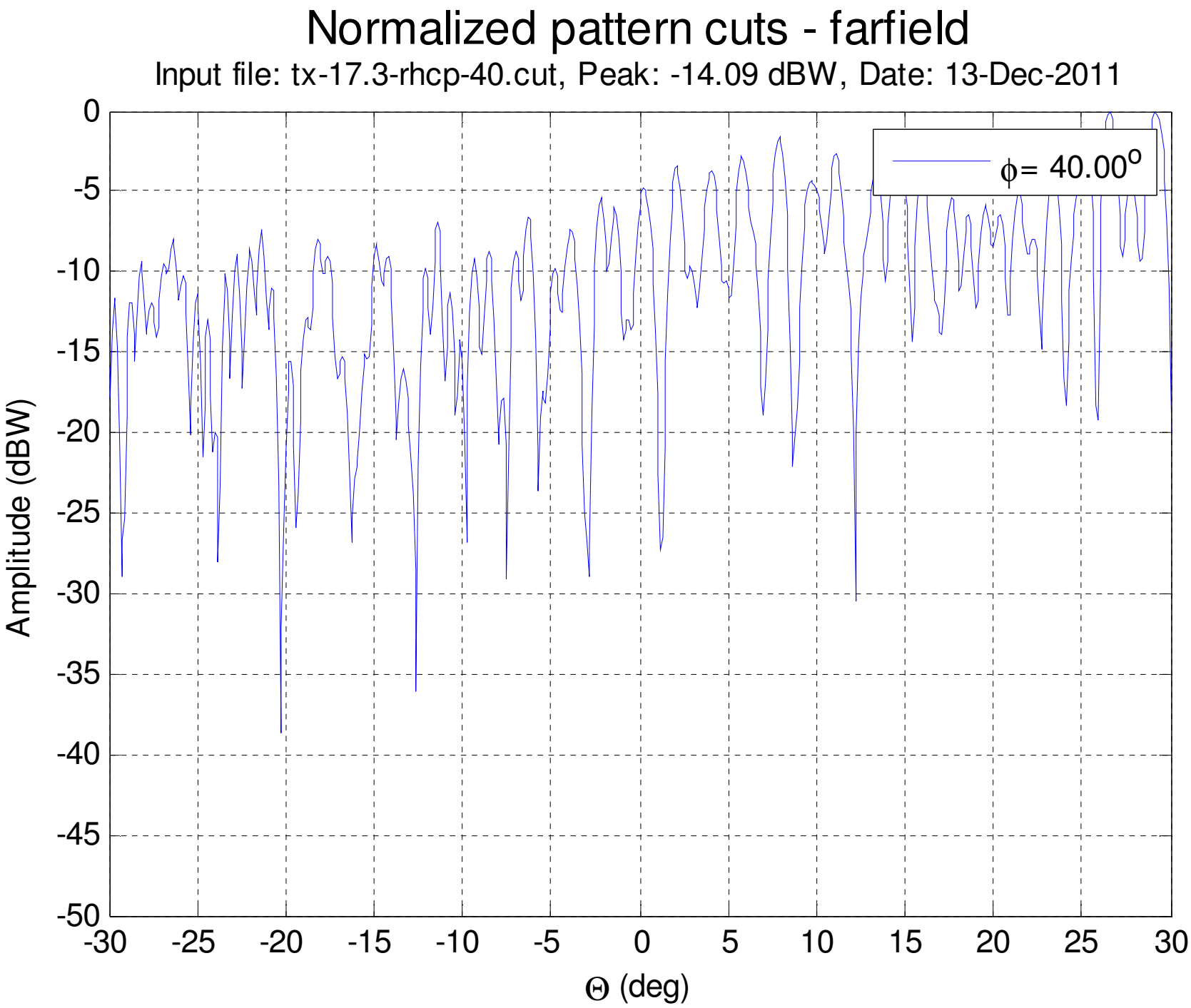

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -6.03 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

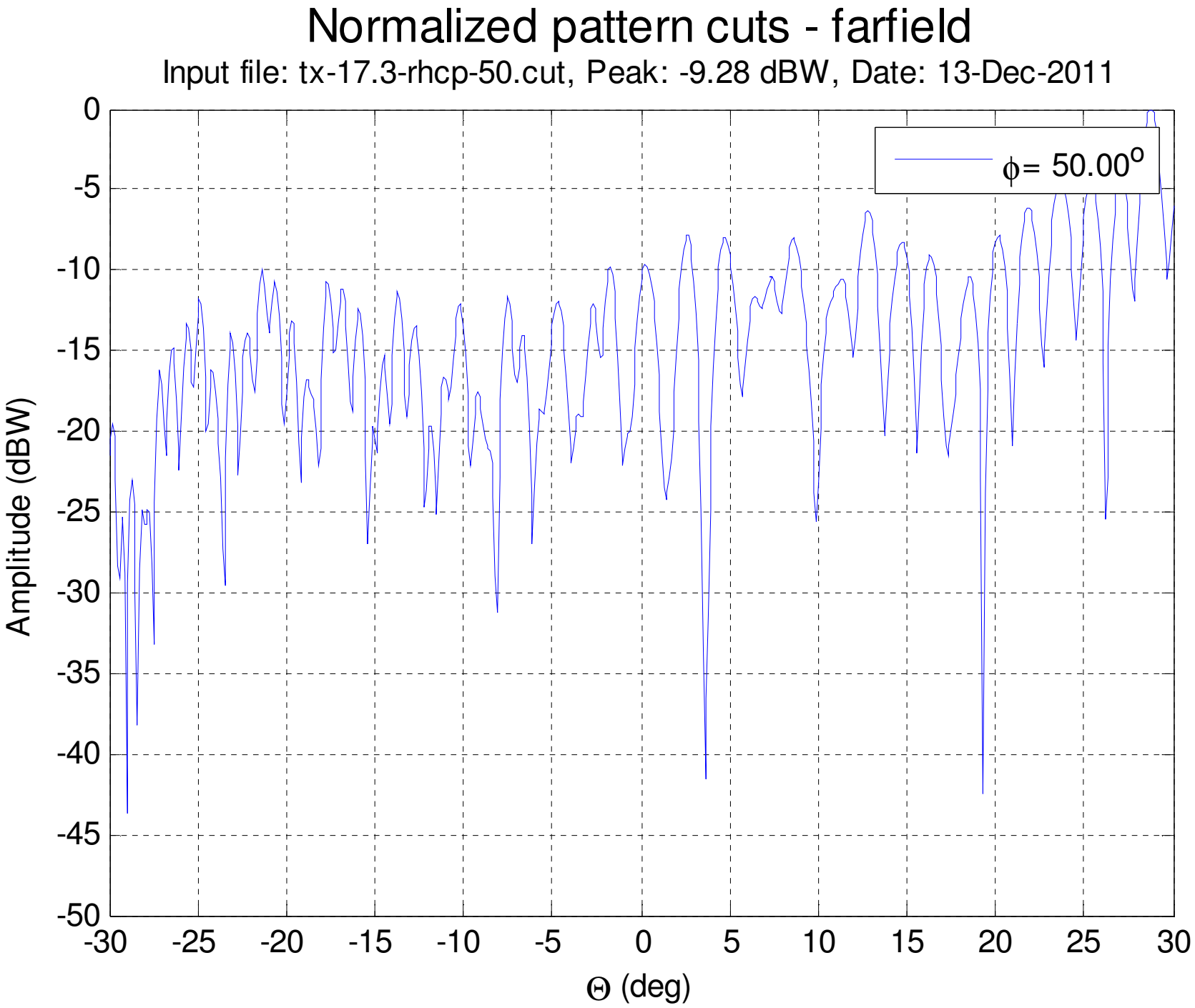

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -6.02 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

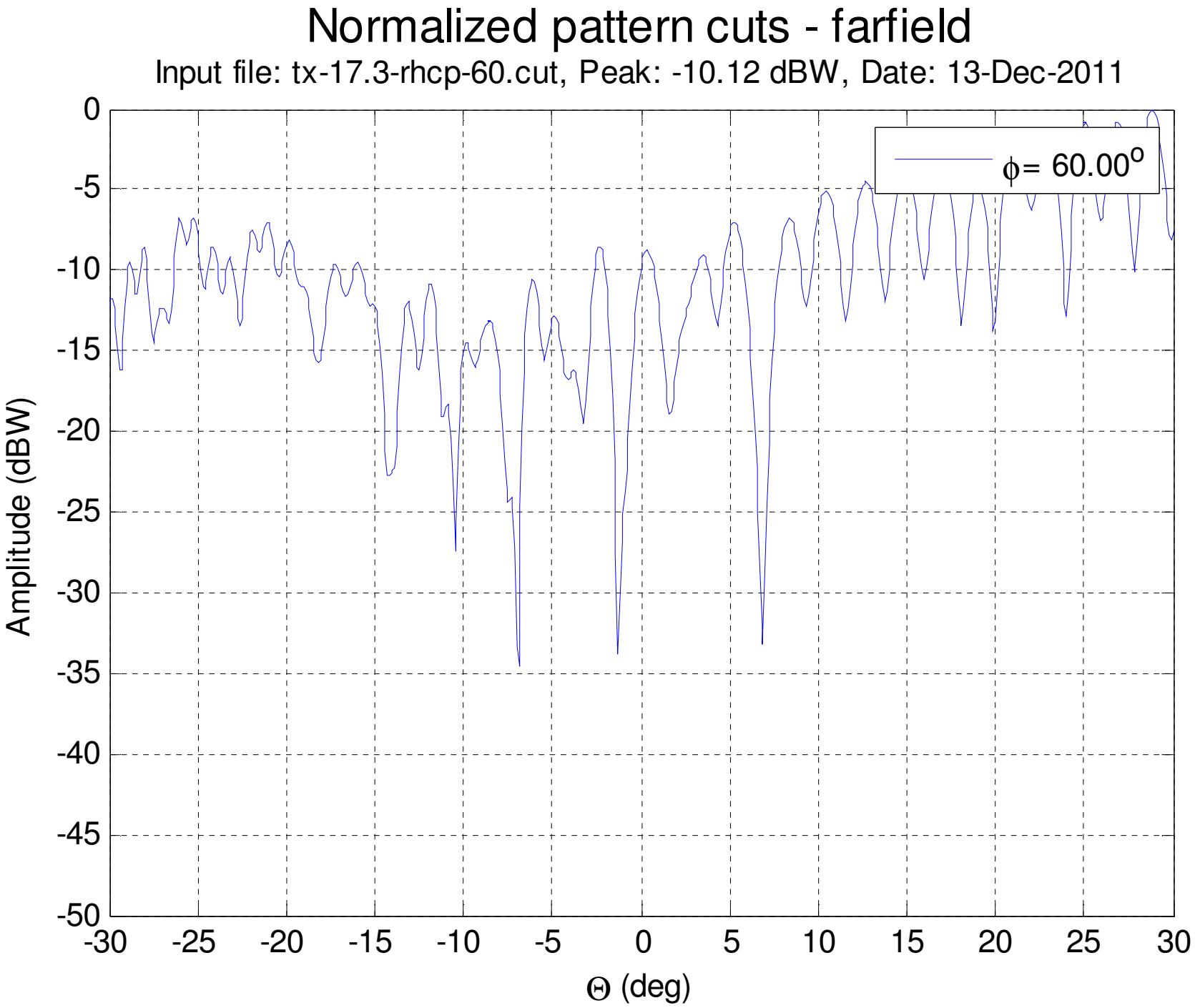

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -6.49 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -6.39 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

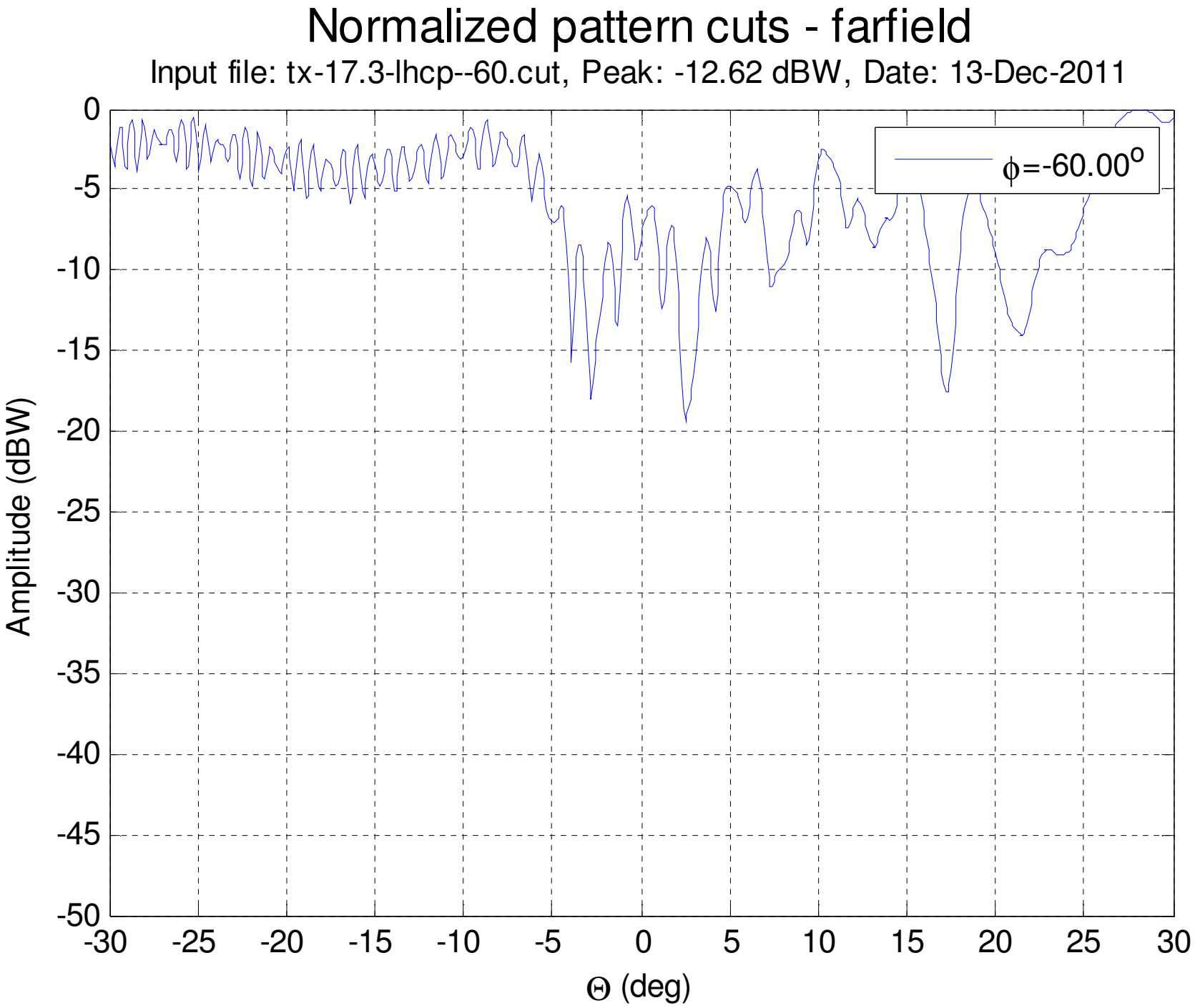

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -9.12 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

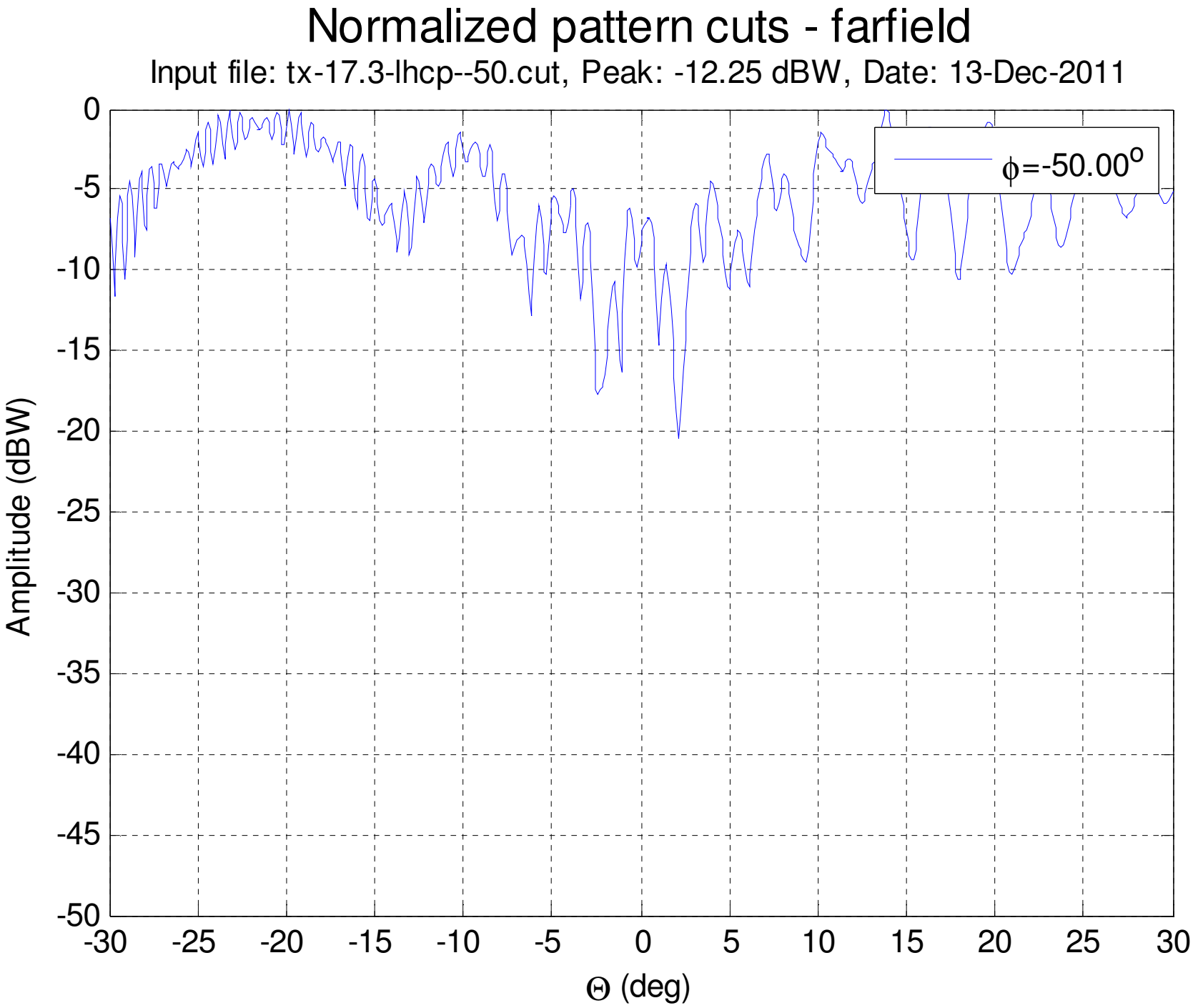

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -14.09 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

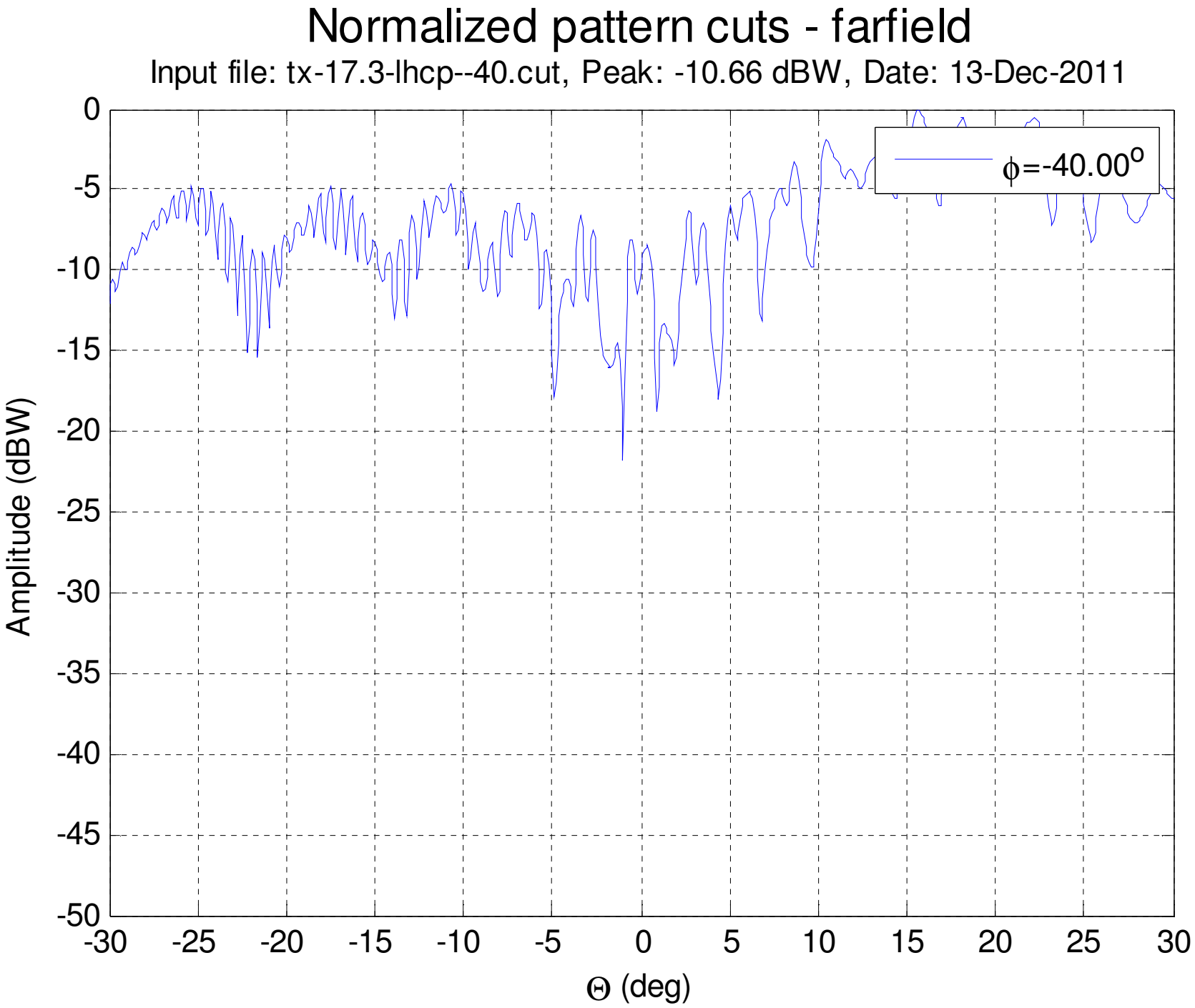

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -9.28 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

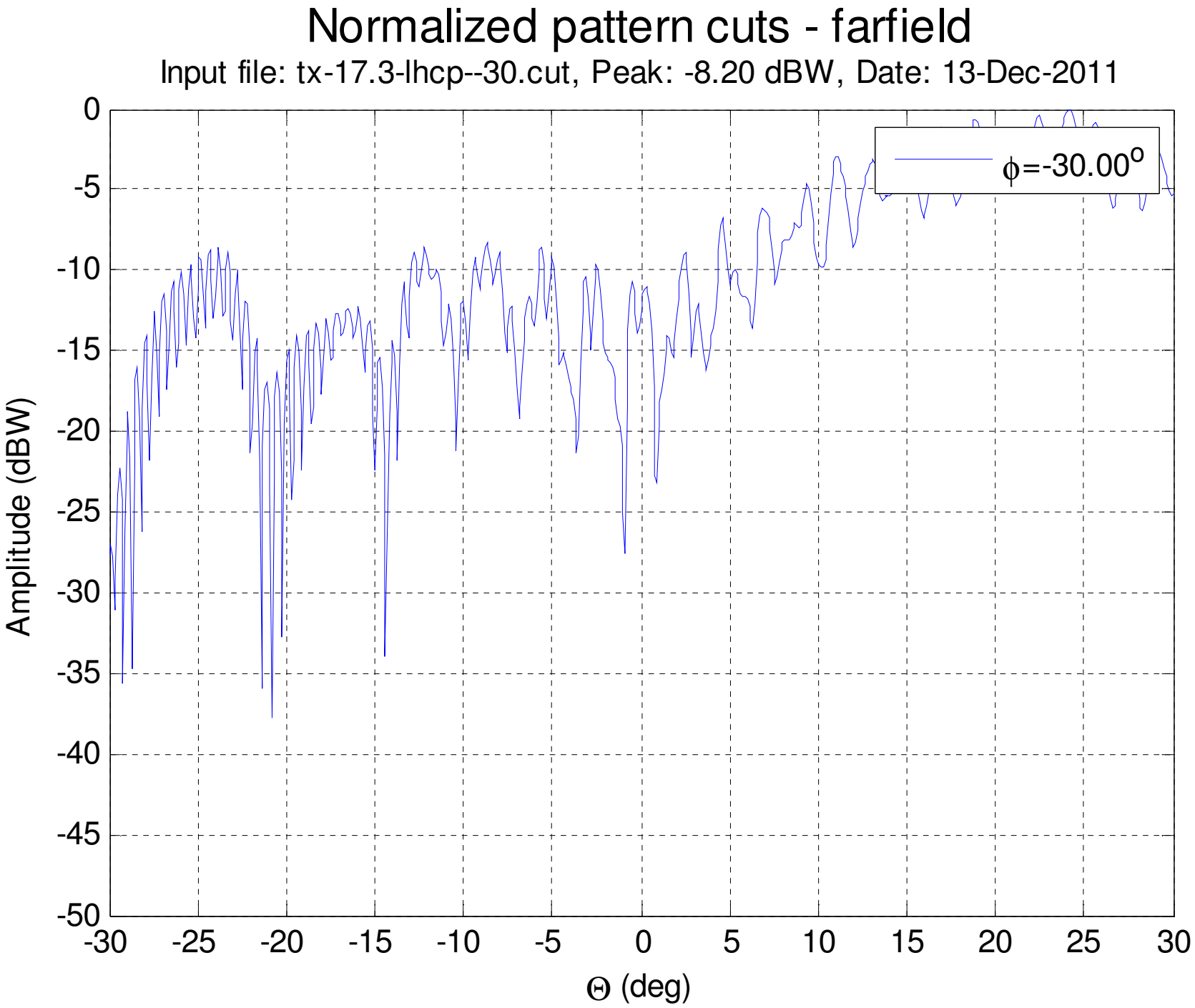

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -10.12 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

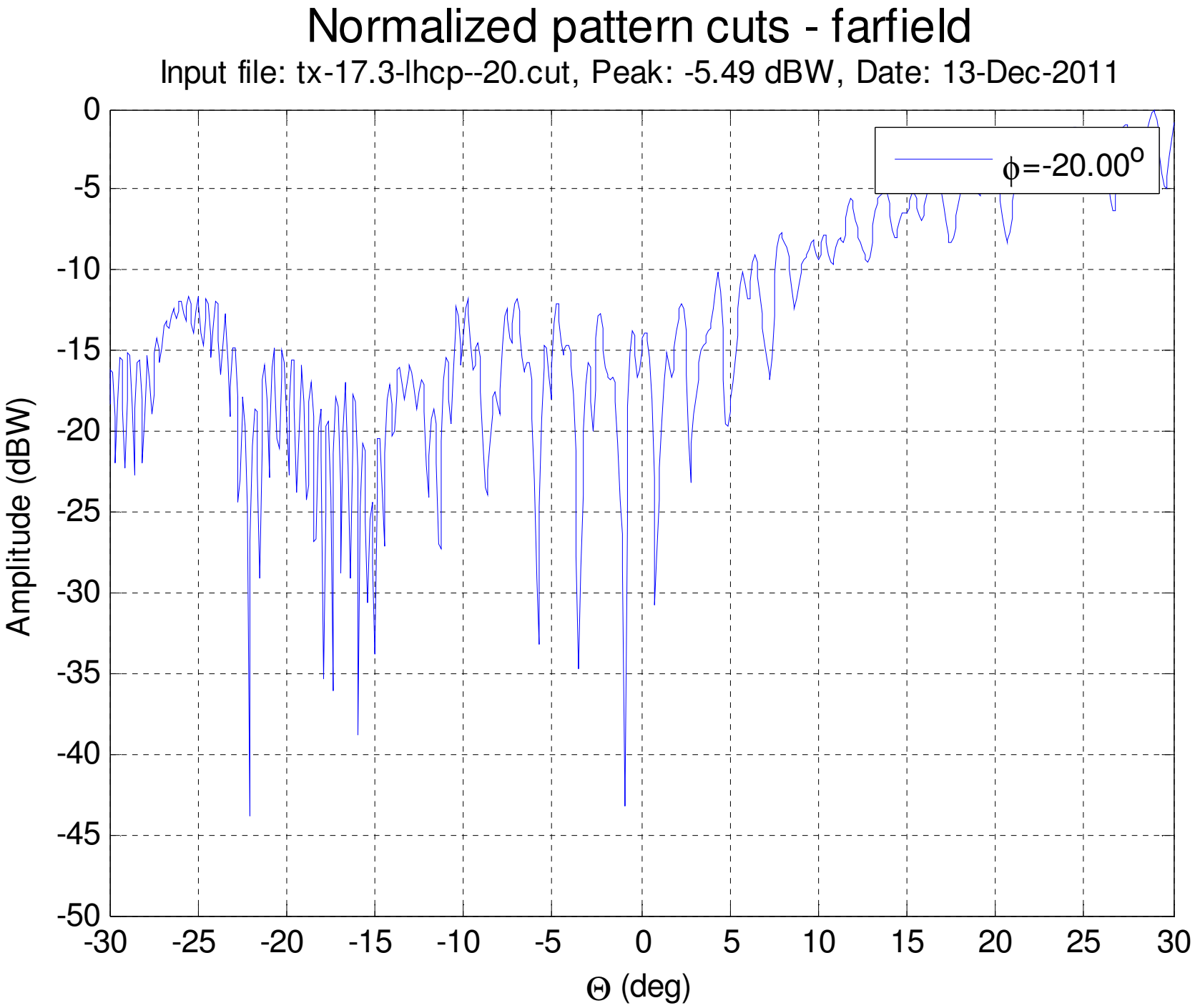
LHCP at 17.3 GHz

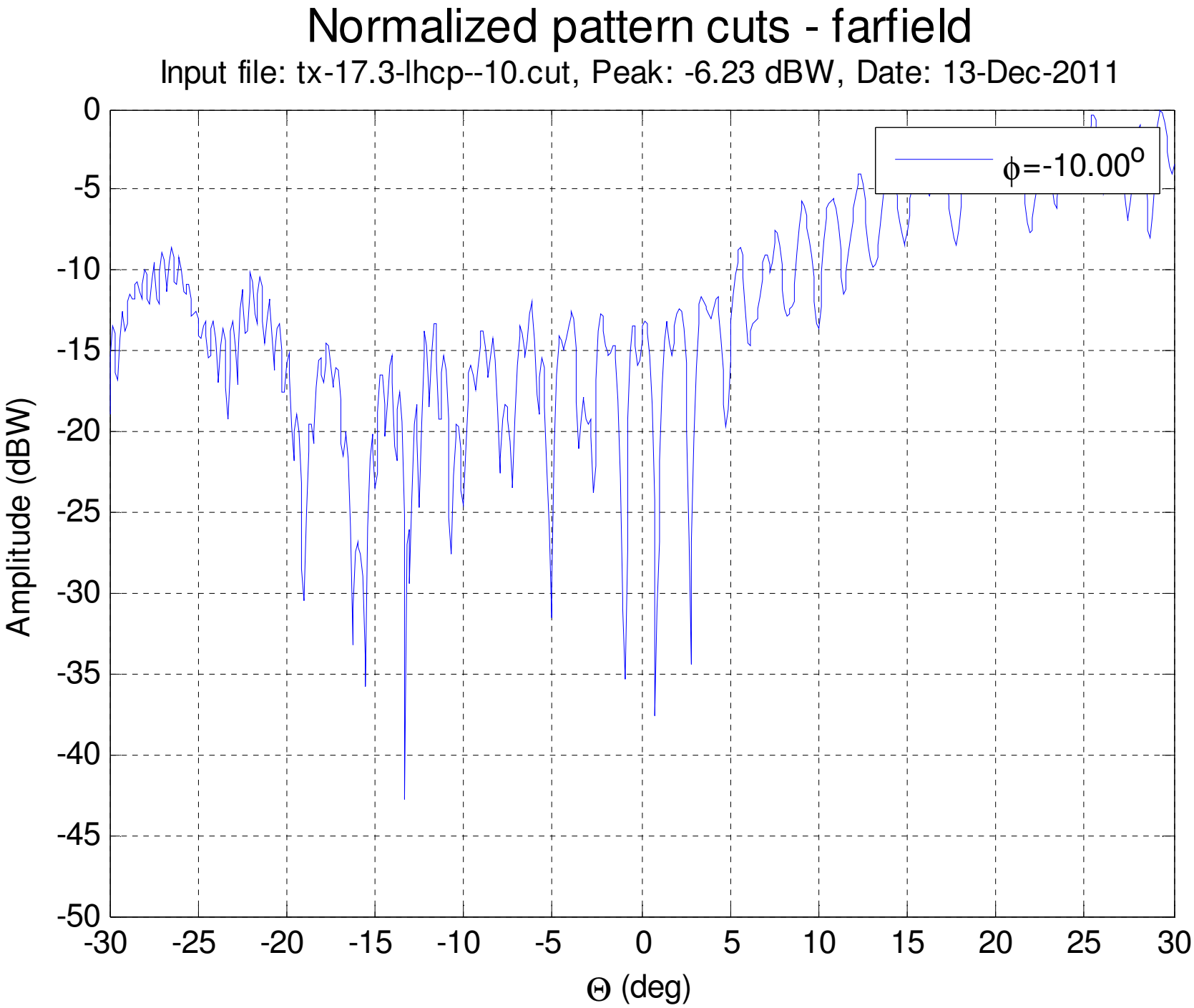

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -12.62 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

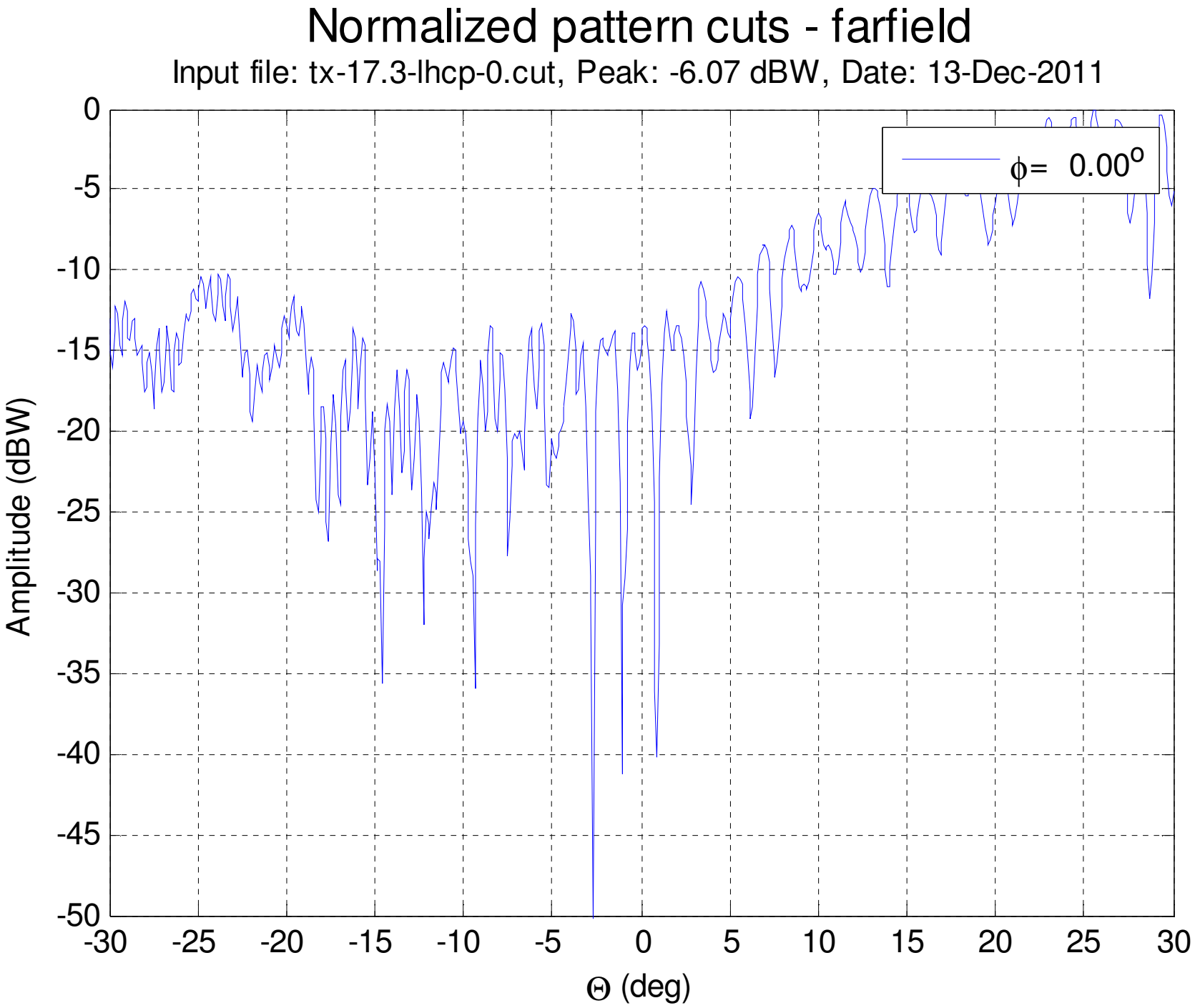

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -12.25 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

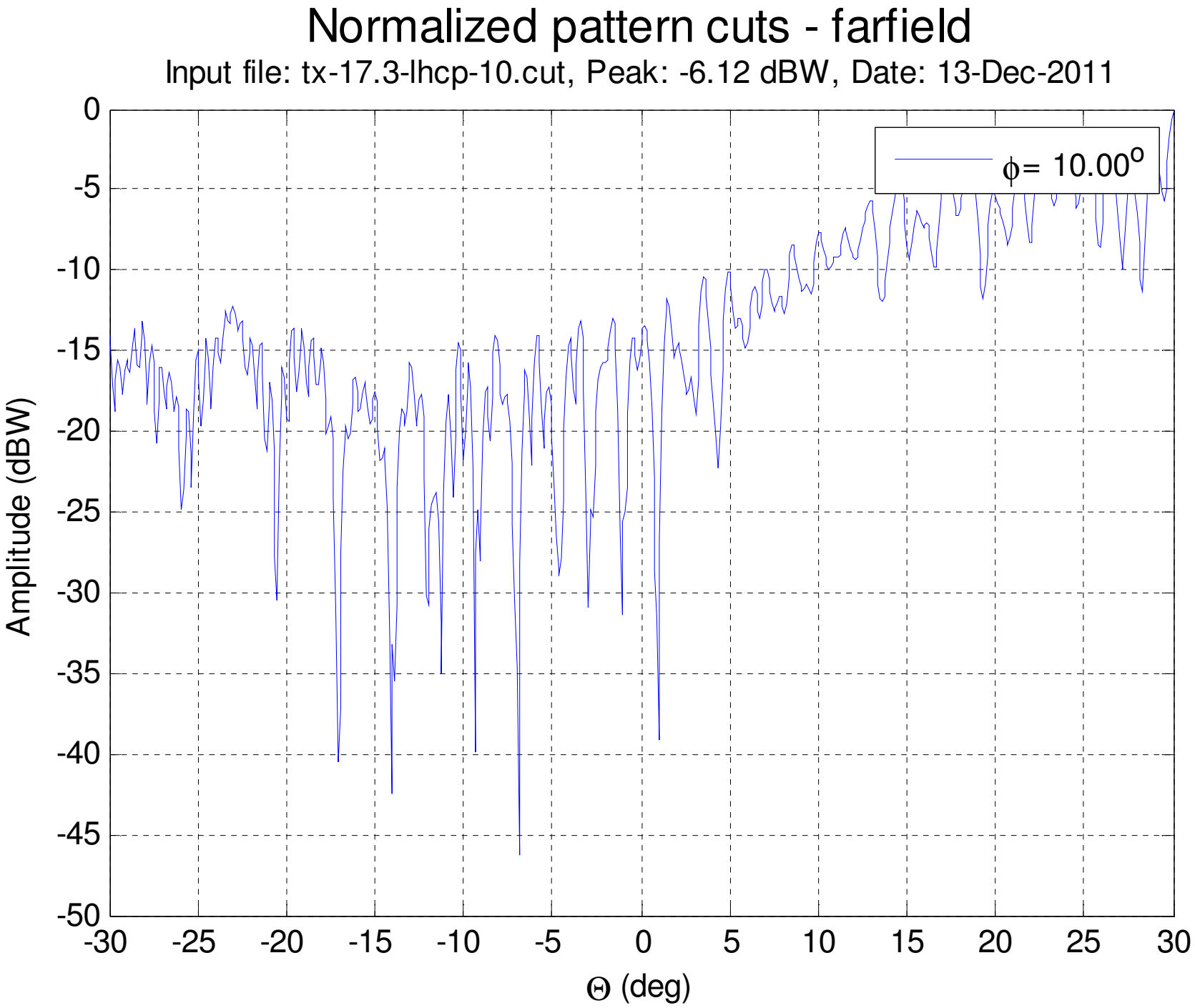

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -10.66 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

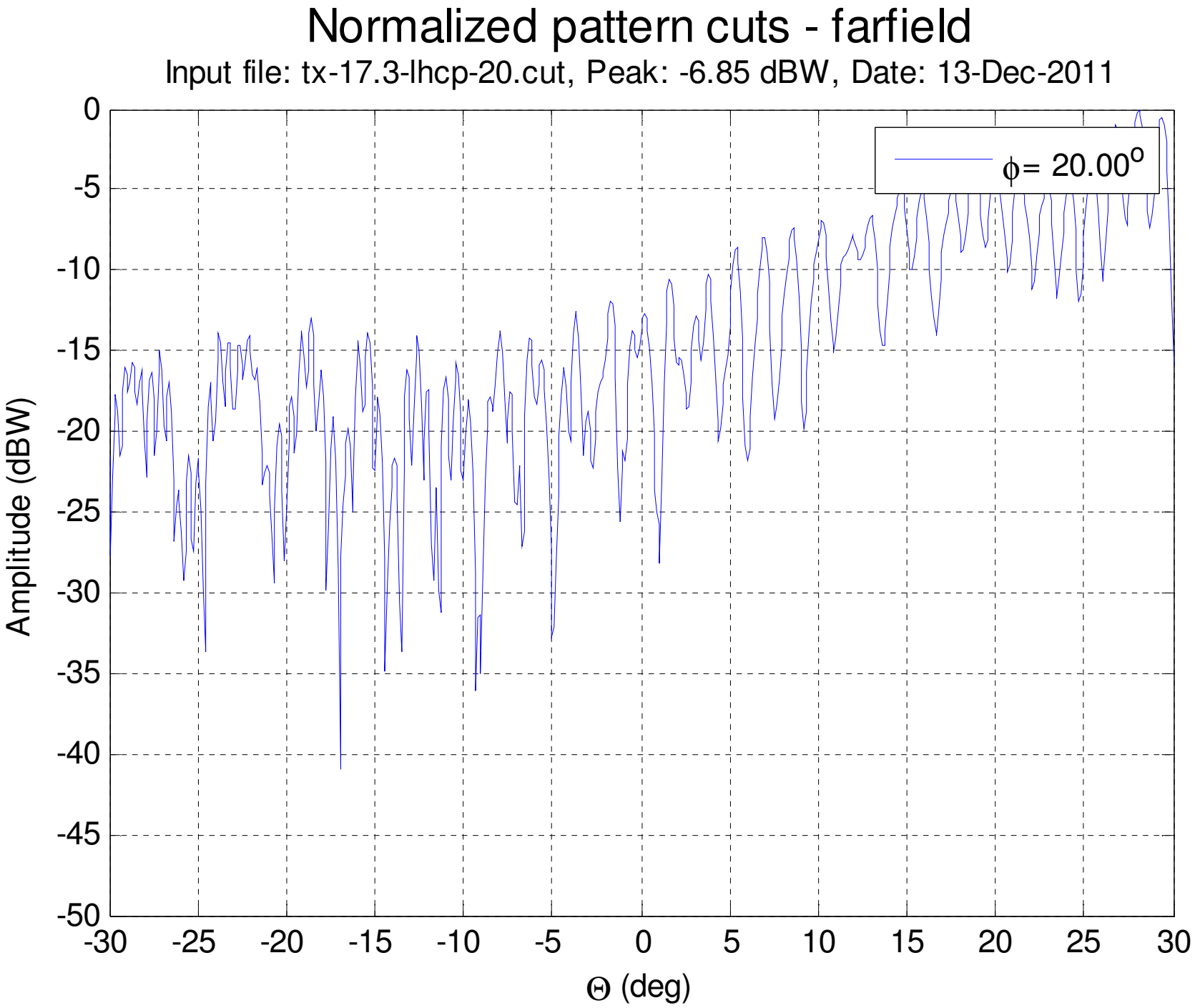

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -8.20 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

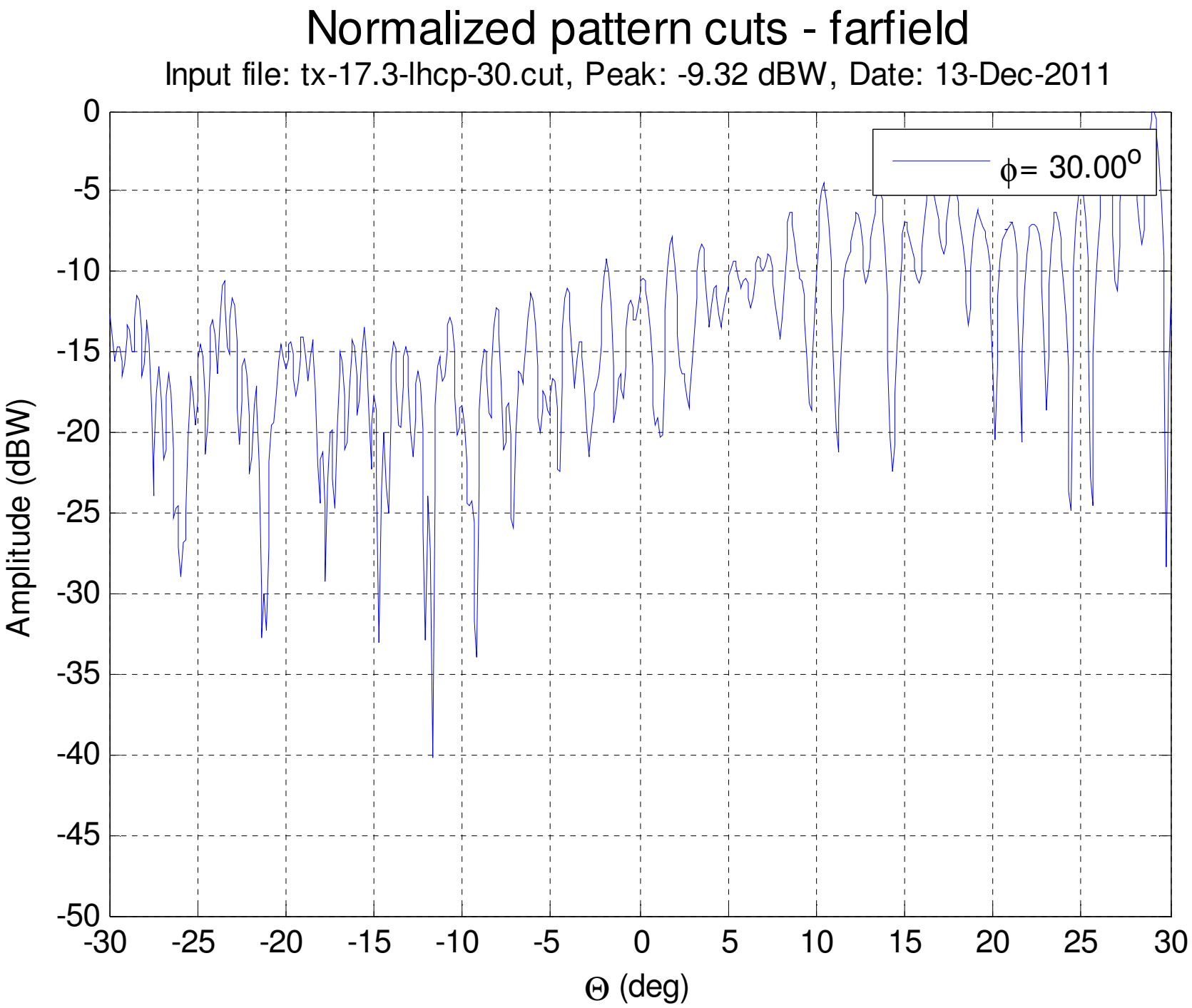

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -5.49 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

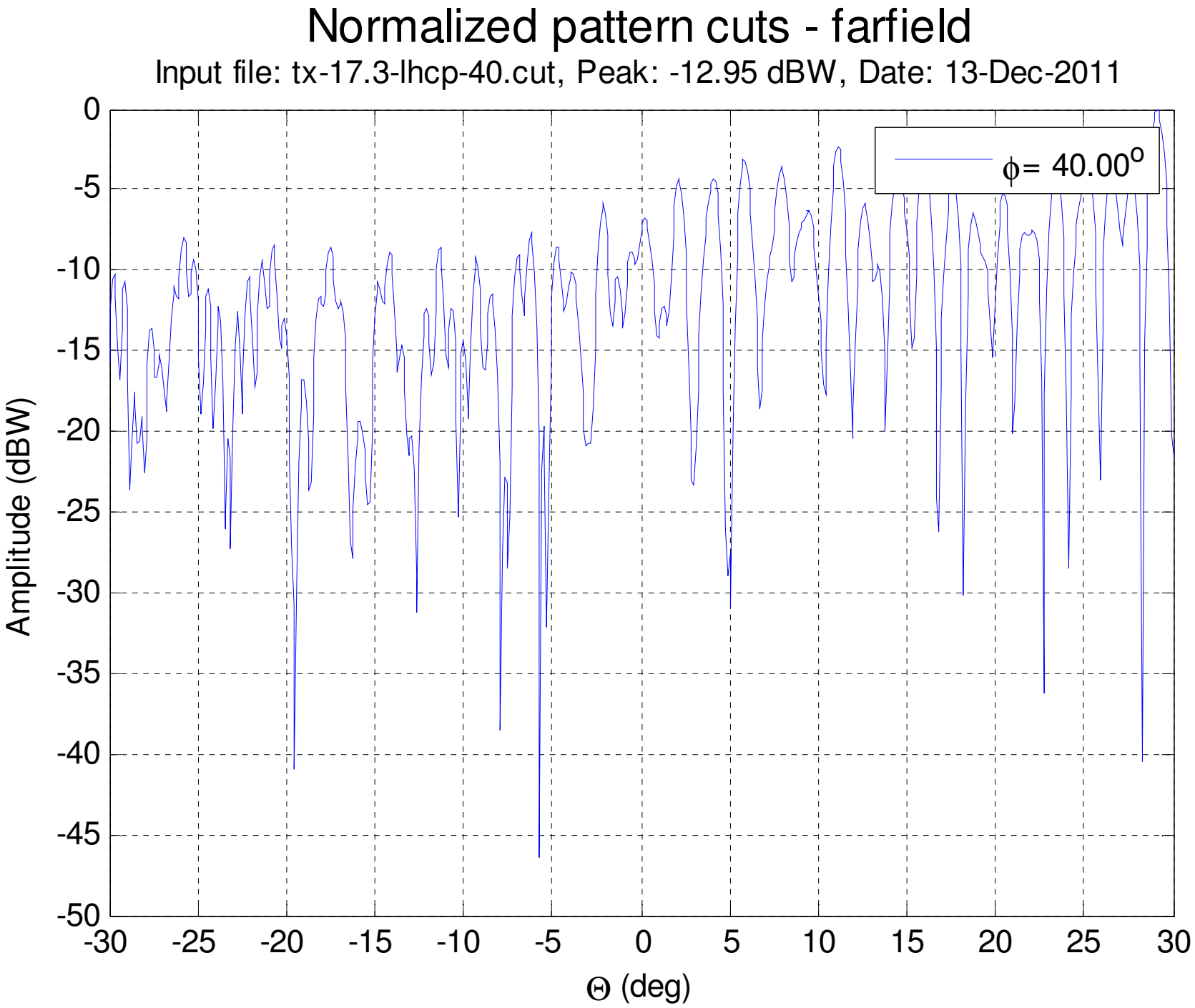

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -6.23 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

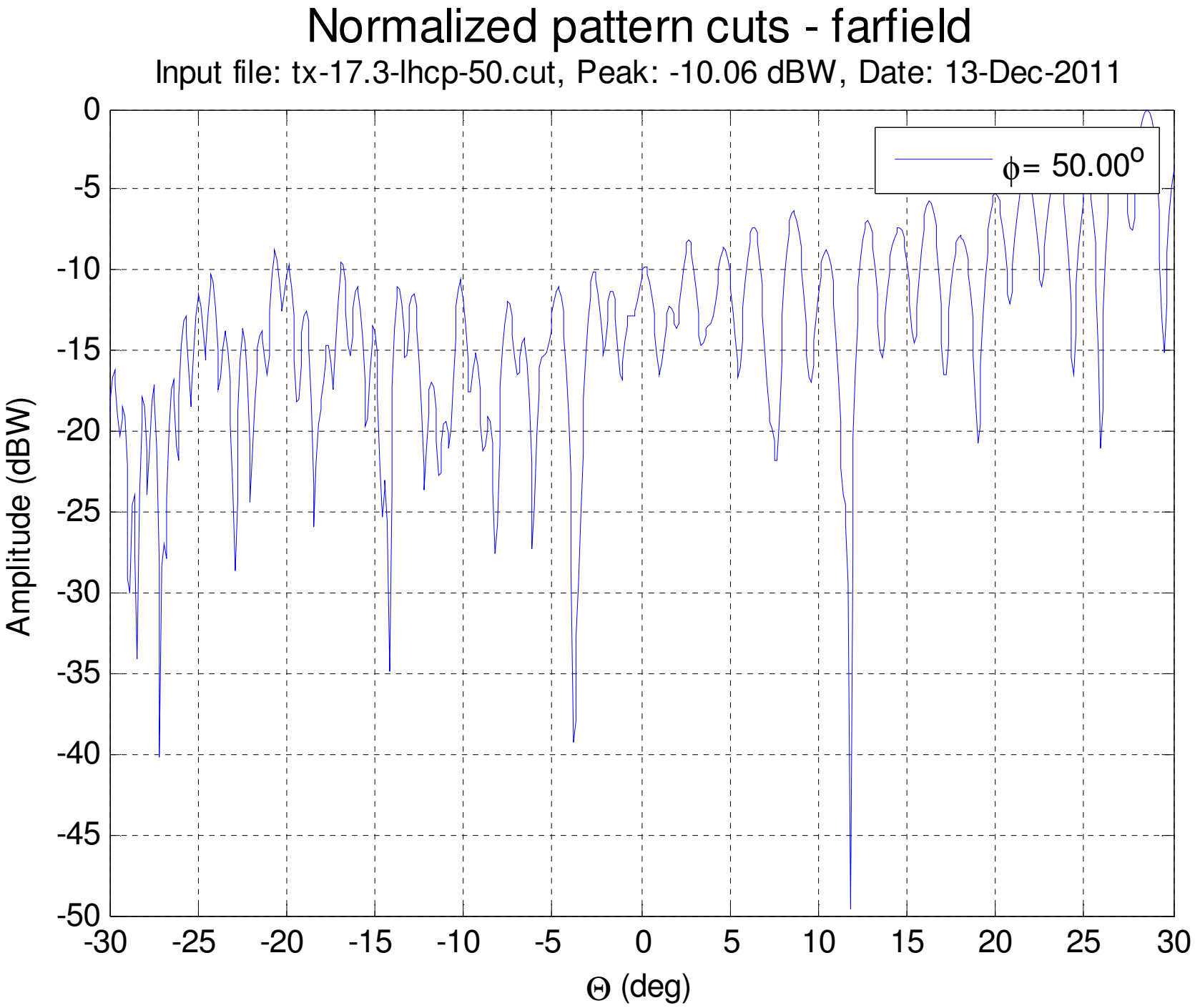

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -6.07 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

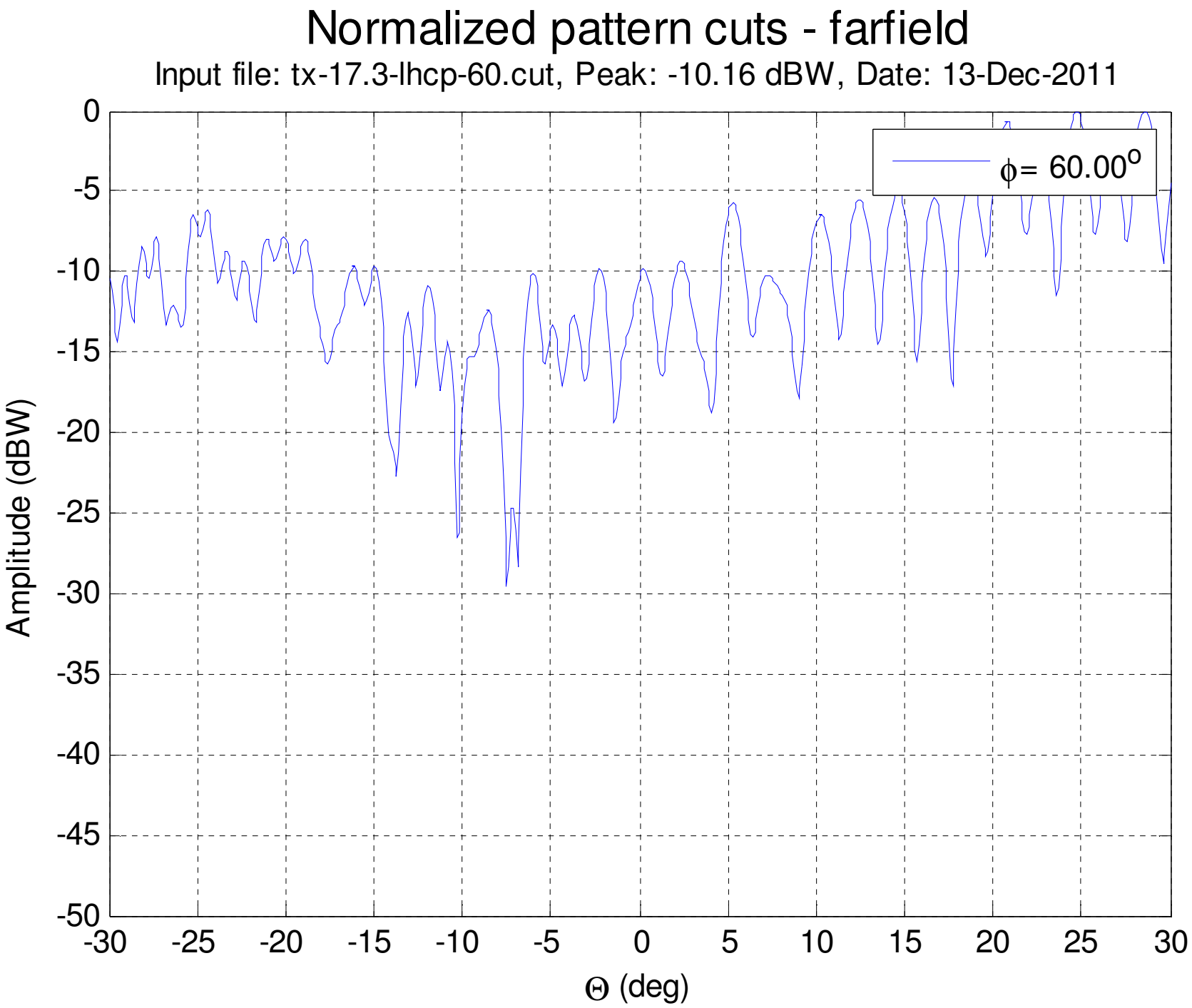

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -6.12 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -6.85 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

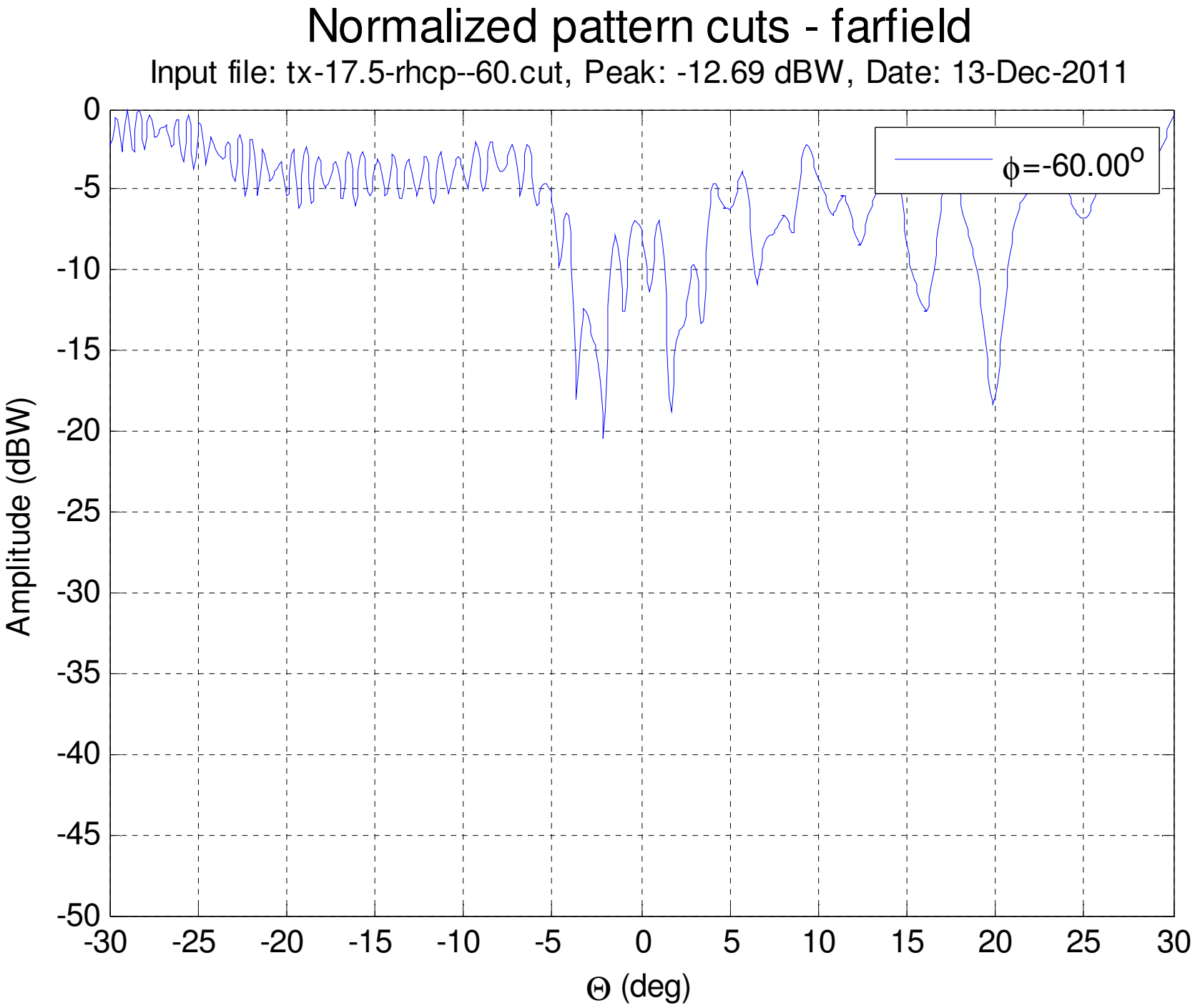

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.32 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

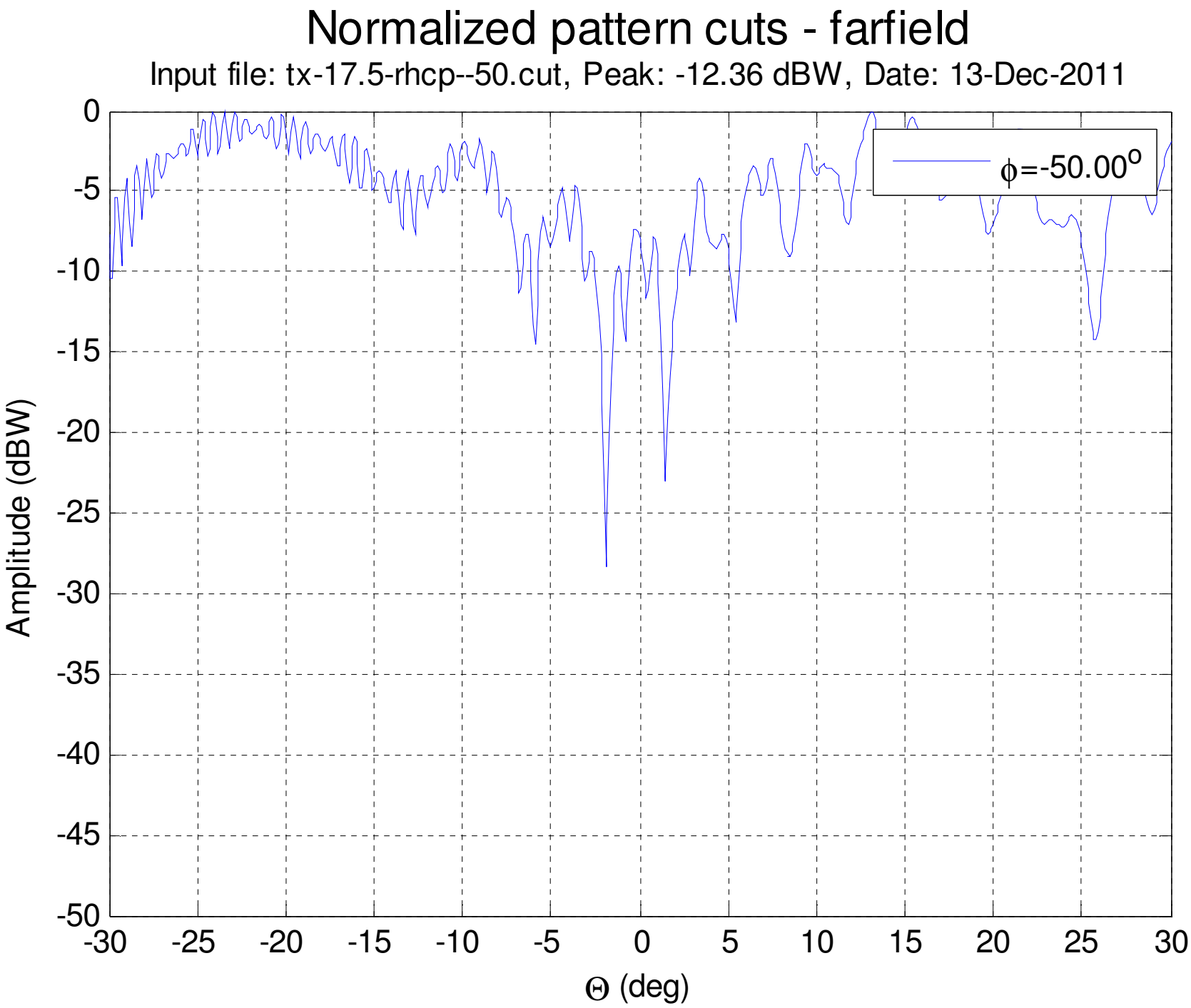

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -12.95 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

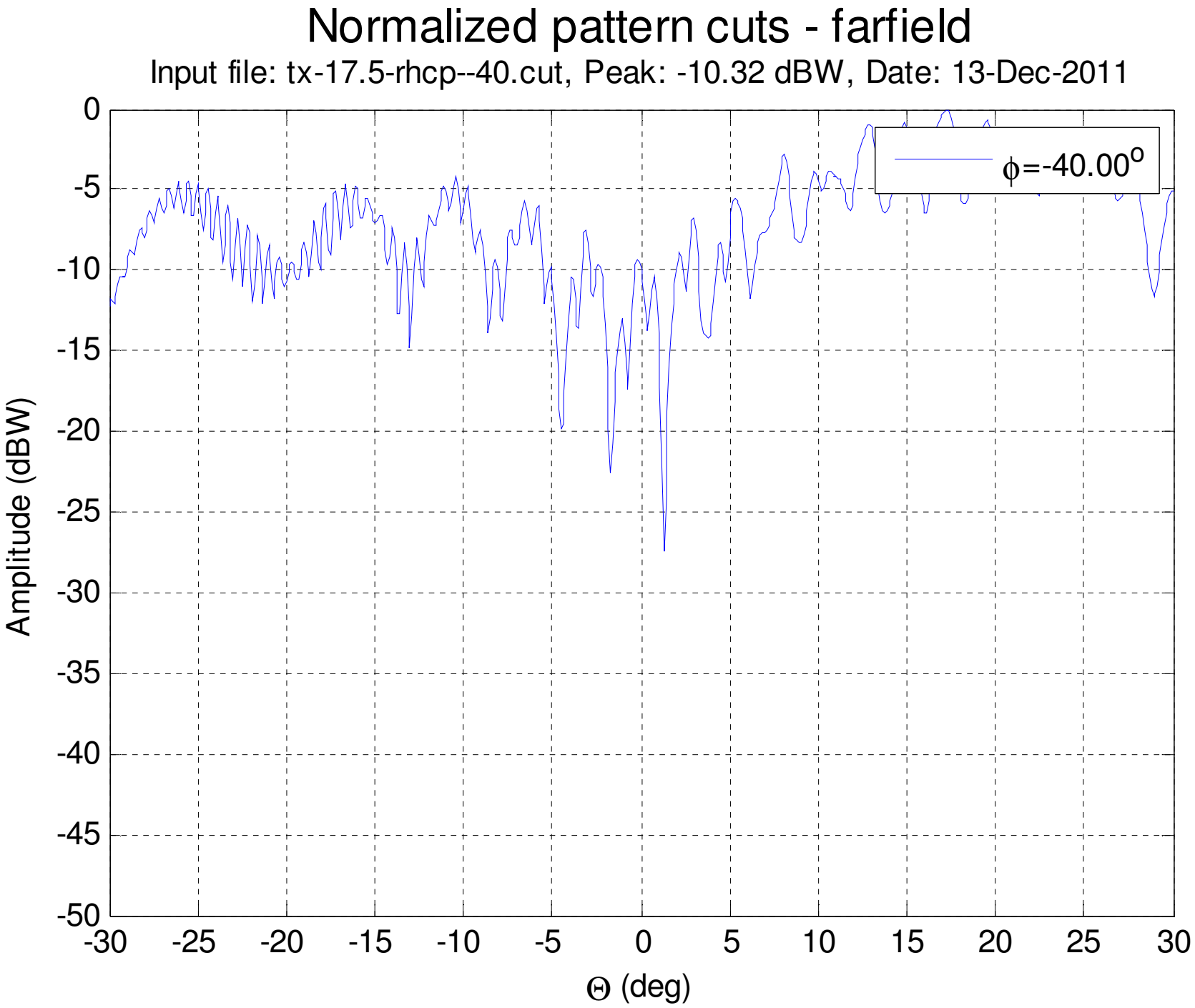

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -10.06 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

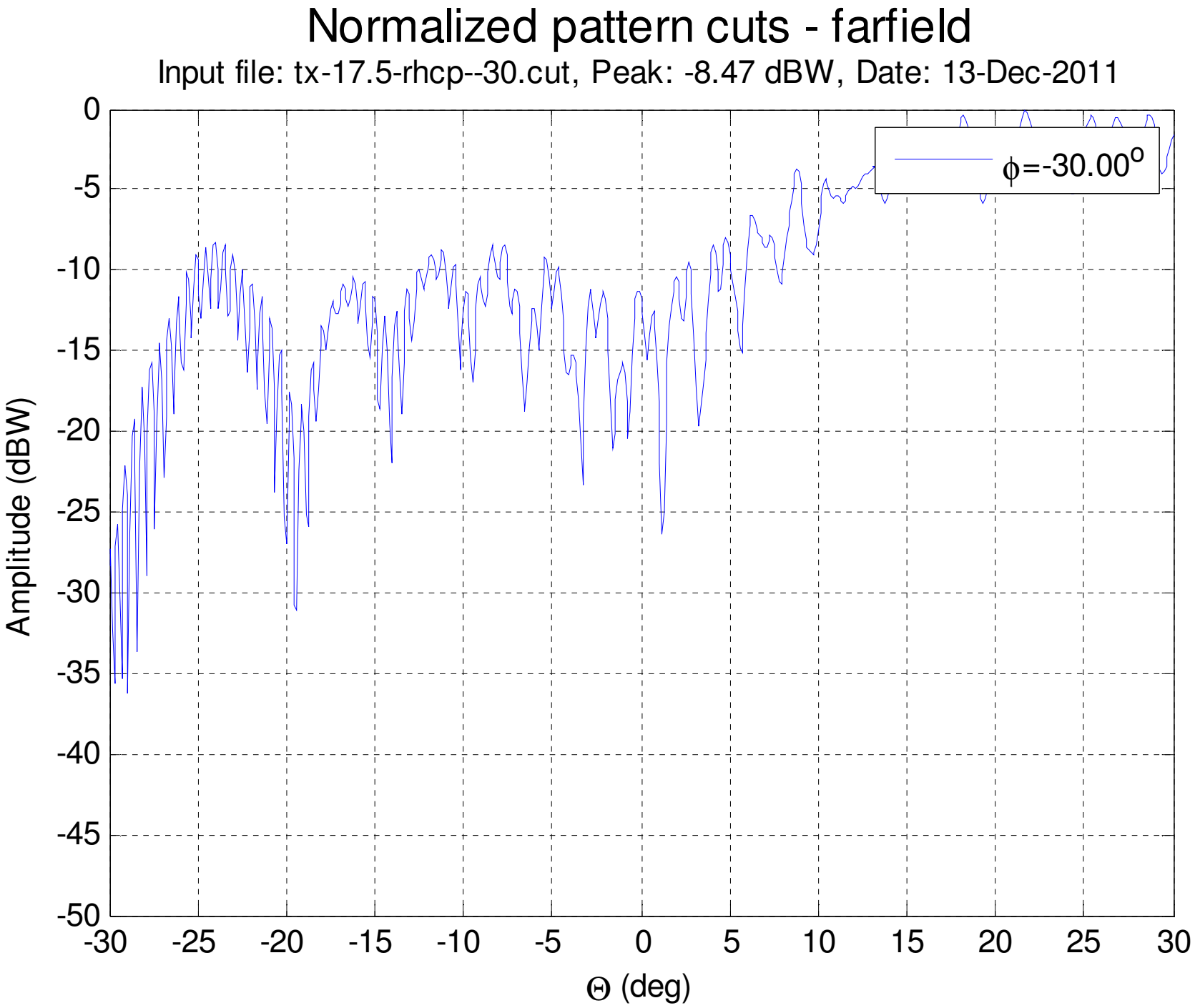

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -10.16 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

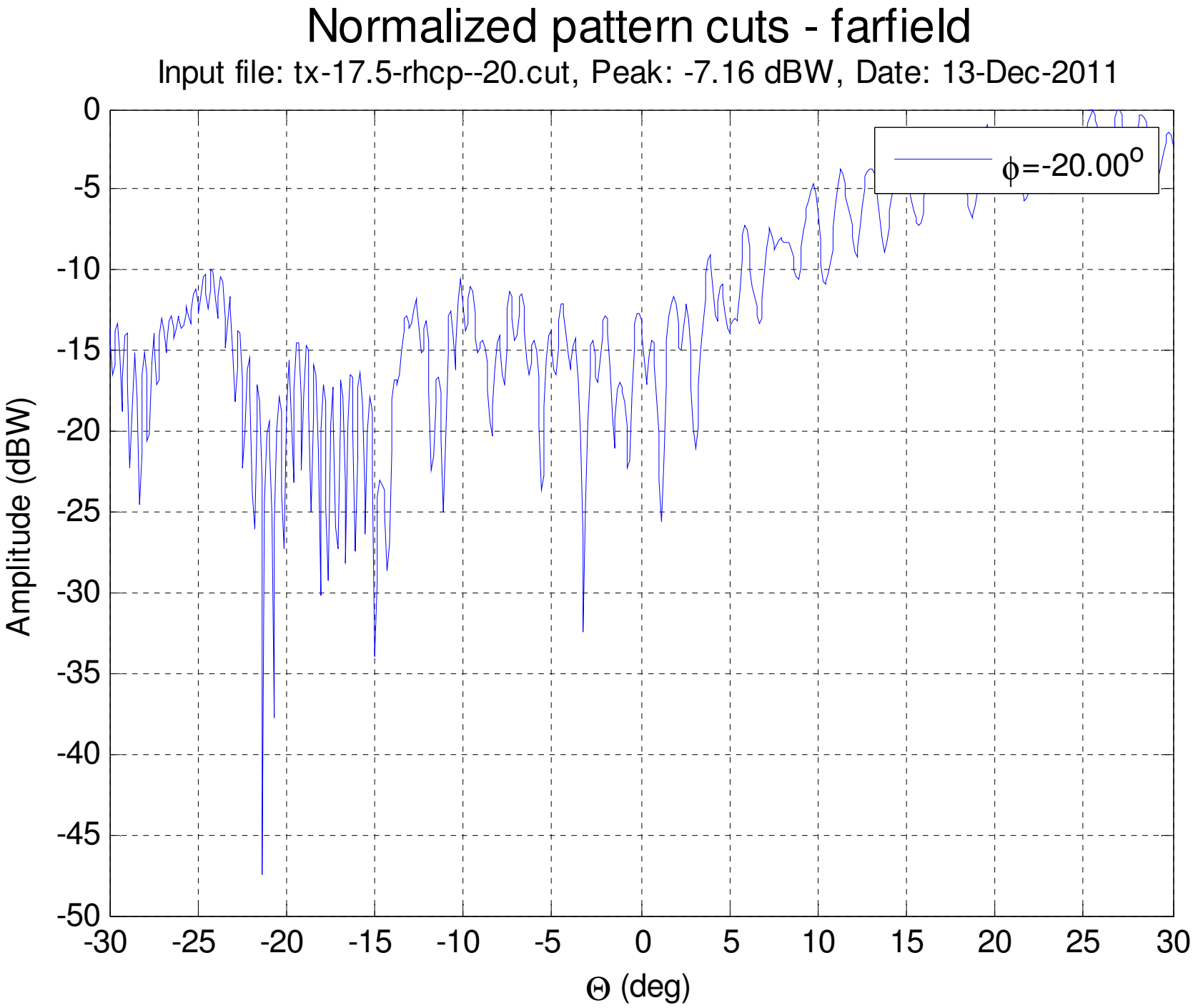
RHCP at 17.5 GHz

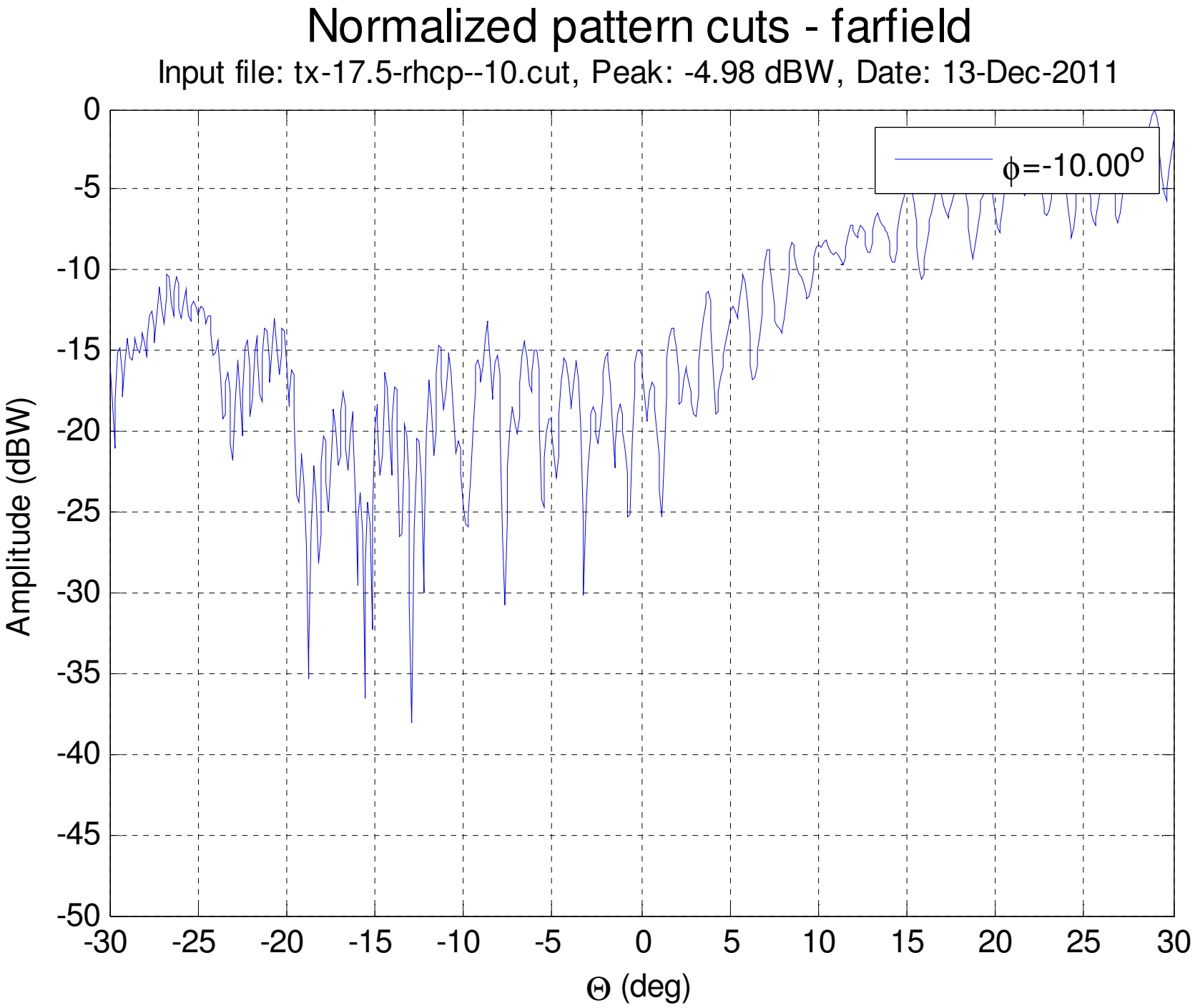

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -12.69 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

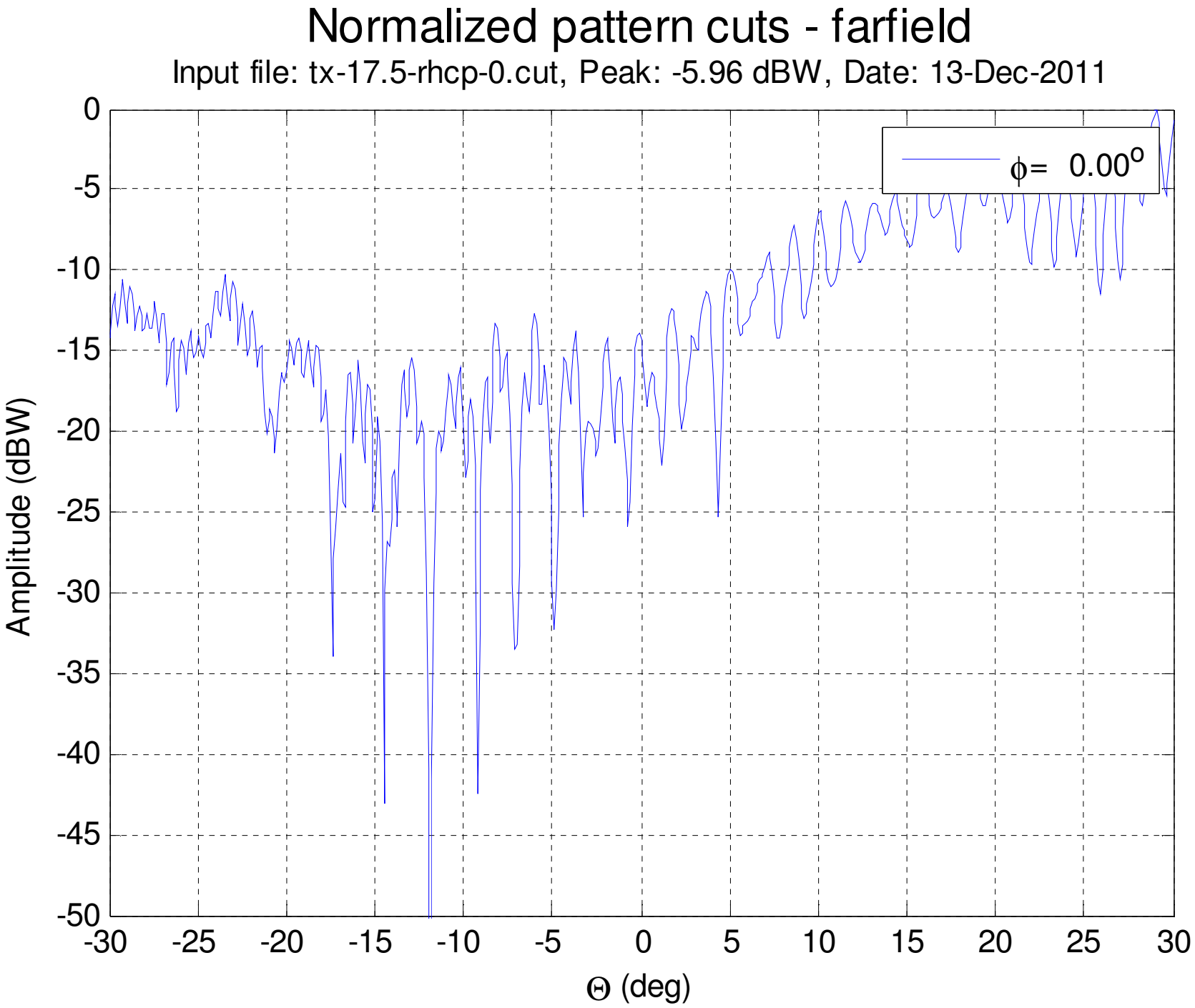

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -12.36 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

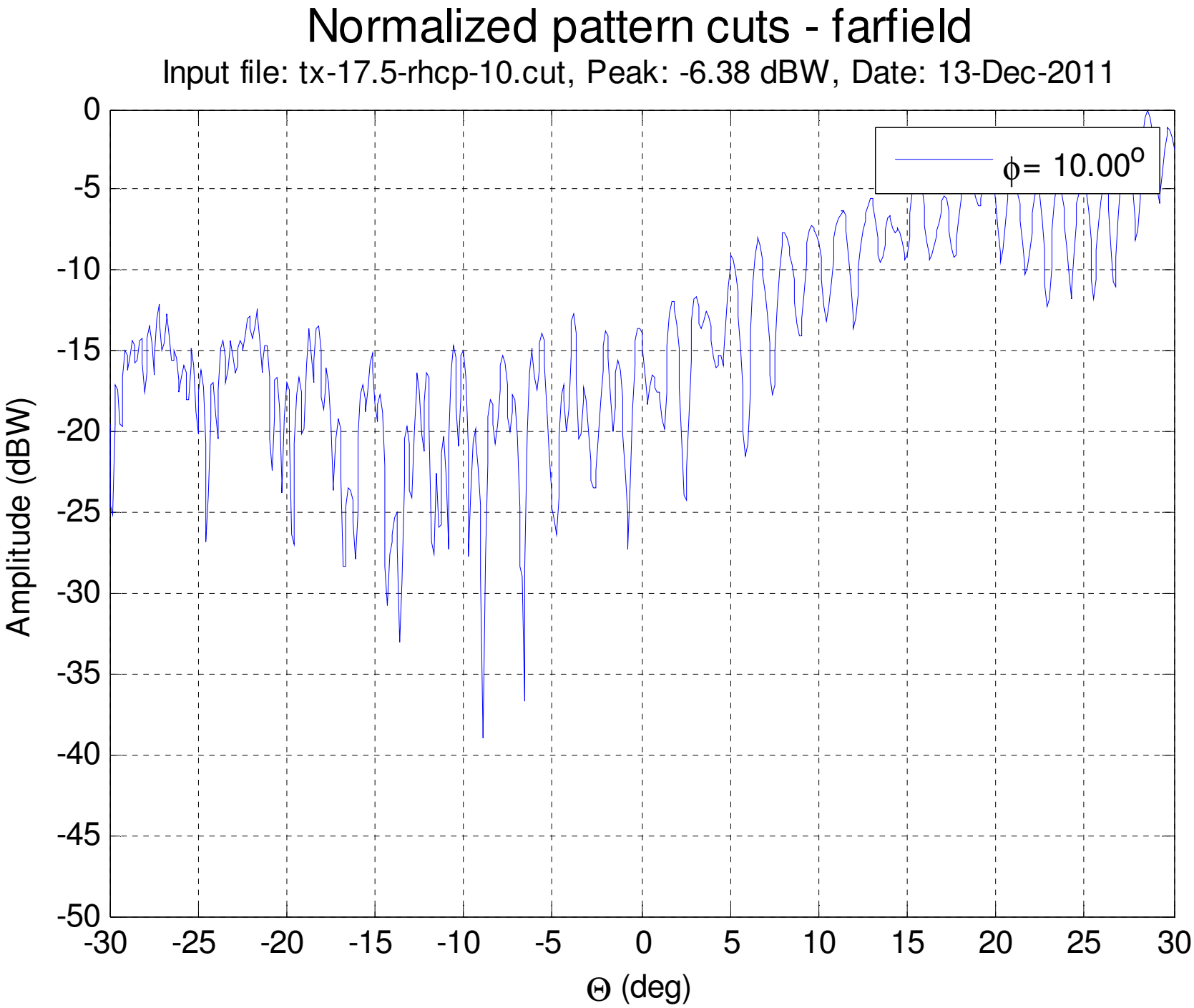

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -10.32 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

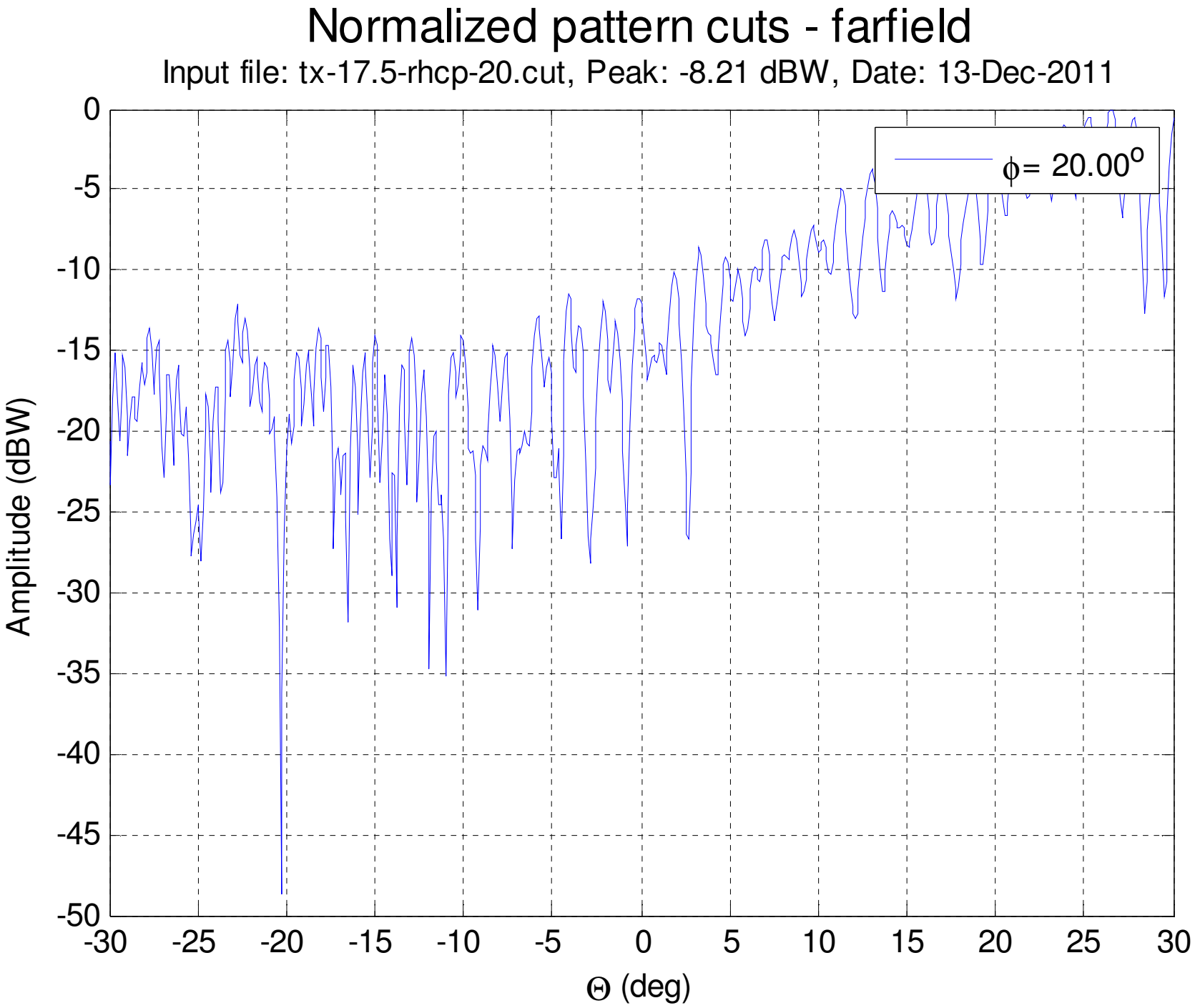

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -8.47 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

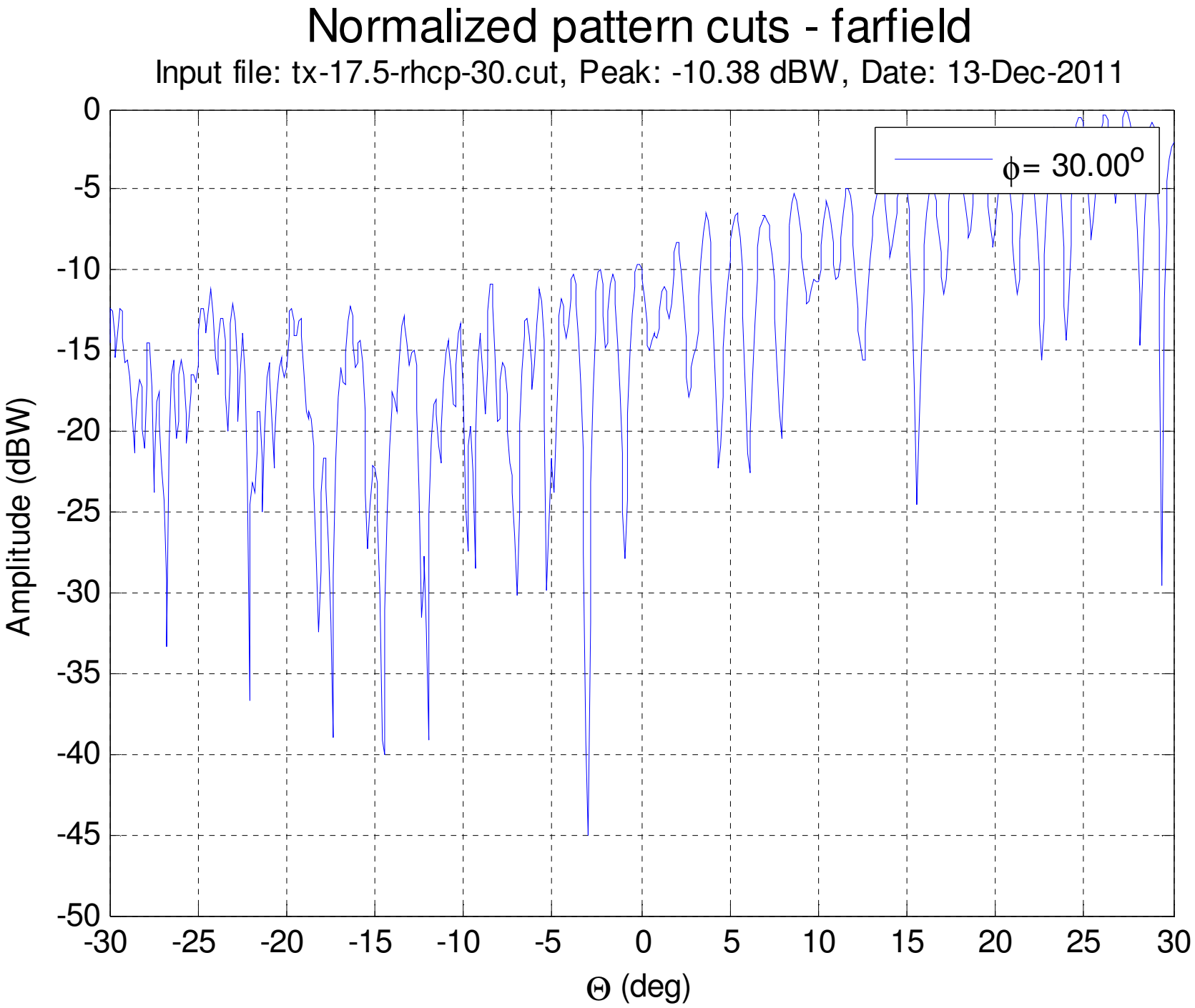

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -7.16 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

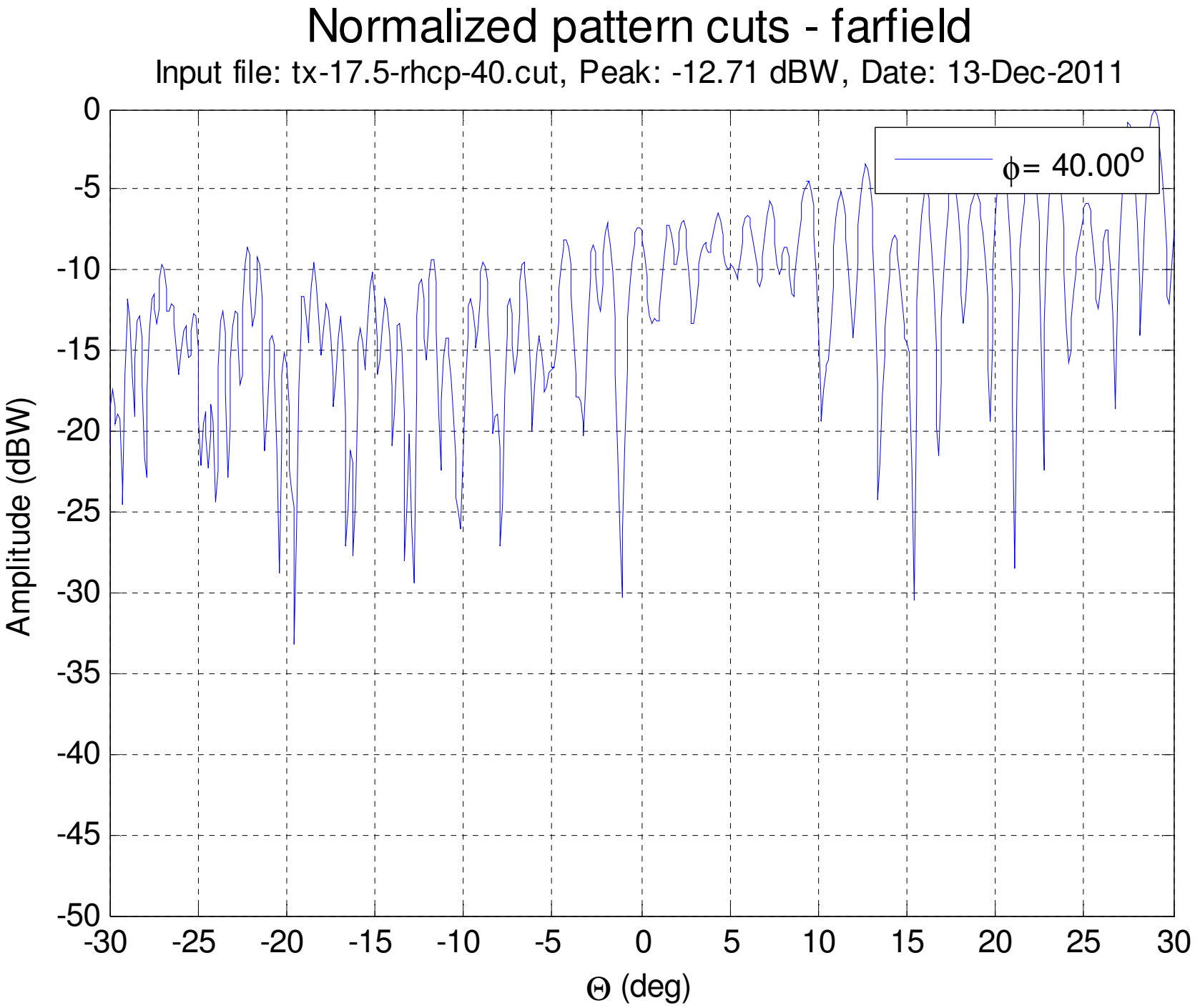

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -4.98 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

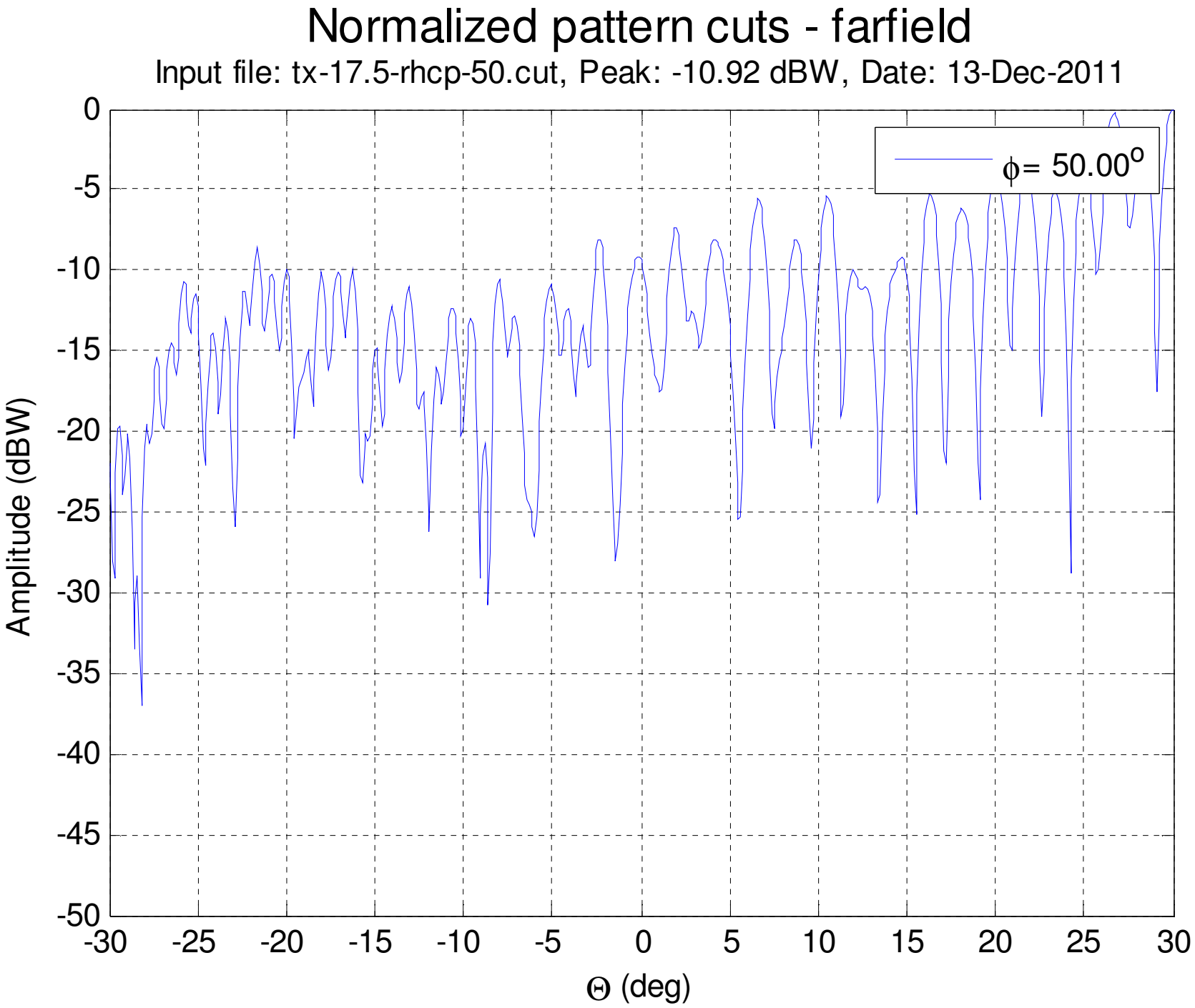

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -5.96 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

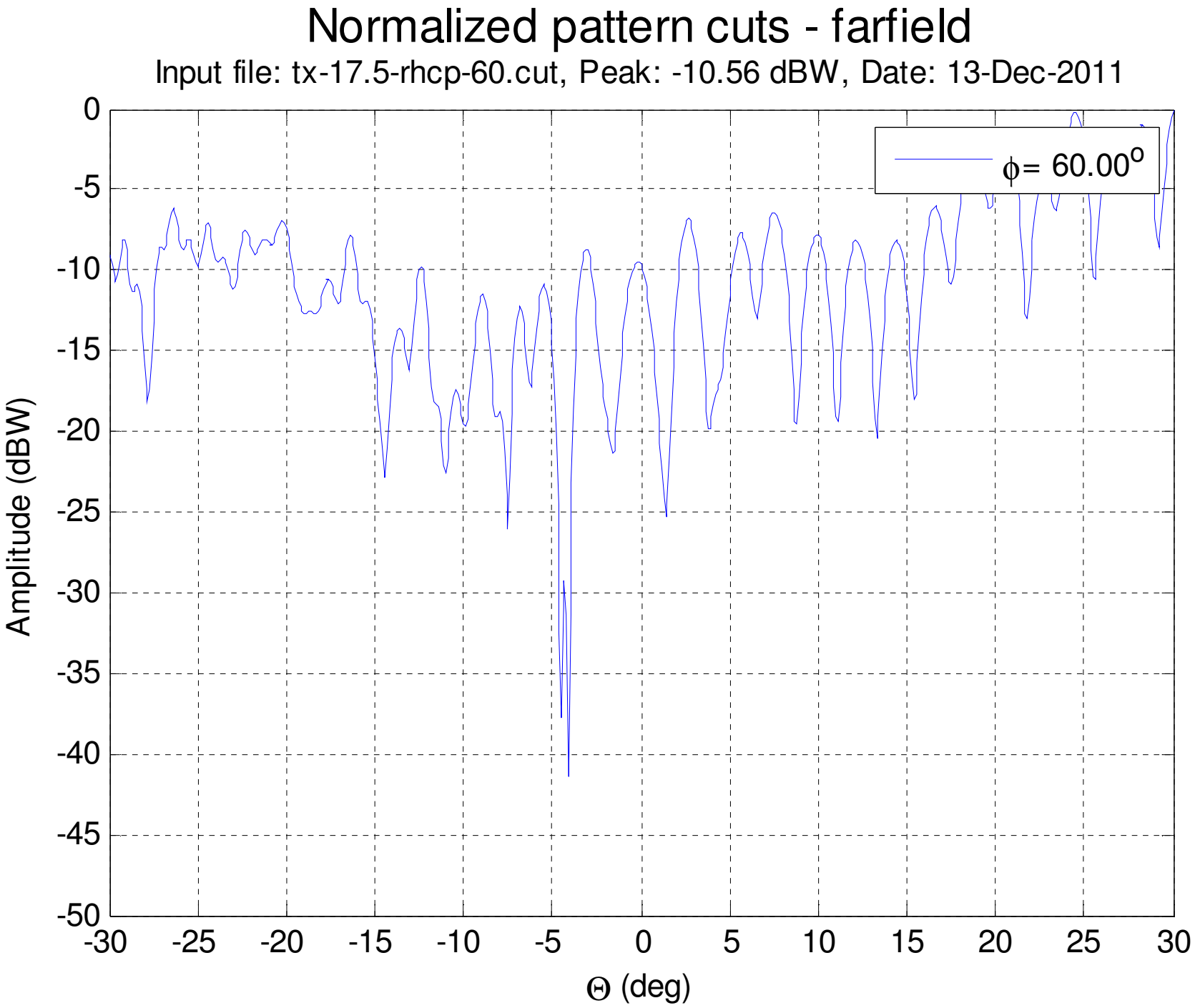

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -6.38 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -8.21 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

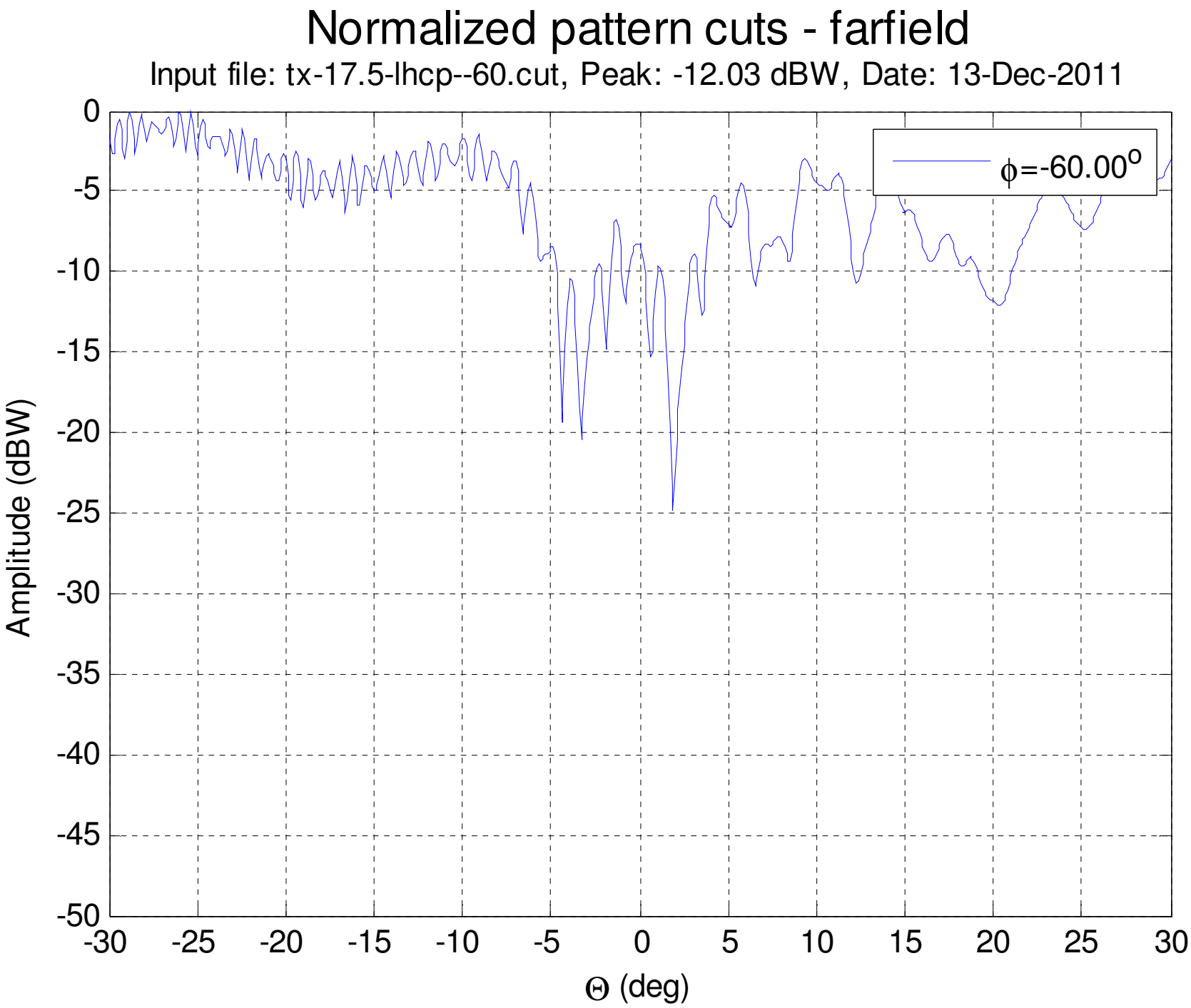

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -10.38 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

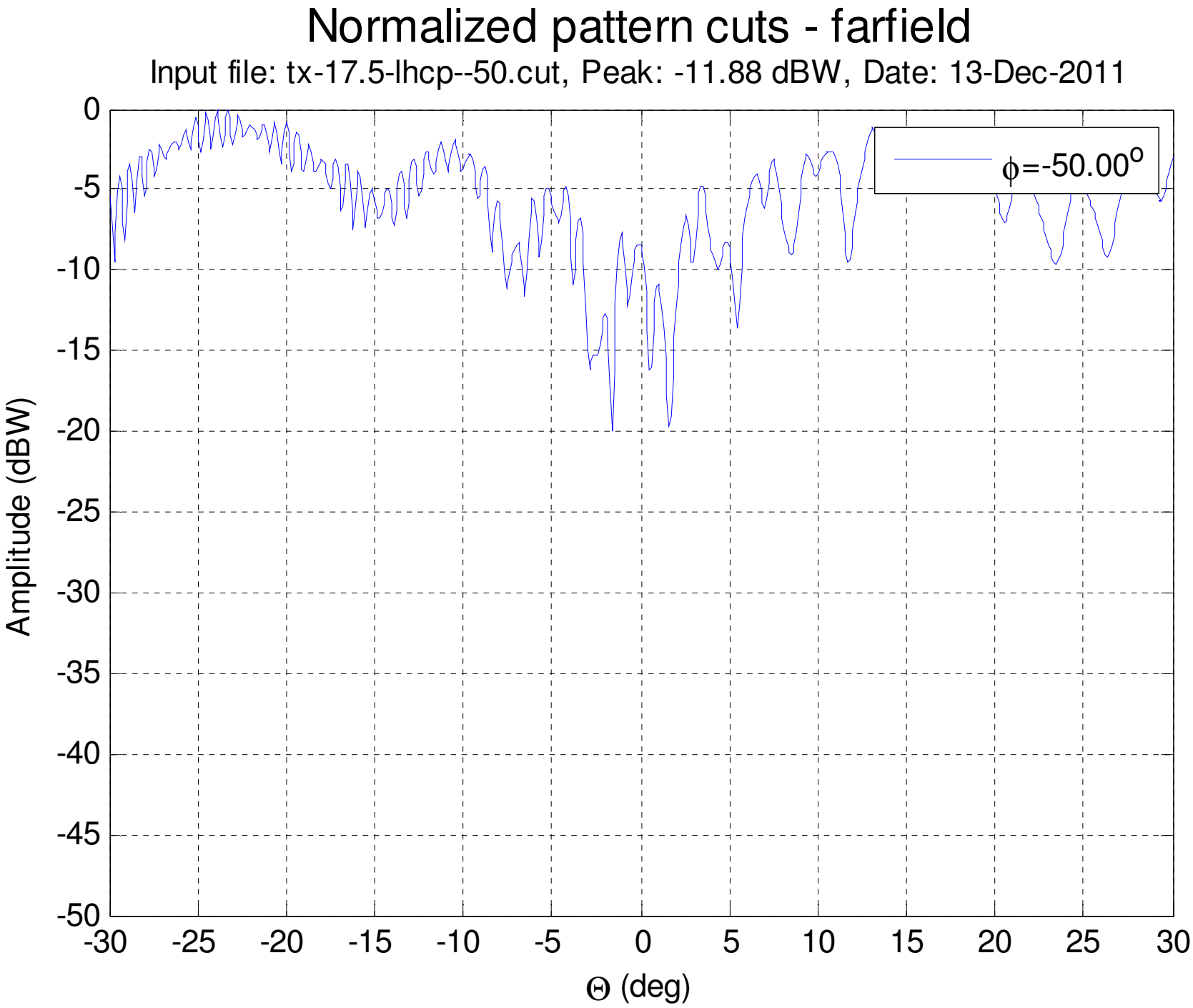

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -12.71 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

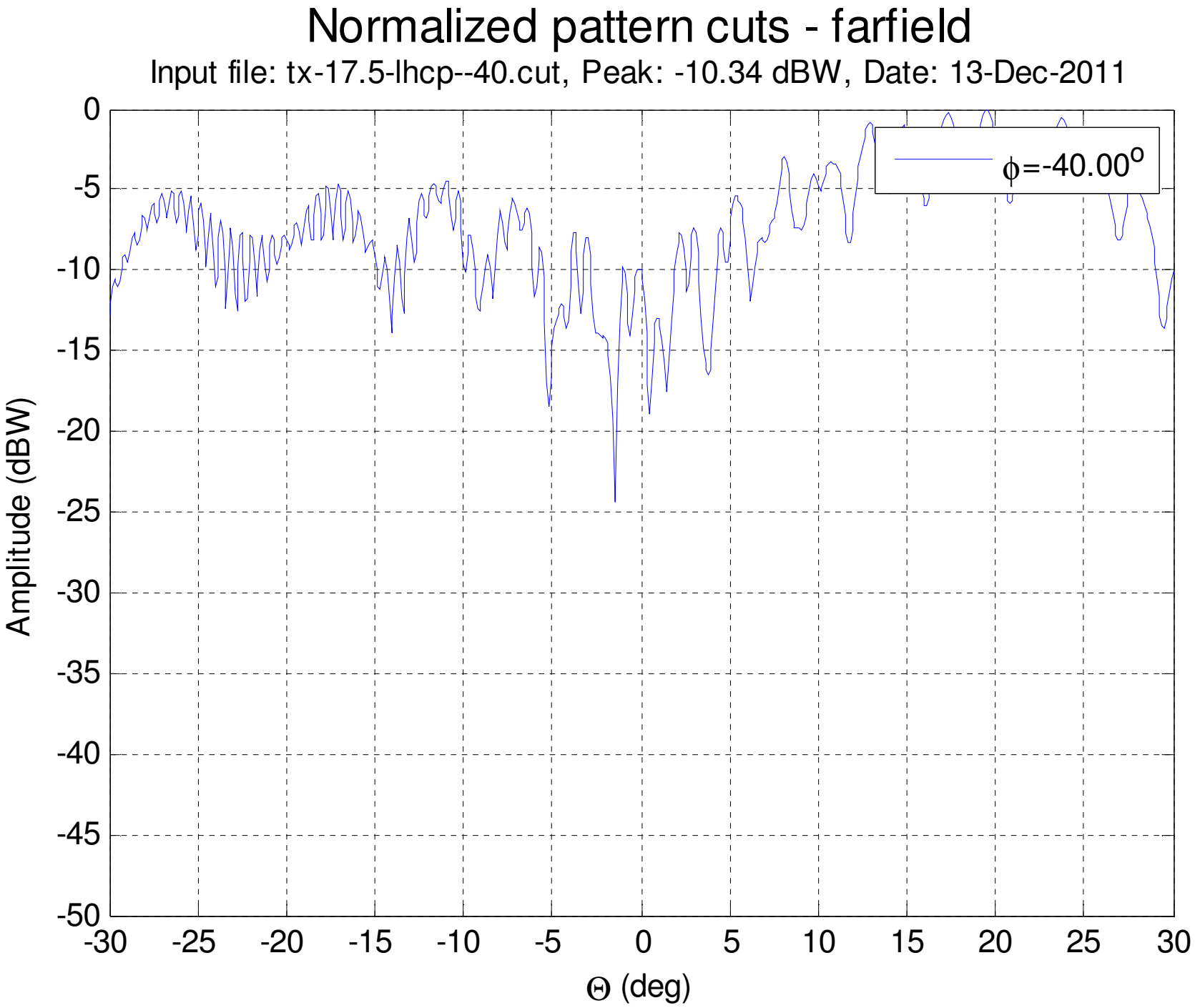

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -10.92 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

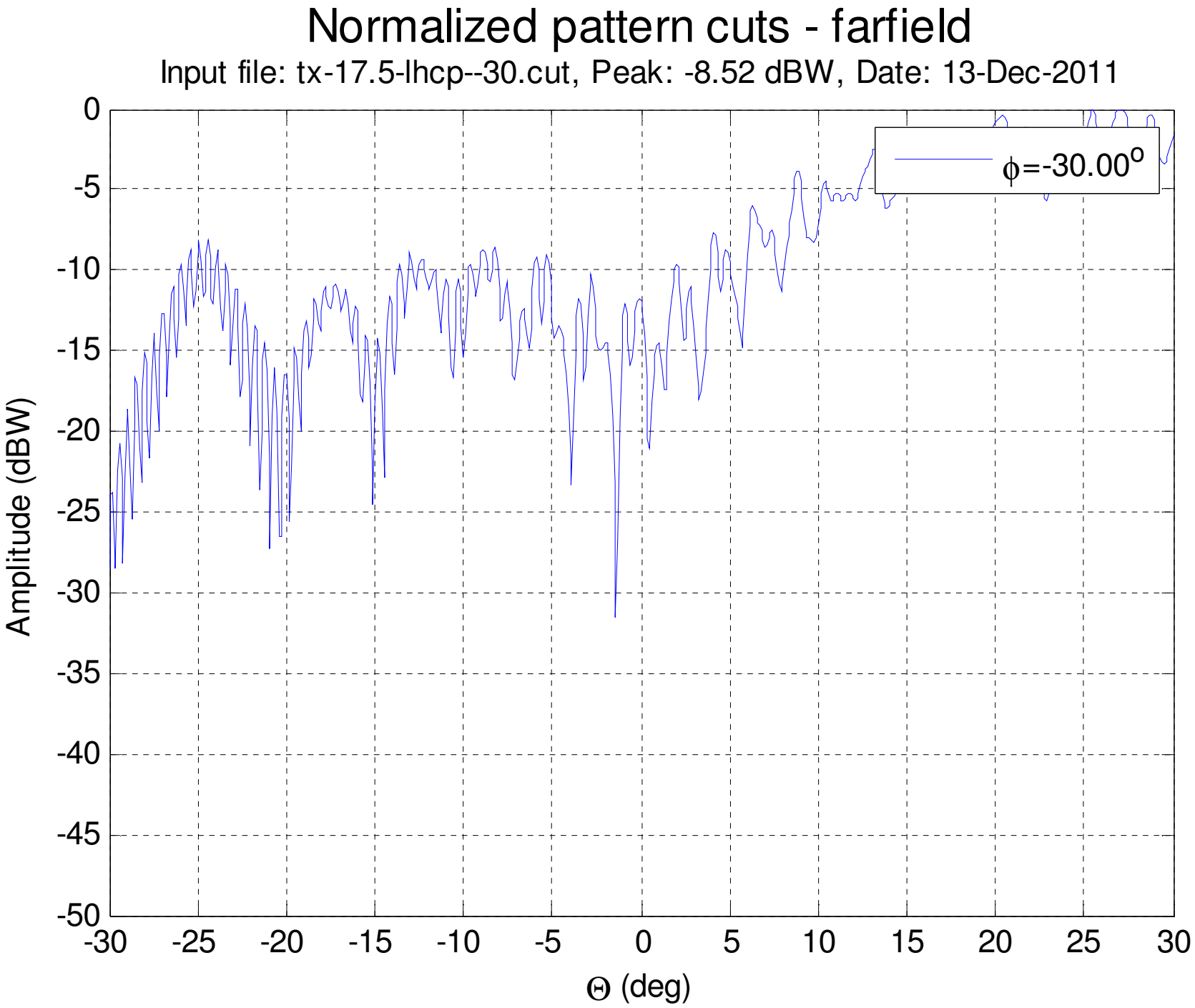

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -10.56 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

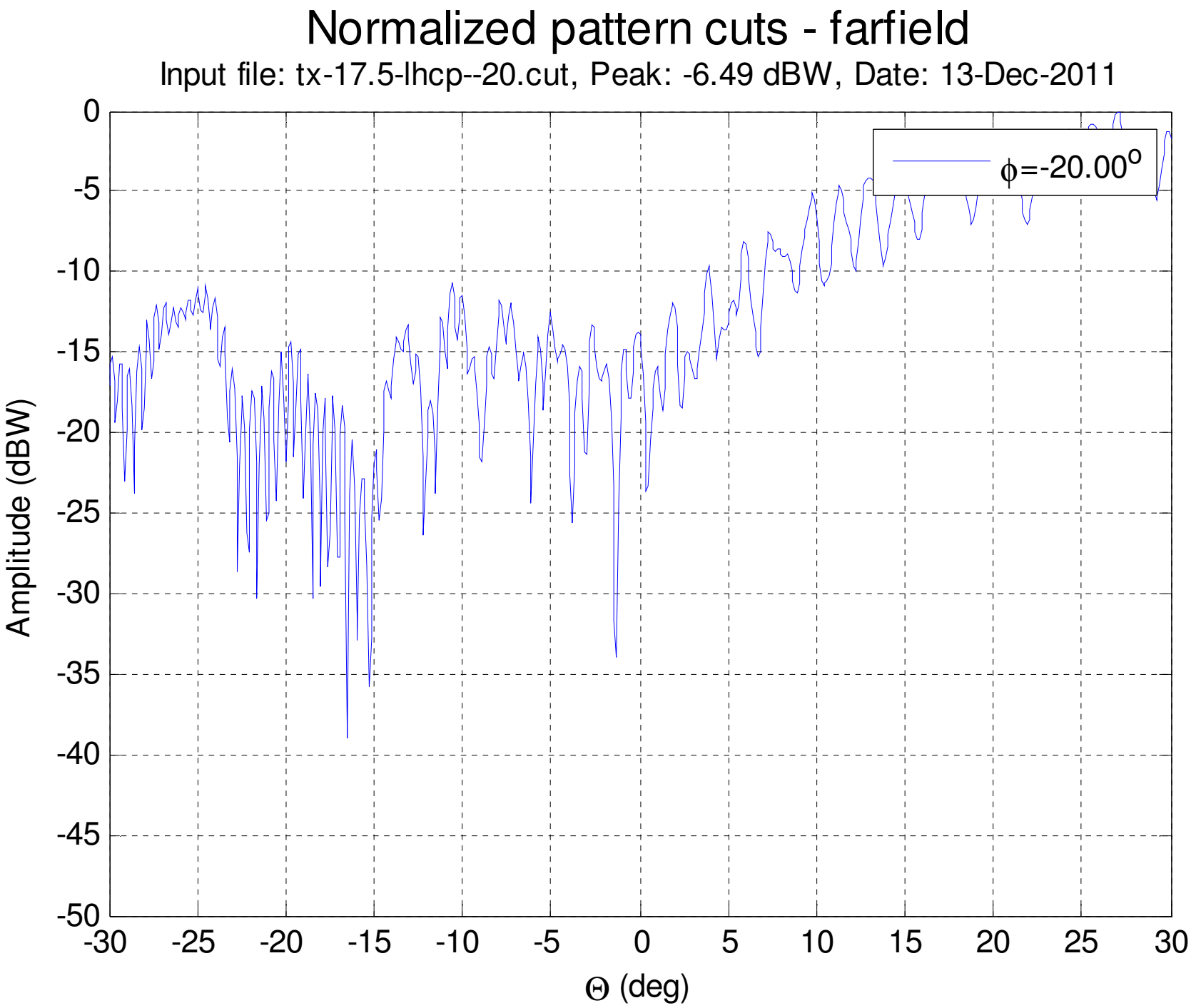
LHCP at 17.5 GHz

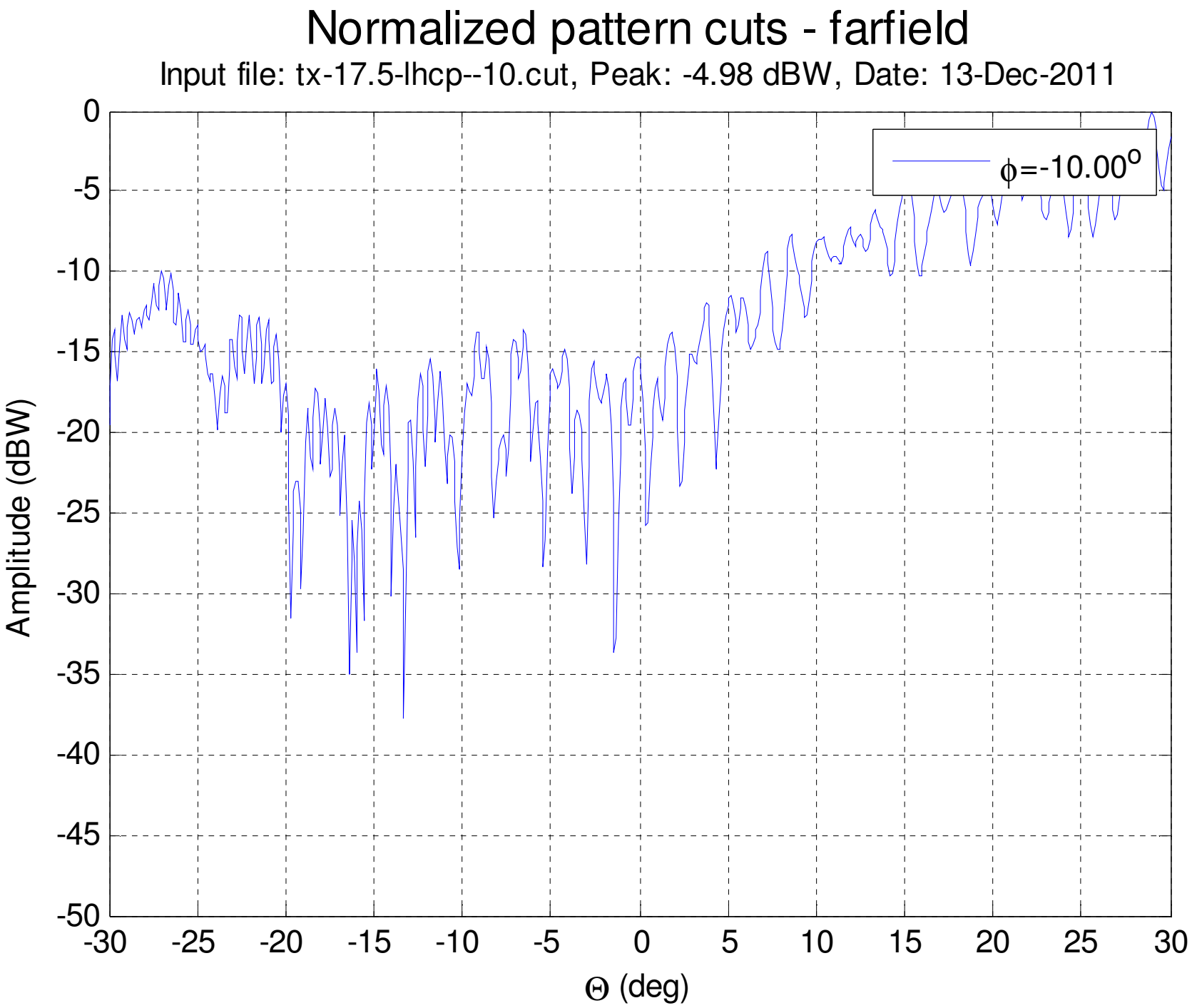

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -12.03 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

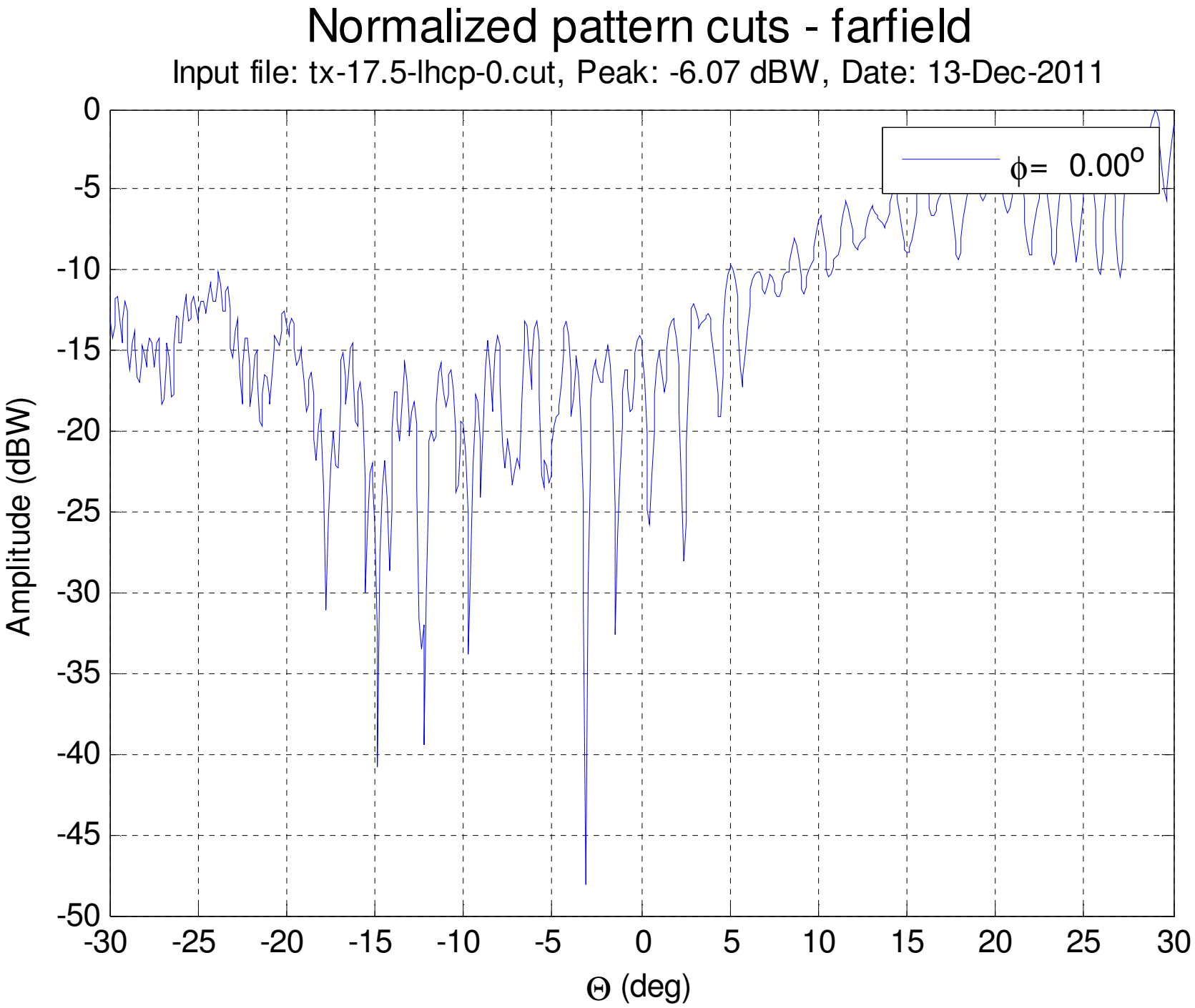

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -11.88 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

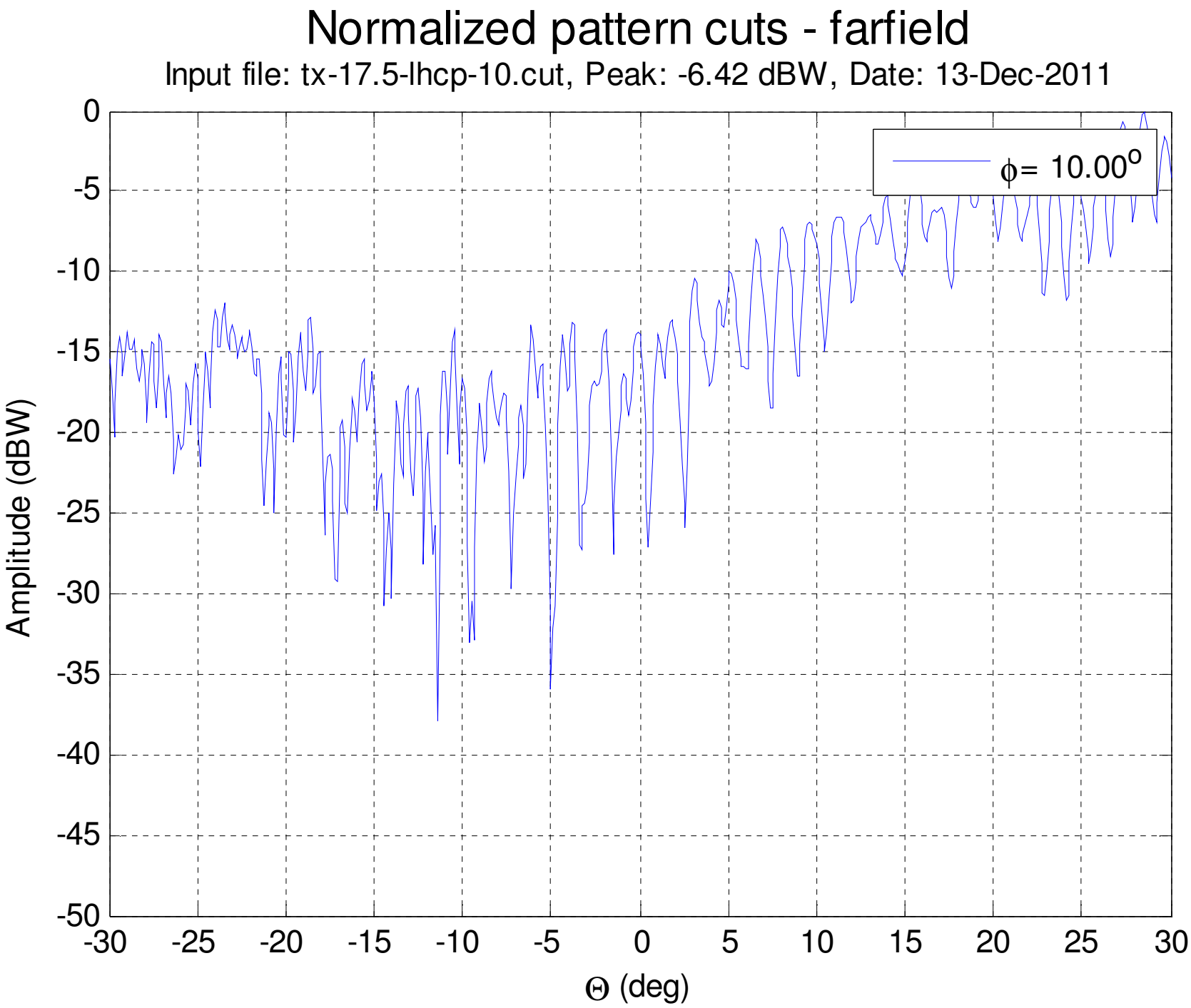

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -10.34 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

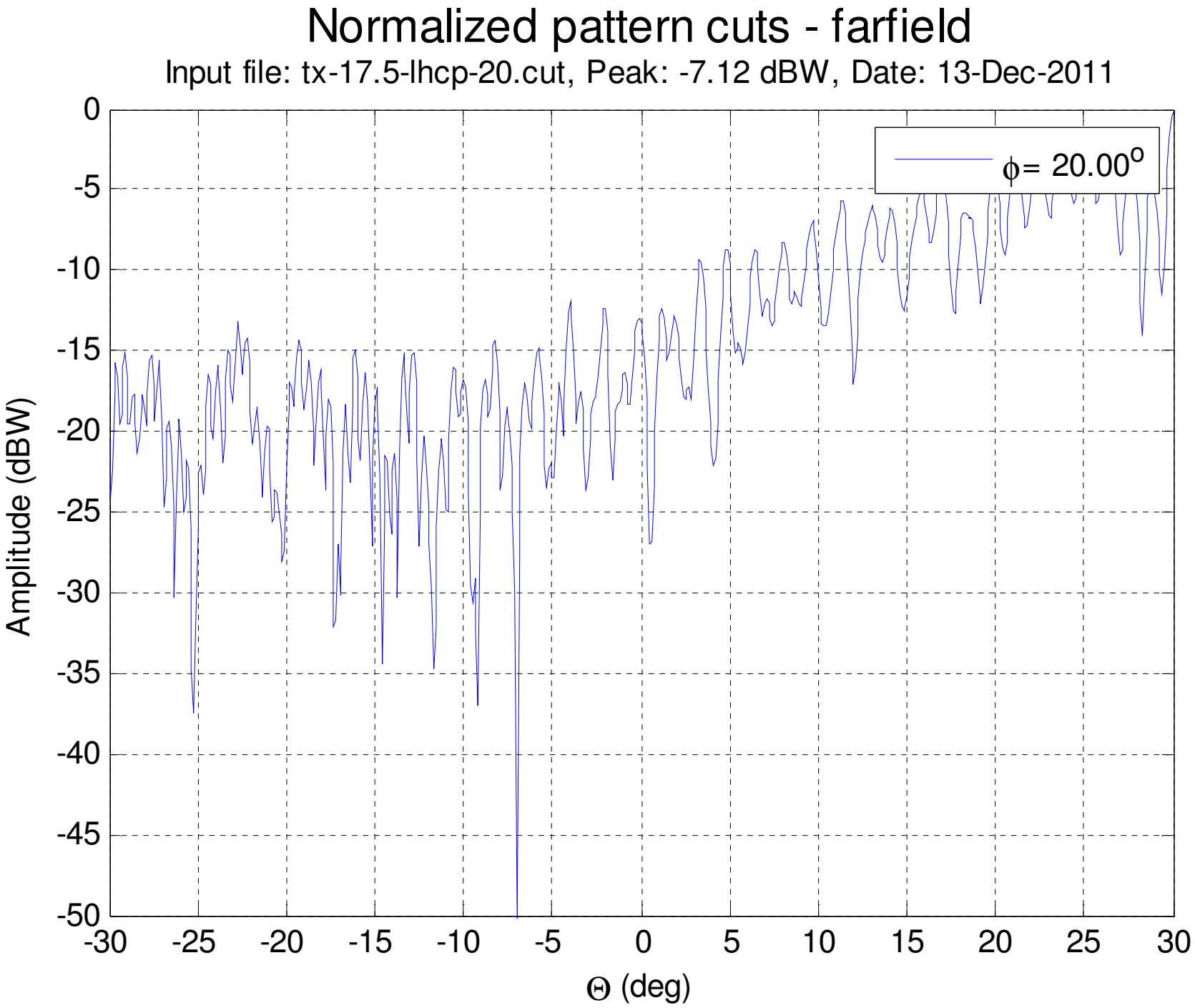

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -8.52 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

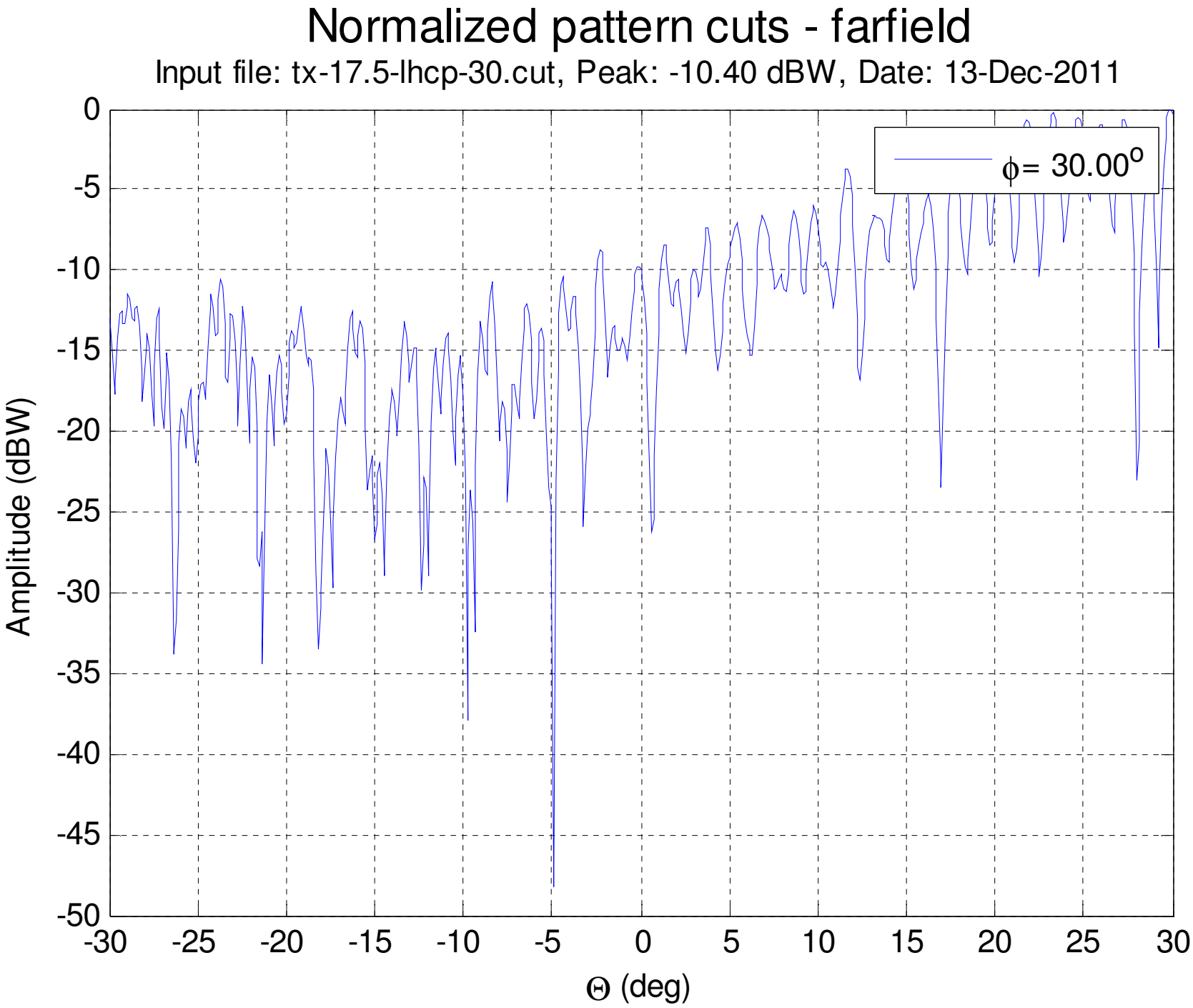

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -6.49 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

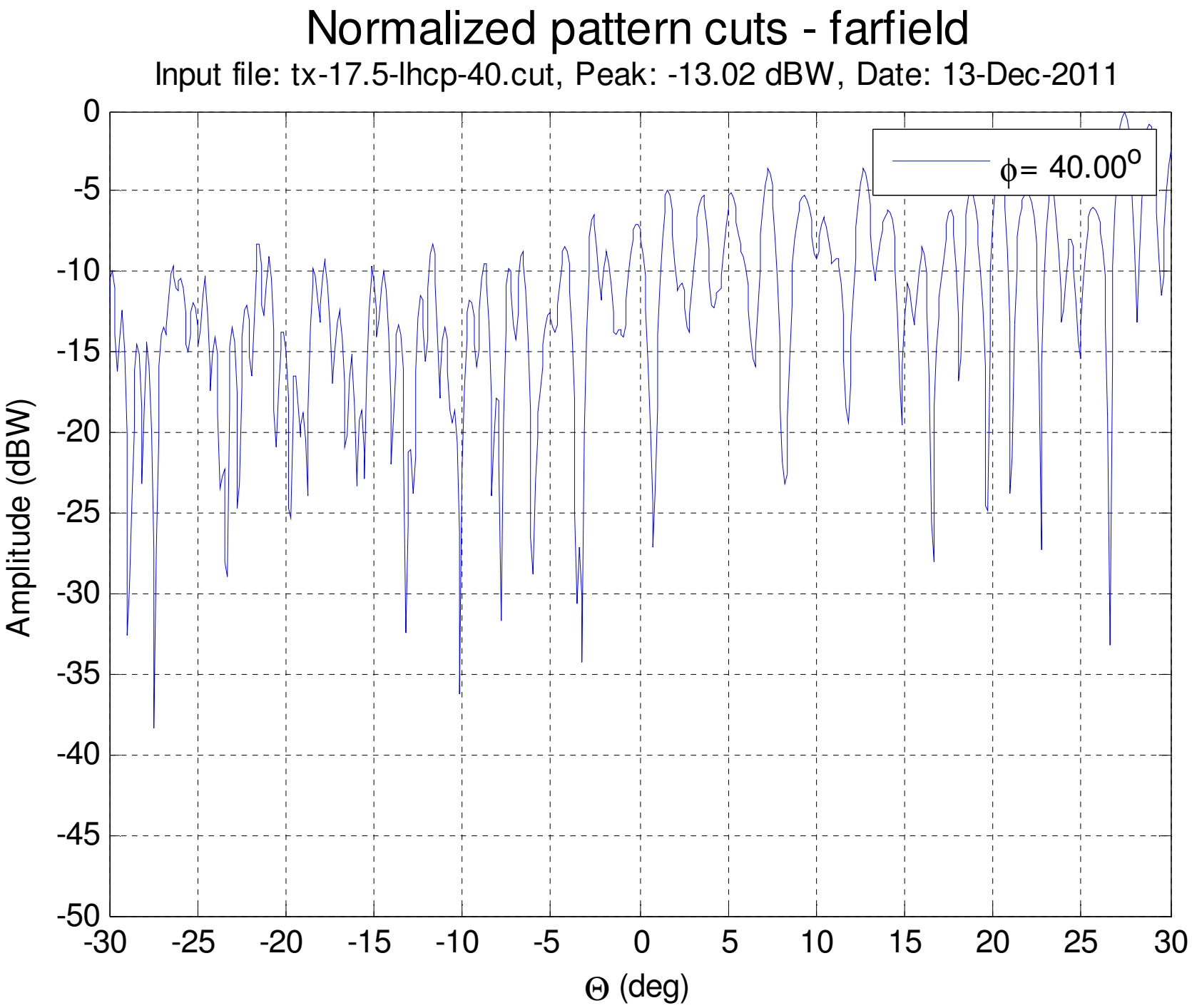

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -4.98 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

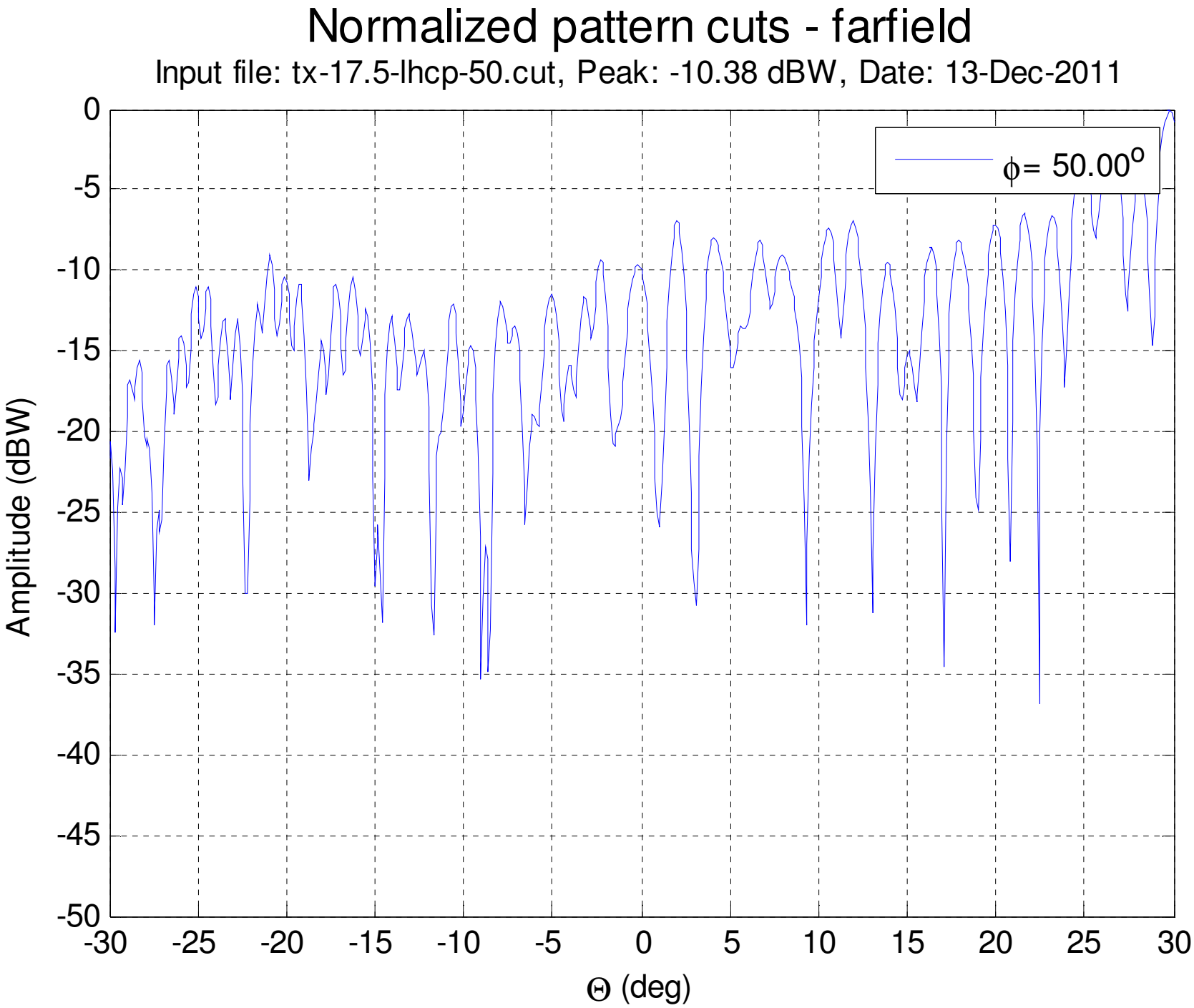

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -6.07 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

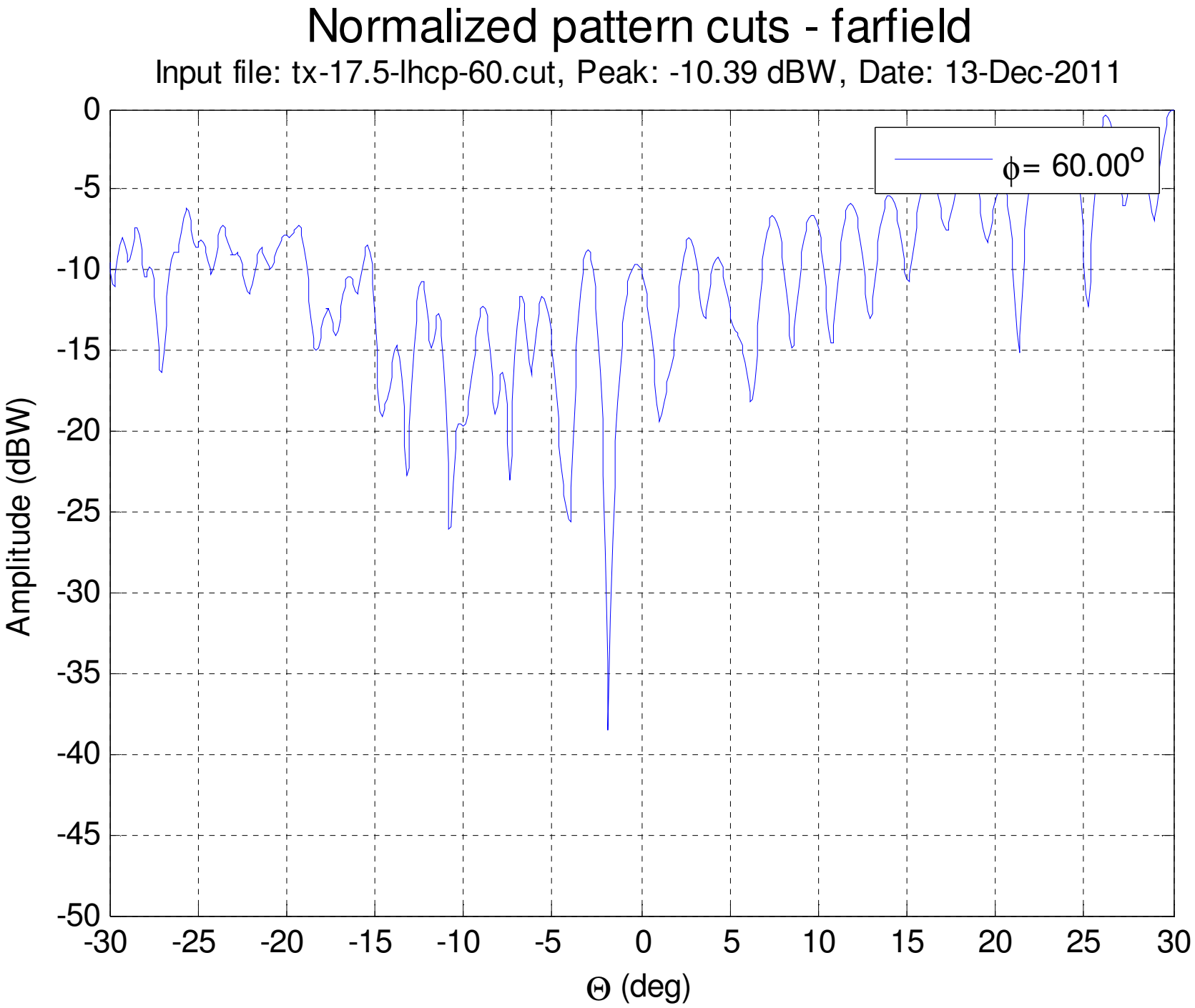

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -6.42 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.12 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

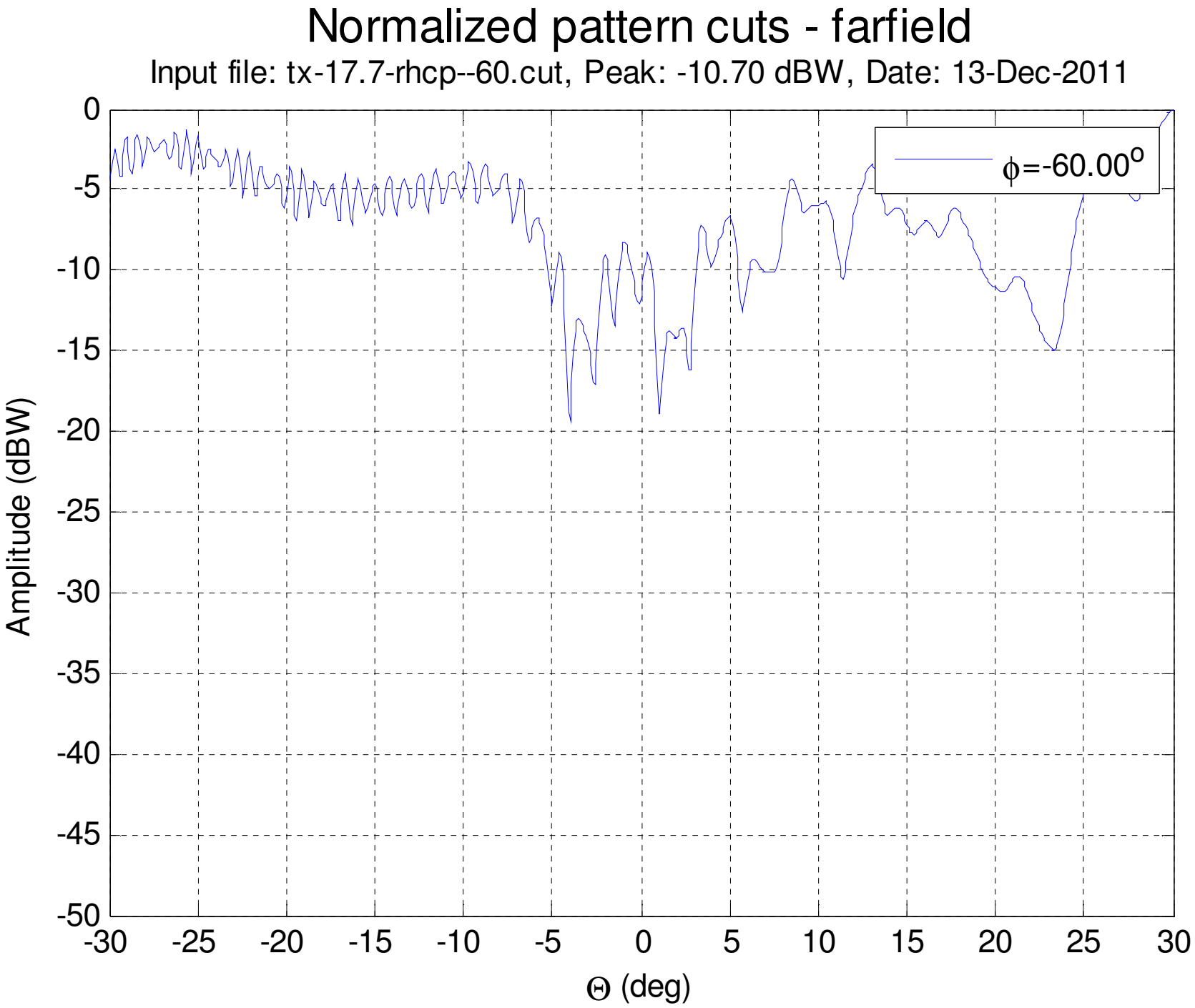

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -10.40 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

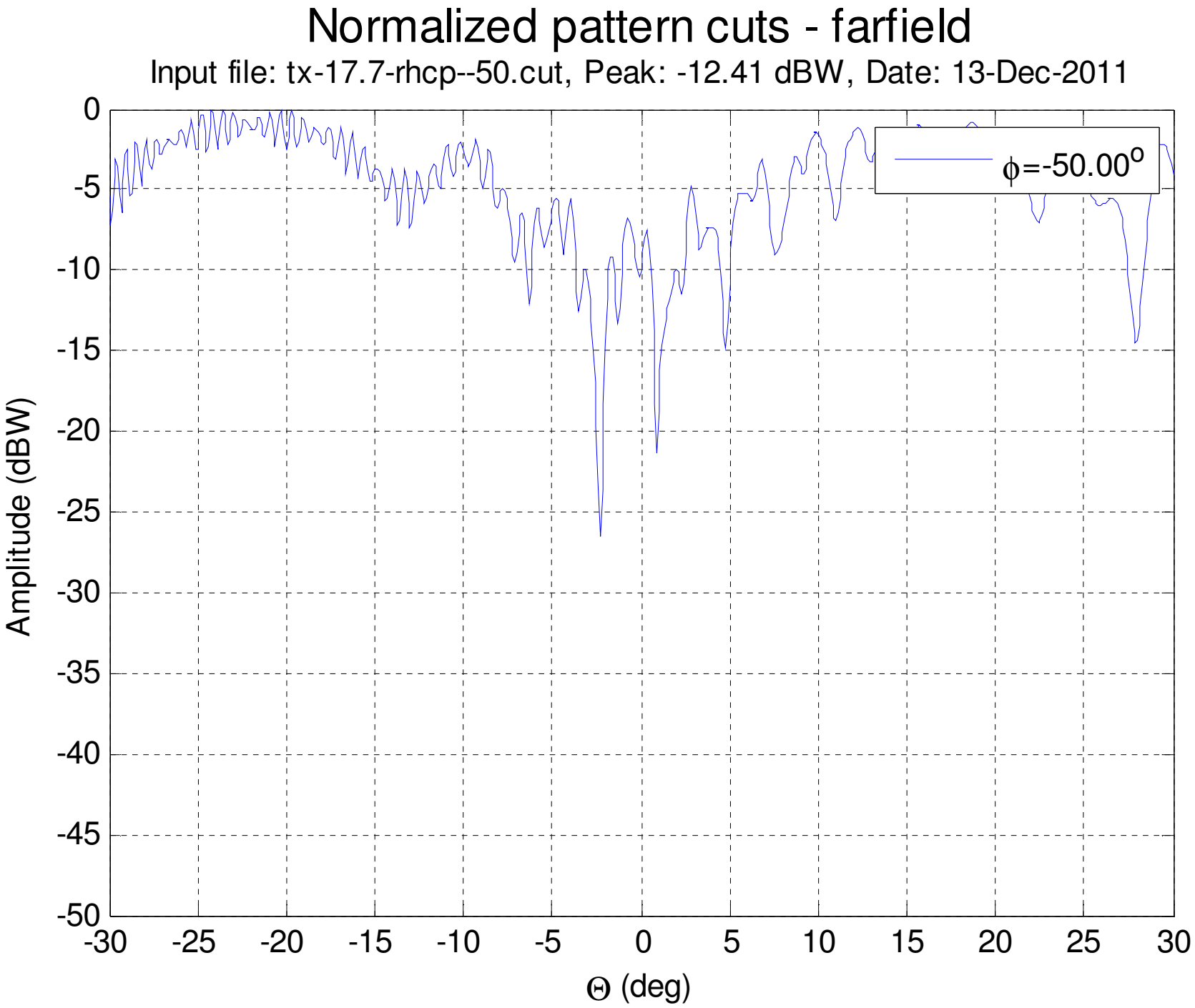

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -13.02 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

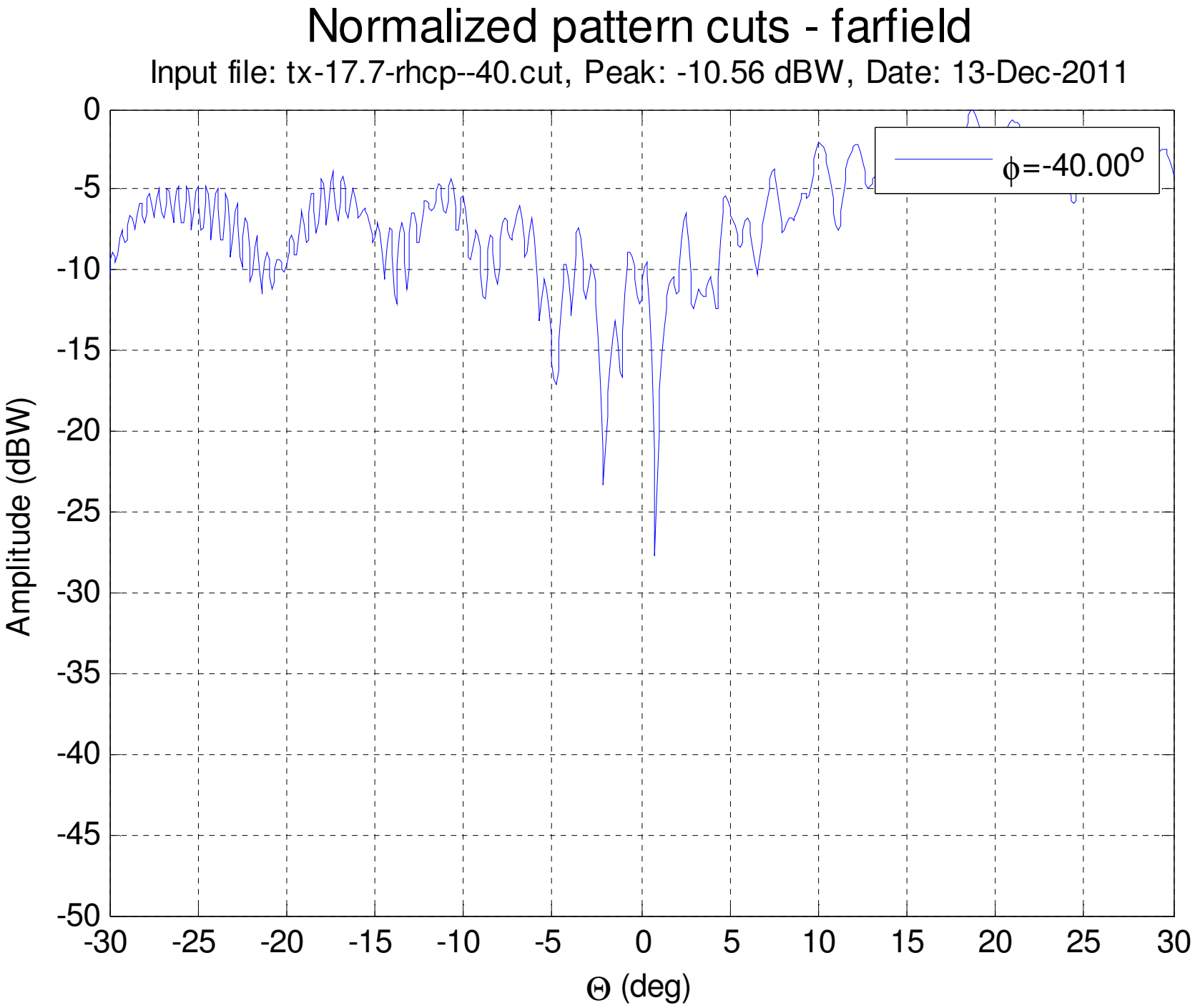

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -10.38 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

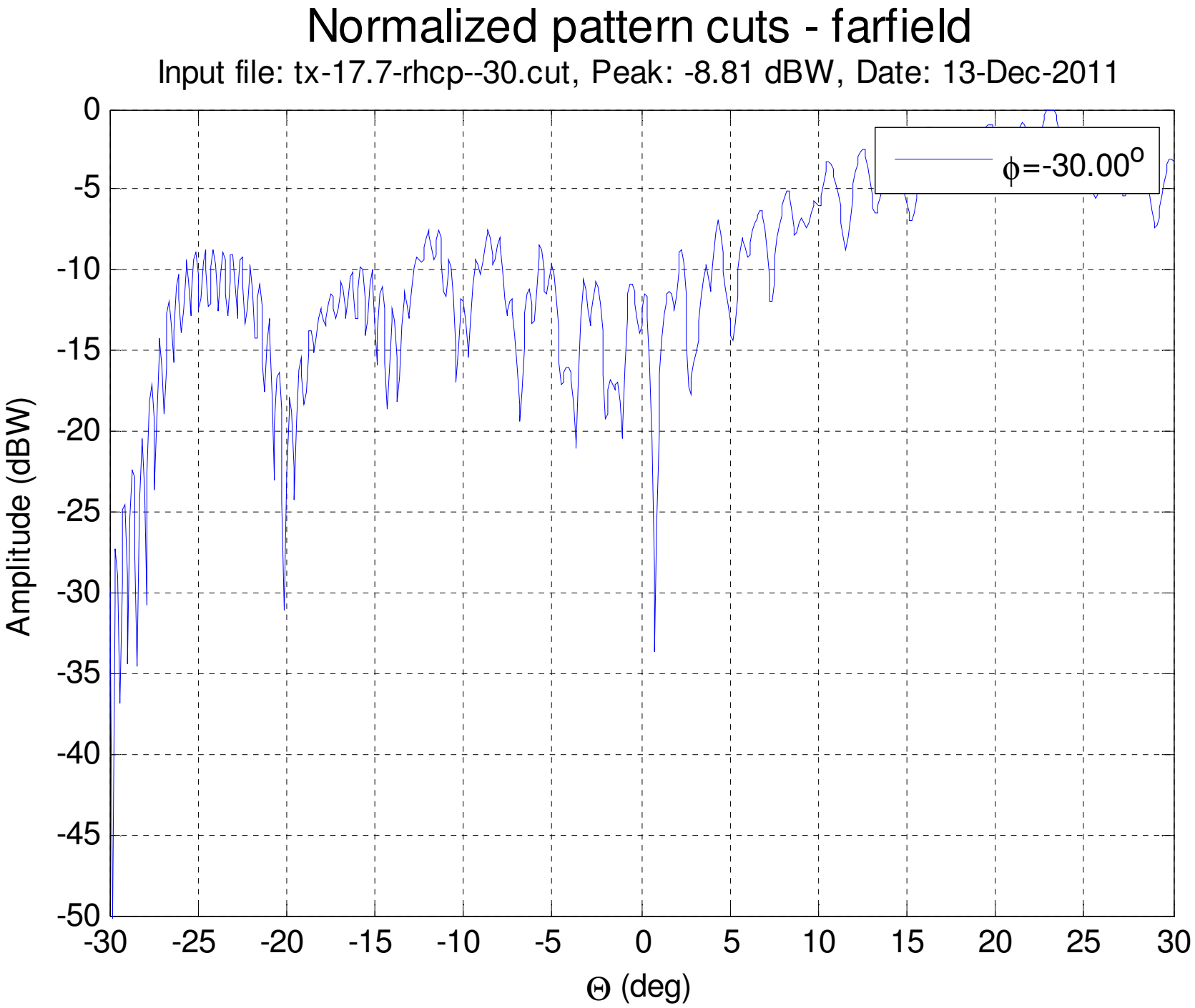

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -10.39 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

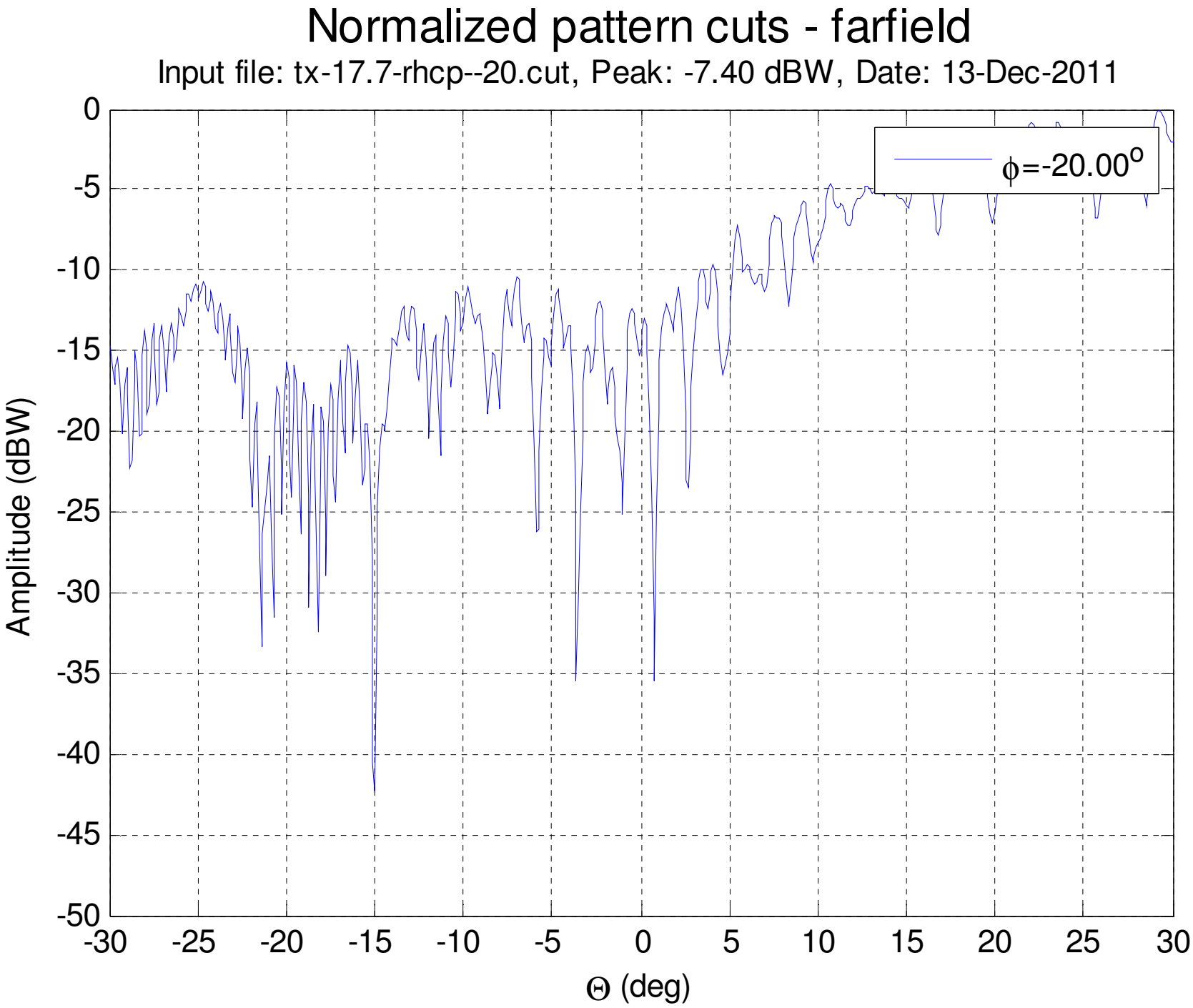
RHCP at 17.7 GHz

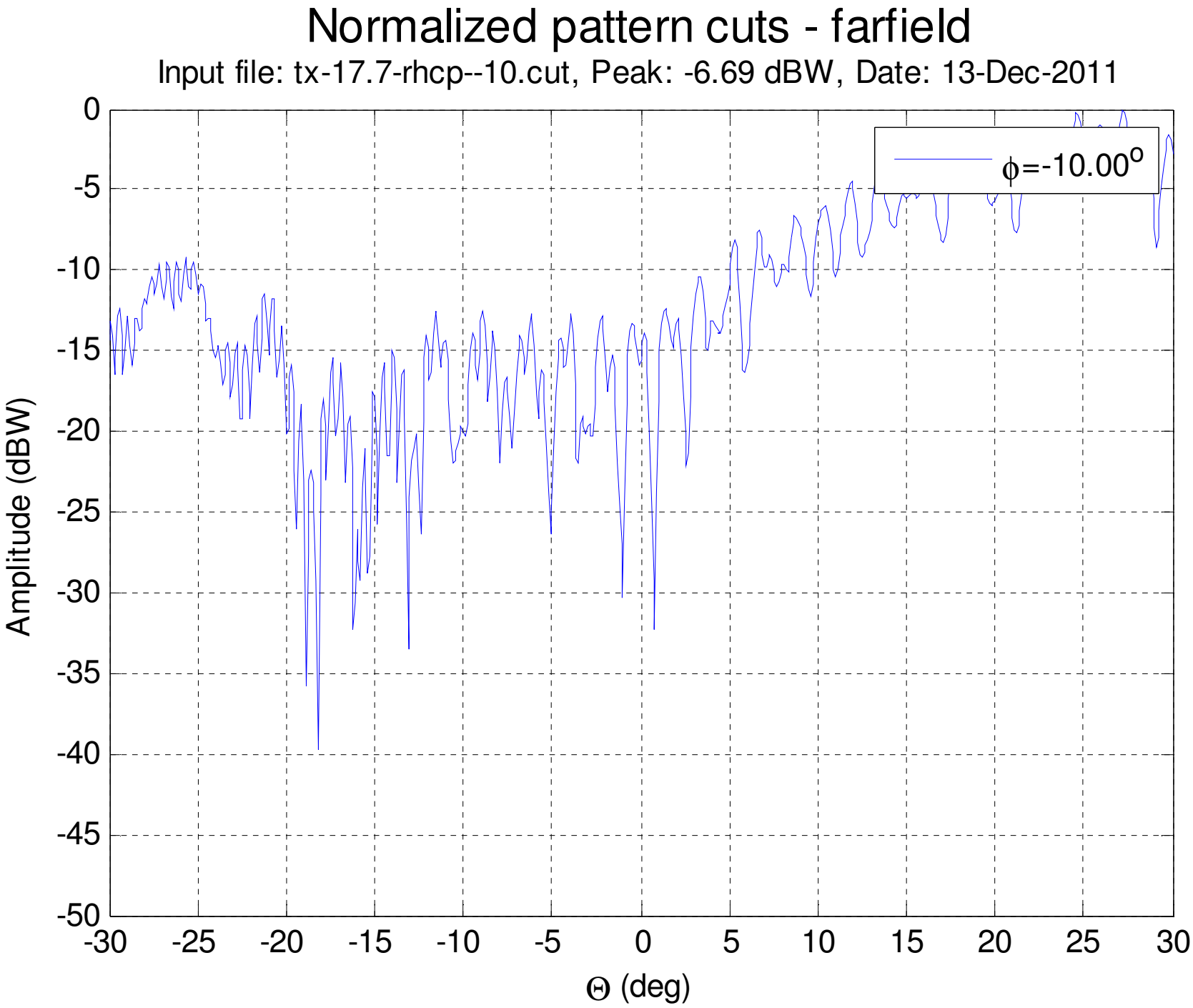

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -10.70 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

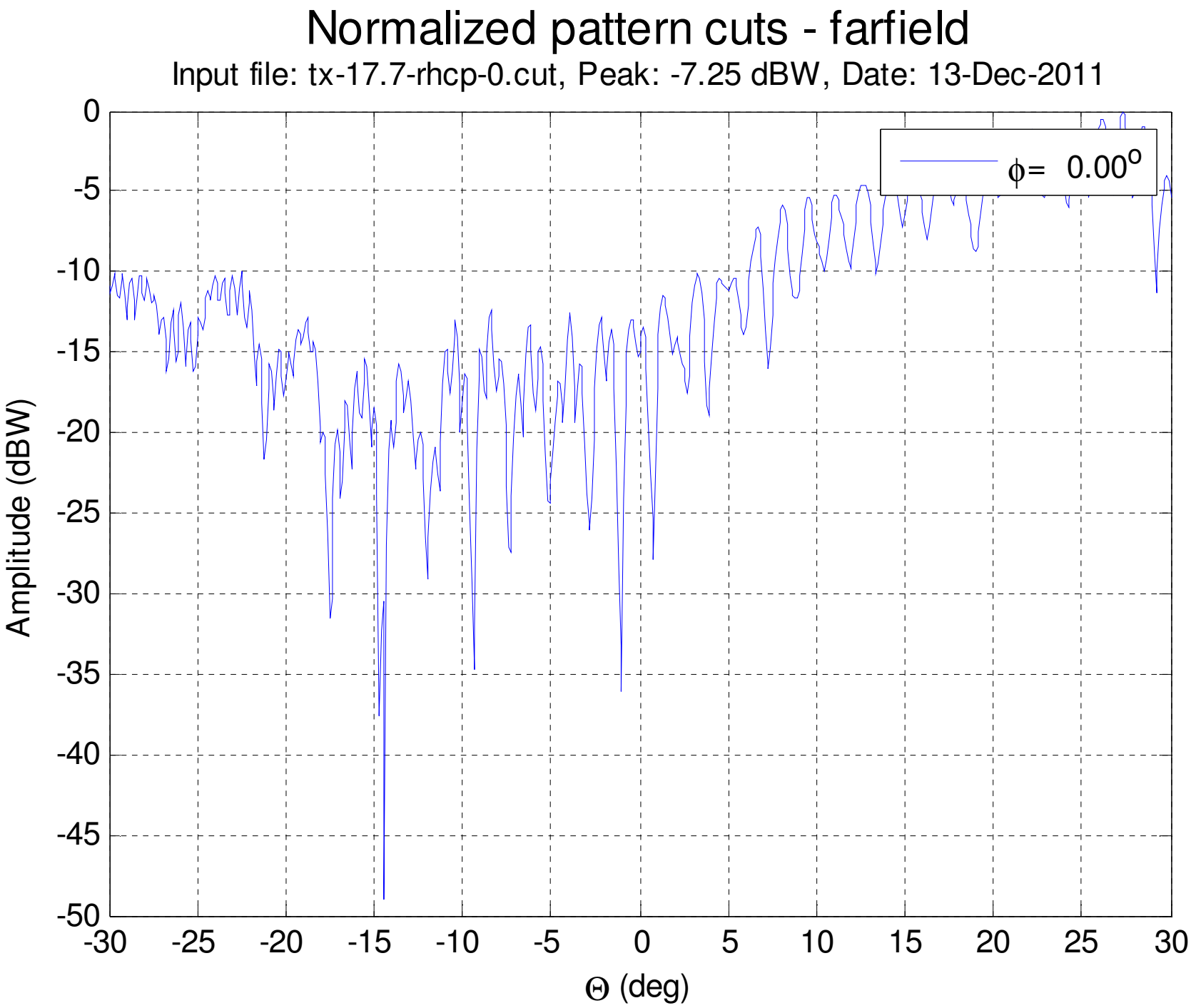

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -12.41 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

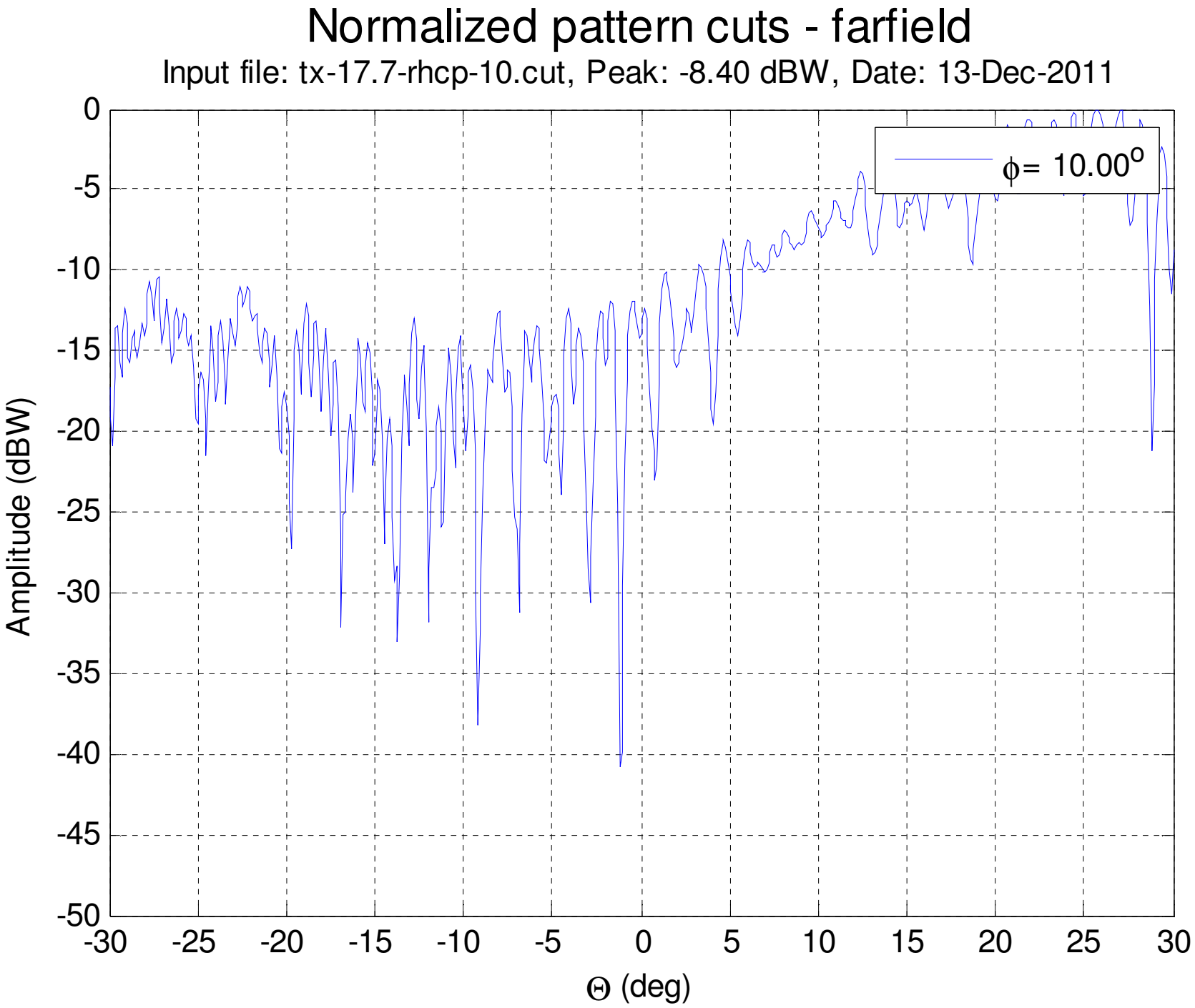

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -10.56 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

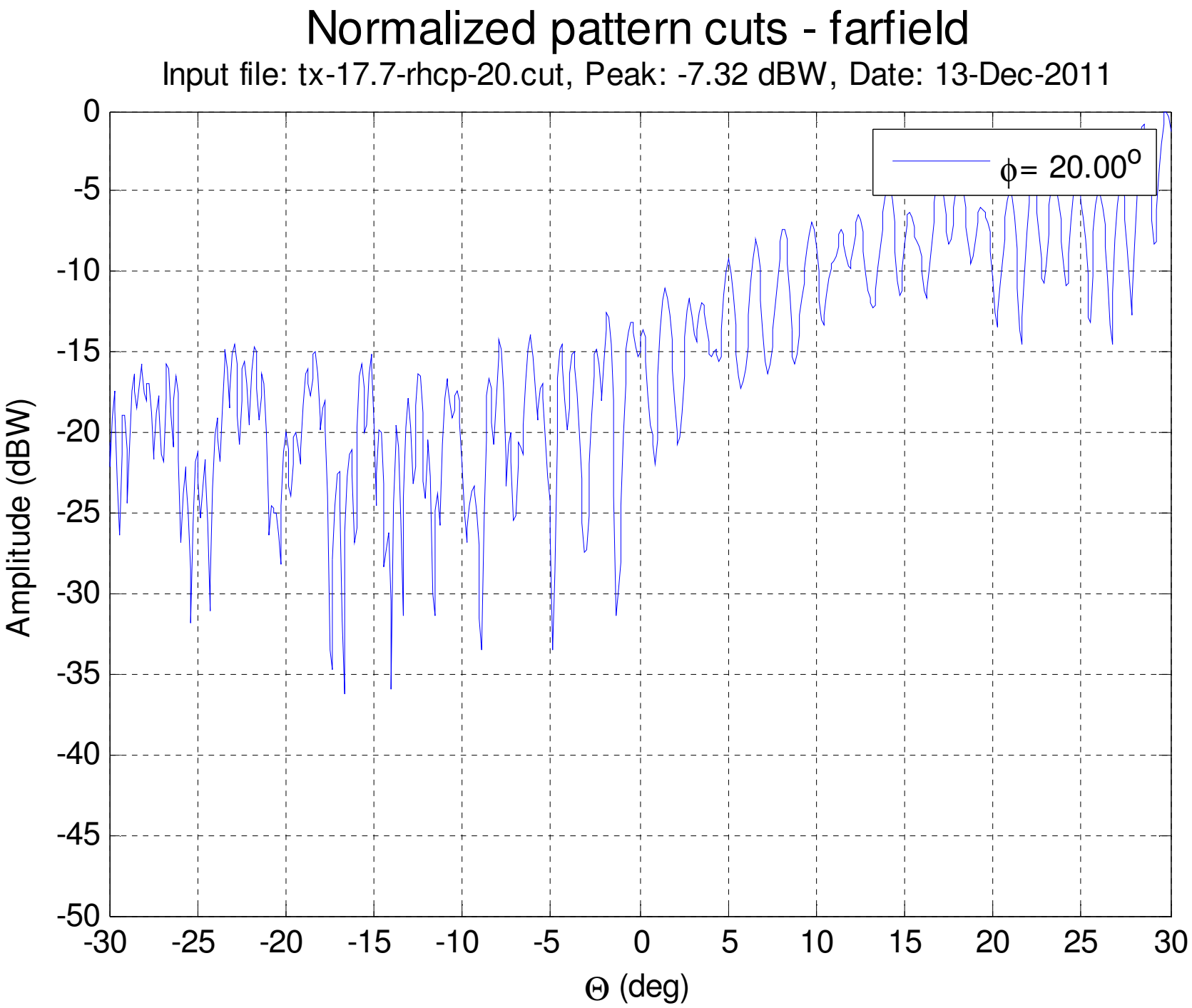

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -8.81 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

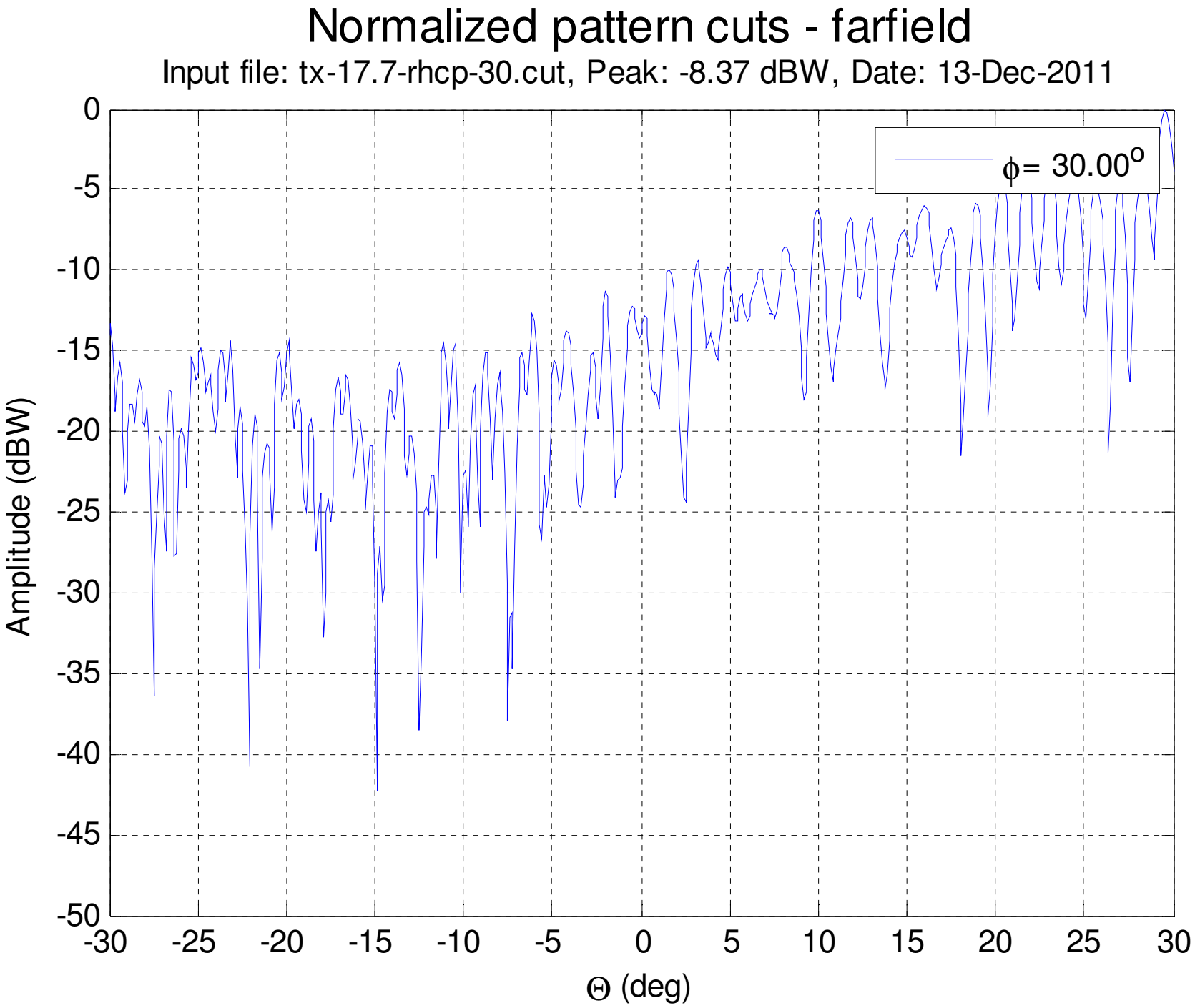

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -7.40 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

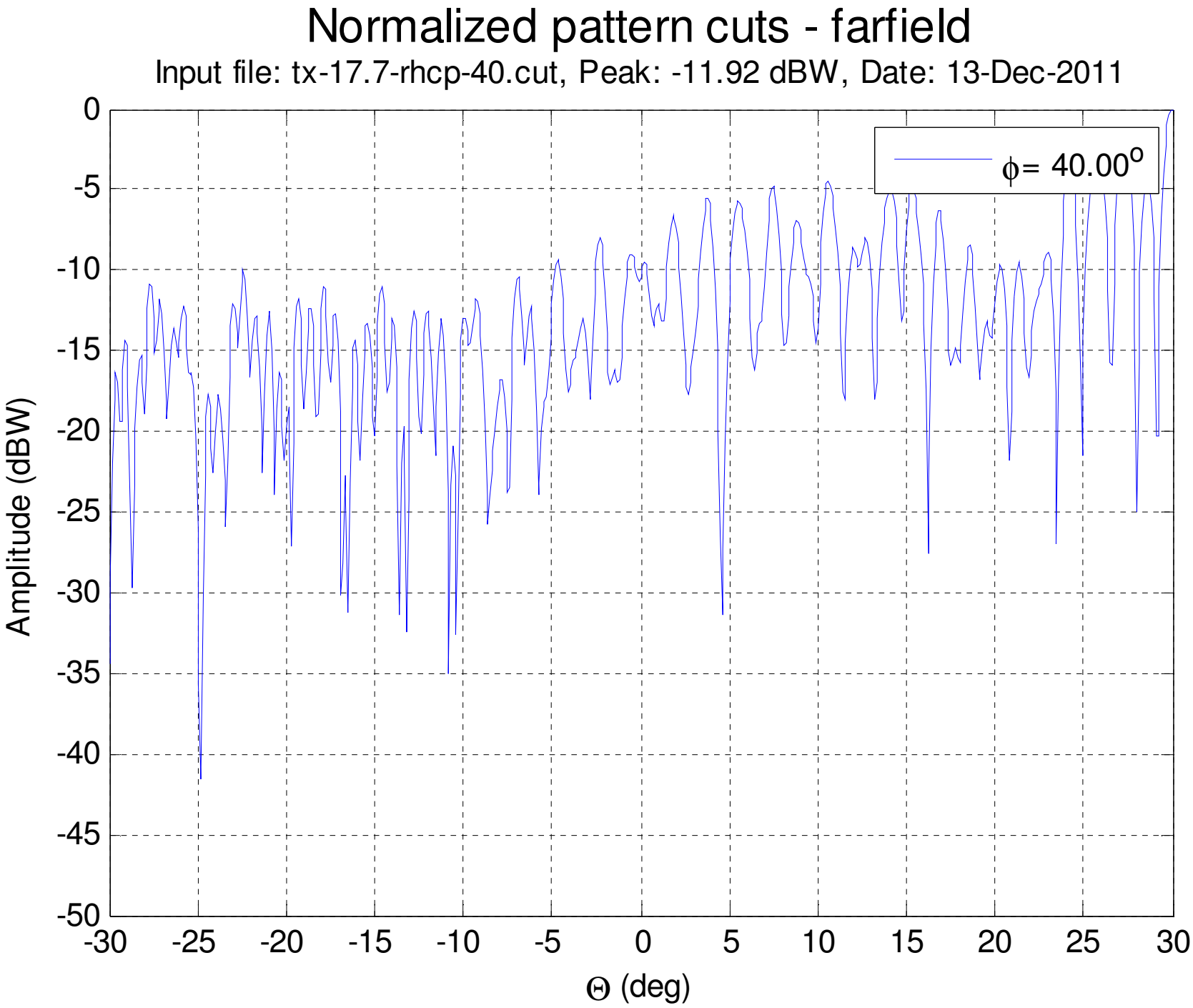

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -6.69 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

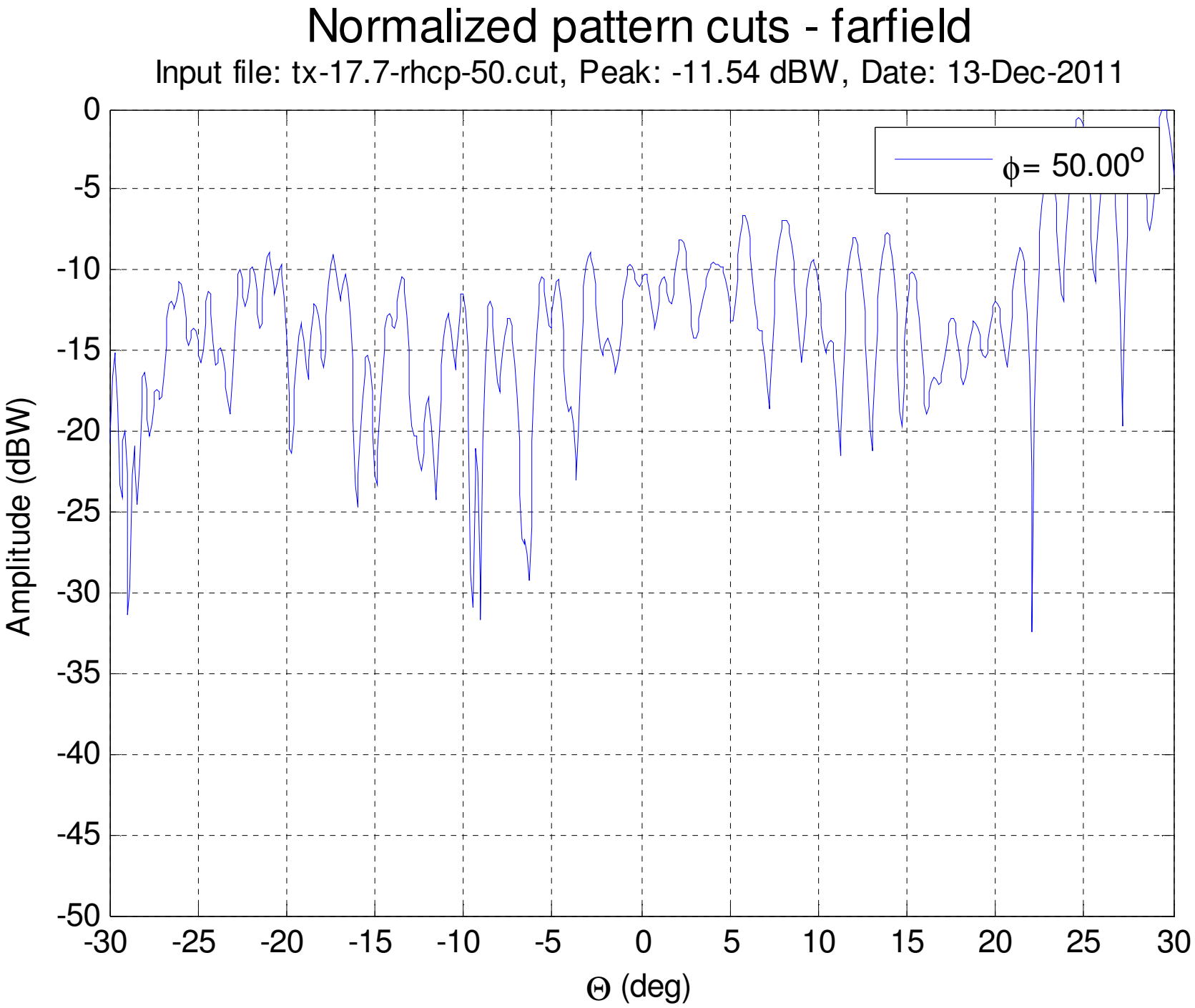

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -7.25 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

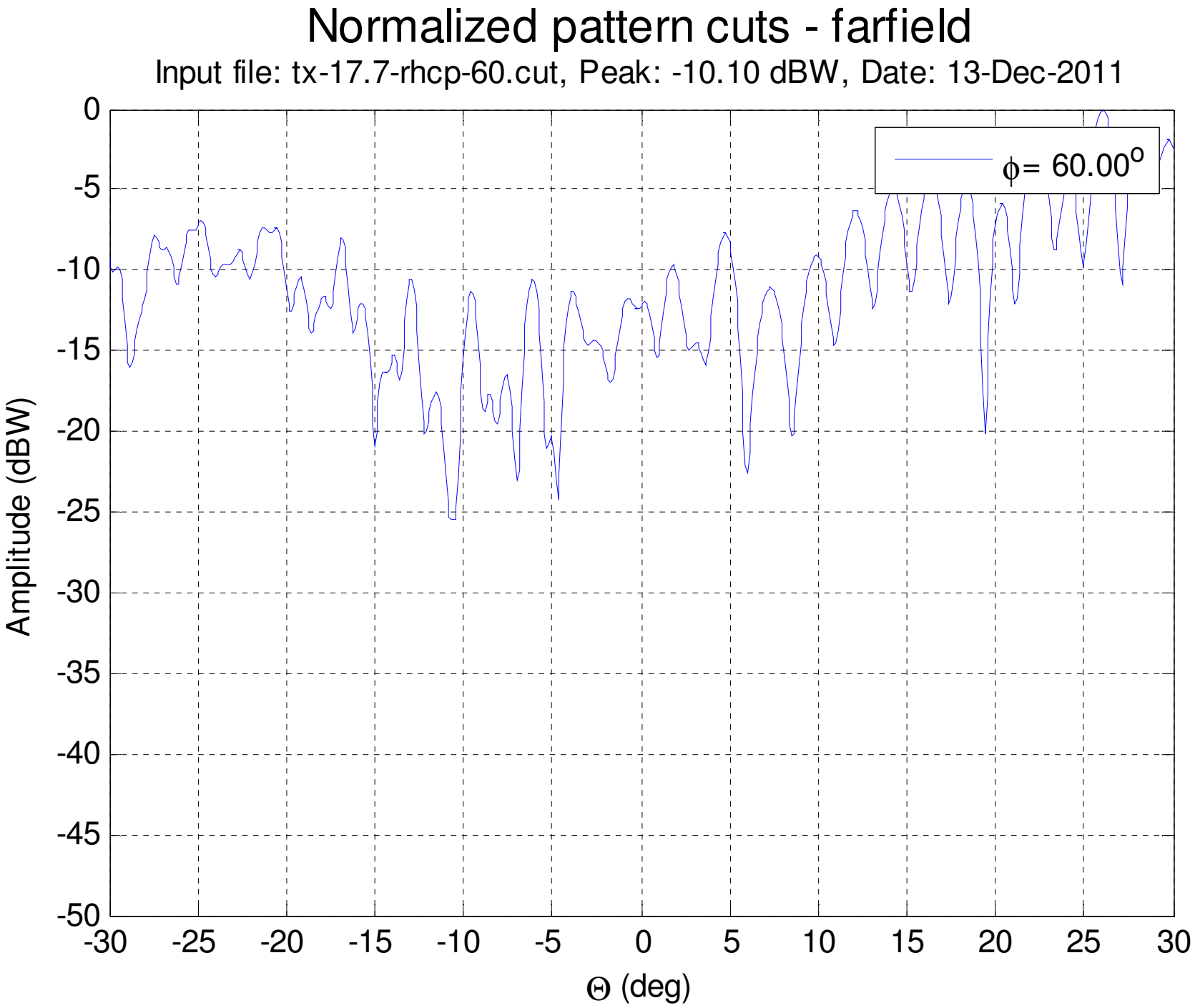

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -8.40 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -7.32 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

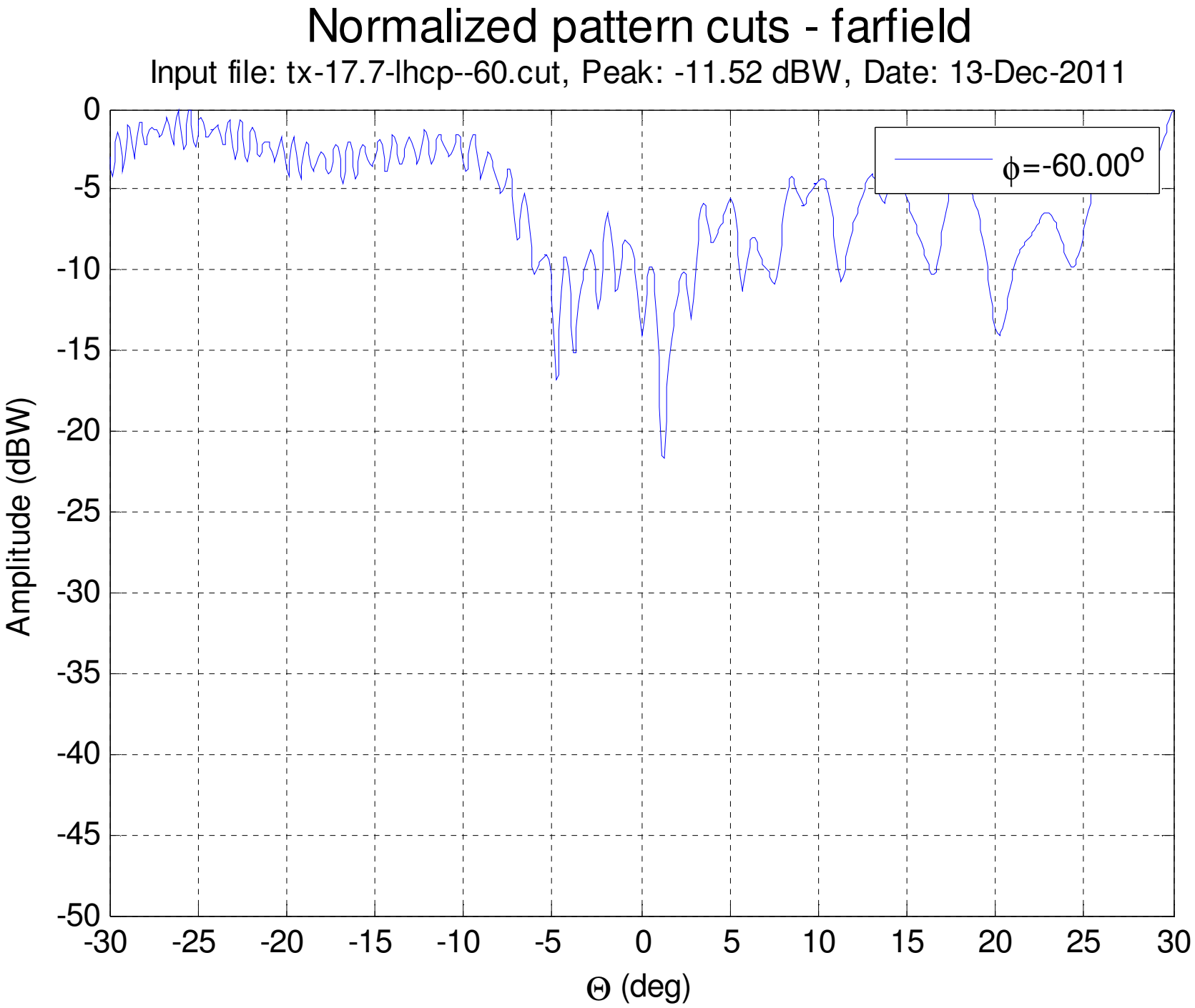

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -8.37 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

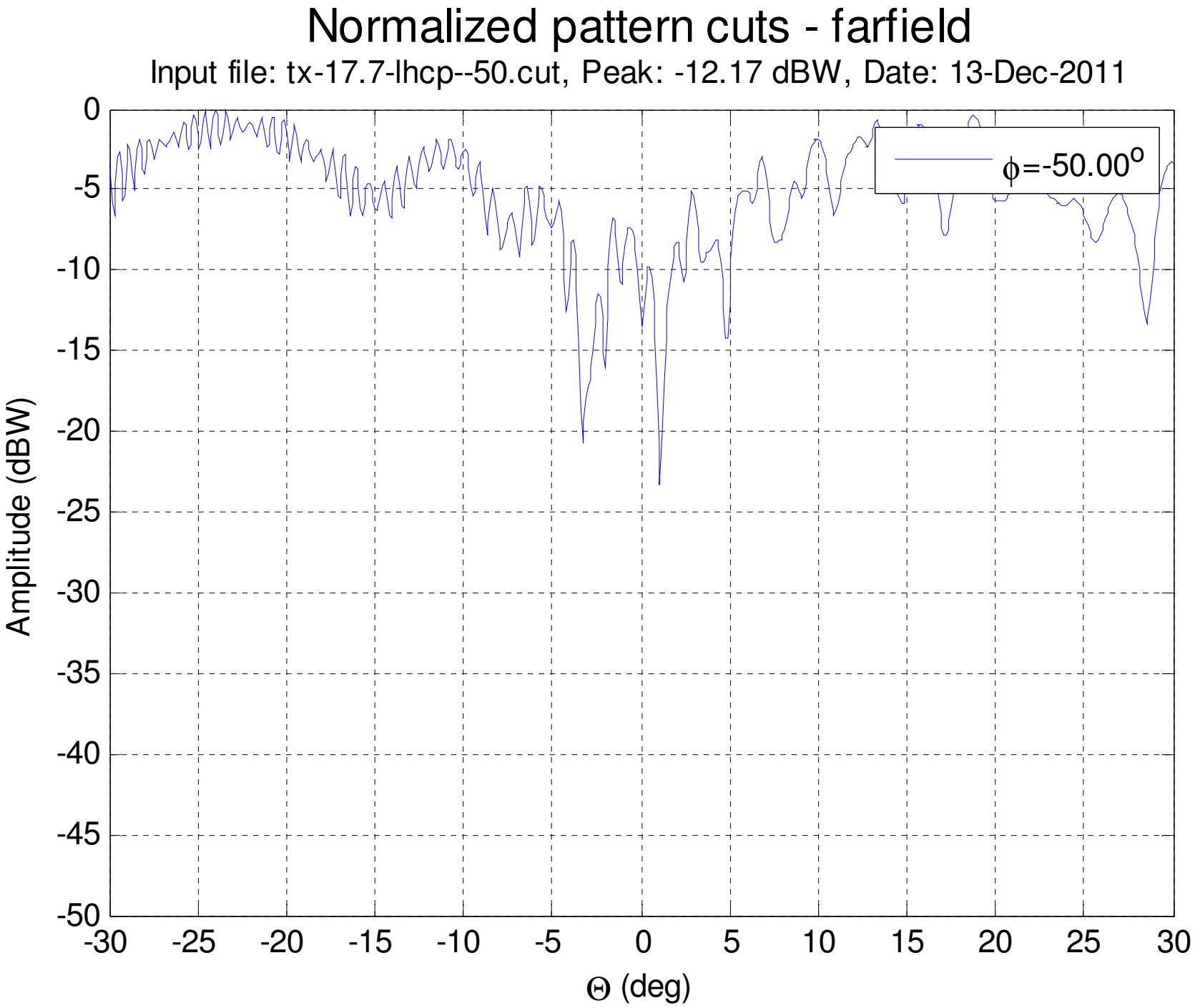

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -11.92 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

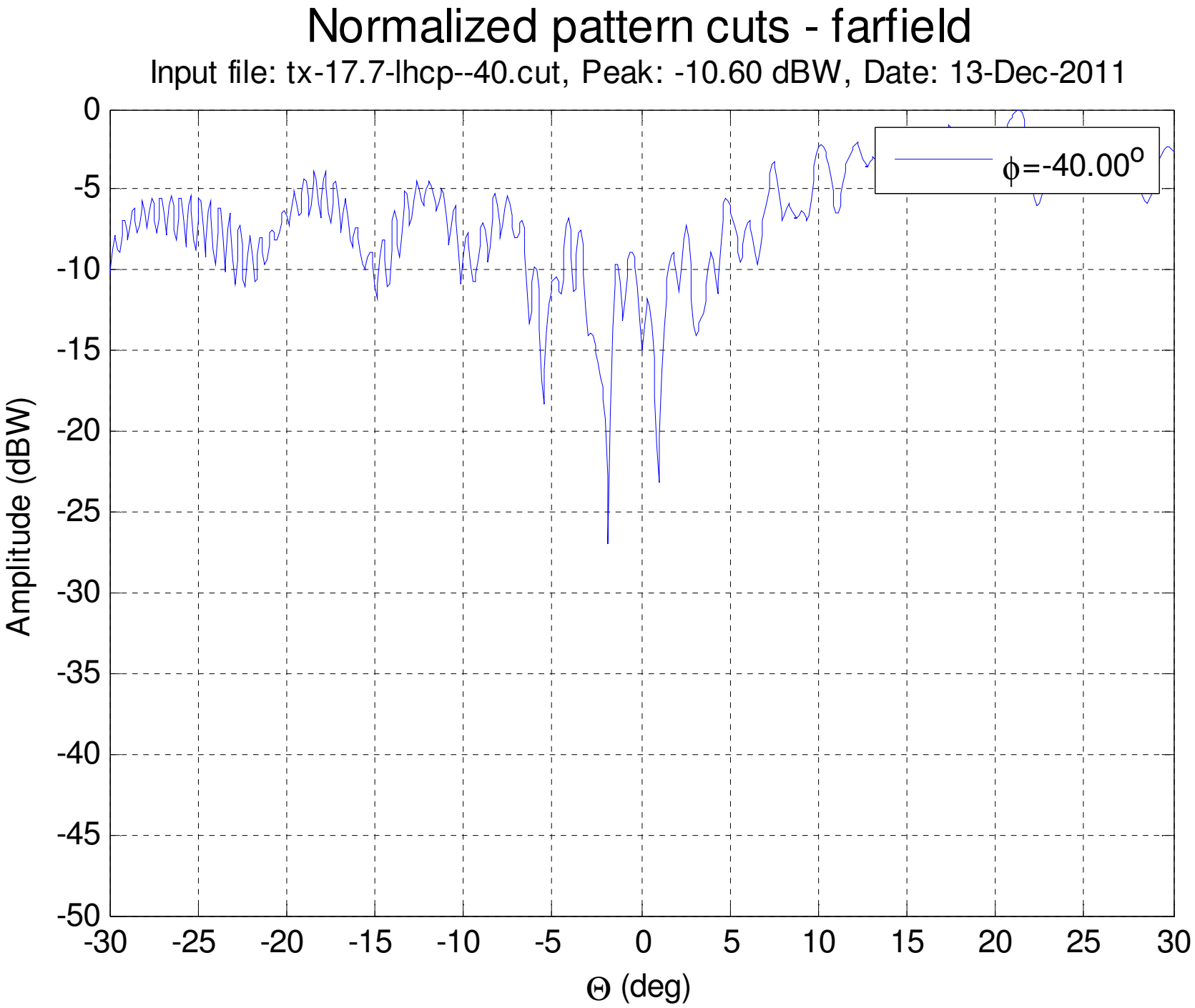

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -11.54 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

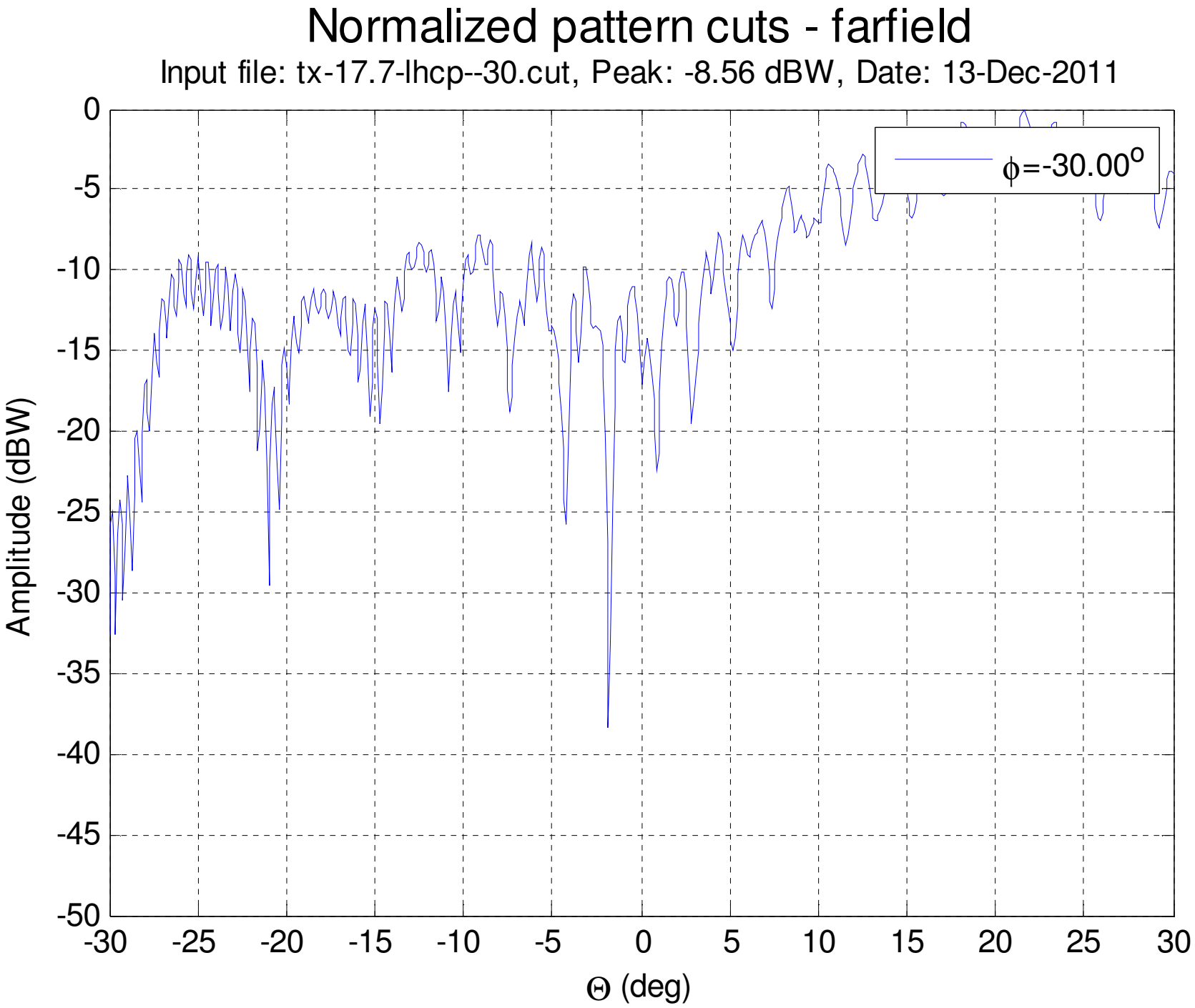

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -10.10 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

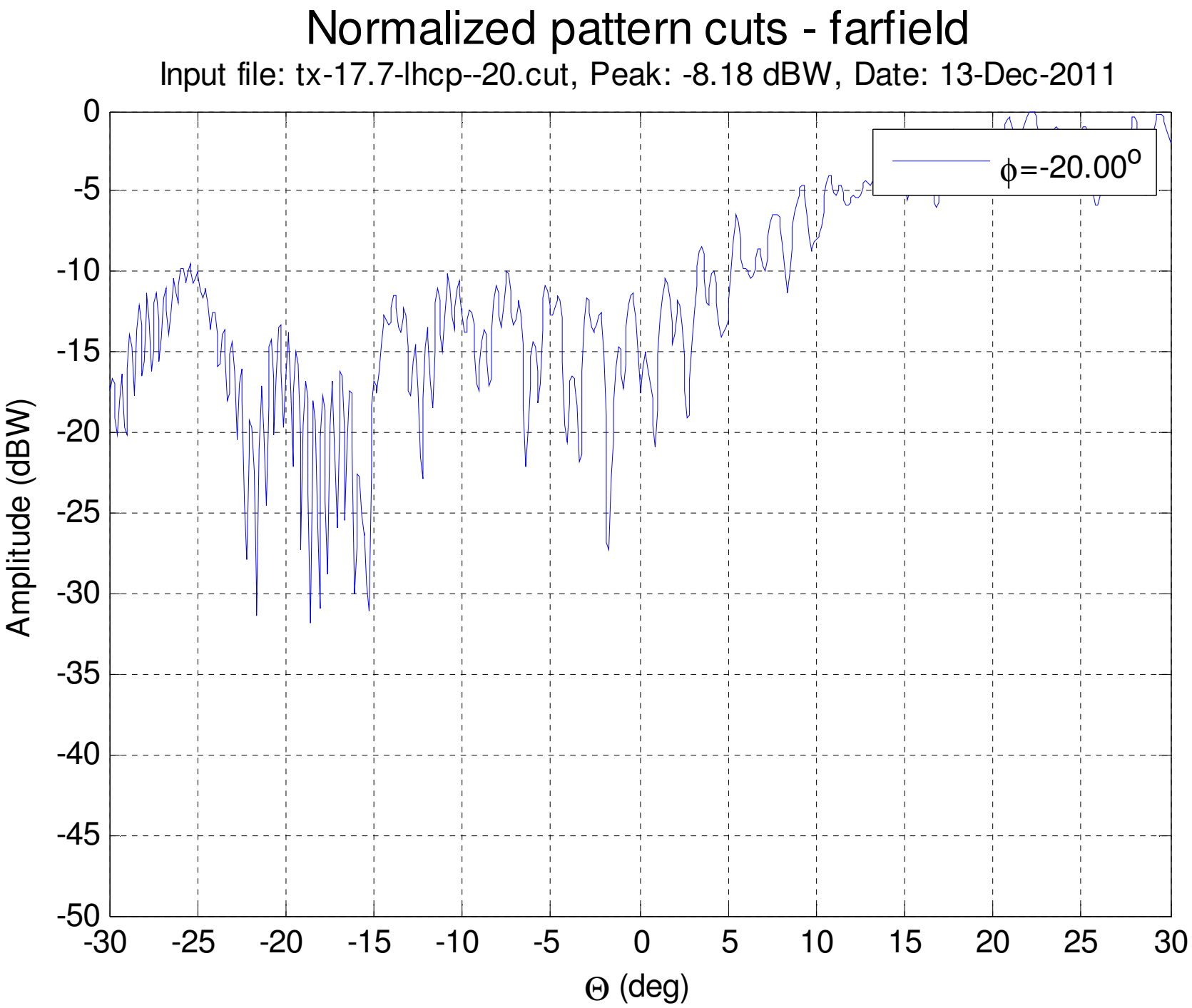
LHCP at 17.7 GHz

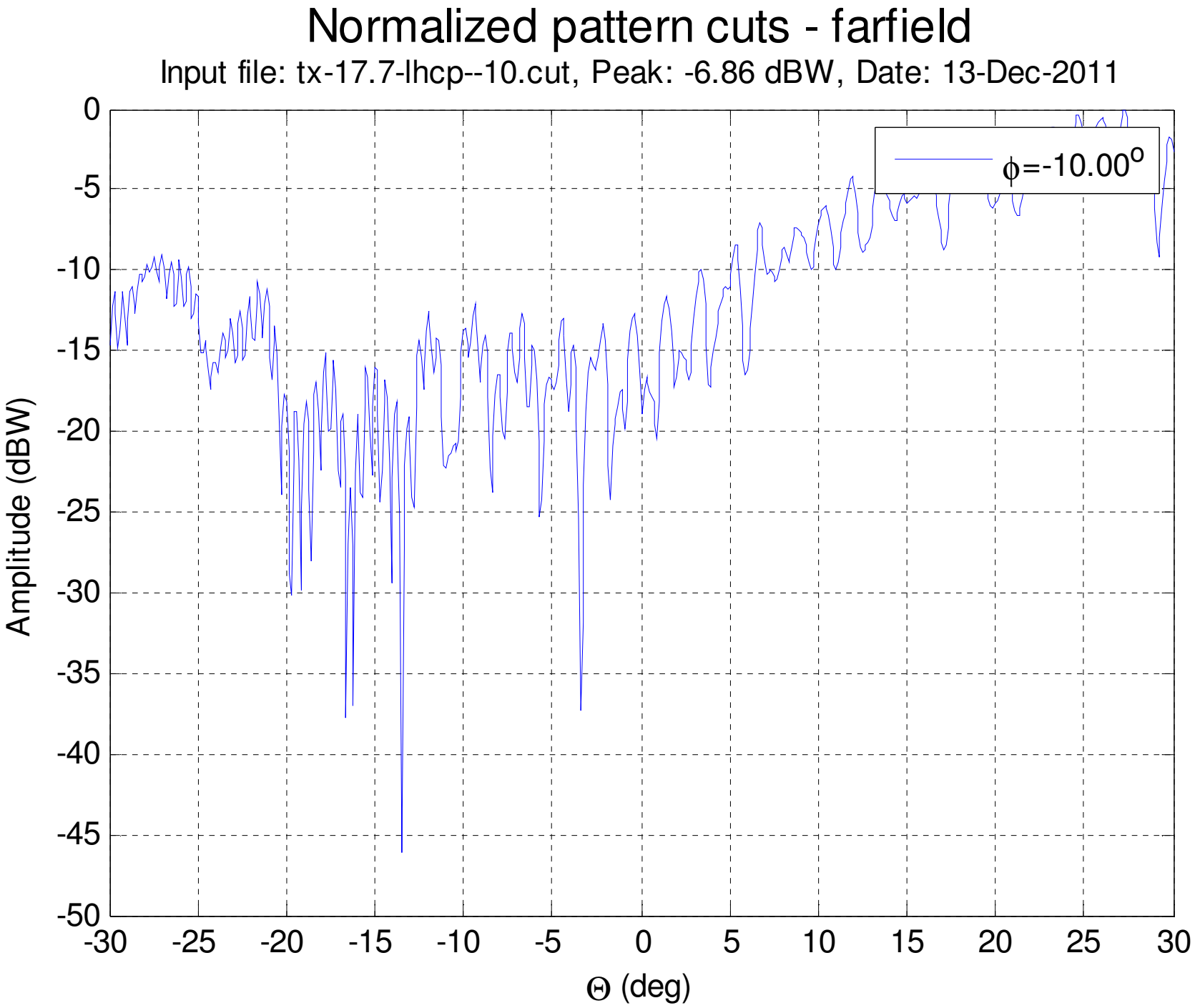

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -11.52 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

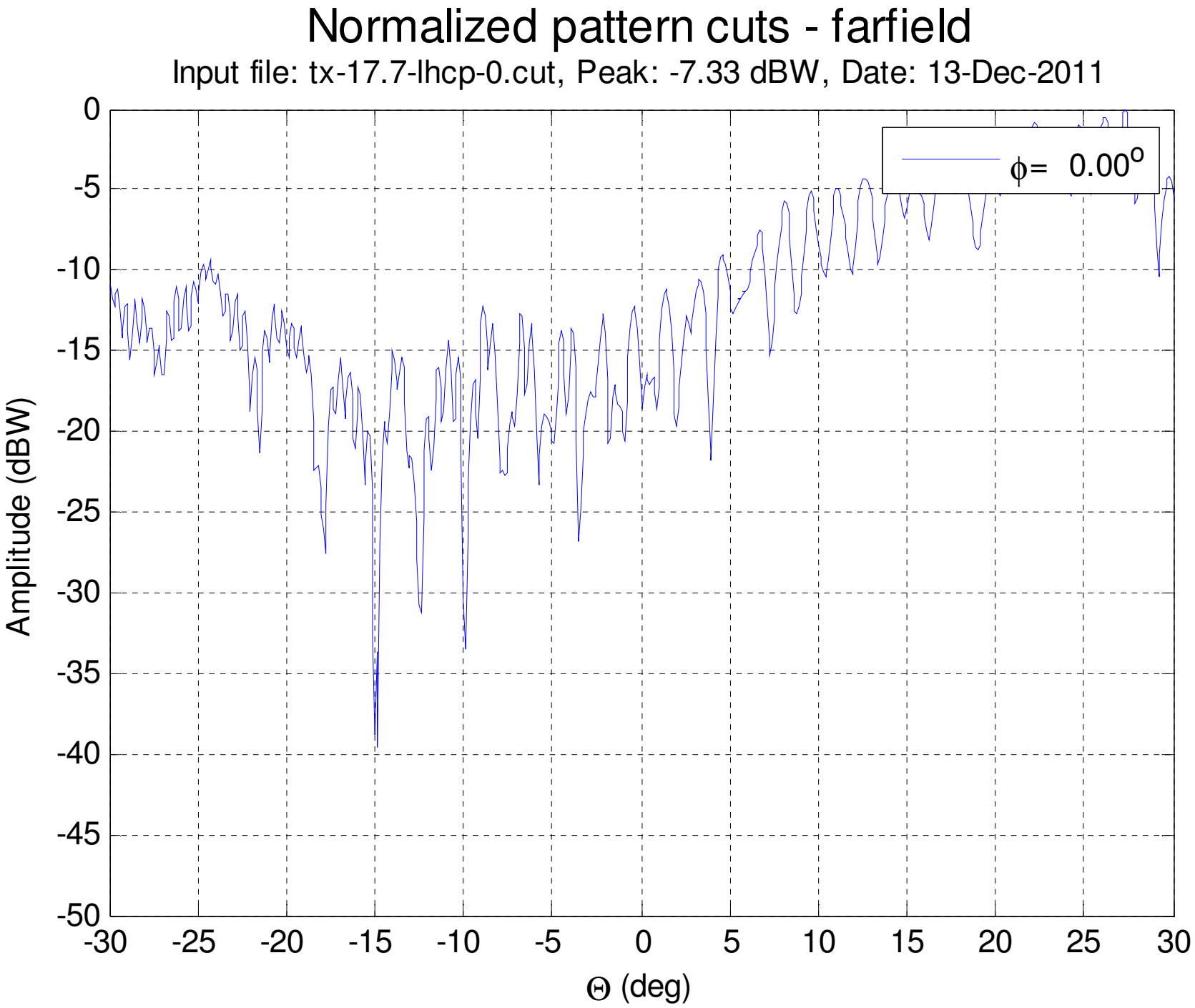

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -12.17 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

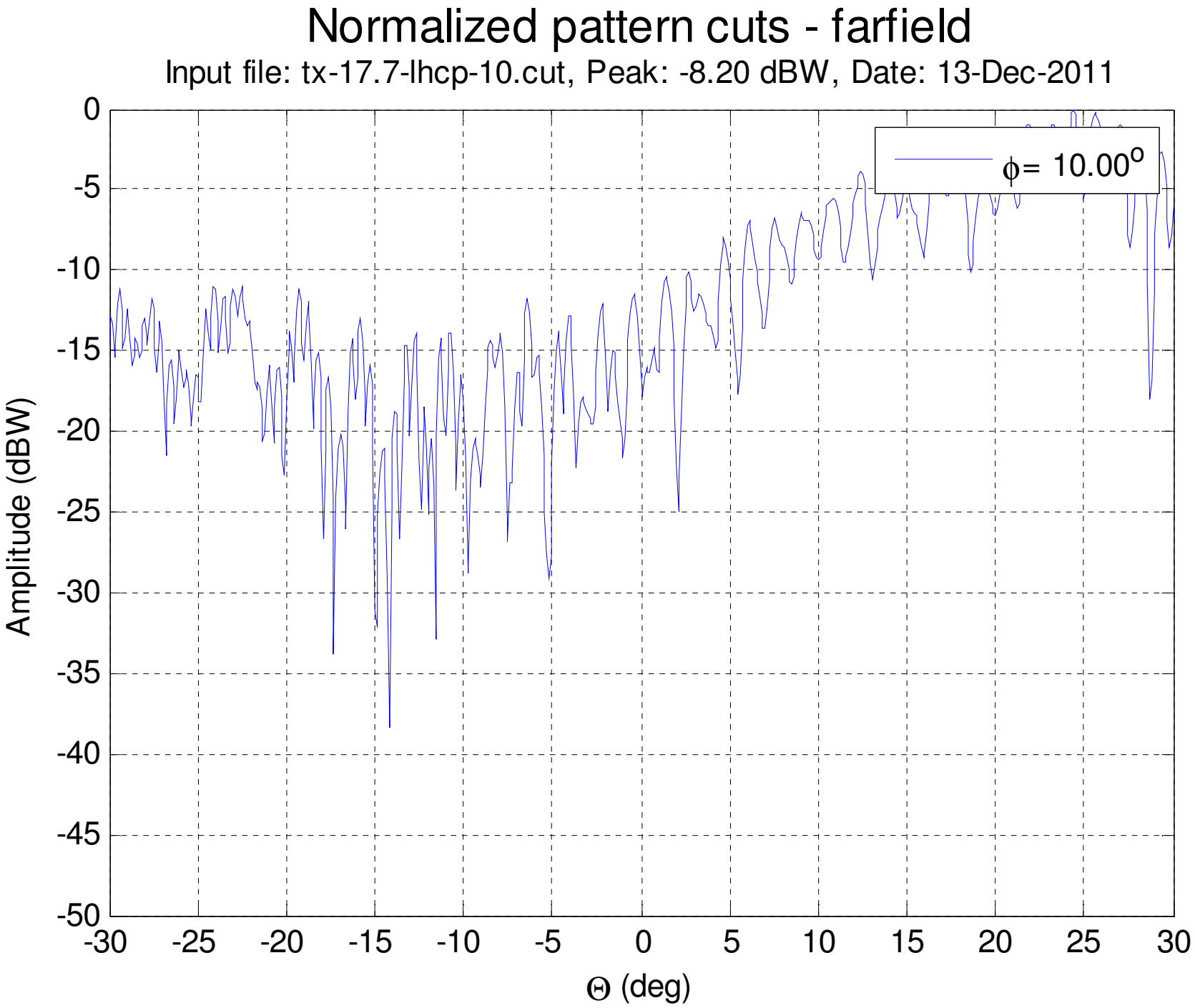

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -10.60 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-40.00°

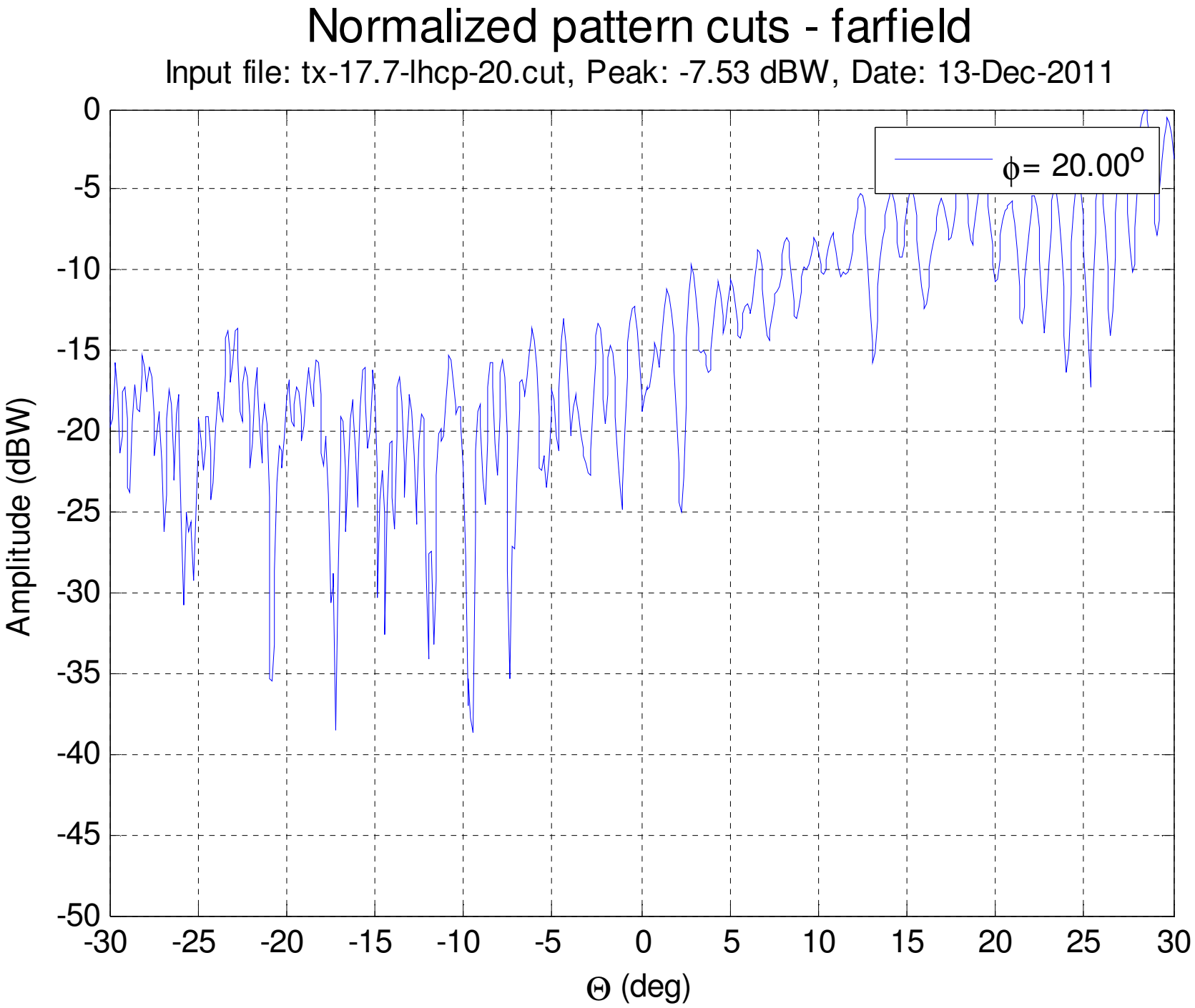

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -8.56 dBW, Date: 13-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

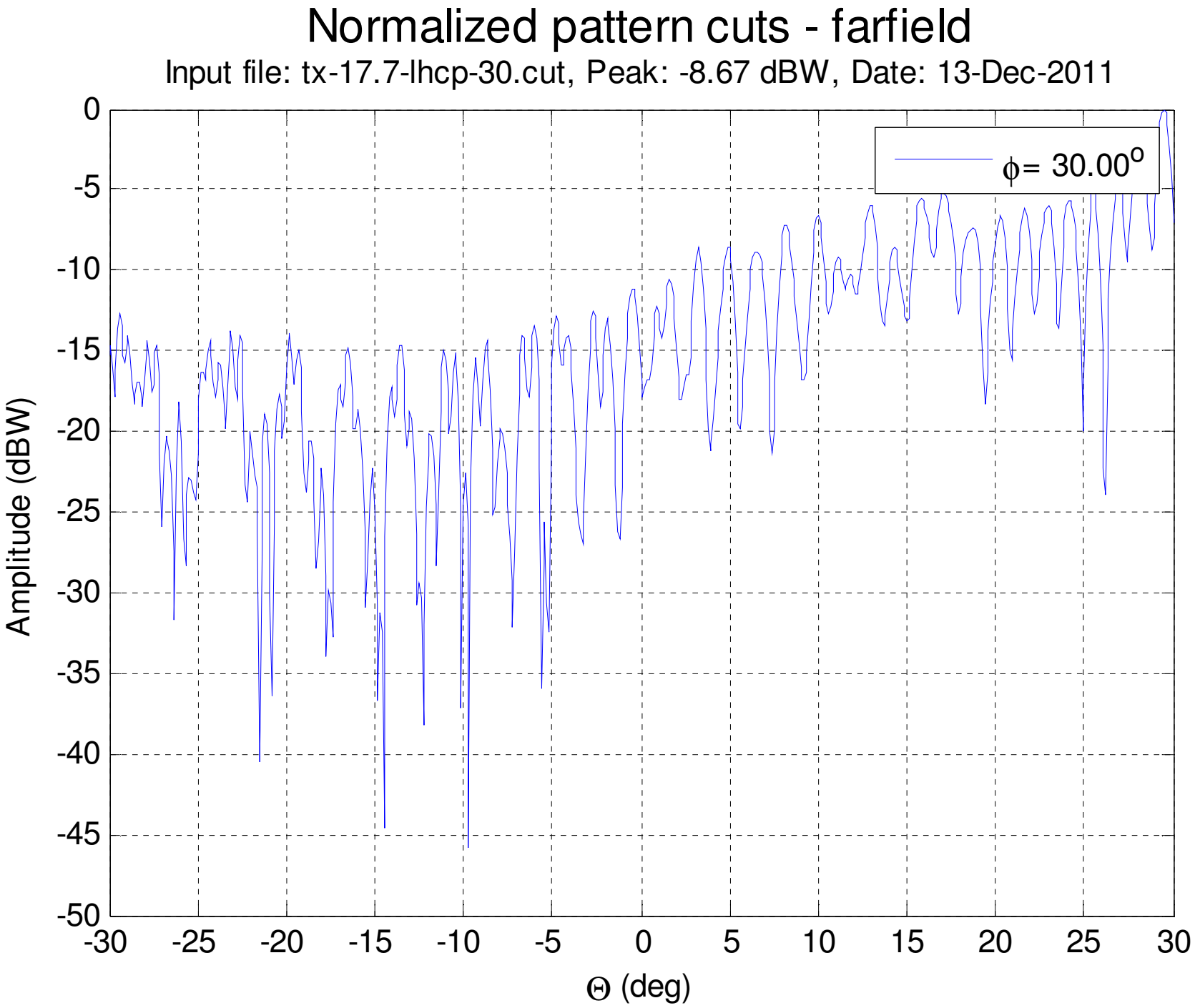

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -8.18 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

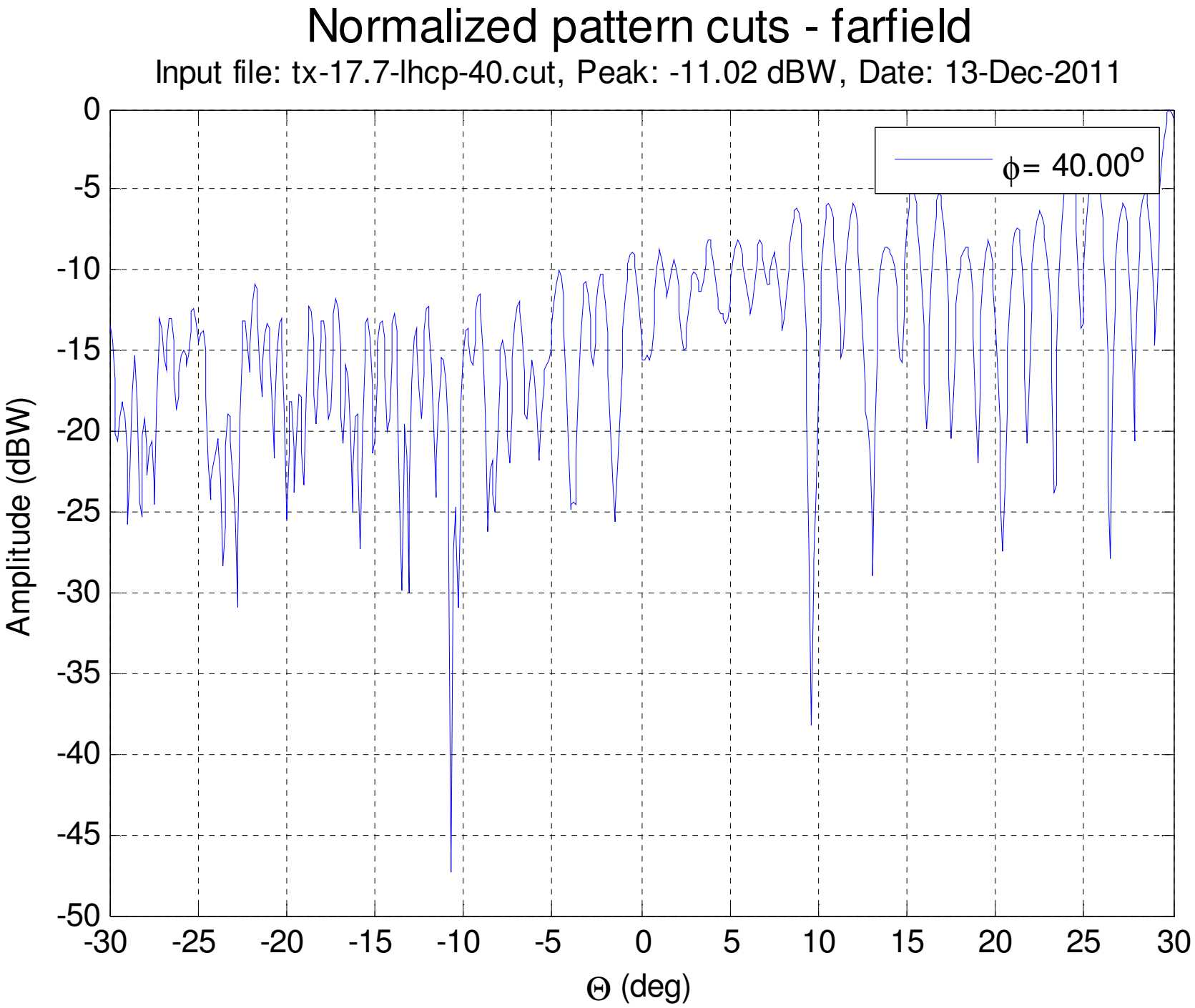

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -6.86 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

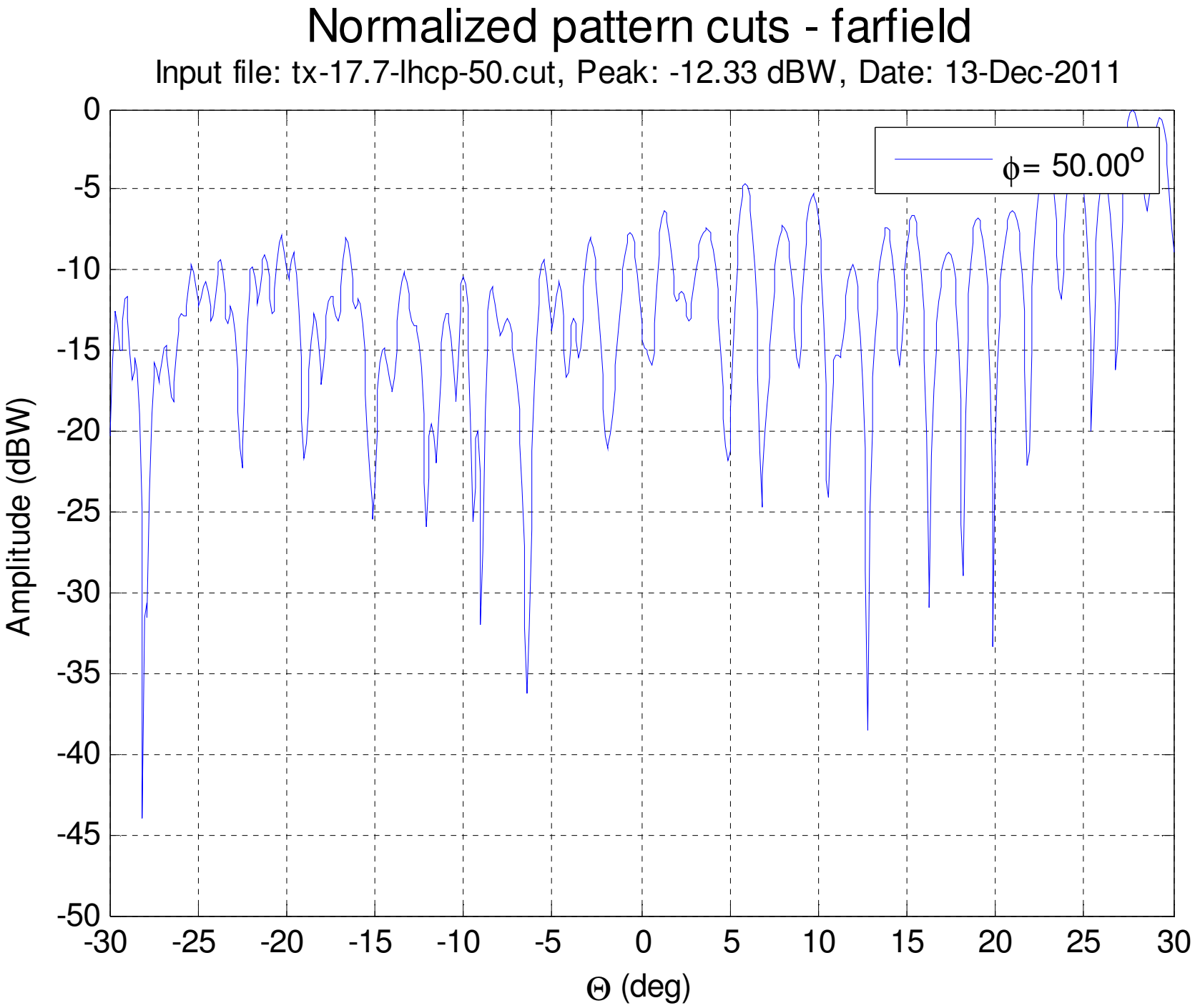

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -7.33 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

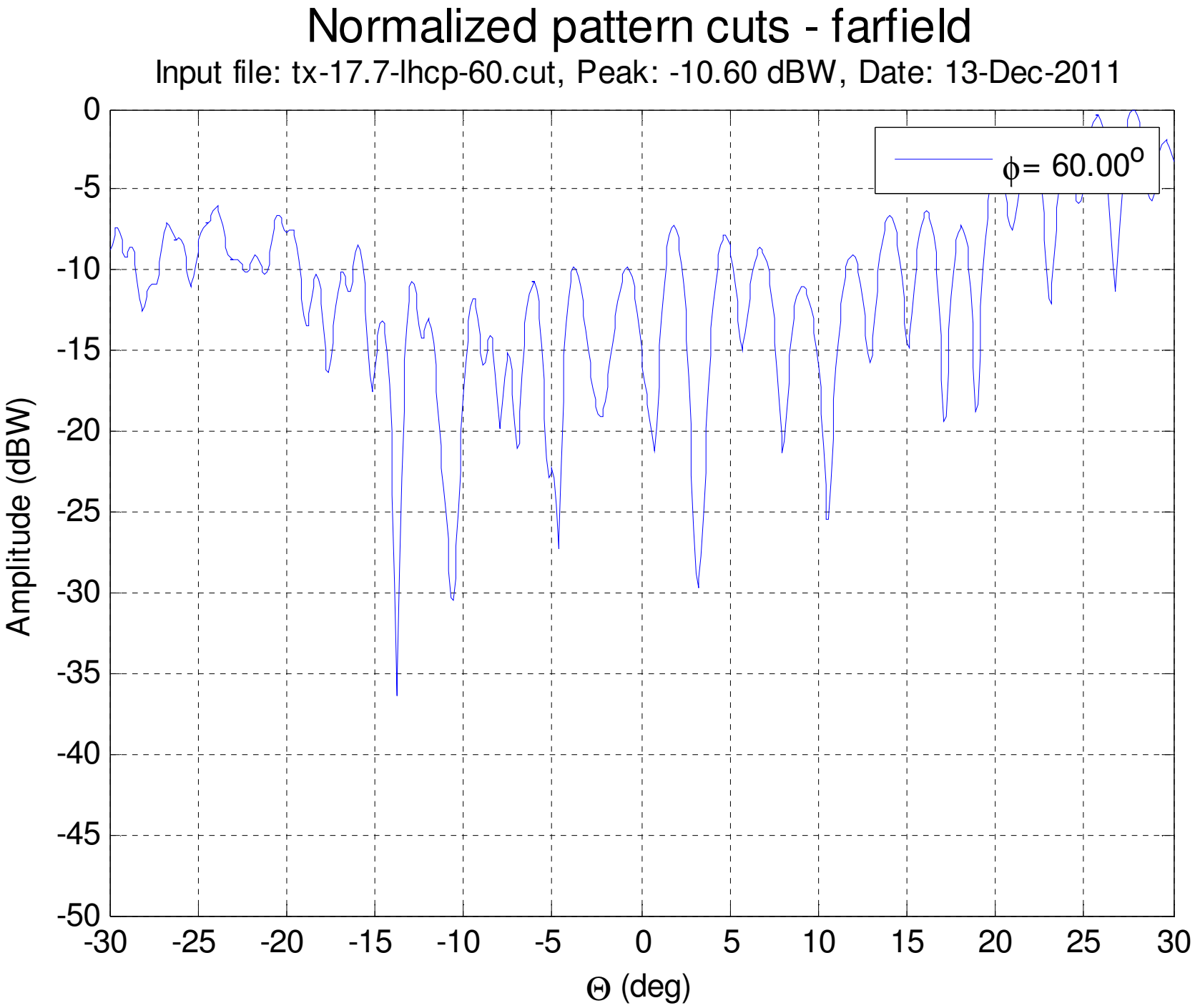

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -8.20 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -7.53 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -8.67 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -11.02 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -12.33 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -10.60 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

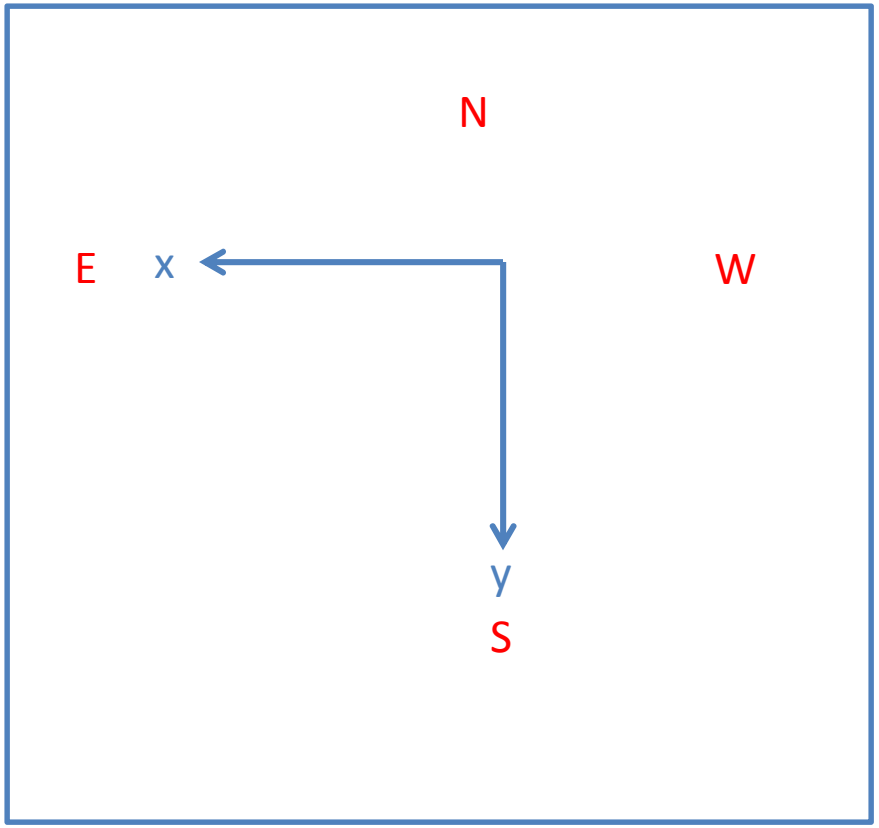
Updated: May 15, 2012

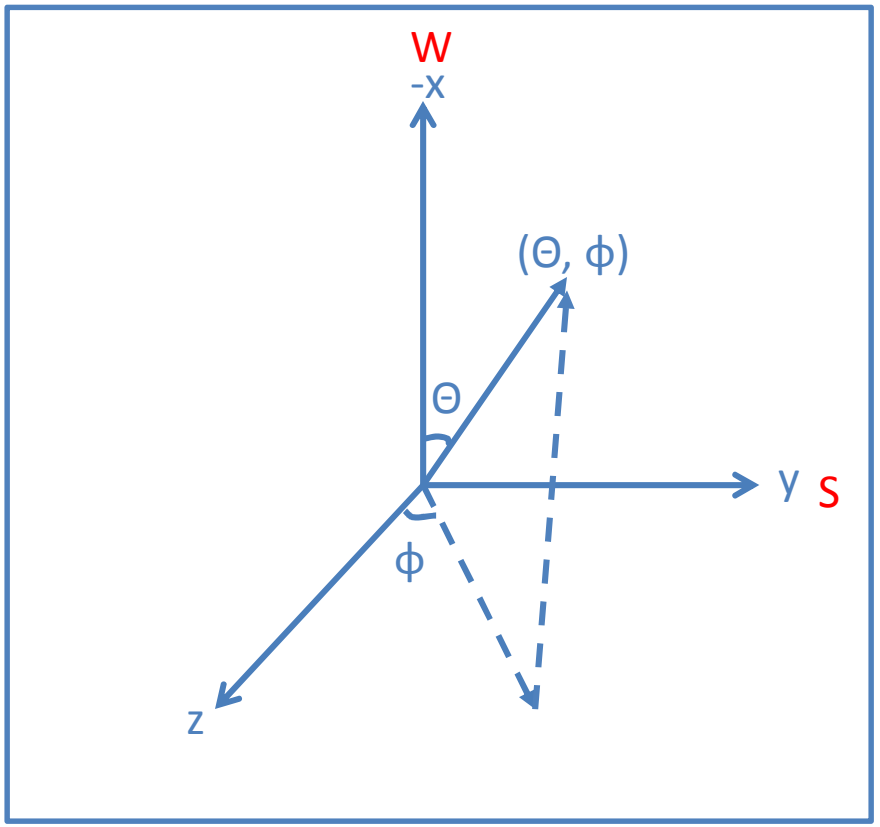
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 03

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

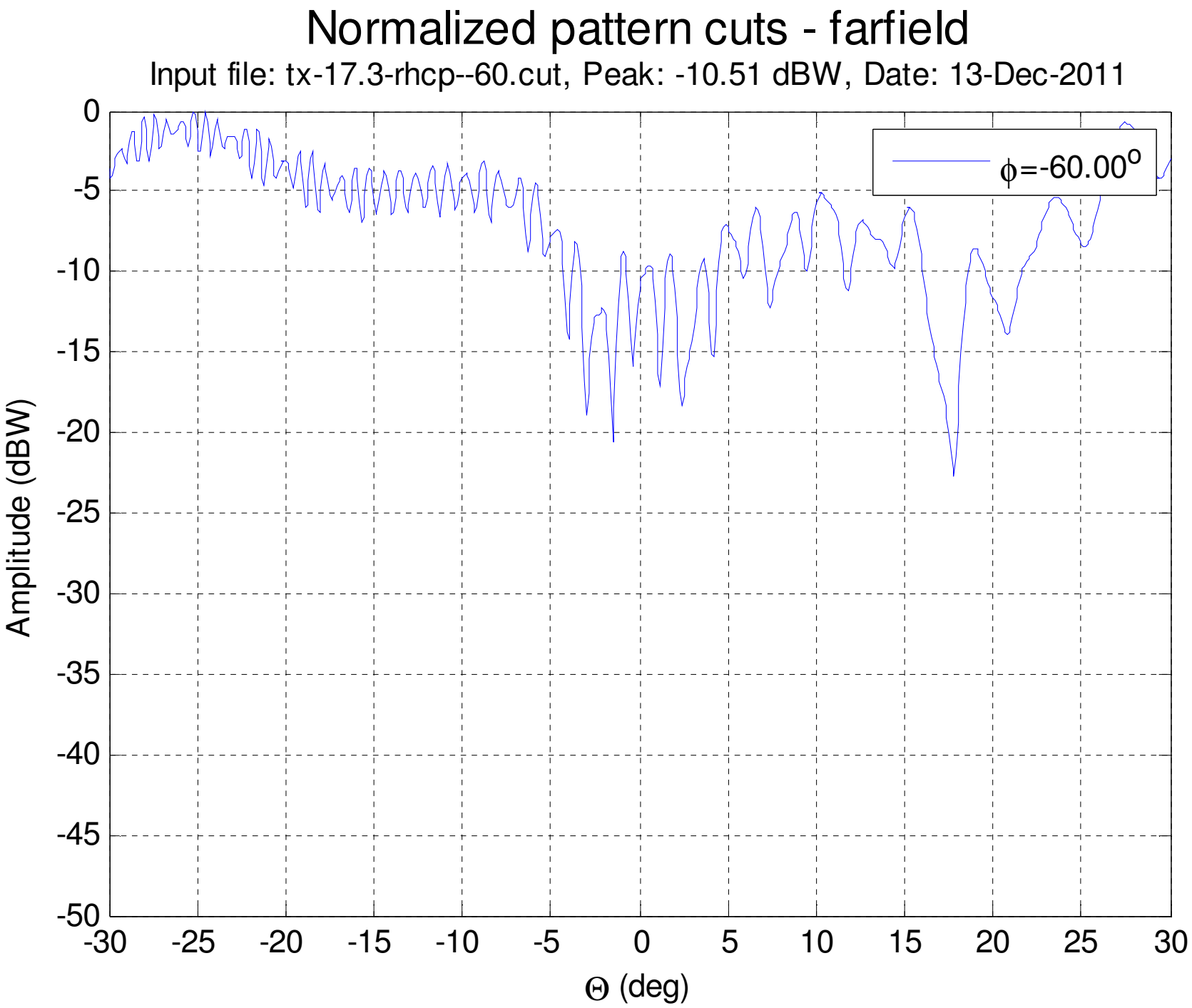


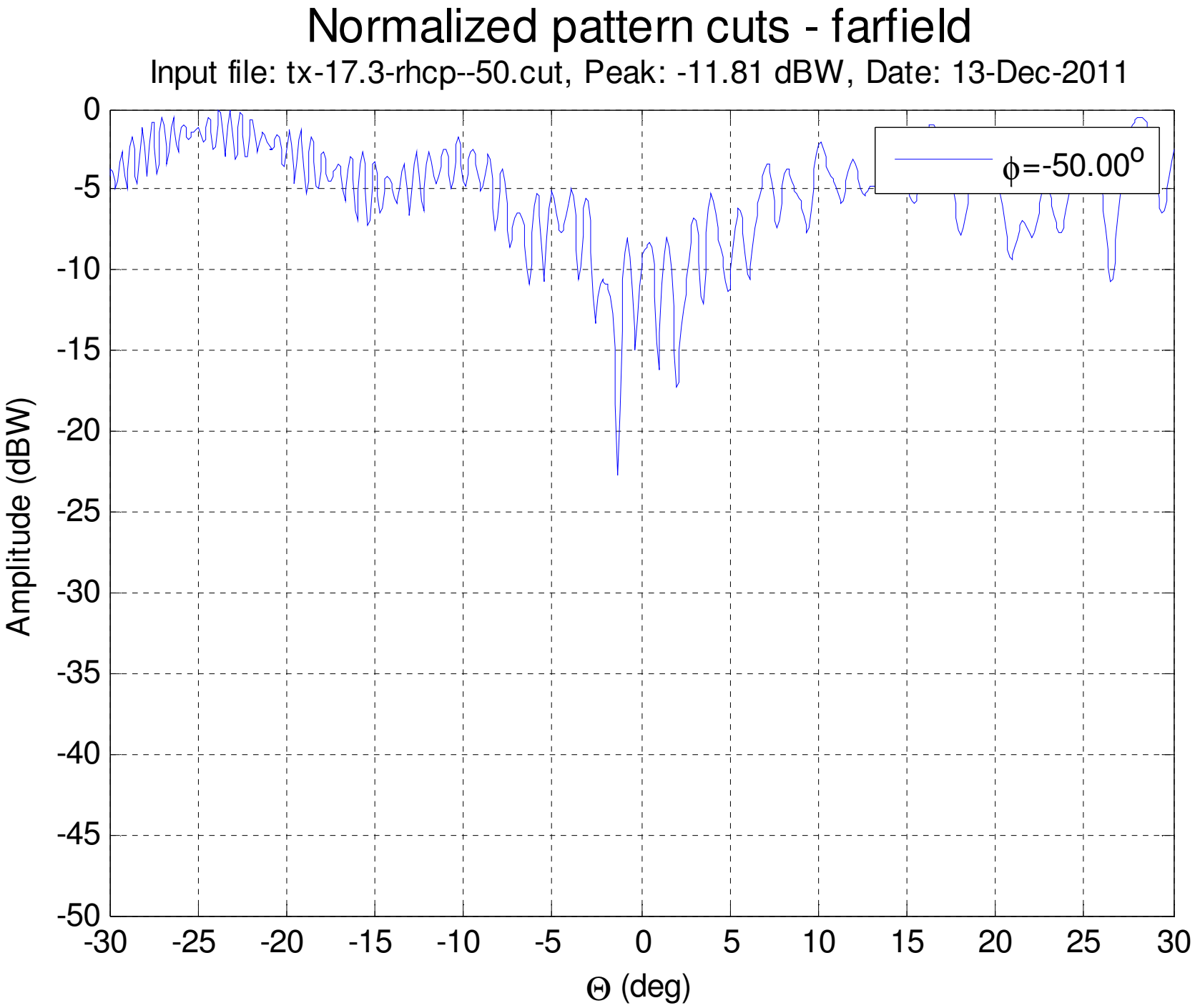


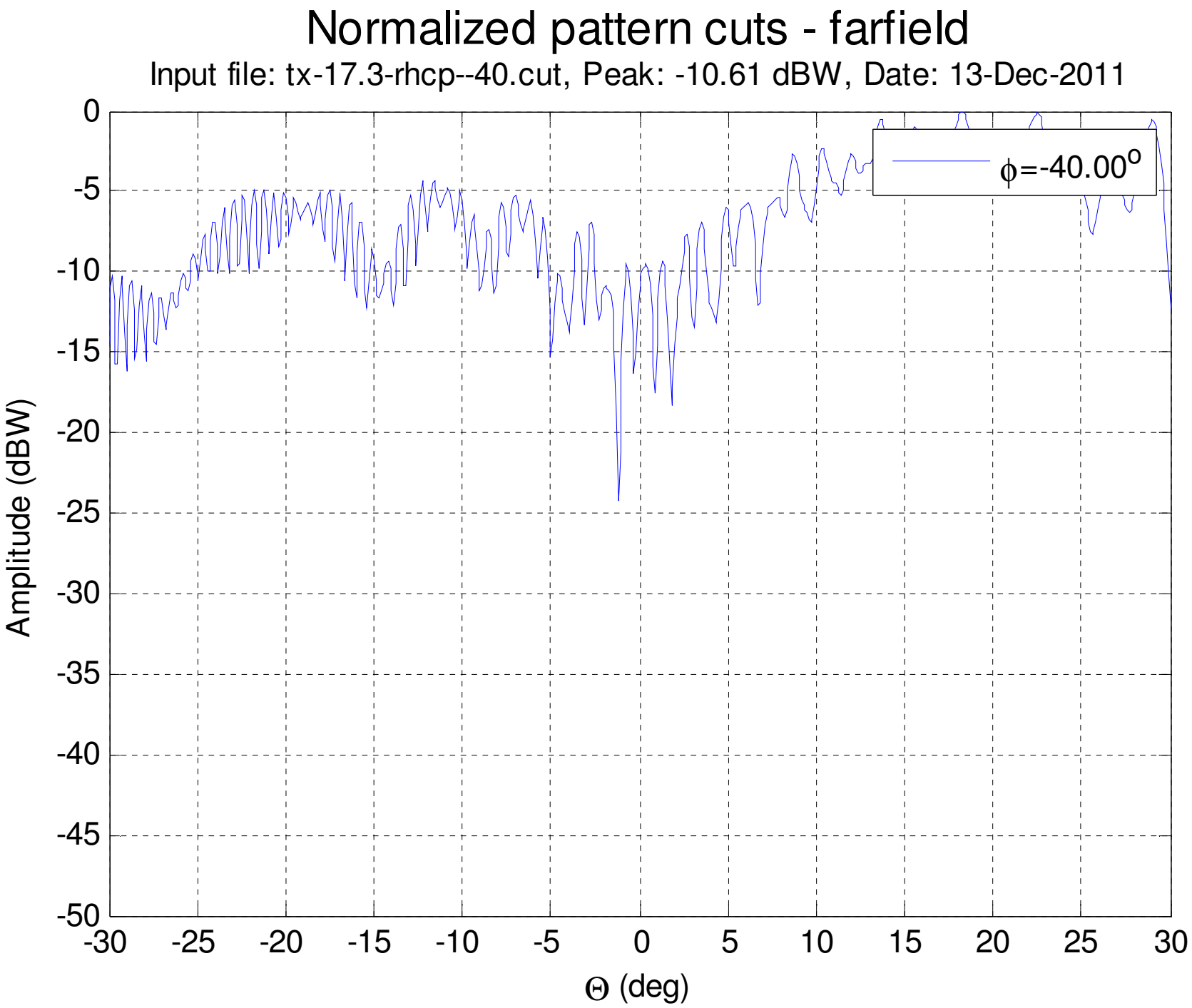
Spot Beam03, -X Axis Plots

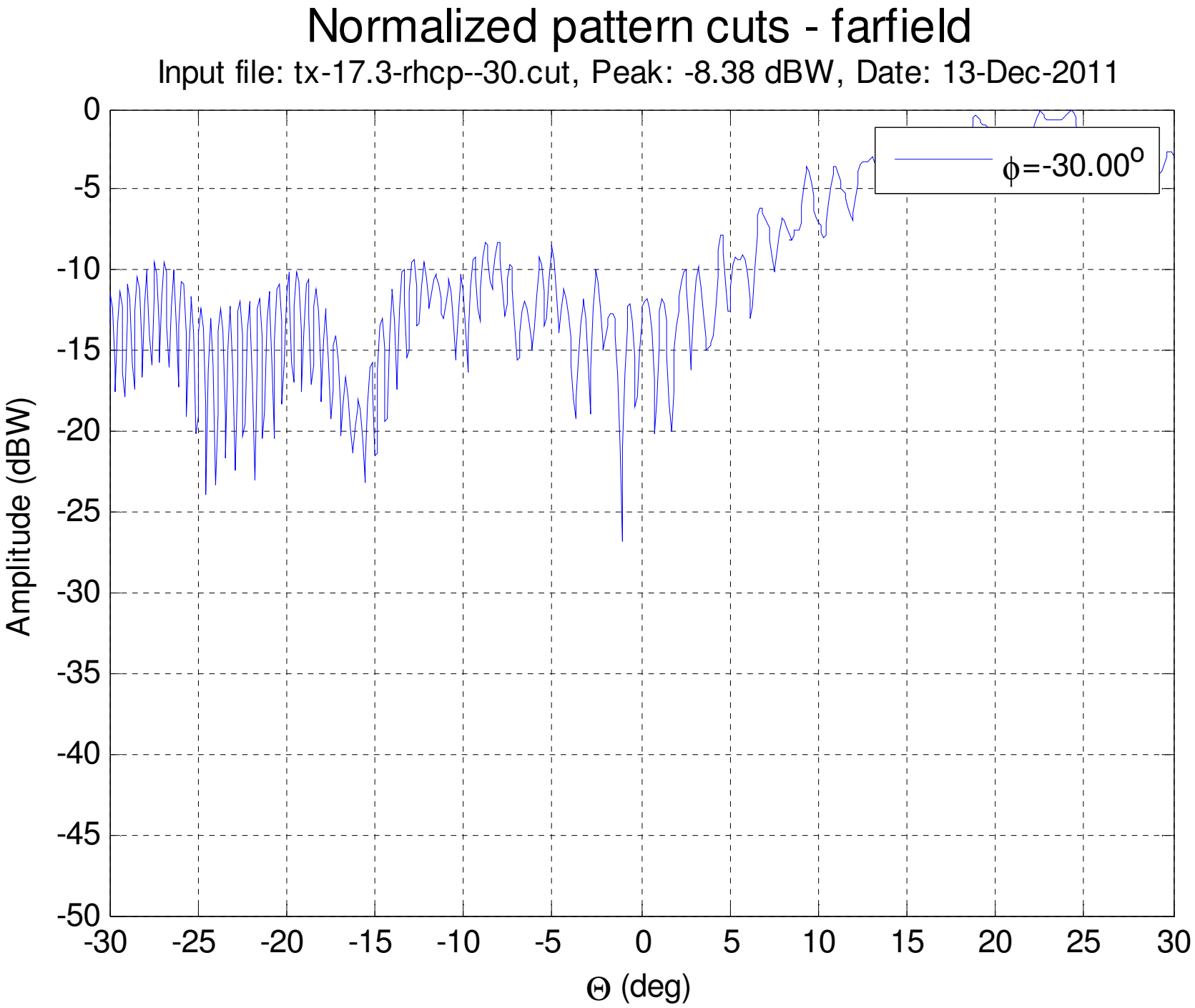
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

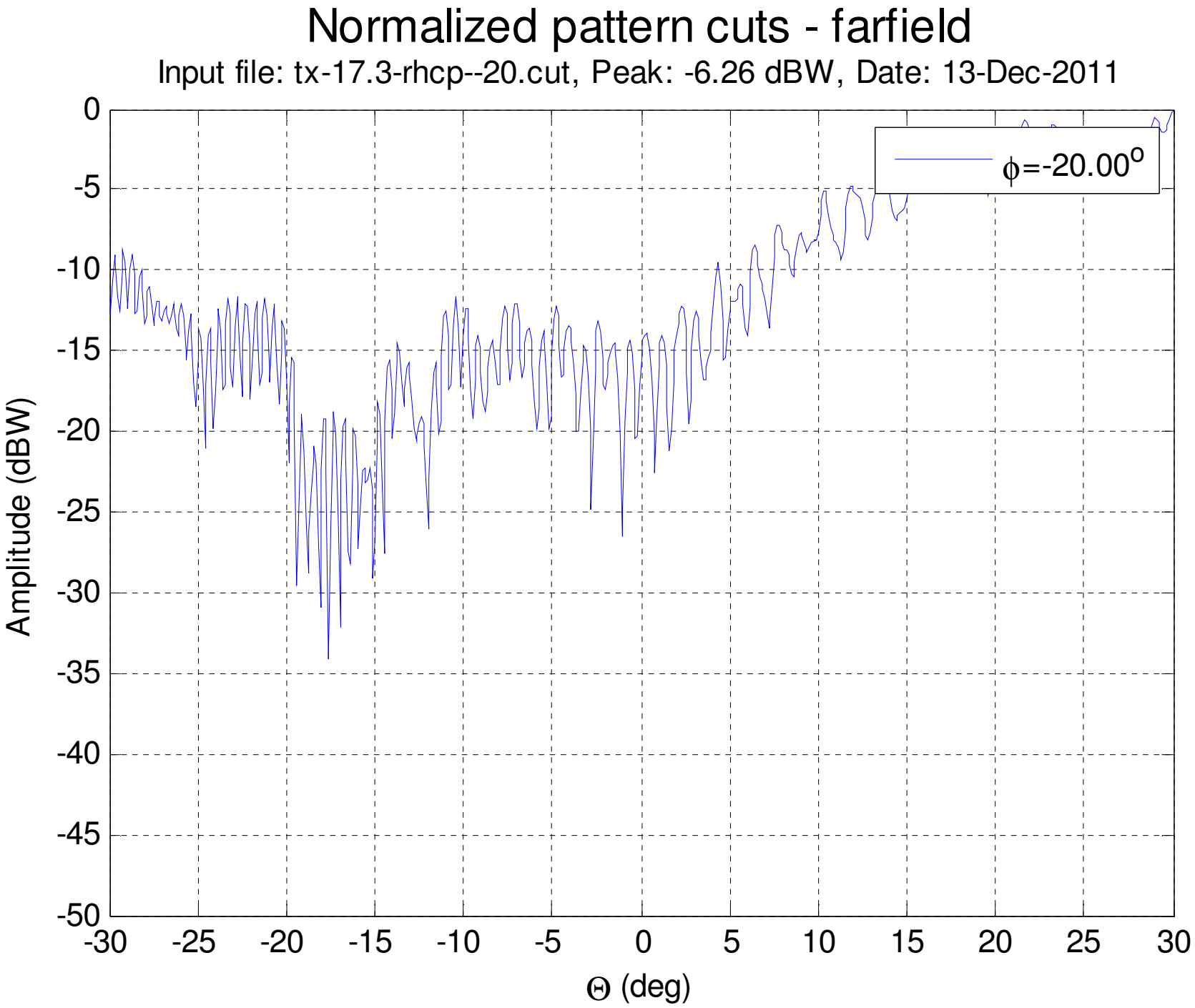
RHCP at 17.3 GHz

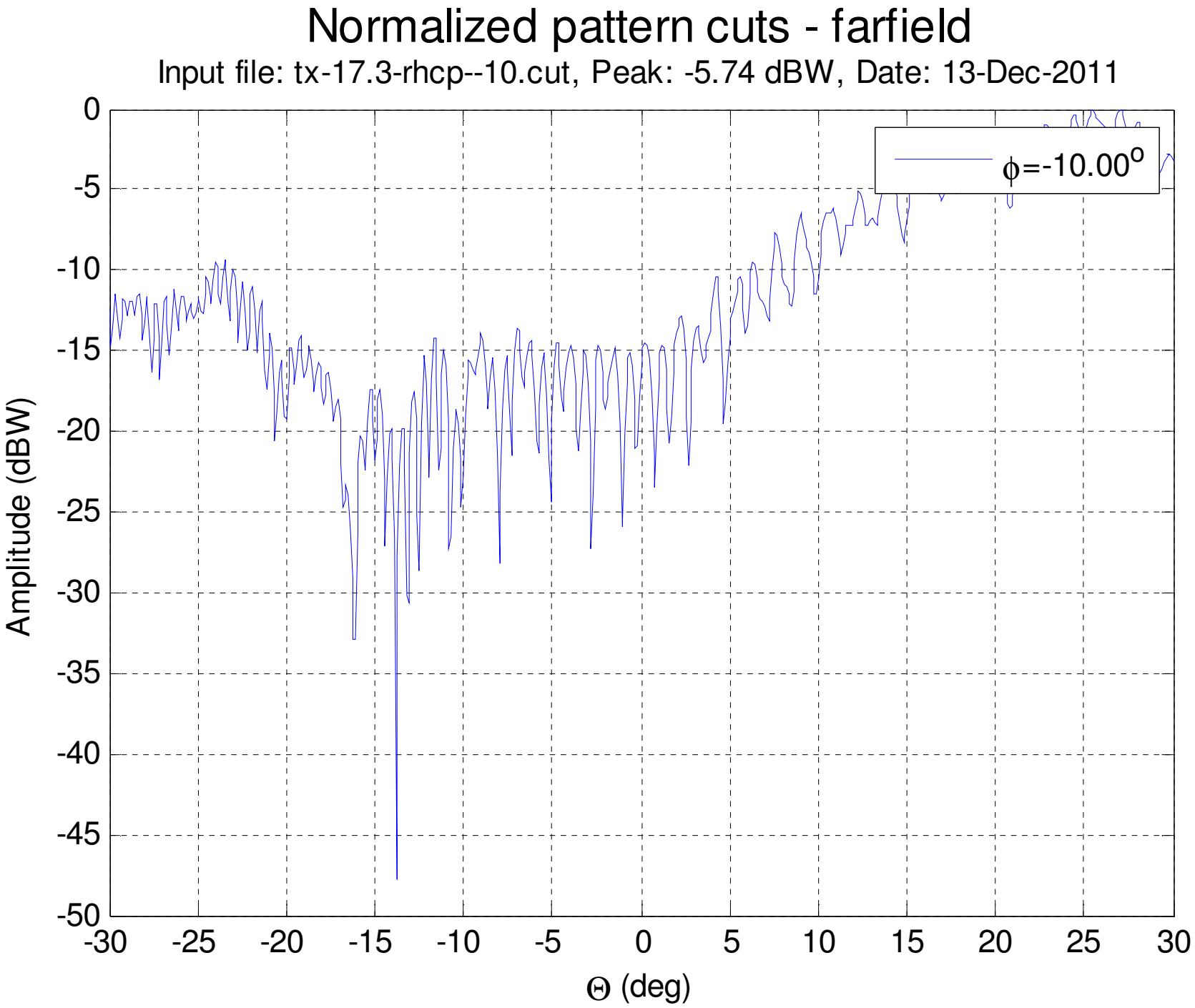

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -10.51 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

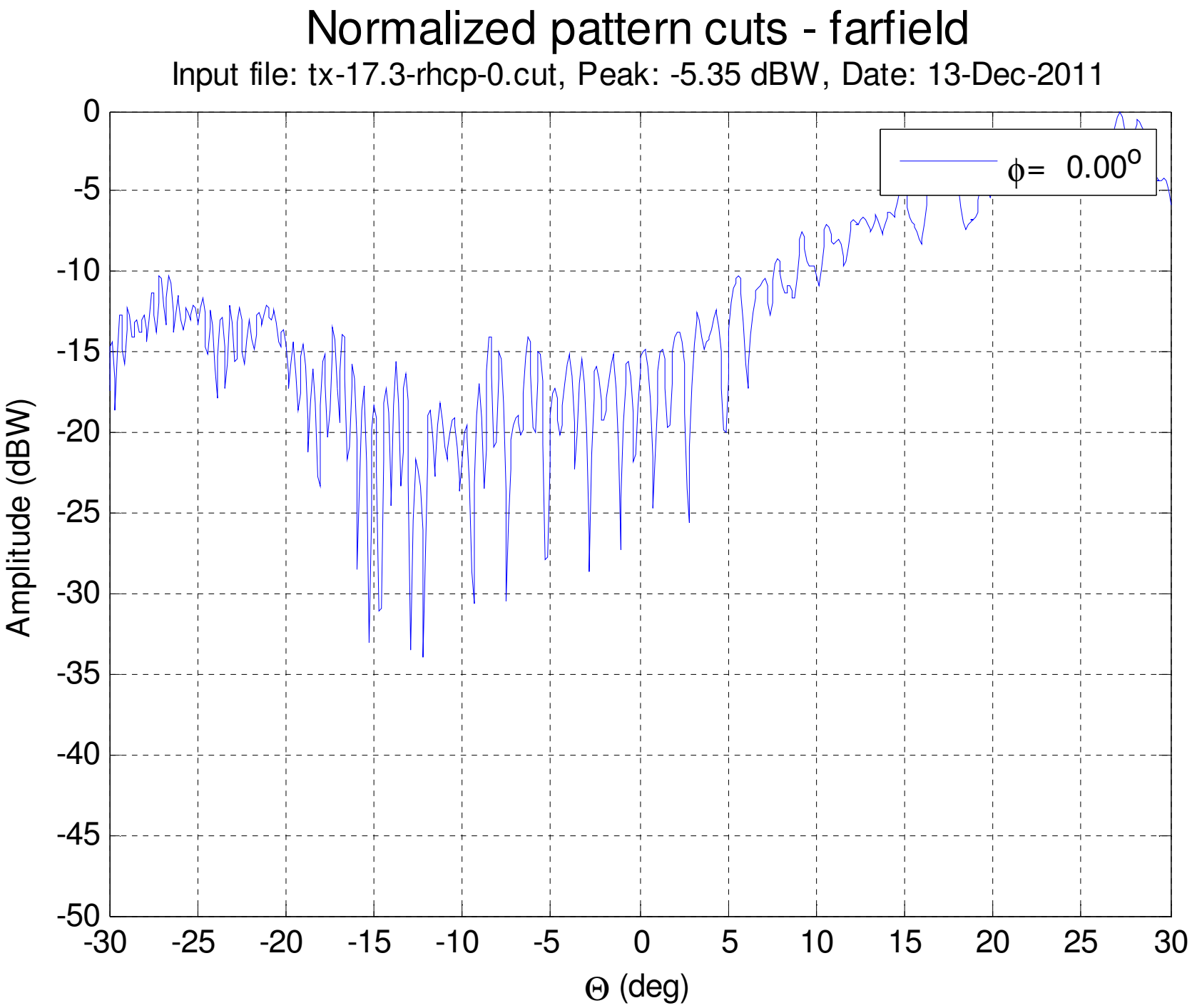

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -11.81 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

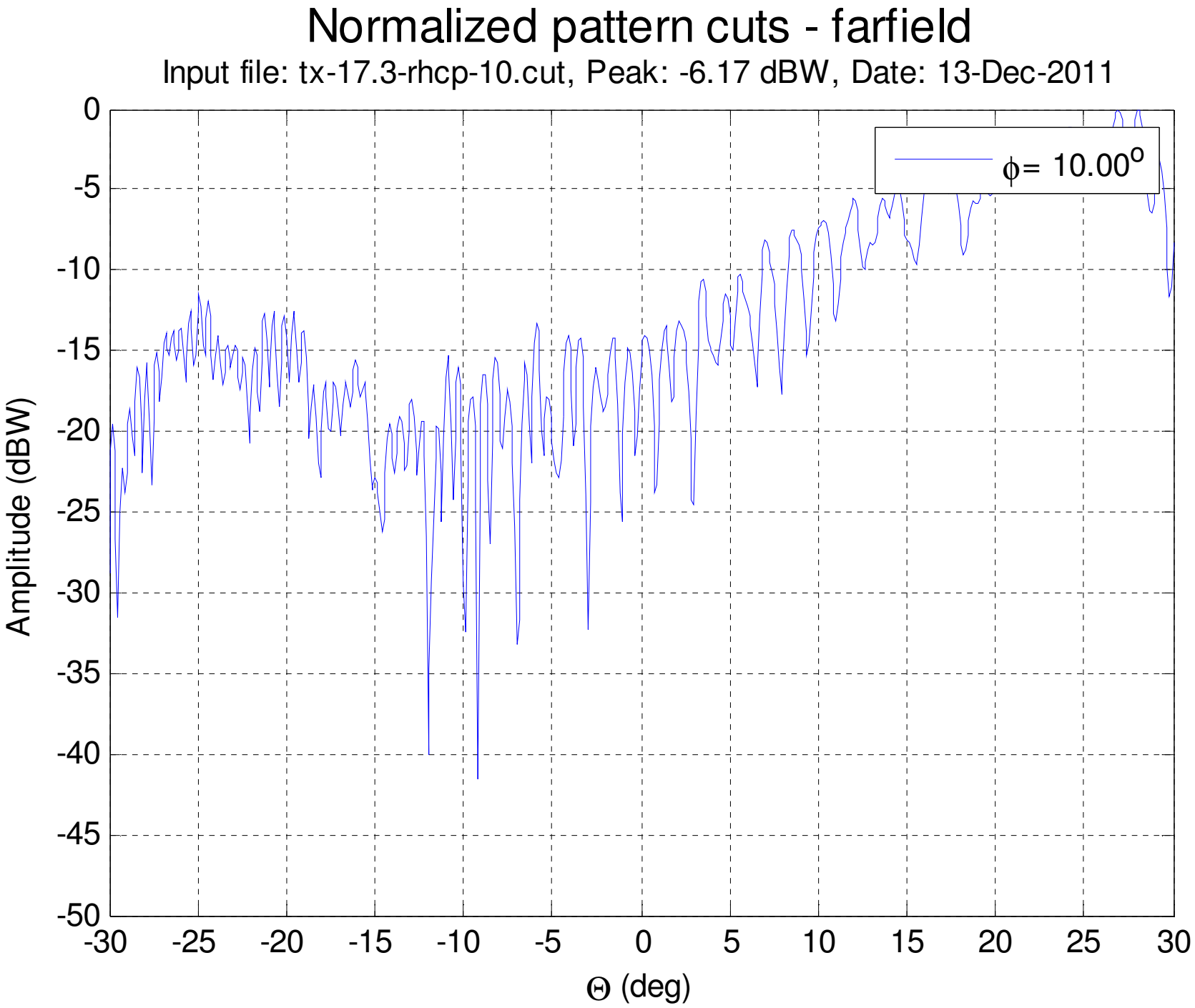

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -10.61 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

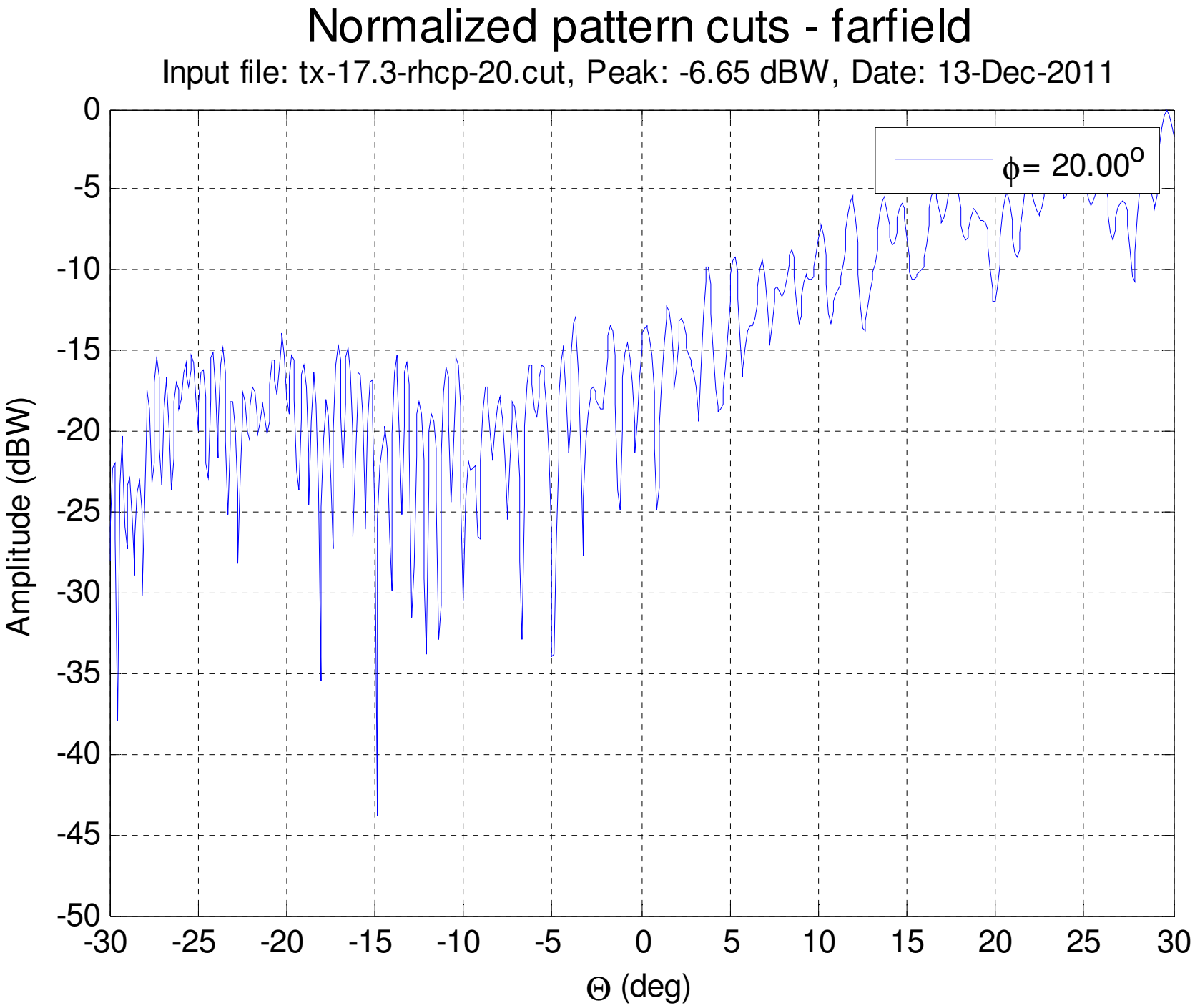

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -8.38 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

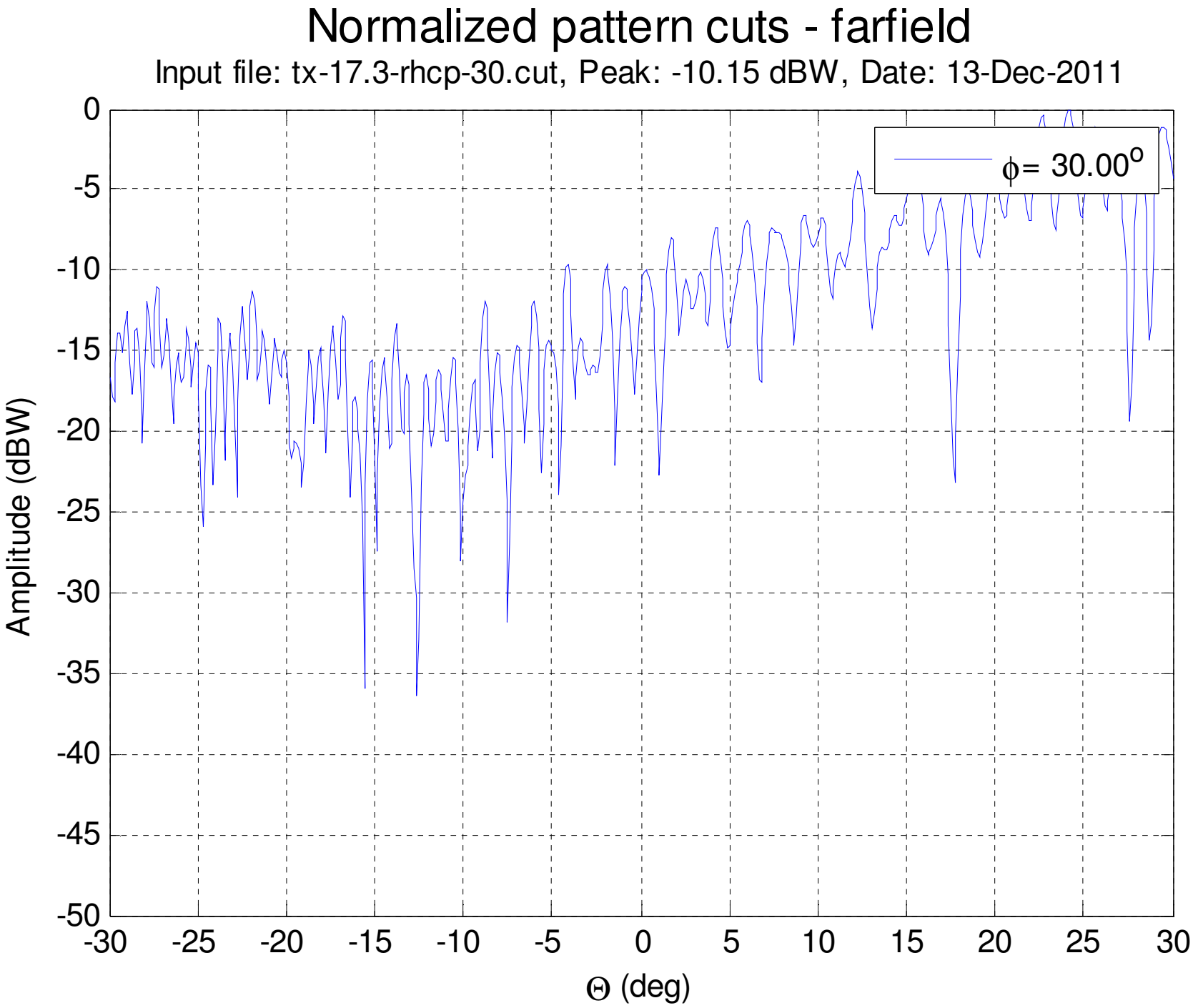

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -6.26 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

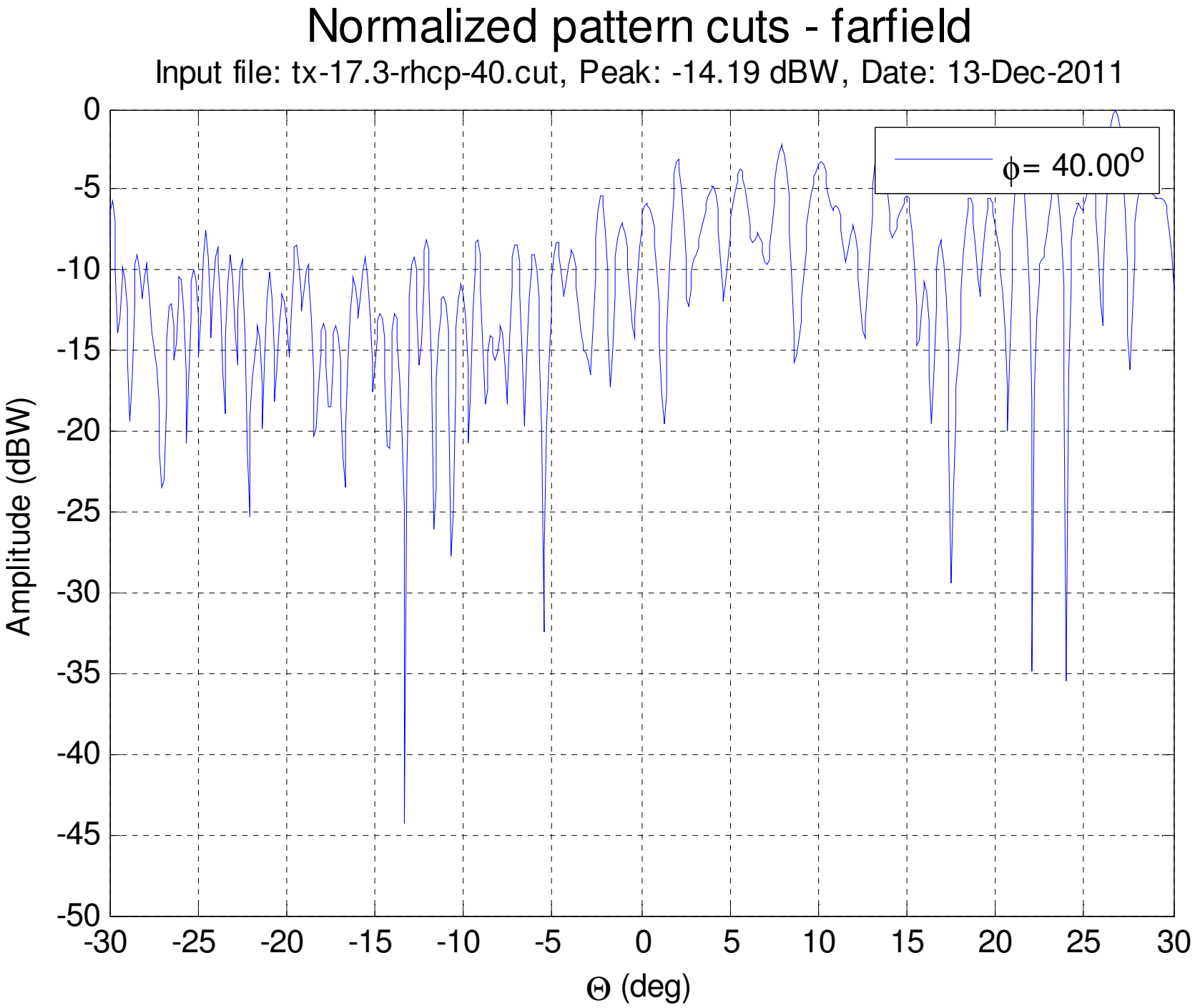

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -5.74 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

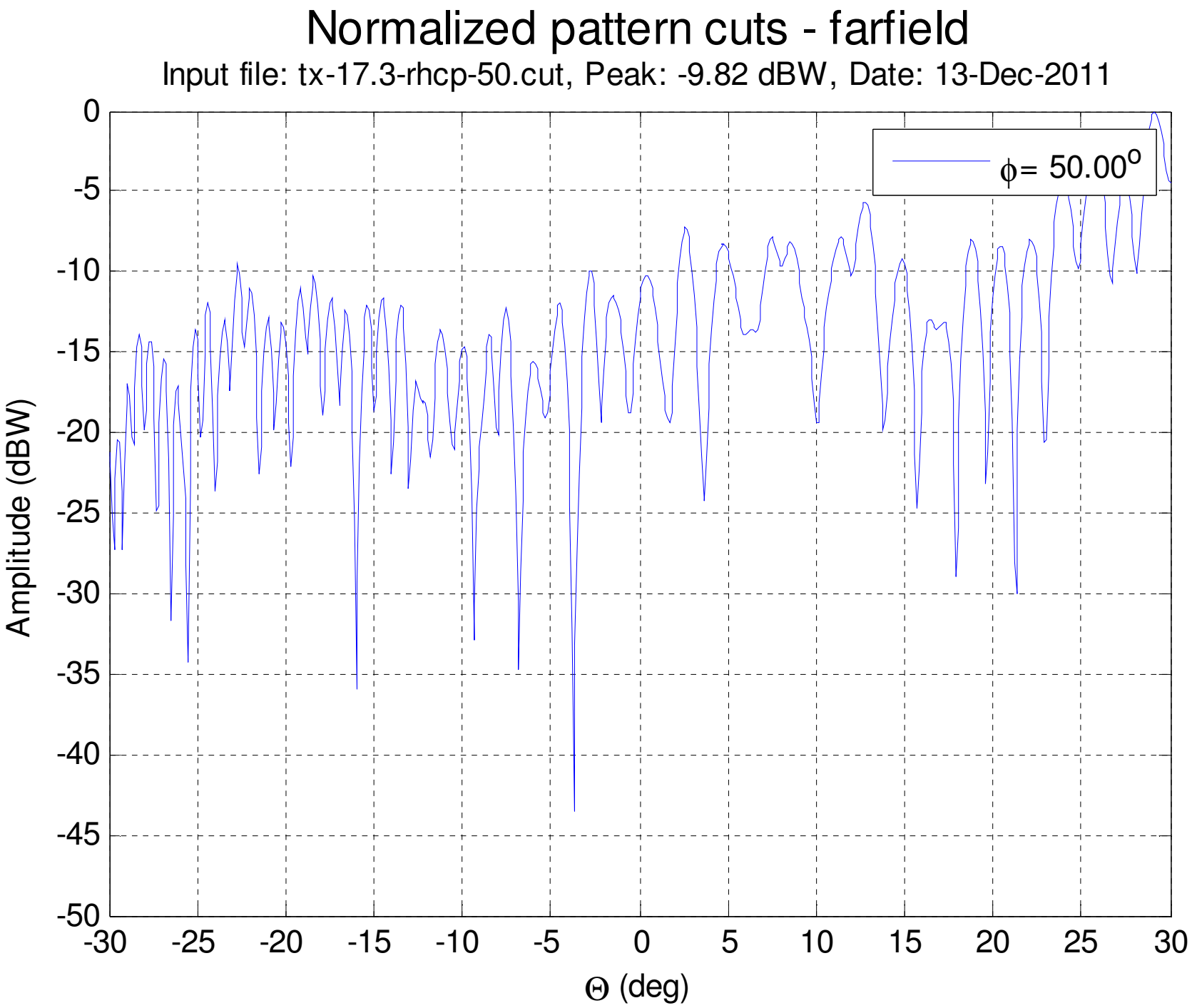

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -5.35 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

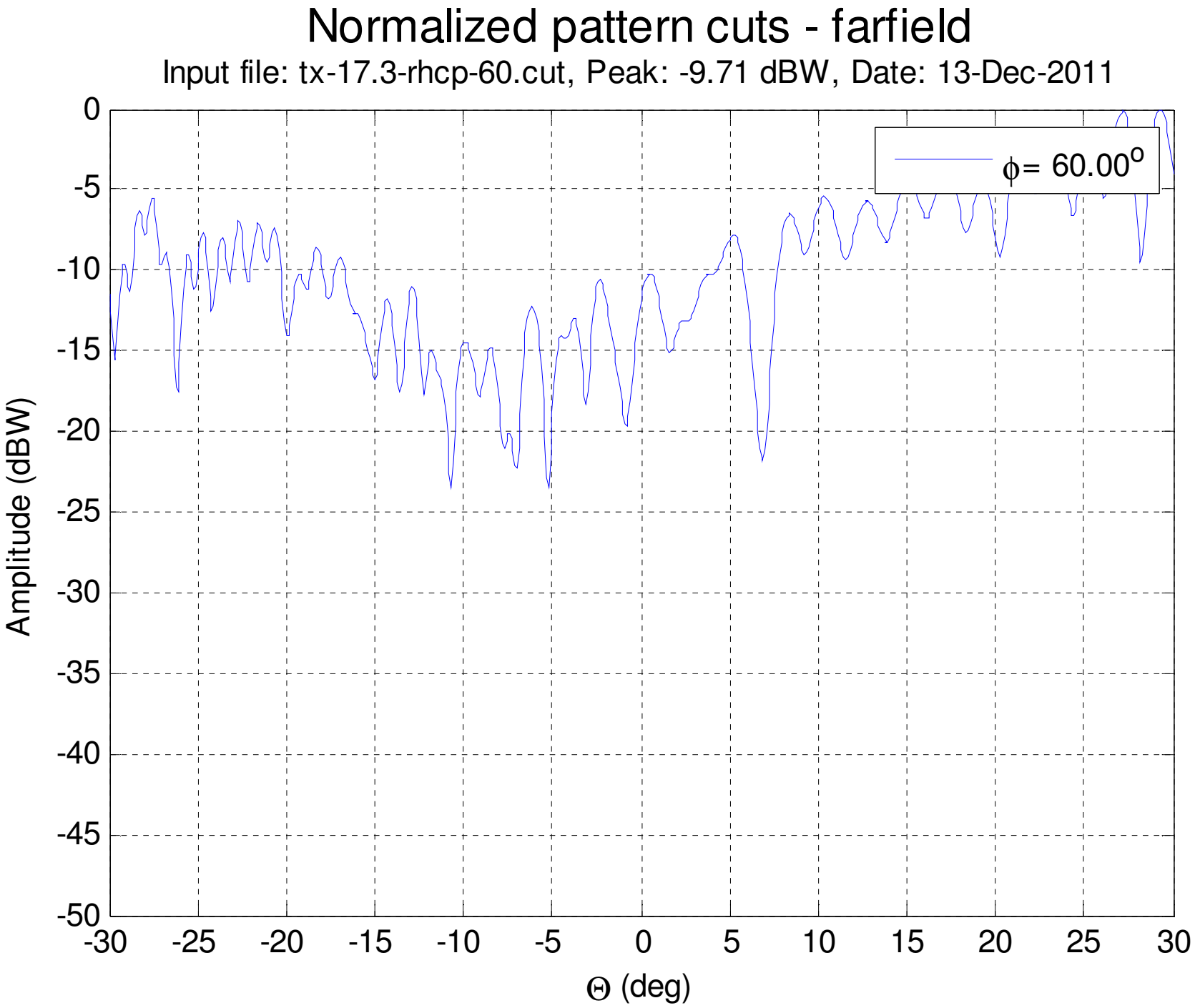

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -6.17 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -6.65 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

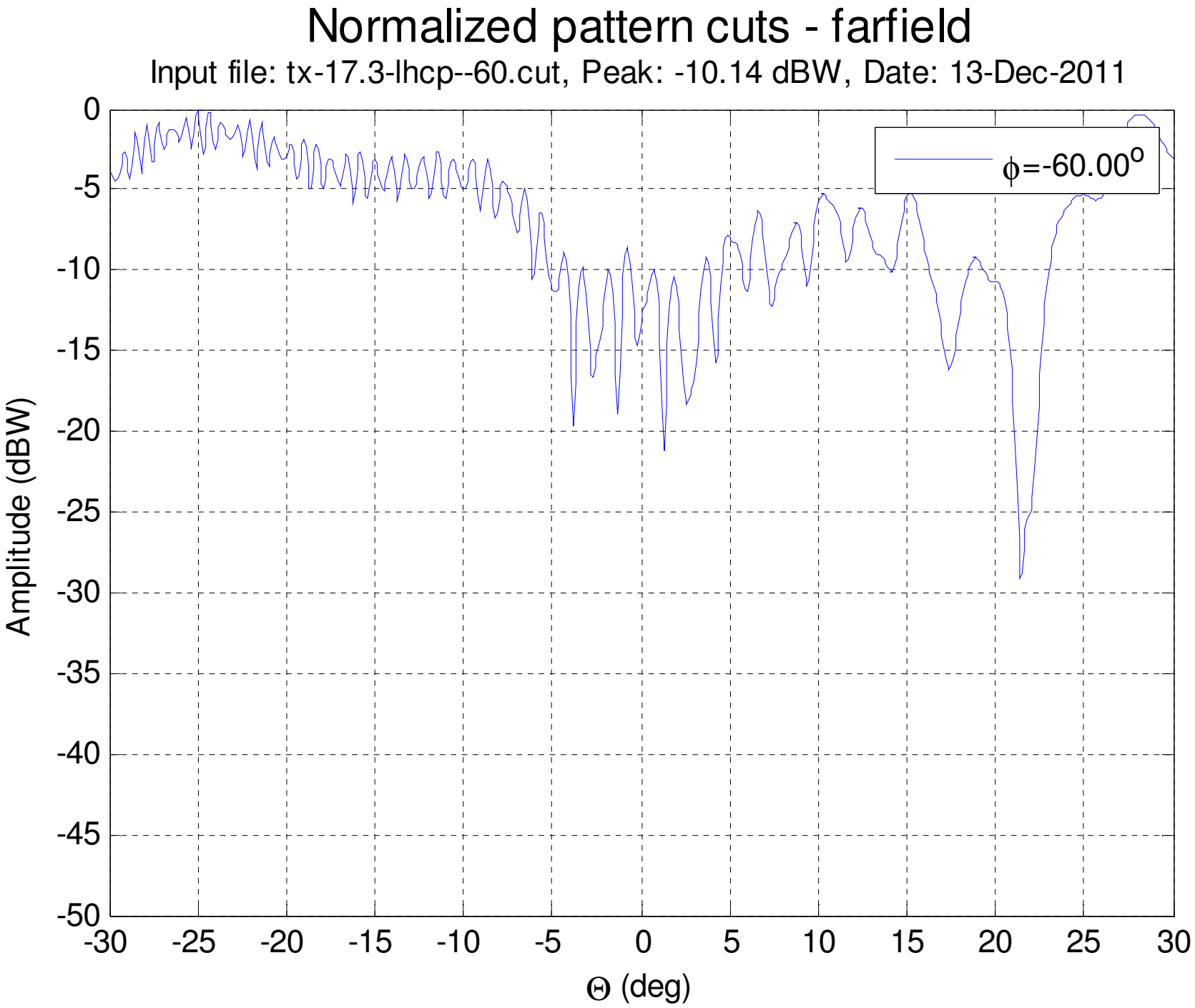

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -10.15 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

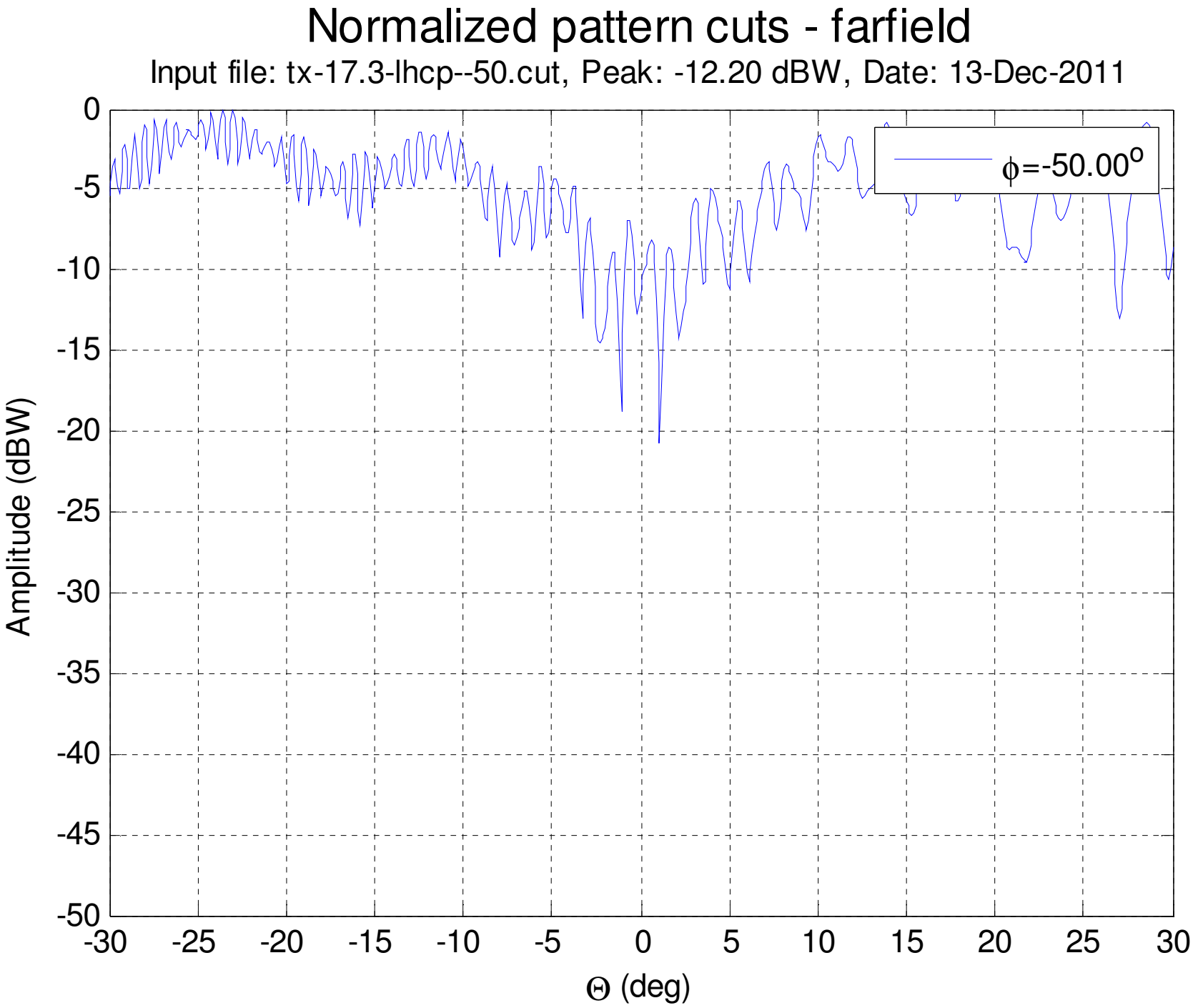

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -14.19 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

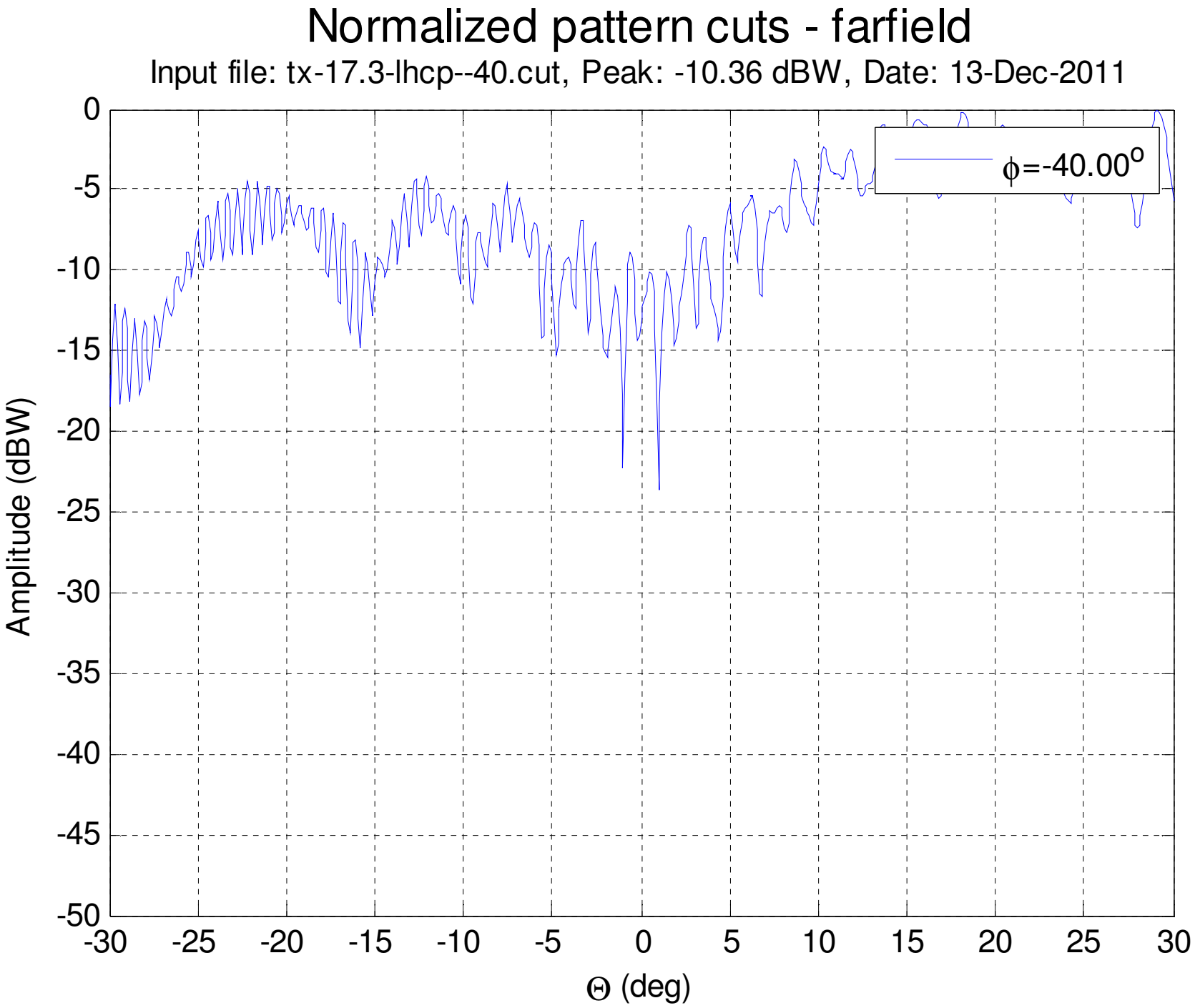

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -9.82 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

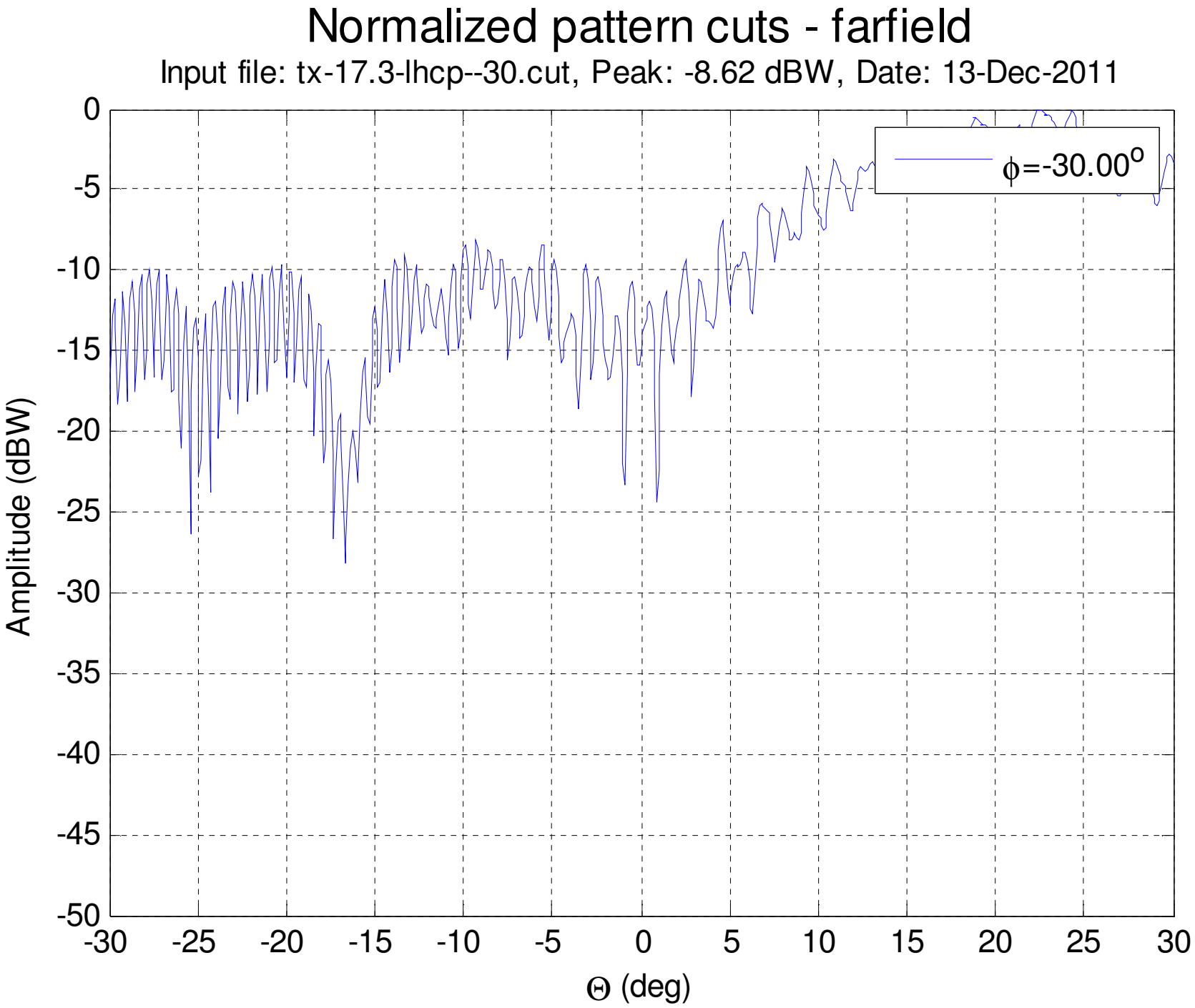

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.71 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

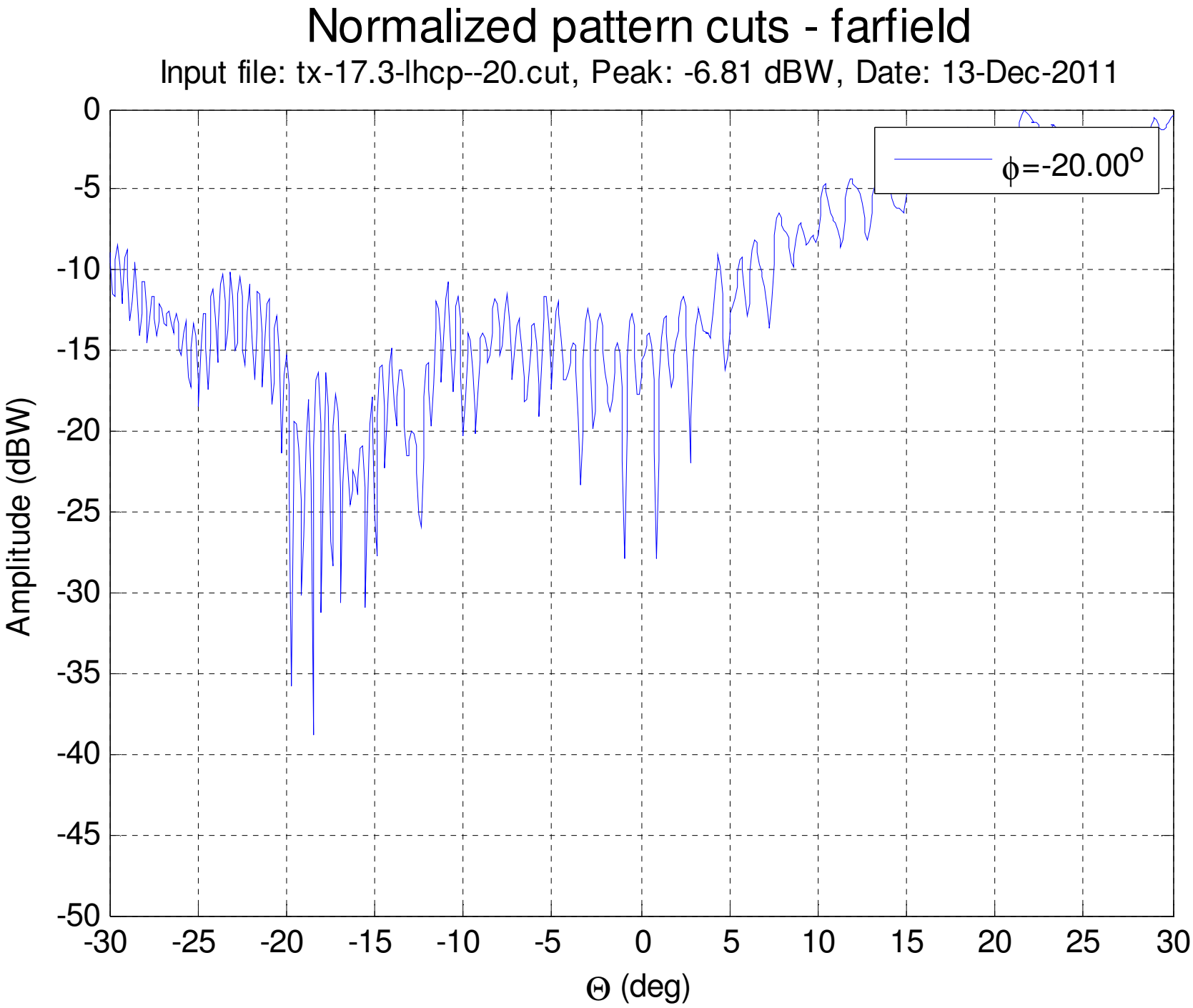
LHCP at 17.3 GHz

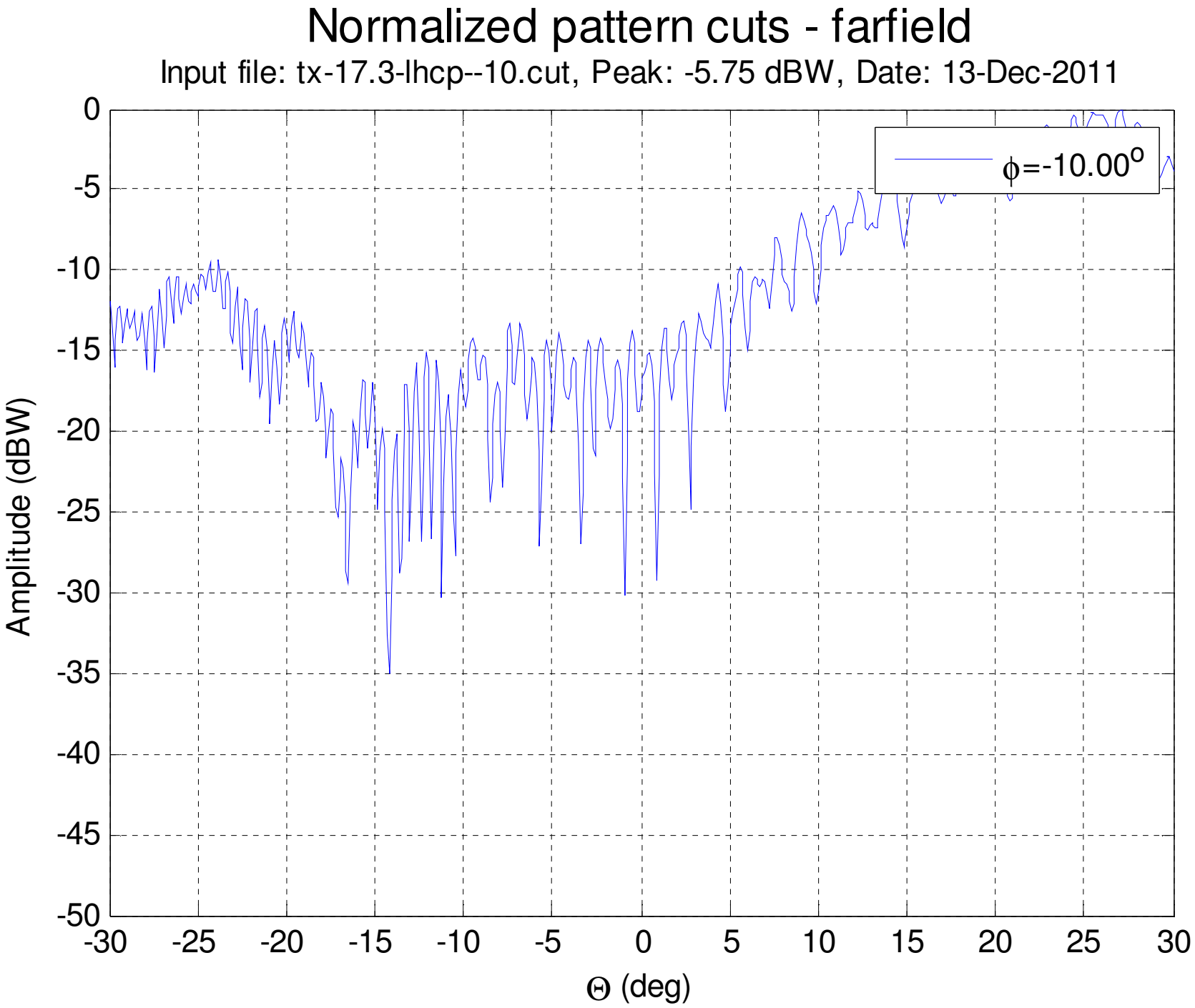

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -10.14 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

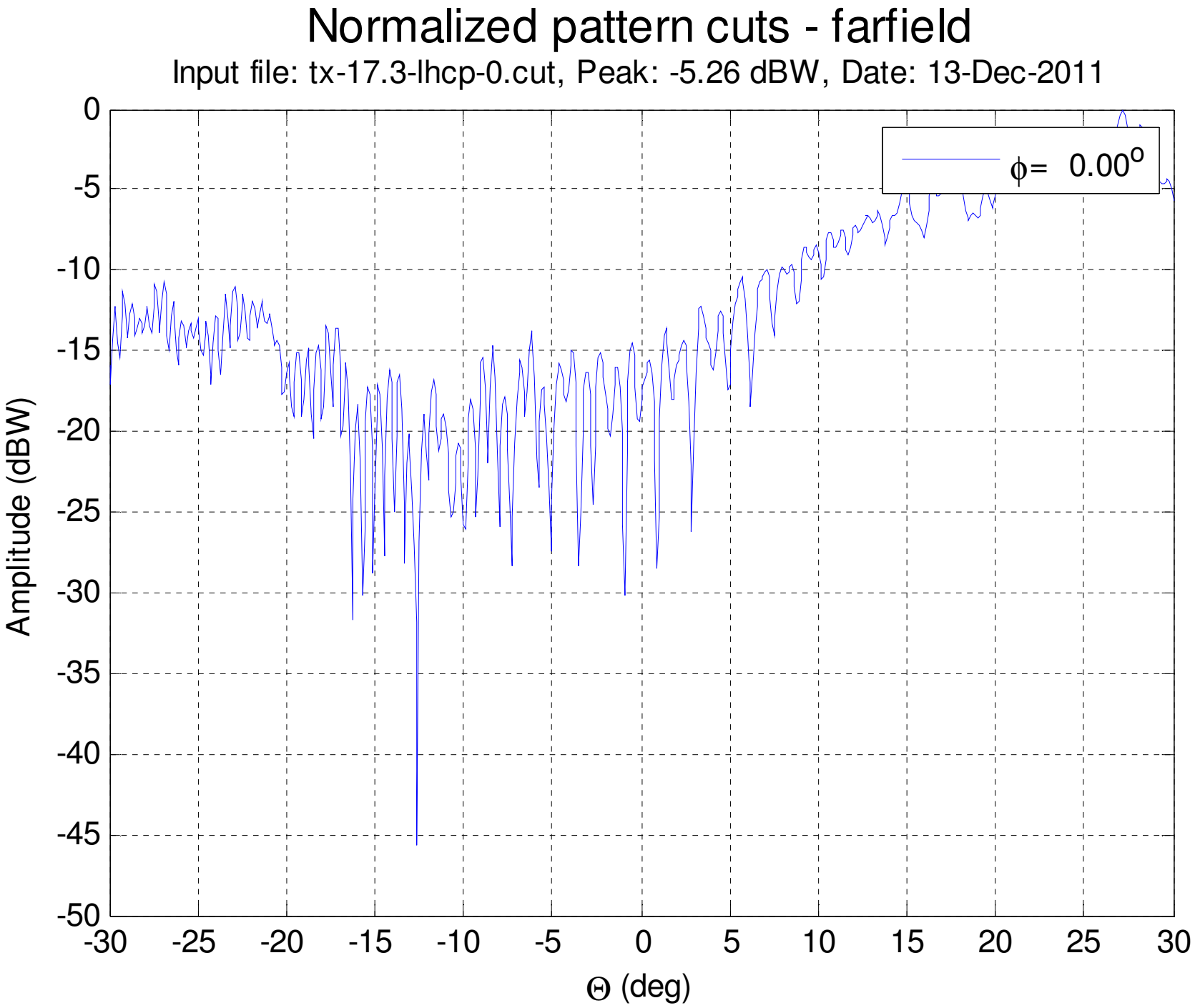

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -12.20 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

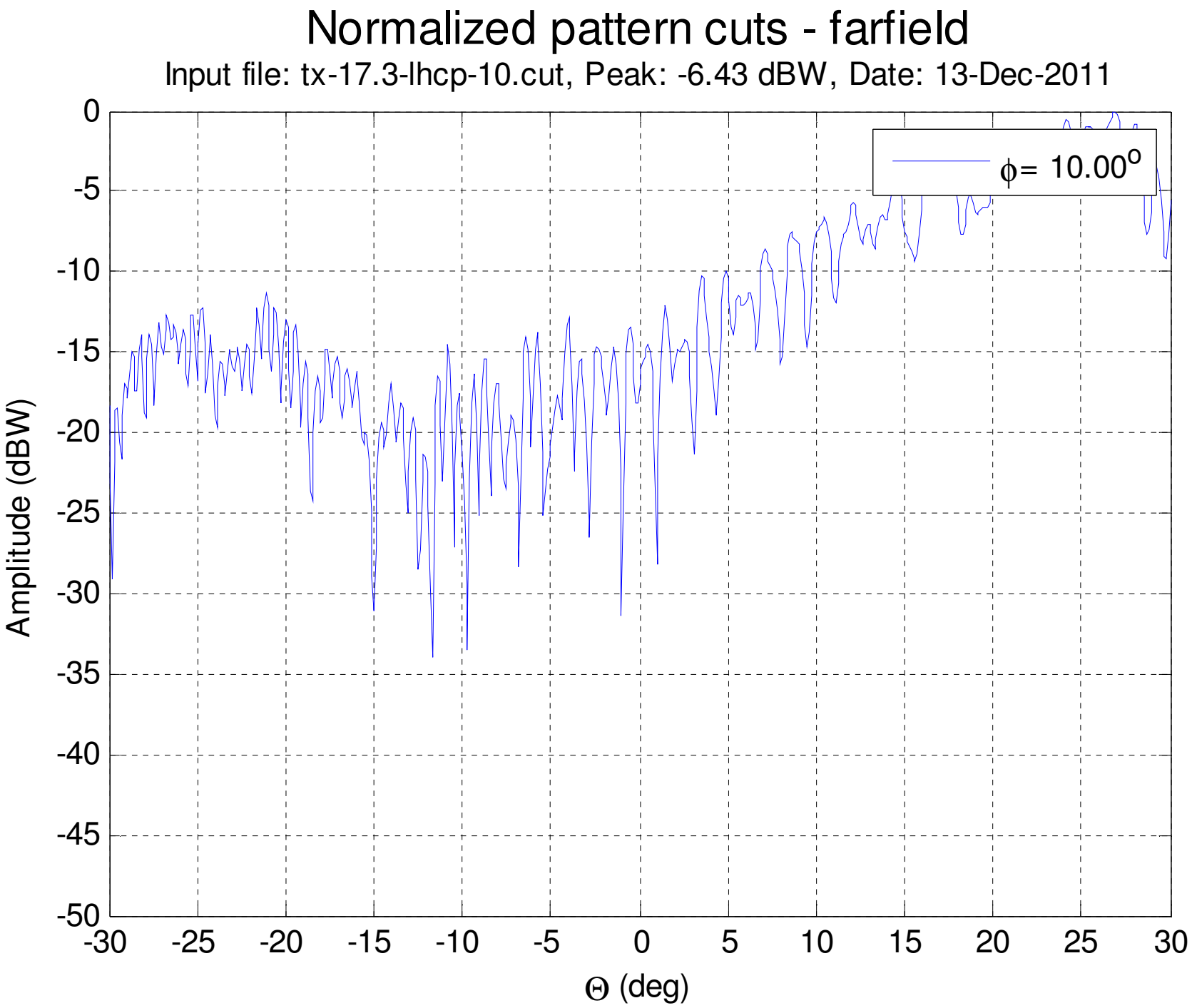

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -10.36 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

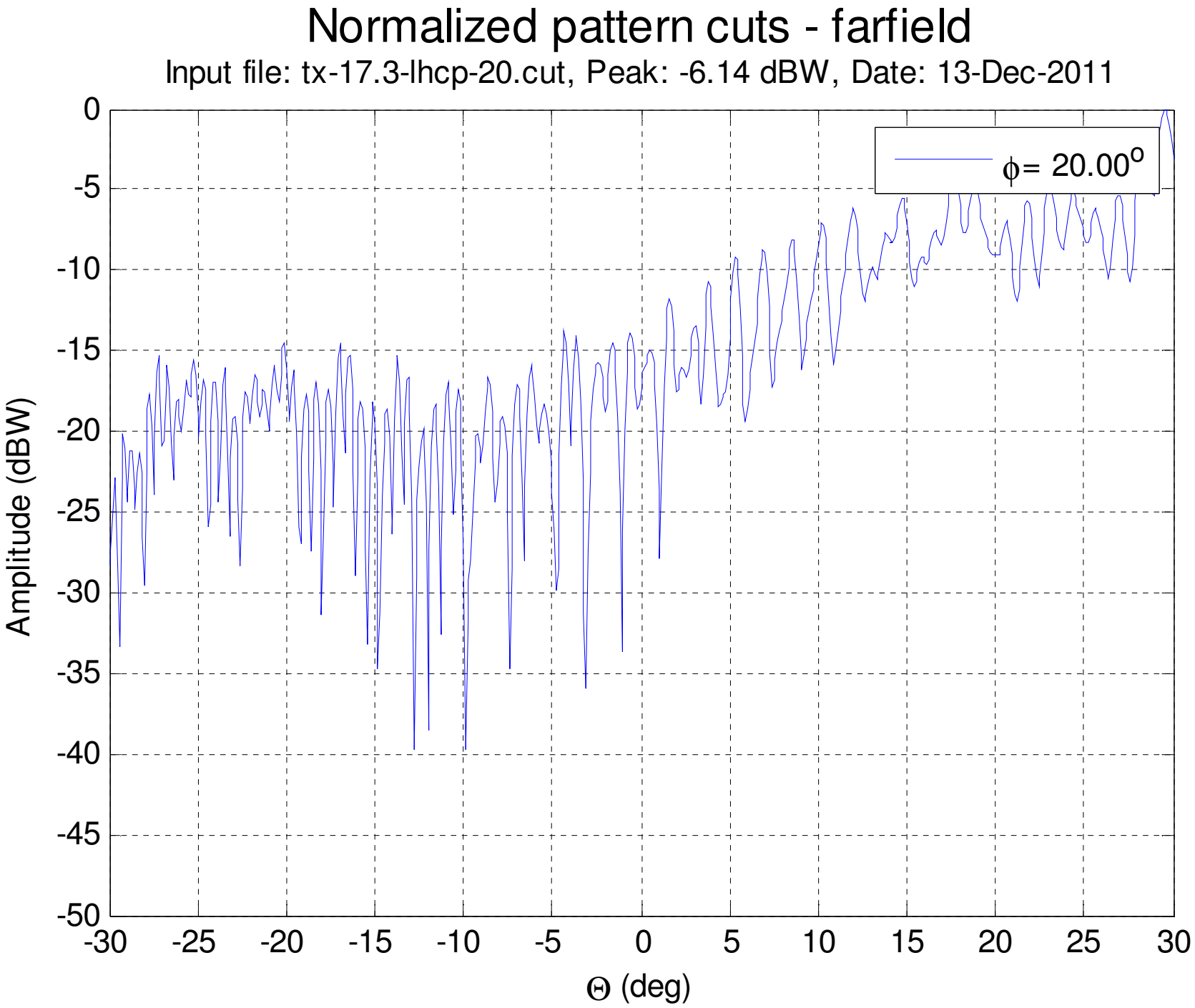

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -8.62 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

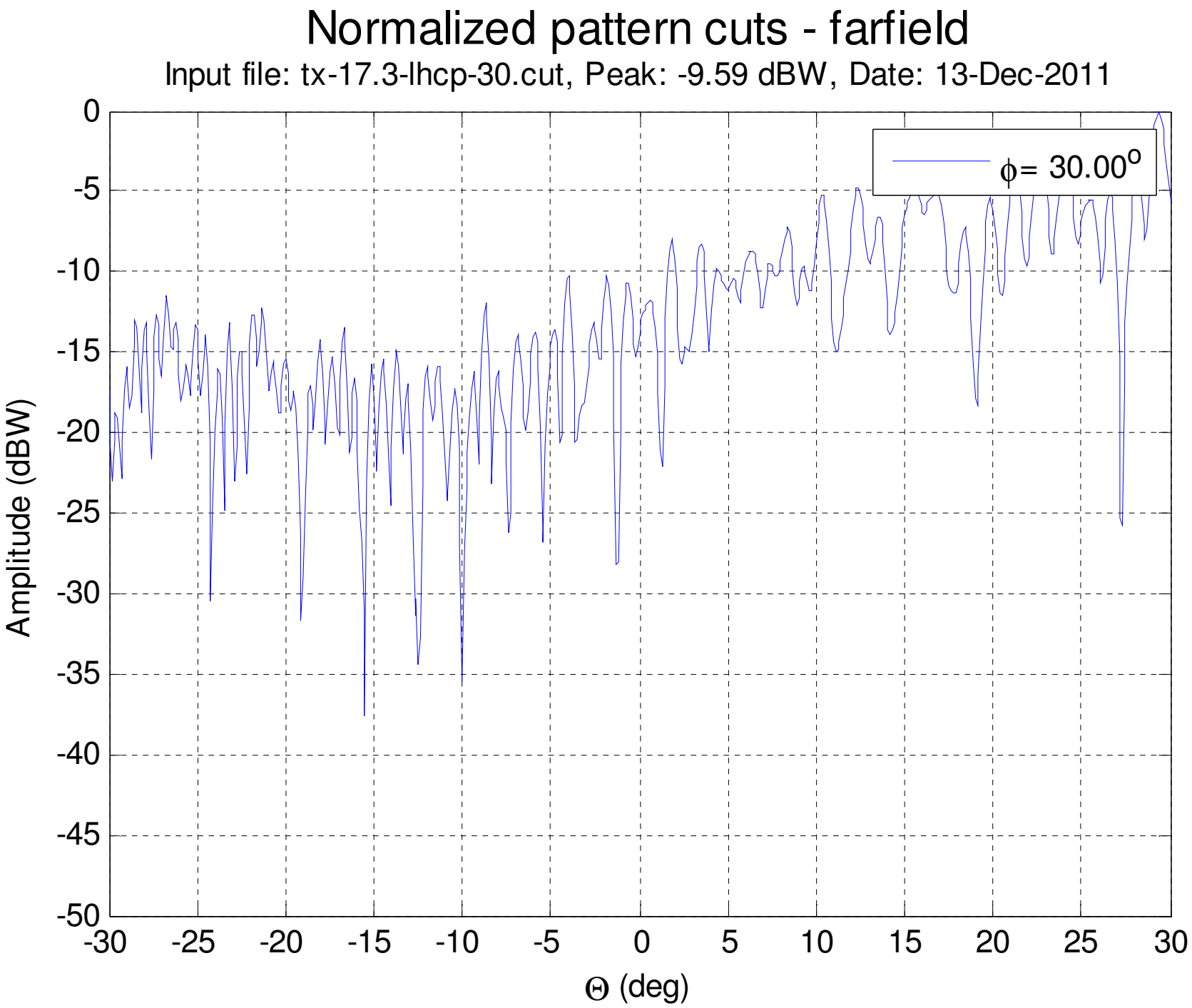

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -6.81 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

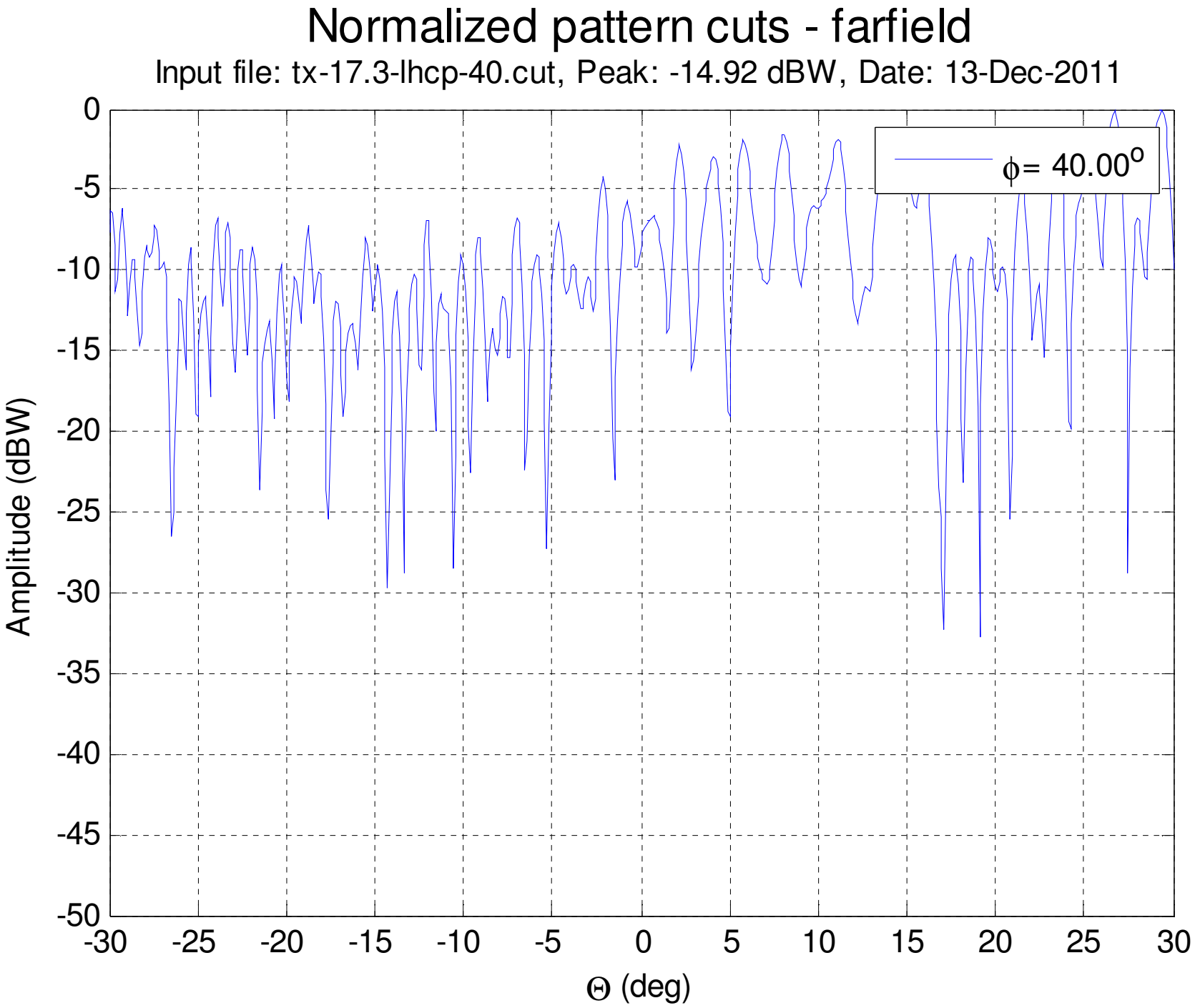

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -5.75 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

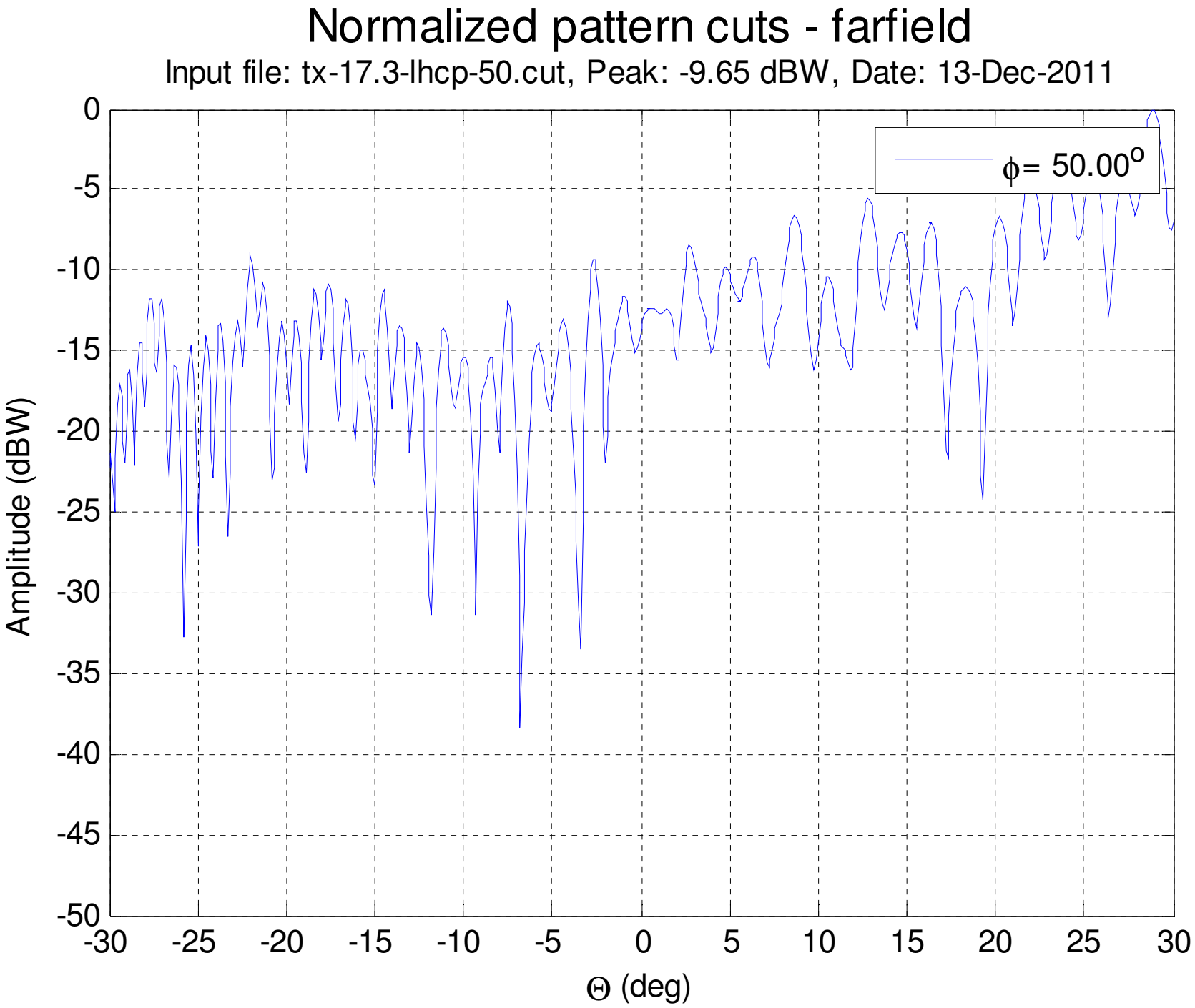

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -5.26 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

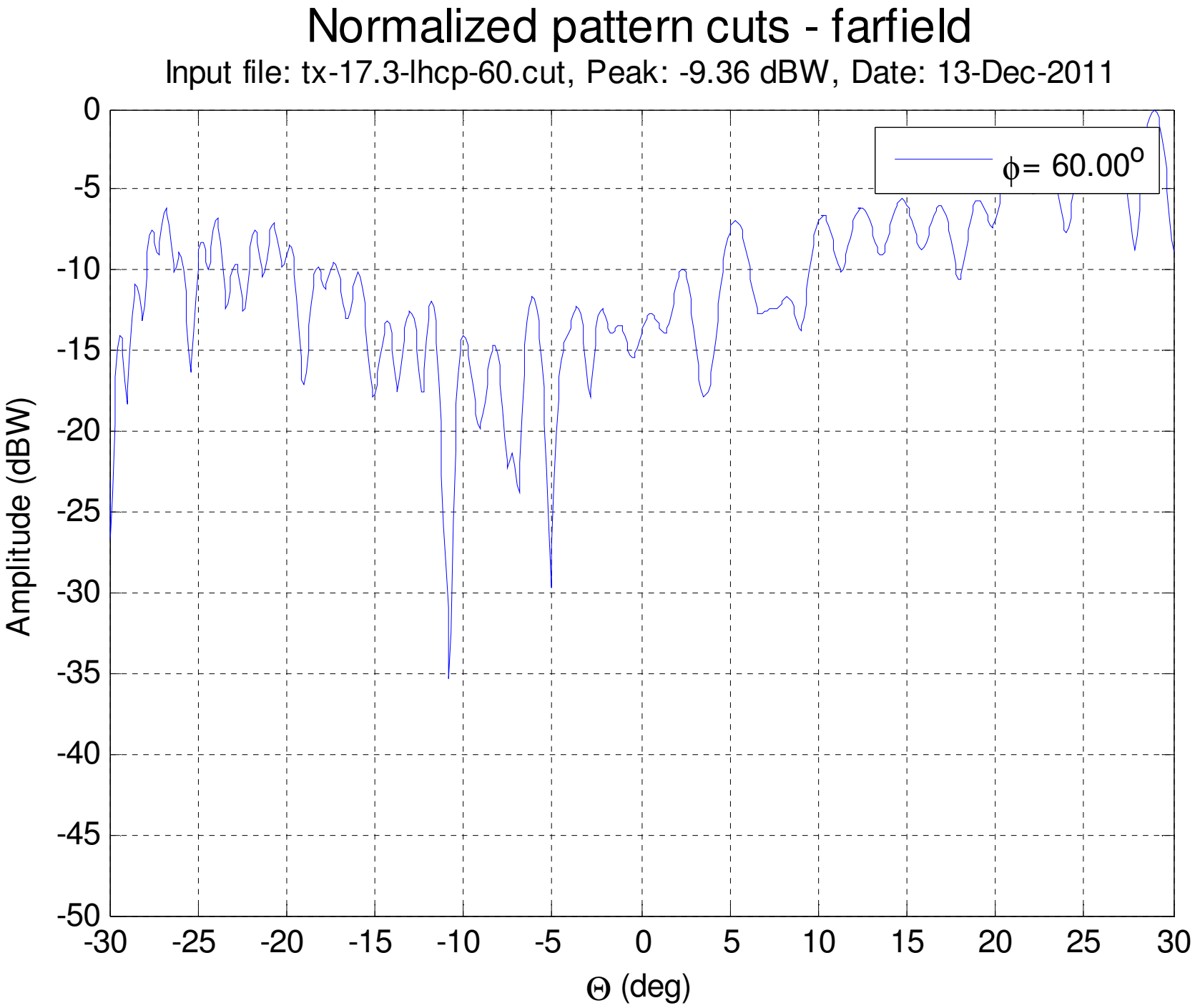

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -6.43 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -6.14 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

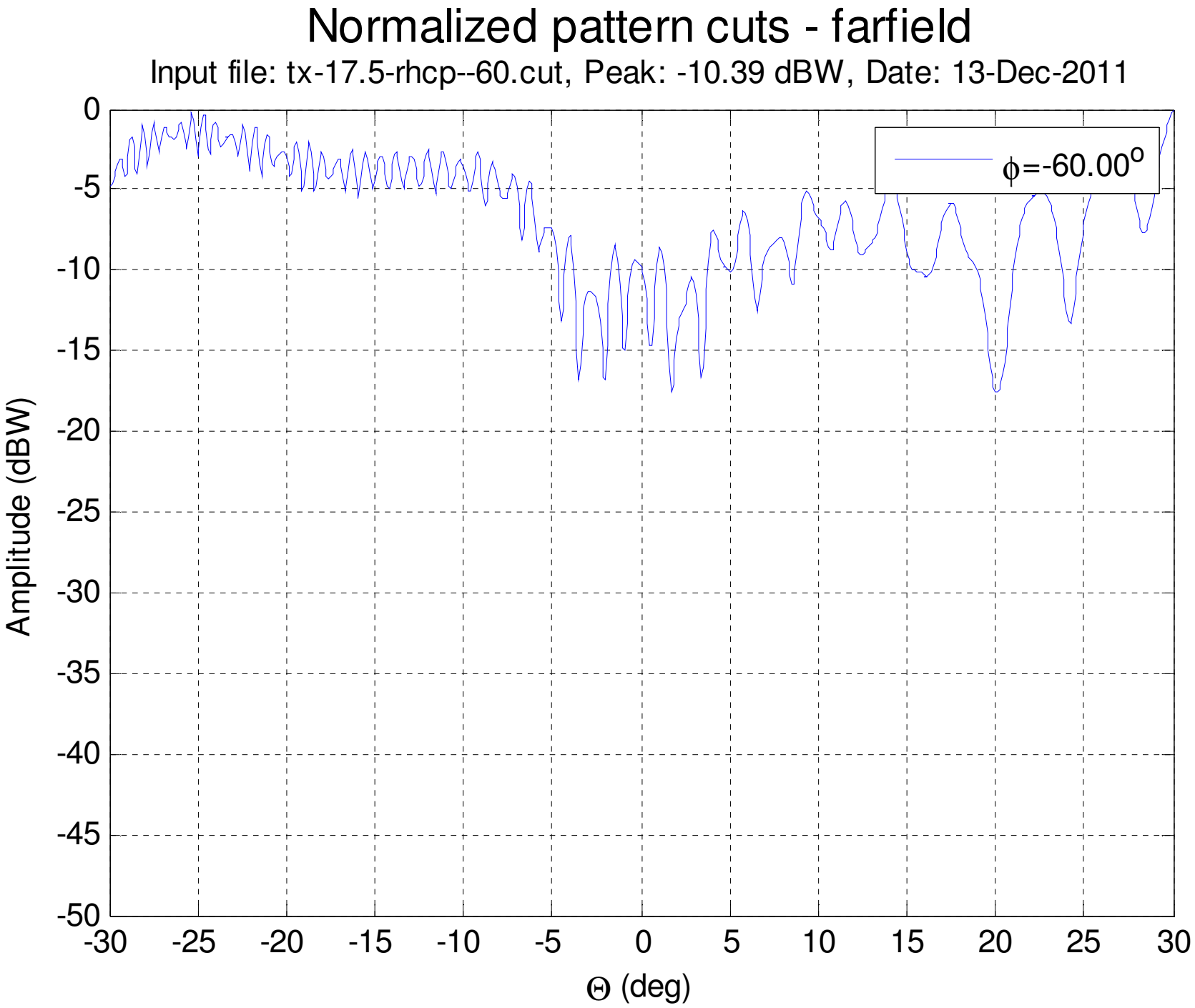

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.59 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

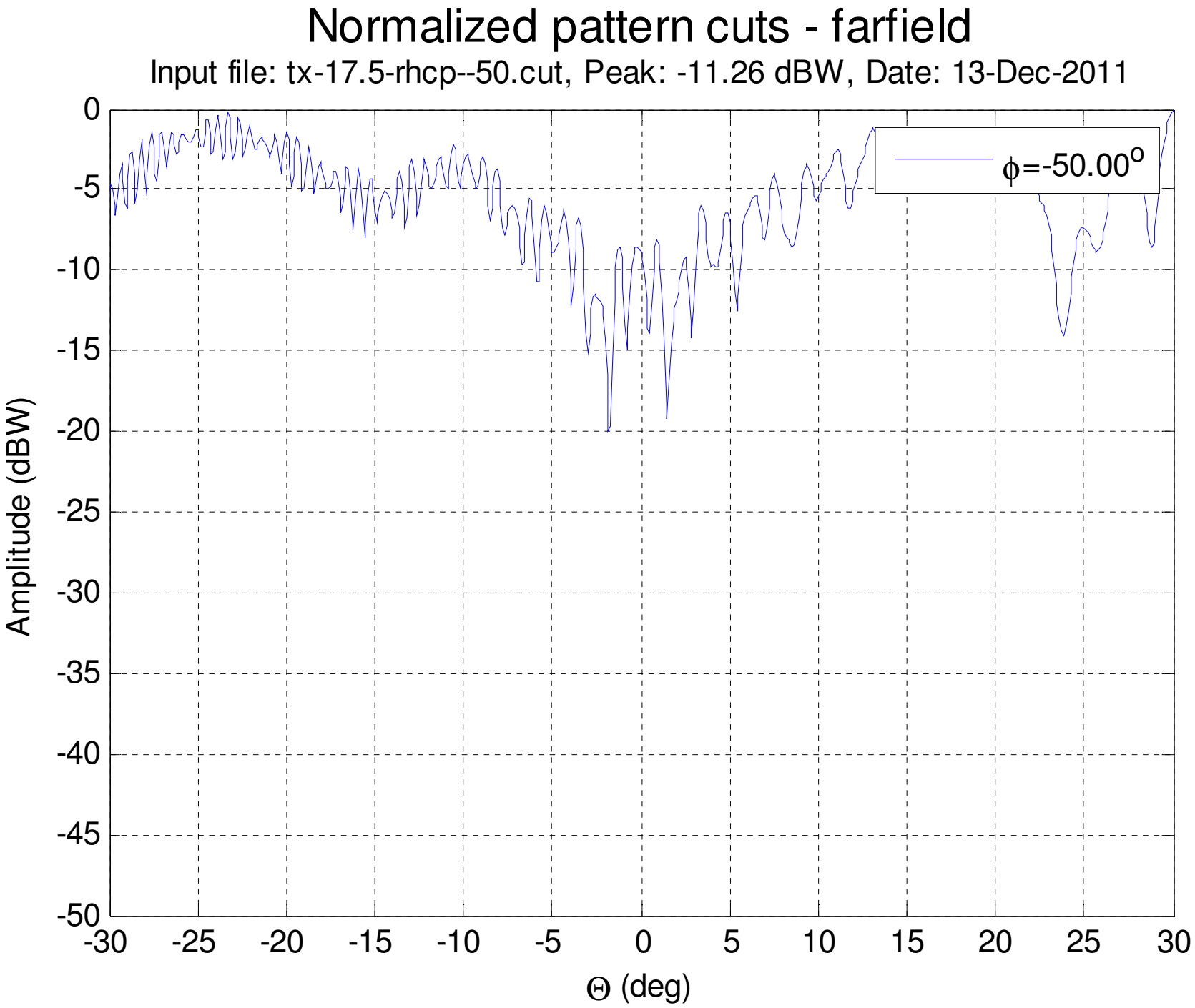

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -14.92 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

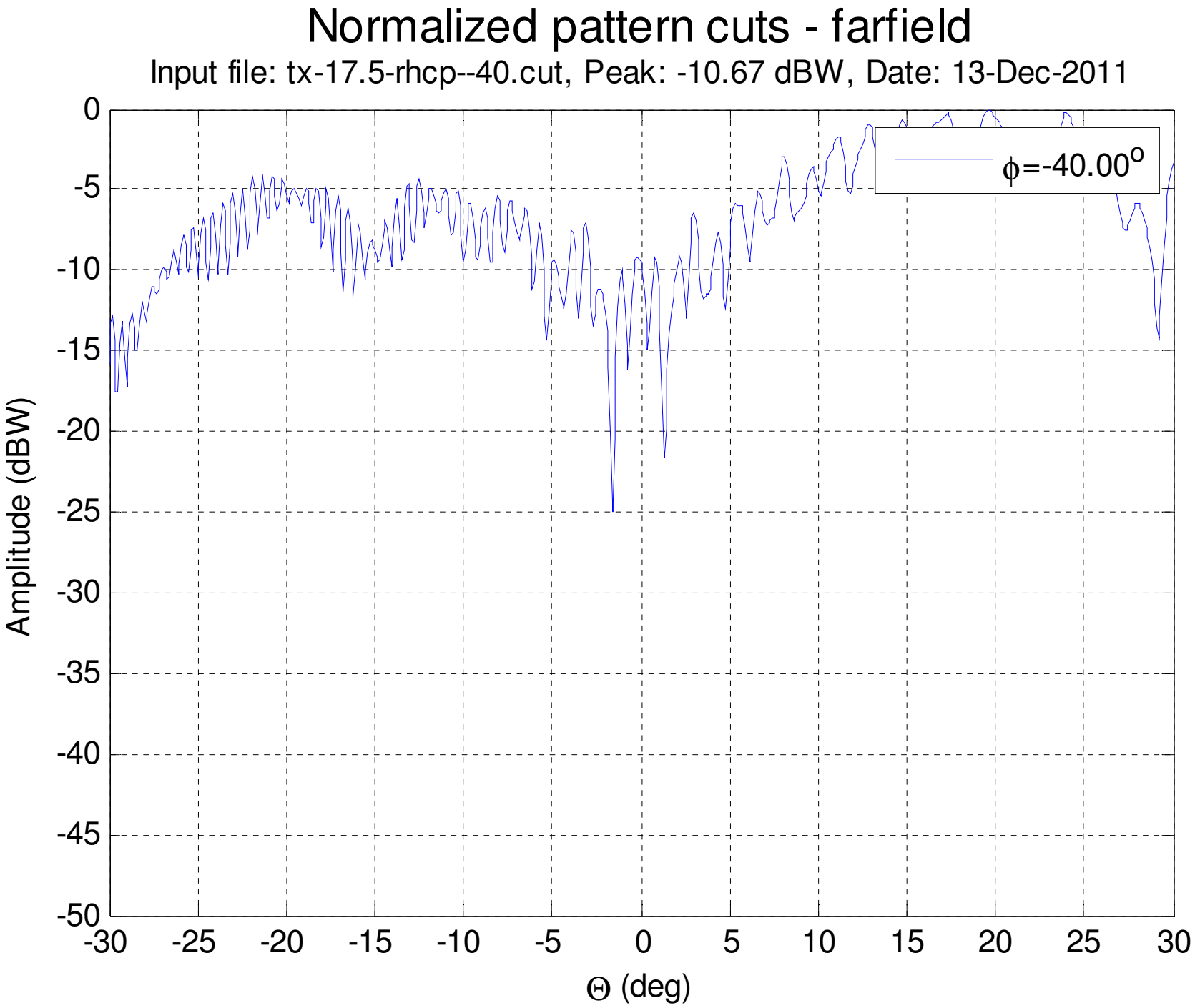

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -9.65 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

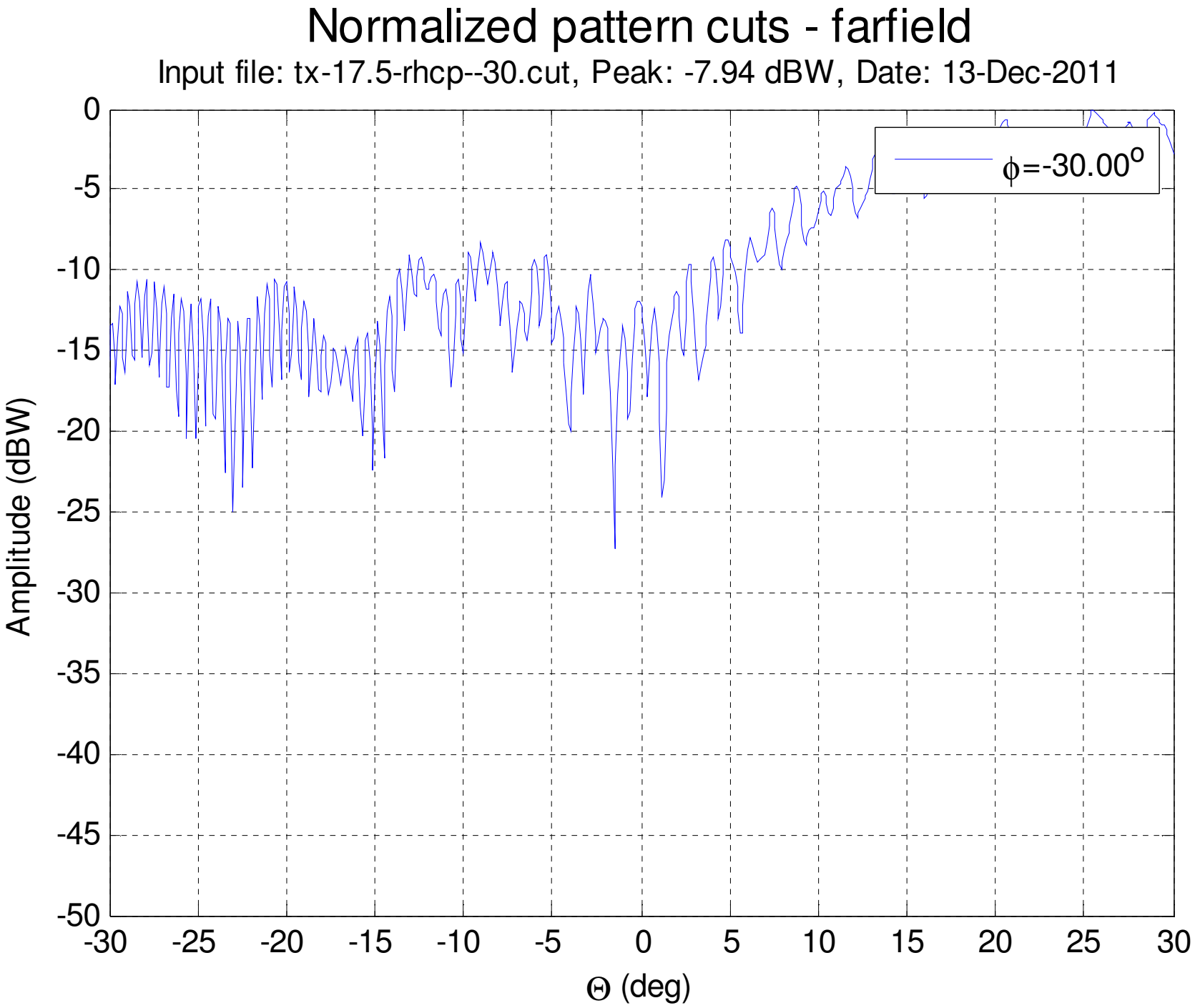

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.36 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

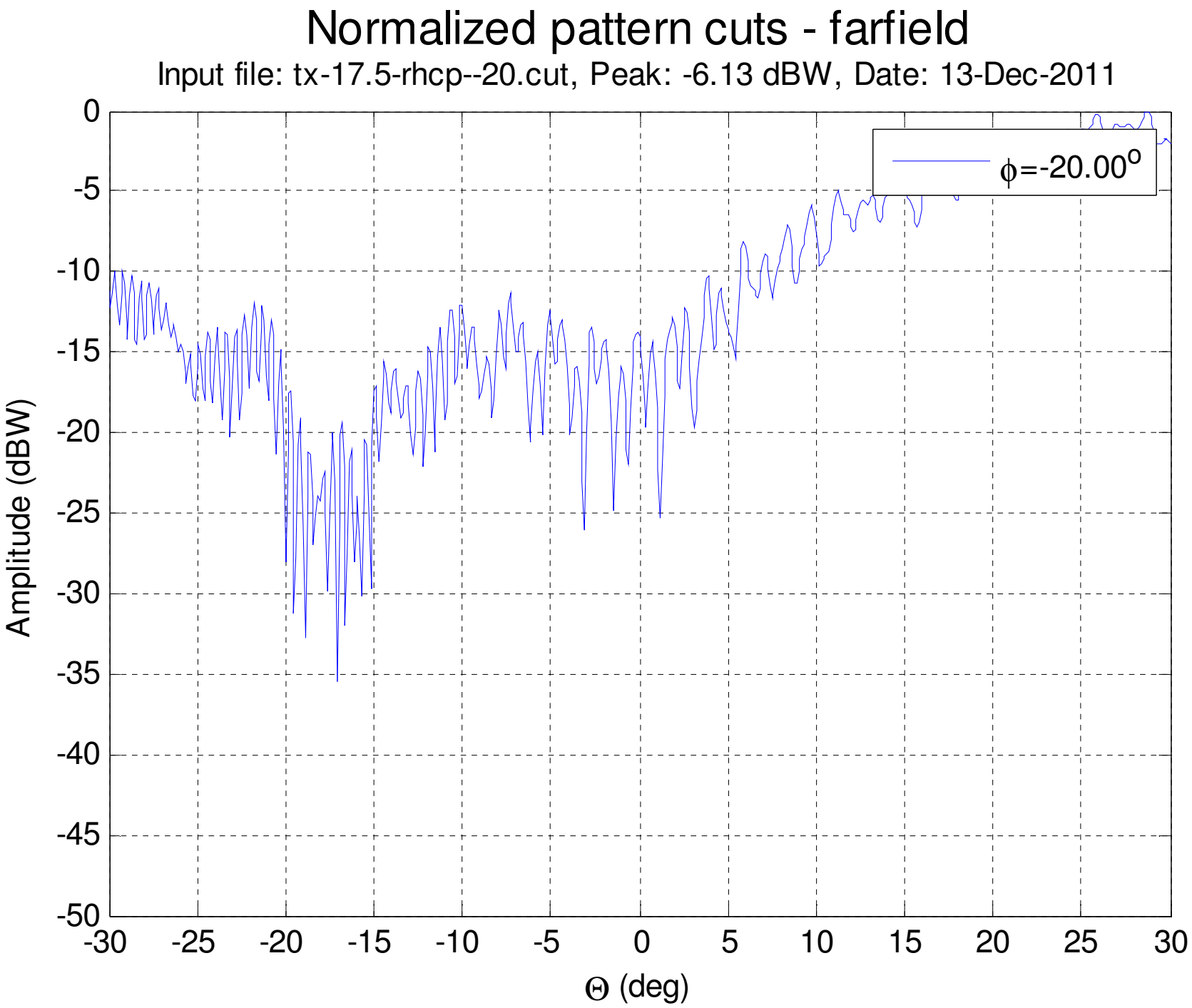
RHCP at 17.5 GHz

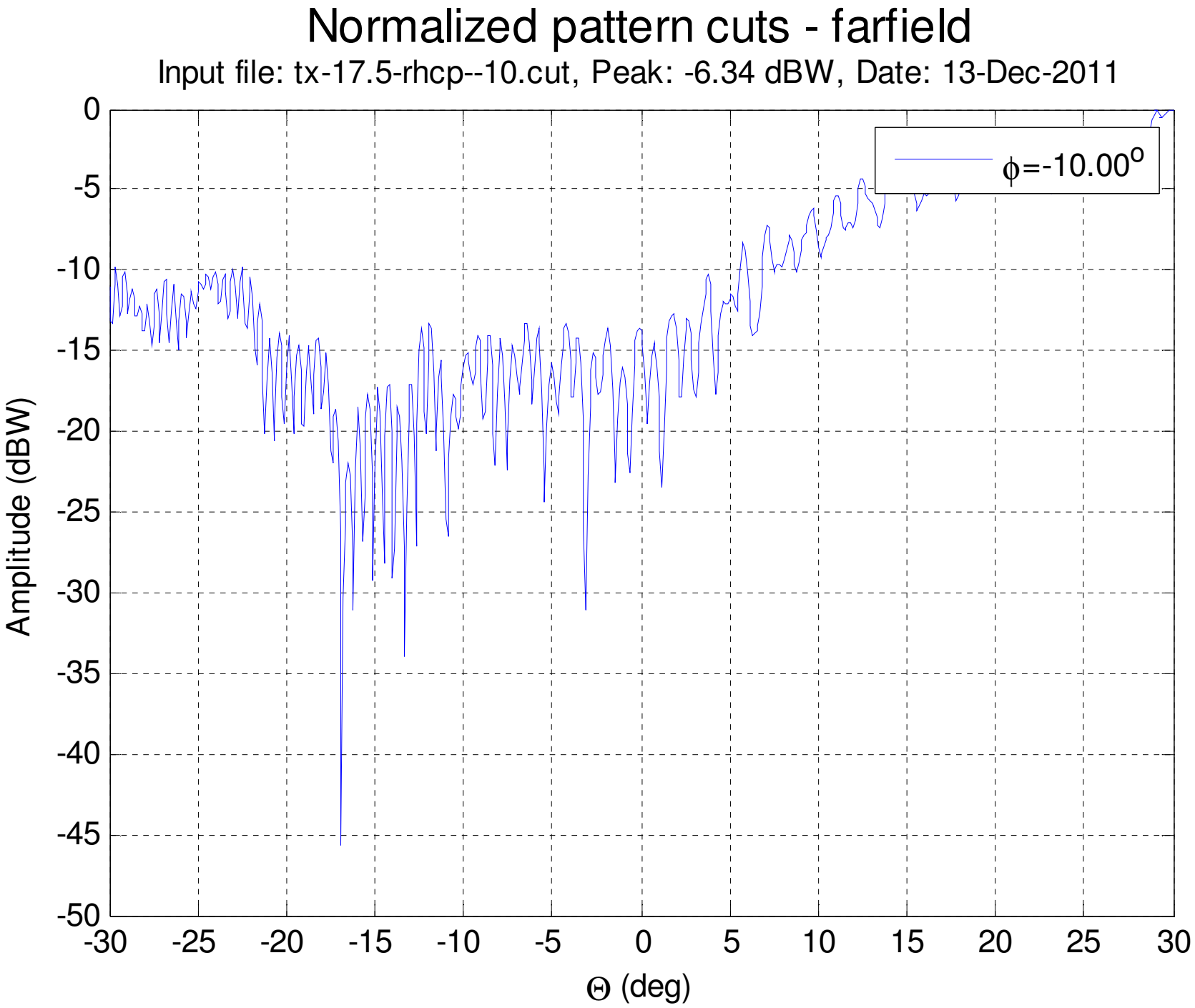

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -10.39 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

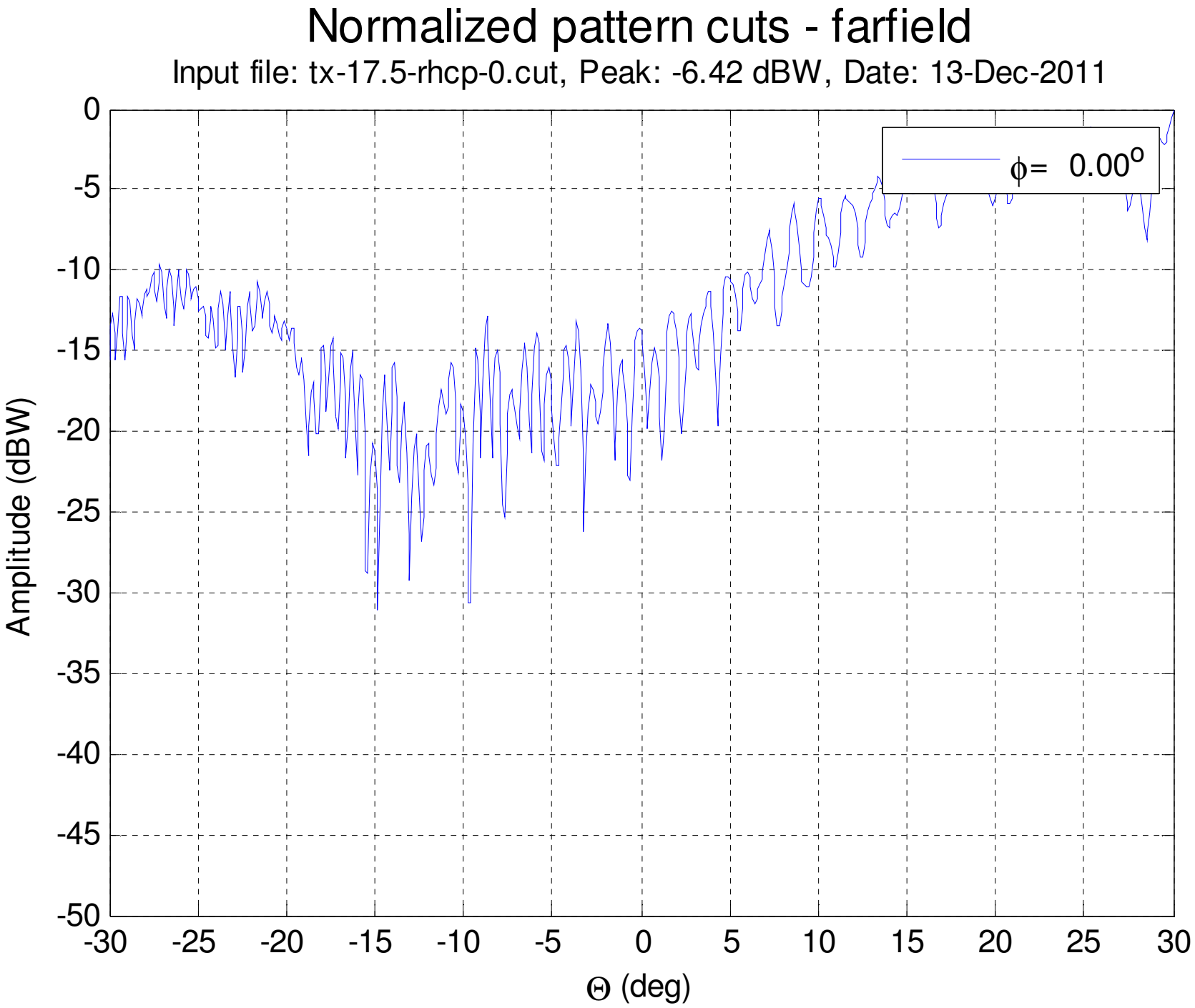

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -11.26 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

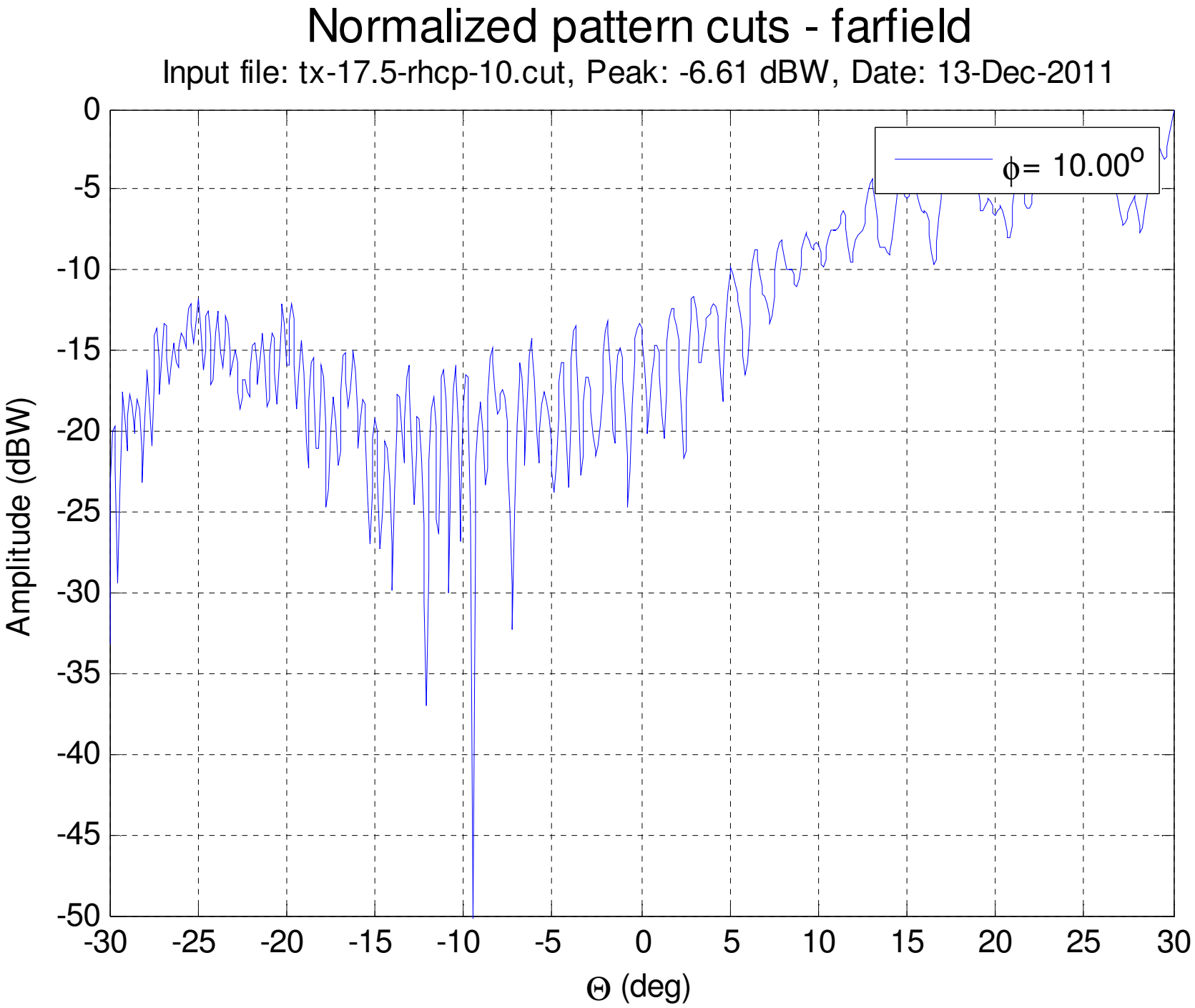

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -10.67 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

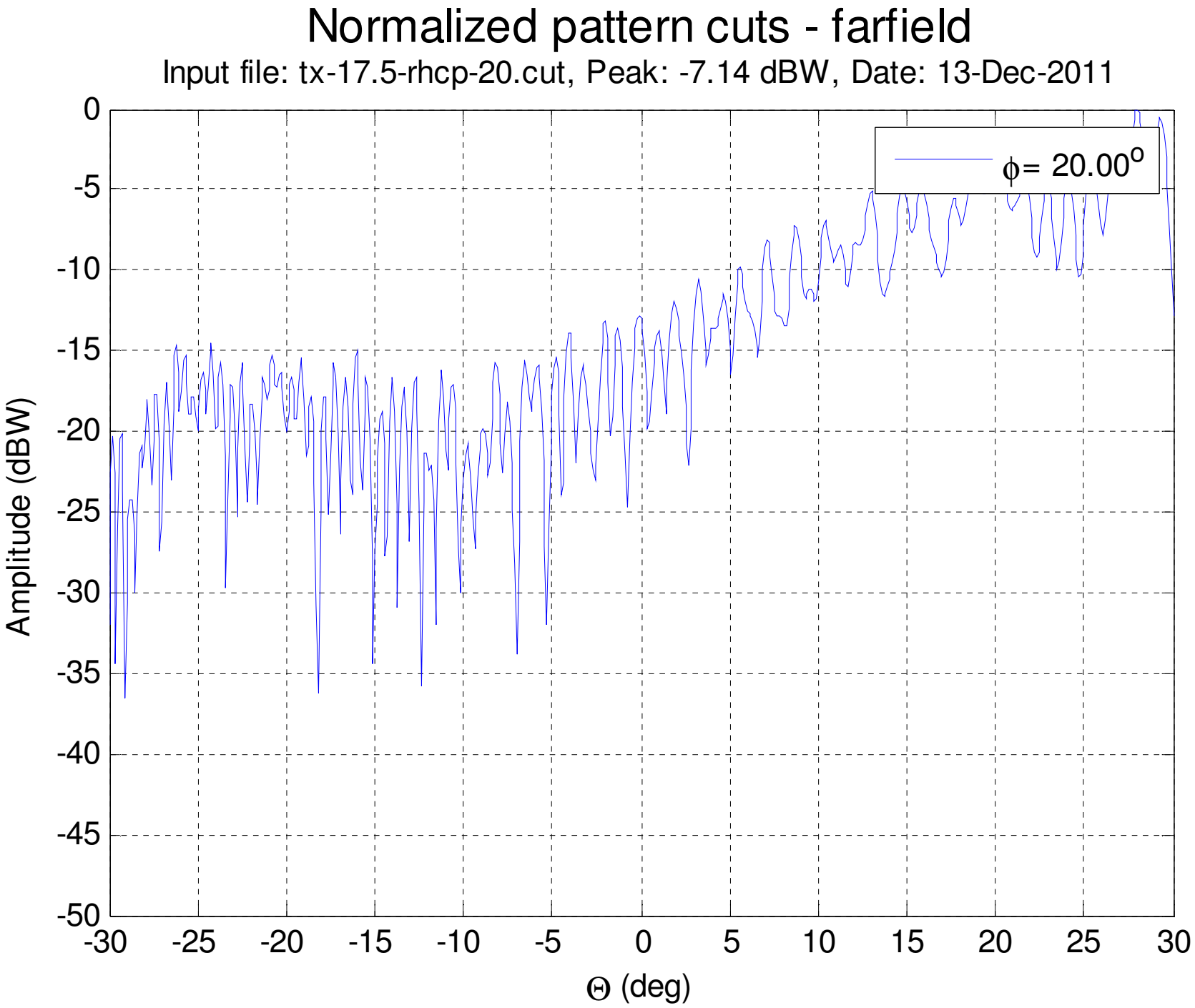

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -7.94 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

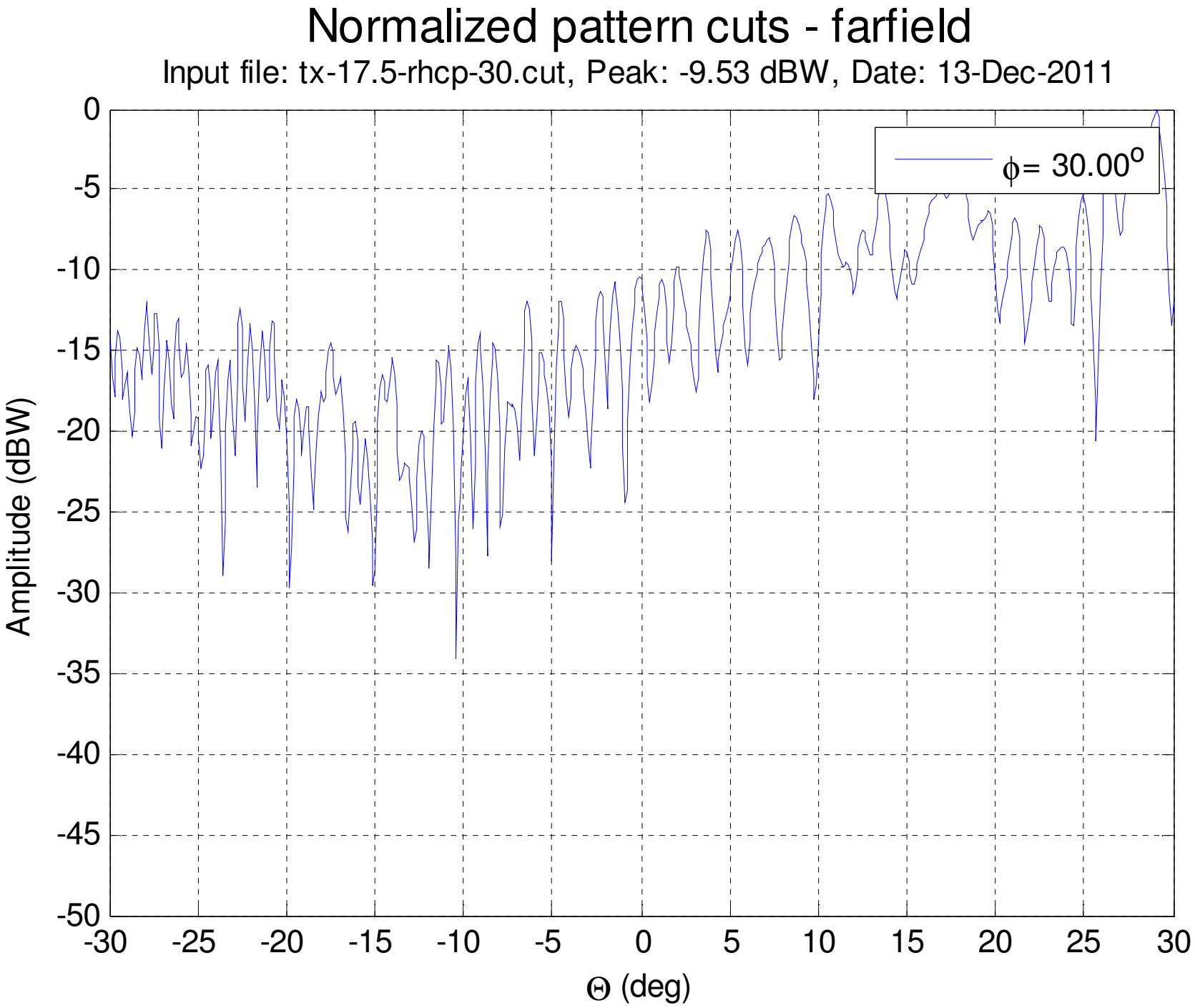

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -6.13 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

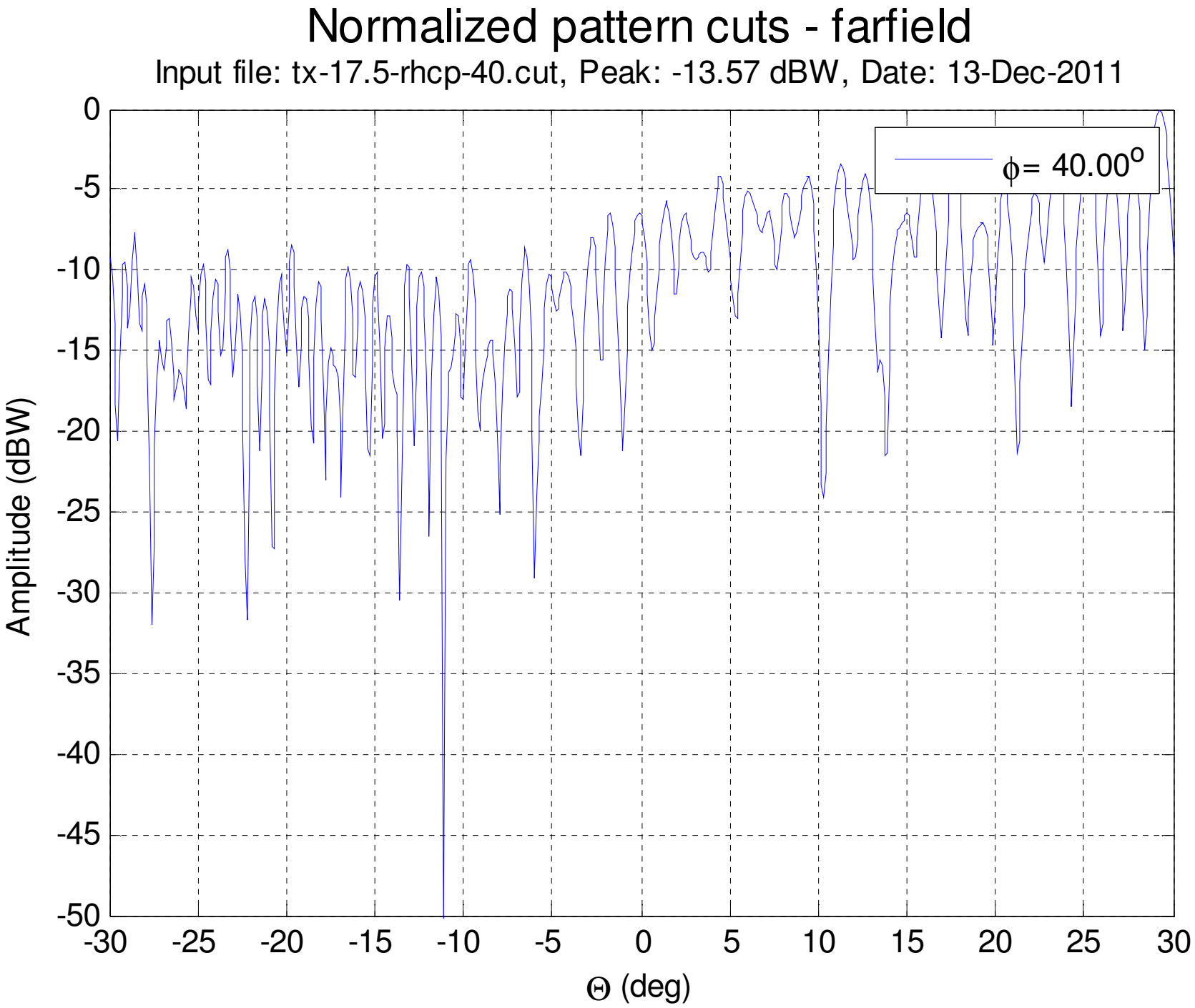

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -6.34 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

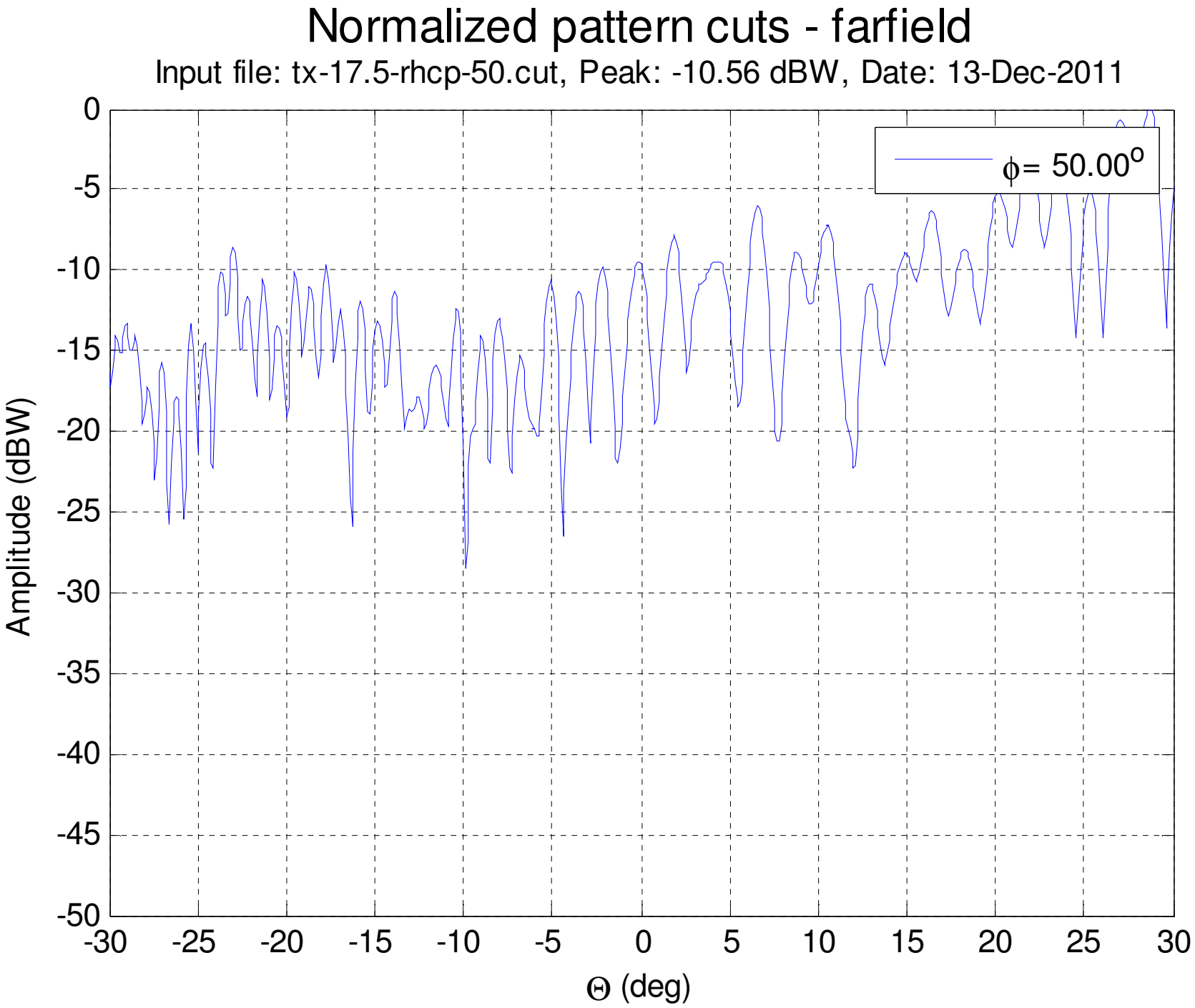

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -6.42 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

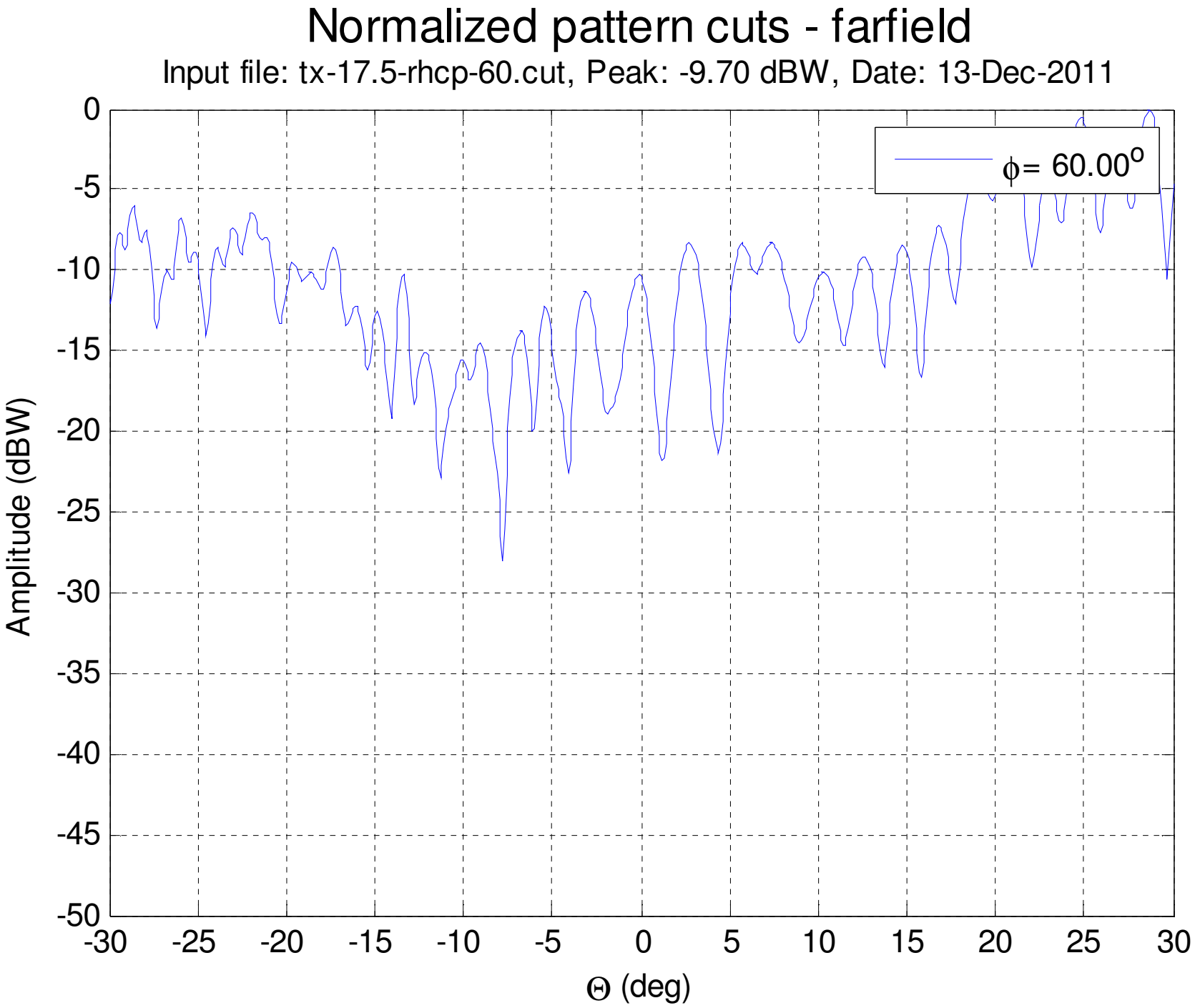

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -6.61 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -7.14 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

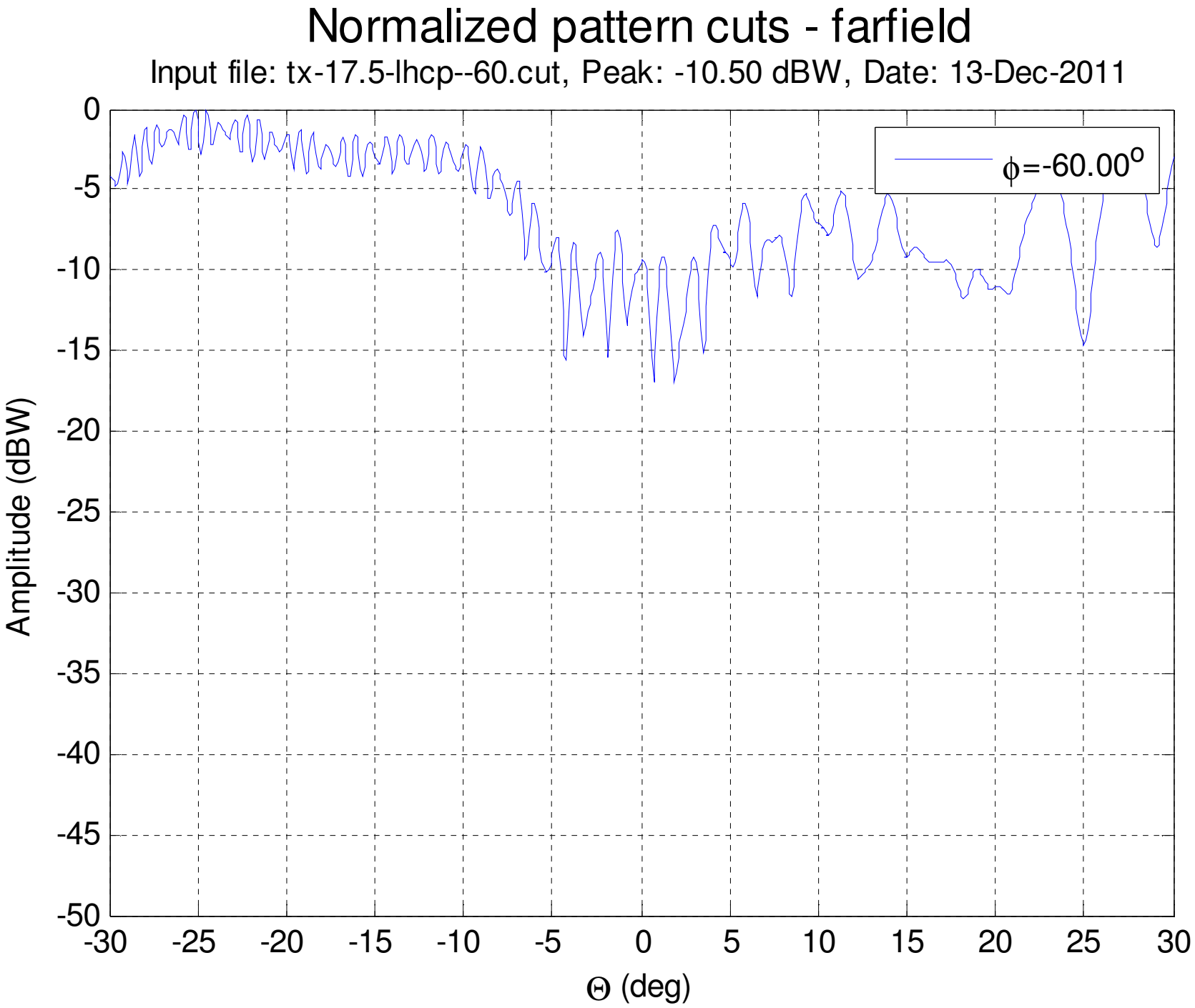

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -9.53 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

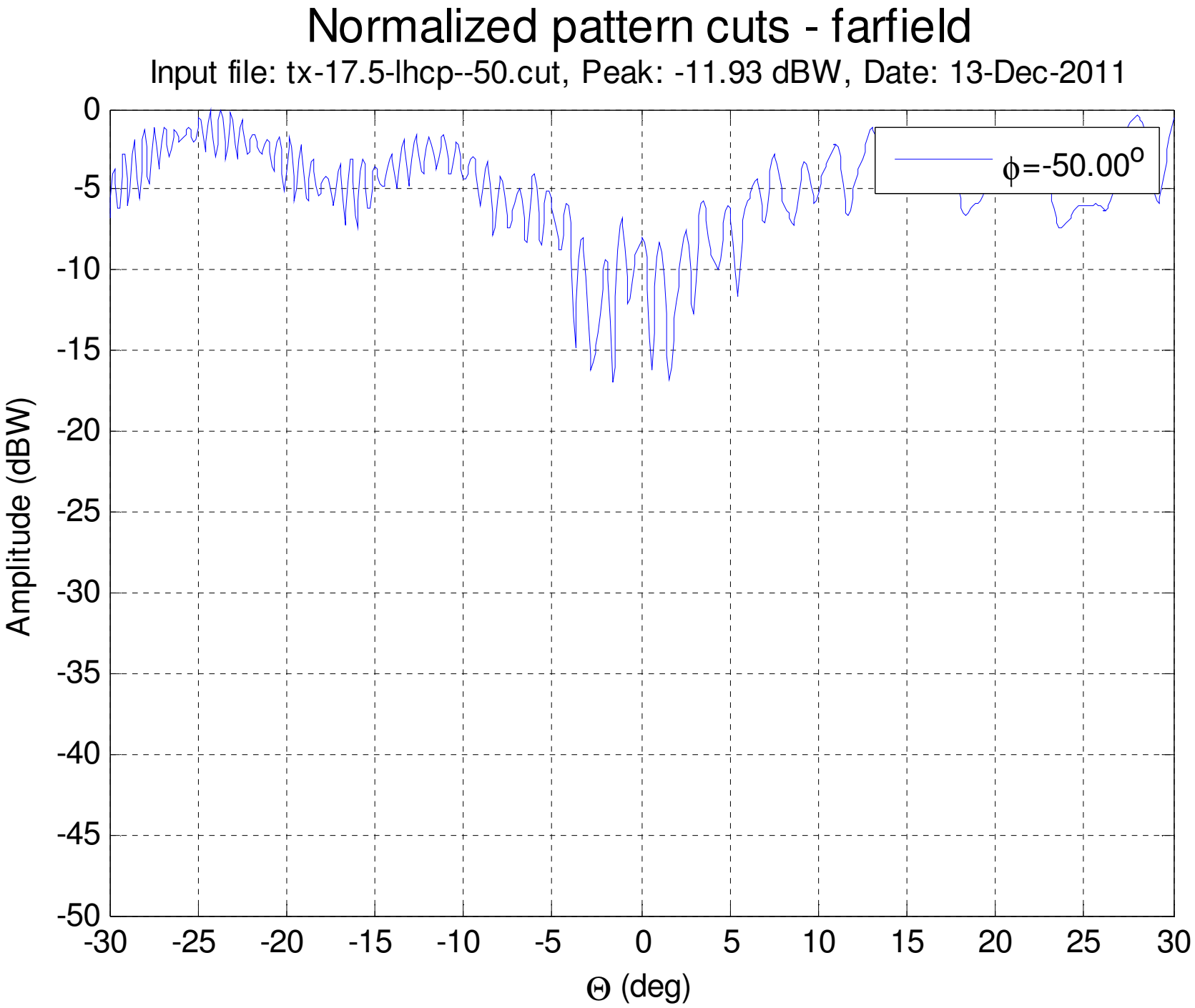

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -13.57 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

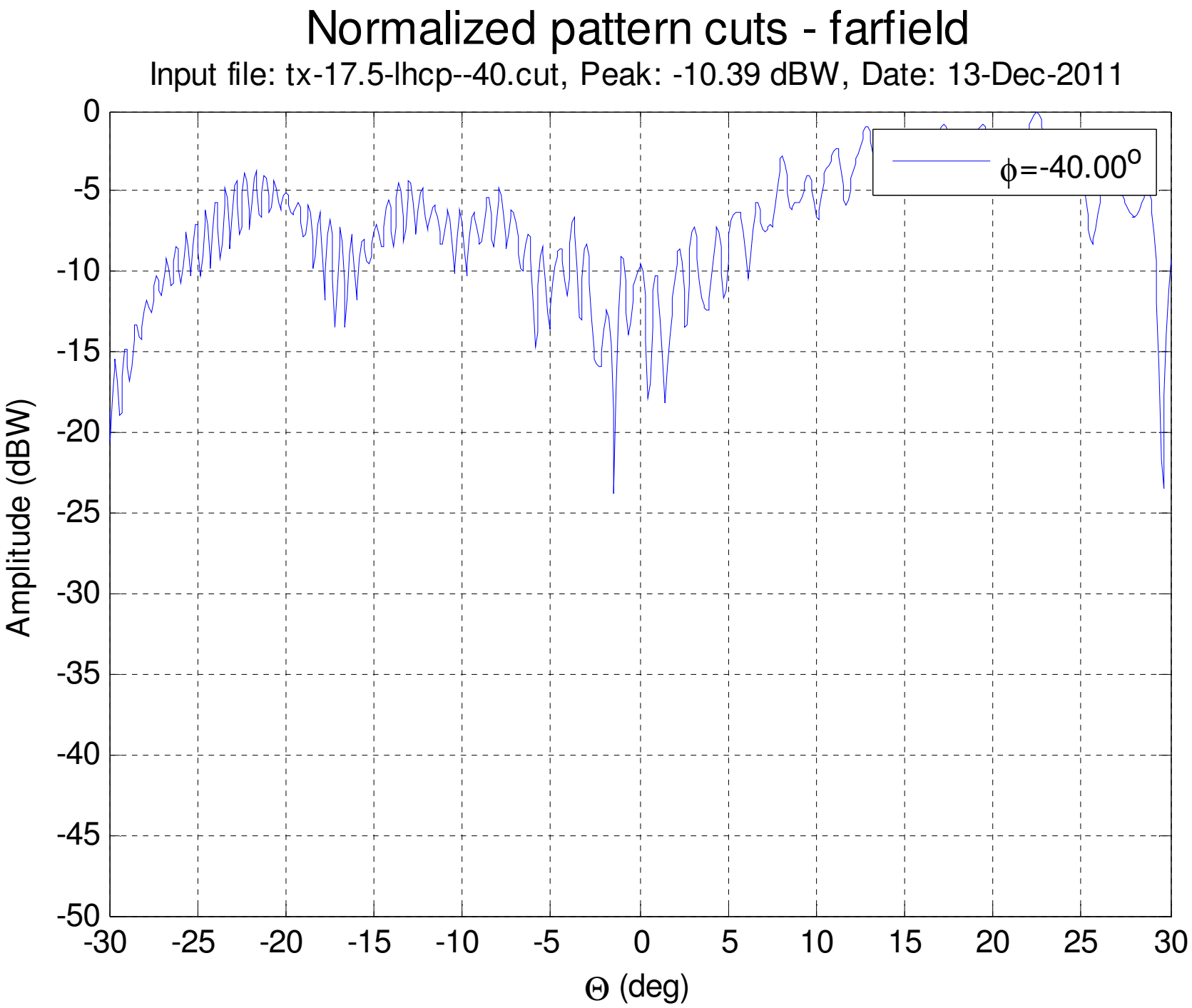

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -10.56 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

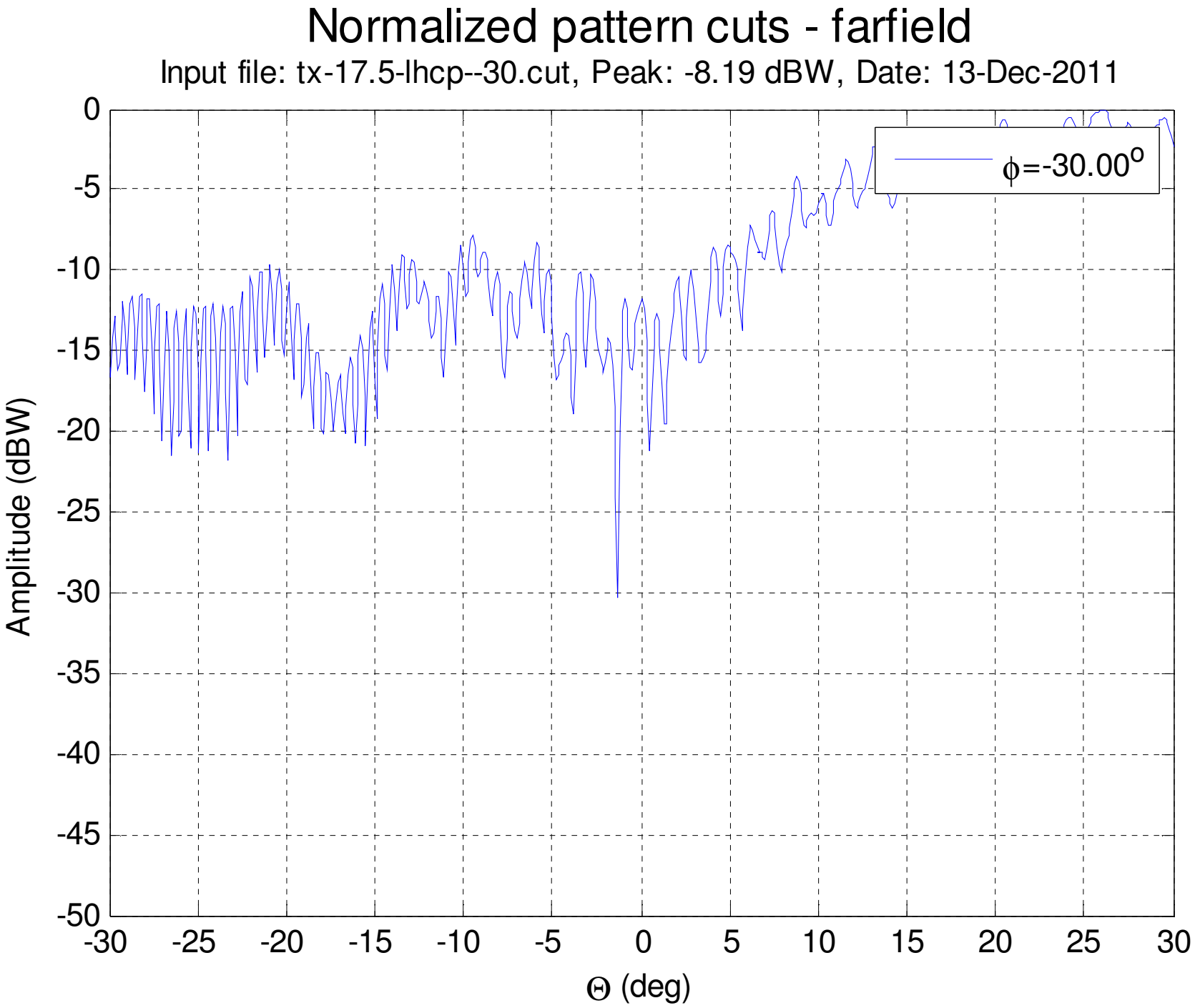

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.70 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

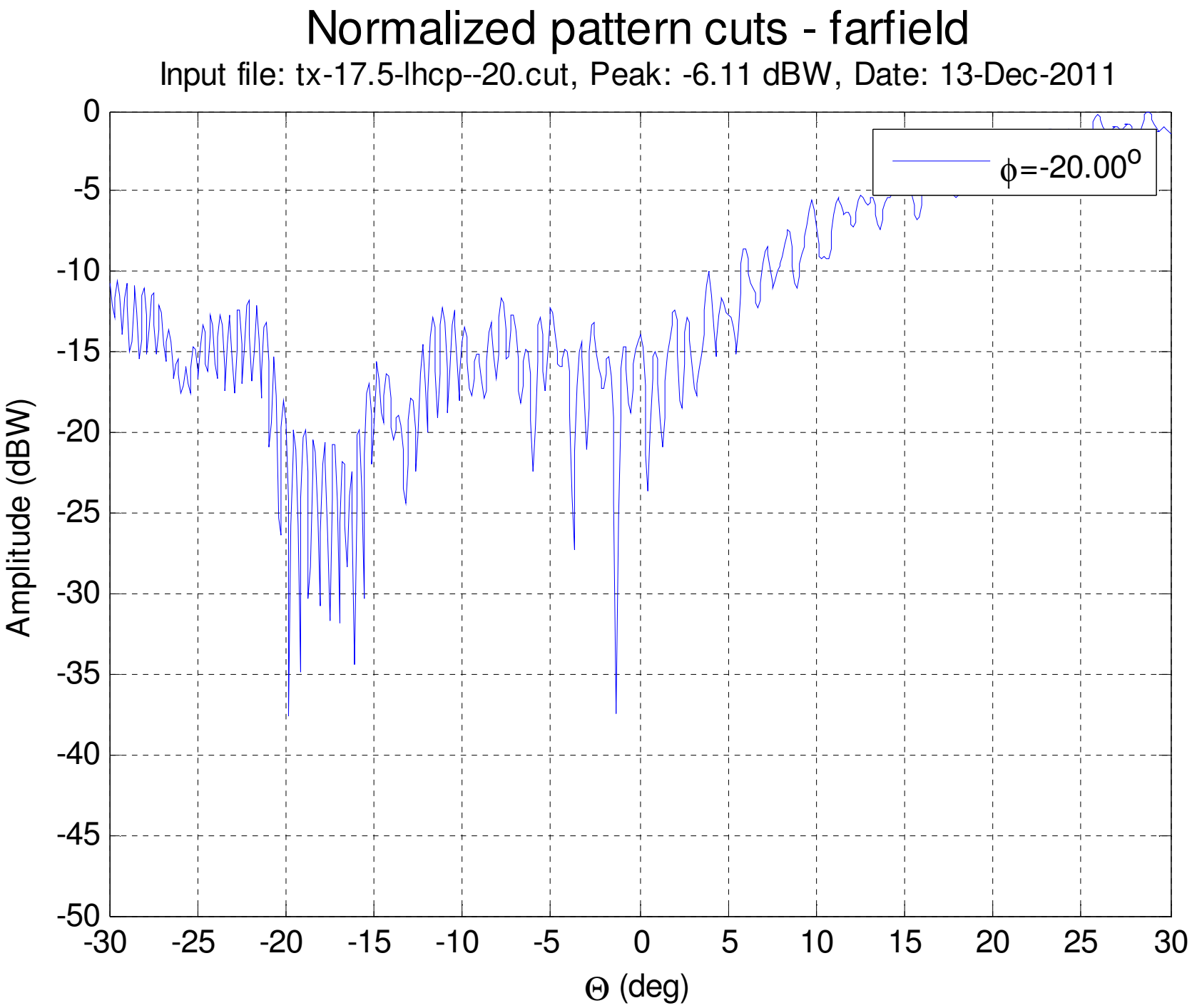
LHCP at 17.5 GHz

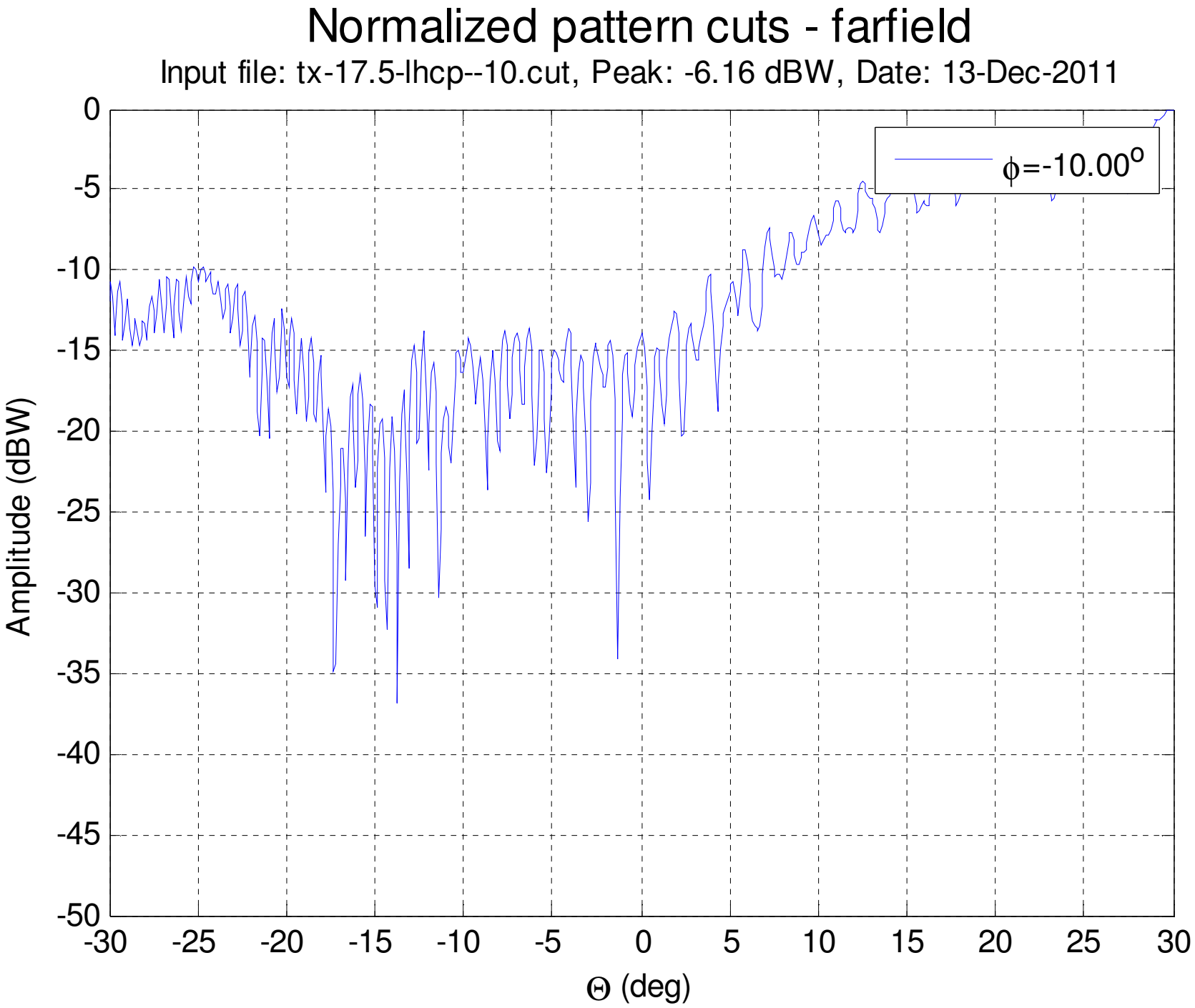

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -10.50 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

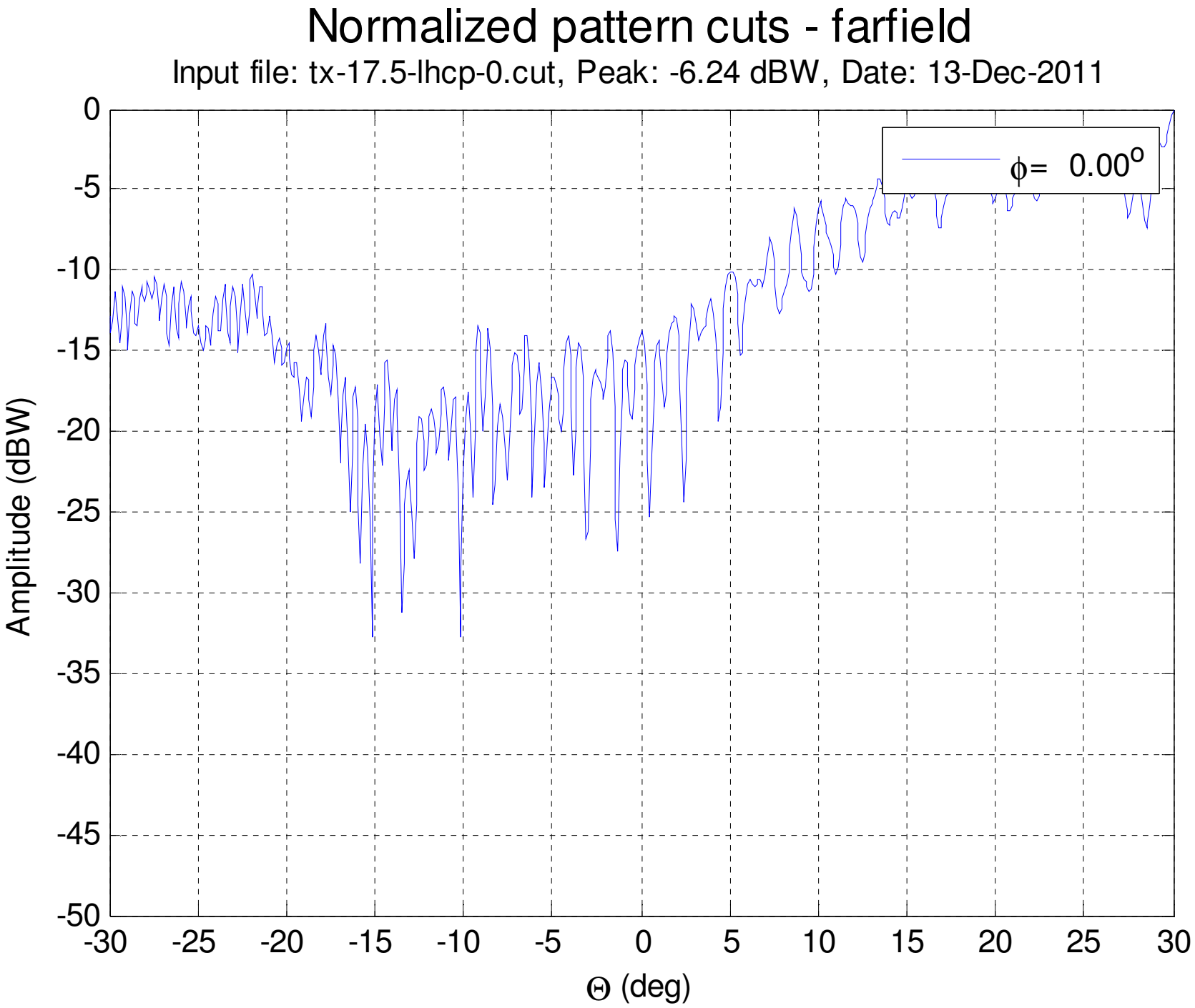

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -11.93 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

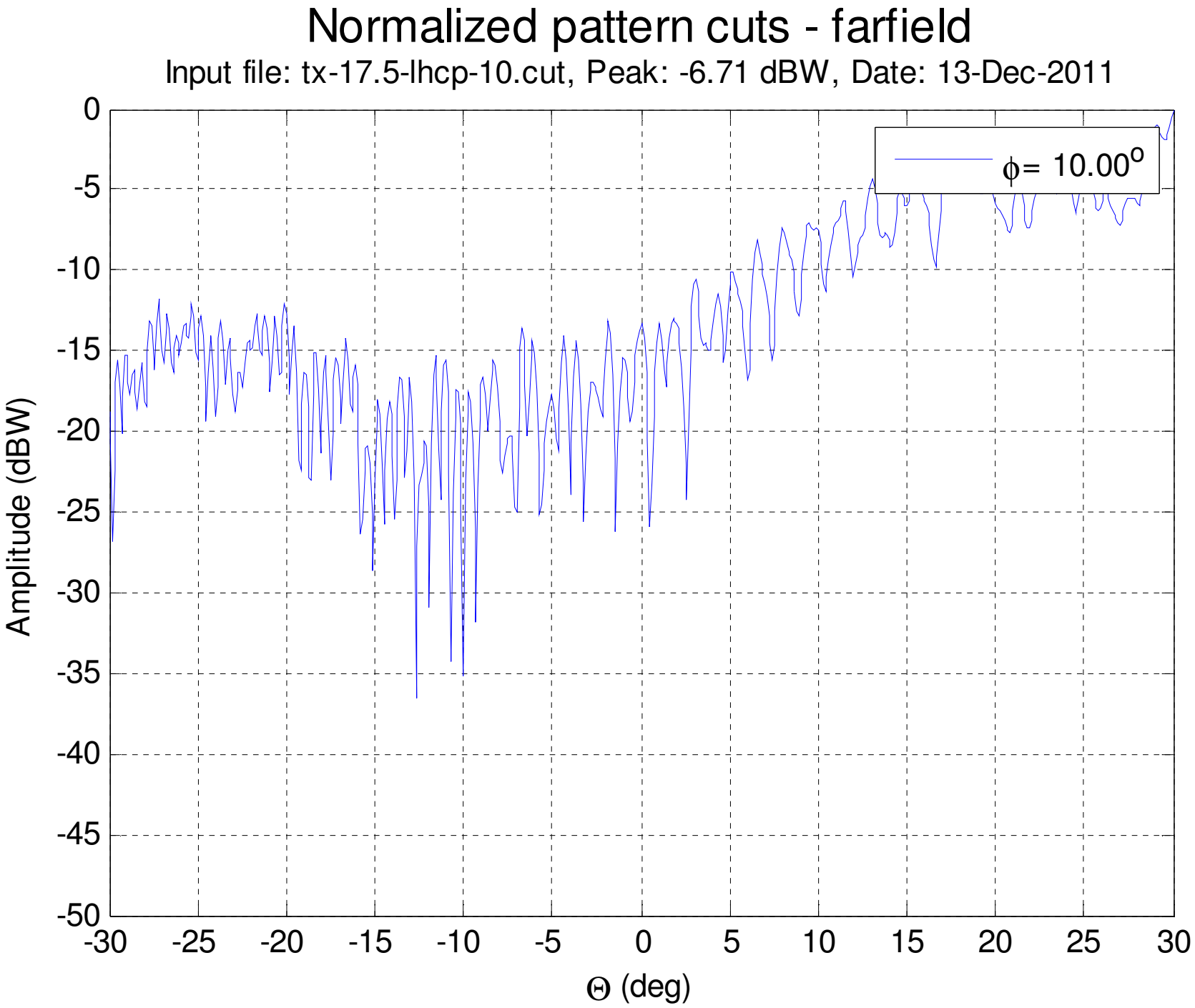

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -10.39 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

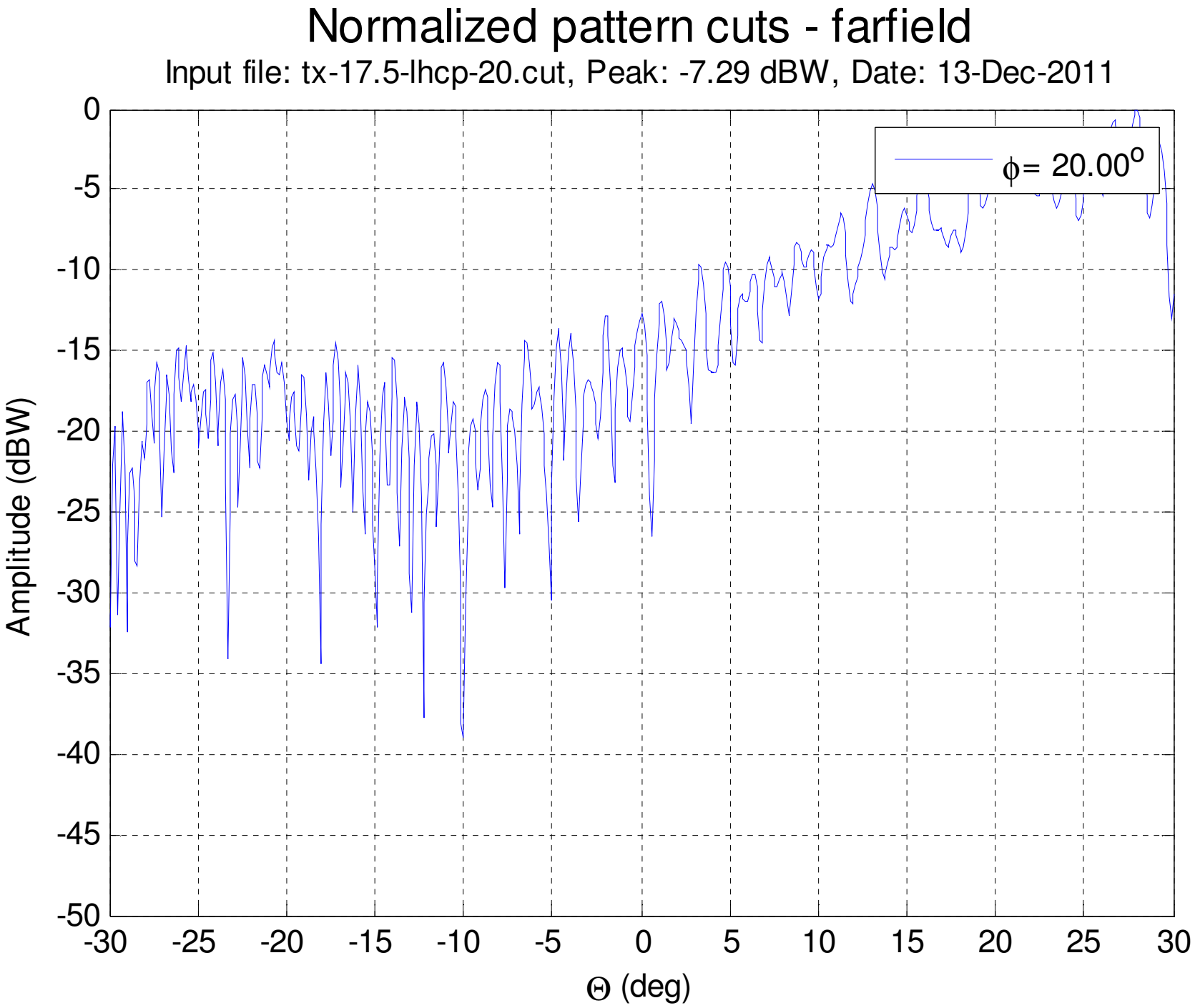

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -8.19 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

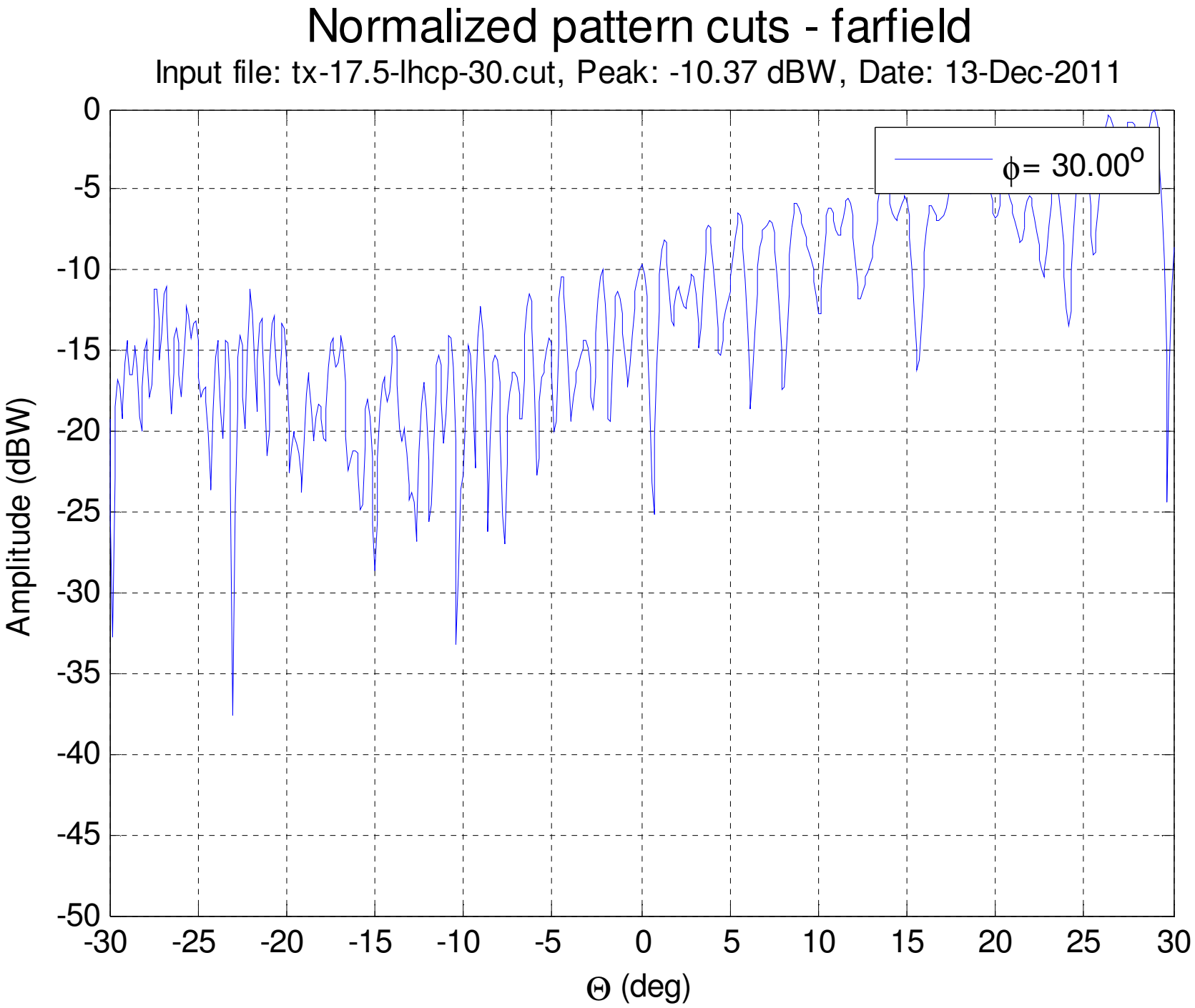

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -6.11 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

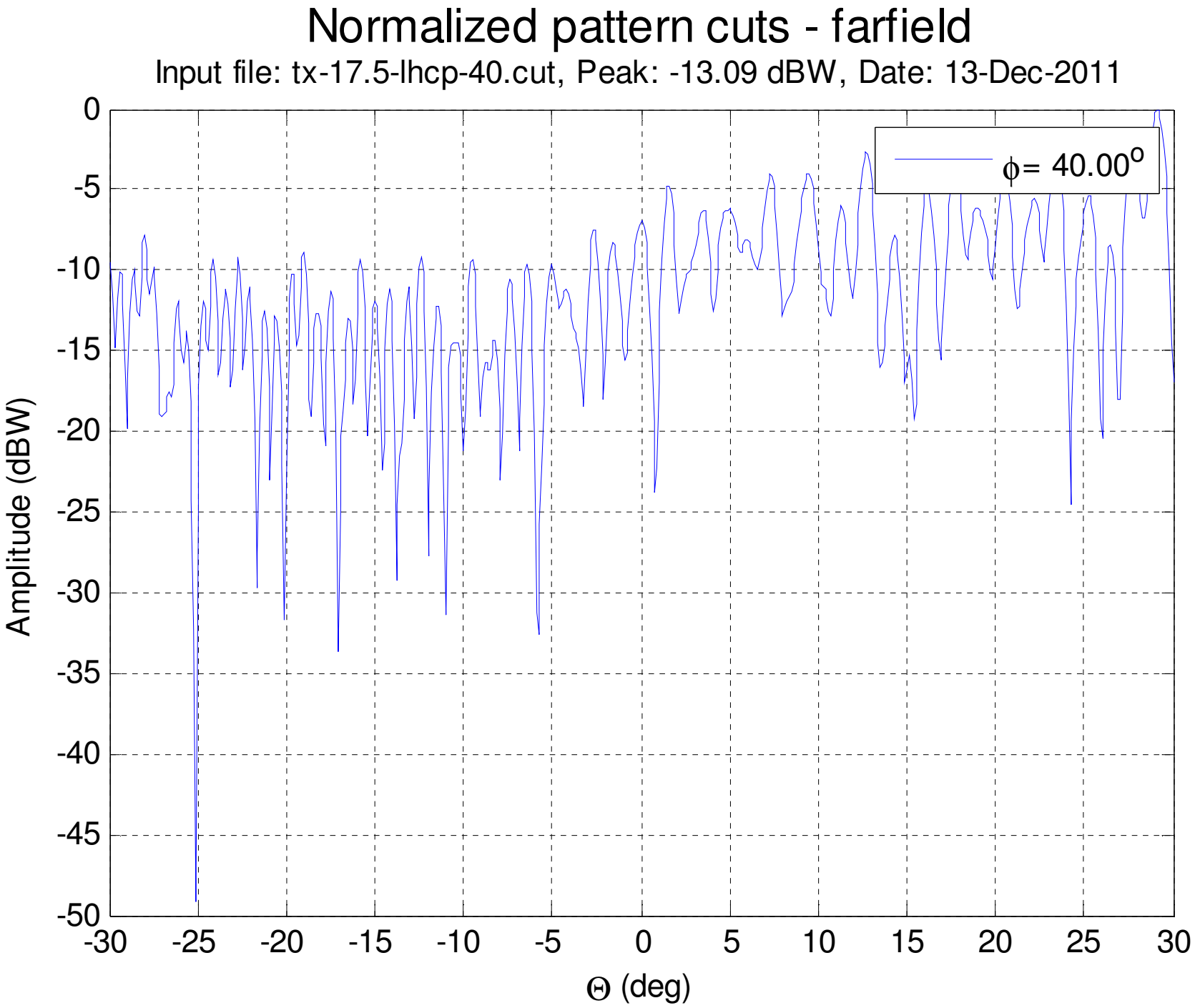

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -6.16 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

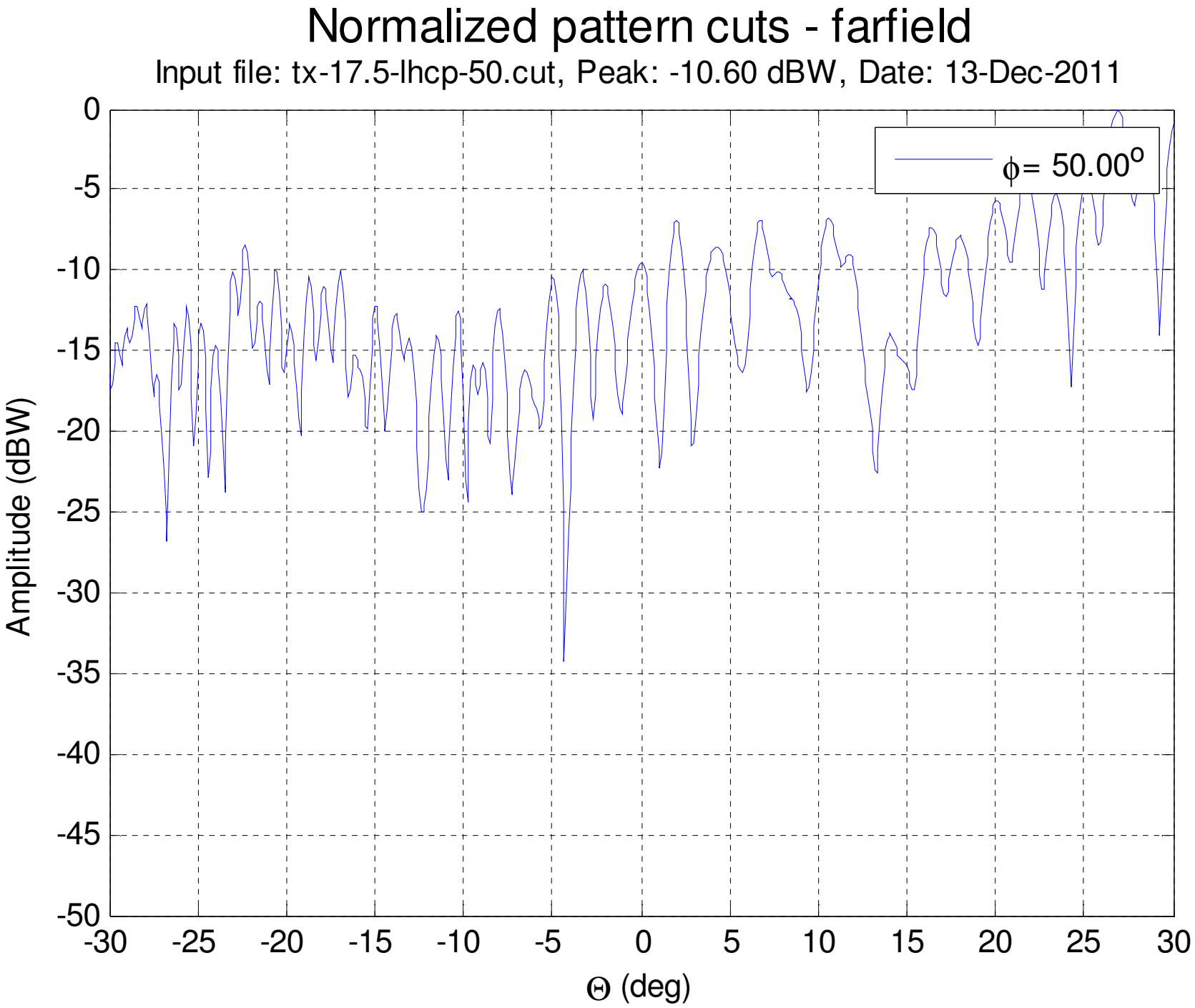

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -6.24 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

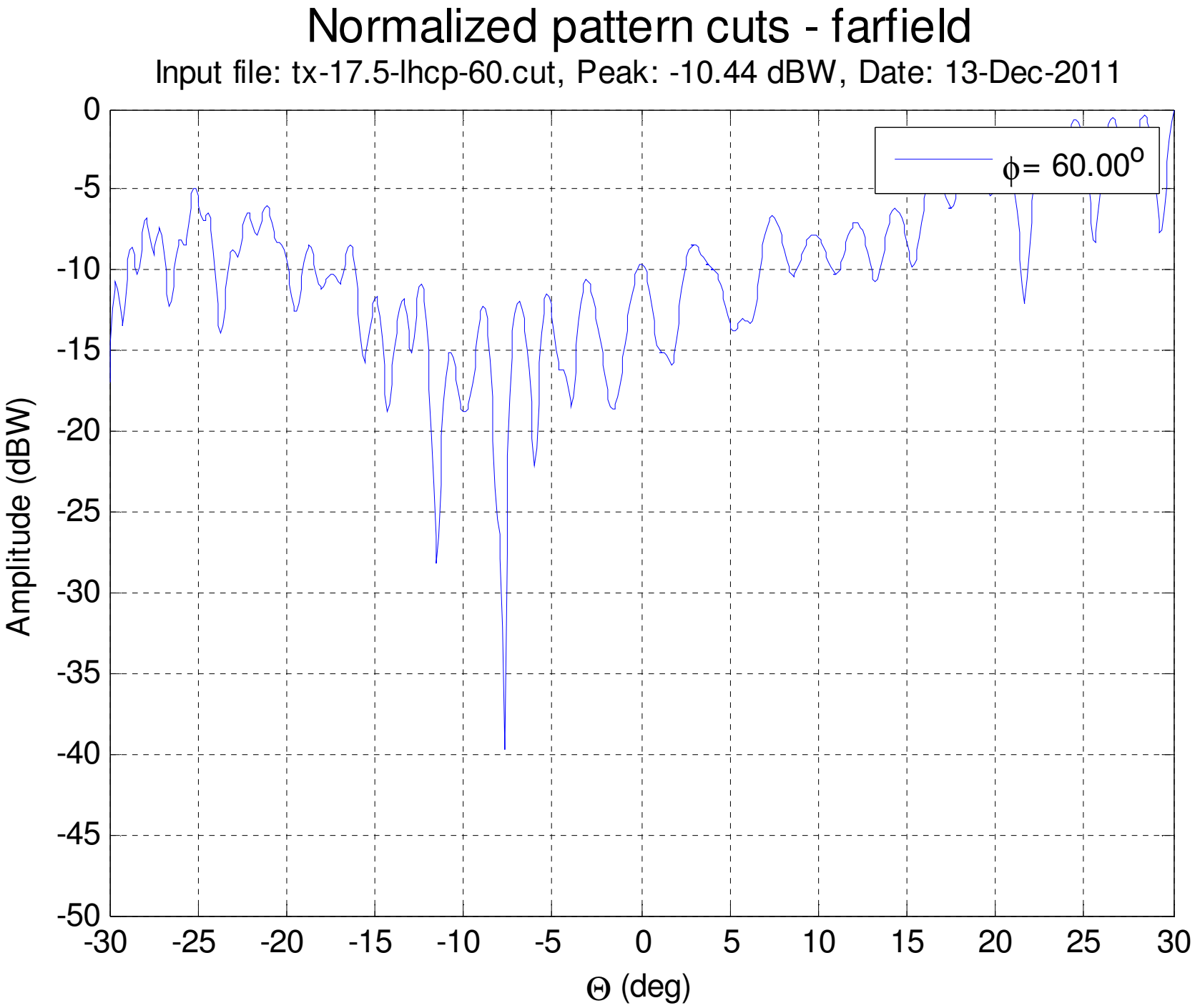

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -6.71 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.29 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

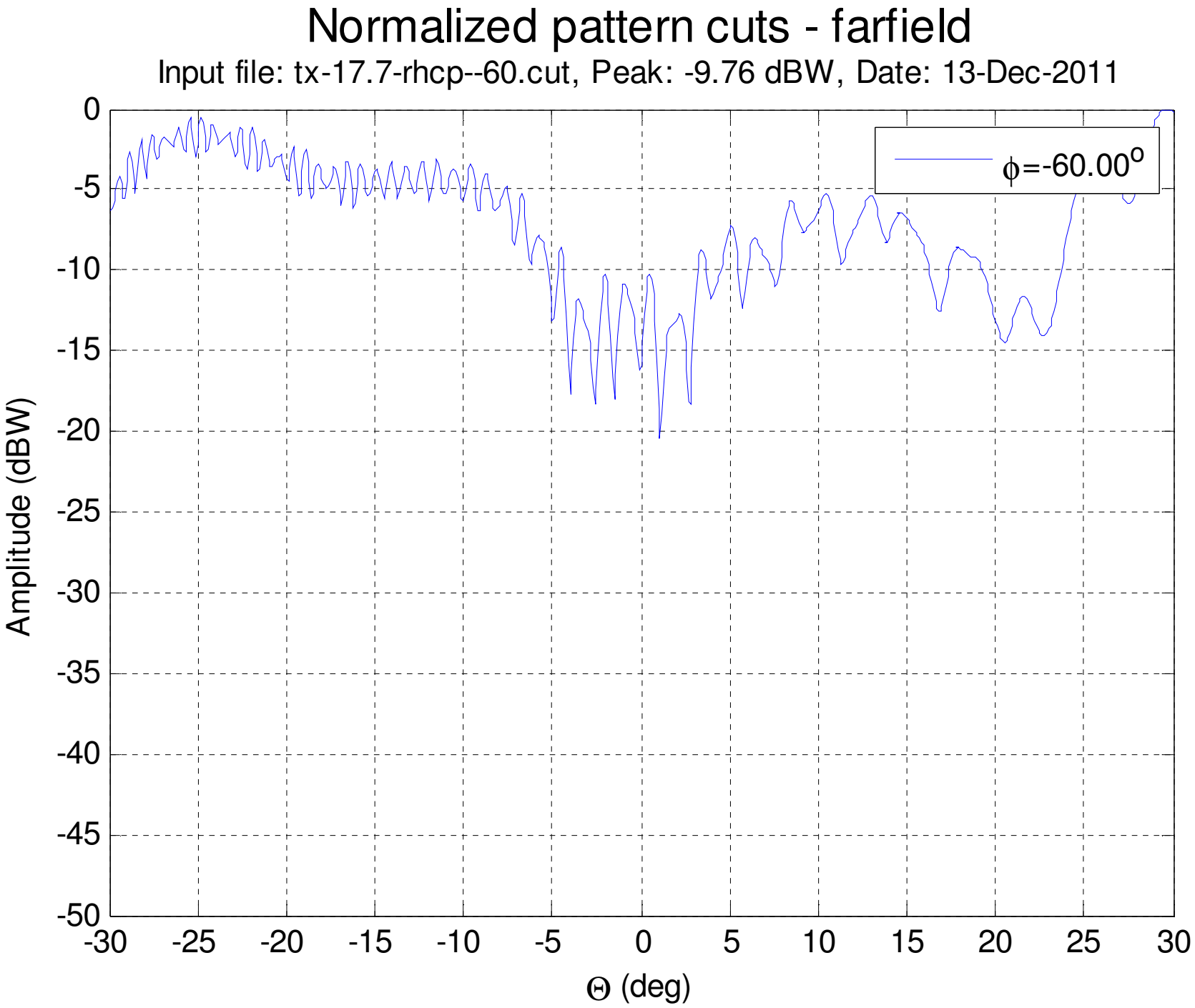

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -10.37 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

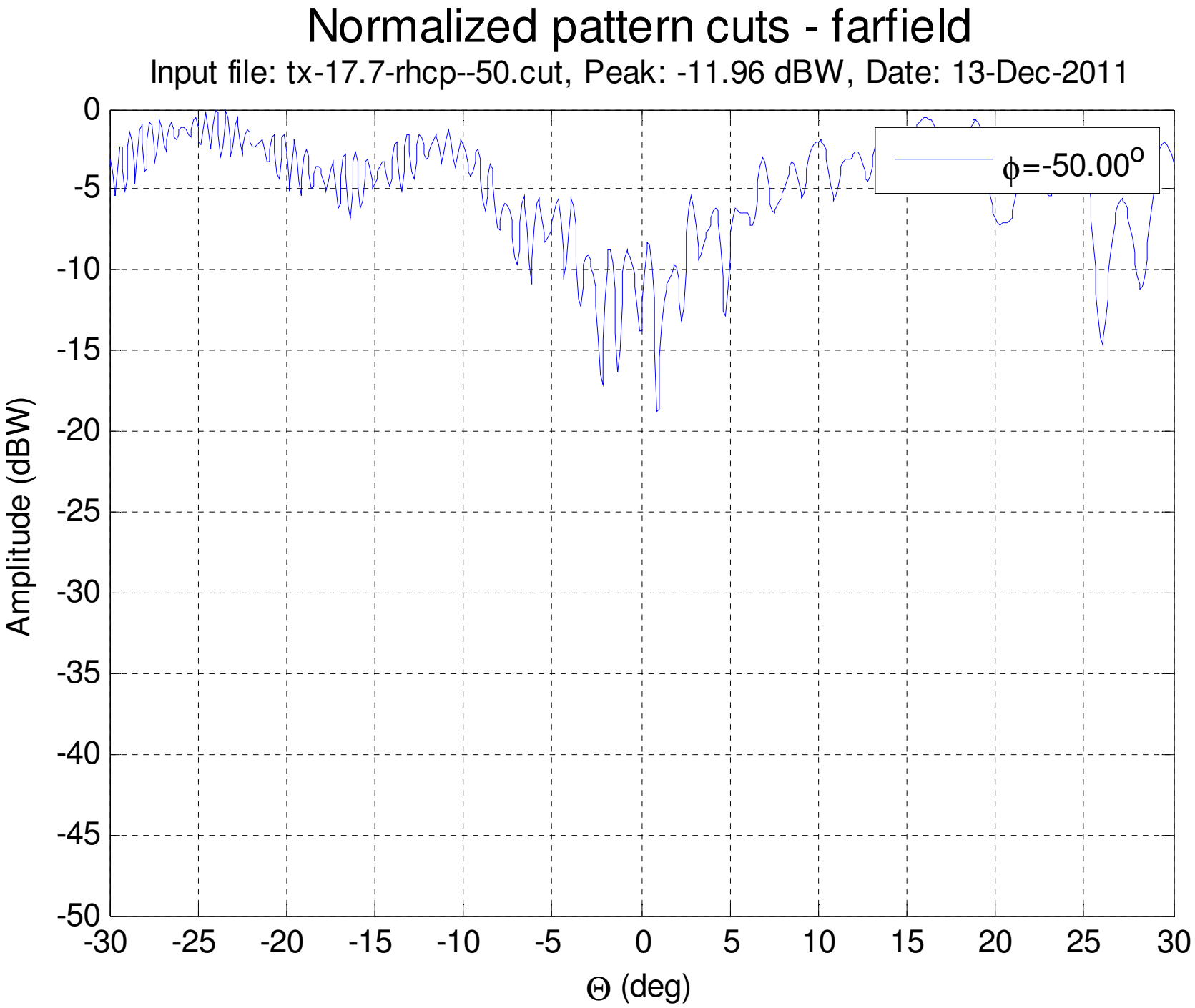

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -13.09 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

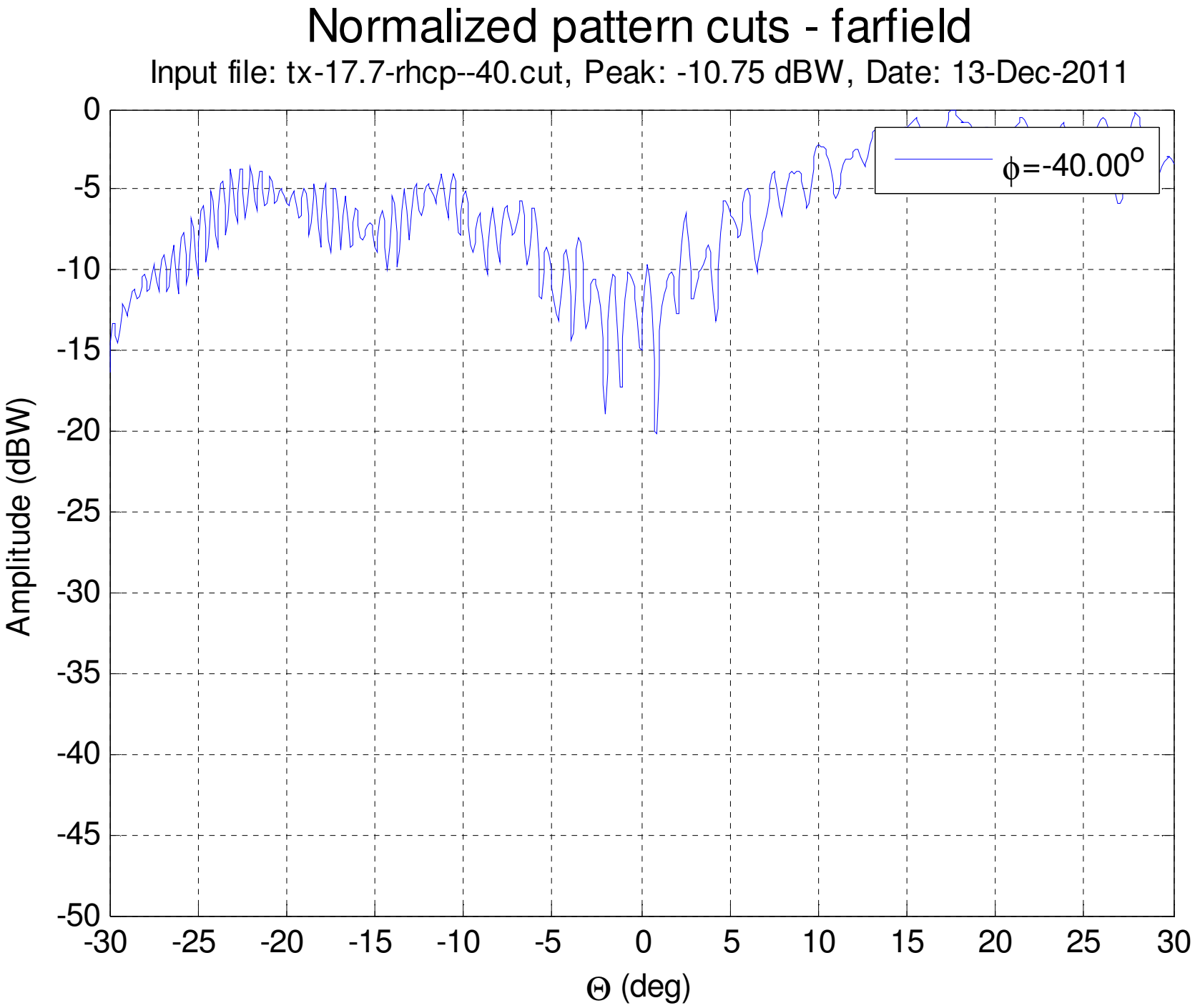

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -10.60 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

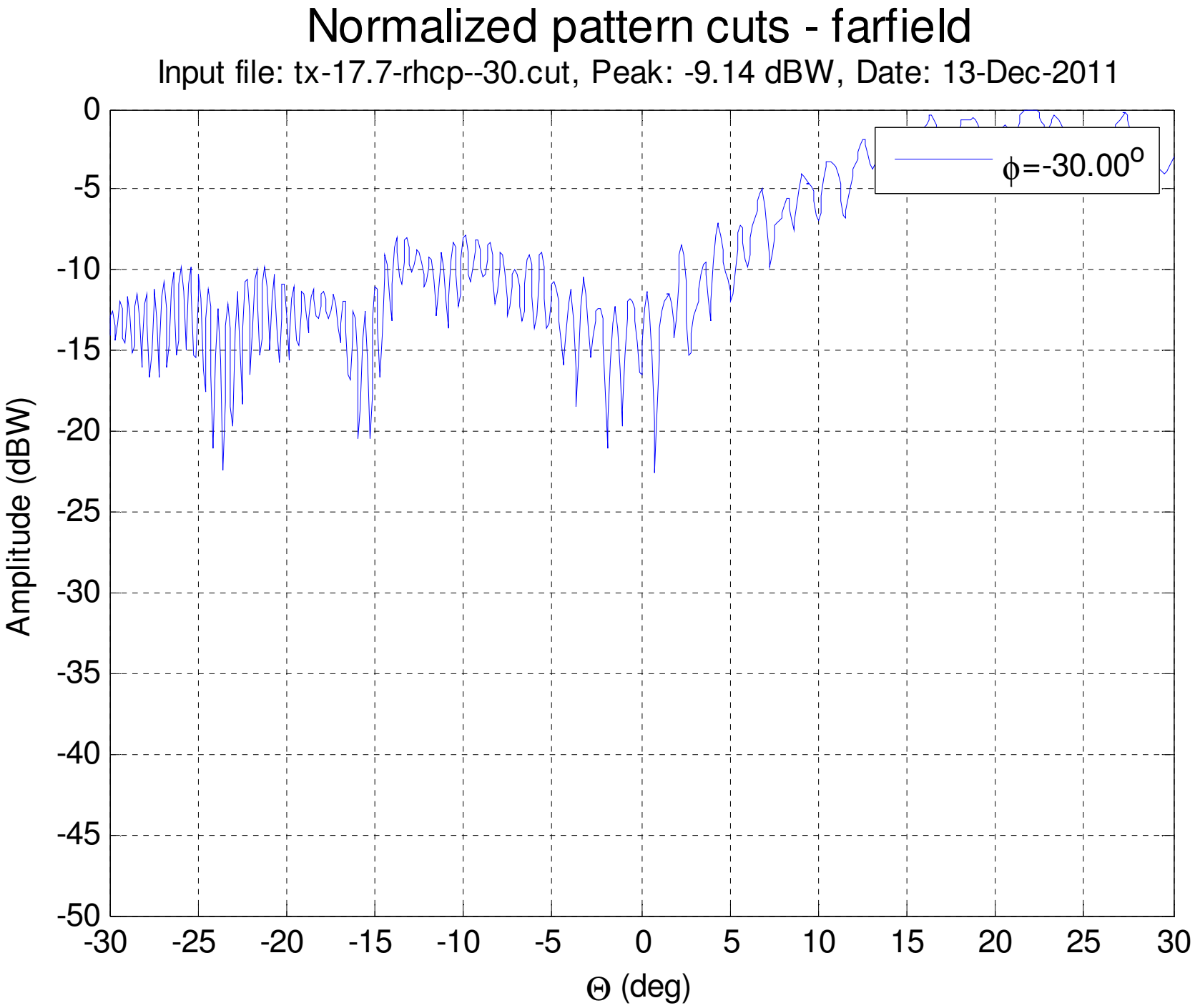

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -10.44 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

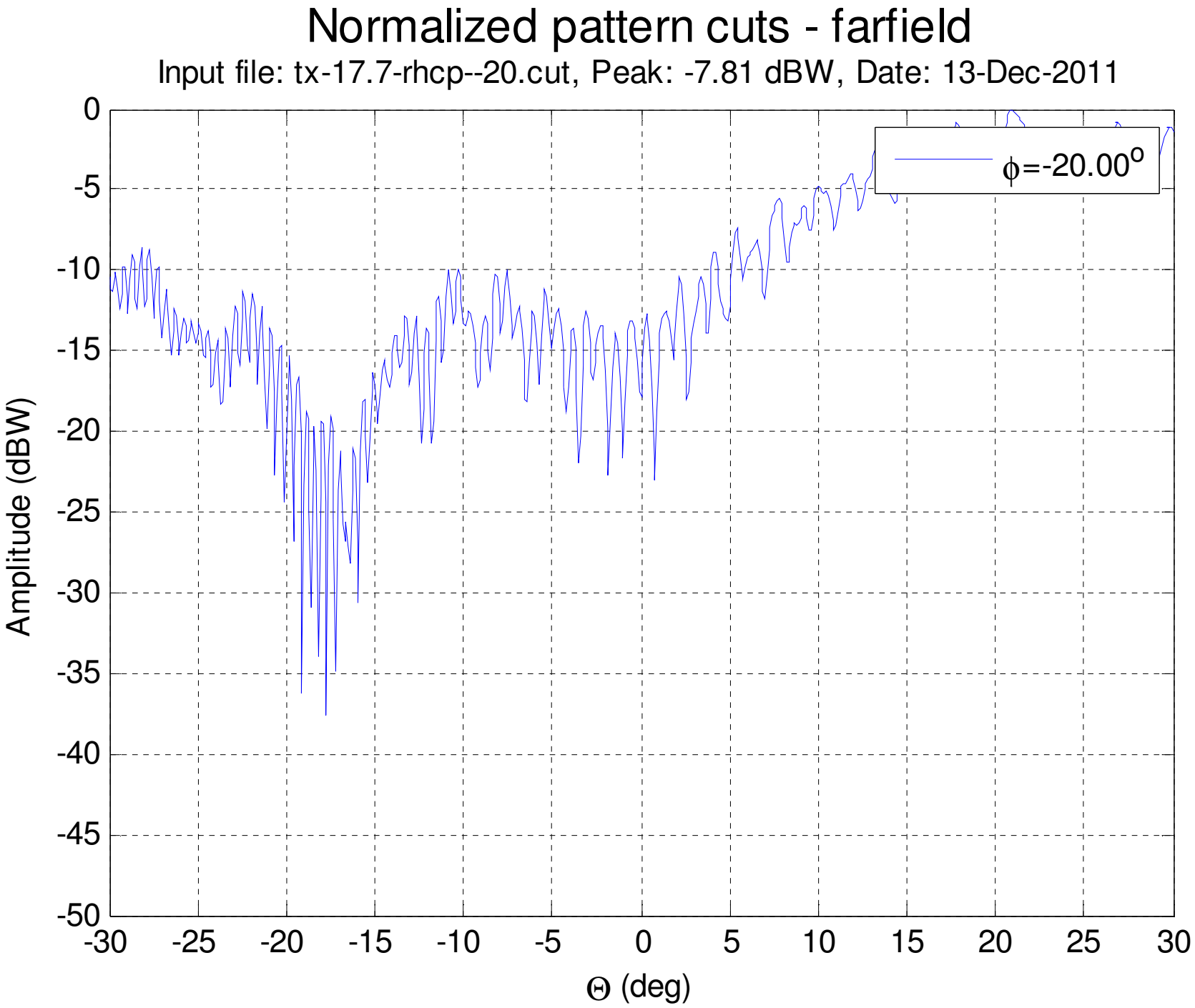
RHCP at 17.7 GHz

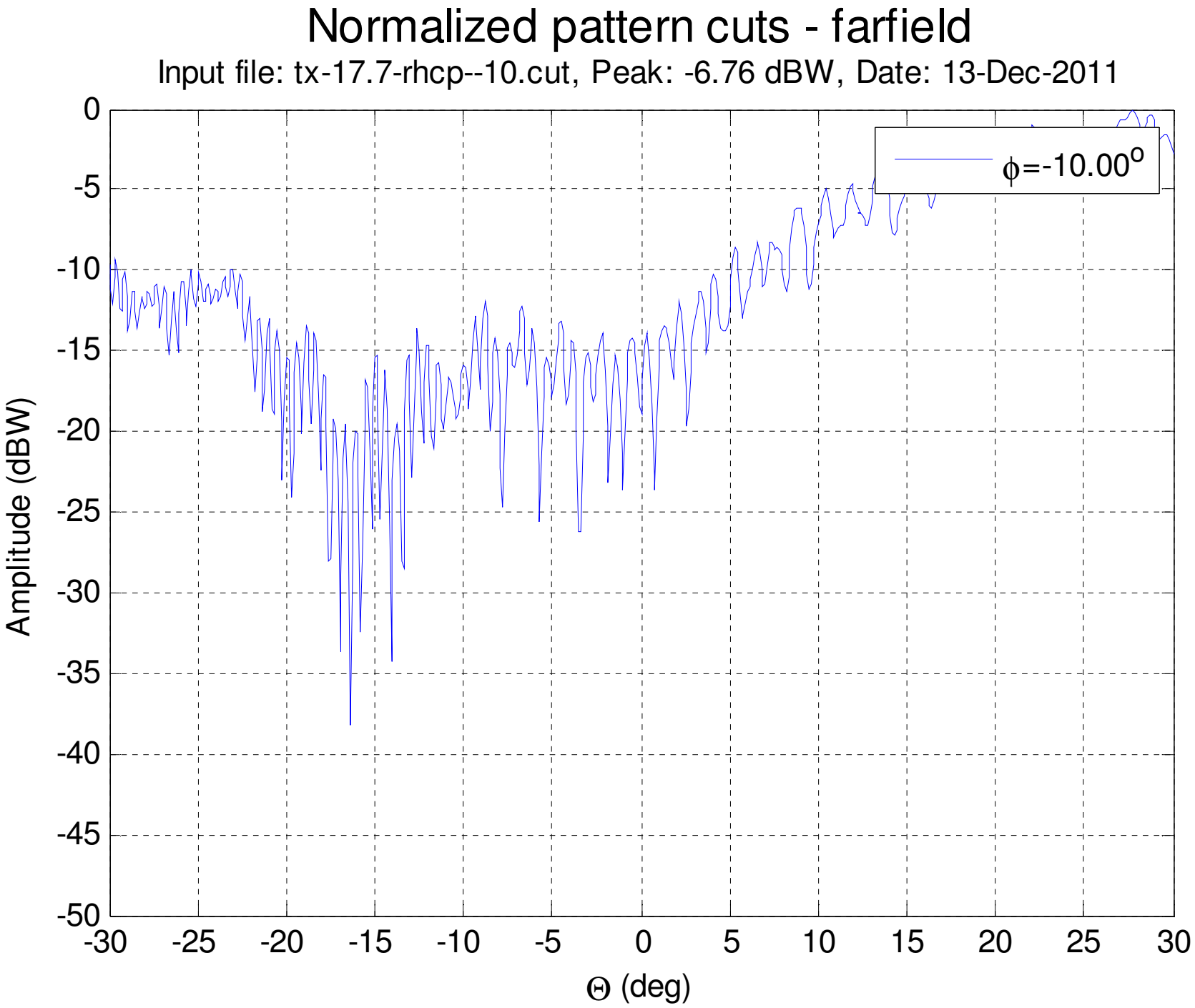

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -9.76 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

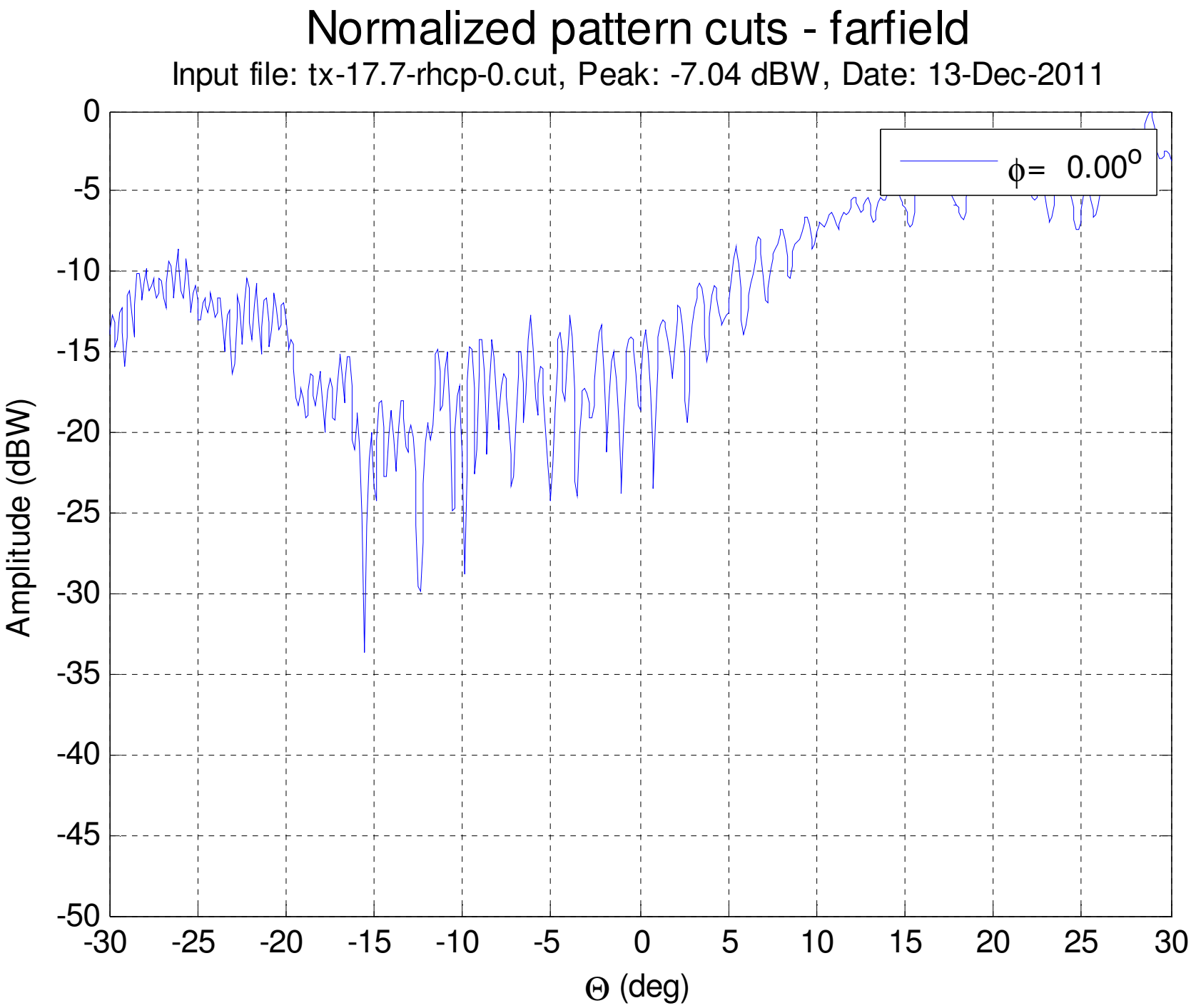

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -11.96 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

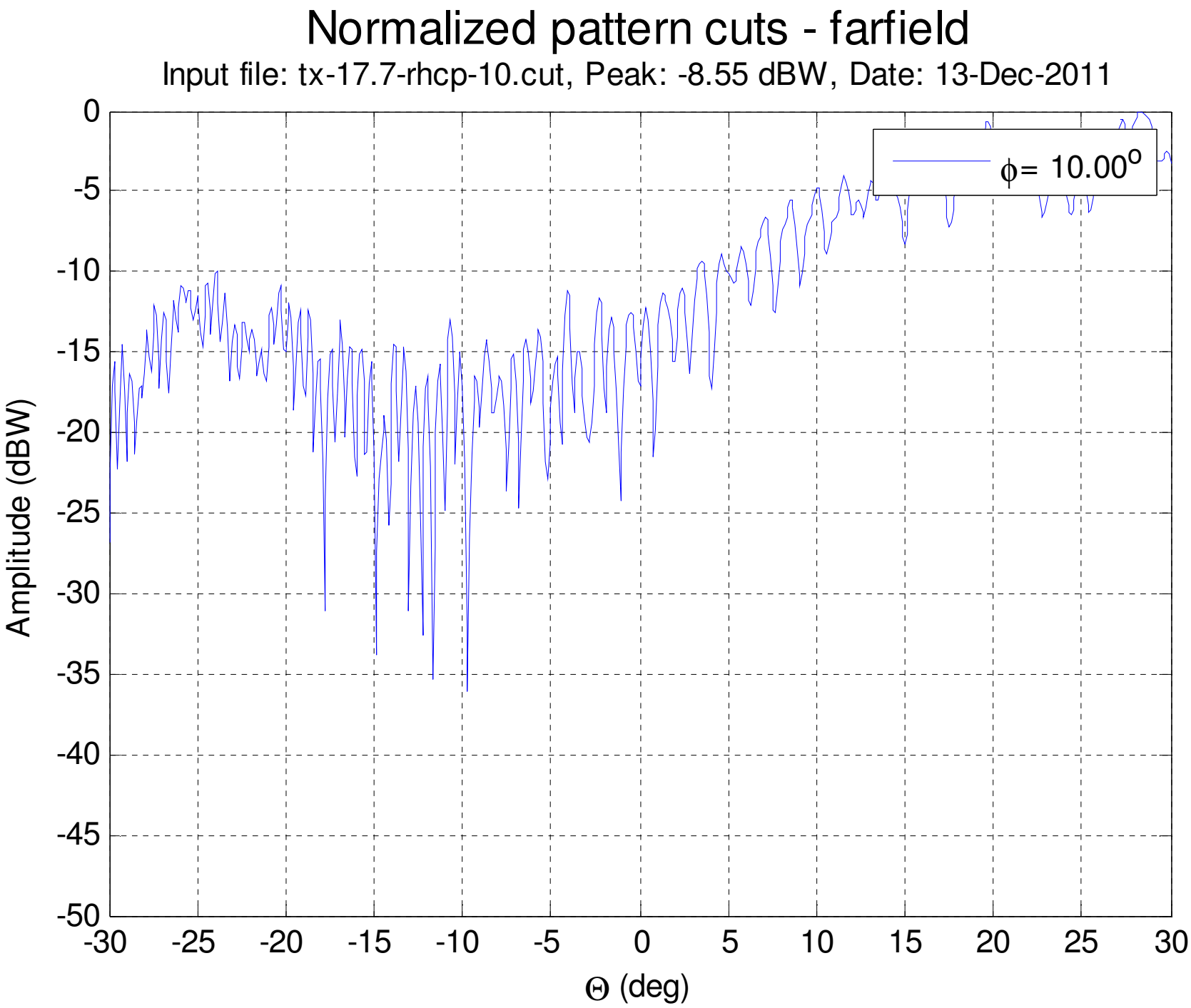

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -10.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

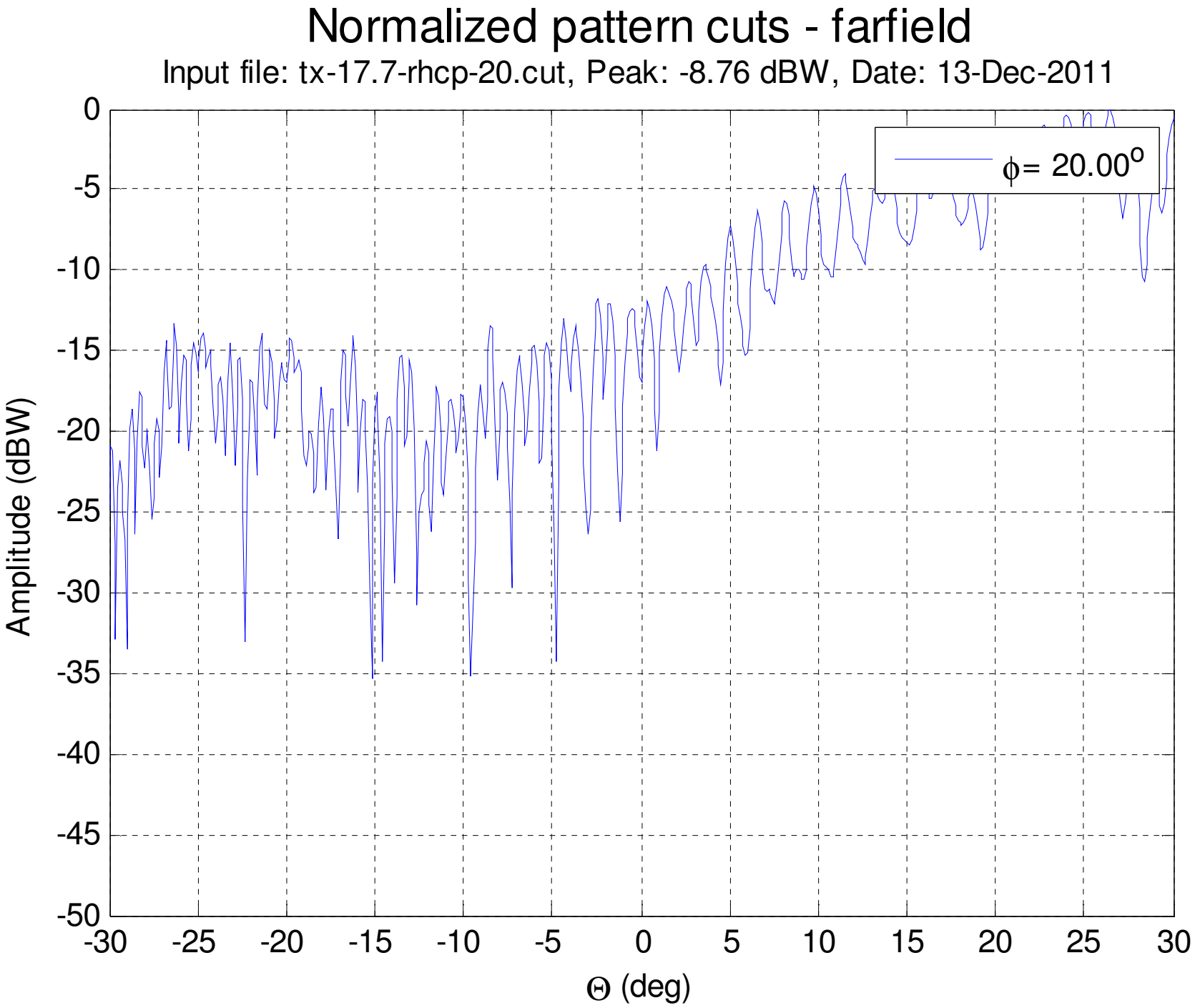

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -9.14 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

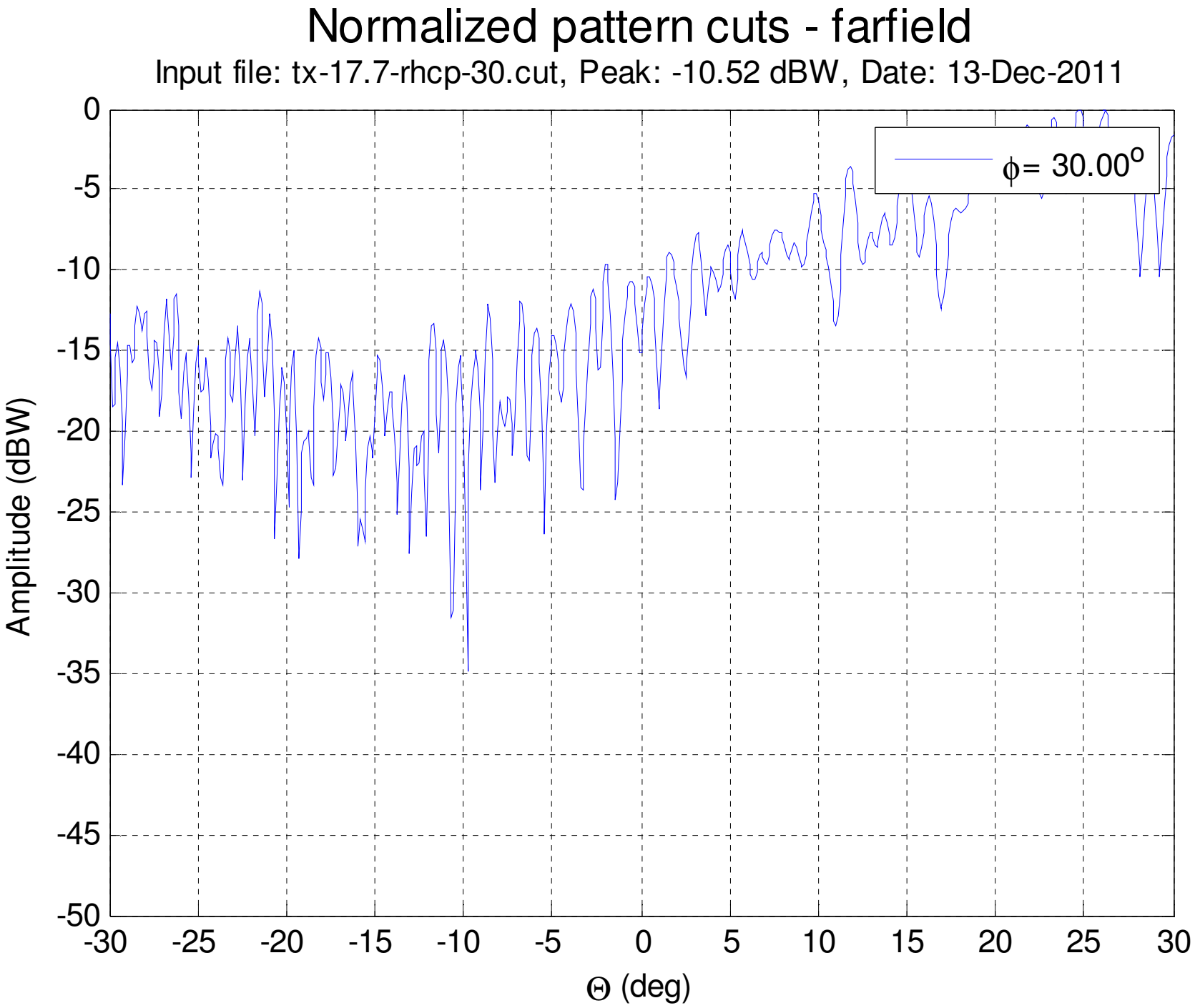

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -7.81 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

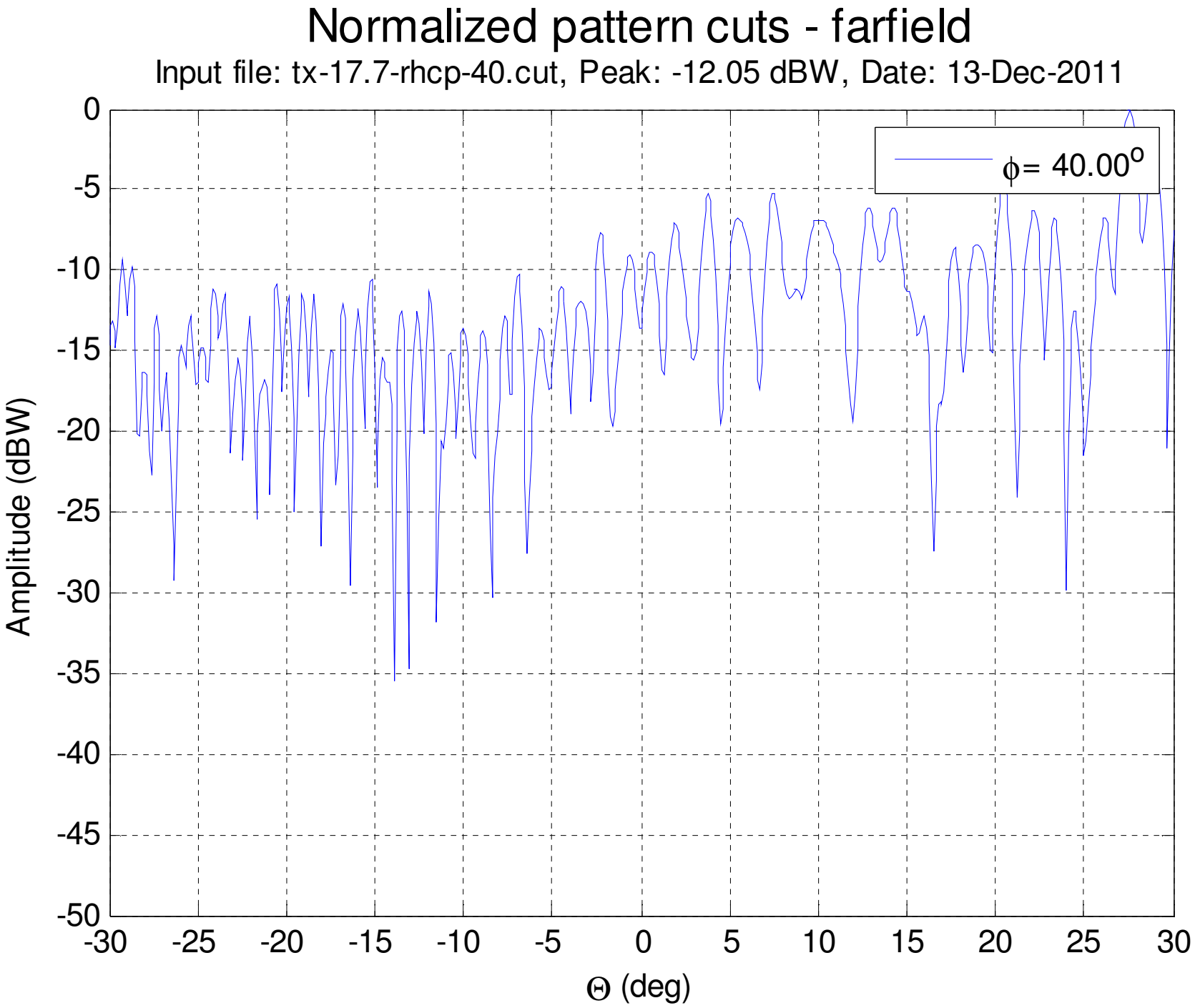

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -6.76 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

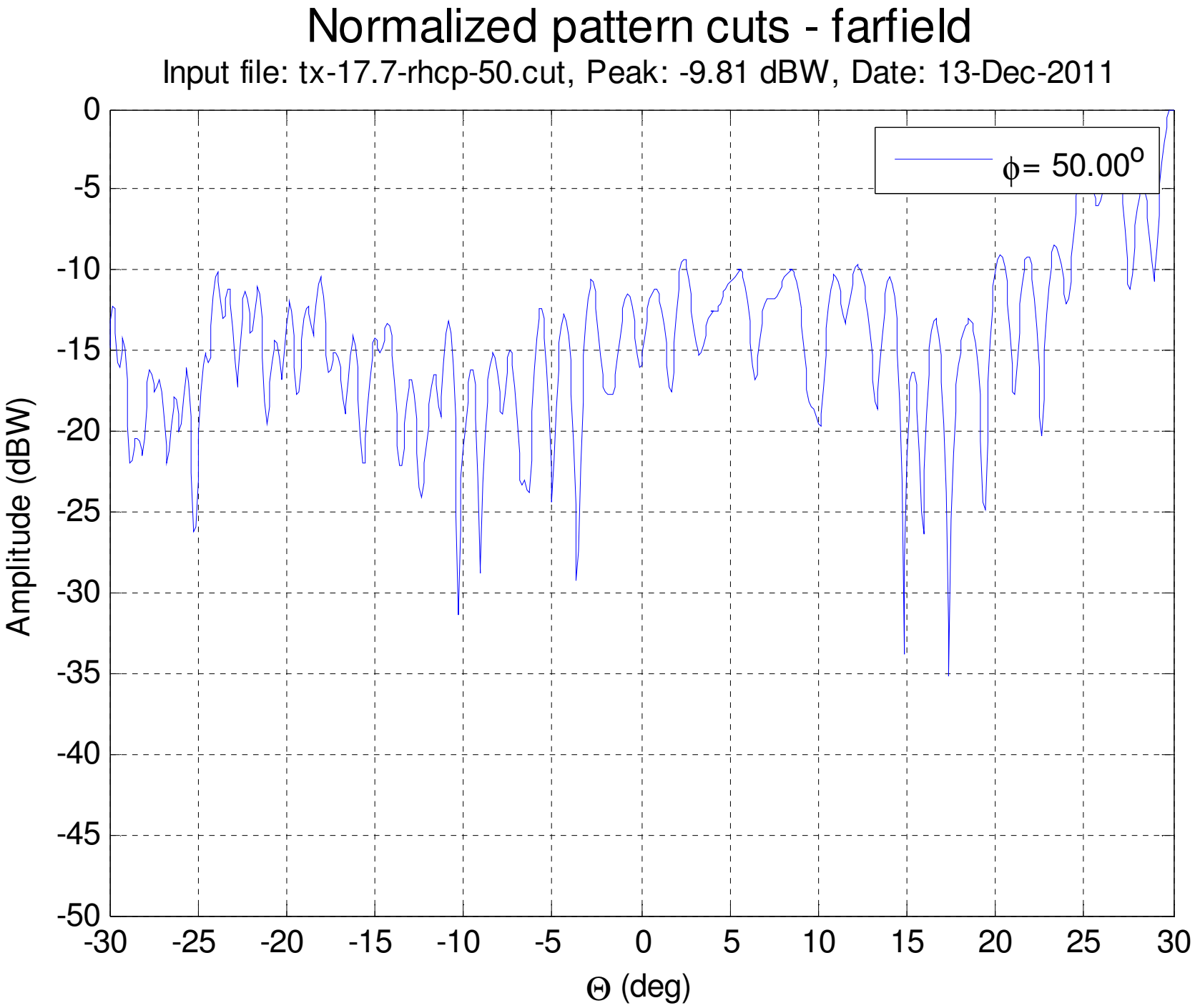

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -7.04 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

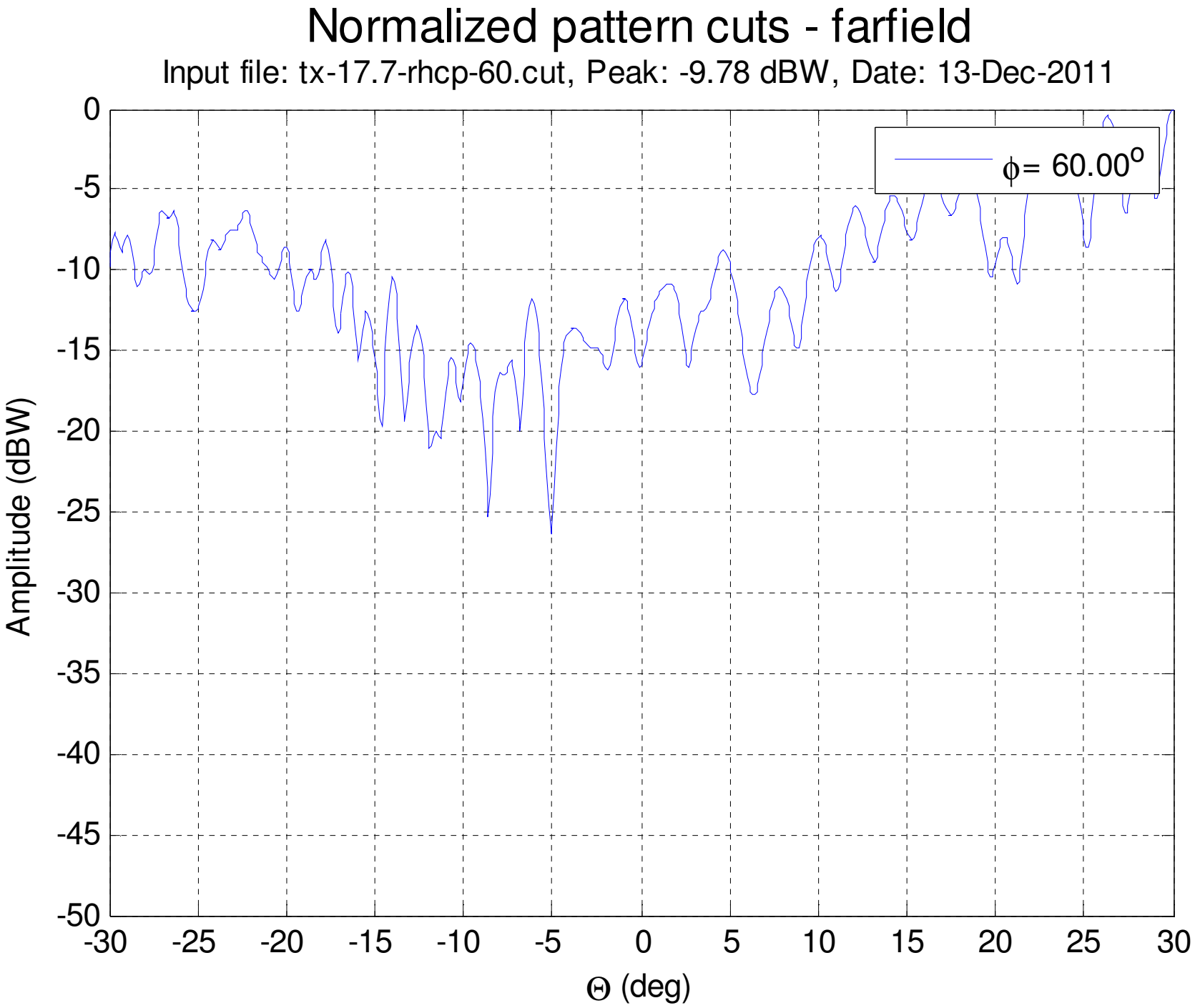

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -8.55 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -8.76 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

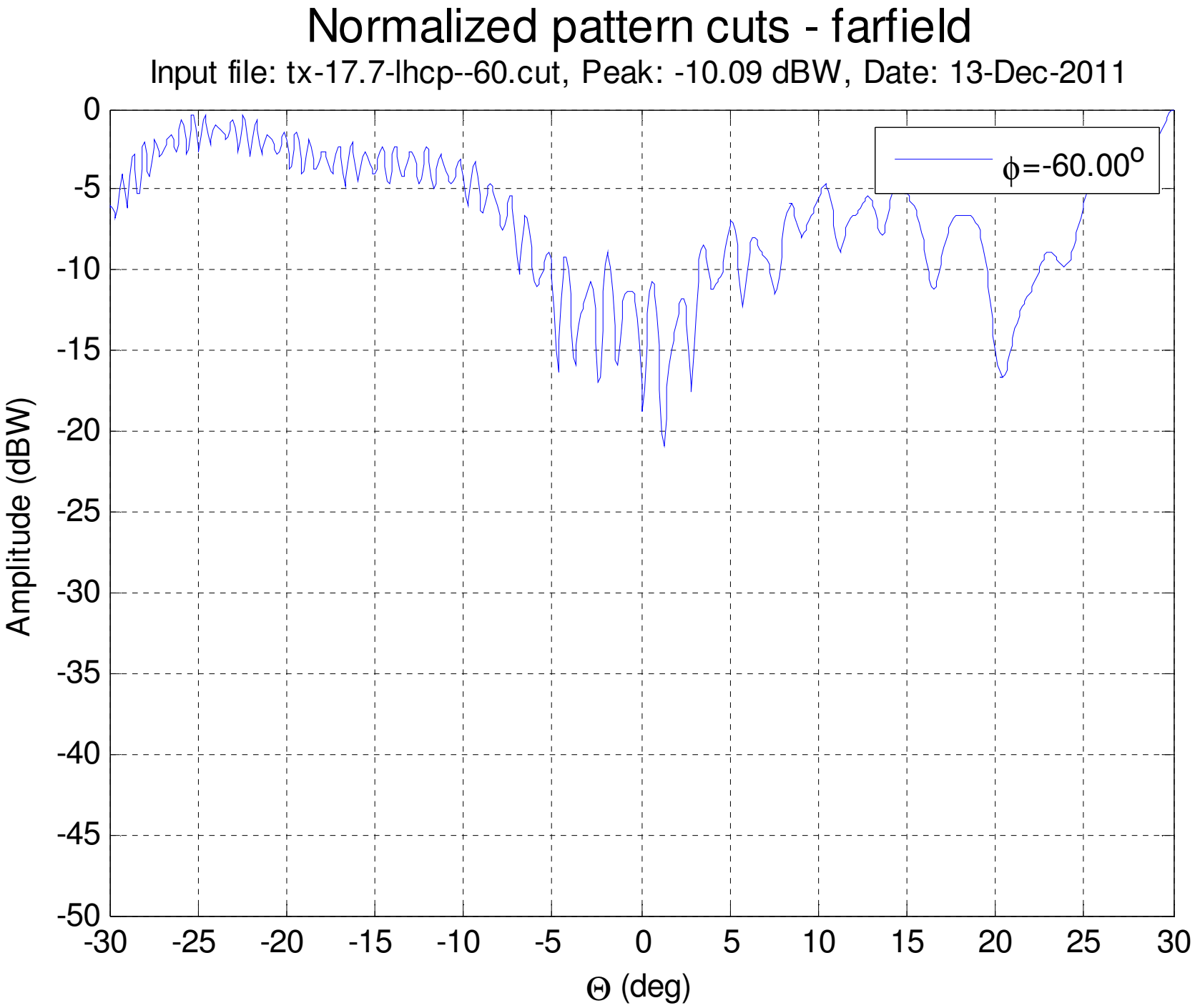

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -10.52 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

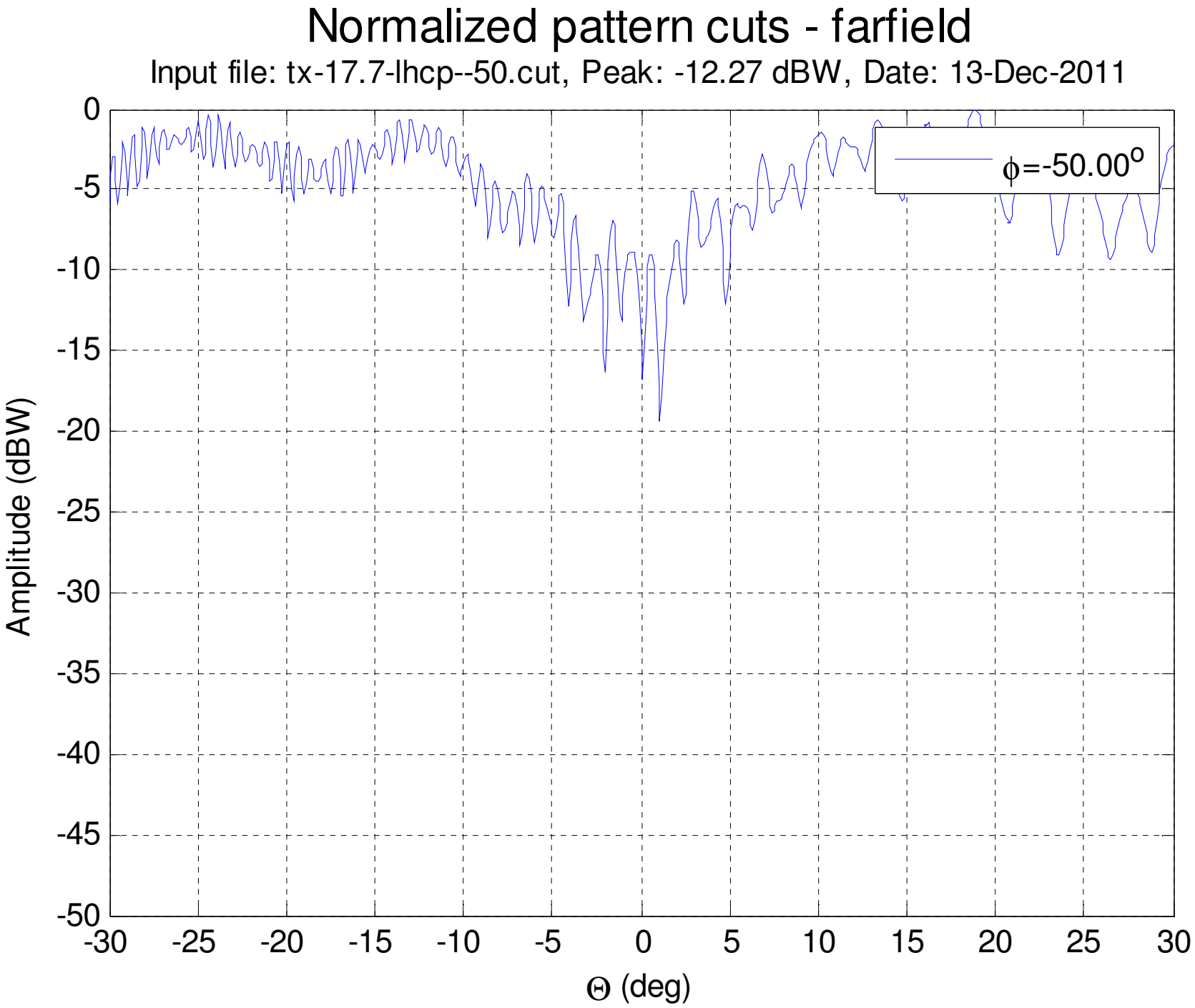

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -12.05 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

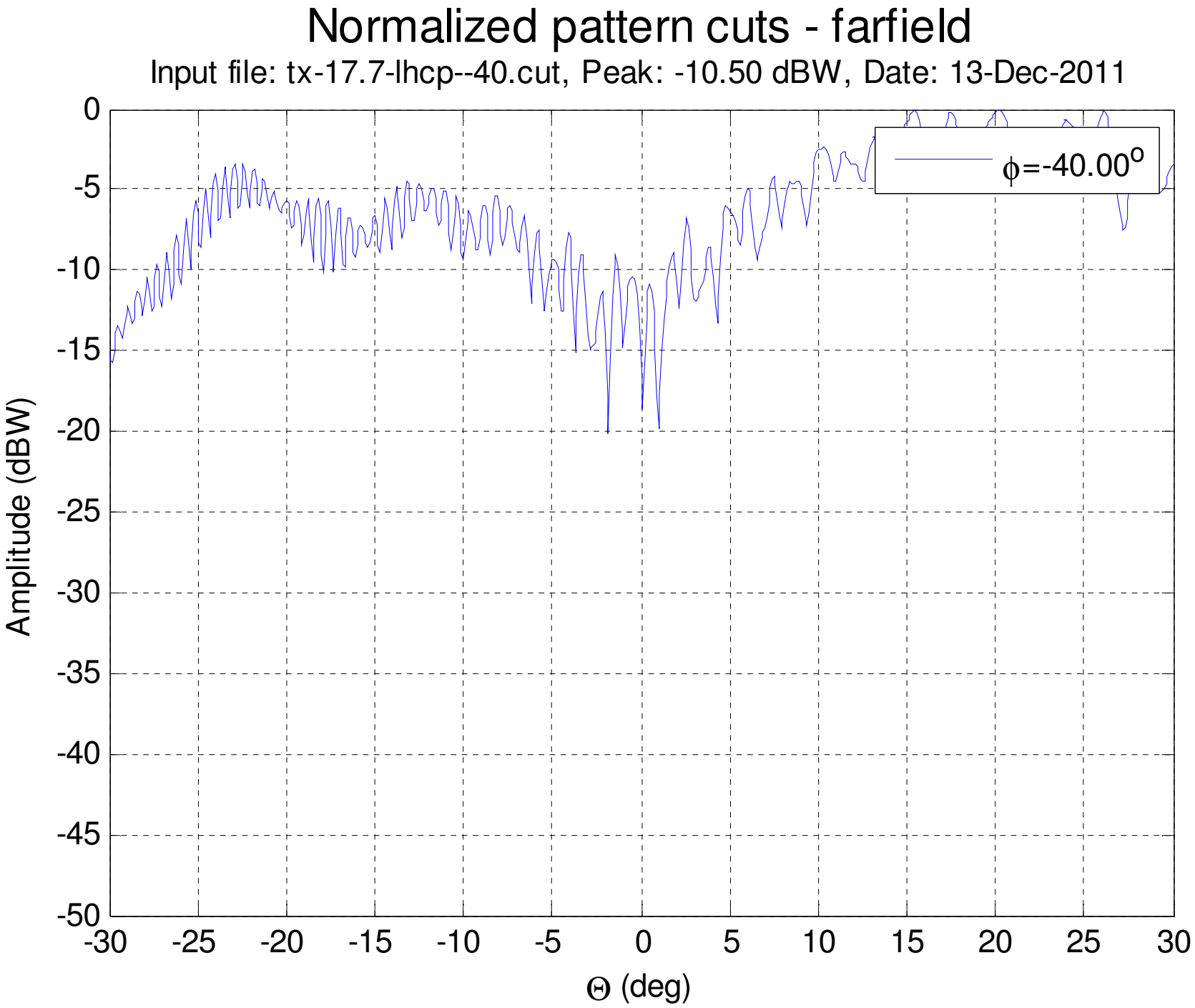

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -9.81 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

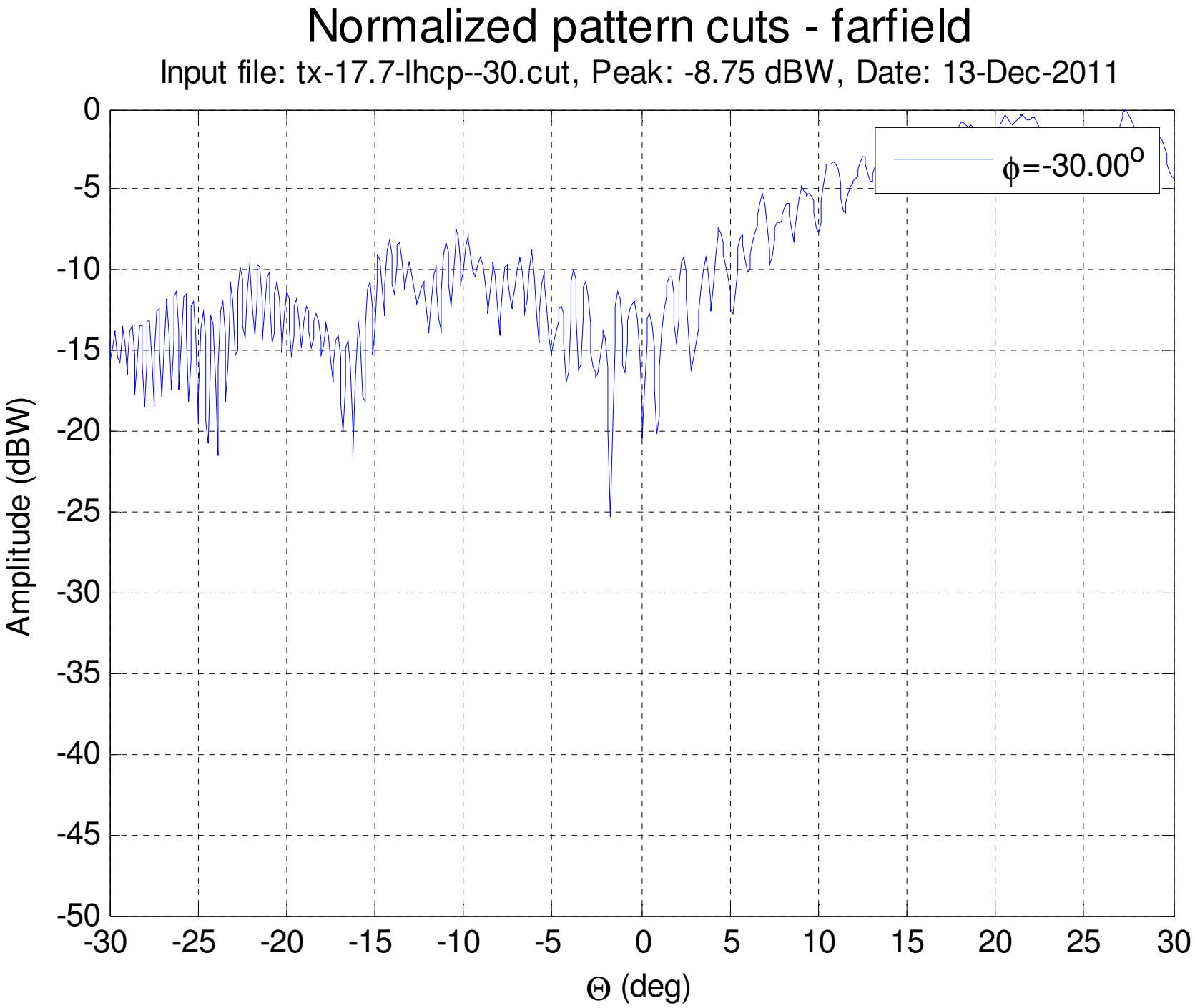

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -9.78 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

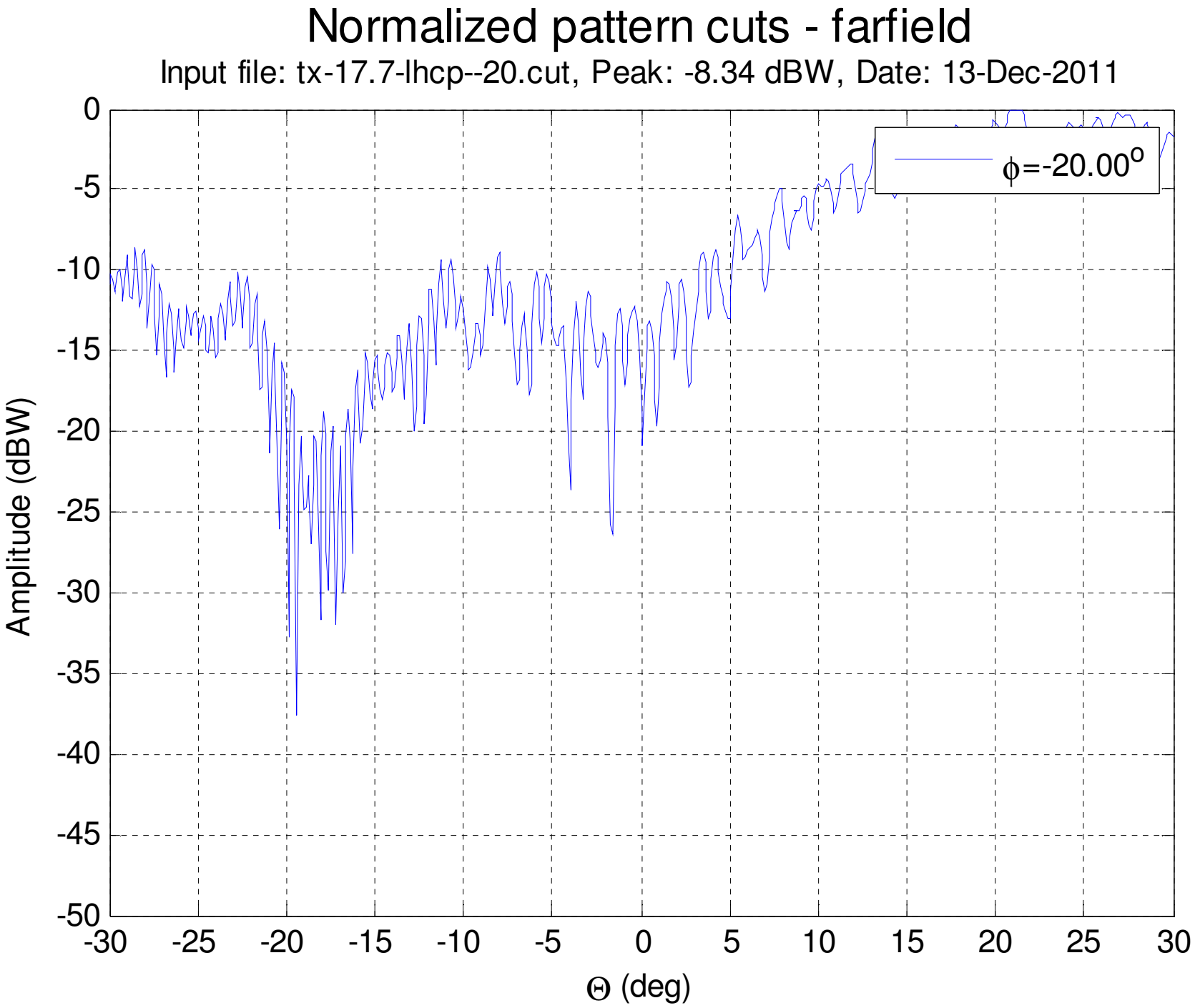
LHCP at 17.7 GHz

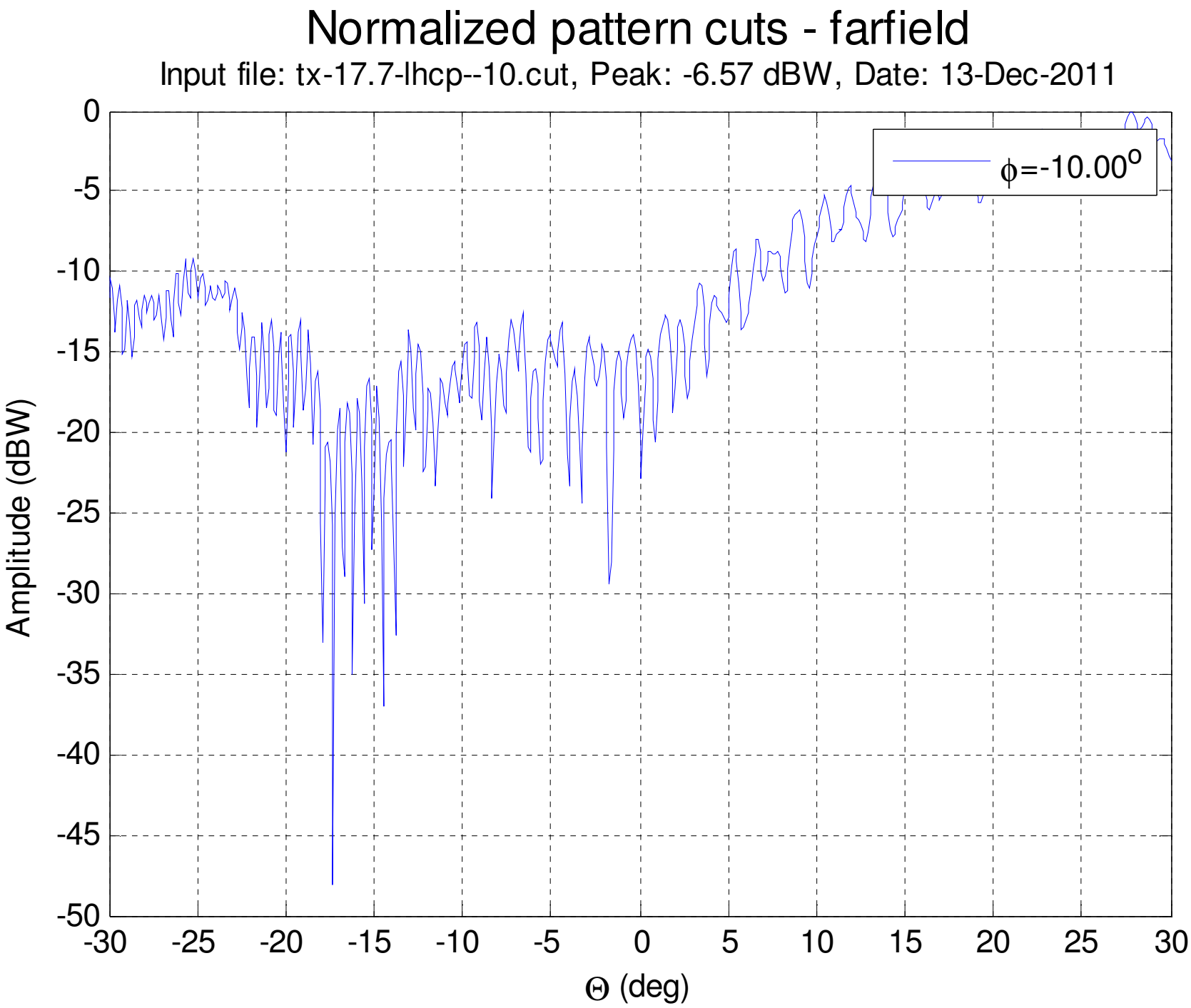

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -10.09 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

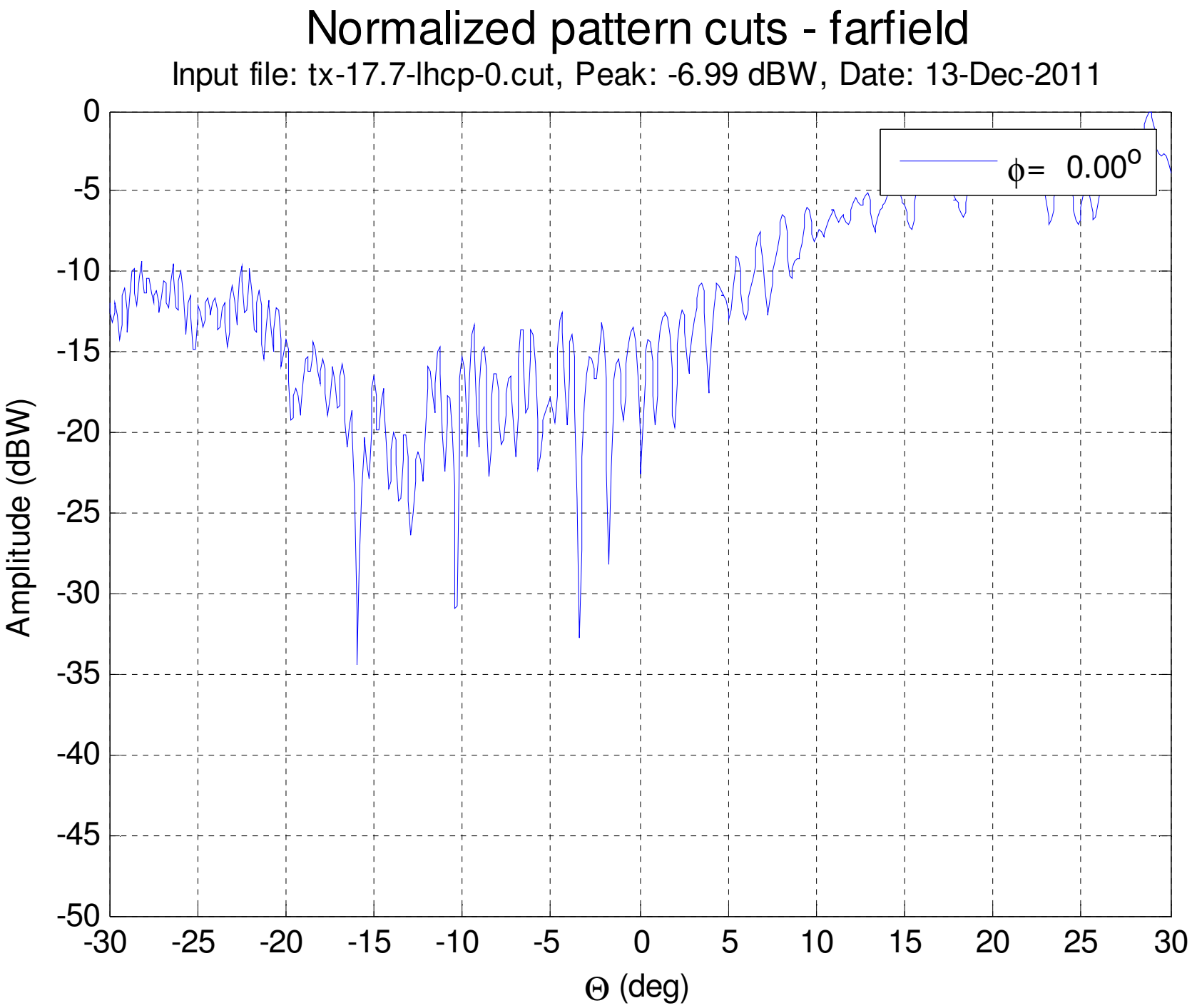

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -12.27 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

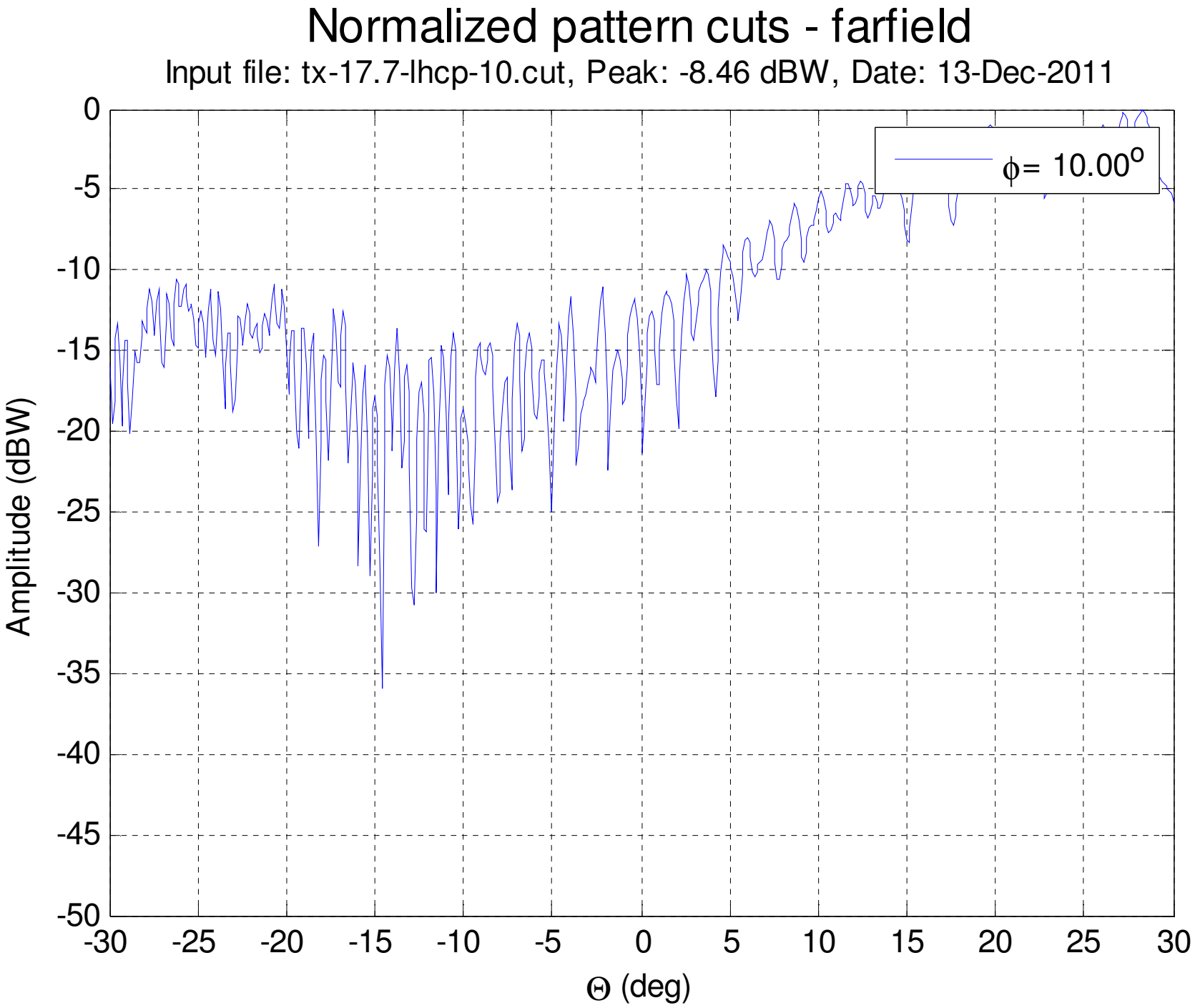

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -10.50 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

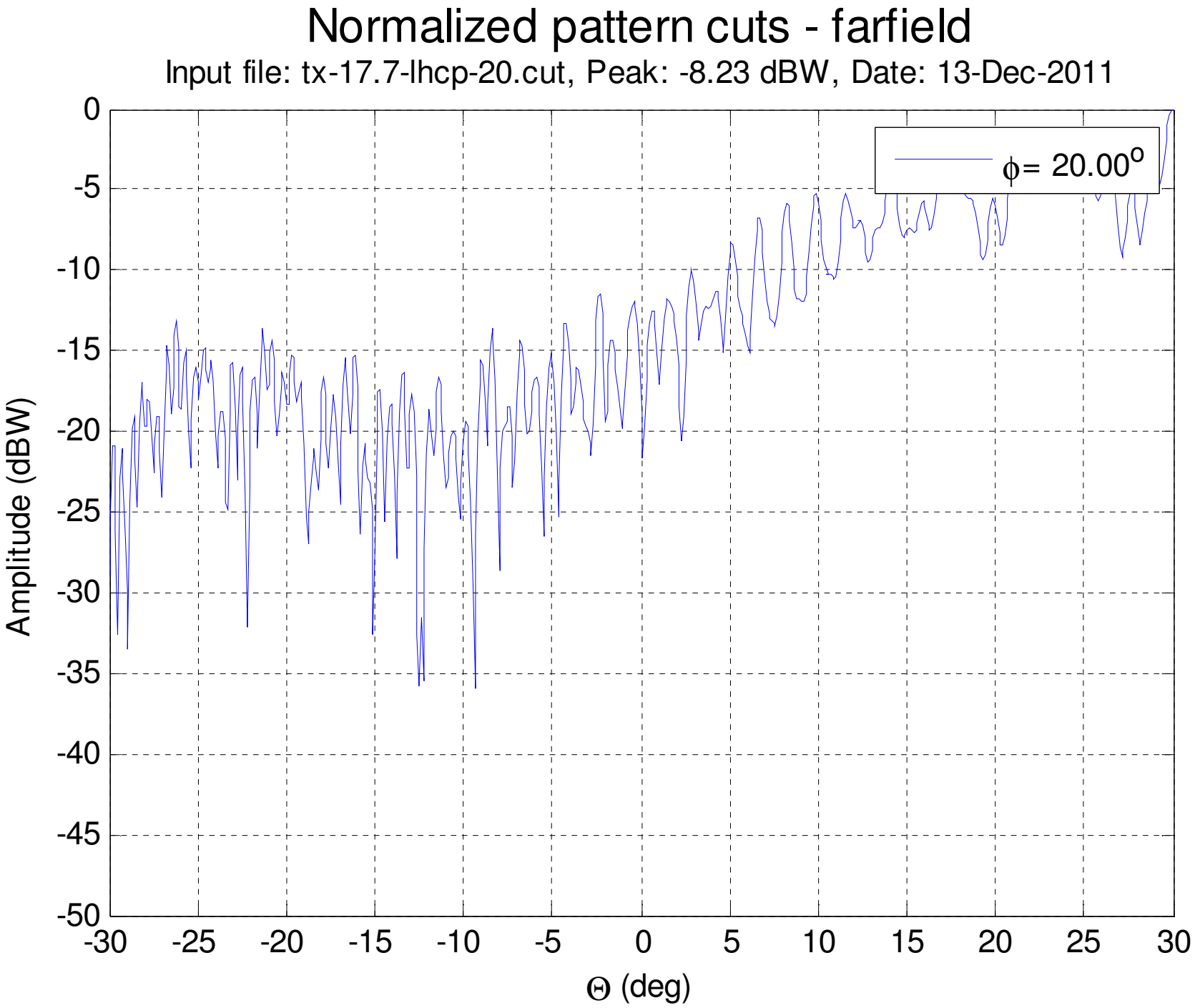

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -8.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

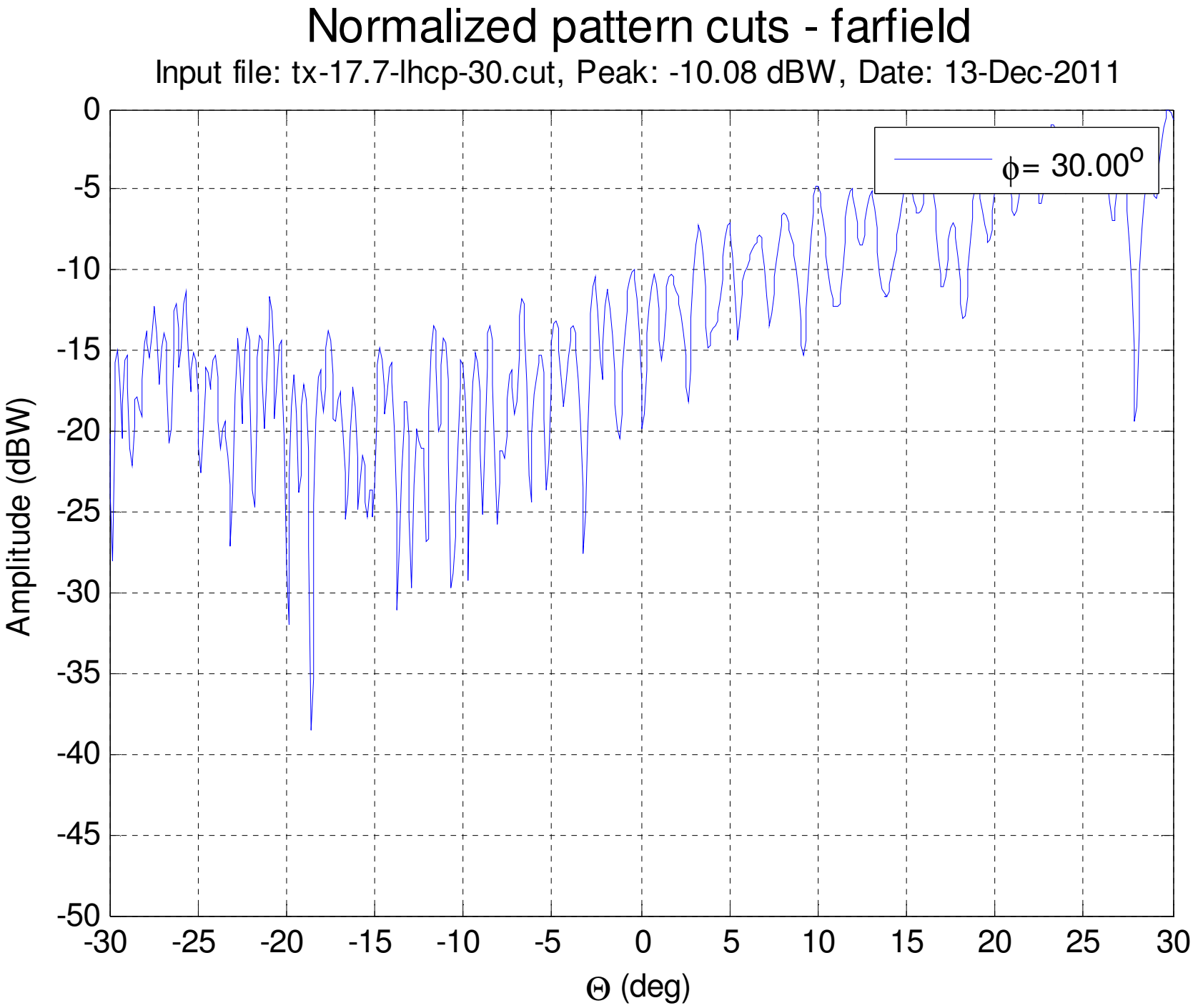

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -8.34 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

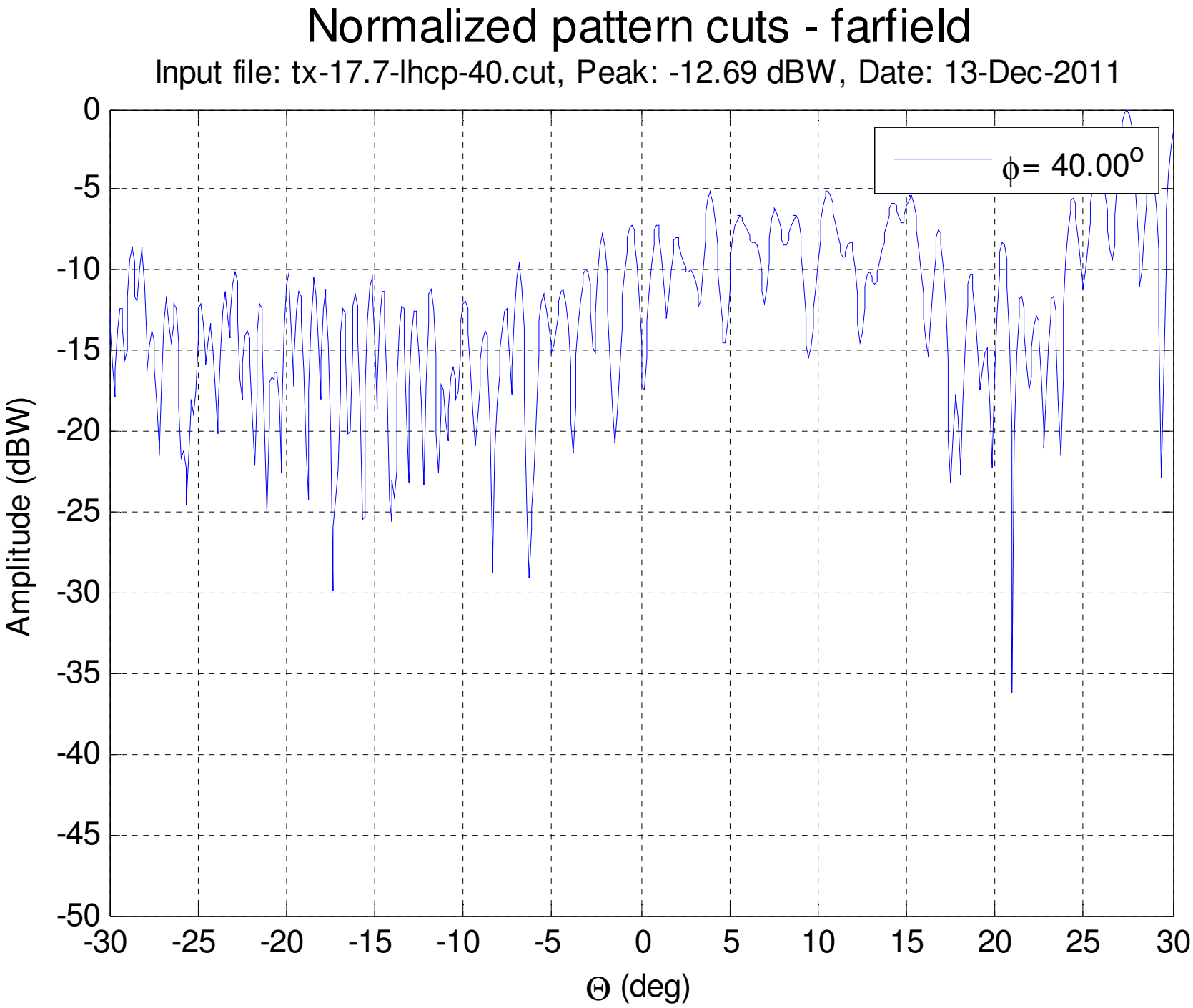

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -6.57 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

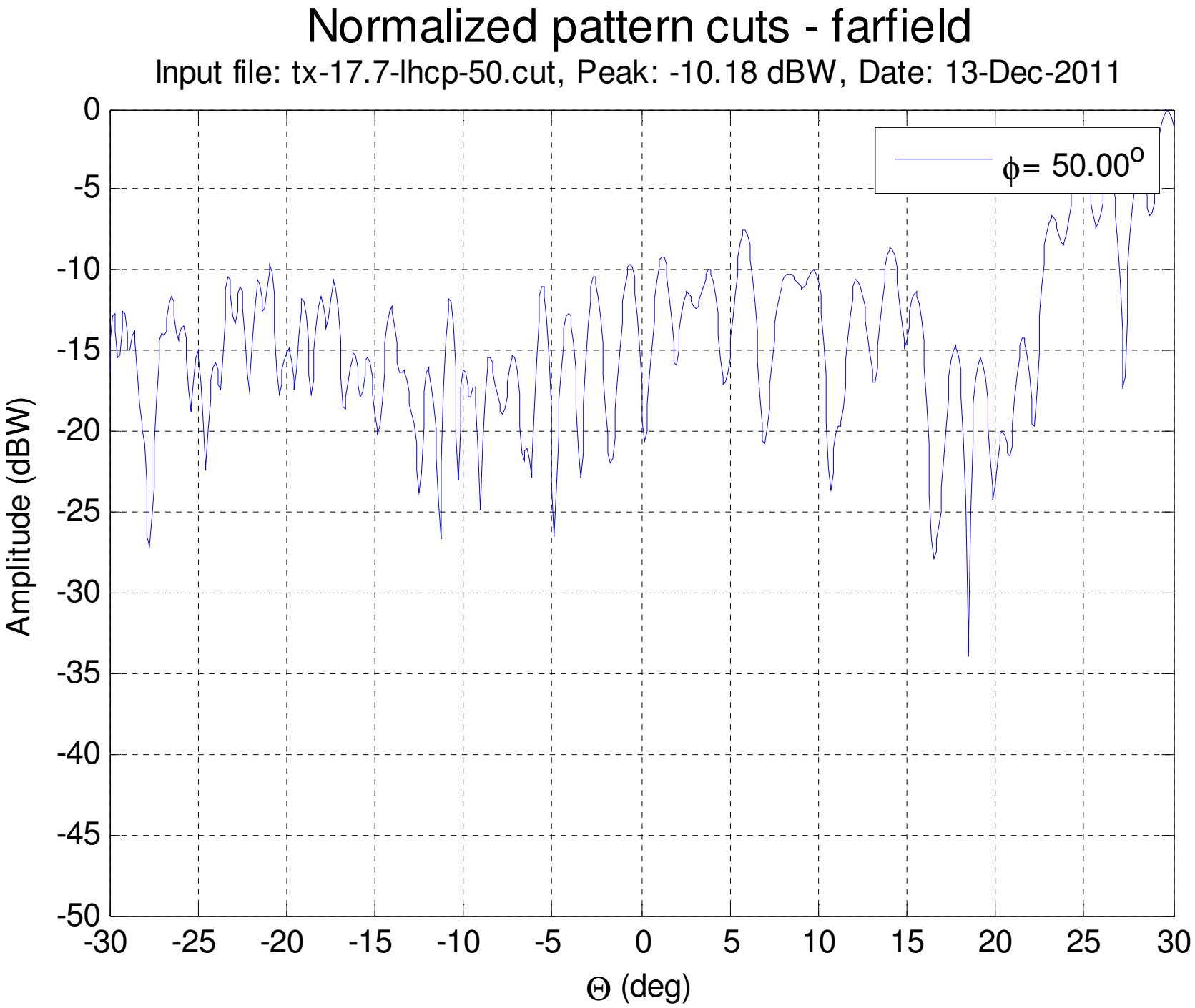

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -6.99 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

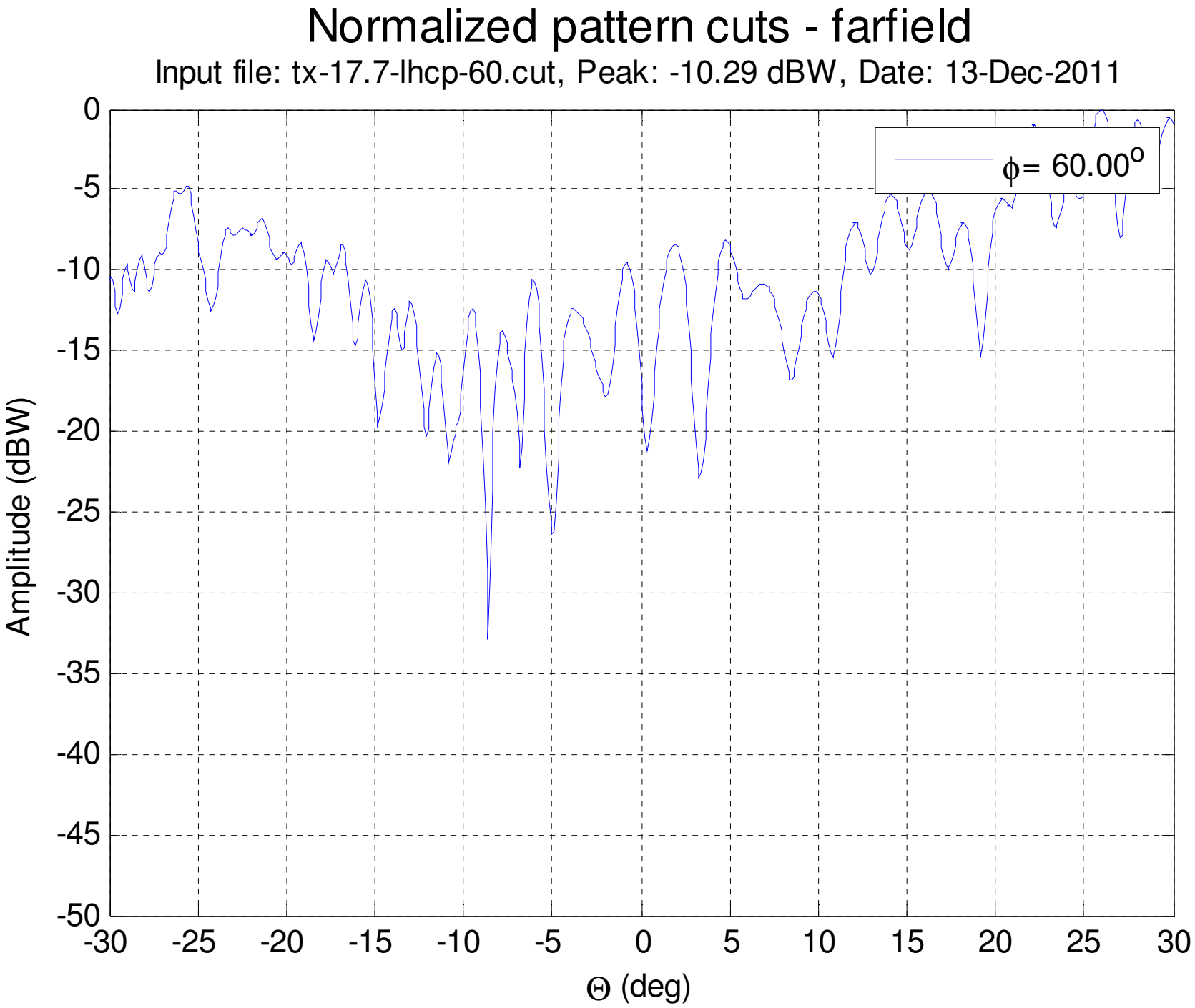

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -8.46 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -8.23 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -10.08 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -12.69 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

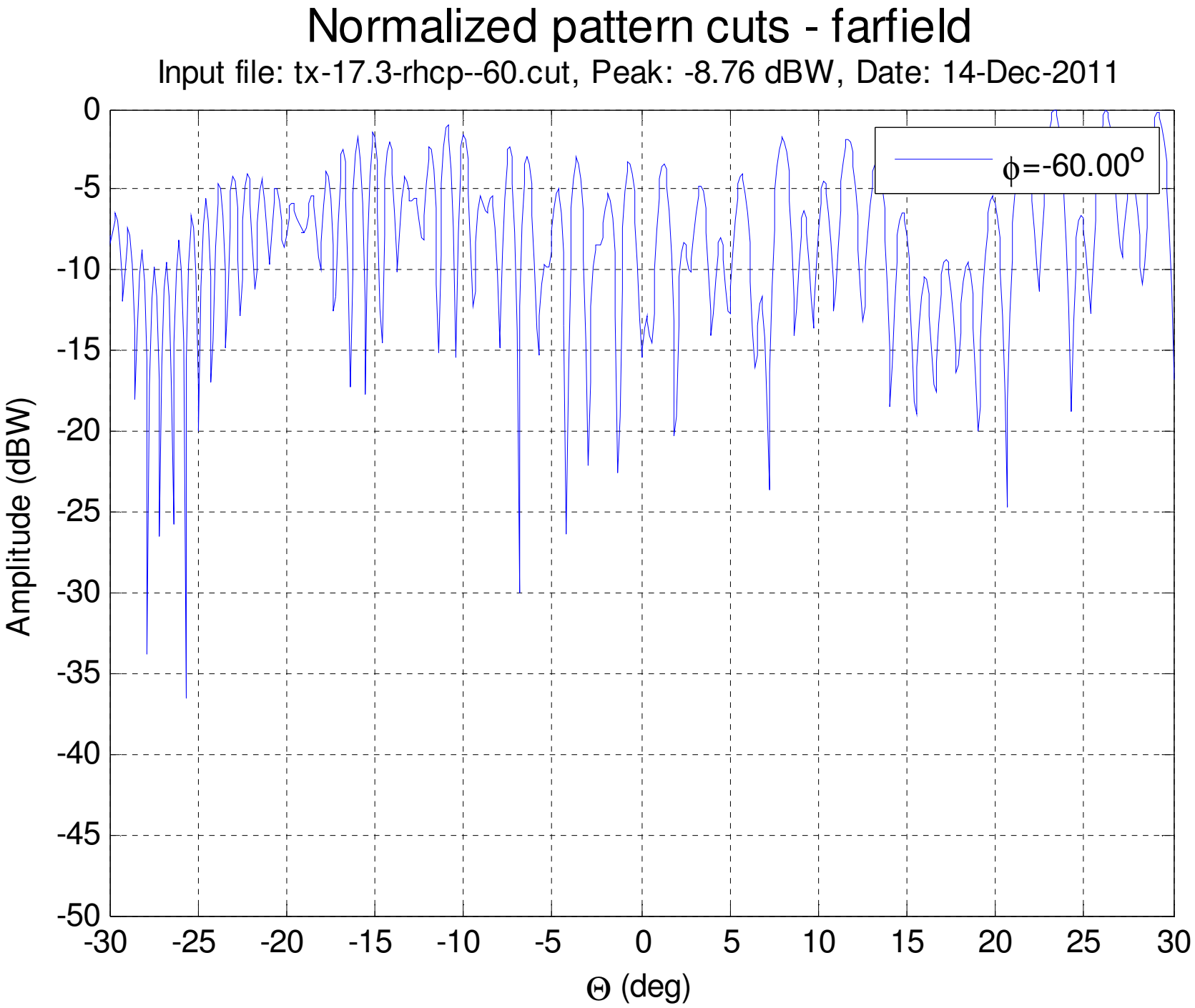

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -10.18 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

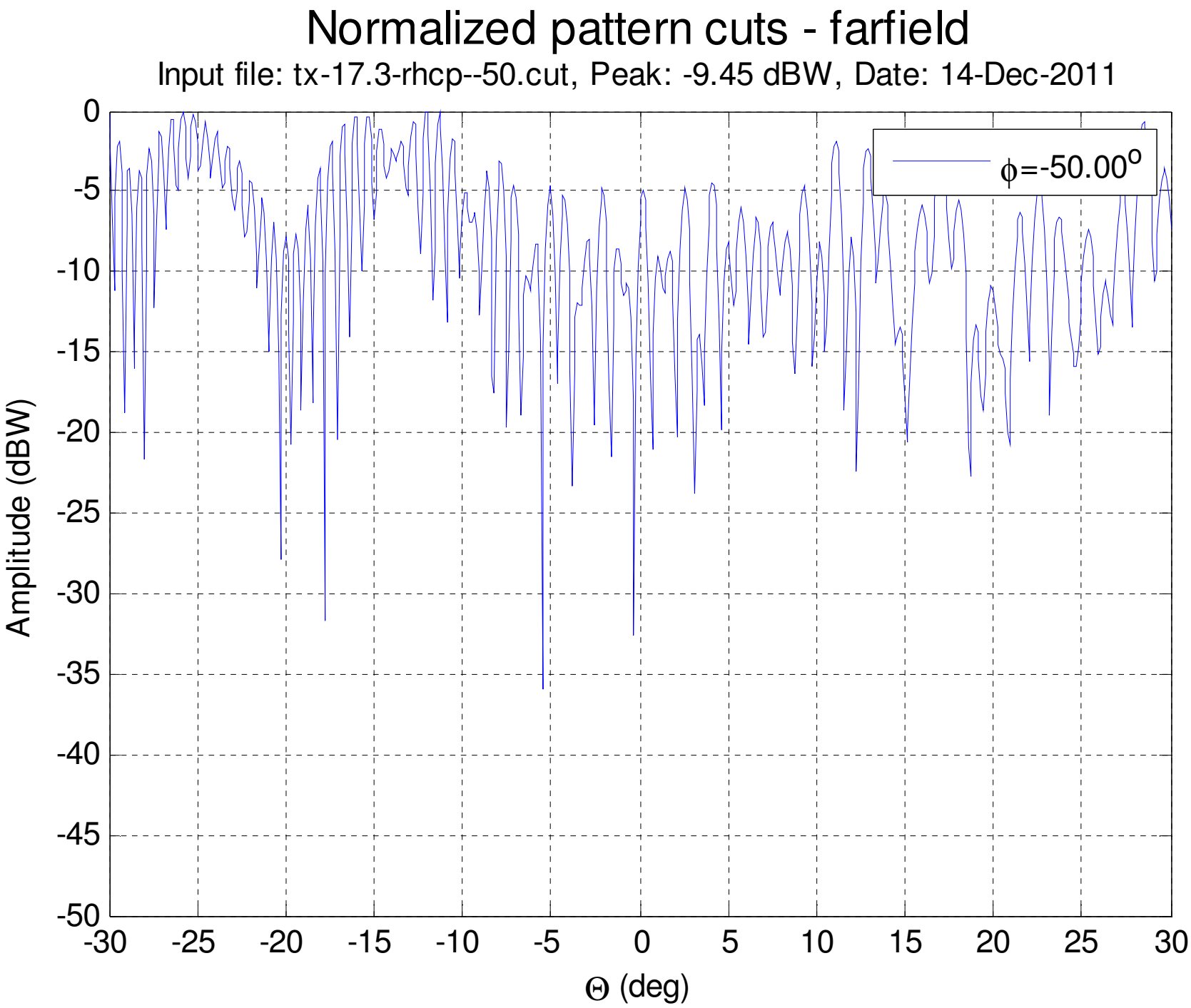

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -10.29 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

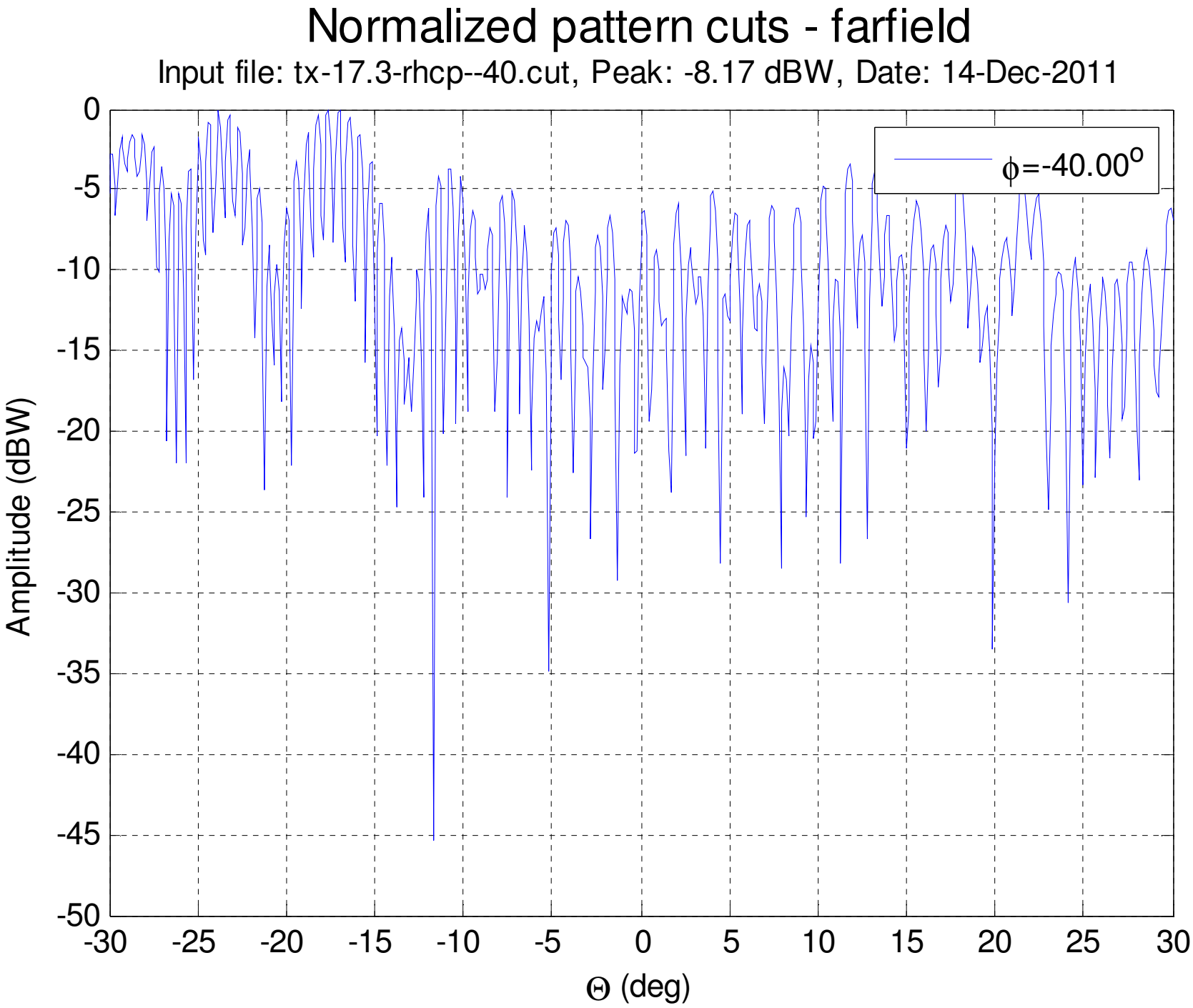
Spot Beam03, +X Axis Plots

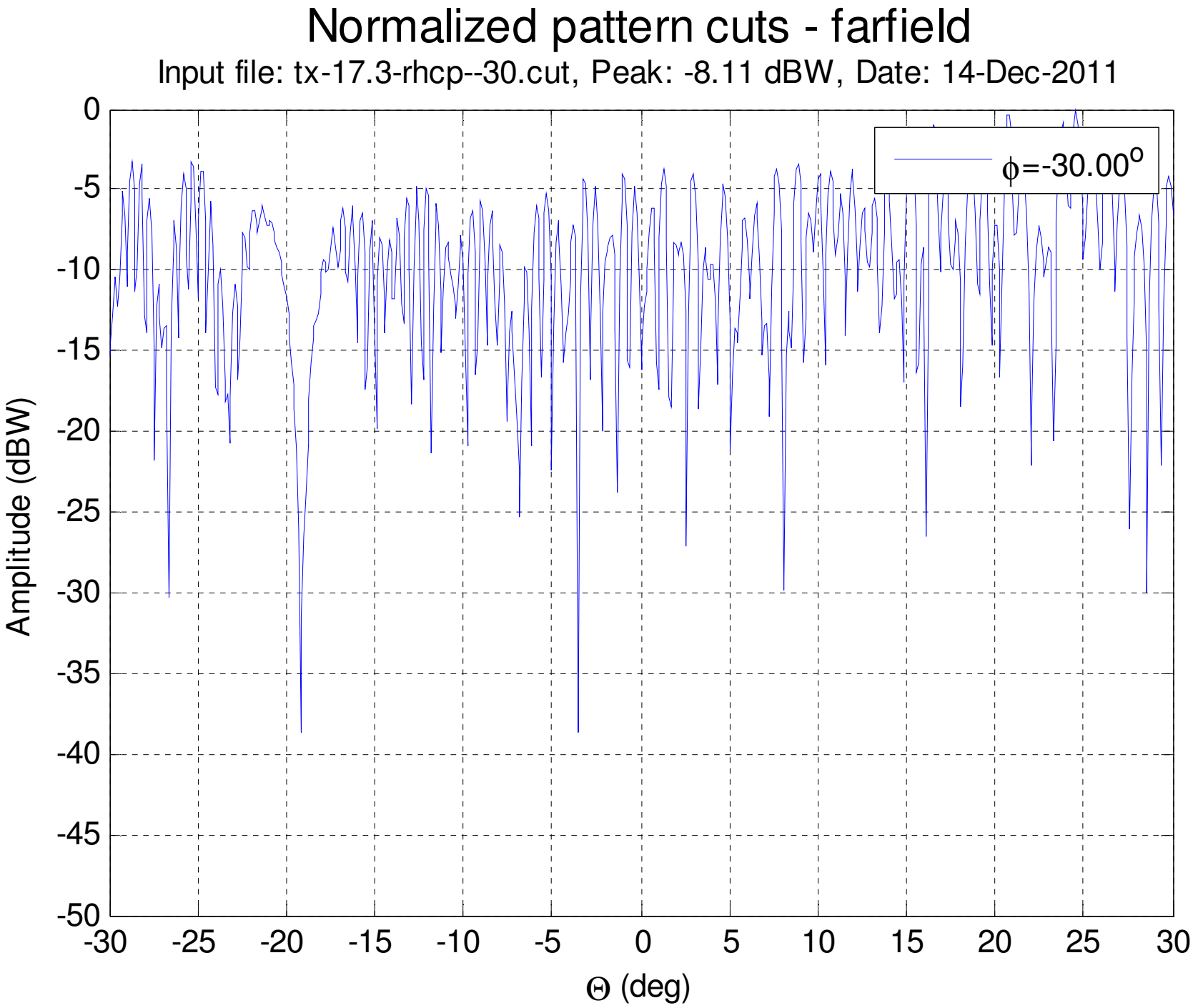
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

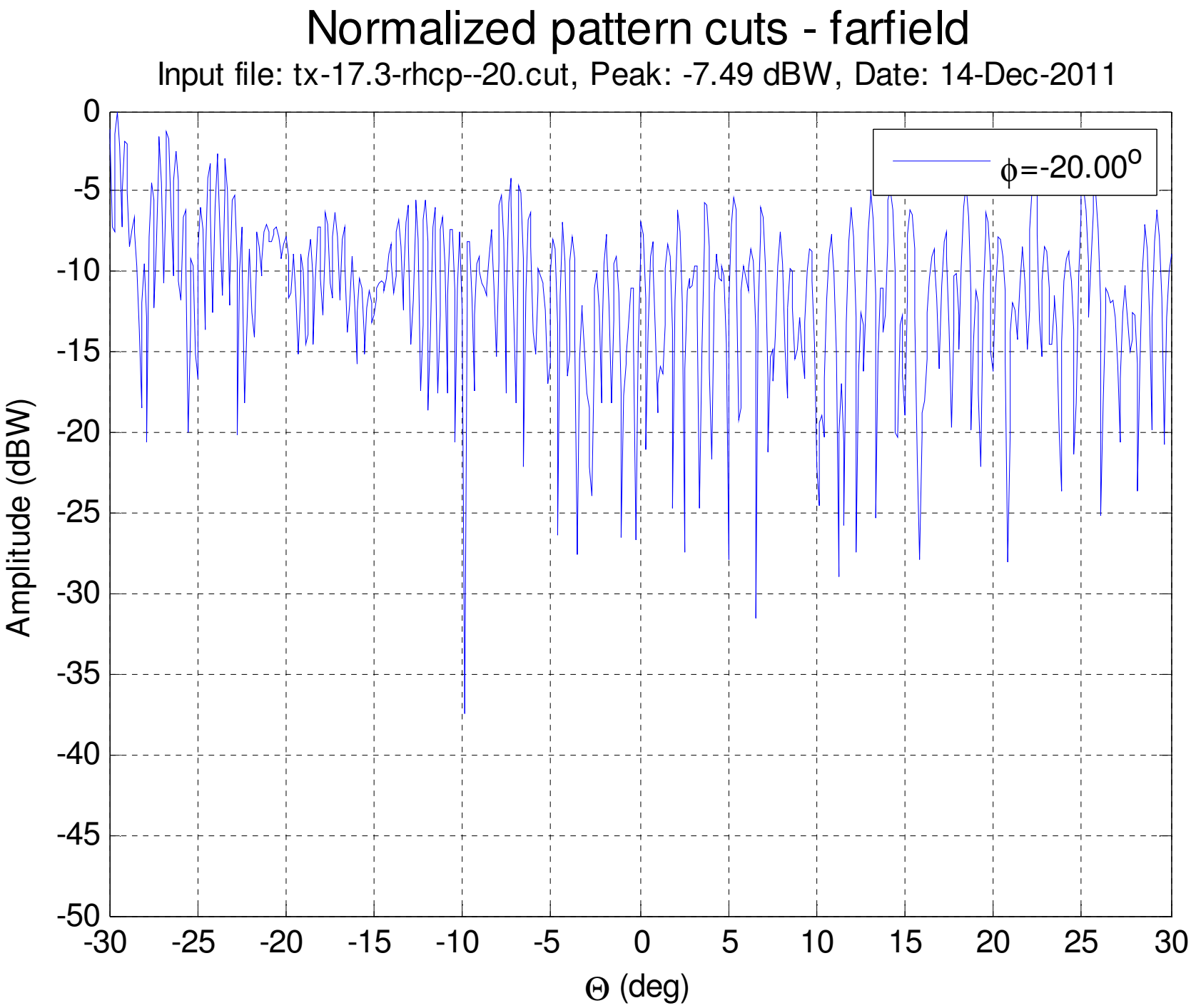
RHCP at 17.3 GHz

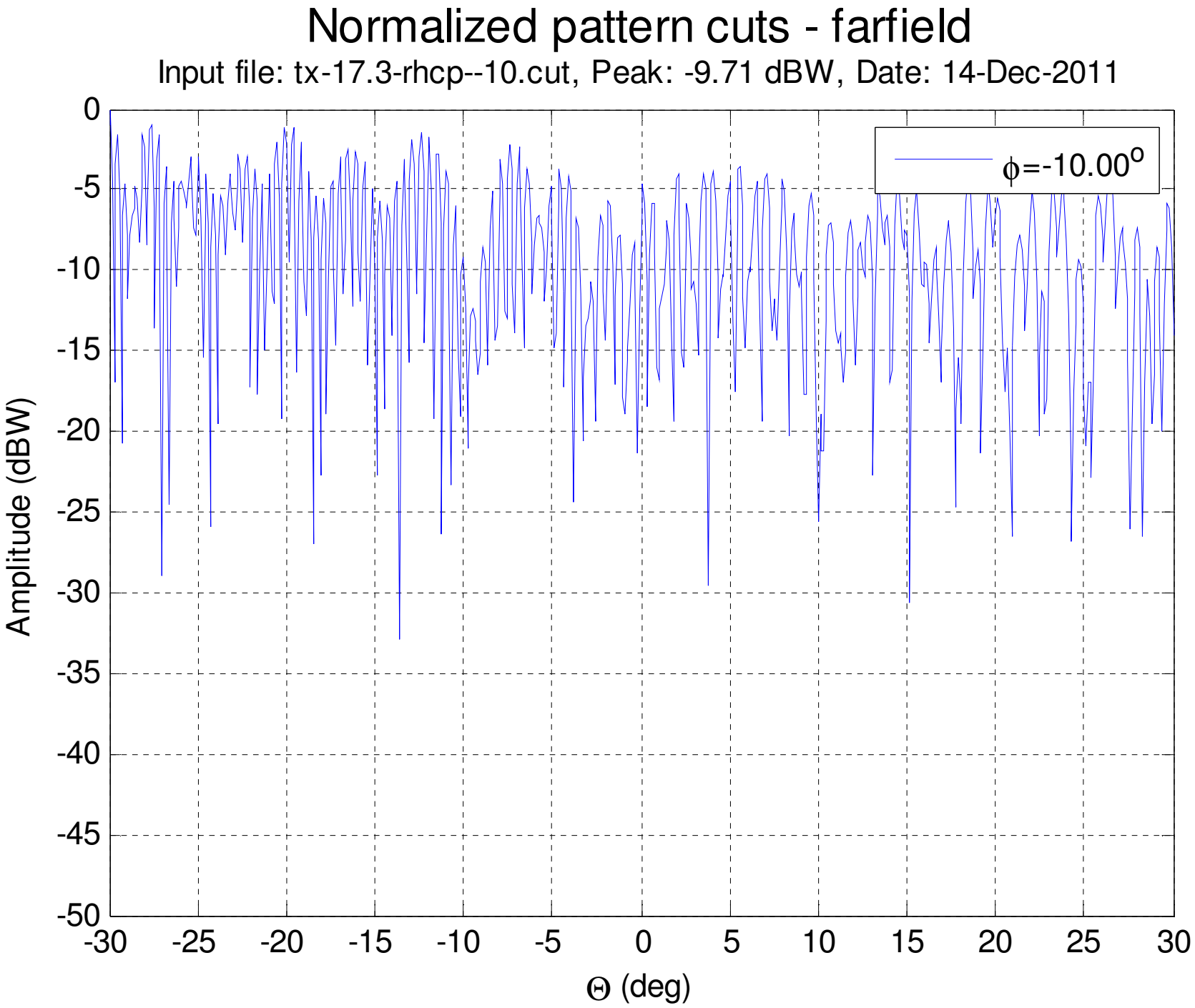

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -8.76 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

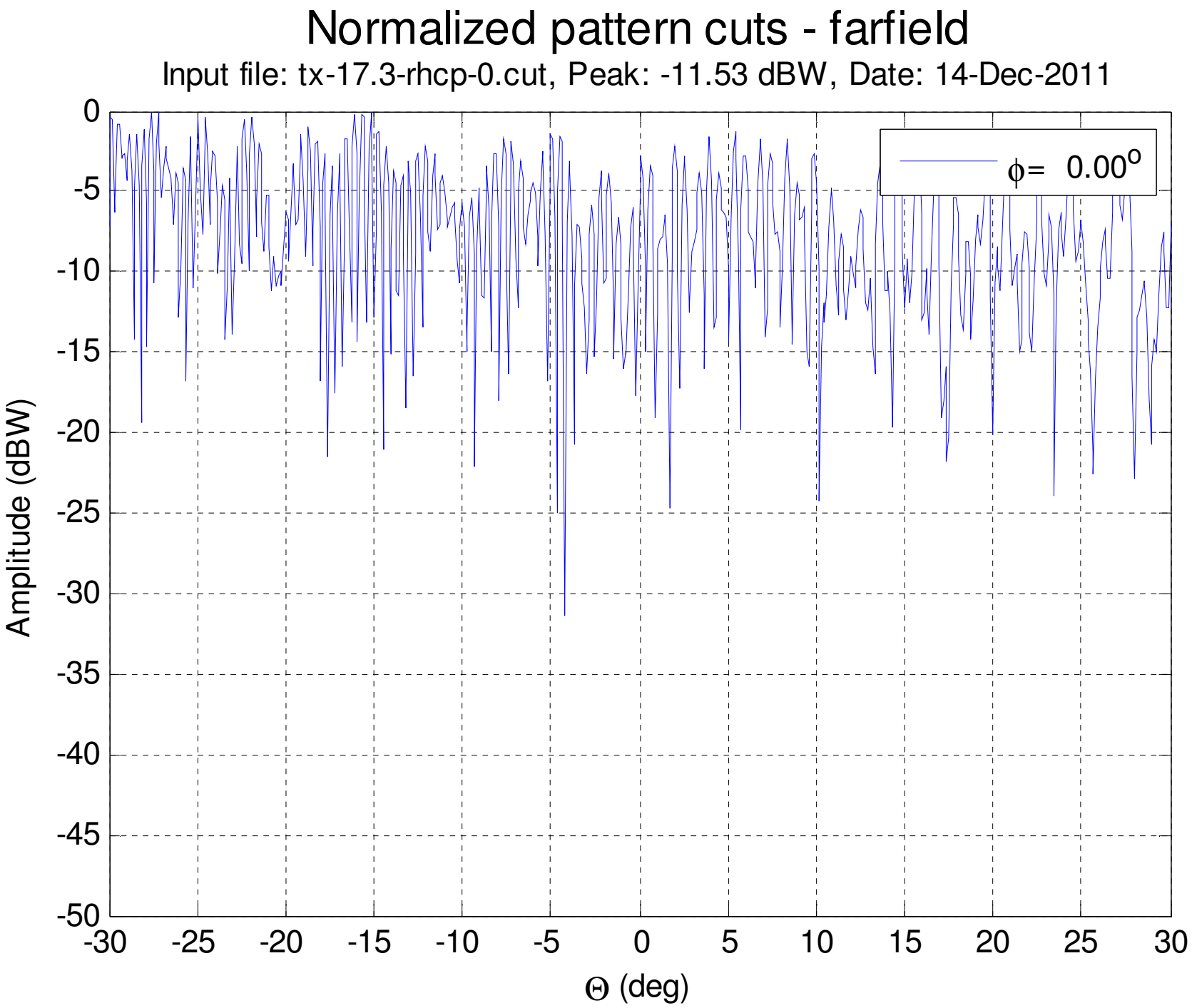

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -9.45 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

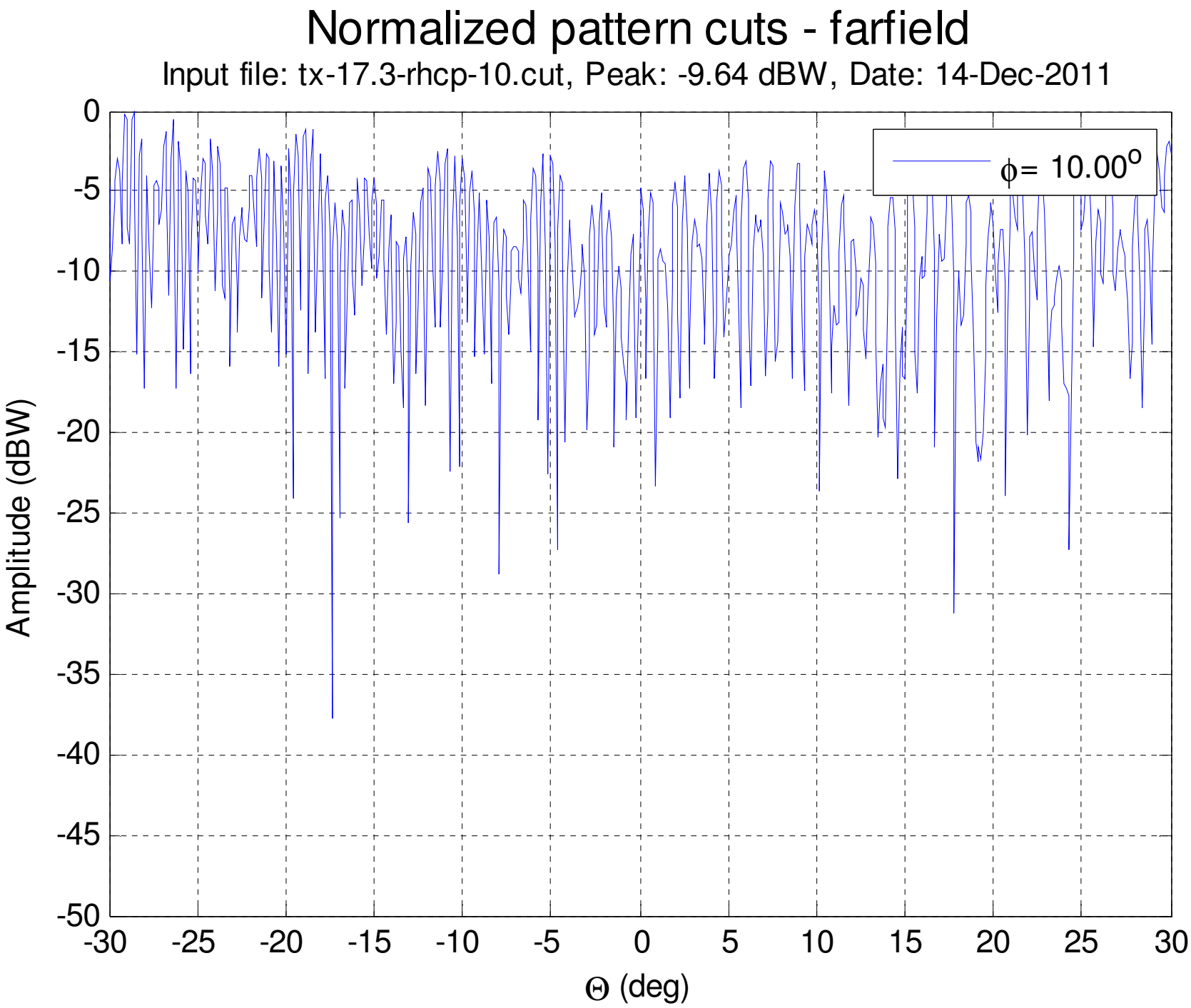

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -8.17 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

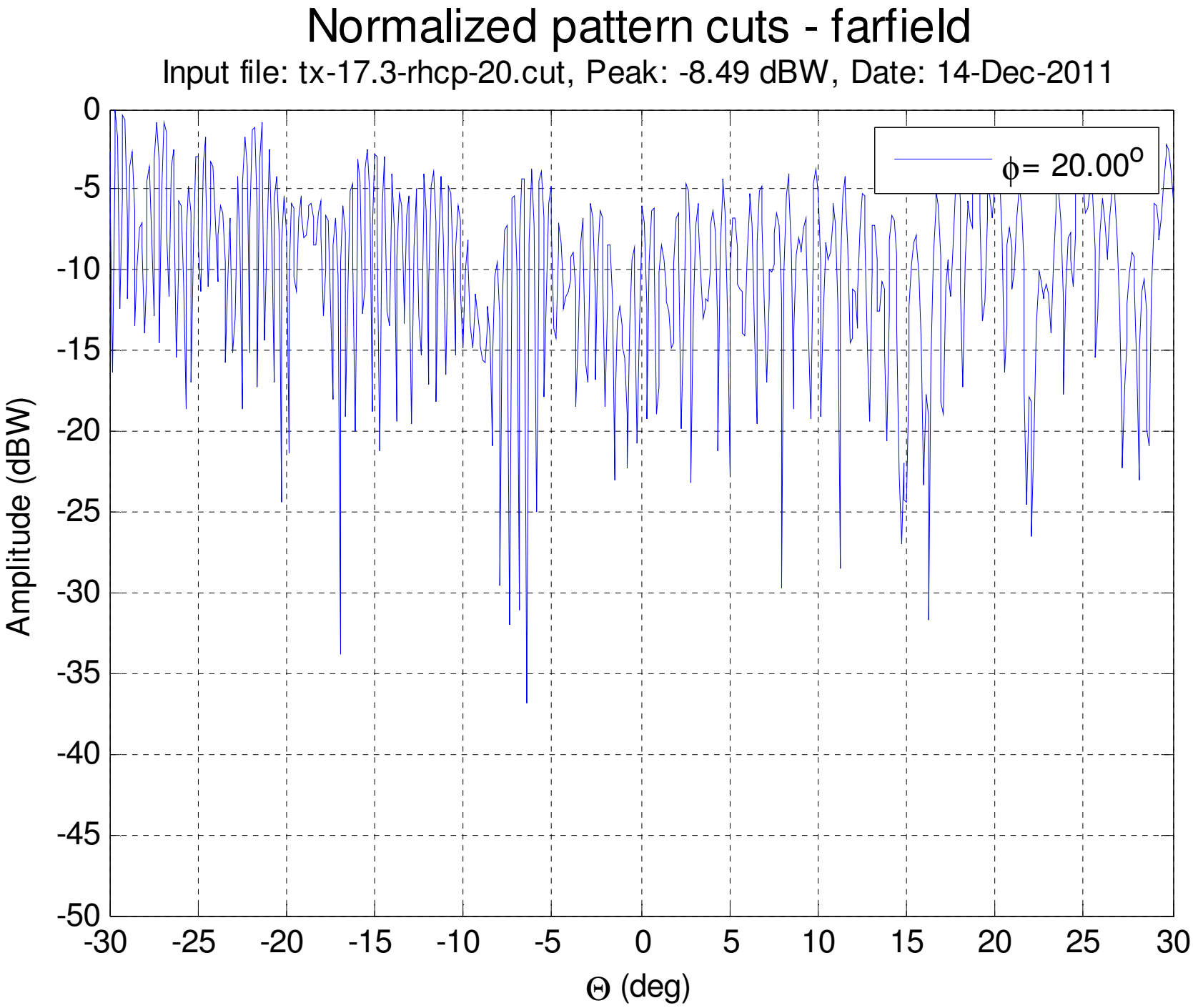

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -8.11 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

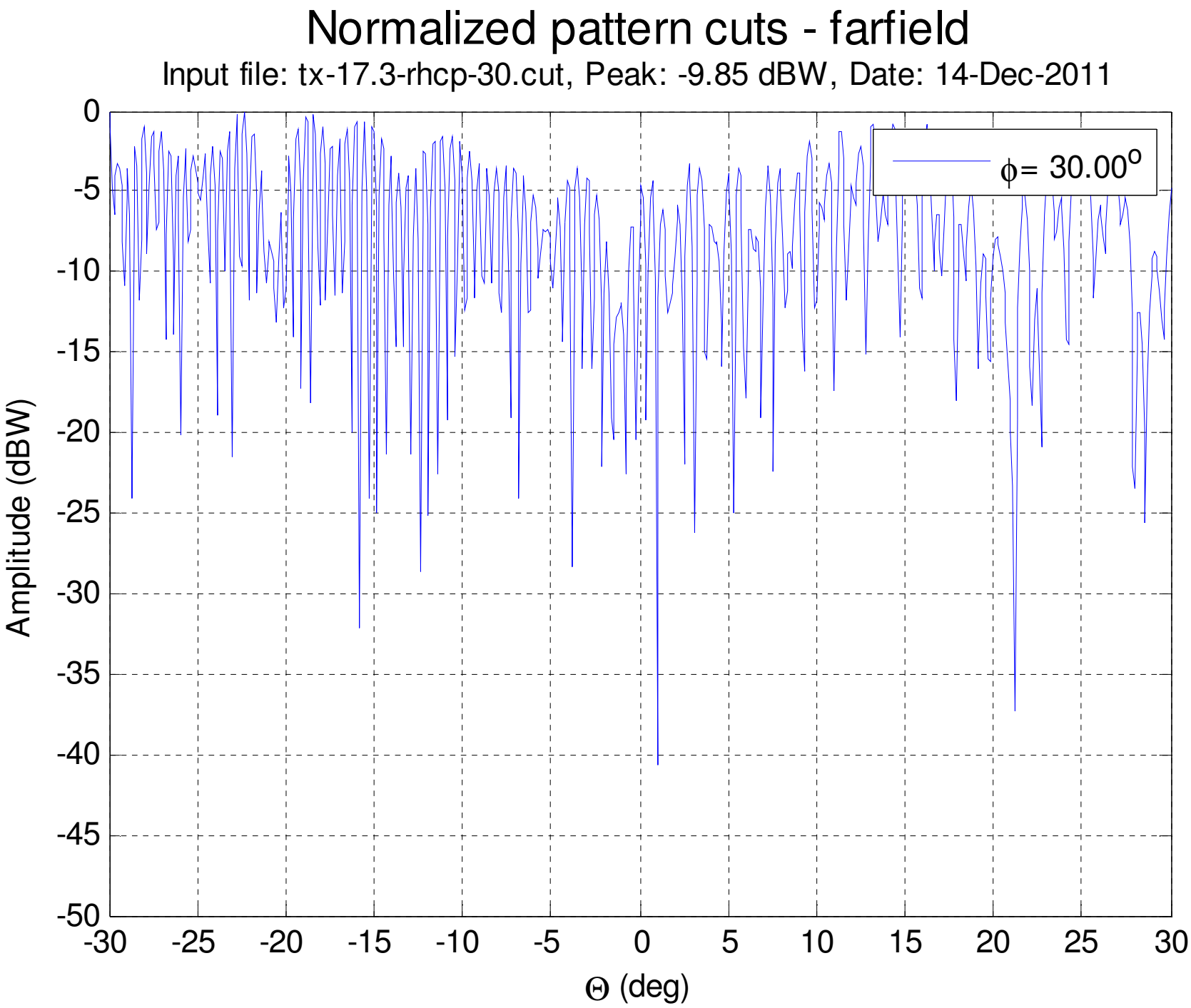

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -7.49 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

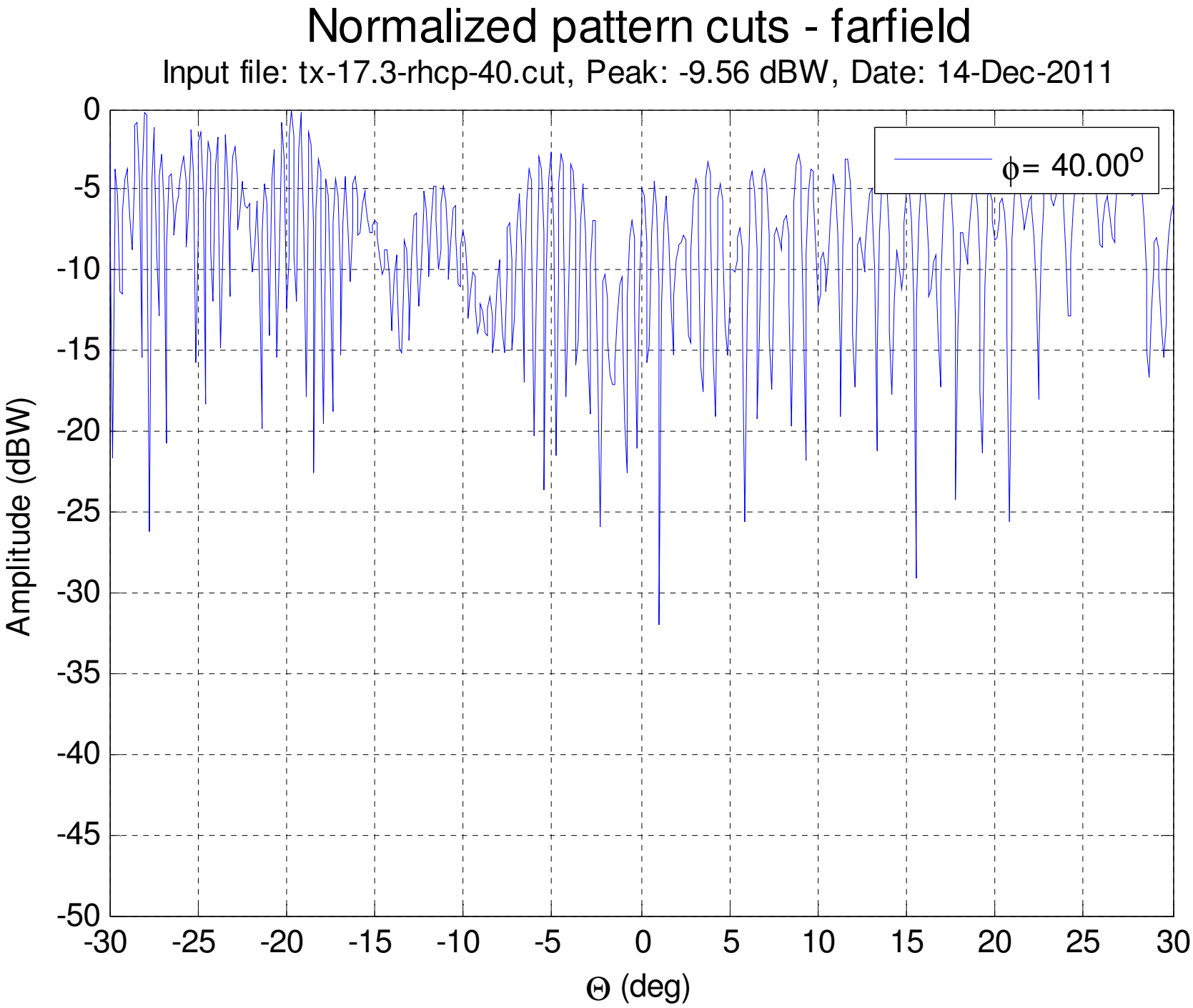

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -9.71 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

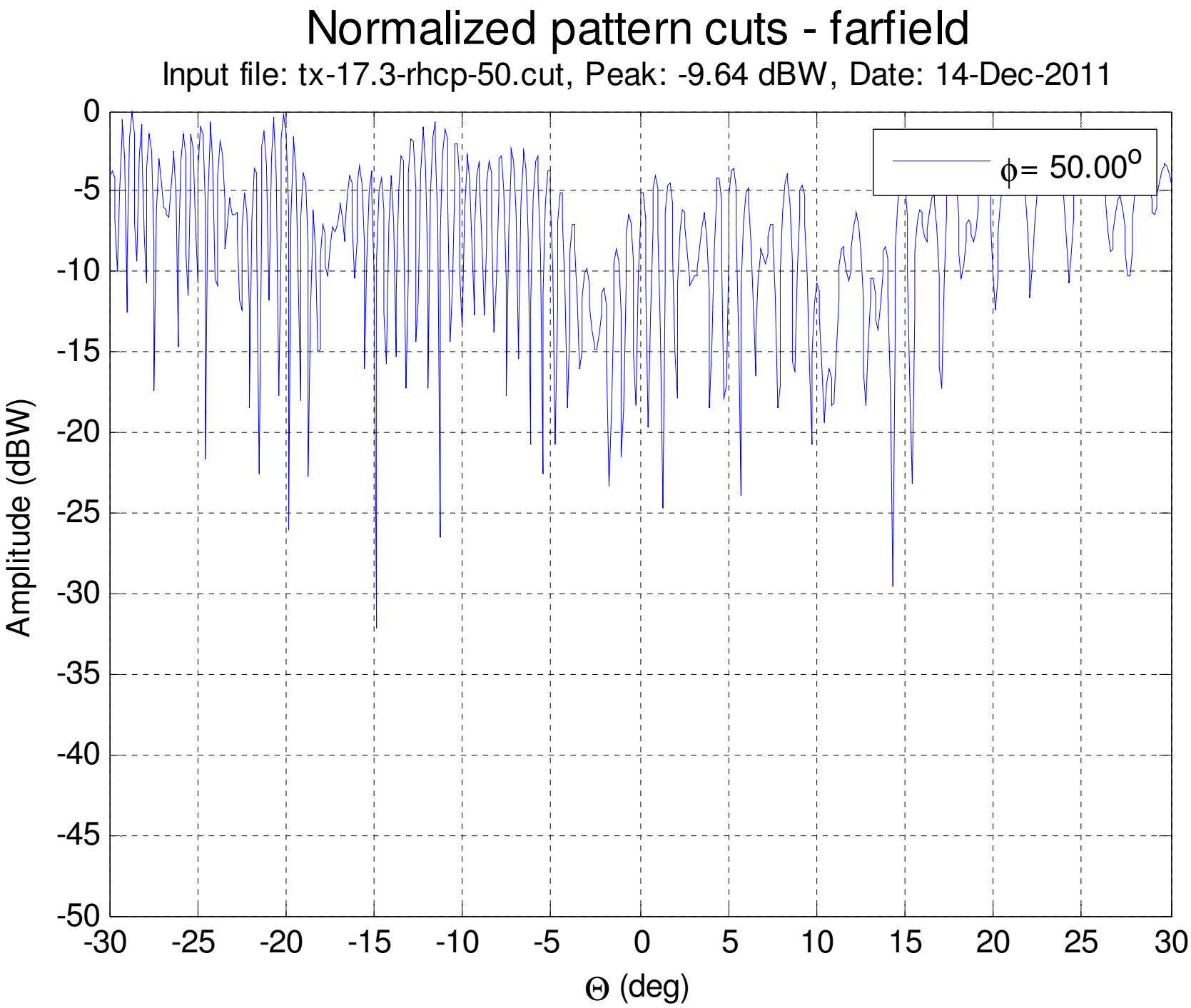

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -11.53 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

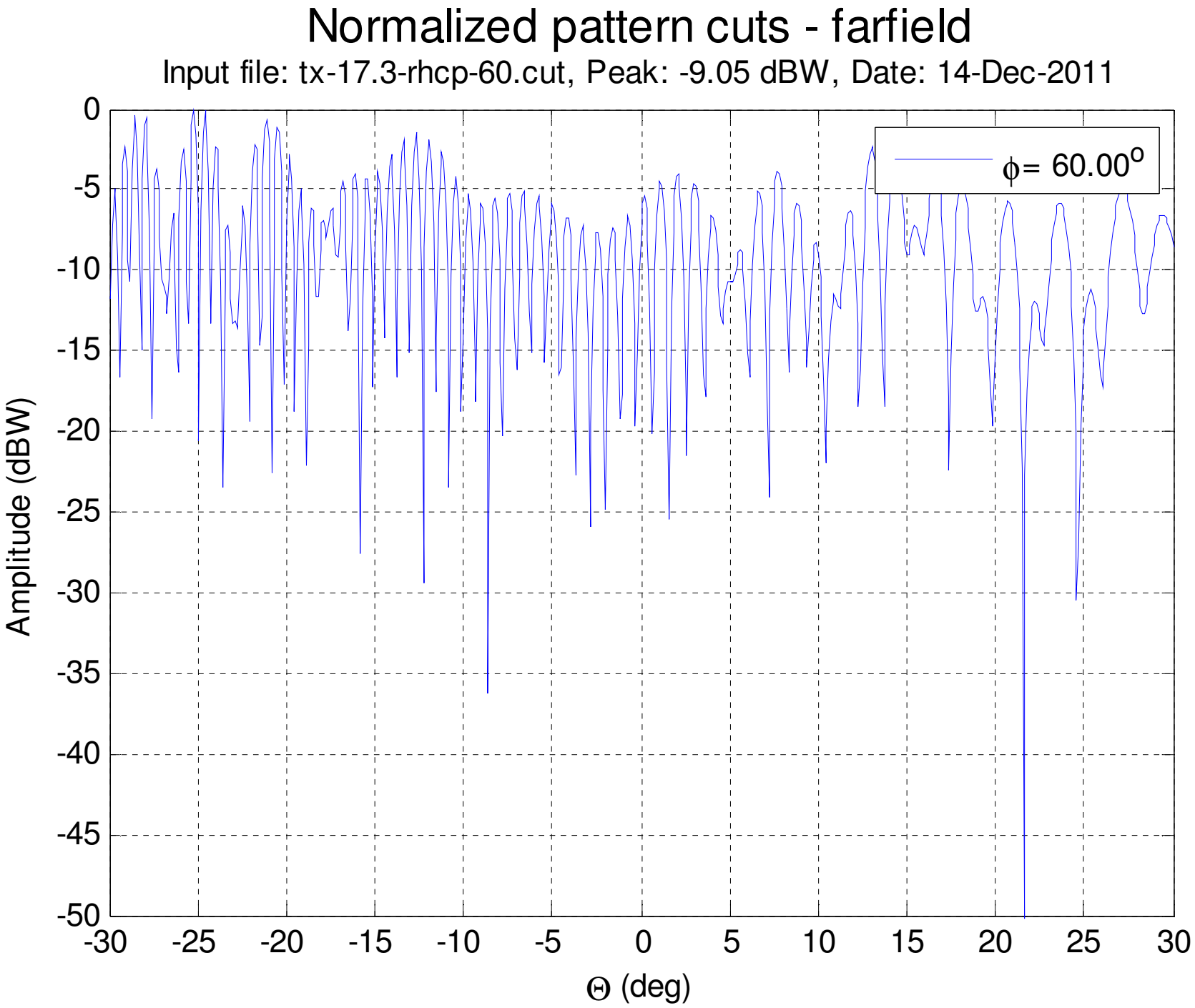

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -9.64 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -8.49 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

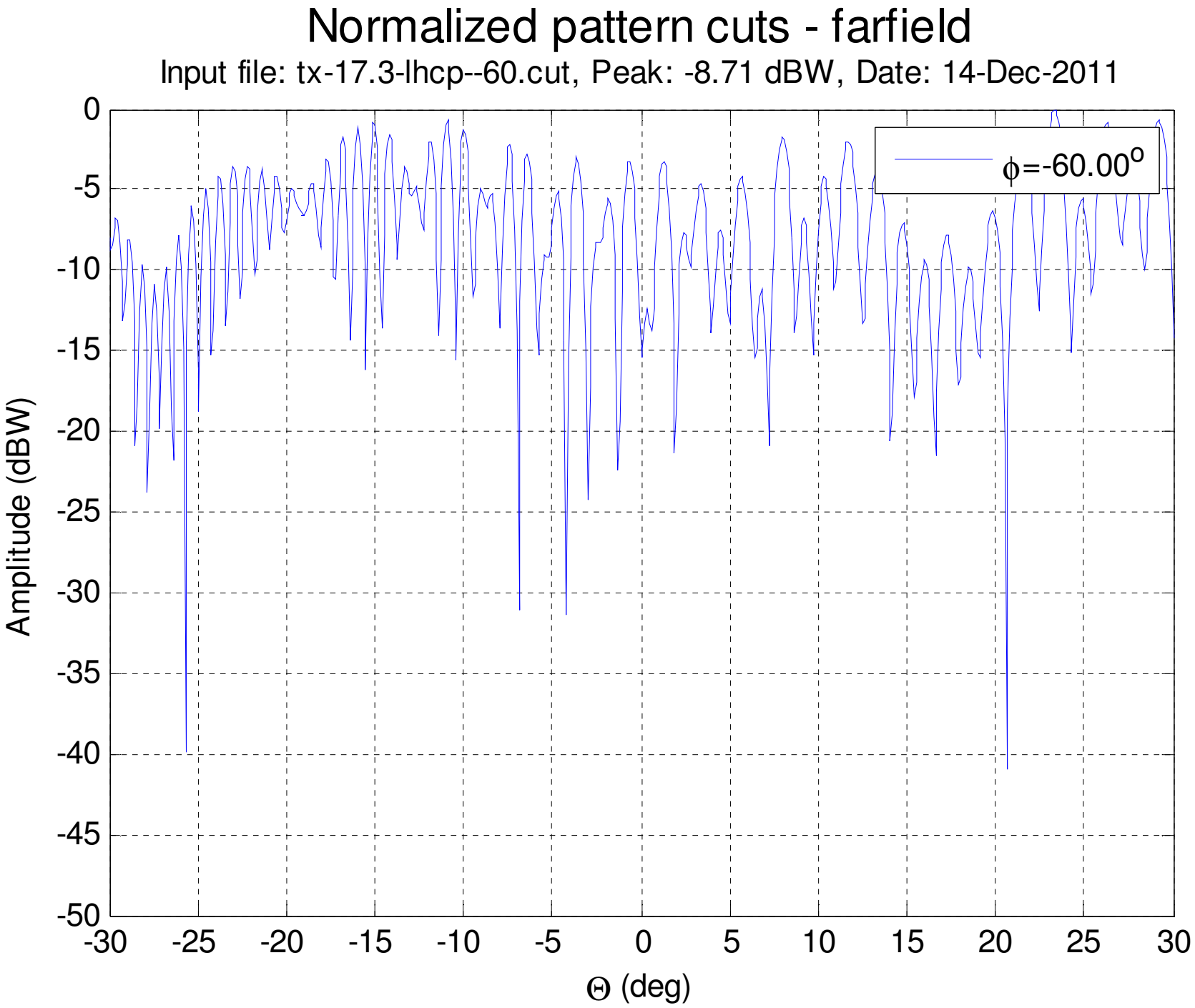

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -9.85 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

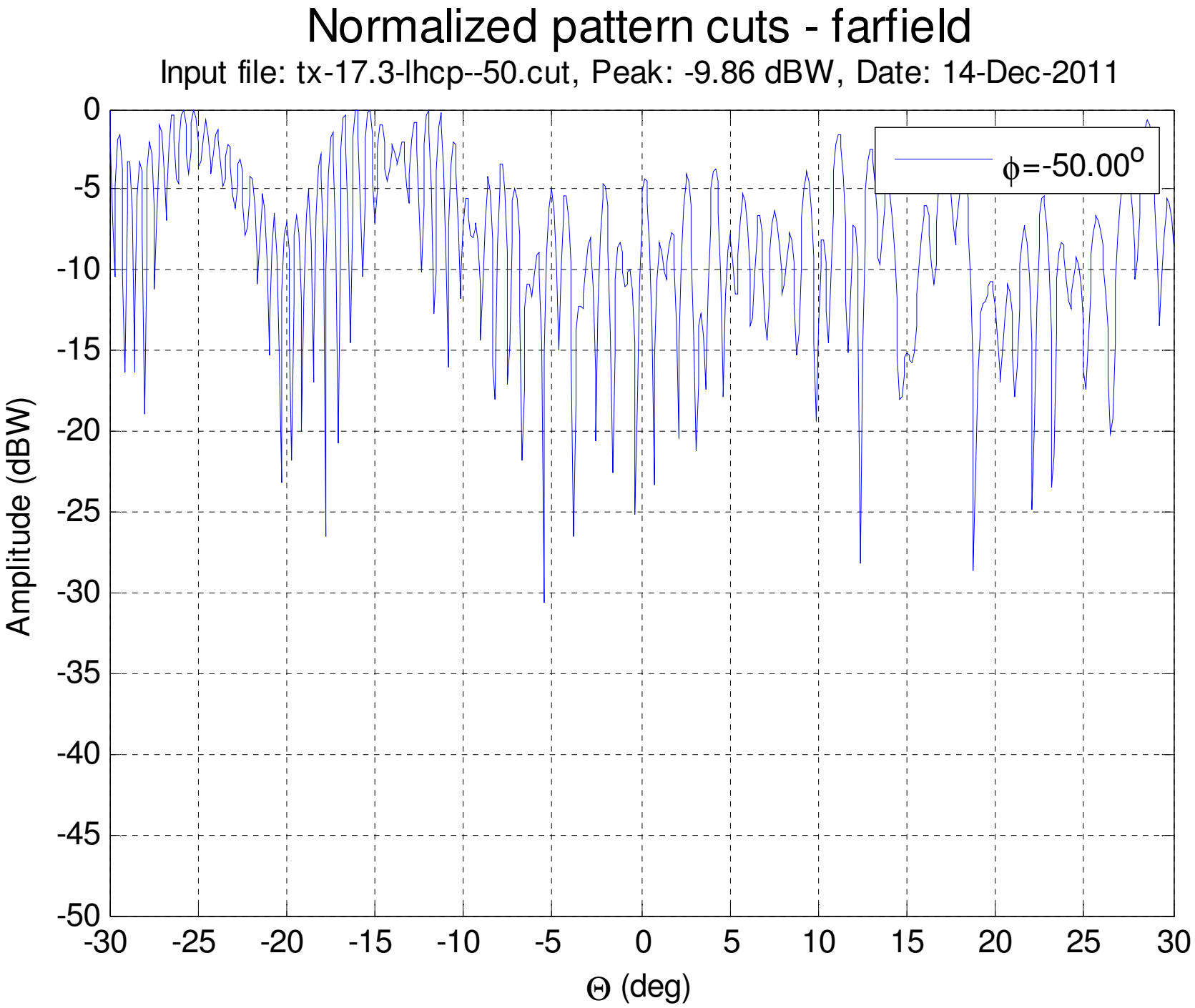

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -9.56 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

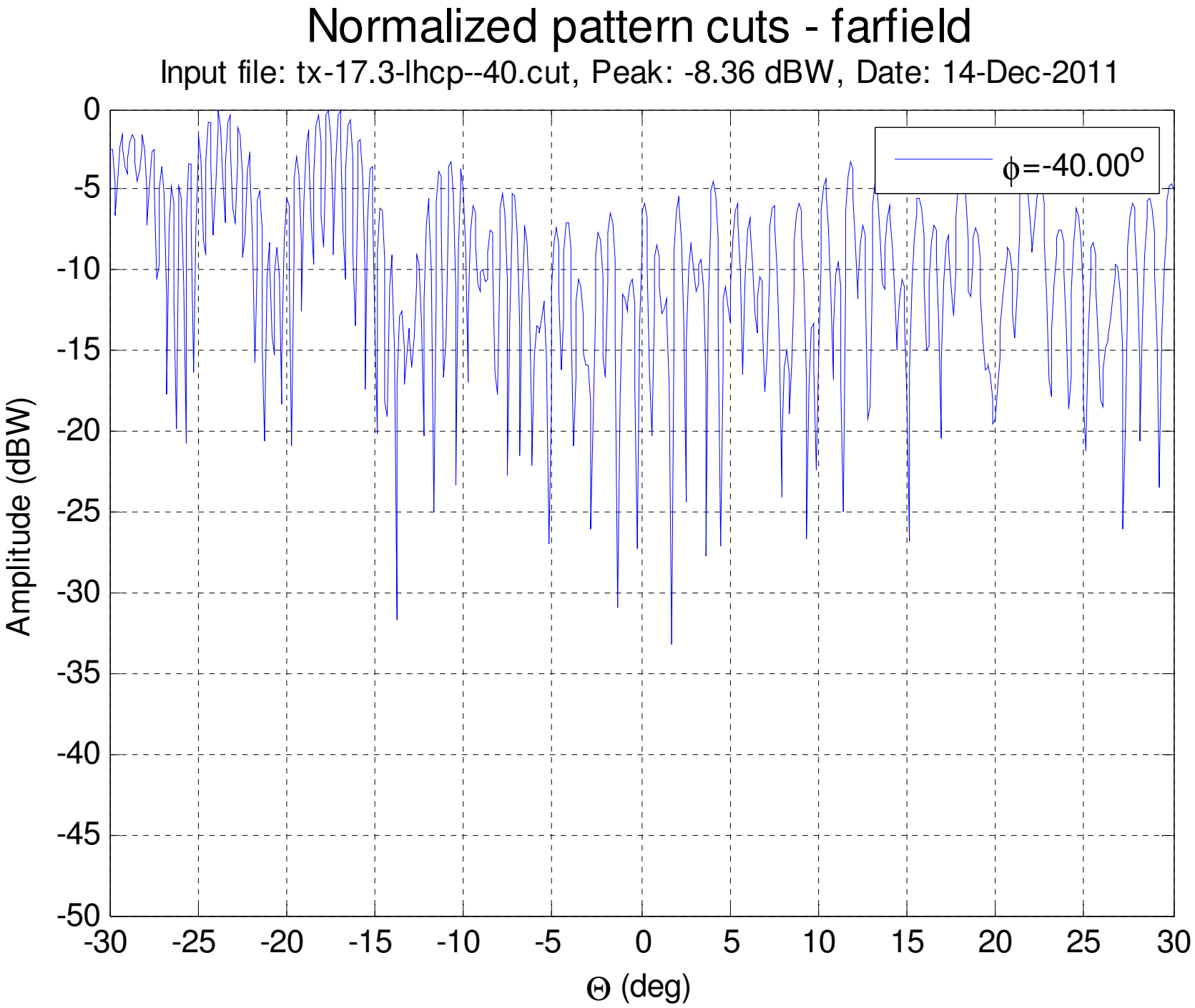

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -9.64 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

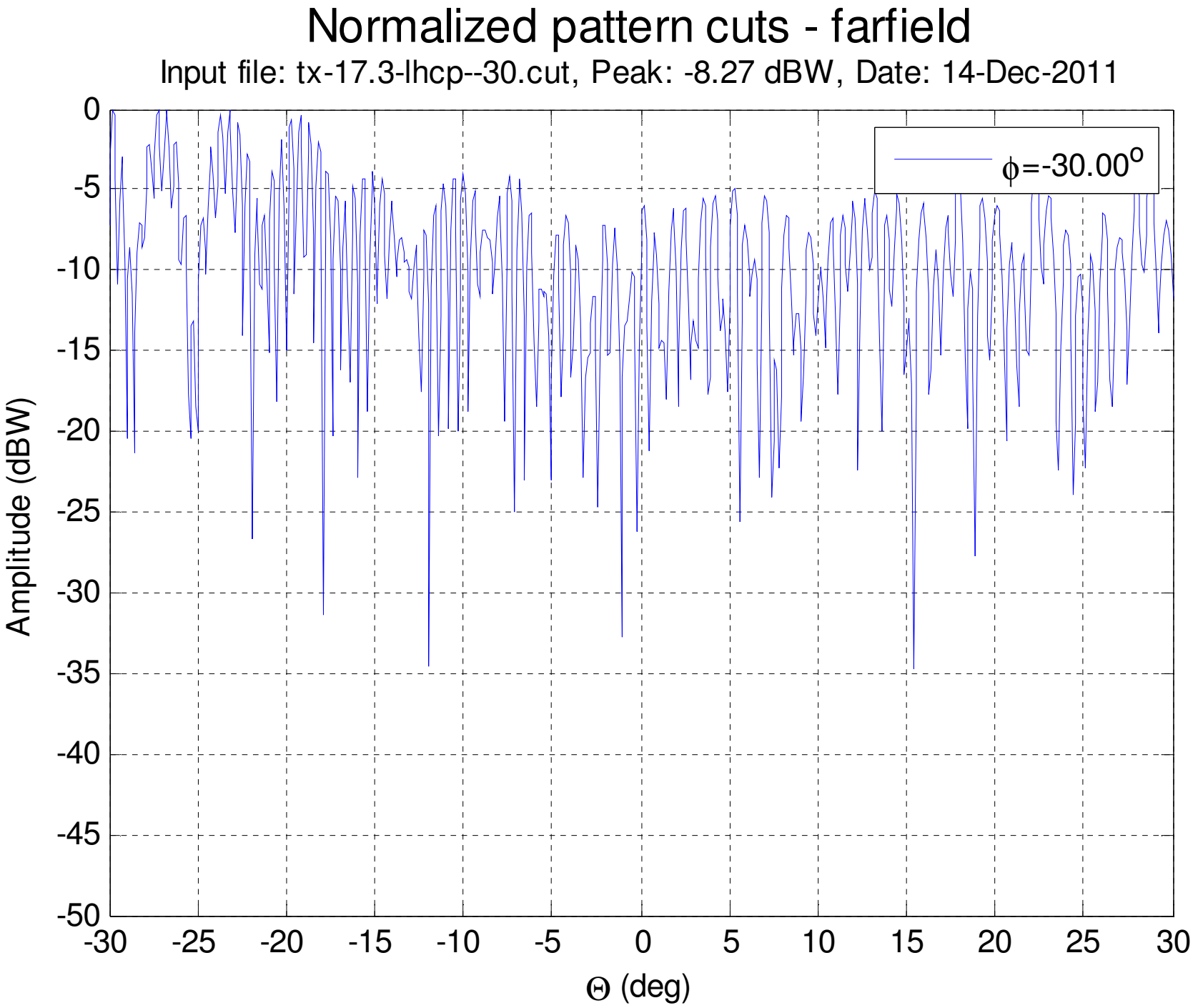

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.05 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

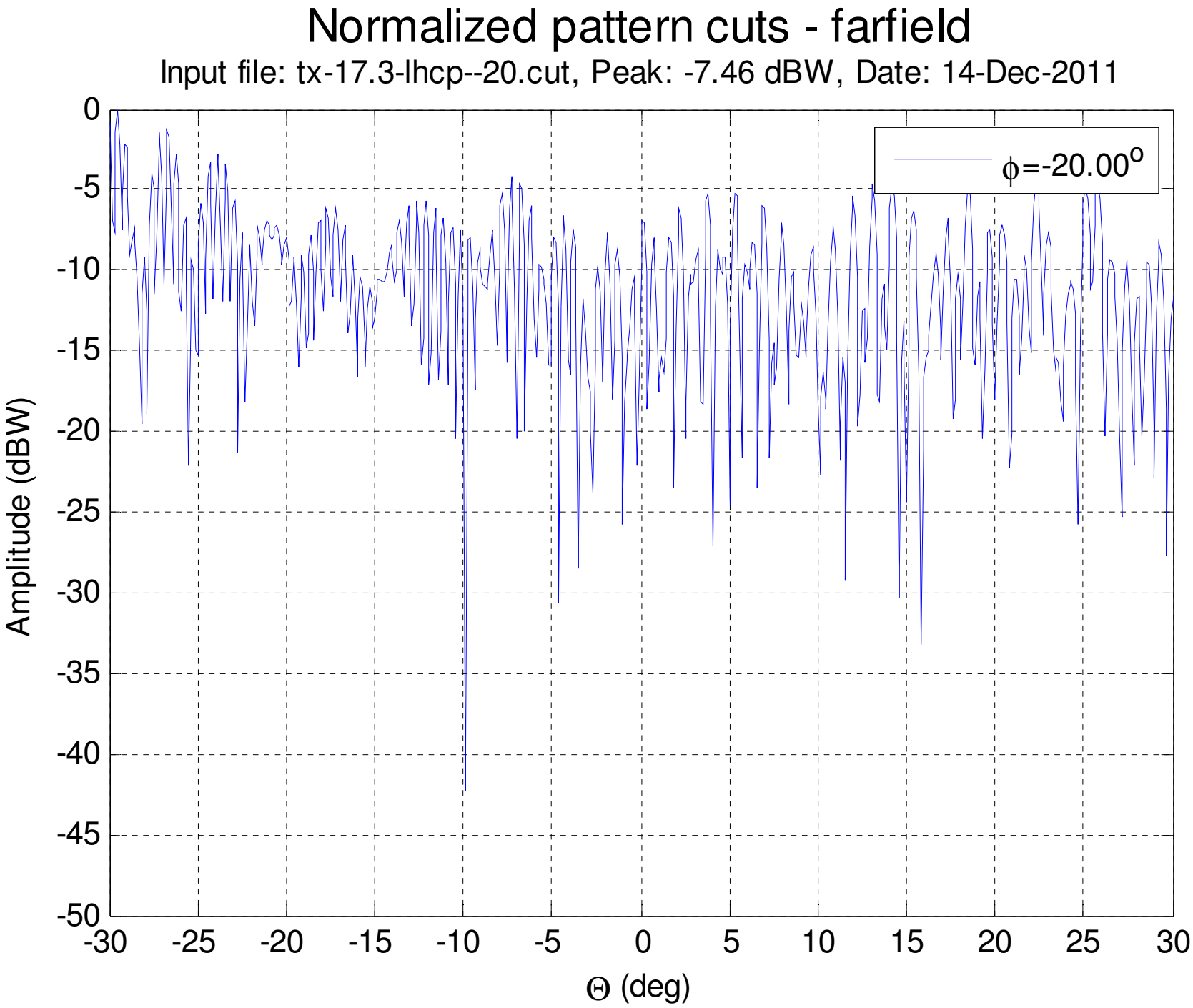
LHCP at 17.3 GHz

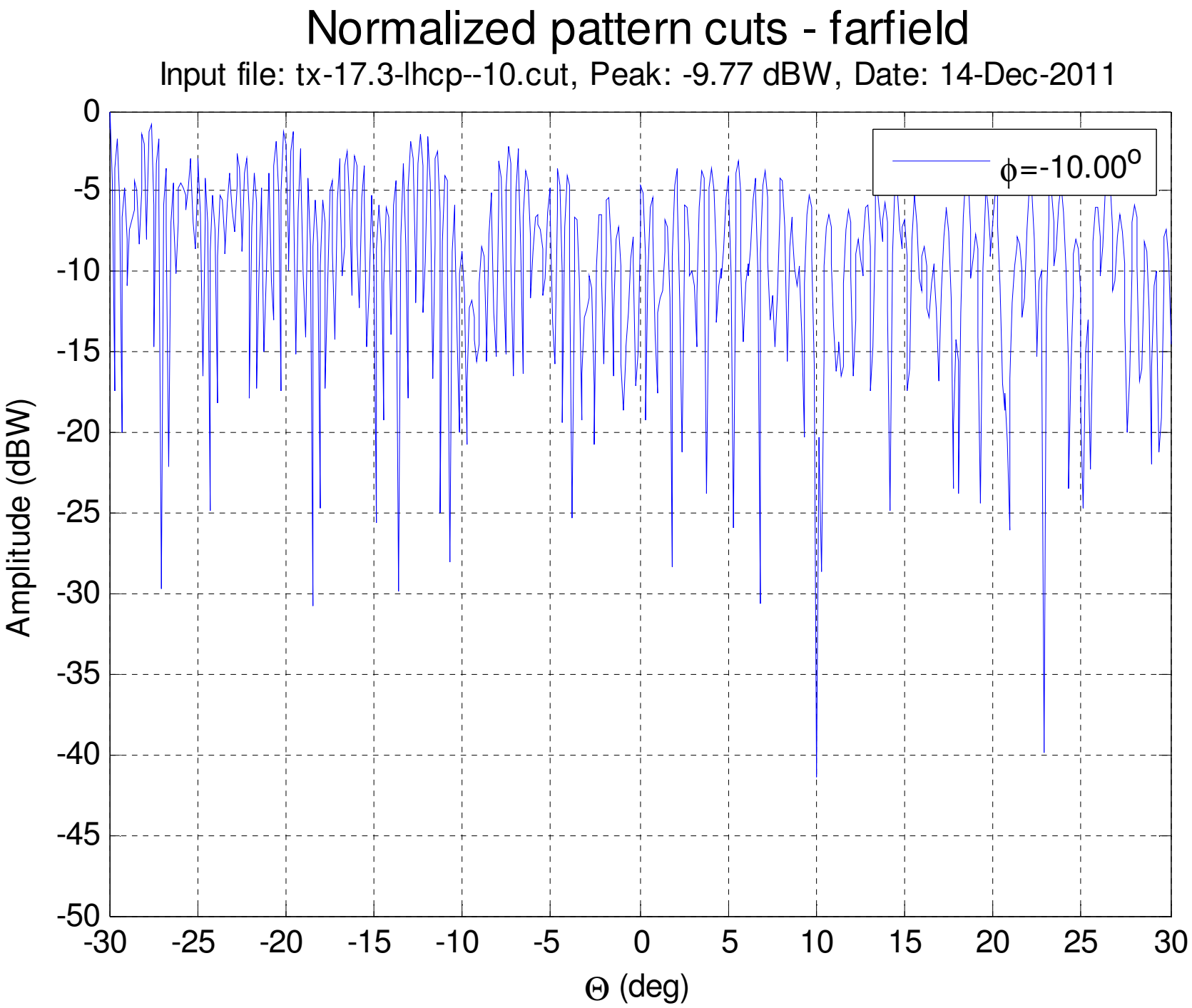

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -8.71 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

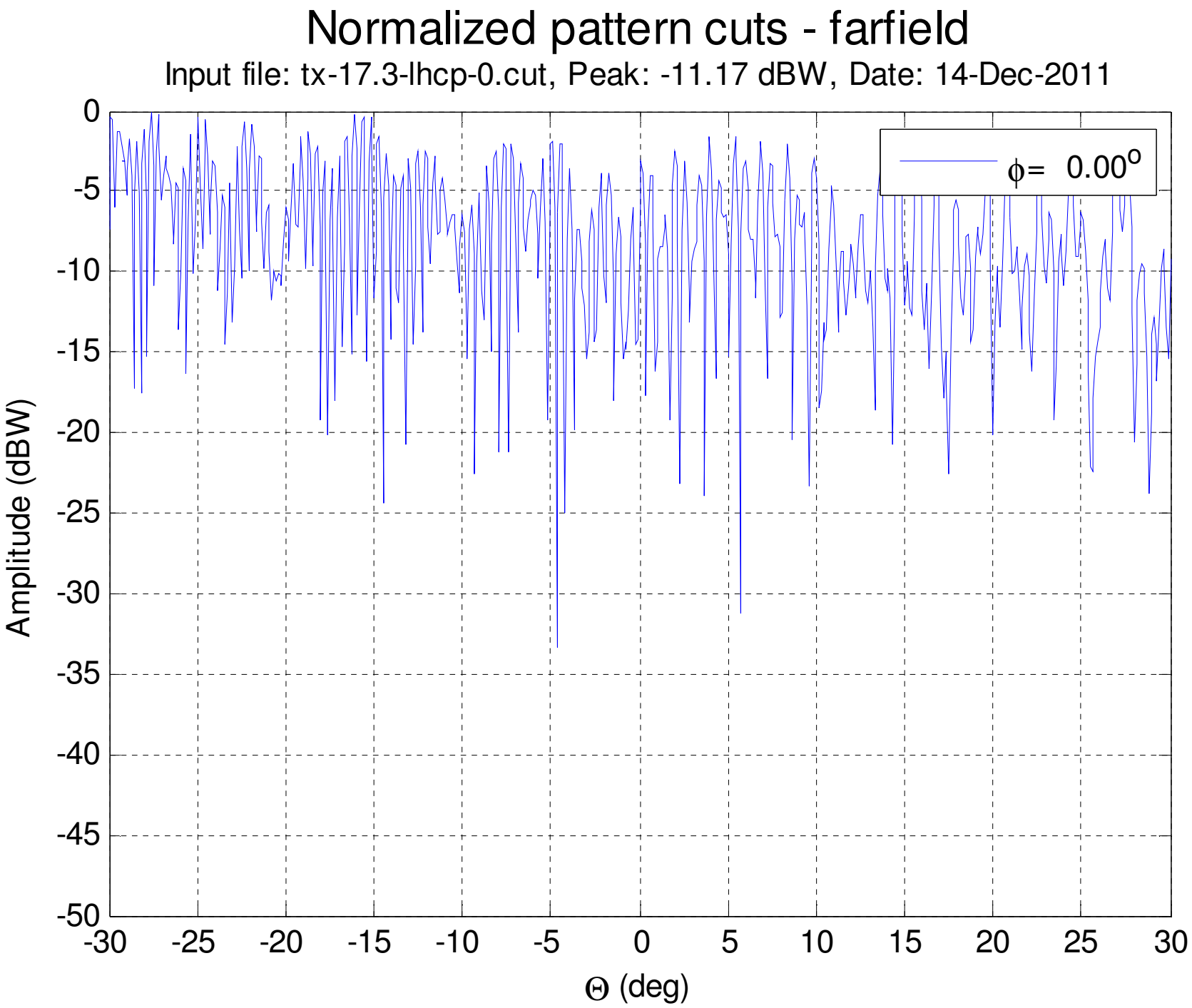

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -9.86 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

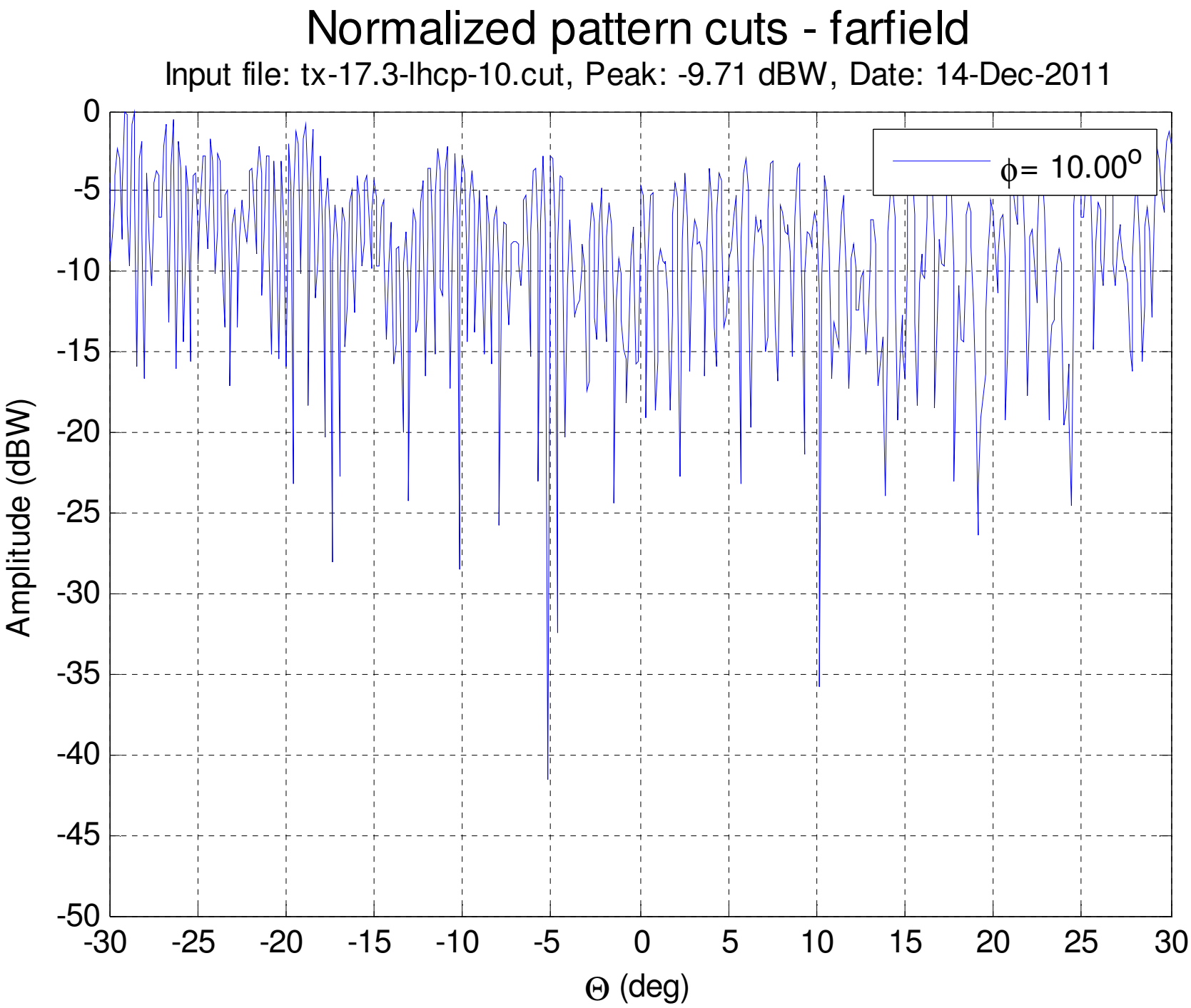

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -8.36 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

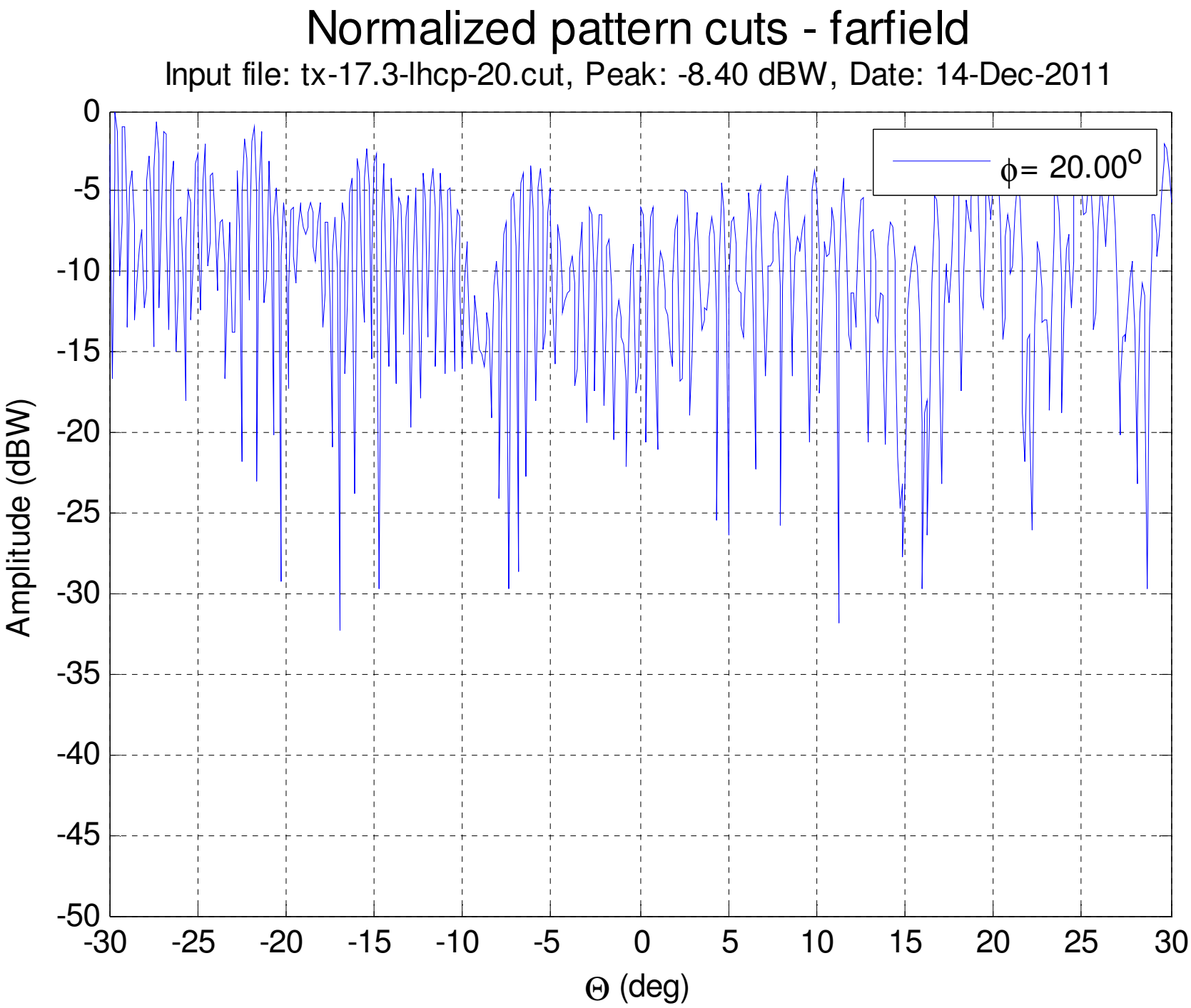

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -8.27 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

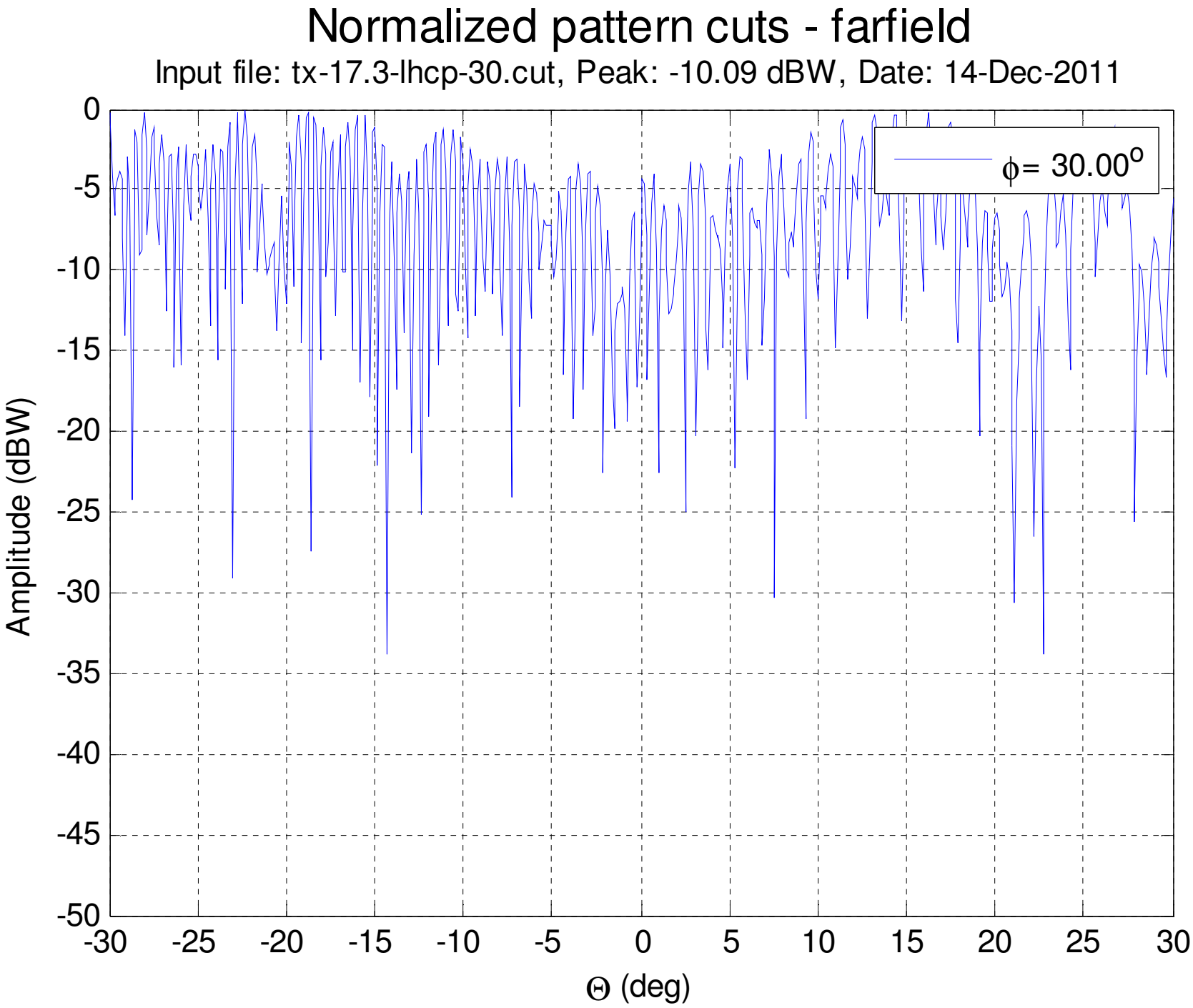

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -7.46 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

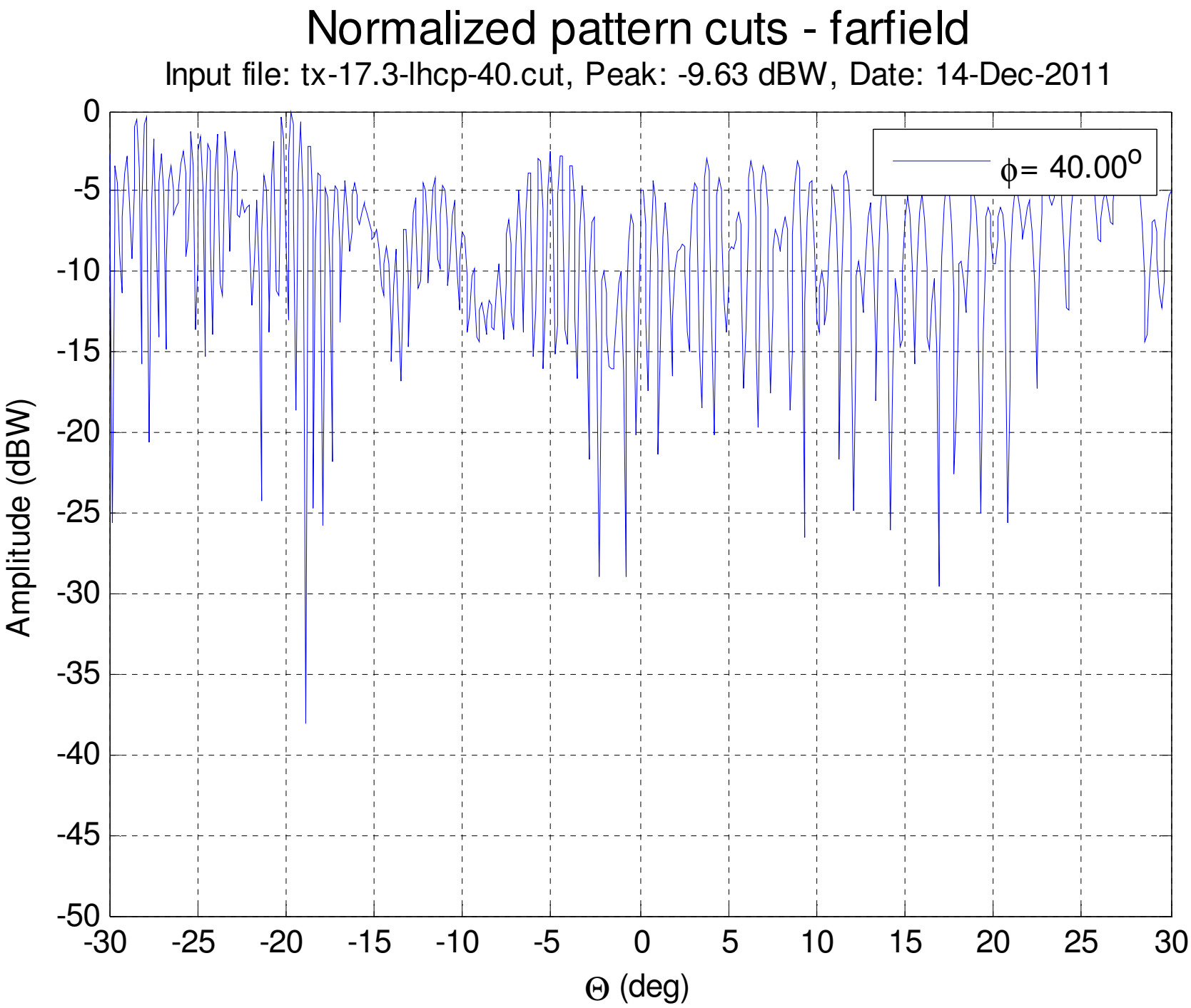

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -9.77 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

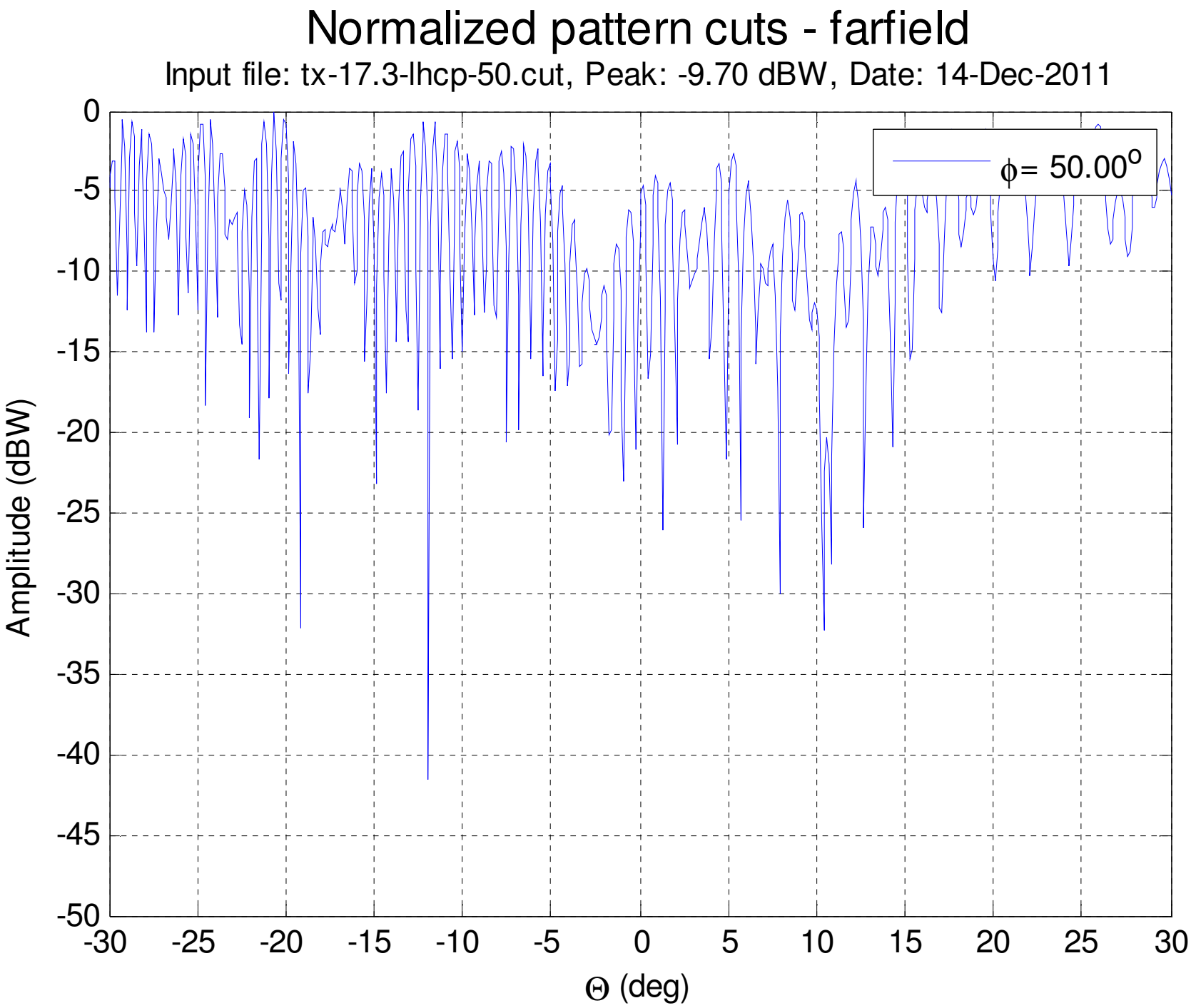

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -11.17 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

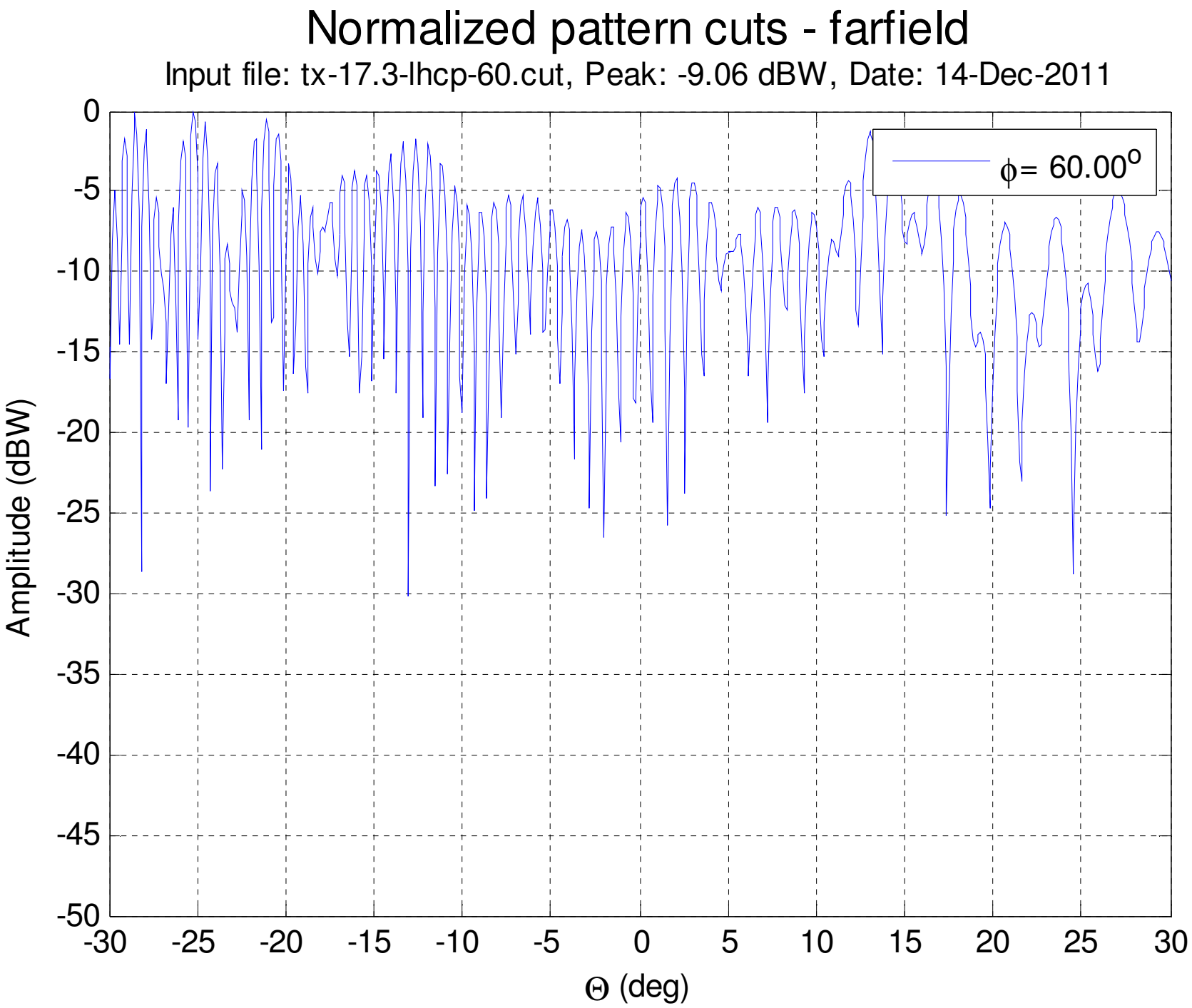

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -9.71 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -8.40 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

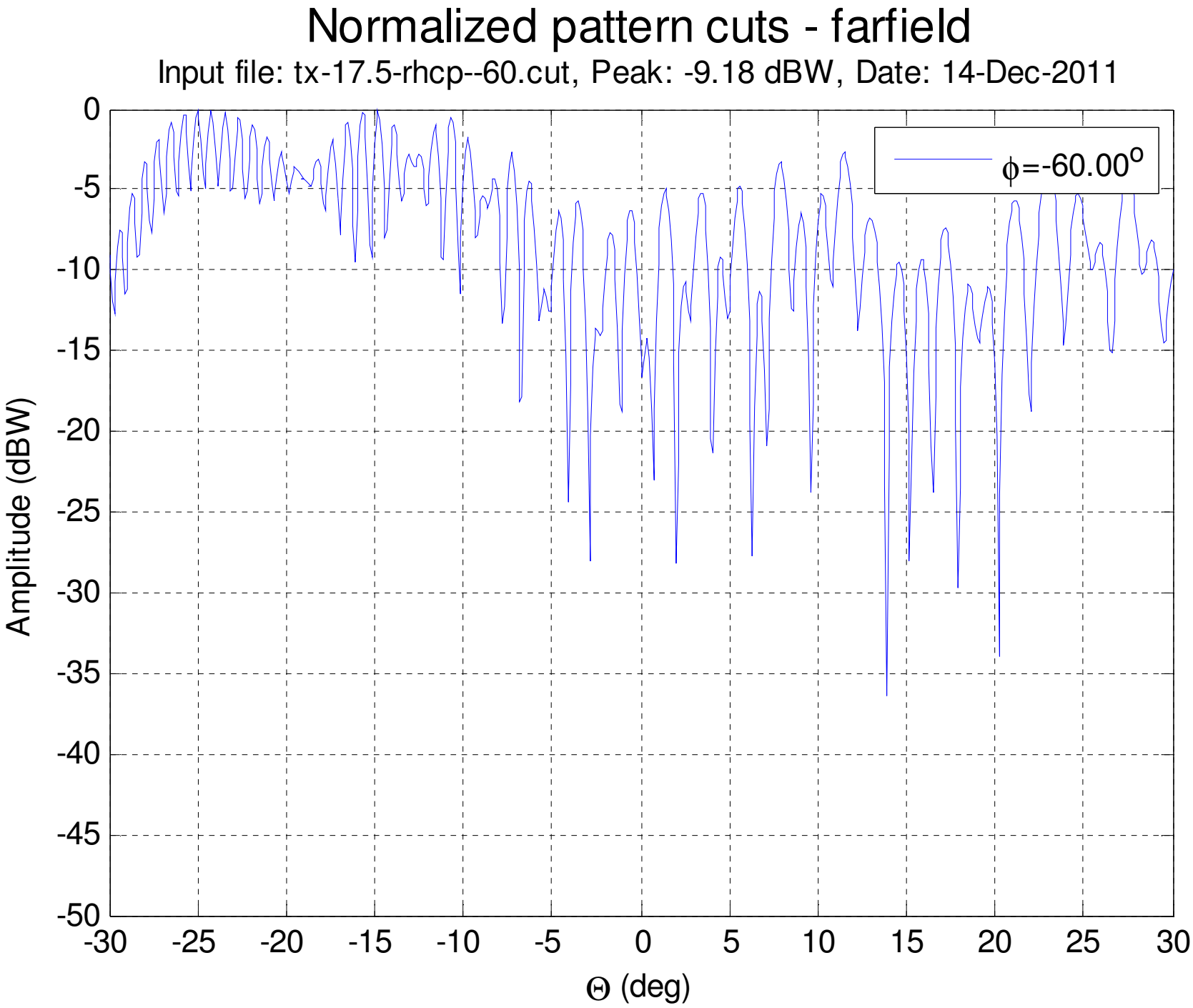

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -10.09 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

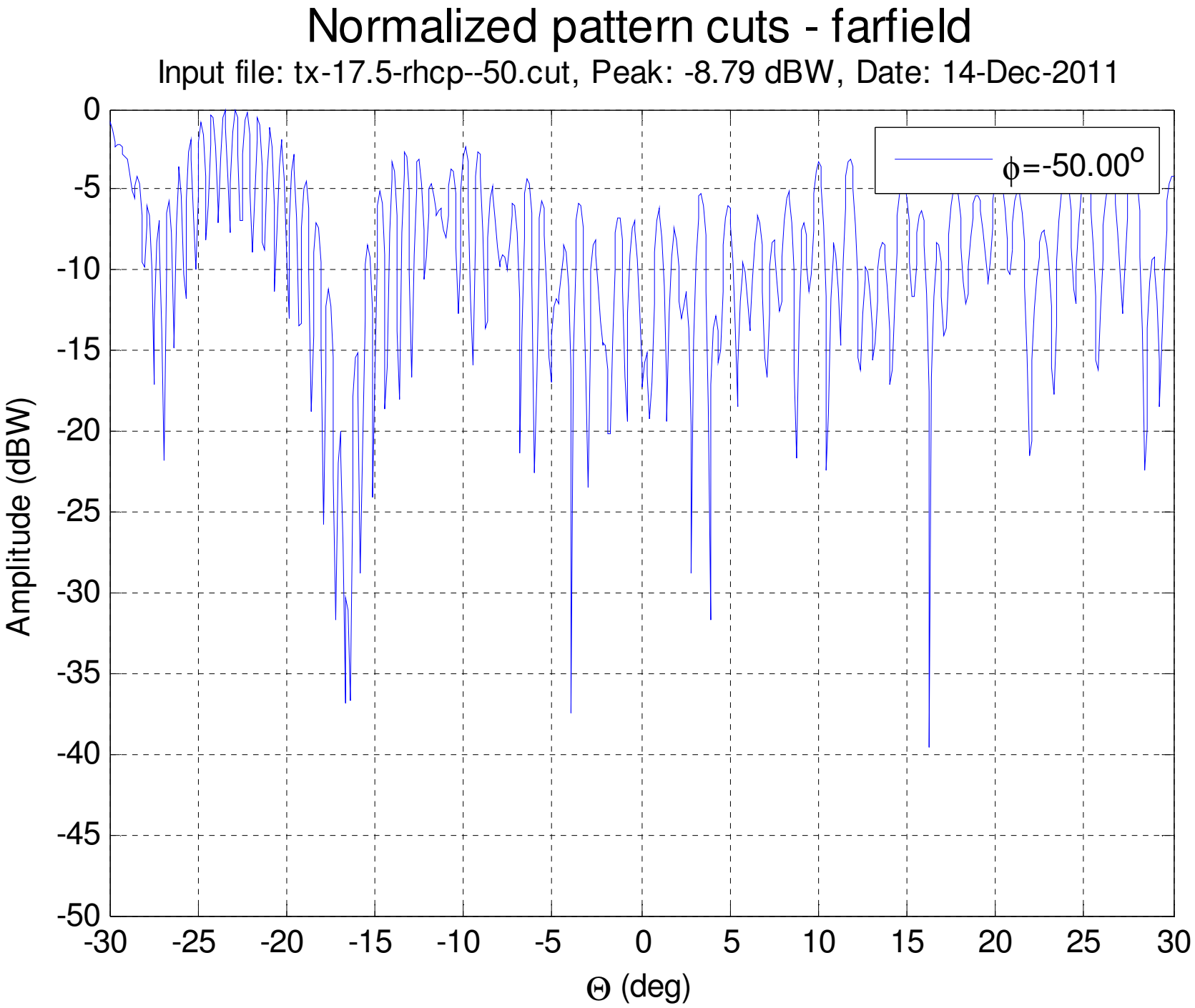

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -9.63 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

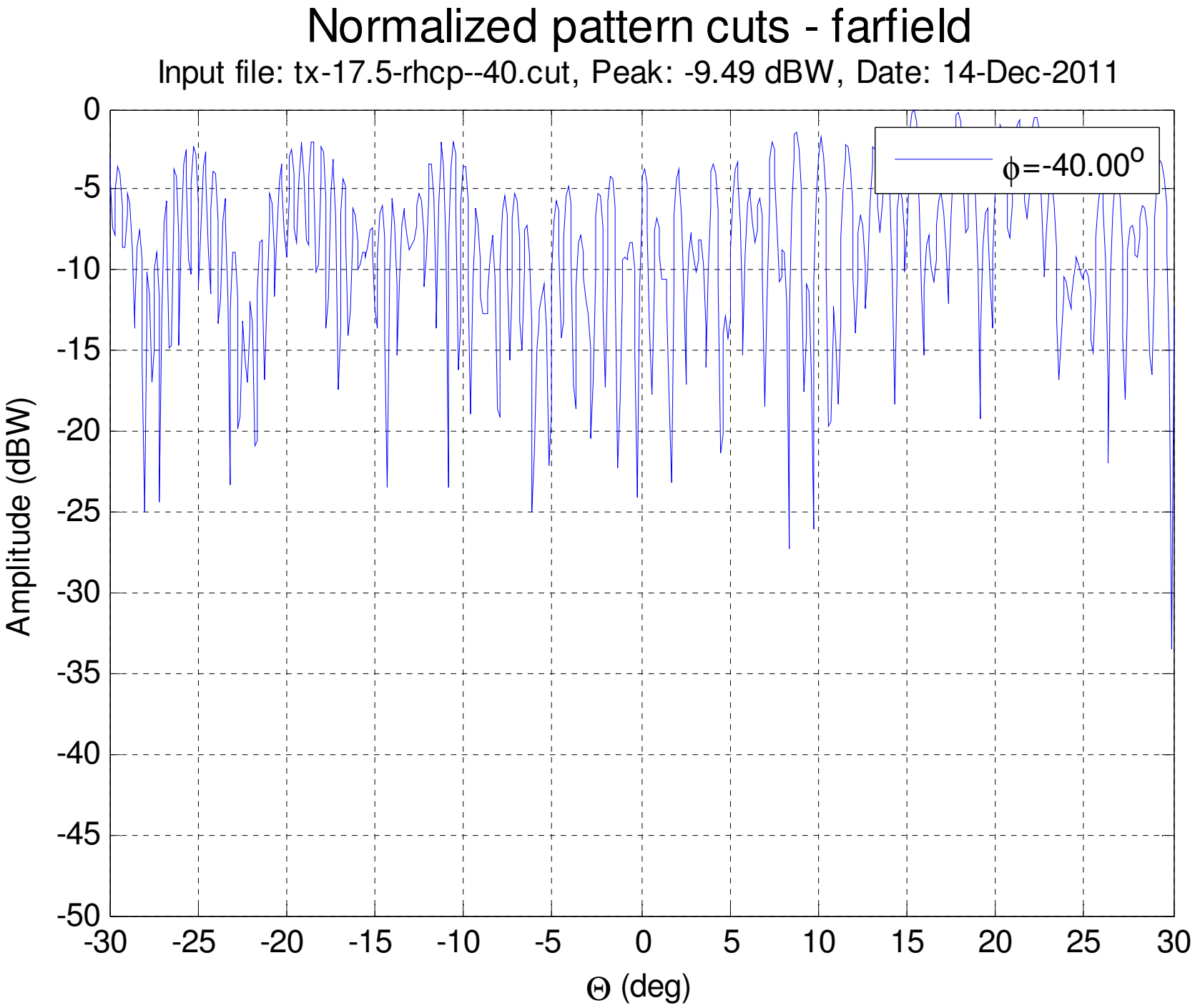

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -9.70 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

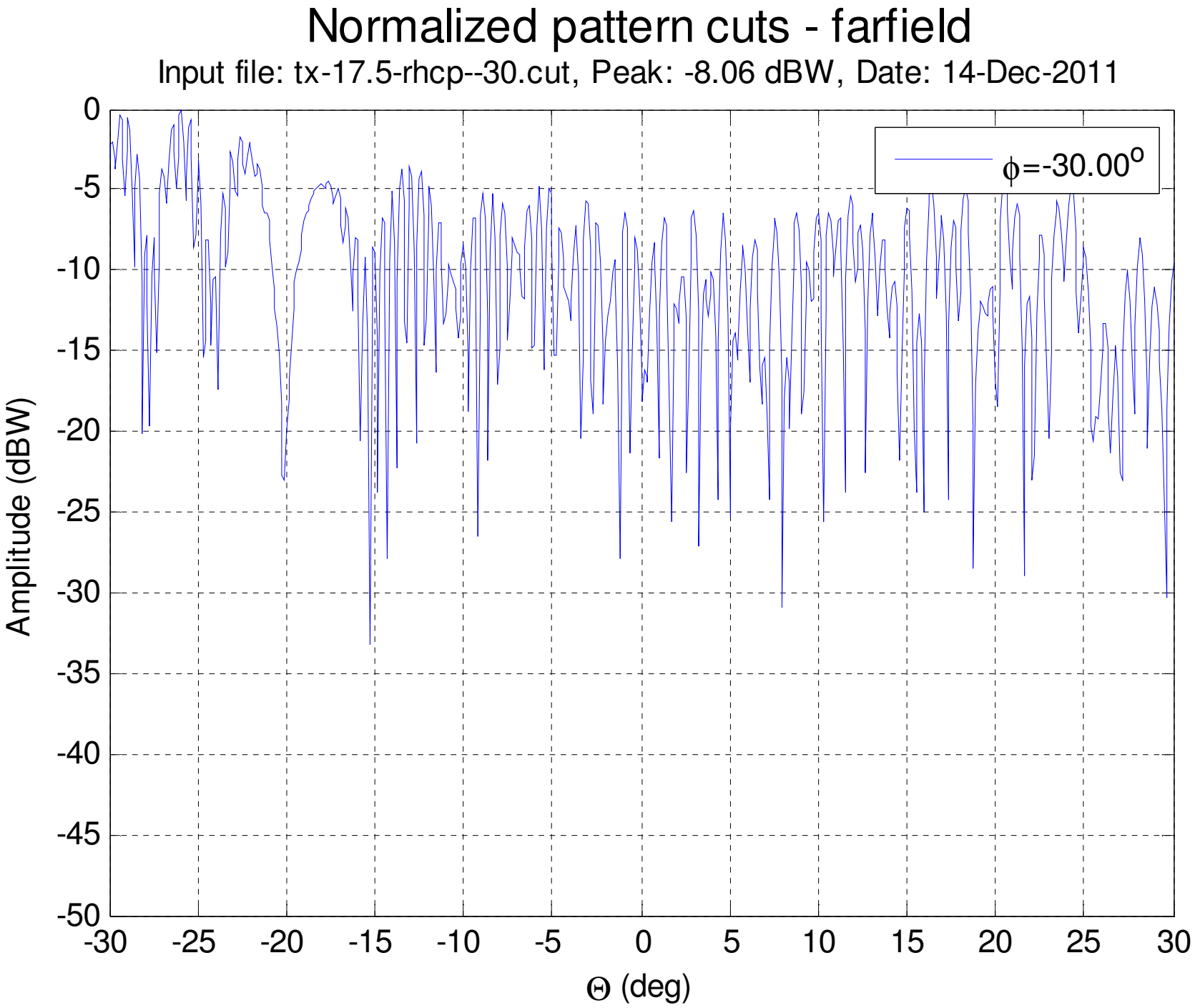

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.06 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

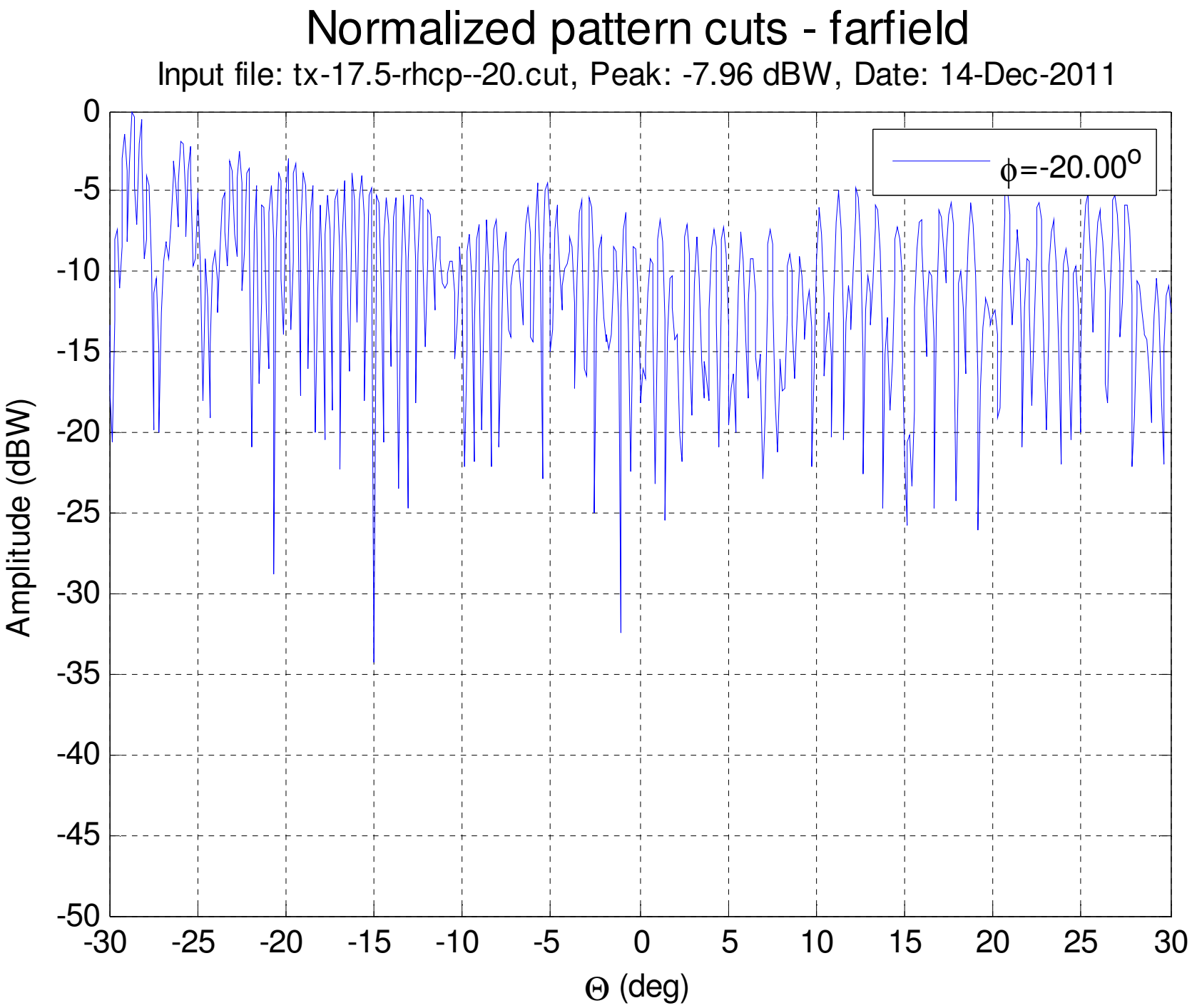
RHCP at 17.5 GHz

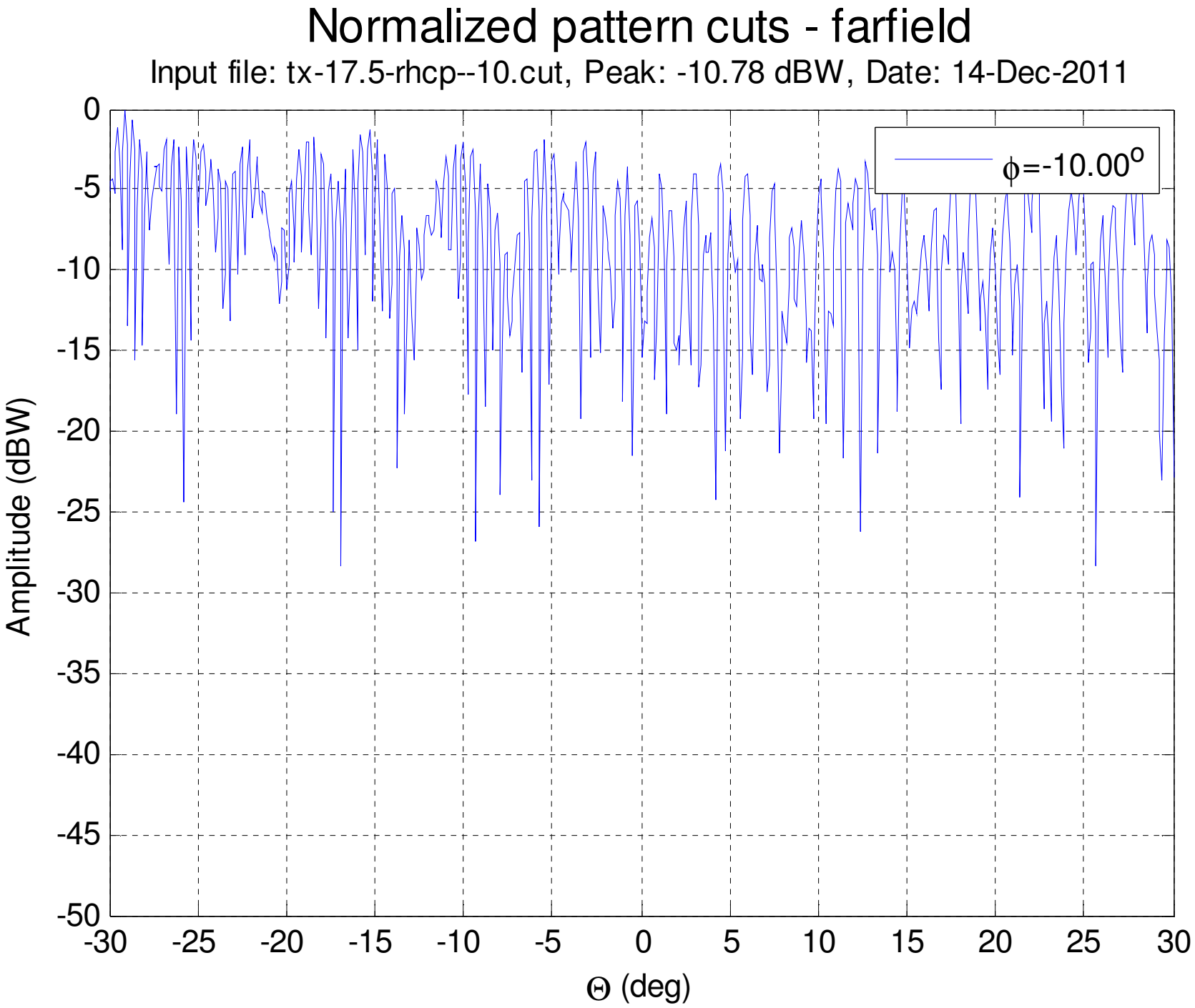

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -9.18 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

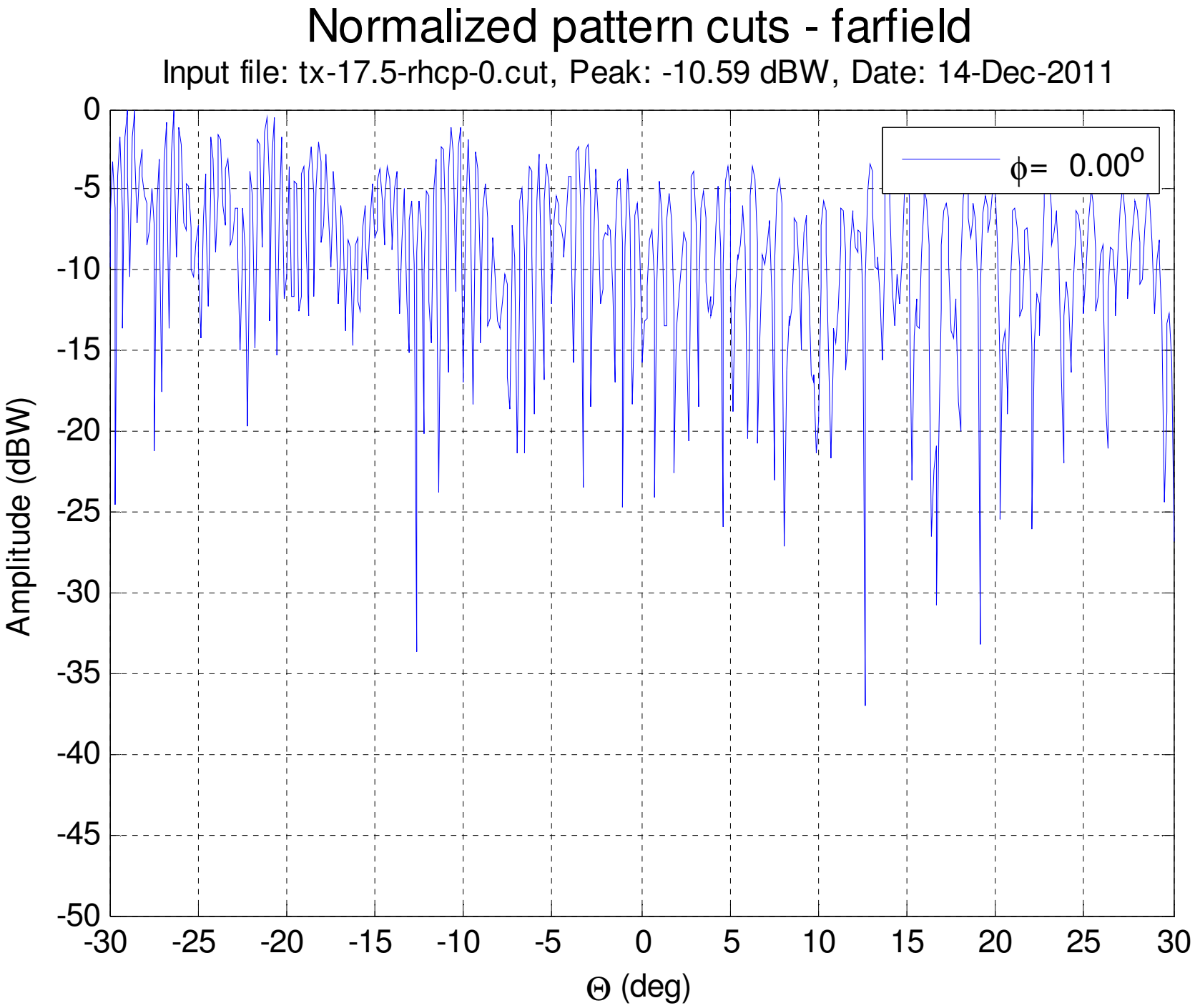

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.79 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

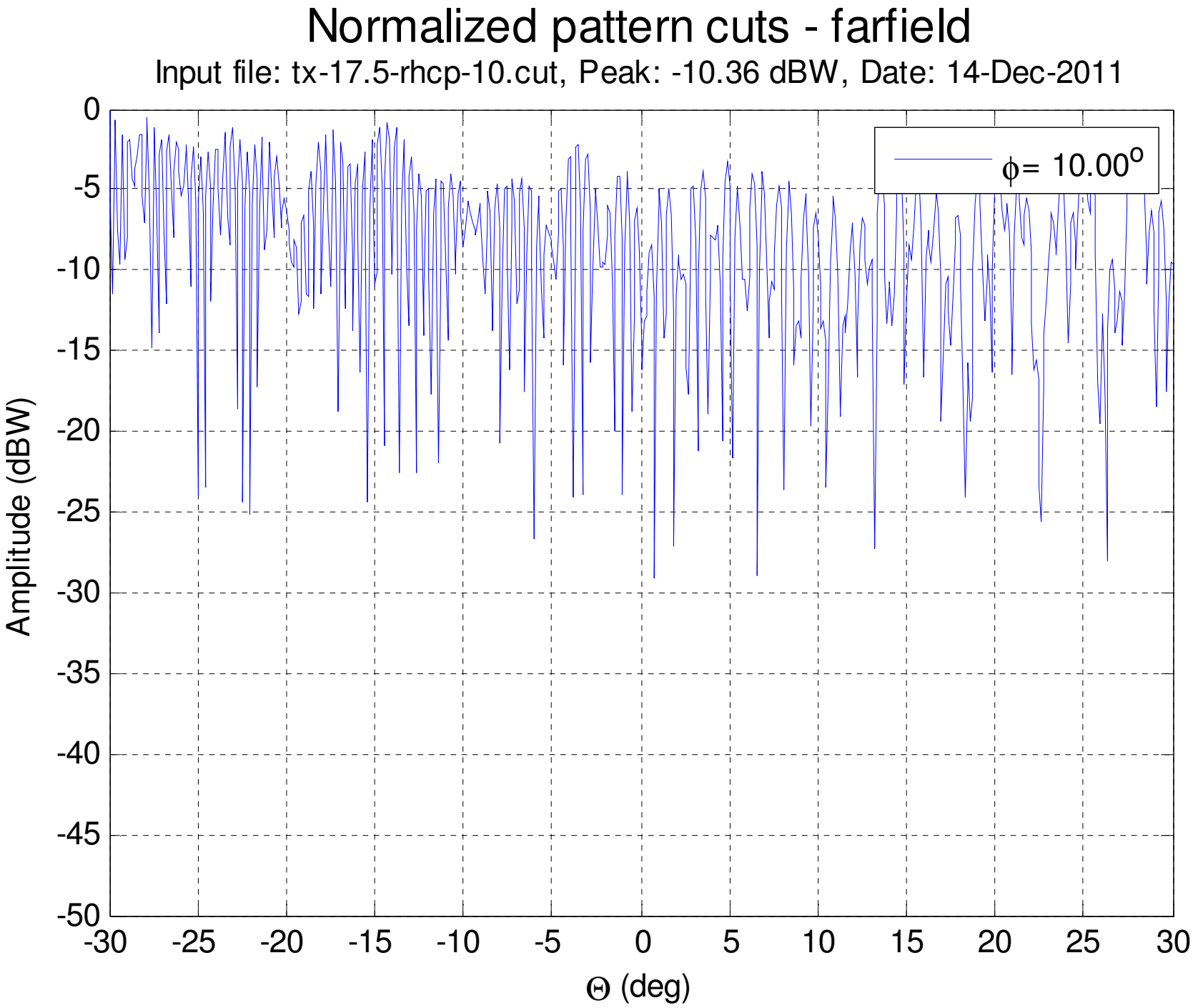

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -9.49 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

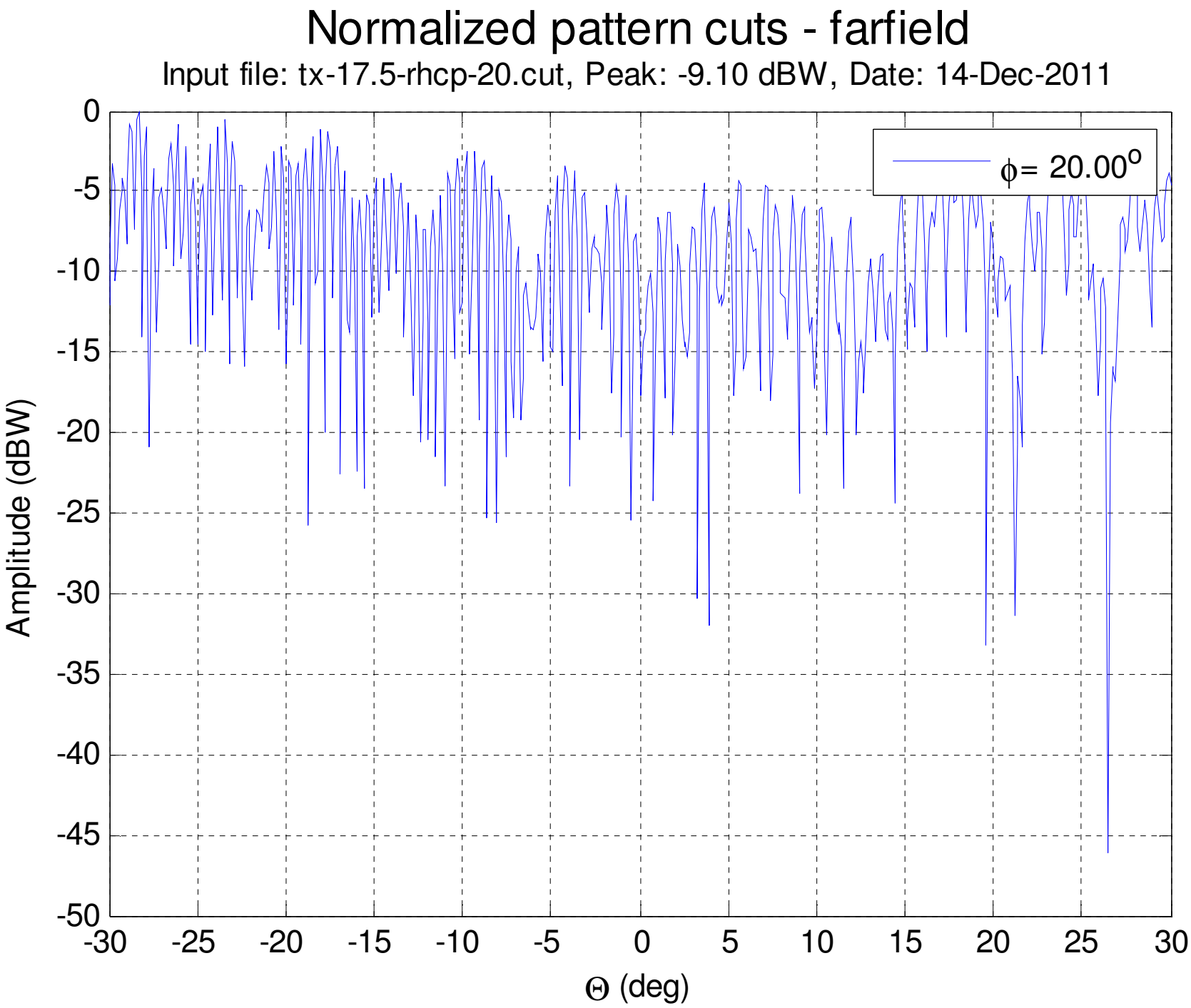

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -8.06 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

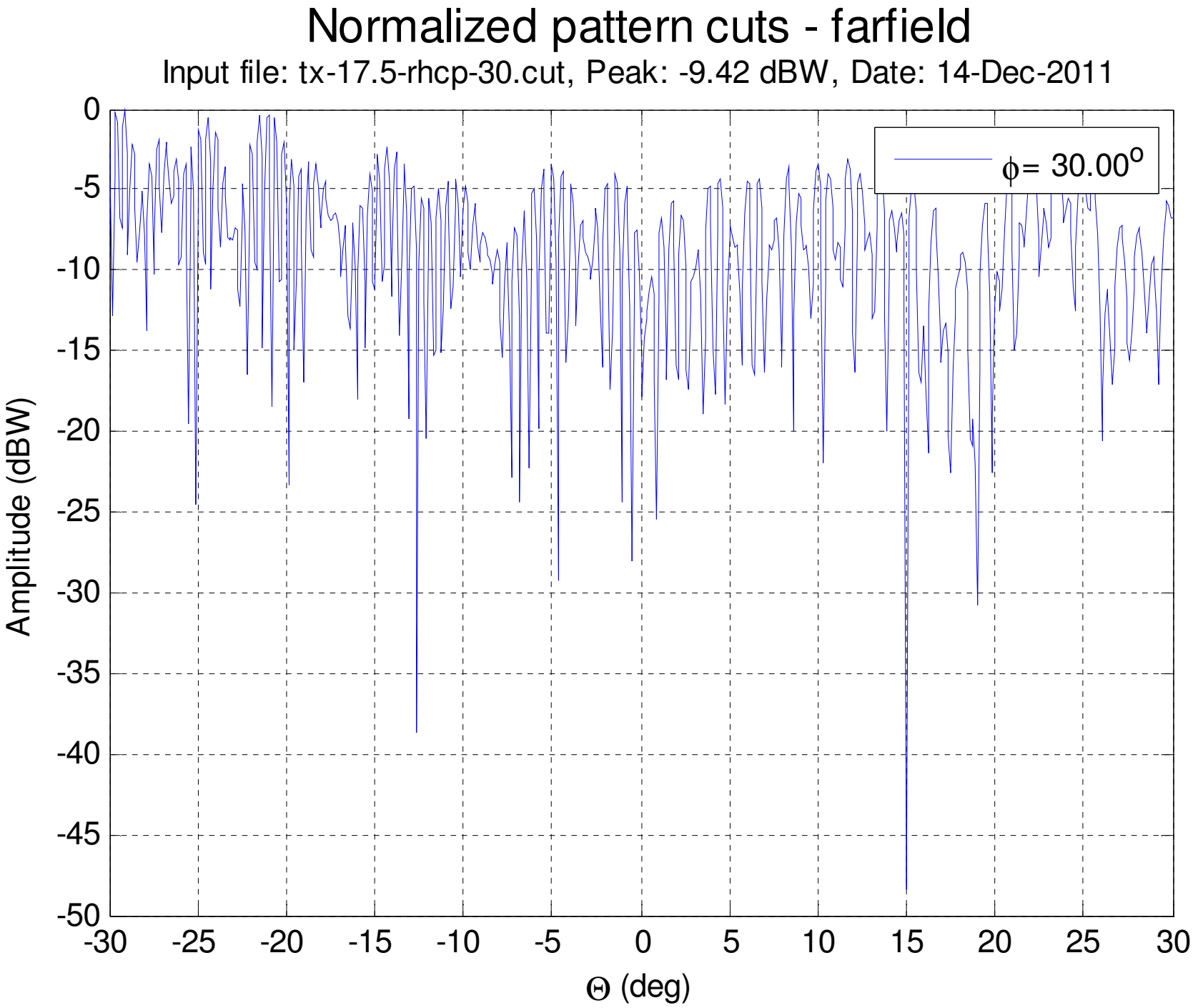

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -7.96 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

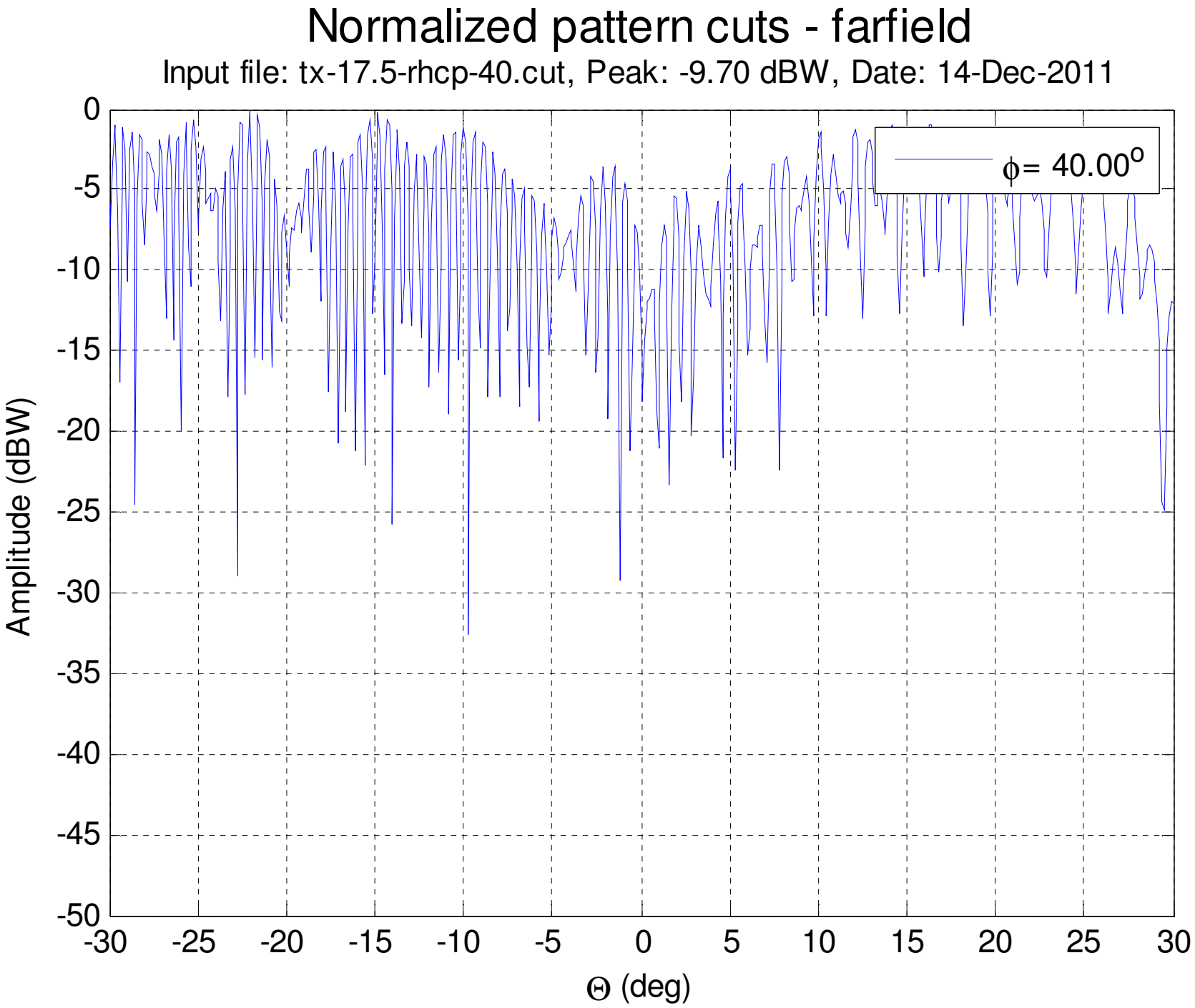

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -10.78 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

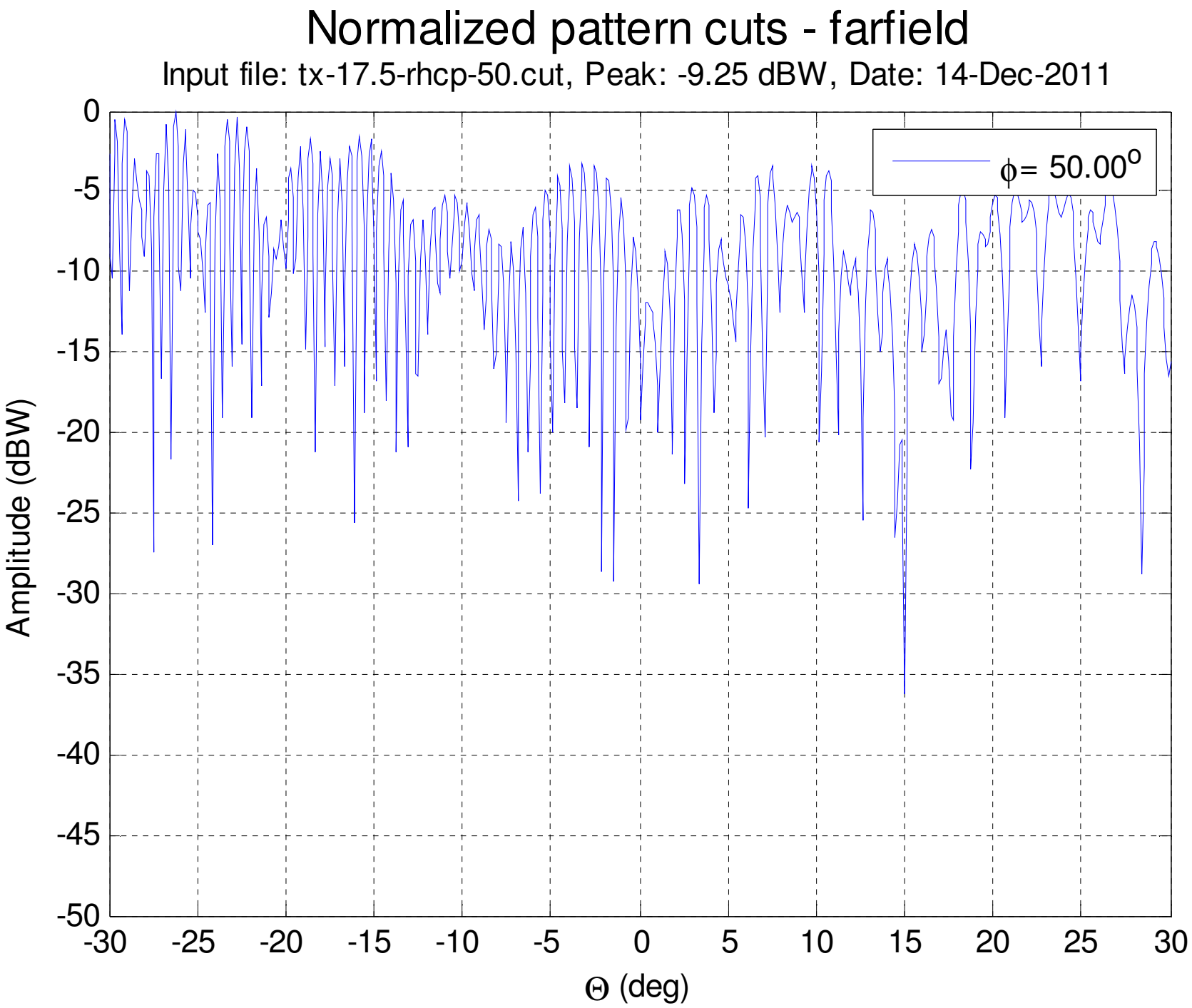

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -10.59 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

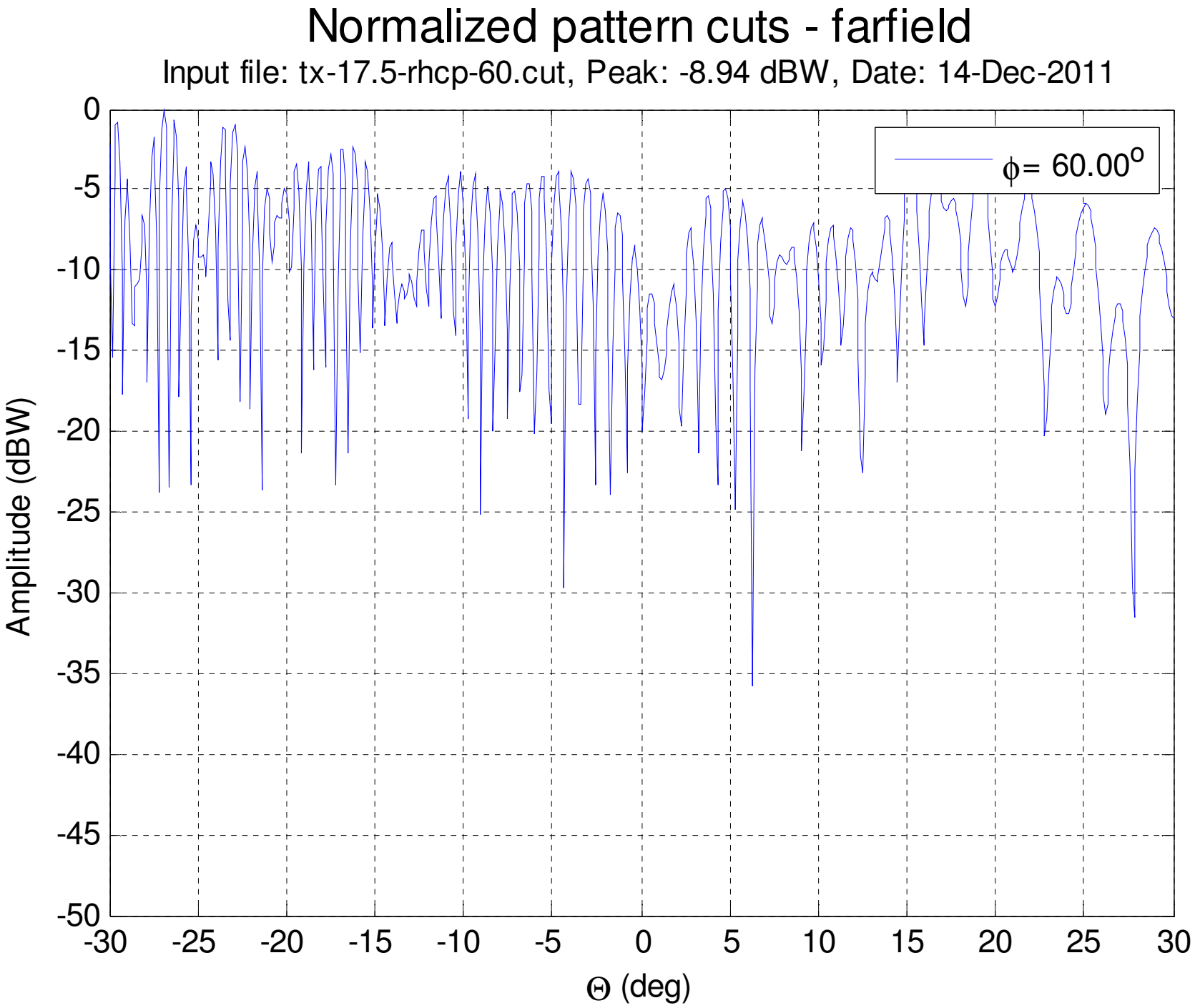

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -10.36 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -9.10 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

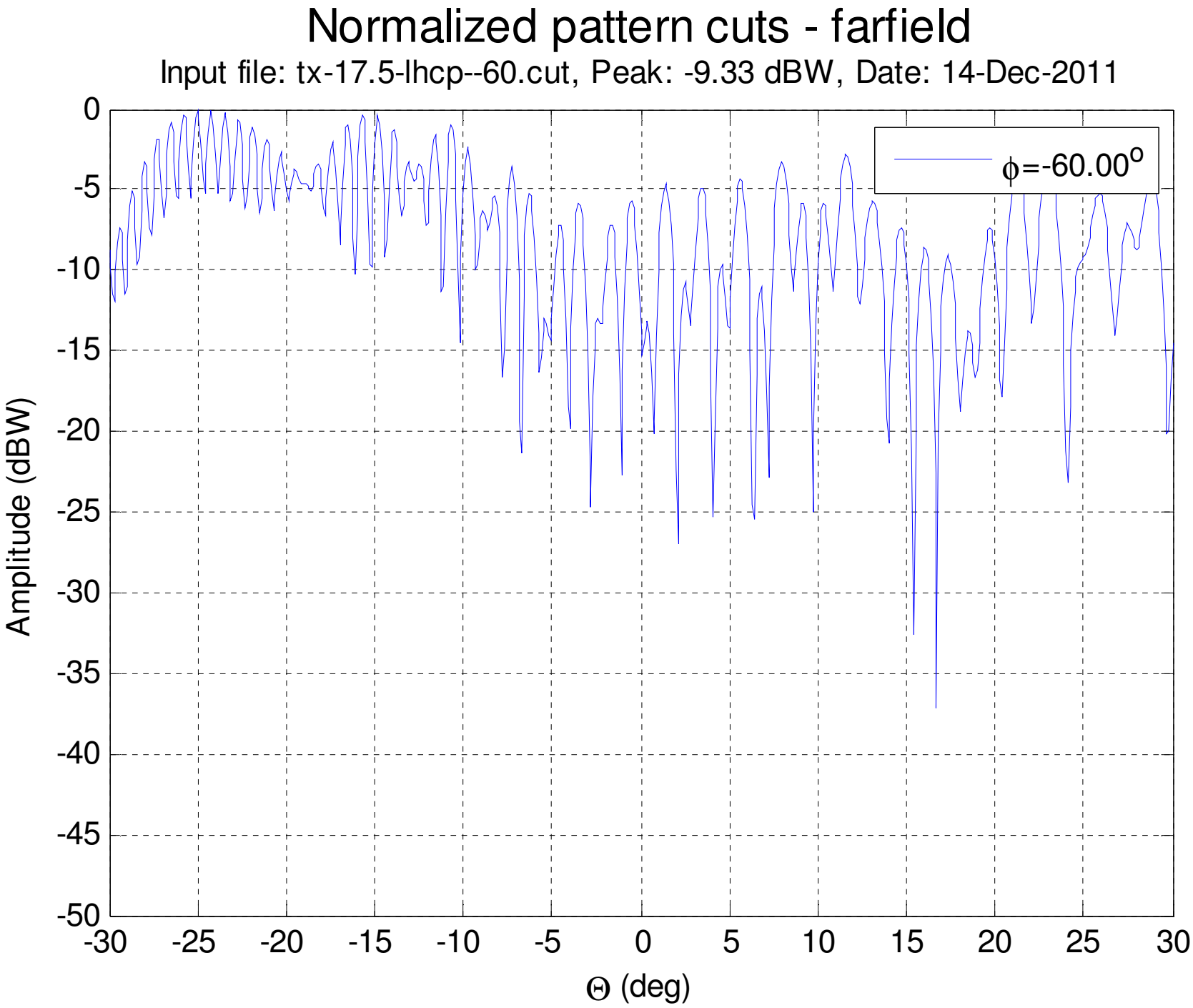

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -9.42 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

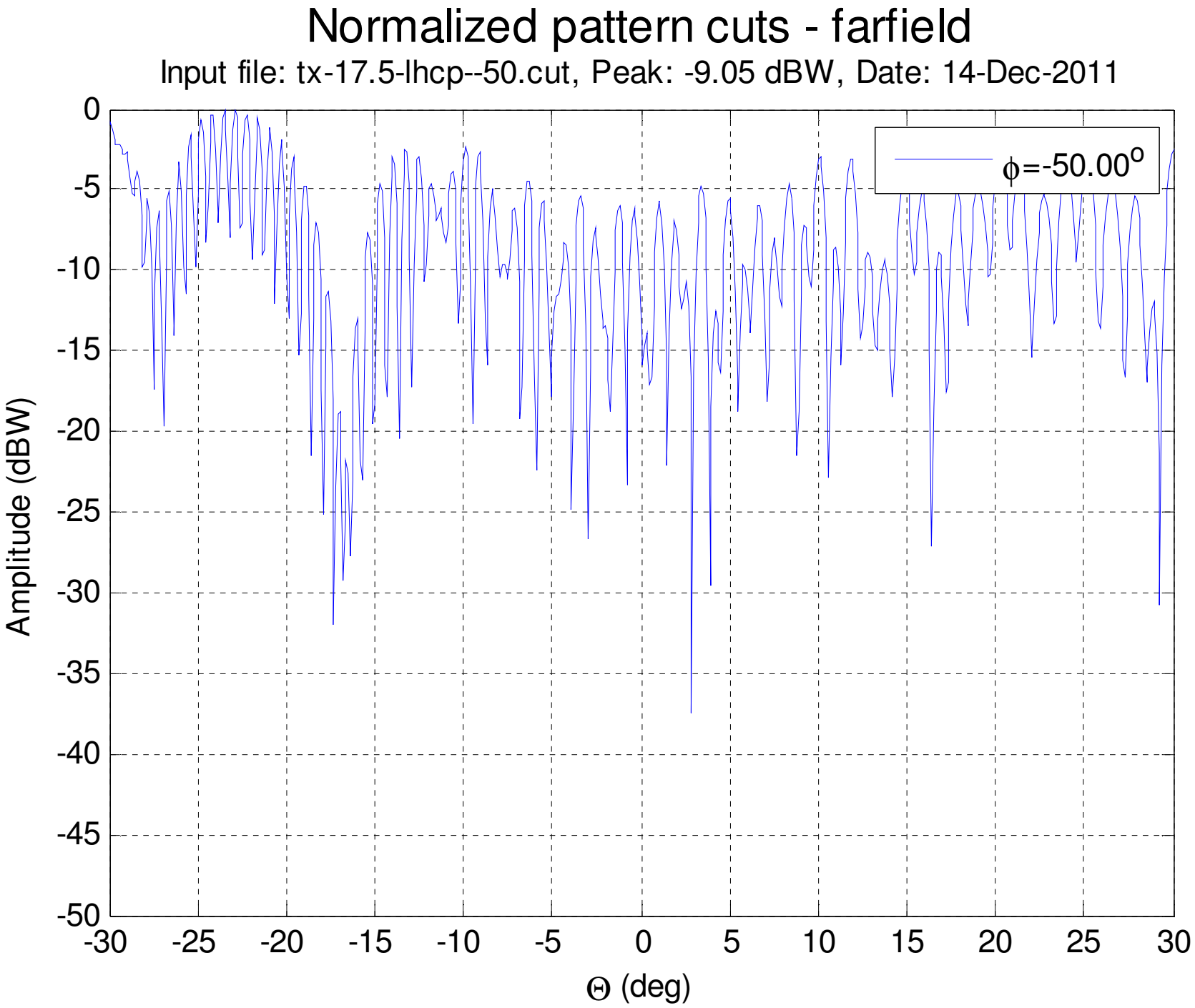

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.70 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

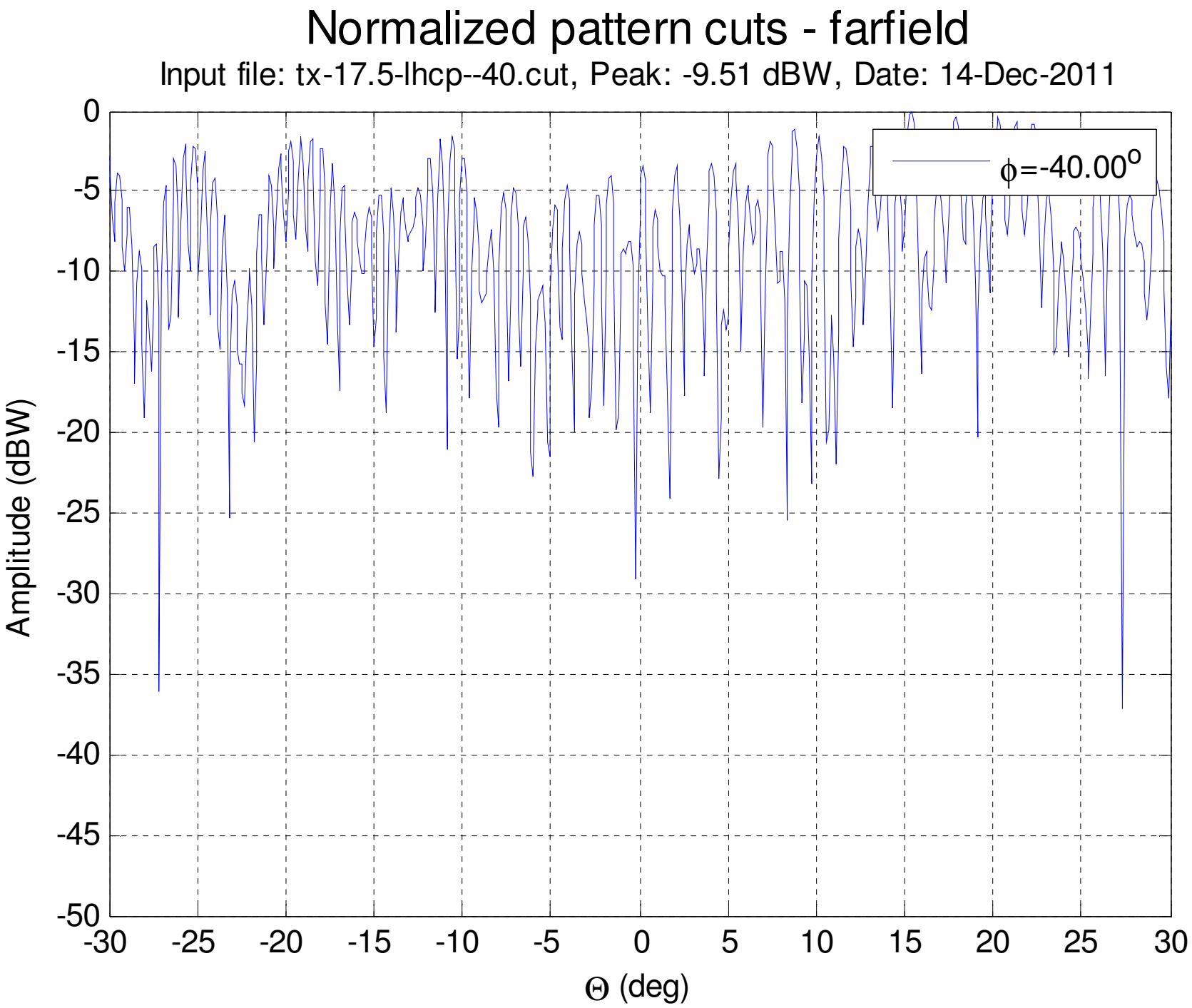

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -9.25 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

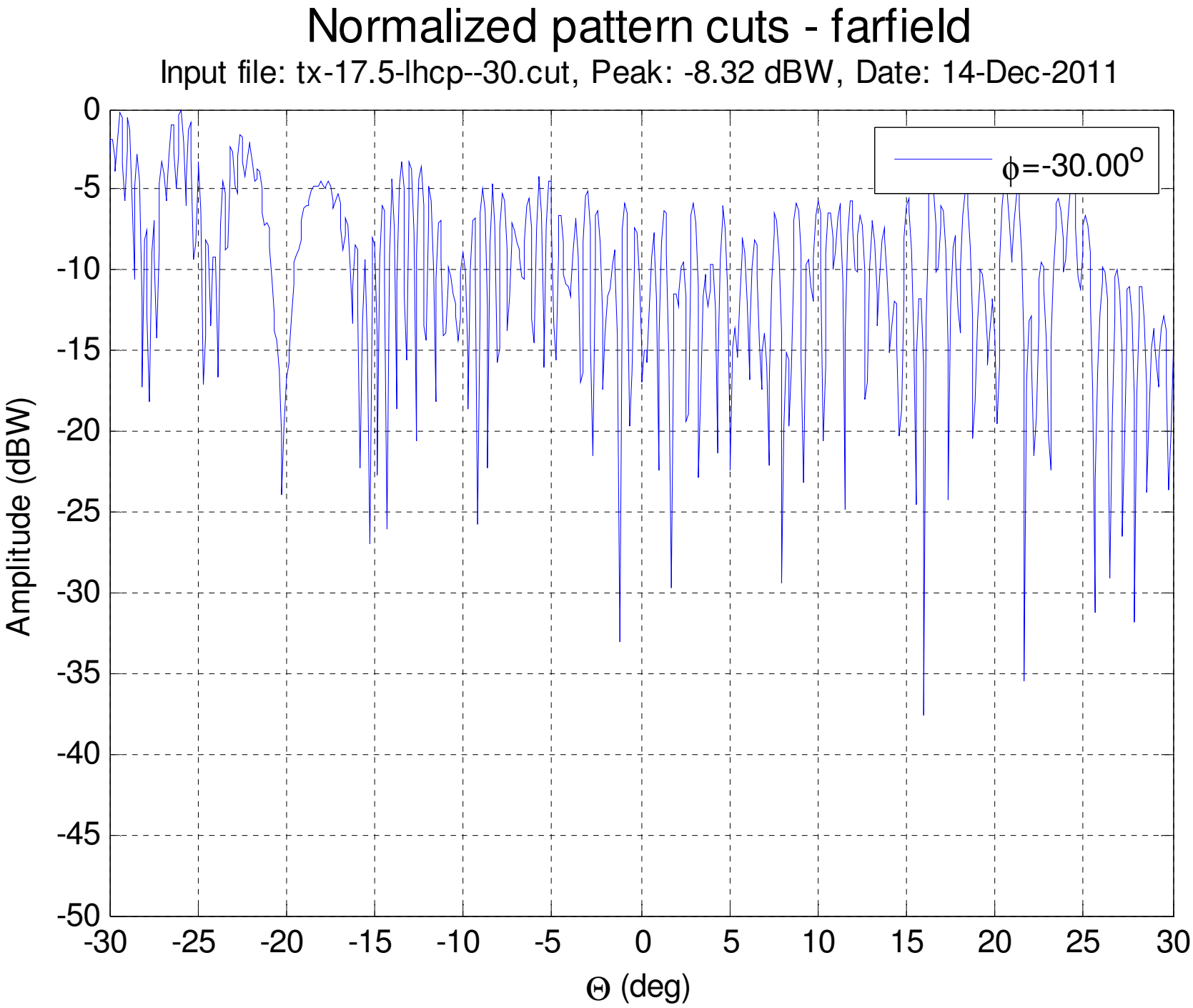

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -8.94 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

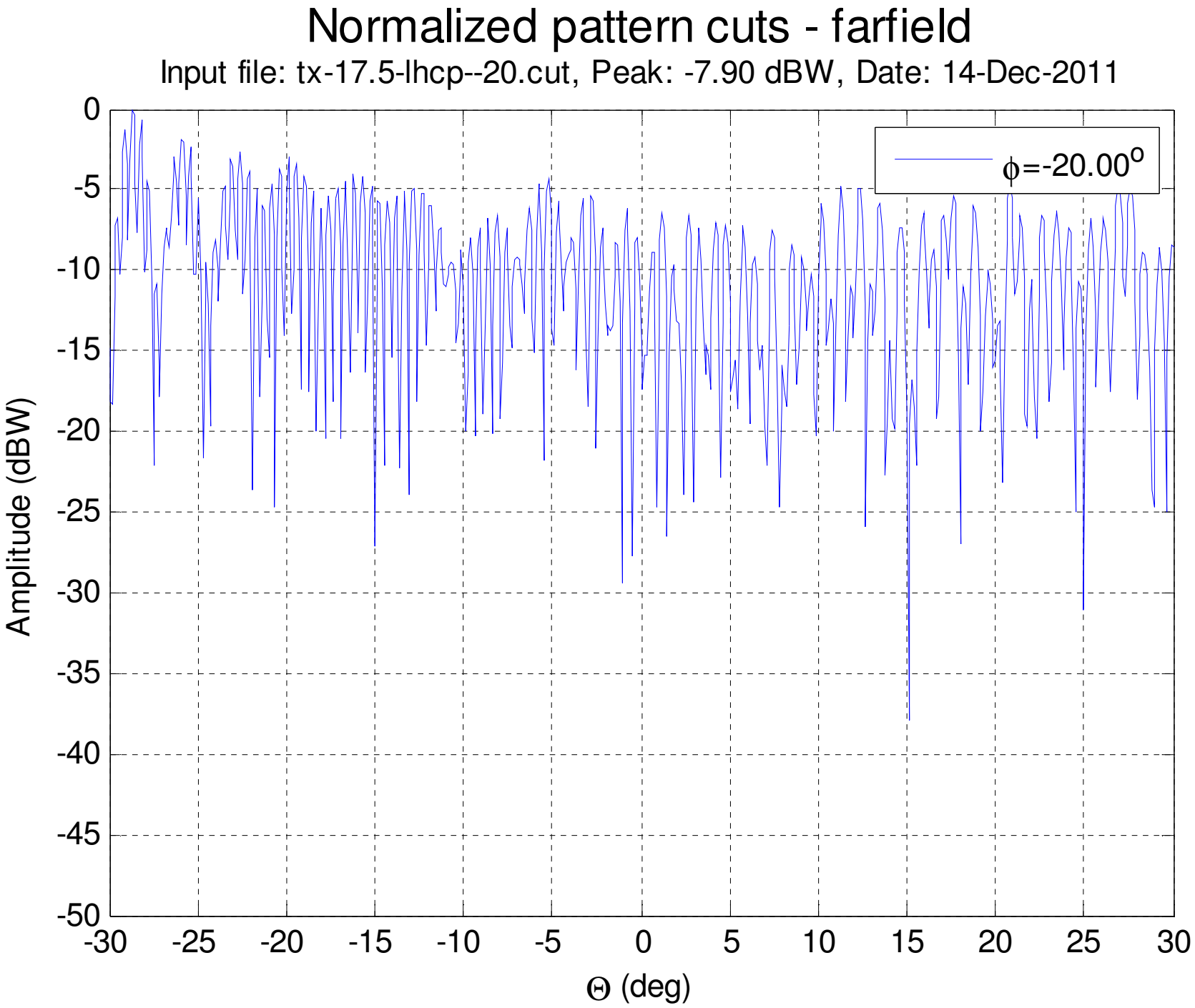
LHCP at 17.5 GHz

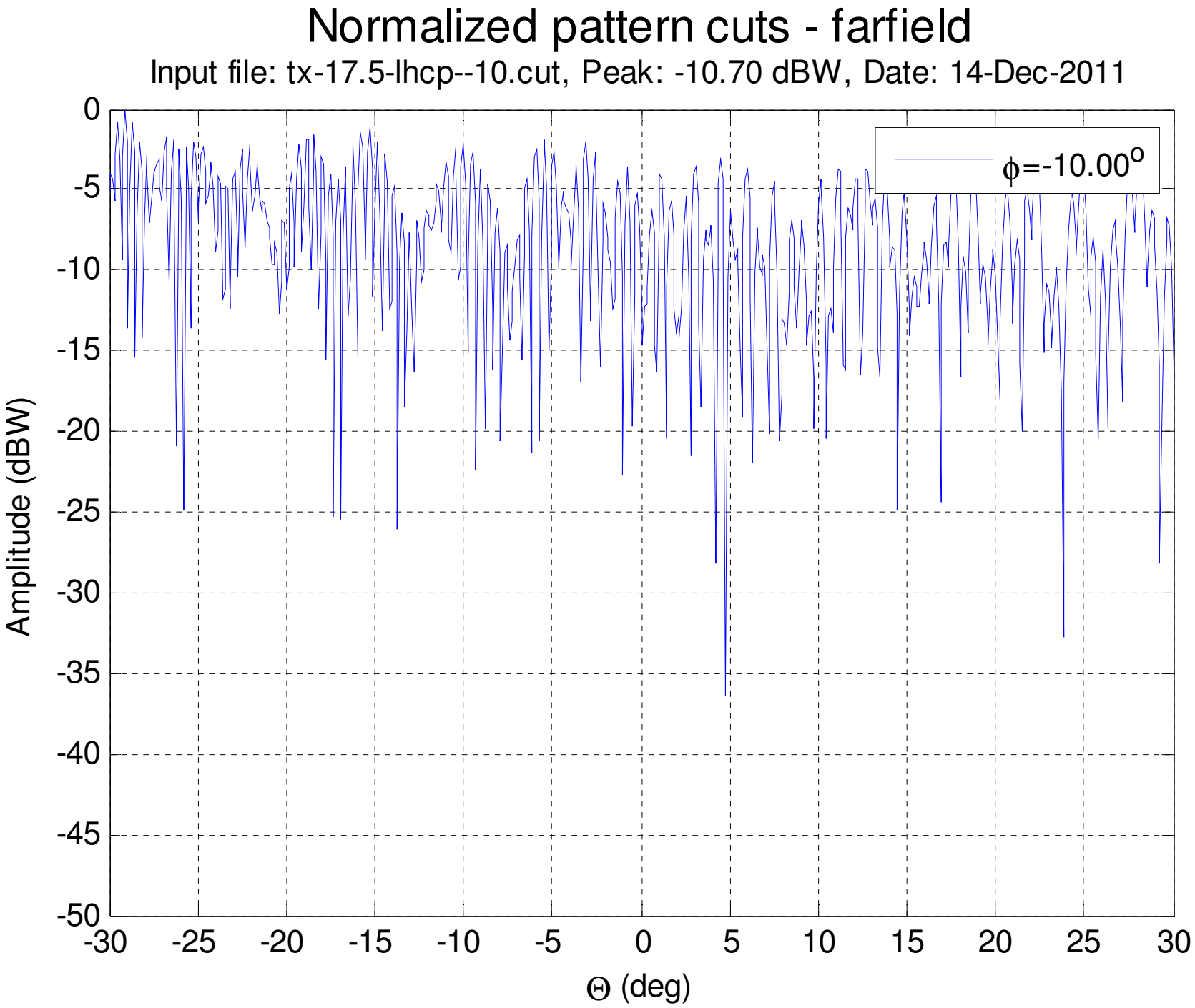

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -9.33 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

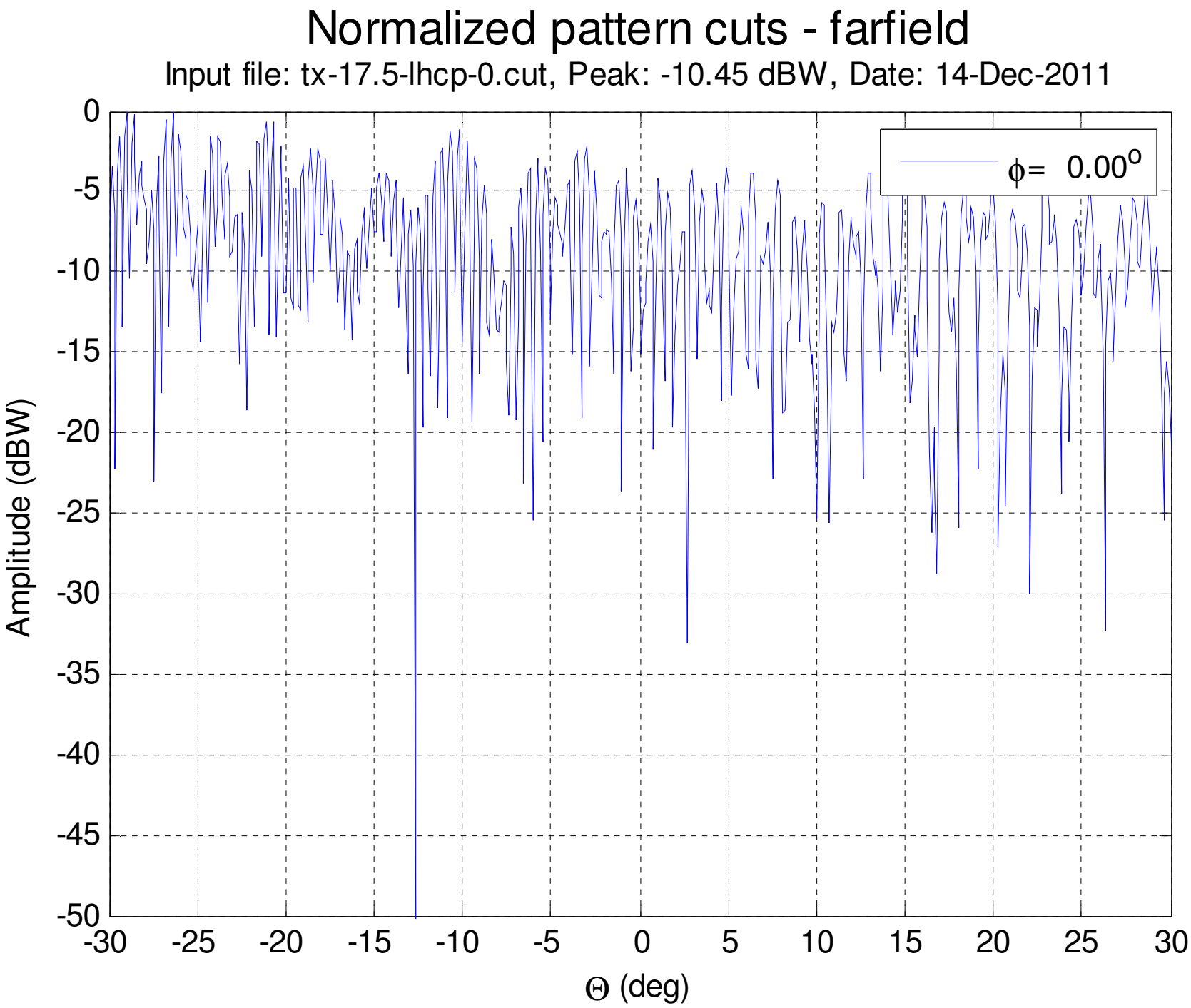

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -9.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

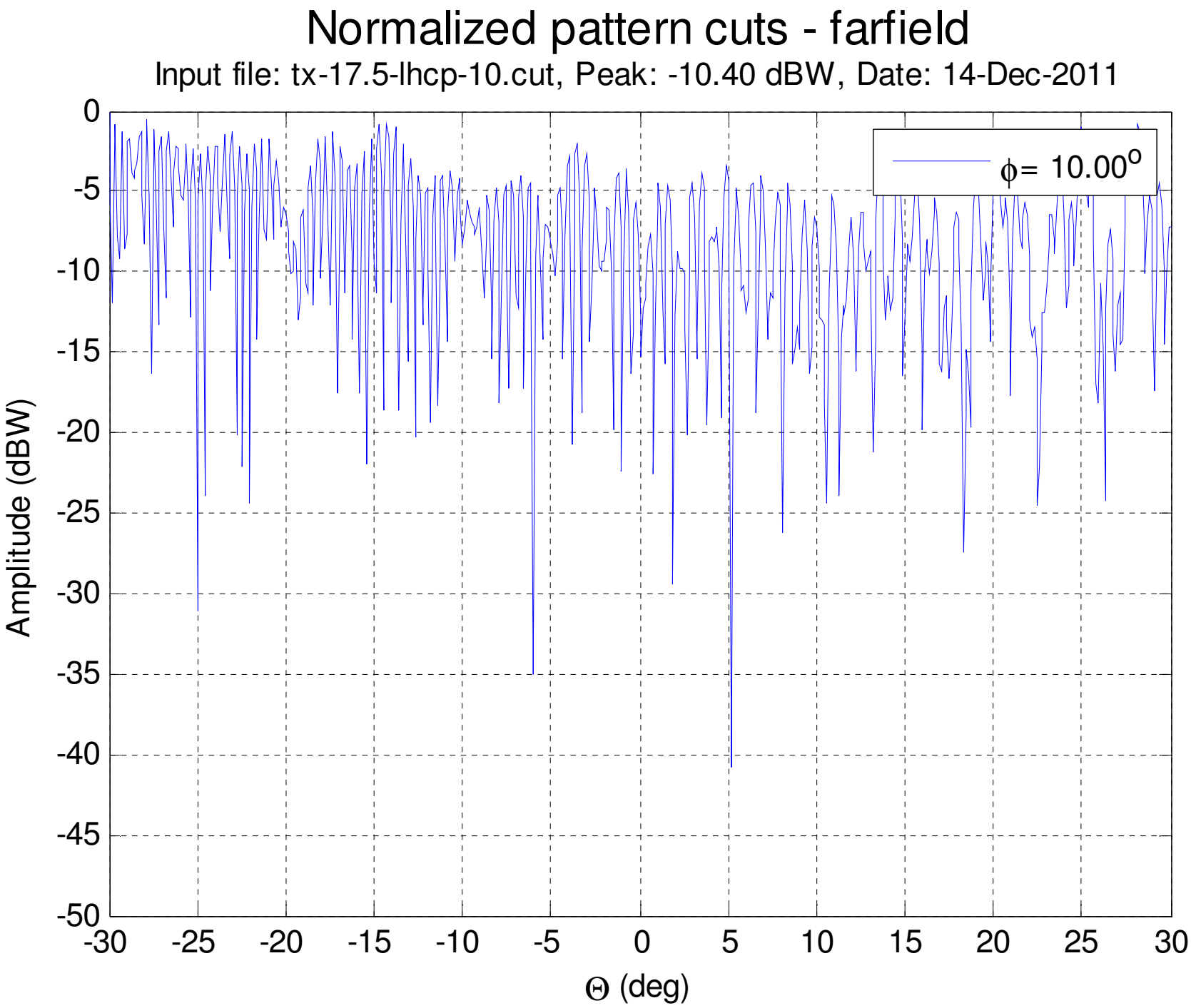

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -9.51 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

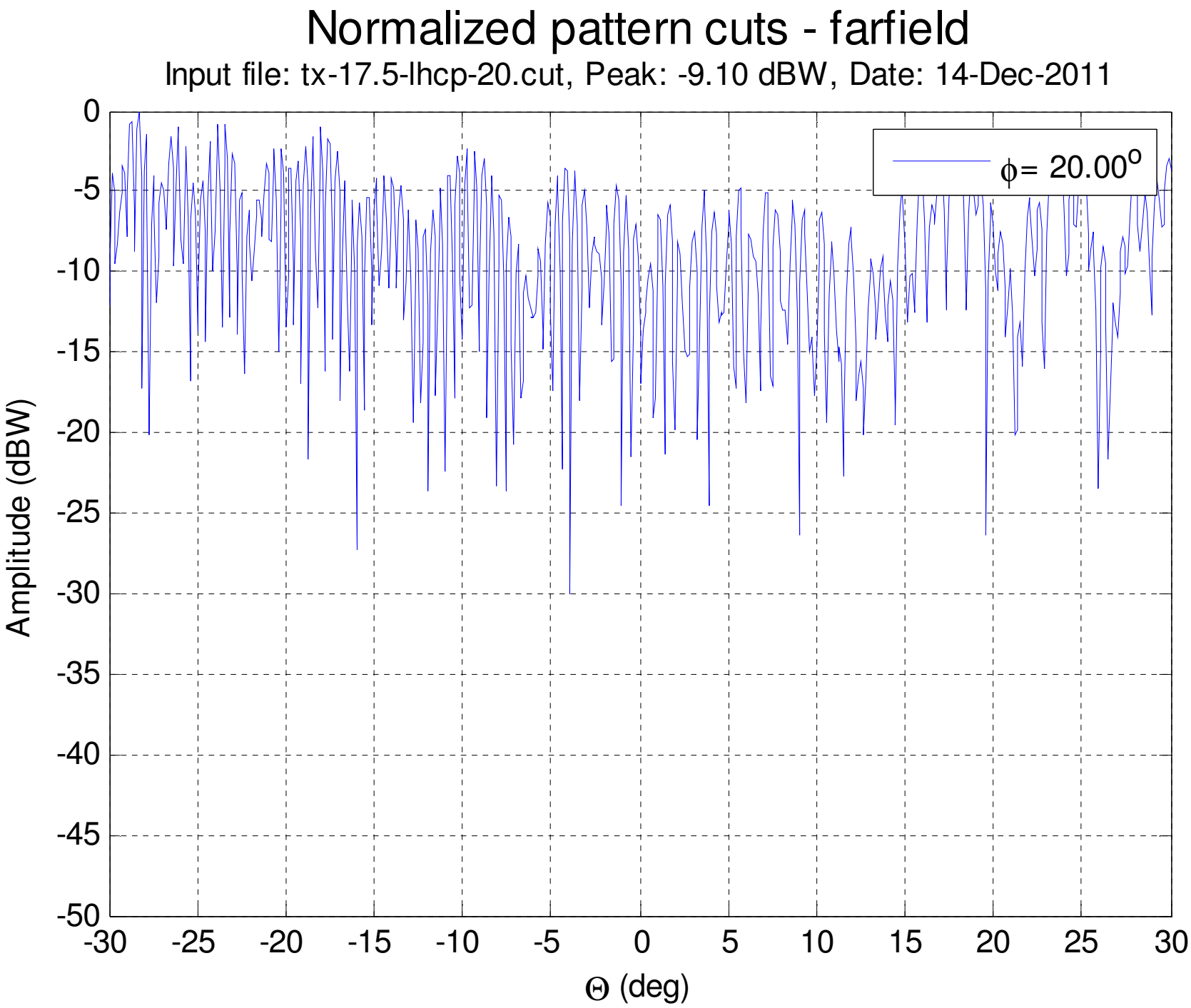

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -8.32 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

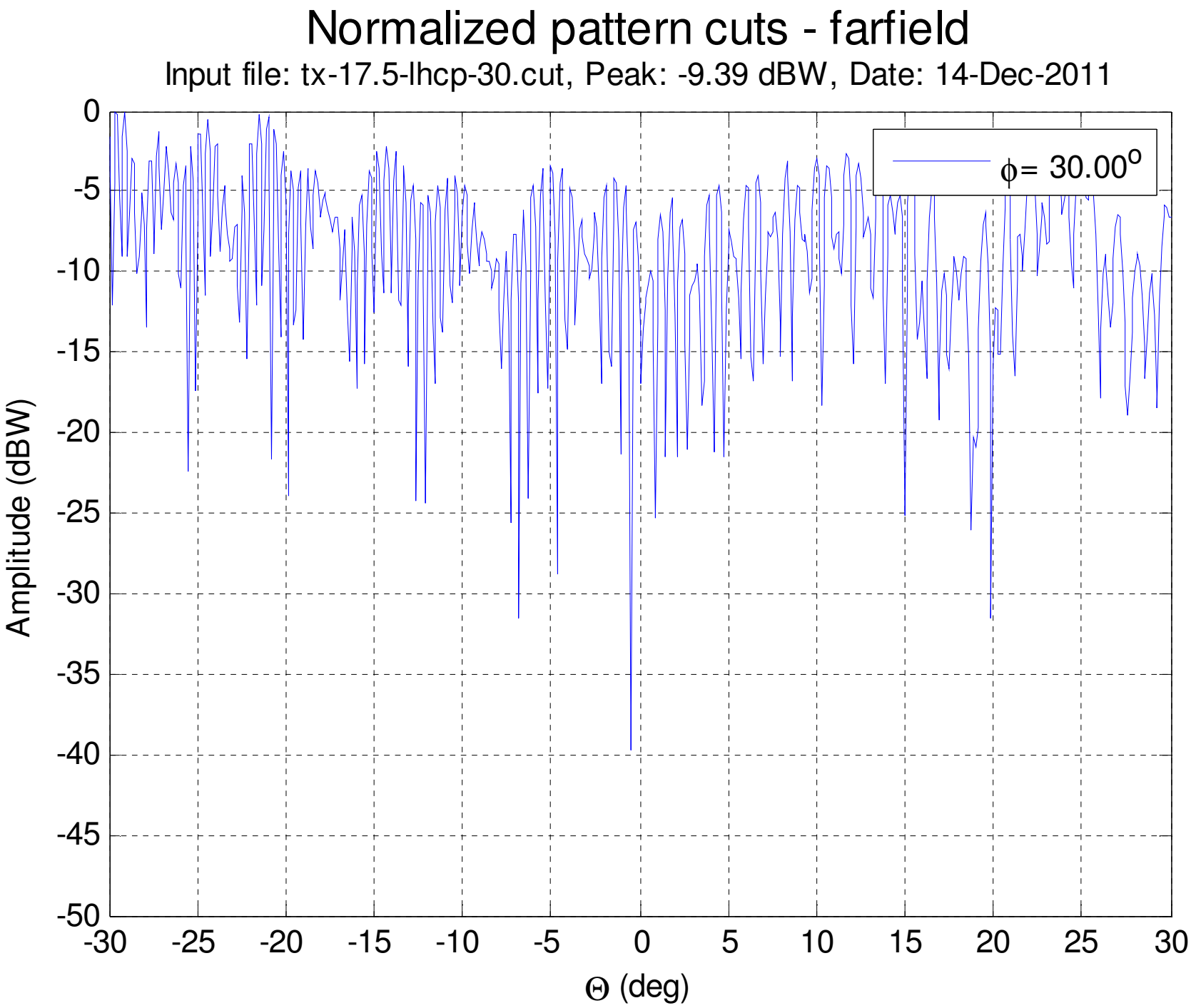

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -7.90 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

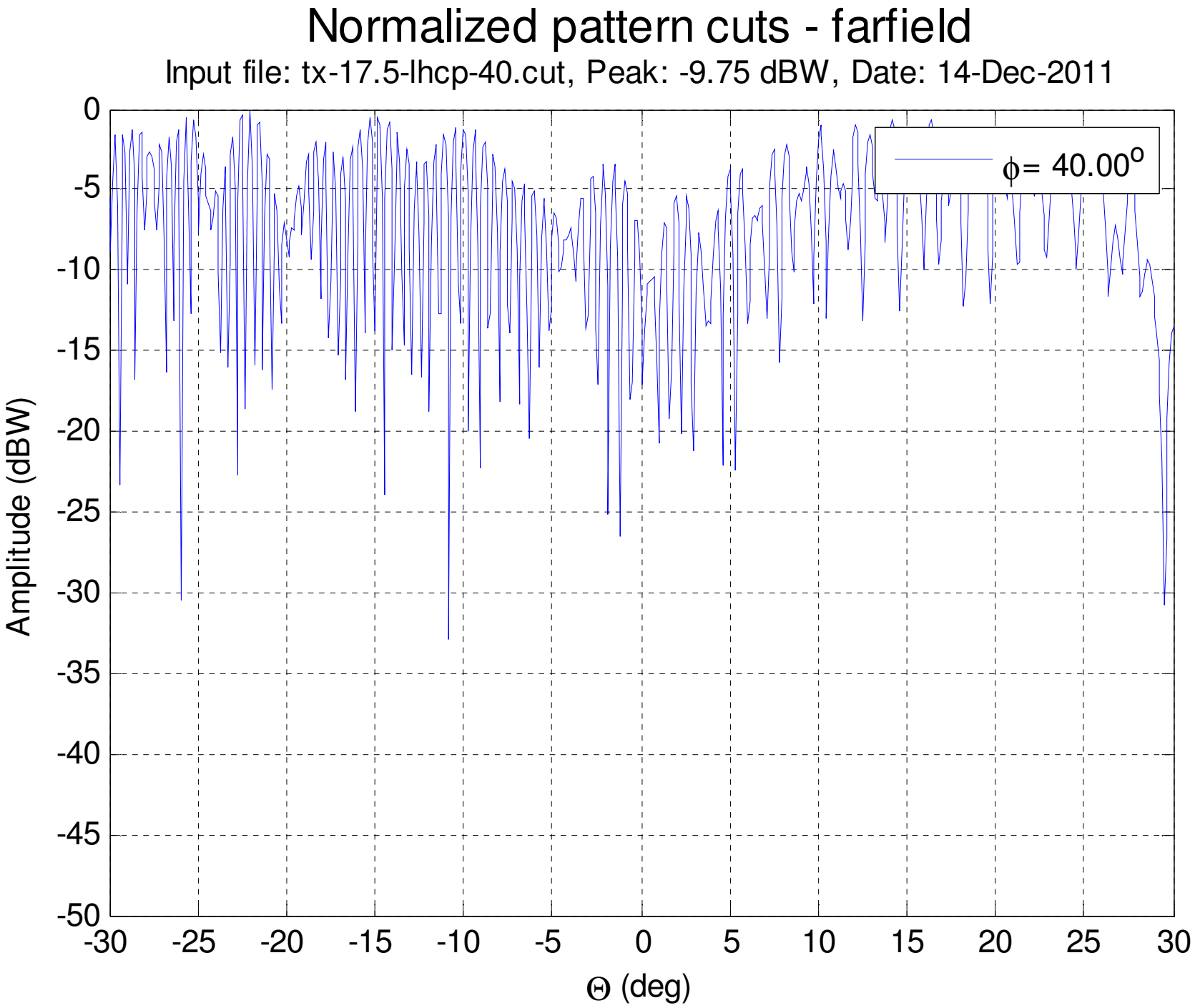

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -10.70 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

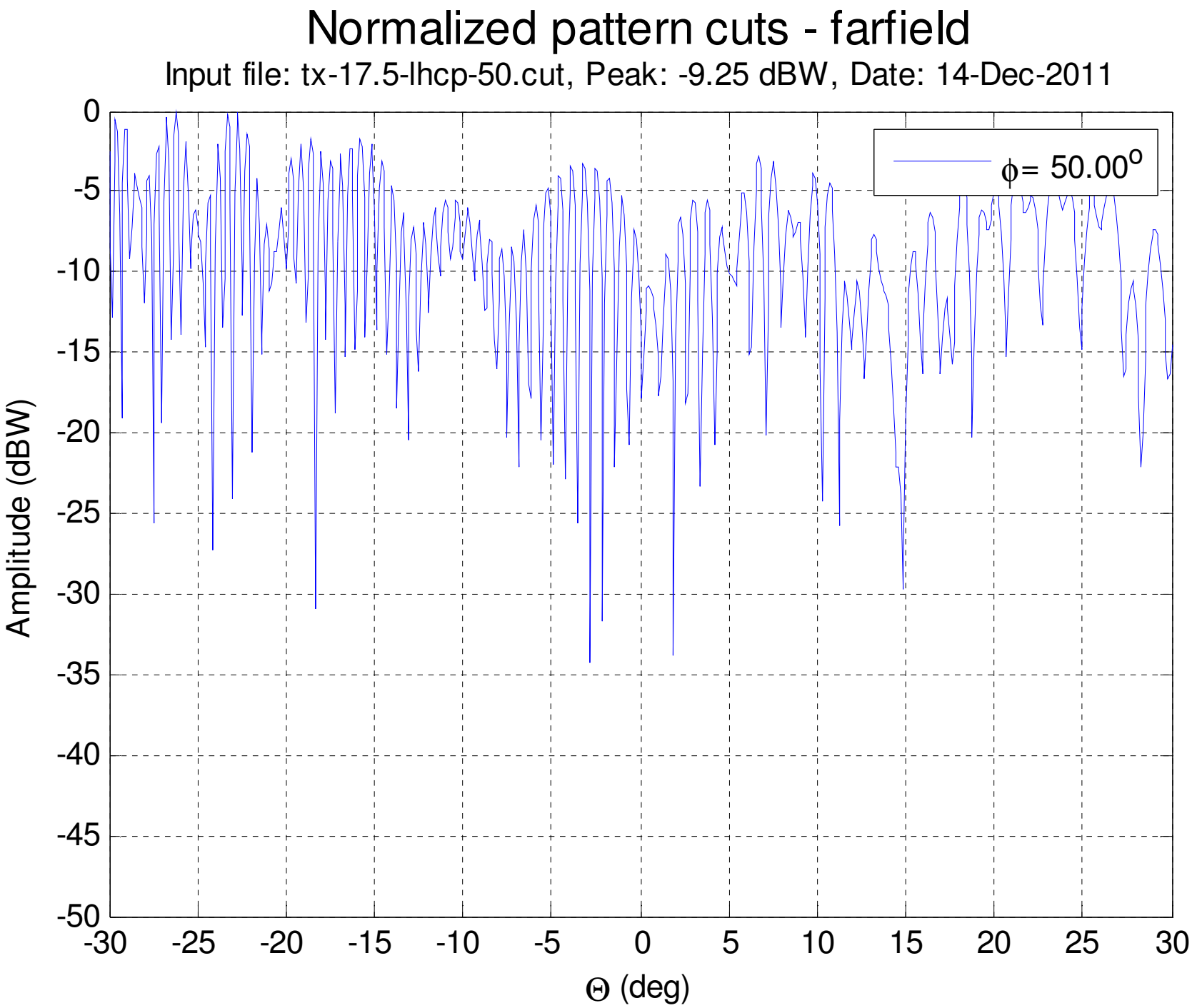

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -10.45 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

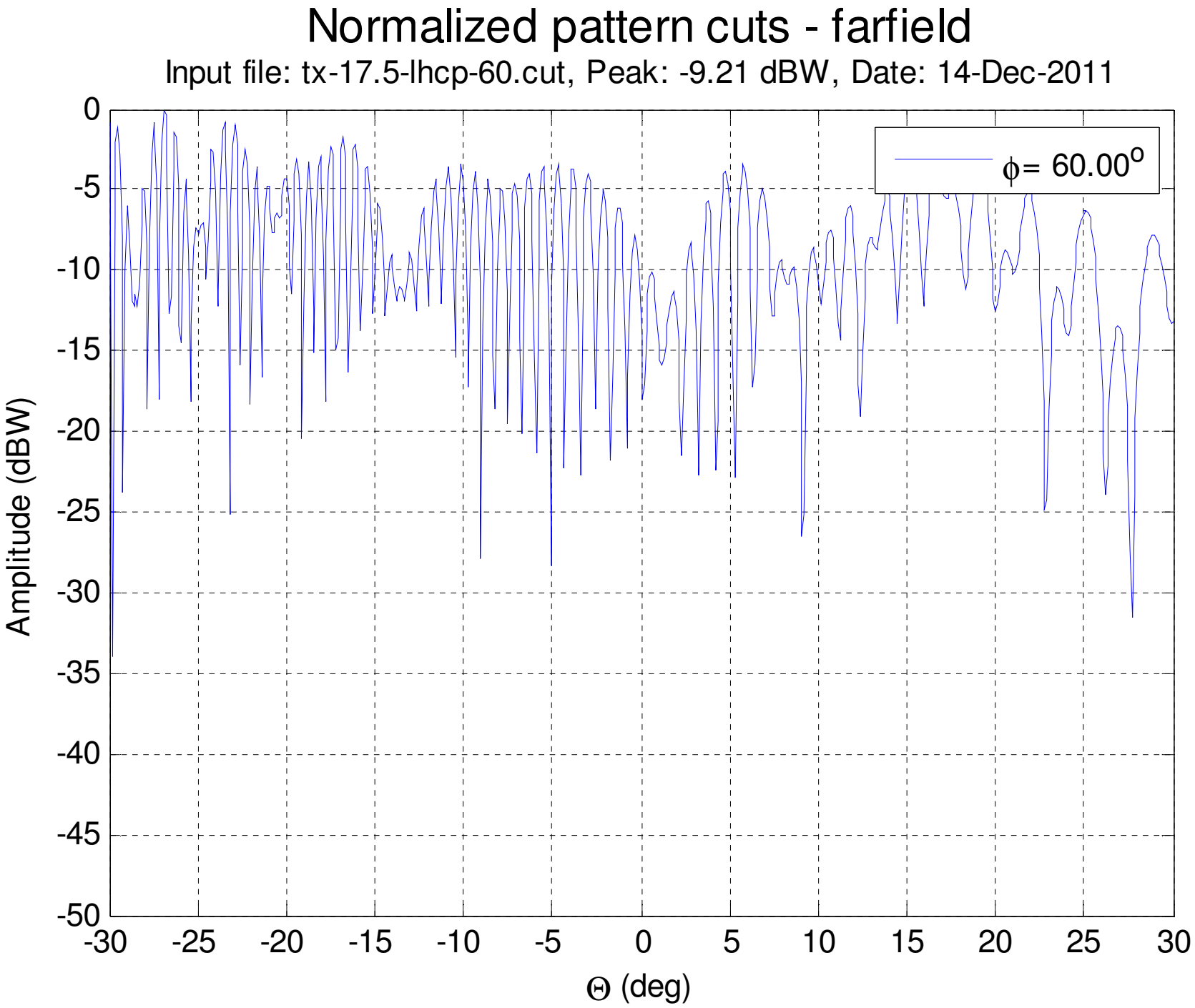

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -10.40 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -9.10 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

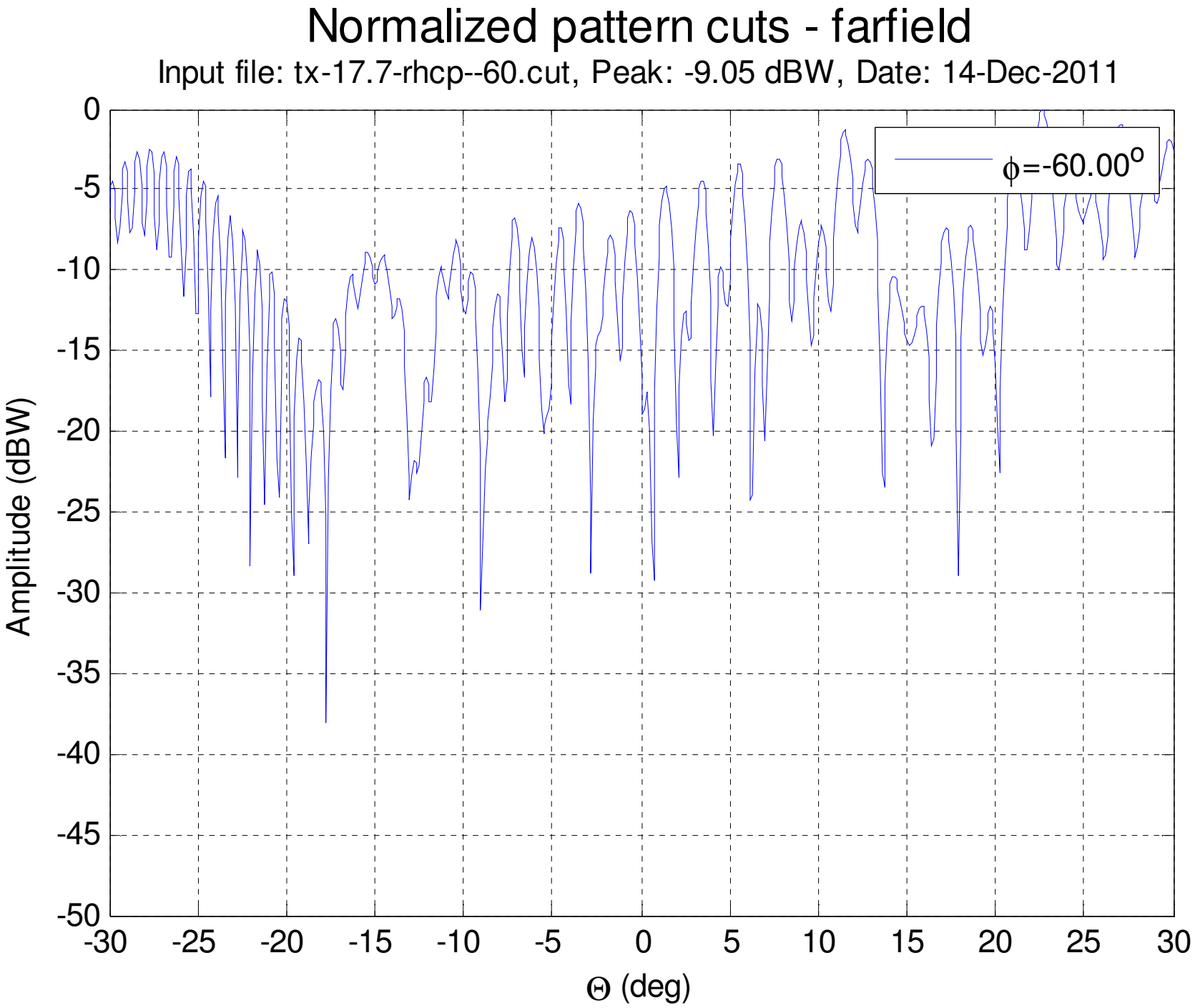

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -9.39 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

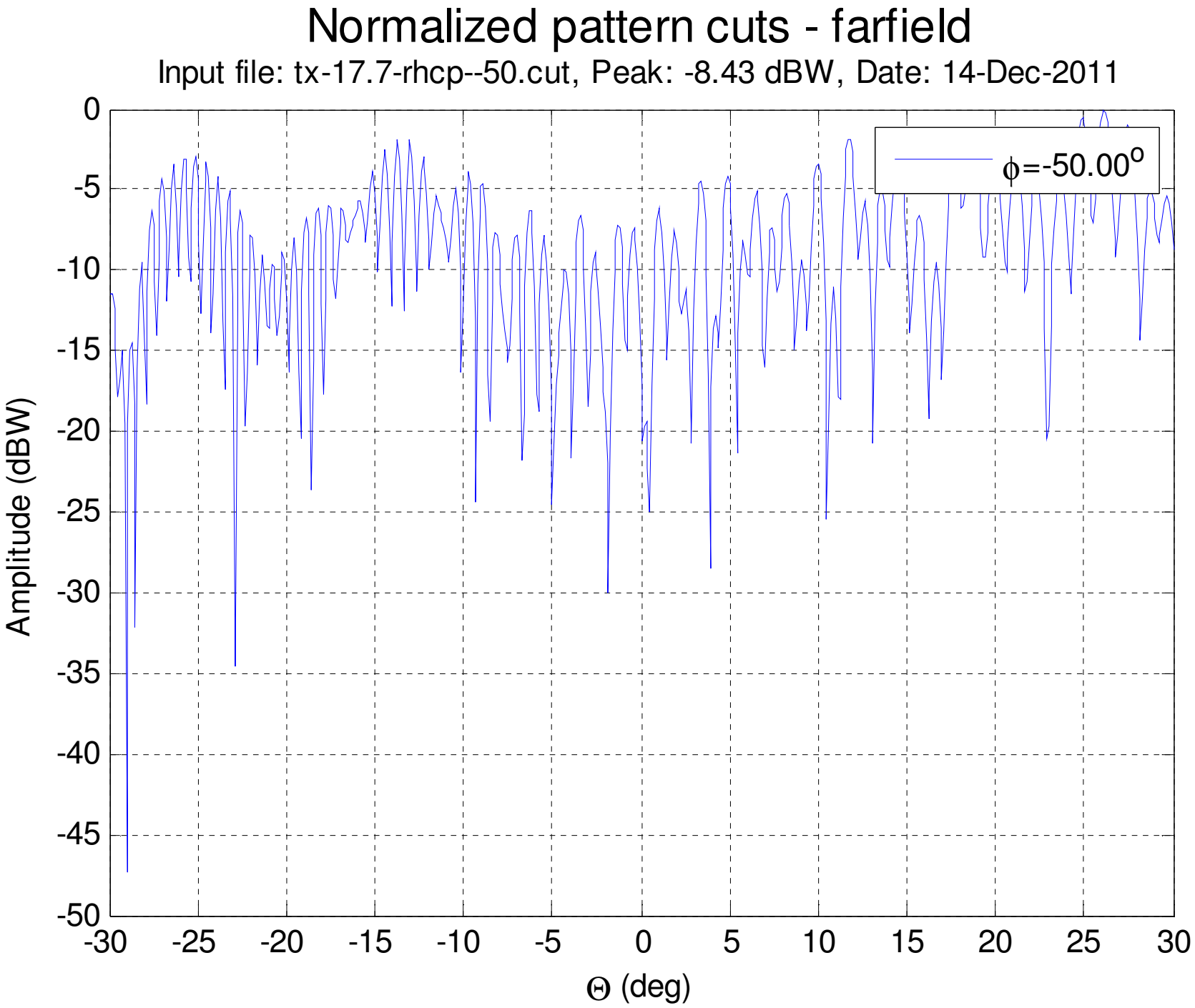

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -9.75 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

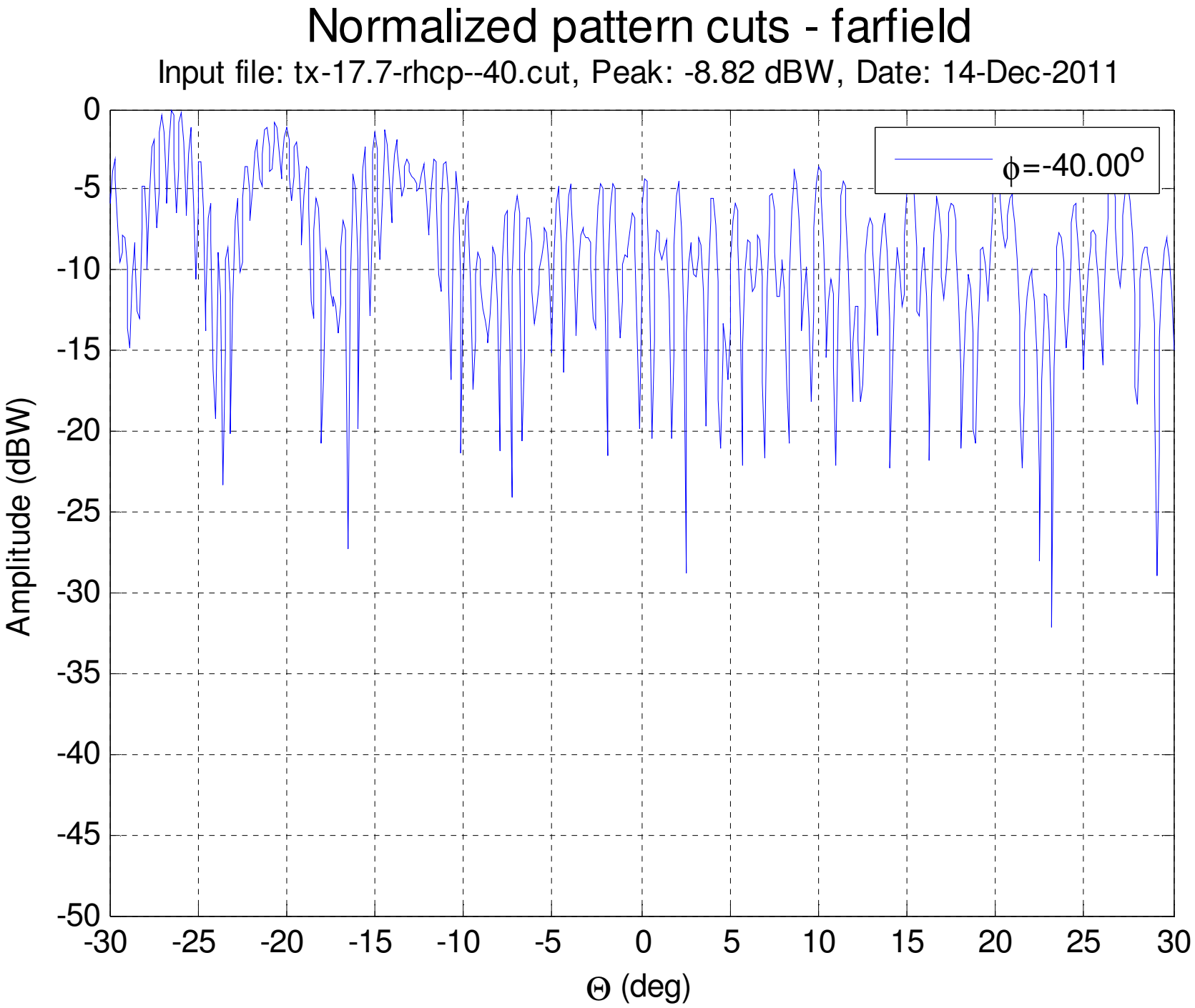

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -9.25 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

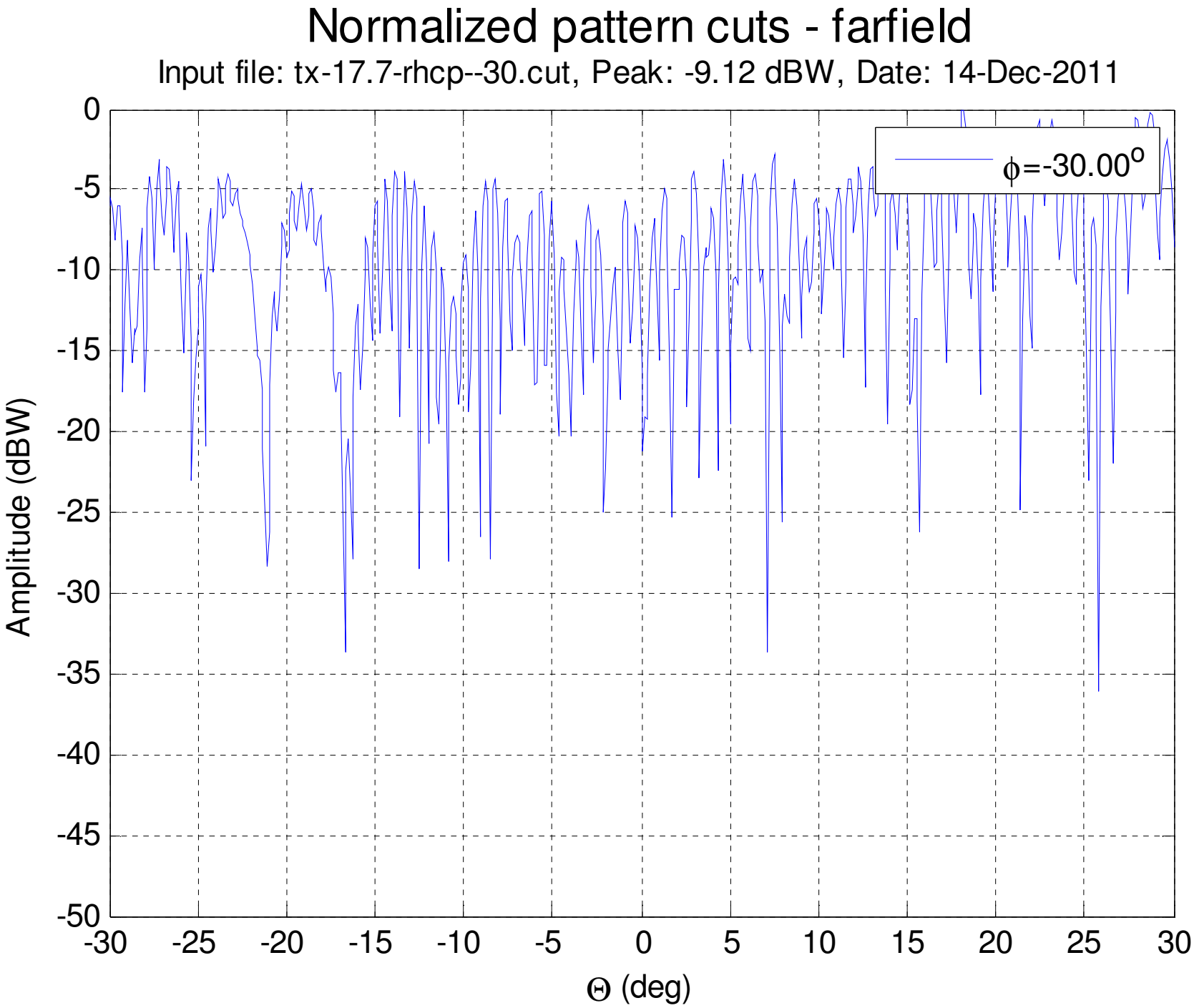

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -9.21 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

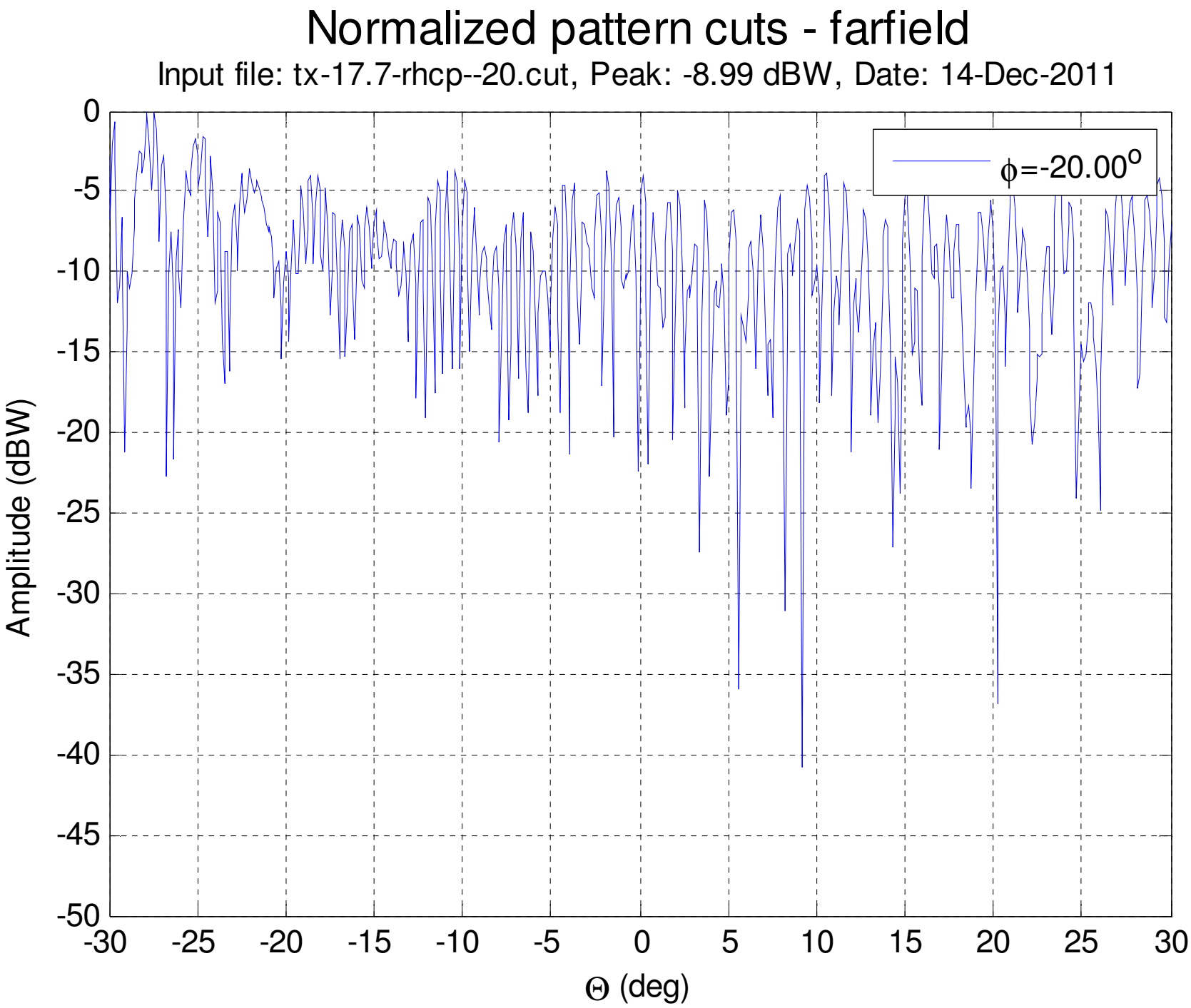
RHCP at 17.7 GHz

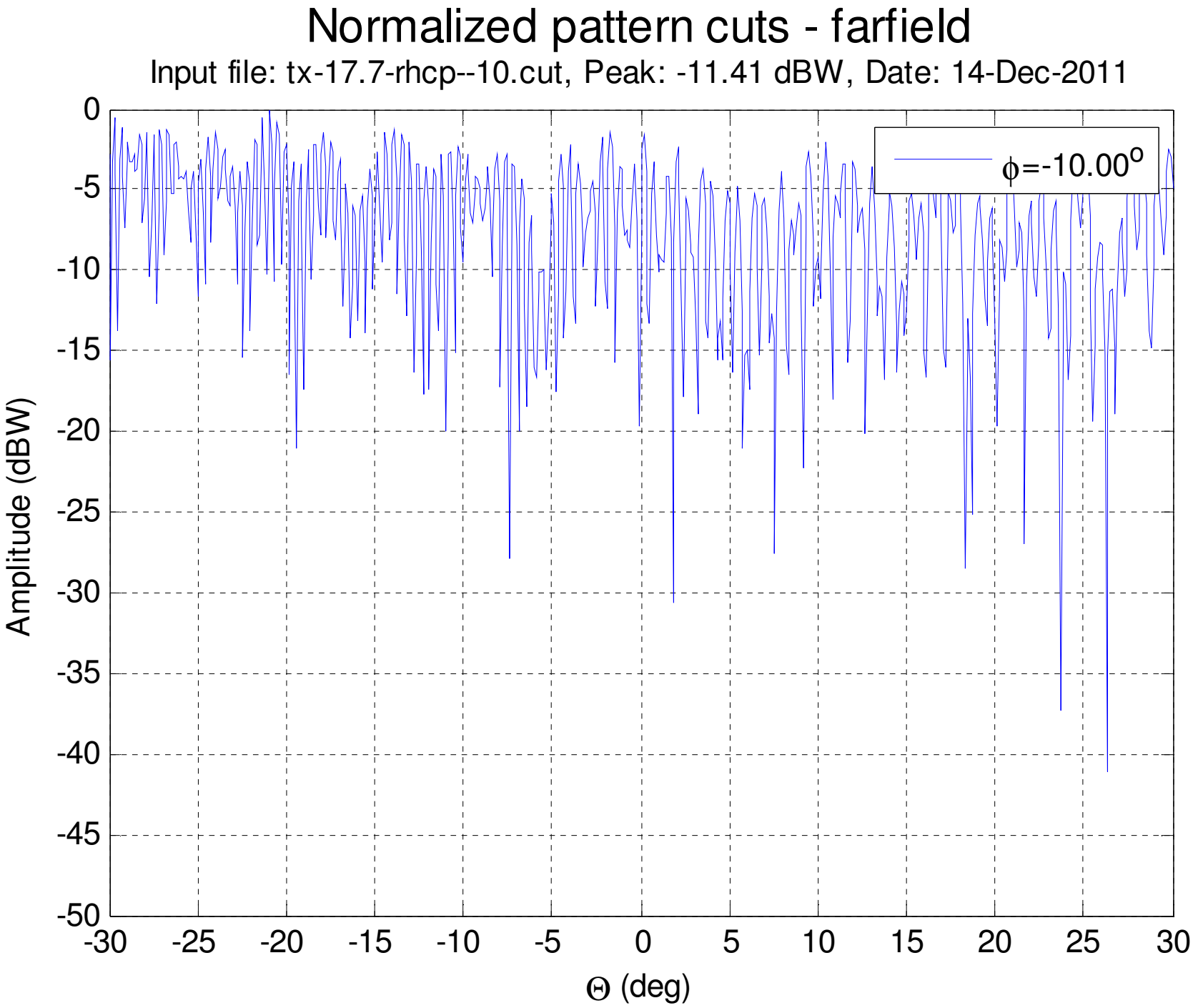

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -9.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

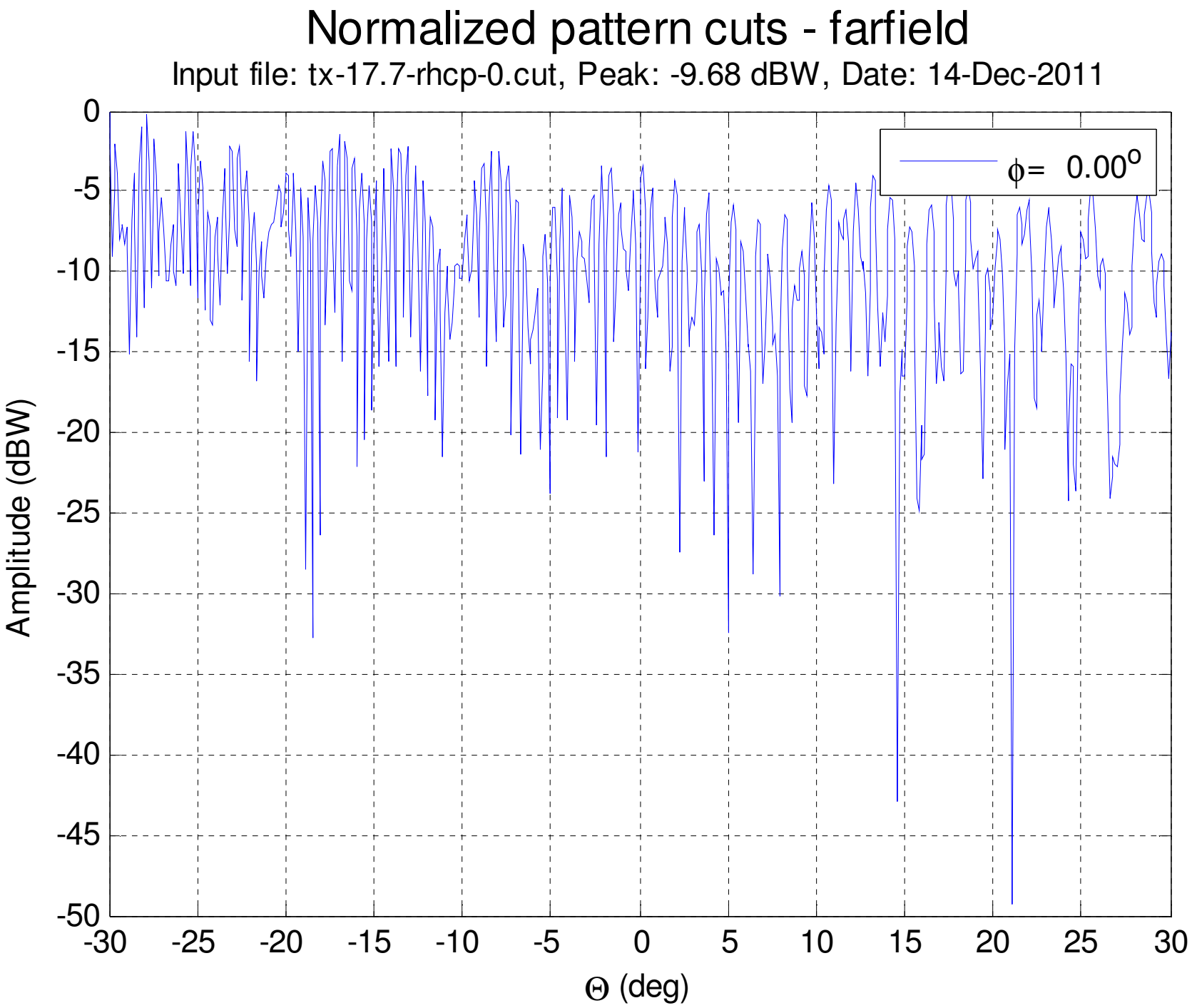

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -8.43 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

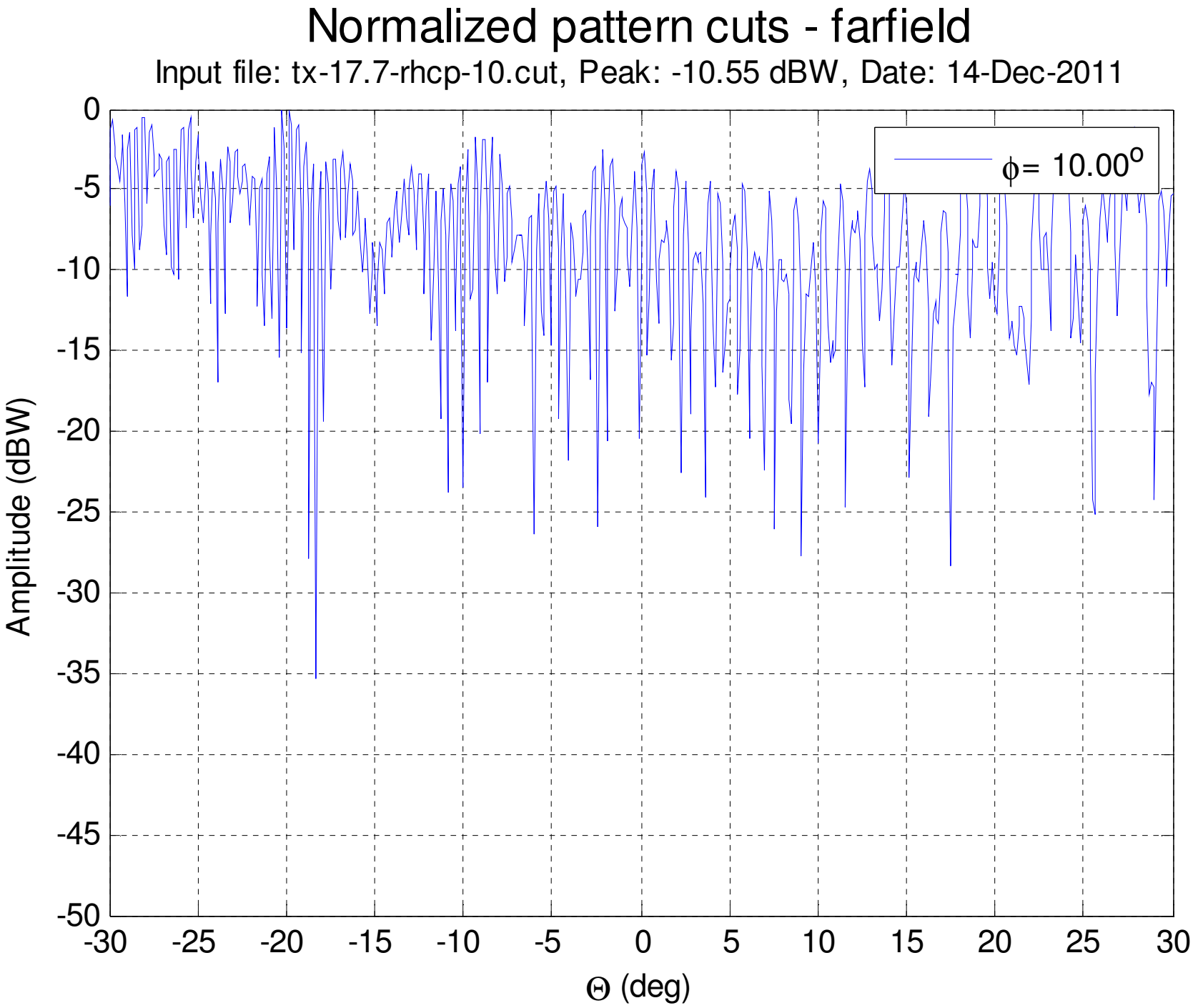

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -8.82 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

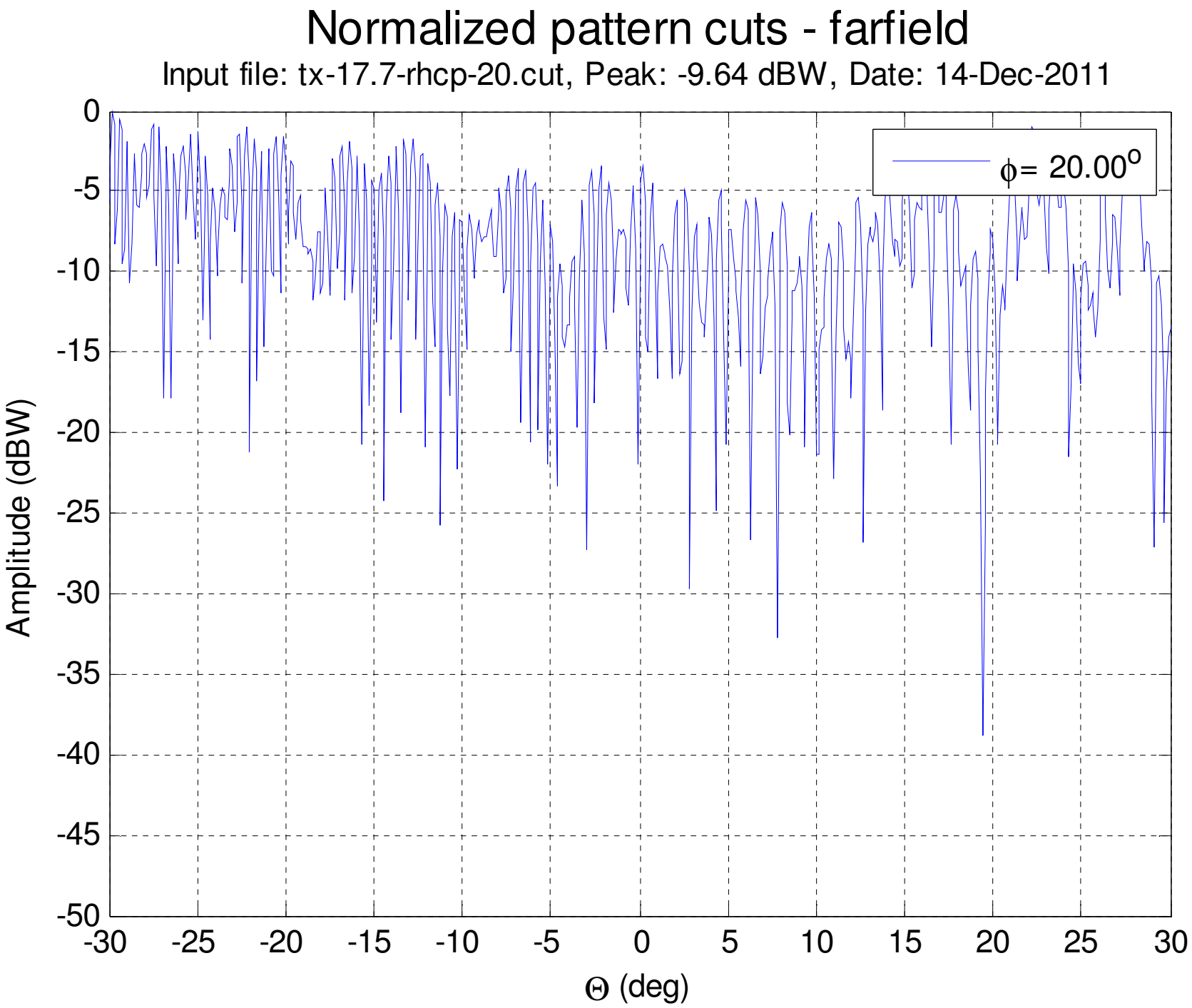

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -9.12 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

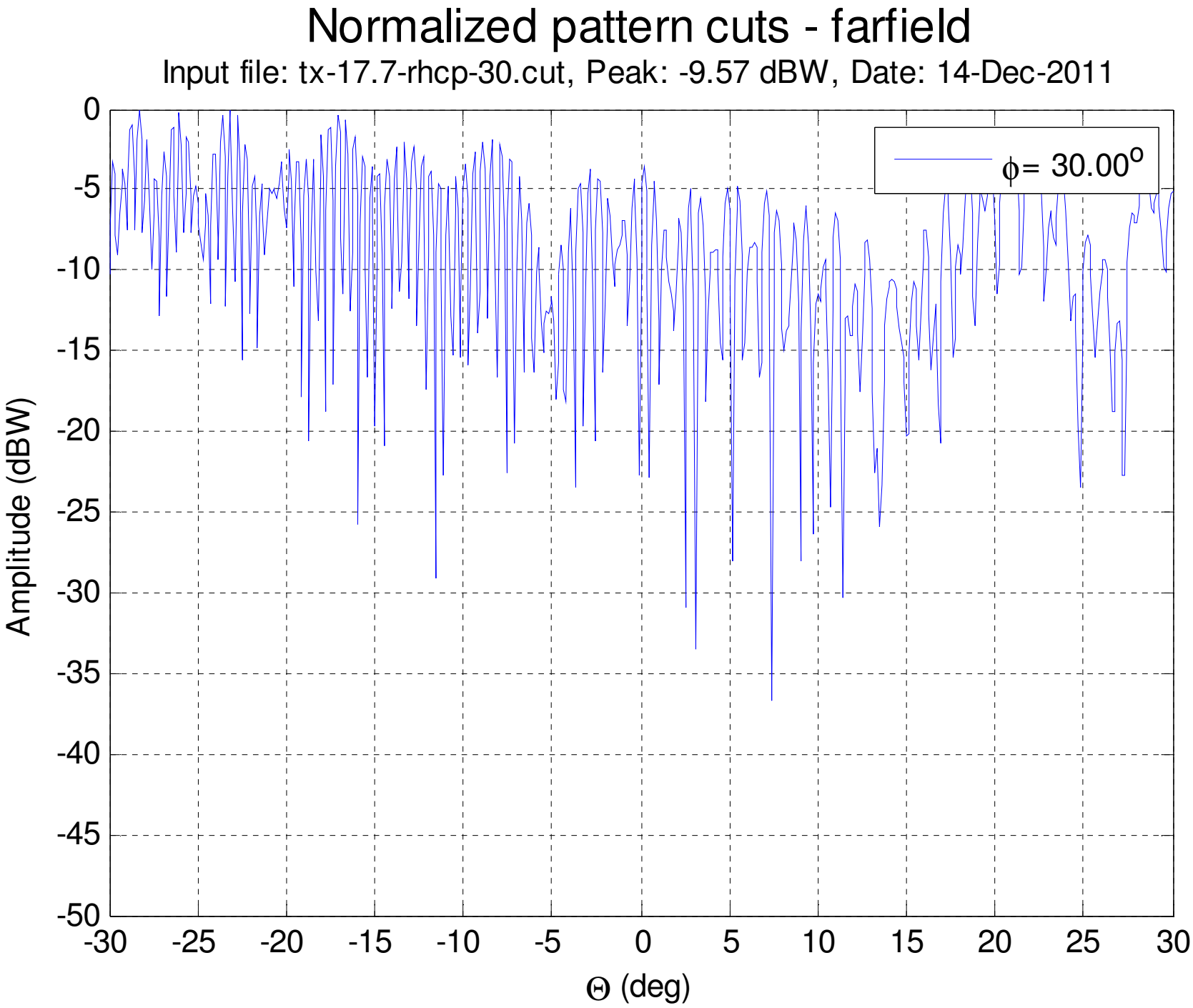

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -8.99 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

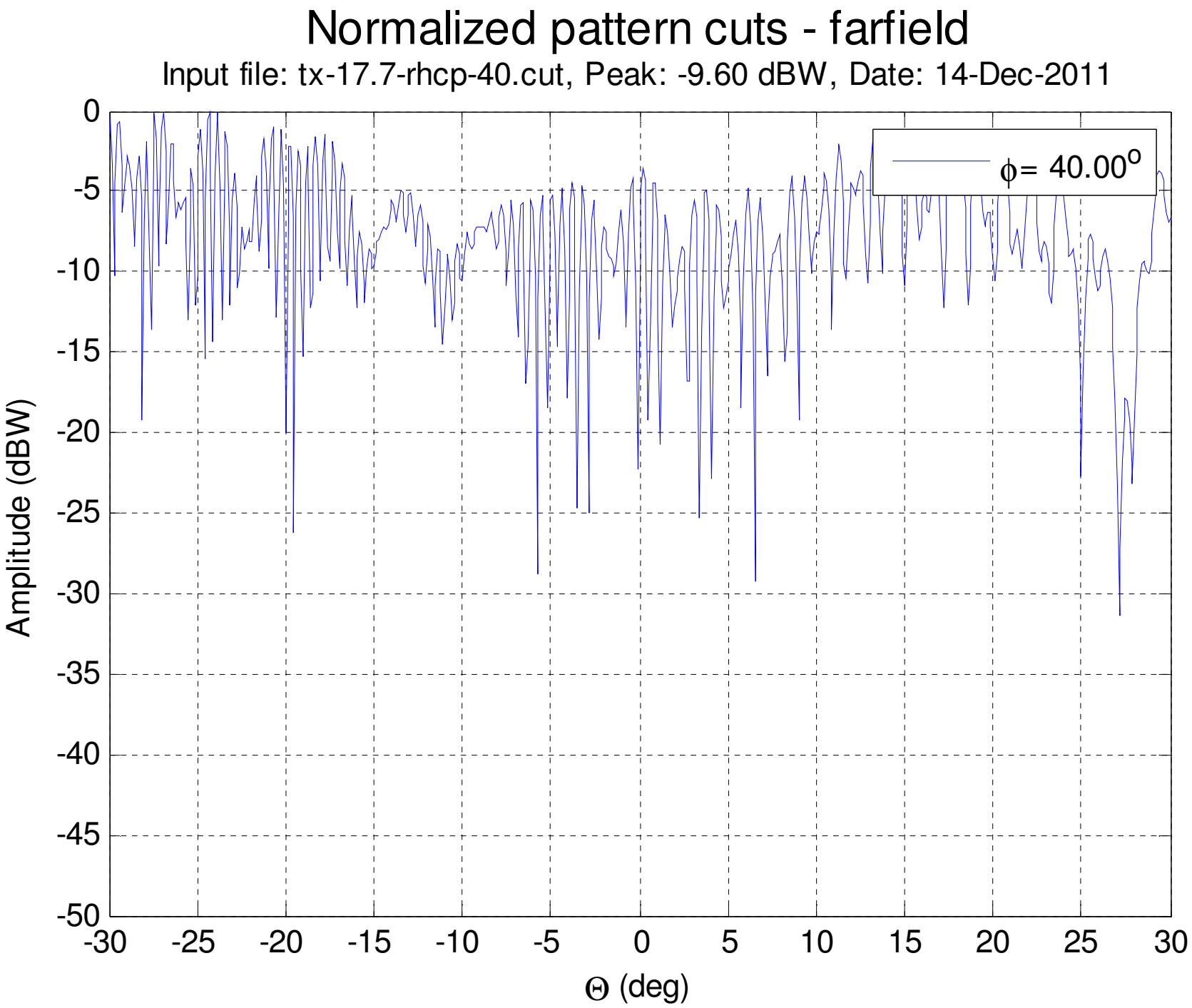

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -11.41 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

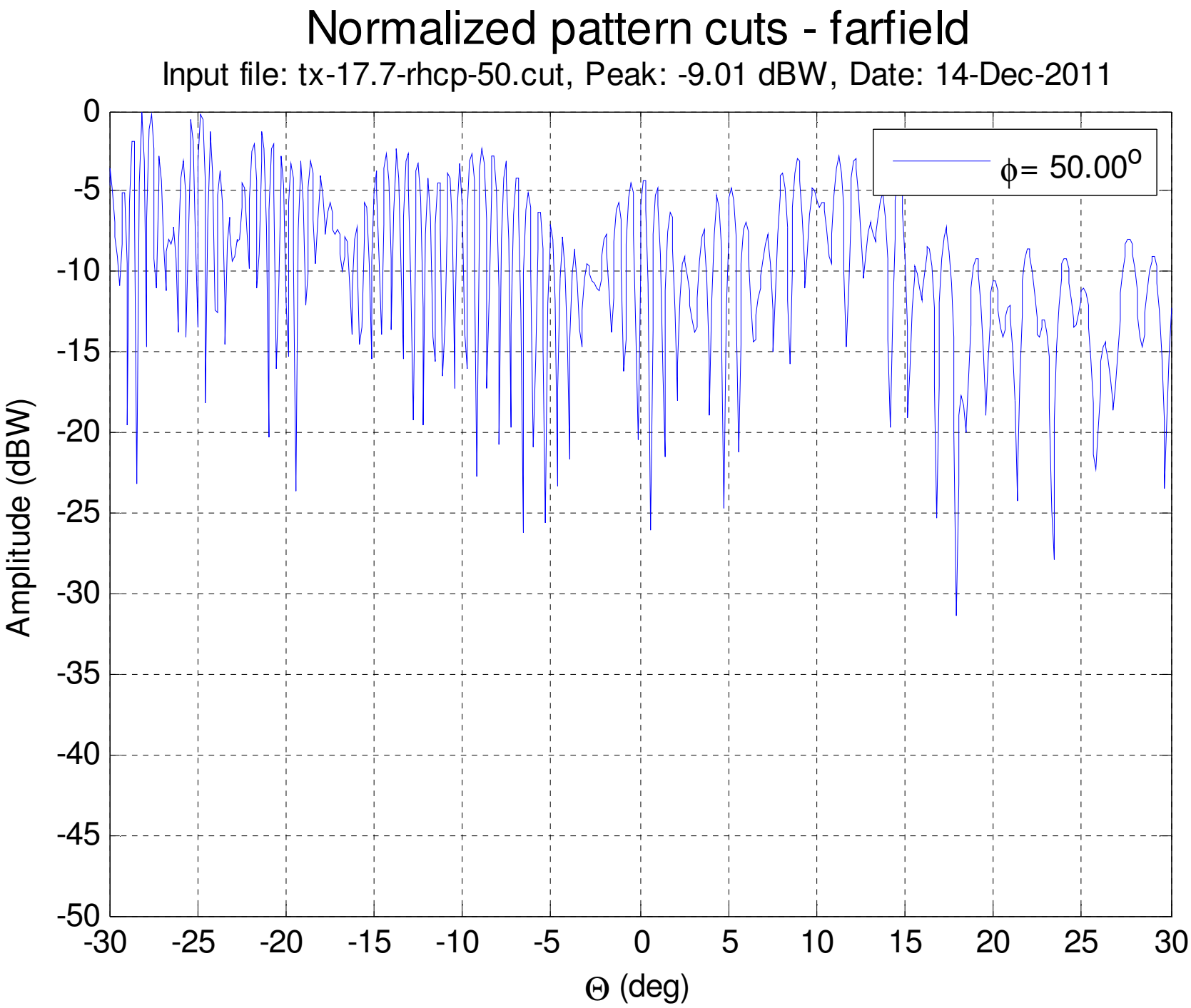

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -9.68 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

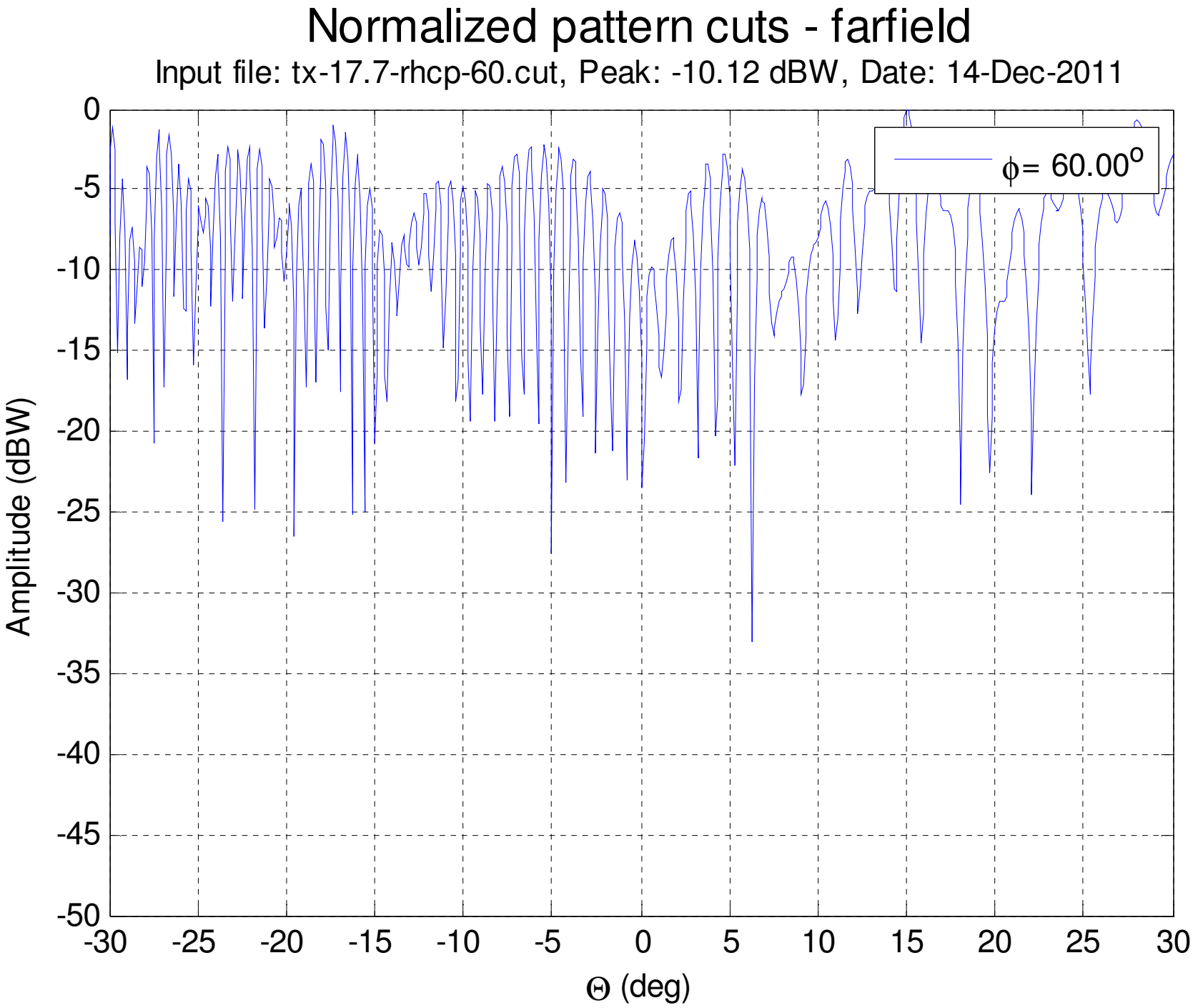

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -10.55 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -9.64 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

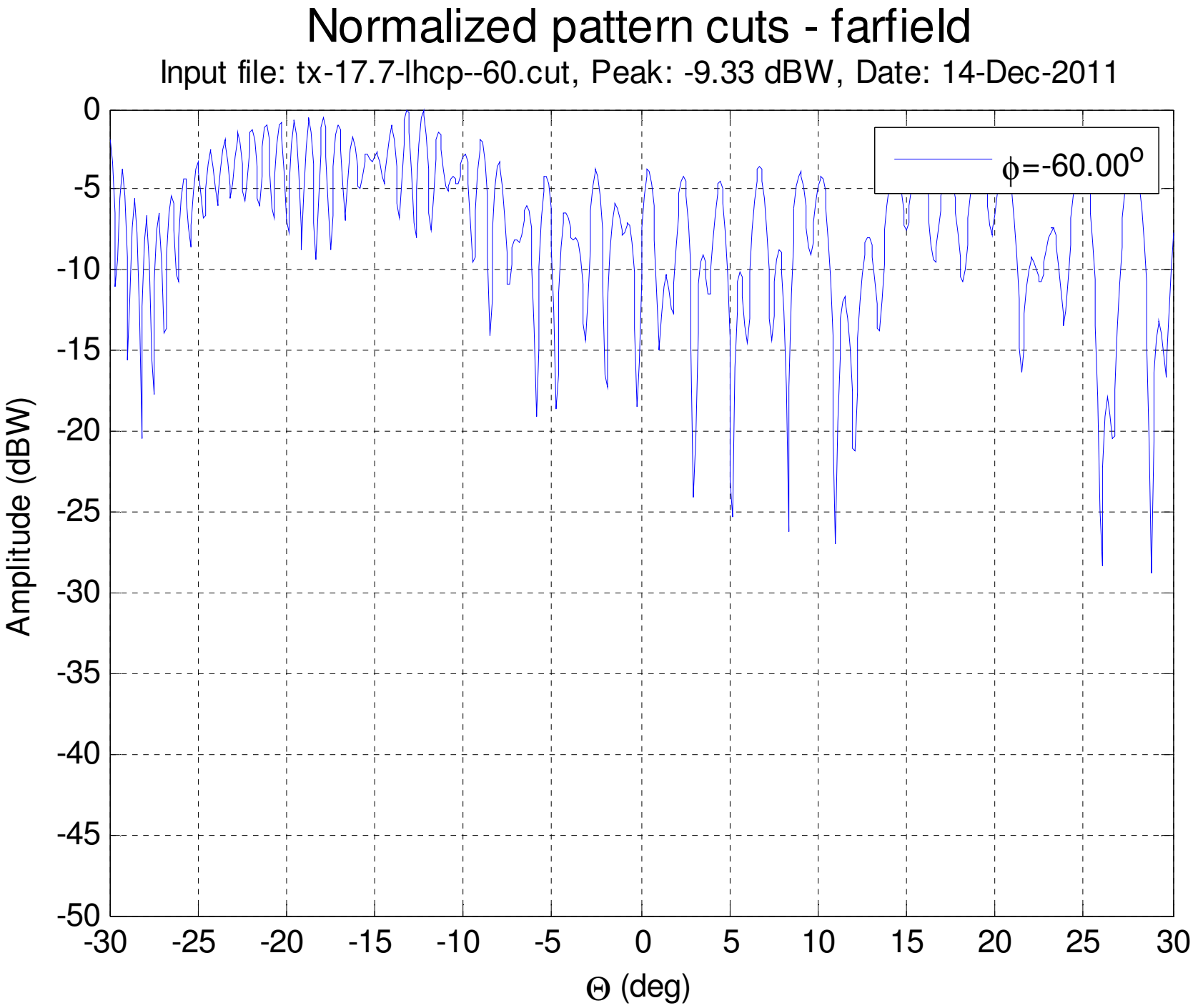

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -9.57 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 30.00°

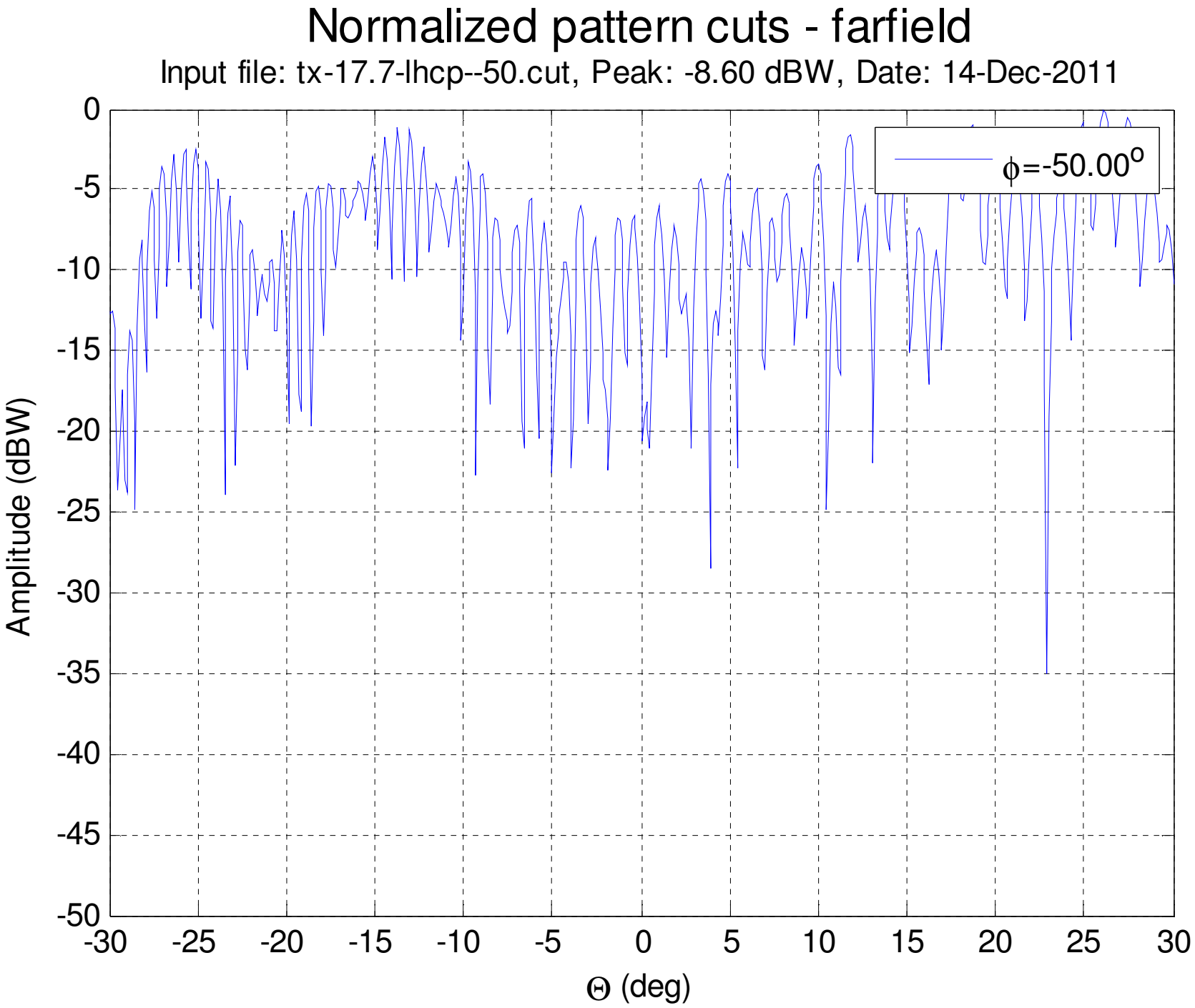

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -9.60 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

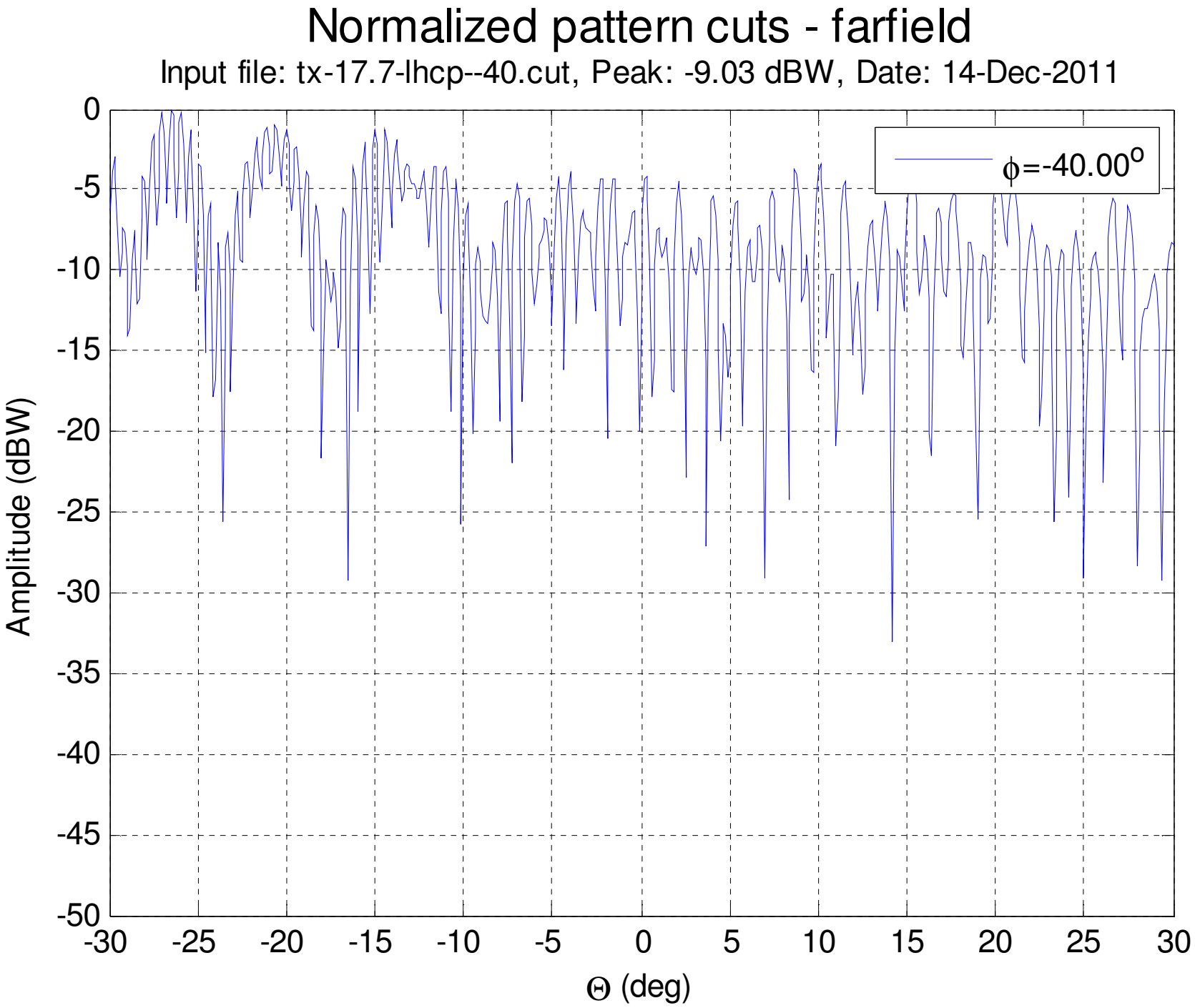

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -9.01 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

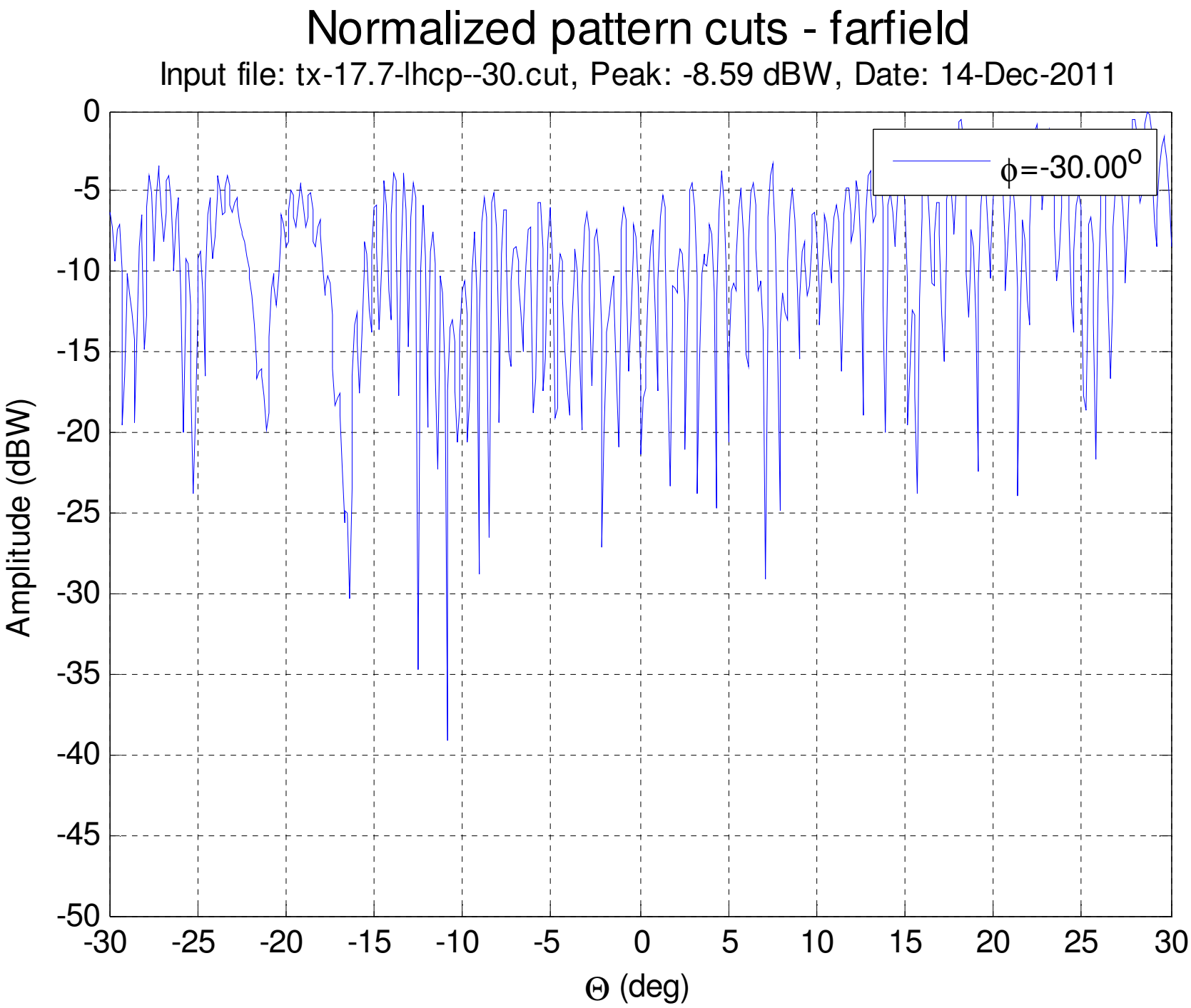

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -10.12 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

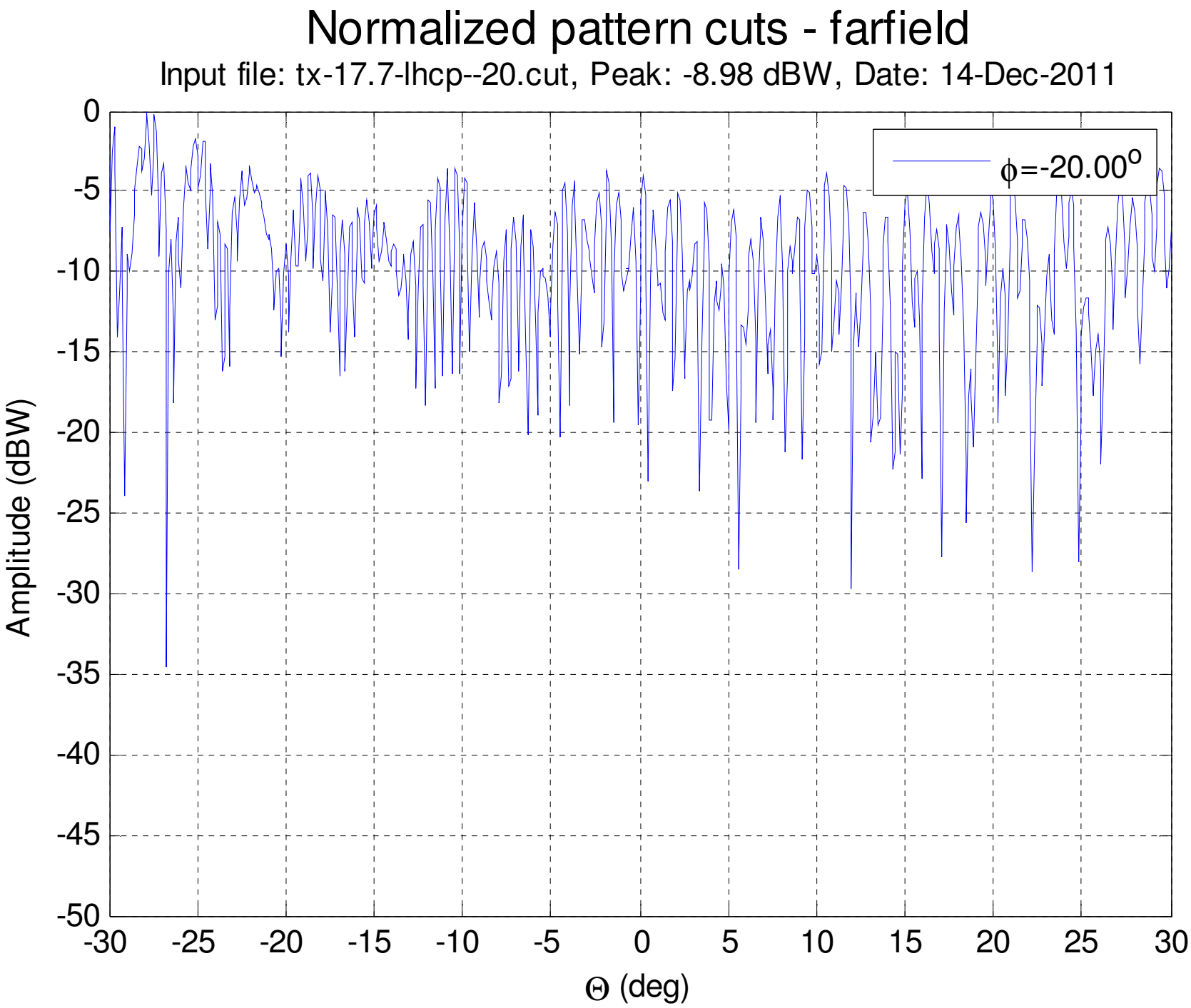
LHCP at 17.7 GHz

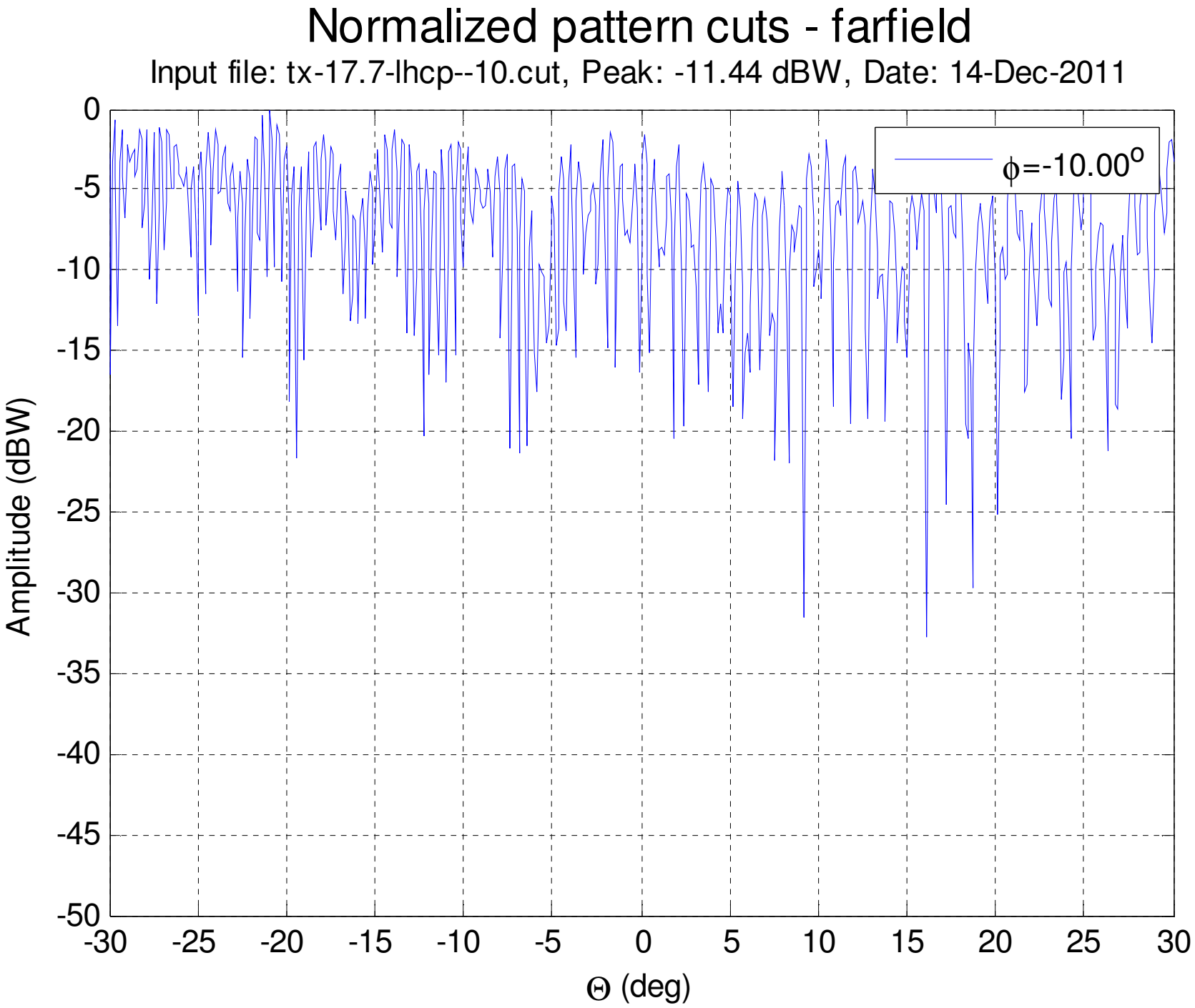

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -9.33 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

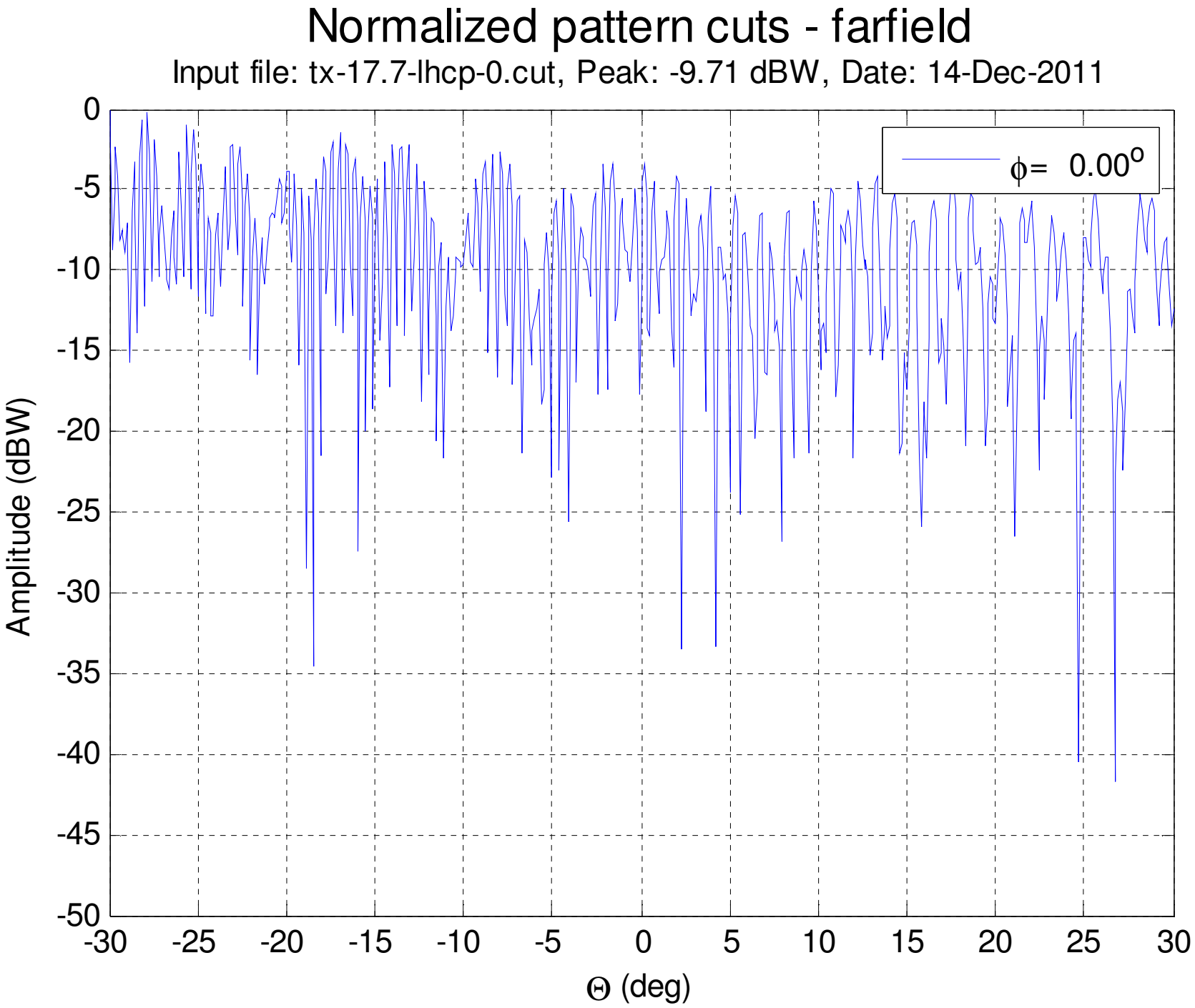

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -8.60 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

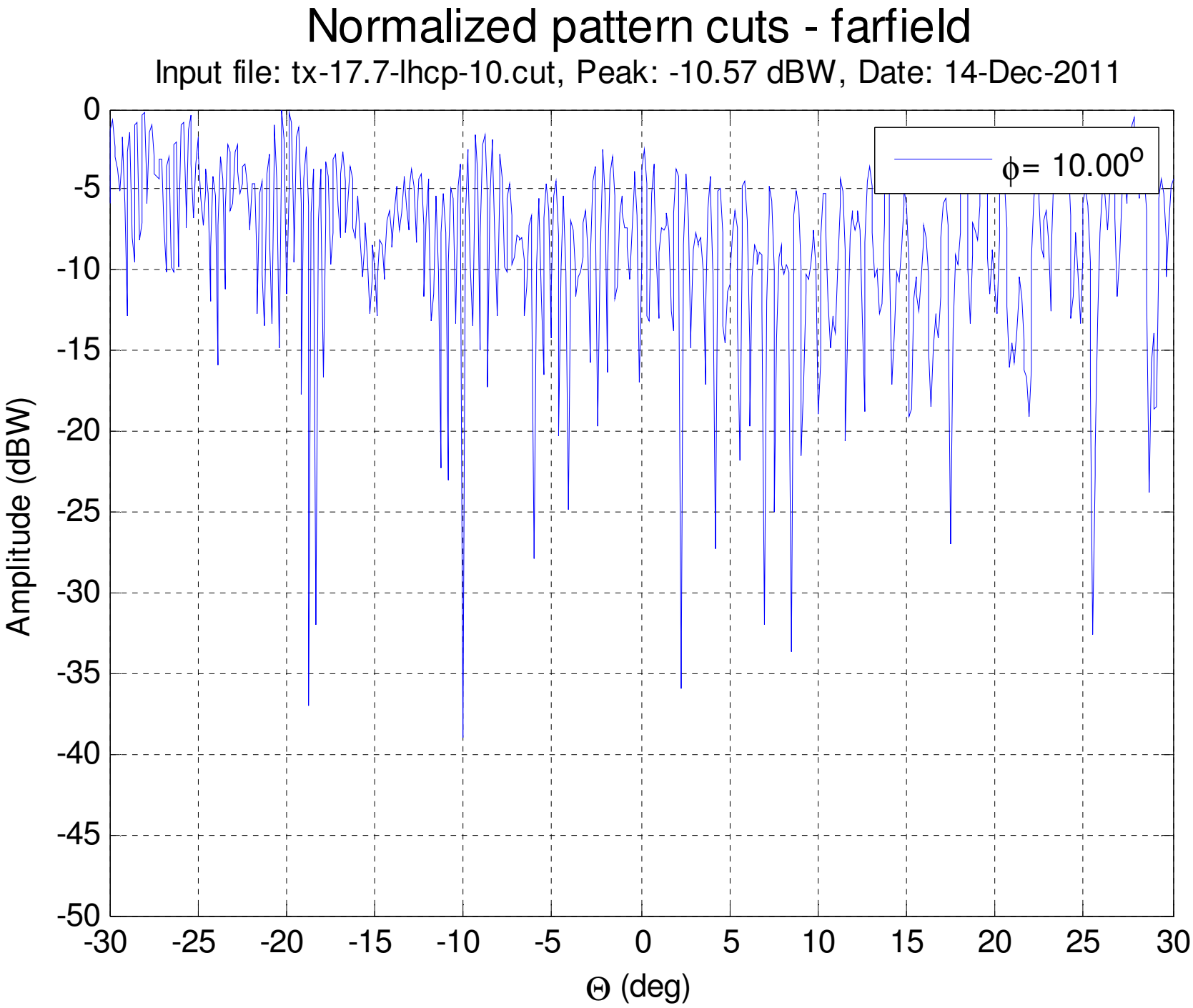

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -9.03 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

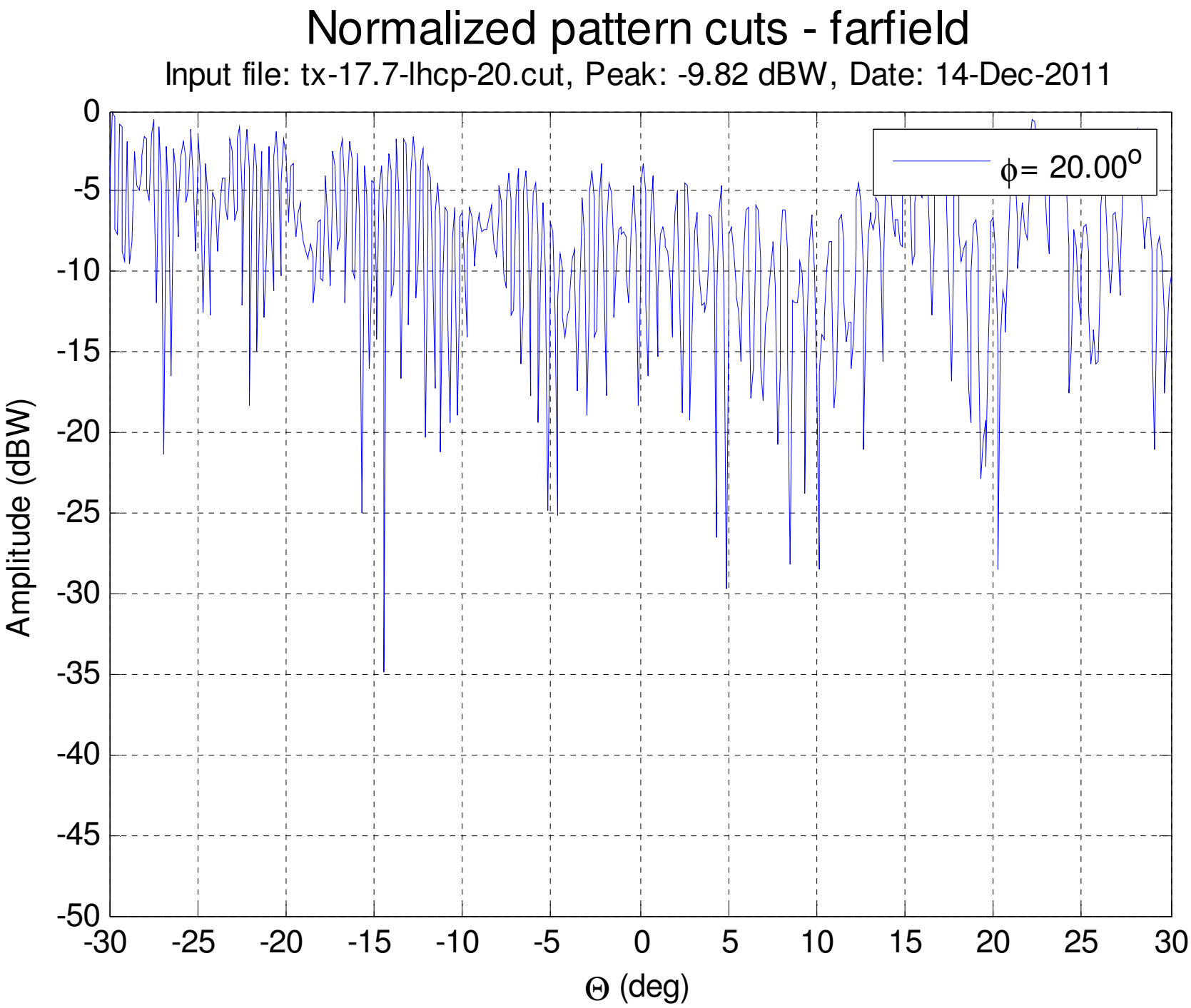

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -8.59 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

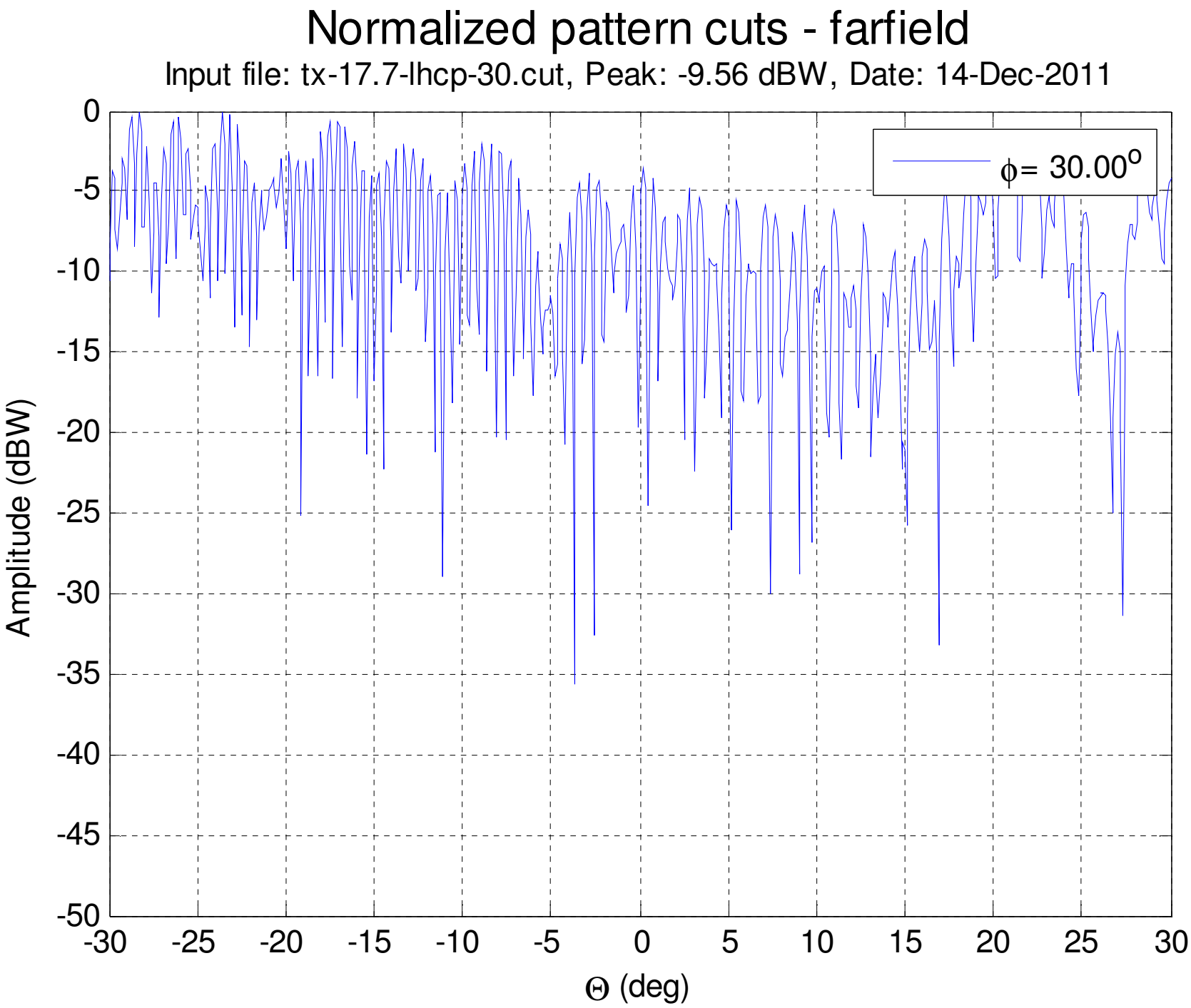

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -8.98 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

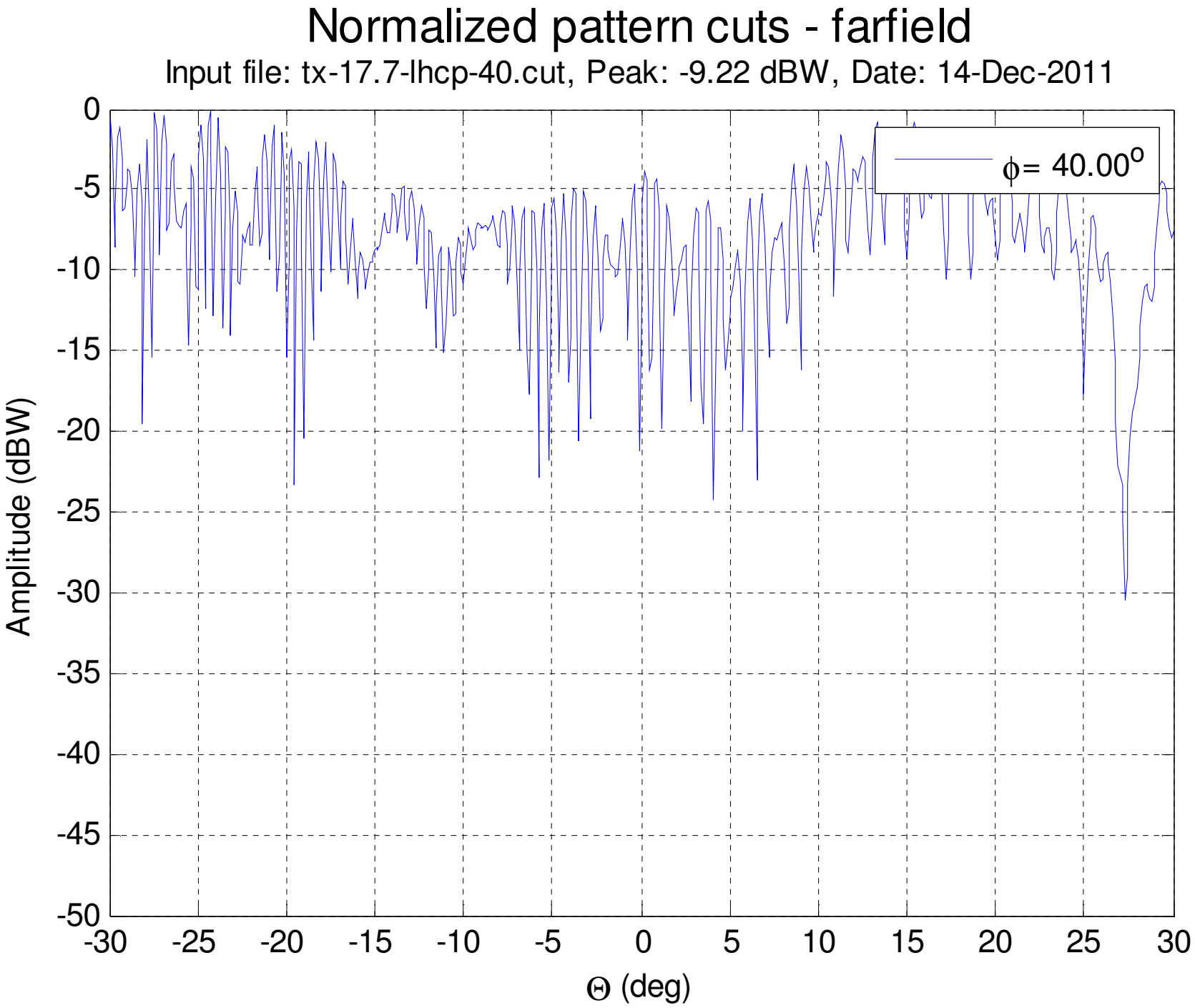

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -11.44 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

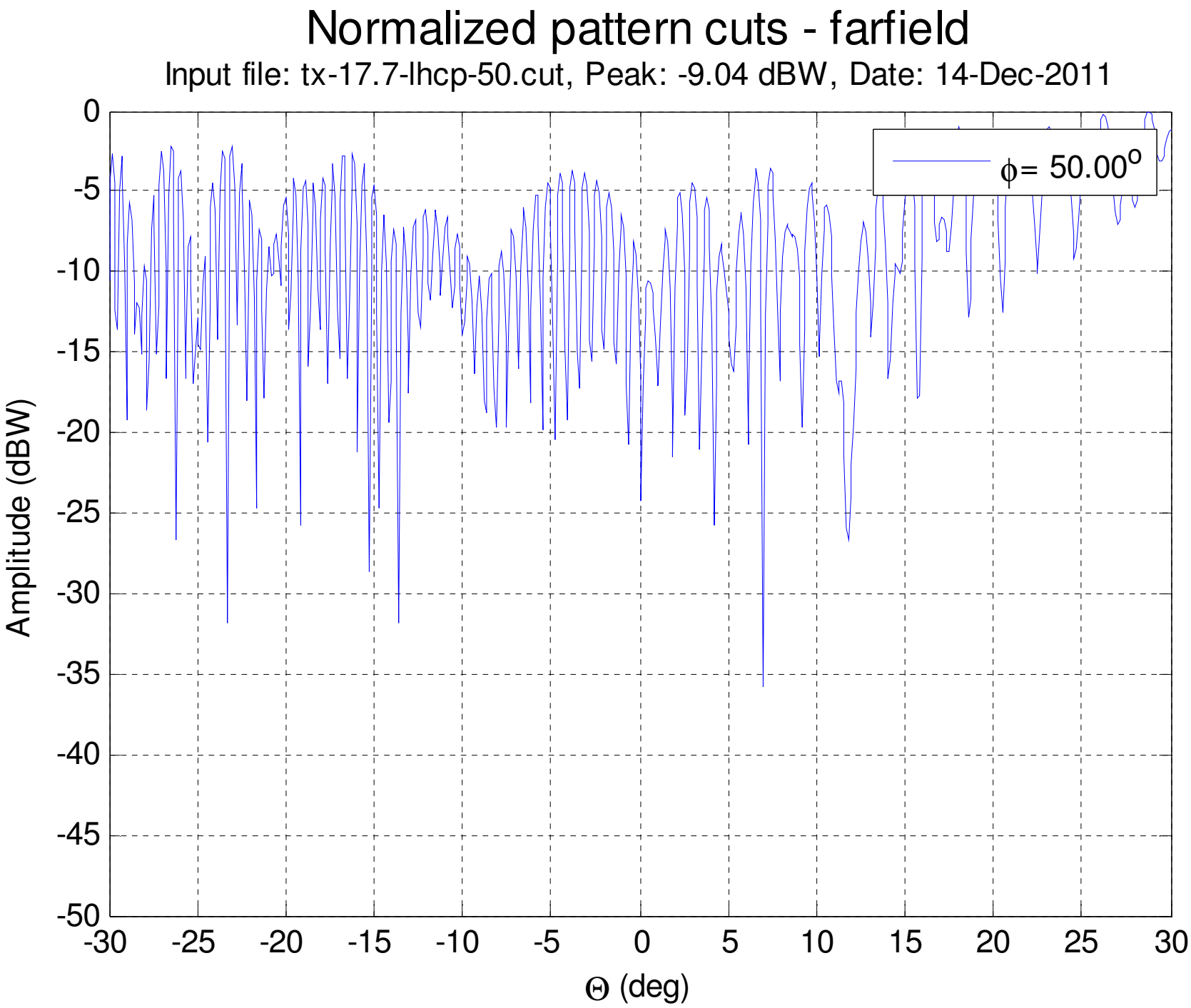

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -9.71 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

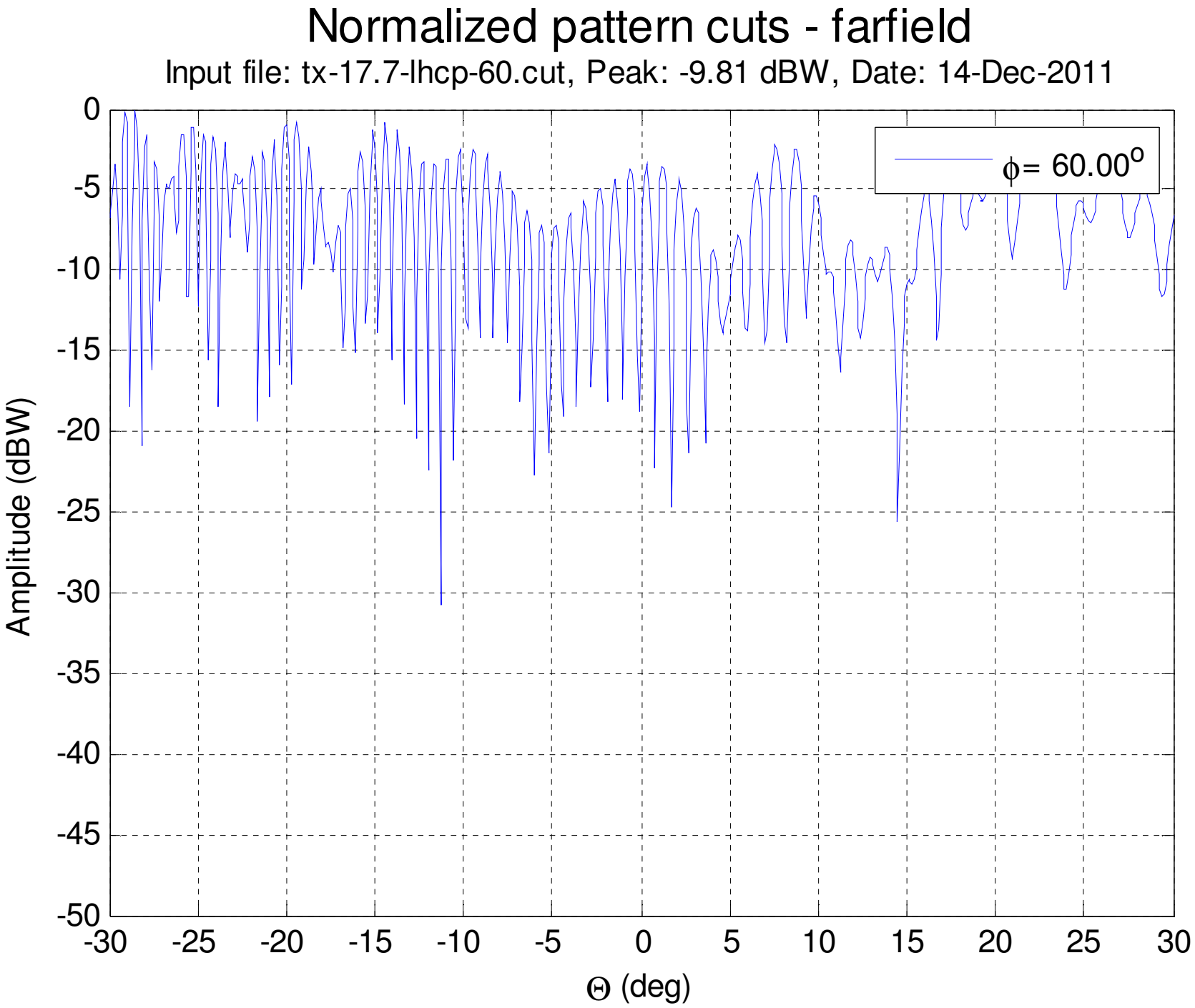

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -10.57 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -9.82 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -9.56 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -9.22 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -9.04 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -9.81 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

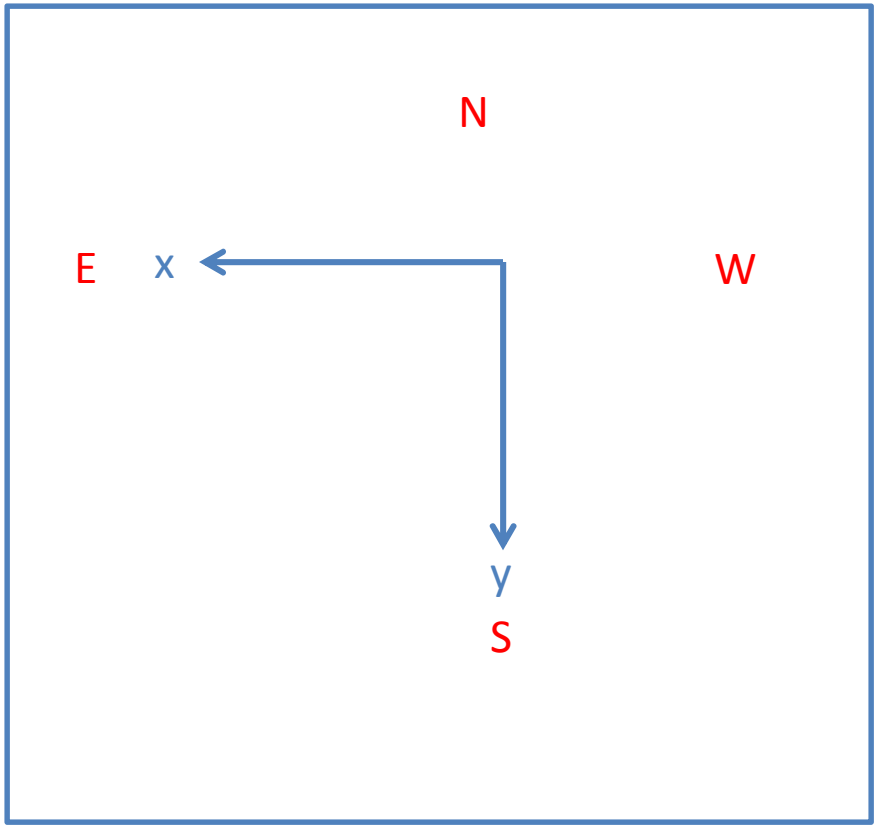
Updated: May 15, 2012

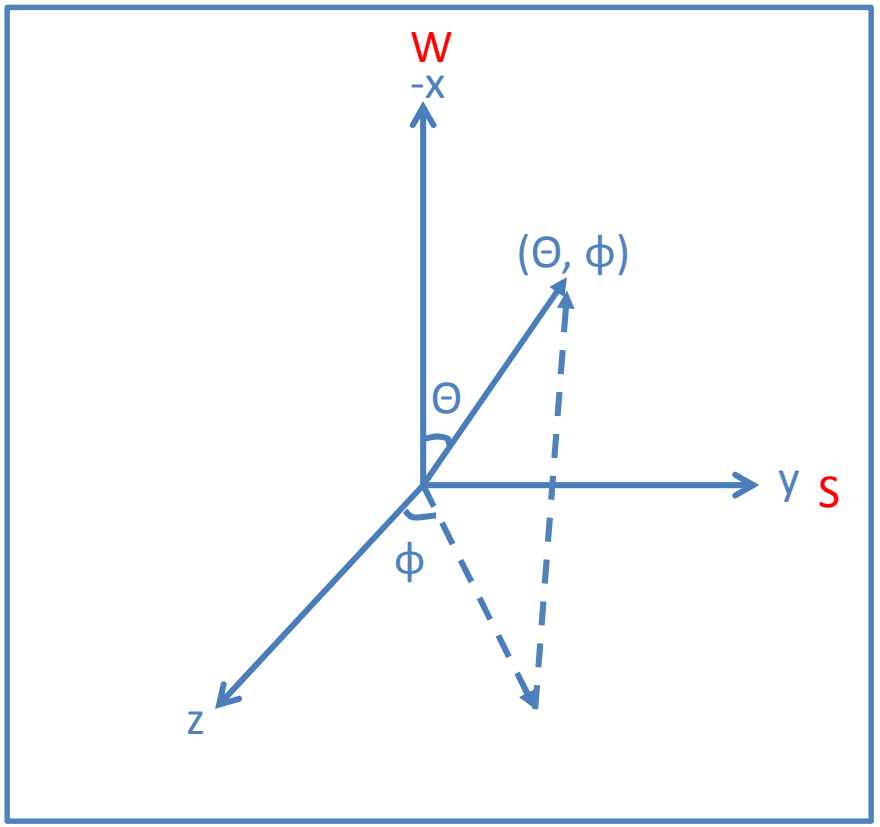
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 04

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

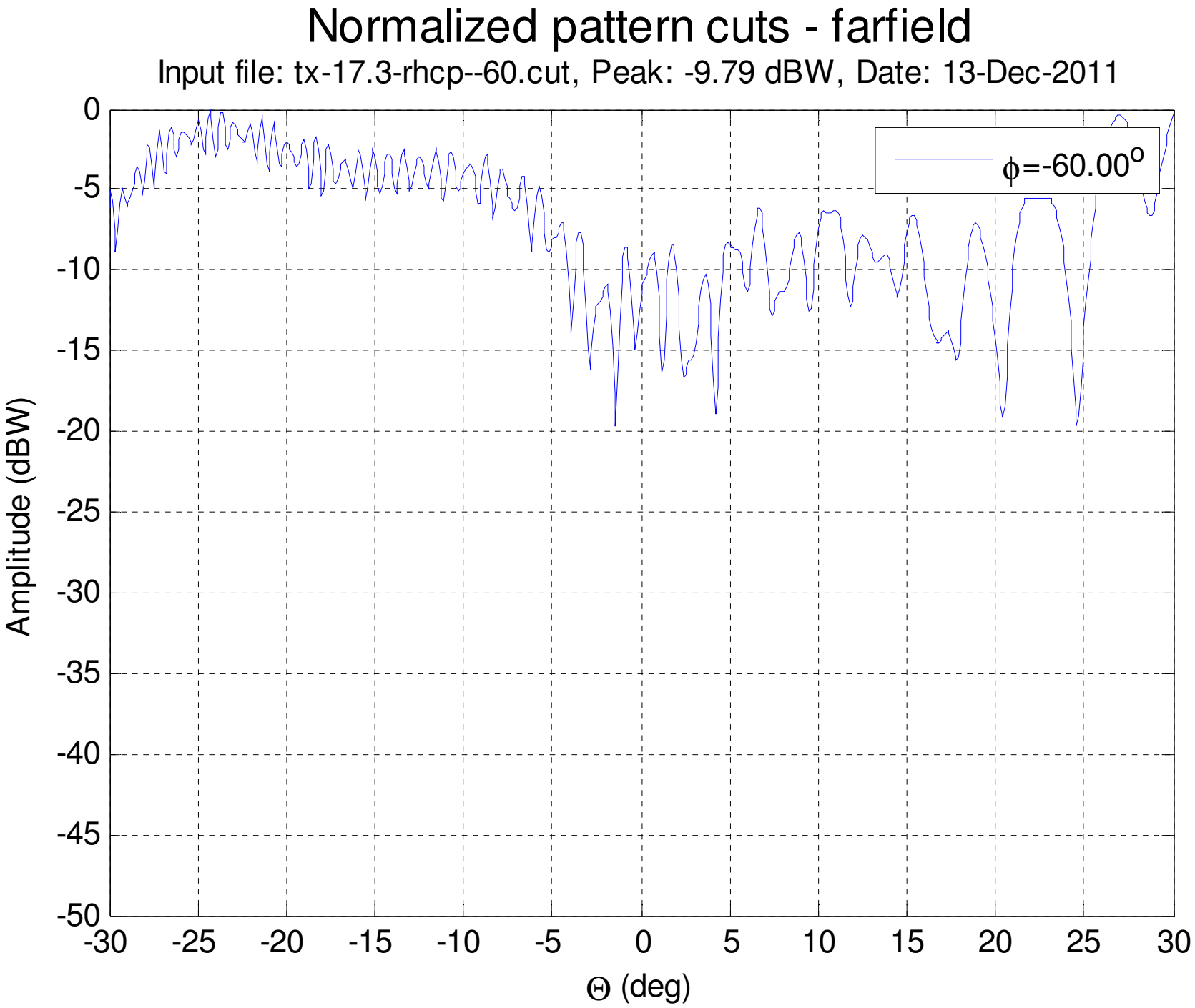


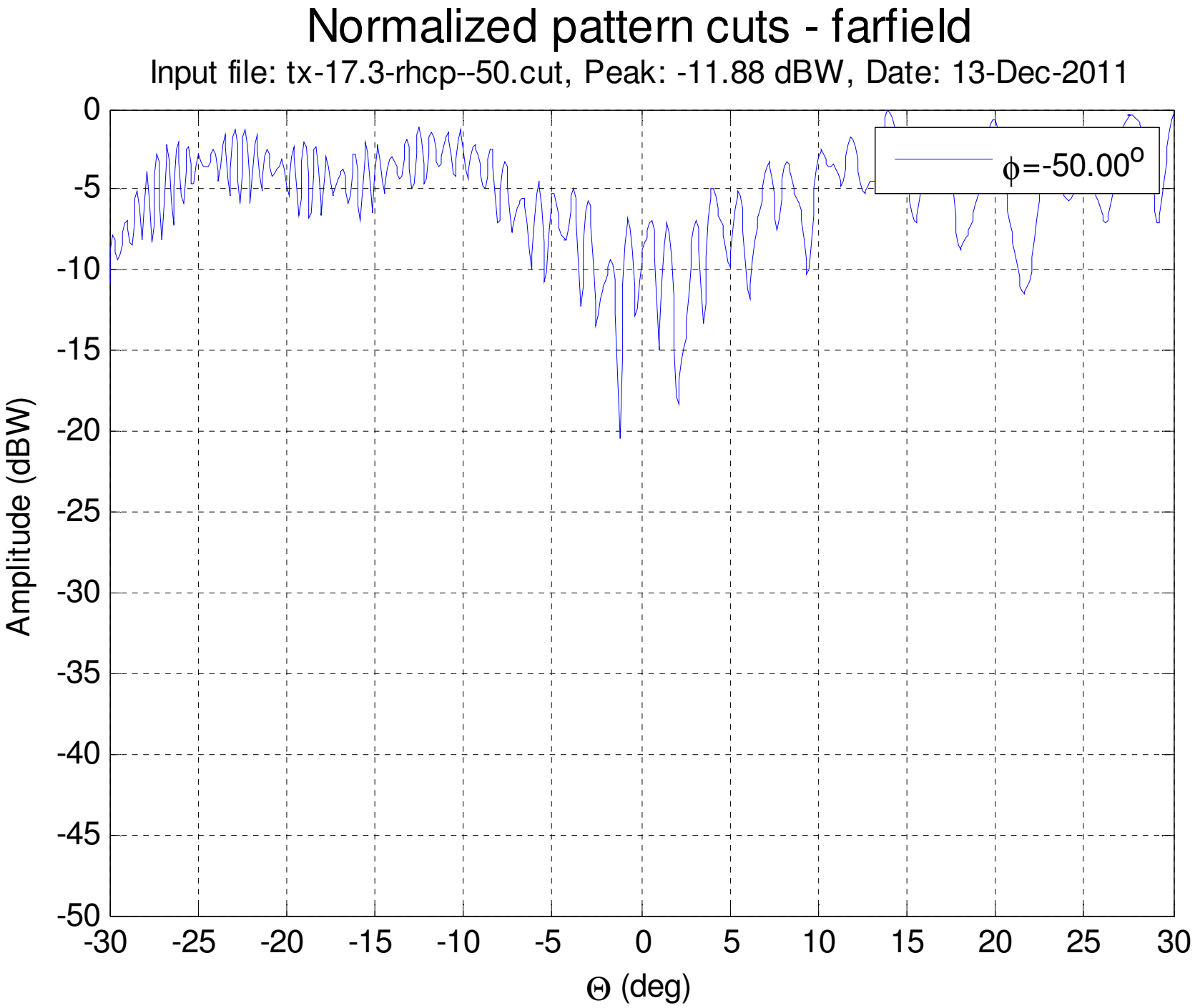


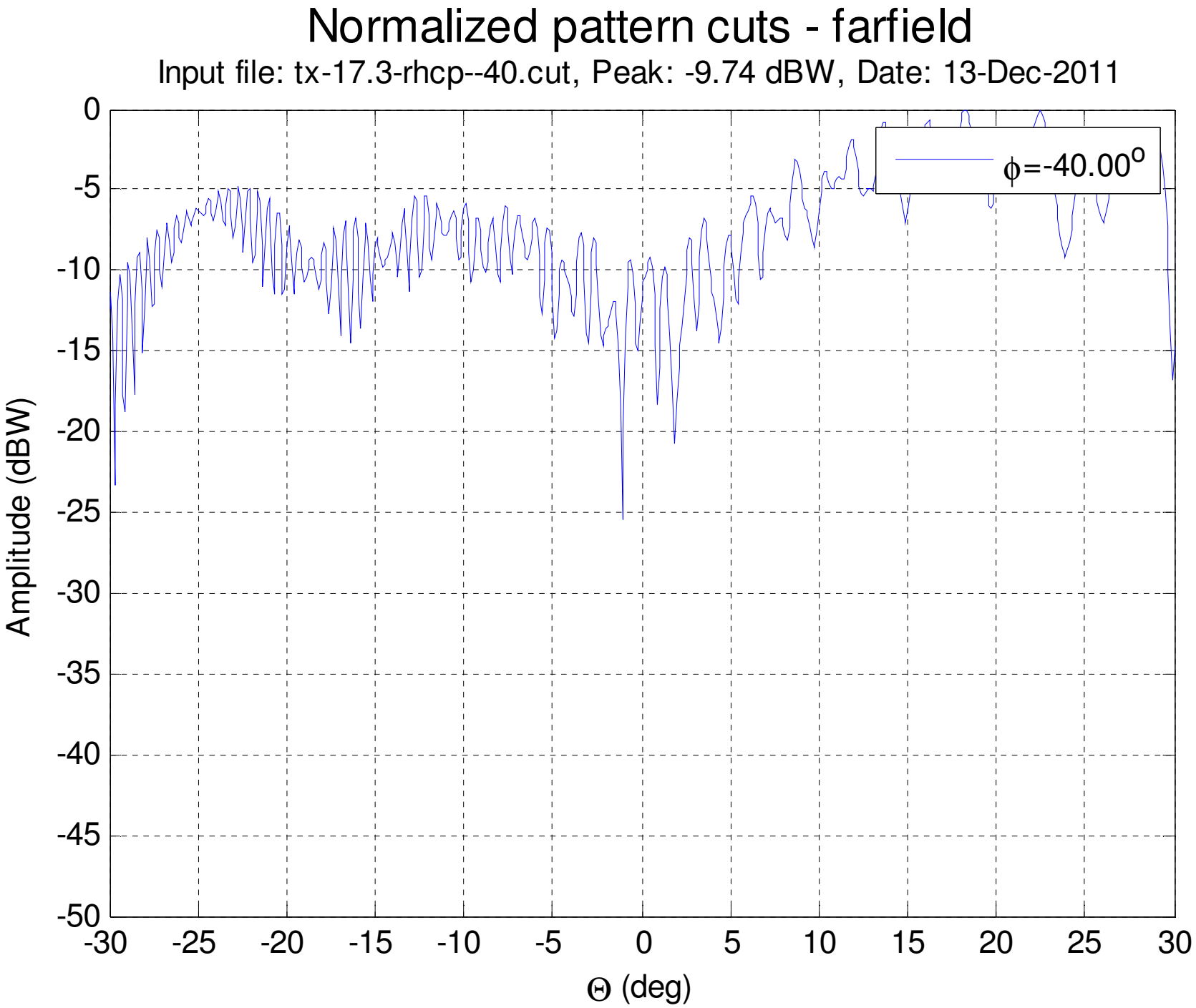
Spot Beam04, -X Axis Plots

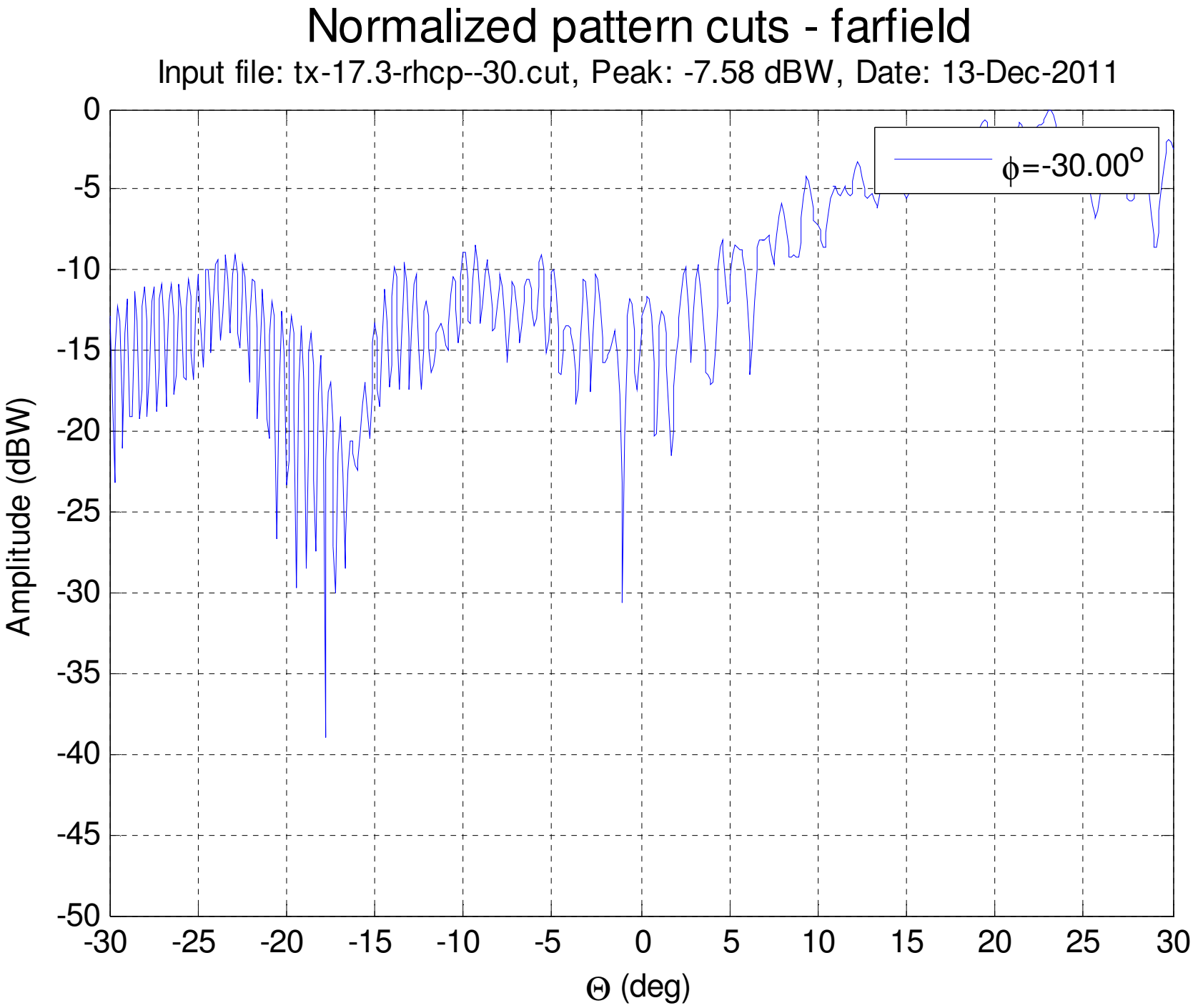
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

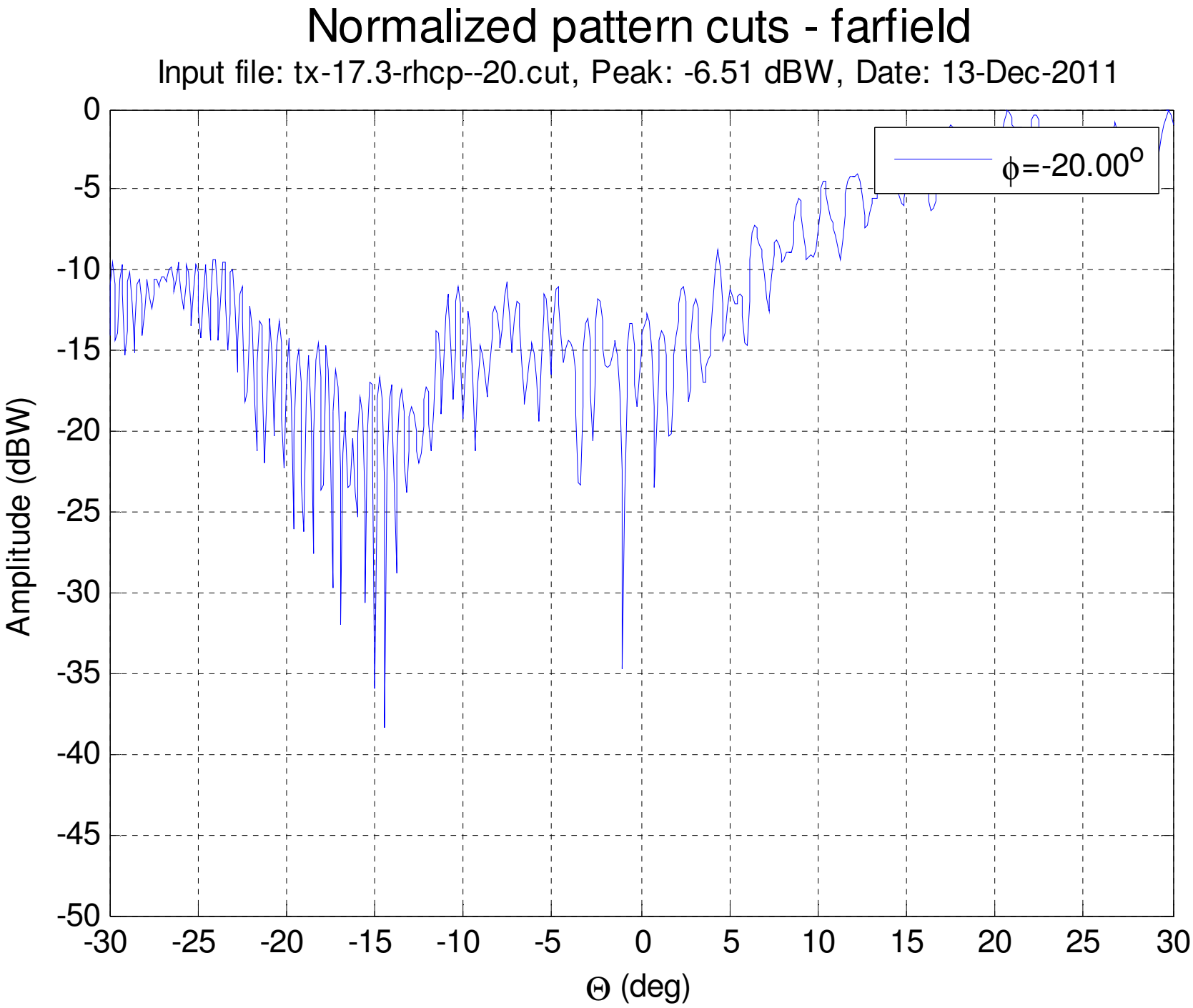
RHCP at 17.3 GHz

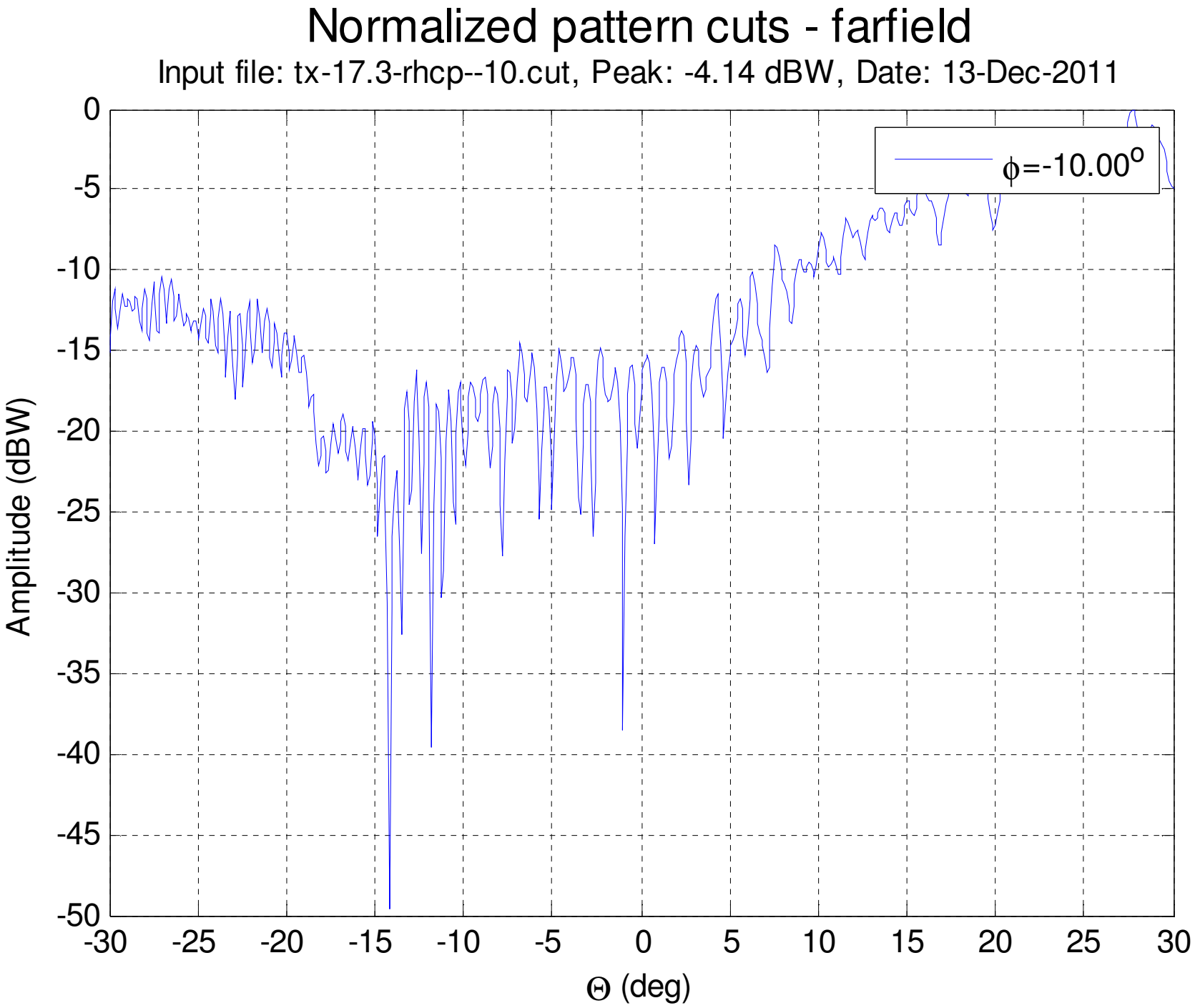

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -9.79 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

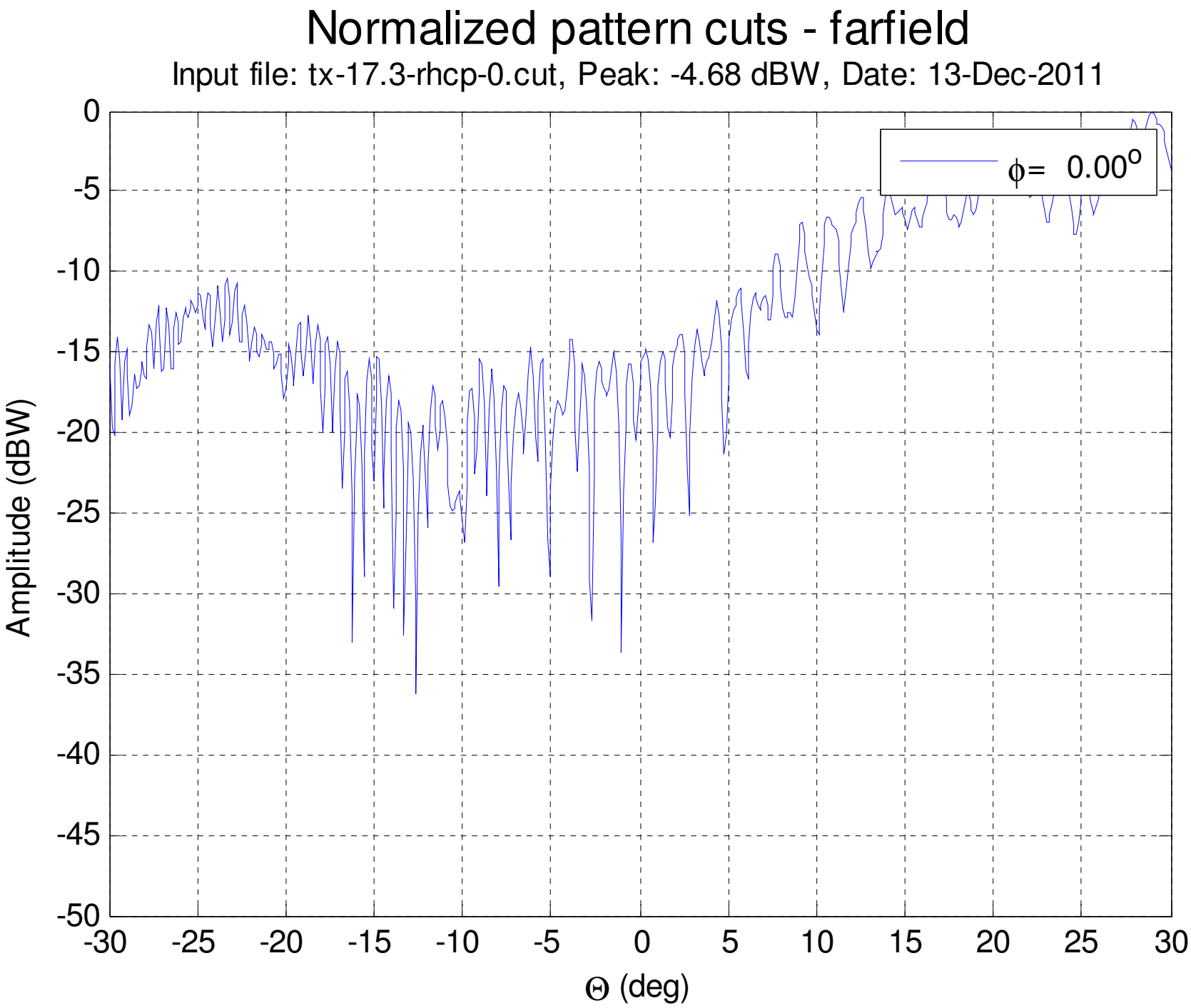

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -11.88 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

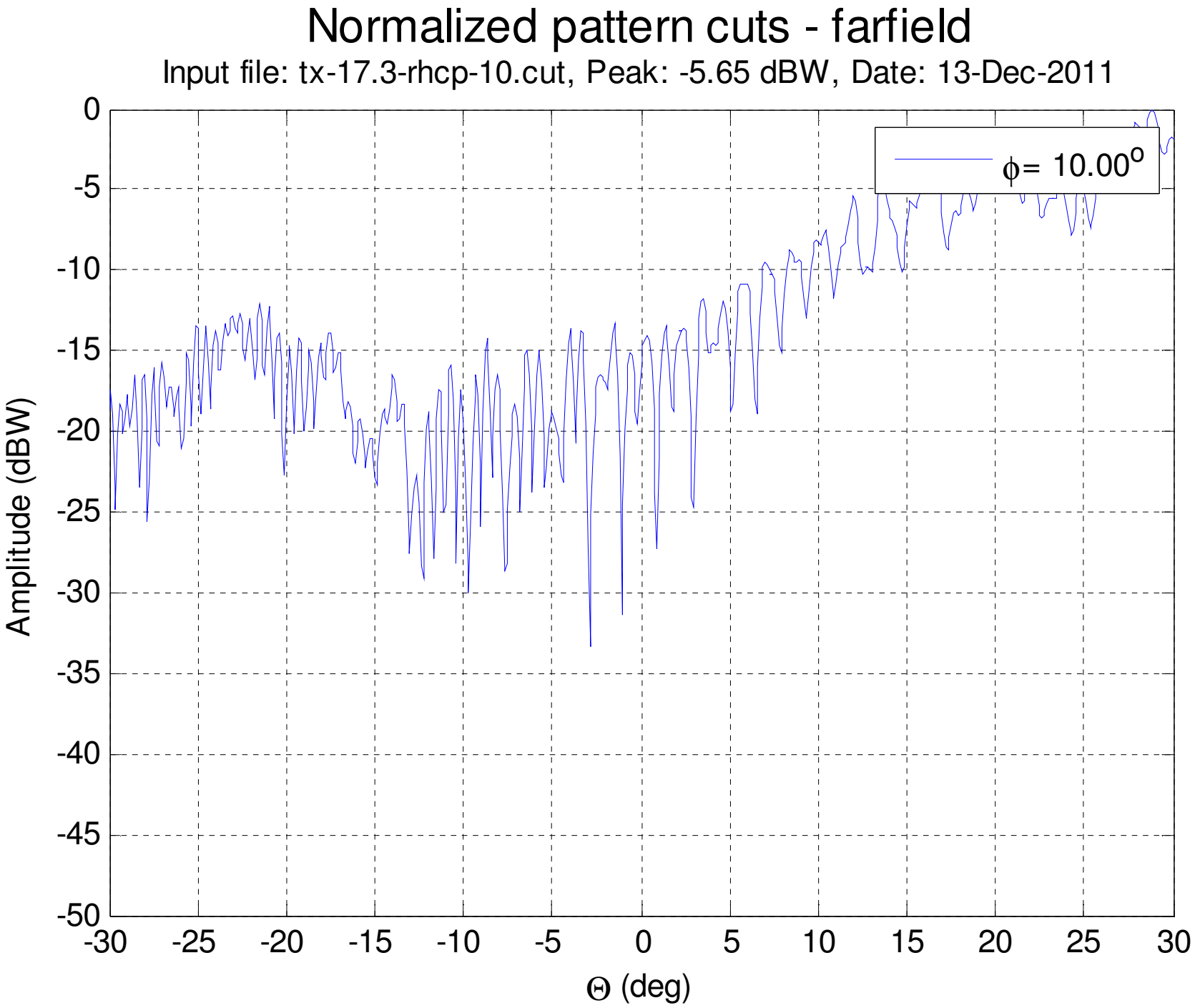

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -9.74 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

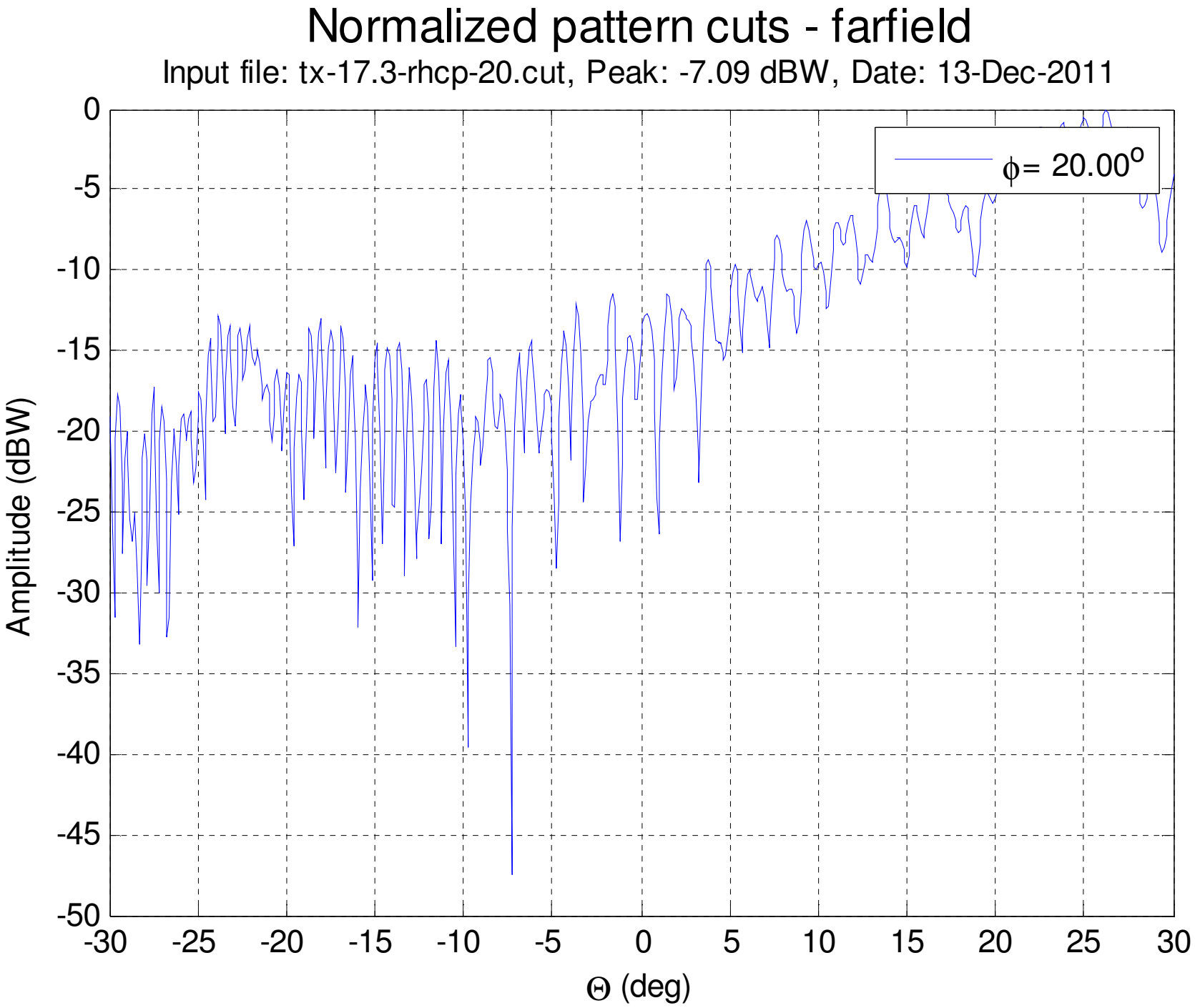

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -7.58 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

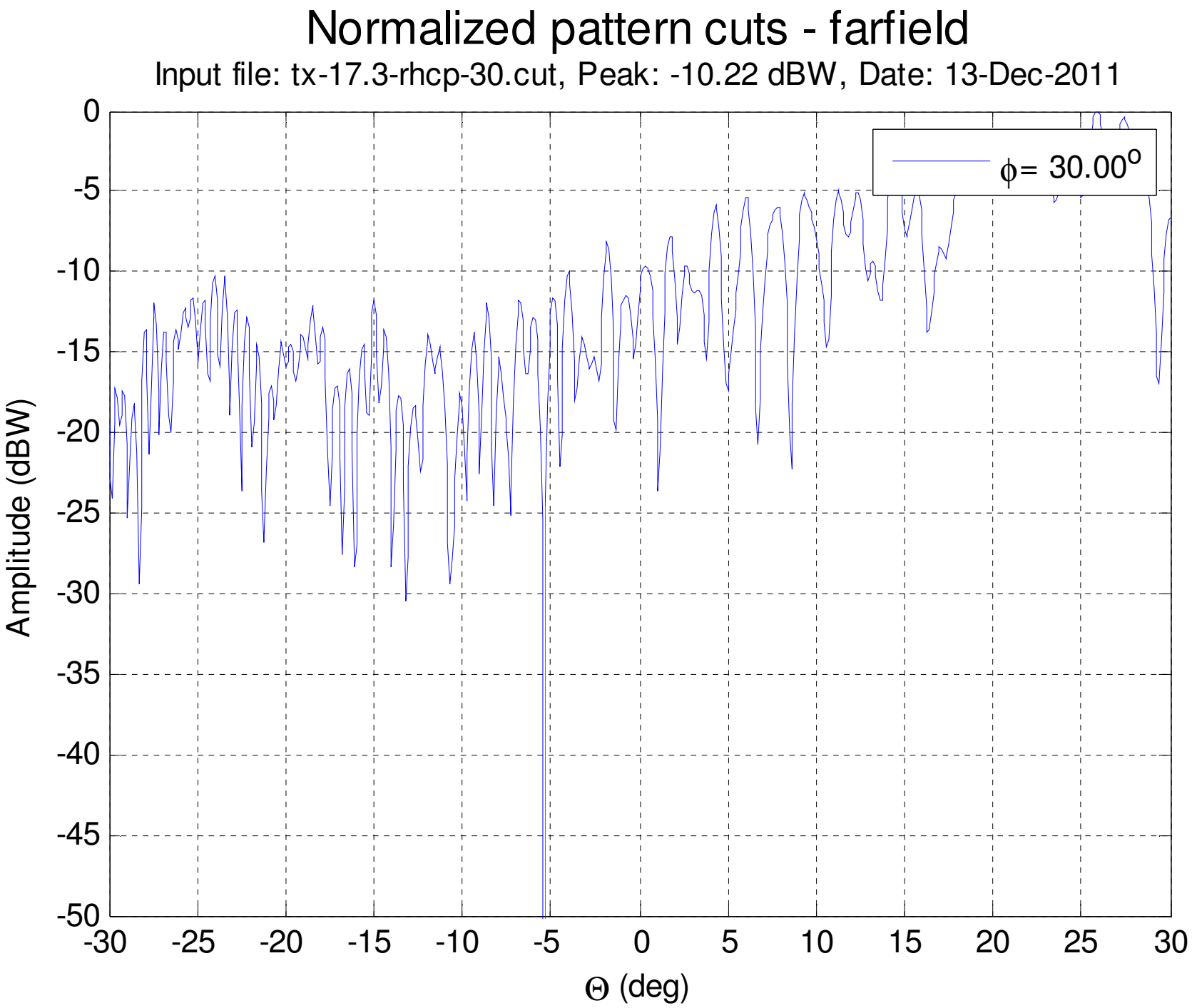

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -6.51 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

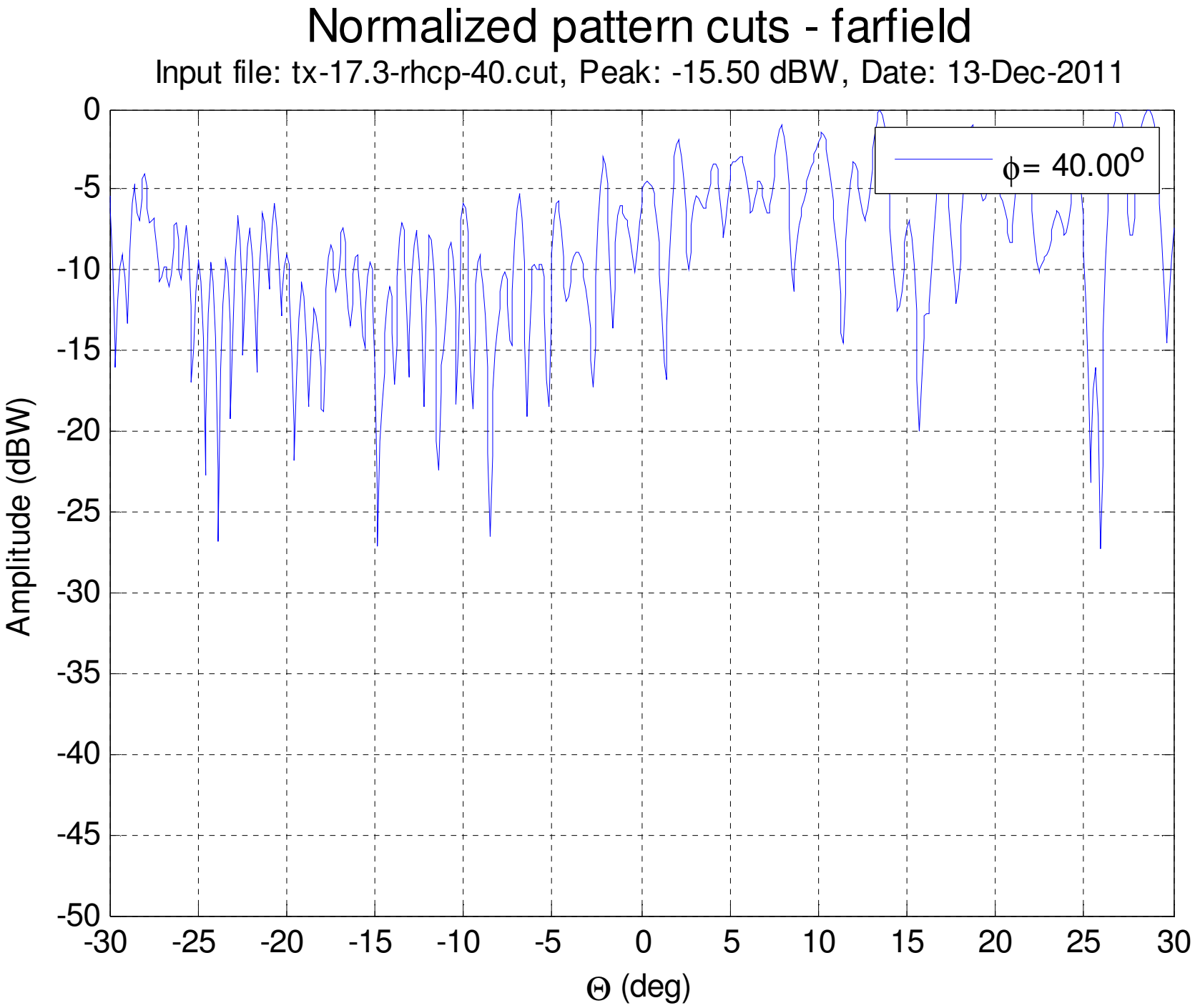

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -4.14 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

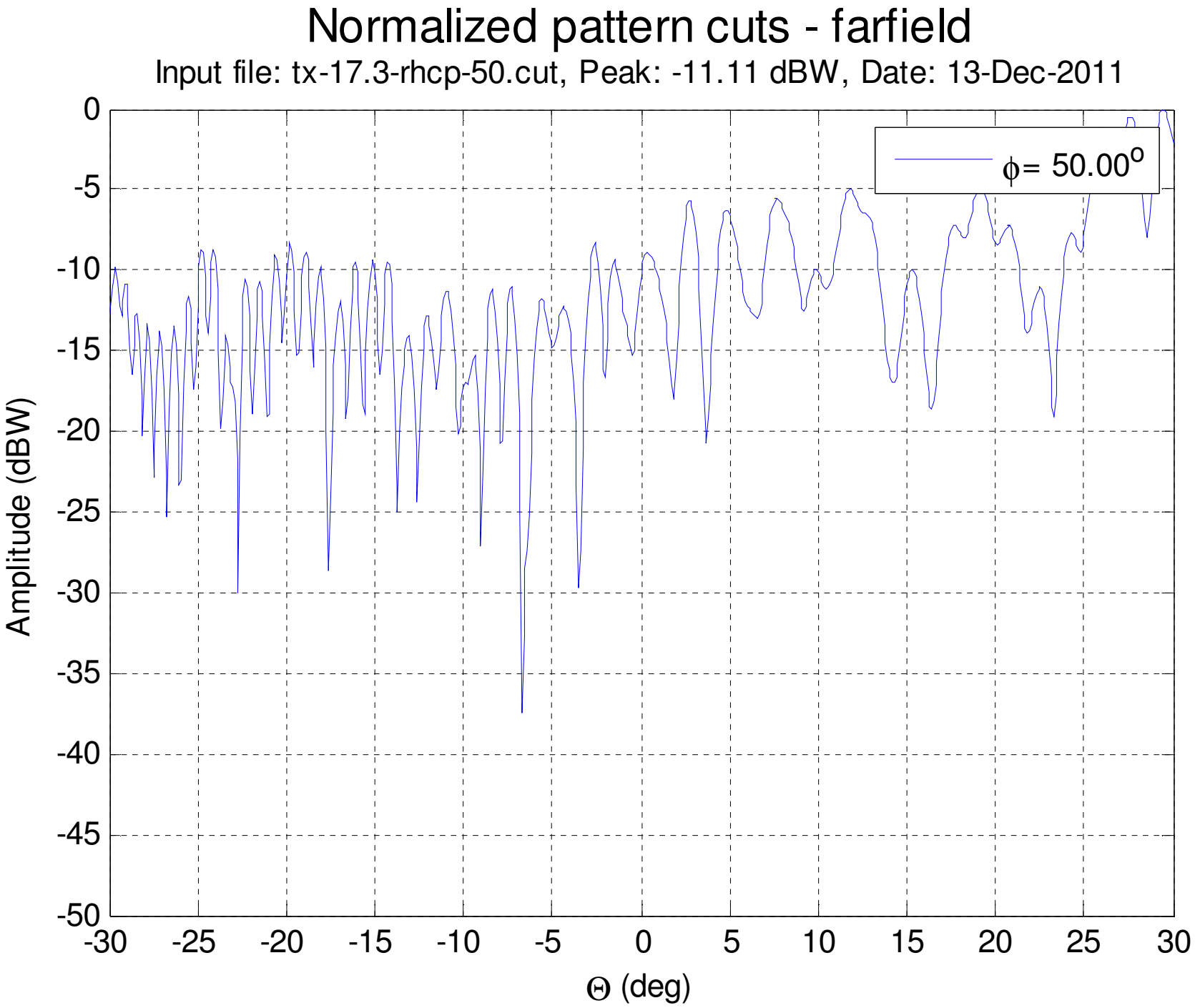

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -4.68 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

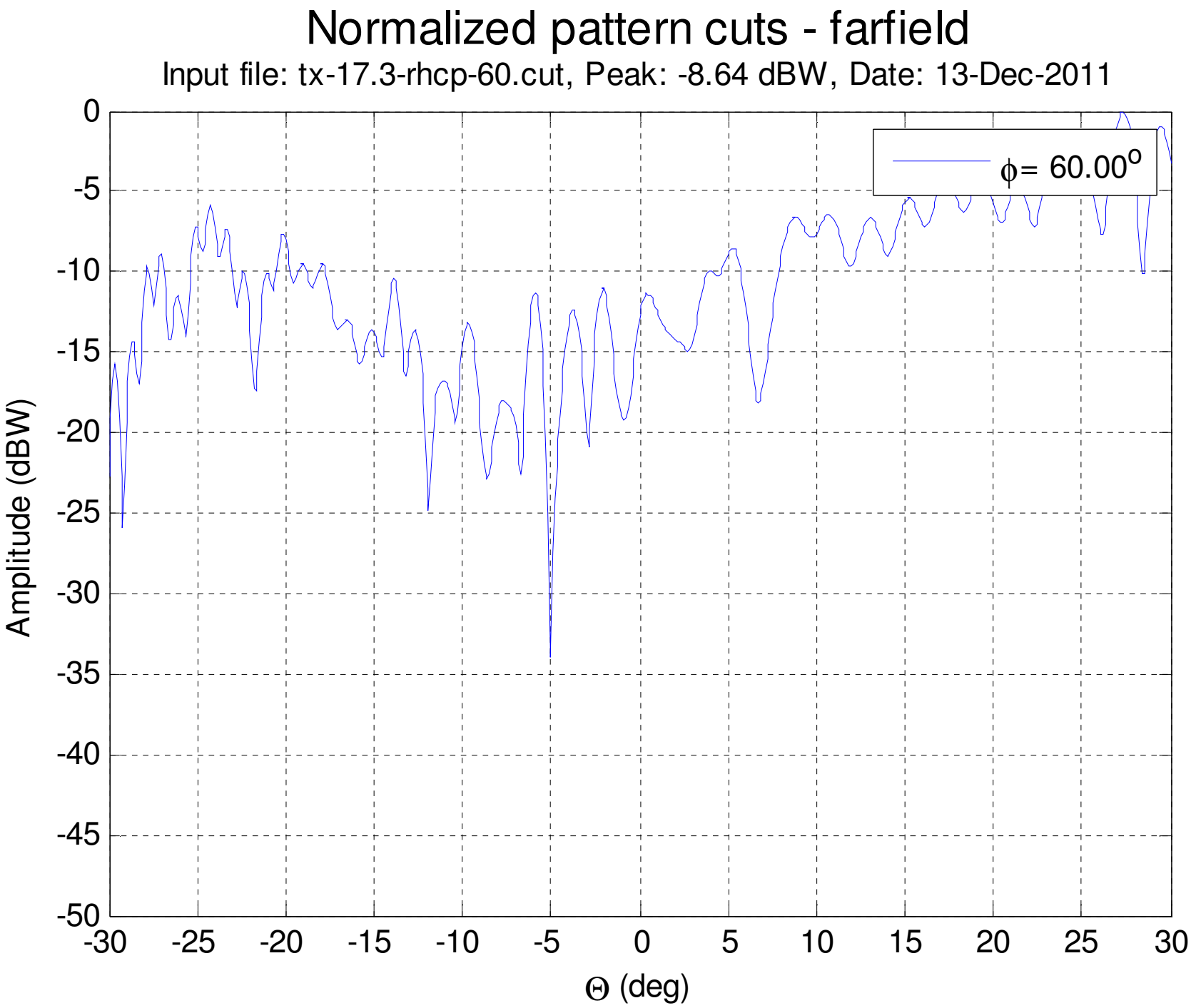

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -5.65 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -7.09 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

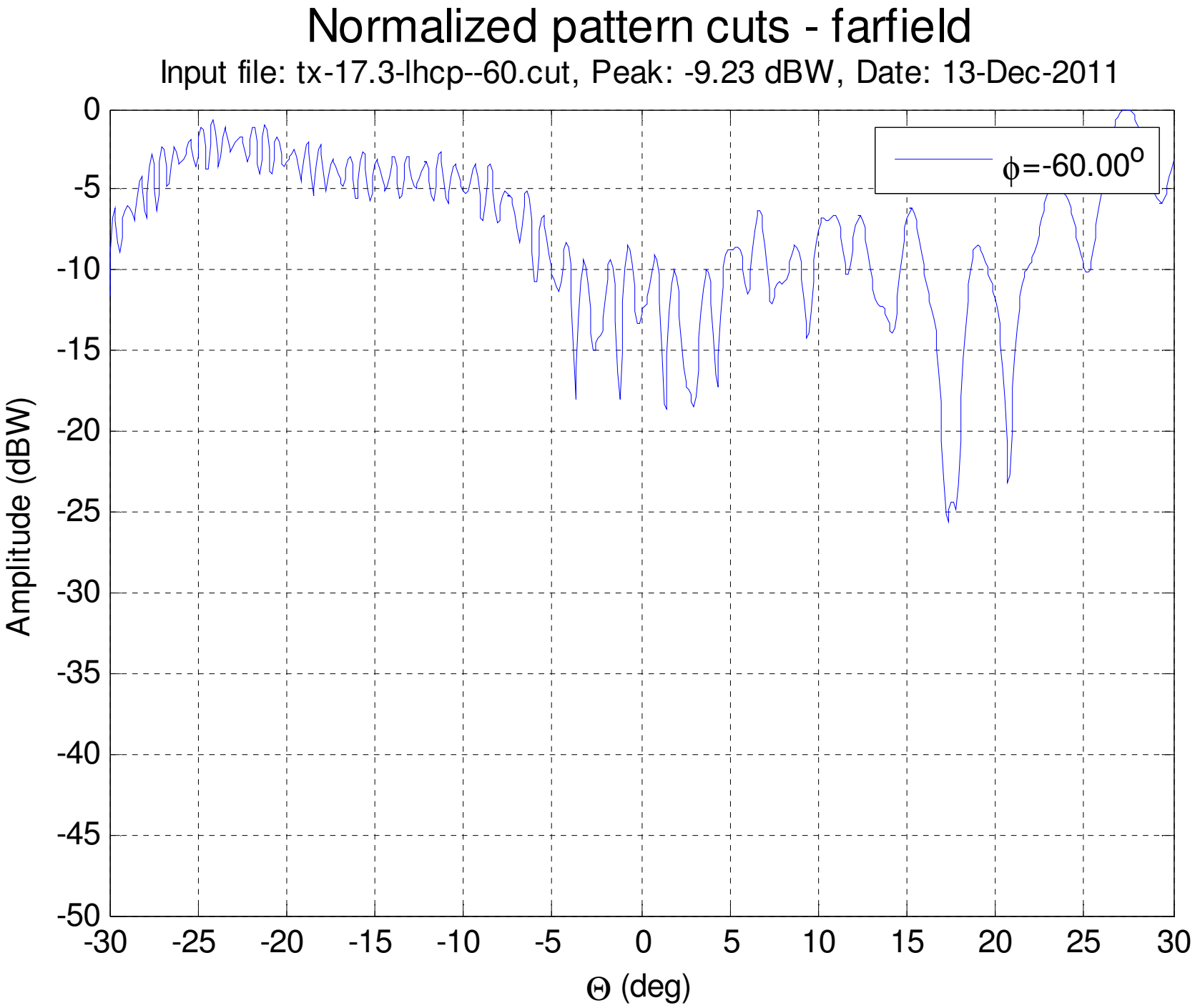

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -10.22 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

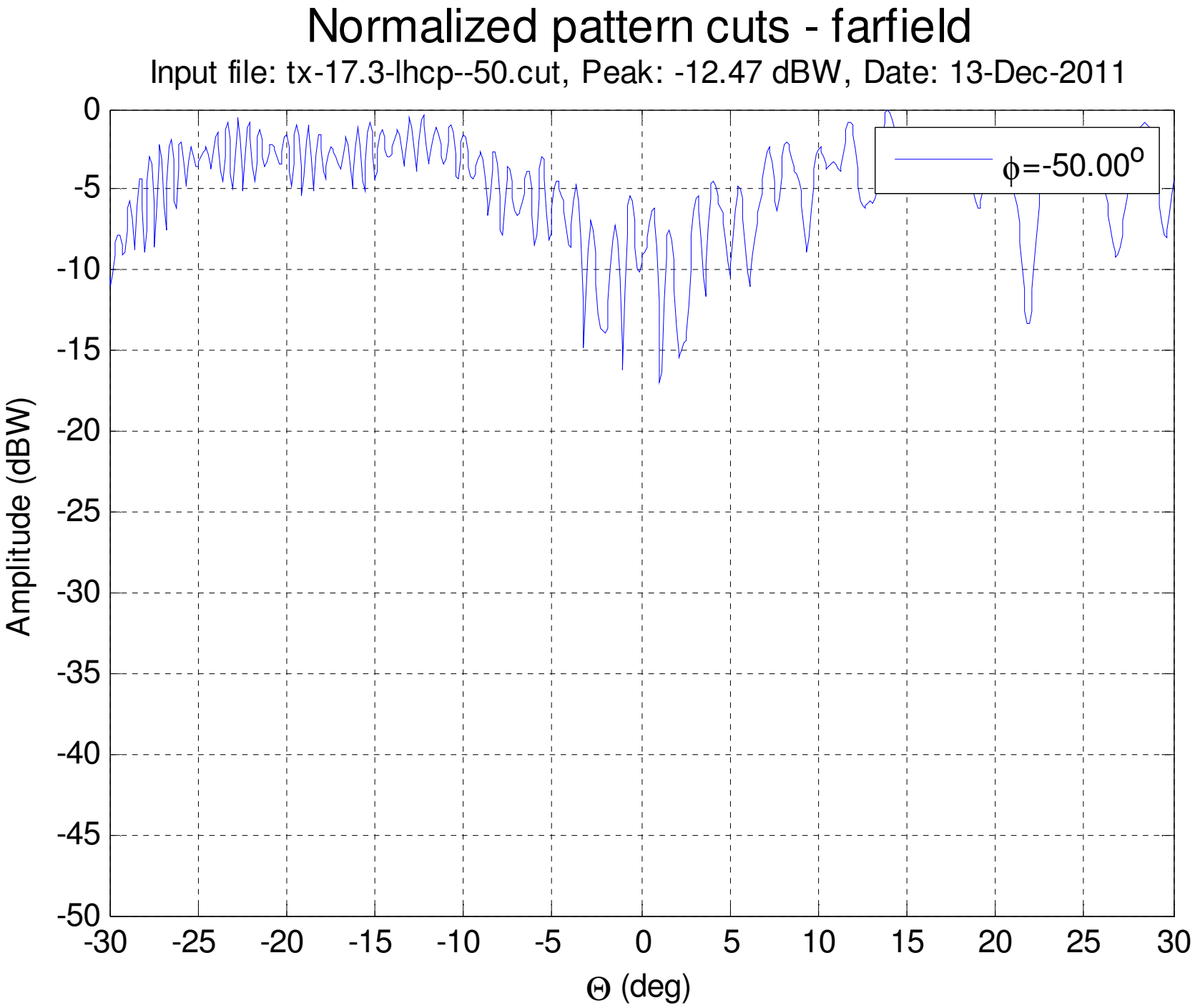

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -15.50 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

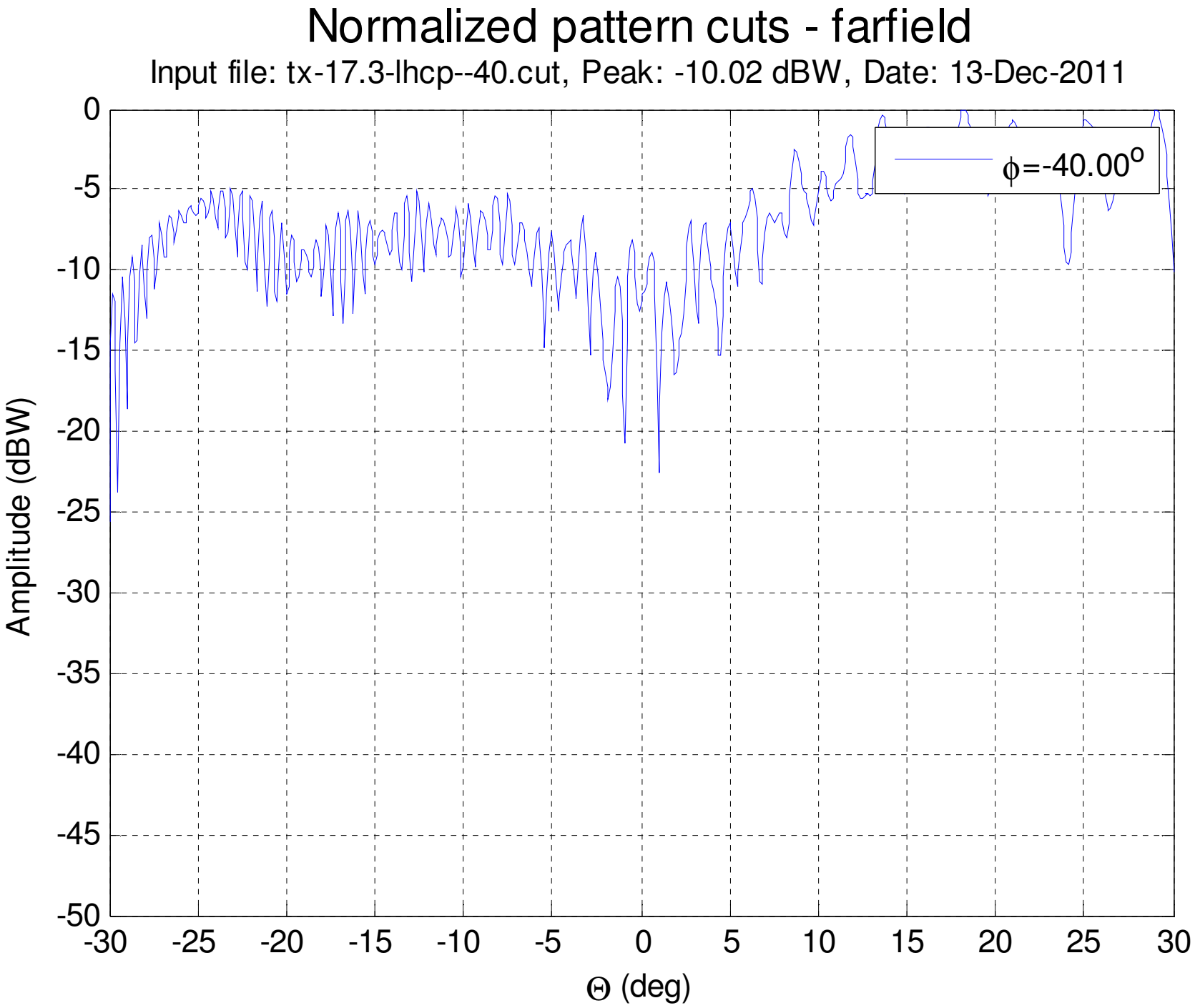

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -11.11 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

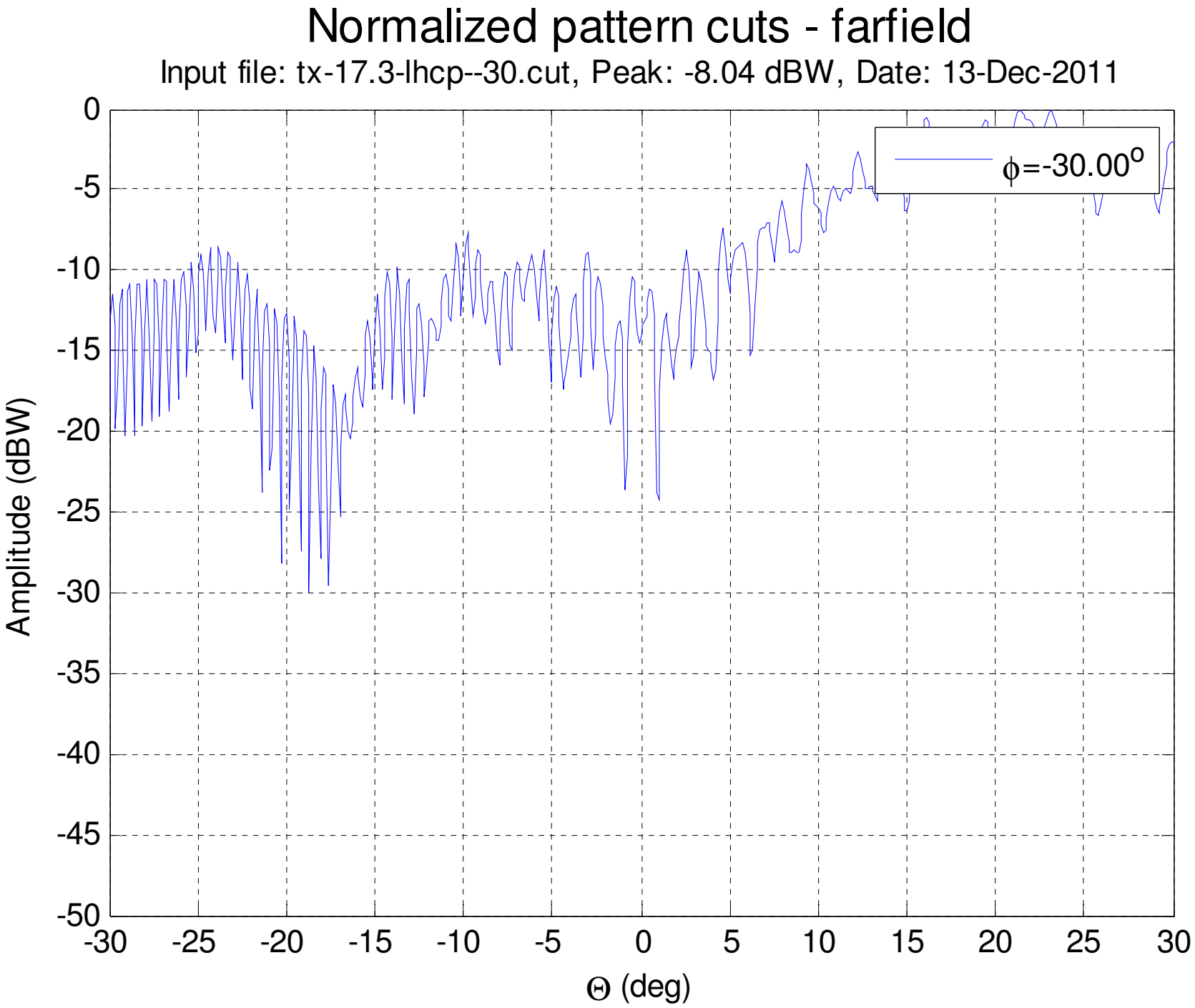

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -8.64 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

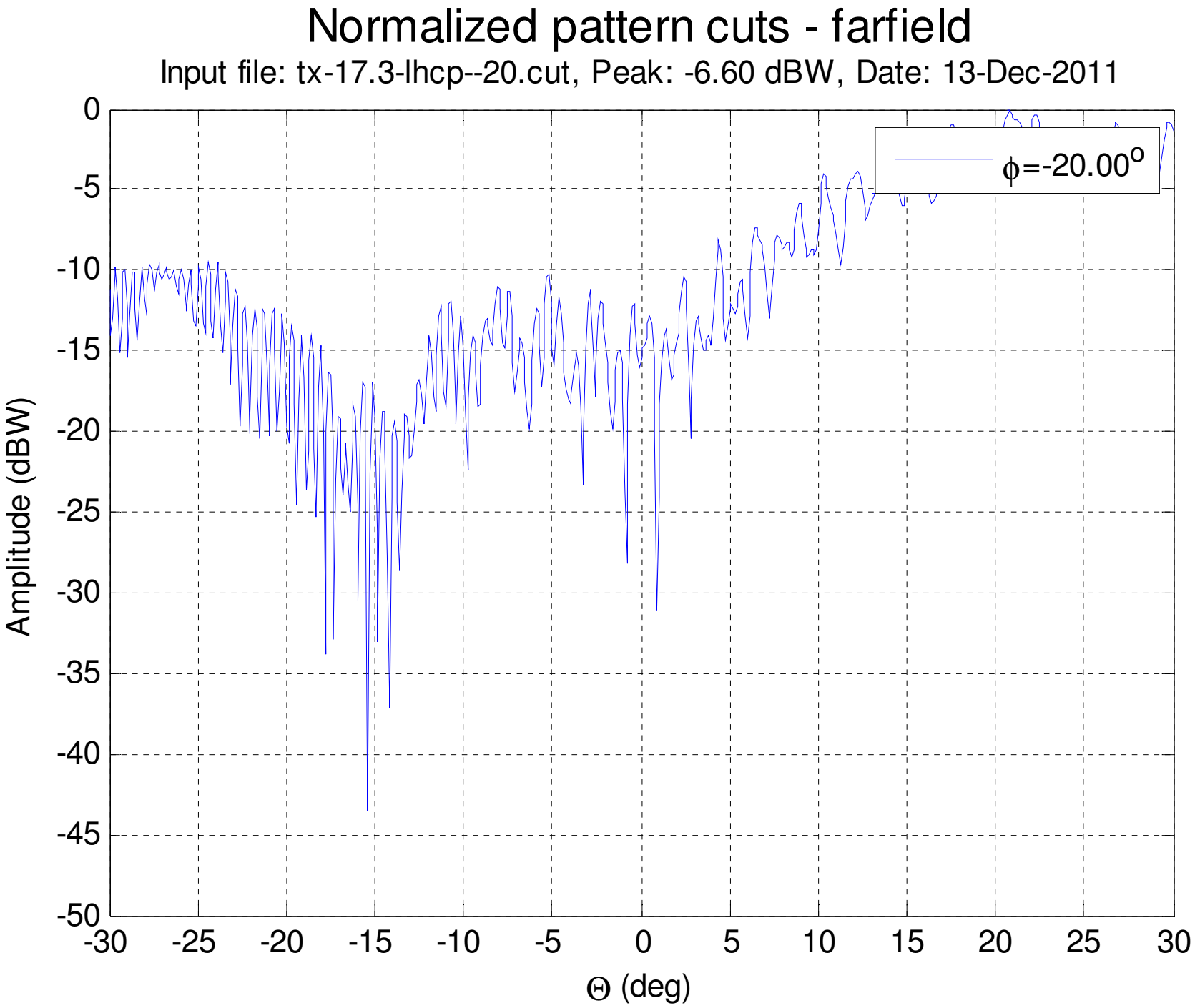
LHCP at 17.3 GHz

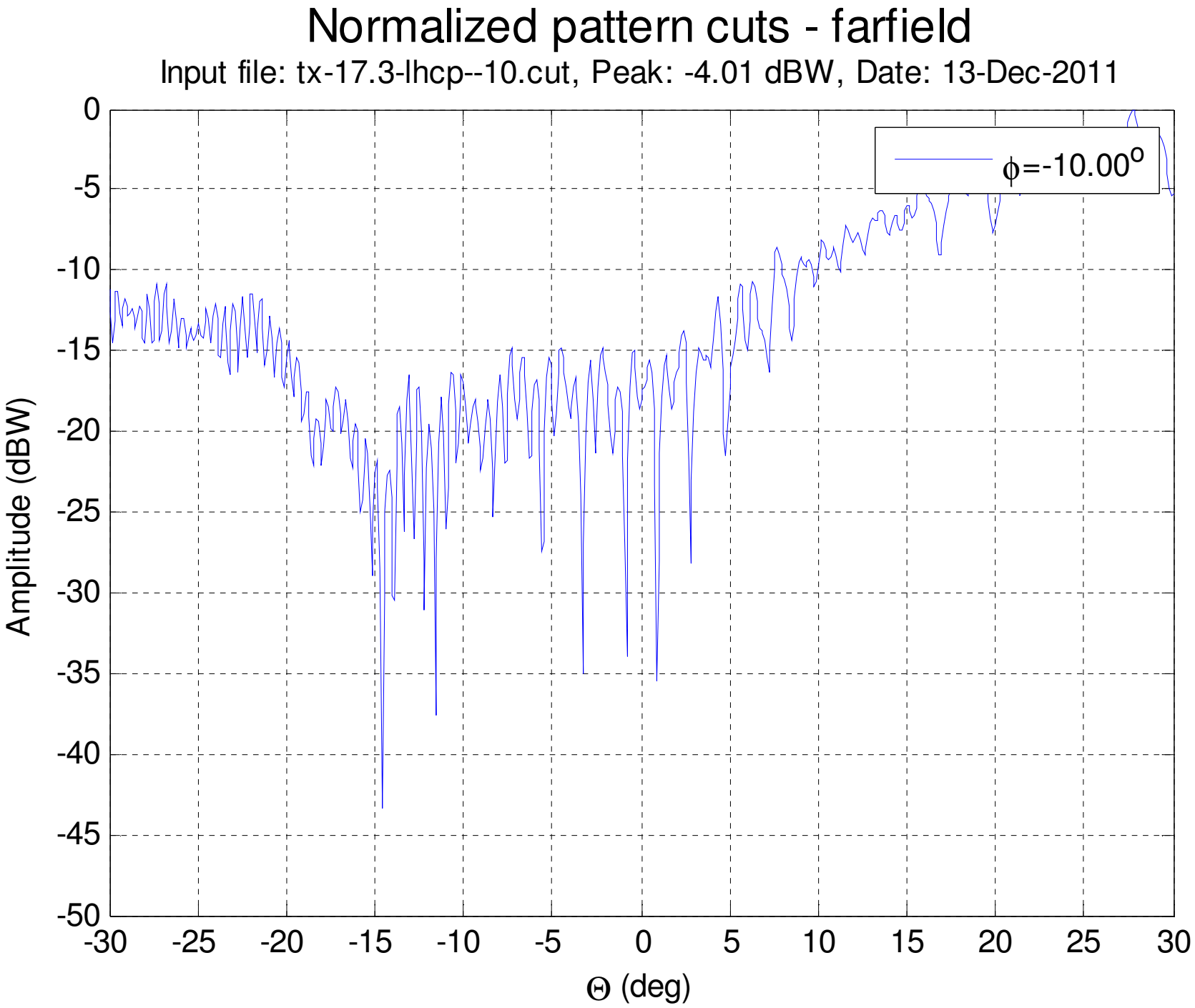

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -9.23 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

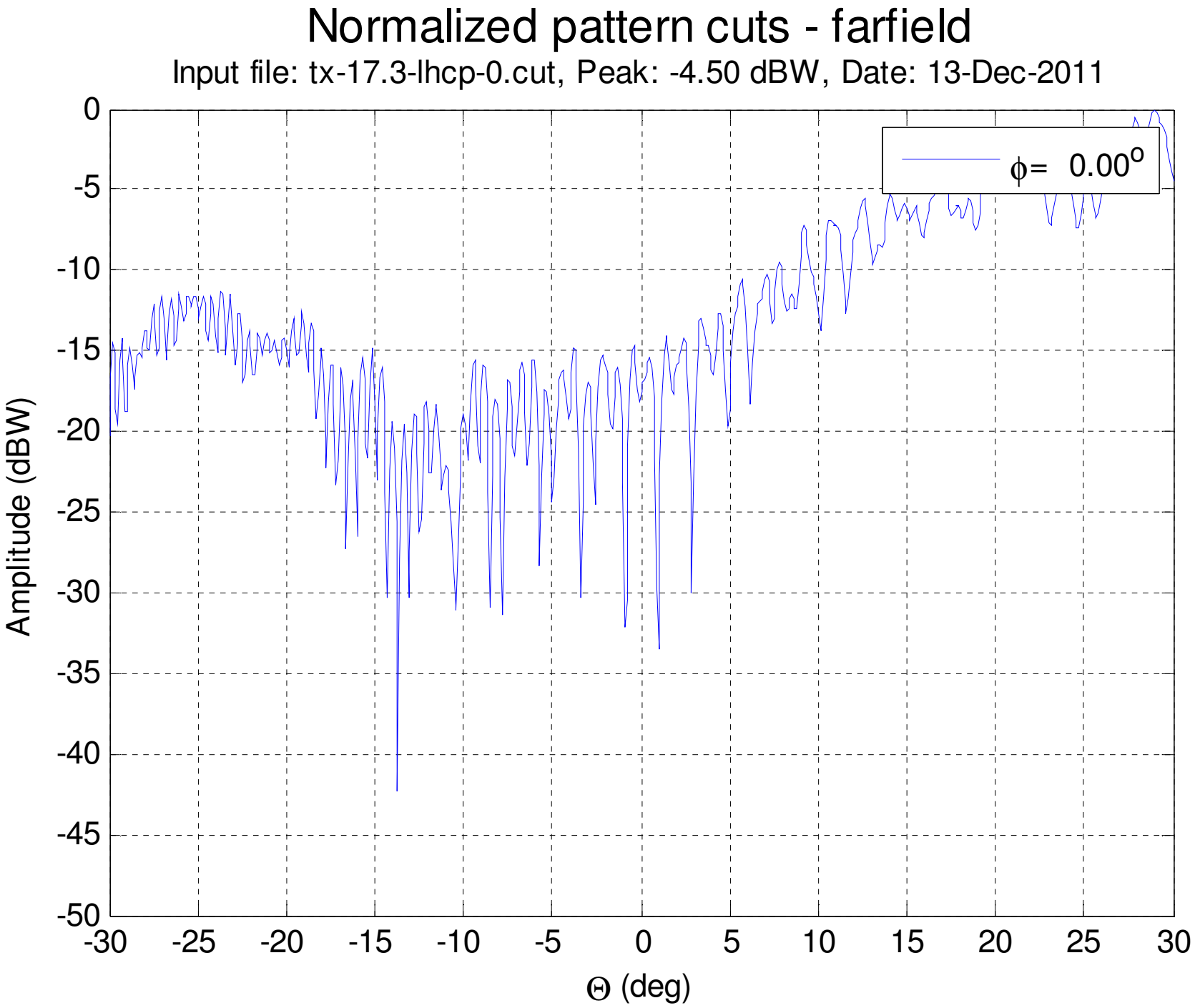

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -12.47 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

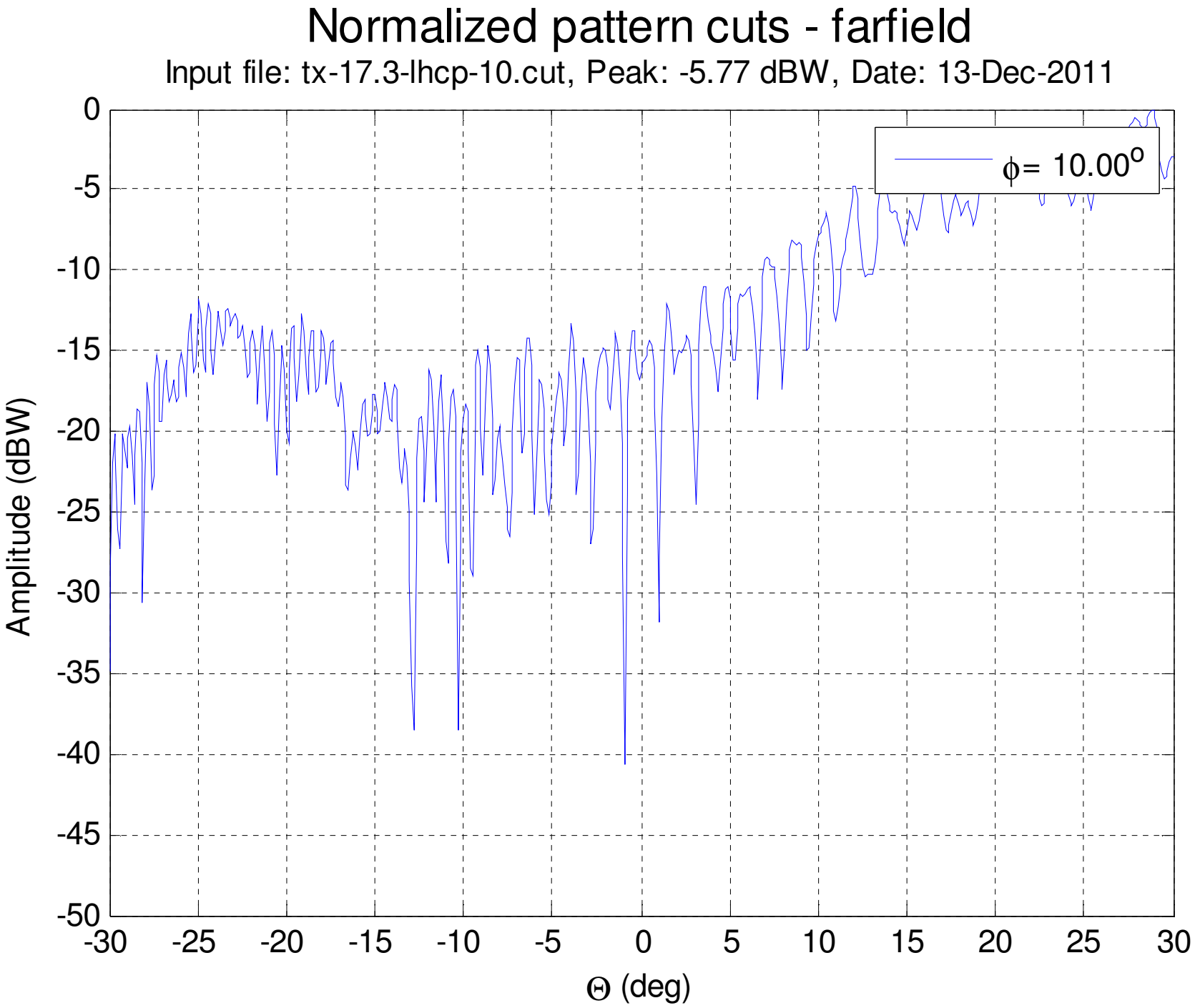

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -10.02 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

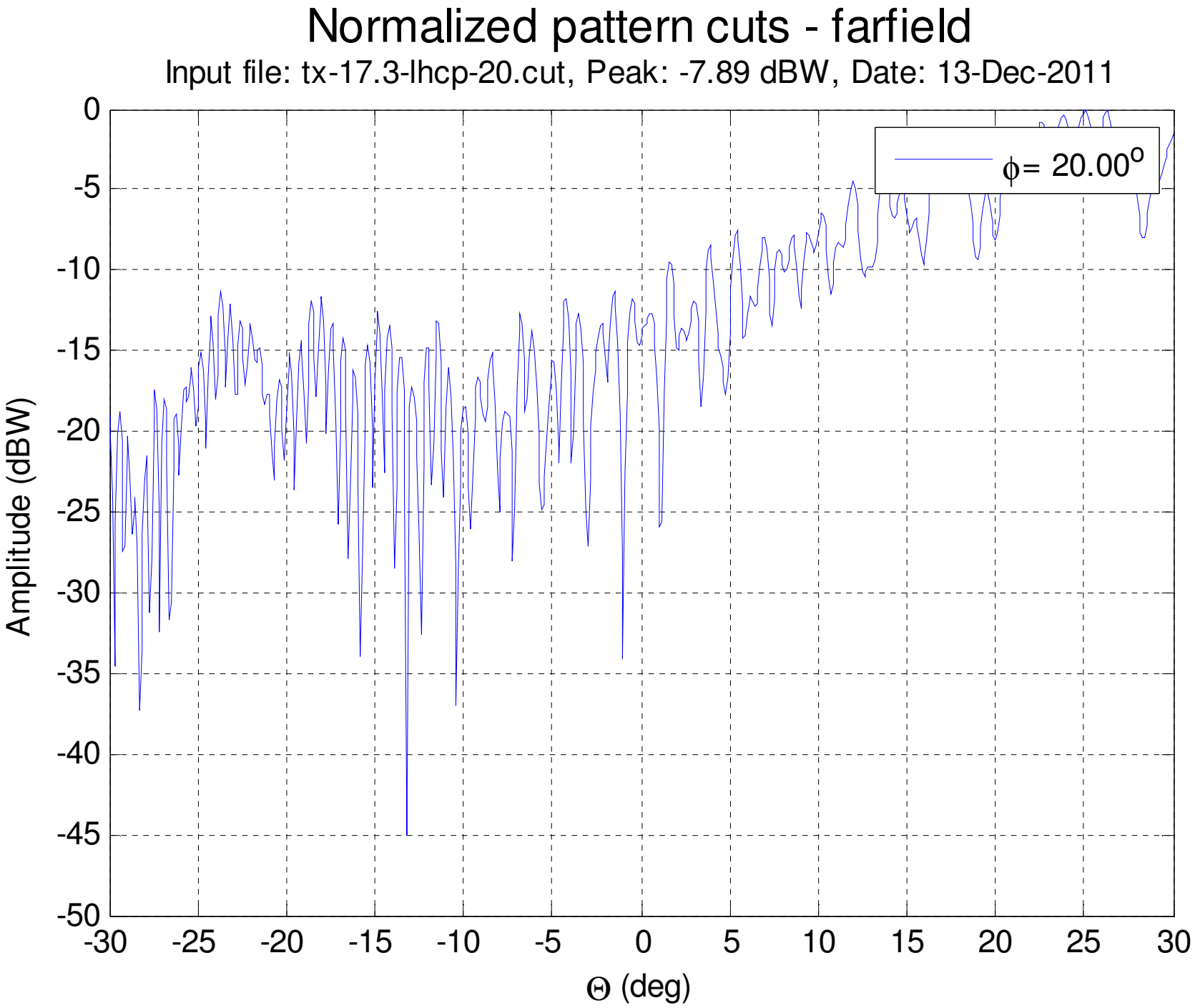

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -8.04 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

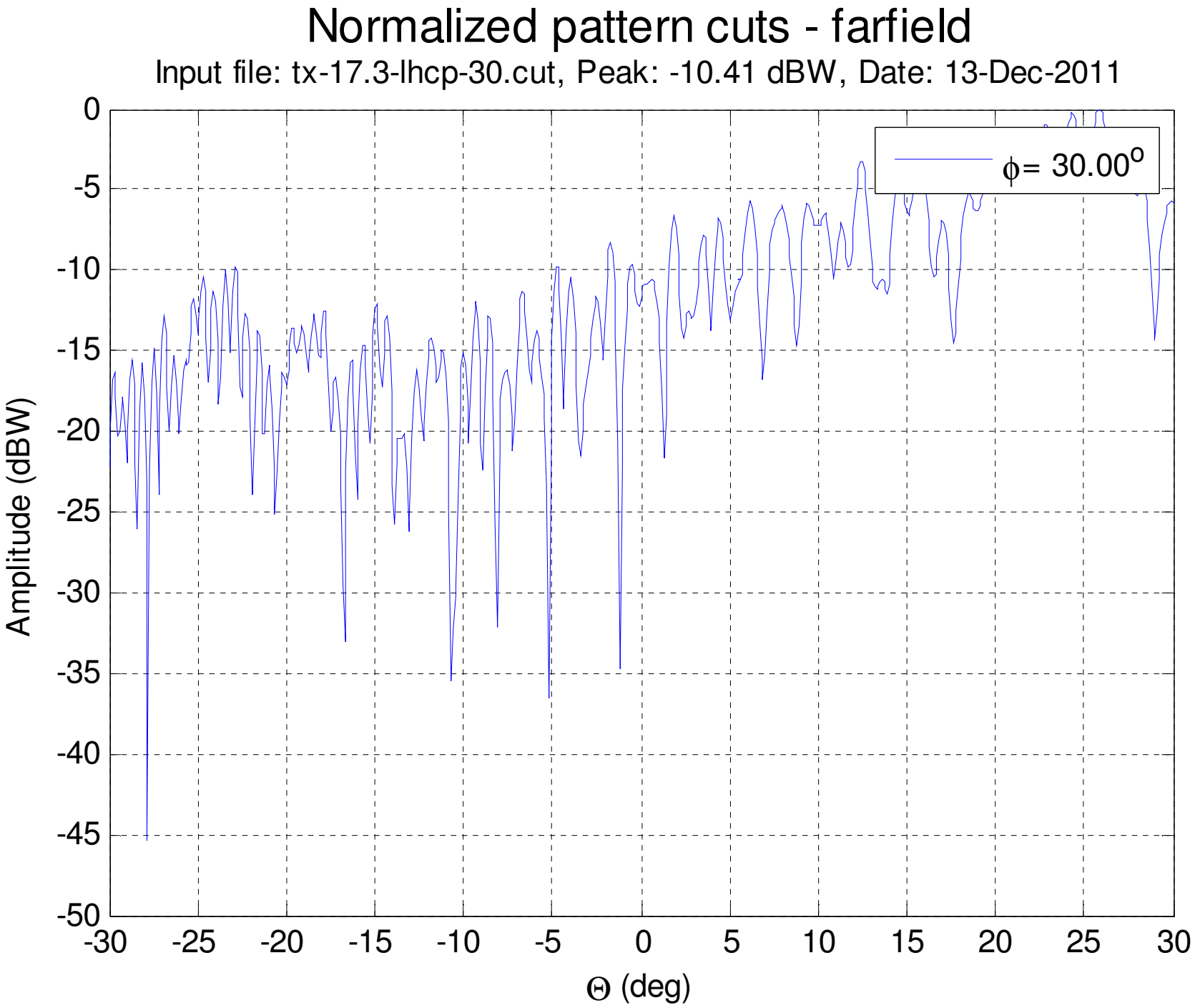

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -6.60 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

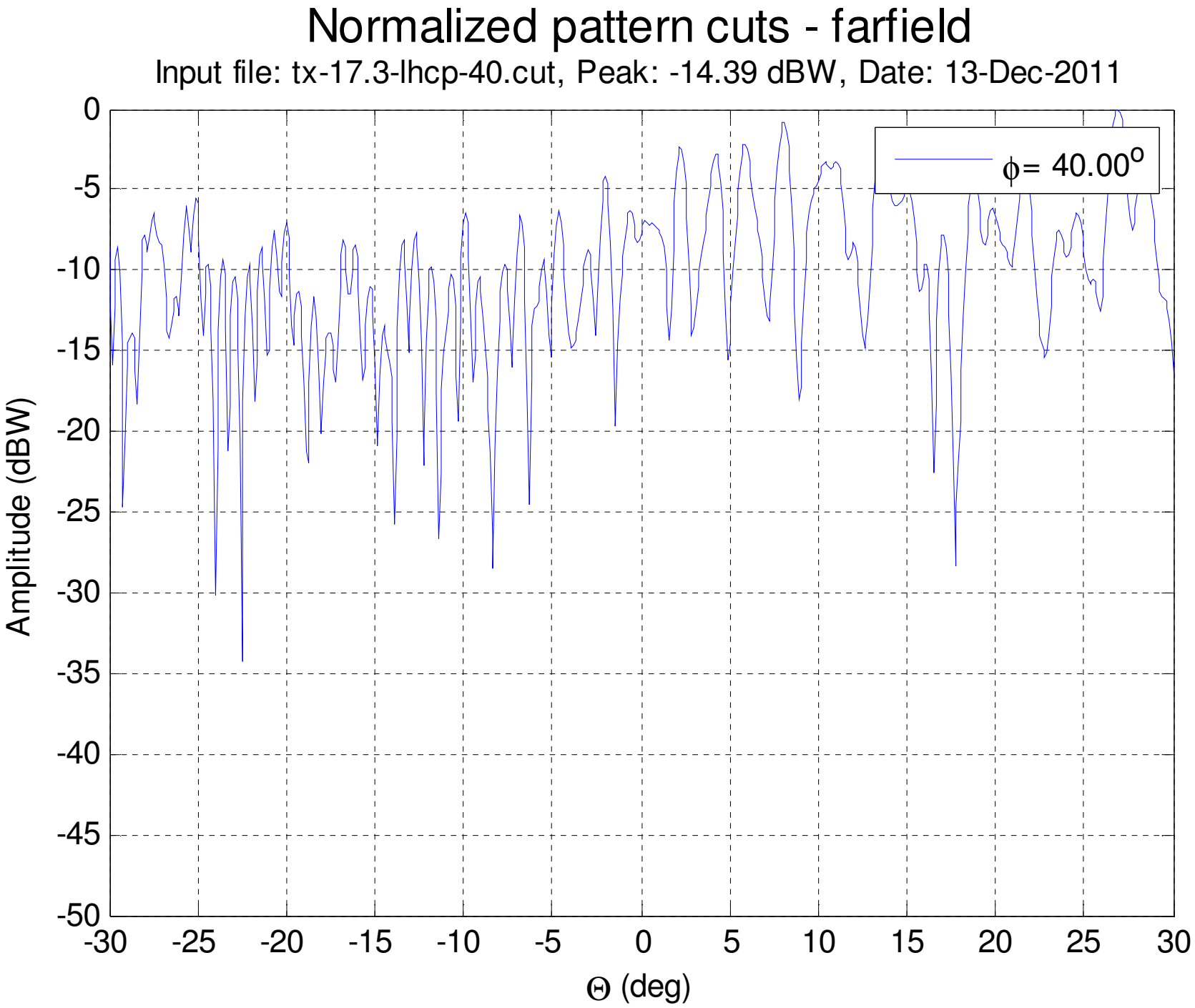

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -4.01 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

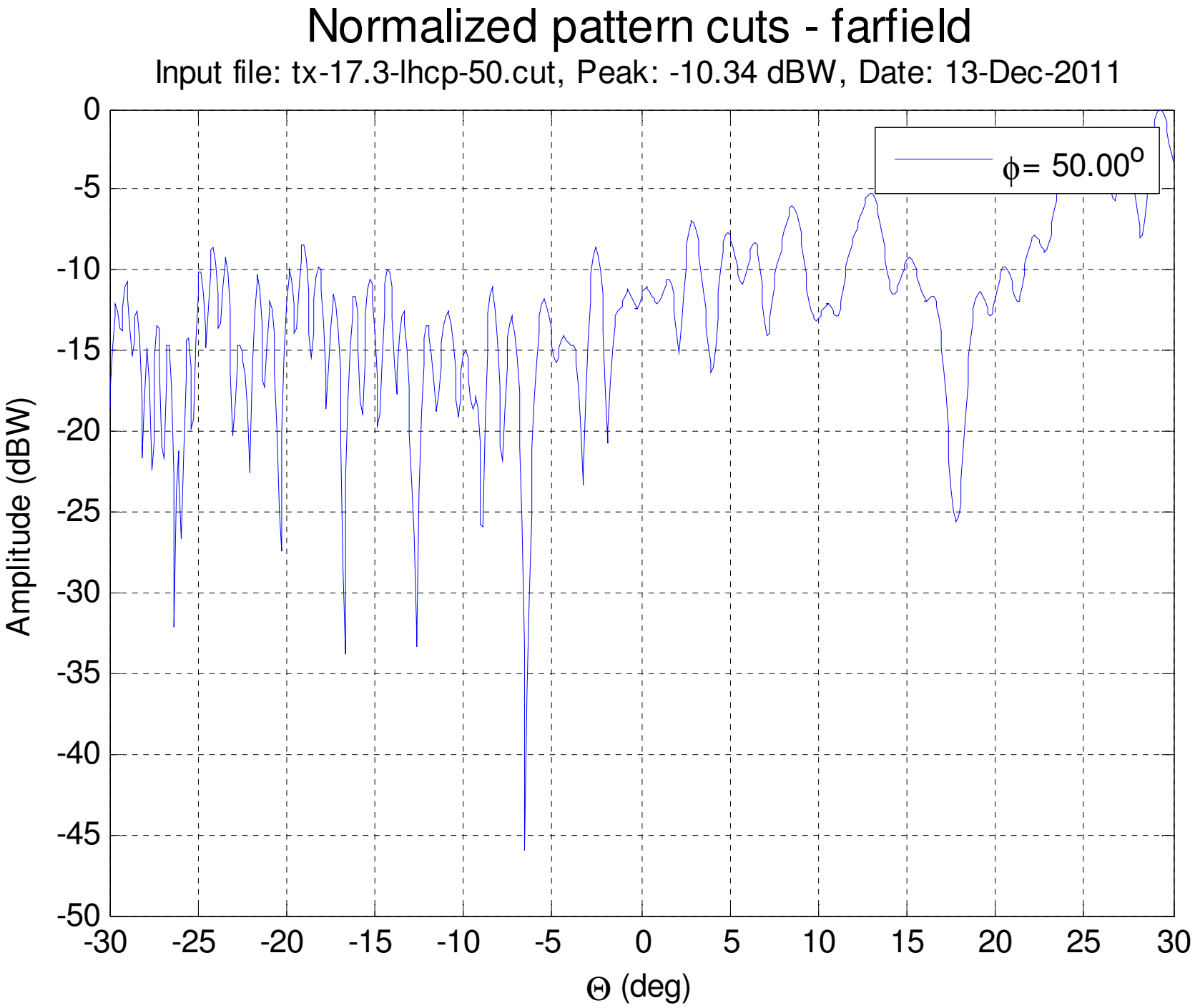

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -4.50 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

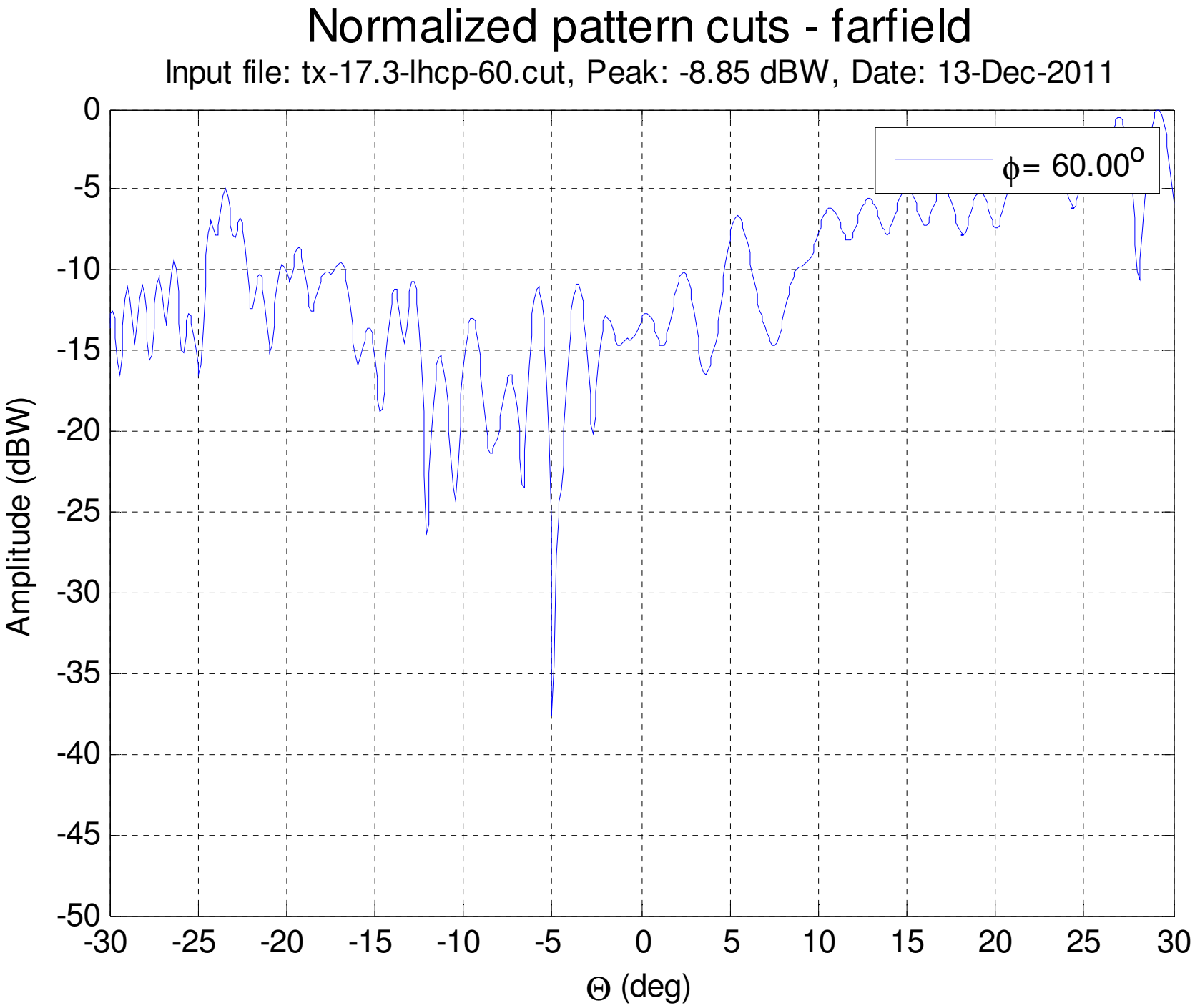

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -5.77 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -7.89 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

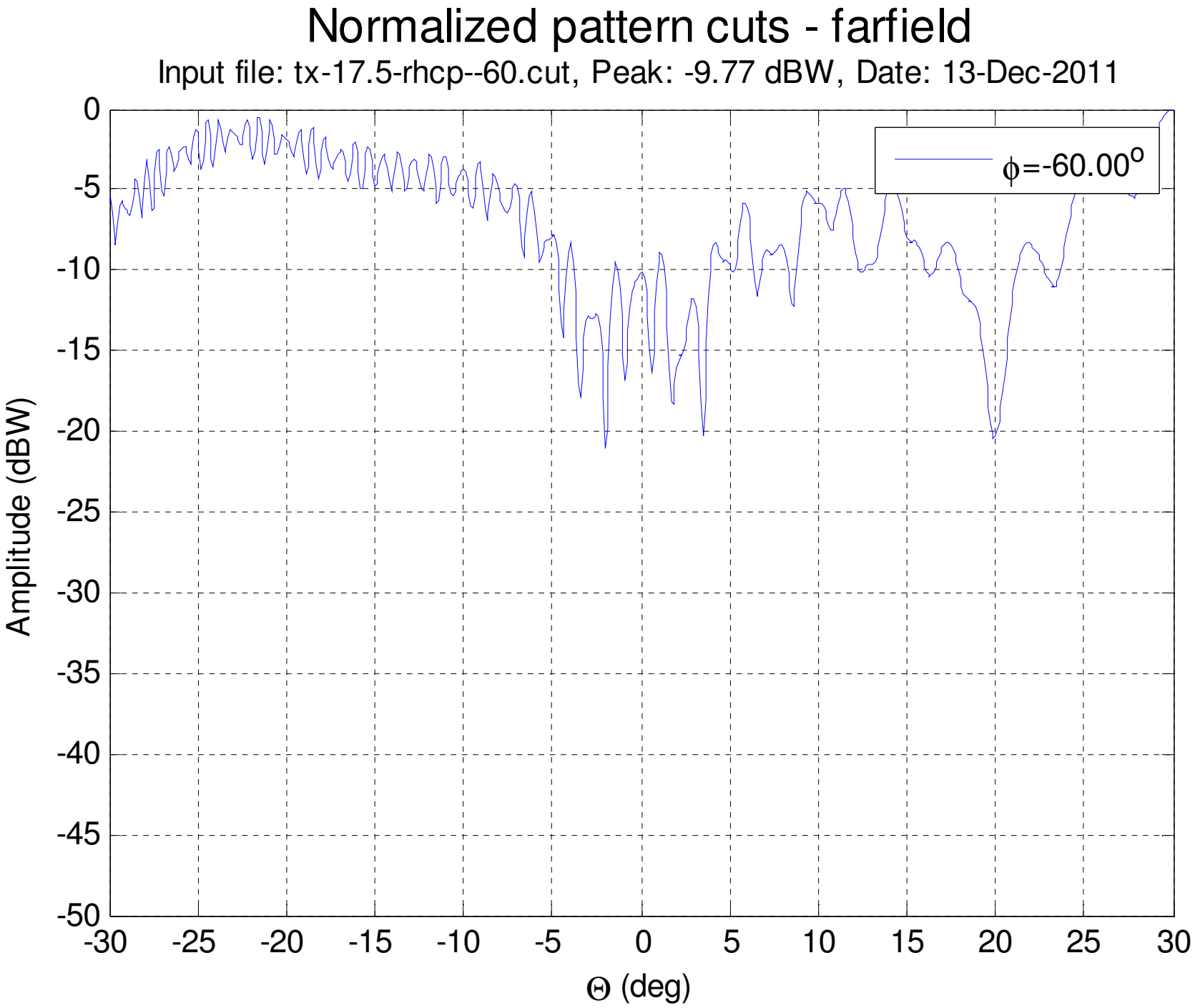

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -10.41 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

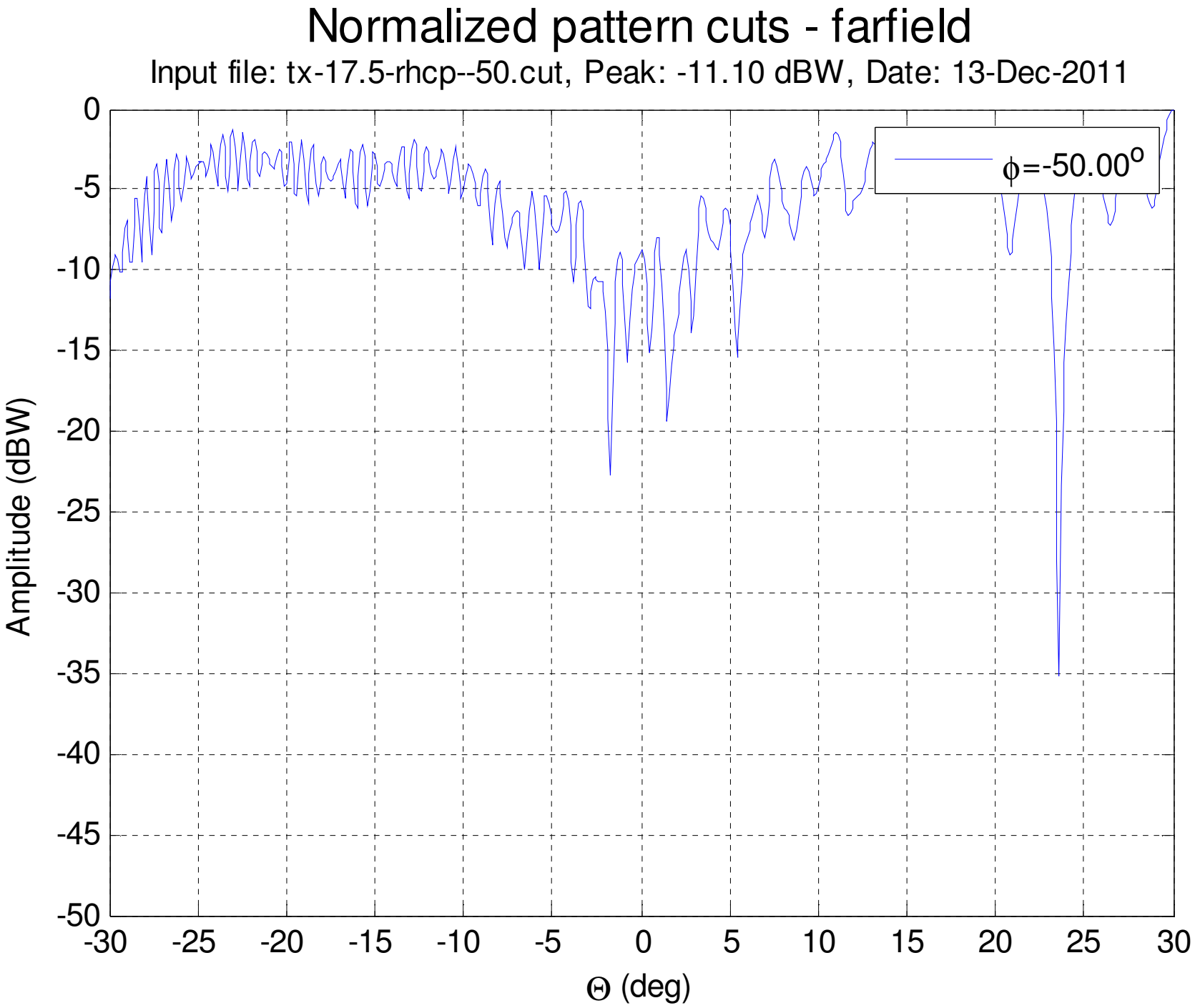

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -14.39 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

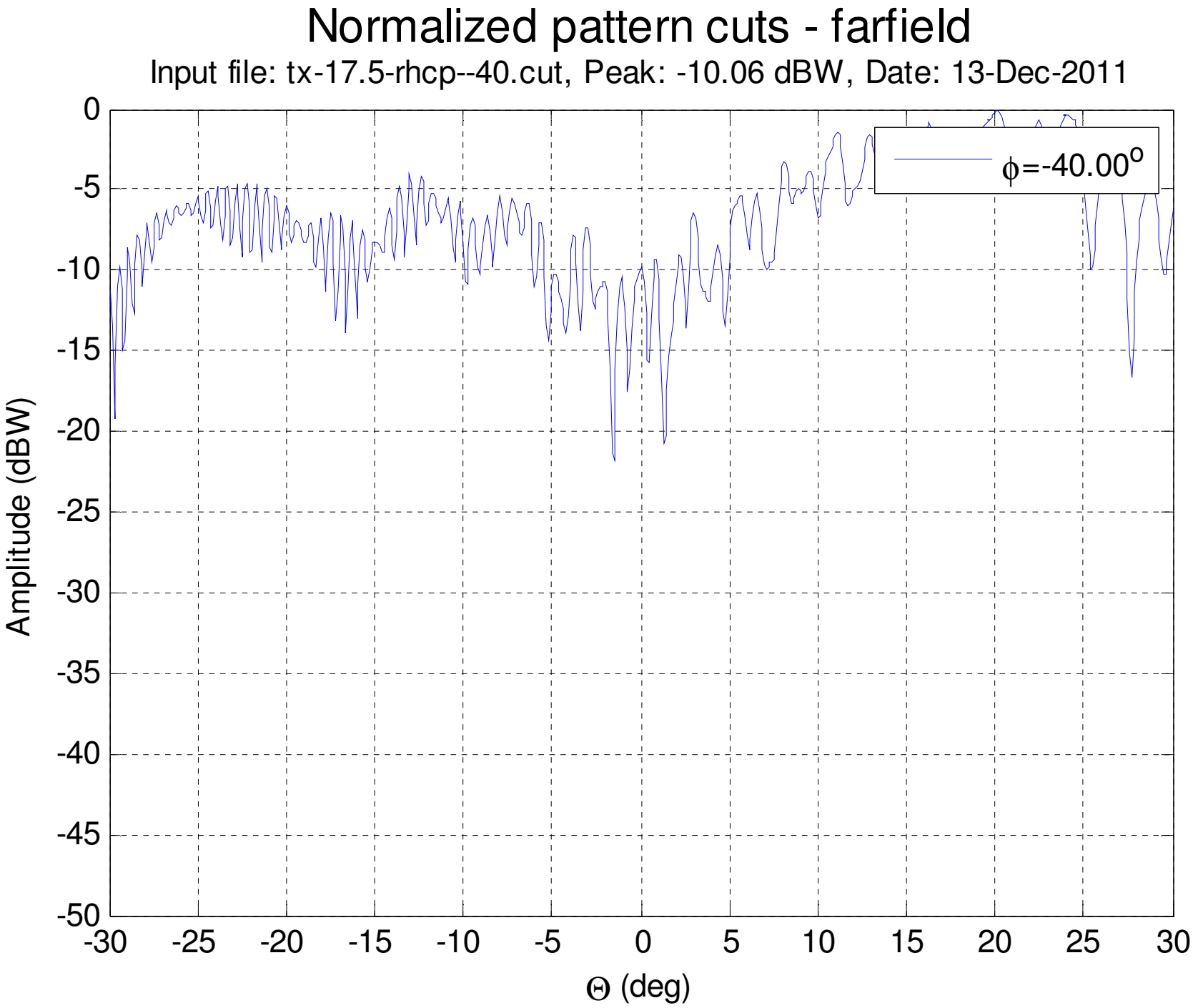

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -10.34 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

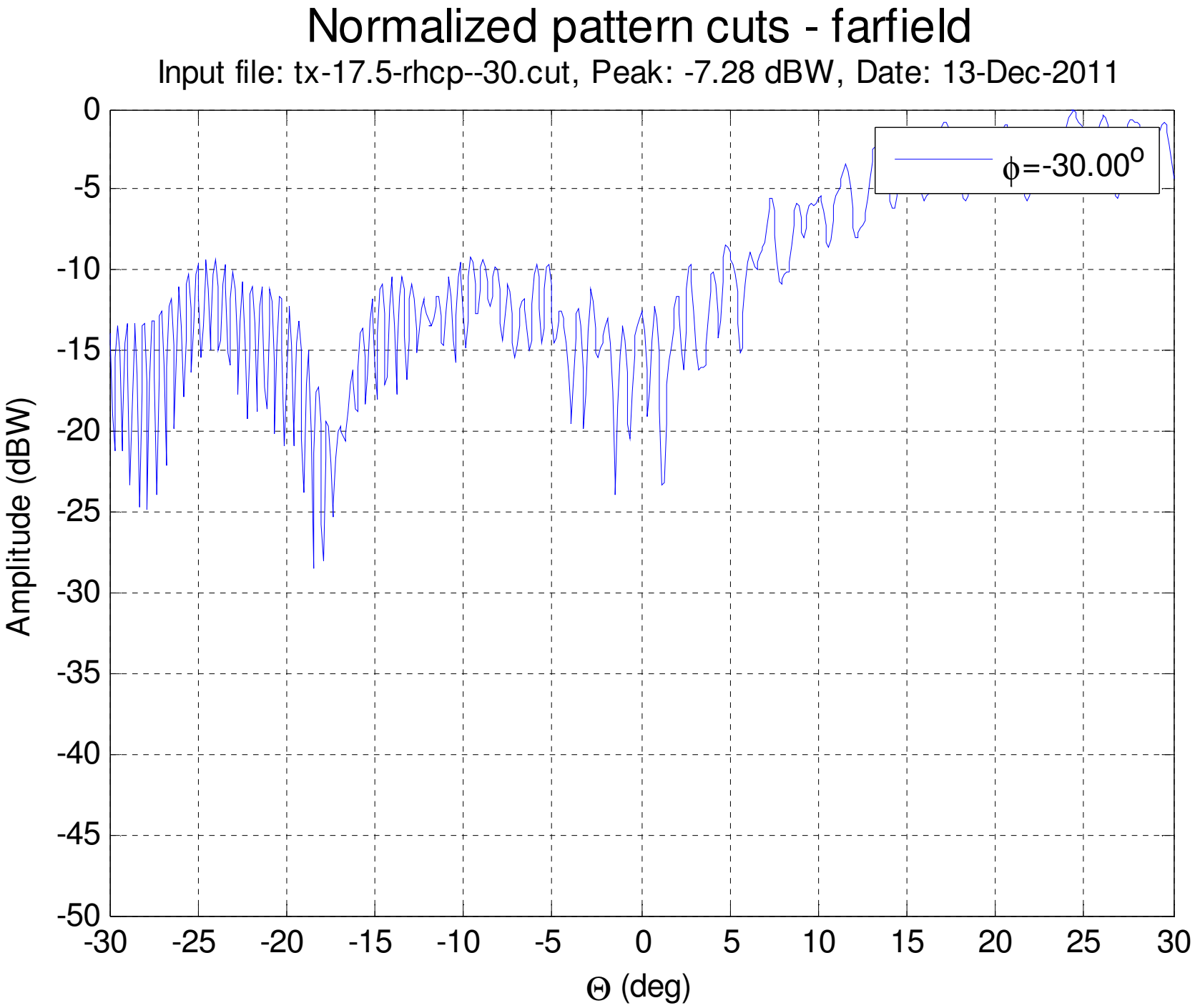

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -8.85 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

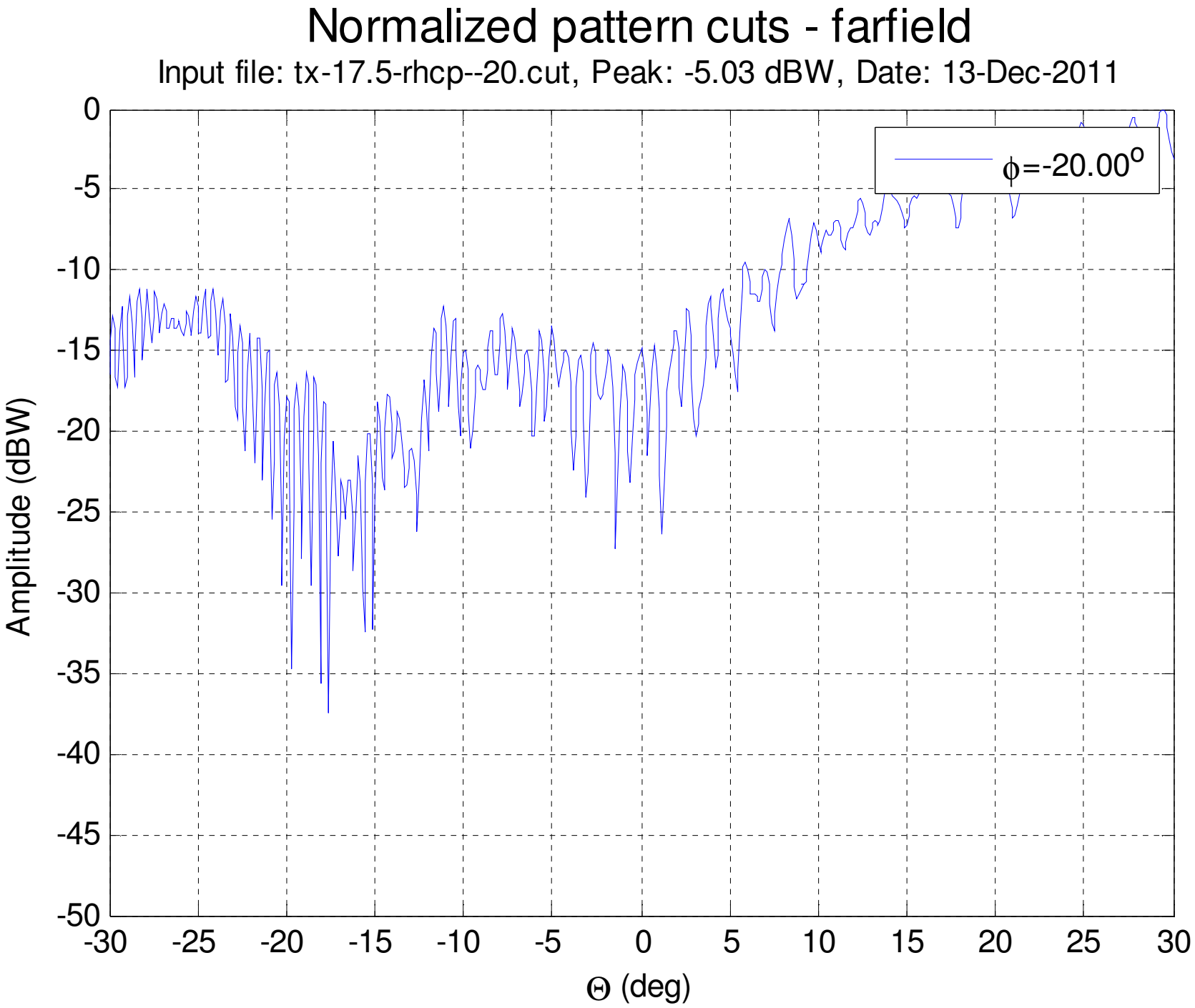
RHCP at 17.5 GHz

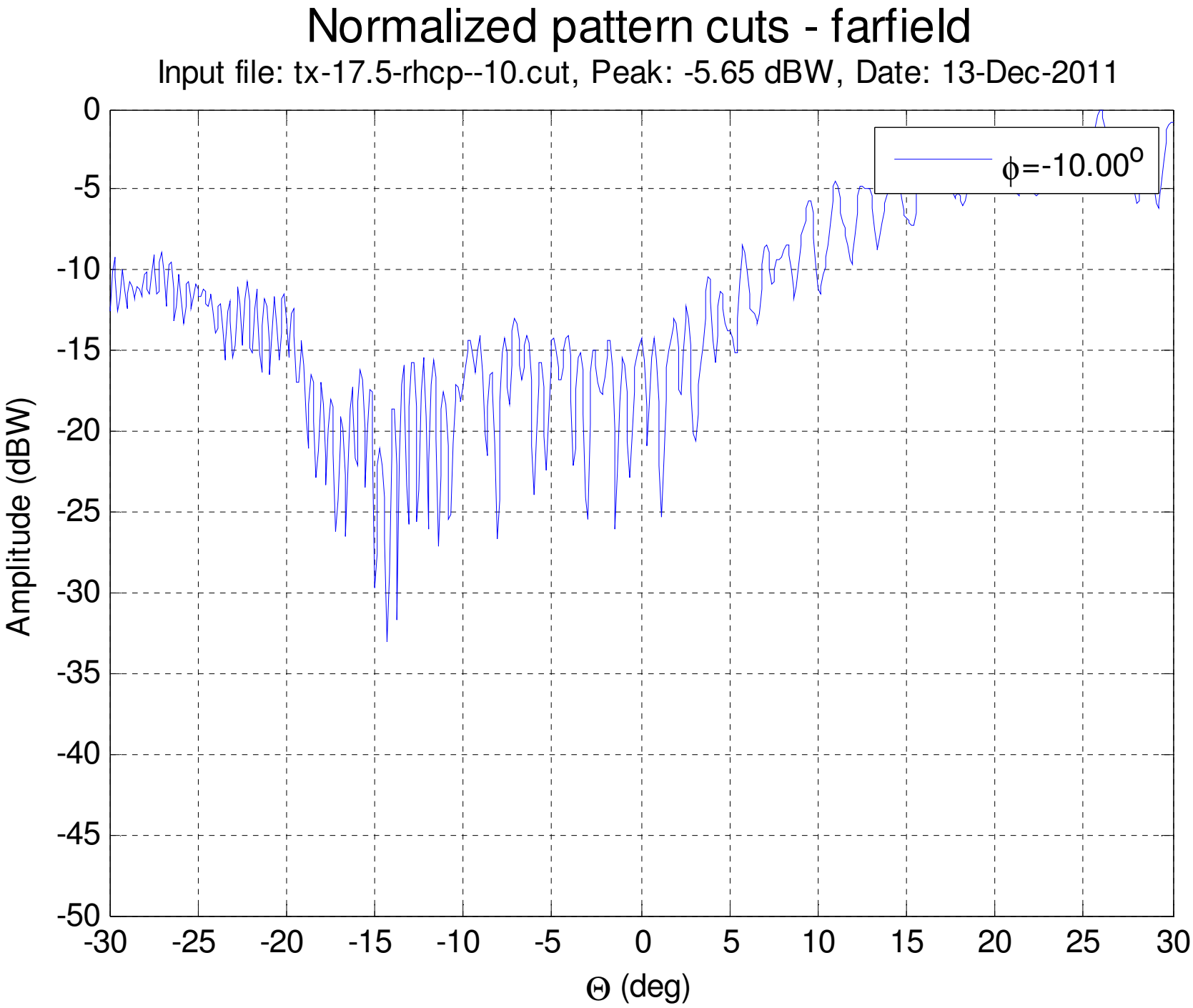

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -9.77 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

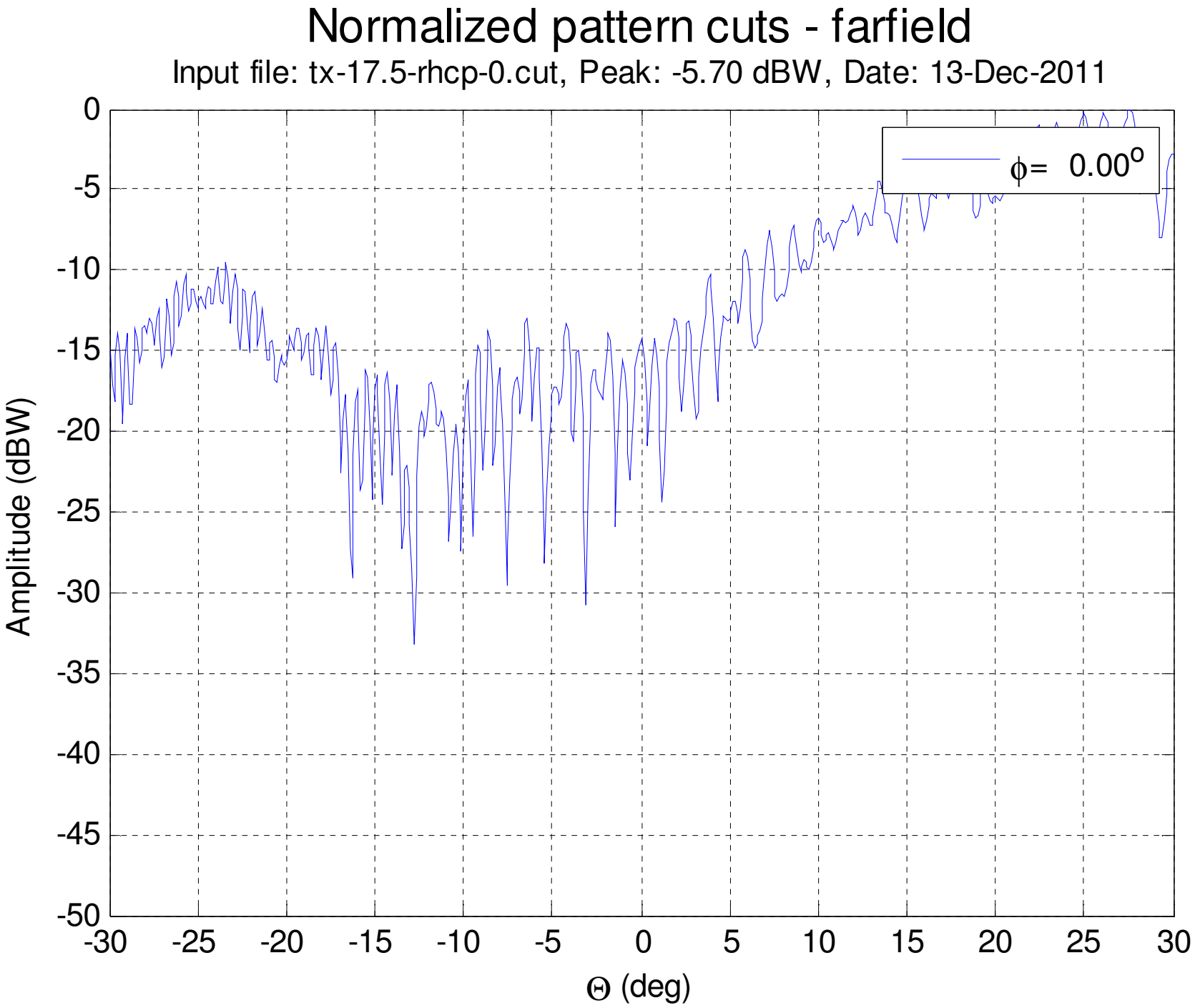

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -11.10 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

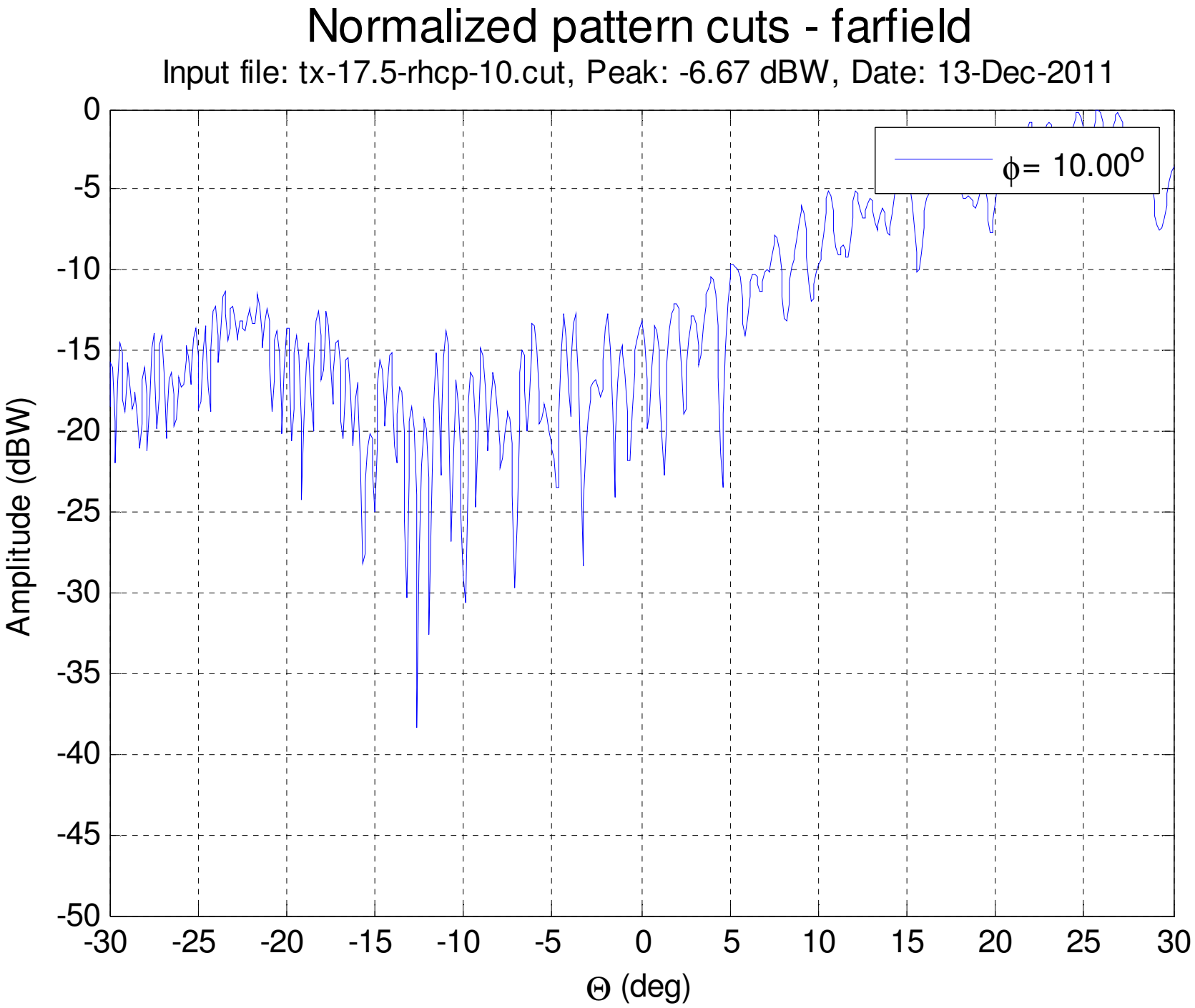

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -10.06 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

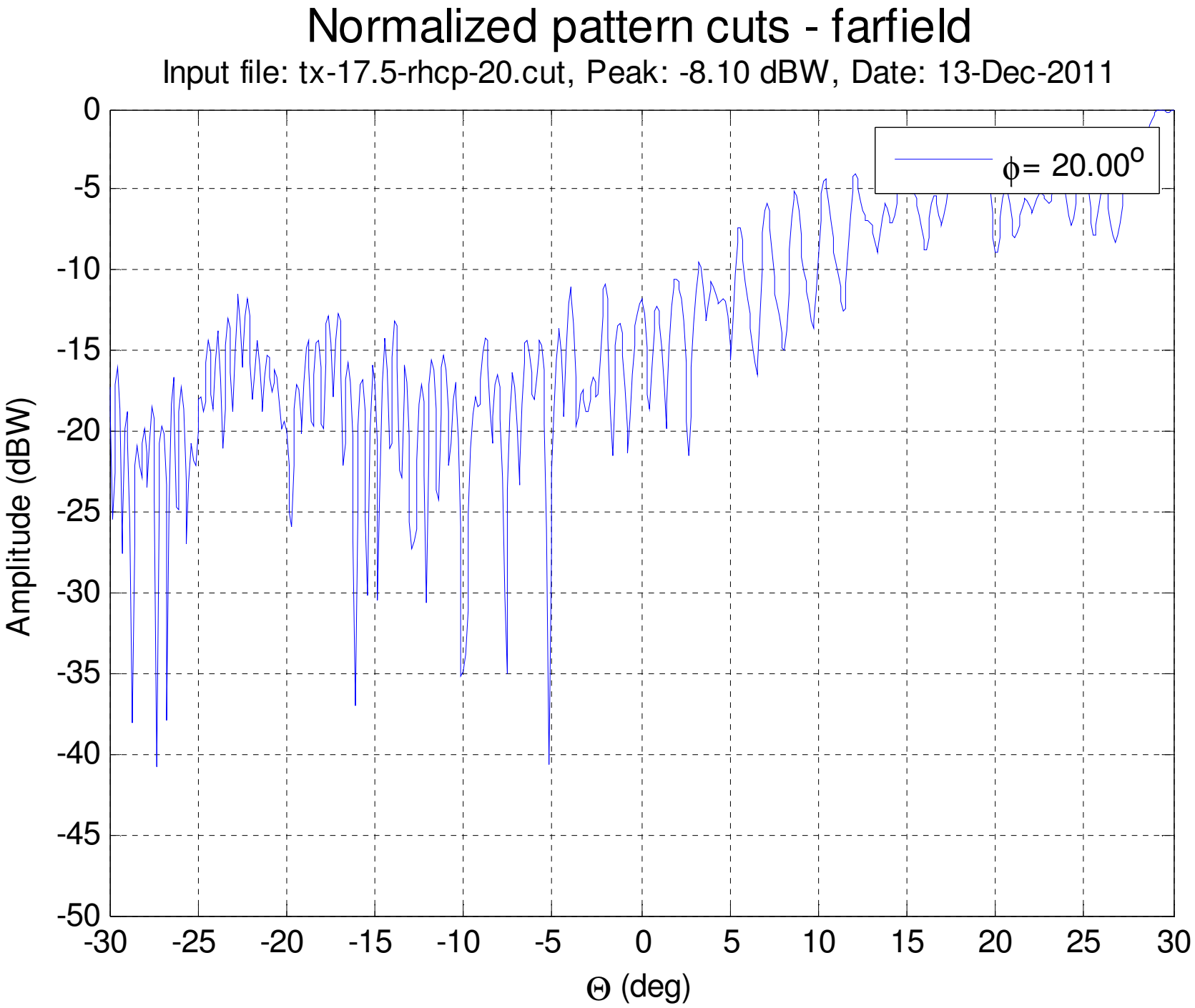

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -7.28 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

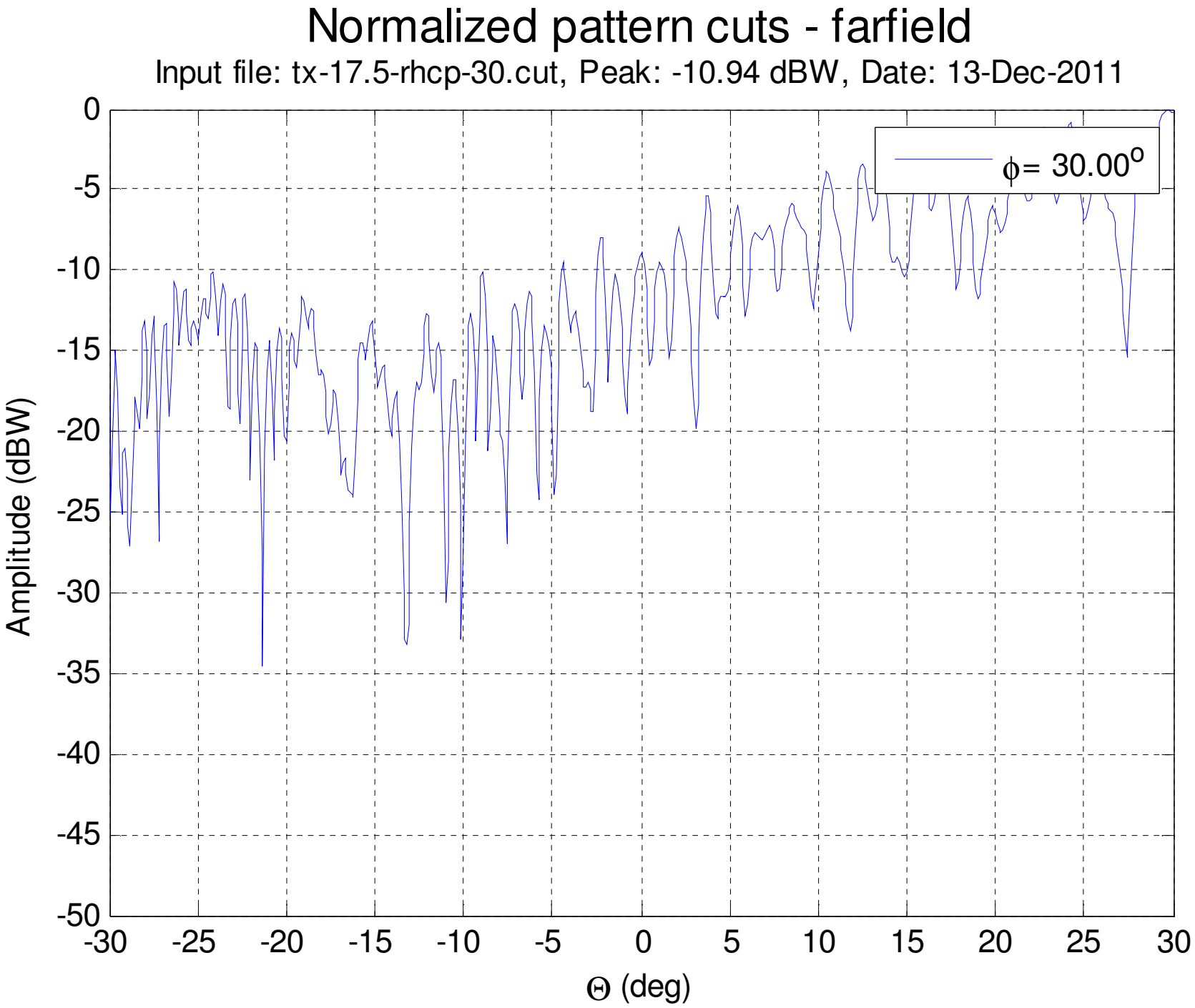

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -5.03 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

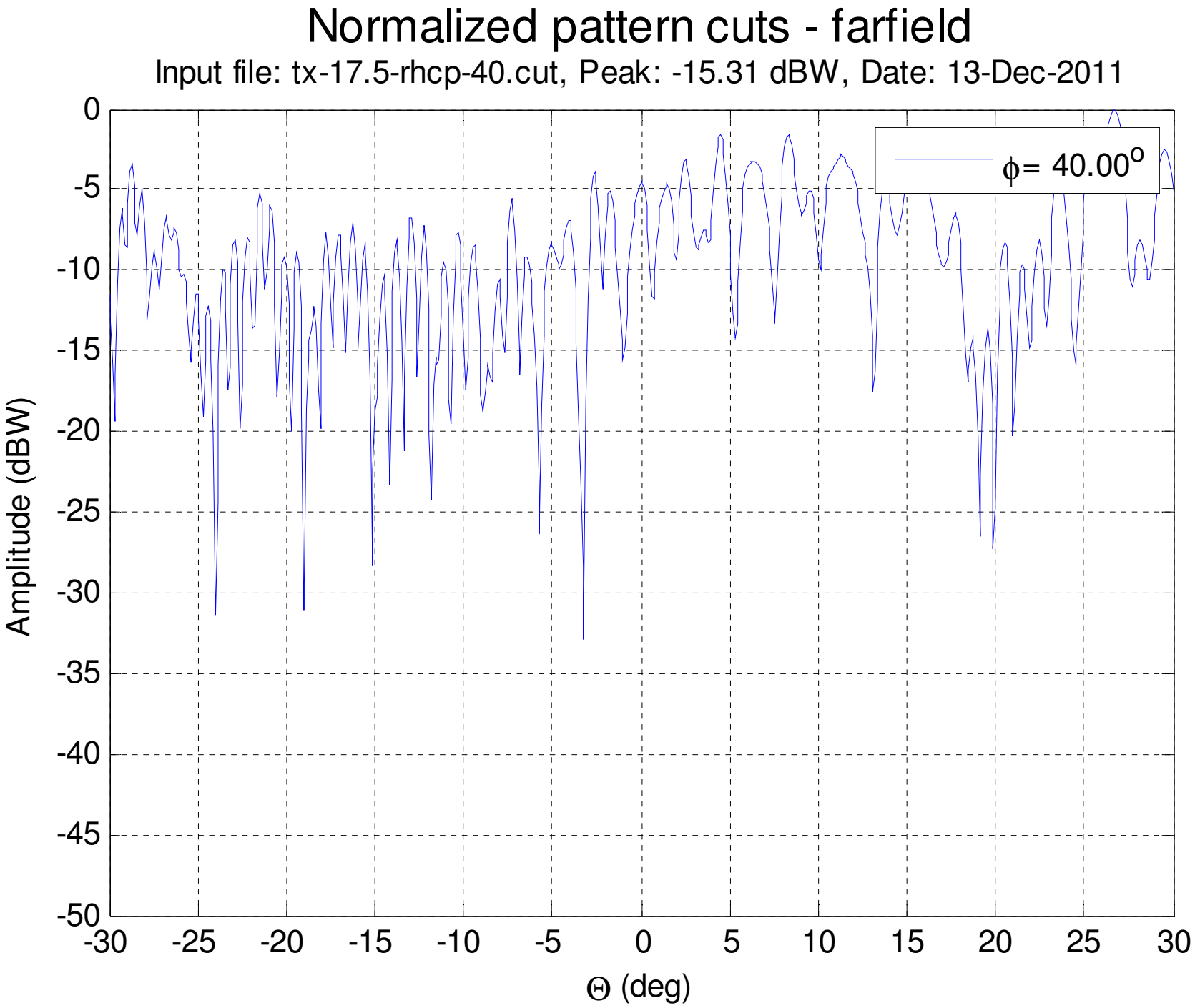

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -5.65 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

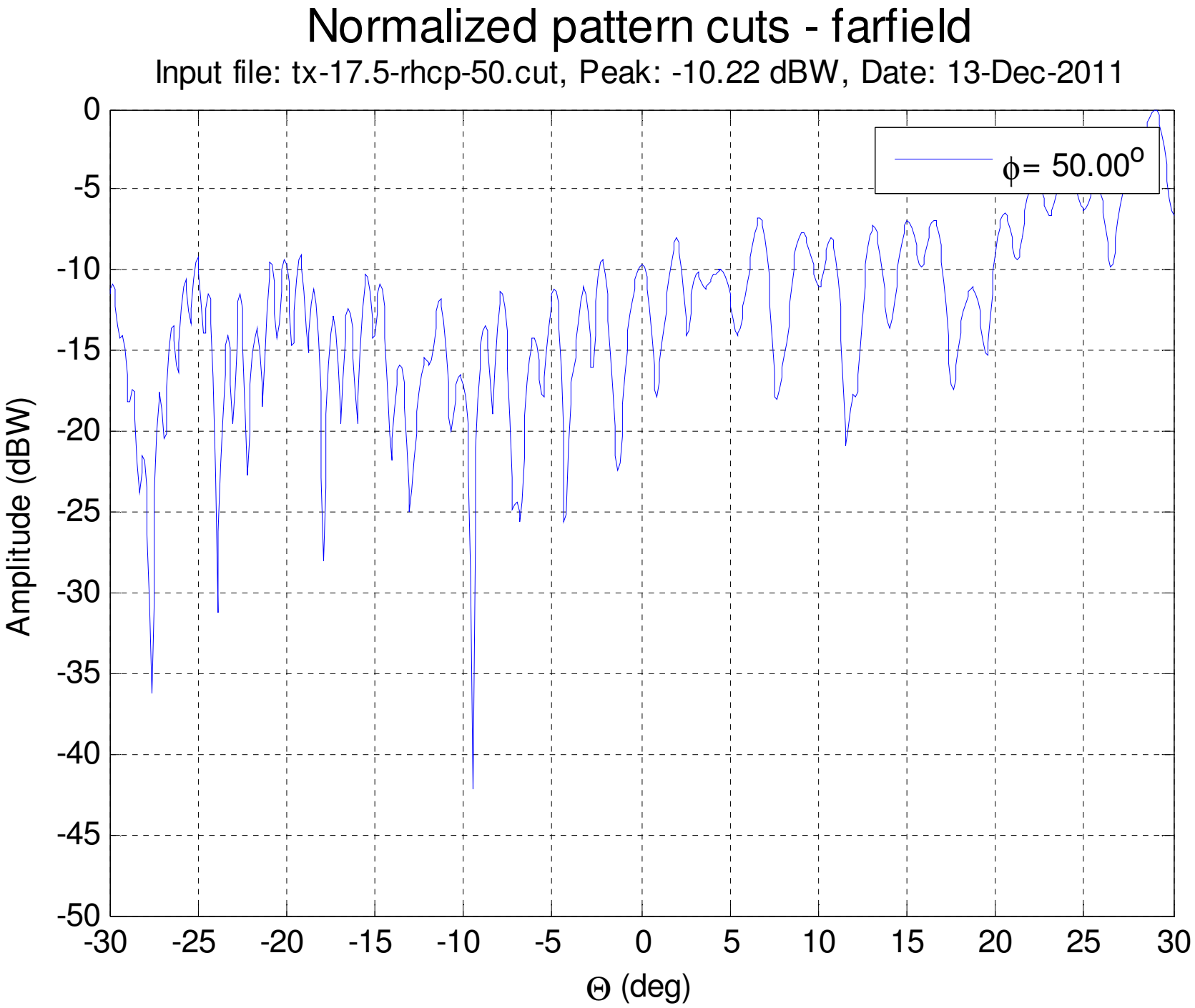

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -5.70 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 0.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

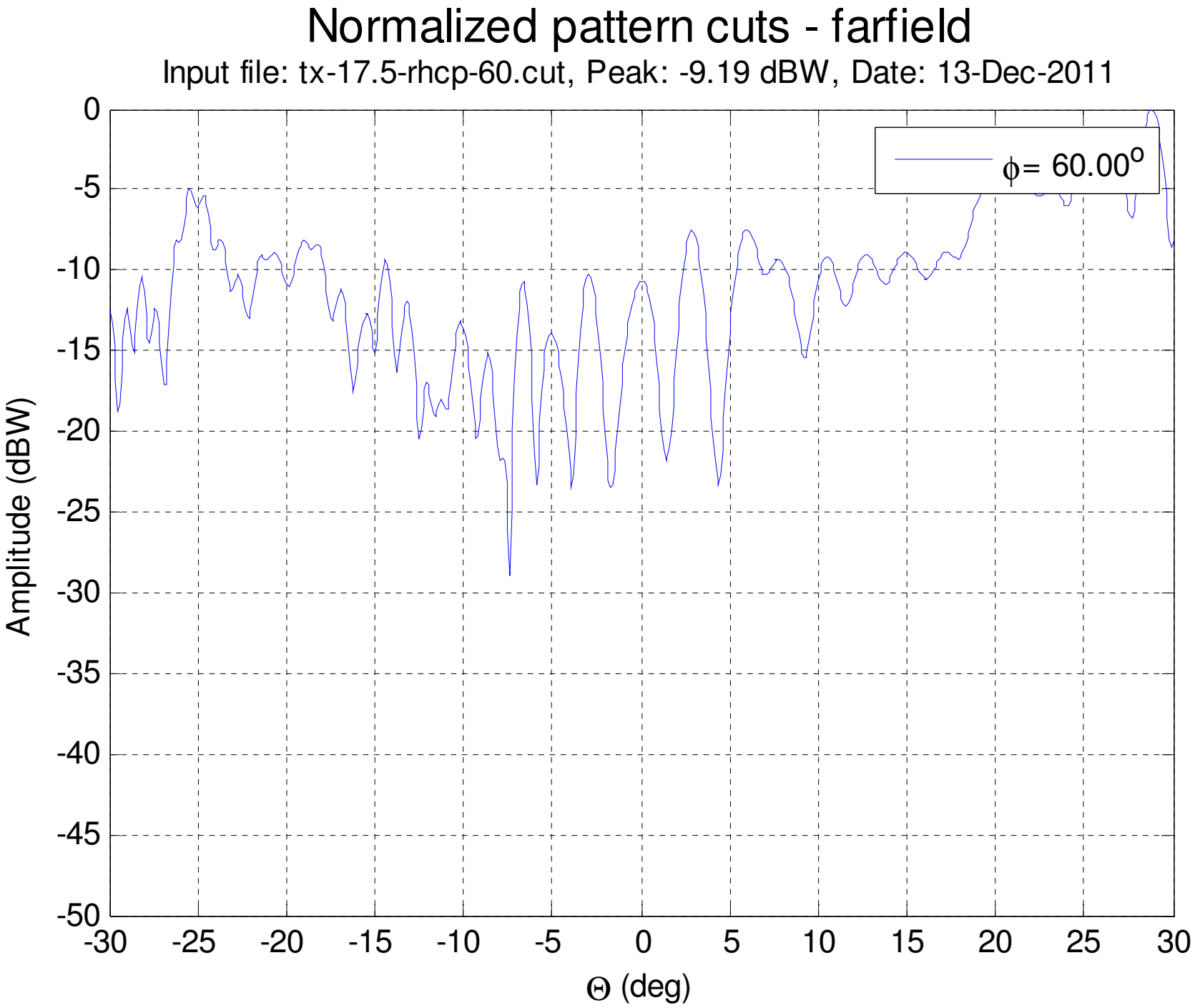

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -6.67 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -8.10 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

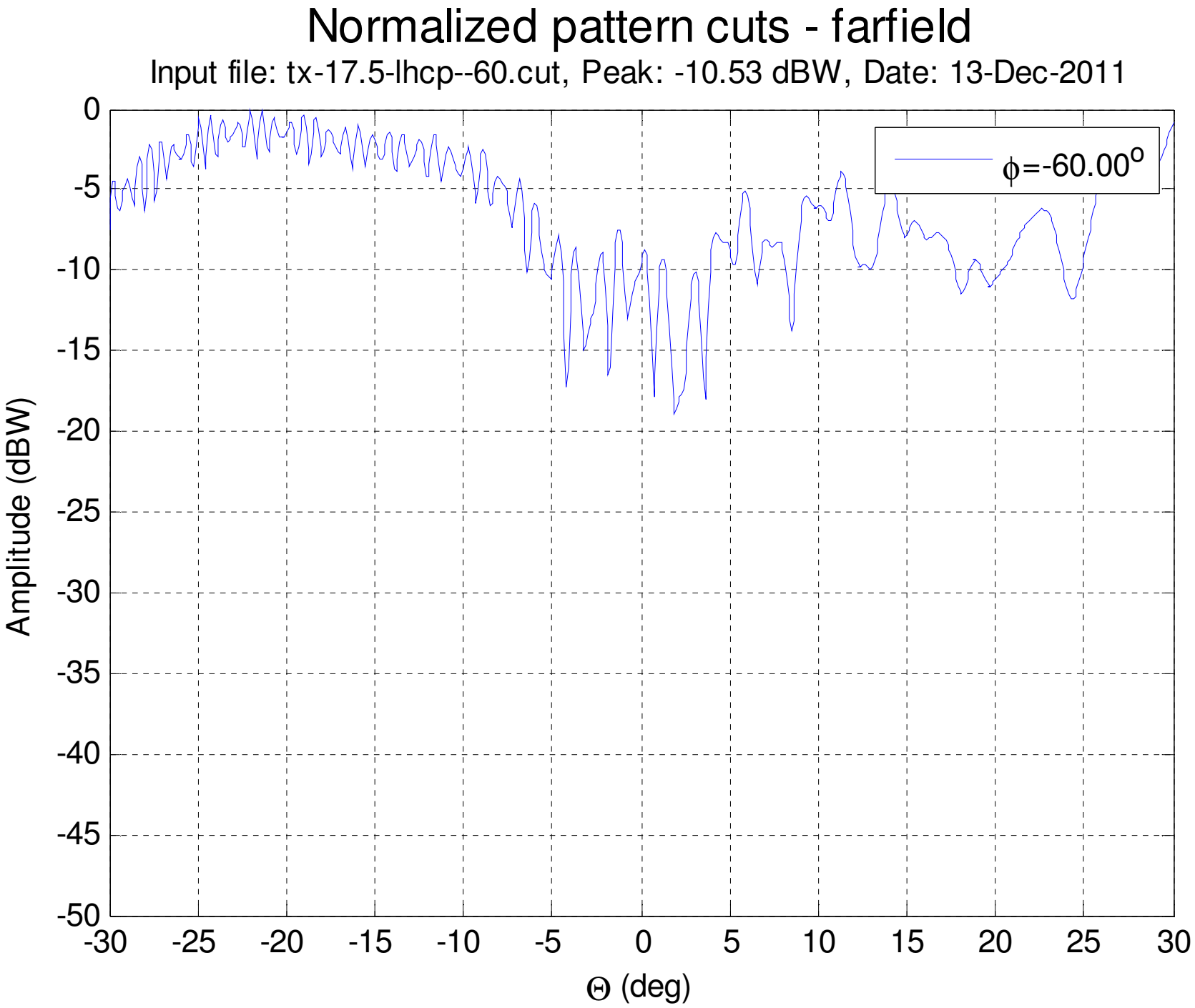

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -10.94 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

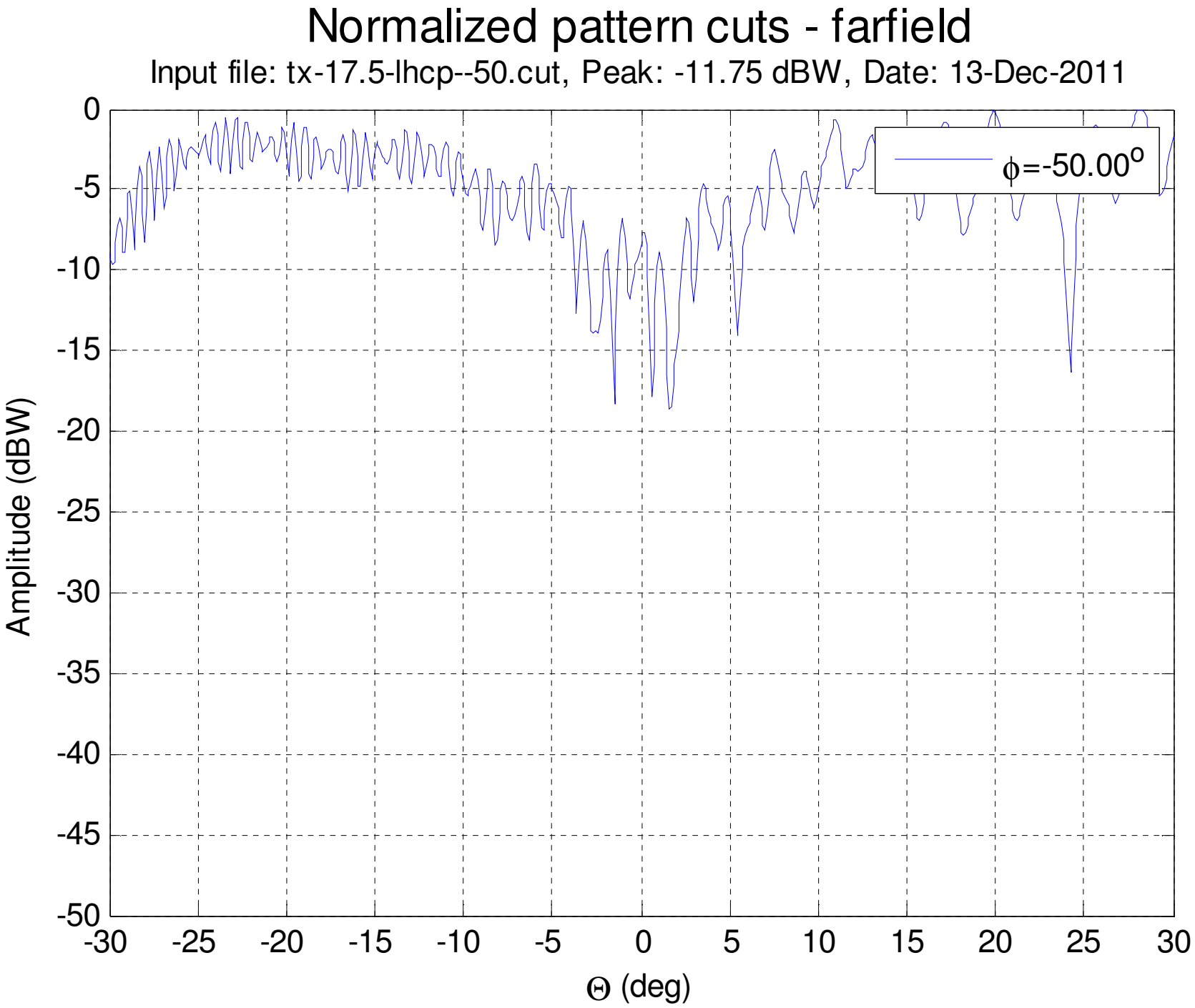

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -15.31 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

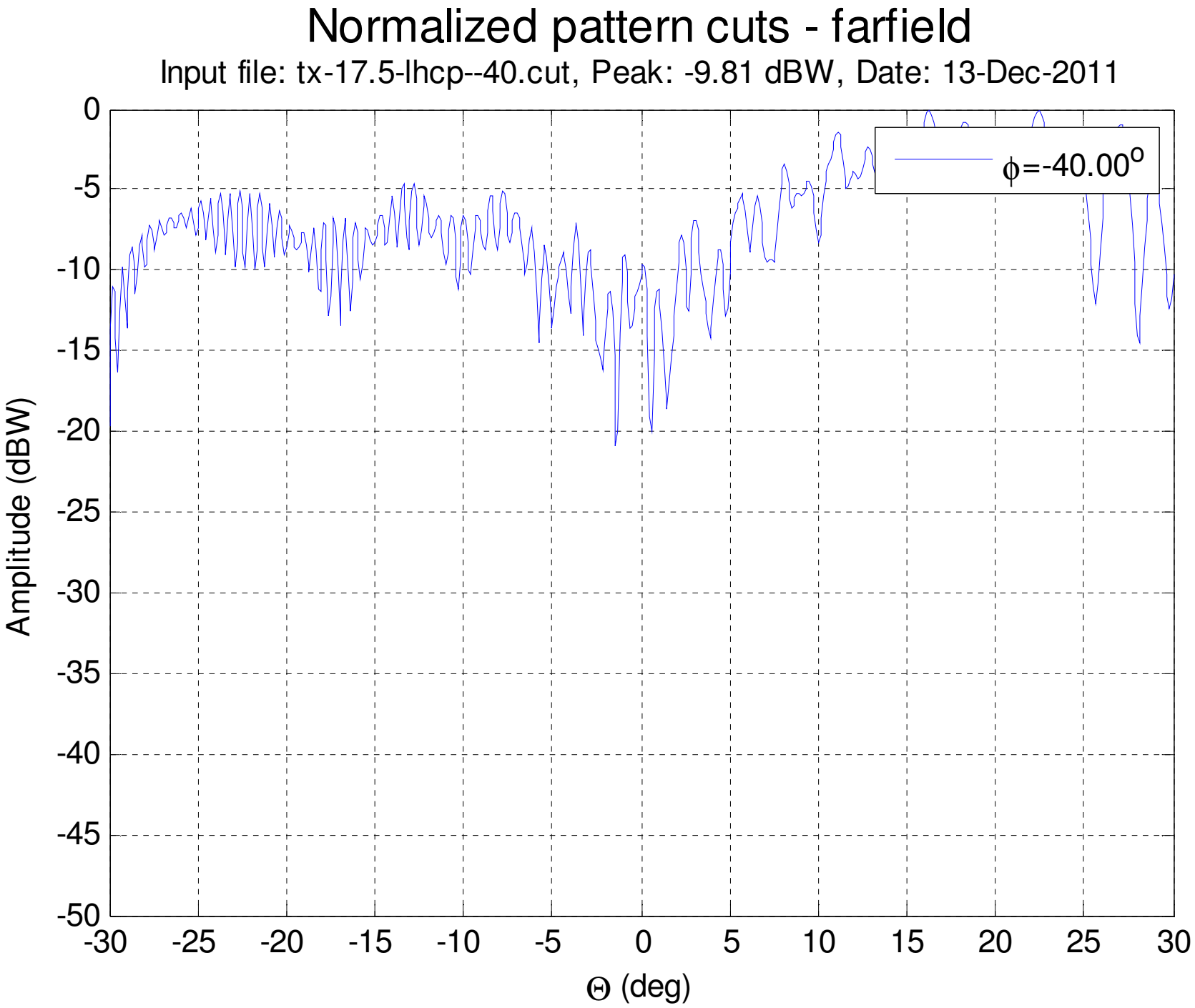

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -10.22 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

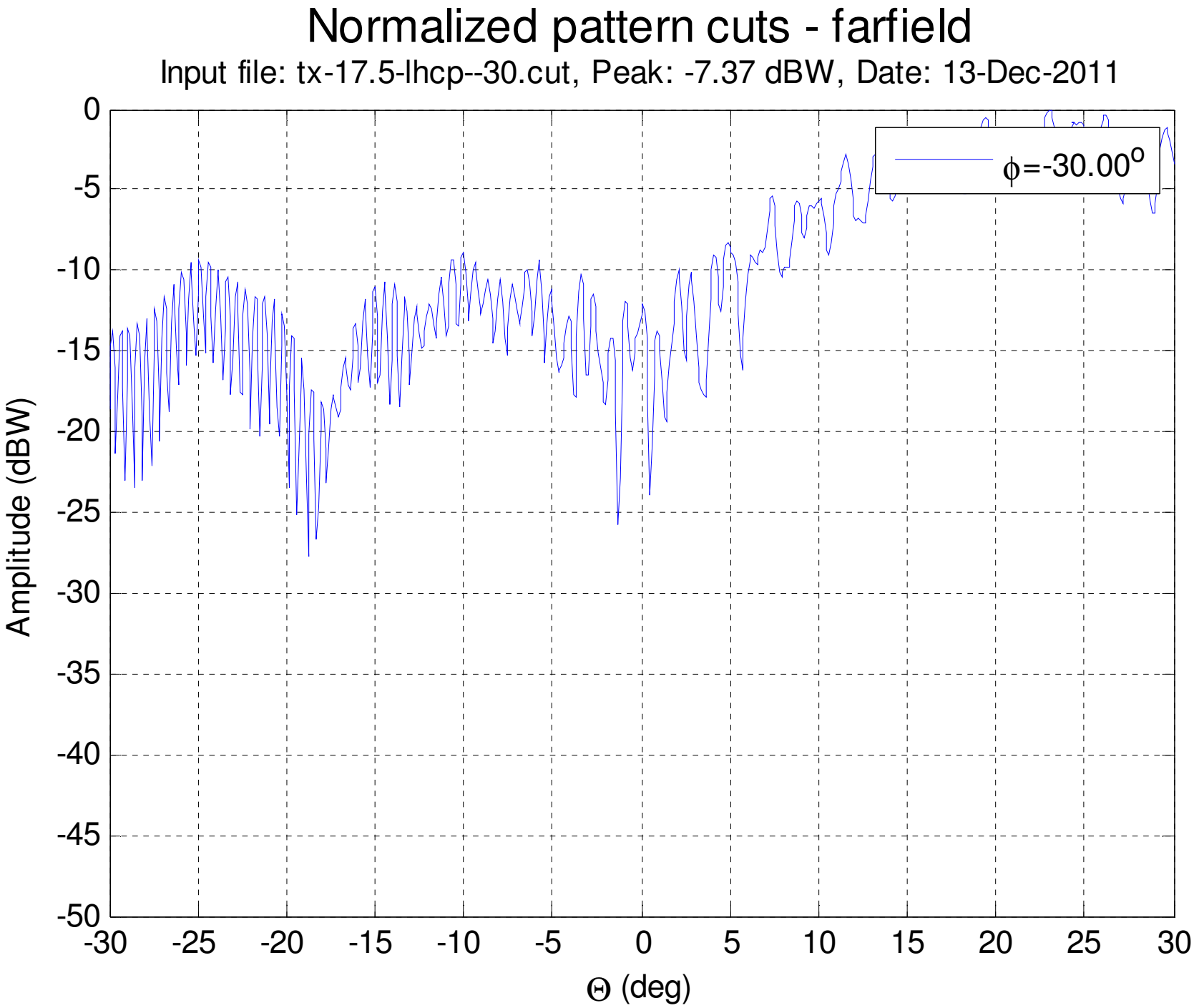

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.19 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

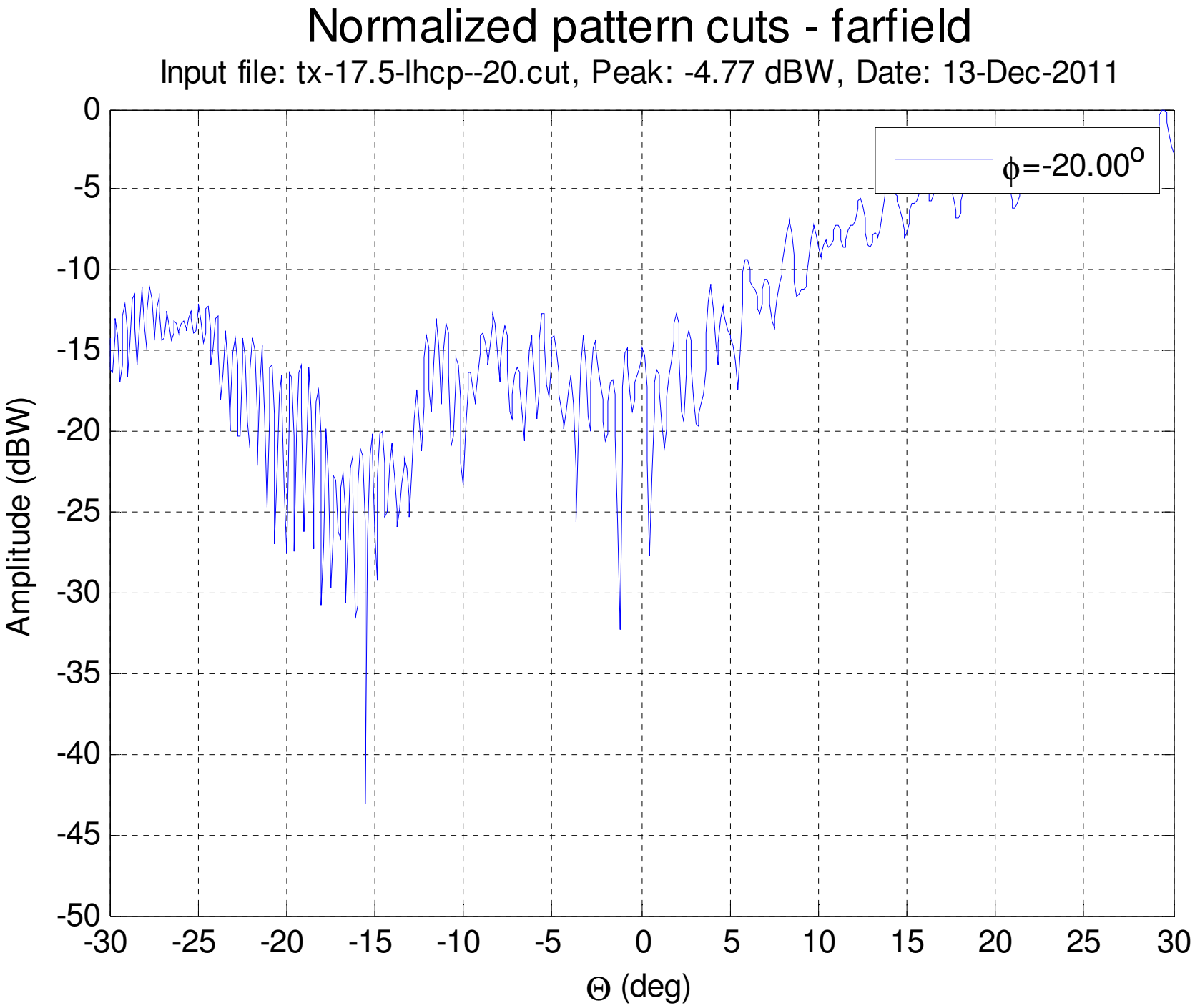
LHCP at 17.5 GHz

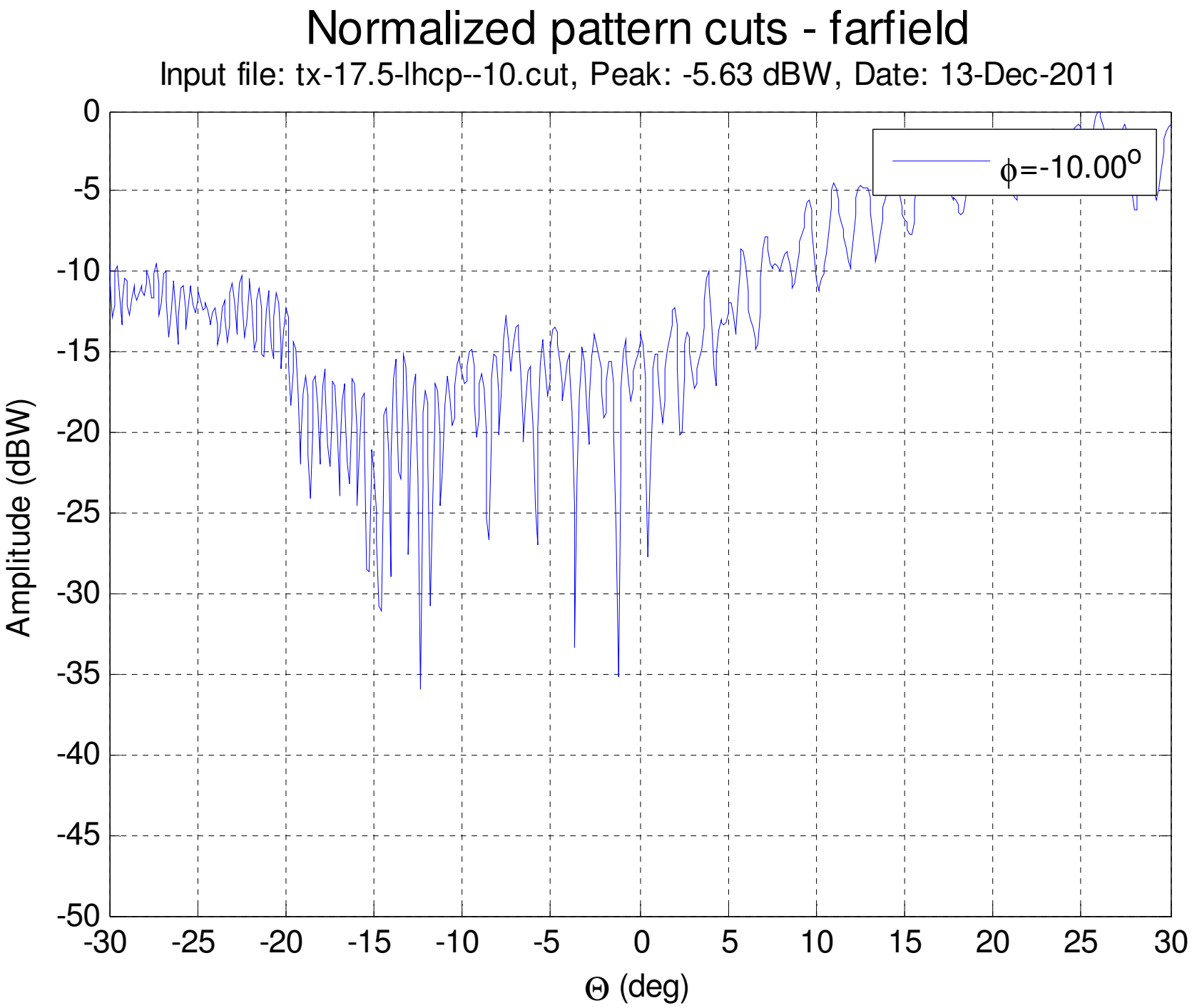

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -10.53 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

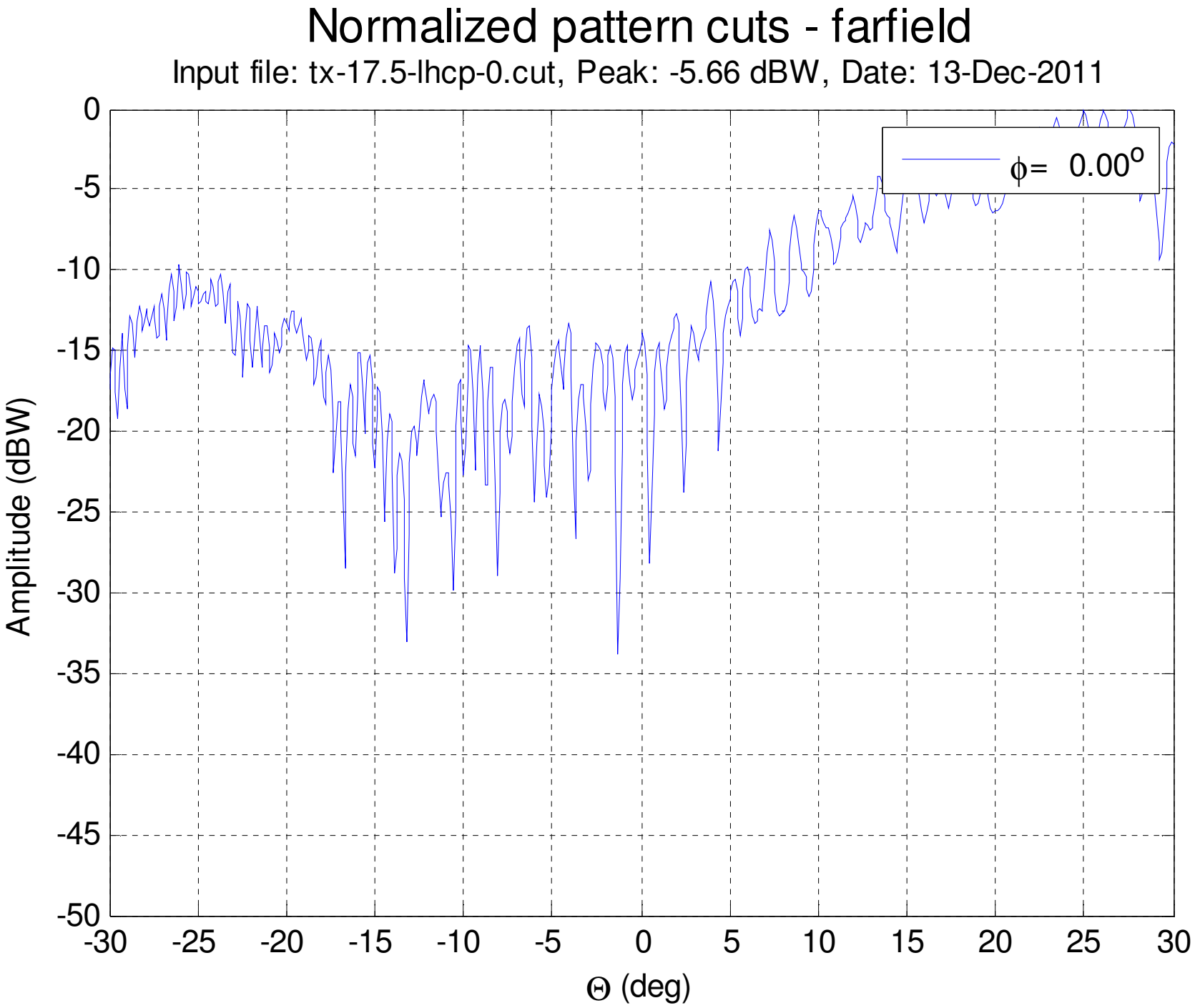

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -11.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

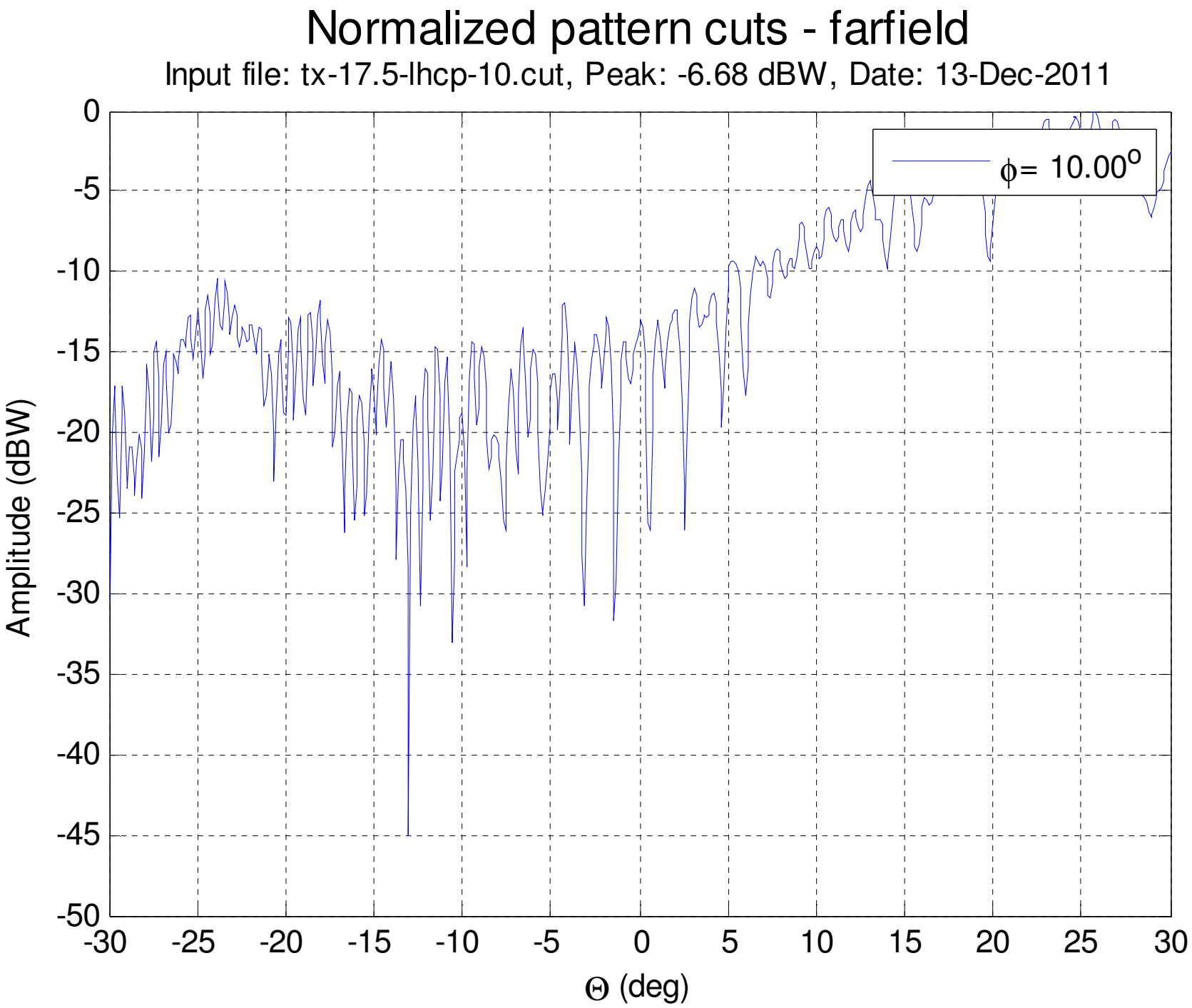

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -9.81 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

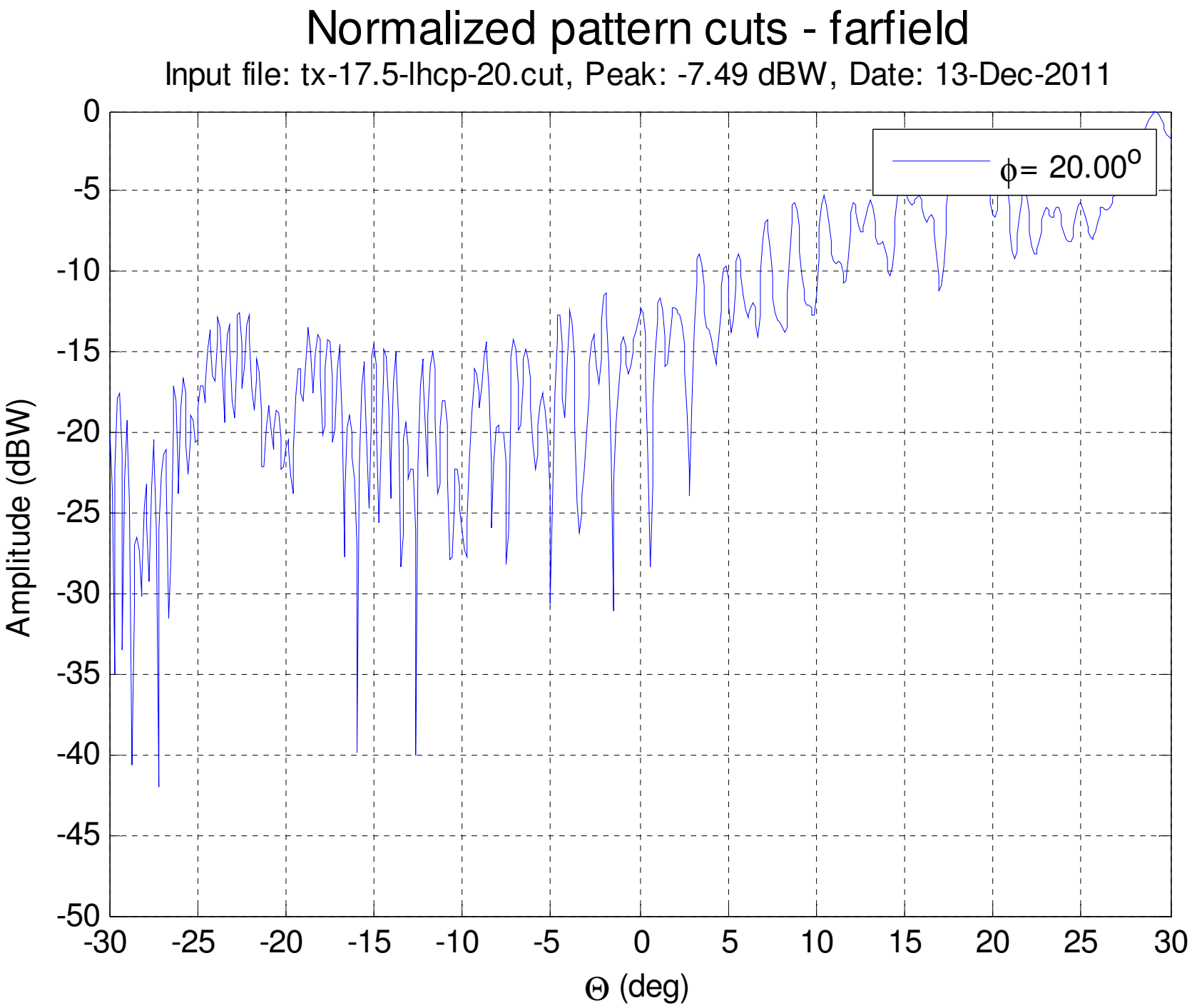

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -7.37 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

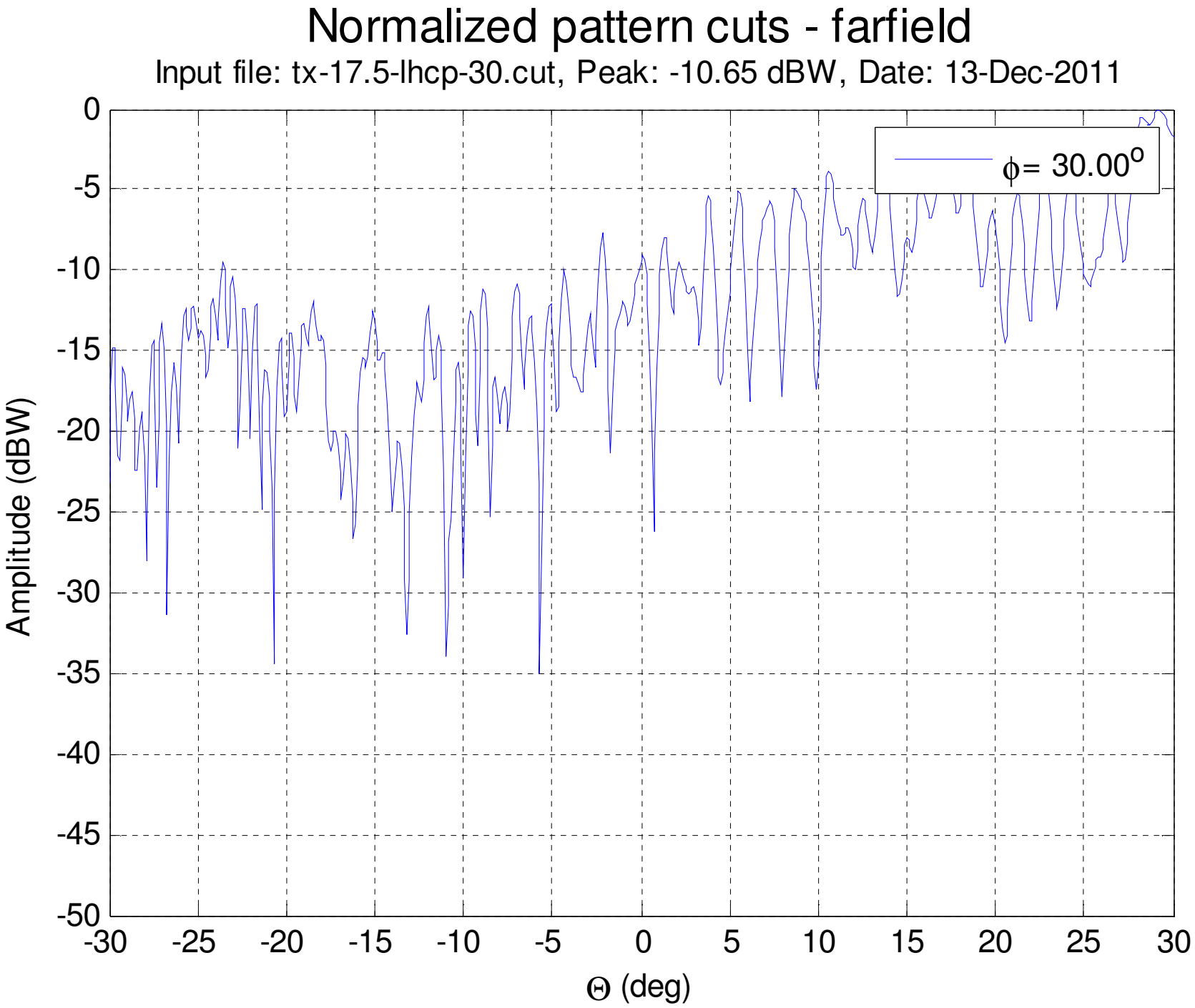

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -4.77 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

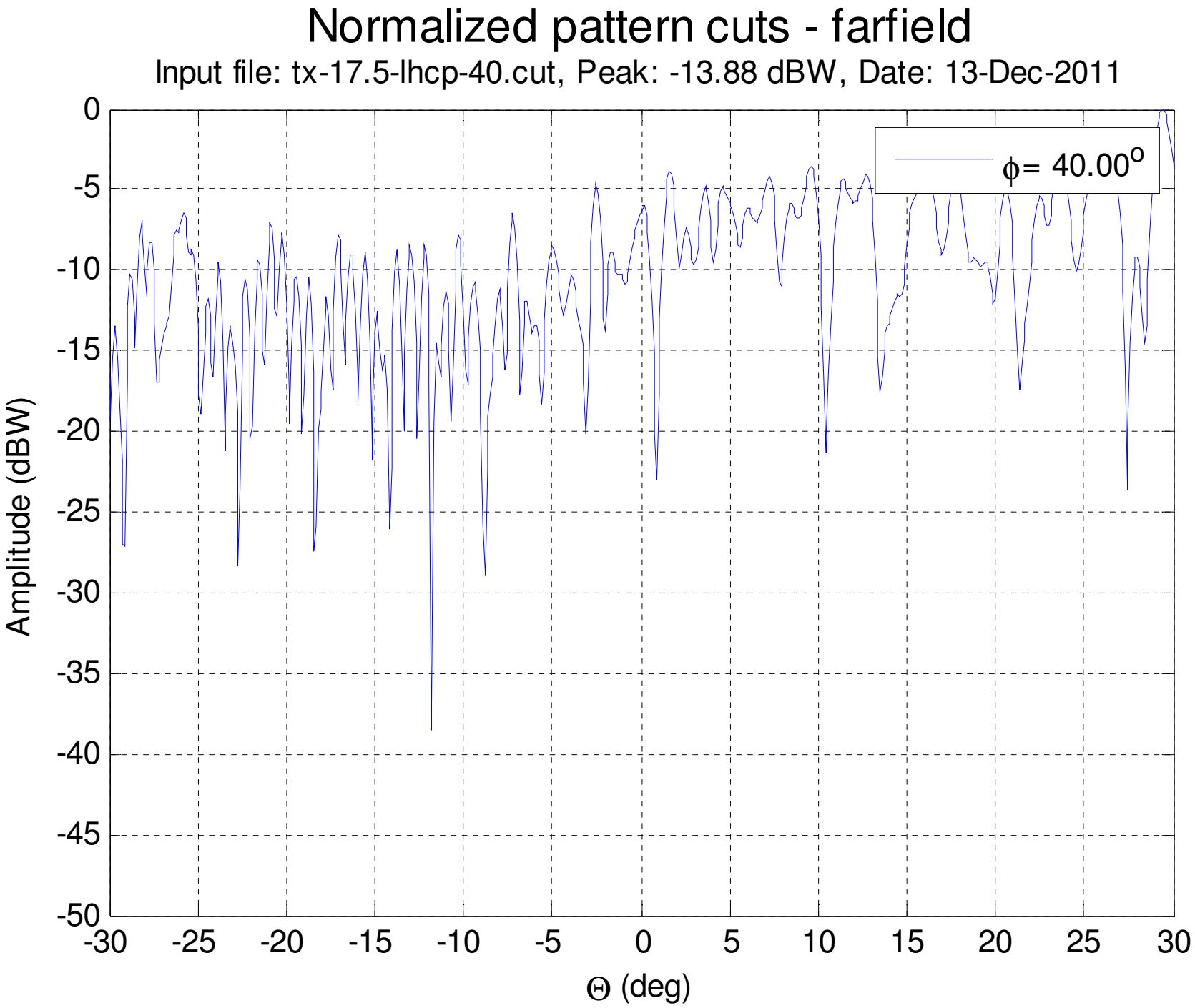

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -5.63 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

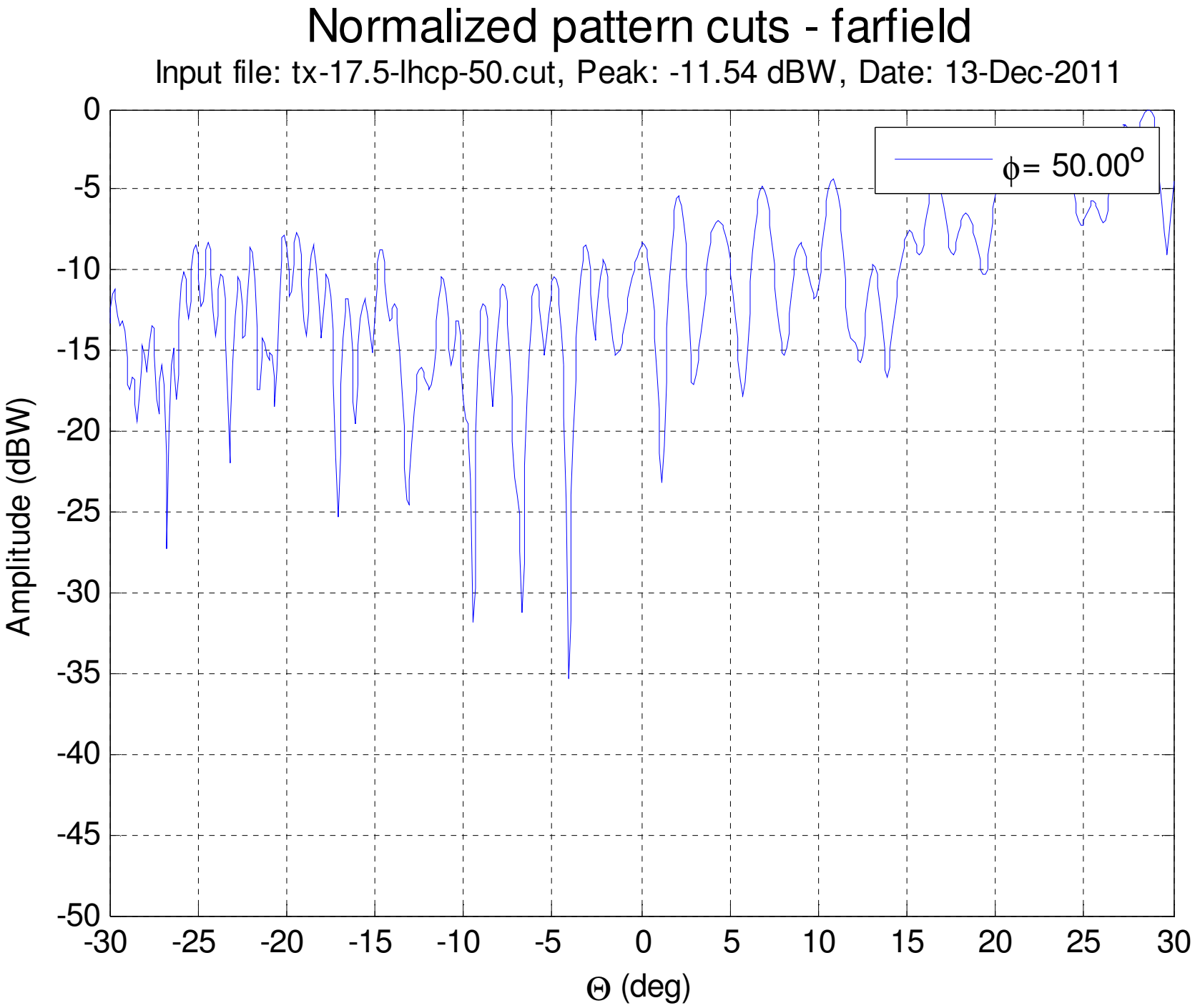

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -5.66 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

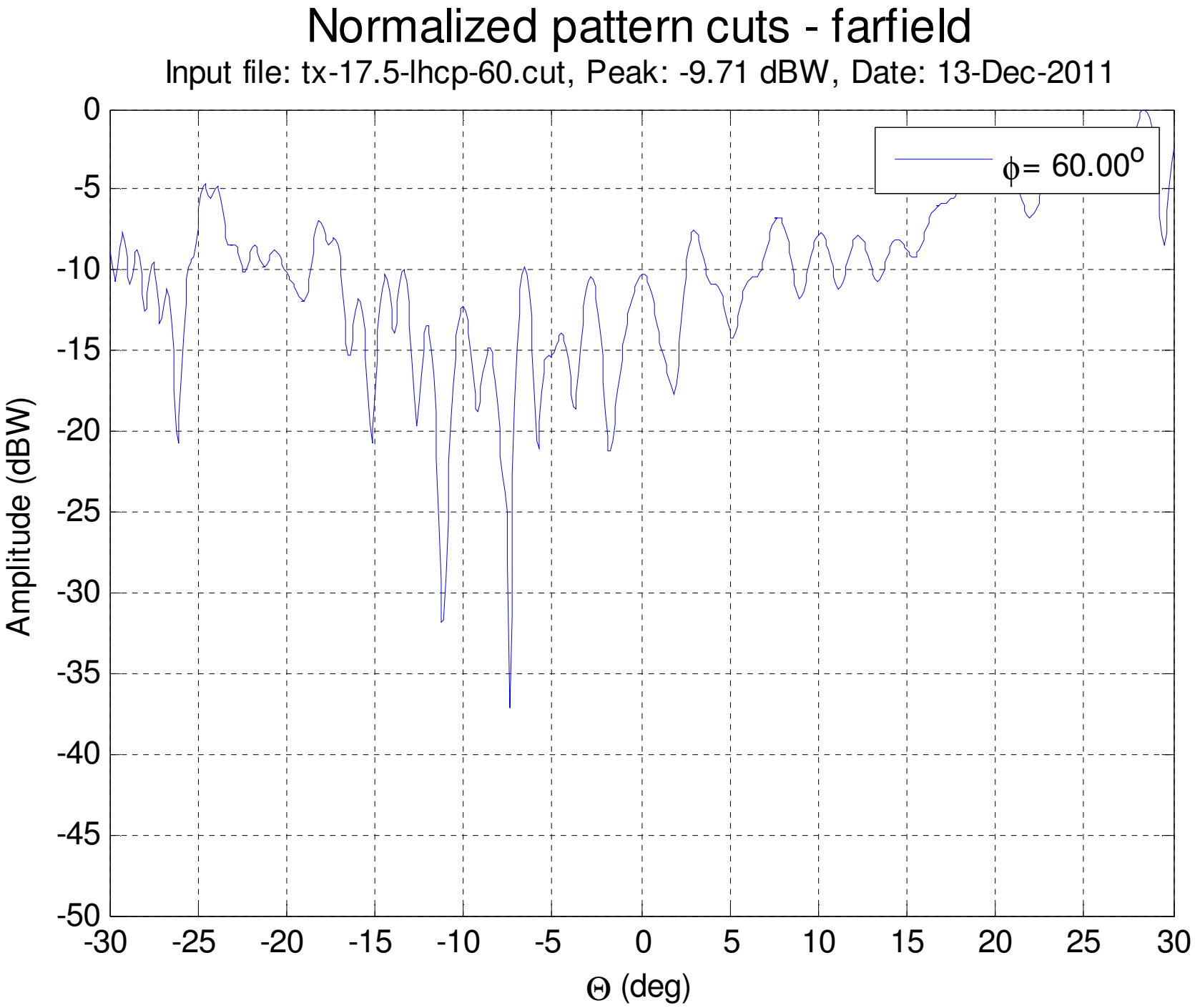

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -6.68 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.49 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

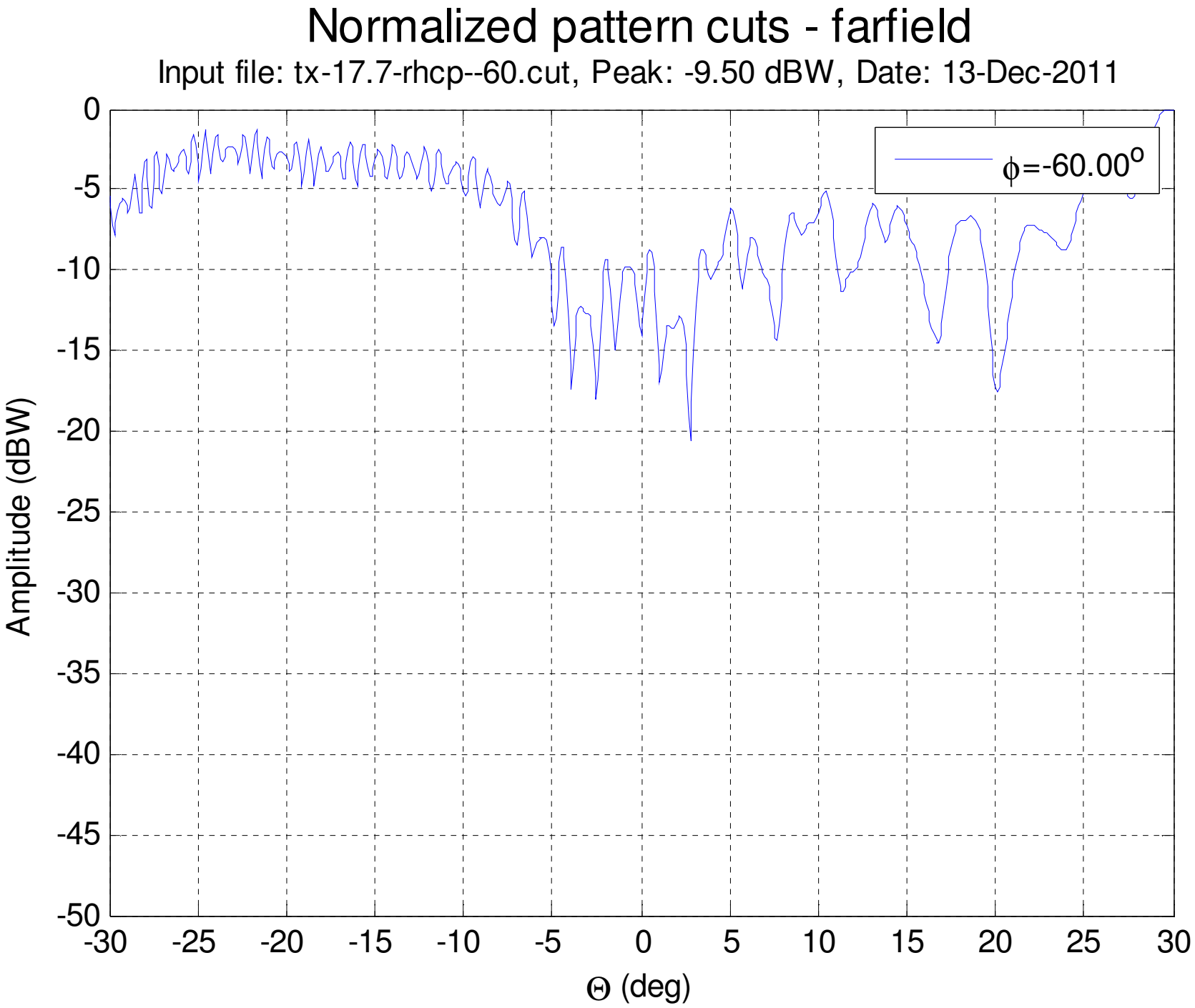

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -10.65 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

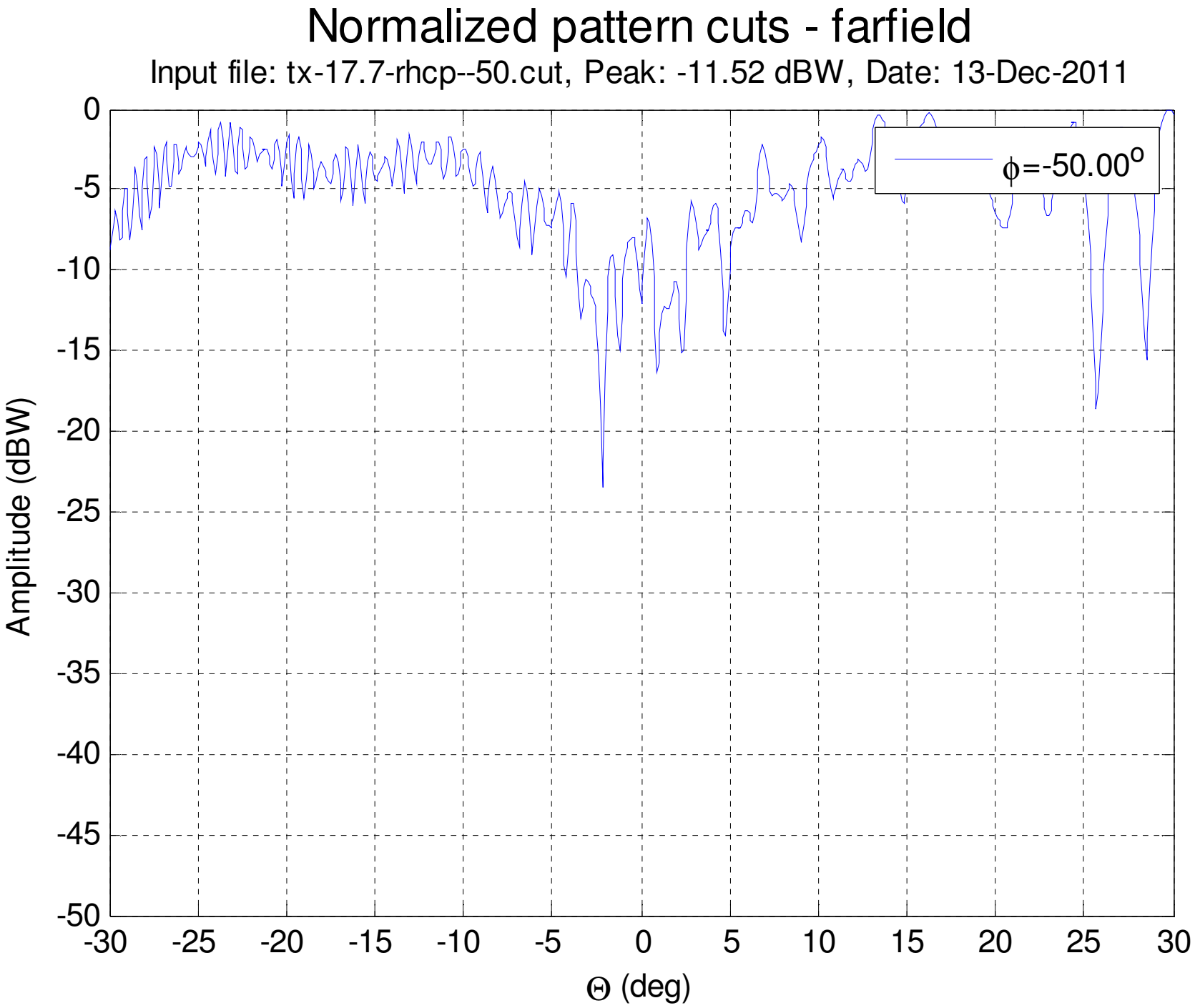

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -13.88 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

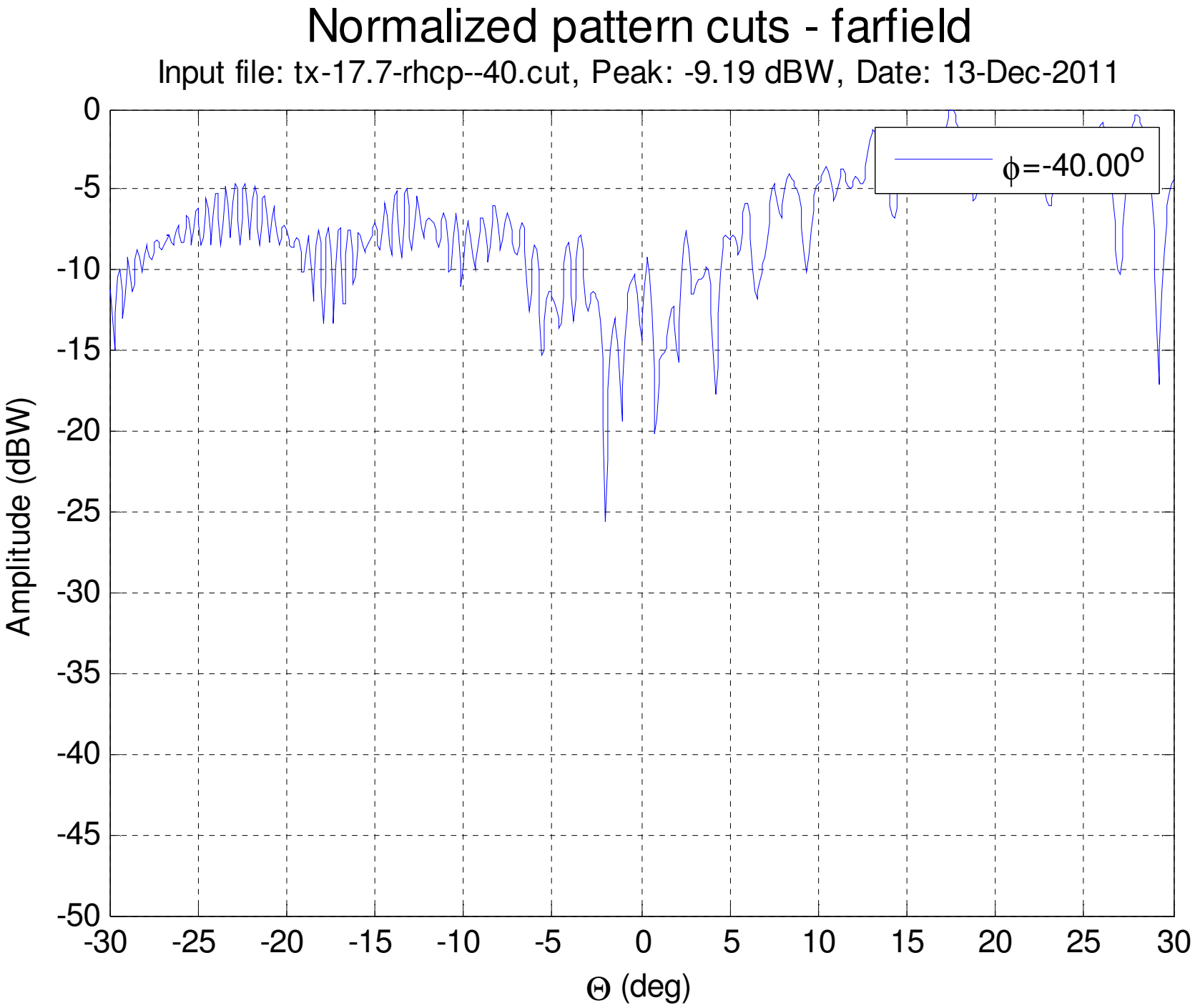

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -11.54 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

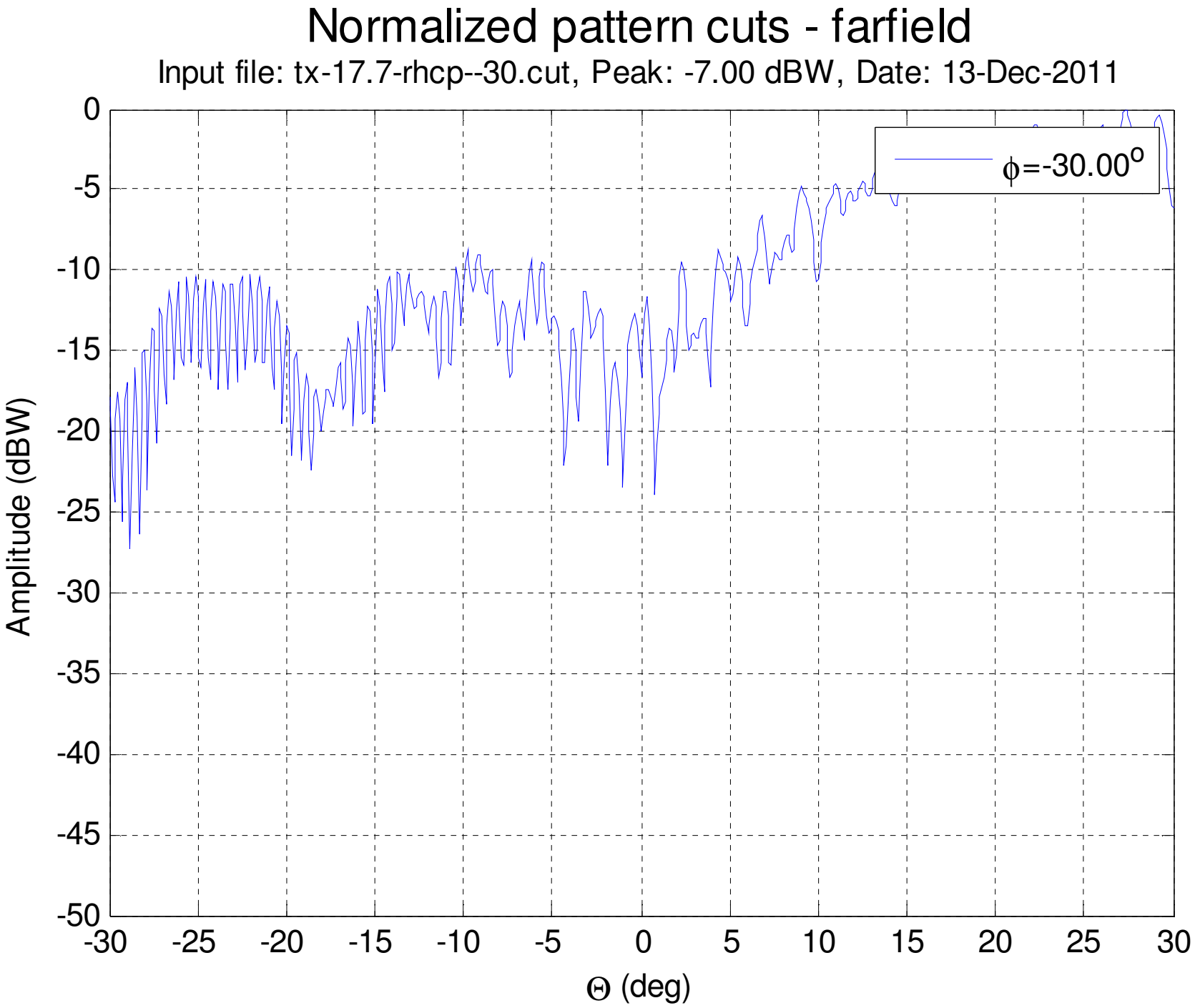

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -9.71 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

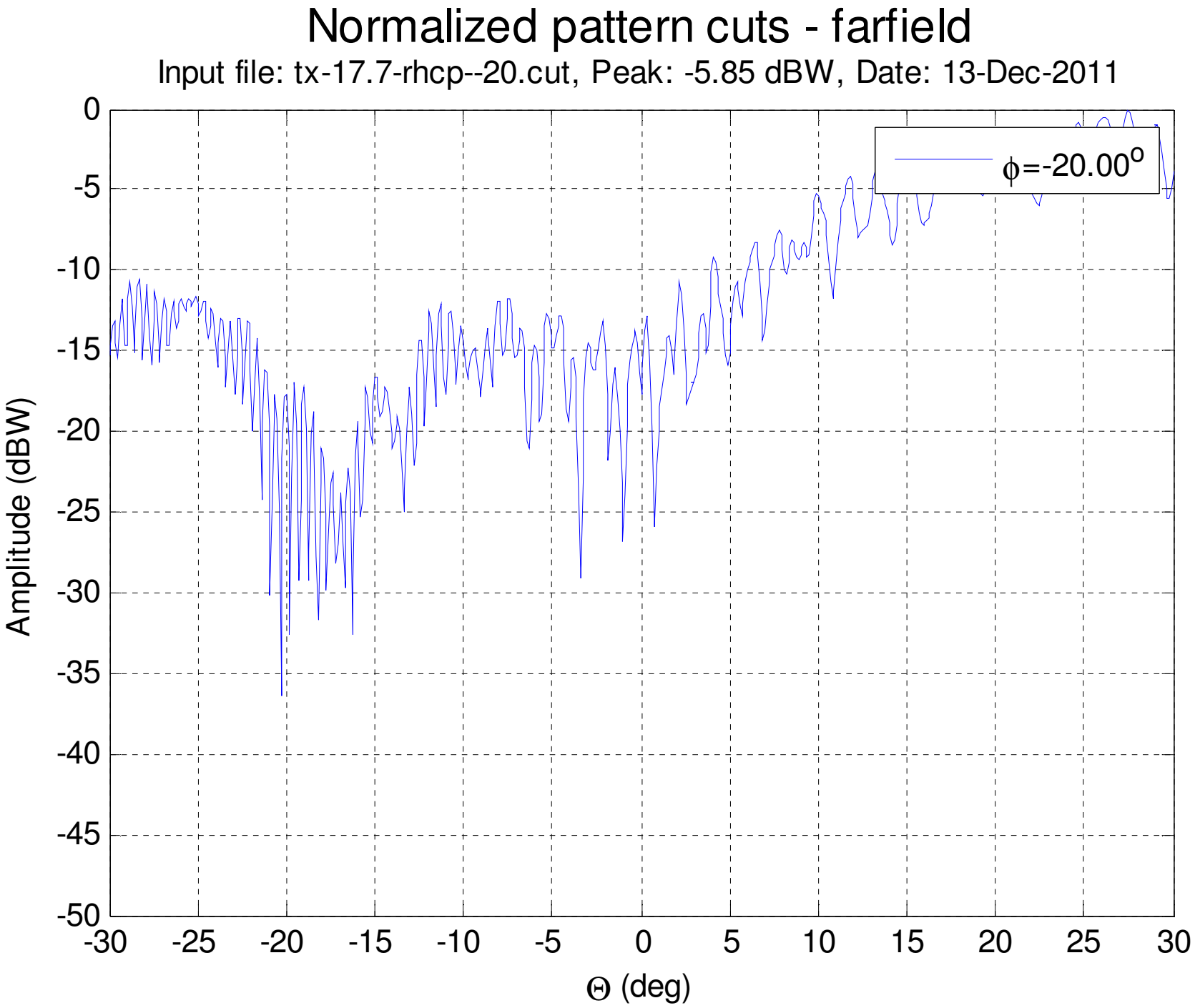
RHCP at 17.7 GHz

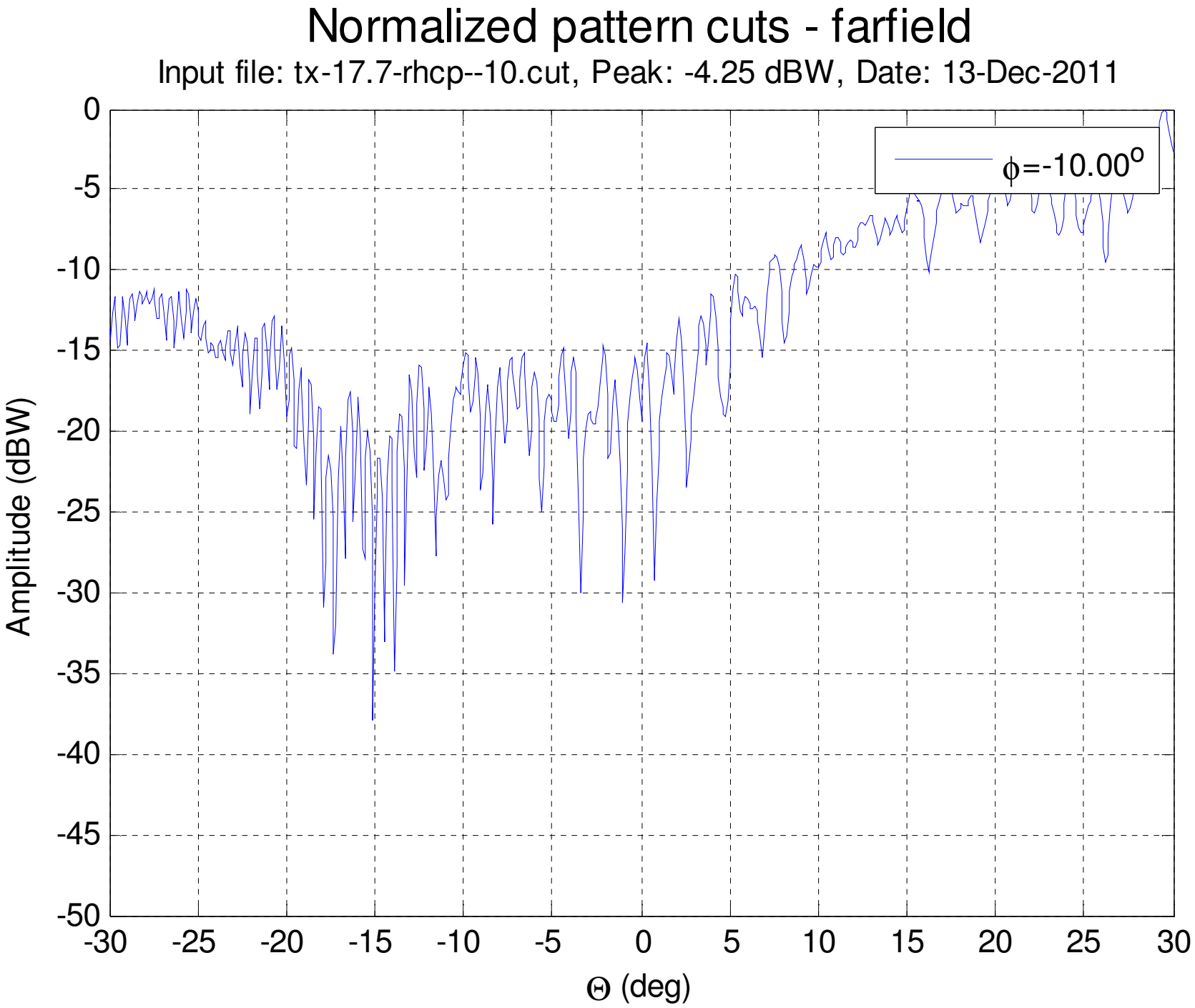

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -9.50 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

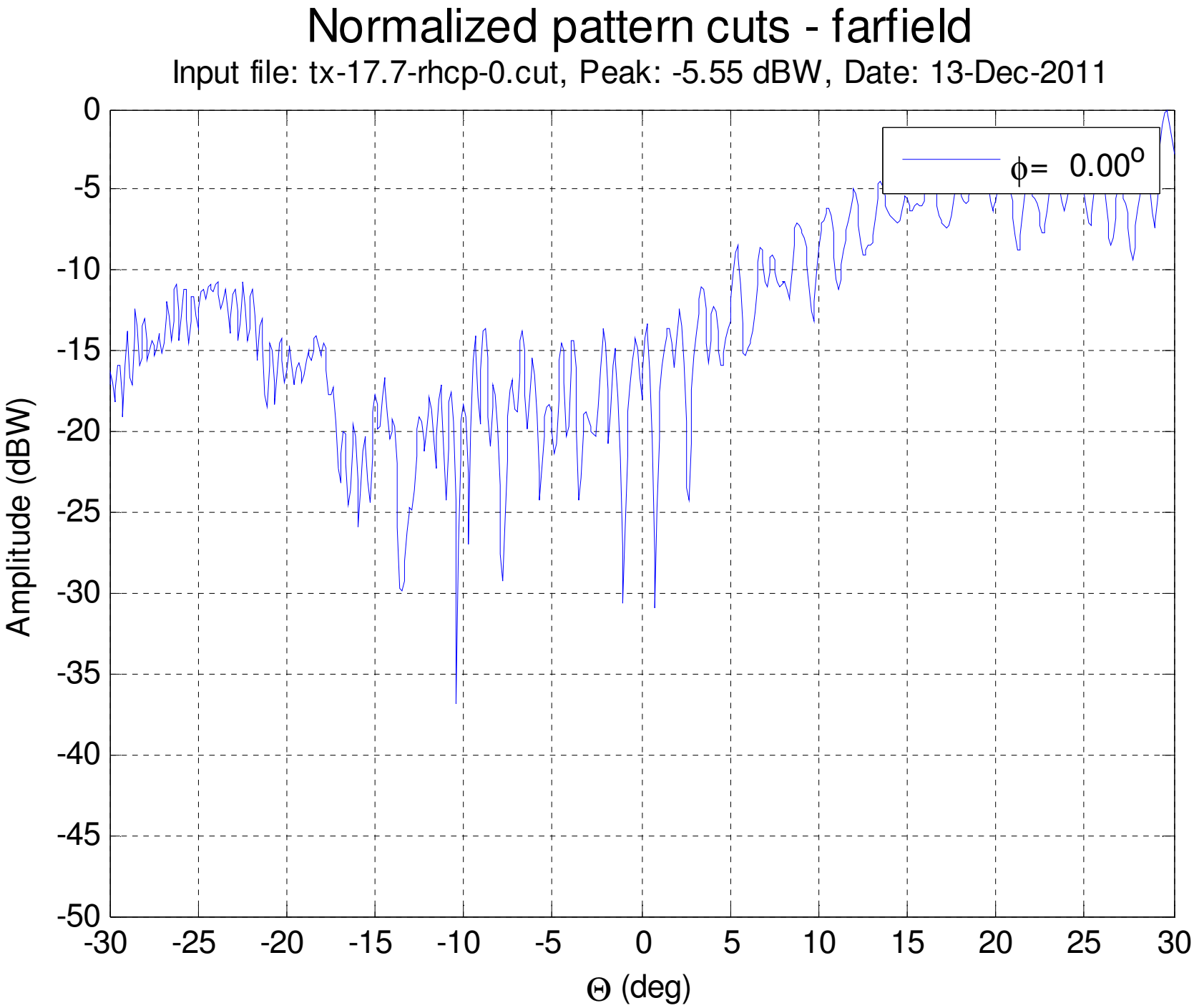

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -11.52 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

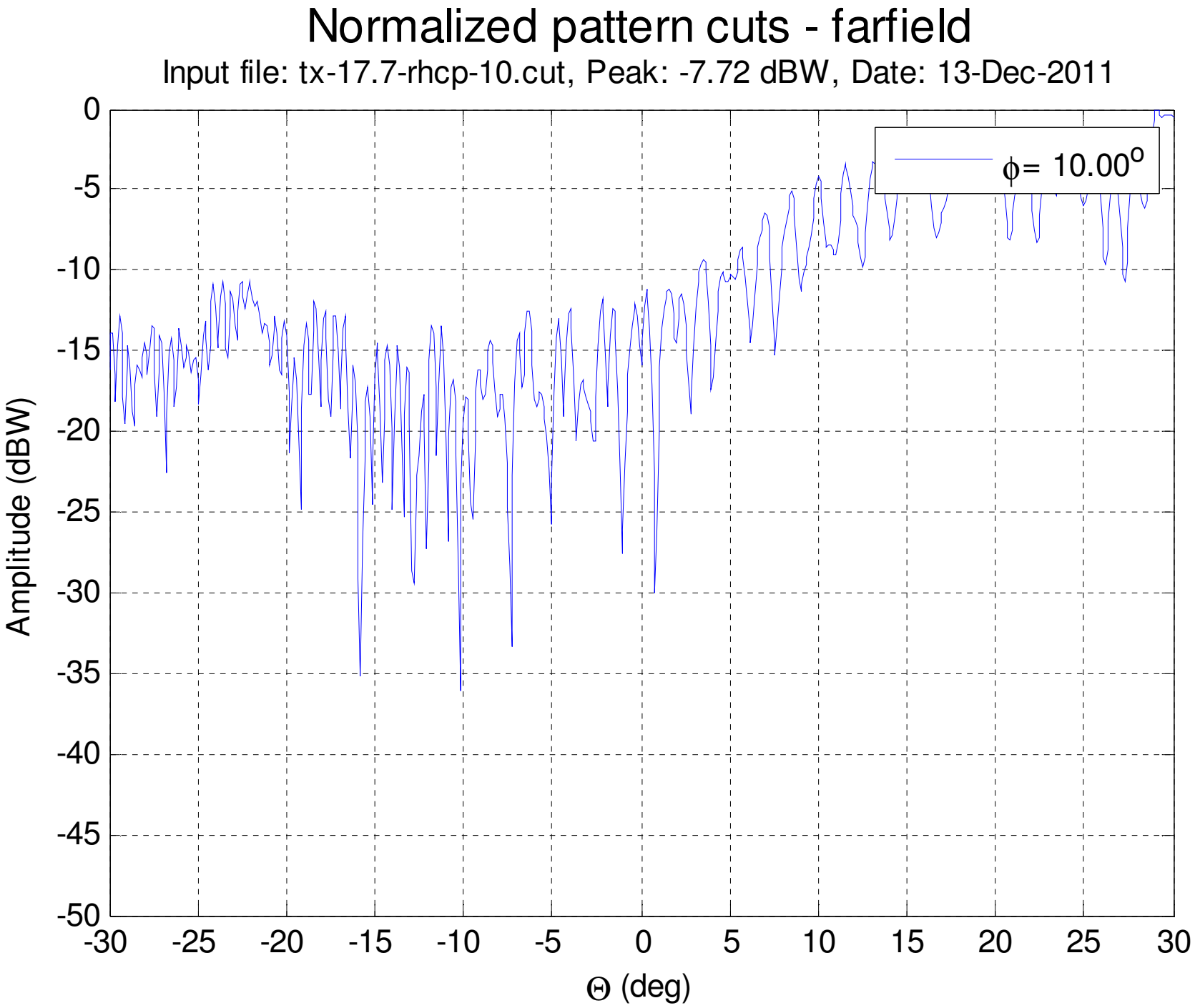

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -9.19 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

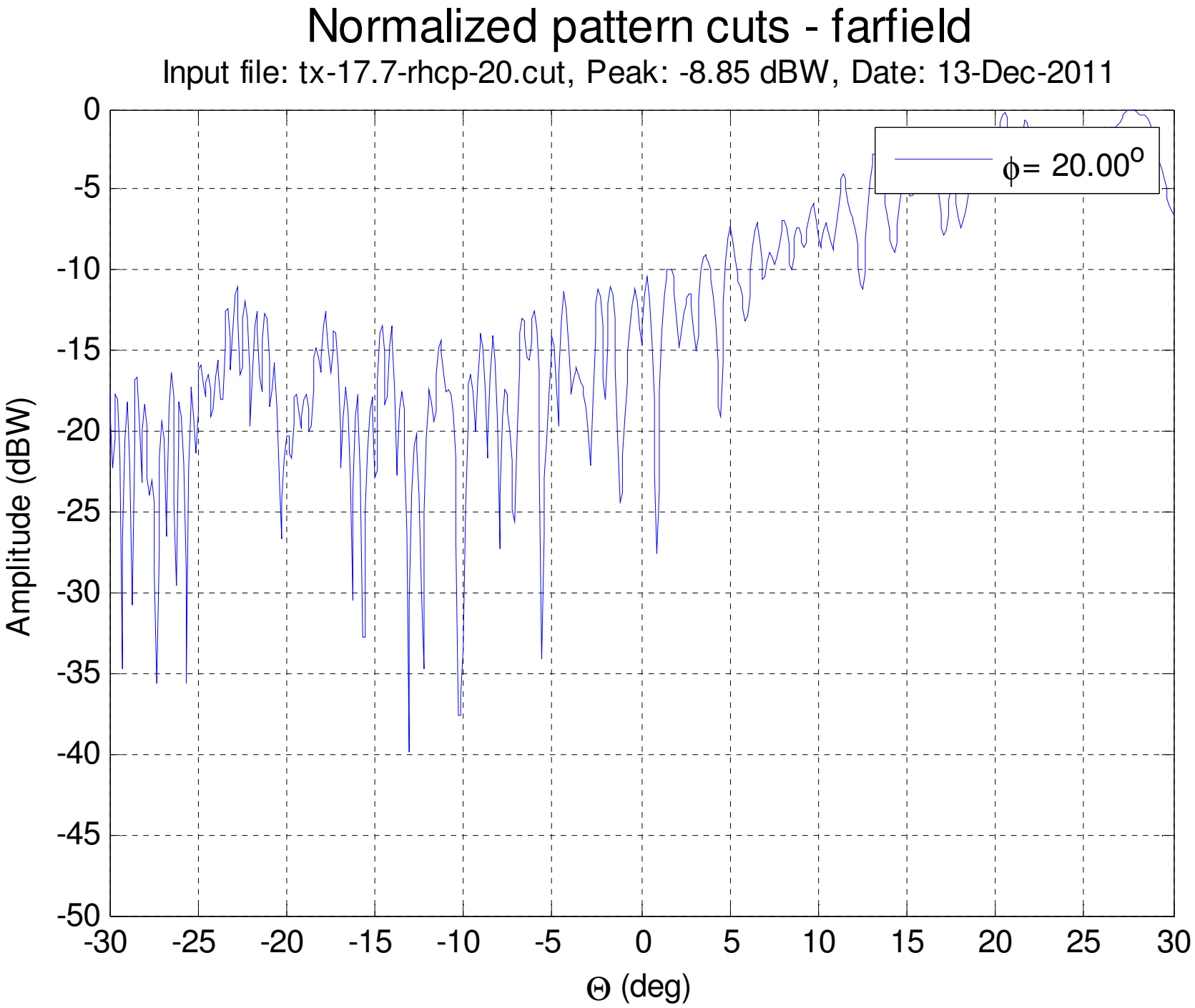

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -7.00 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

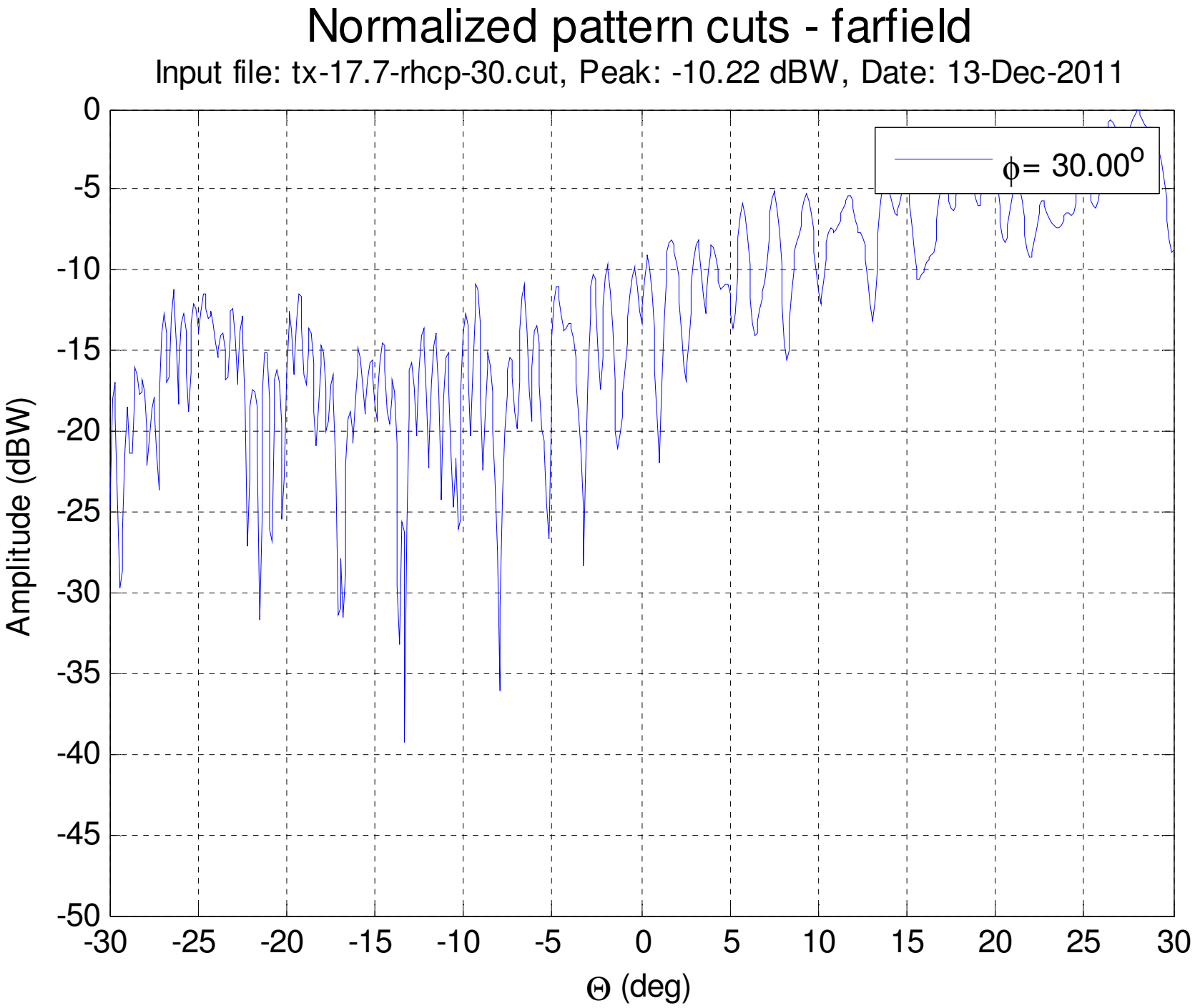

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -5.85 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

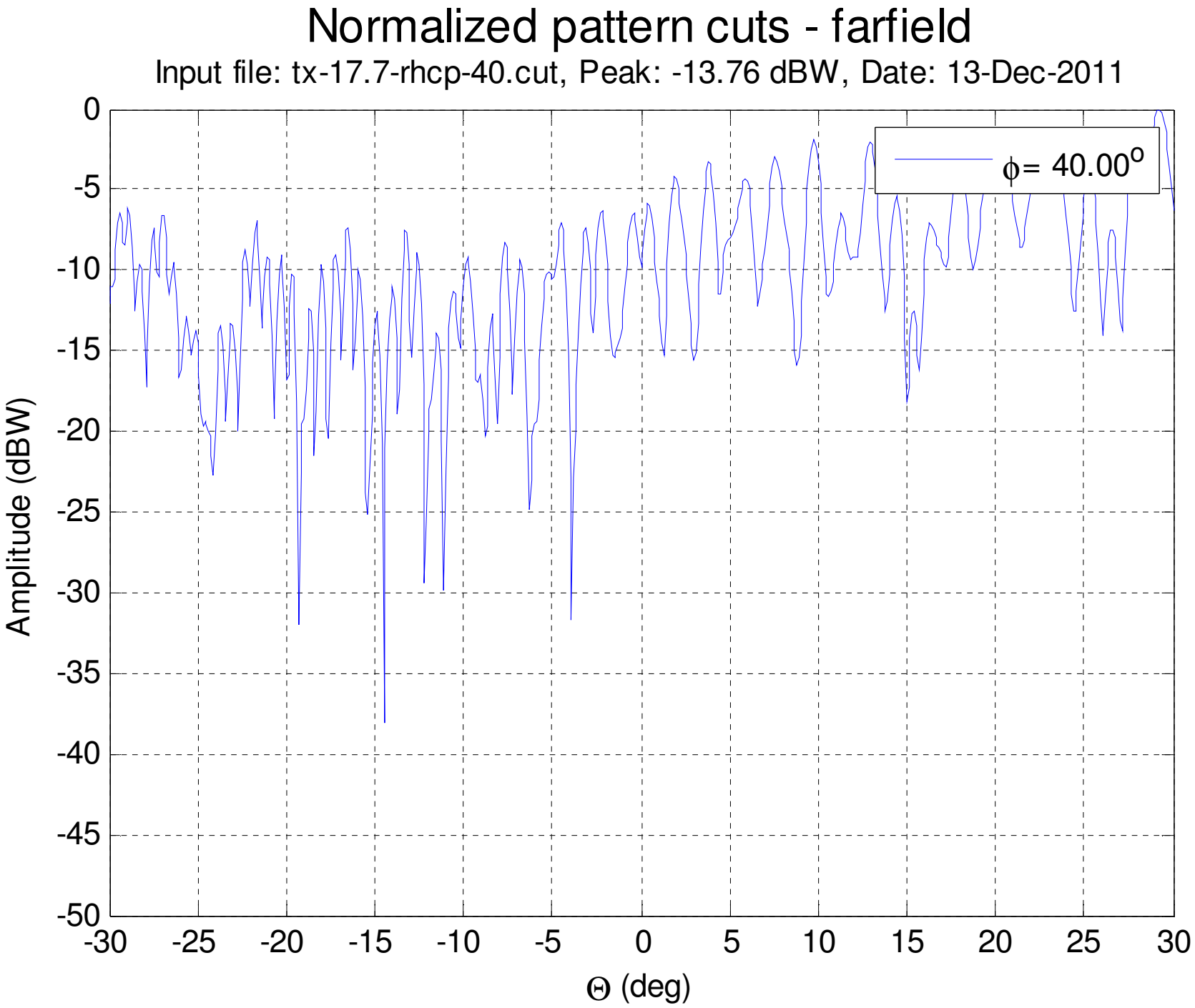

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -4.25 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

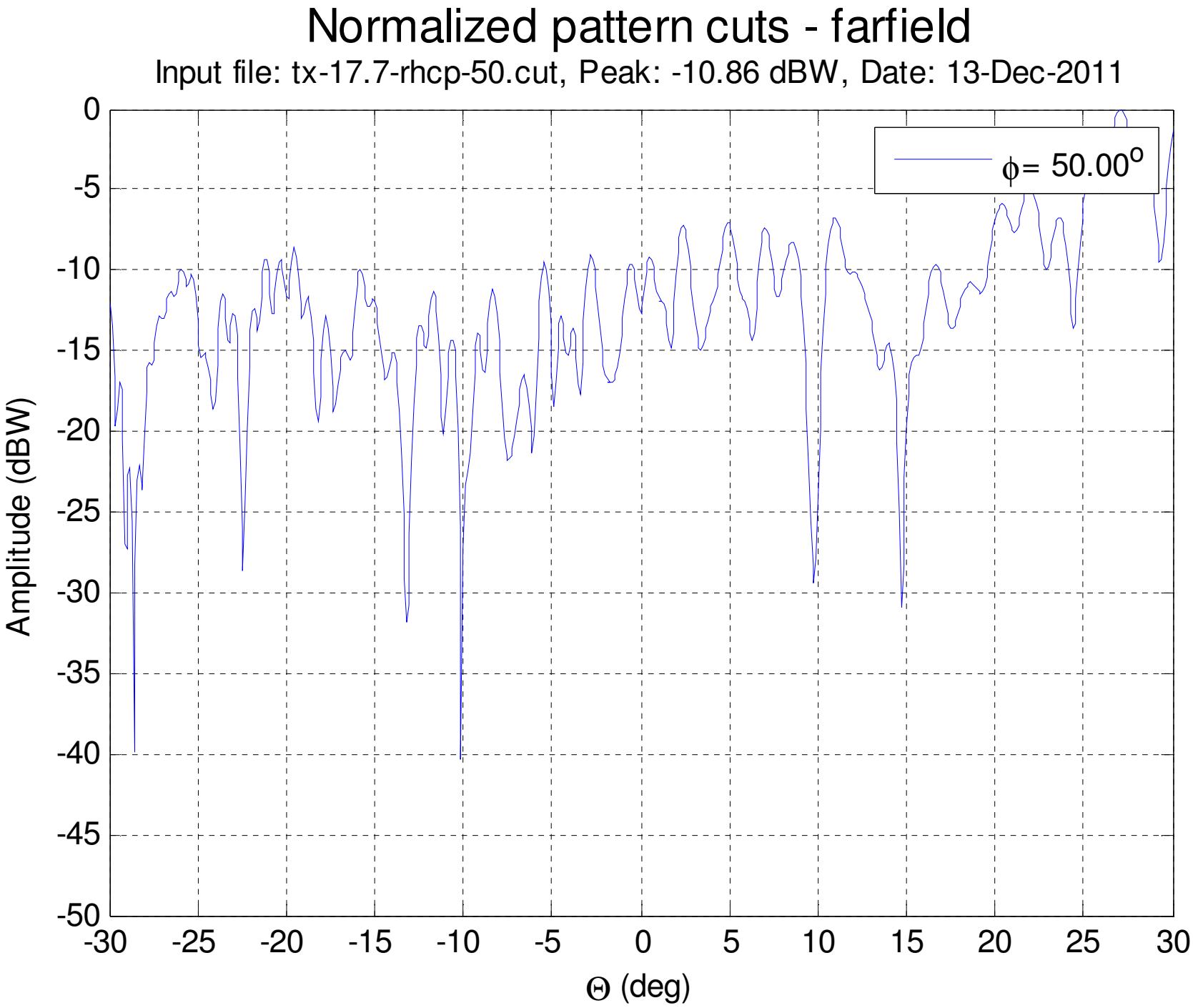

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -5.55 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

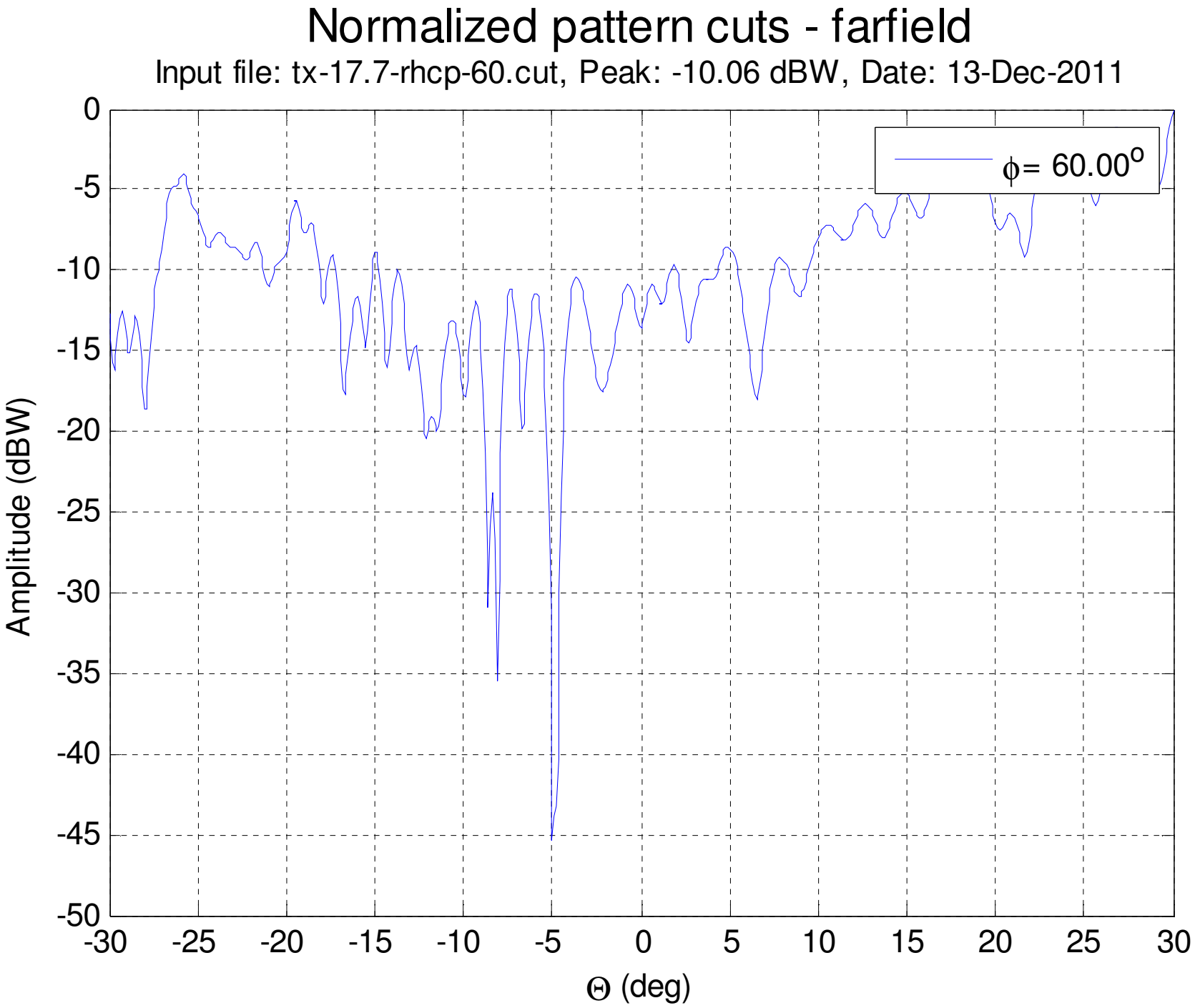

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -7.72 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -8.85 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

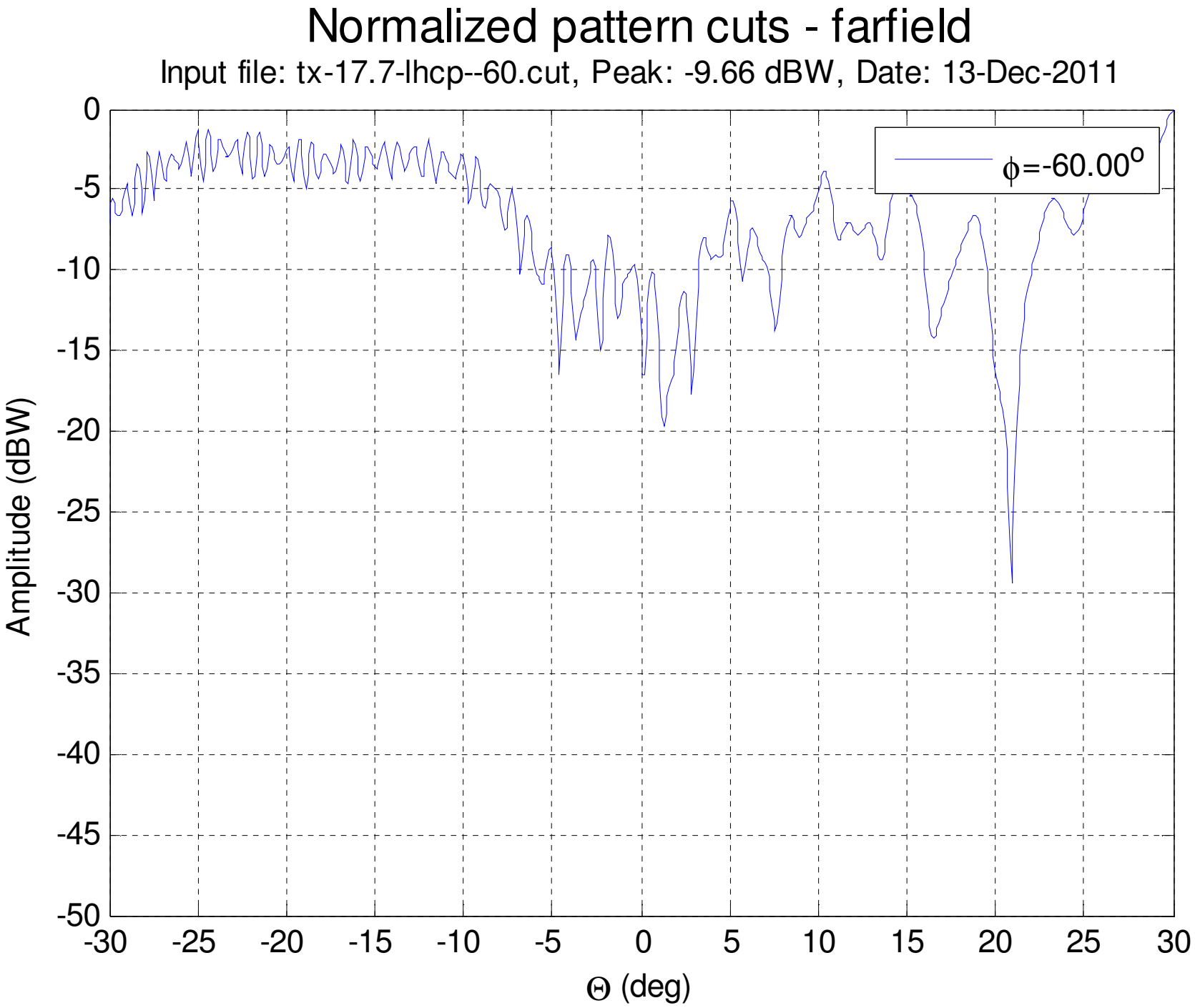

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -10.22 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

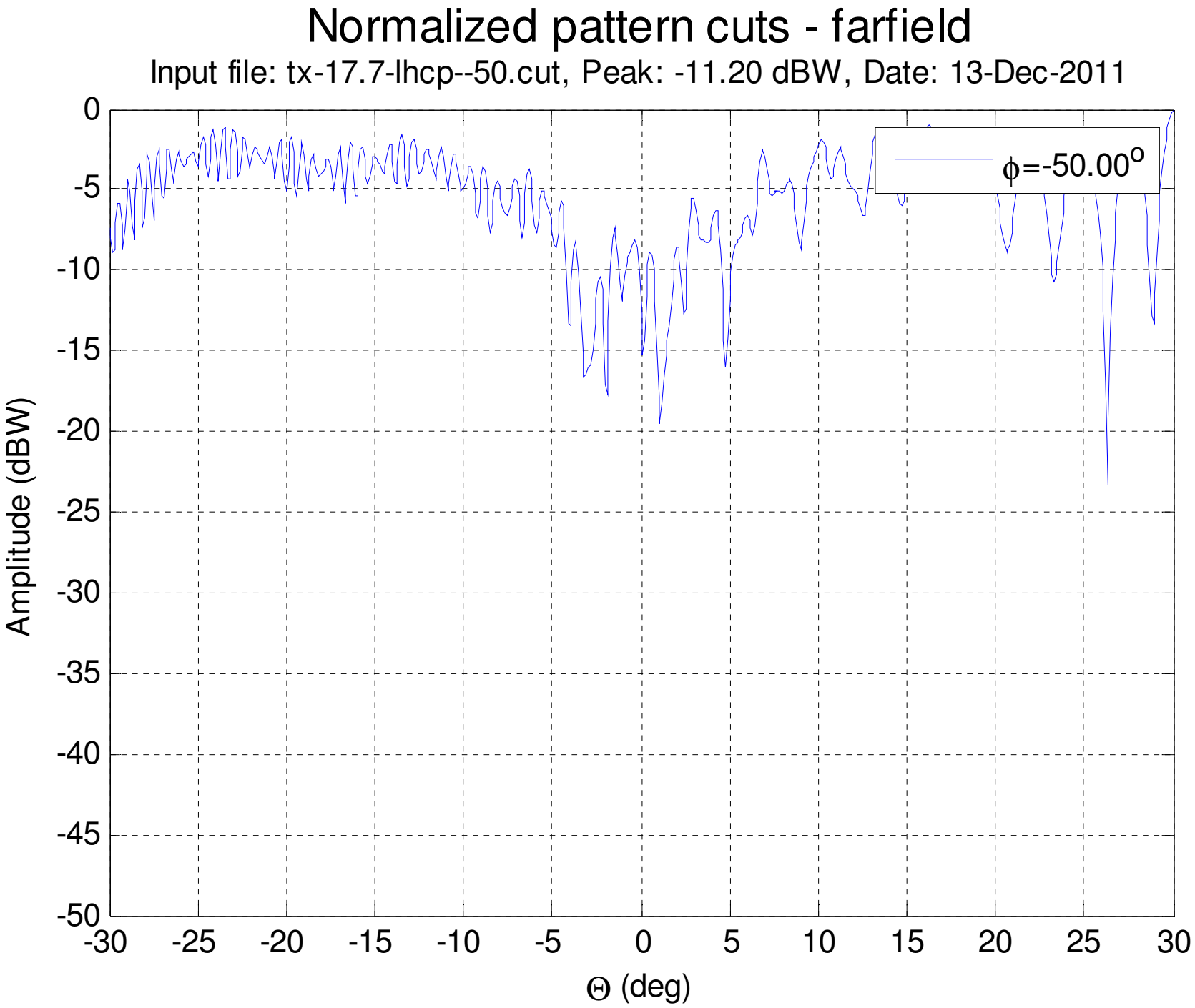

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -13.76 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

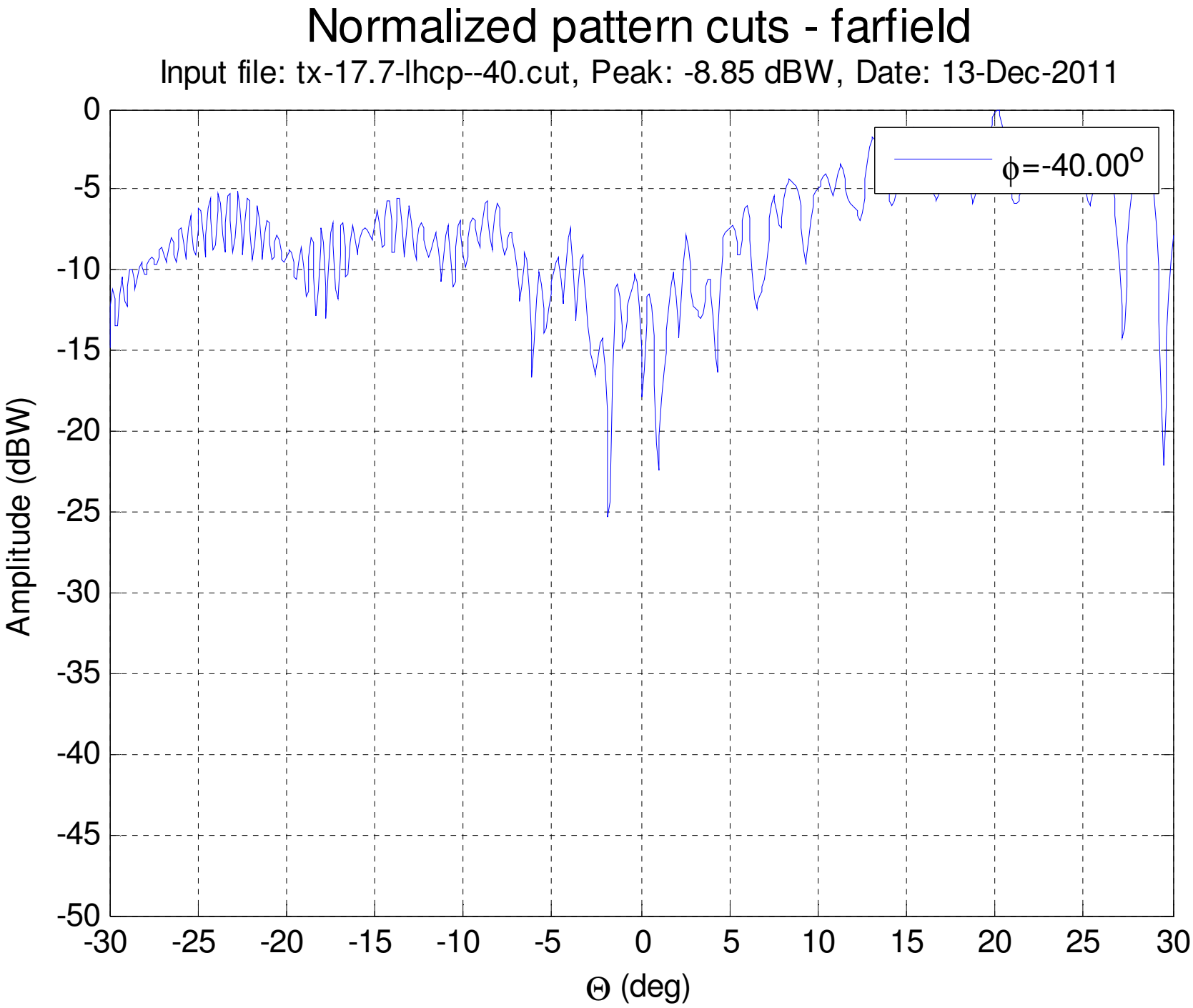

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -10.86 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

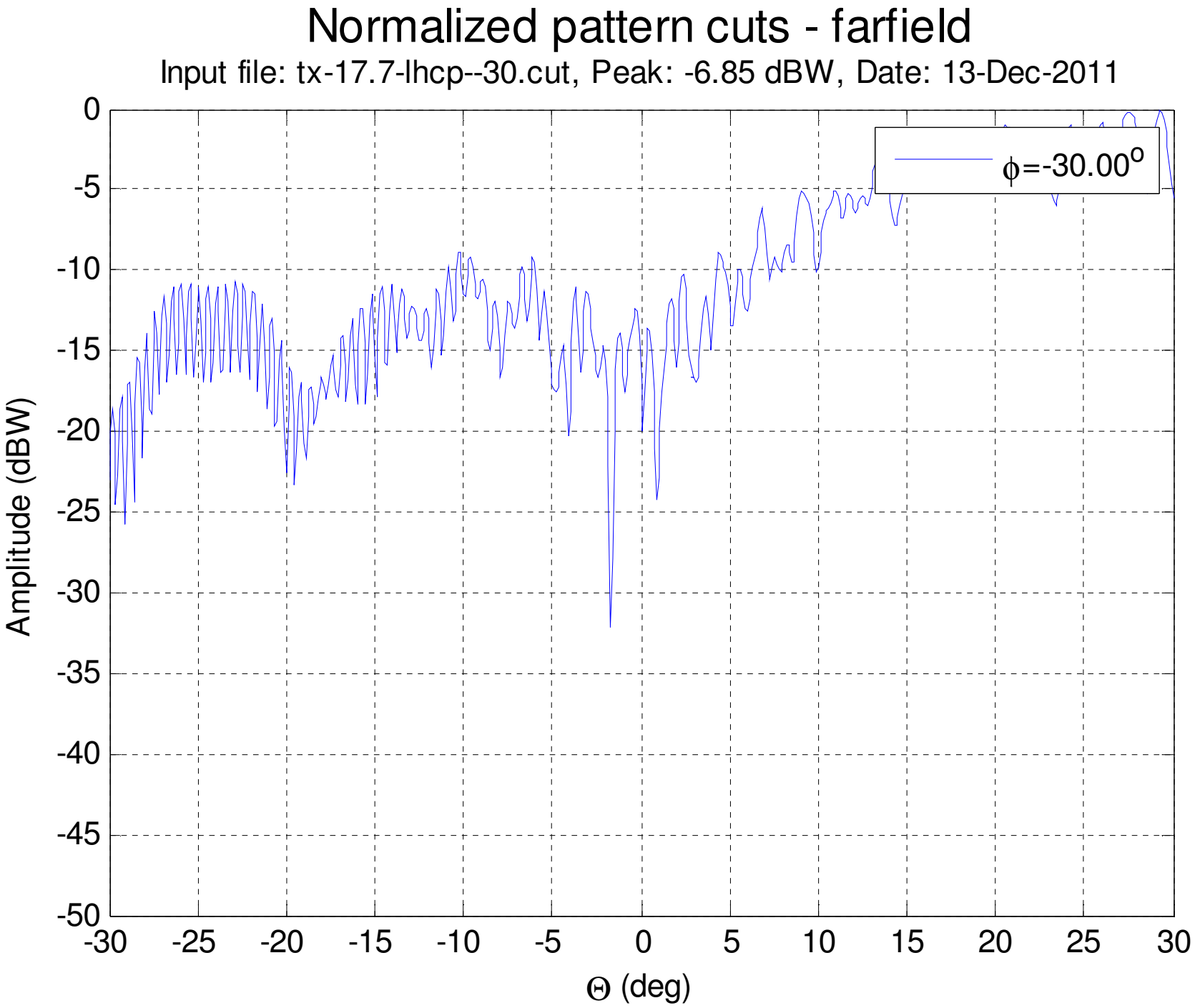

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -10.06 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

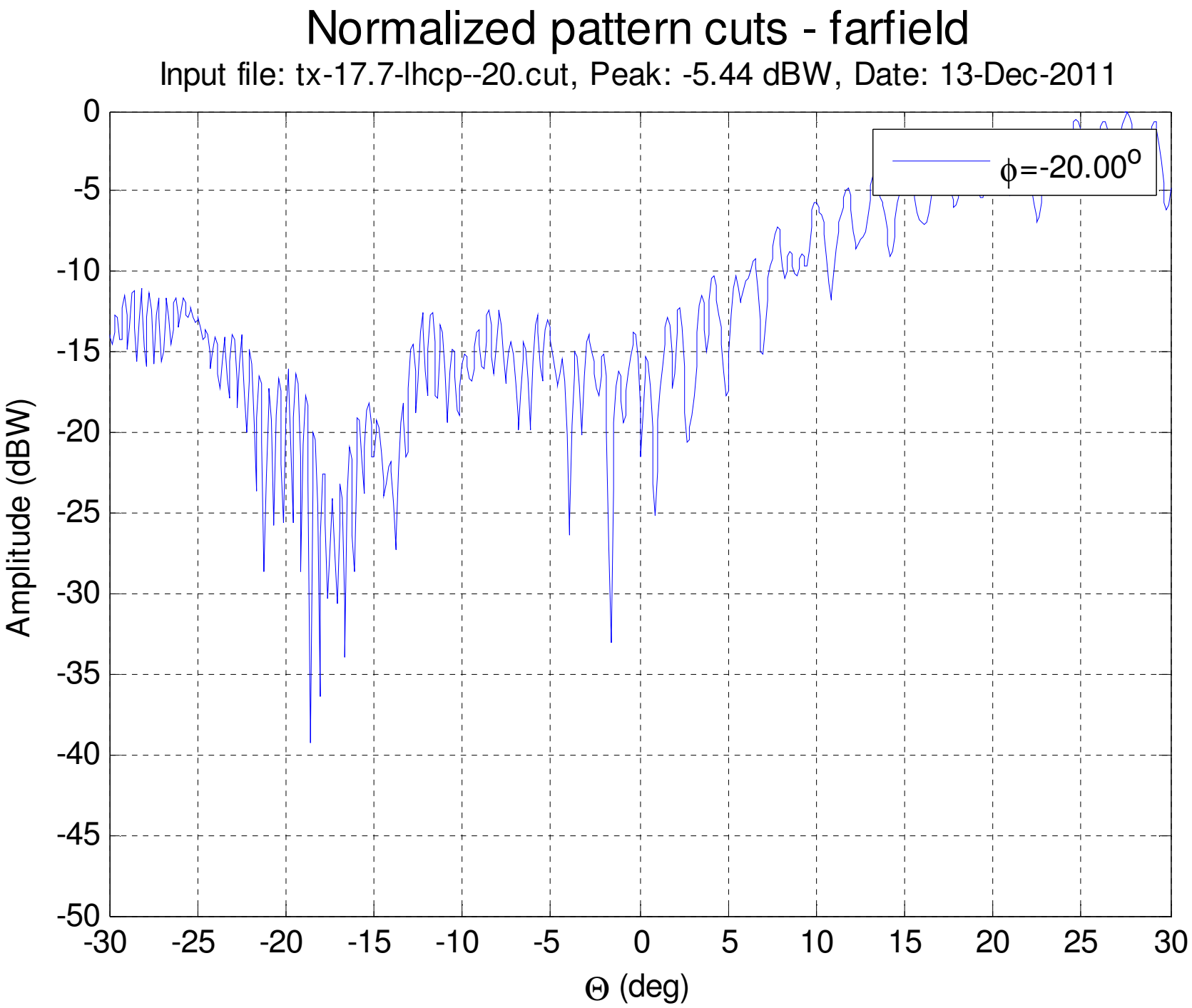
LHCP at 17.7 GHz

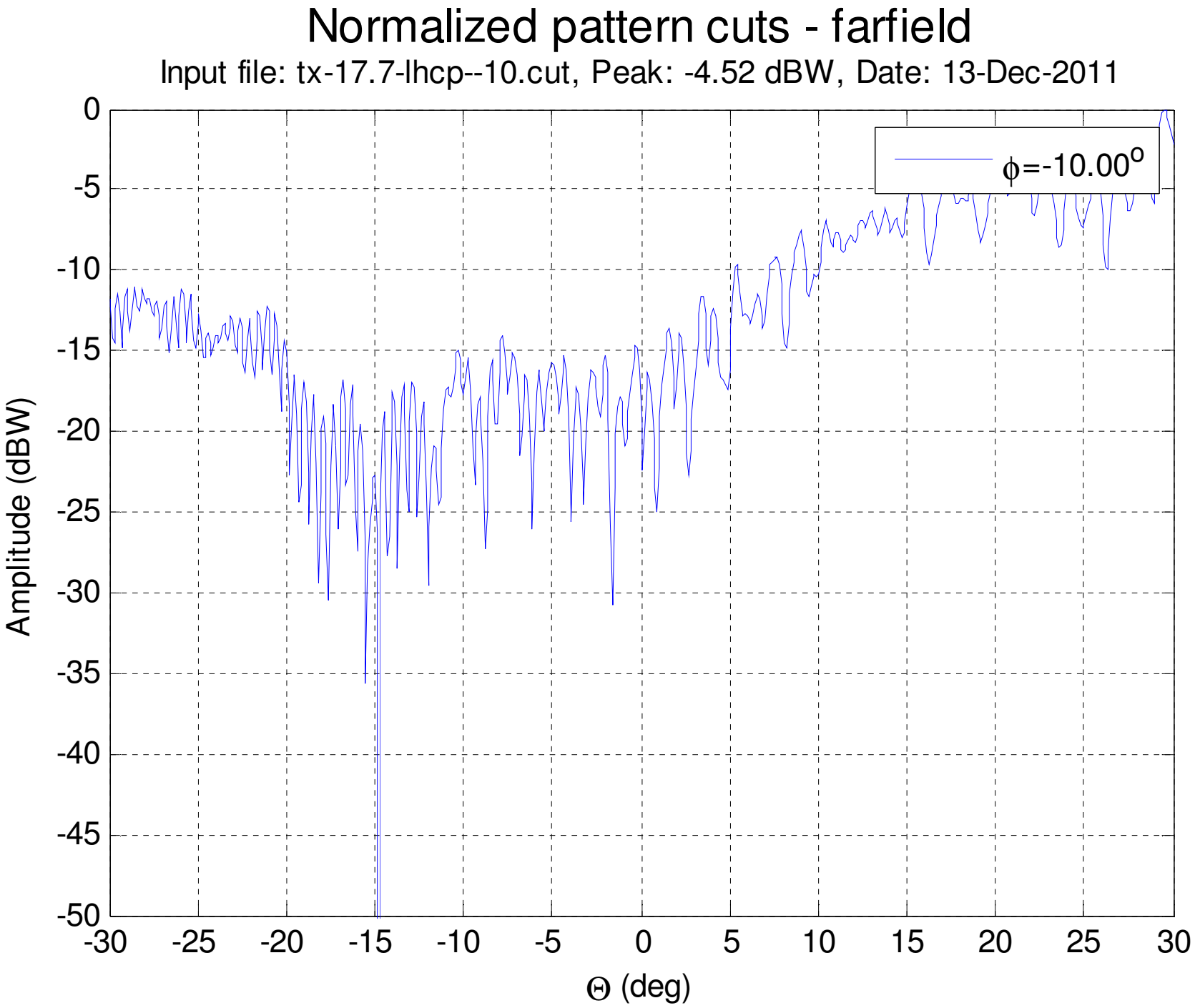

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -9.66 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

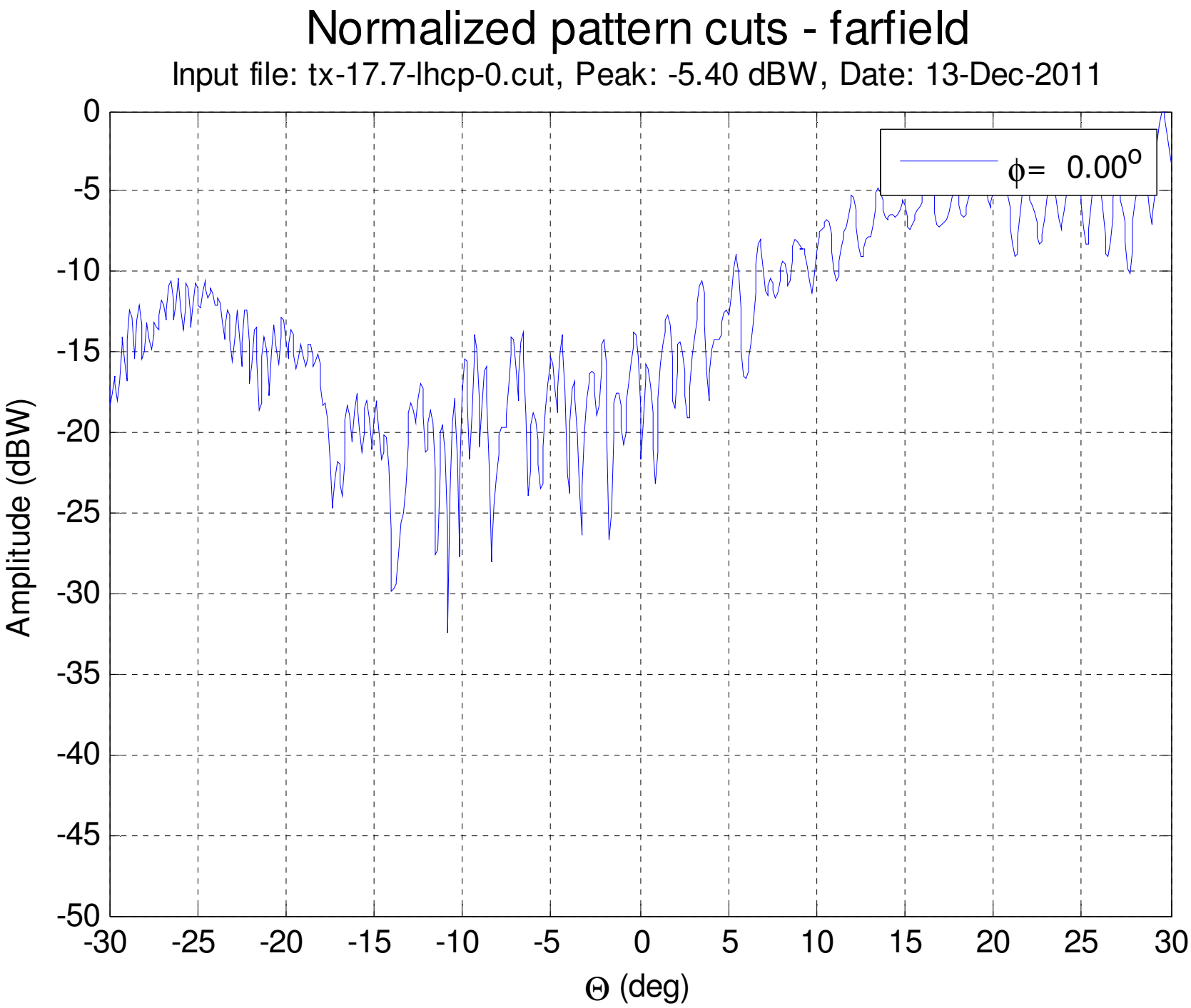

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -11.20 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

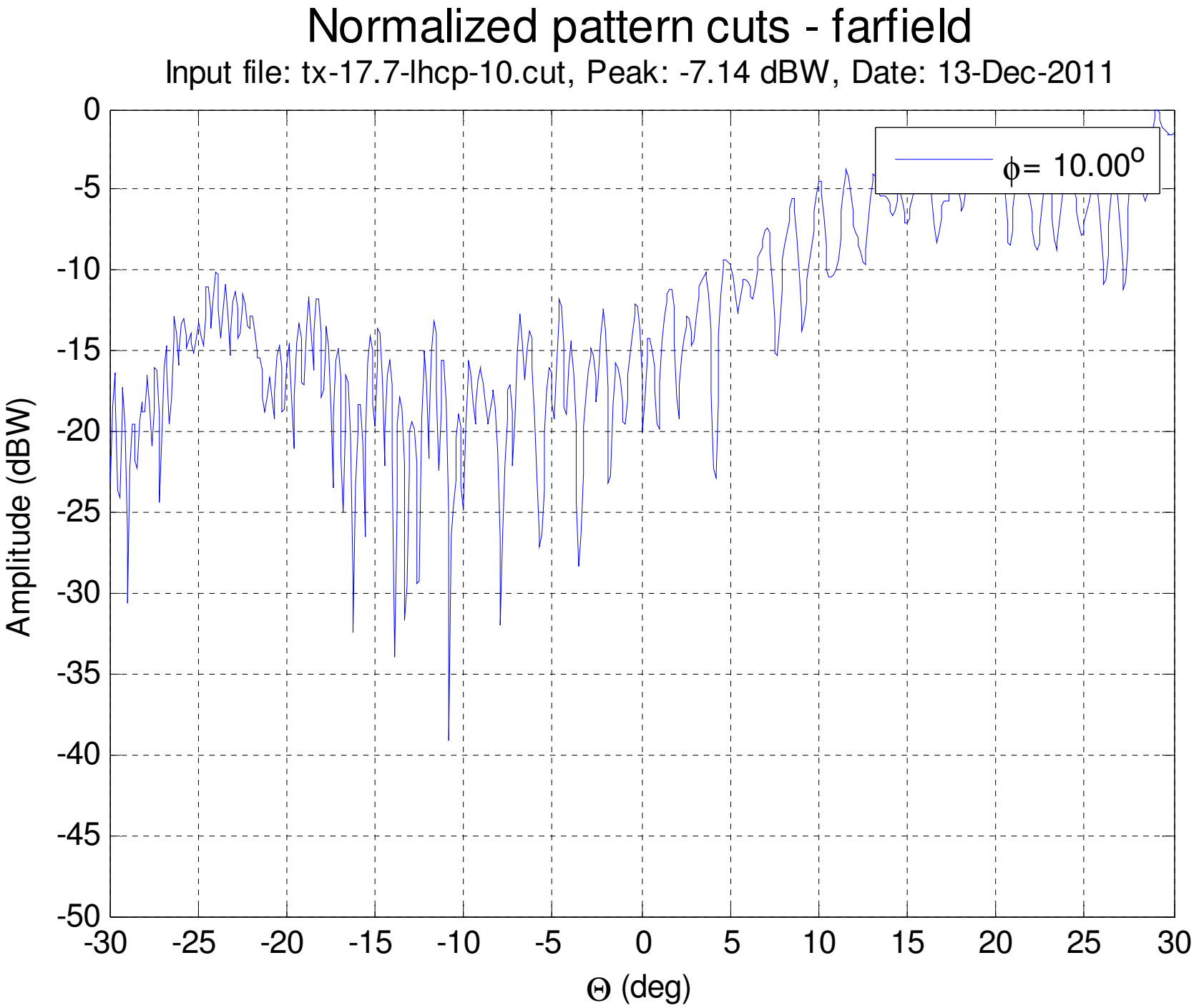

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.85 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

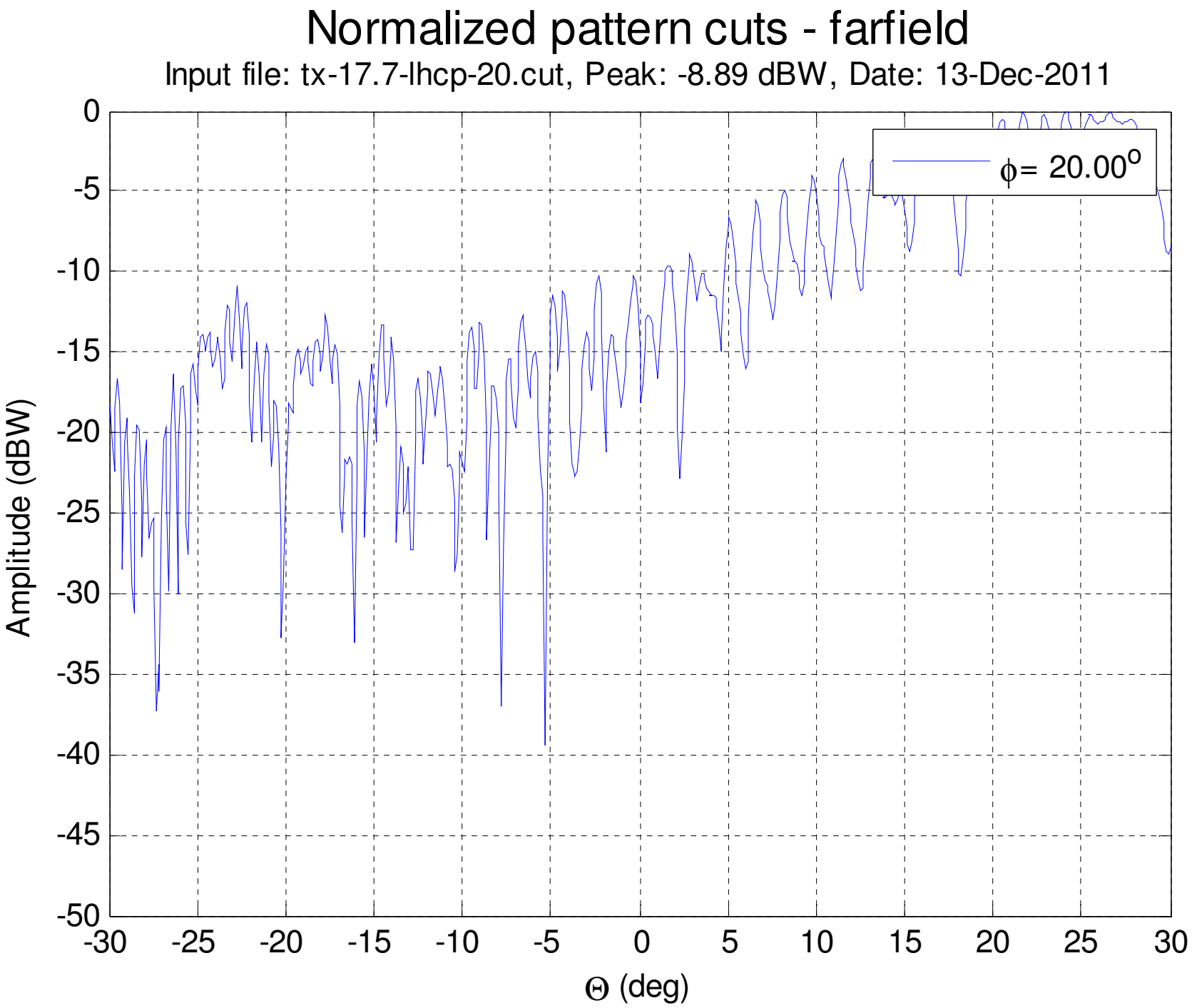

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -6.85 dBW, Date: 13-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

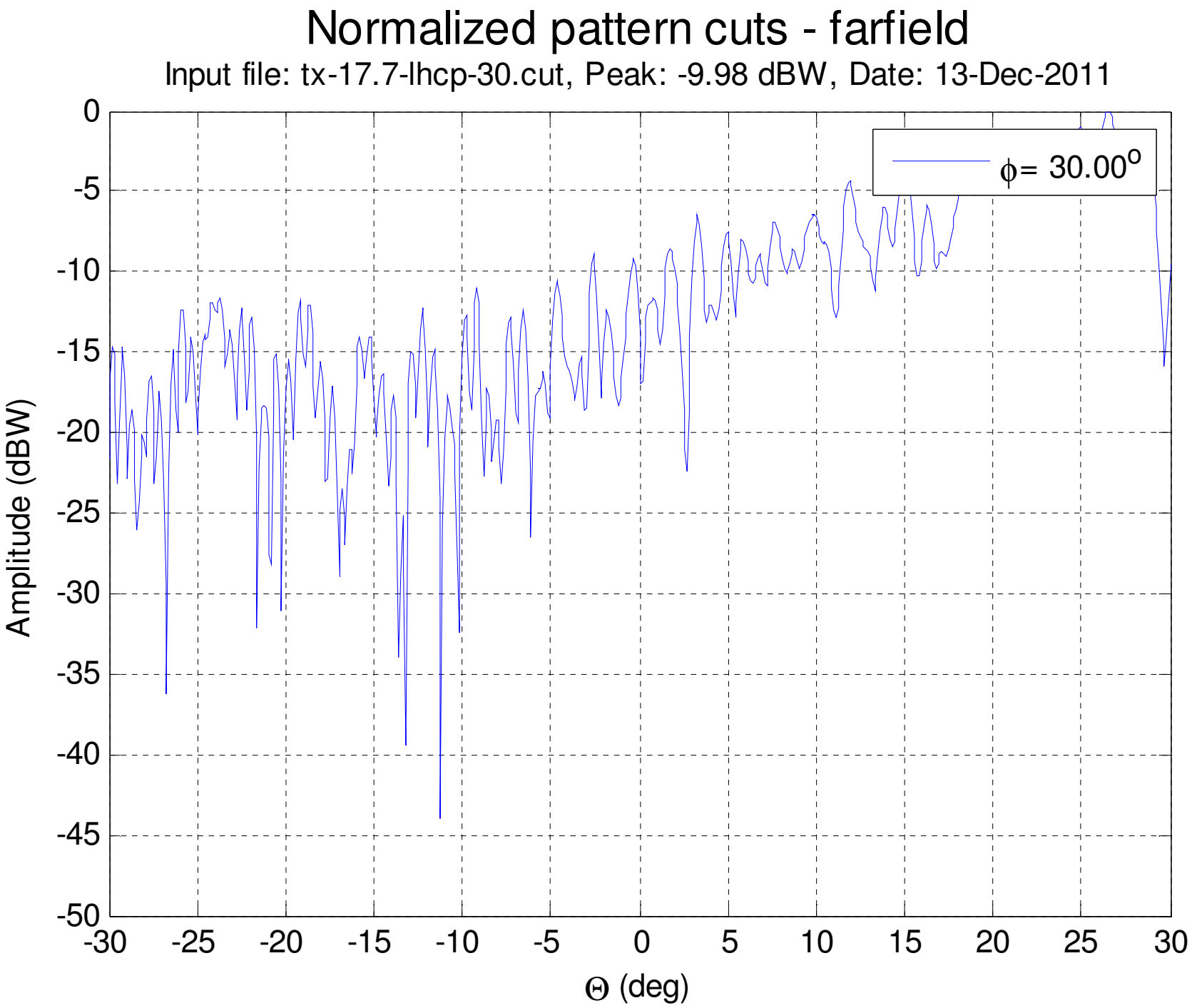

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -5.44 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

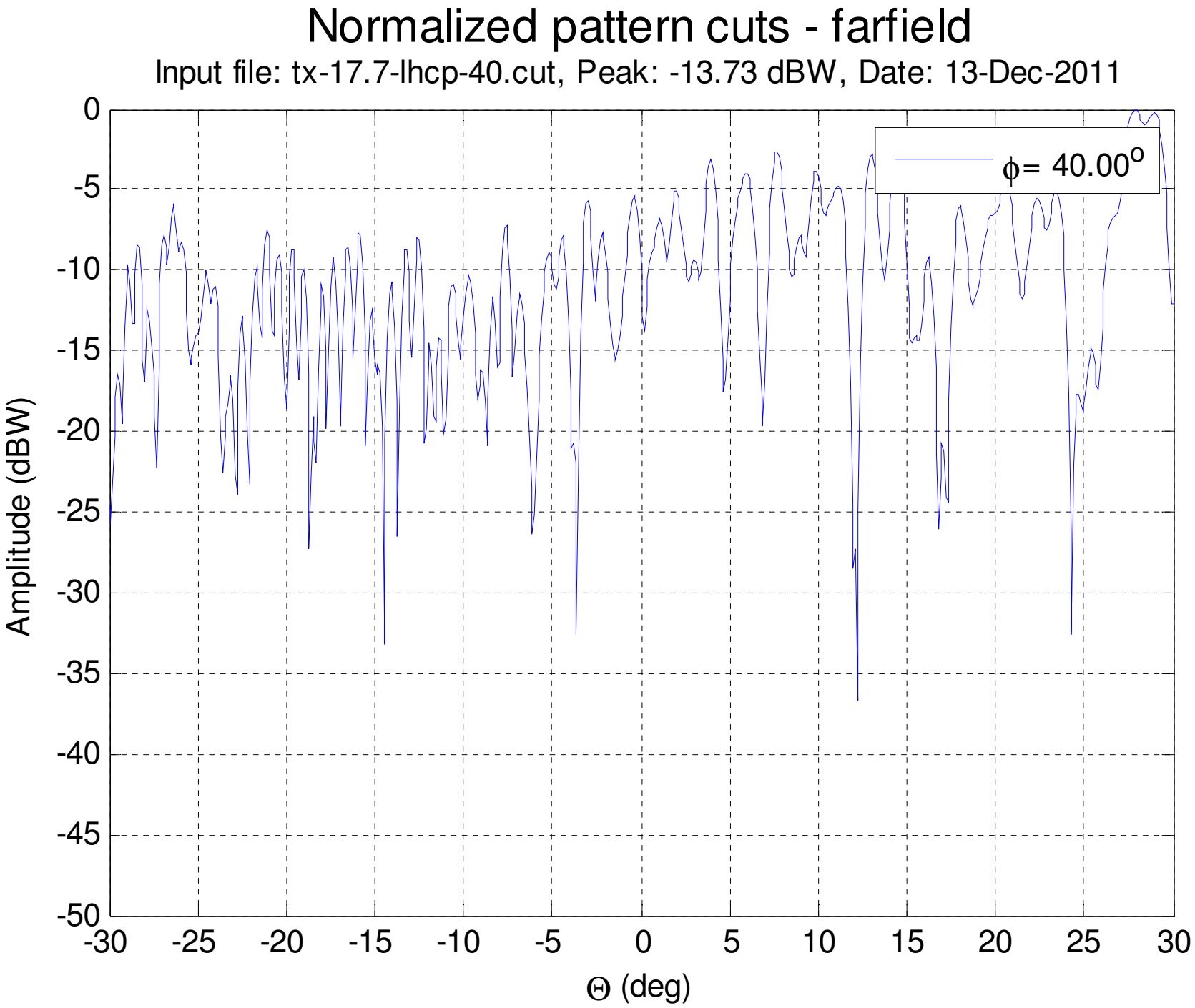

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -4.52 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

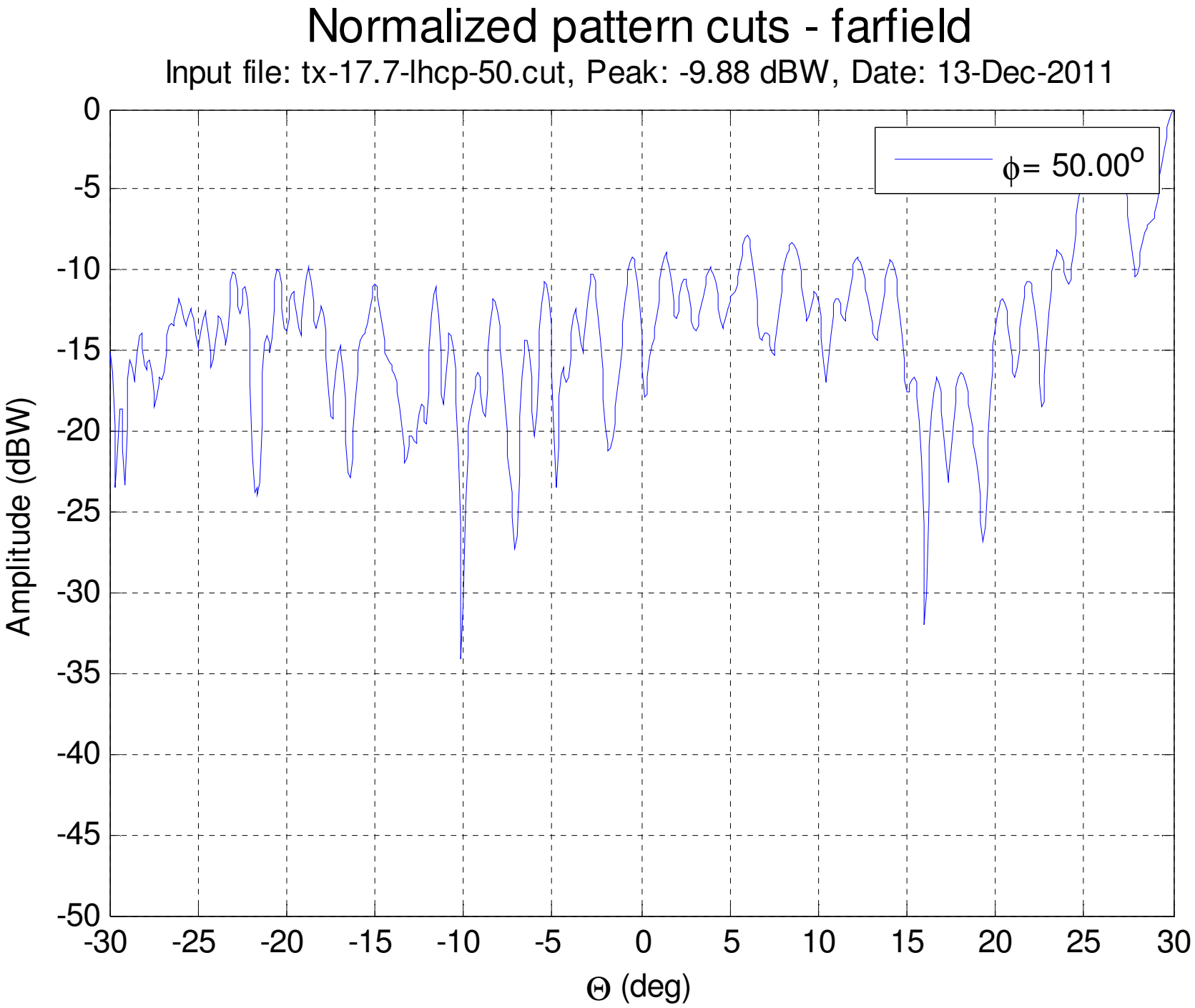

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -5.40 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

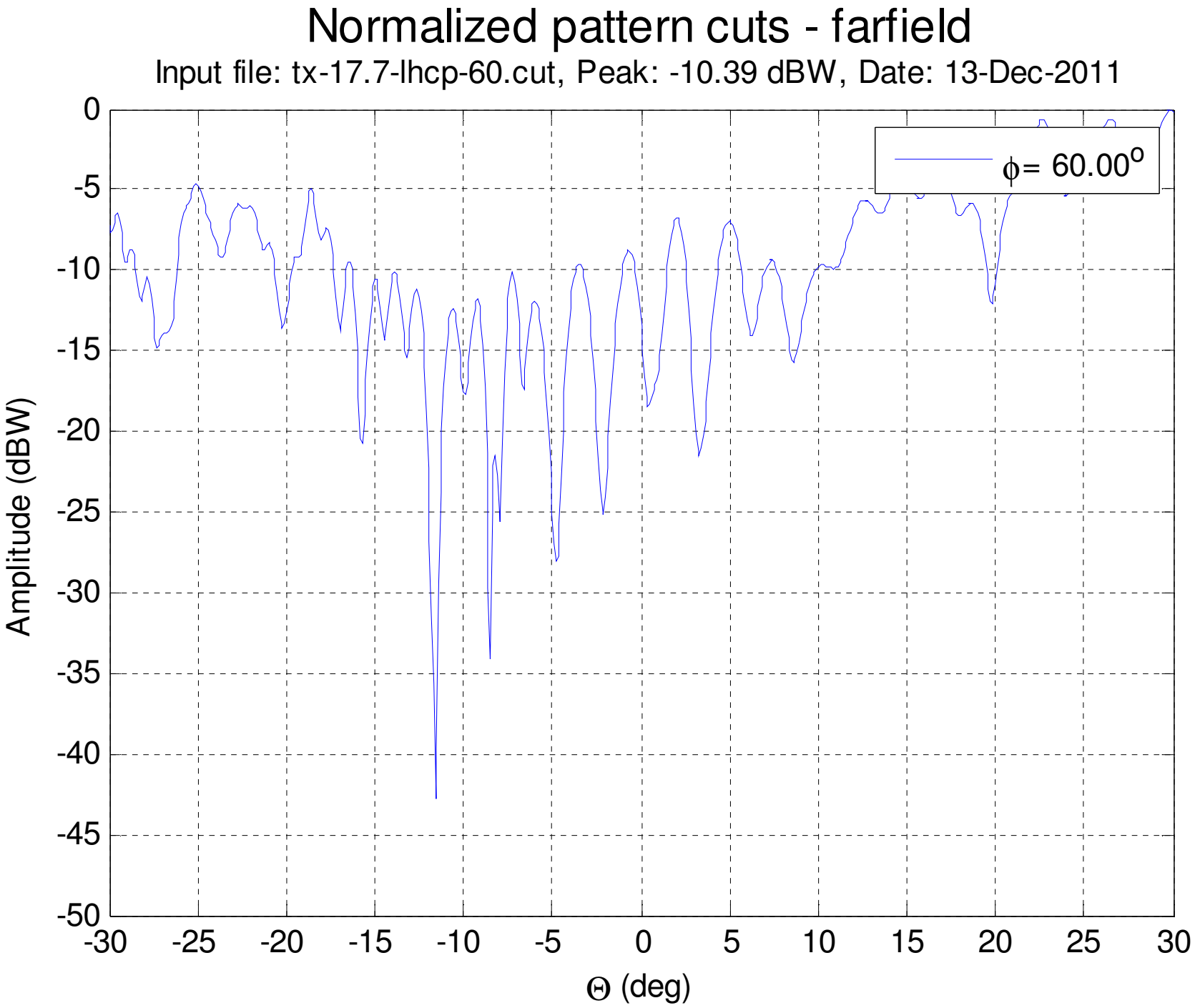

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -7.14 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -8.89 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -9.98 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -13.73 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

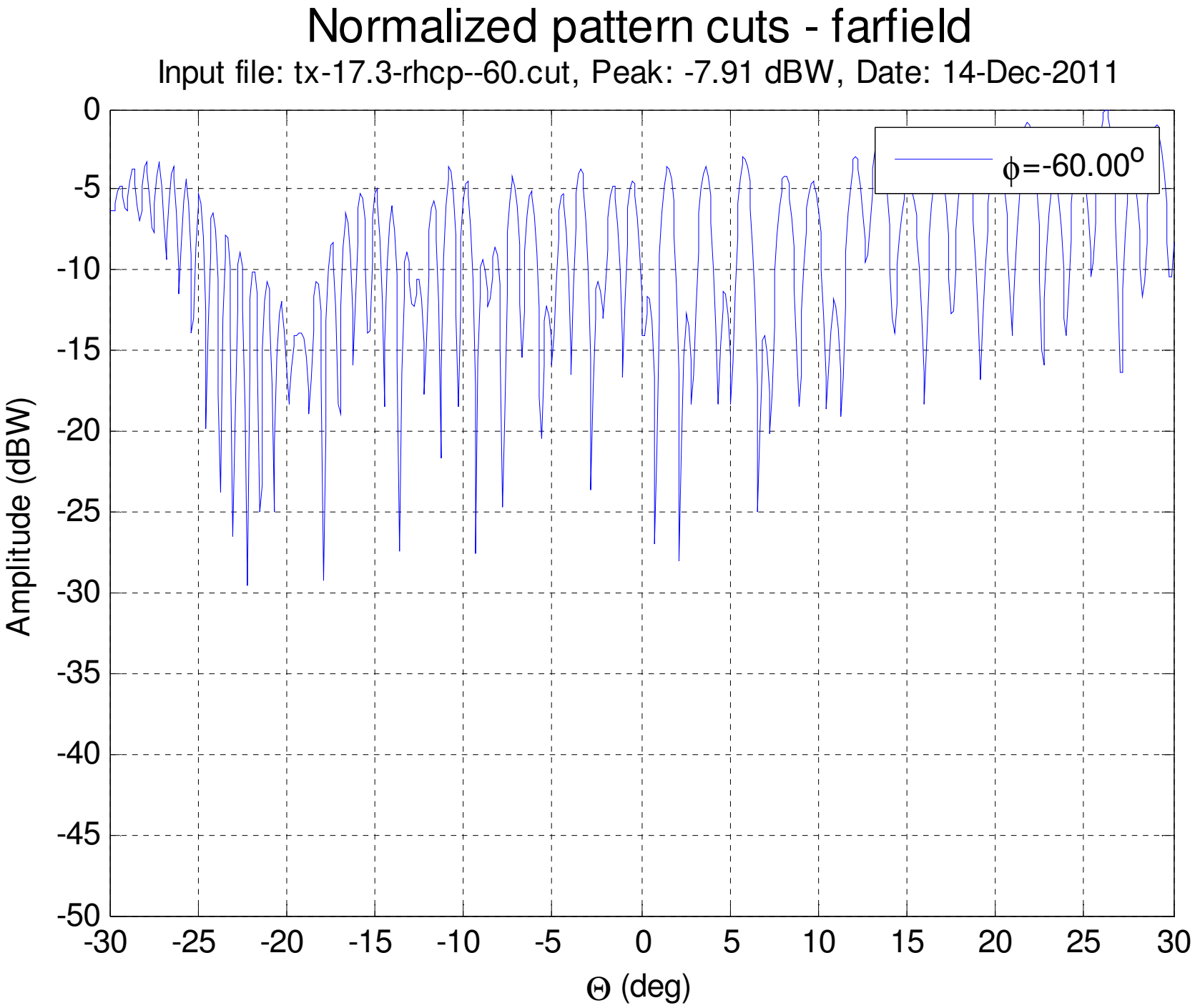

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -9.88 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

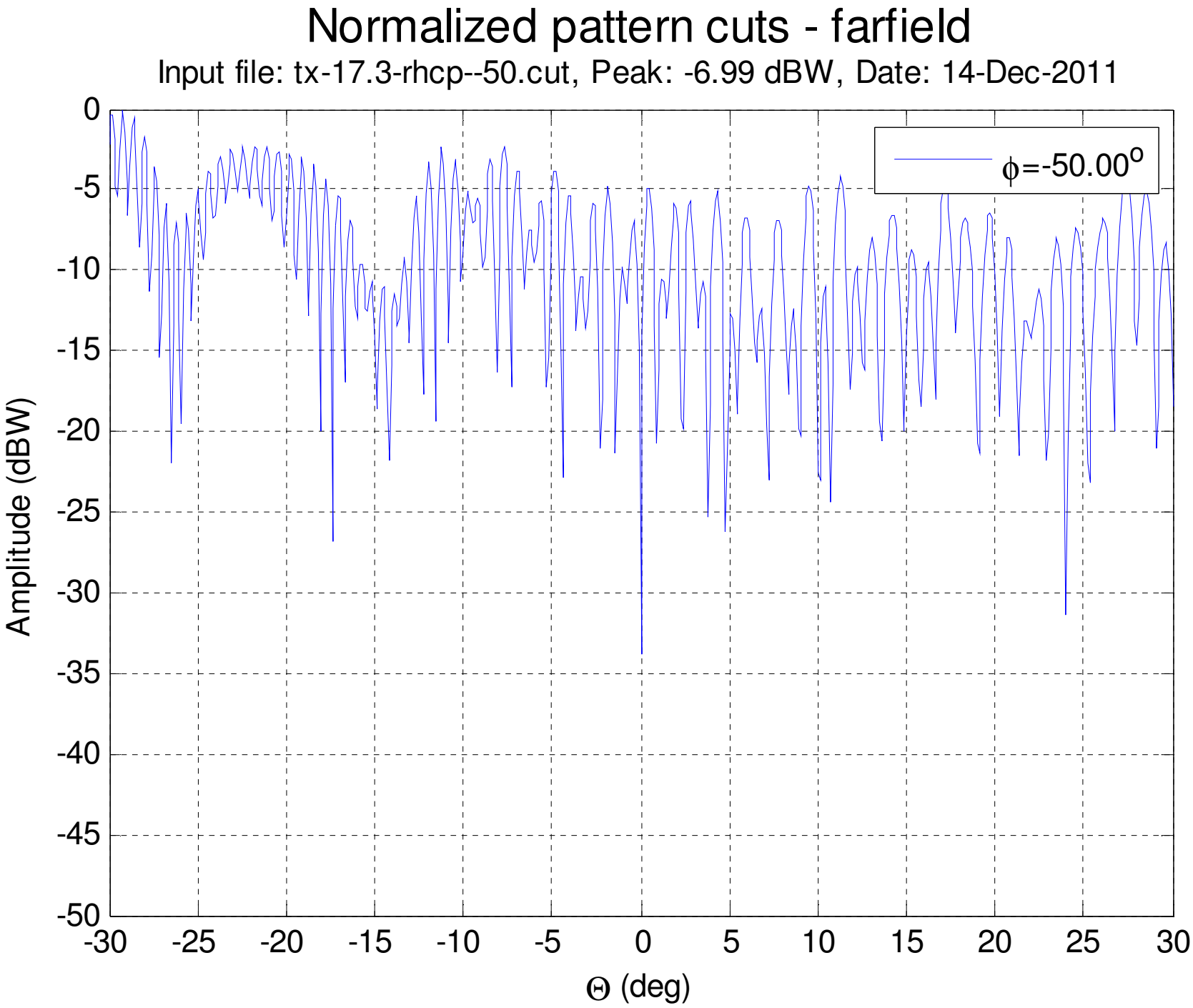

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -10.39 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

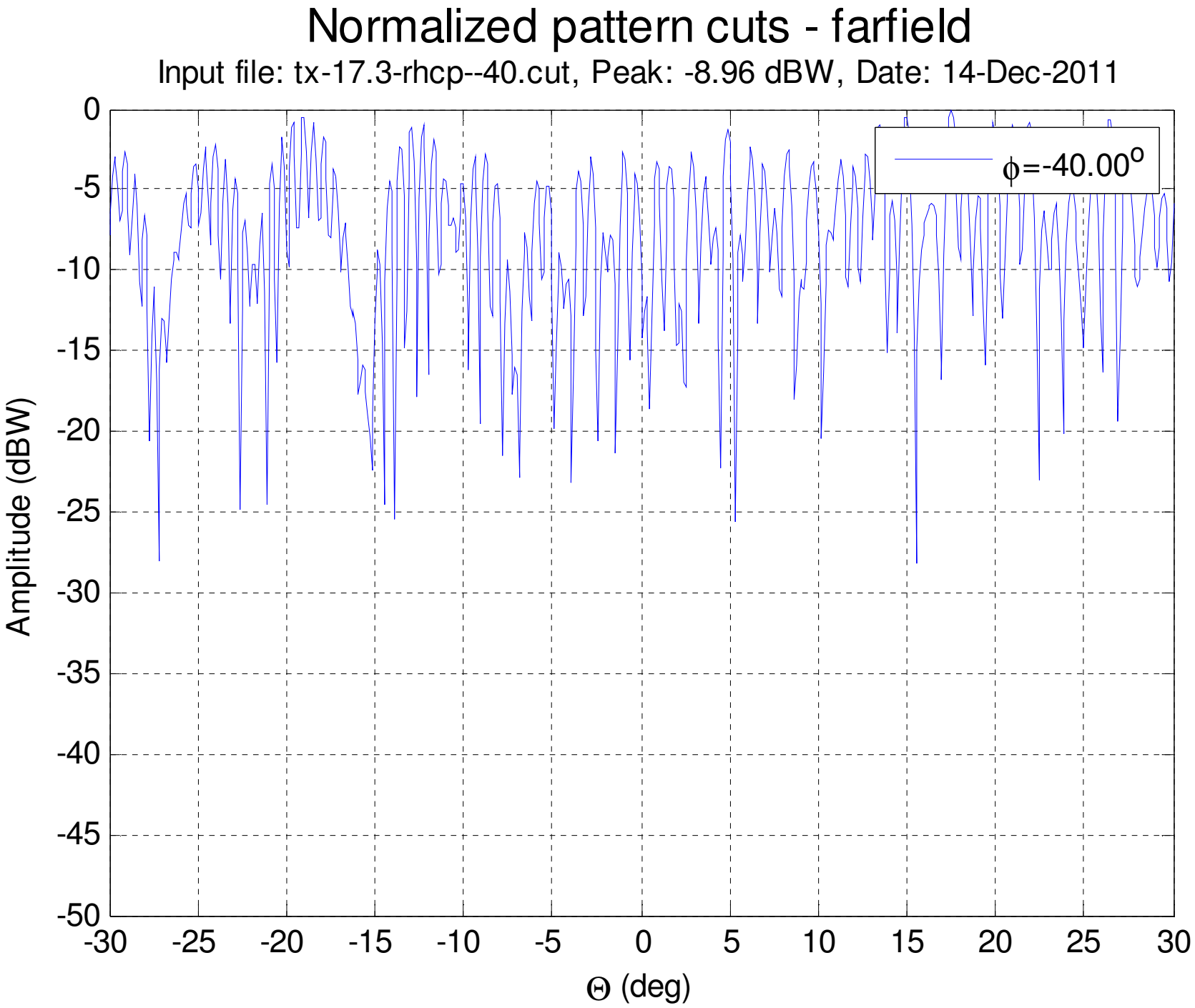
Spot Beam04, +X Axis Plots

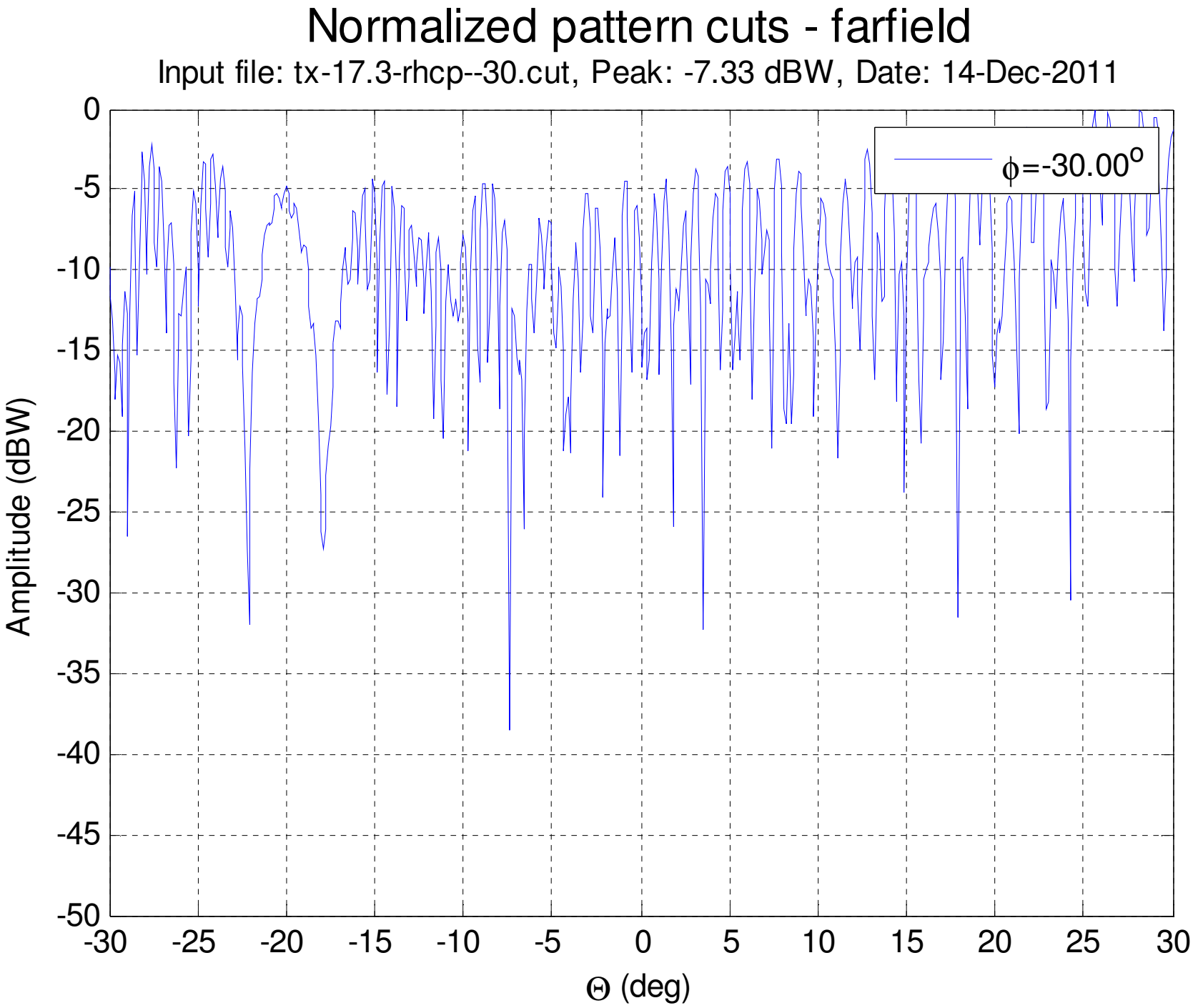
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

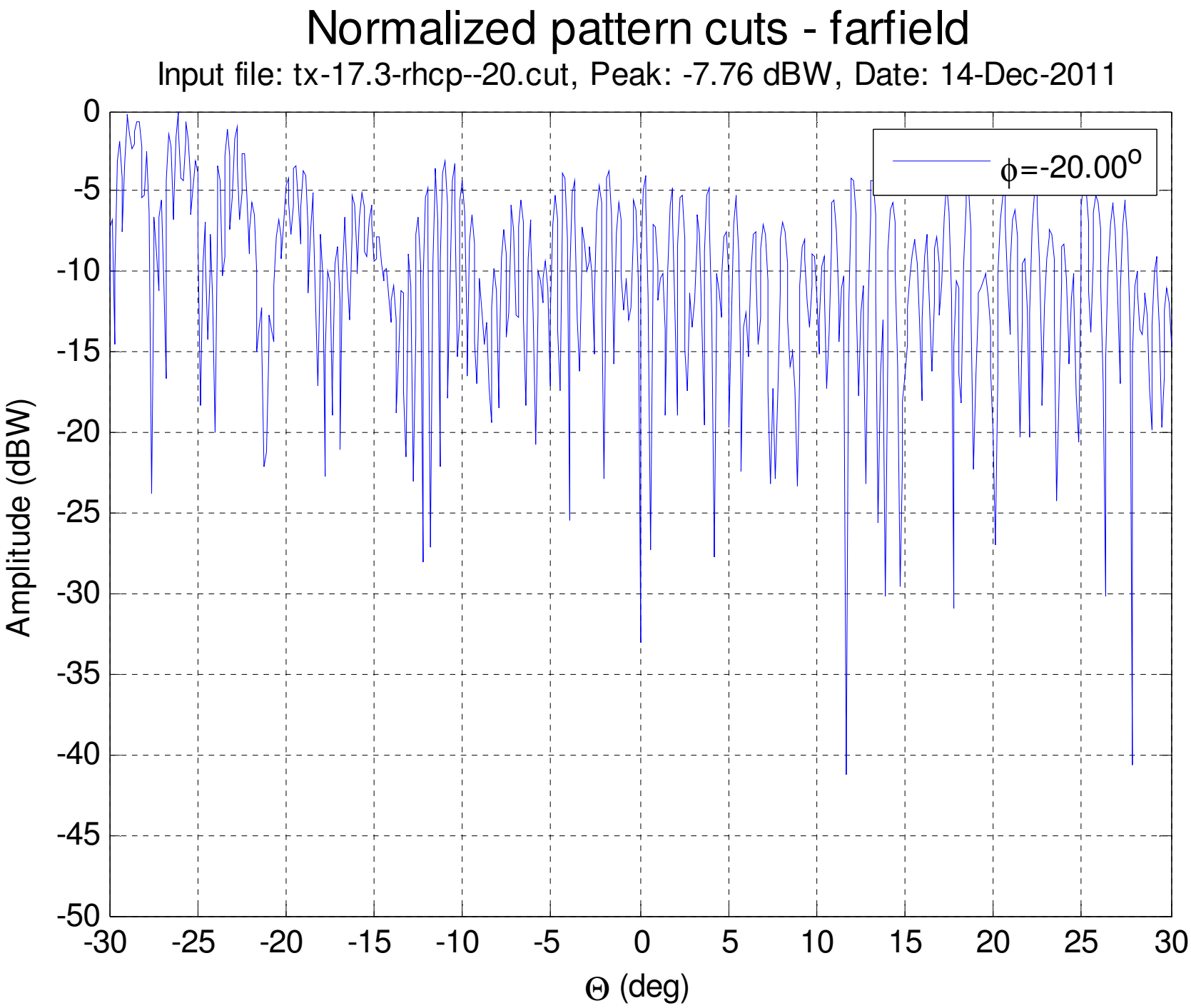
RHCP at 17.3 GHz

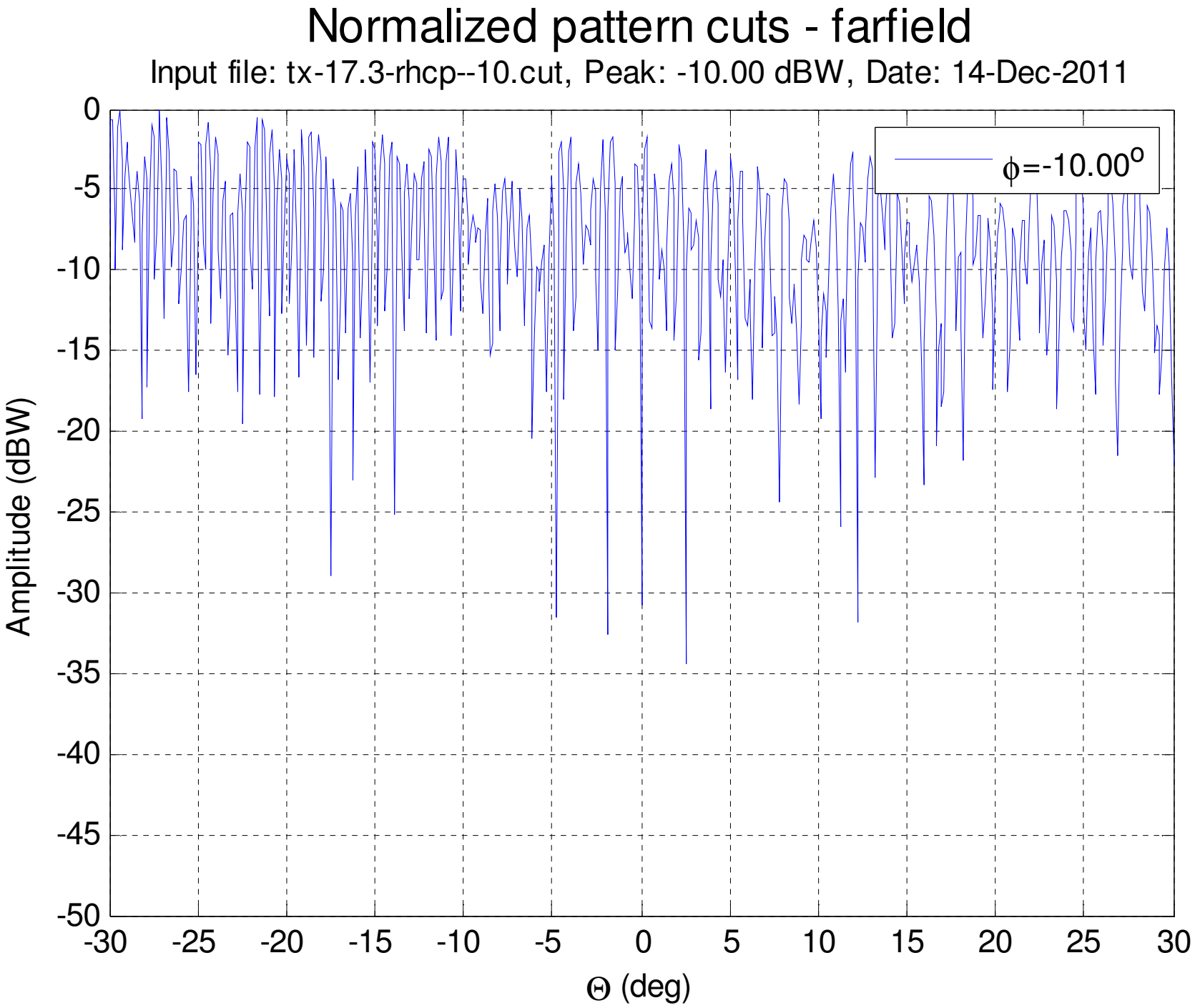

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -7.91 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

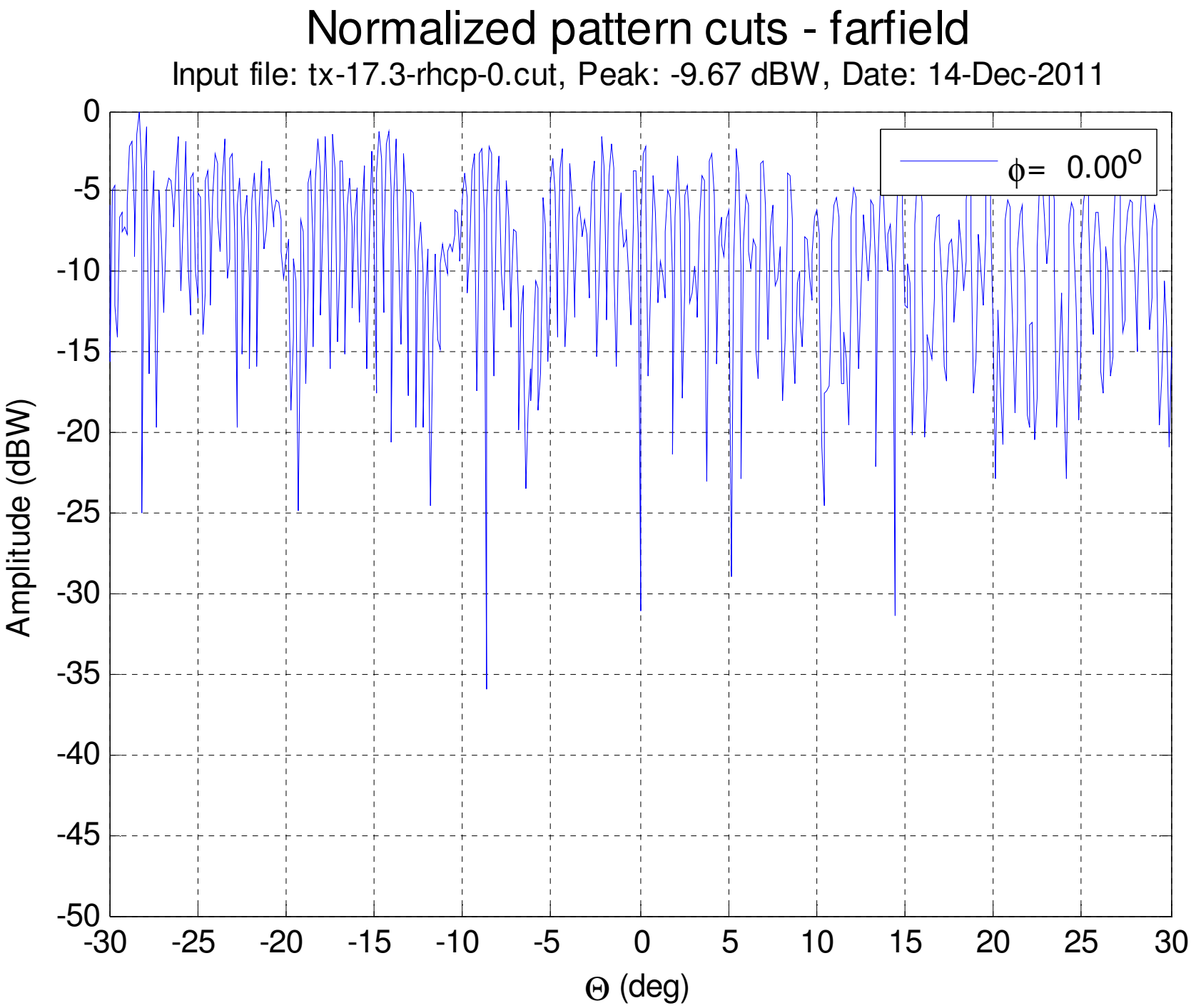

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -6.99 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

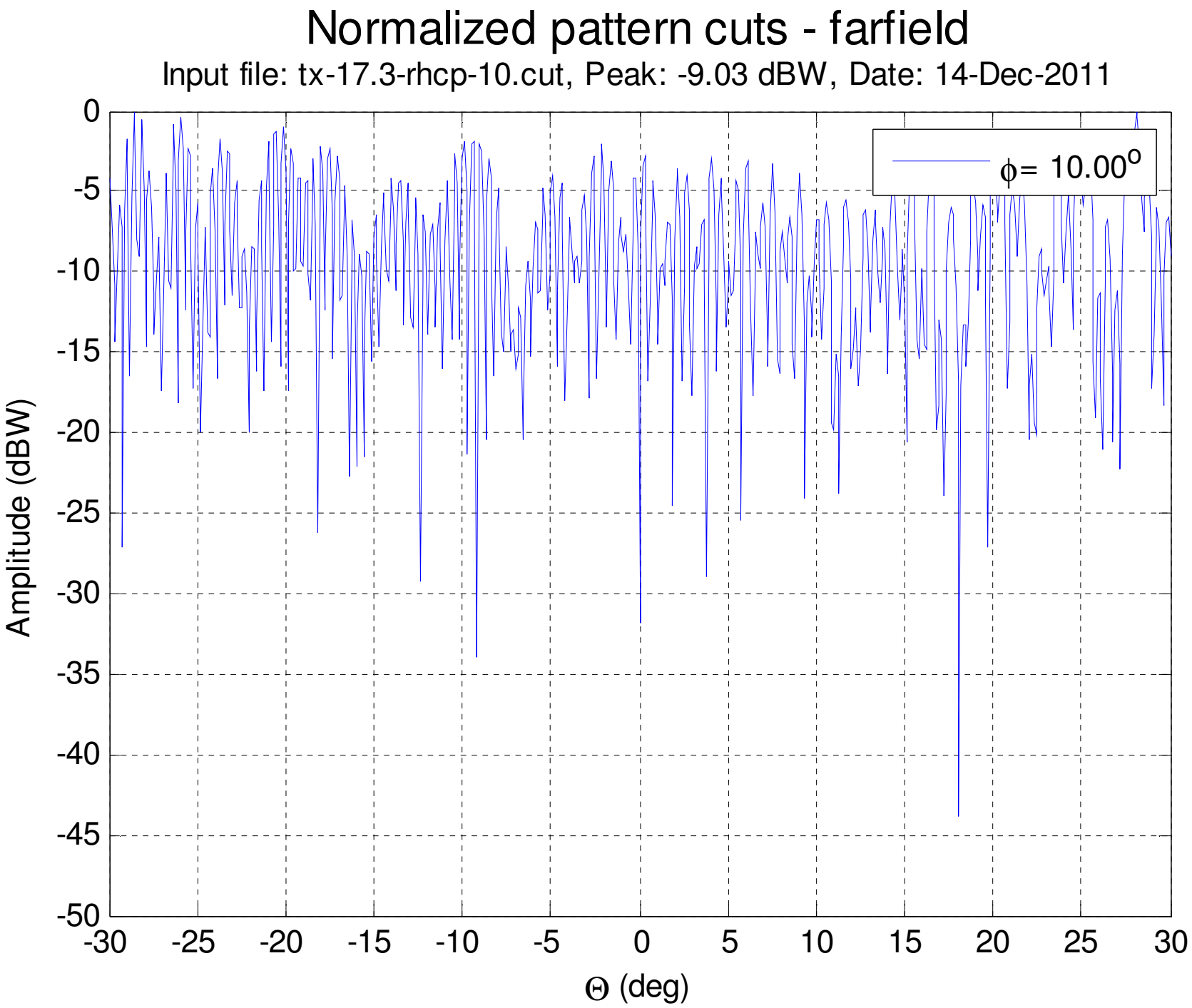

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -8.96 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

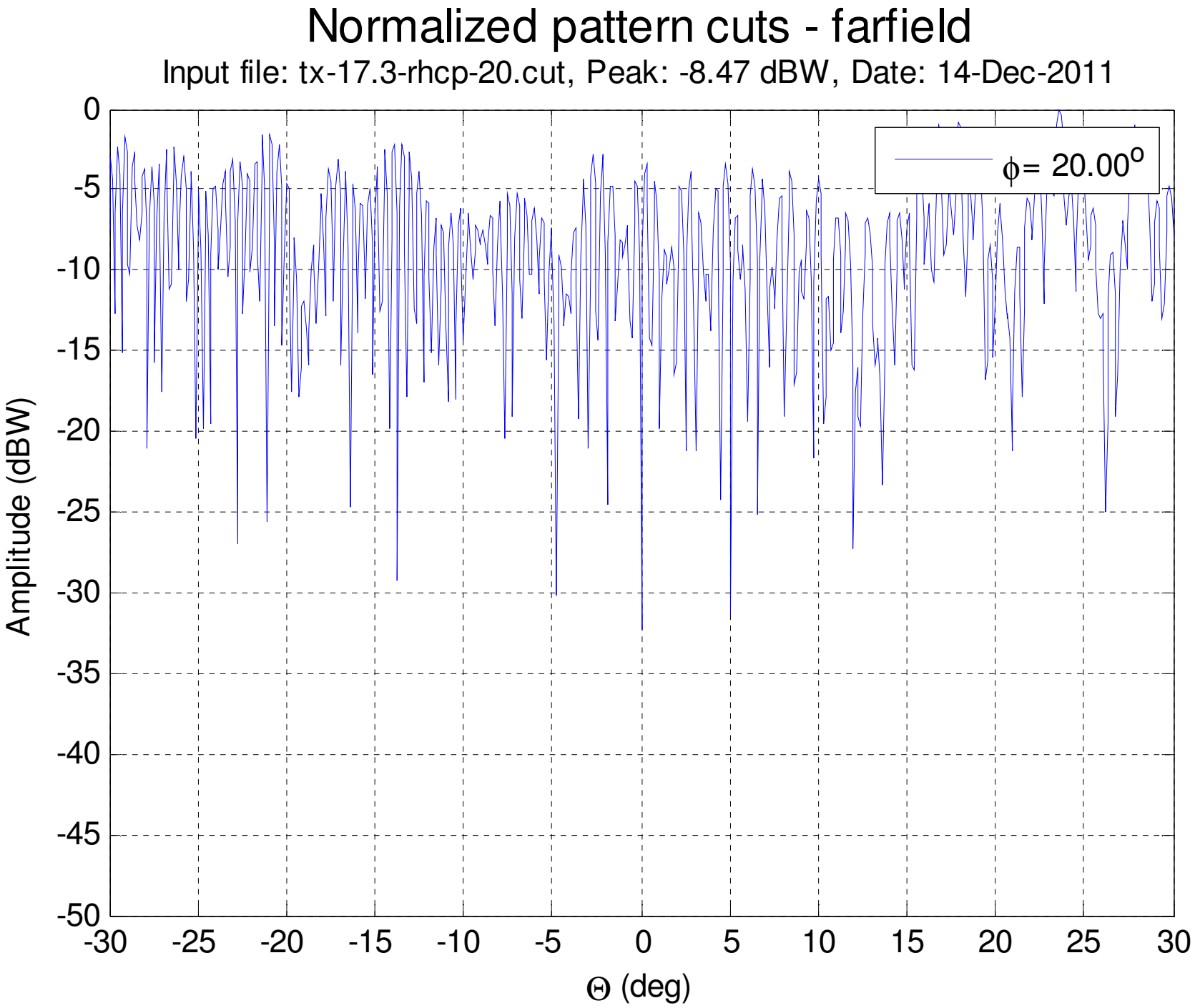

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -7.33 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

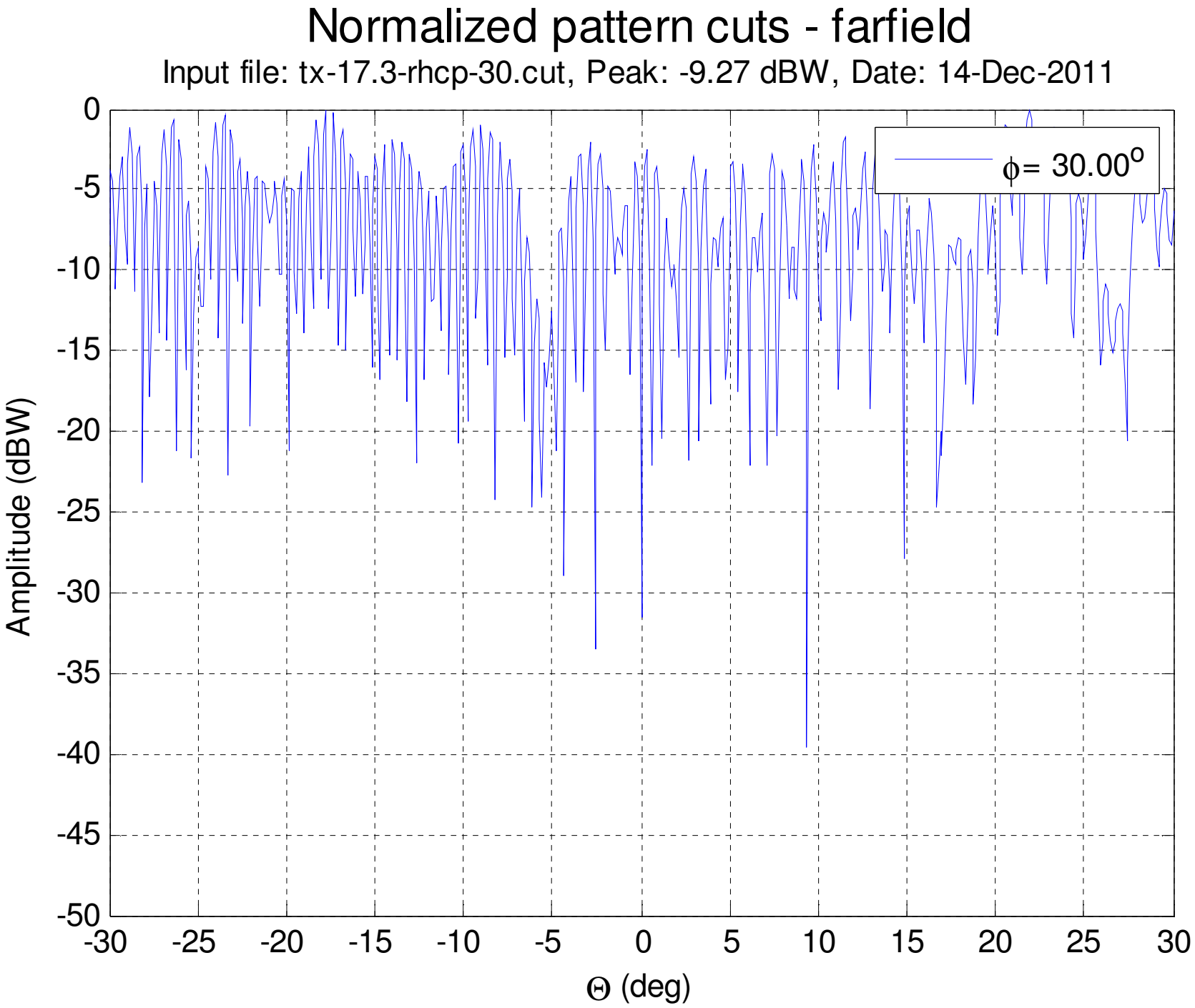

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -7.76 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

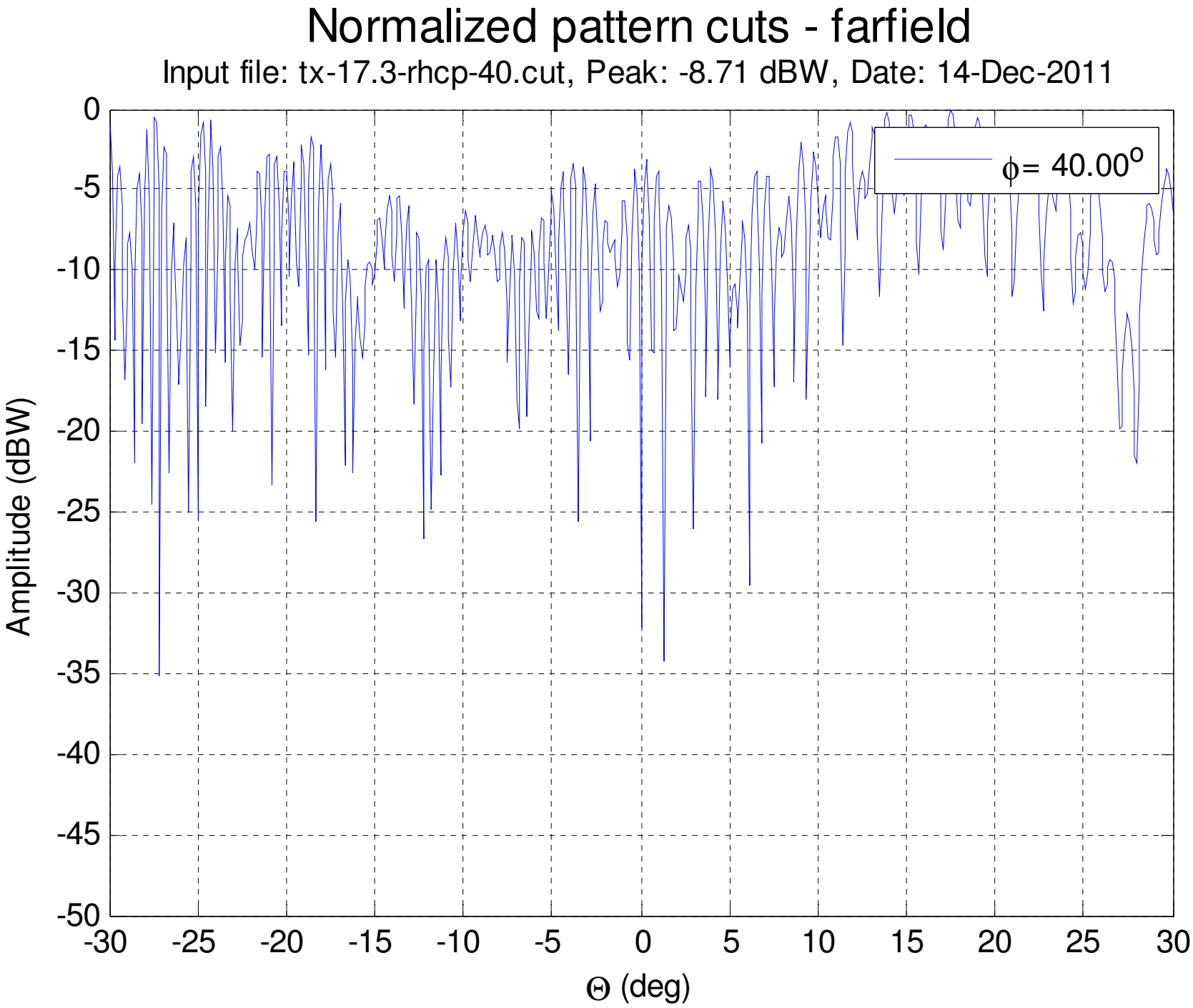

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -10.00 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

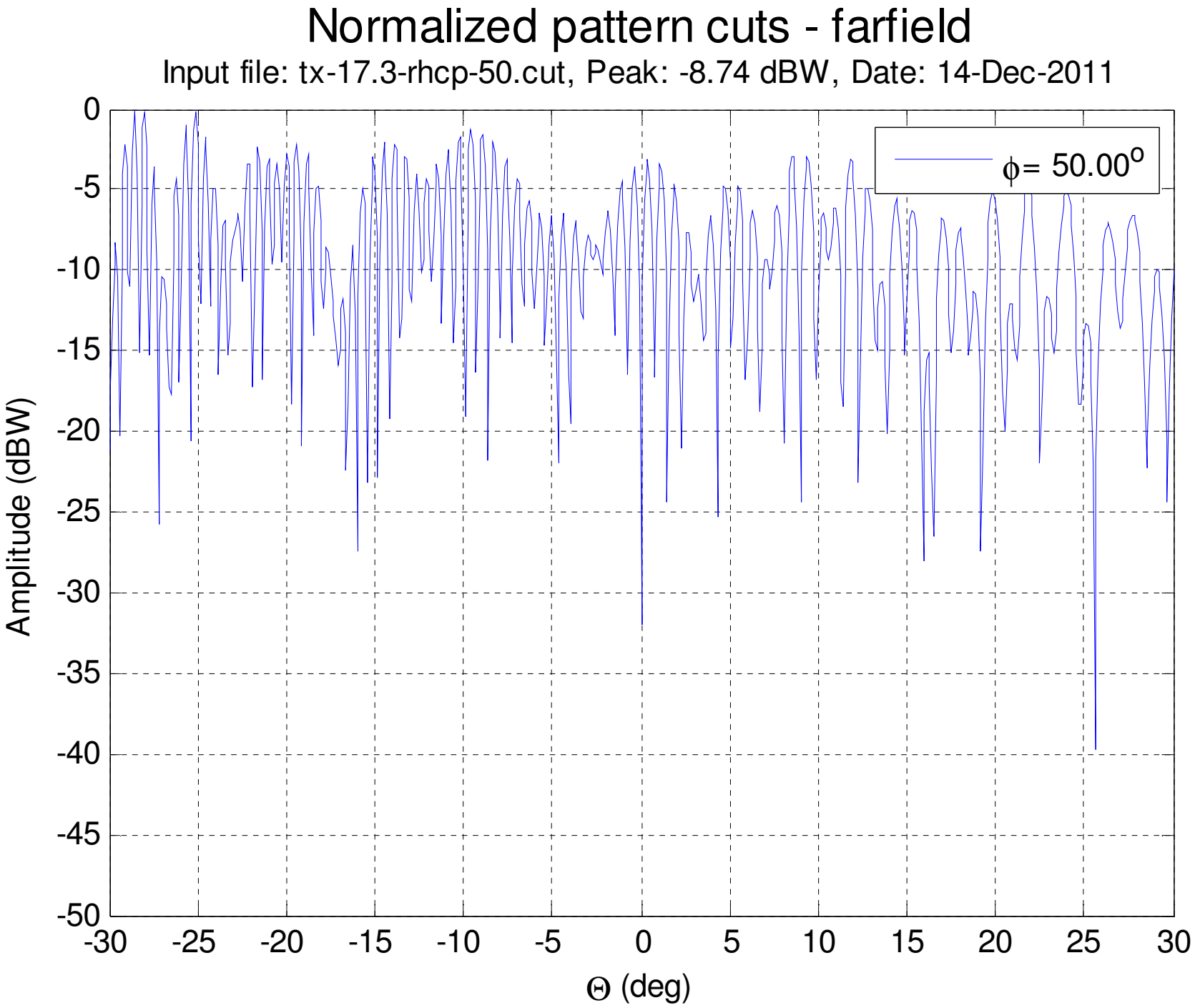

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -9.67 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

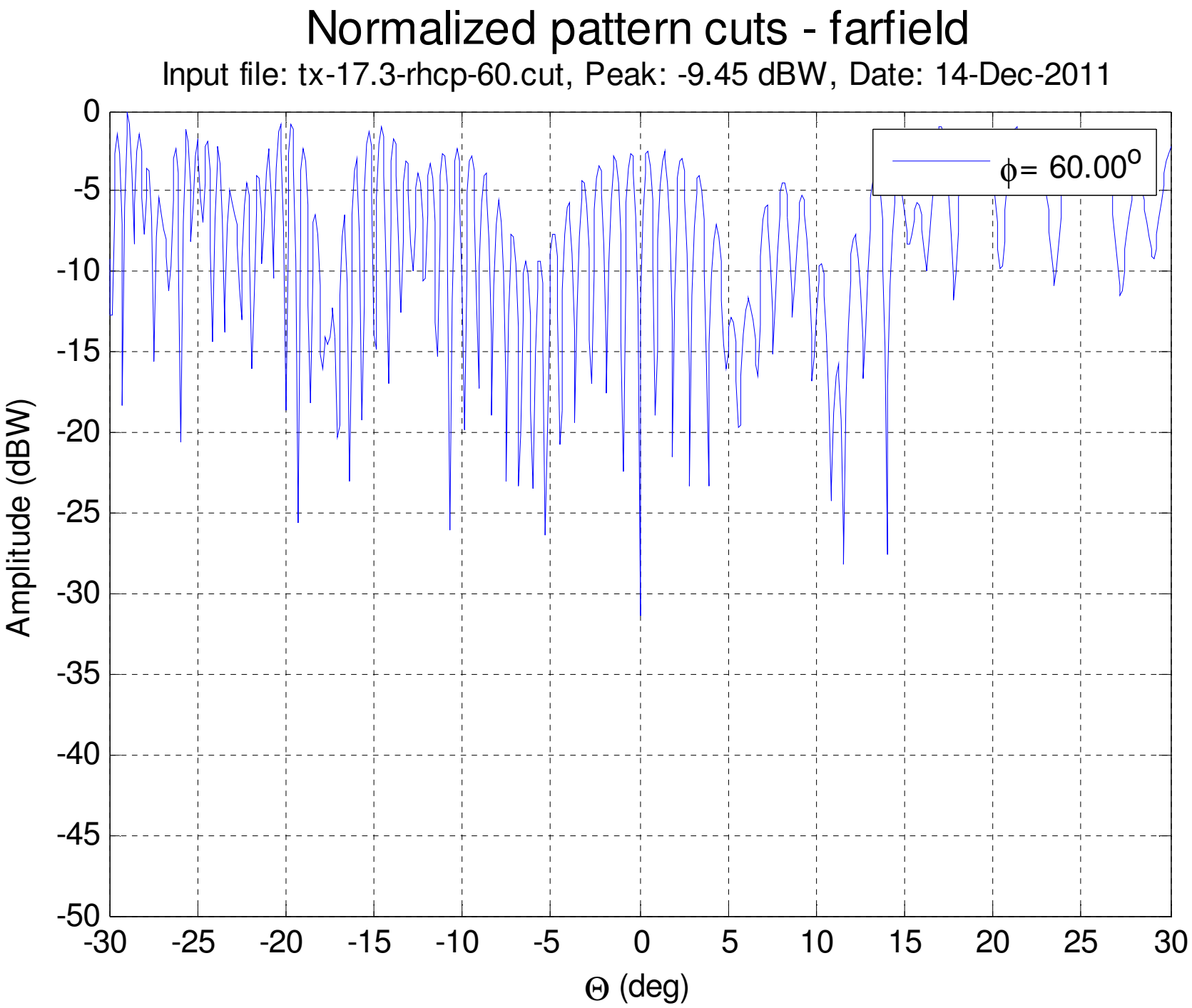

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -9.03 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -8.47 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

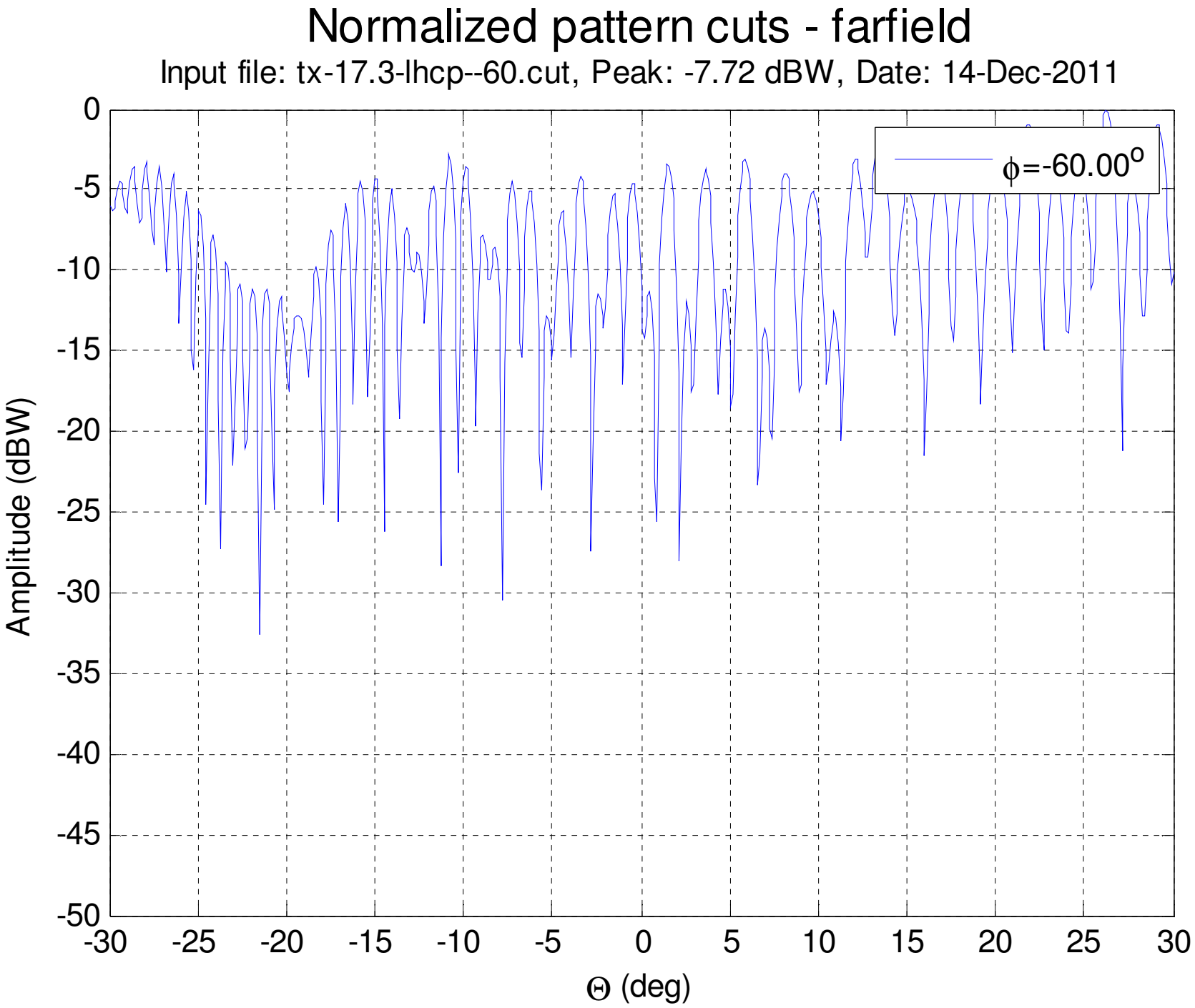

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -9.27 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

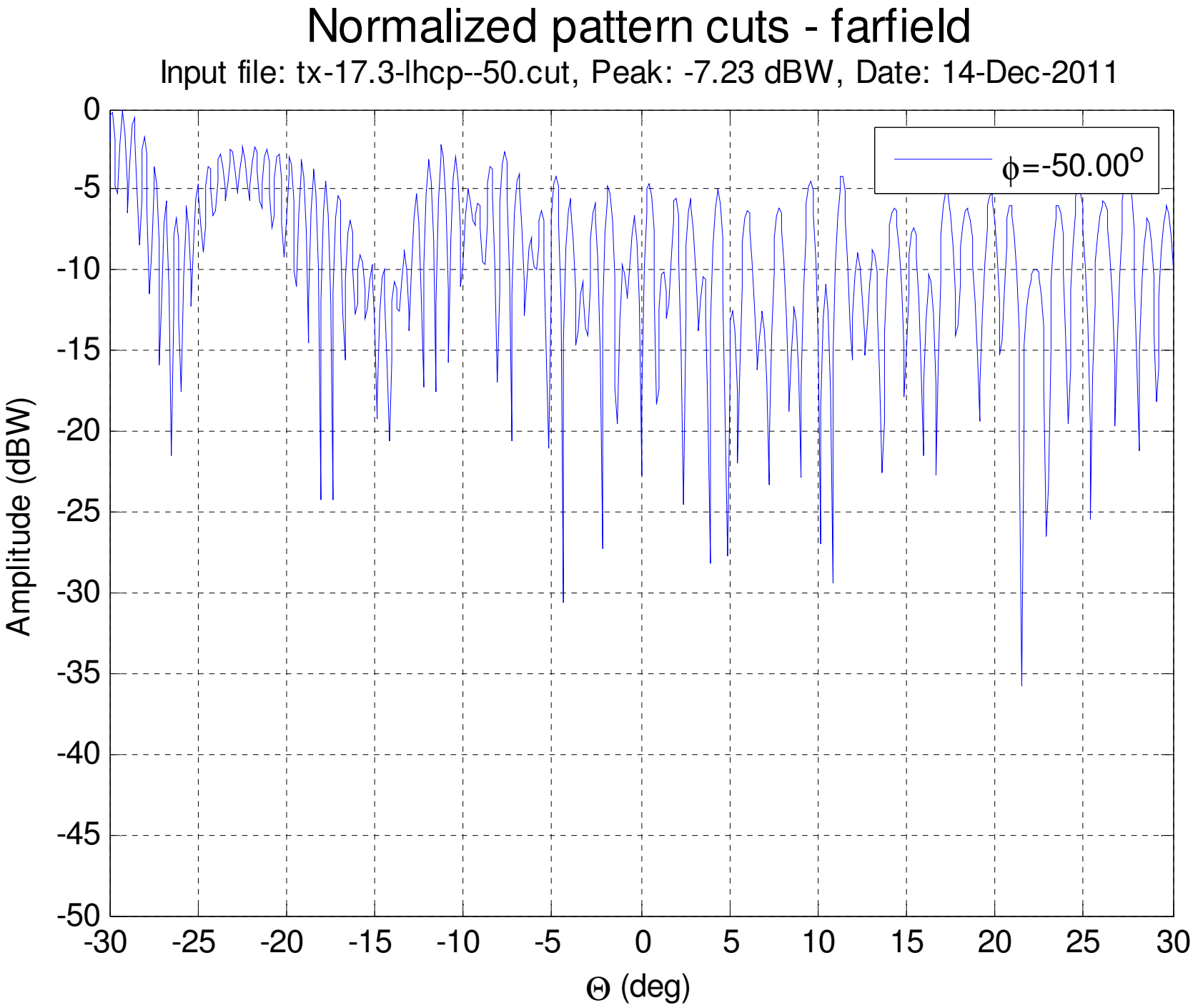

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -8.71 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

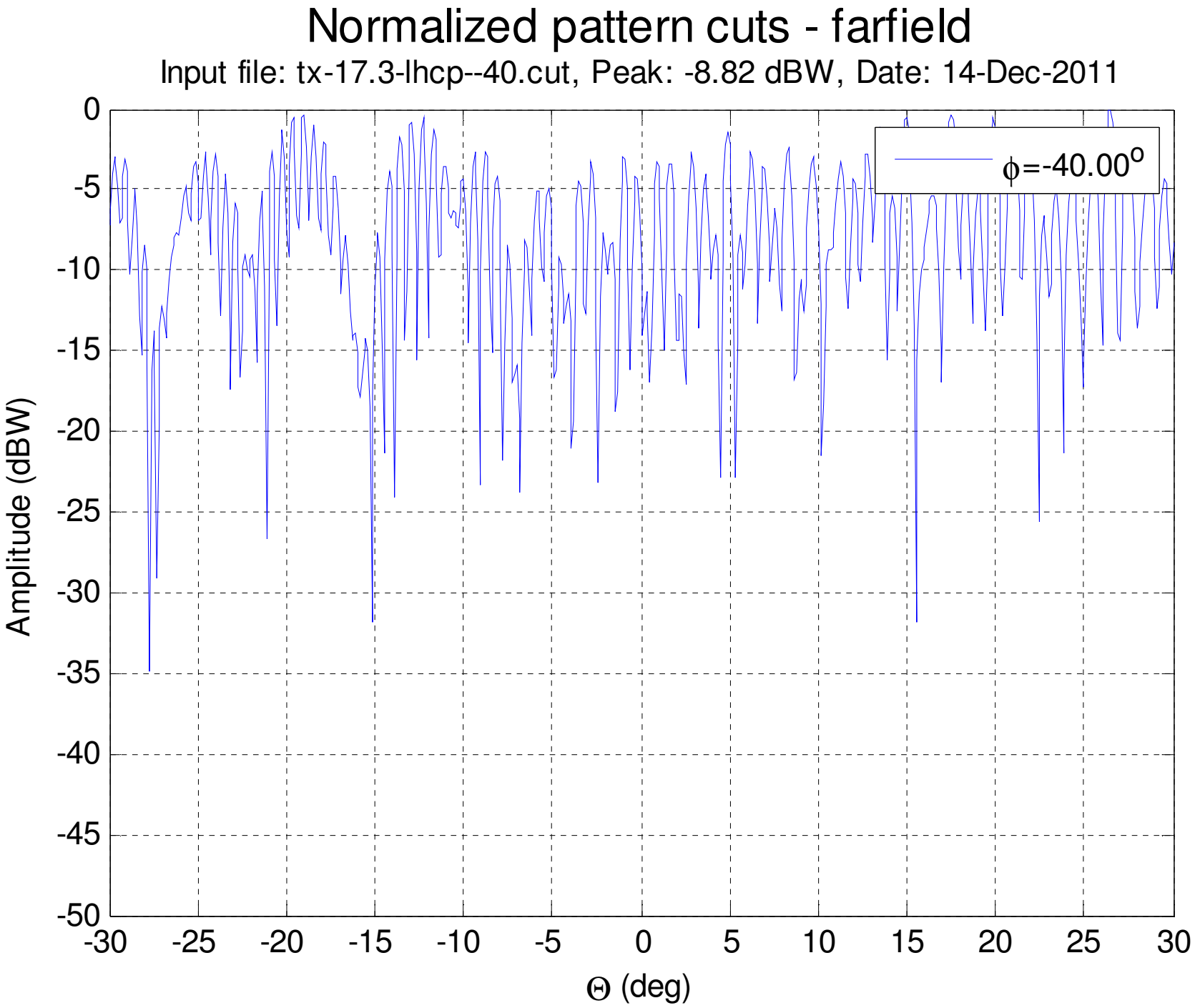

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -8.74 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

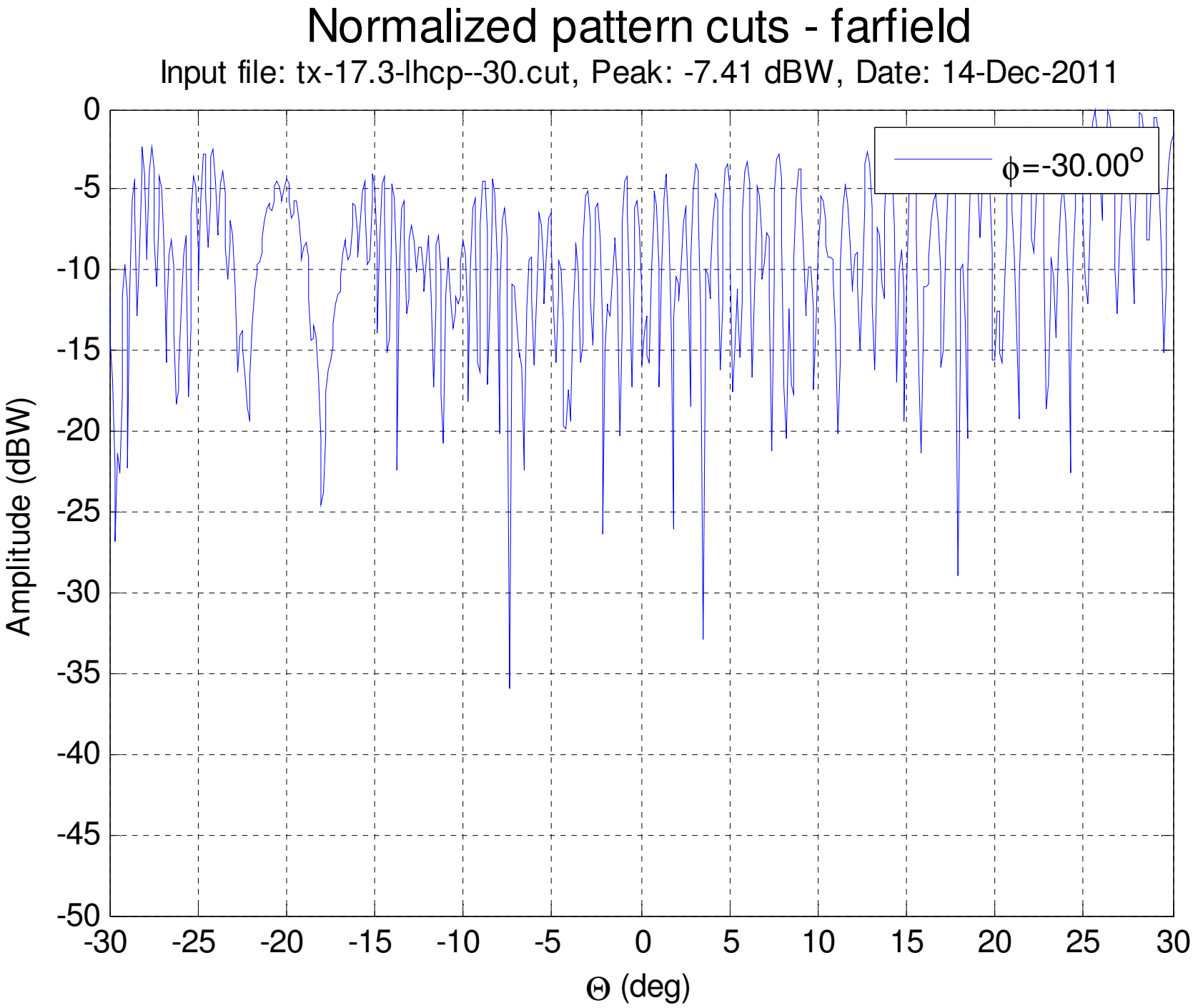

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.45 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

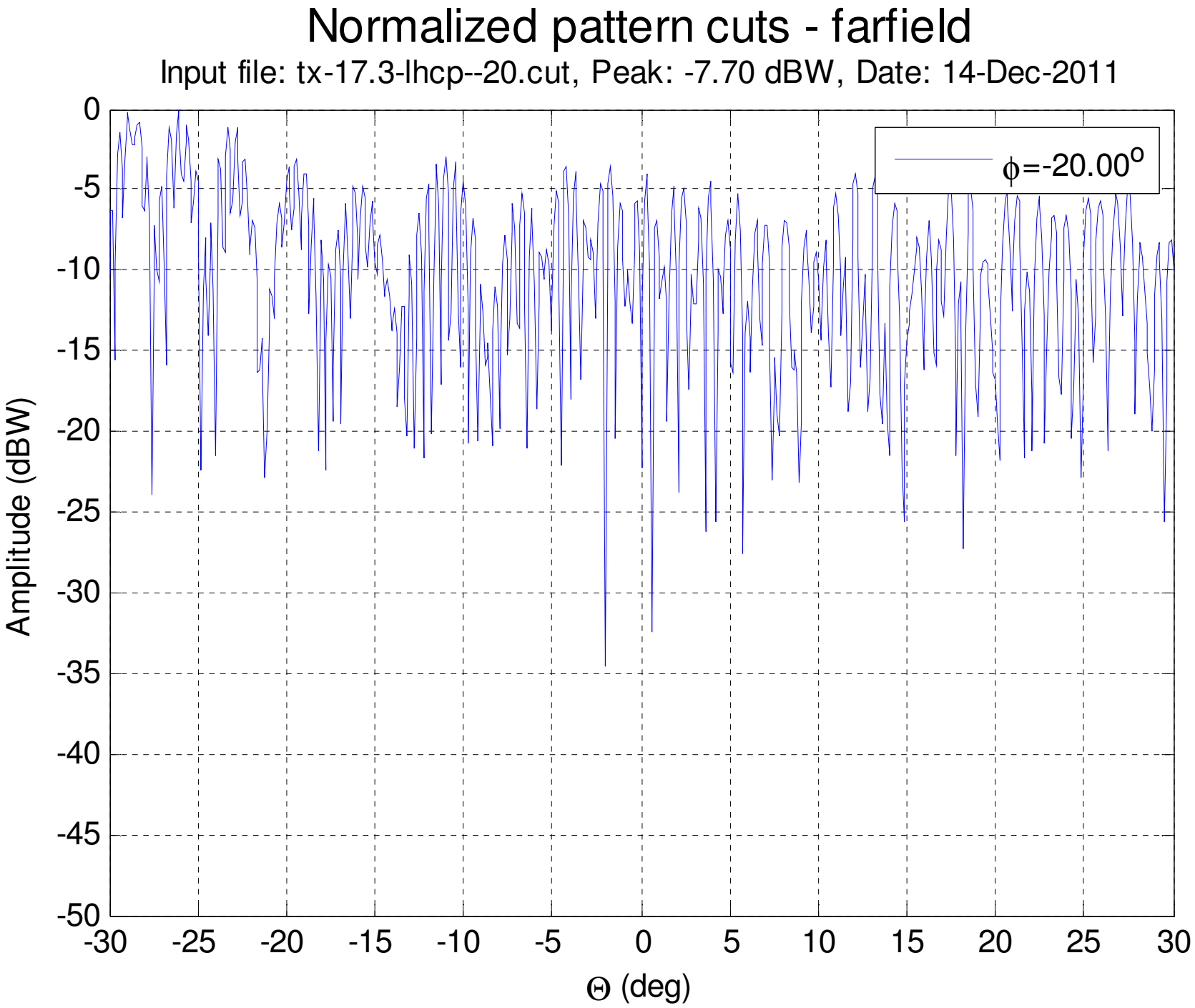
LHCP at 17.3 GHz

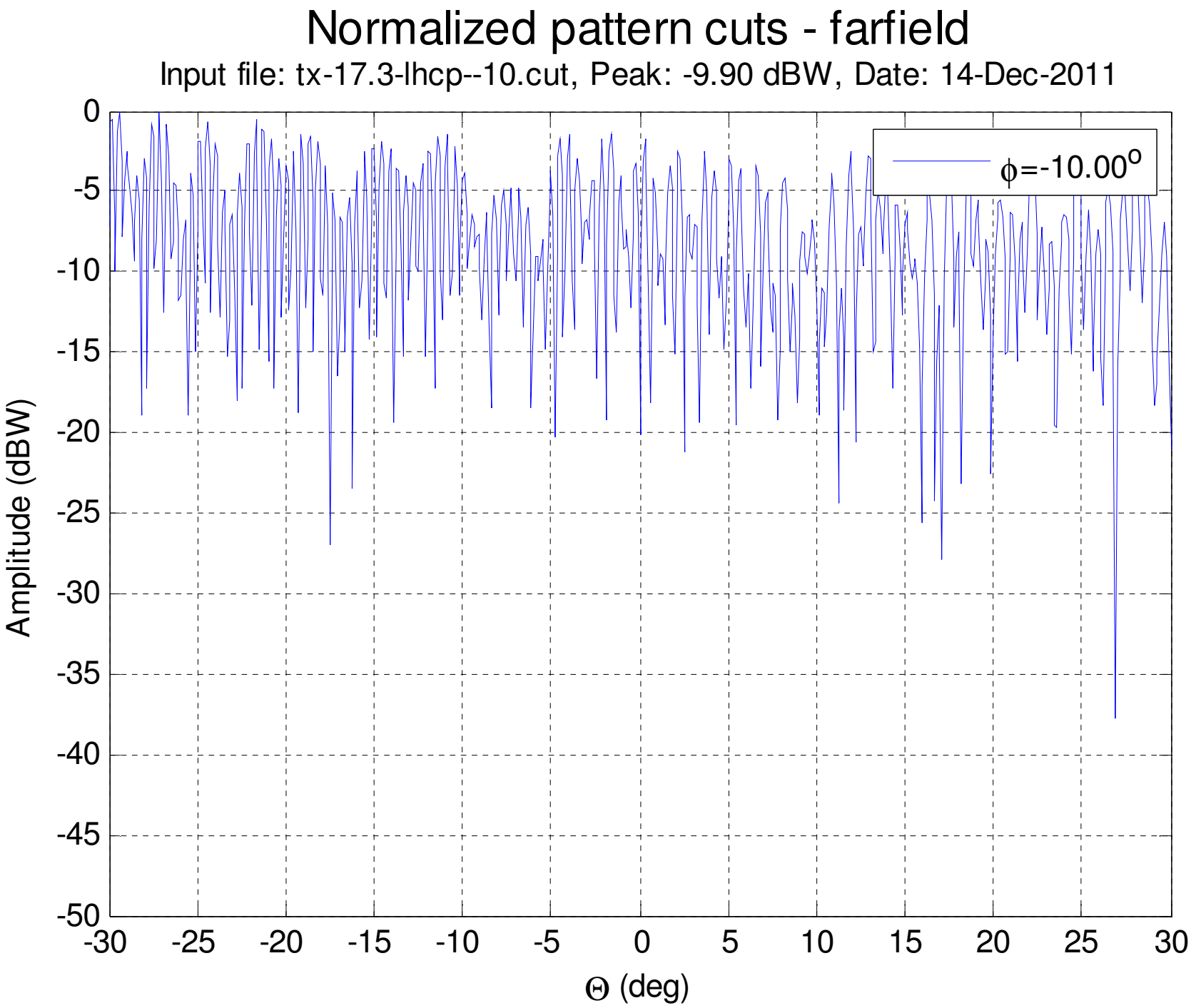

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -7.72 dBW, Date: 14-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

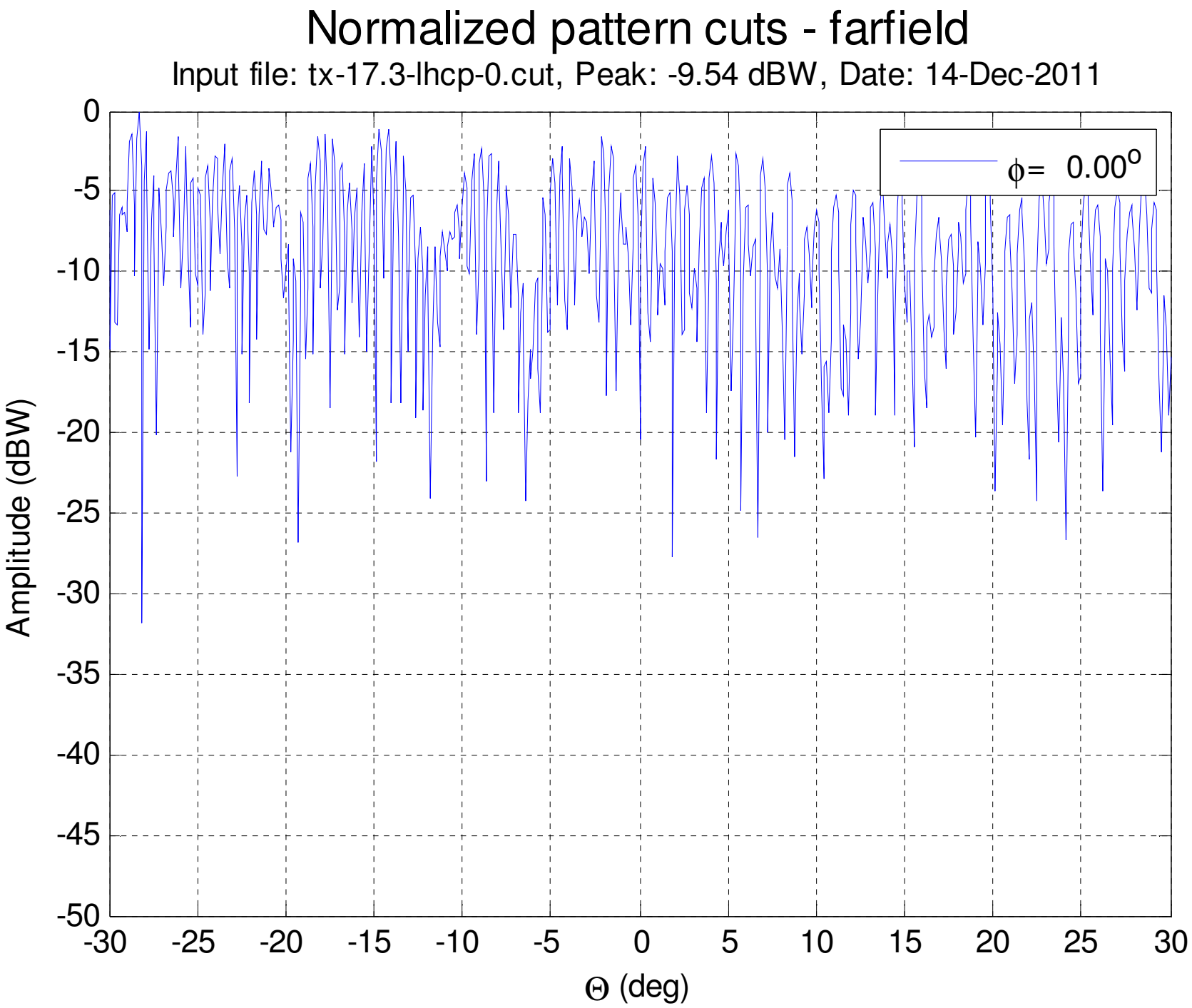

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -7.23 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

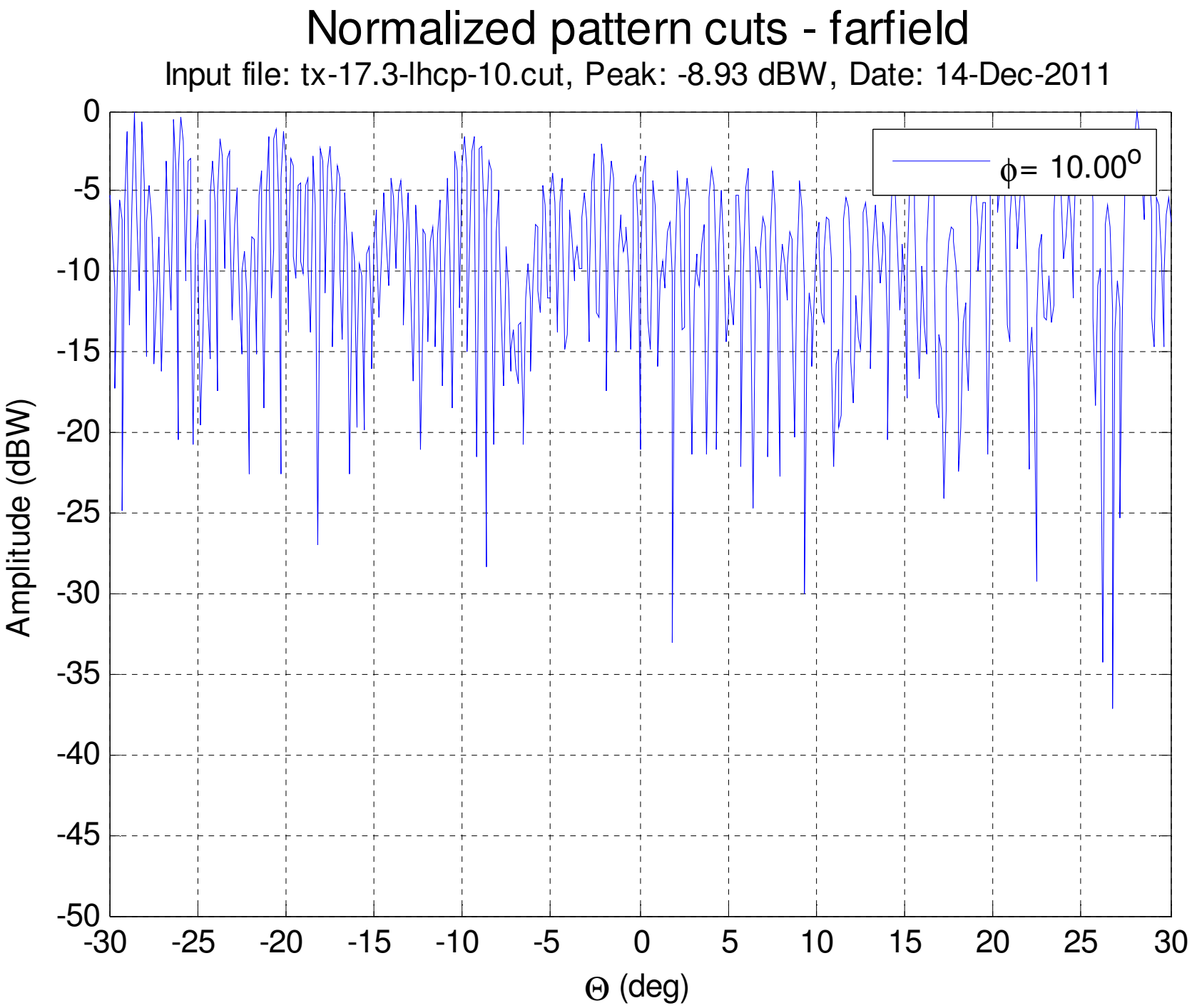

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -8.82 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

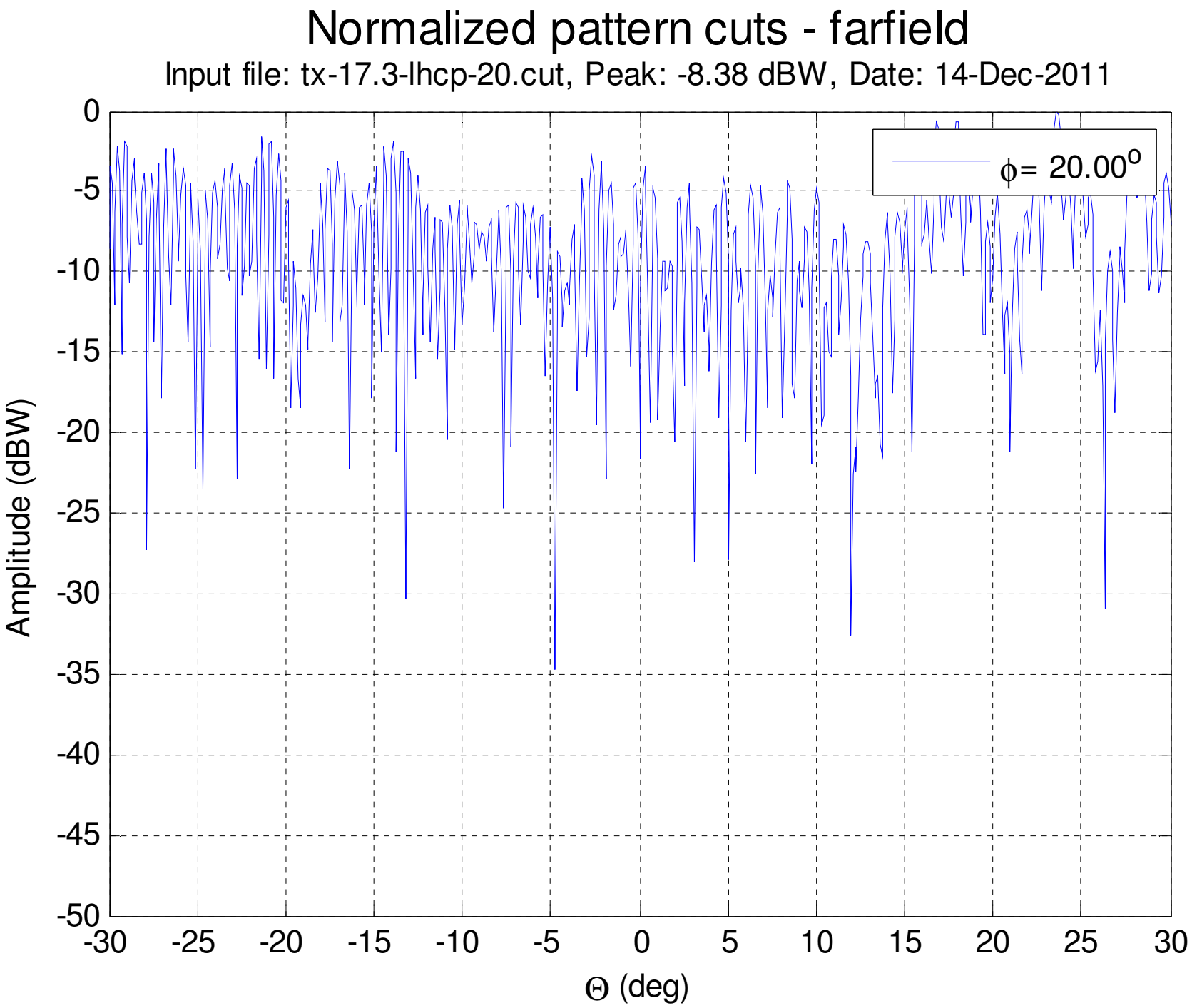

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -7.41 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

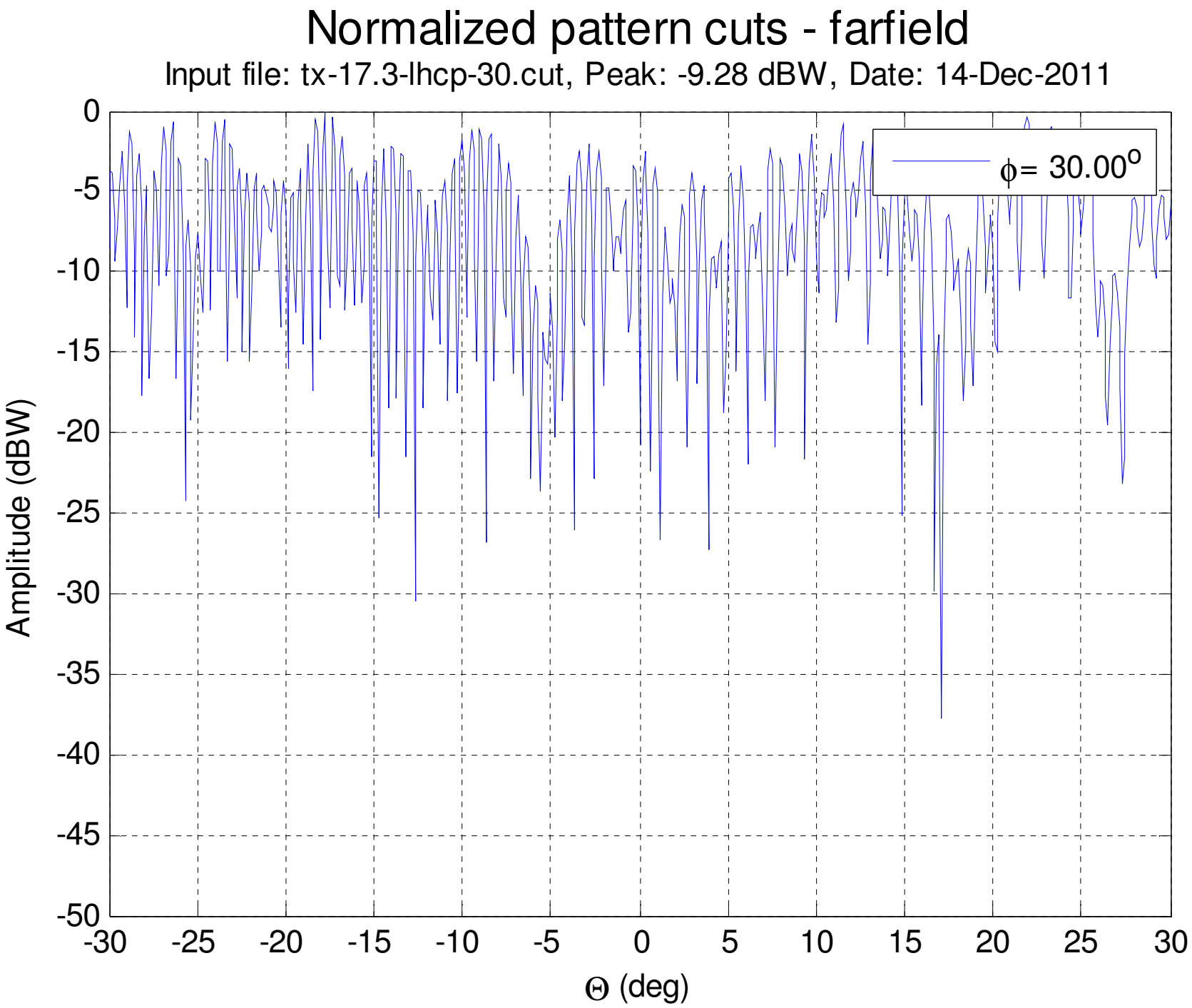

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -7.70 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

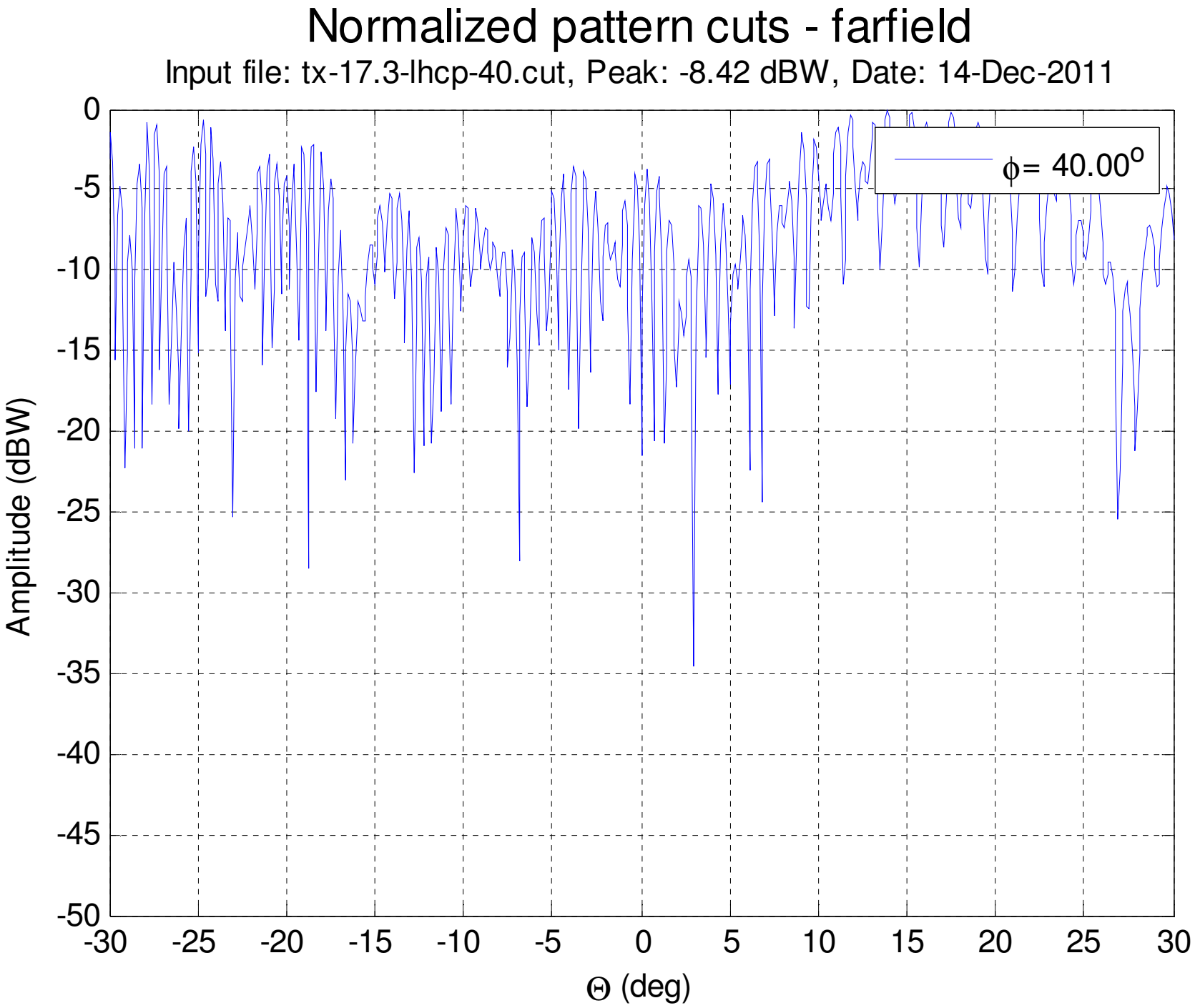

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -9.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

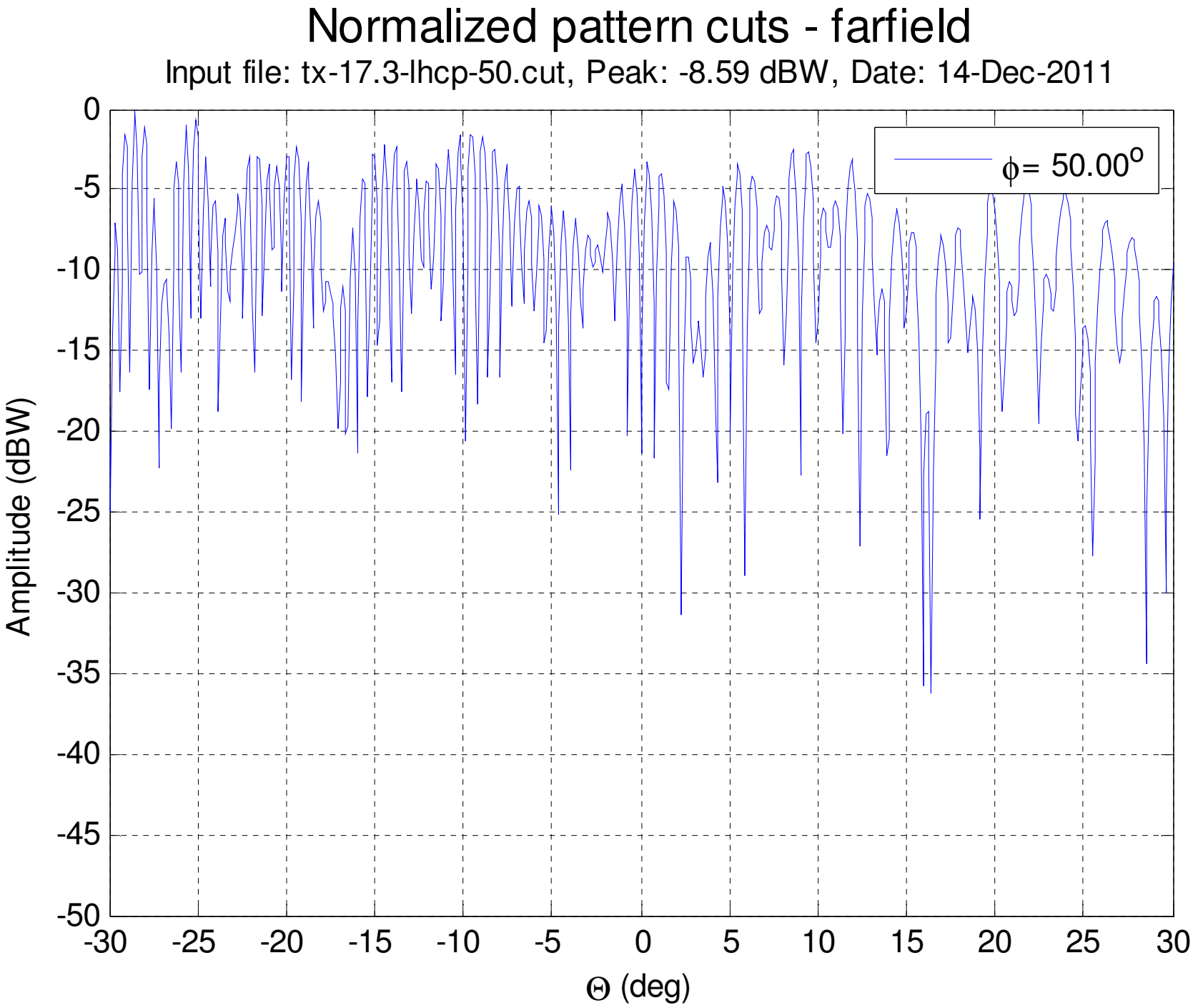

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -9.54 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

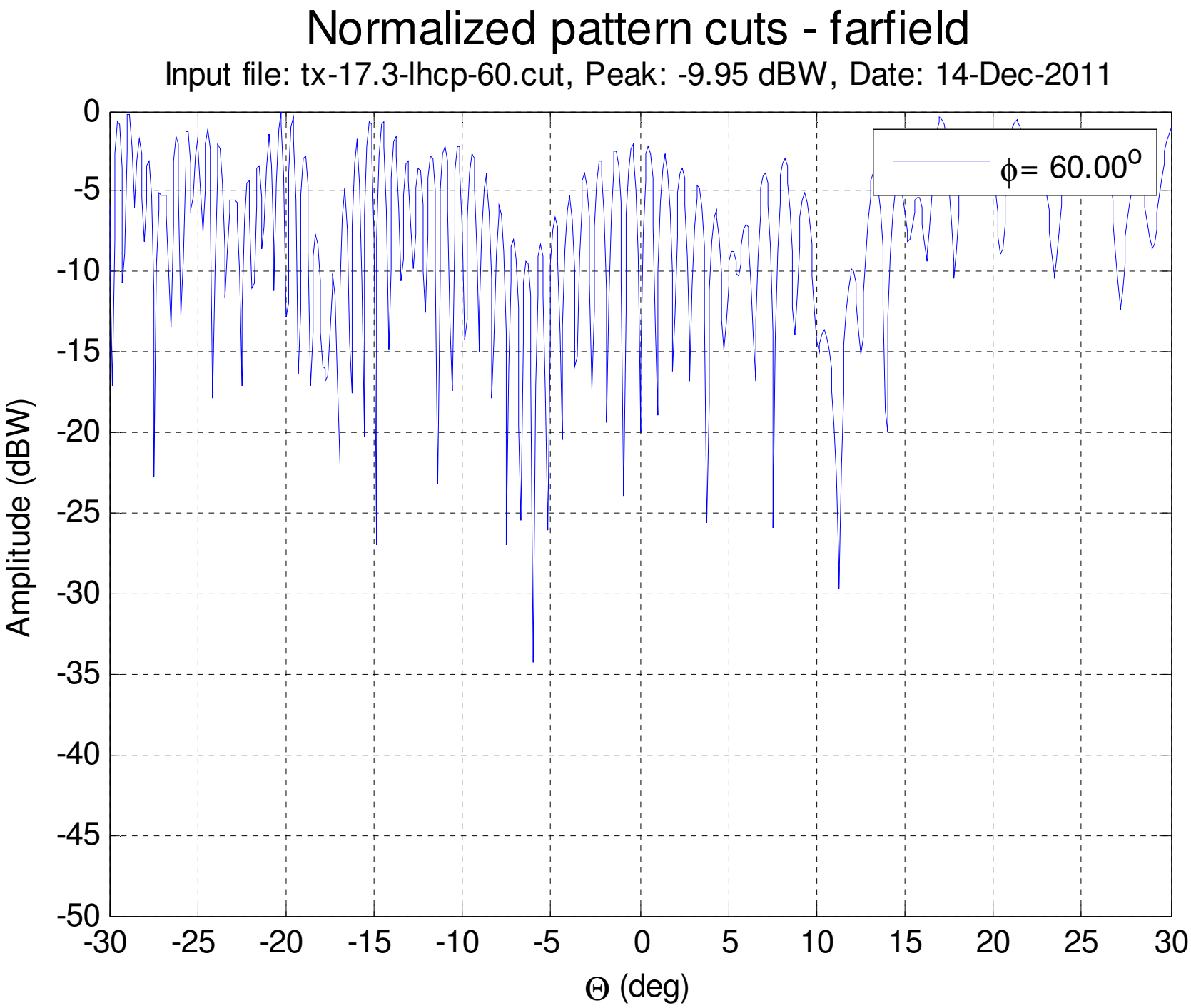

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -8.93 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -8.38 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

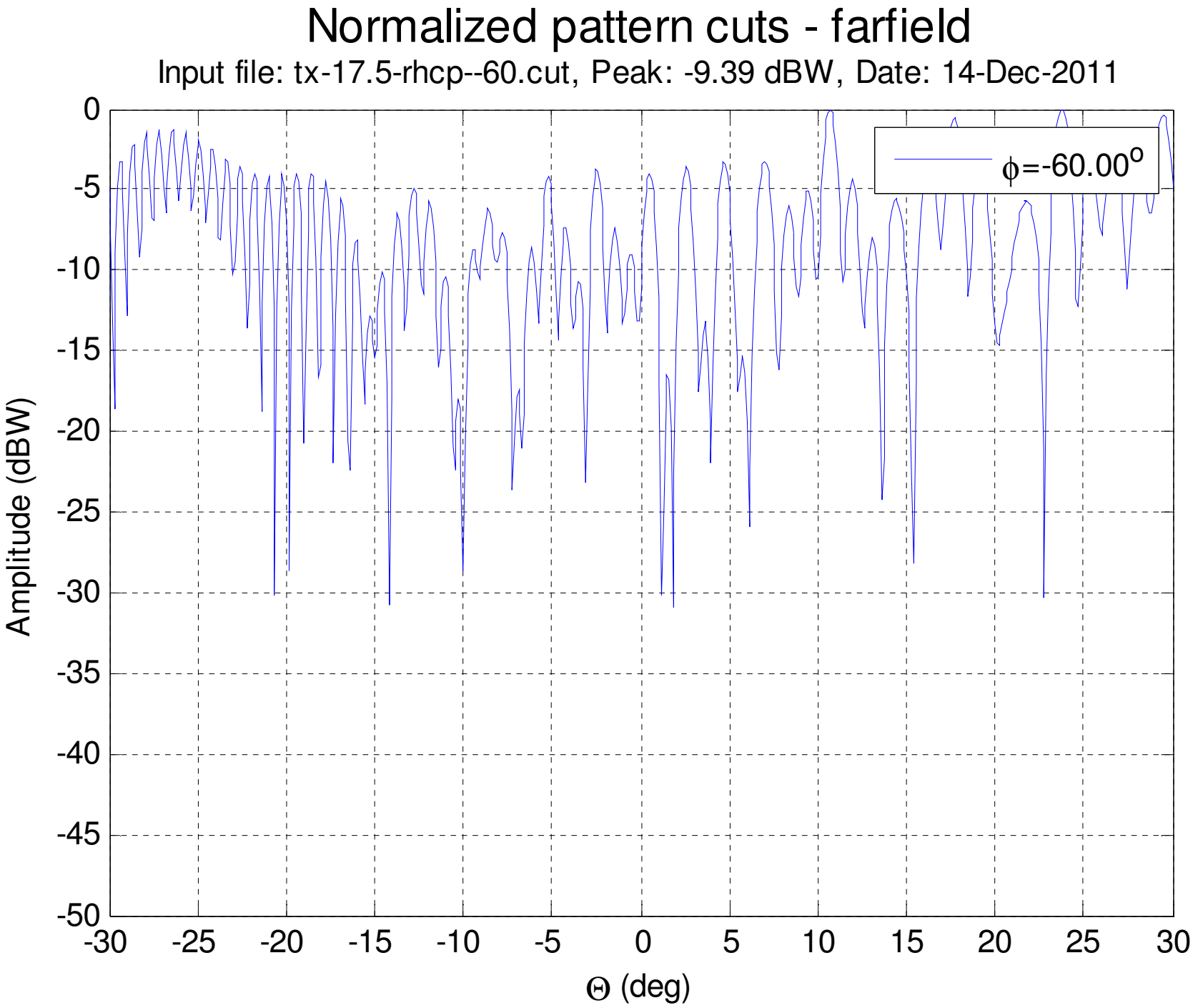

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.28 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

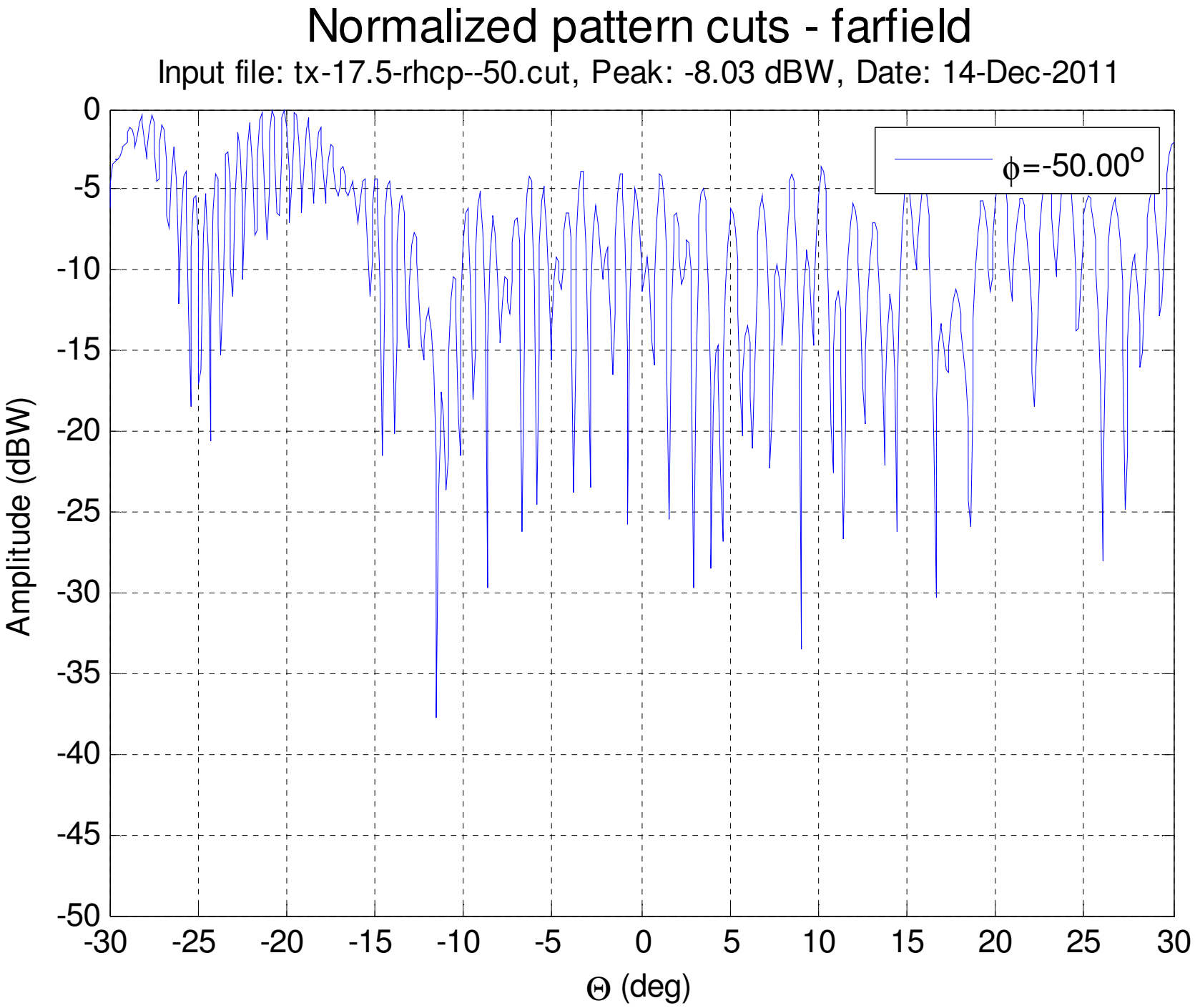

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -8.42 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

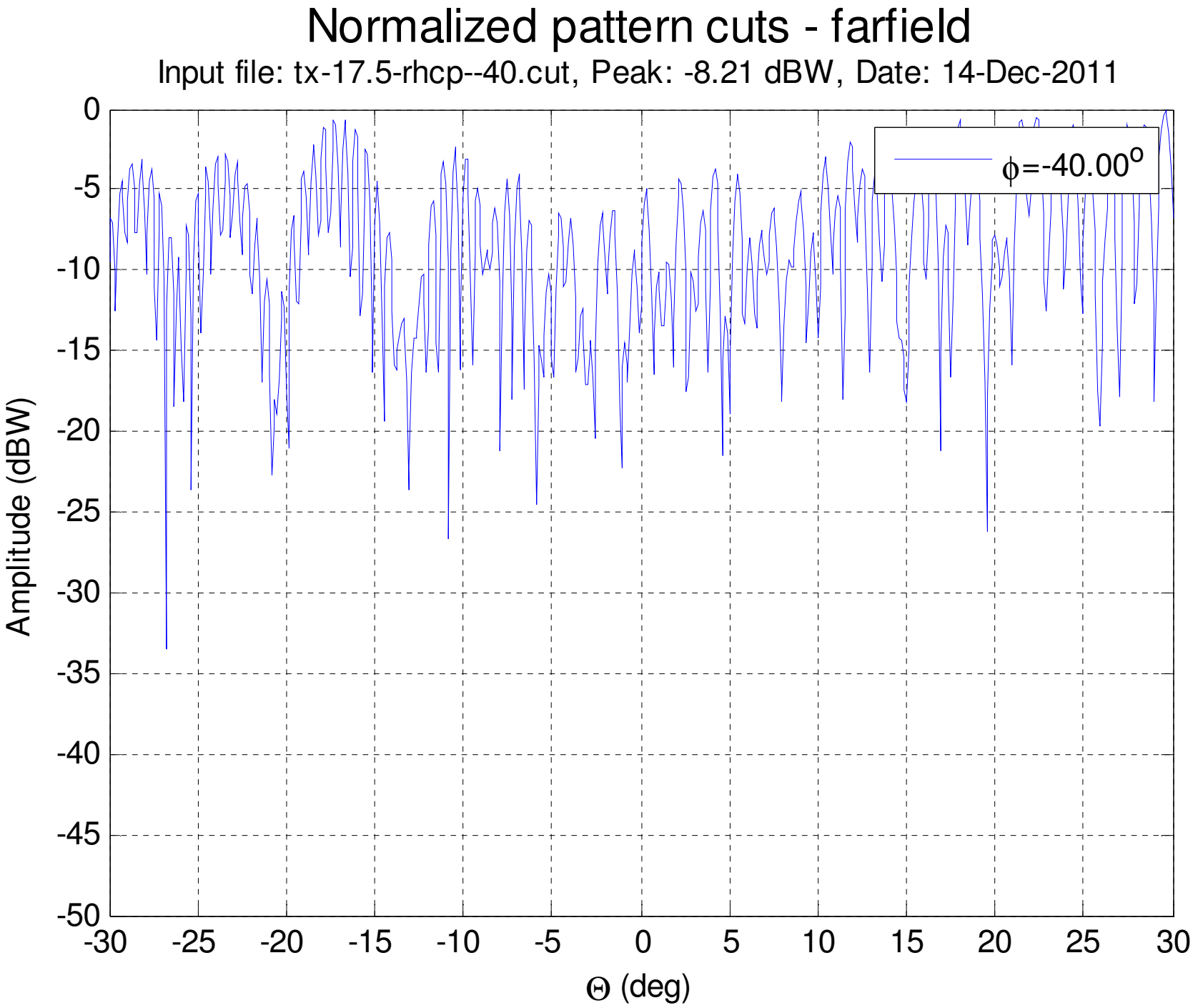

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -8.59 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

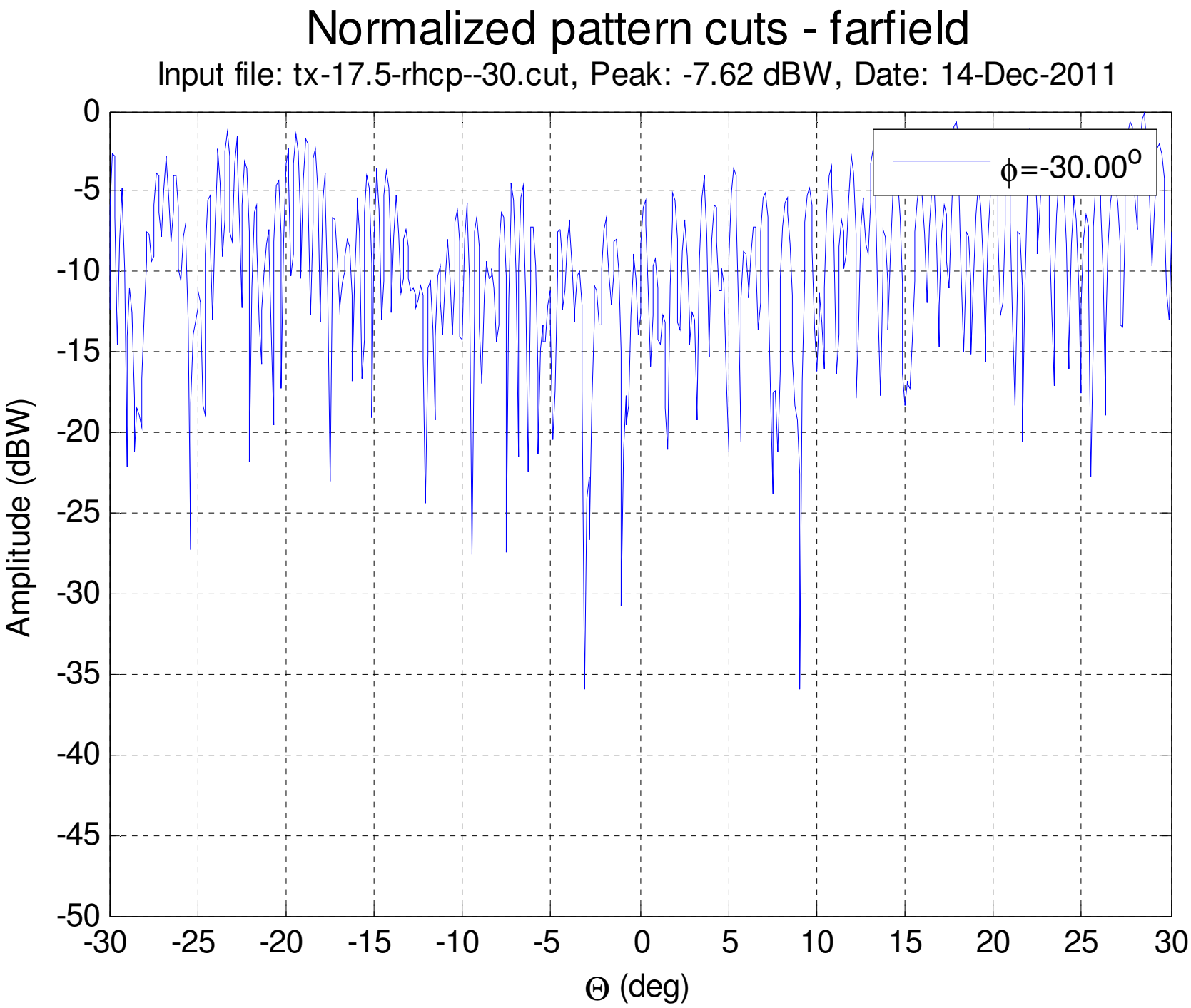

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.95 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

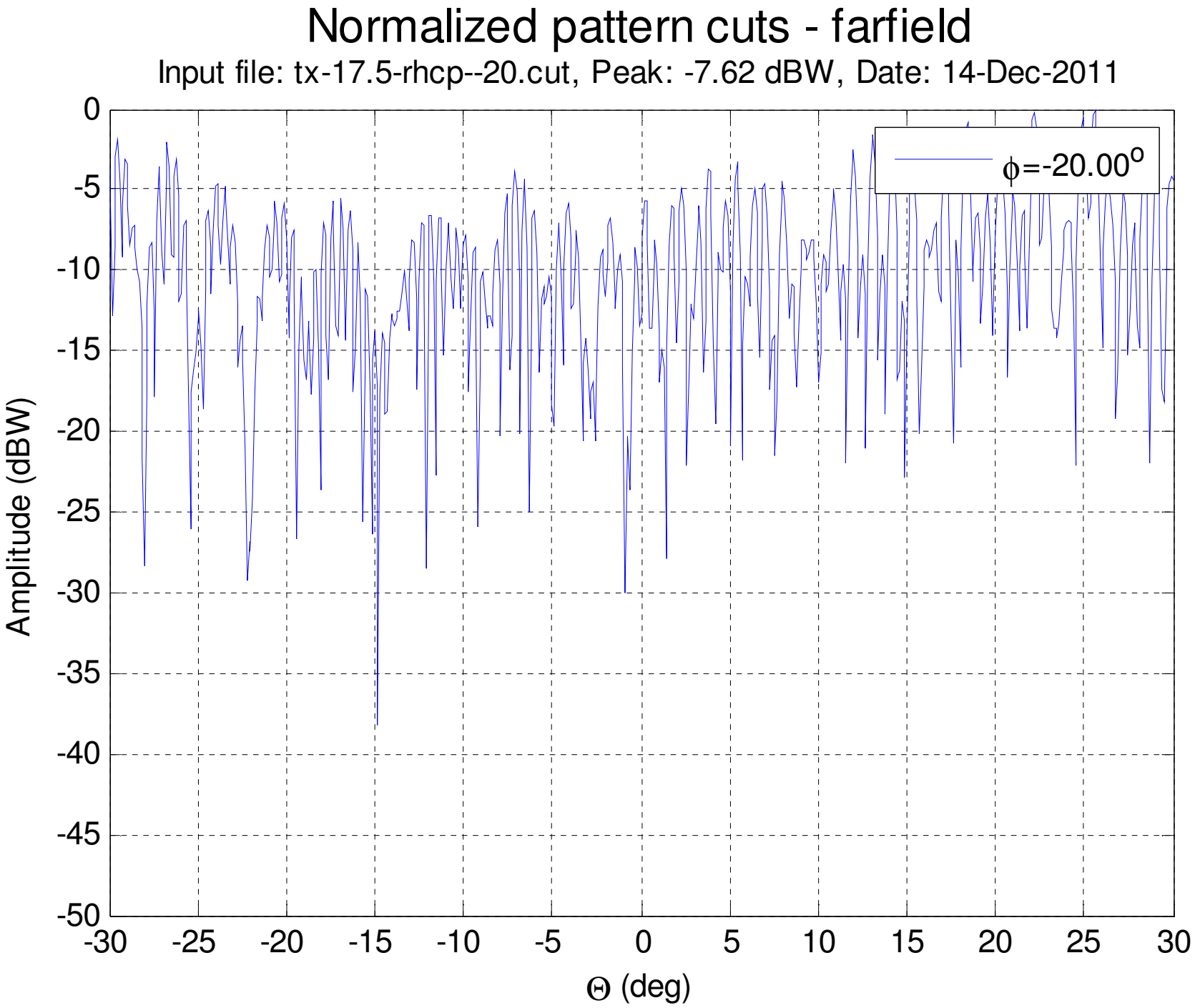
RHCP at 17.5 GHz

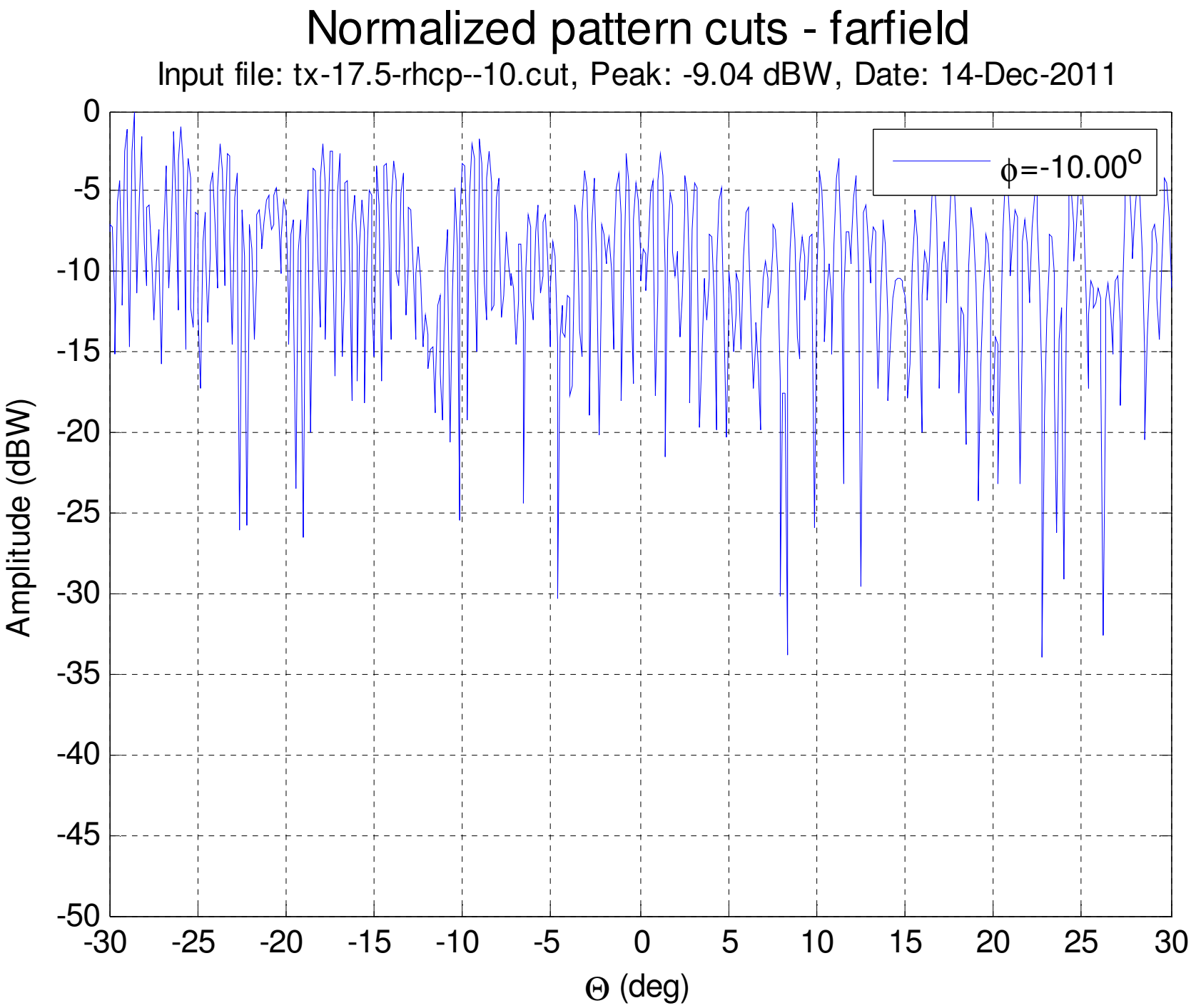

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -9.39 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

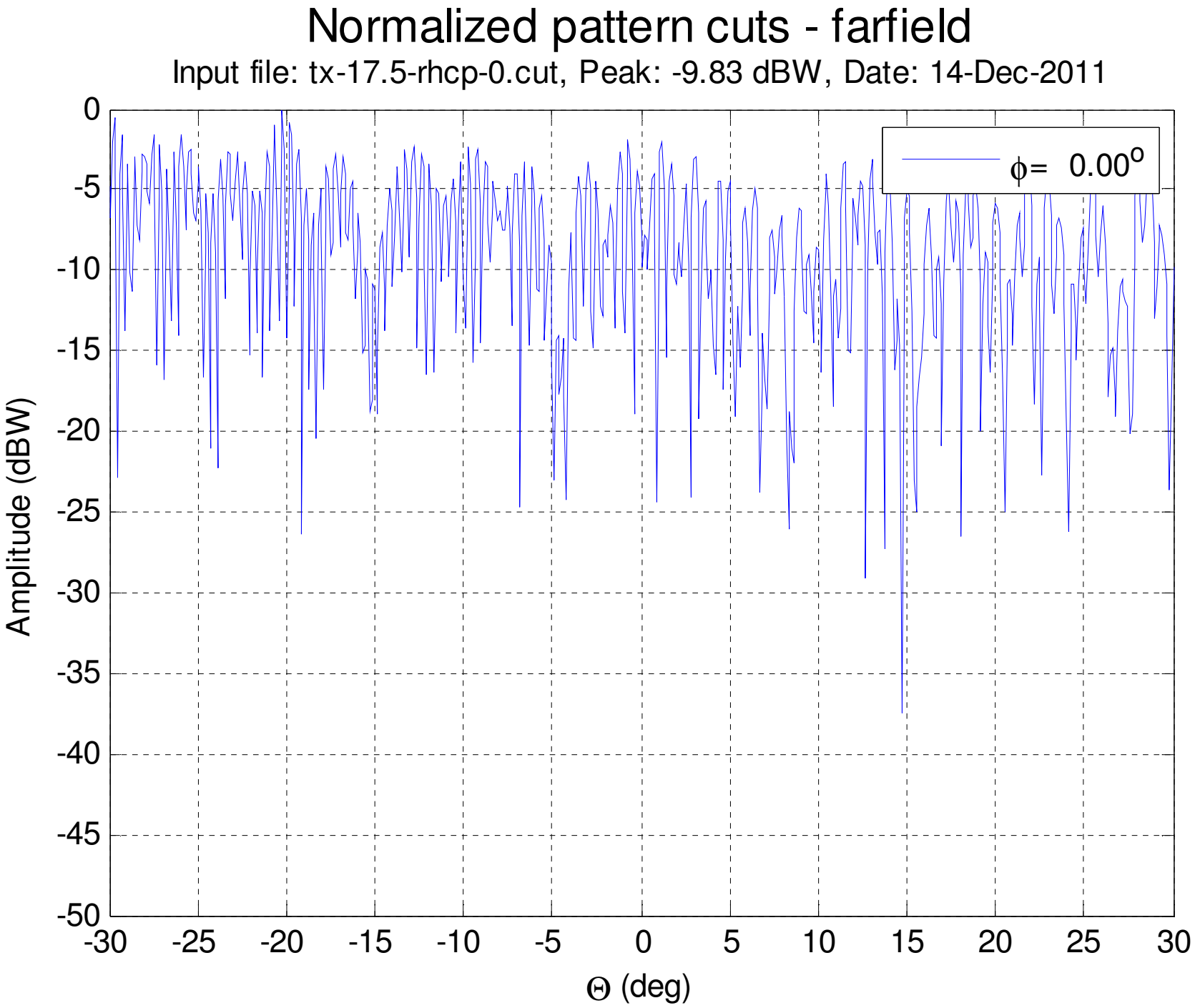

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.03 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

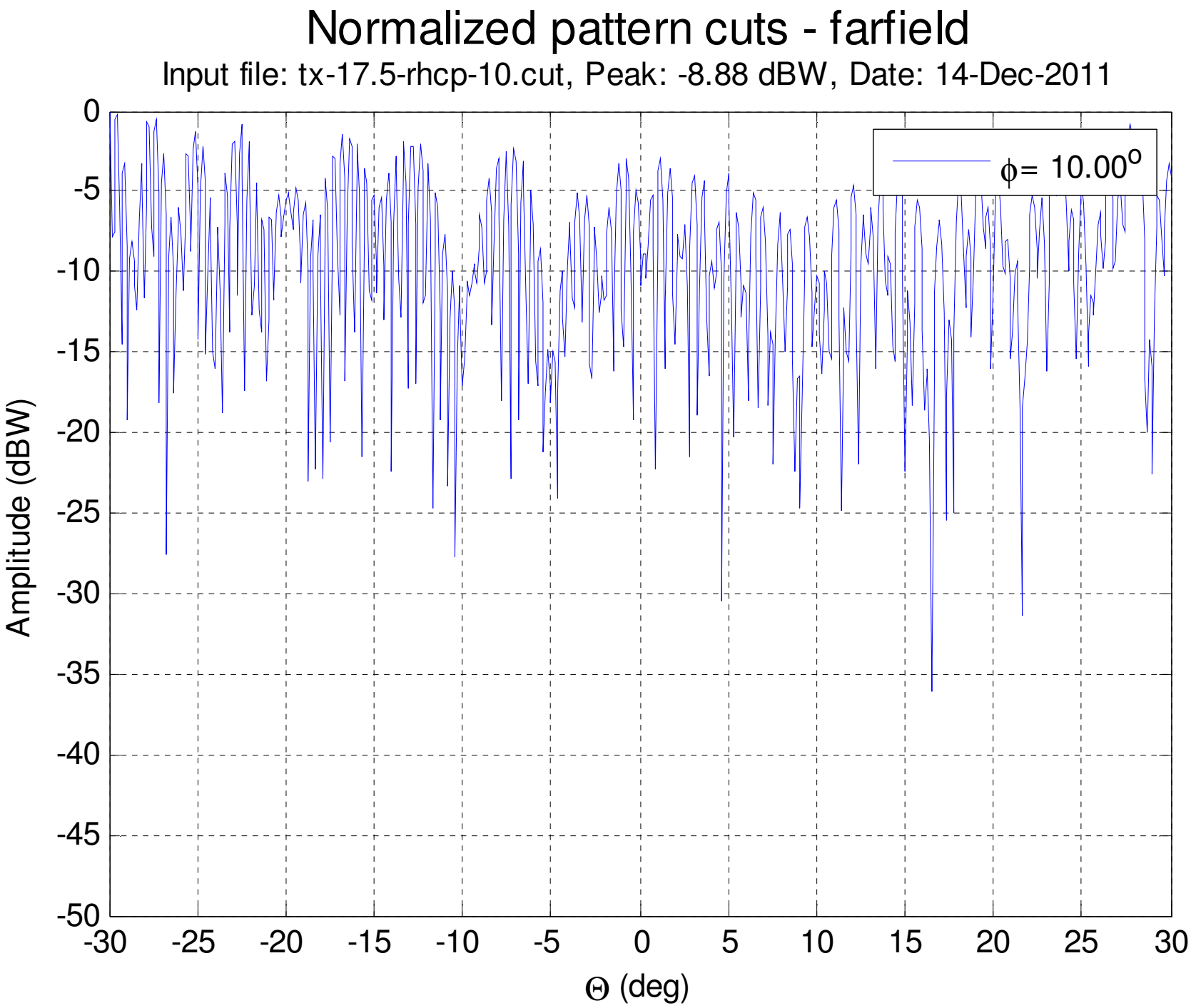

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -8.21 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

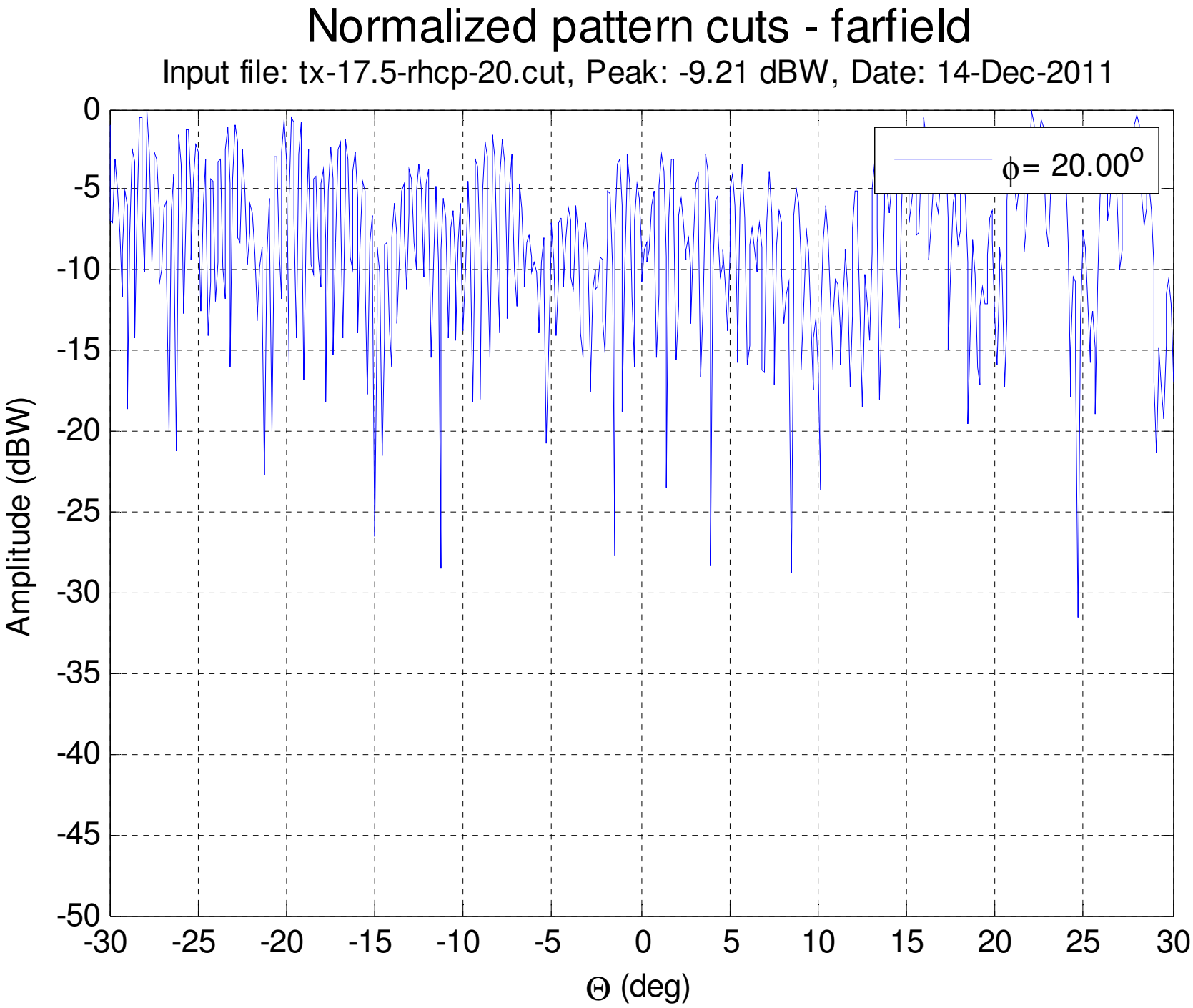

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -7.62 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

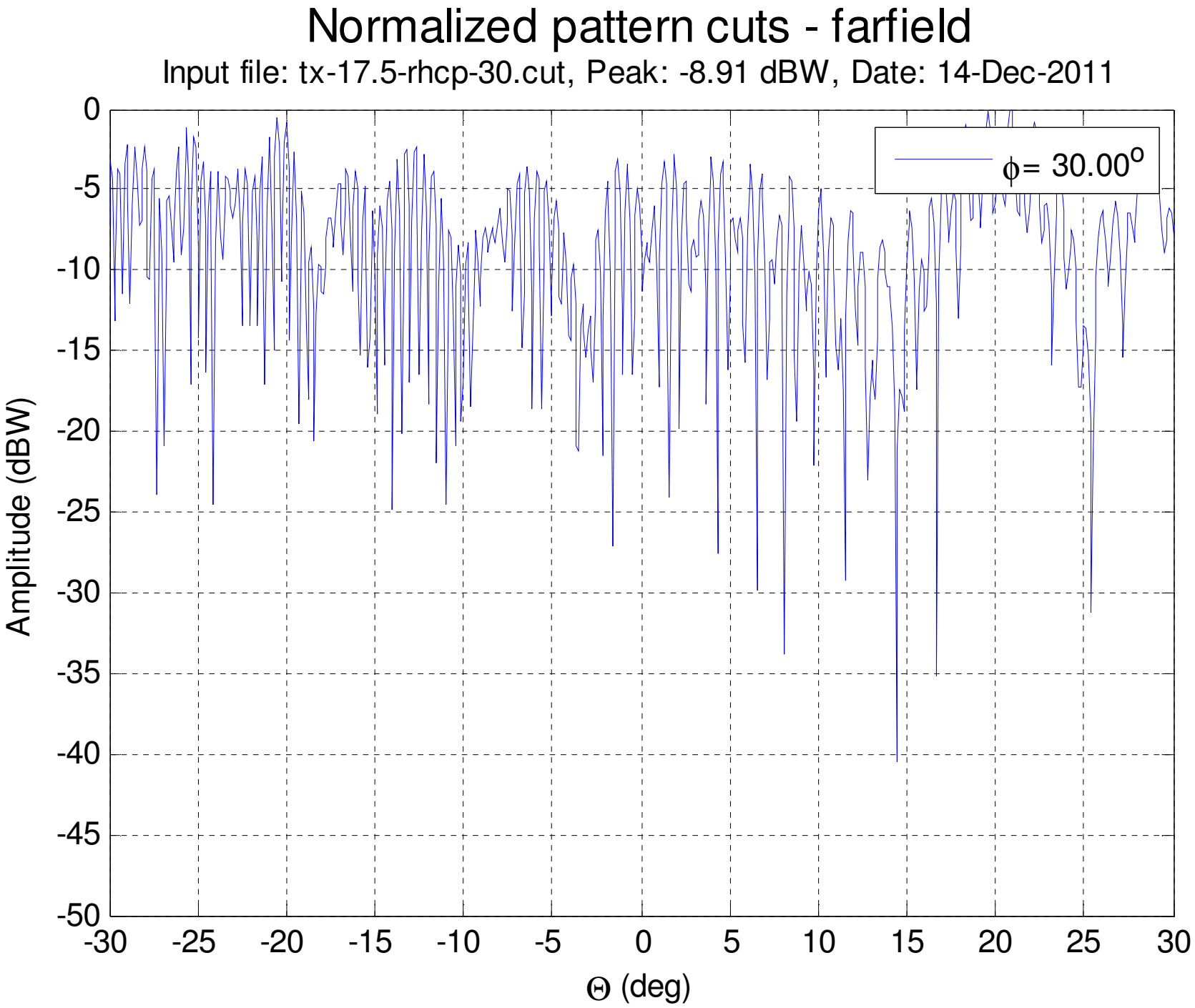

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -7.62 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

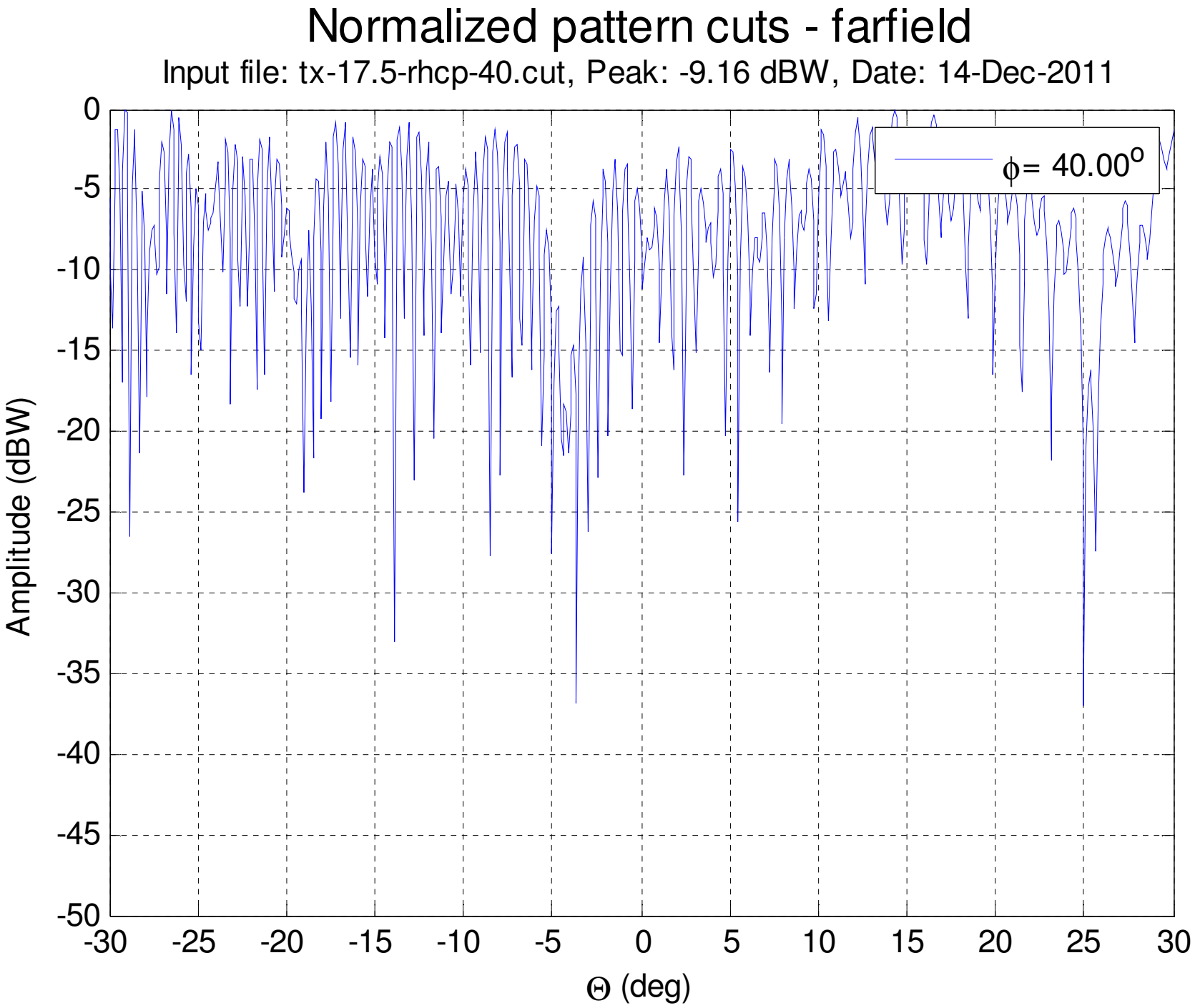

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -9.04 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

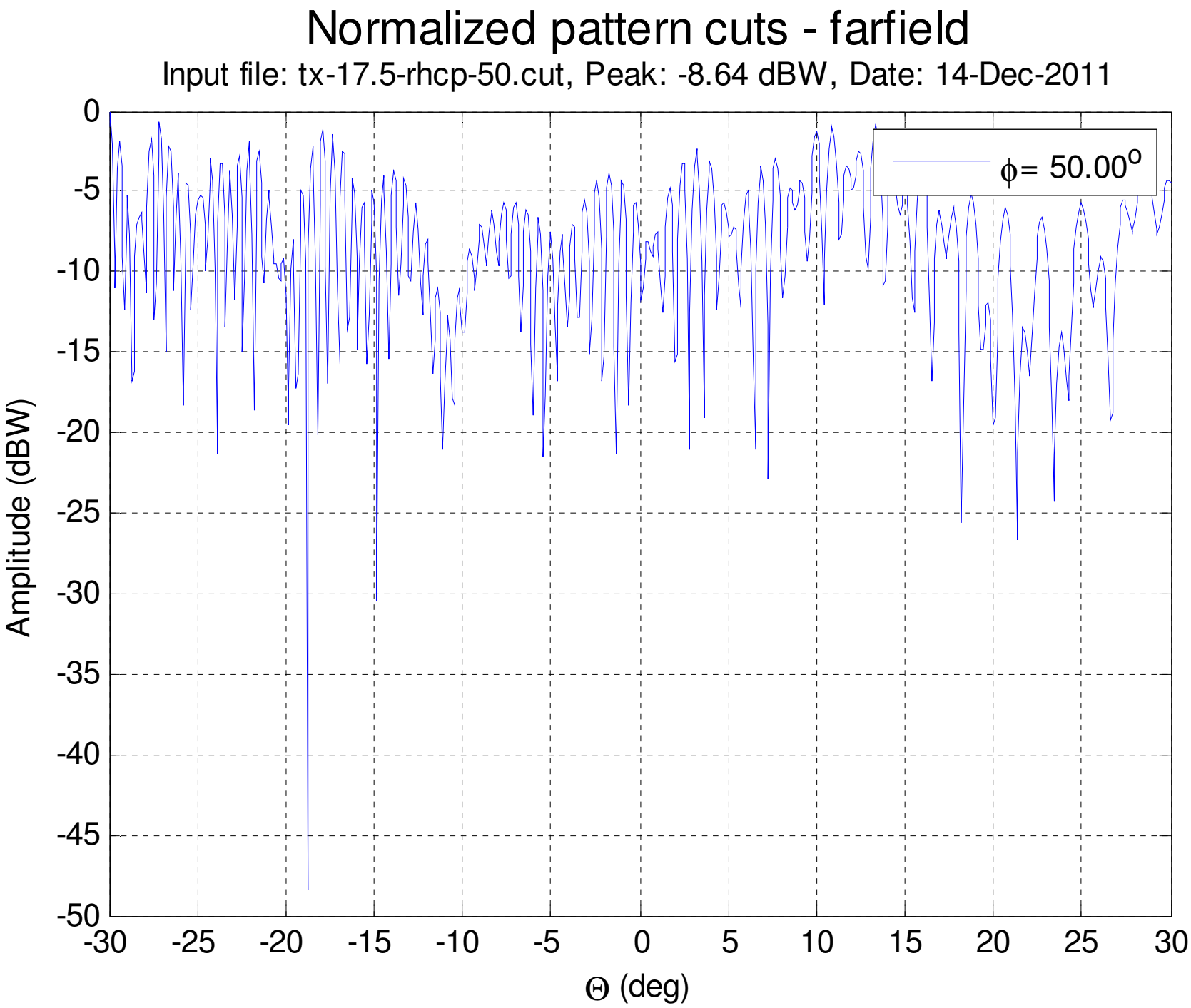

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -9.83 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

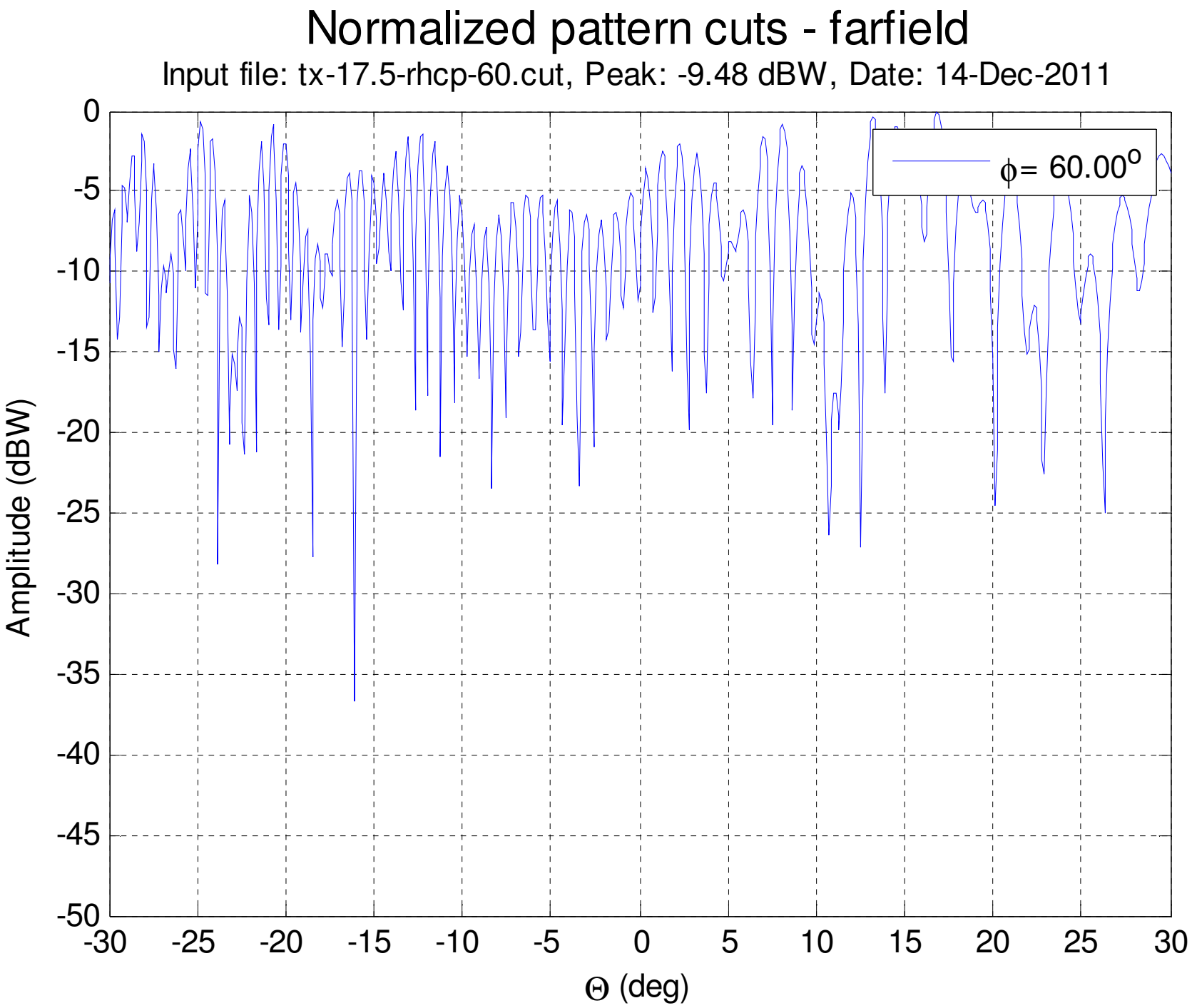

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -8.88 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -9.21 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

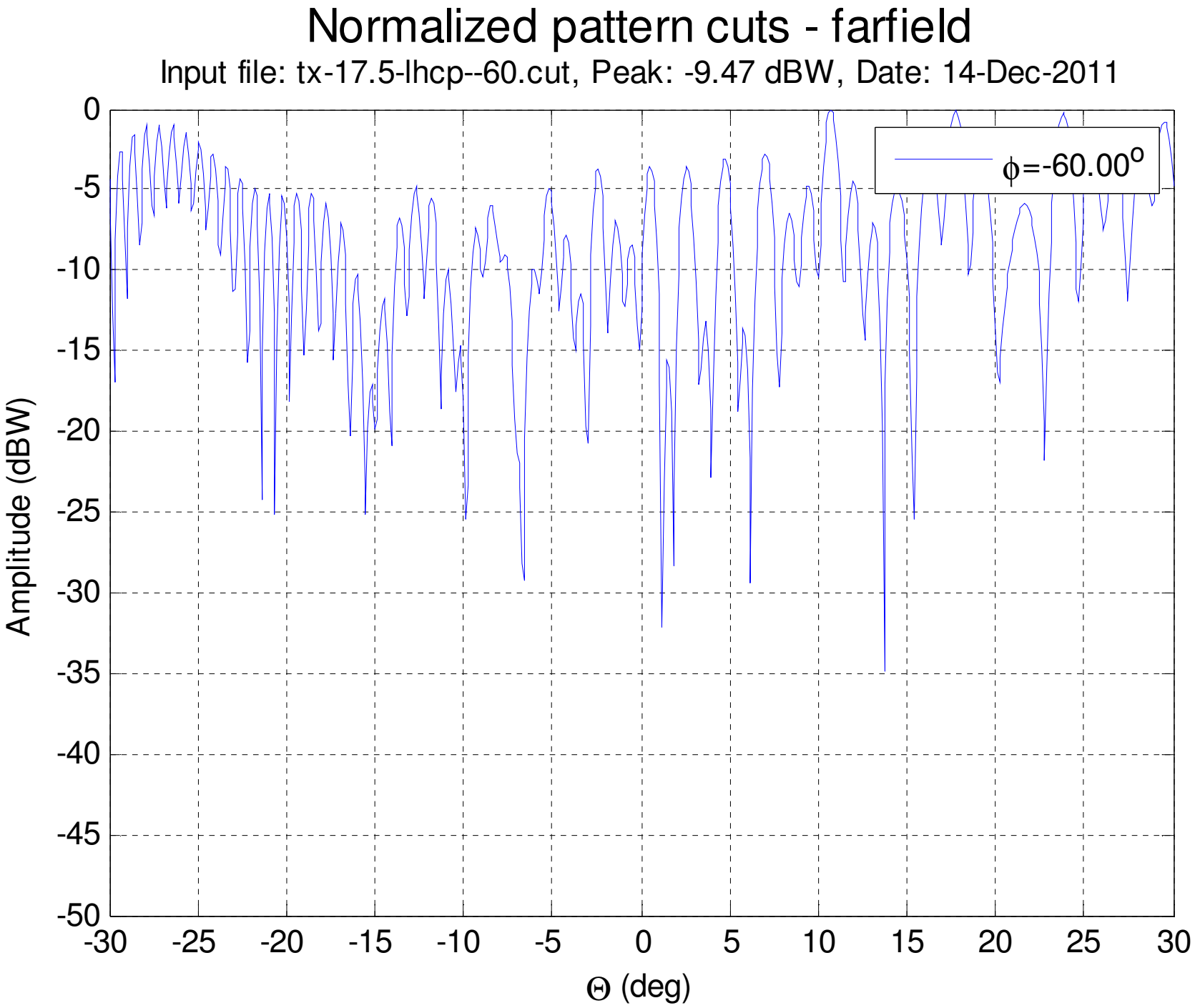

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -8.91 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

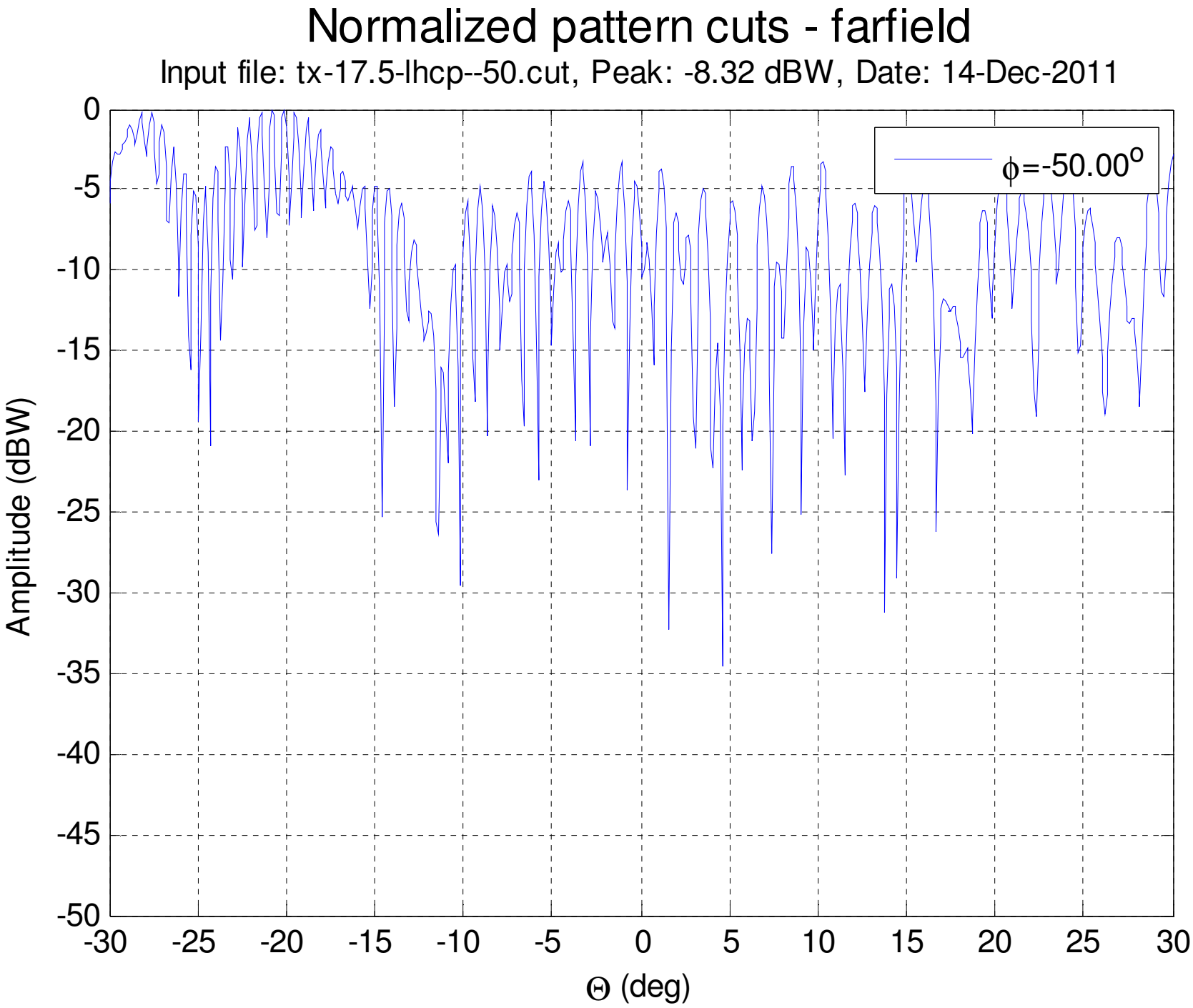

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.16 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

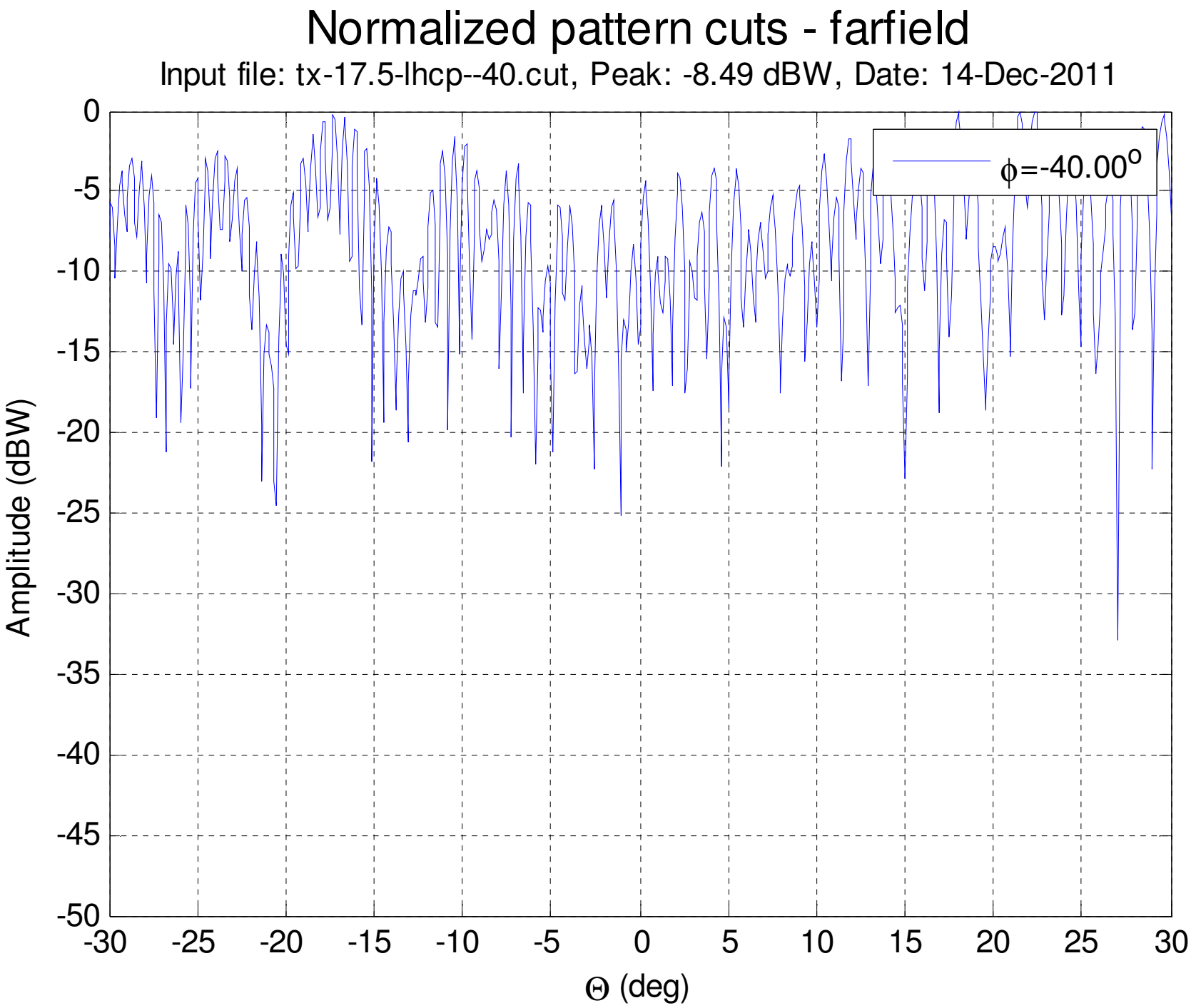

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -8.64 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

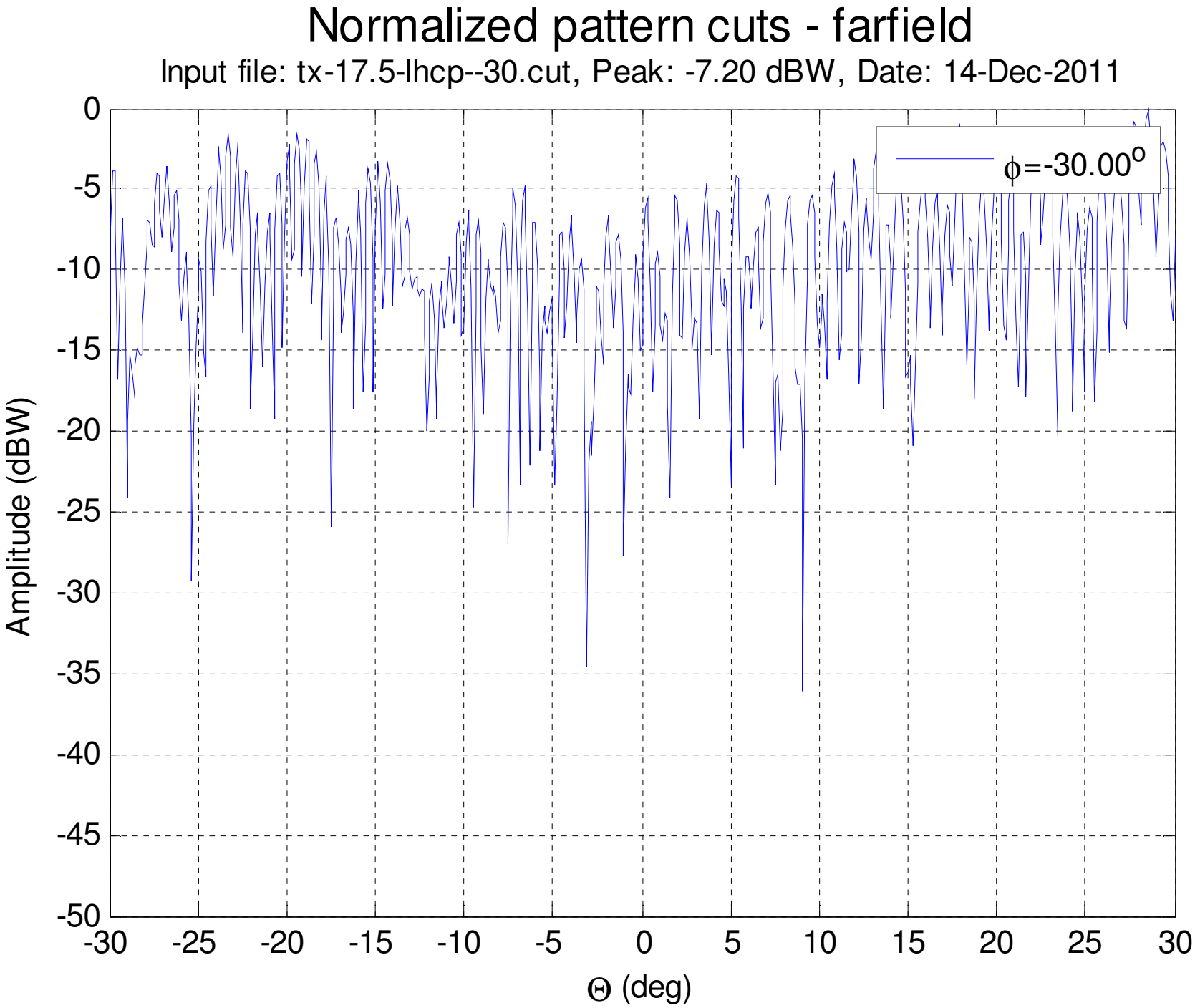

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.48 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

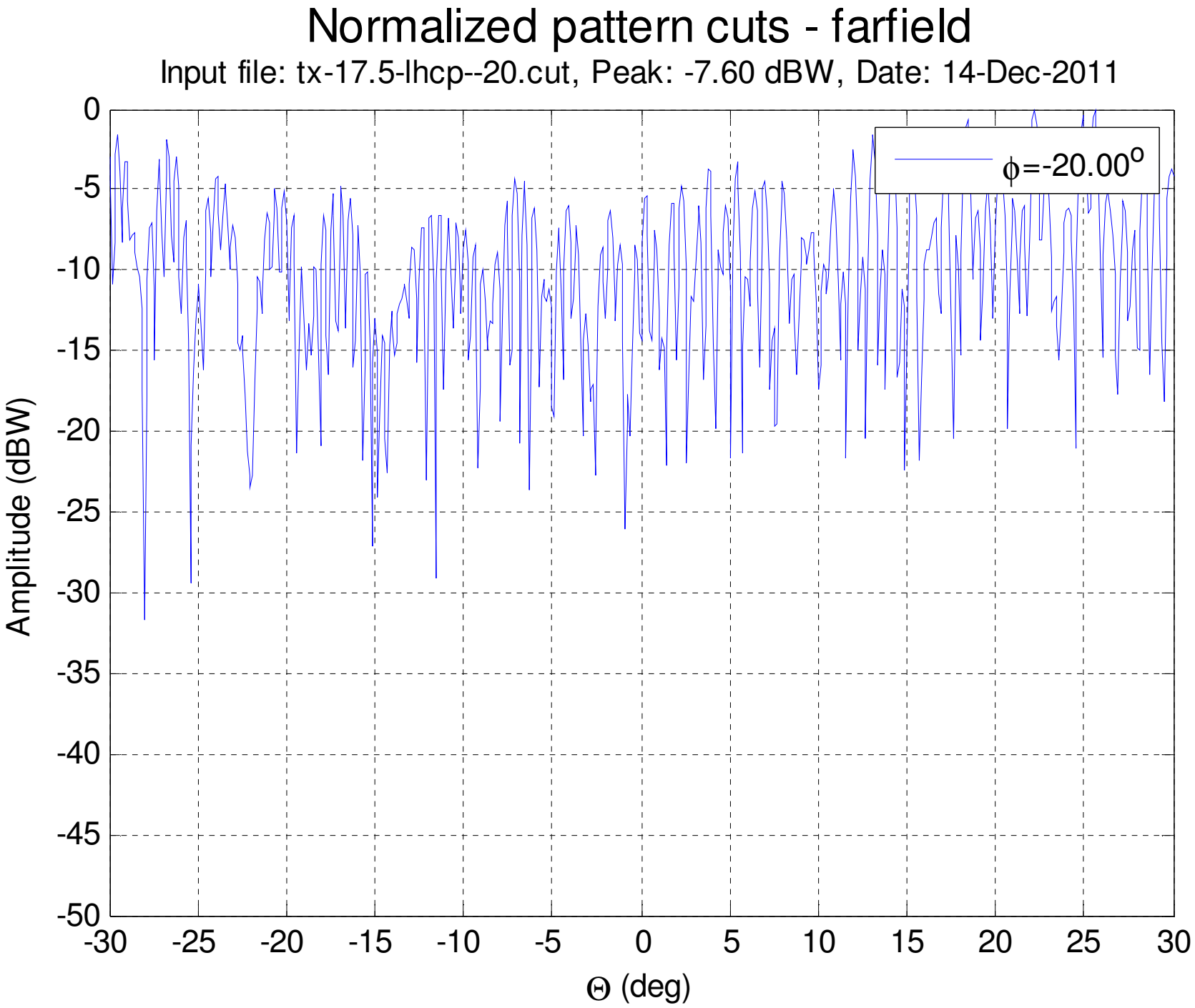
LHCP at 17.5 GHz

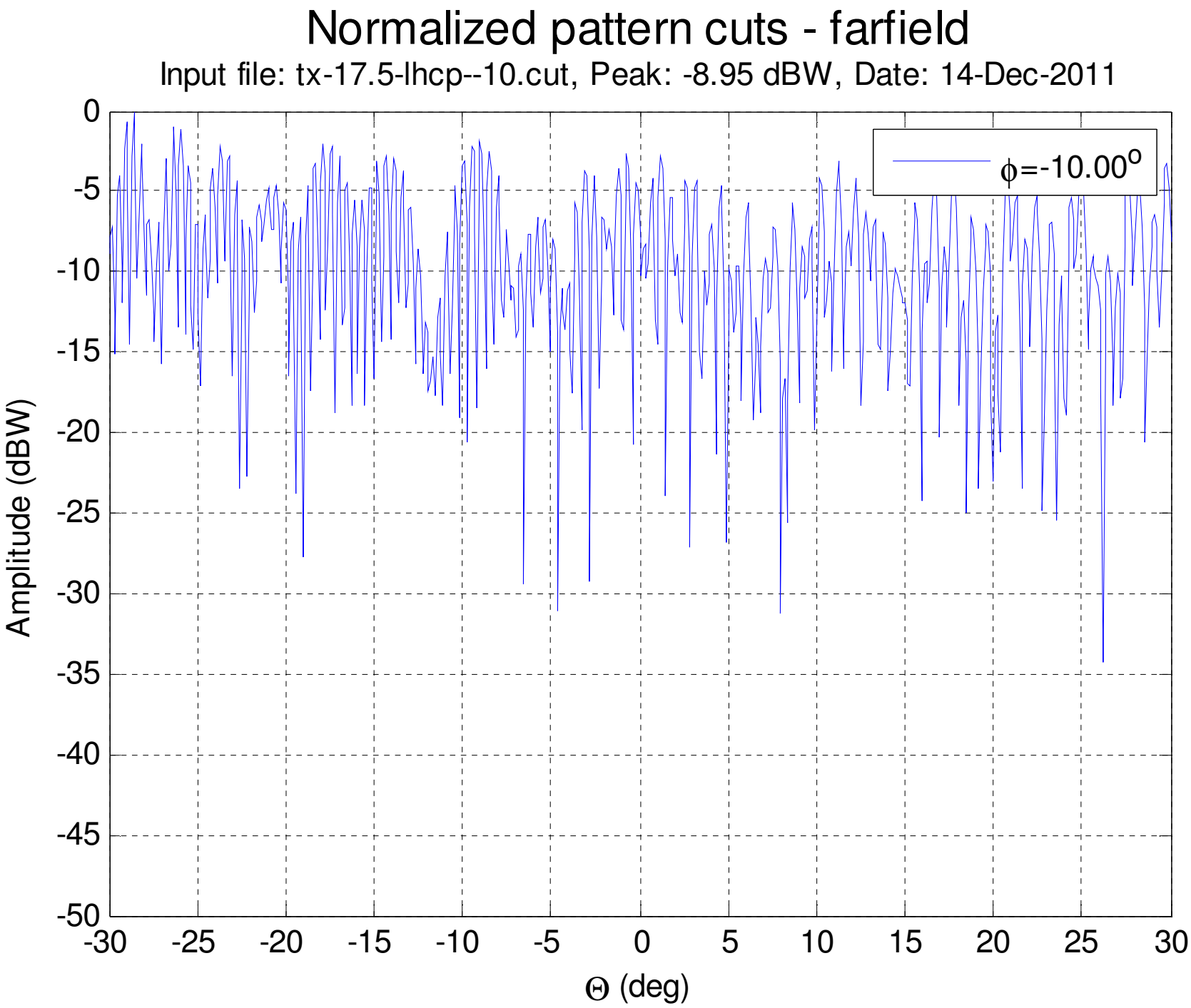

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -9.47 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

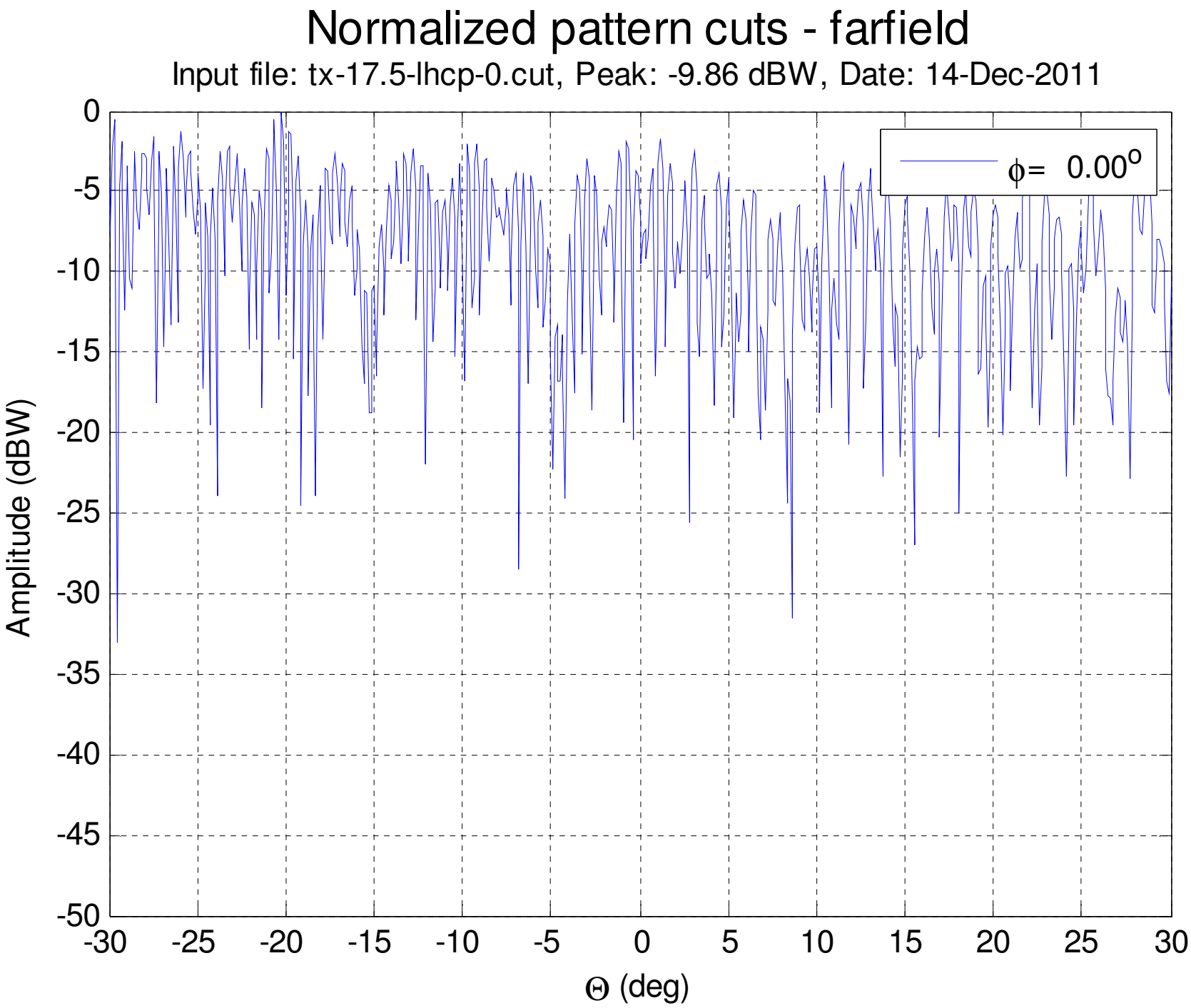

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -8.32 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

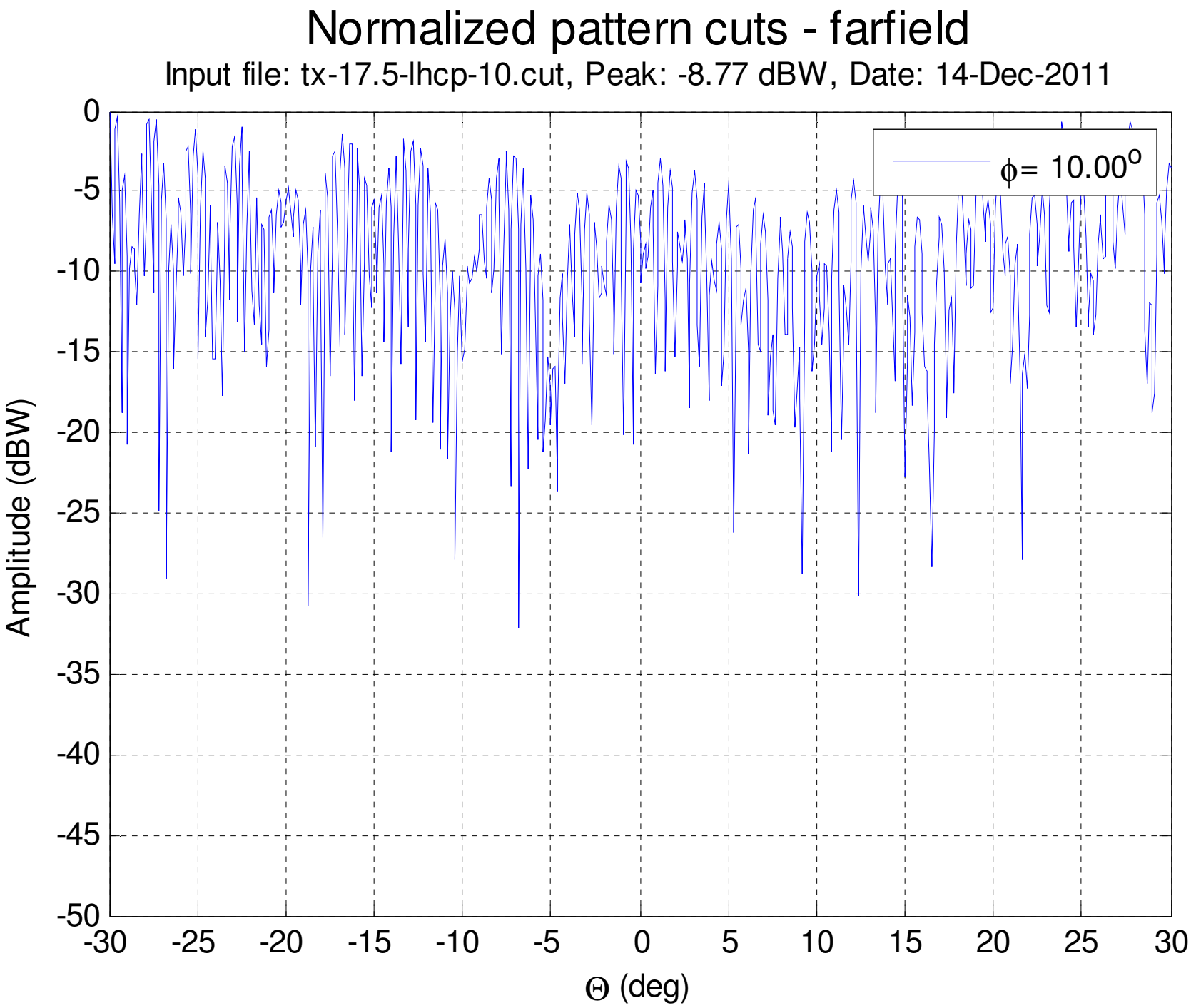

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -8.49 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

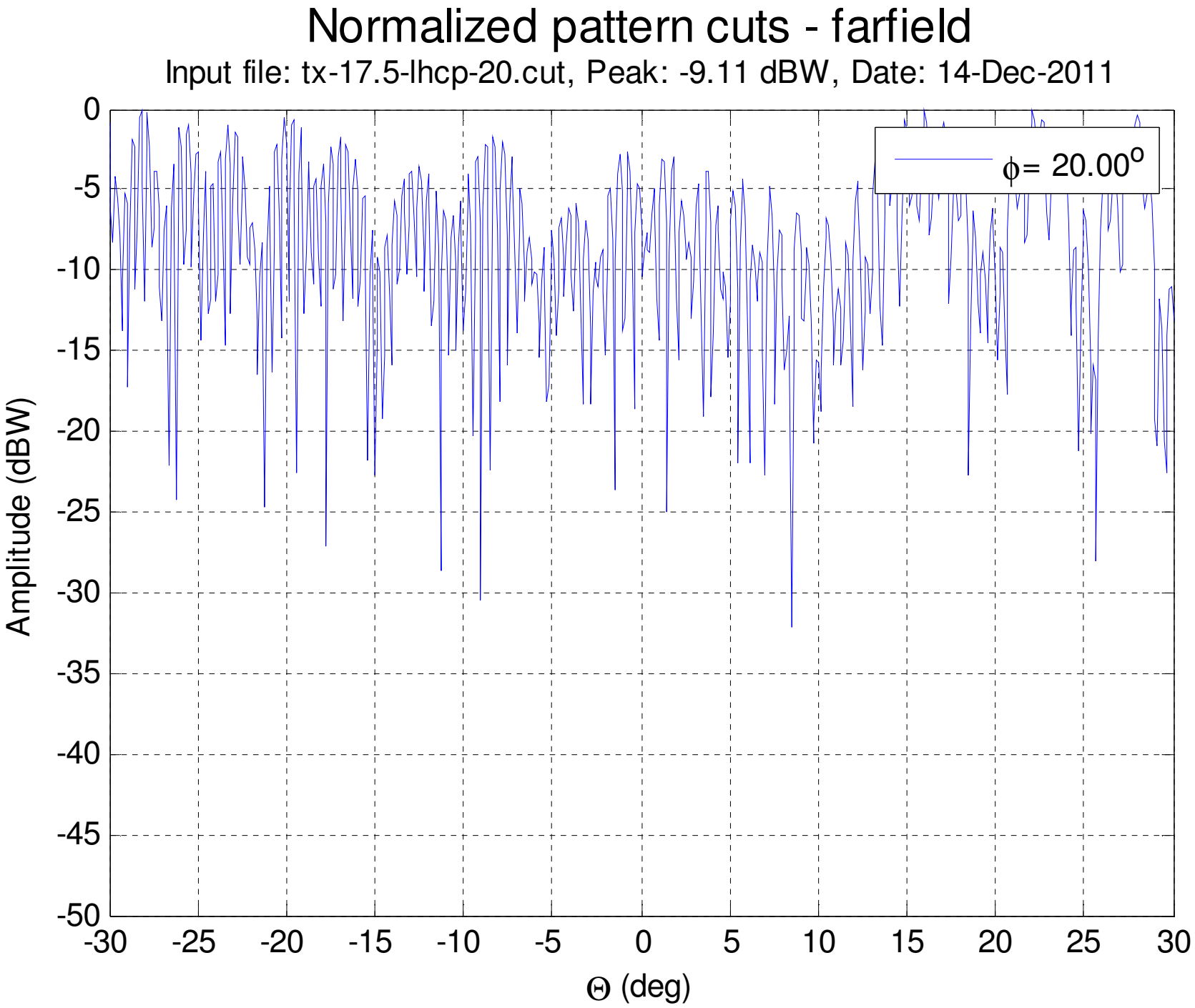

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -7.20 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

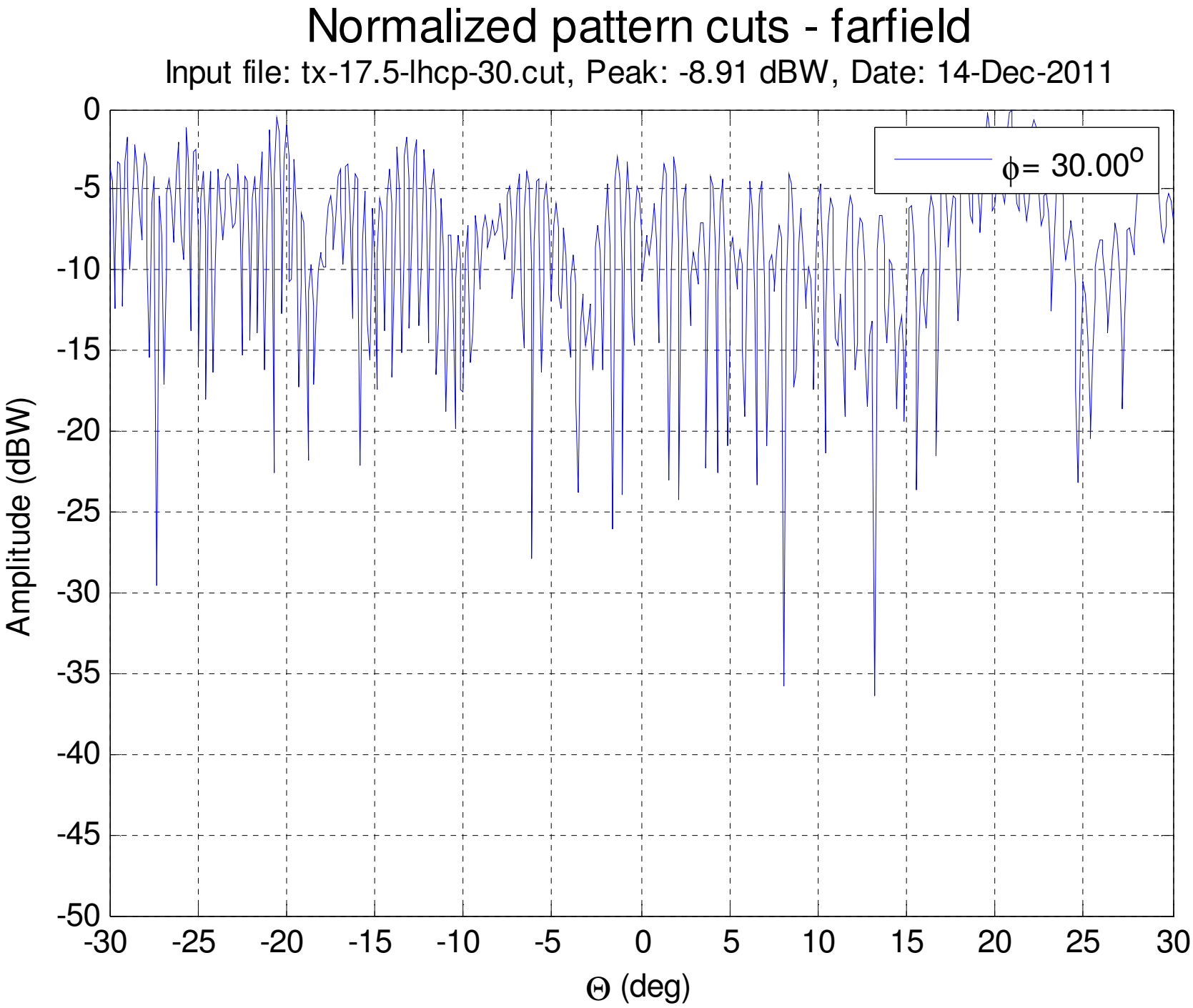

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -7.60 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

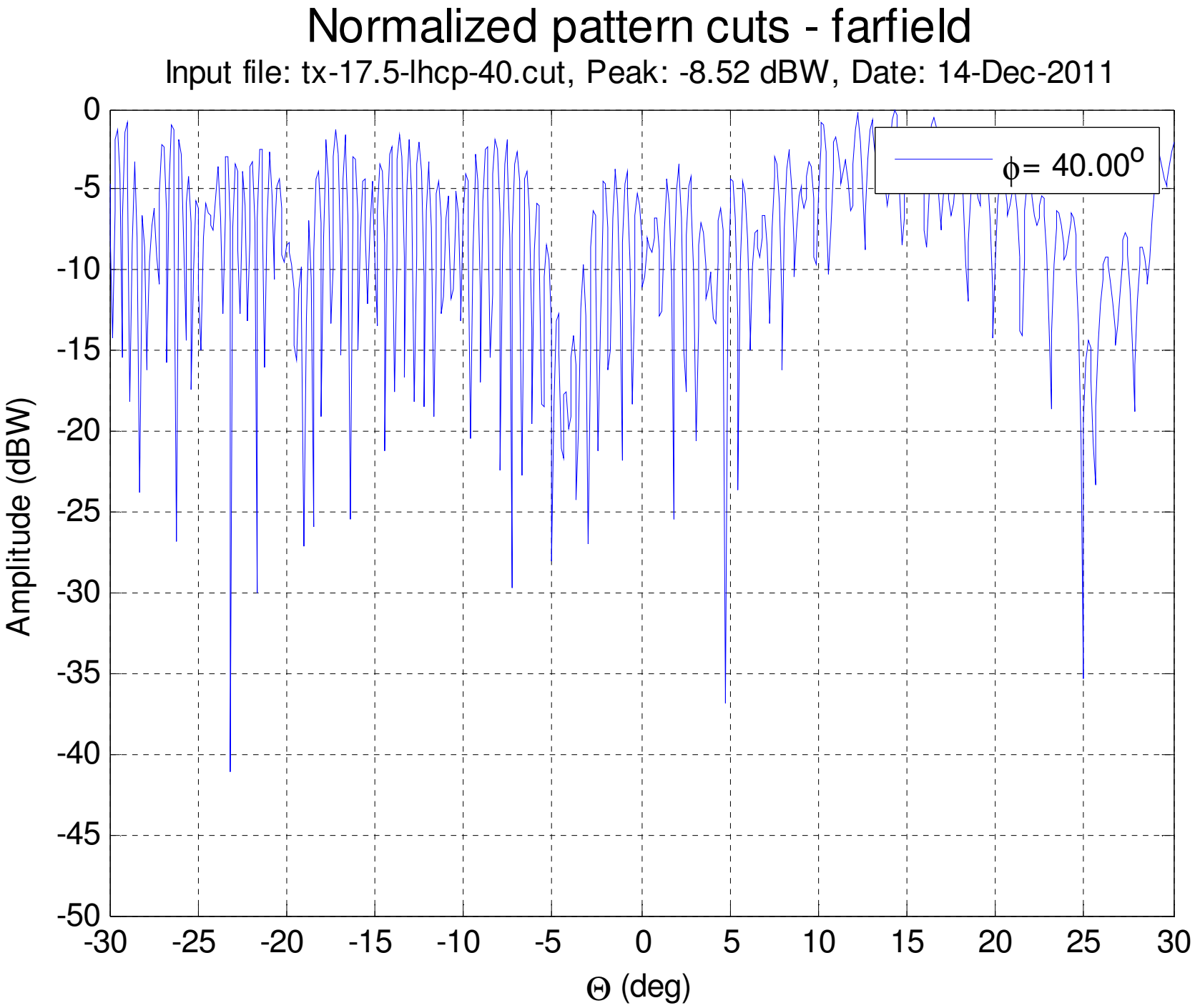

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -8.95 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

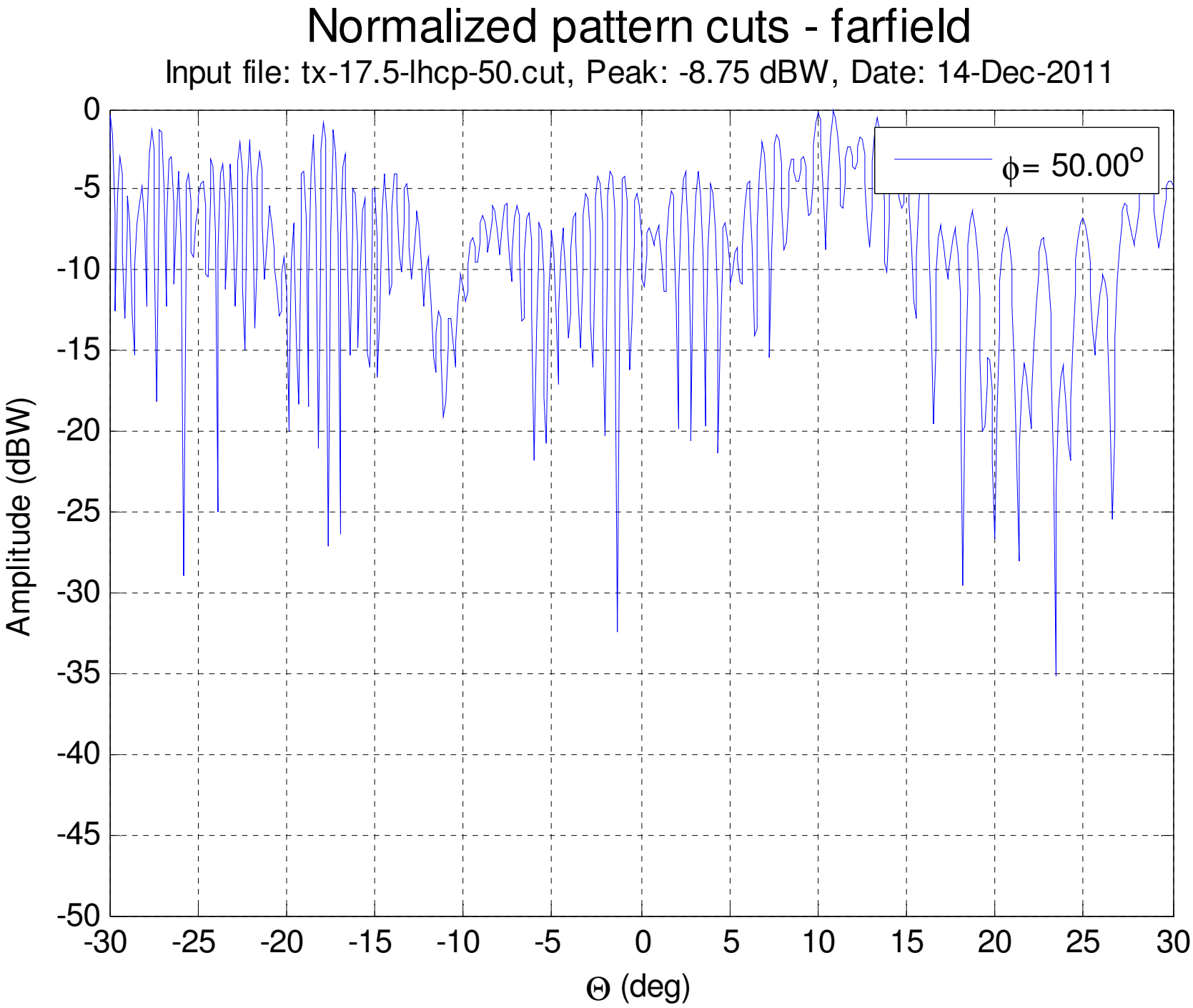

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -9.86 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

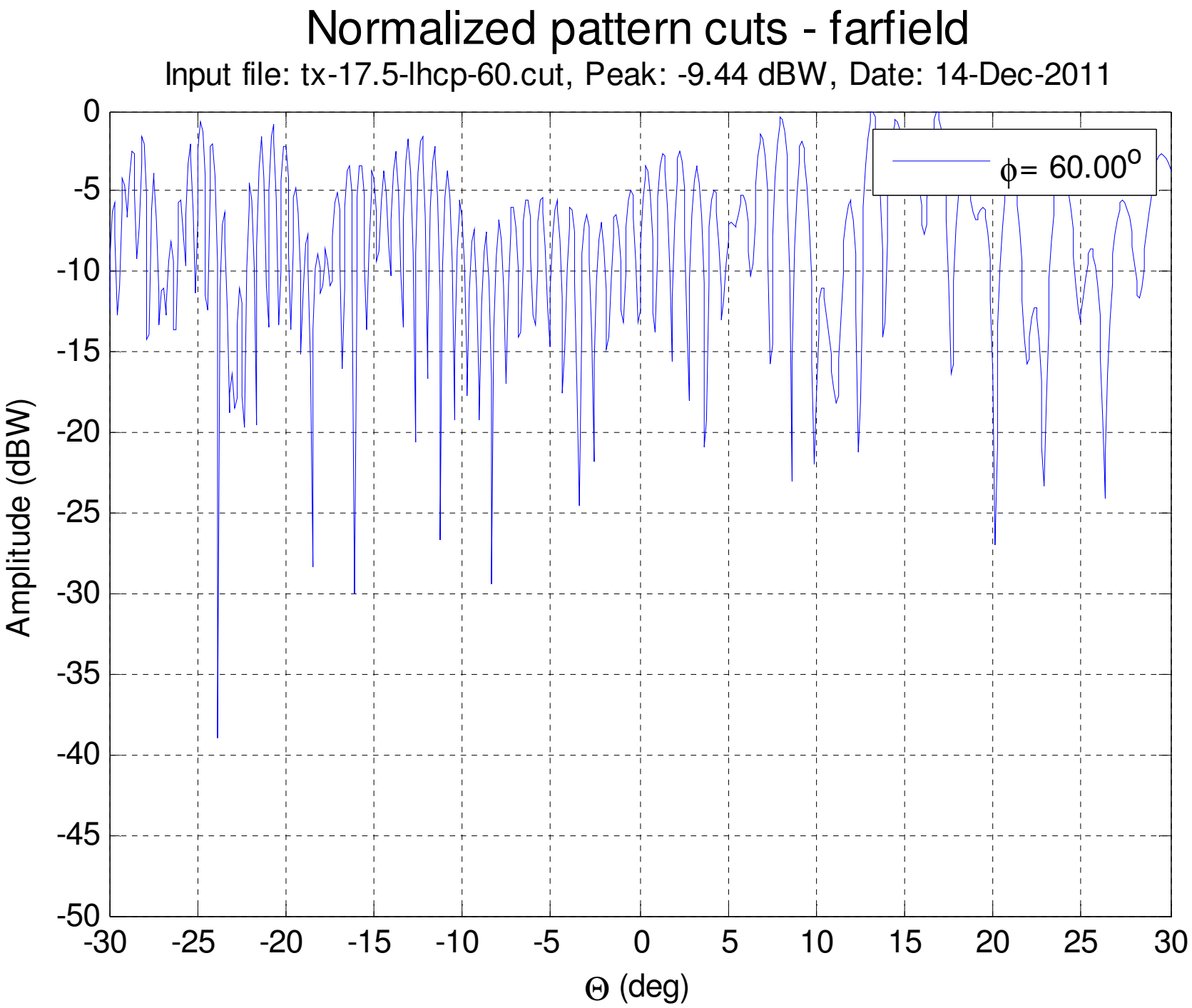

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -8.77 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -9.11 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

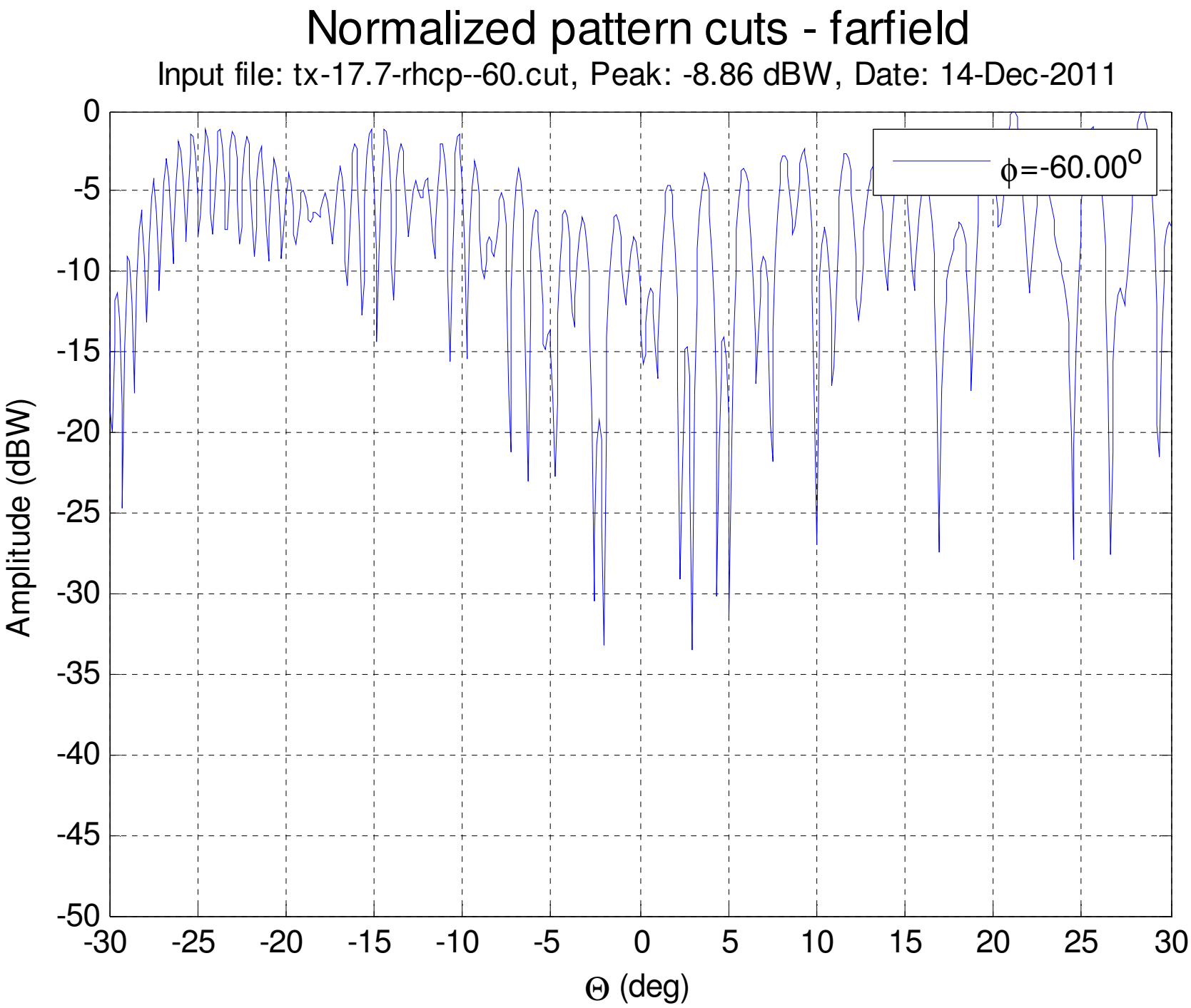

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -8.91 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

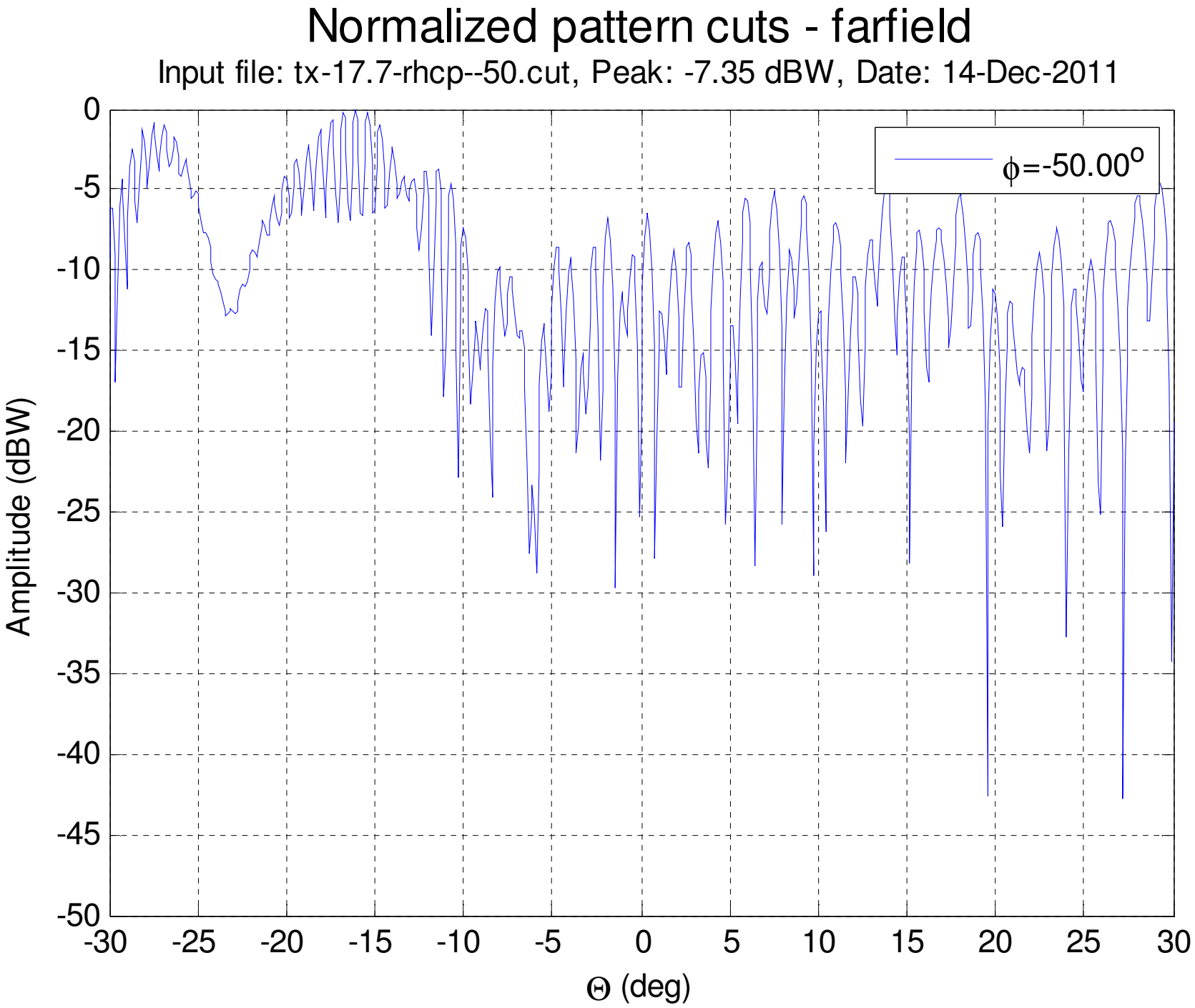

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -8.52 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

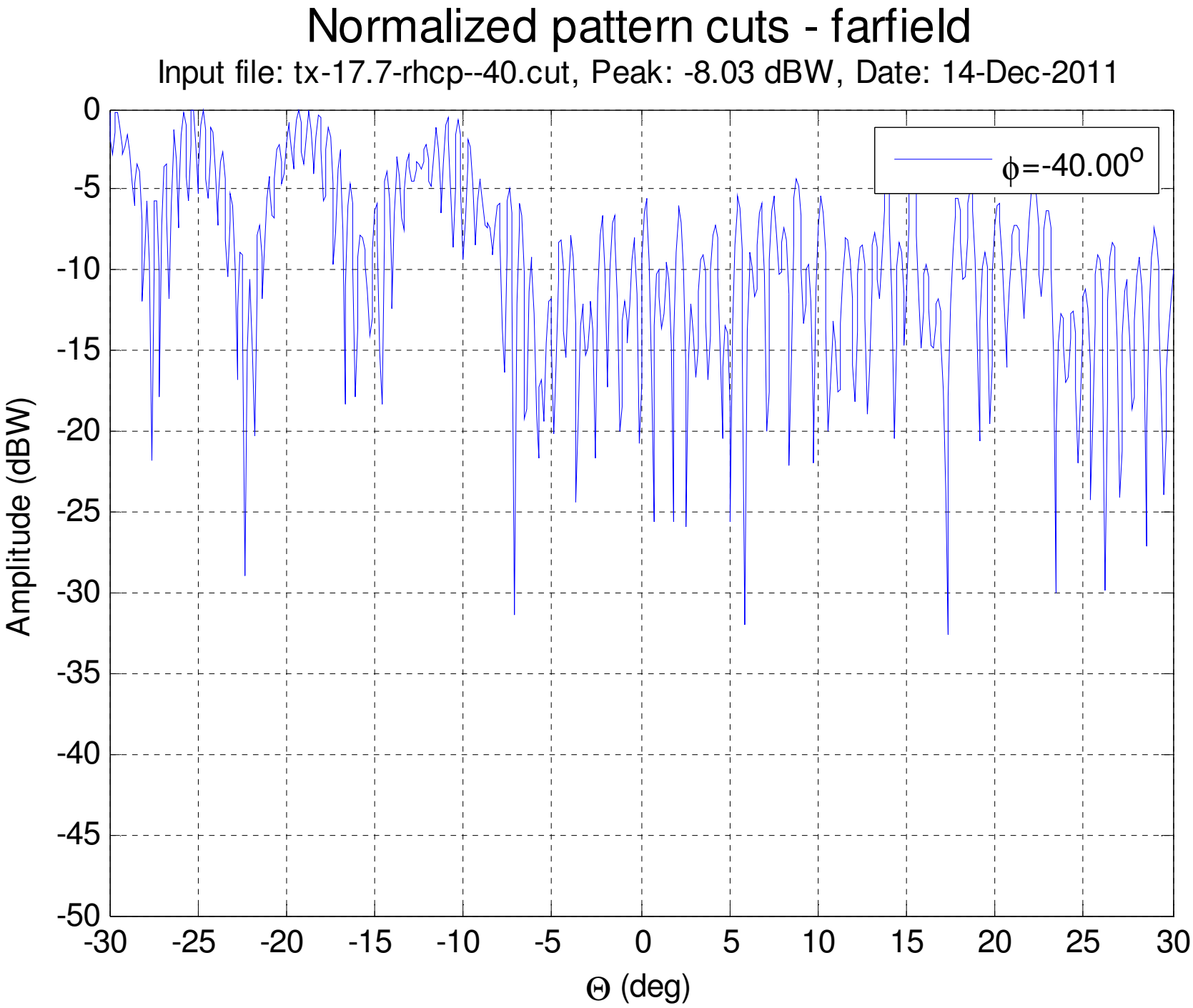

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -8.75 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

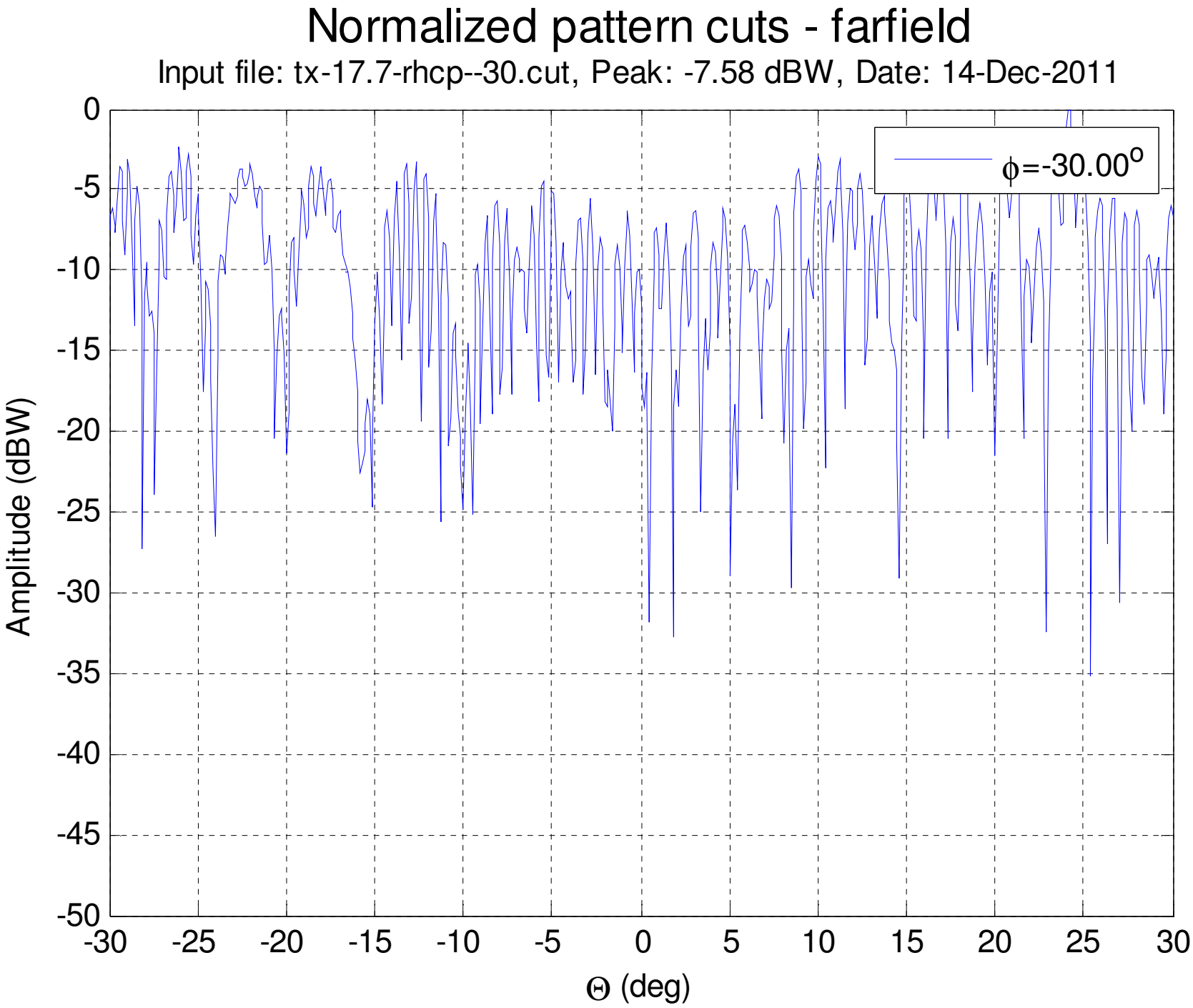

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -9.44 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

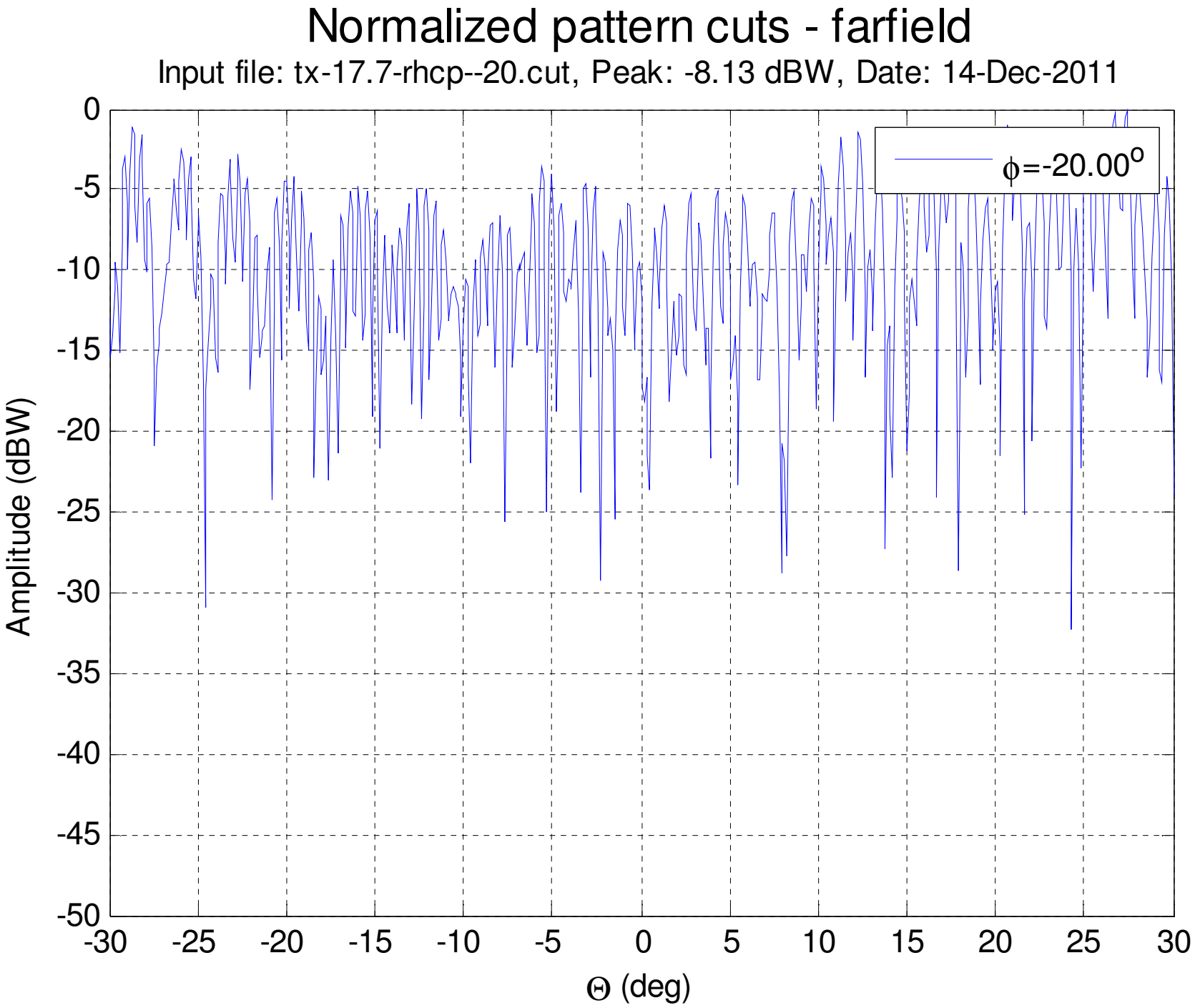
RHCP at 17.7 GHz

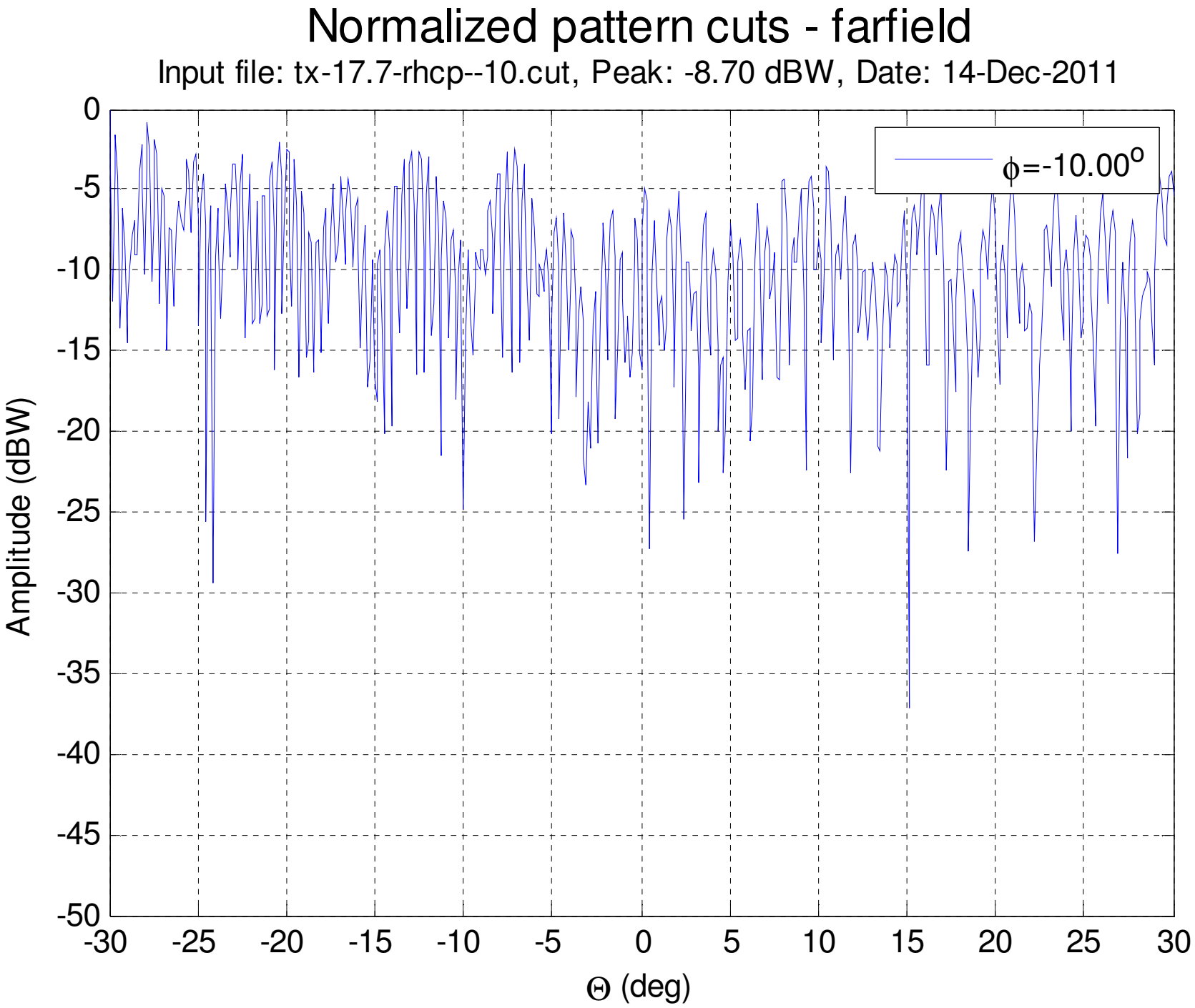

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -8.86 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

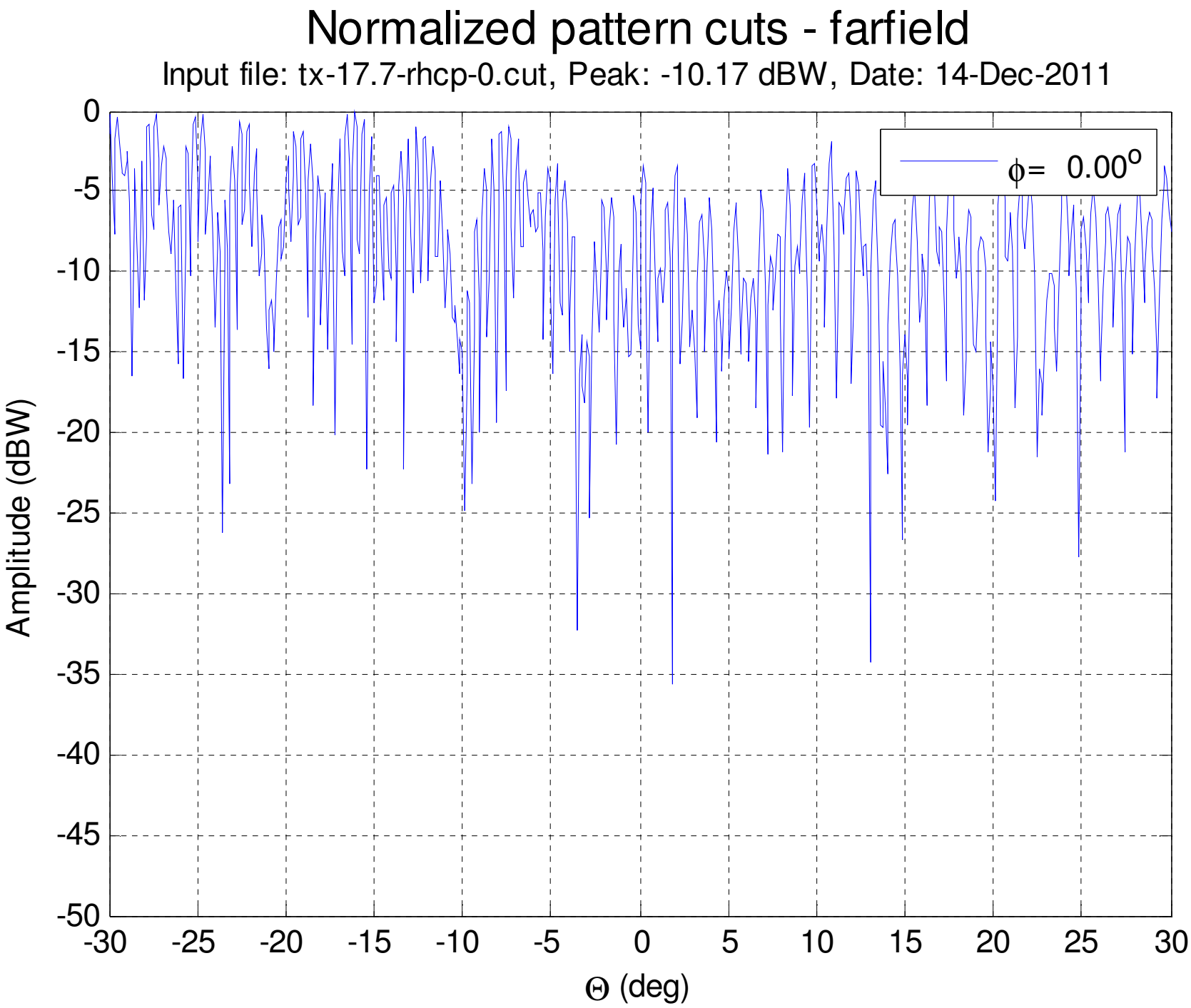

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -7.35 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

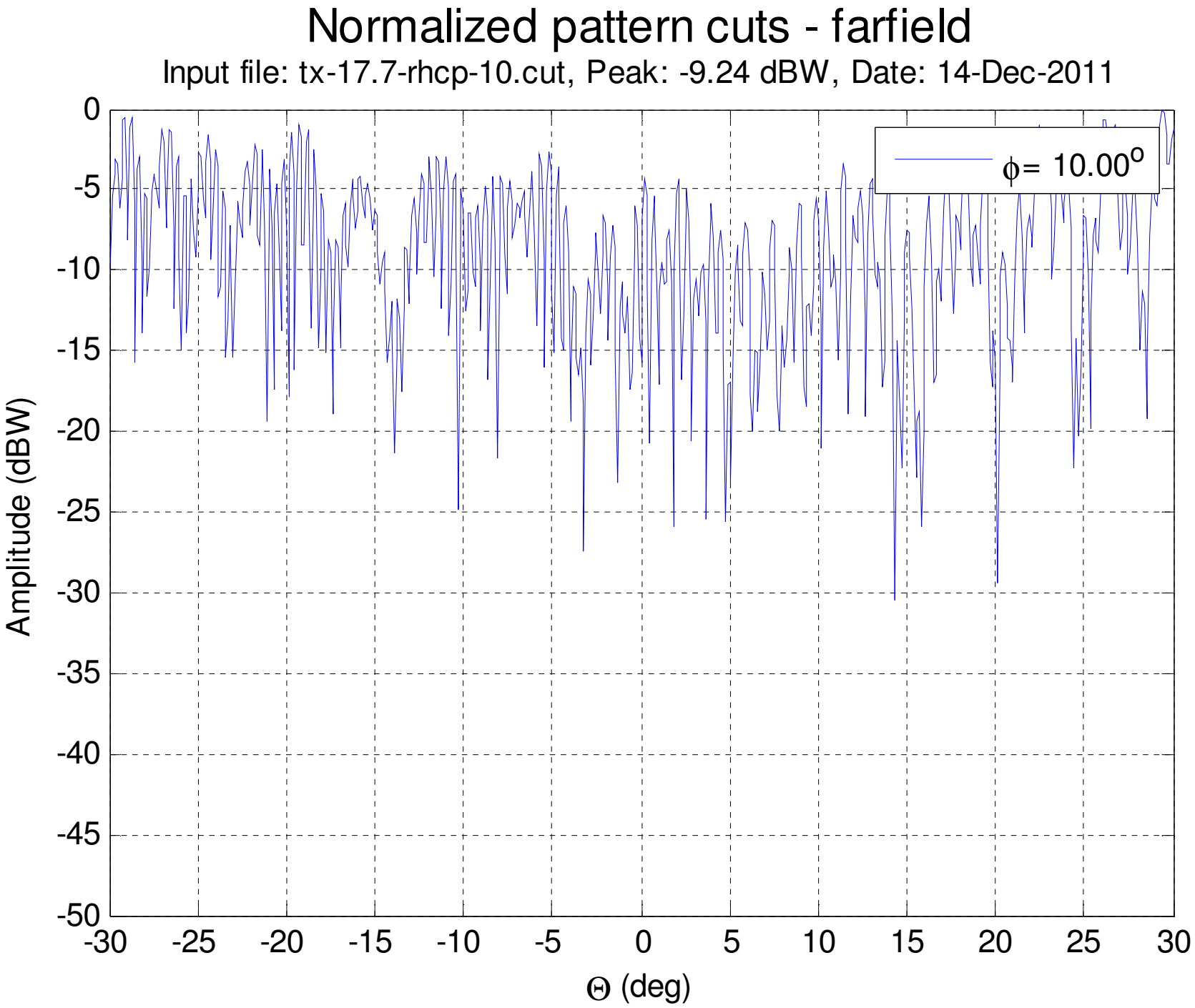

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -8.03 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

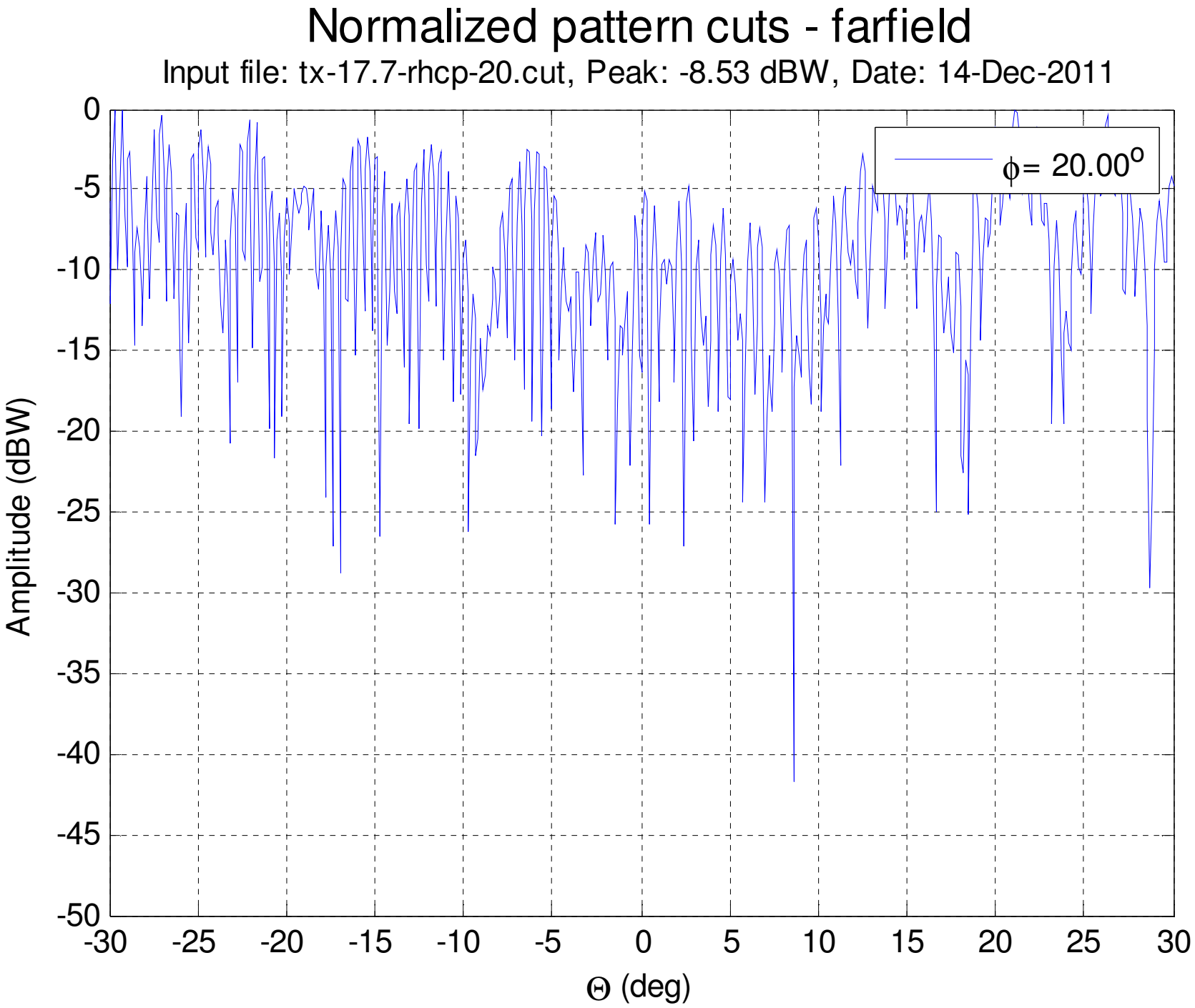

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -7.58 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

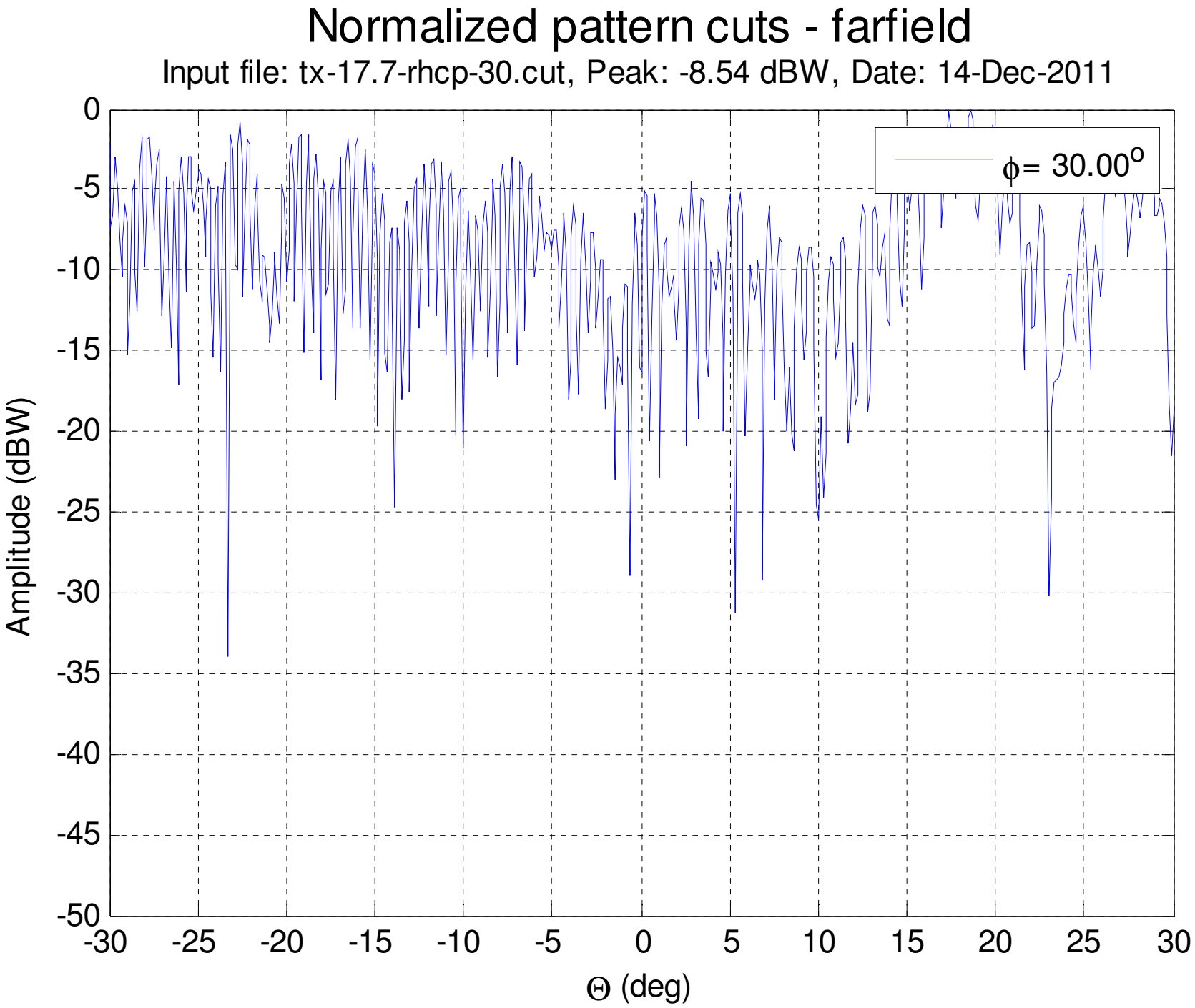

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -8.13 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

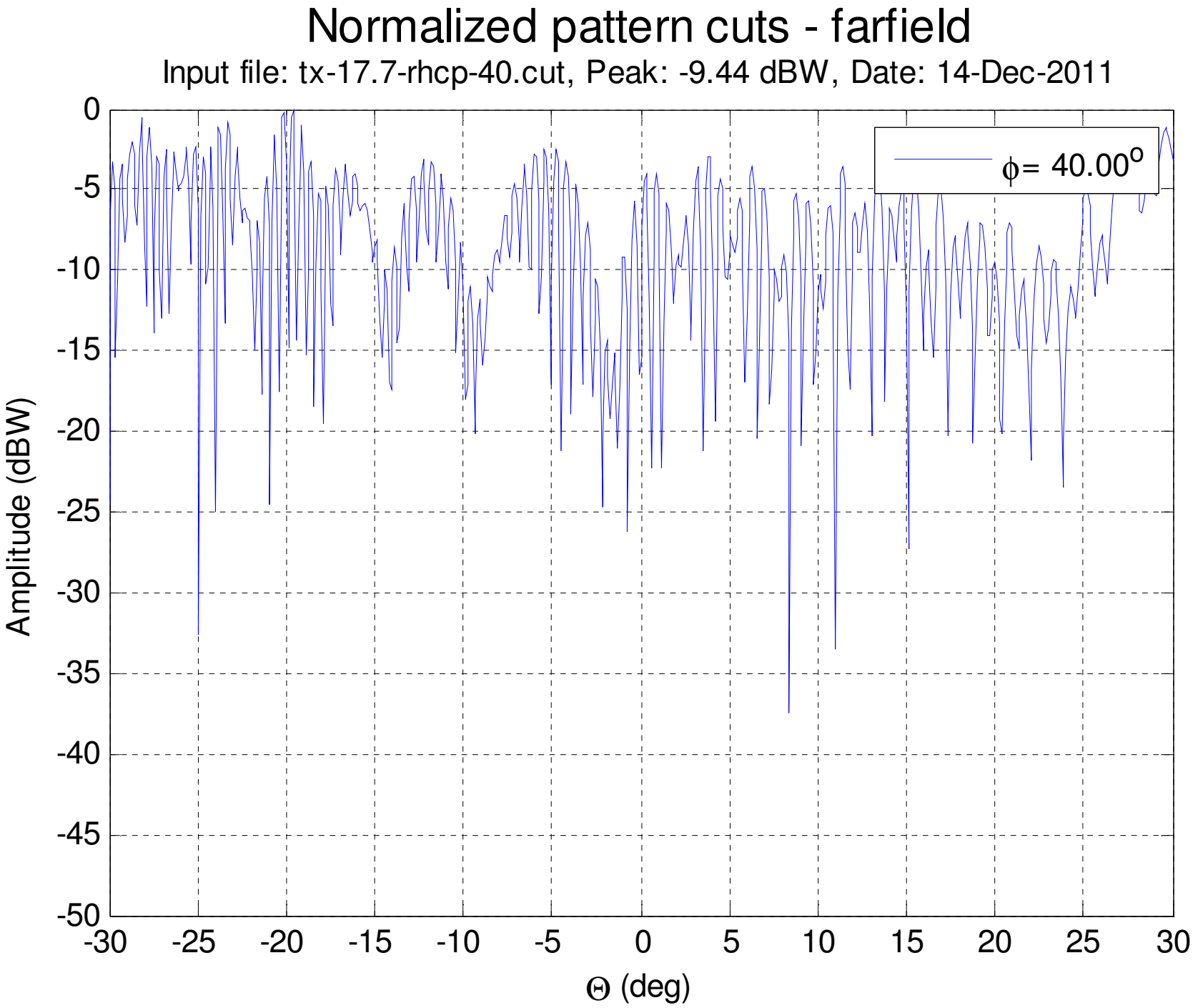

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -8.70 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

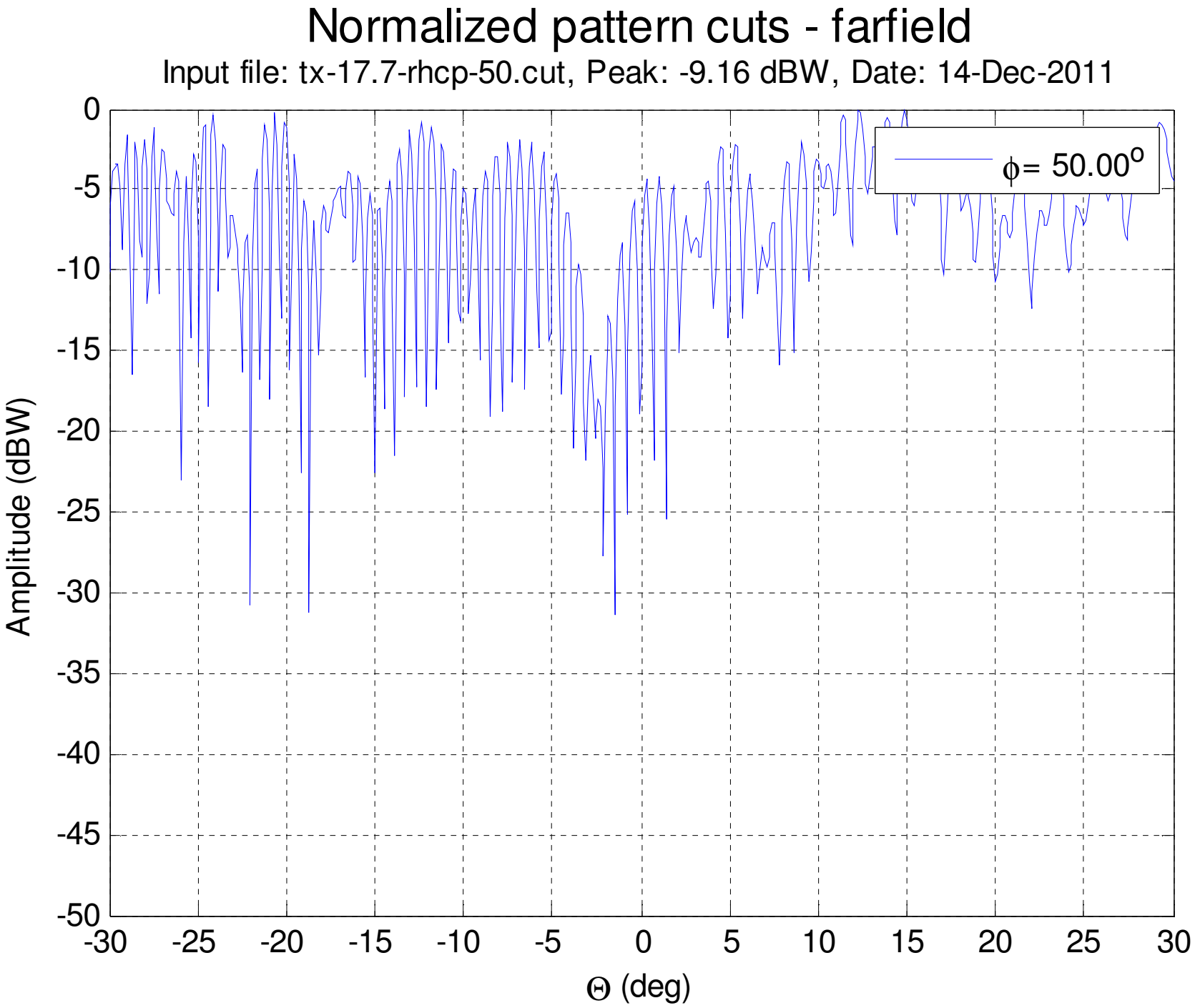

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -10.17 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

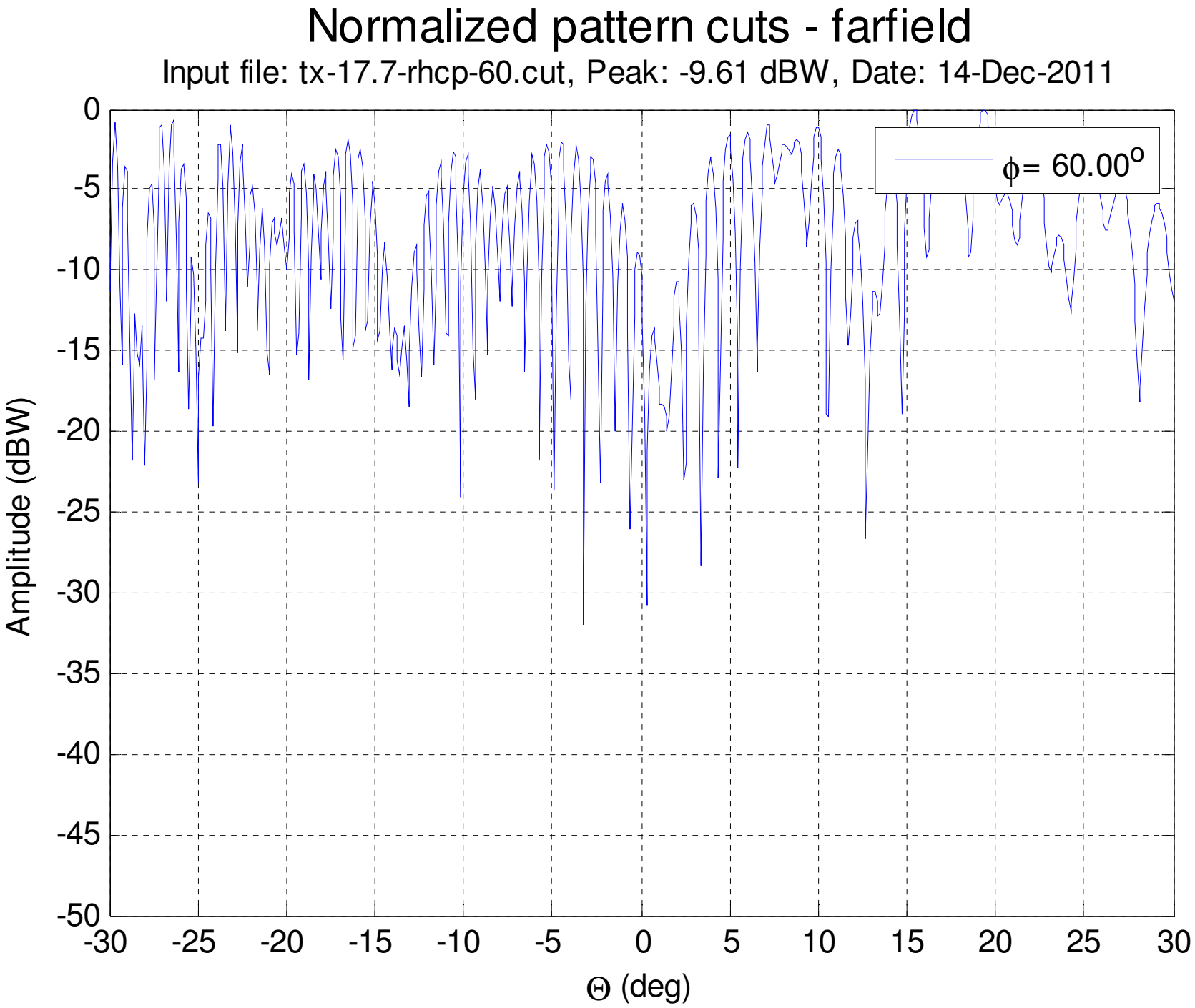

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -9.24 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -8.53 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

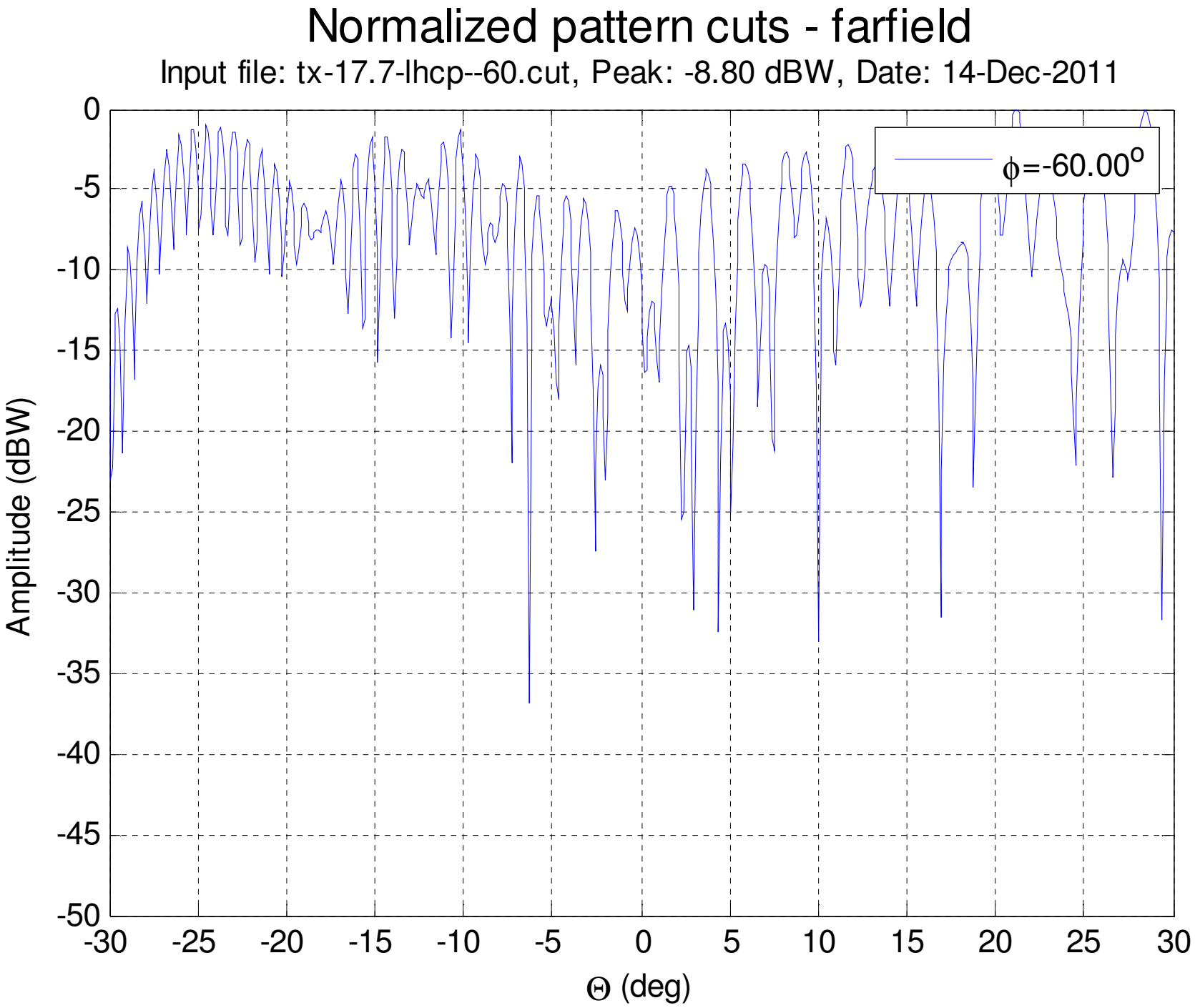

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -8.54 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

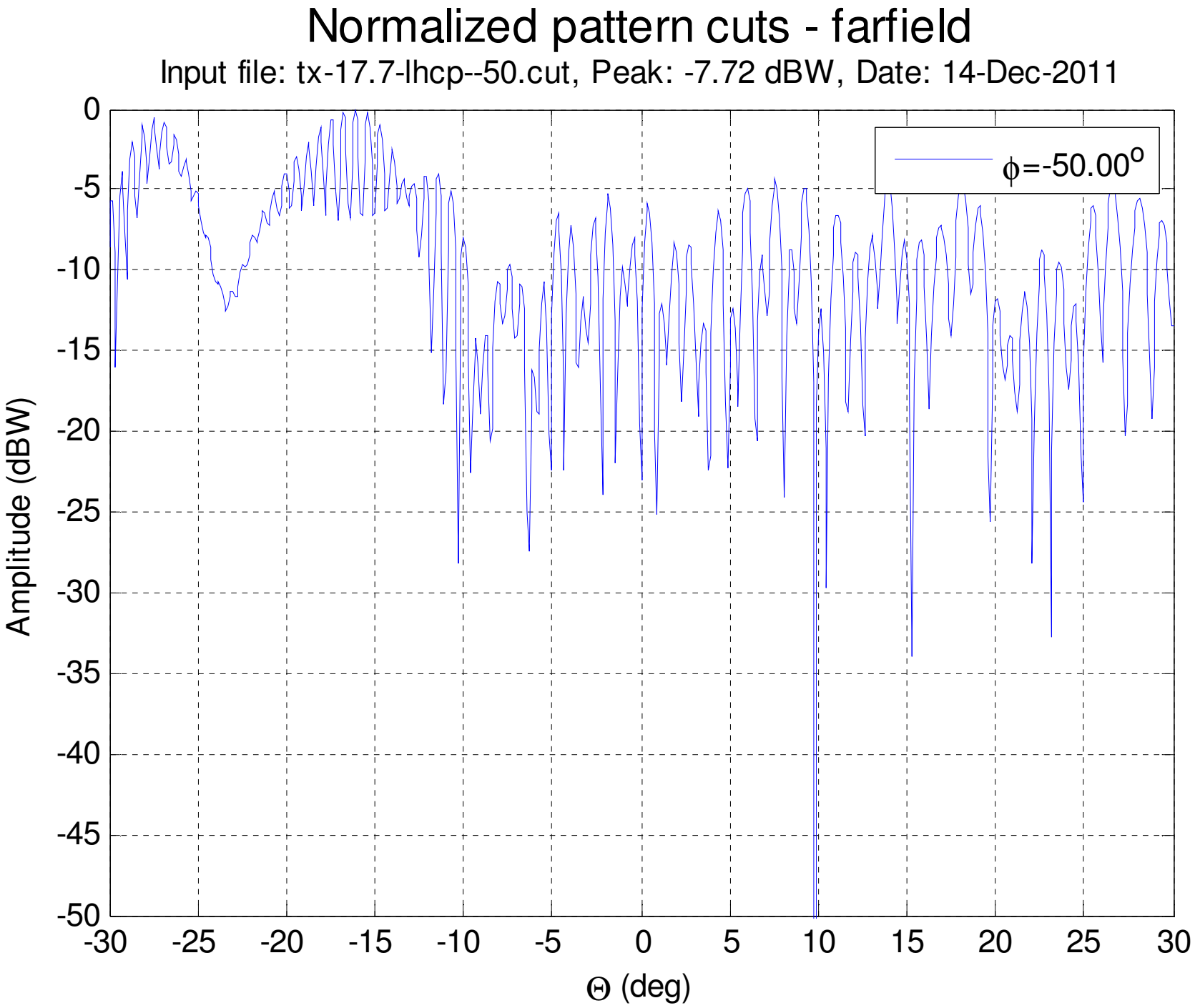

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -9.44 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

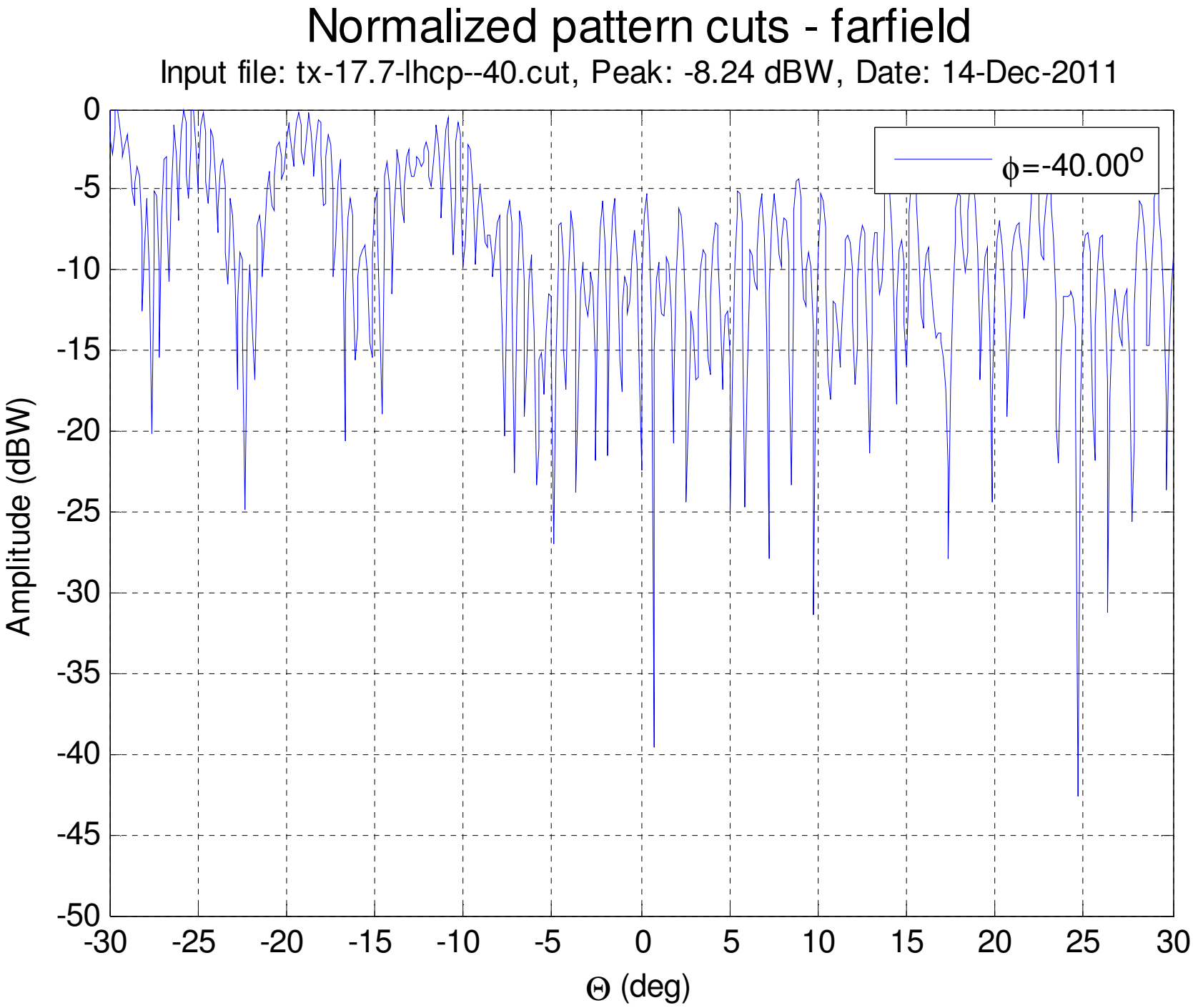

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -9.16 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

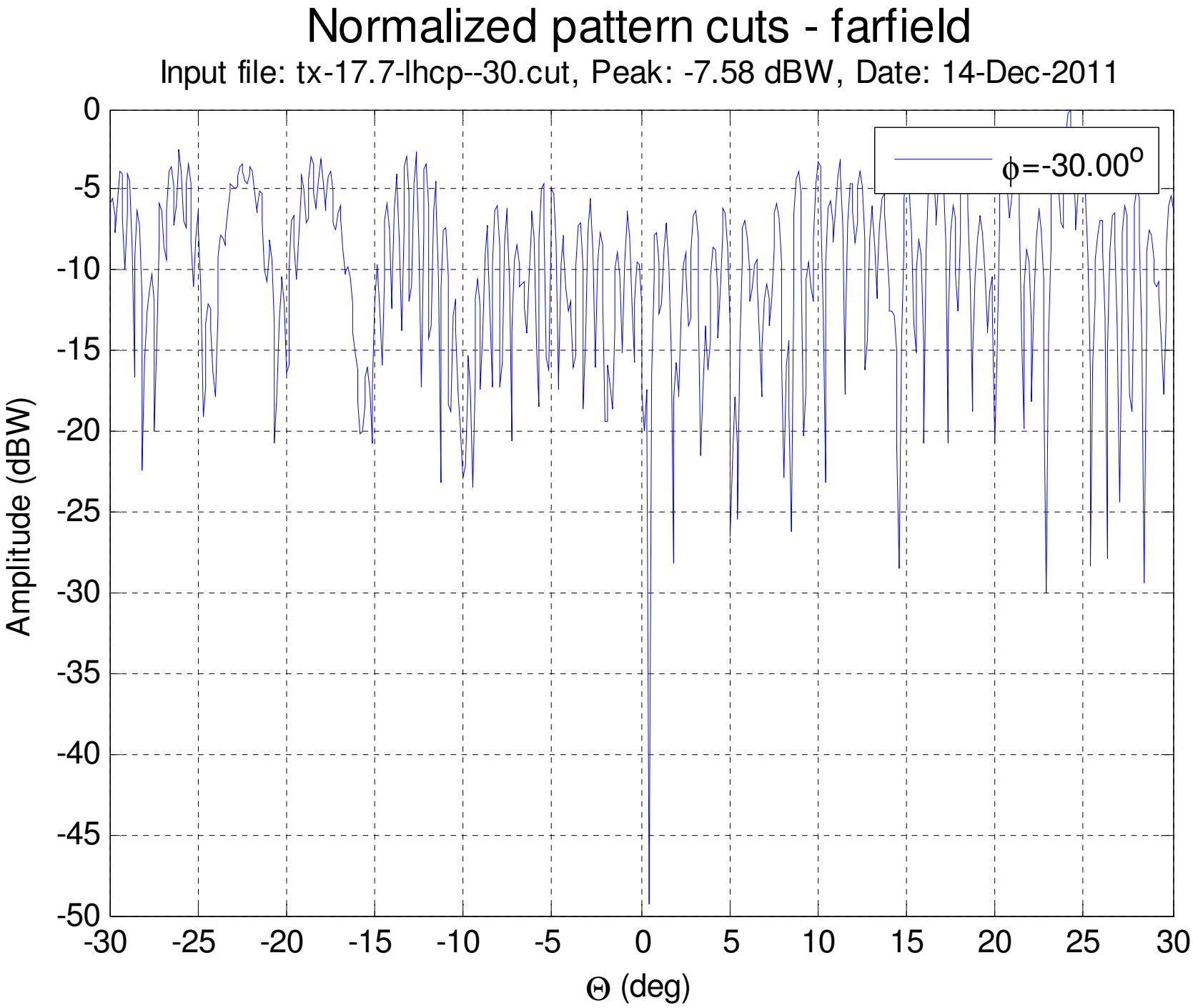

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -9.61 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

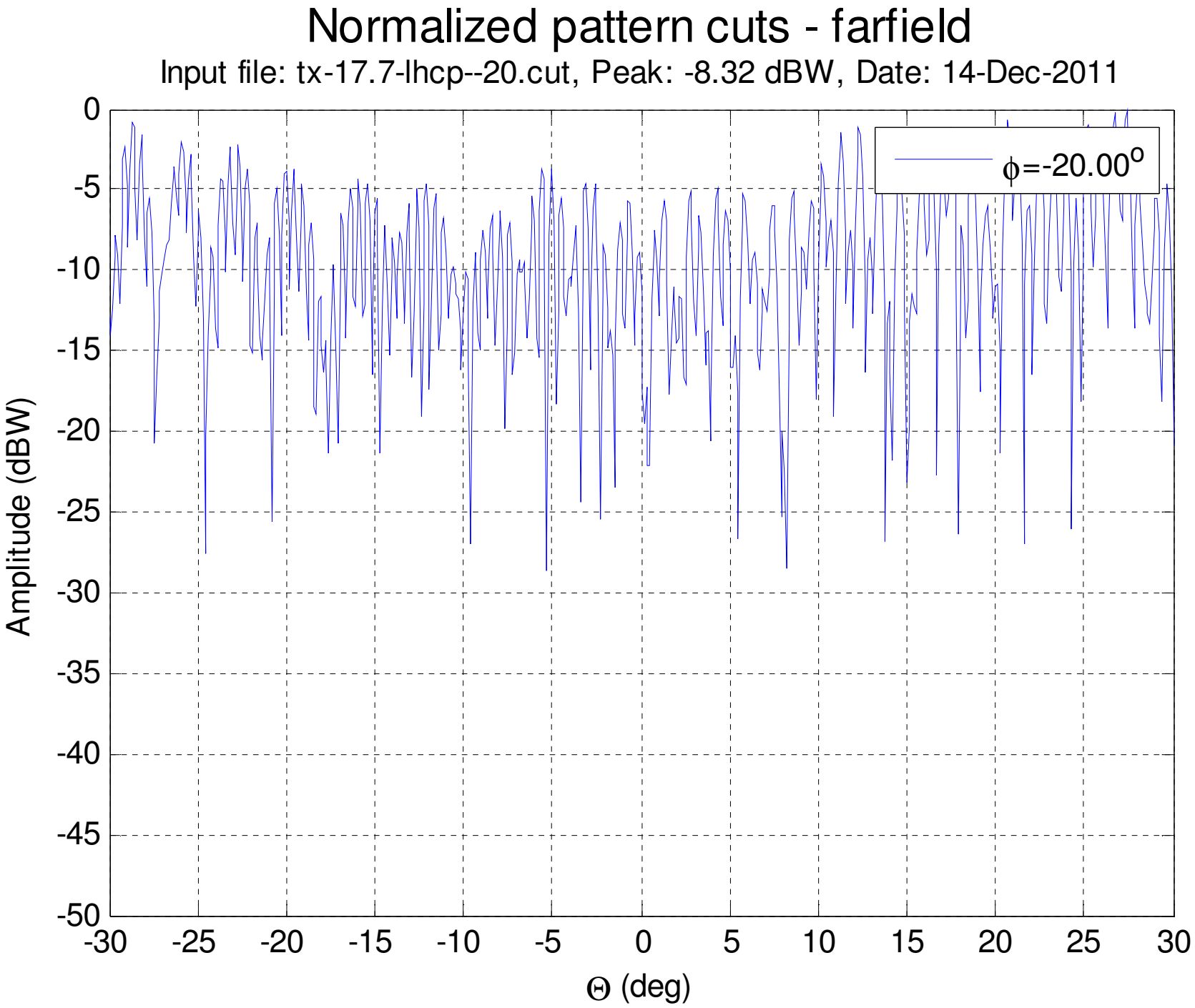
LHCP at 17.7 GHz

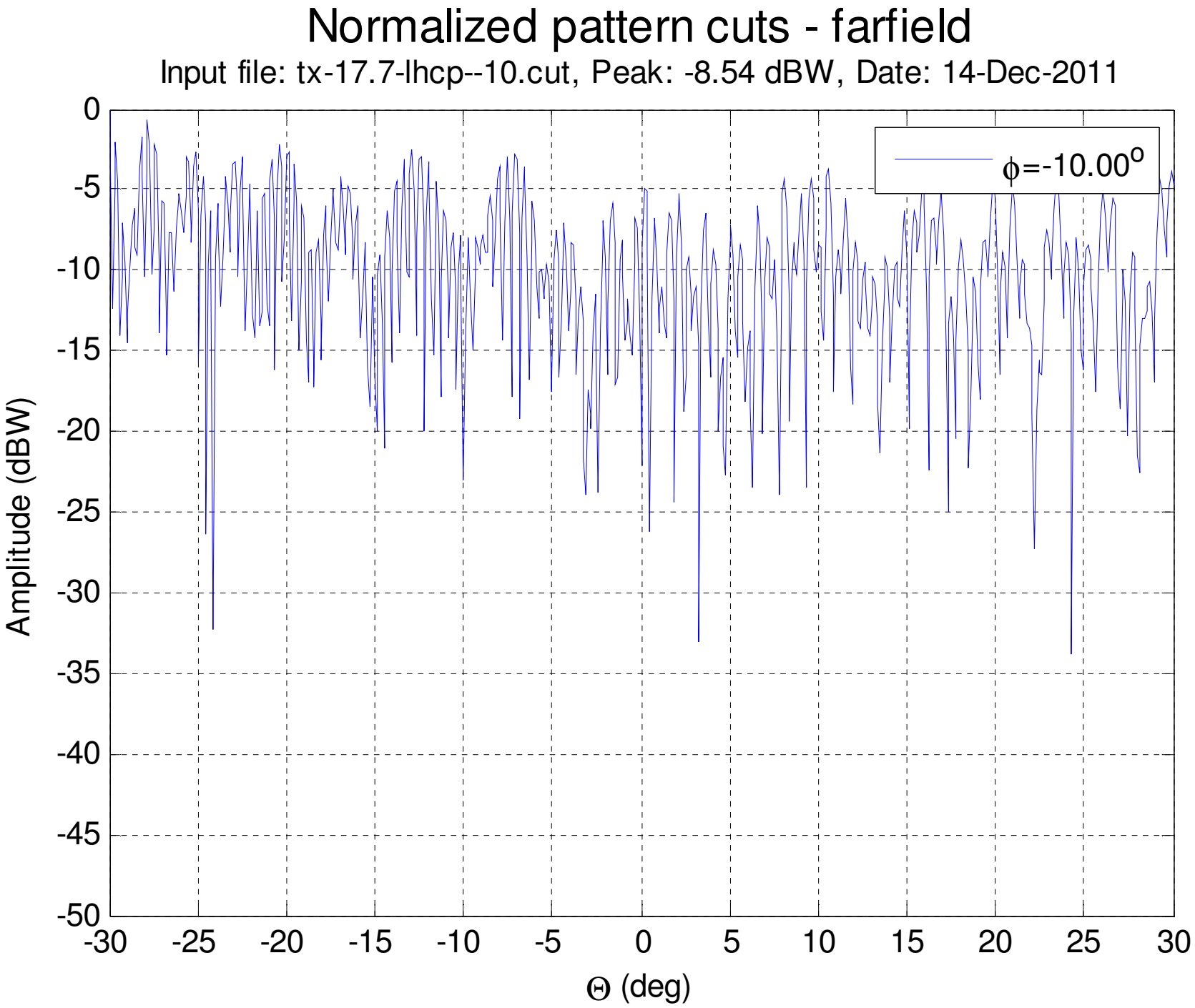

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.80 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

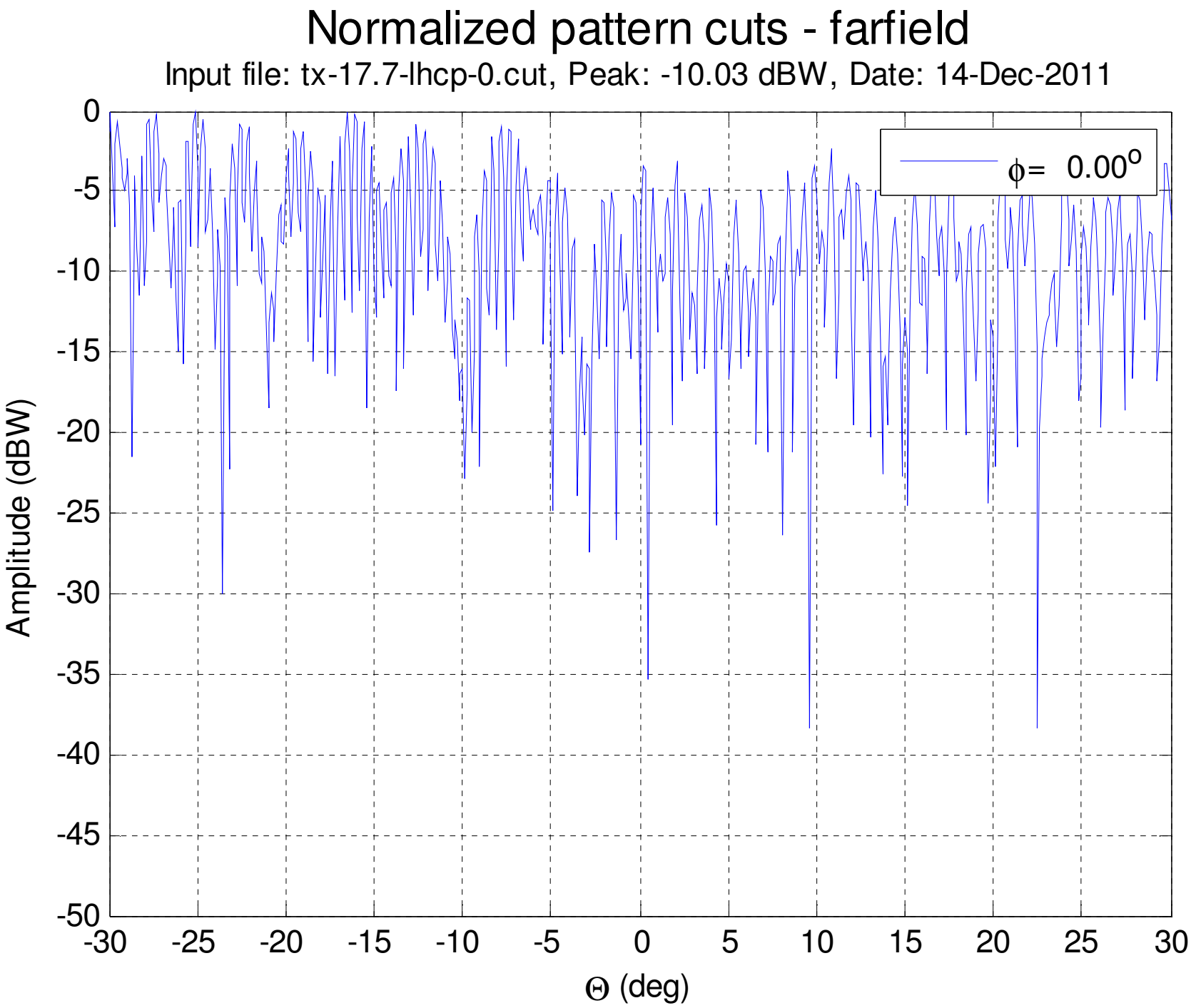

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -7.72 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

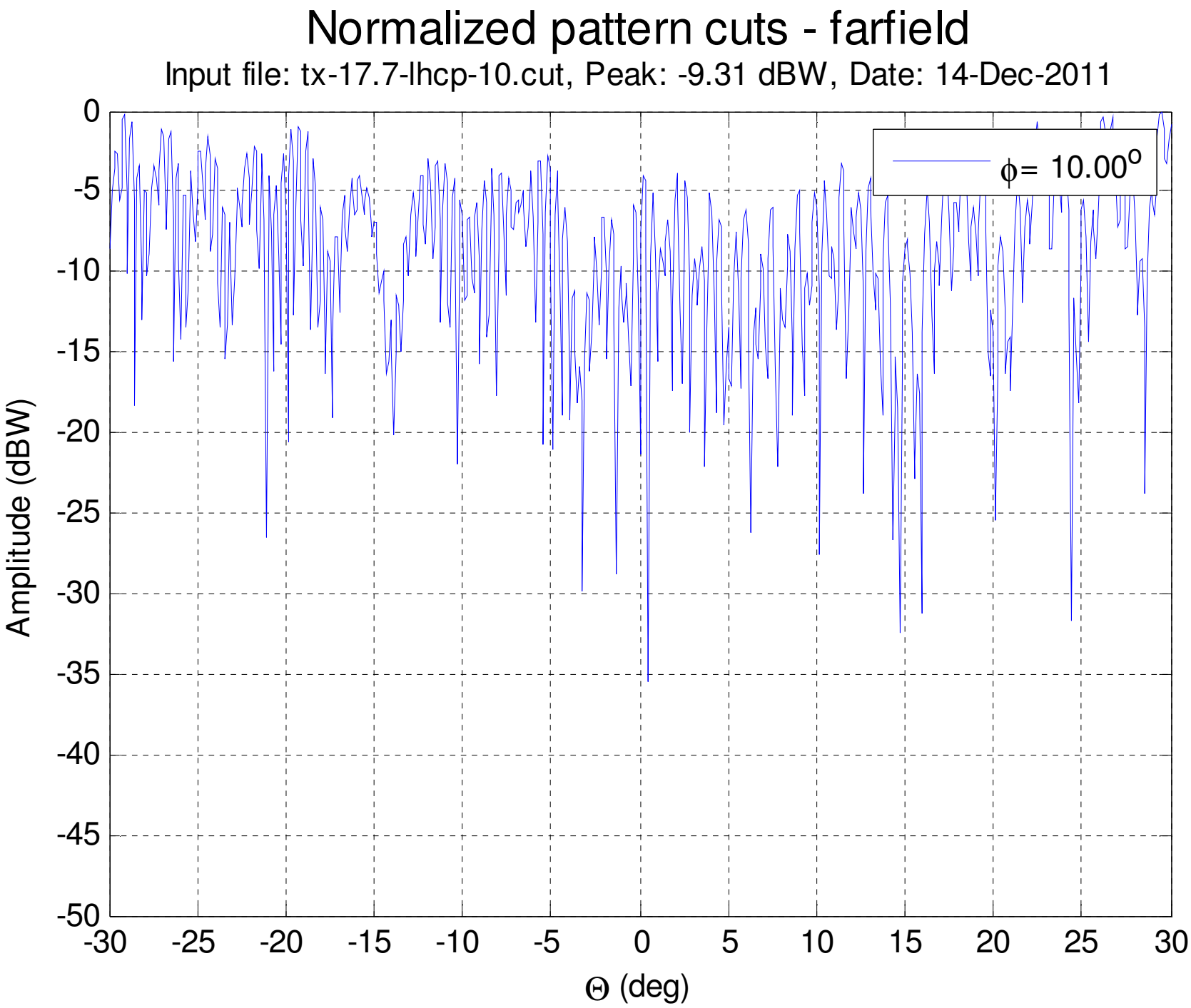

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.24 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

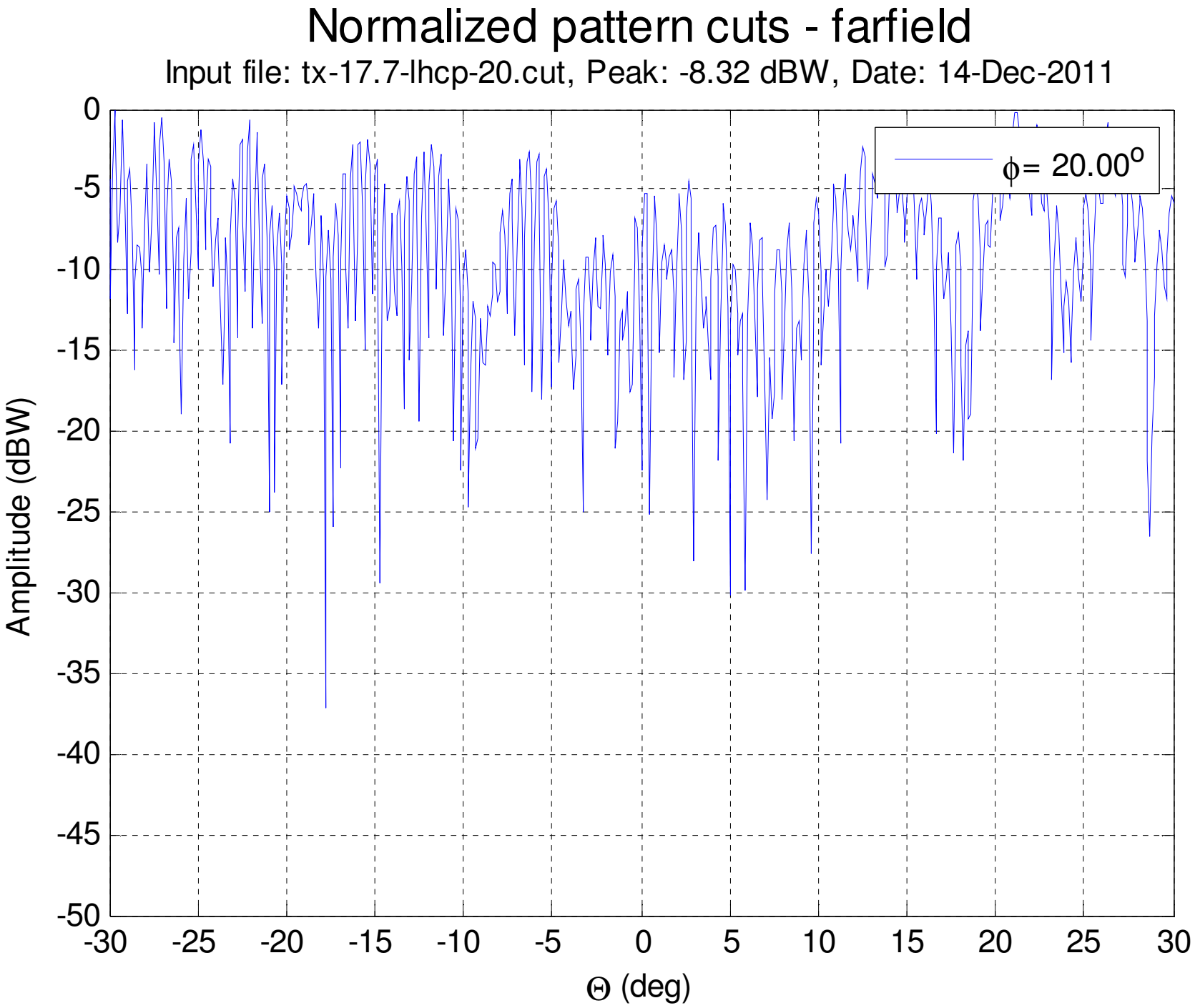

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -7.58 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

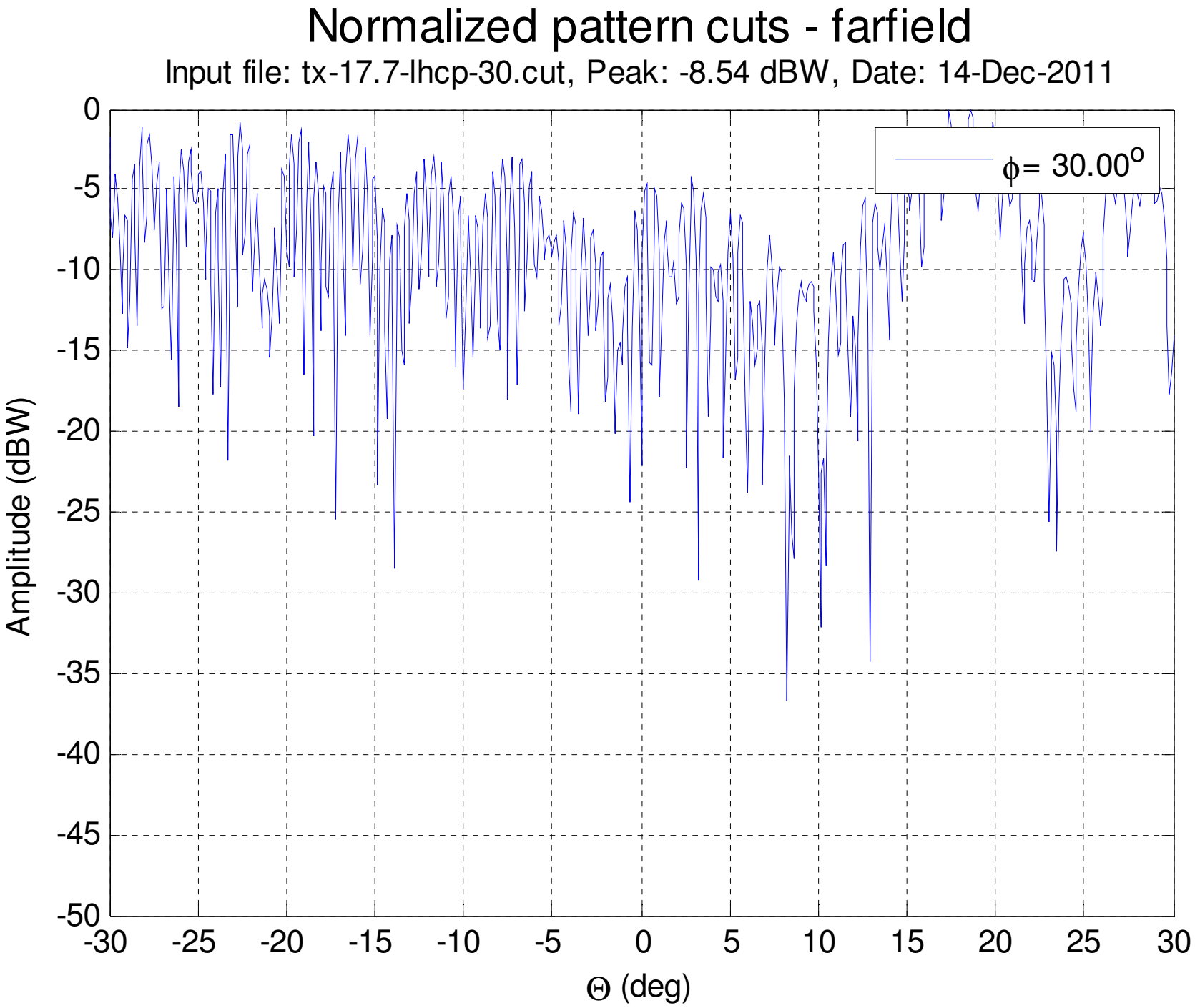

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -8.32 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

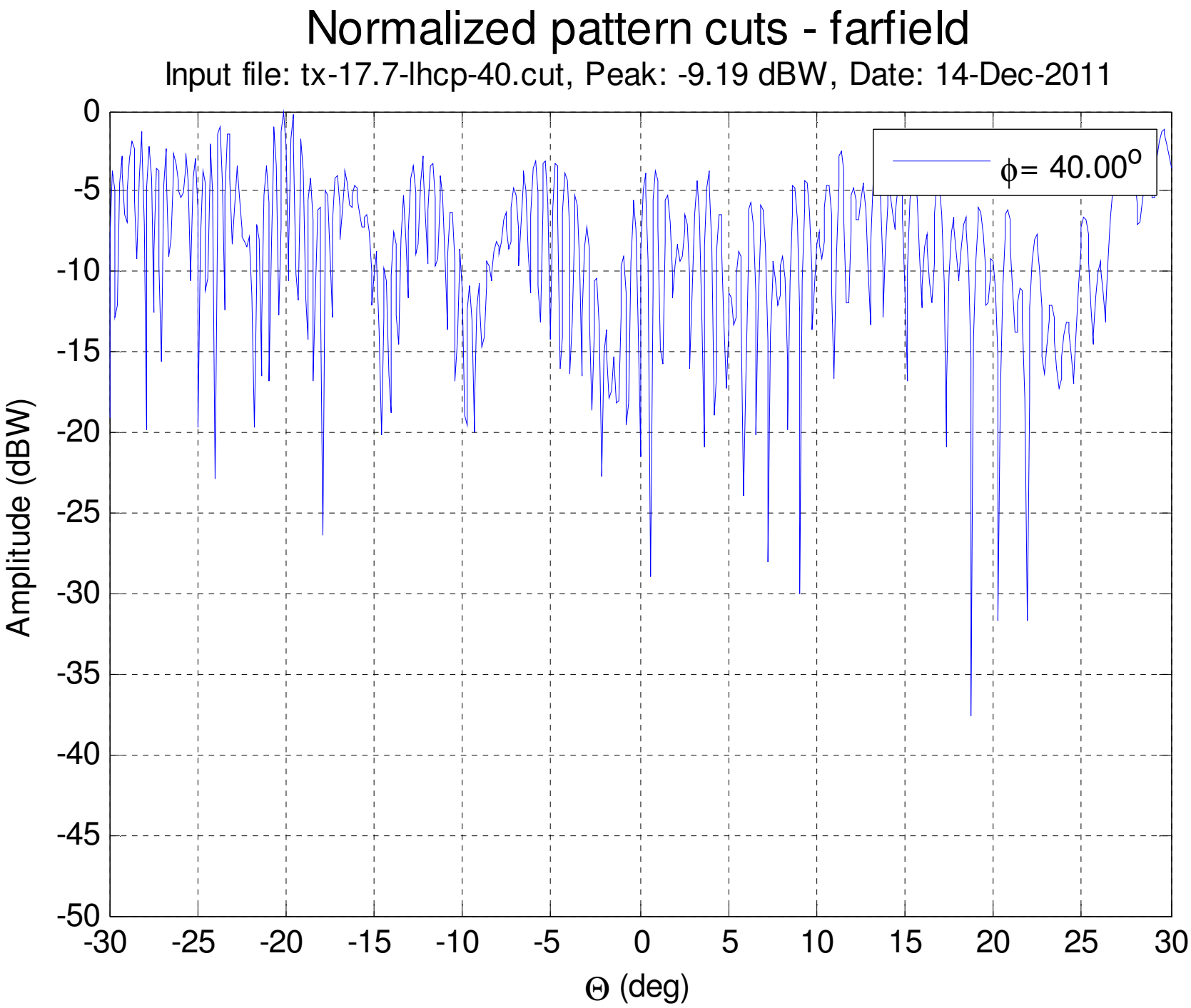

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -8.54 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

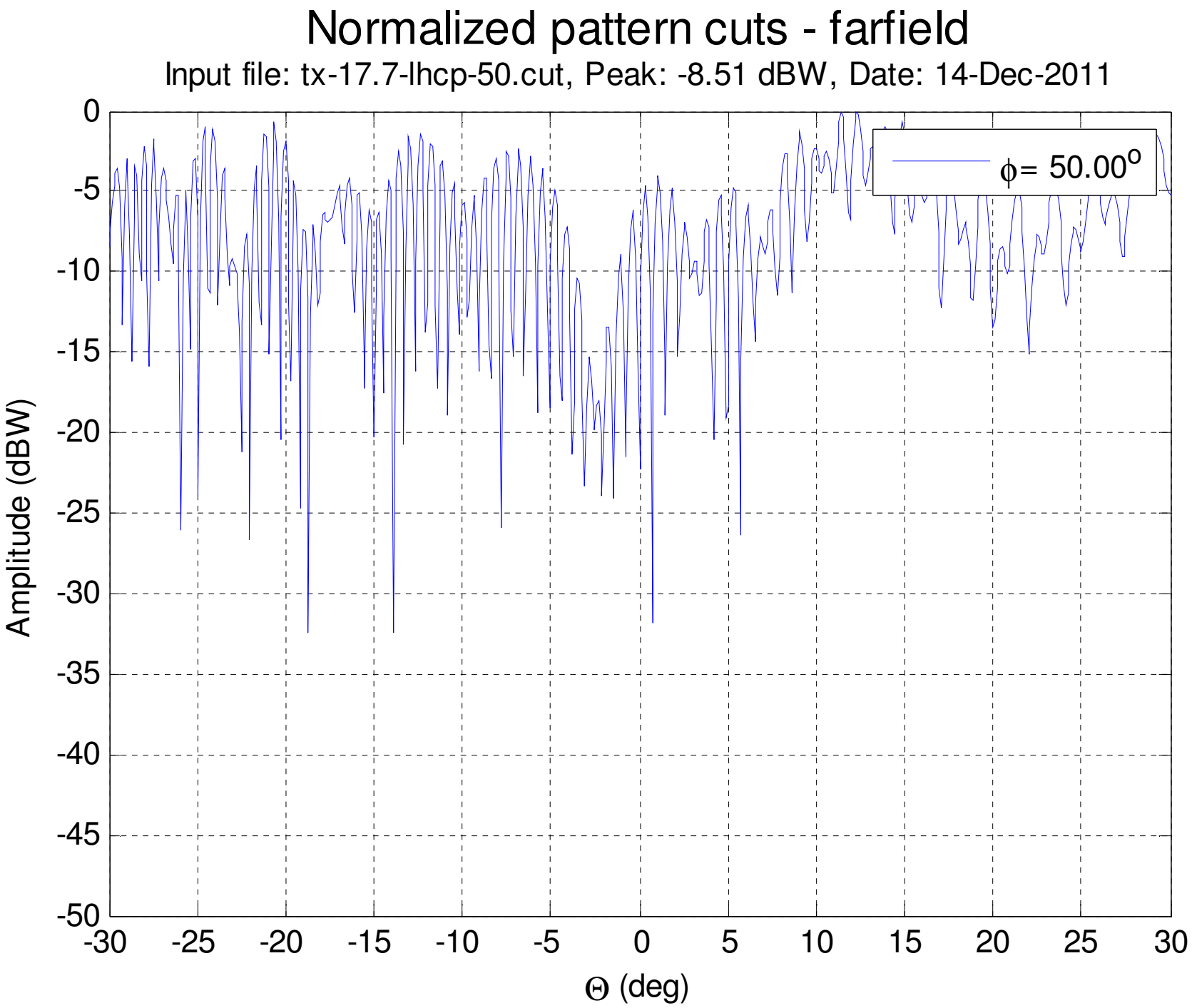

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -10.03 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

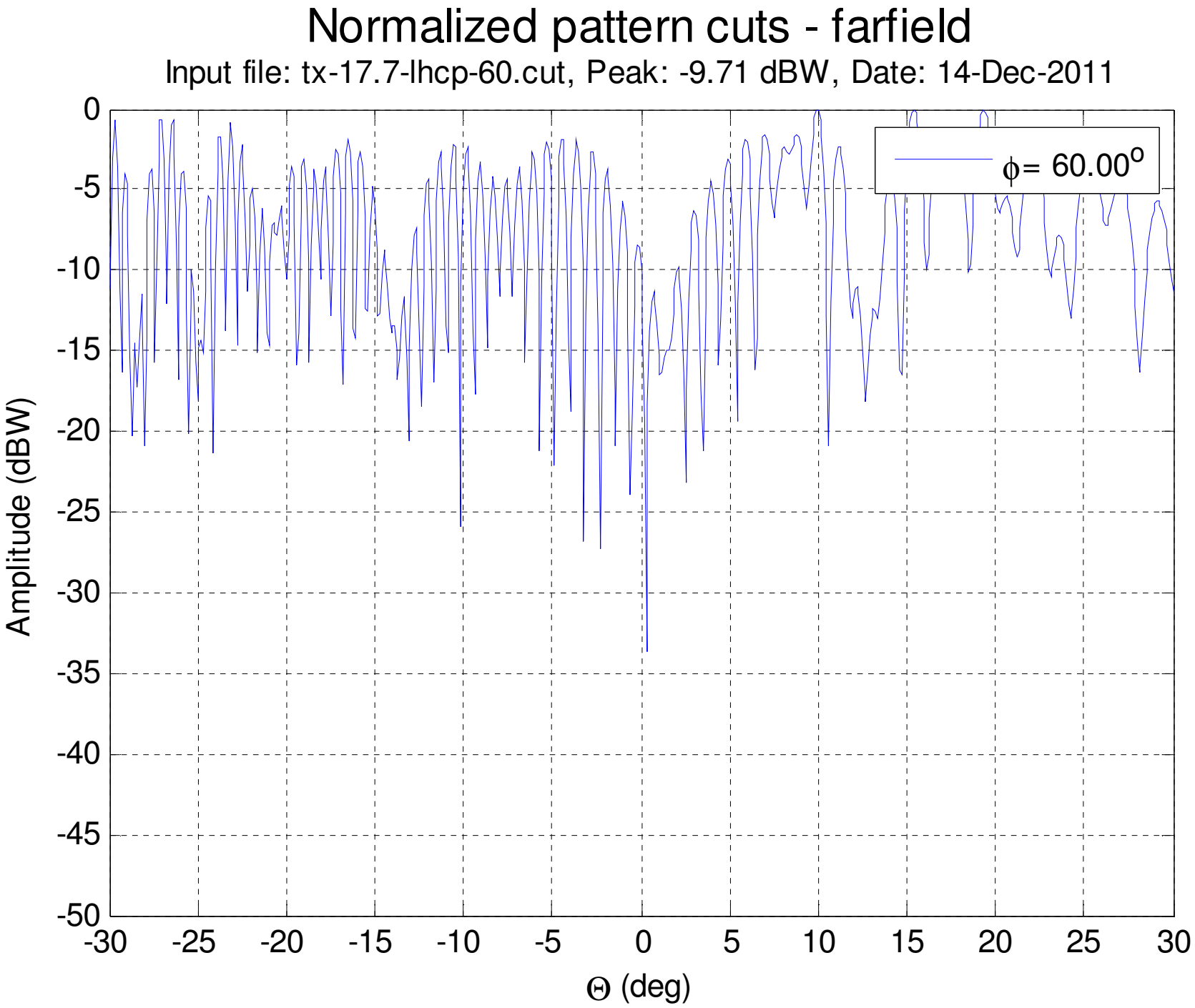

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -9.31 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -8.32 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -8.54 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -9.19 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -8.51 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -9.71 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

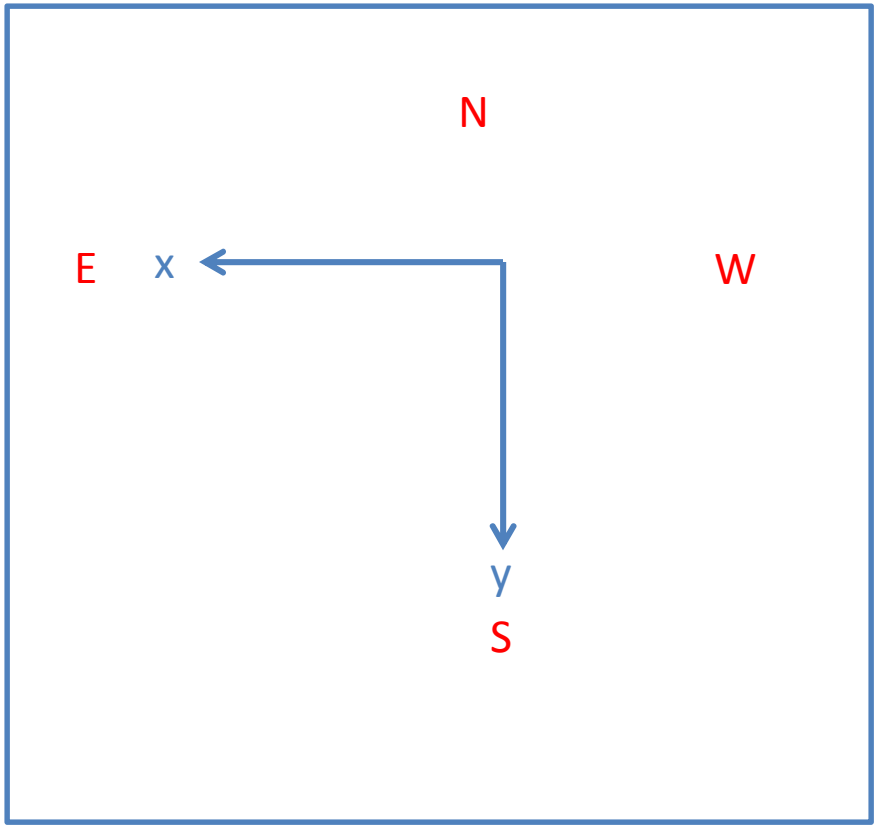
Updated: May 15, 2012

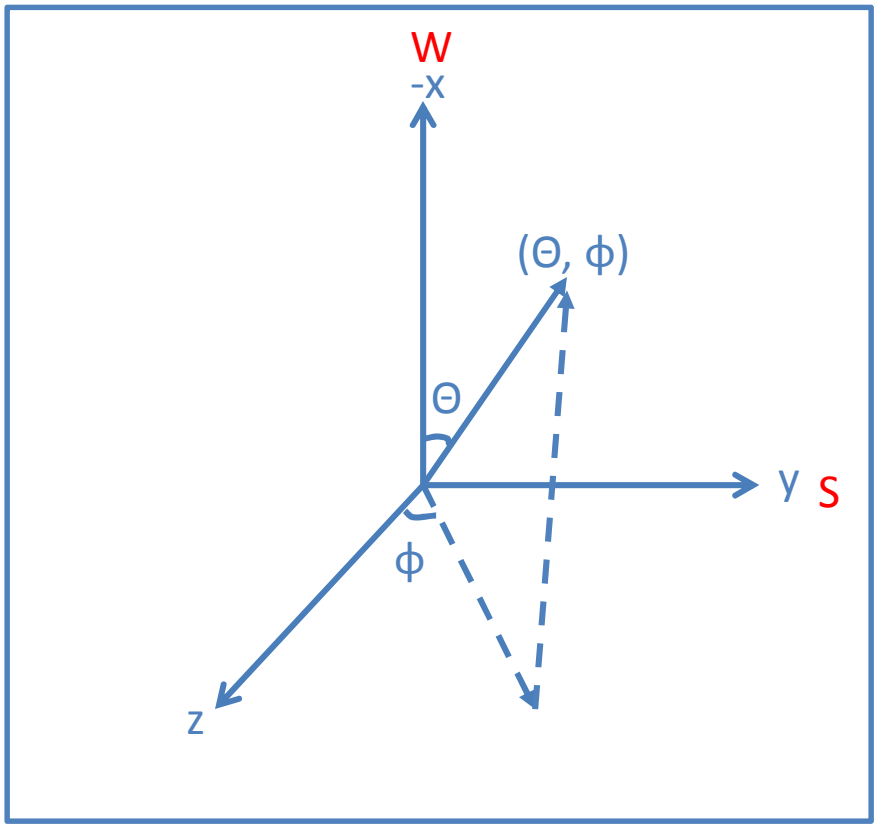
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 05

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

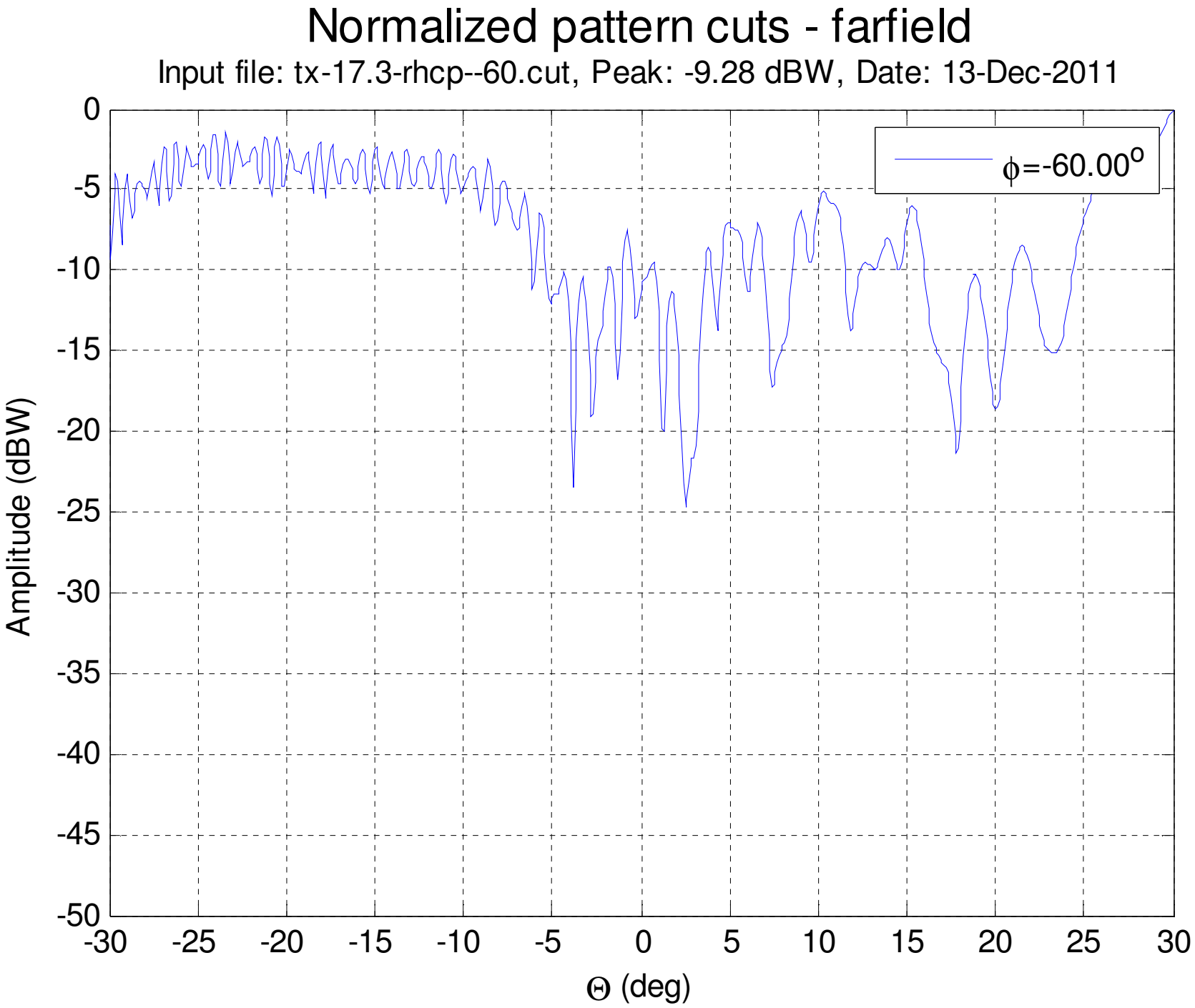


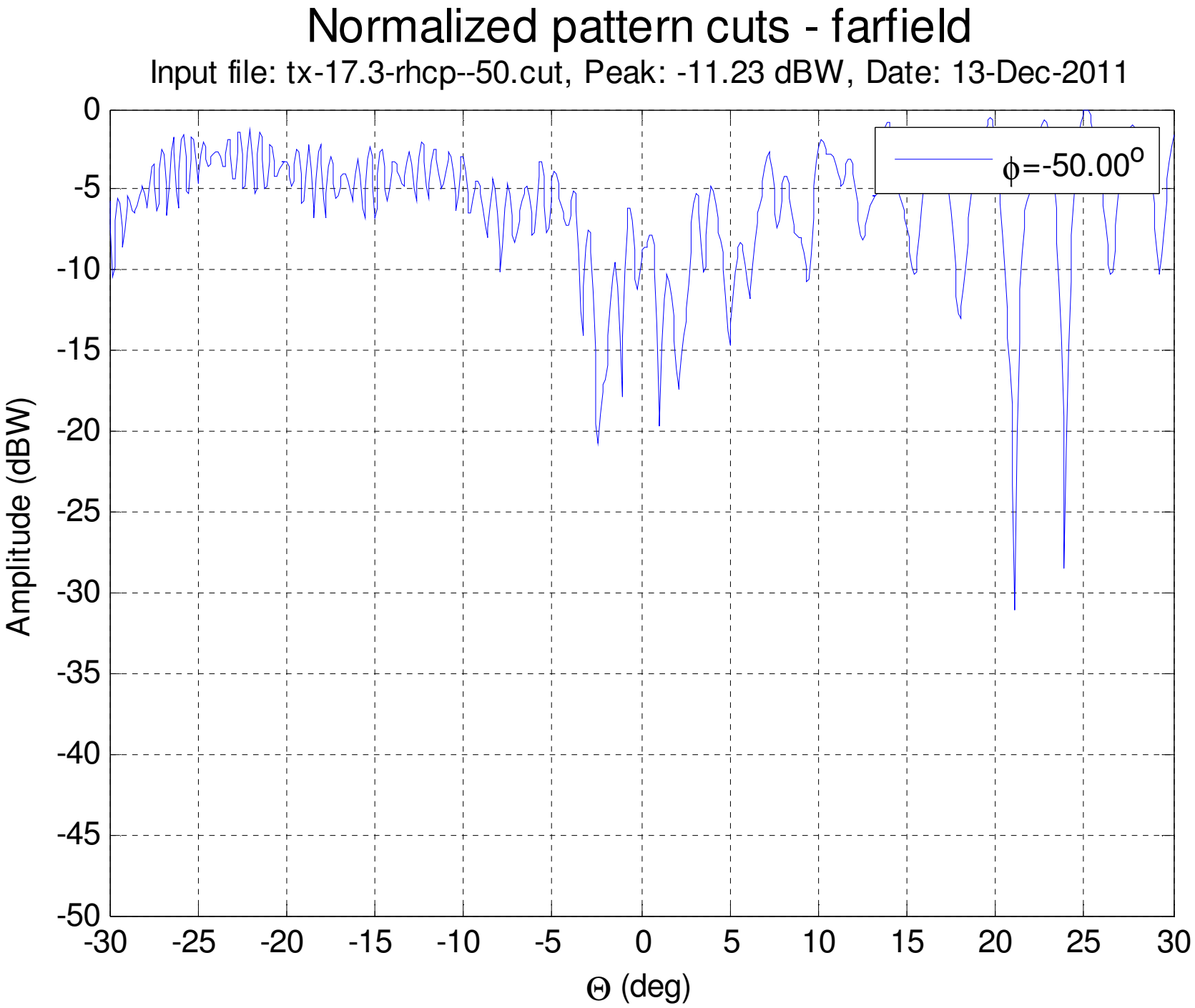


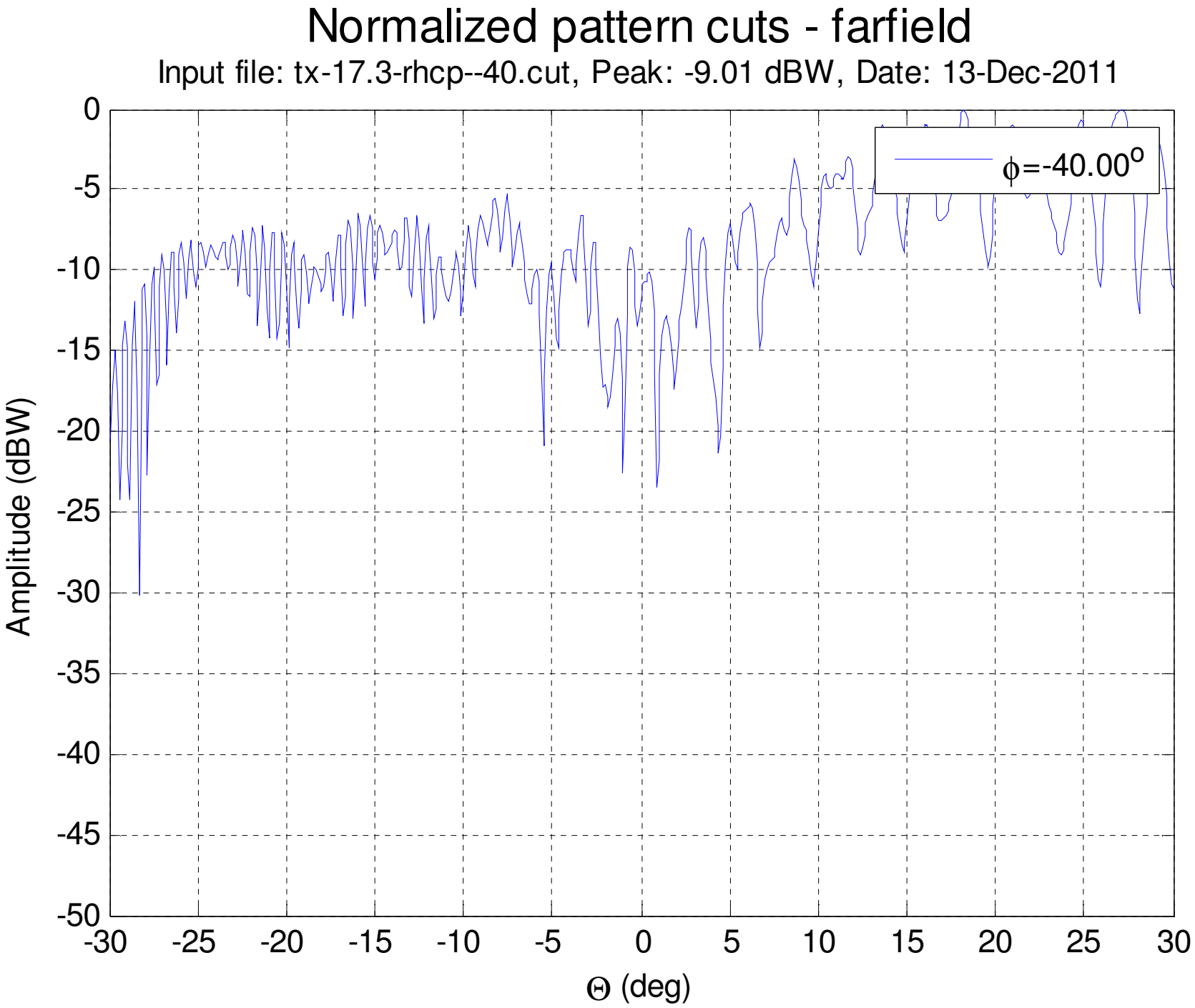
Spot Beam05, -X Axis Plots

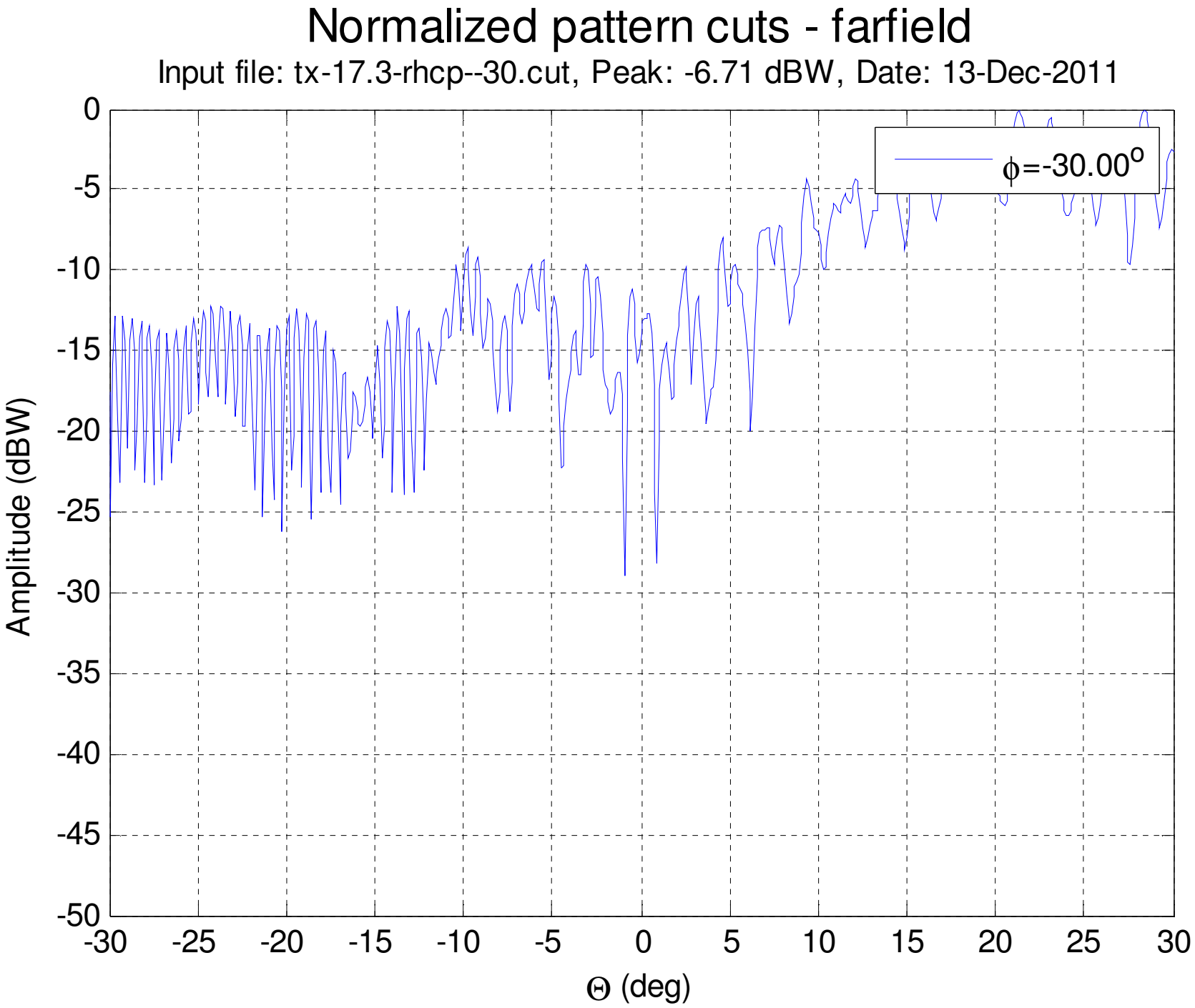
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

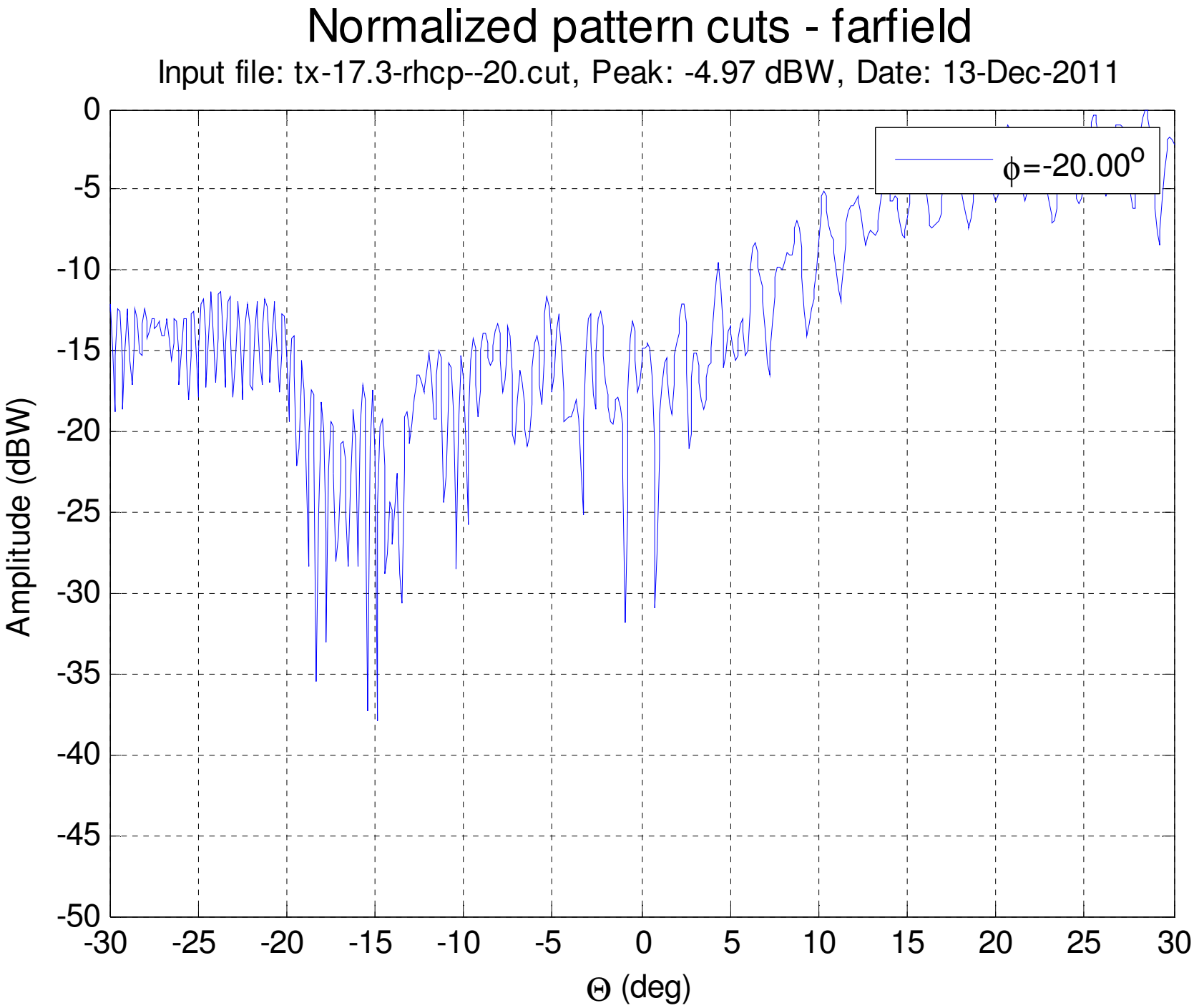
RHCP at 17.3 GHz

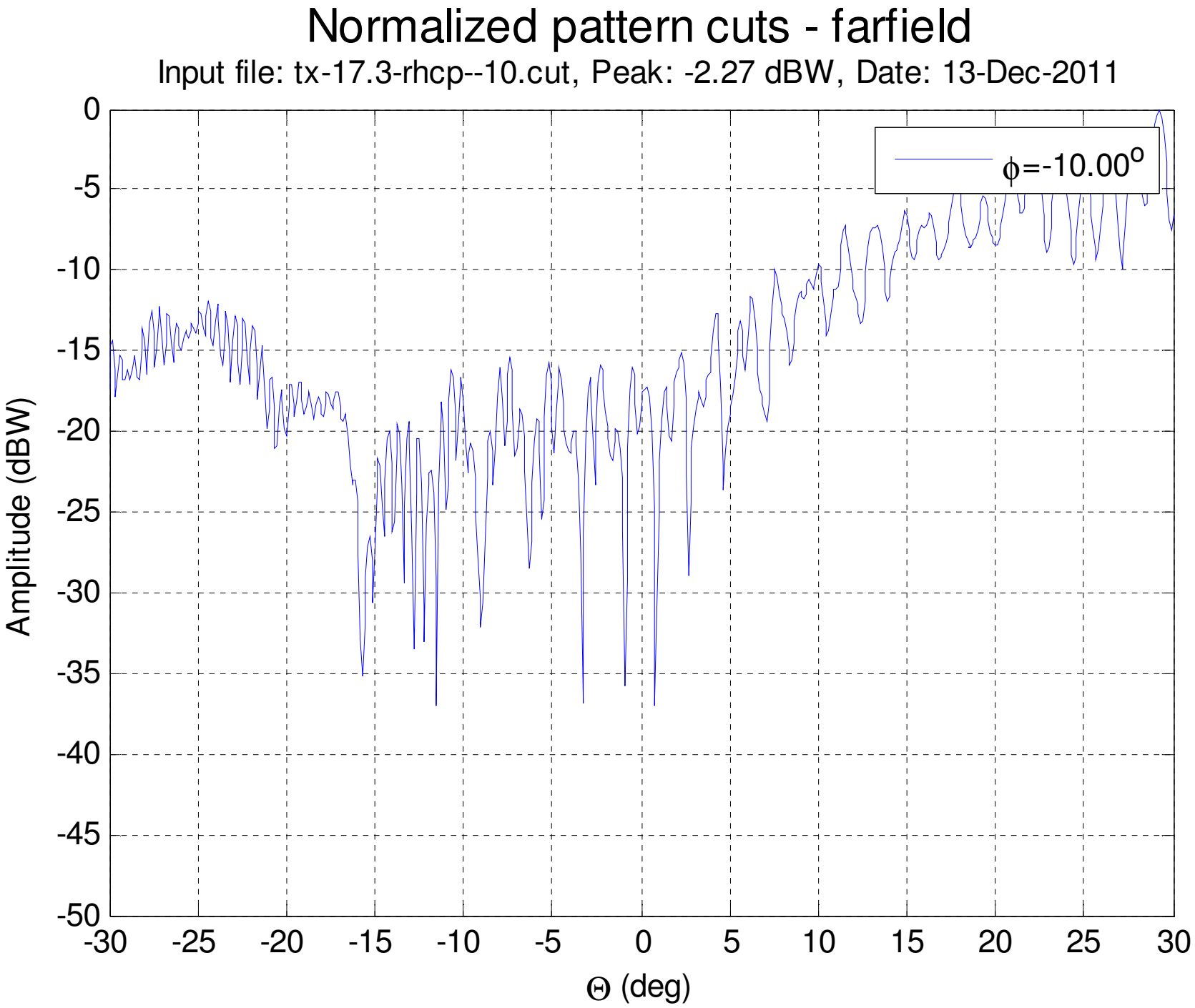

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -9.28 dBW, Date: 13-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

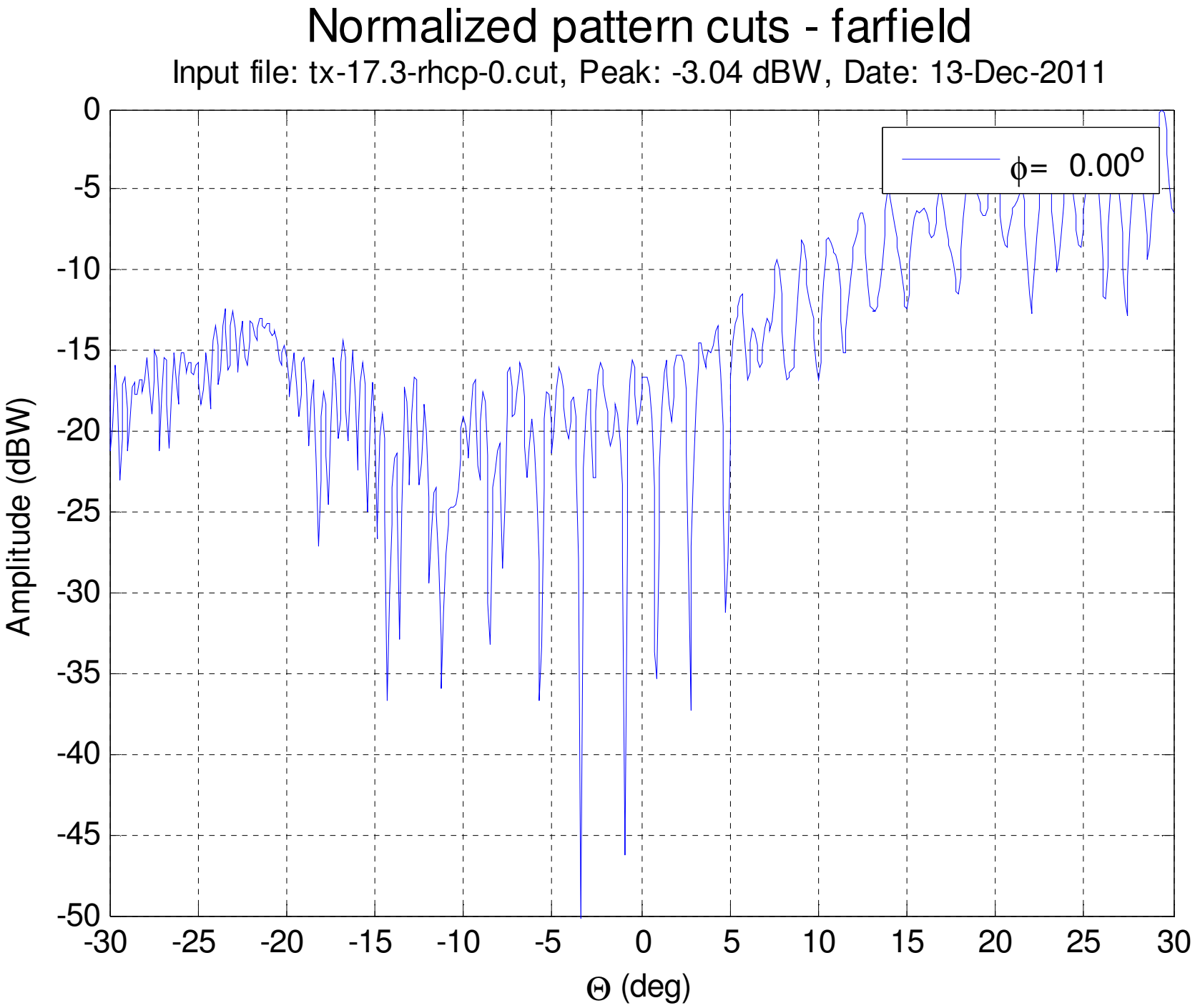

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -11.23 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

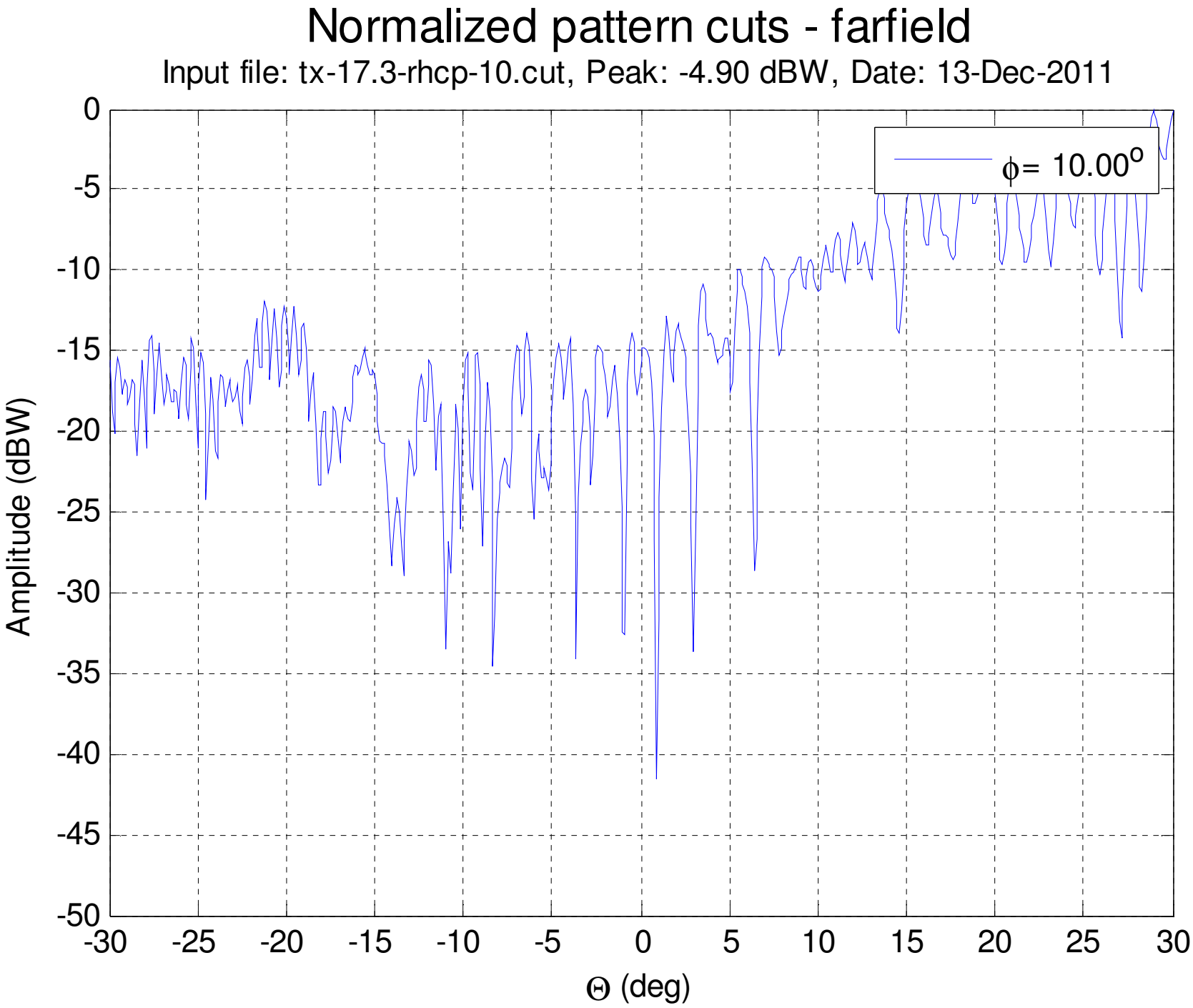

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -9.01 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

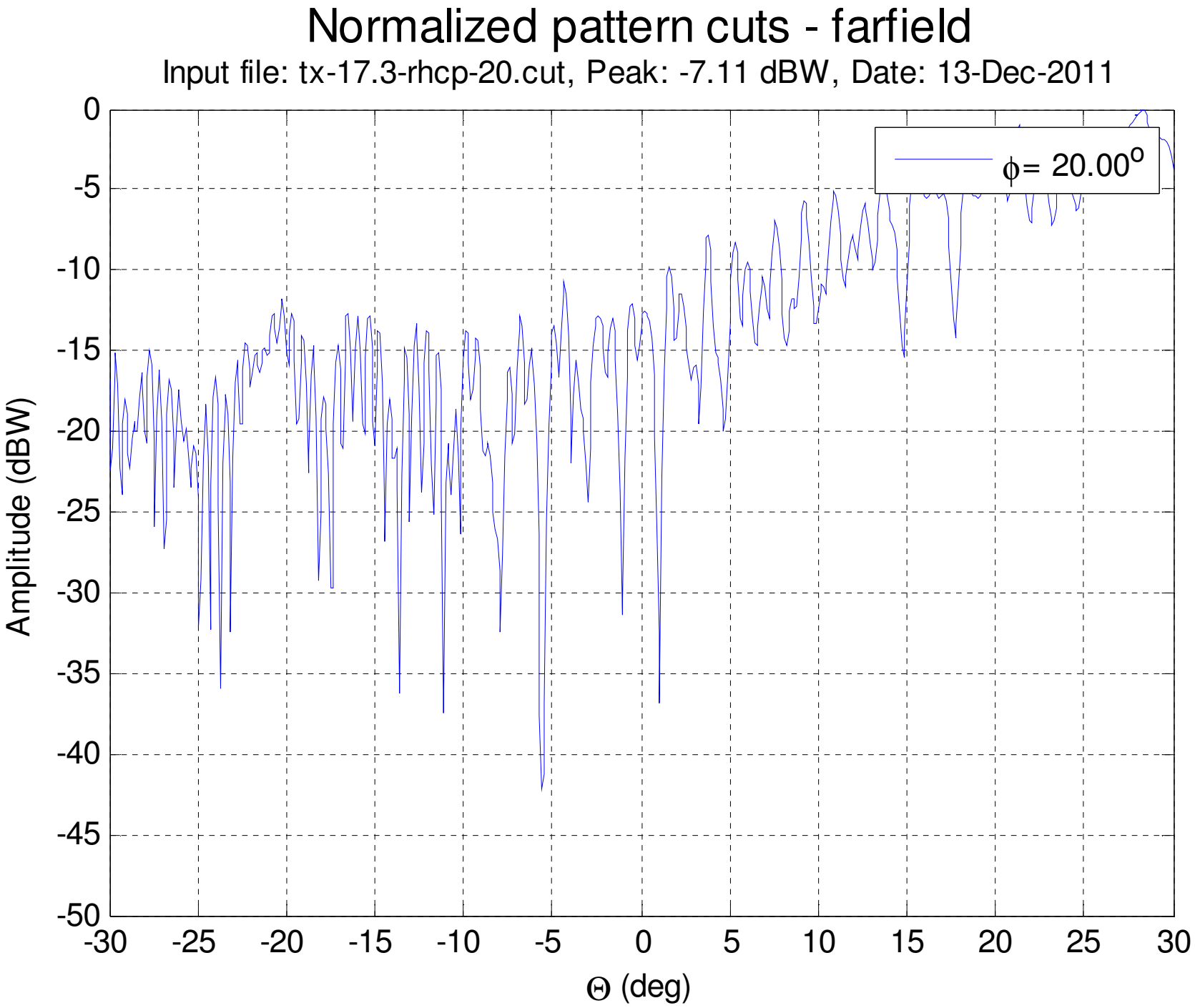

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -6.71 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

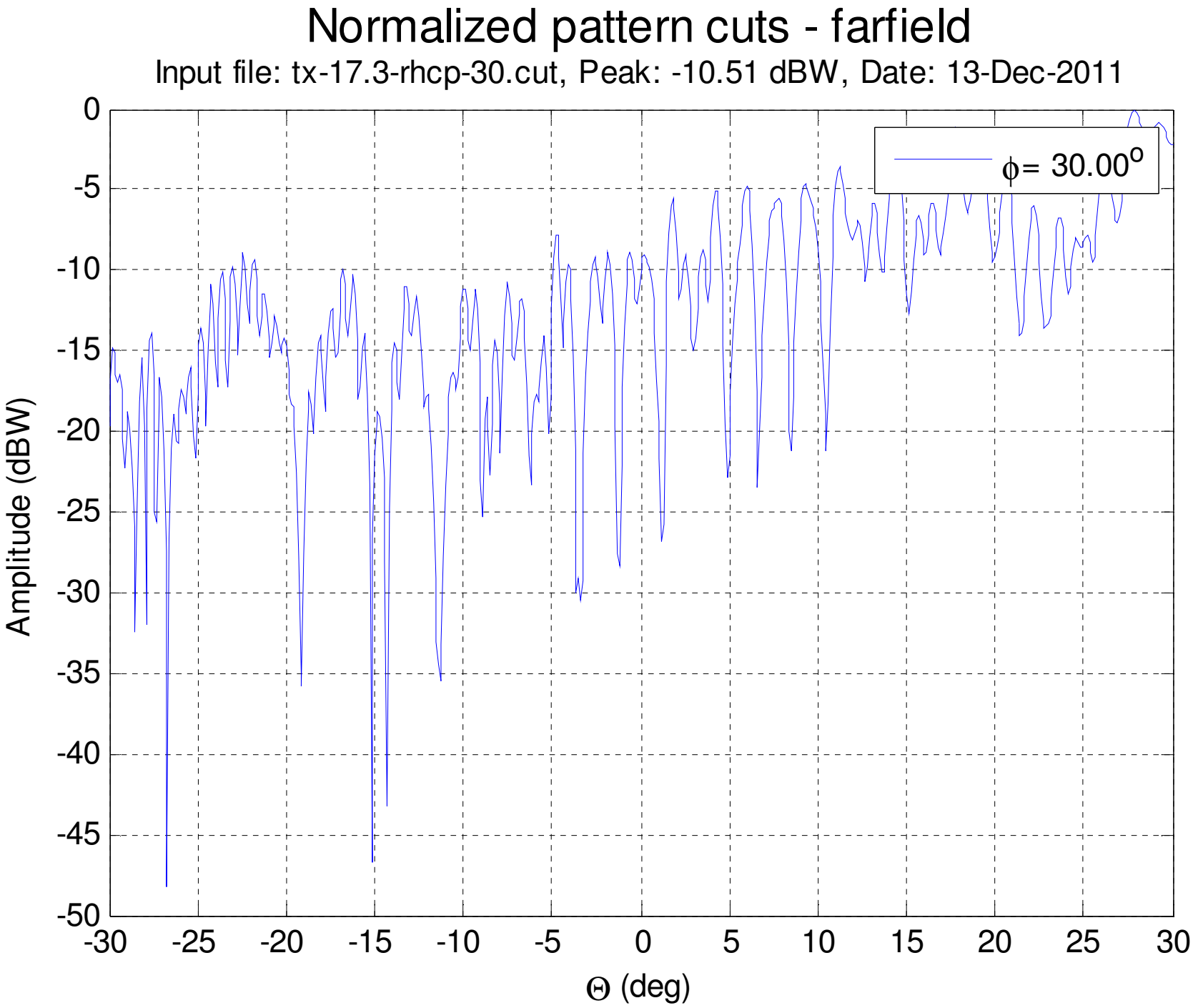

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -4.97 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

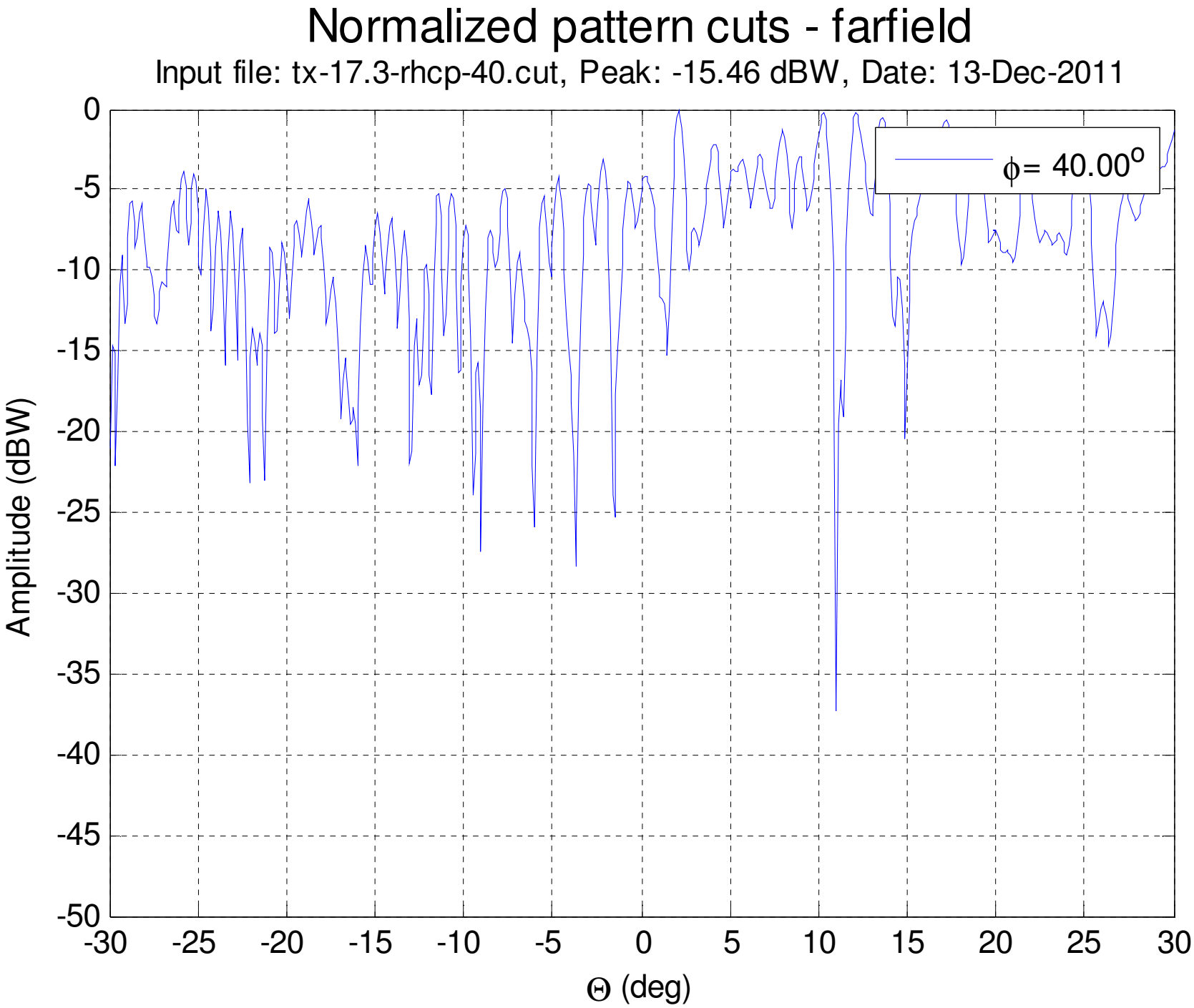

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -2.27 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

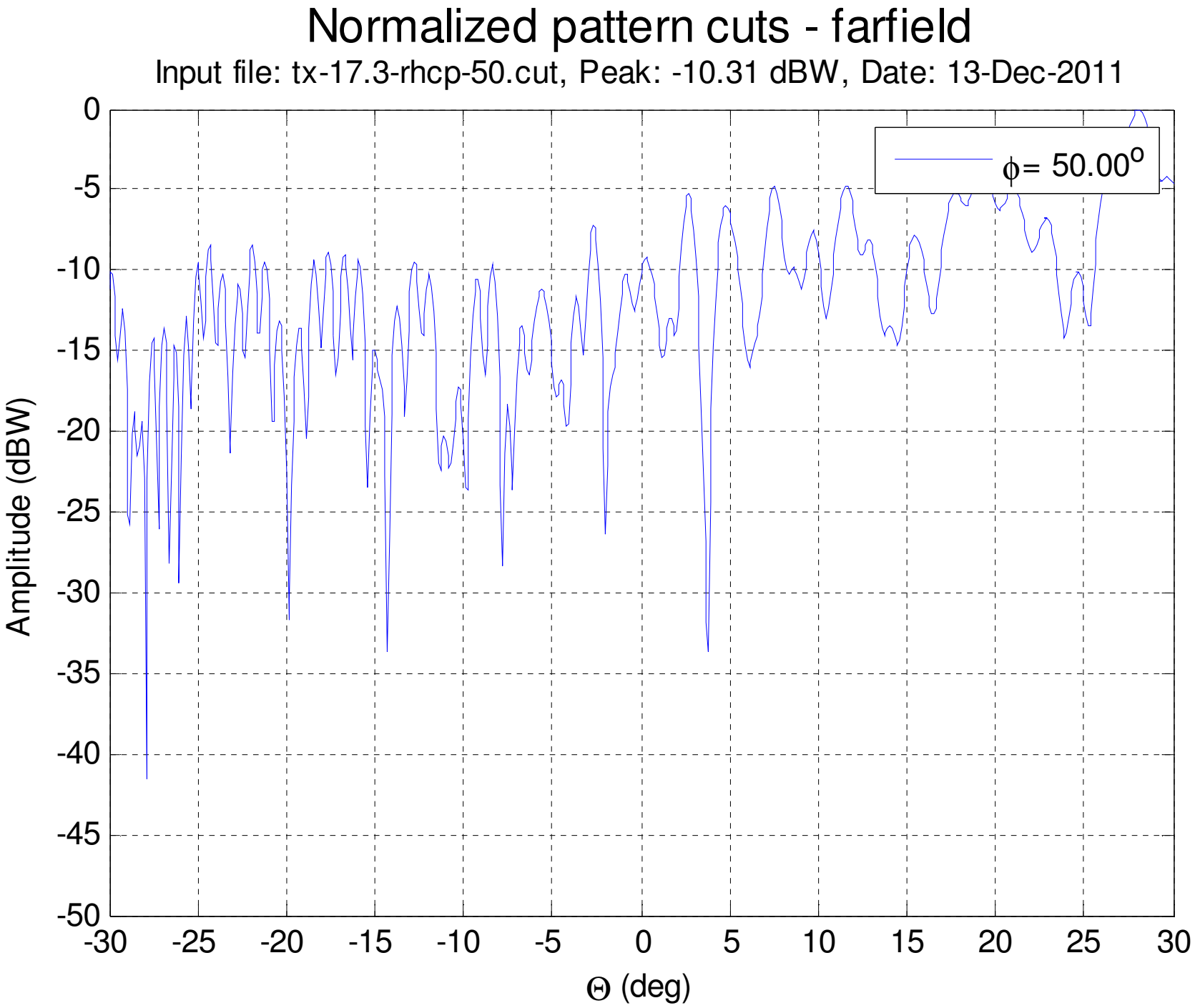

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -3.04 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

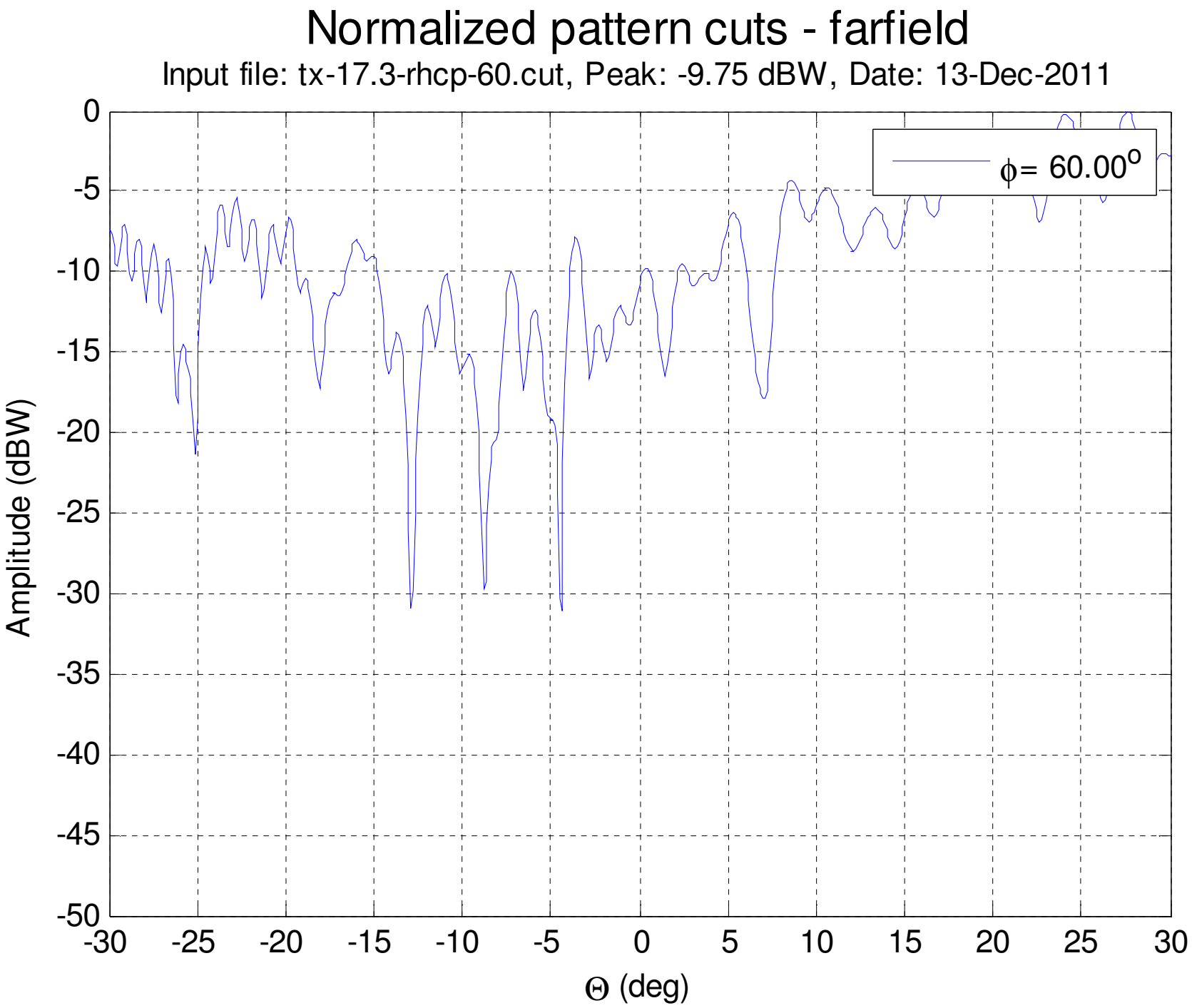

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -4.90 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -7.11 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

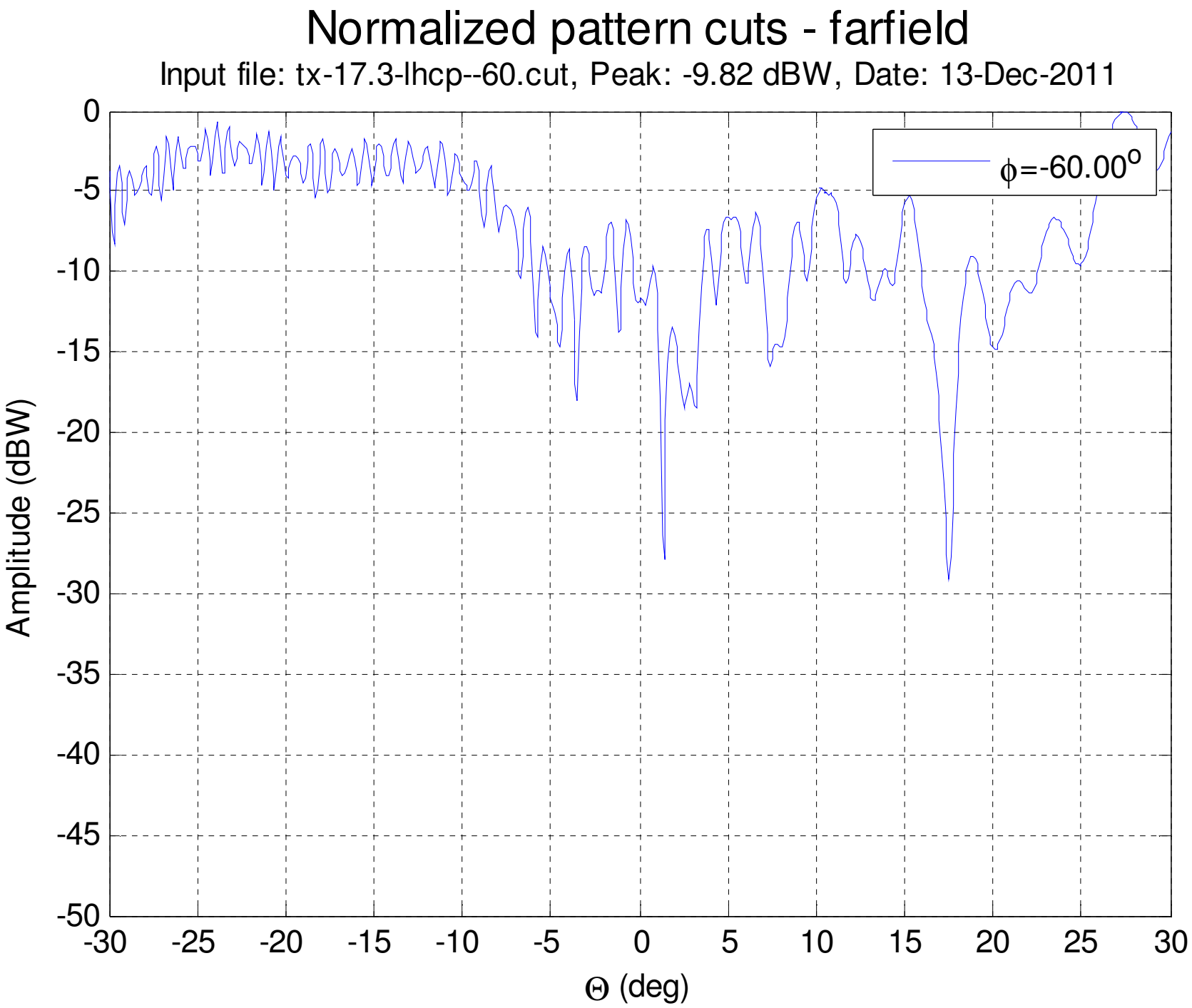

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -10.51 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

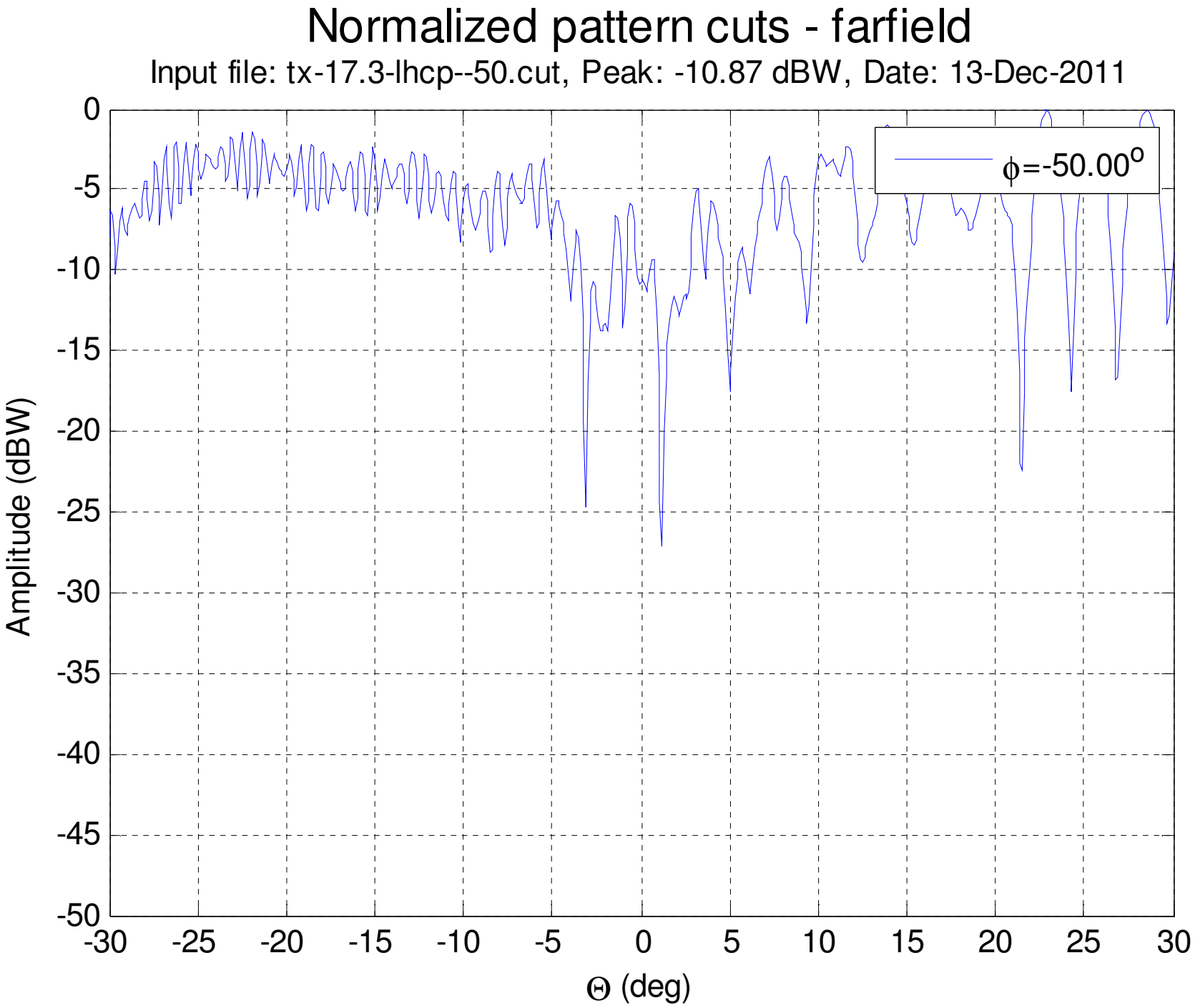

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -15.46 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 40.00°

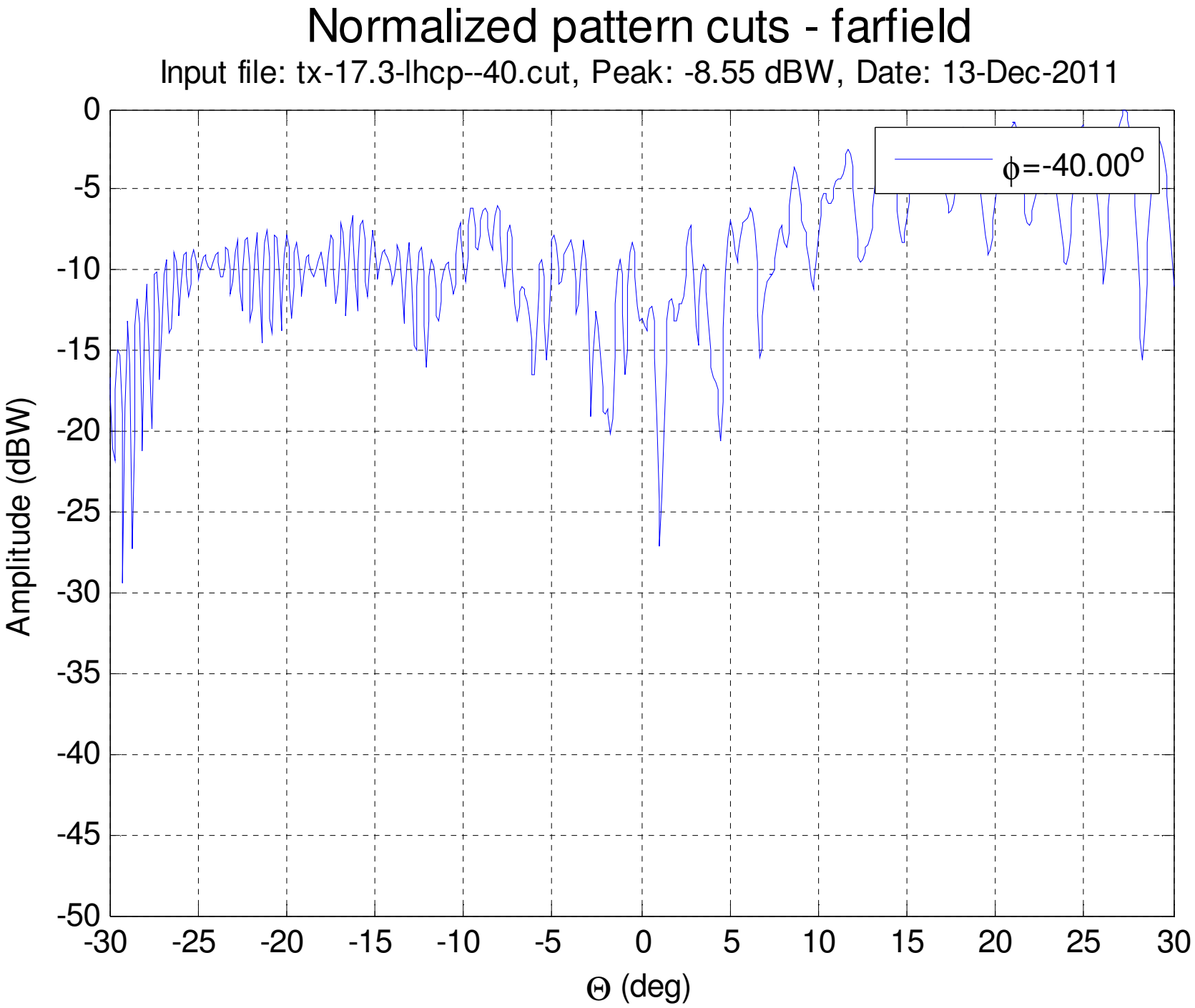

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

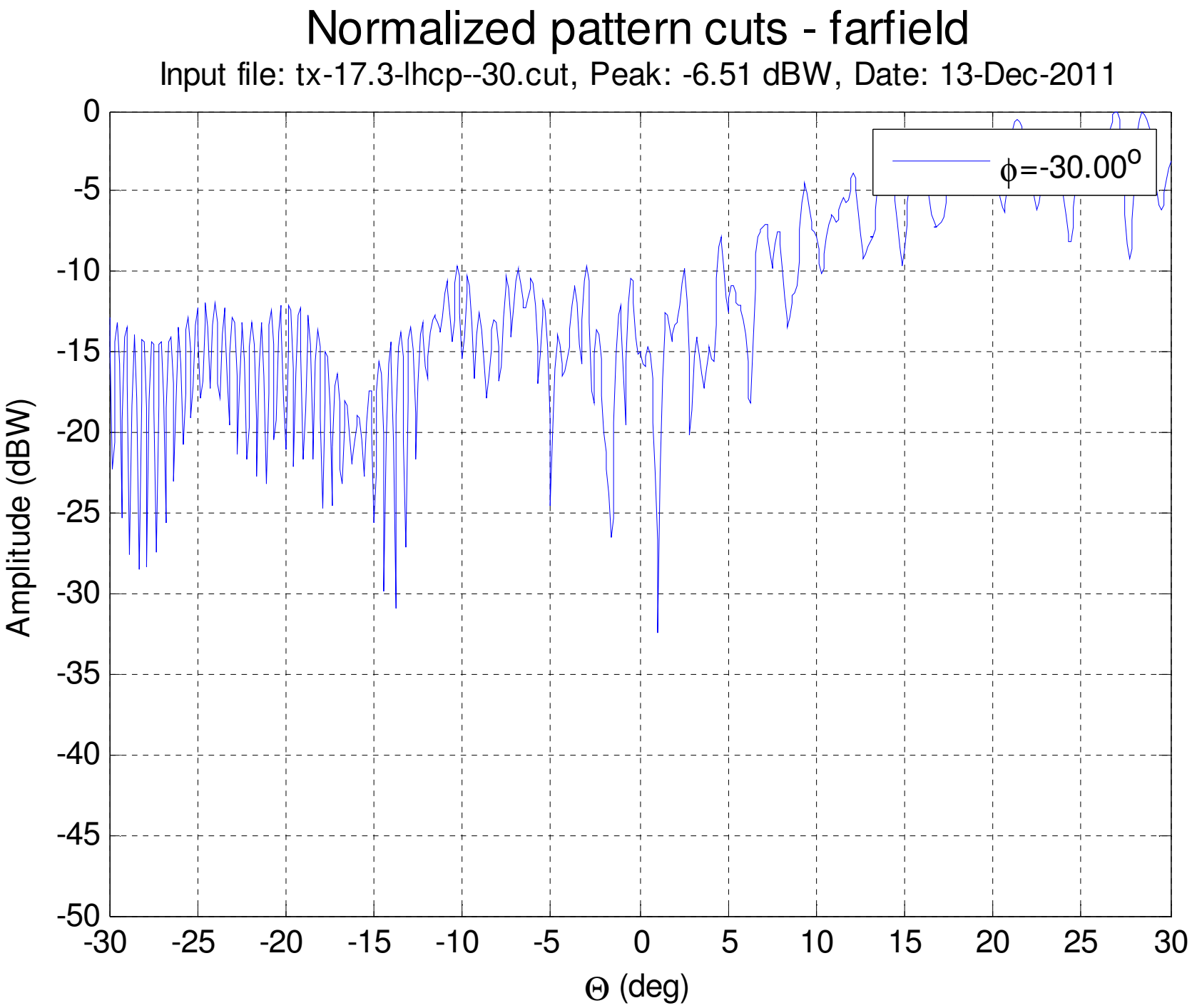

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.75 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

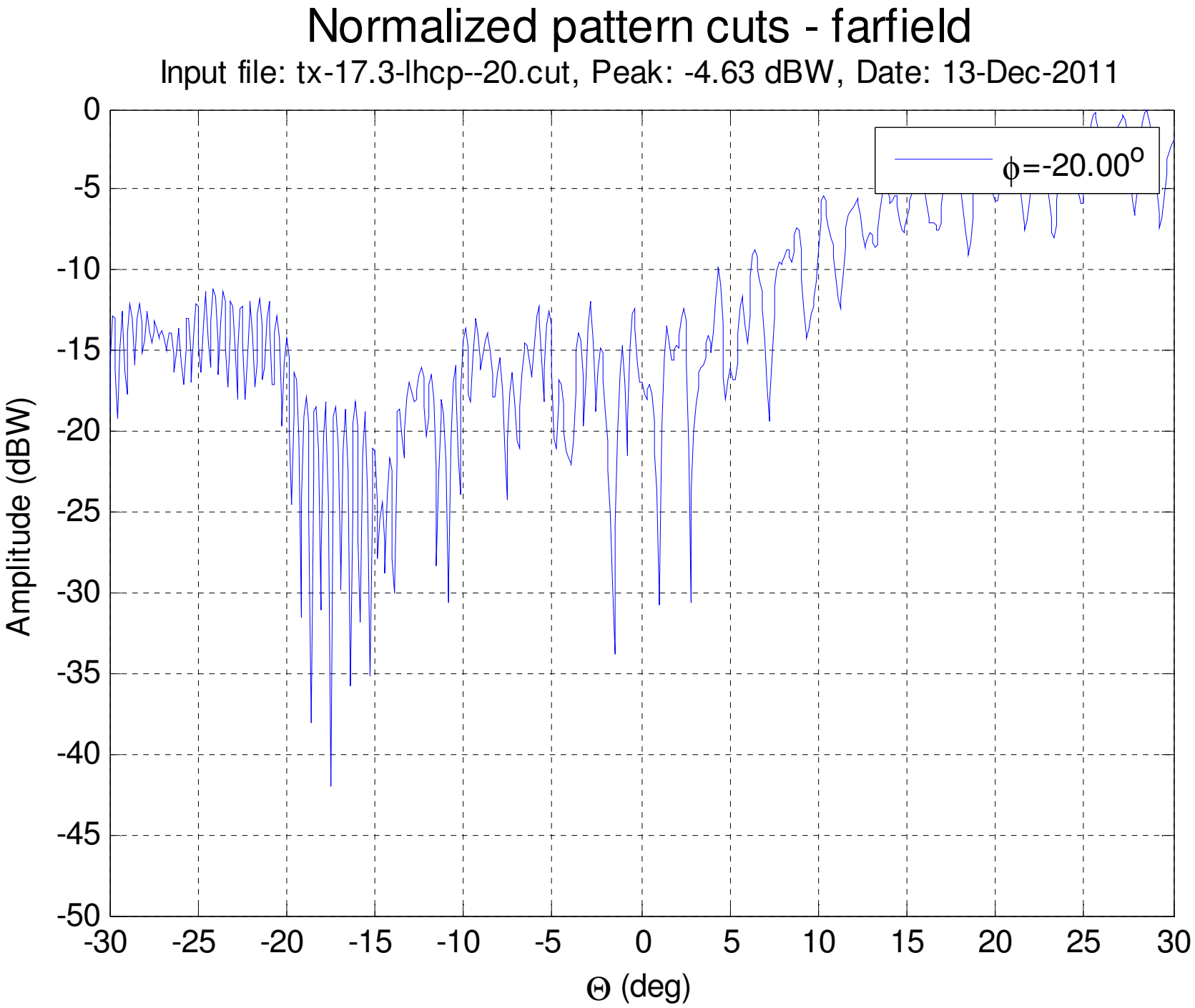
LHCP at 17.3 GHz

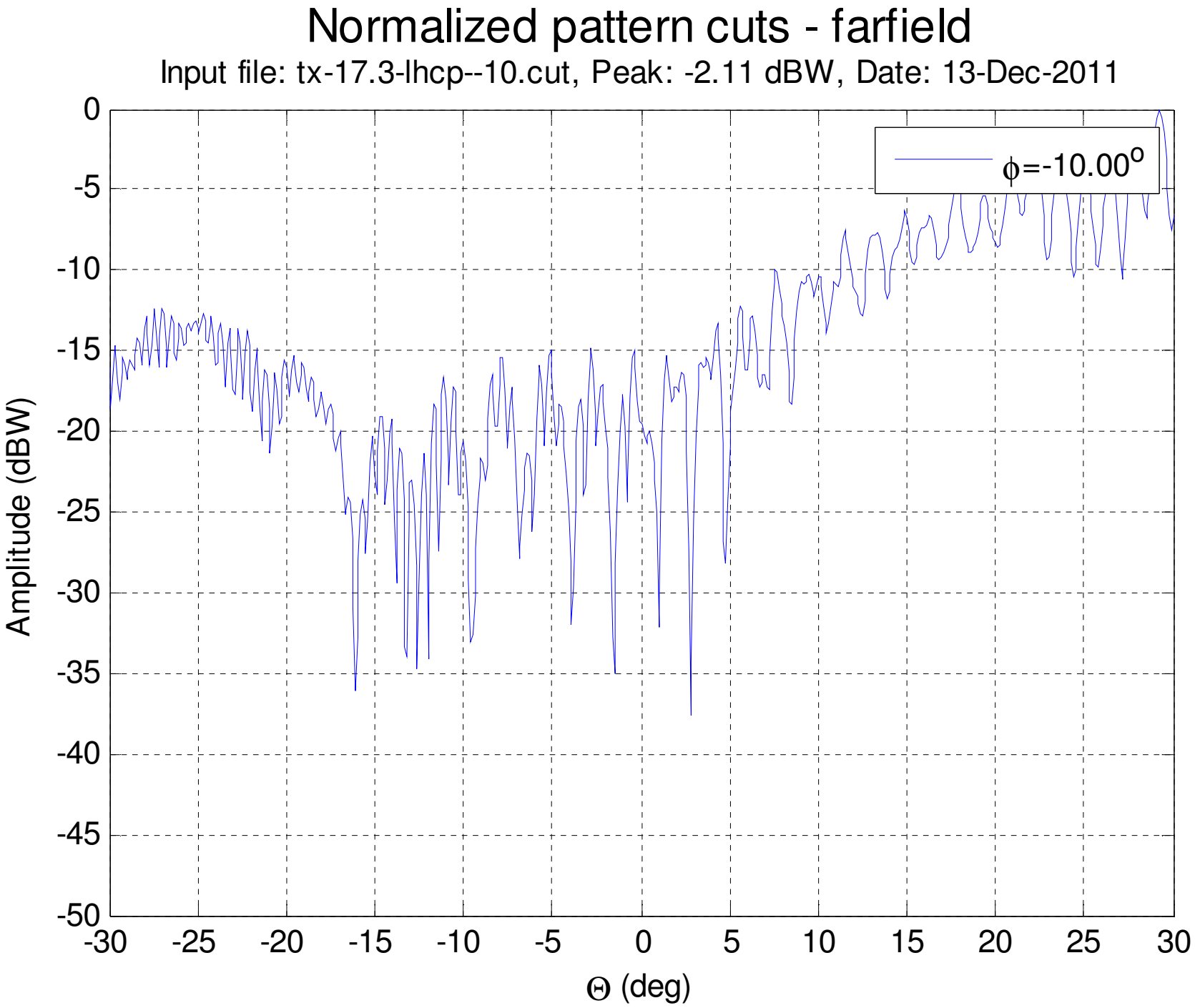

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -9.82 dBW, Date: 13-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

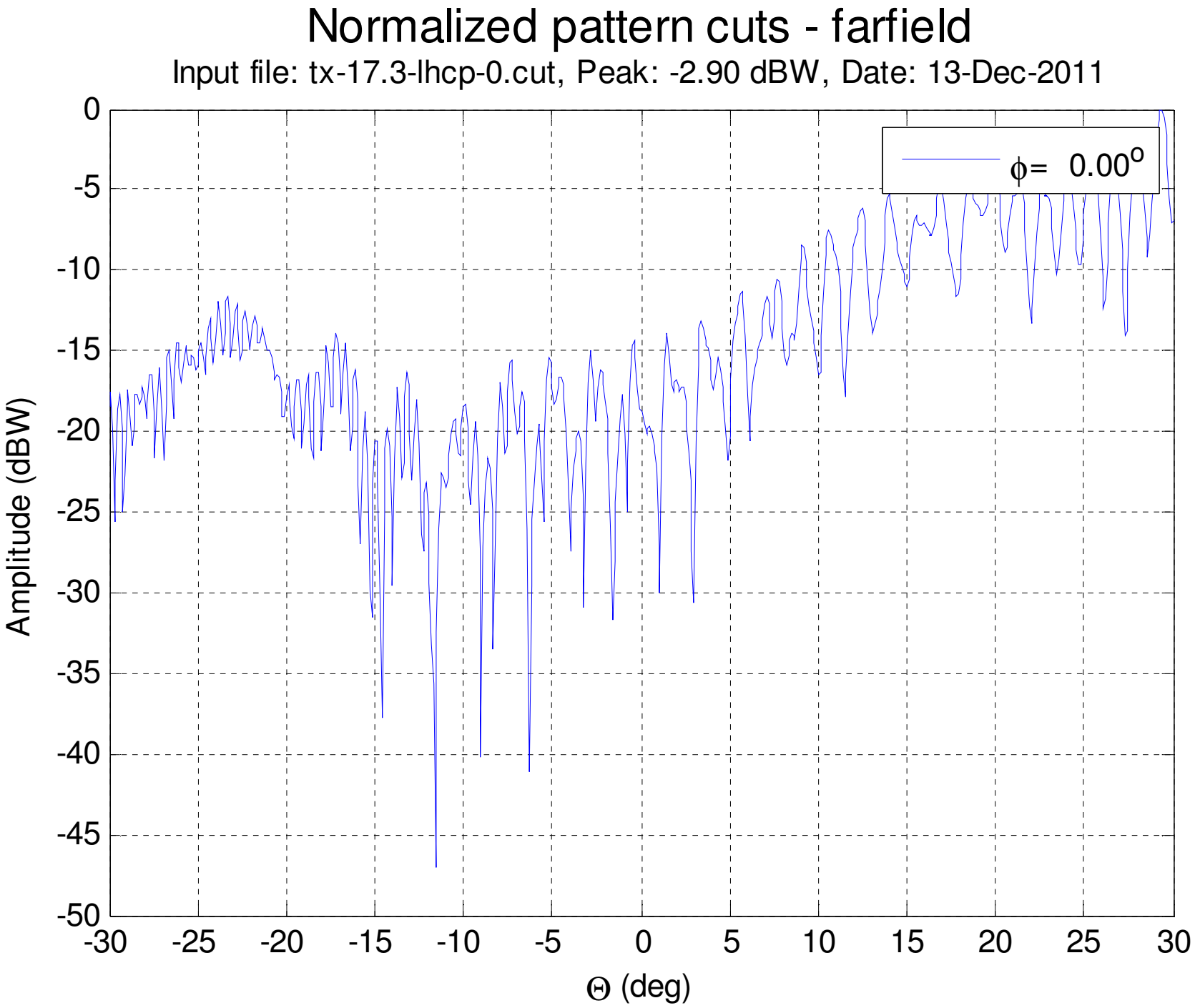

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -10.87 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

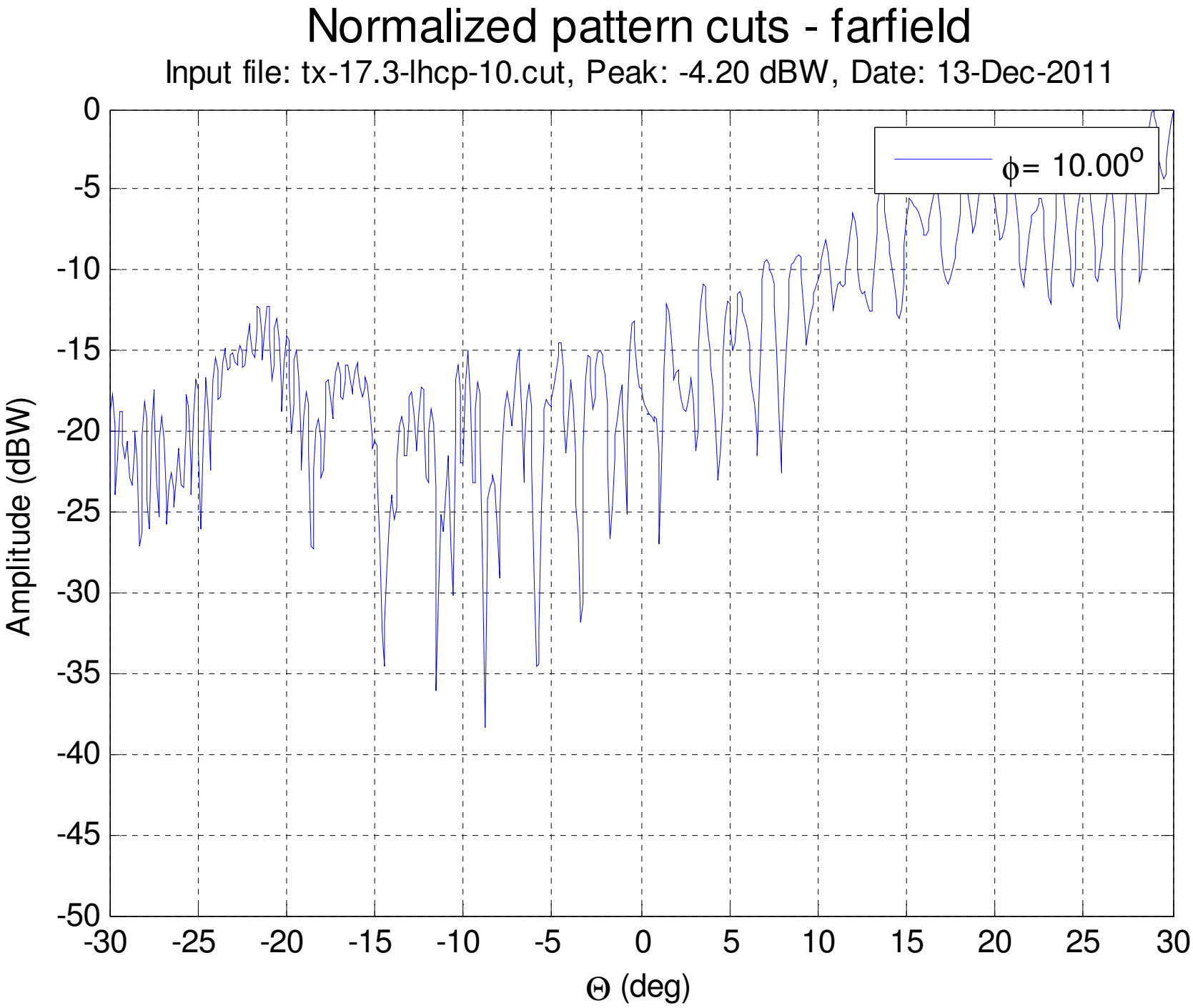

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -8.55 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

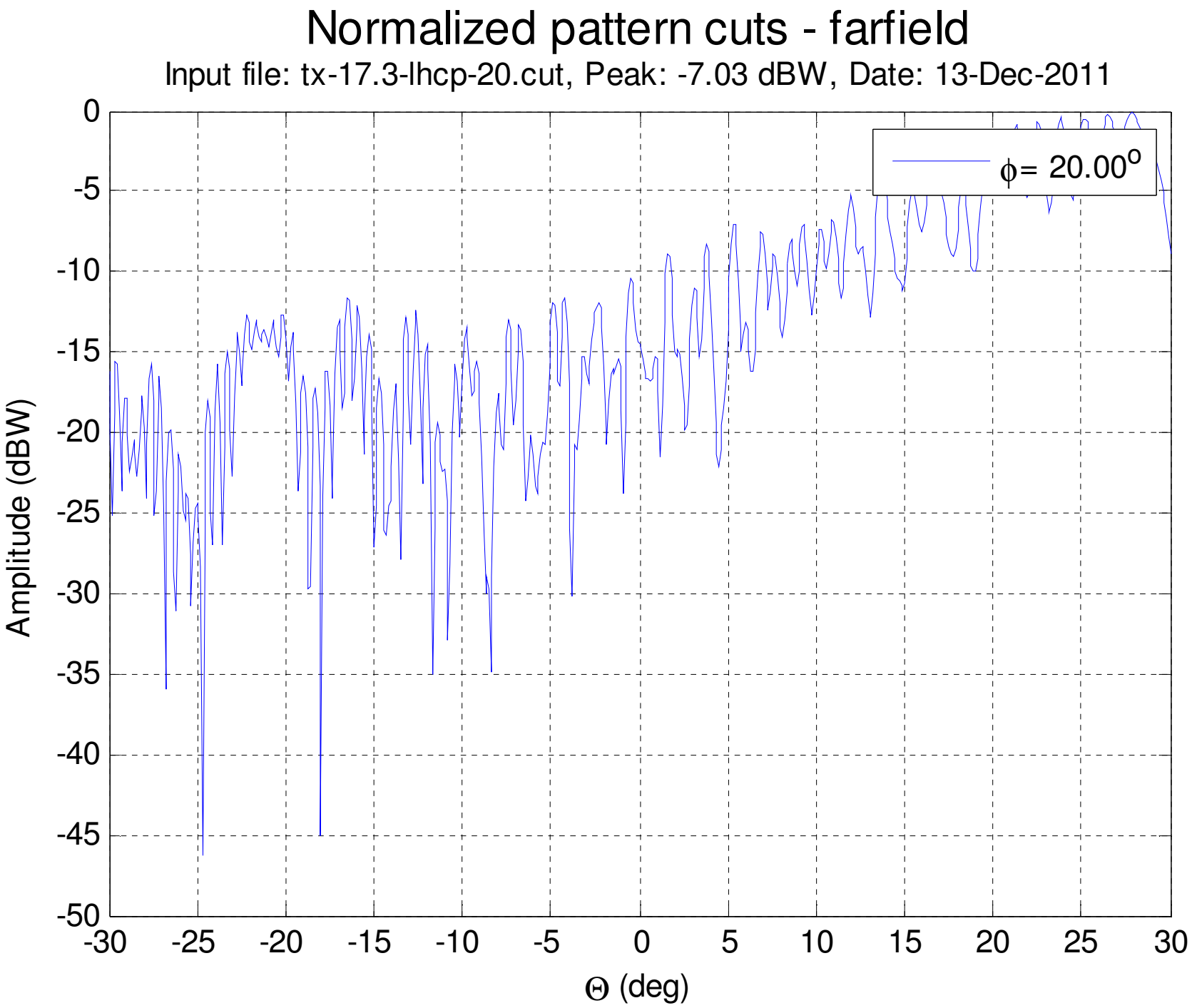

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -6.51 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

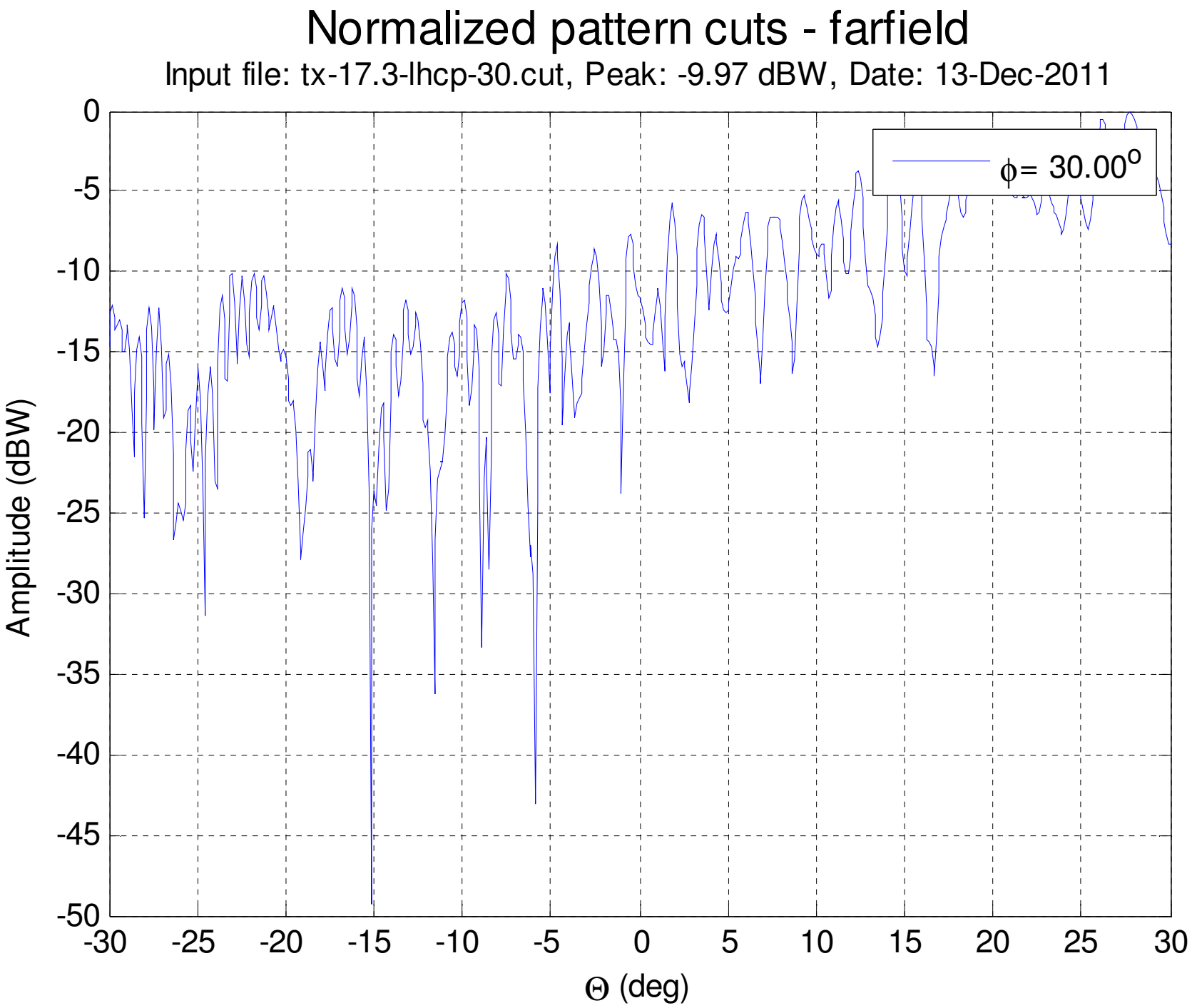

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -4.63 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

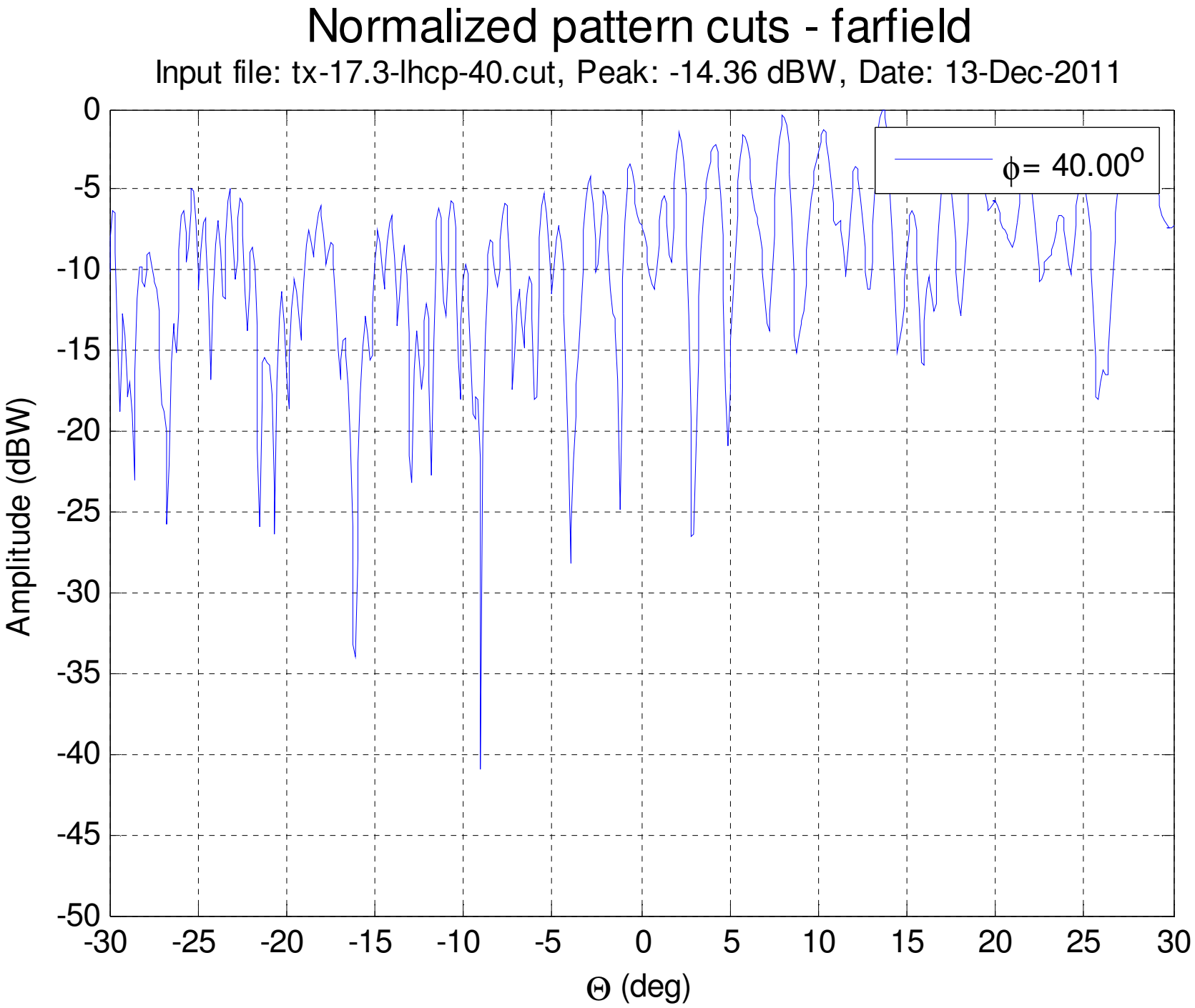

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -2.11 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

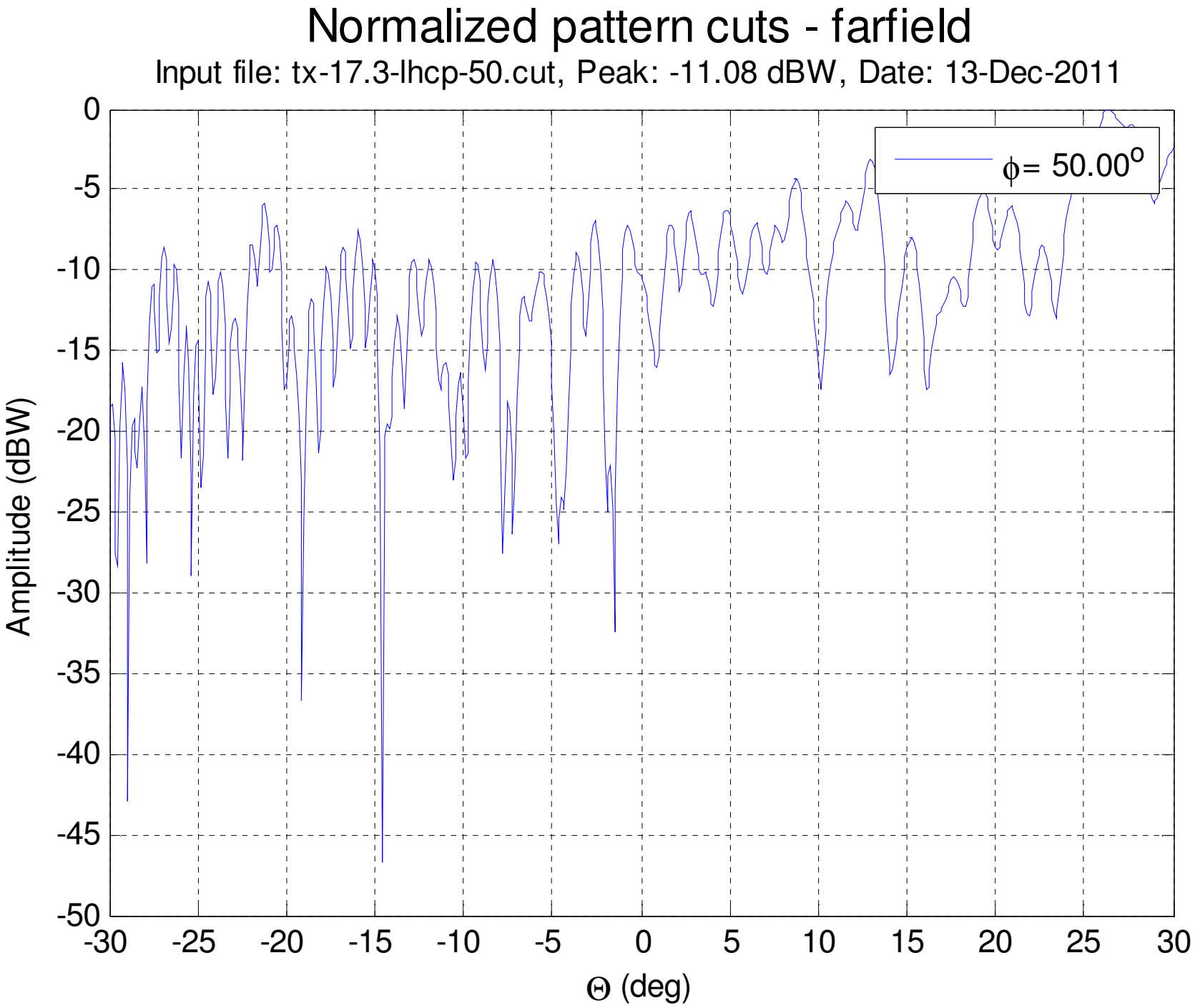

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -2.90 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

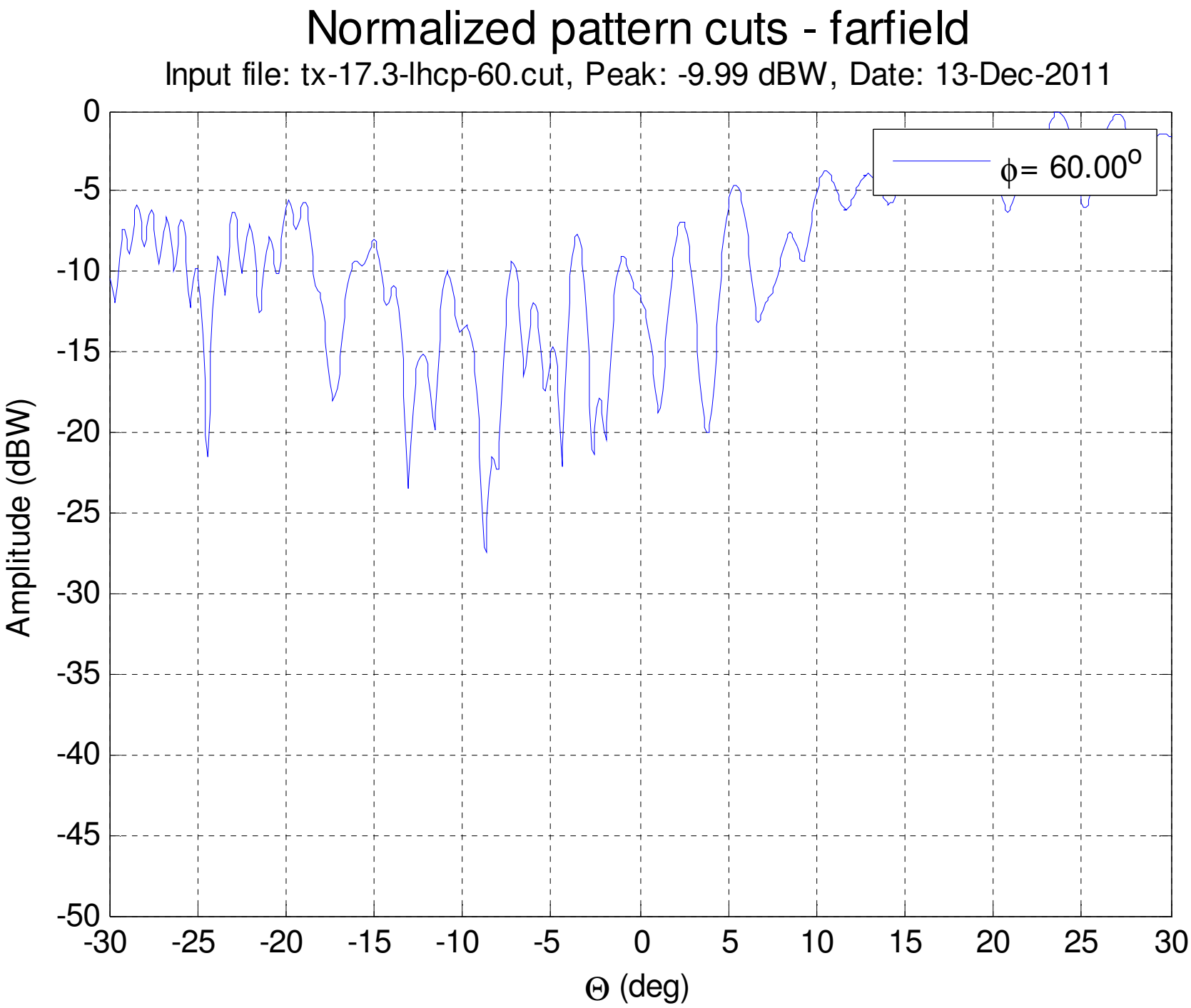

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -4.20 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -7.03 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

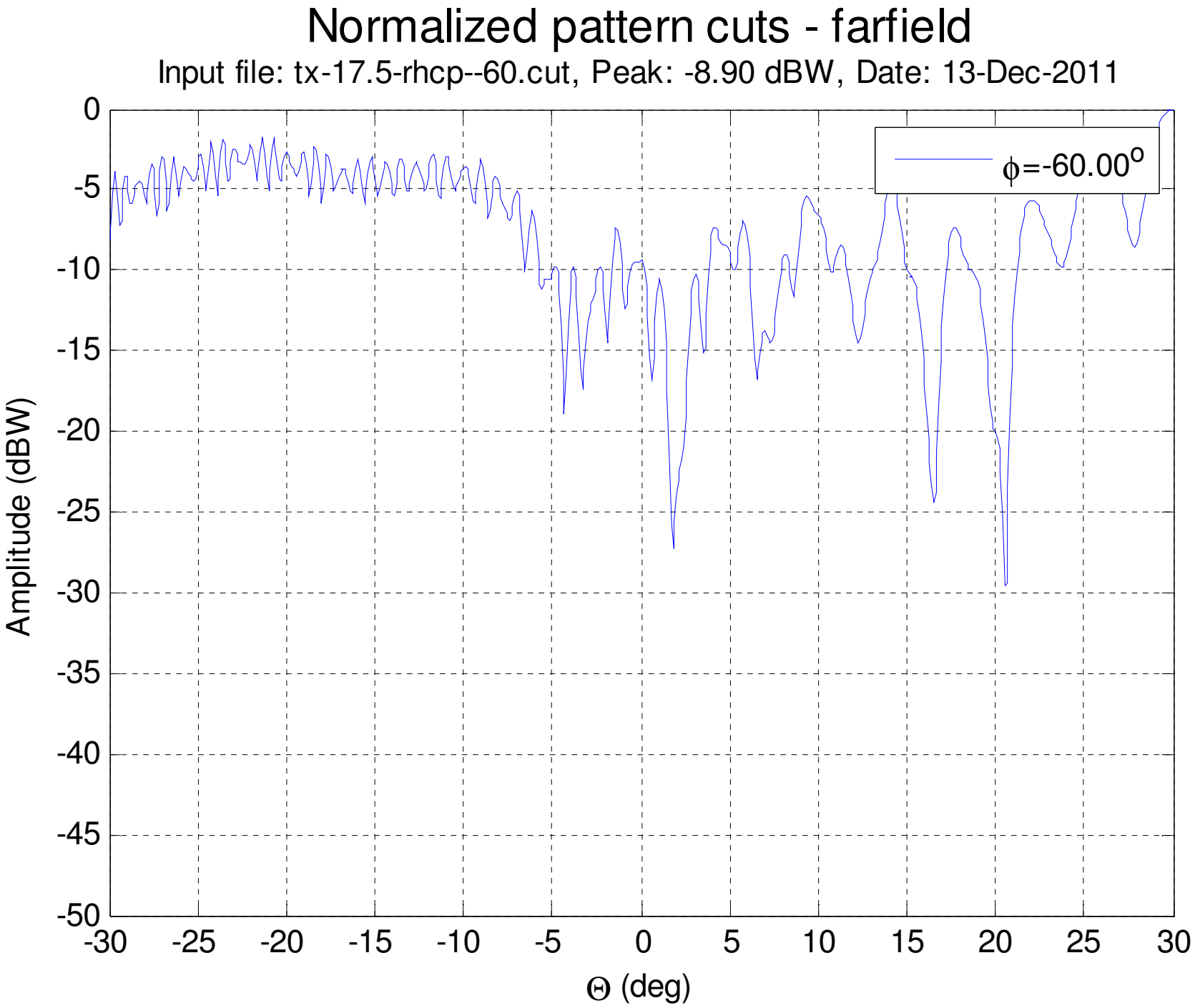

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

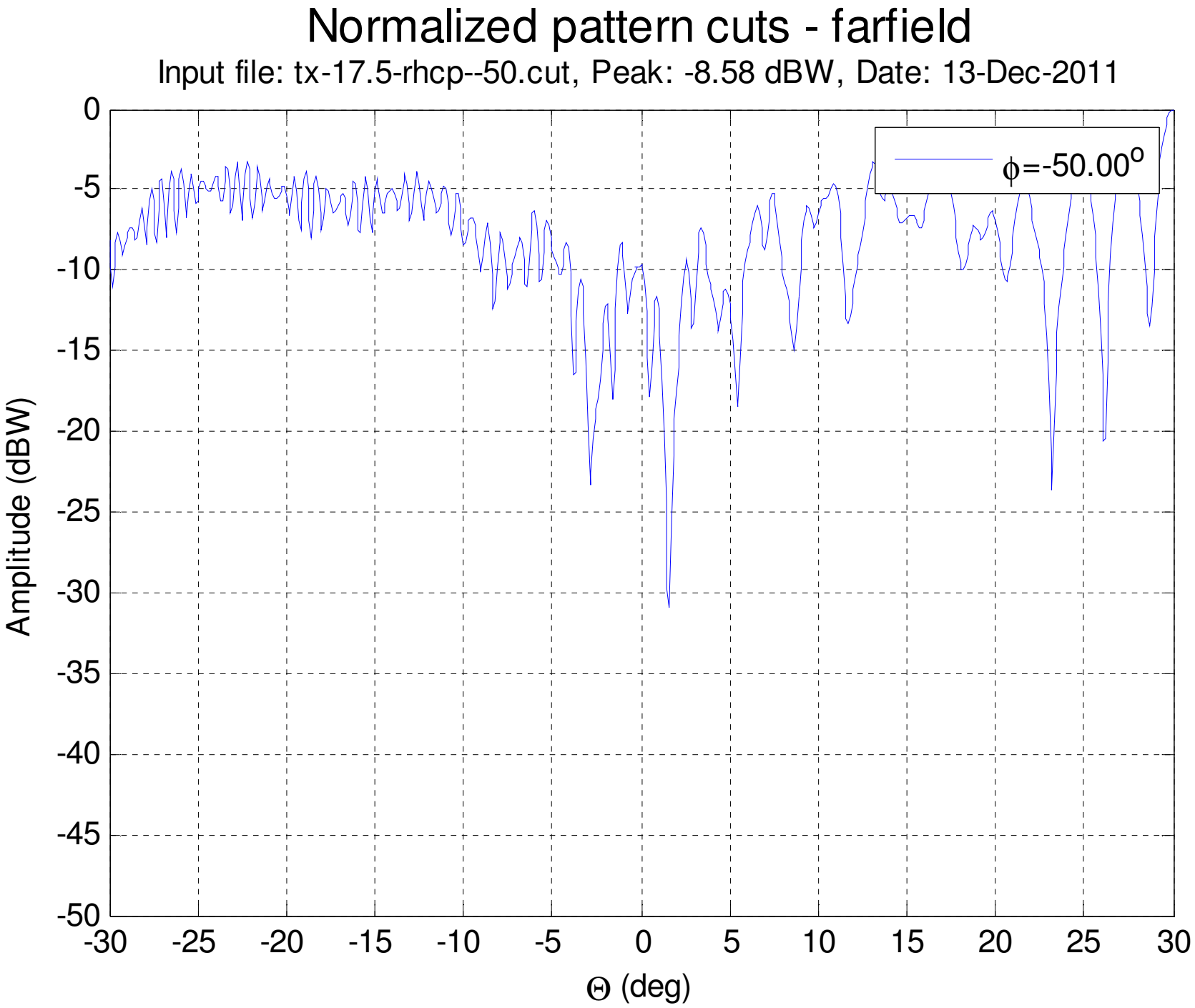

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -14.36 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

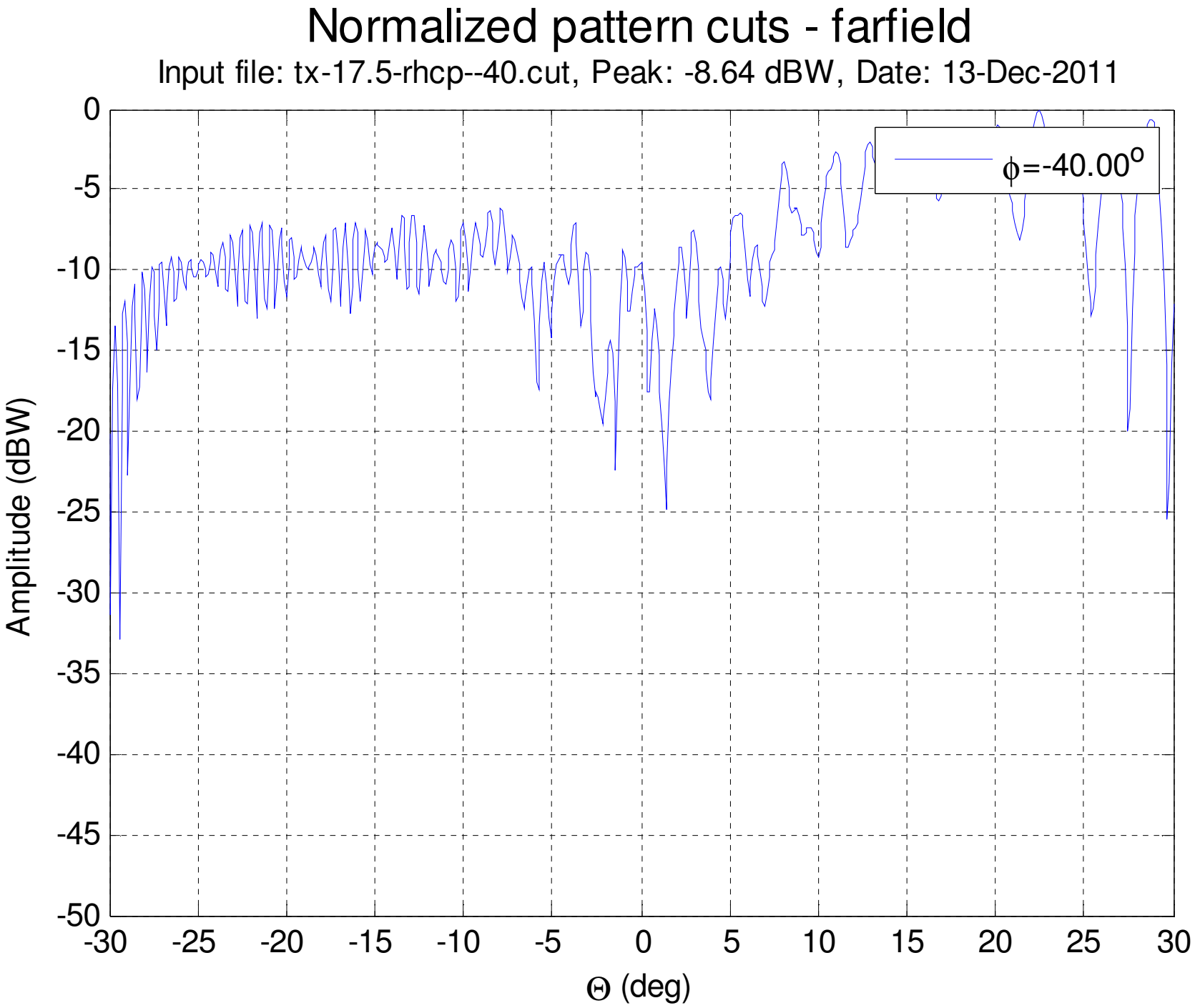

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -11.08 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

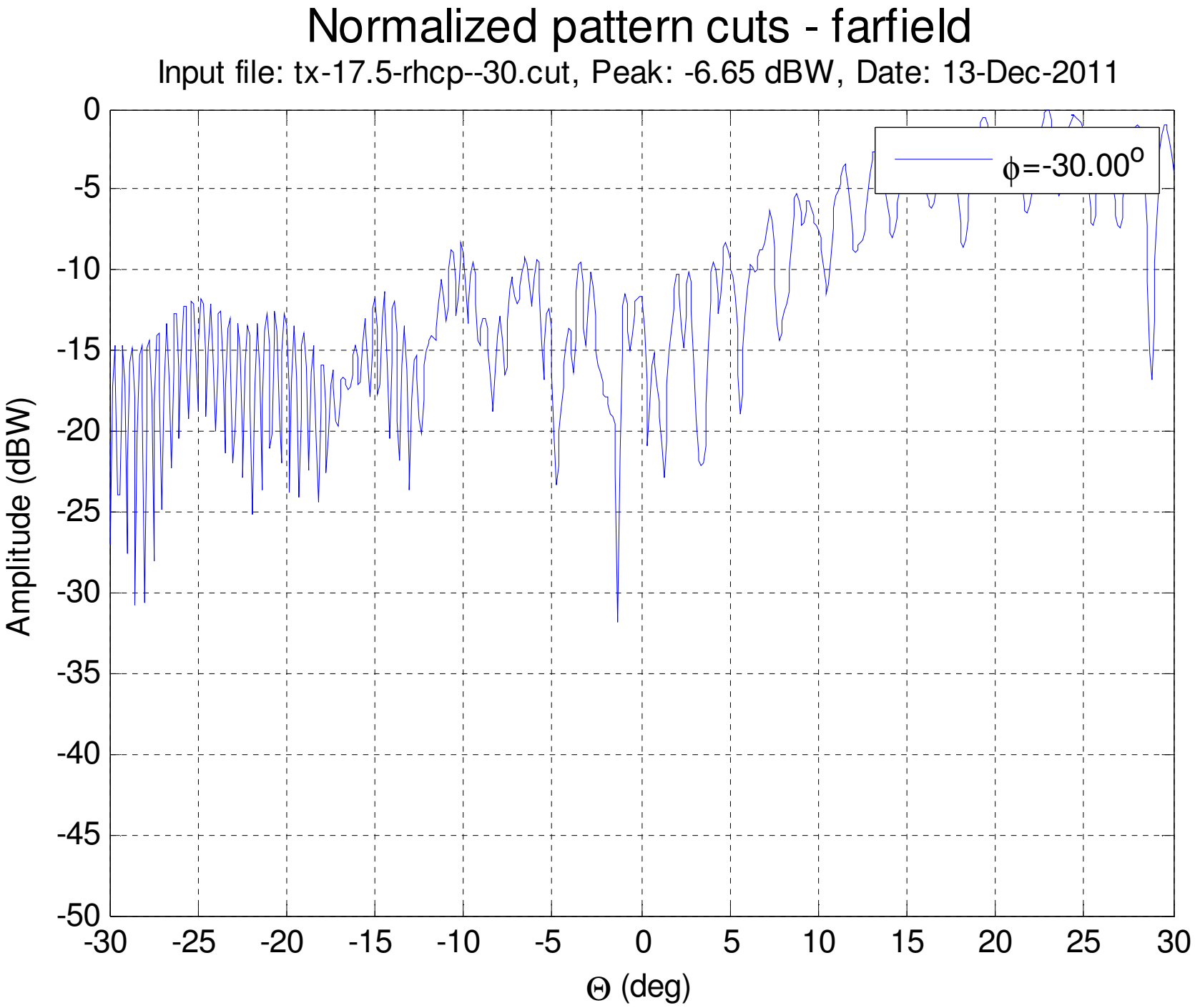

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.99 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

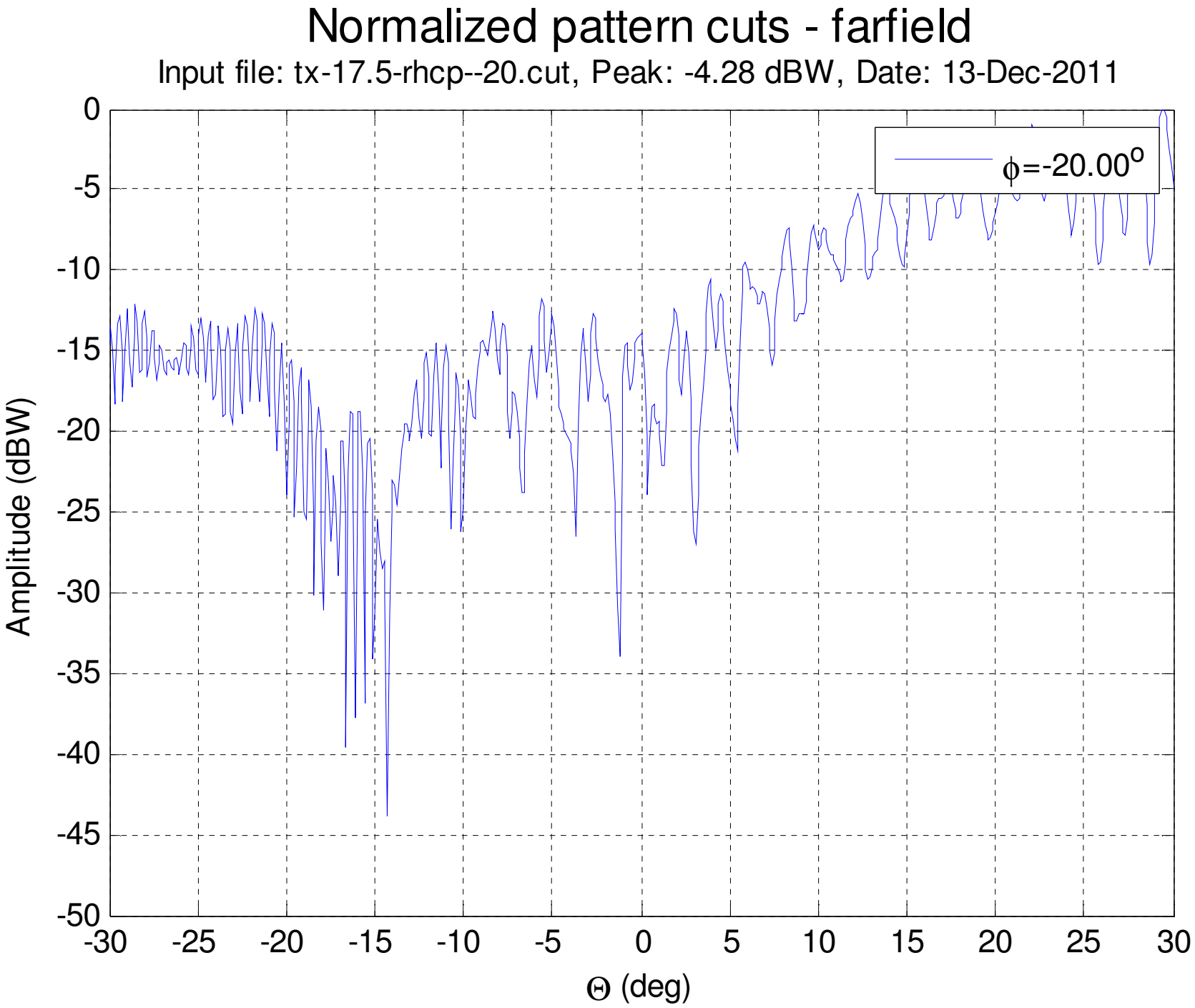
RHCP at 17.5 GHz

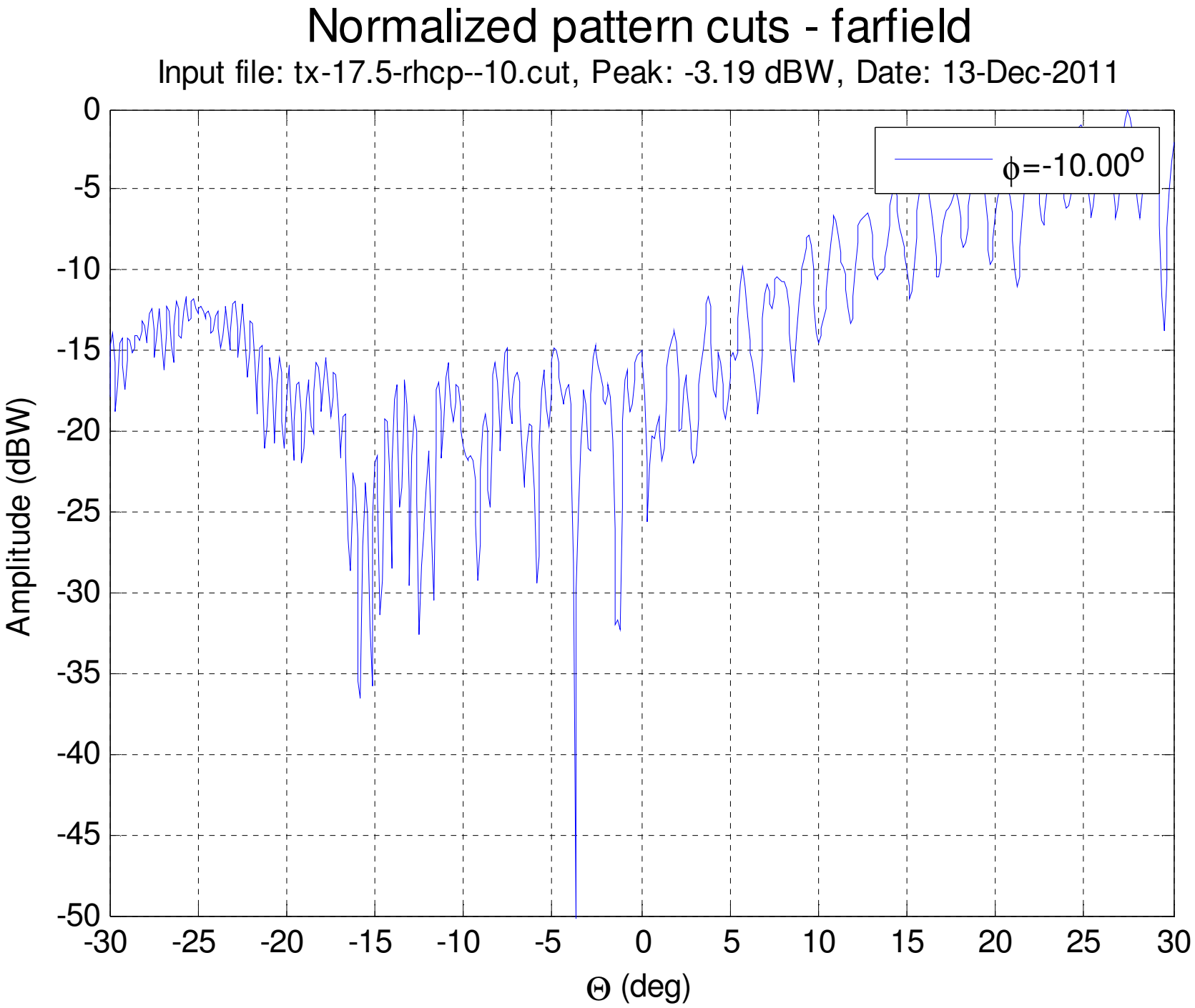

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -8.90 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

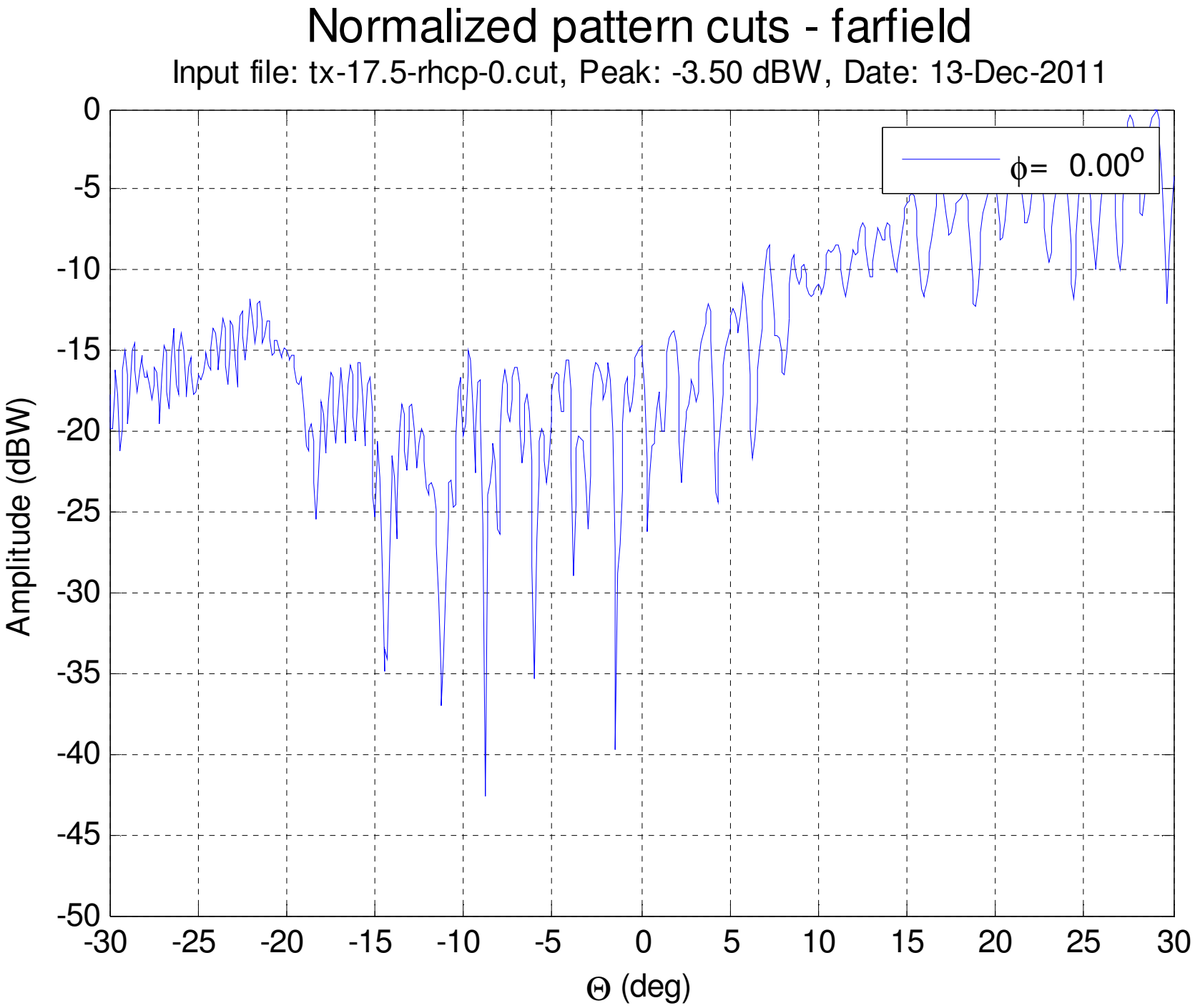

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.58 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

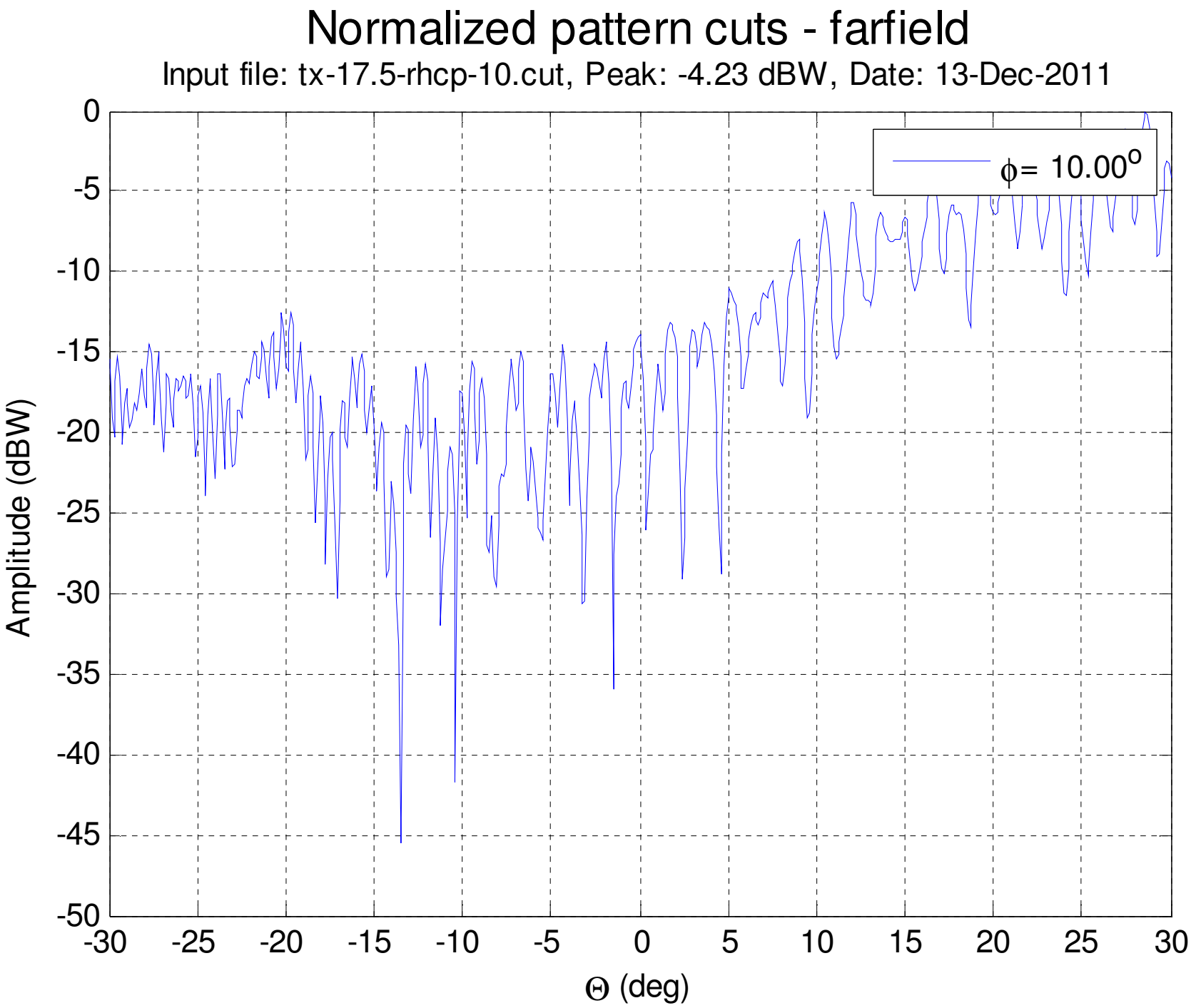

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -8.64 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

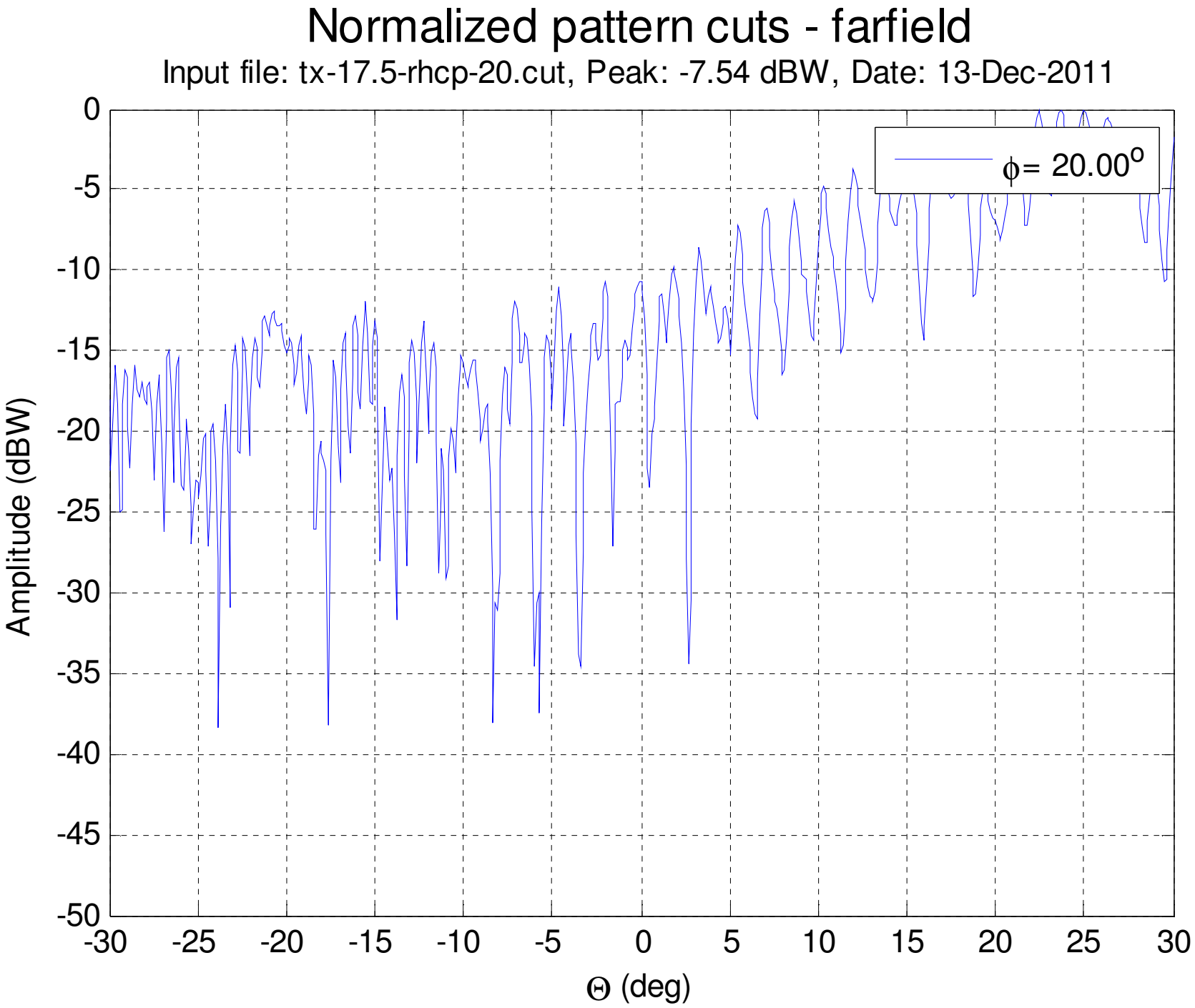

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -6.65 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-30.00°

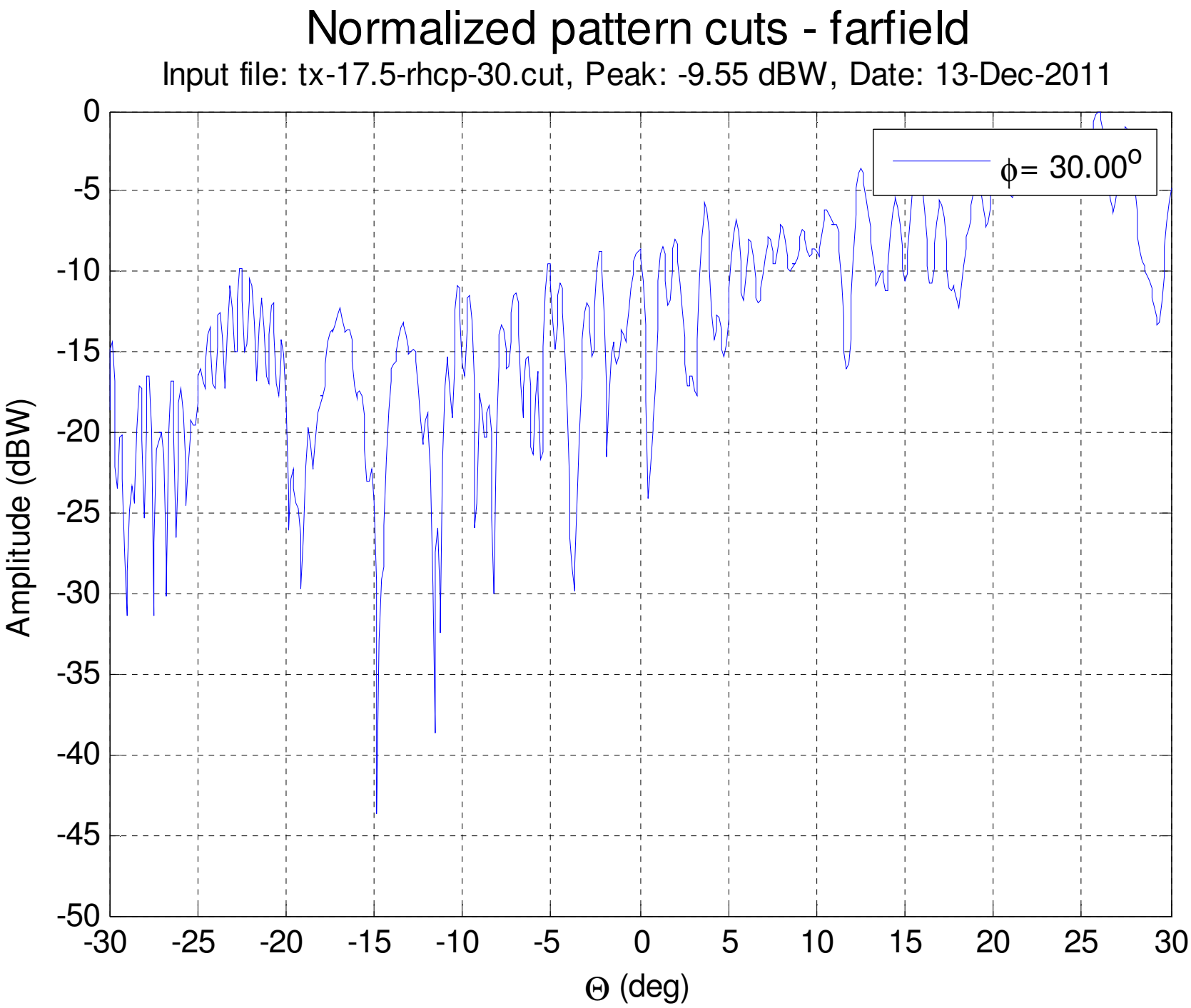

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -4.28 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

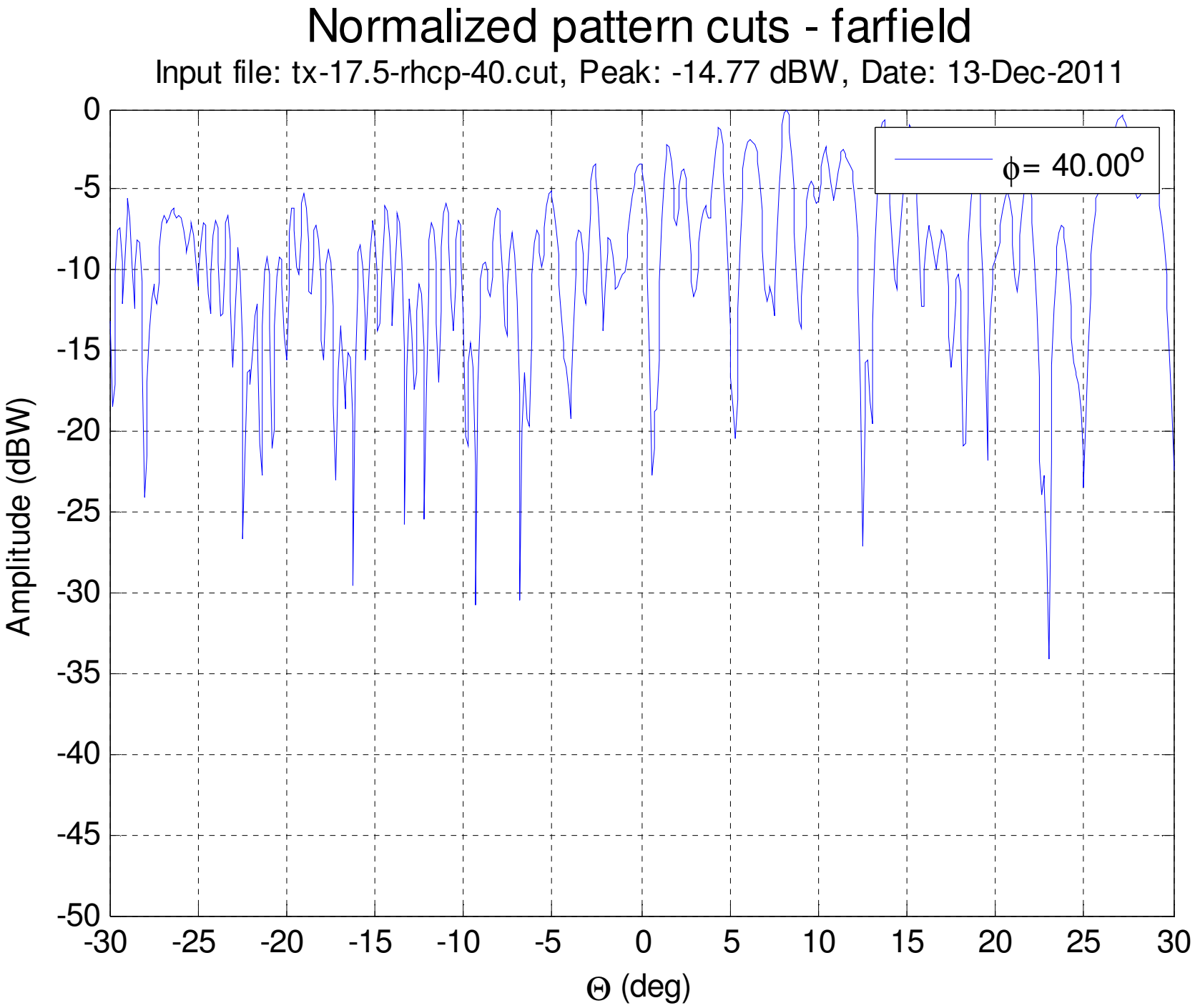

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -3.19 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

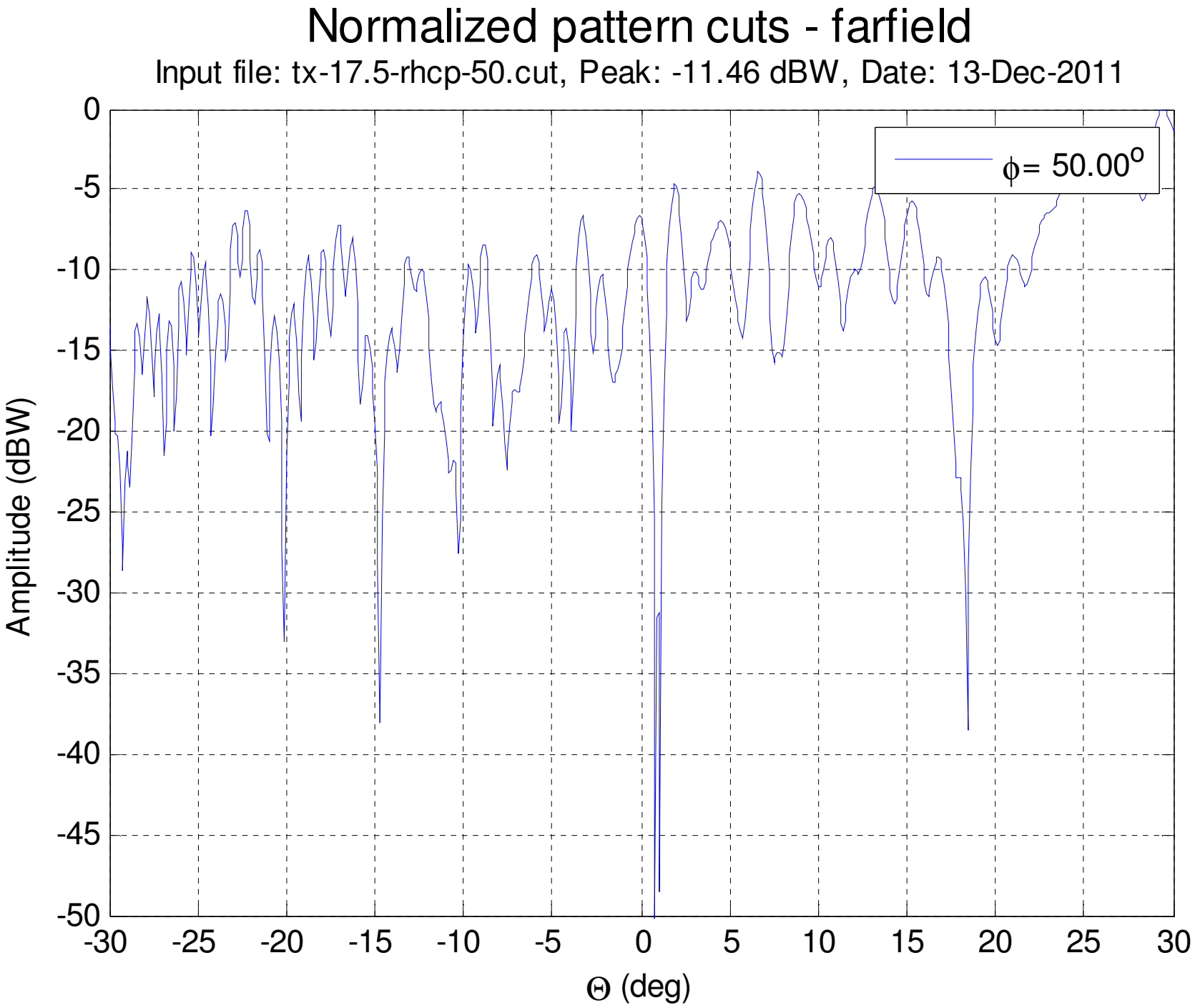

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -3.50 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

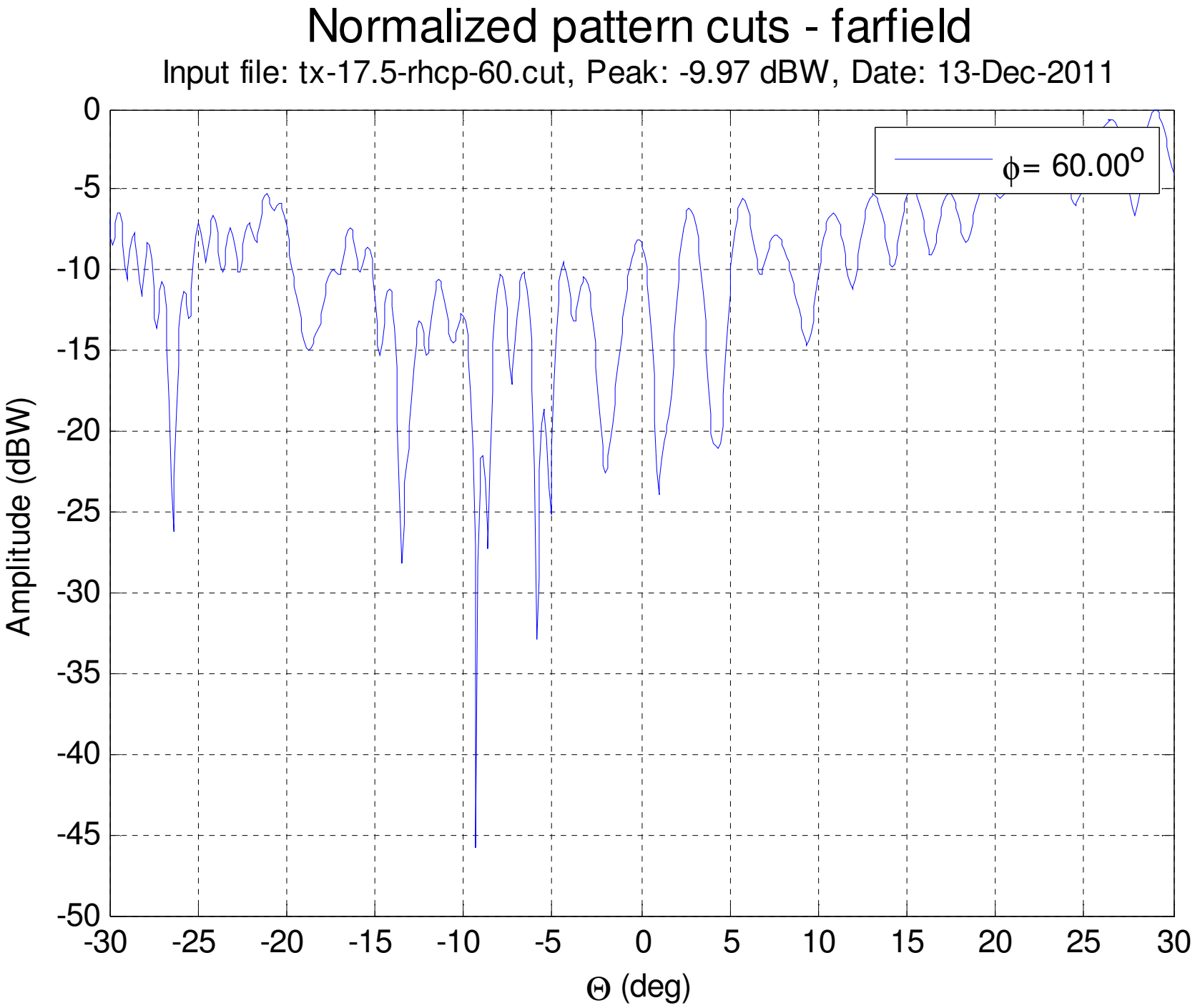

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -4.23 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -7.54 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

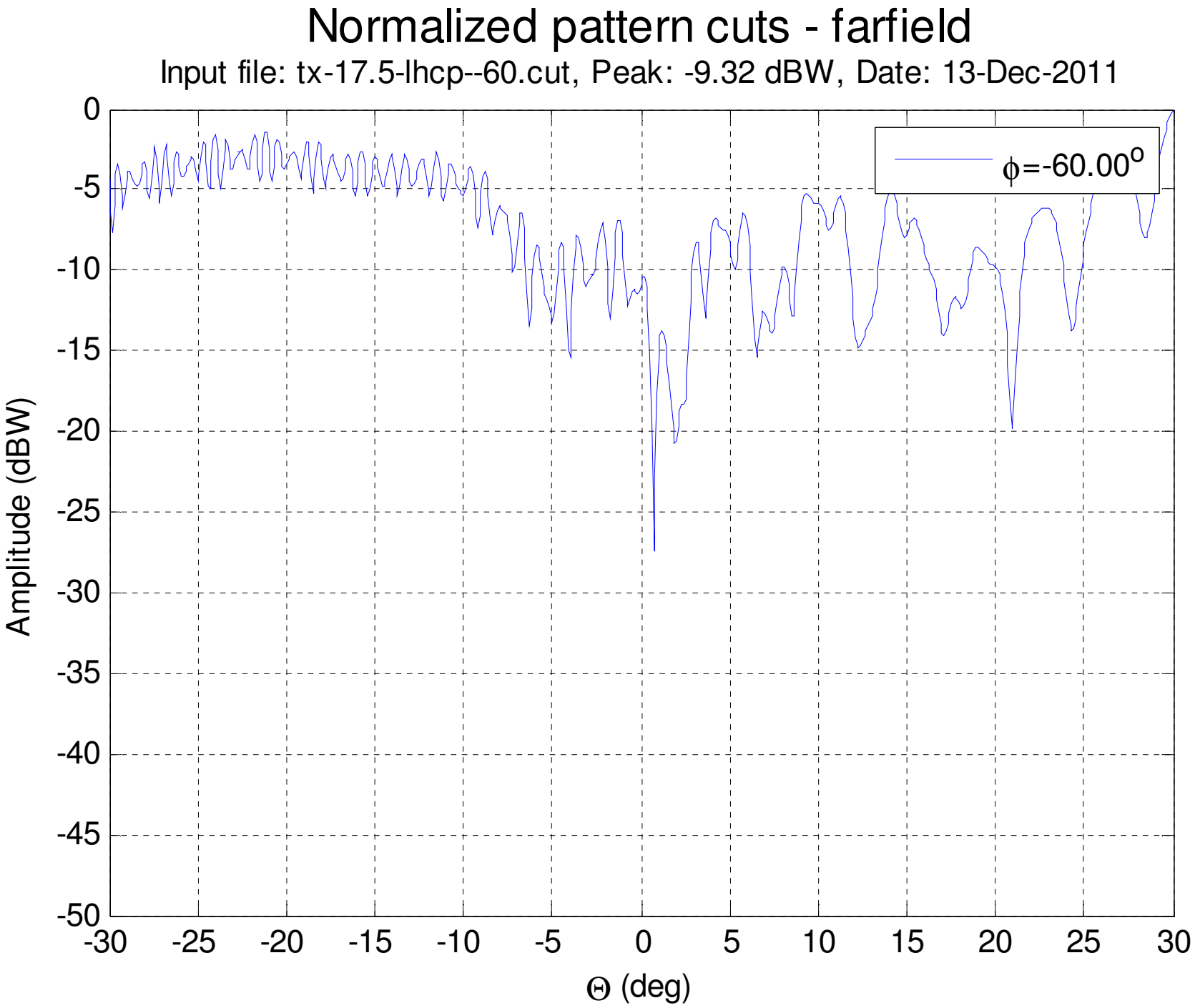

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -9.55 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

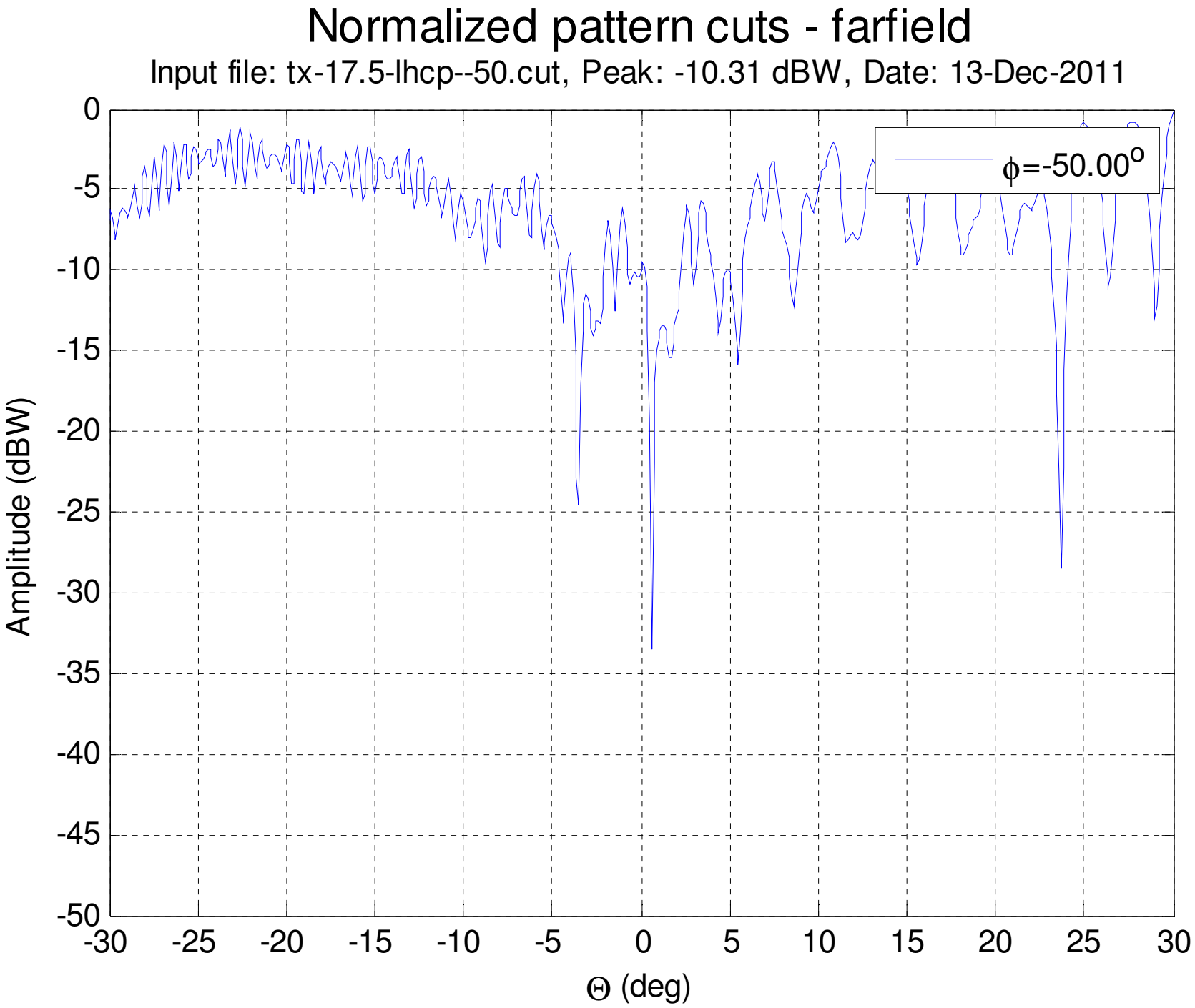

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -14.77 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

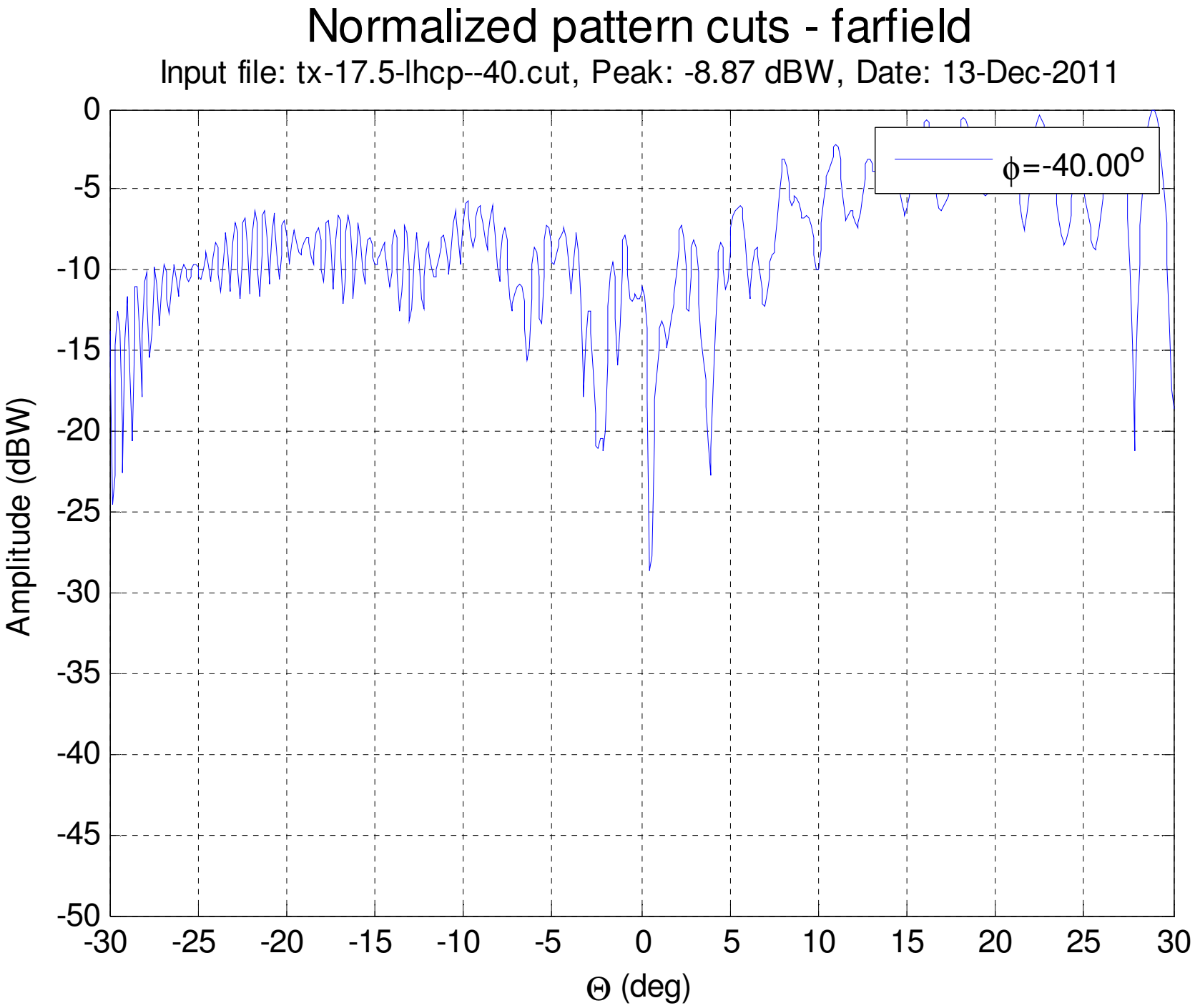

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -11.46 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

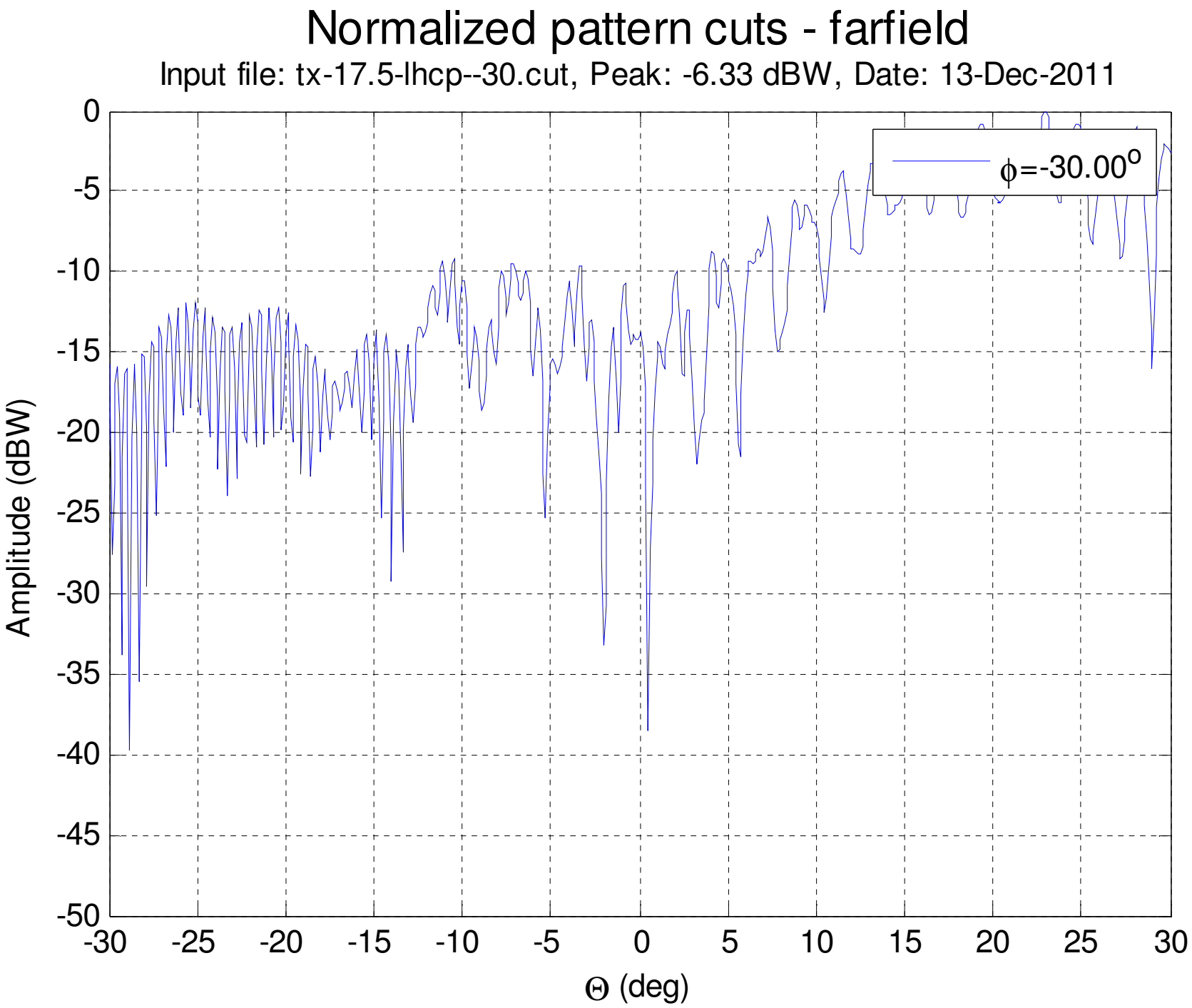

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

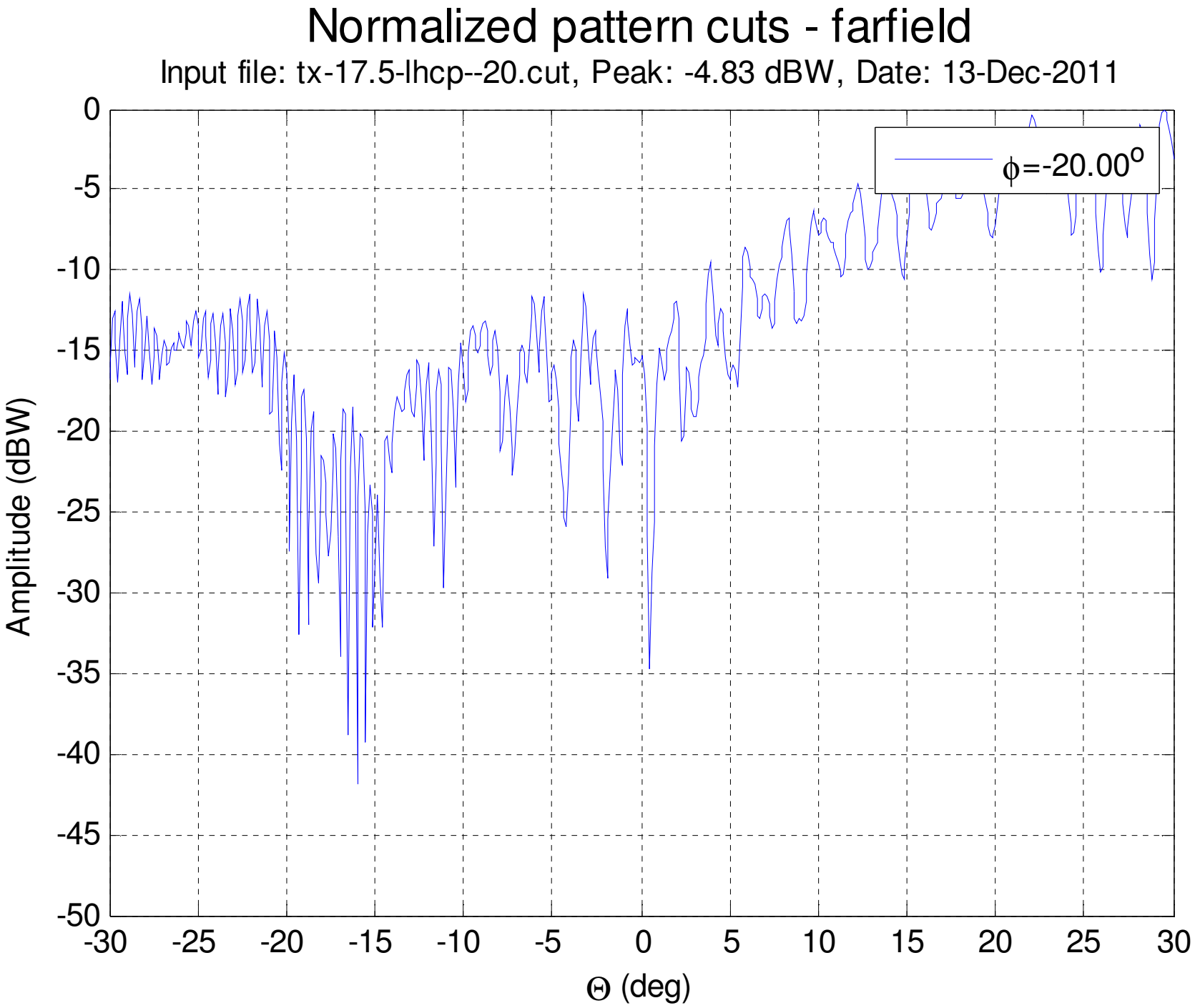
LHCP at 17.5 GHz

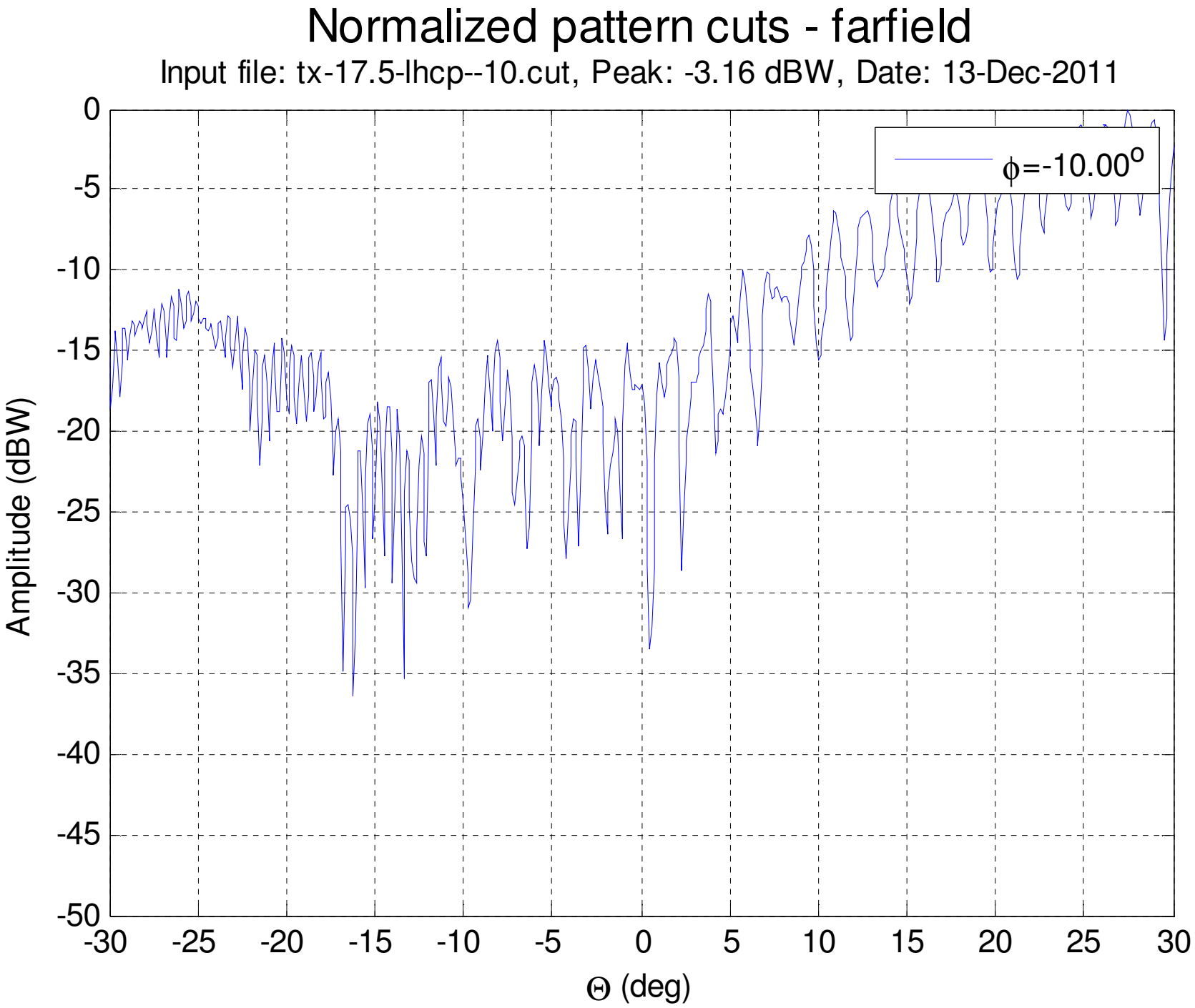

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -9.32 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

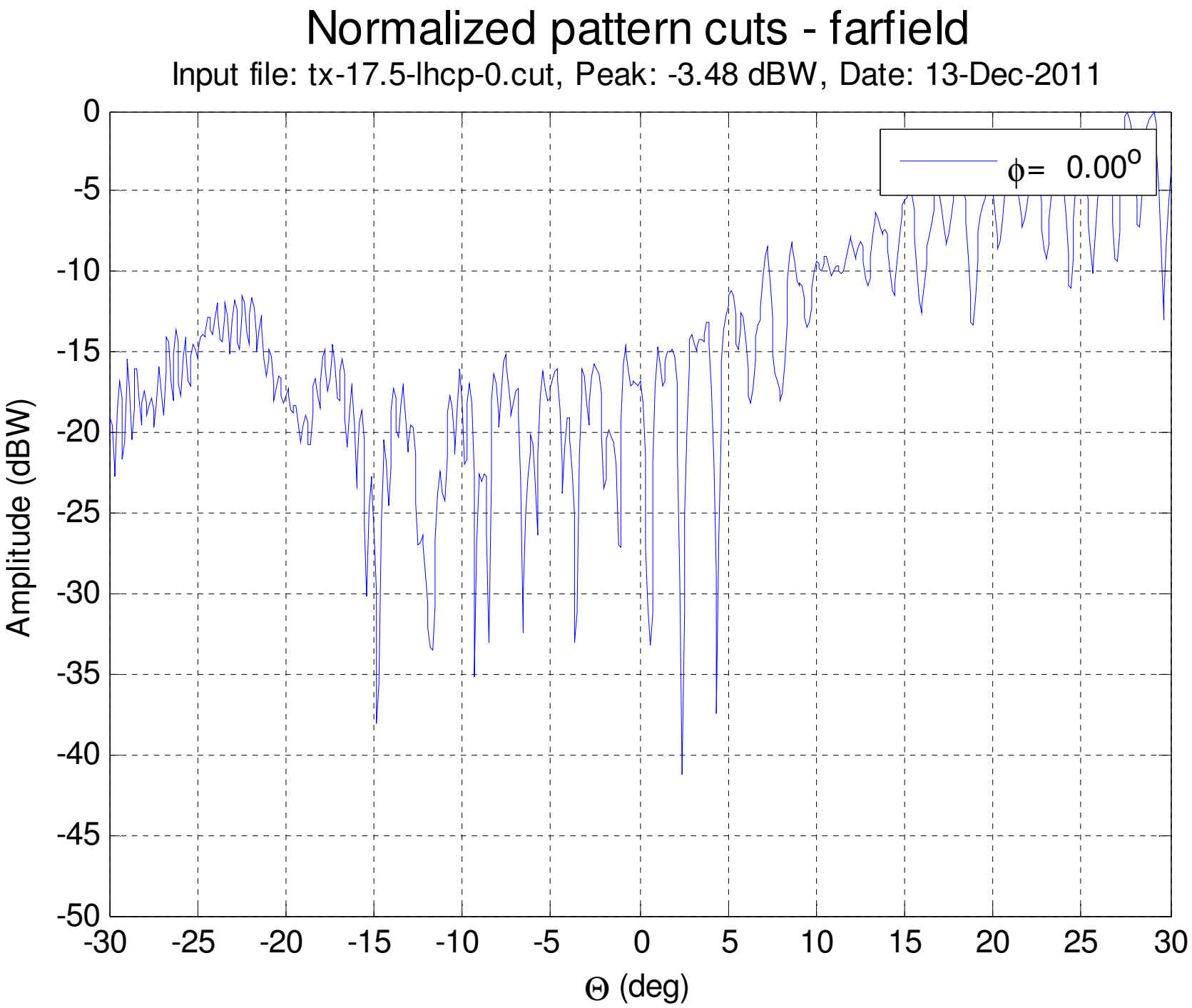

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

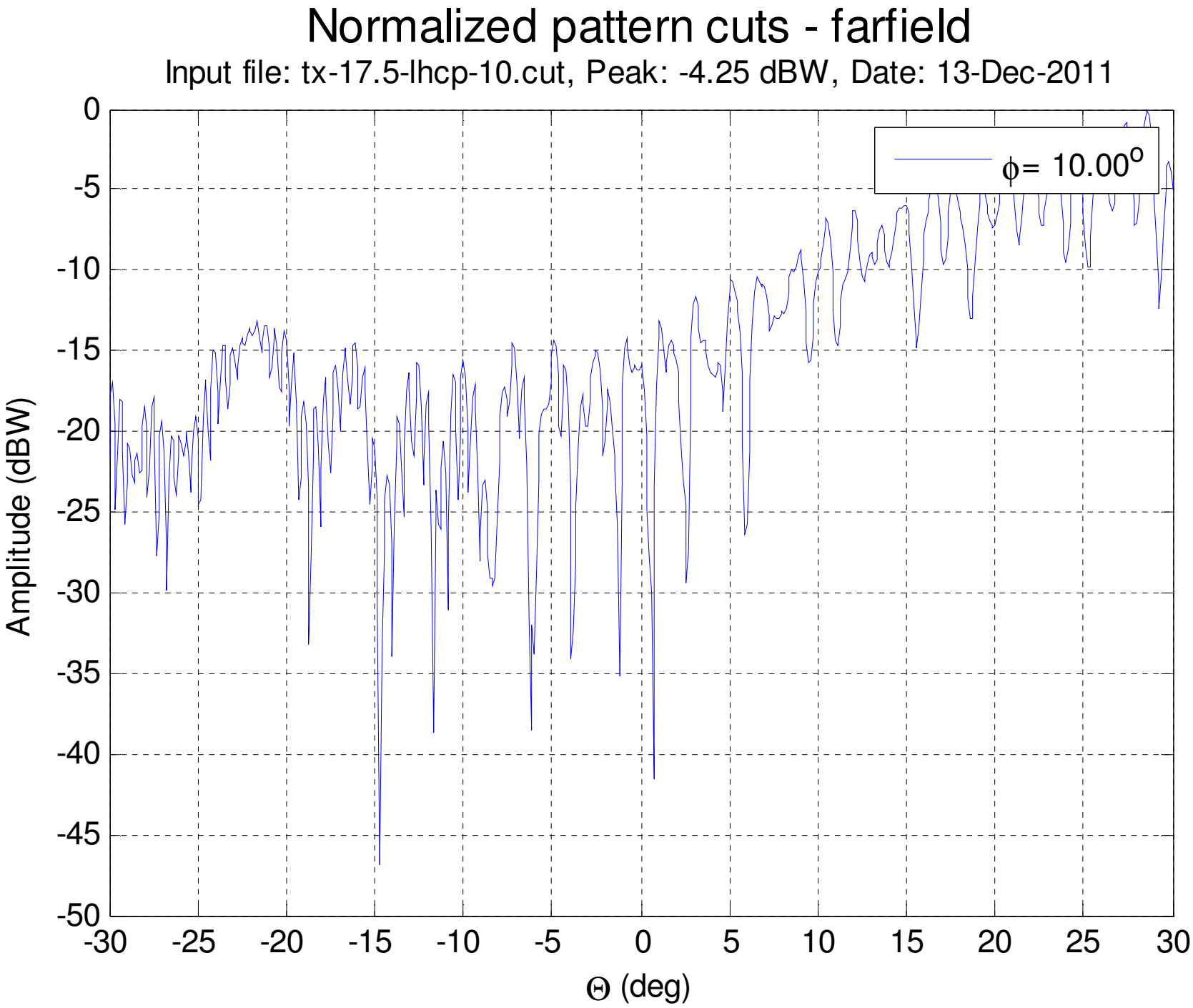

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -8.87 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

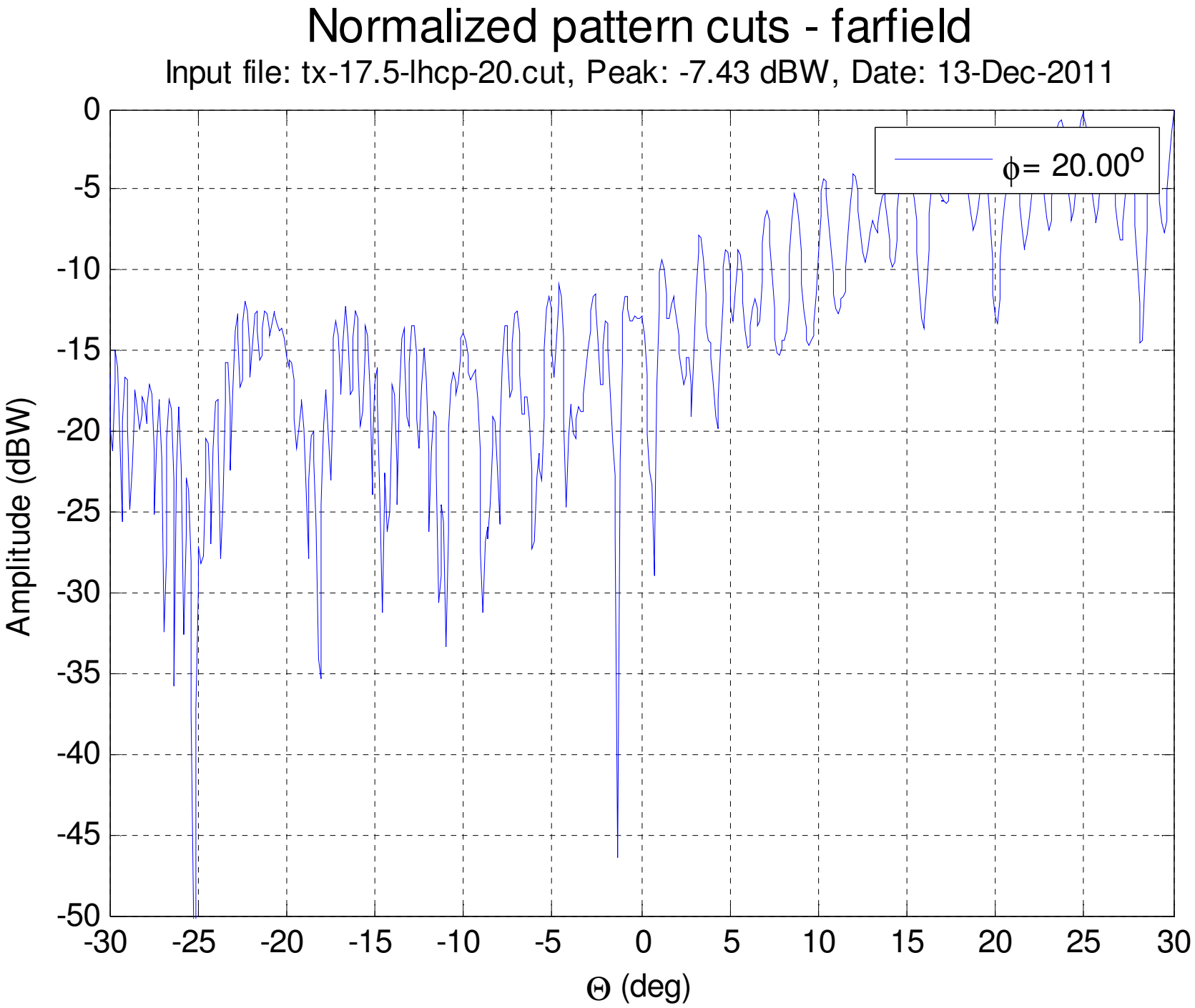

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -6.33 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

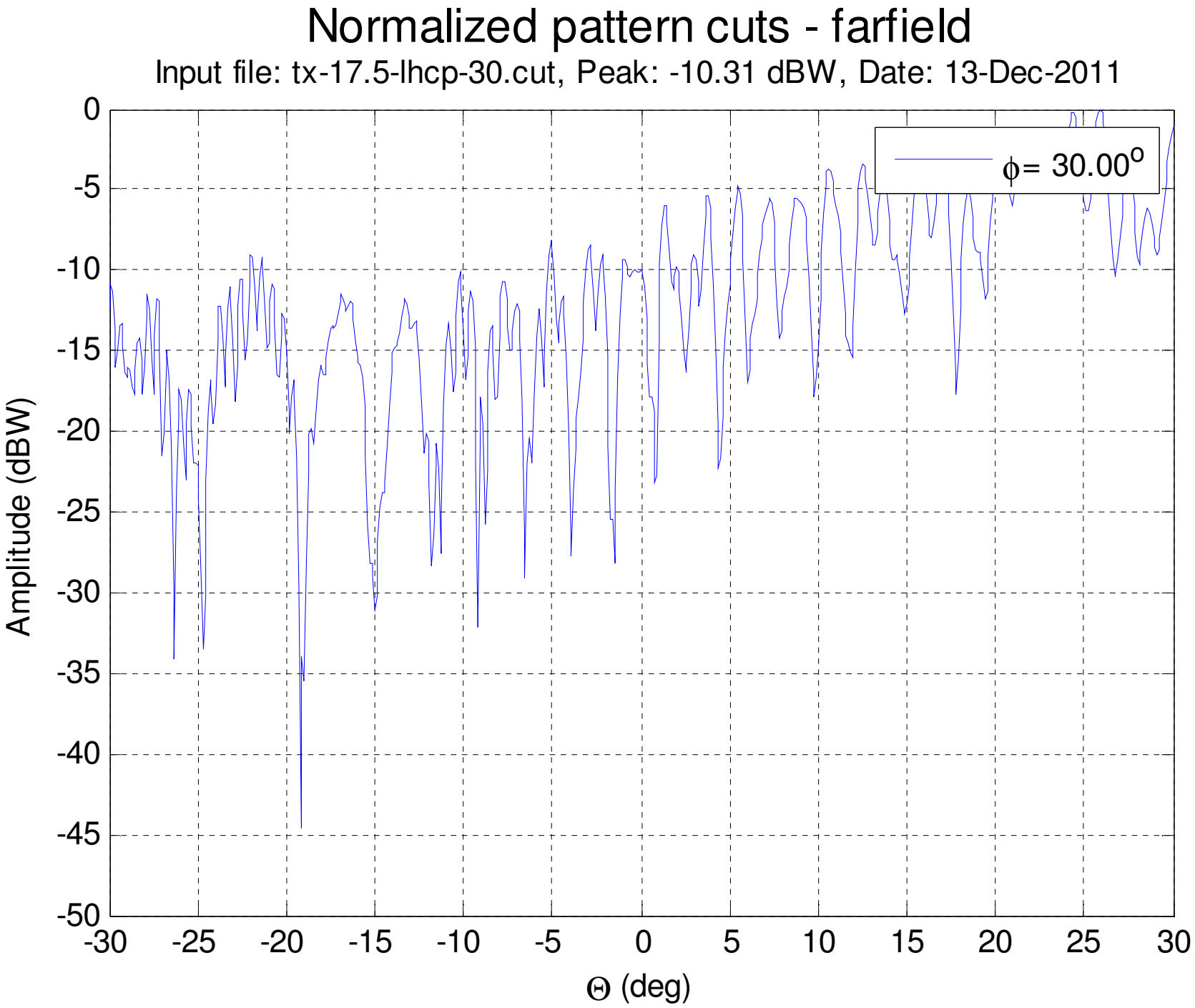

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -4.83 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

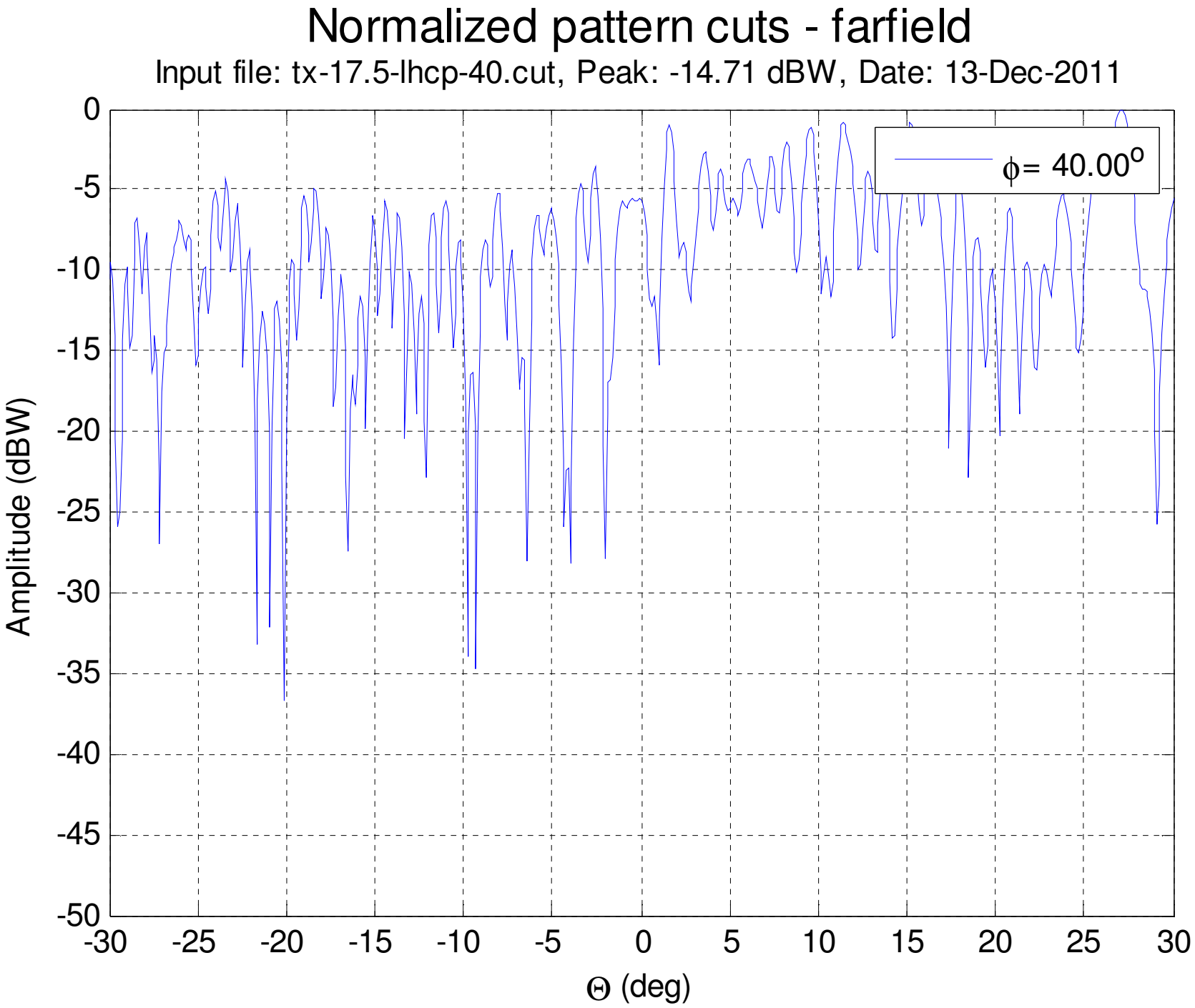

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -3.16 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

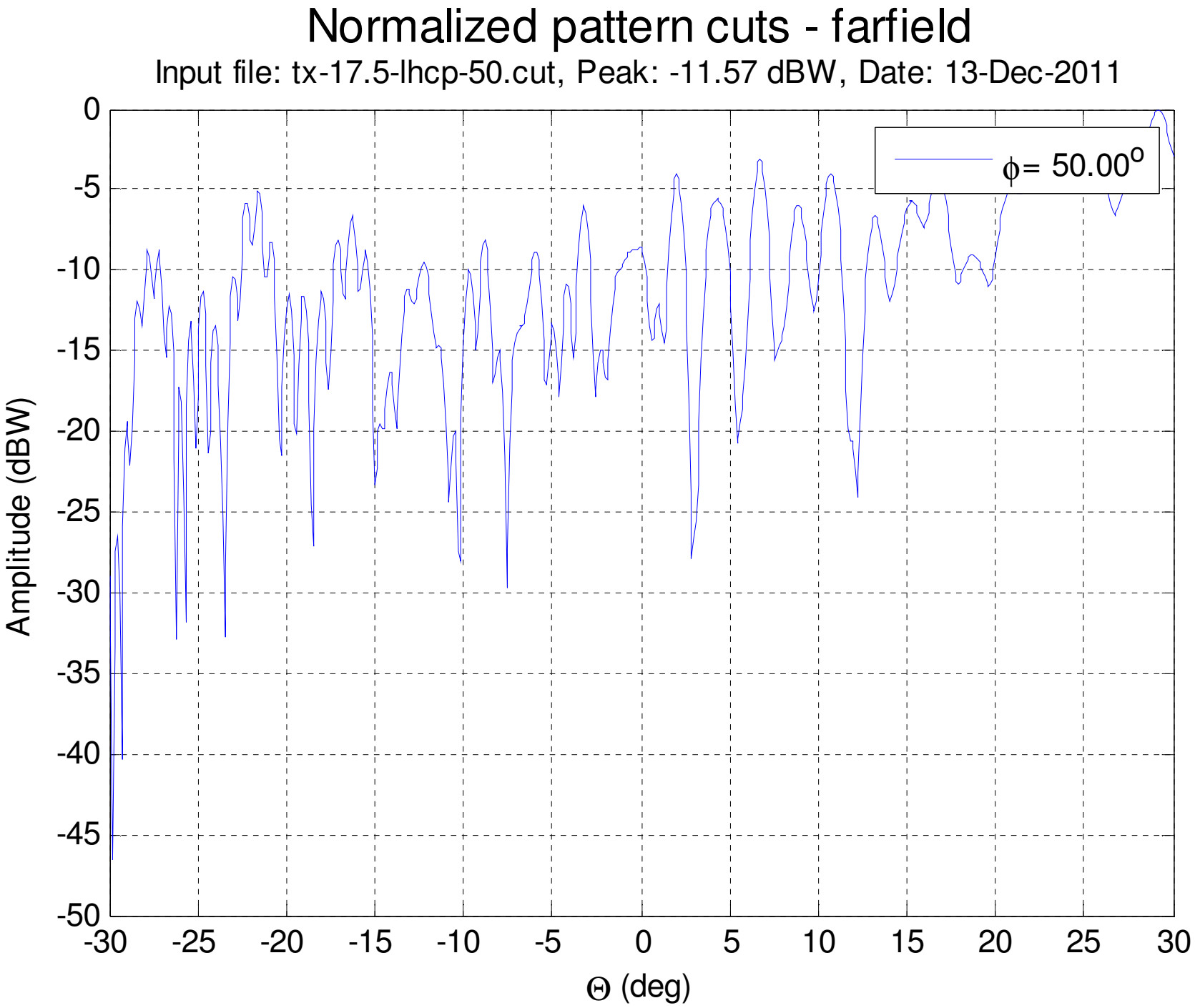

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -3.48 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

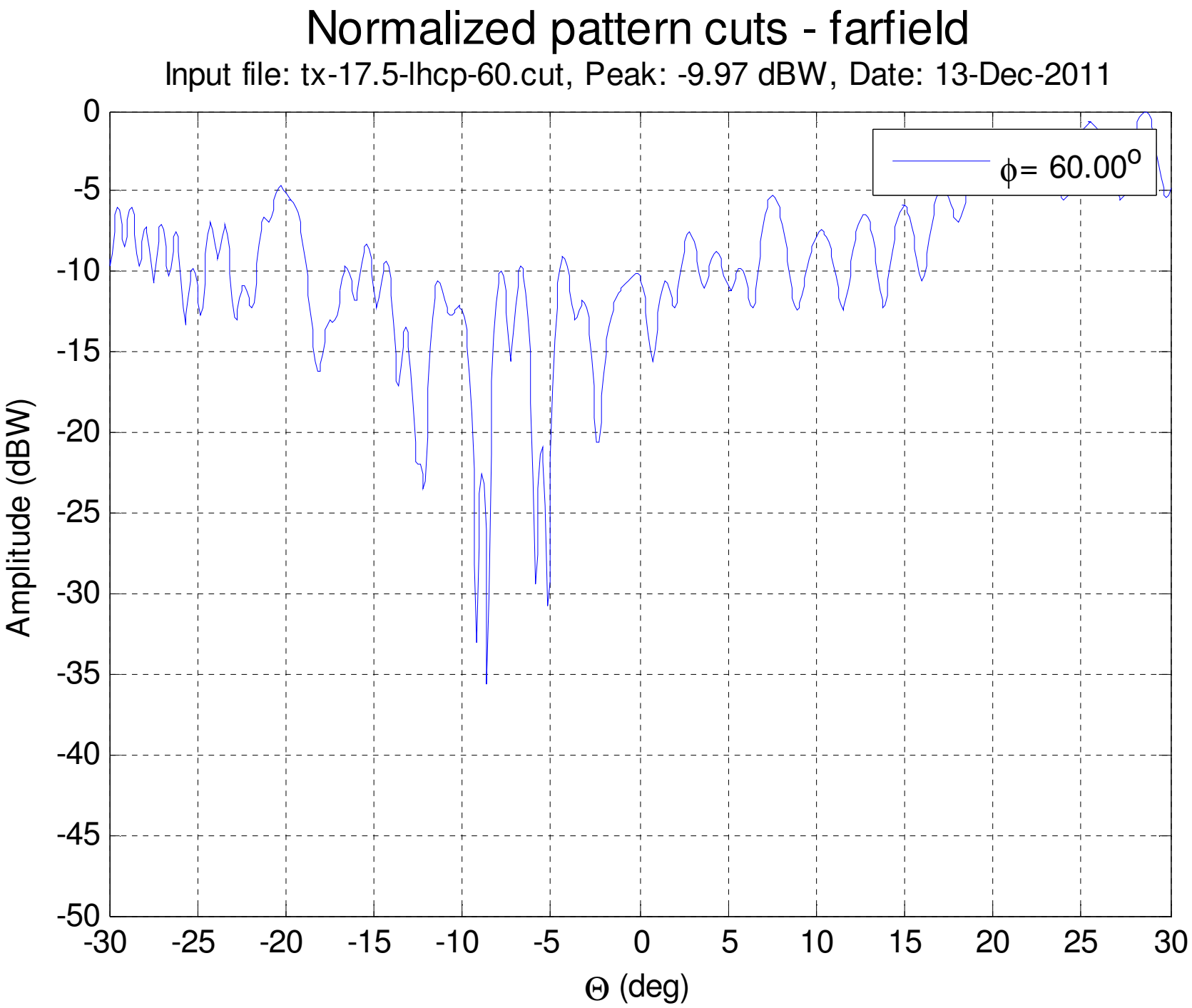

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -4.25 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.43 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

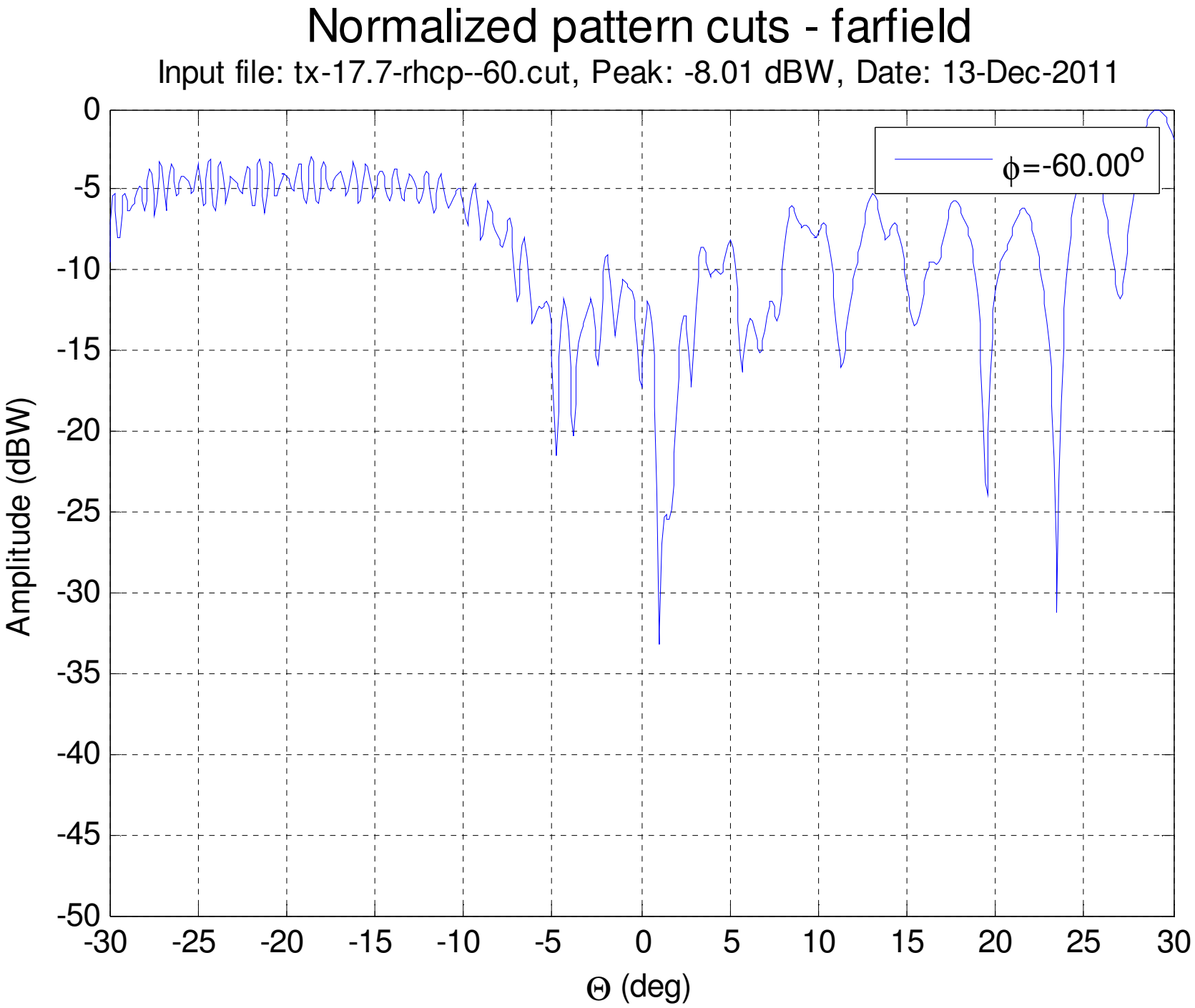

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

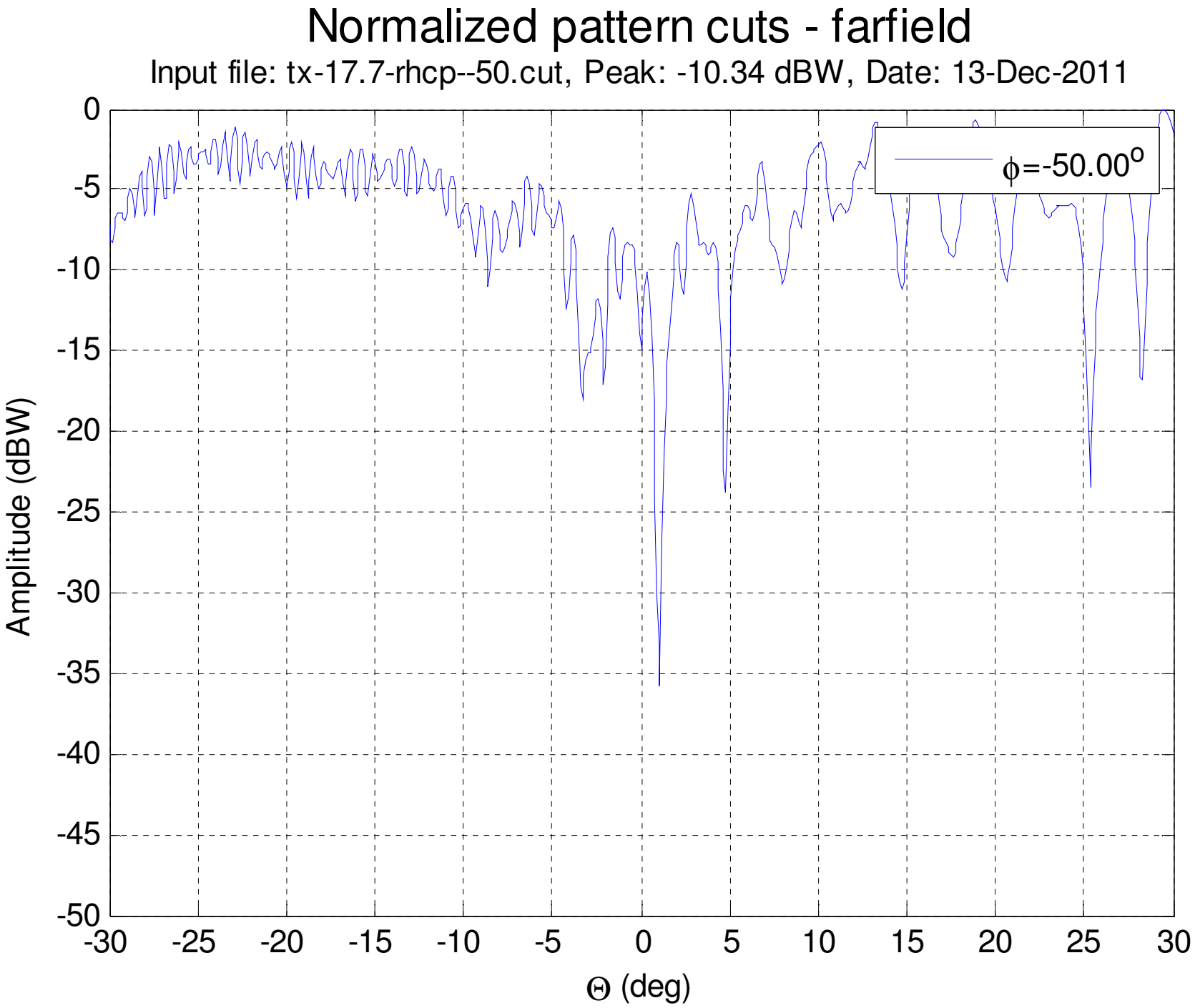

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -14.71 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

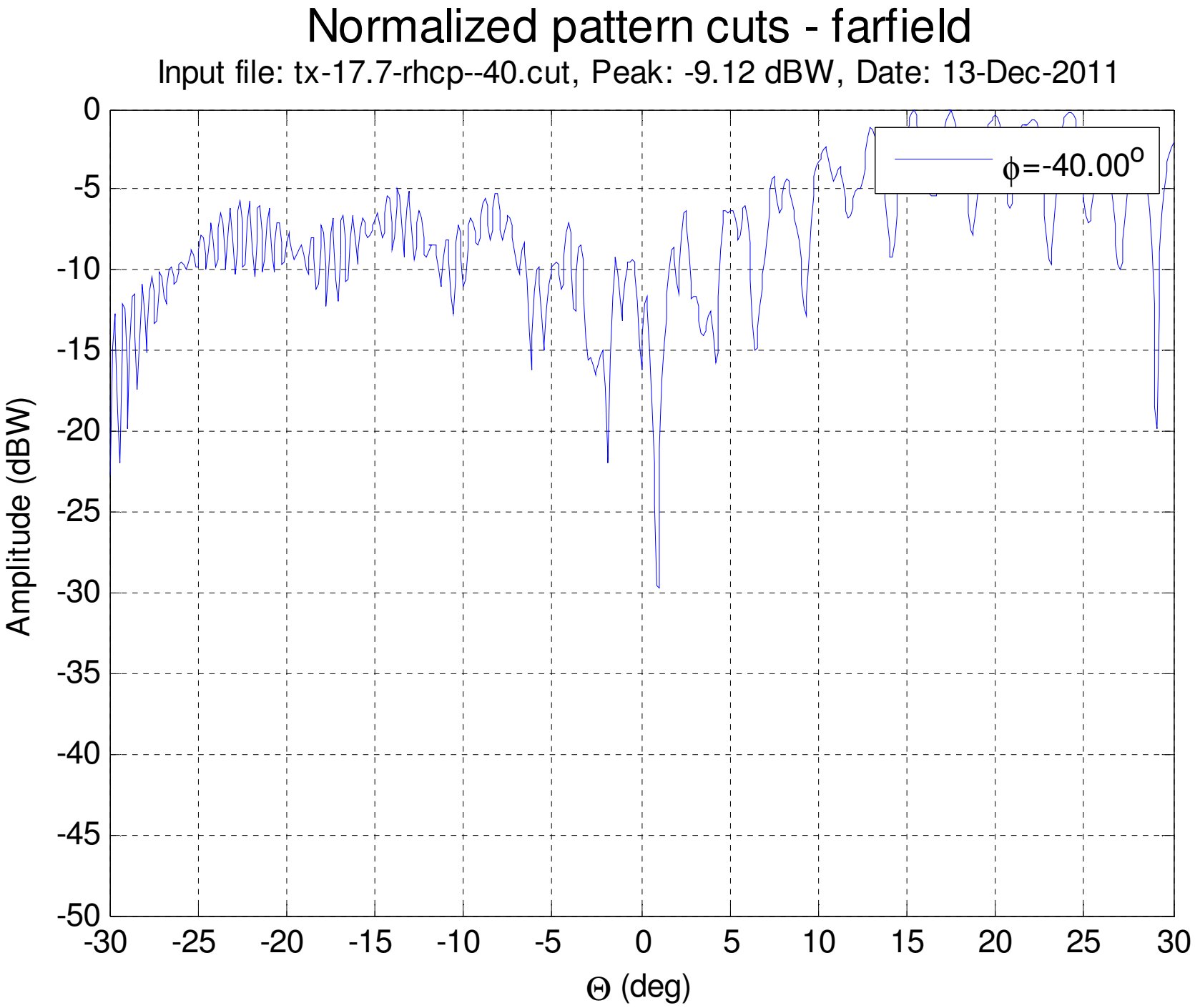

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -11.57 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

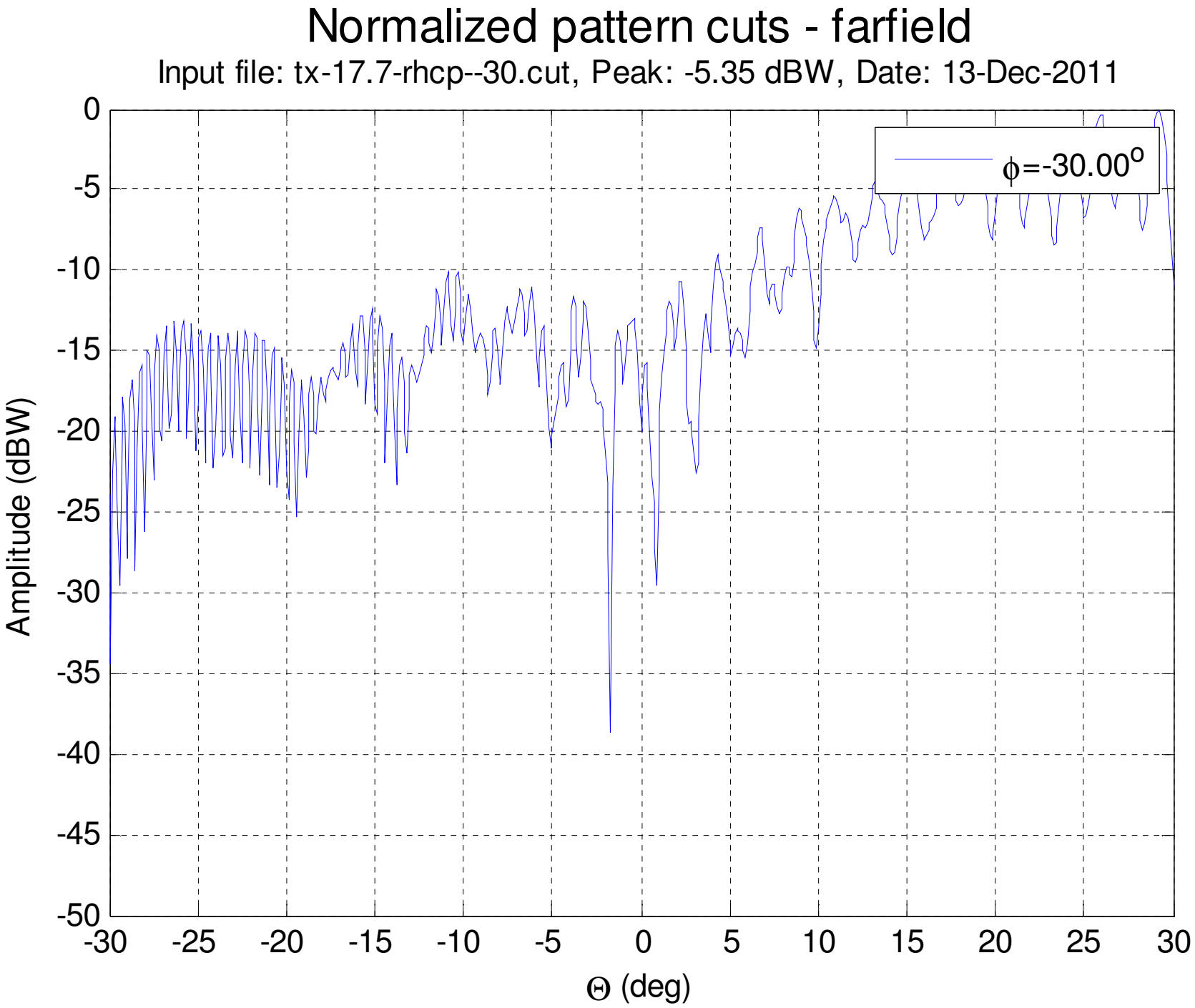

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

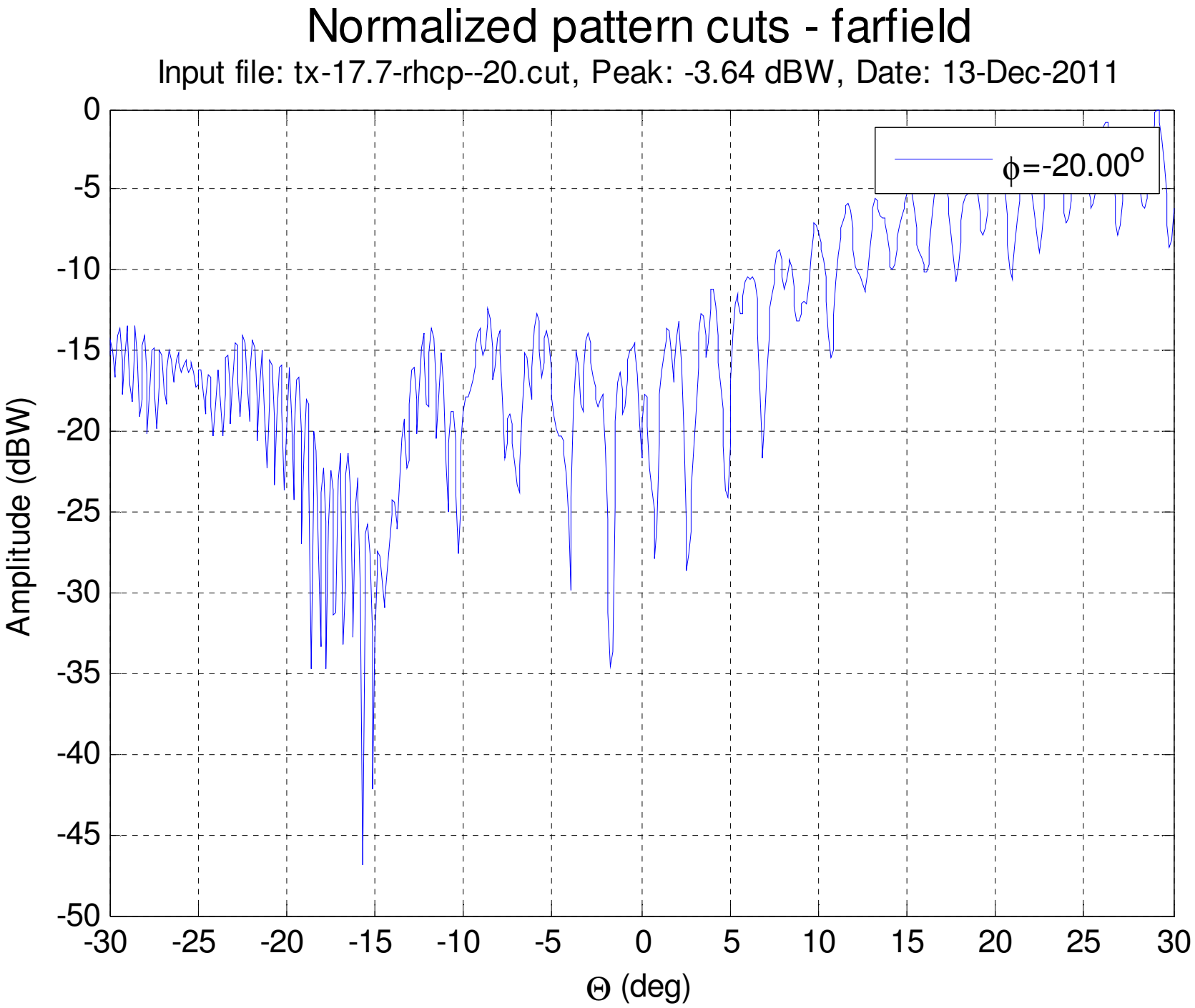
RHCP at 17.7 GHz

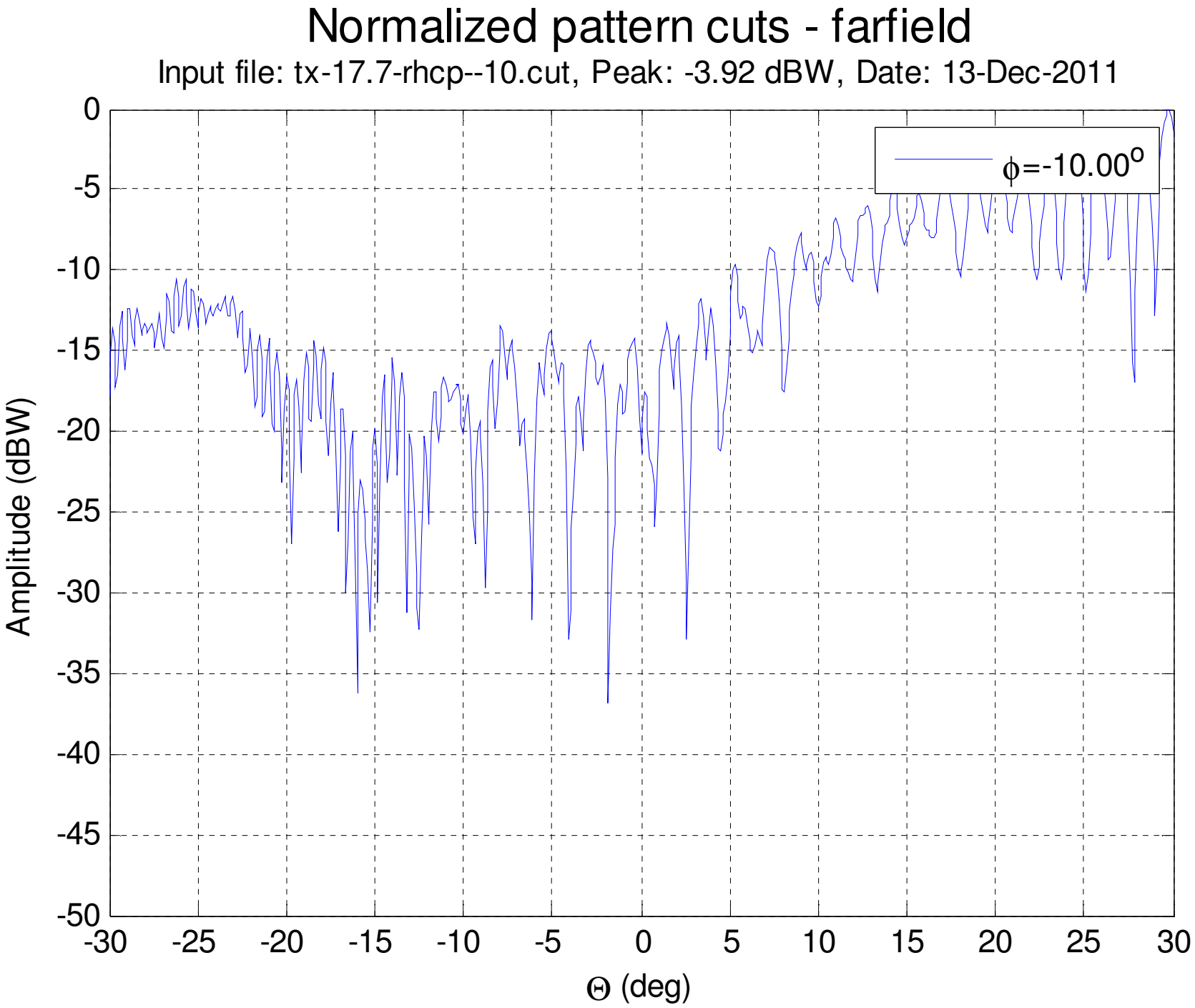

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -8.01 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

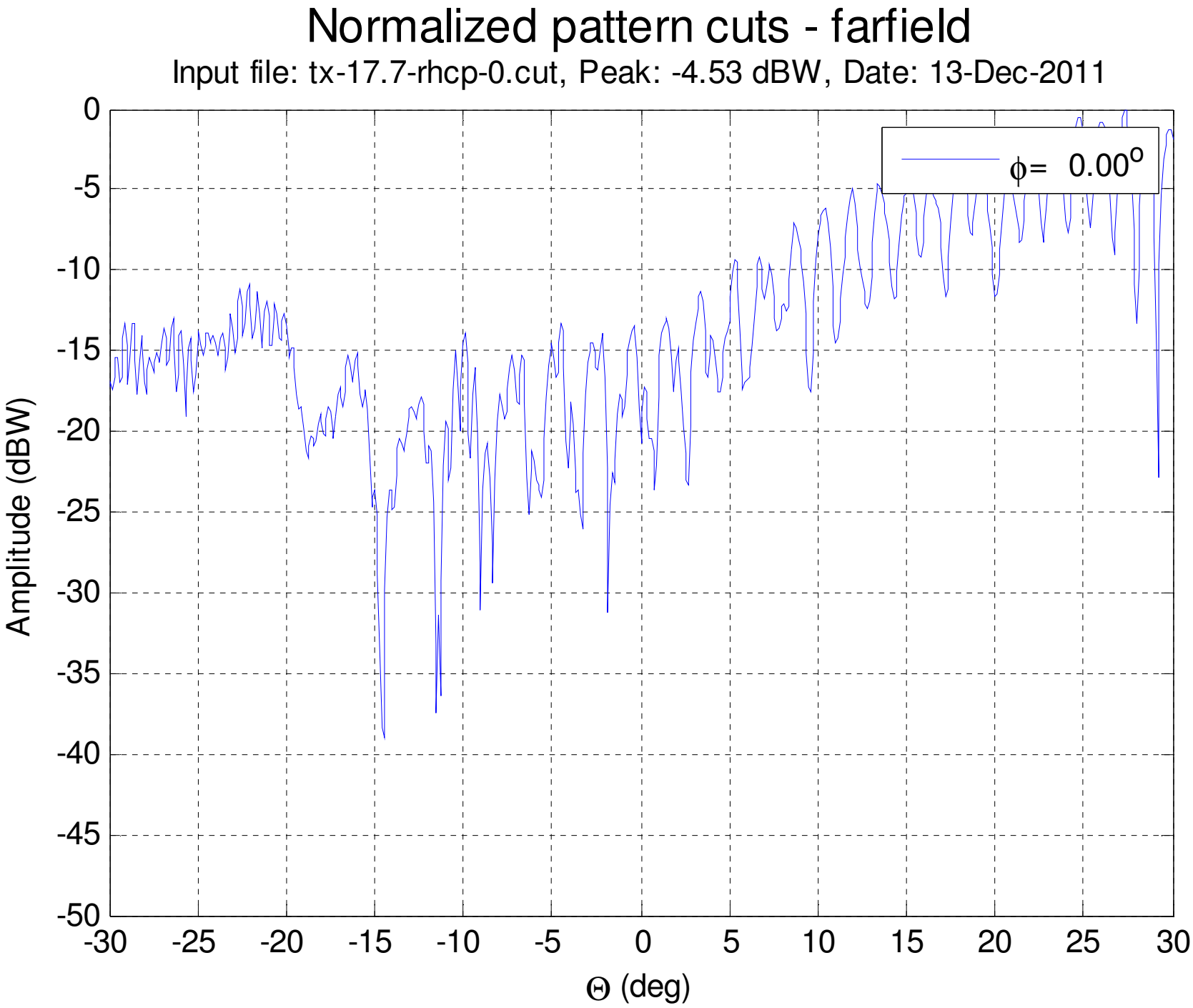

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -10.34 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

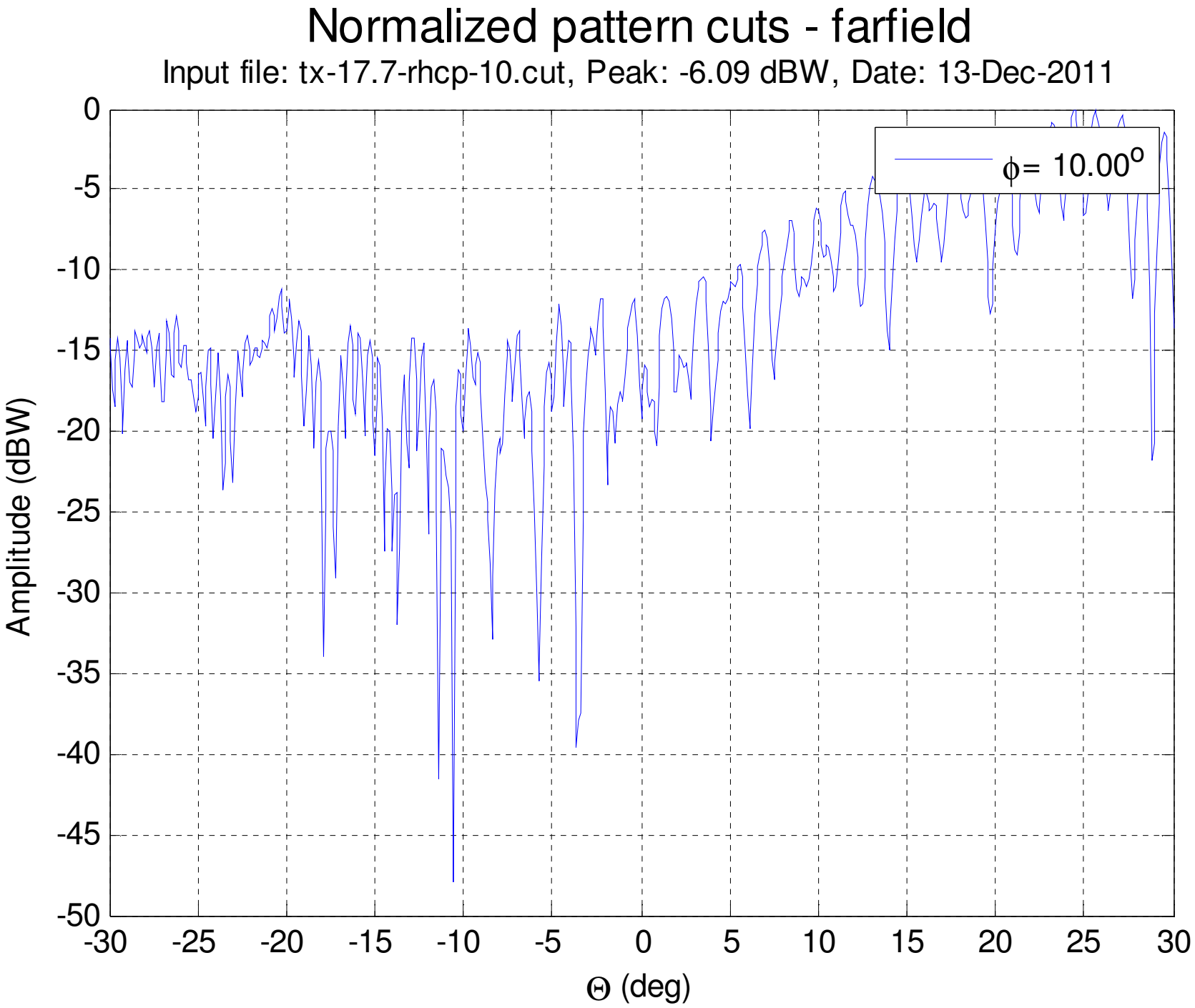

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -9.12 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

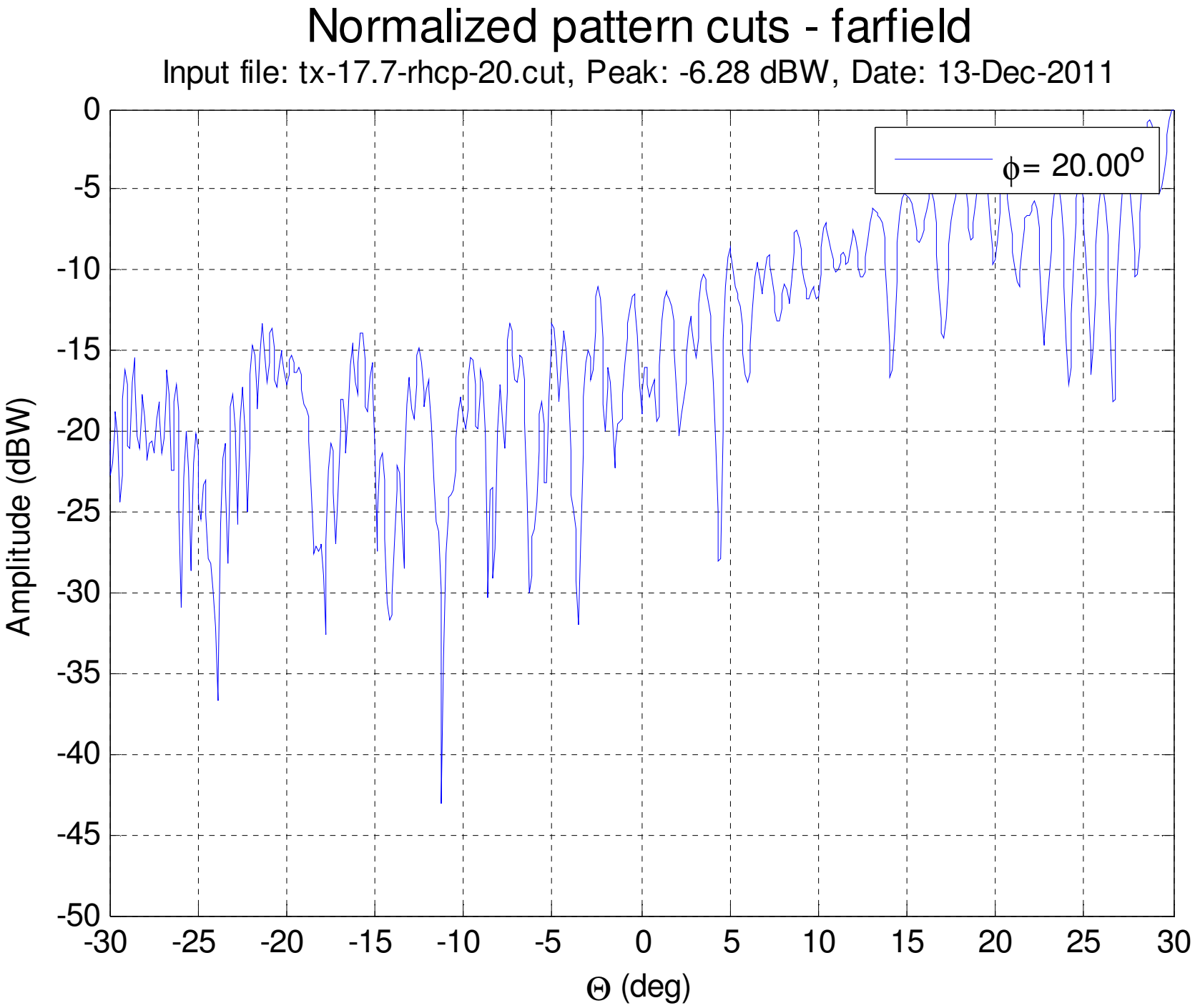

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -5.35 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

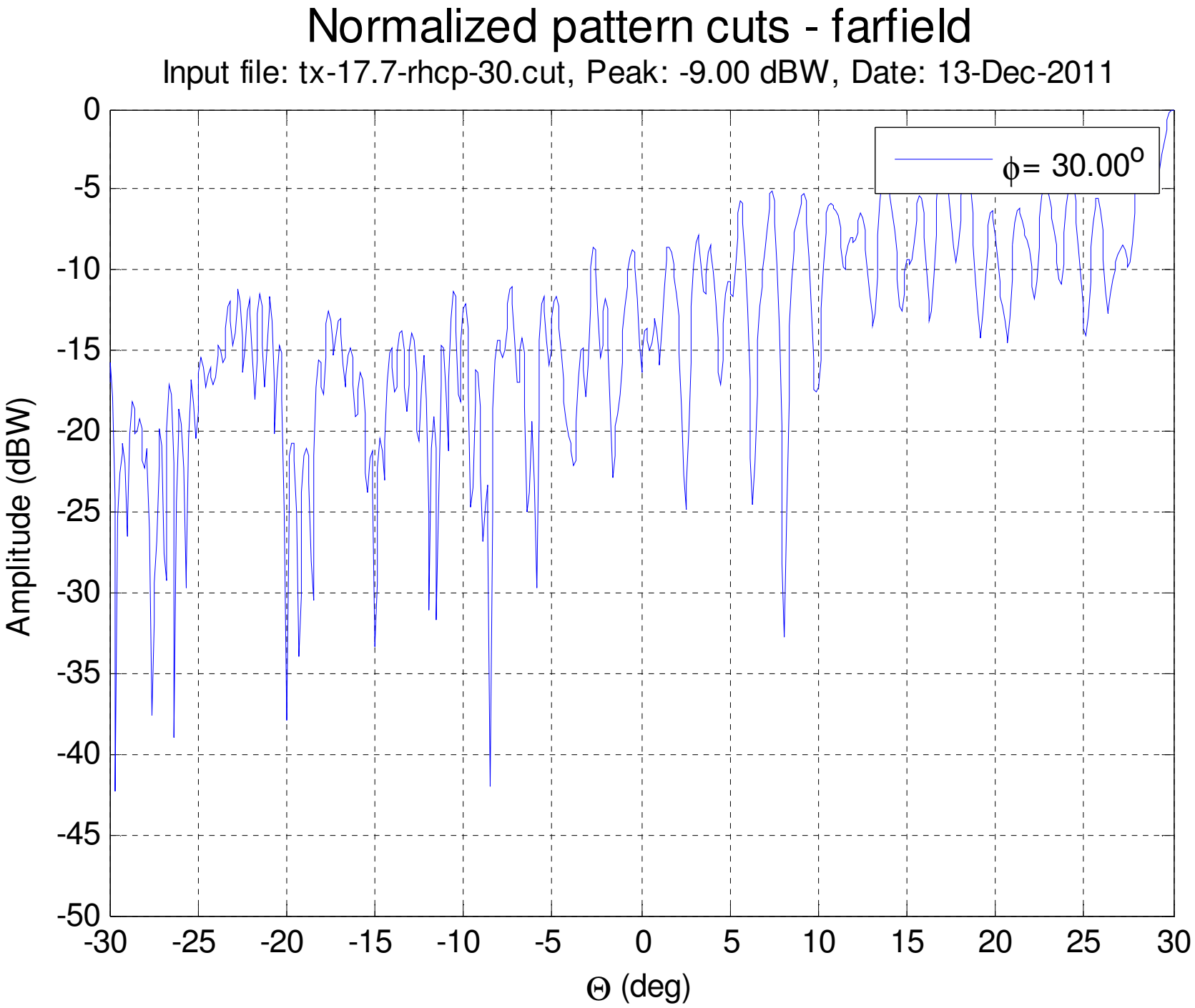

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -3.64 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

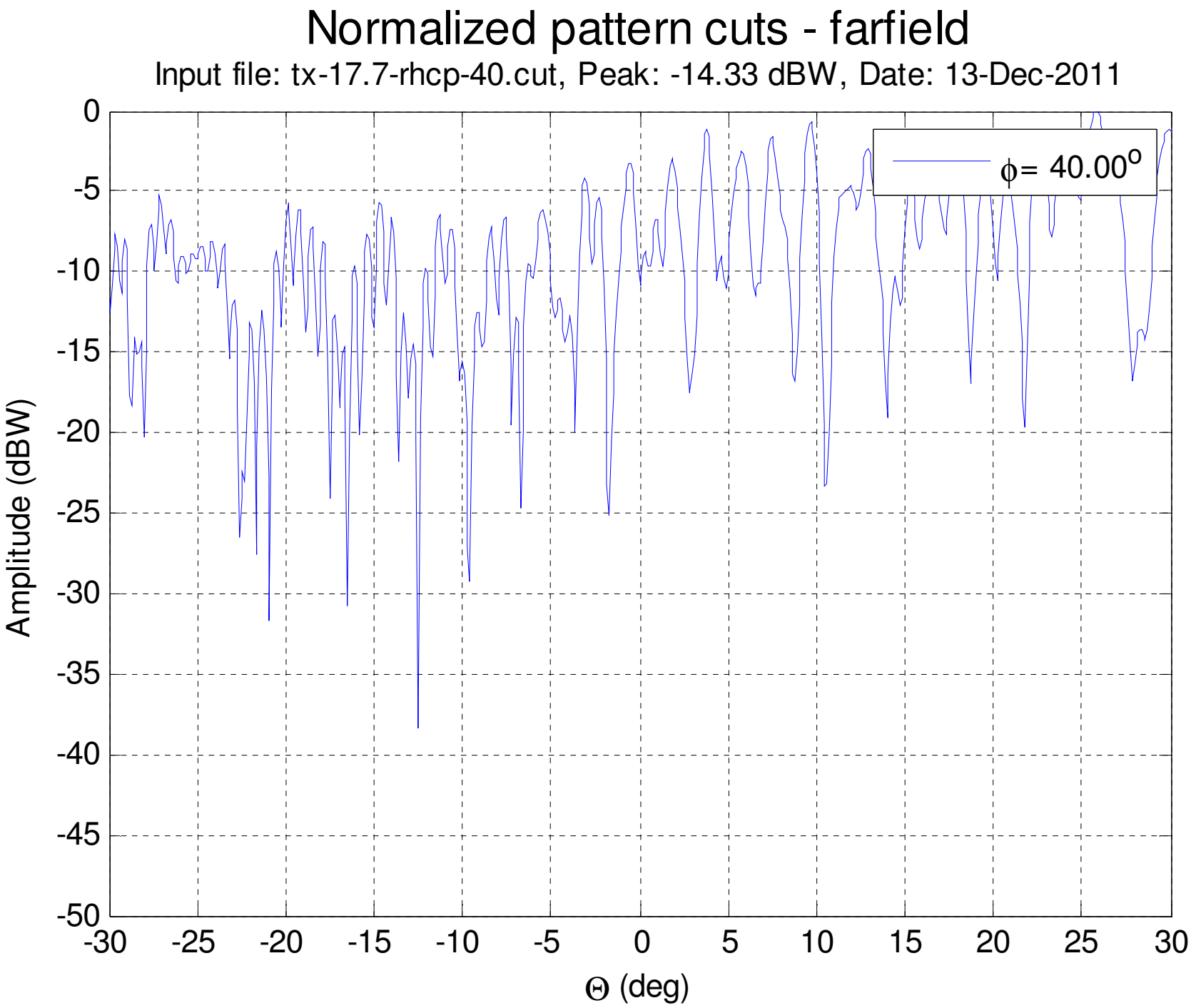

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -3.92 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

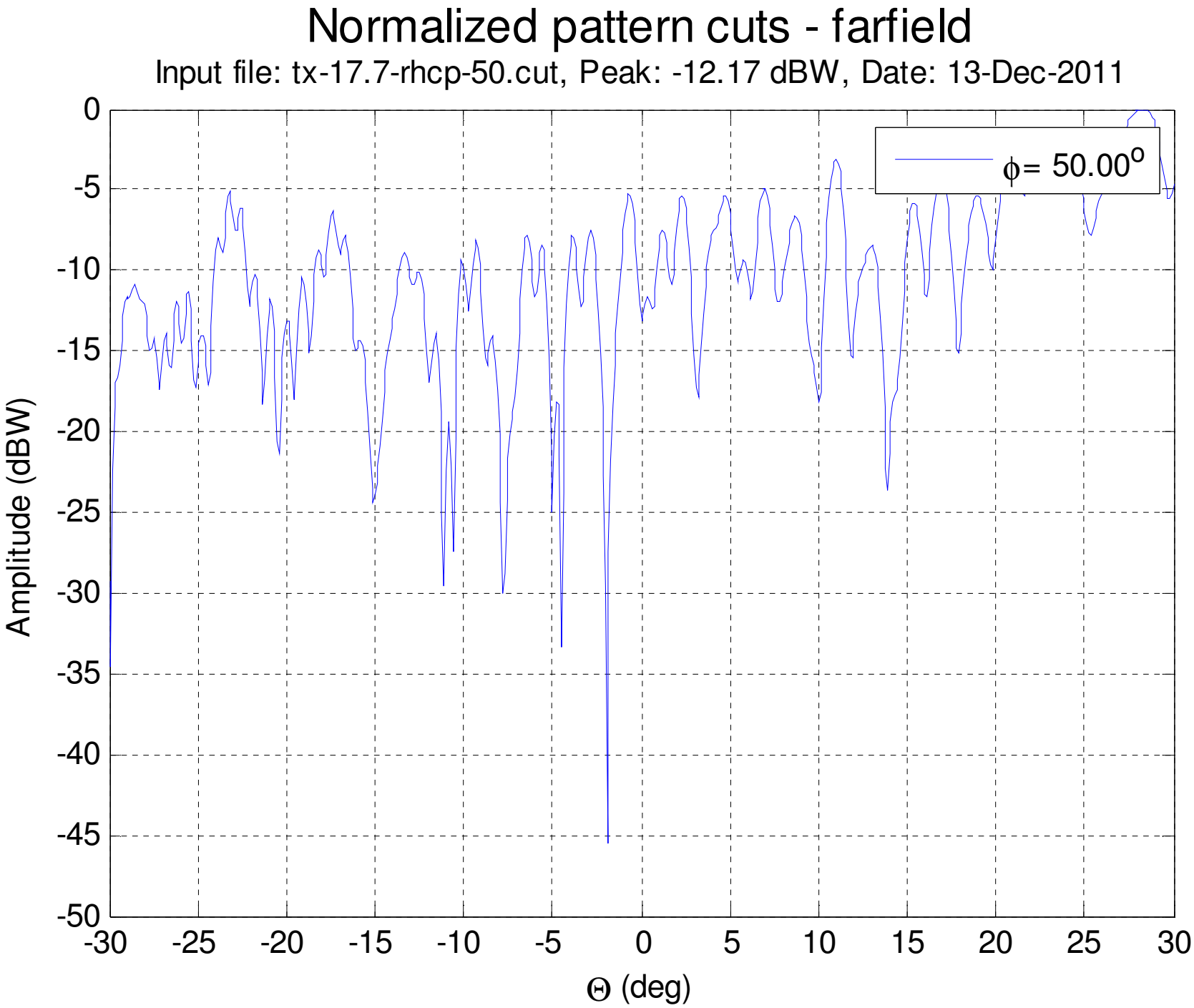

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -4.53 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

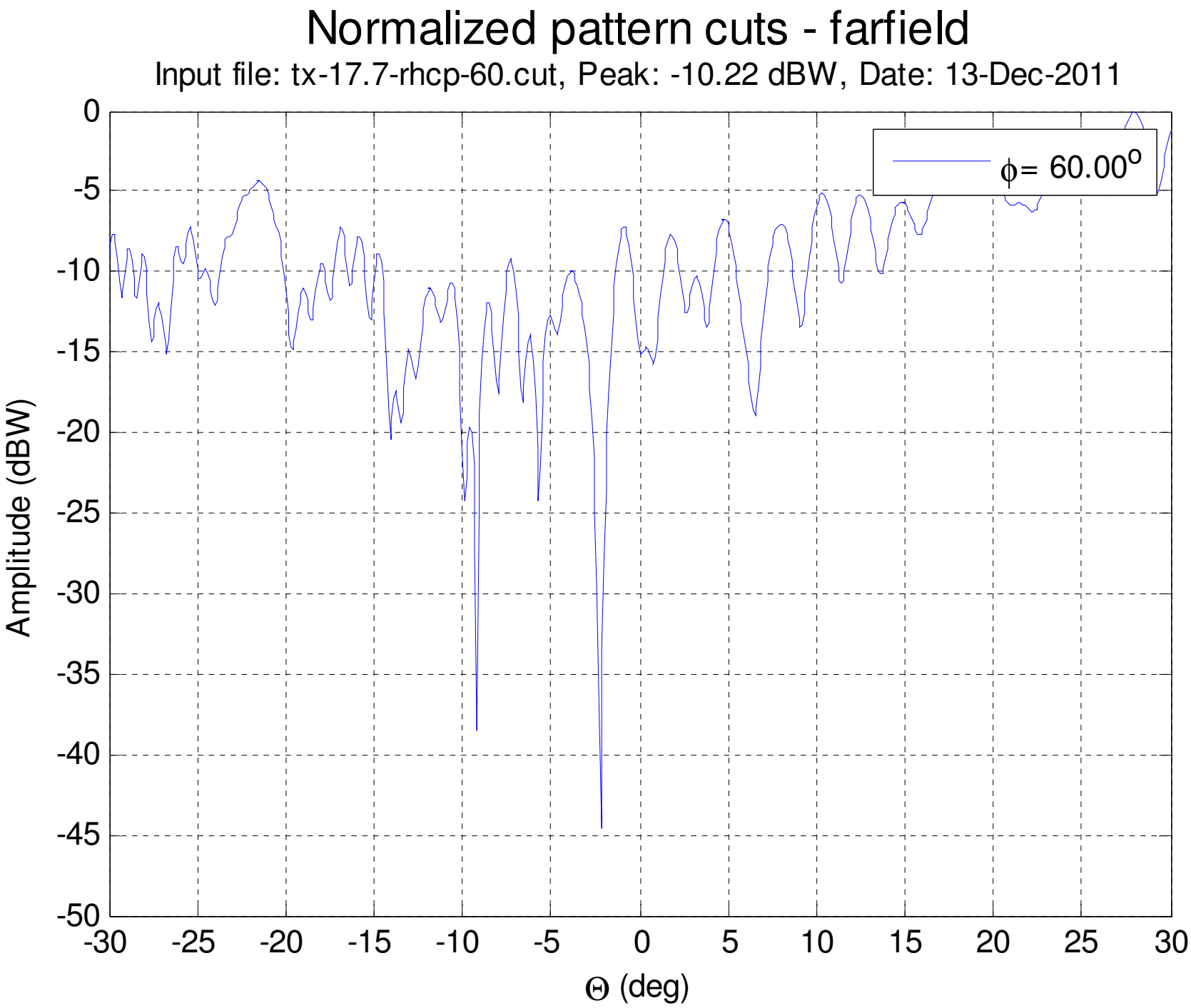

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -6.09 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -6.28 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

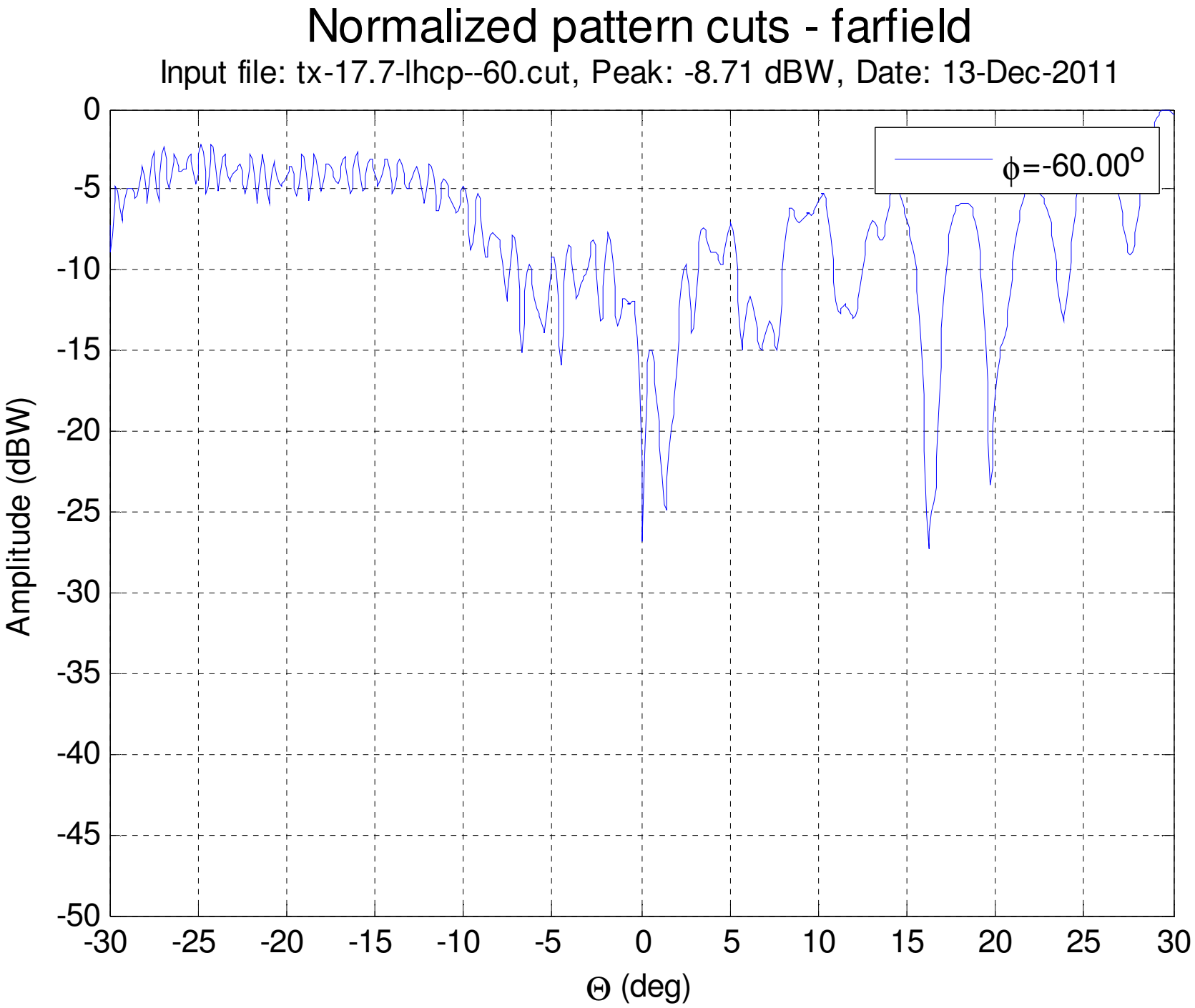

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -9.00 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

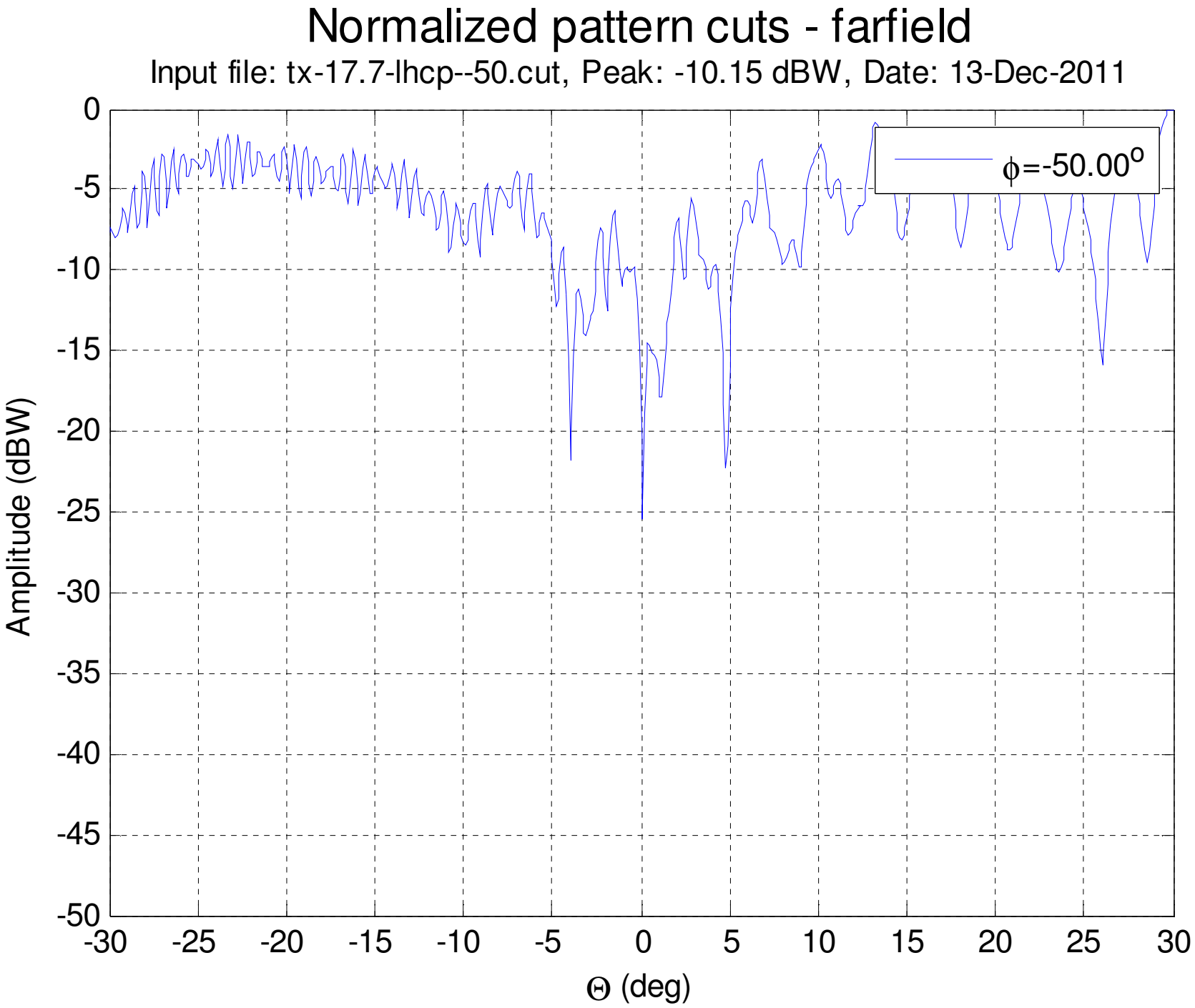

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -14.33 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

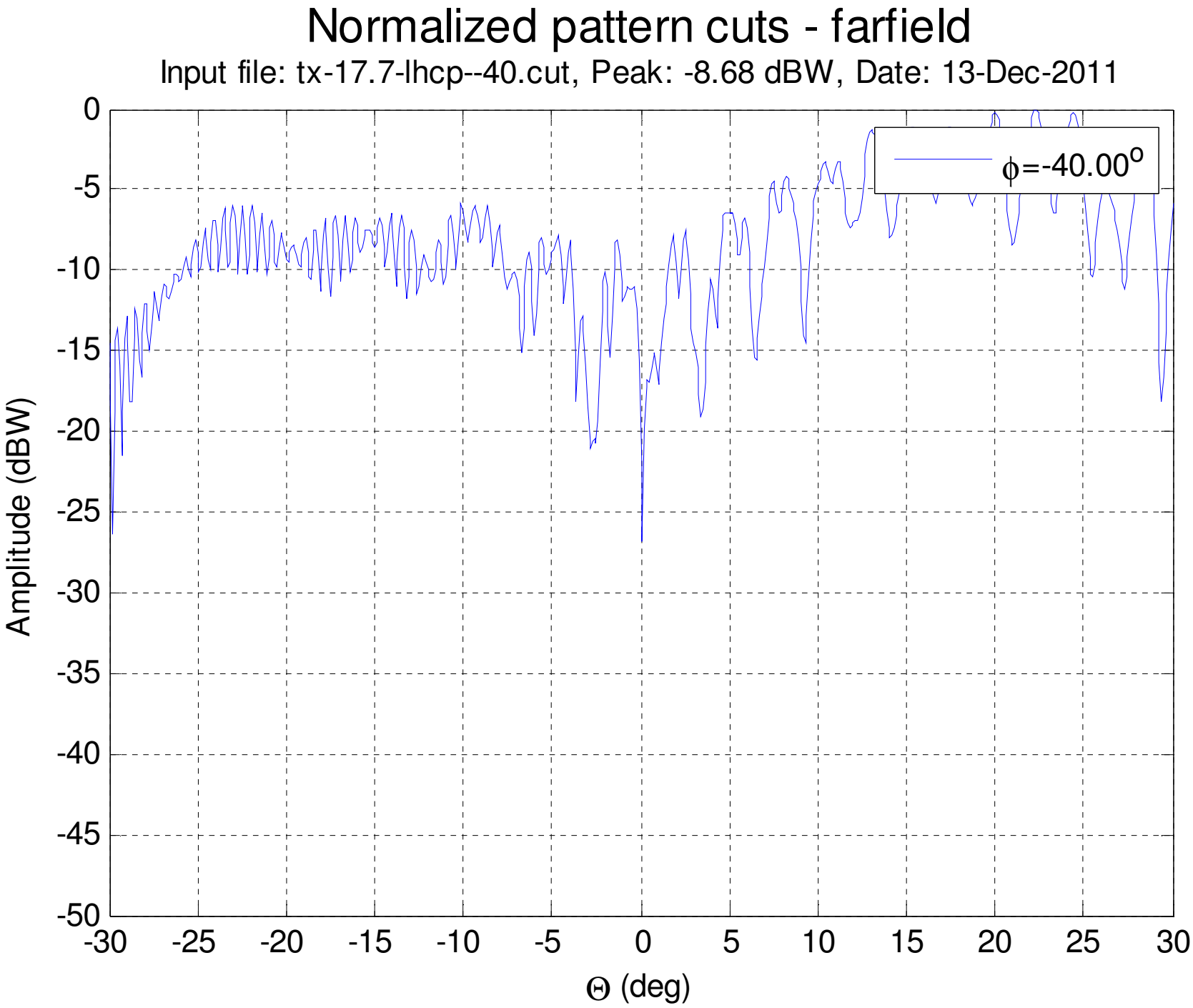

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -12.17 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

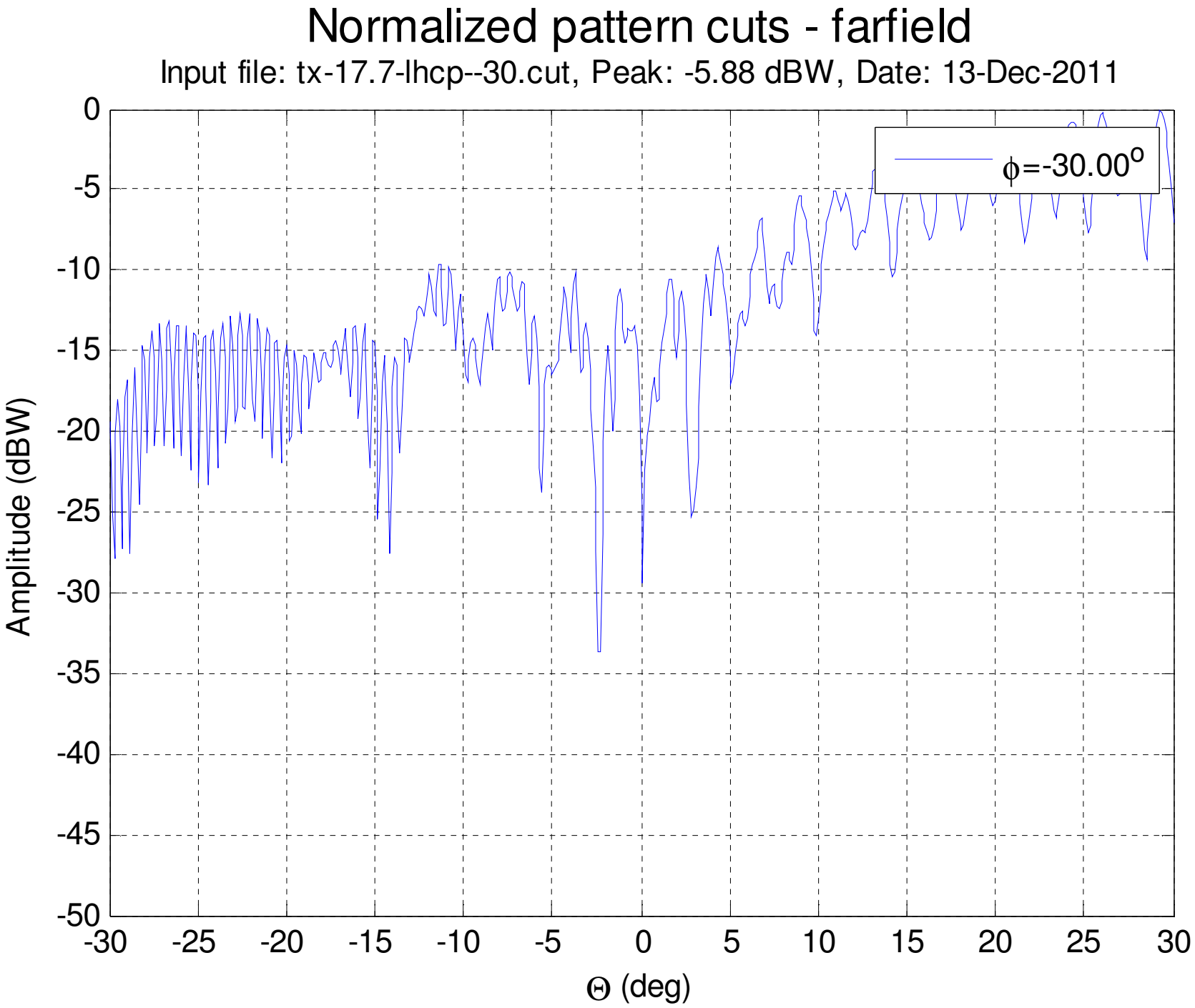

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -10.22 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

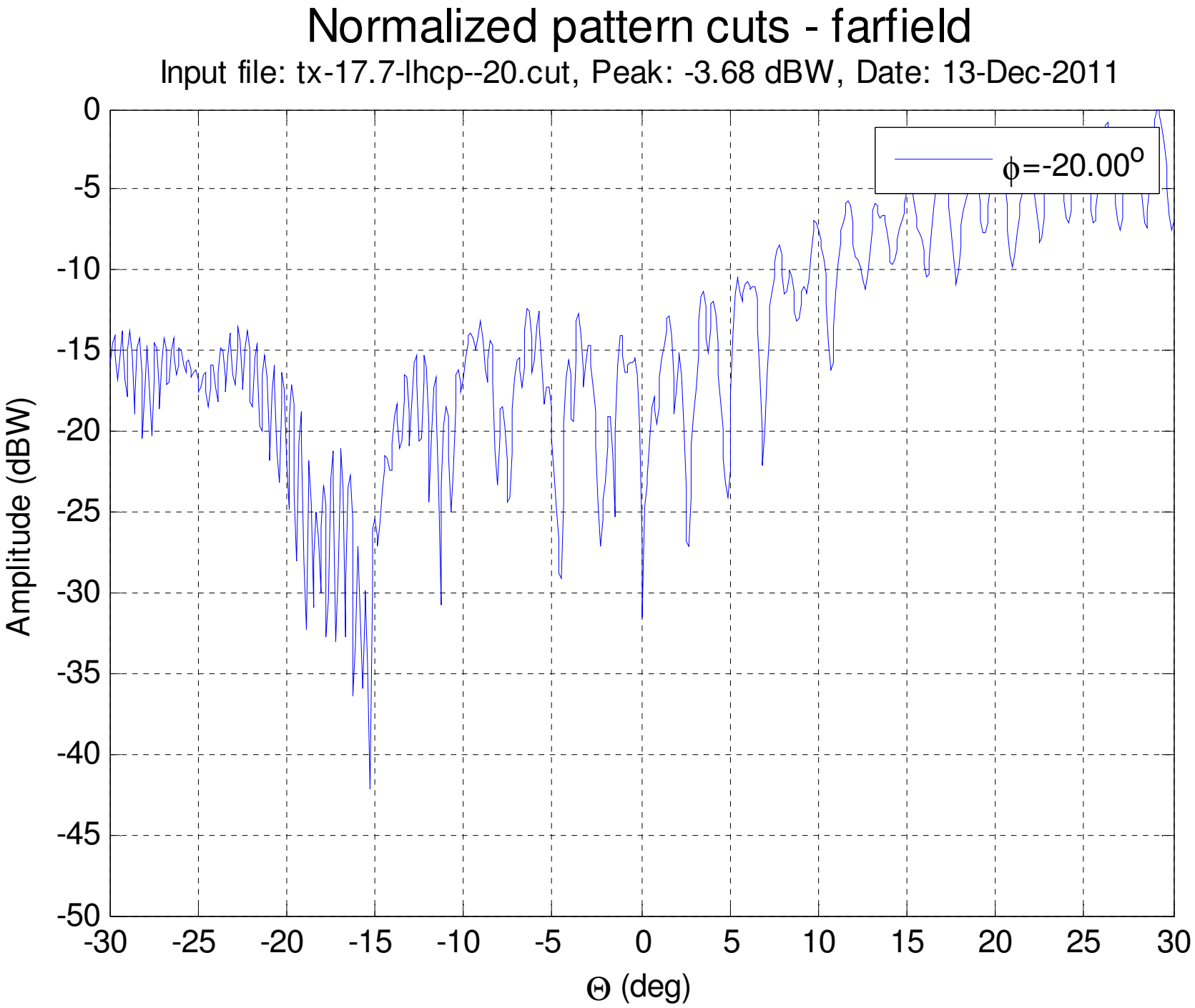
LHCP at 17.7 GHz

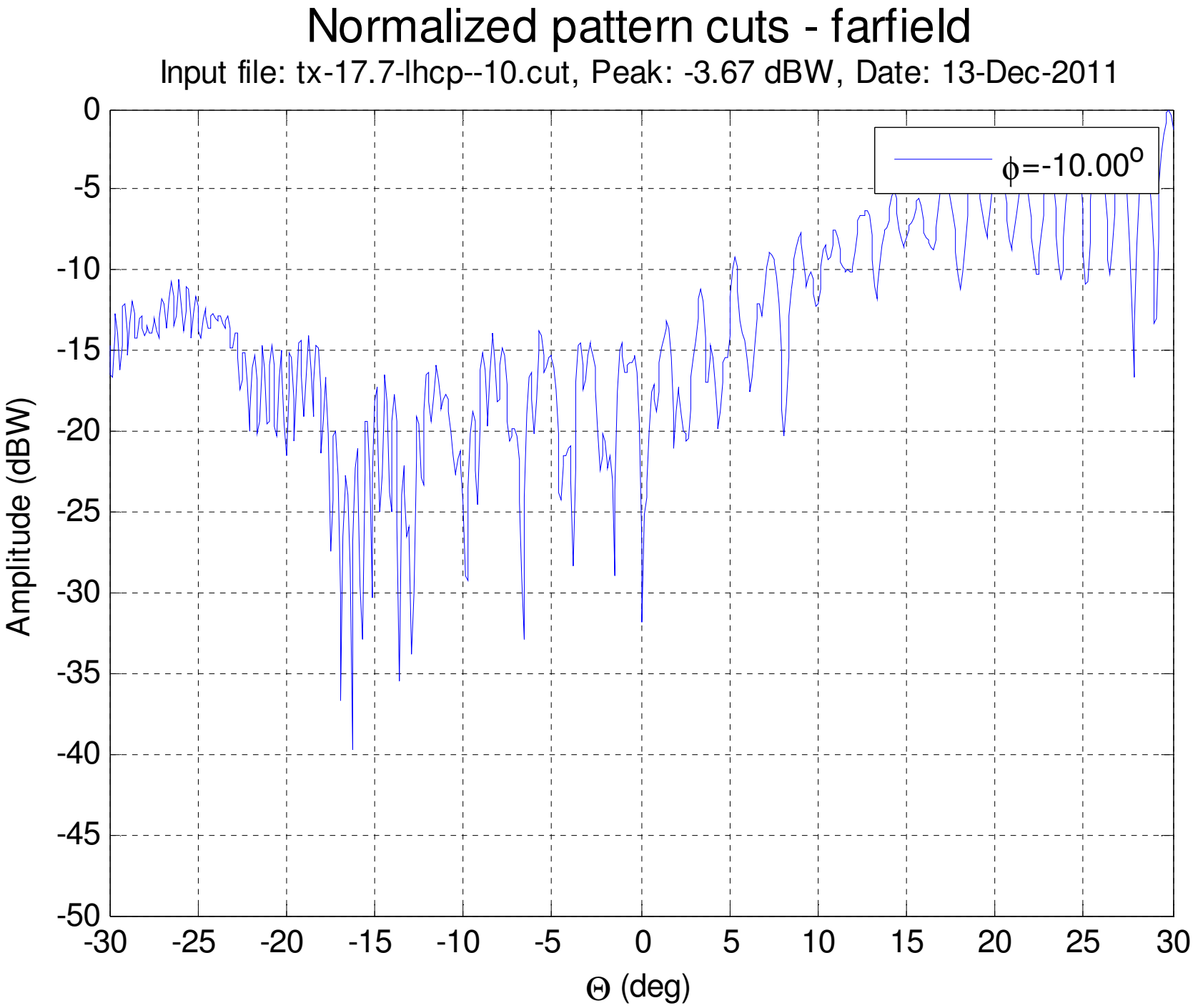

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.71 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

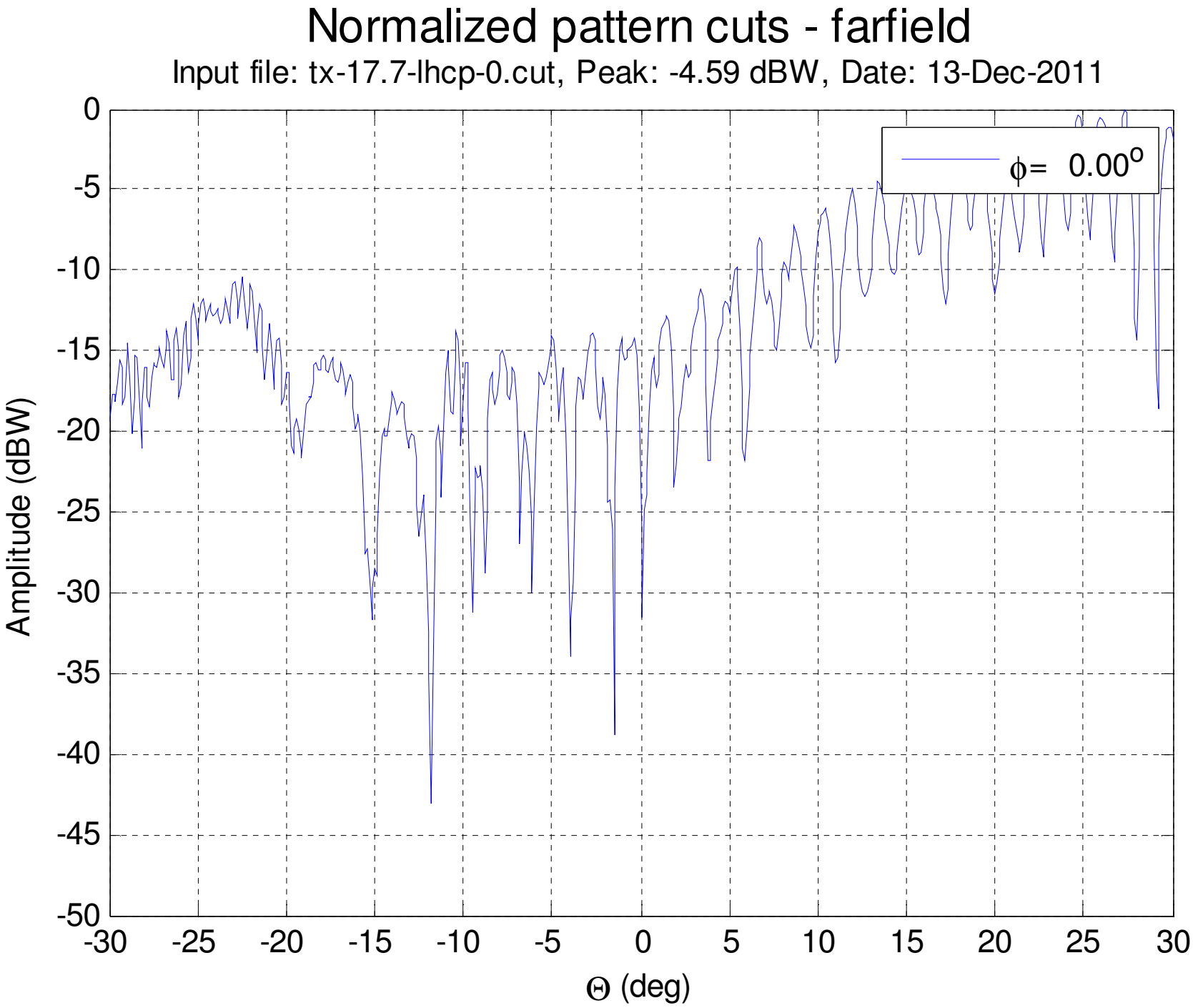

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -10.15 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

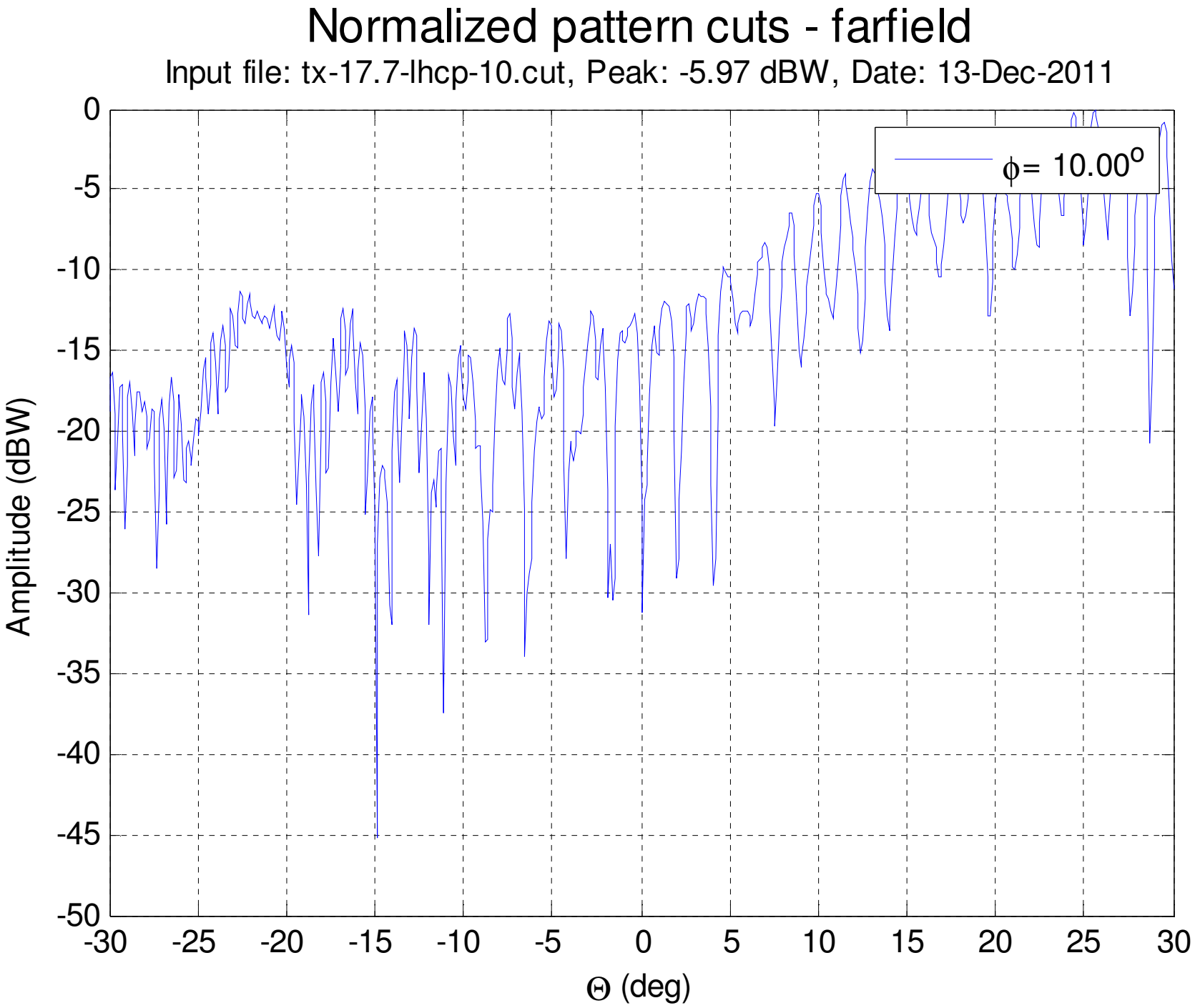

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.68 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

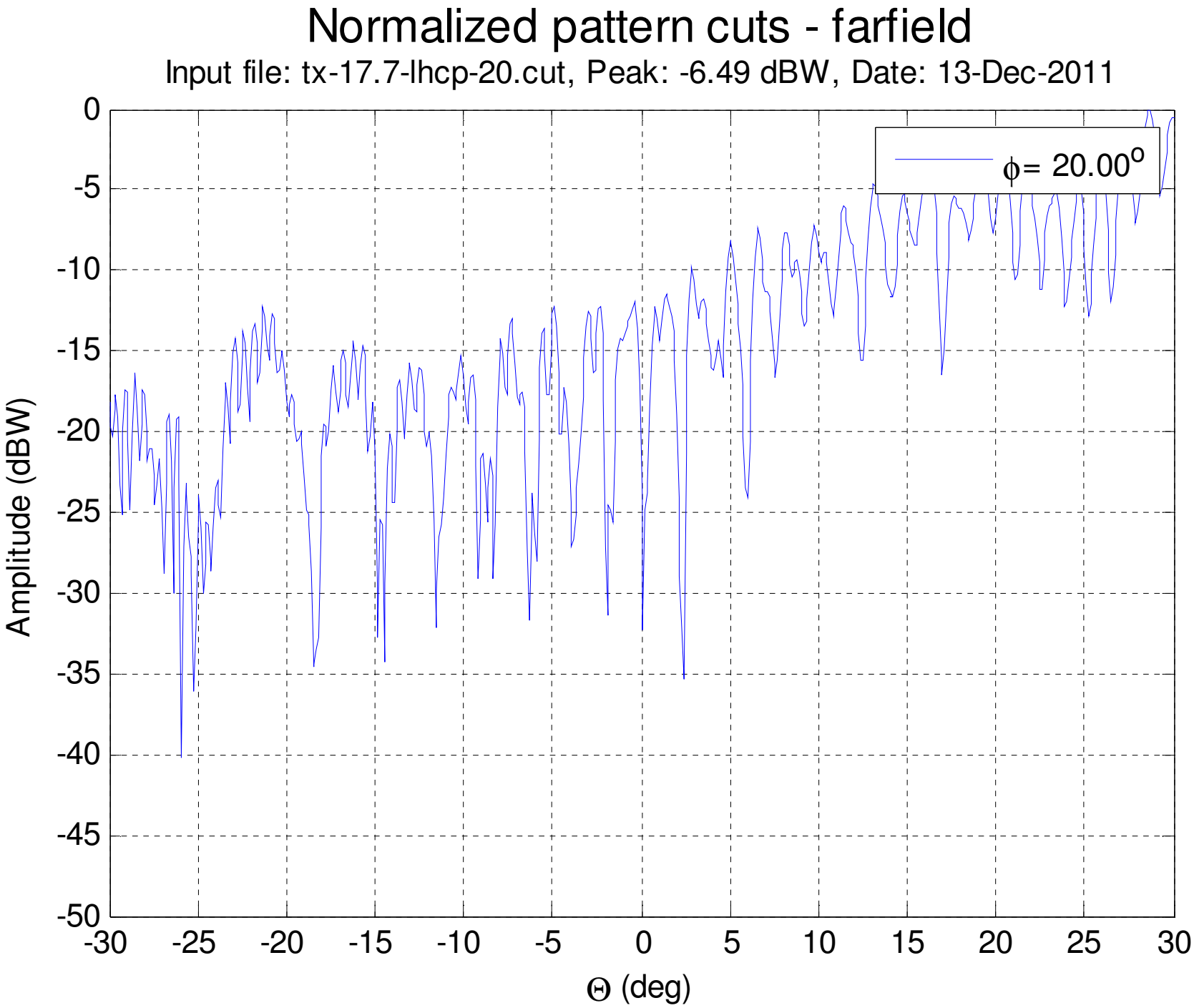

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -5.88 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

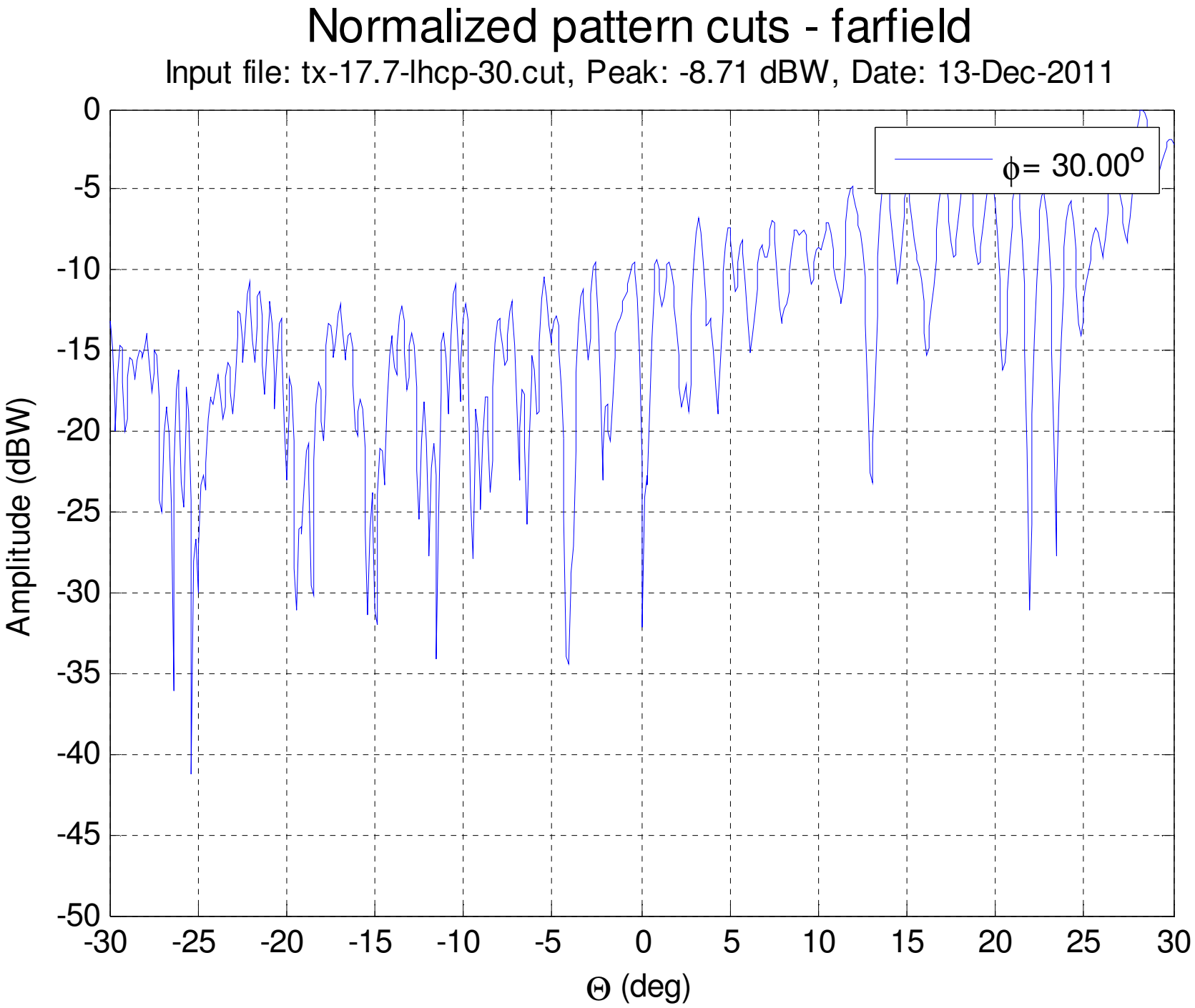

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -3.68 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

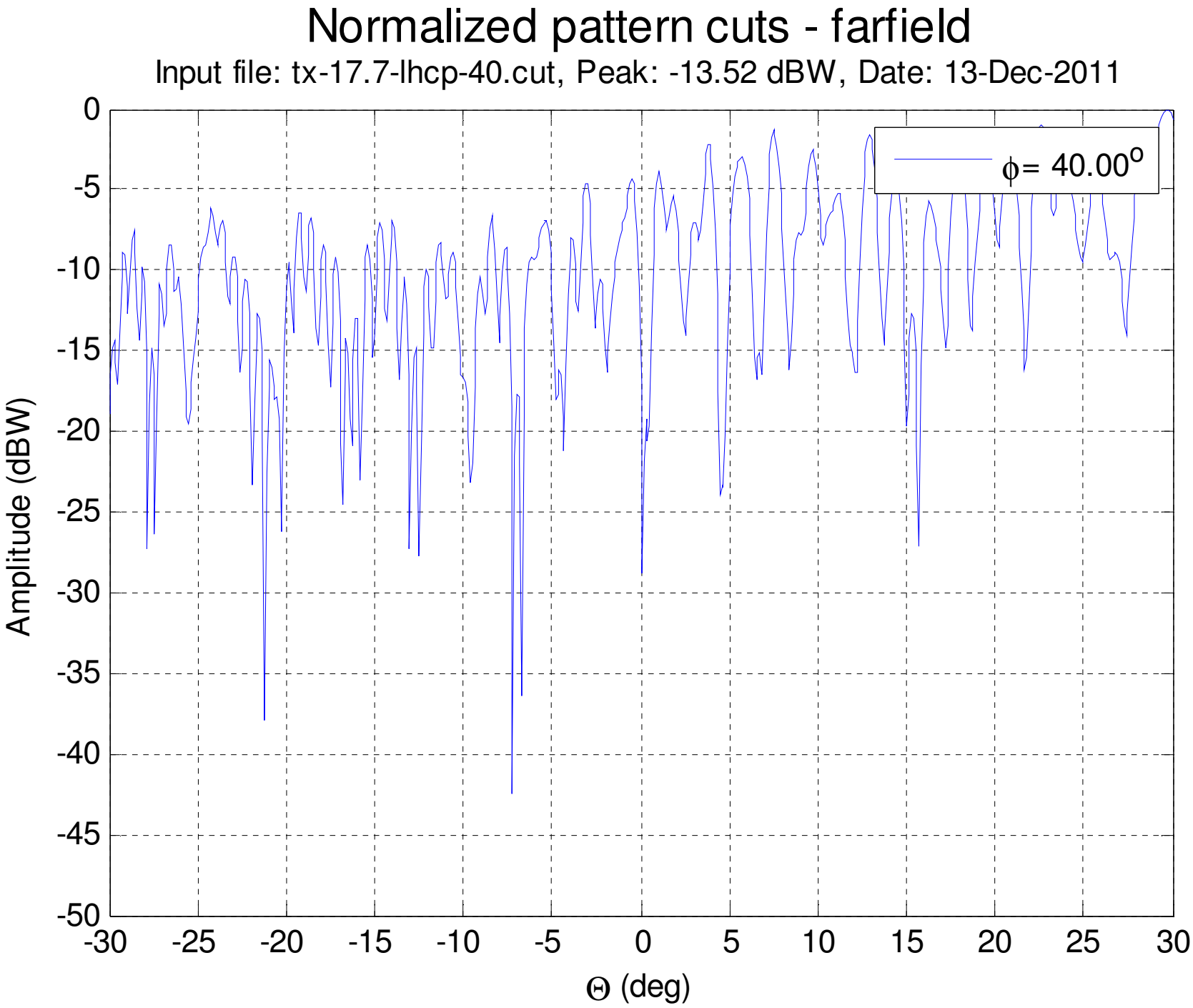

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -3.67 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

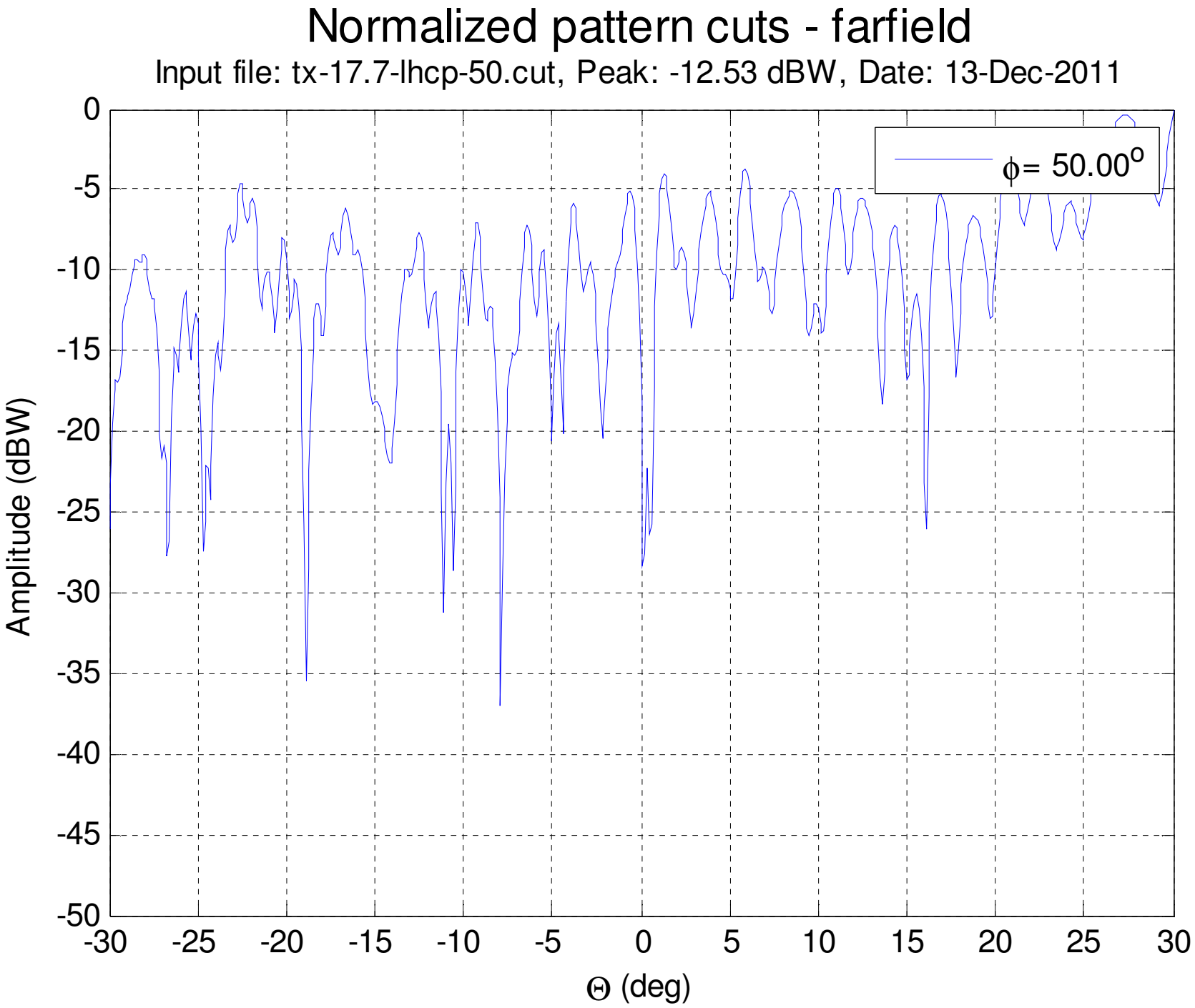

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -4.59 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

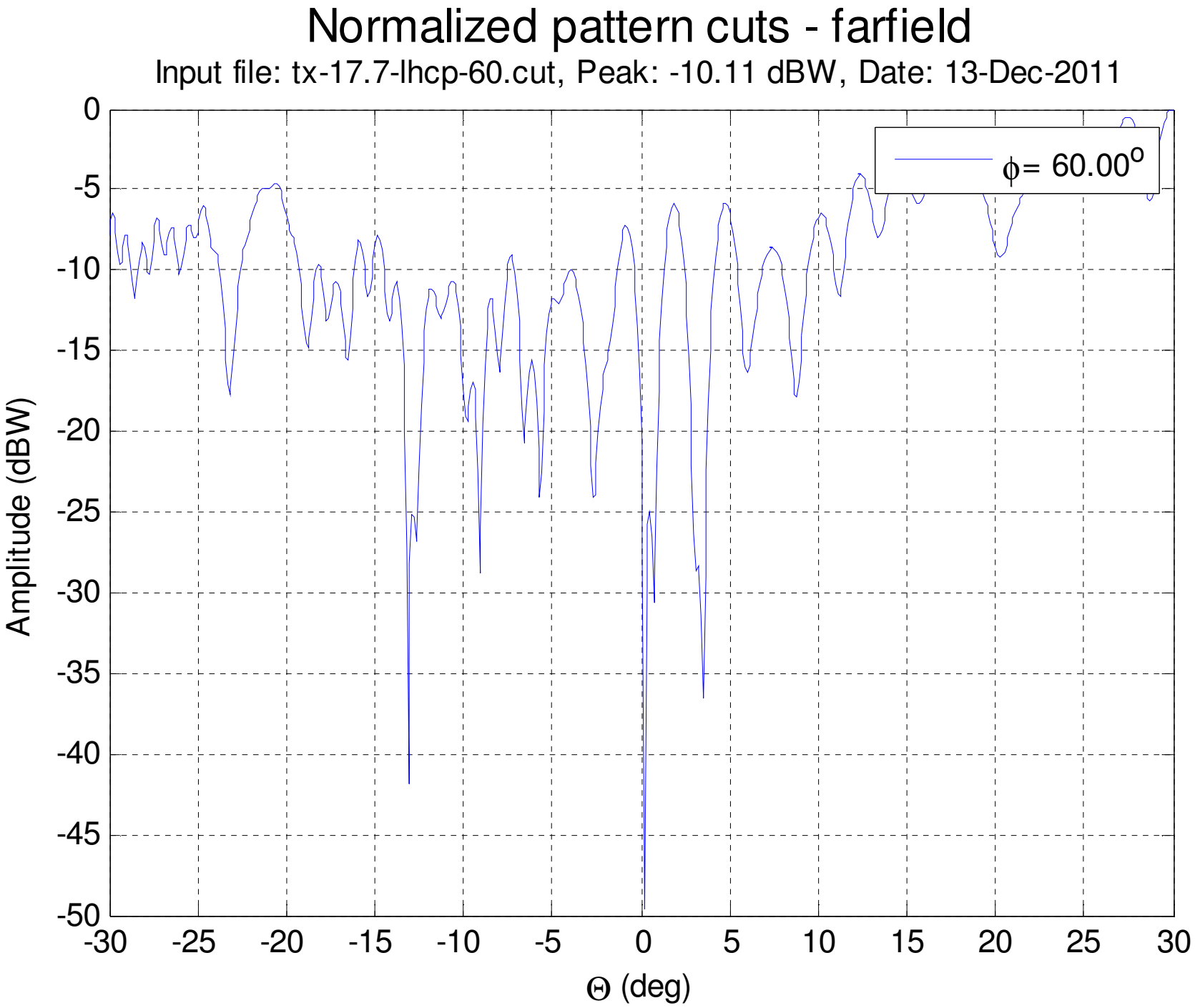

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -5.97 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -6.49 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -8.71 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -13.52 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

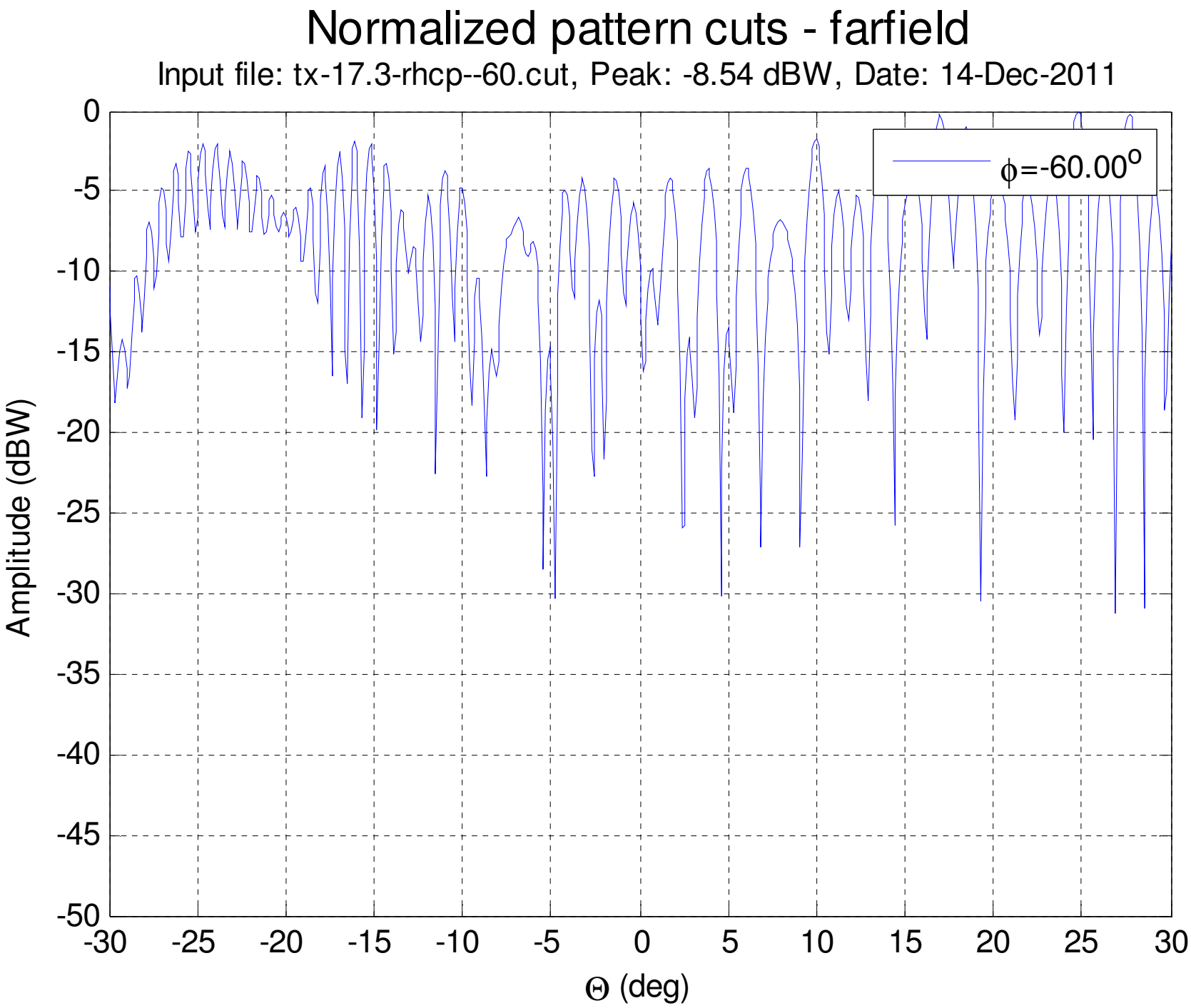

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -12.53 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

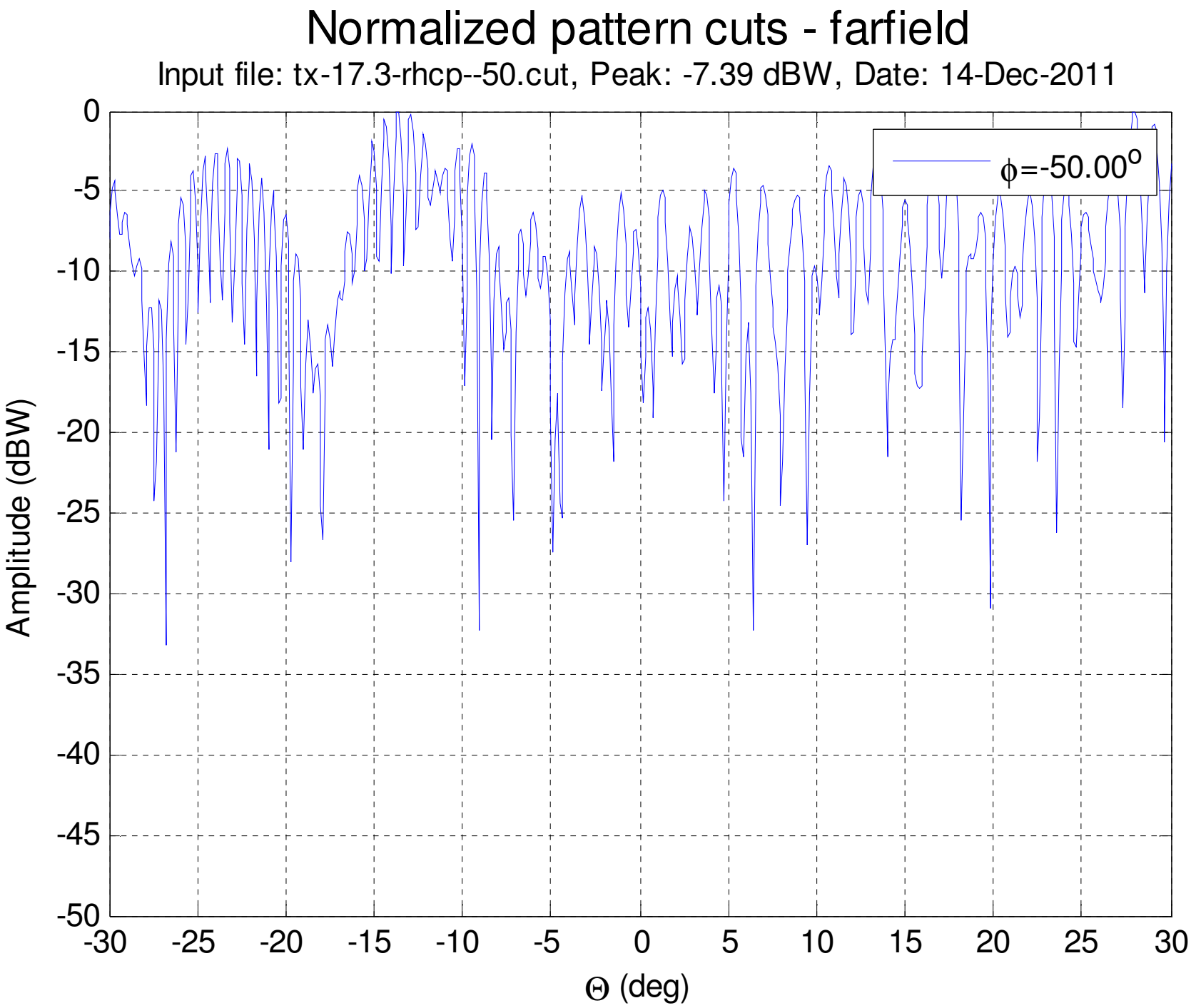

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -10.11 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

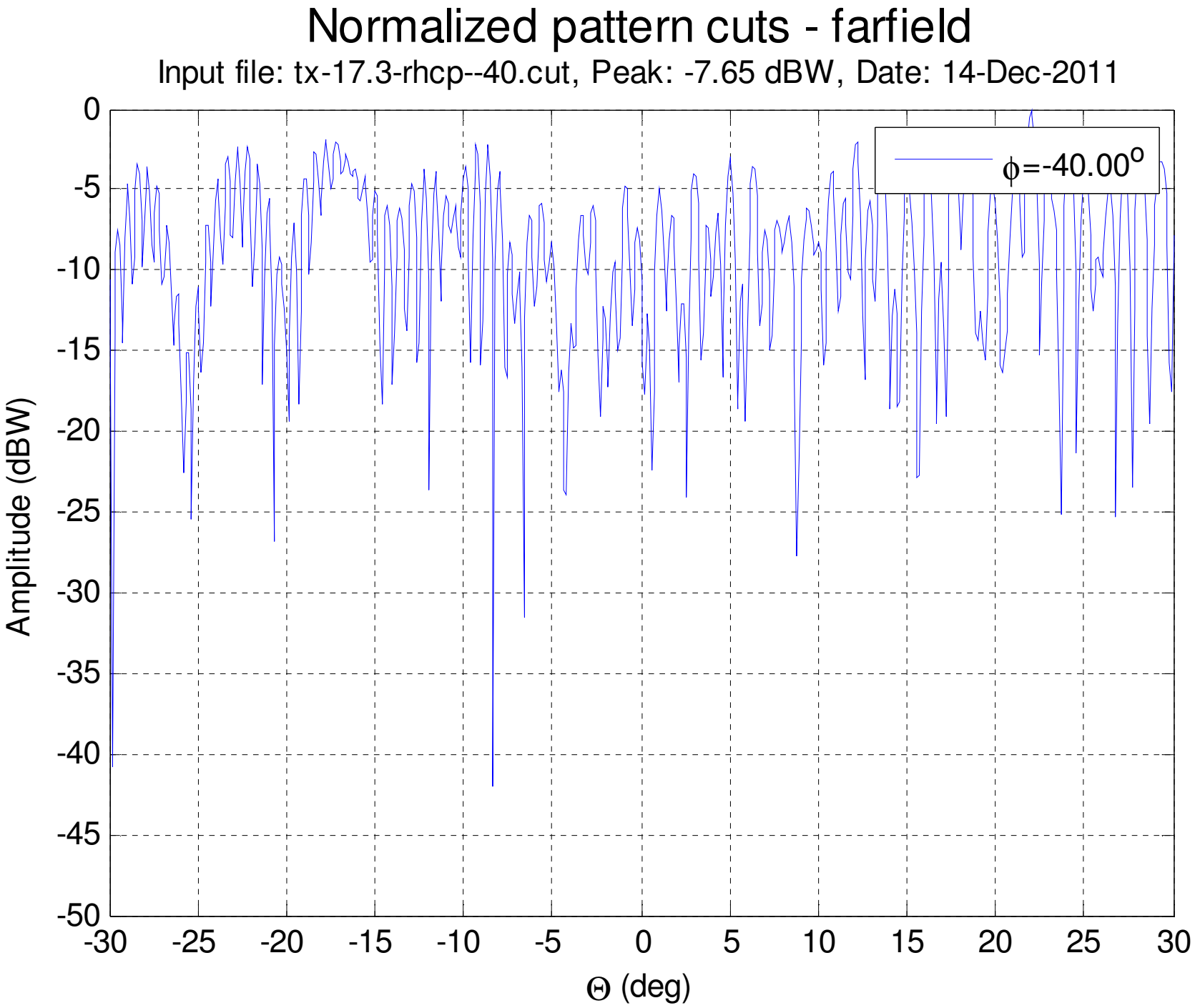
Spot Beam05, +X Axis Plots

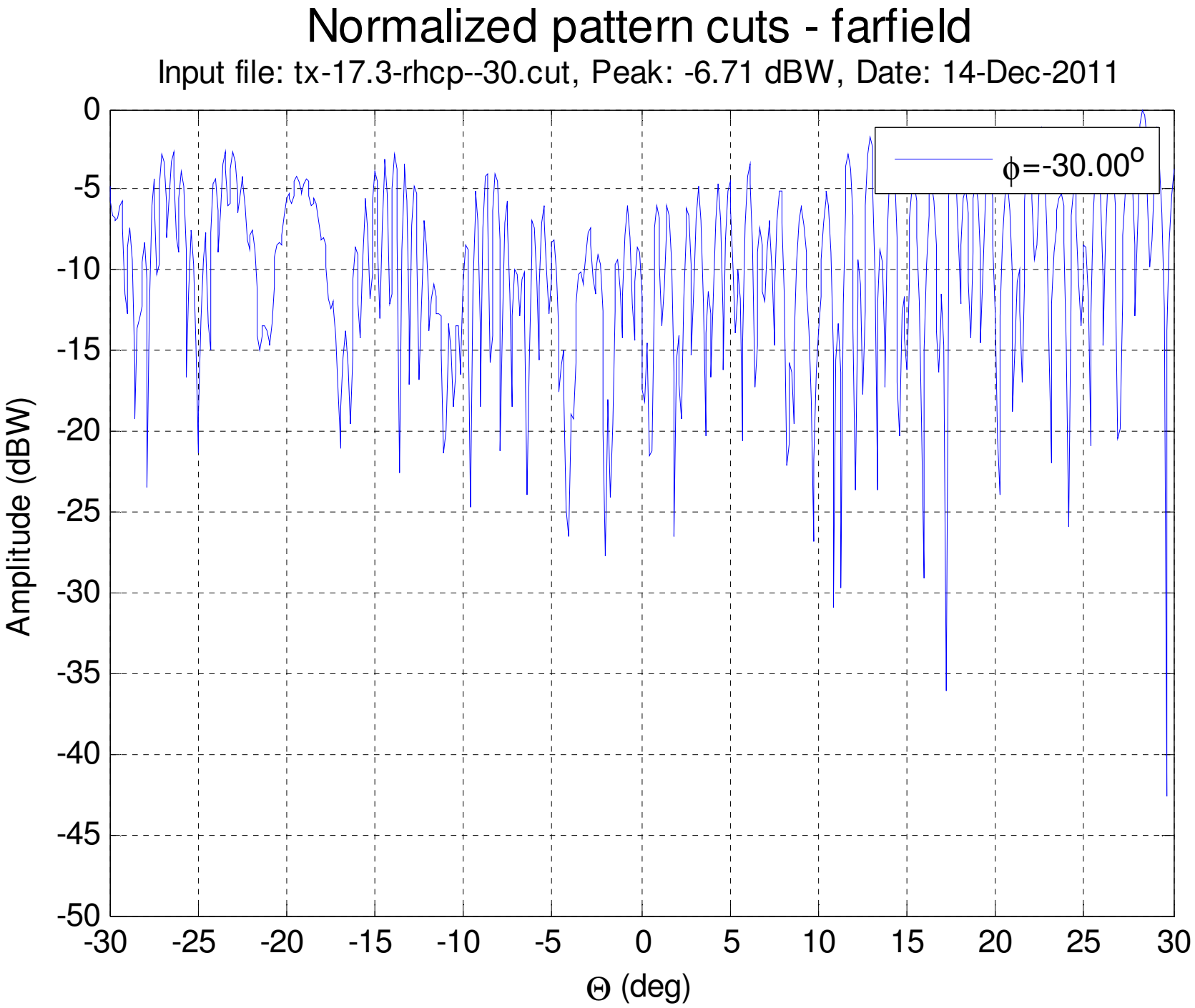
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

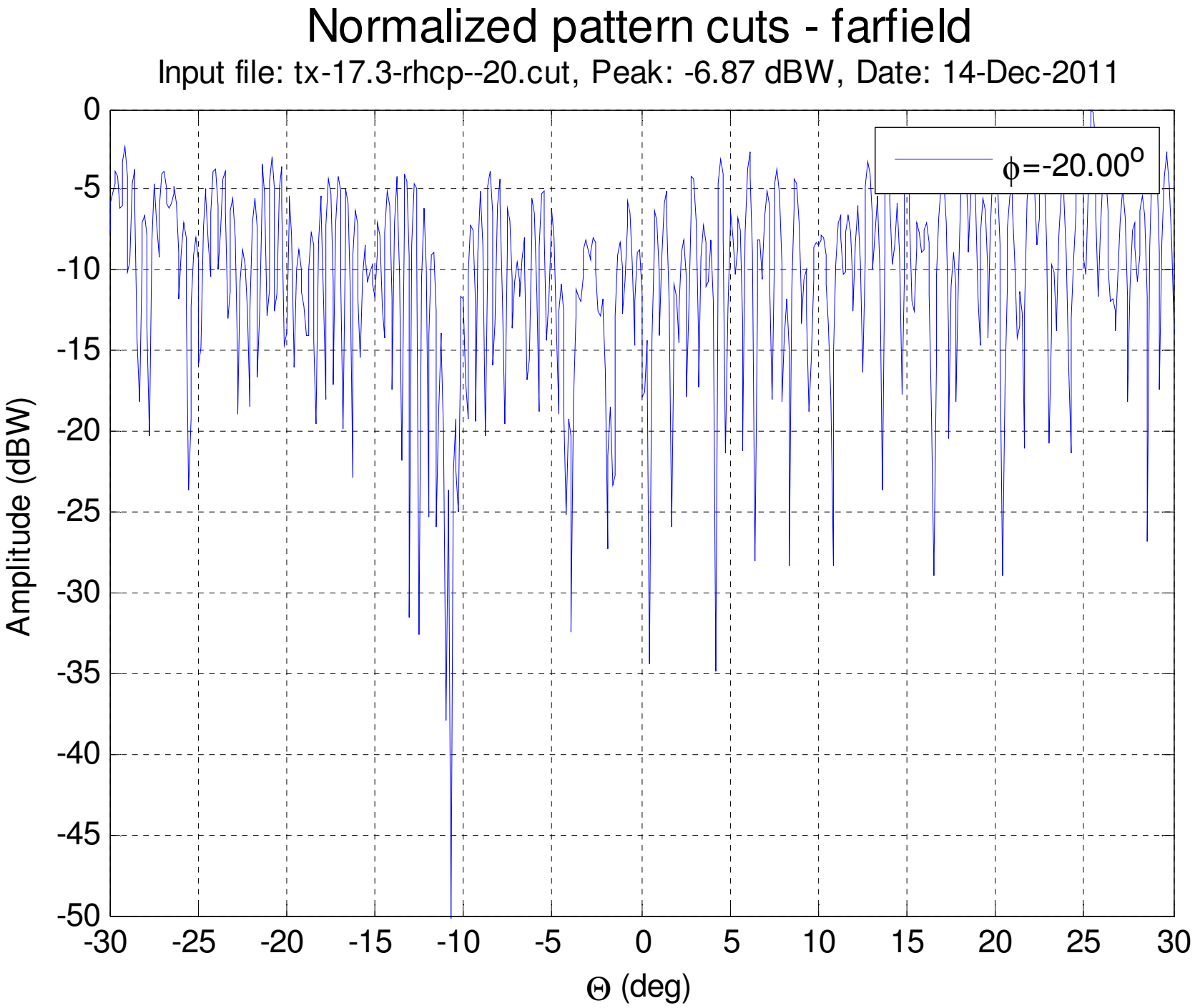
RHCP at 17.3 GHz

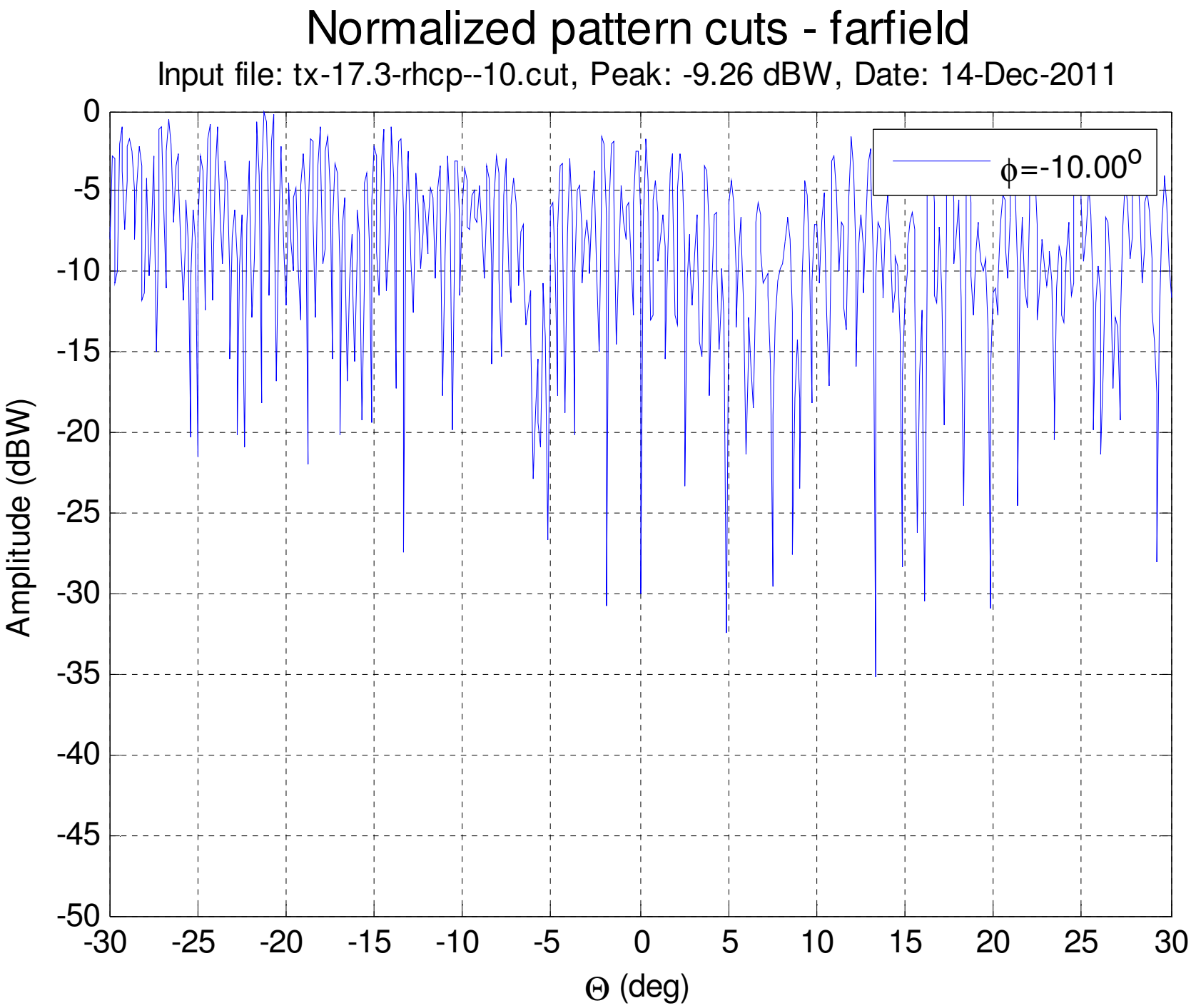

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -8.54 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

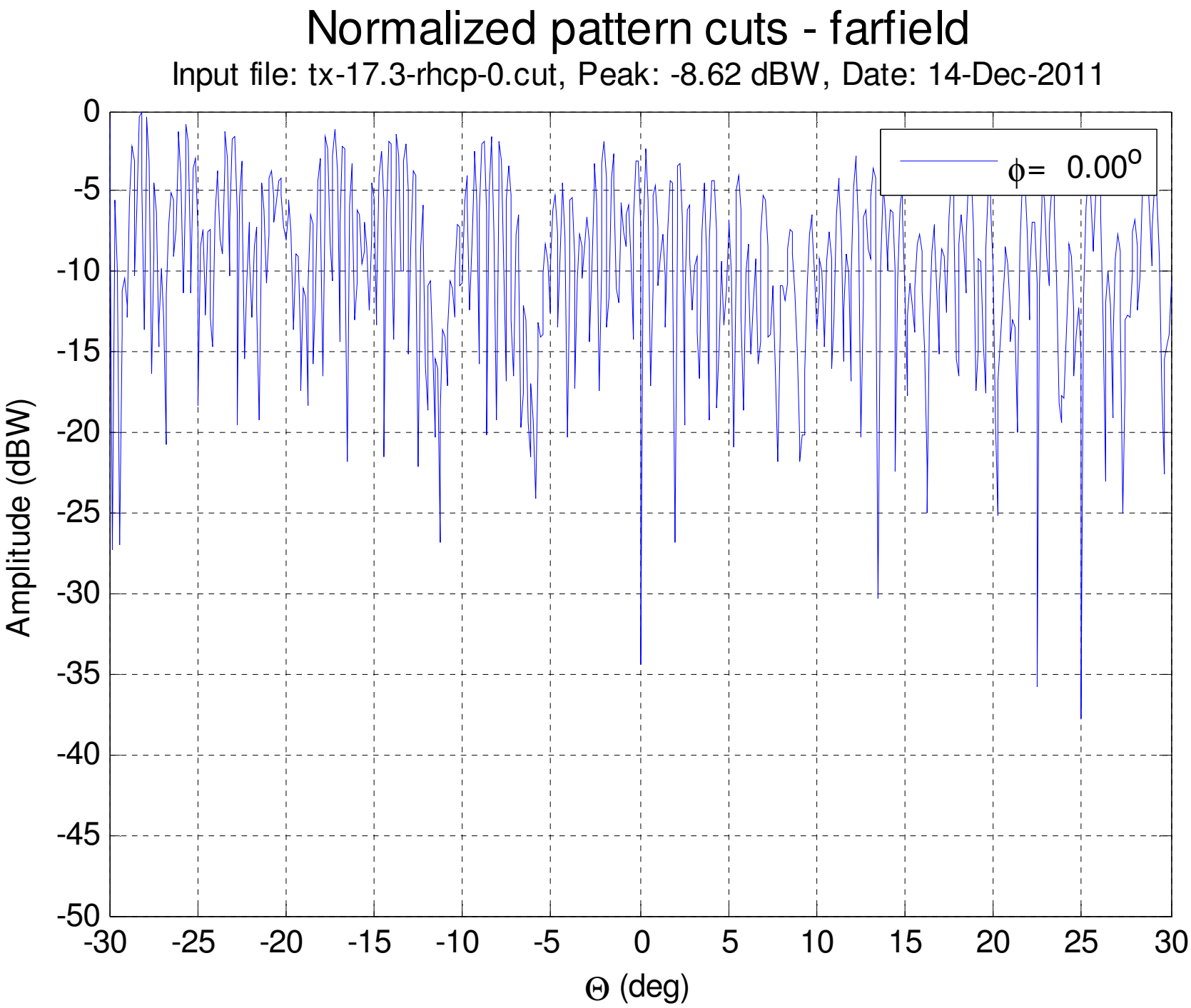

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -7.39 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

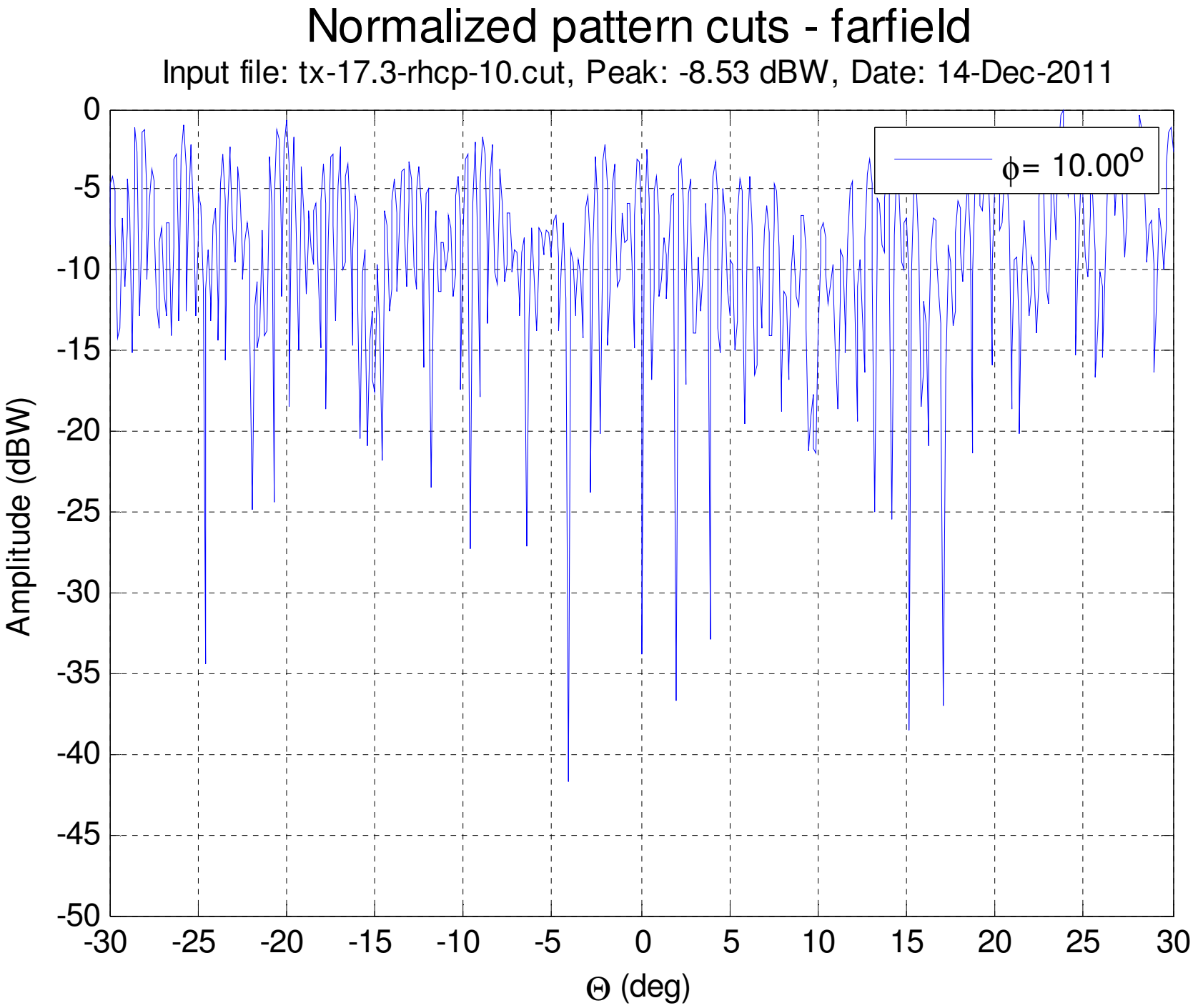

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -7.65 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

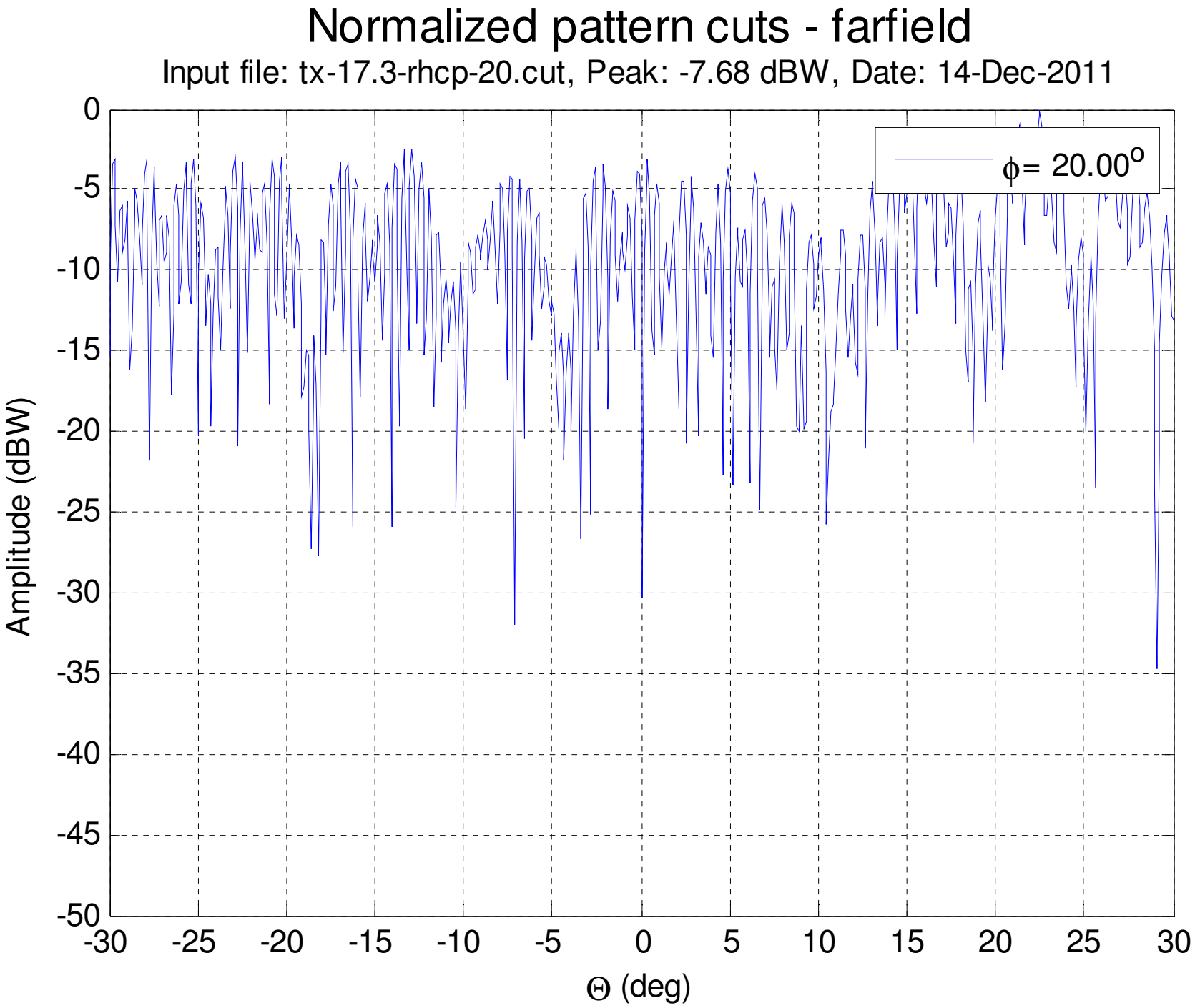

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -6.71 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

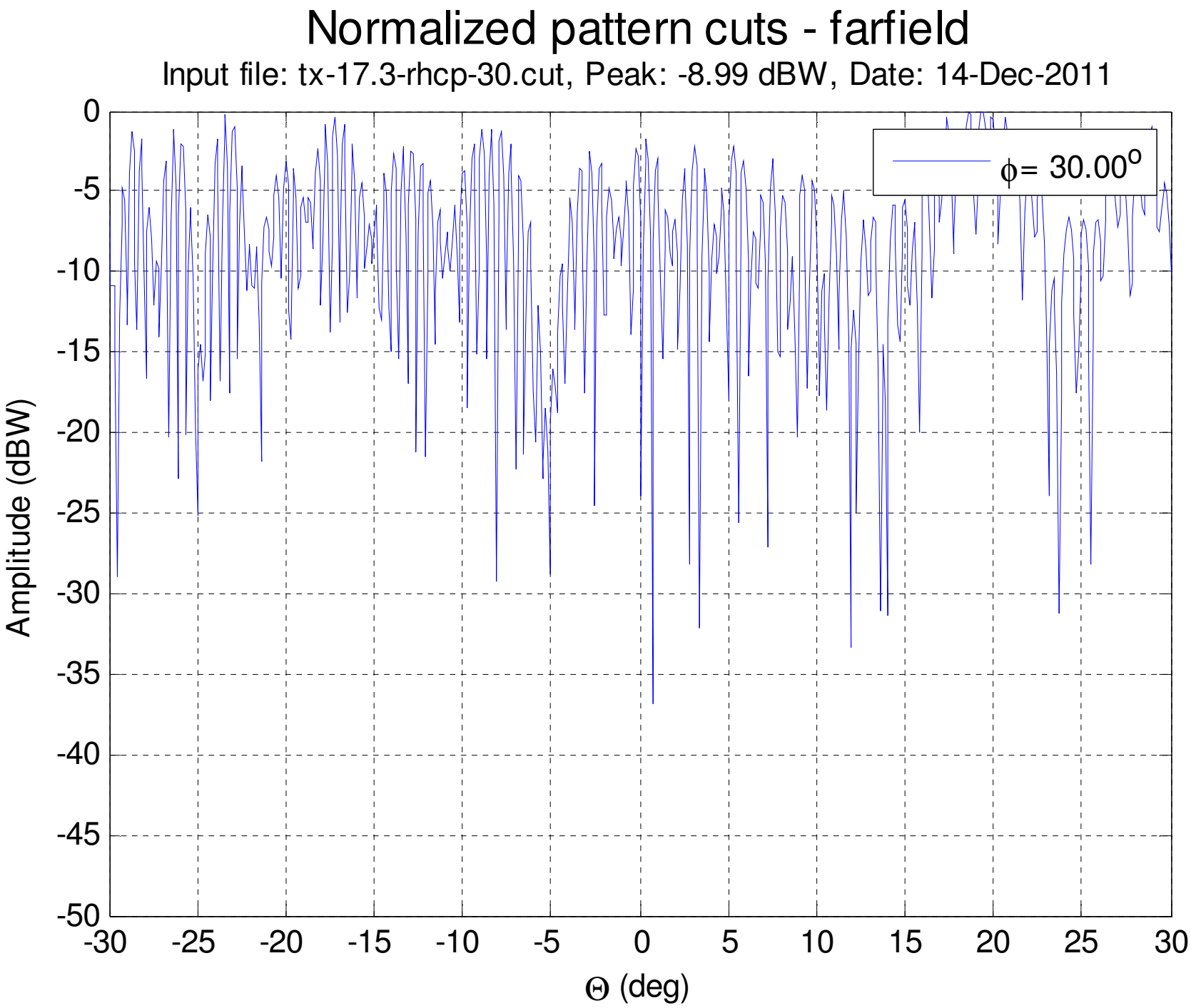

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -6.87 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

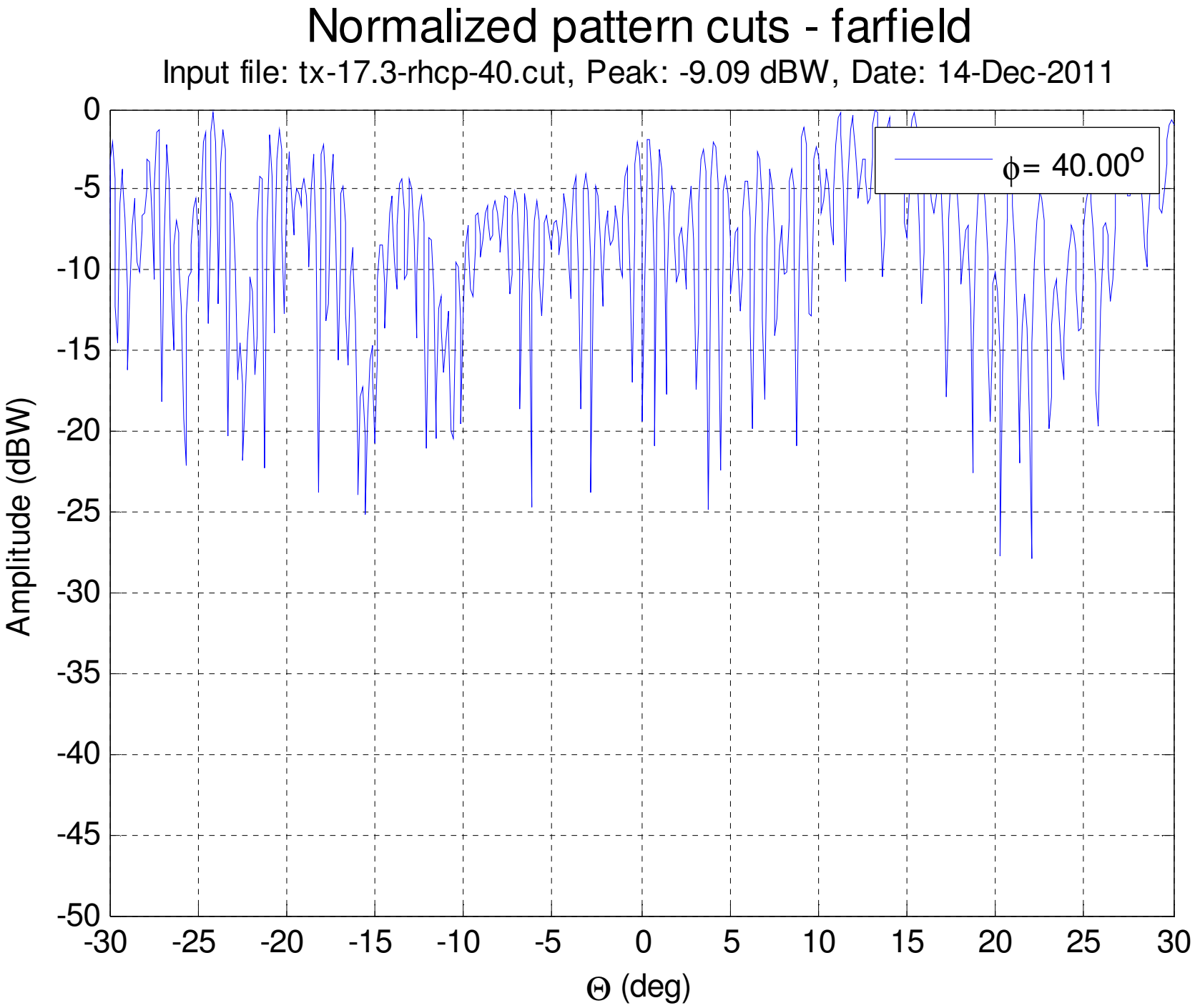

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -9.26 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

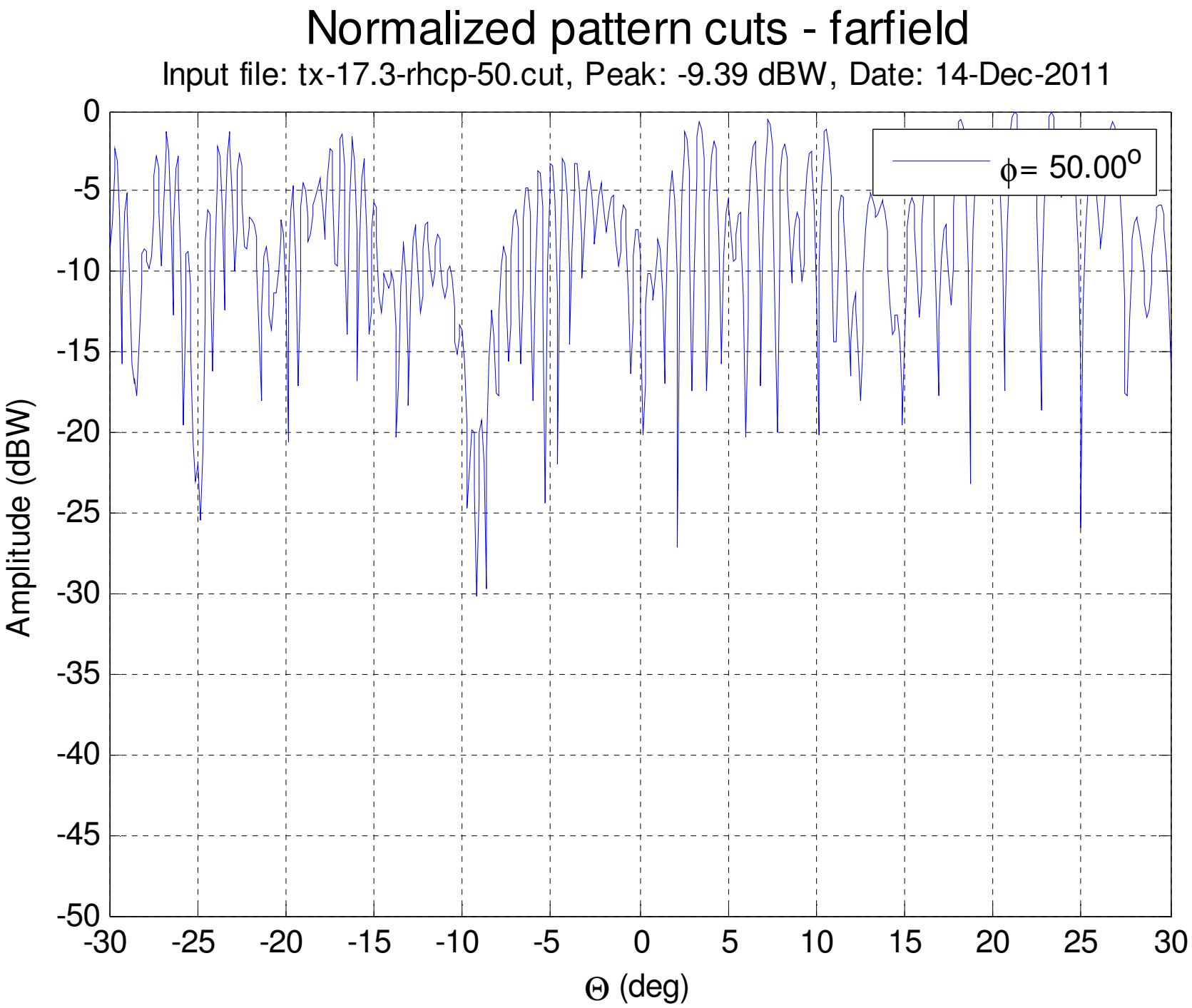

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -8.62 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 0.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

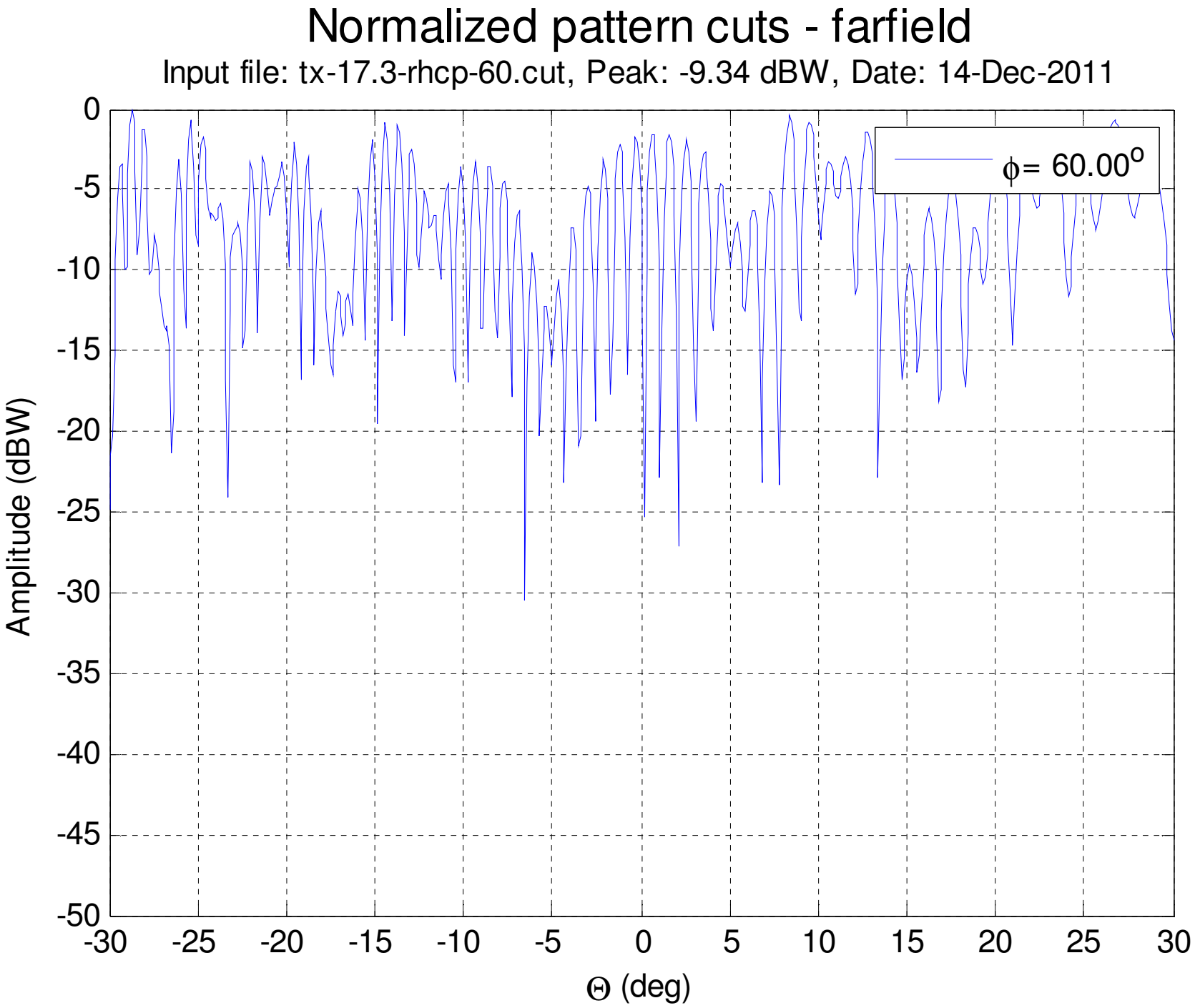

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -8.53 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -7.68 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

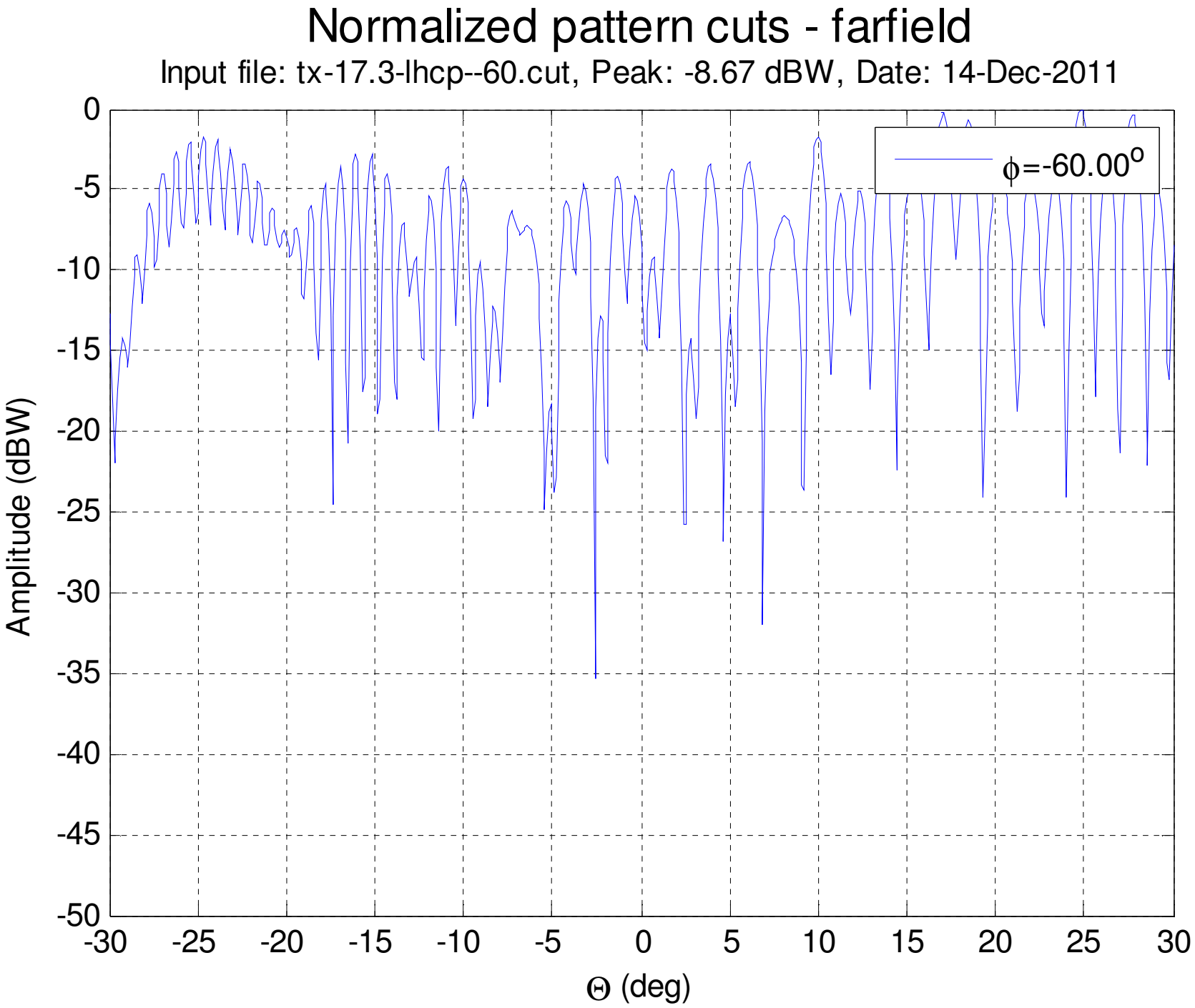

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -8.99 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

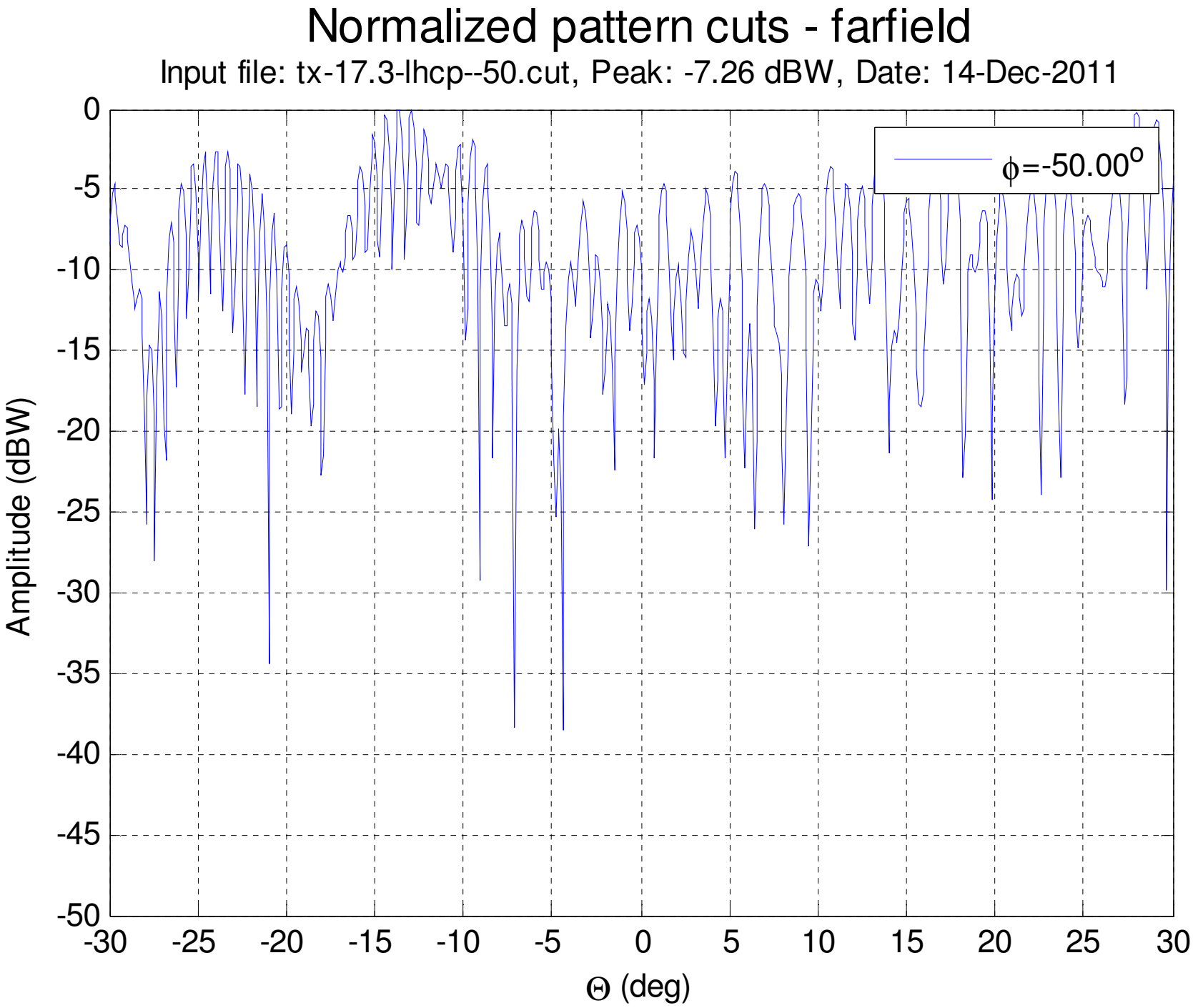

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -9.09 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

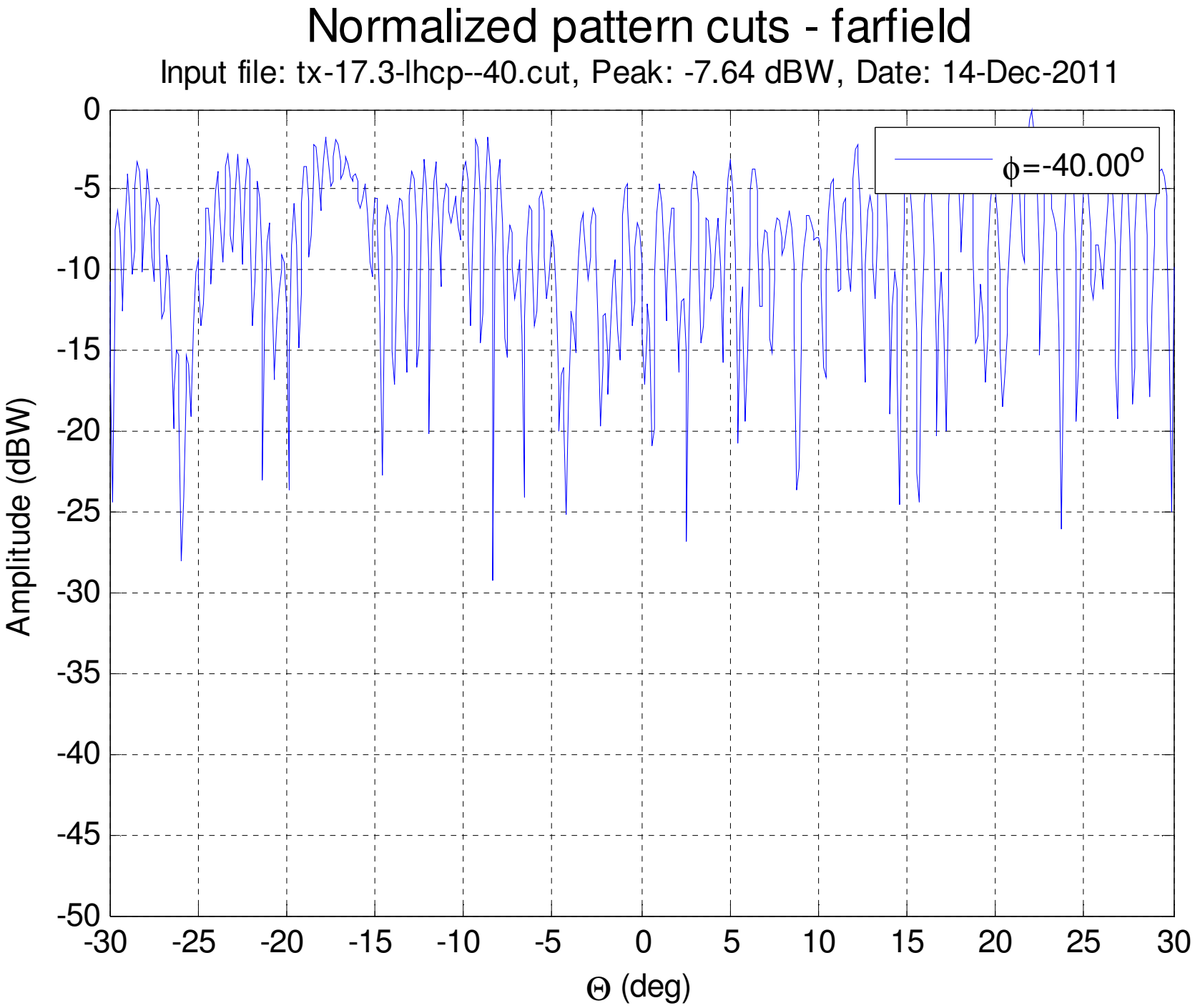

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -9.39 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

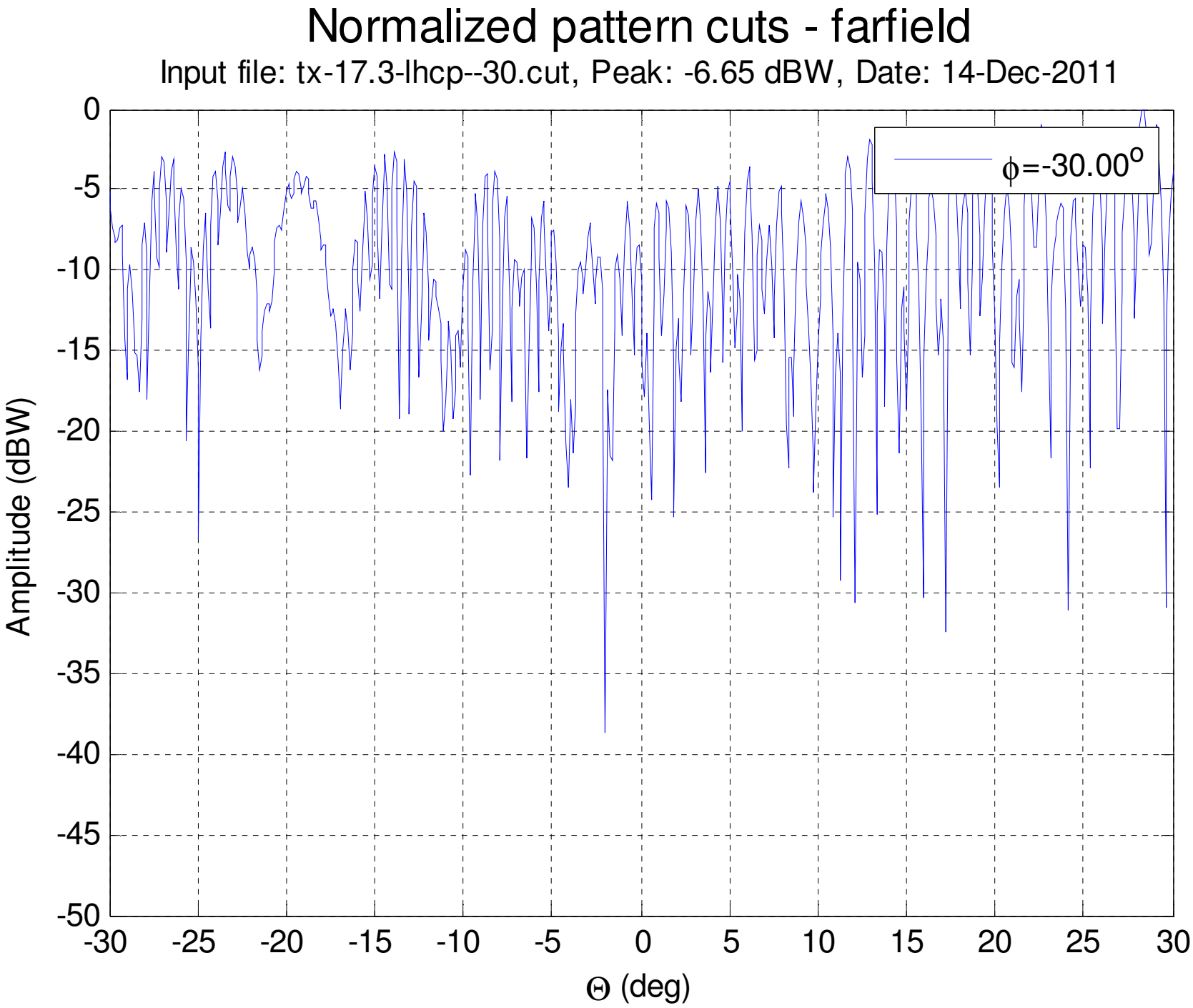

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.34 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

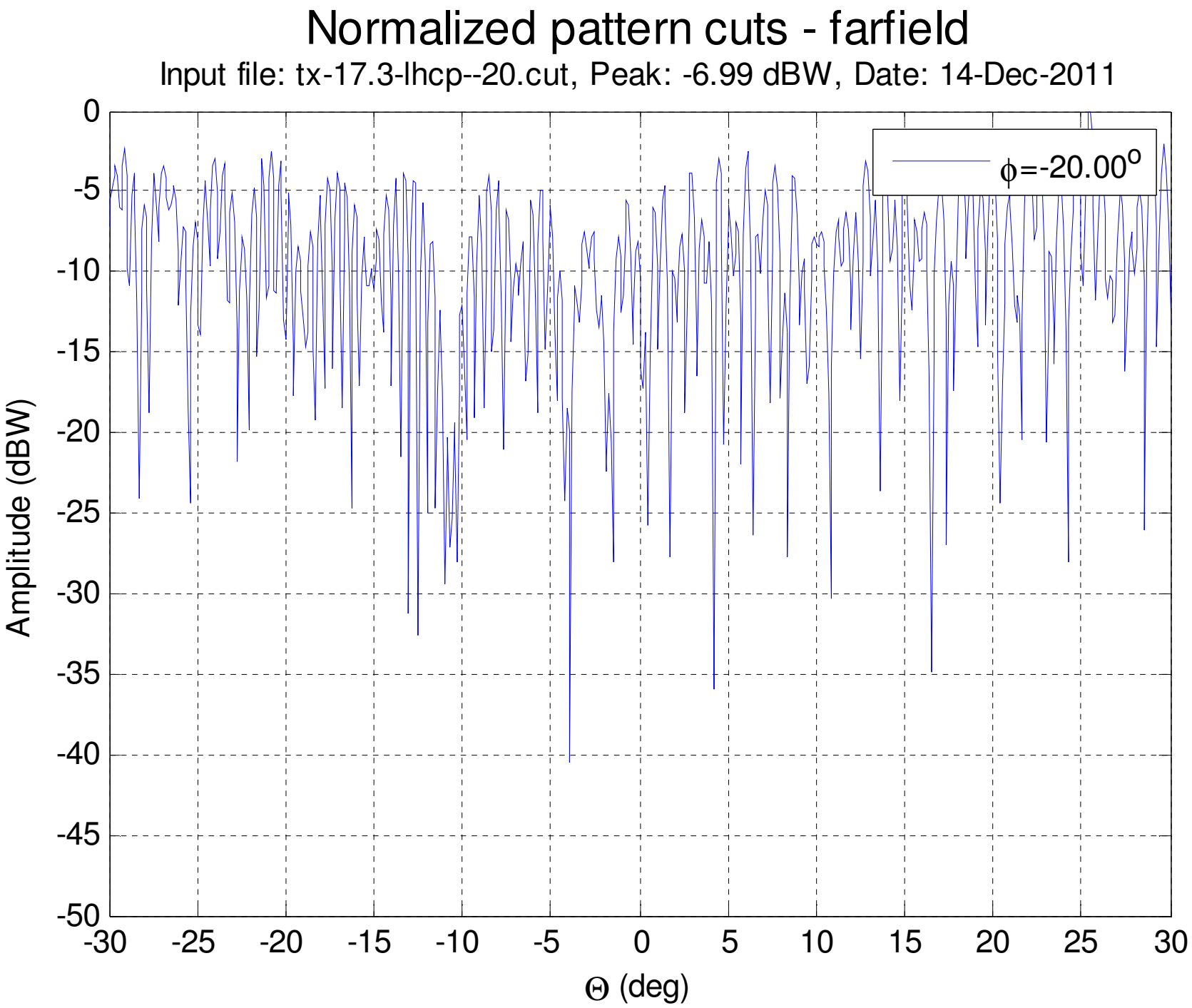
LHCP at 17.3 GHz

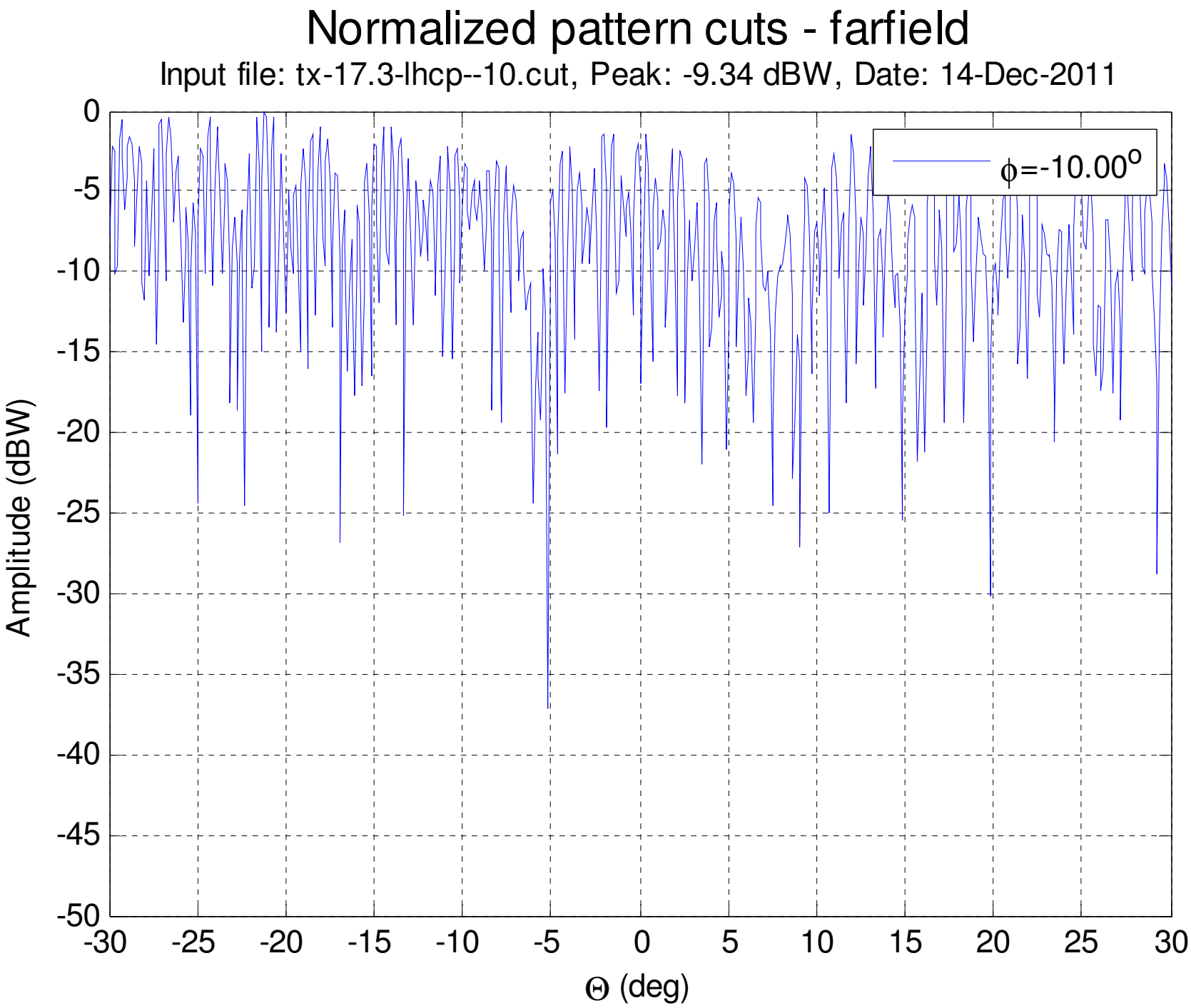

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -8.67 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

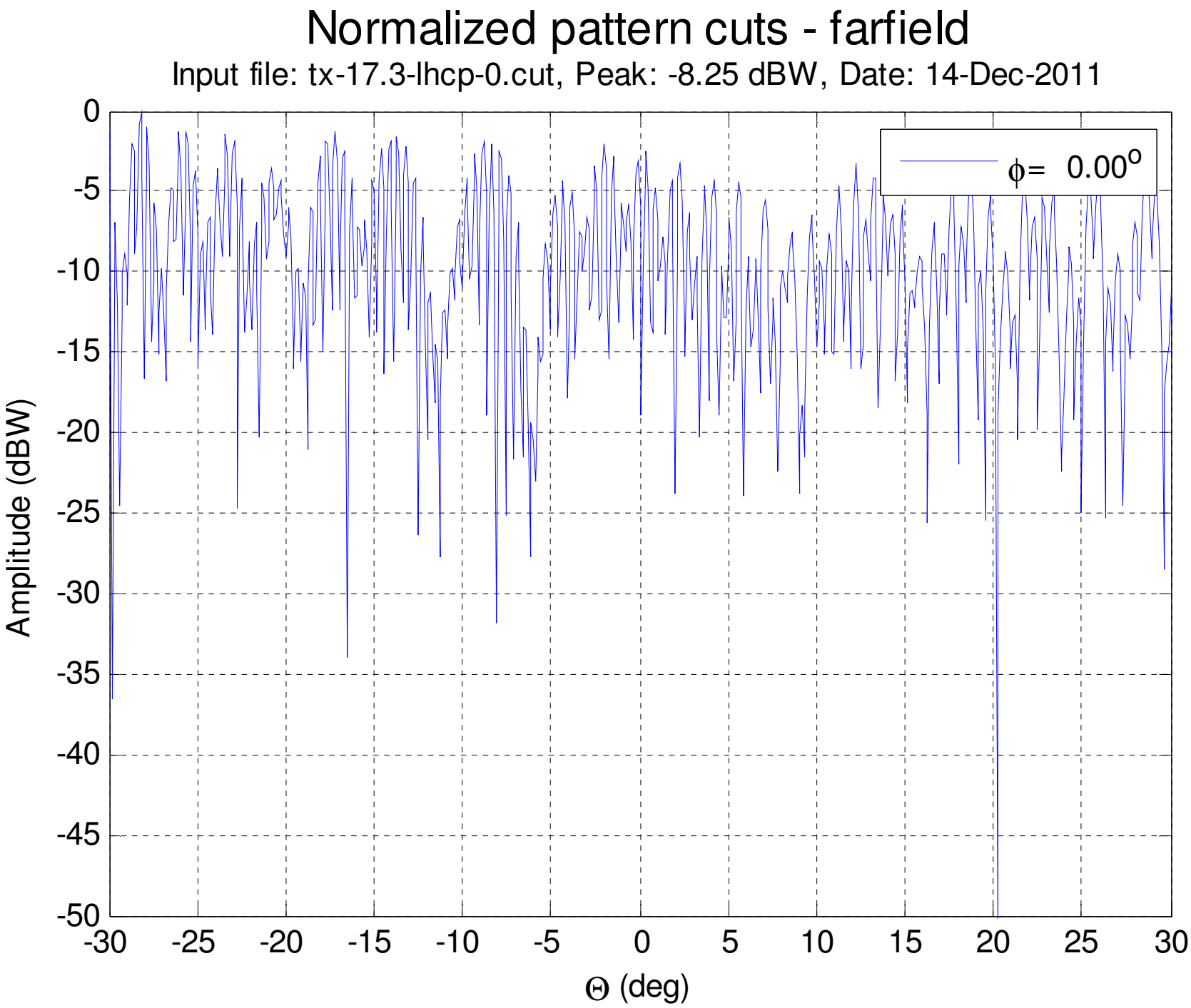

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -7.26 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

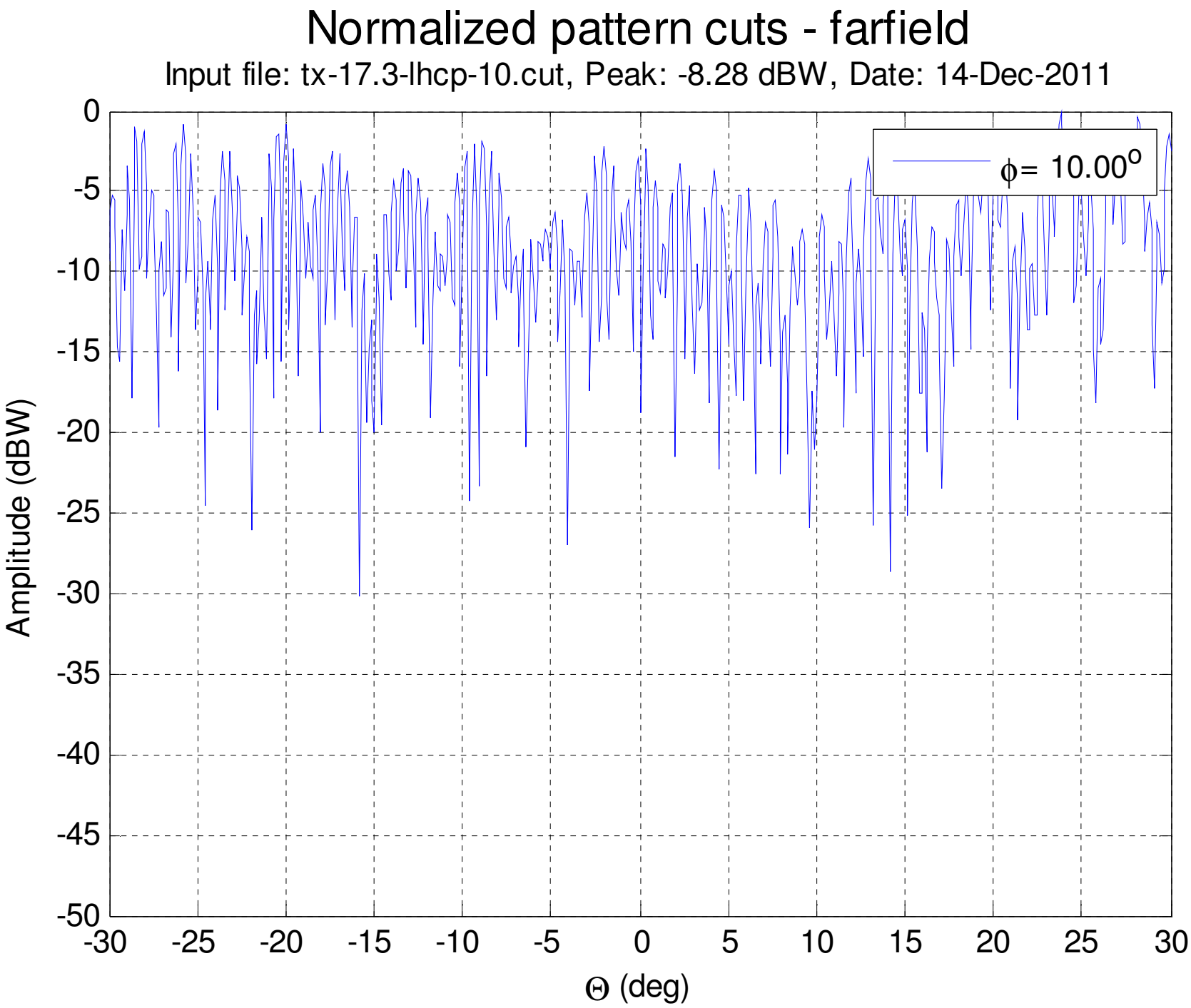

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -7.64 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

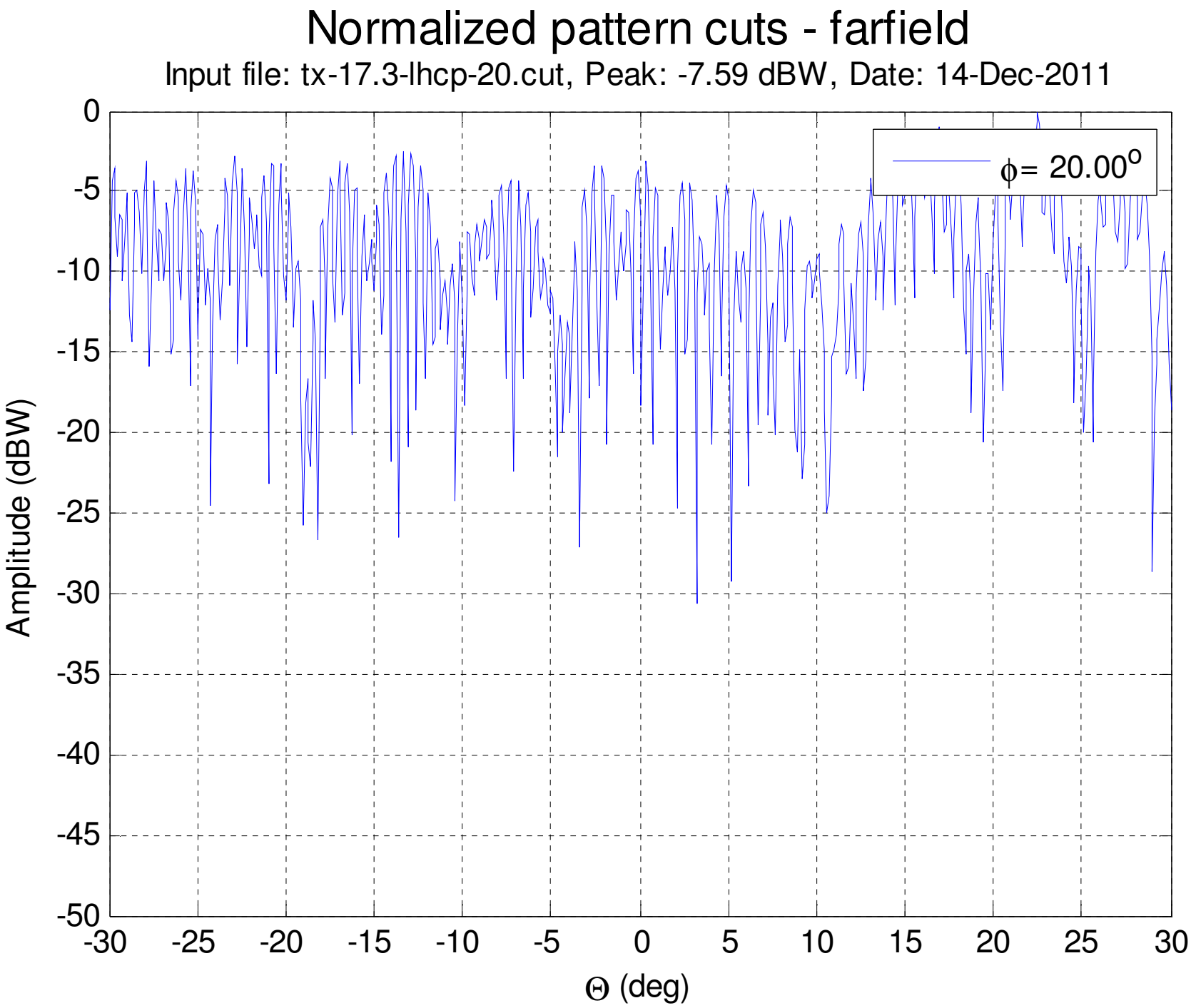

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -6.65 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

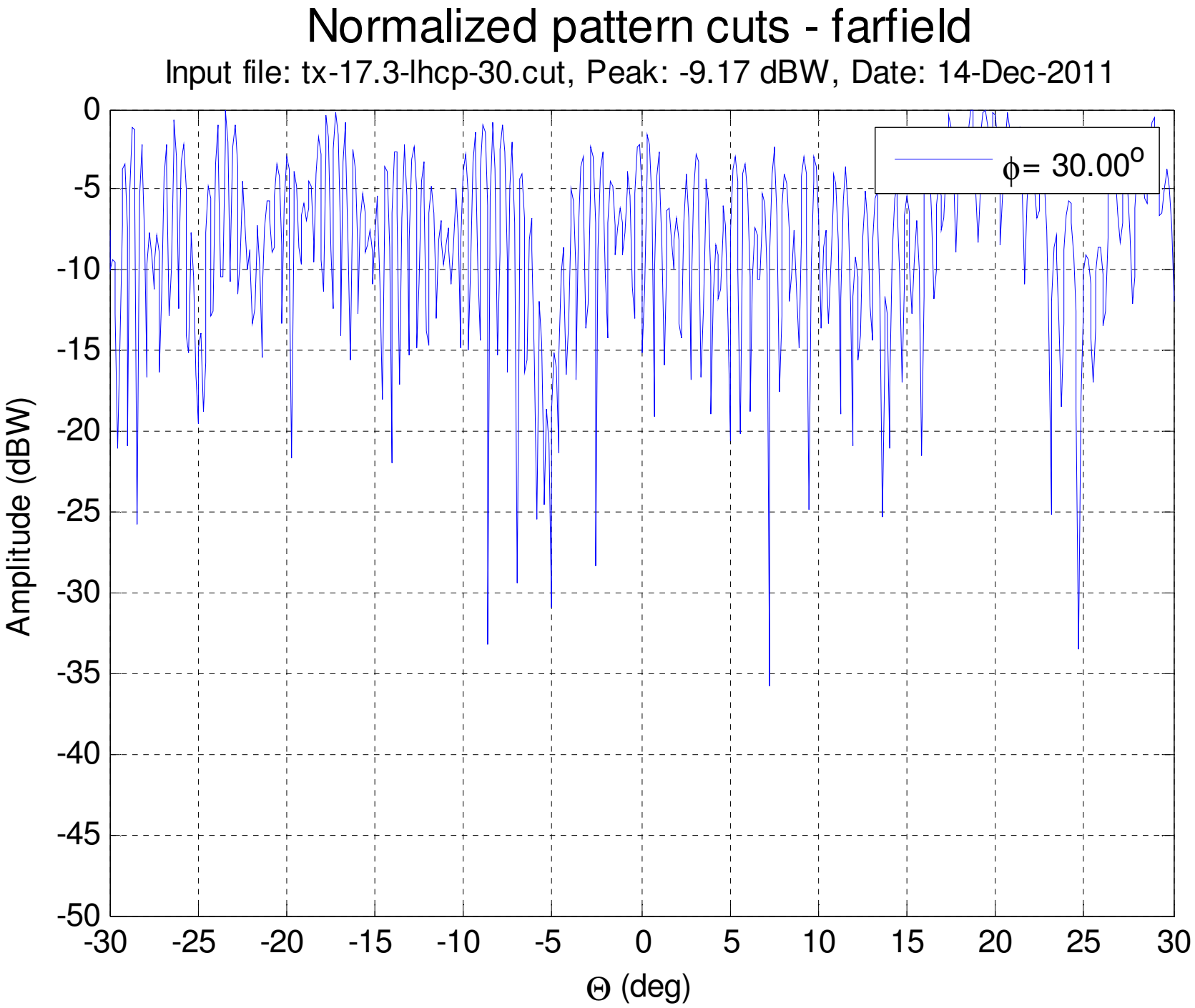

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -6.99 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

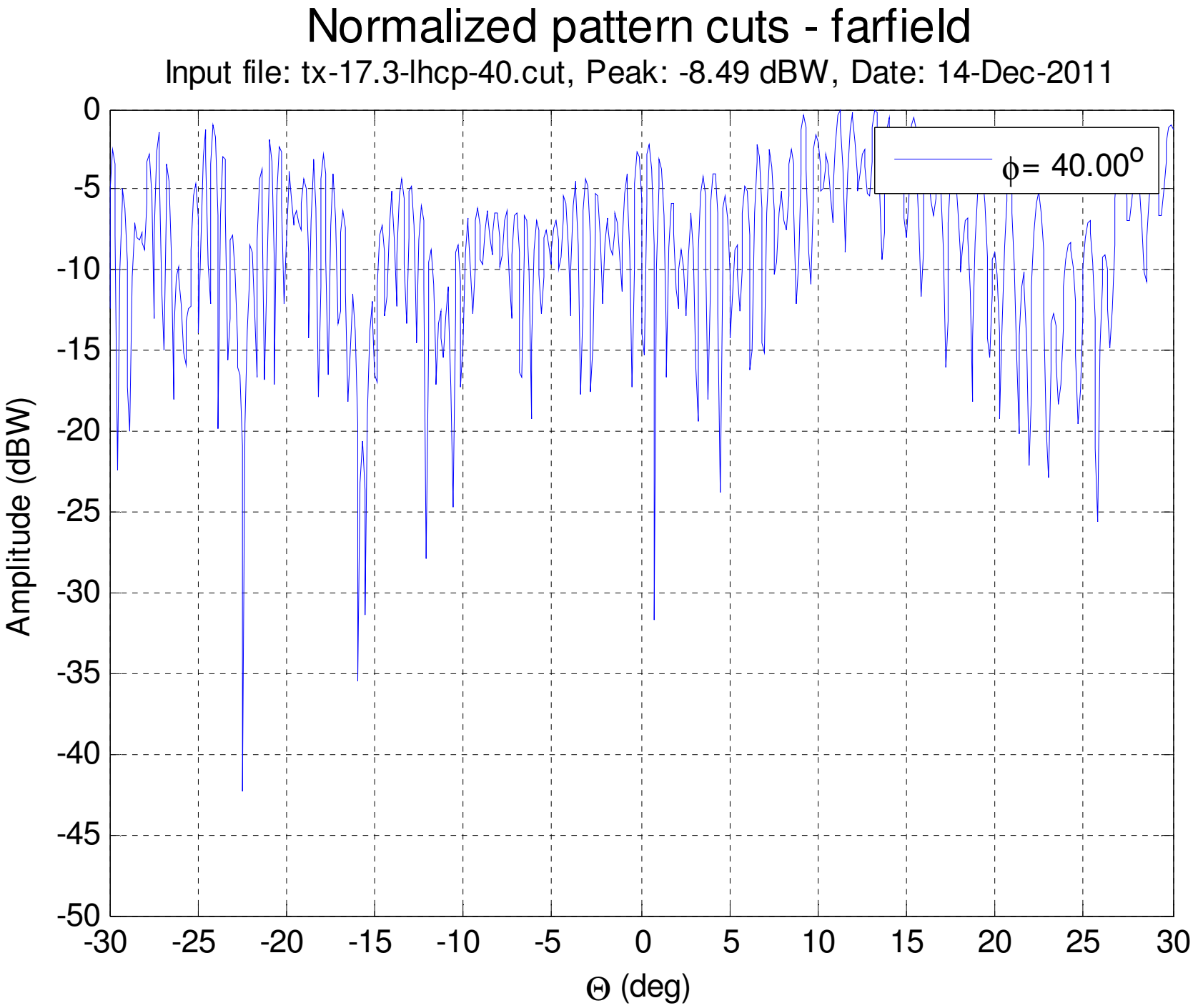

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -9.34 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

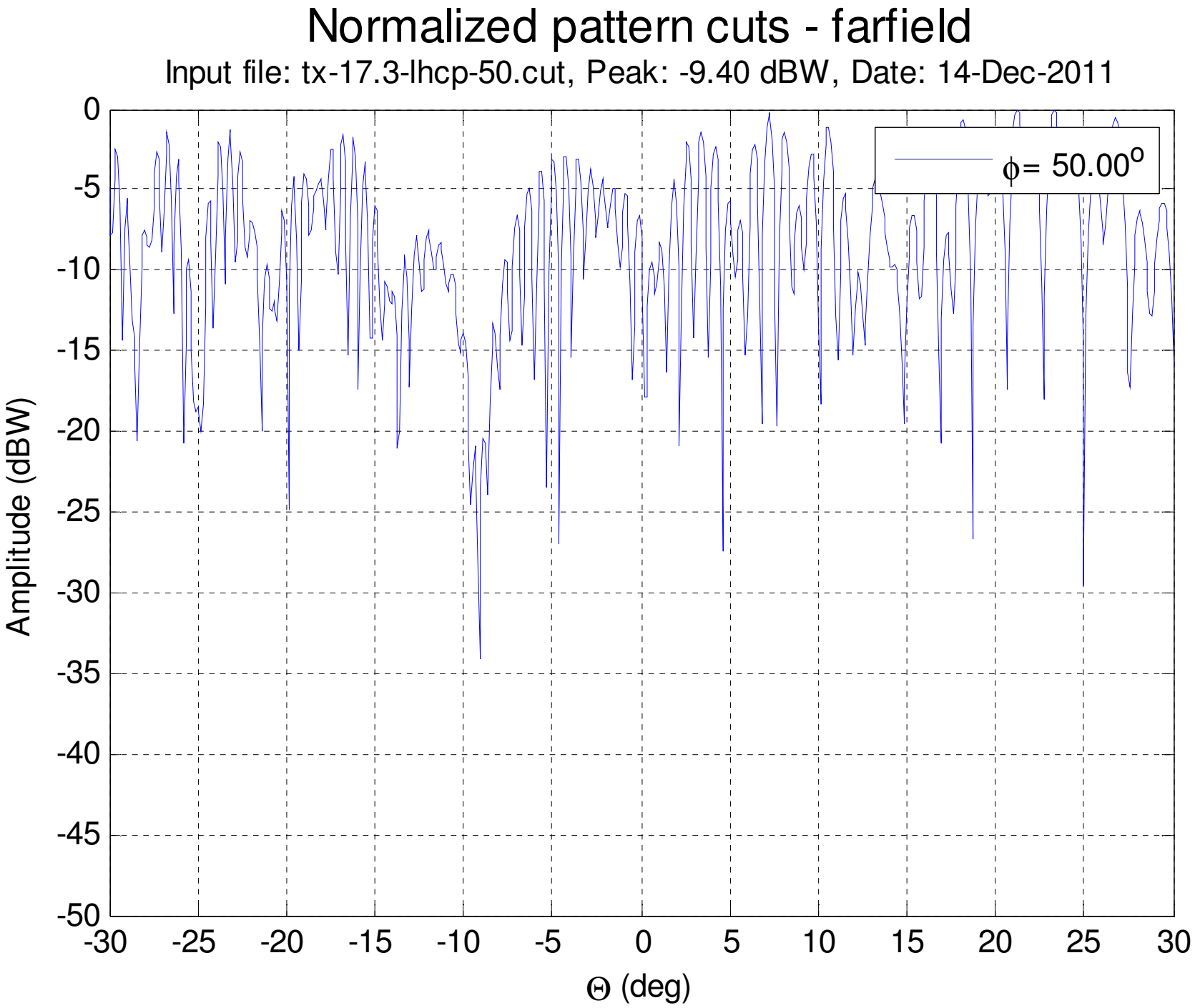

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -8.25 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

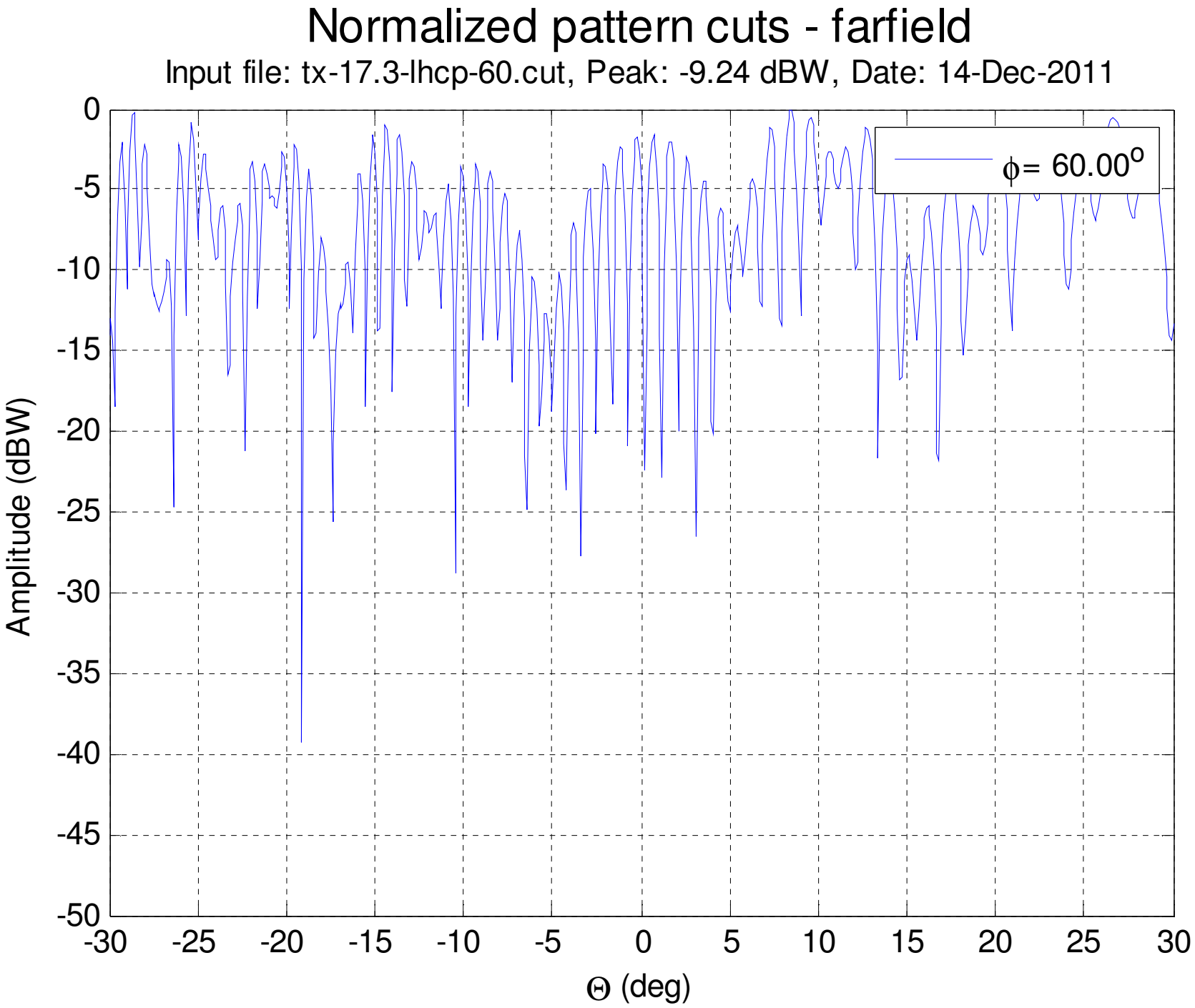

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -8.28 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -7.59 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

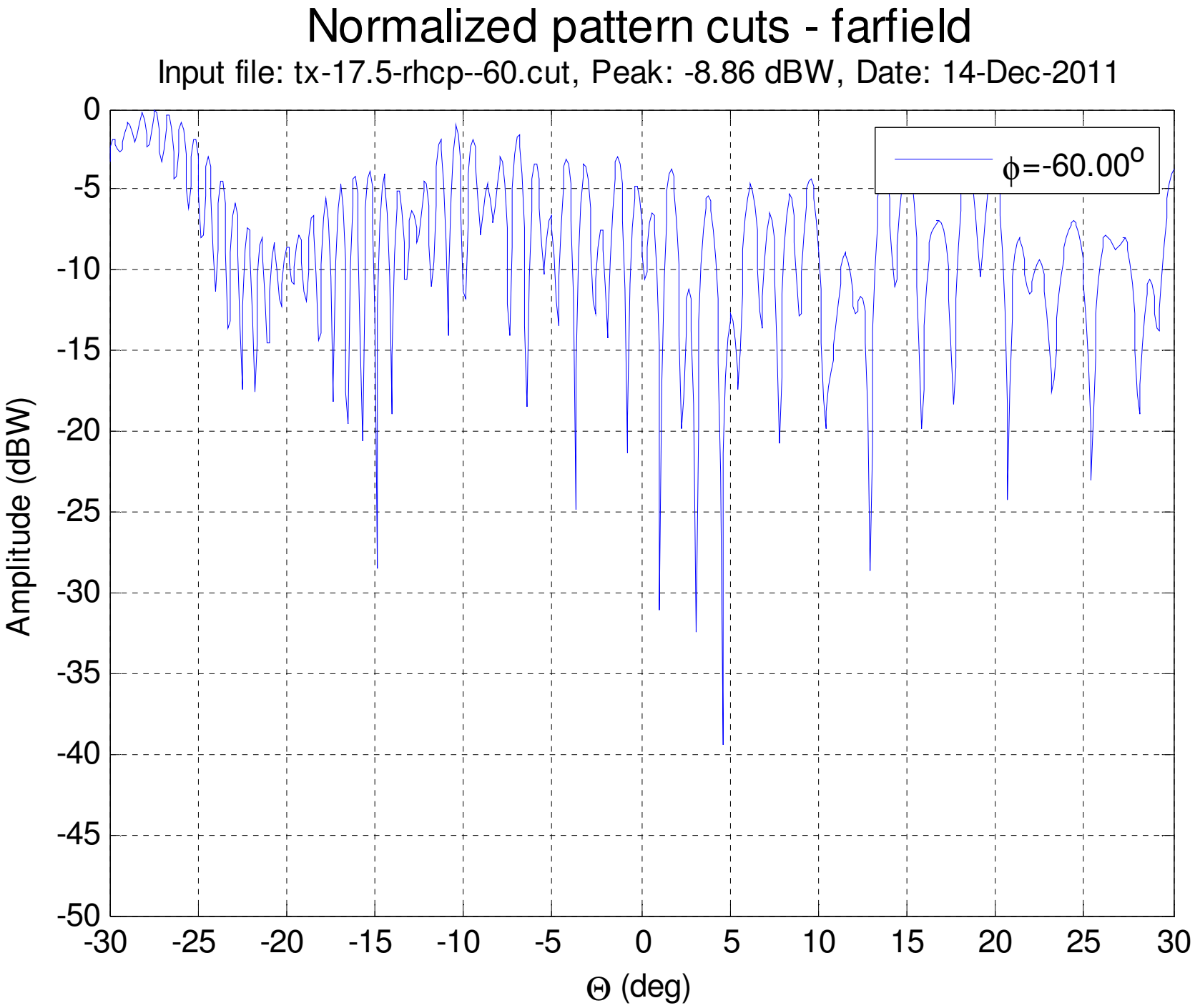

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.17 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

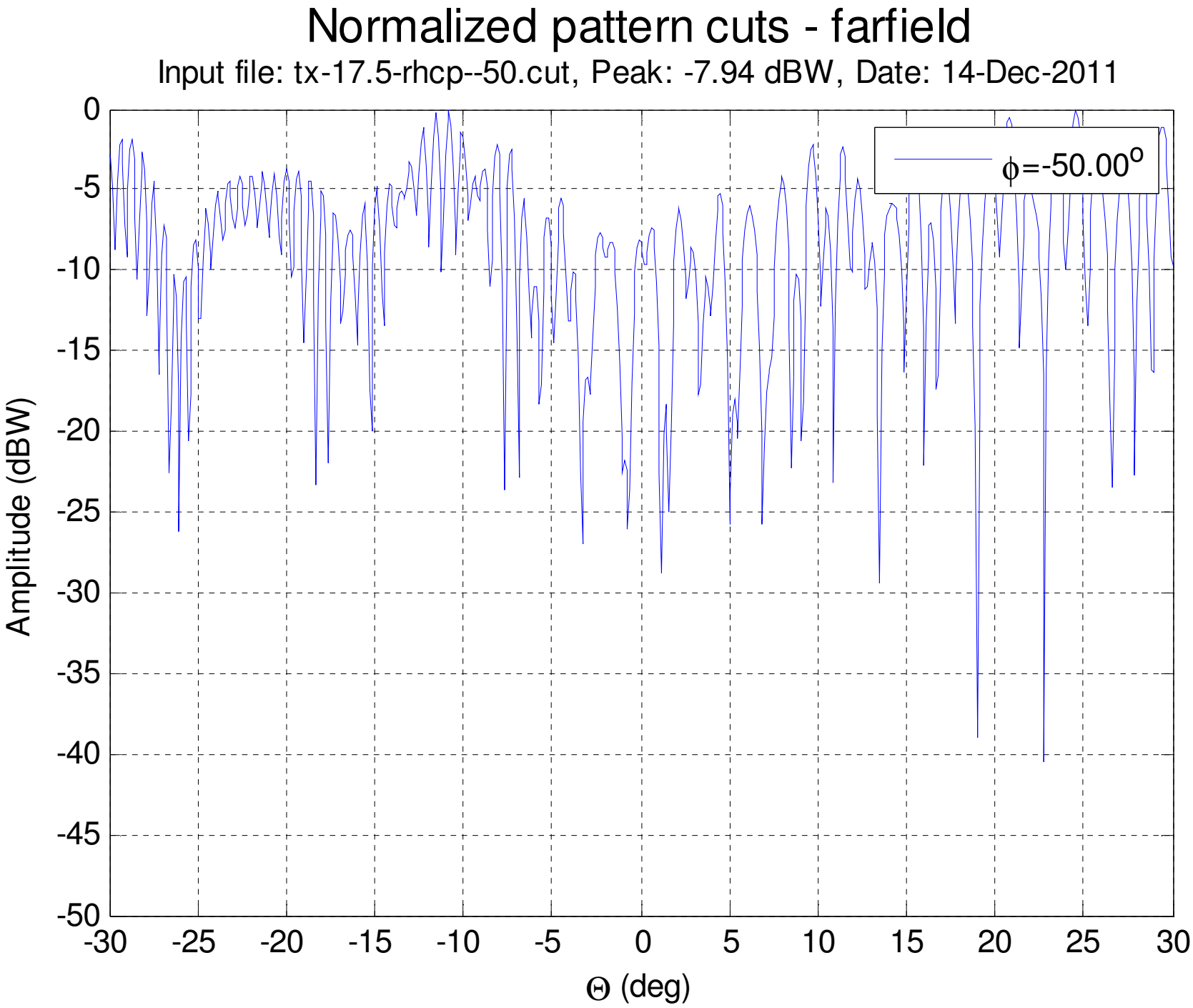

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -8.49 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

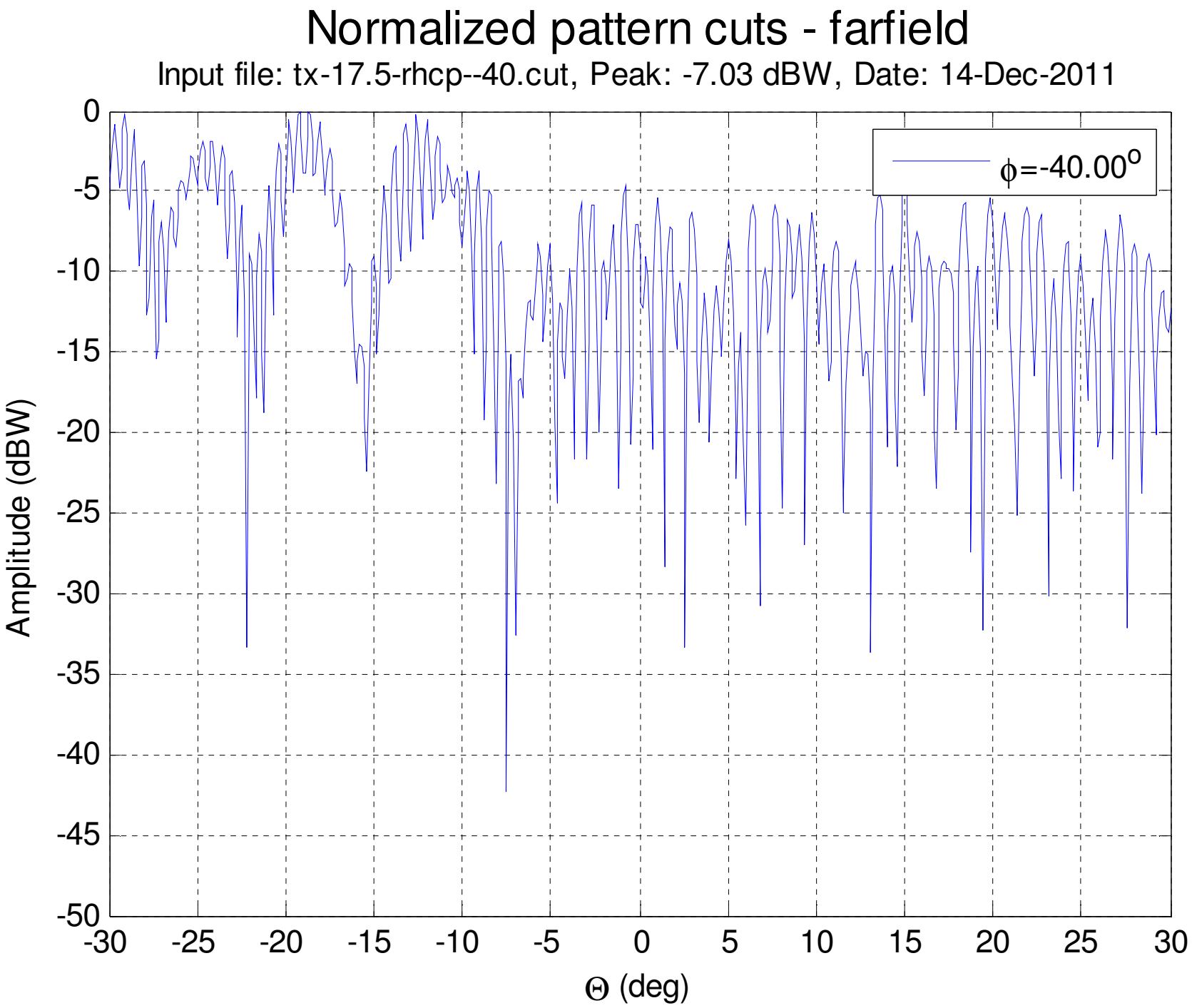

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -9.40 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

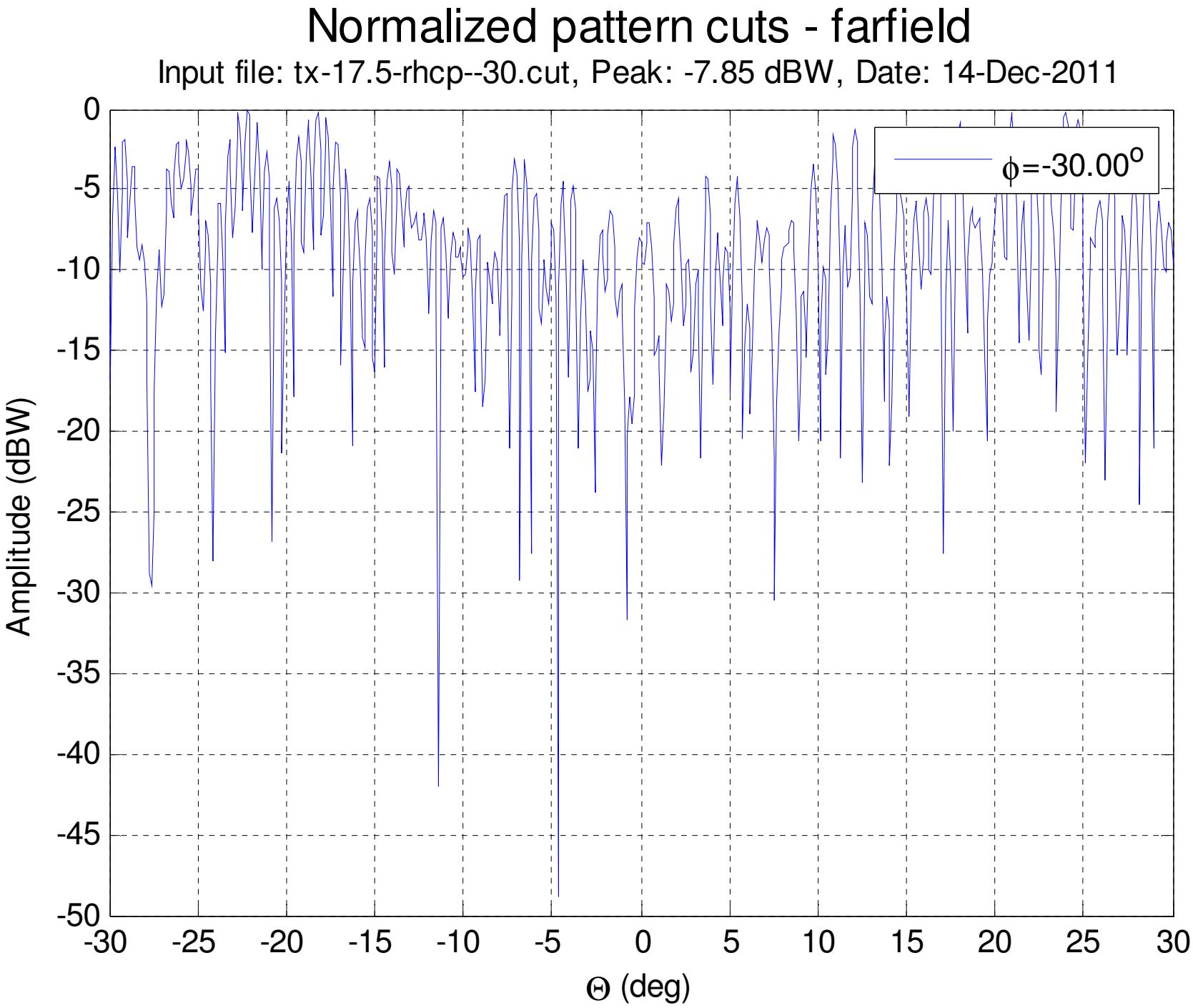

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.24 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

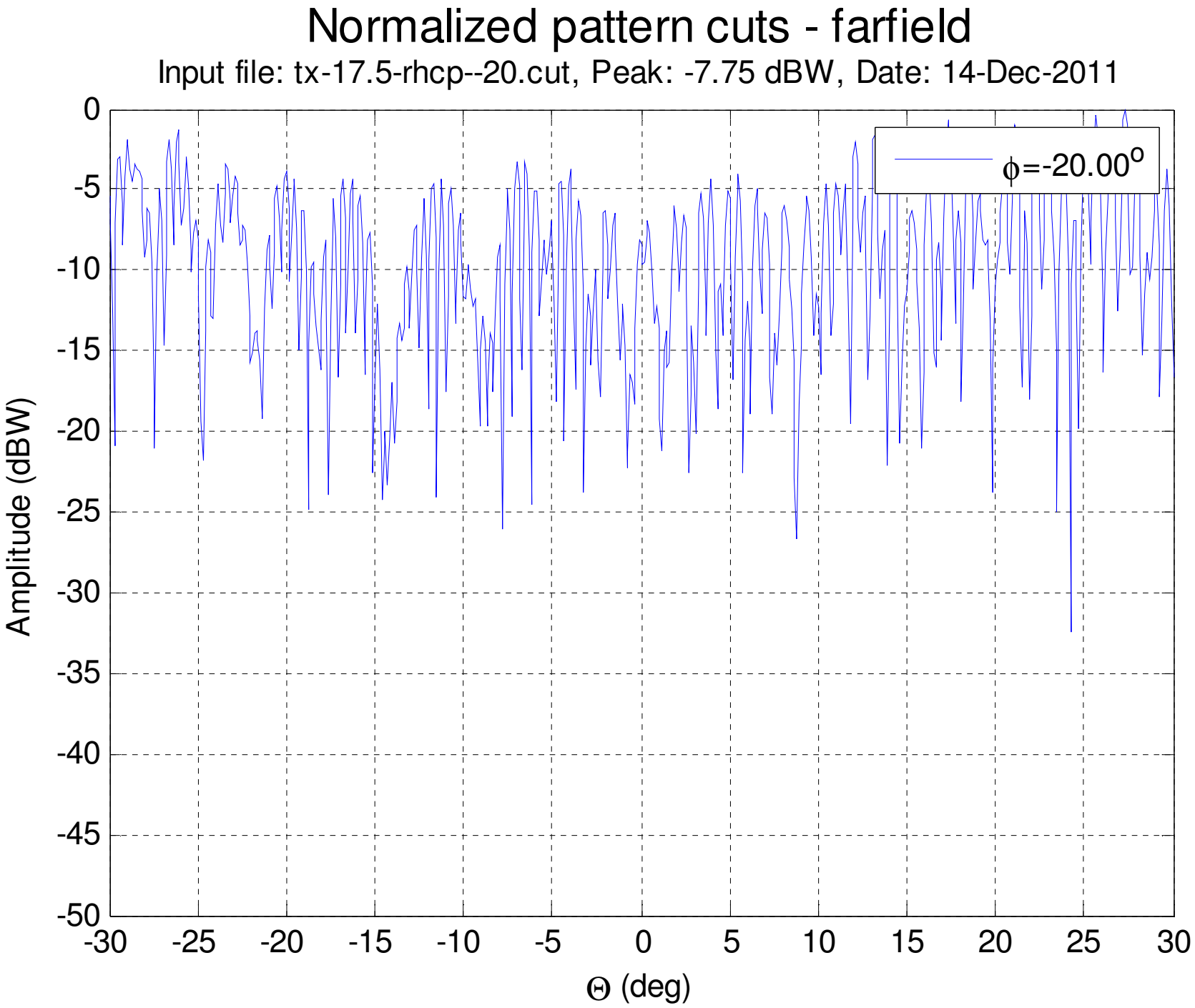
RHCP at 17.5 GHz

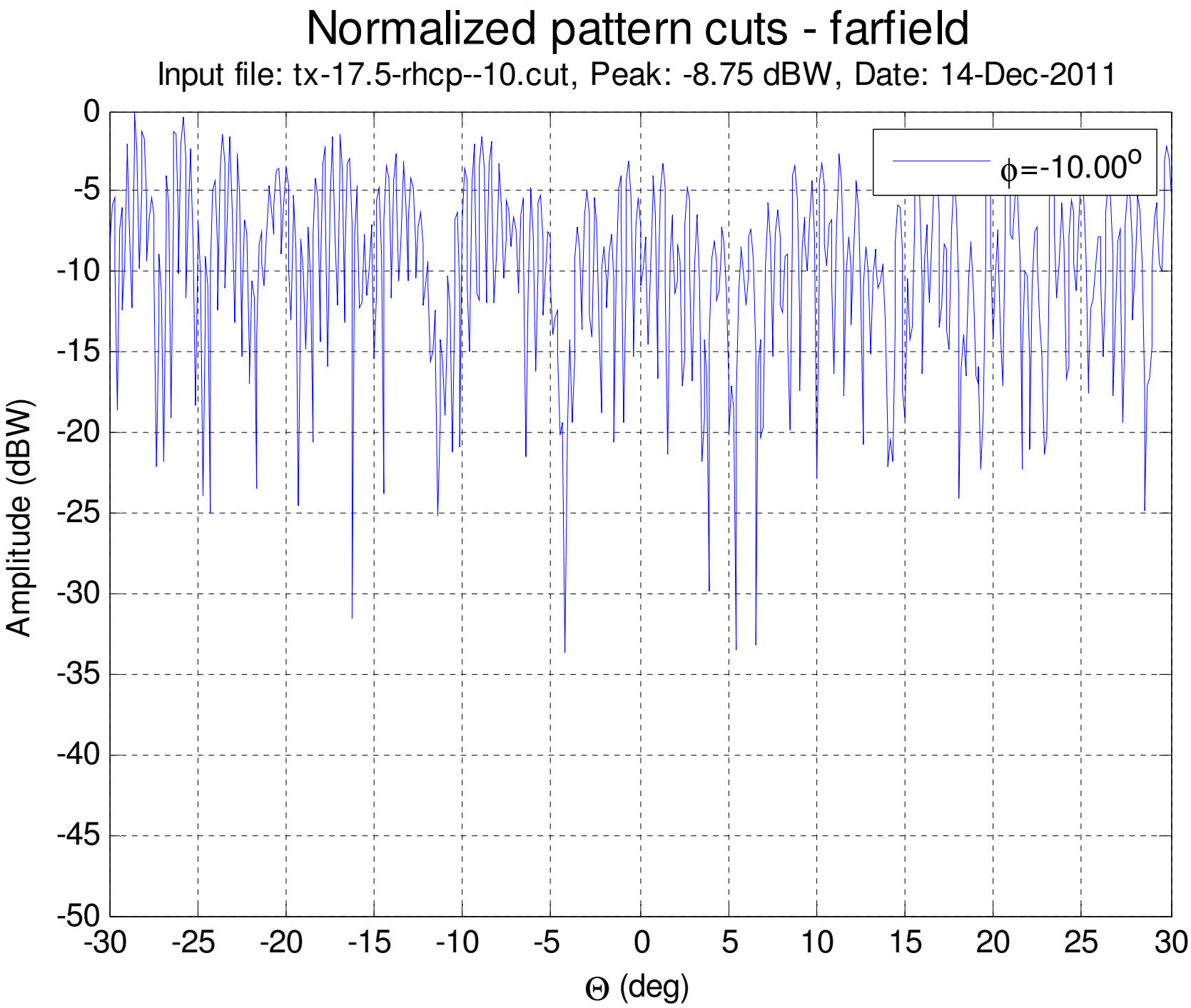

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -8.86 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

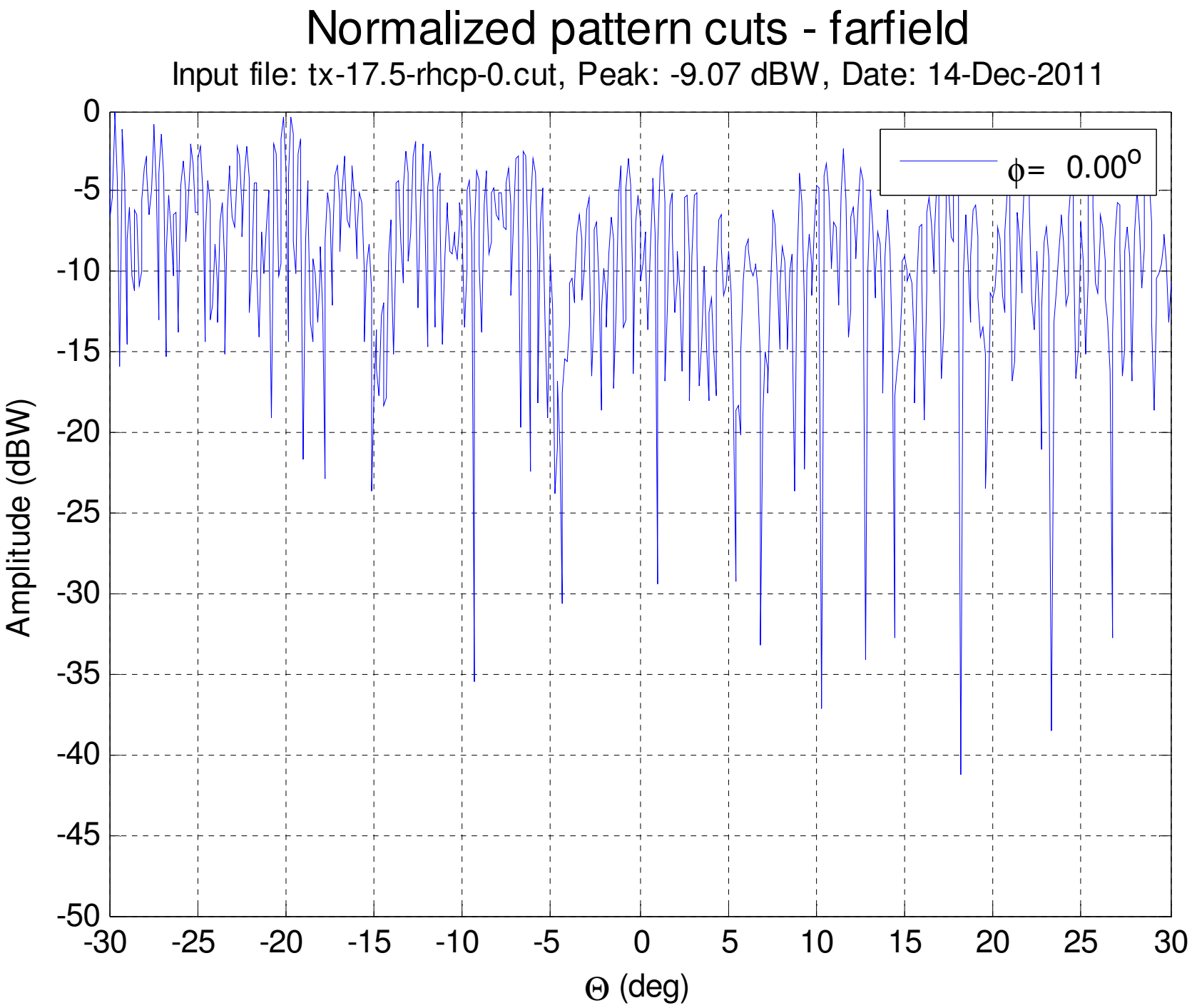

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -7.94 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

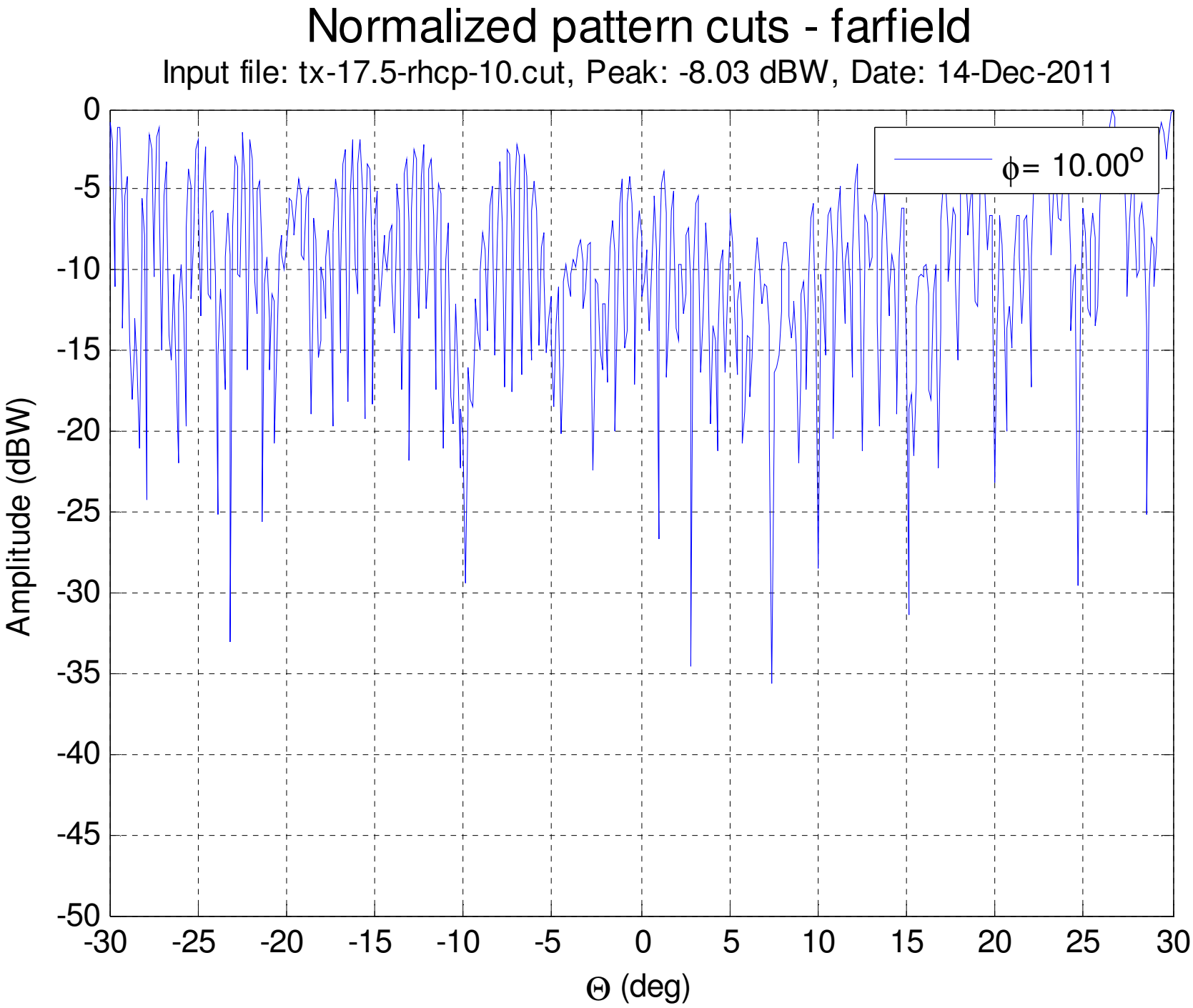

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -7.03 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

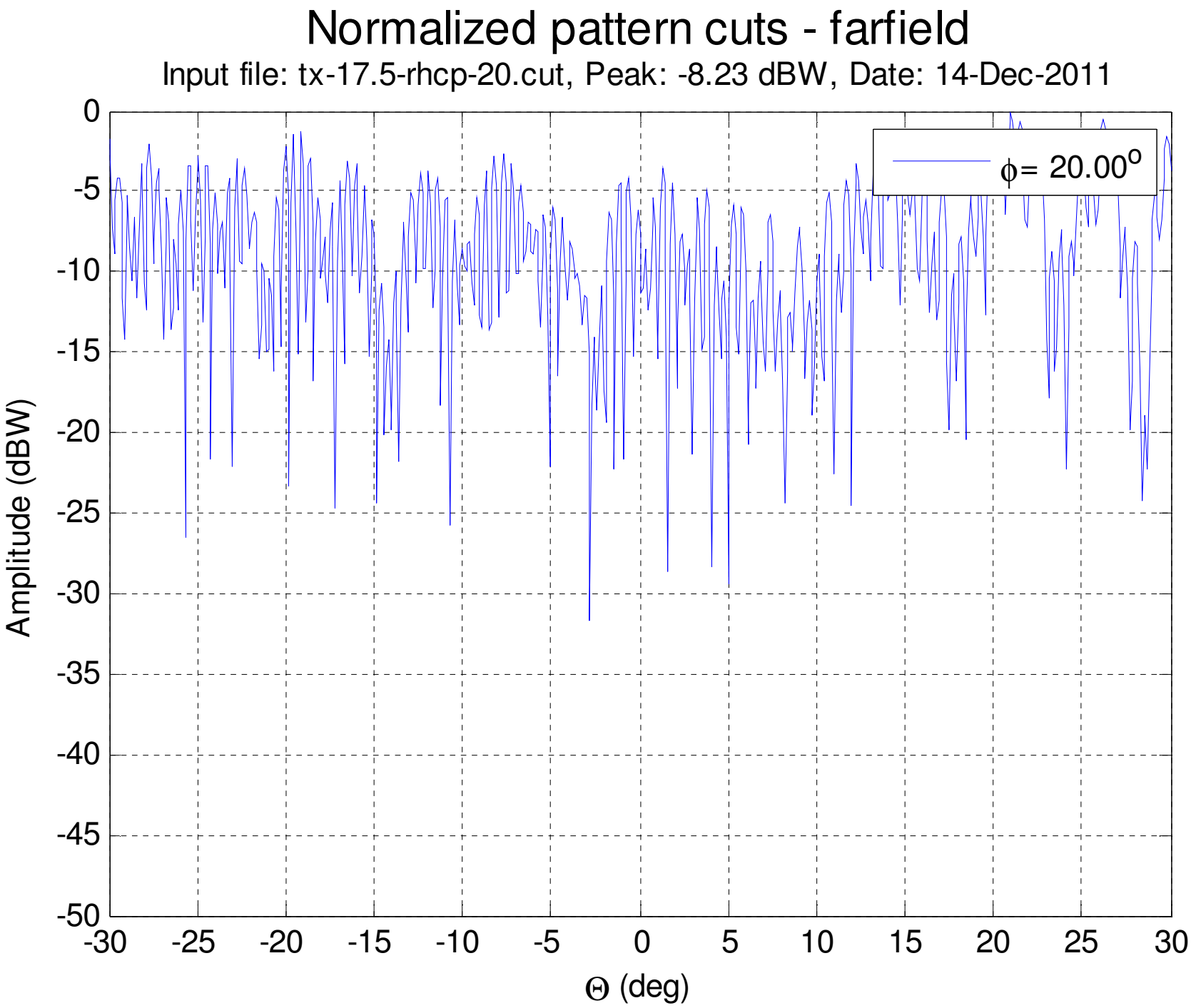

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -7.85 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

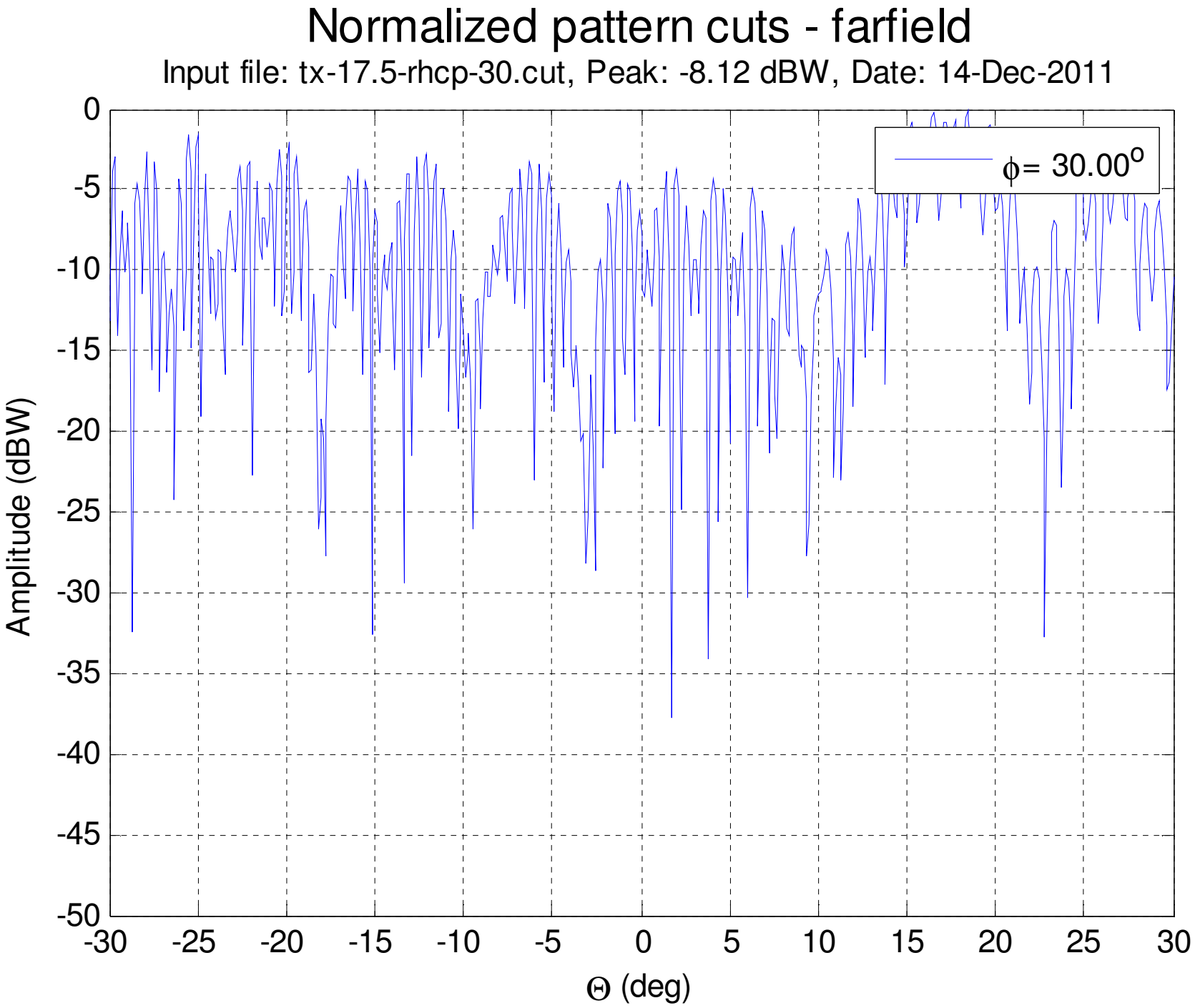

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -7.75 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

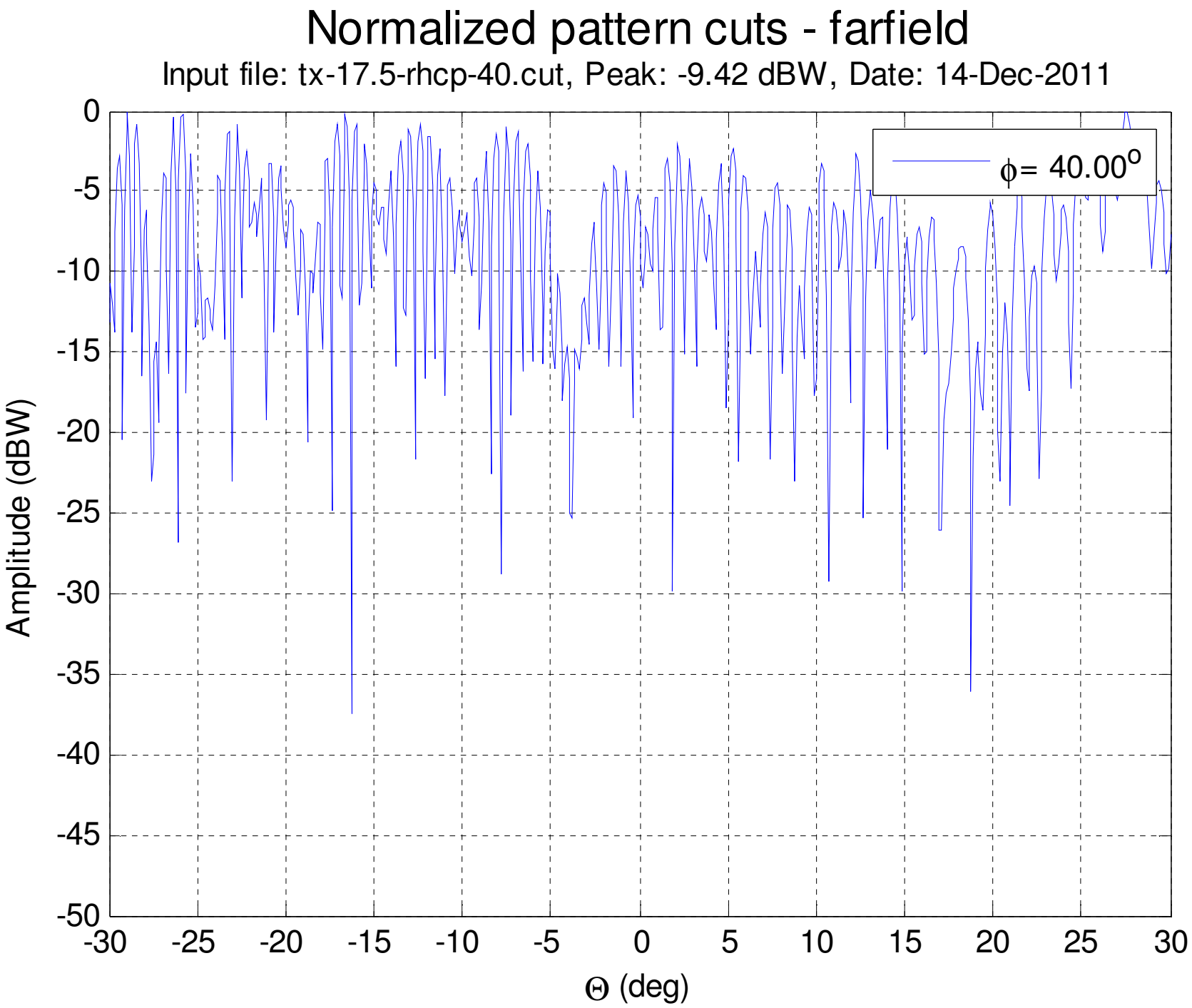

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -8.75 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

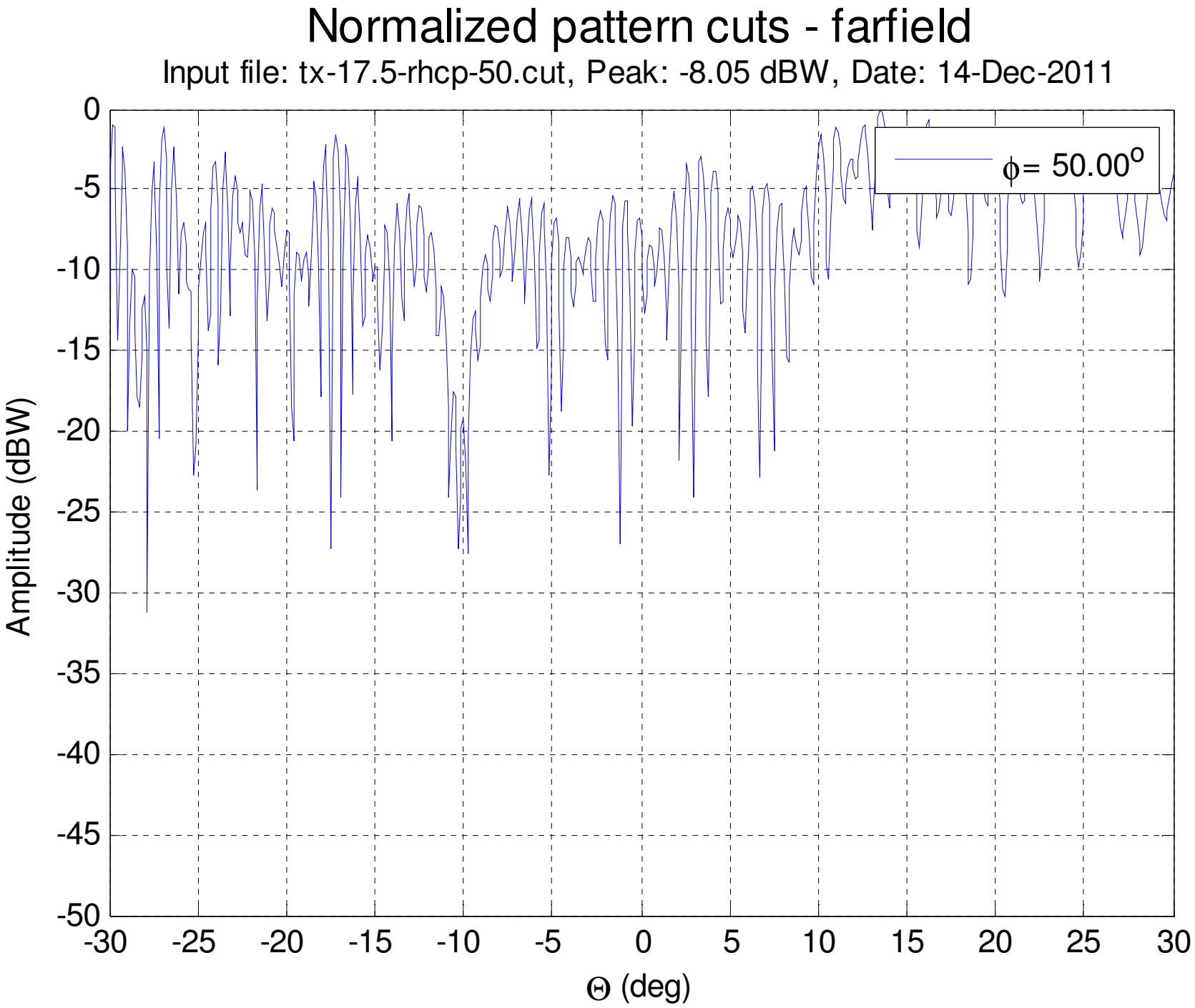

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -9.07 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

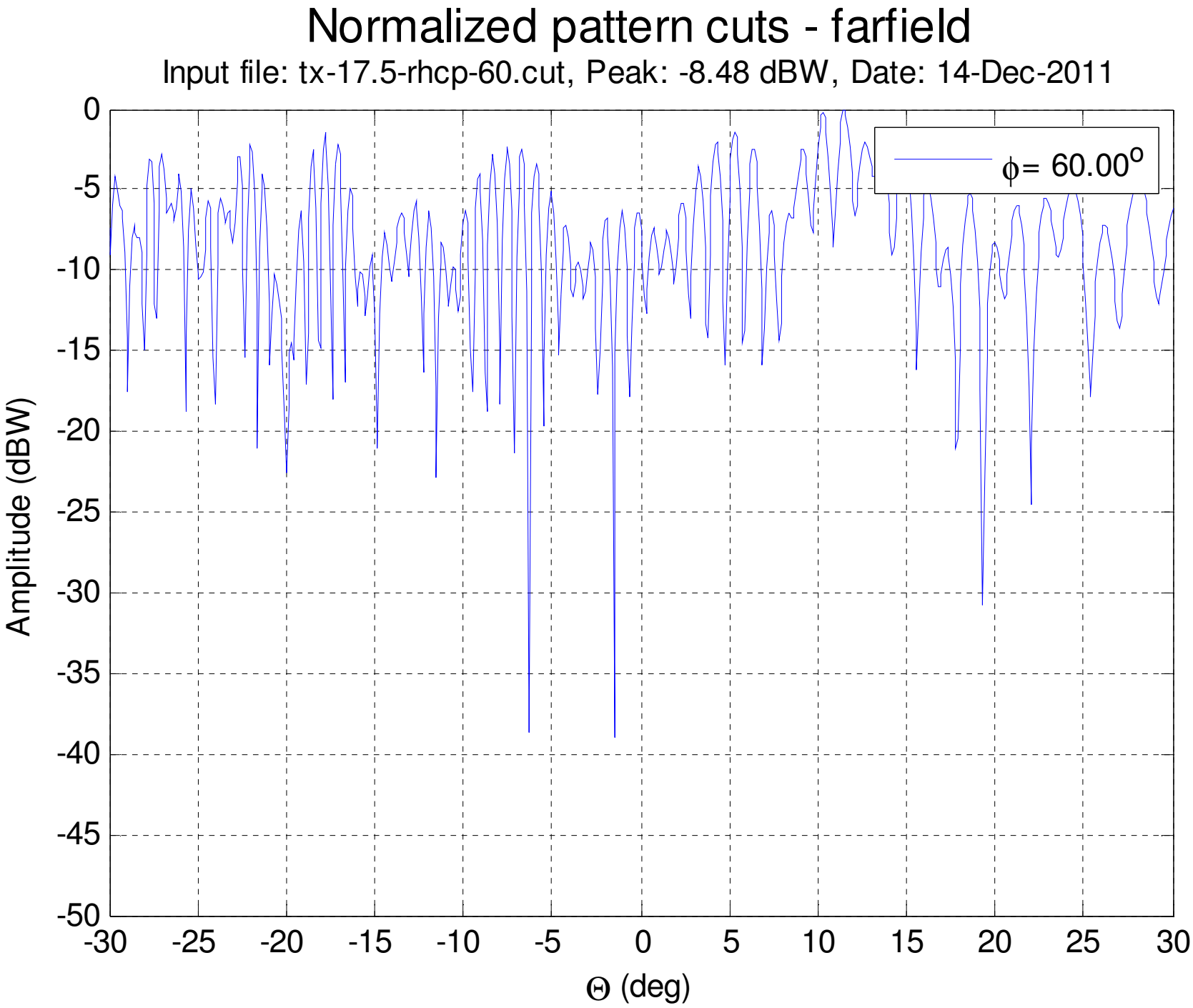

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -8.03 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -8.23 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

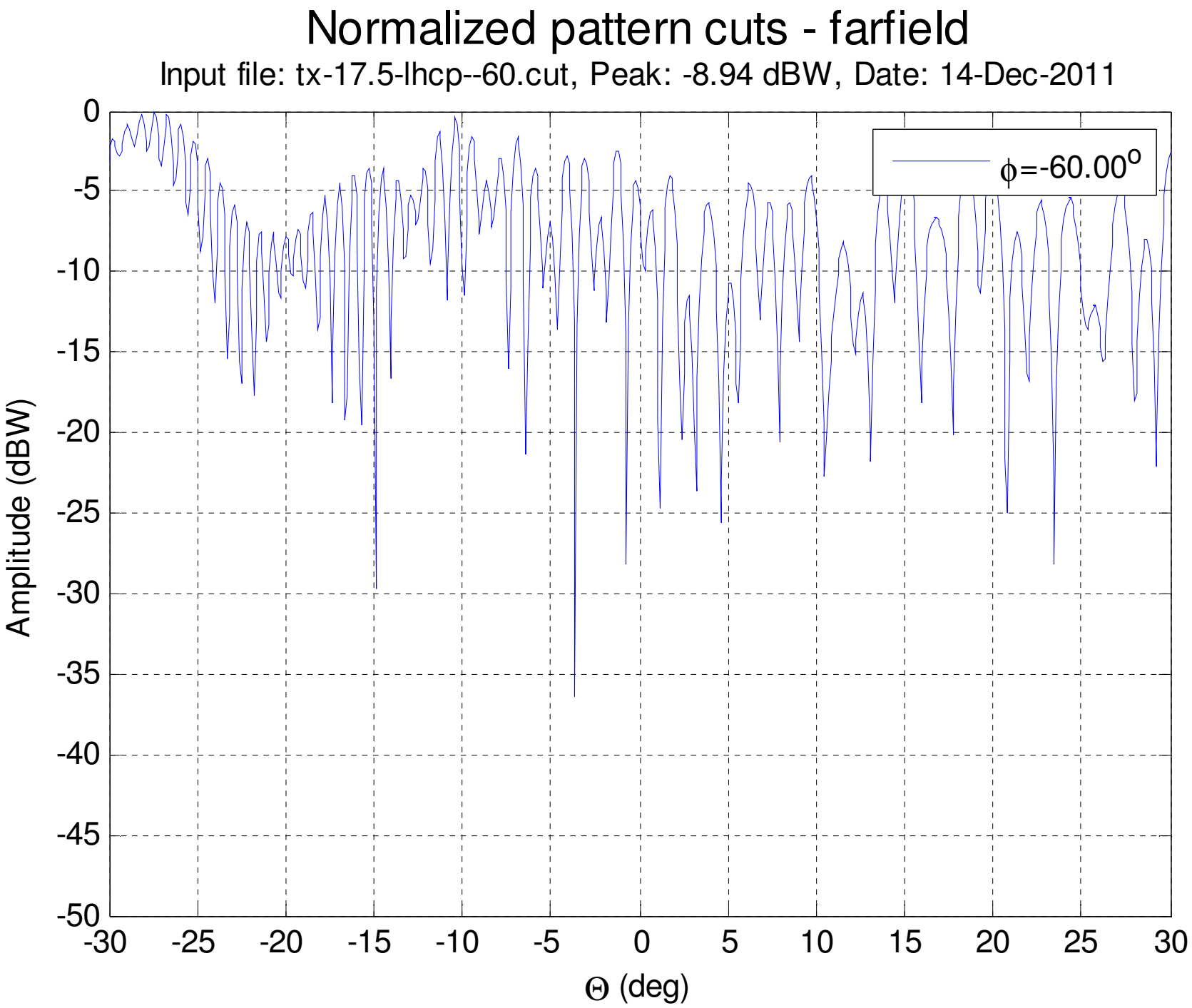

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -8.12 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

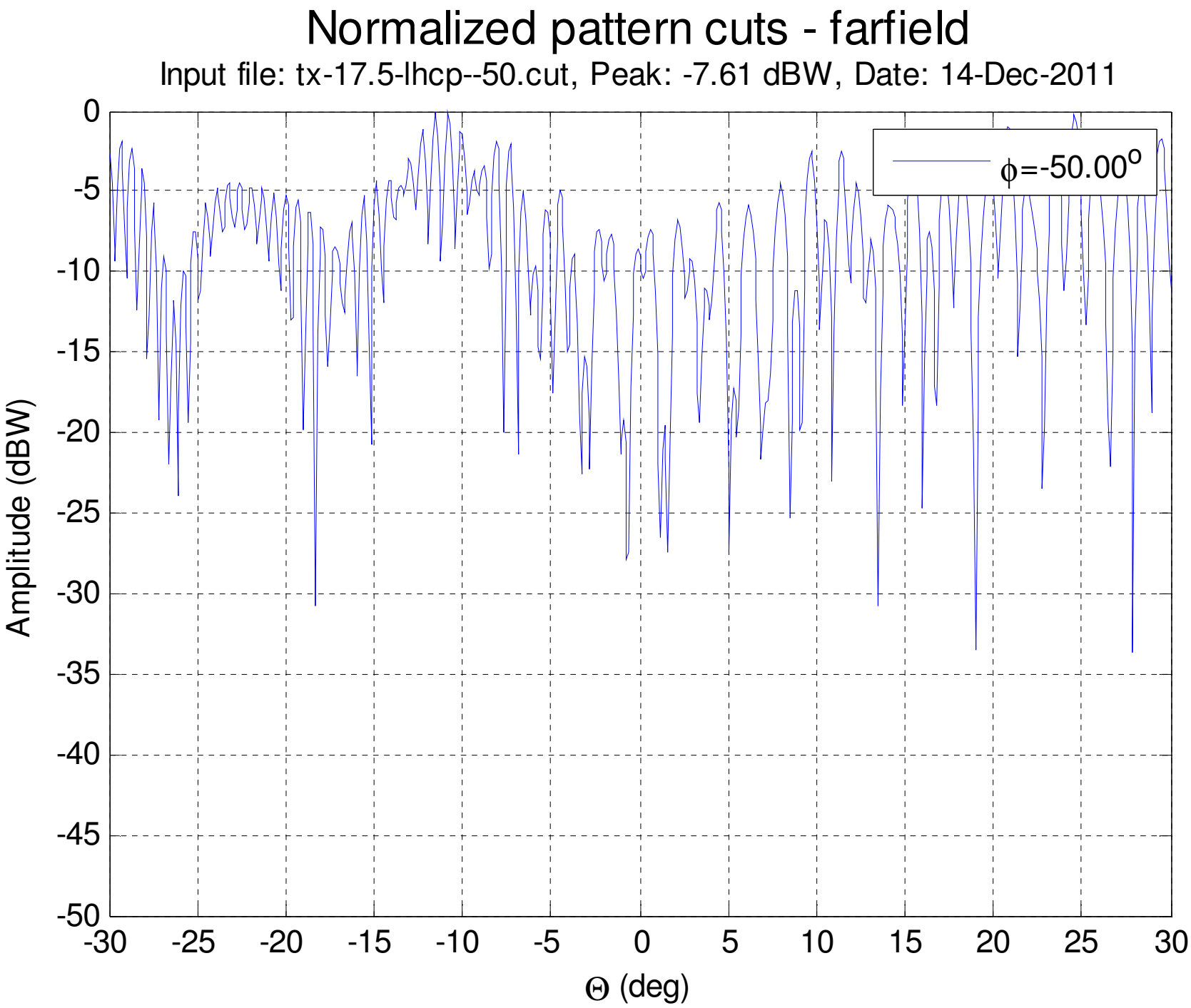

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.42 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

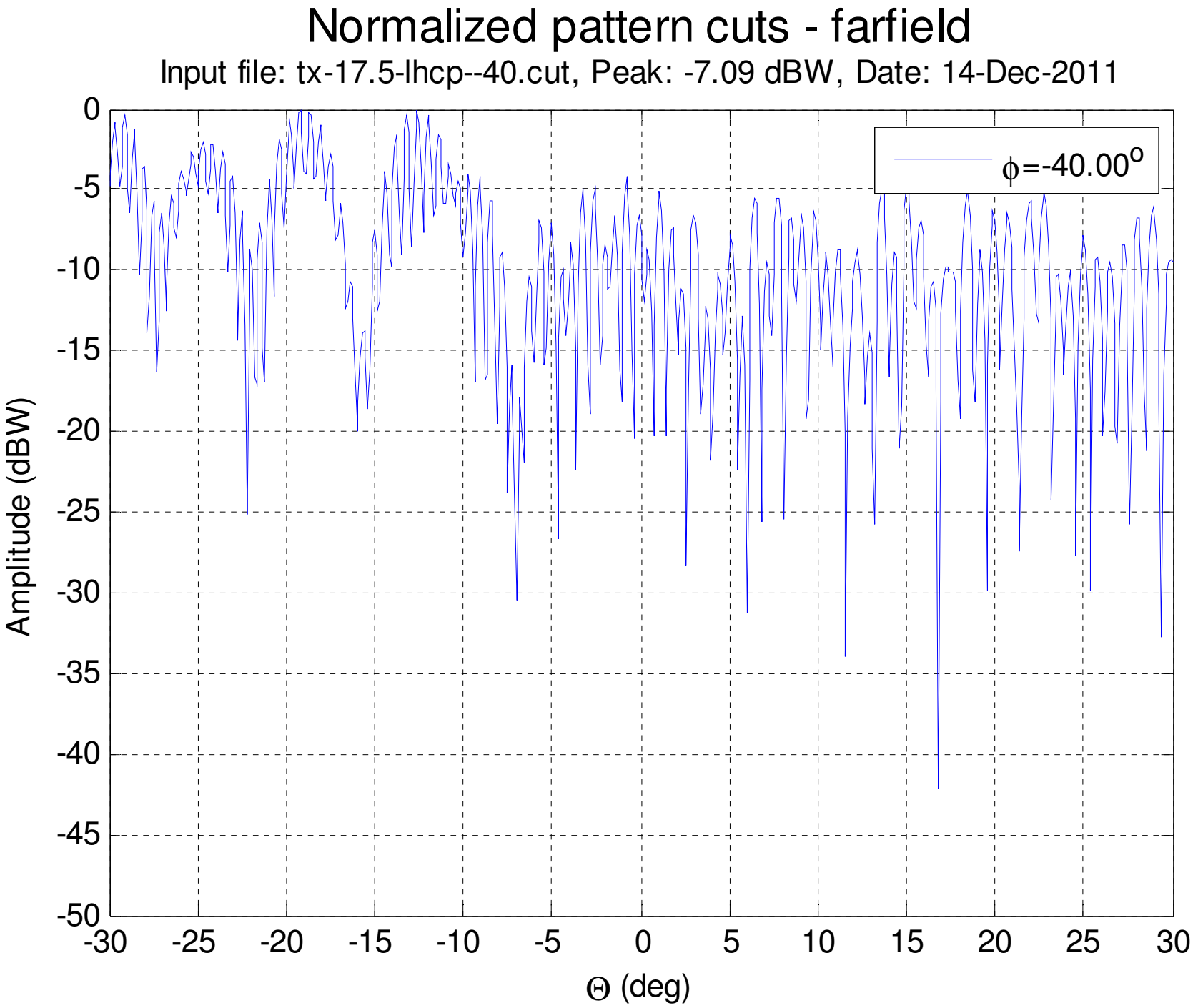

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -8.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

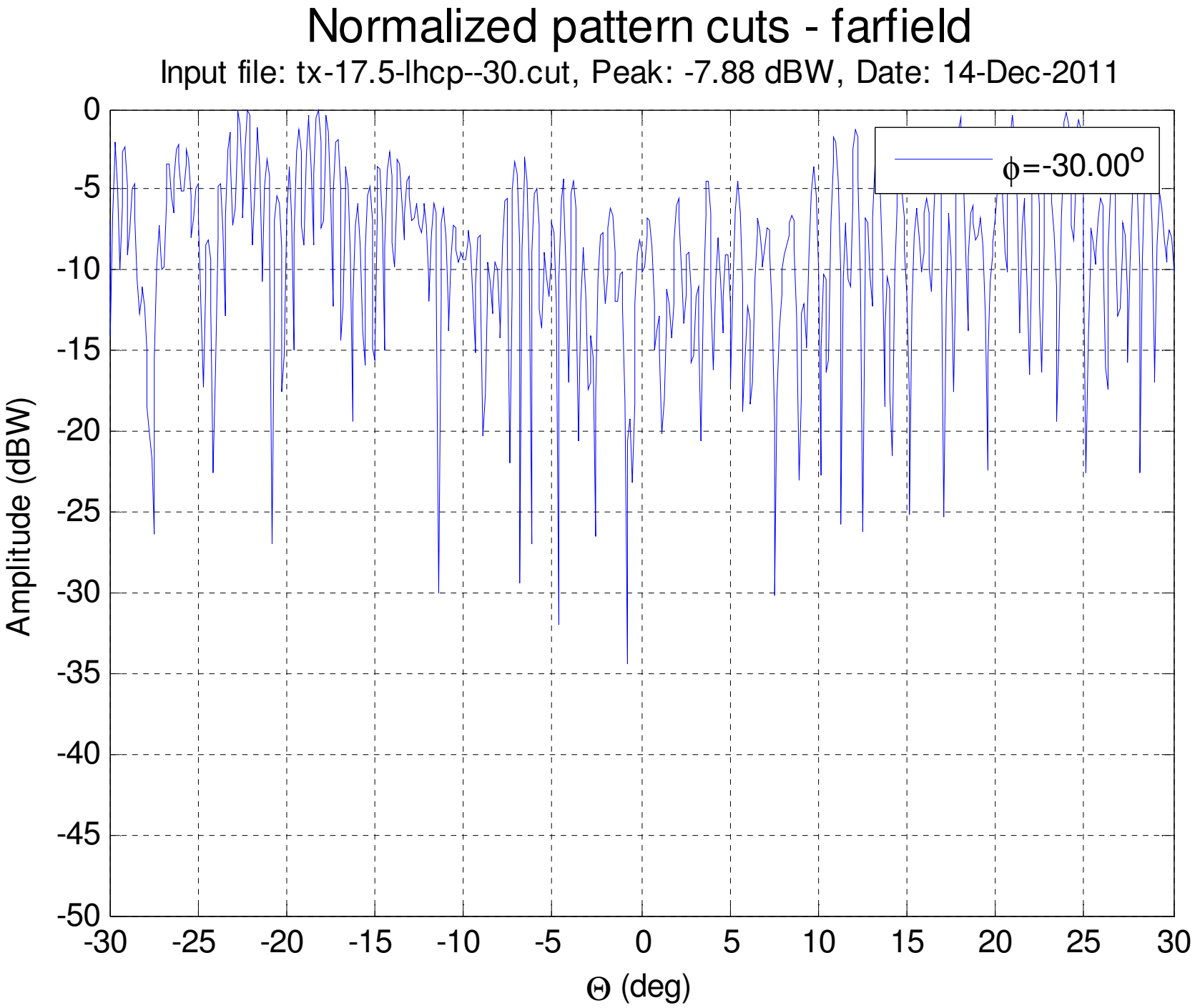

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -8.48 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

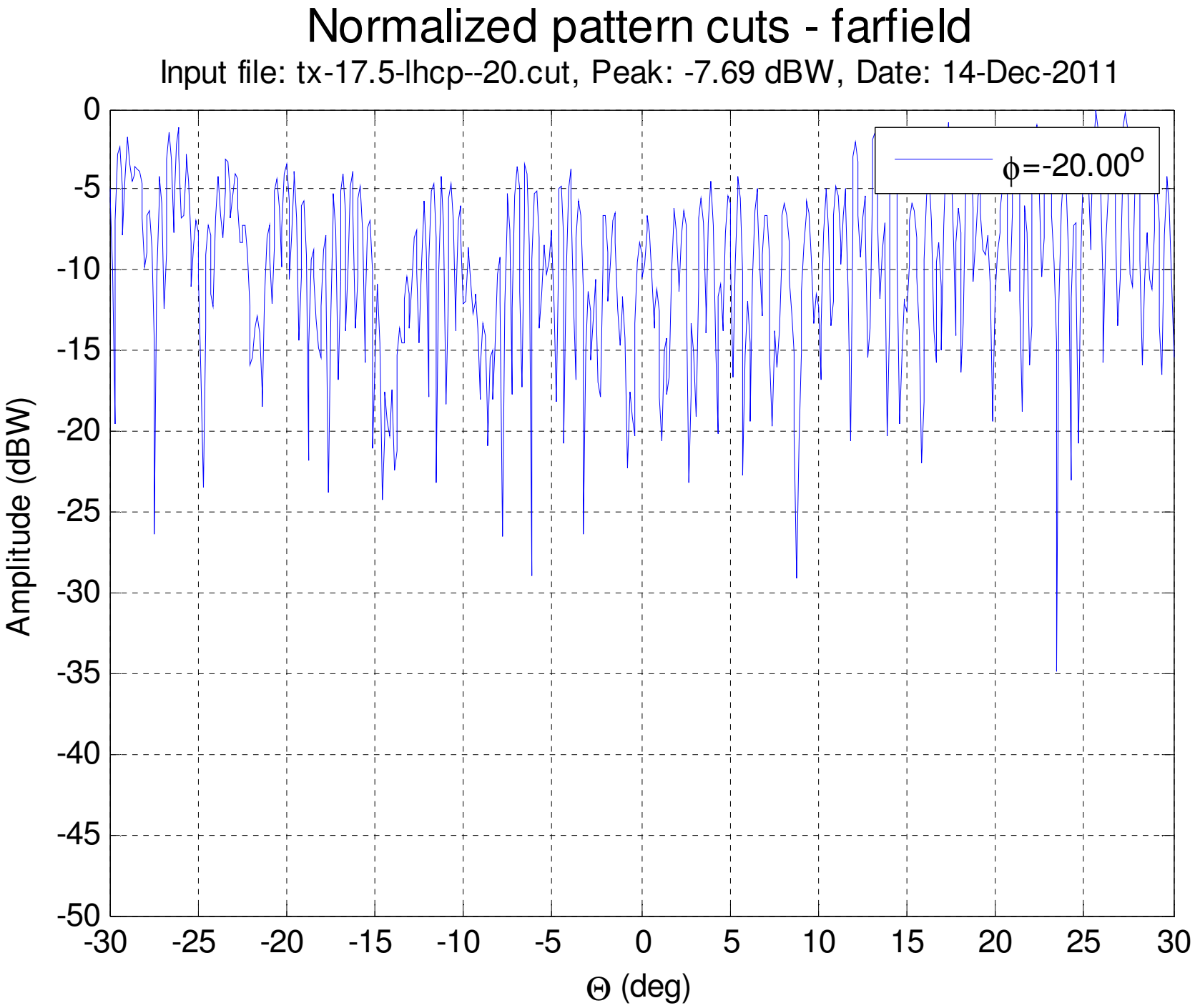
LHCP at 17.5 GHz

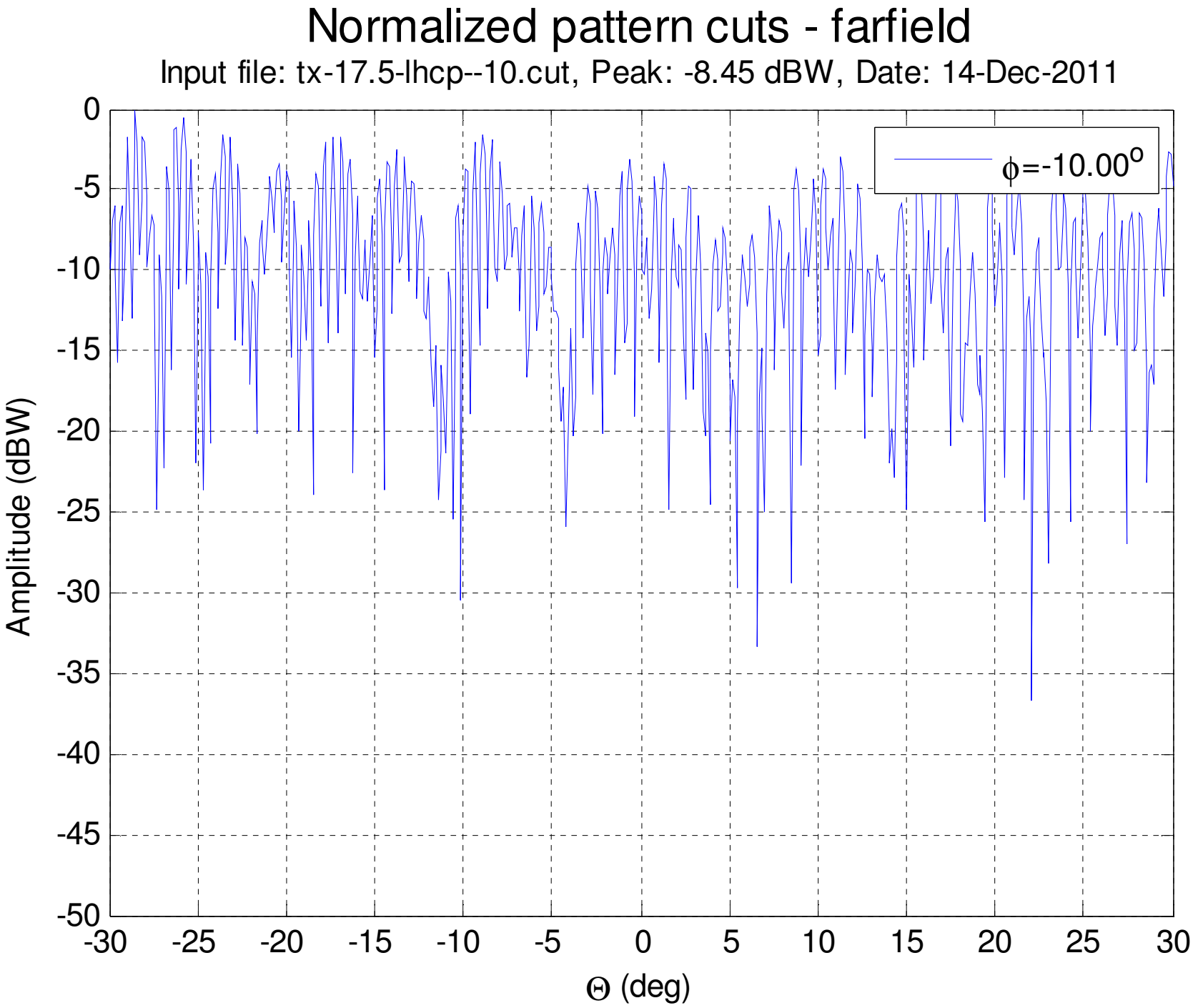

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -8.94 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

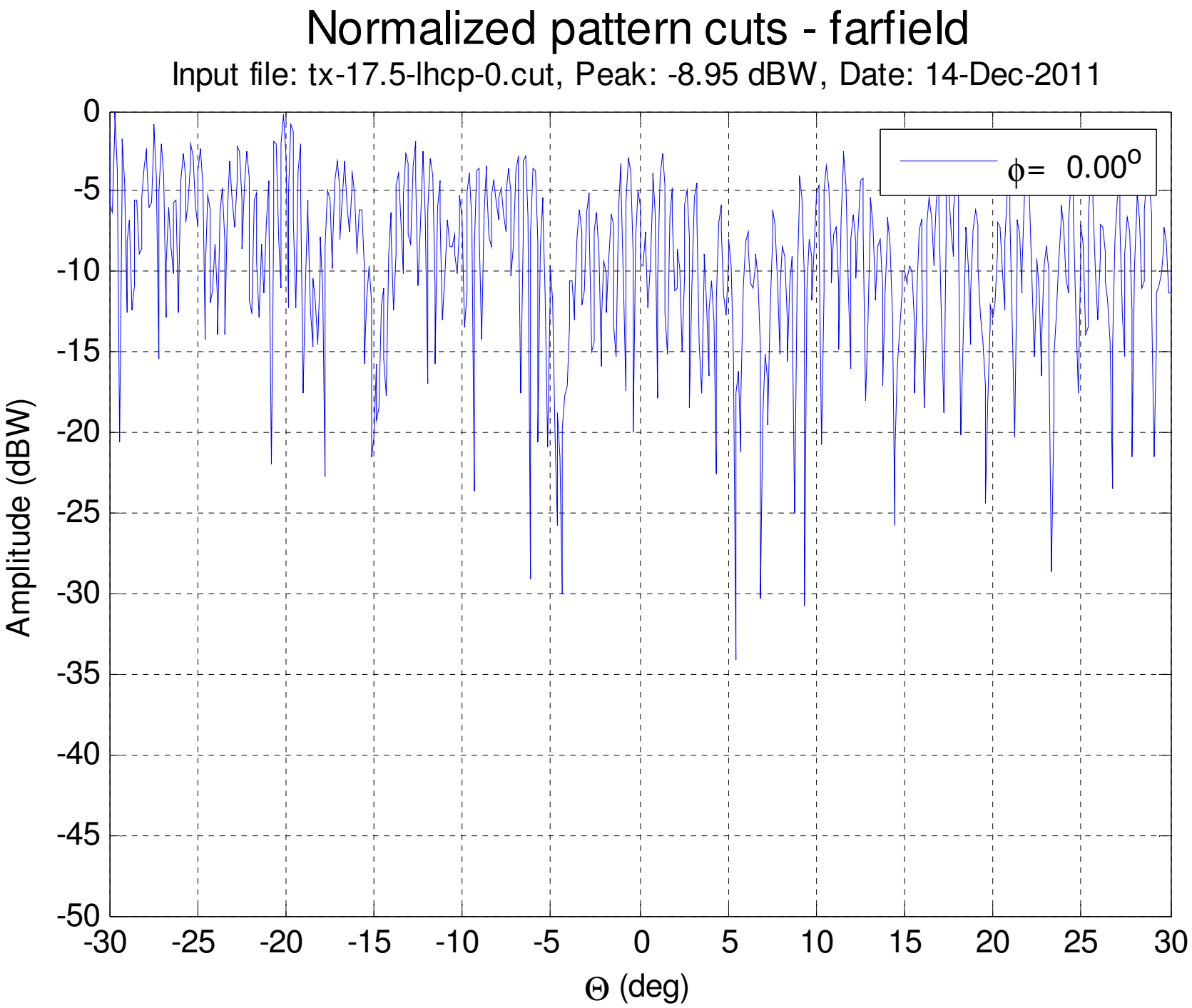

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -7.61 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

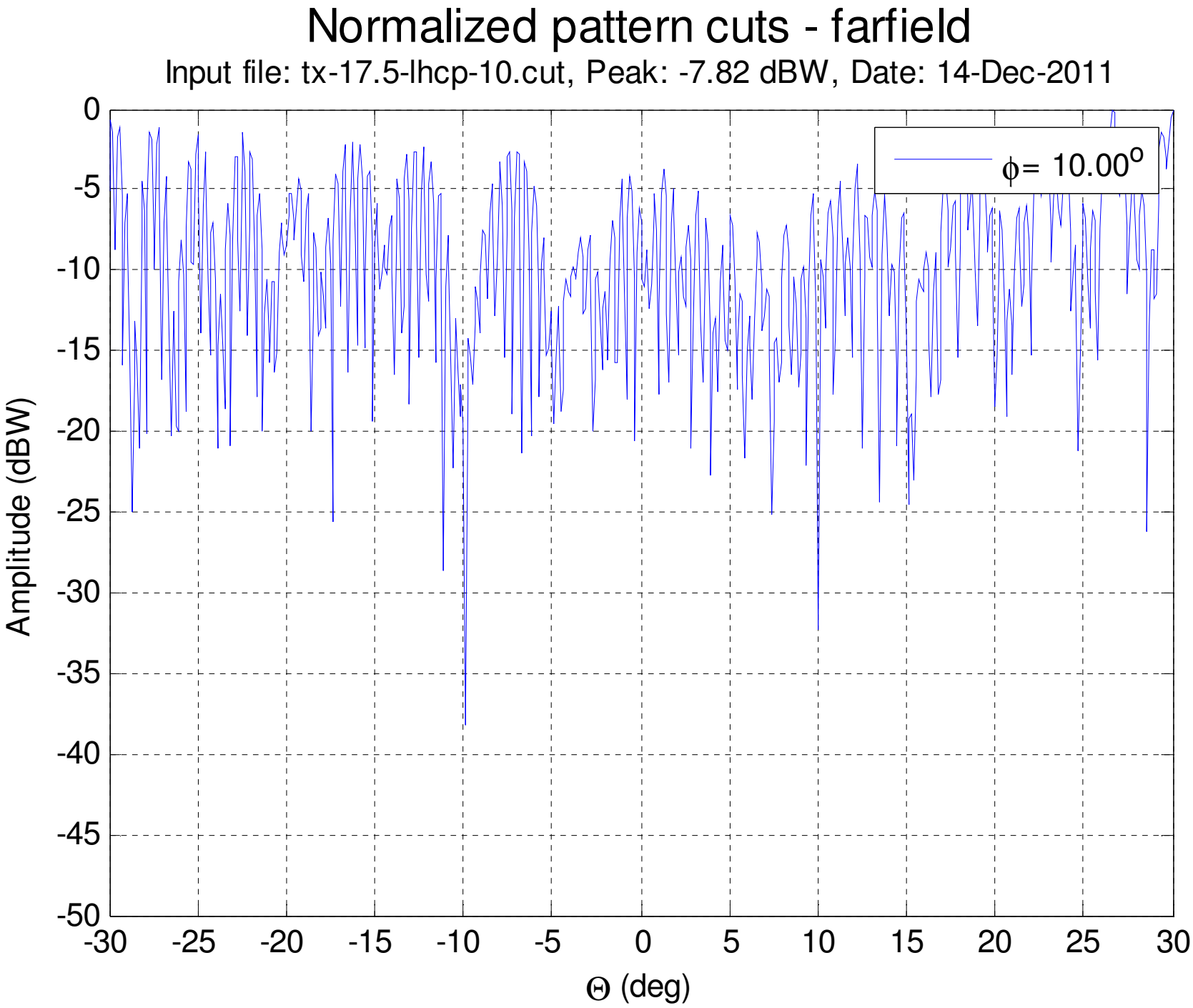

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -7.09 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

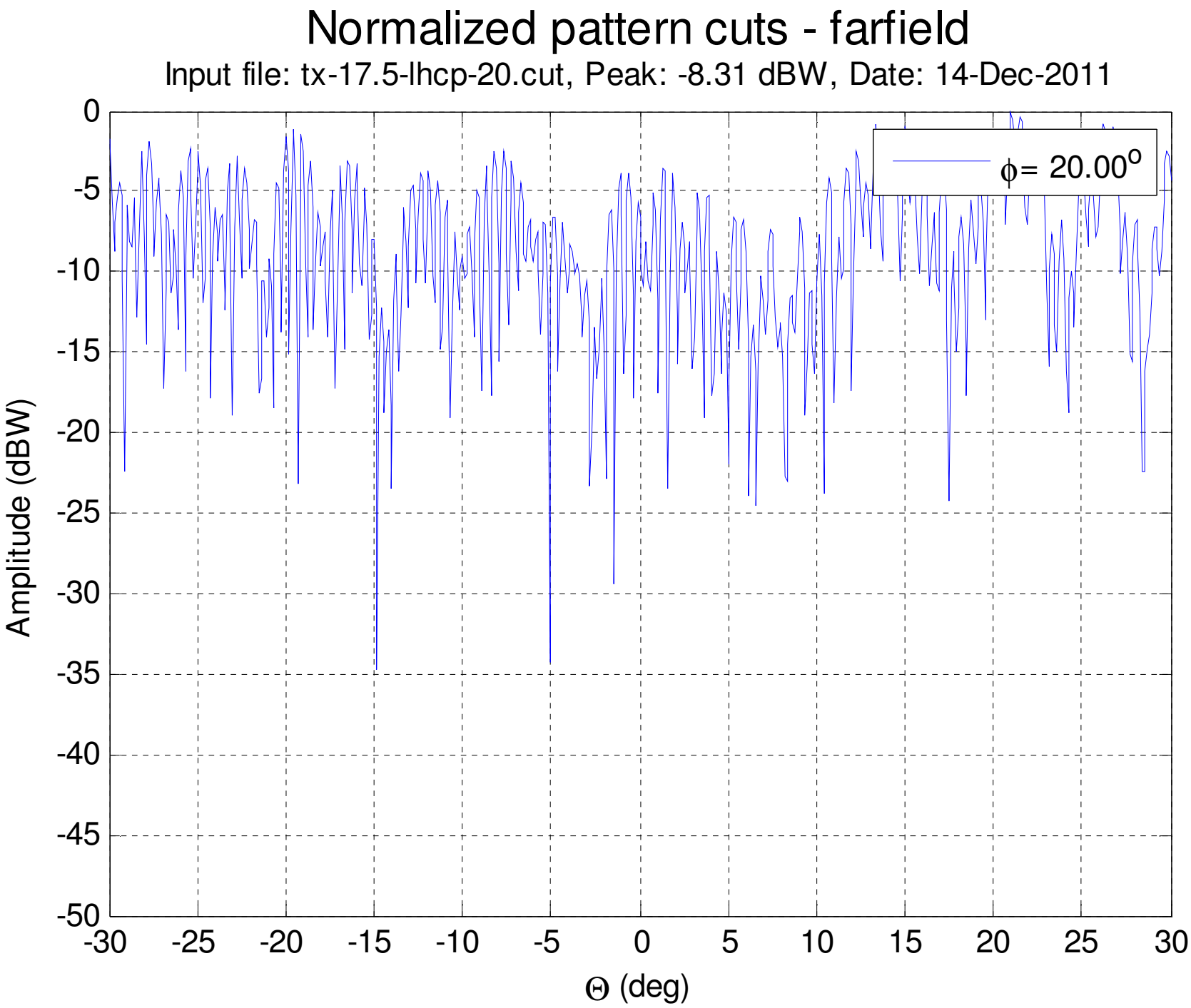

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -7.88 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

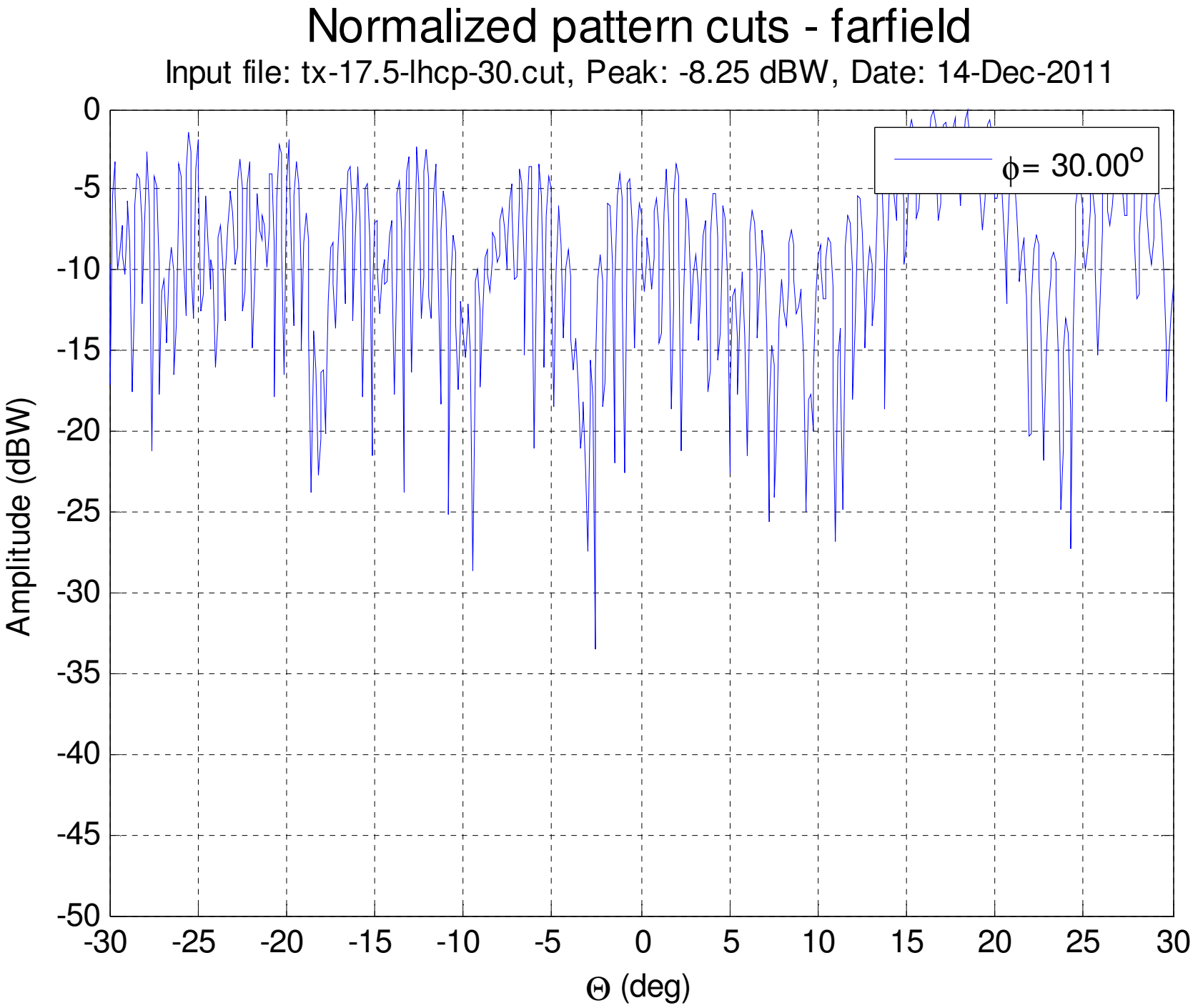

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -7.69 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

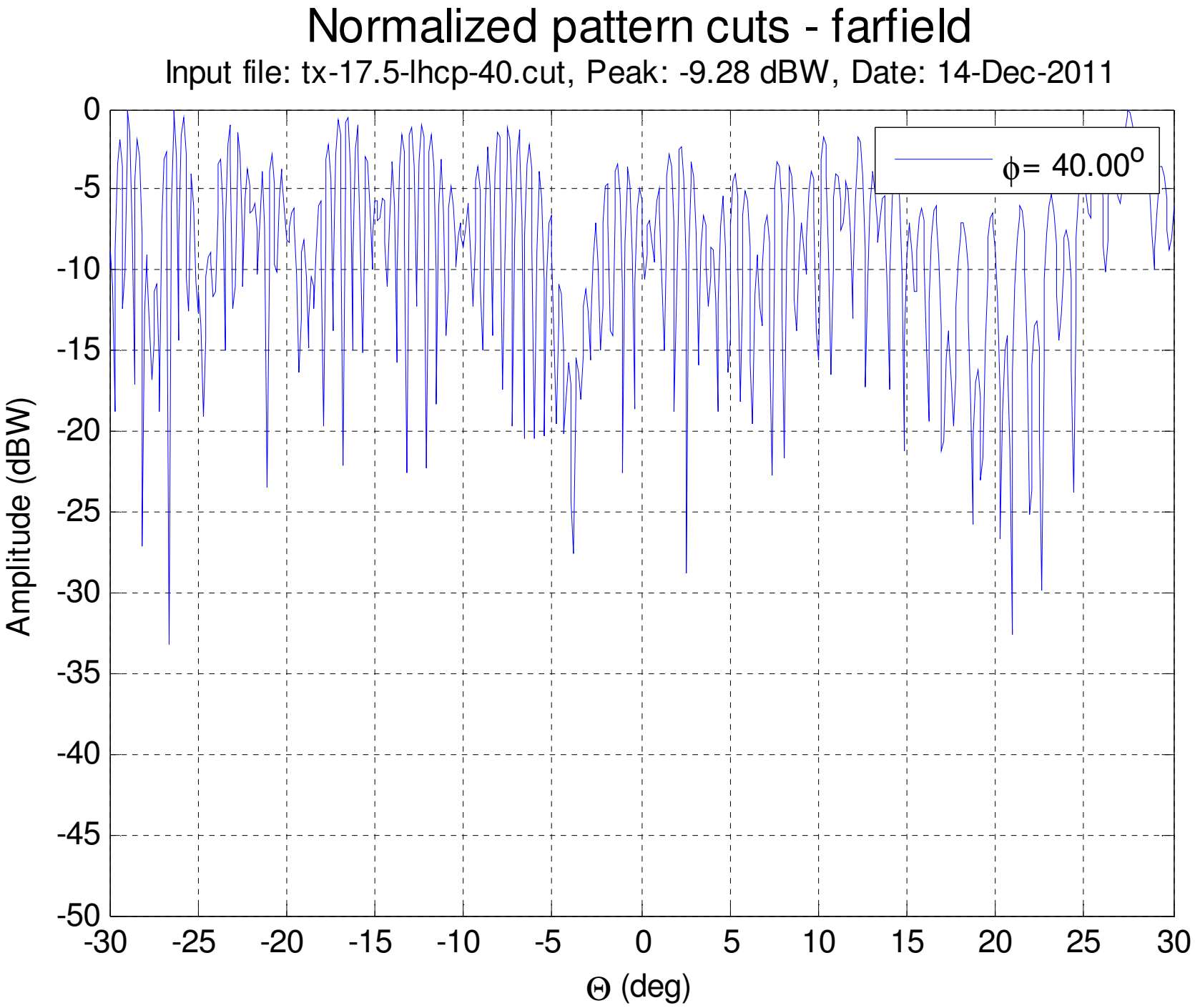

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -8.45 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

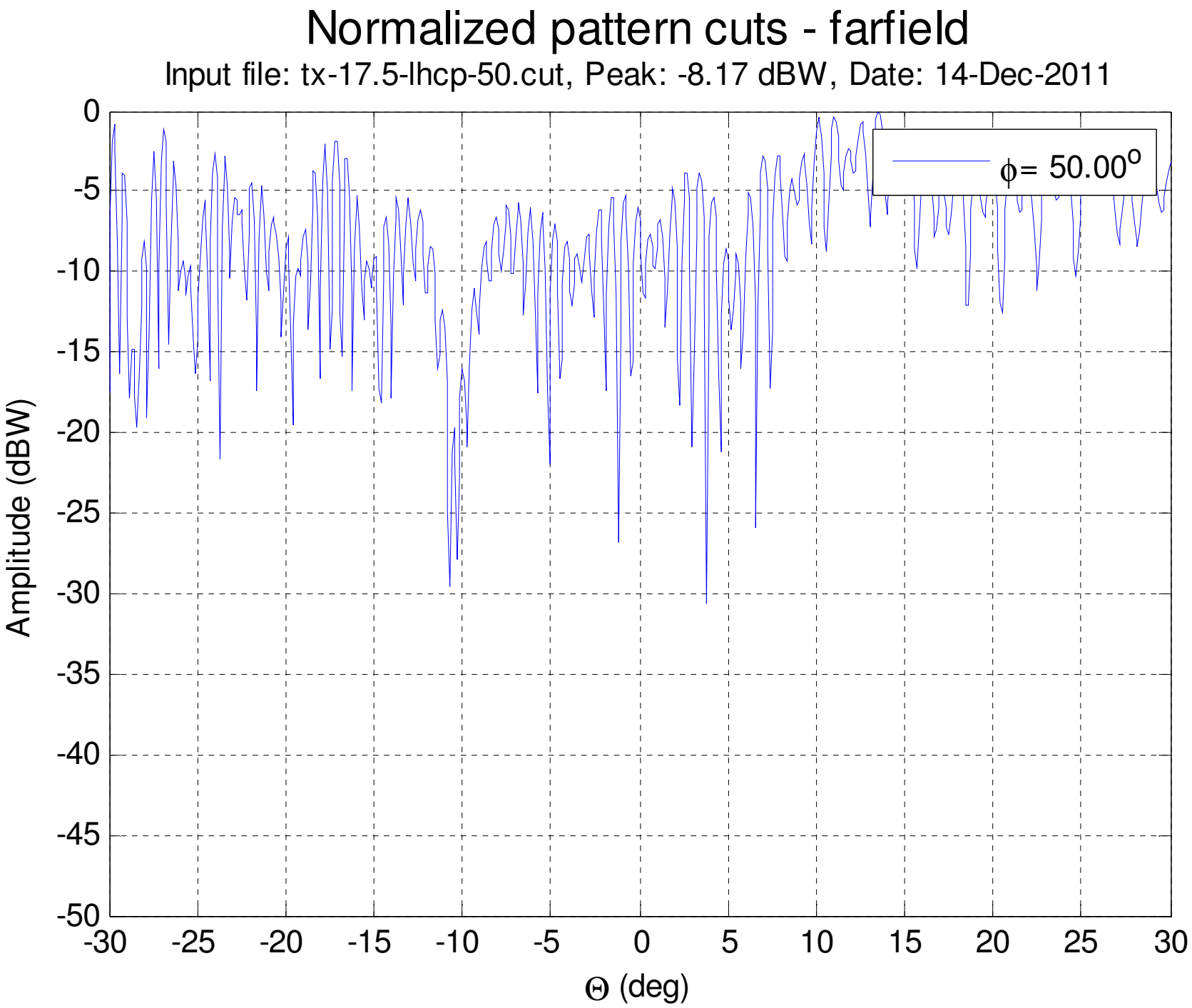

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -8.95 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

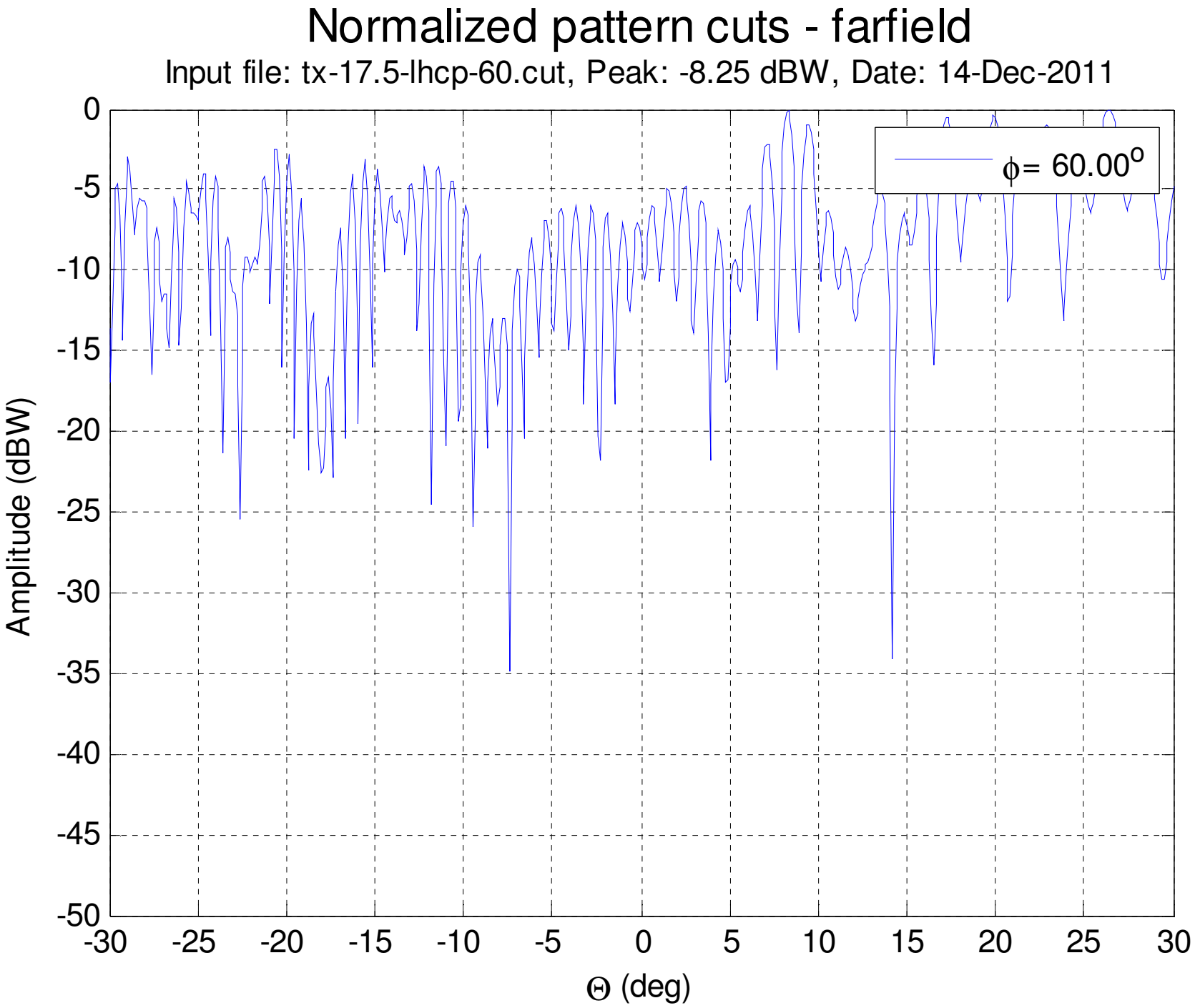

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -7.82 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -8.31 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

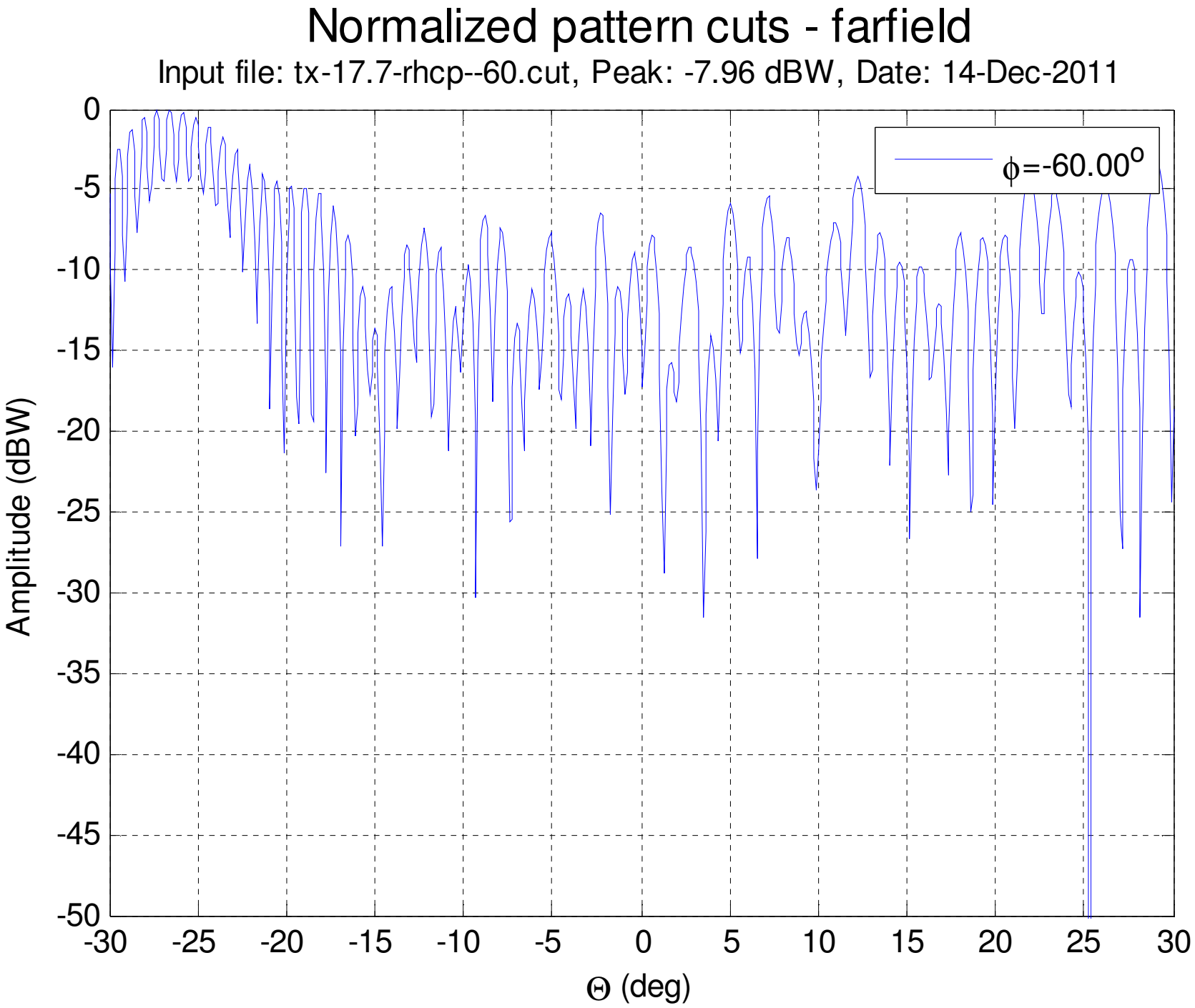

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -8.25 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

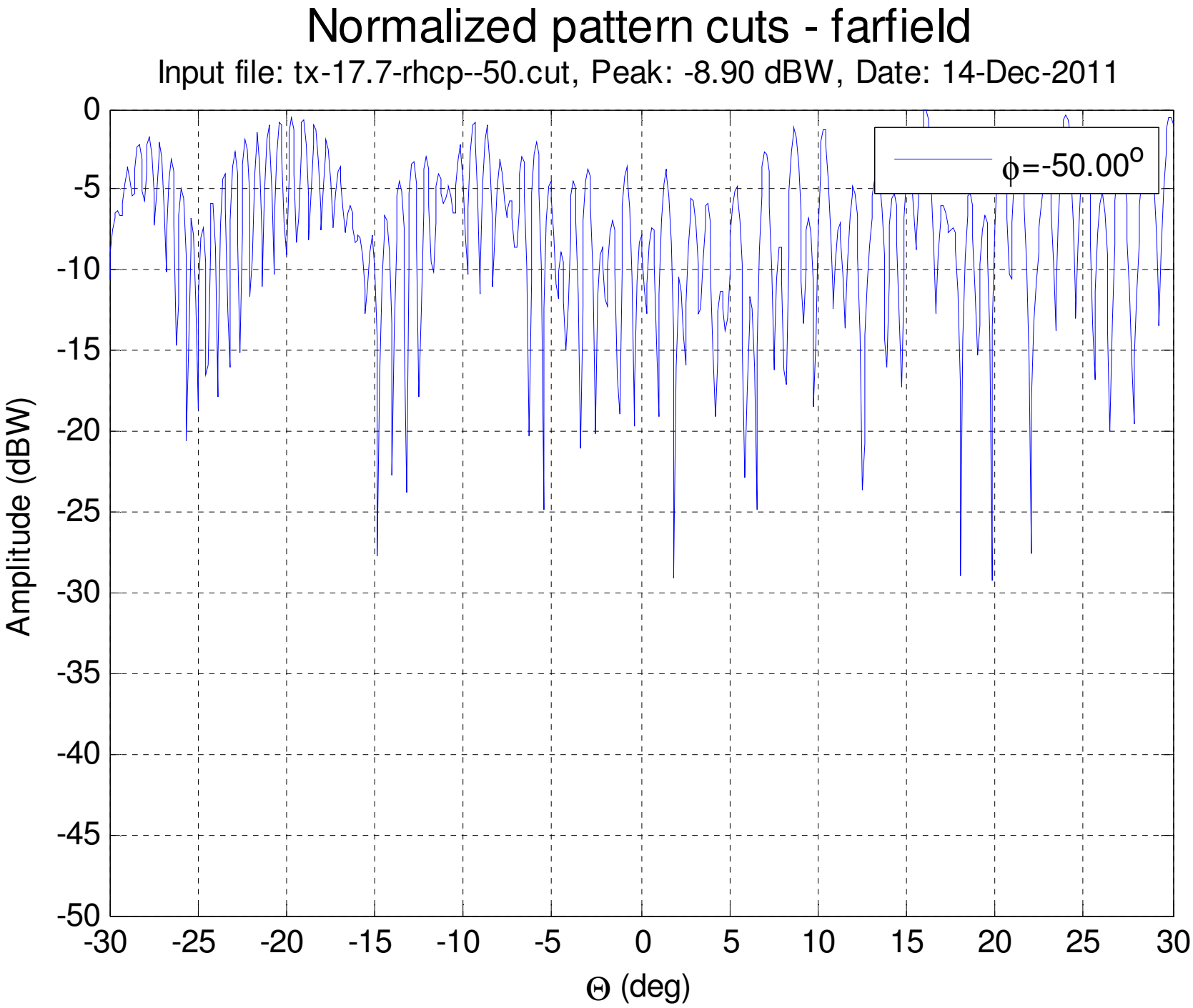

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -9.28 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

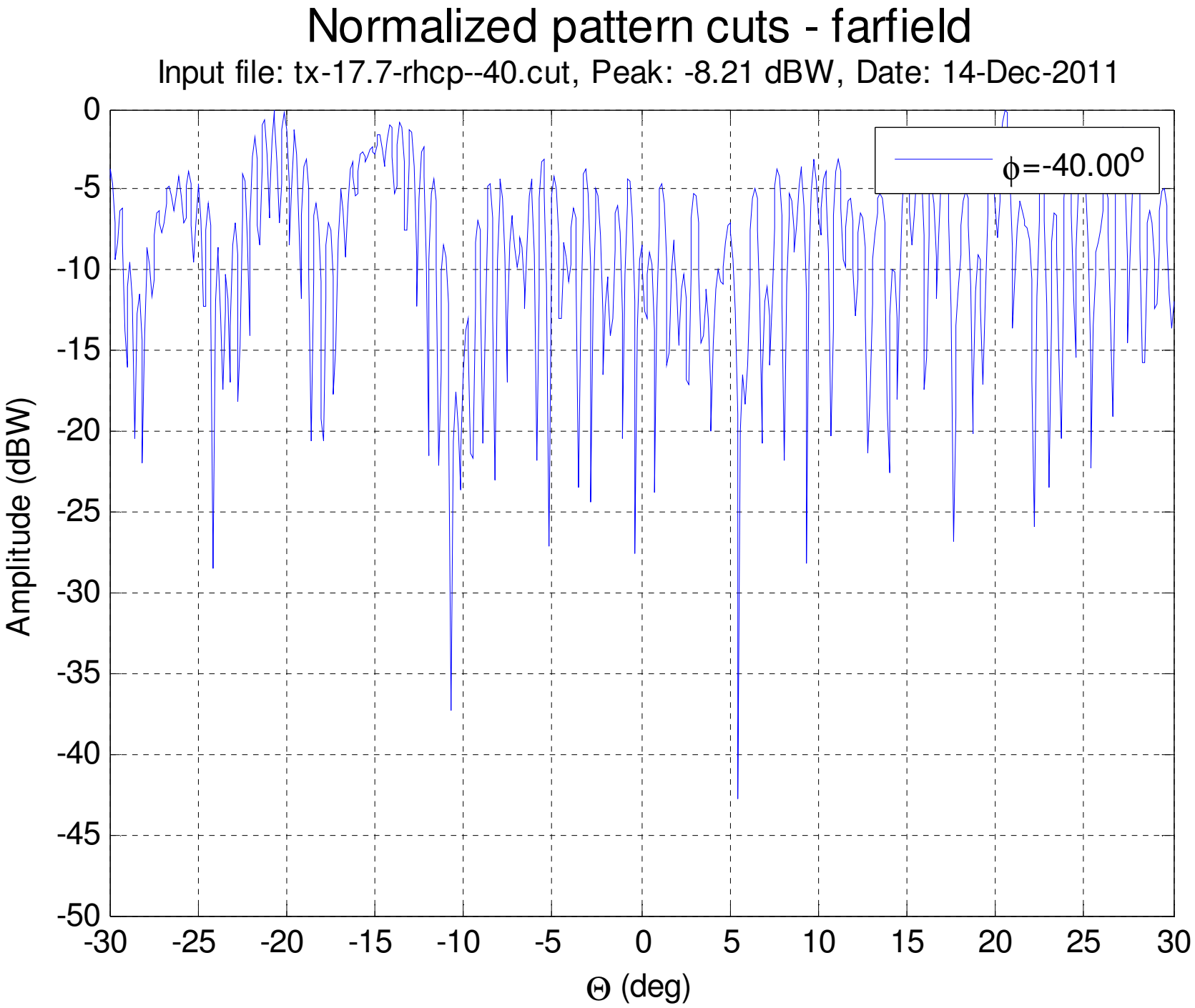

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -8.17 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

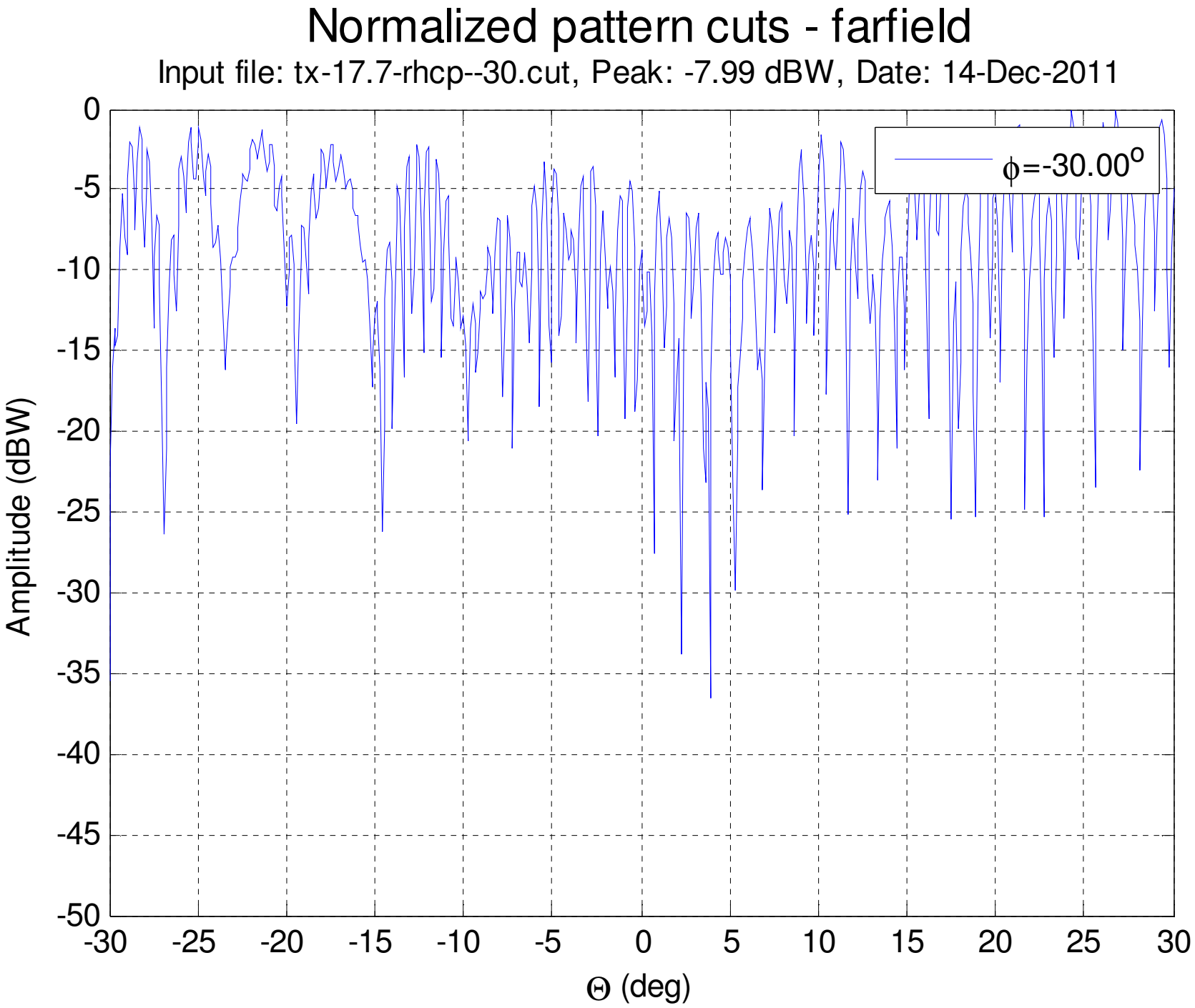

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -8.25 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

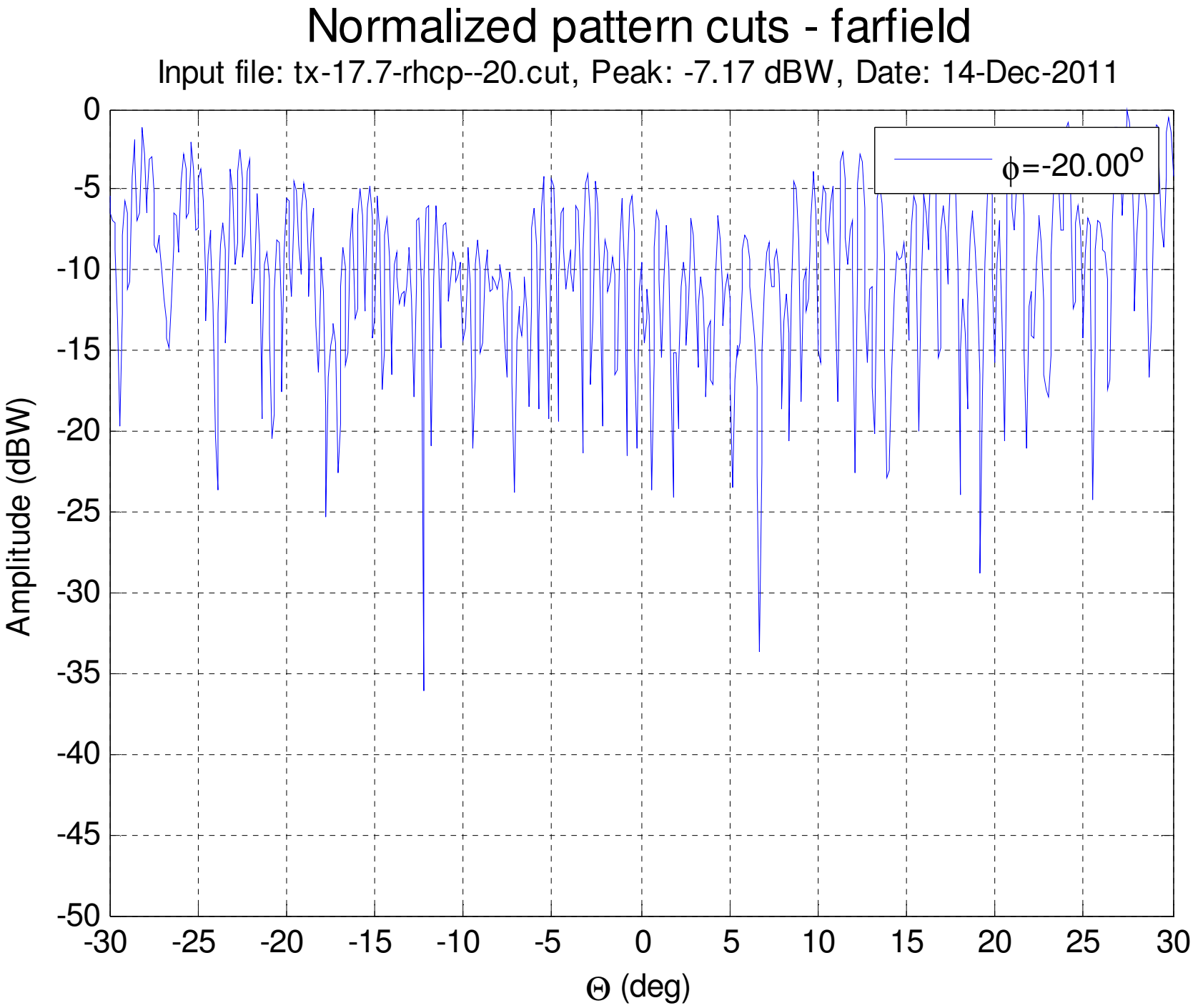
RHCP at 17.7 GHz

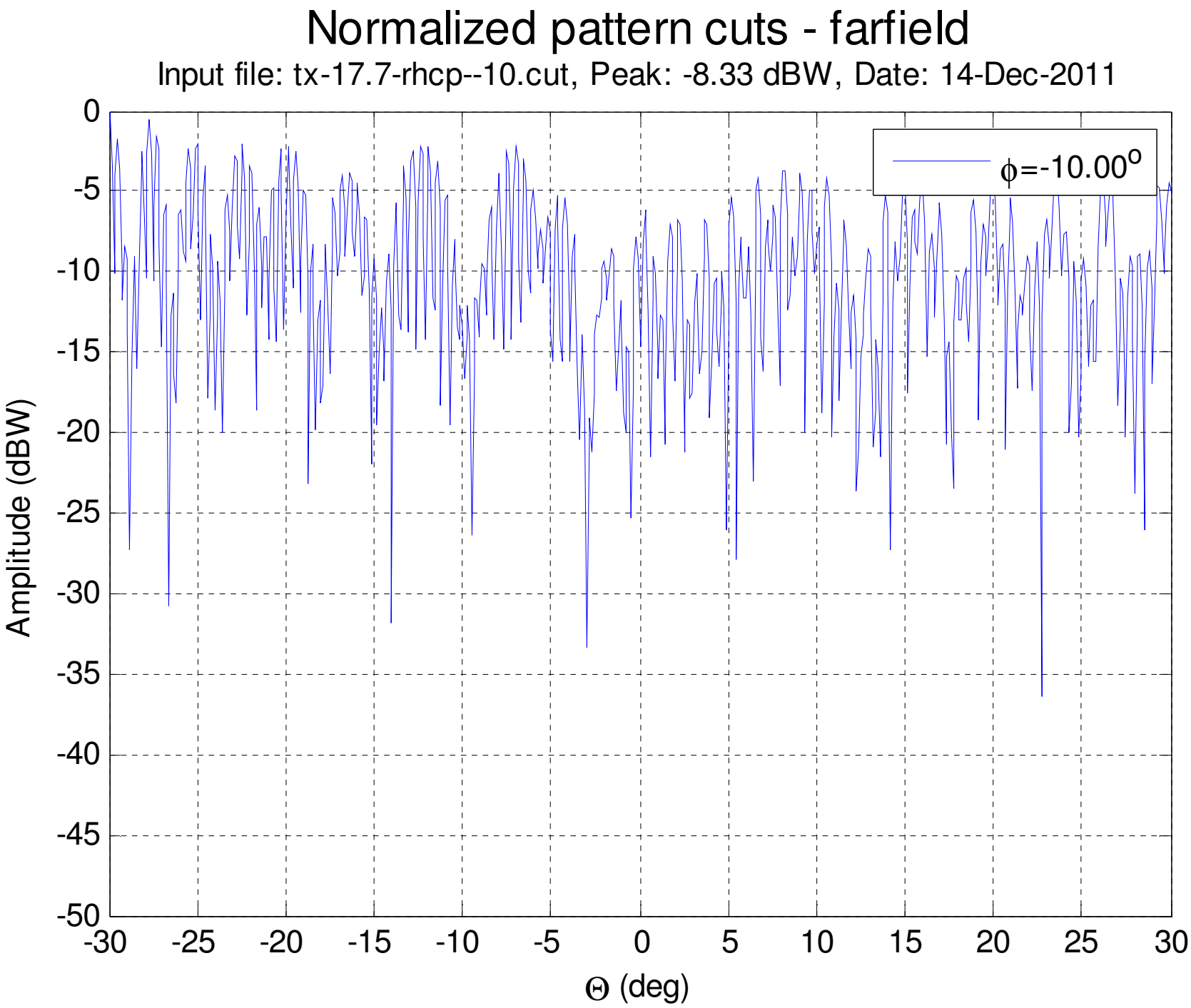

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -7.96 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

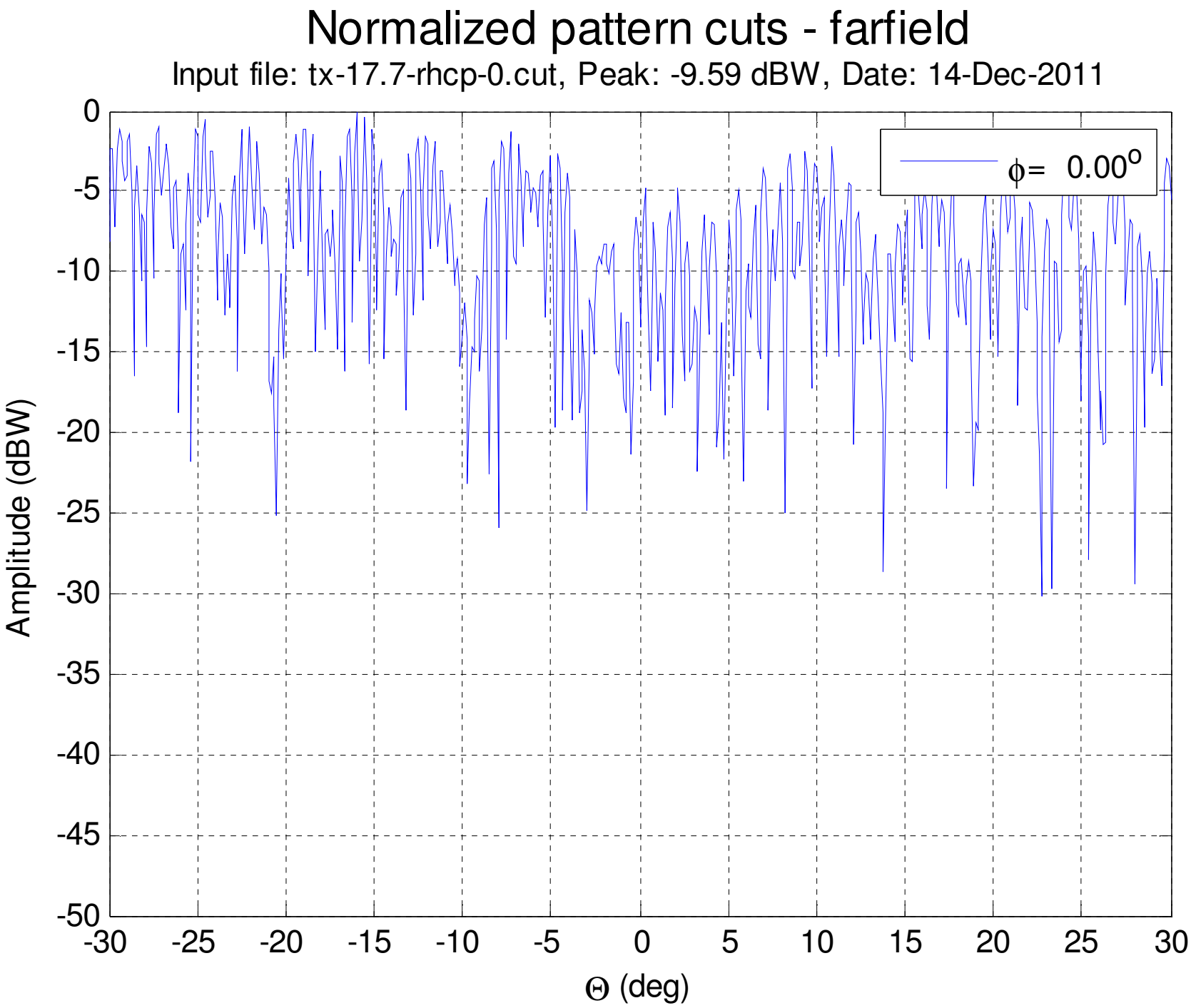

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -8.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

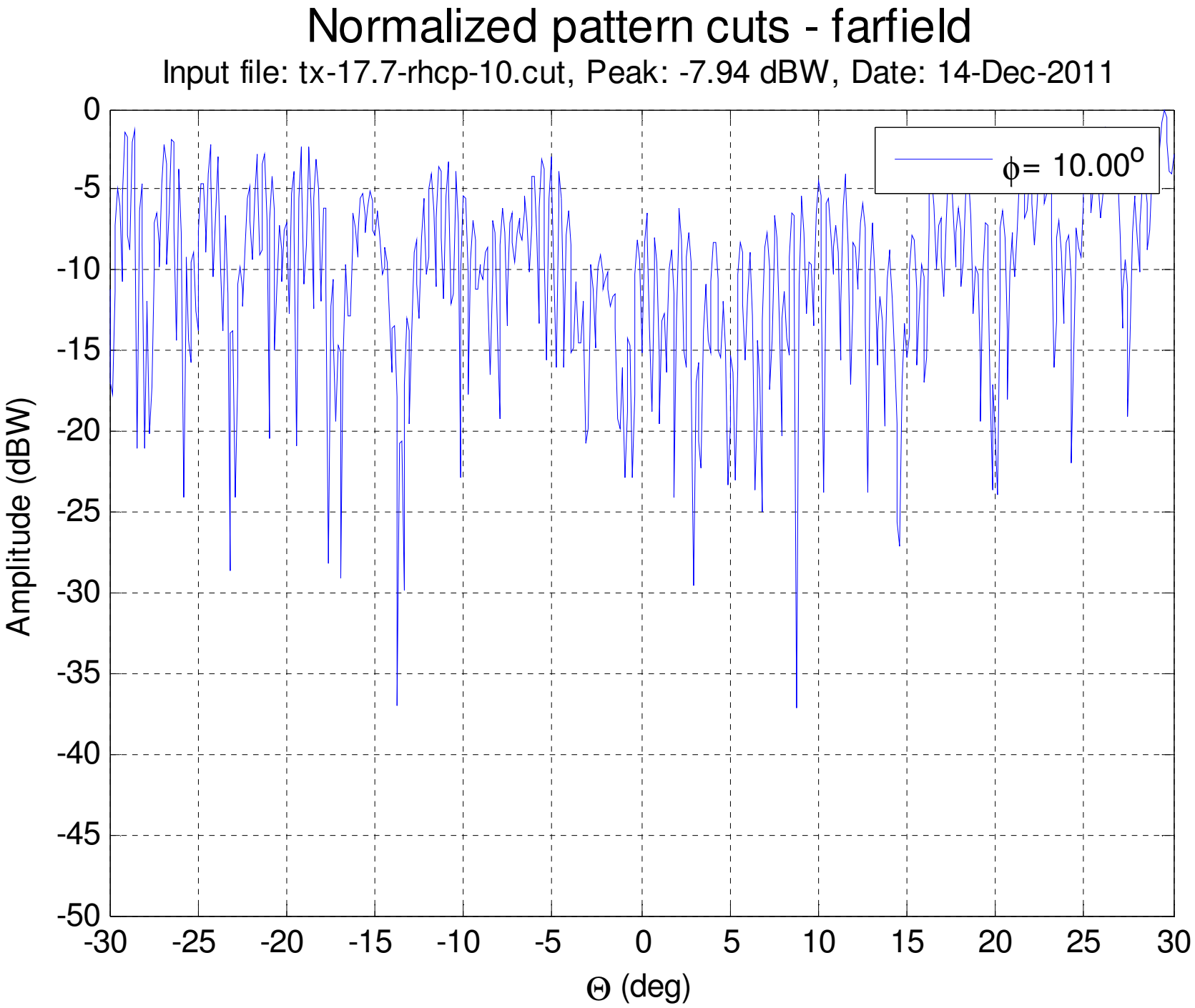

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -8.21 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

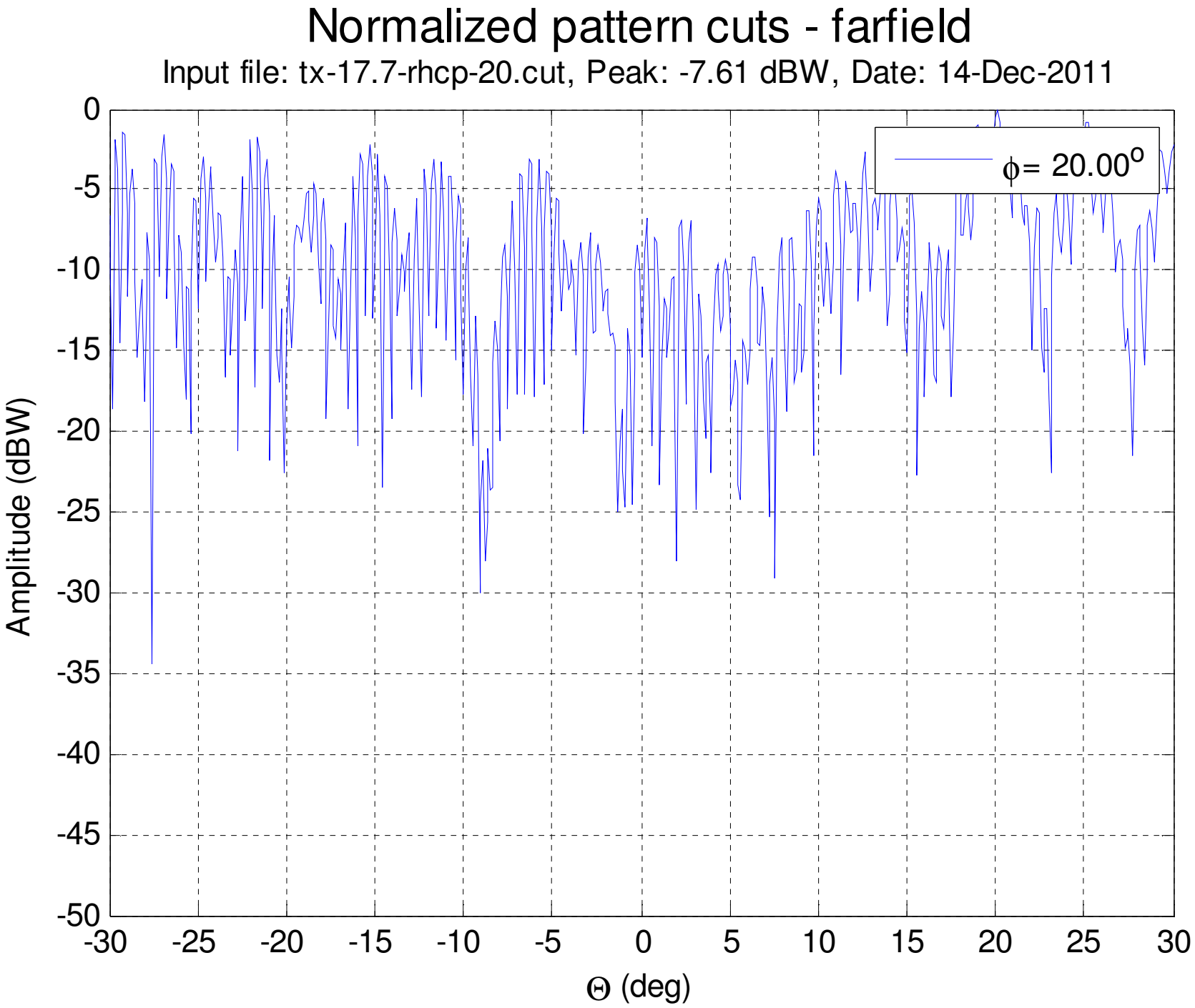

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -7.99 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

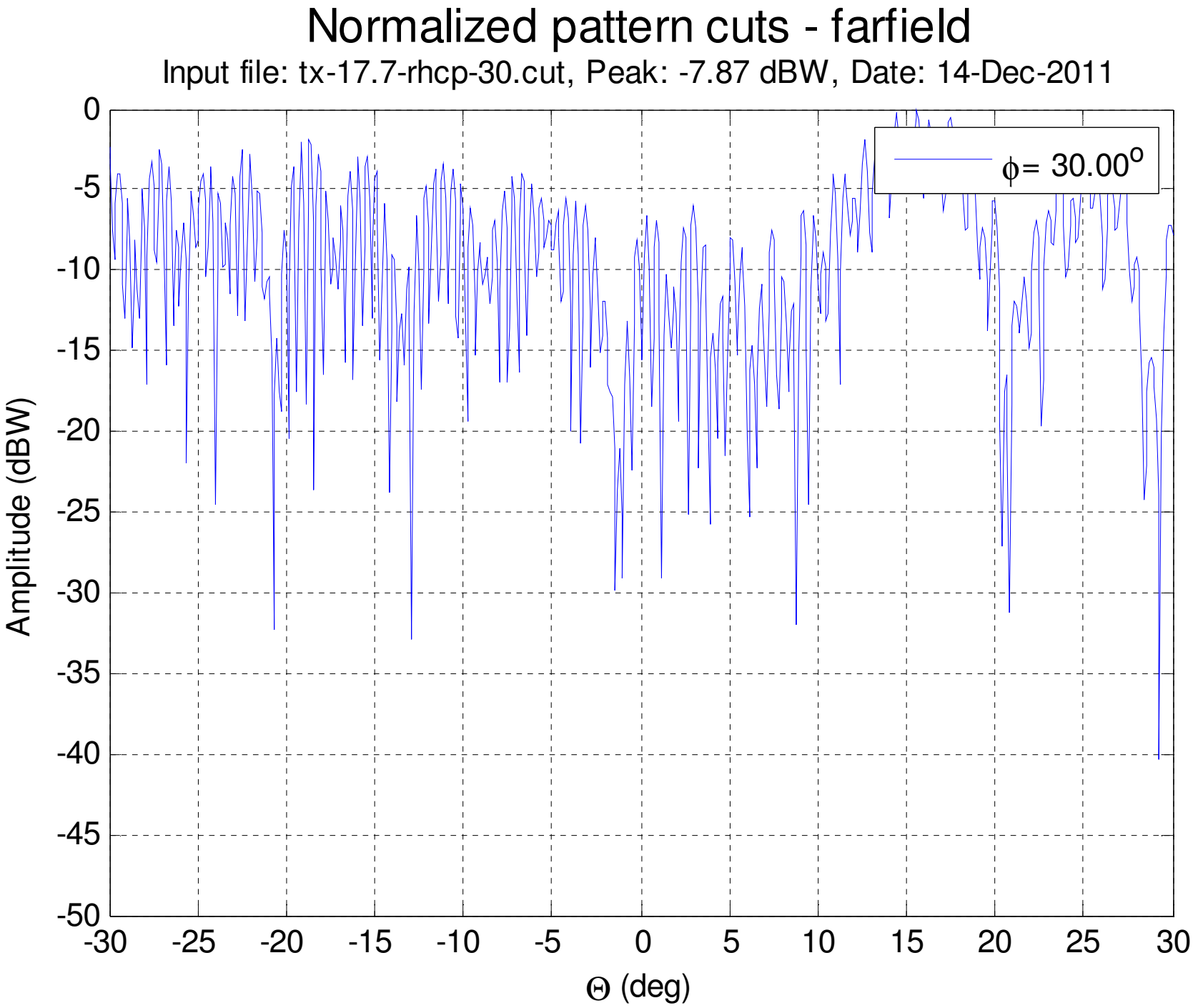

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -7.17 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

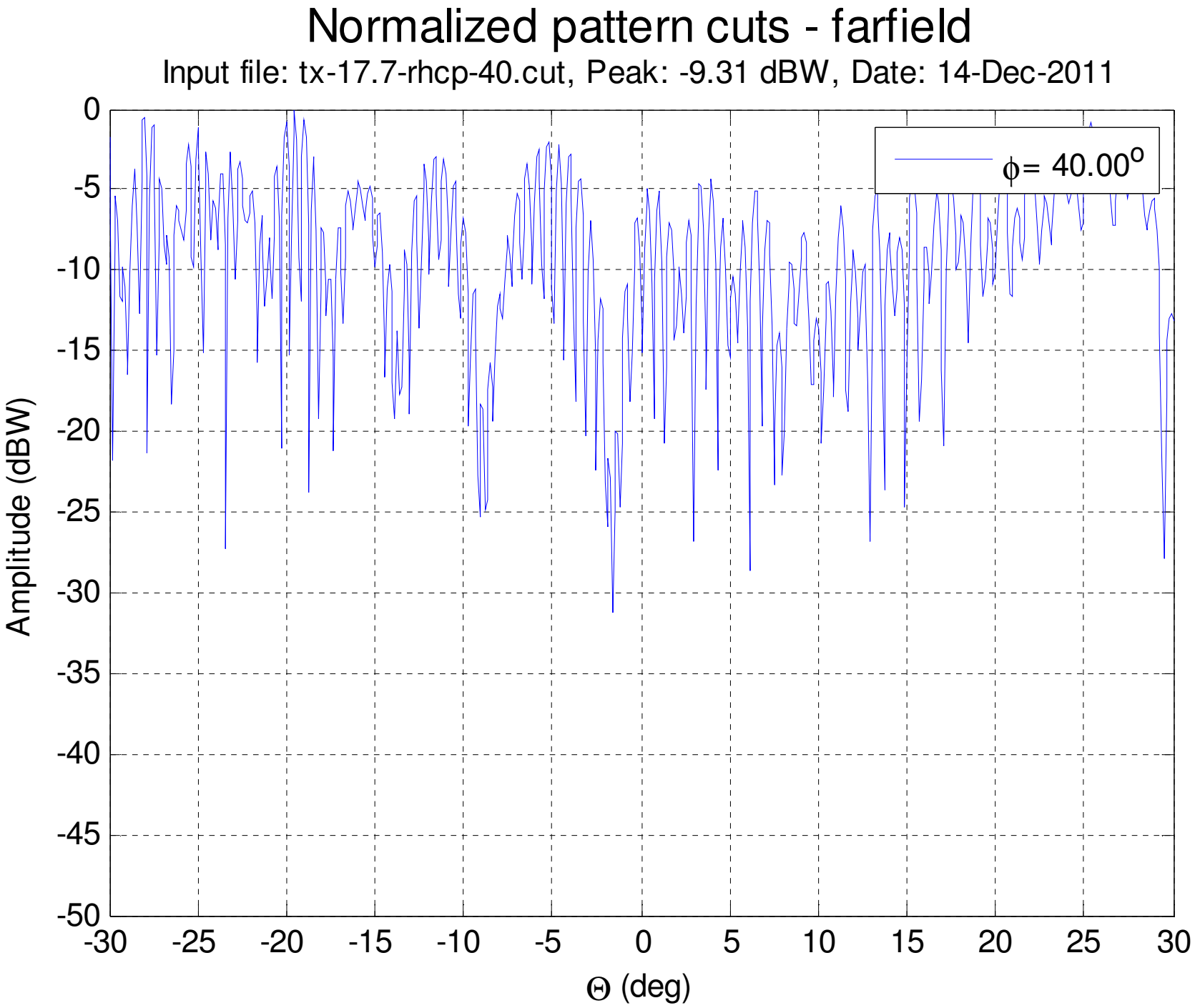

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -8.33 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

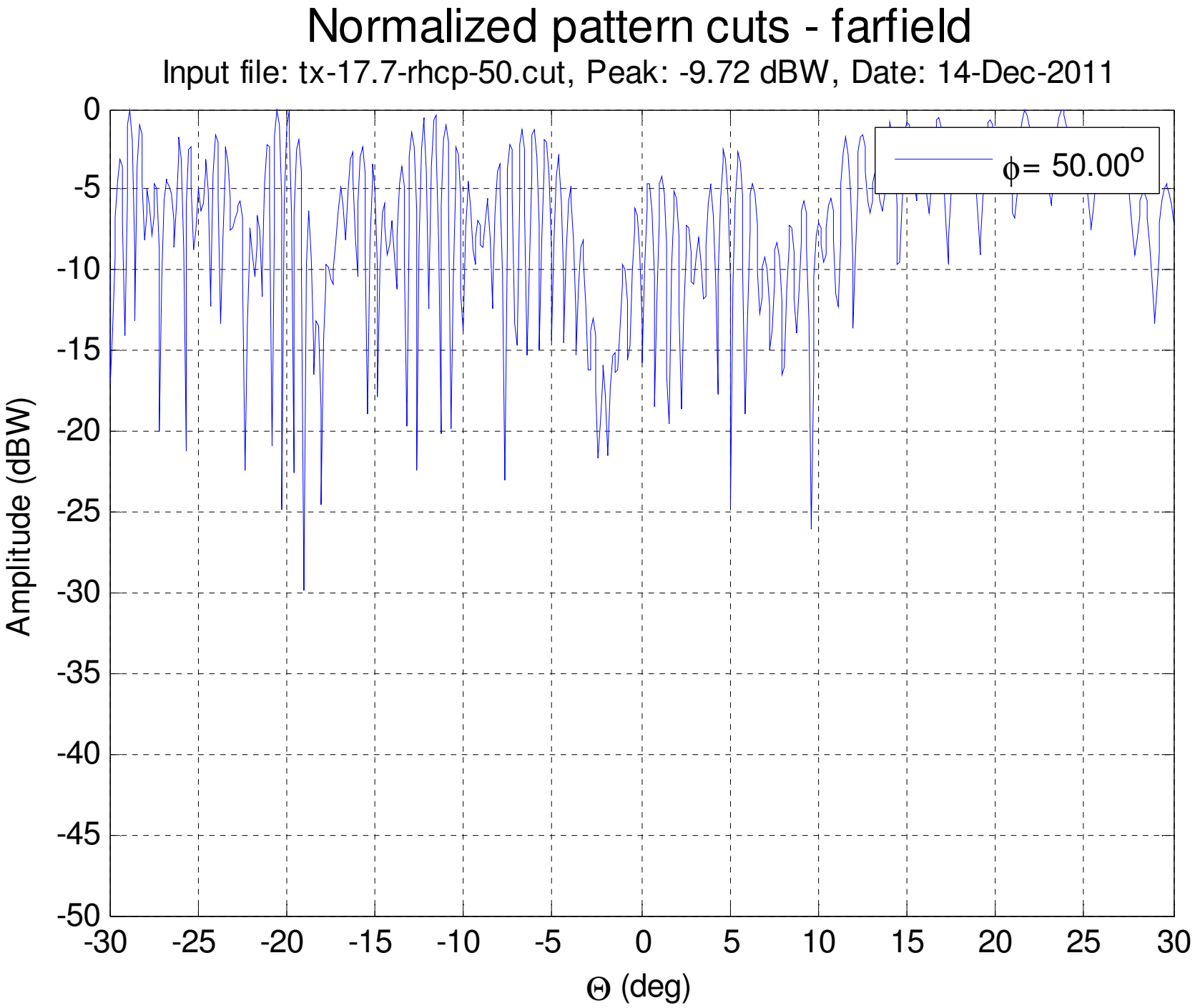

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -9.59 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

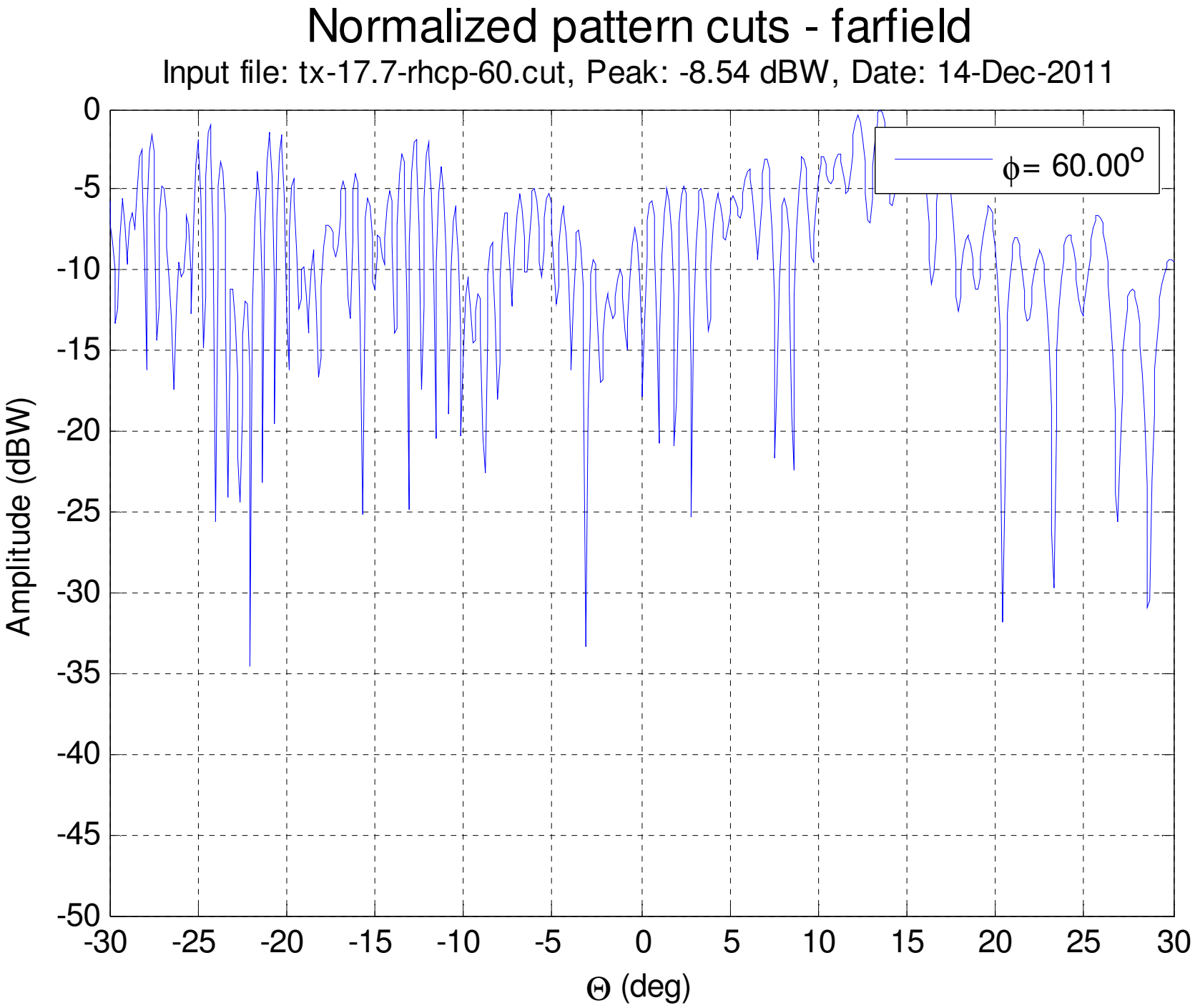

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -7.94 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -7.61 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

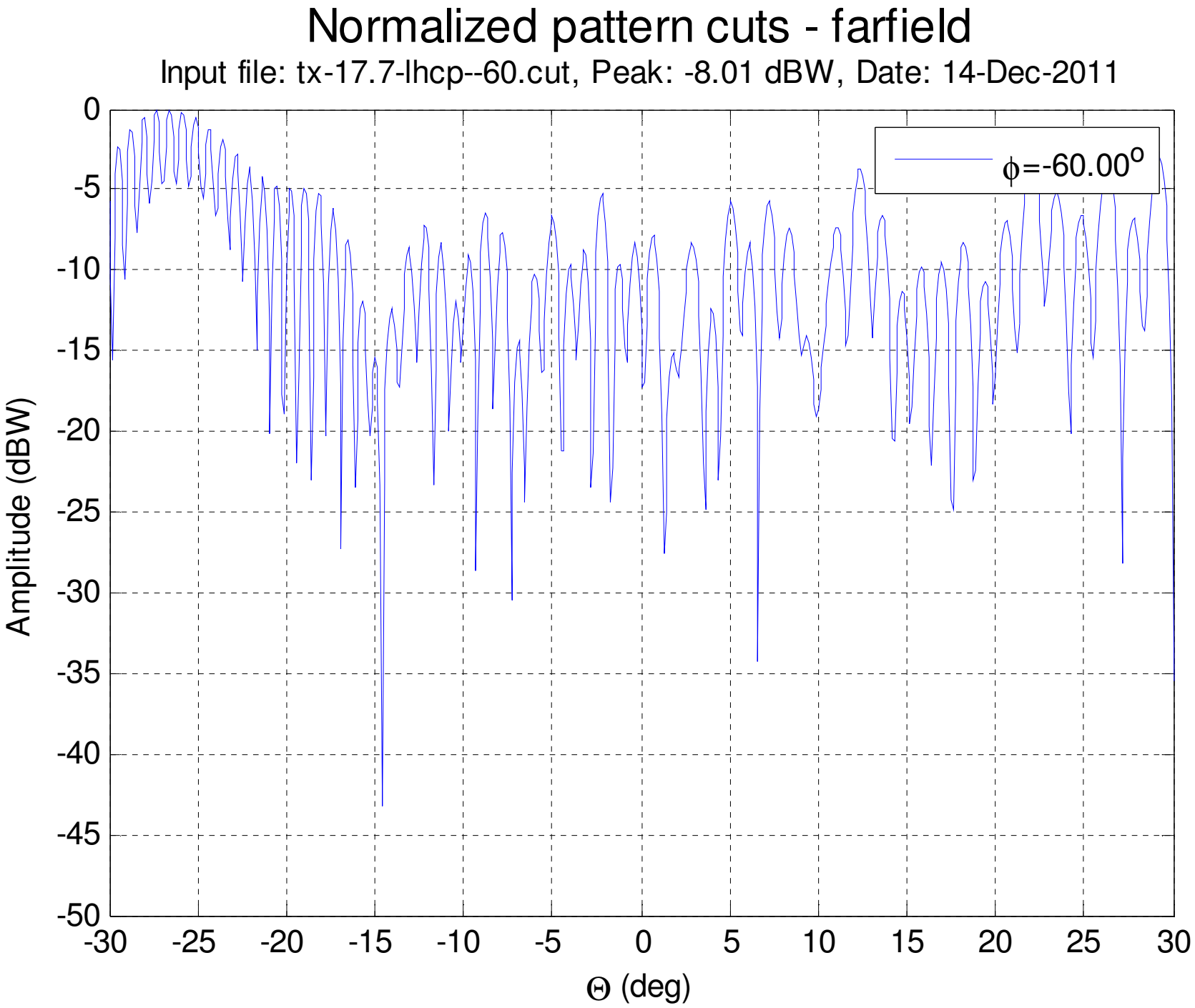

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -7.87 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 30.00°

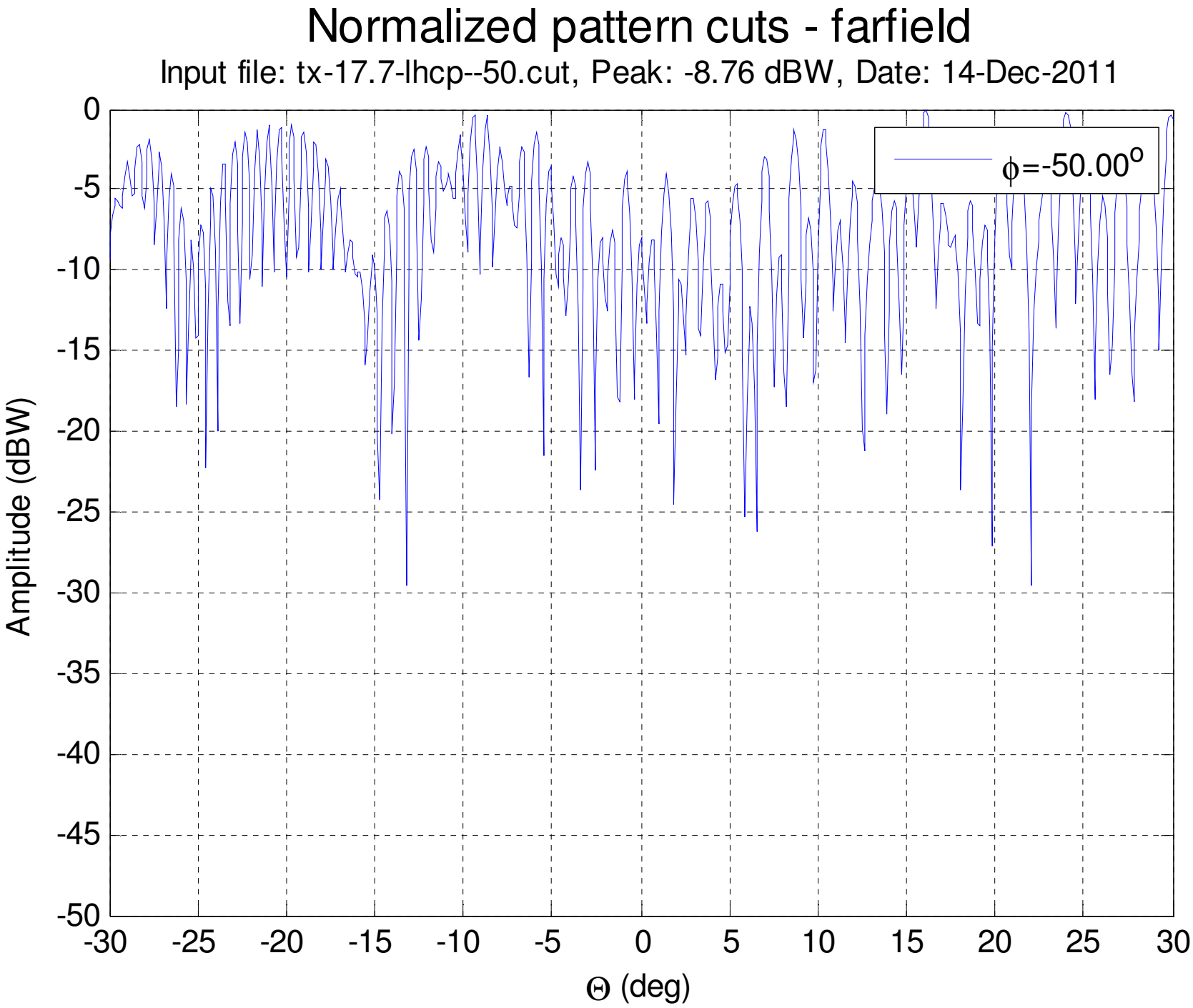

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -9.31 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

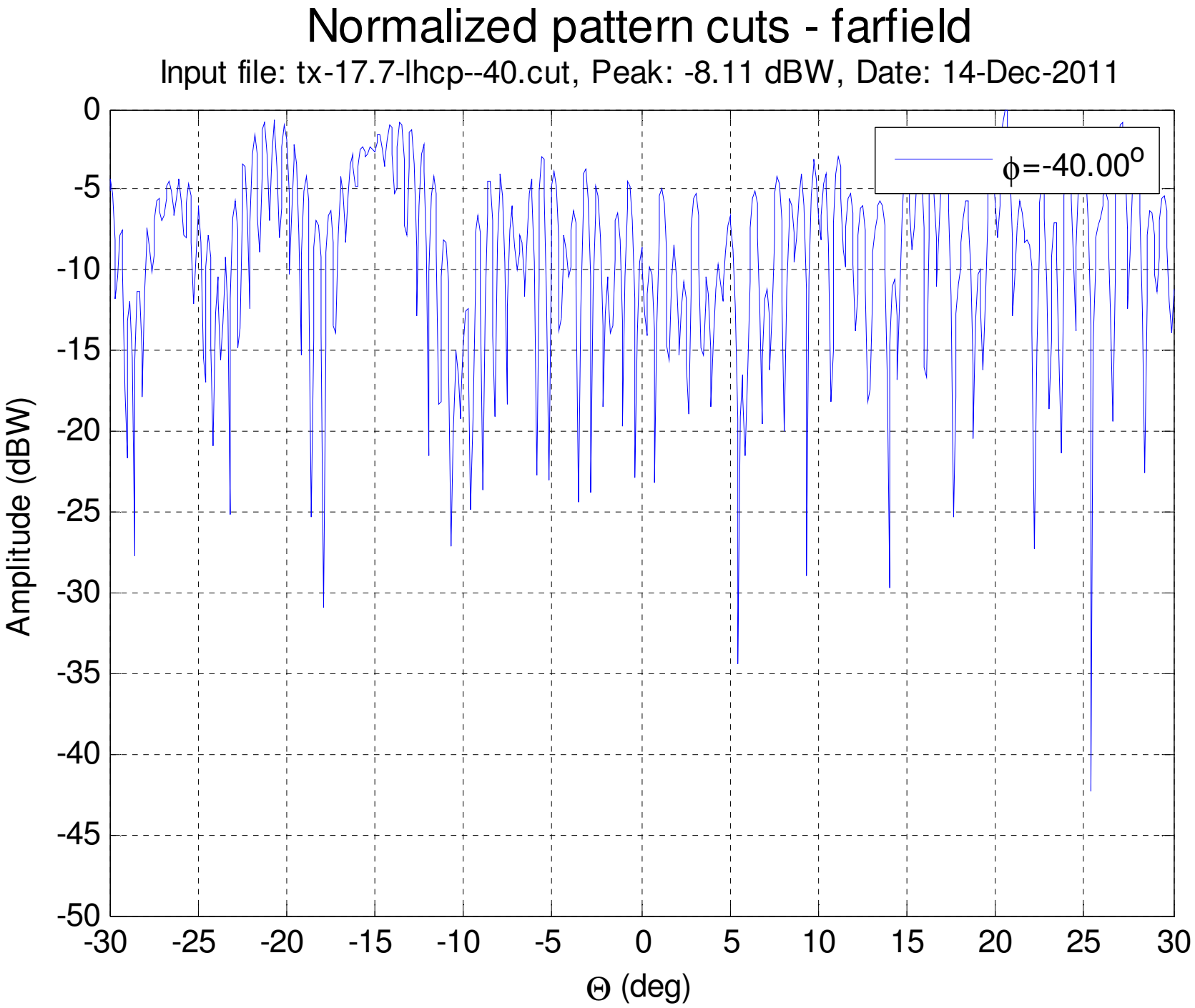

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -9.72 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

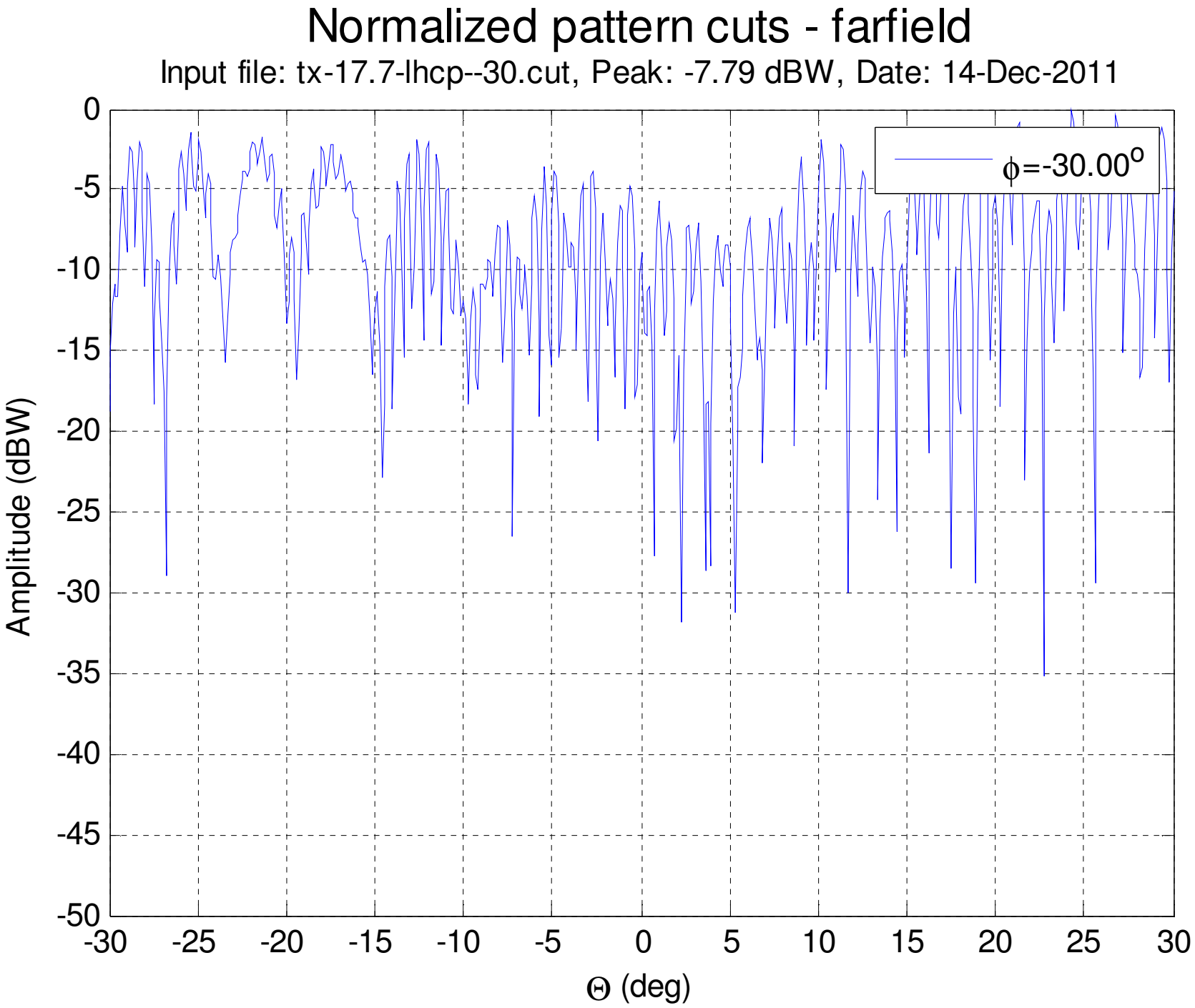

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -8.54 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

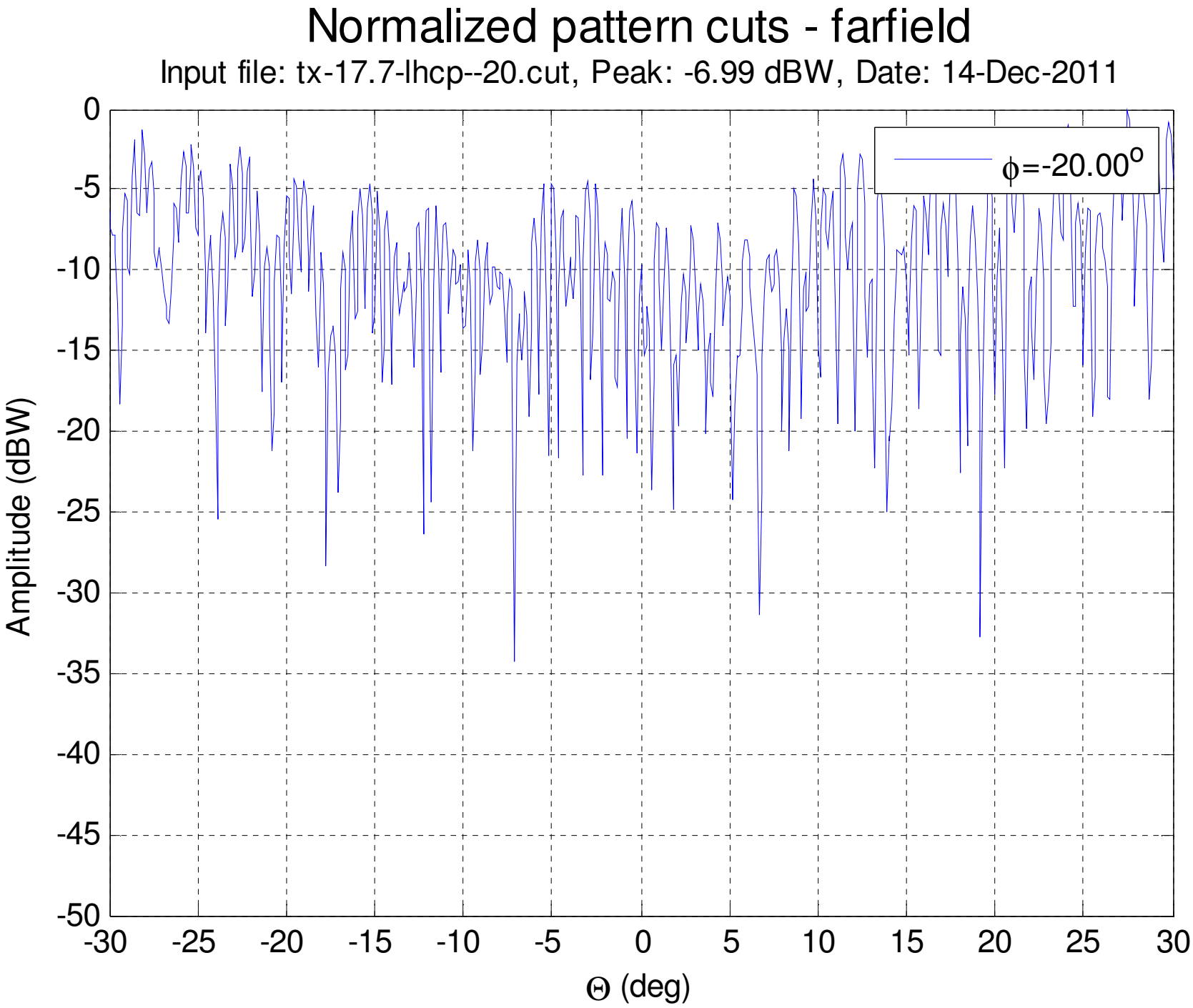
LHCP at 17.7 GHz

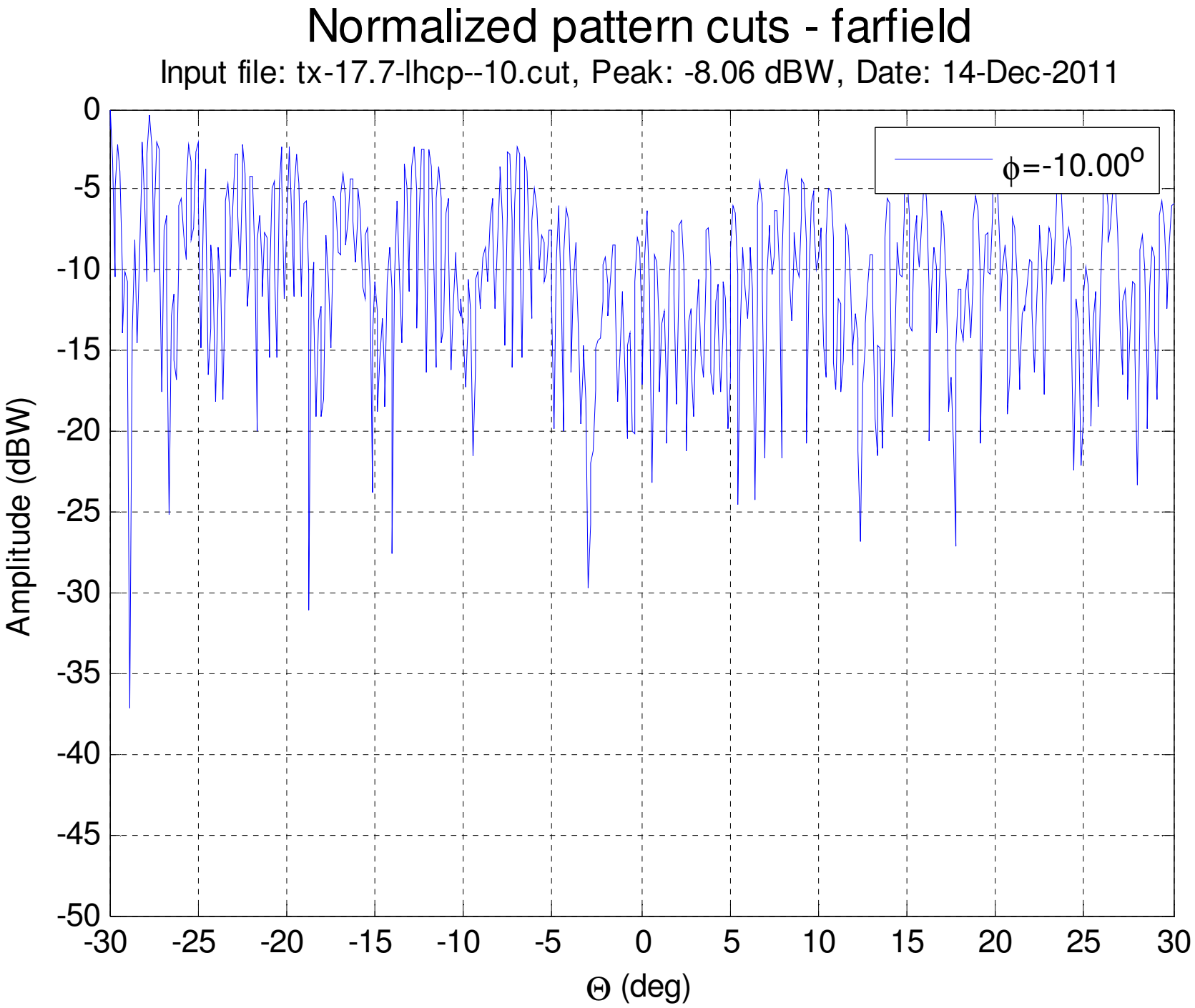

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.01 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

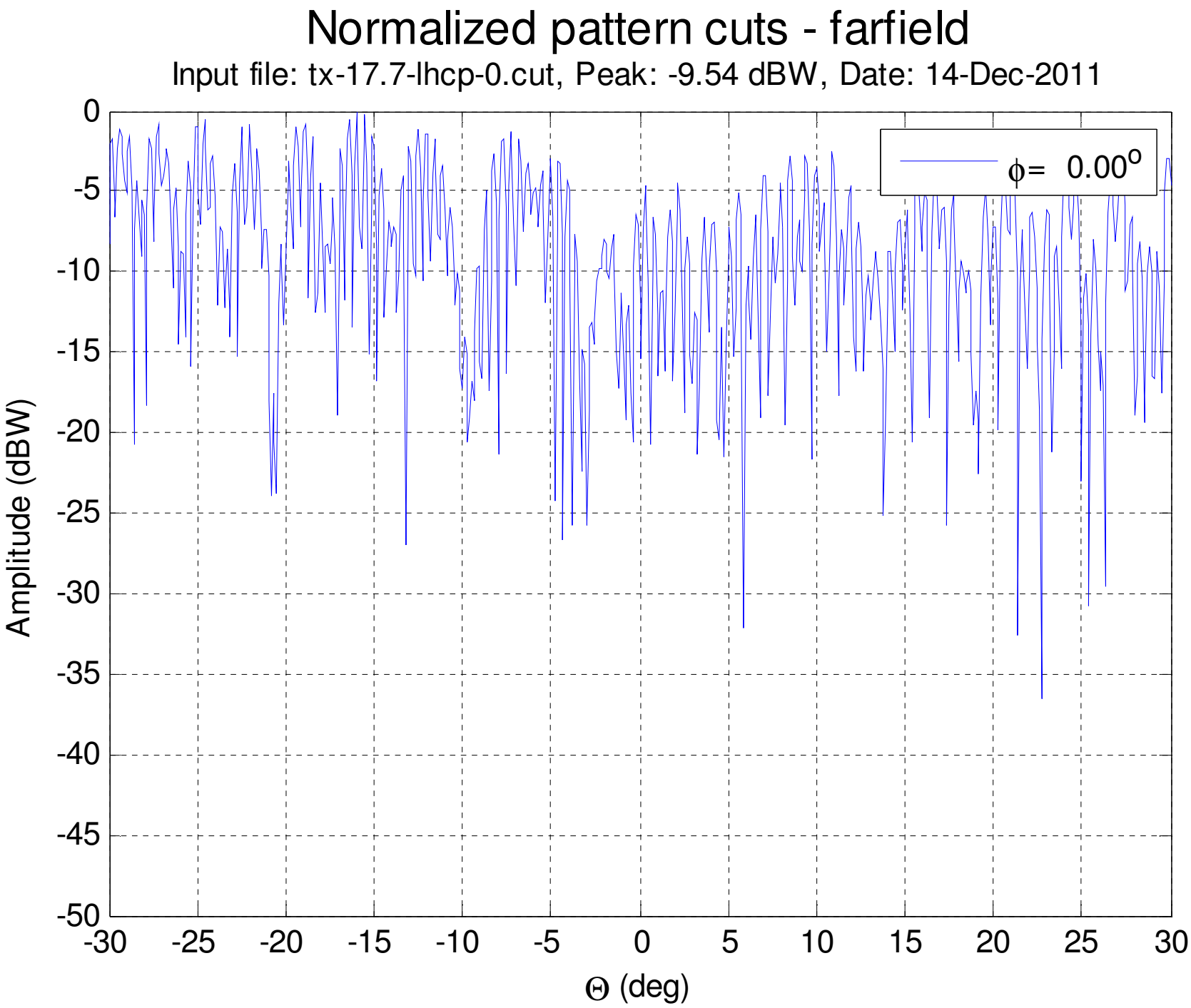

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -8.76 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

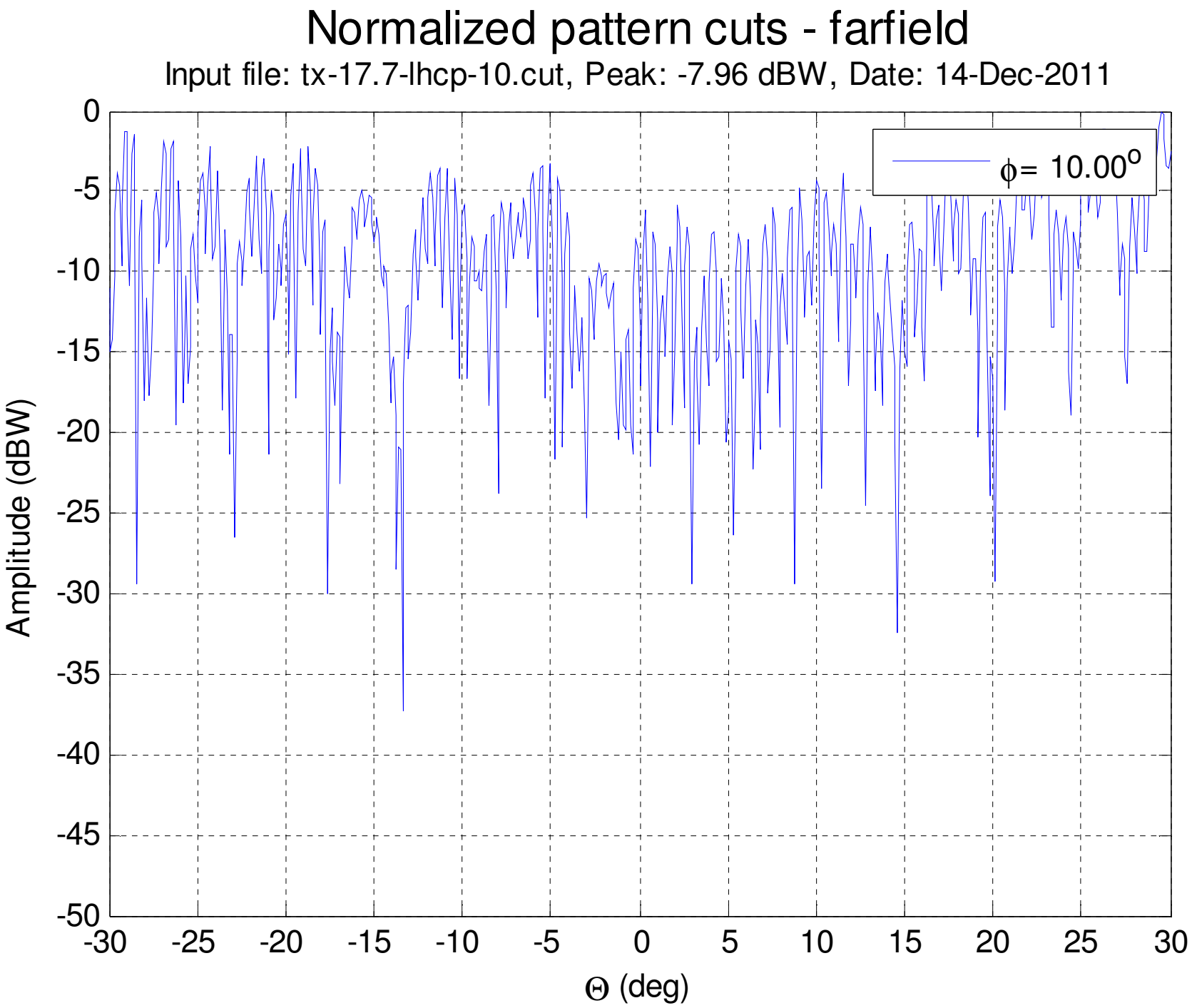

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.11 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

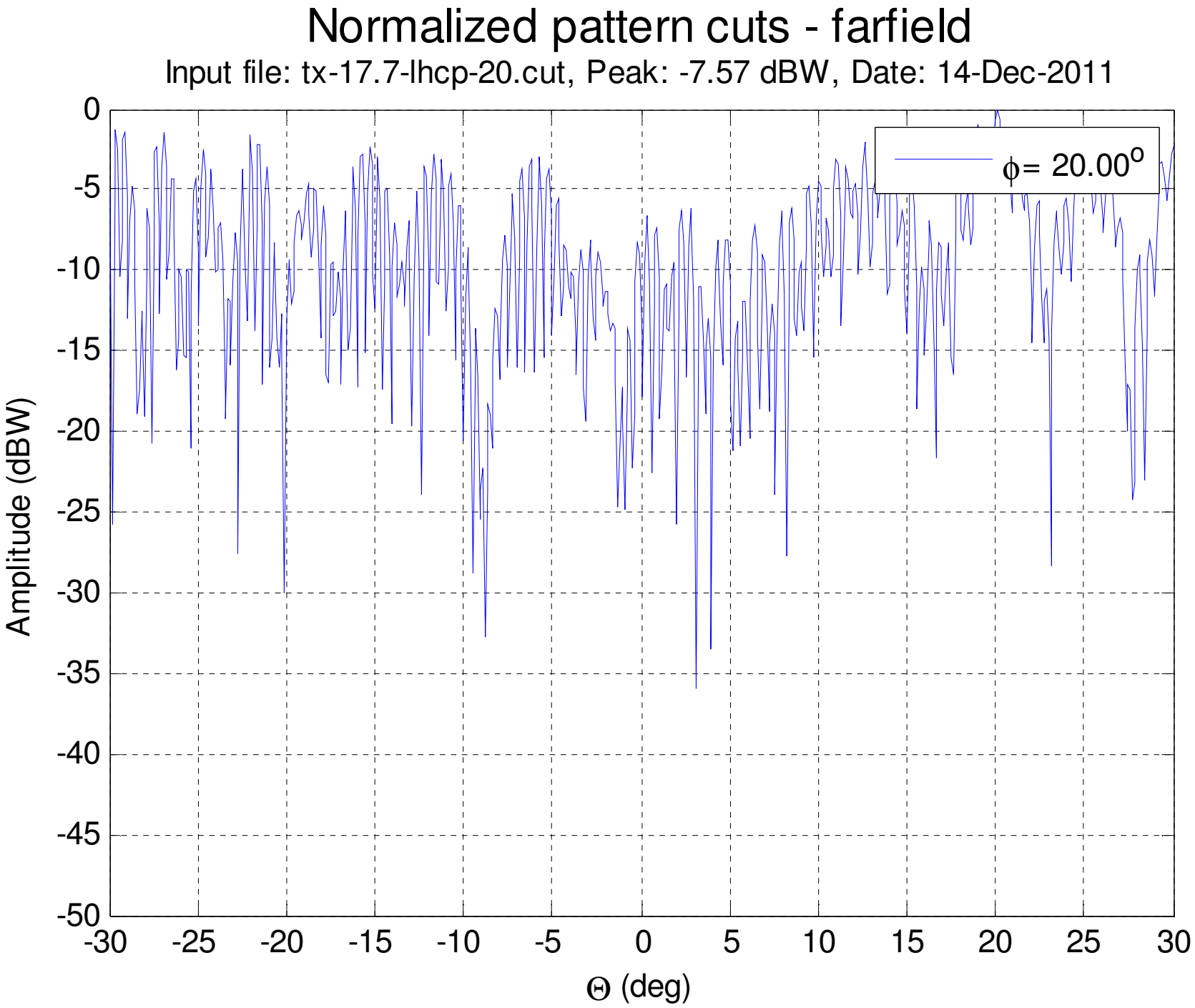

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -7.79 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

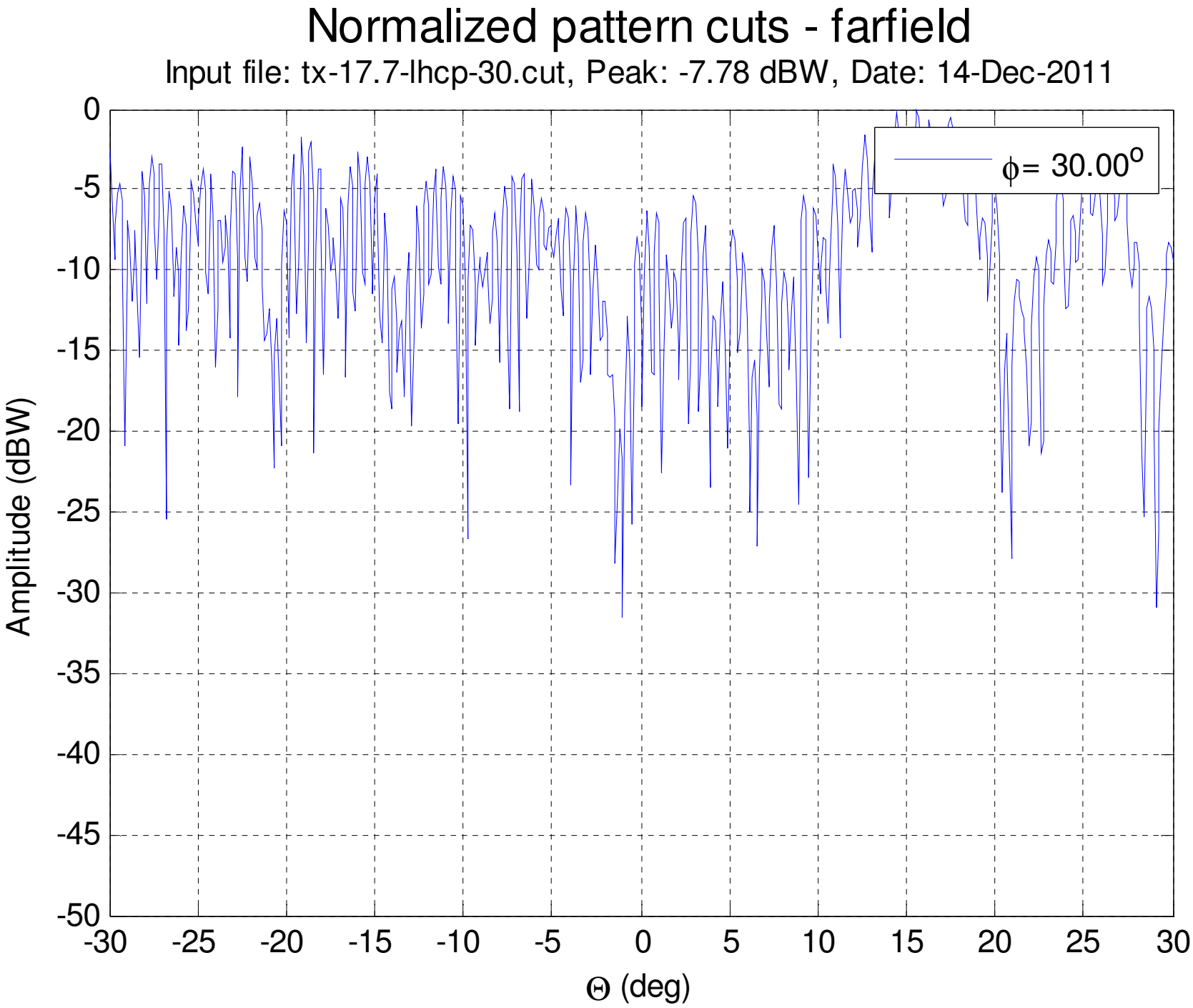

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -6.99 dBW, Date: 14-Dec-2011
φ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

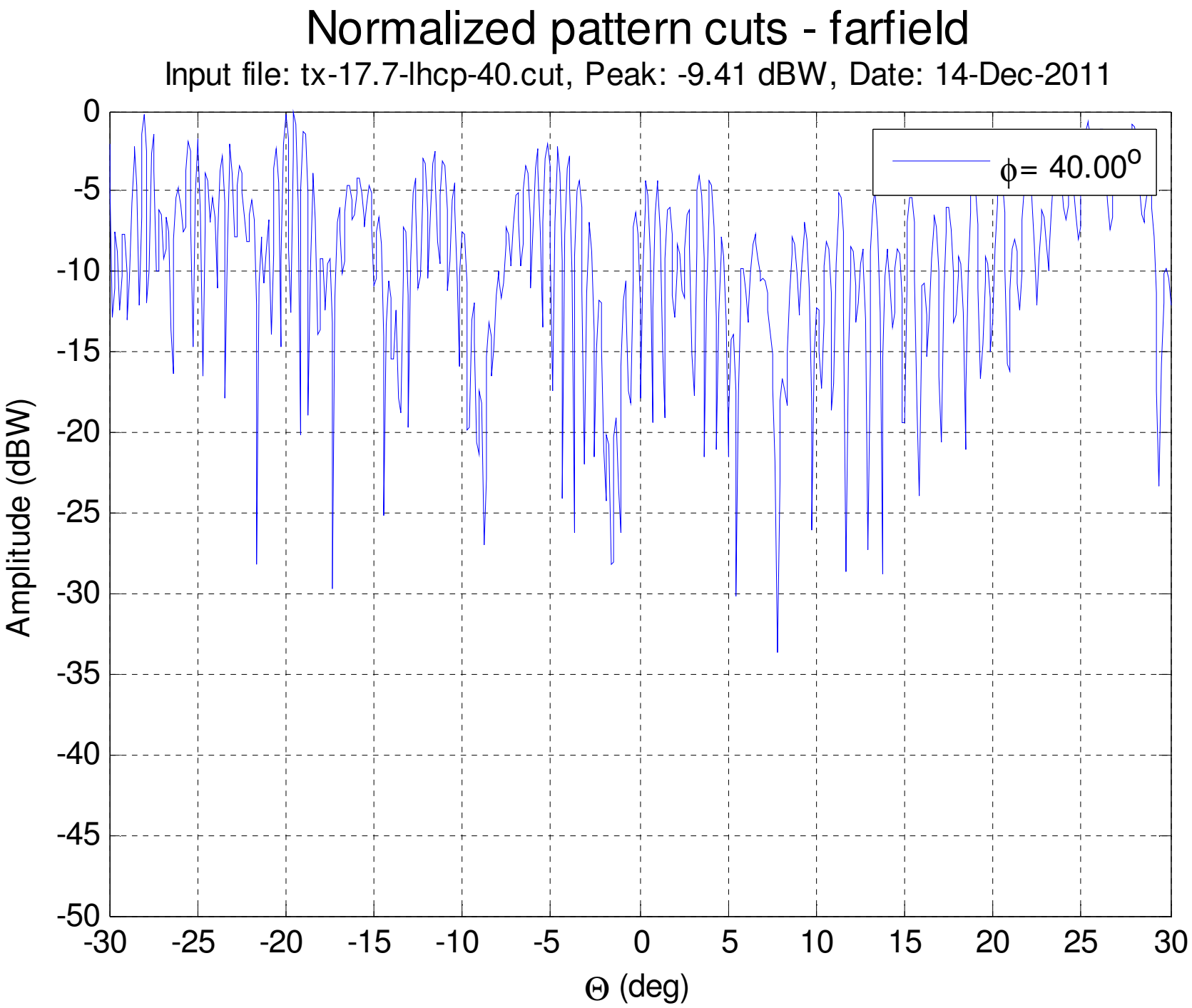

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -8.06 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

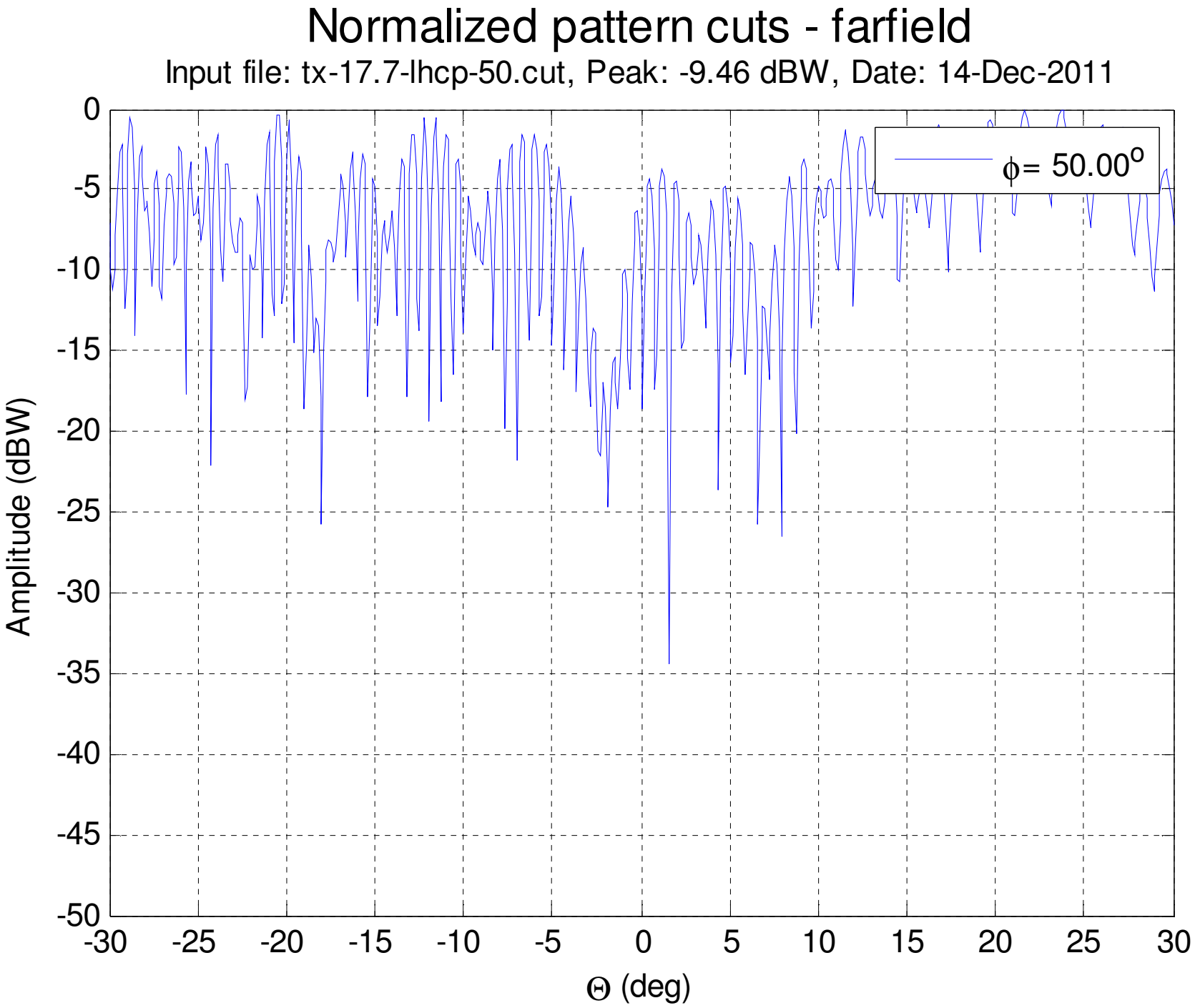

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -9.54 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

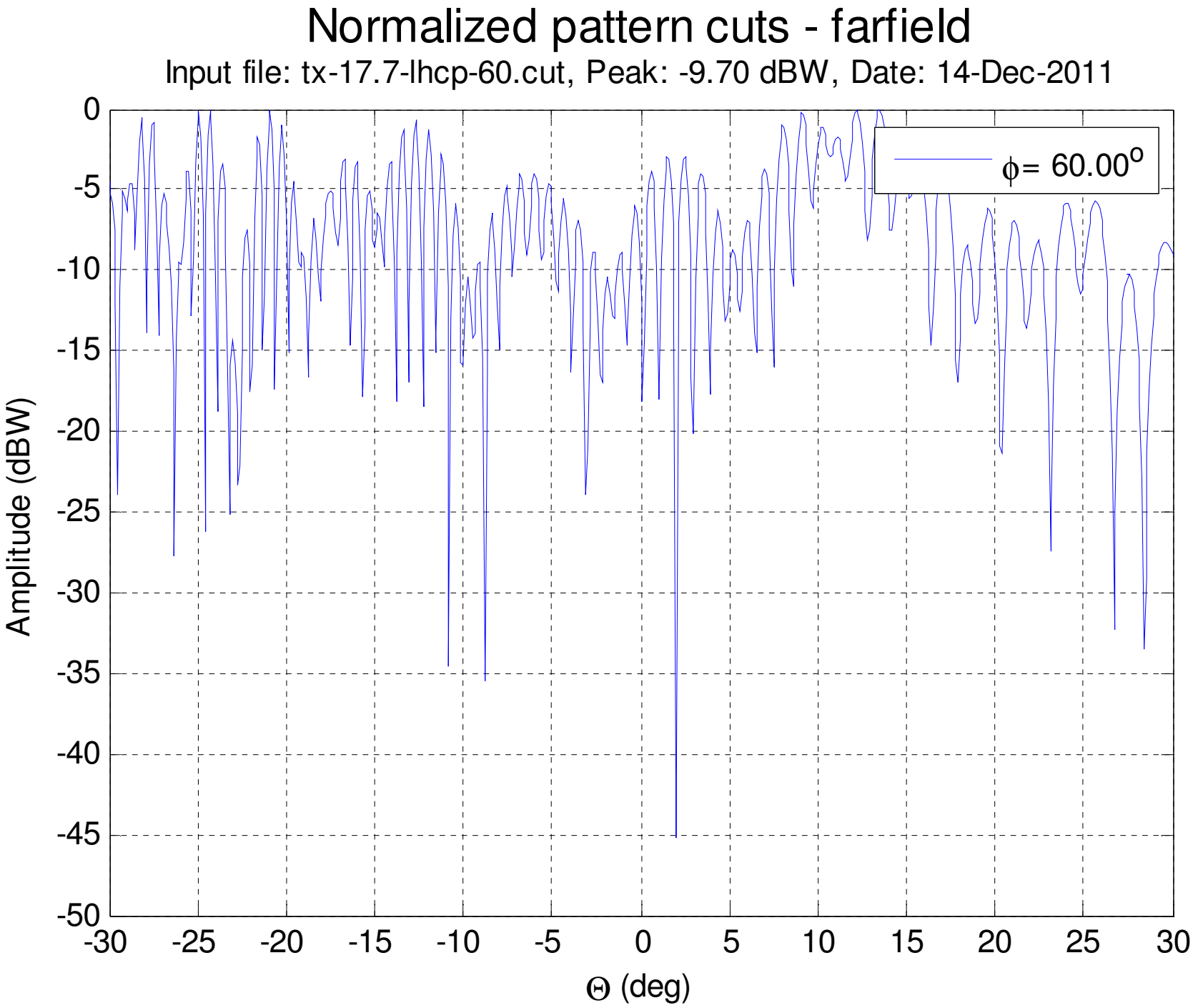

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -7.96 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -7.57 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -7.78 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -9.41 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -9.46 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -9.70 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

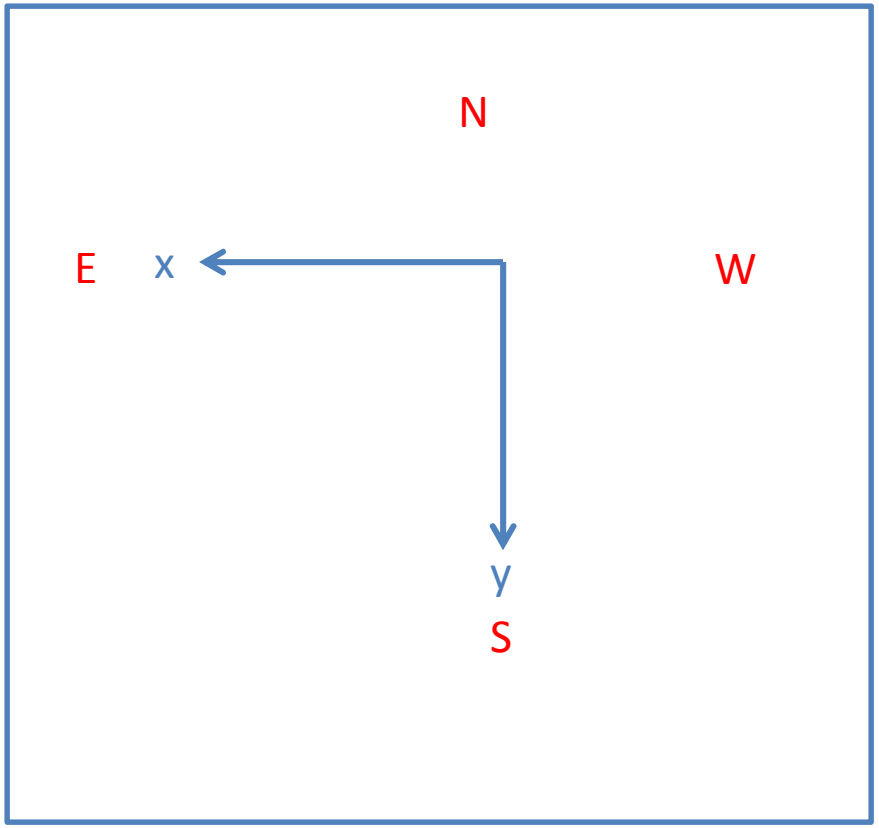
Updated: May 15, 2012

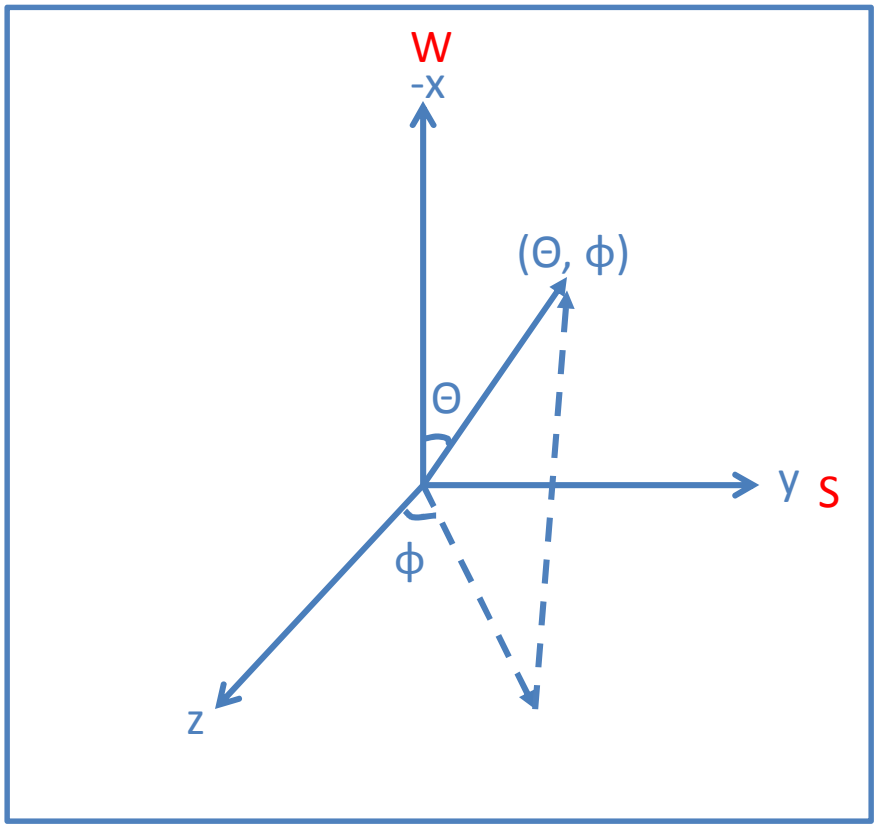
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 06

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

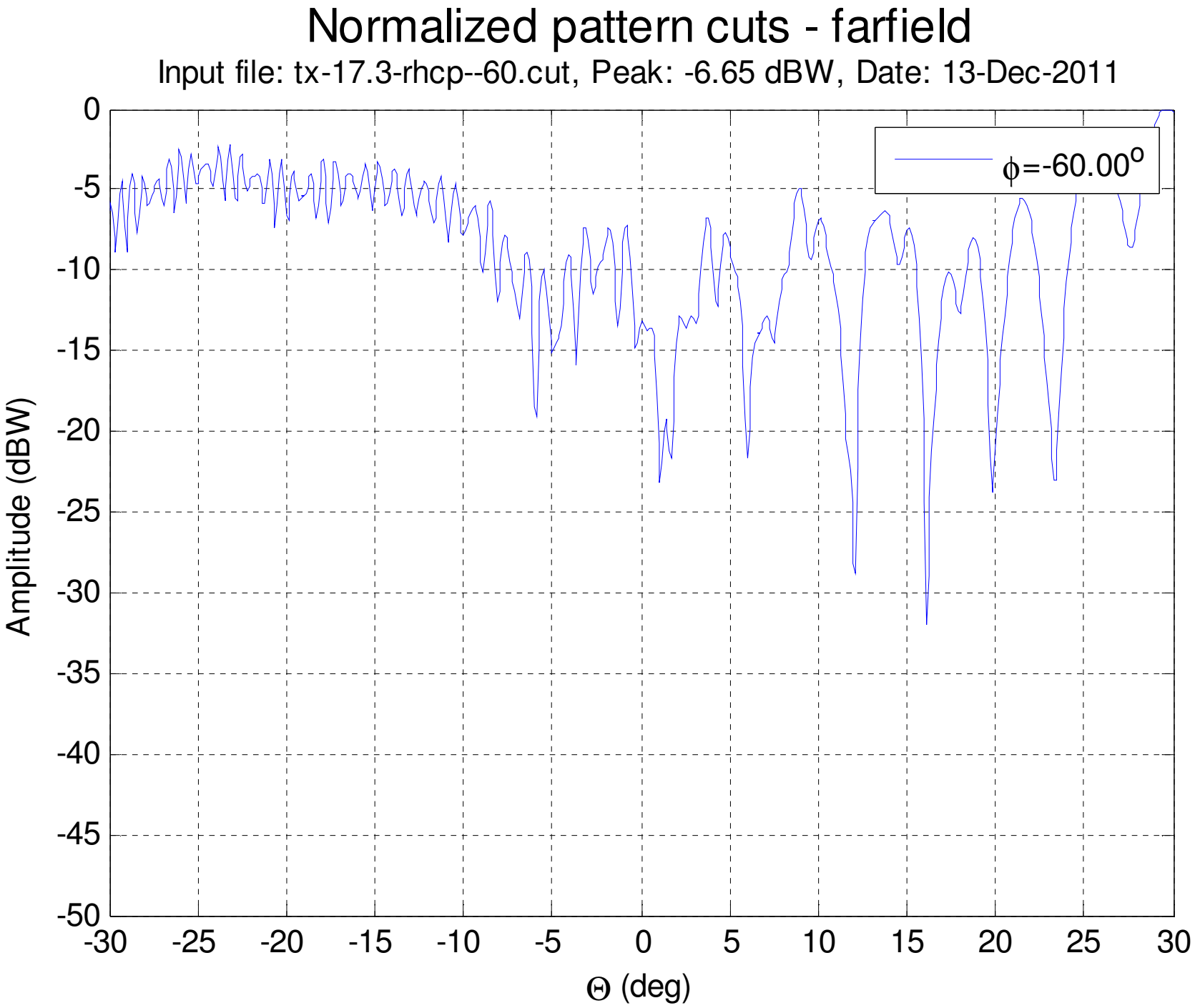


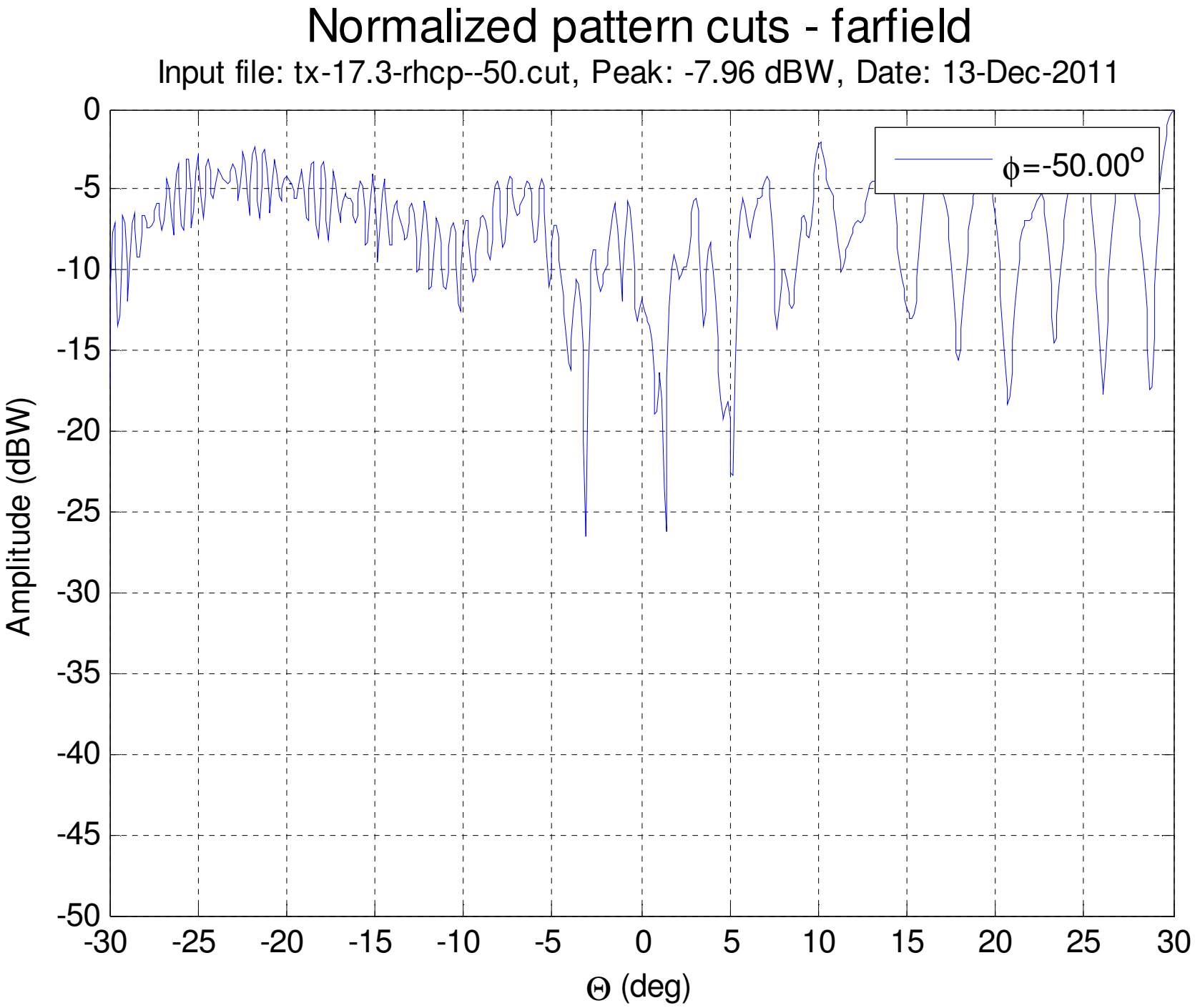


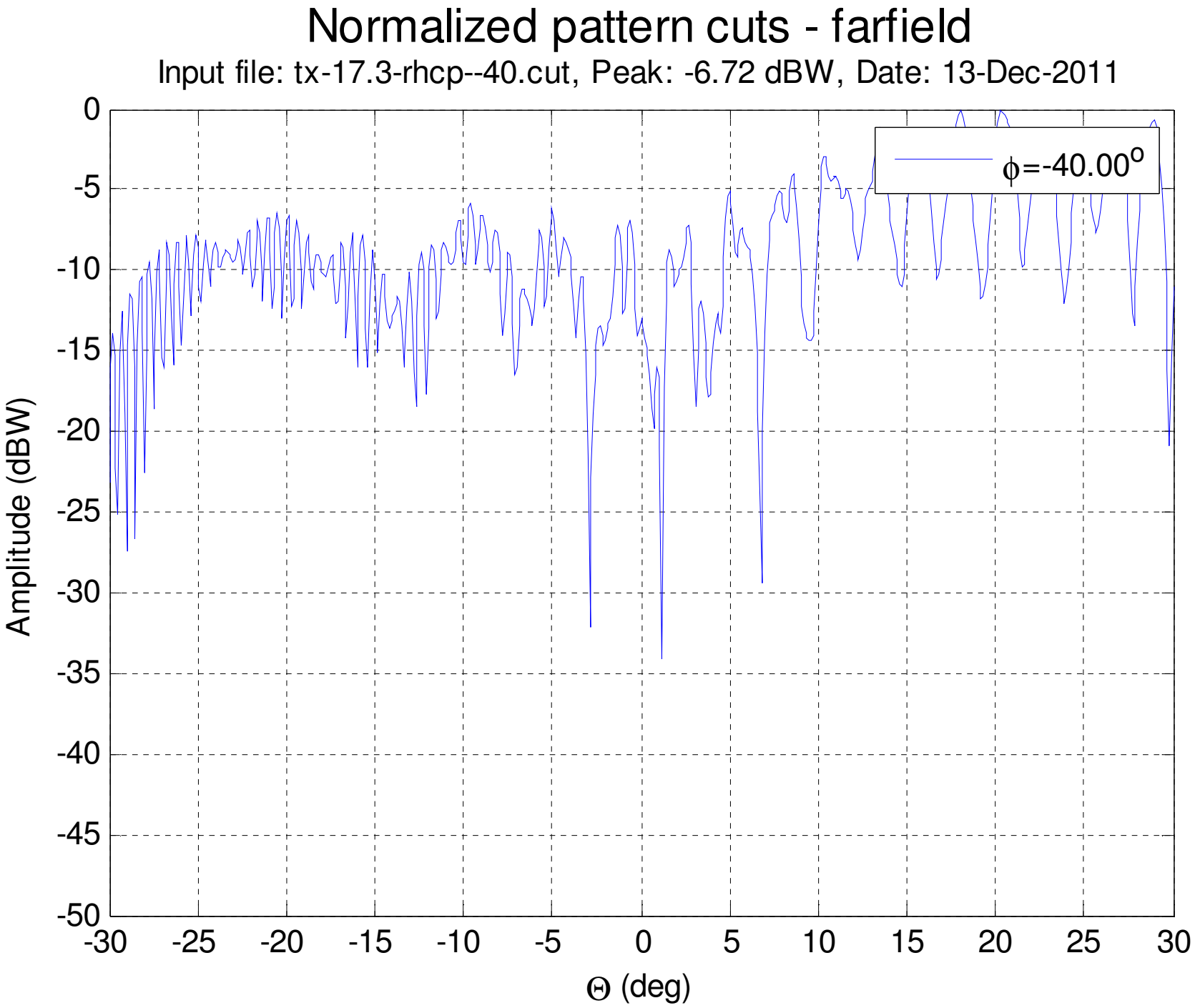
Spot Beam06, -X Axis Plots

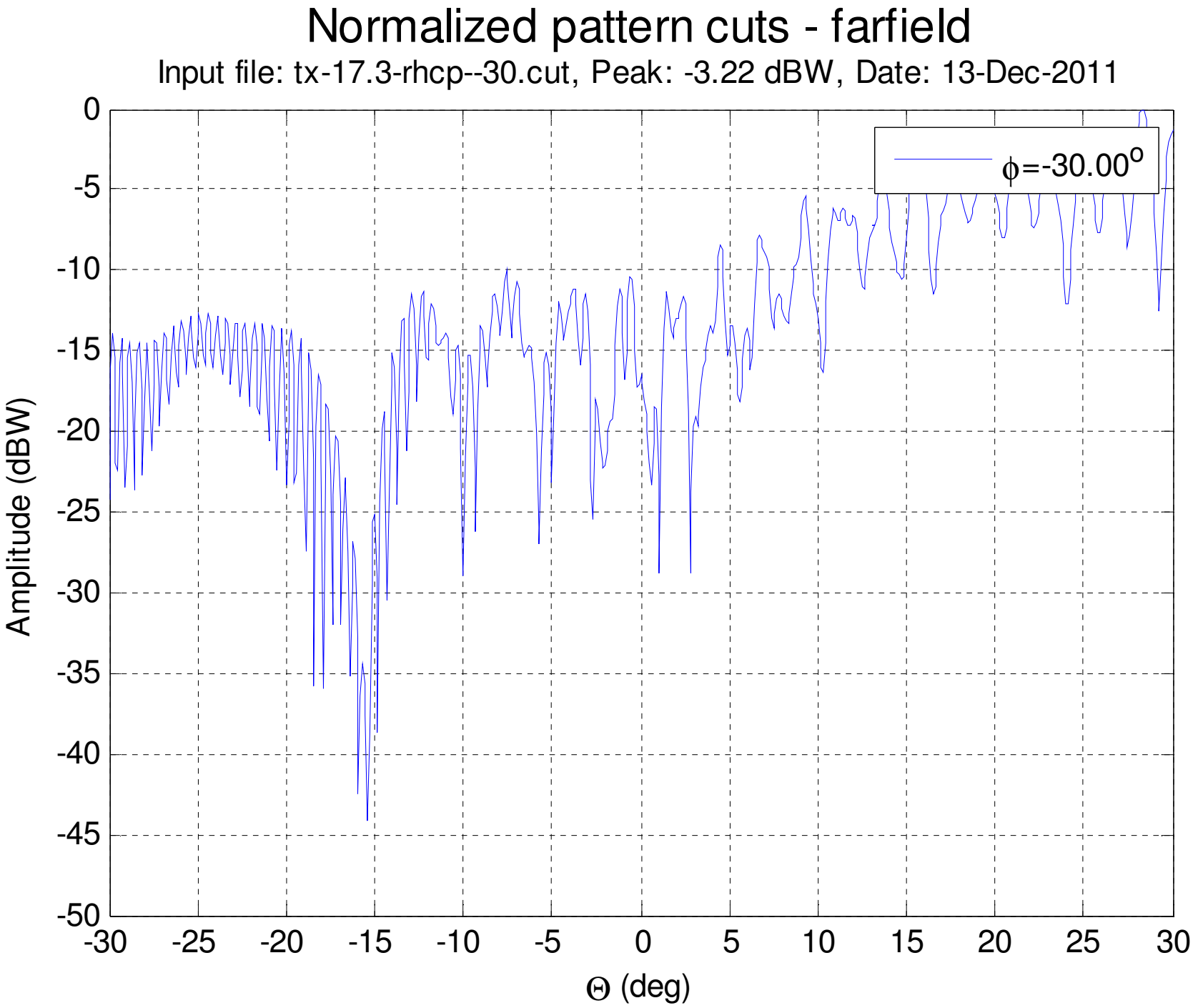
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

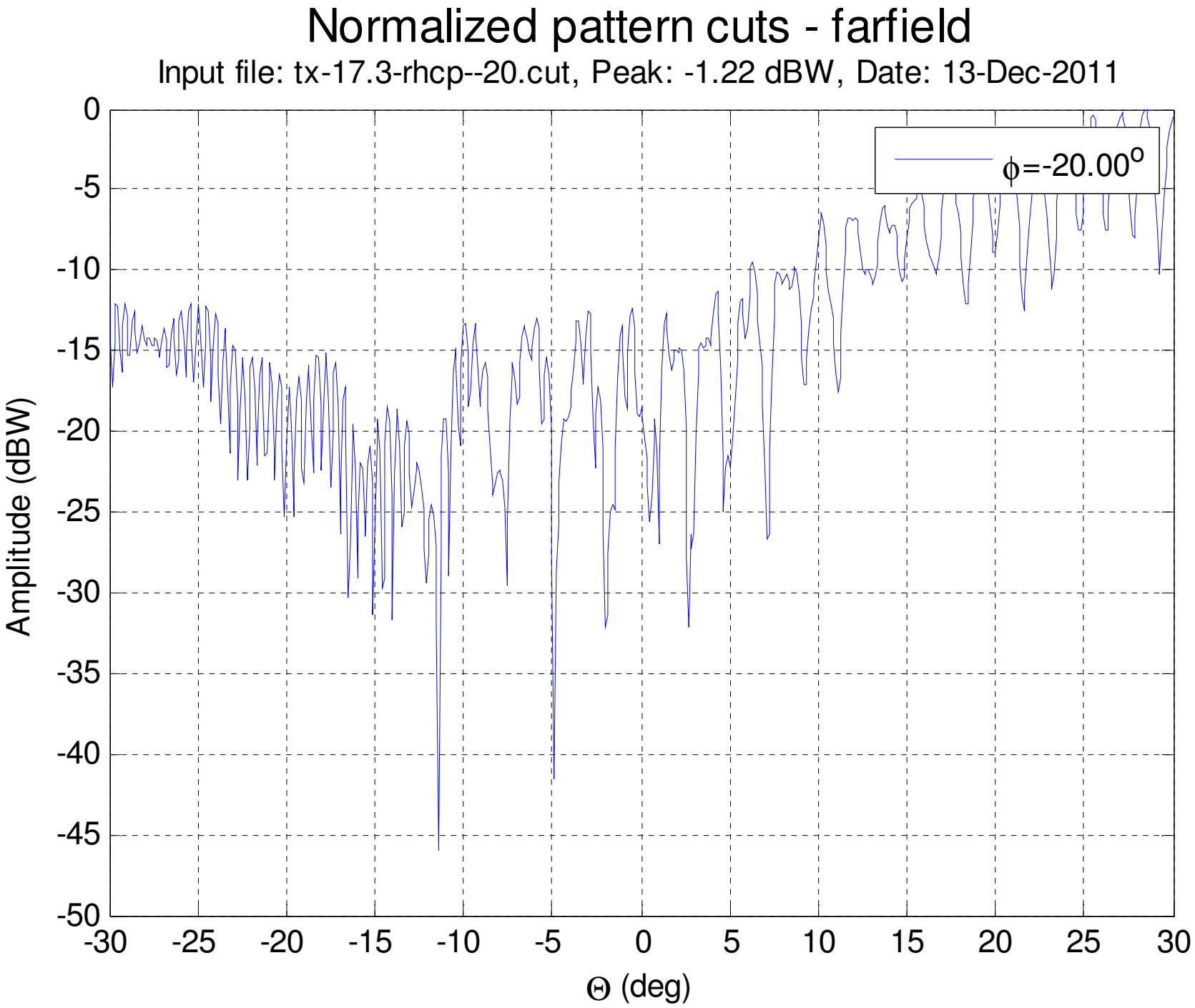
RHCP at 17.3 GHz

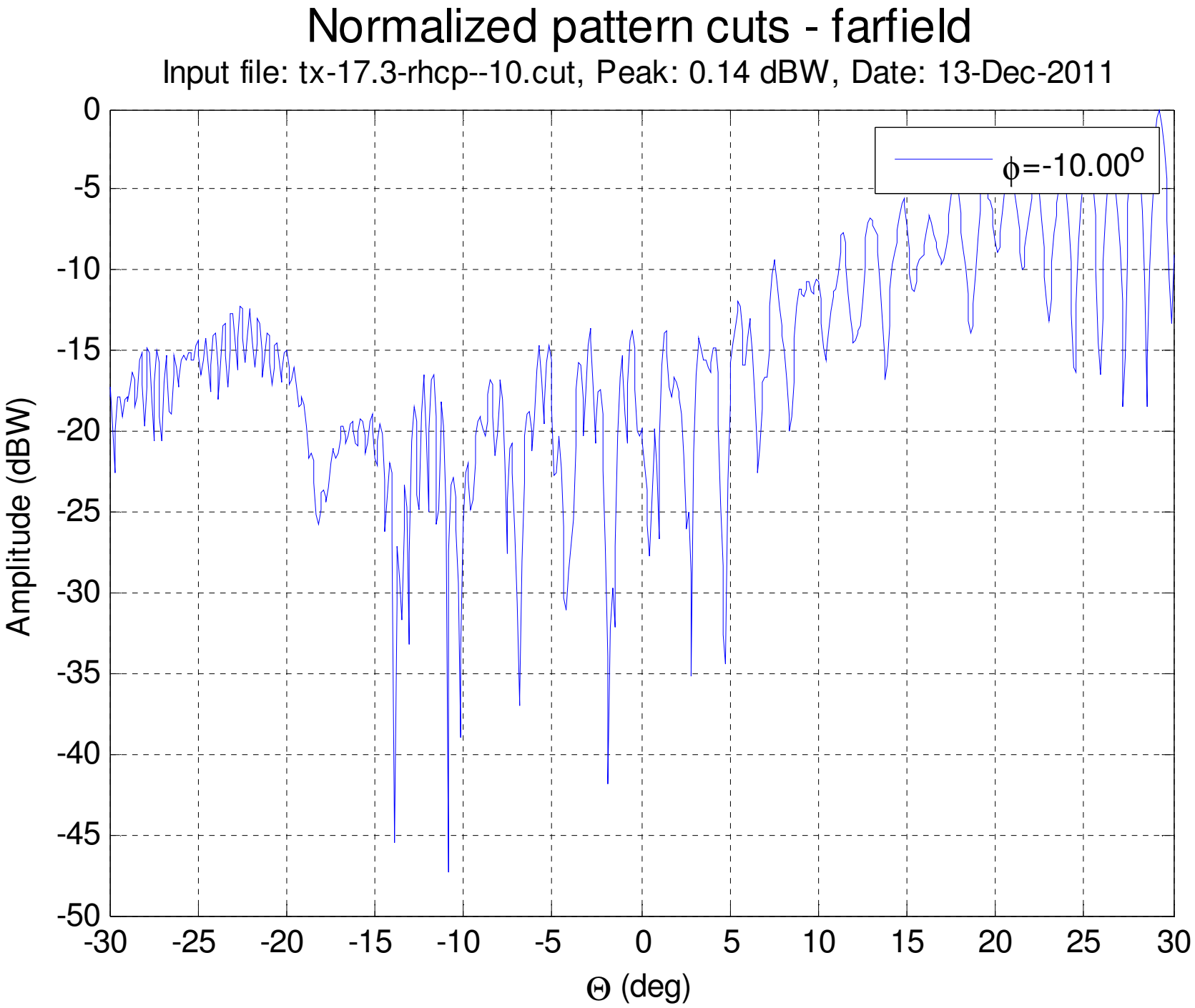

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -6.65 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

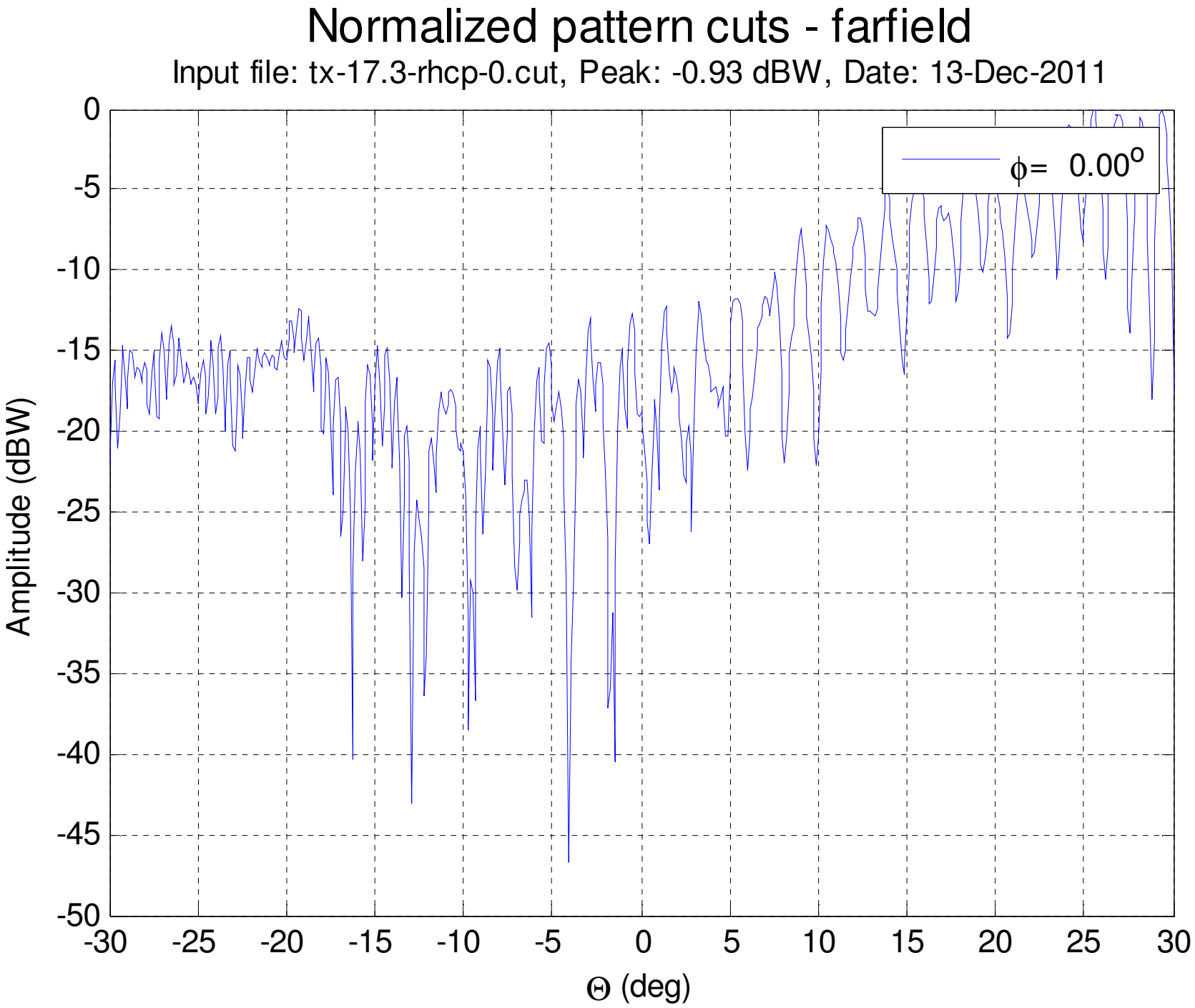

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -7.96 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

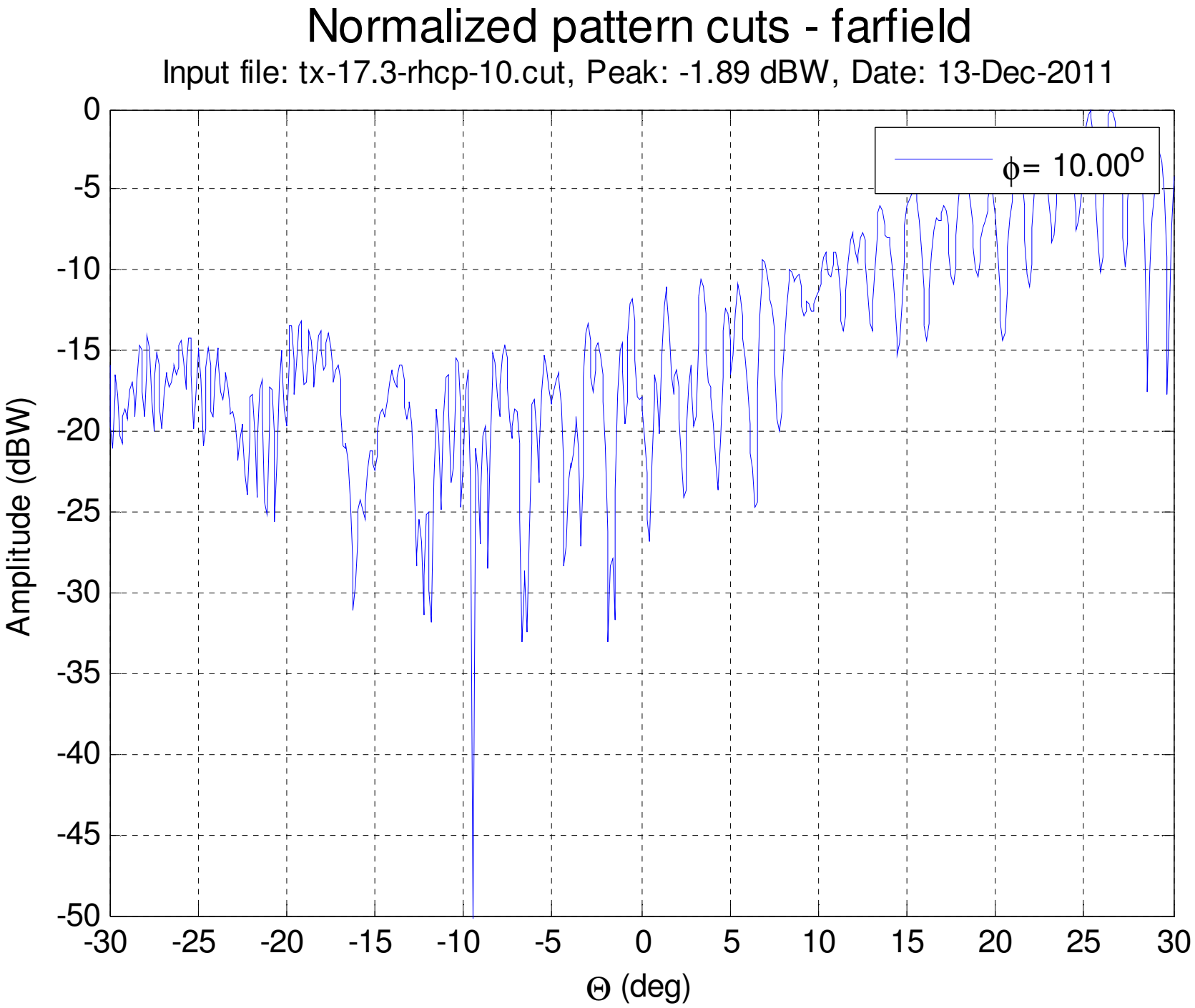

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -6.72 dBW, Date: 13-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

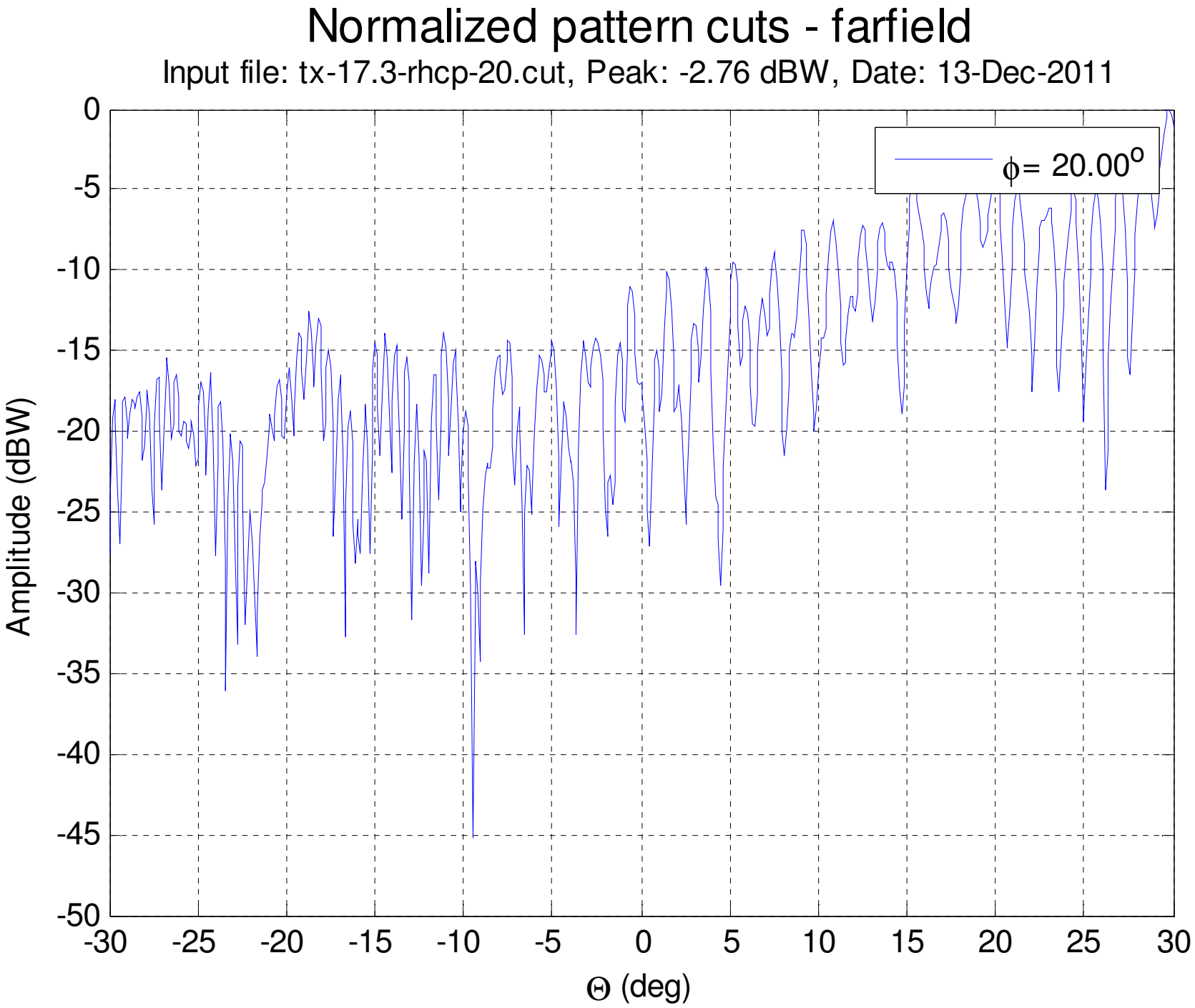

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -3.22 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

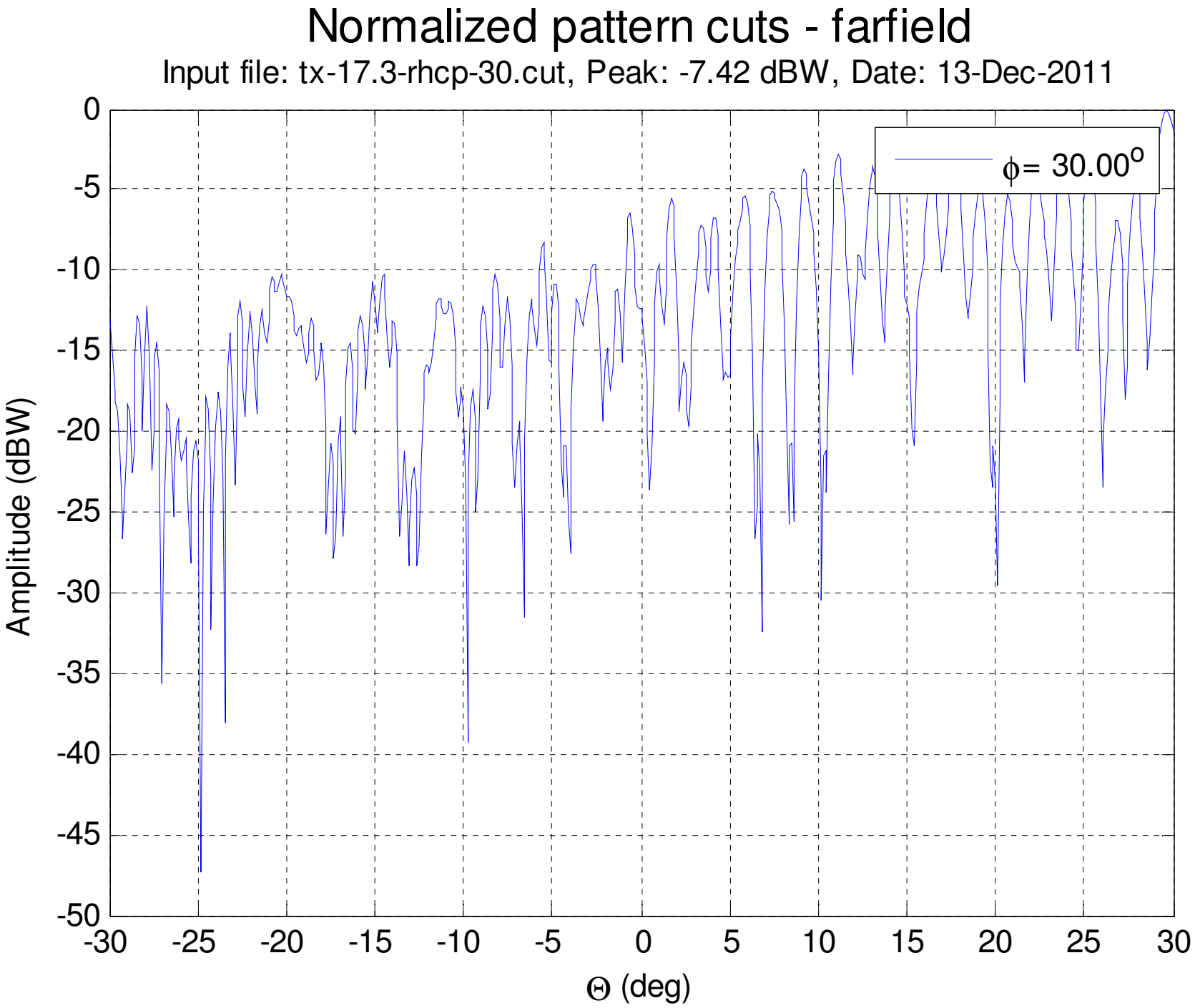

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -1.22 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

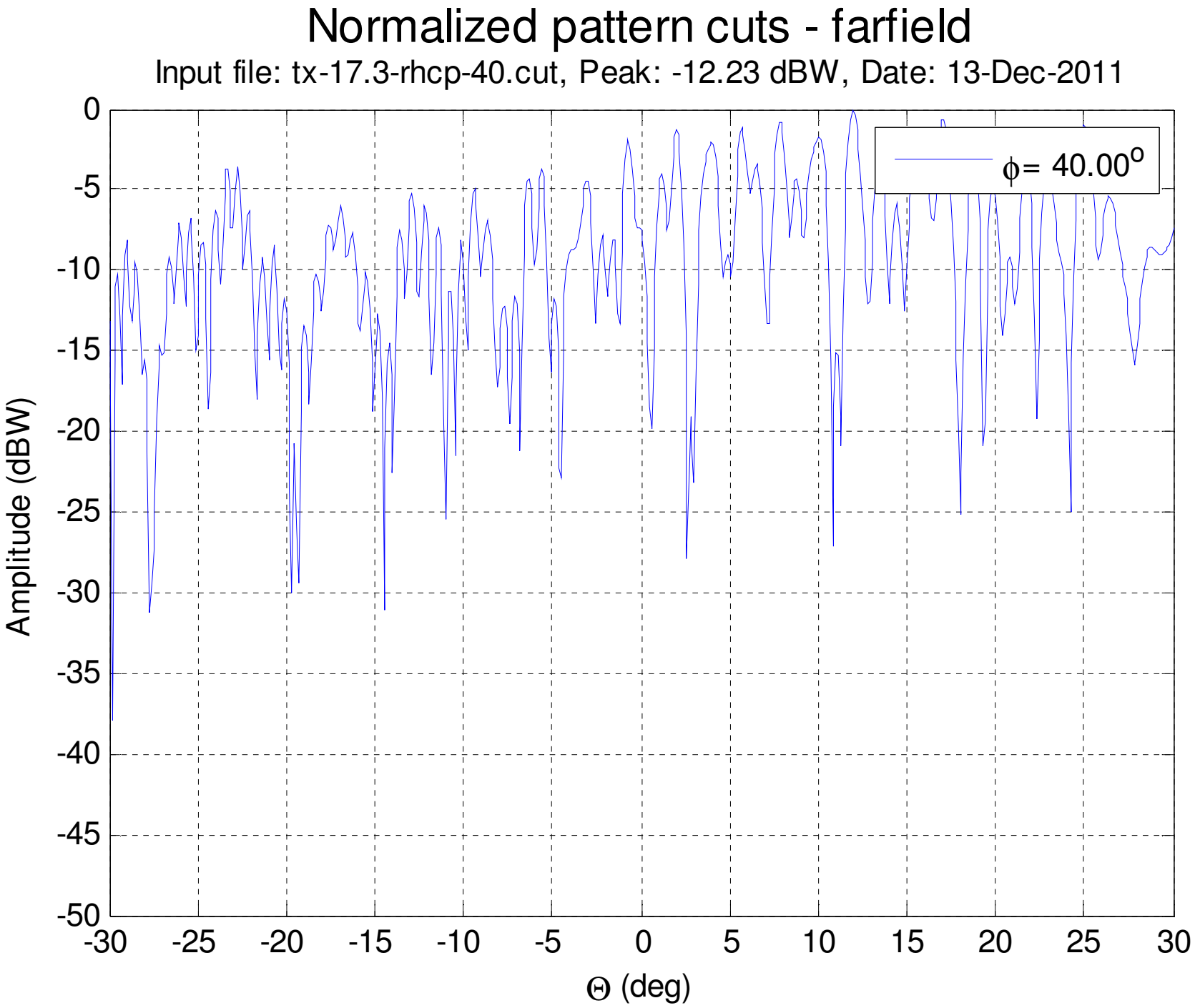

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: 0.14 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

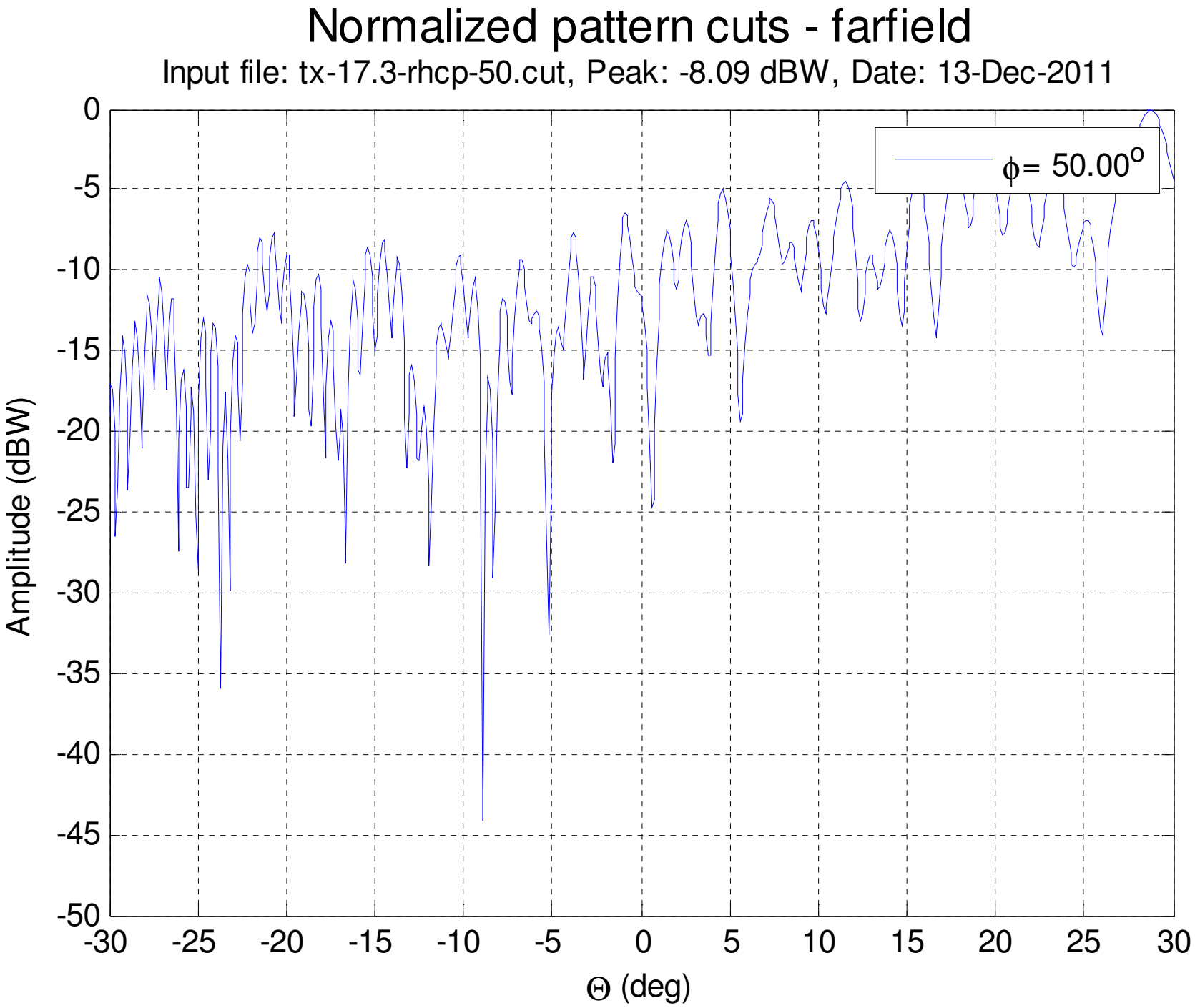

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -0.93 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

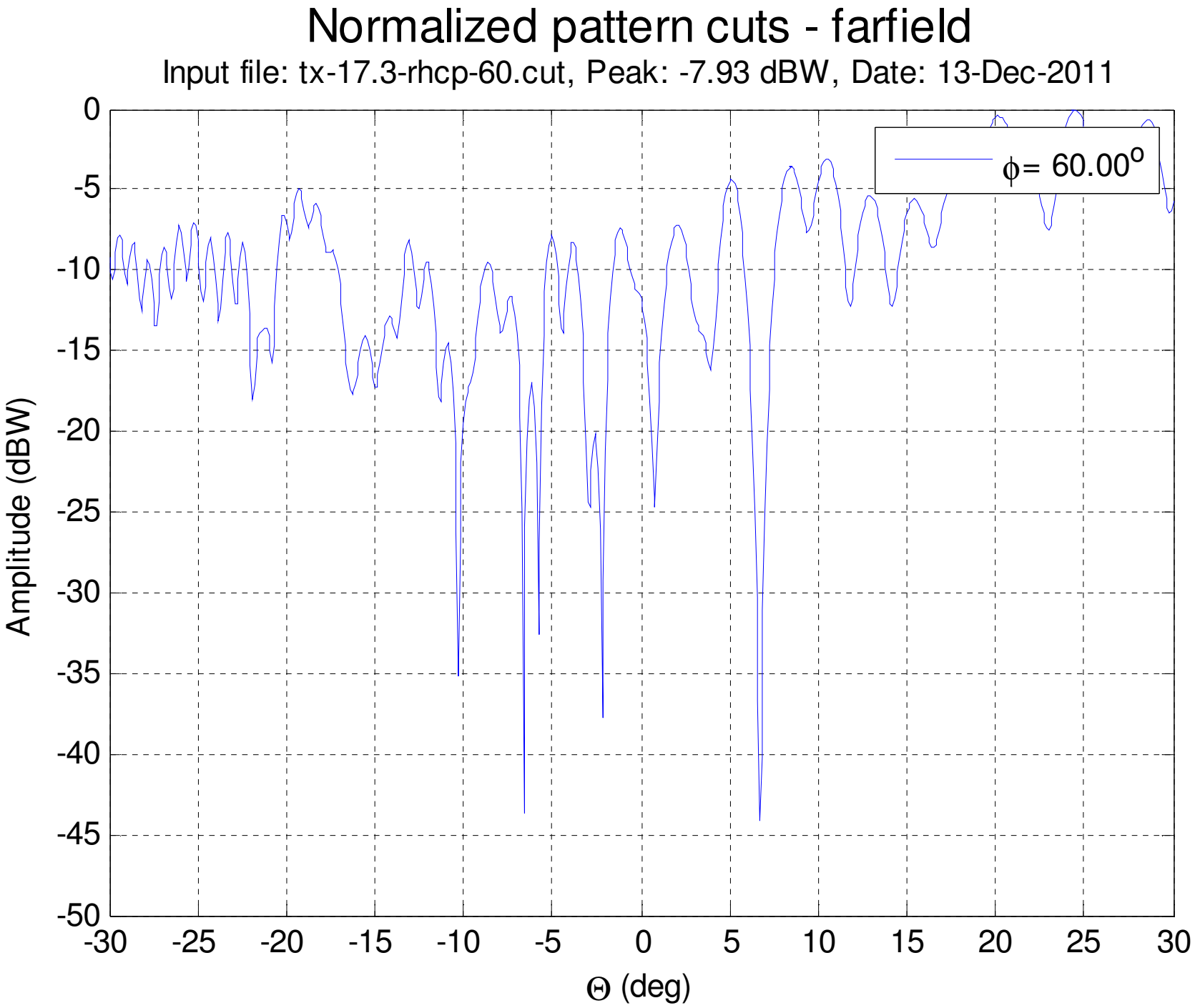

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -1.89 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -2.76 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

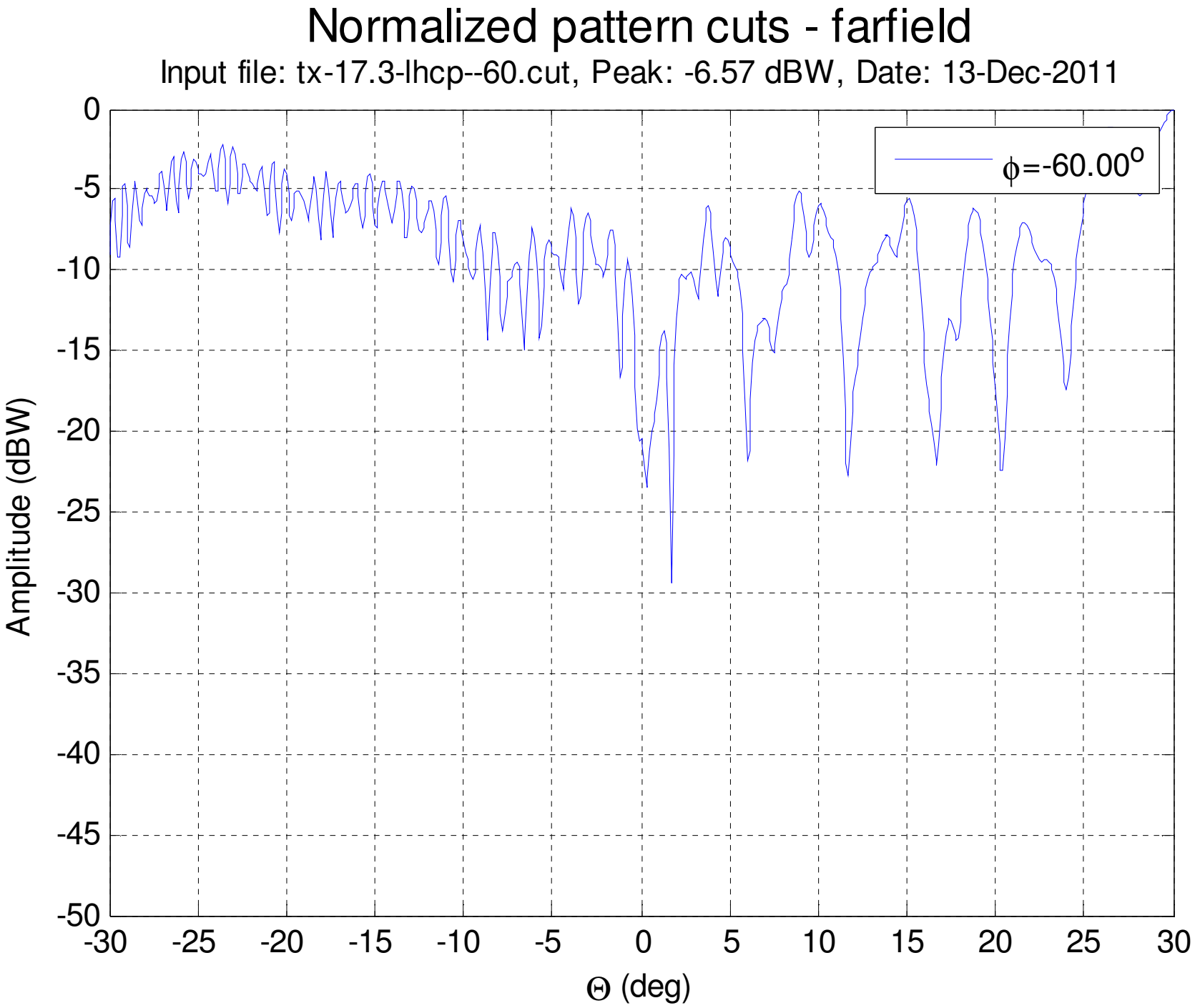

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -7.42 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

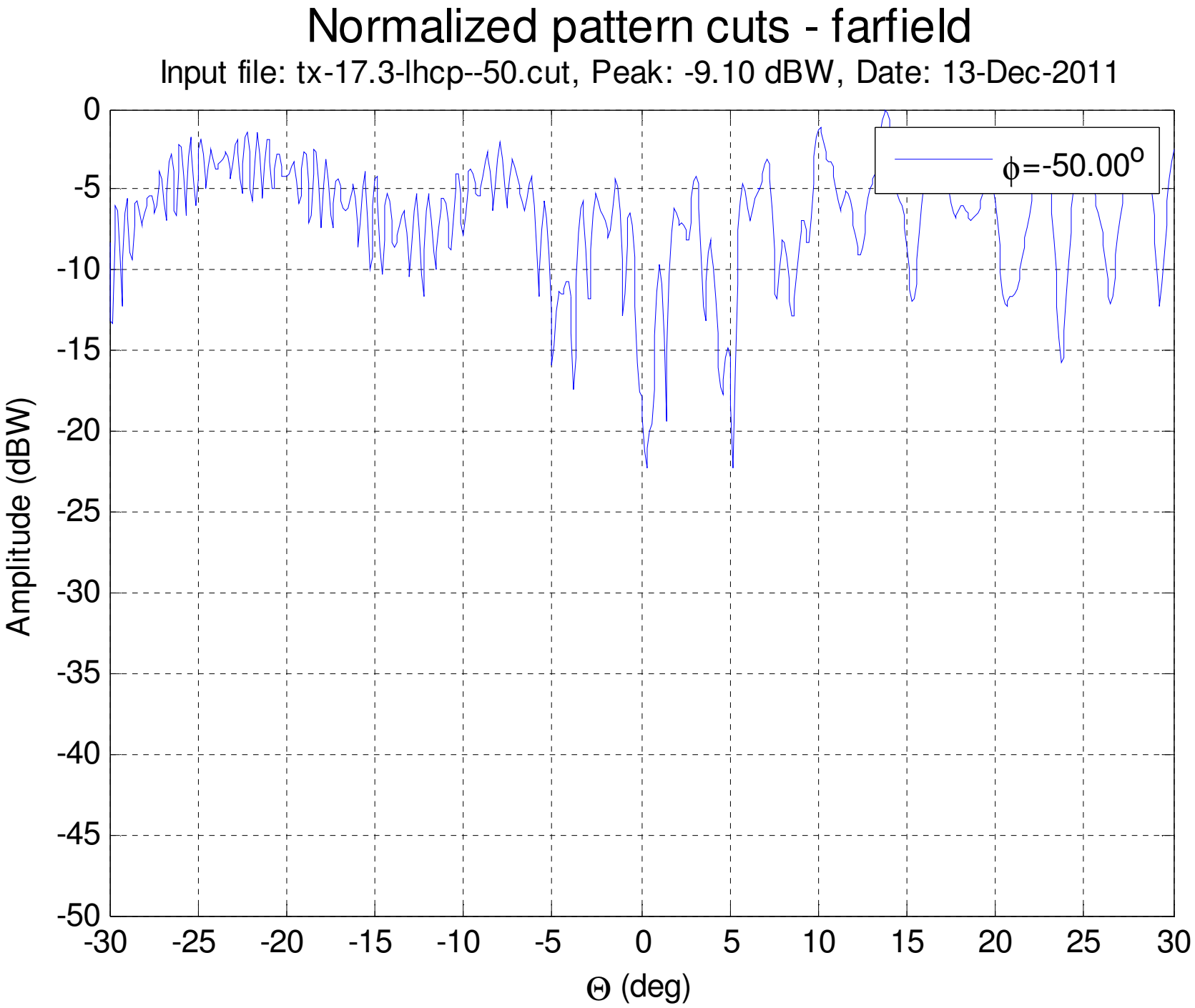

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -12.23 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

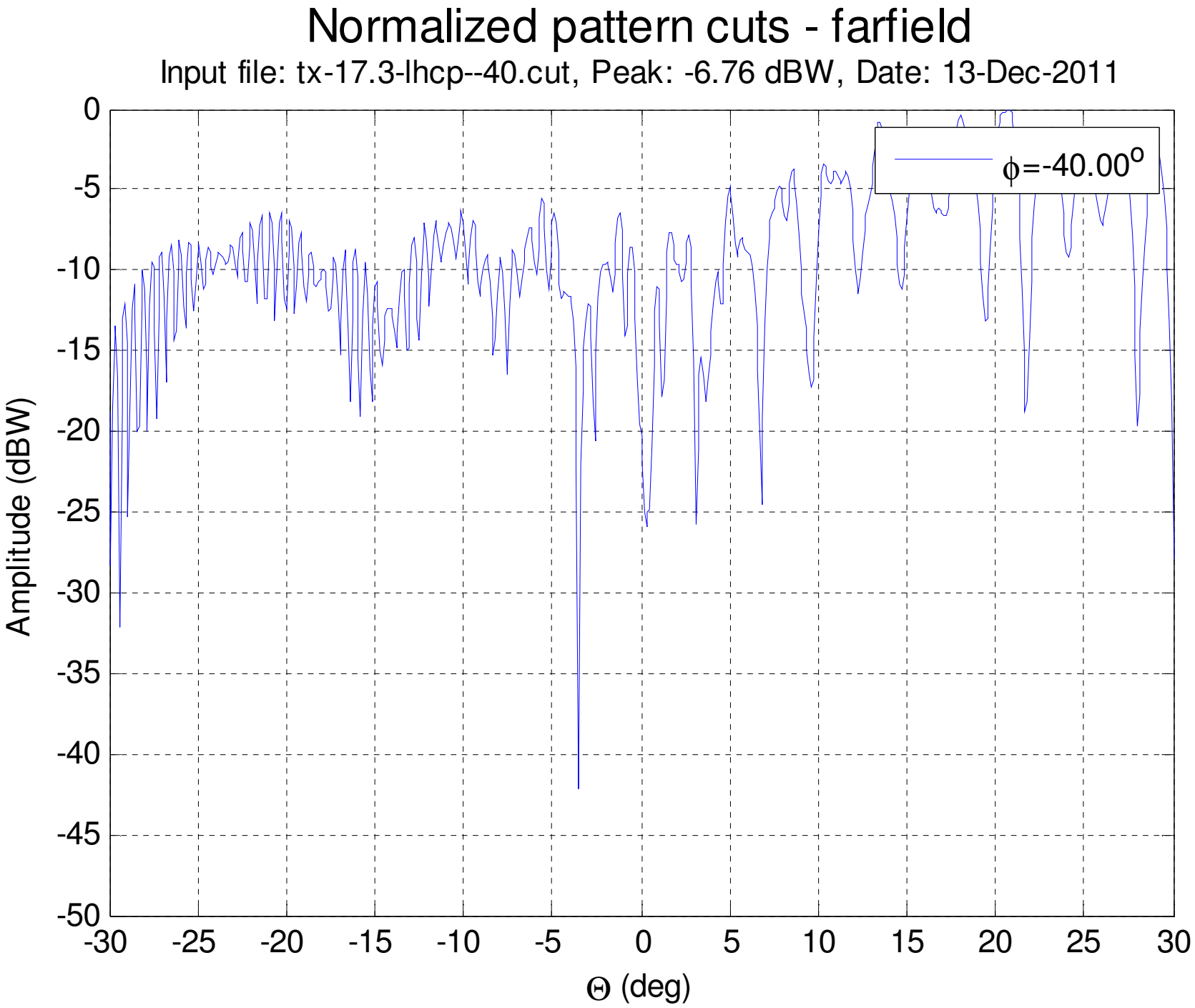

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -8.09 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

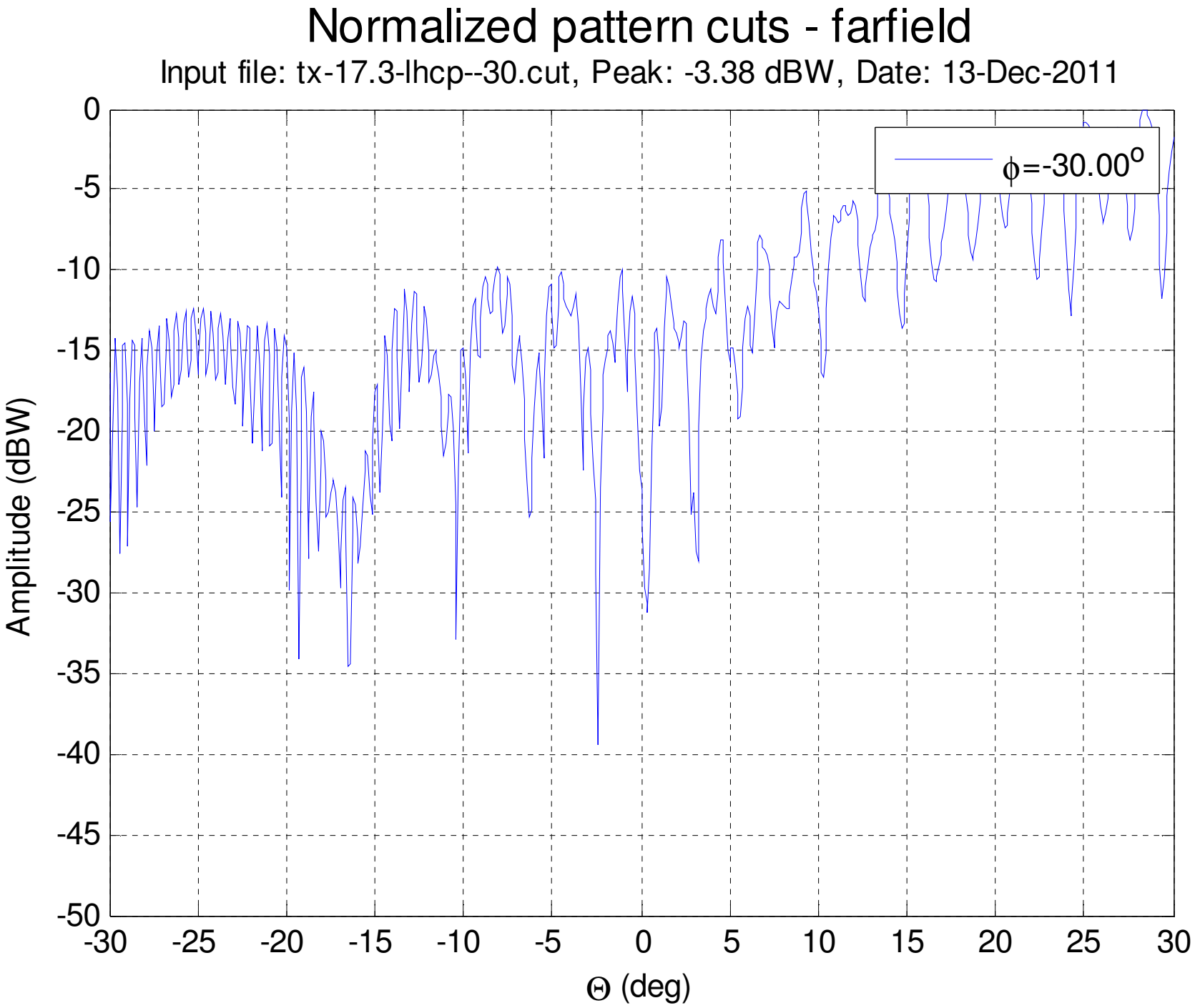

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -7.93 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

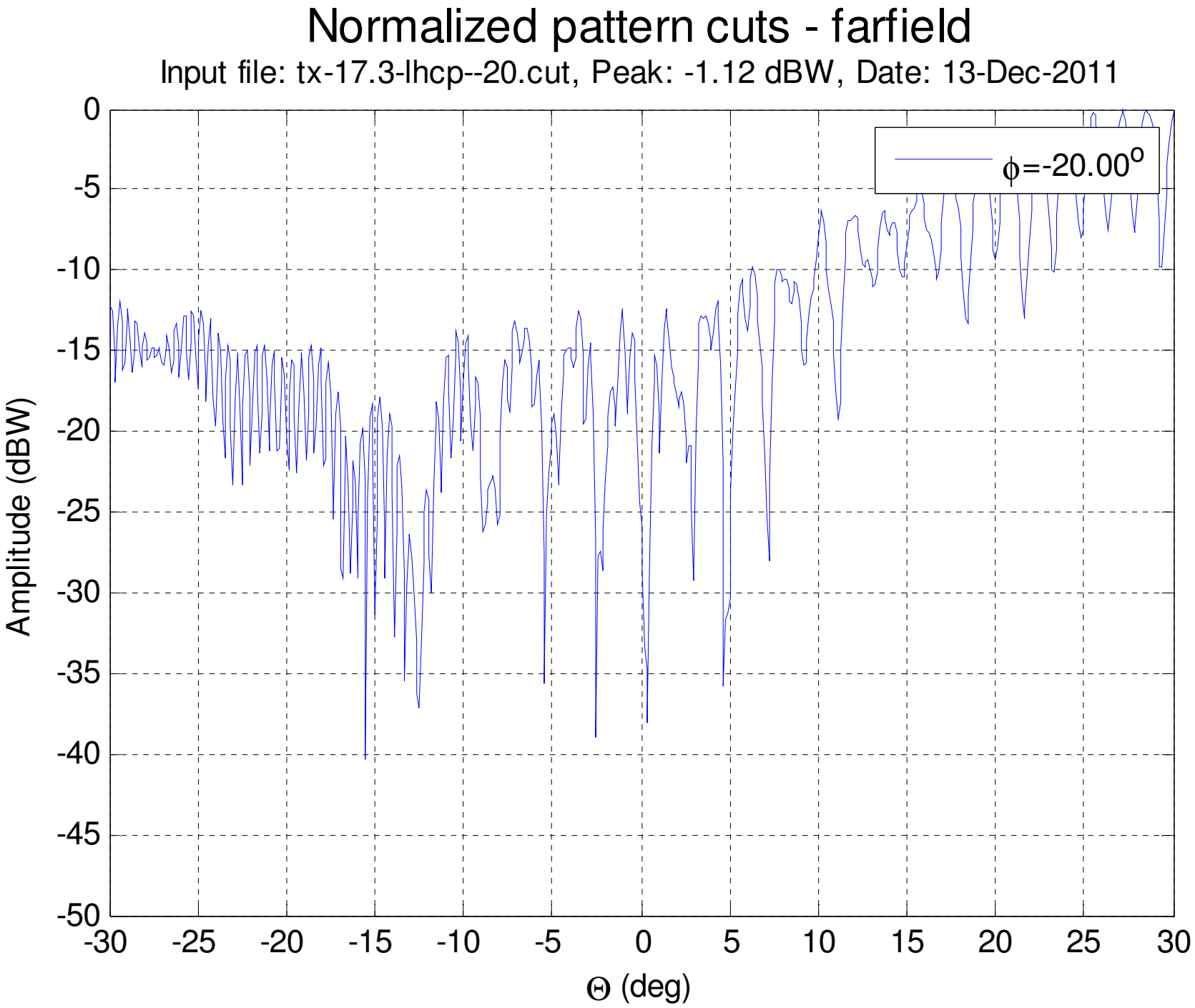
LHCP at 17.3 GHz

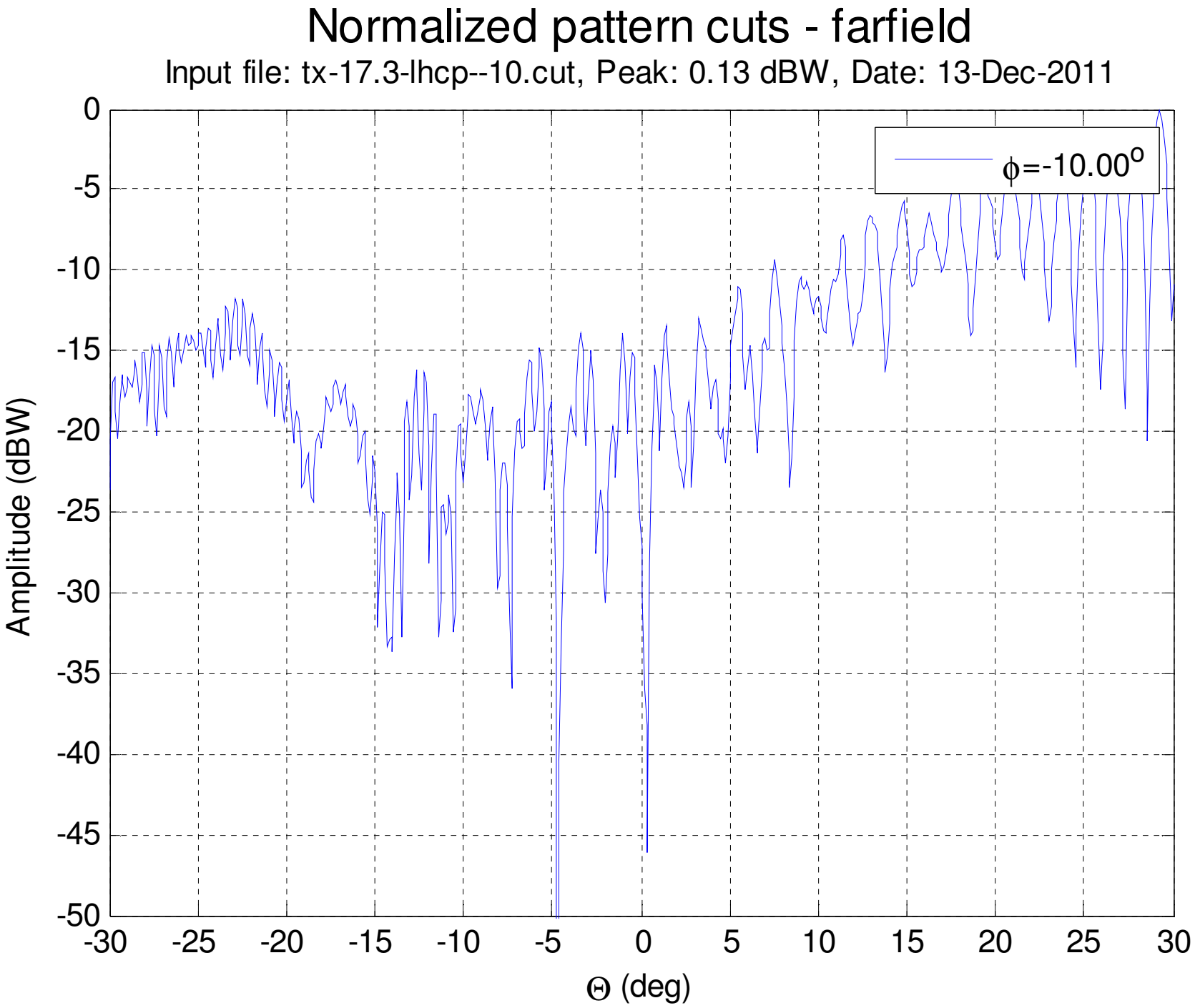

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -6.57 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

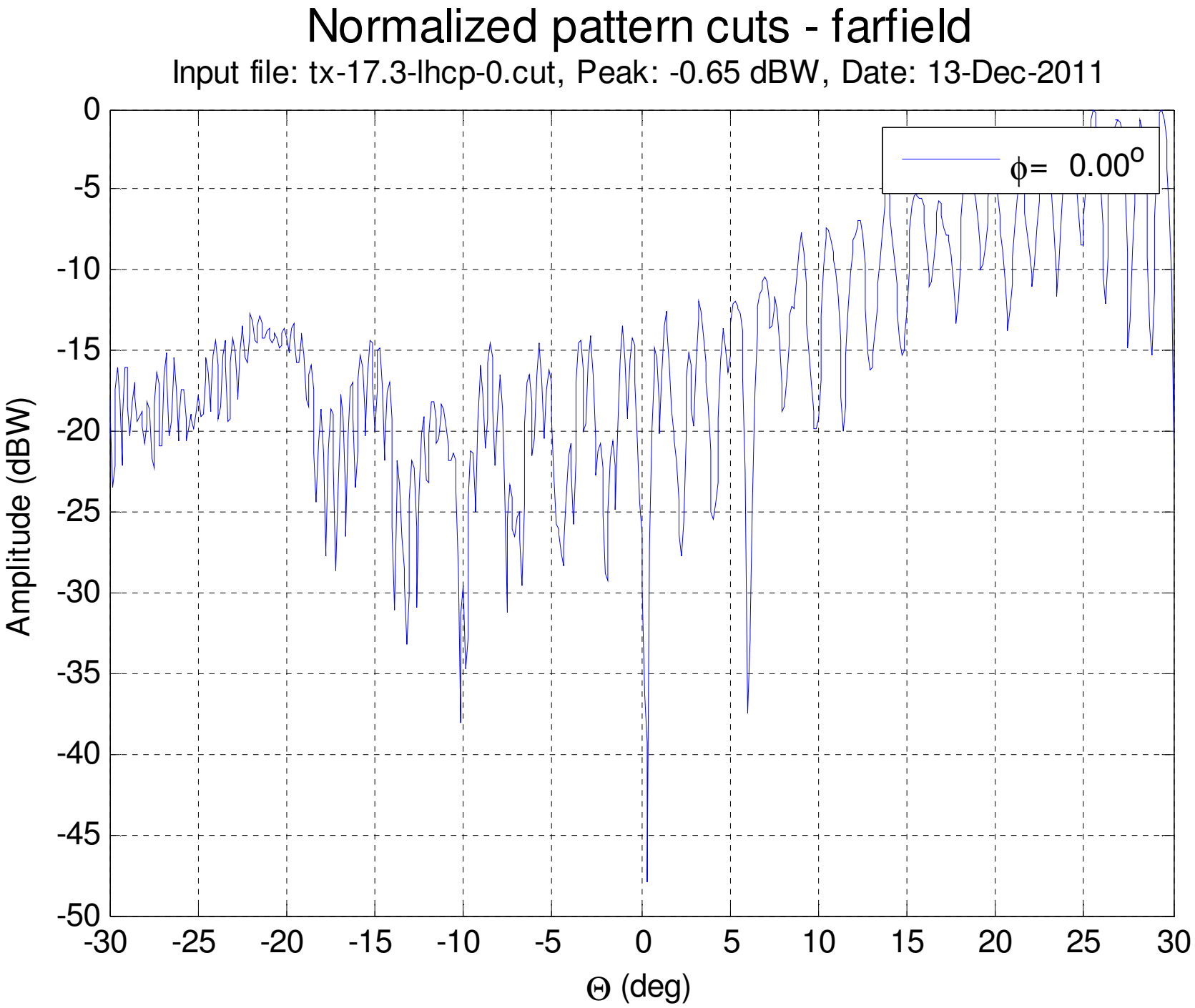

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -9.10 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

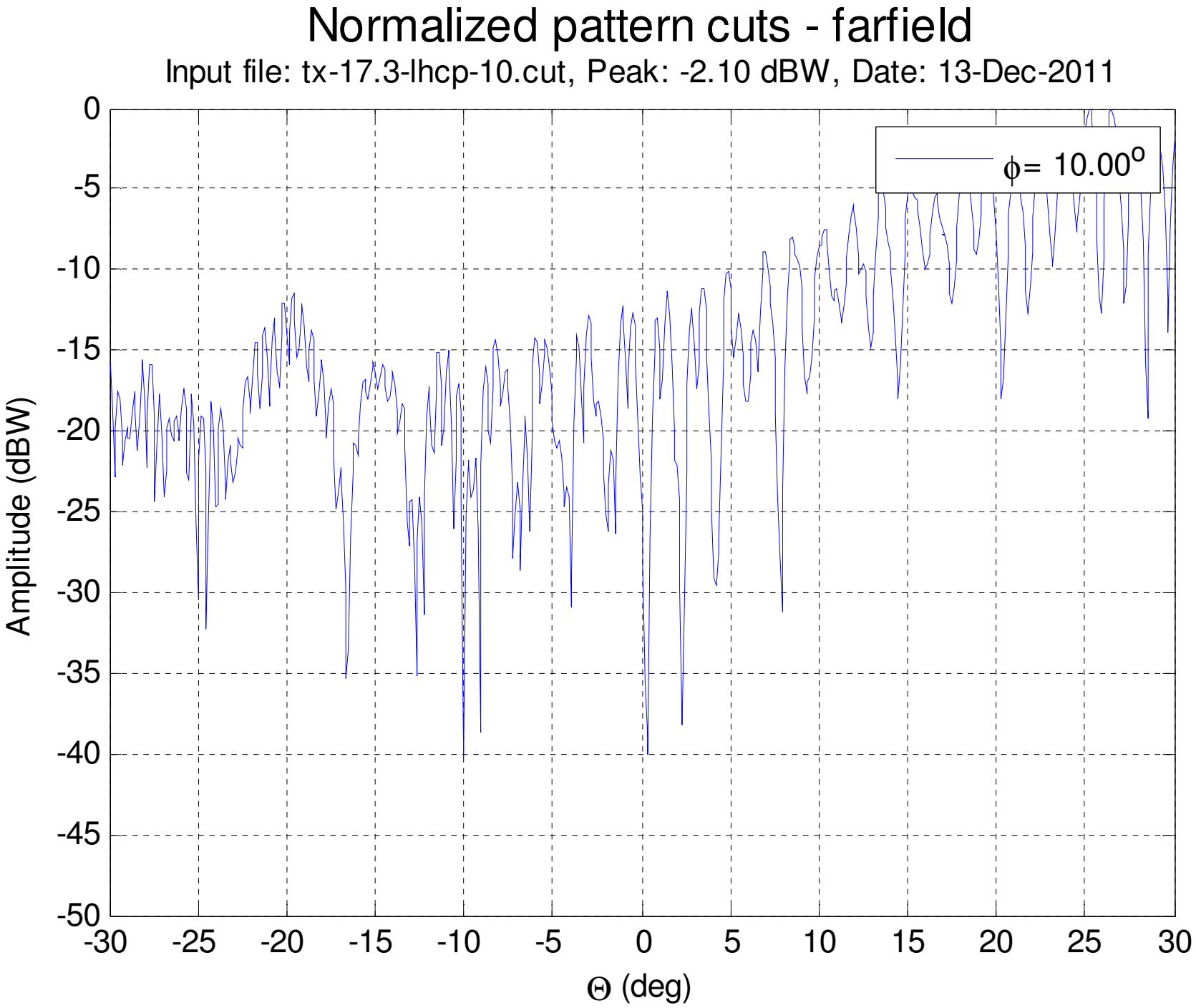

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -6.76 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

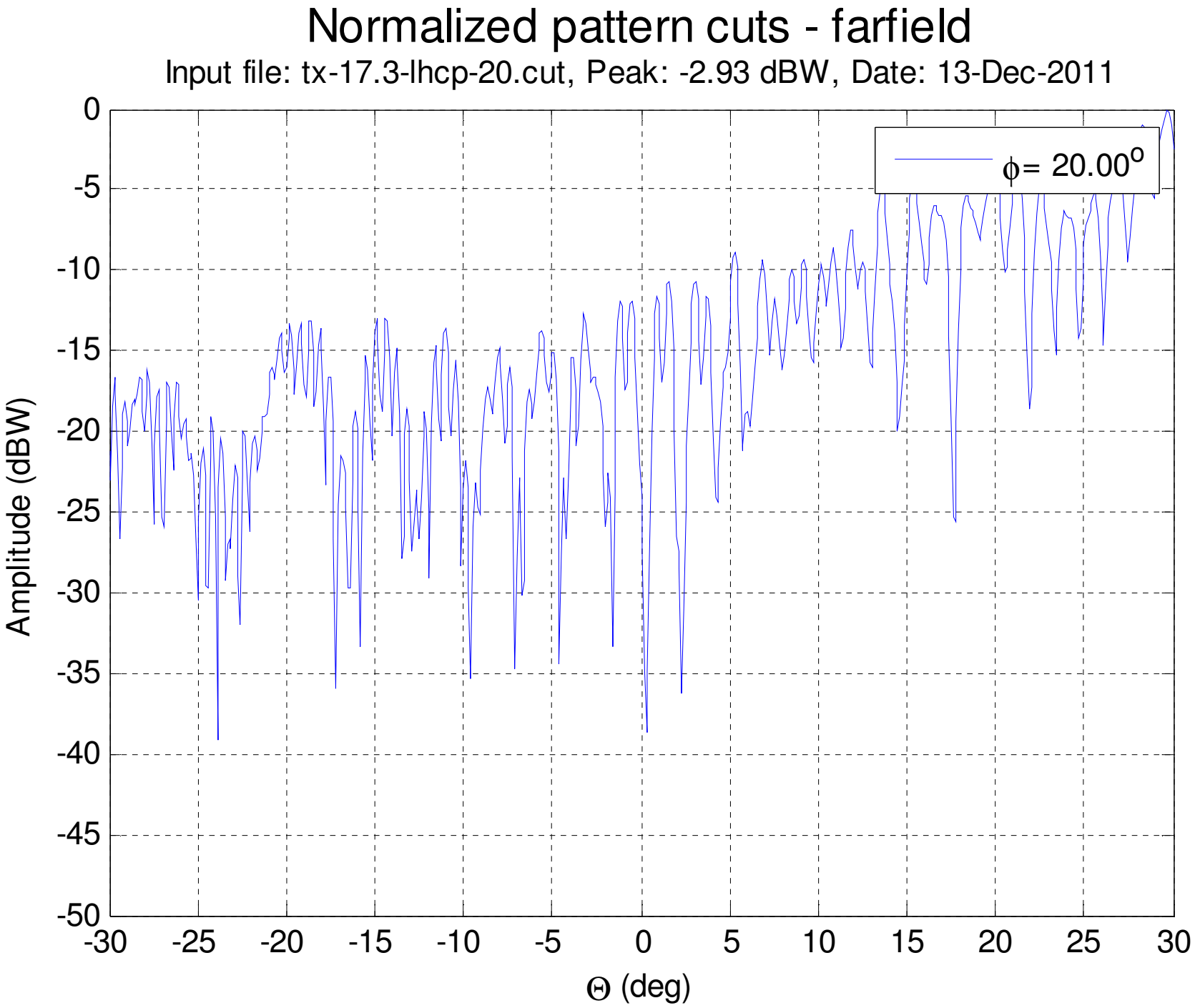

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -3.38 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

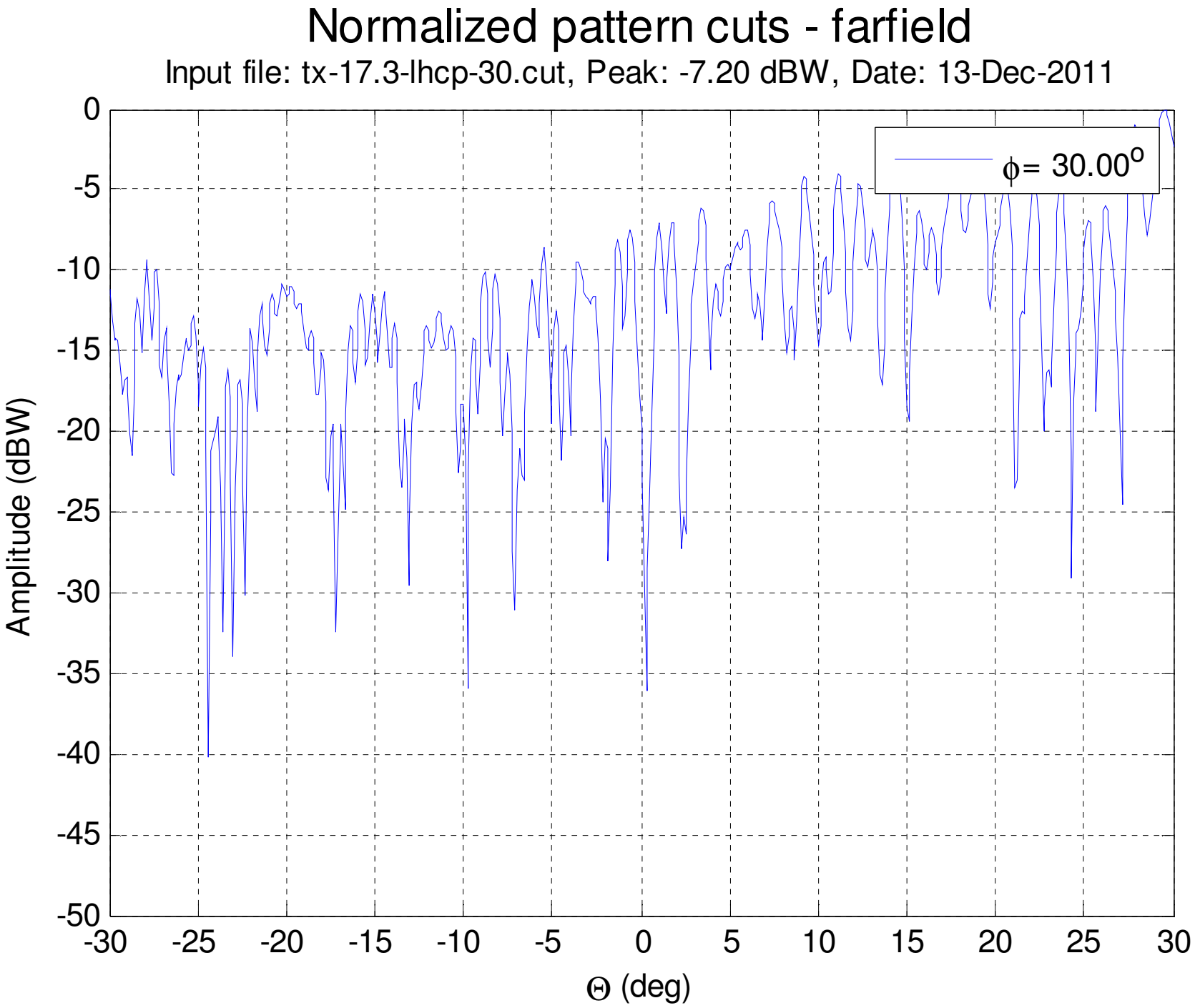

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -1.12 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

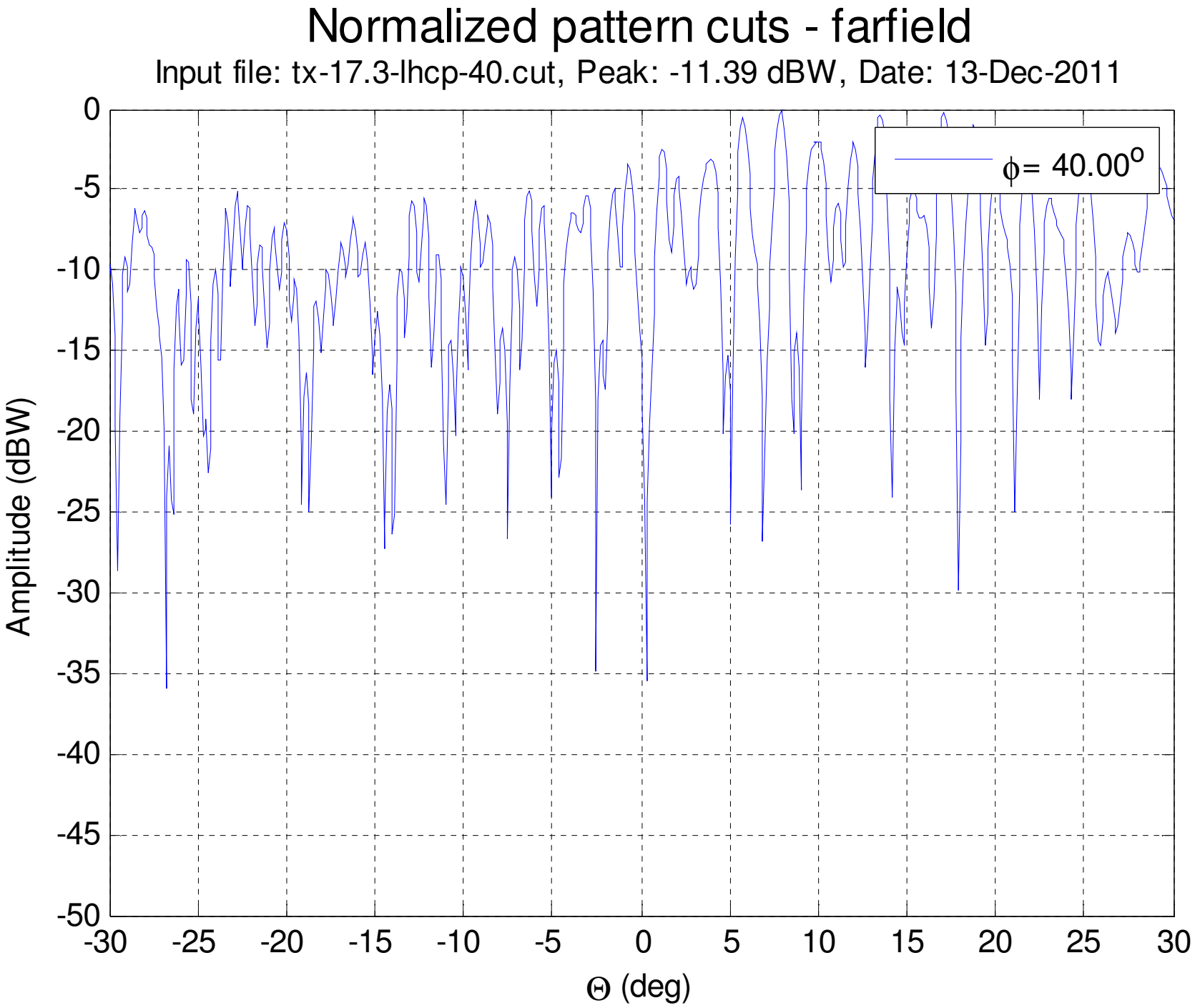

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: 0.13 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

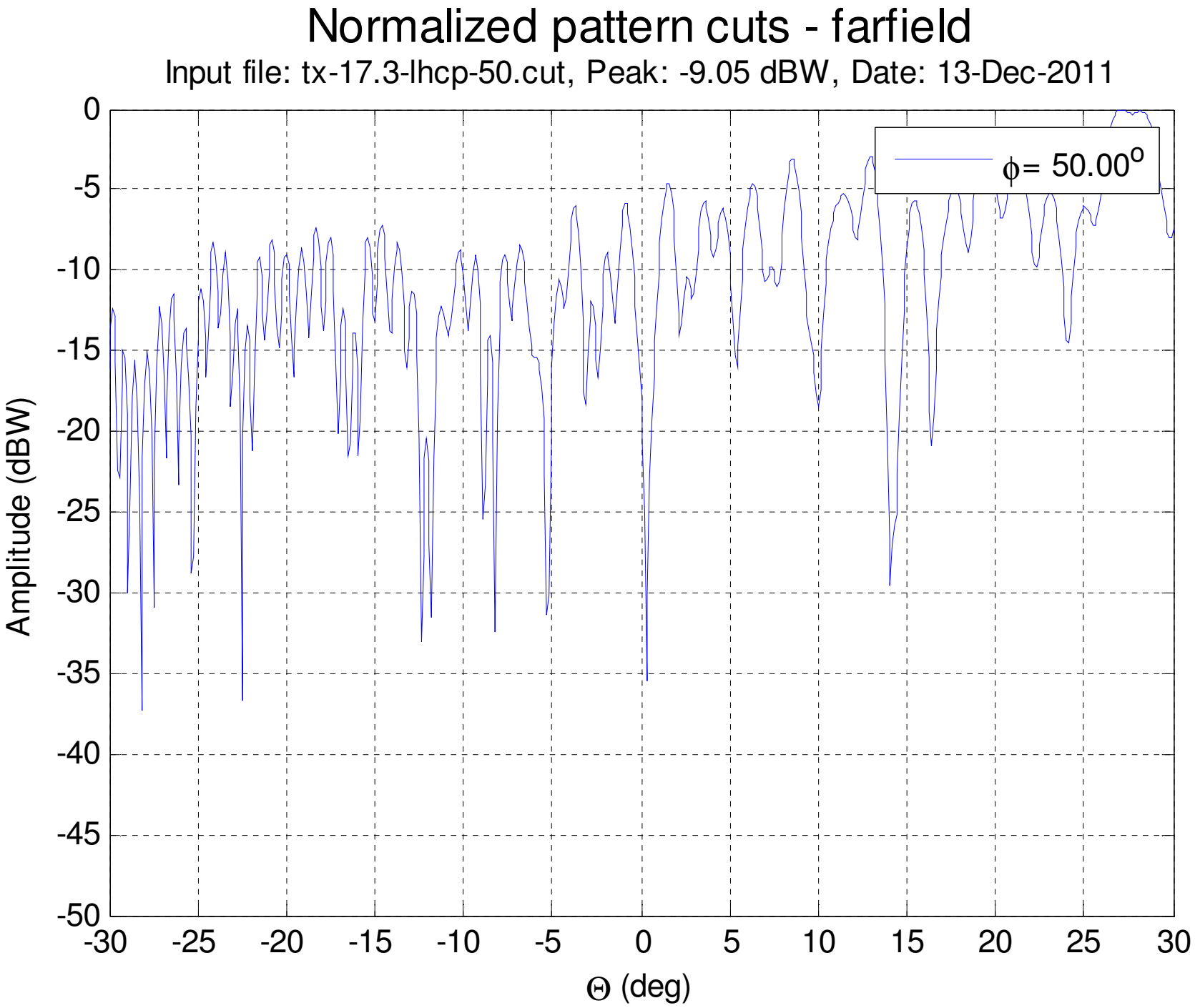

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -0.65 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

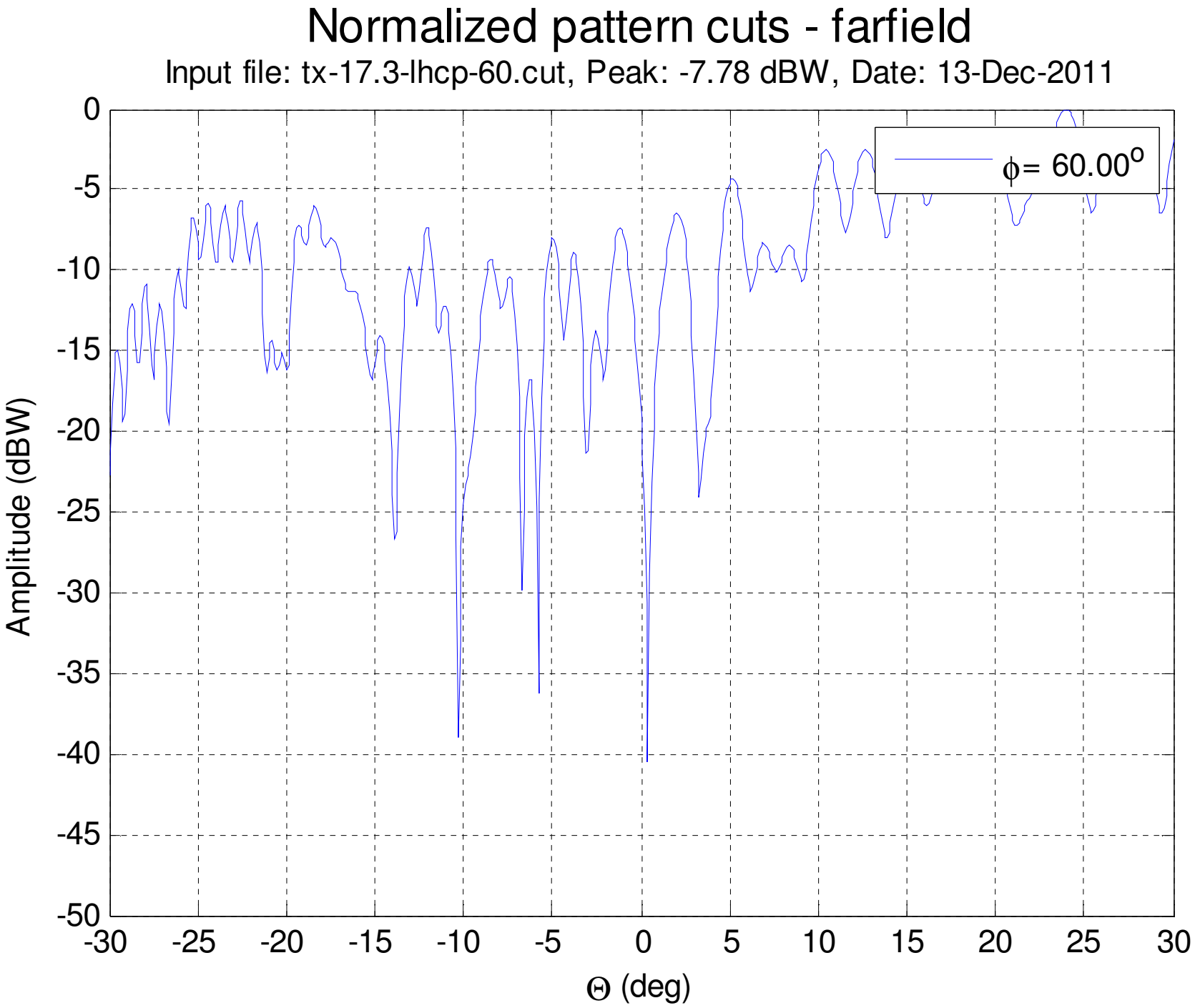

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -2.10 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -2.93 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

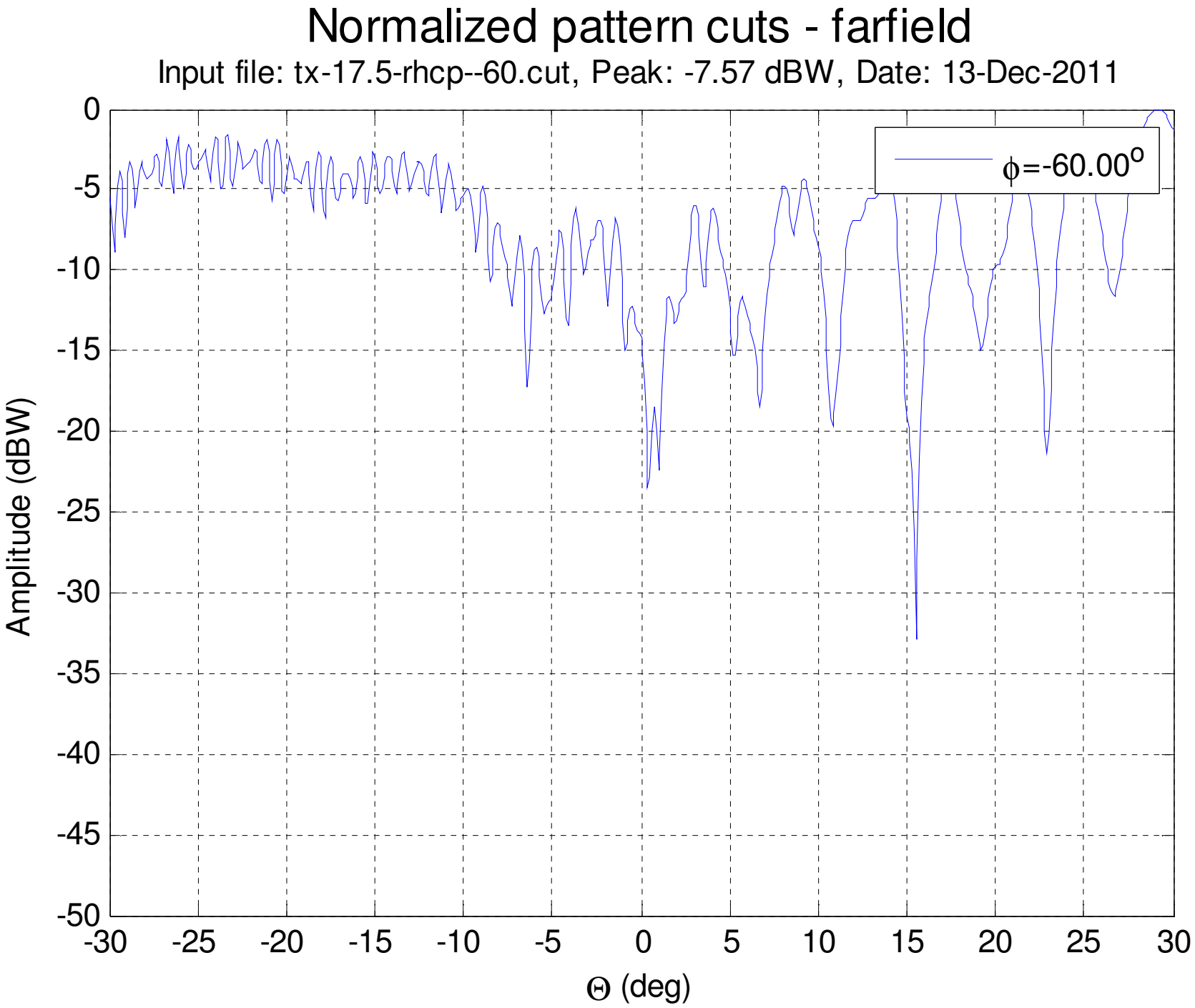

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -7.20 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

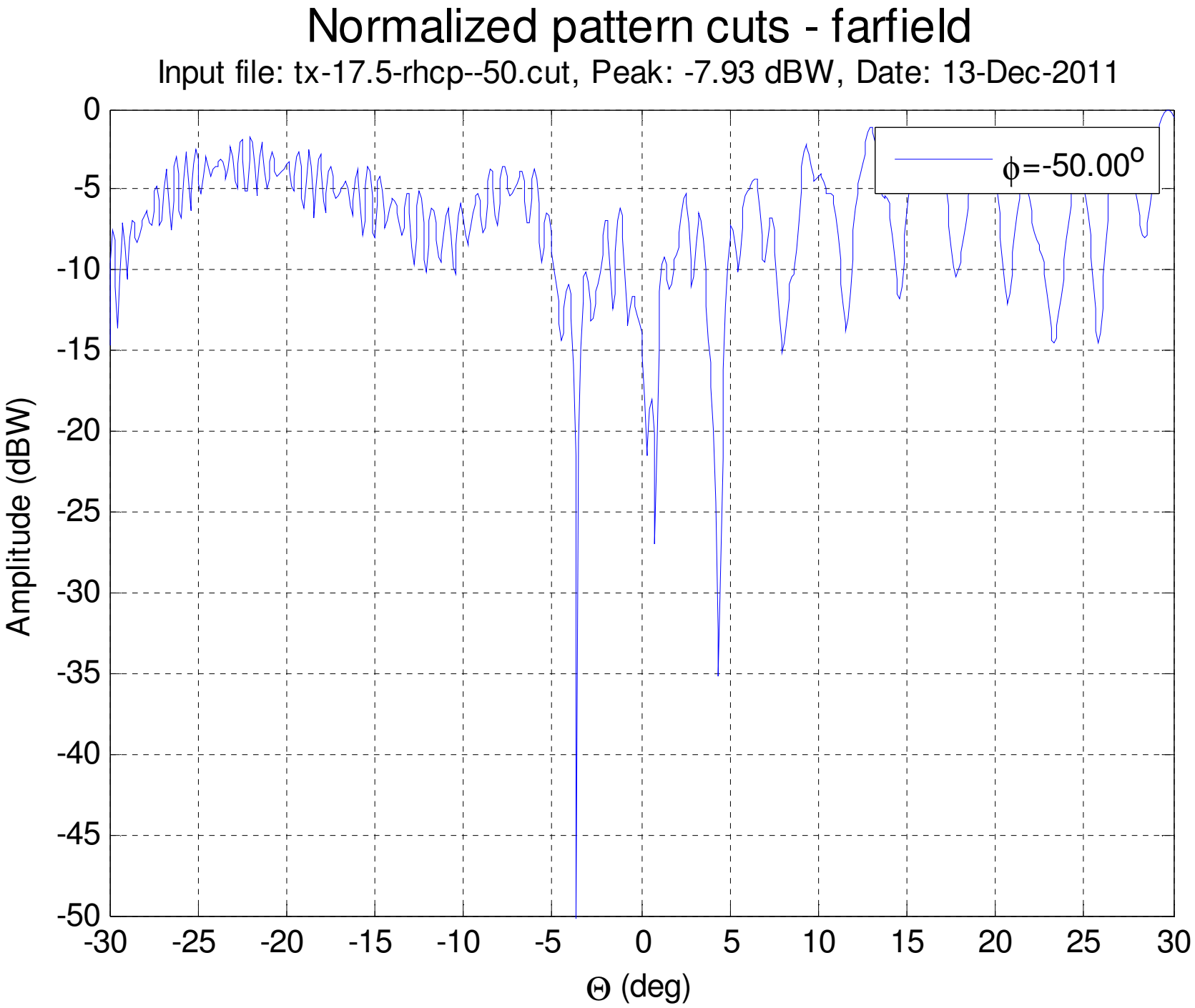

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -11.39 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

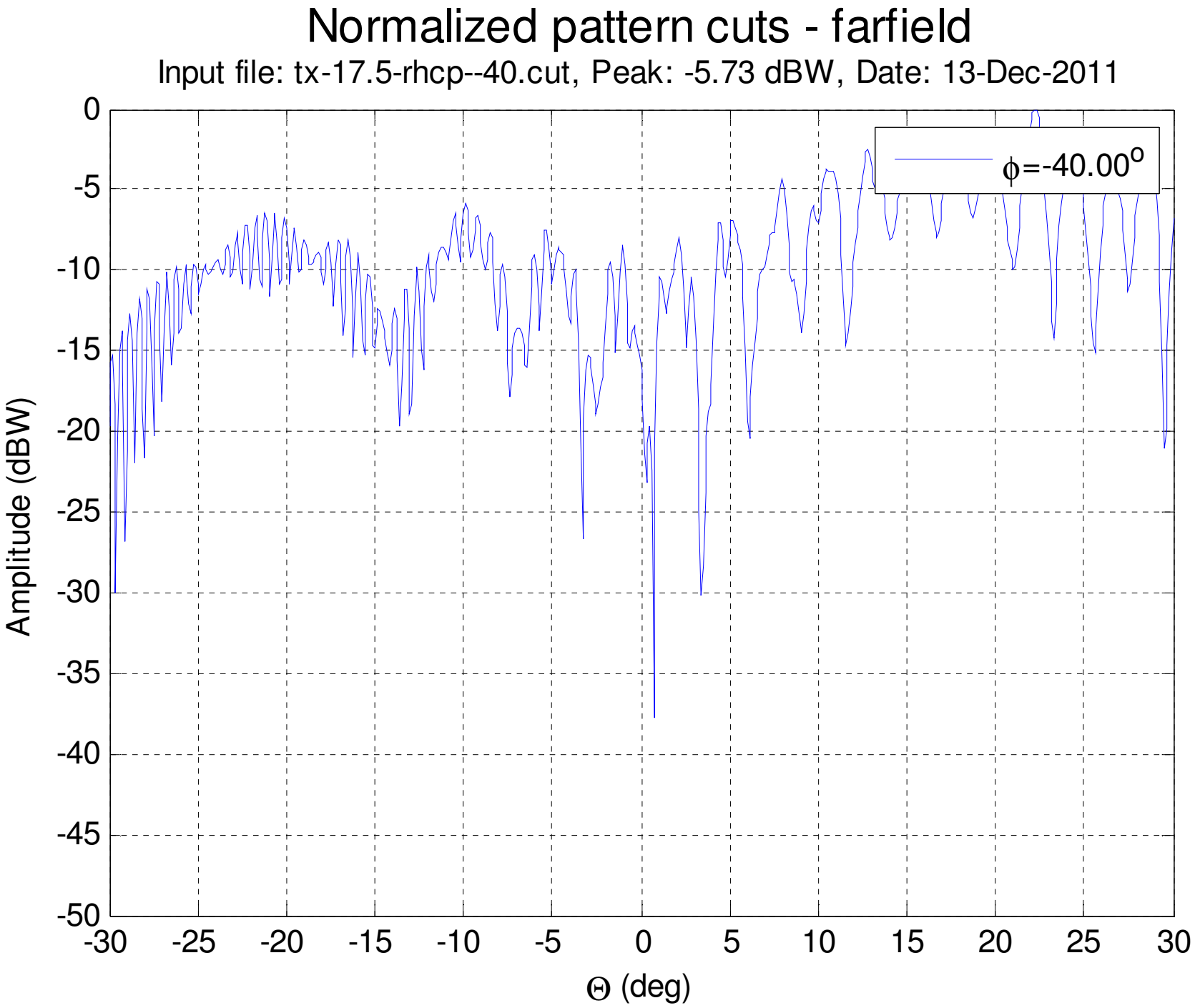

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -9.05 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

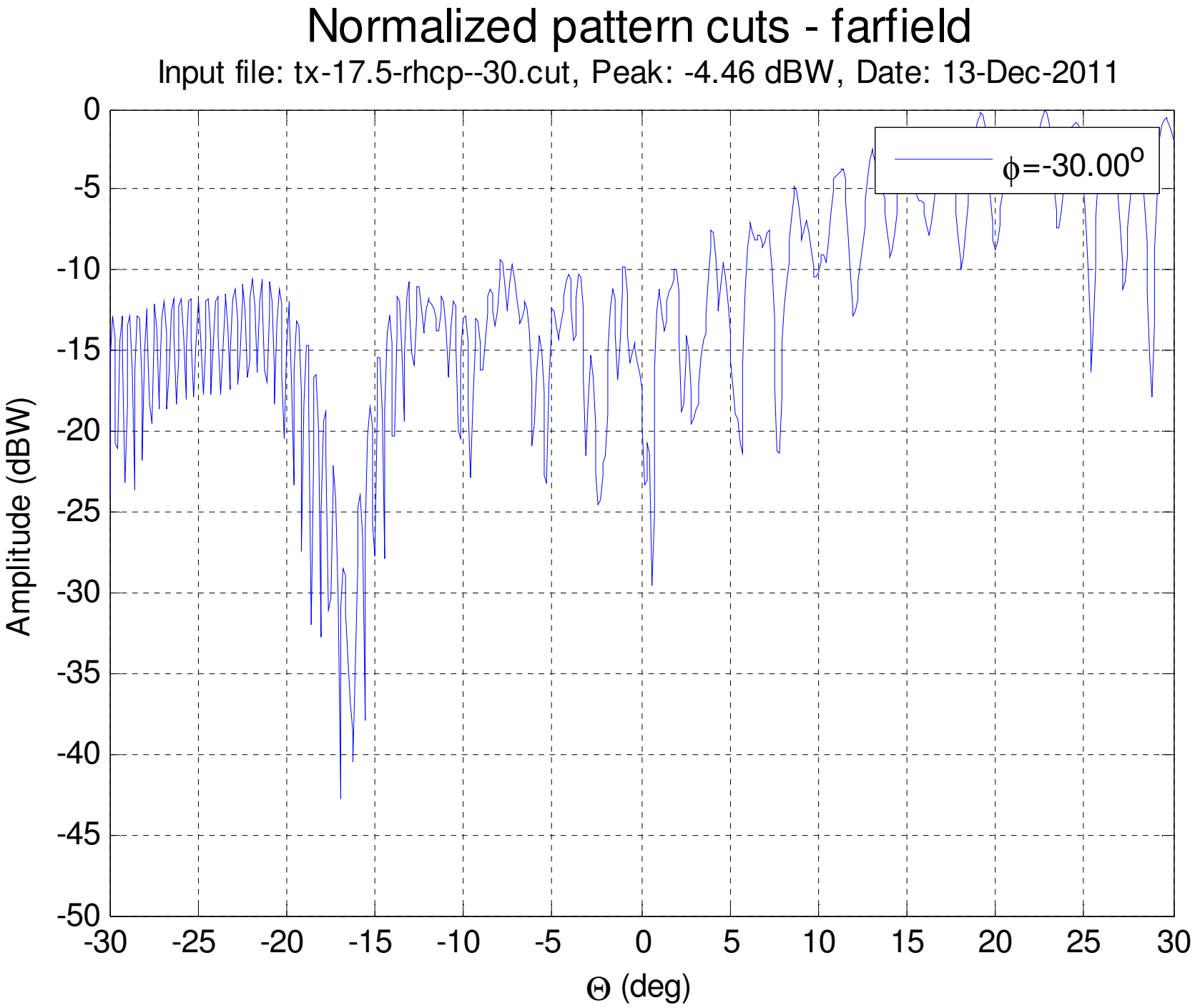

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -7.78 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

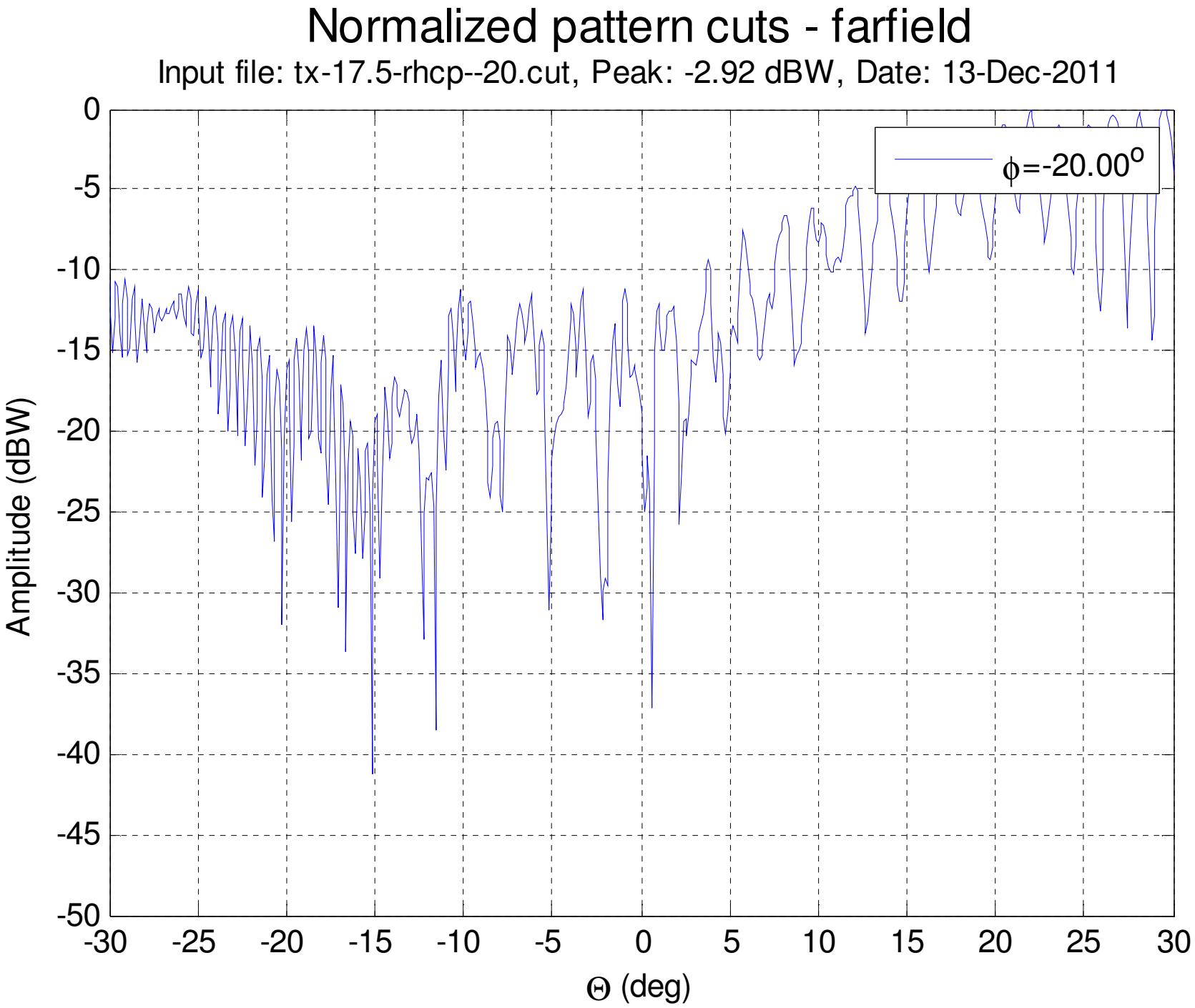
RHCP at 17.5 GHz

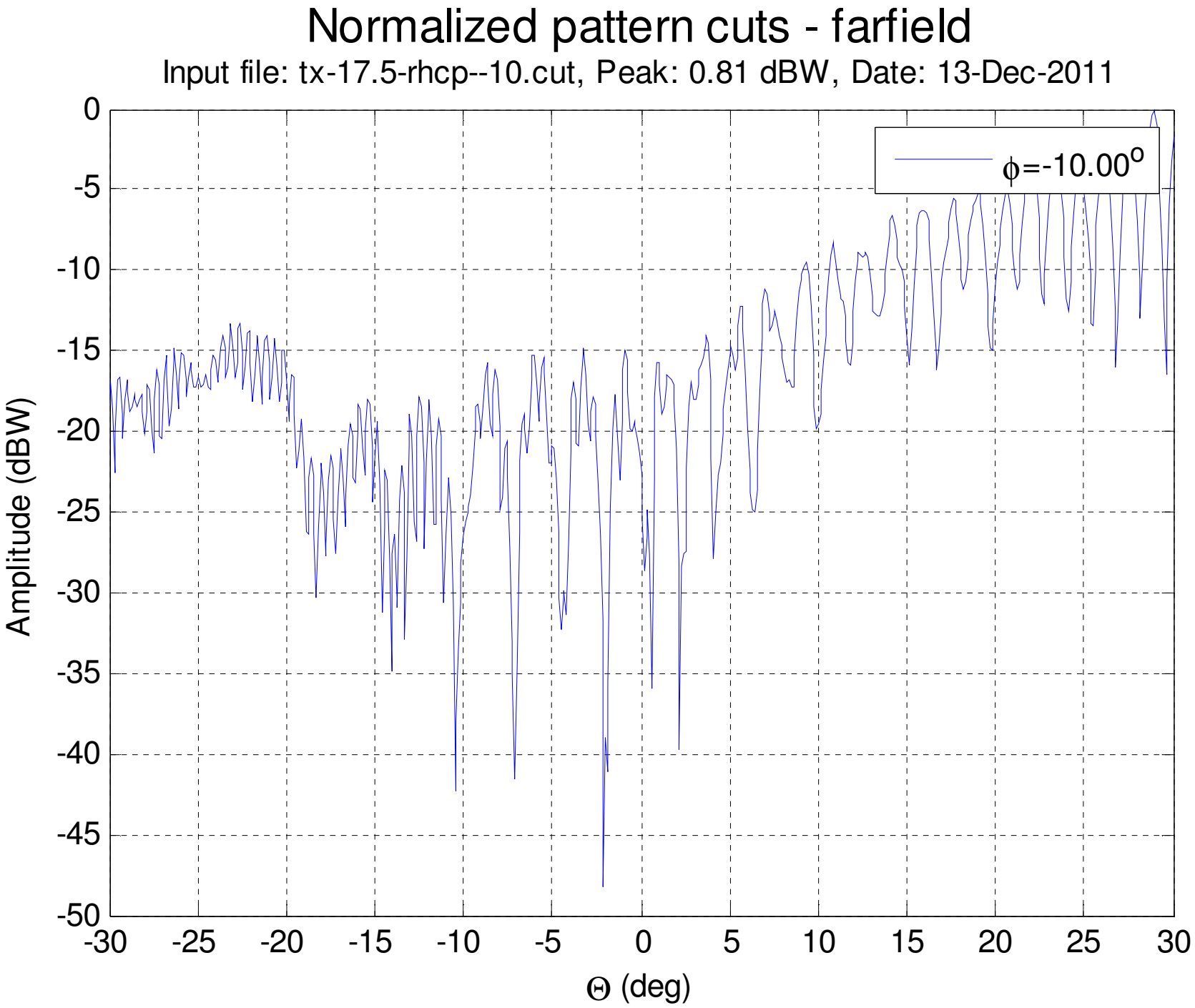

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -7.57 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

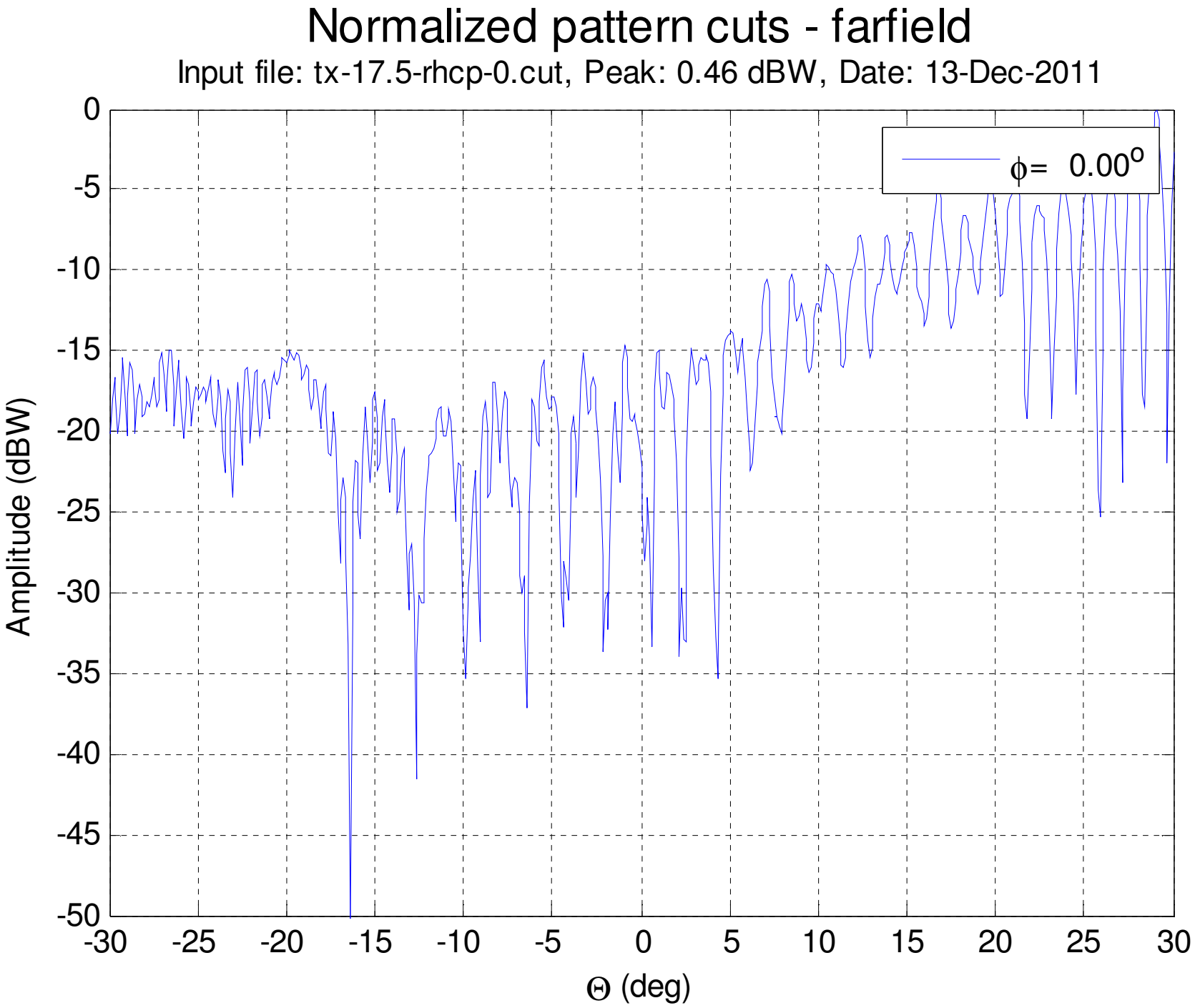

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -7.93 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

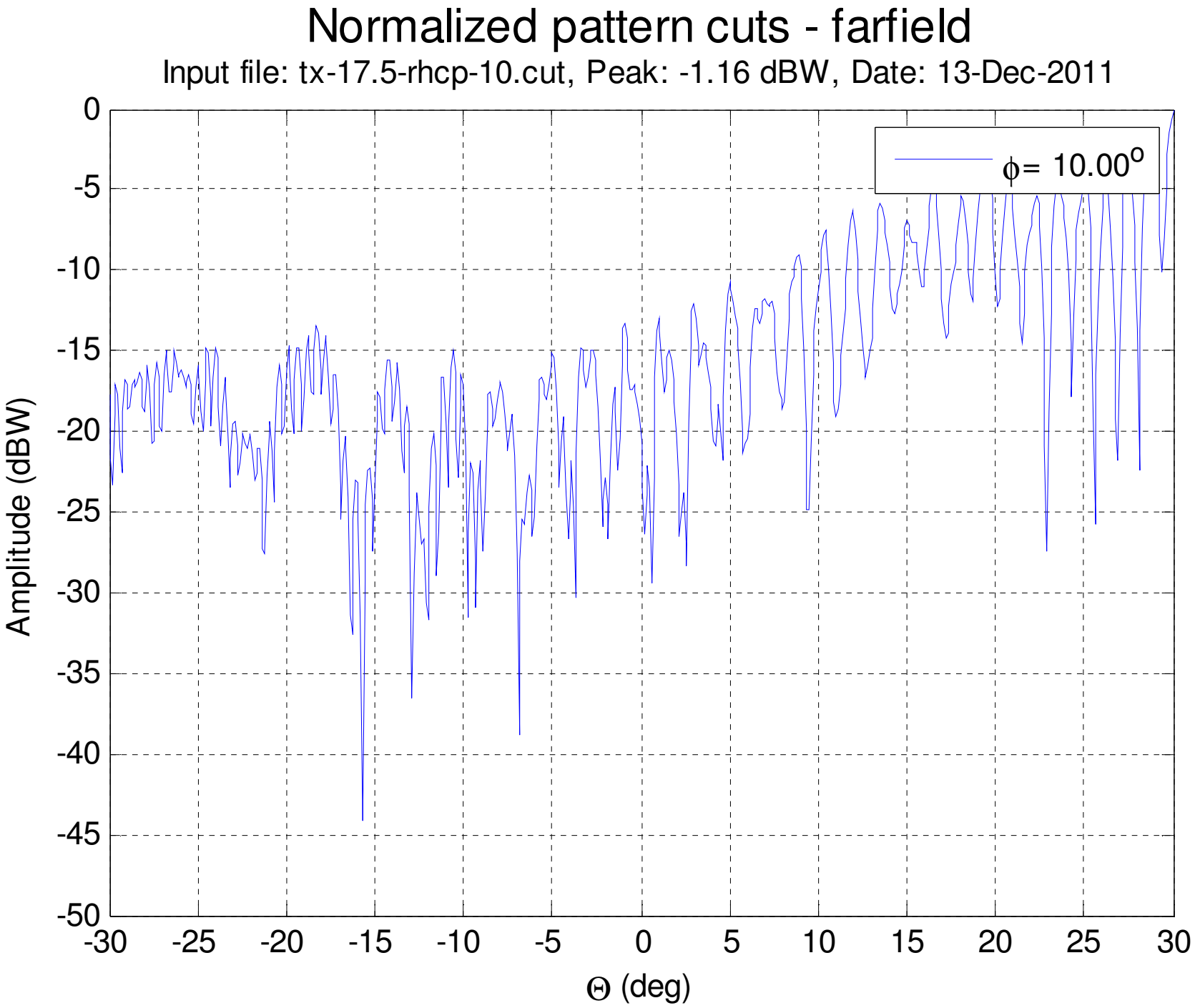

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -5.73 dBW, Date: 13-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

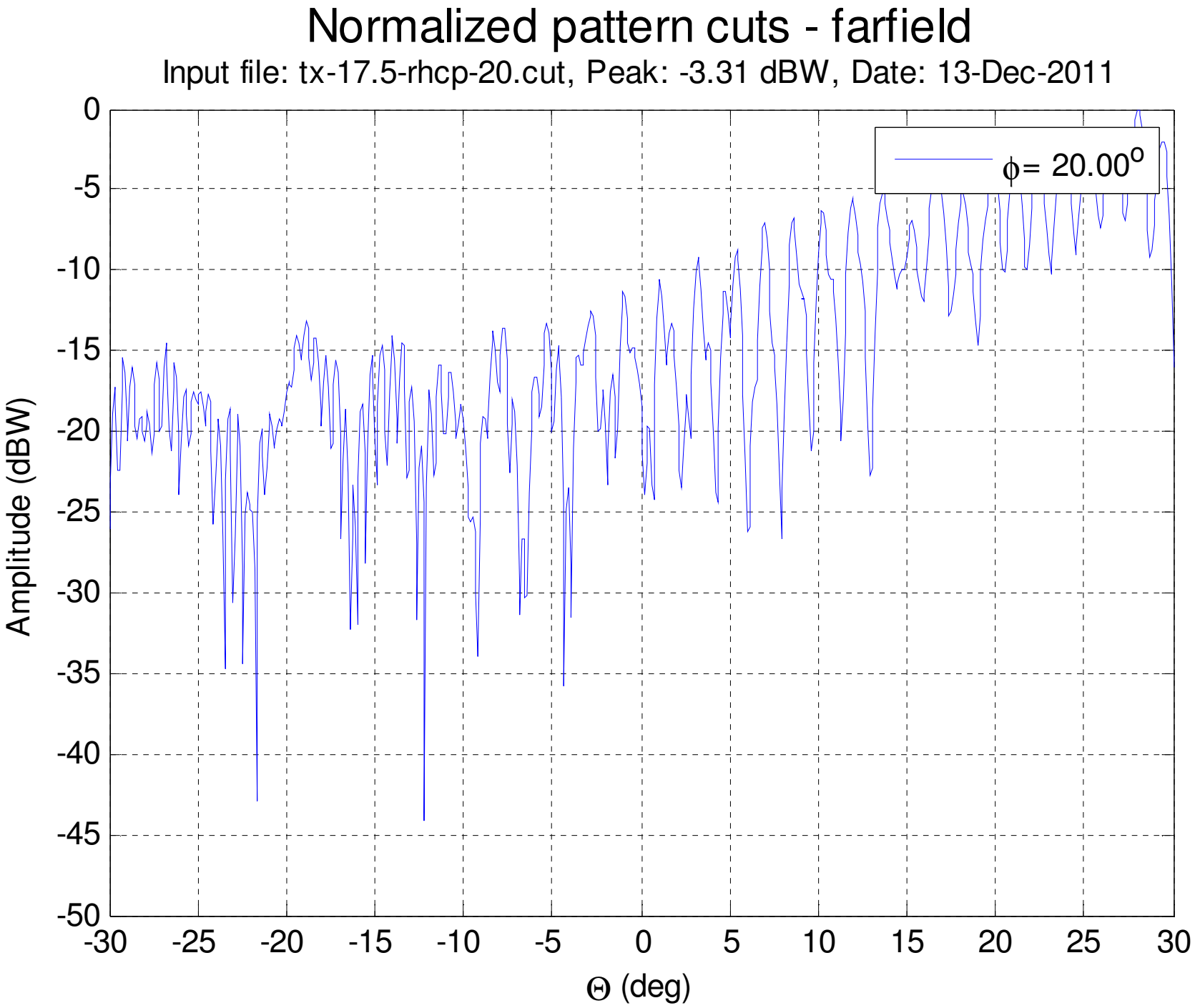

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -4.46 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

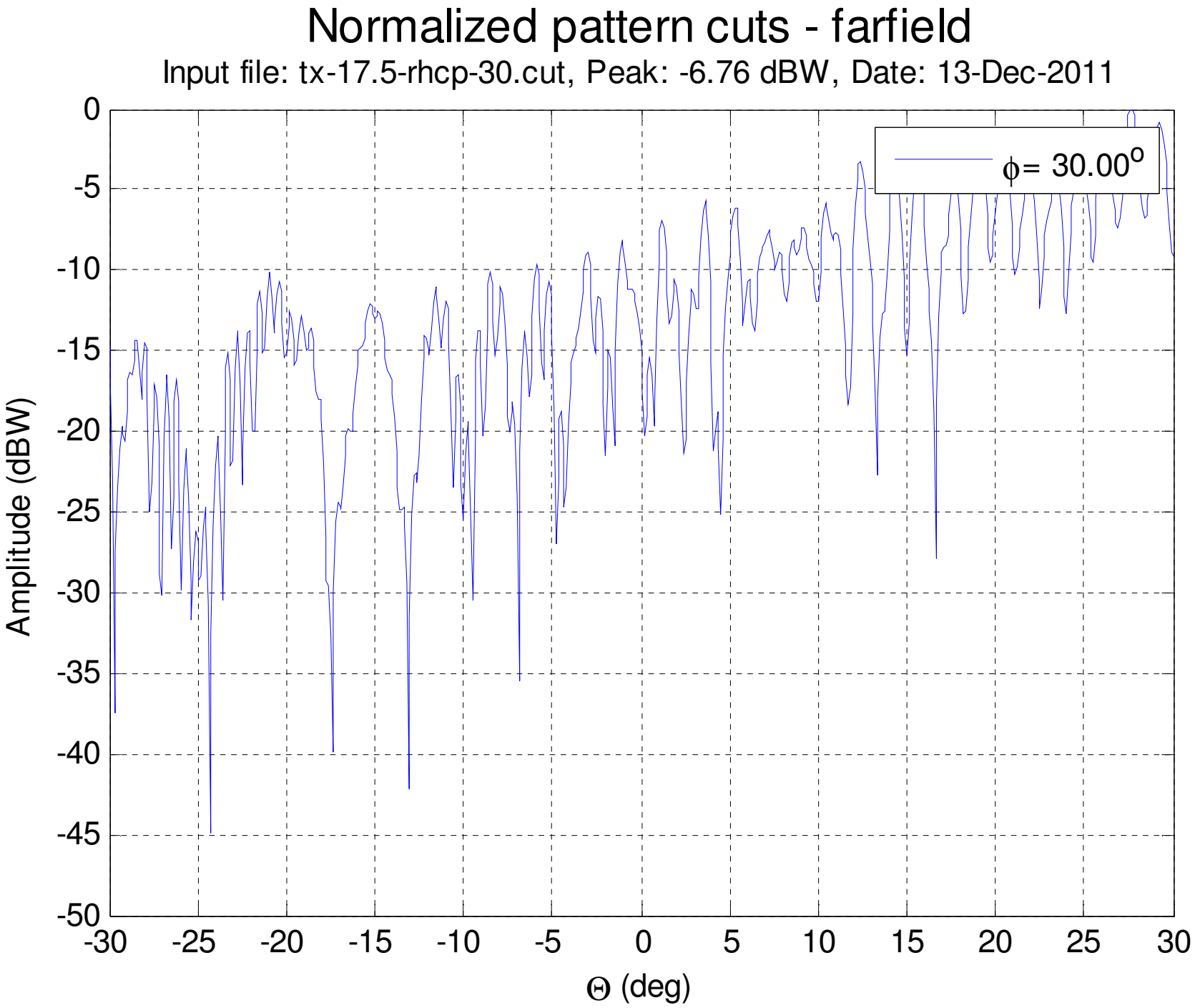

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -2.92 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

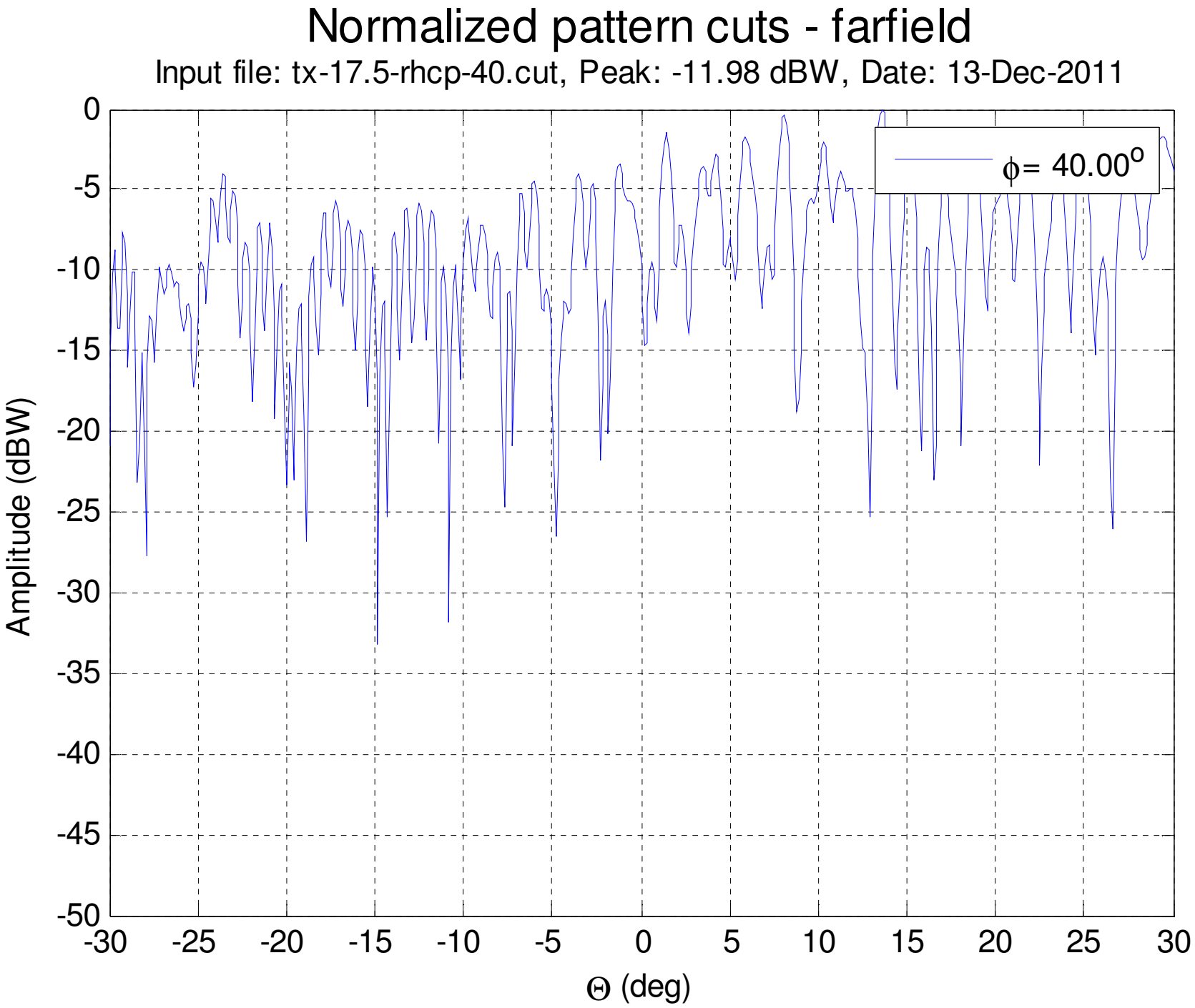

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: 0.81 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

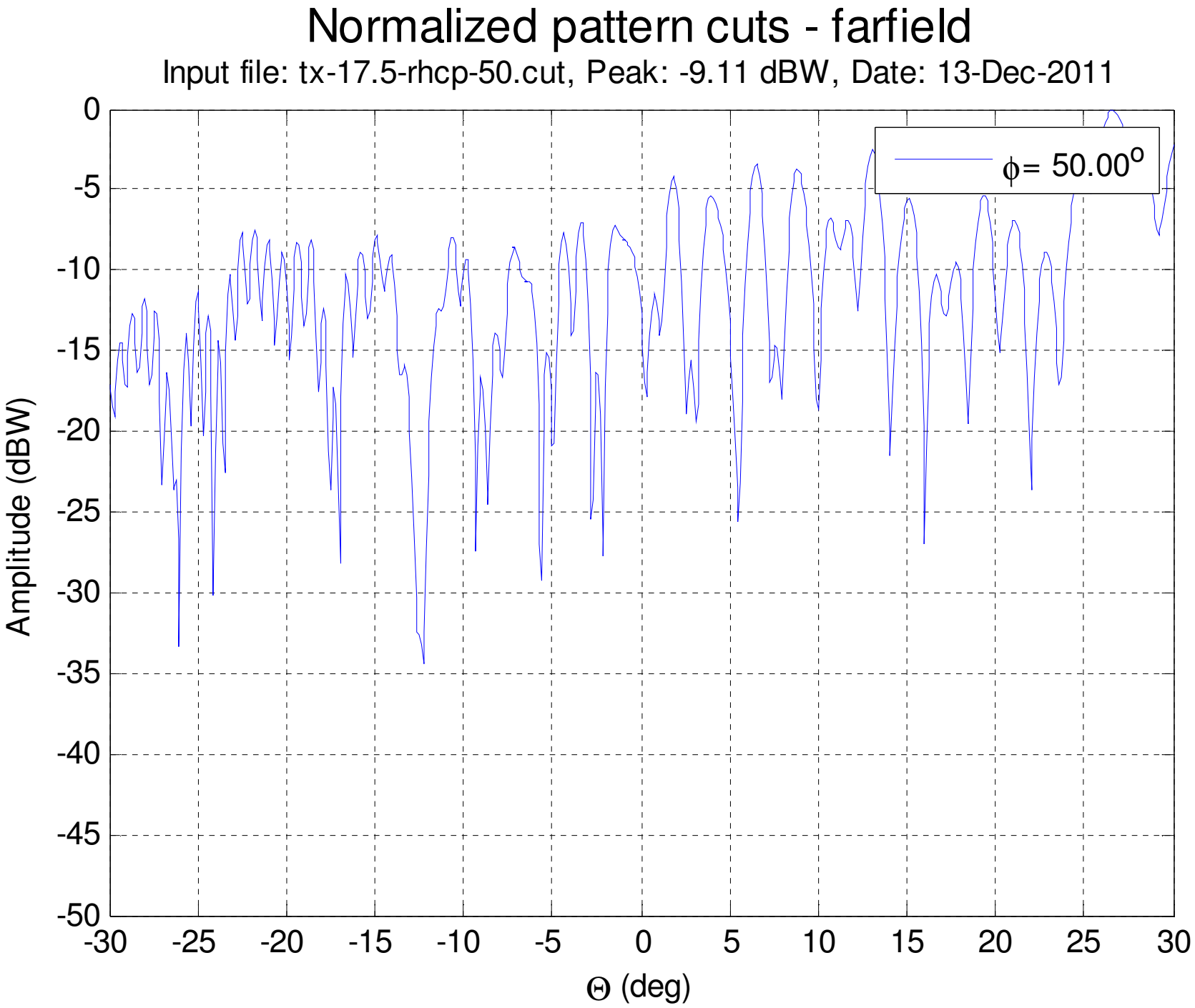

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: 0.46 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

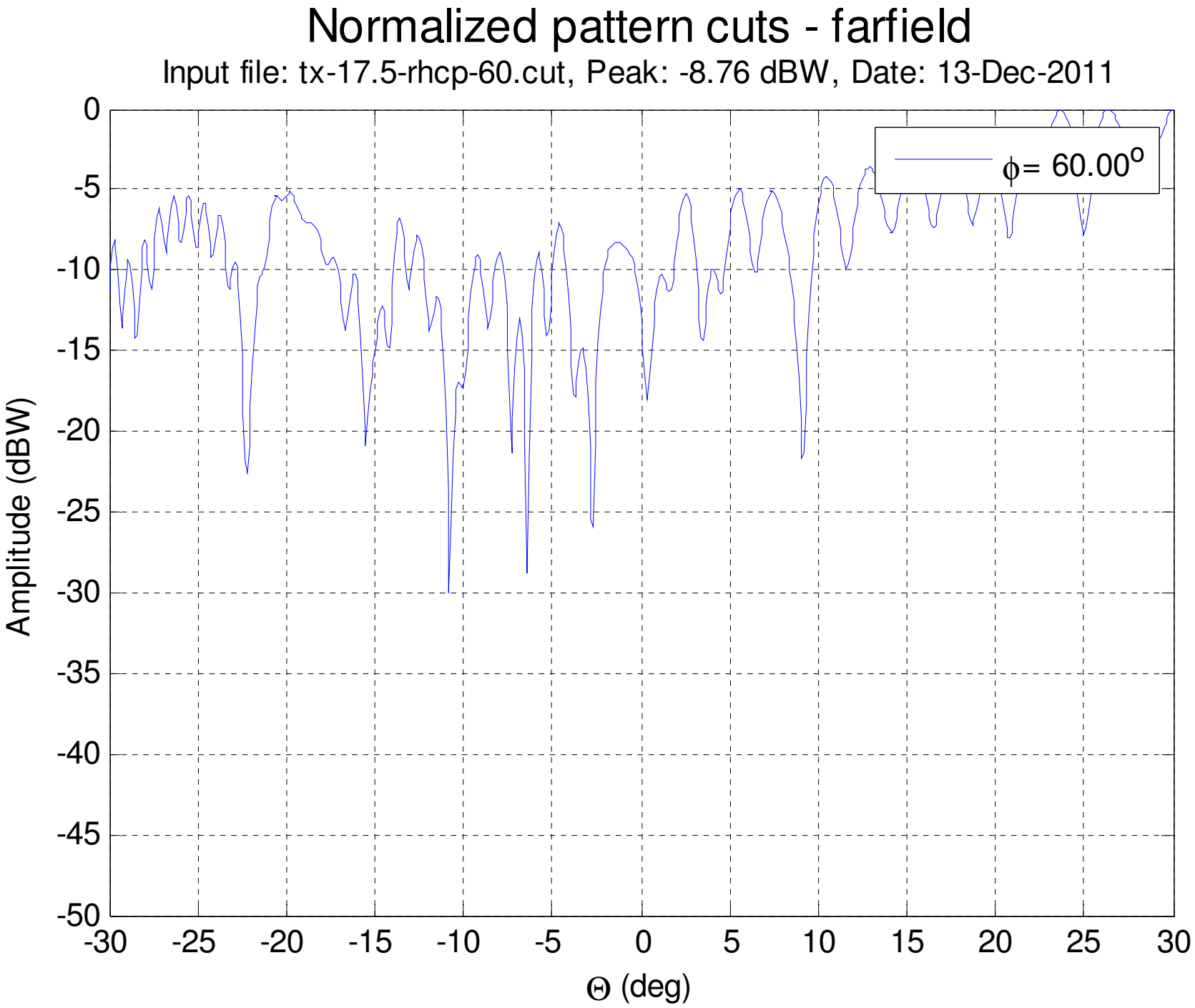

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -1.16 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -3.31 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

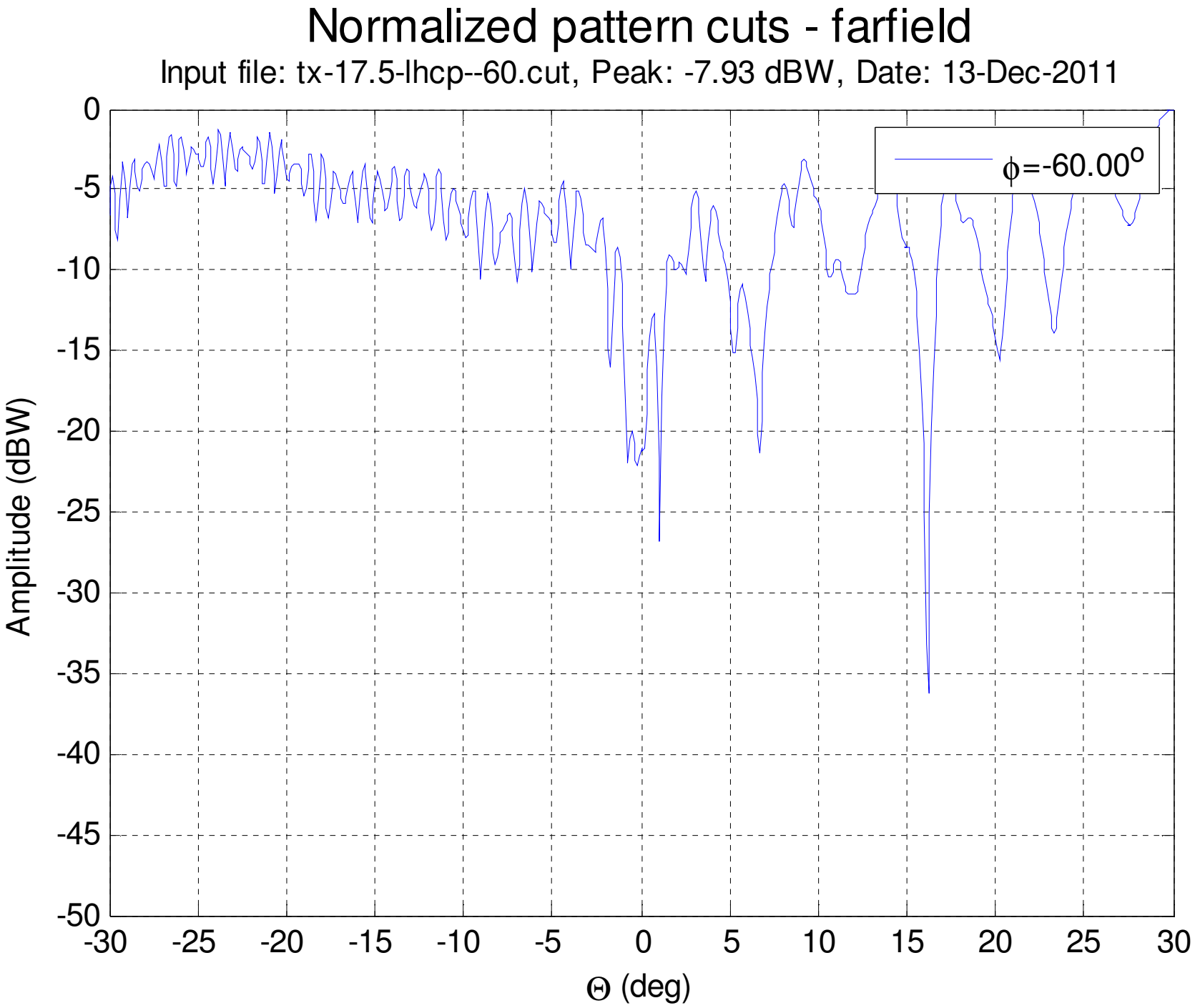

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -6.76 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

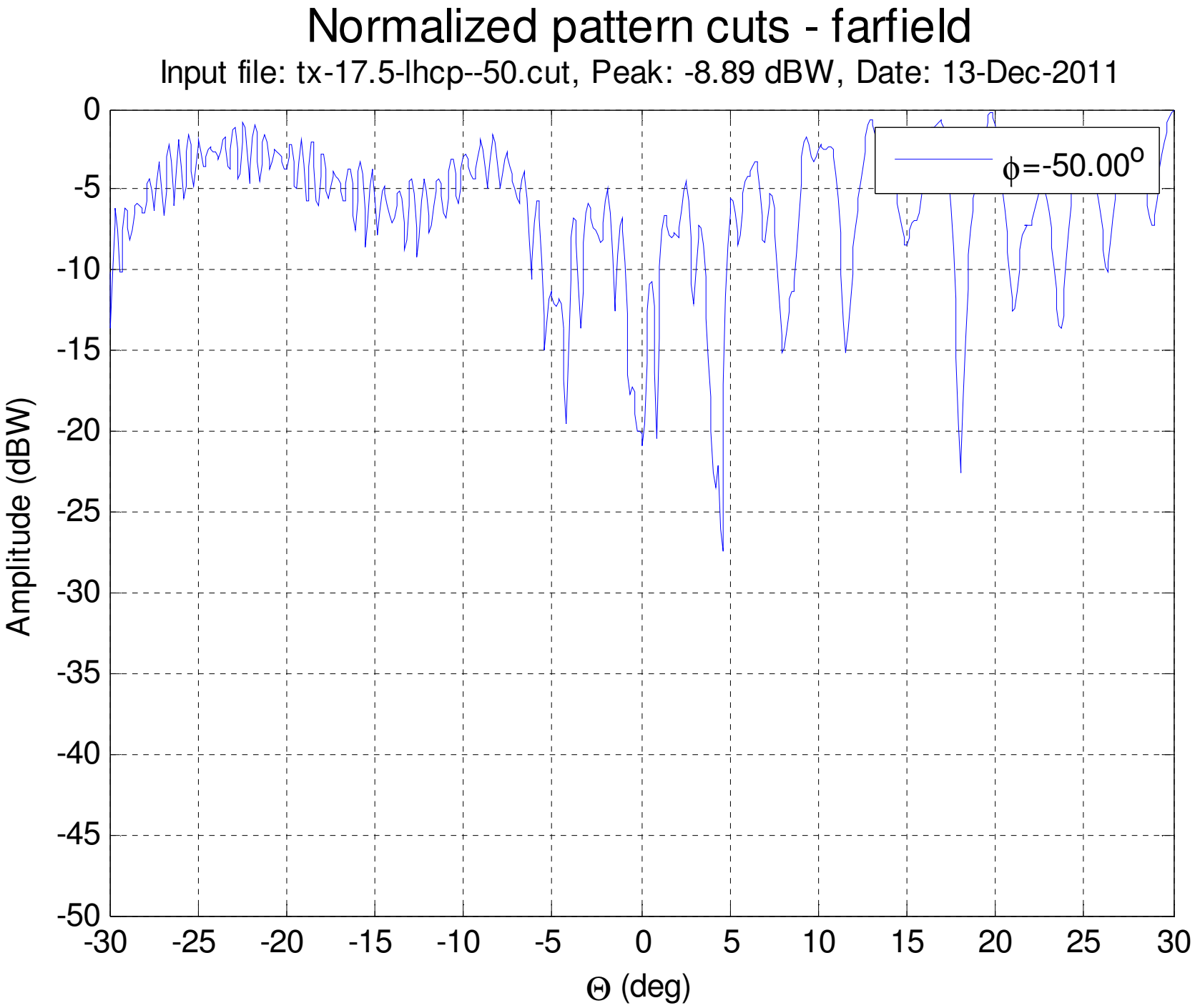

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -11.98 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

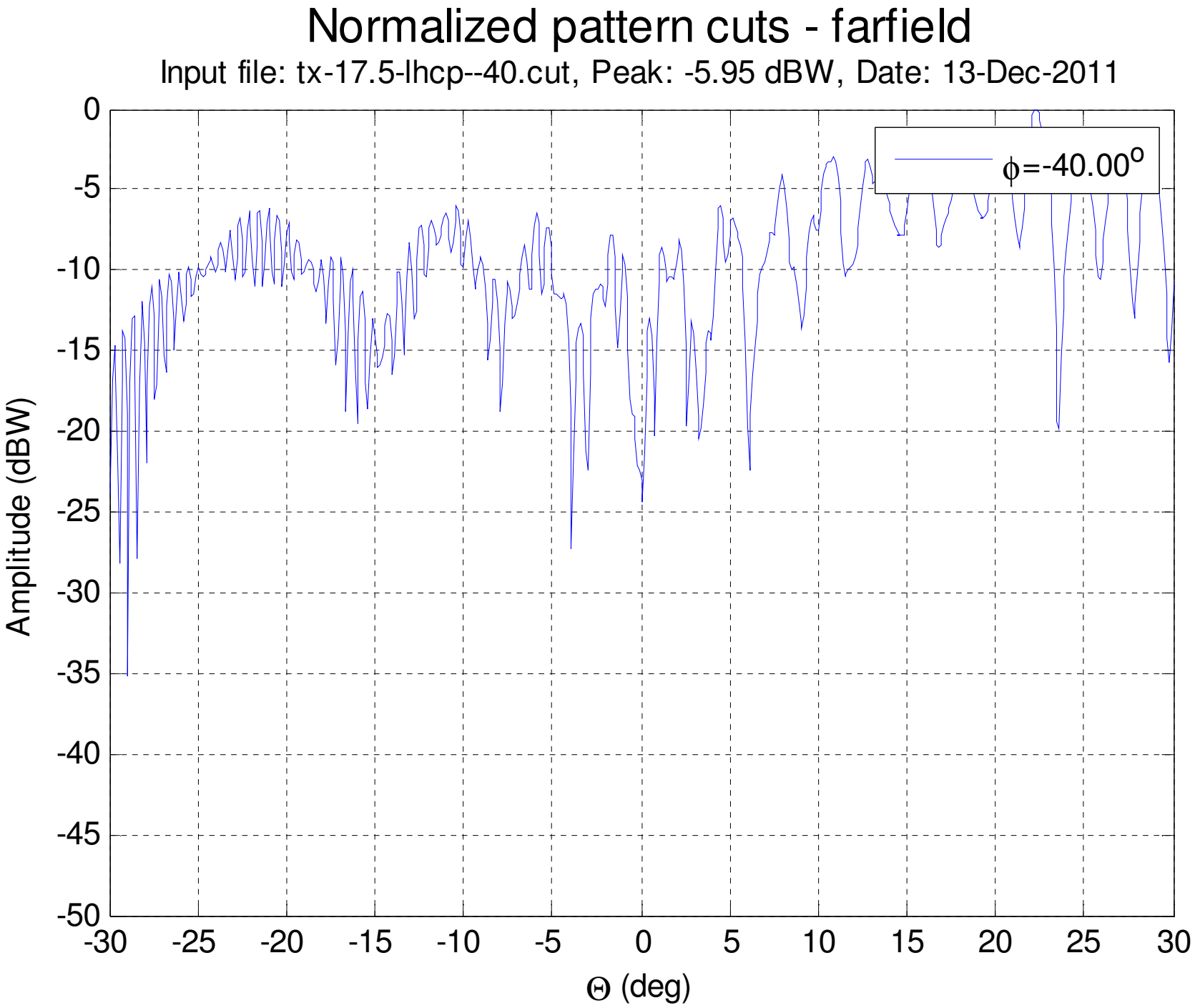

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -9.11 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

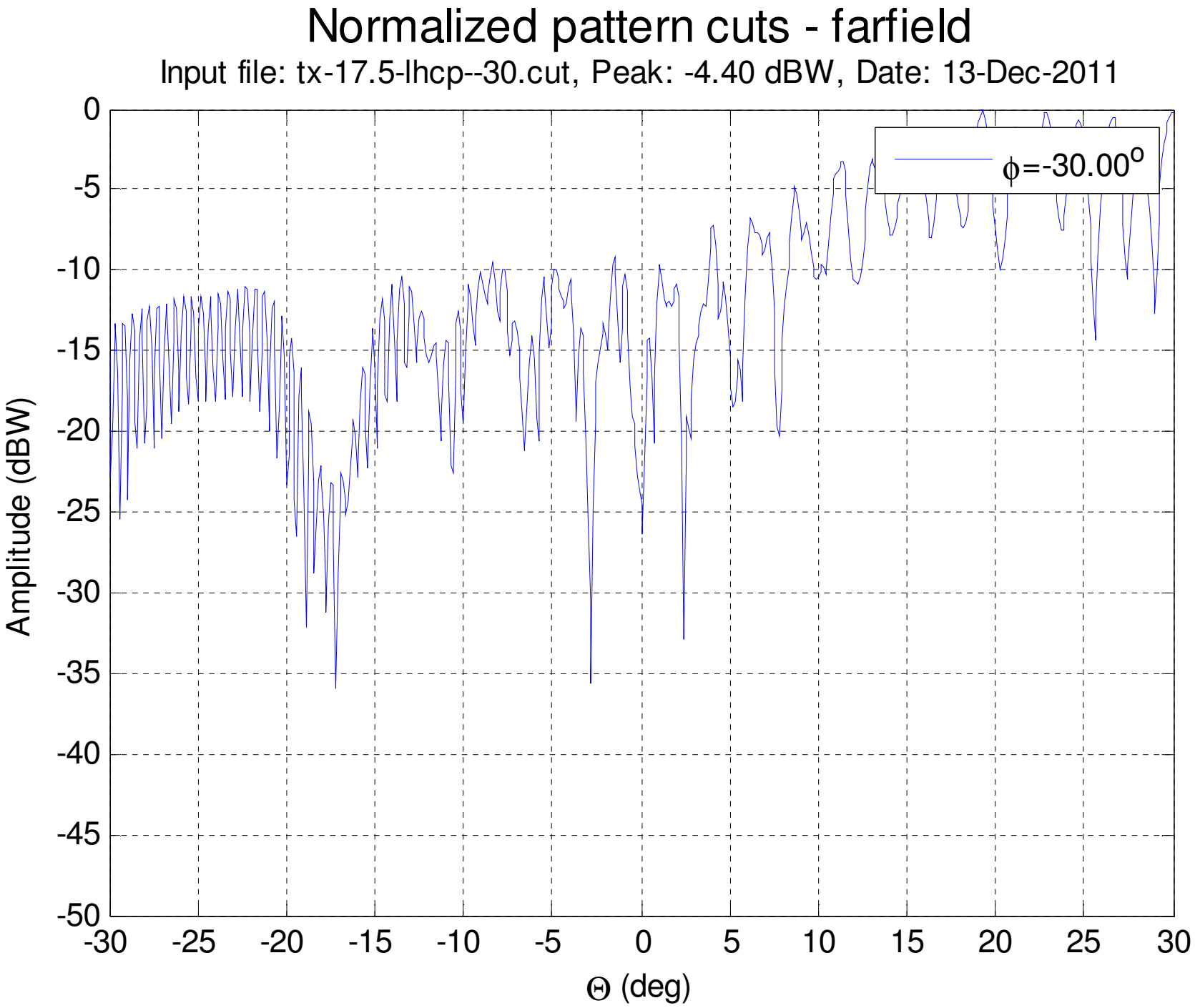

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -8.76 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

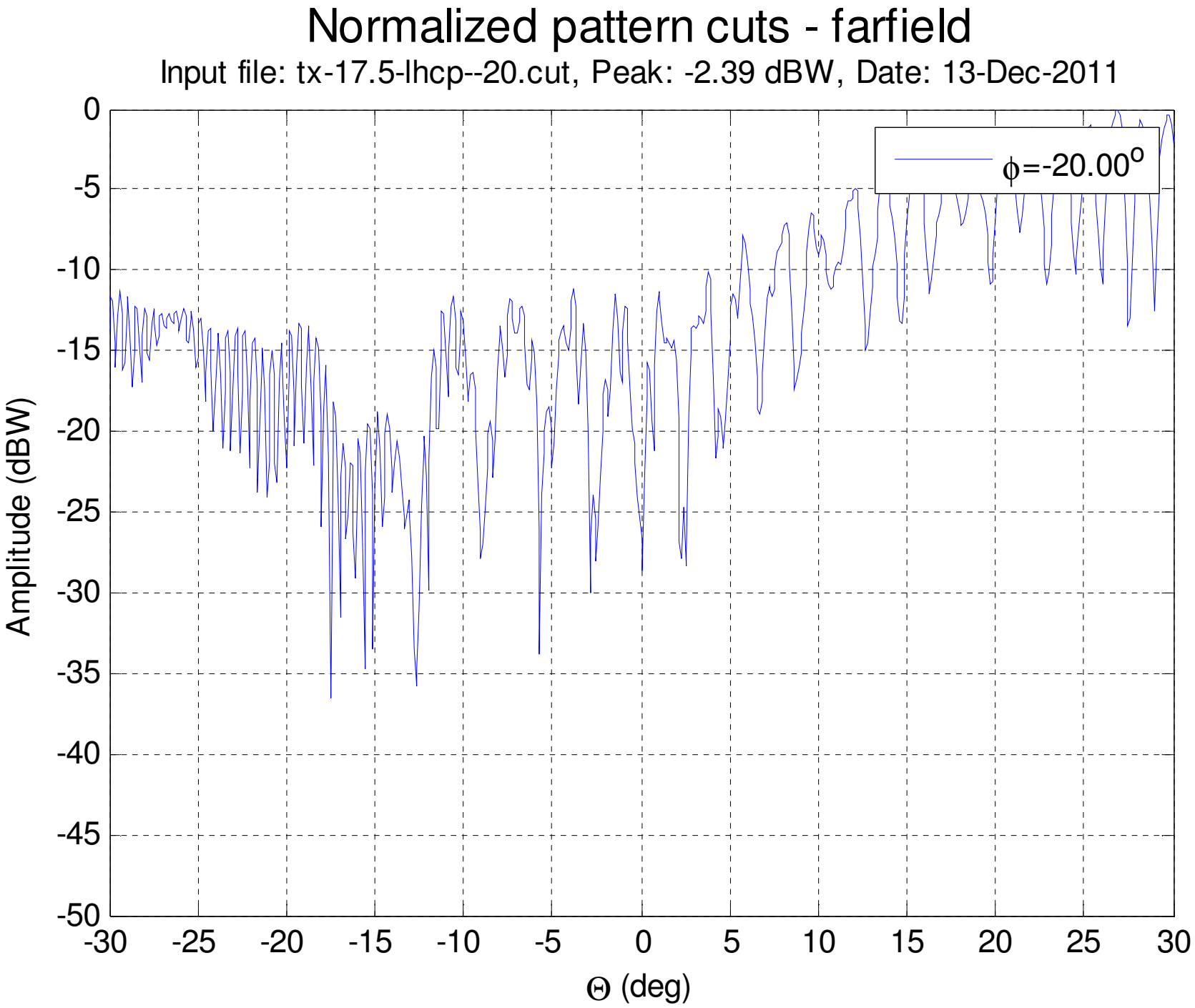
LHCP at 17.5 GHz

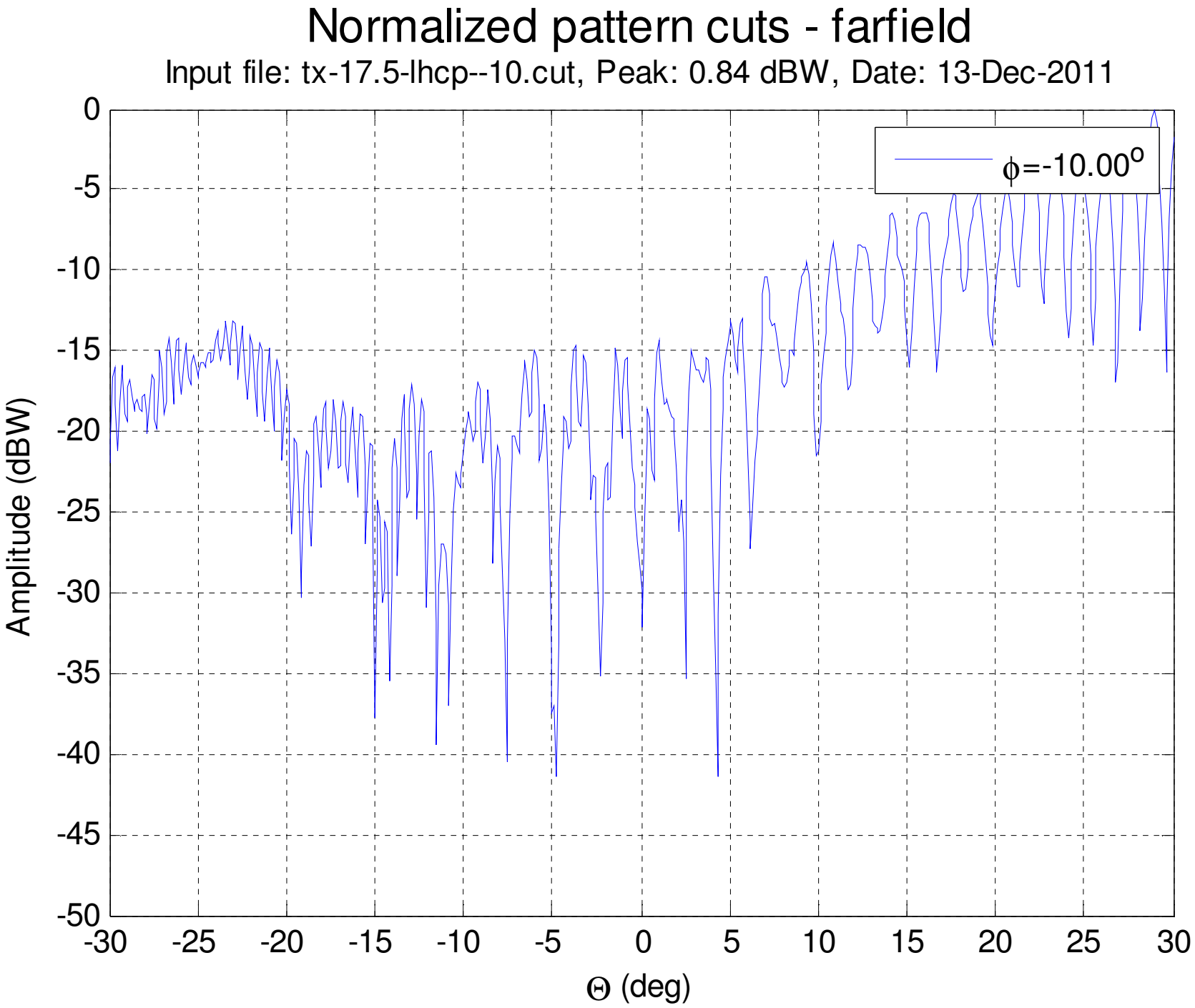

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -7.93 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

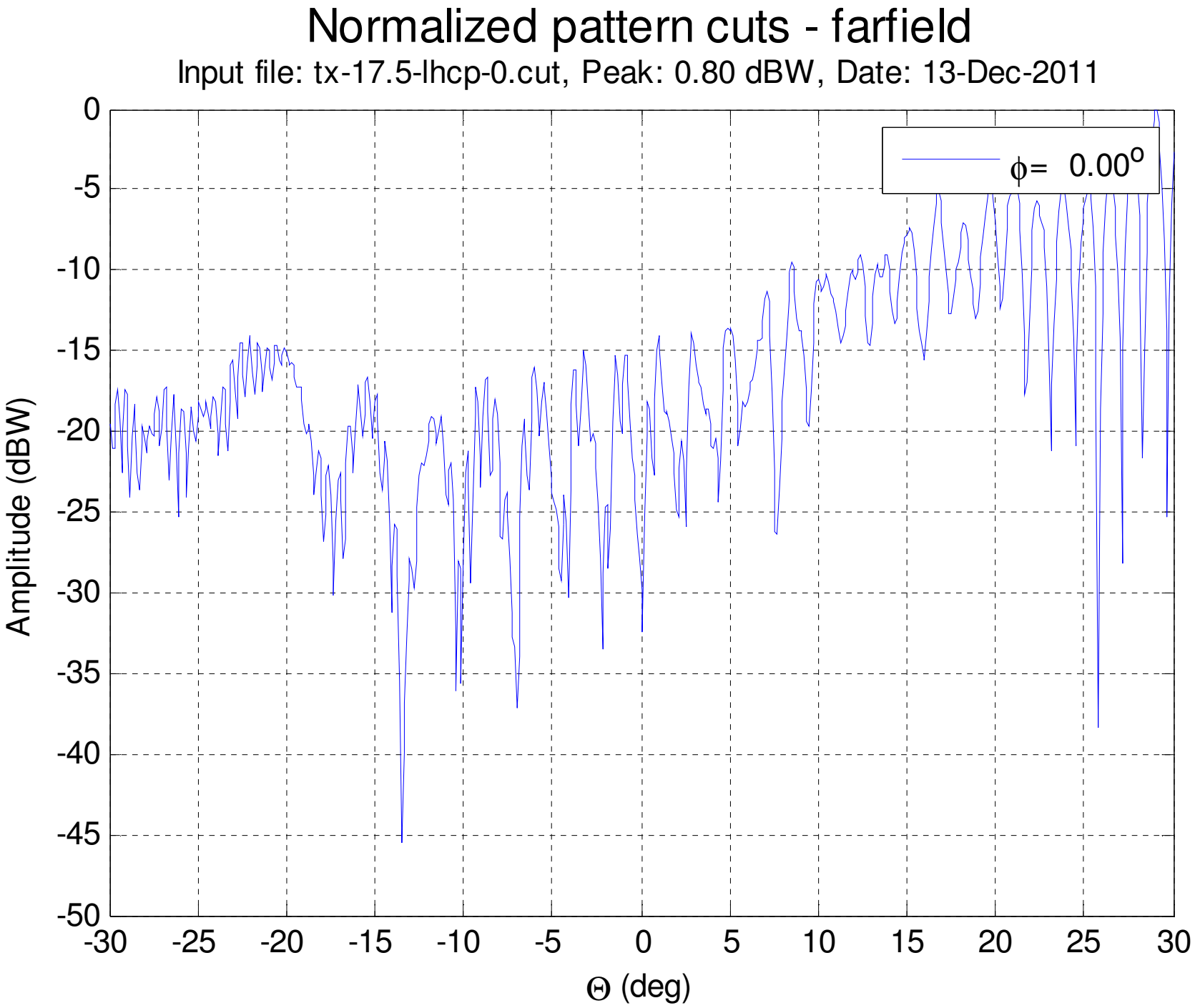

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -8.89 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

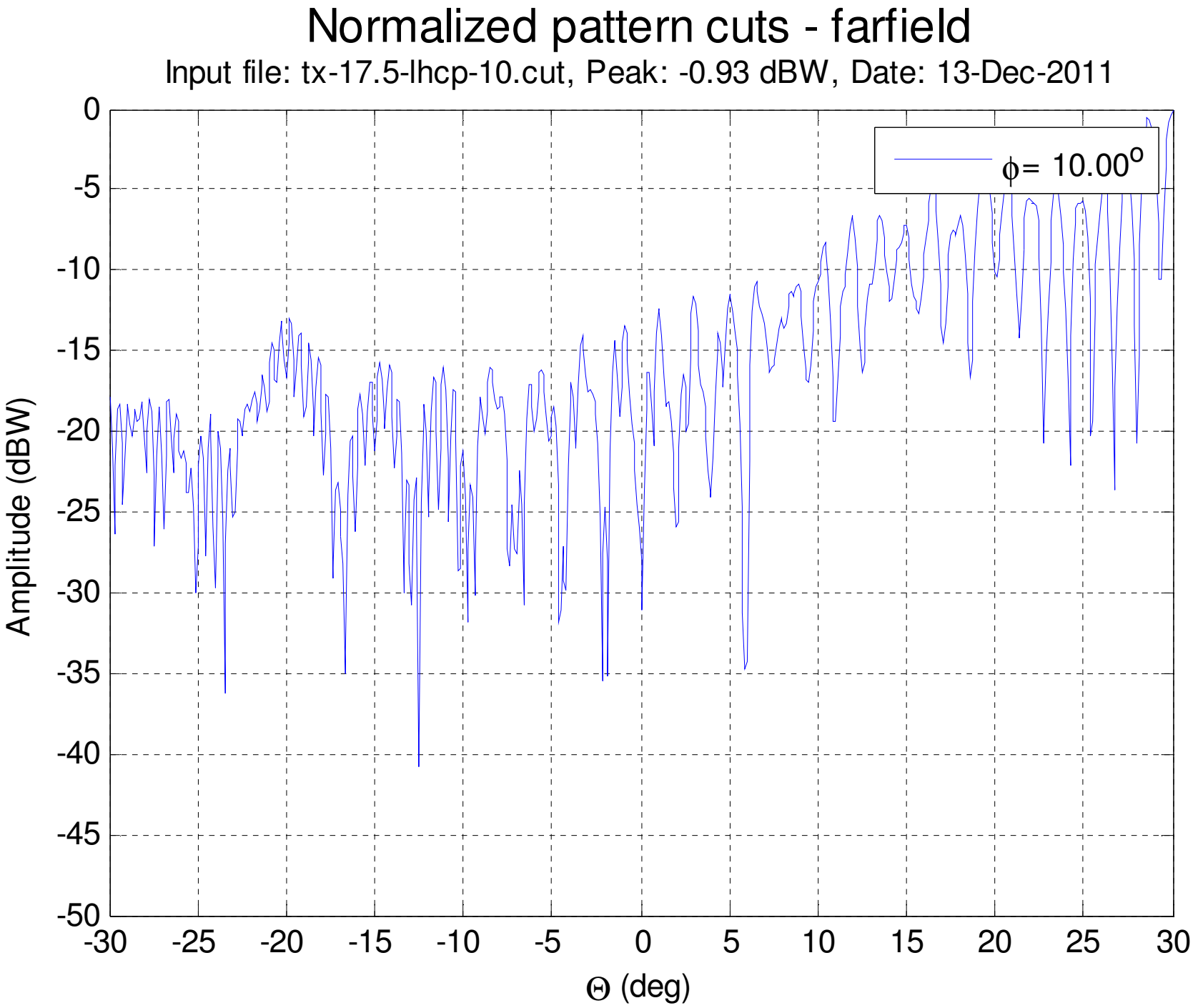

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -5.95 dBW, Date: 13-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

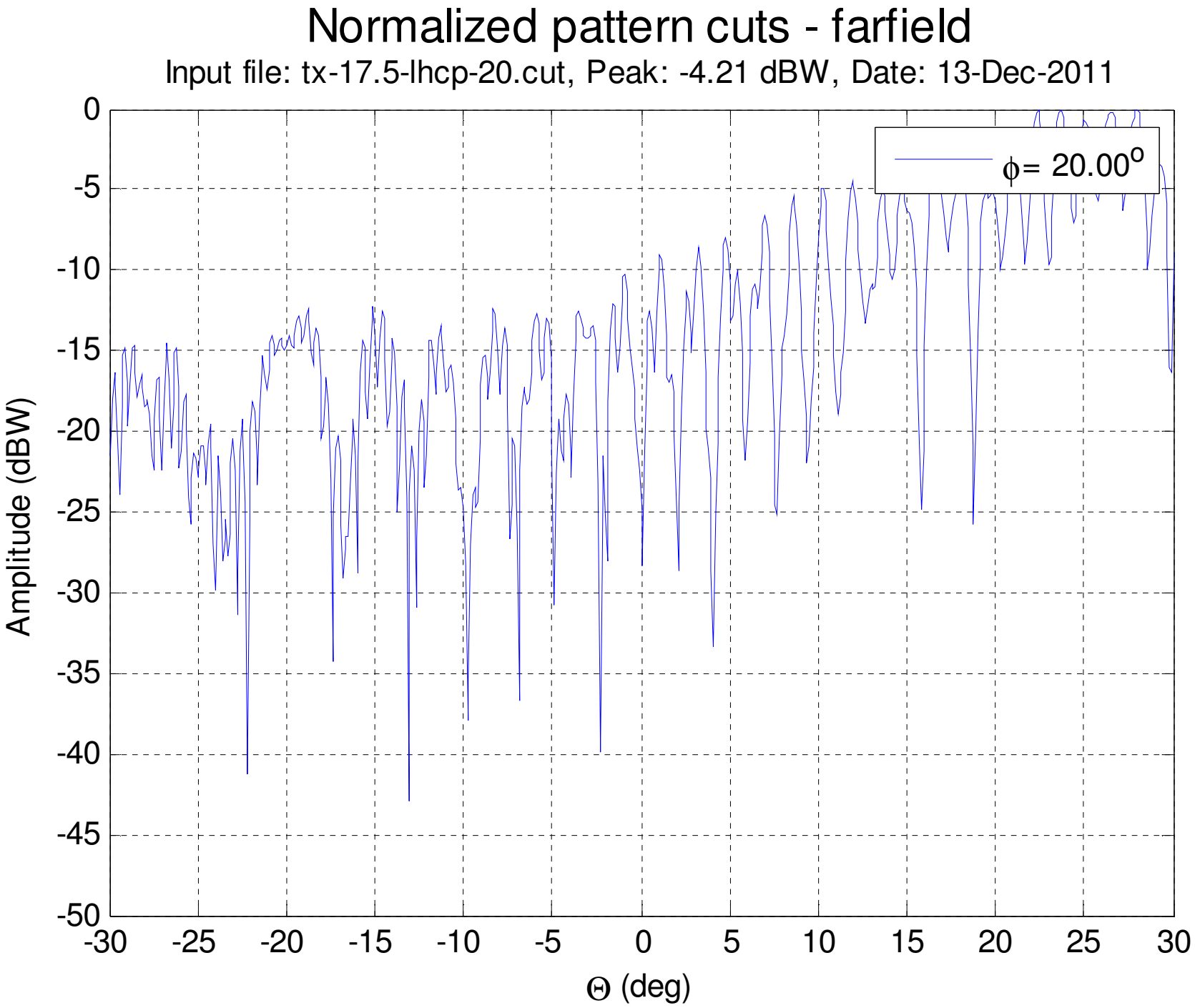

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -4.40 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

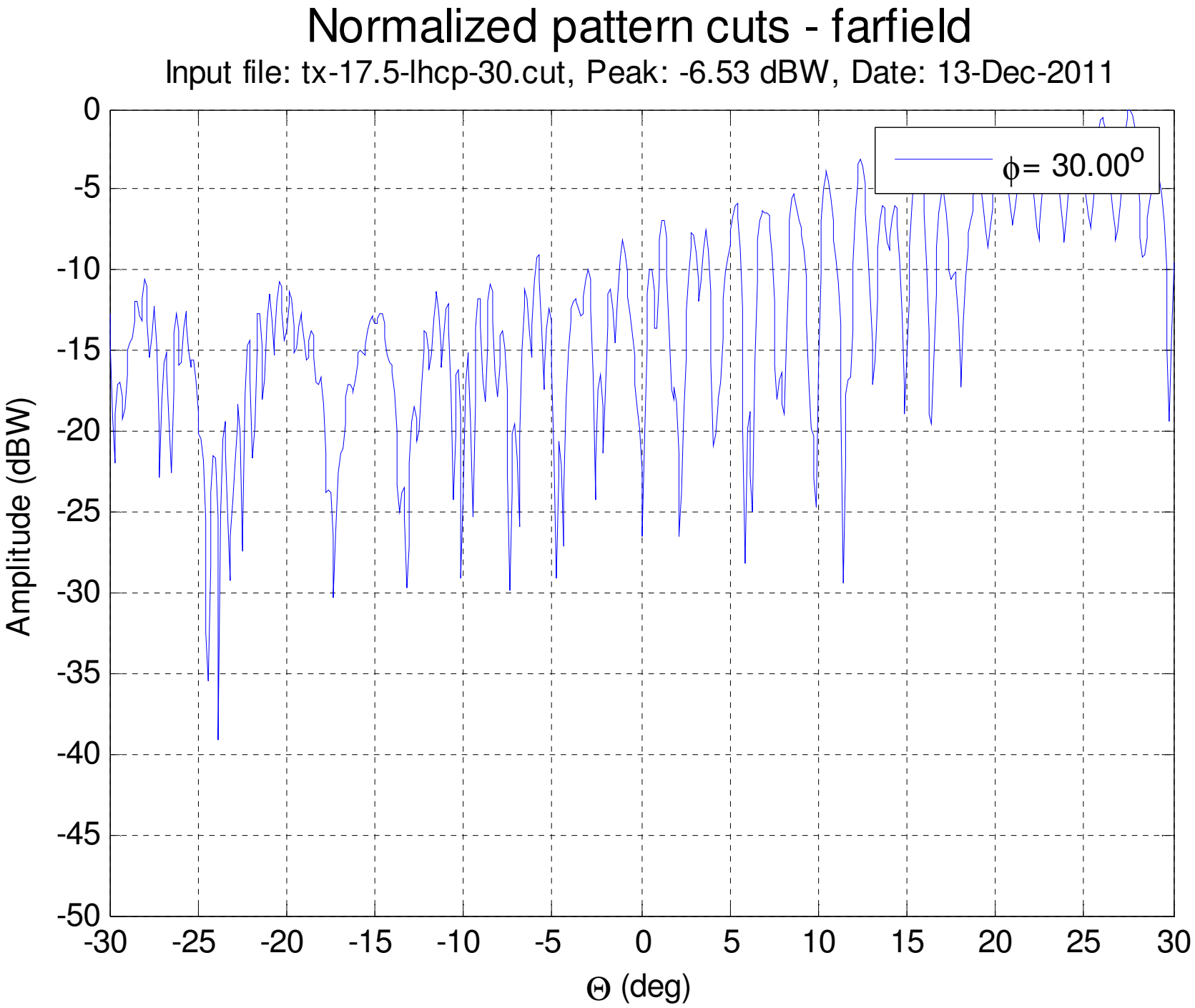

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -2.39 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

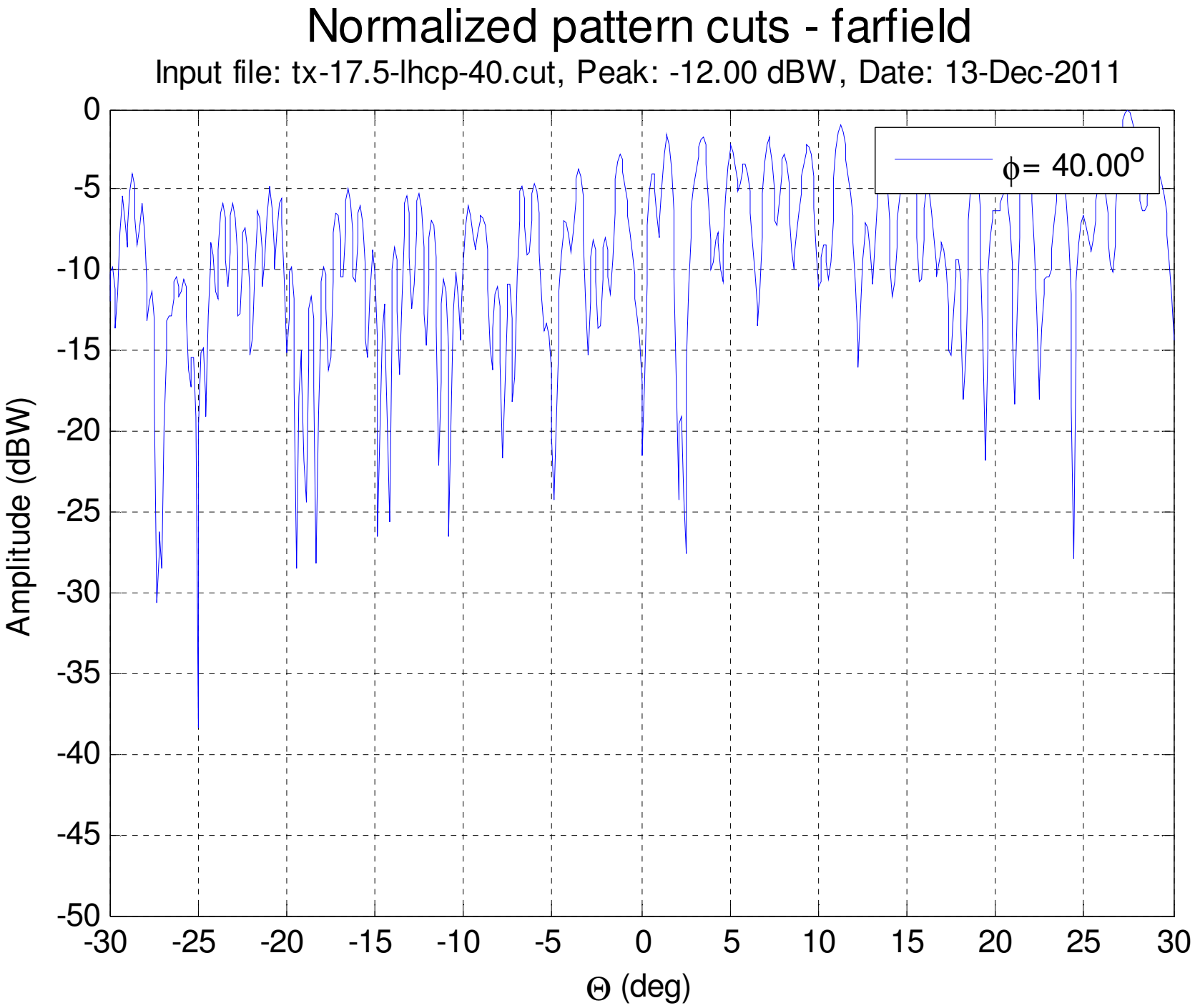

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: 0.84 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

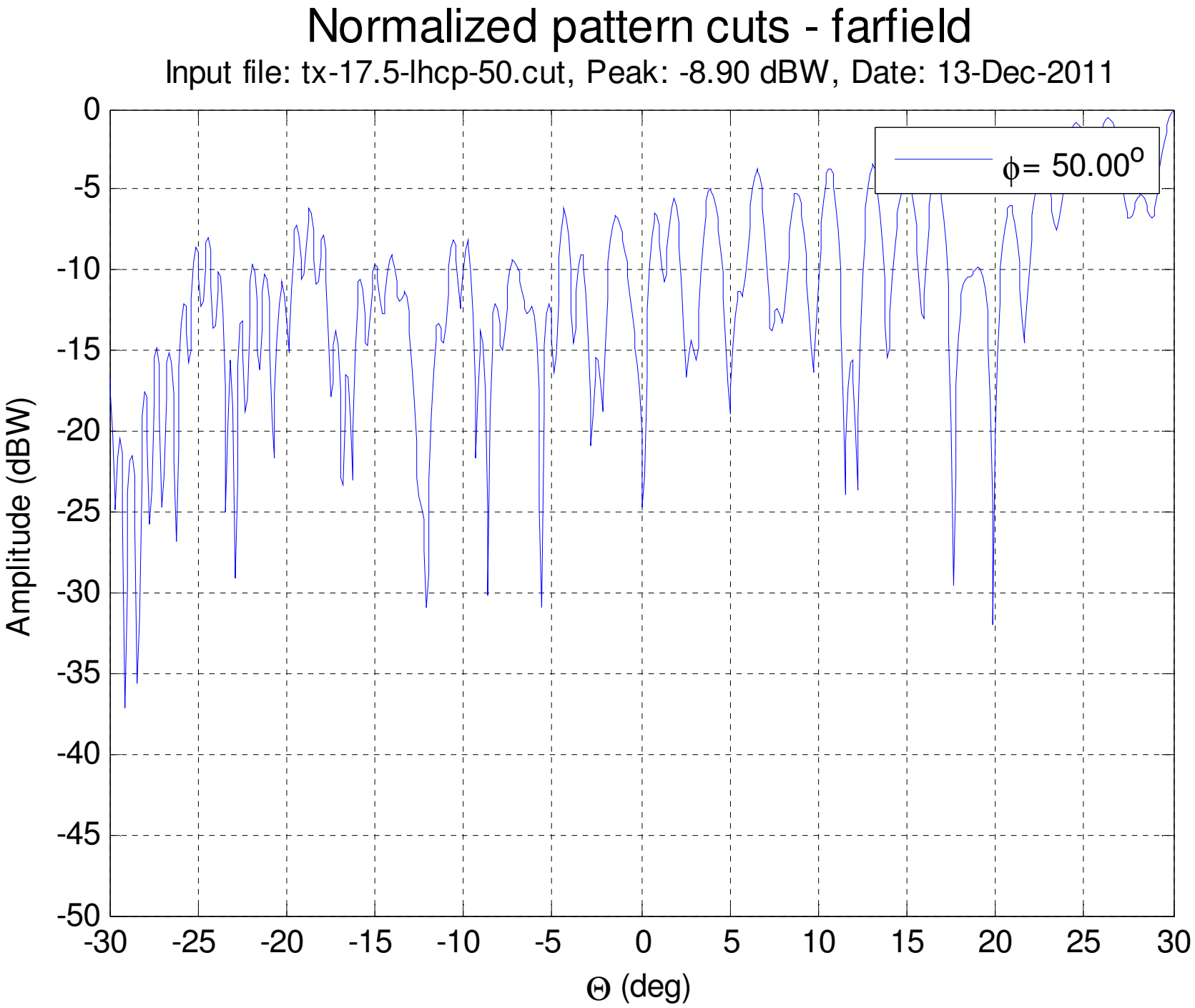

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: 0.80 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

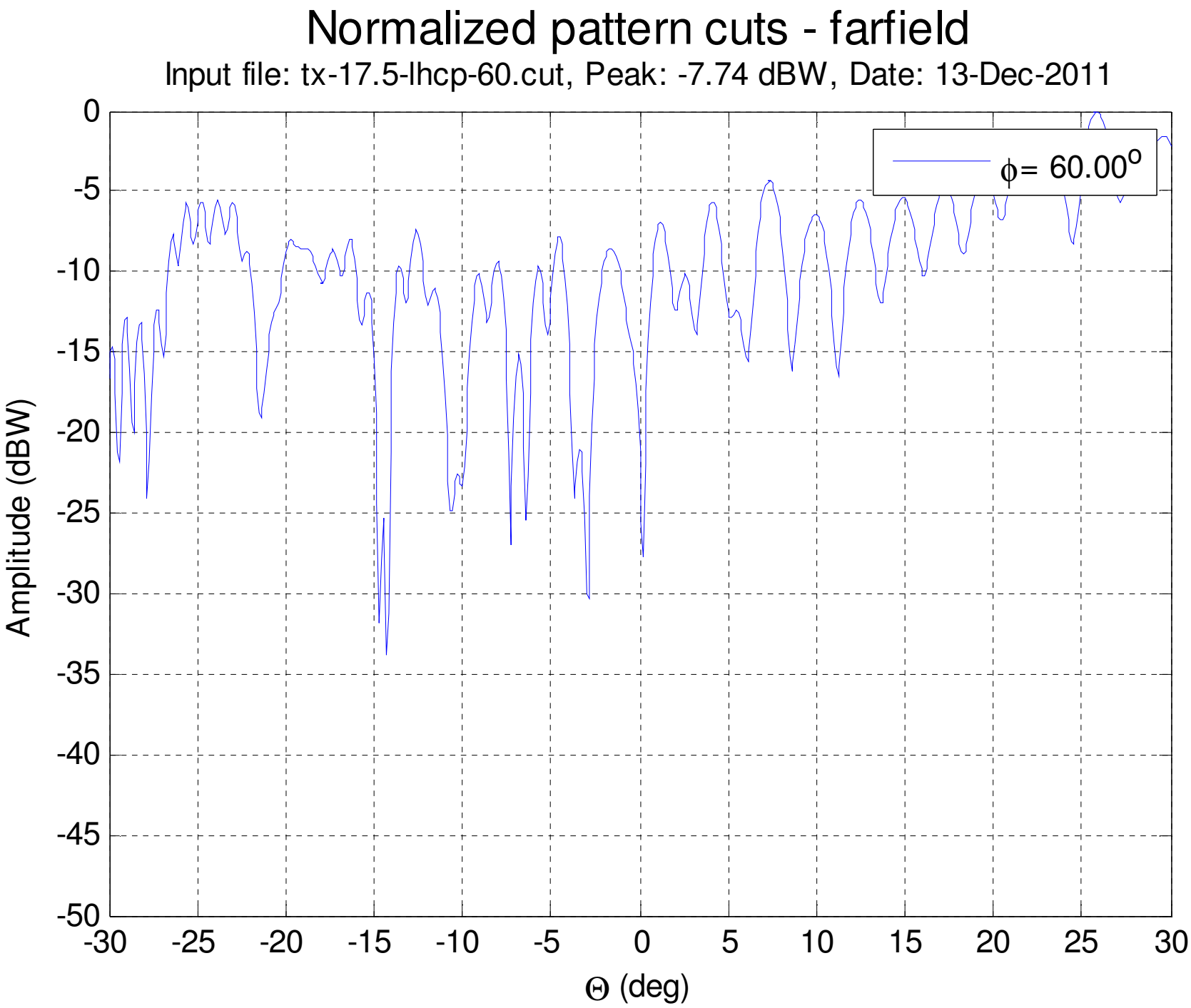

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -0.93 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -4.21 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

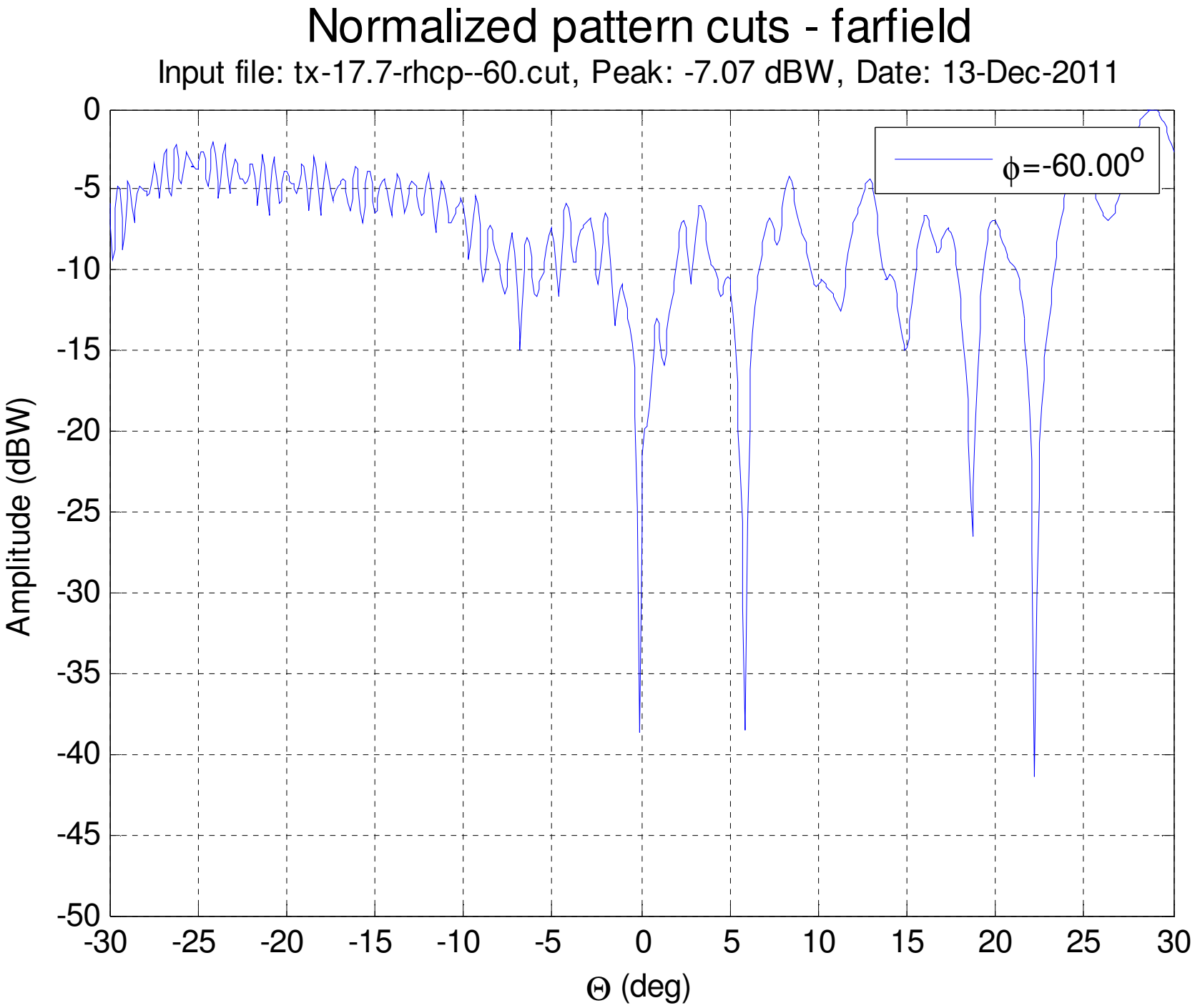

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -6.53 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

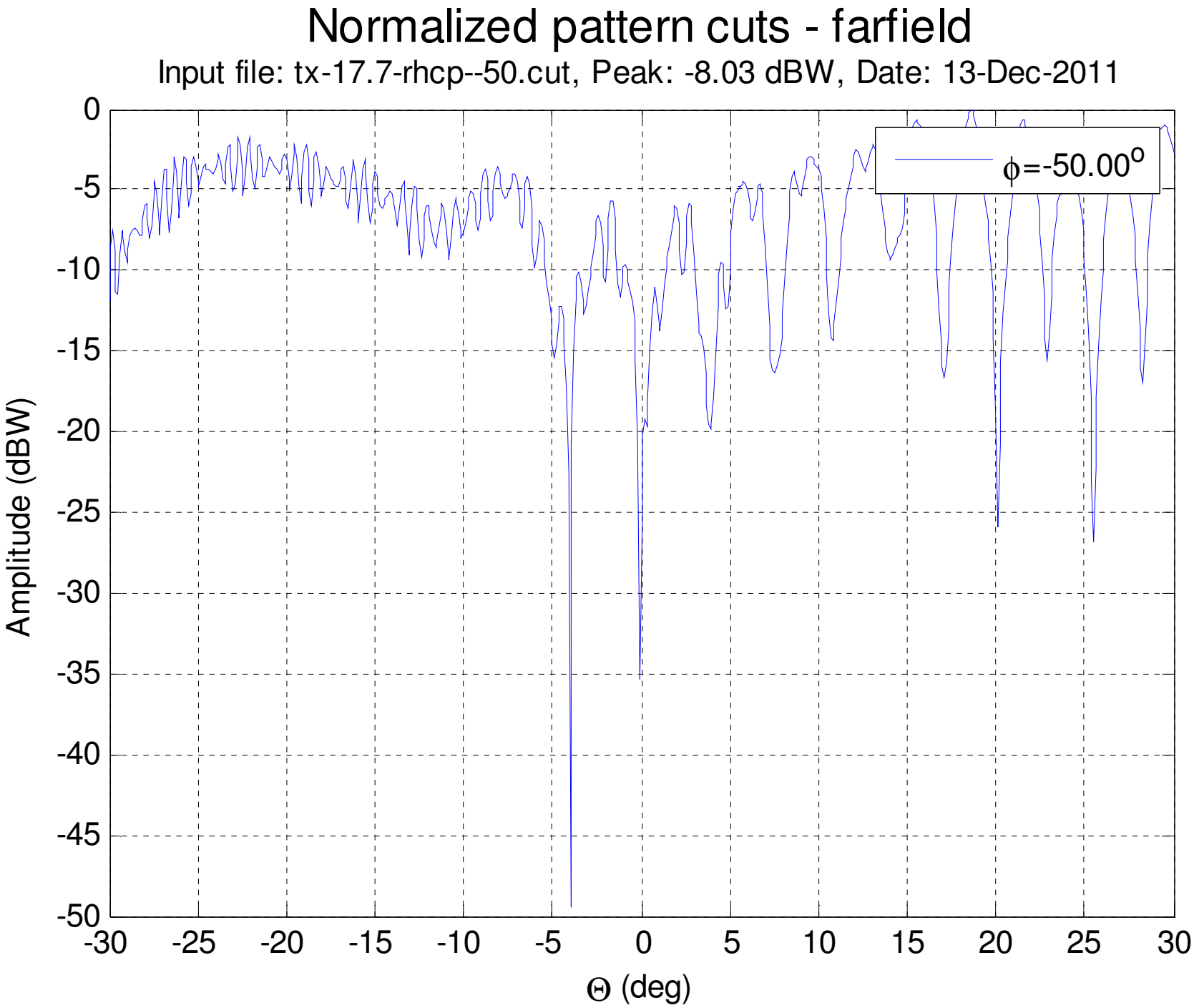

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -12.00 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

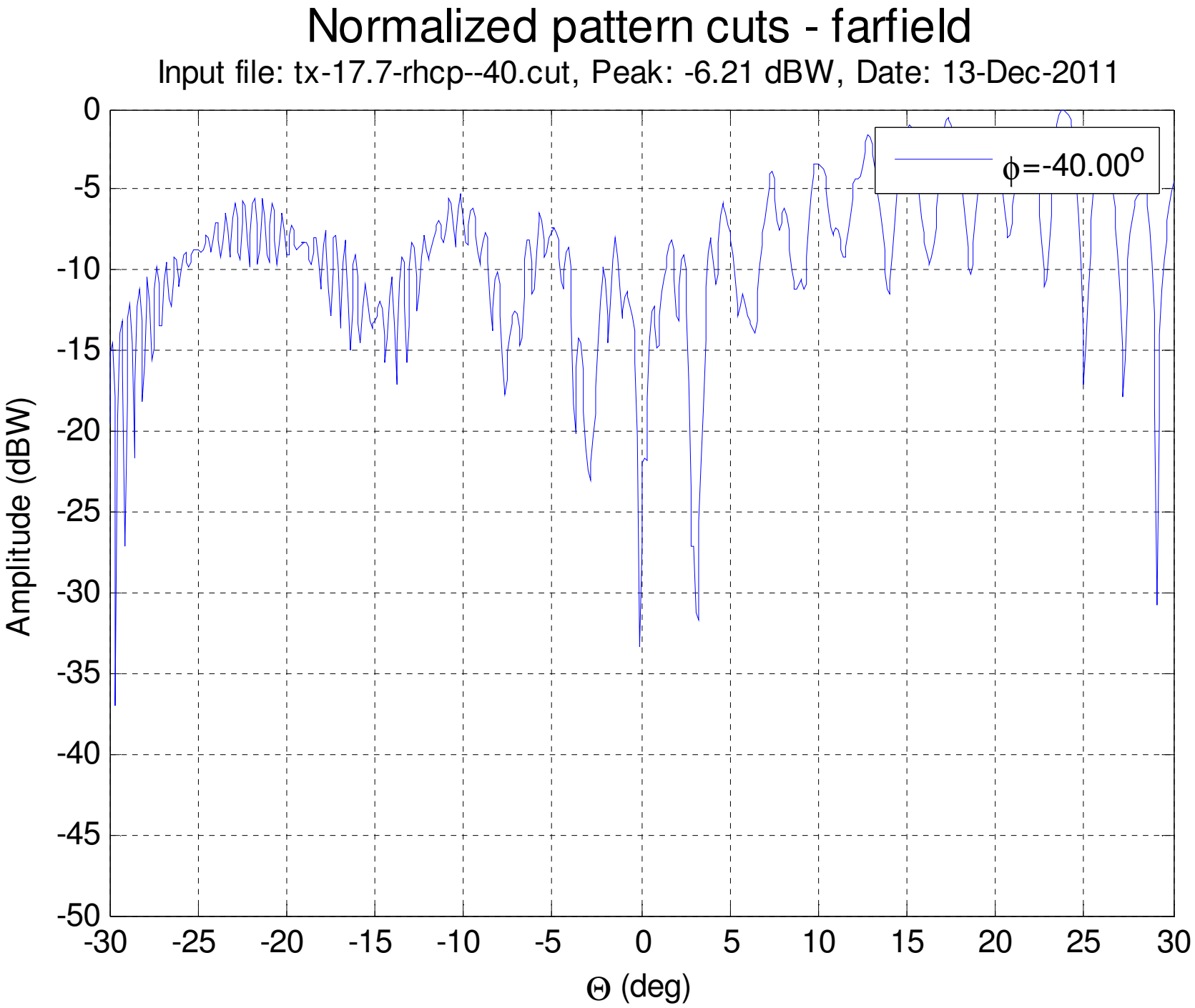

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -8.90 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

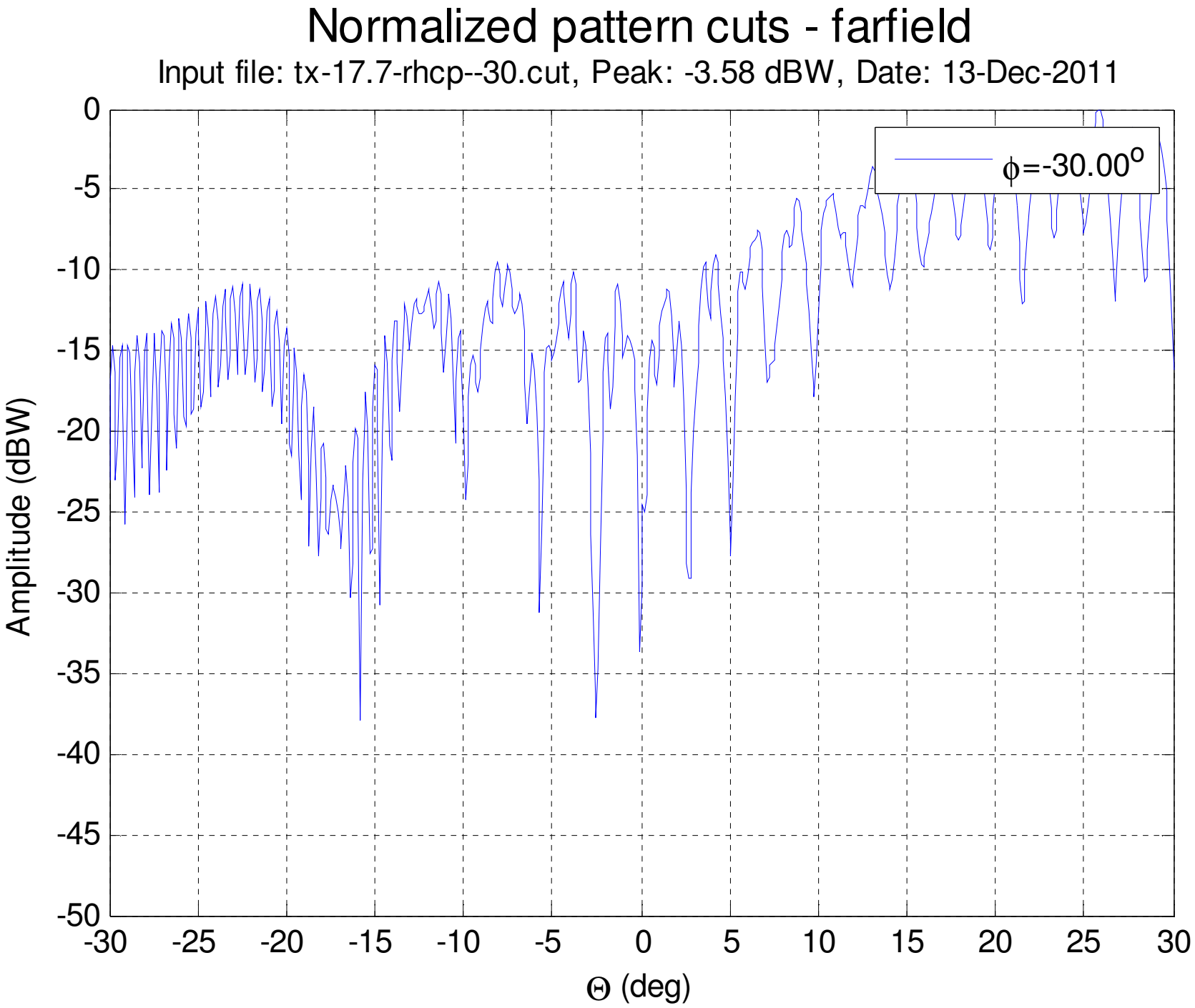

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -7.74 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

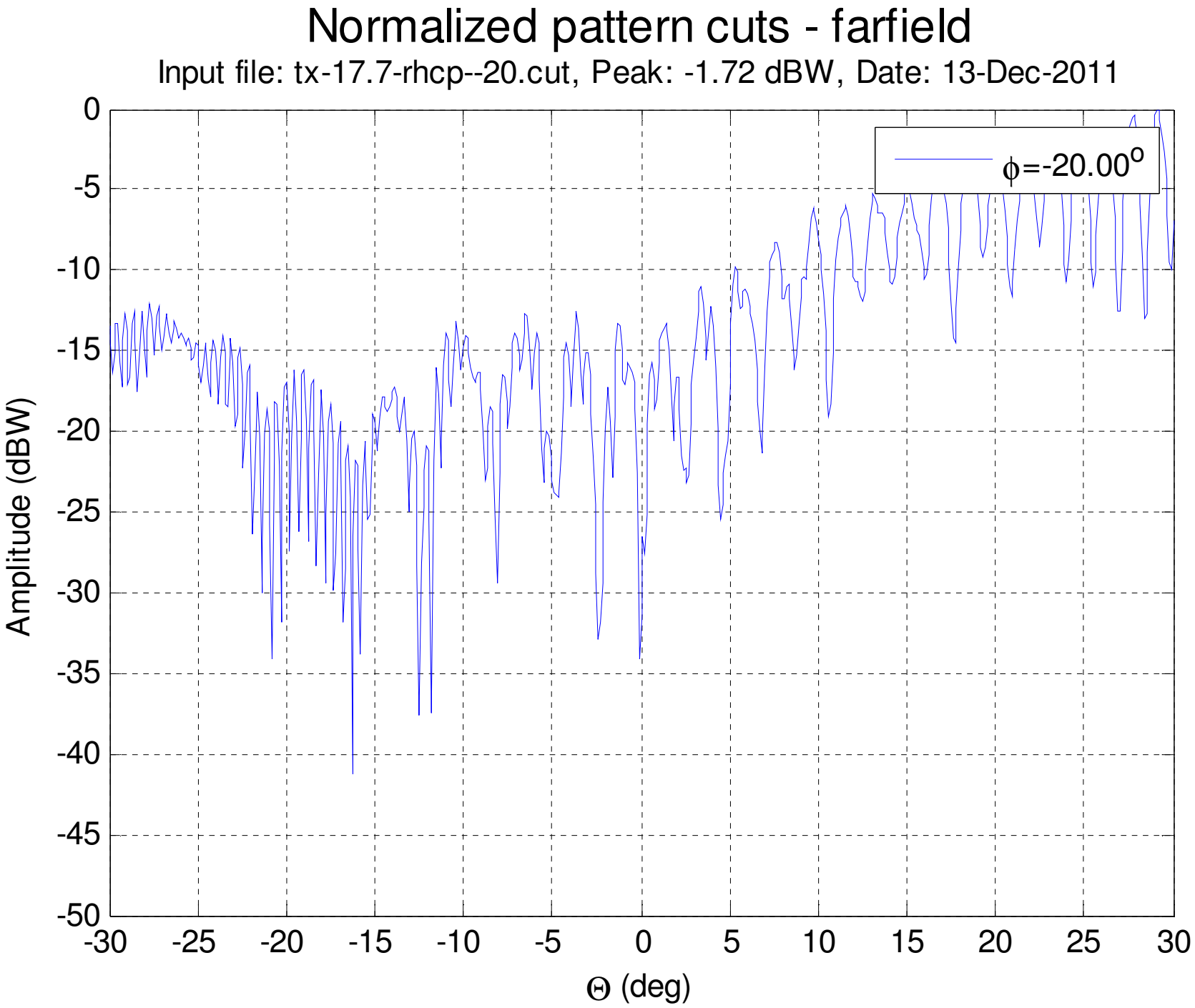
RHCP at 17.7 GHz

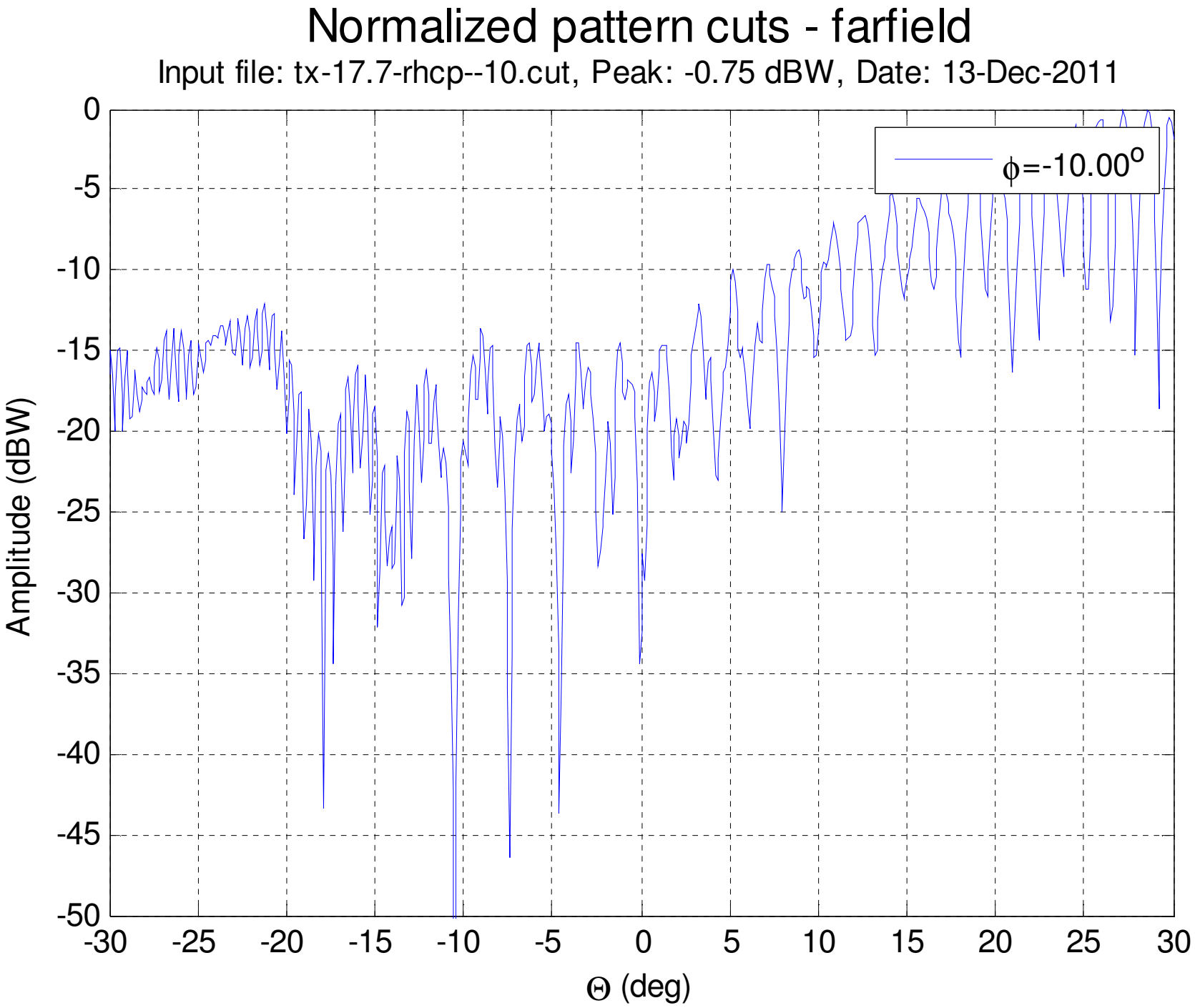

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -7.07 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

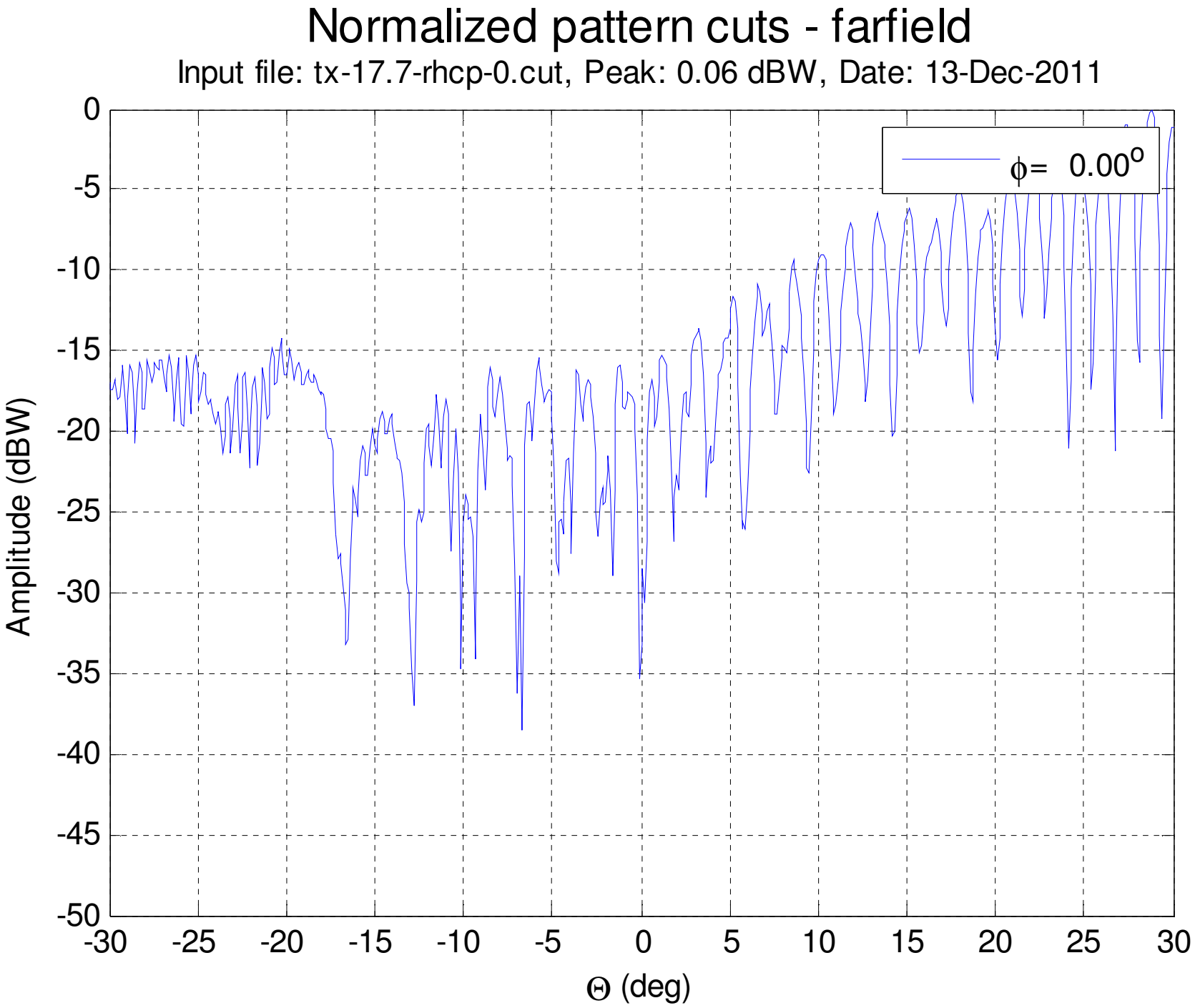

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -8.03 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

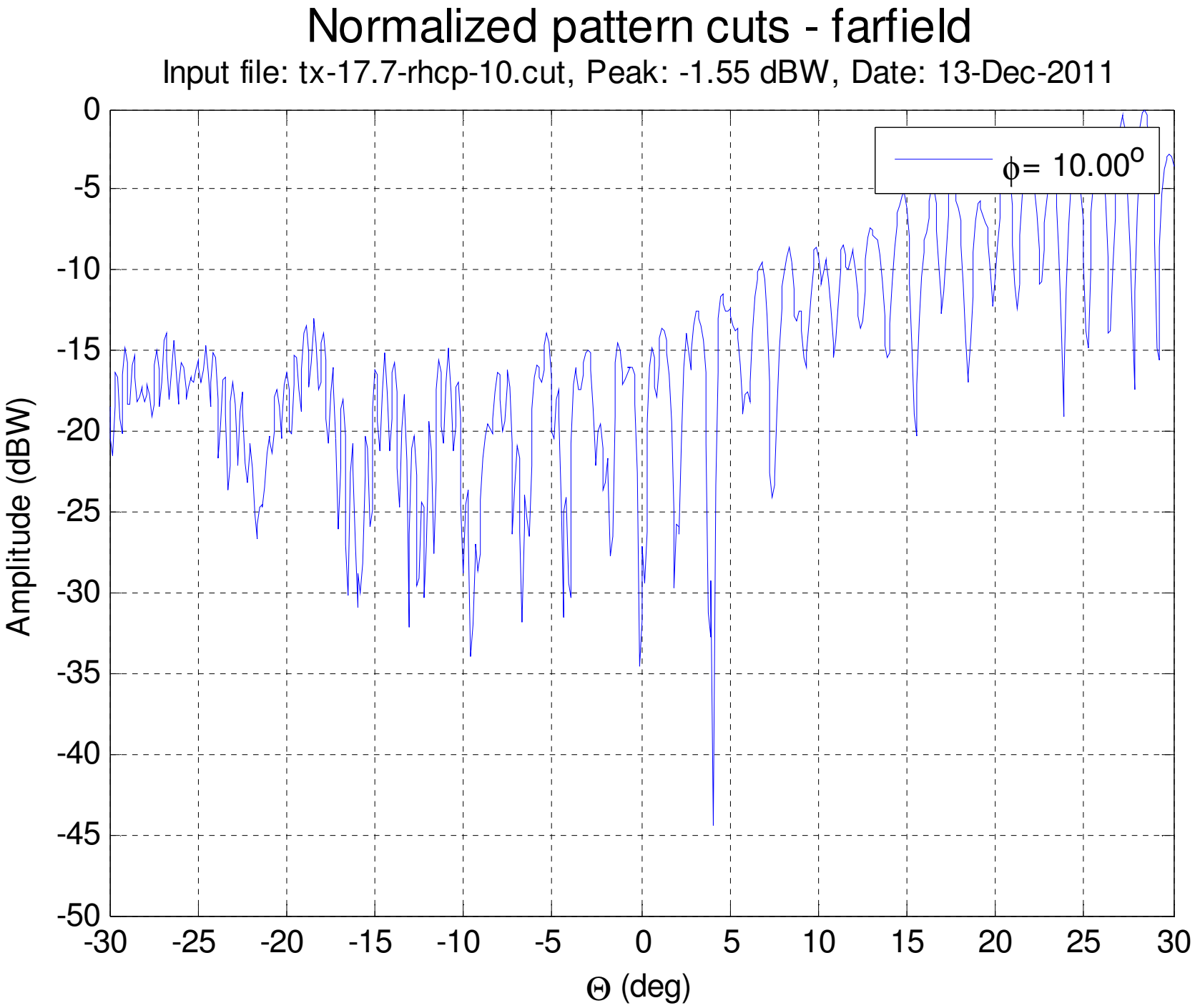

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -6.21 dBW, Date: 13-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

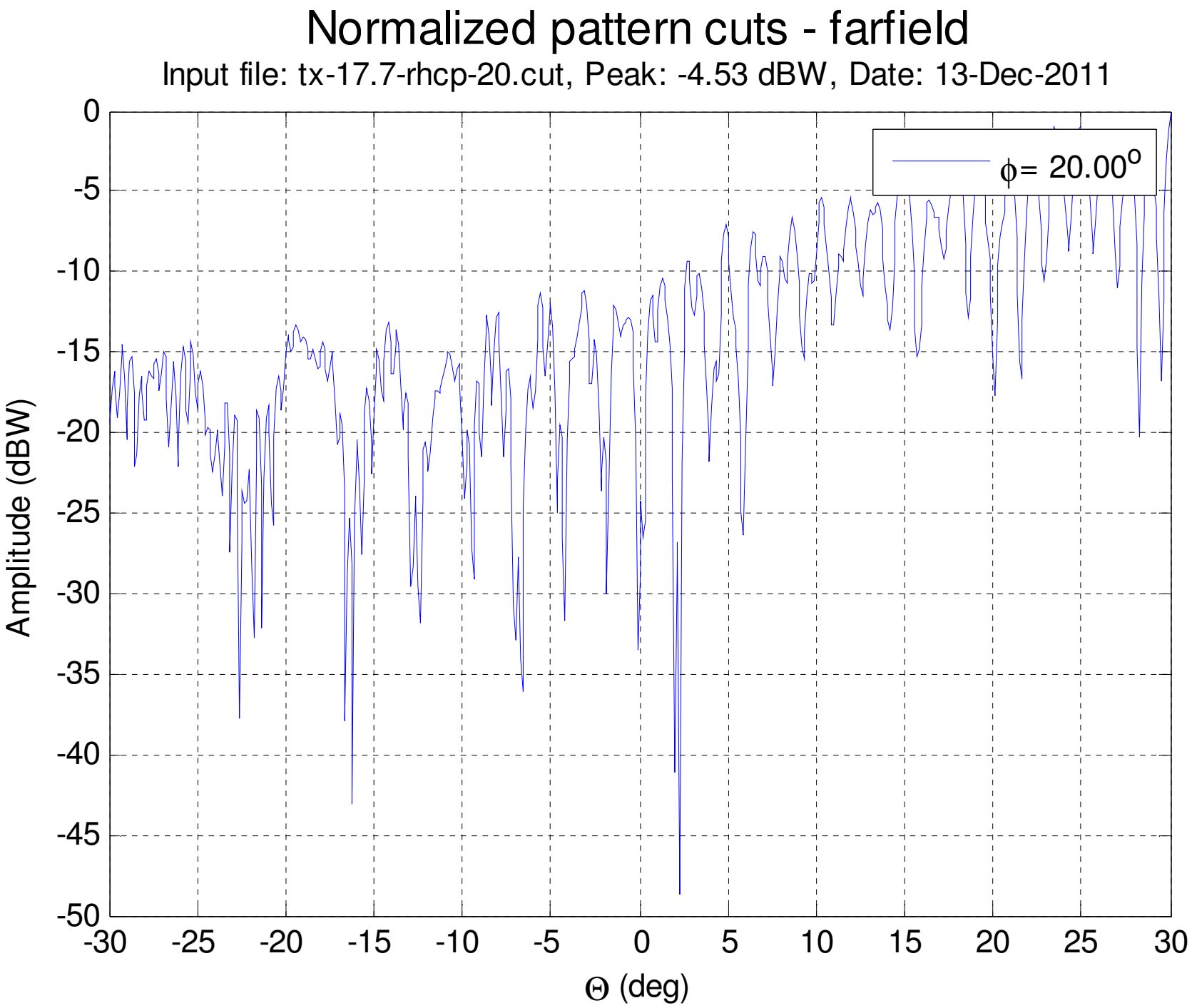

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -3.58 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

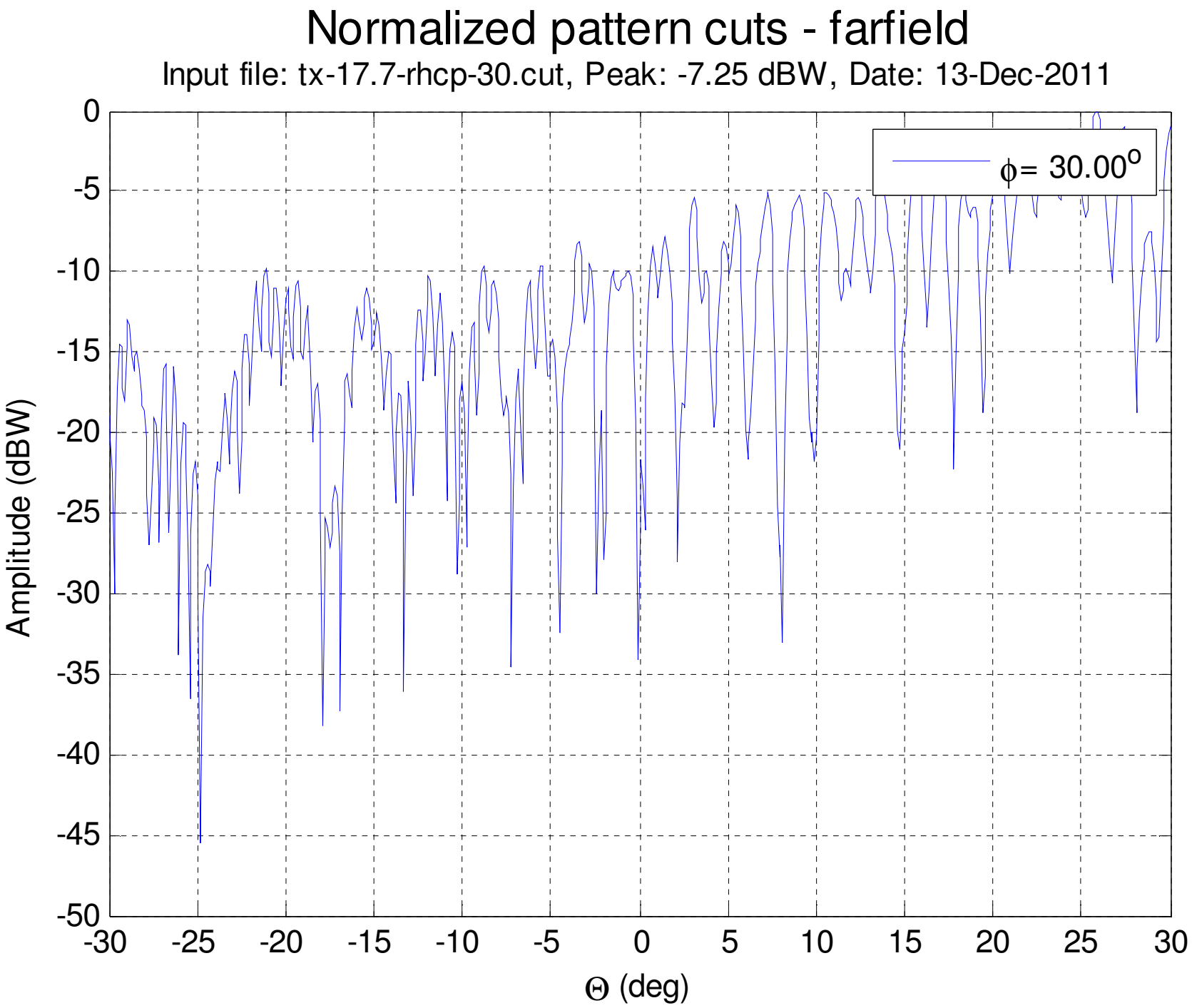

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -1.72 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

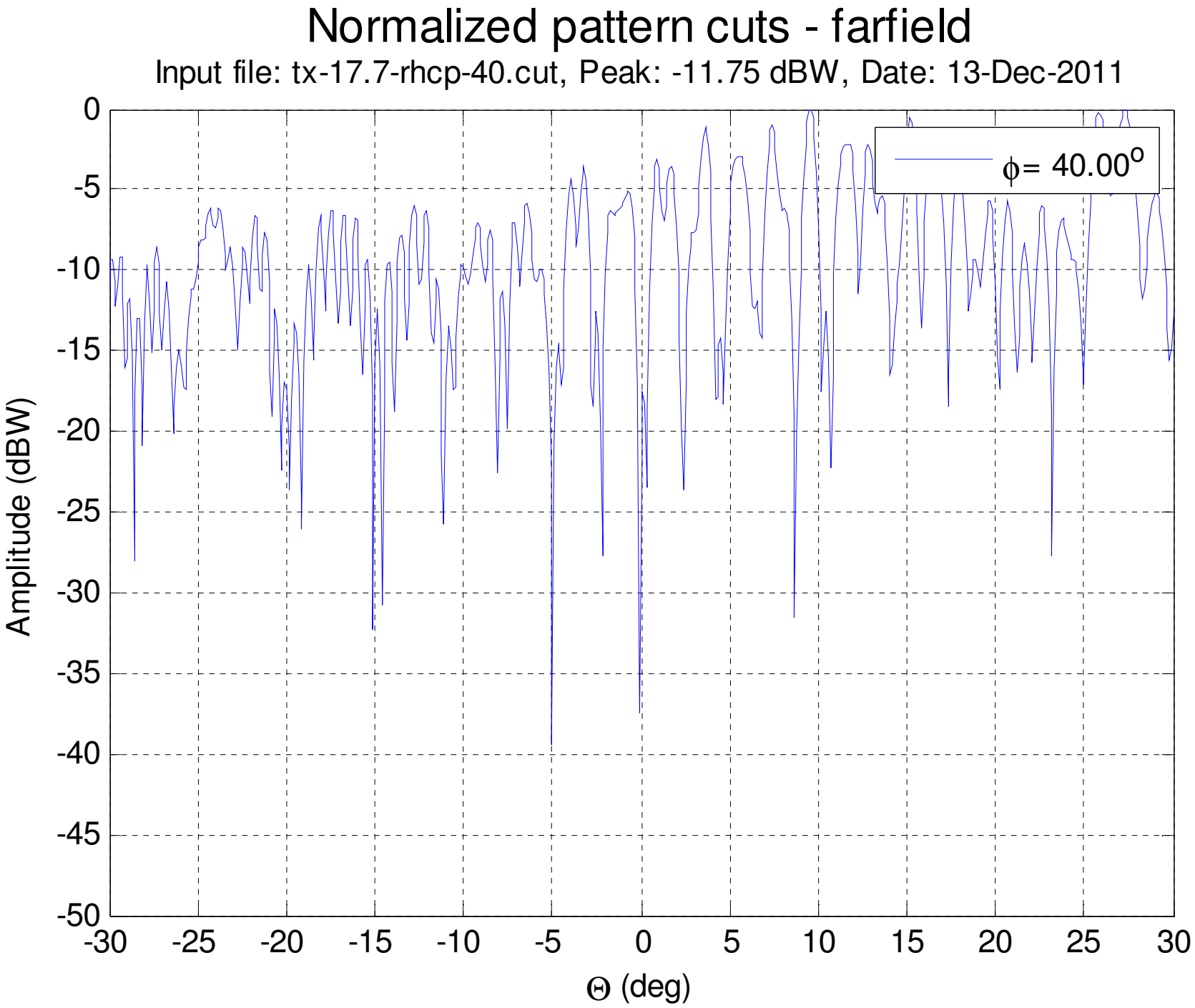

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -0.75 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

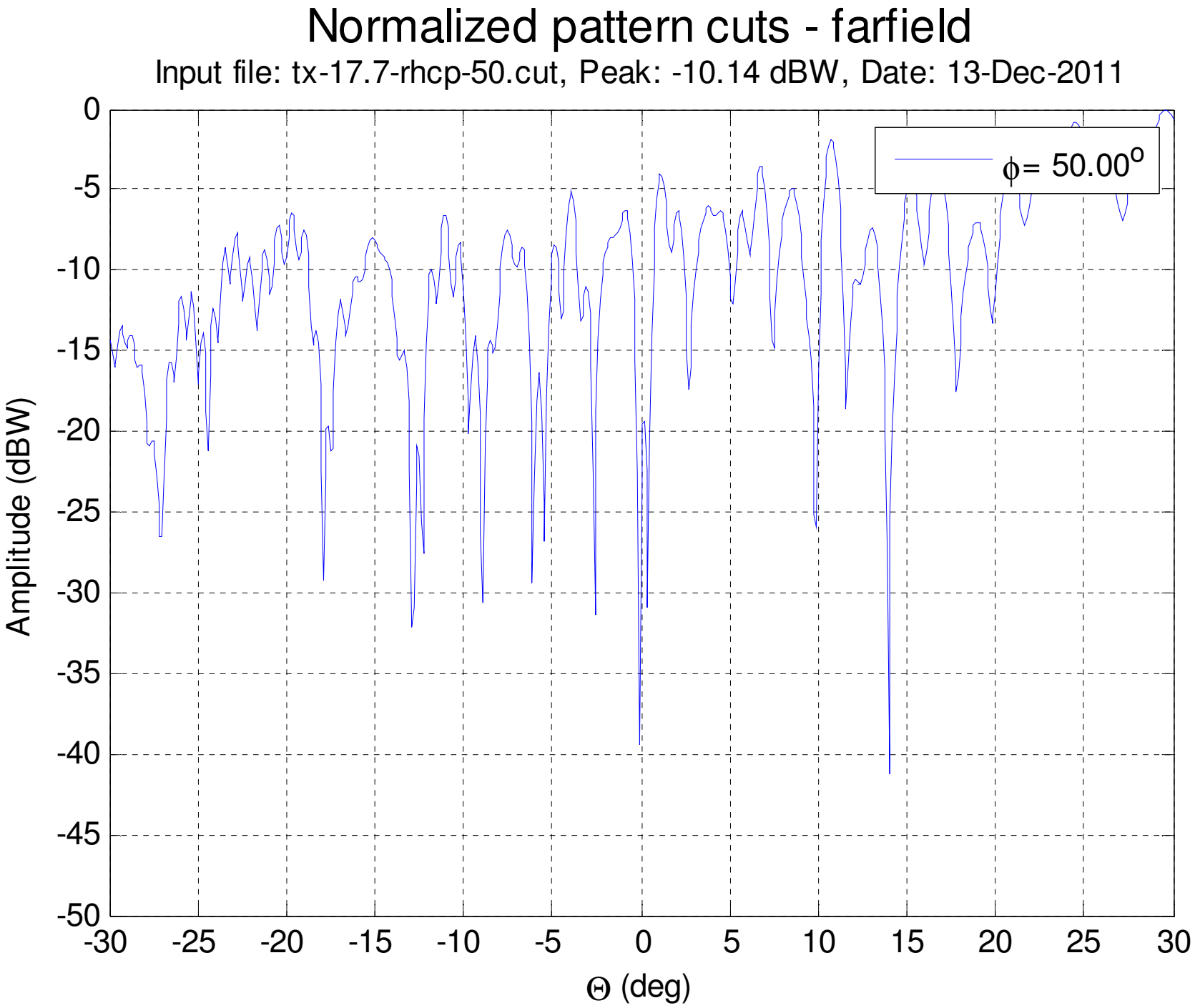

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: 0.06 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

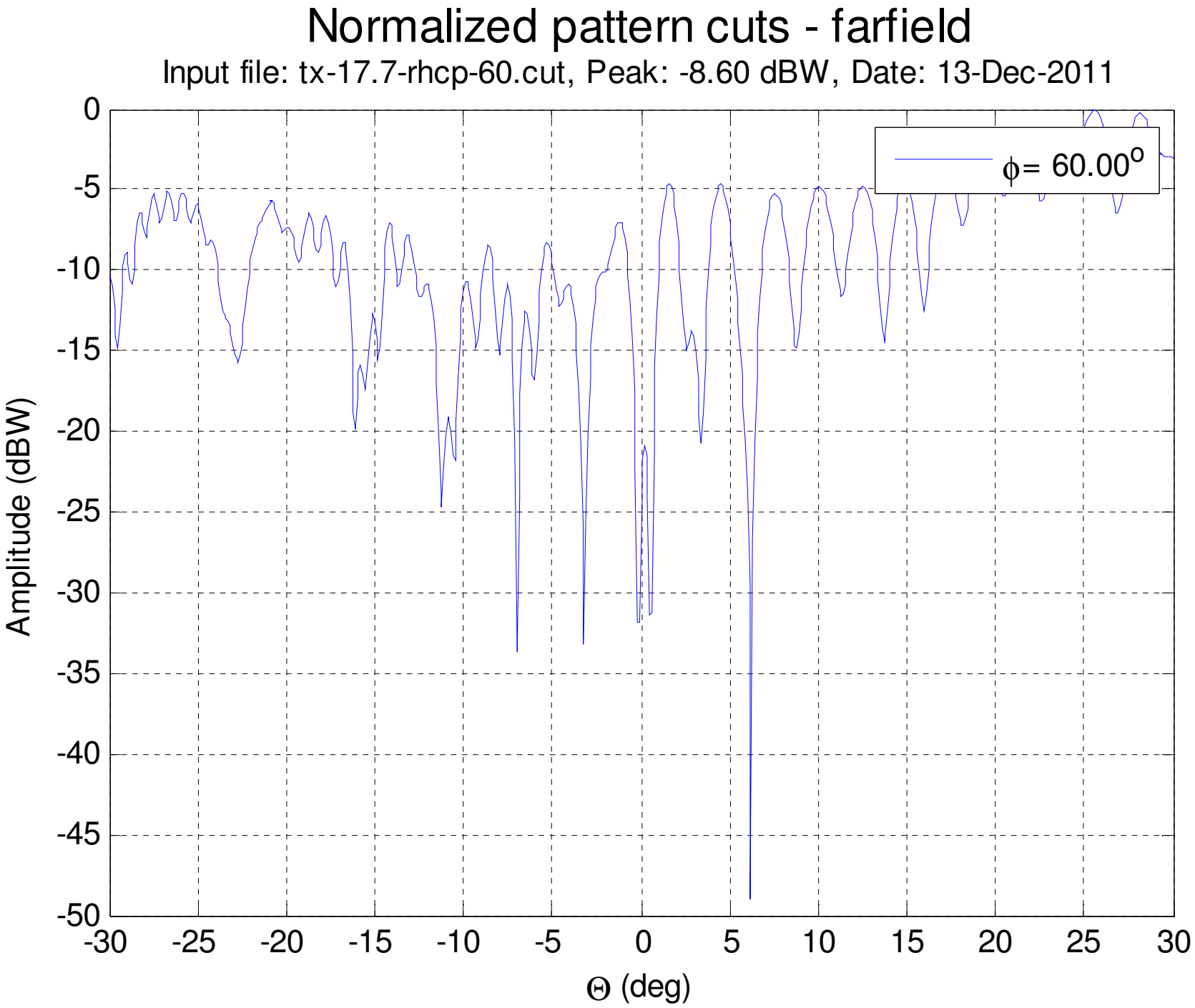

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -1.55 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -4.53 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

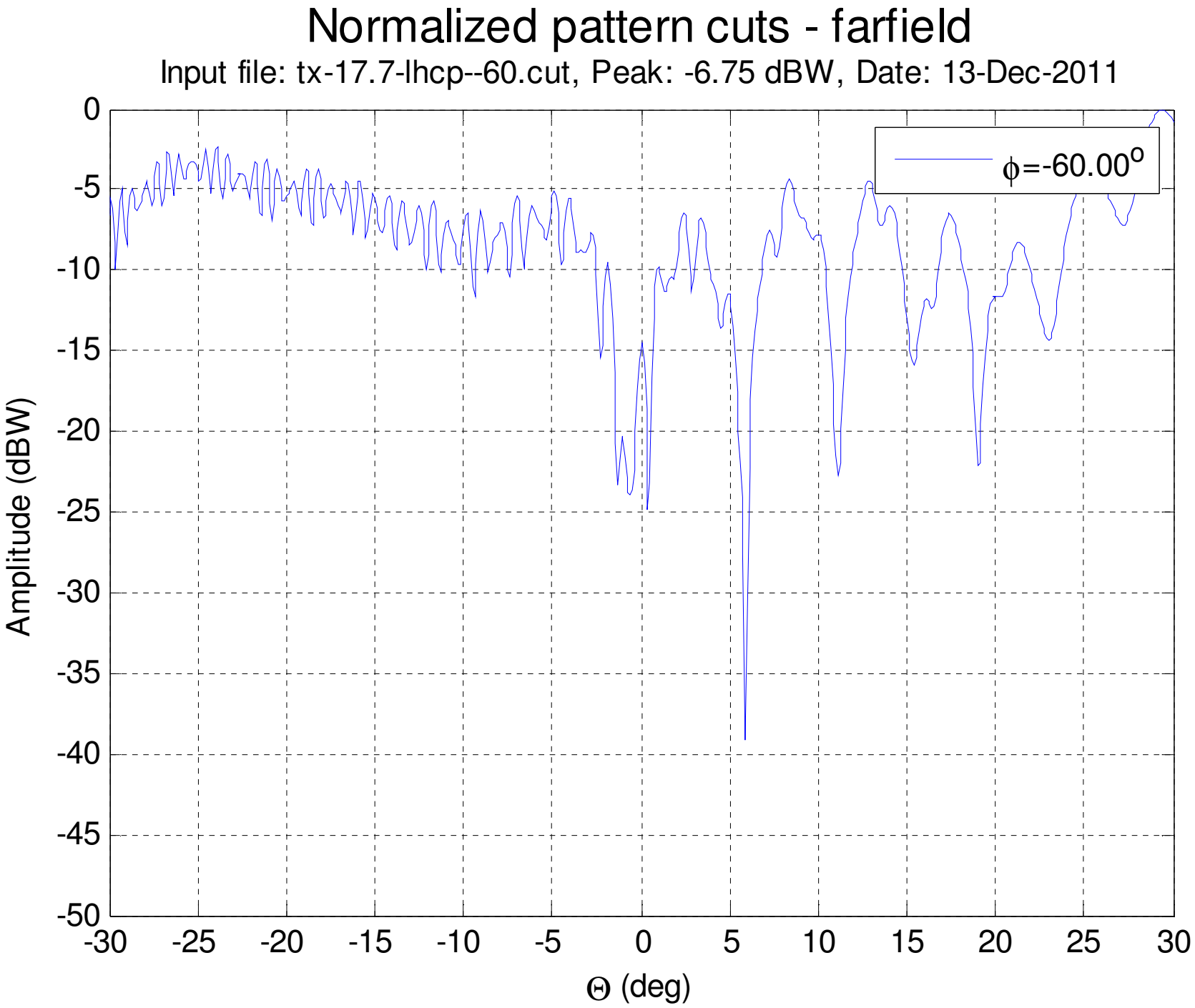

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -7.25 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

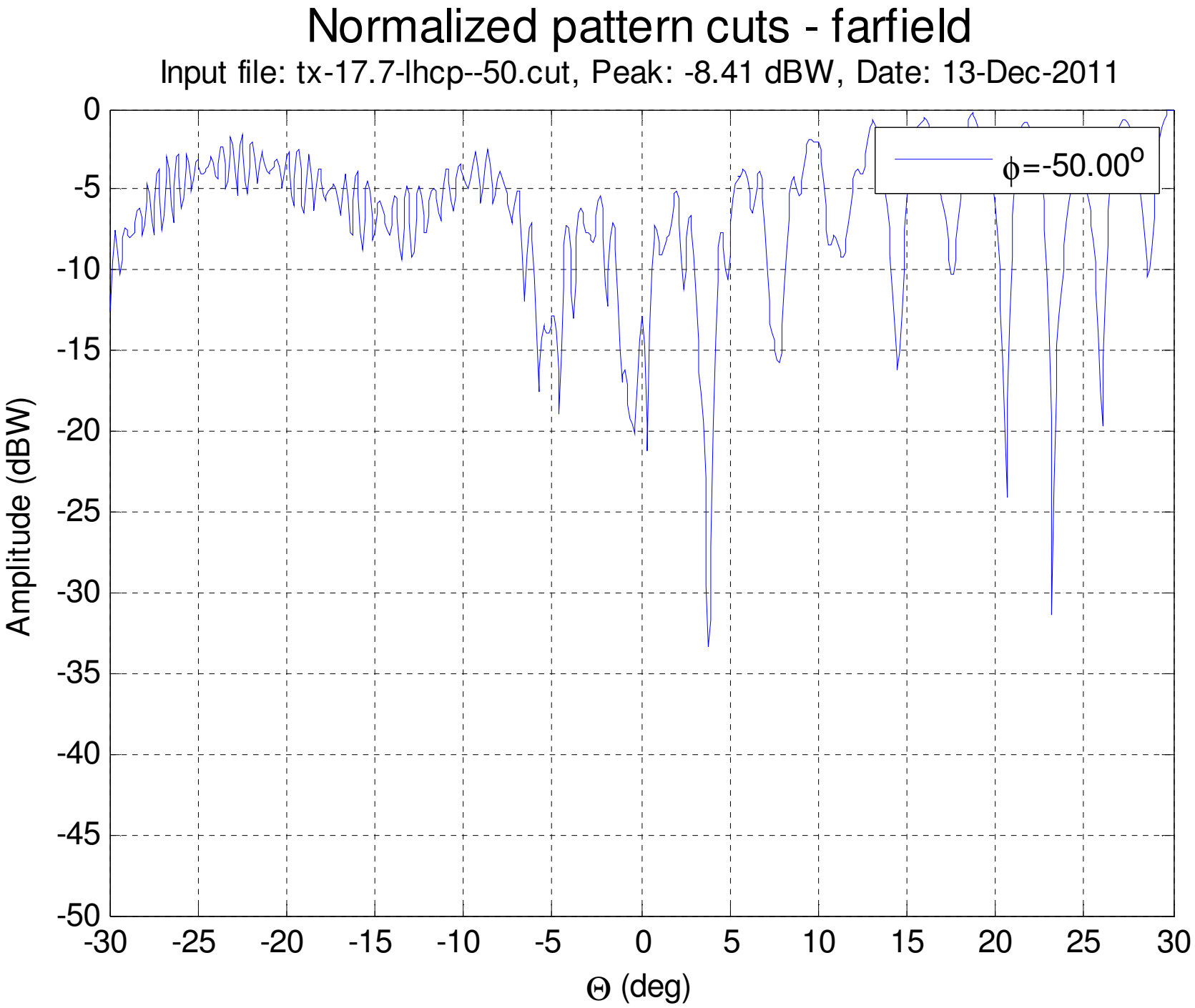

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -11.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

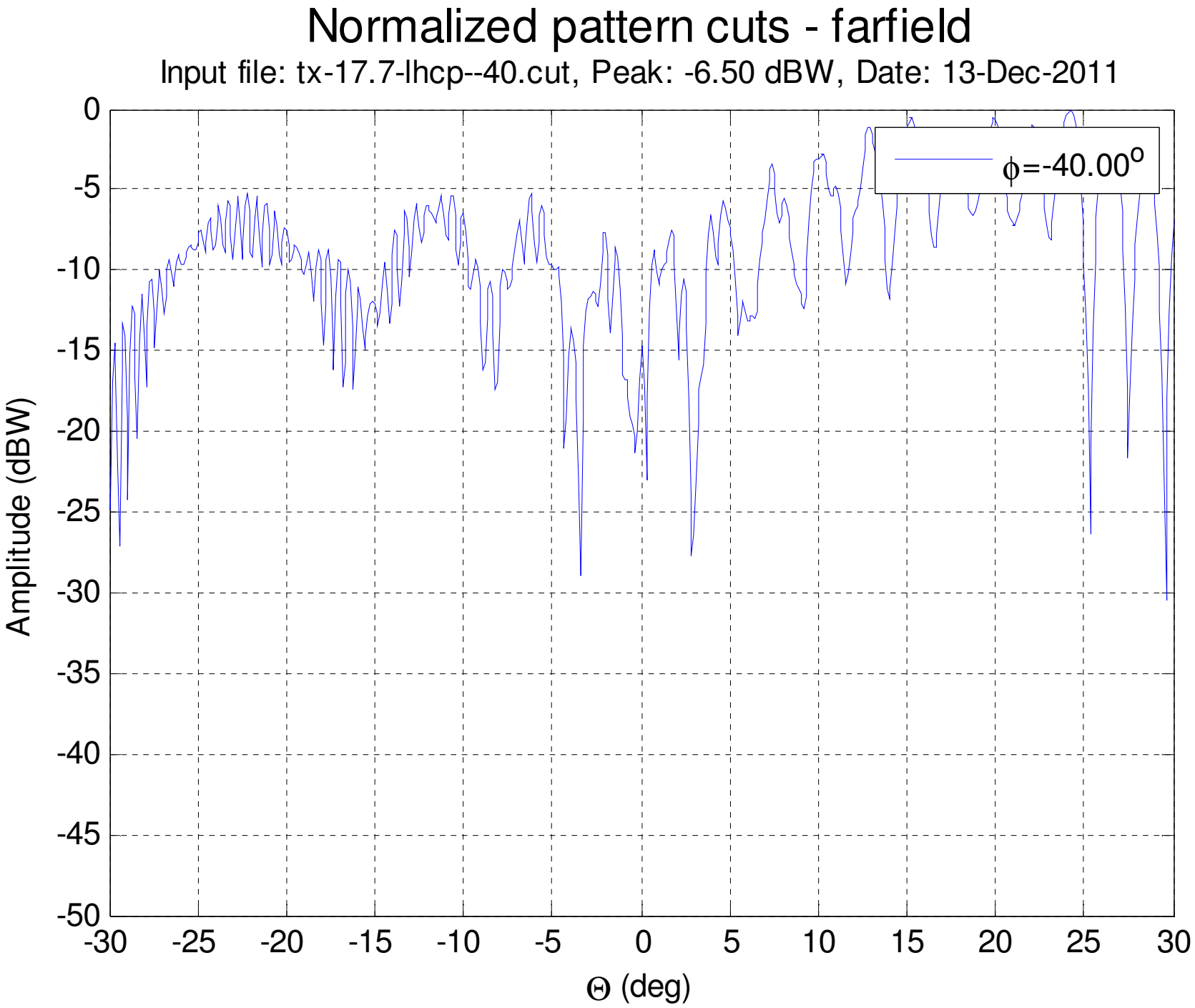

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -10.14 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

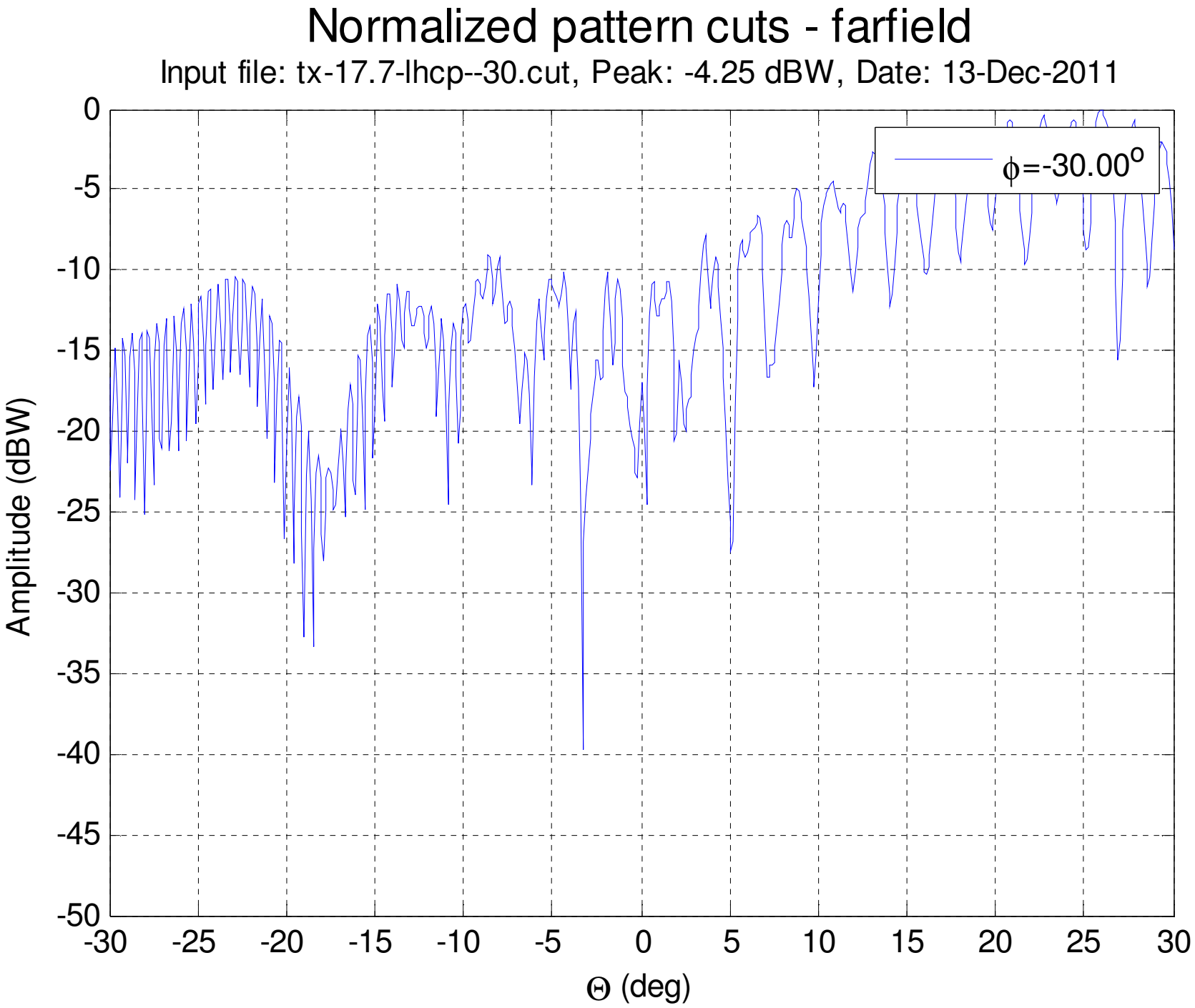

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -8.60 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

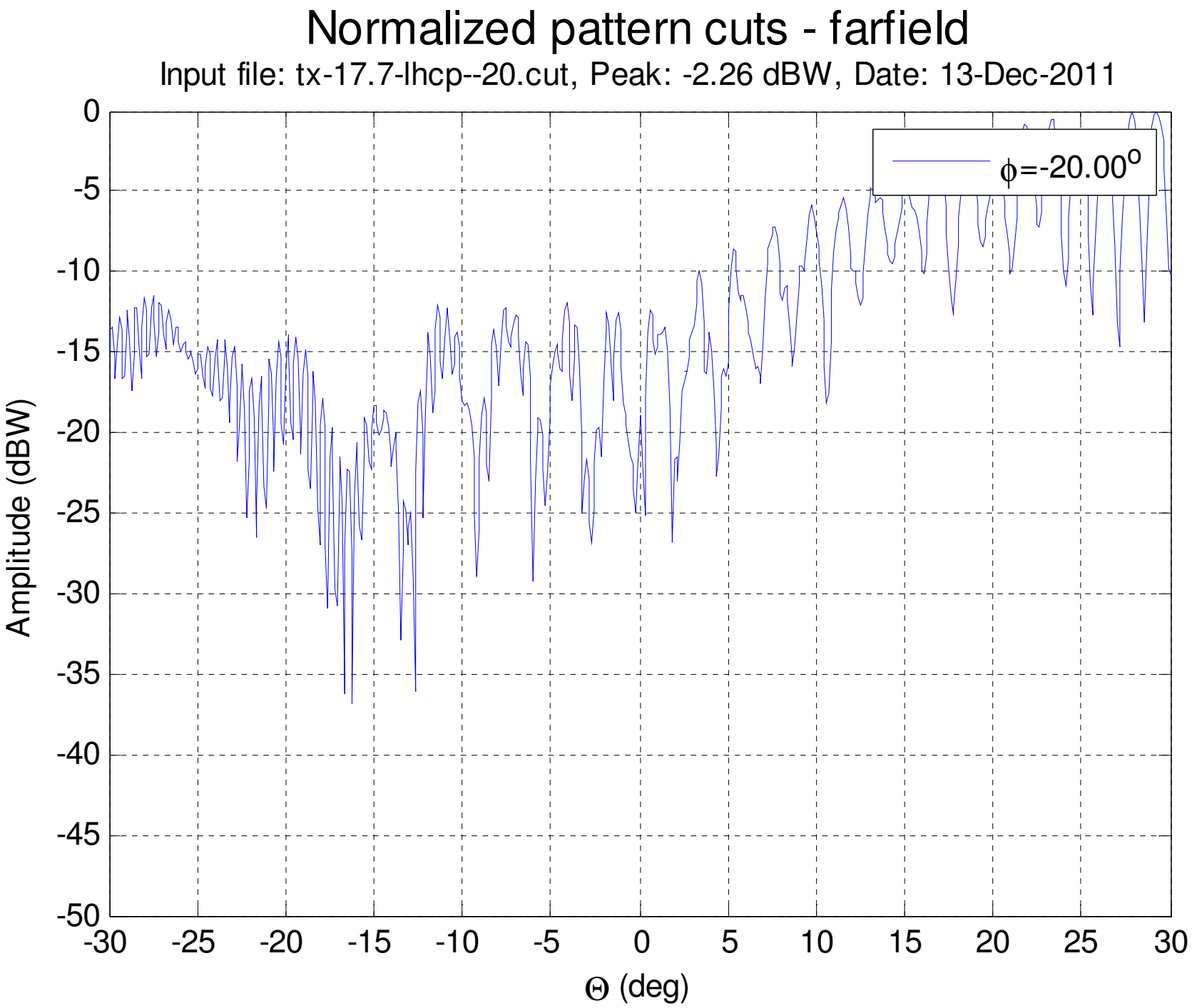
LHCP at 17.7 GHz

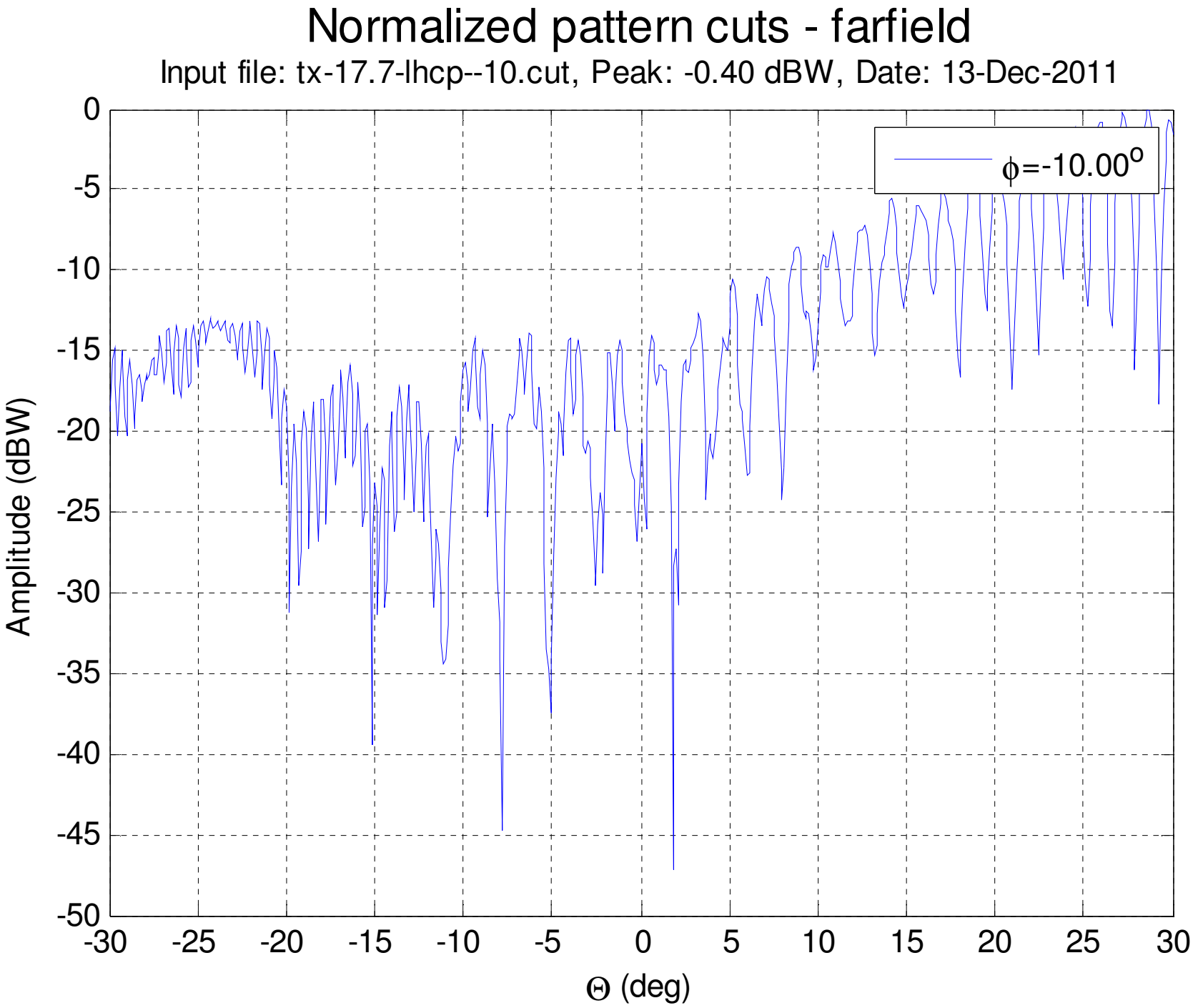

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -6.75 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

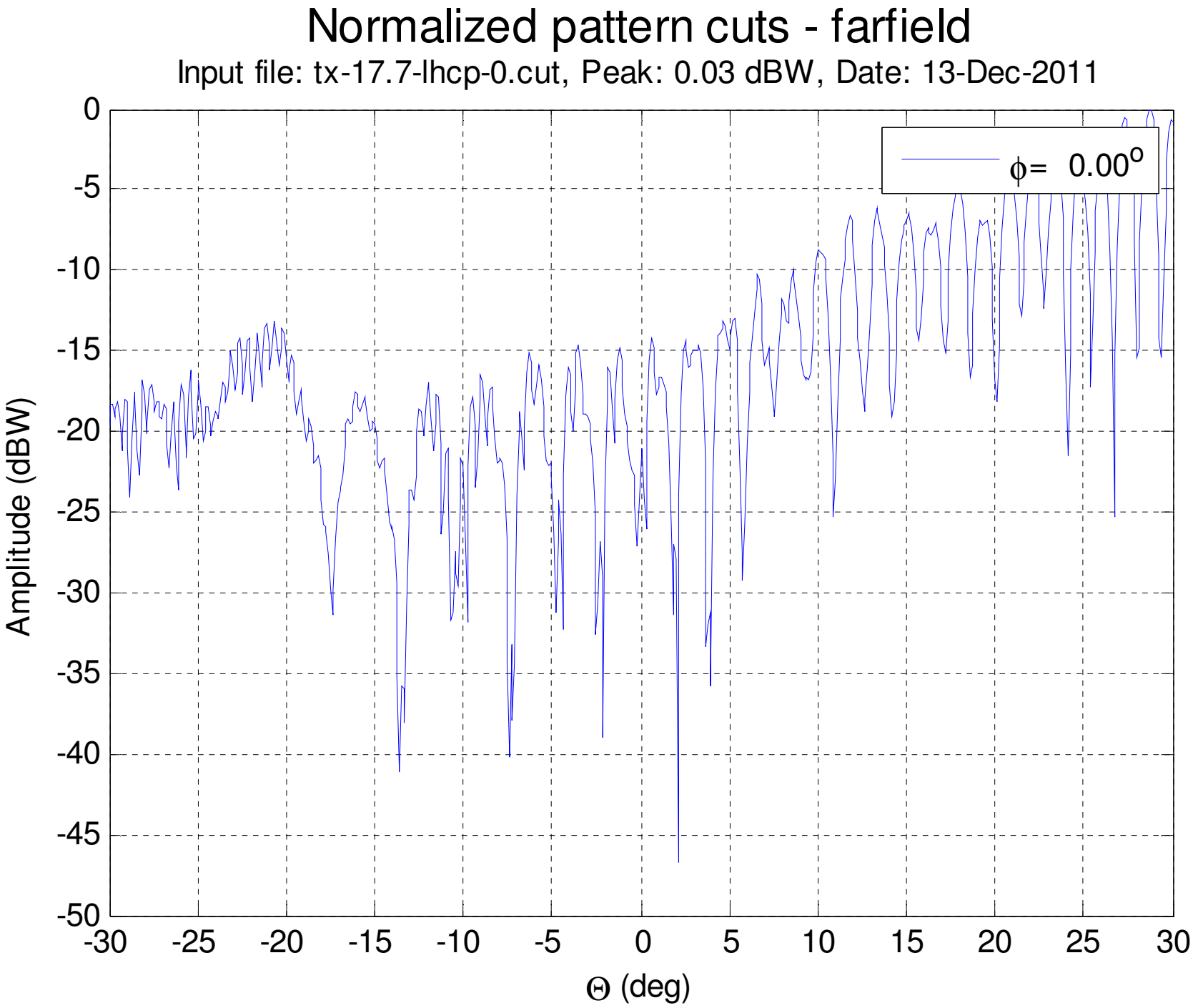

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -8.41 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

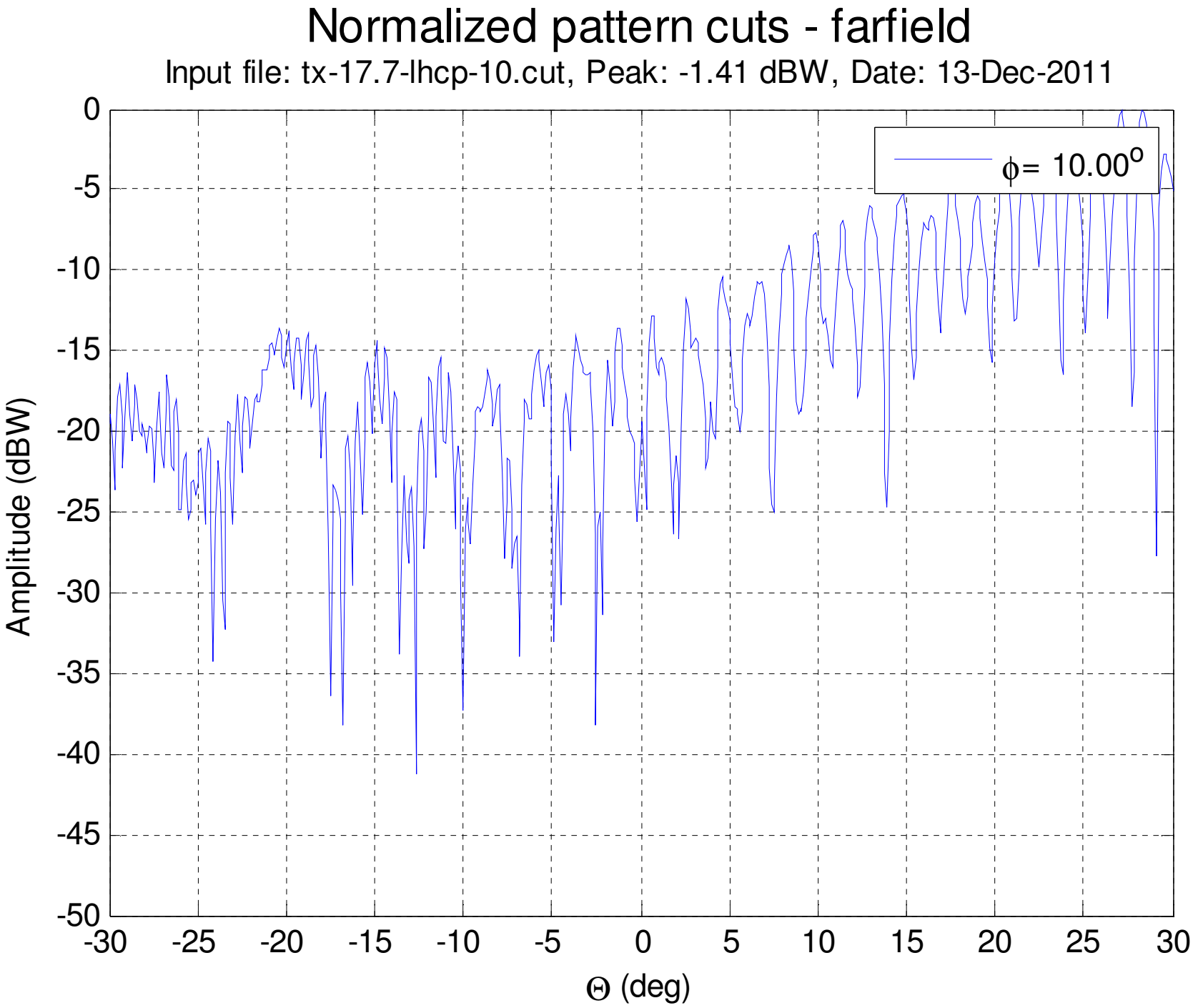

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -6.50 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

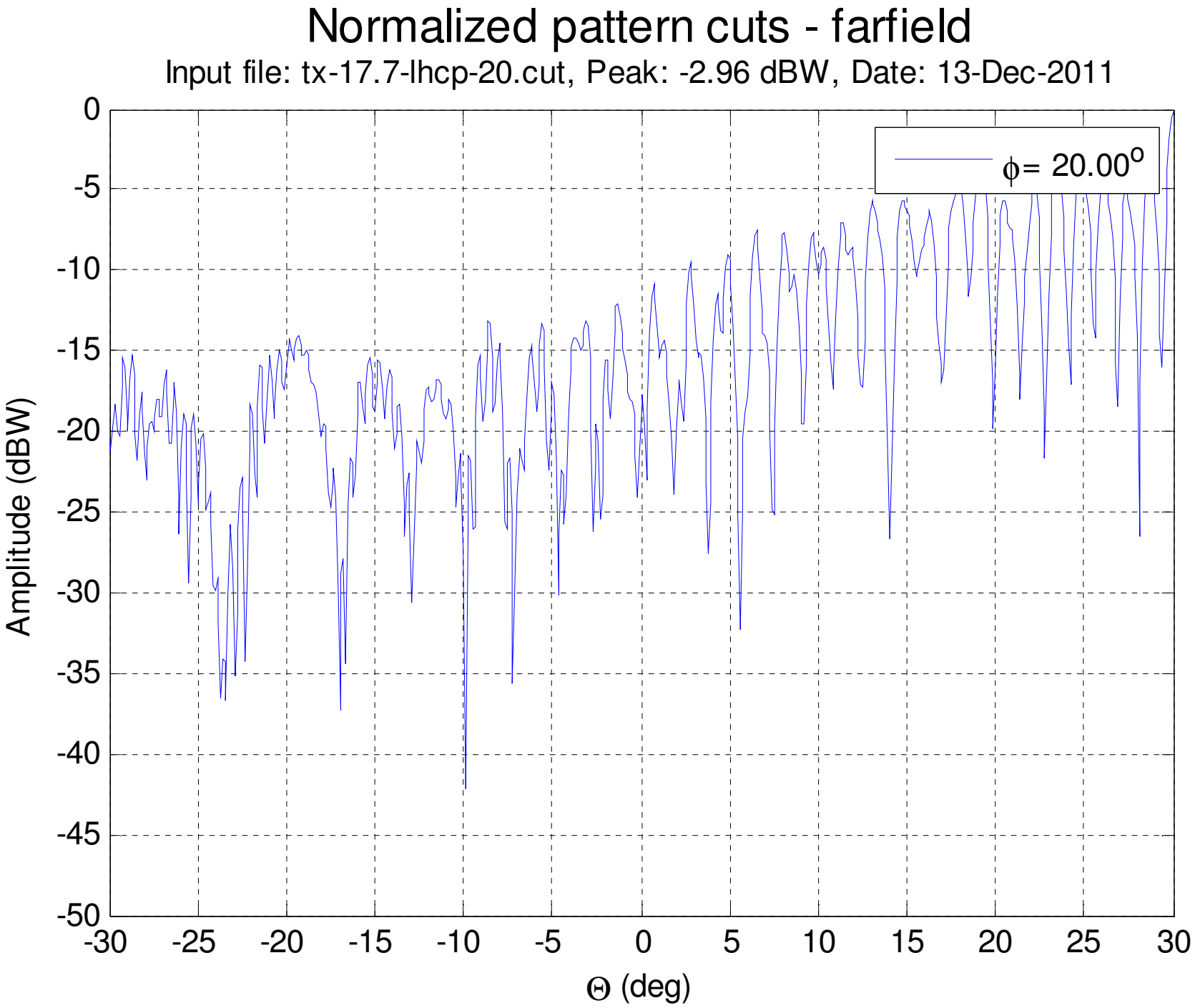

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -4.25 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

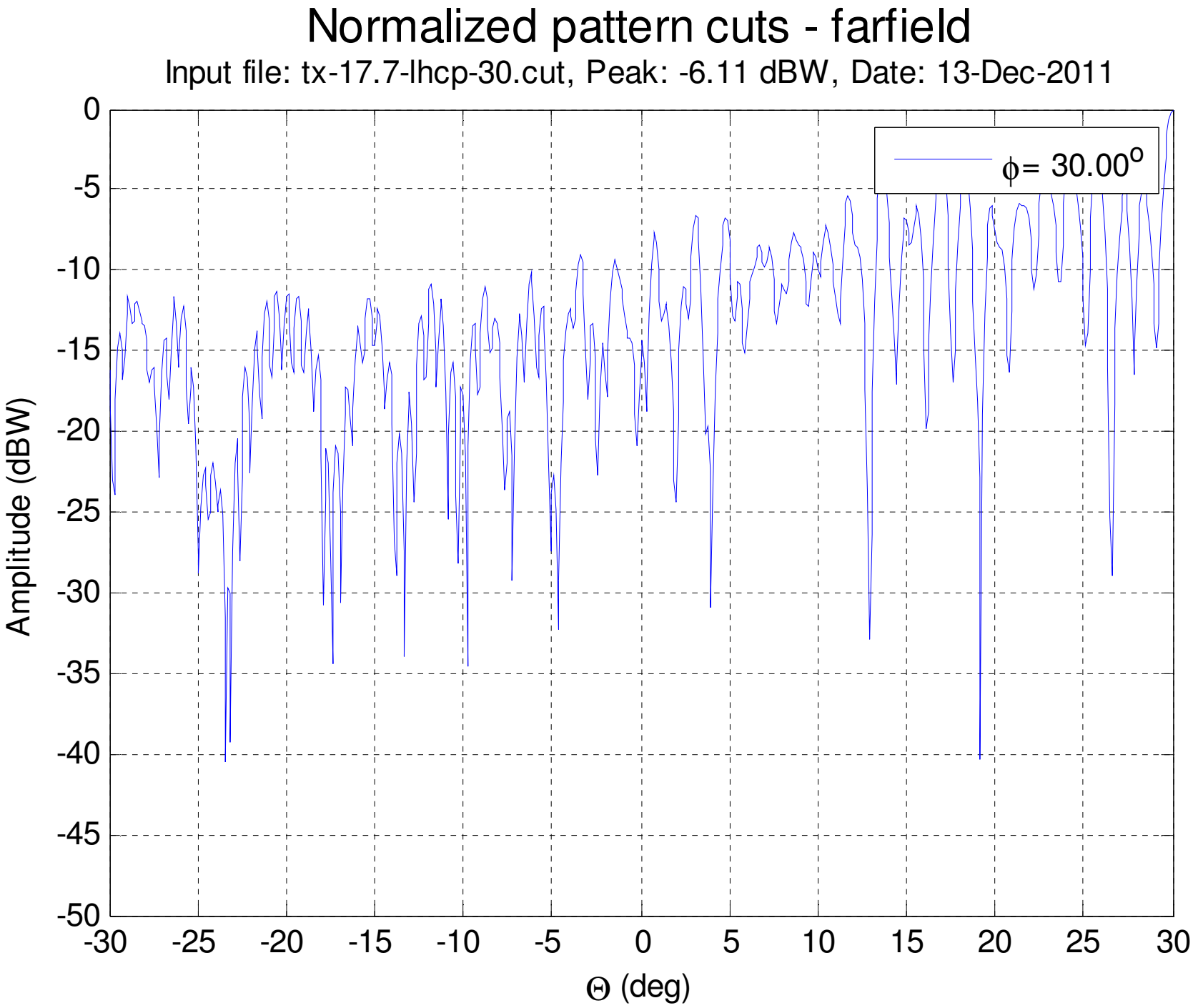

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -2.26 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

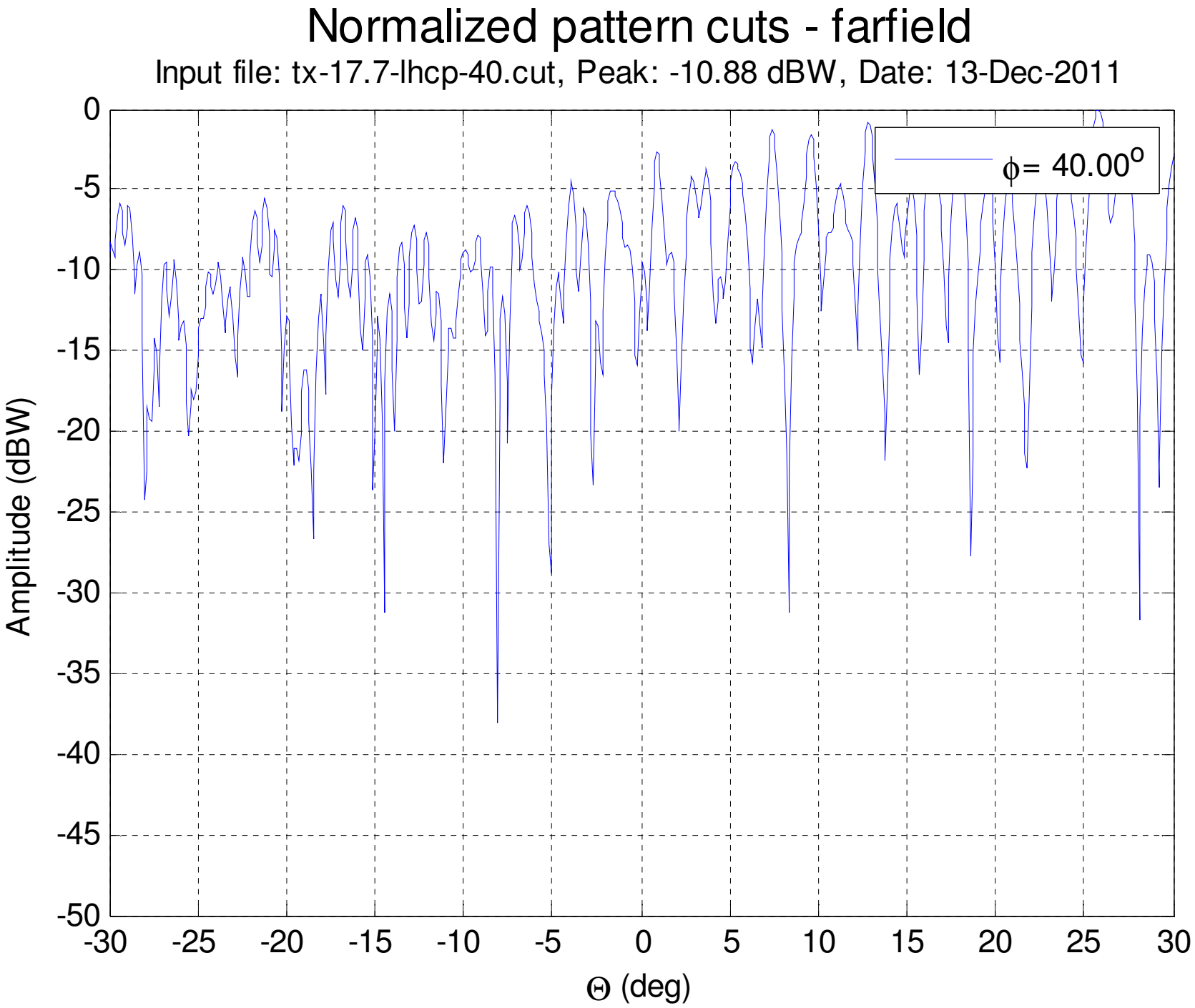

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -0.40 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

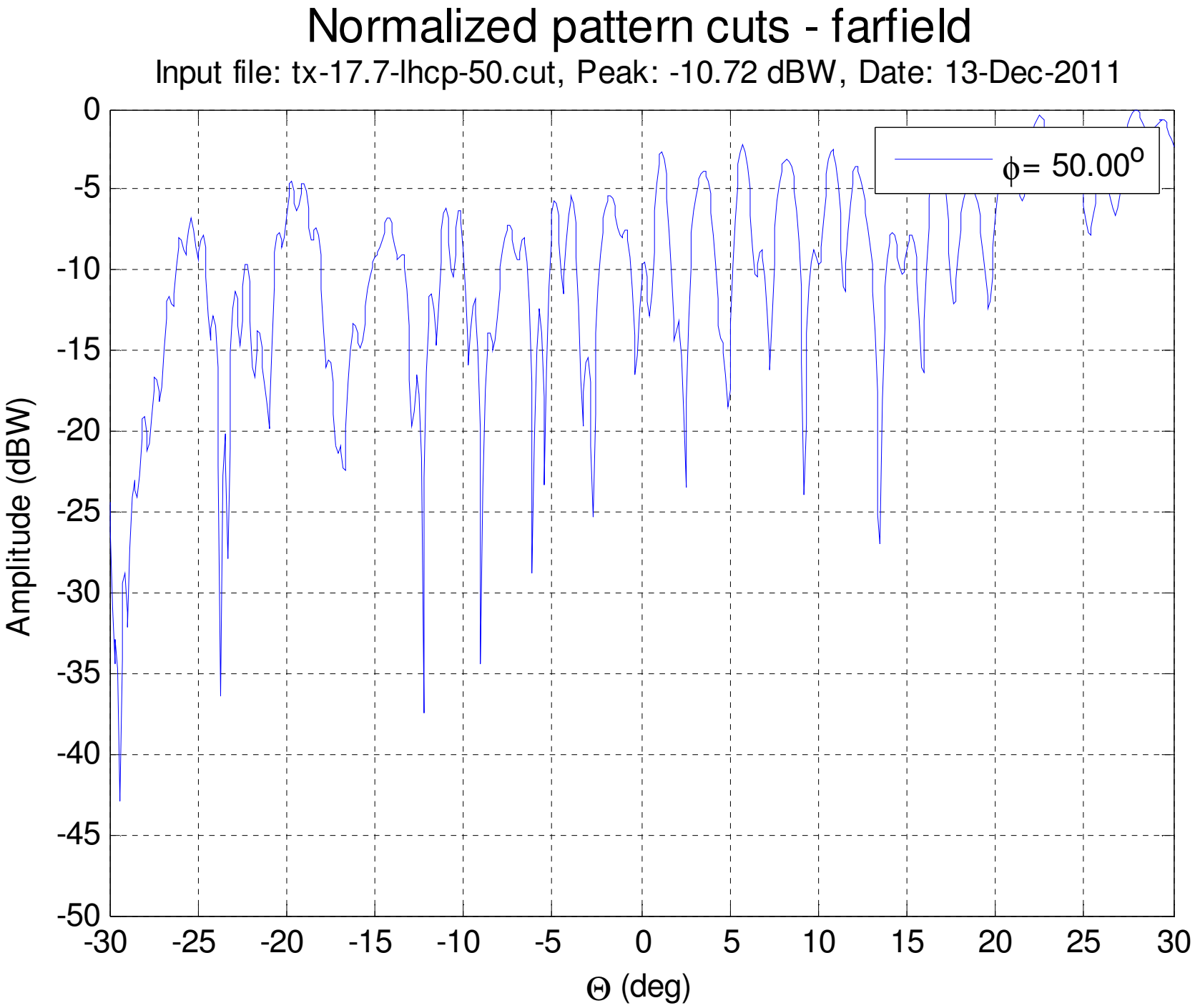

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: 0.03 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

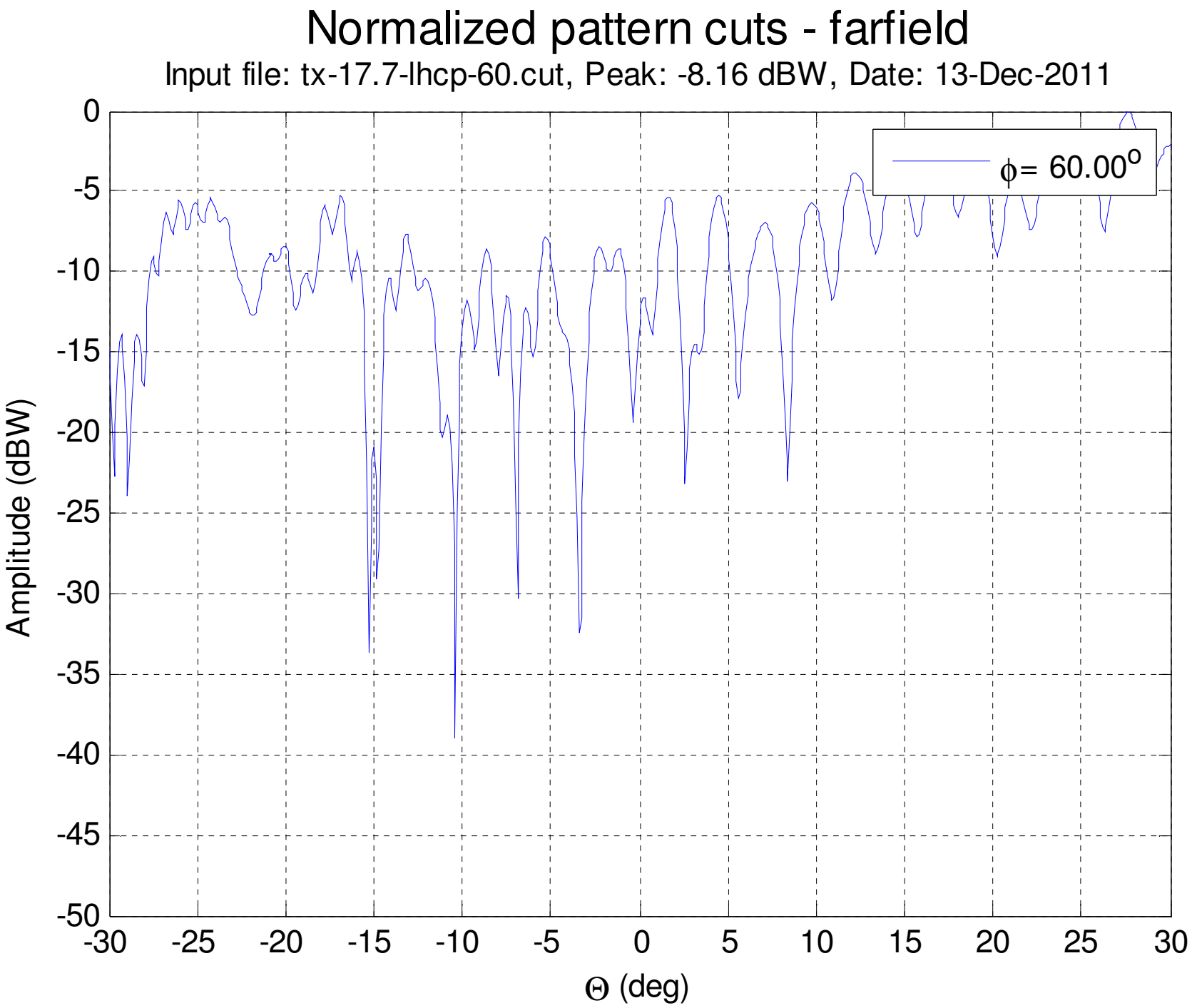

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -1.41 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -2.96 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -6.11 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -10.88 dBW, Date: 13-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

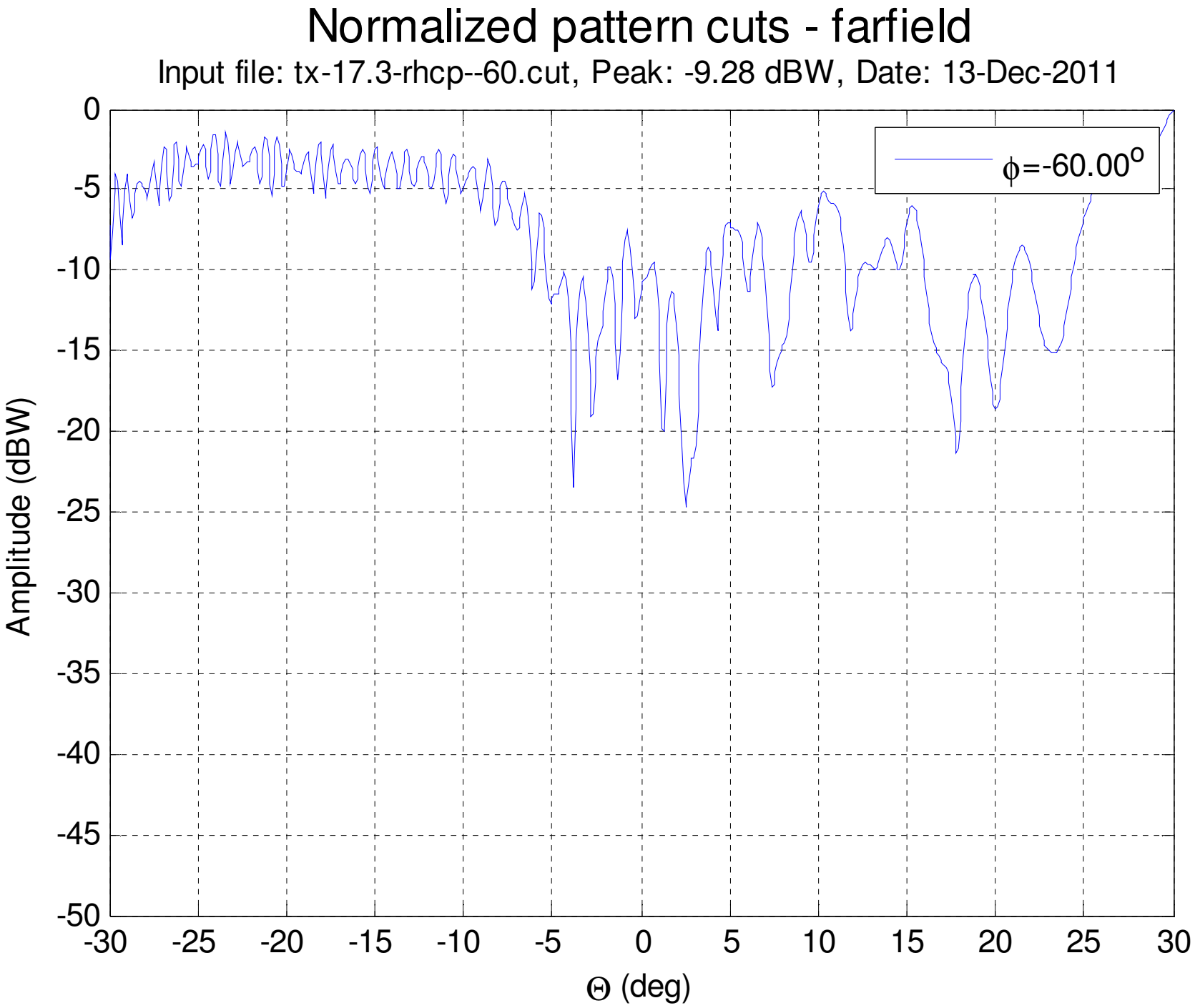

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -10.72 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

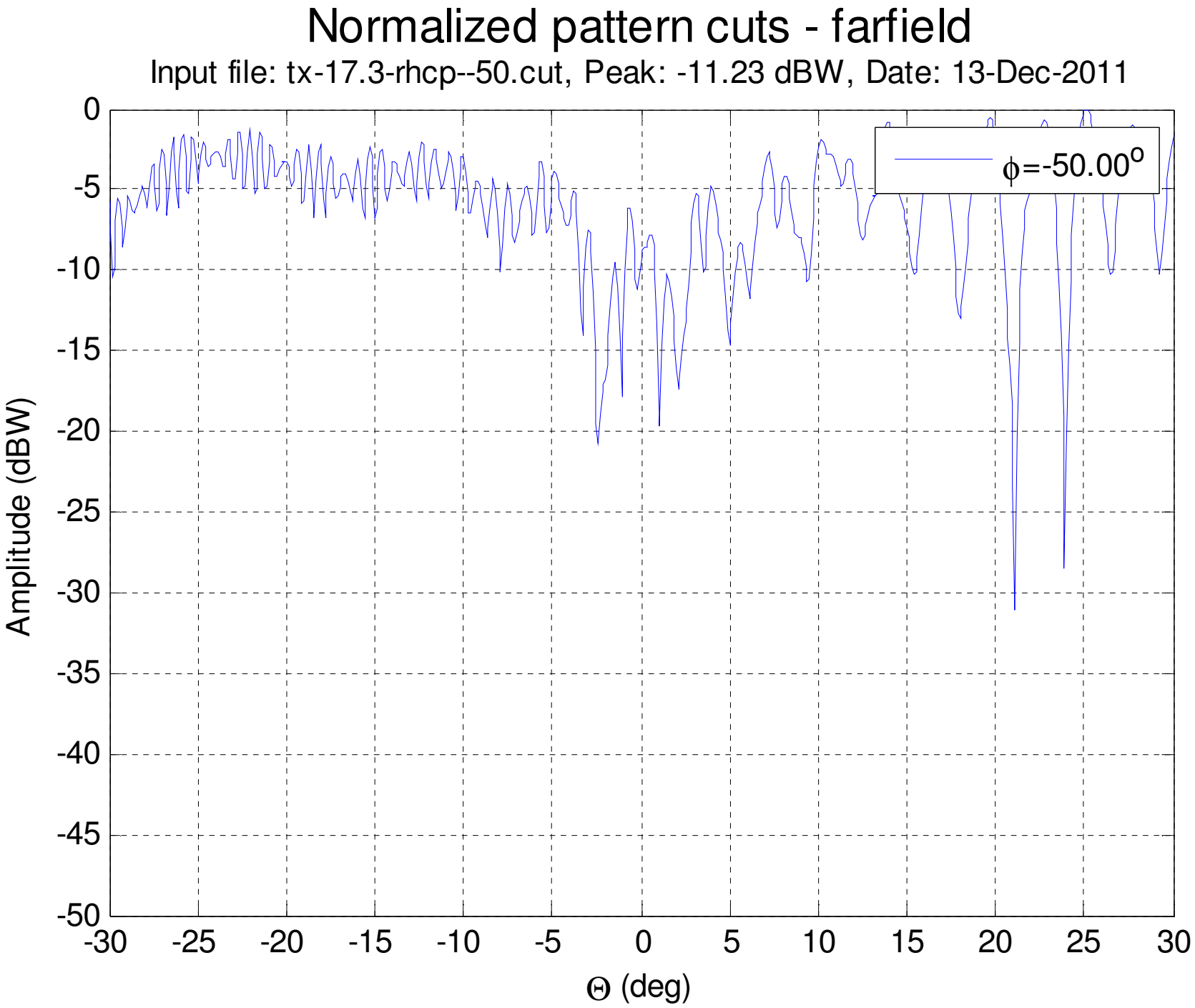

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -8.16 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

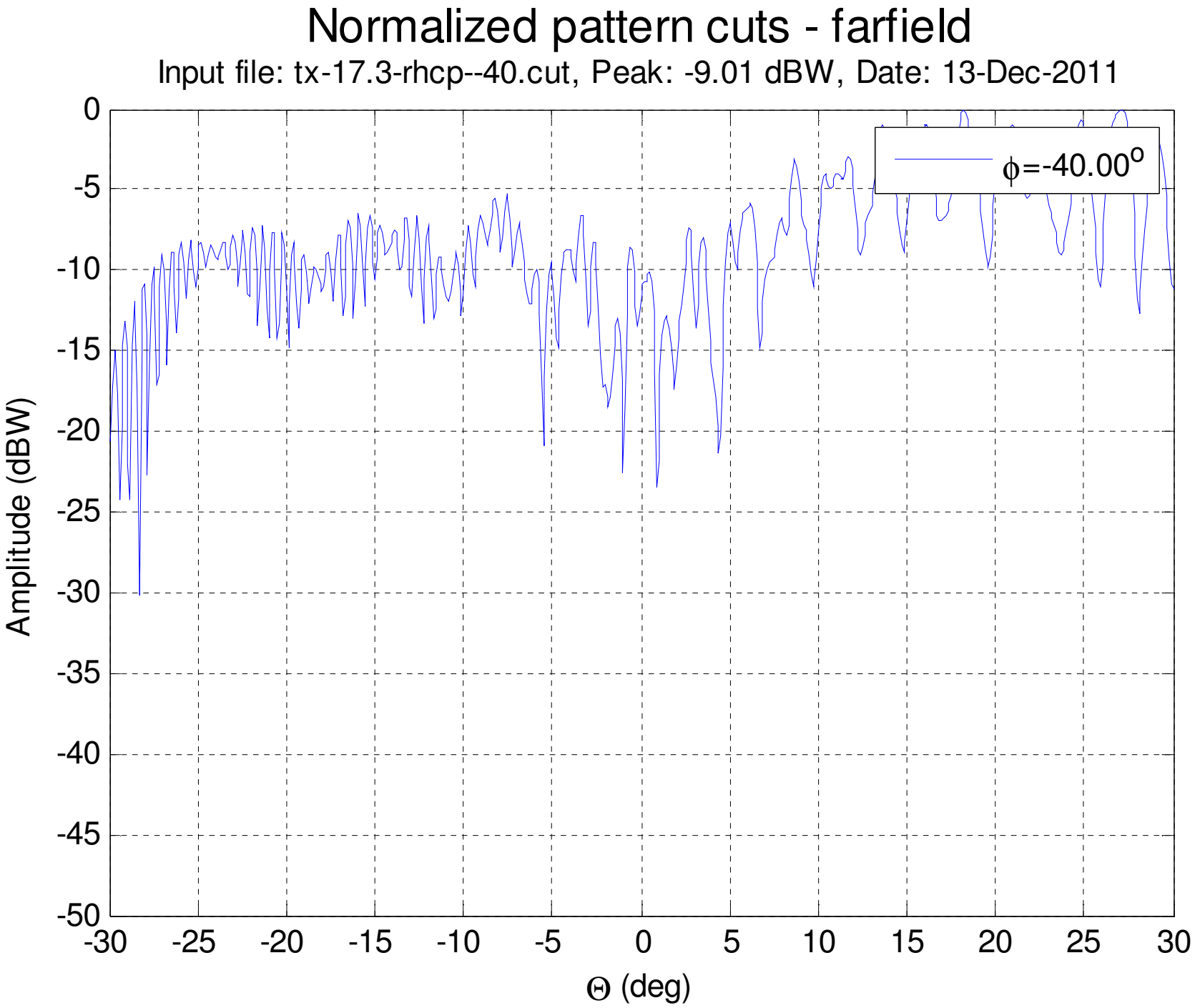
Spot Beam06, +X Axis Plots

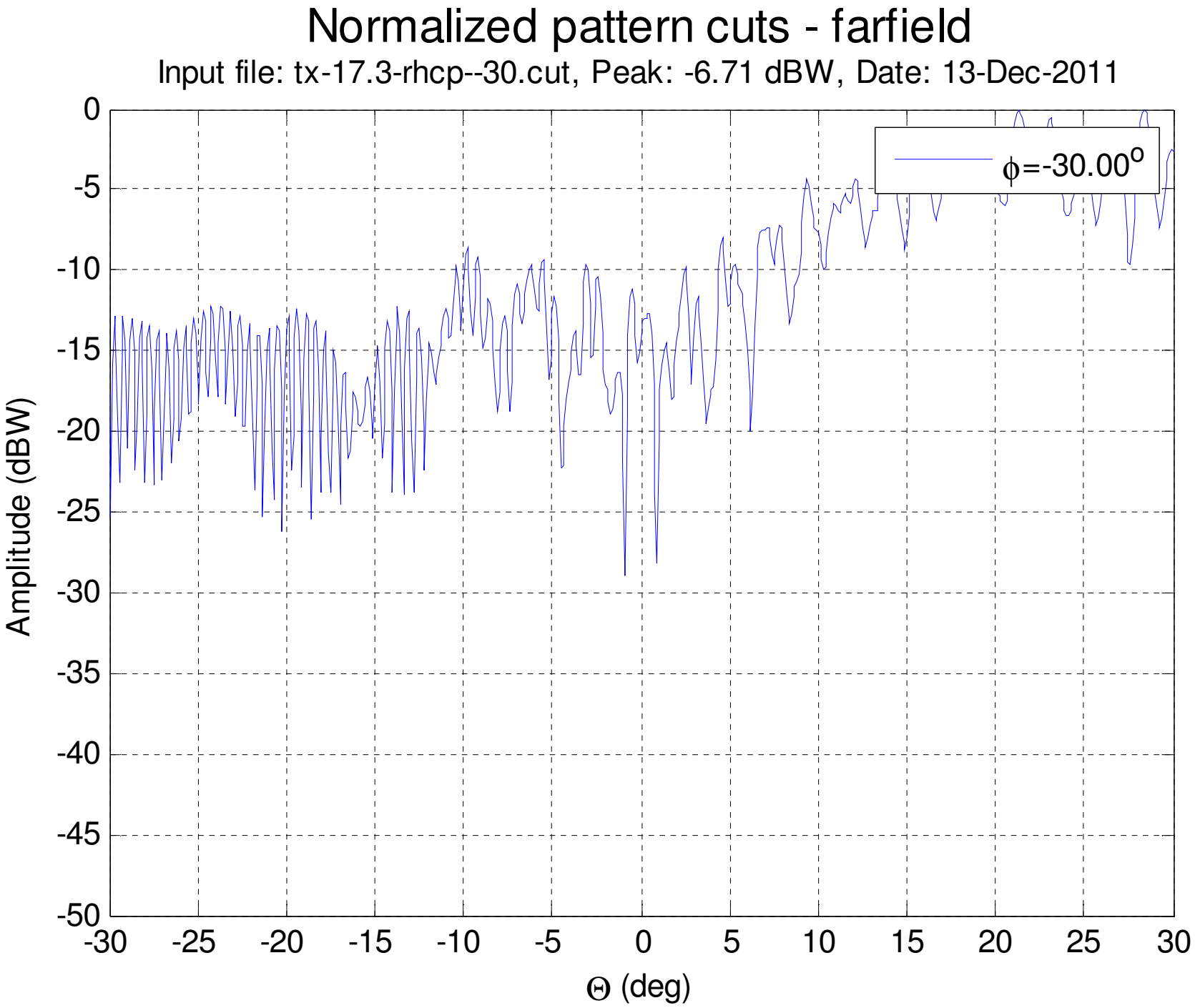
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

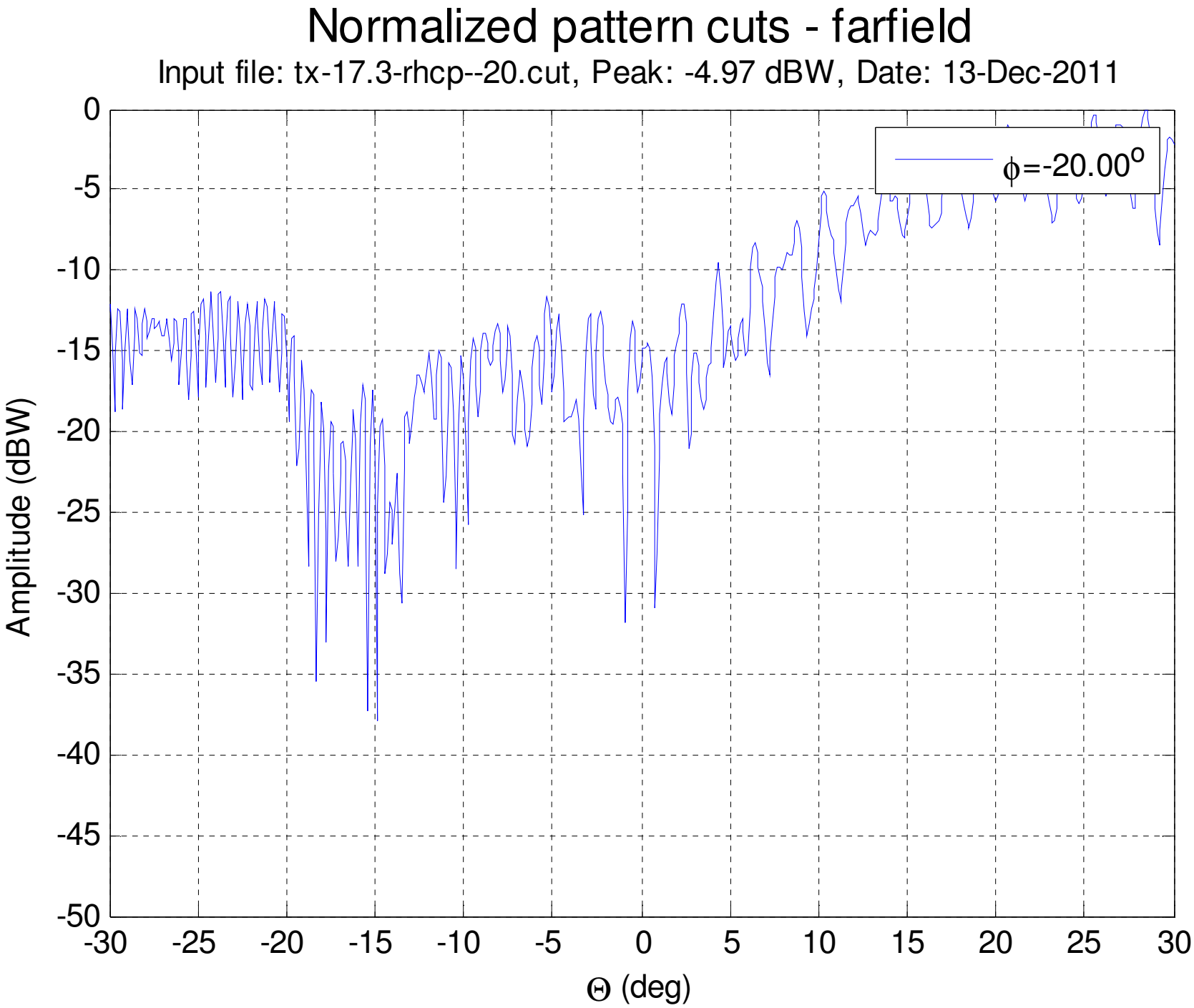
RHCP at 17.3 GHz

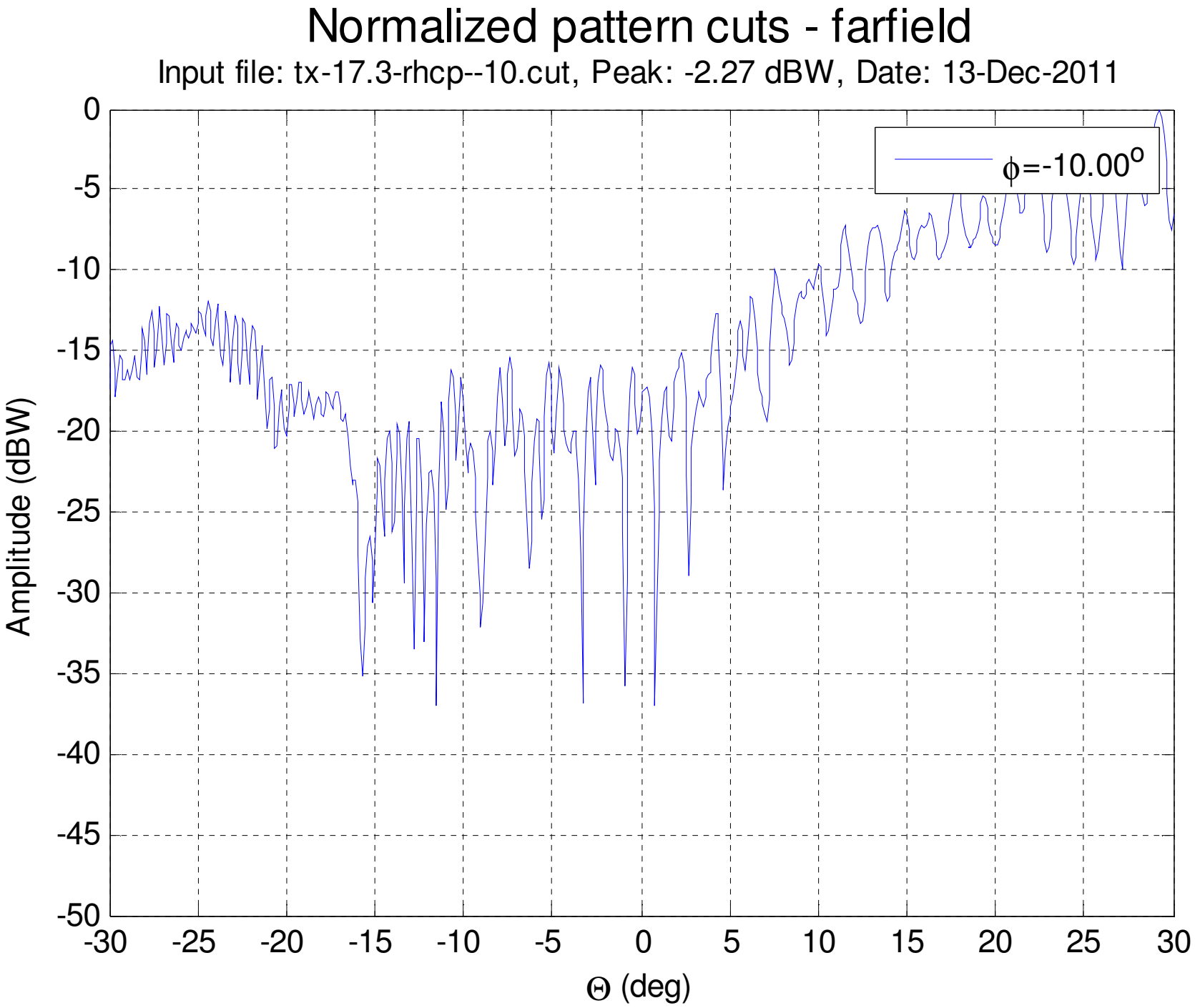

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -9.28 dBW, Date: 13-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

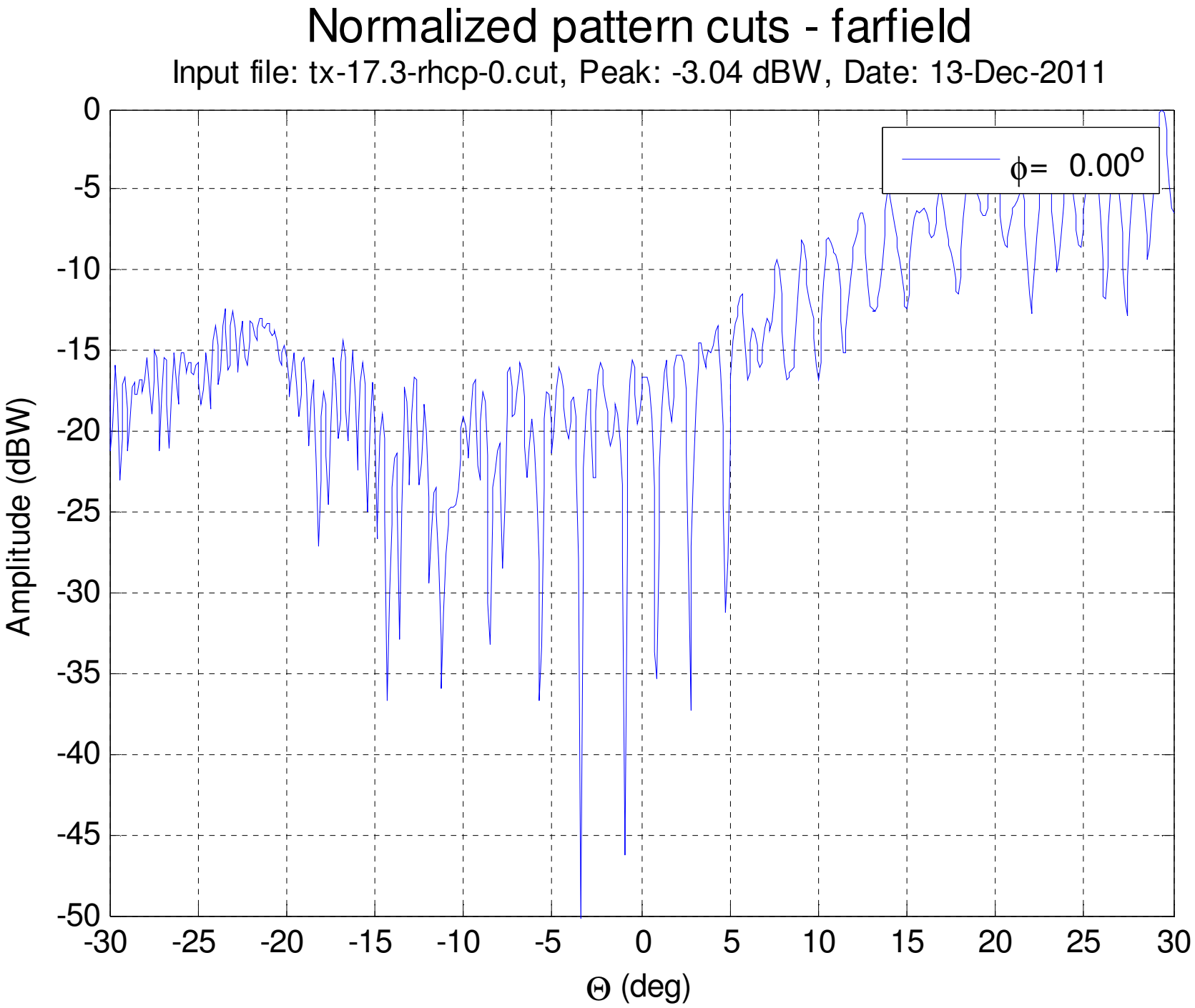

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -11.23 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

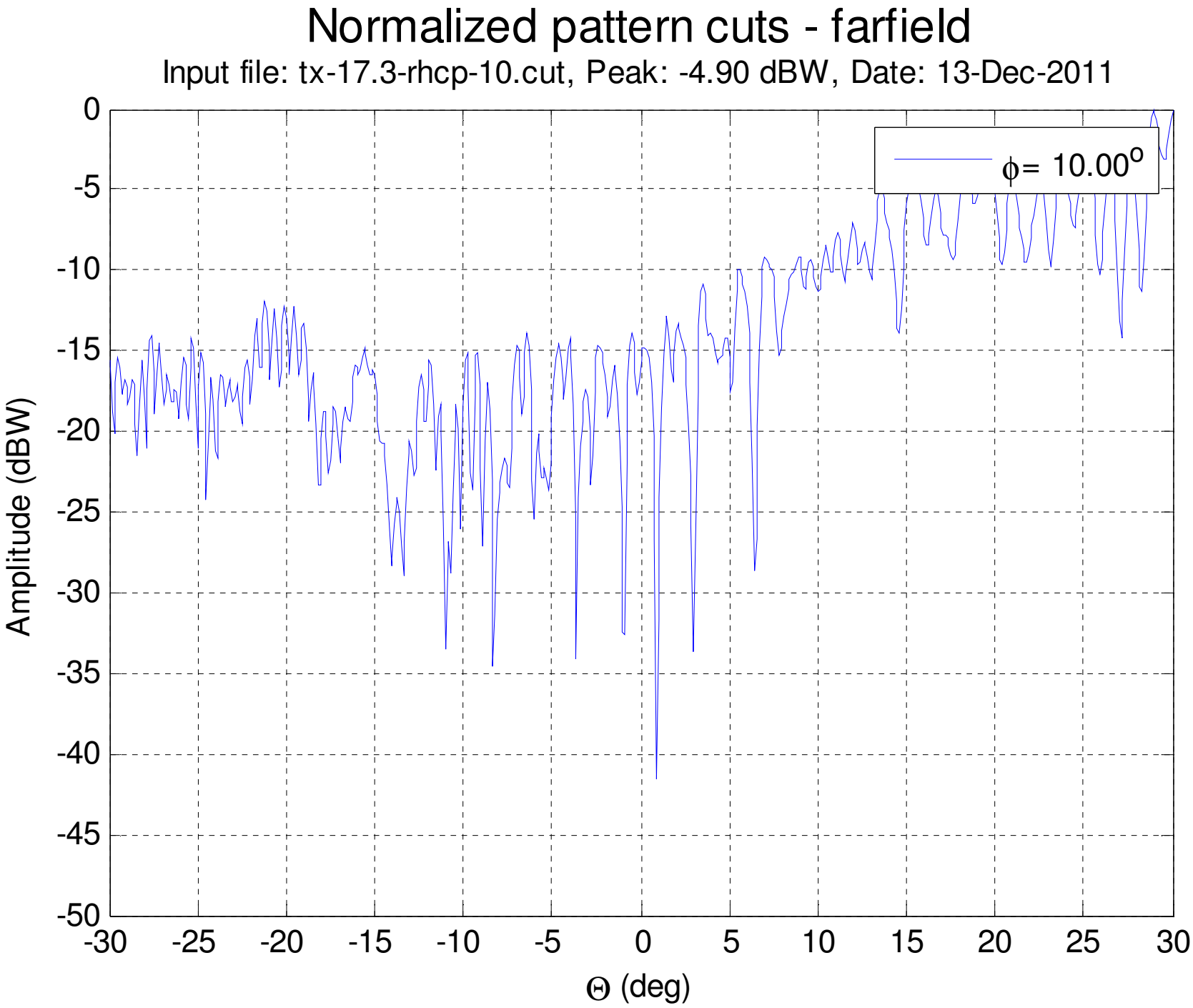

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -9.01 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

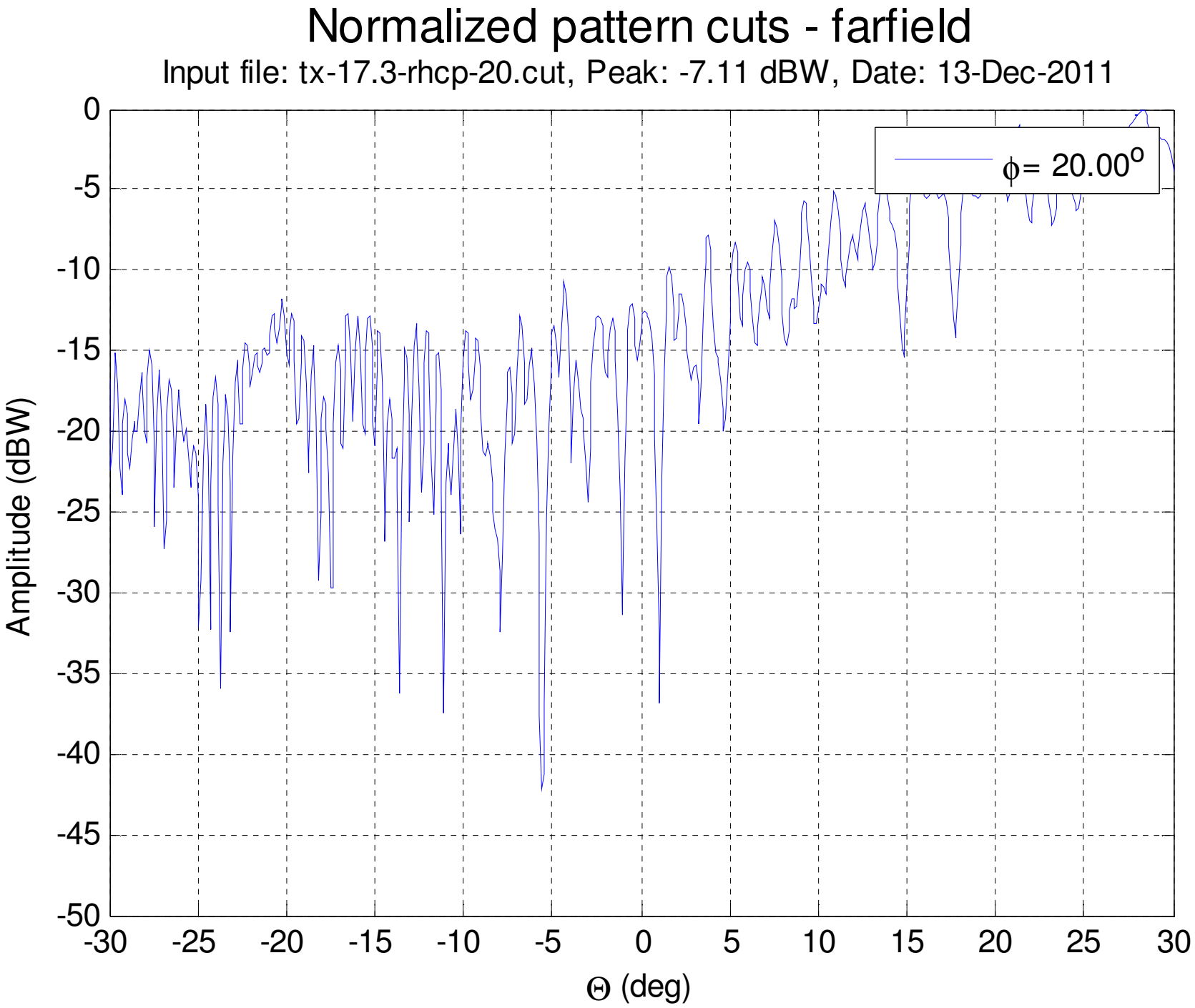

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -6.71 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

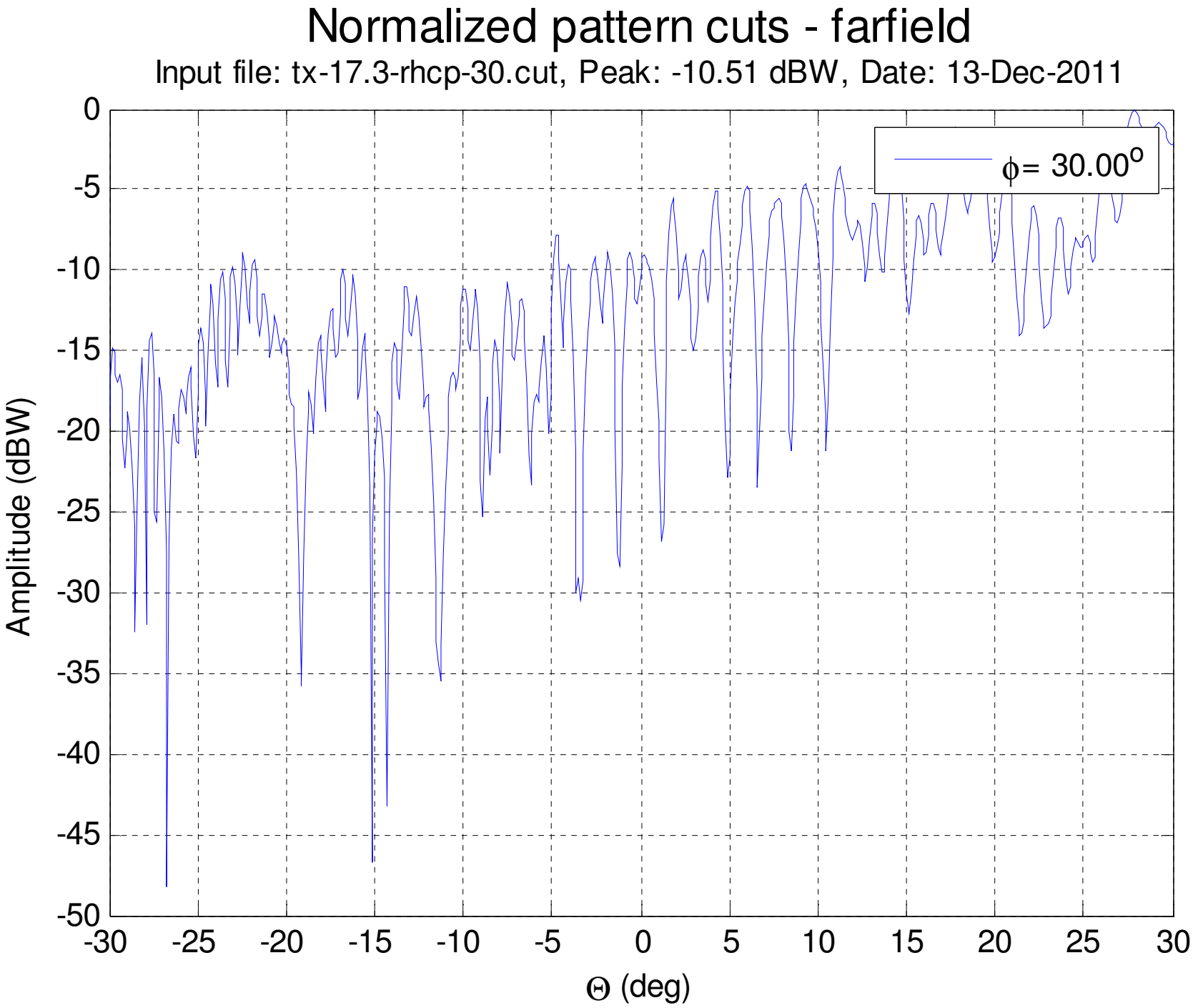

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -4.97 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

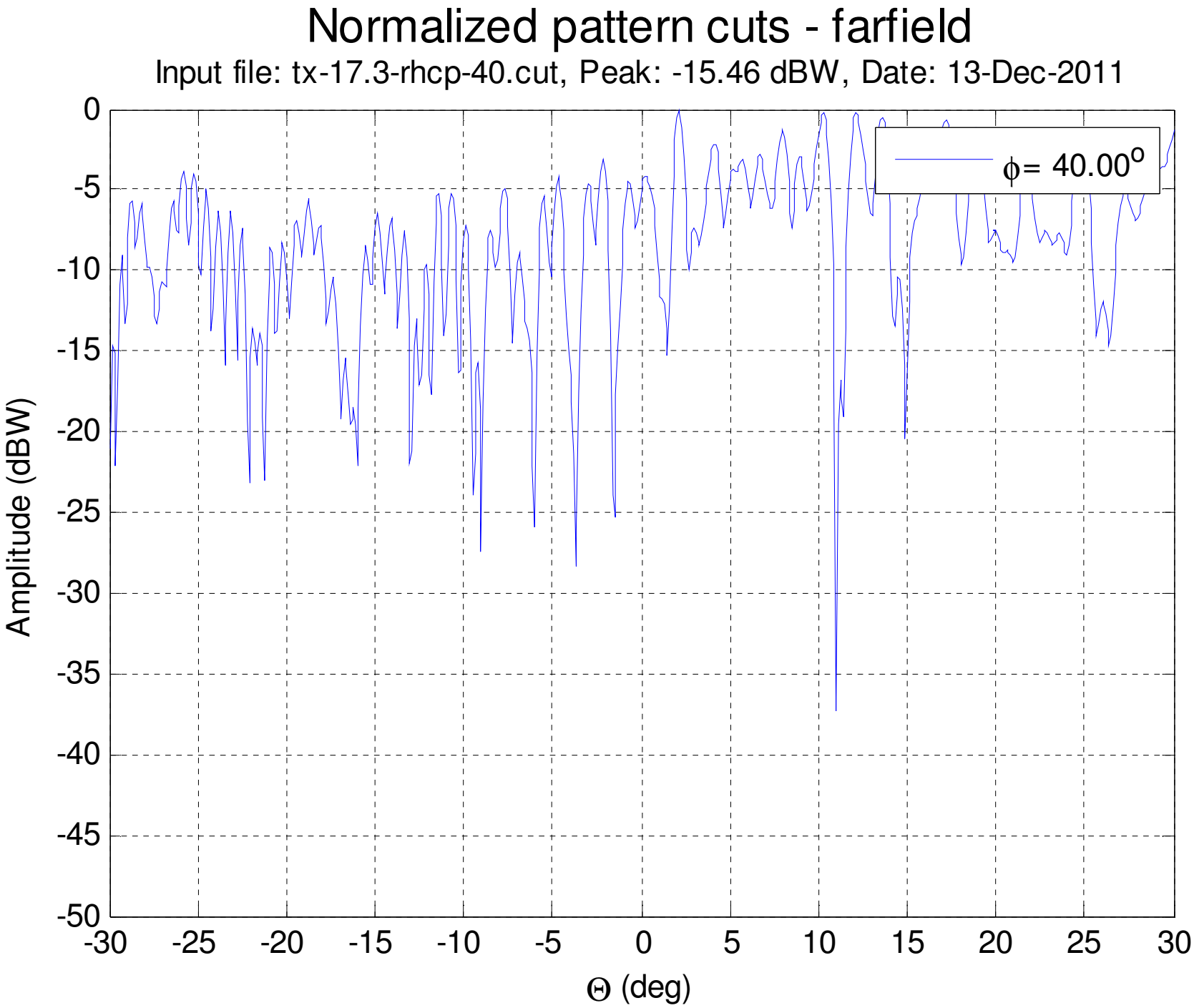

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -2.27 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

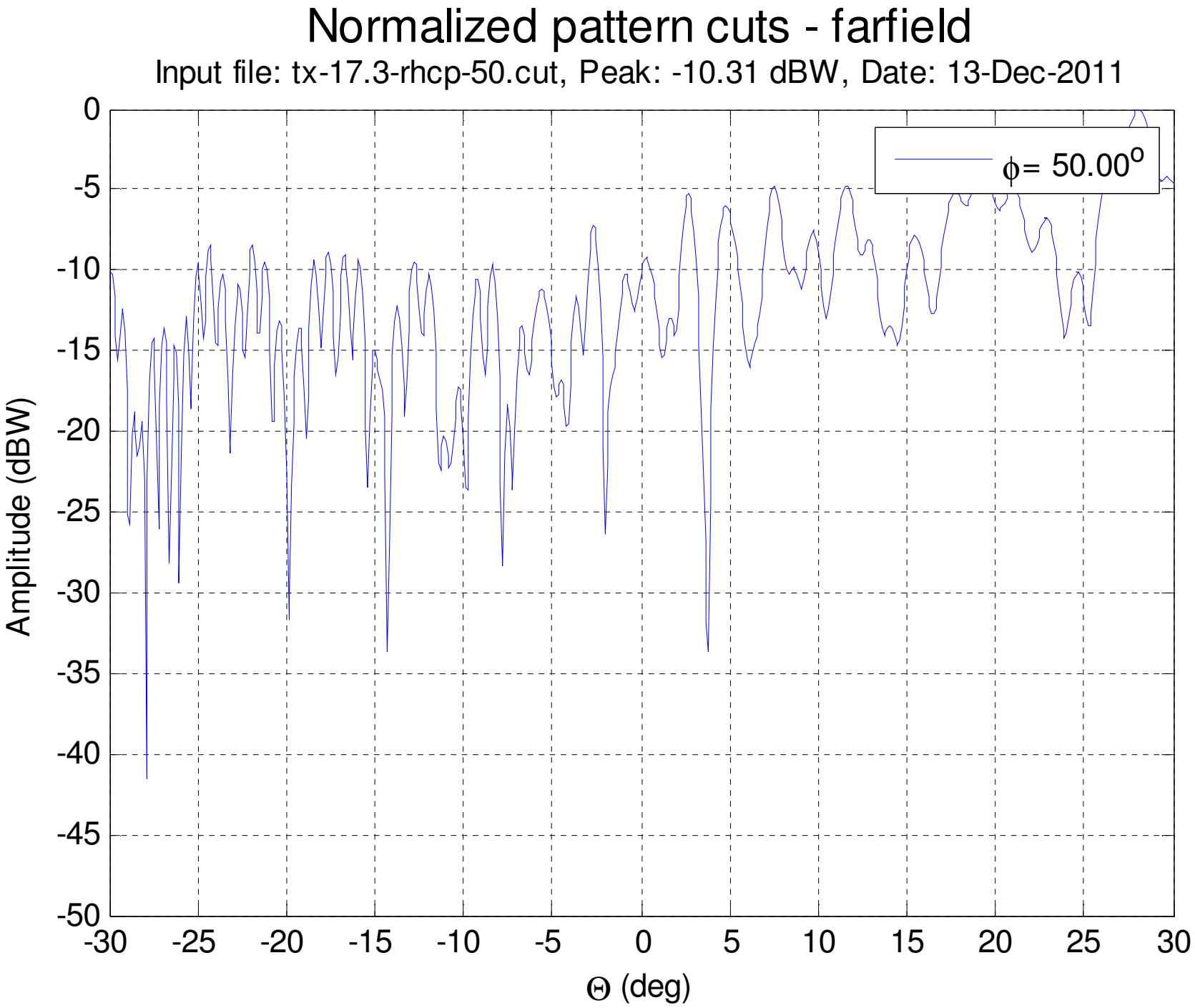

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -3.04 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

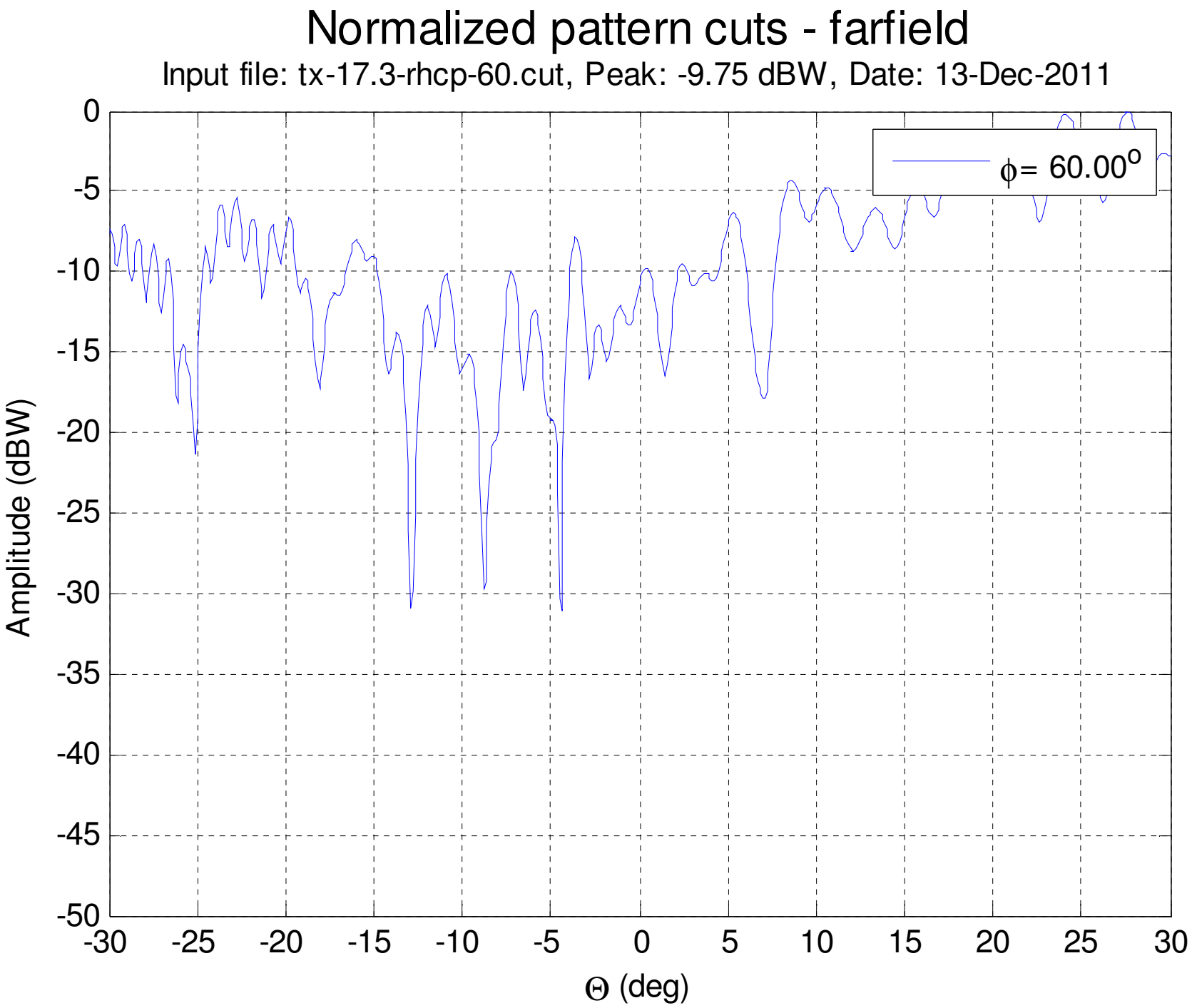

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -4.90 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -7.11 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

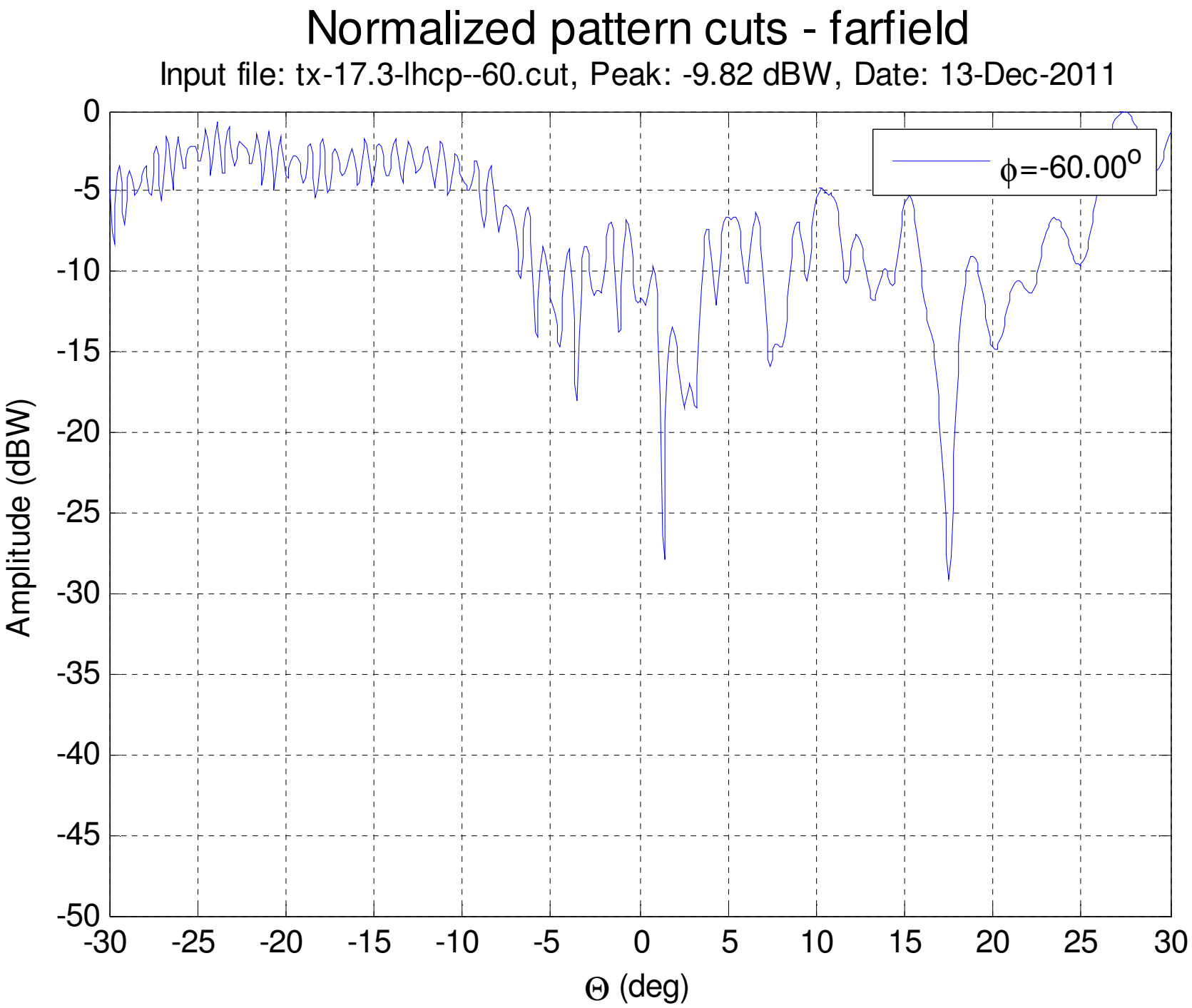

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -10.51 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

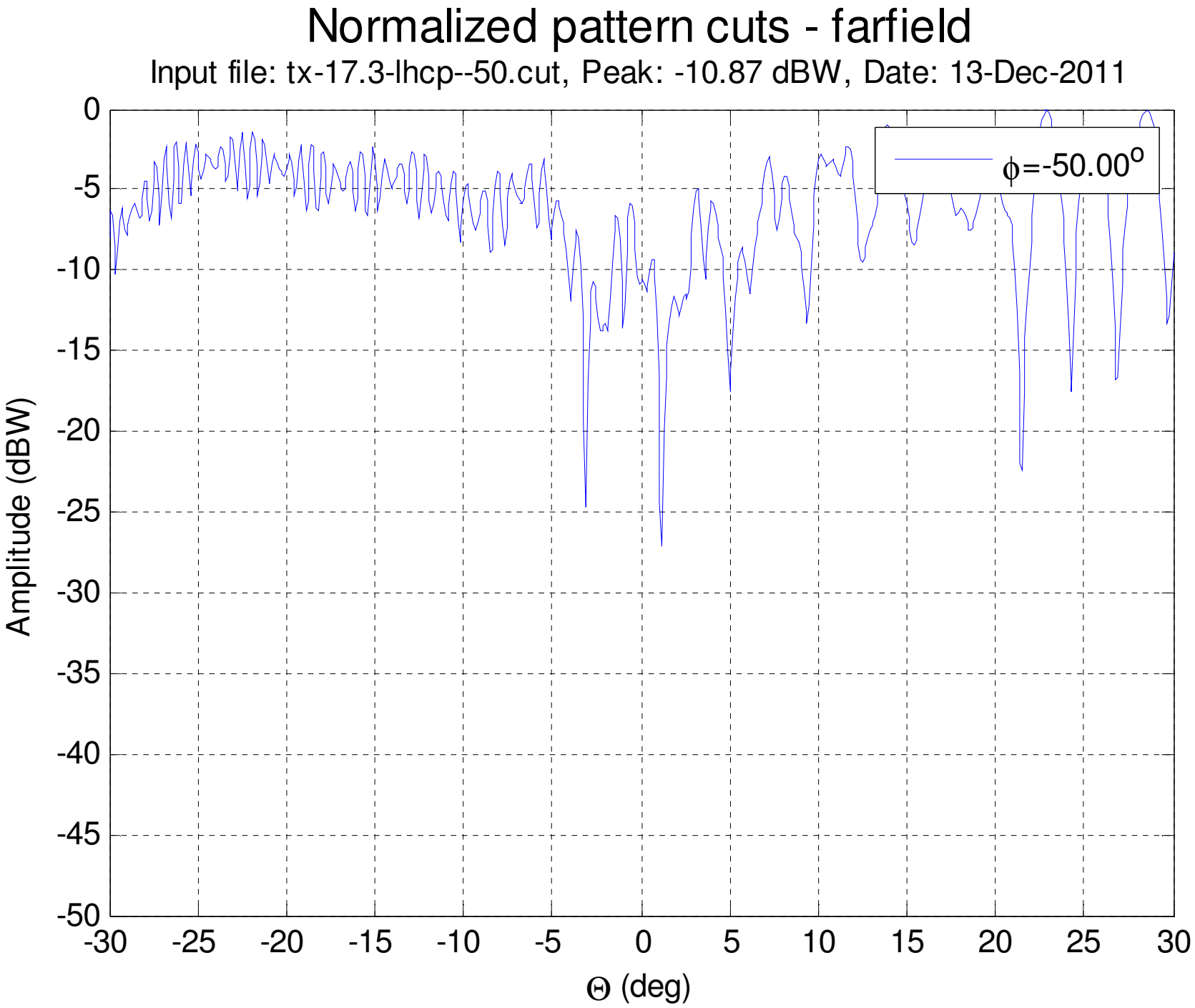

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -15.46 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 40.00°

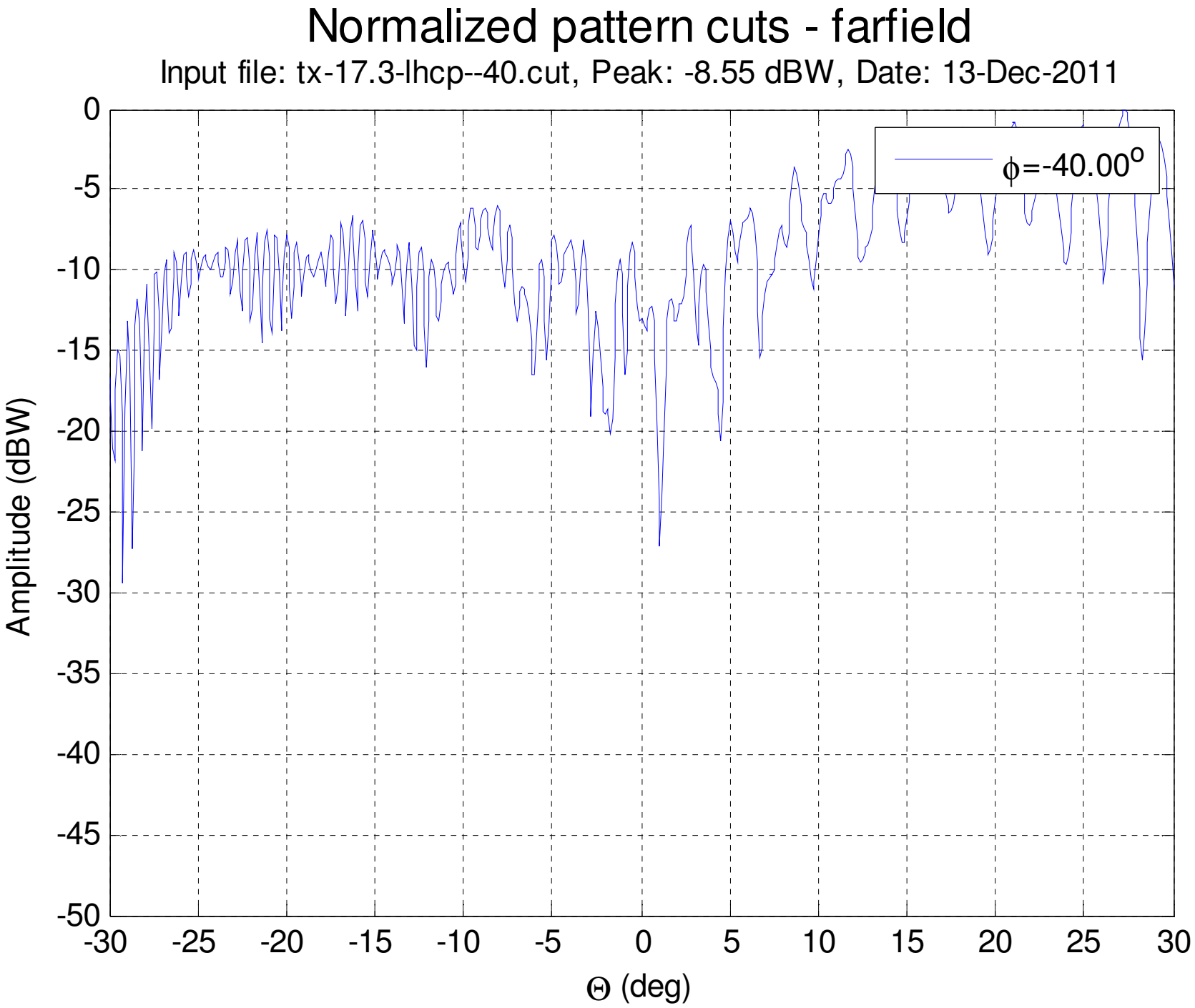

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

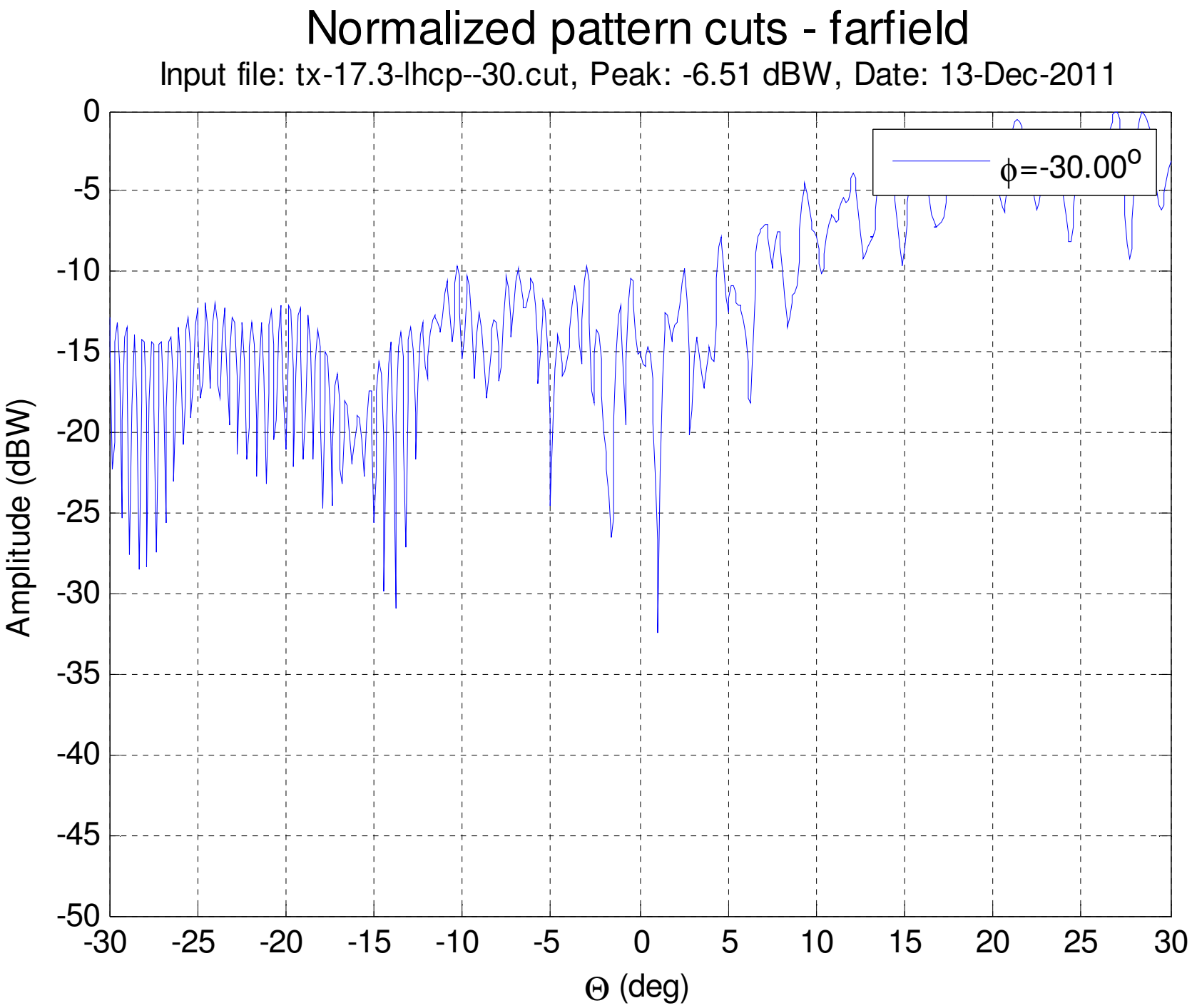

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -9.75 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

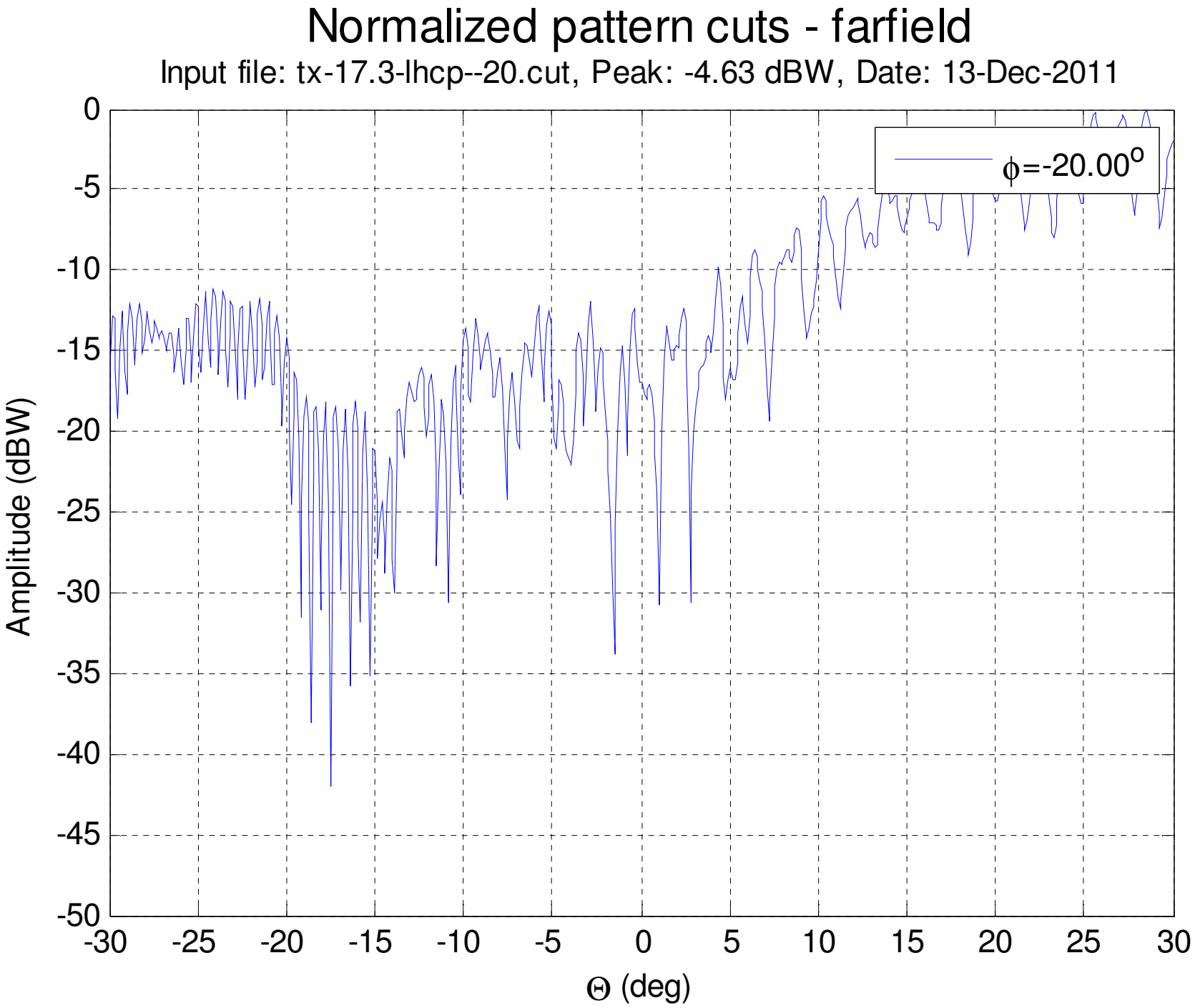
LHCP at 17.3 GHz

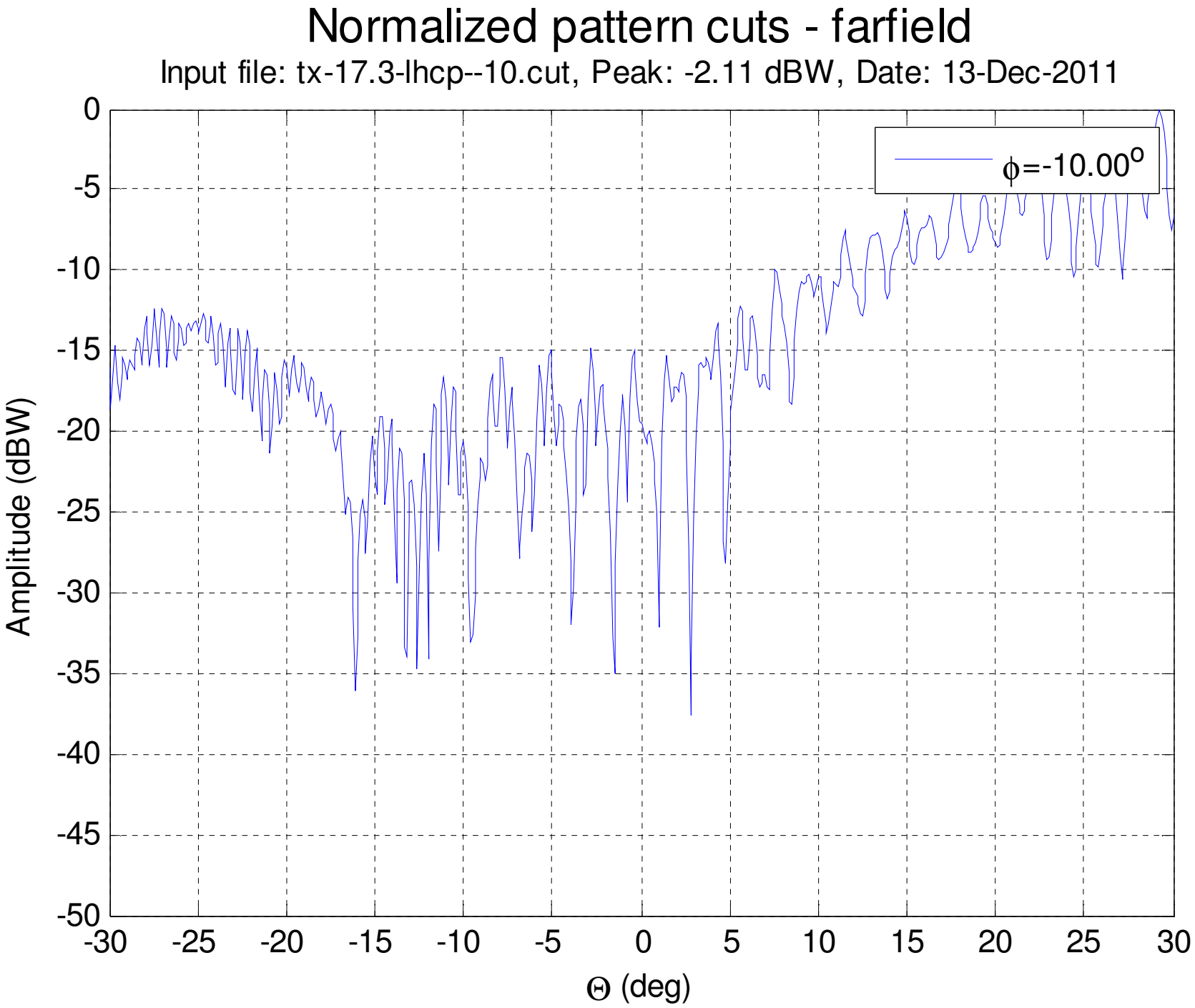

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -9.82 dBW, Date: 13-Dec-2011
φ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

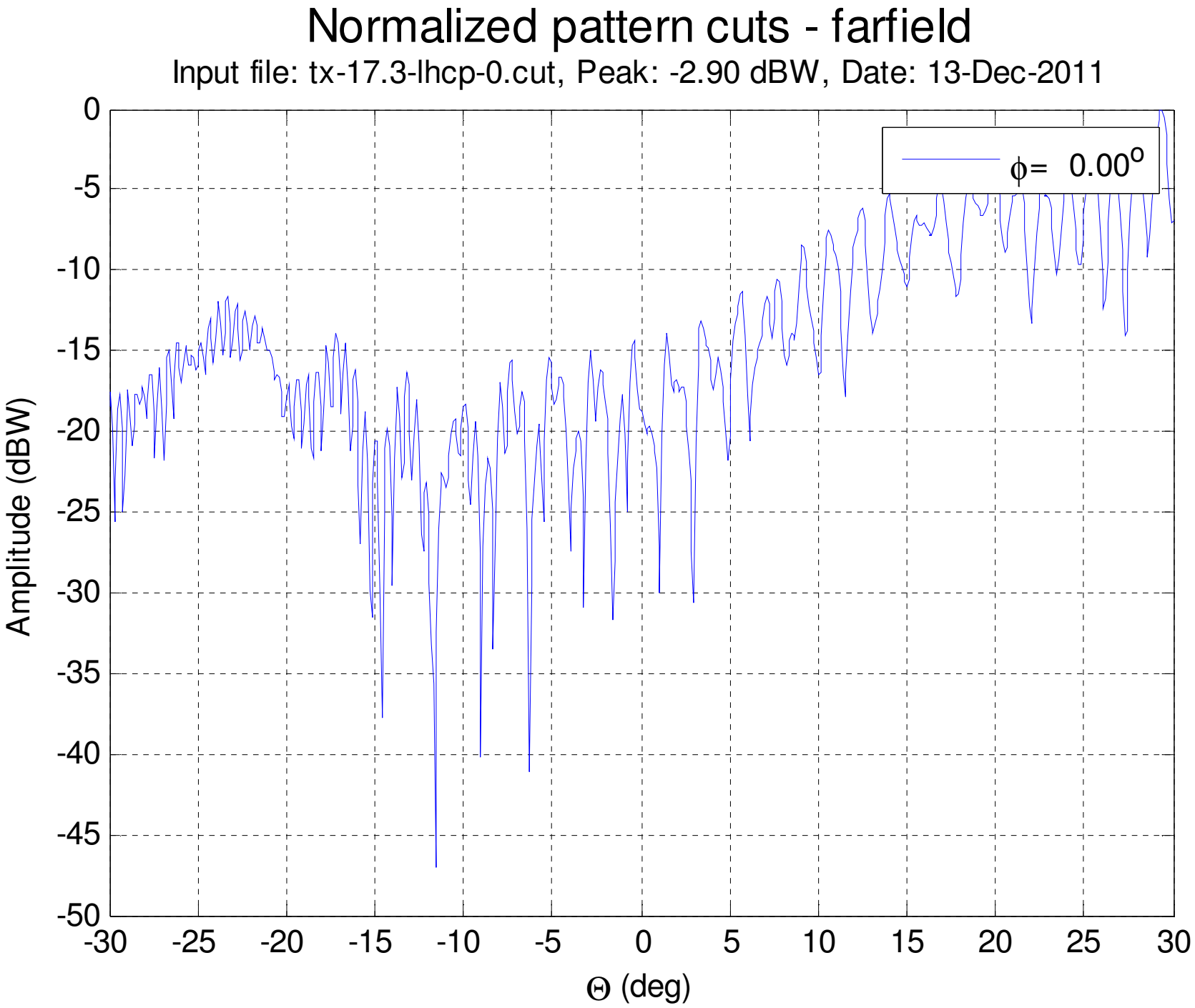

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -10.87 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

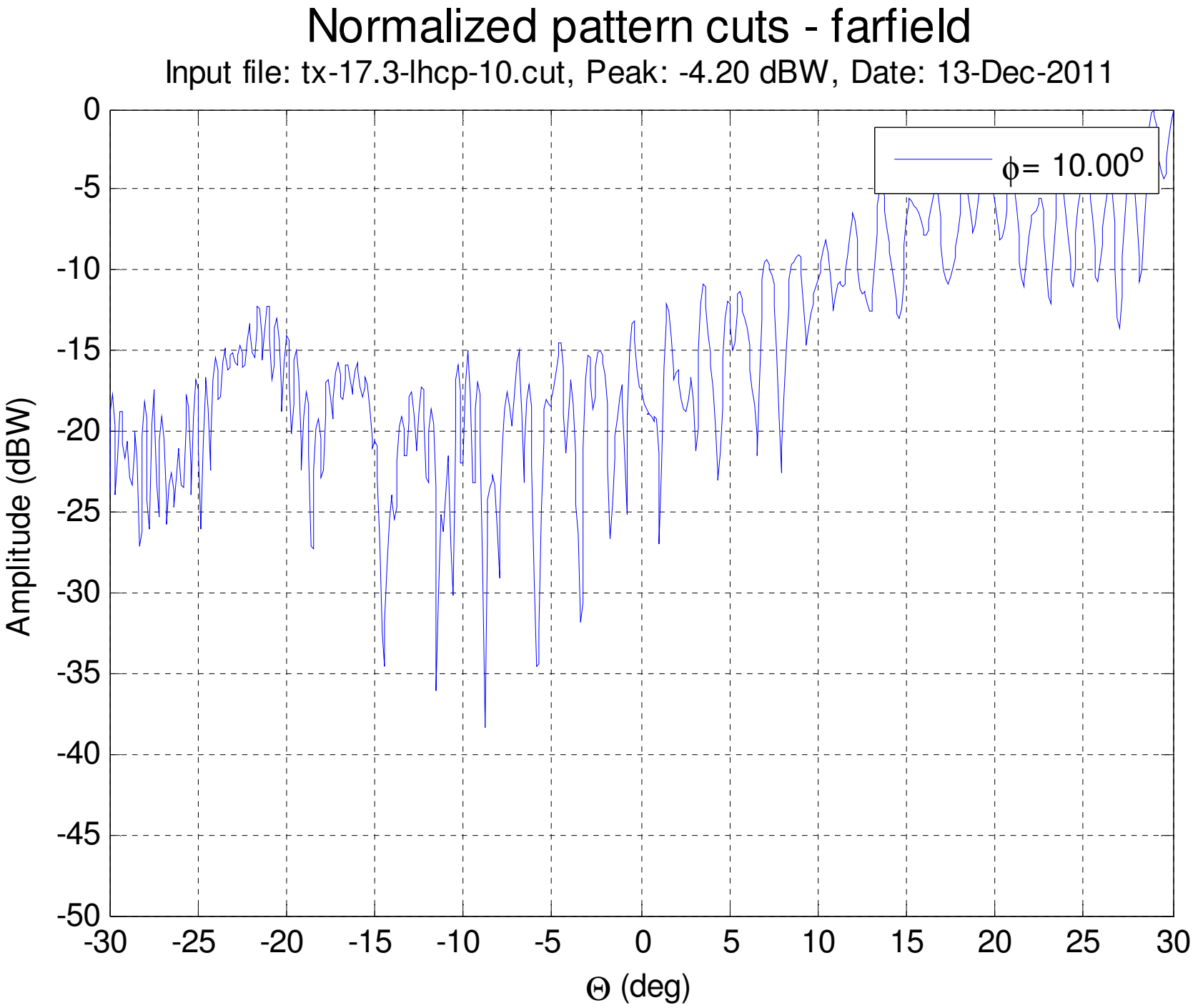

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -8.55 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

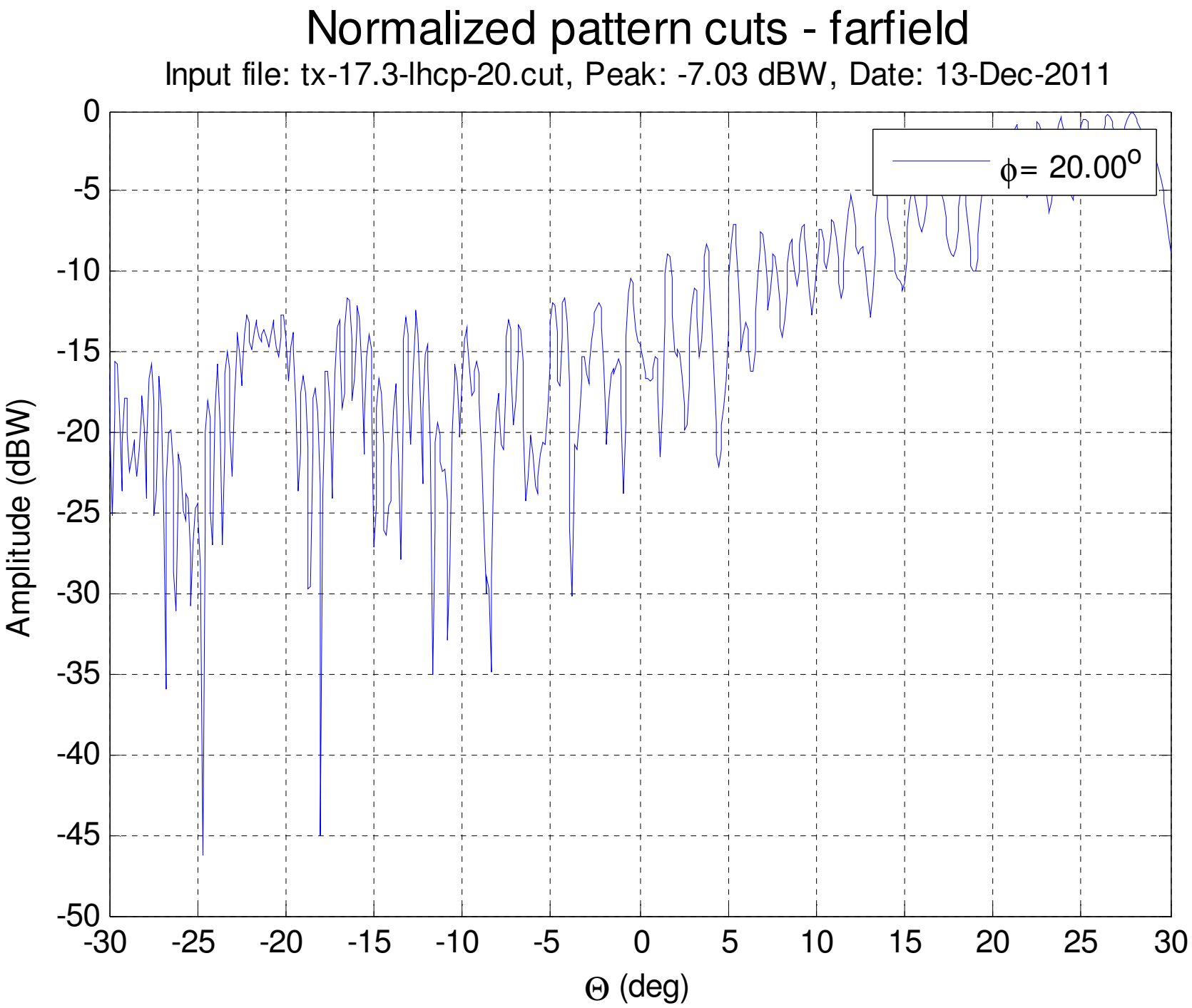

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -6.51 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

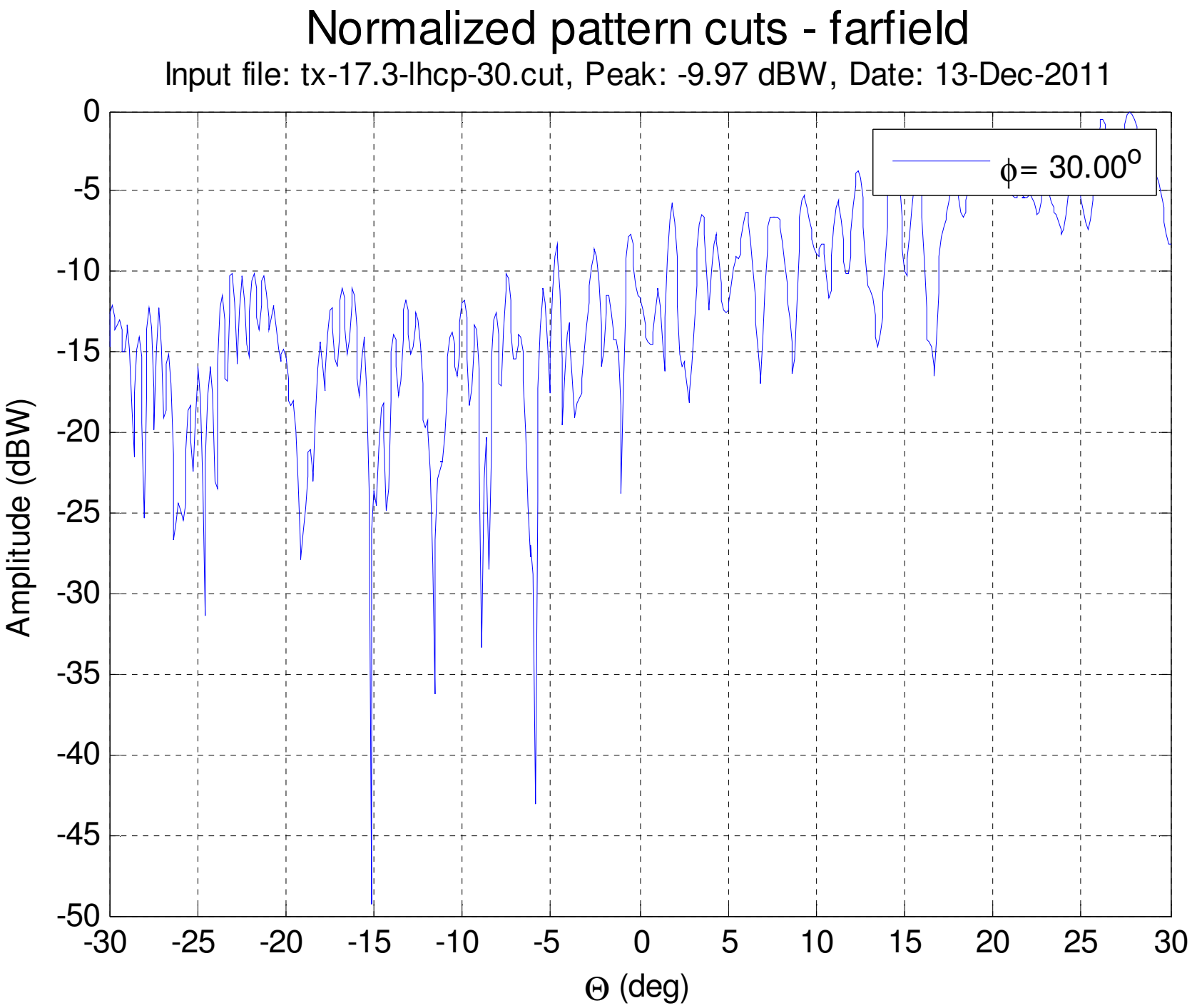

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -4.63 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

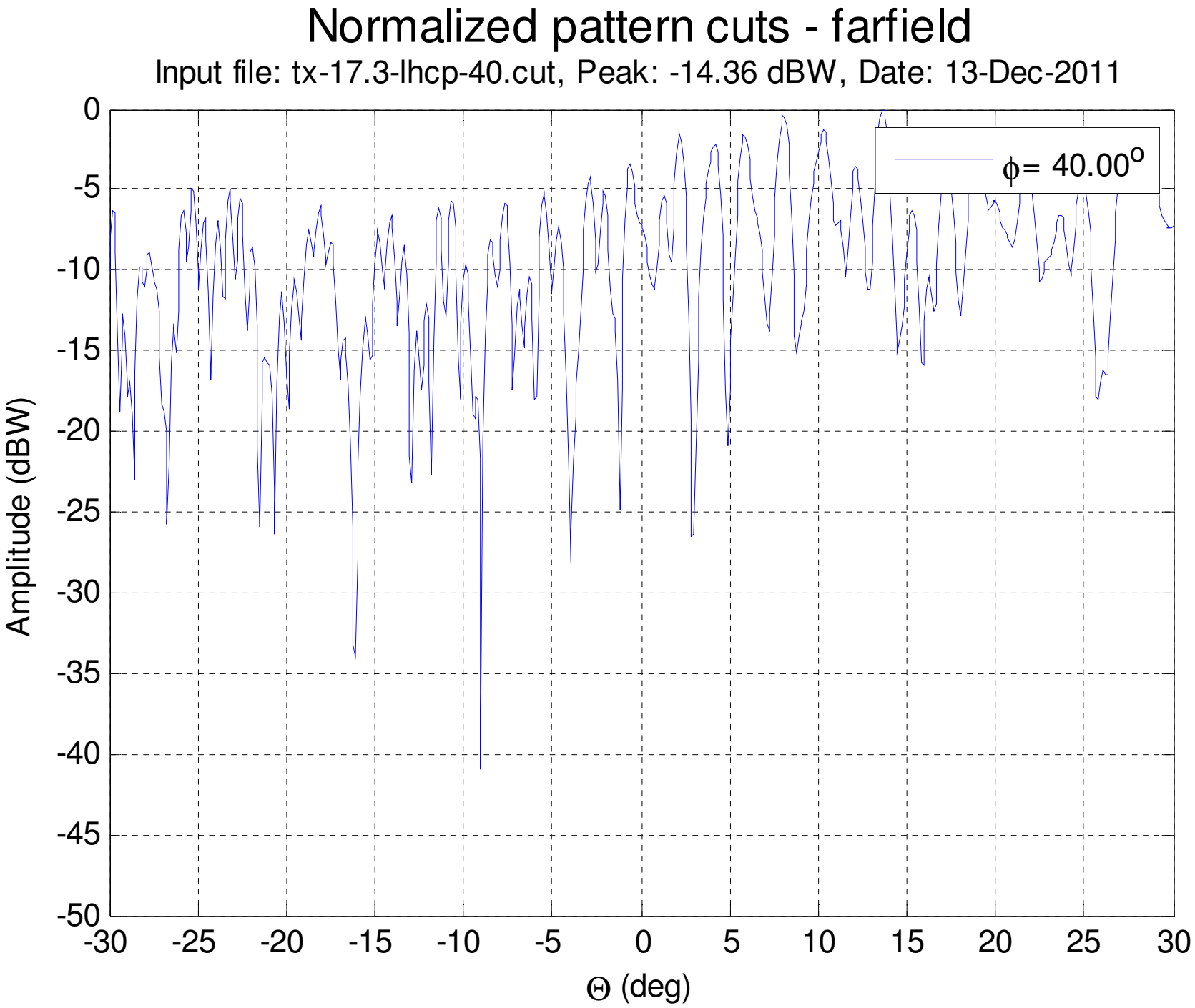

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -2.11 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

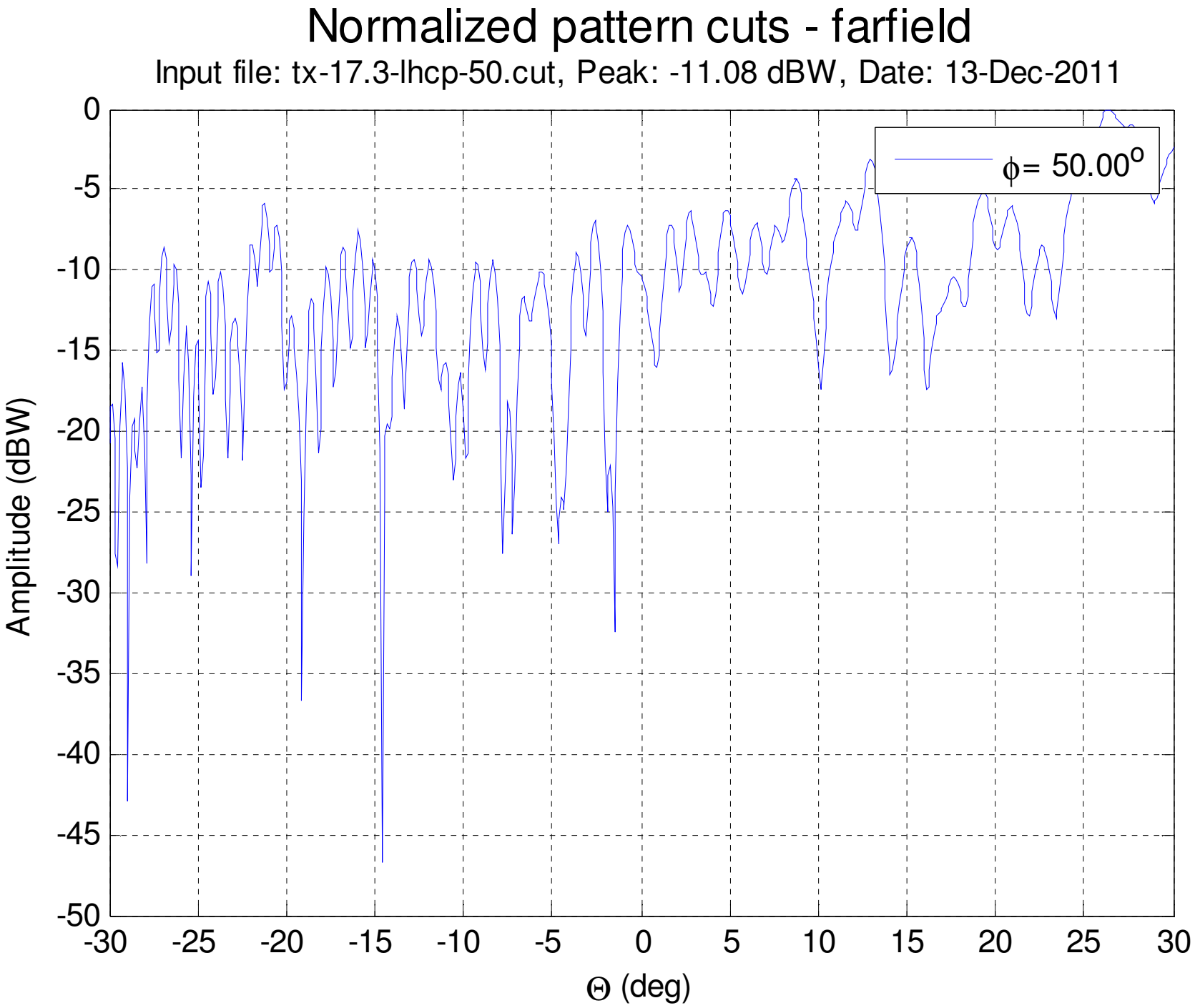

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -2.90 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

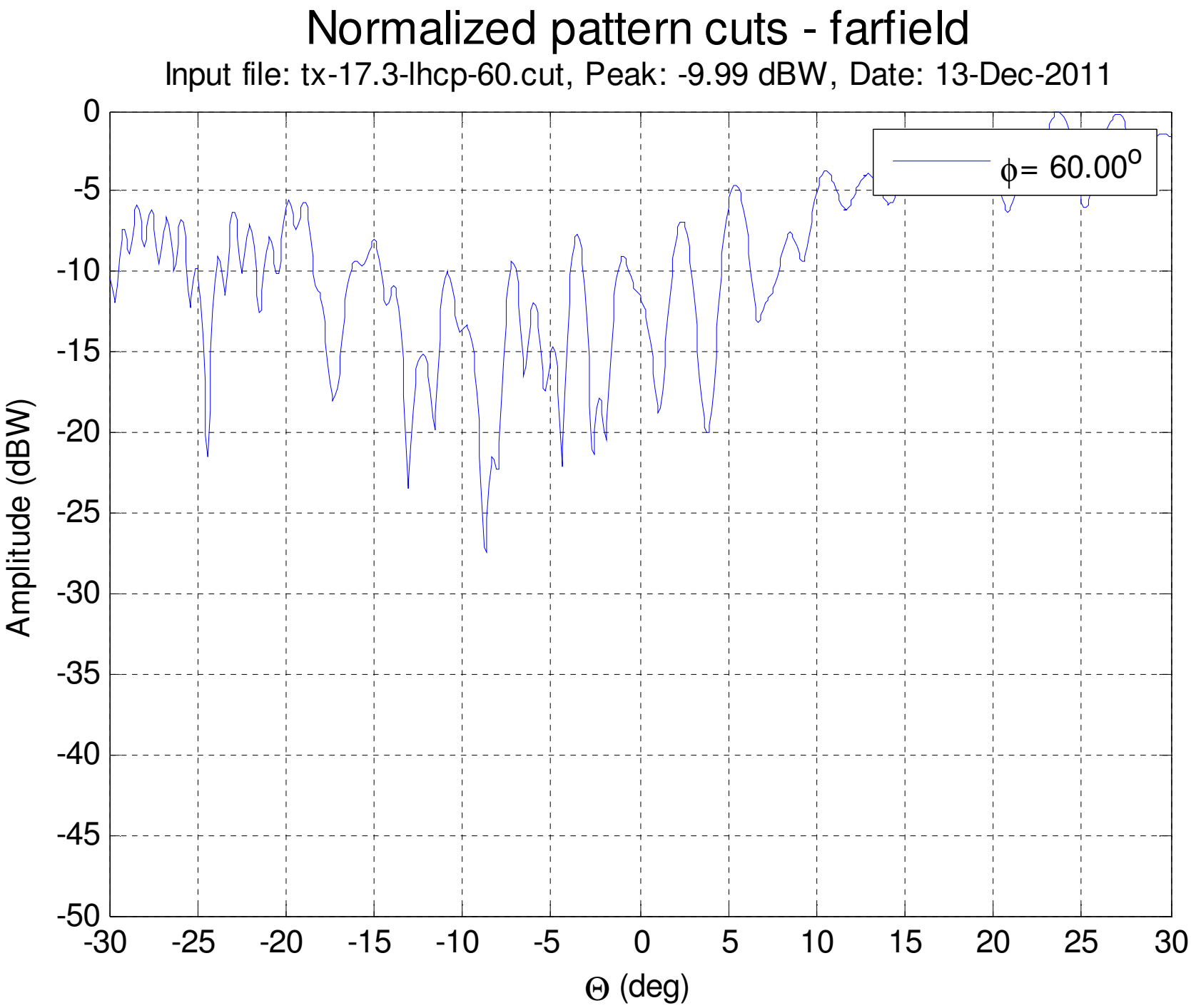

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -4.20 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -7.03 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

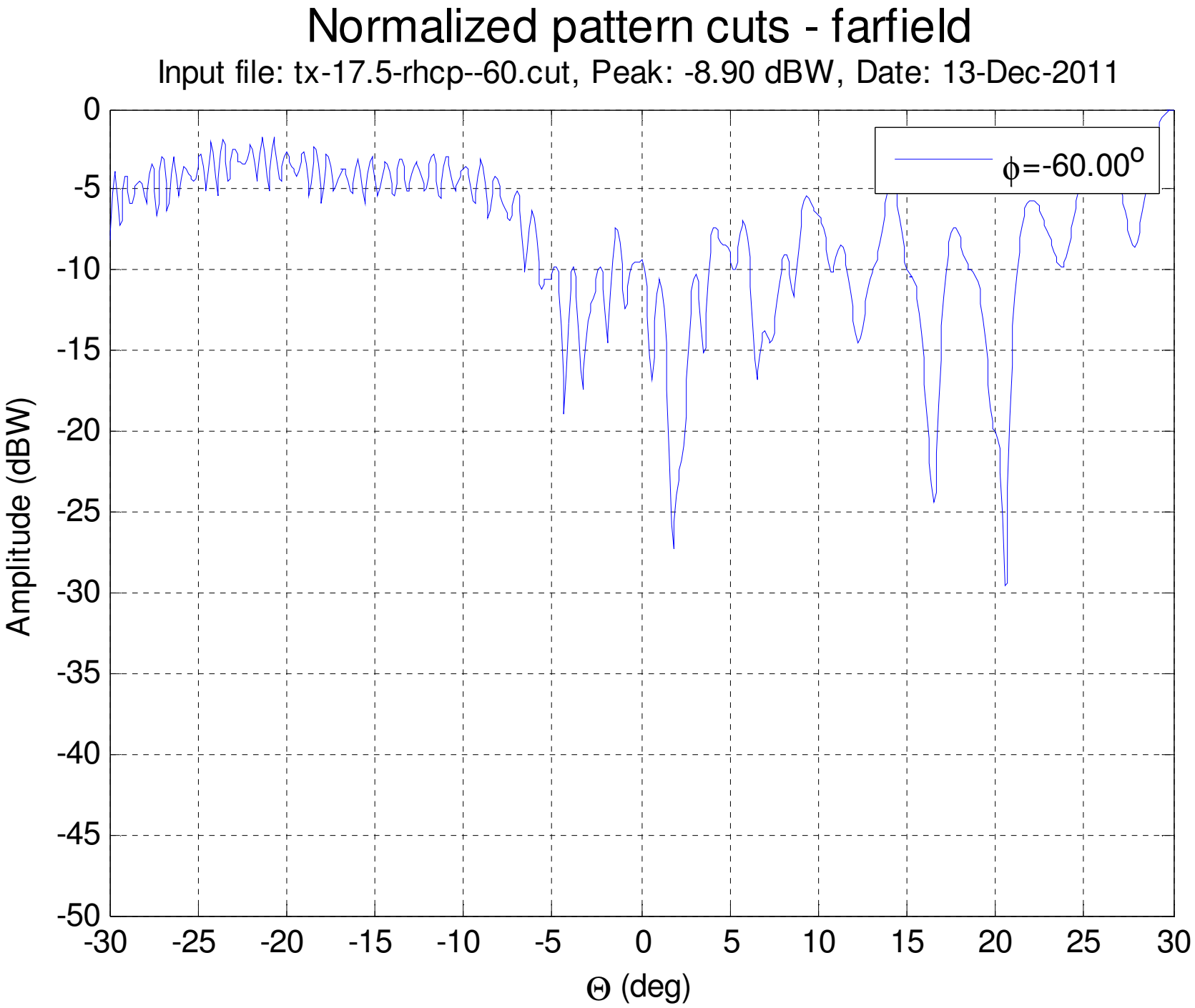

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

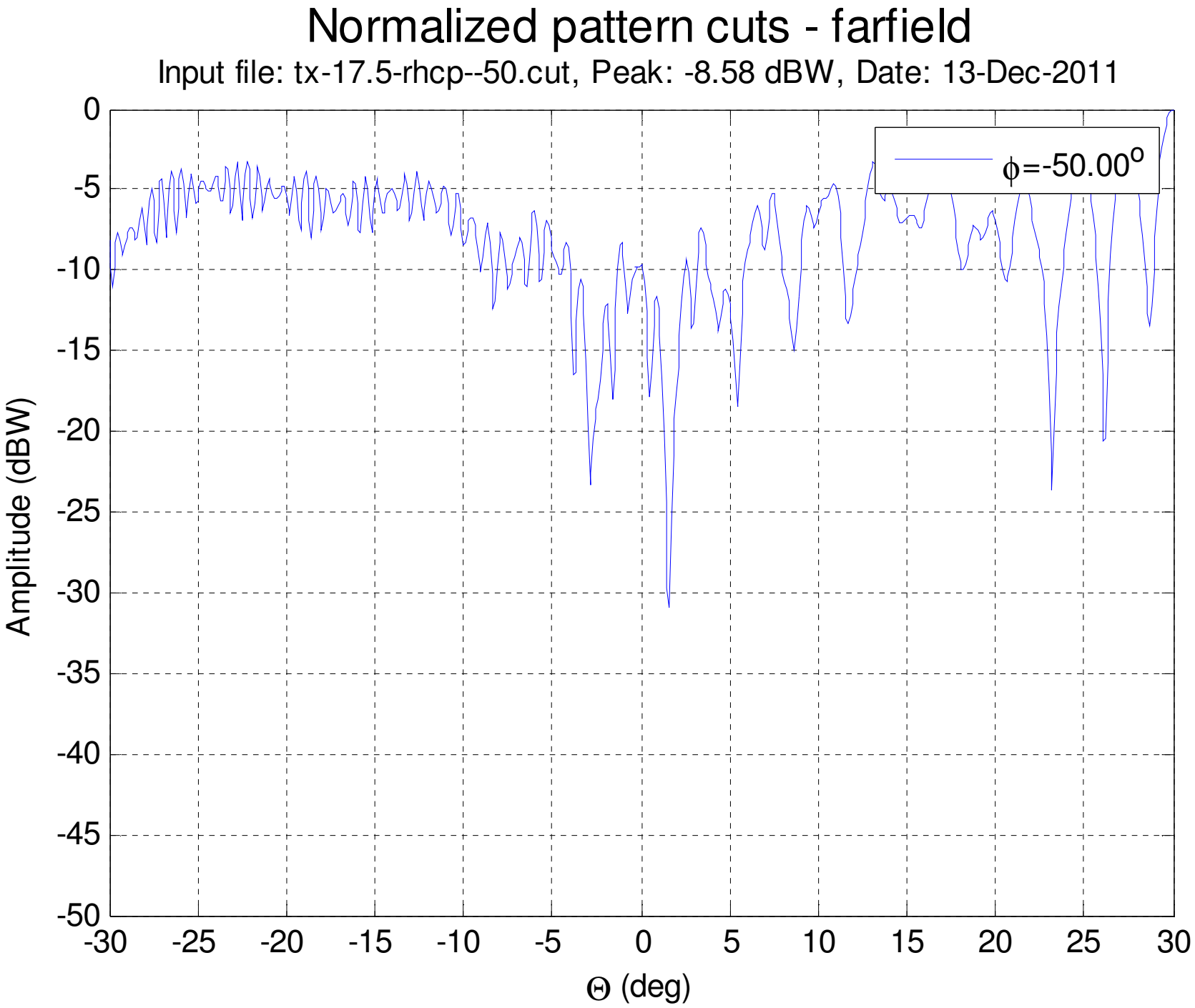

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -14.36 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

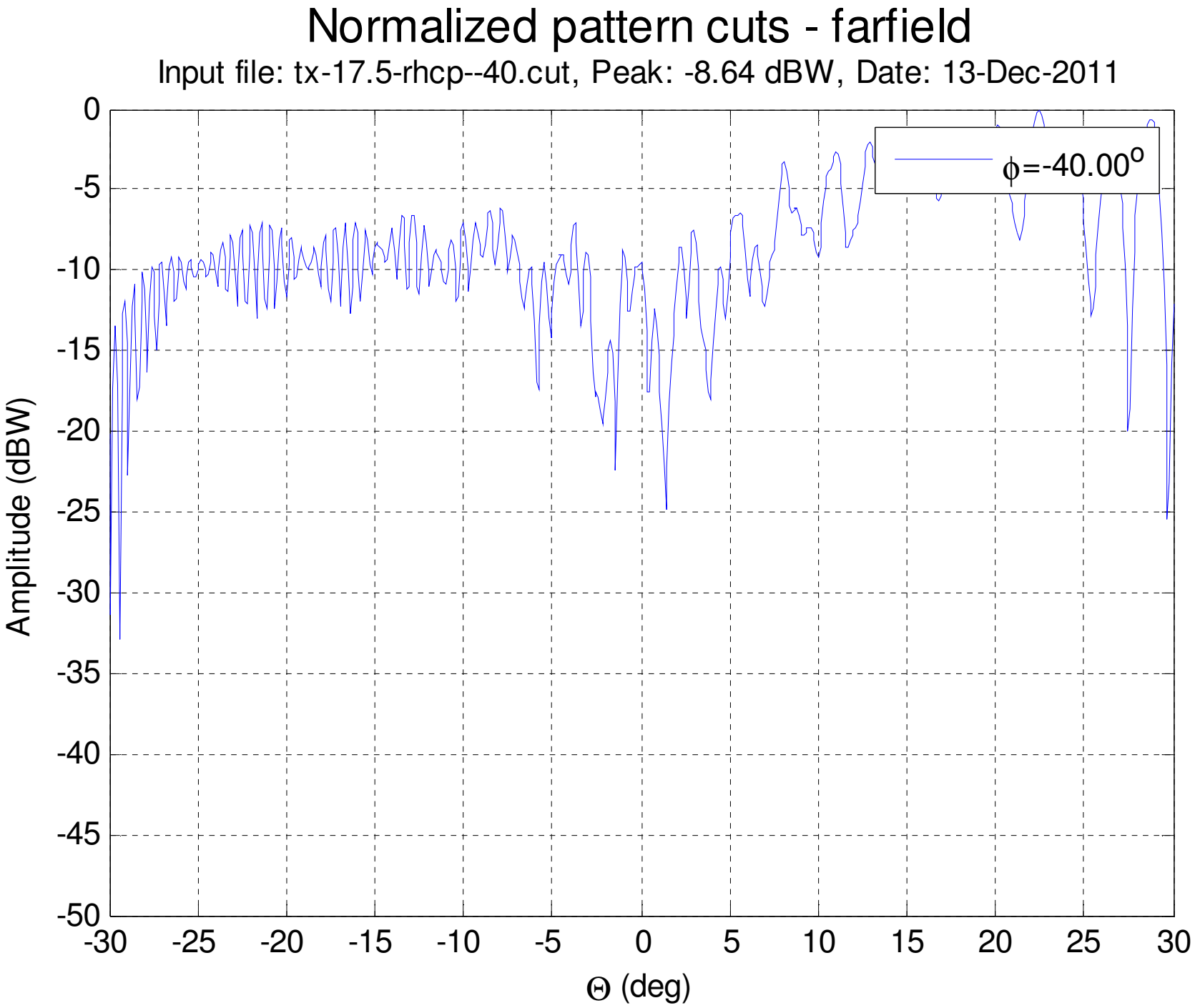

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -11.08 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

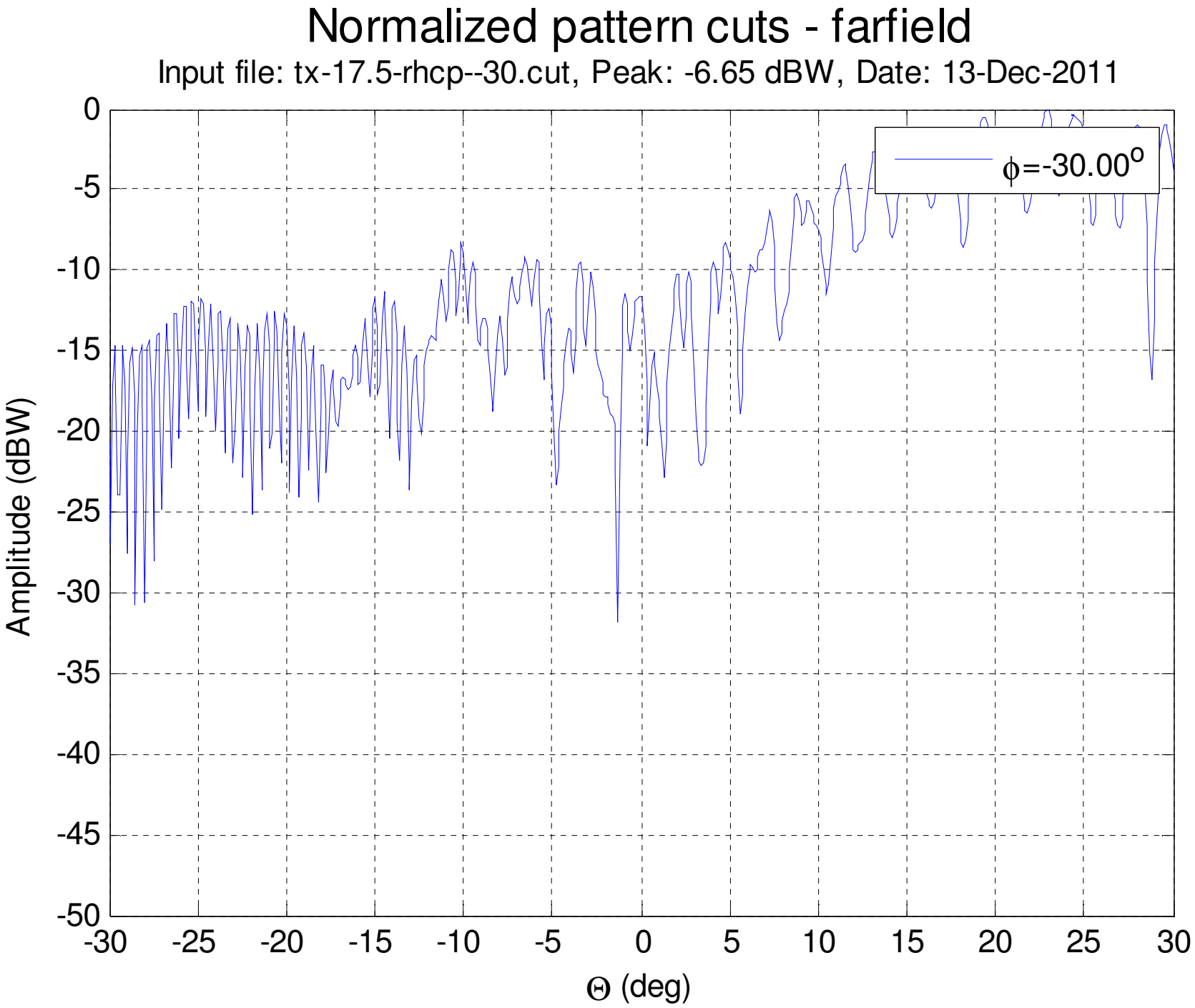

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -9.99 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

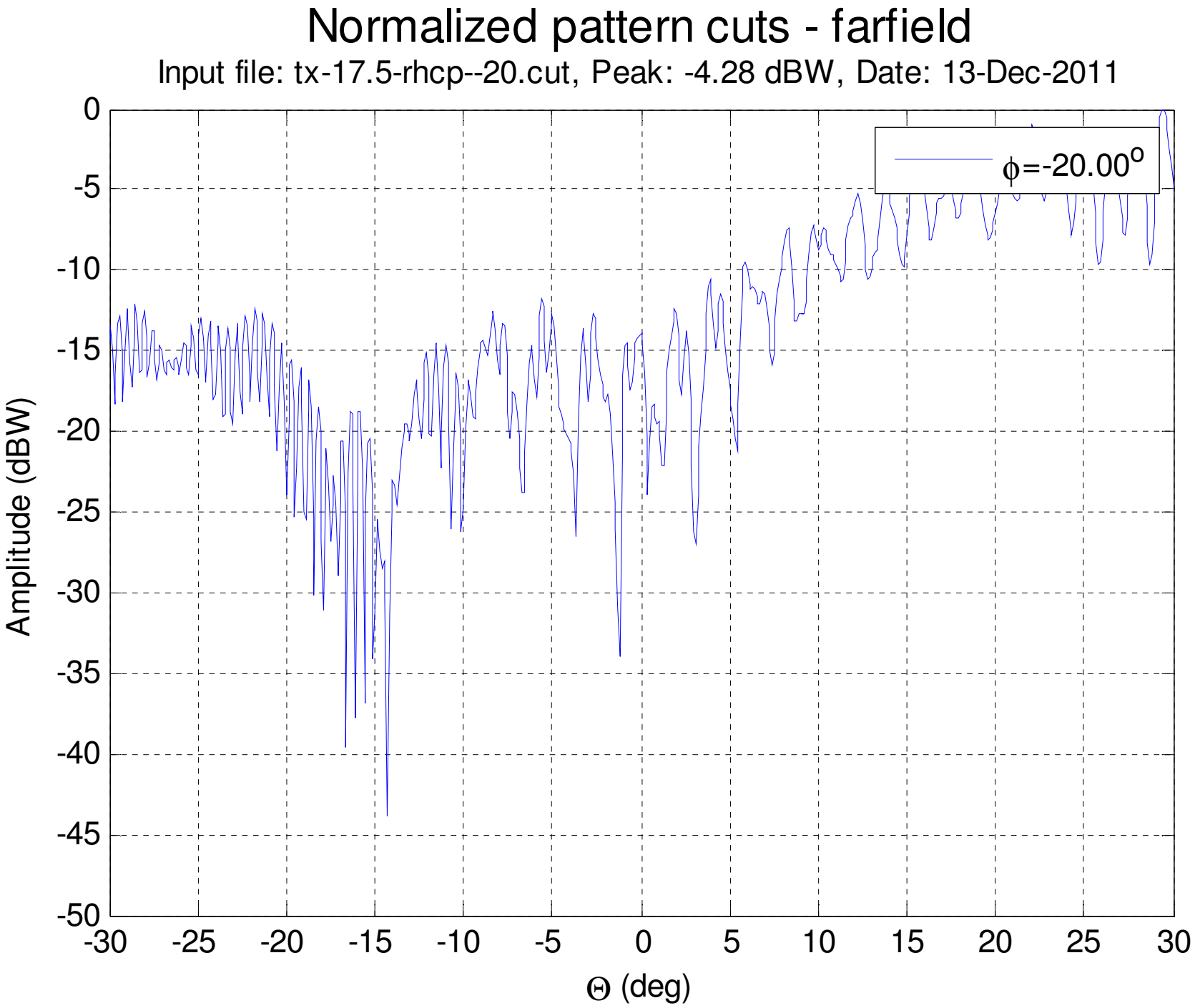
RHCP at 17.5 GHz

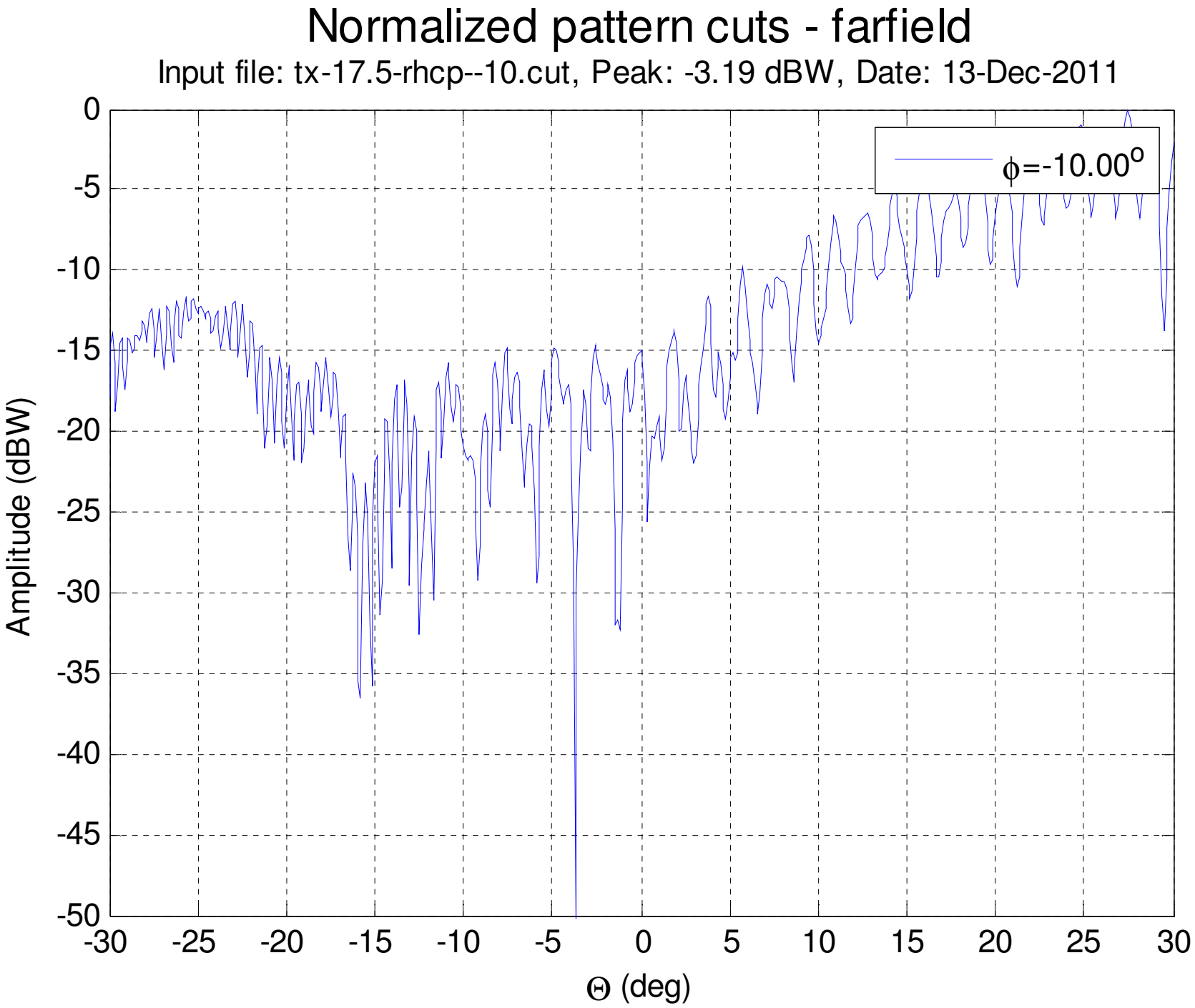

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -8.90 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

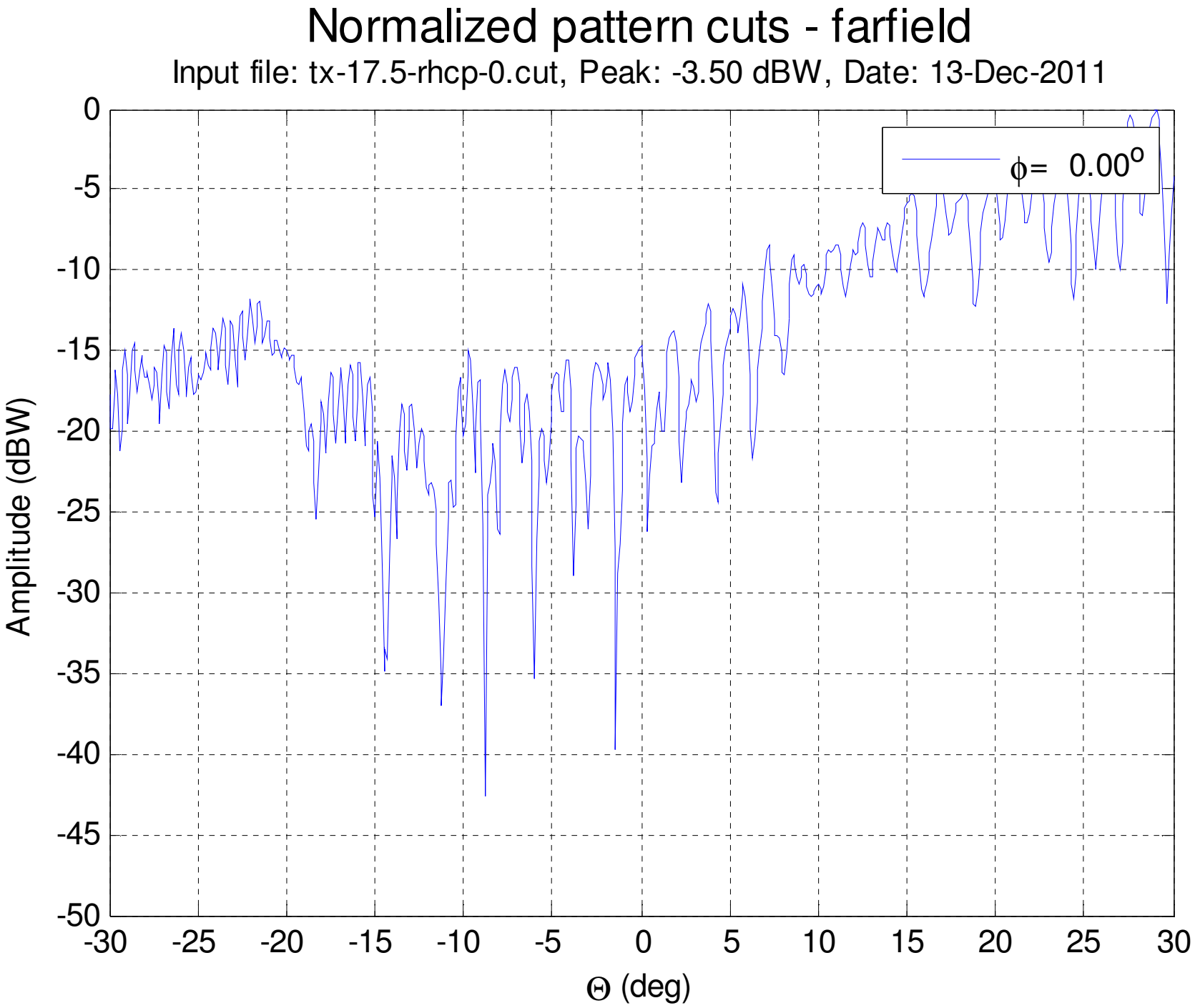

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -8.58 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

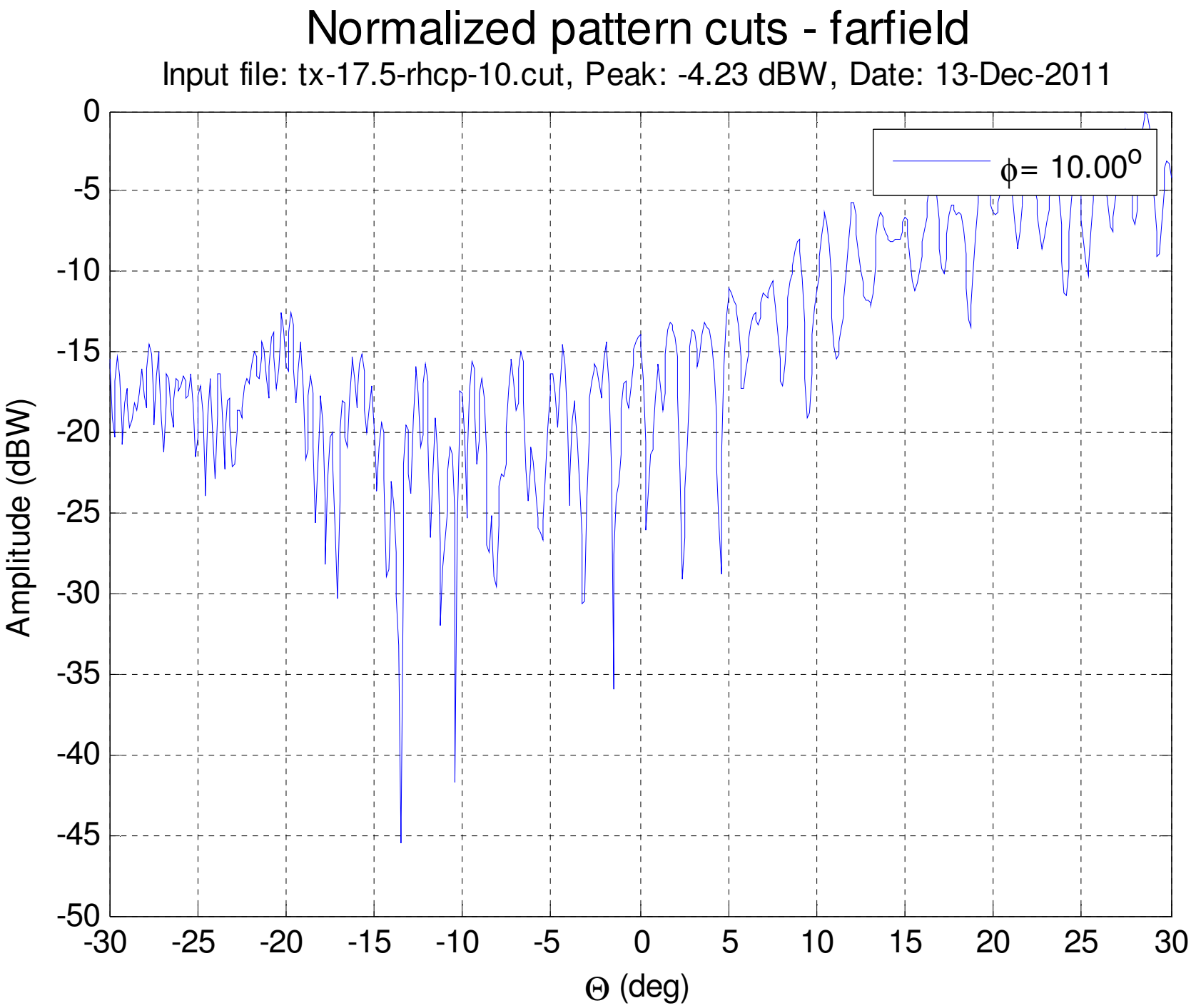

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -8.64 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

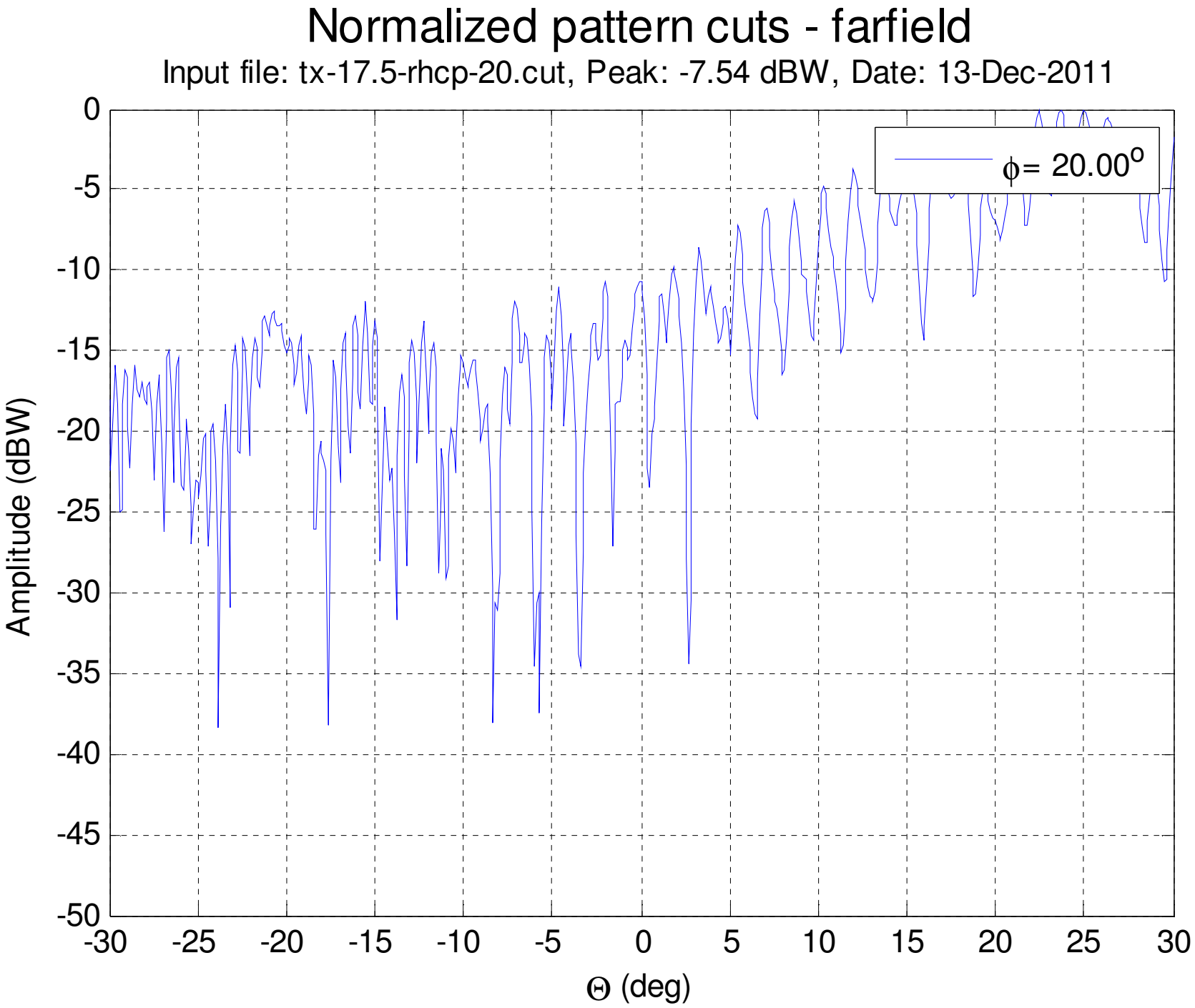

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -6.65 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-30.00°

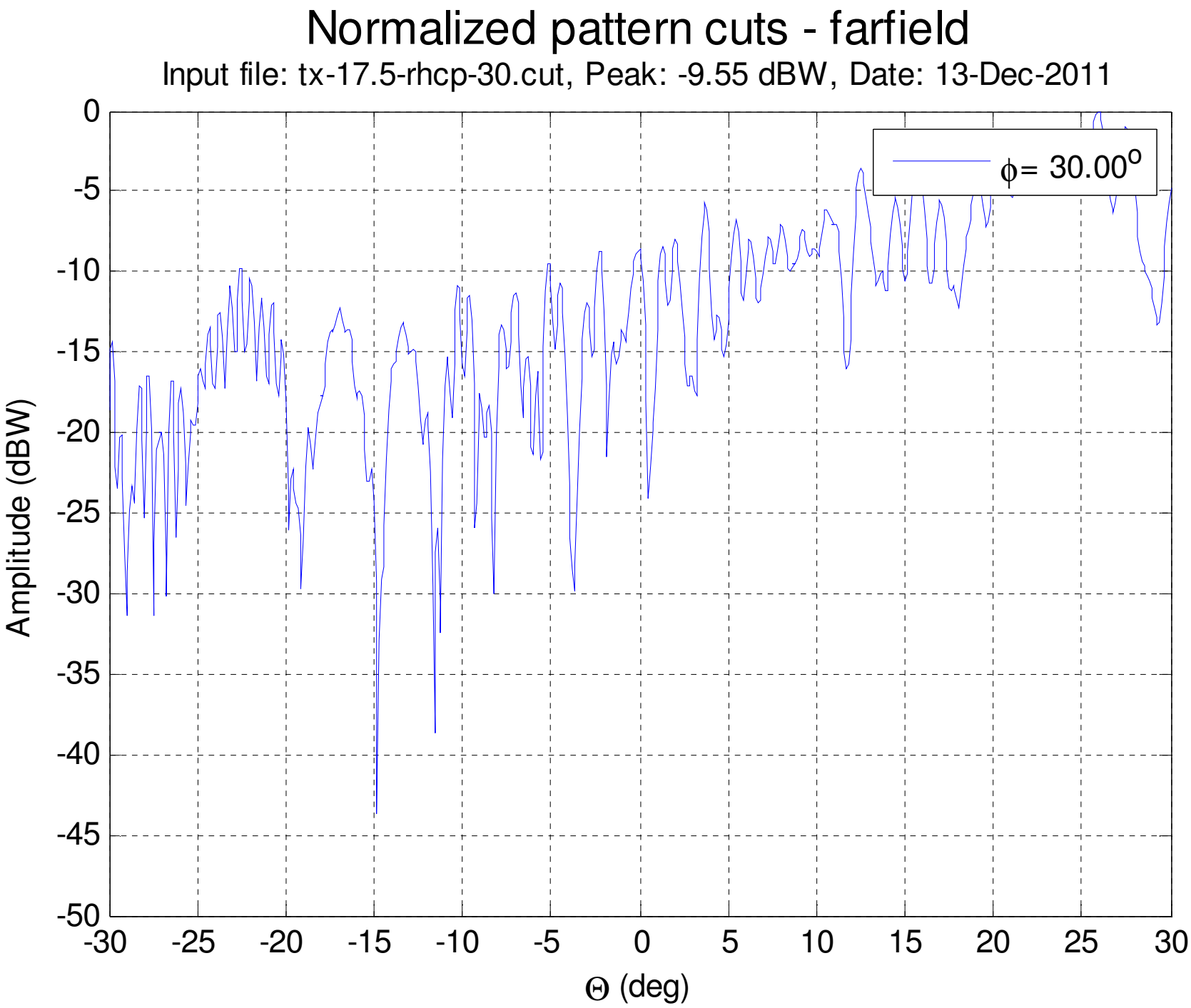

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -4.28 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

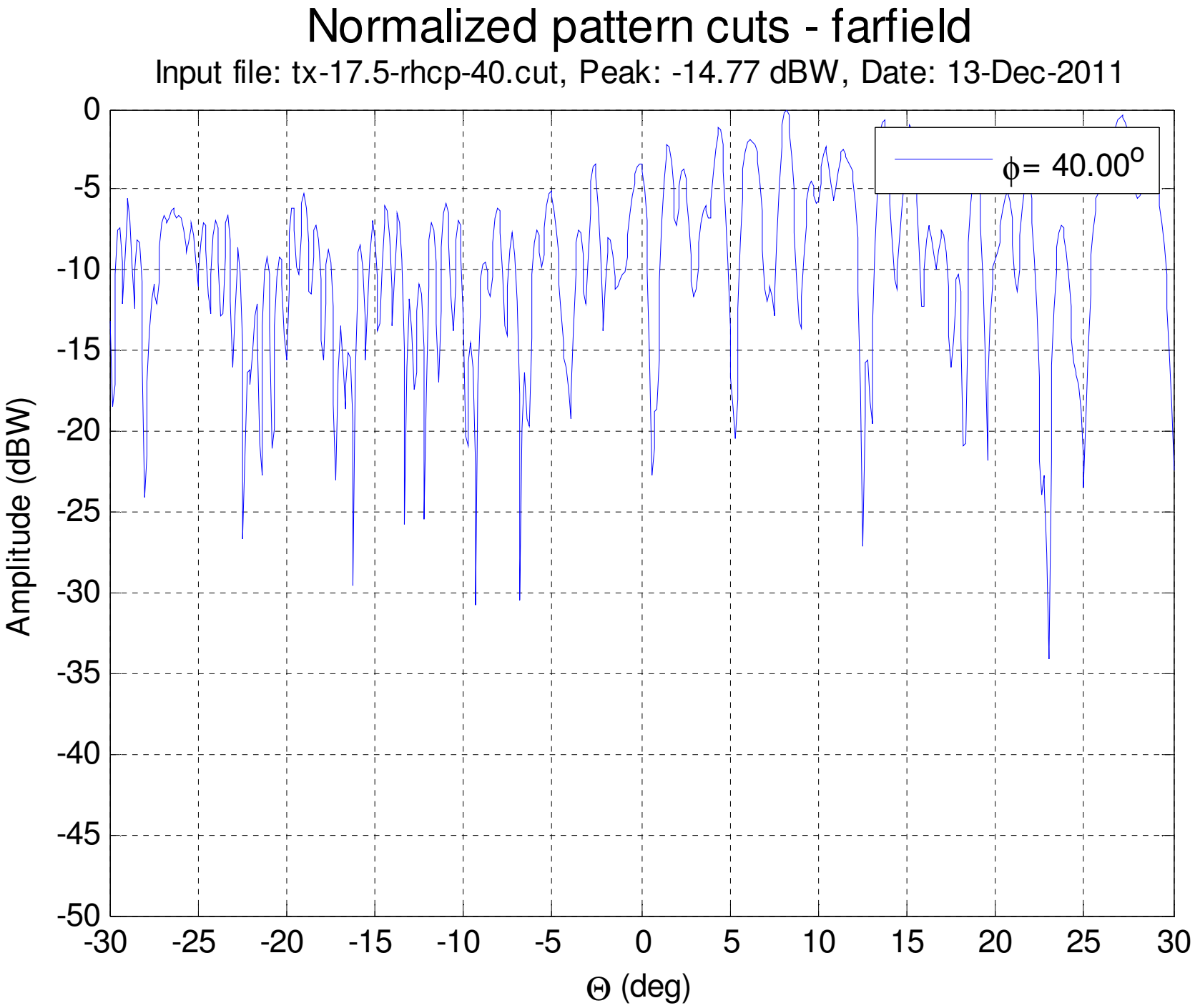

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -3.19 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

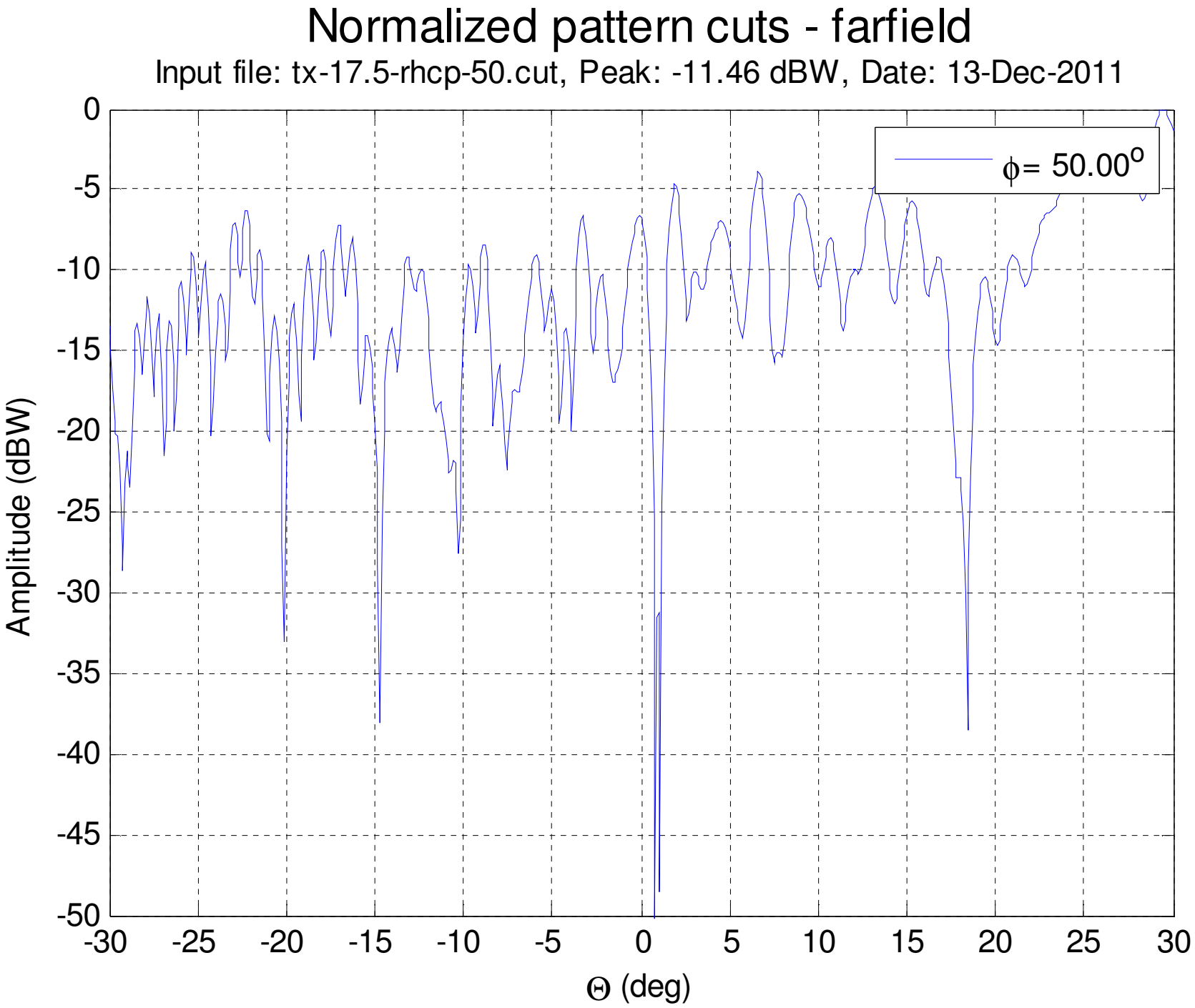

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -3.50 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

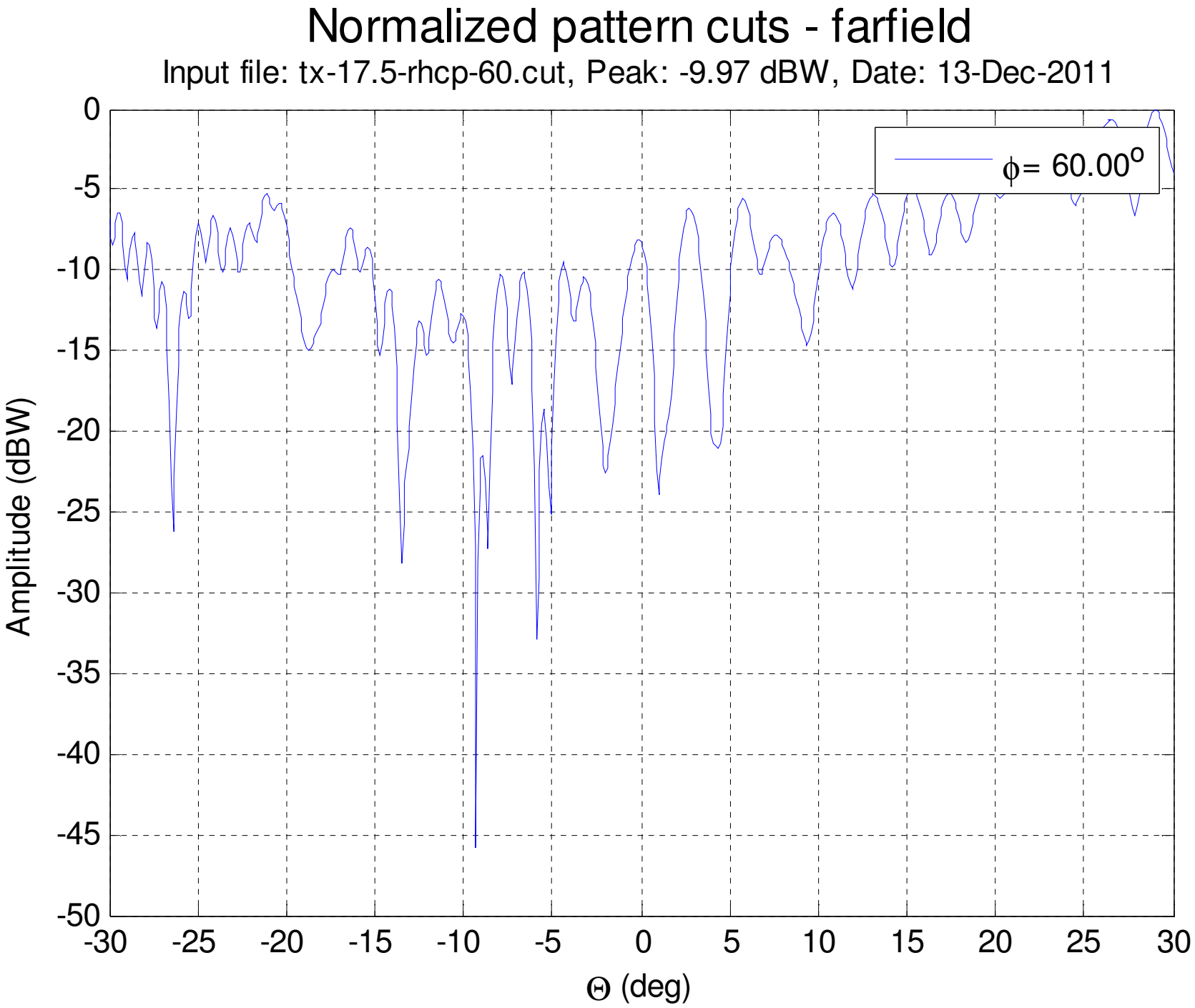

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -4.23 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -7.54 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

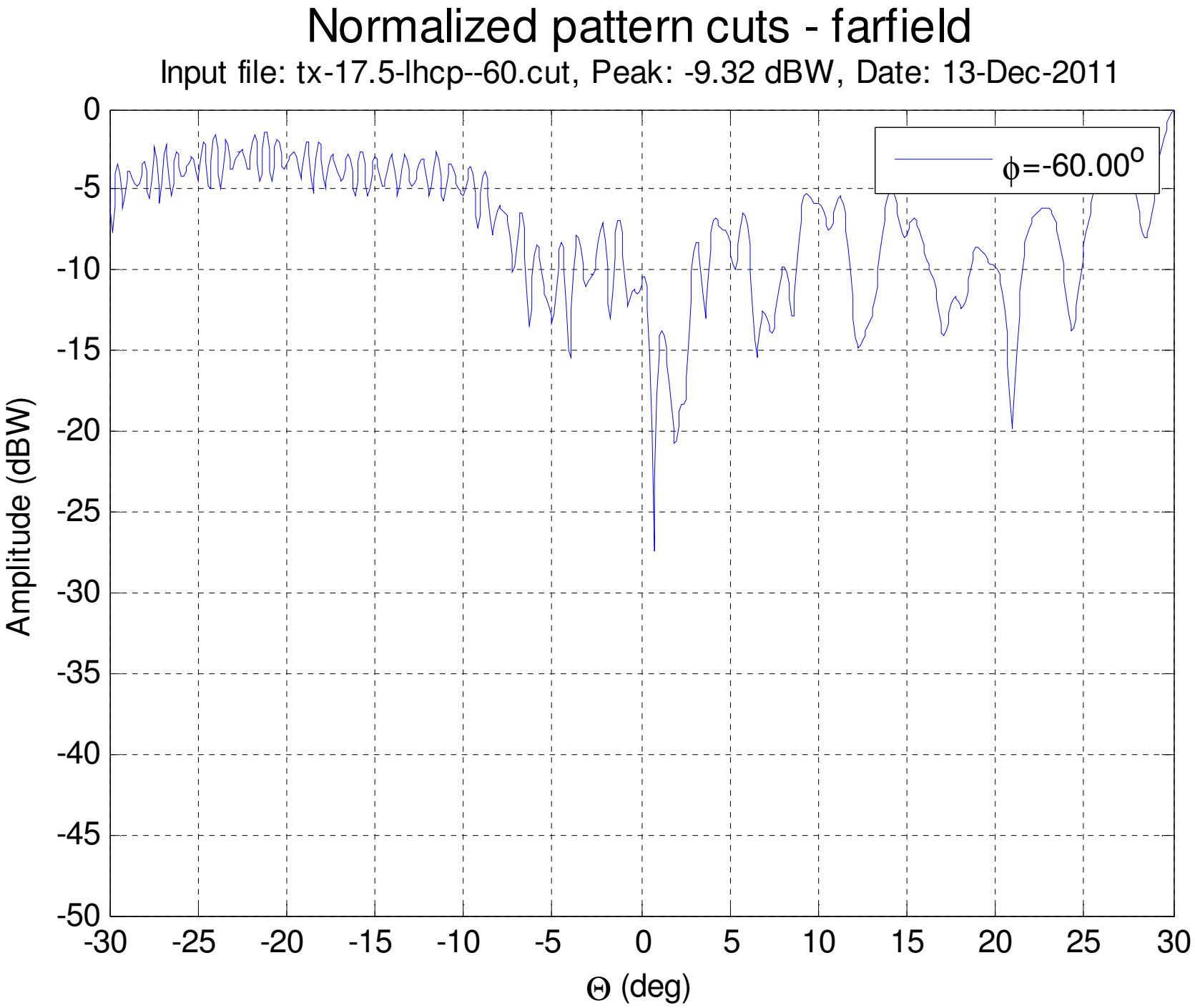

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -9.55 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

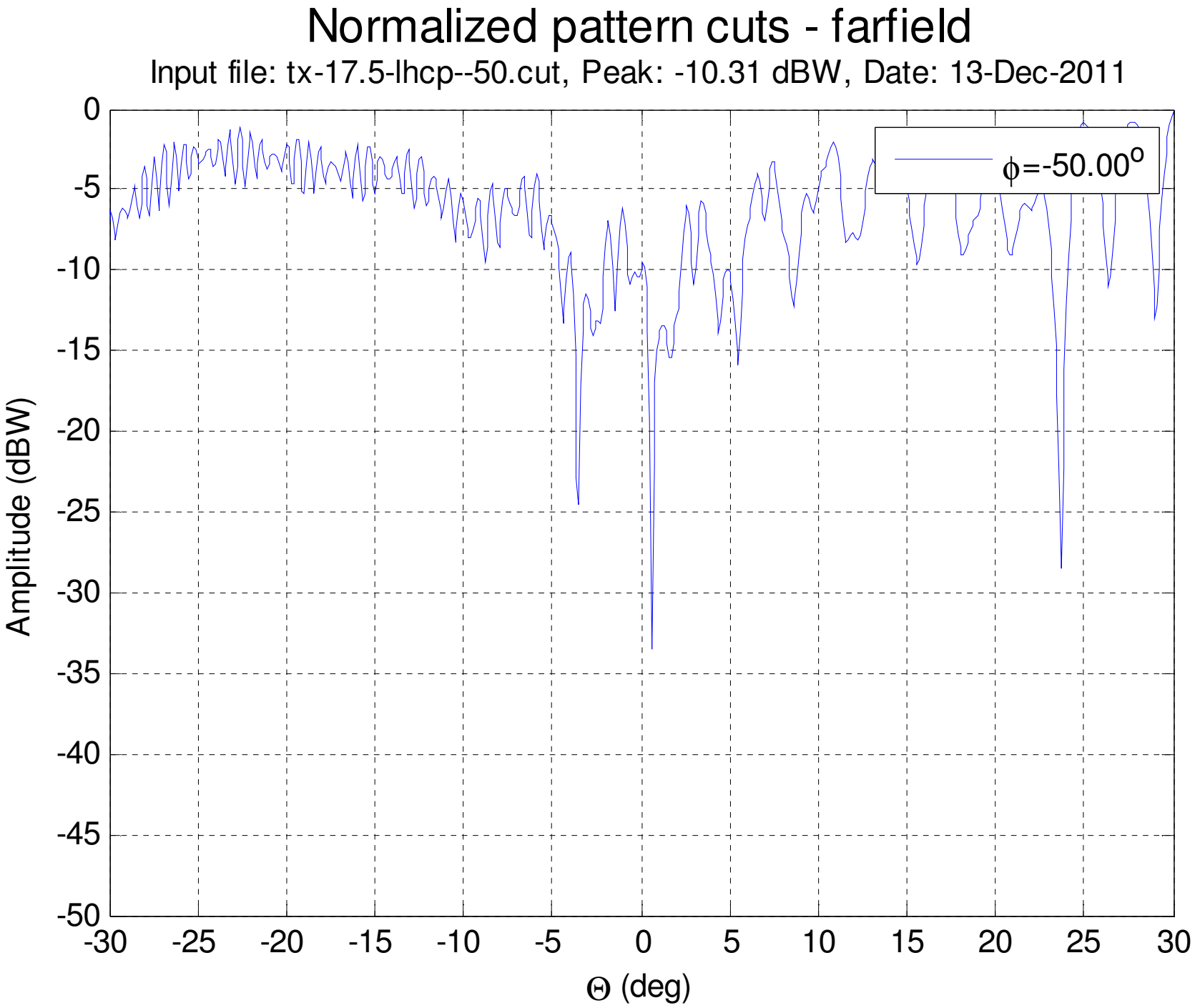

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -14.77 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

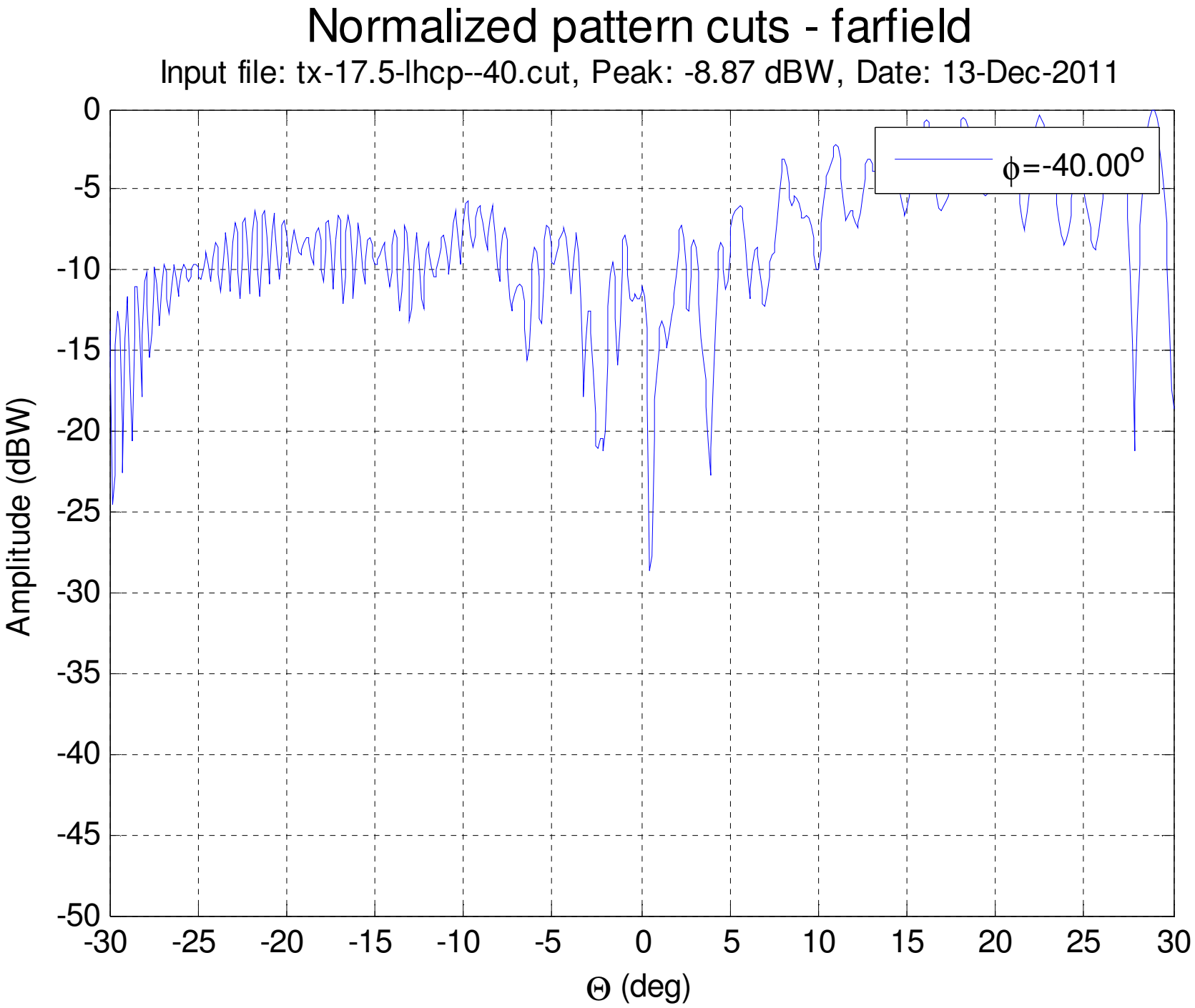

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -11.46 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

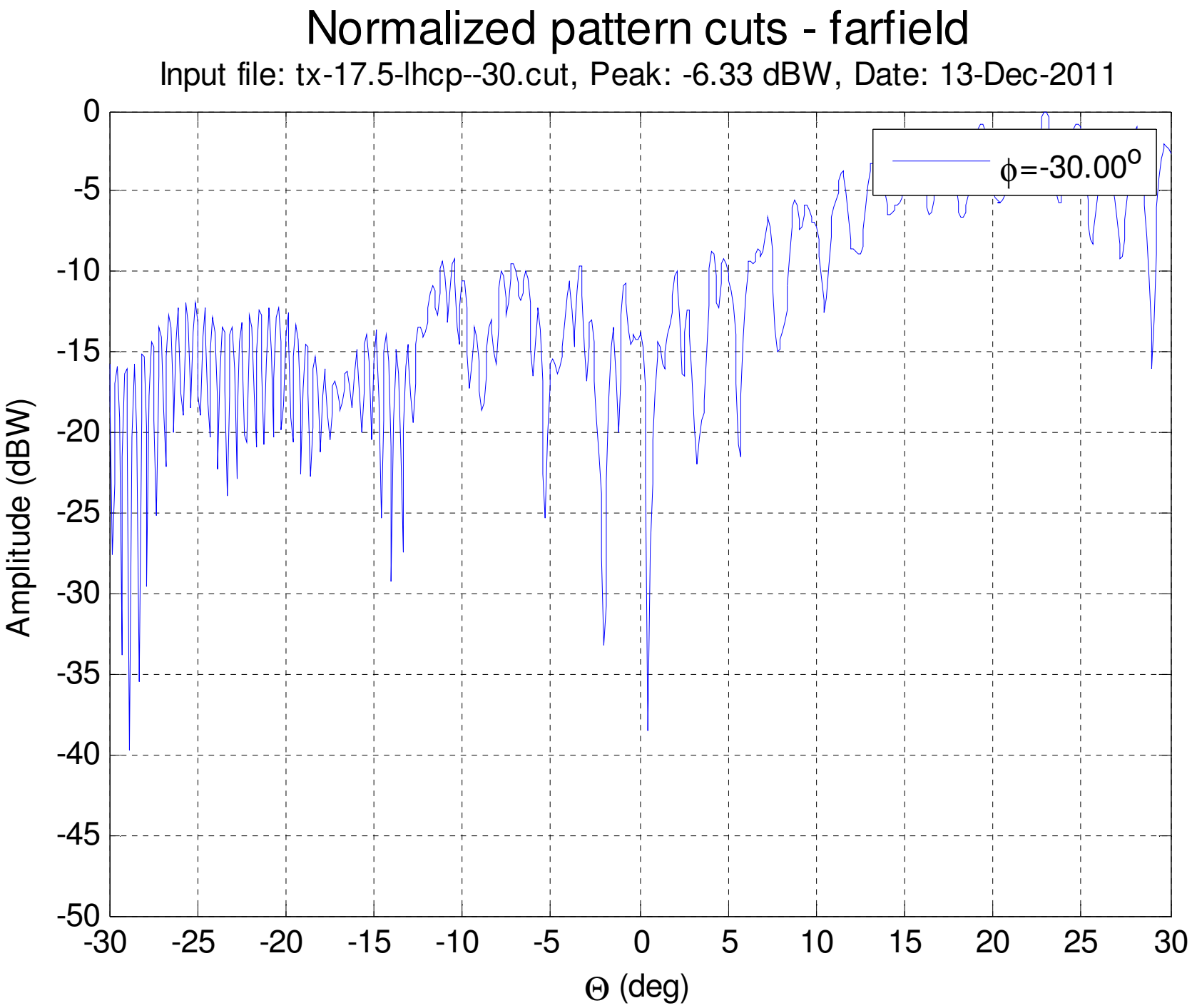

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

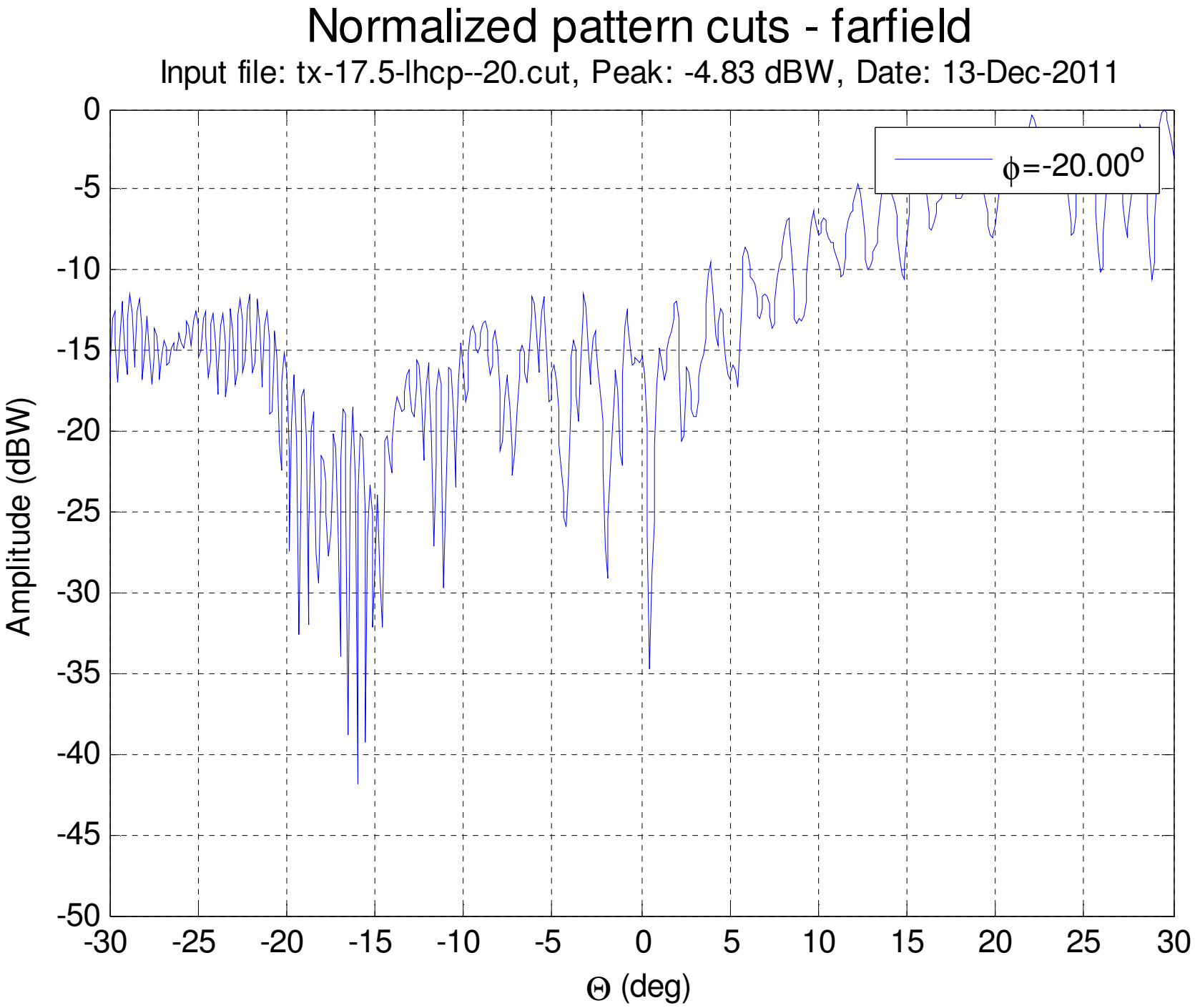
LHCP at 17.5 GHz

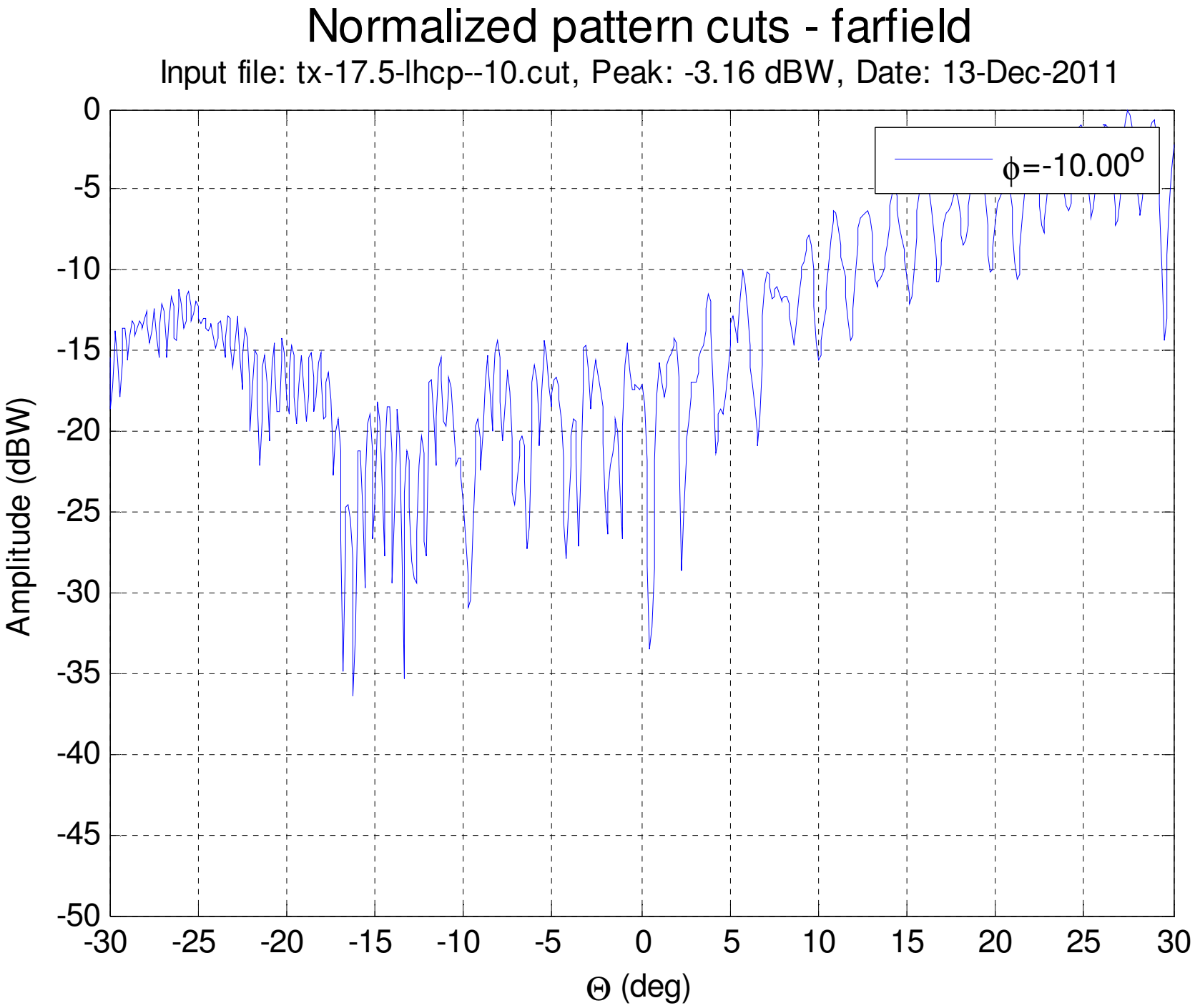

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -9.32 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

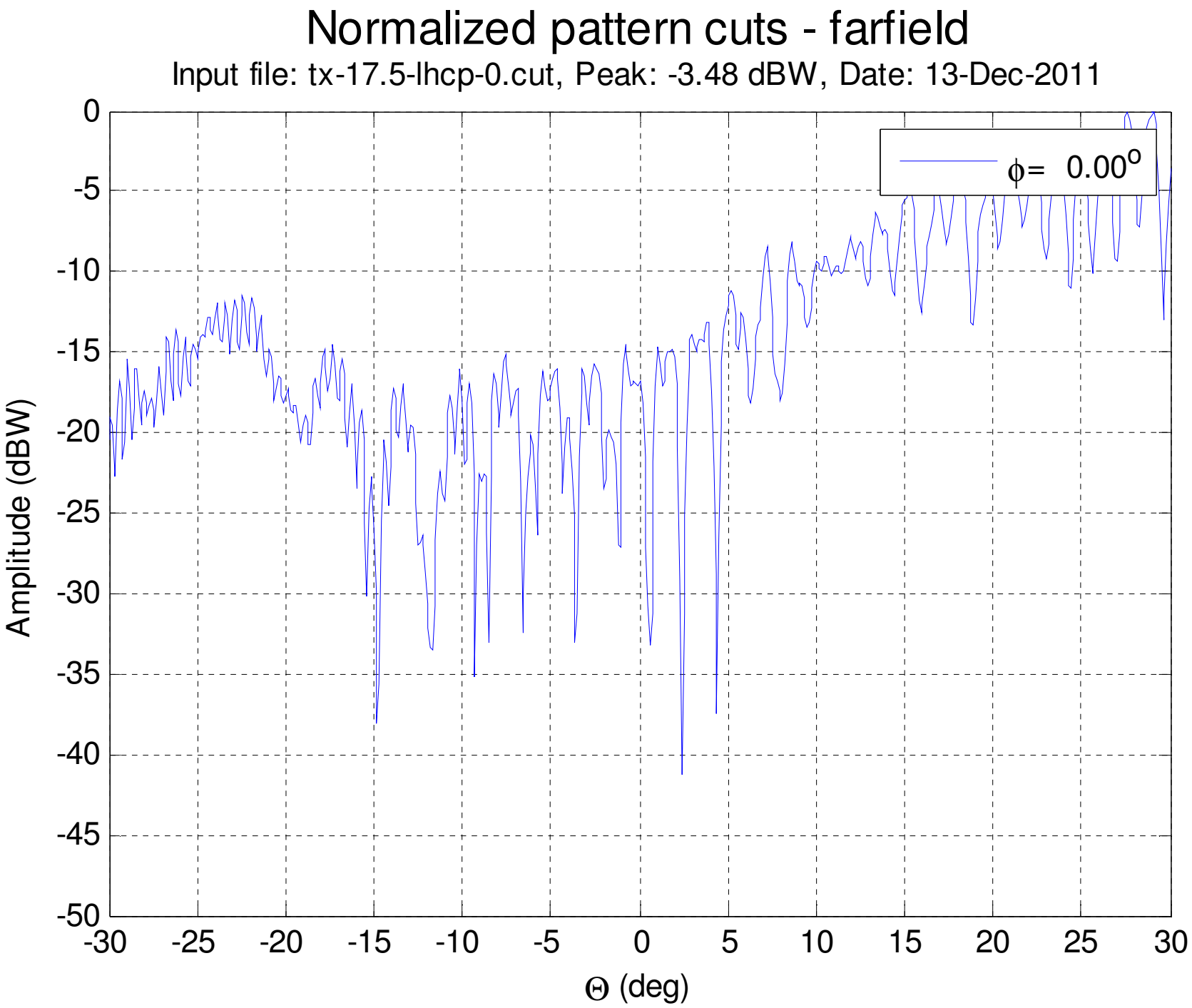

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

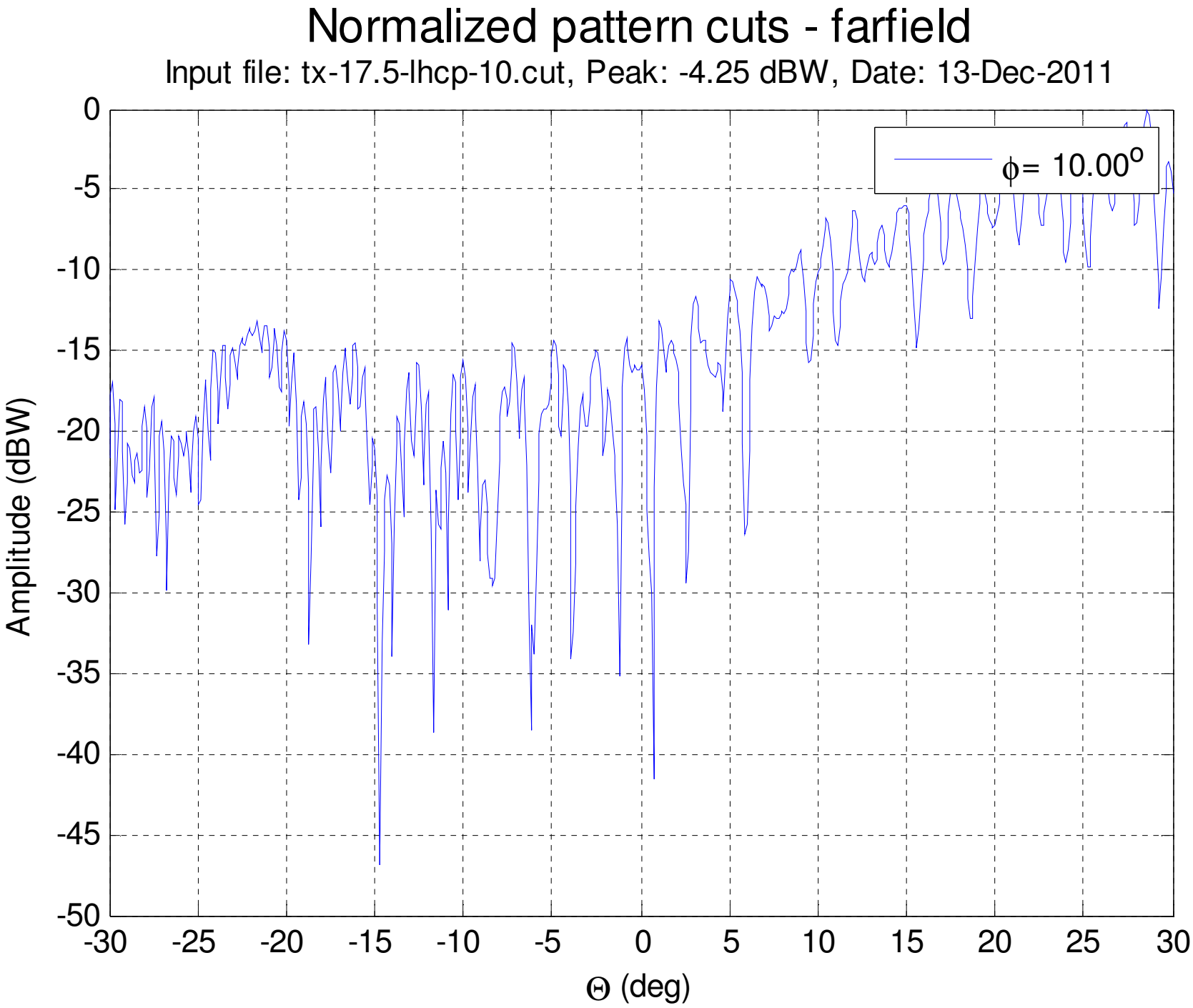

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -8.87 dBW, Date: 13-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

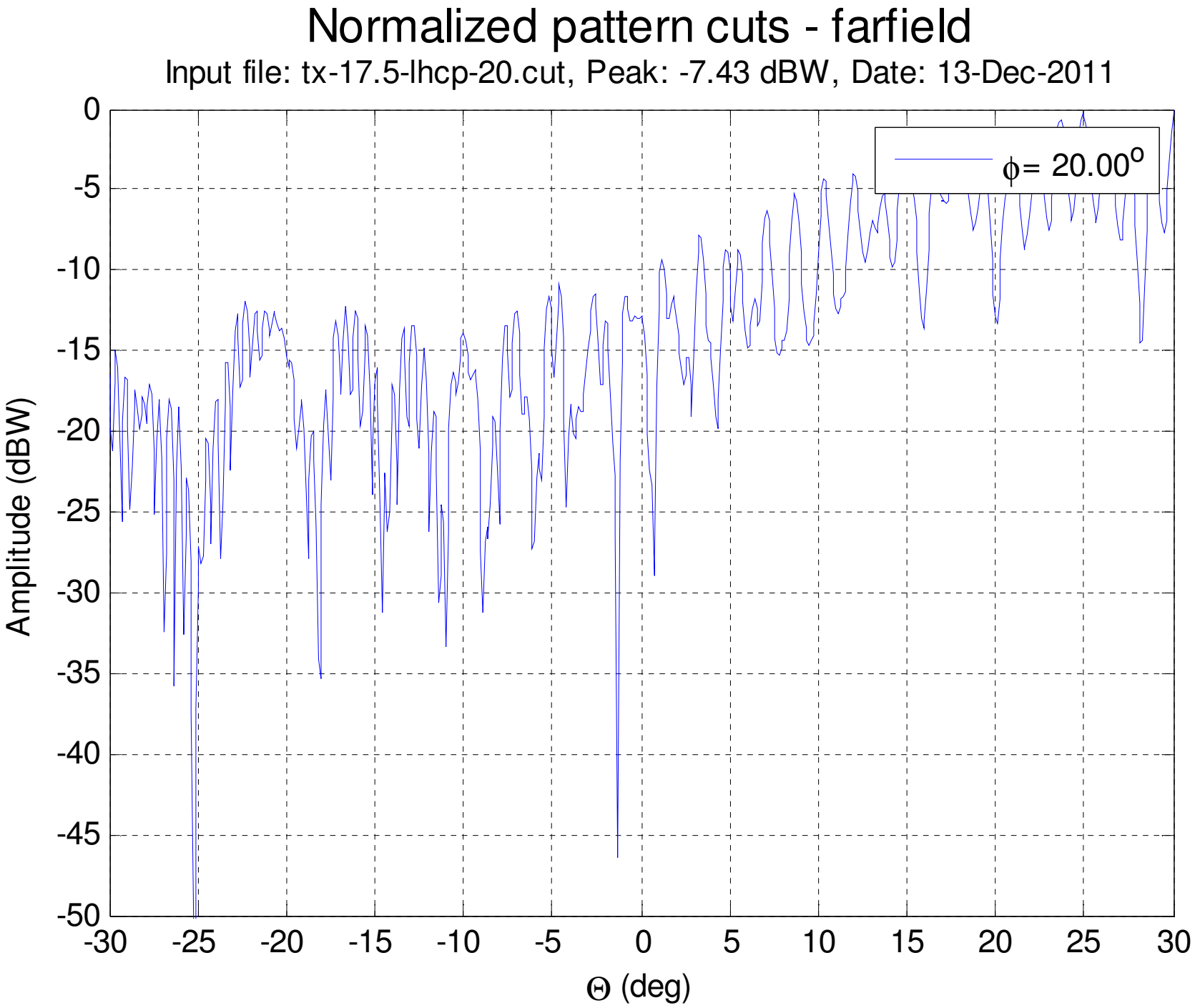

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -6.33 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

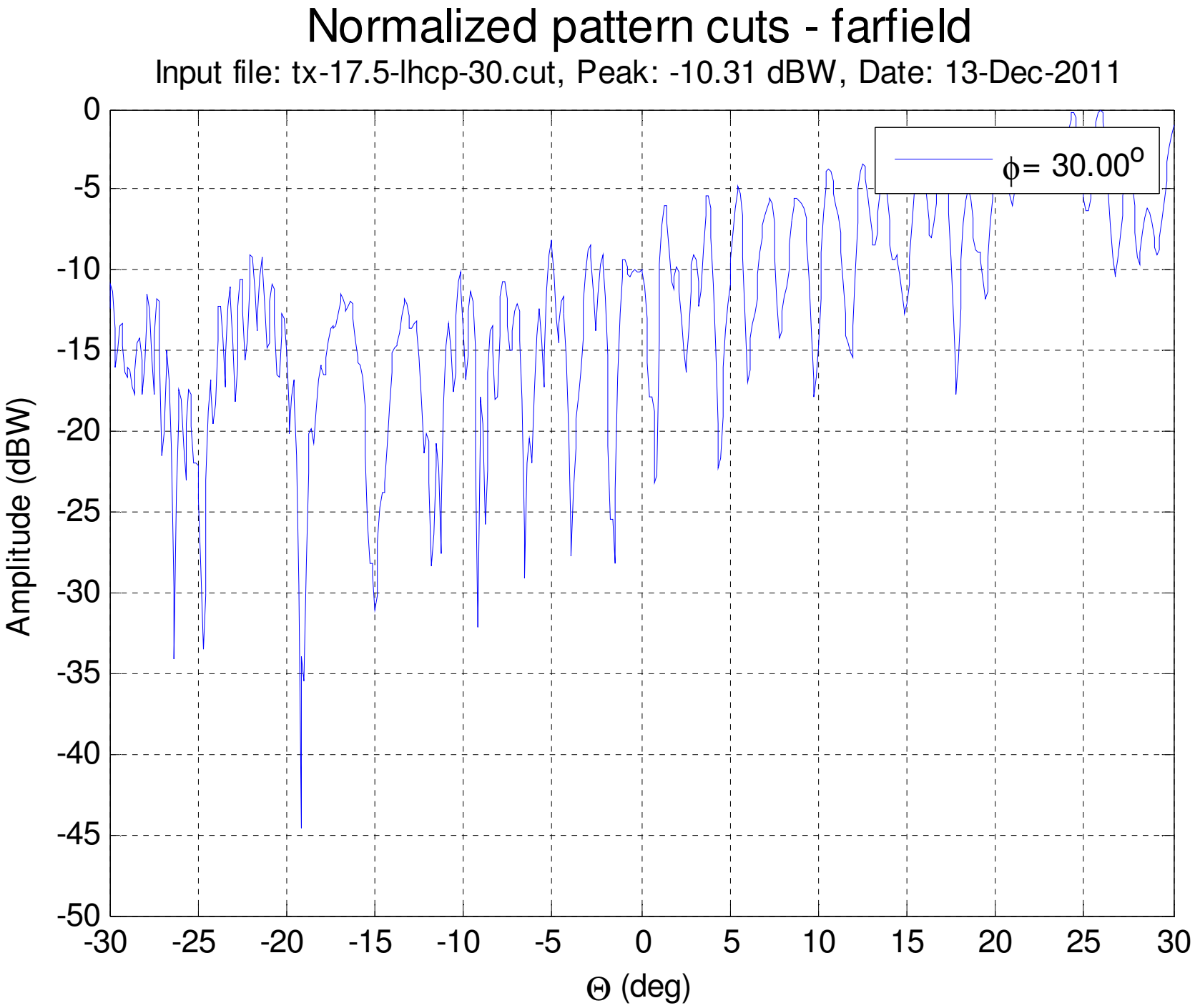

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -4.83 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

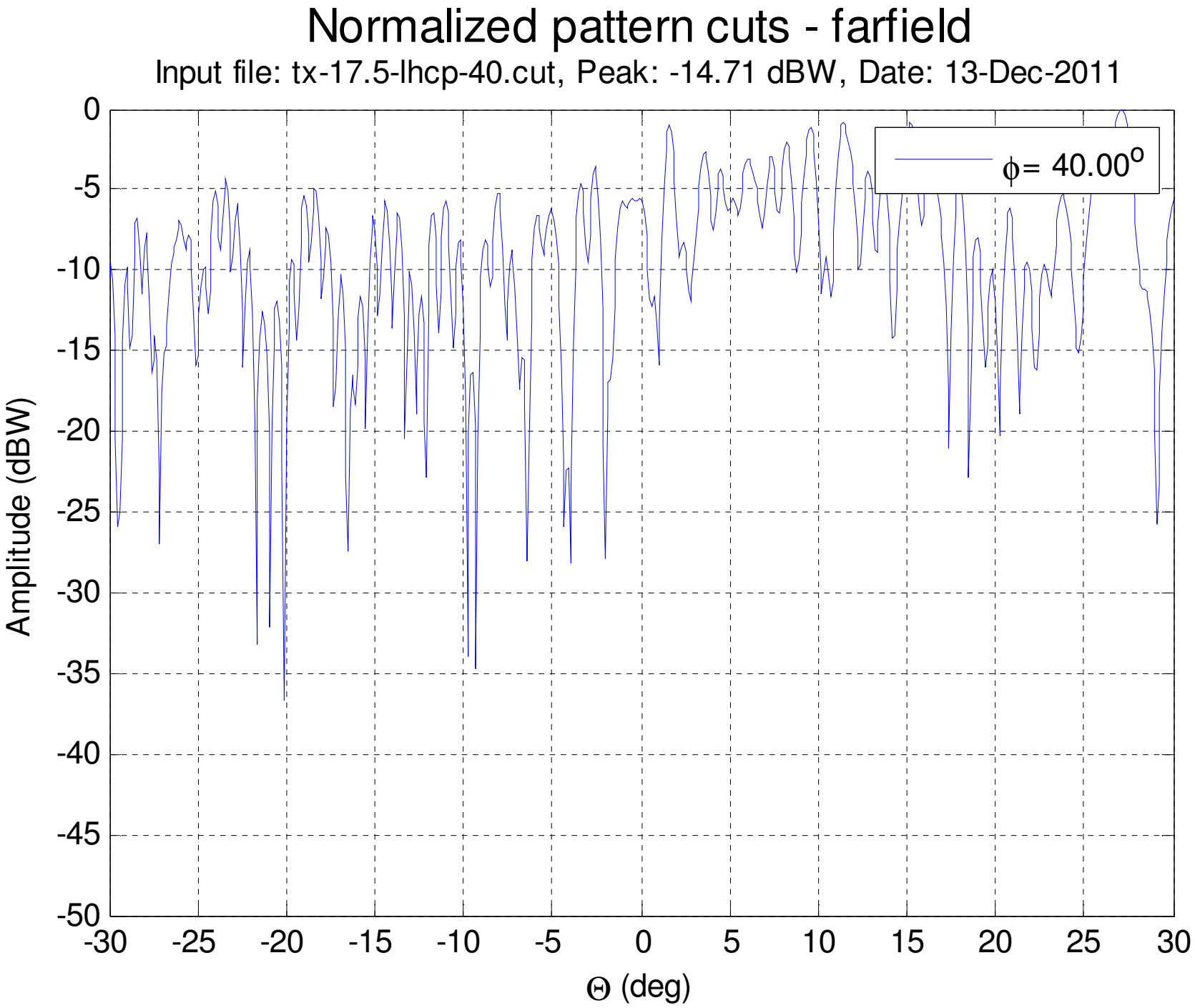

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -3.16 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

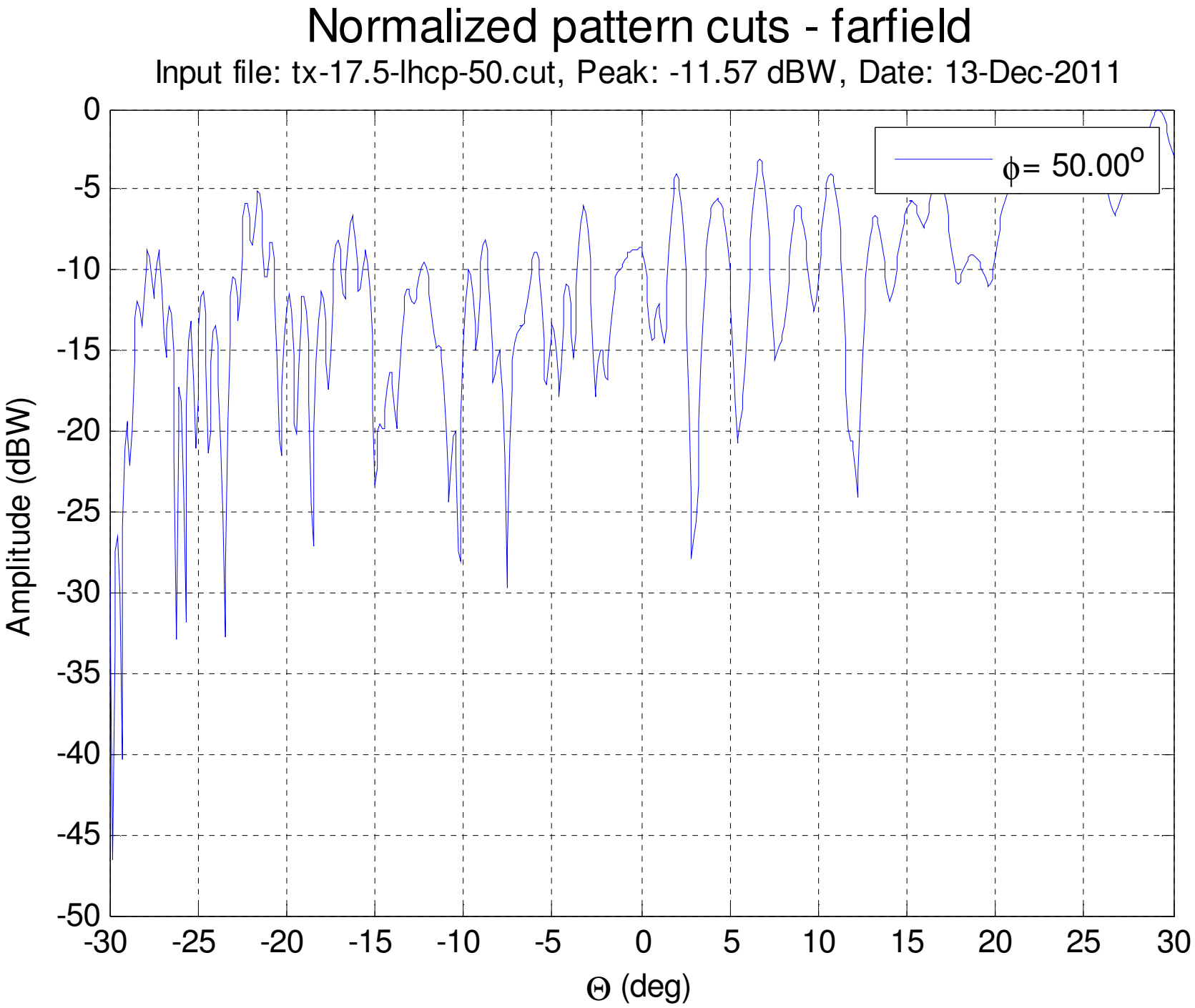

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -3.48 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

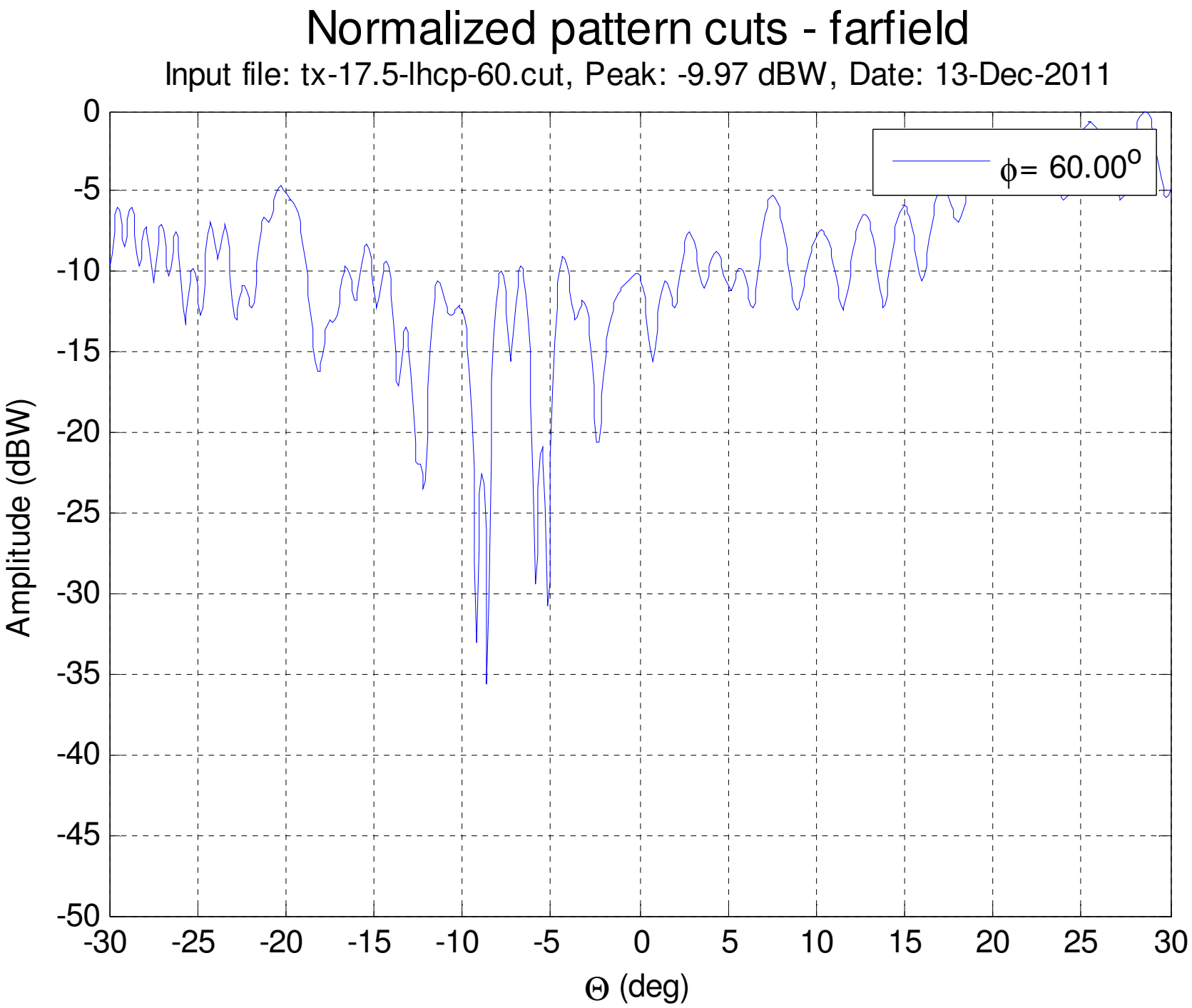

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -4.25 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -7.43 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

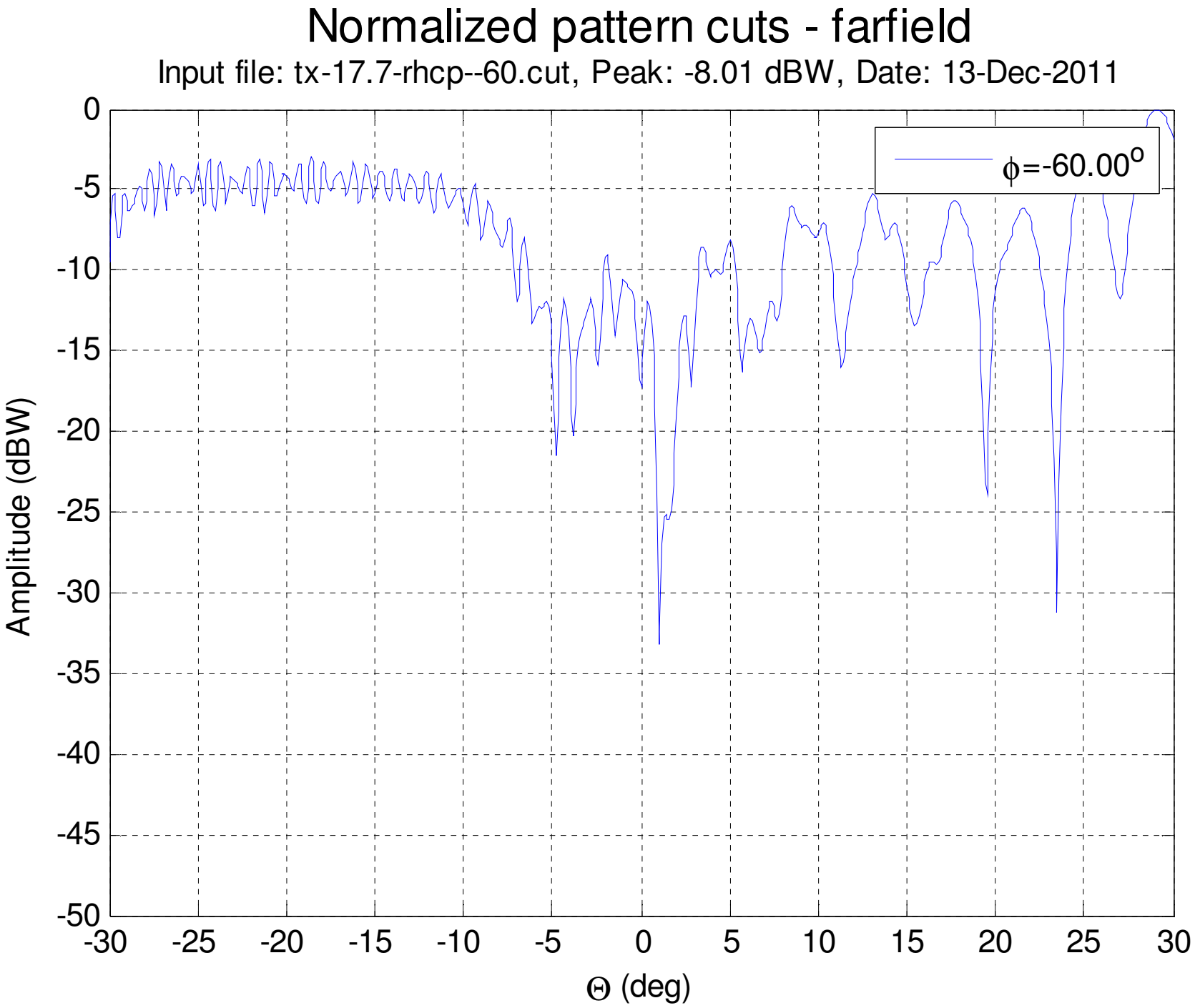

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -10.31 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

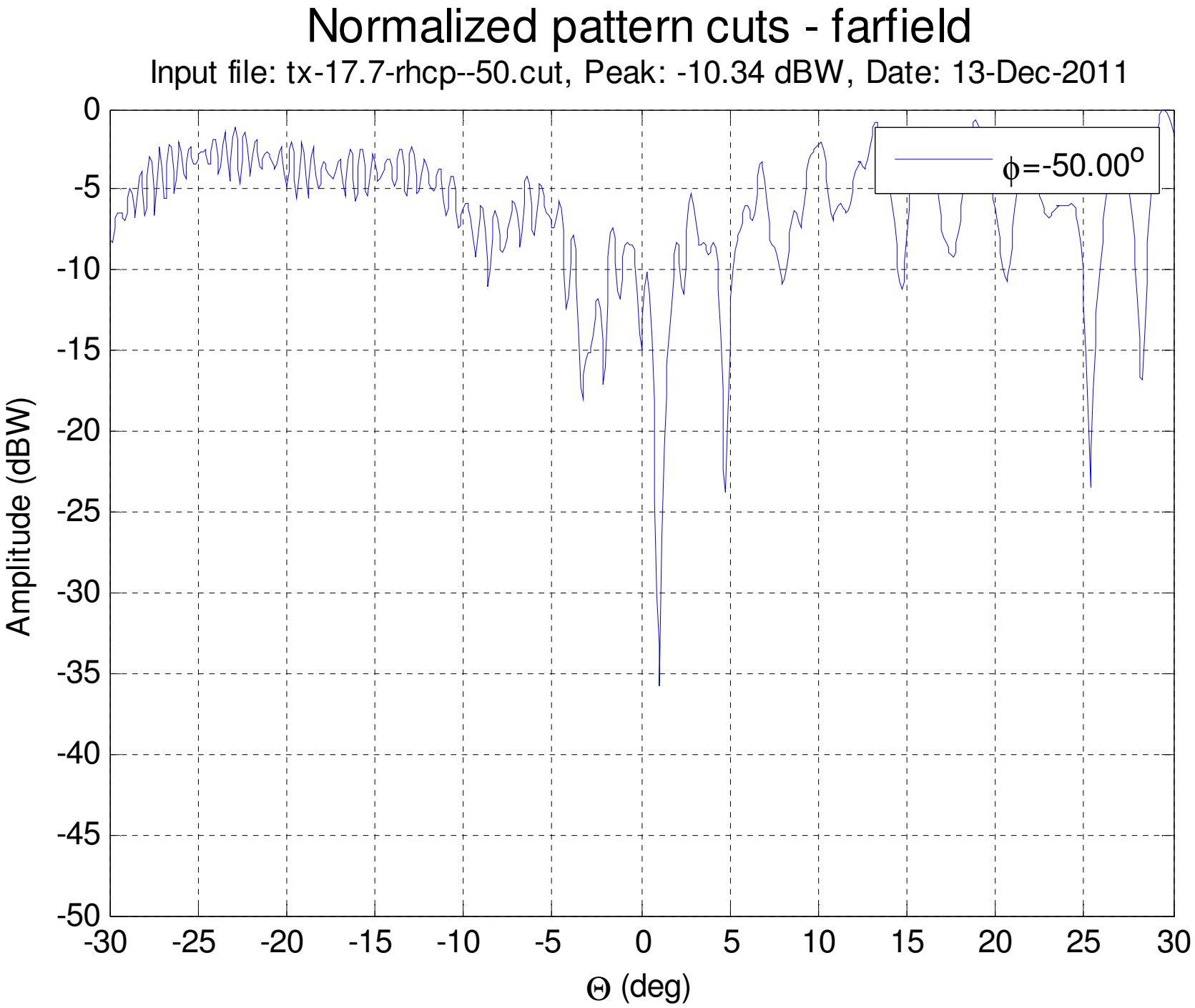

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -14.71 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

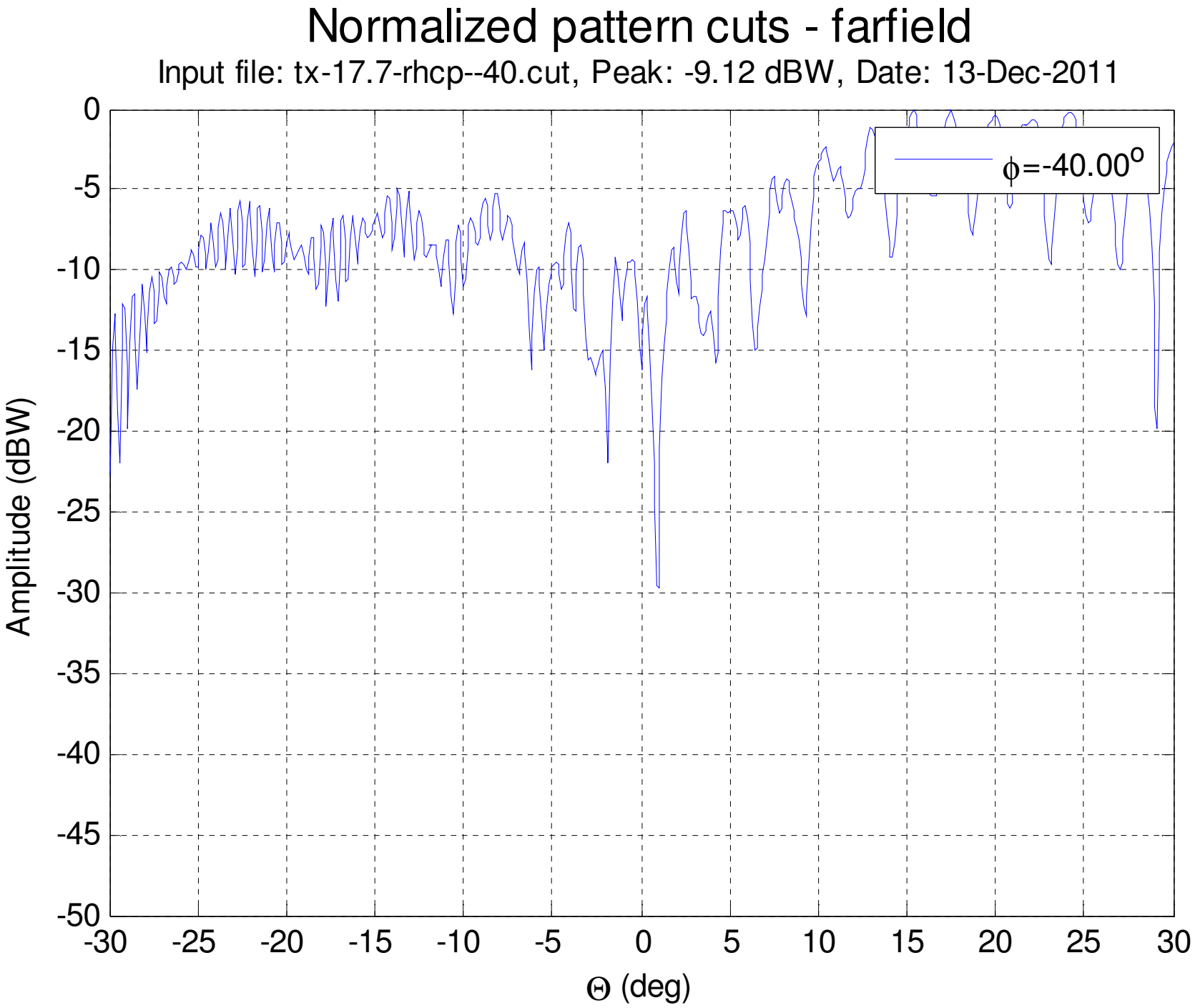

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -11.57 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

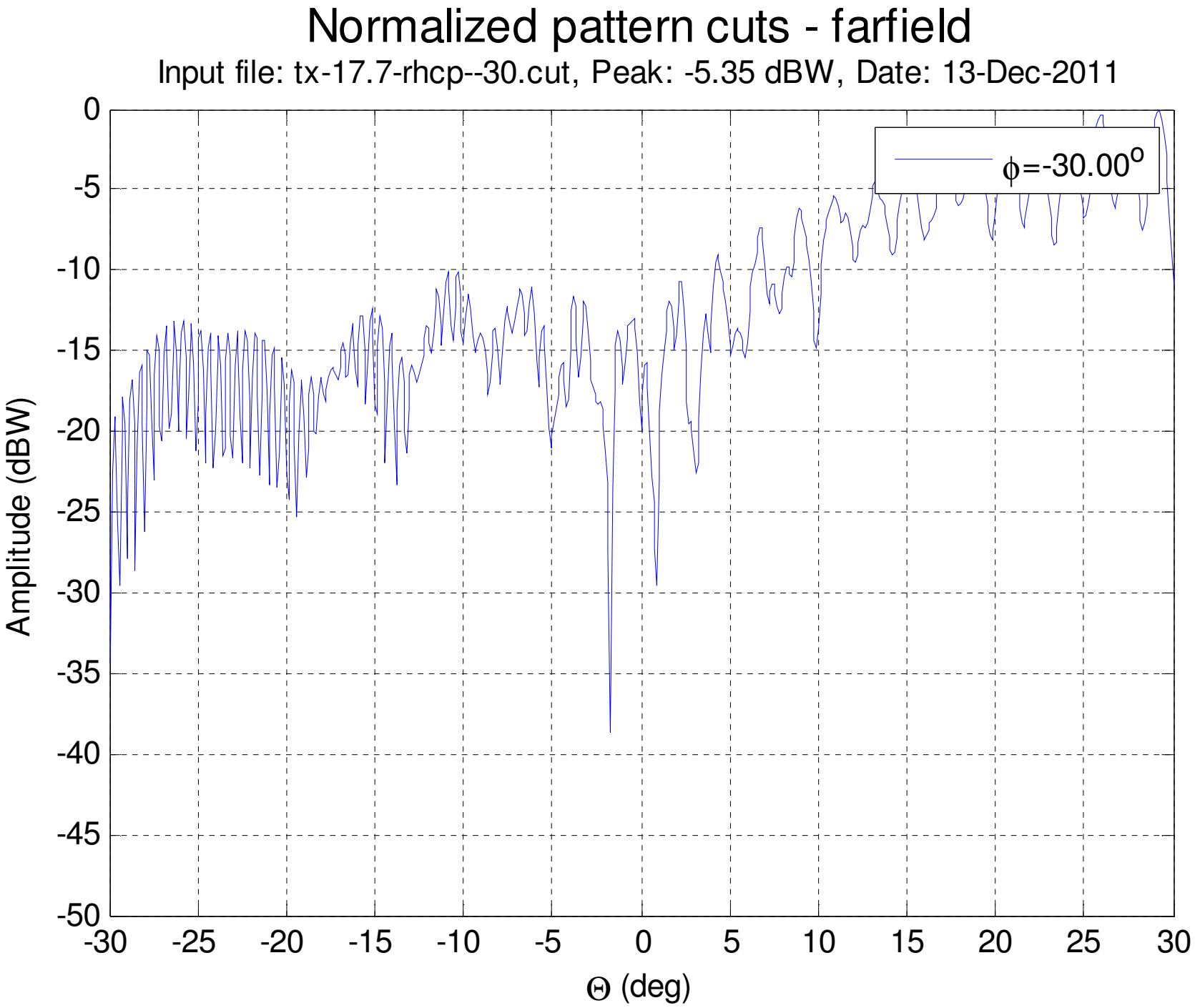

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -9.97 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

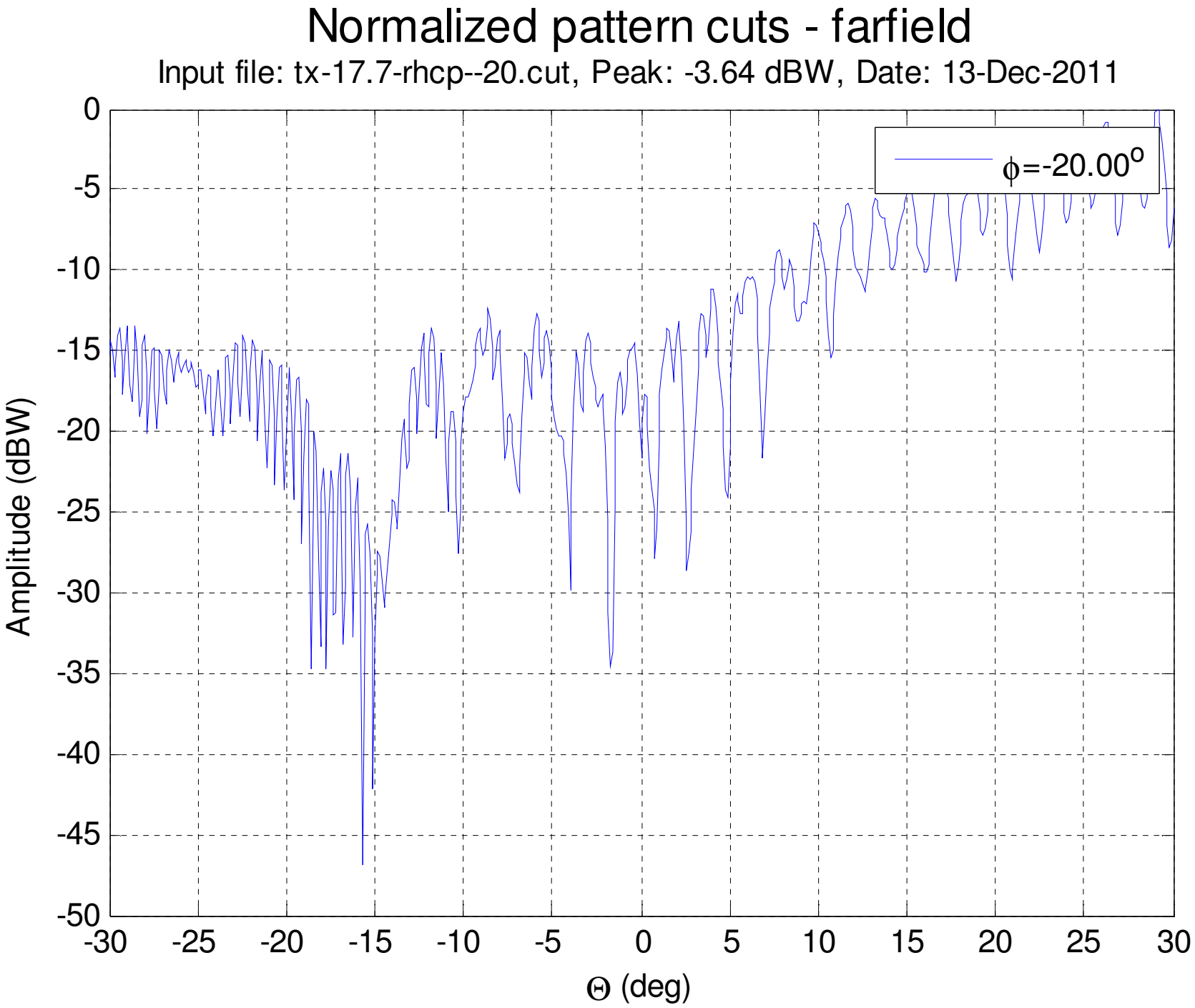
RHCP at 17.7 GHz

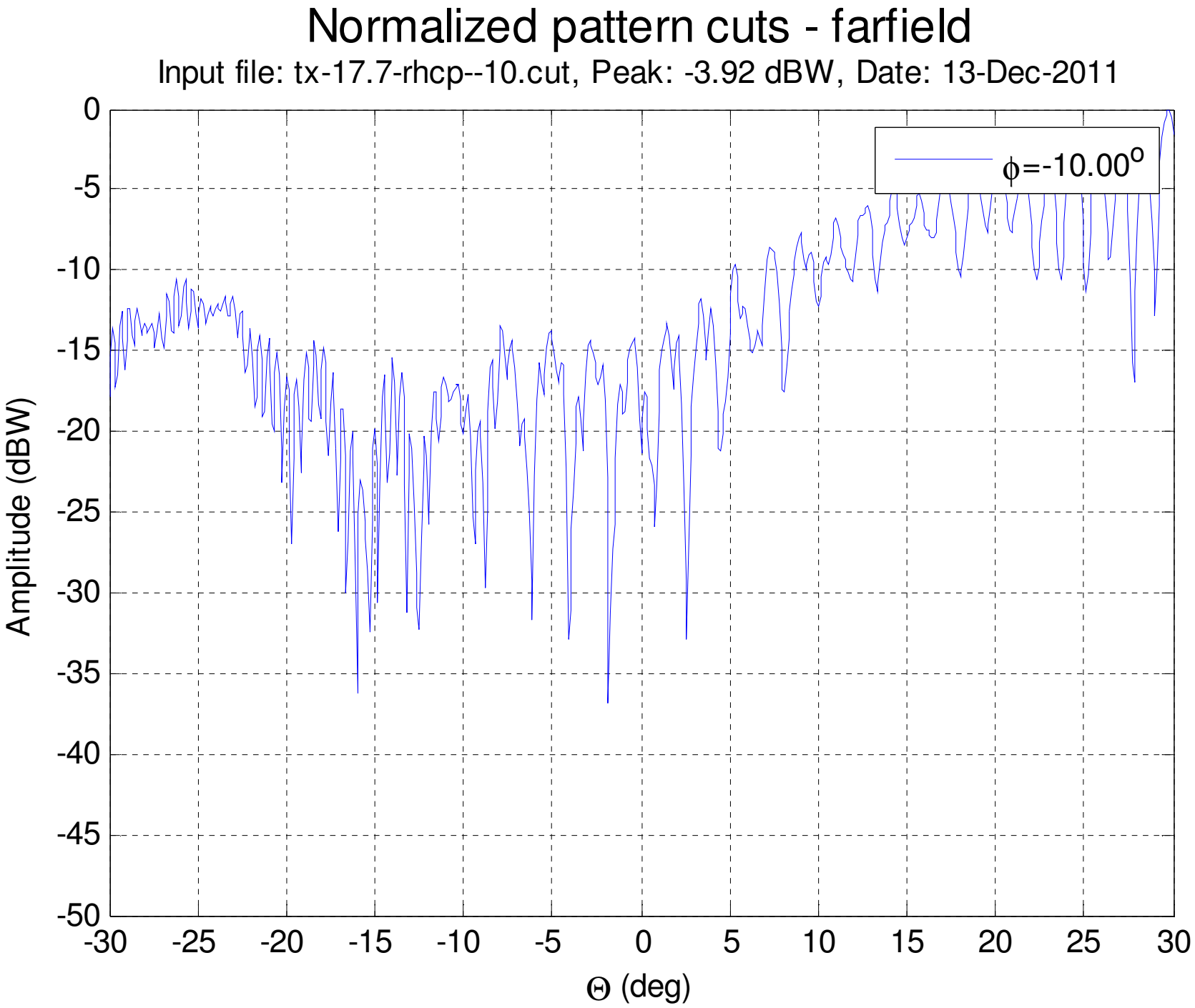

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -8.01 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

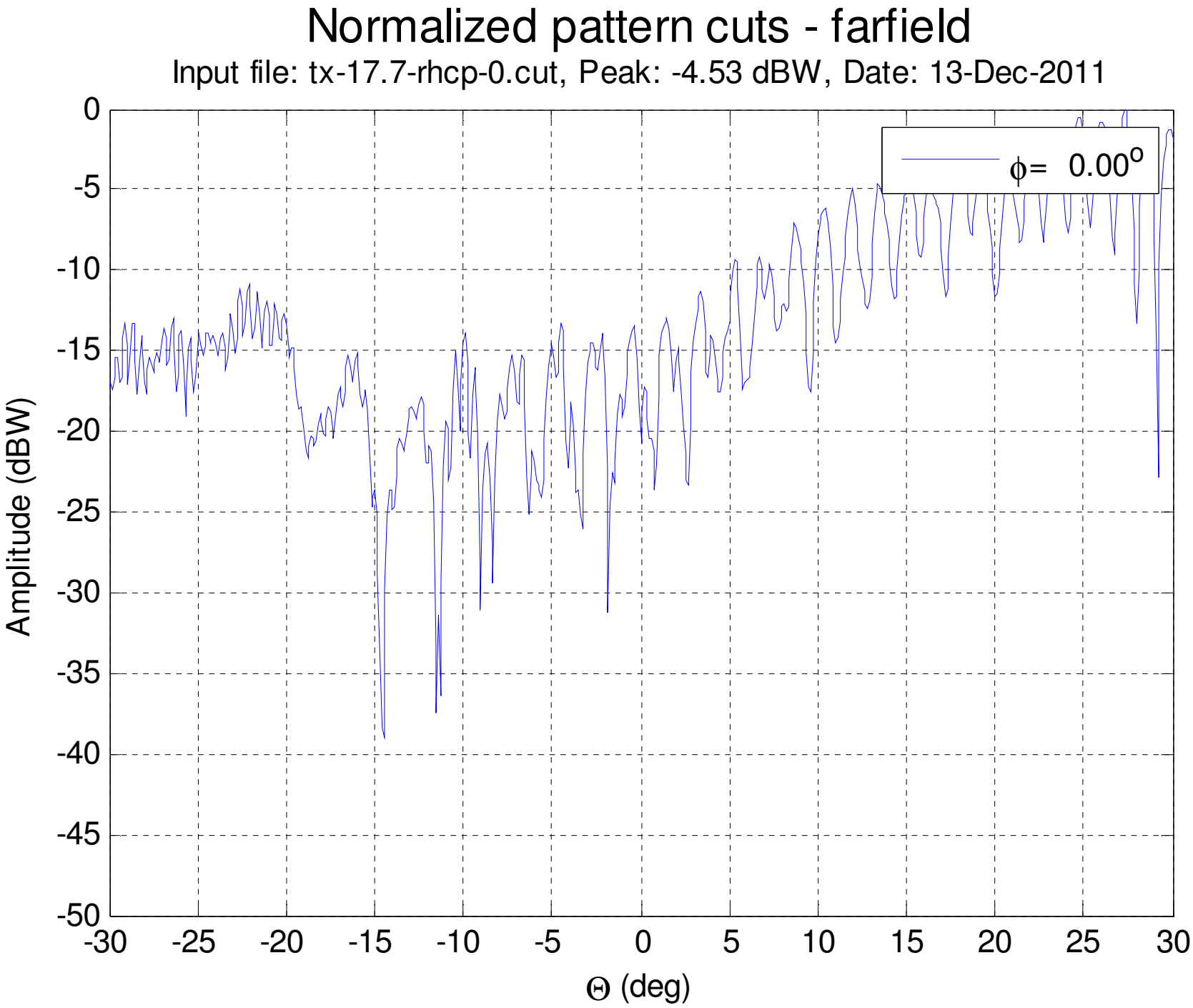

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -10.34 dBW, Date: 13-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-50.00°

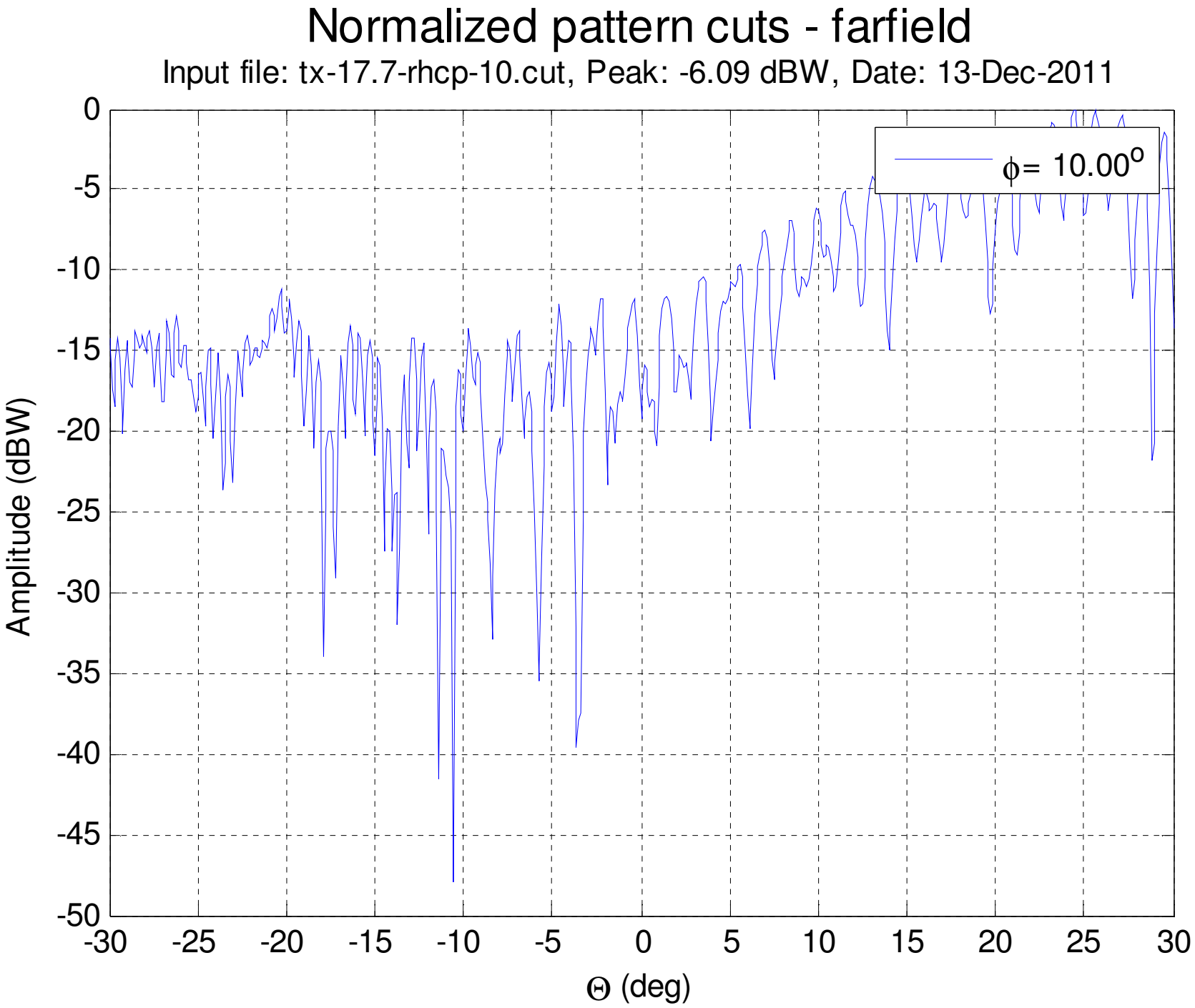

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -9.12 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

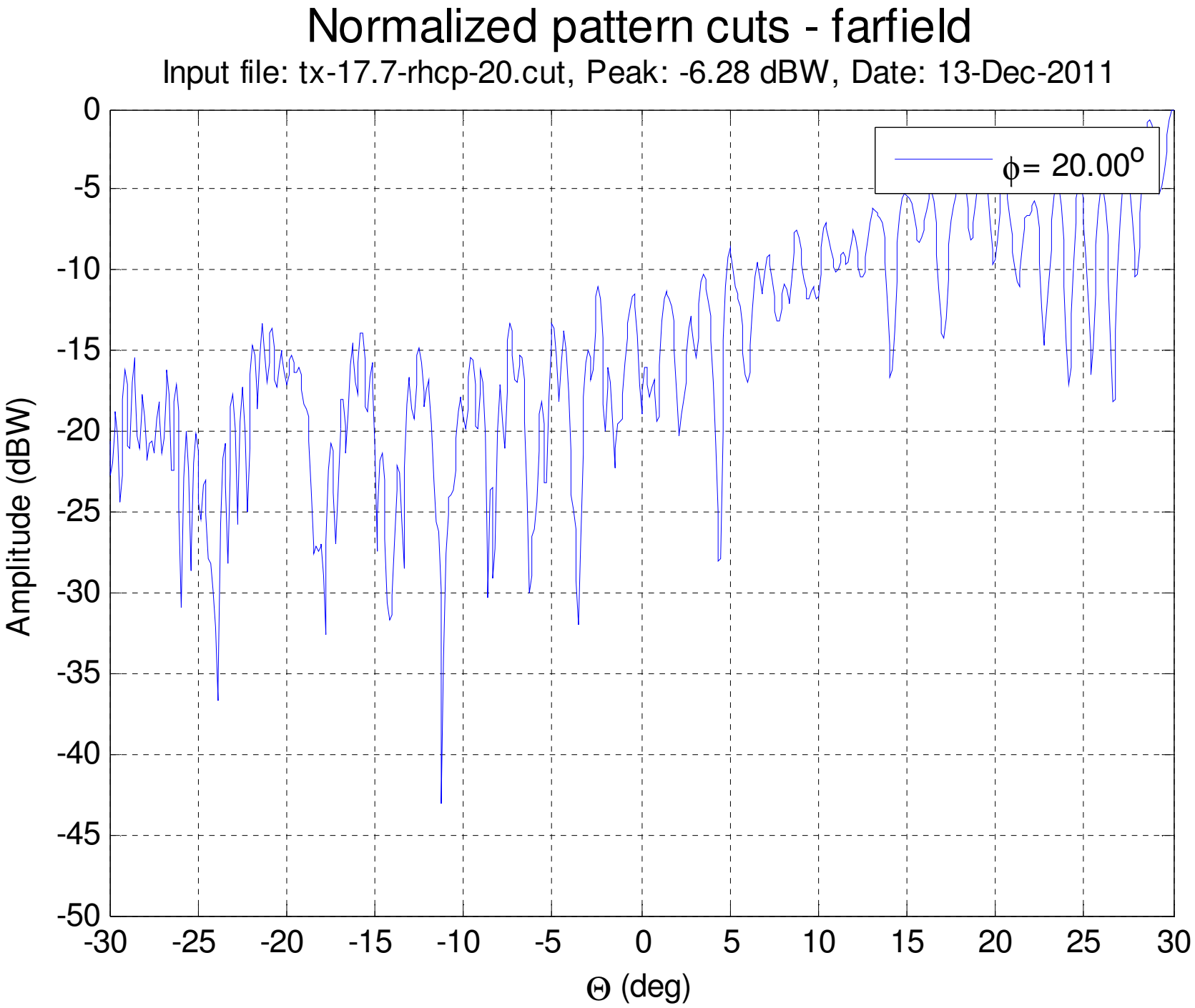

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -5.35 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

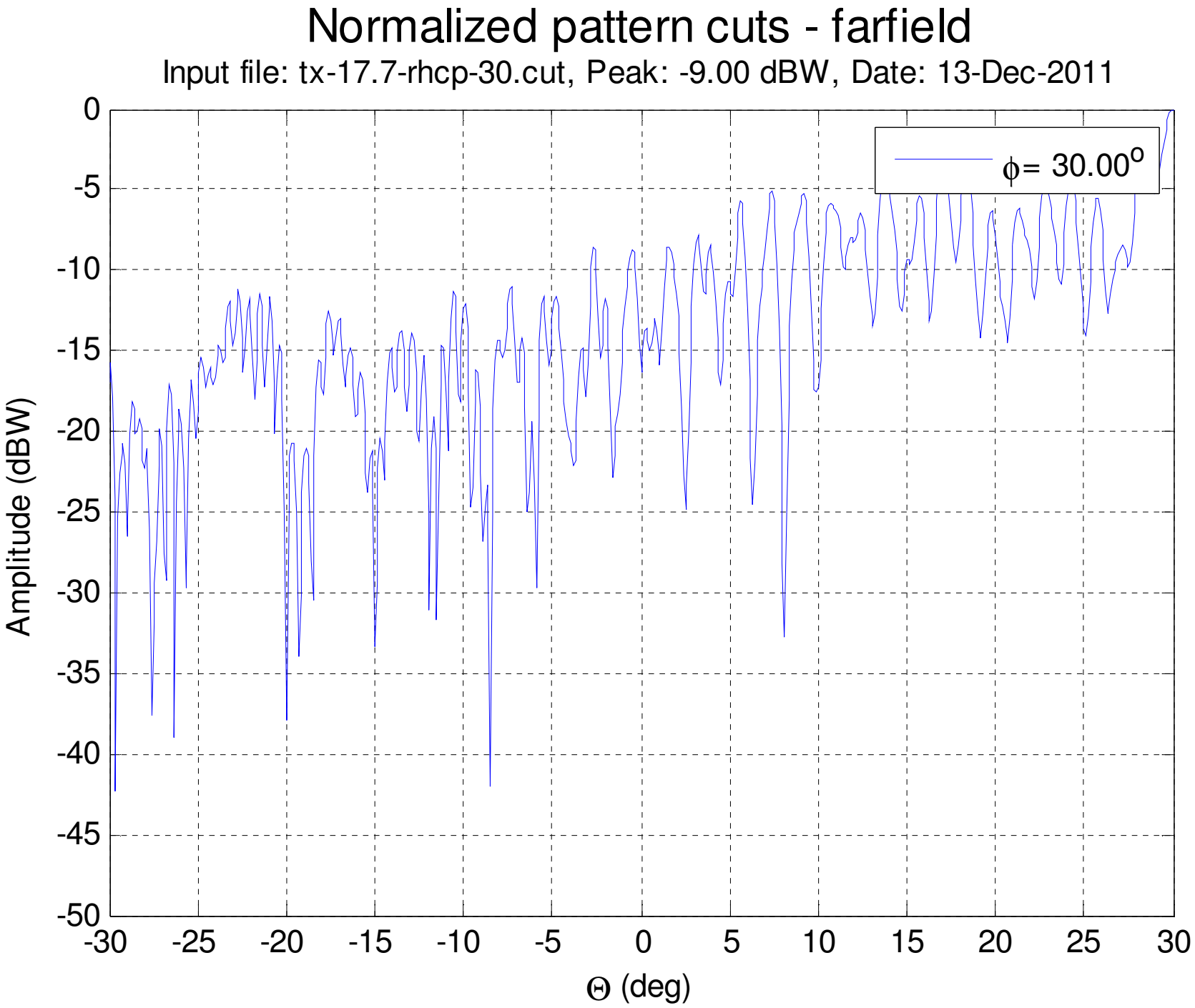

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -3.64 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

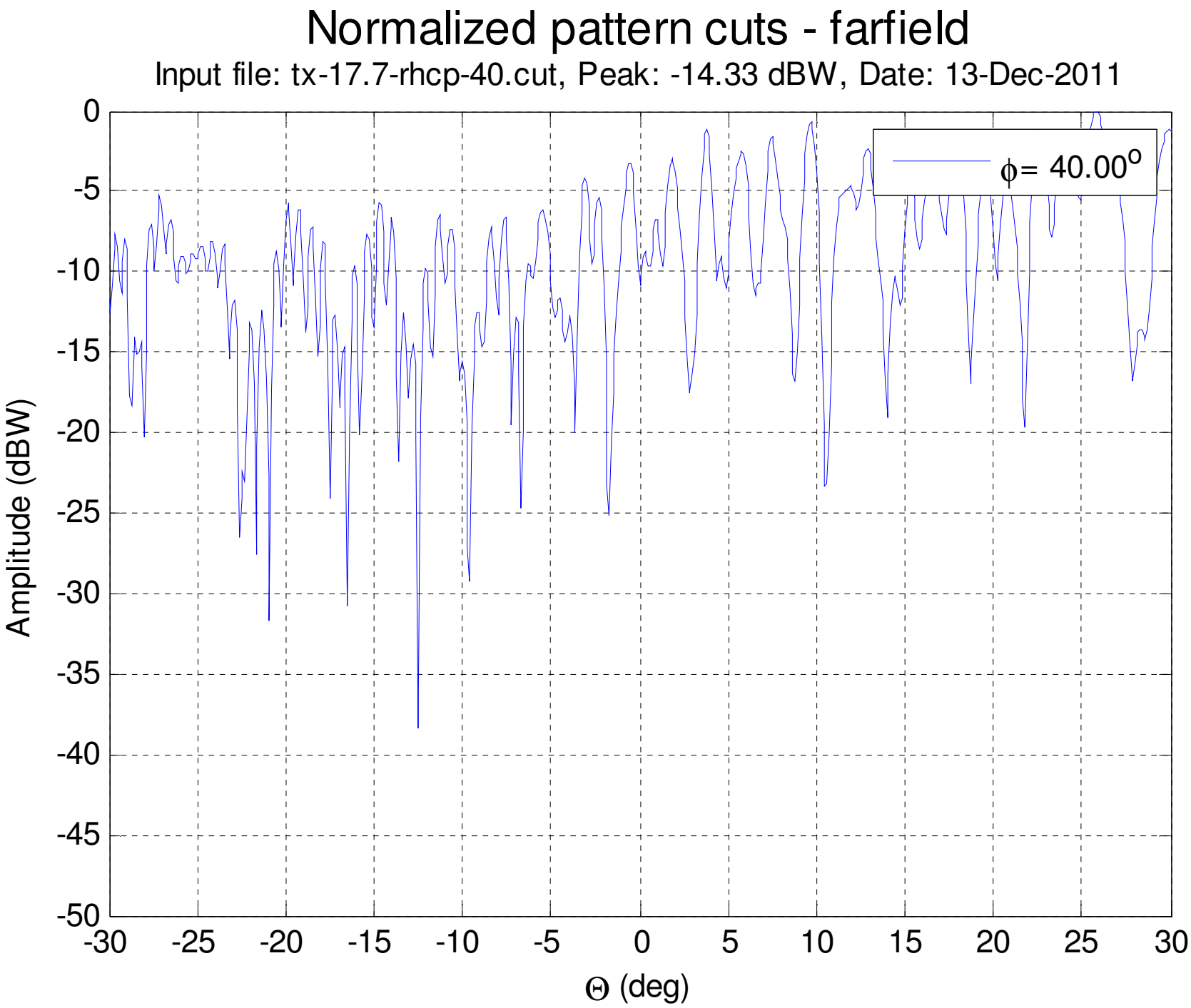

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -3.92 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

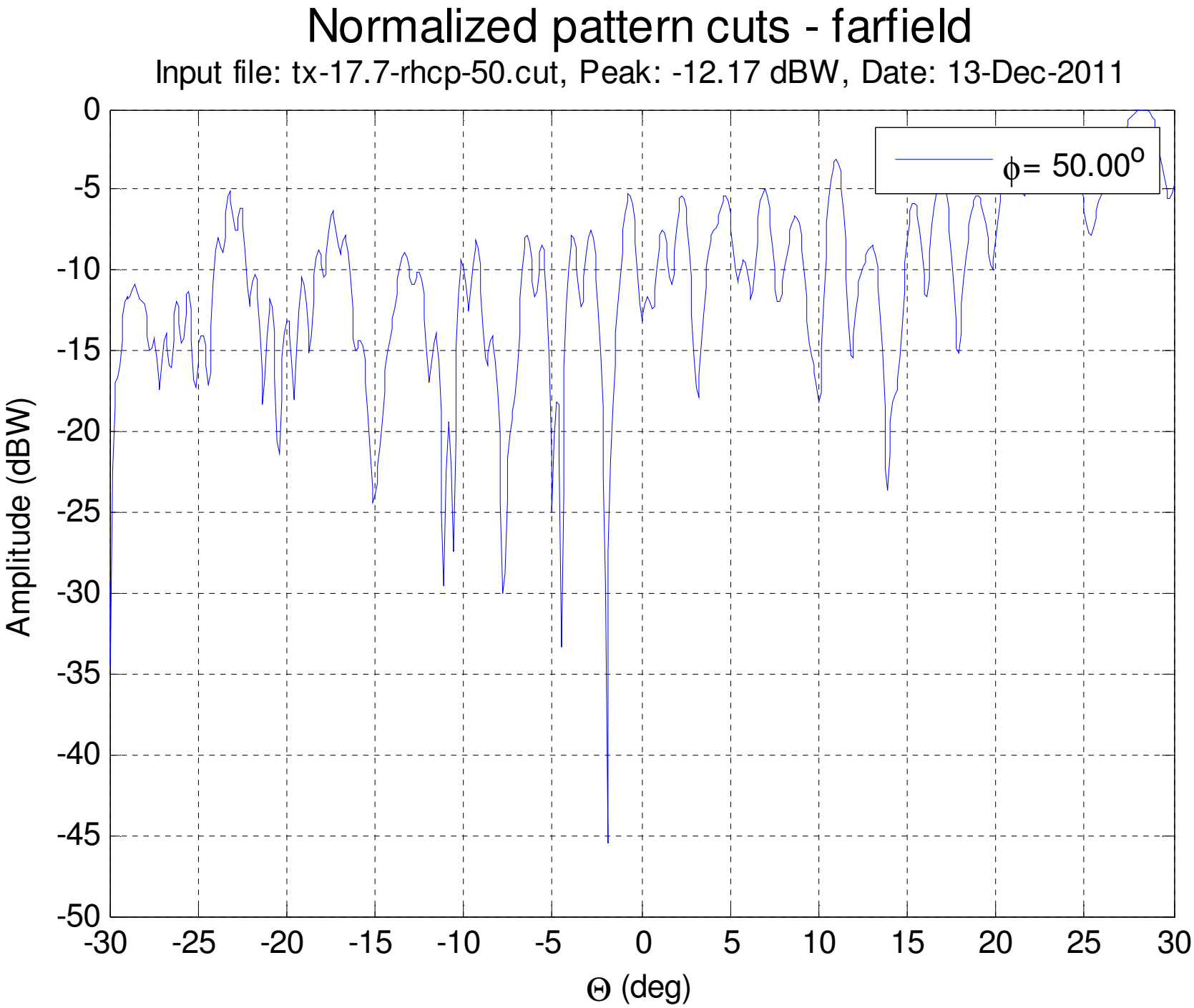

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -4.53 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

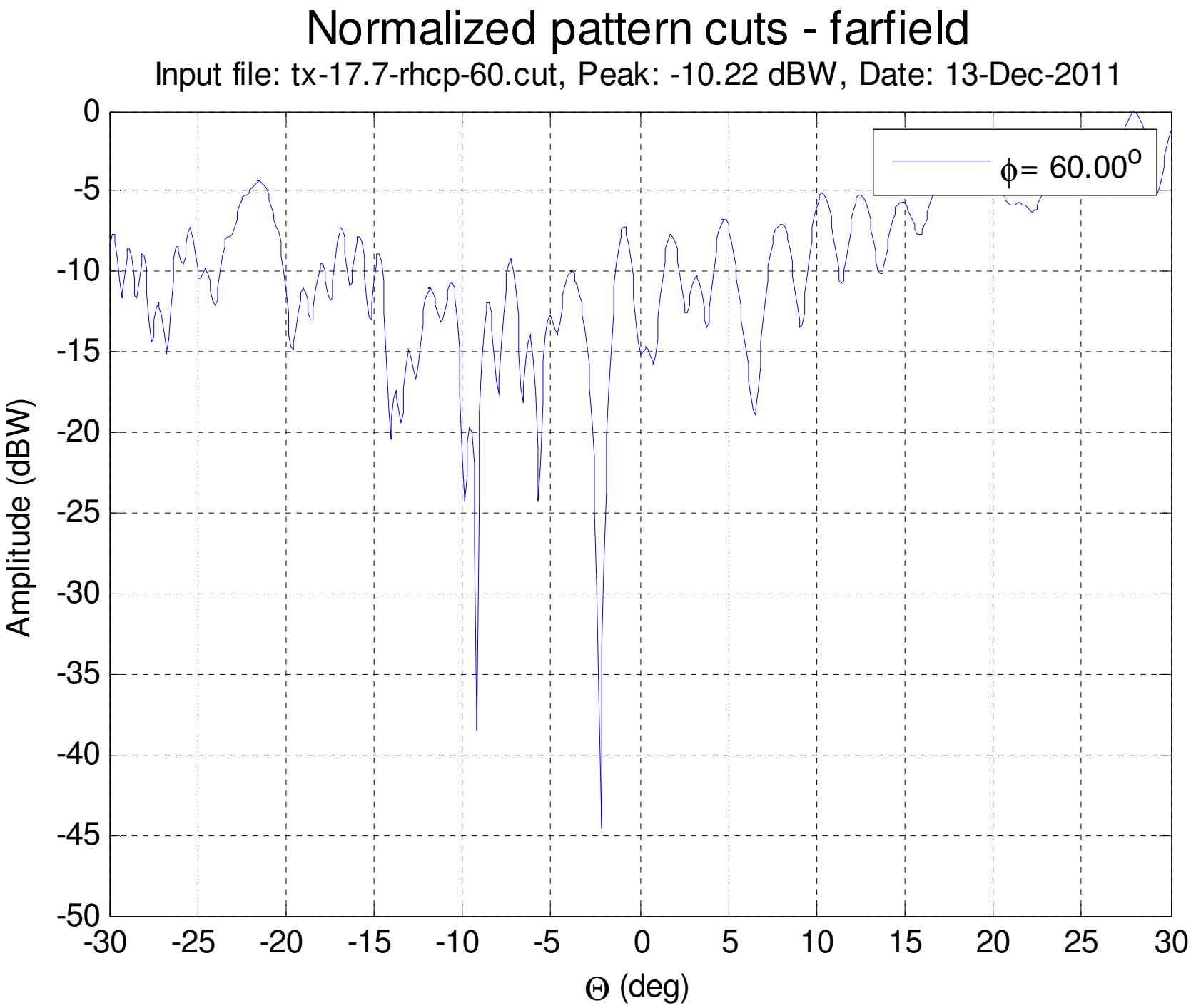

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -6.09 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -6.28 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

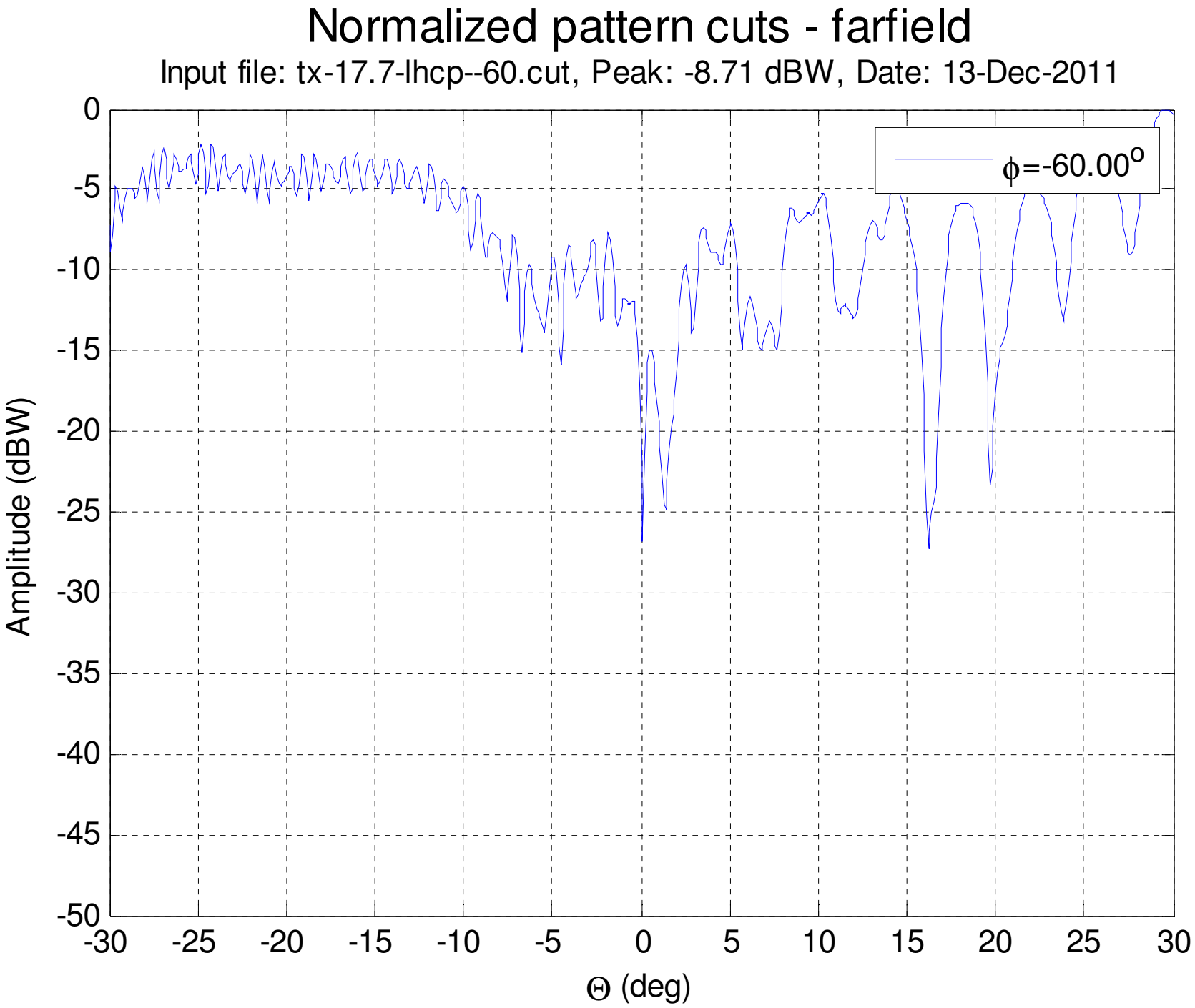

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -9.00 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

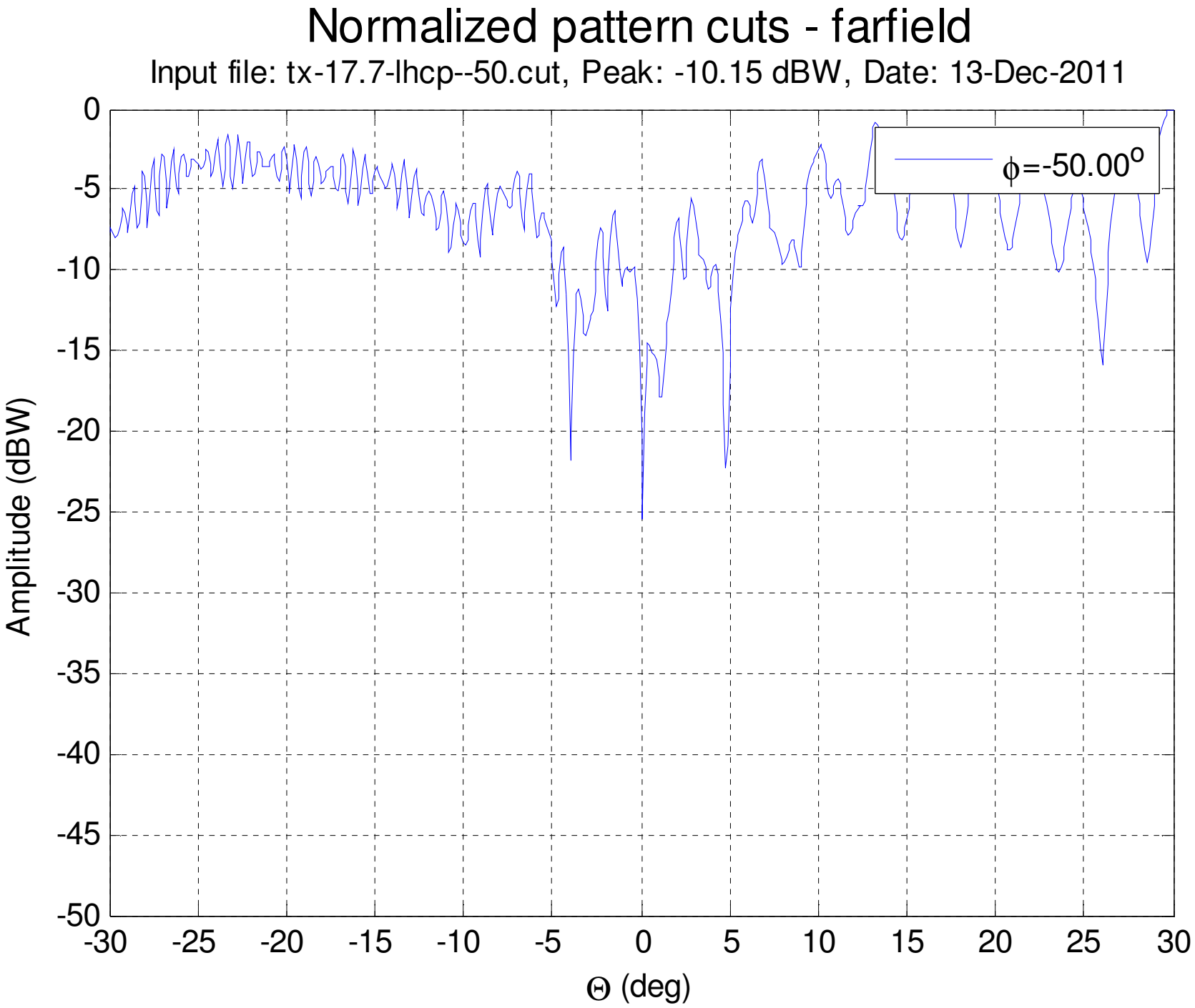

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -14.33 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

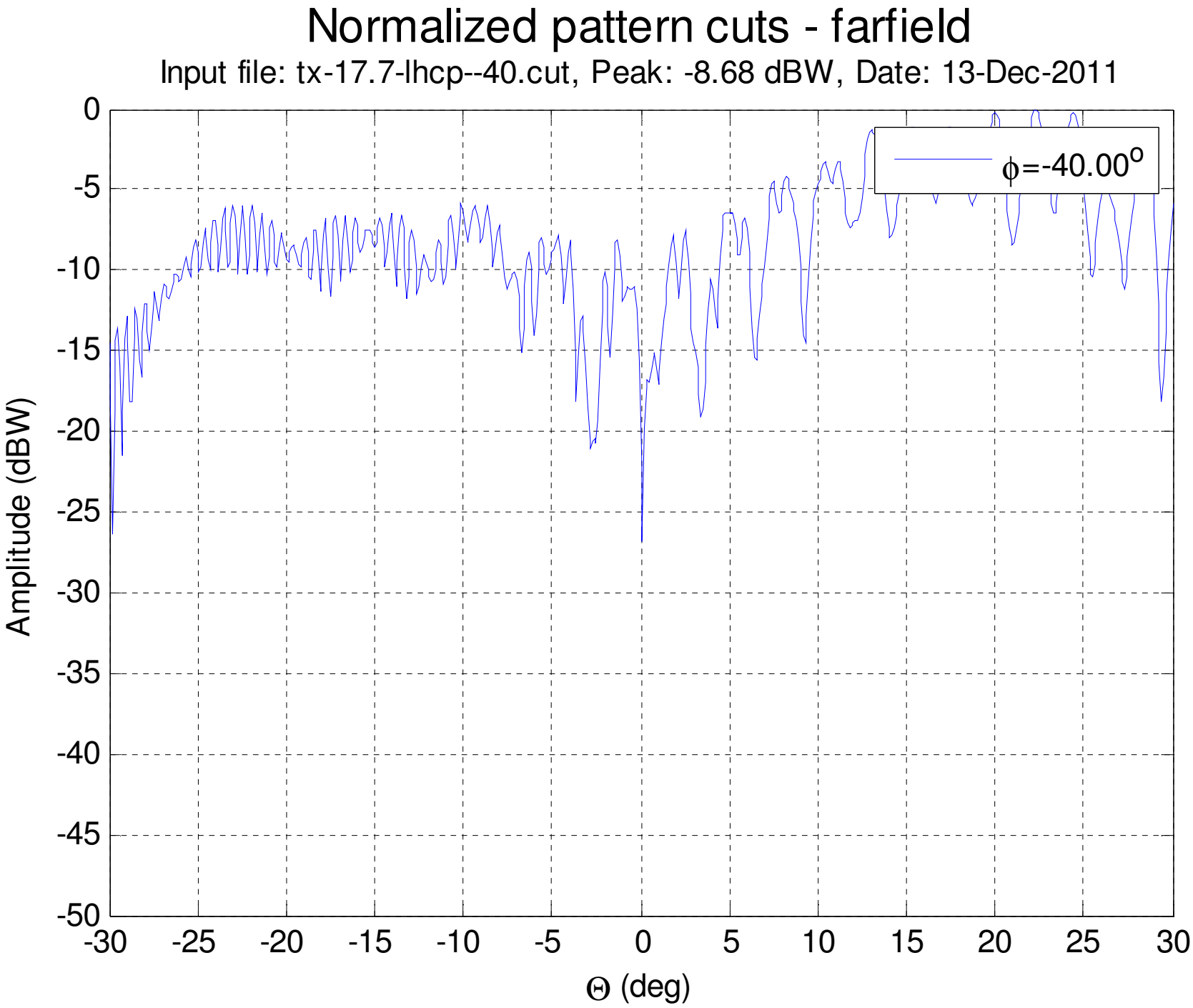

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -12.17 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

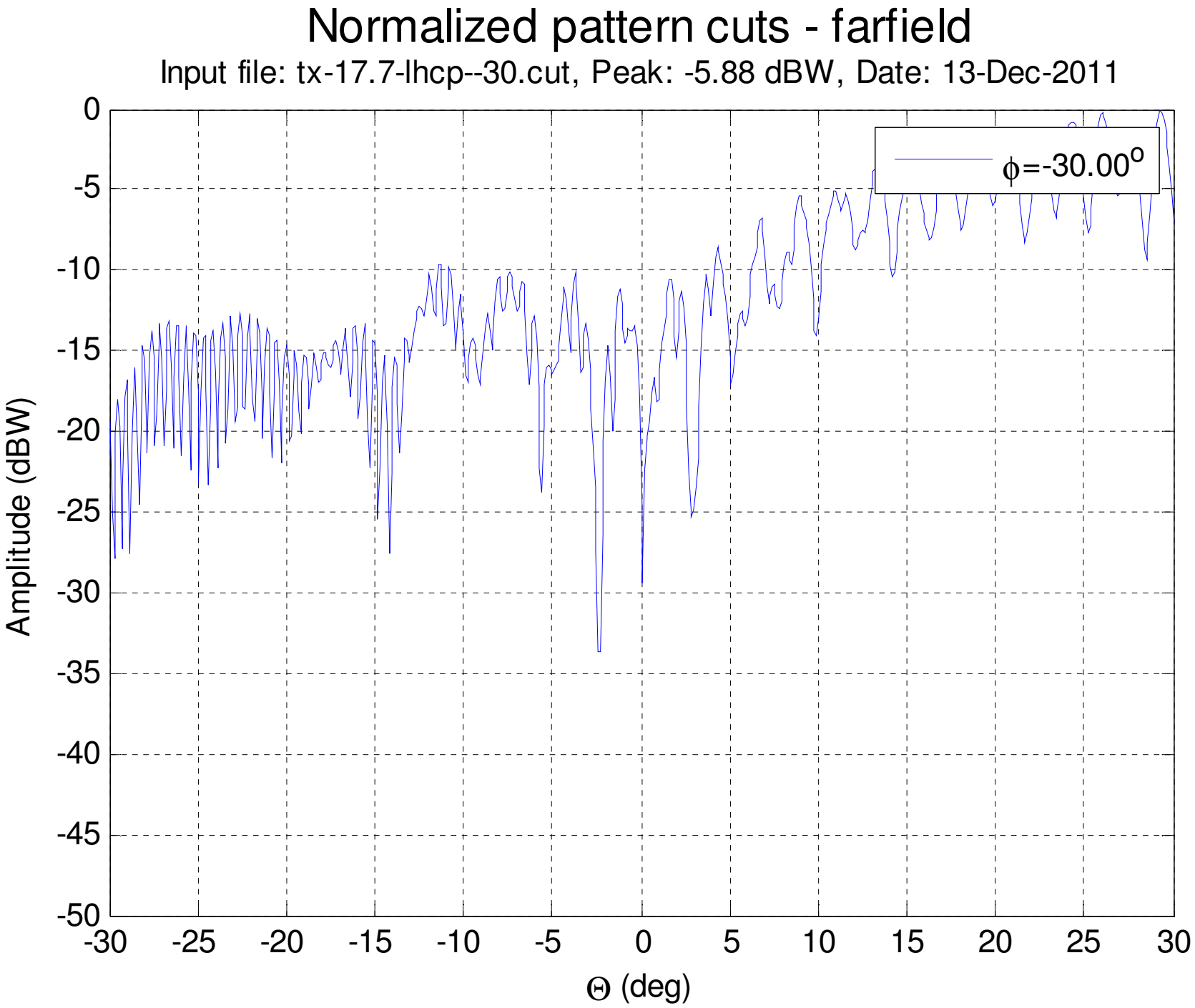

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -10.22 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

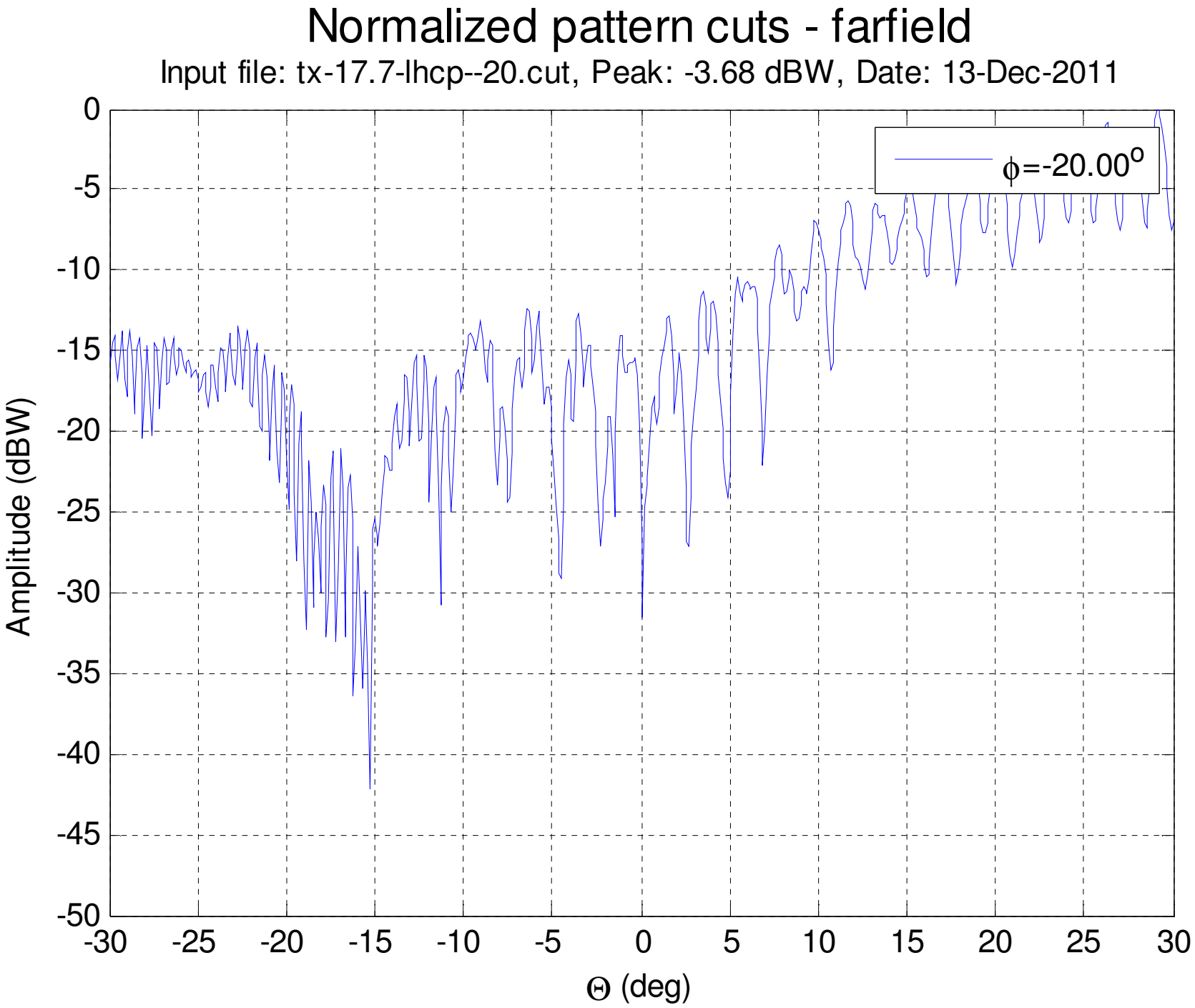
LHCP at 17.7 GHz

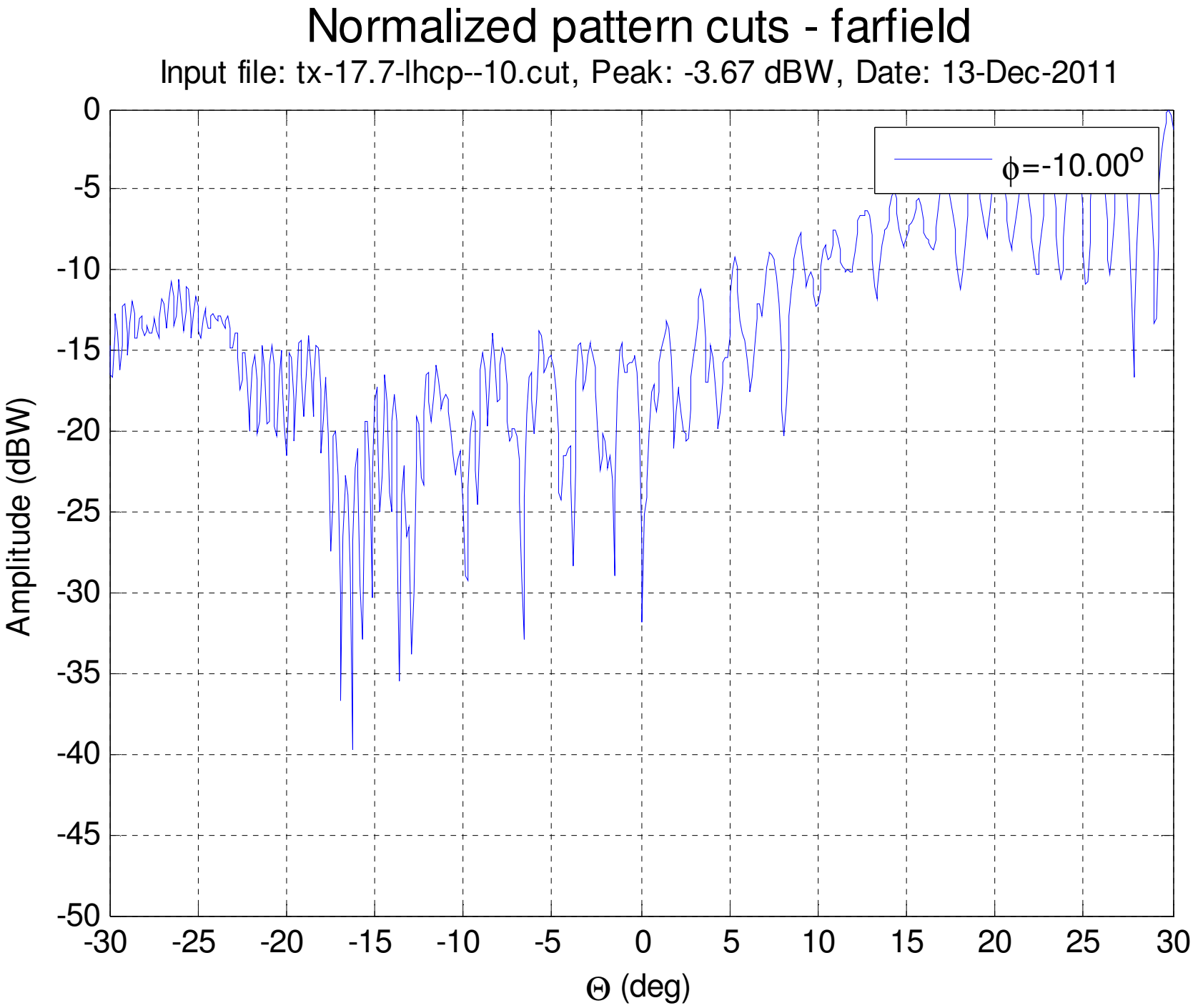

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -8.71 dBW, Date: 13-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

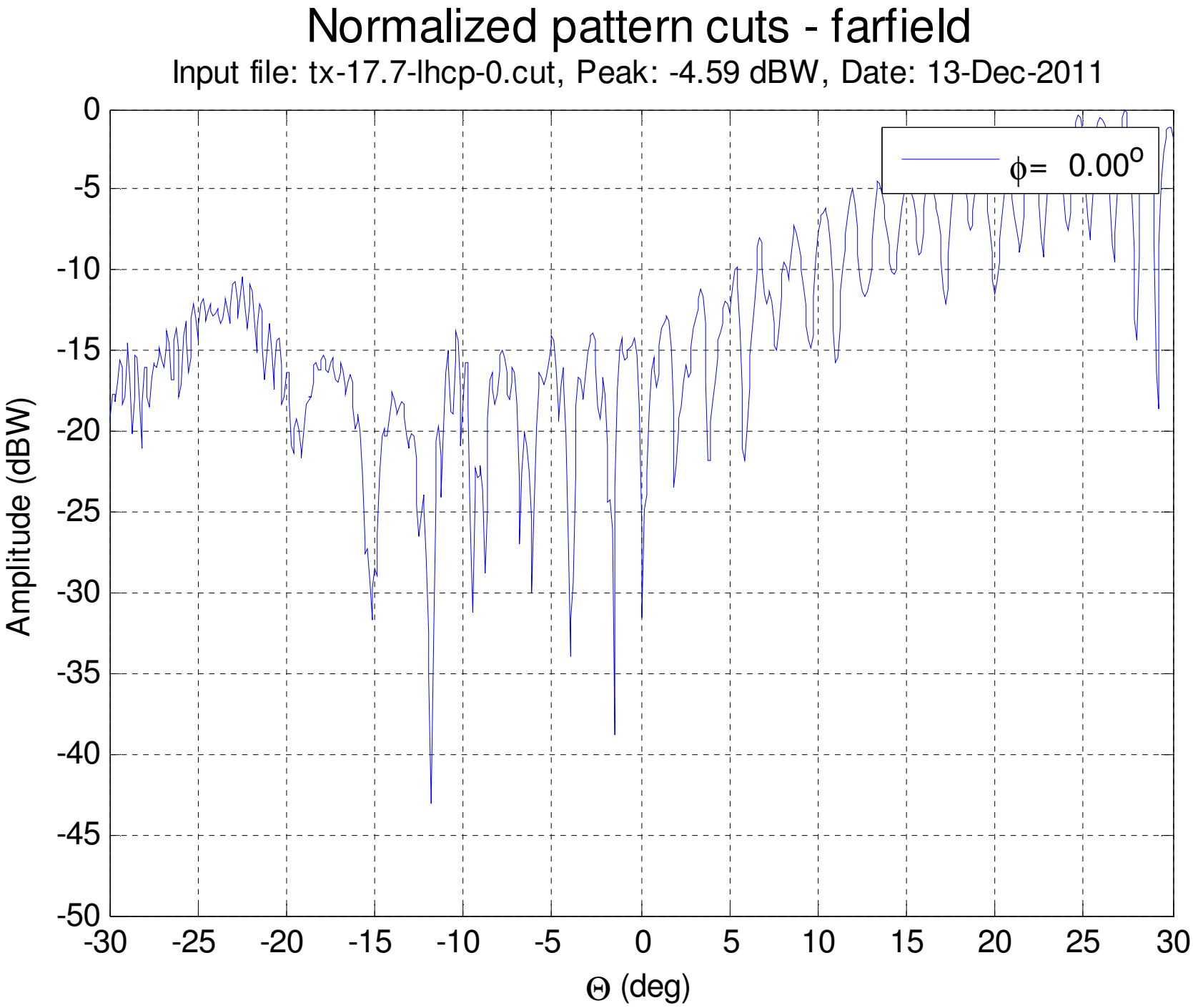

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -10.15 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

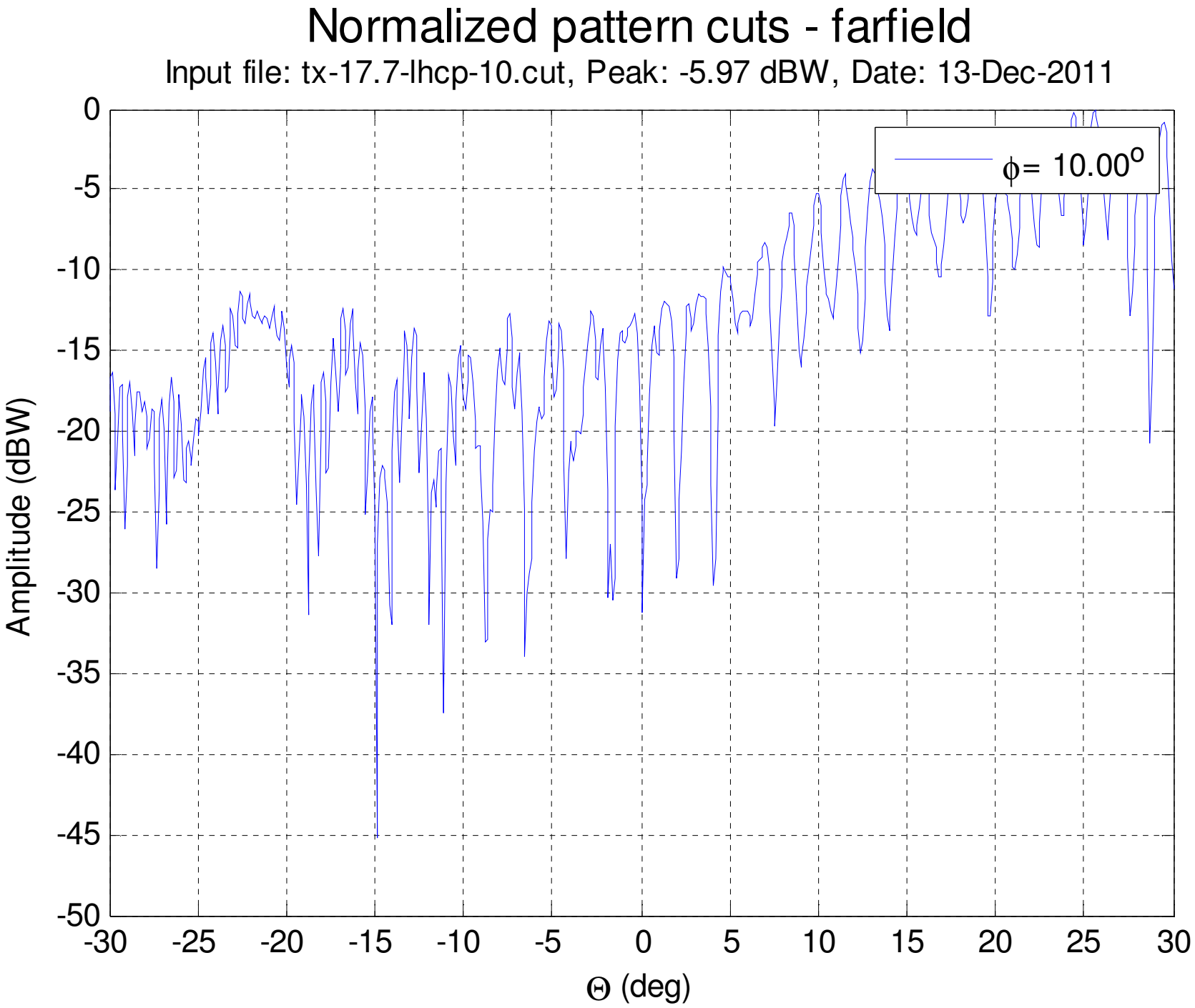

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -8.68 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

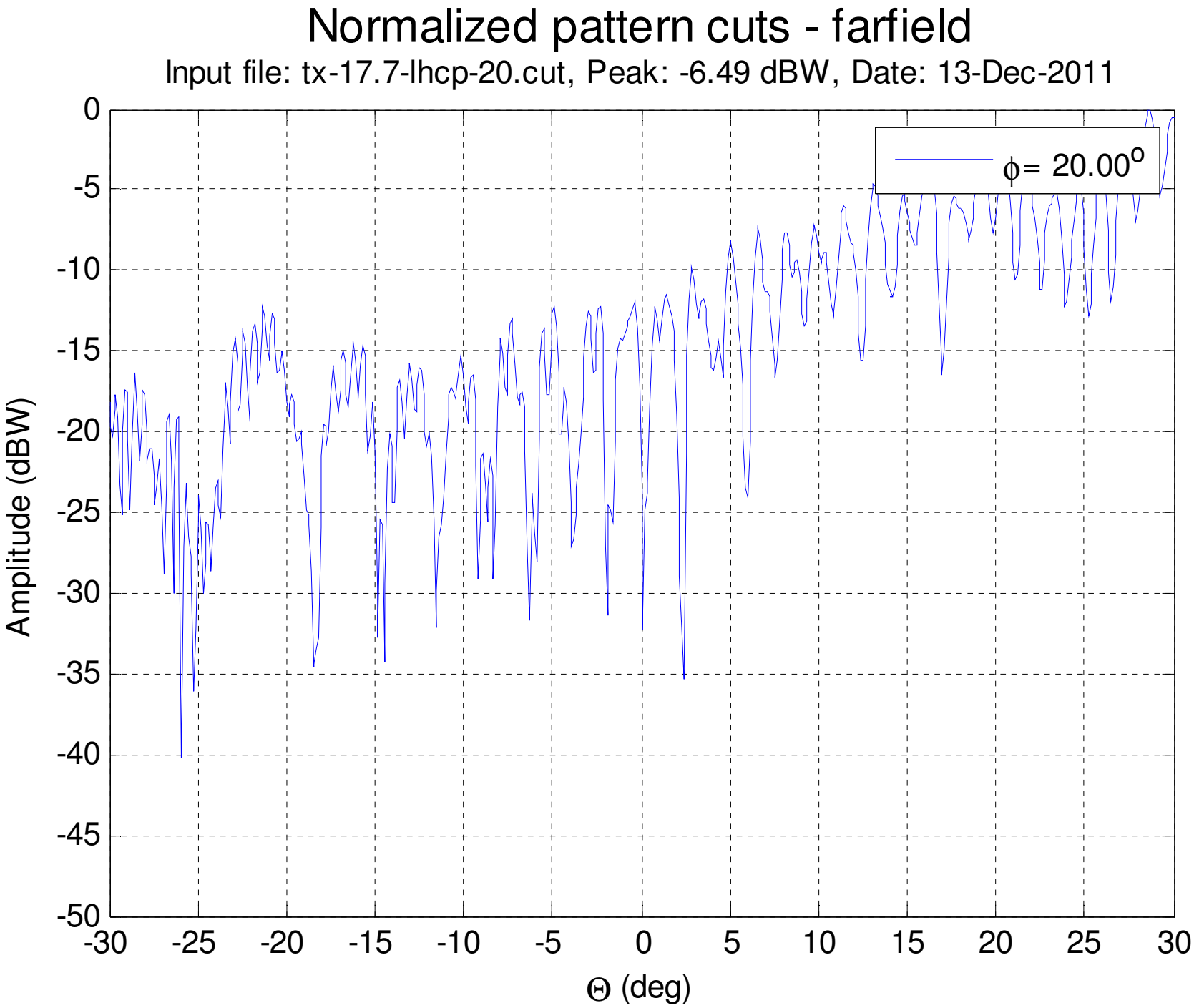

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -5.88 dBW, Date: 13-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

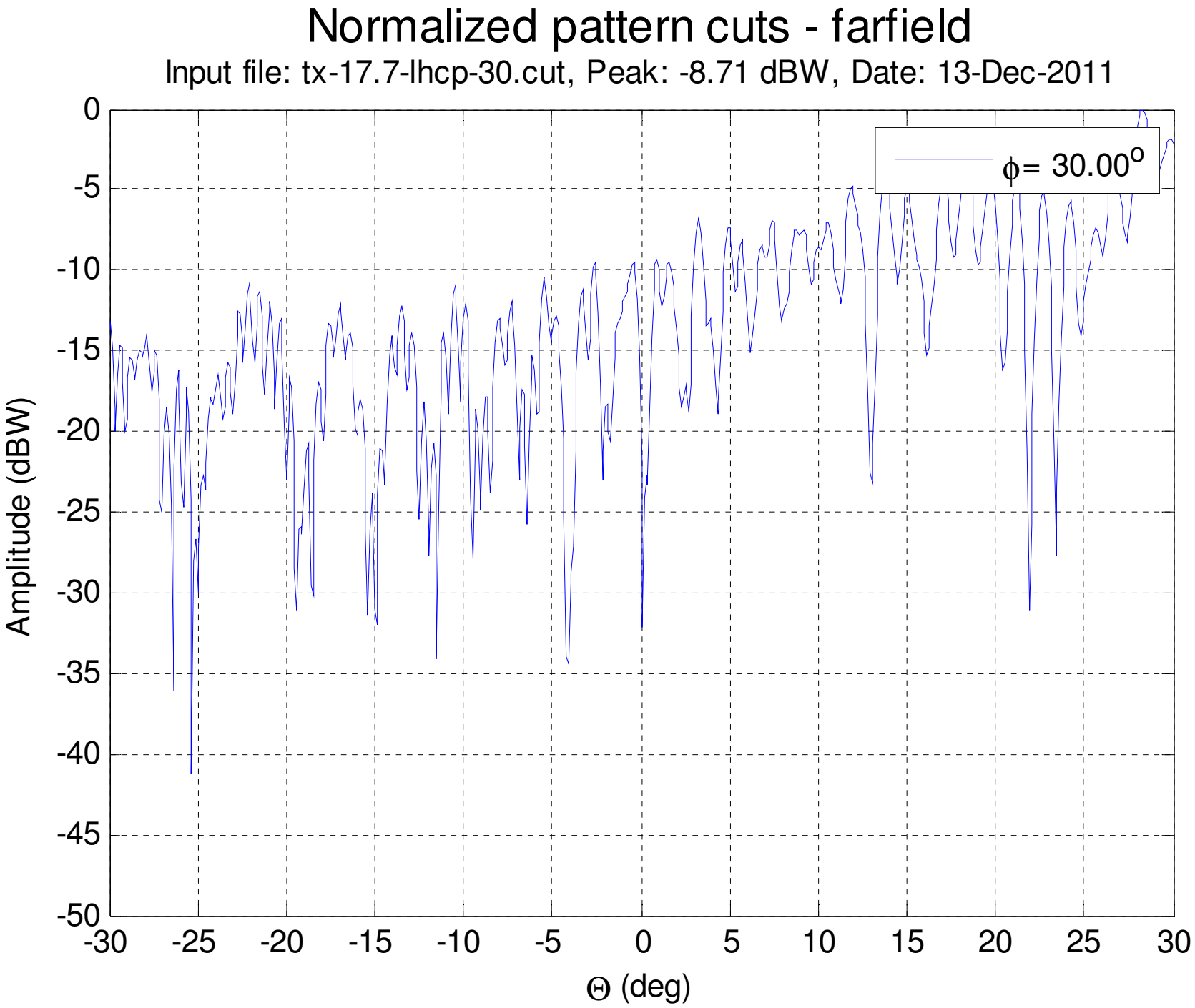

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -3.68 dBW, Date: 13-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

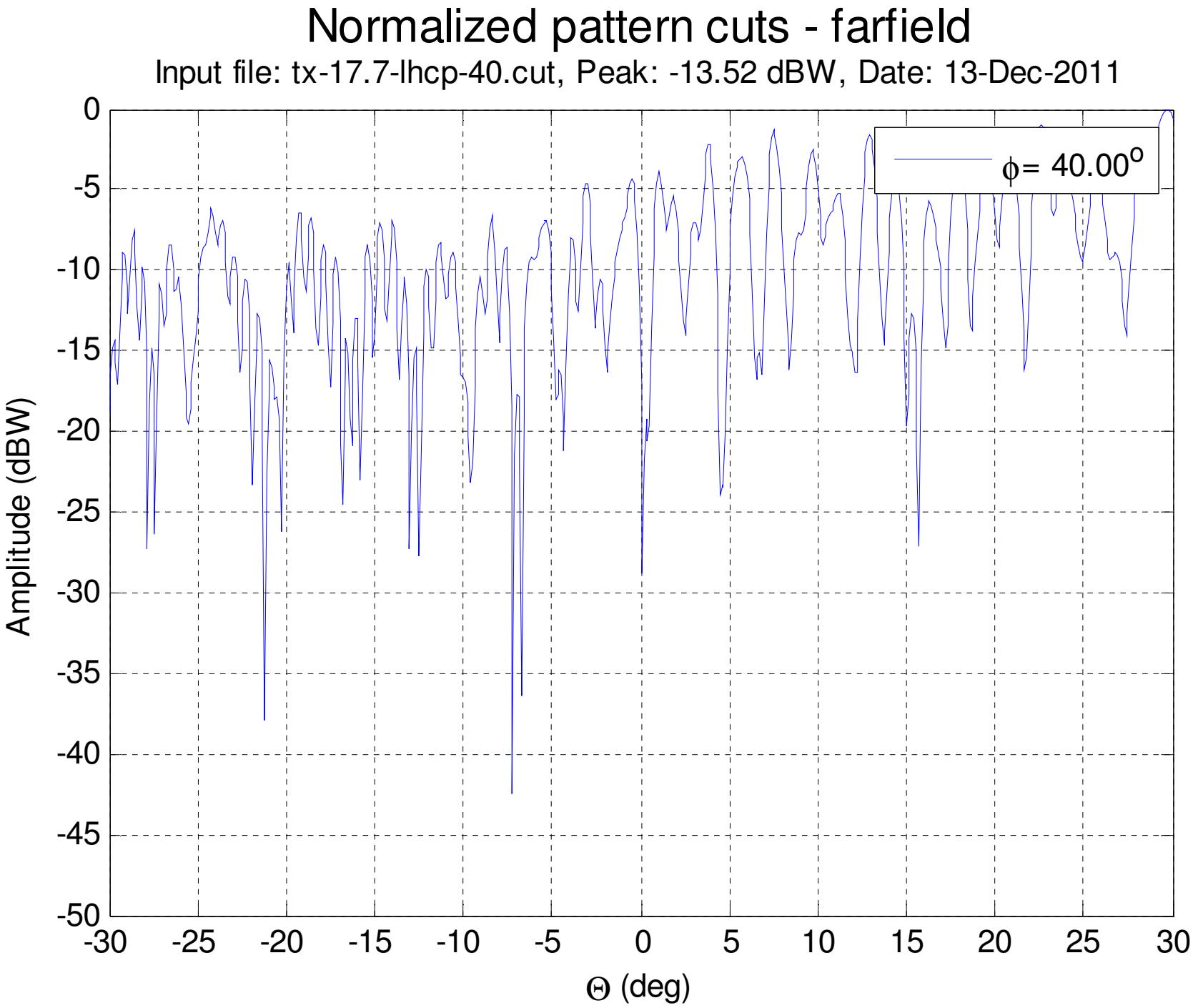

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -3.67 dBW, Date: 13-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

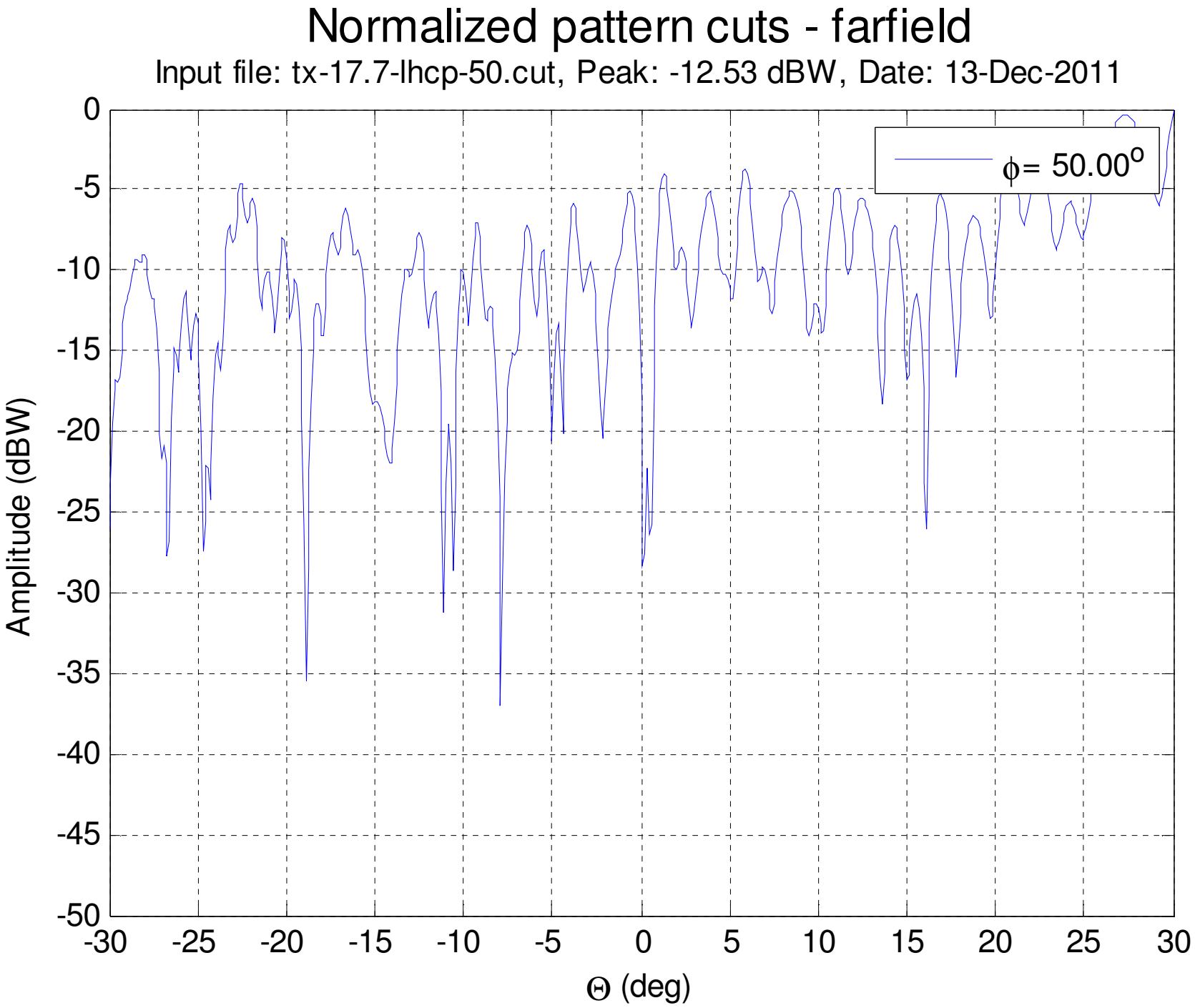

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -4.59 dBW, Date: 13-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

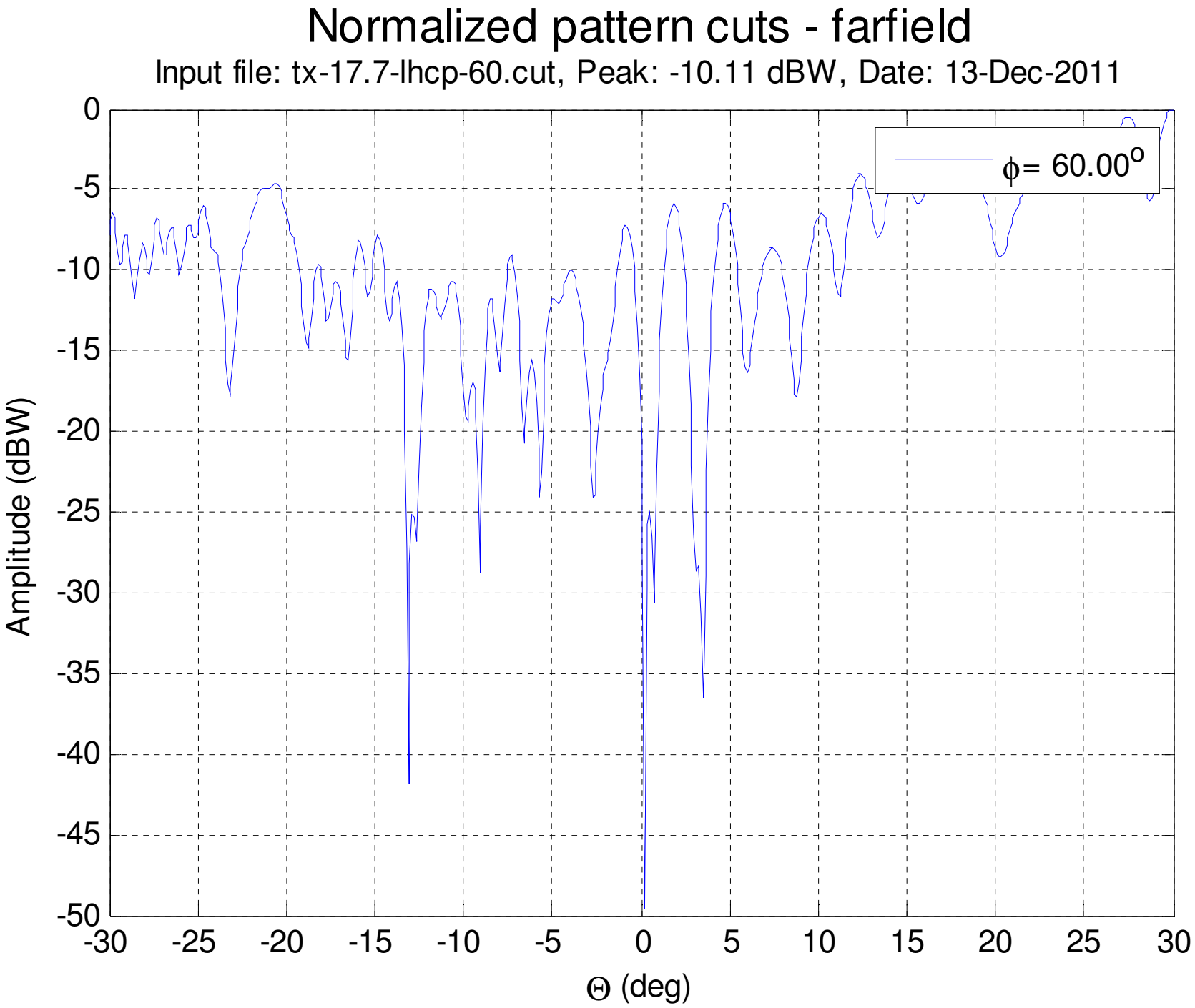

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -5.97 dBW, Date: 13-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -6.49 dBW, Date: 13-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -8.71 dBW, Date: 13-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -13.52 dBW, Date: 13-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -12.53 dBW, Date: 13-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -10.11 dBW, Date: 13-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

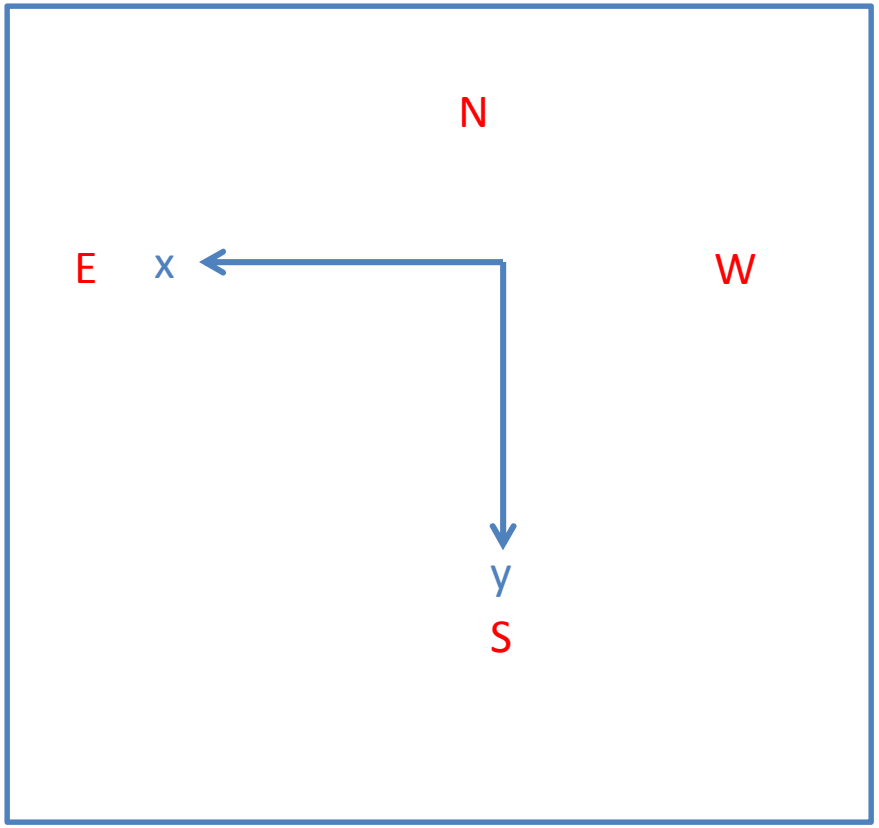
Updated: May 15, 2012

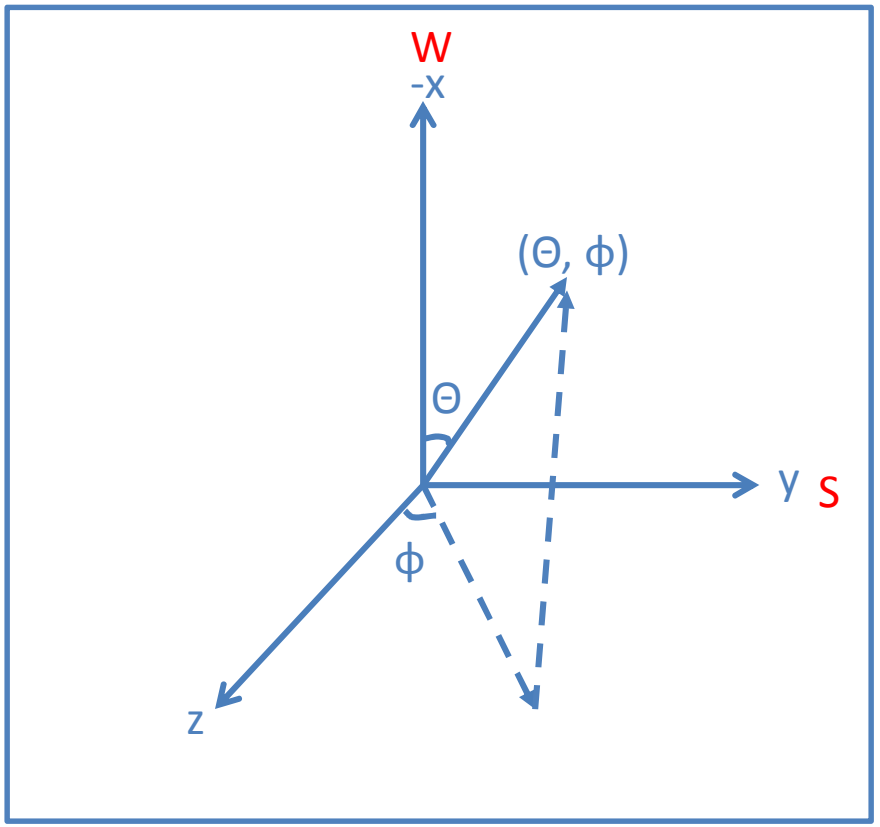
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 07

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

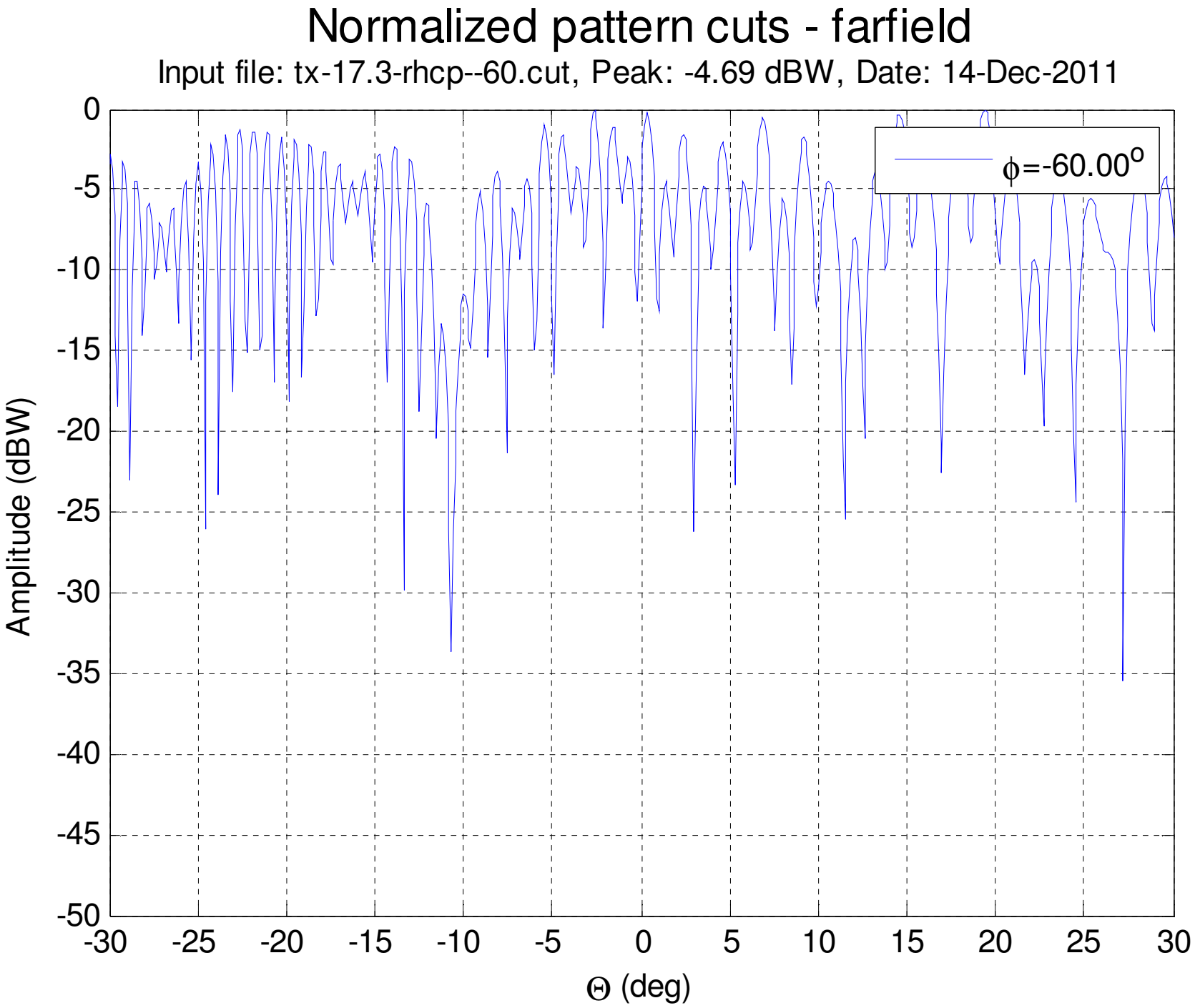


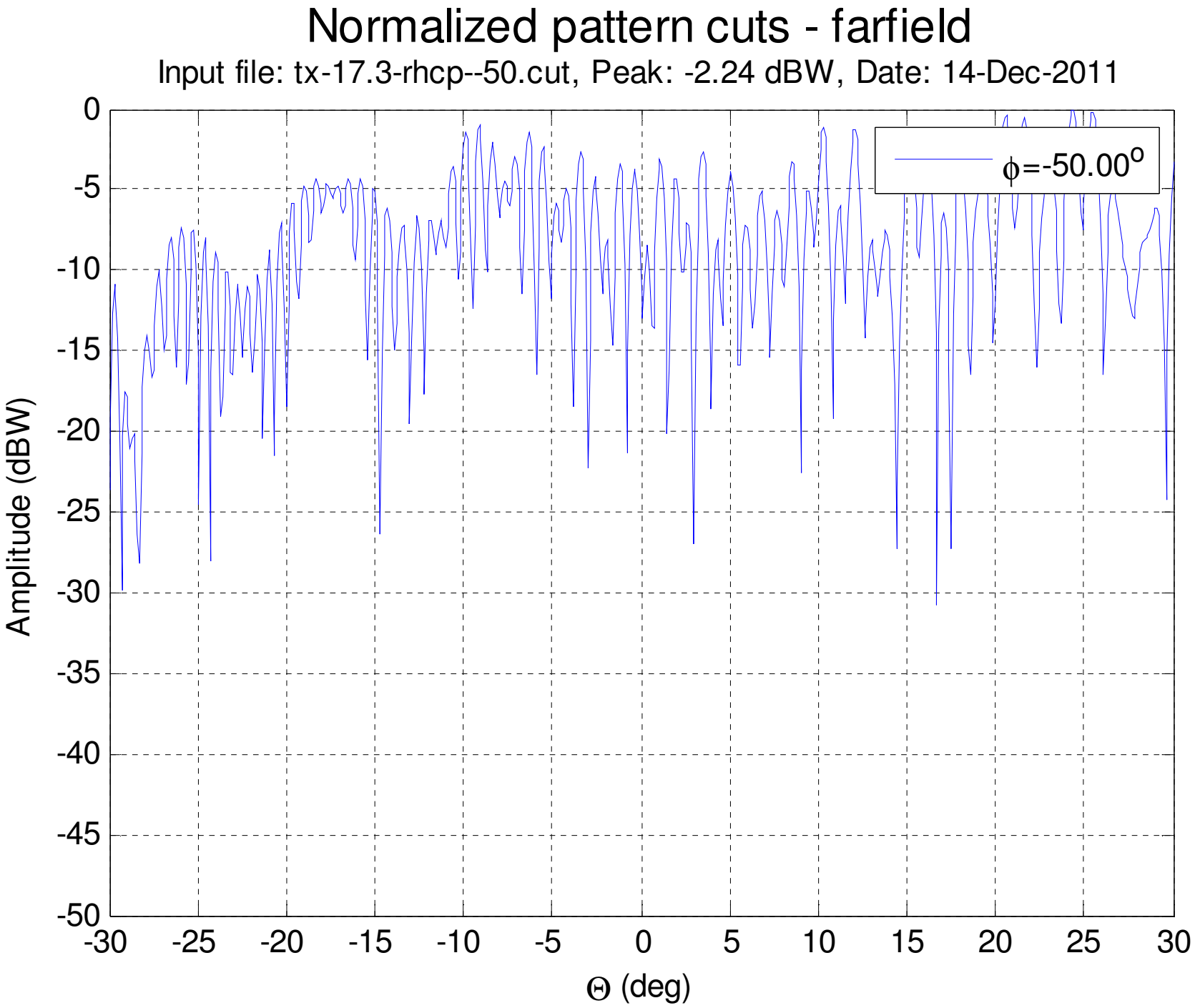


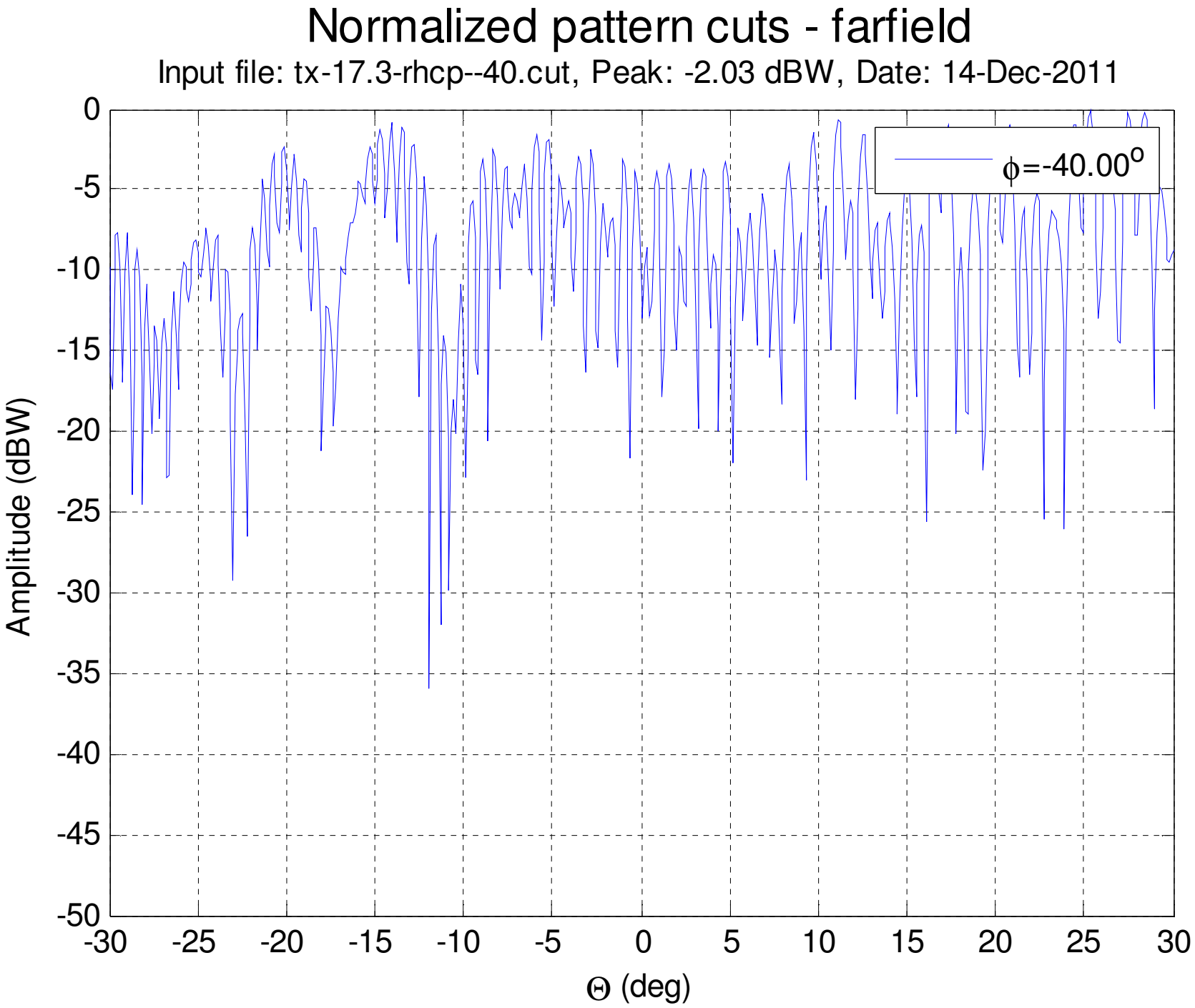
Spot Beam07, -X Axis Plots

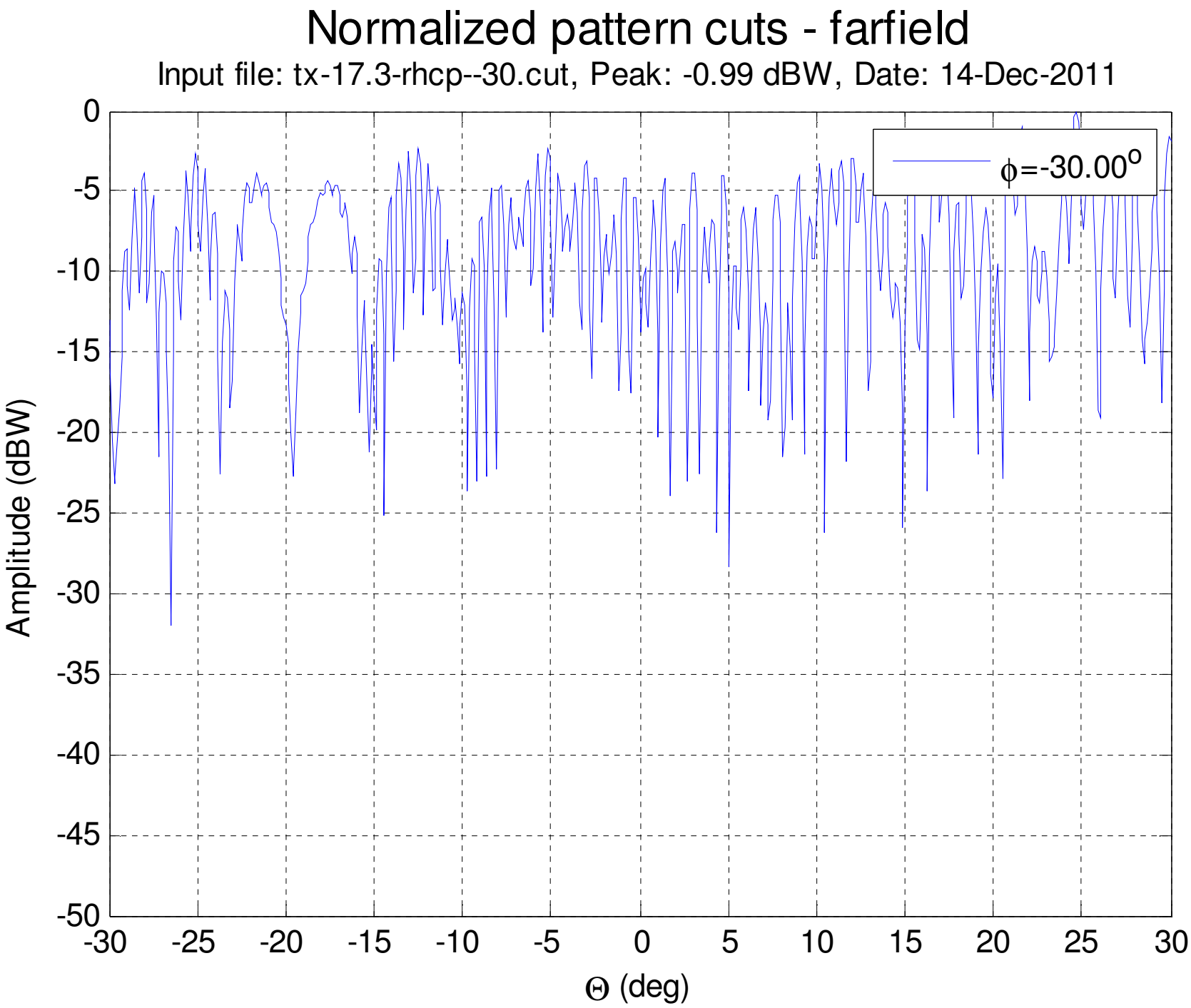
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

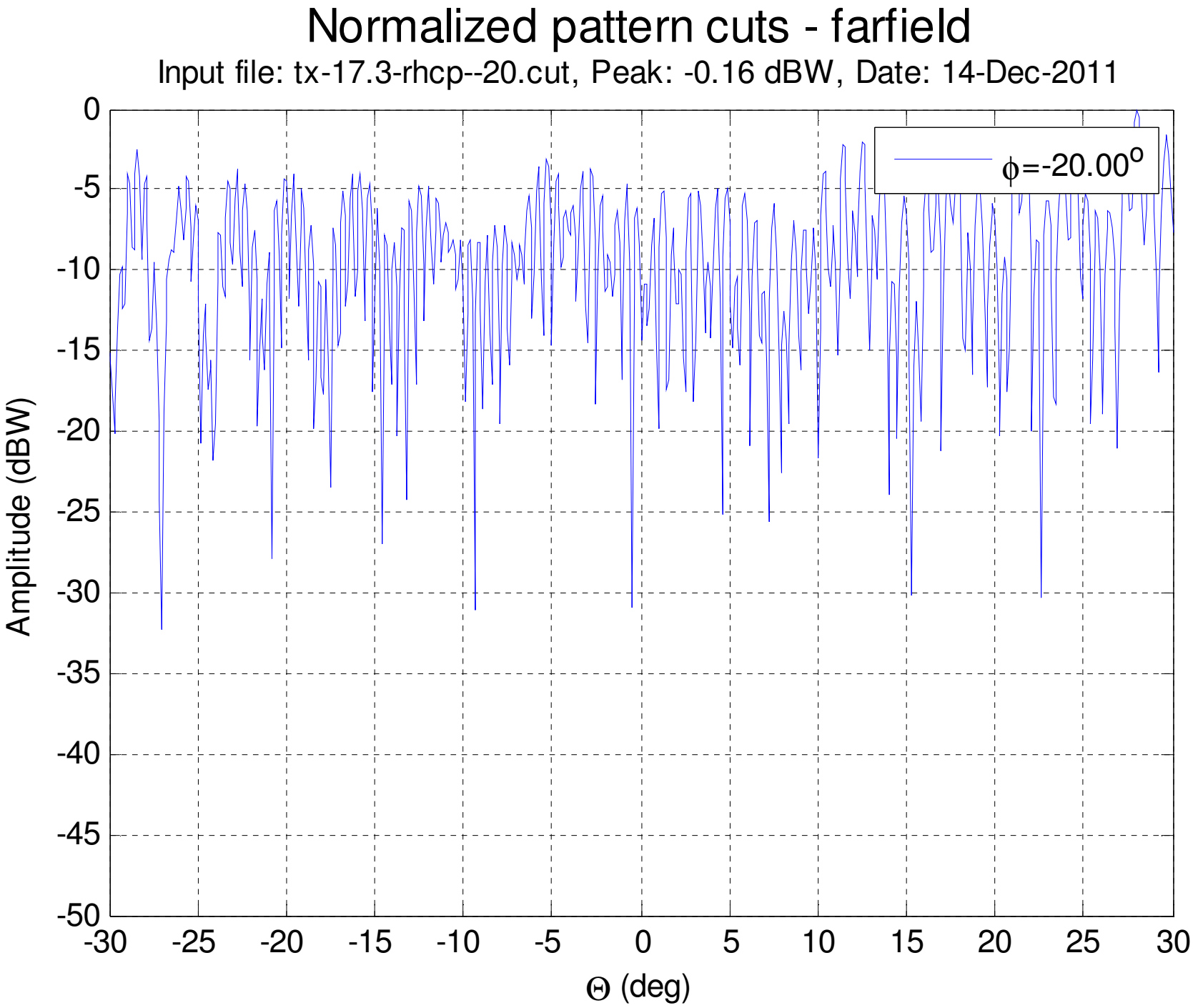
RHCP at 17.3 GHz

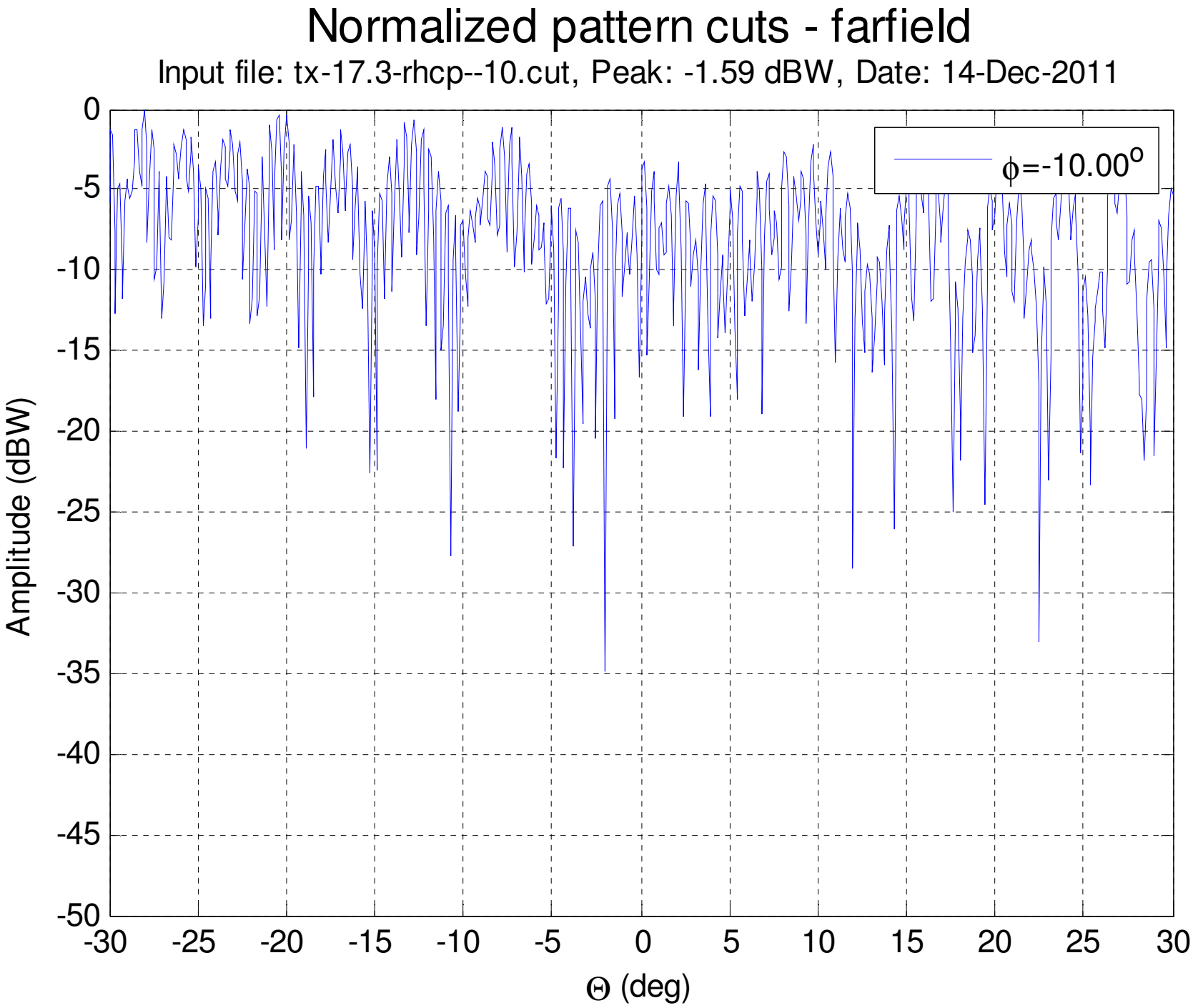

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -4.69 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

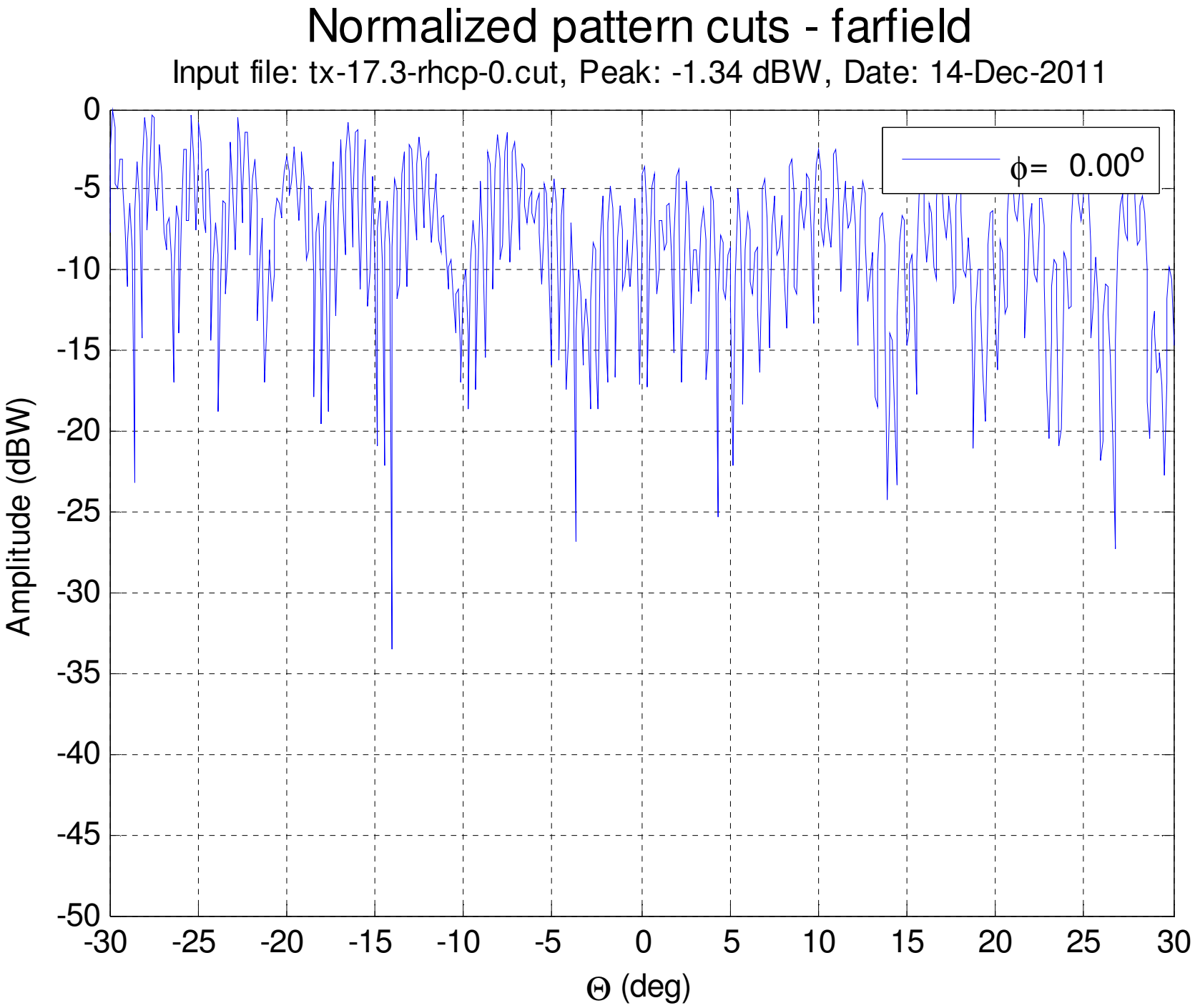

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -2.24 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

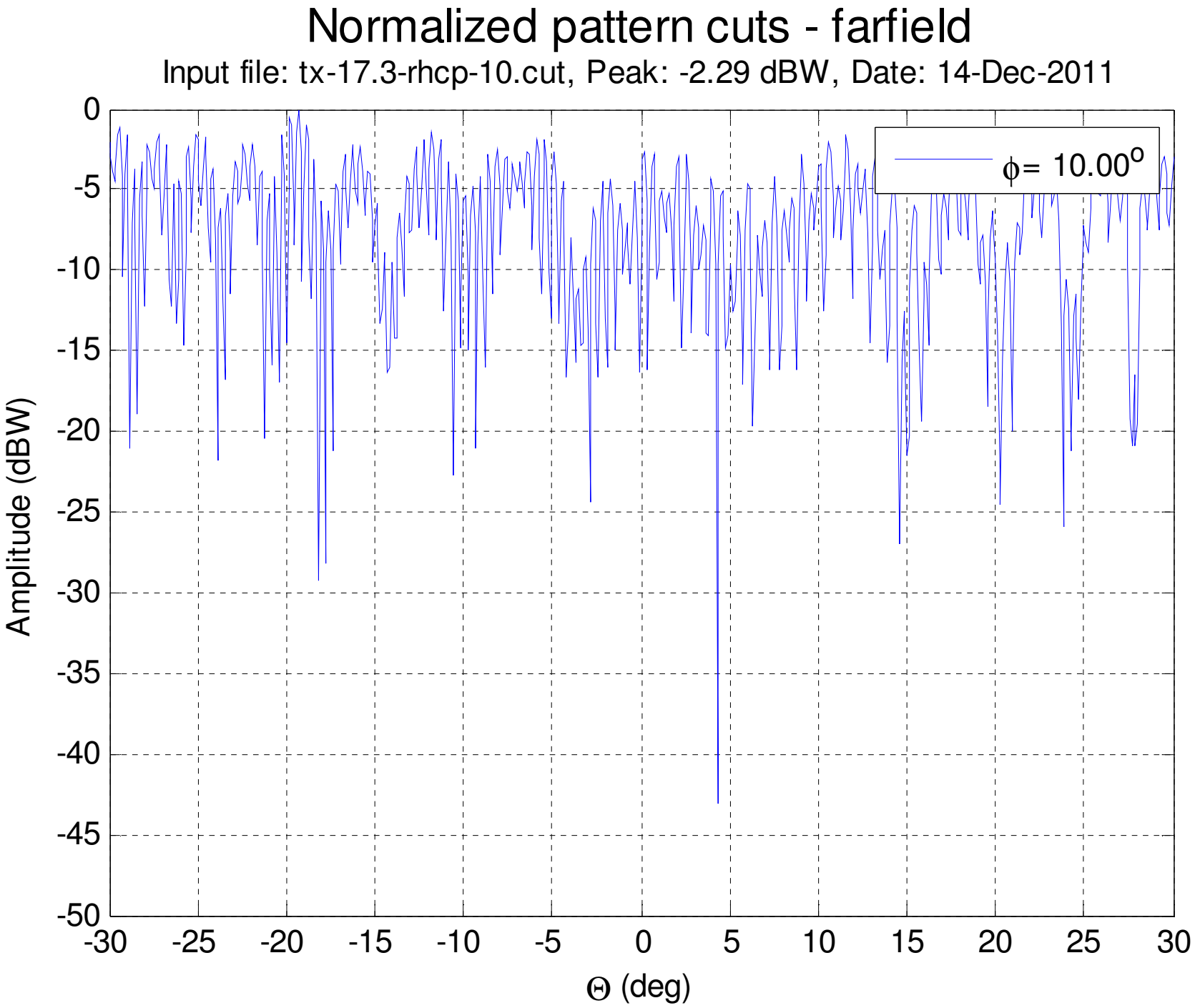

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -2.03 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

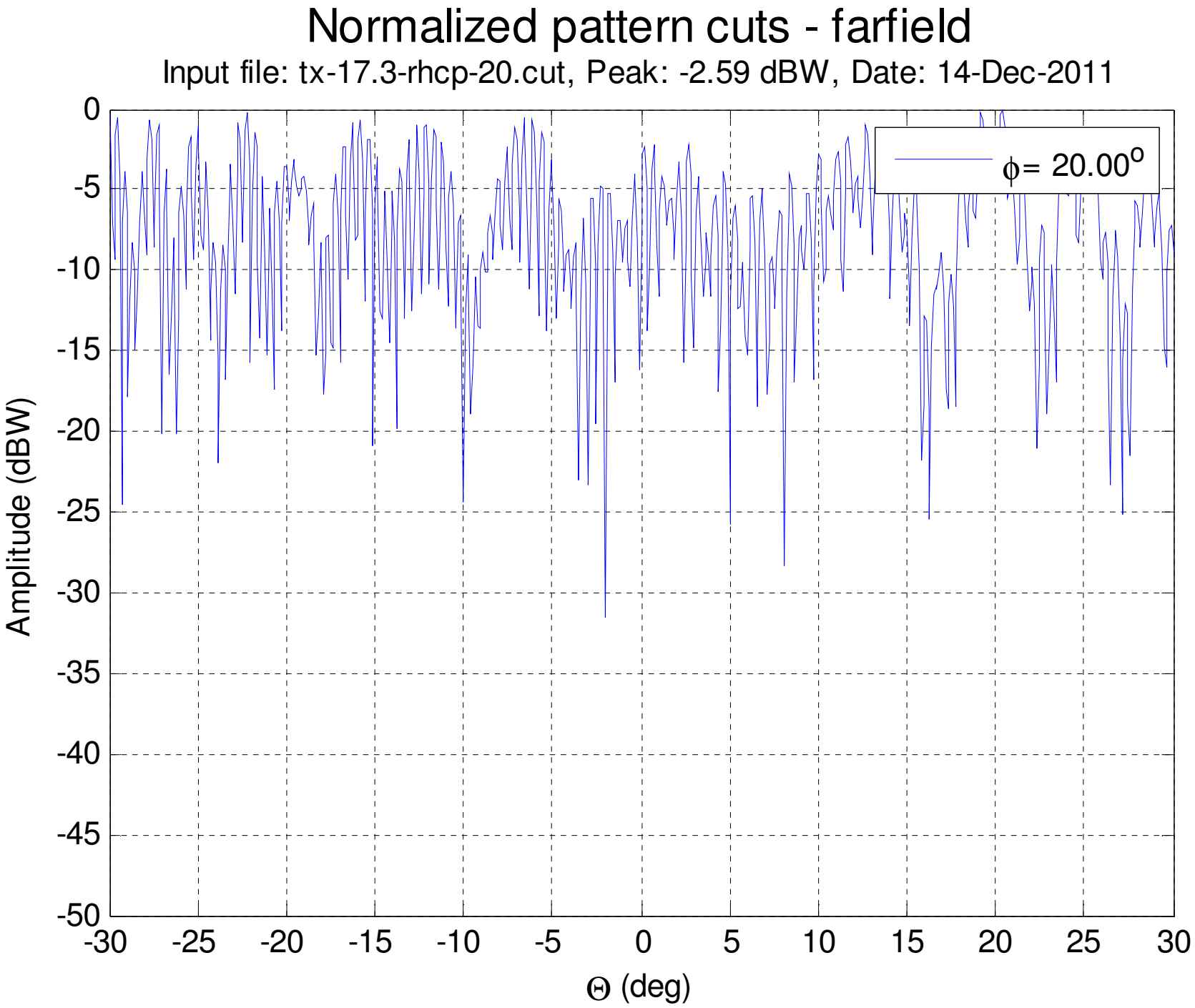

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -0.99 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

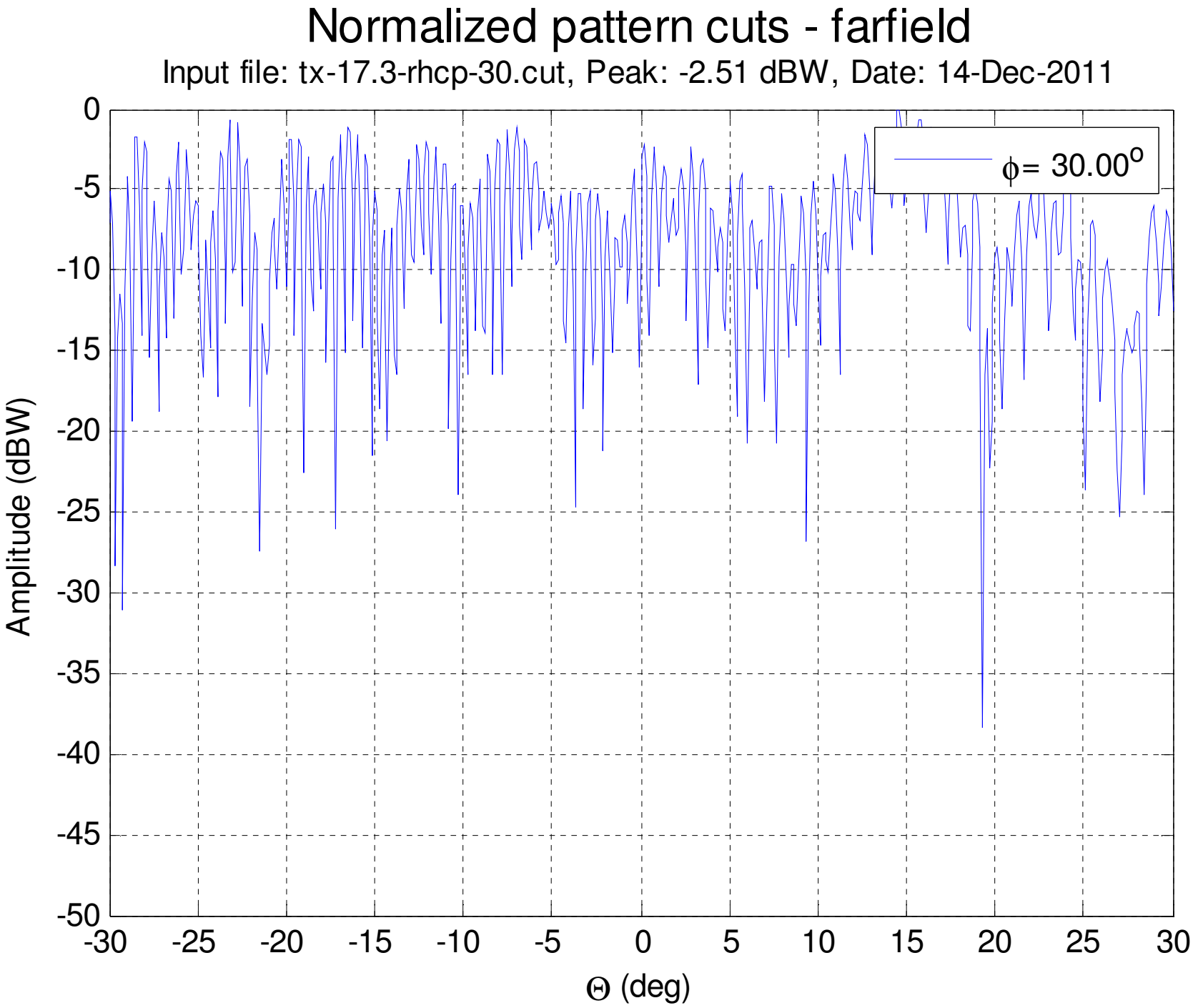

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: -0.16 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

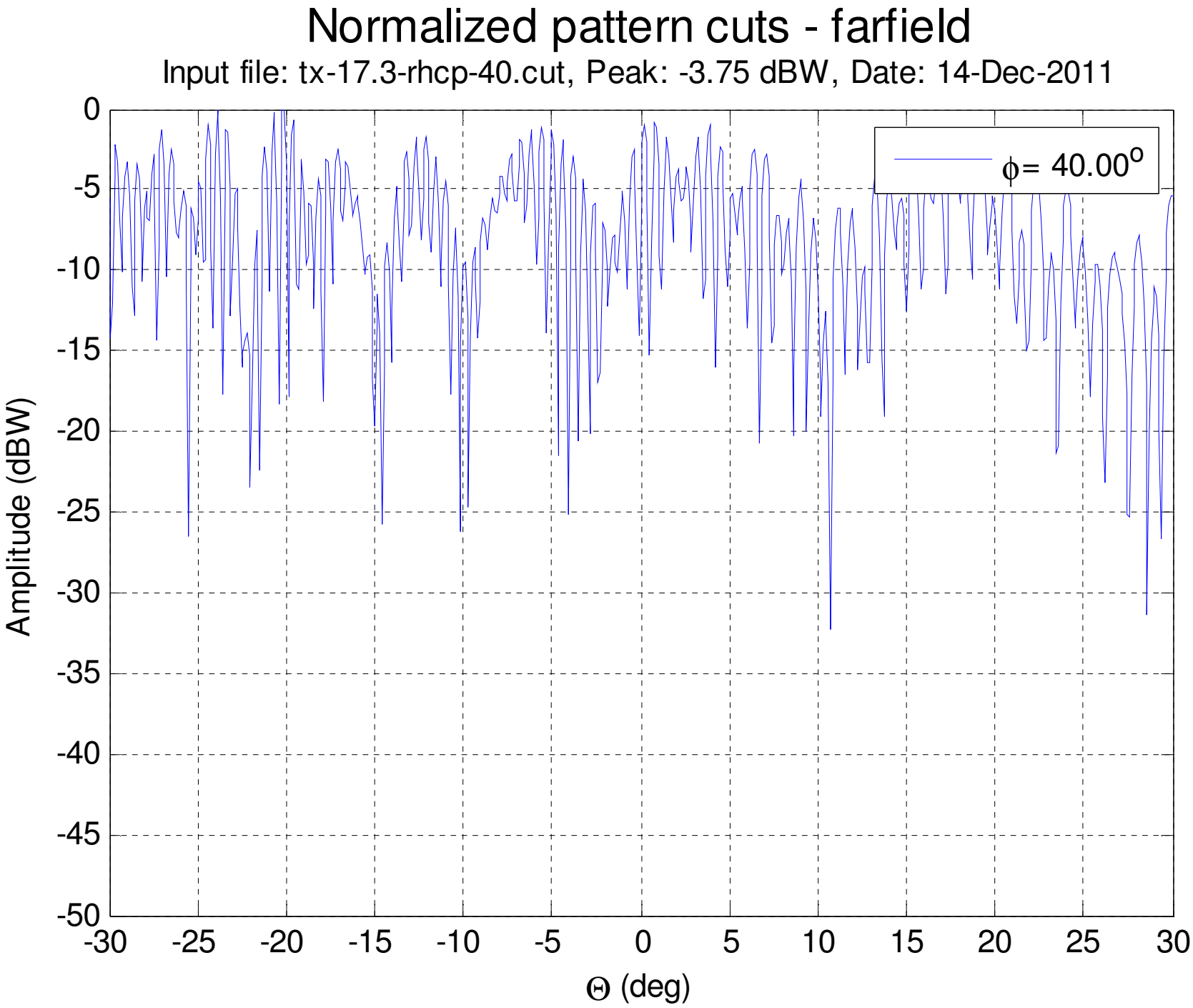

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: -1.59 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

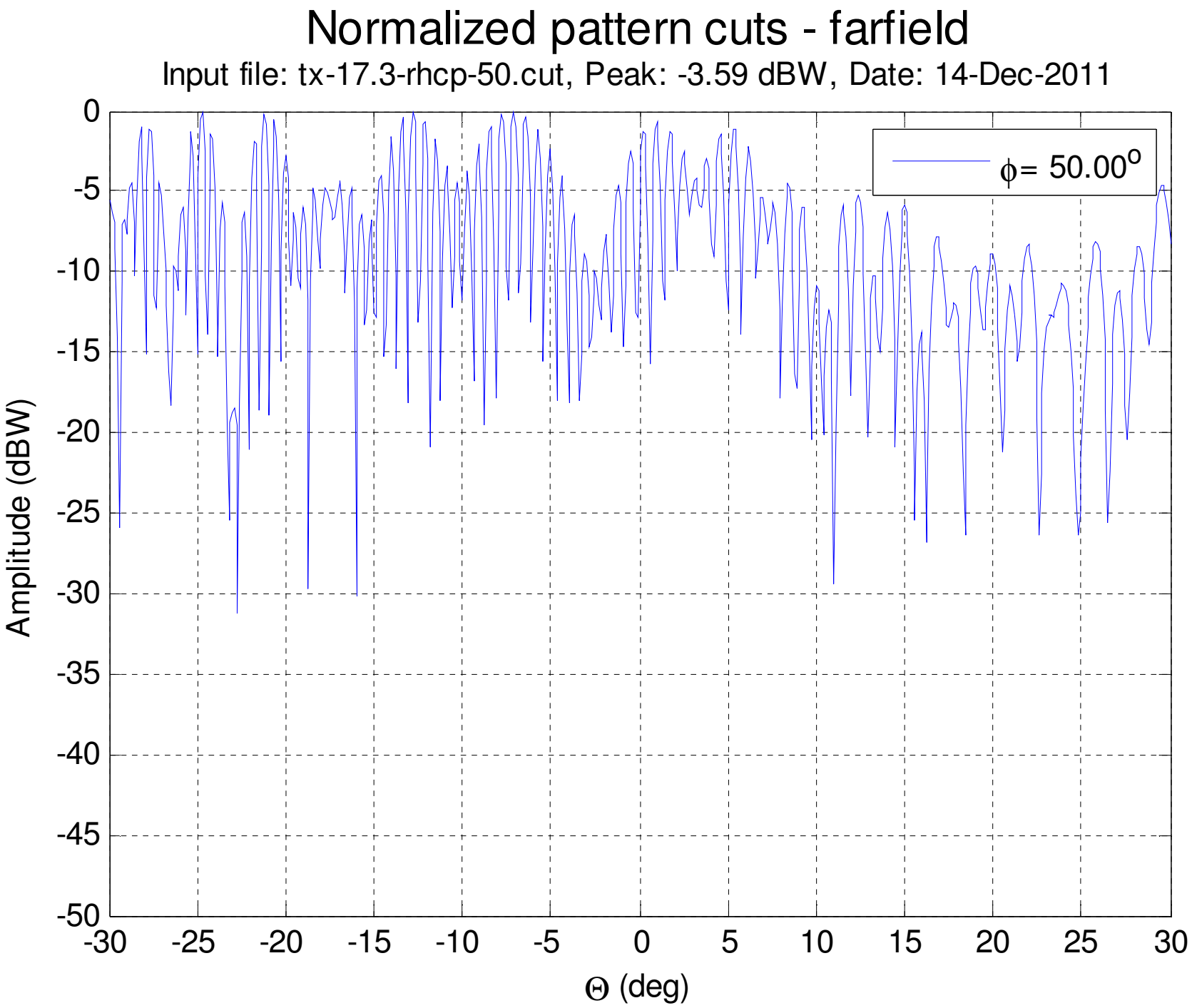

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: -1.34 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

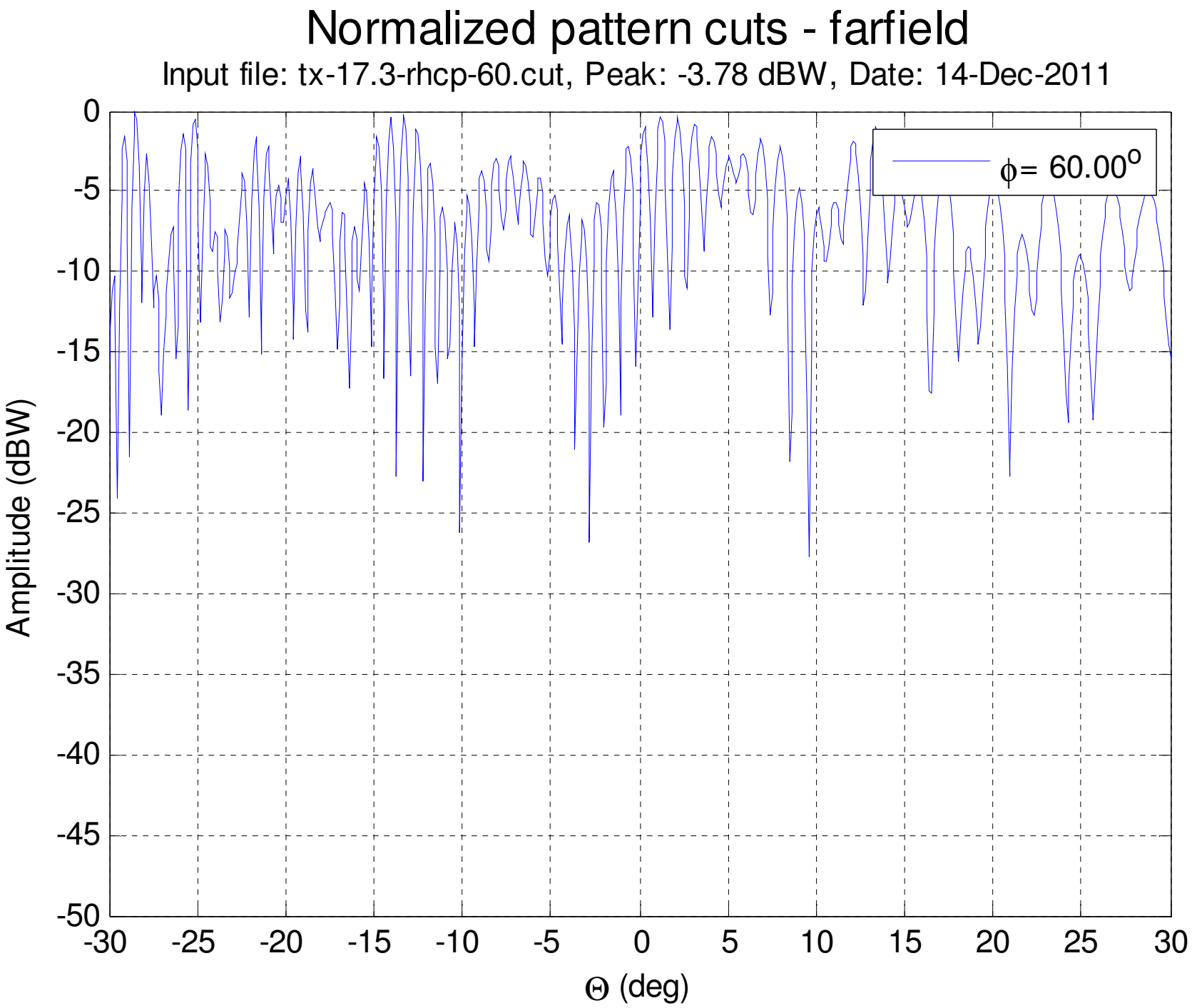

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: -2.29 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -2.59 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 20.00°

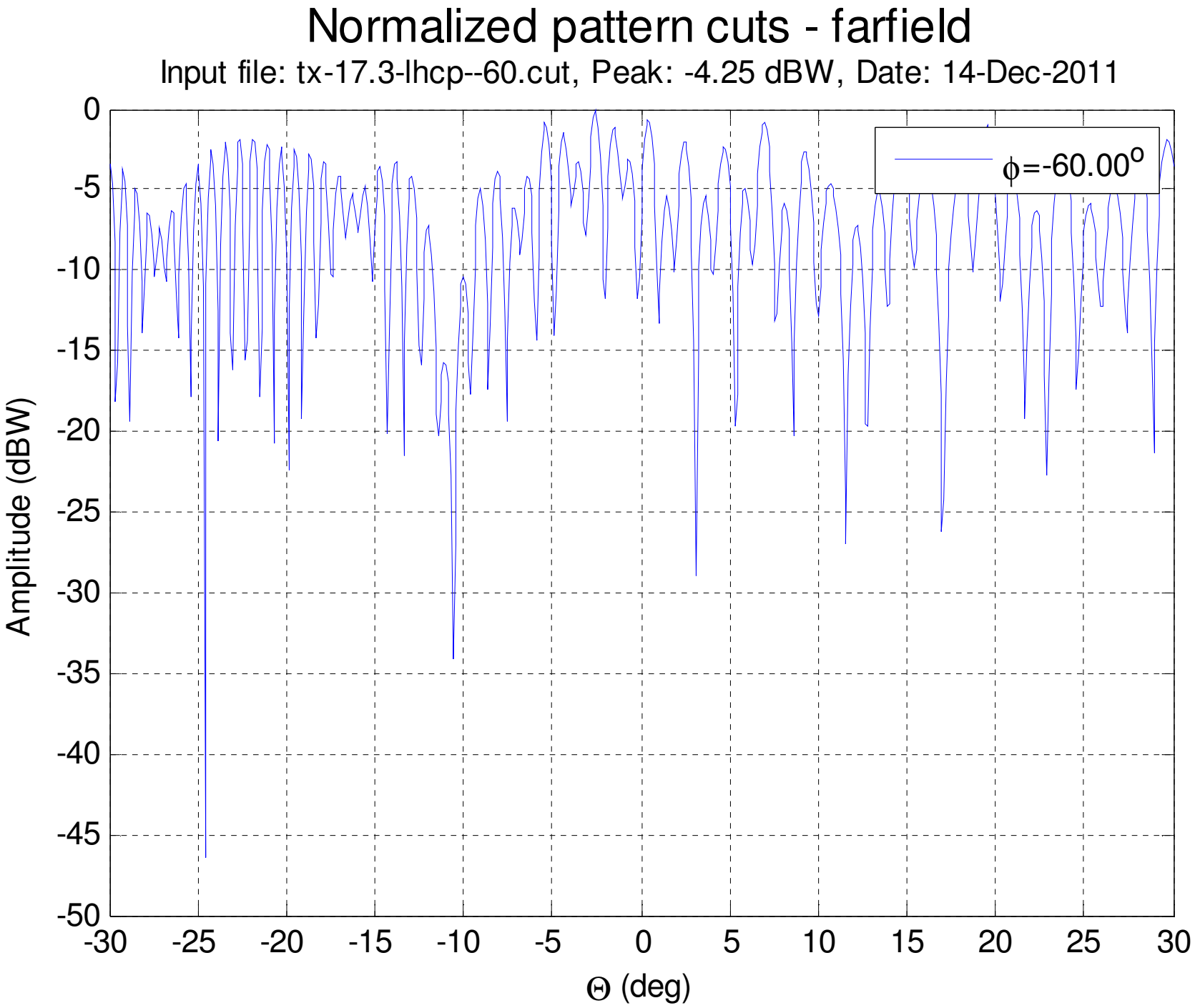

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -2.51 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

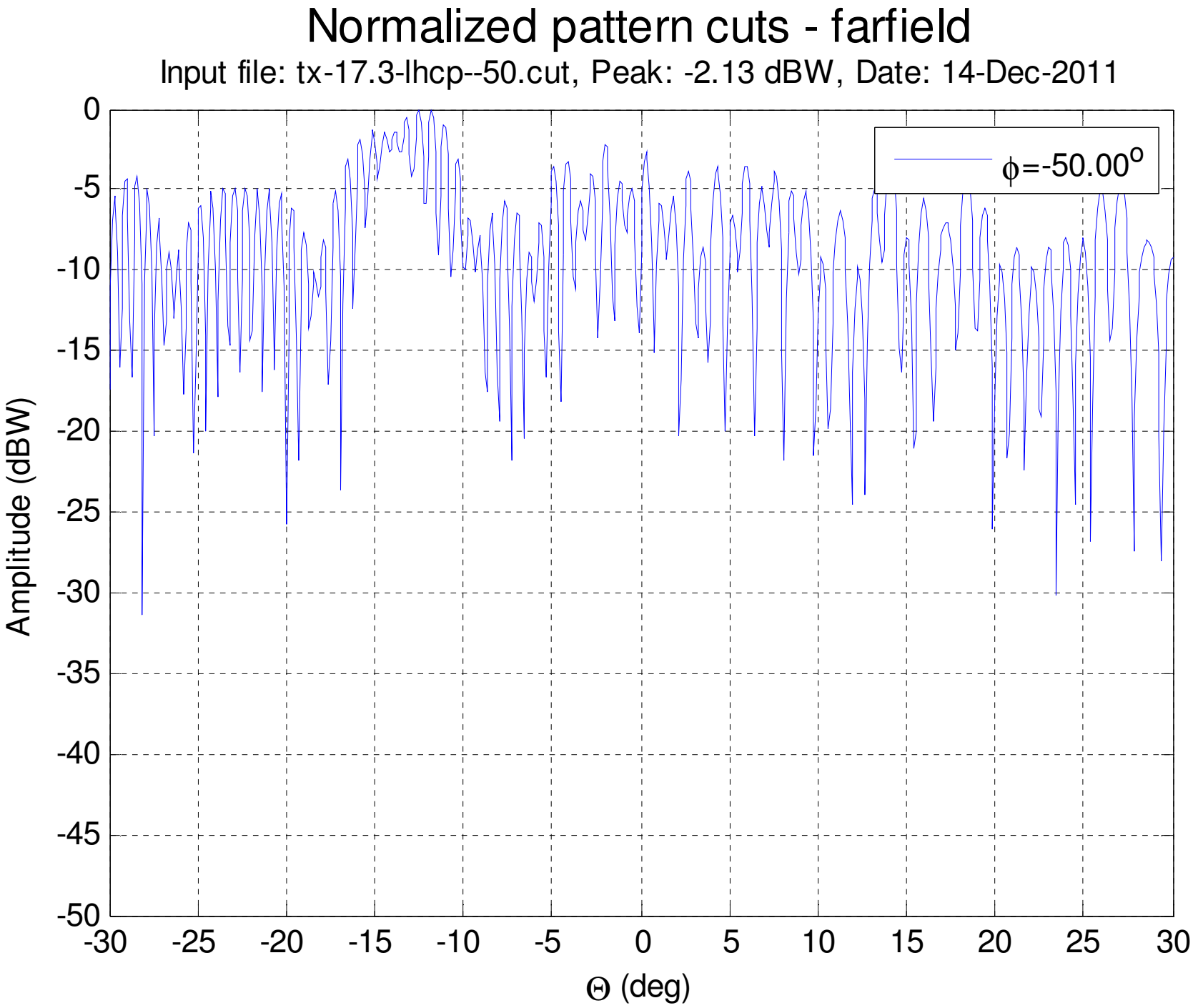

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -3.75 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

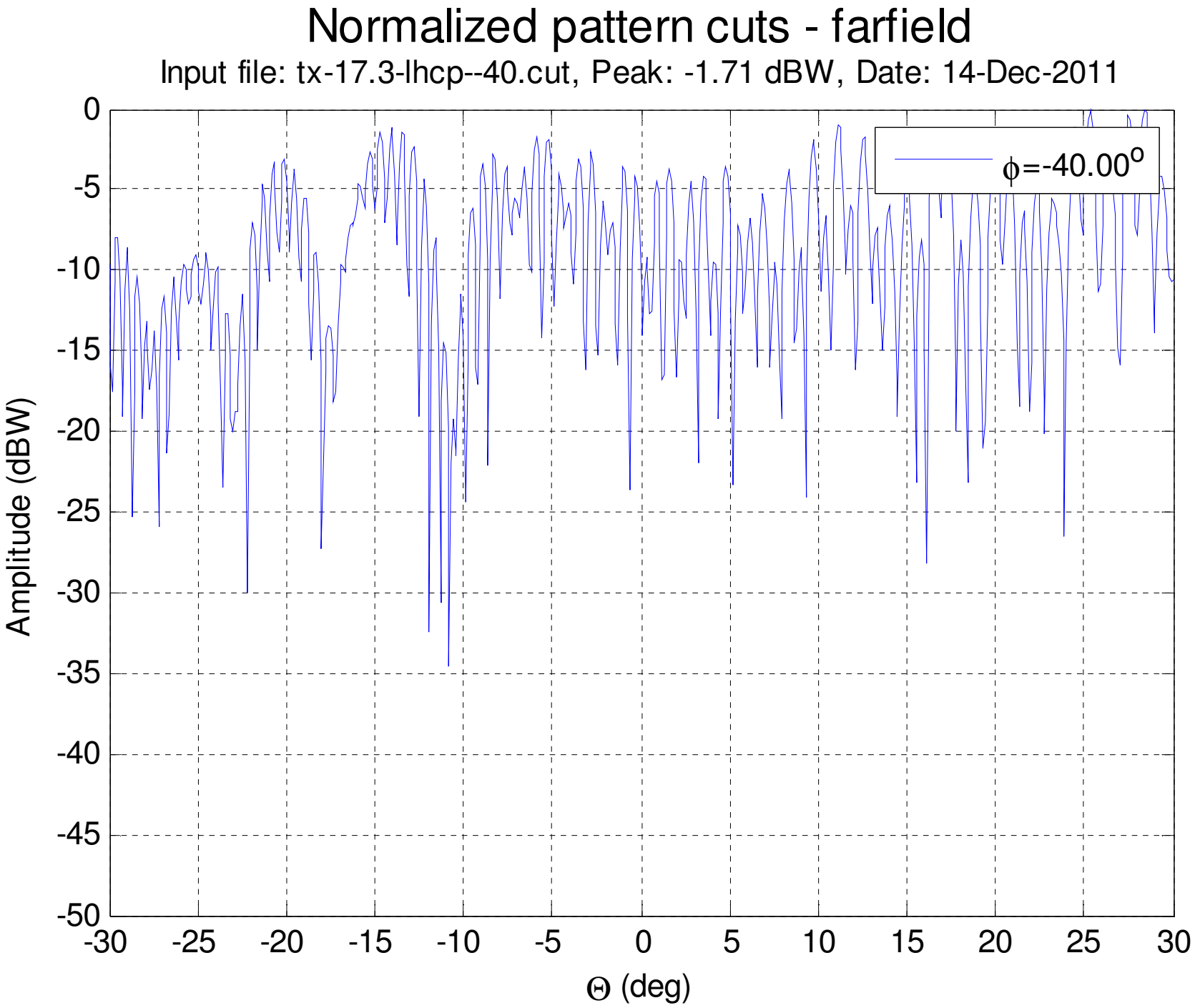

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -3.59 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

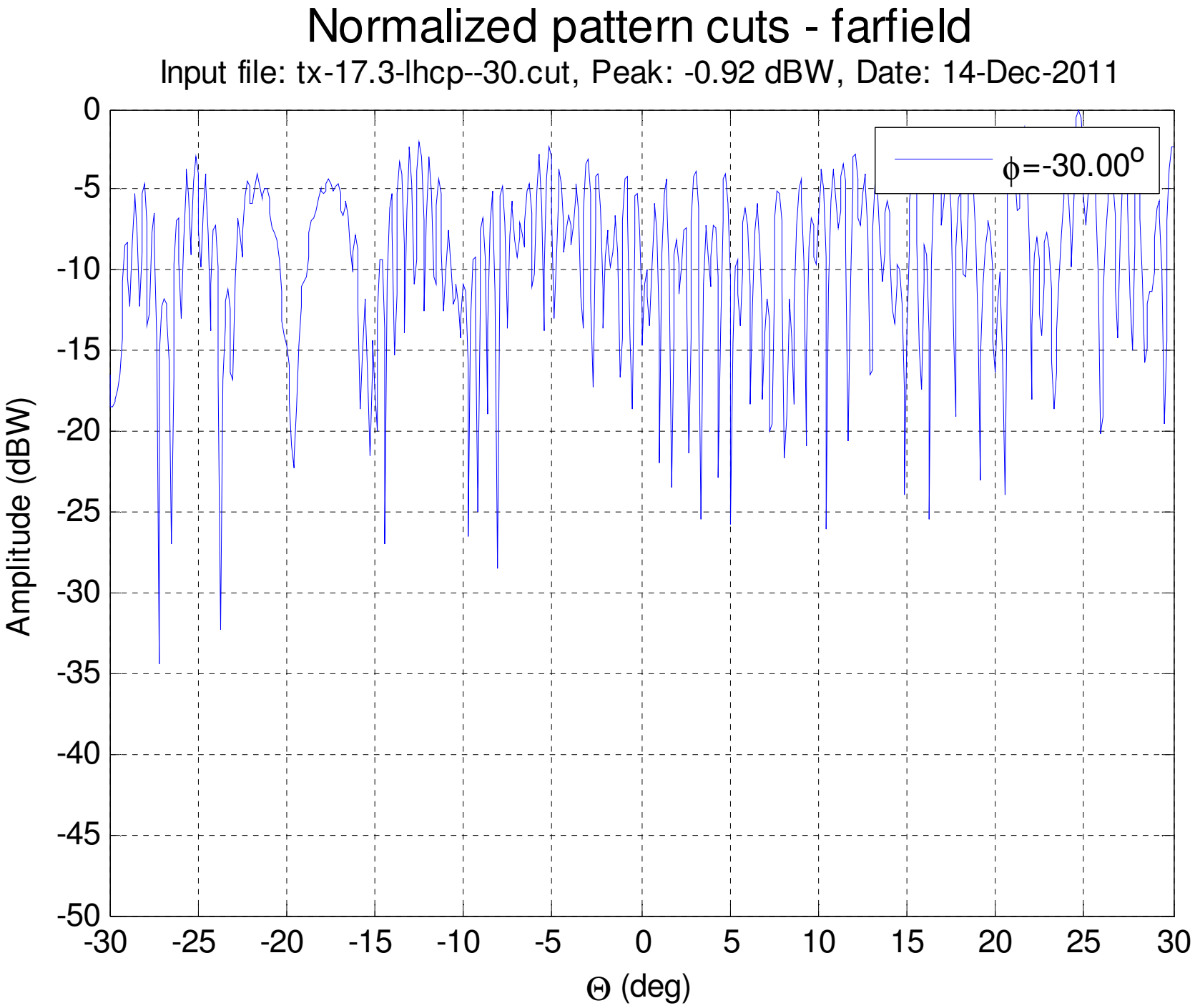

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -3.78 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

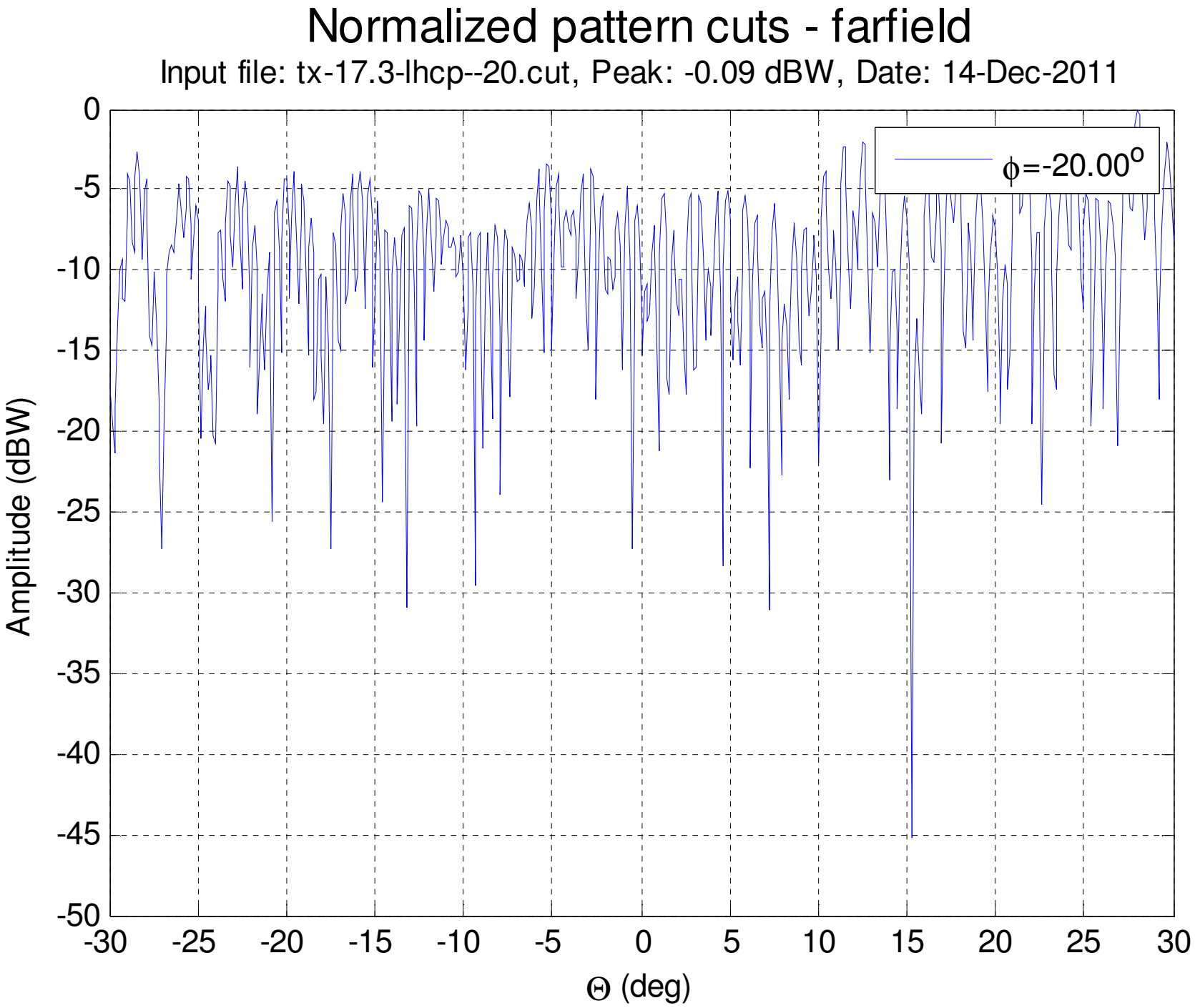
LHCP at 17.3 GHz

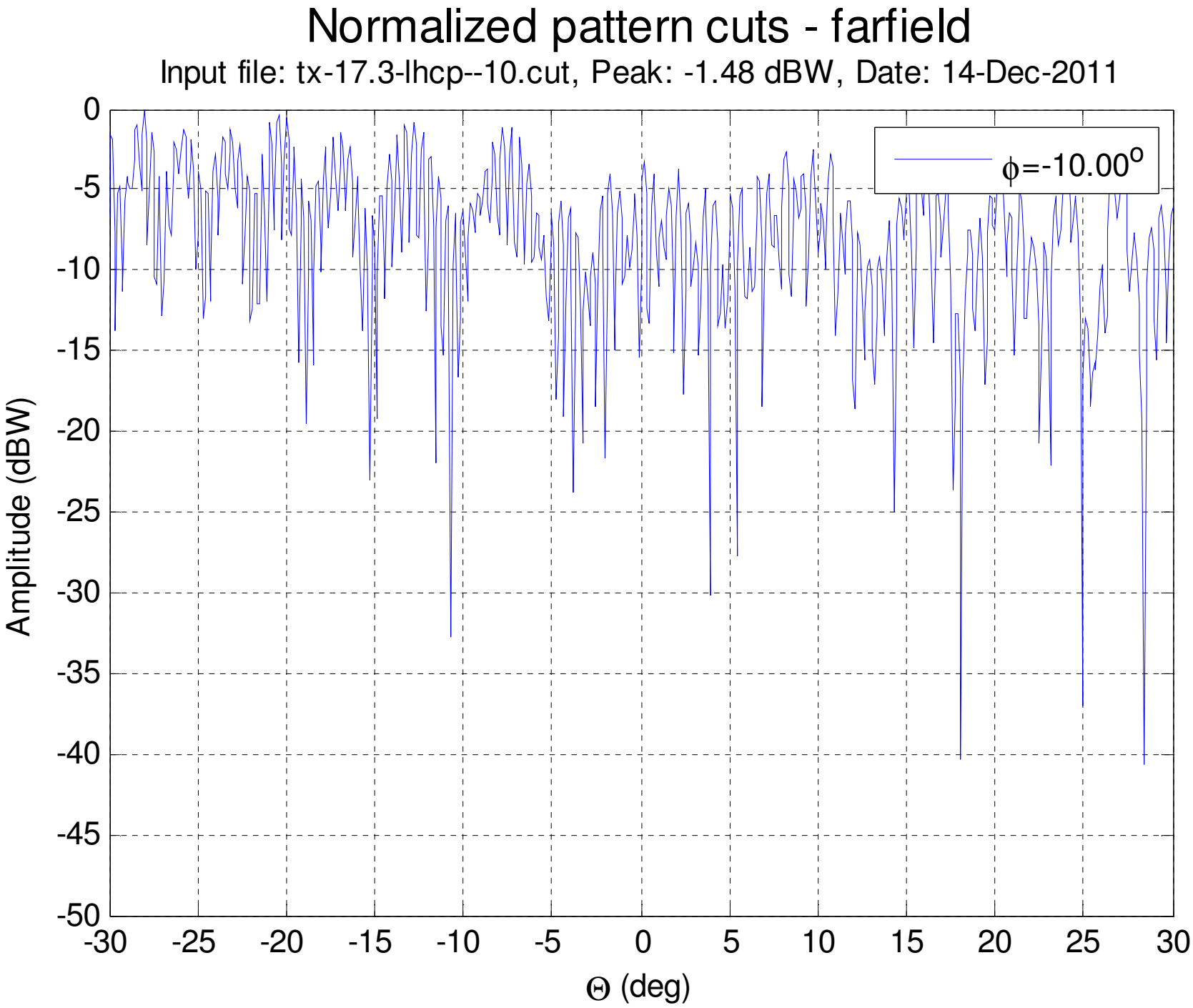

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -4.25 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

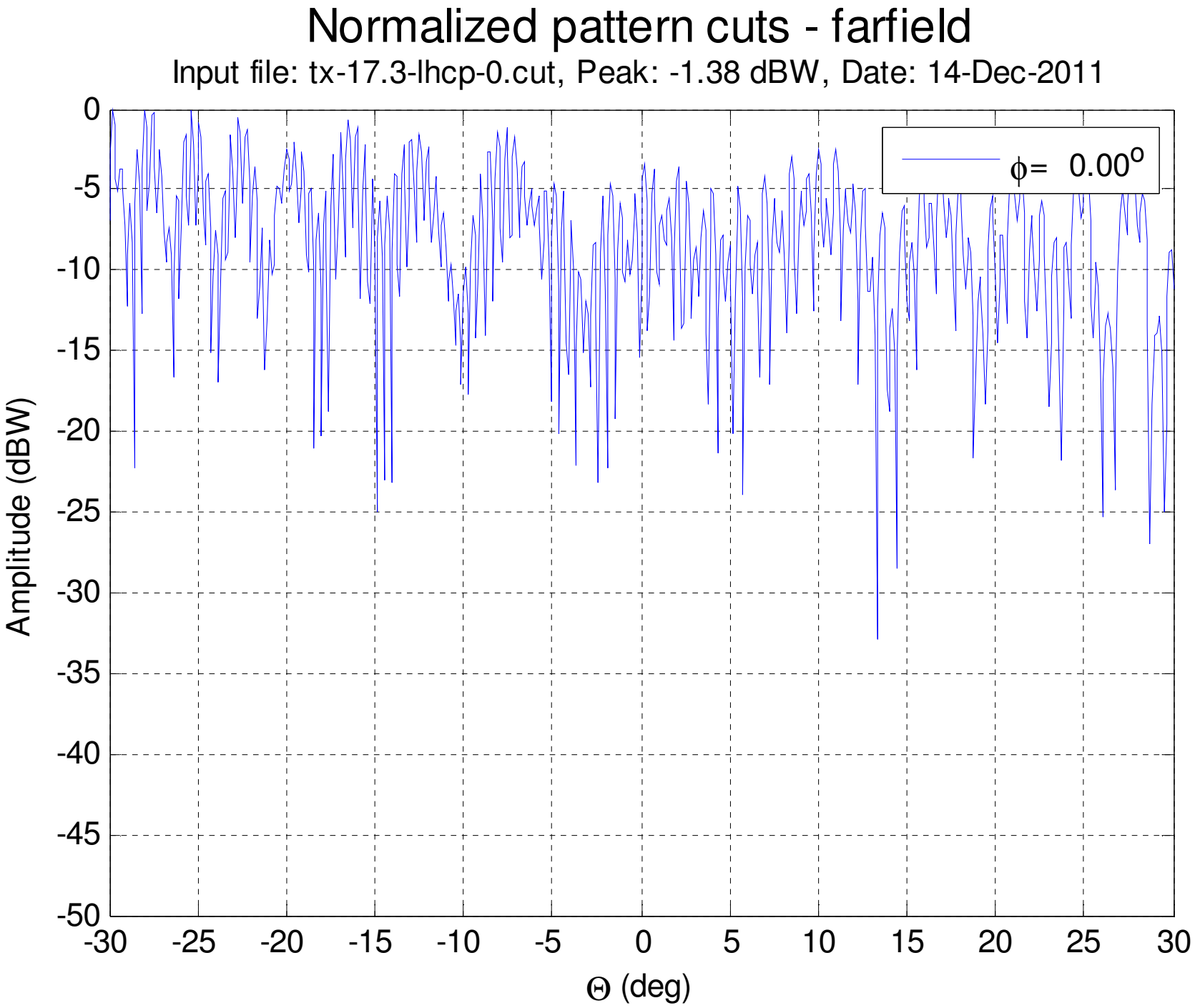

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -2.13 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

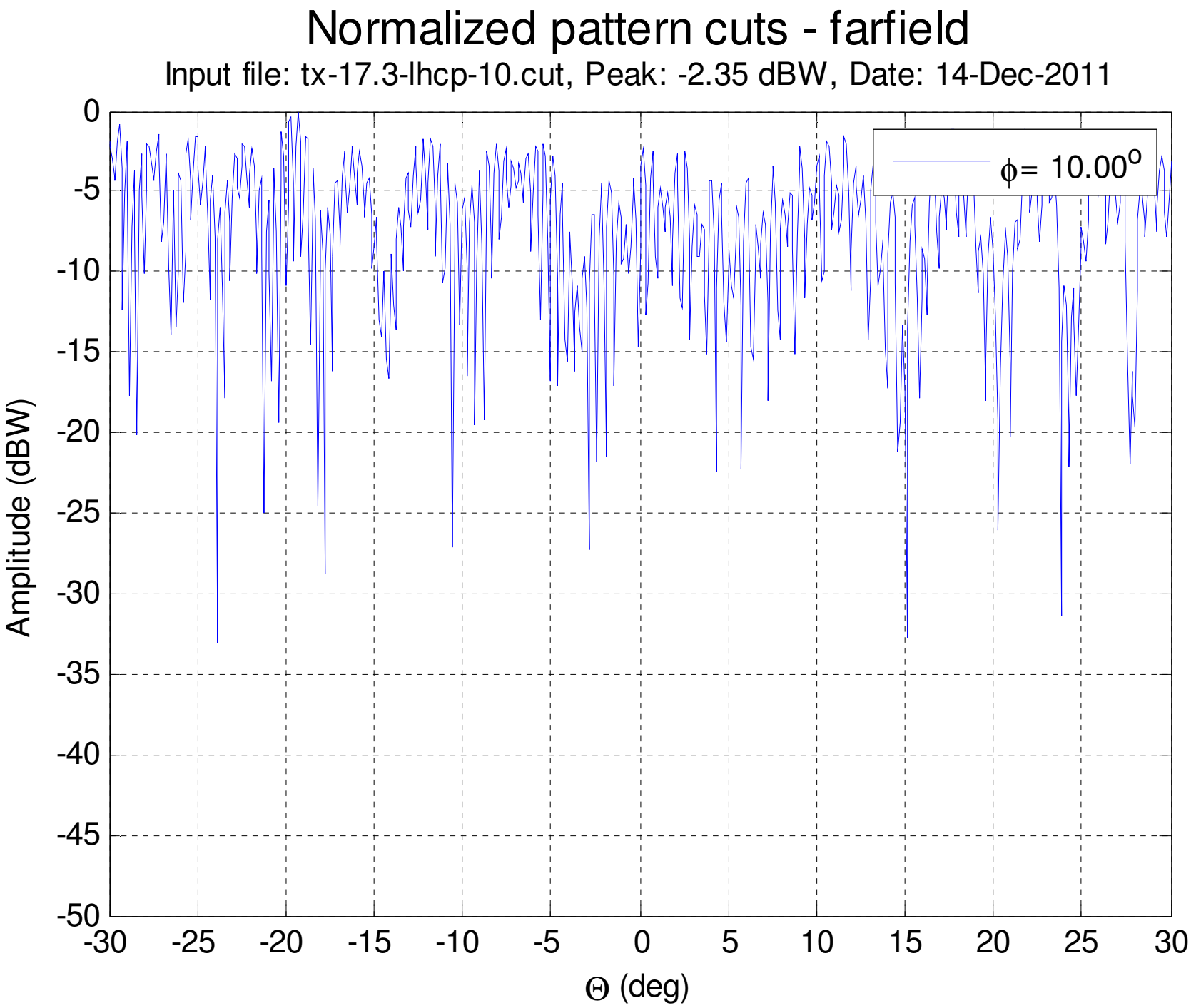

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -1.71 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

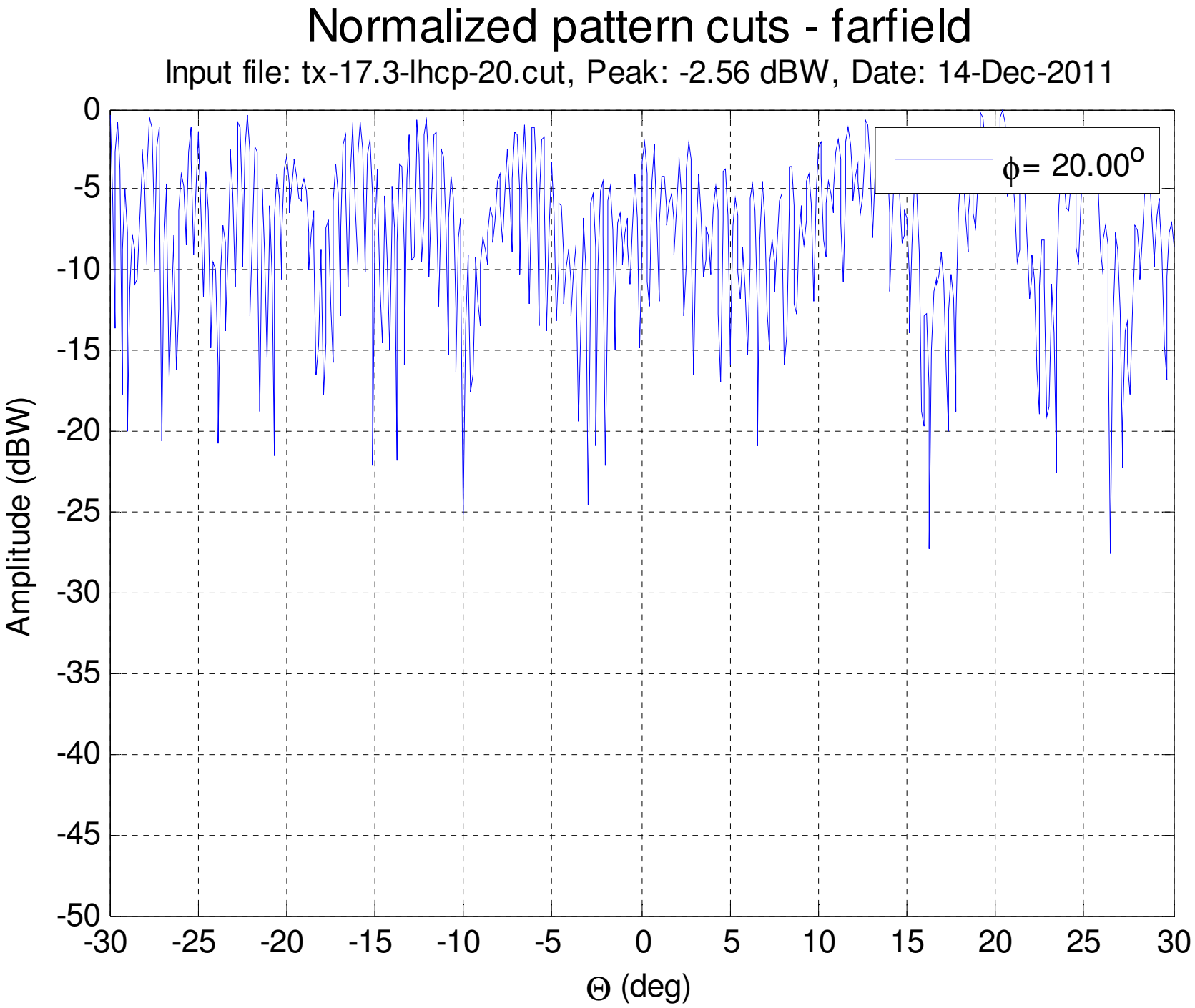

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -0.92 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

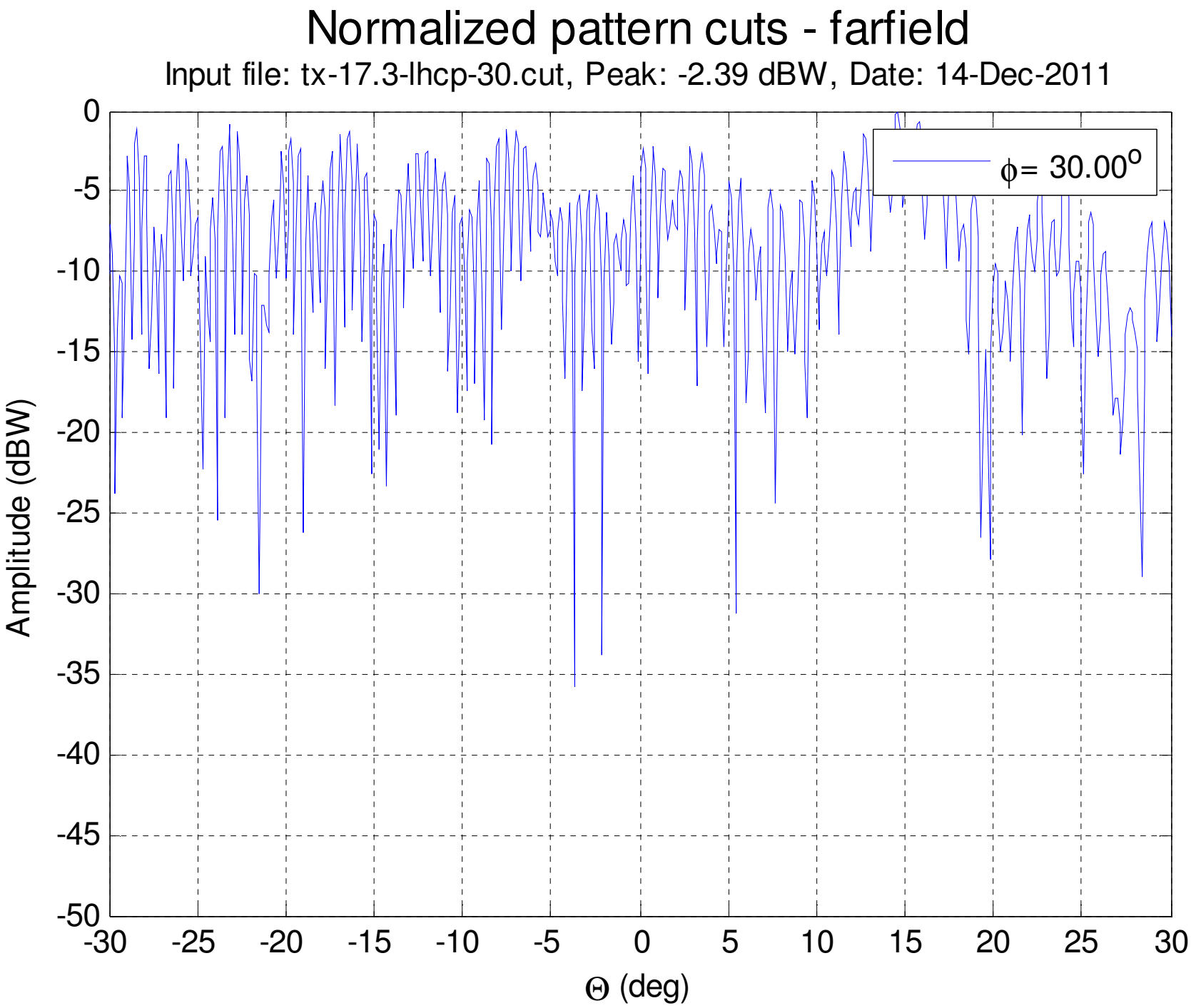

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: -0.09 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

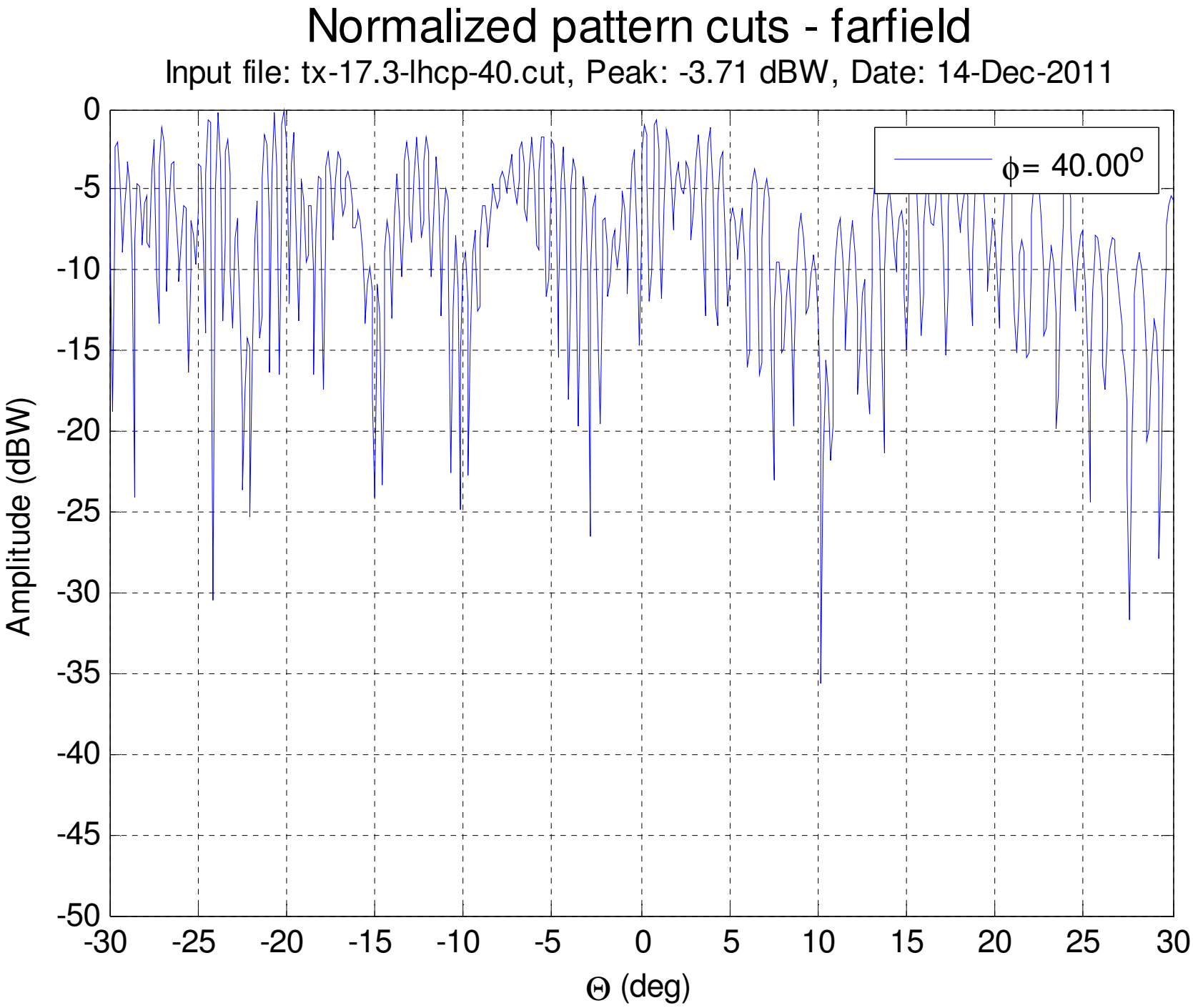

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: -1.48 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

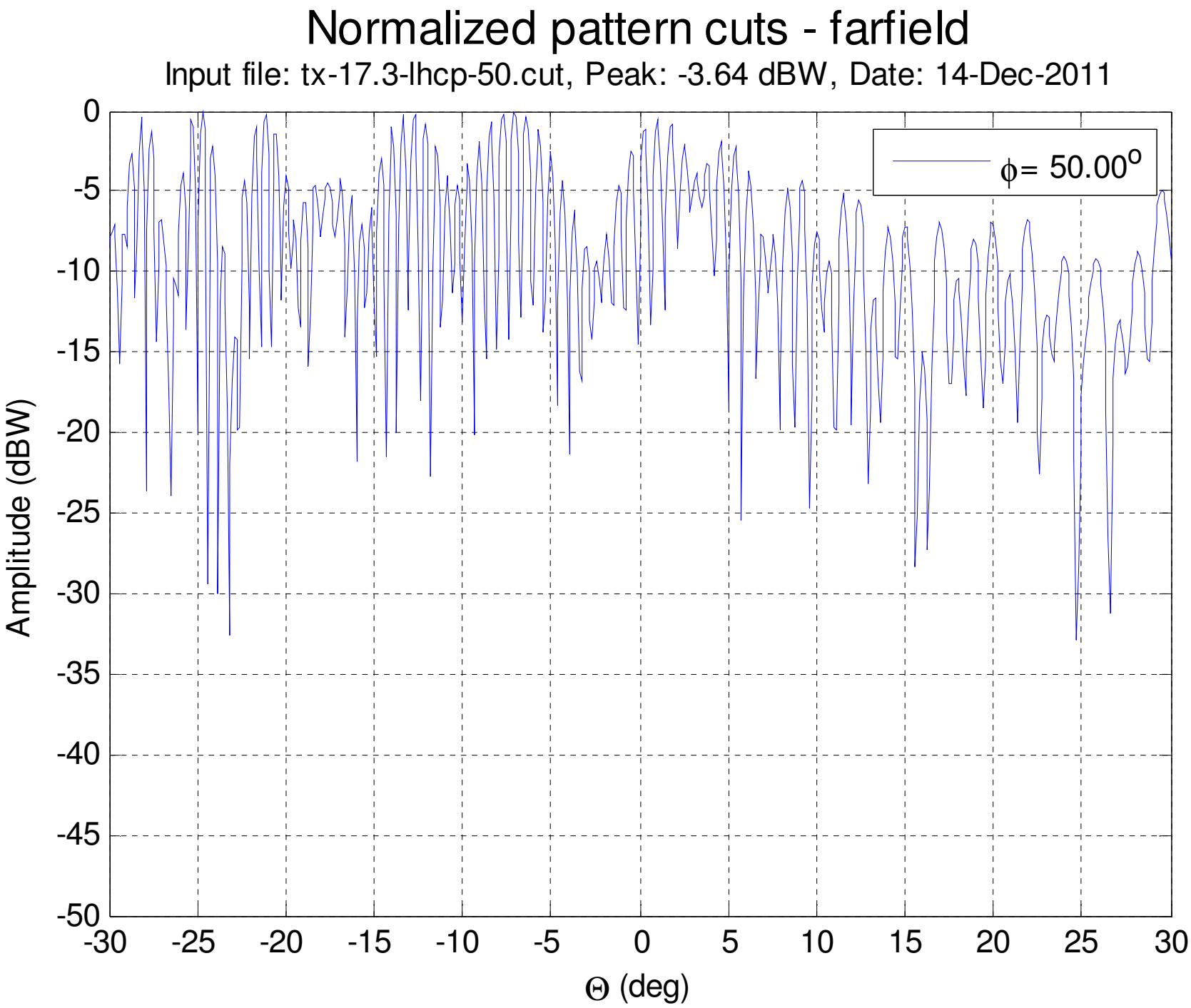

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: -1.38 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

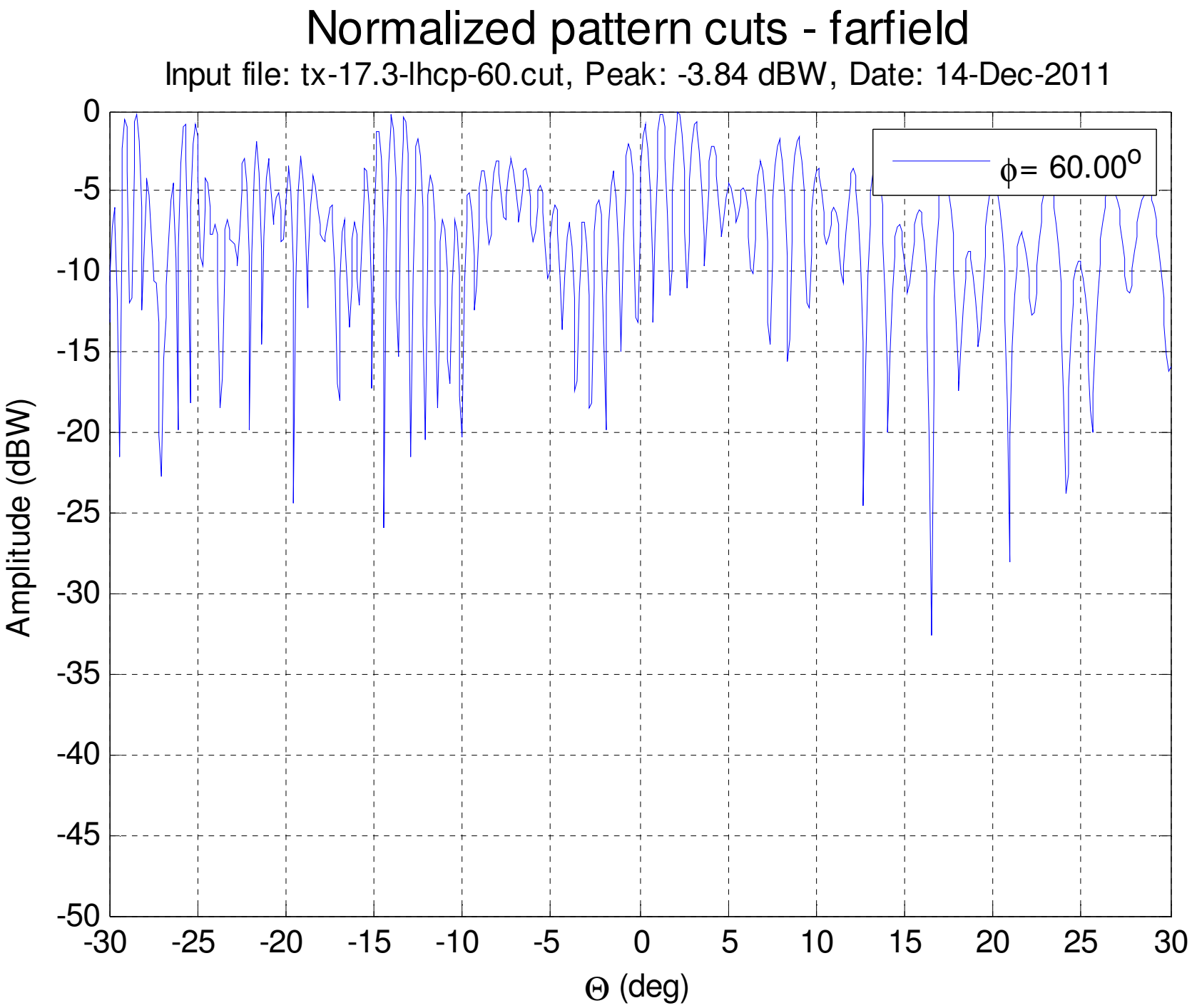

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: -2.35 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -2.56 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

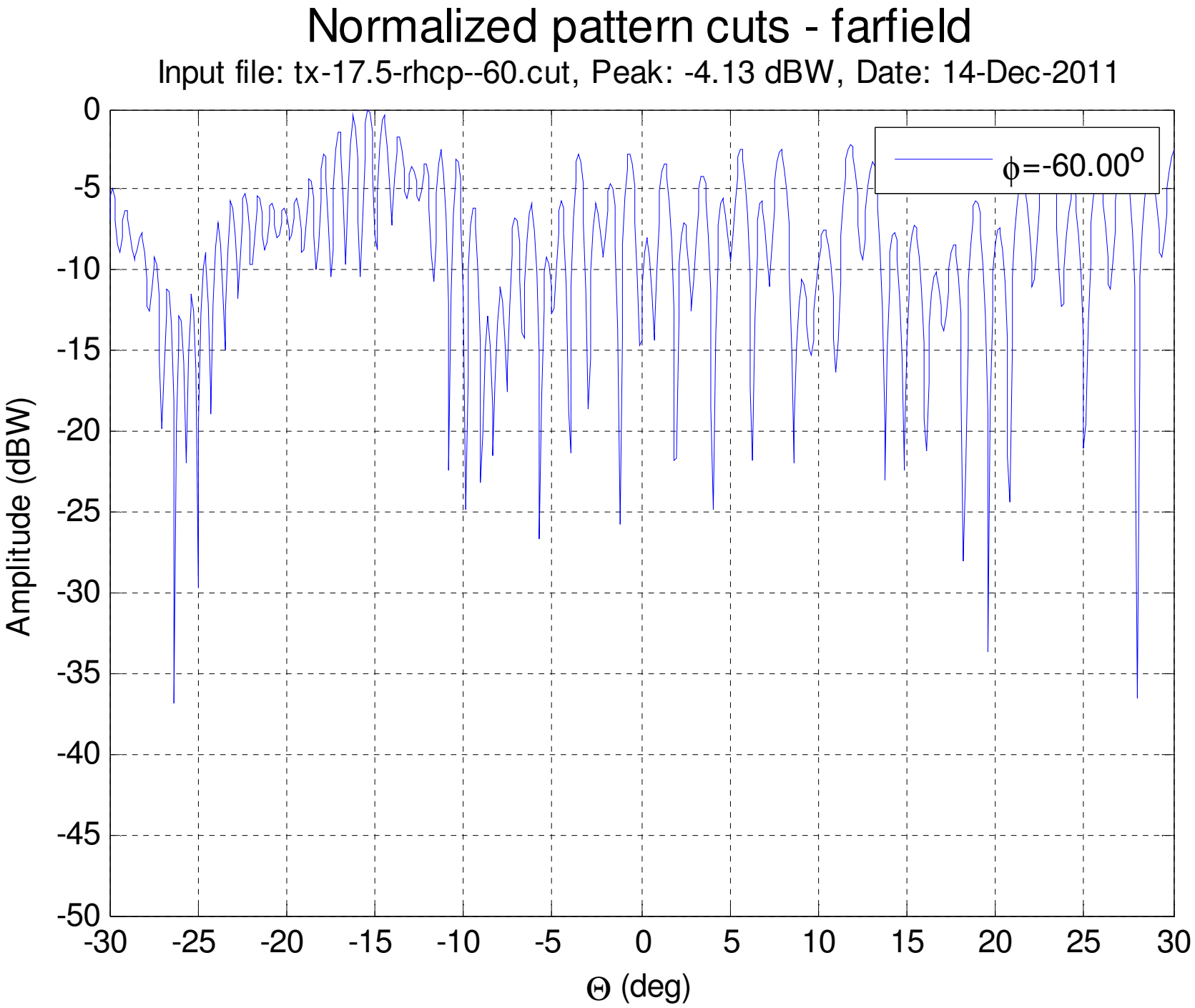

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -2.39 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

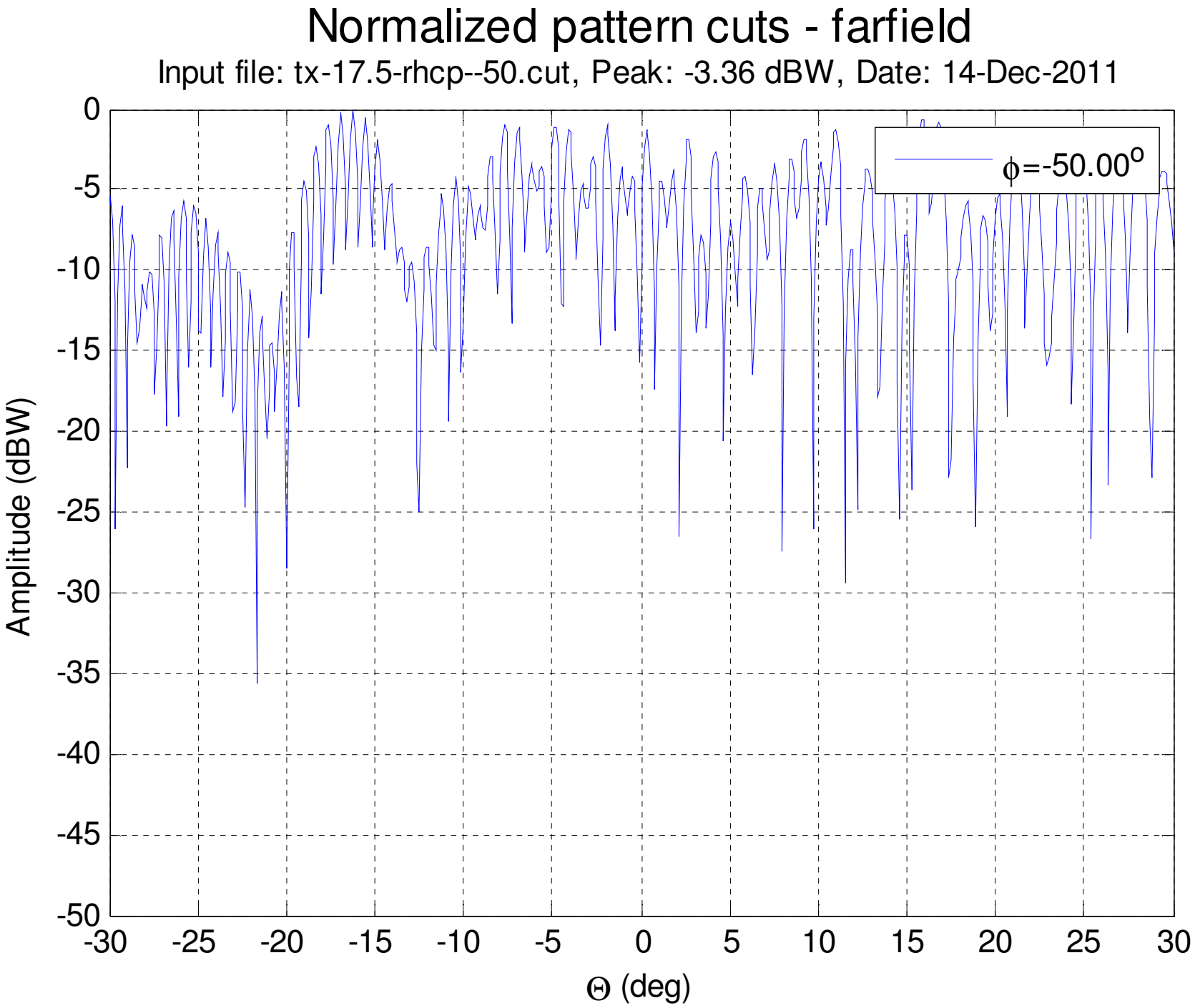

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -3.71 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

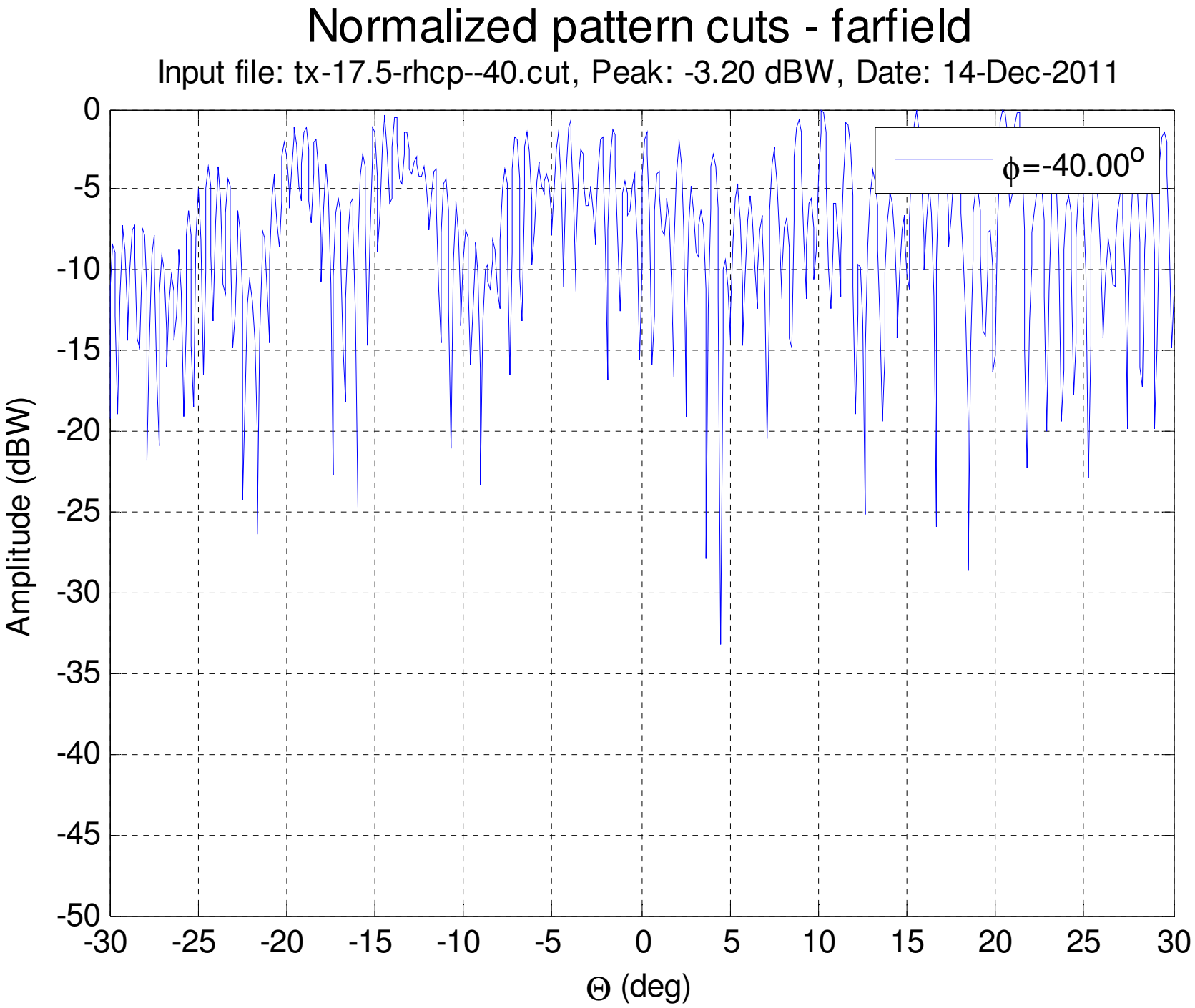

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -3.64 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

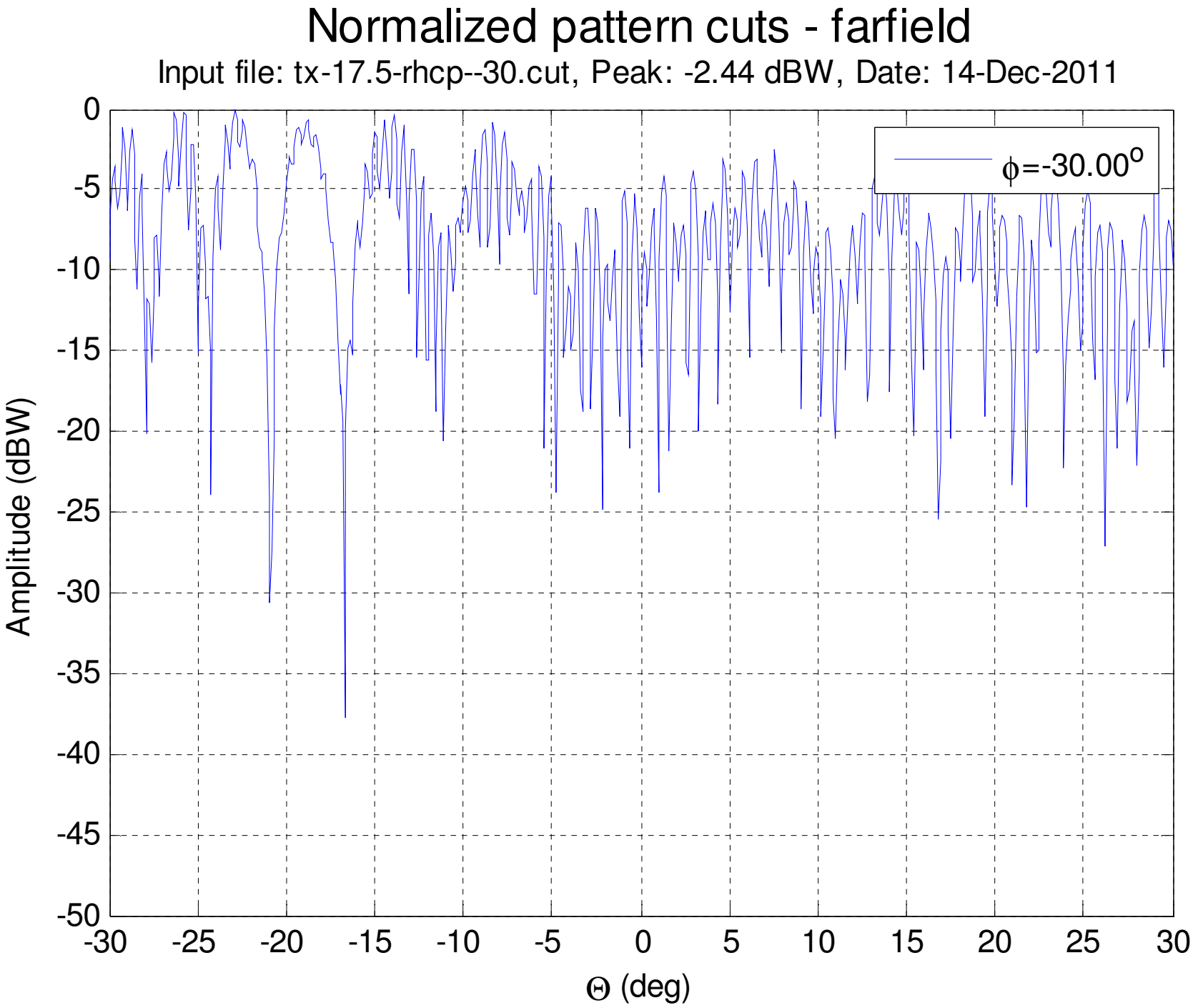

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -3.84 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

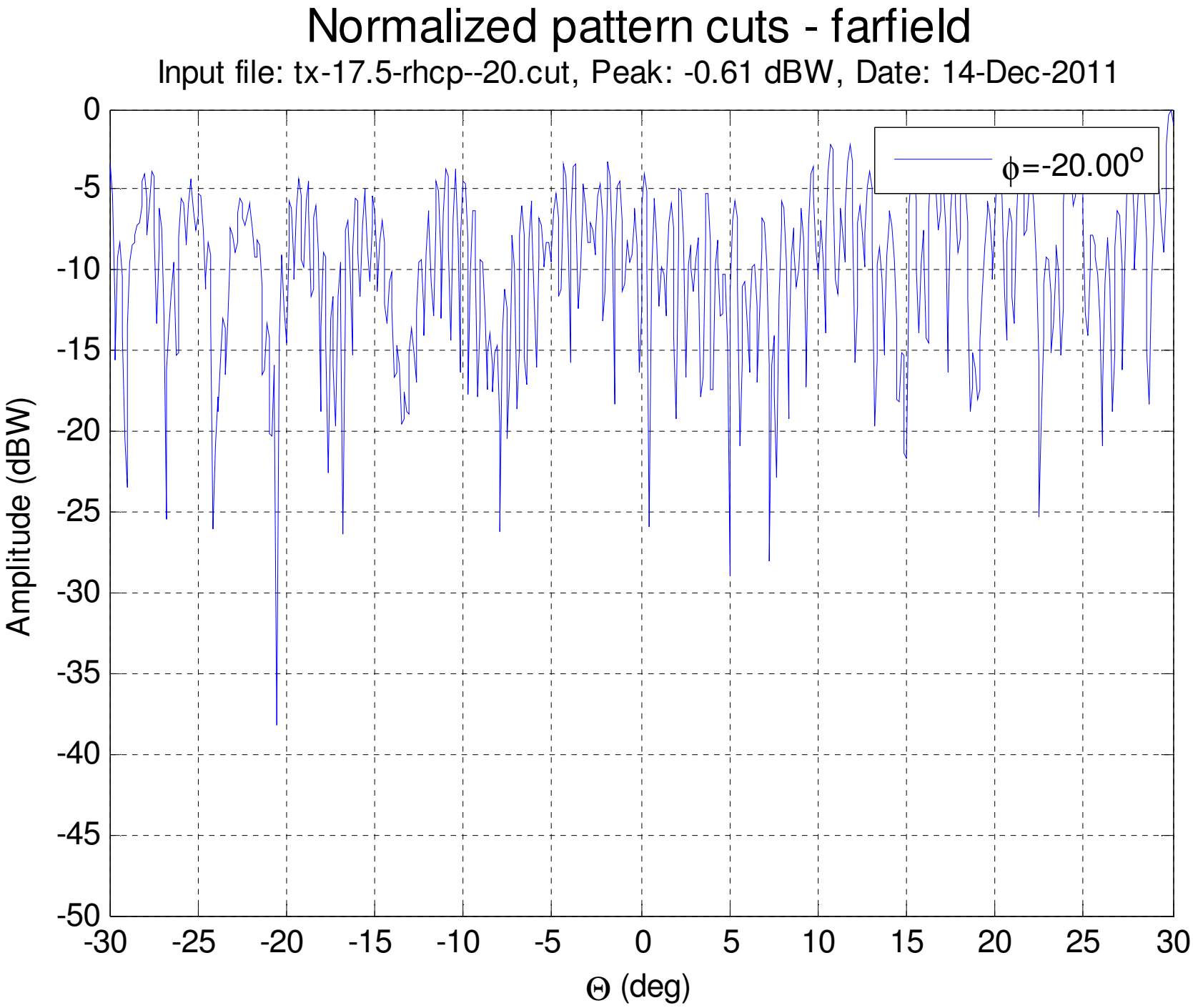
RHCP at 17.5 GHz

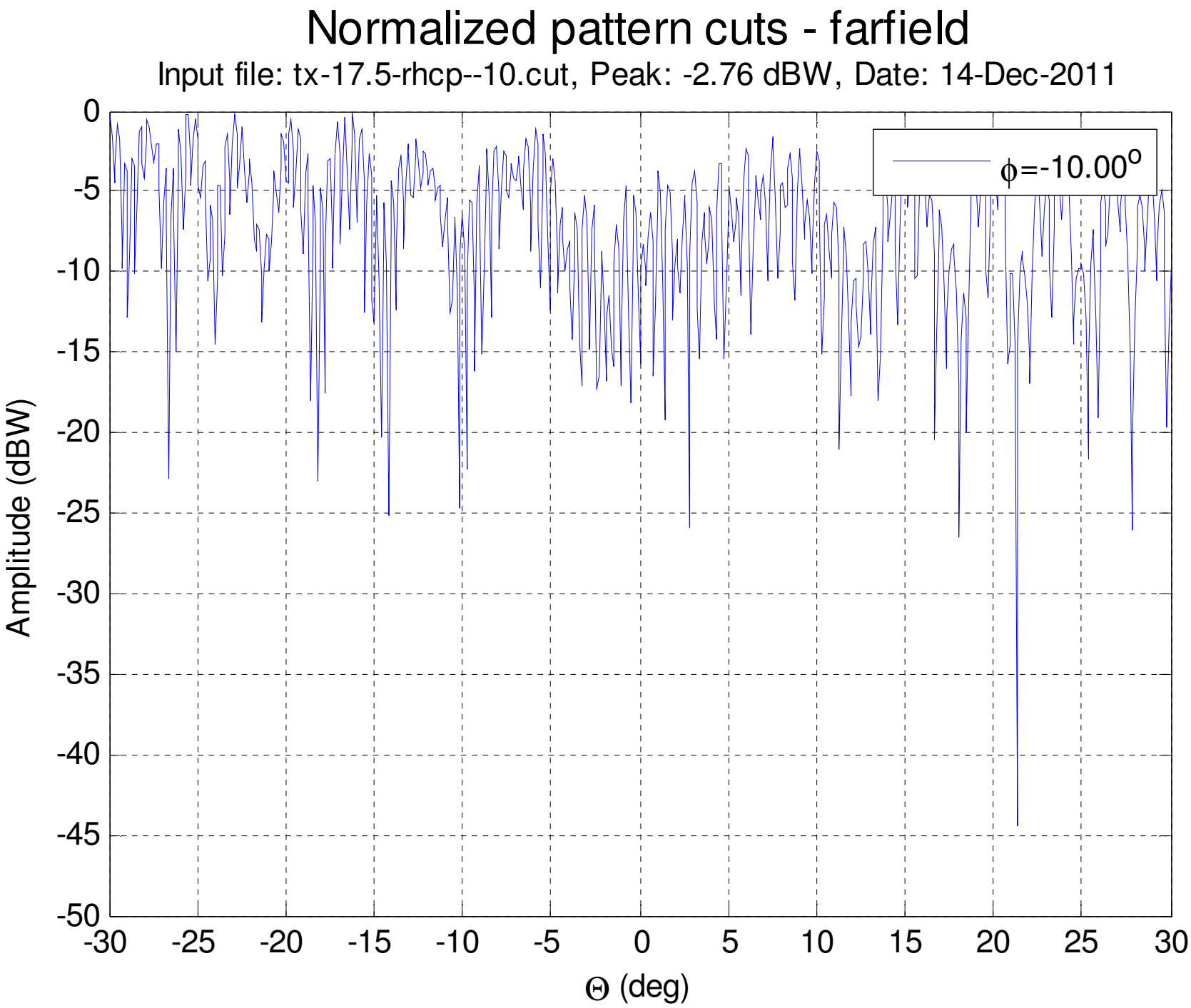

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -4.13 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

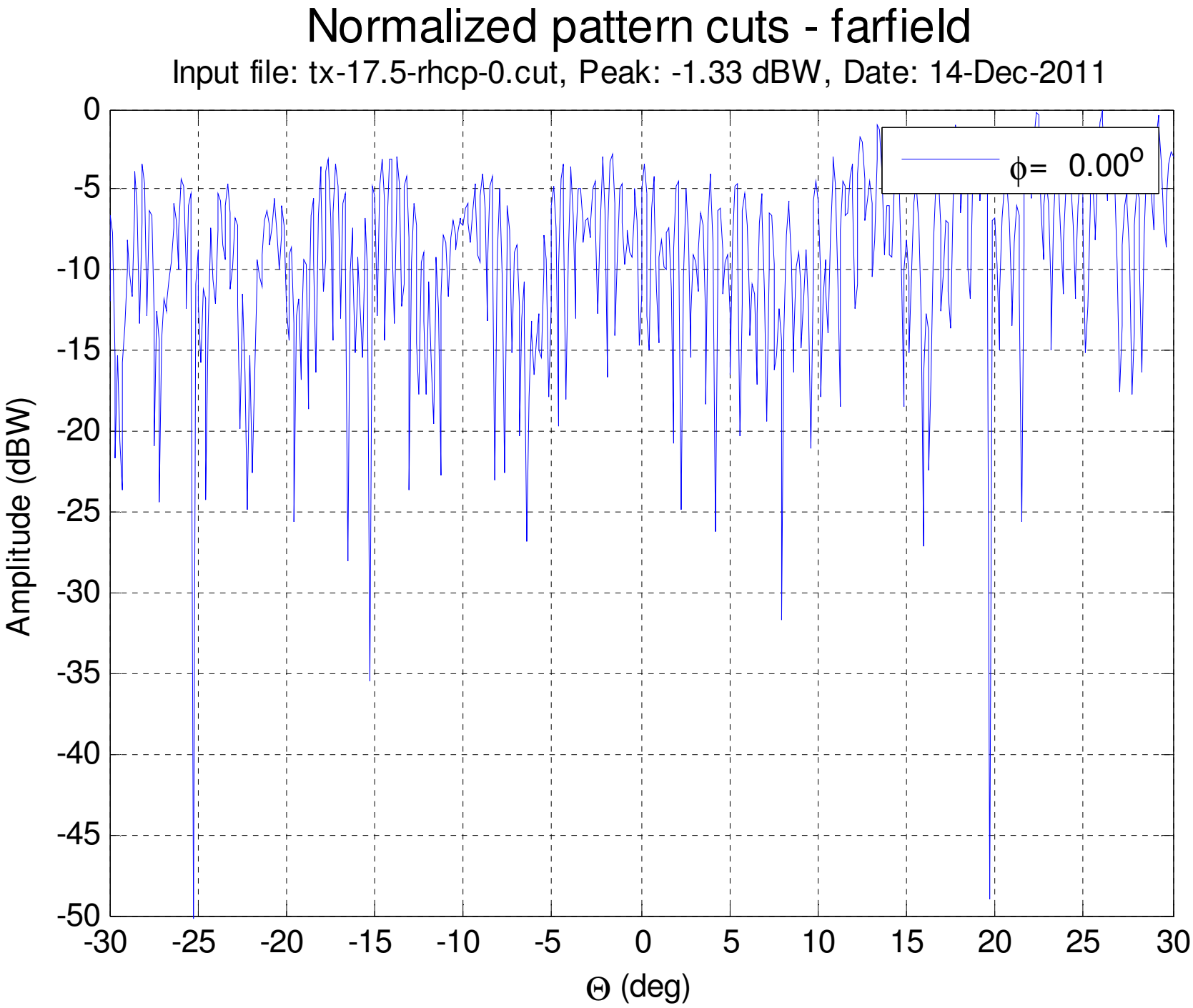

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -3.36 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

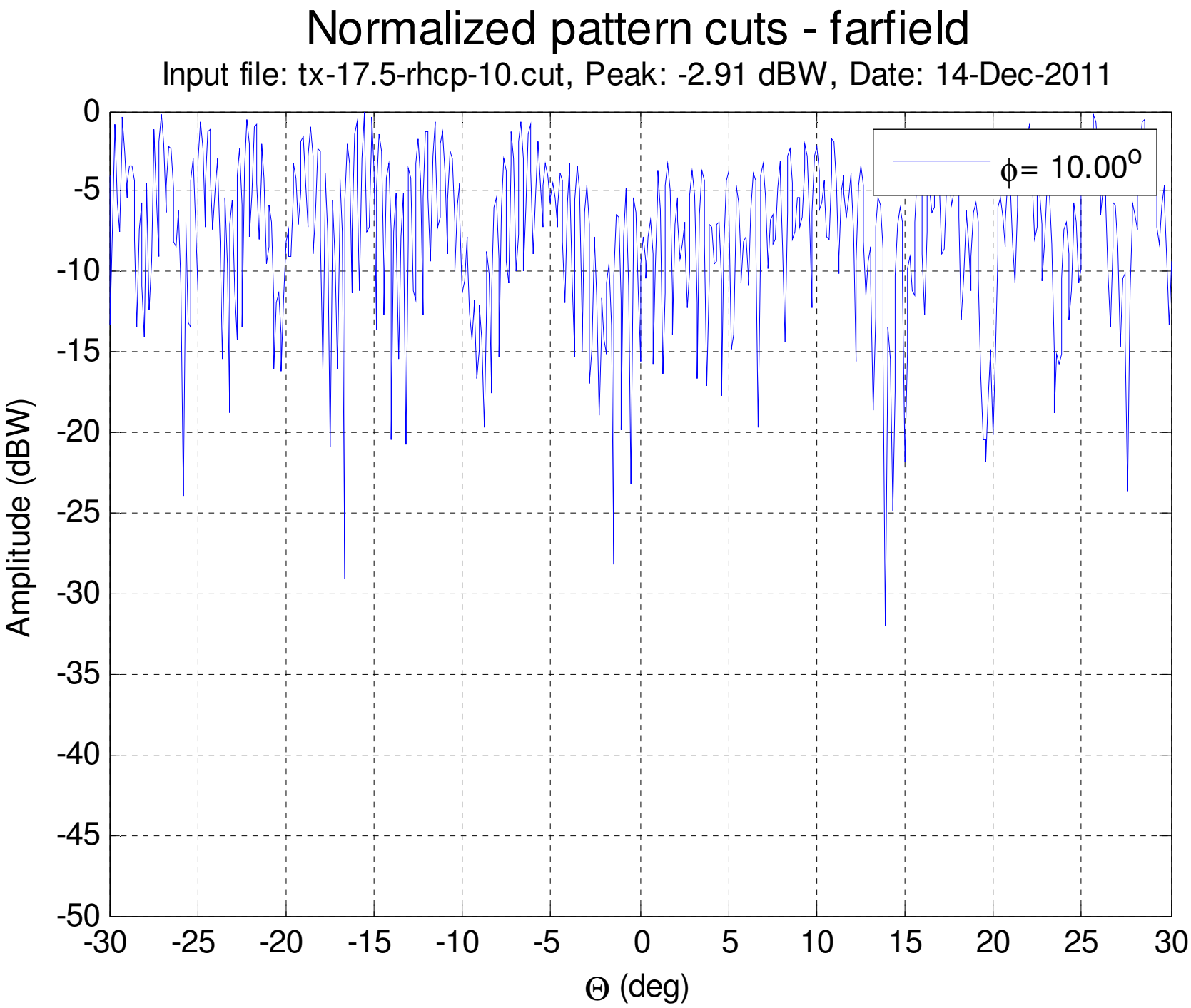

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -3.20 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

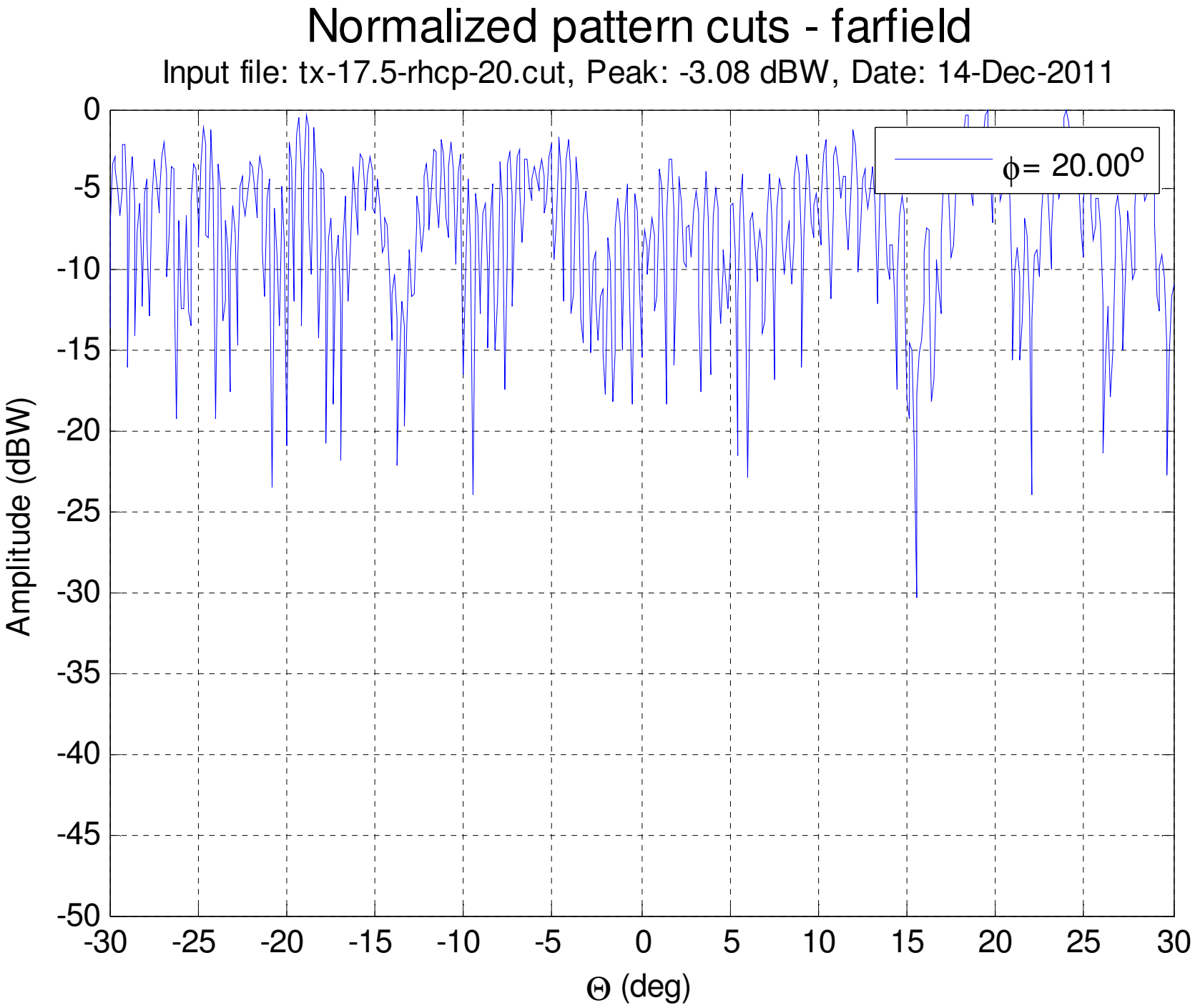

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -2.44 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

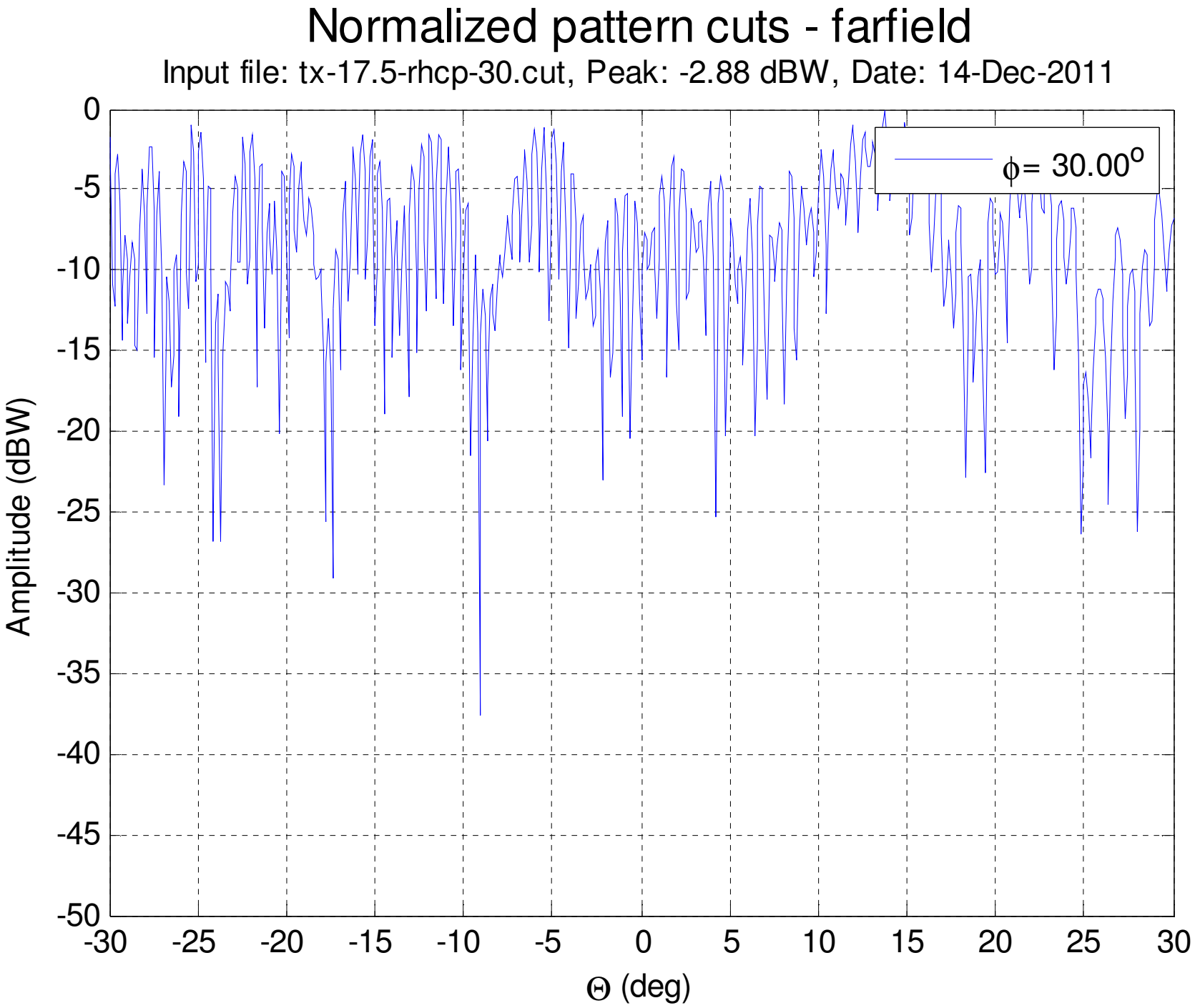

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: -0.61 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

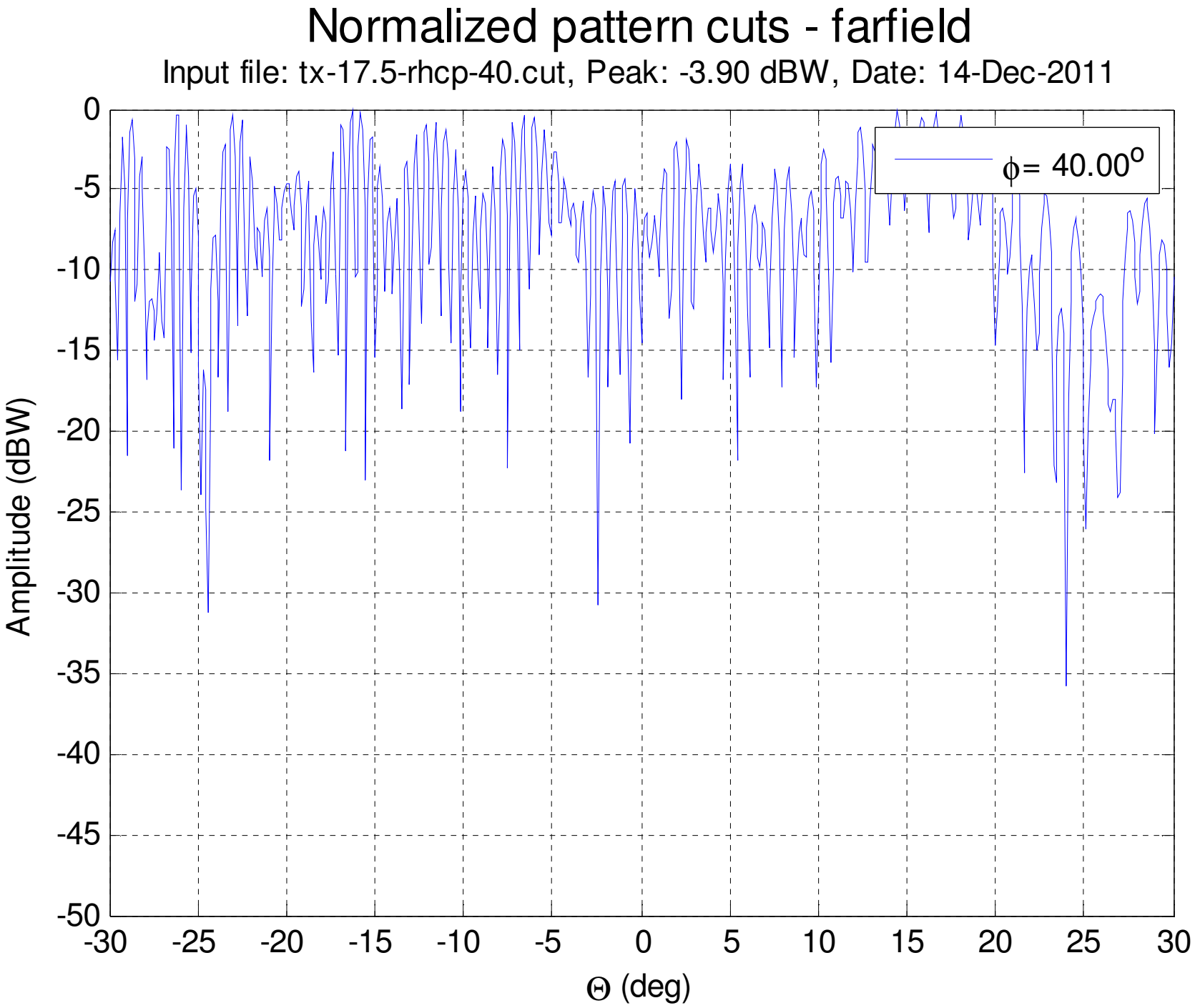

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: -2.76 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

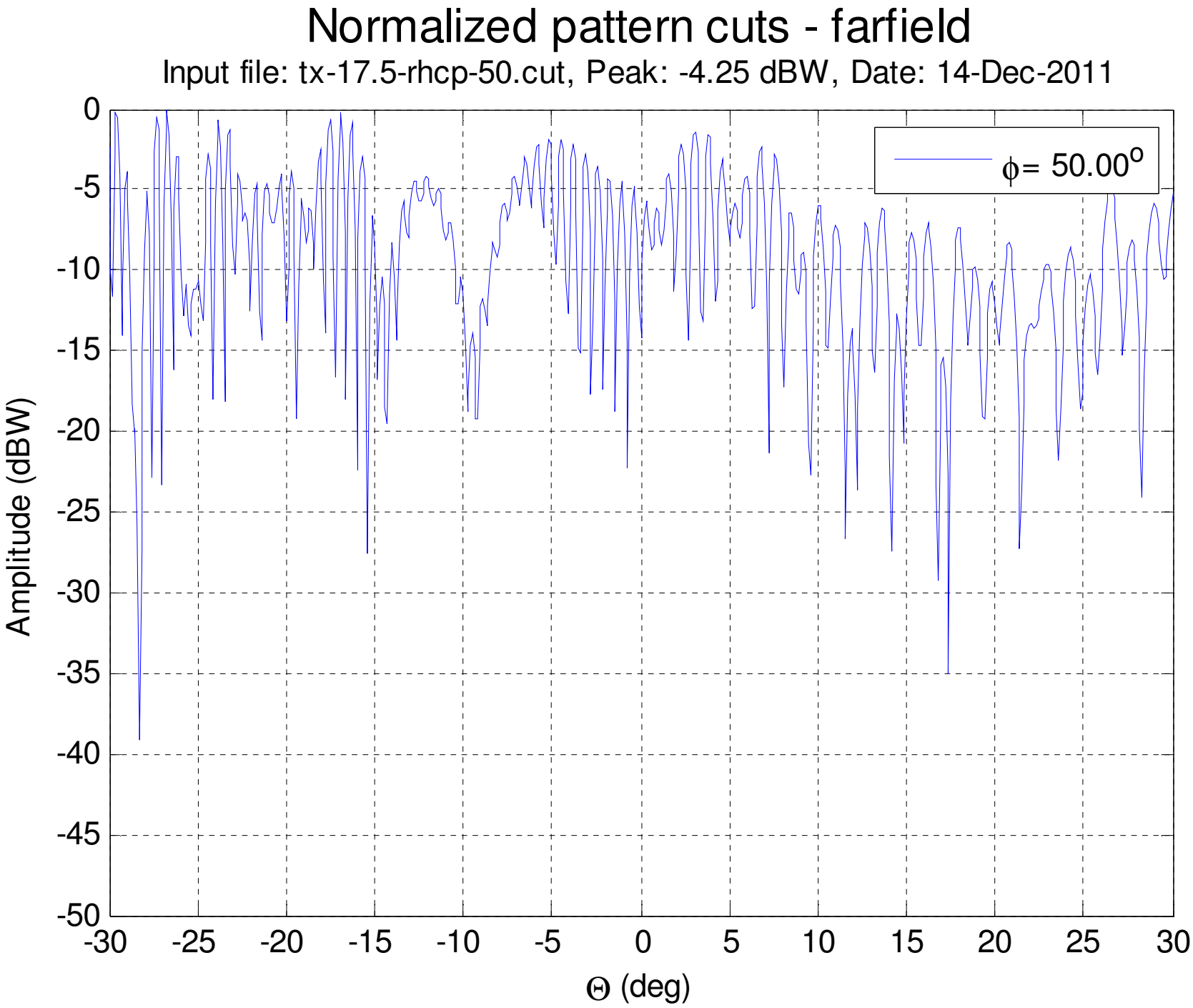

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: -1.33 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

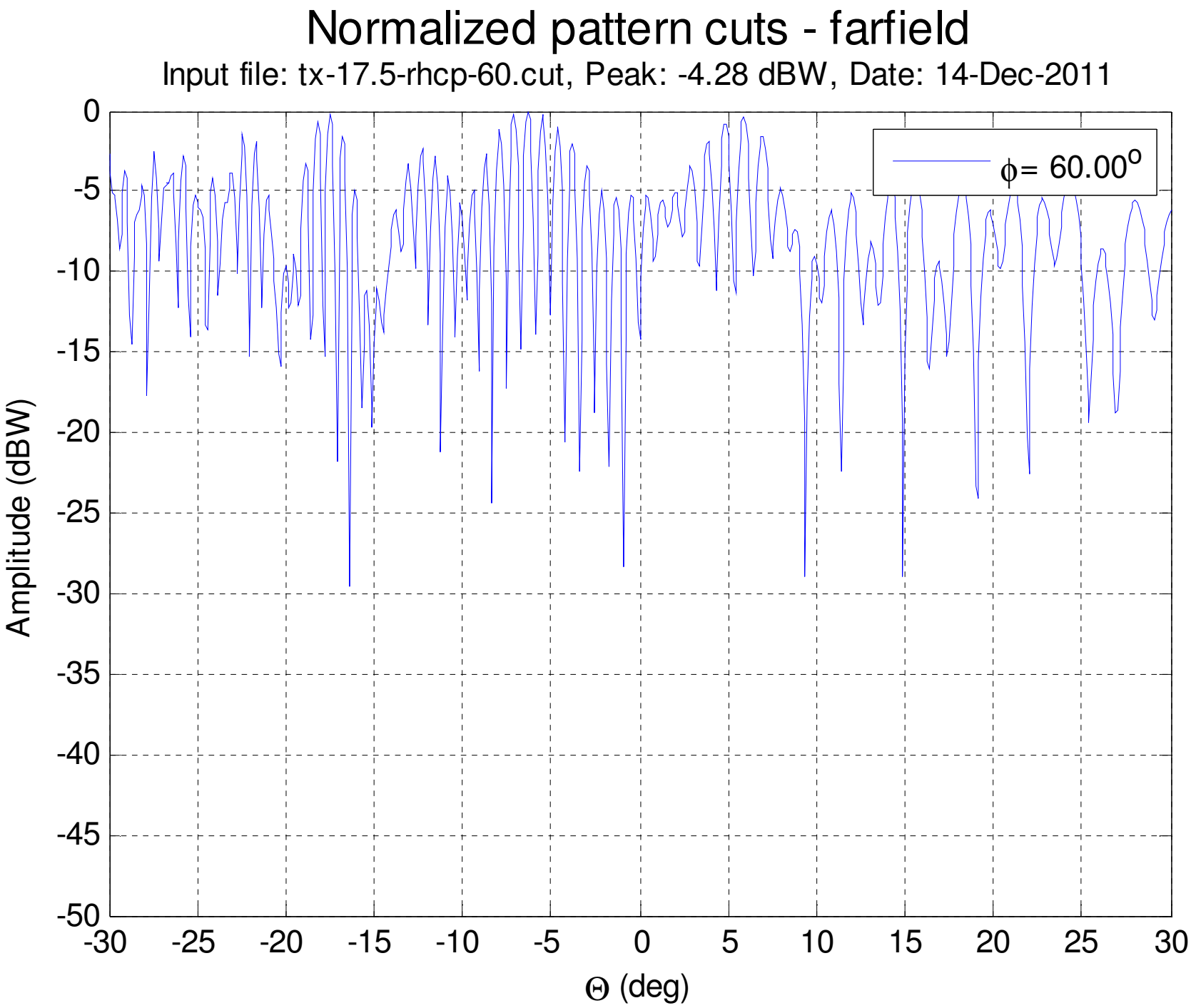

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -2.91 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -3.08 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 20.00°

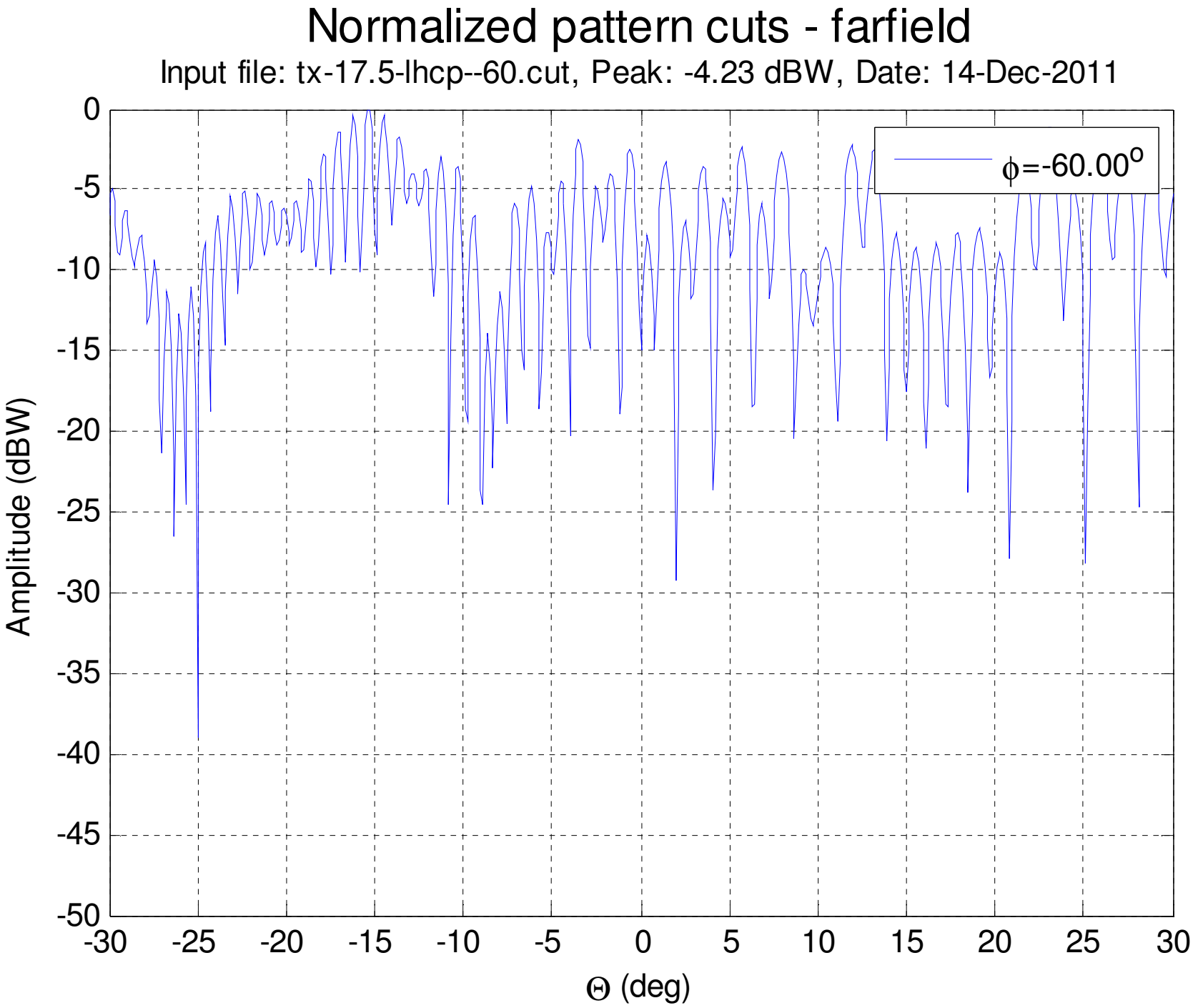

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -2.88 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

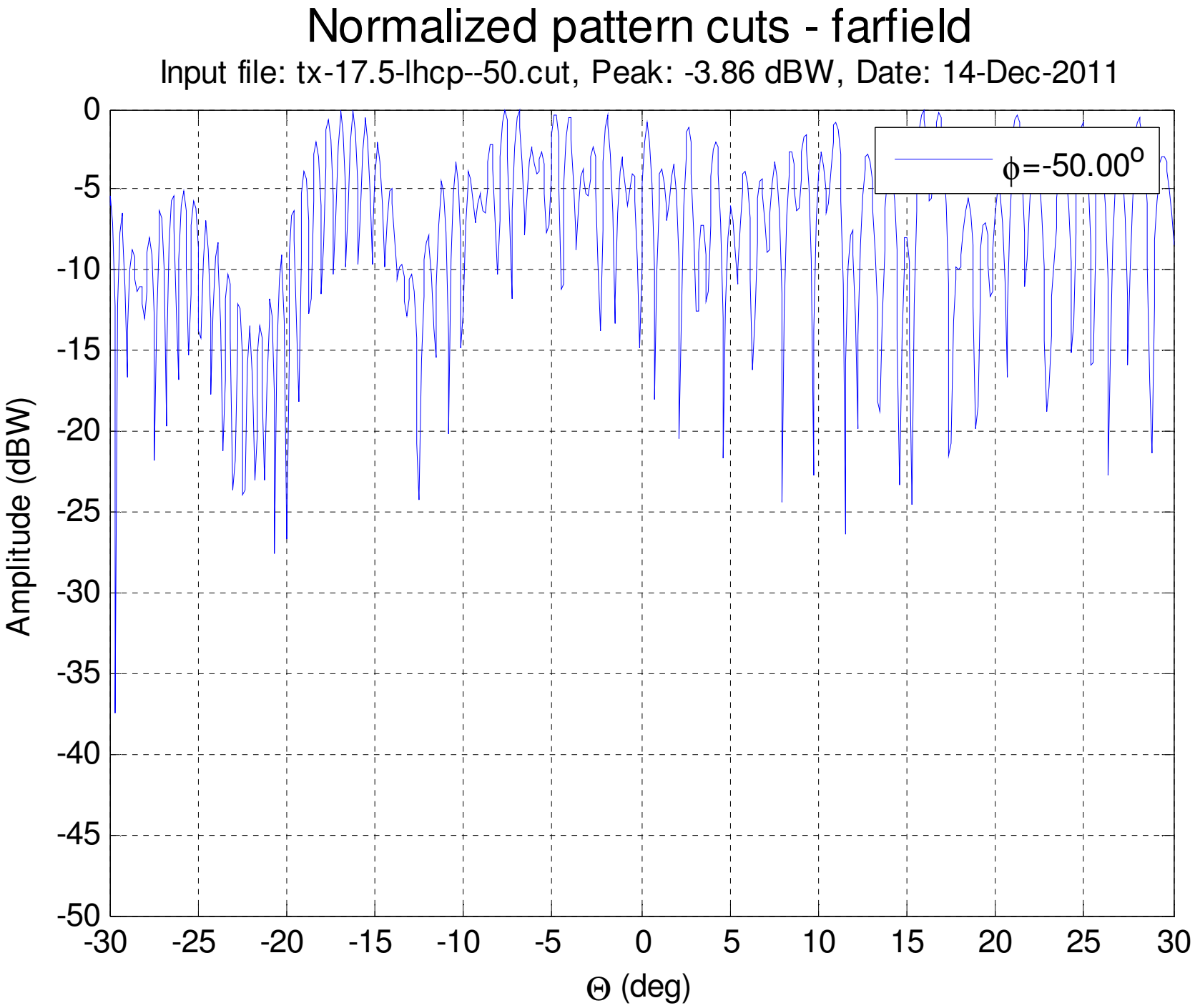

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -3.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

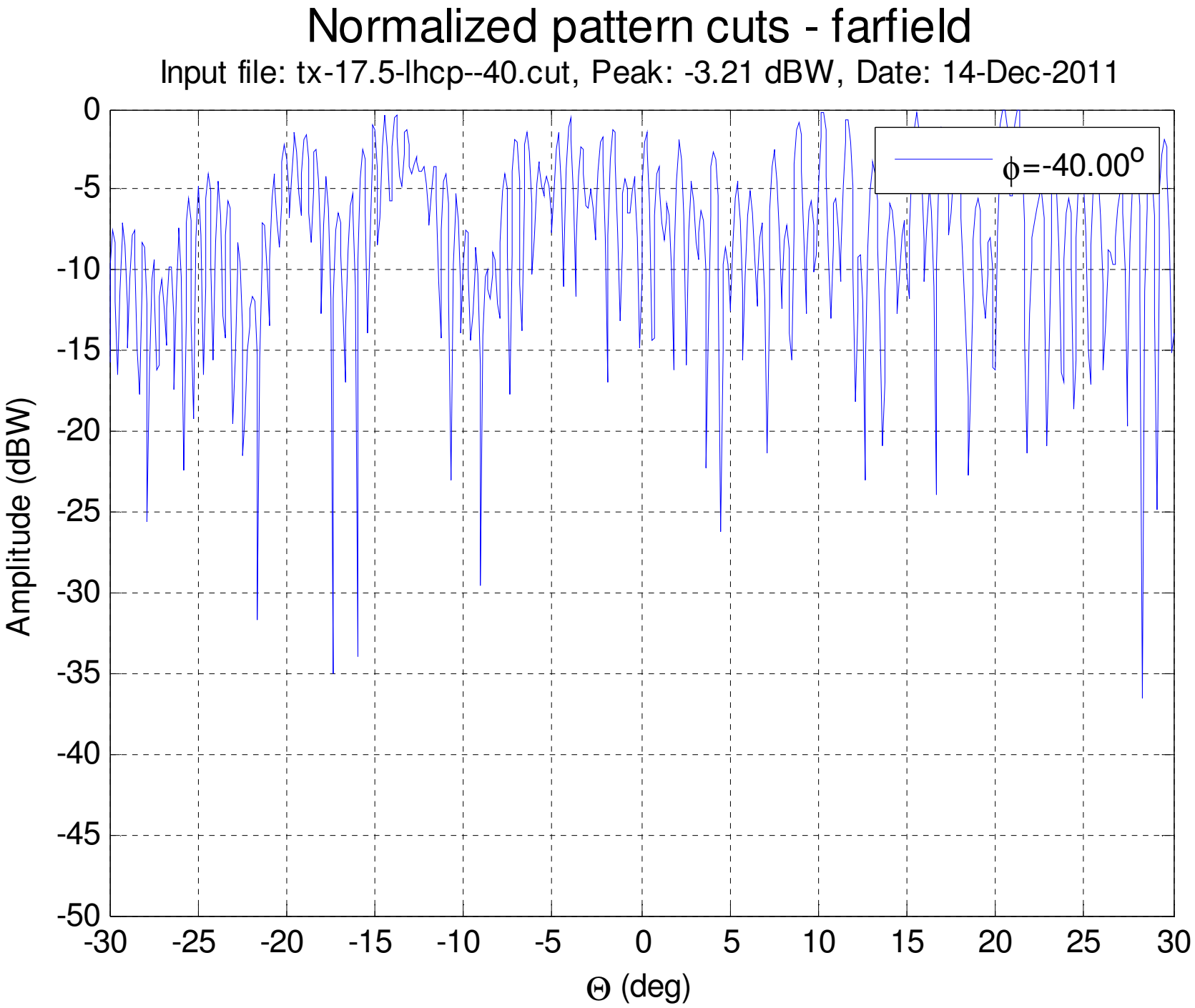

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -4.25 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

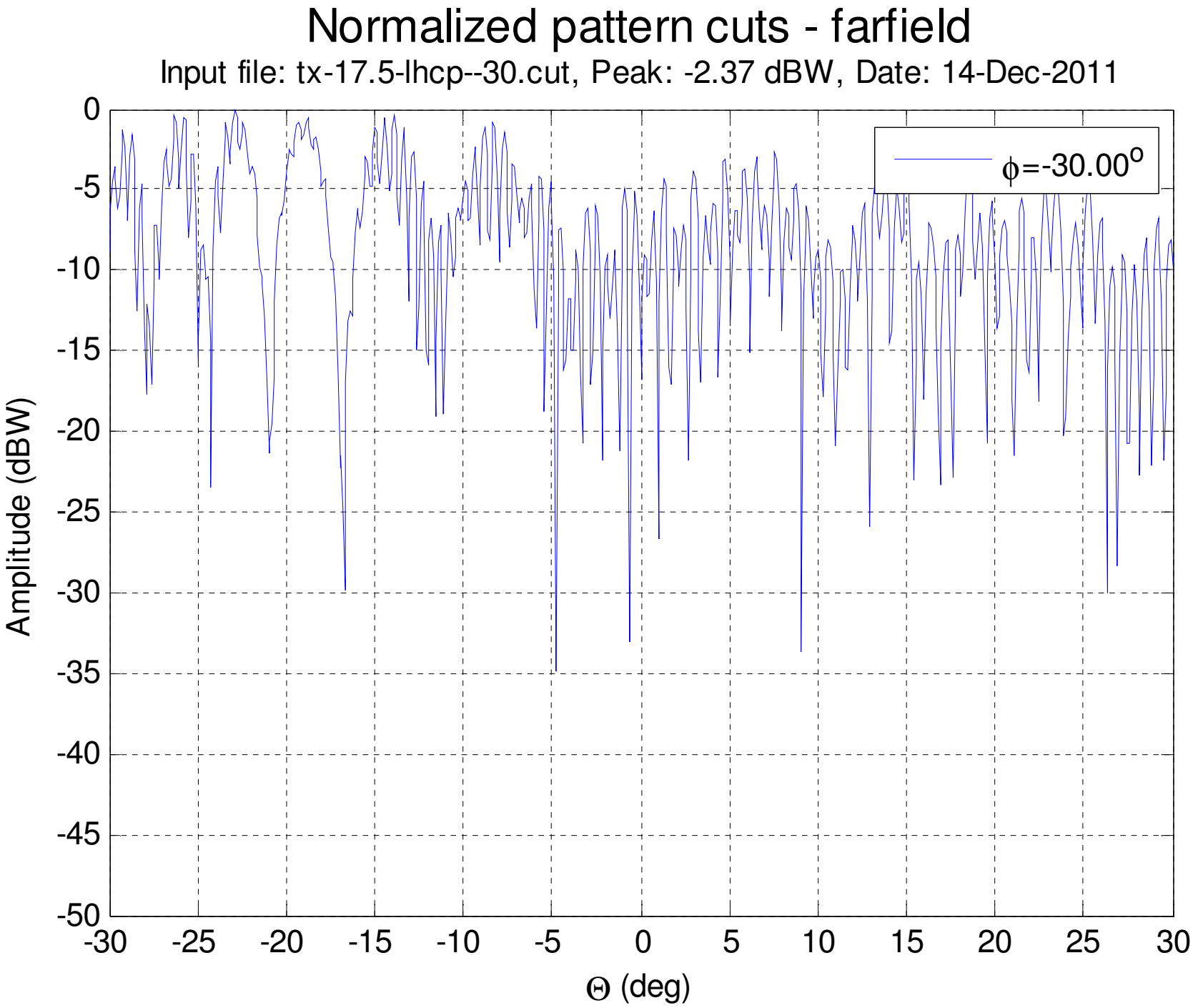

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -4.28 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

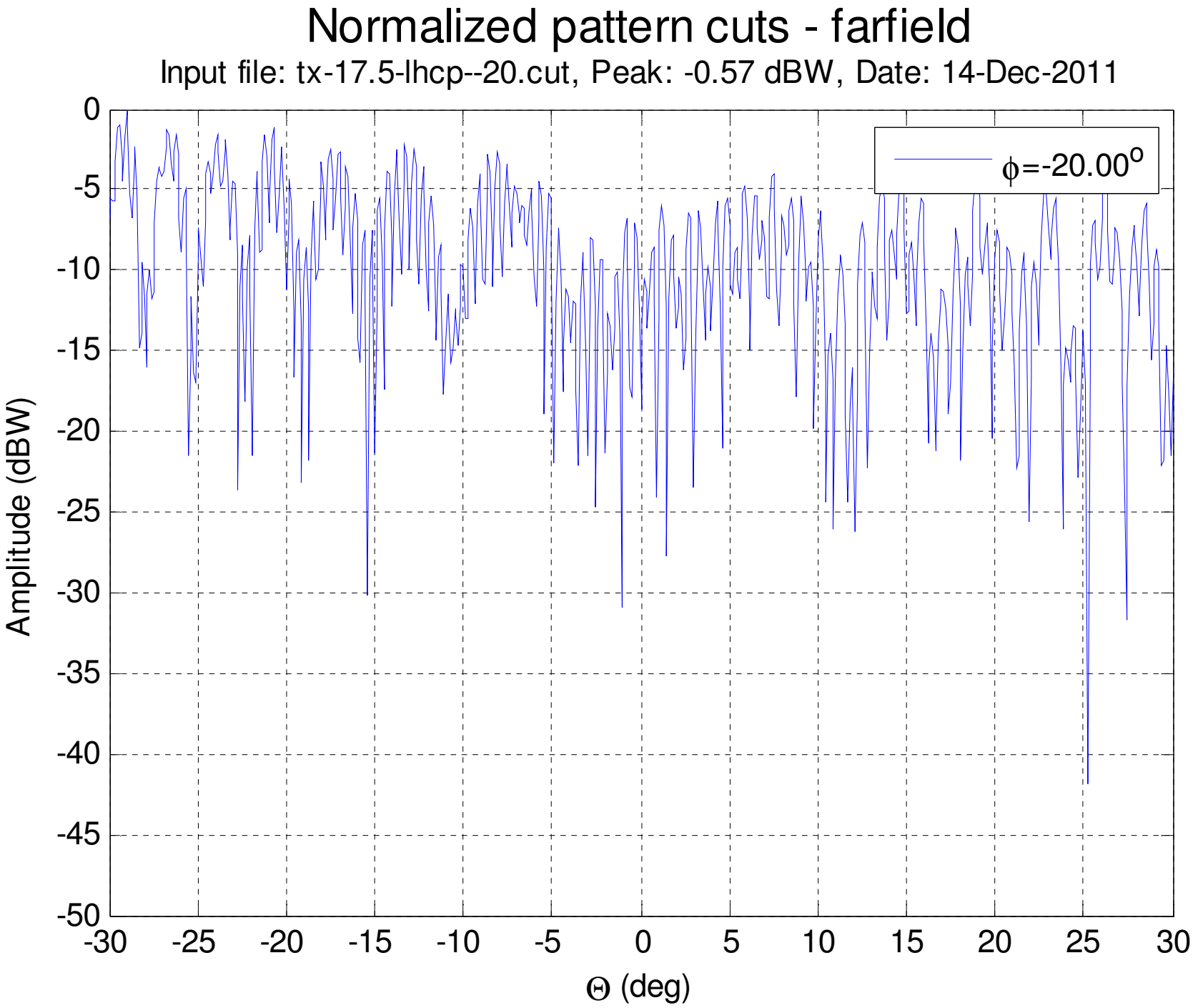
LHCP at 17.5 GHz

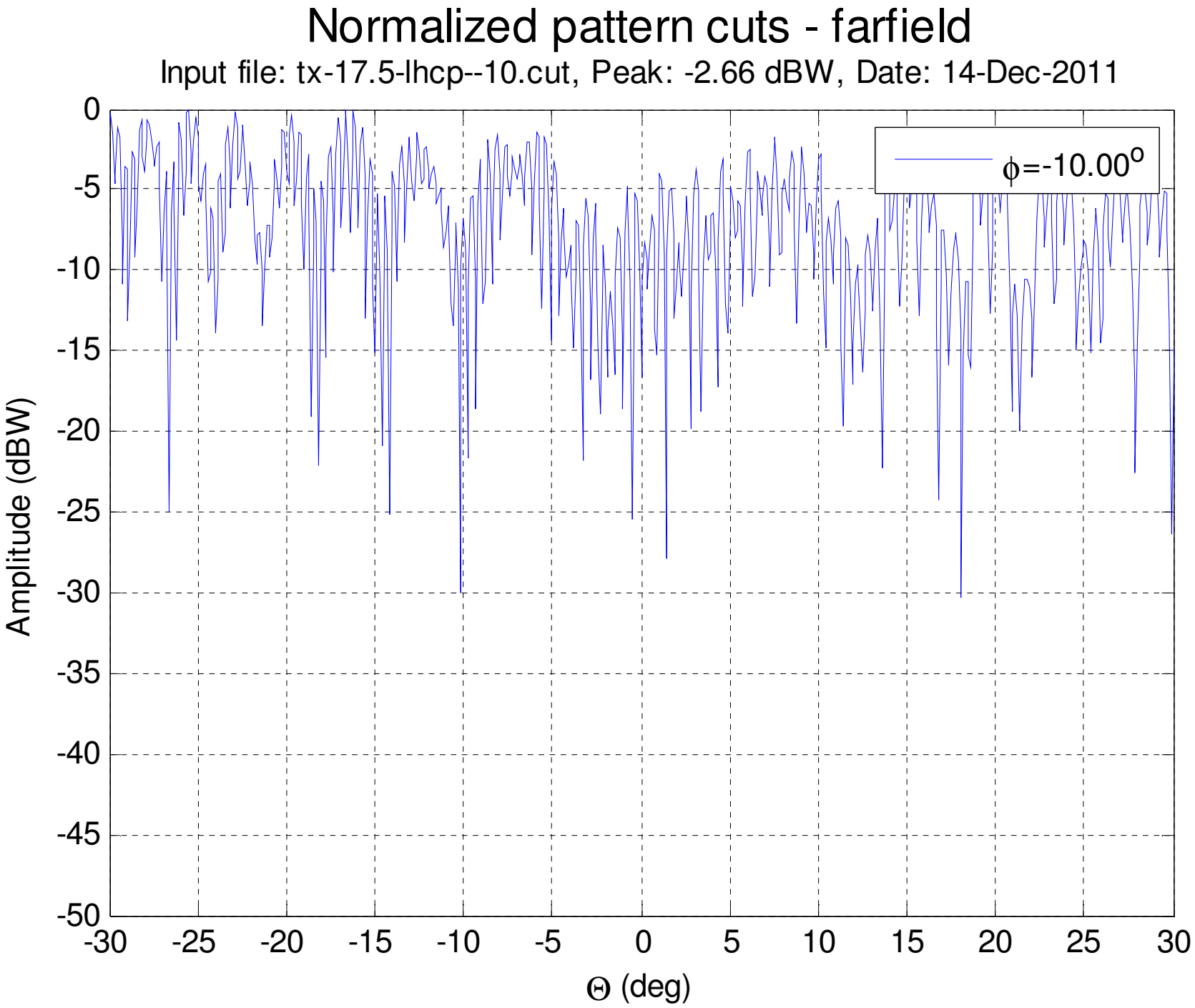

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -4.23 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

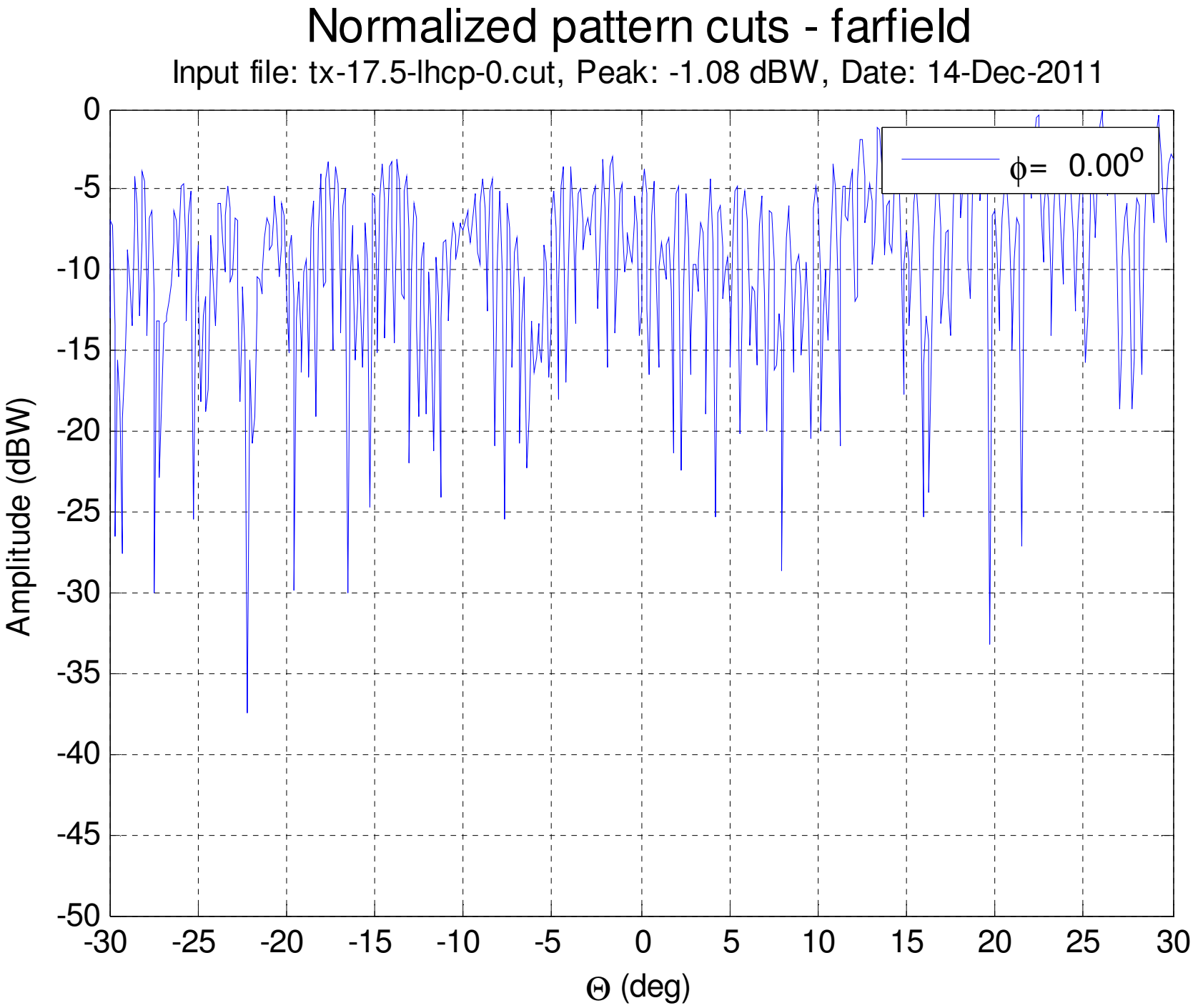

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -3.86 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

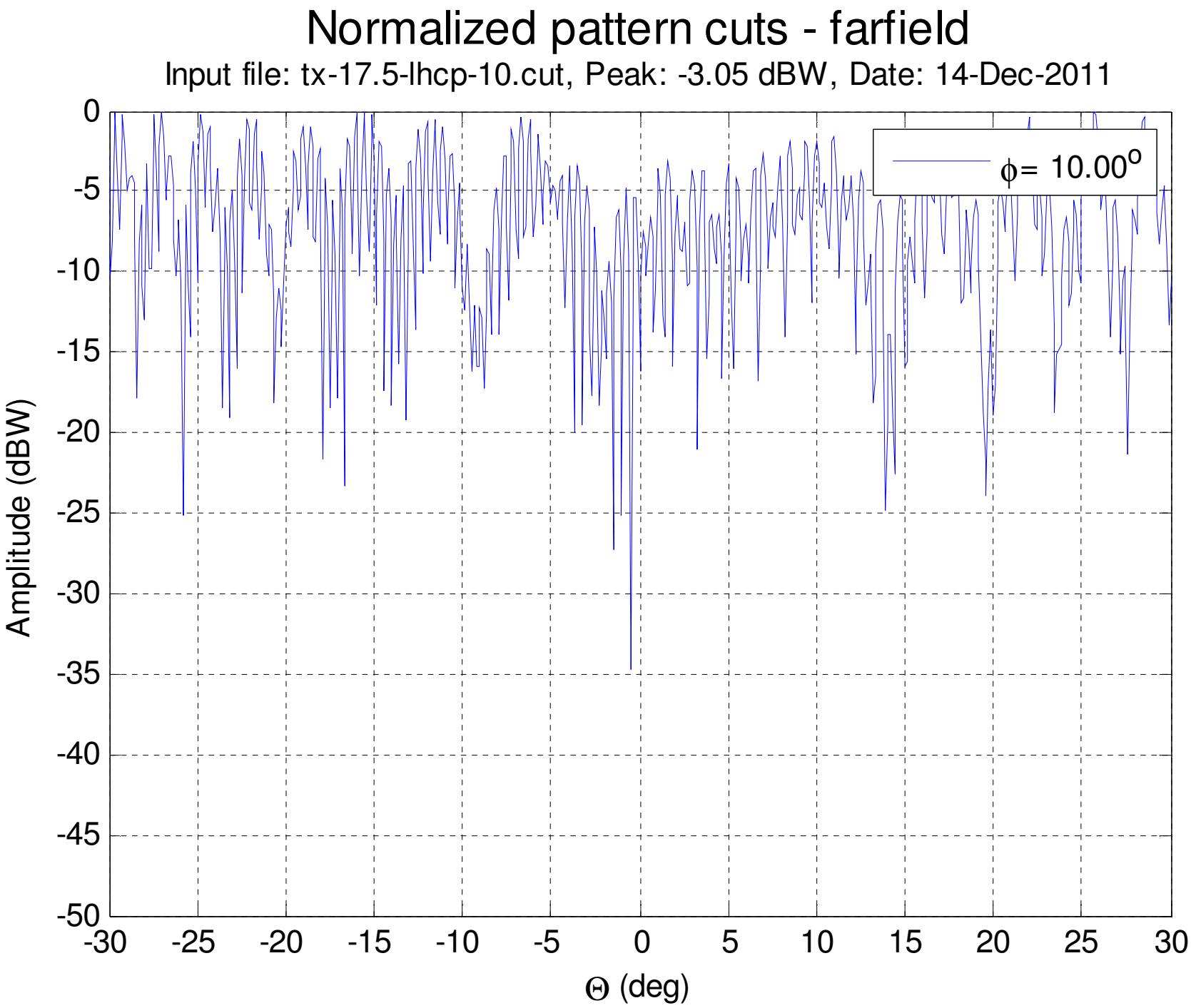

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -3.21 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

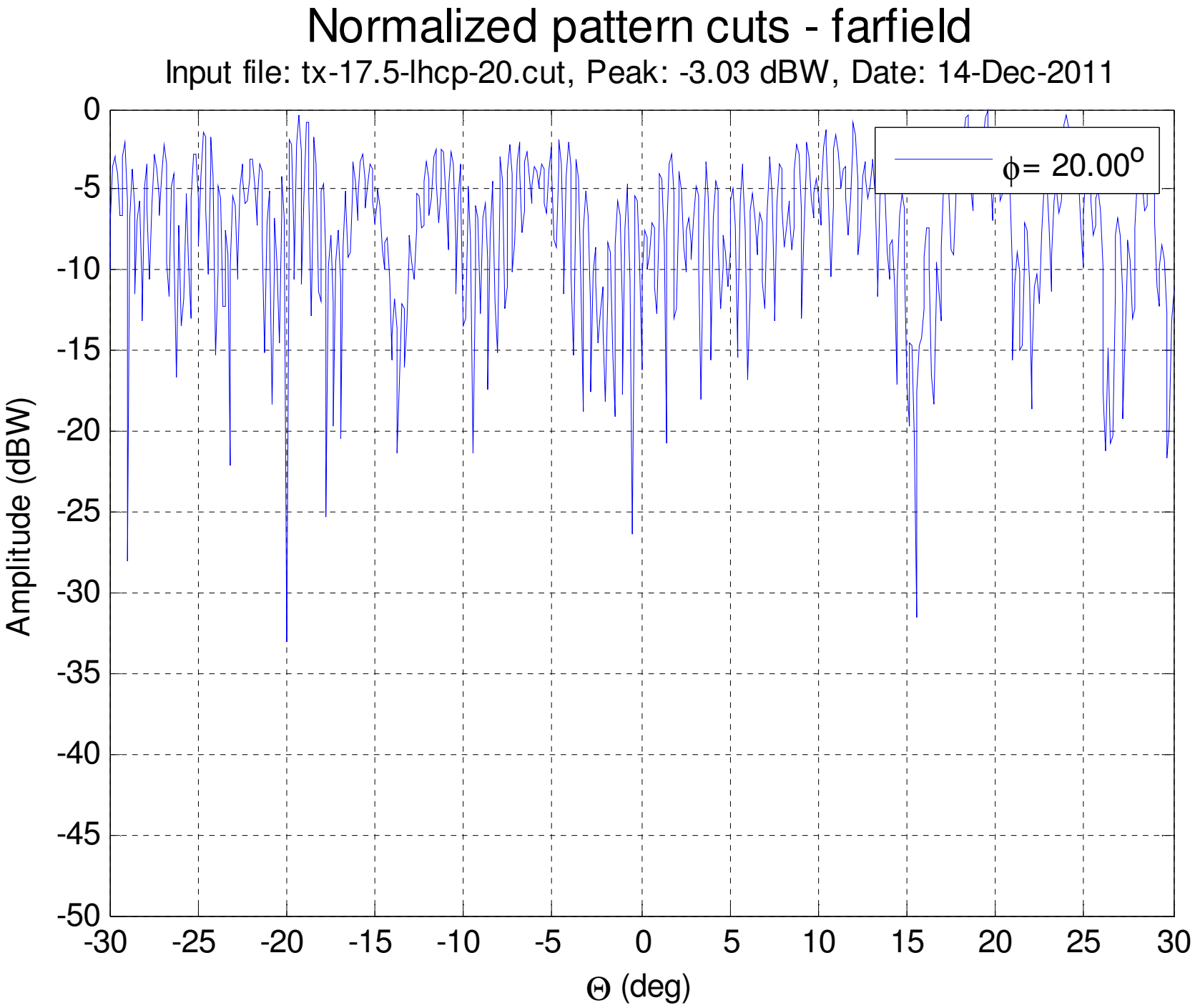

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -2.37 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

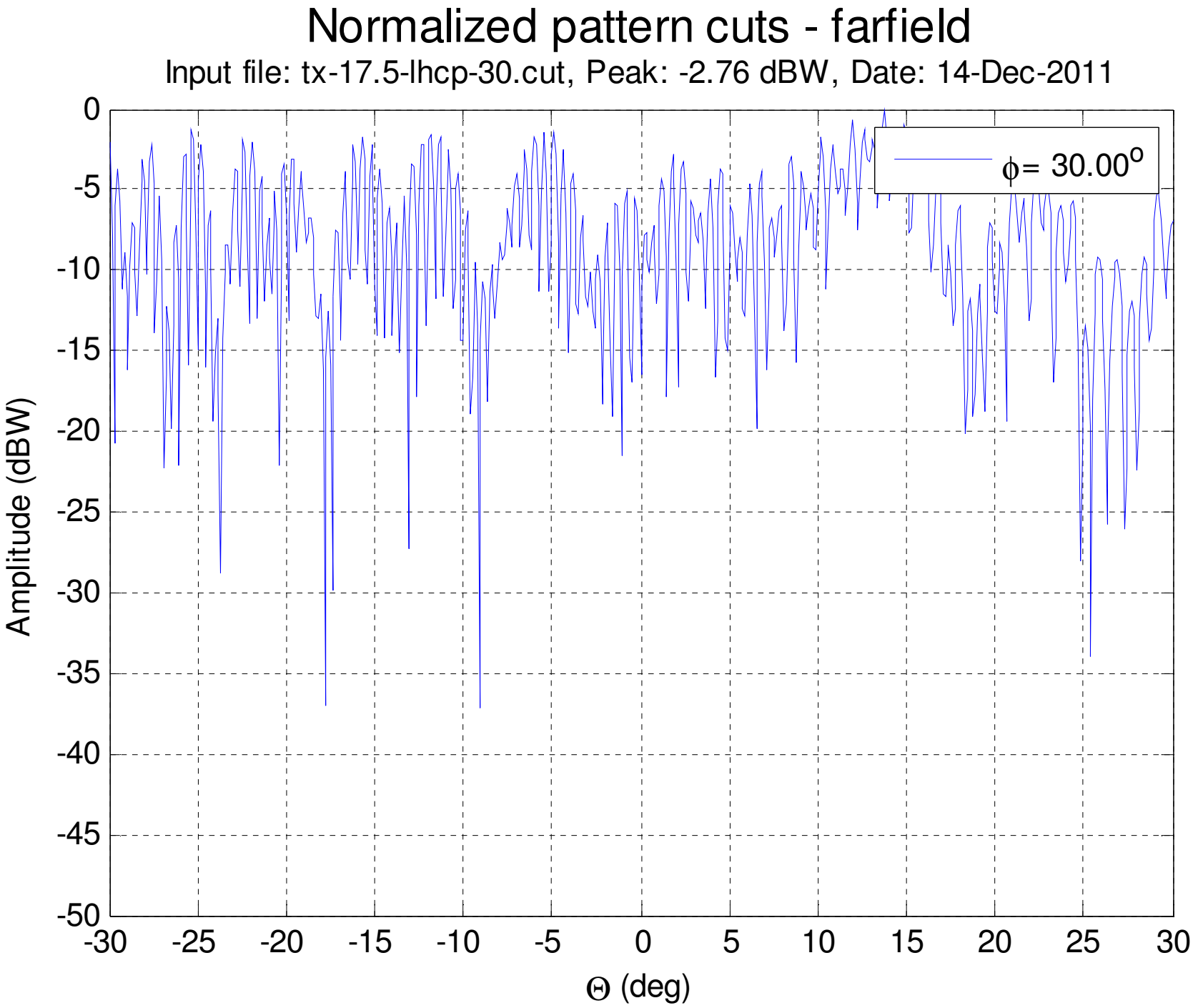

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: -0.57 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

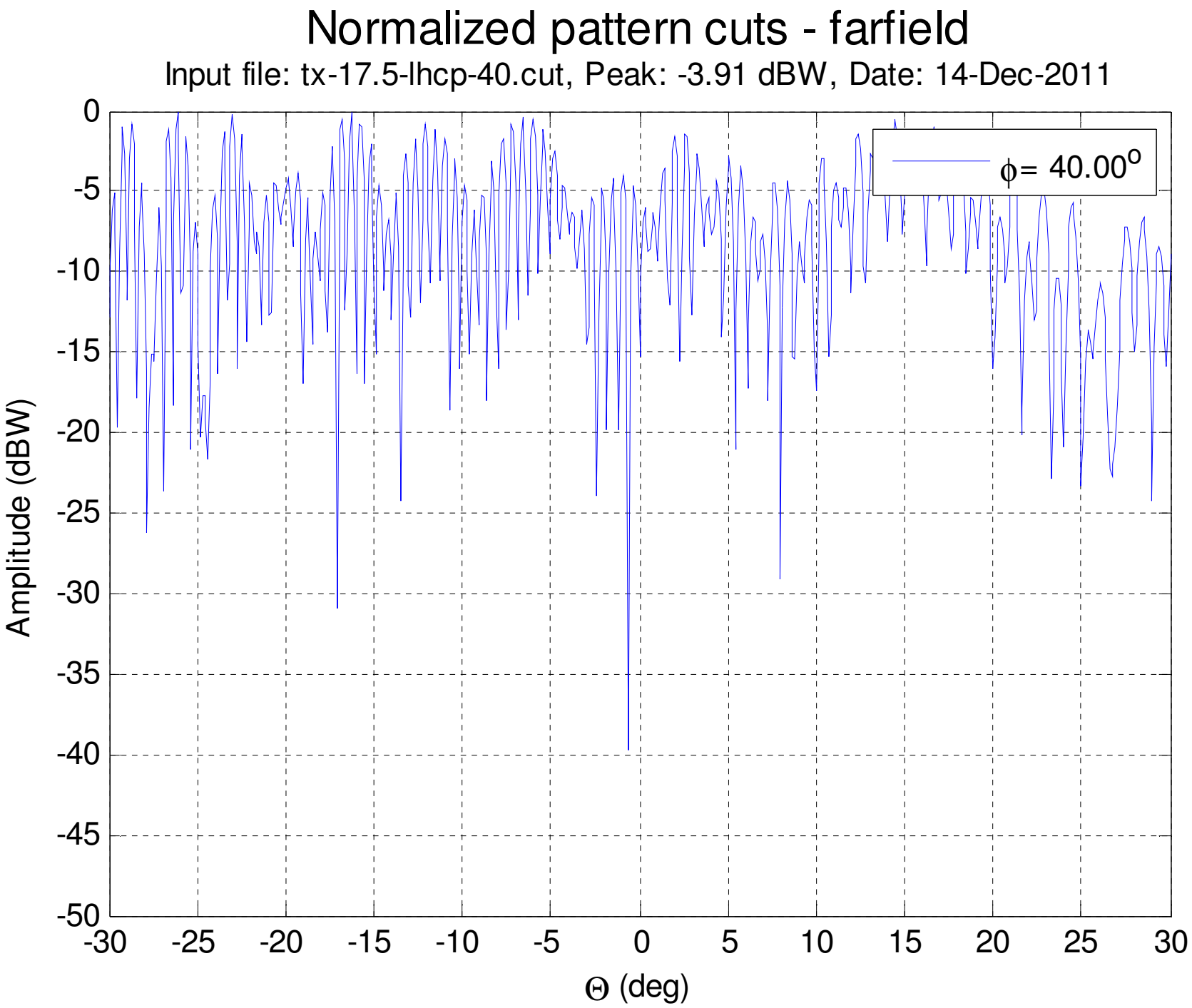

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: -2.66 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

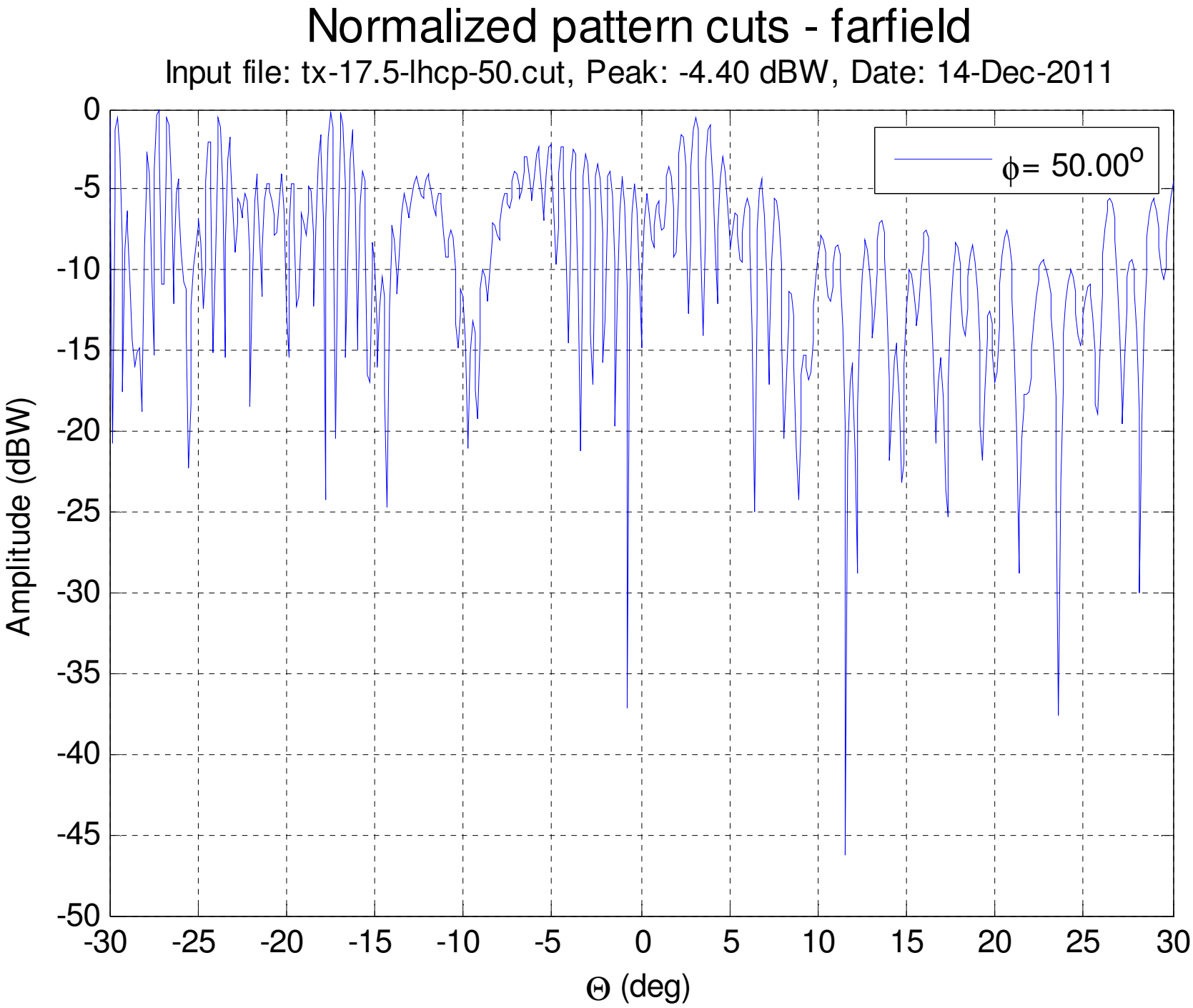

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: -1.08 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

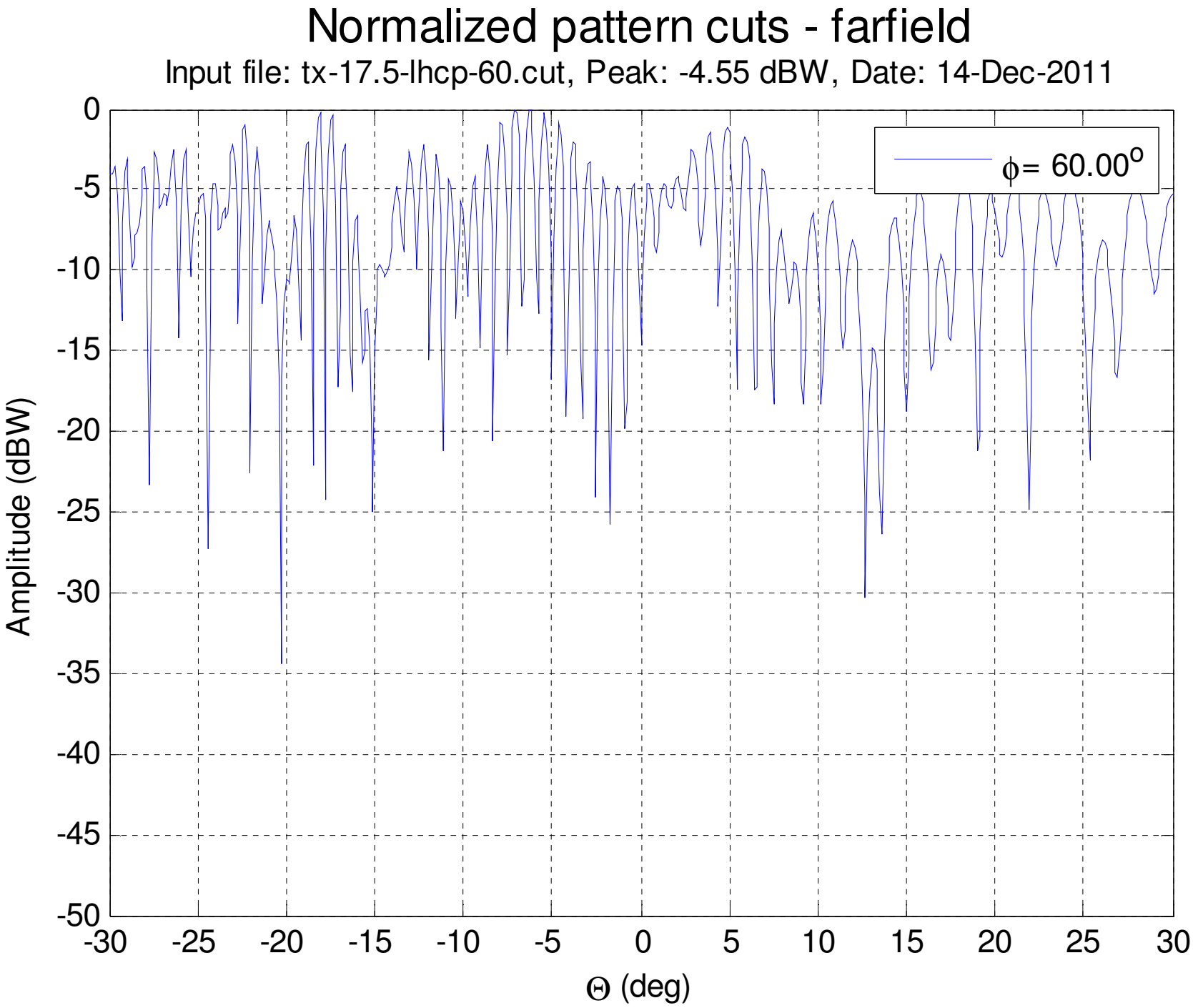

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -3.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 10.00°


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -3.03 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

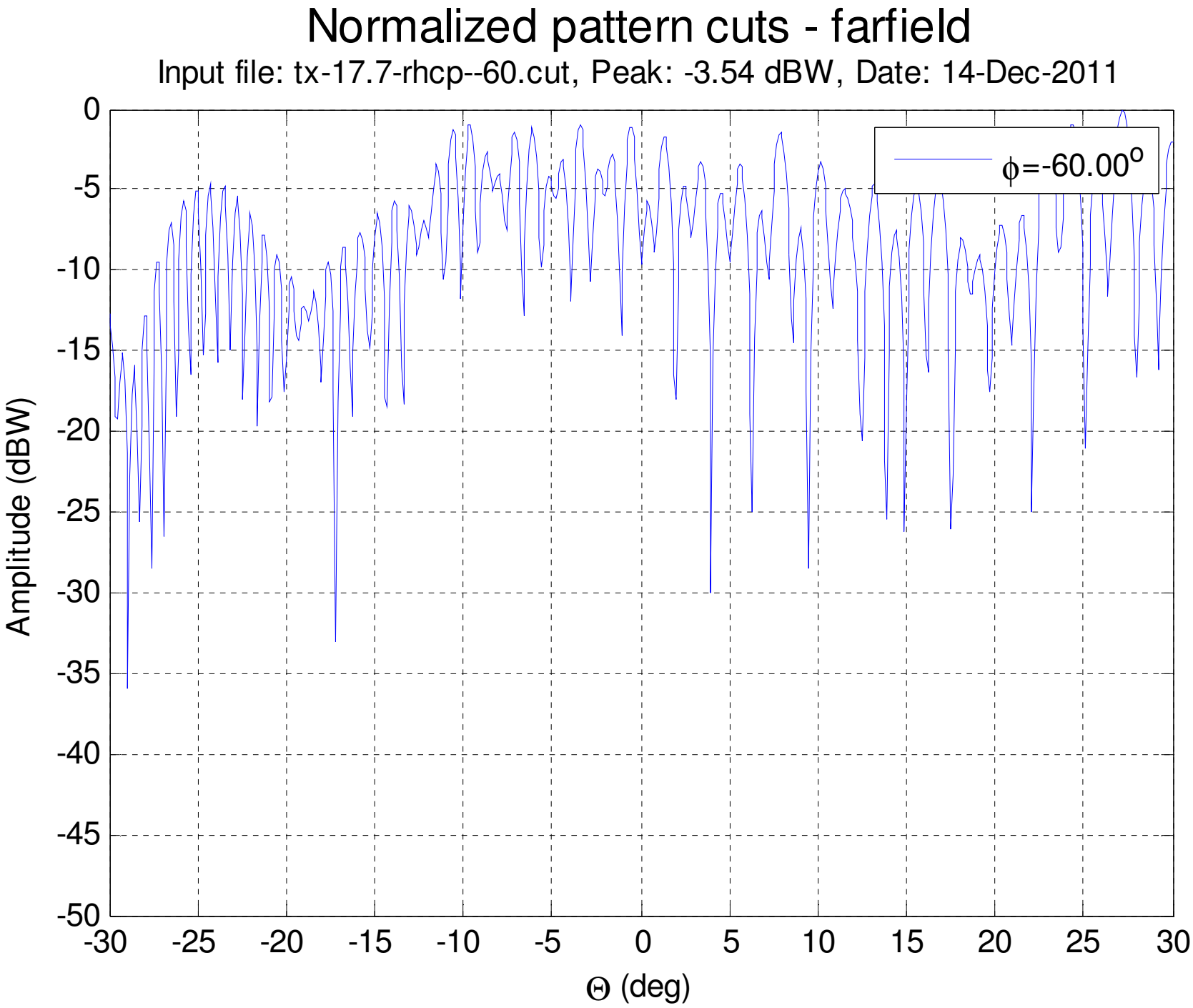

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -2.76 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

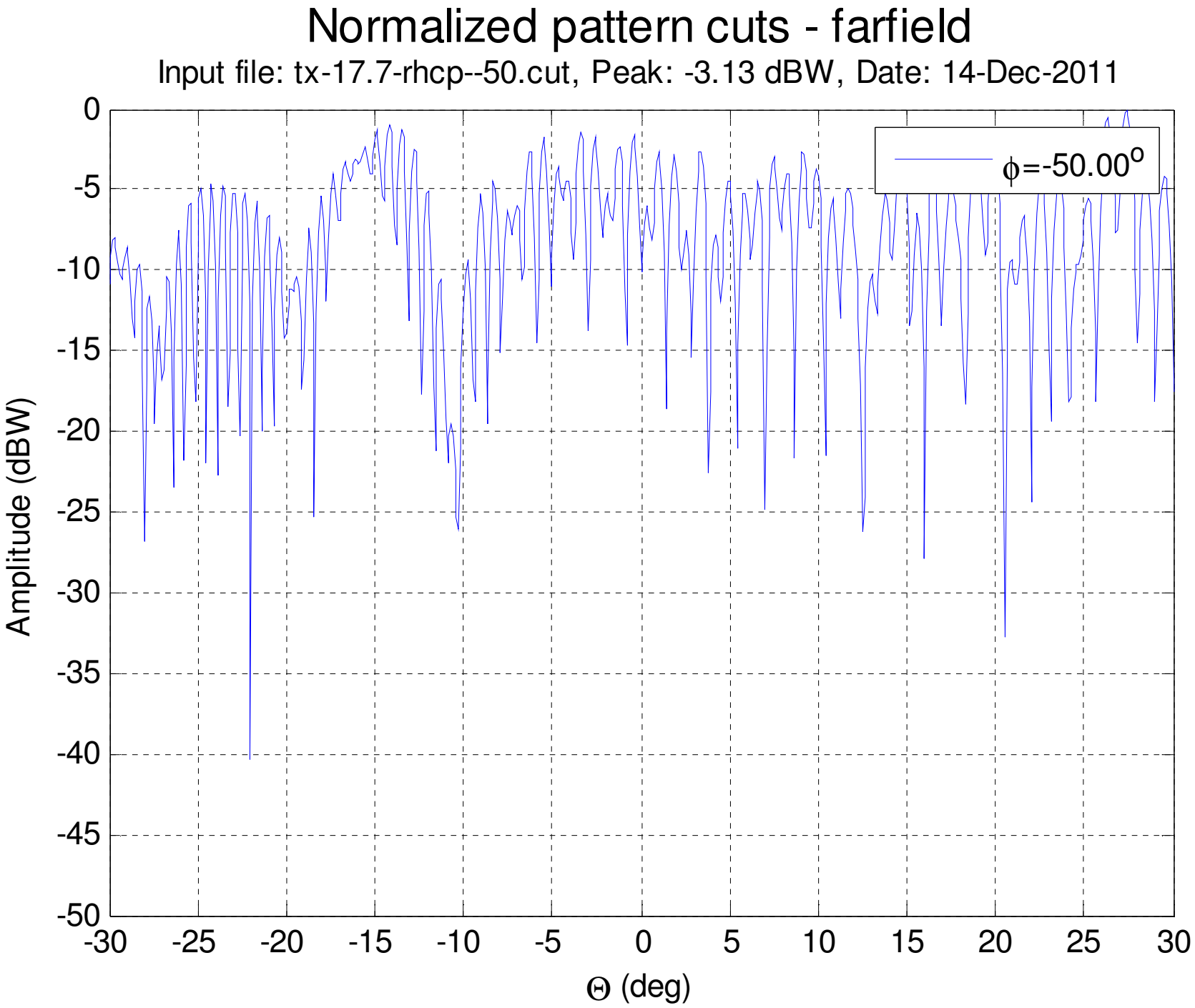

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -3.91 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

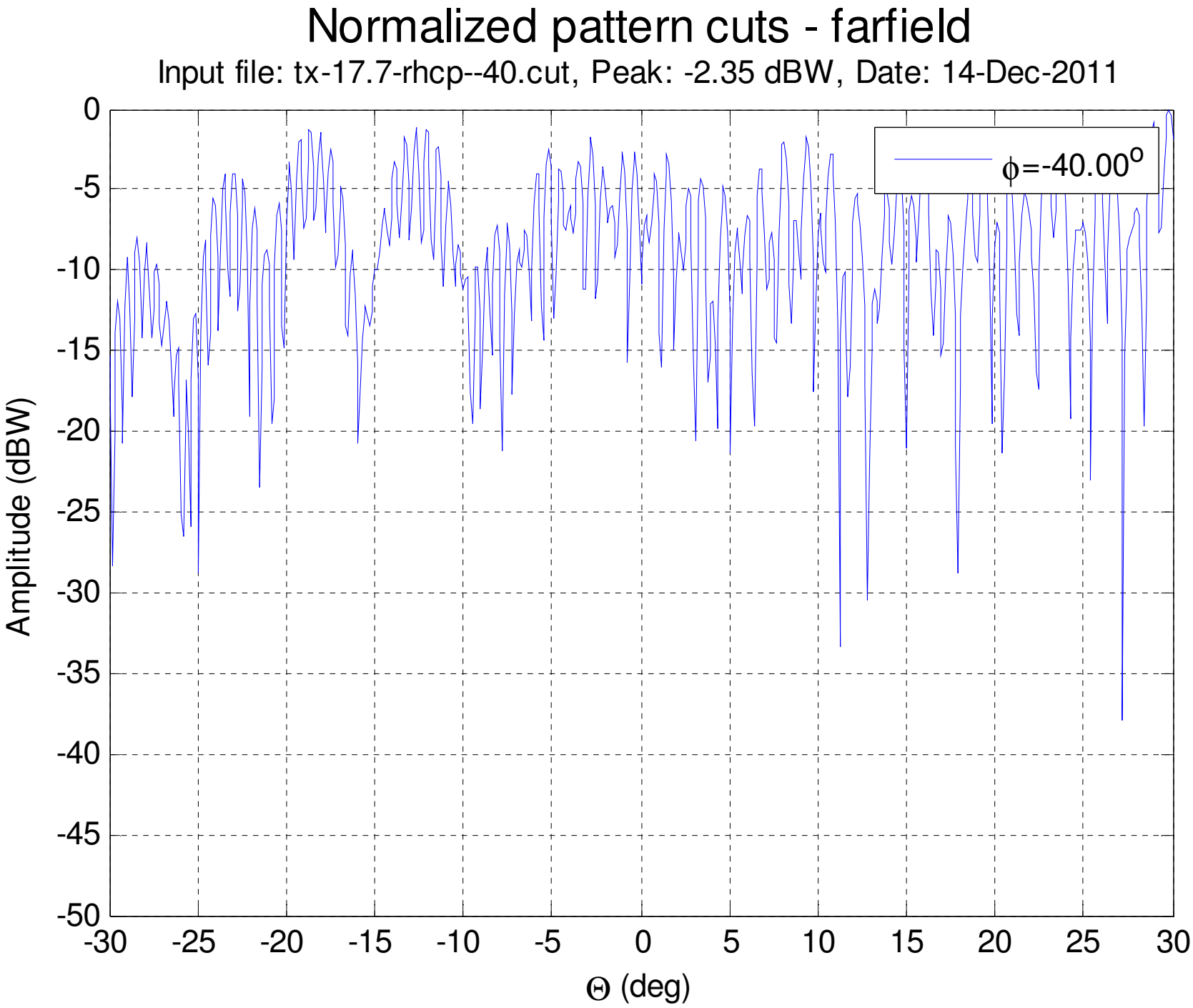

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -4.40 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

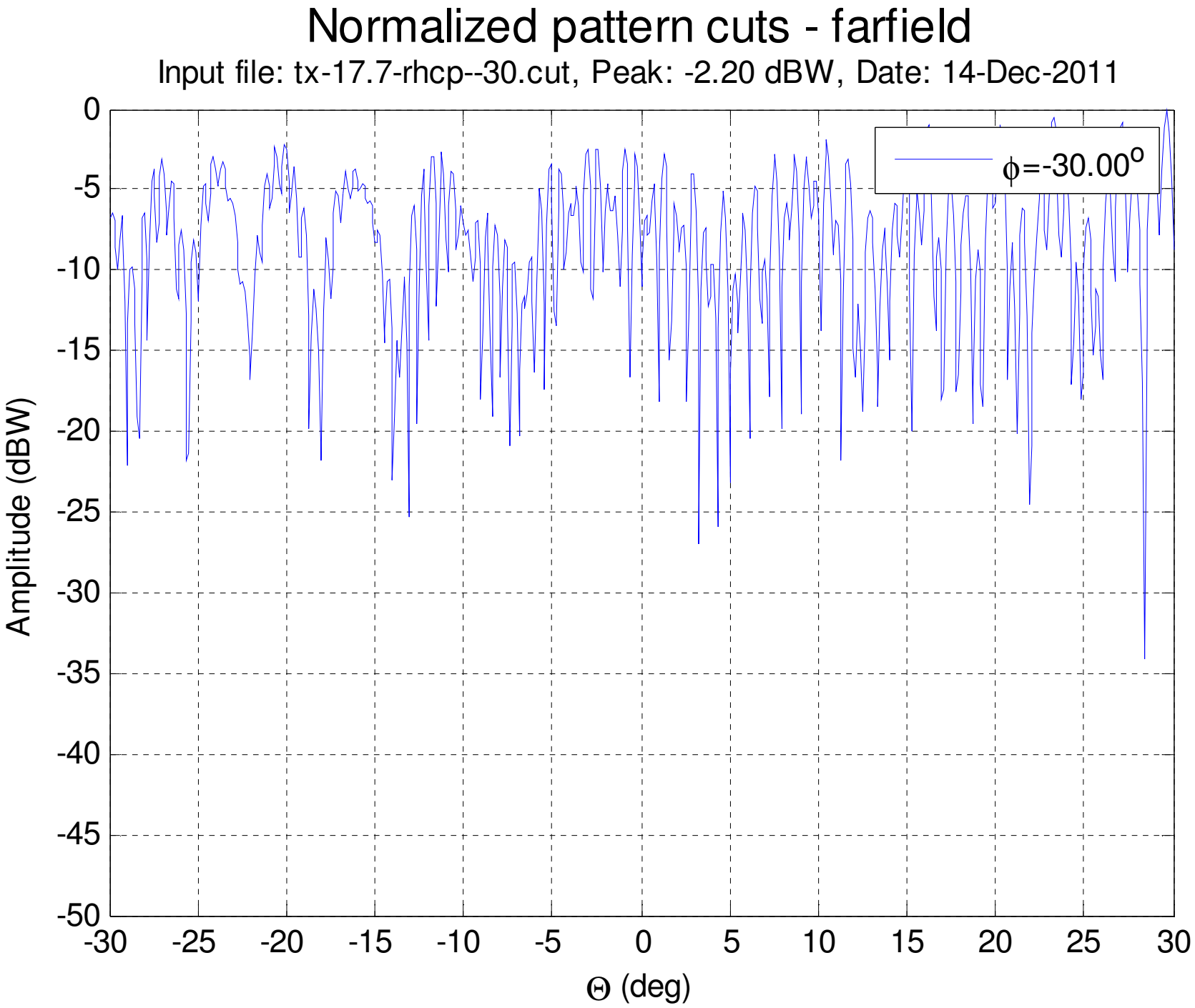

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -4.55 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

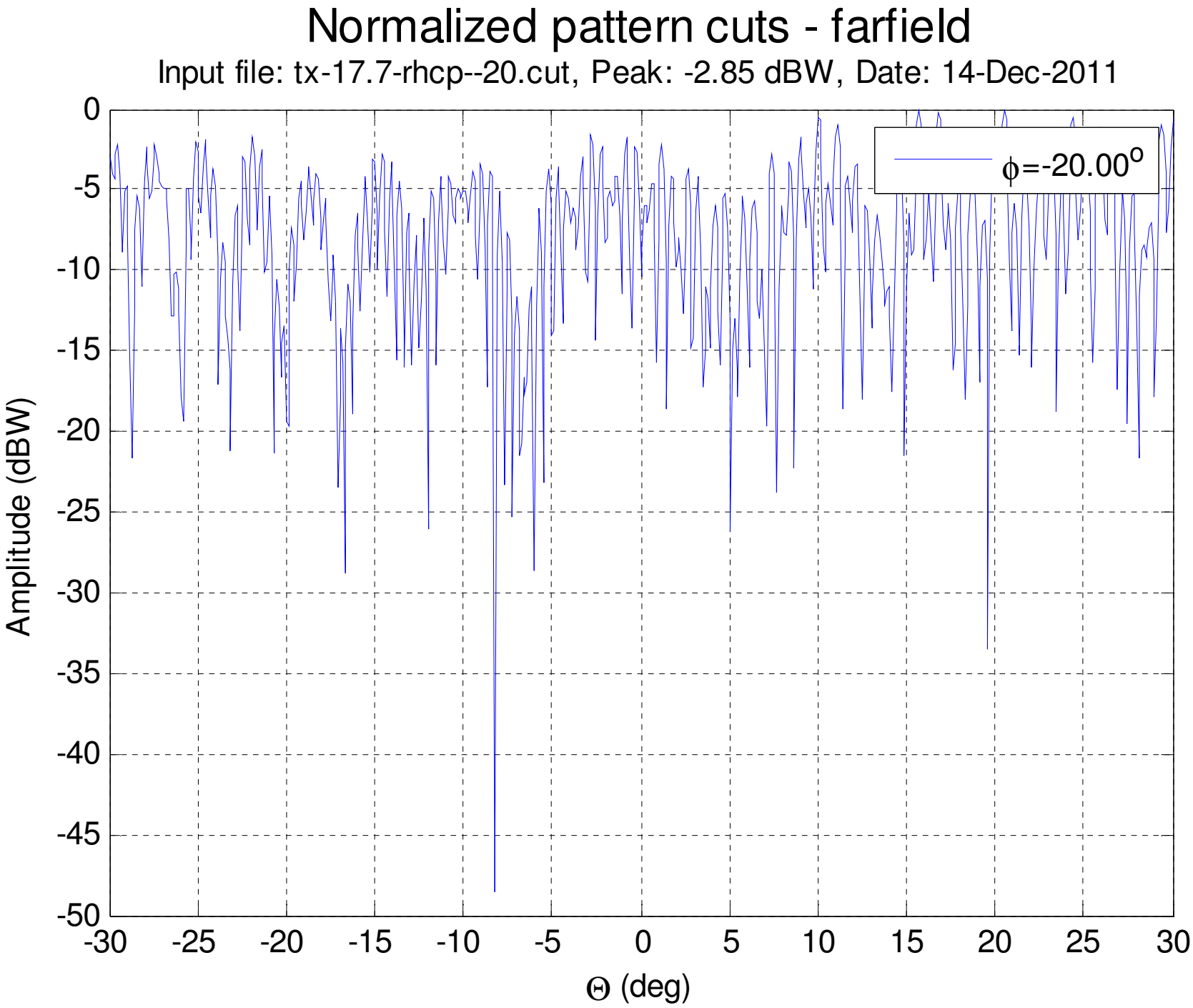
RHCP at 17.7 GHz

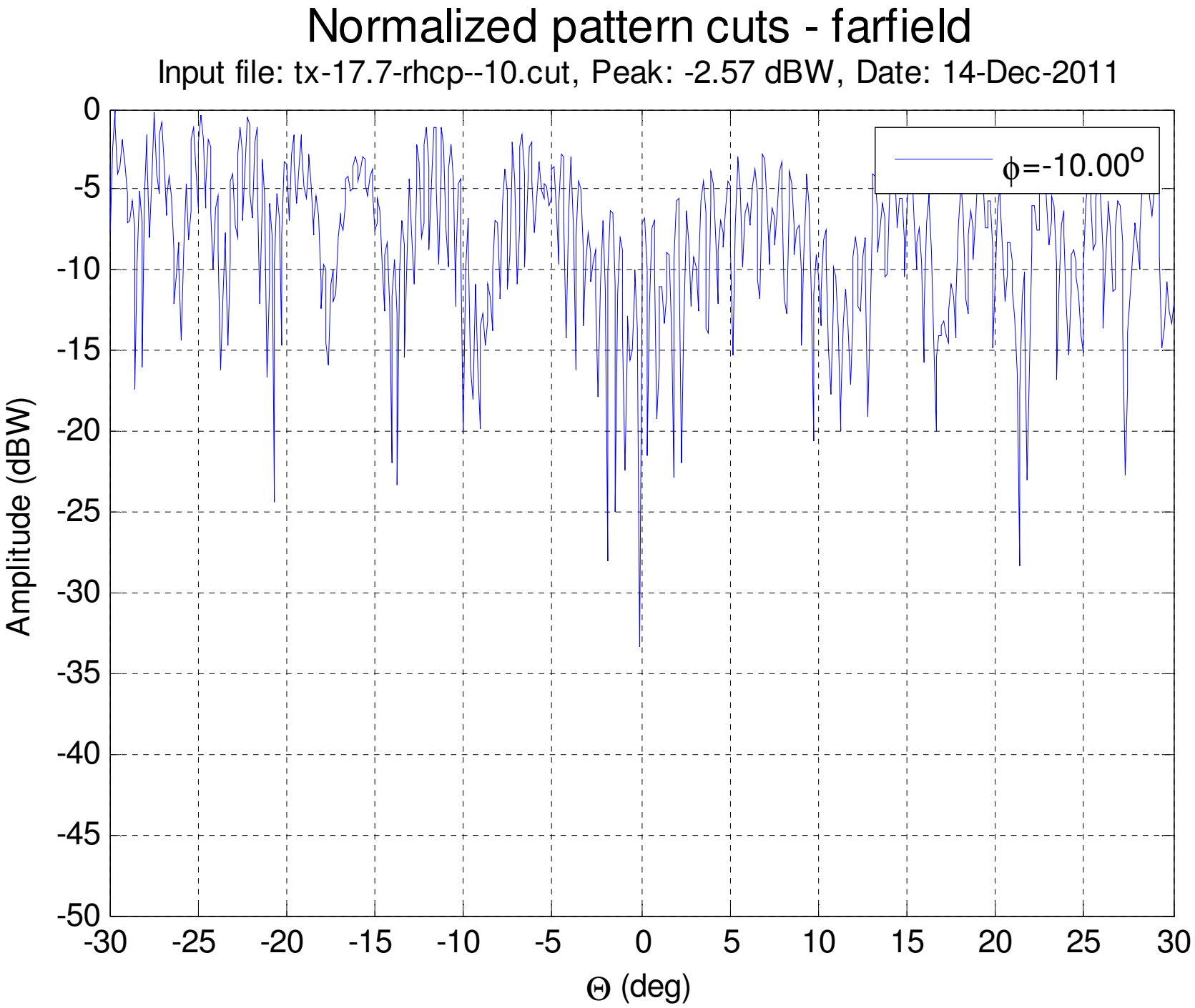

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -3.54 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

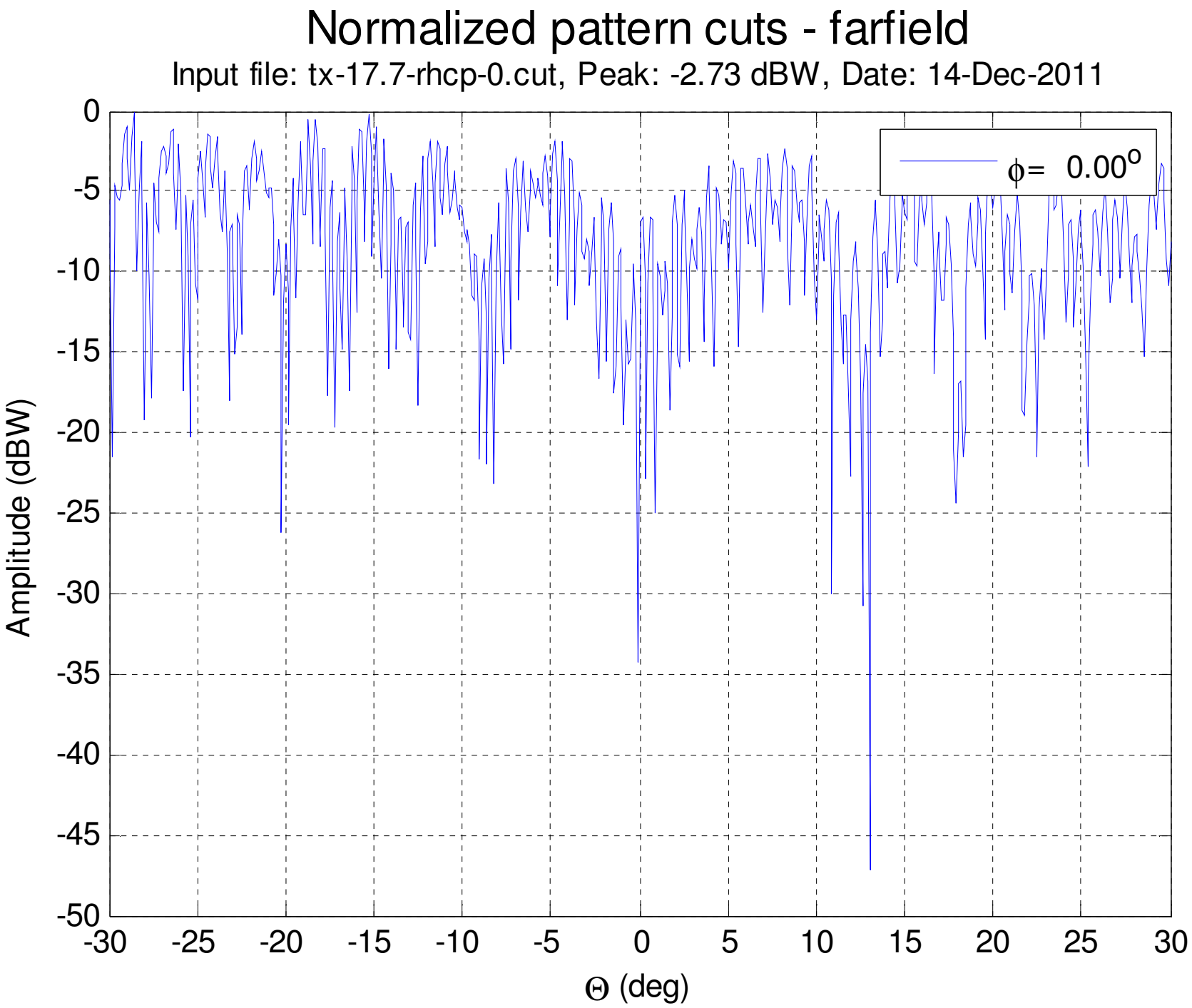

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -3.13 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

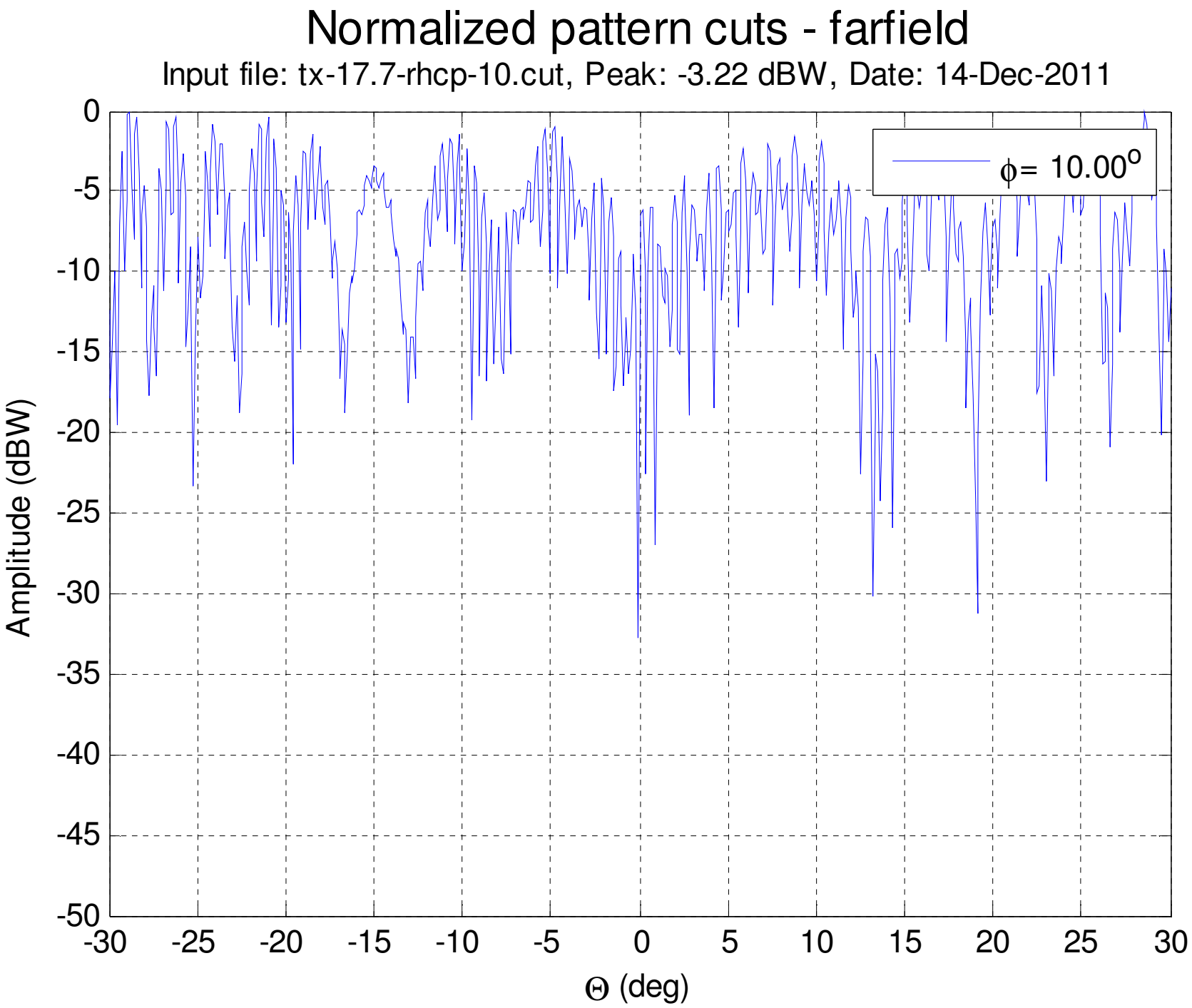

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -2.35 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

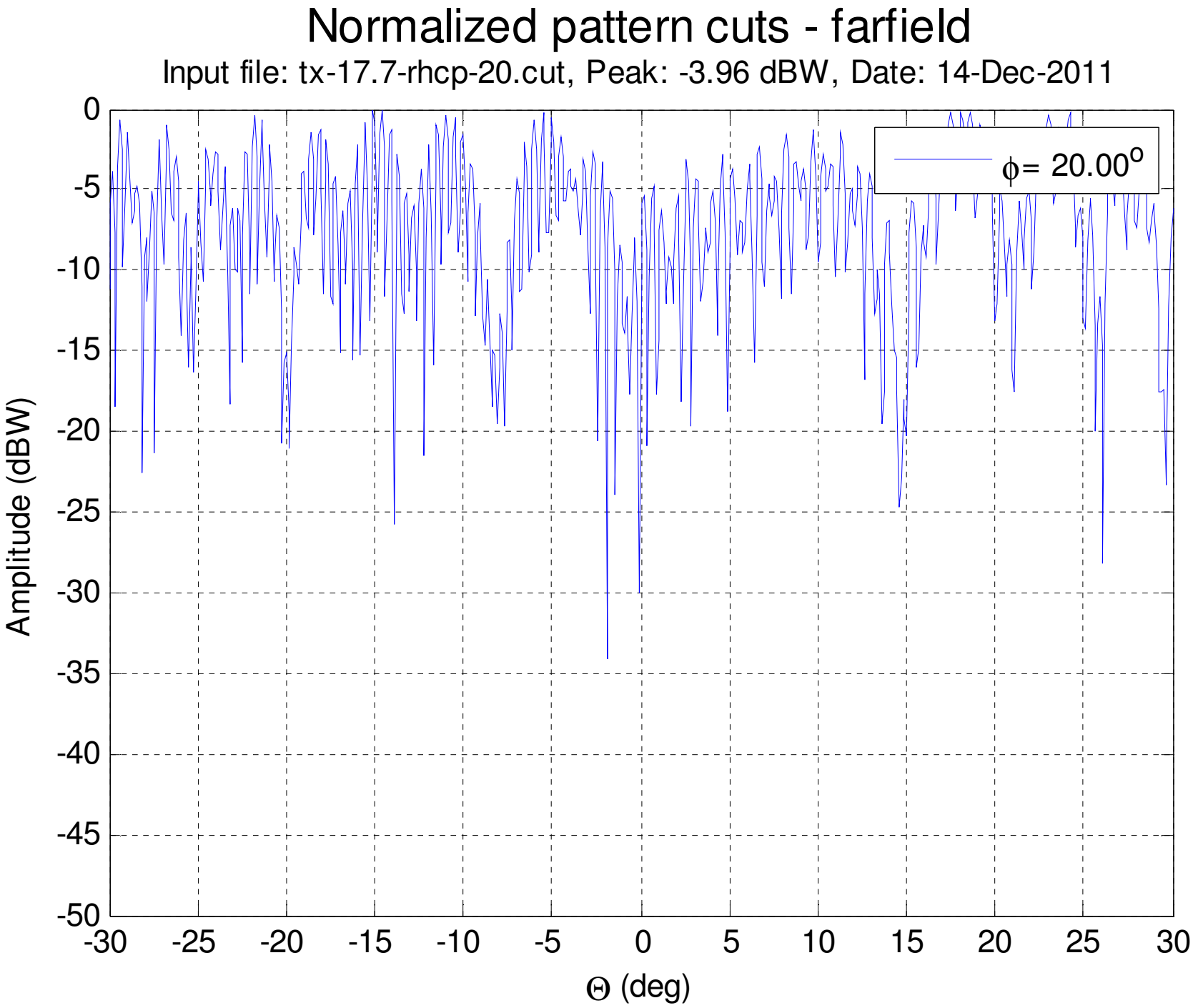

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -2.20 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

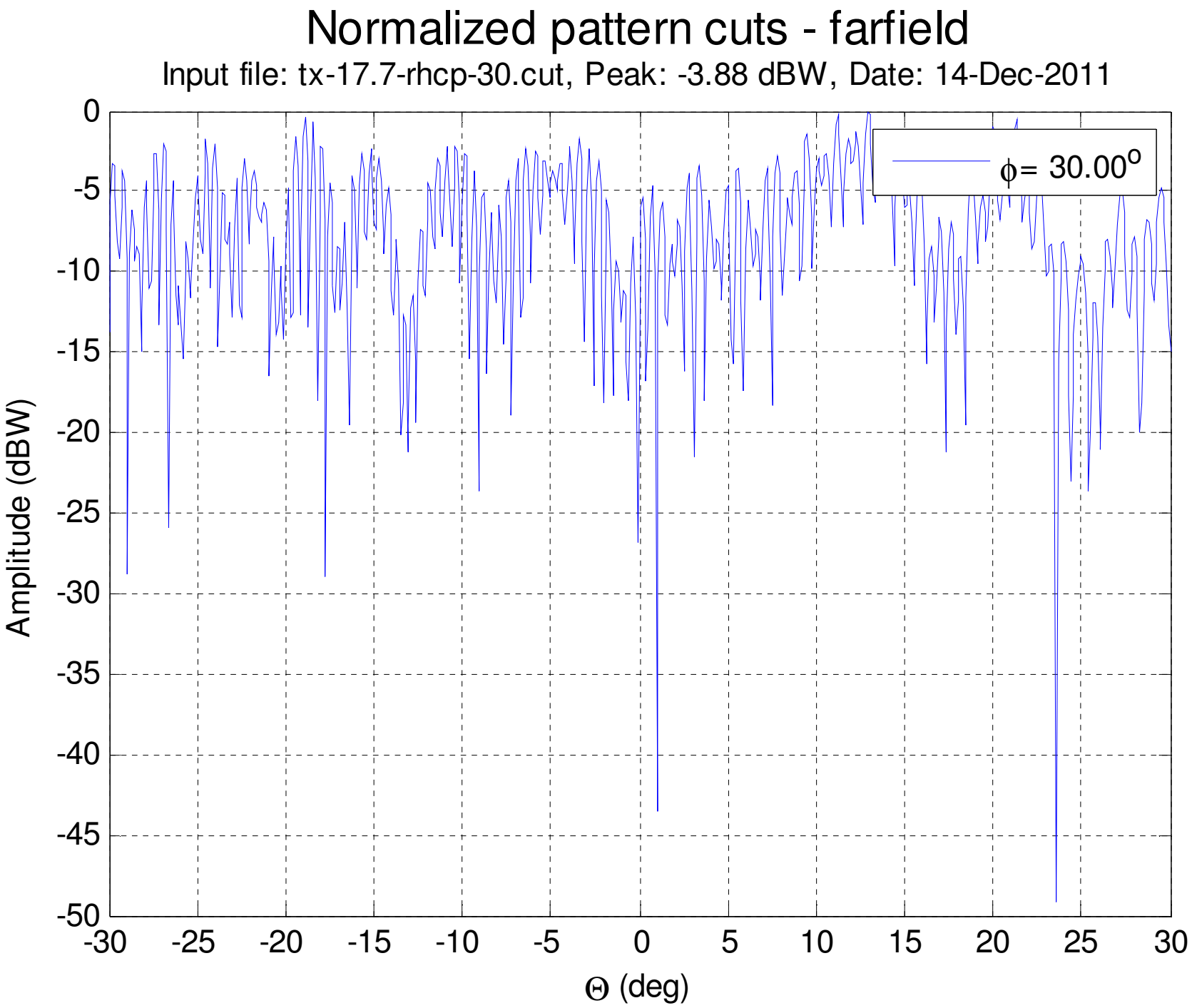

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -2.85 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

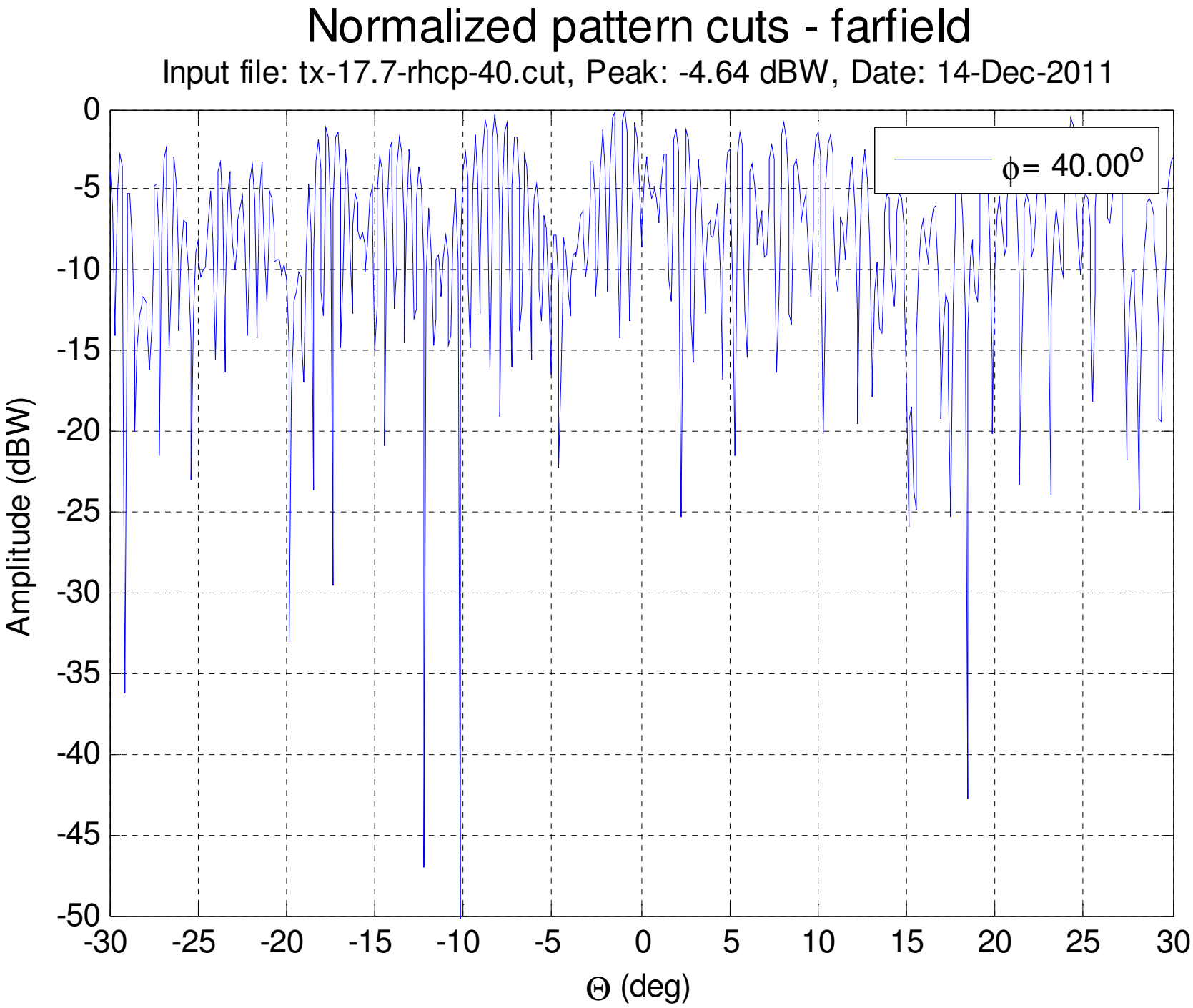

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -2.57 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

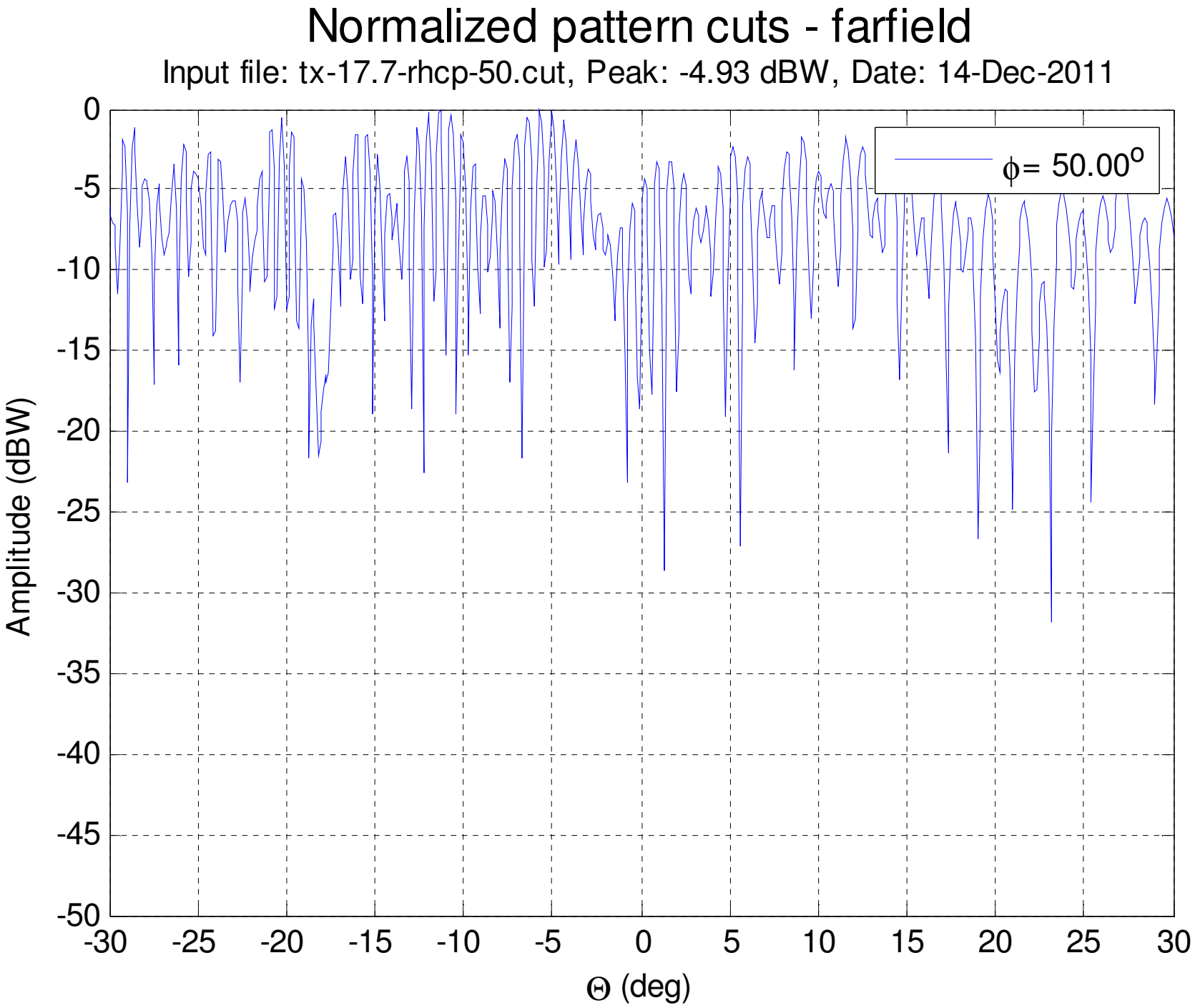

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: -2.73 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

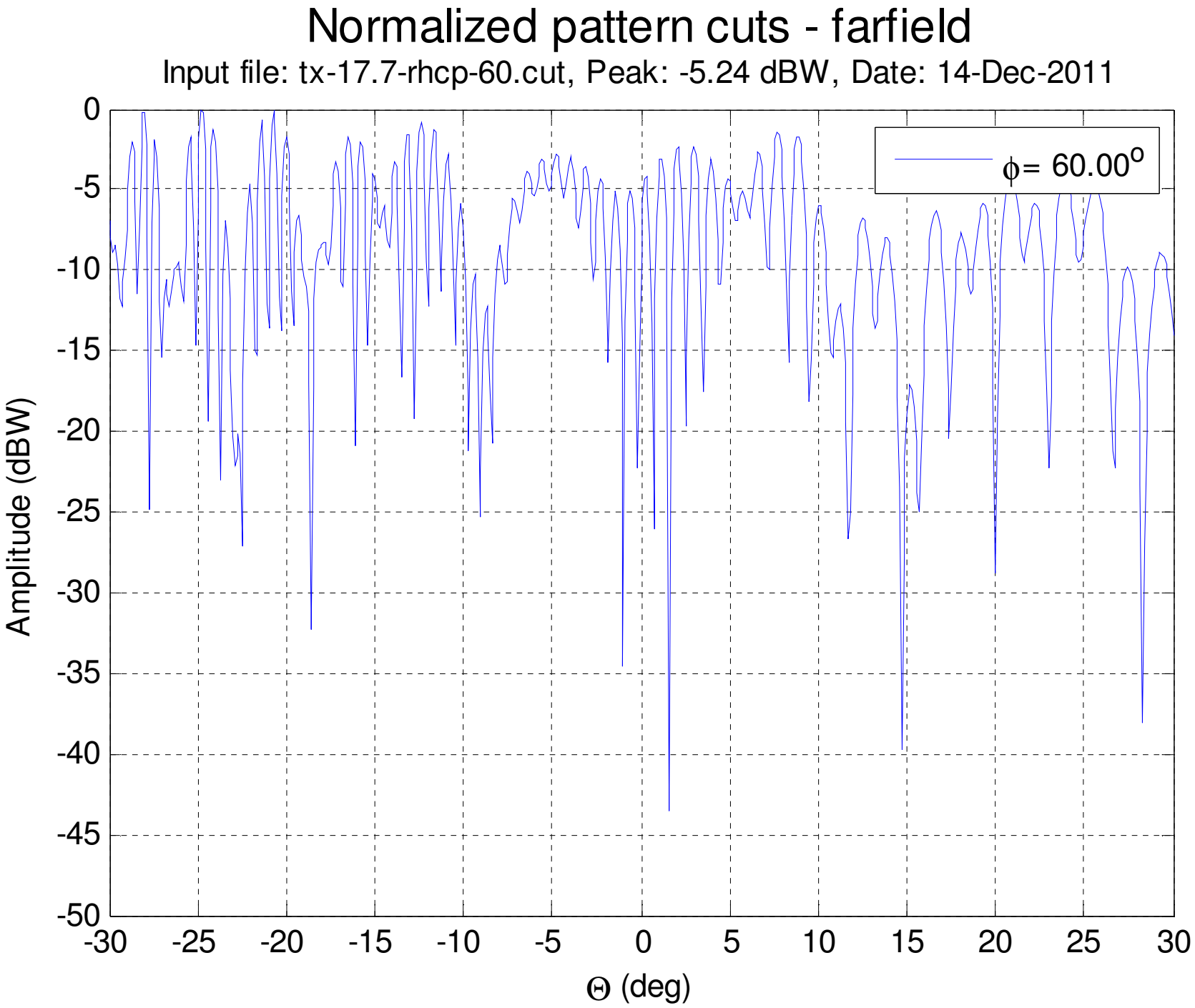

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -3.22 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -3.96 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

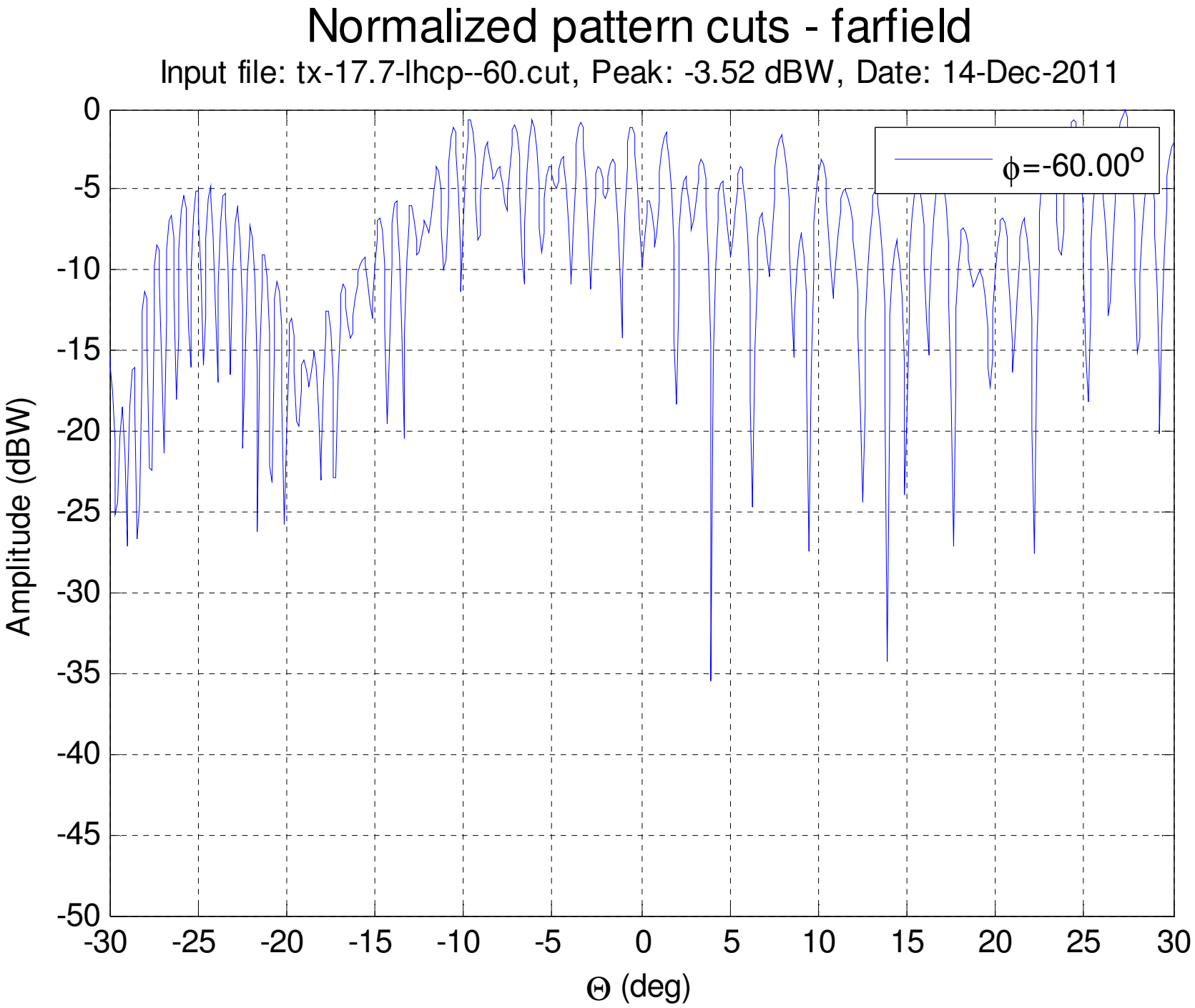

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -3.88 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

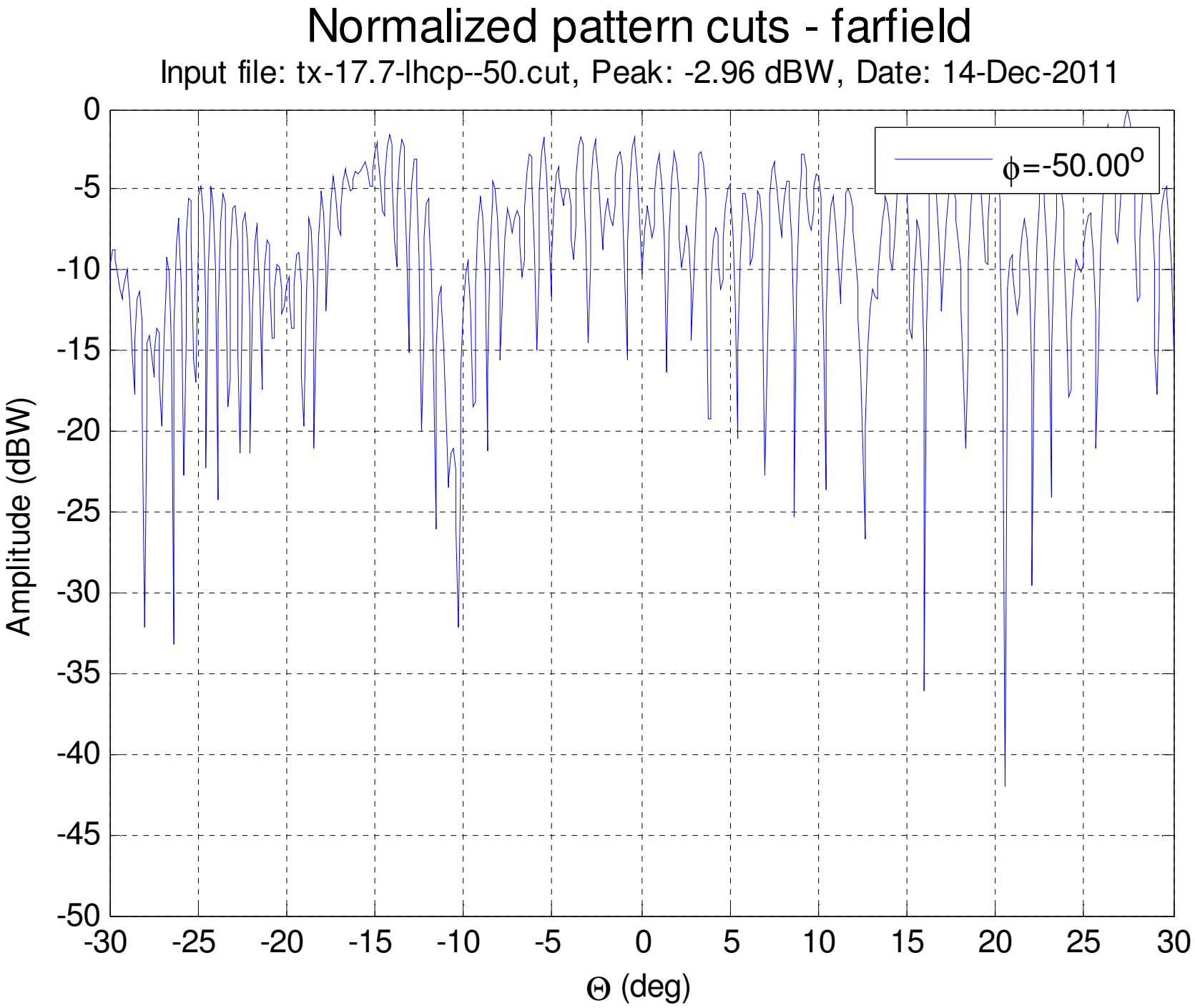

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -4.64 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

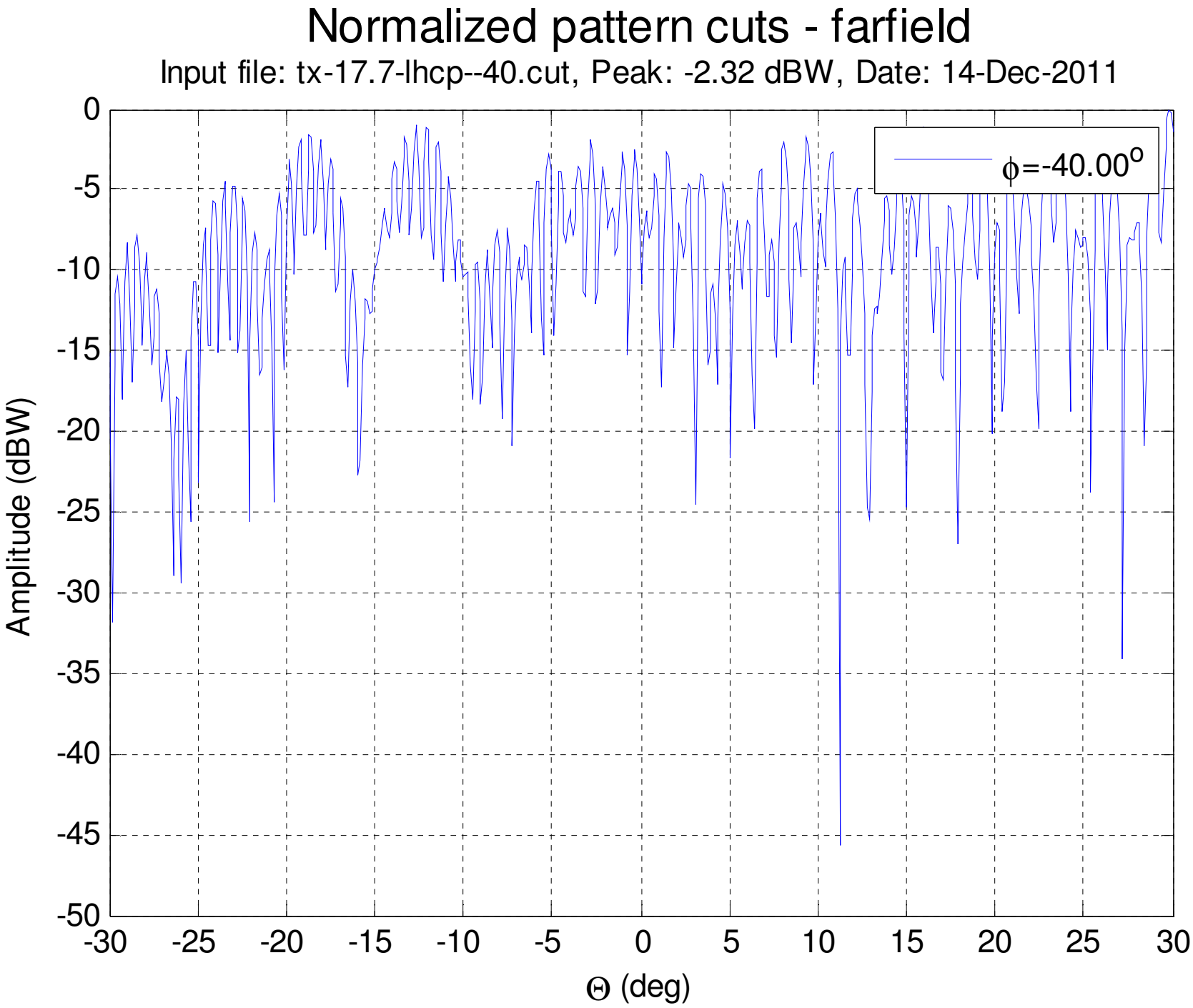

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -4.93 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

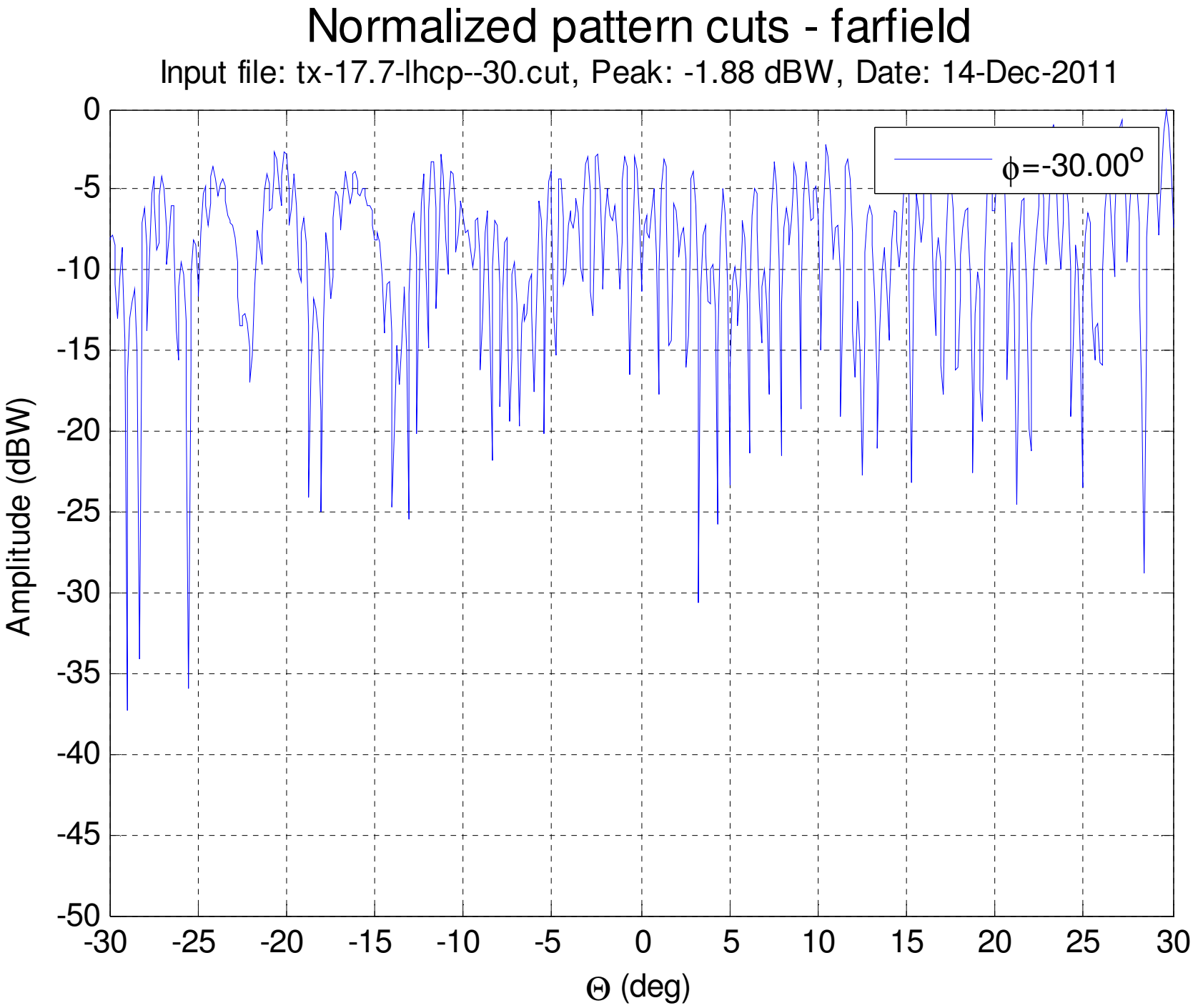

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -5.24 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

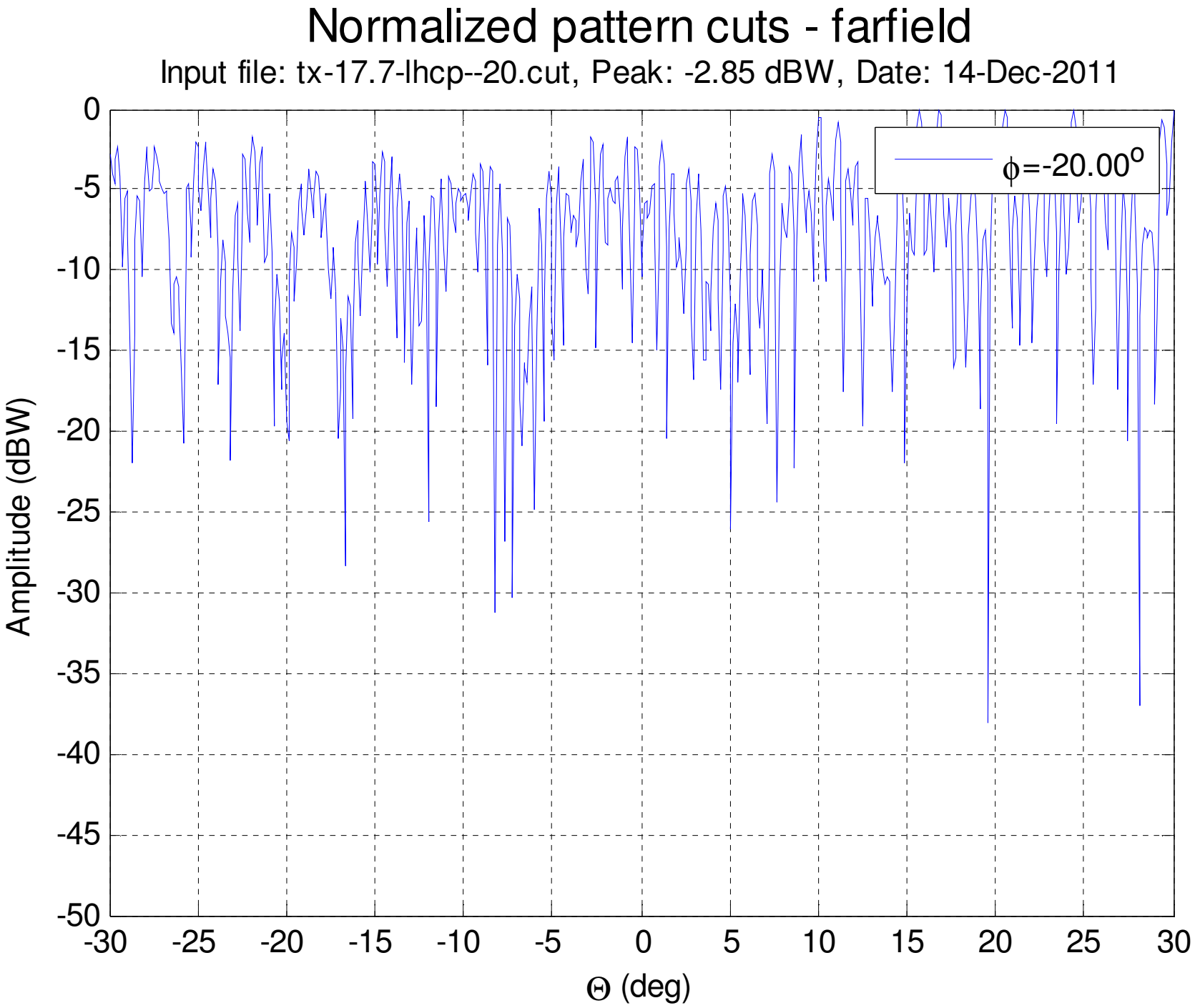
LHCP at 17.7 GHz

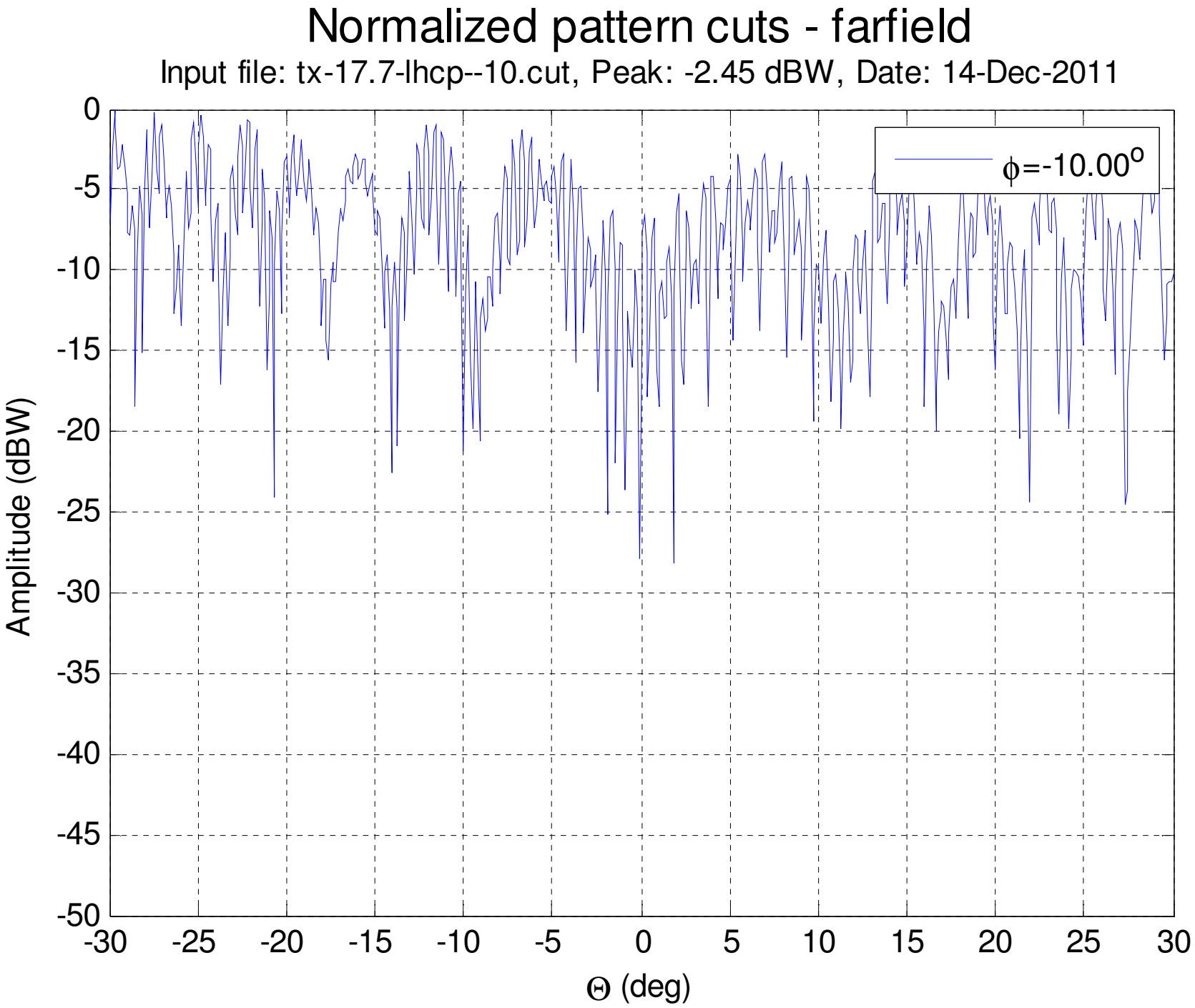

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -3.52 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

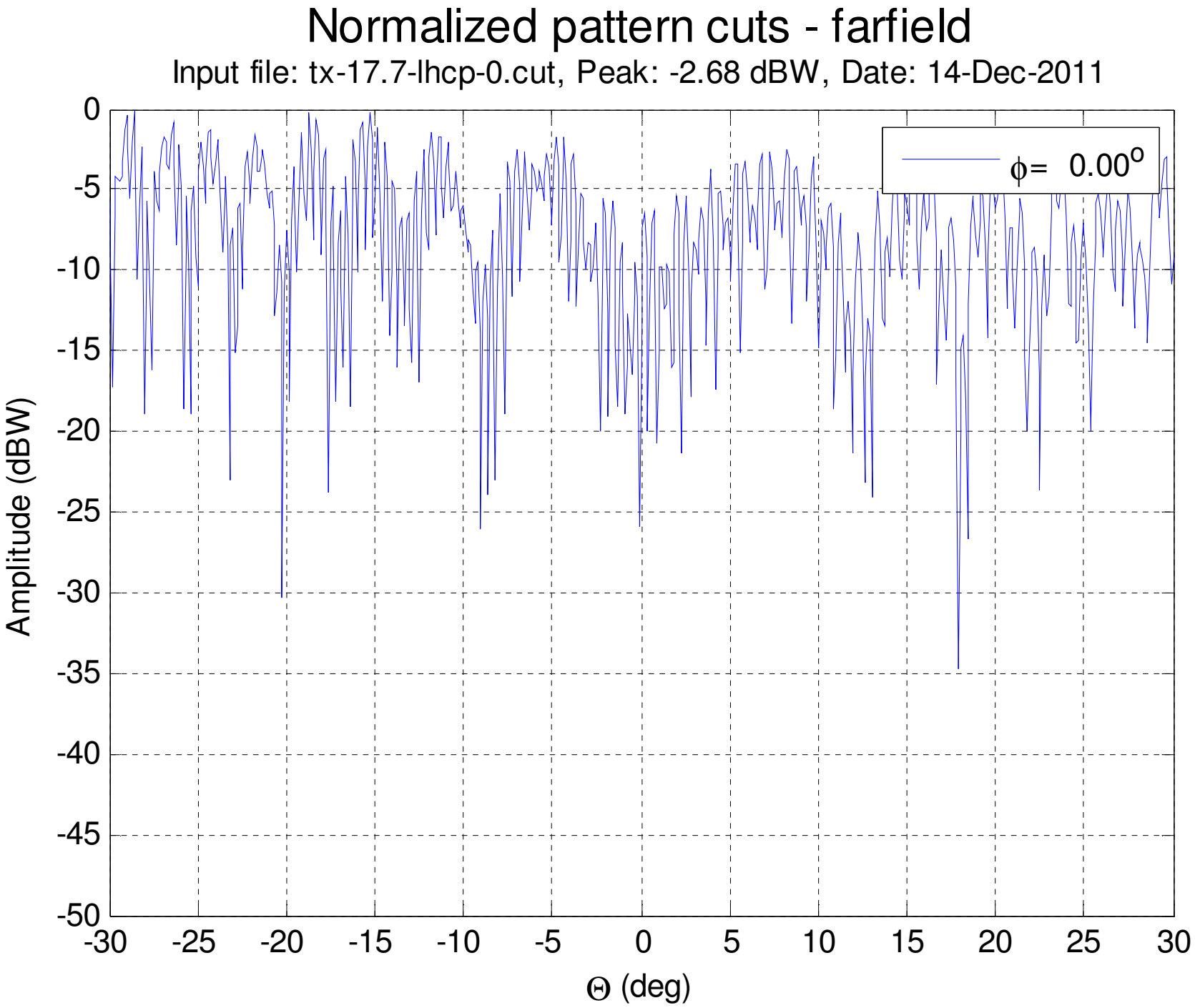

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -2.96 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

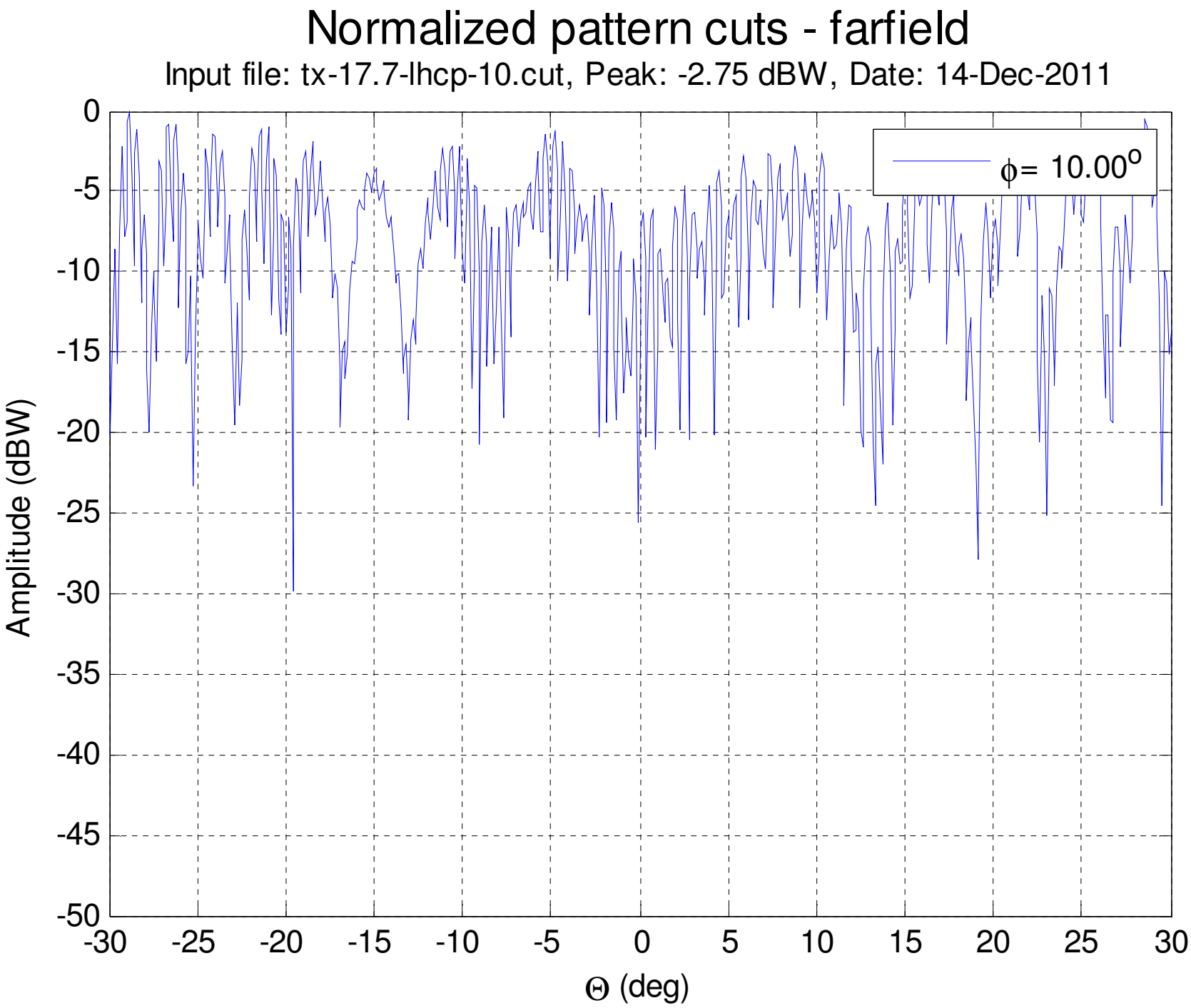

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -2.32 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

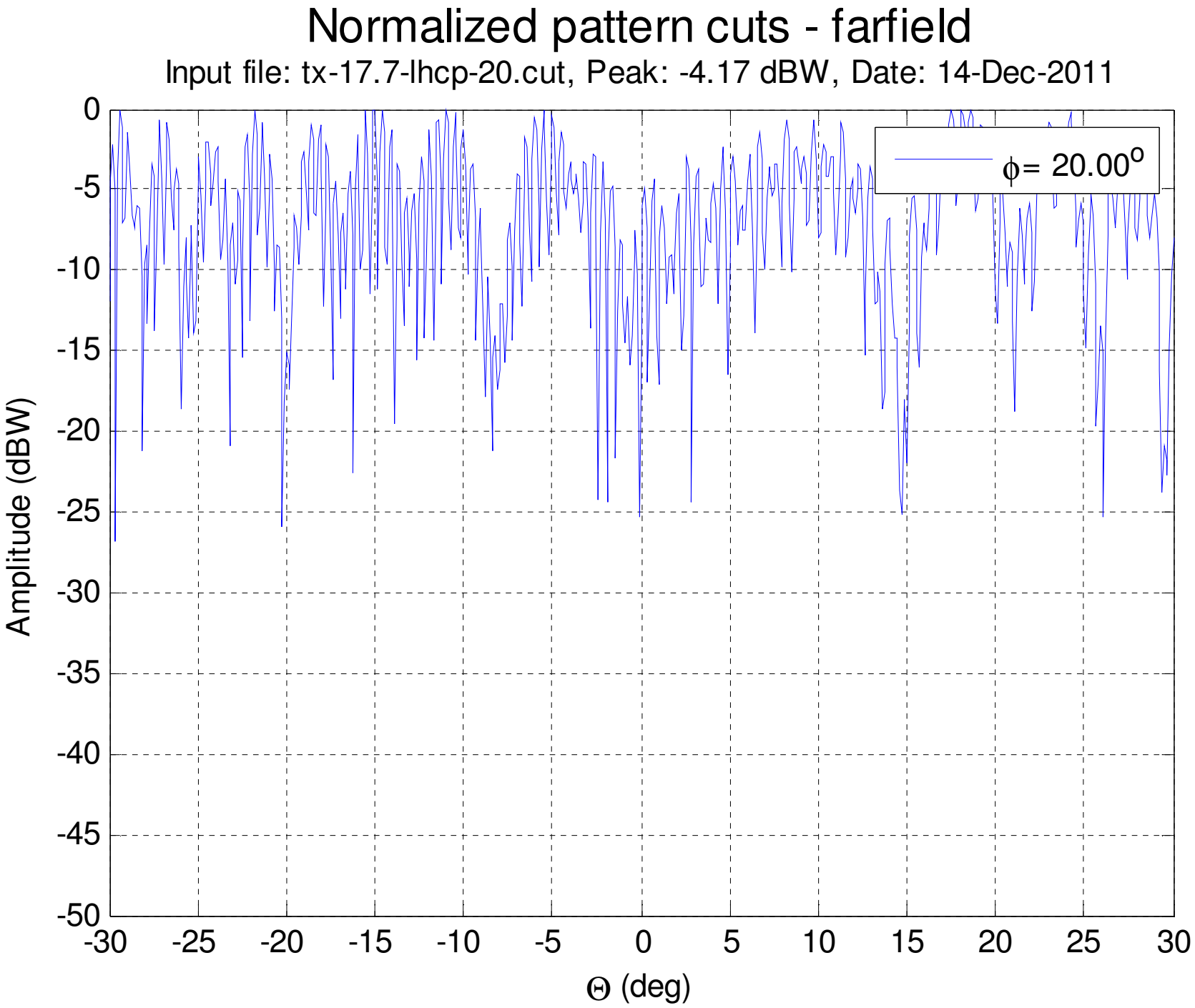

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -1.88 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

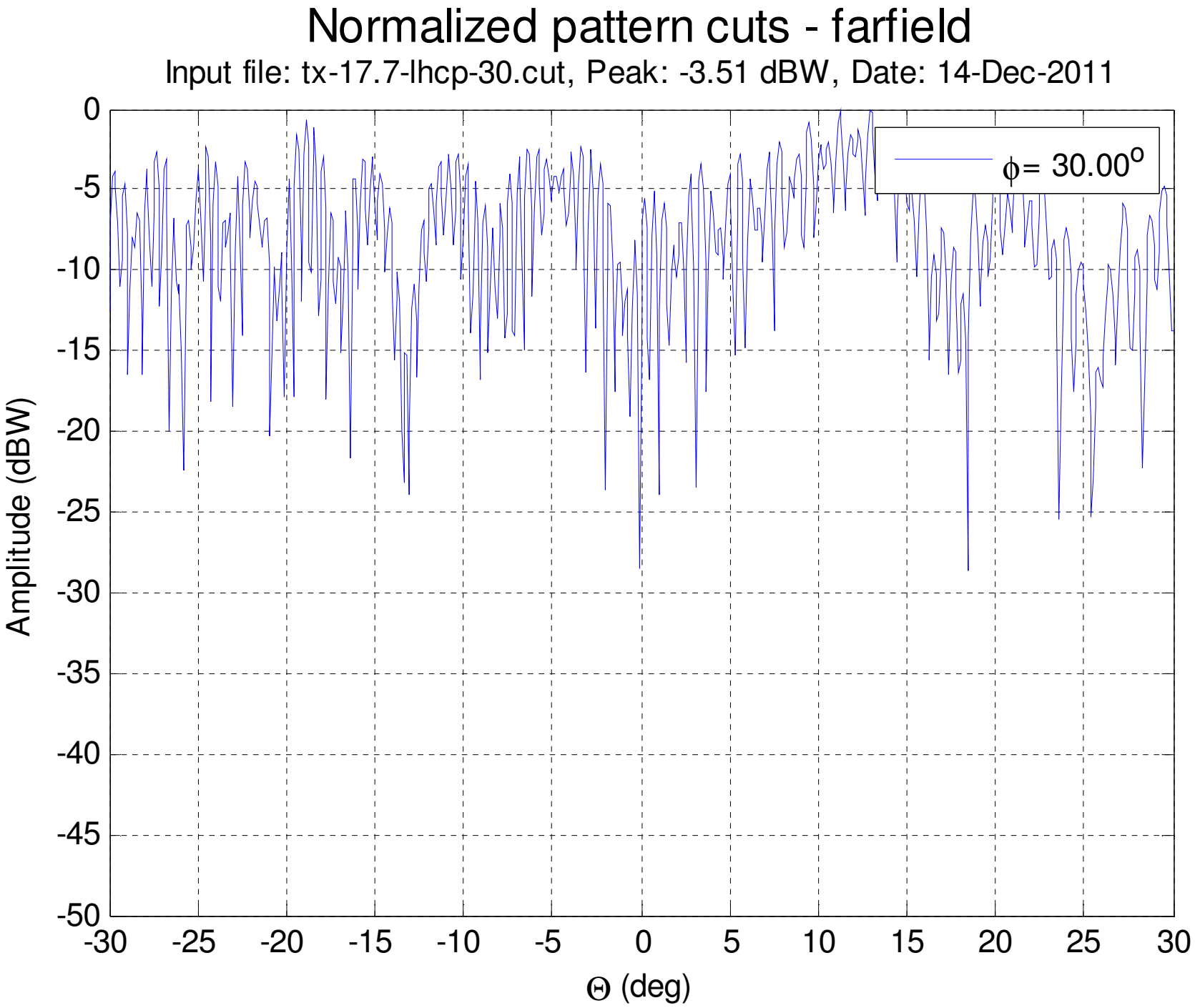

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -2.85 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

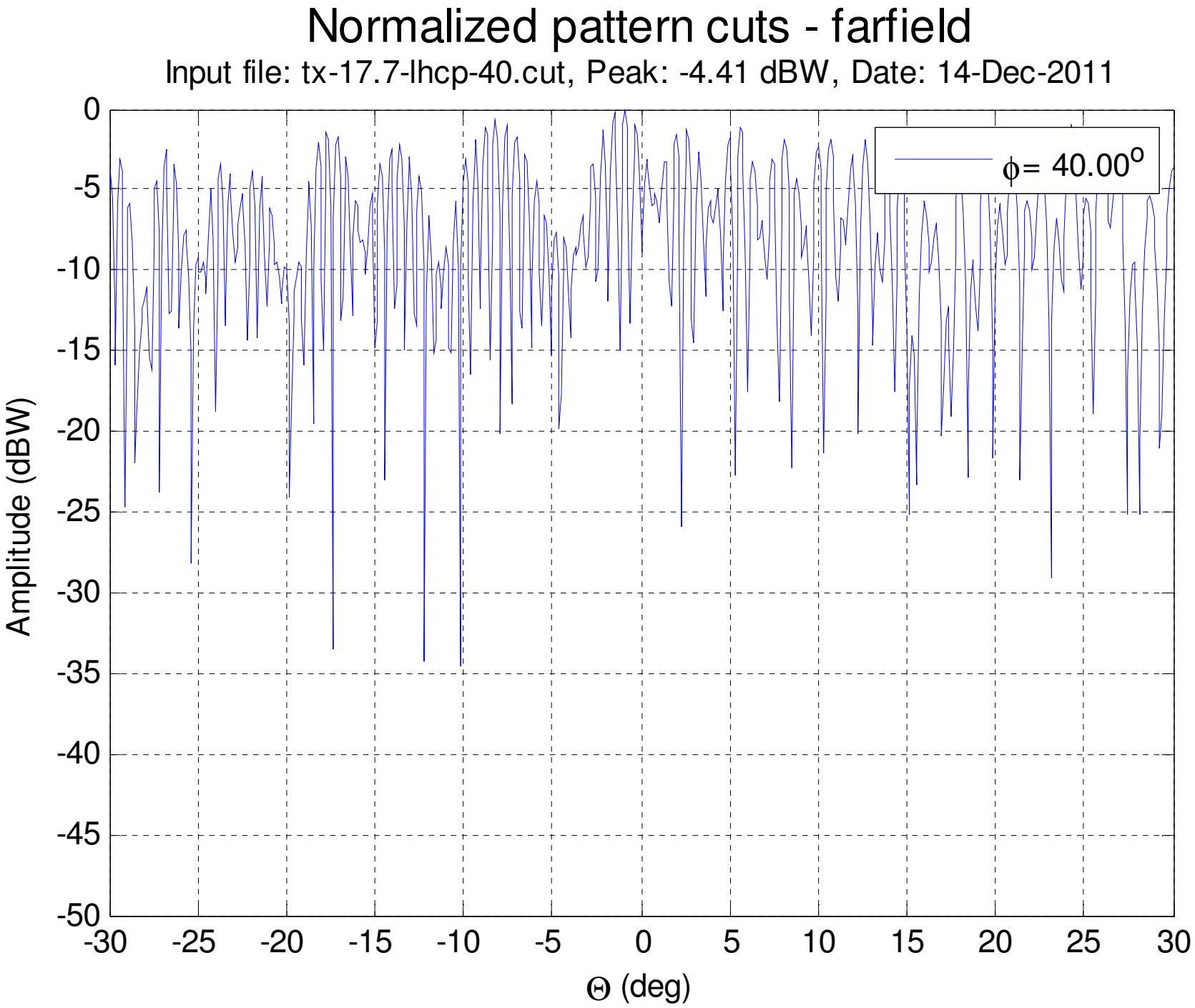

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: -2.45 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

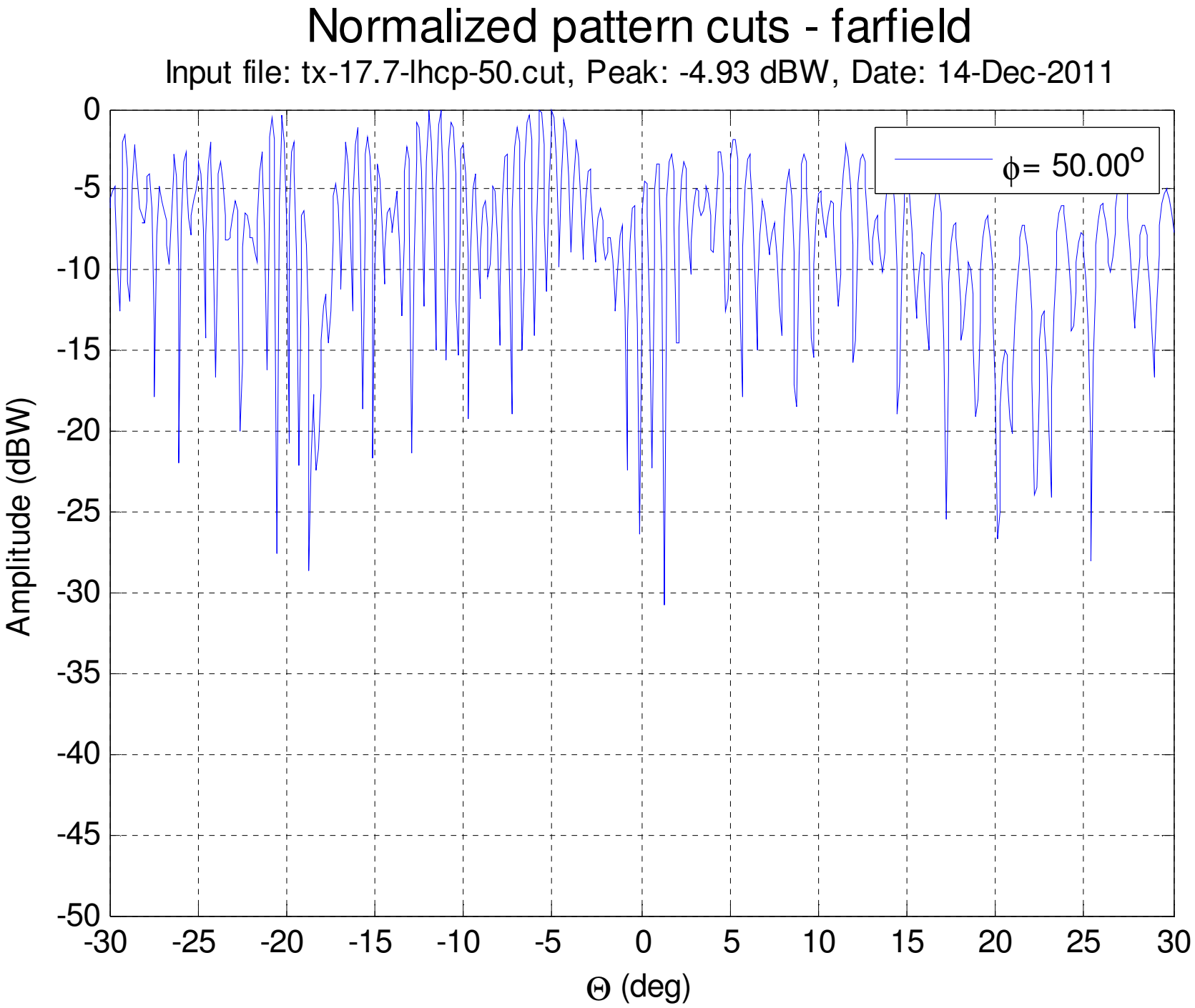

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: -2.68 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

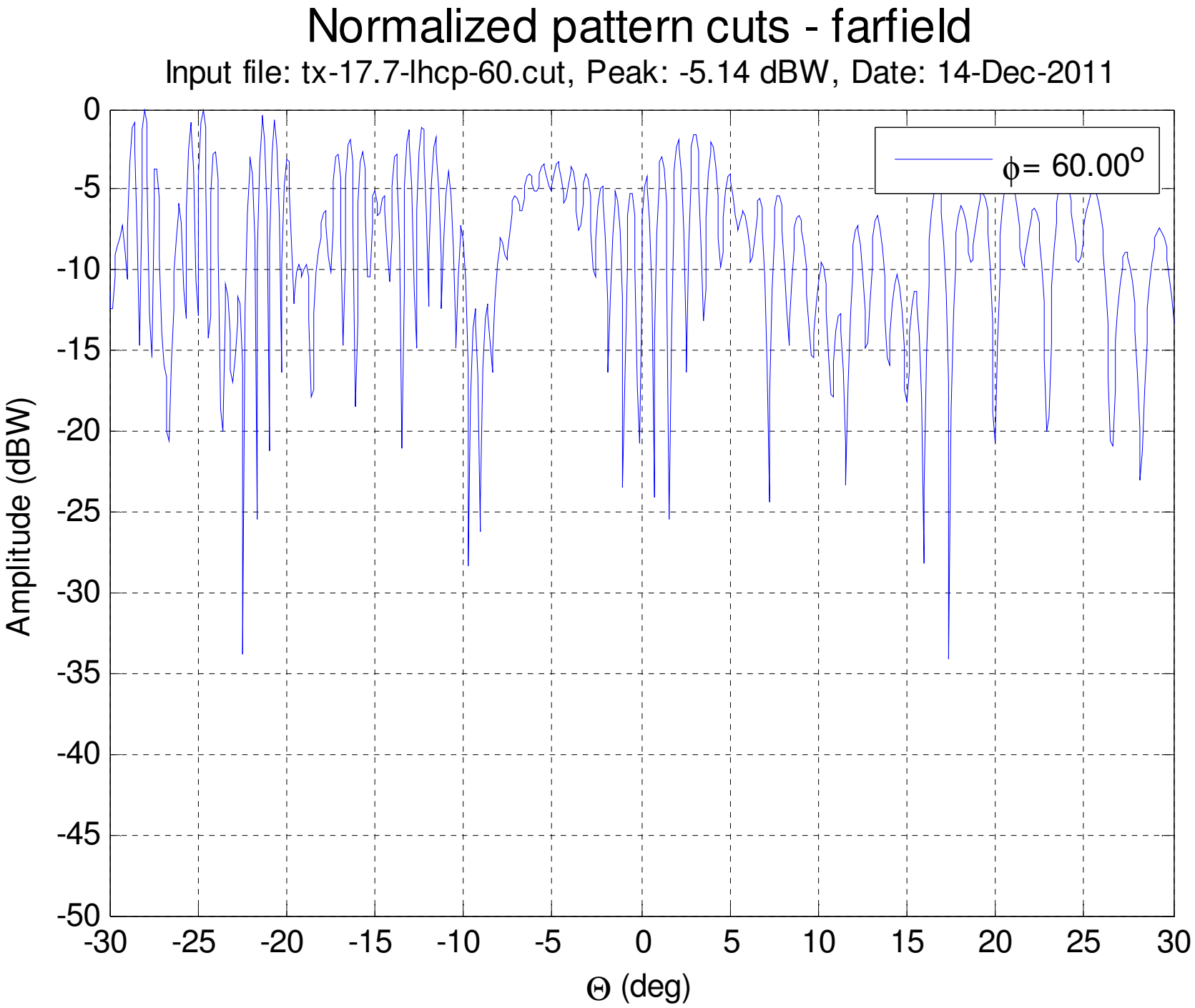

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -2.75 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -4.17 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 20.00°


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -3.51 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -4.41 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

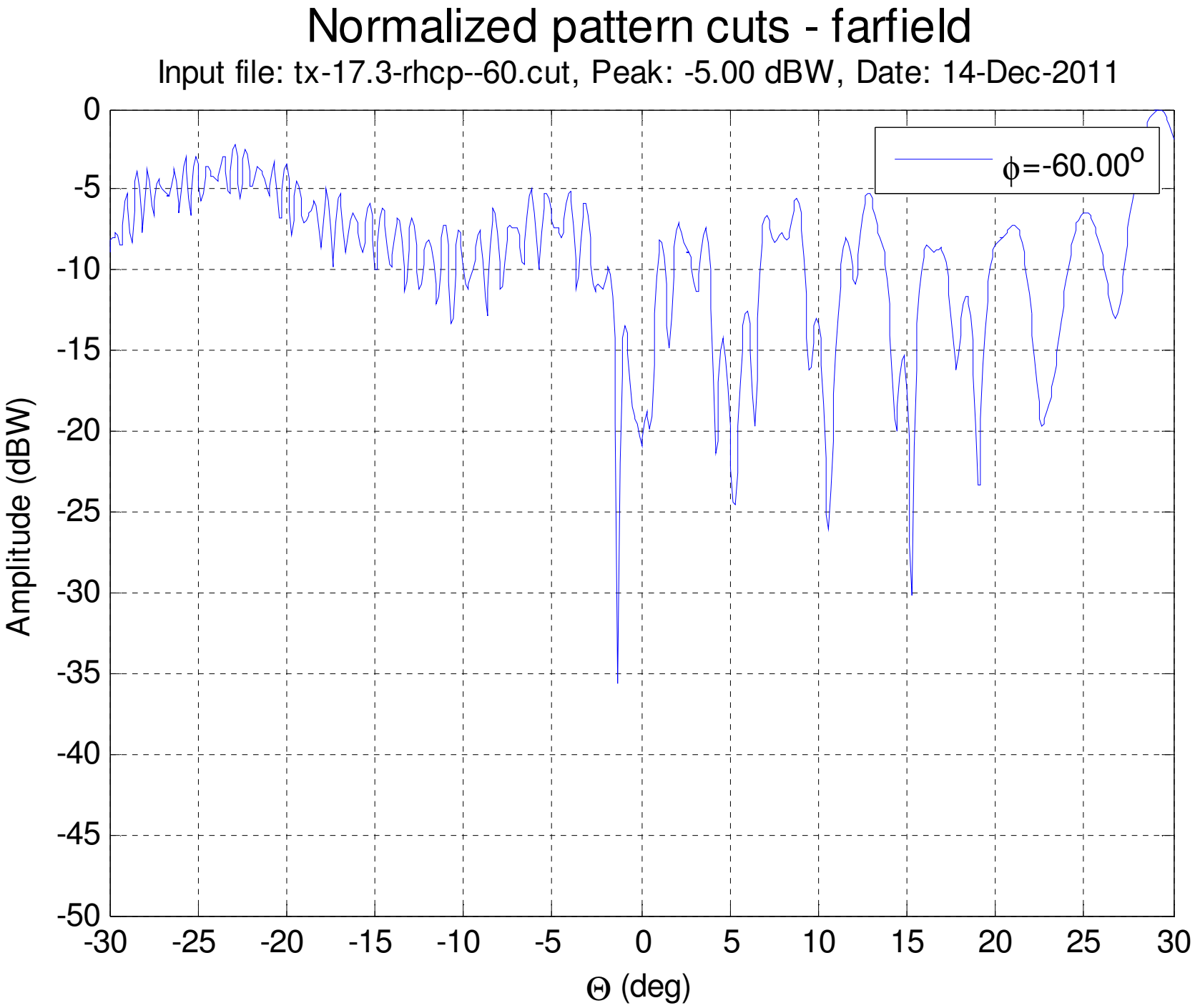

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -4.93 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

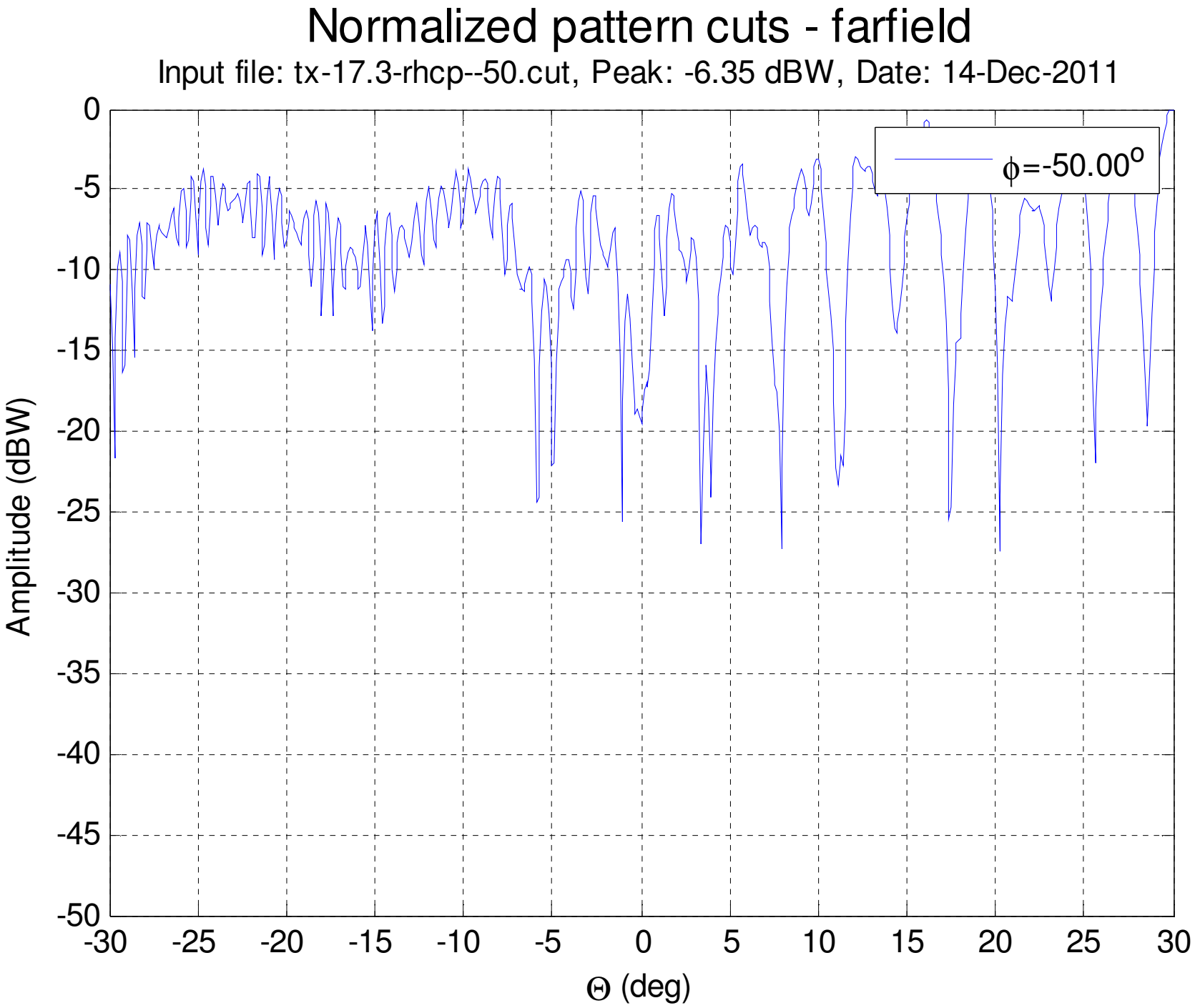

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -5.14 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

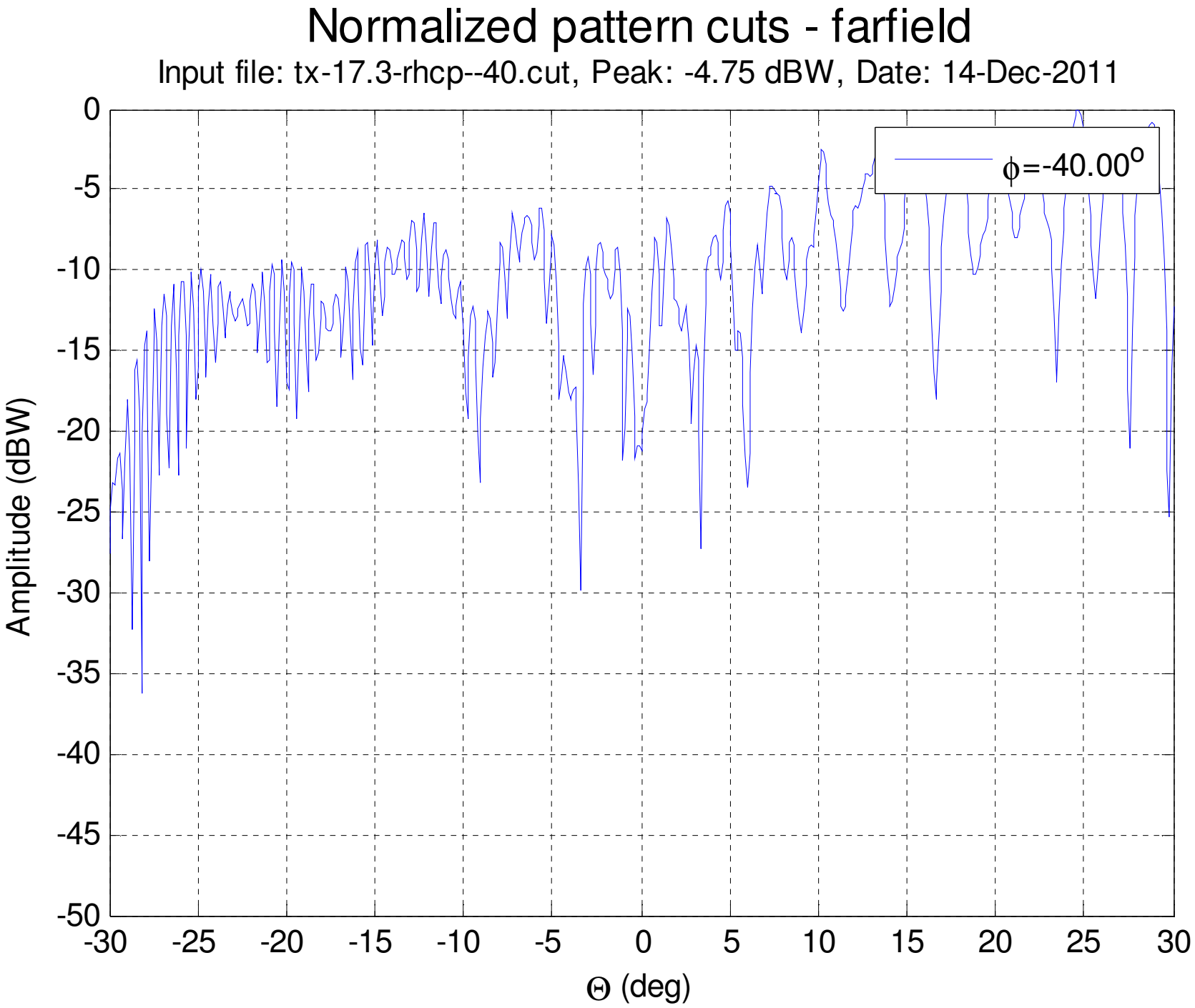
Spot Beam07, +X Axis Plots

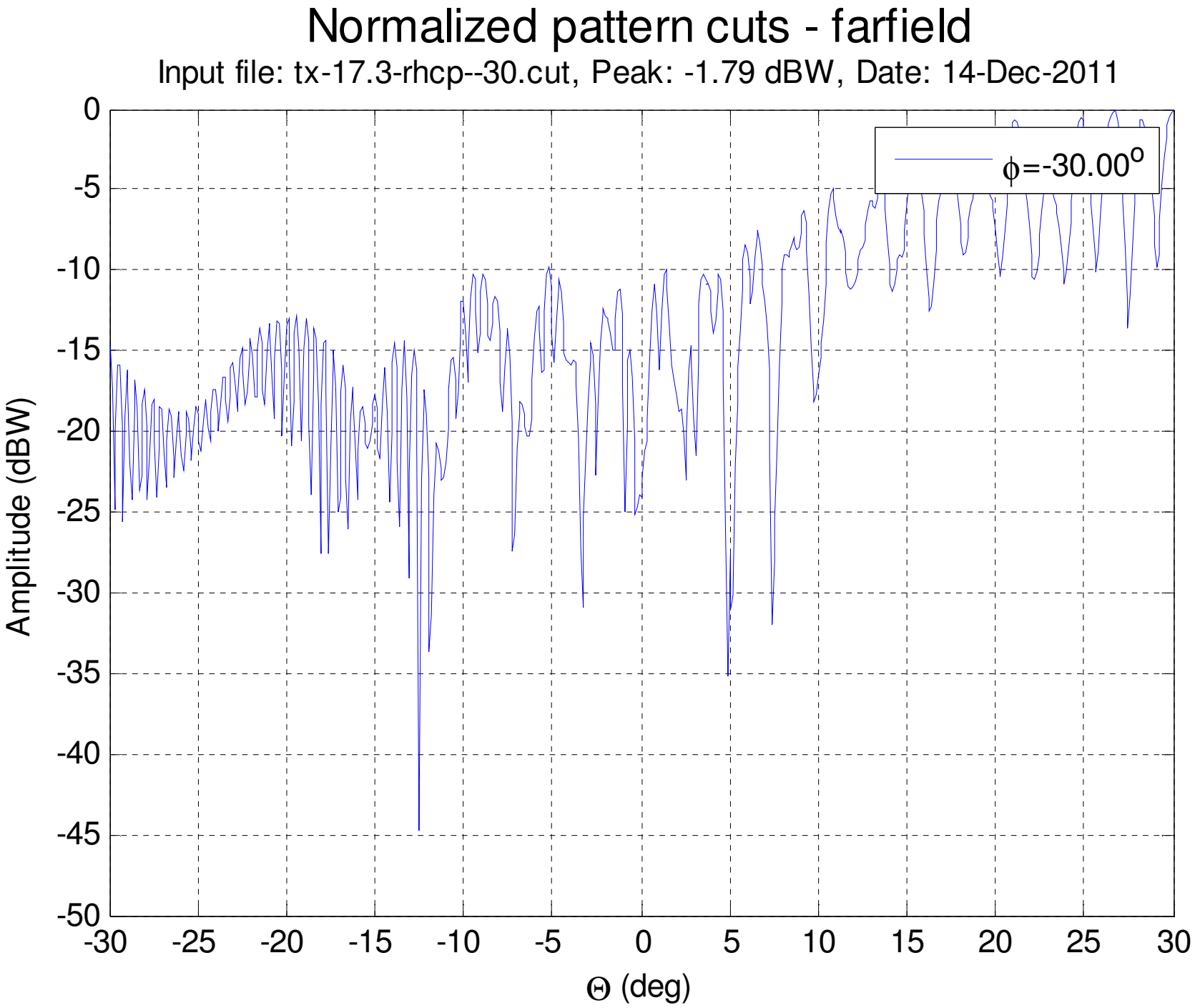
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

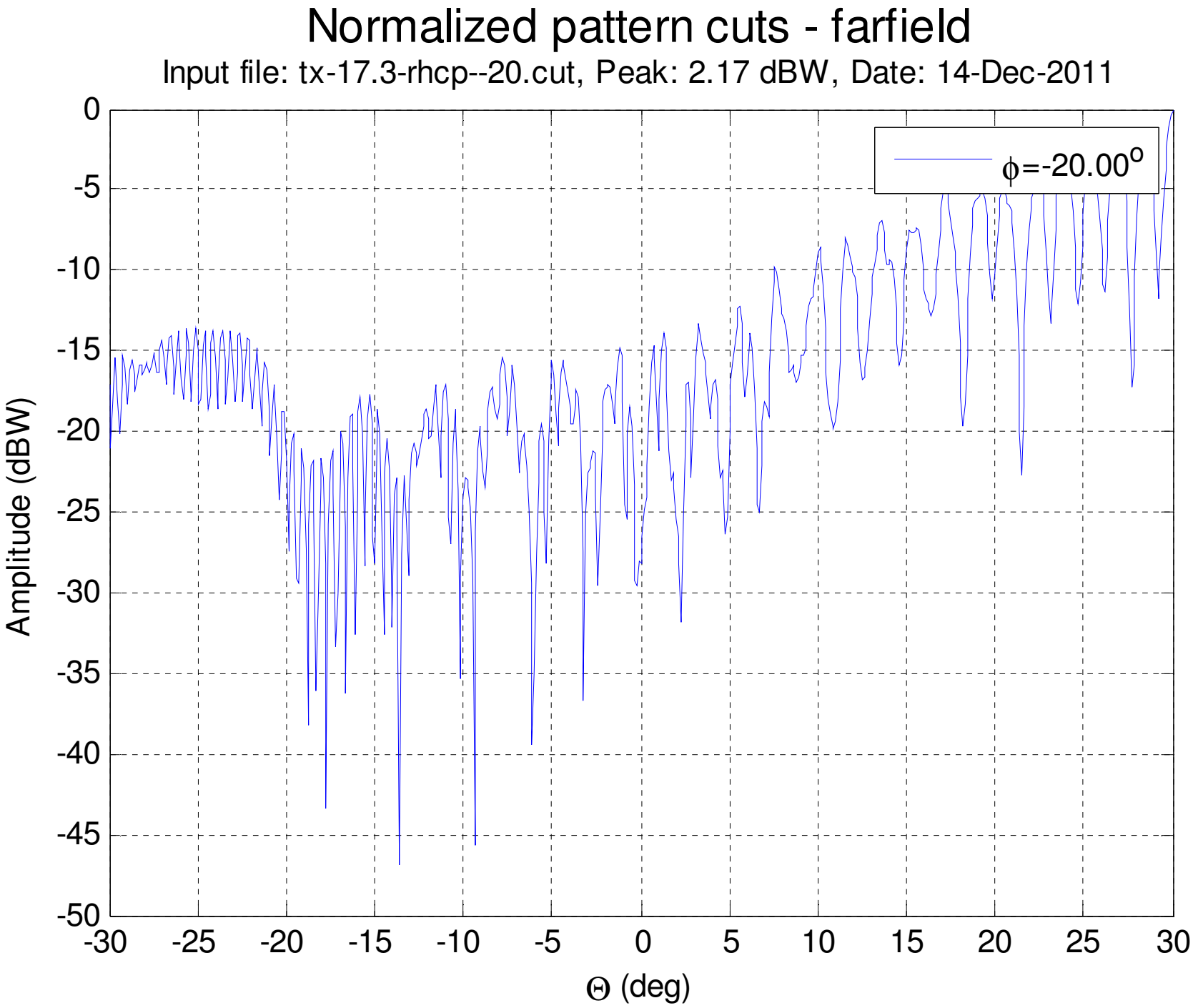
RHCP at 17.3 GHz

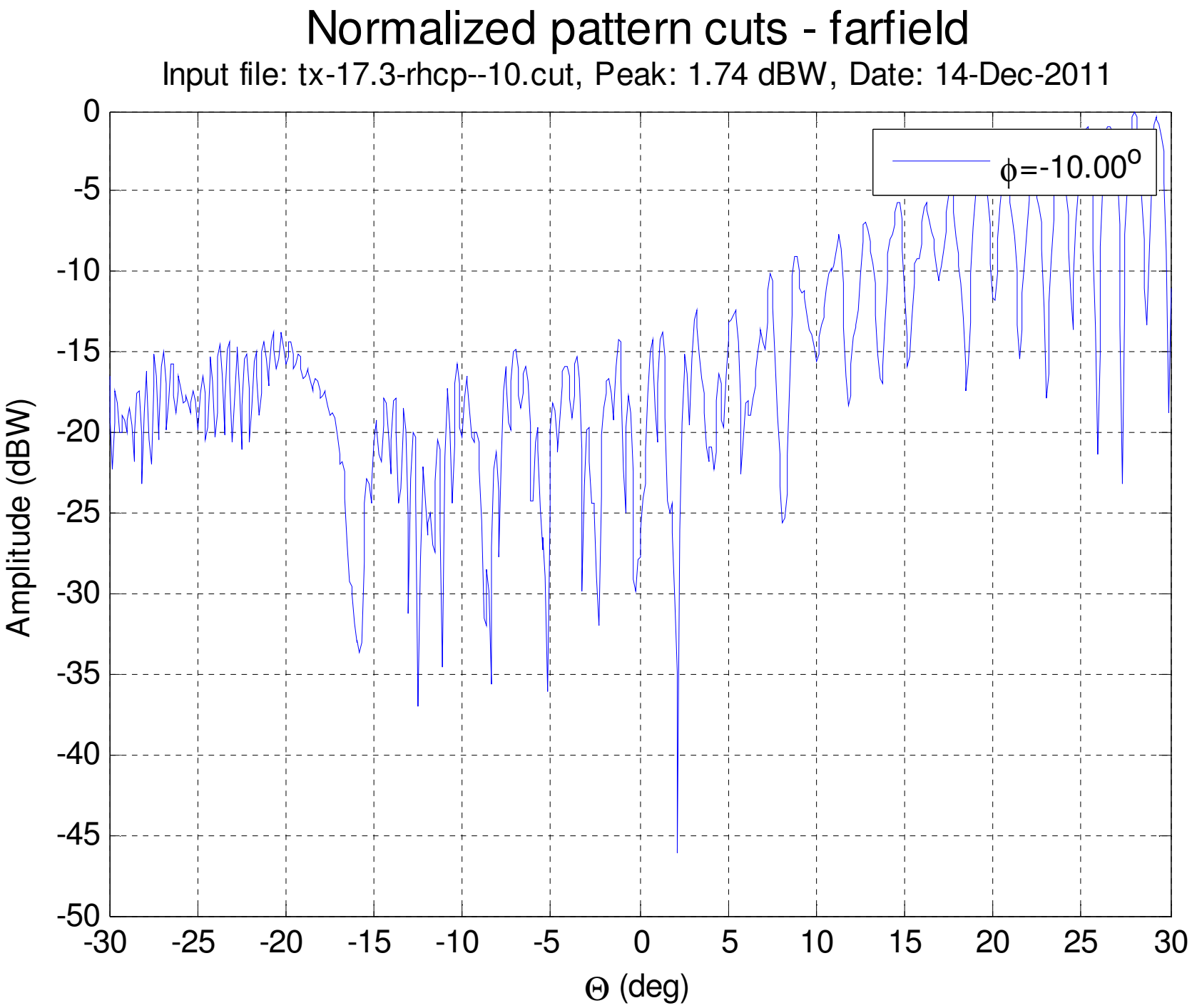

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -5.00 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

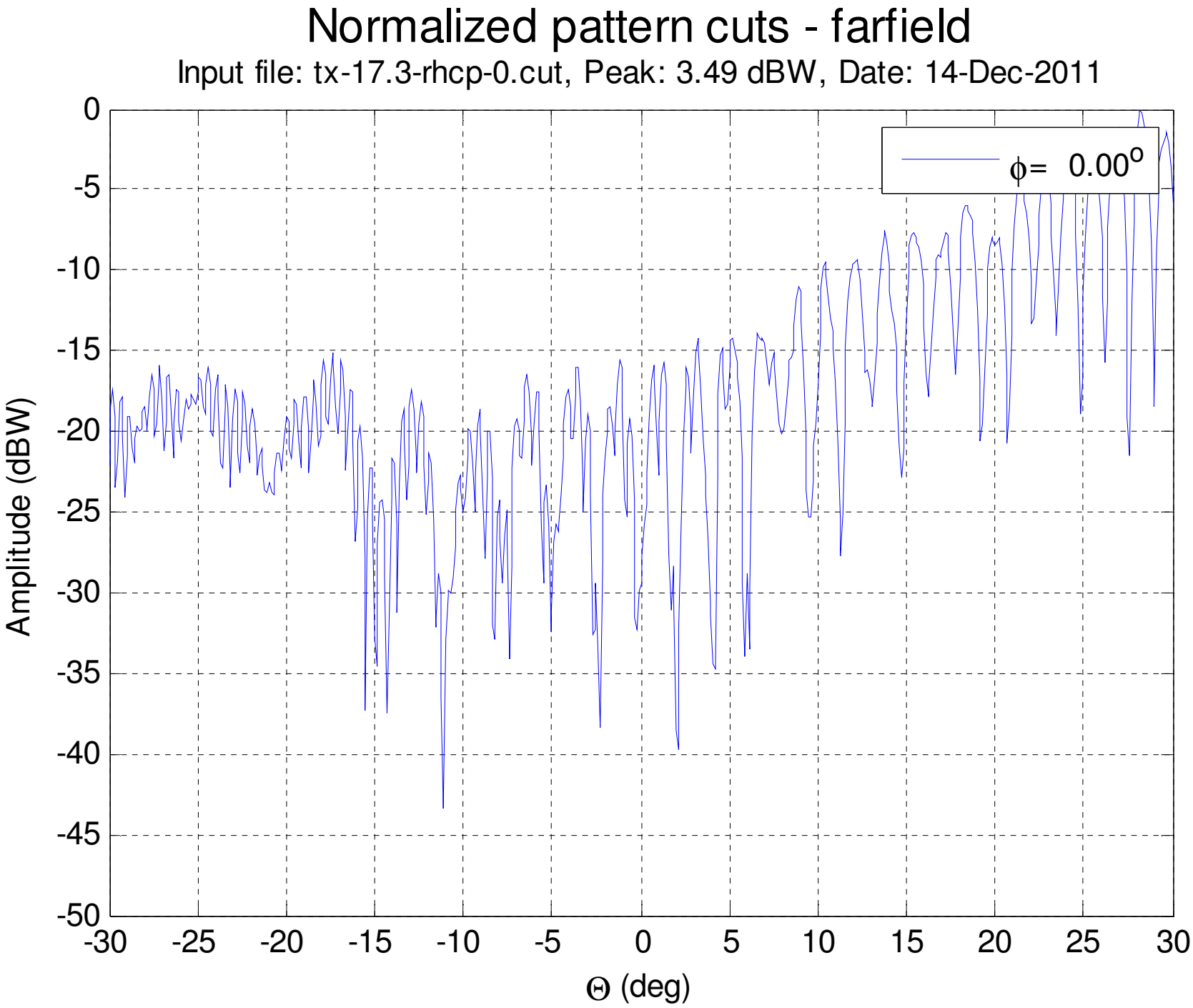

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -6.35 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

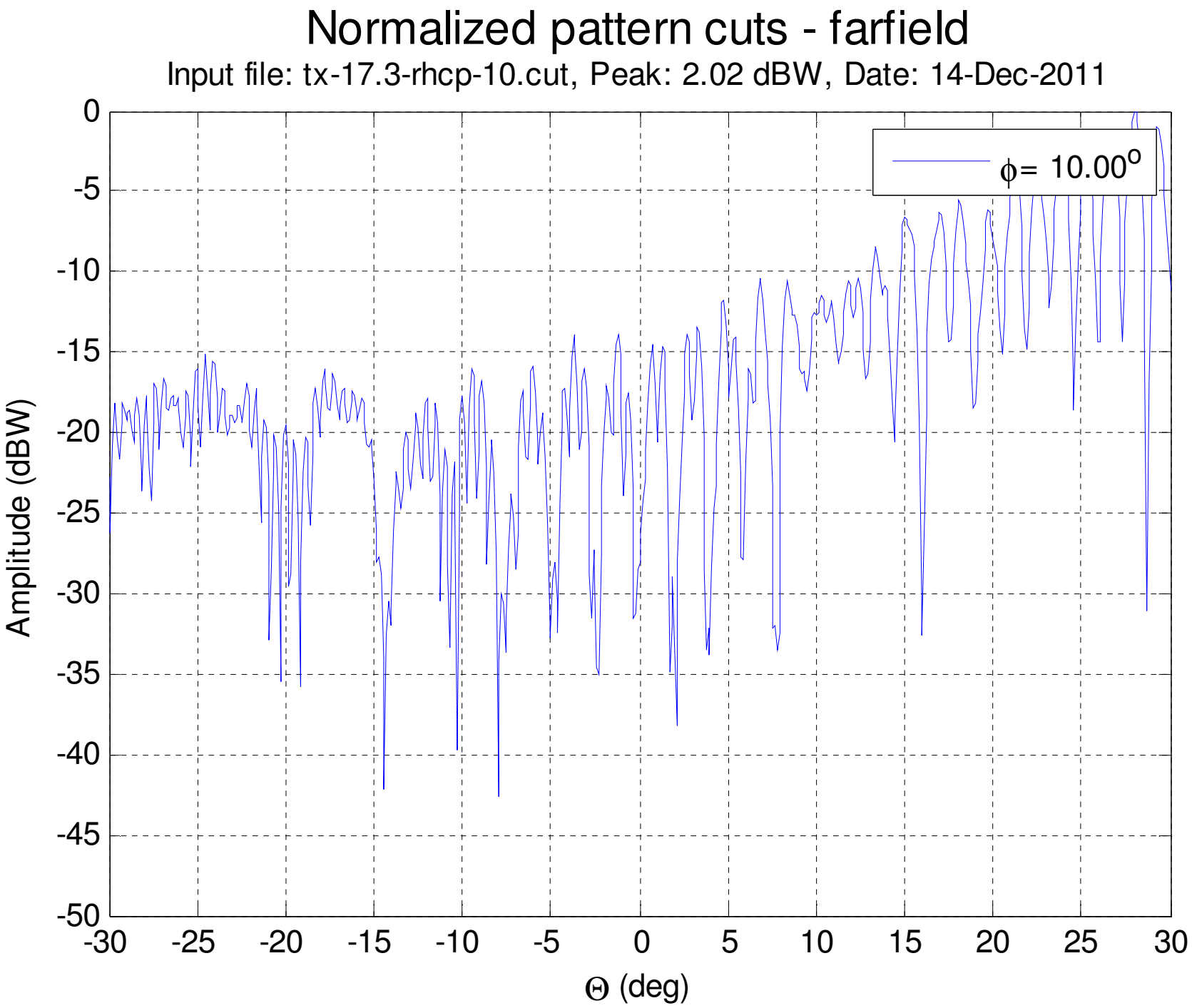

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -4.75 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

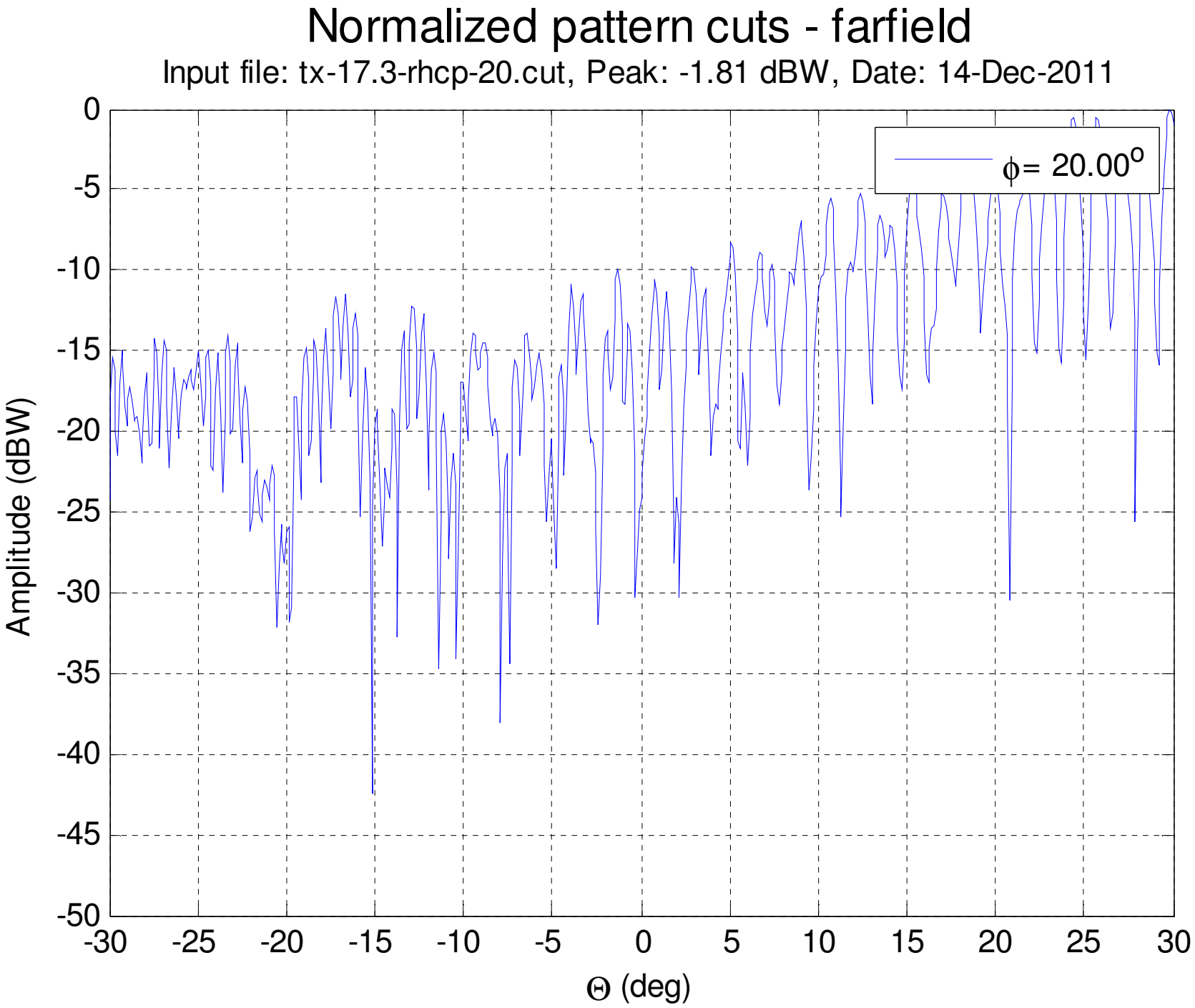

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -1.79 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

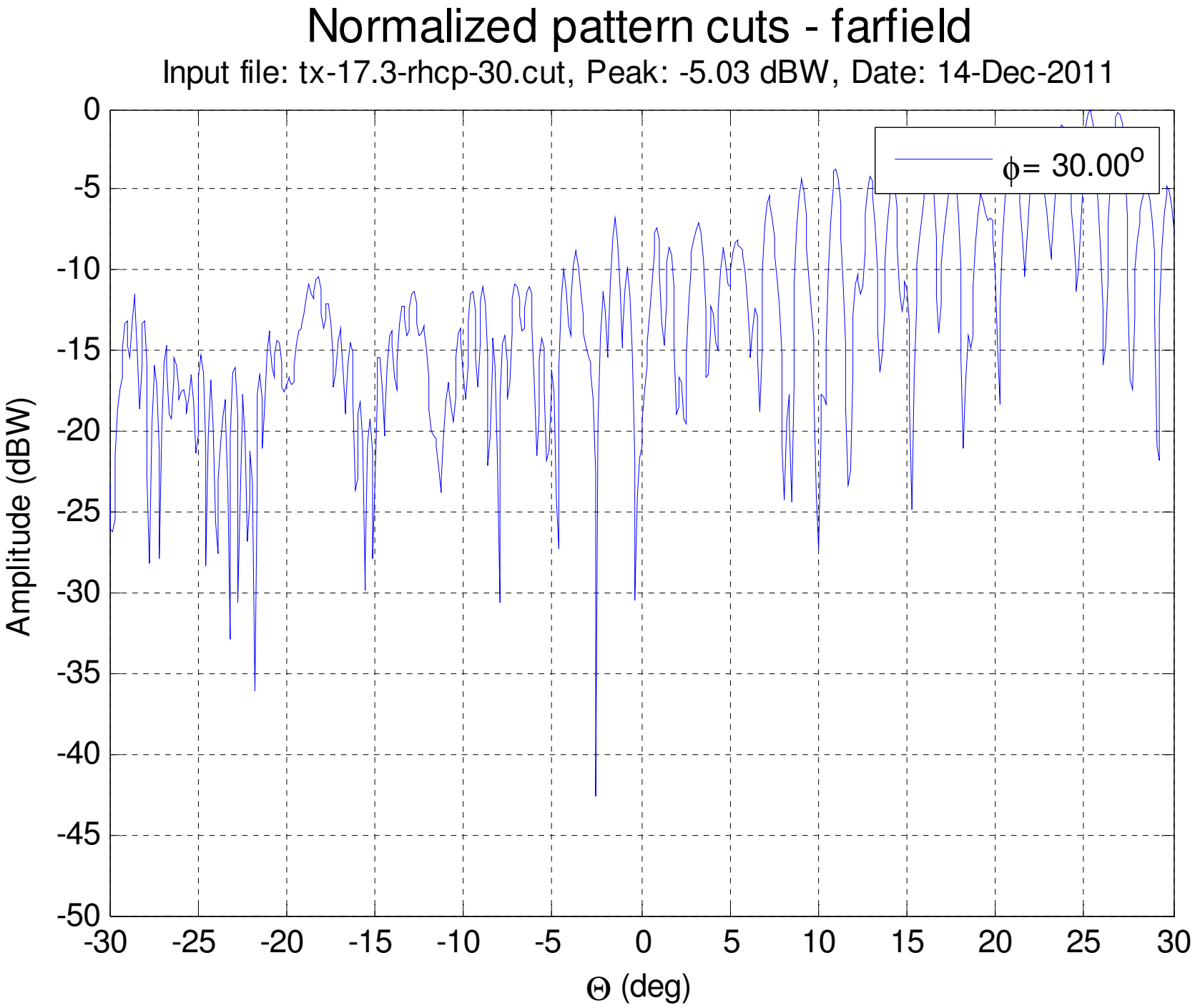

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: 2.17 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

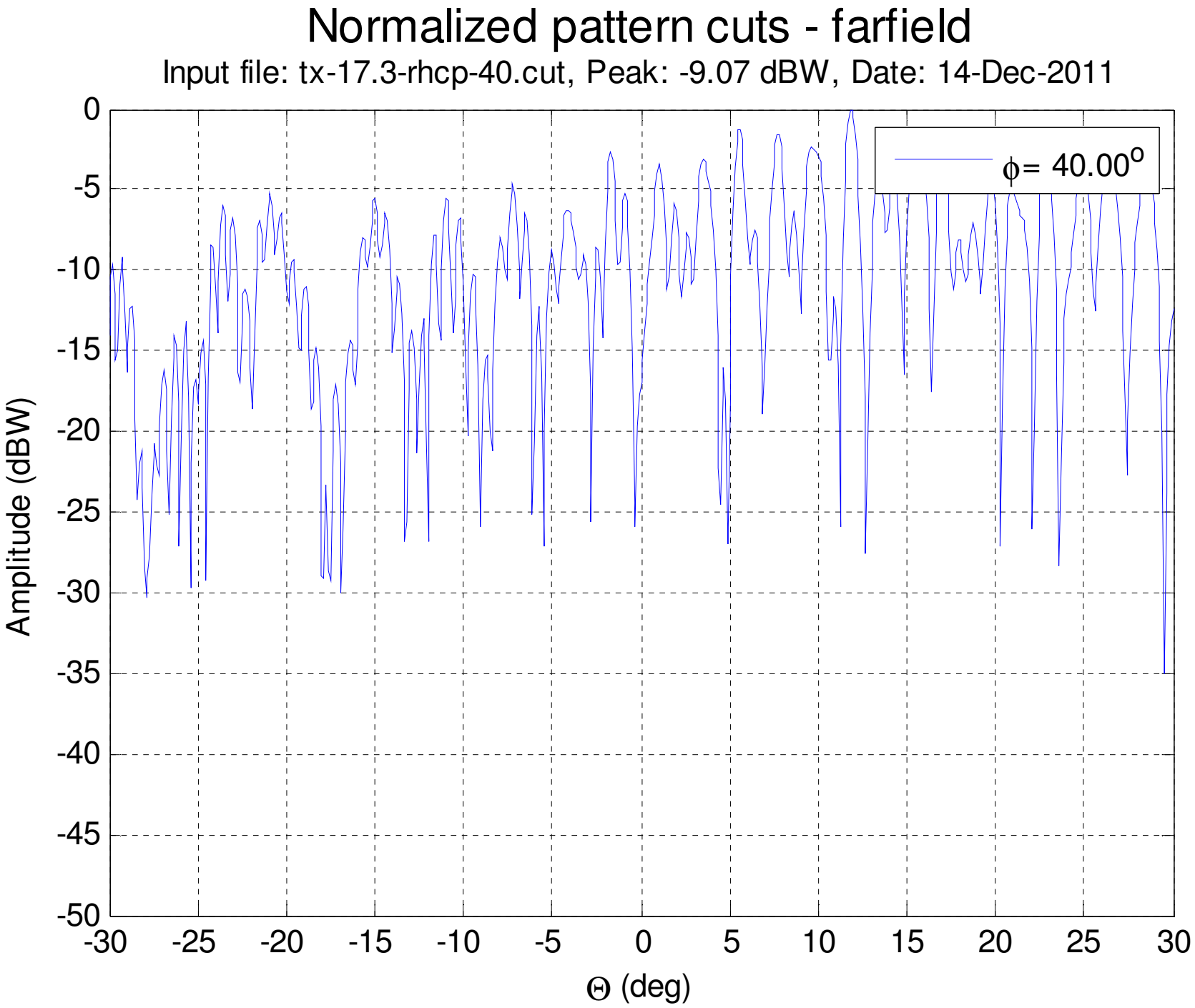

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: 1.74 dBW, Date: 14-Dec-2011
φ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

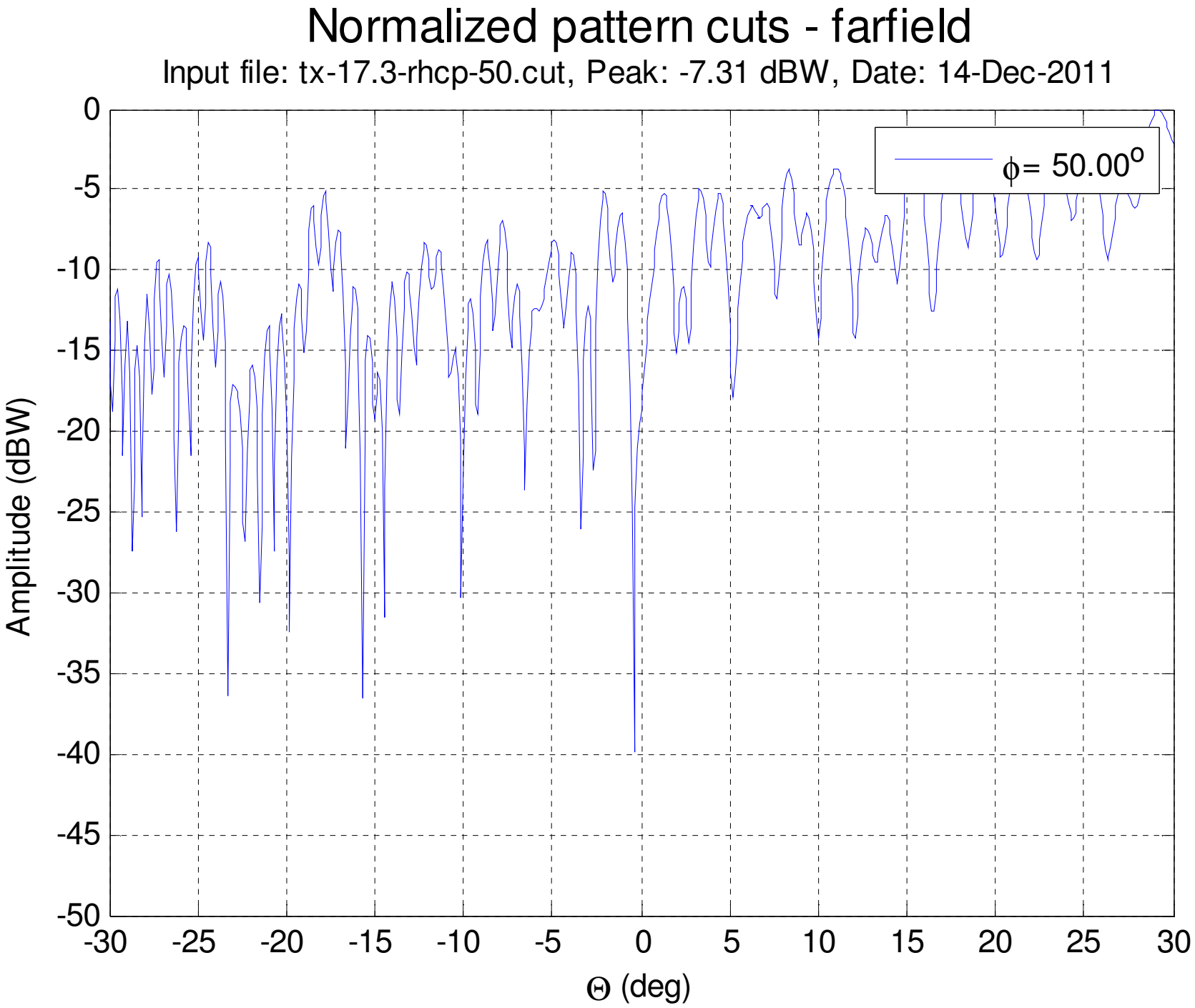

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: 3.49 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

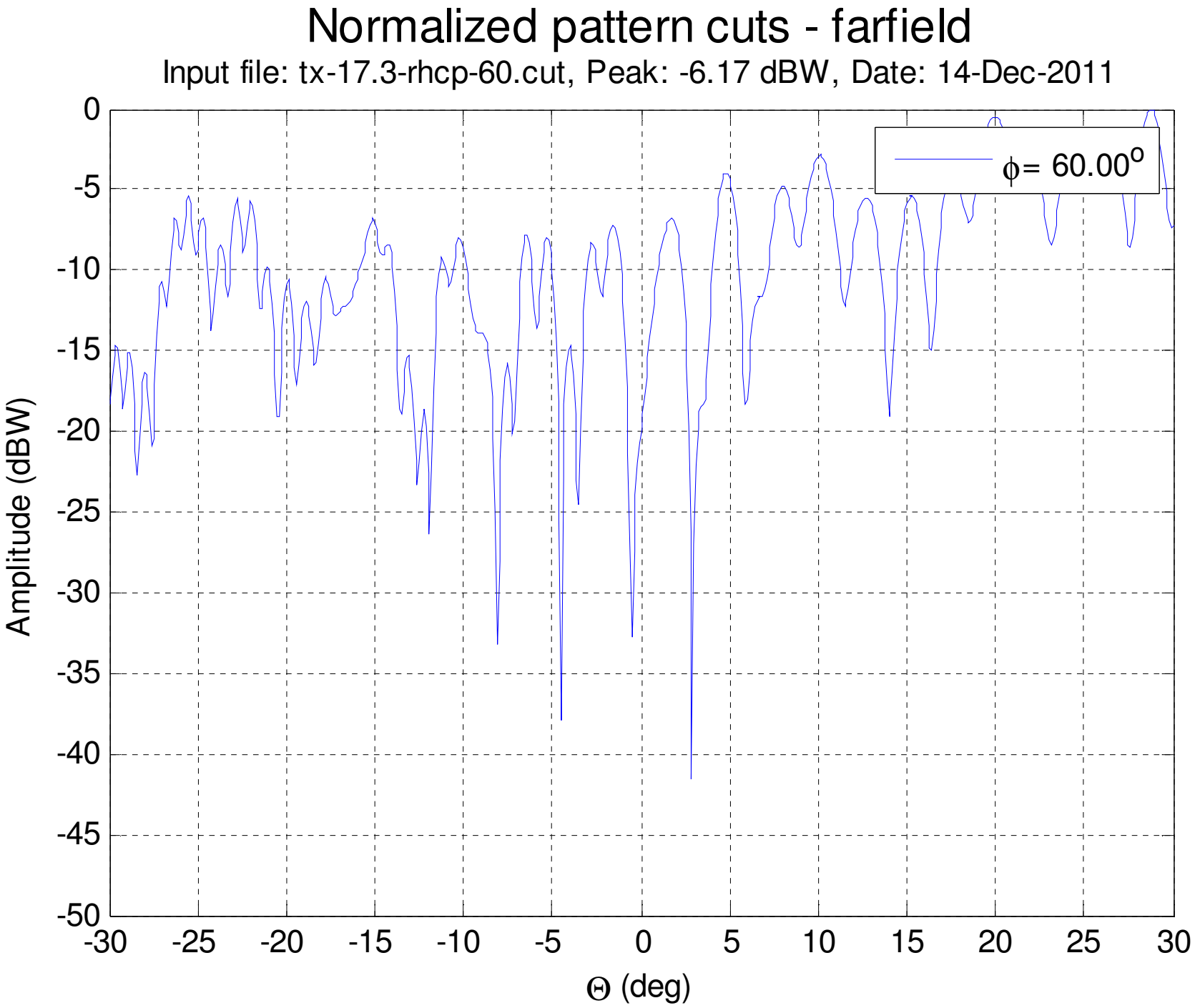

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: 2.02 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -1.81 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

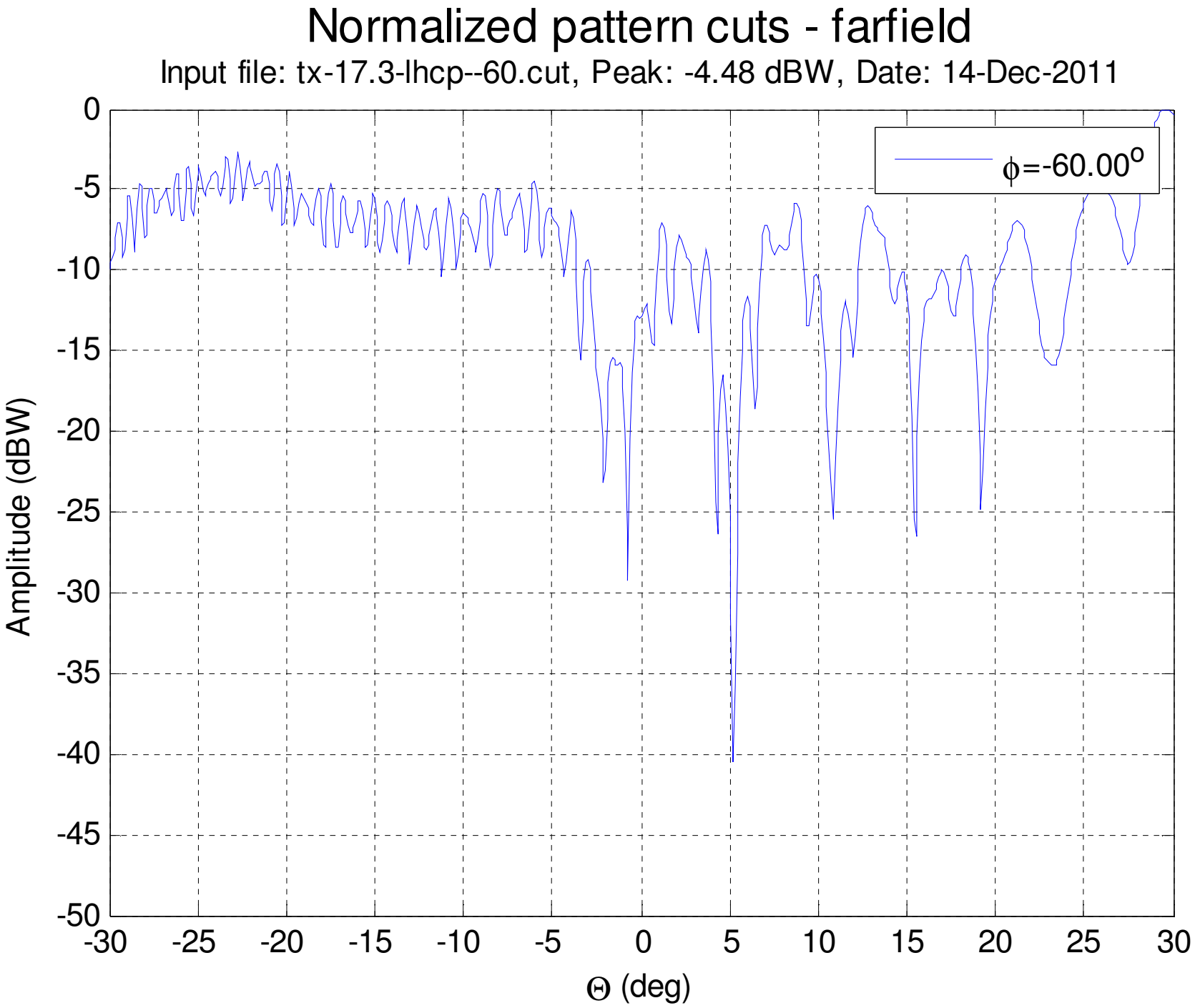

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -5.03 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

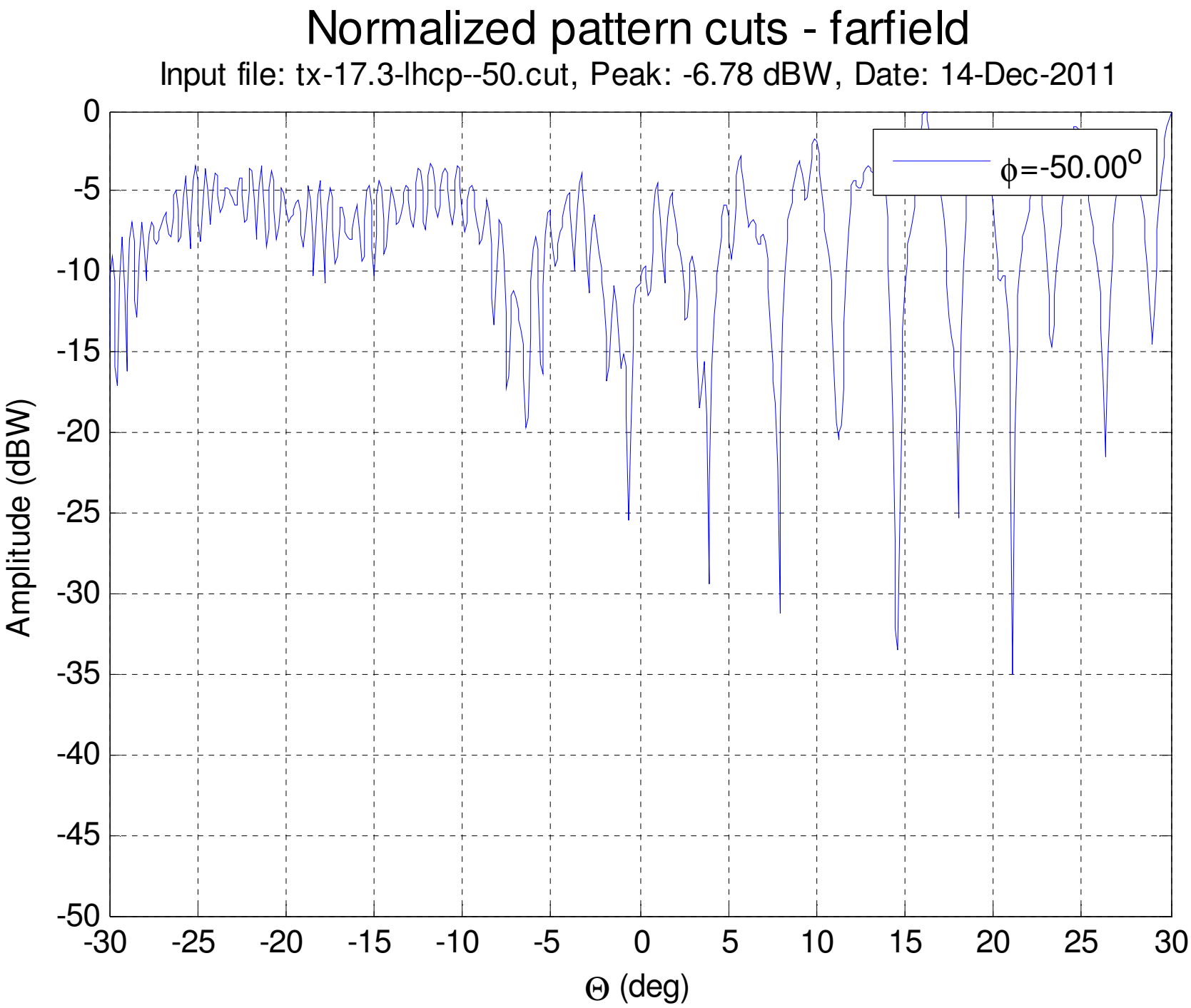

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -9.07 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

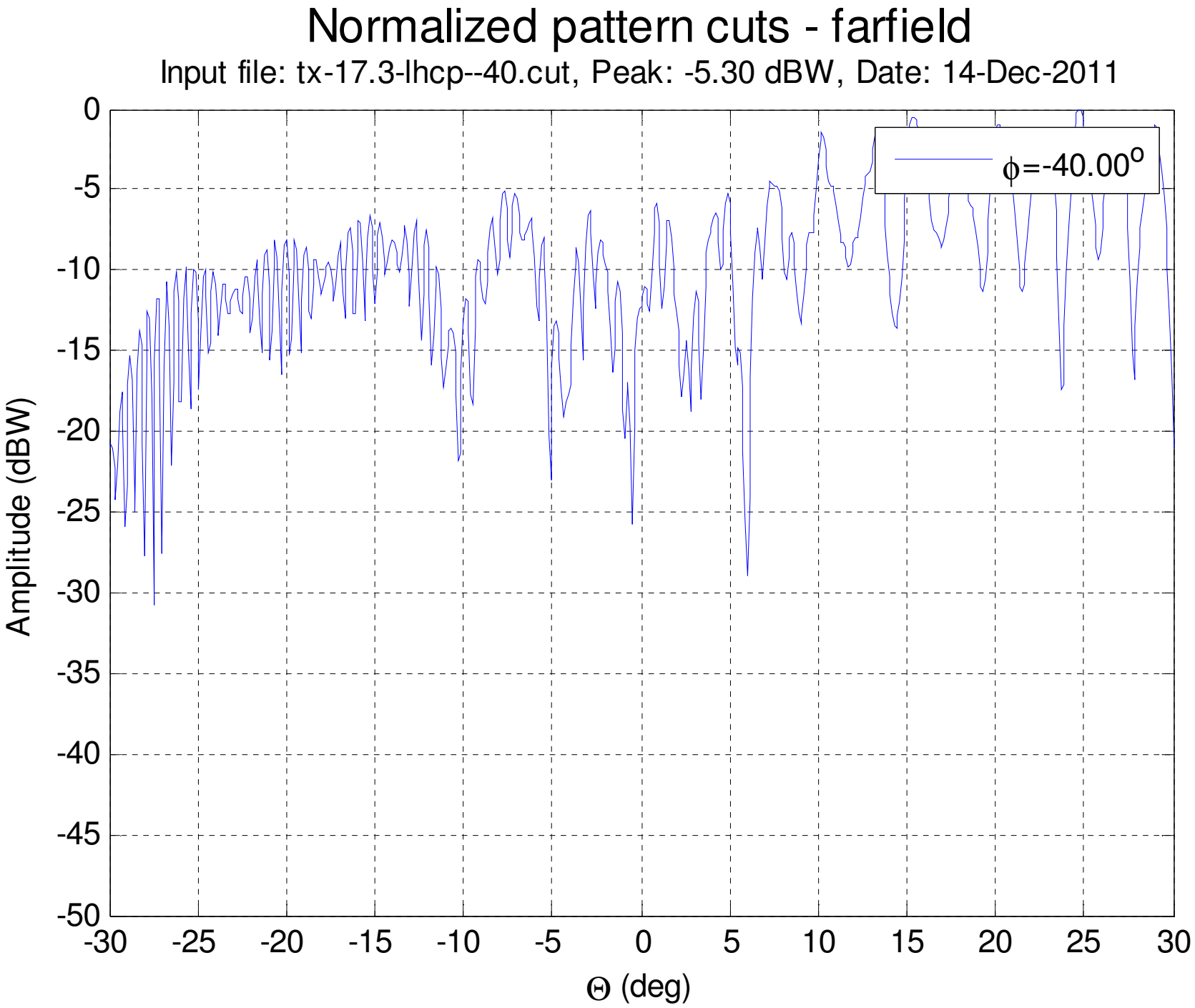

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -7.31 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

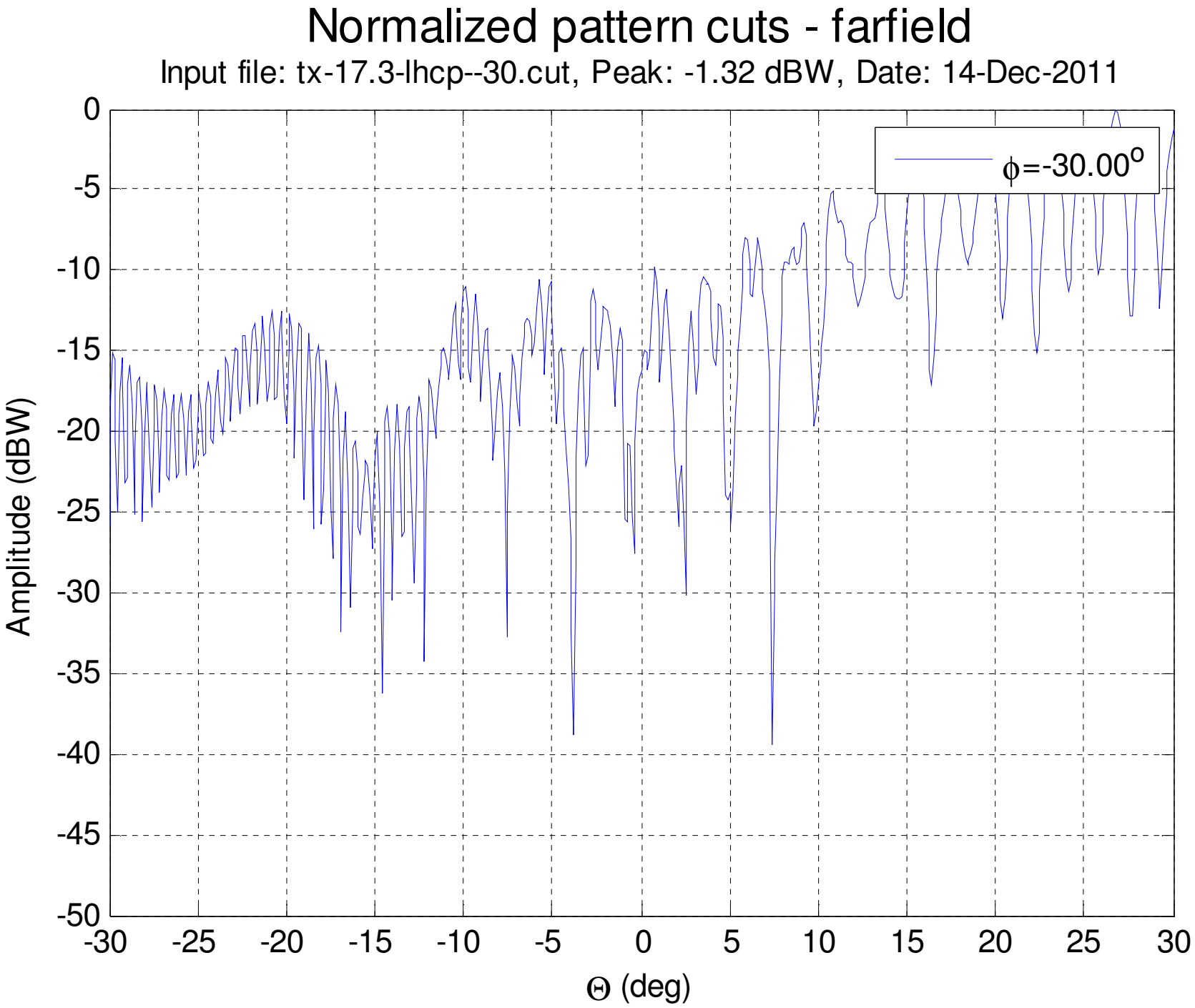

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -6.17 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

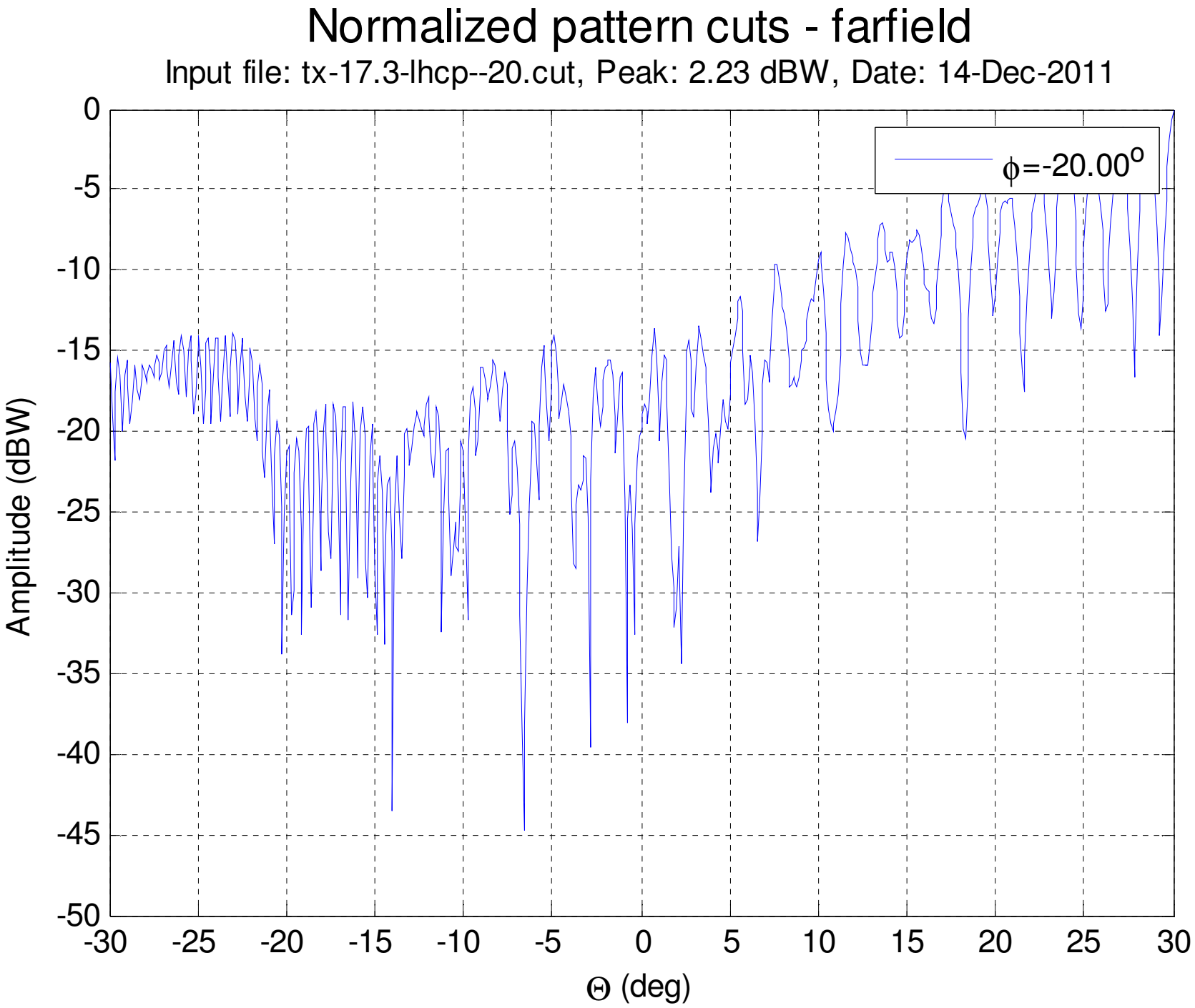
LHCP at 17.3 GHz

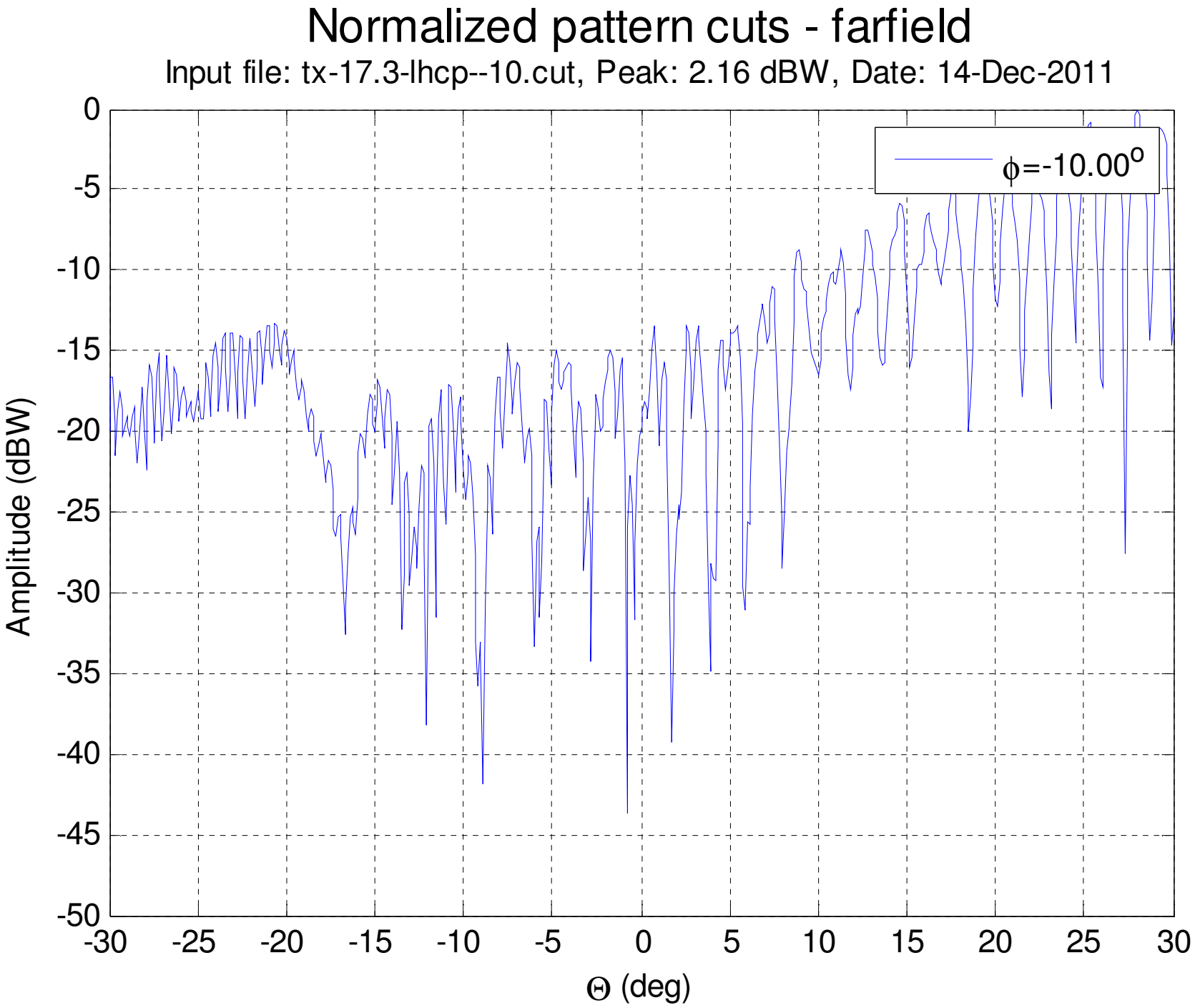

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -4.48 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

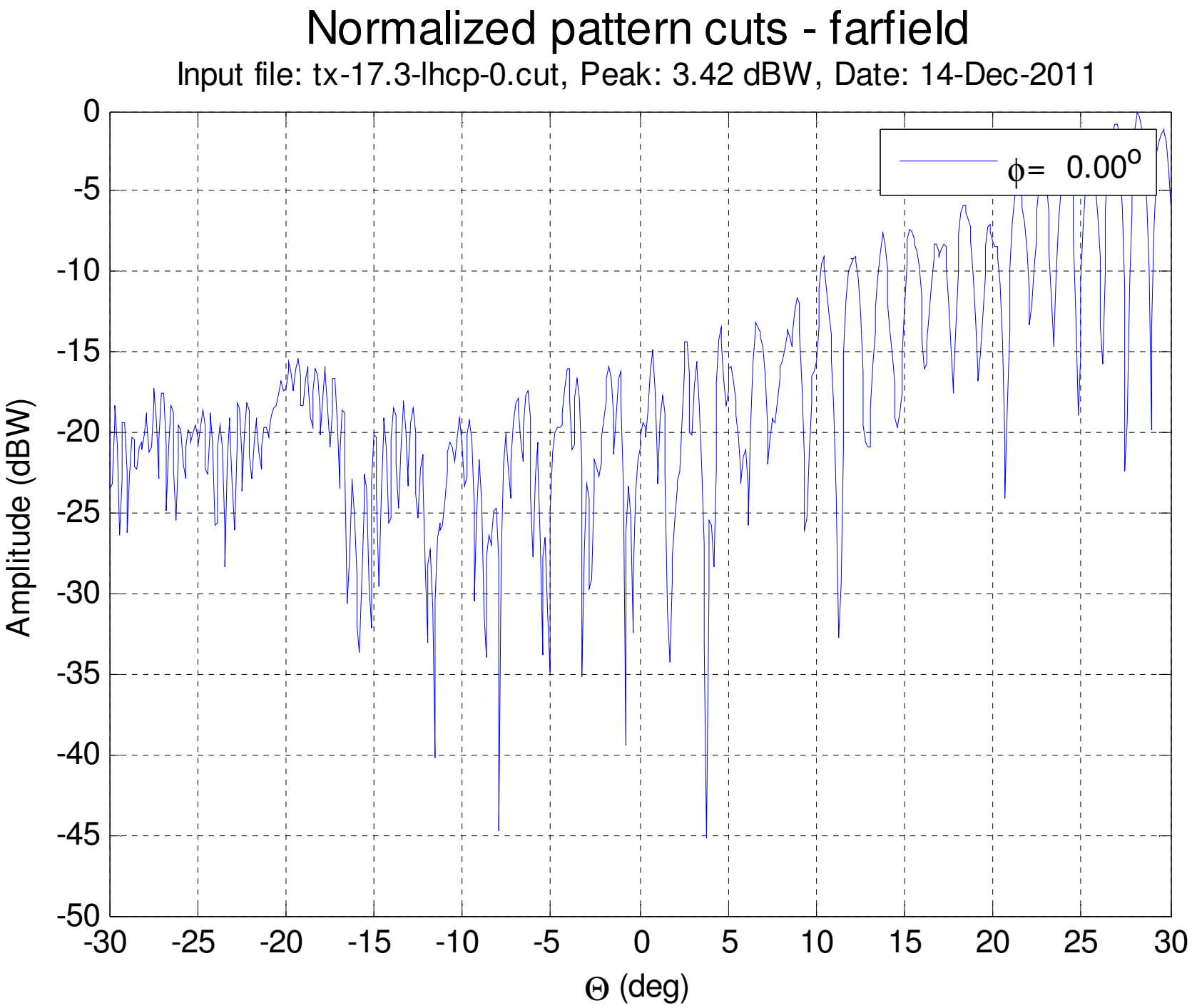

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -6.78 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

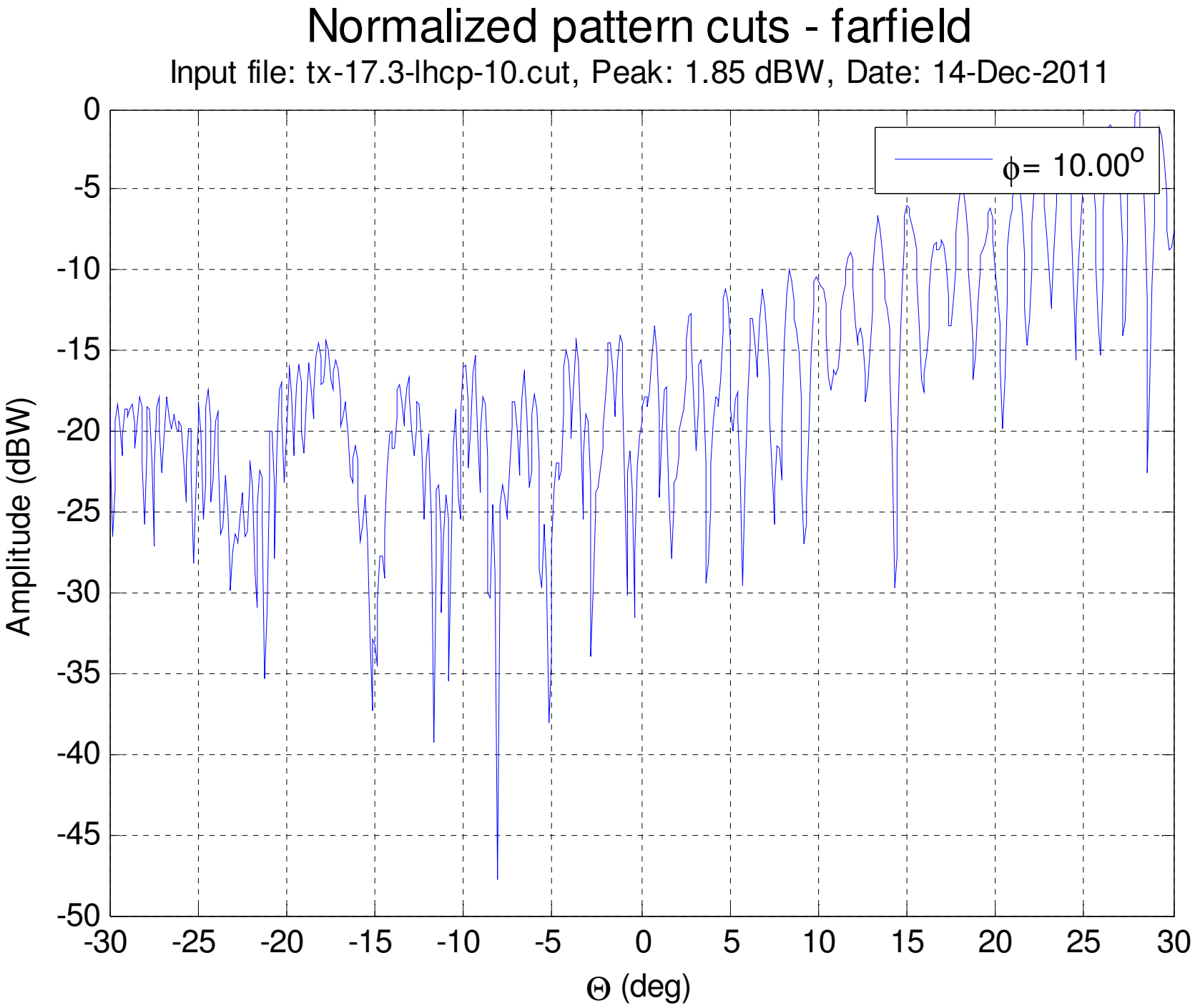

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -5.30 dBW, Date: 14-Dec-2011
φ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

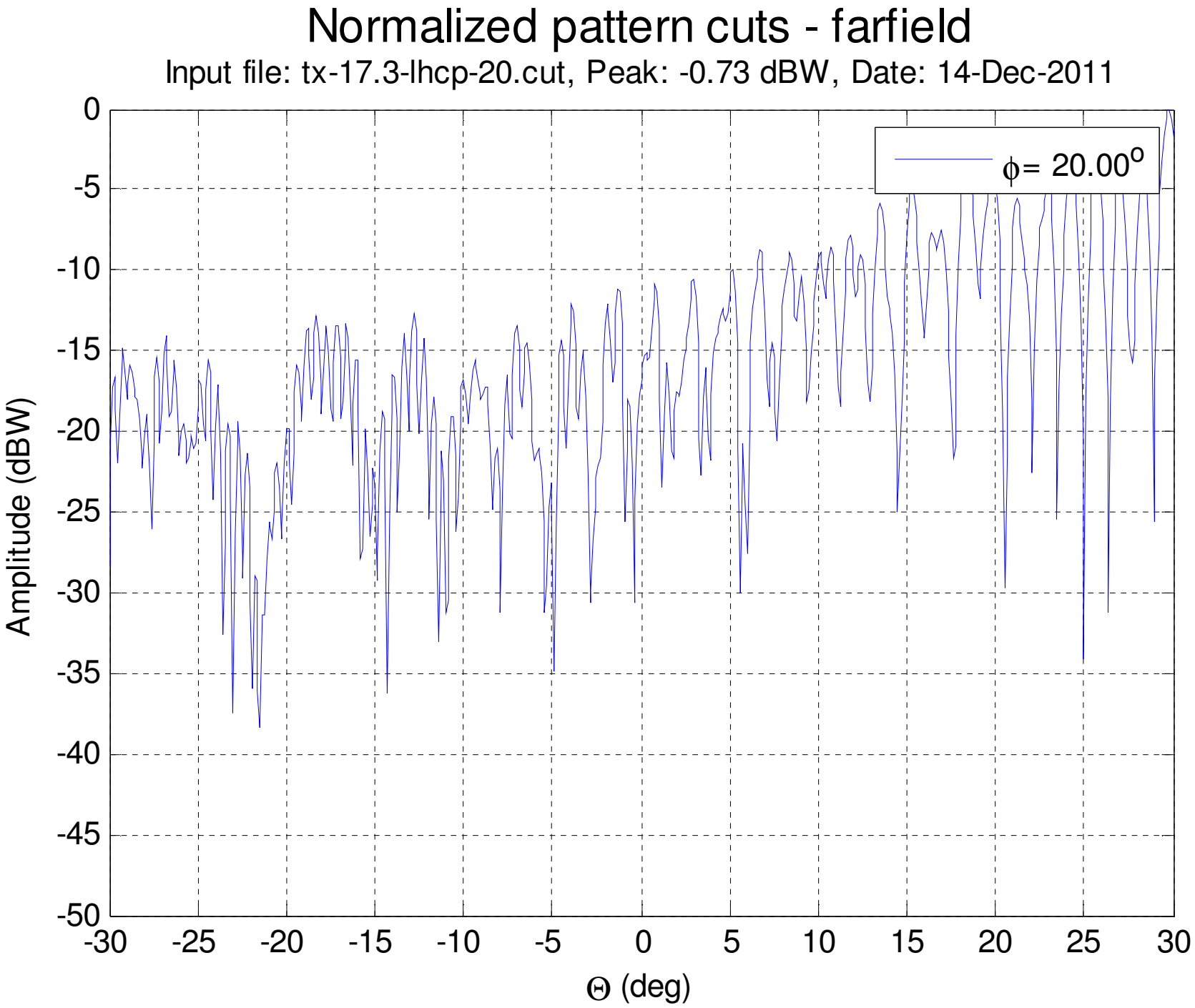

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -1.32 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

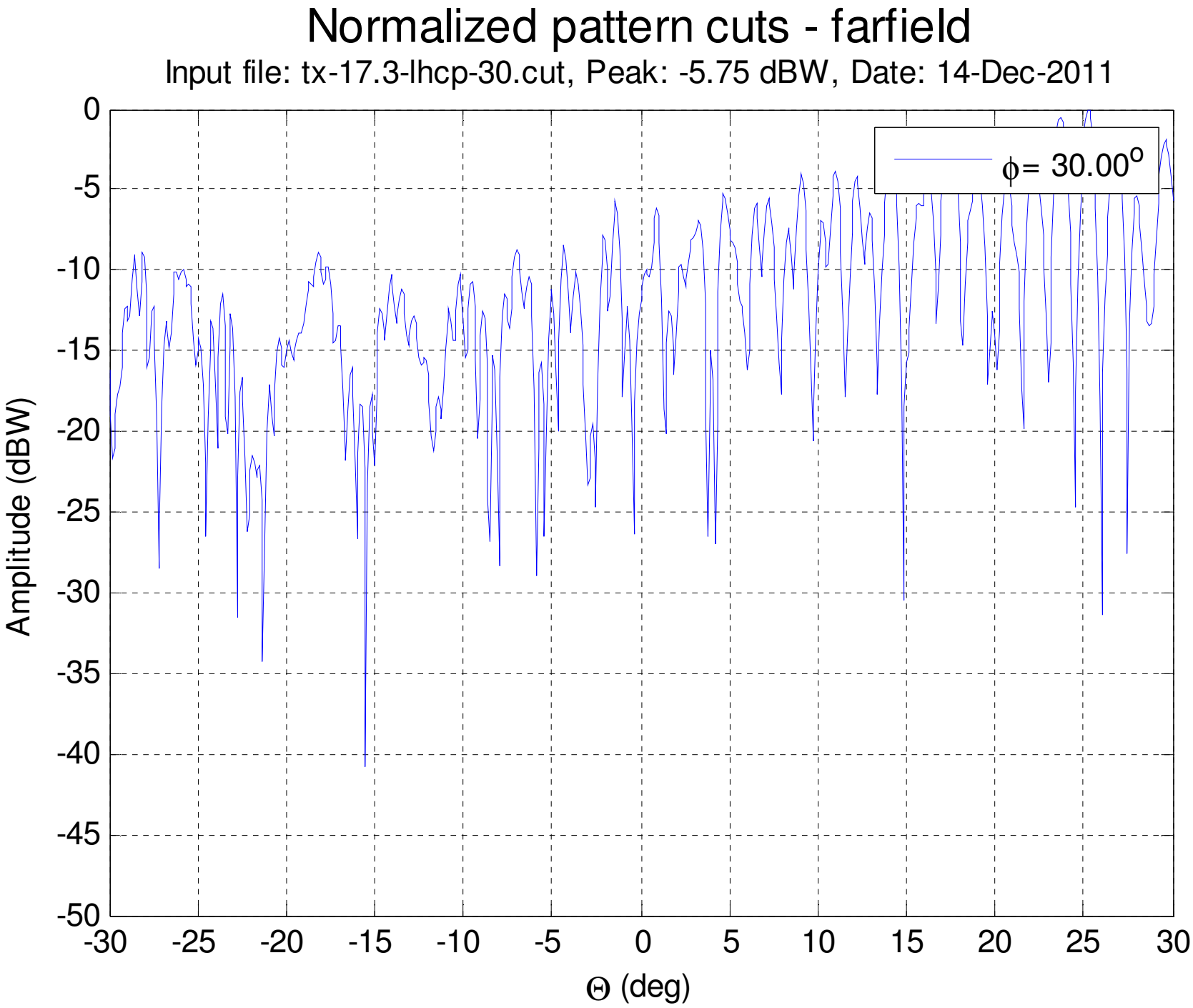

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: 2.23 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

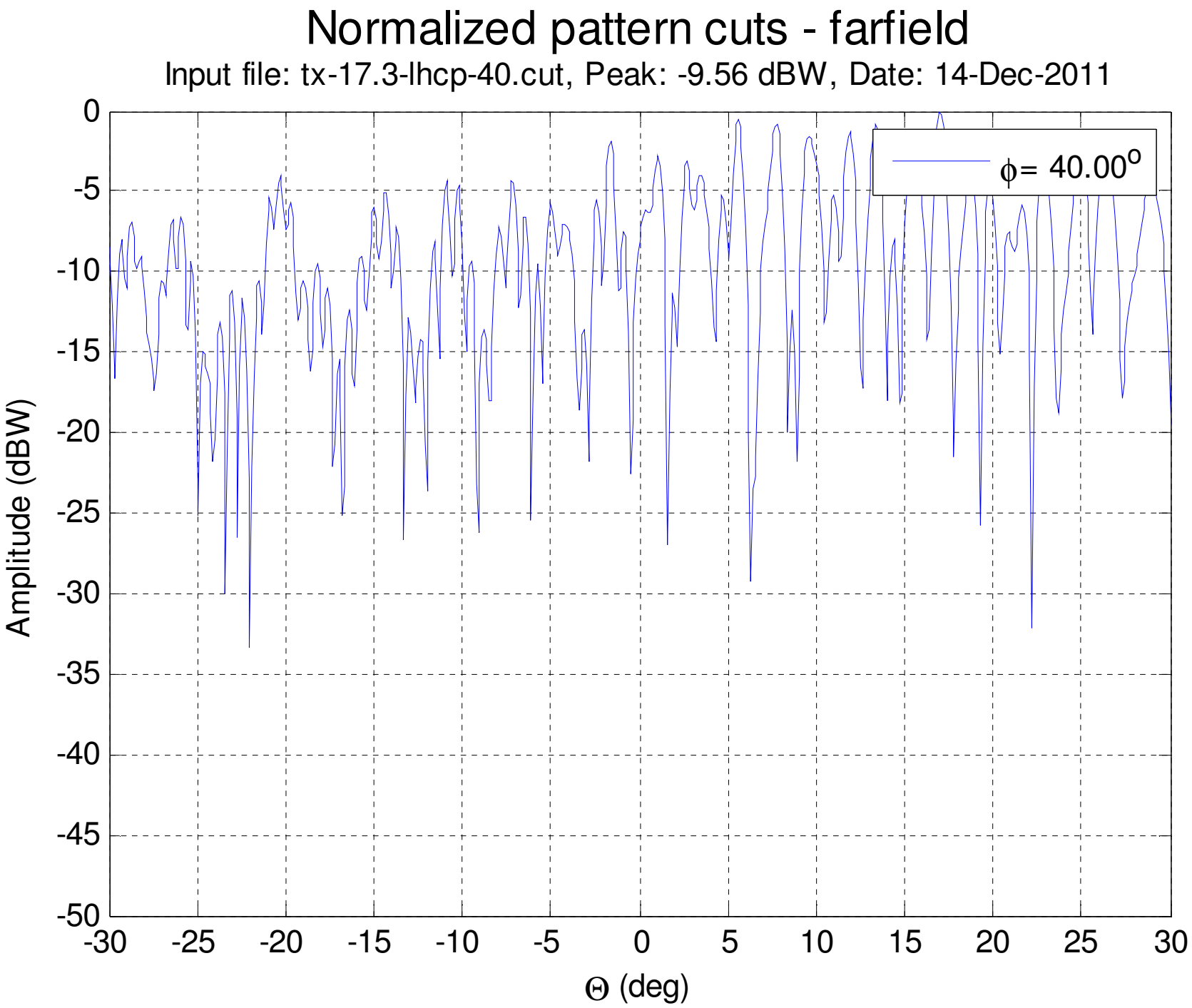

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: 2.16 dBW, Date: 14-Dec-2011
φ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

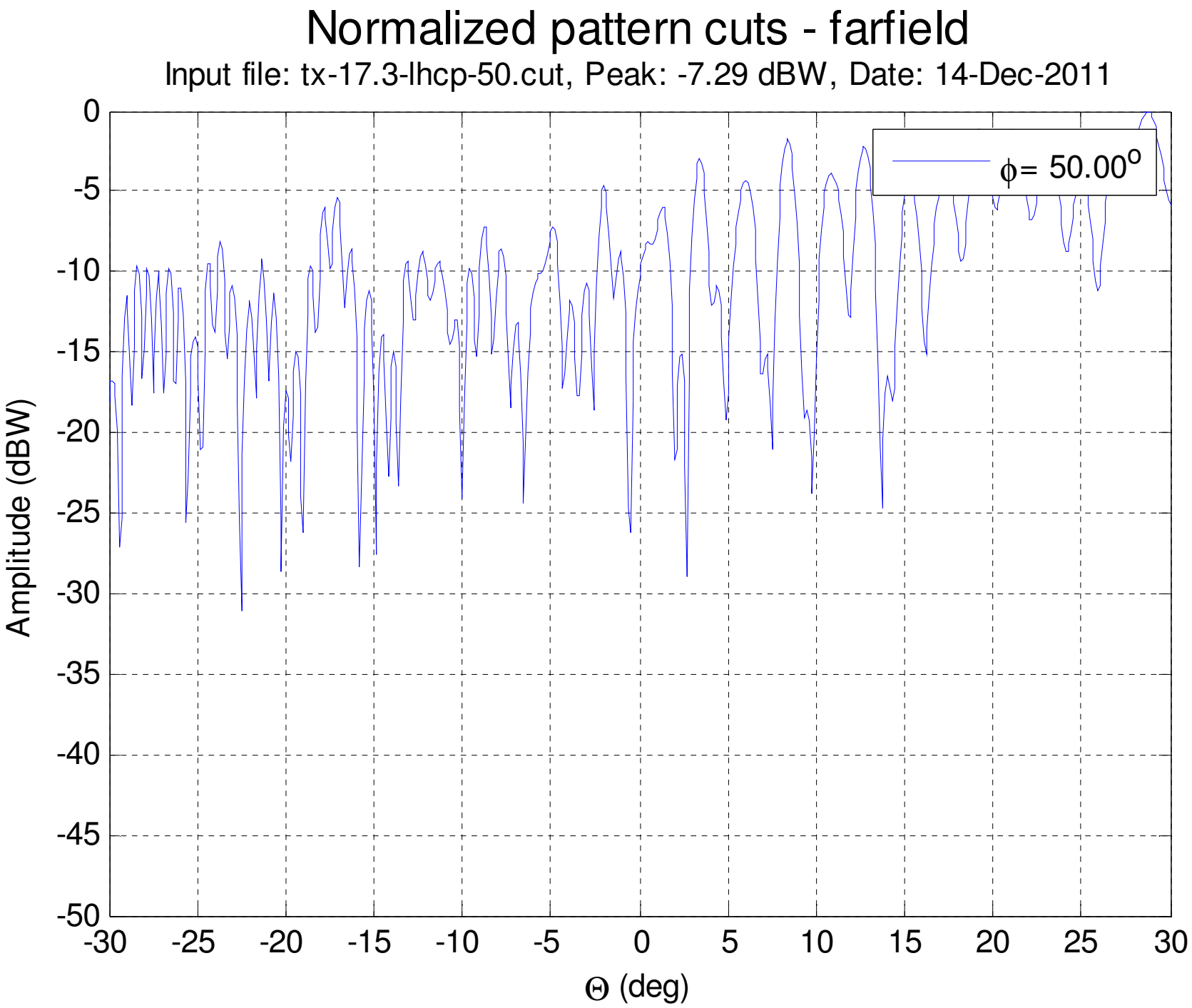

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: 3.42 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

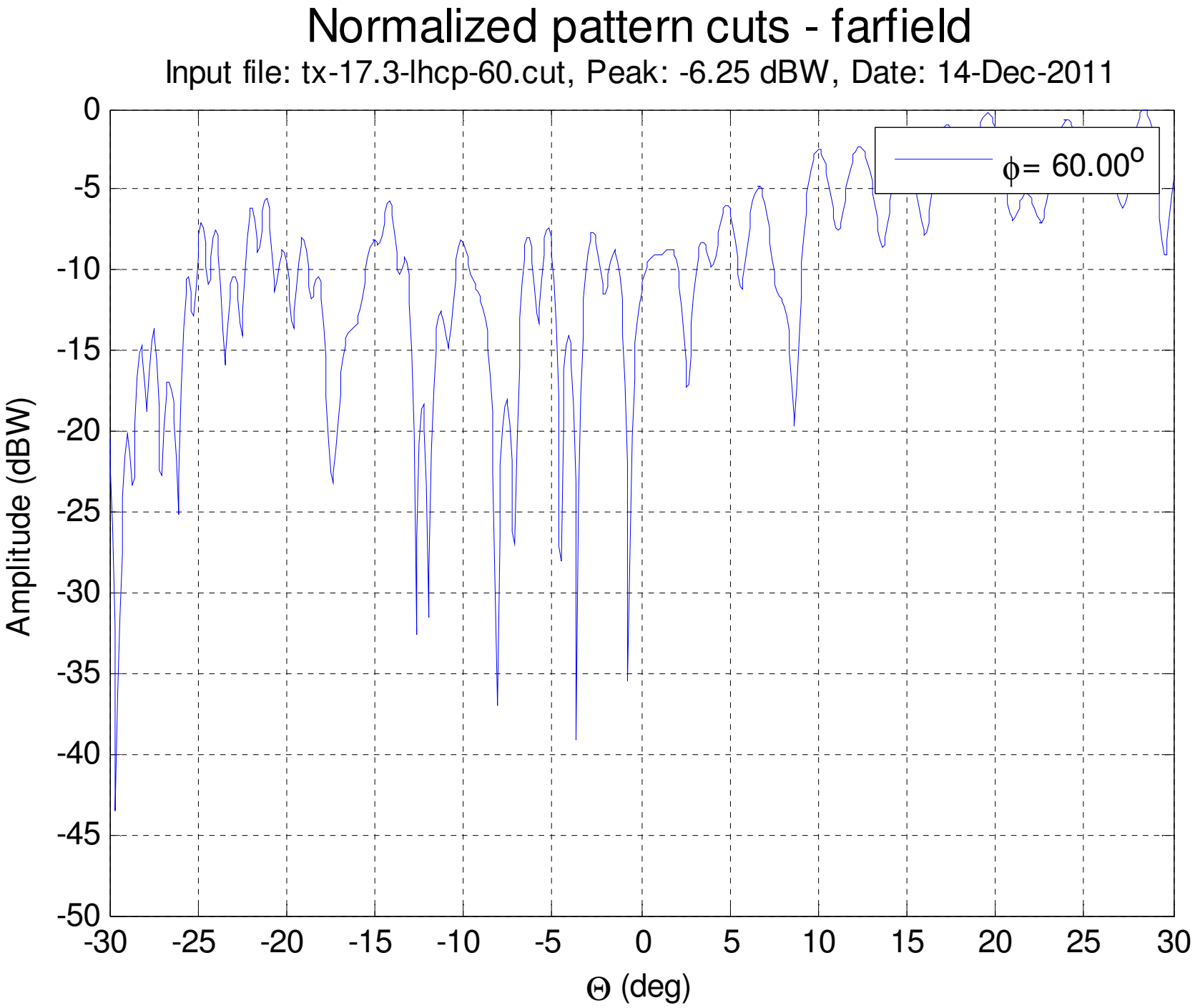

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: 1.85 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -0.73 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

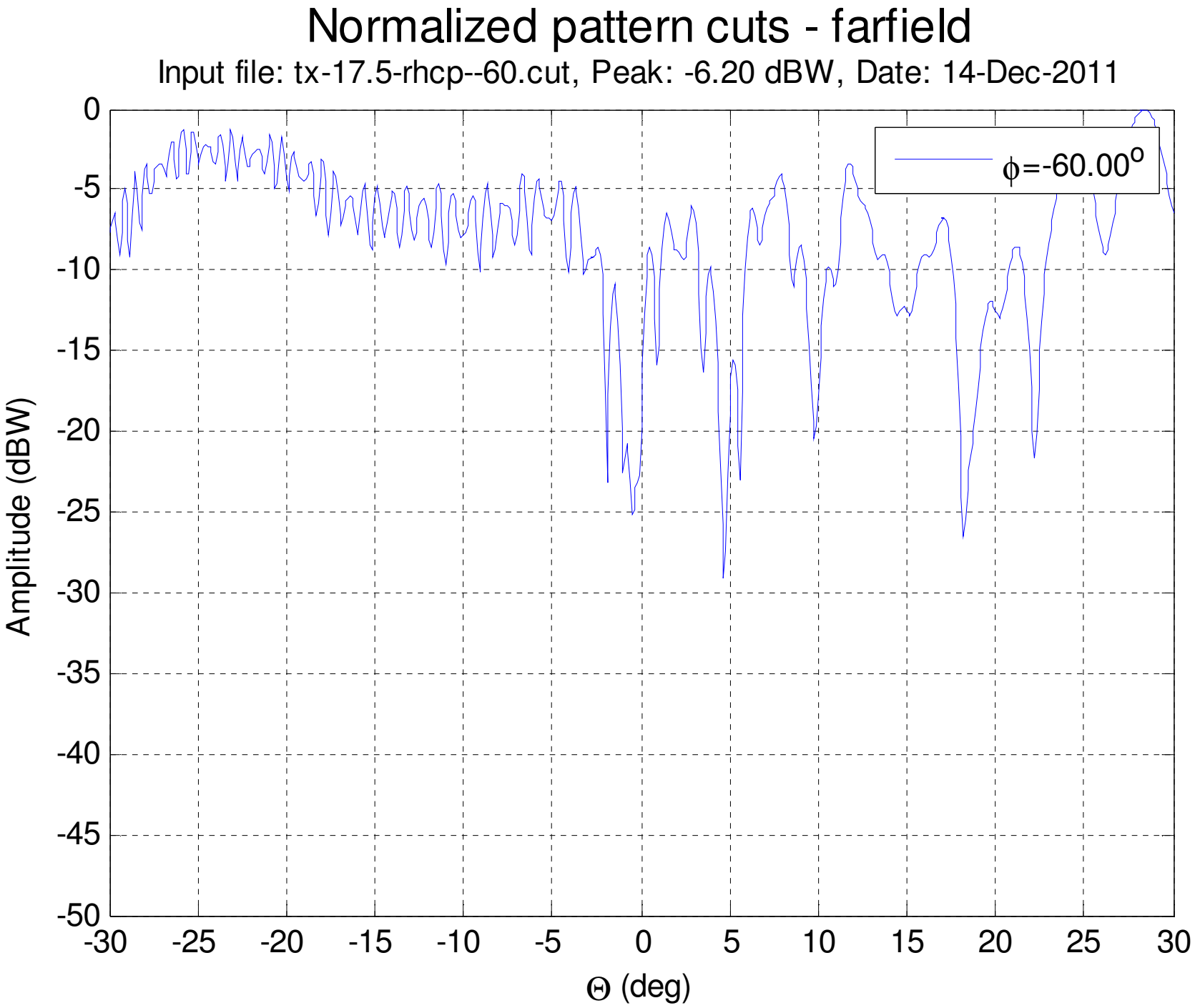

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -5.75 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

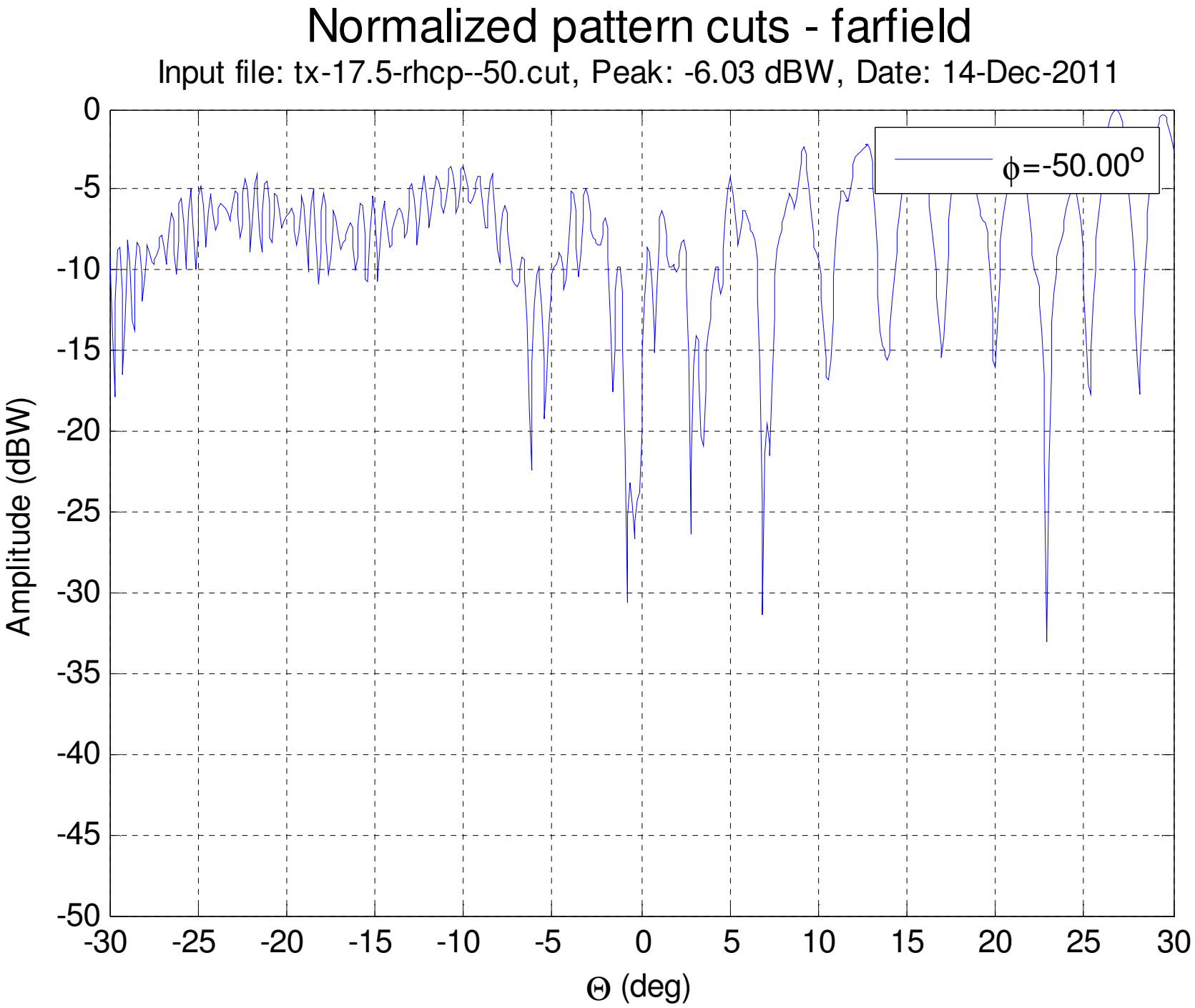

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -9.56 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

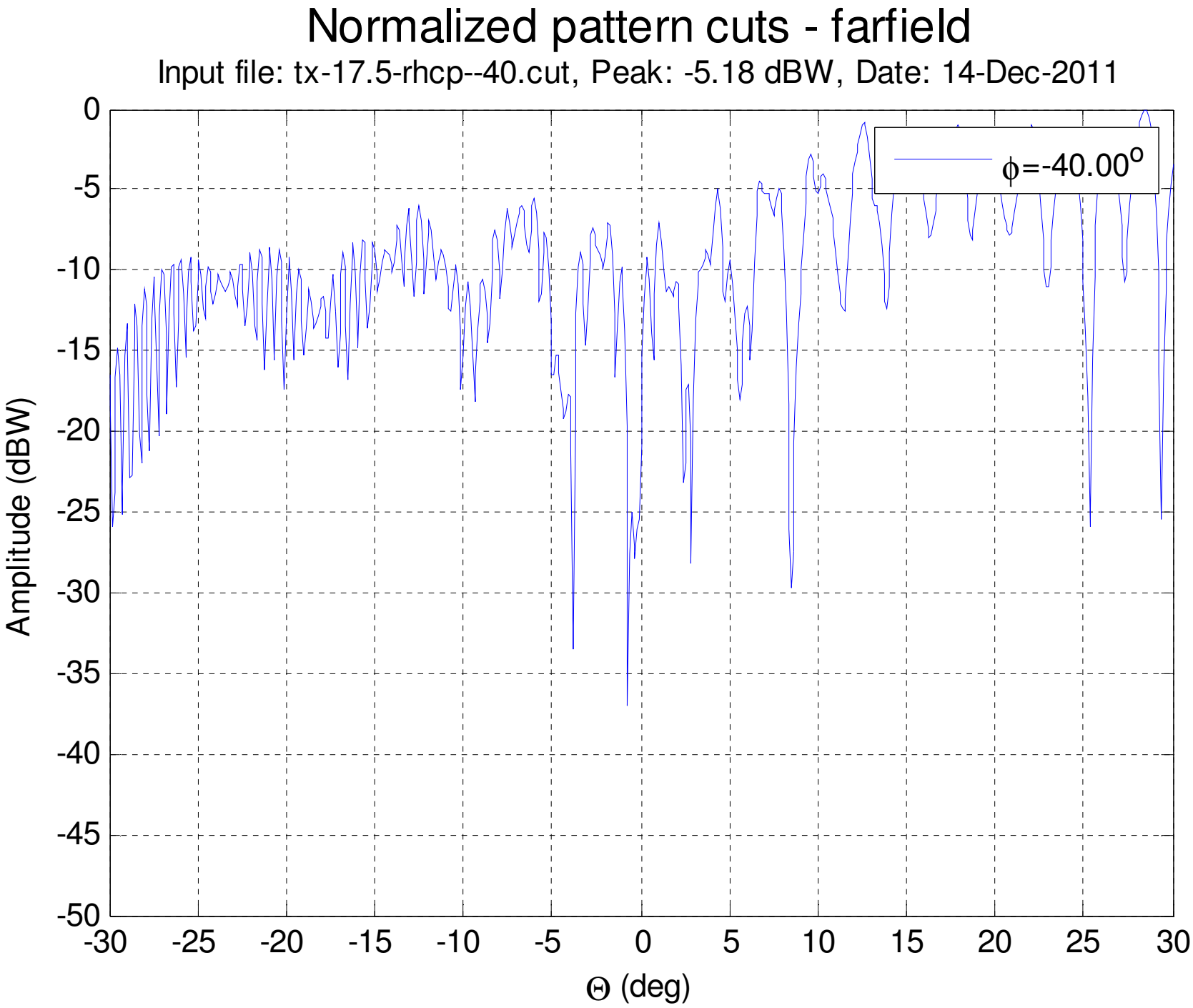

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -7.29 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

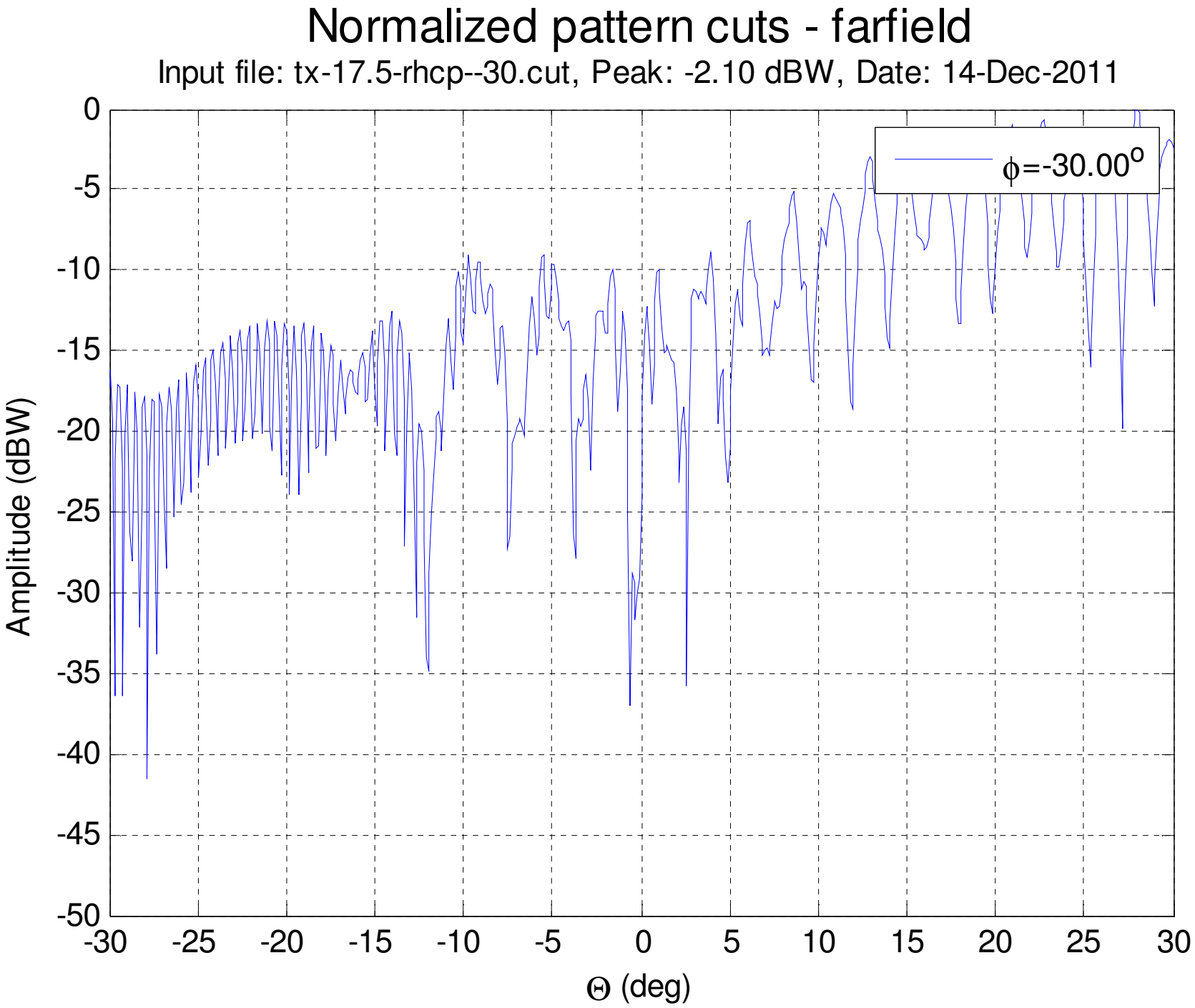

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -6.25 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

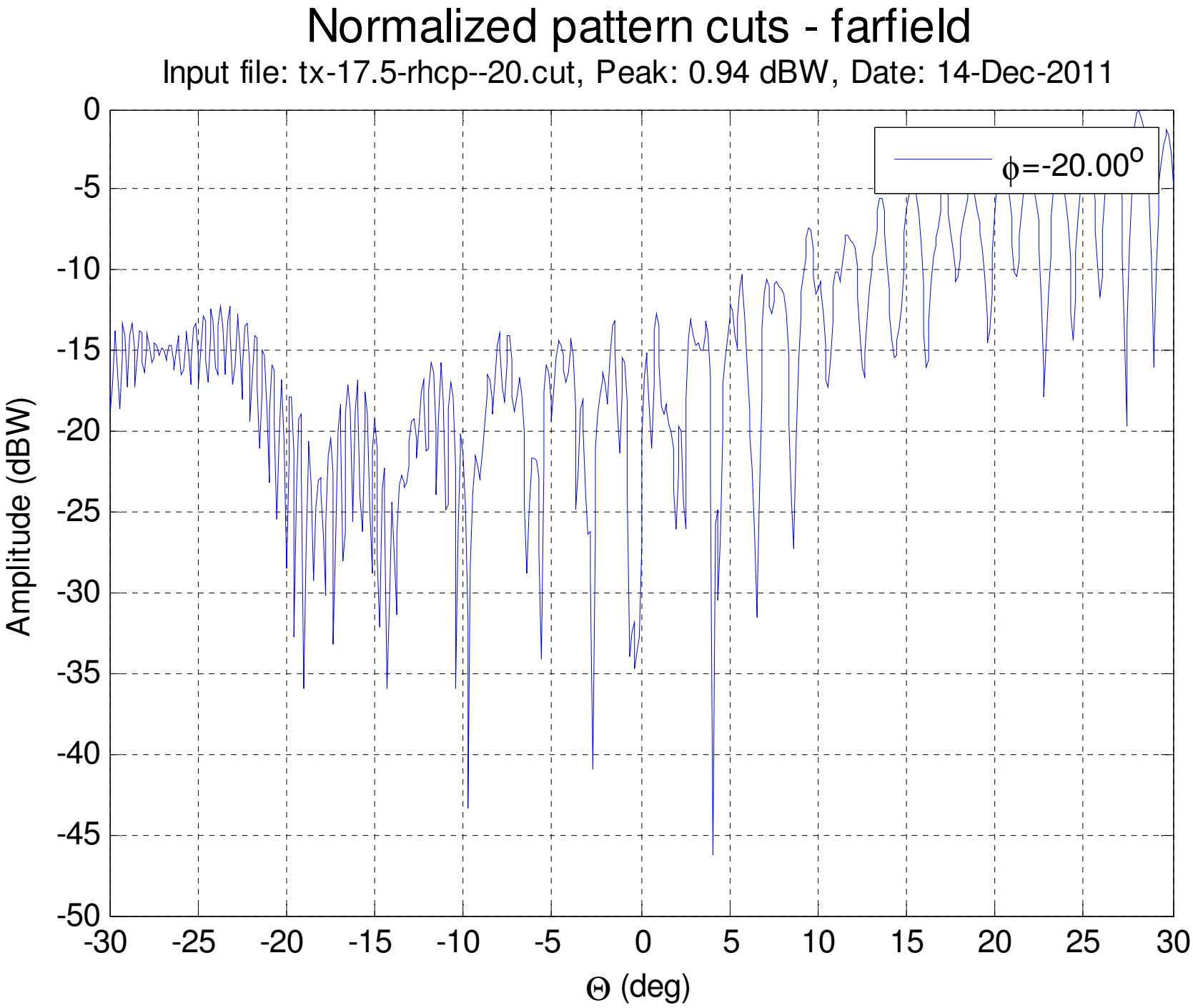
RHCP at 17.5 GHz

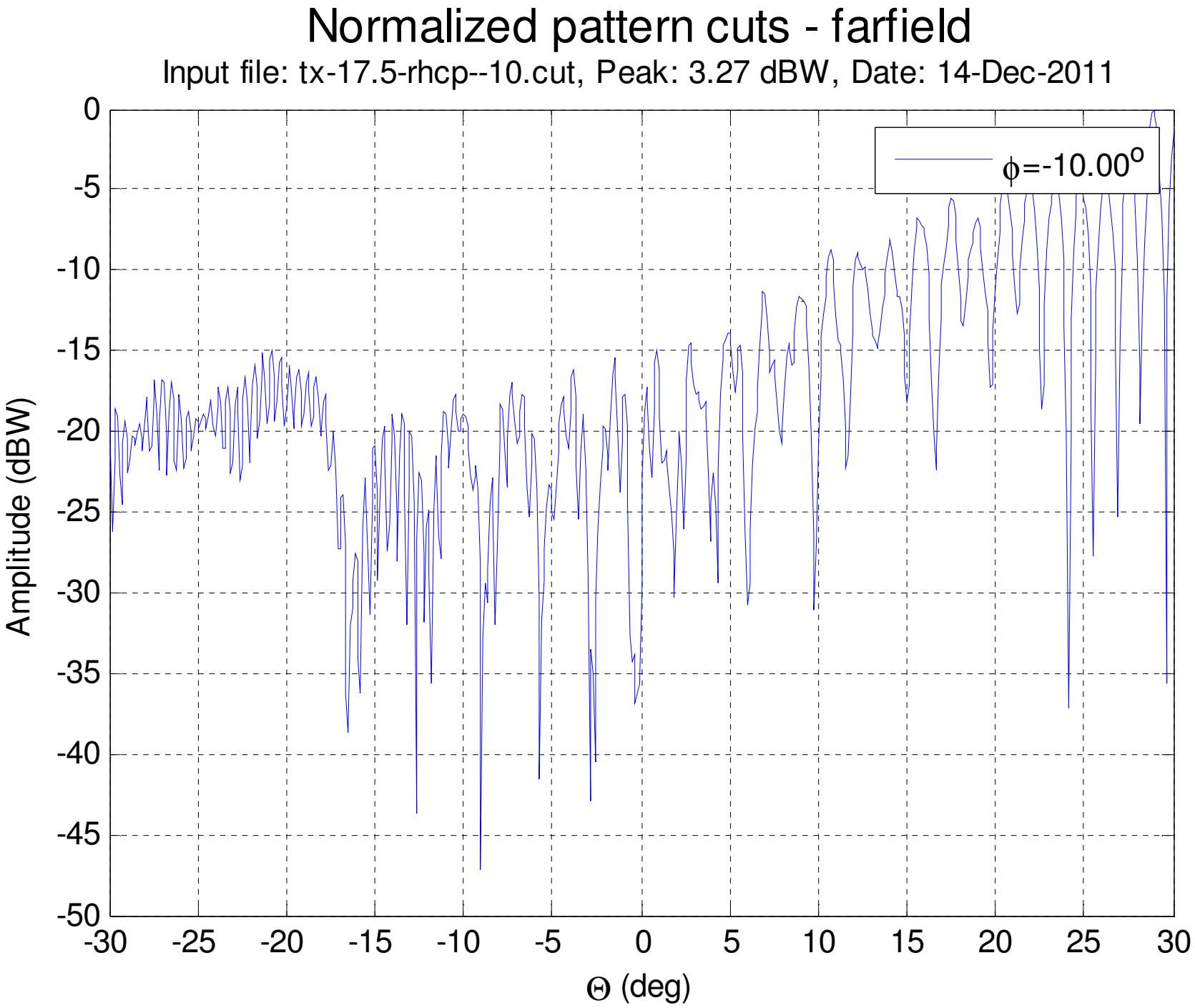

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -6.20 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

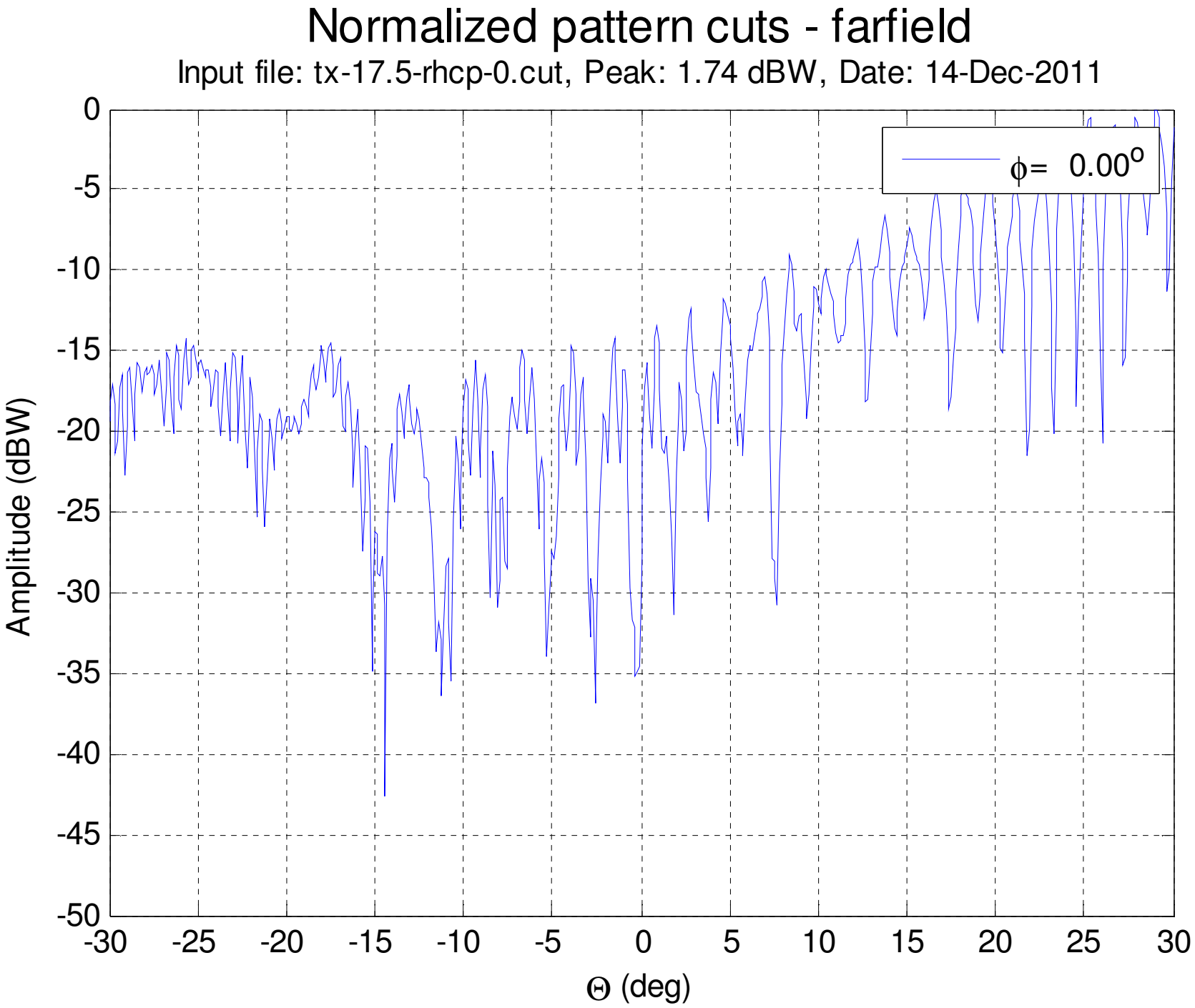

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -6.03 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

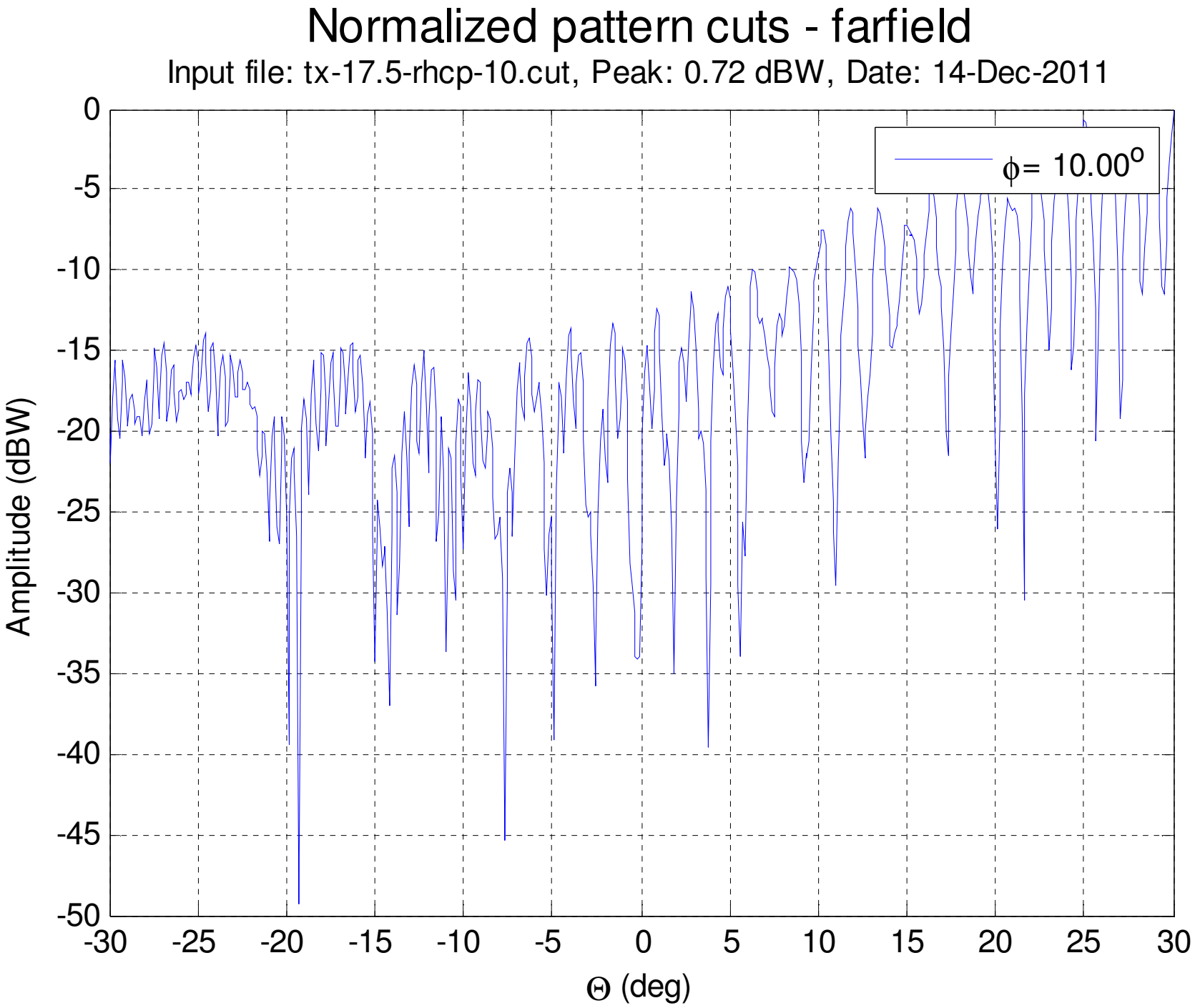

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -5.18 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

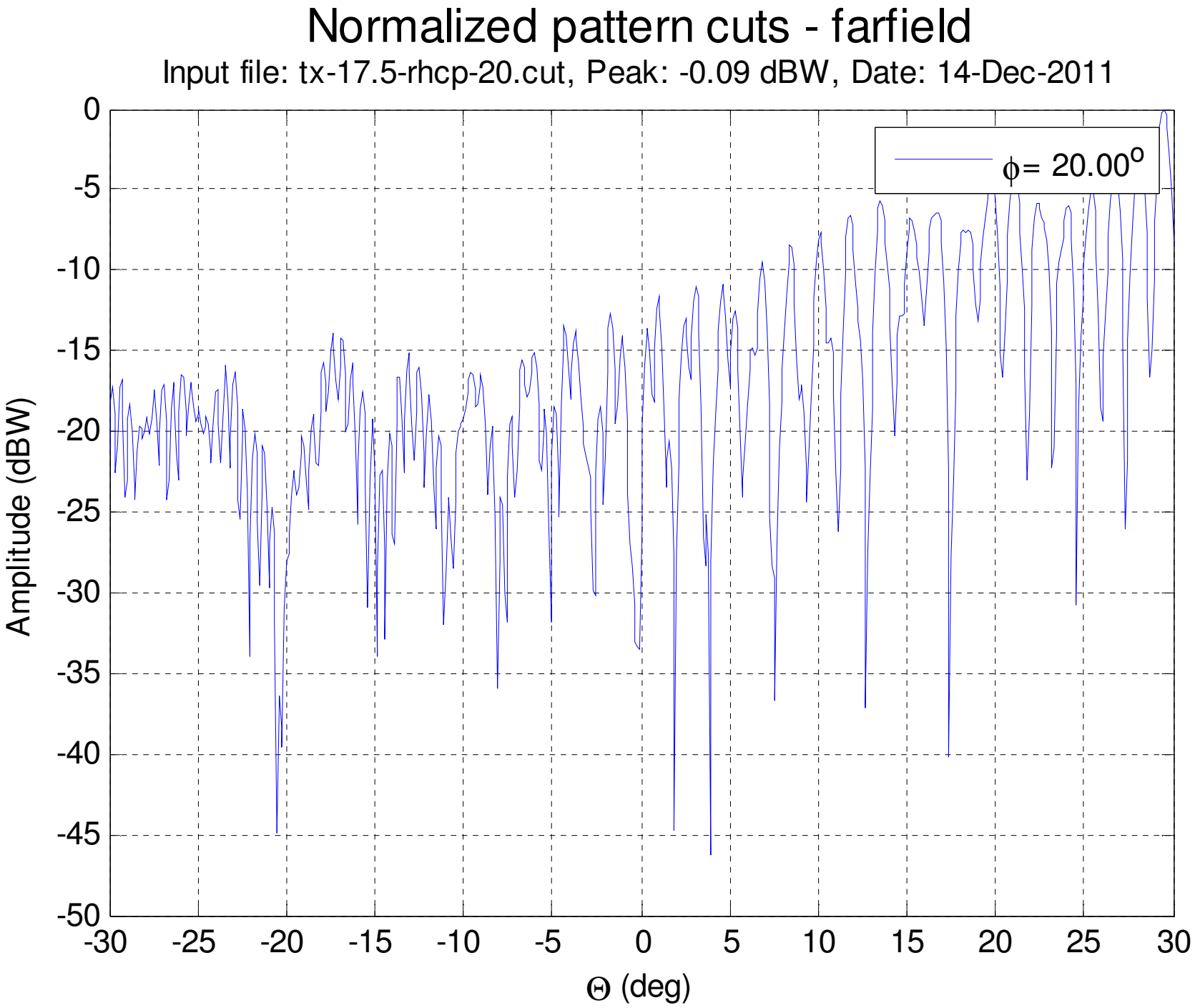

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -2.10 dBW, Date: 14-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

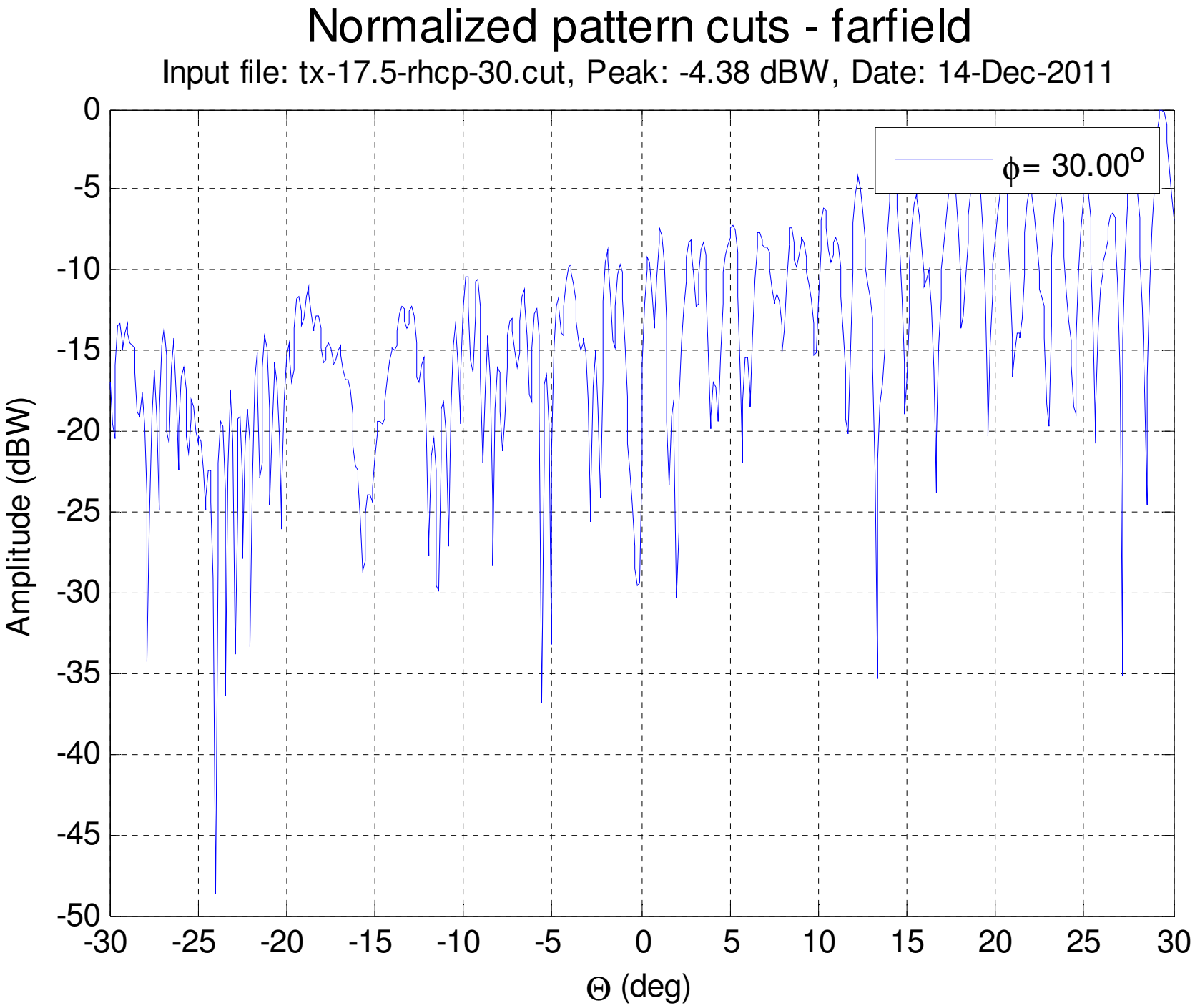

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: 0.94 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

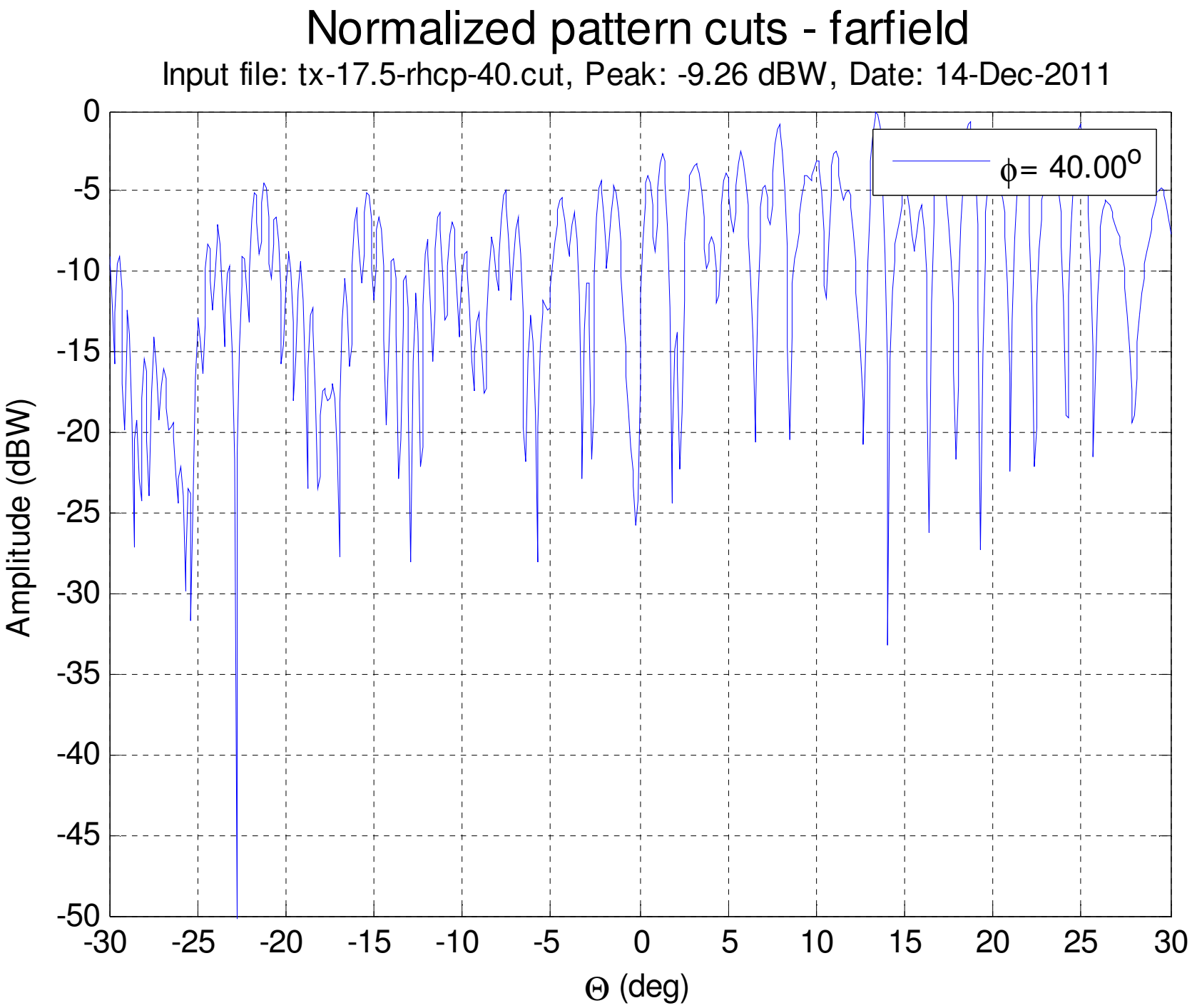

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: 3.27 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

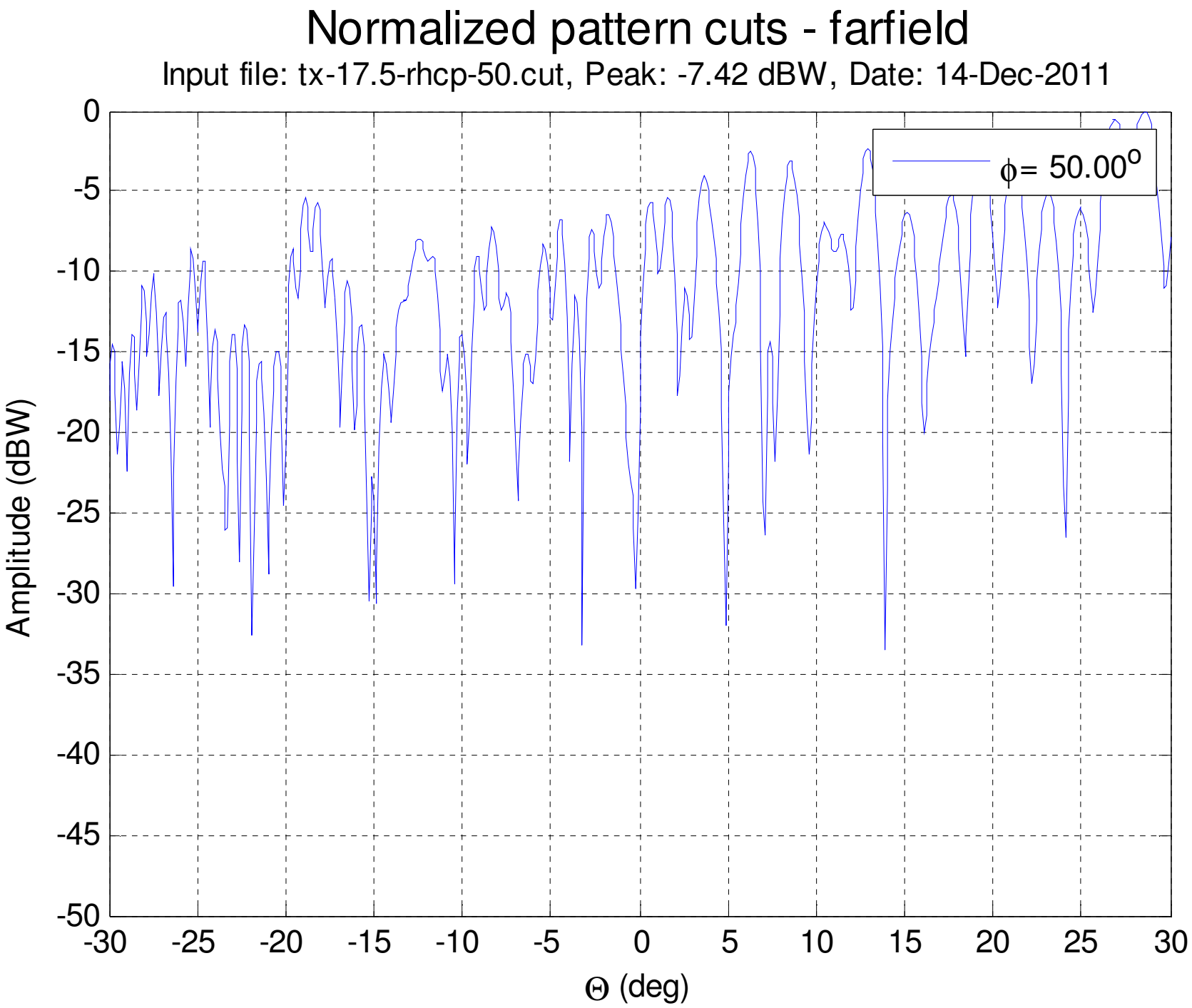

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: 1.74 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

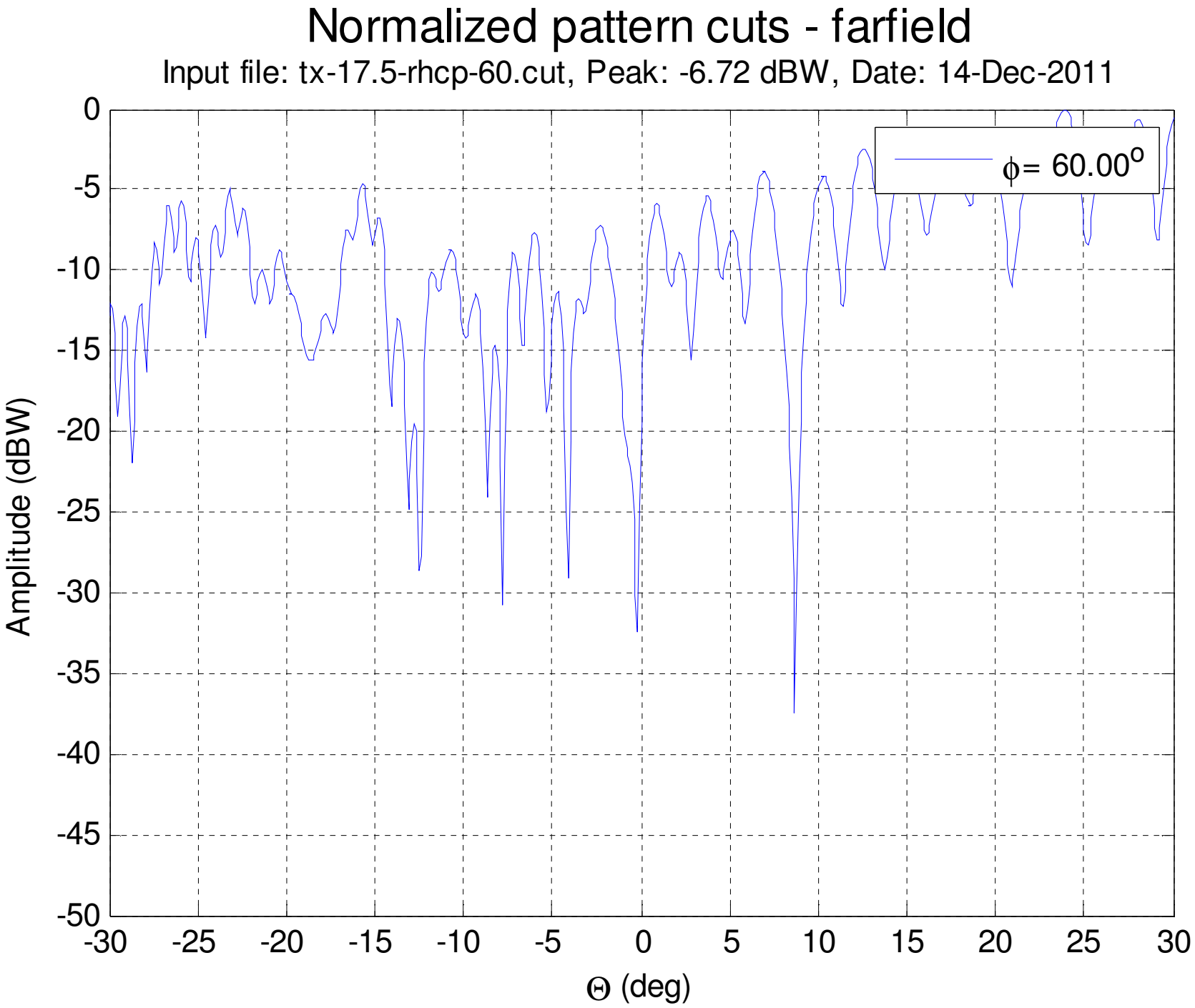

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: 0.72 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -0.09 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

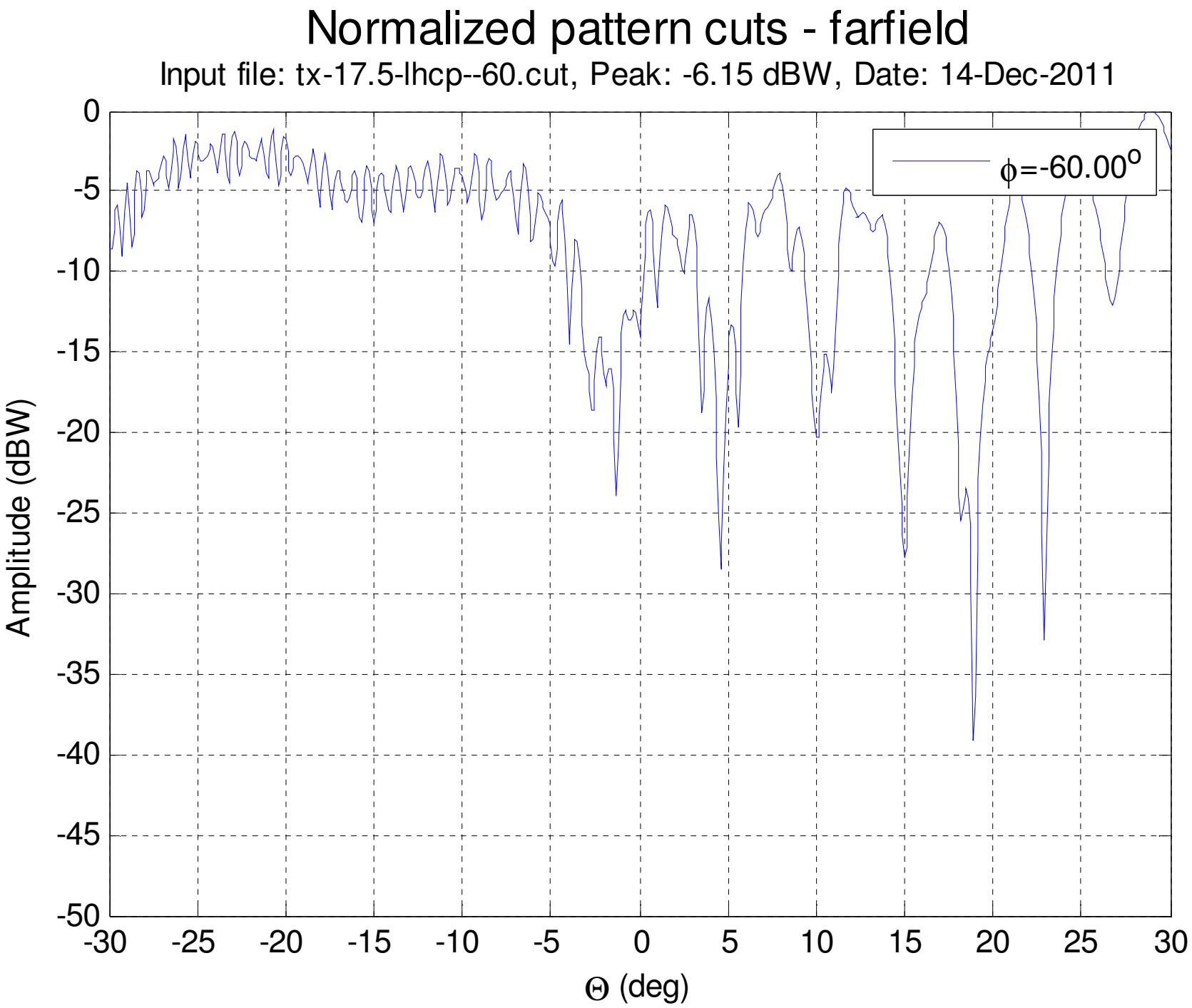

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -4.38 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

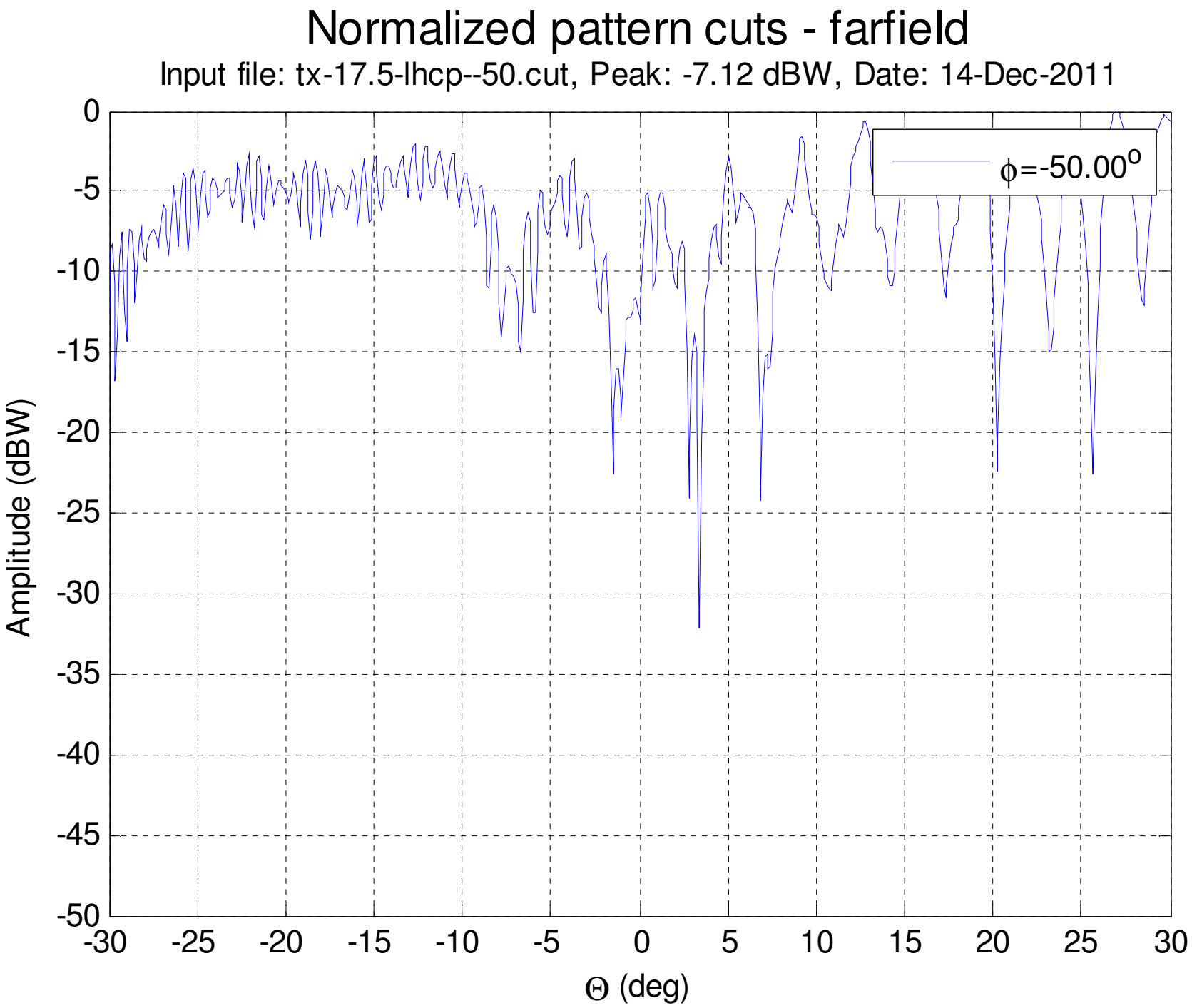

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -9.26 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

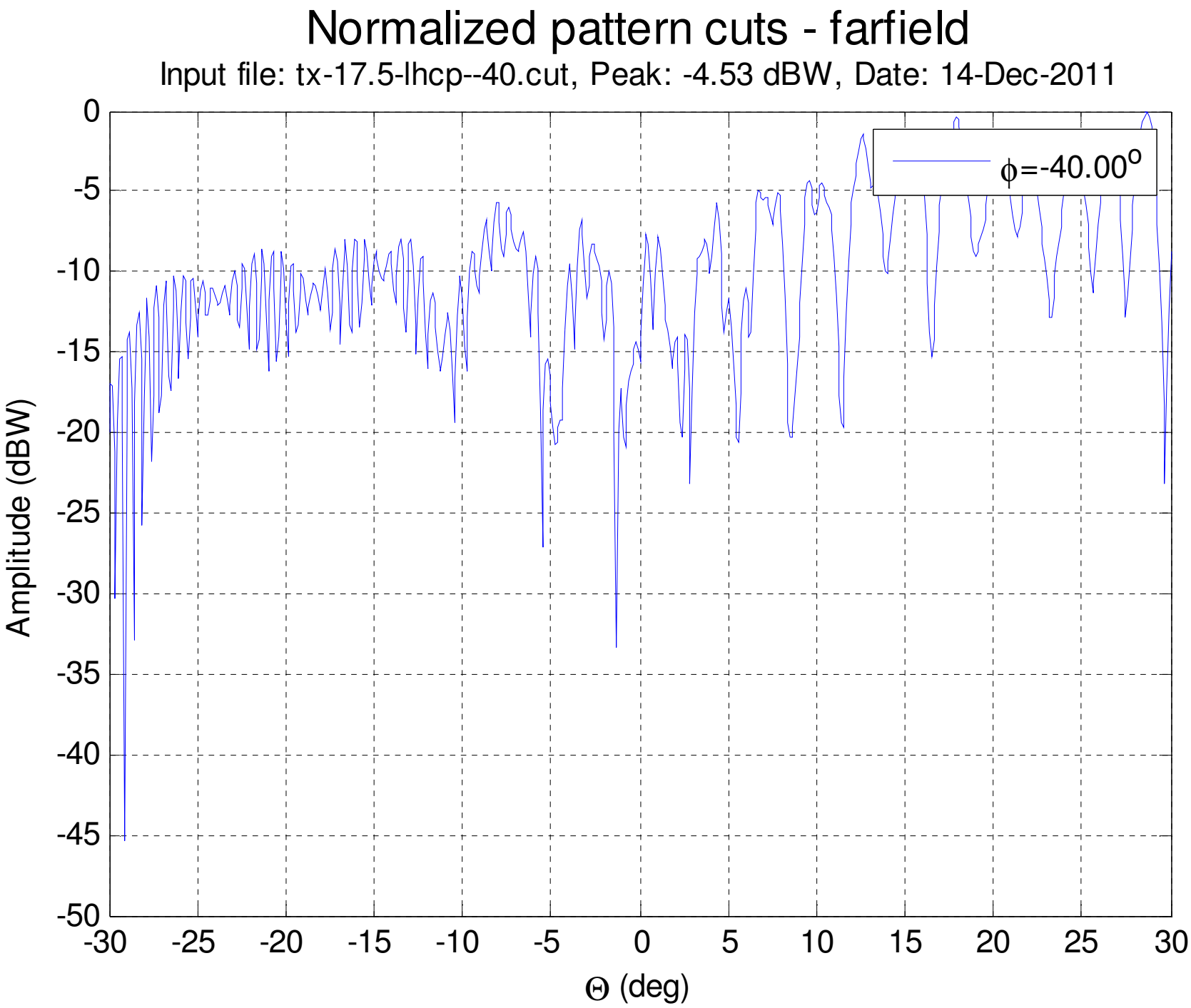

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -7.42 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

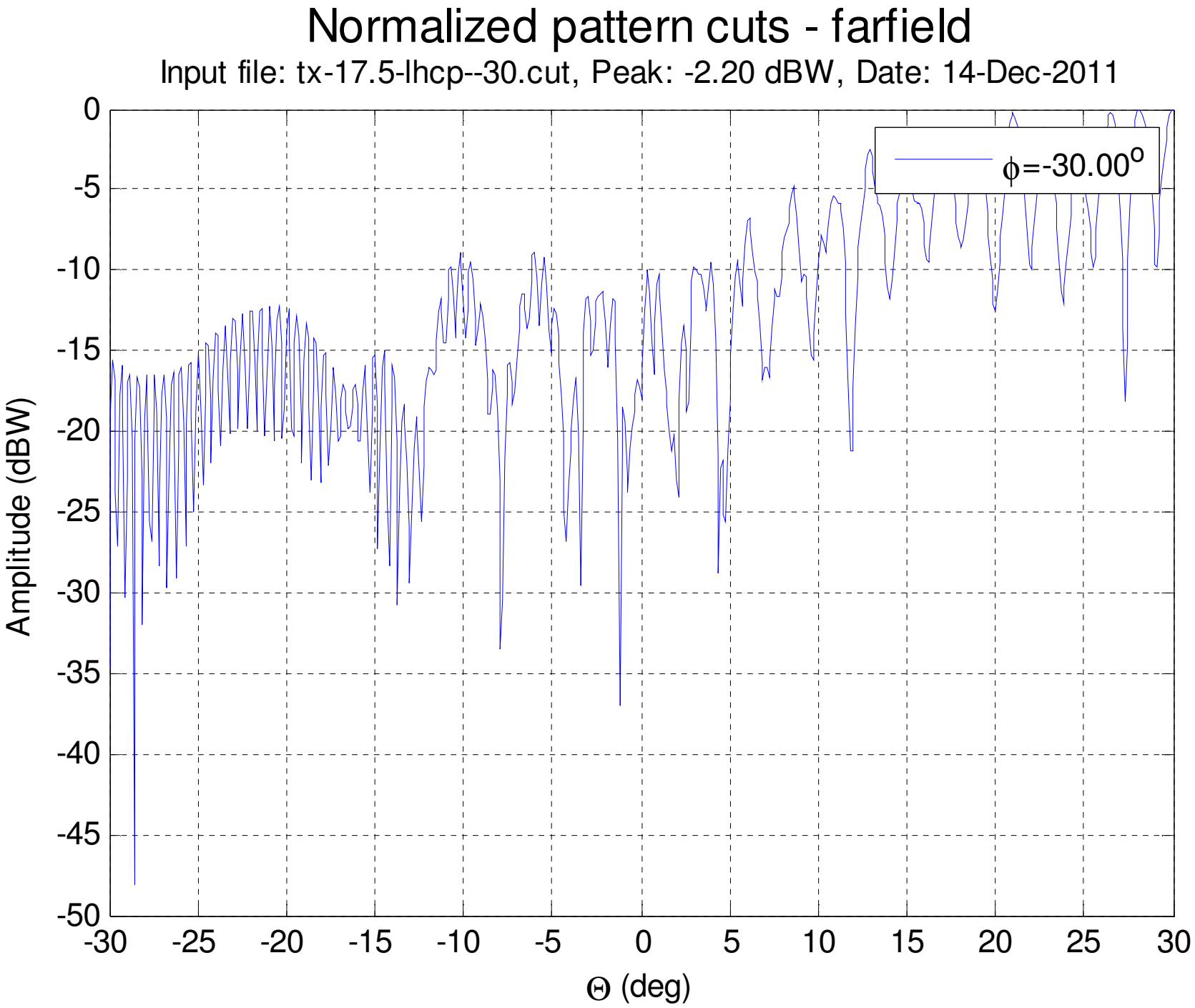

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -6.72 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

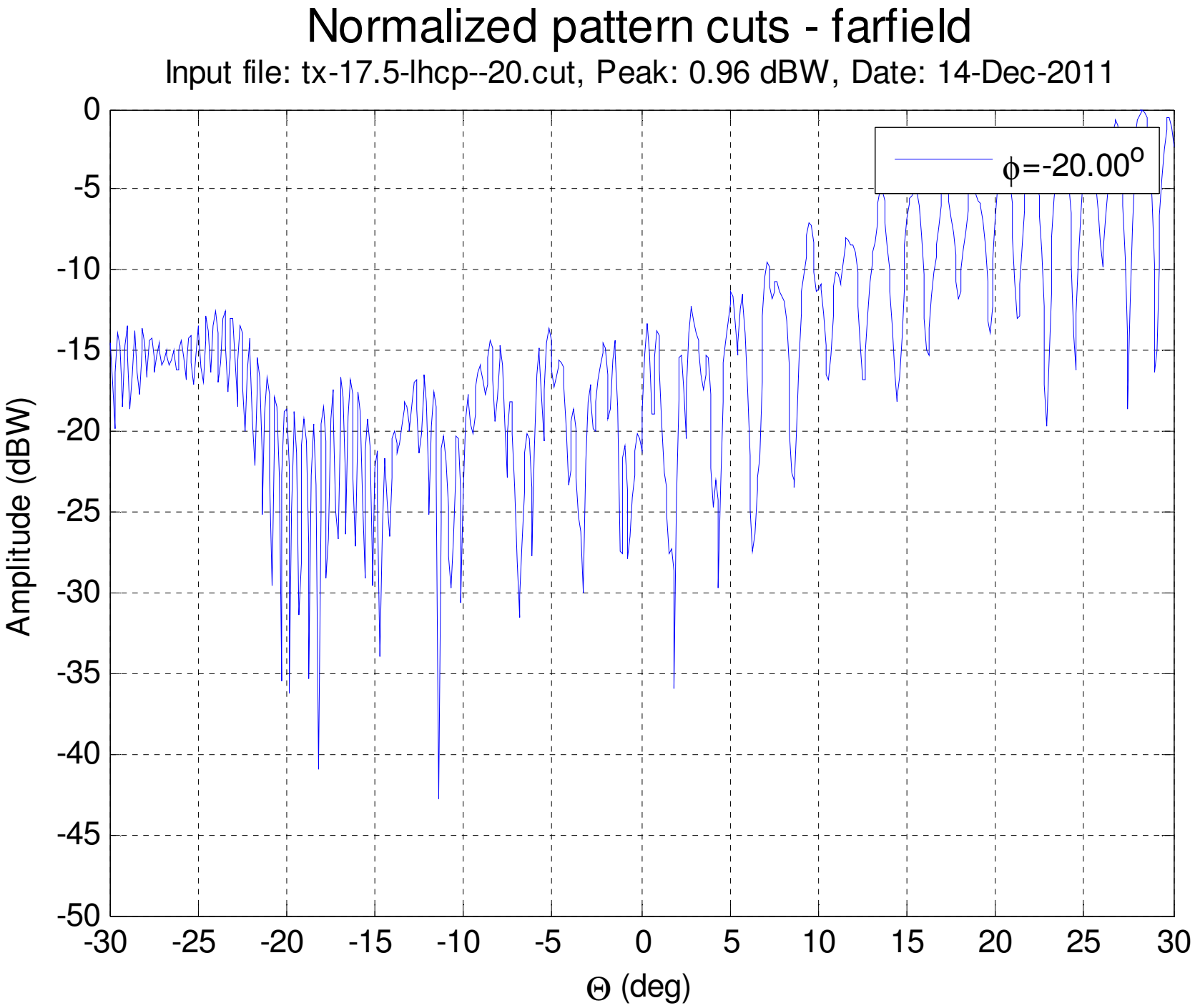
LHCP at 17.5 GHz

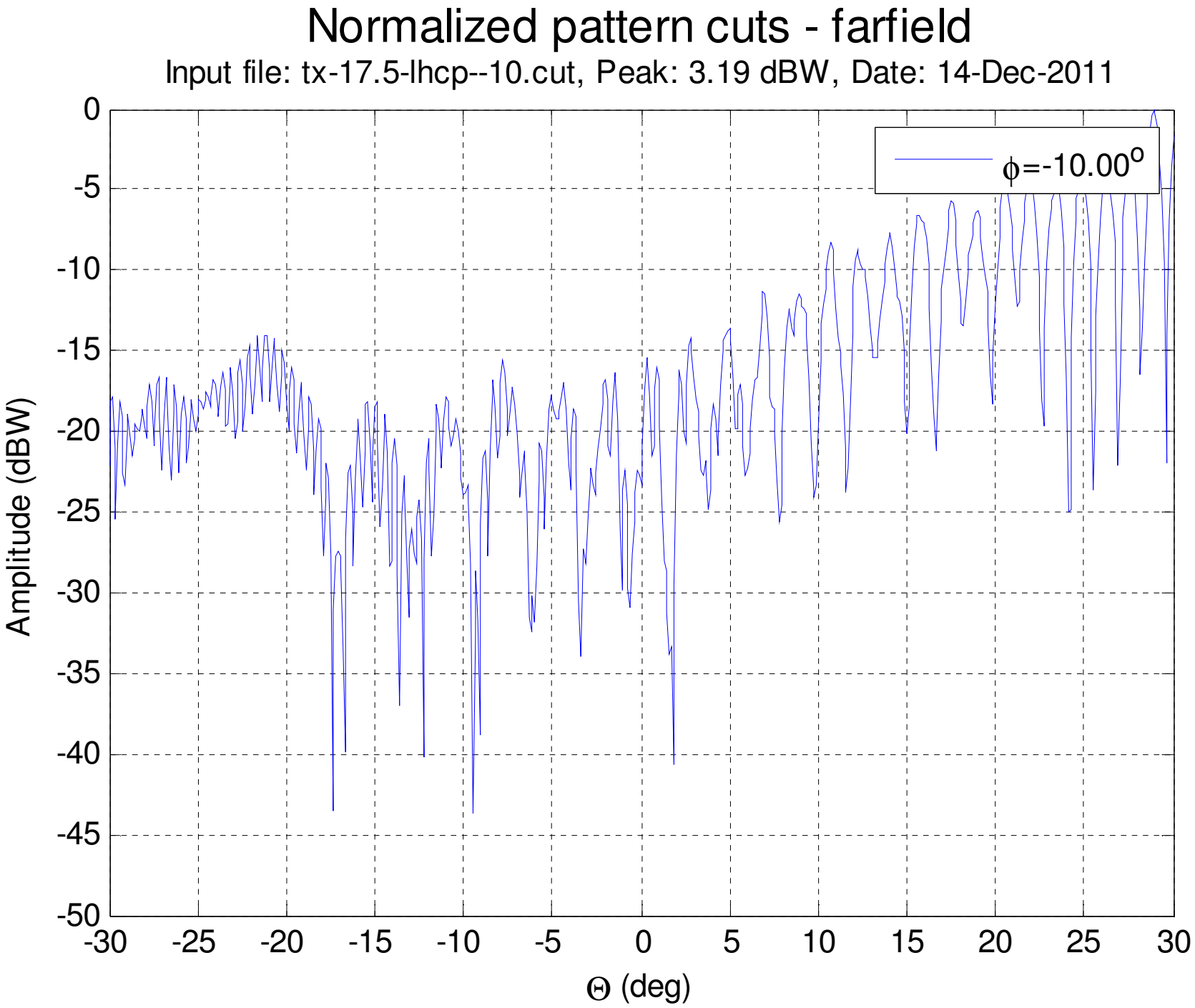

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -6.15 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

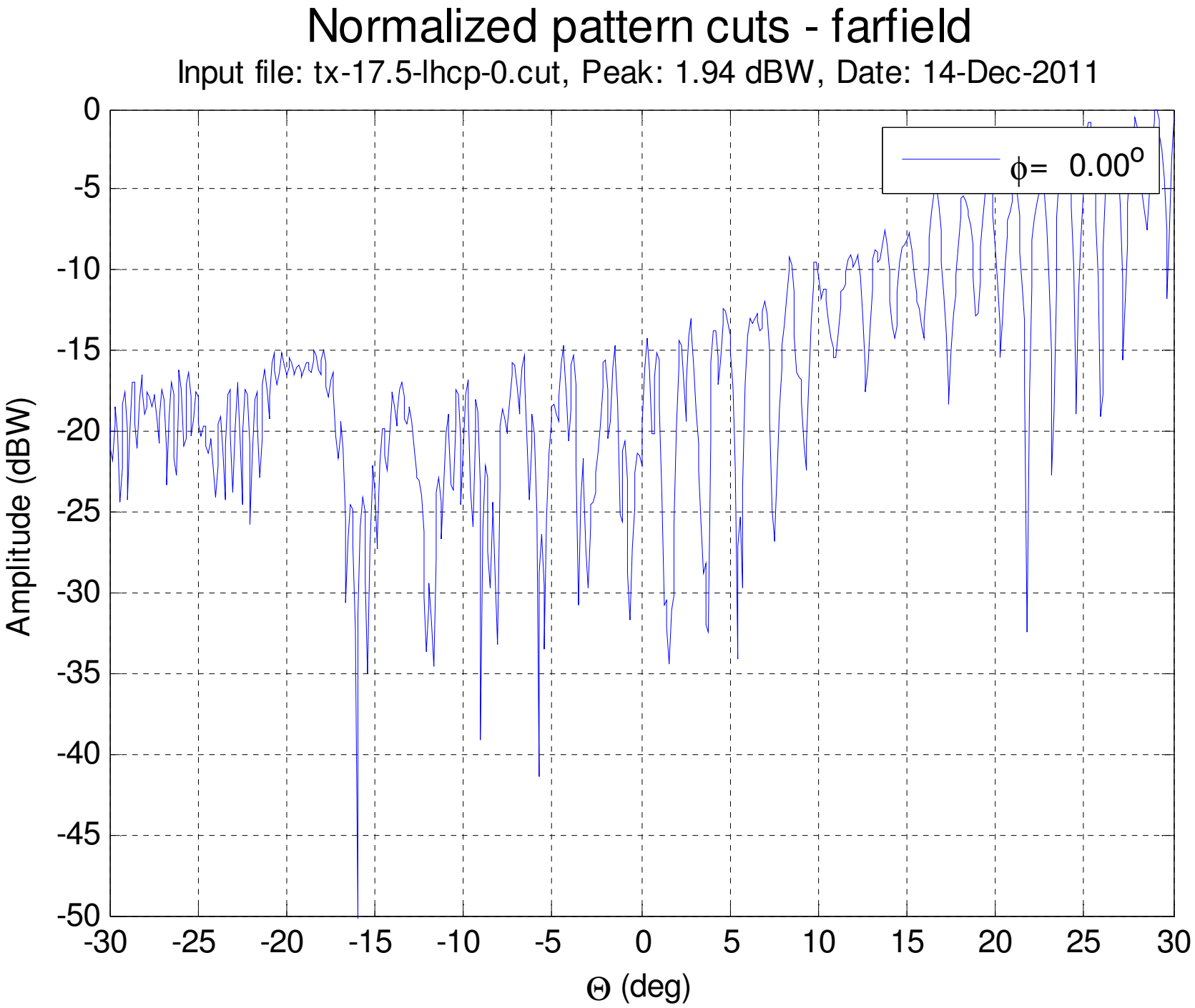

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -7.12 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

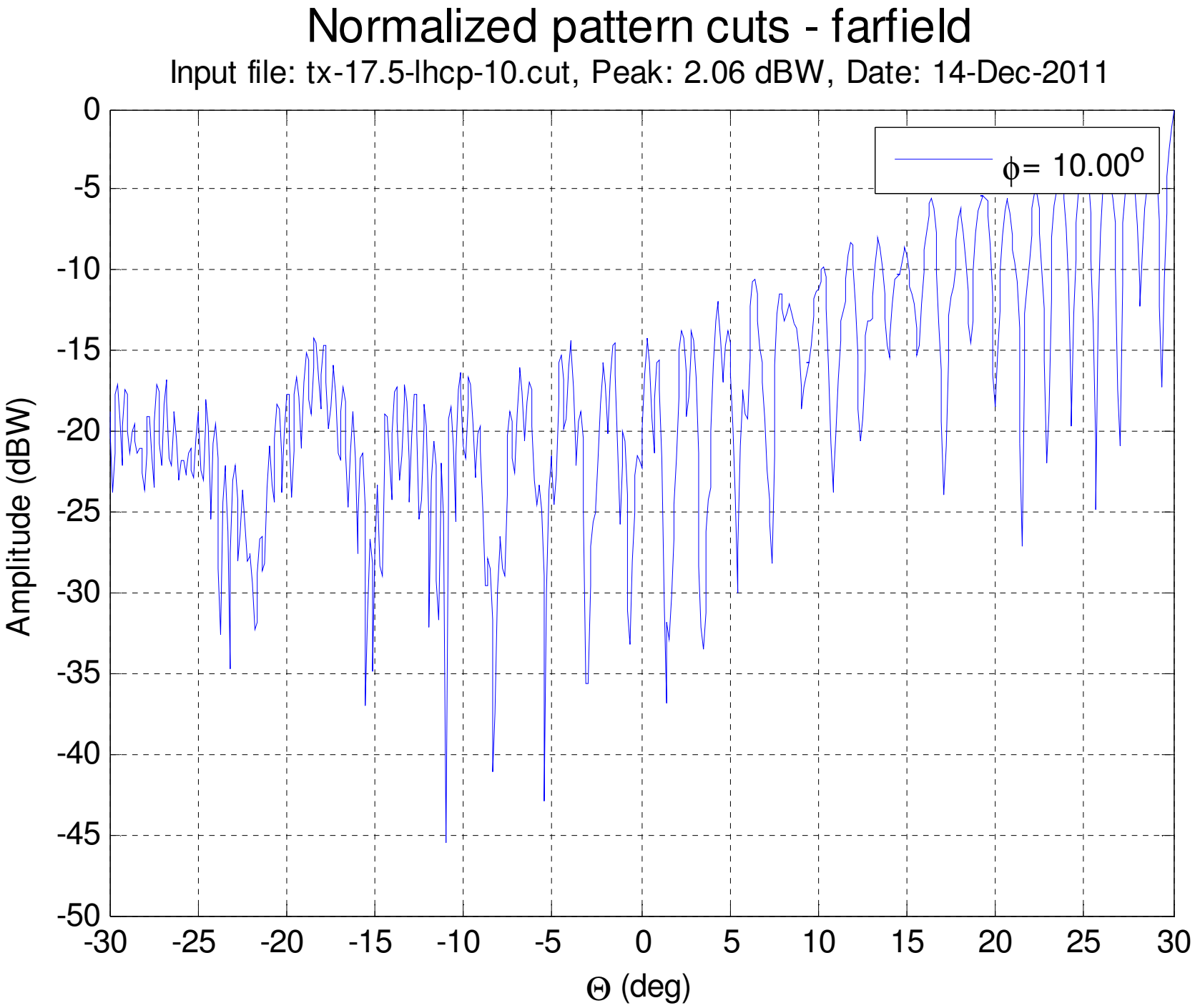

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -4.53 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

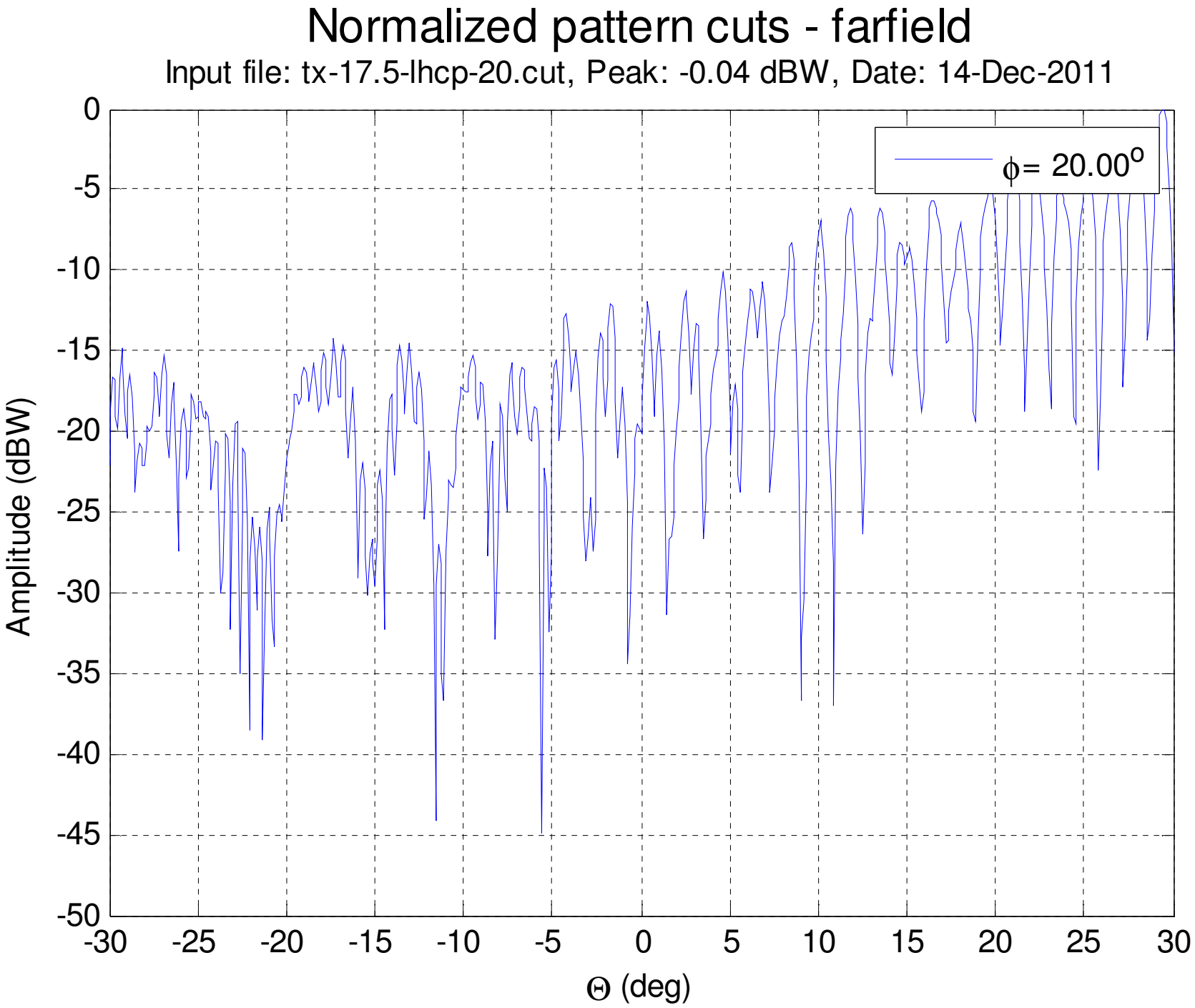

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -2.20 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

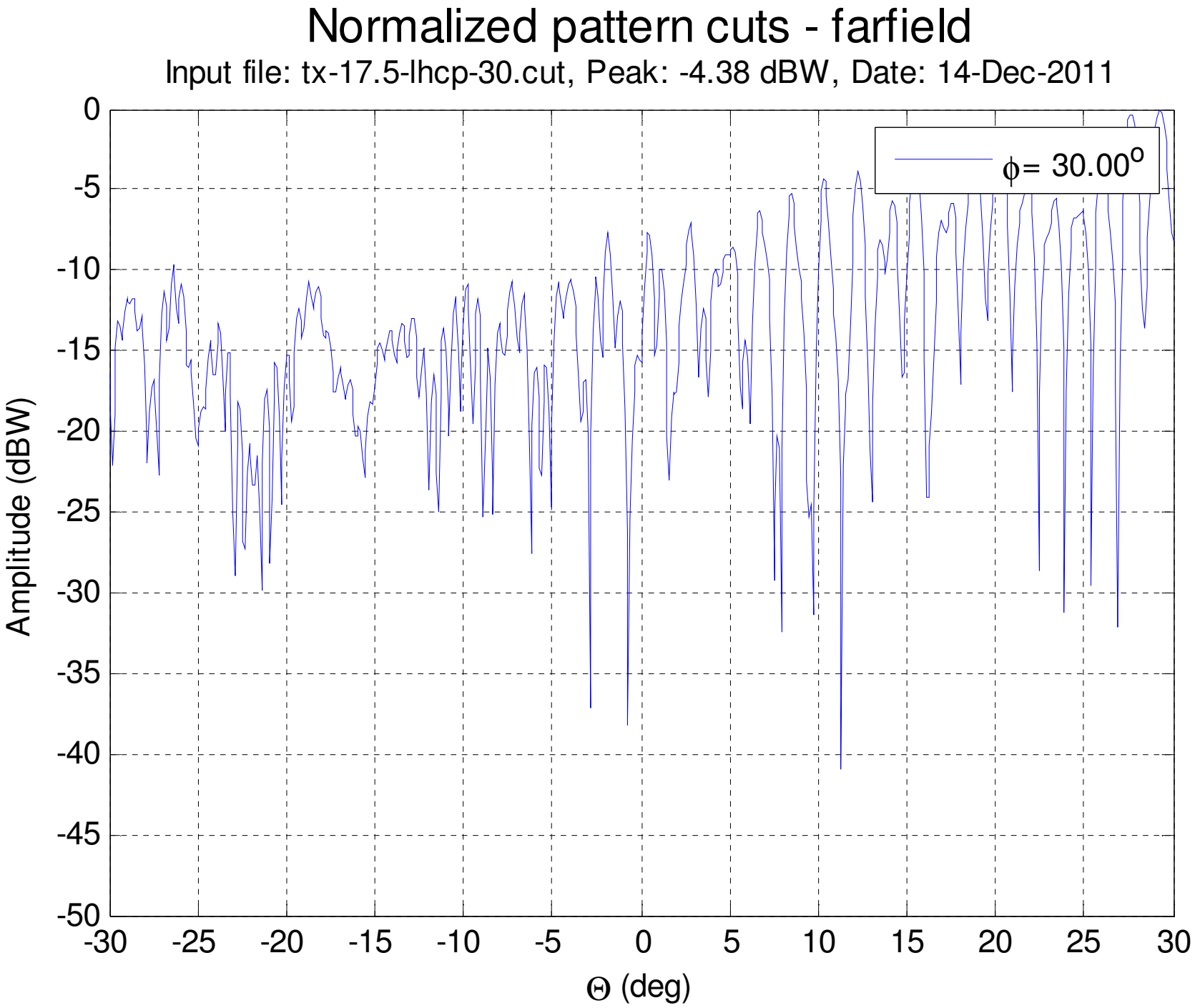

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: 0.96 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

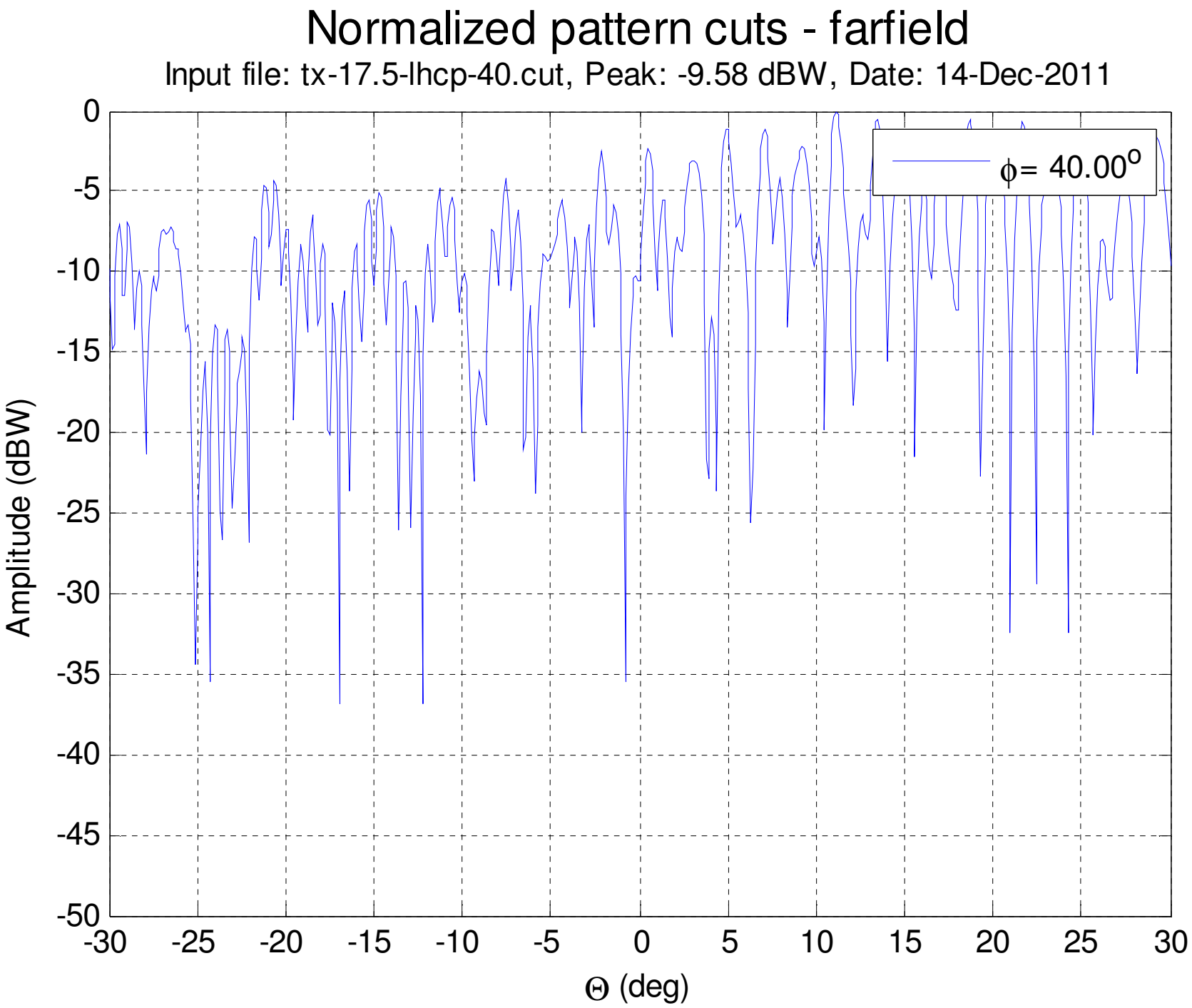

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: 3.19 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

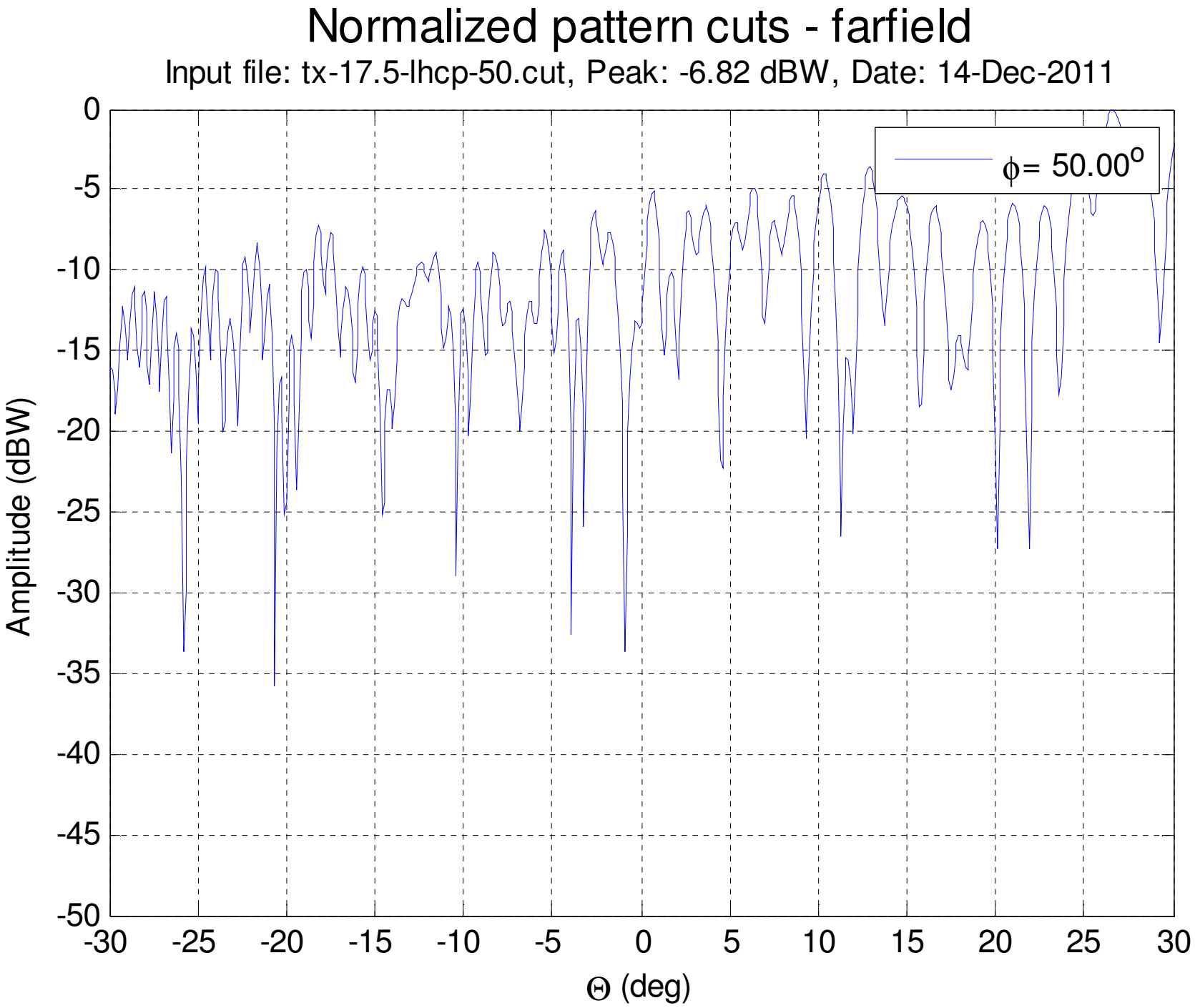

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: 1.94 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

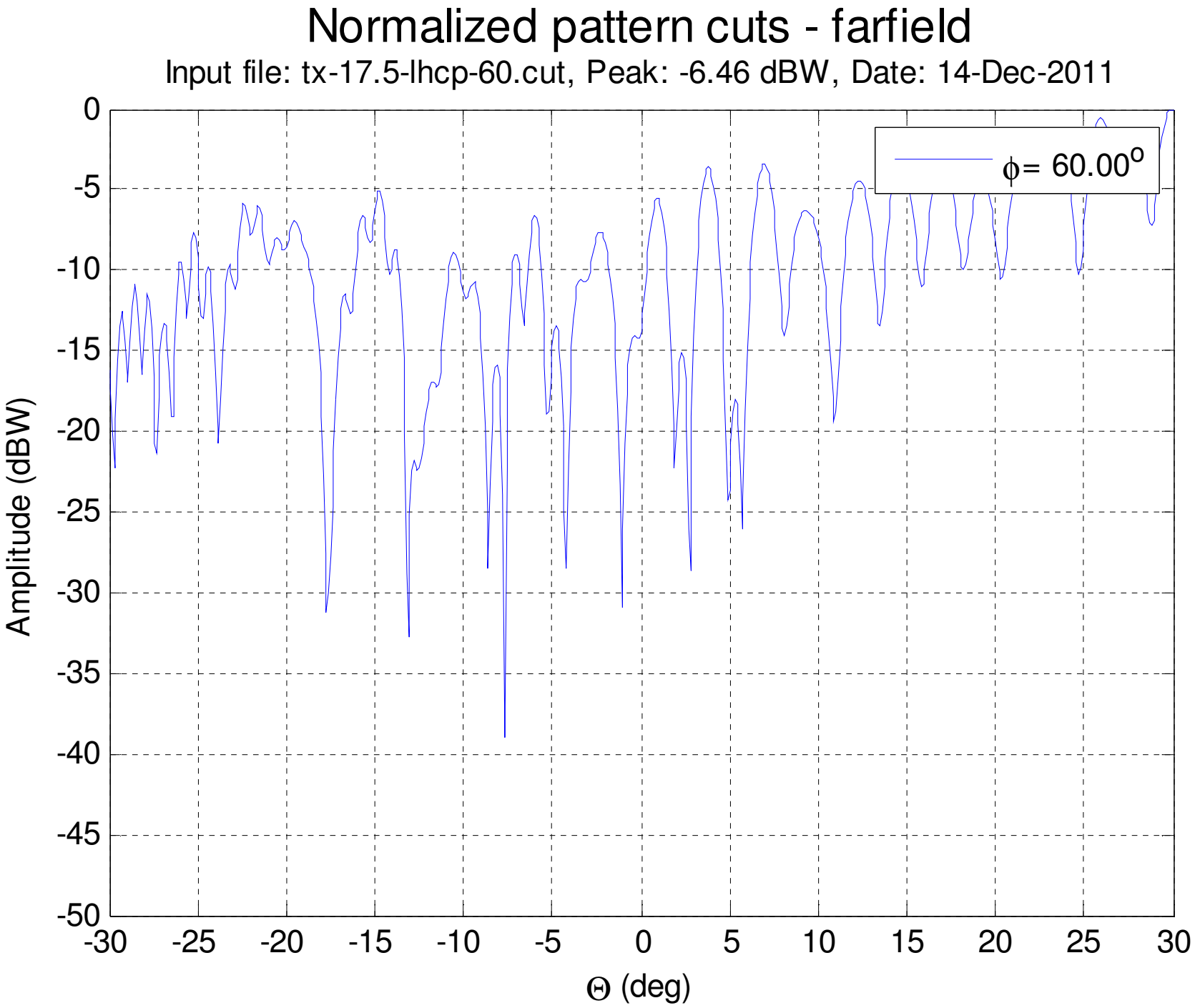

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: 2.06 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -0.04 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

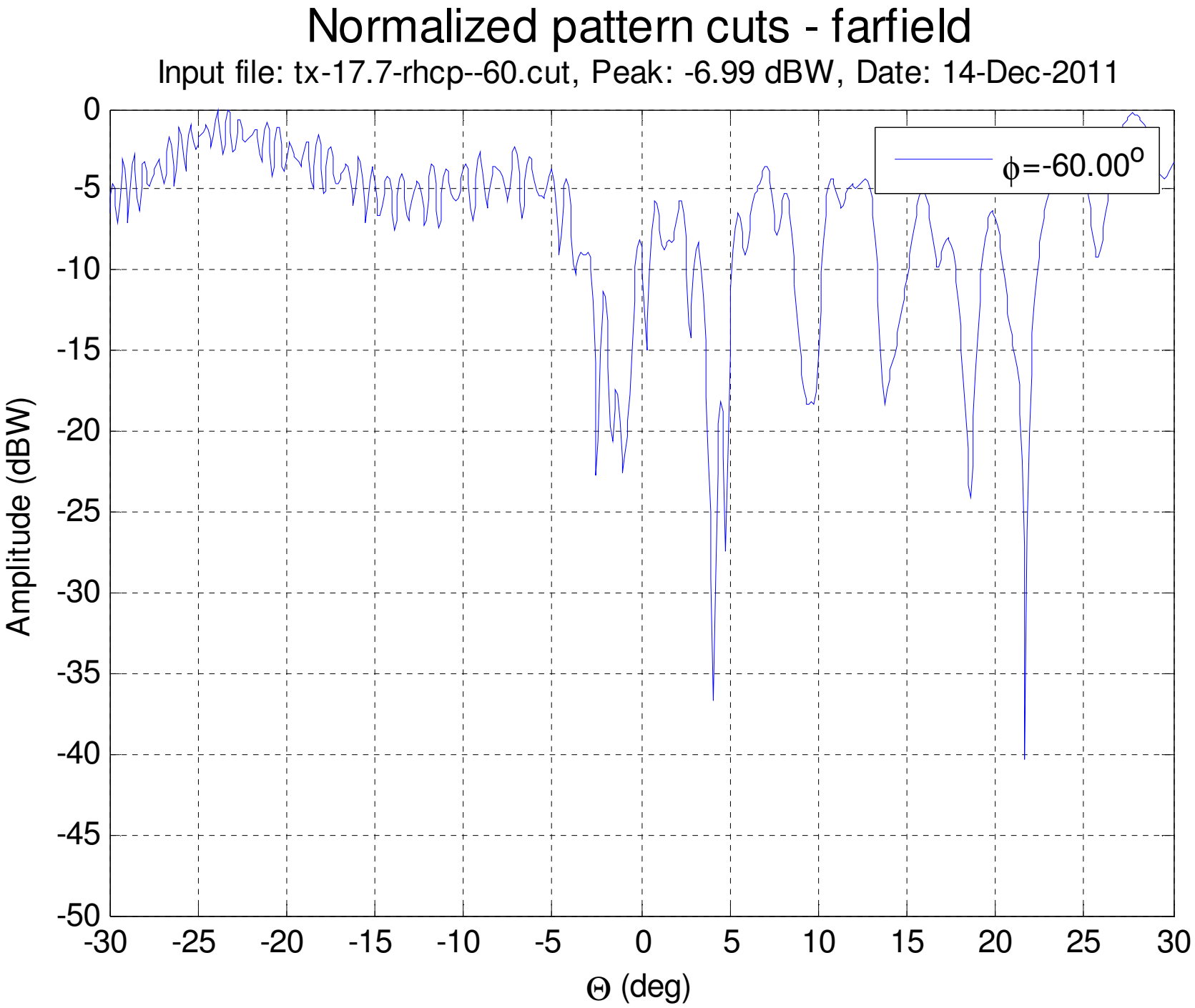

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -4.38 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

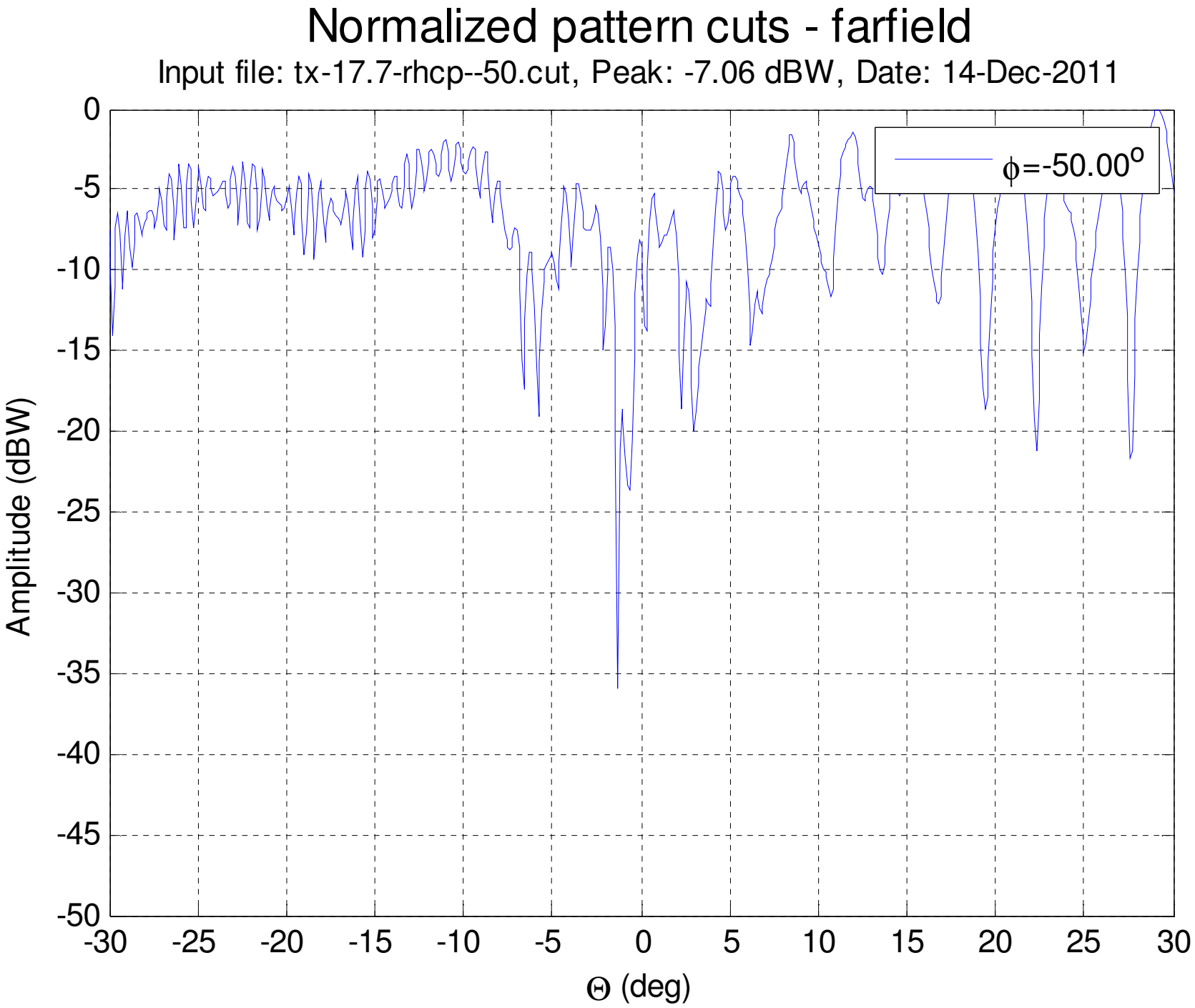

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -9.58 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

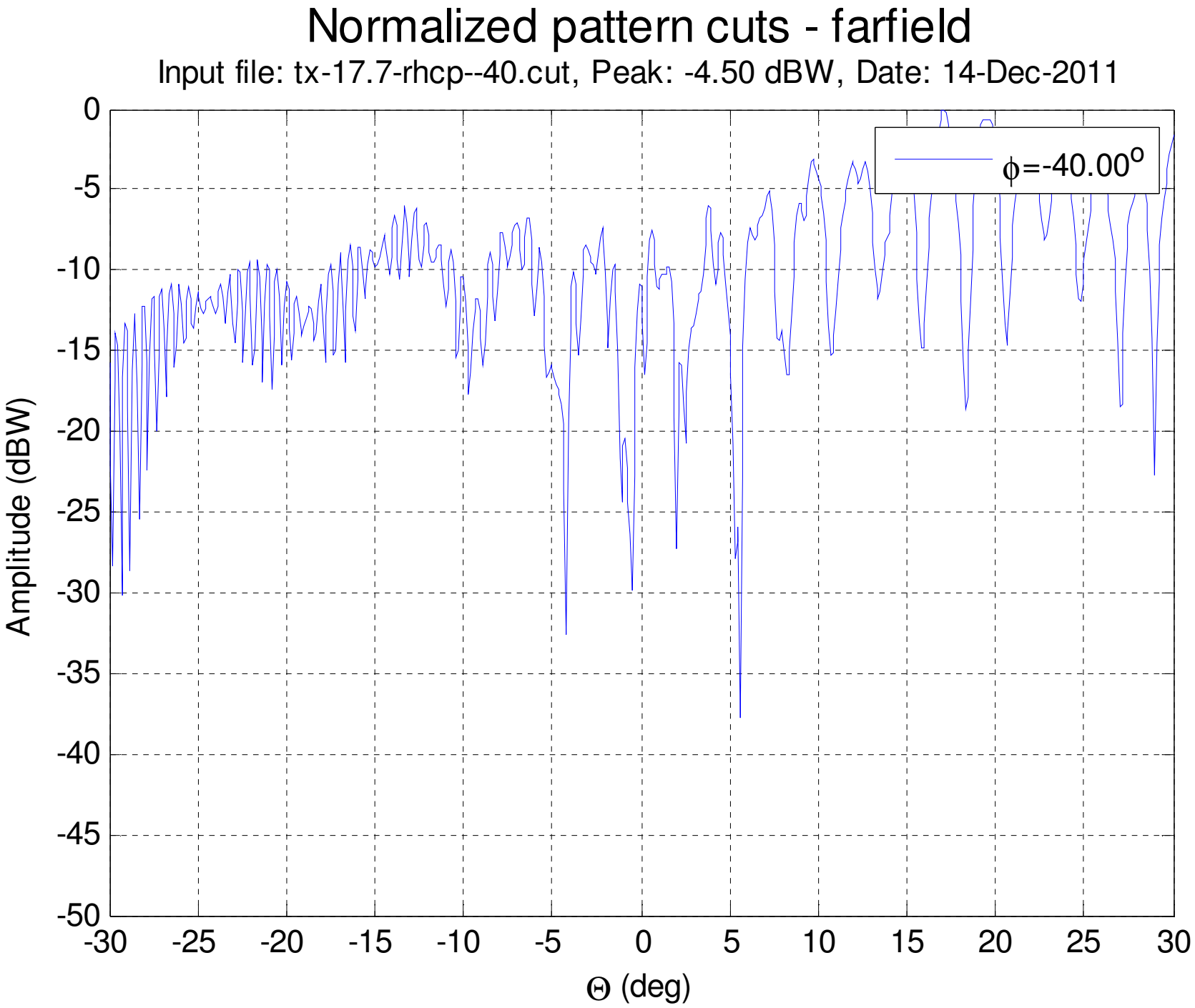

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -6.82 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

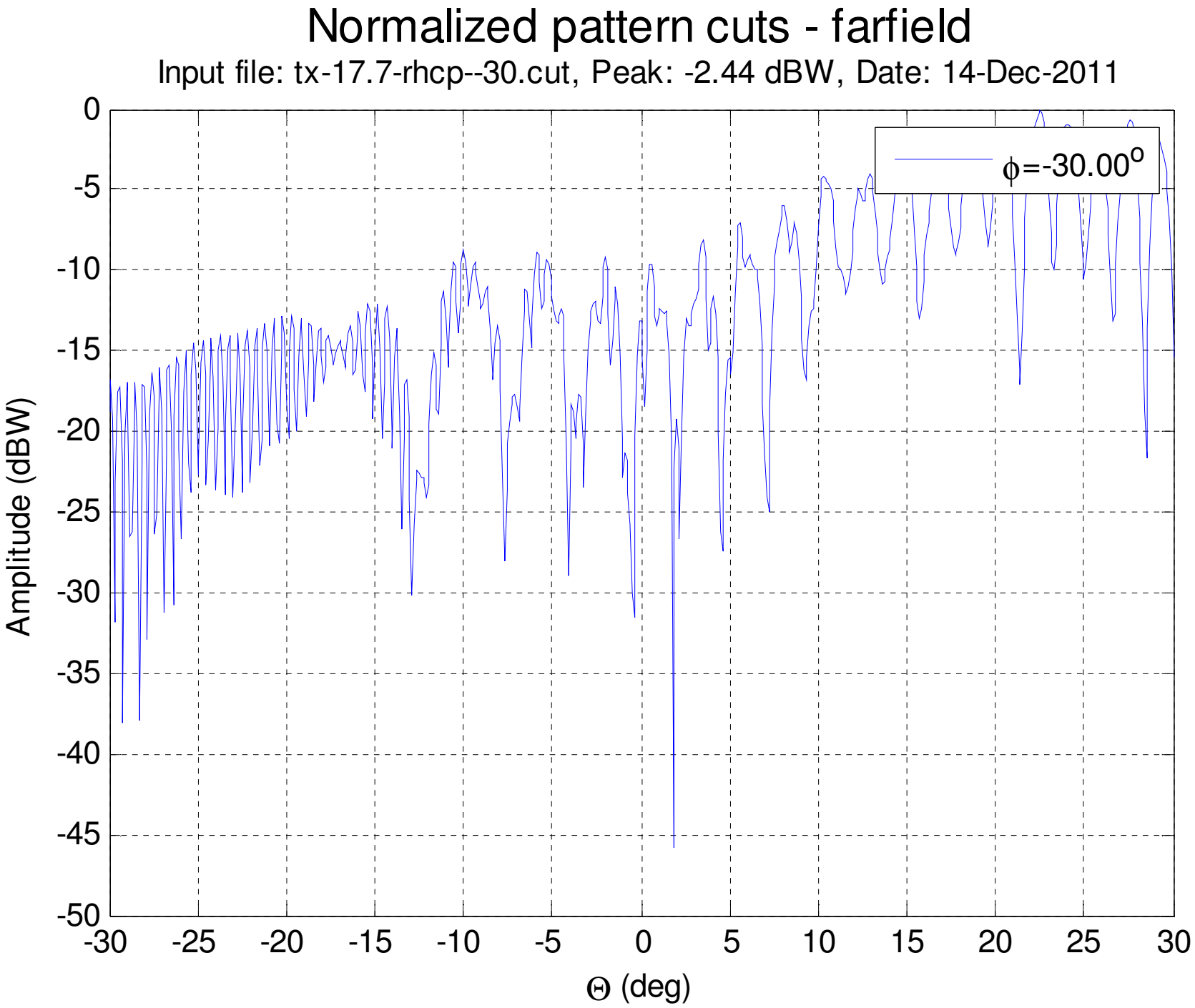

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -6.46 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

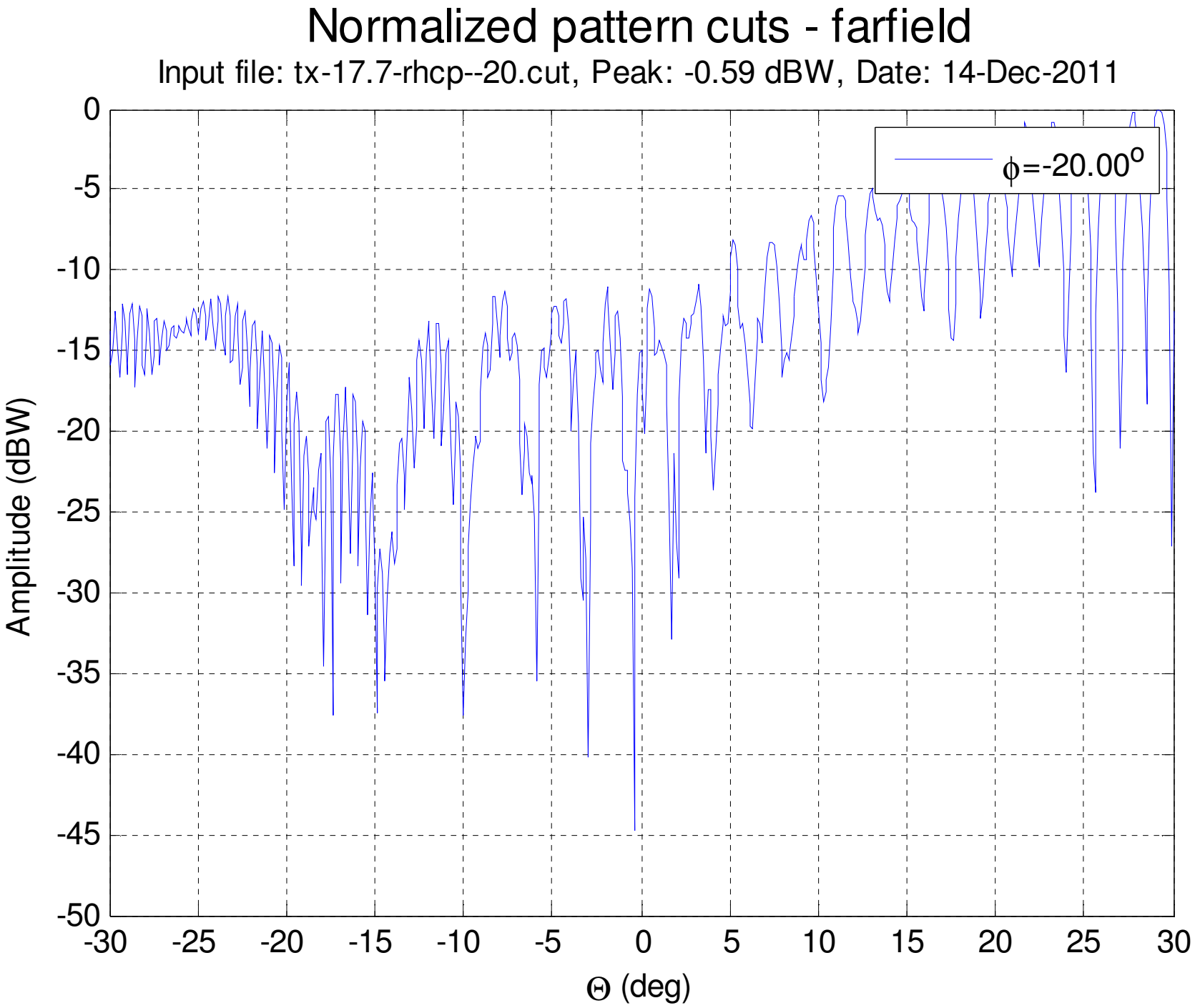
RHCP at 17.7 GHz

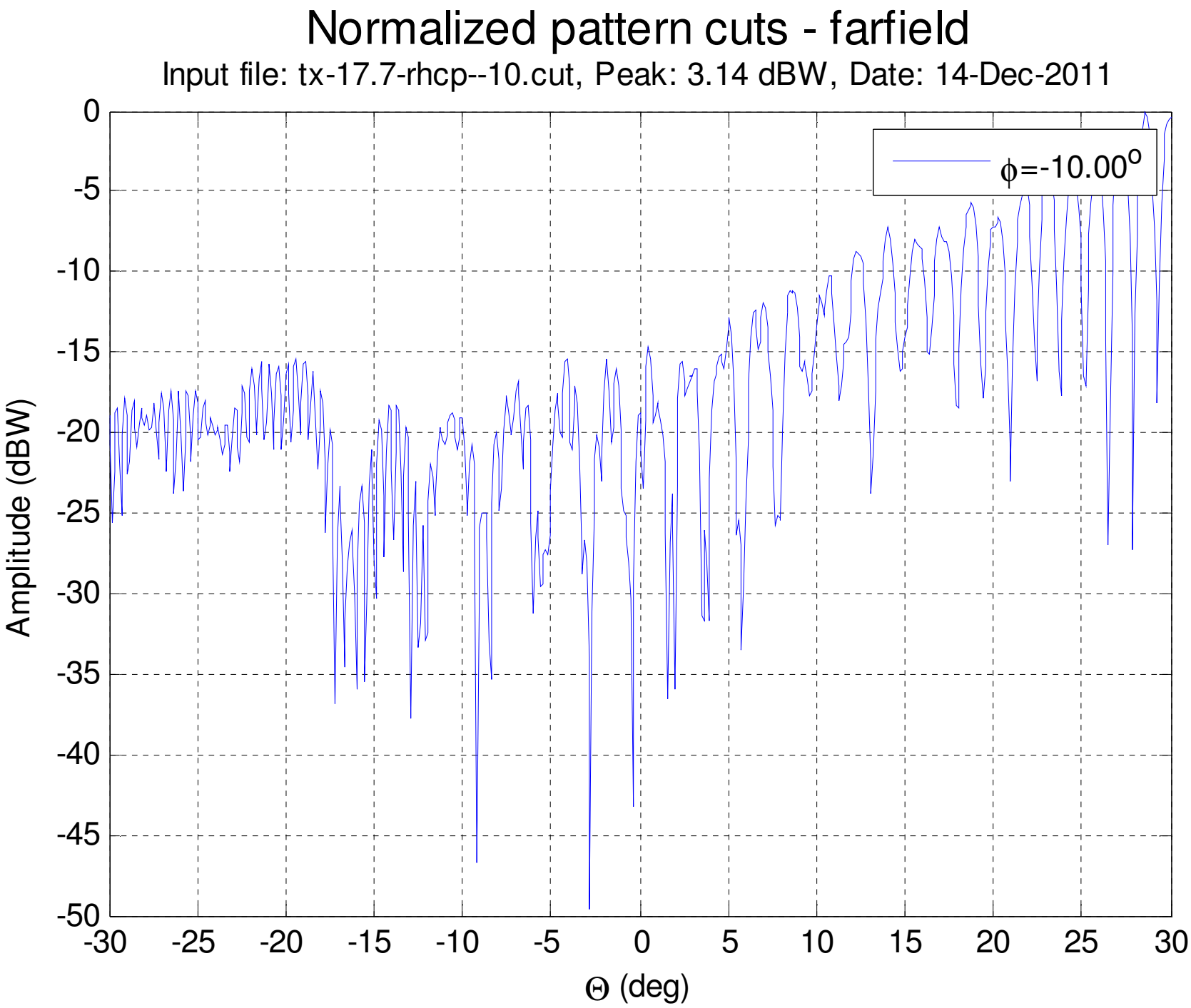

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -6.99 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

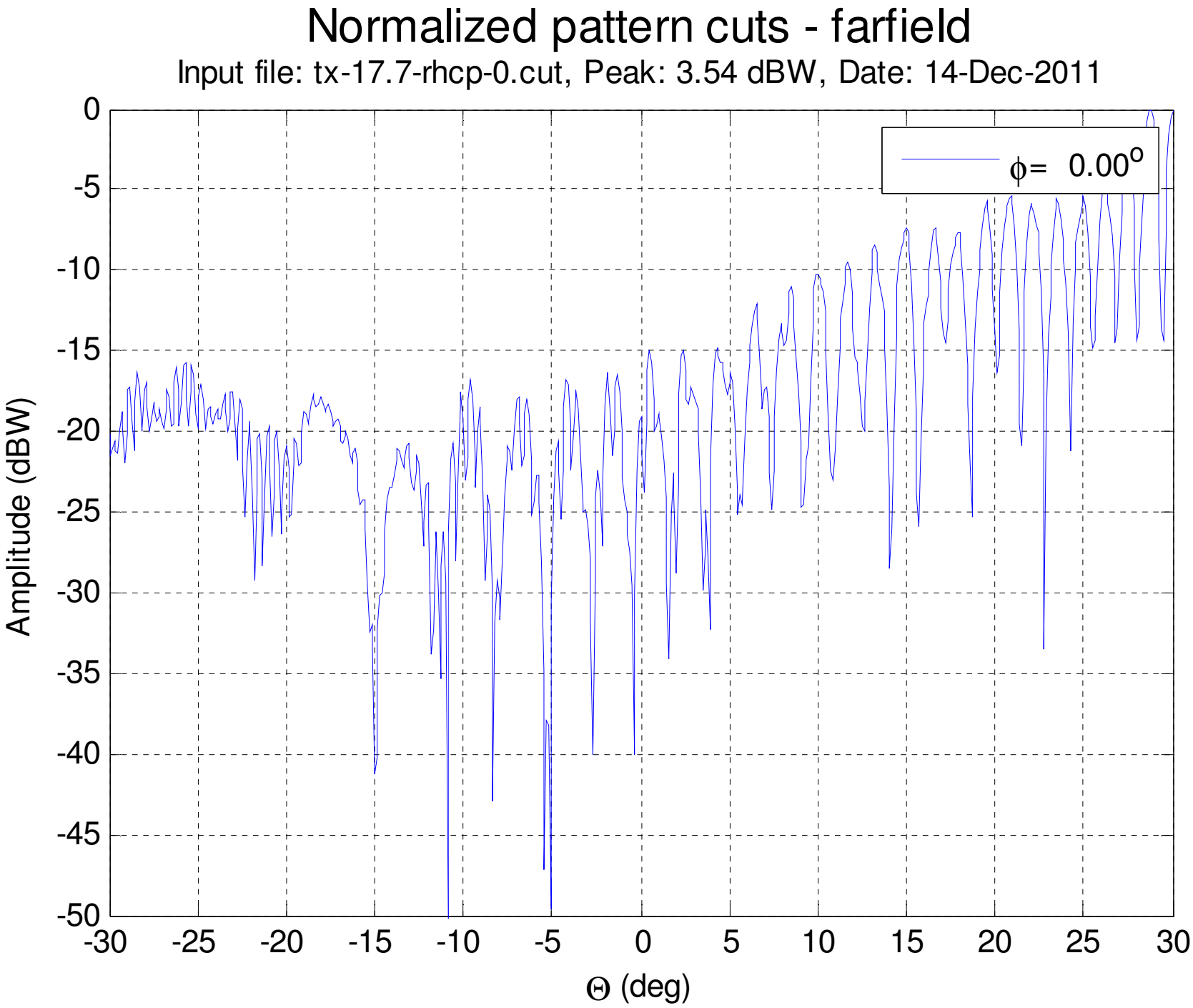

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -7.06 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

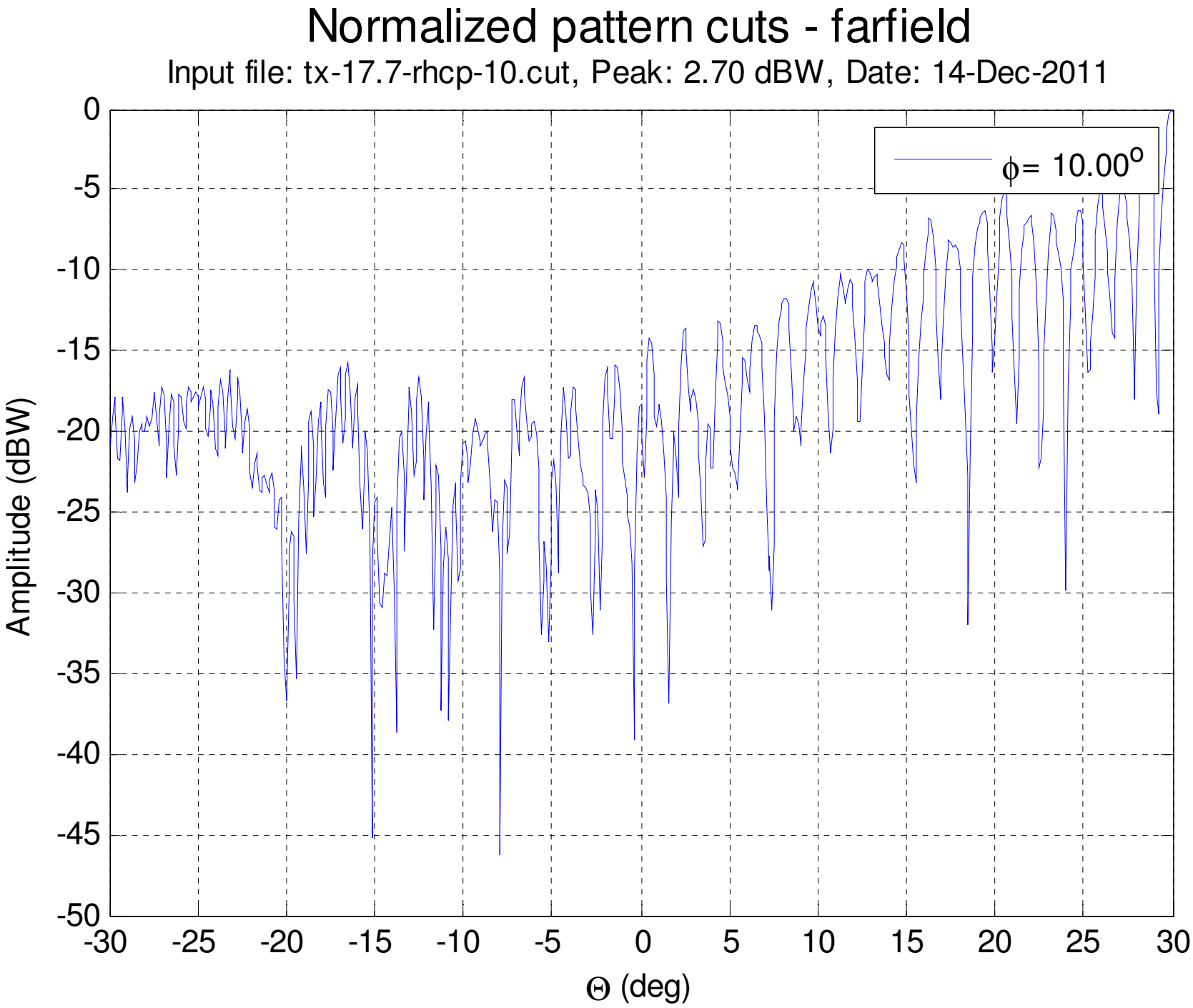

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -4.50 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

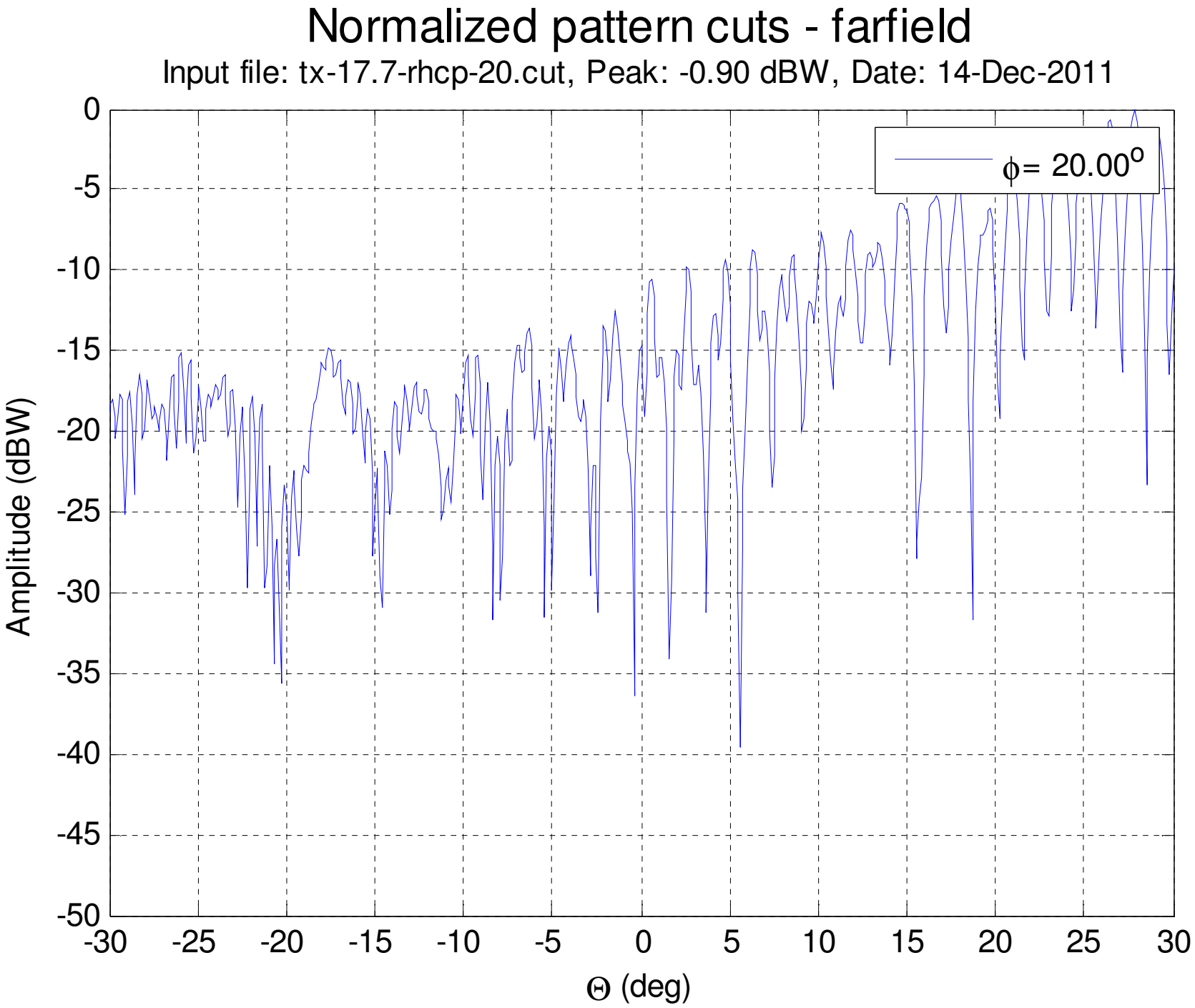

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -2.44 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

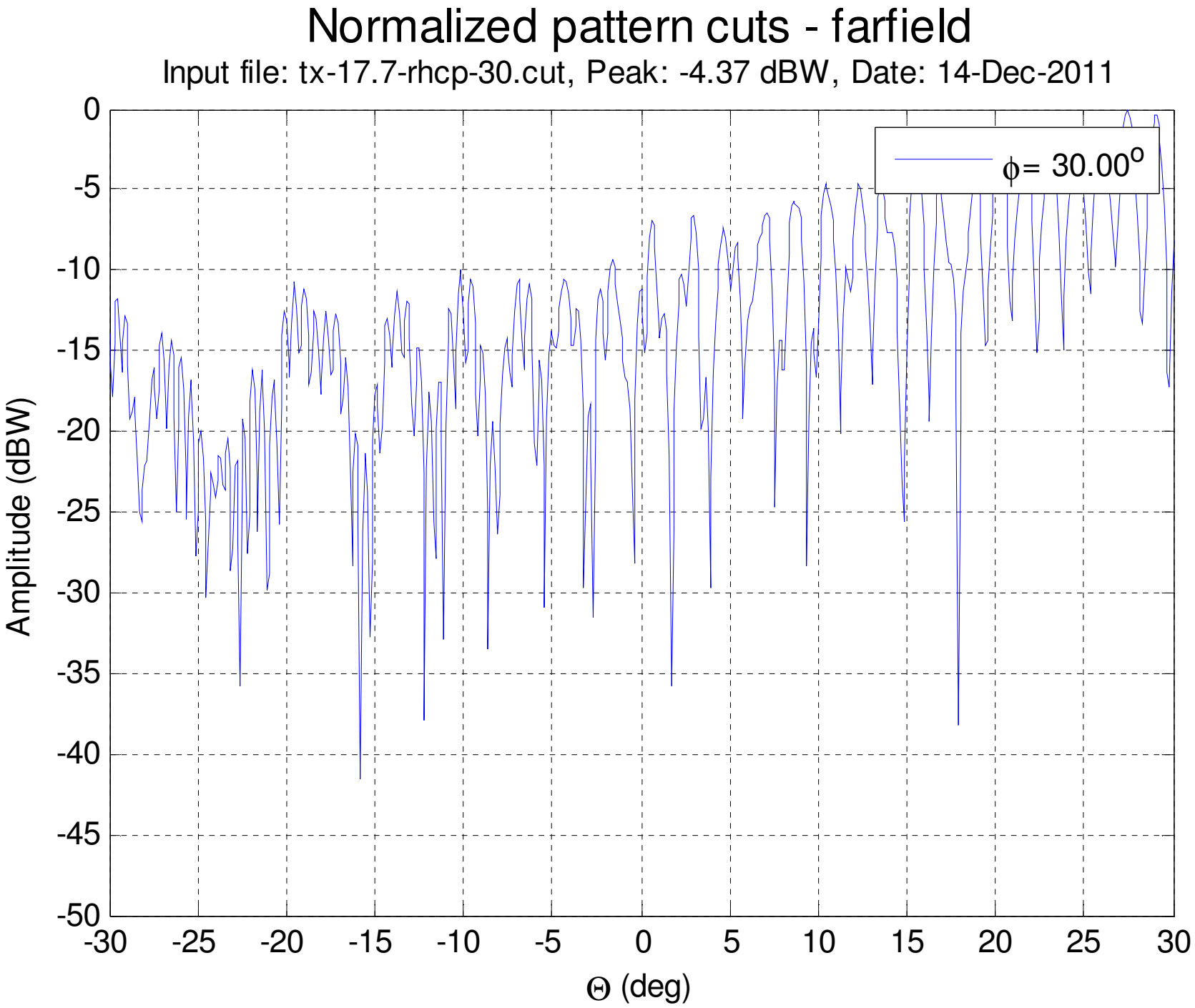

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: -0.59 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

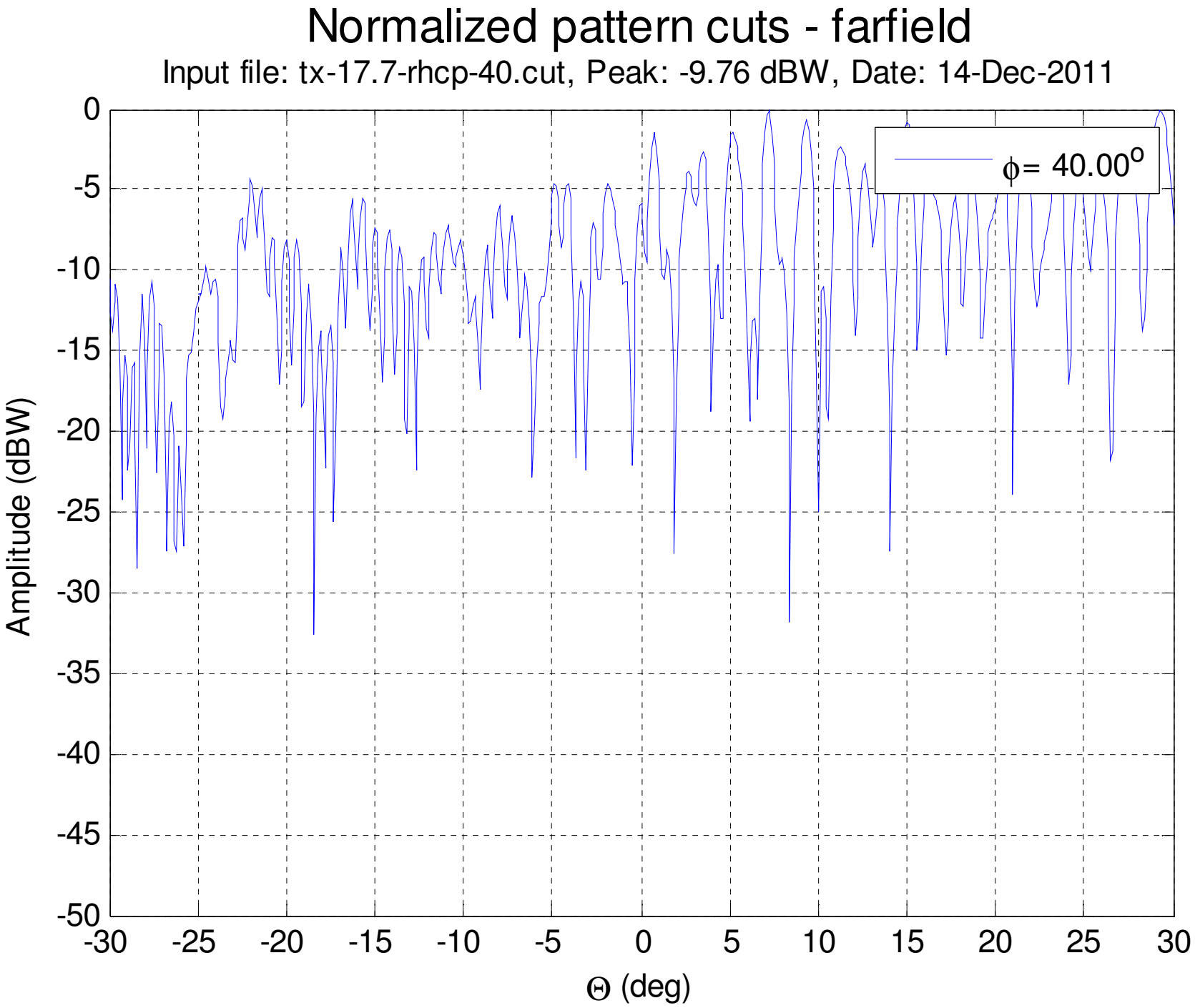

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: 3.14 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

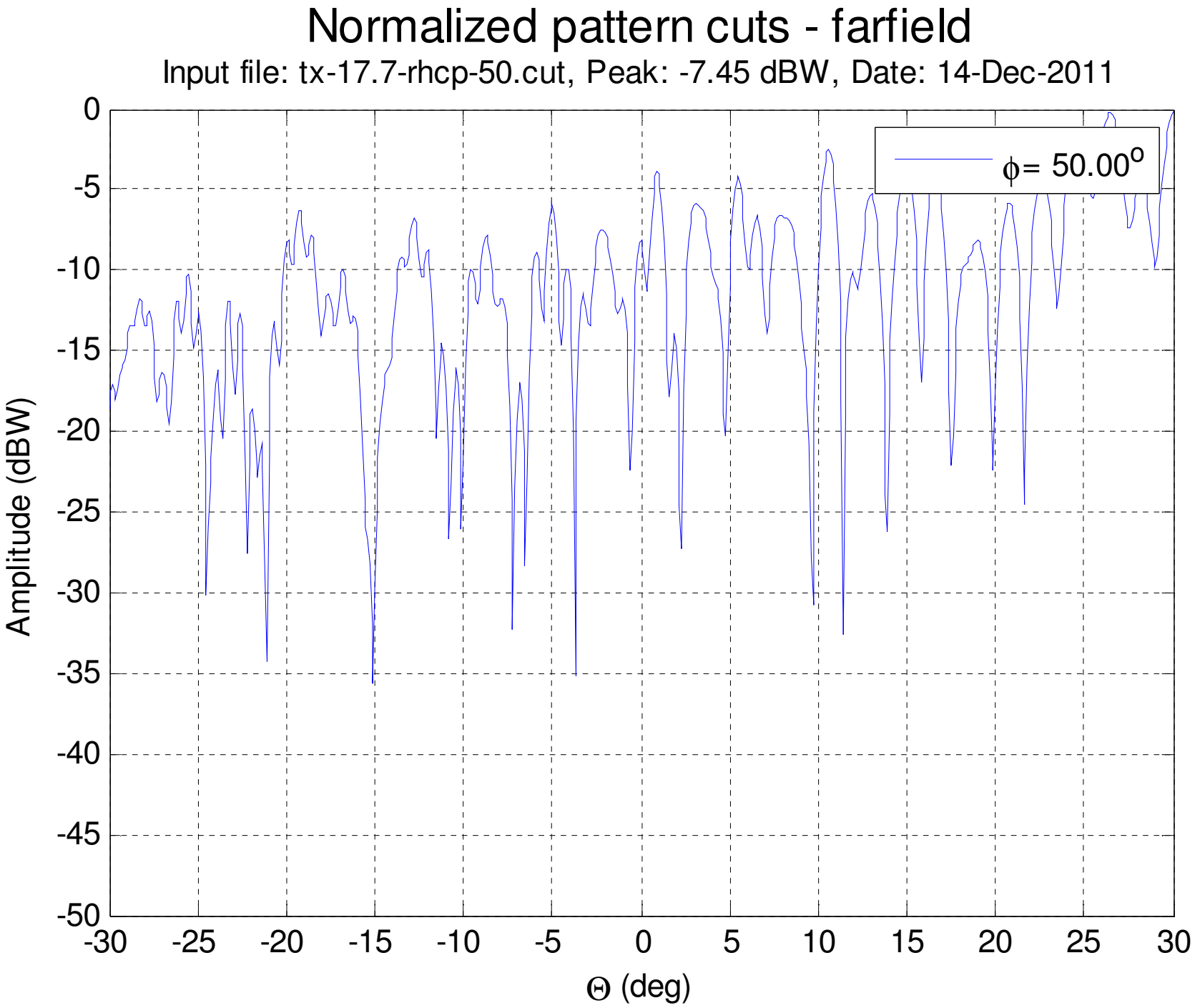

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: 3.54 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

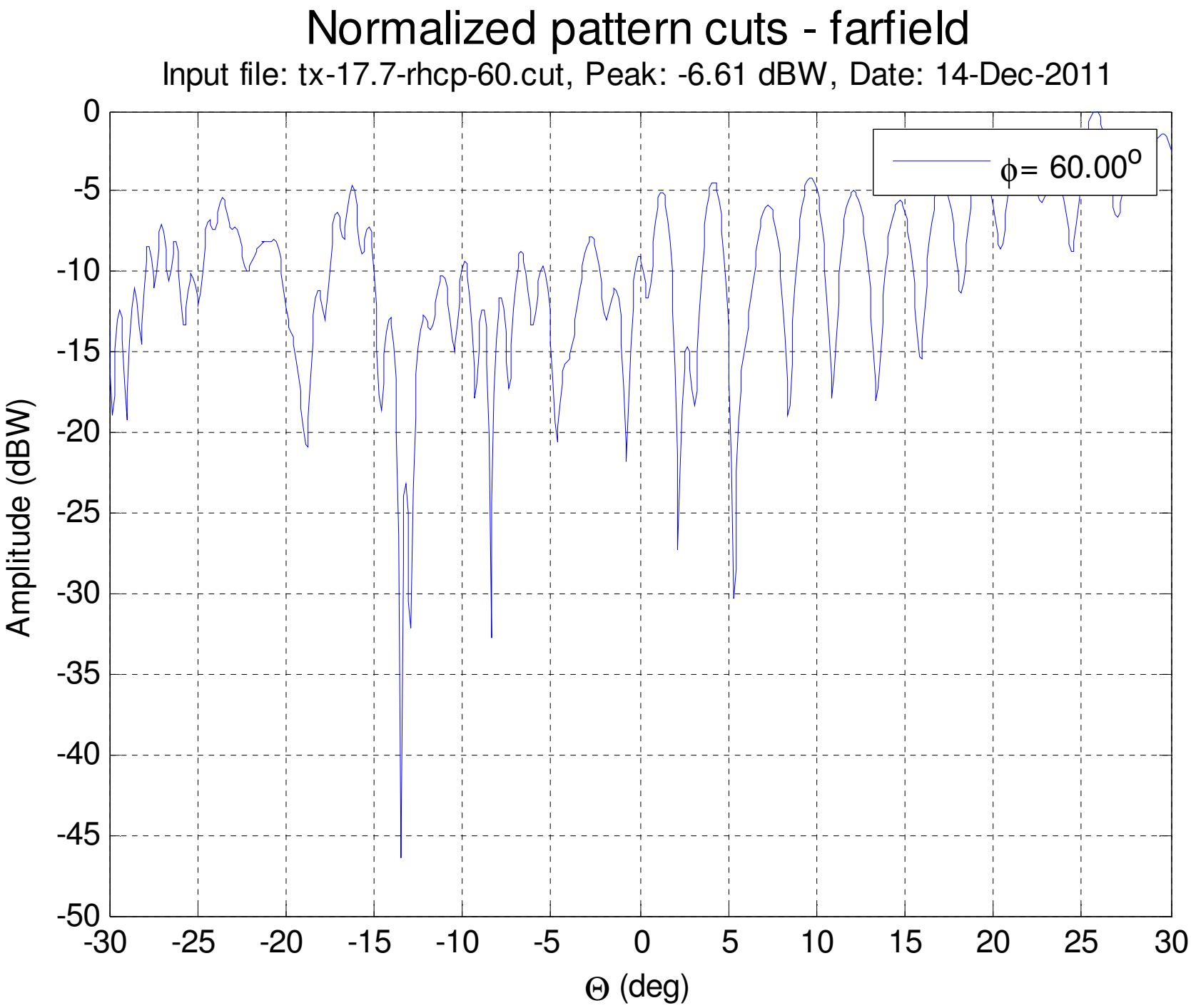

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: 2.70 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -0.90 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

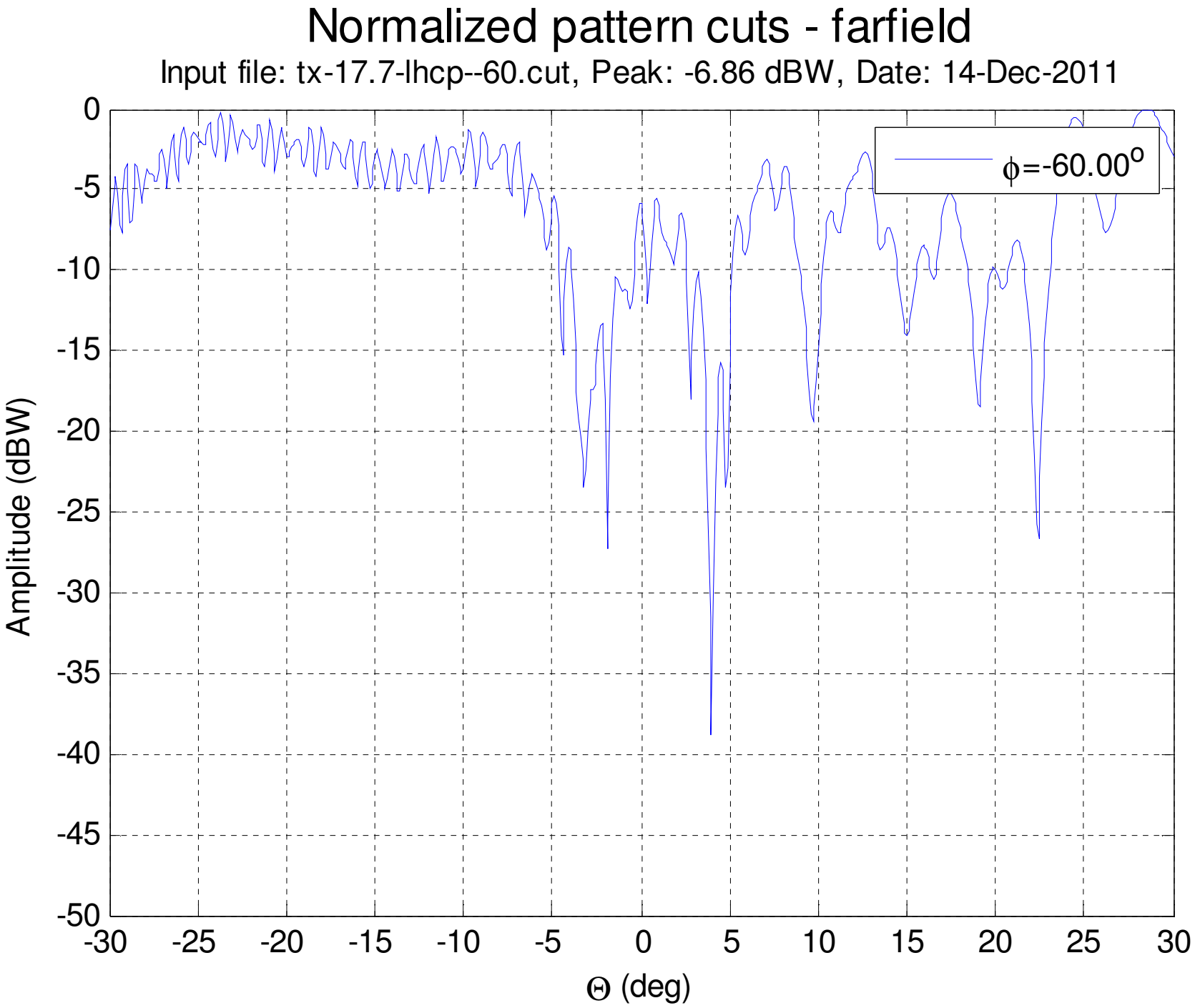

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -4.37 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

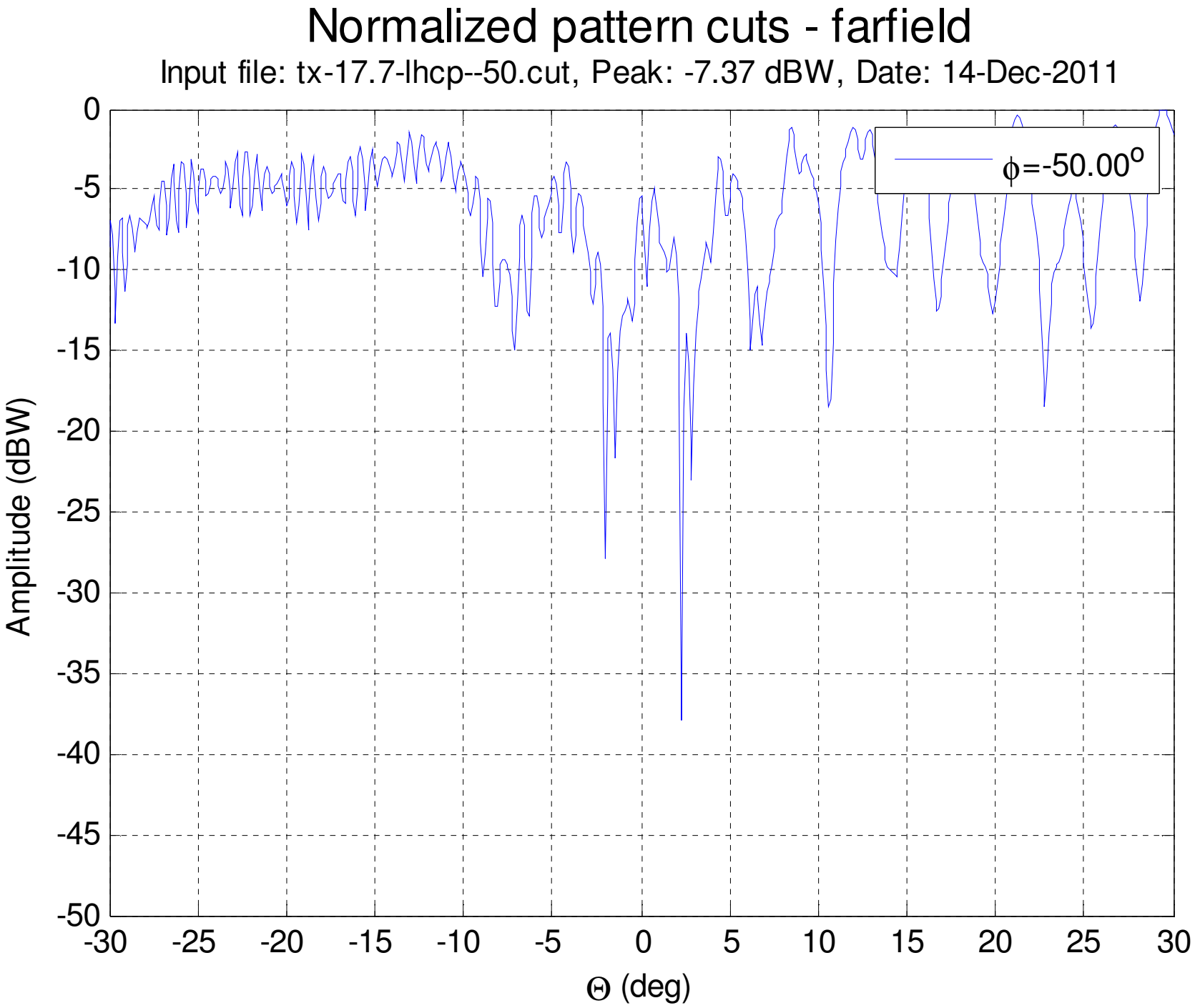

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -9.76 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

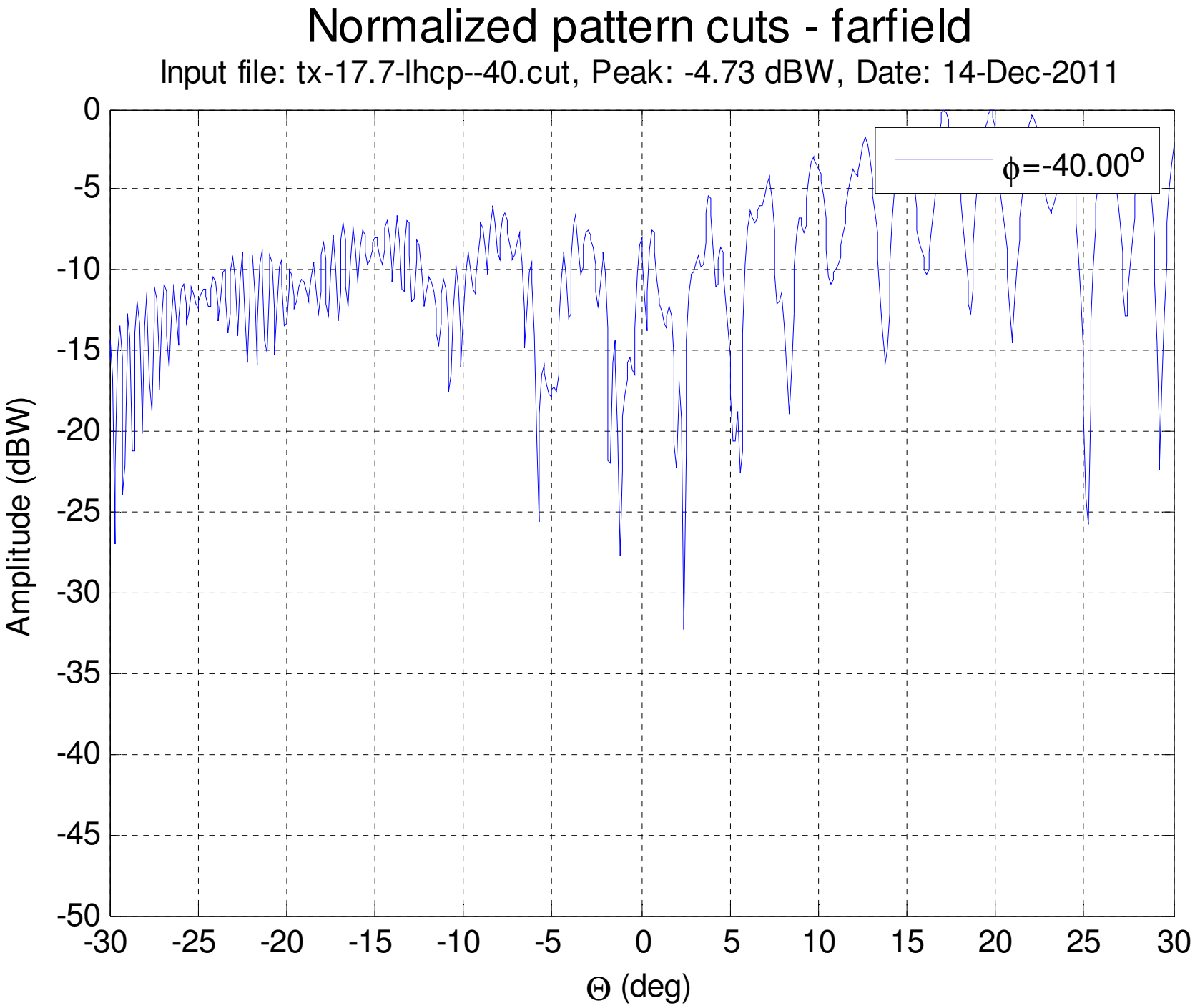

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -7.45 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

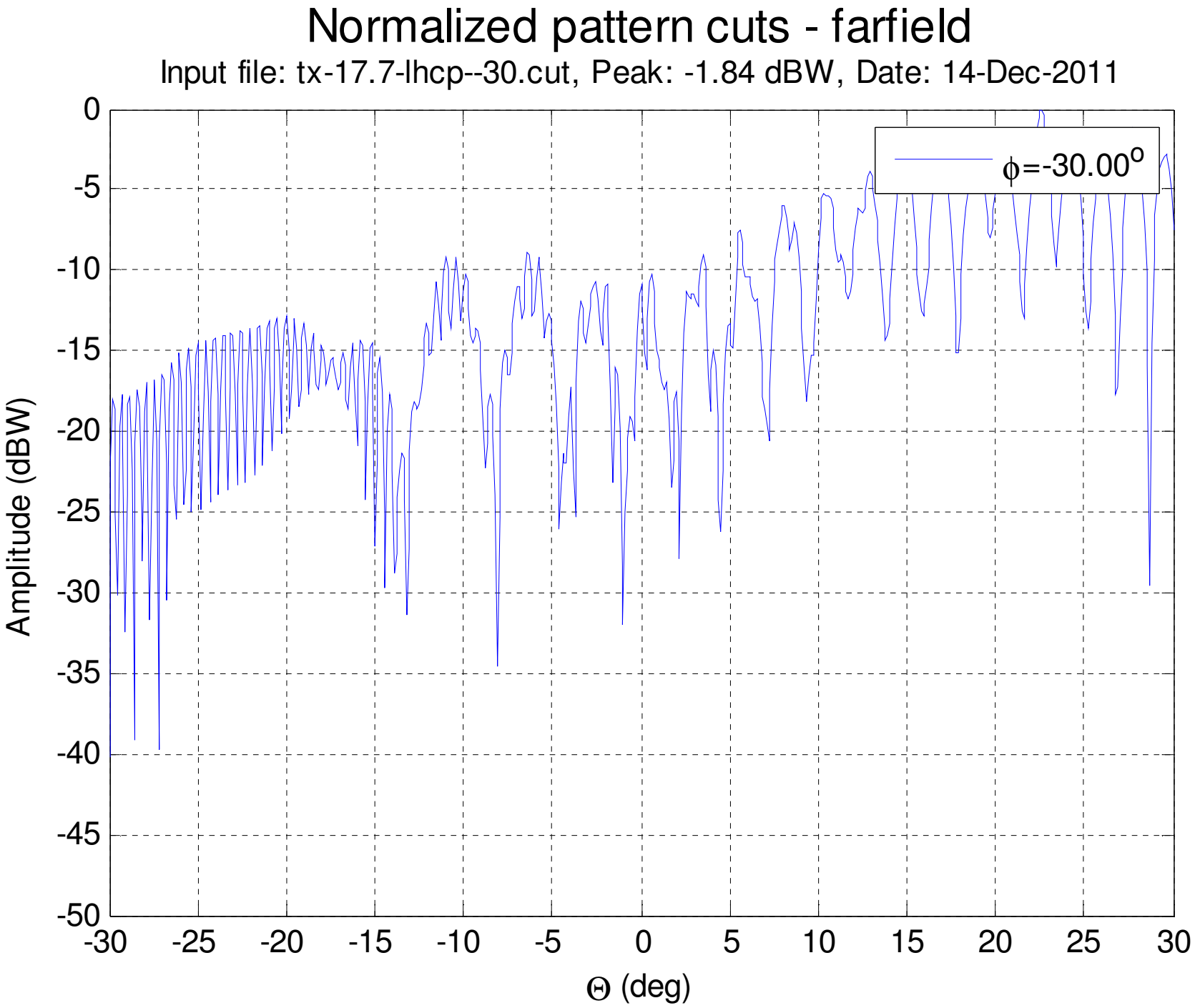

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -6.61 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

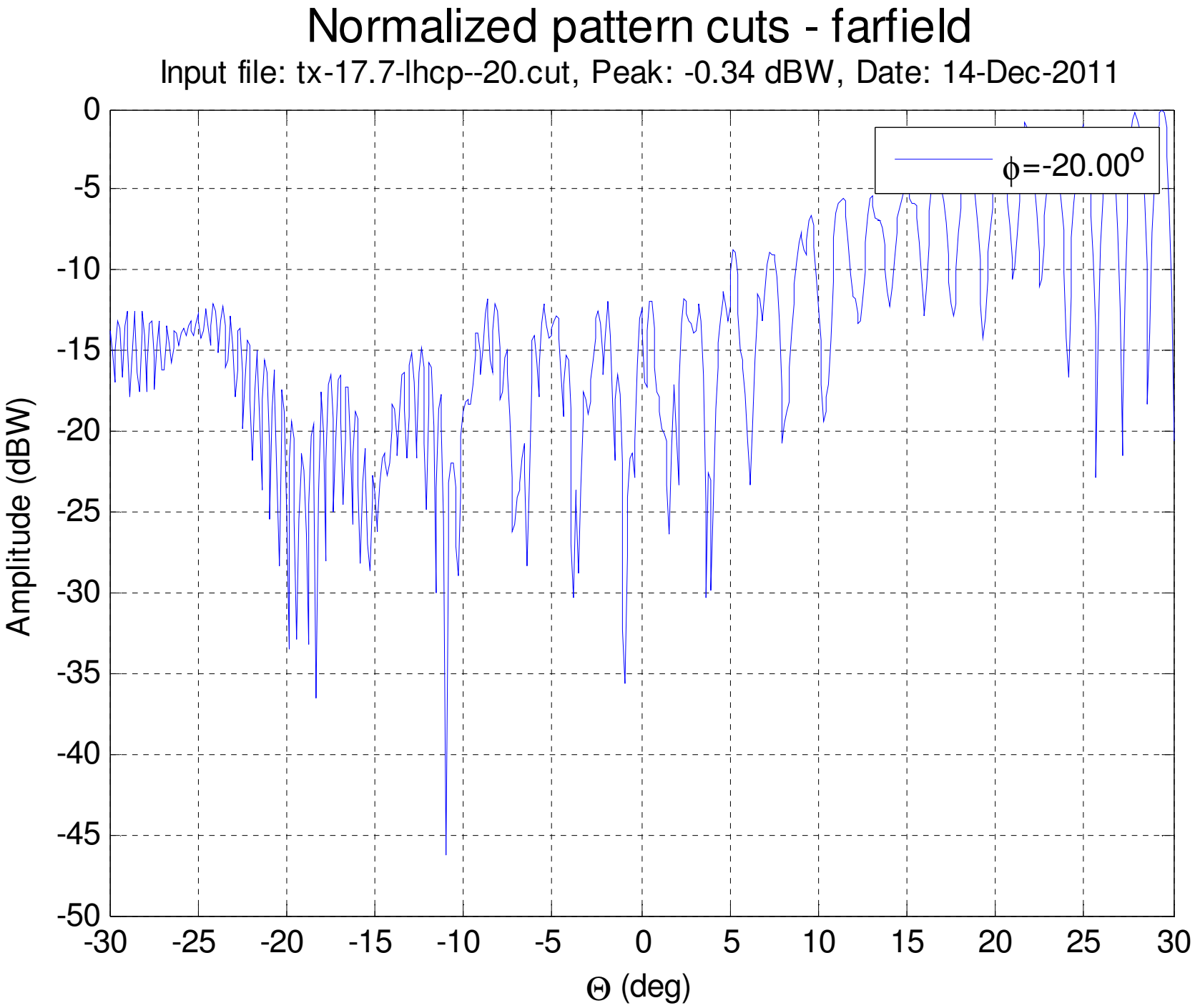
LHCP at 17.7 GHz

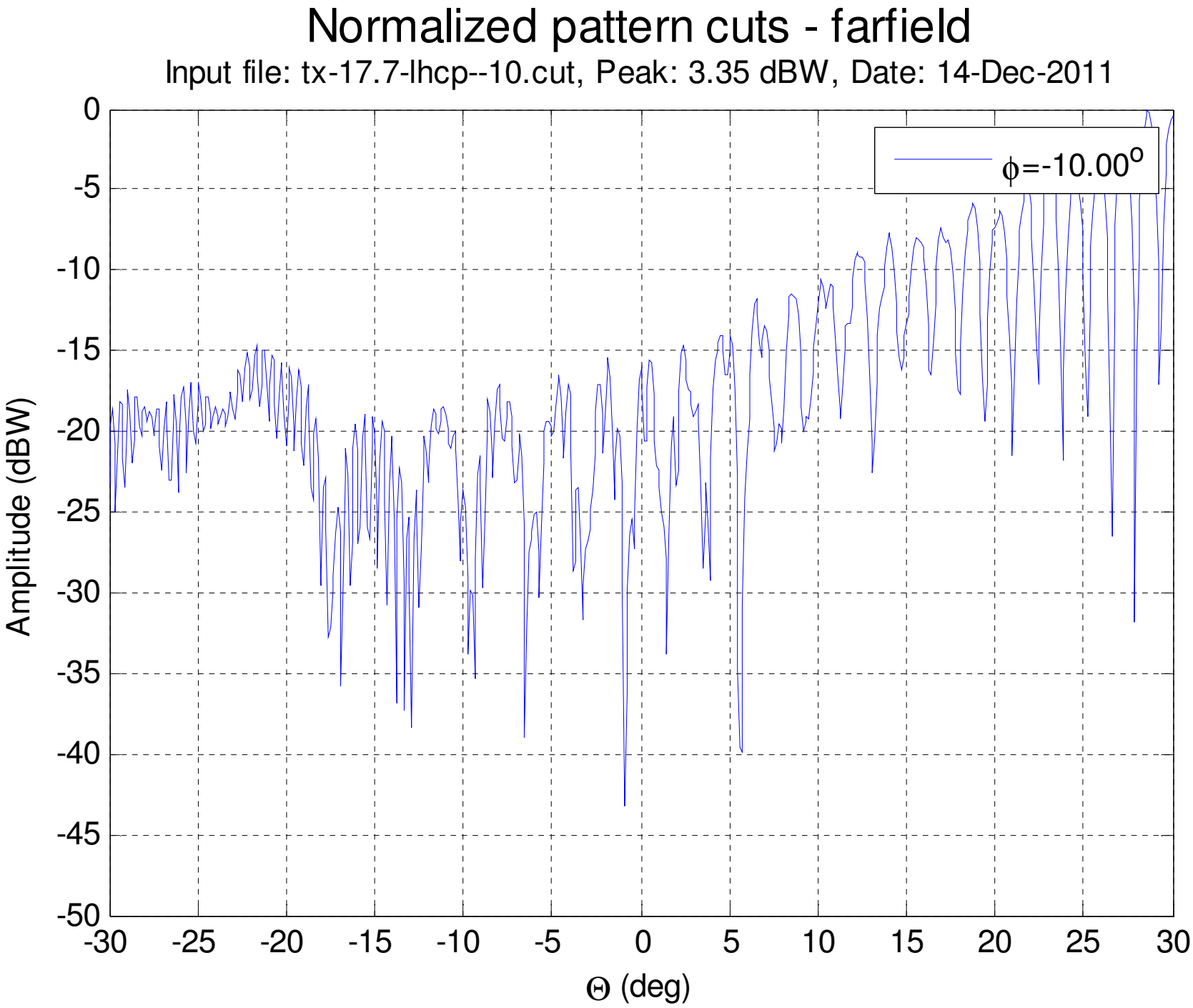

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -6.86 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

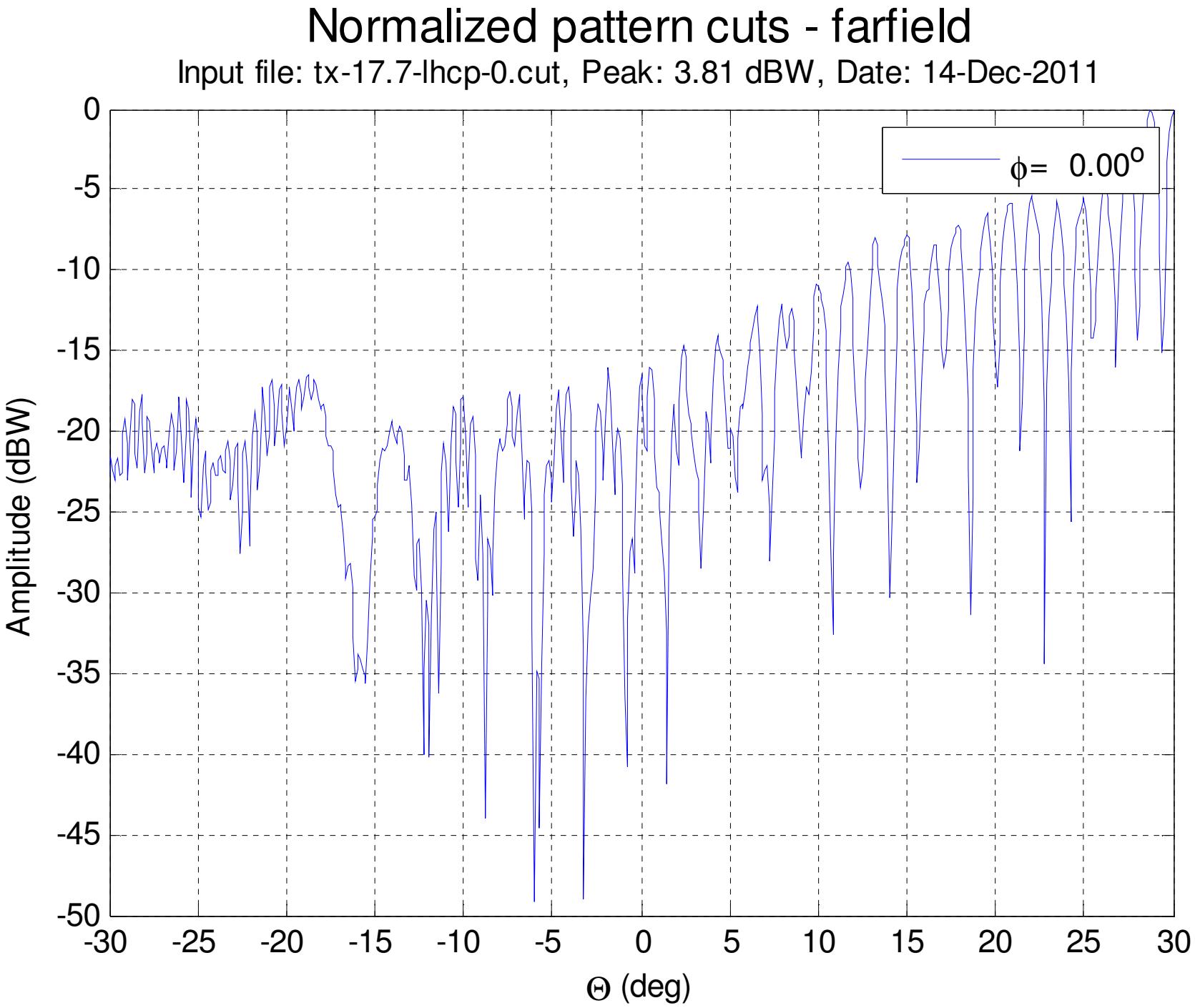

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -7.37 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

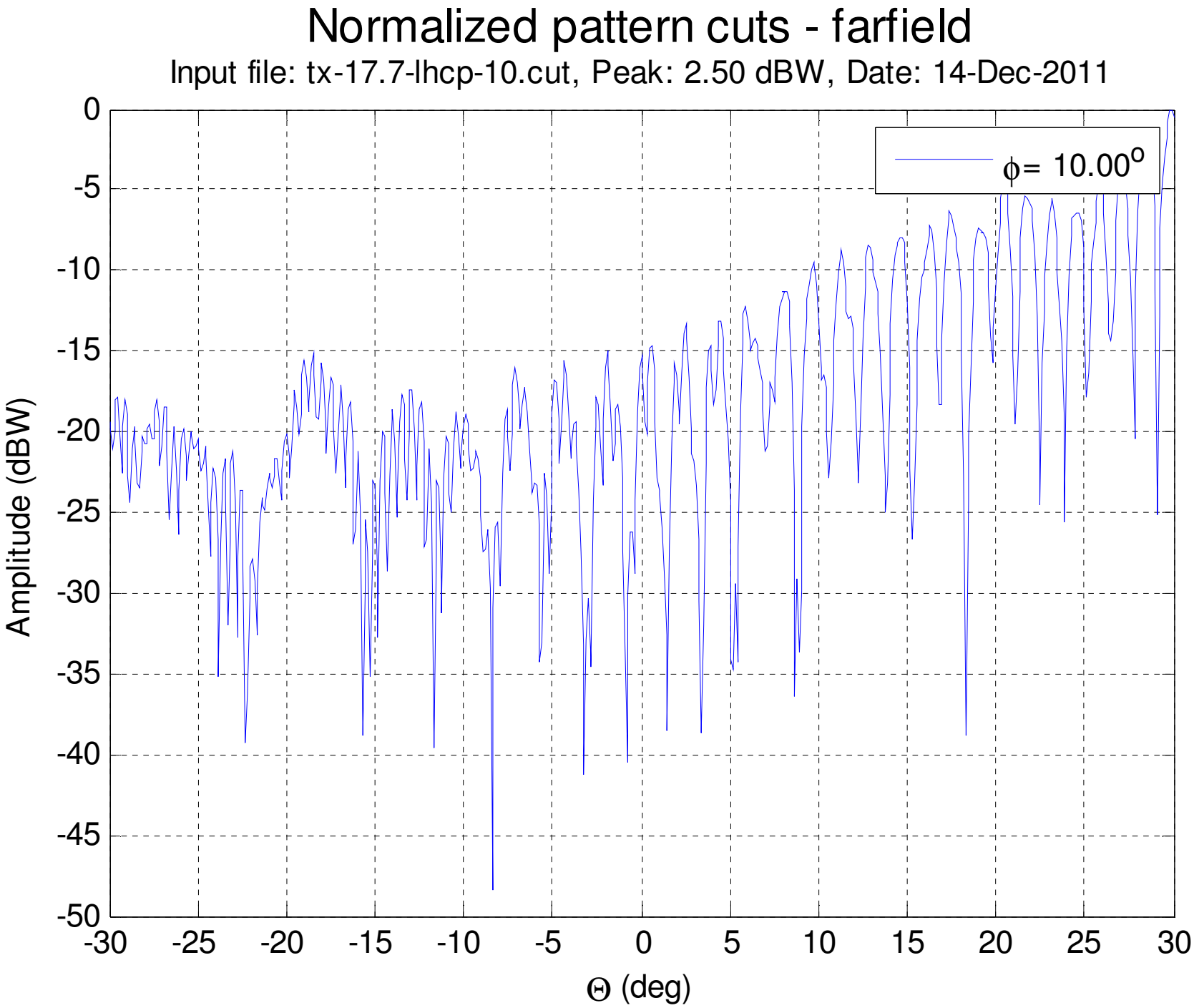

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -4.73 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

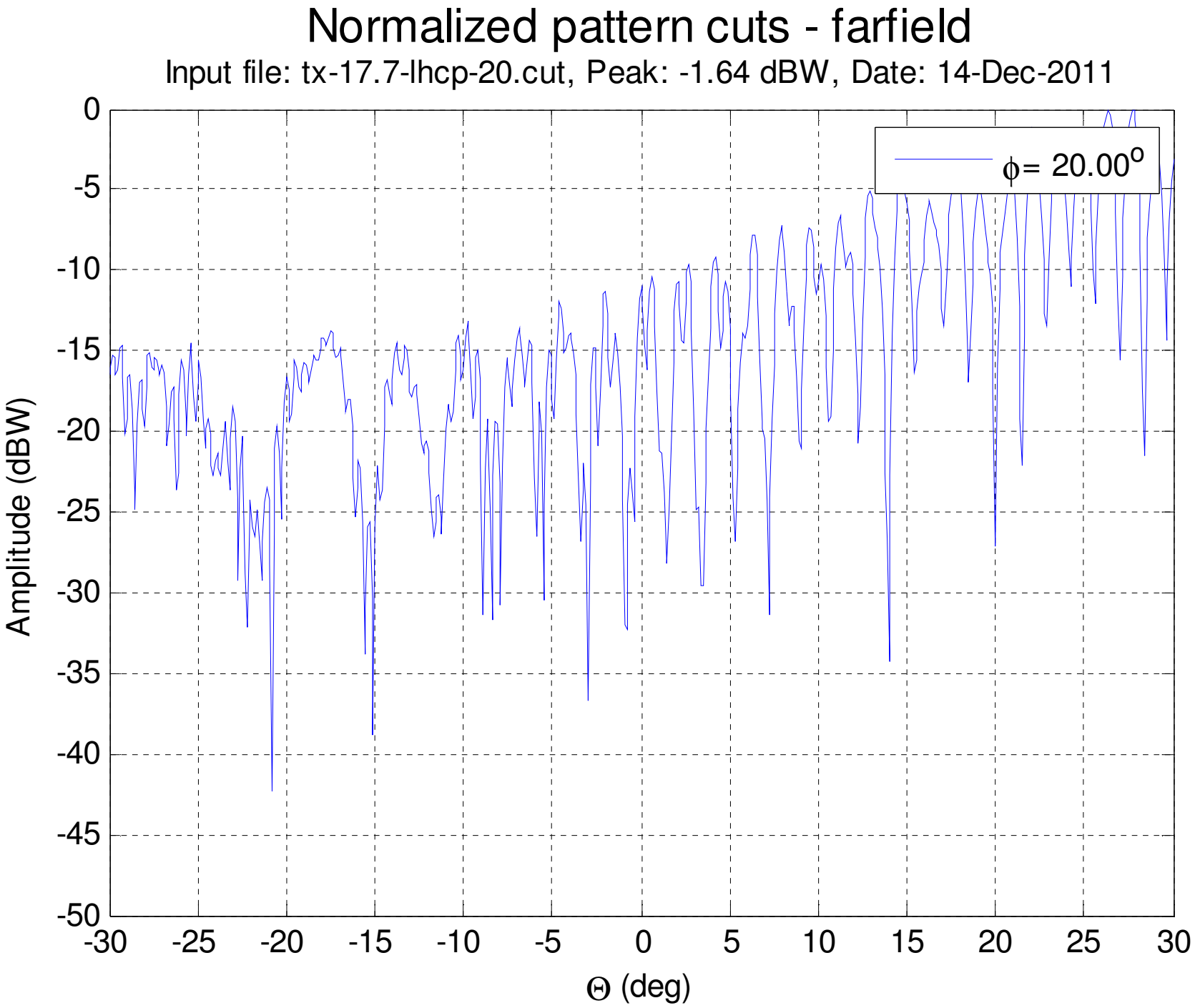

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -1.84 dBW, Date: 14-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

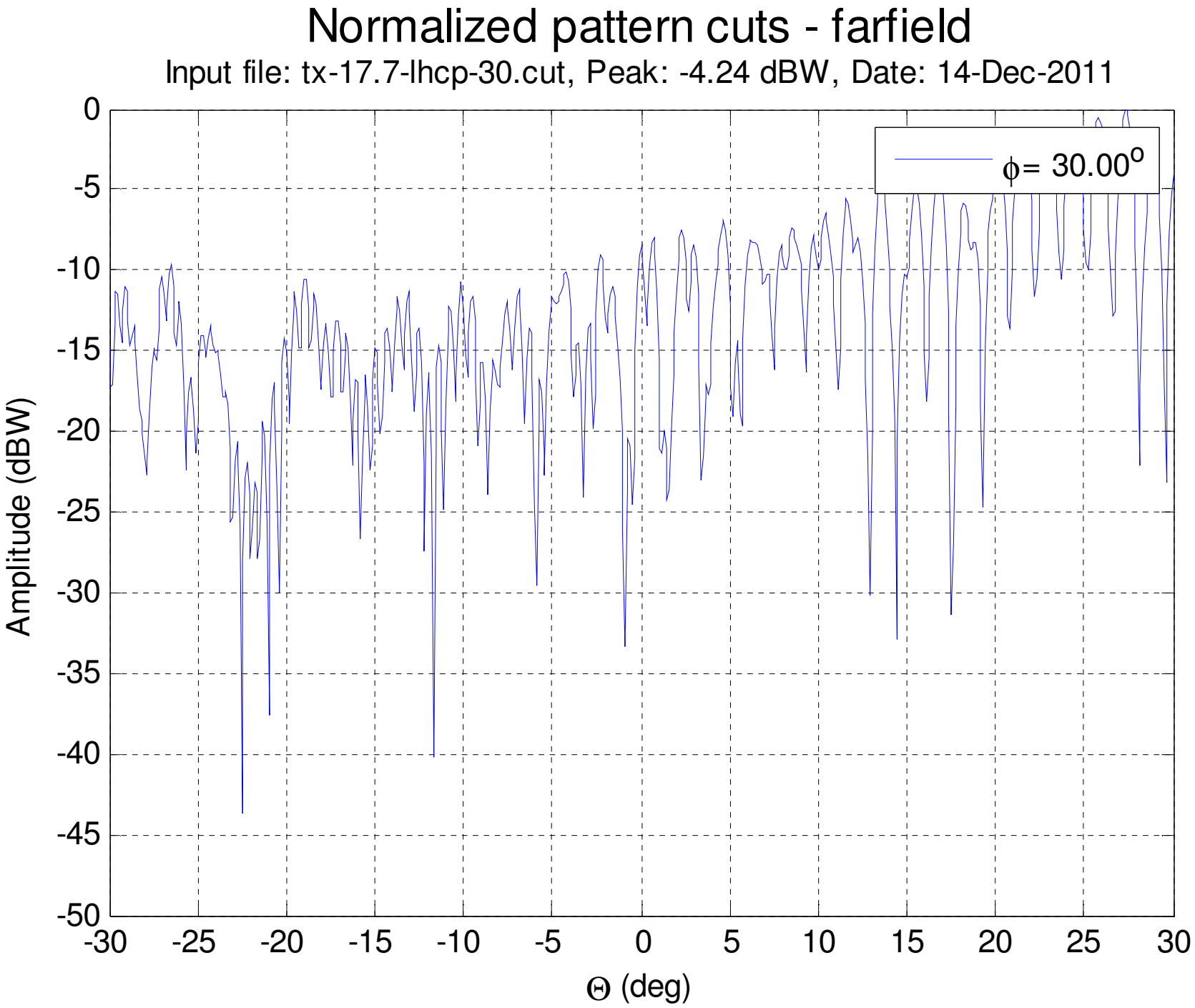

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: -0.34 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

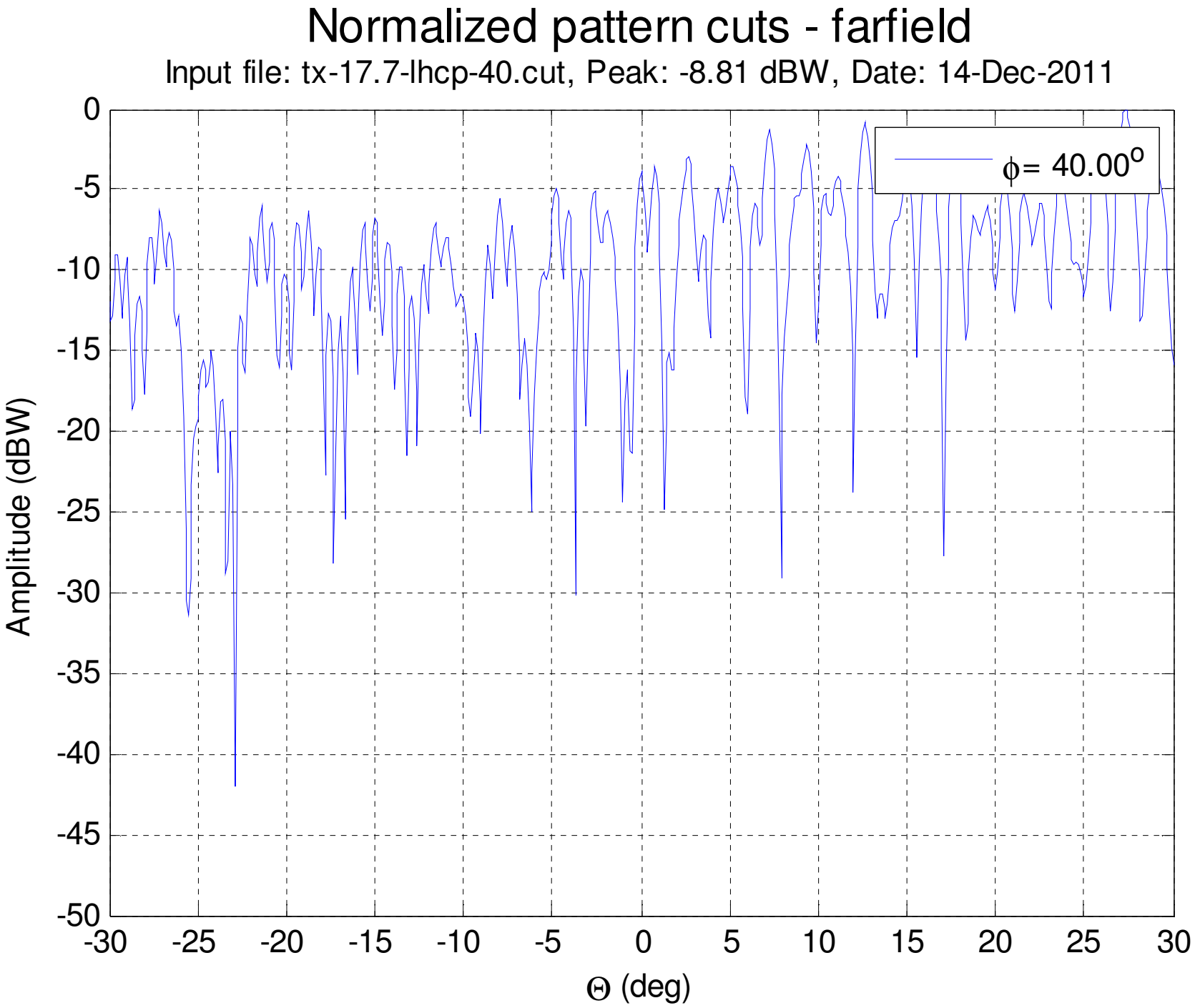

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: 3.35 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

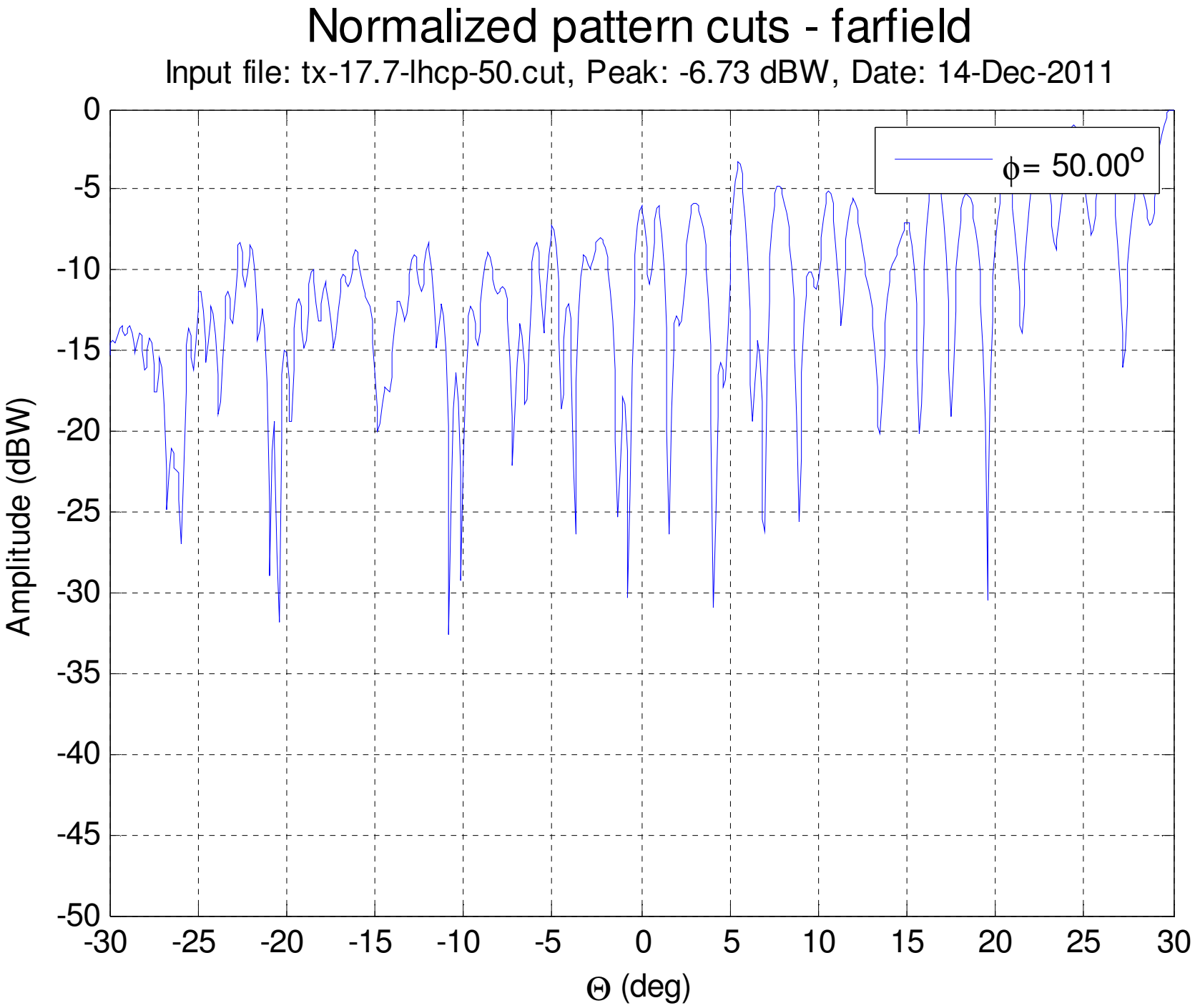

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: 3.81 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

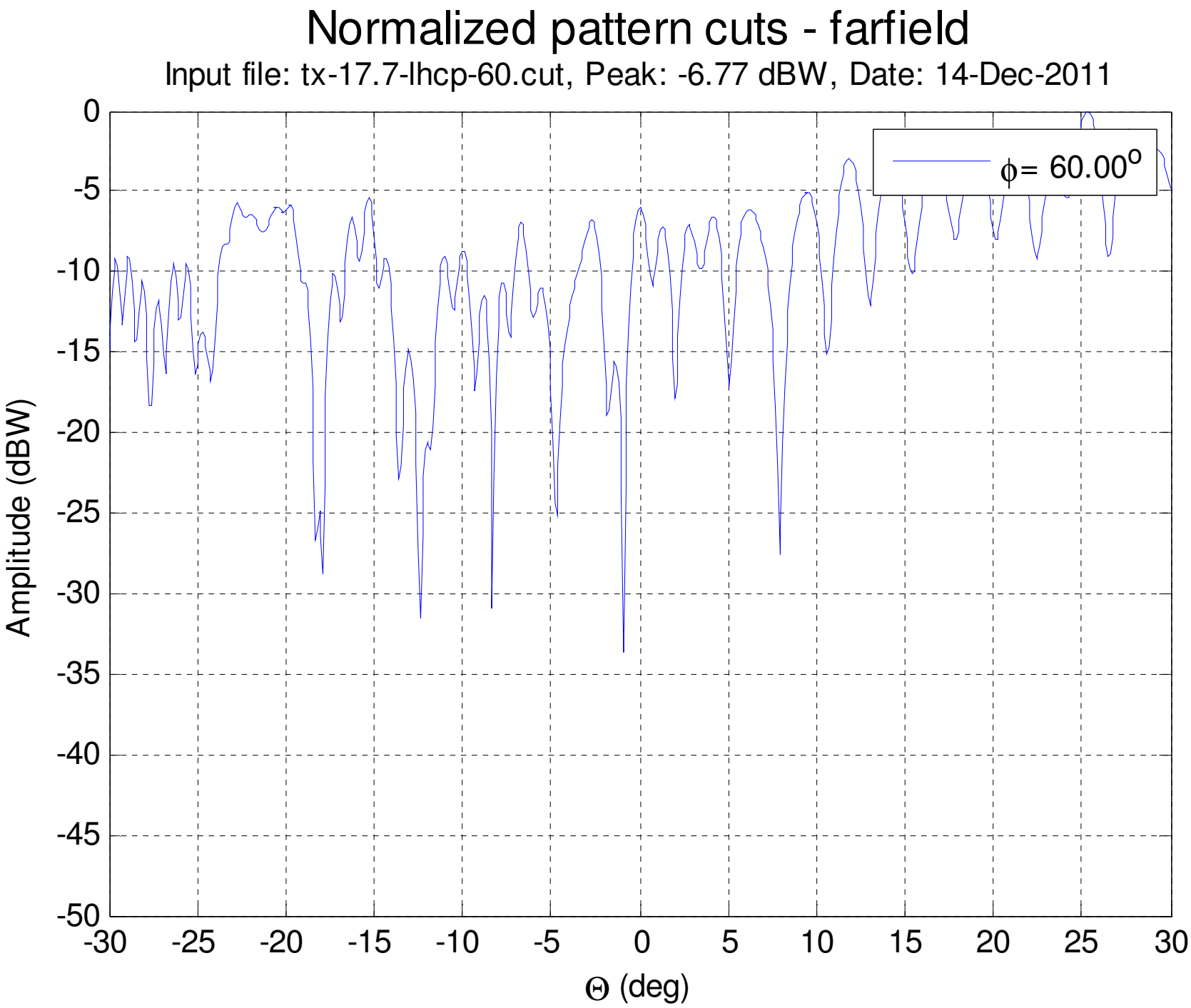

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: 2.50 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -1.64 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -4.24 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -8.81 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -6.73 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -6.77 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

December 13, 2011

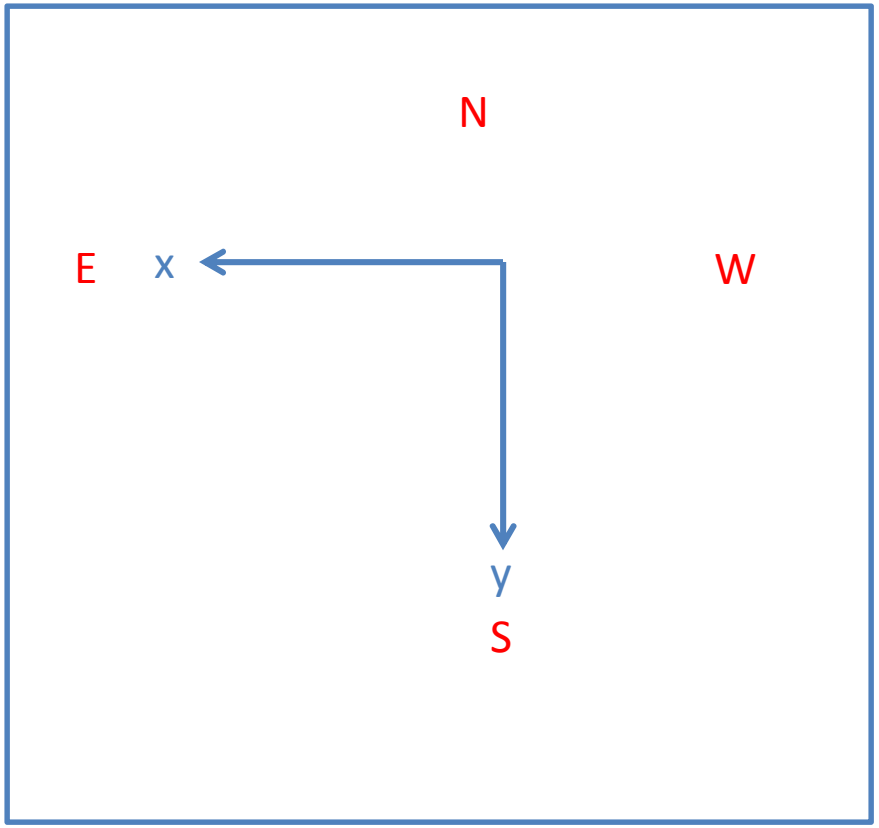
Updated: May15, 2012

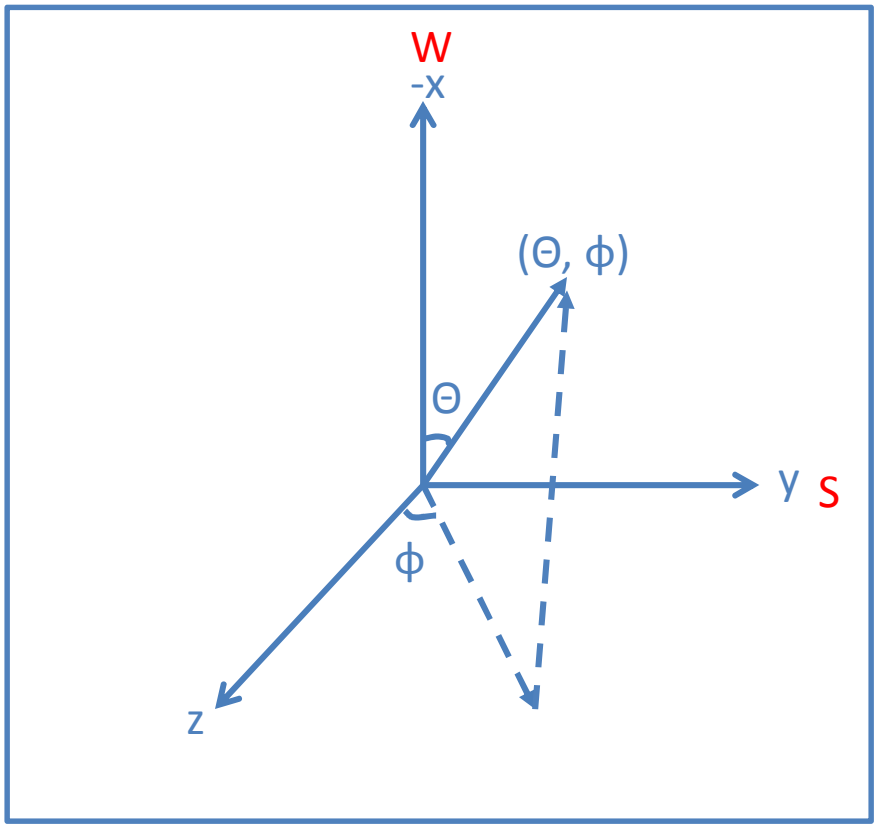
119 West Adjacent Satellite Off Axis Antenna Performance Spot Beam 08

Maximum Allowable EIRP to meet the -117dBW/m2/100 kHz

Maximum EIRP Allowed	
Spec Max flux density, dBW/m^2/100kHz	-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^2	-92.9
R, radial distance to GEO, km	42164.0
Angle of separtion between satellites, deg	0.1
range between satellites, km	73.59
Spreading factor, dB/m^2	-108.3
Atmospheric loss, dB	0
Max satellite EIRP allowed, dBW	15.4

Coordinate System

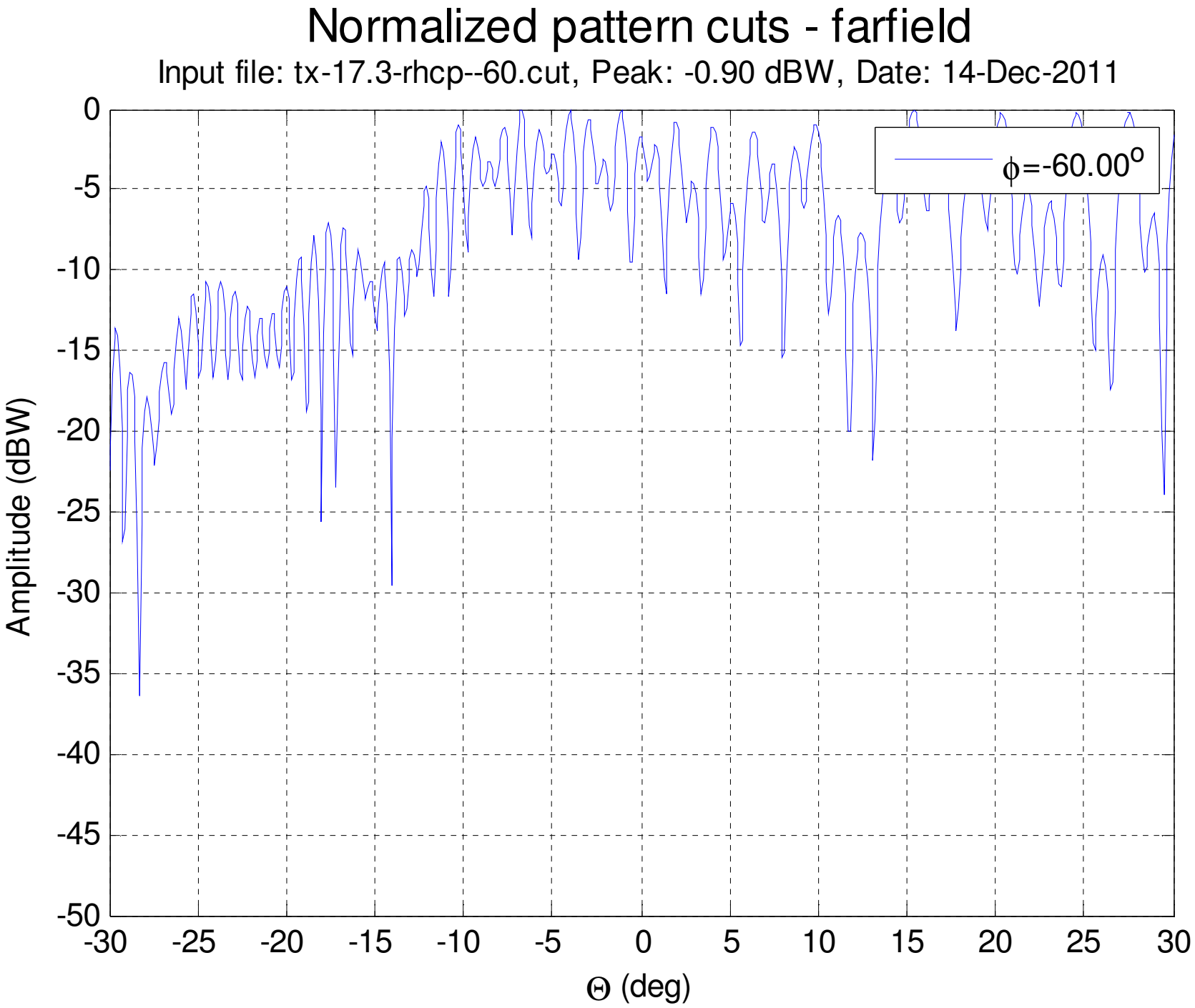


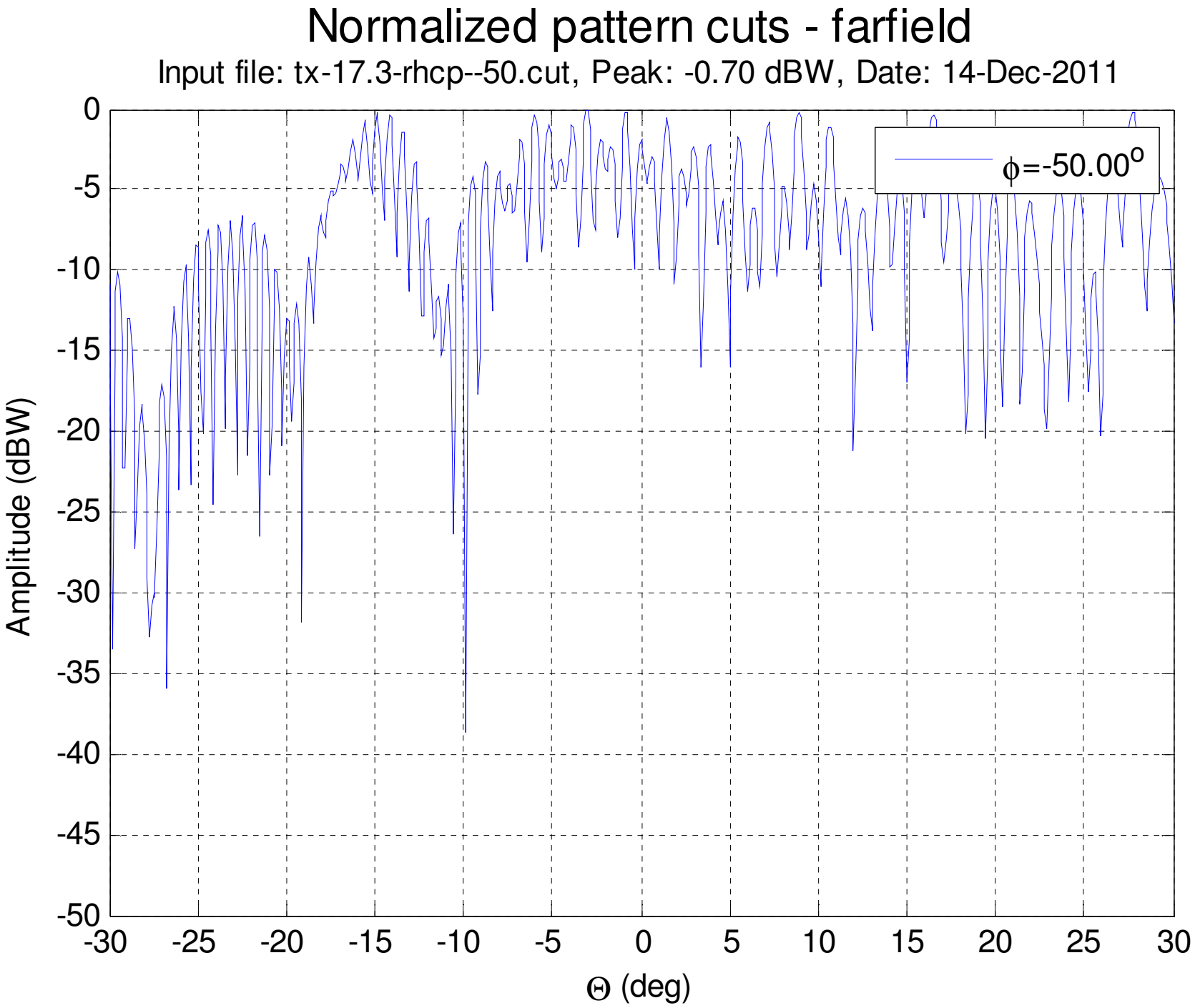


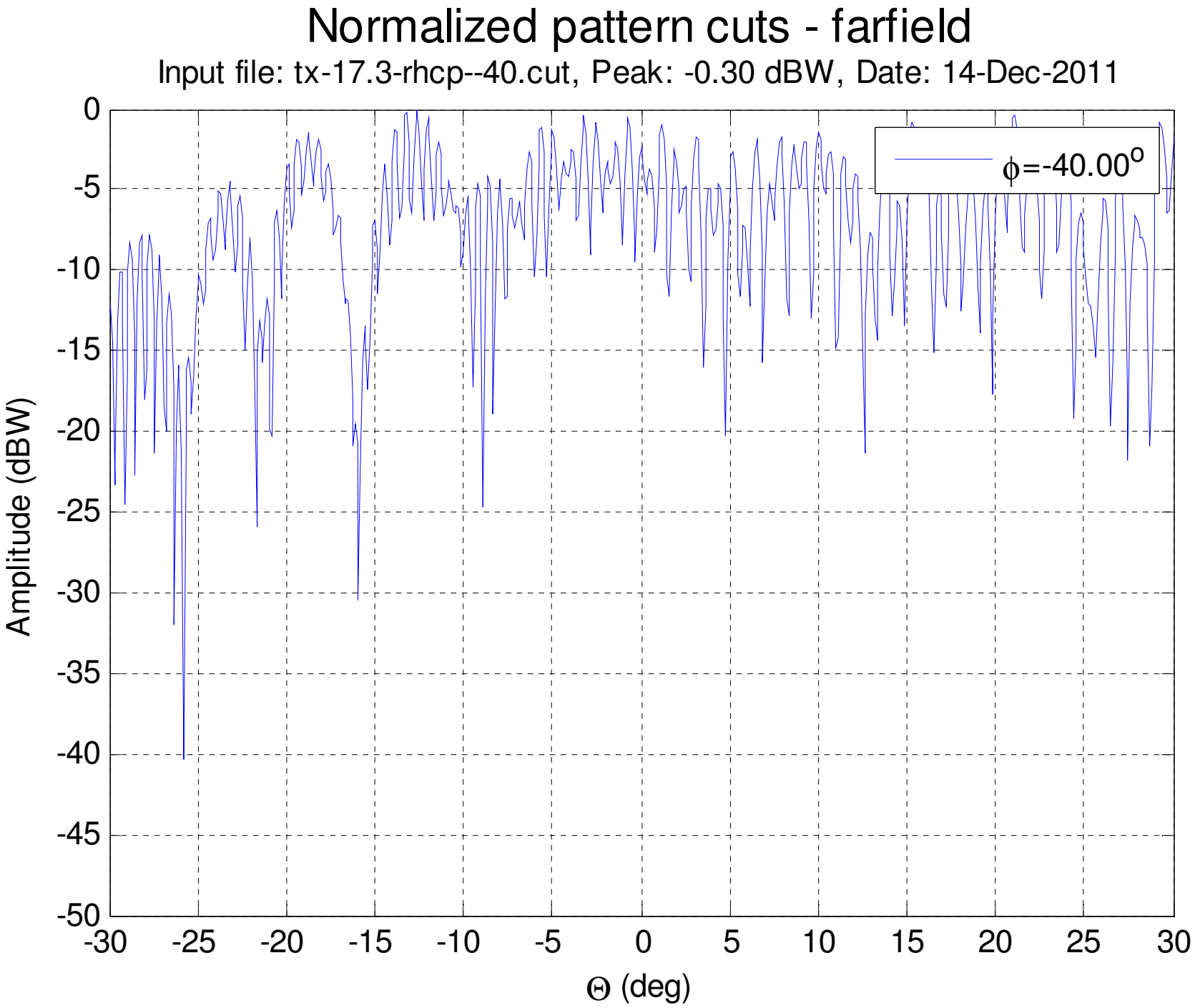
Spot Beam08, -X Axis Plots

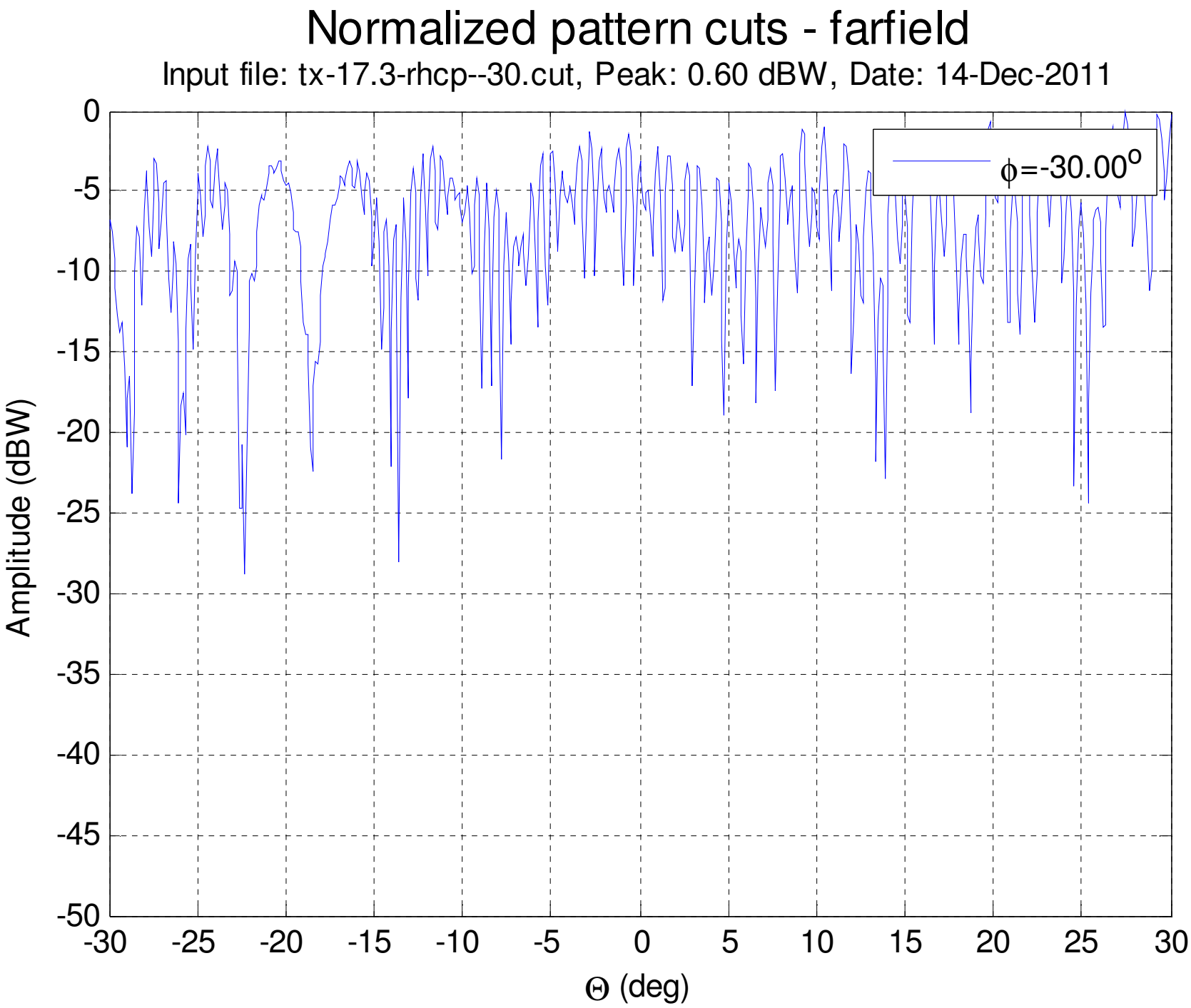
- Both polarizations; RHCP, LHCP
- $-30 < \Theta < 30$ ($\Theta=0$: -X -axis)
- $-60 < \phi < 60$
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

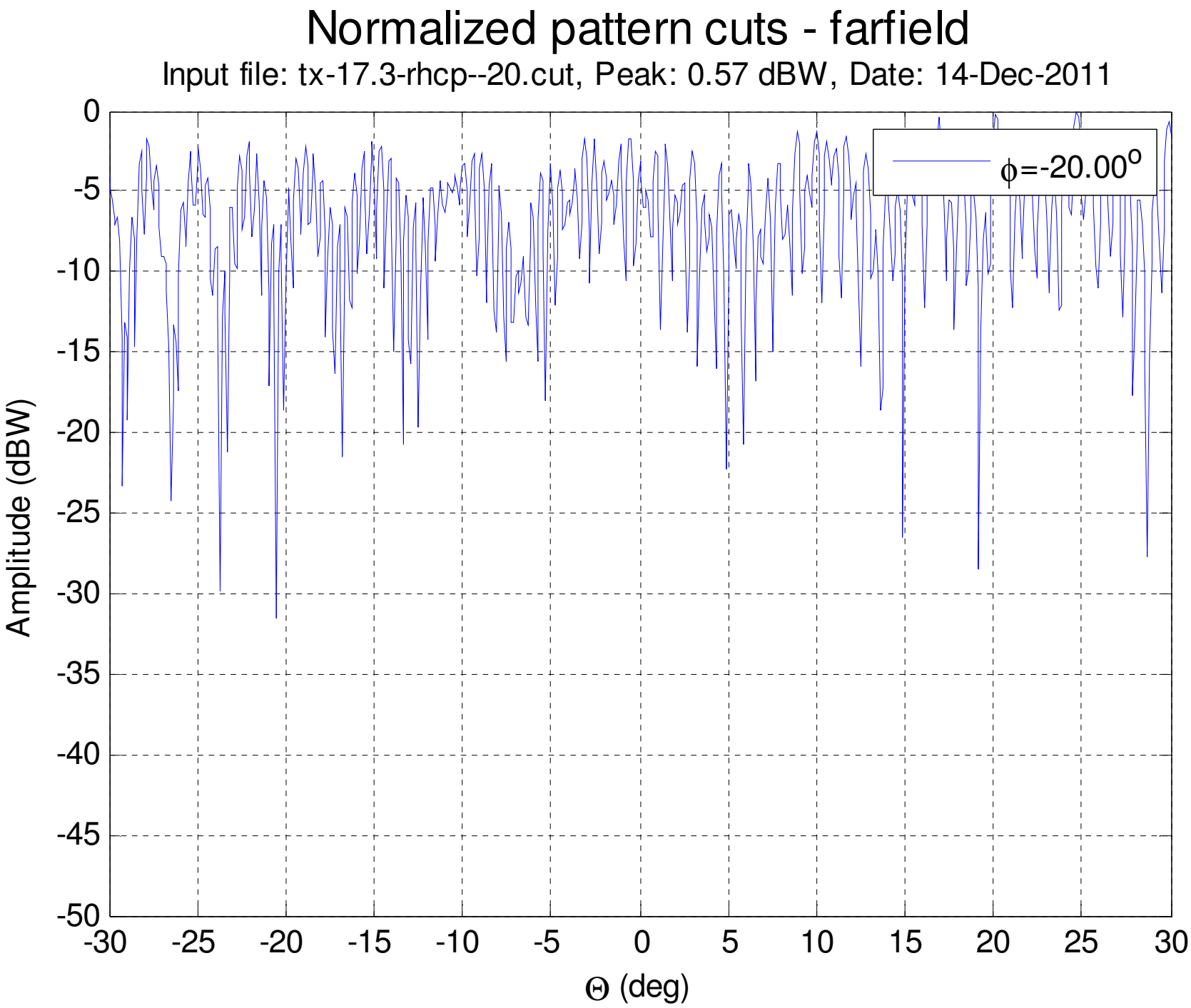
RHCP at 17.3 GHz

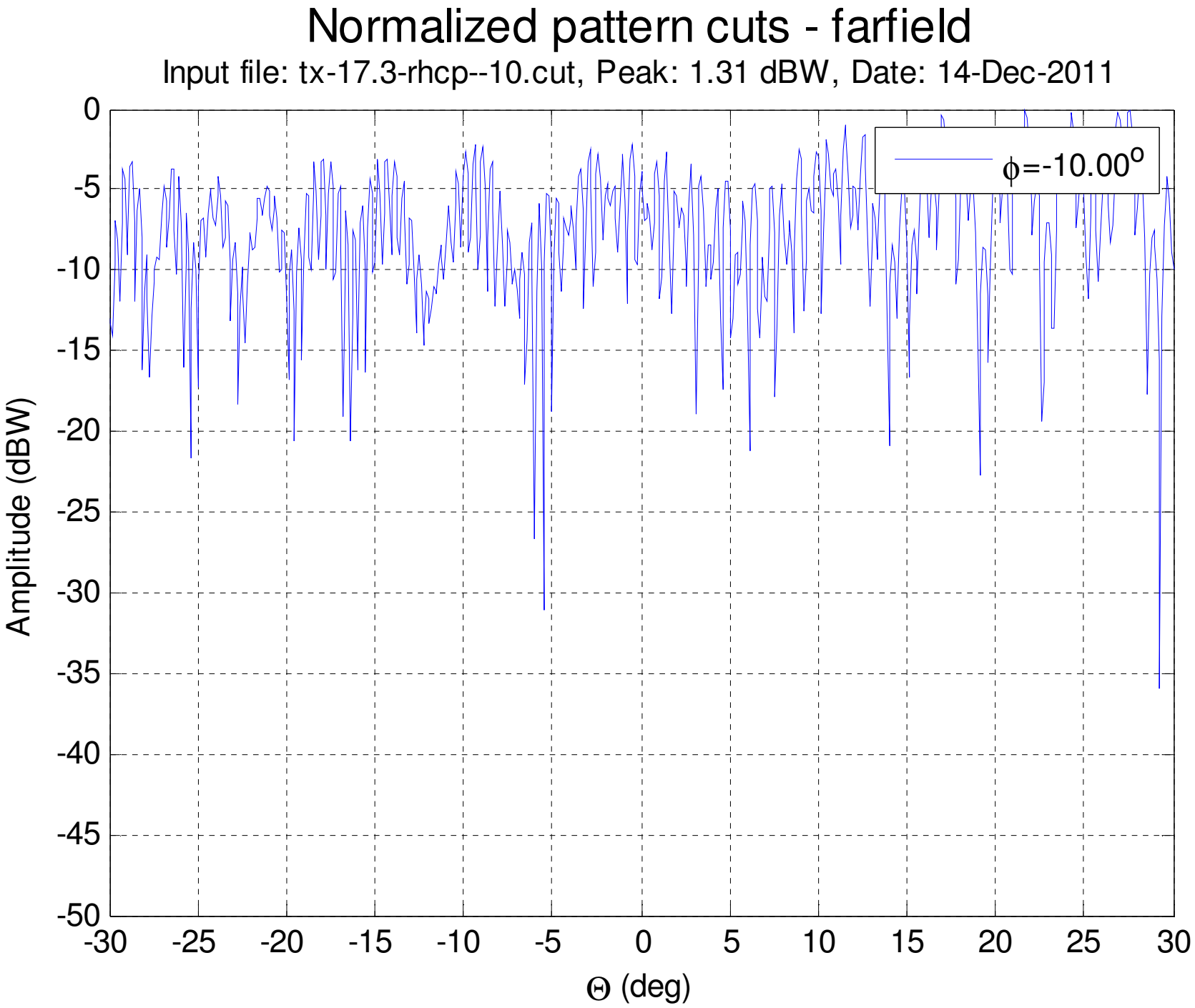

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -0.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

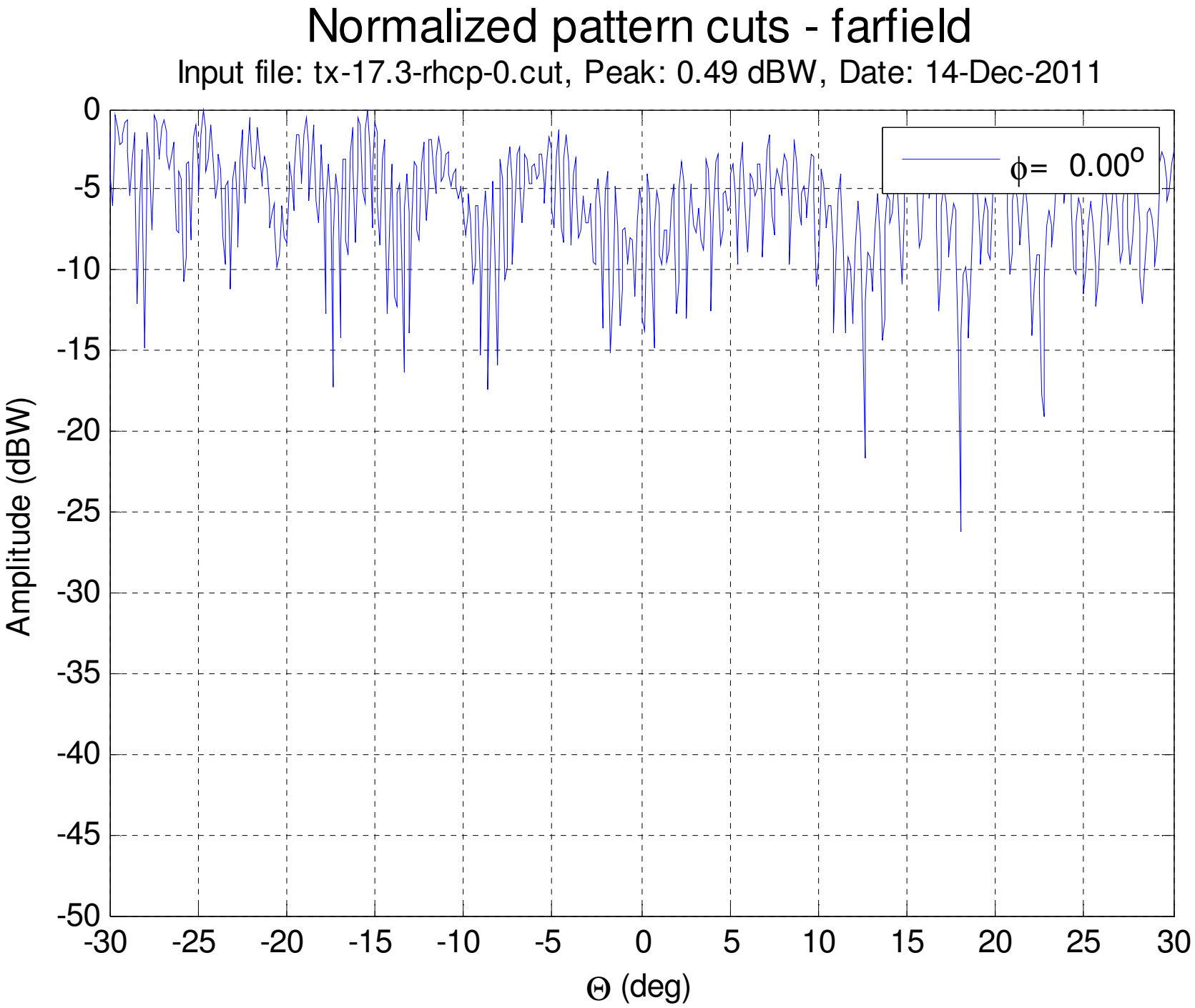

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -0.70 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

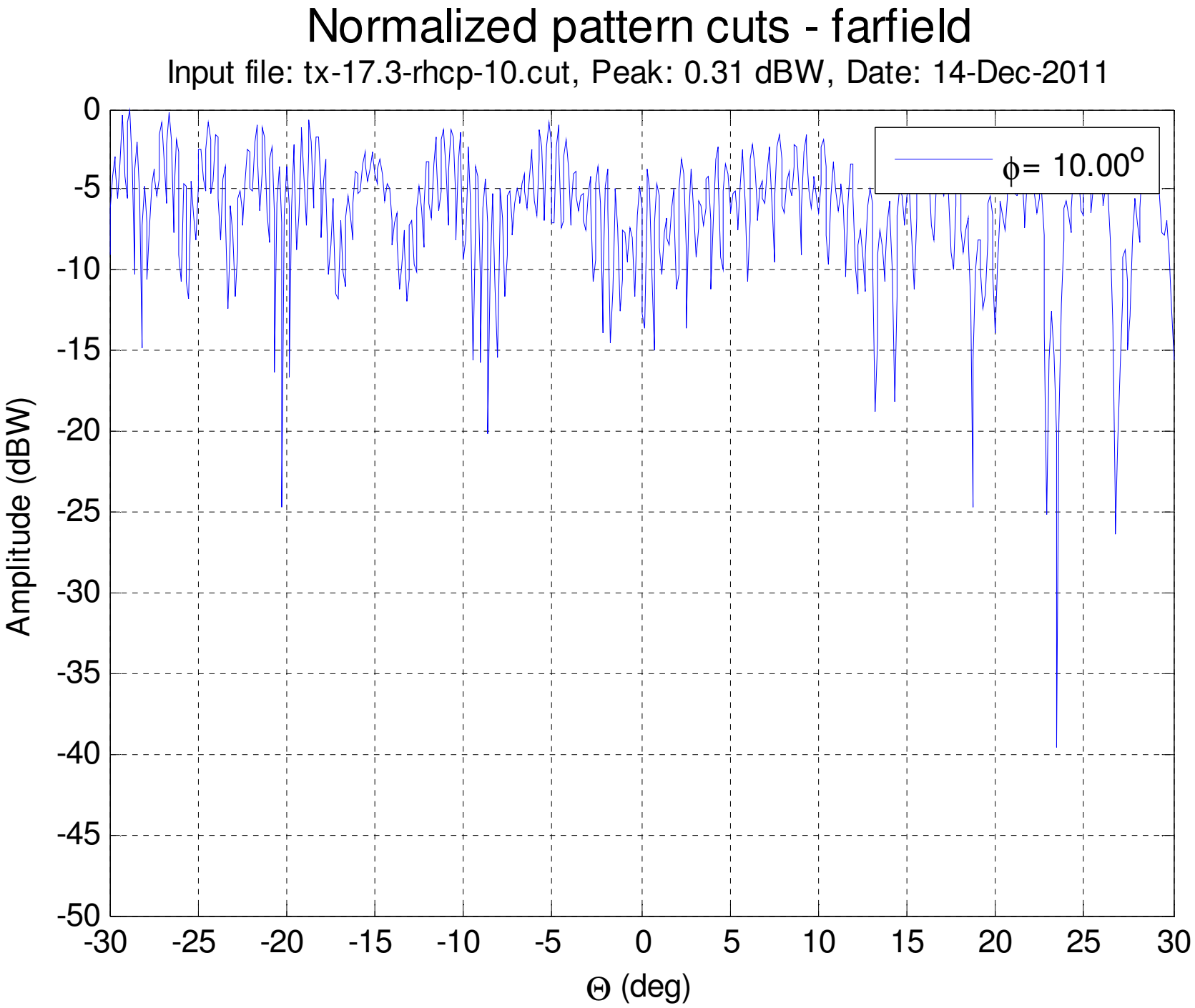

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -0.30 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

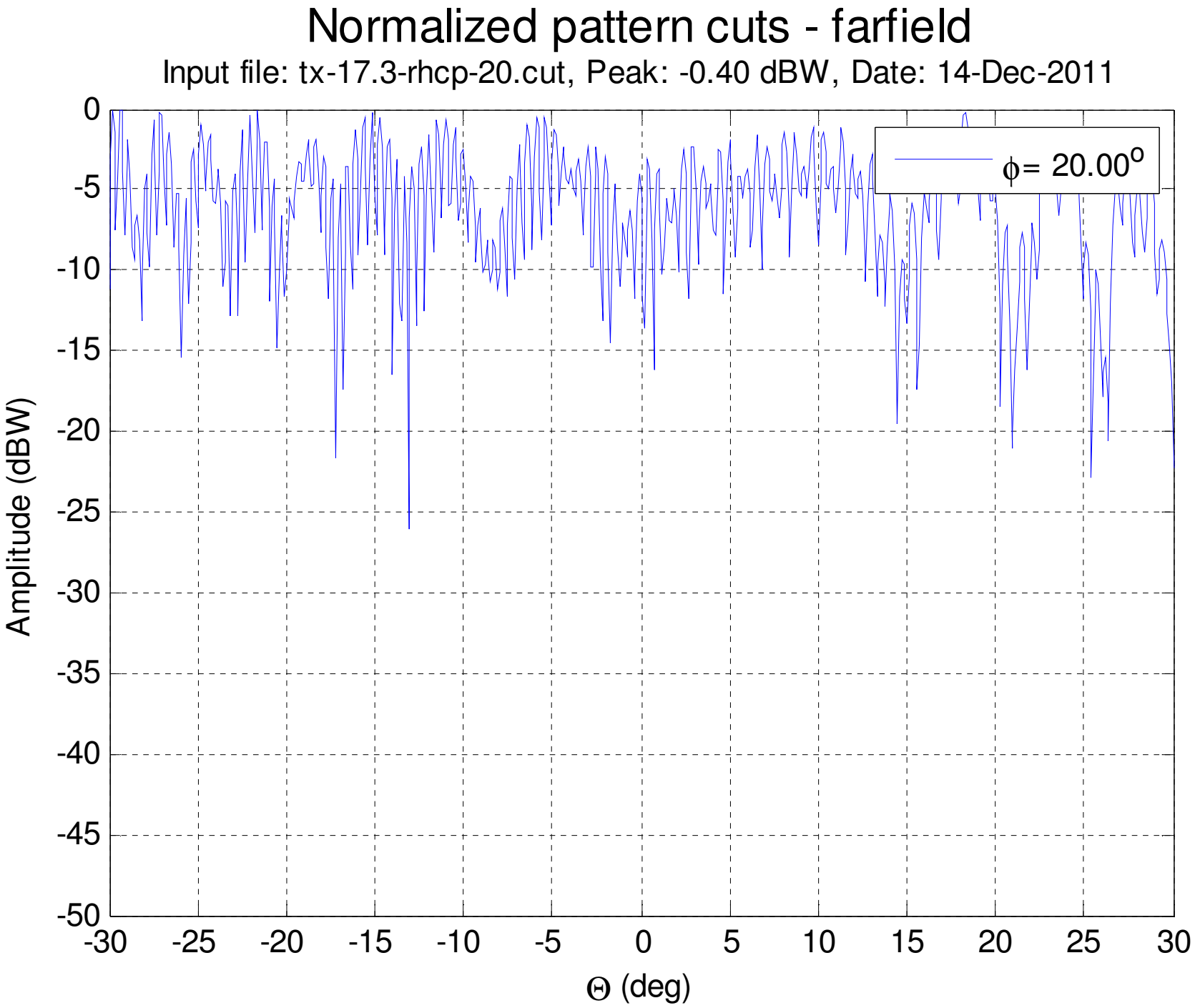

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: 0.60 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

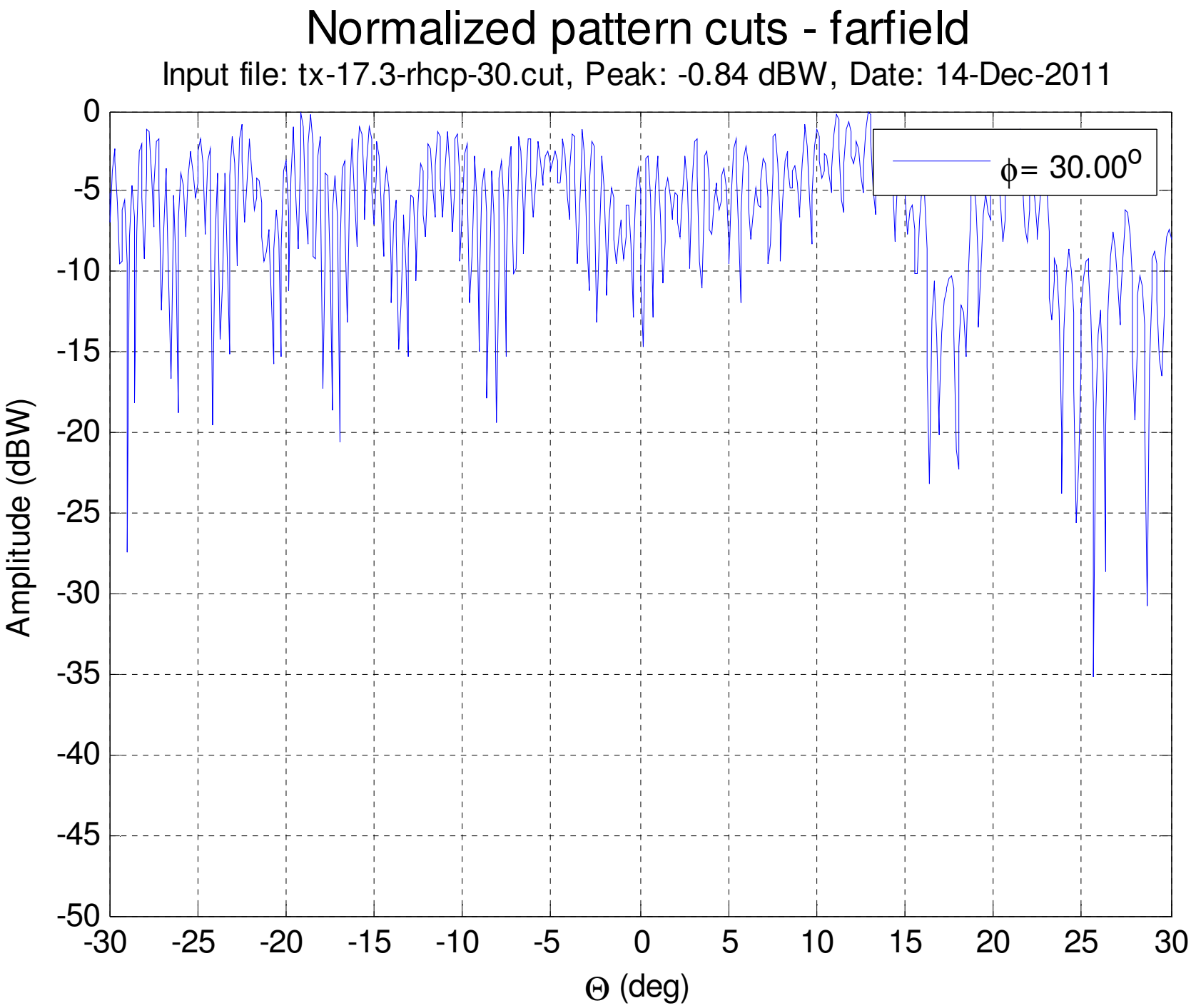

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: 0.57 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

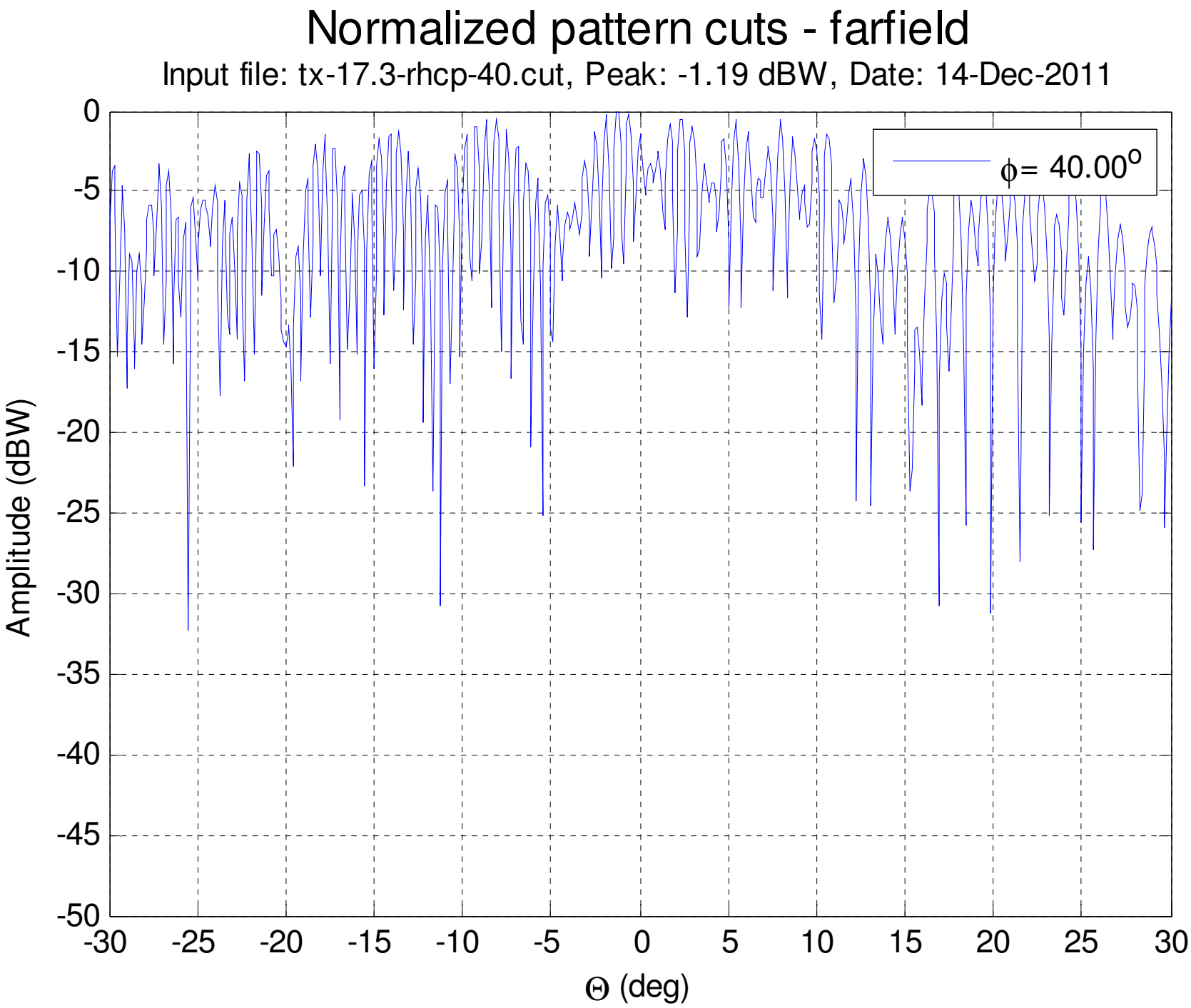

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: 1.31 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

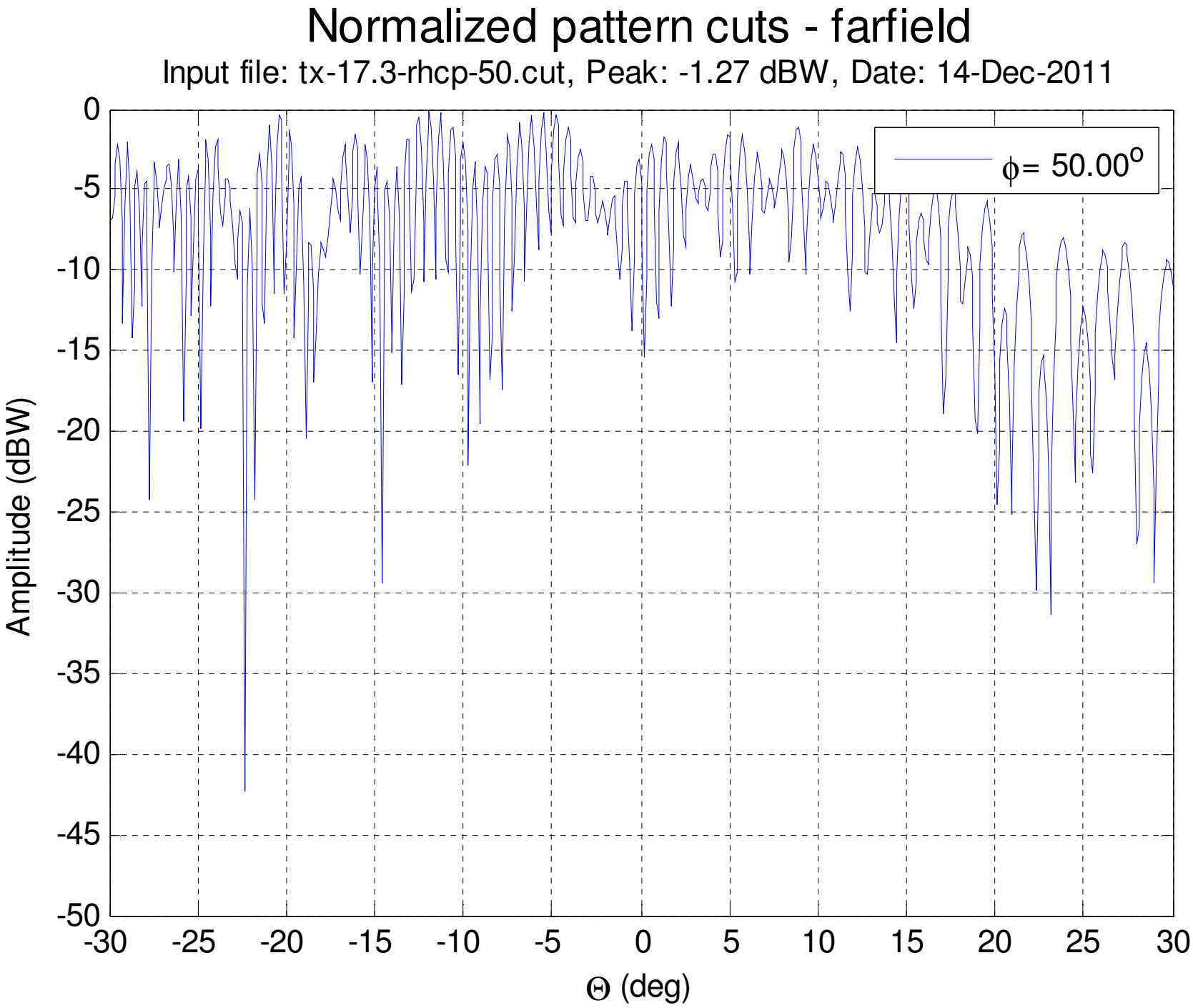

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: 0.49 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

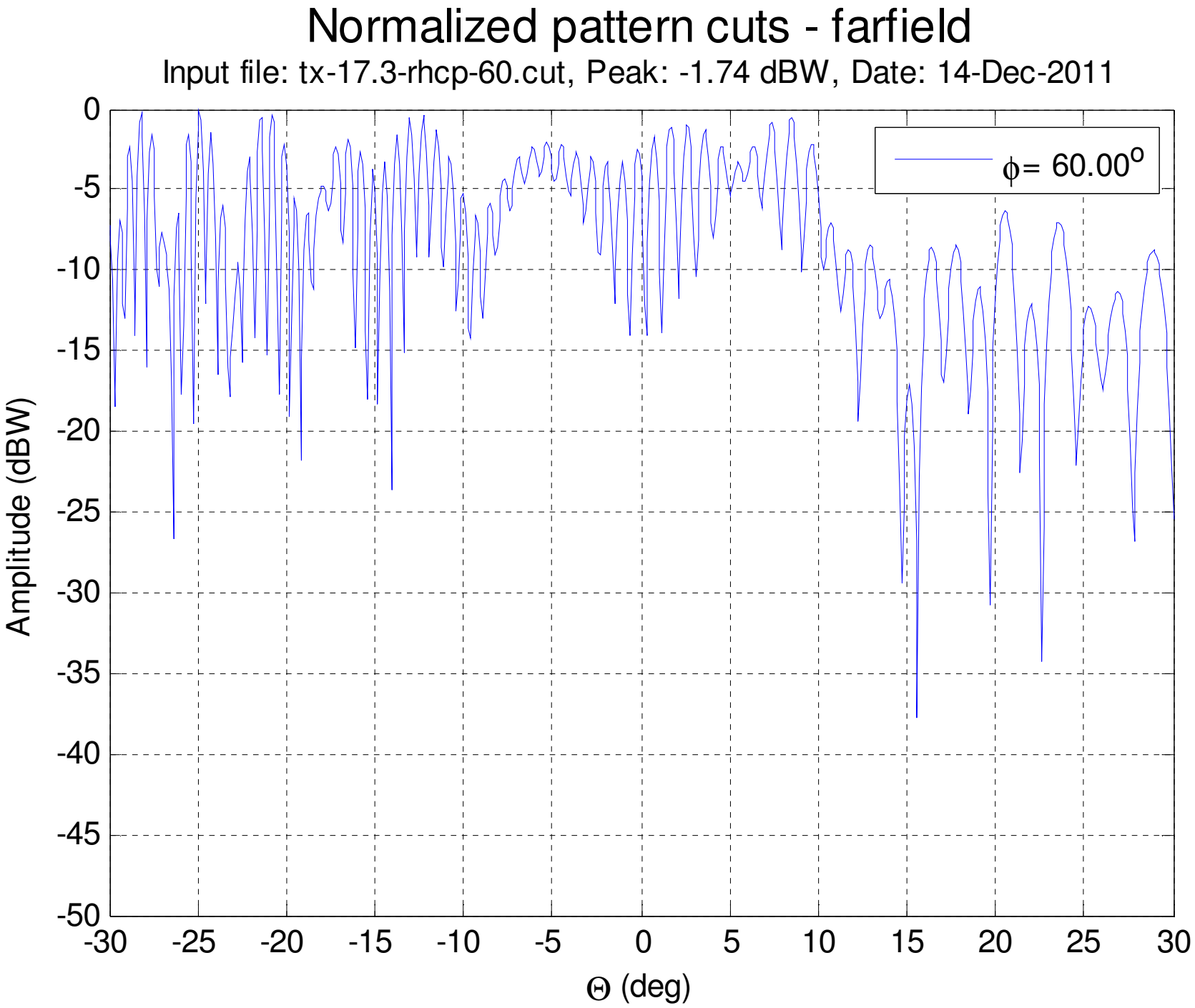

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: 0.31 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 10.00°


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -0.40 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

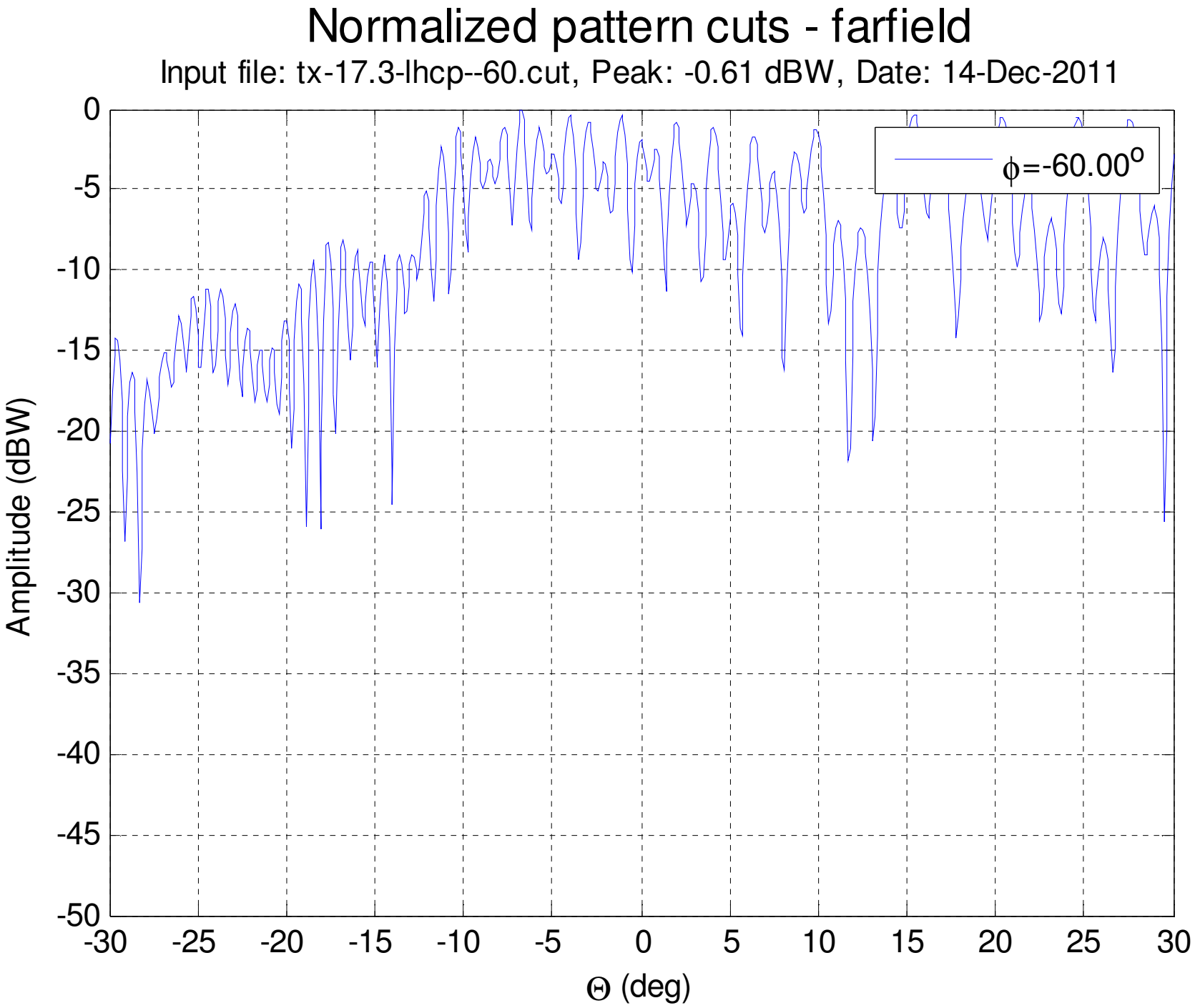

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -0.84 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 30.00°

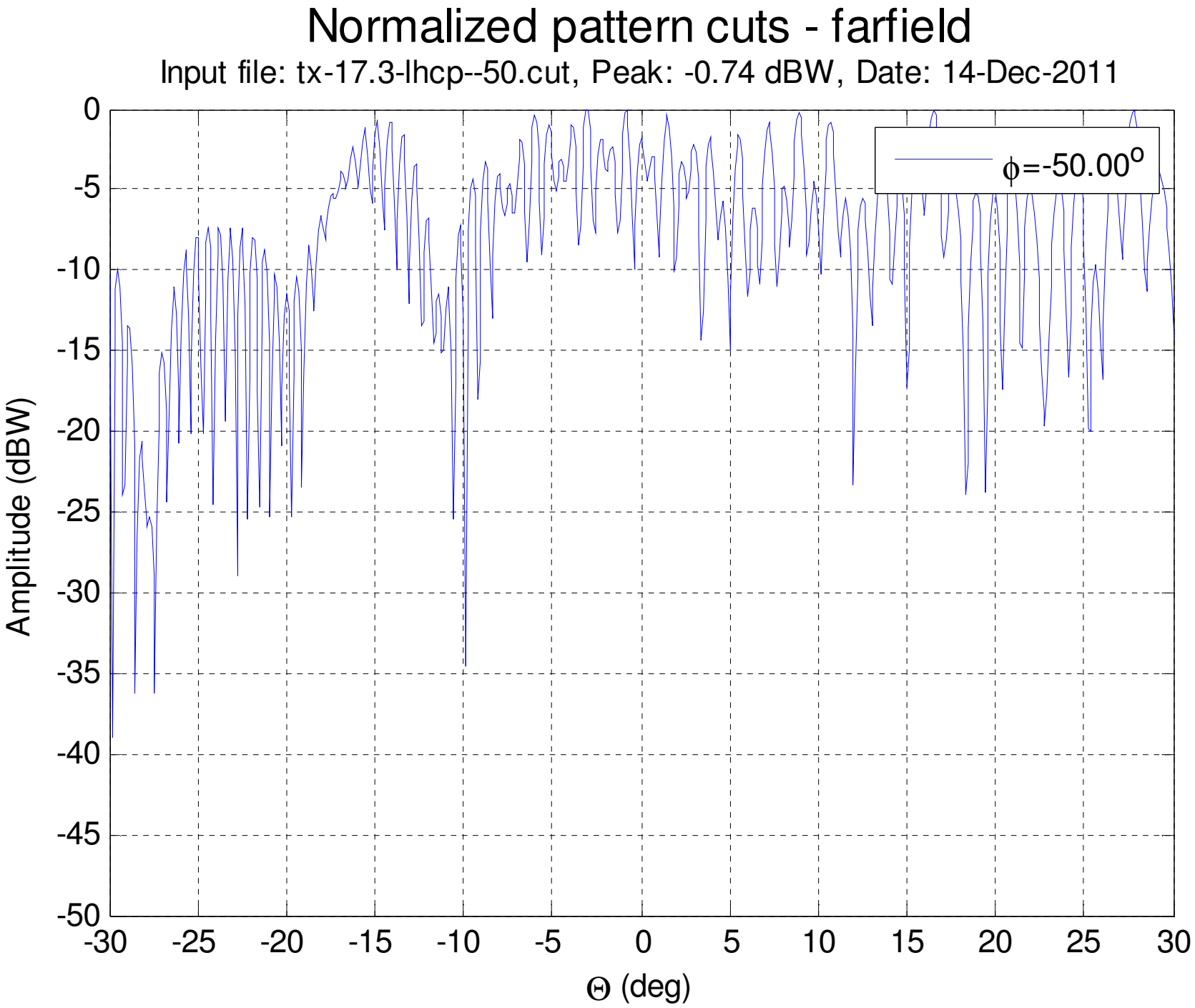

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -1.19 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

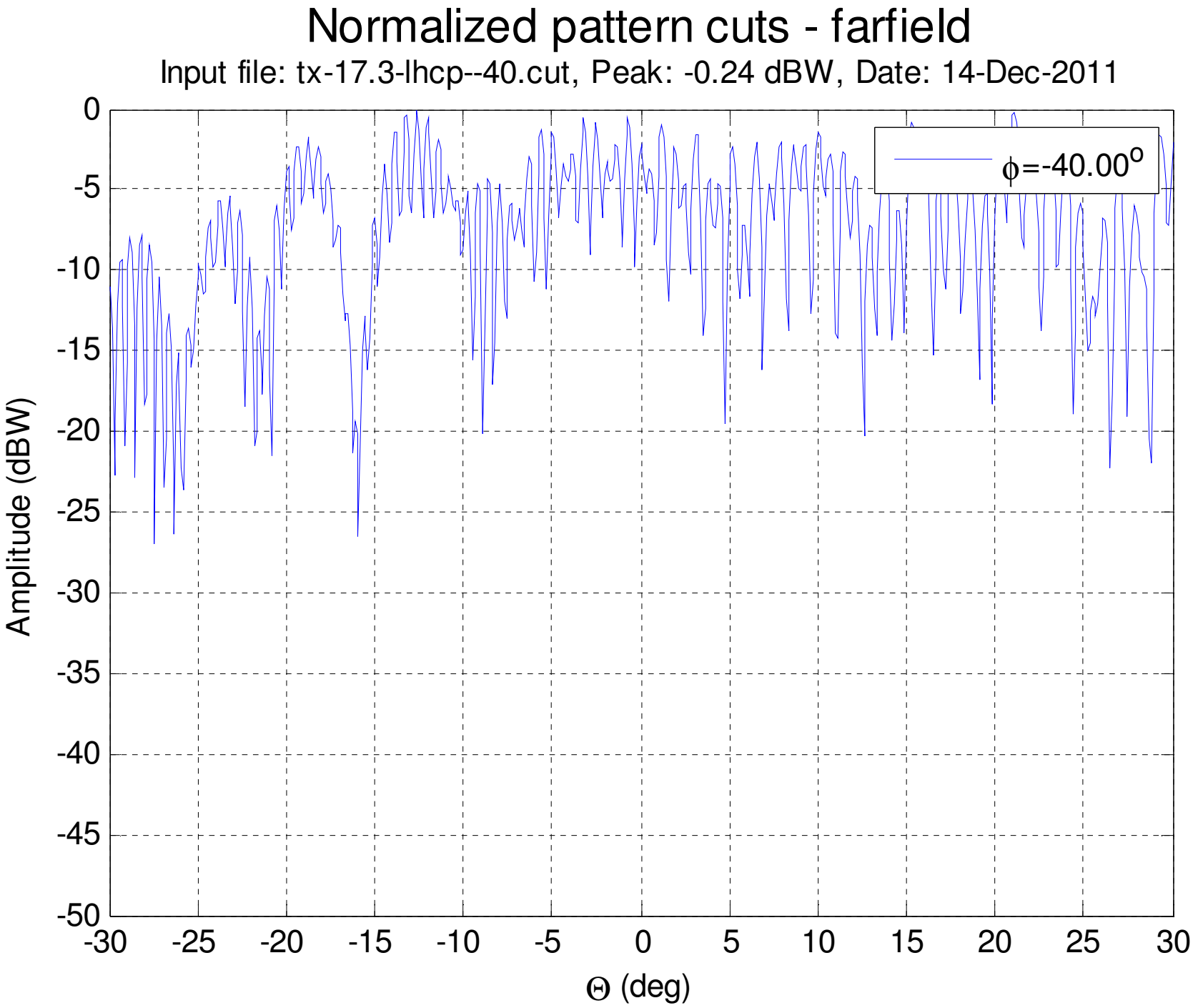

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -1.27 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

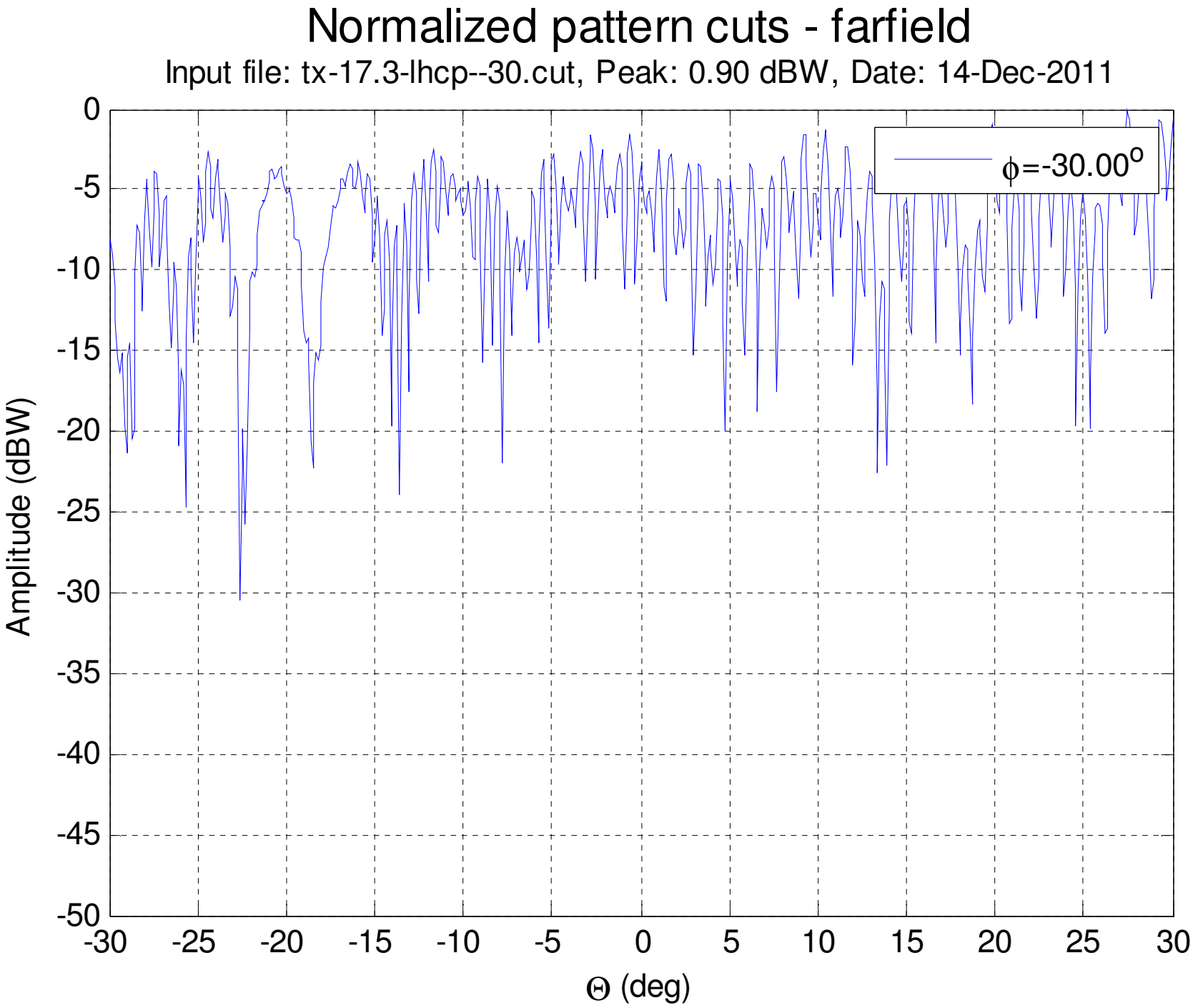

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -1.74 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

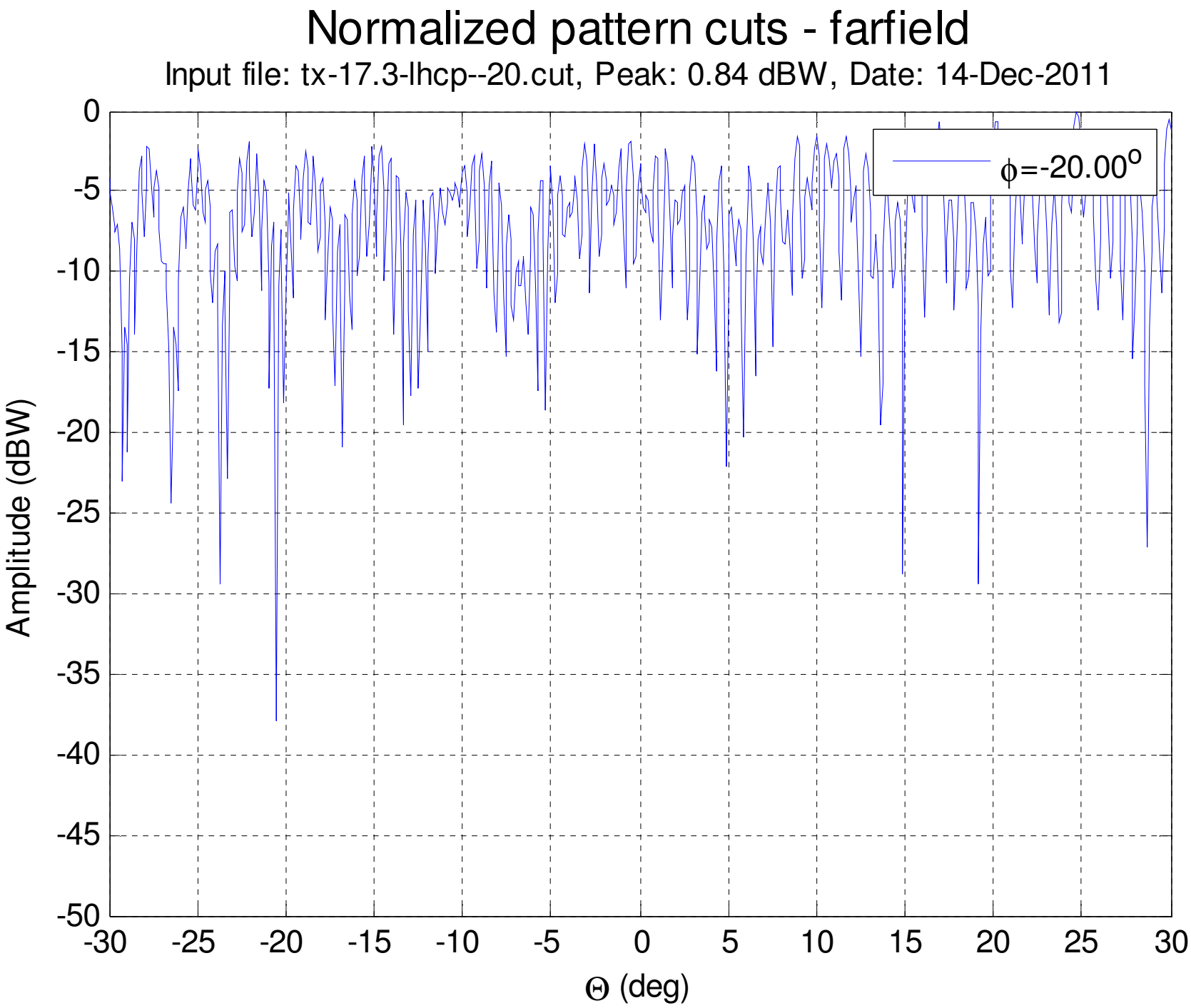
LHCP at 17.3 GHz

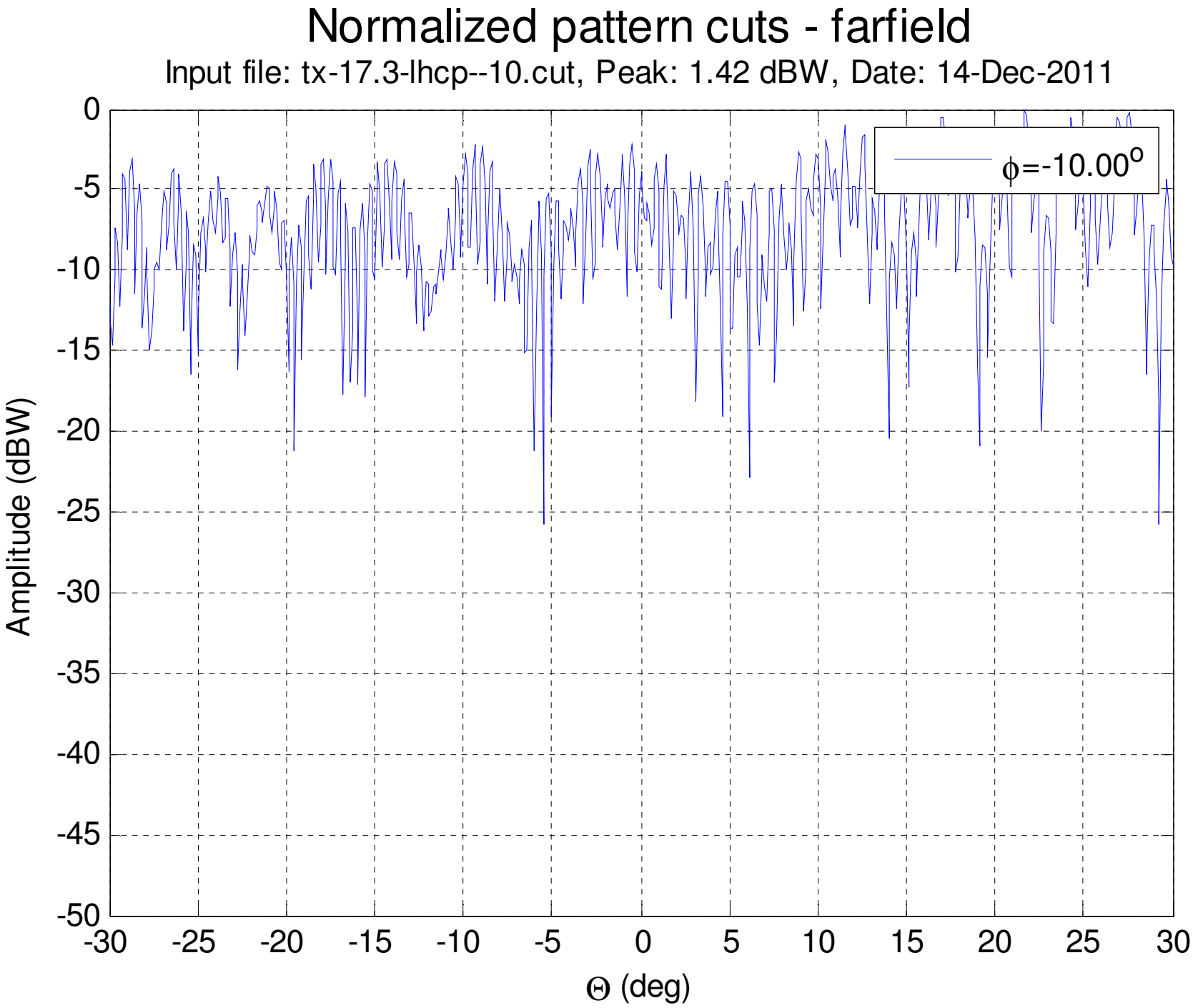

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -0.61 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

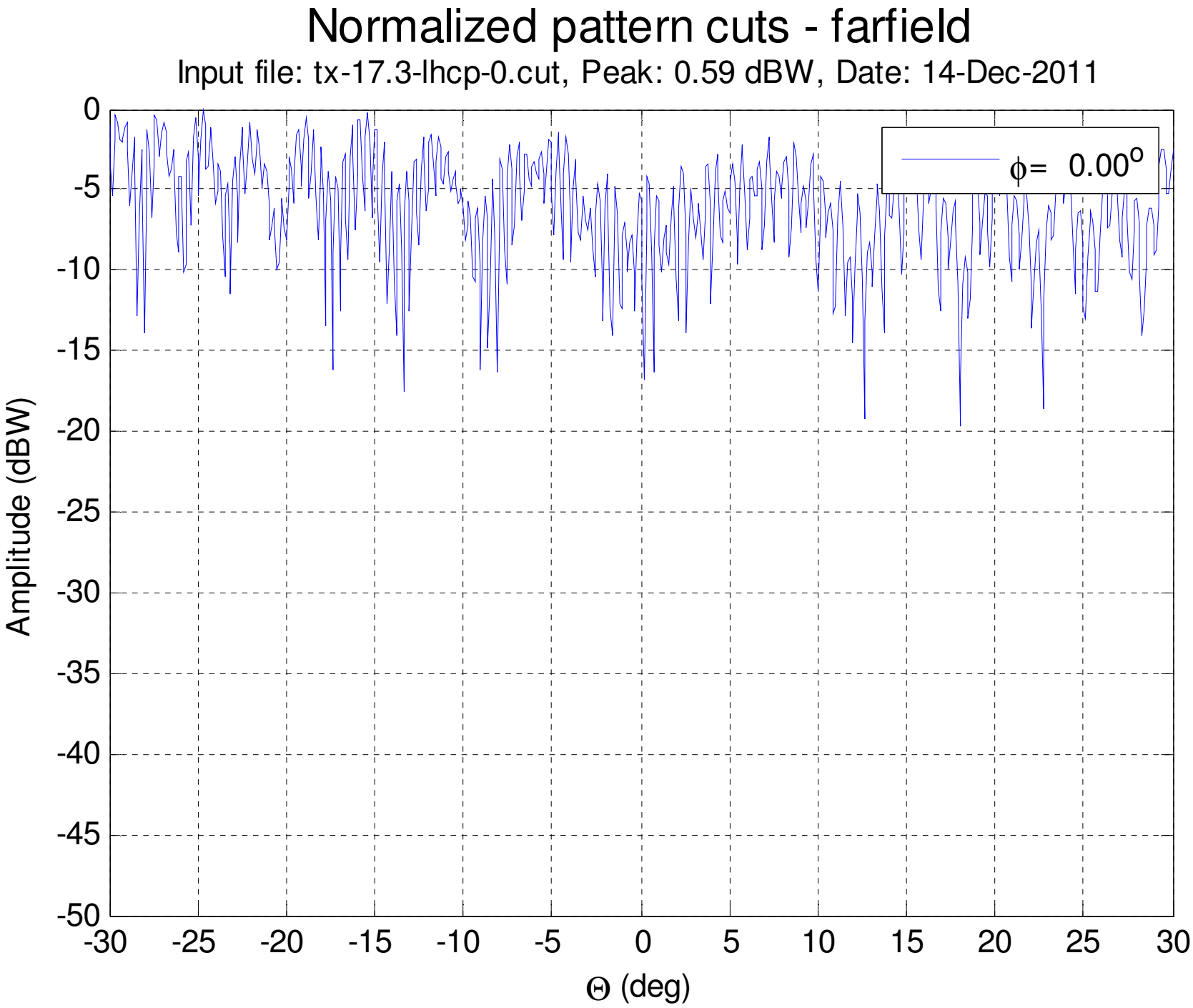

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -0.74 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

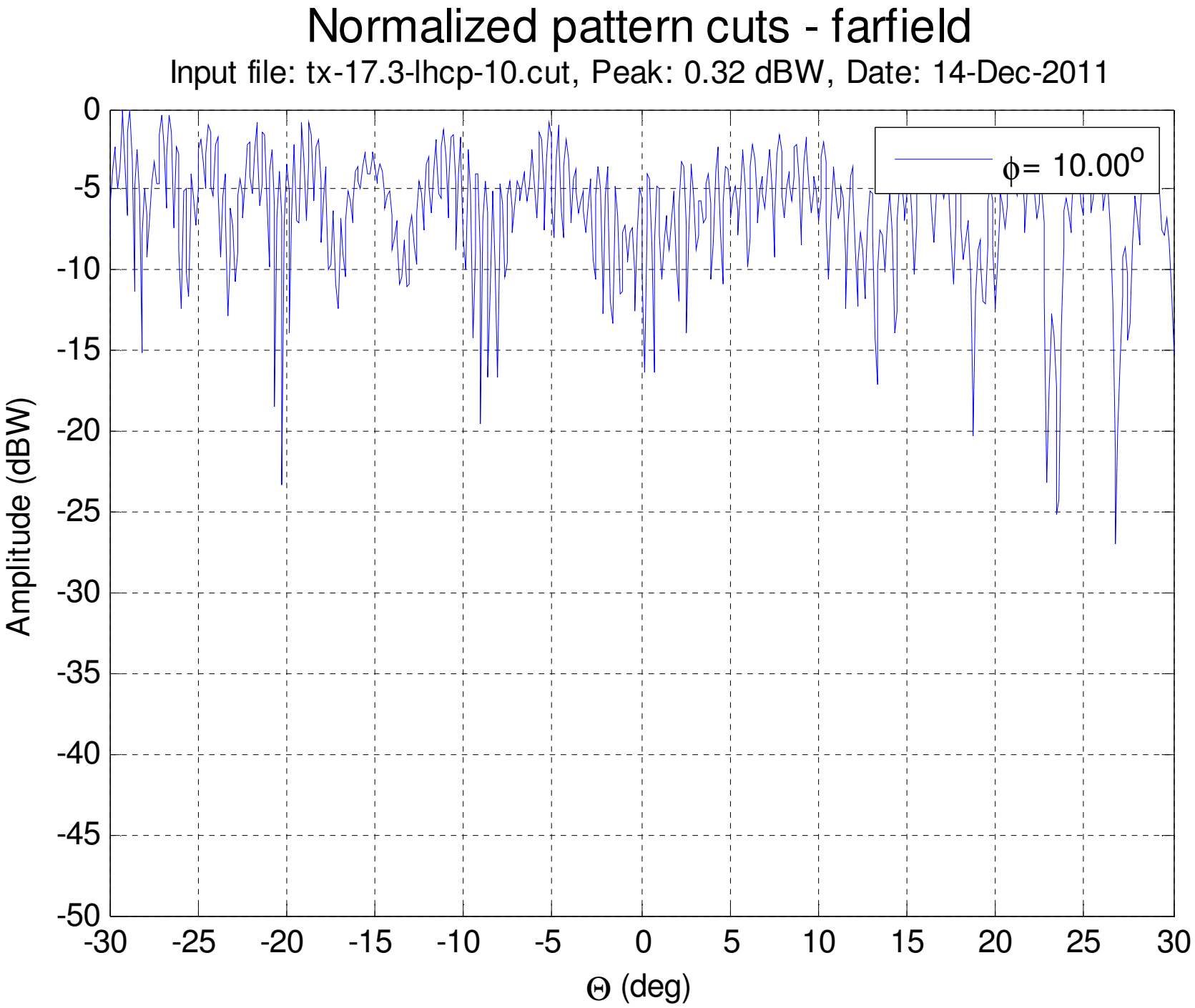

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -0.24 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

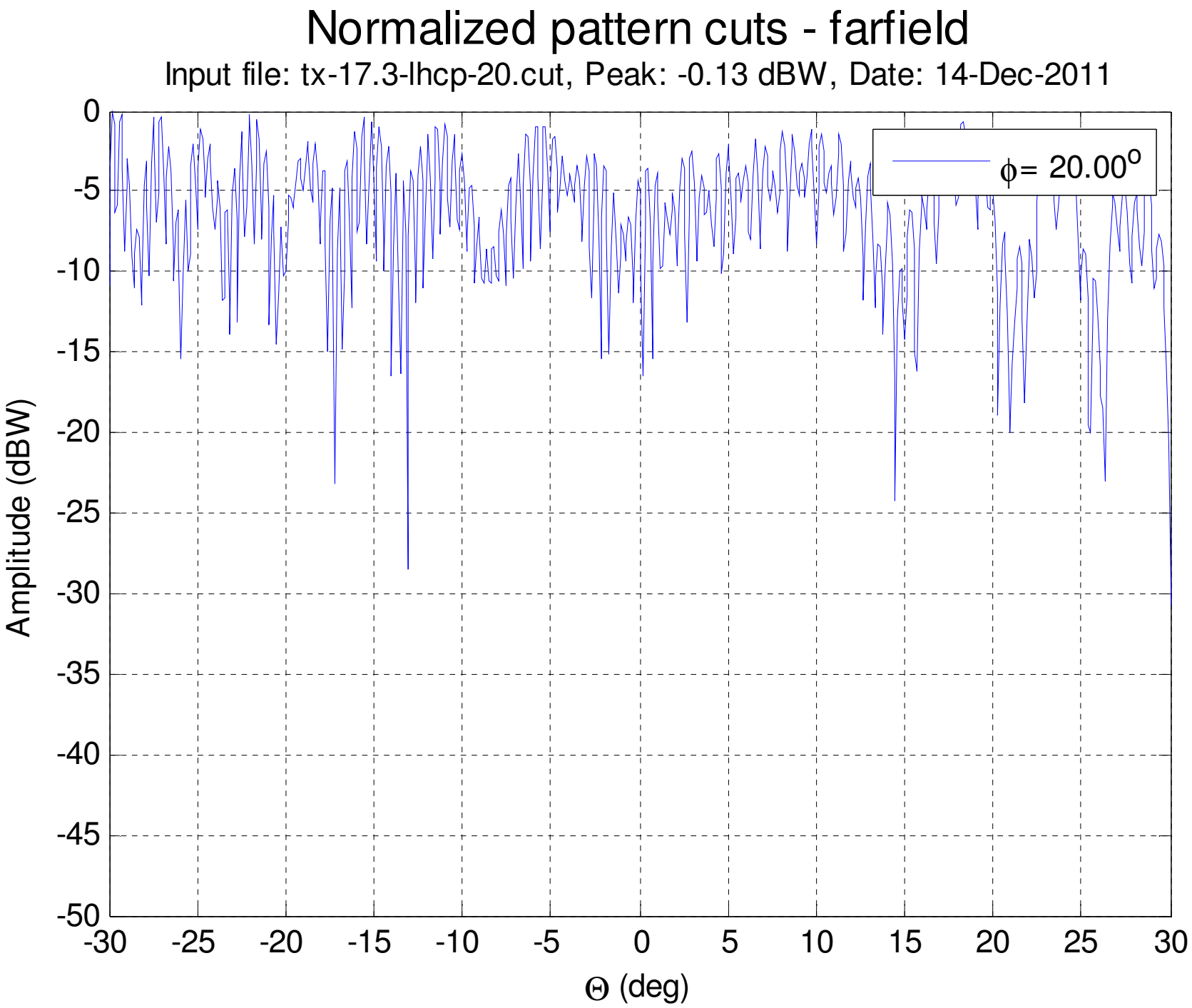

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: 0.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

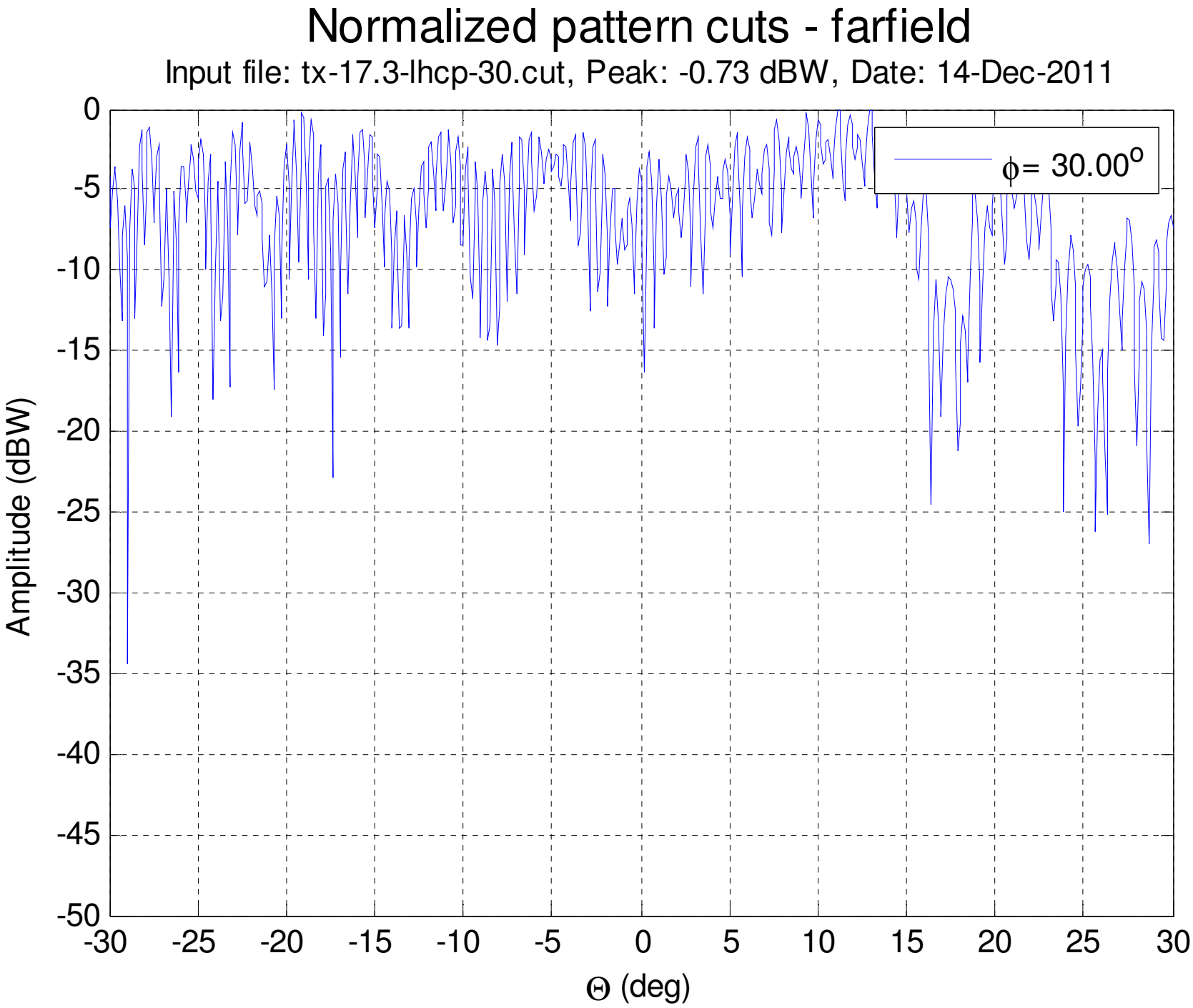

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: 0.84 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

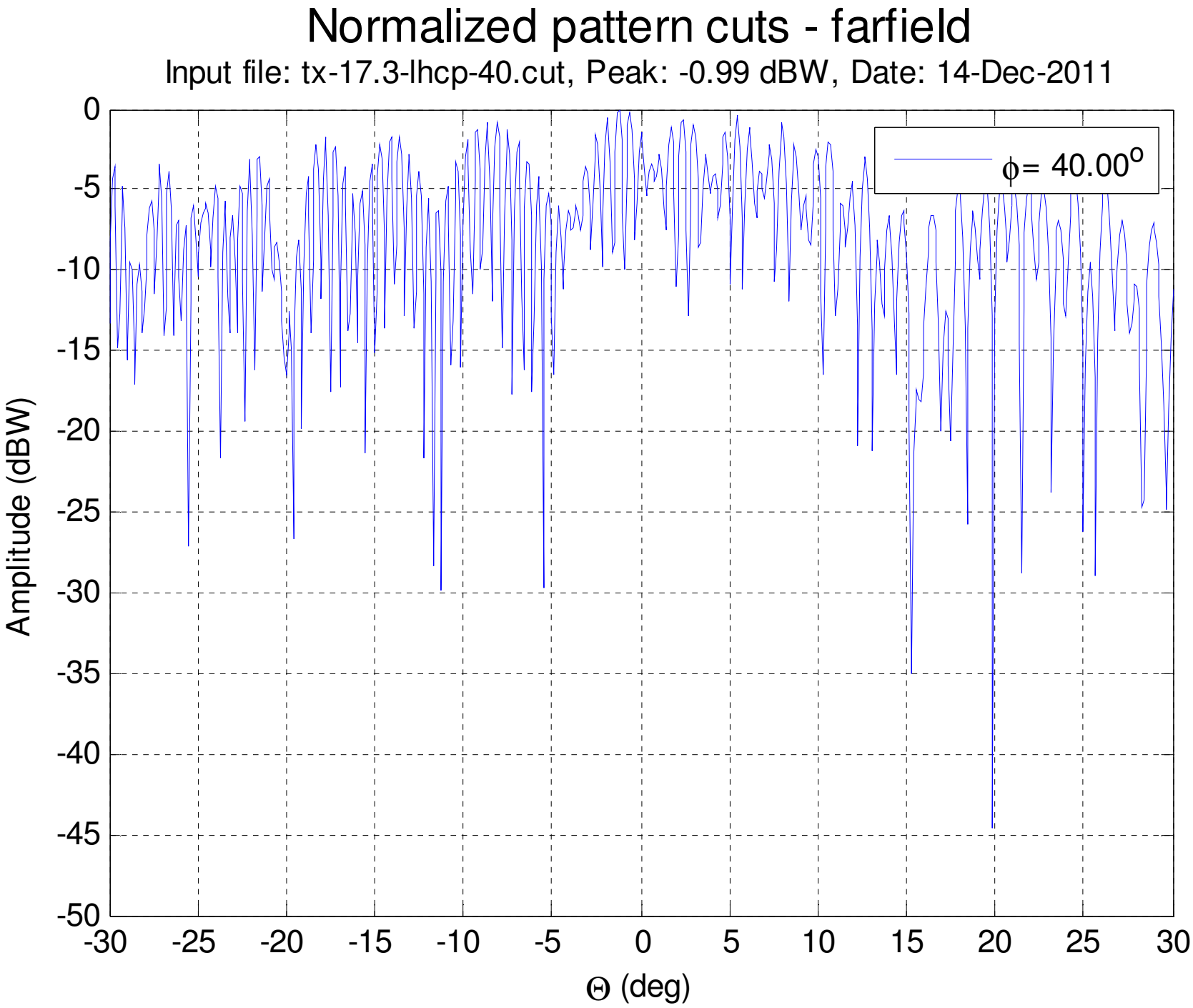

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: 1.42 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

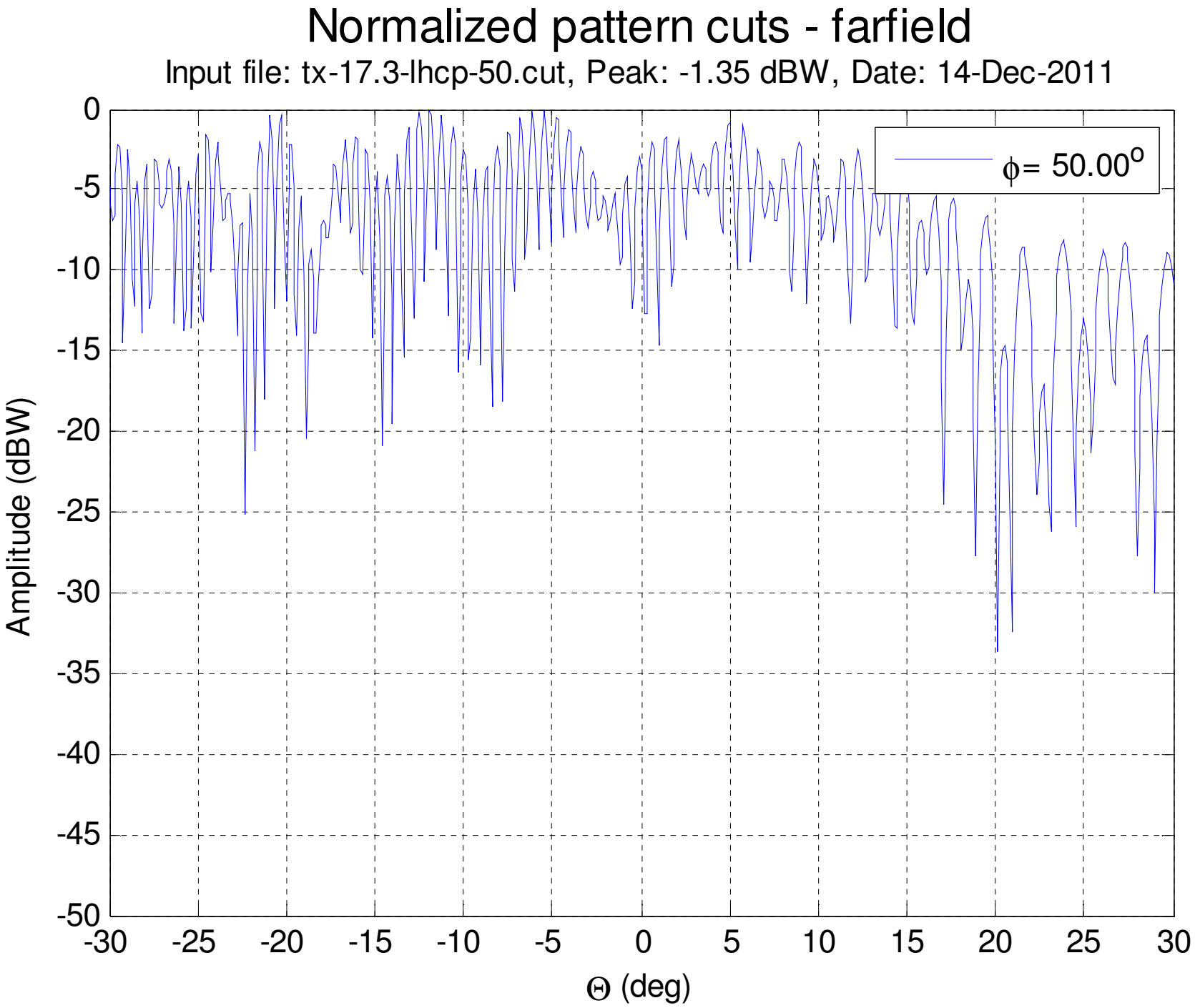

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: 0.59 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

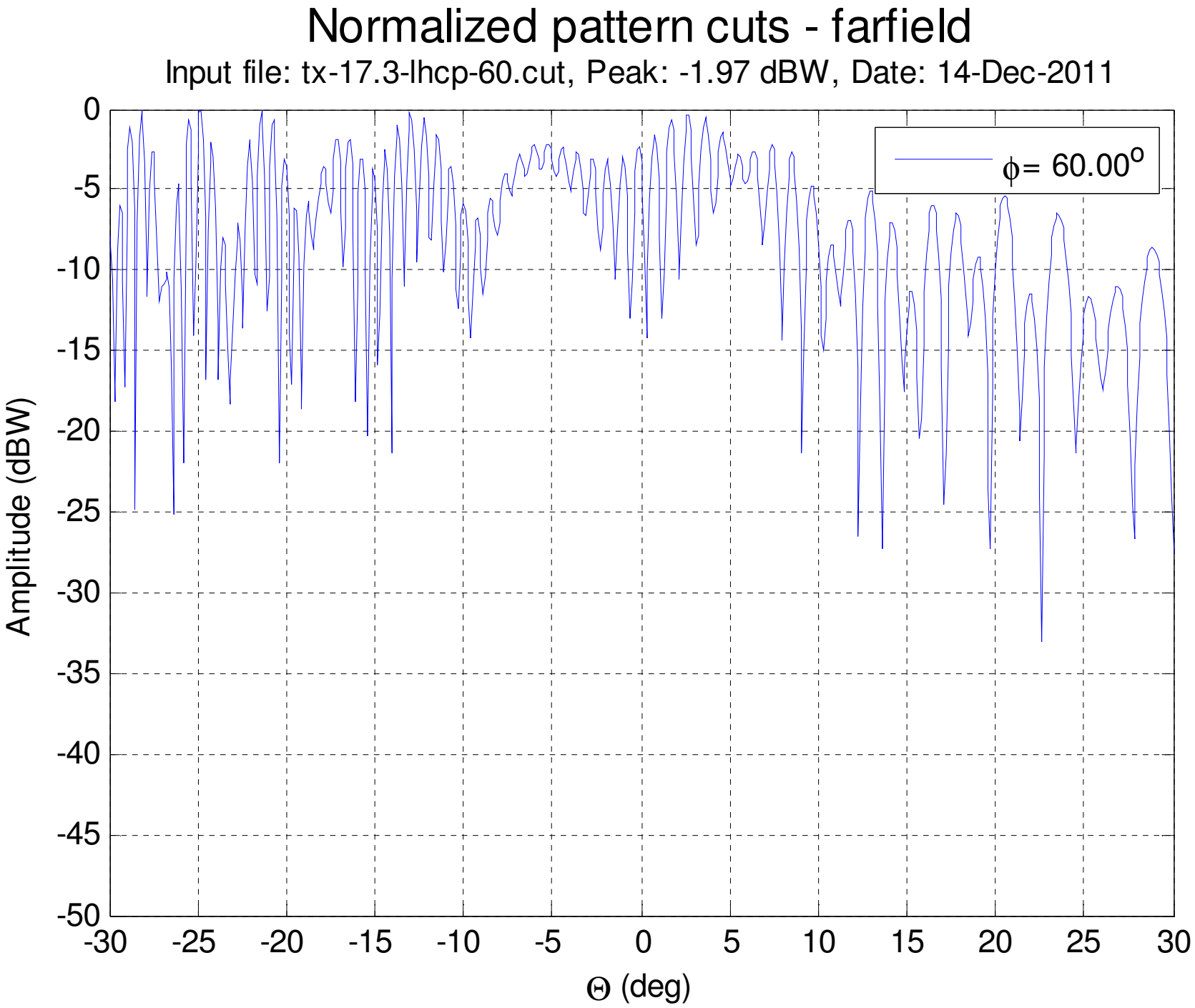

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: 0.32 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 10.00°


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: -0.13 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

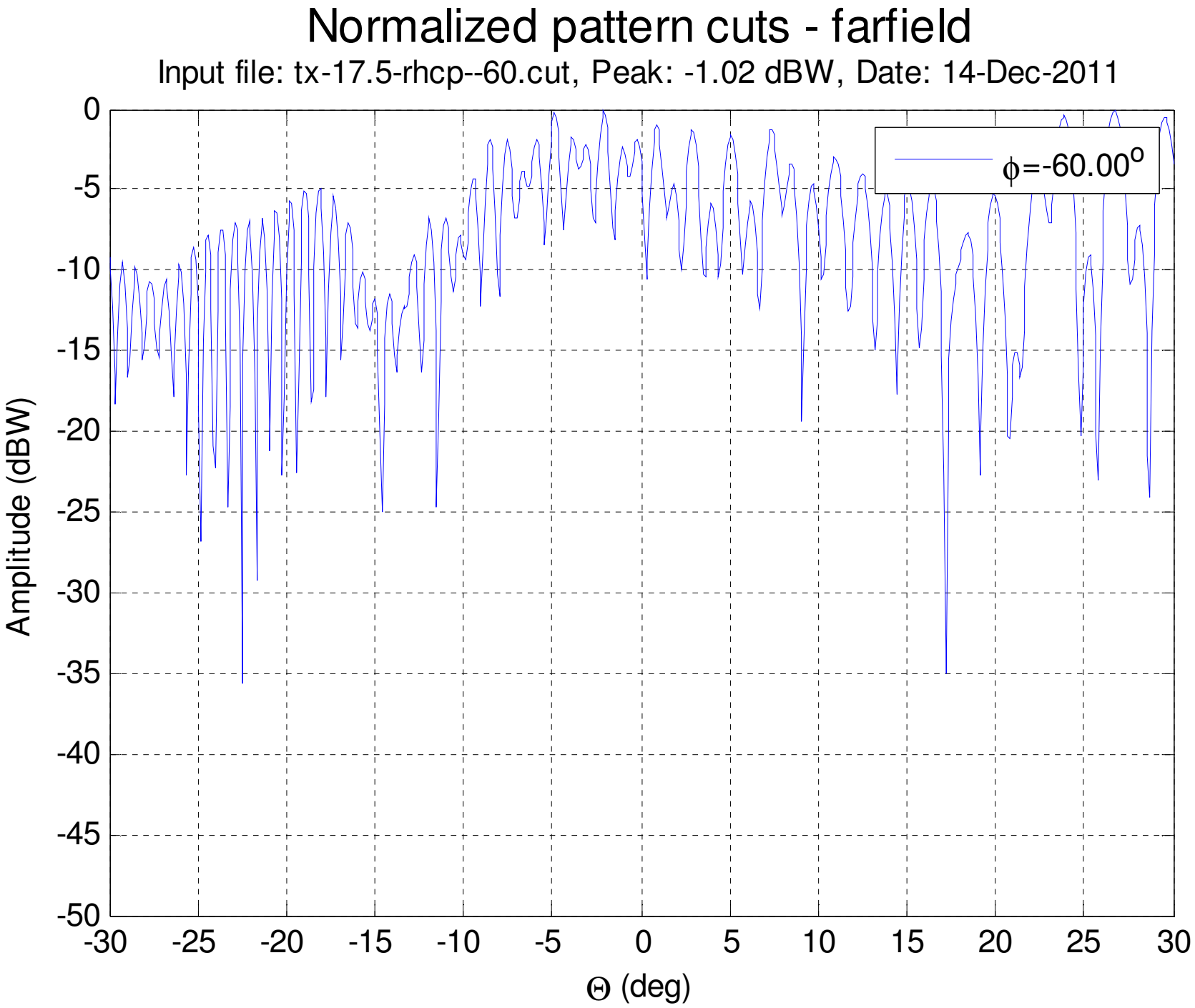

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -0.73 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

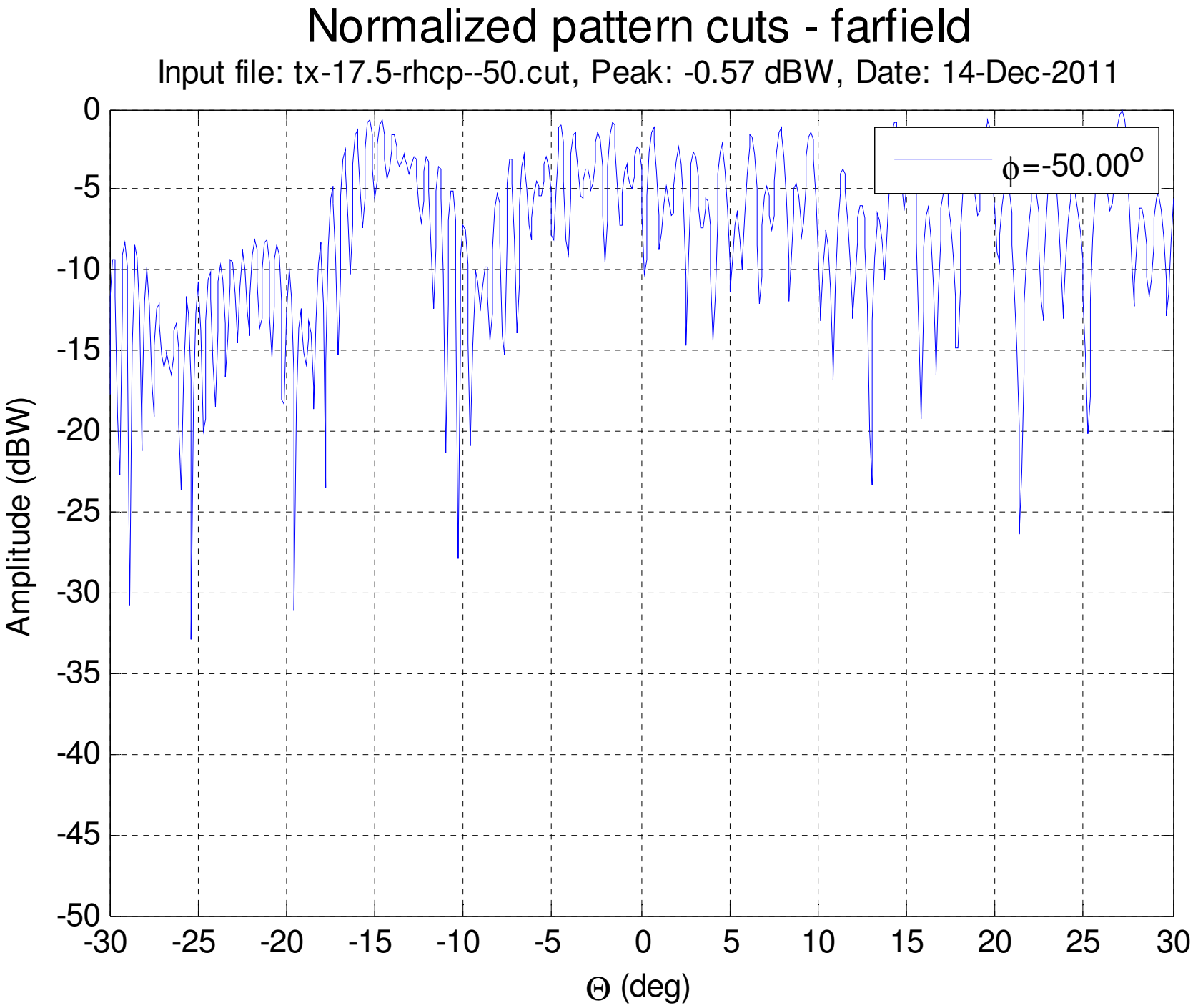

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -0.99 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

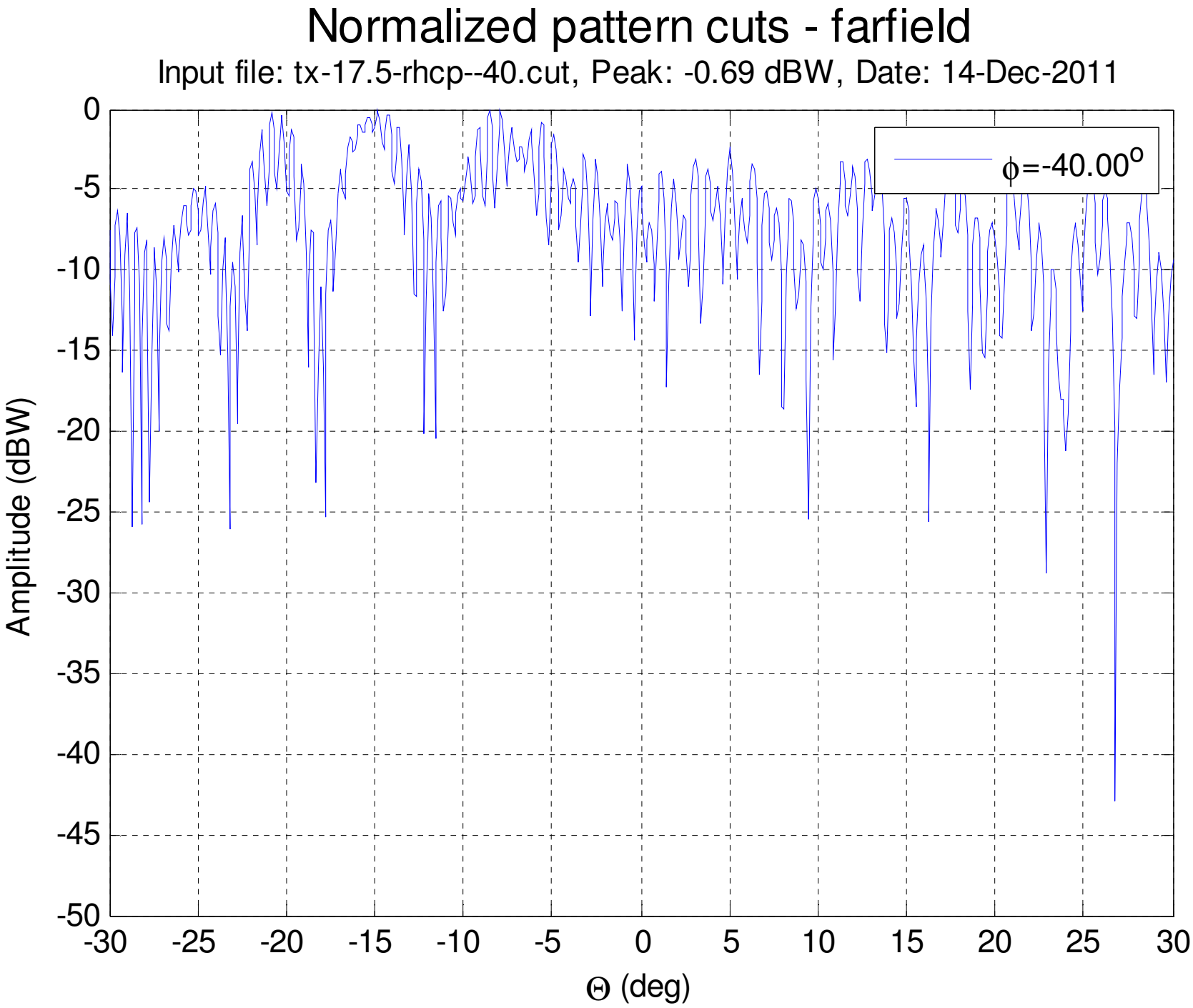

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -1.35 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

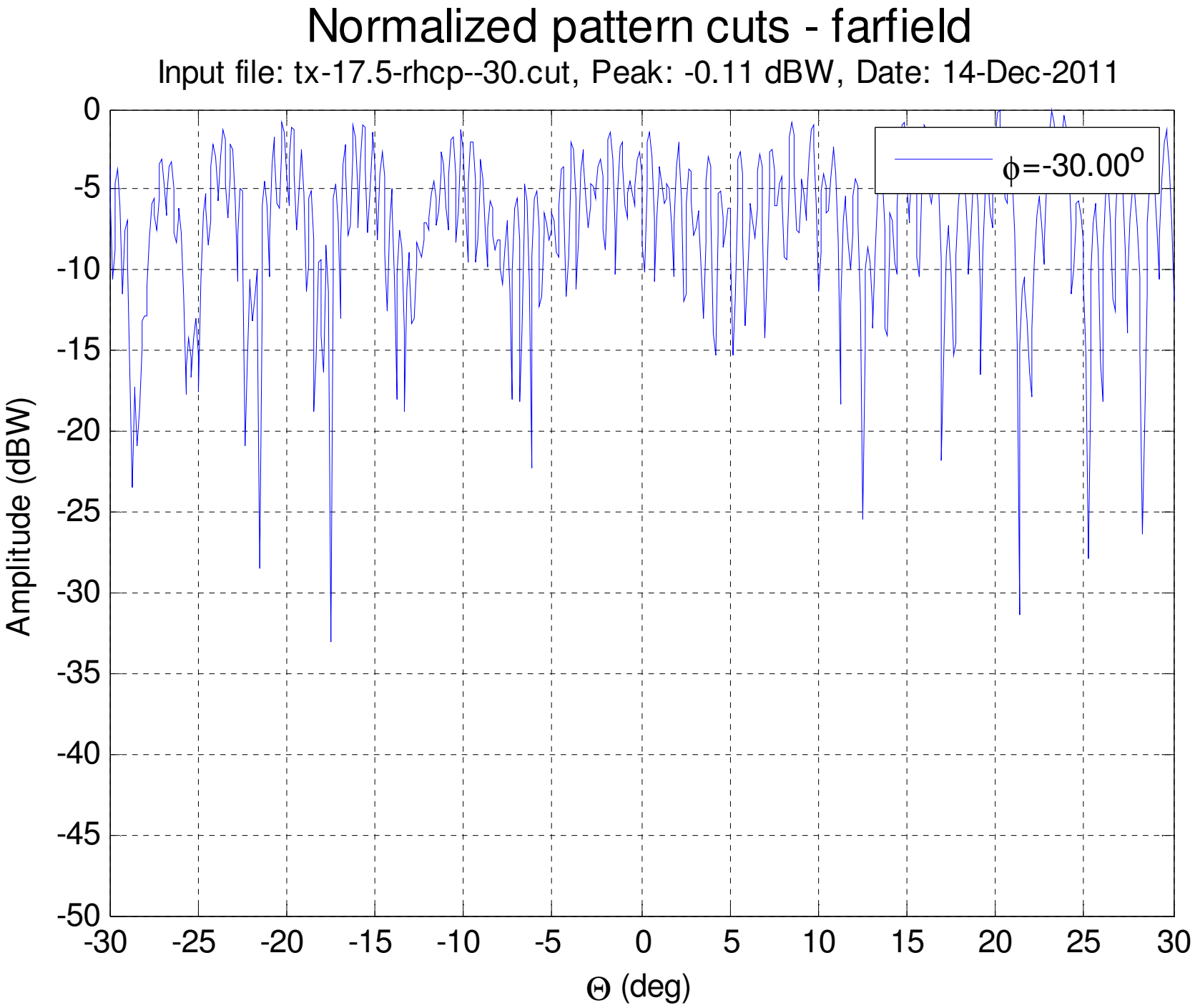

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -1.97 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

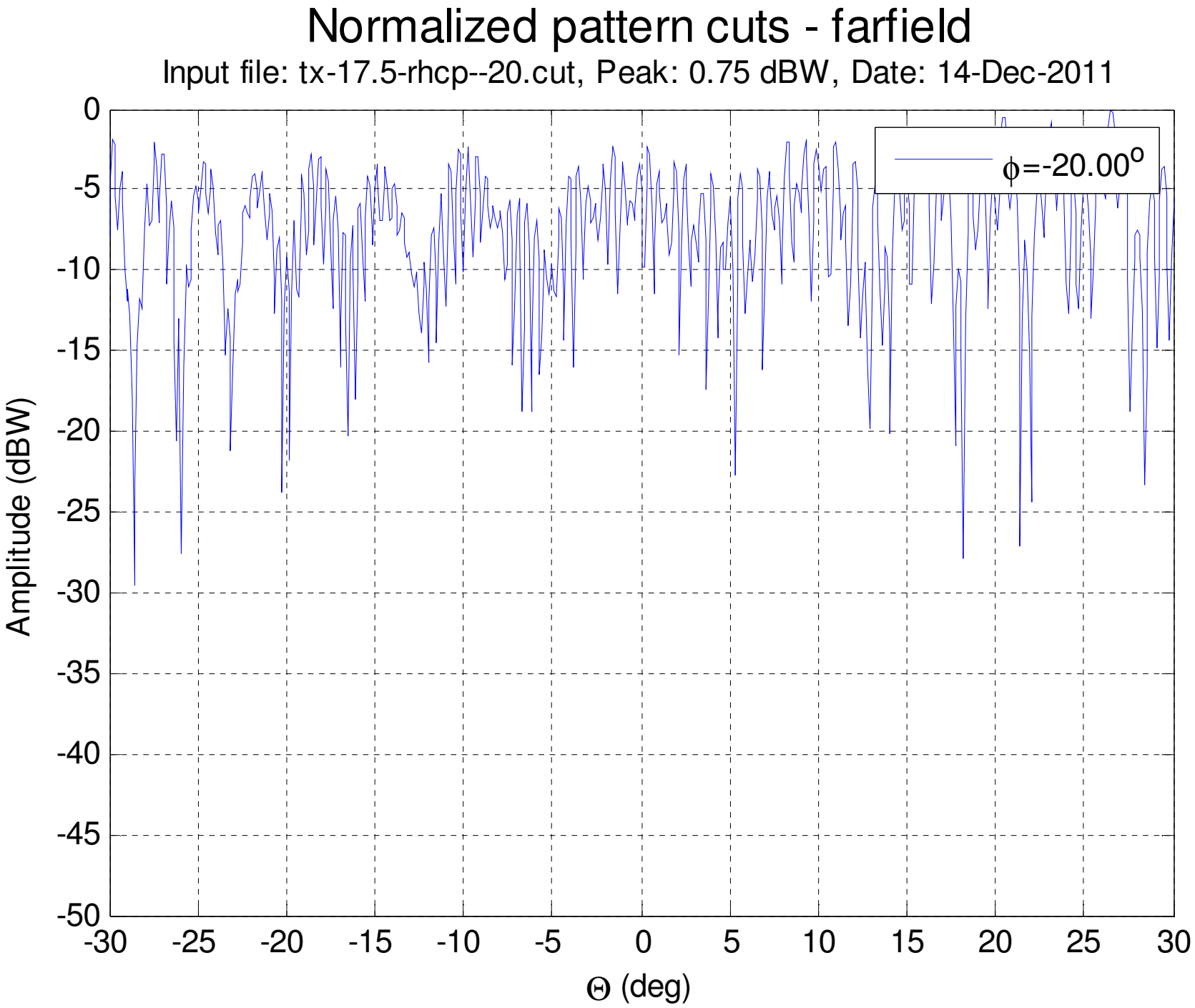
RHCP at 17.5 GHz

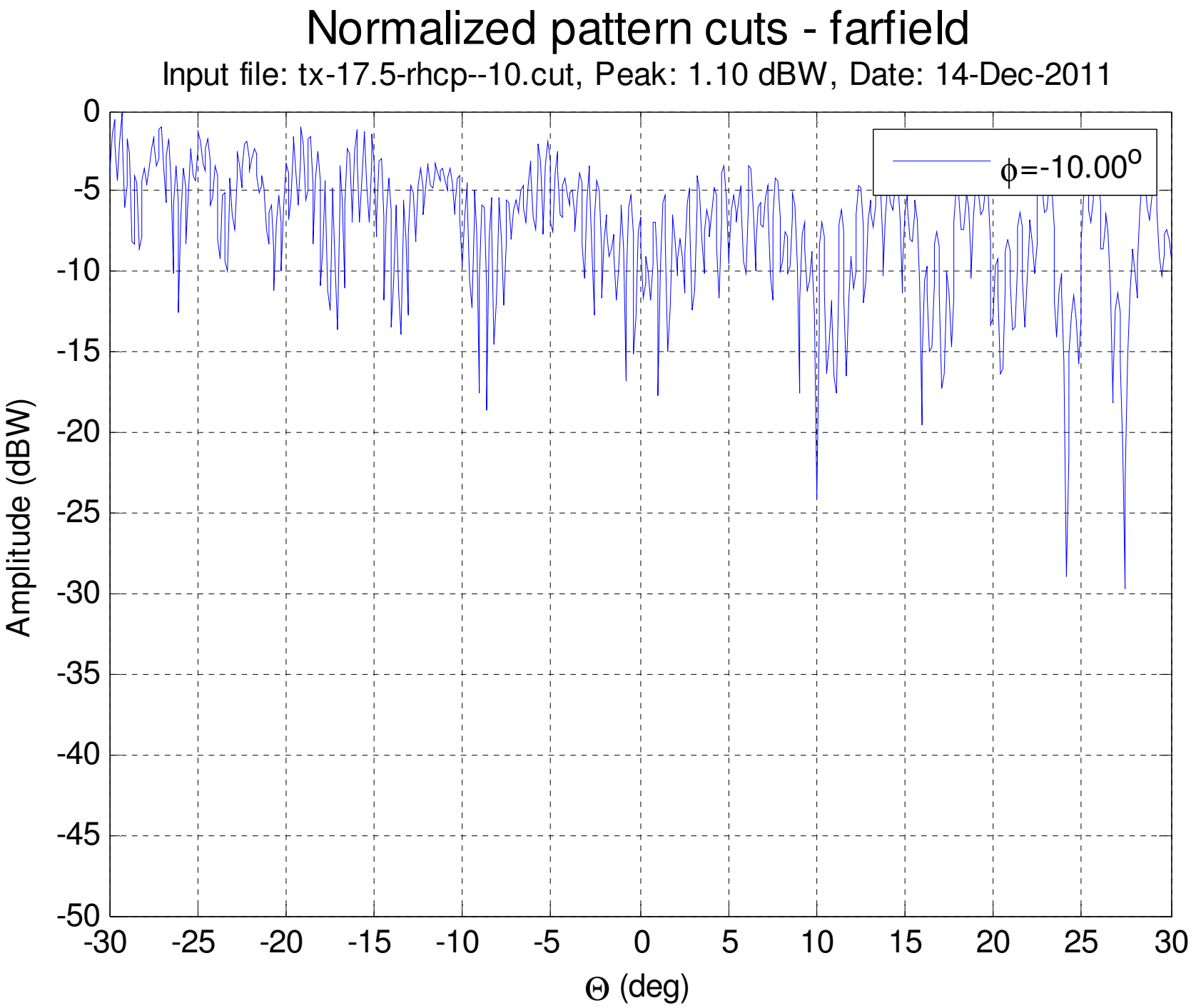

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -1.02 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

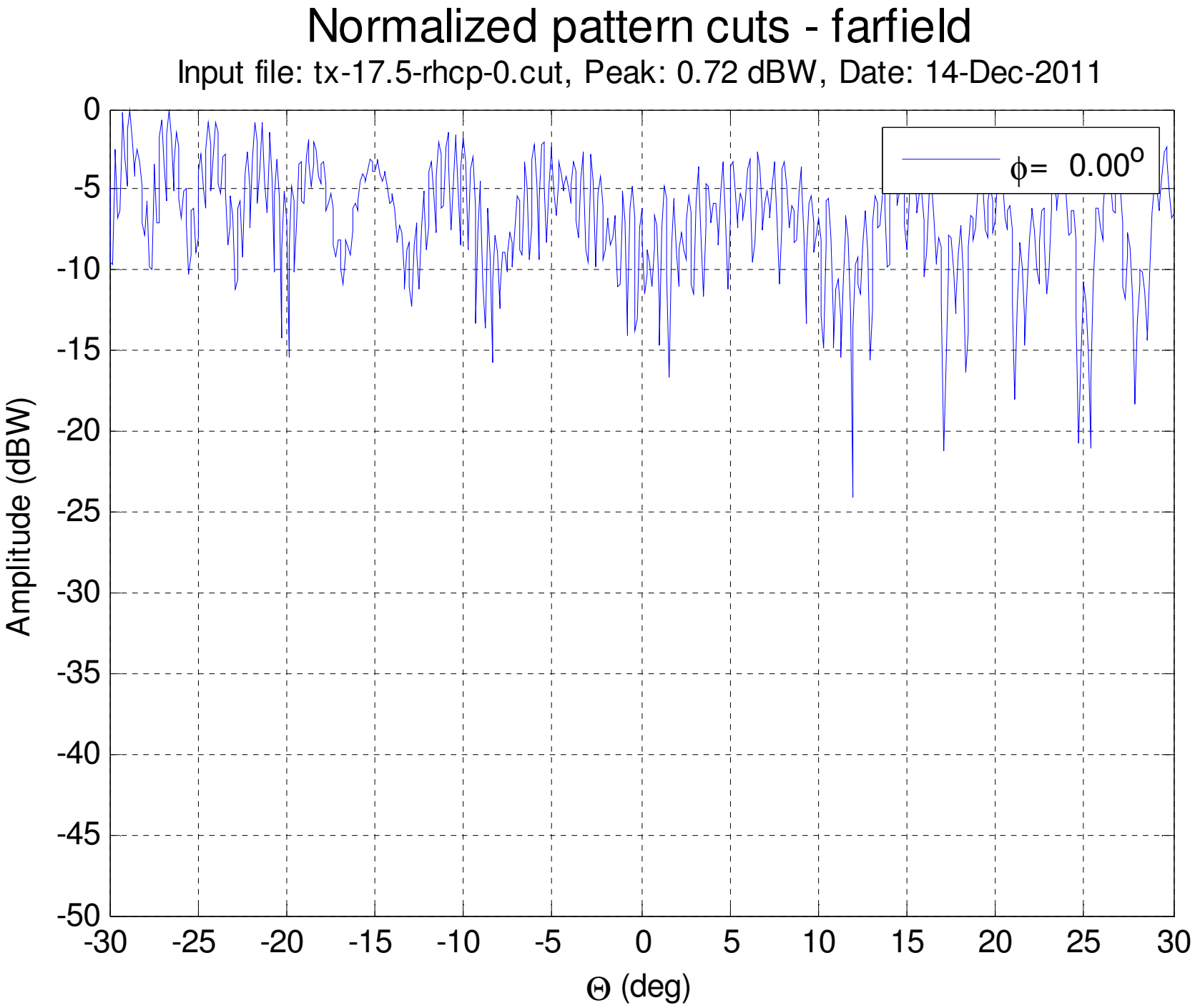

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -0.57 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

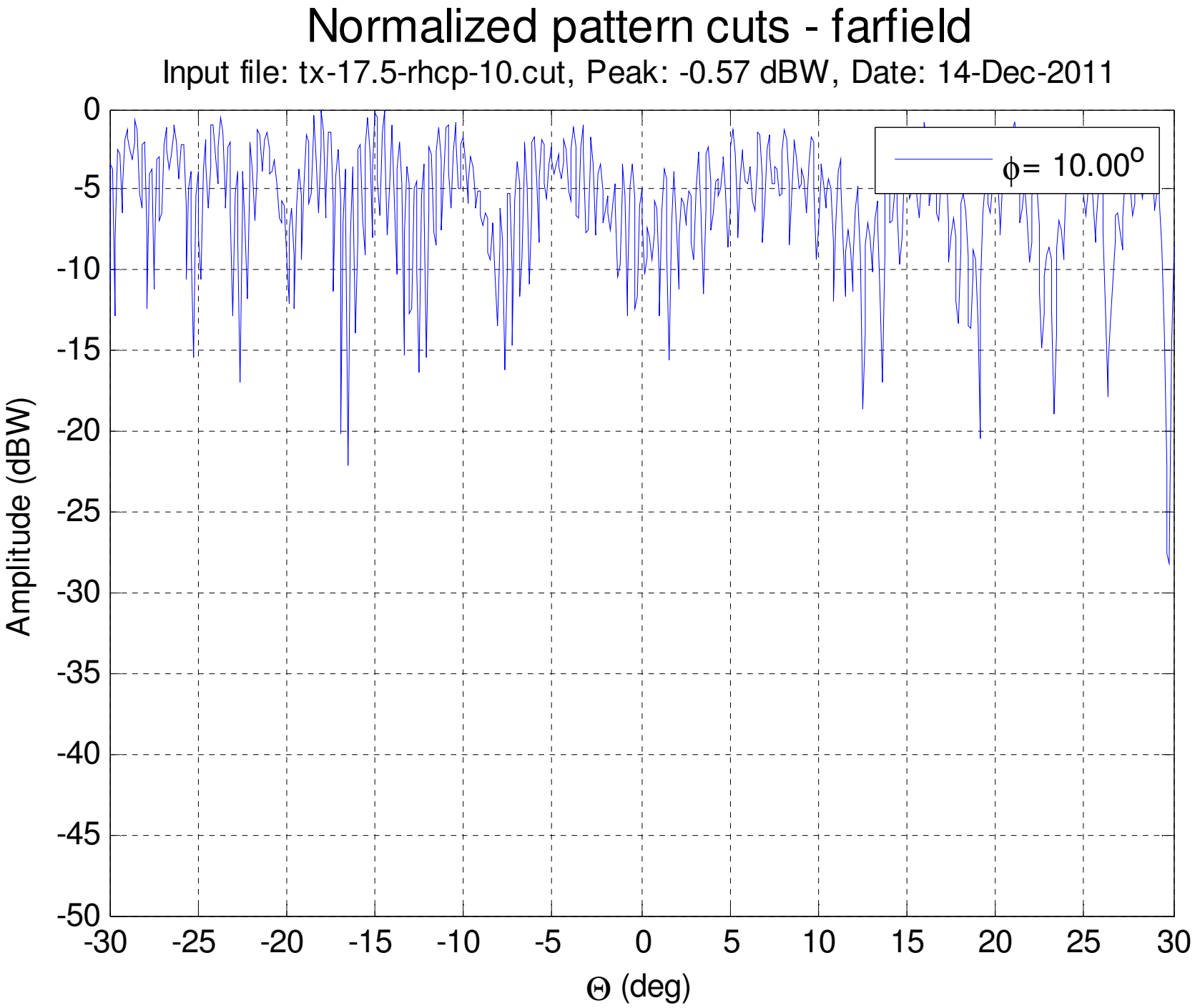

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -0.69 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

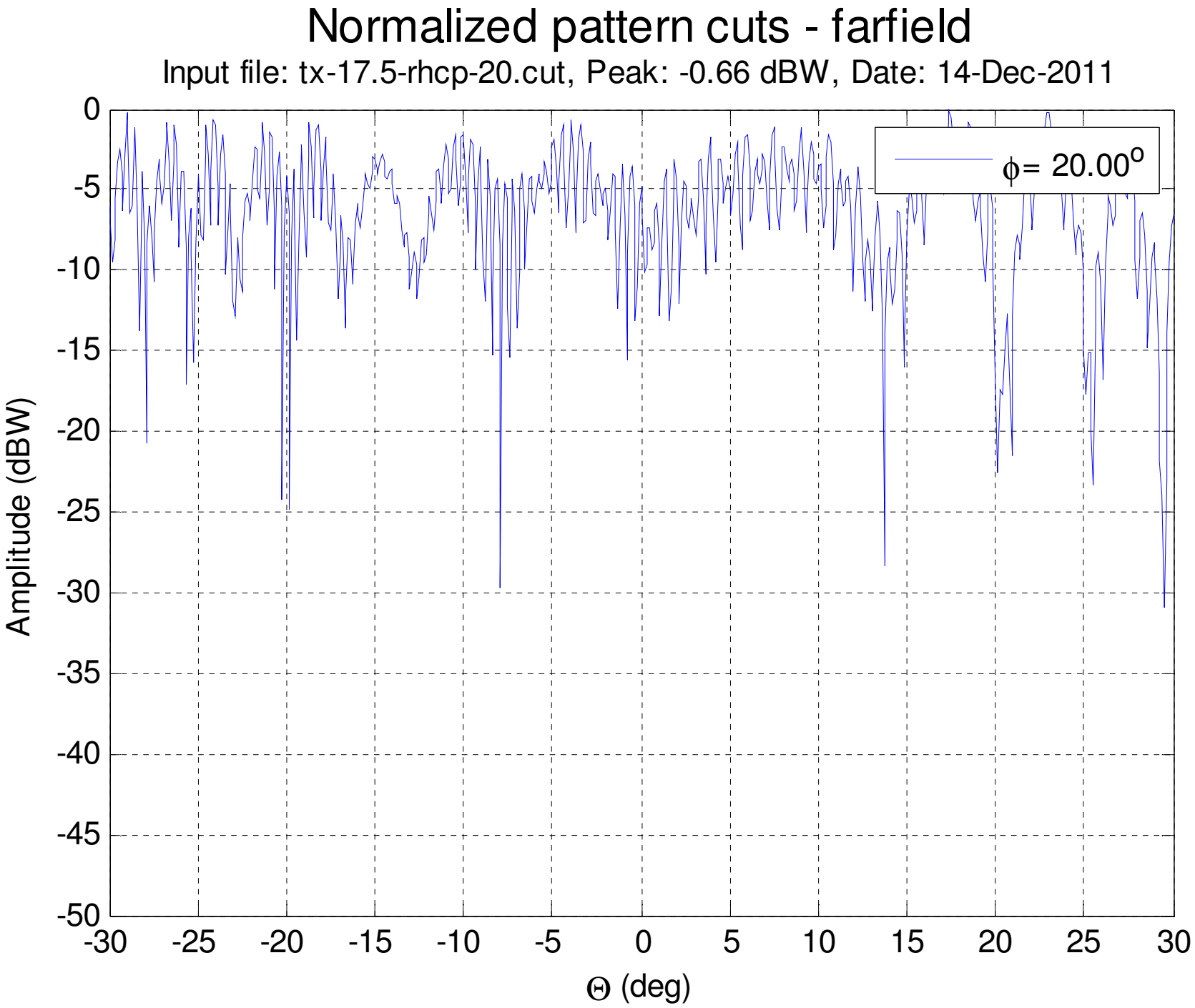

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -0.11 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

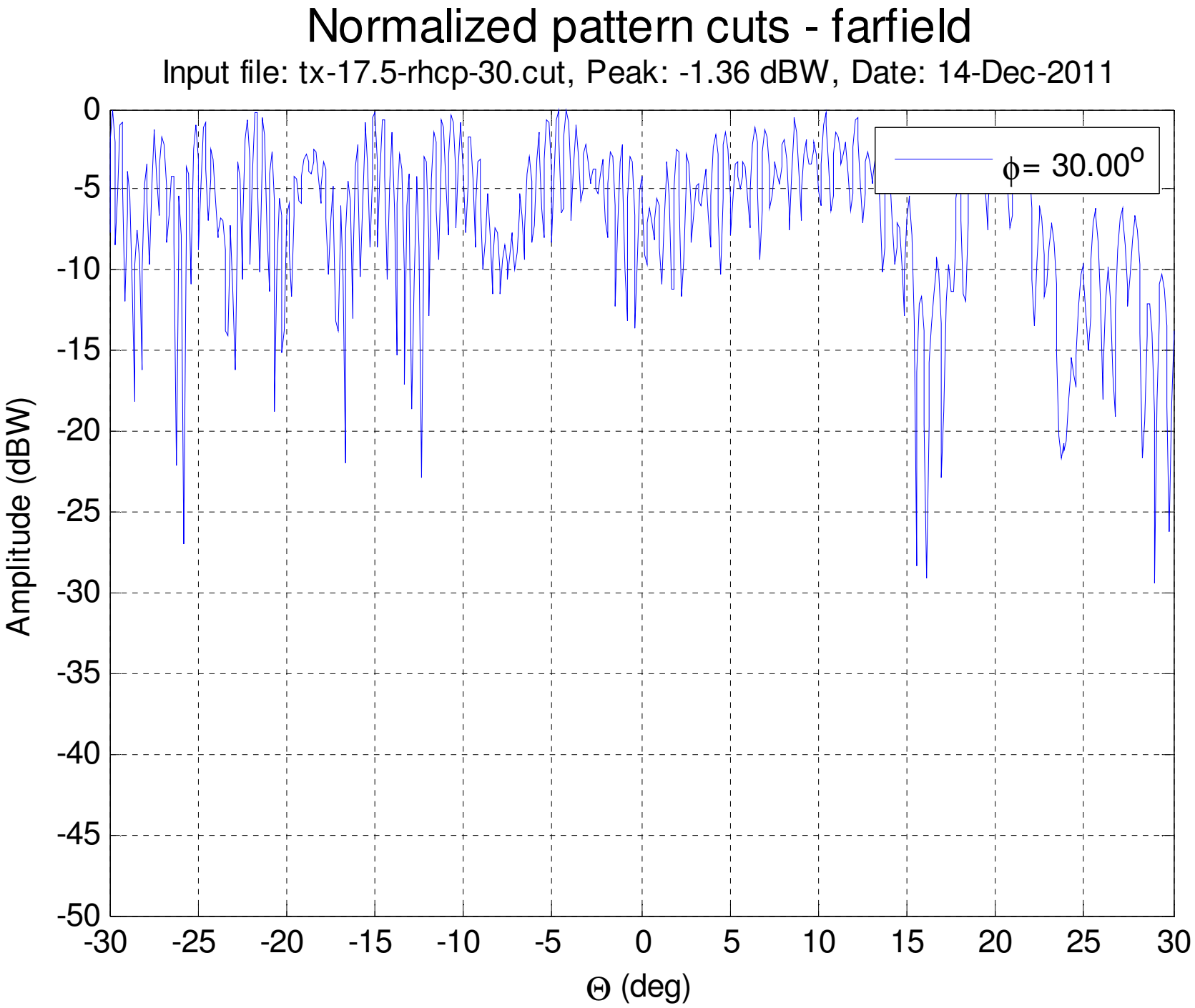

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: 0.75 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

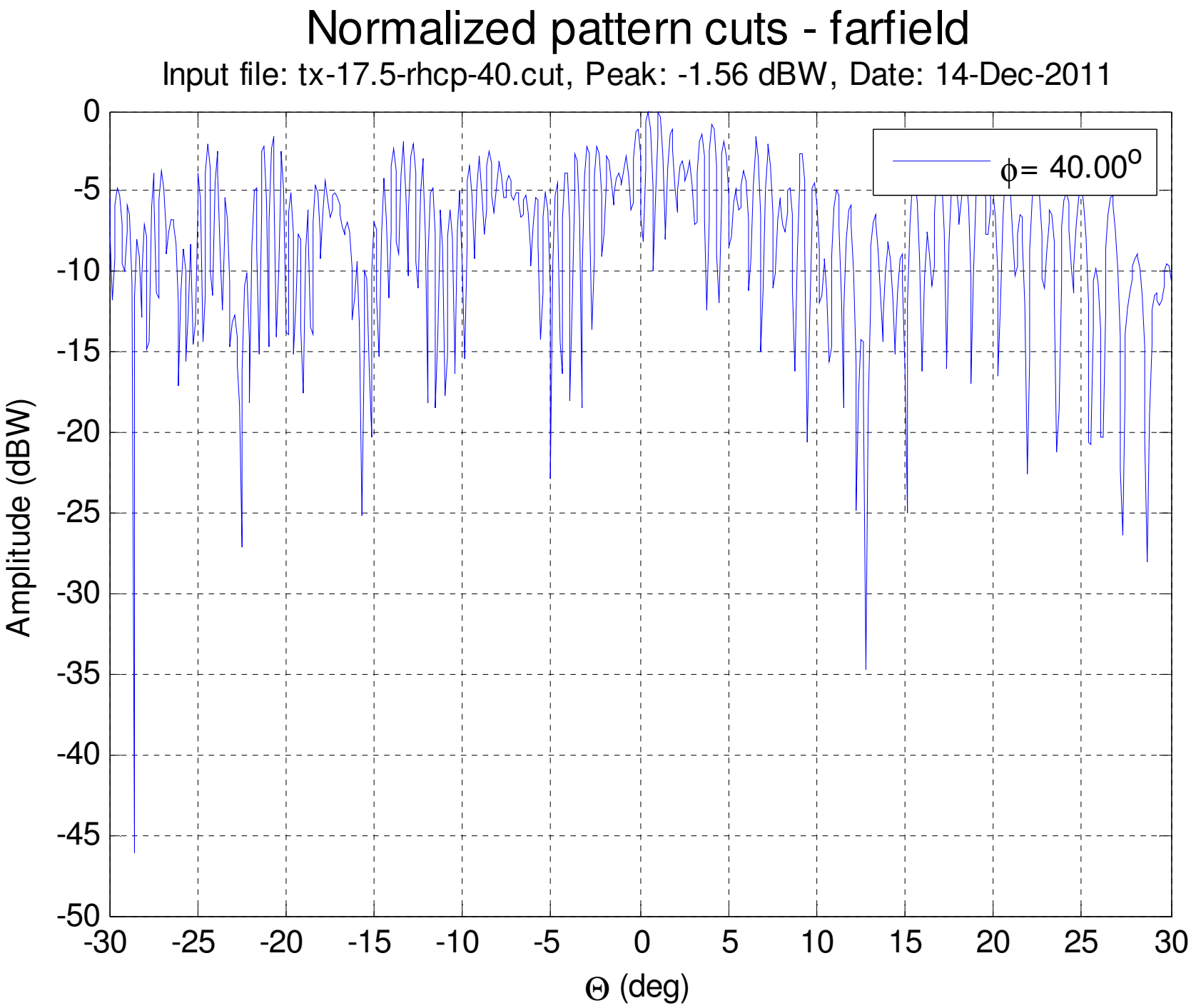

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: 1.10 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

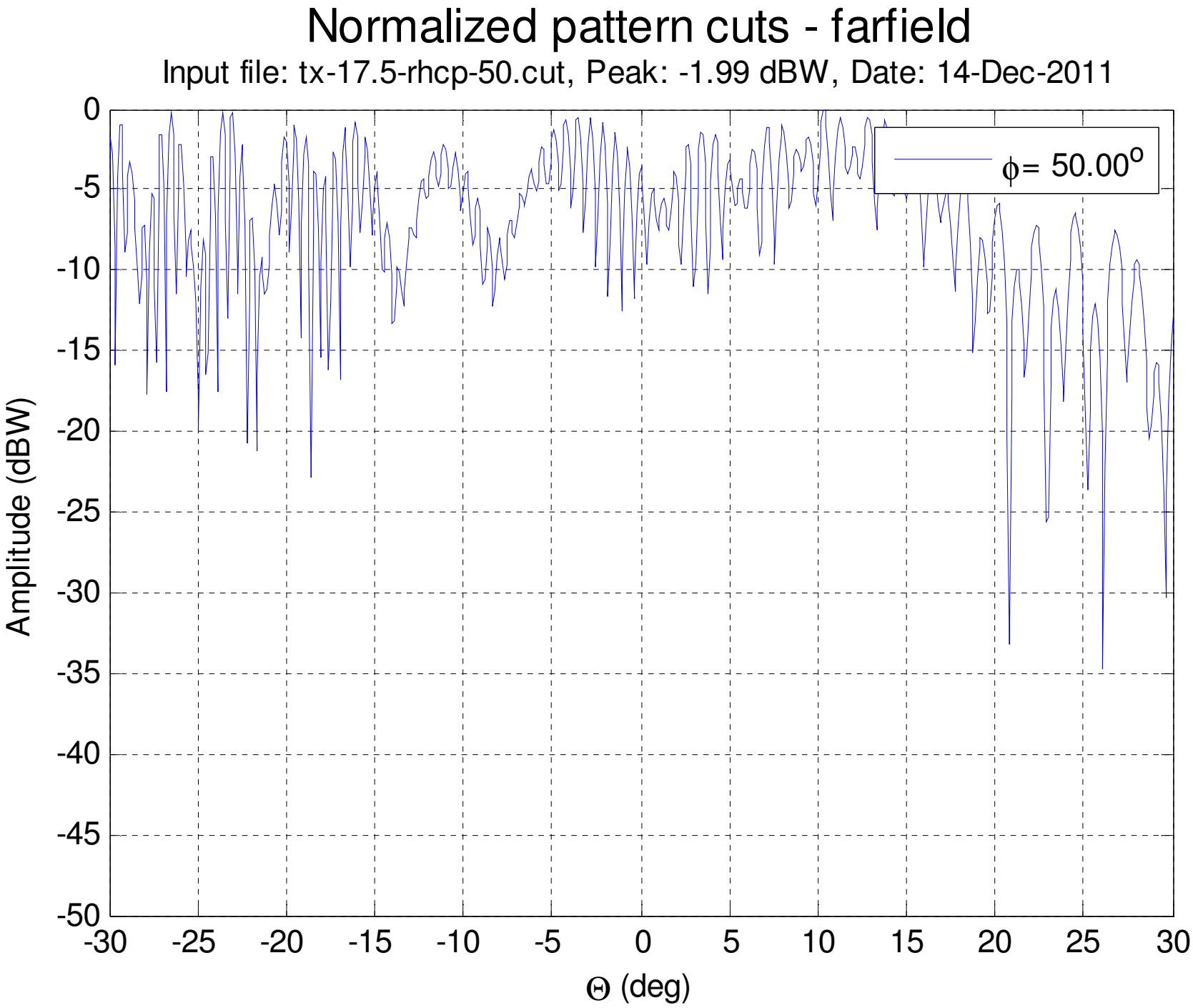

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: 0.72 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

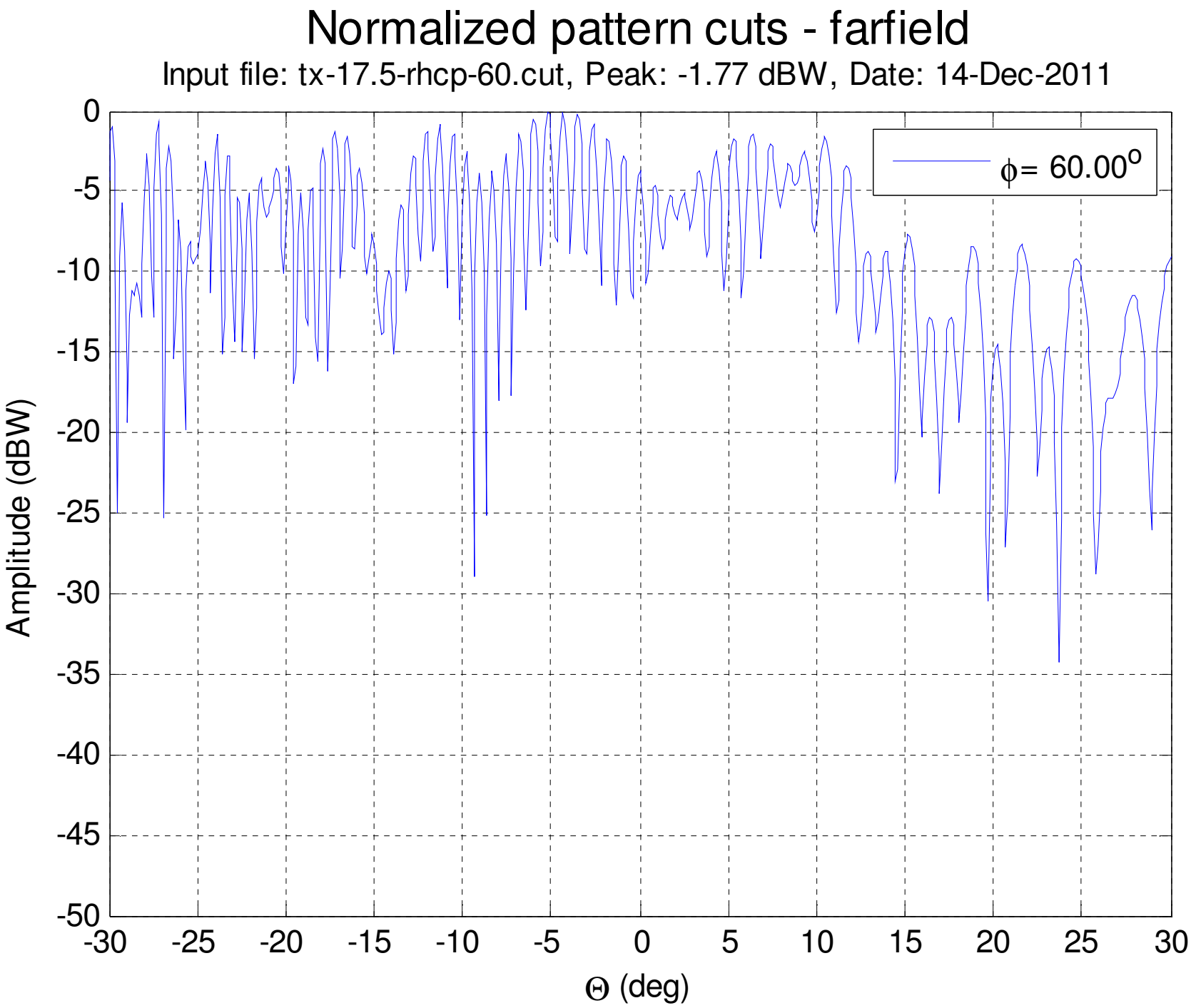

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: -0.57 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -0.66 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

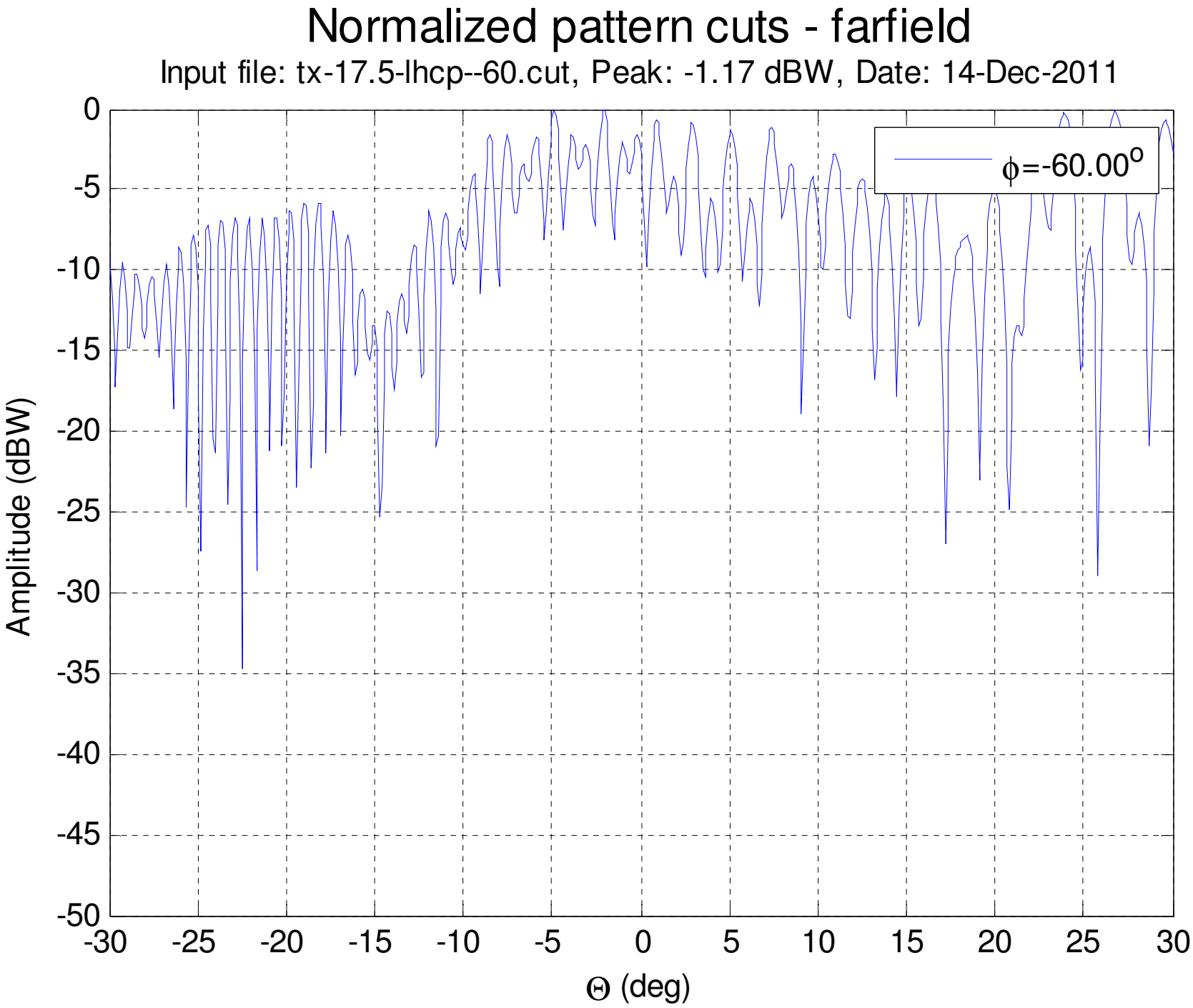

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -1.36 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

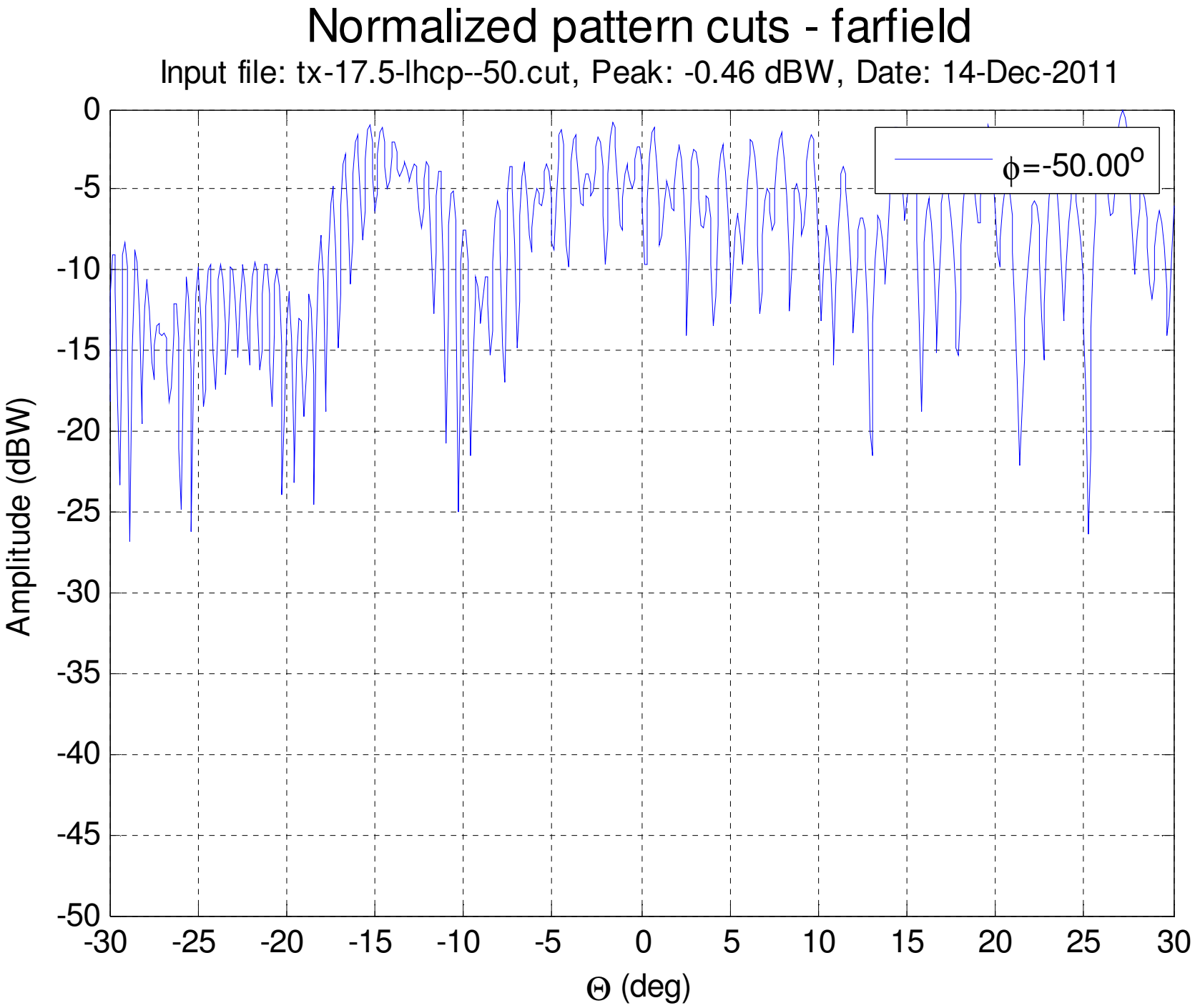

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -1.56 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

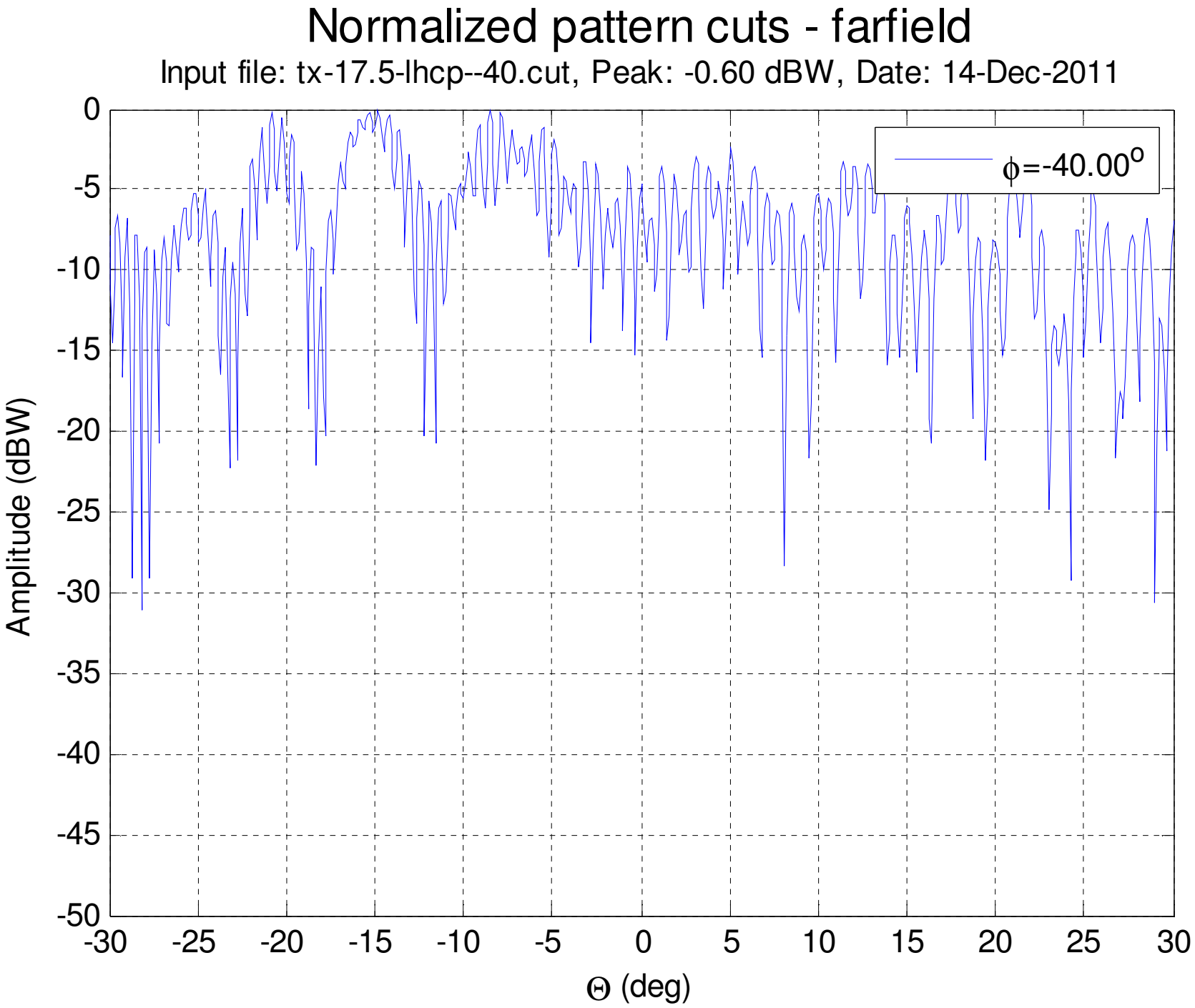

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -1.99 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

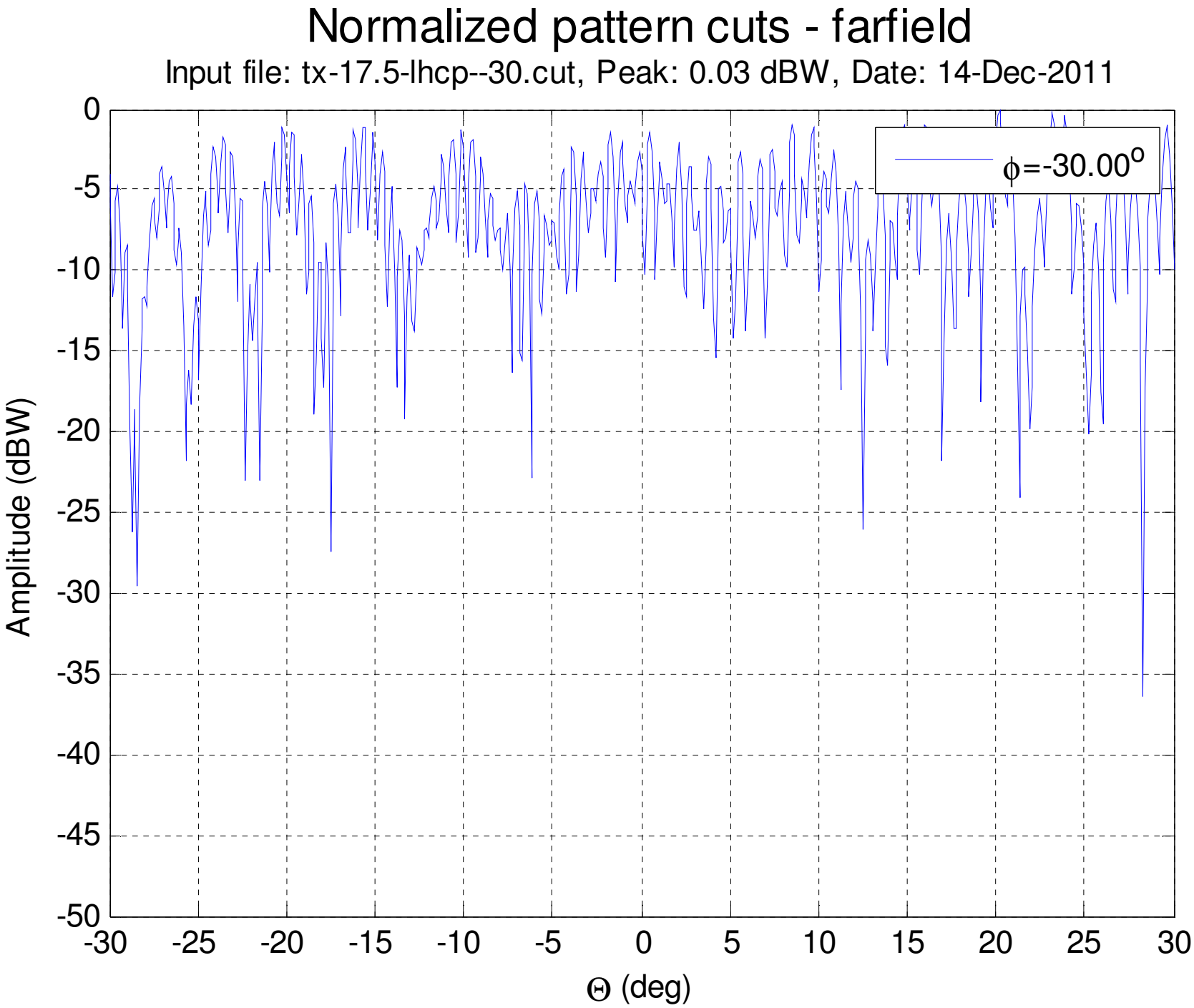

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -1.77 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

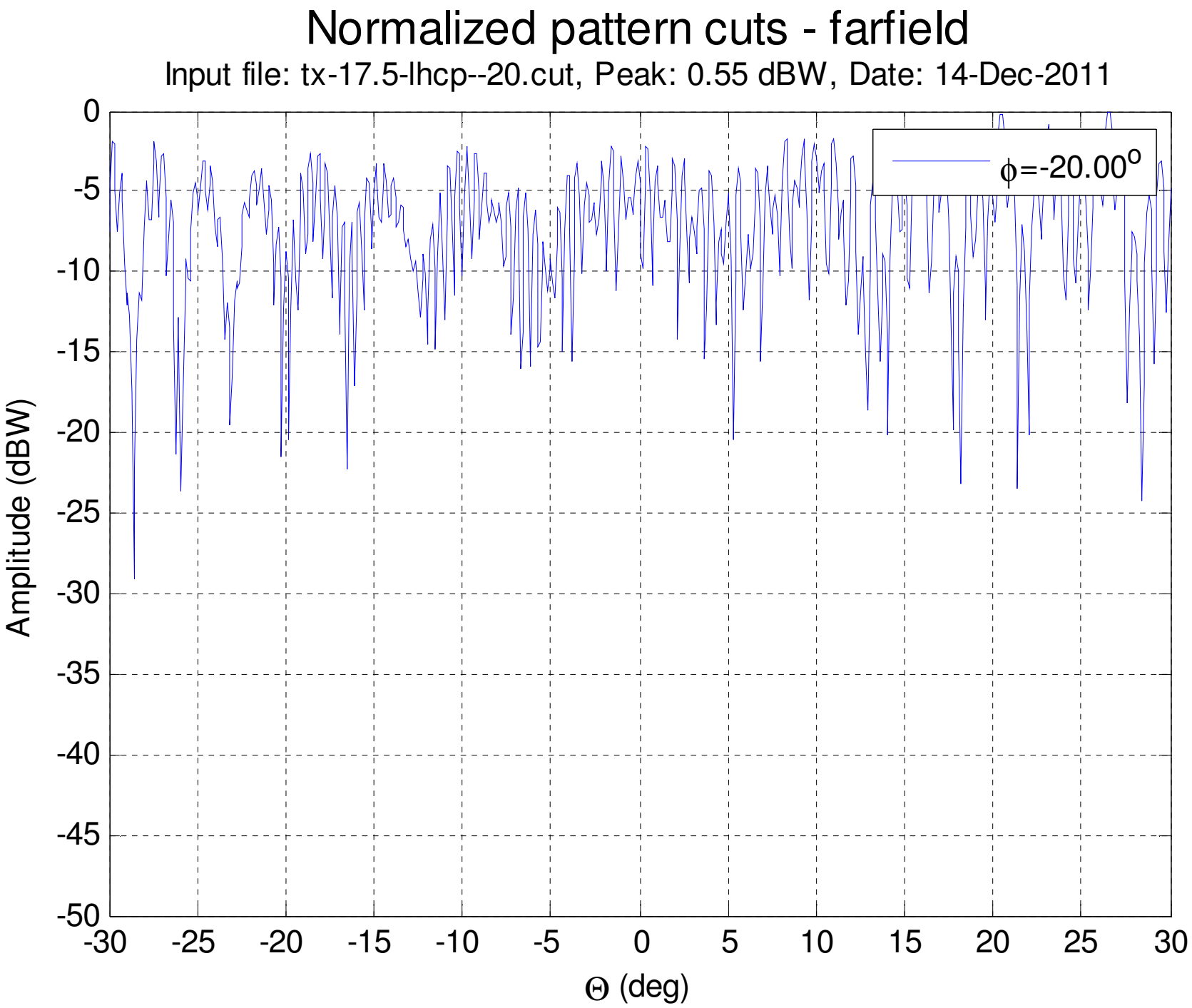
LHCP at 17.5 GHz

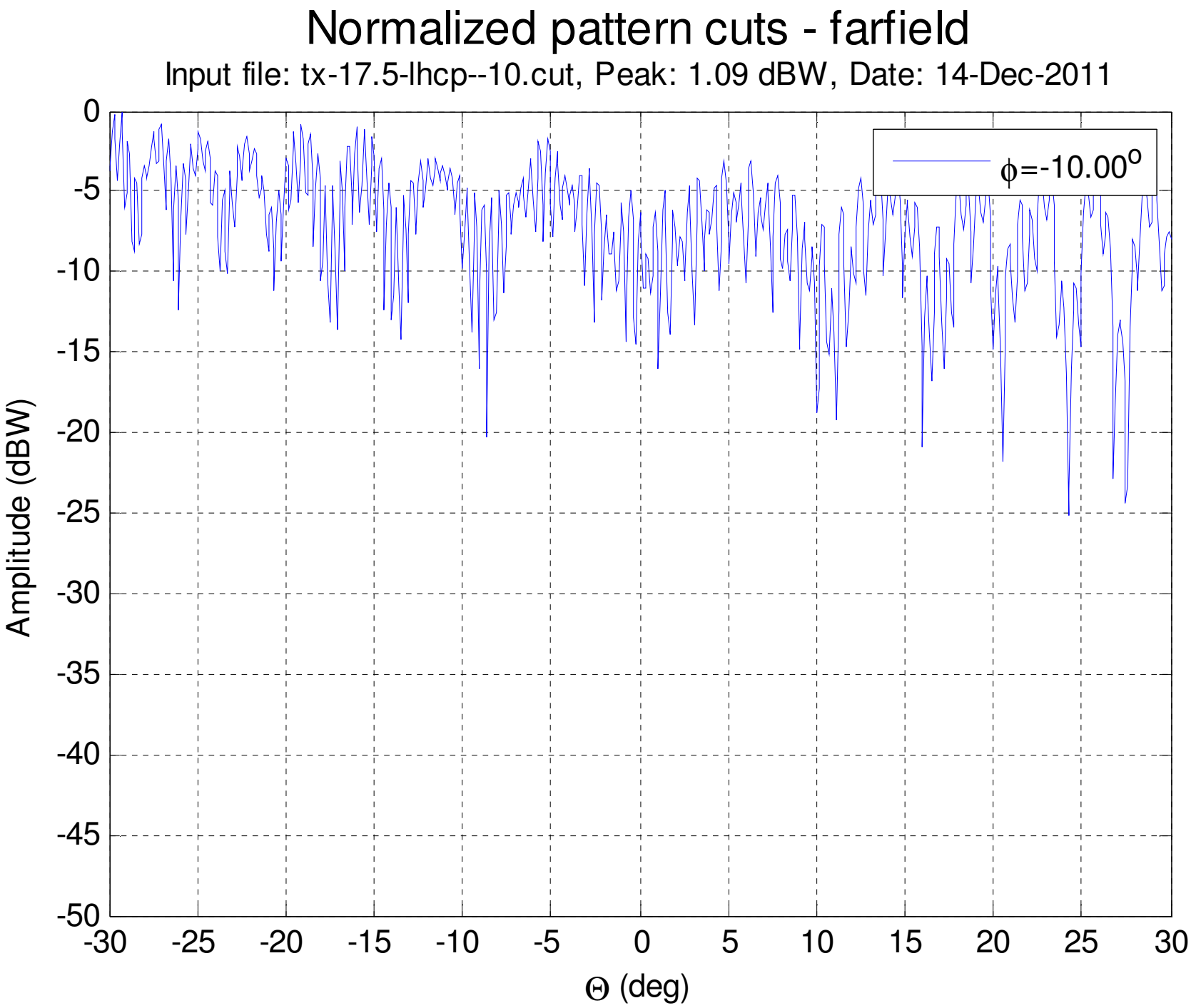

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -1.17 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ=-60.00°

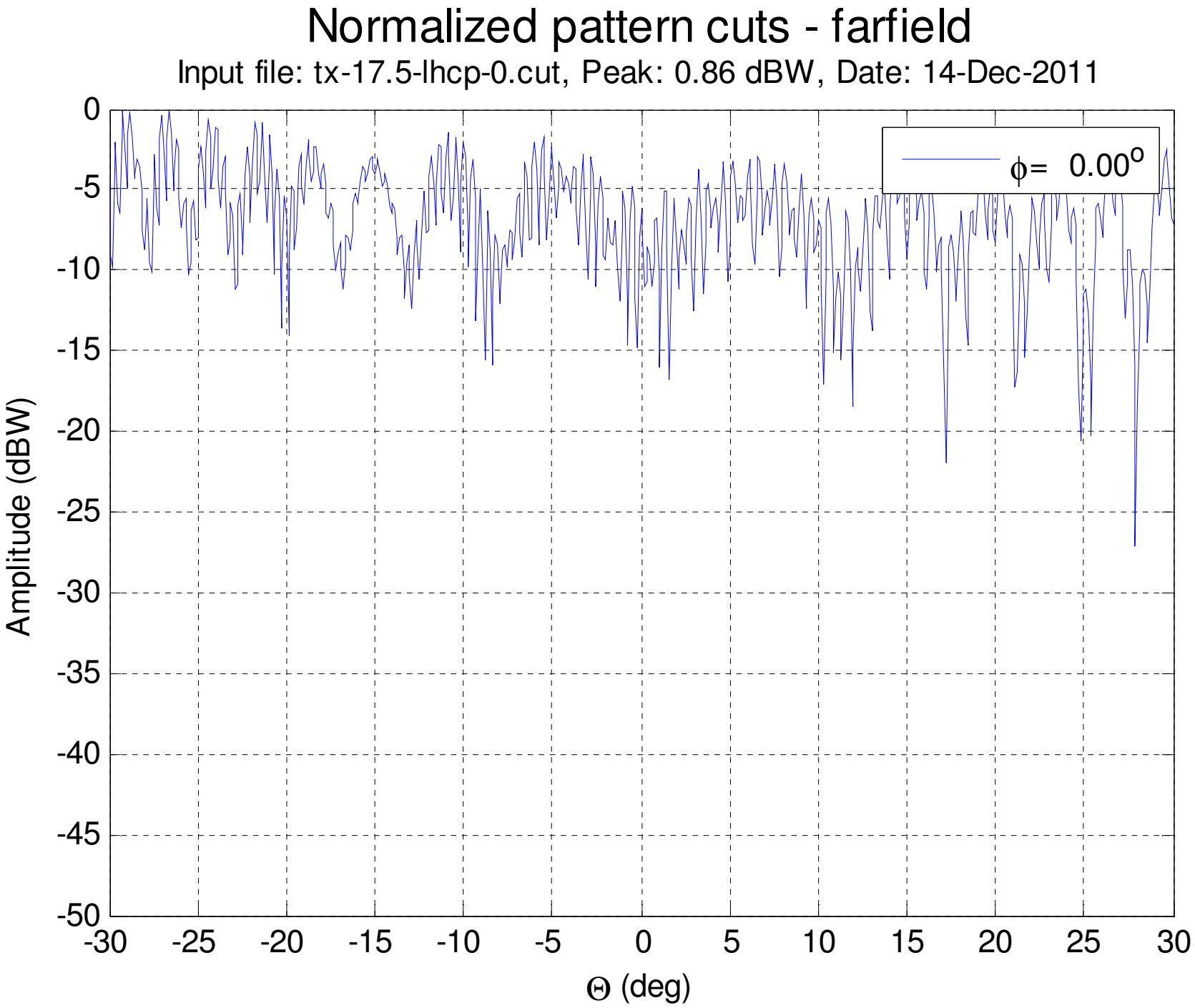

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -0.46 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

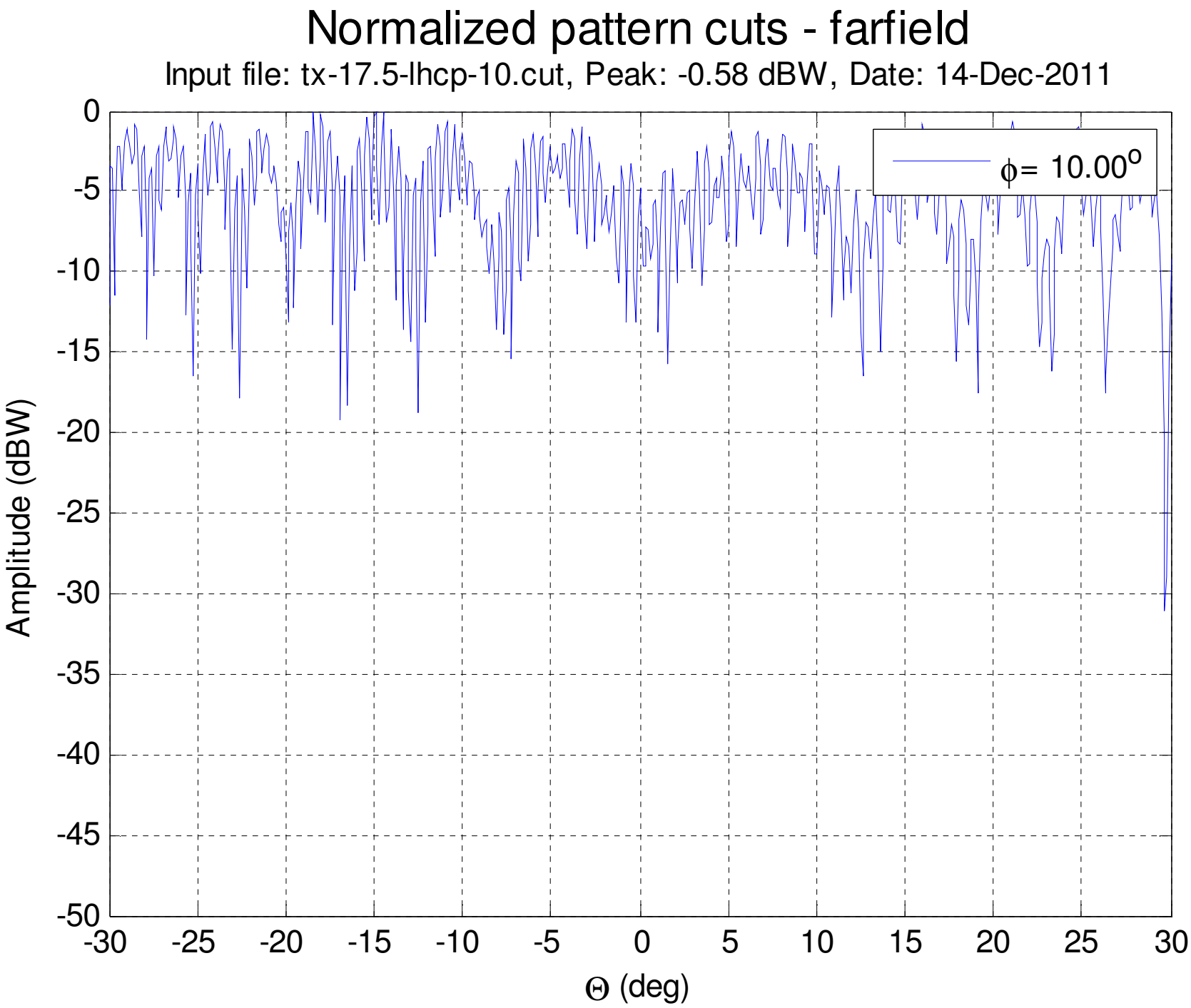

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -0.60 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

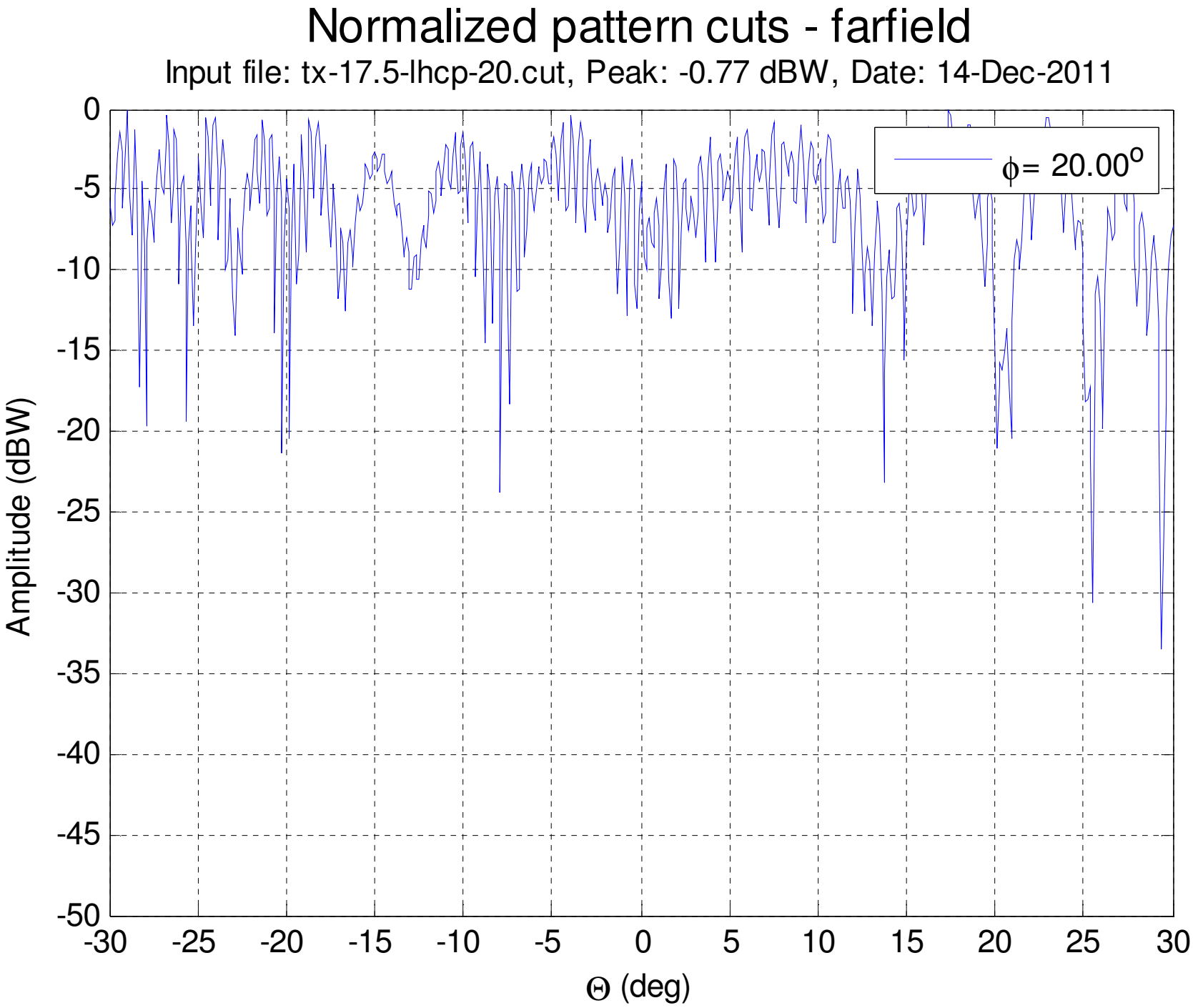

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: 0.03 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

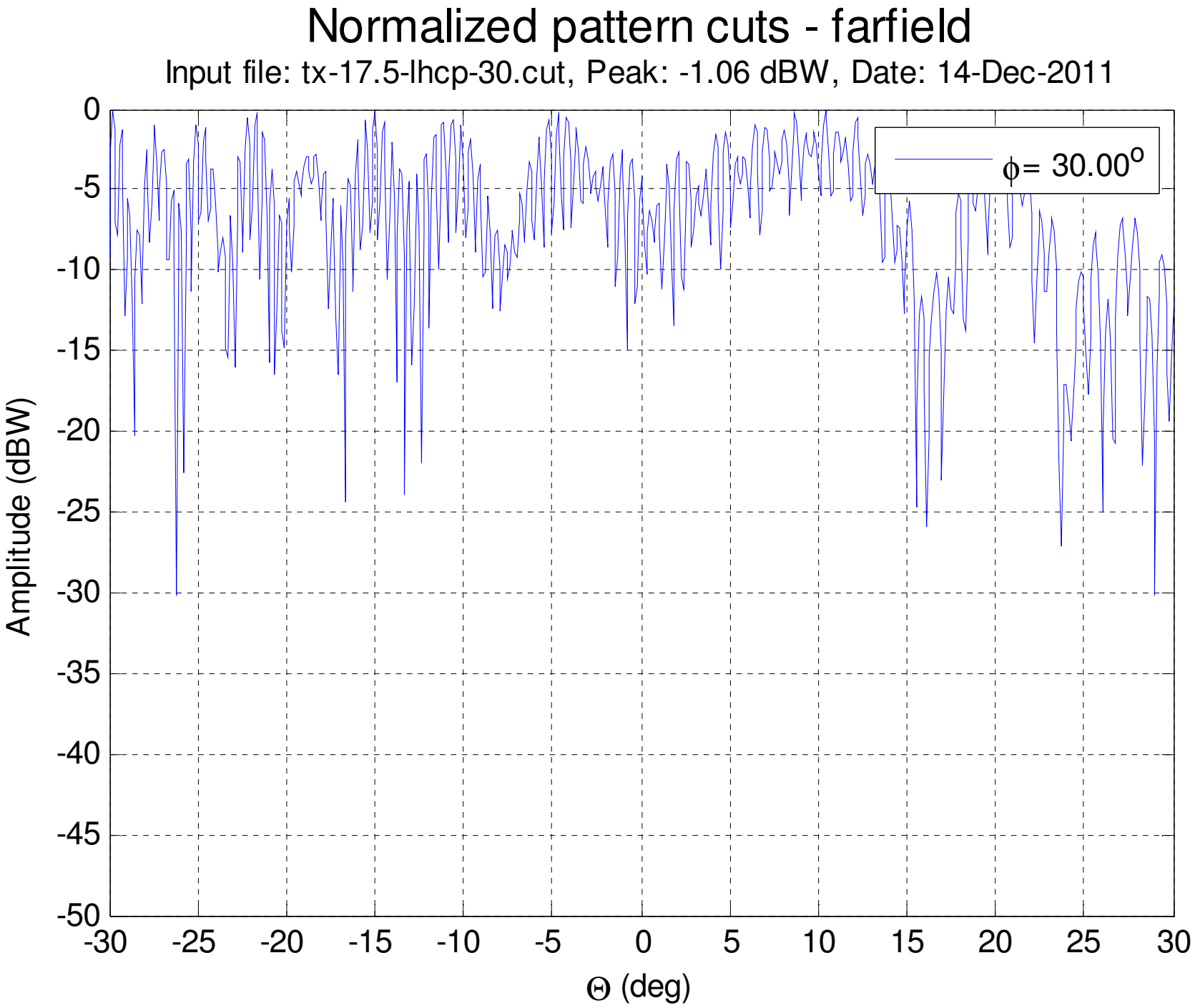

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: 0.55 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

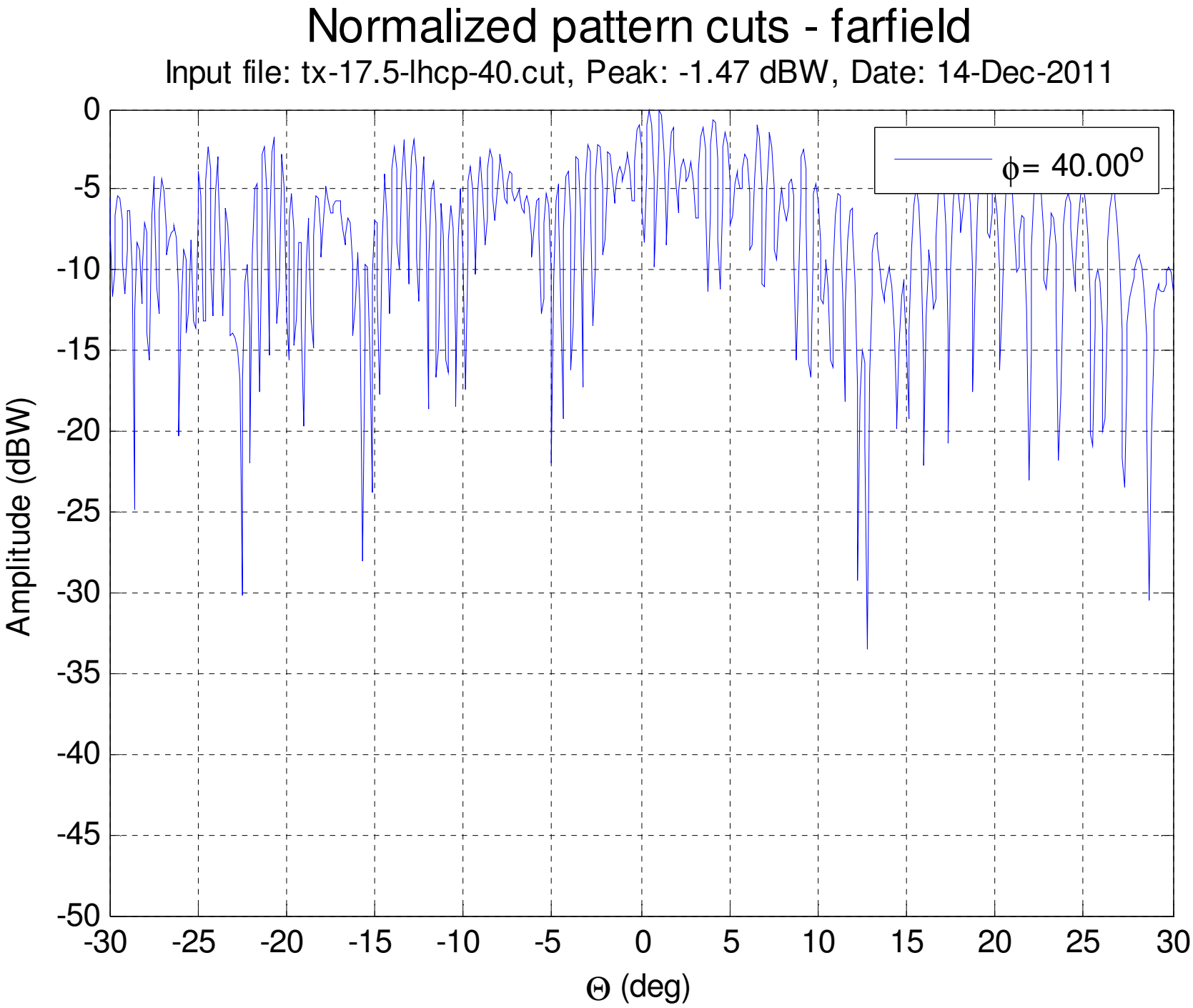

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: 1.09 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

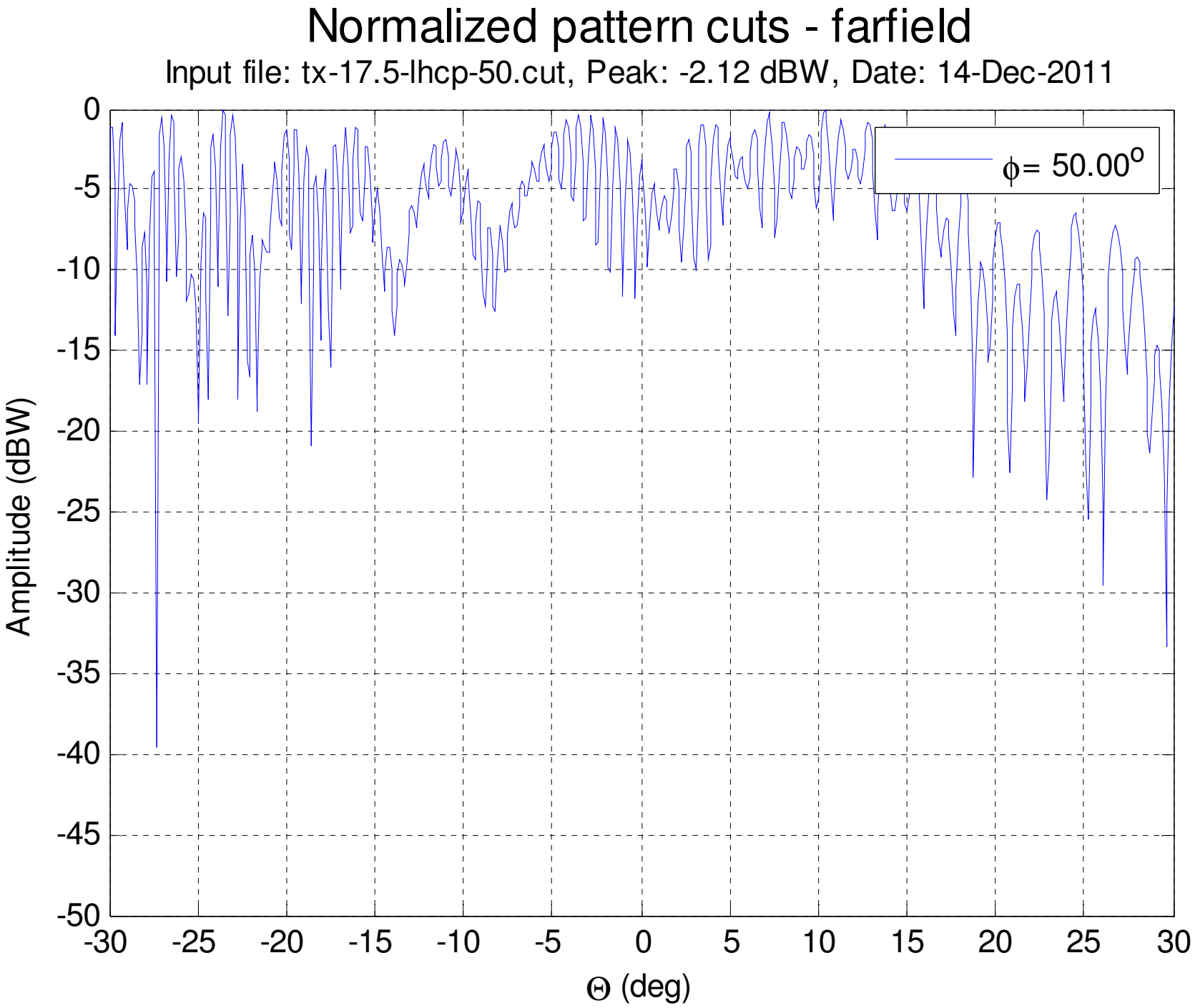

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: 0.86 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

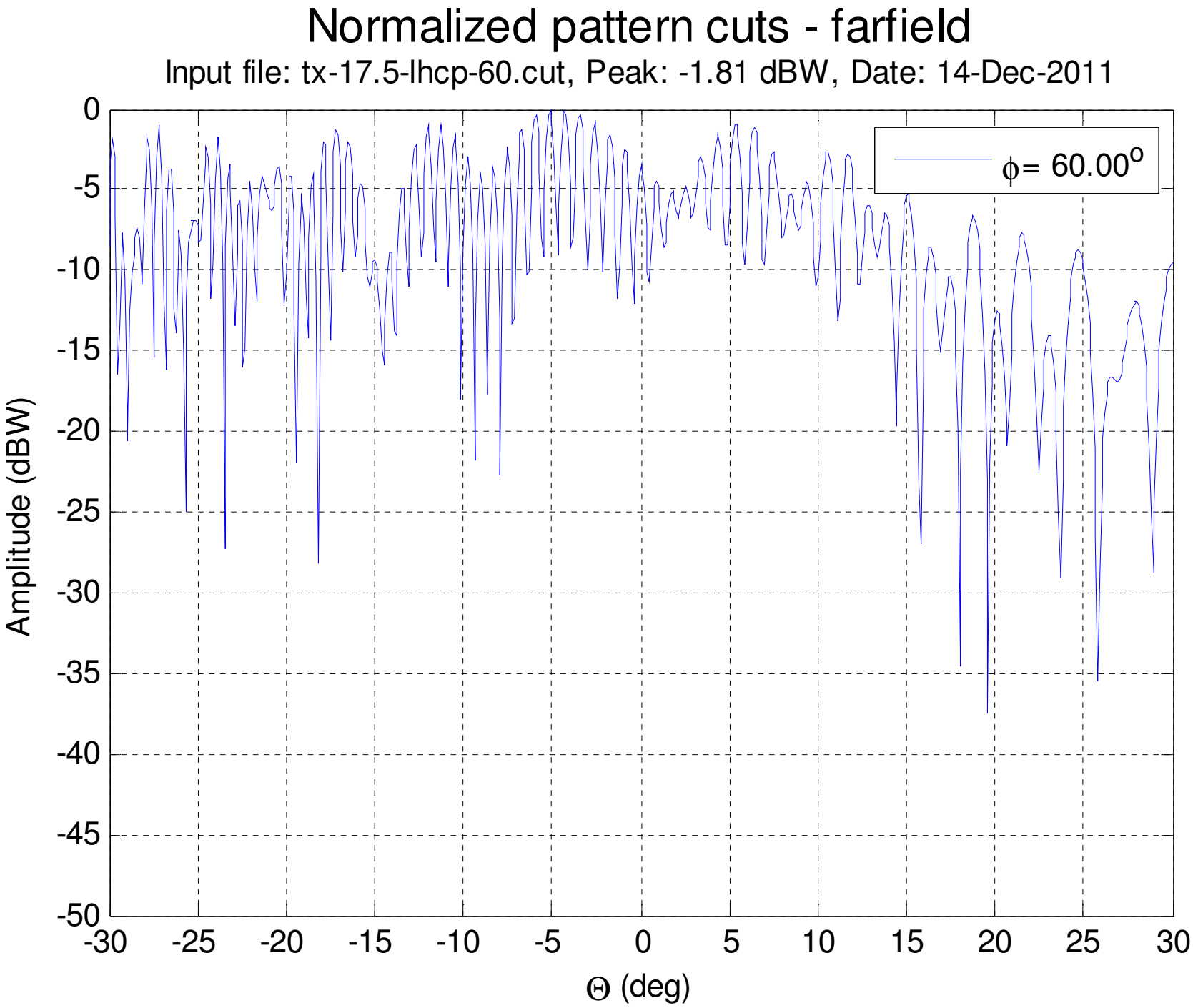

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: -0.58 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: -0.77 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

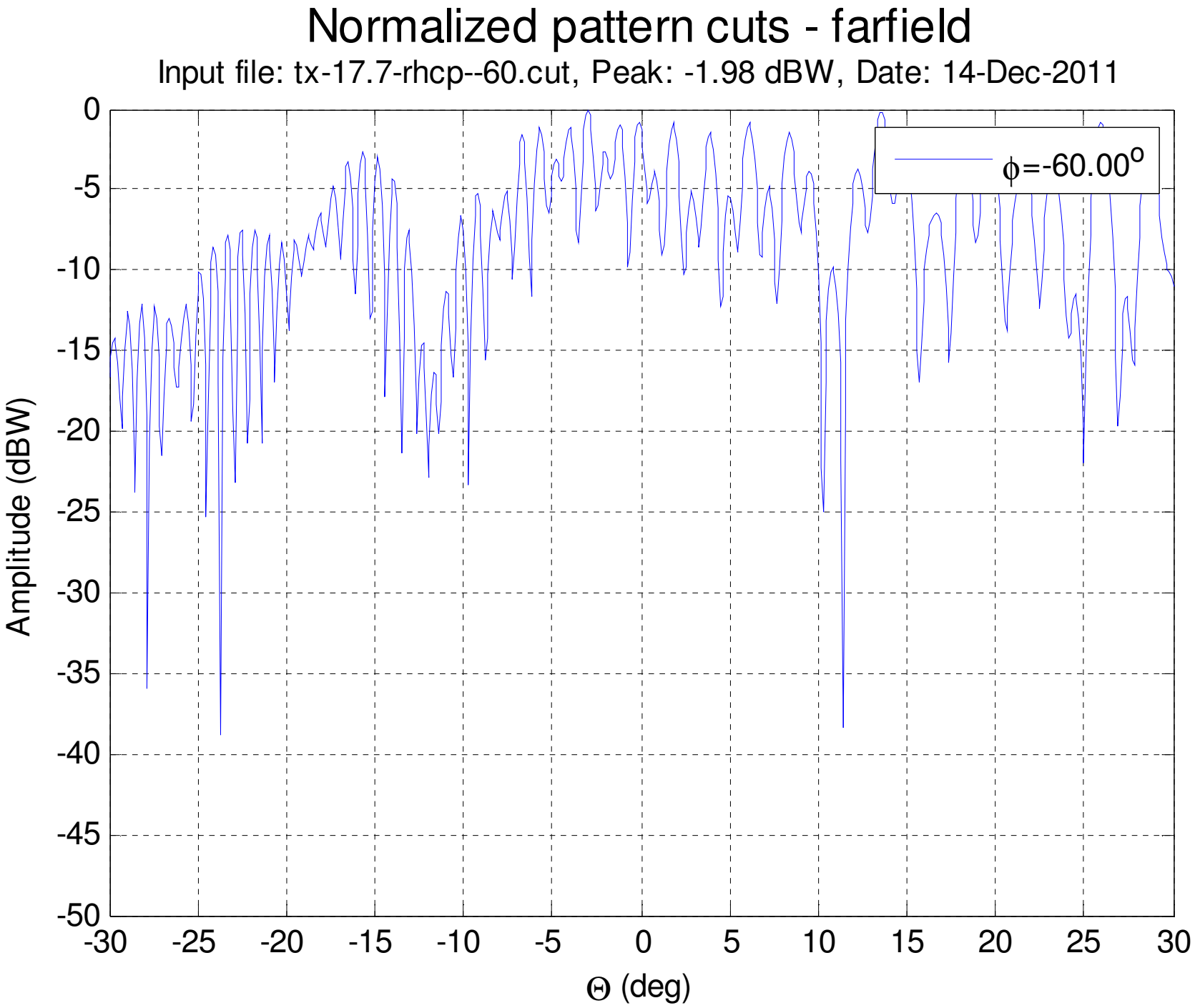

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -1.06 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

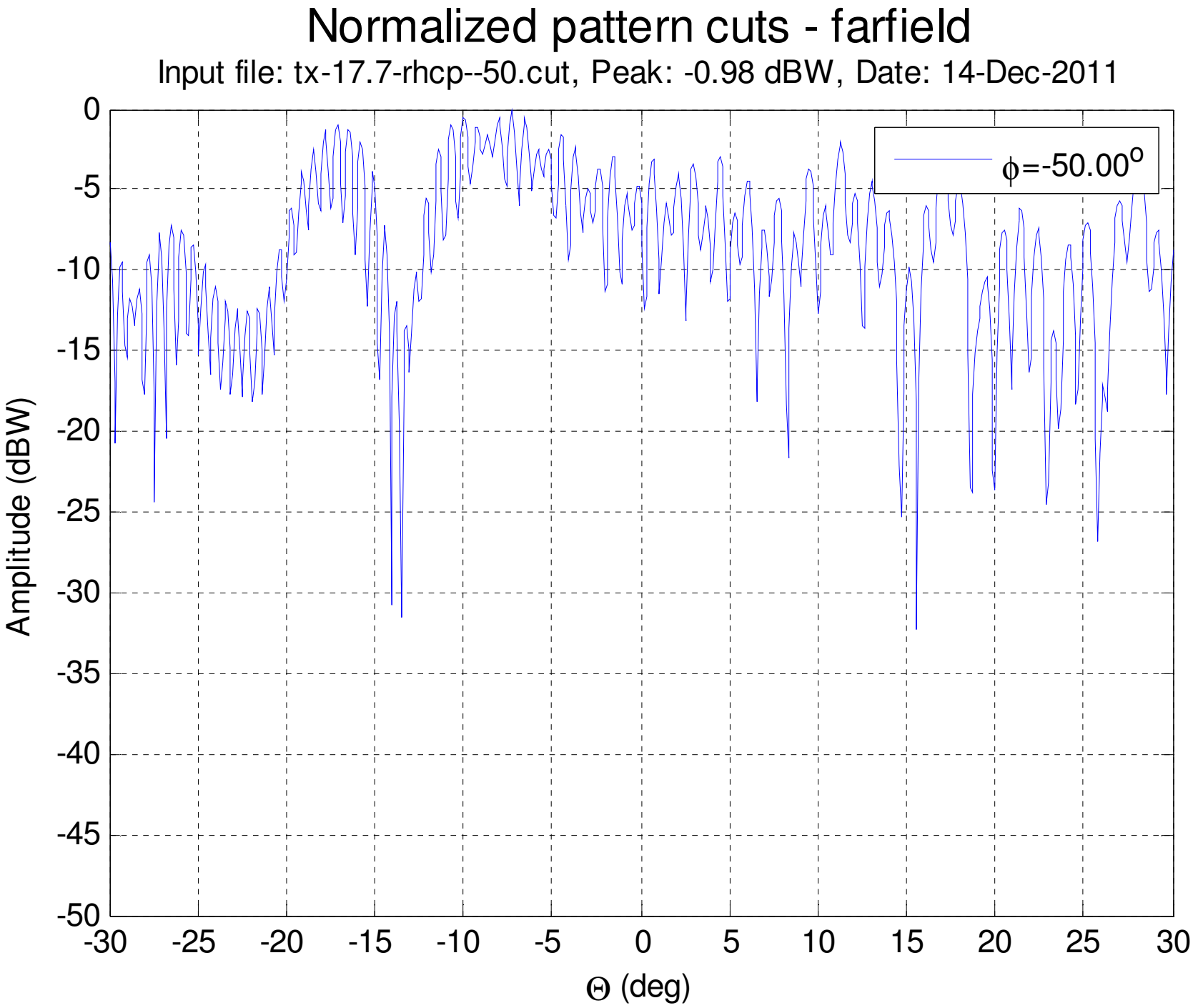

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -1.47 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

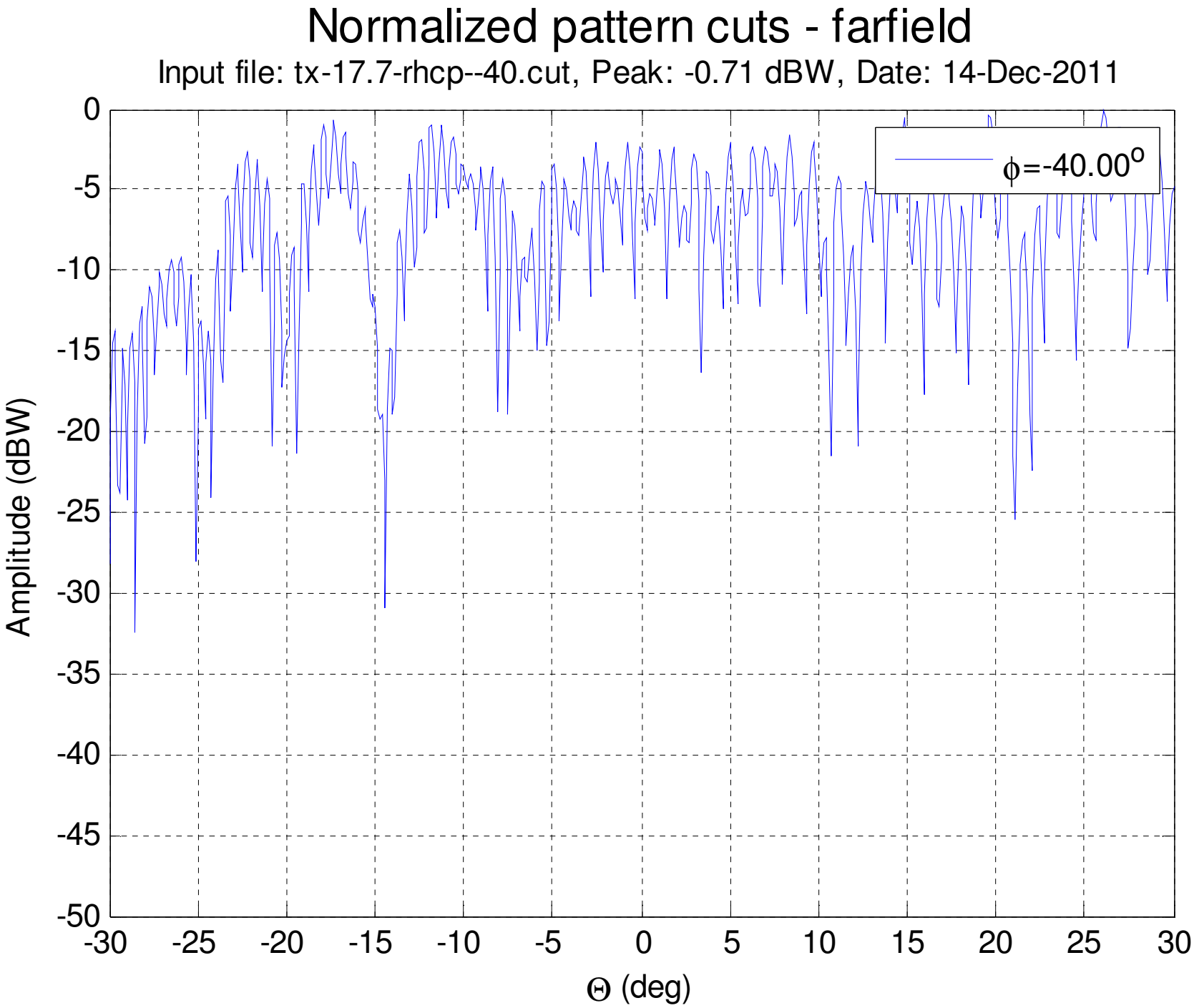

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -2.12 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

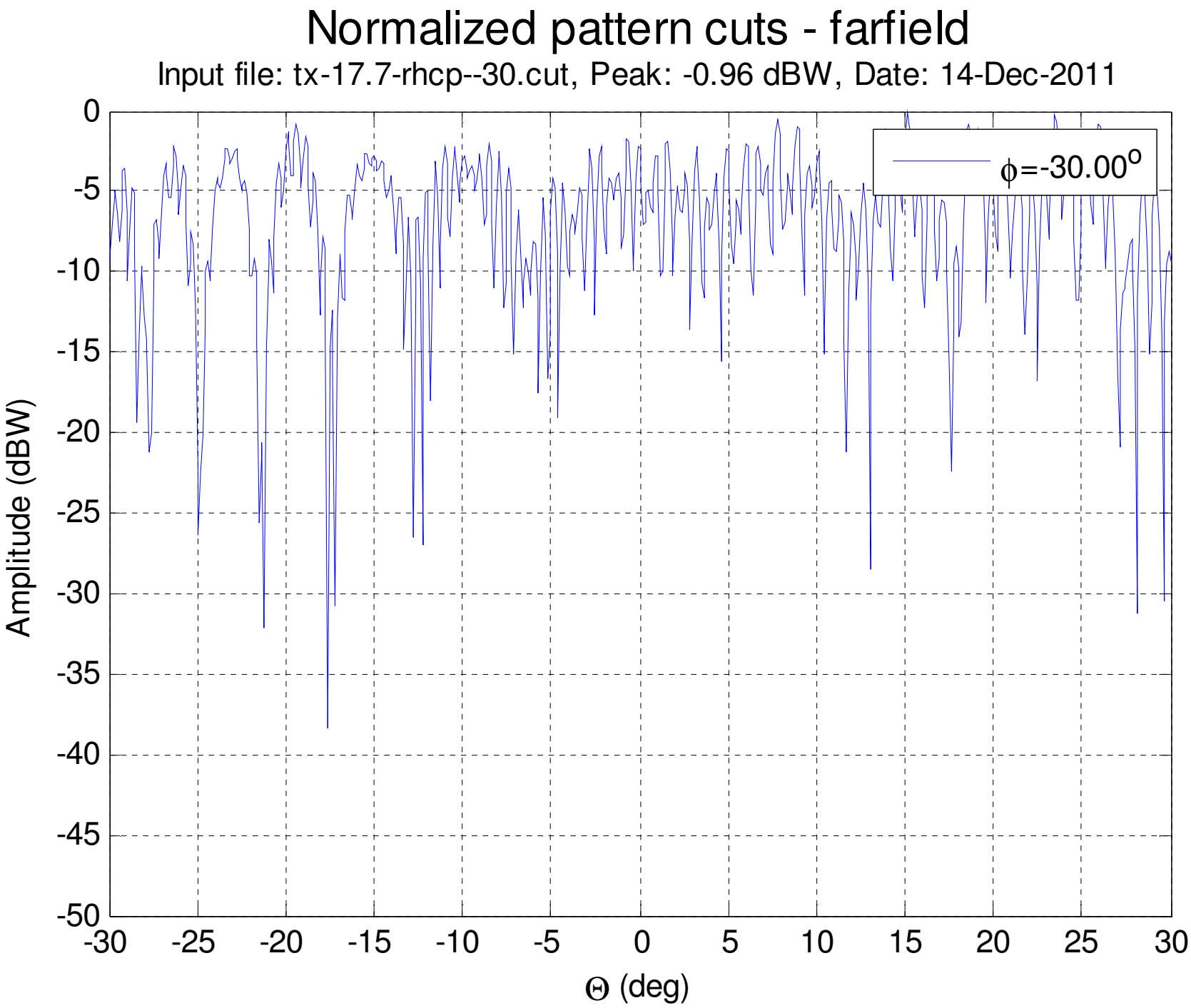

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -1.81 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

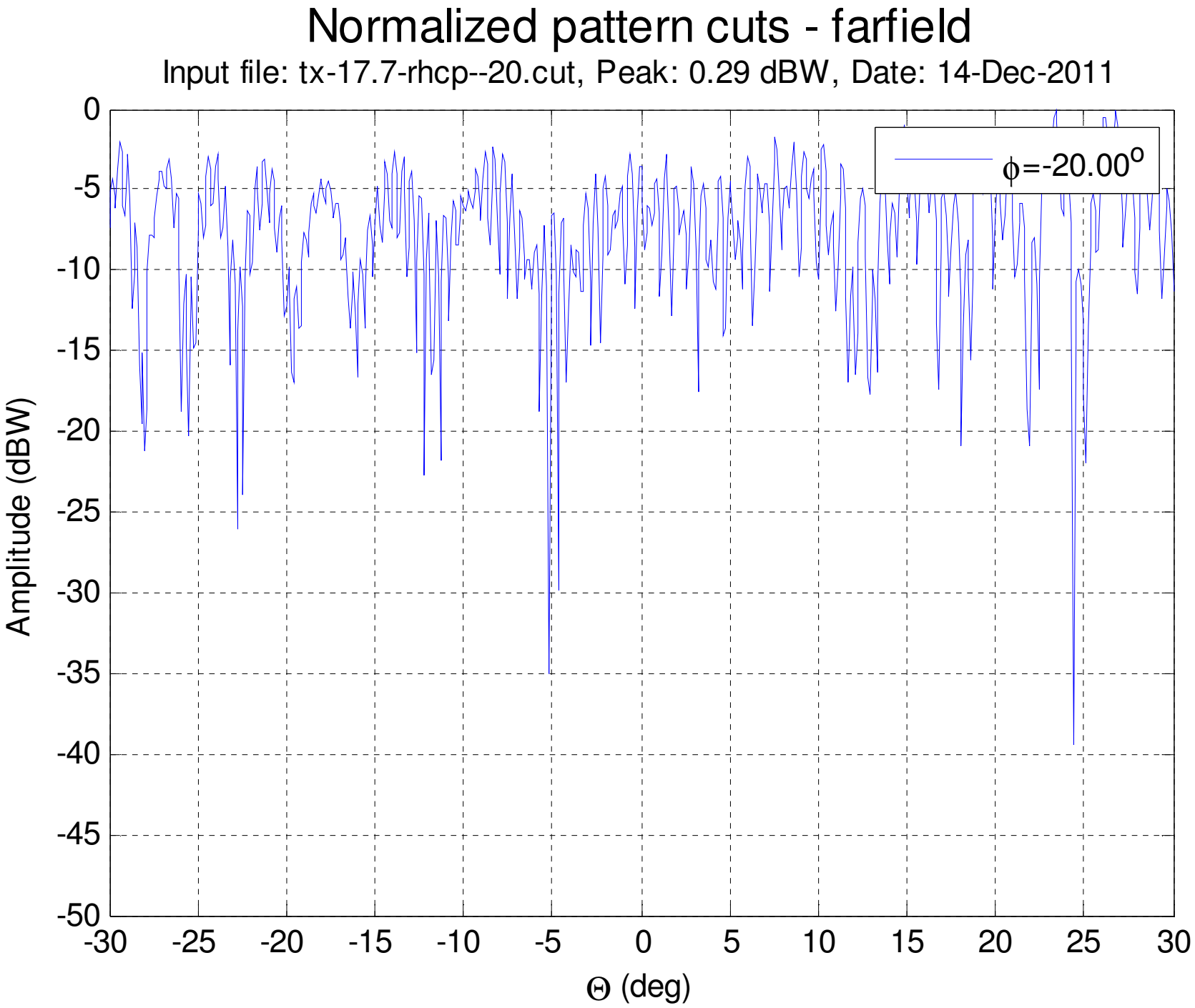
RHCP at 17.7 GHz

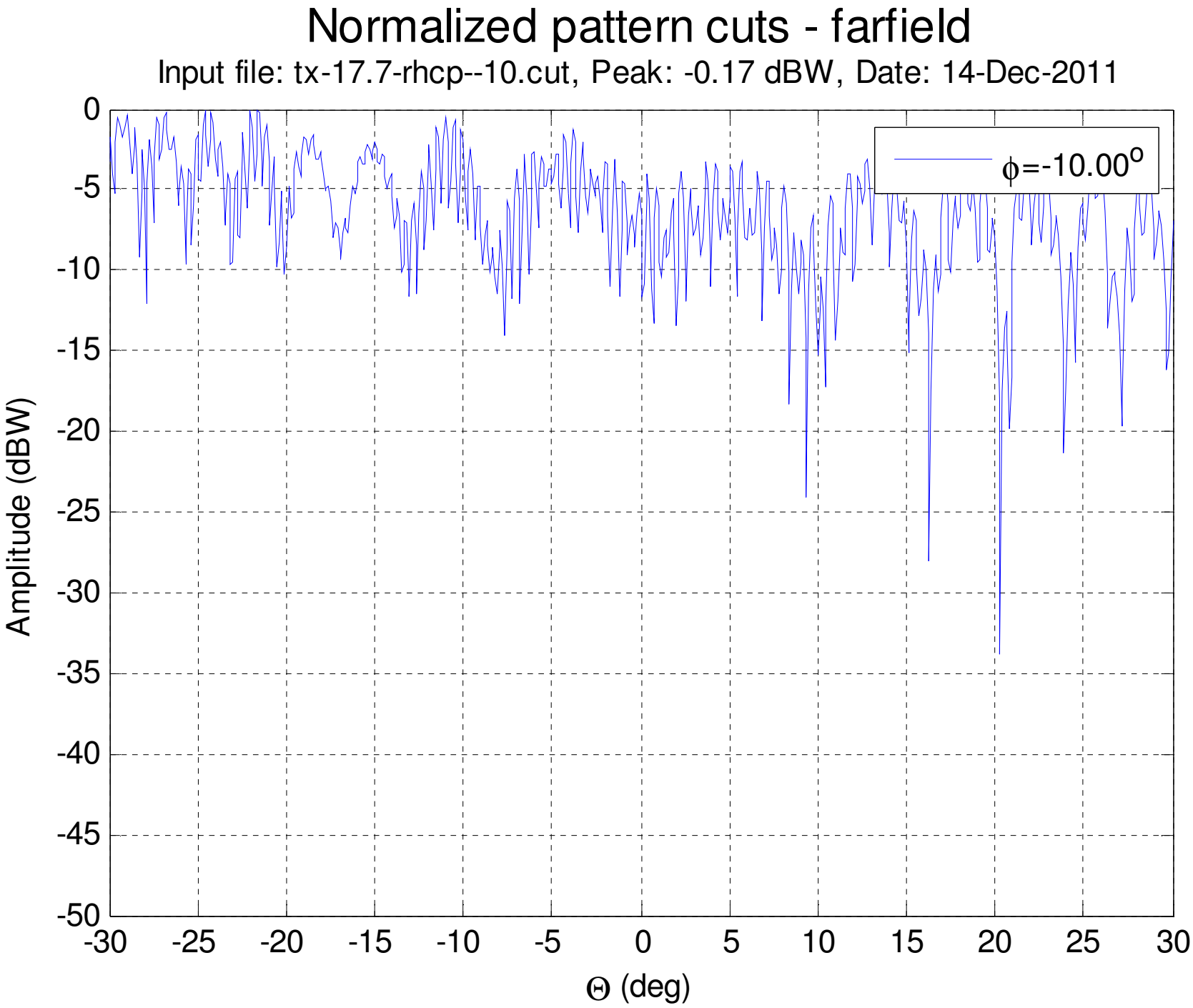

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -1.98 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

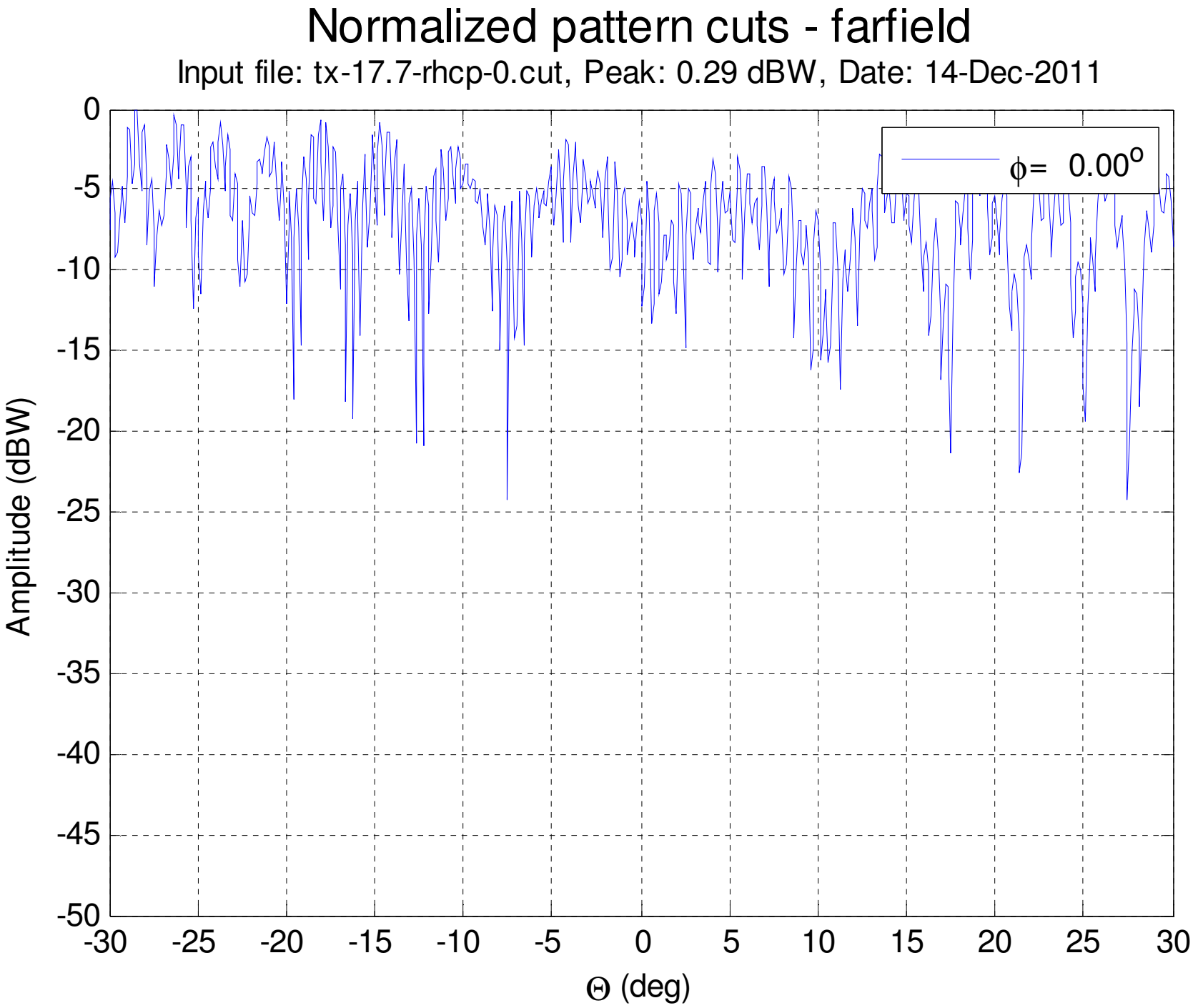

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -0.98 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

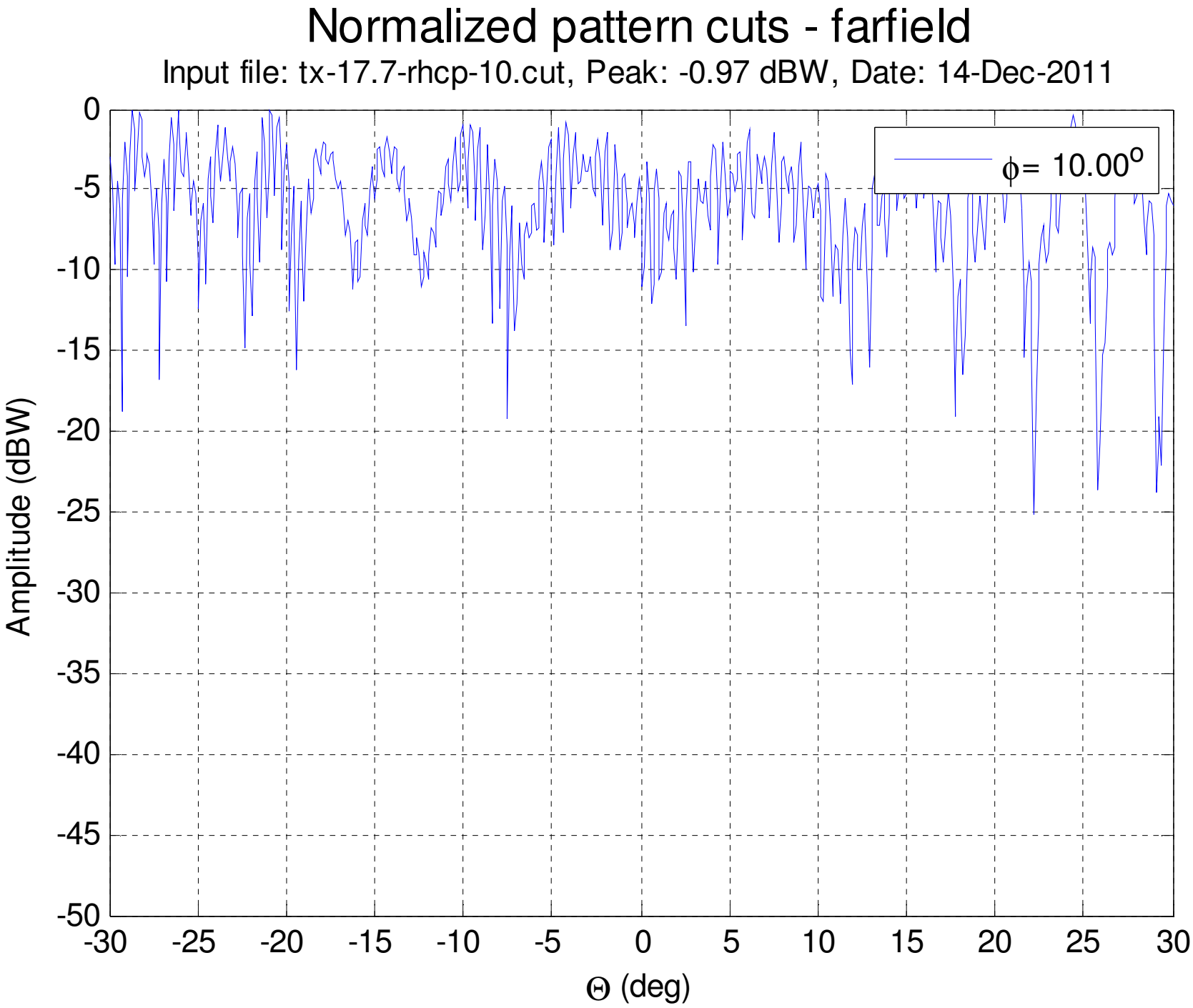

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -0.71 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

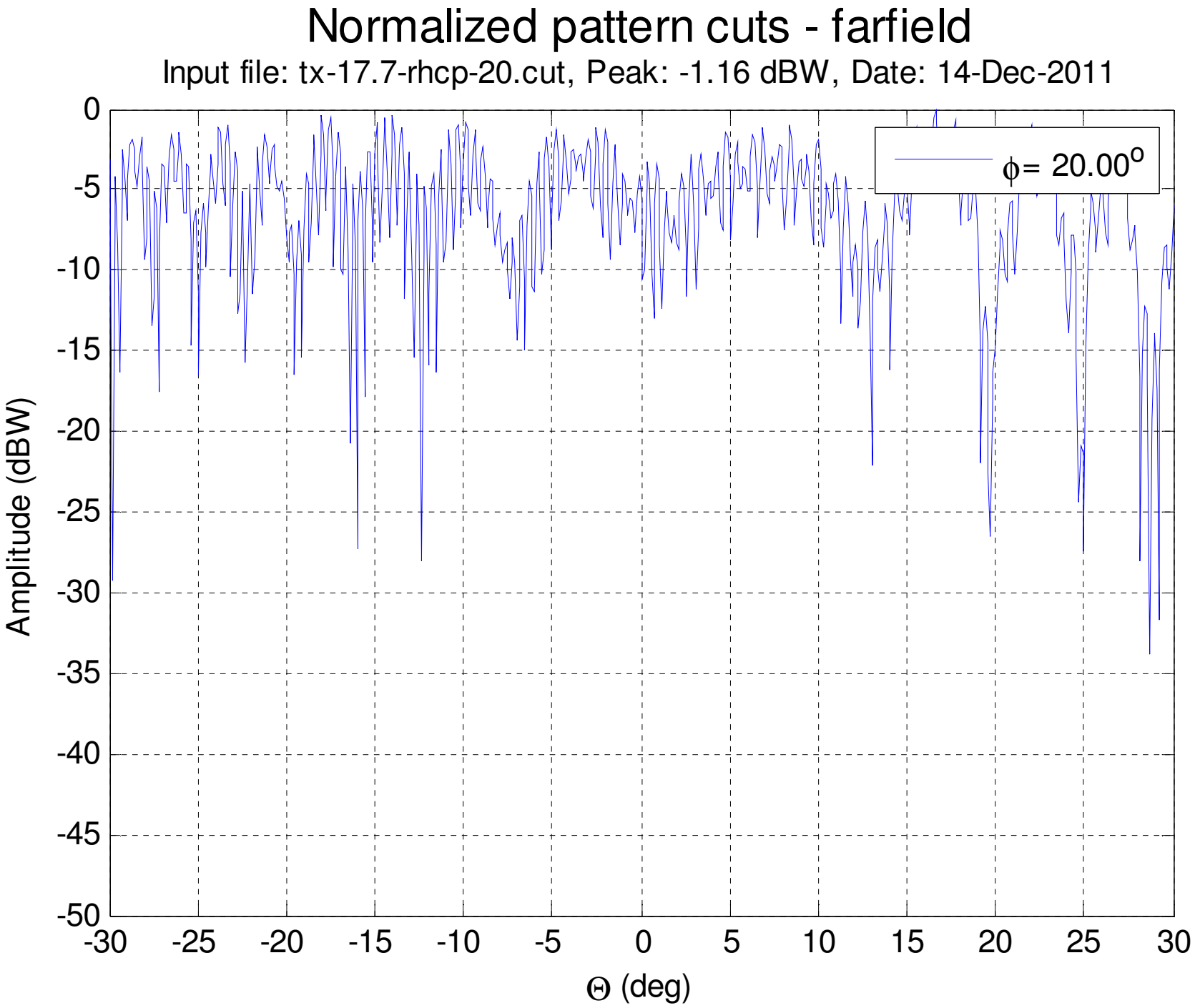

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -0.96 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

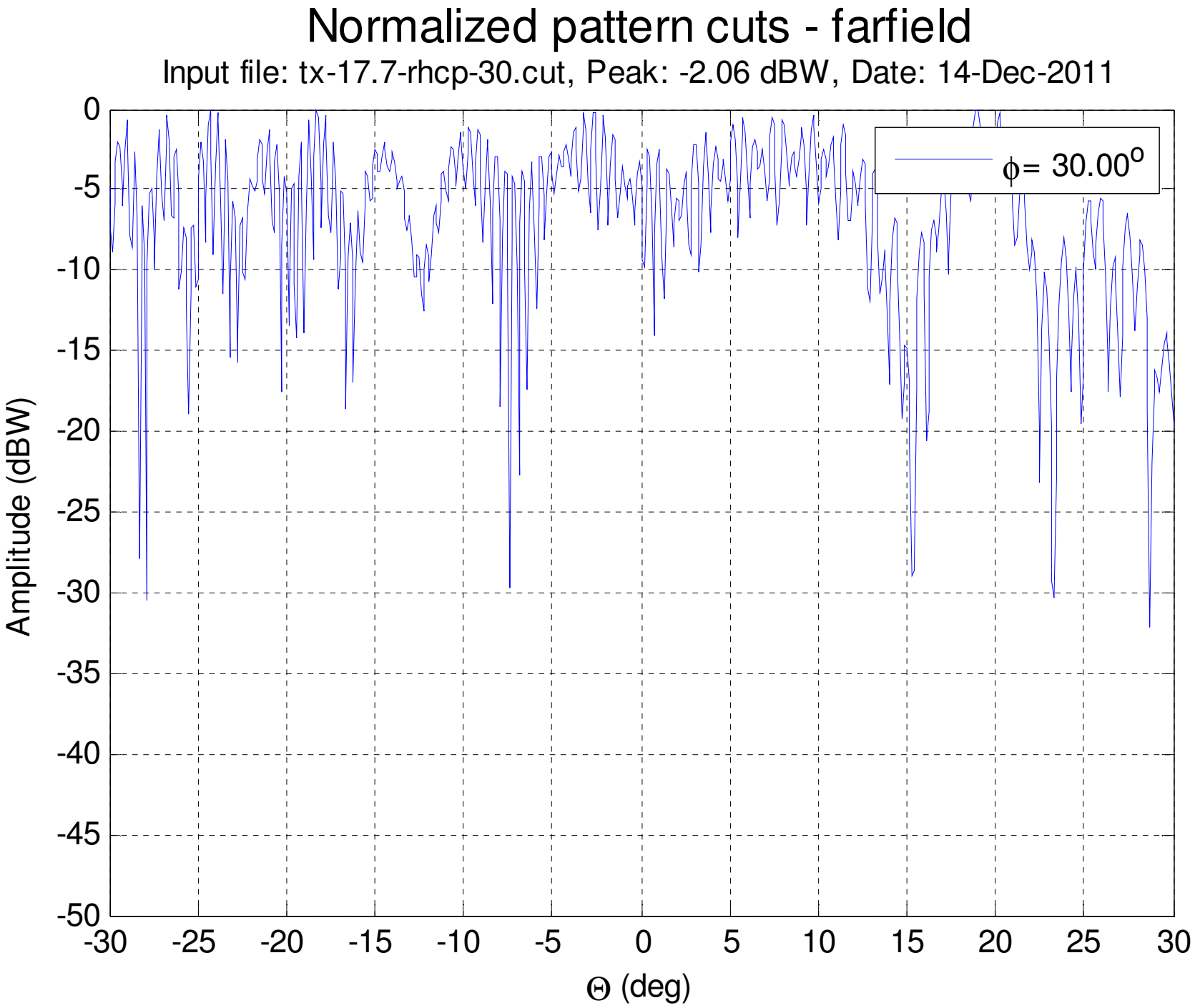

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: 0.29 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

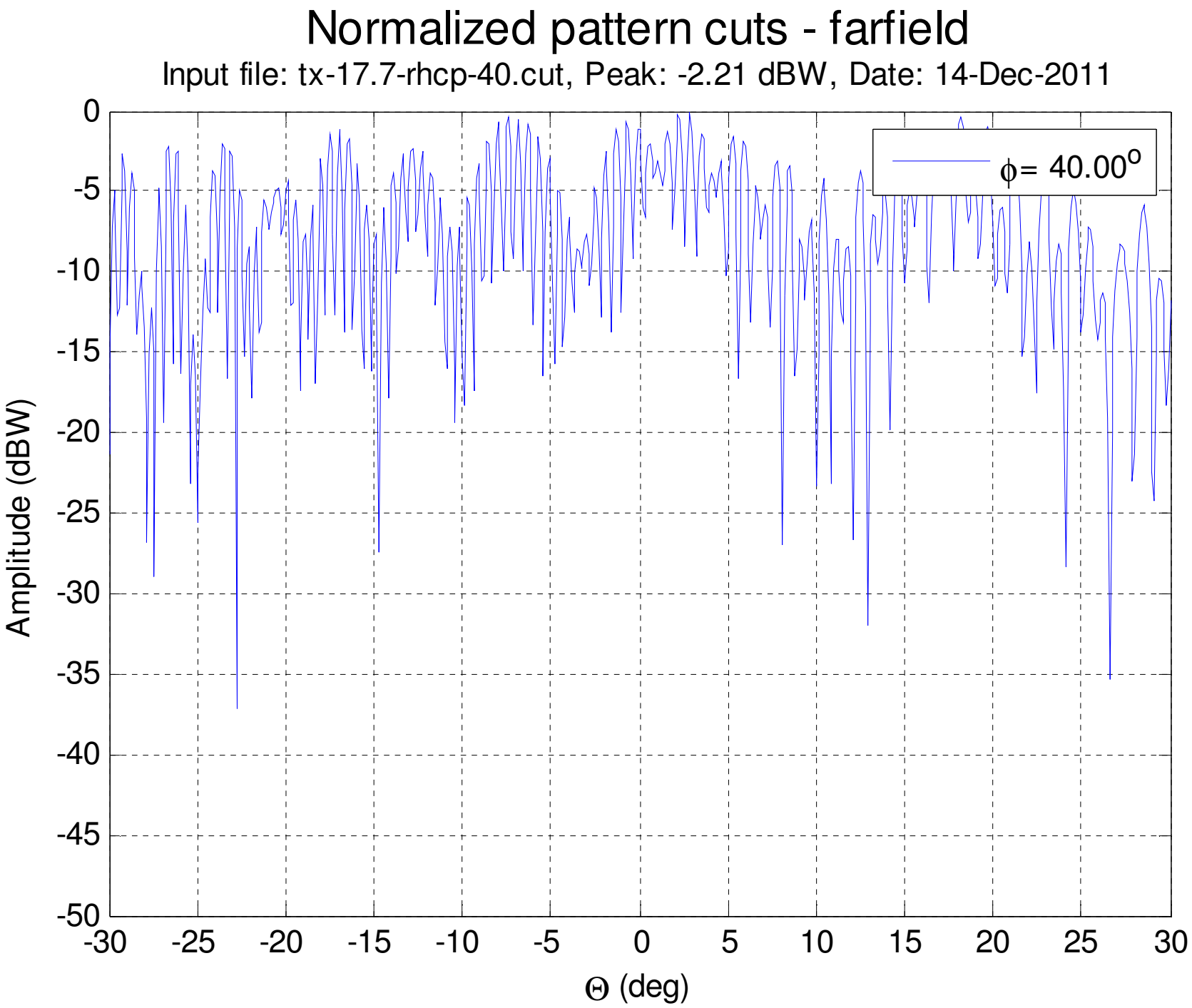

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: -0.17 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

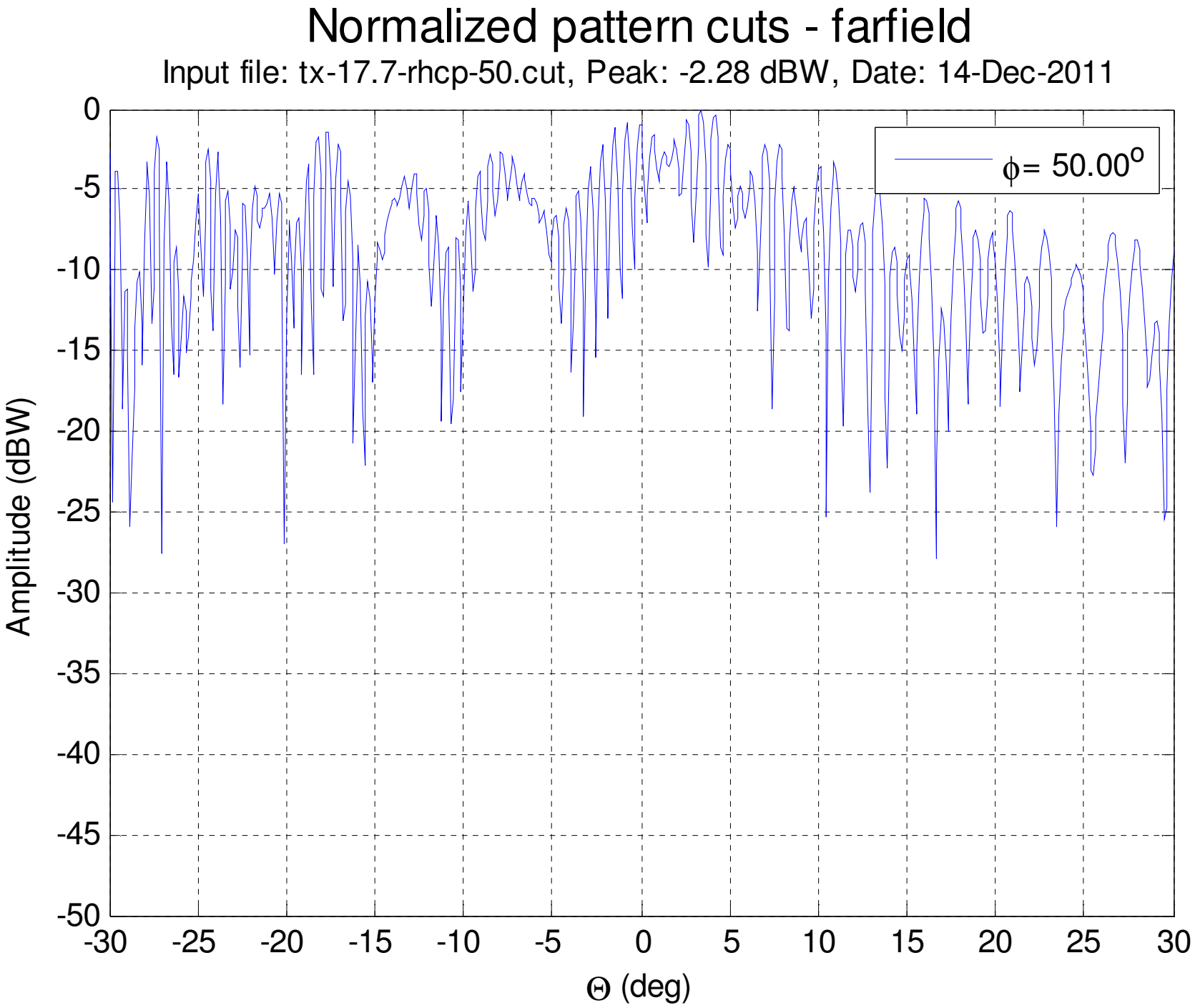

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: 0.29 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

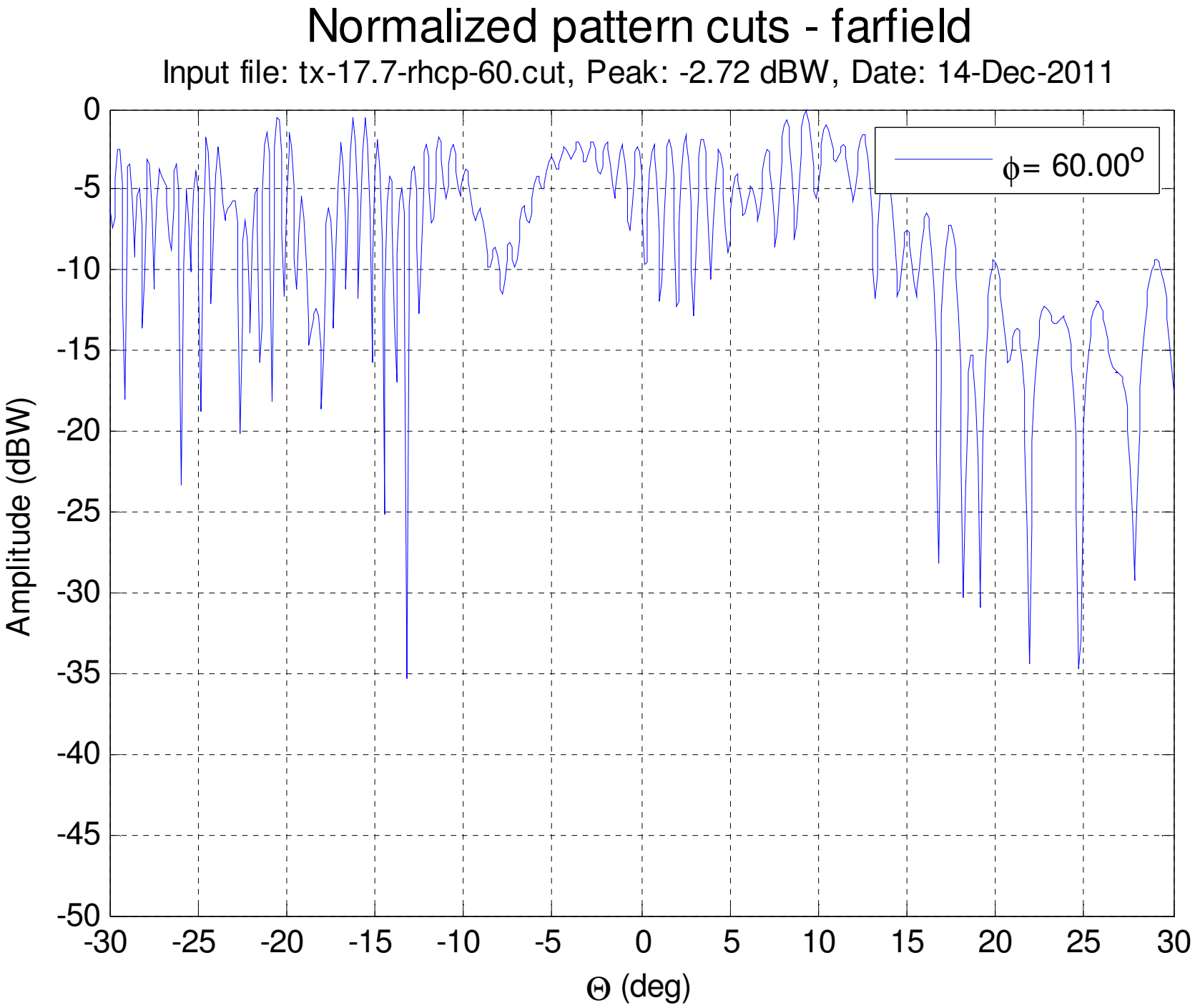

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: -0.97 dBW, Date: 14-Dec-2011
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)
ϕ= 10.00°


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: -1.16 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

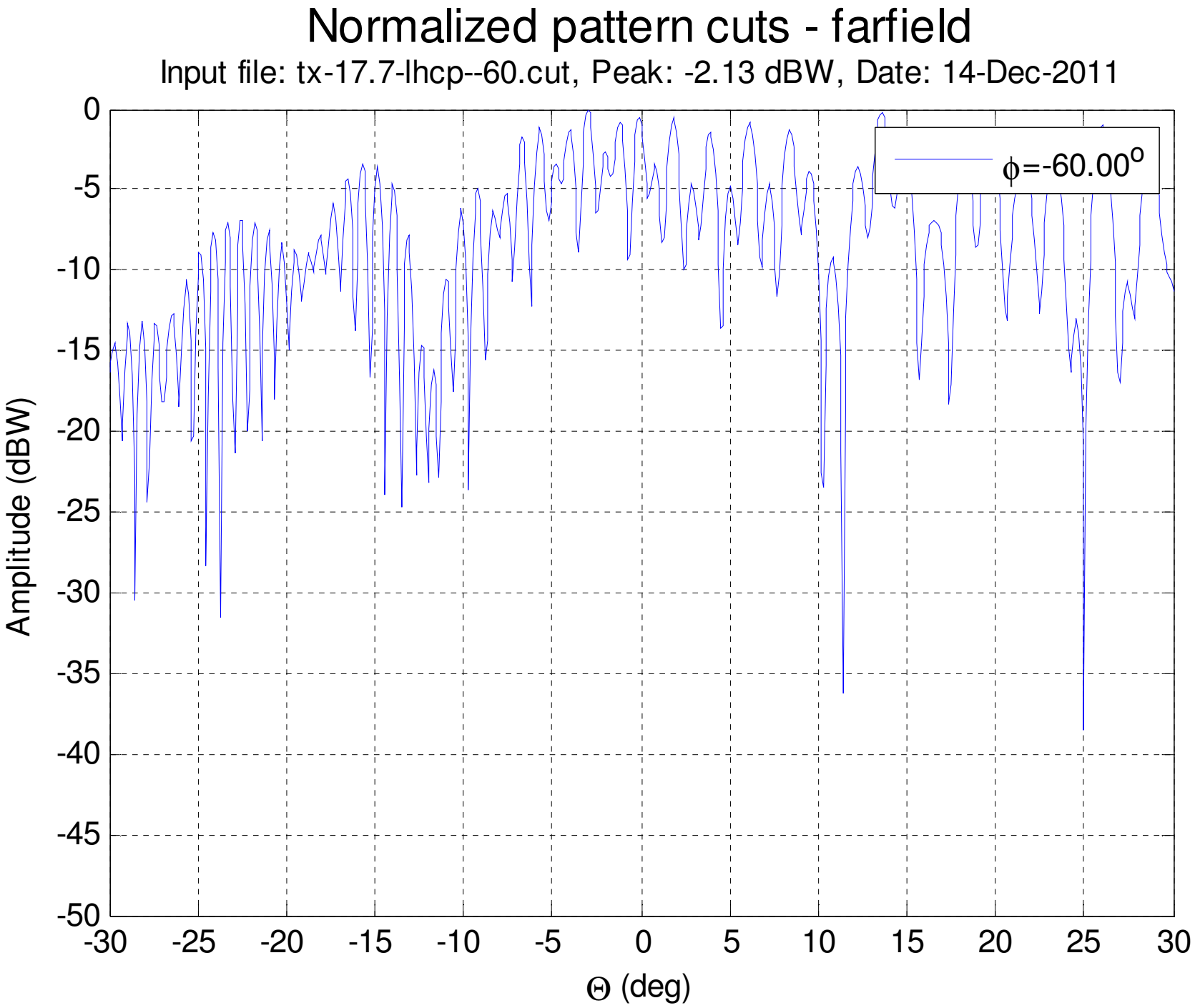

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -2.06 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

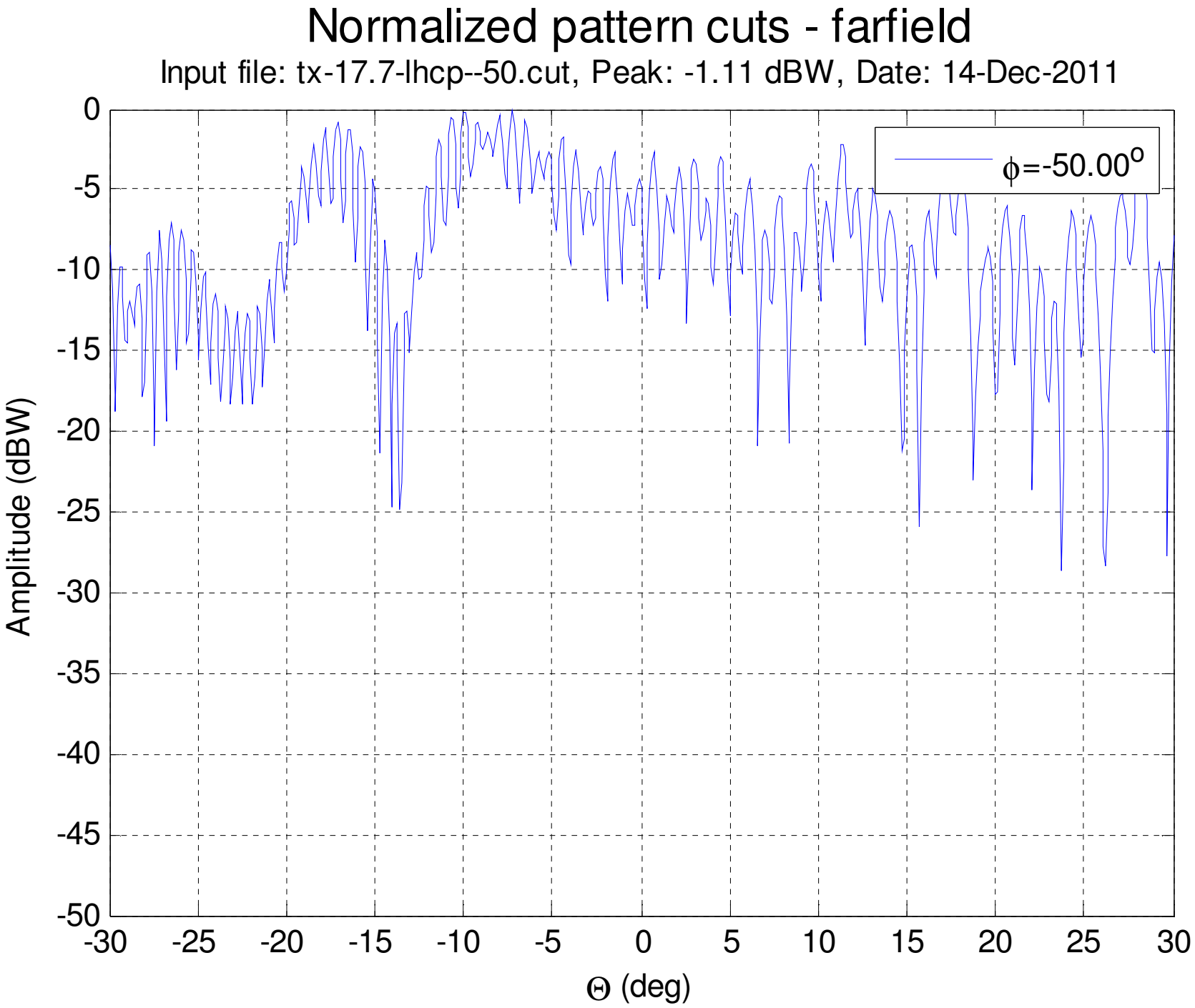

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -2.21 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

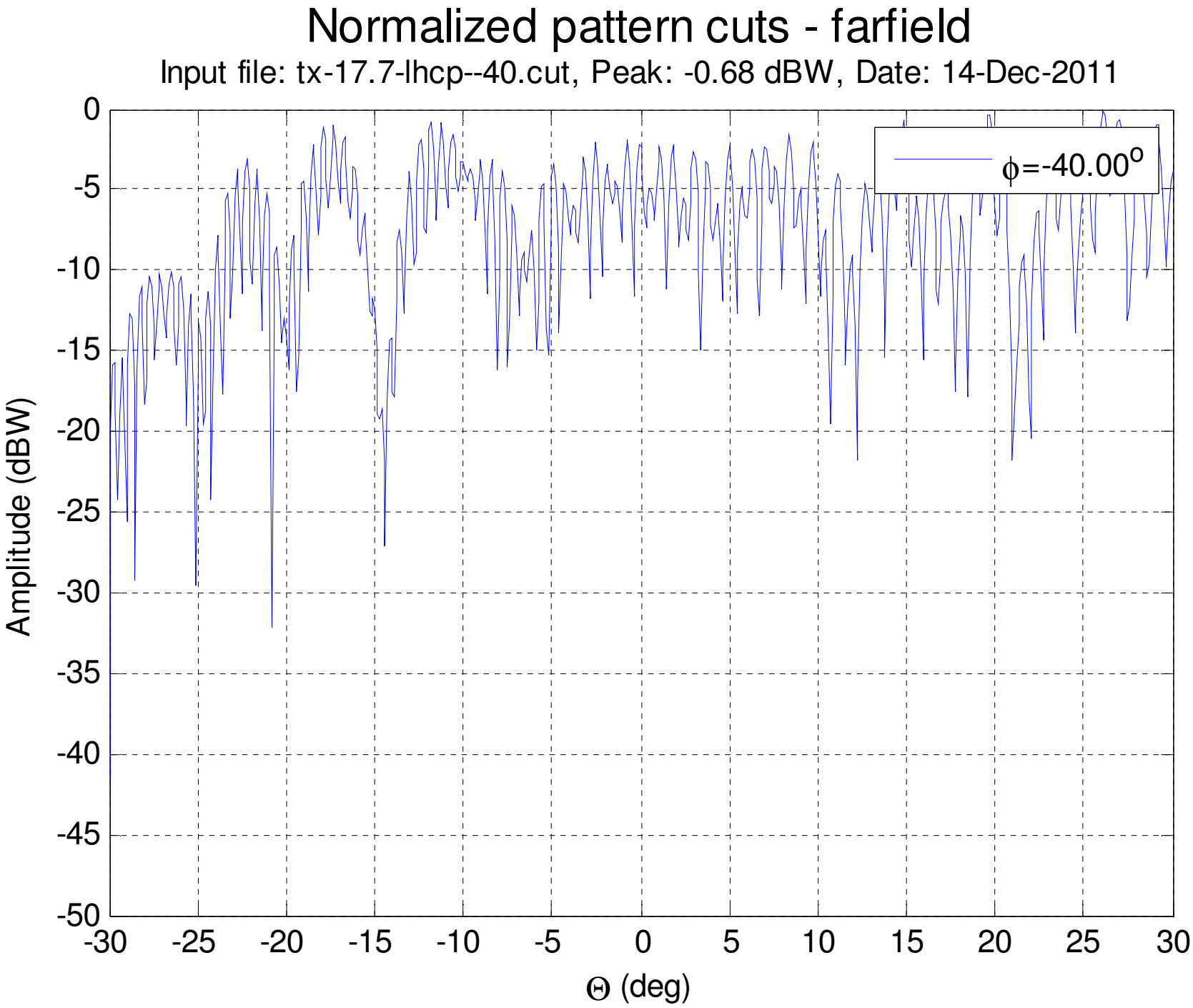

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -2.28 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

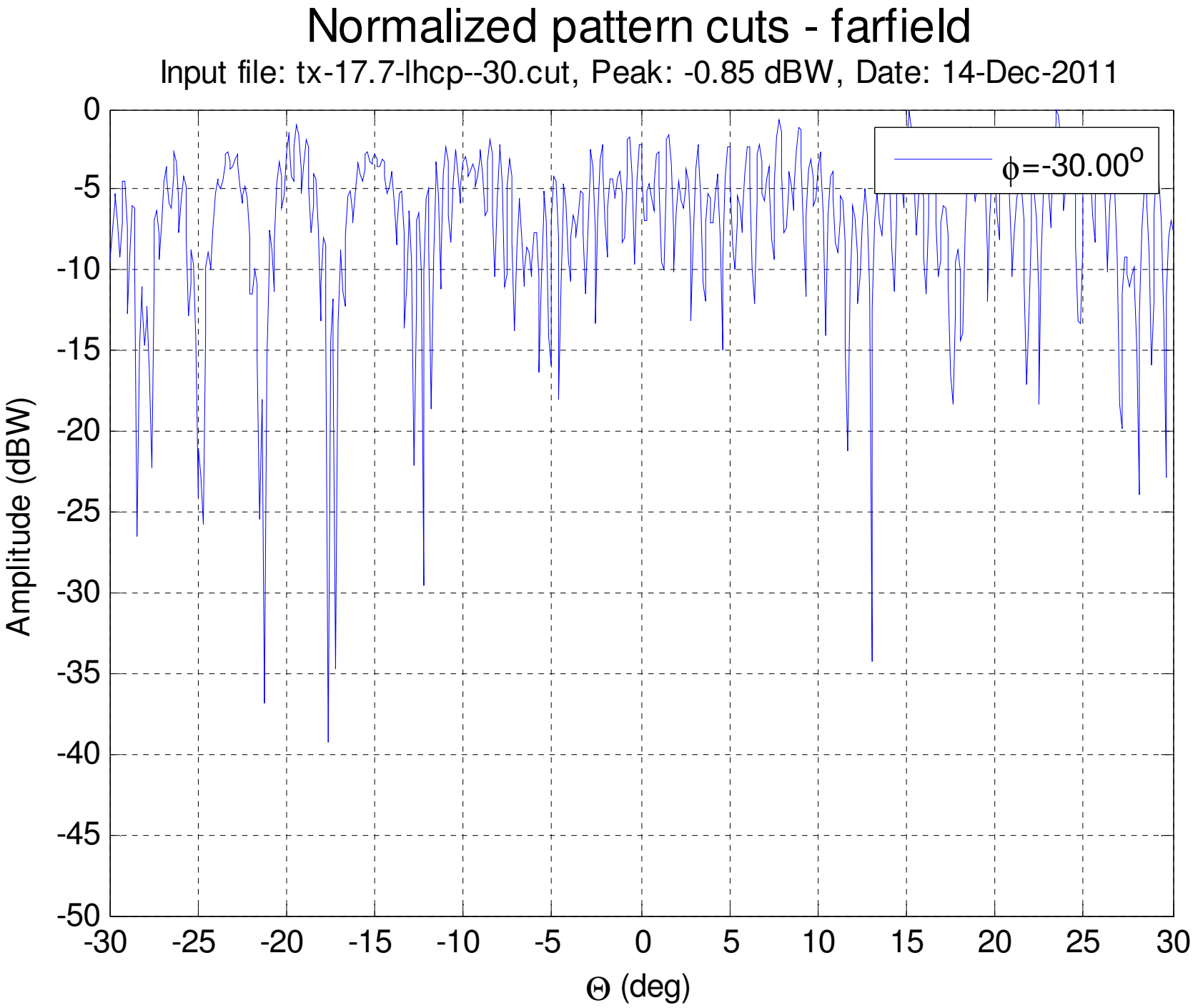

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -2.72 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

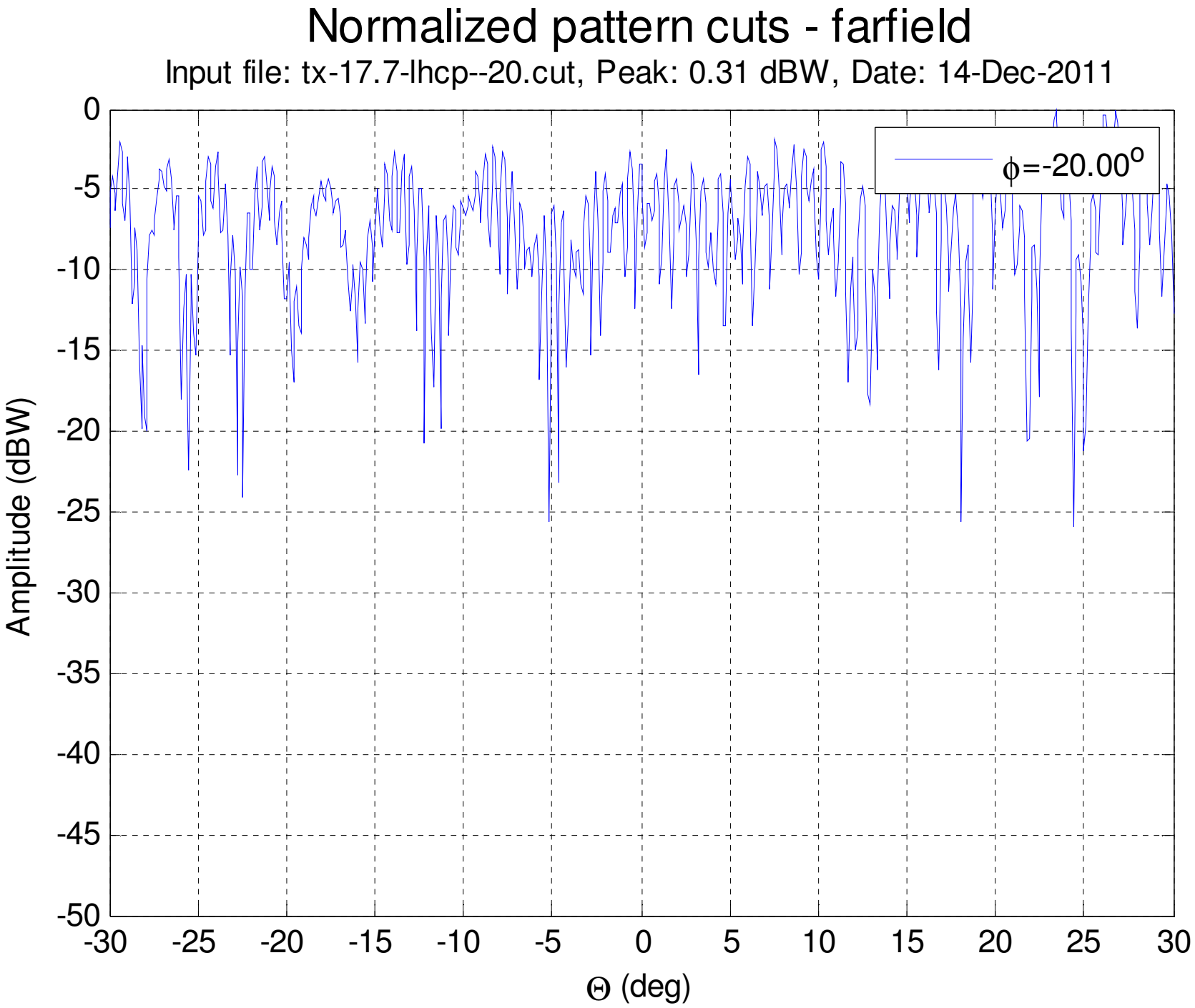
LHCP at 17.7 GHz

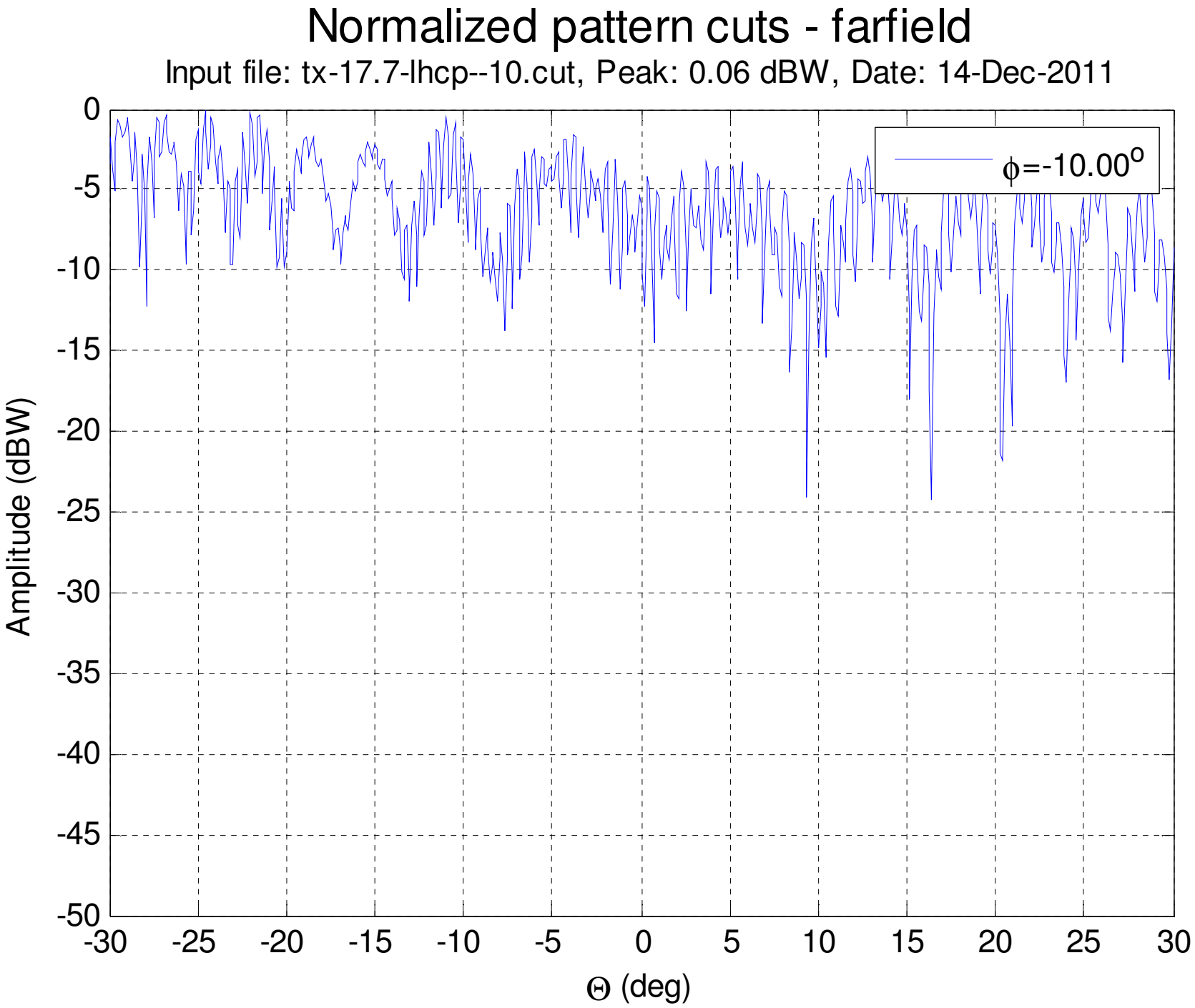

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -2.13 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

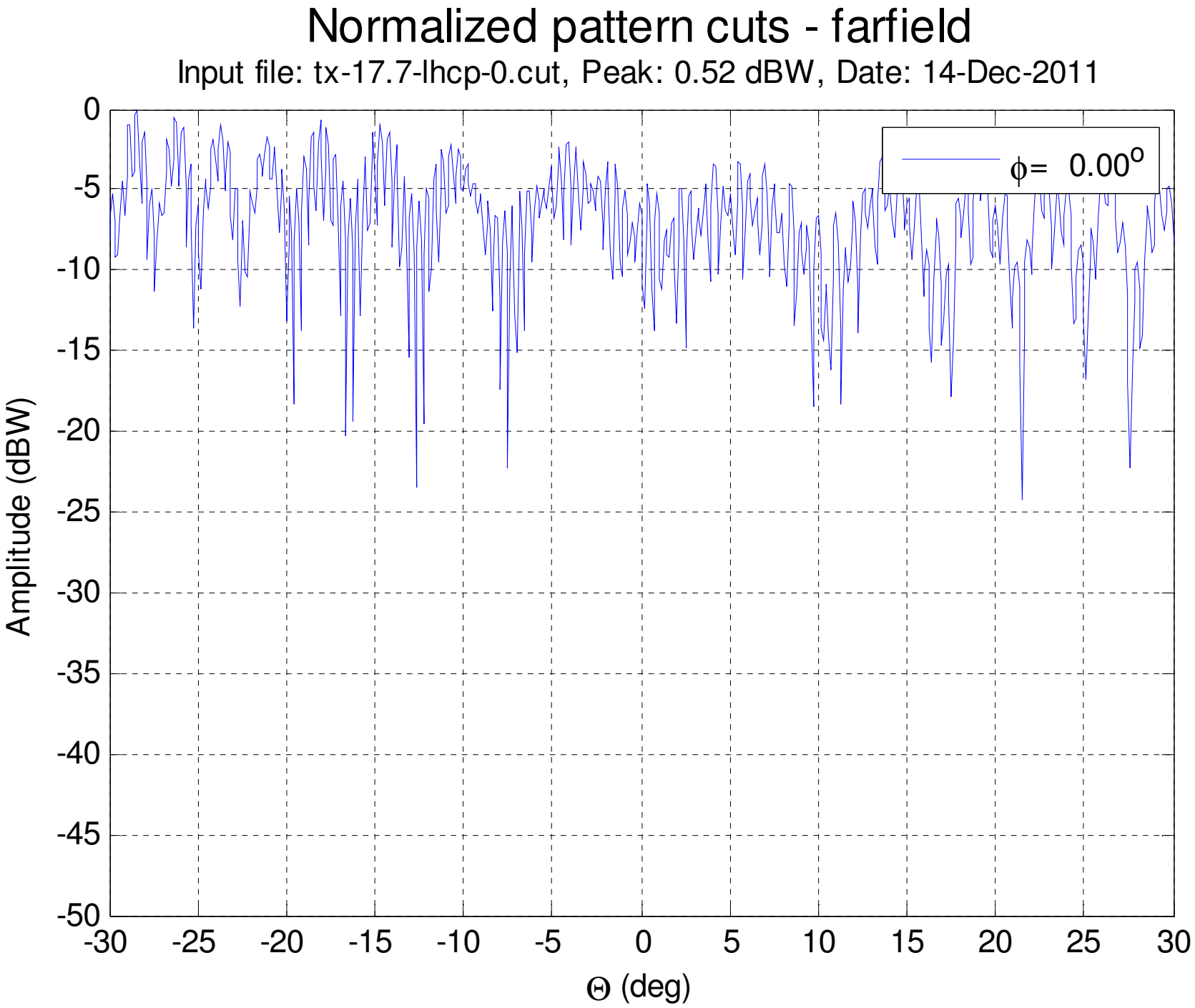

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -1.11 dBW, Date: 14-Dec-2011
ϕ=-50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

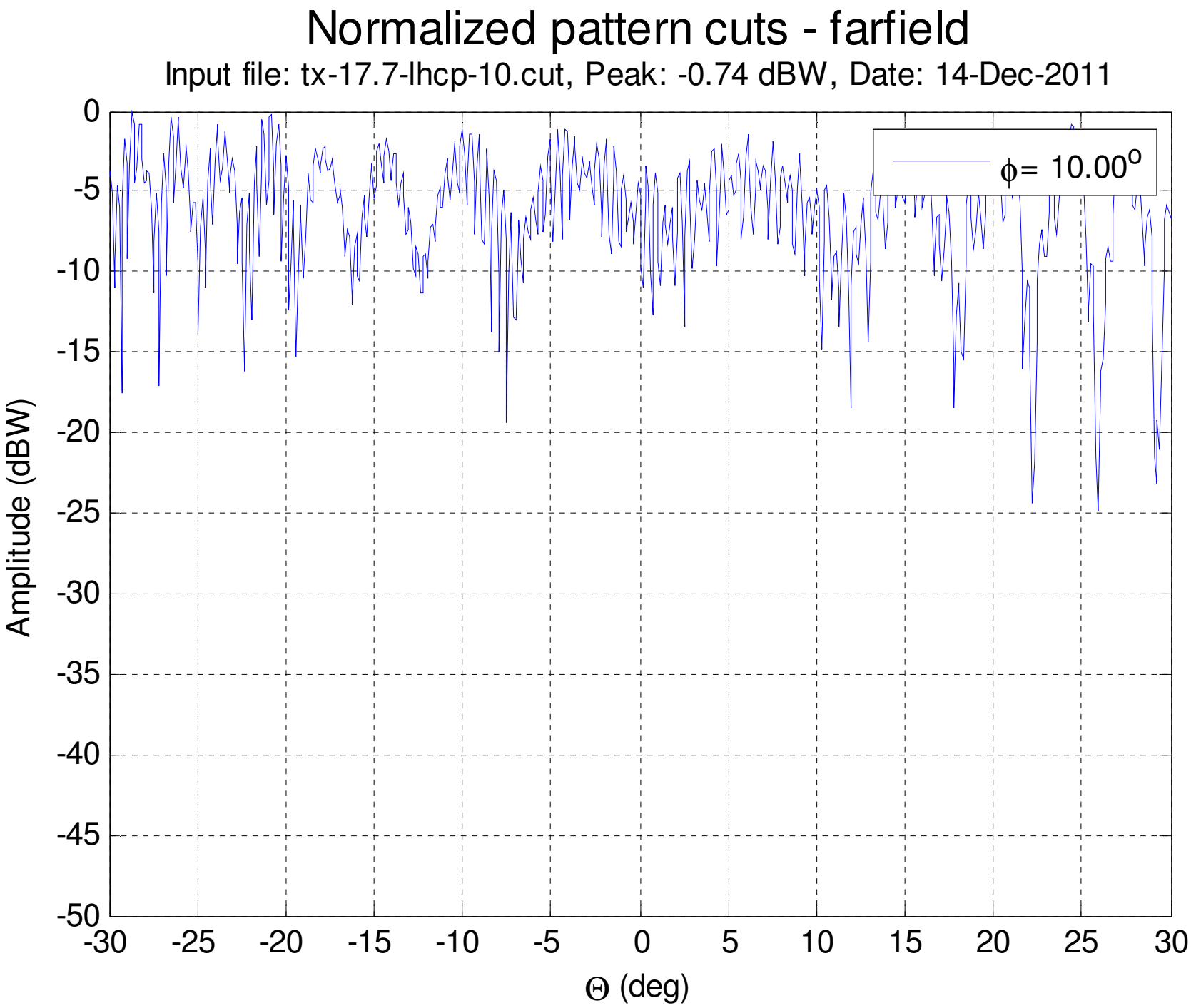

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -0.68 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

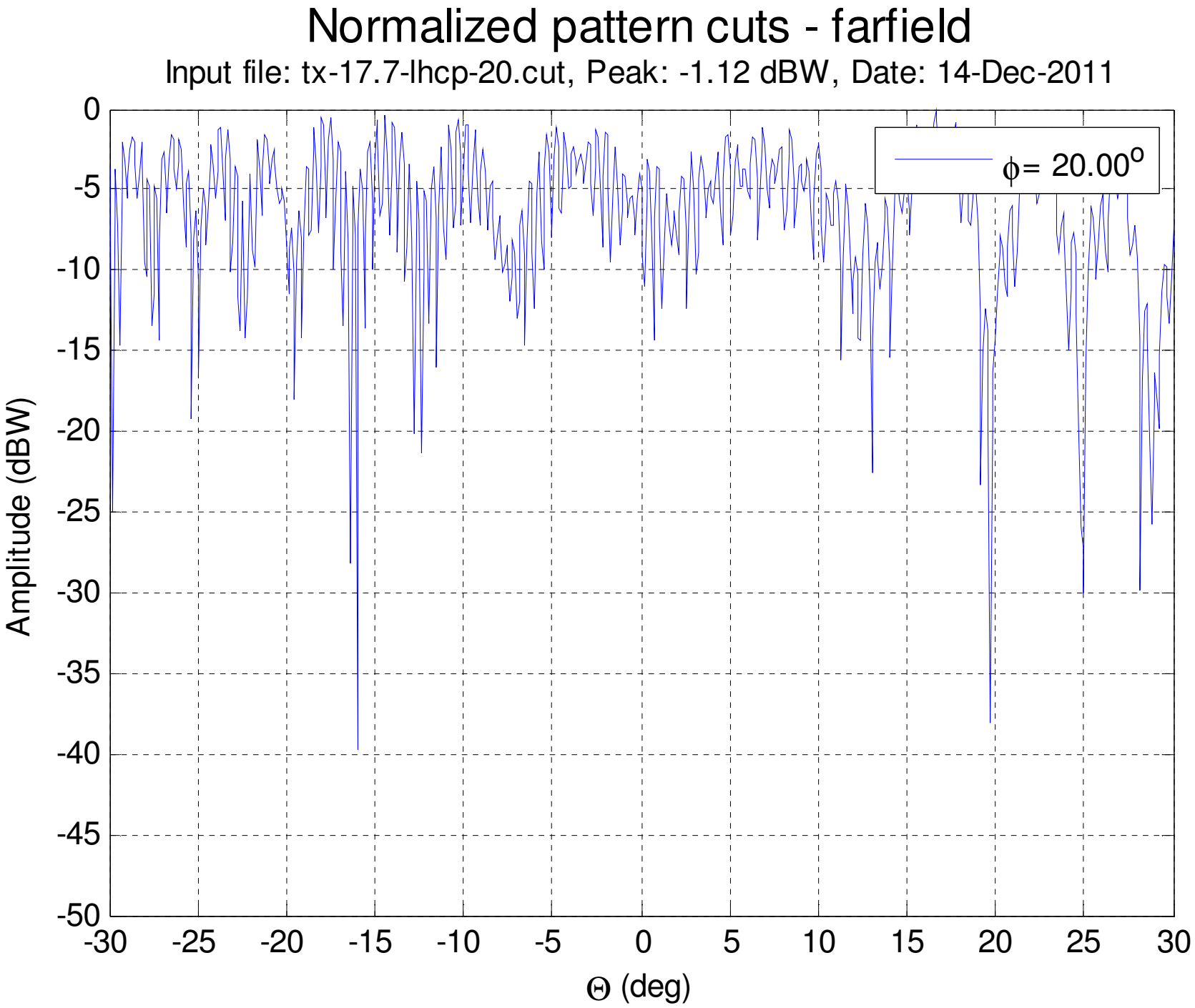

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -0.85 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

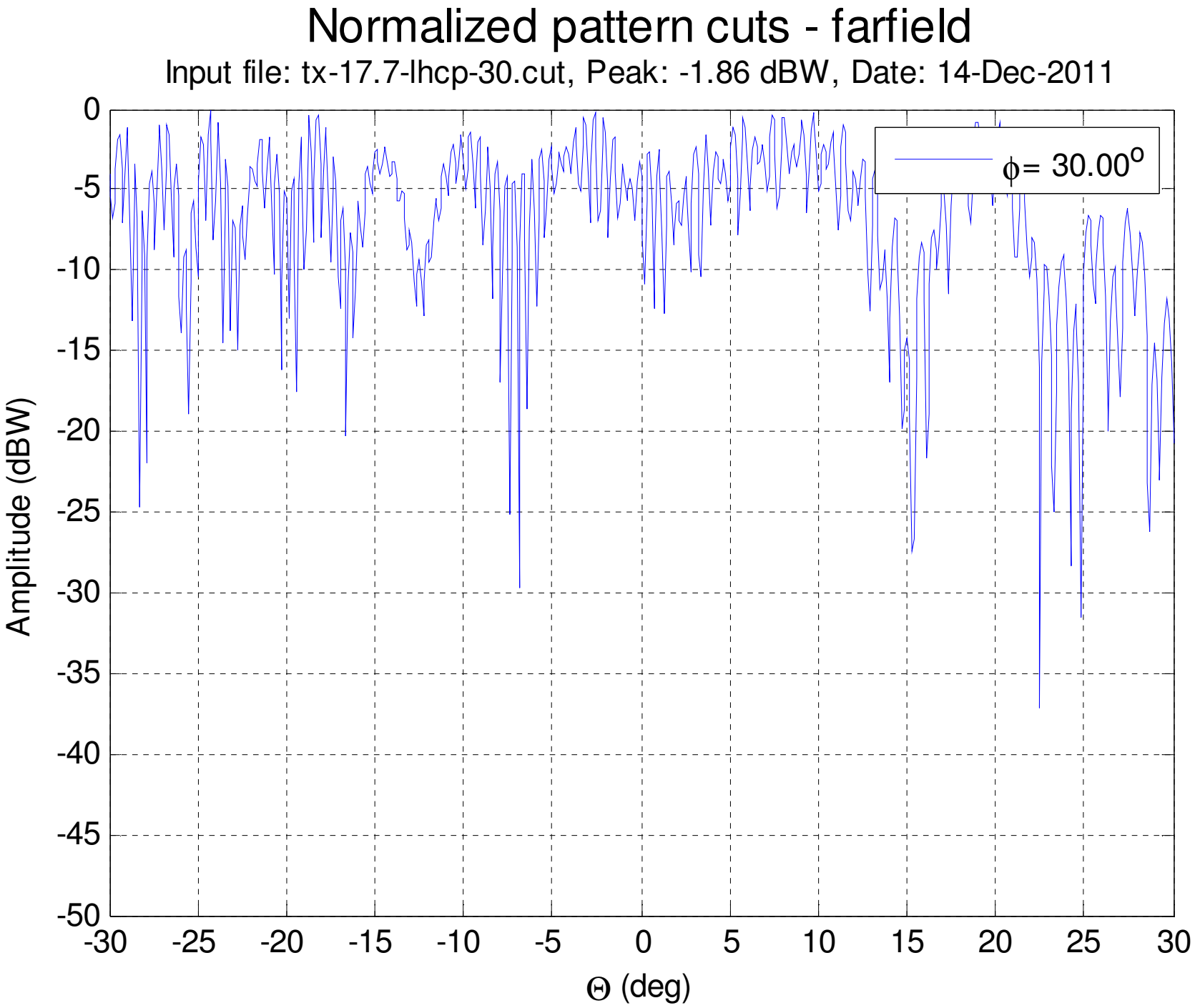

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: 0.31 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

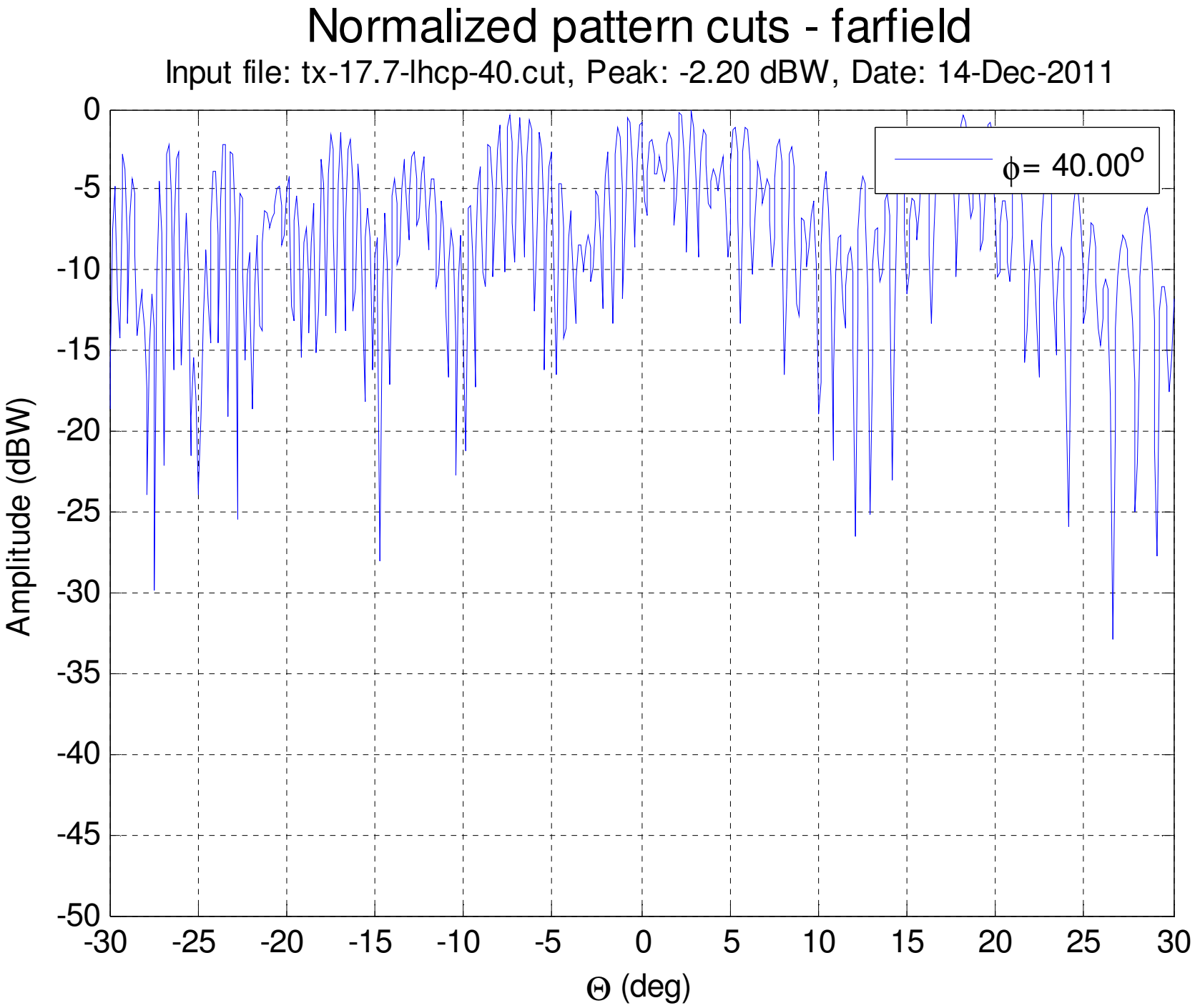

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: 0.06 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

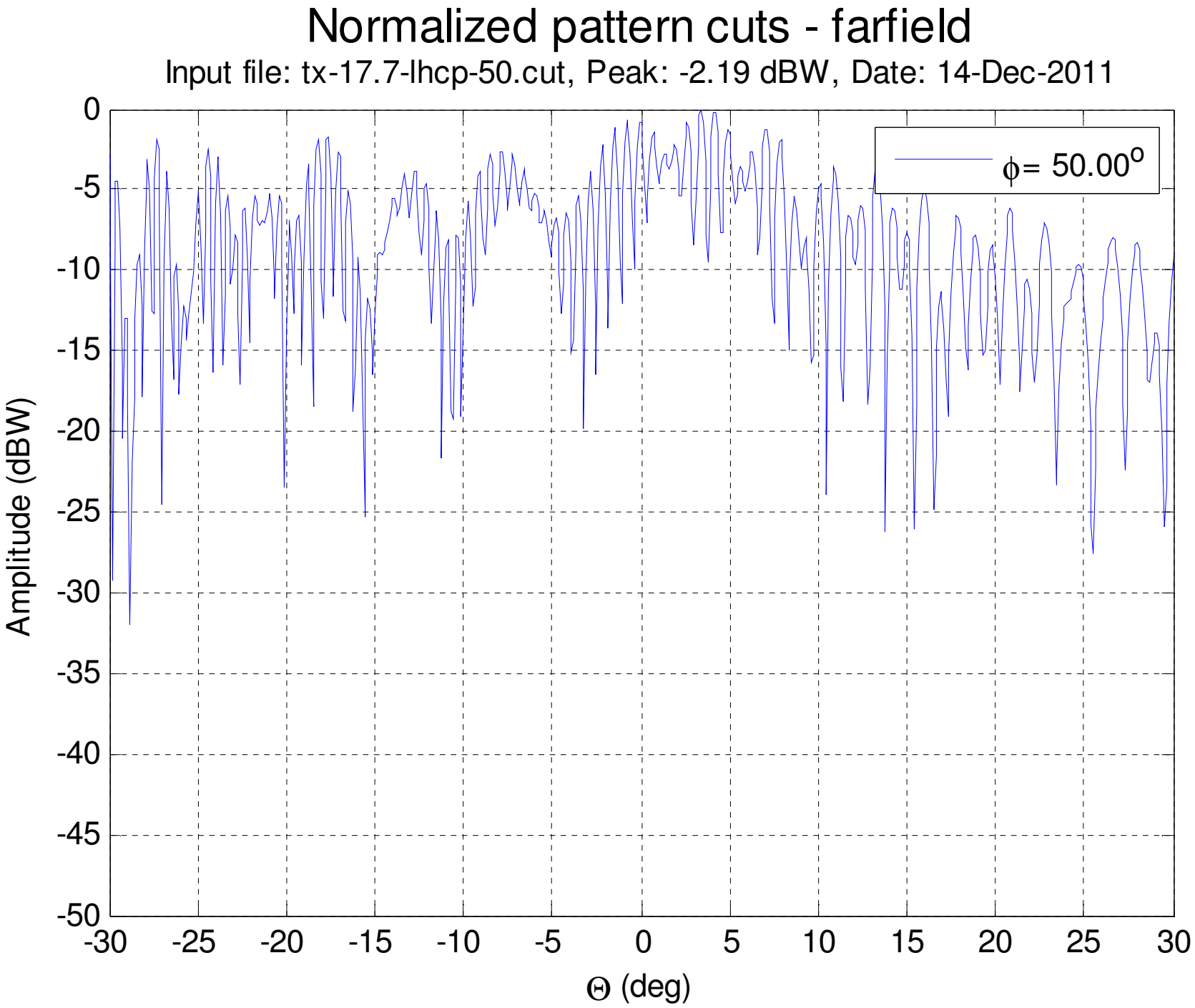

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: 0.52 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)

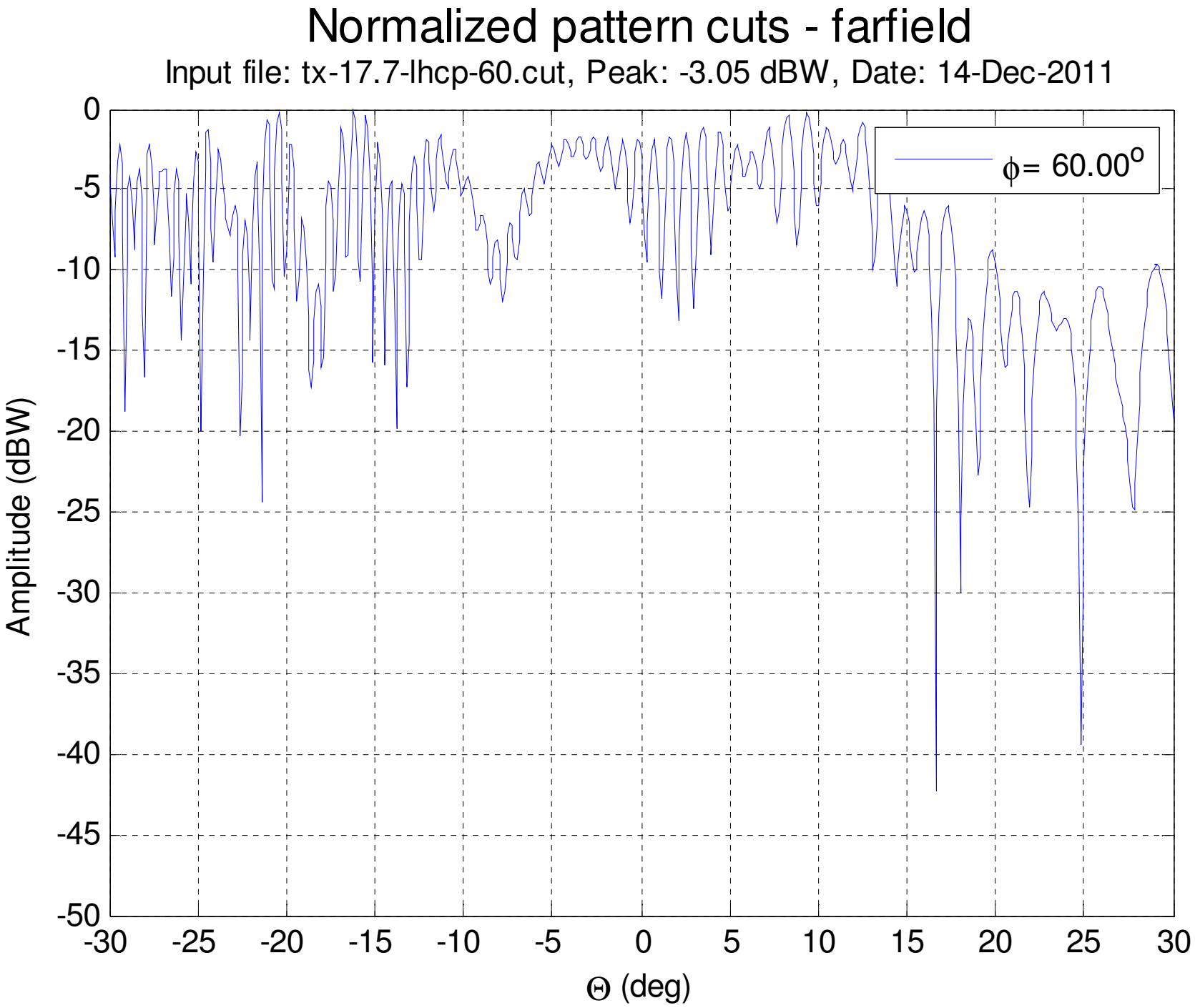

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: -0.74 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
Θ (deg)


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: -1.12 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -1.86 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -2.20 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

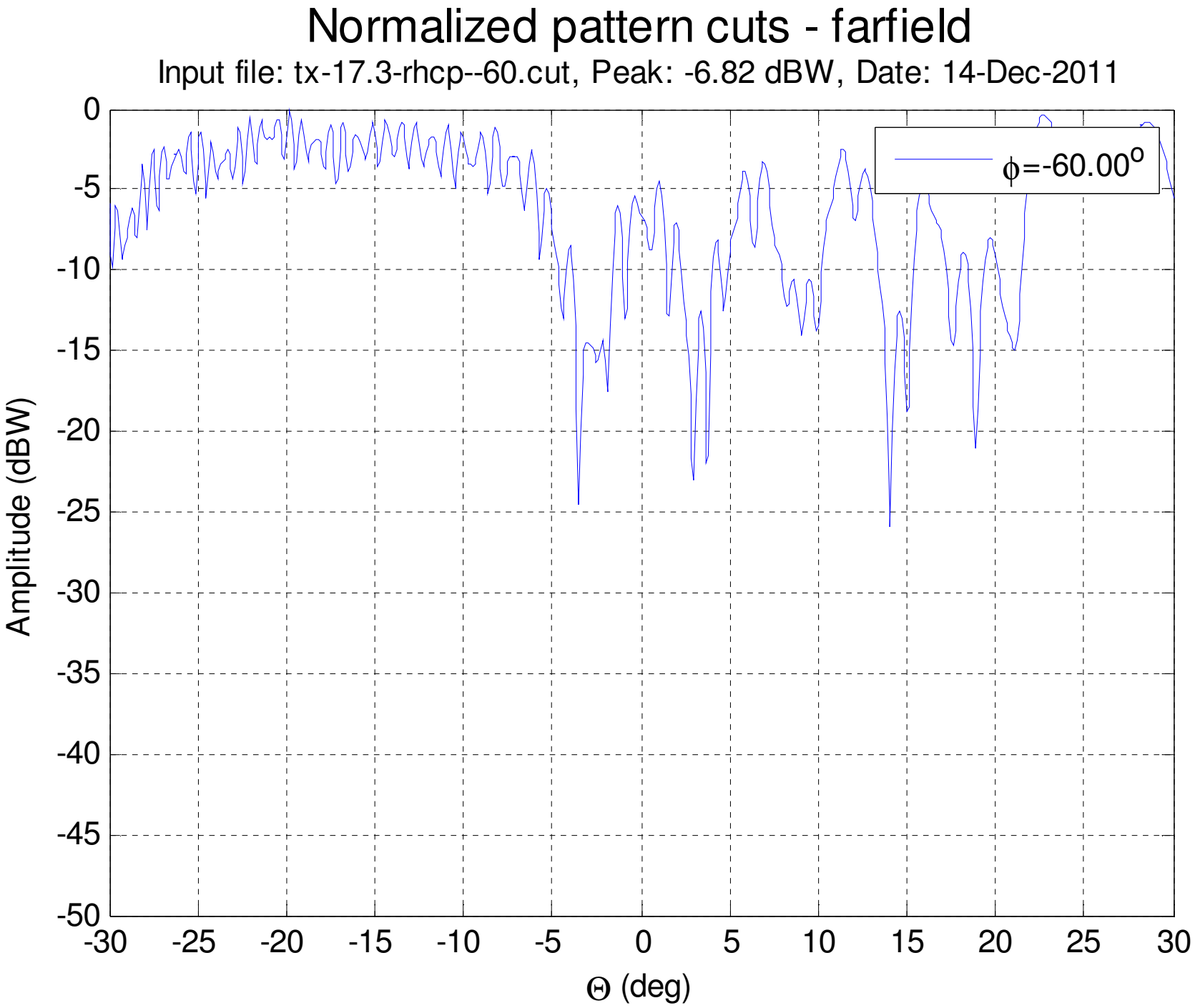

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -2.19 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

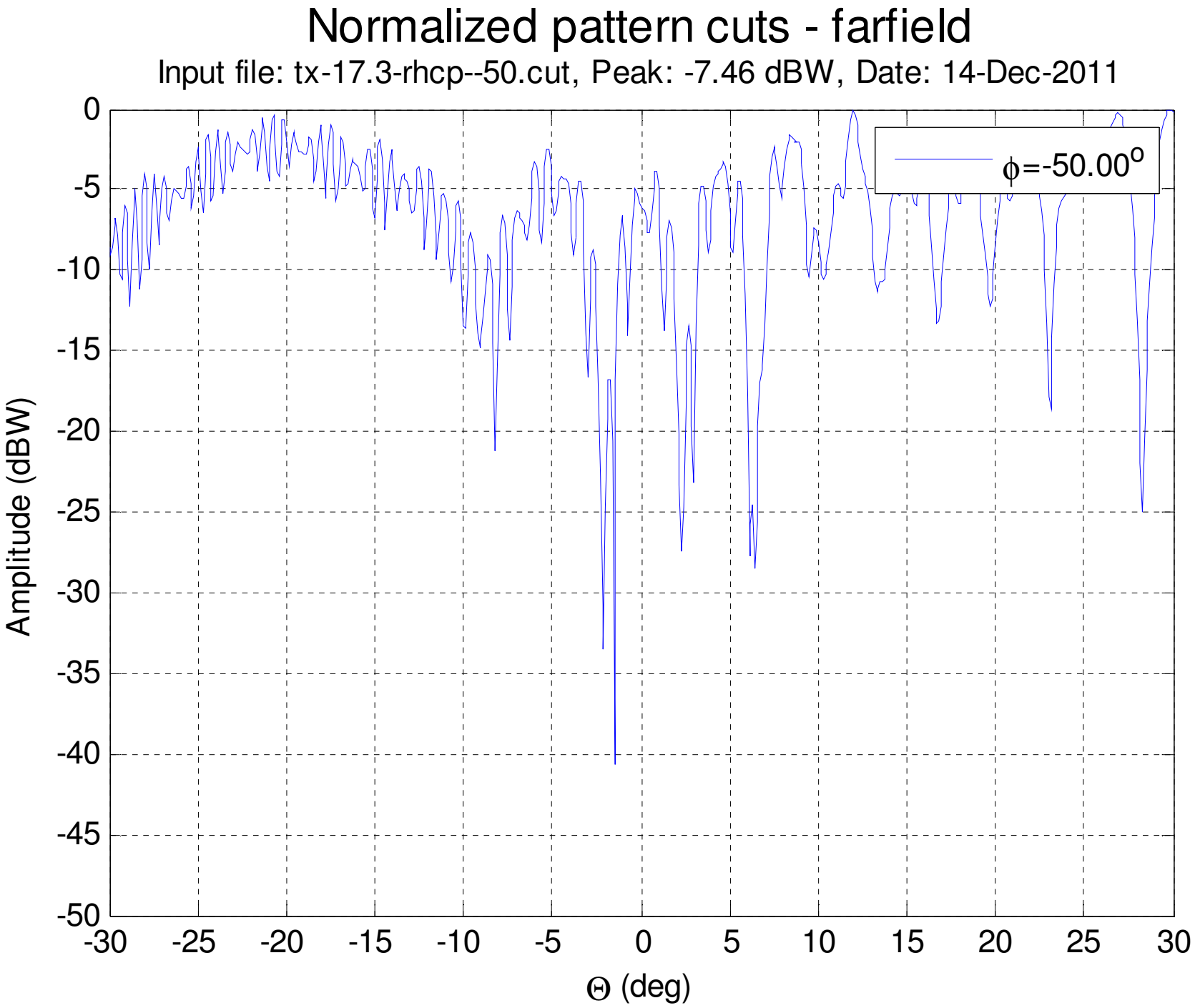

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -3.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

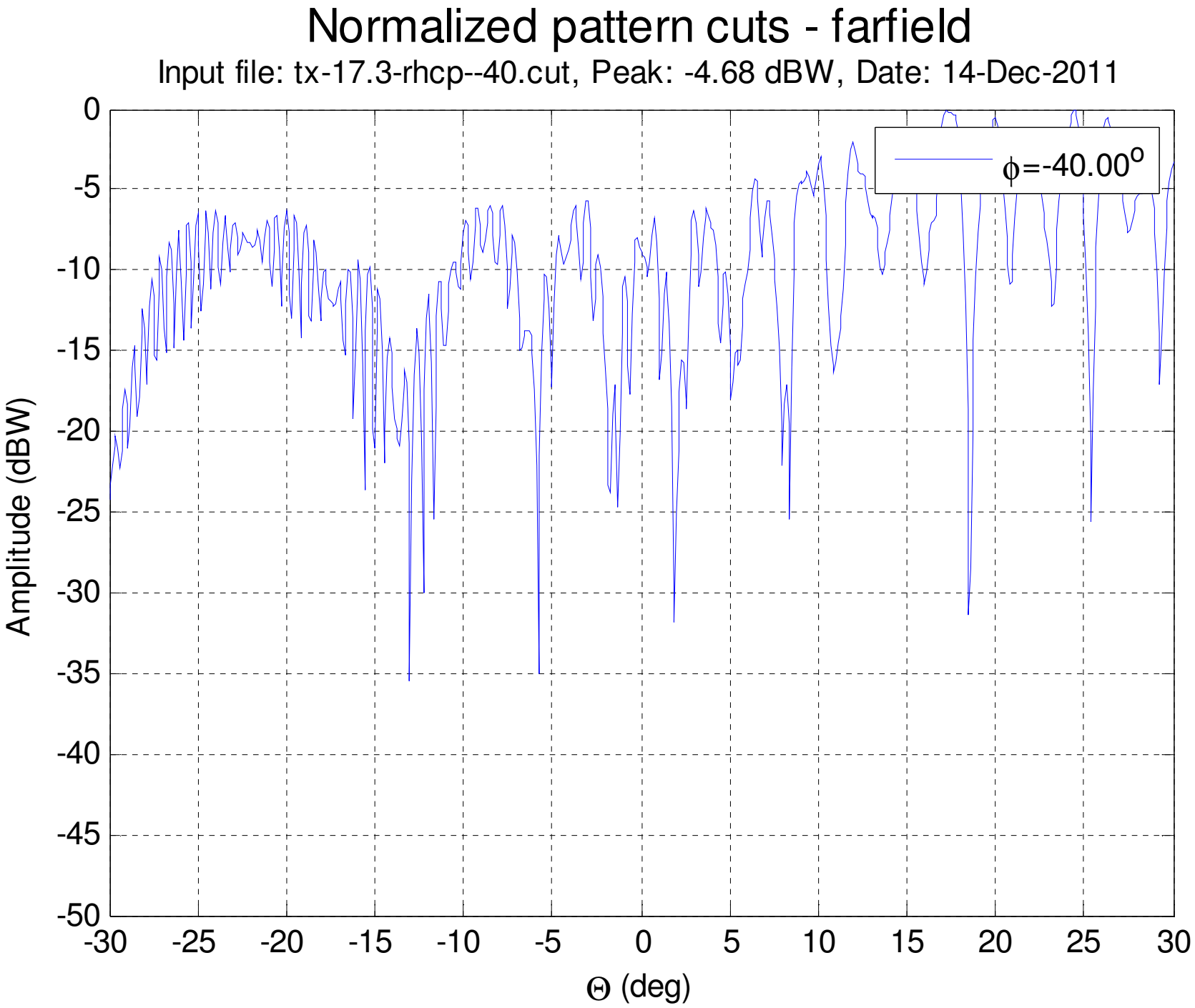
Spot Beam08, +X Axis Plots

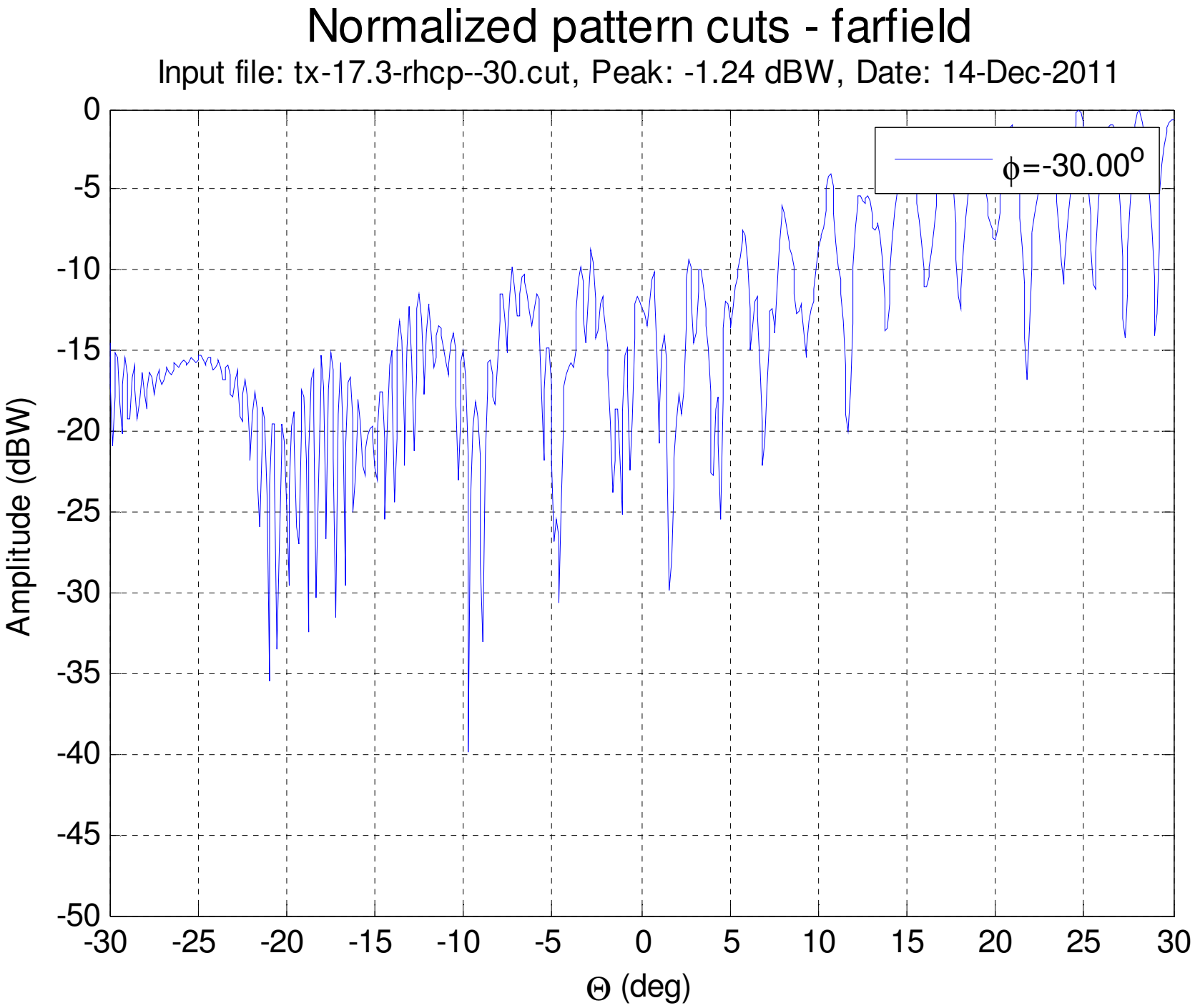
- Both polarizations; RHCP, LHCP
- -30 < Θ < 30 (Θ=0: = +X-axis)
- -60 < ϕ <60
- Freq = 17.305, 17.5, and 17.695 GHz
- The Zero reference line is the peak gain listed in the title of each chart
- All levels are significantly below the required 15.4 dBW EIRP

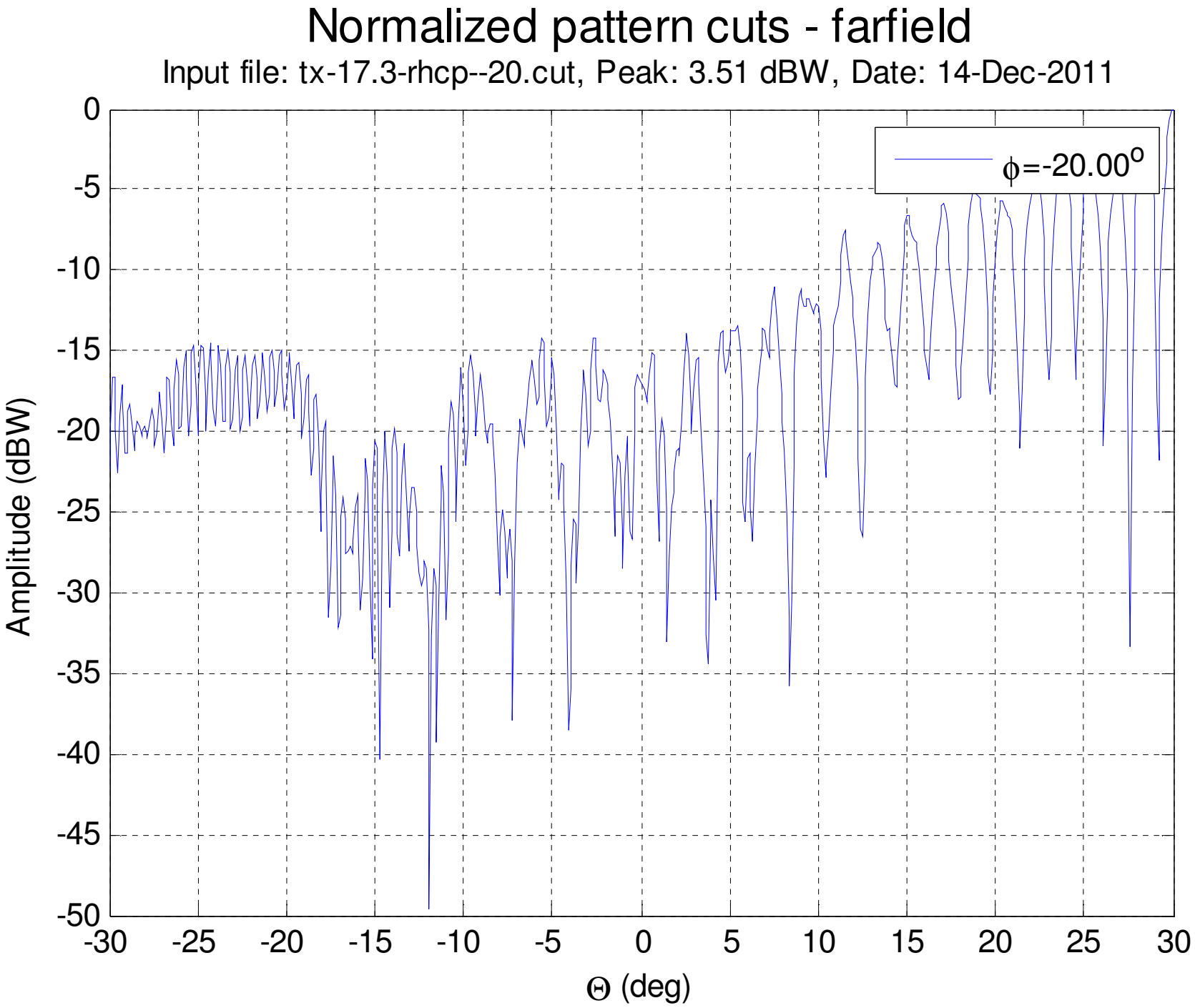
RHCP at 17.3 GHz

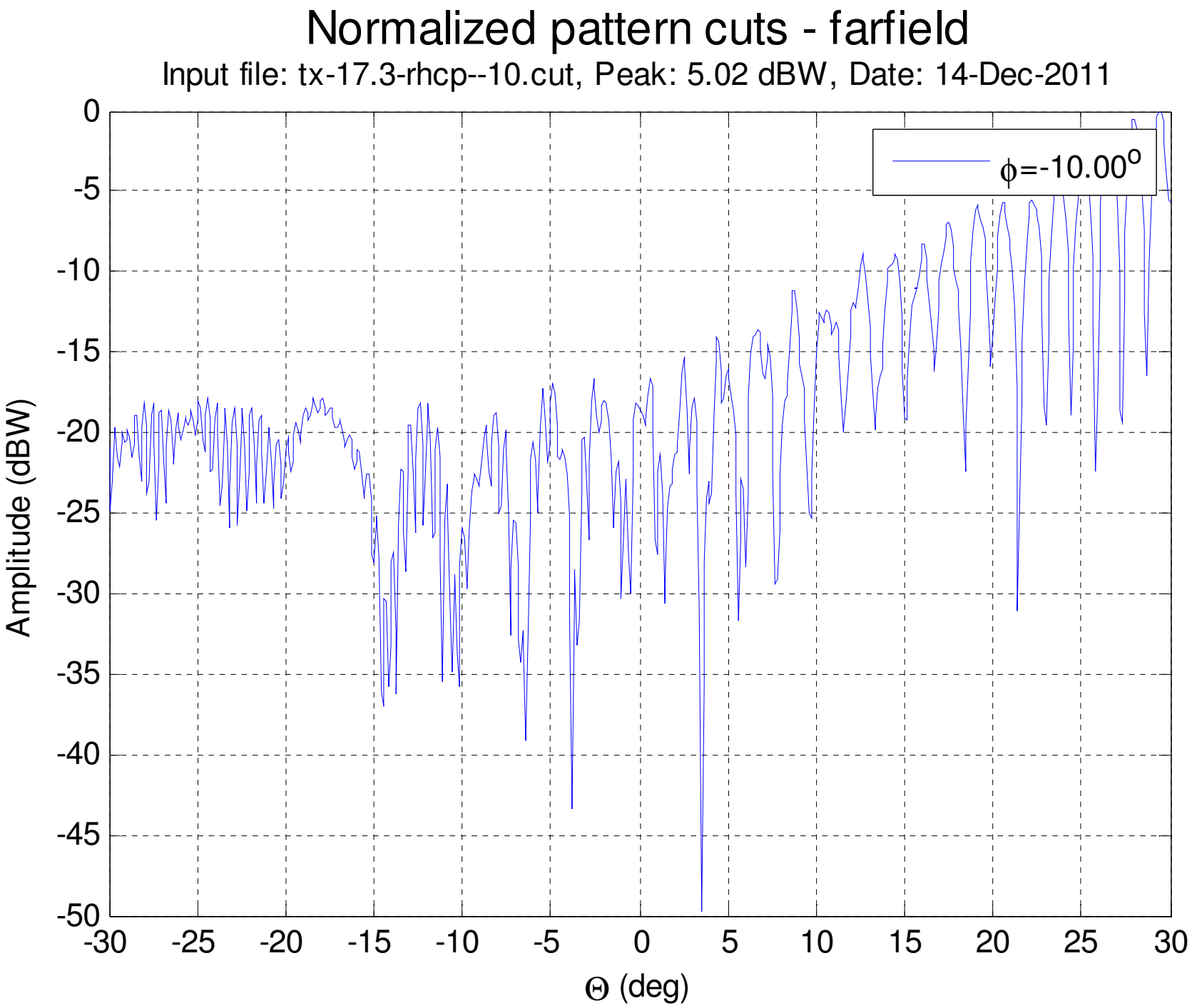

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--60.cut, Peak: -6.82 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

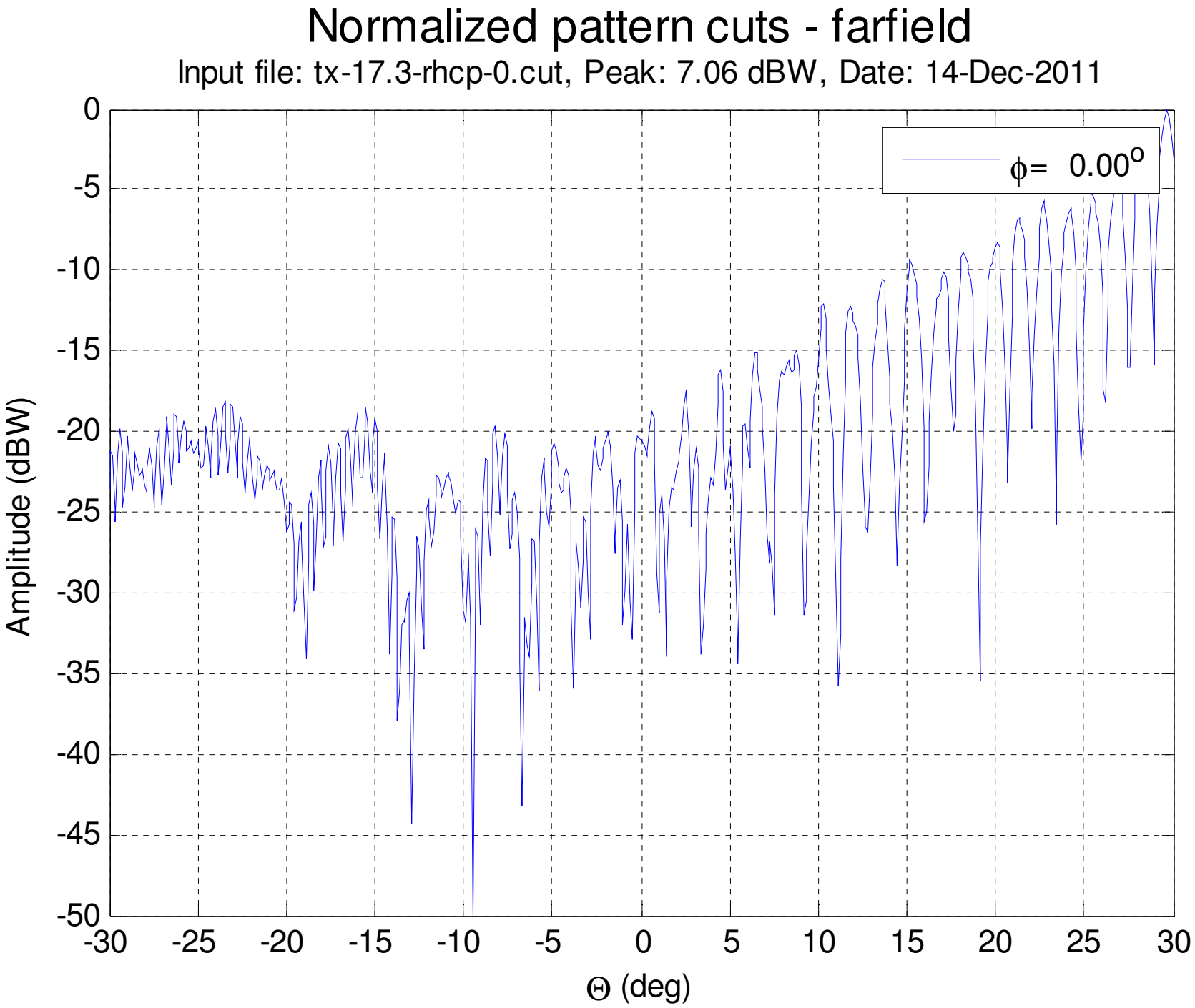

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--50.cut, Peak: -7.46 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

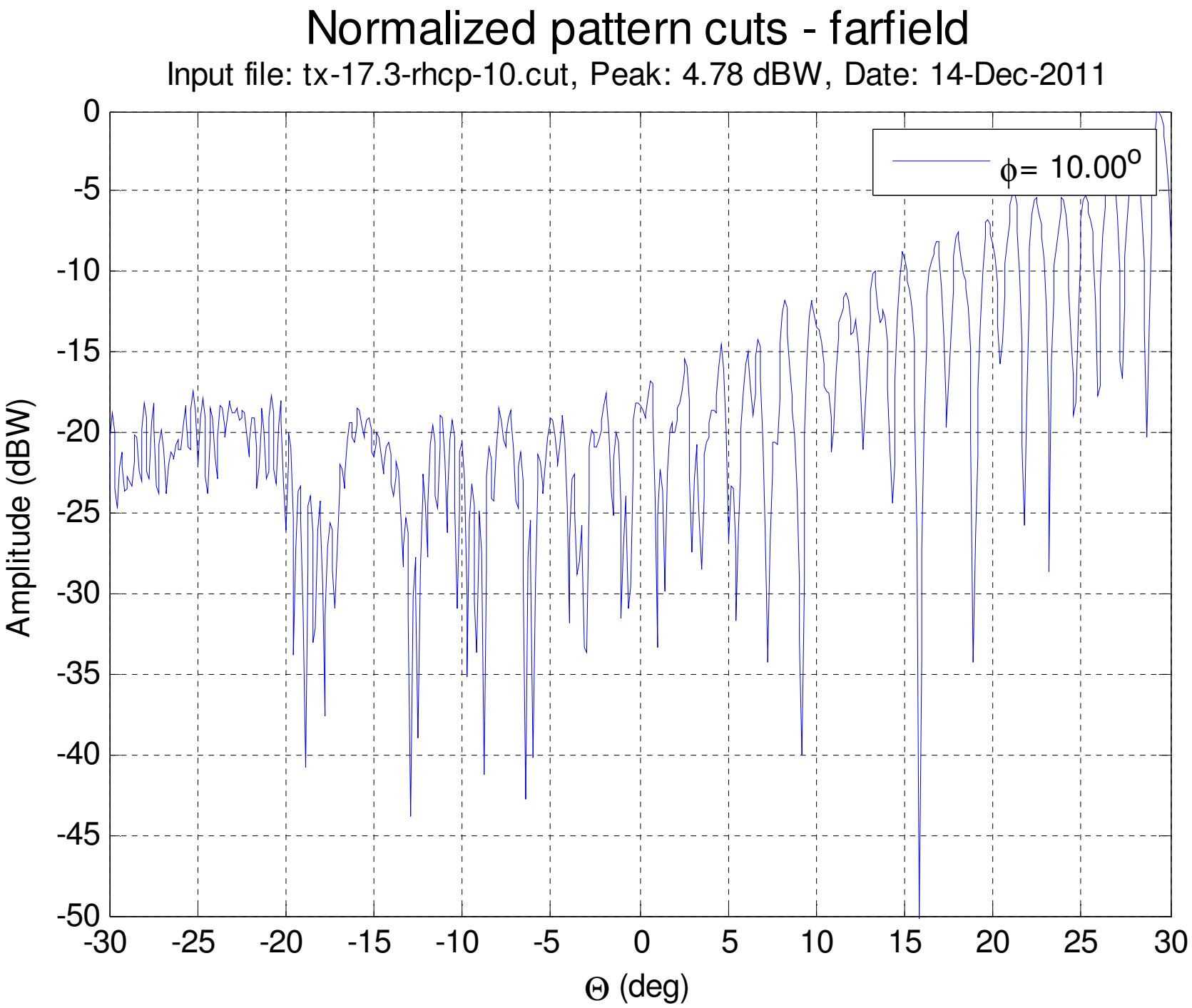

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--40.cut, Peak: -4.68 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

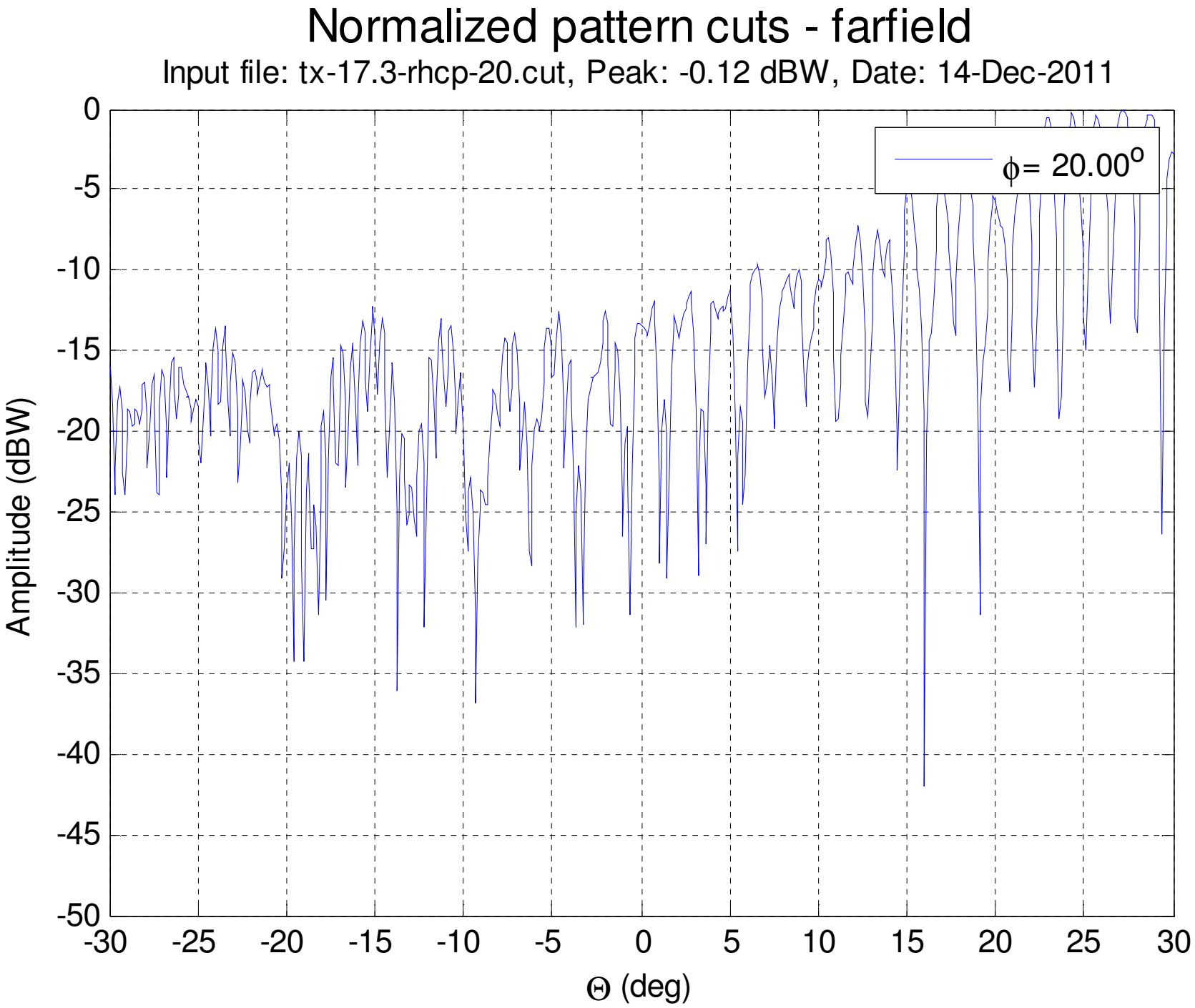

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--30.cut, Peak: -1.24 dBW, Date: 14-Dec-2011
φ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

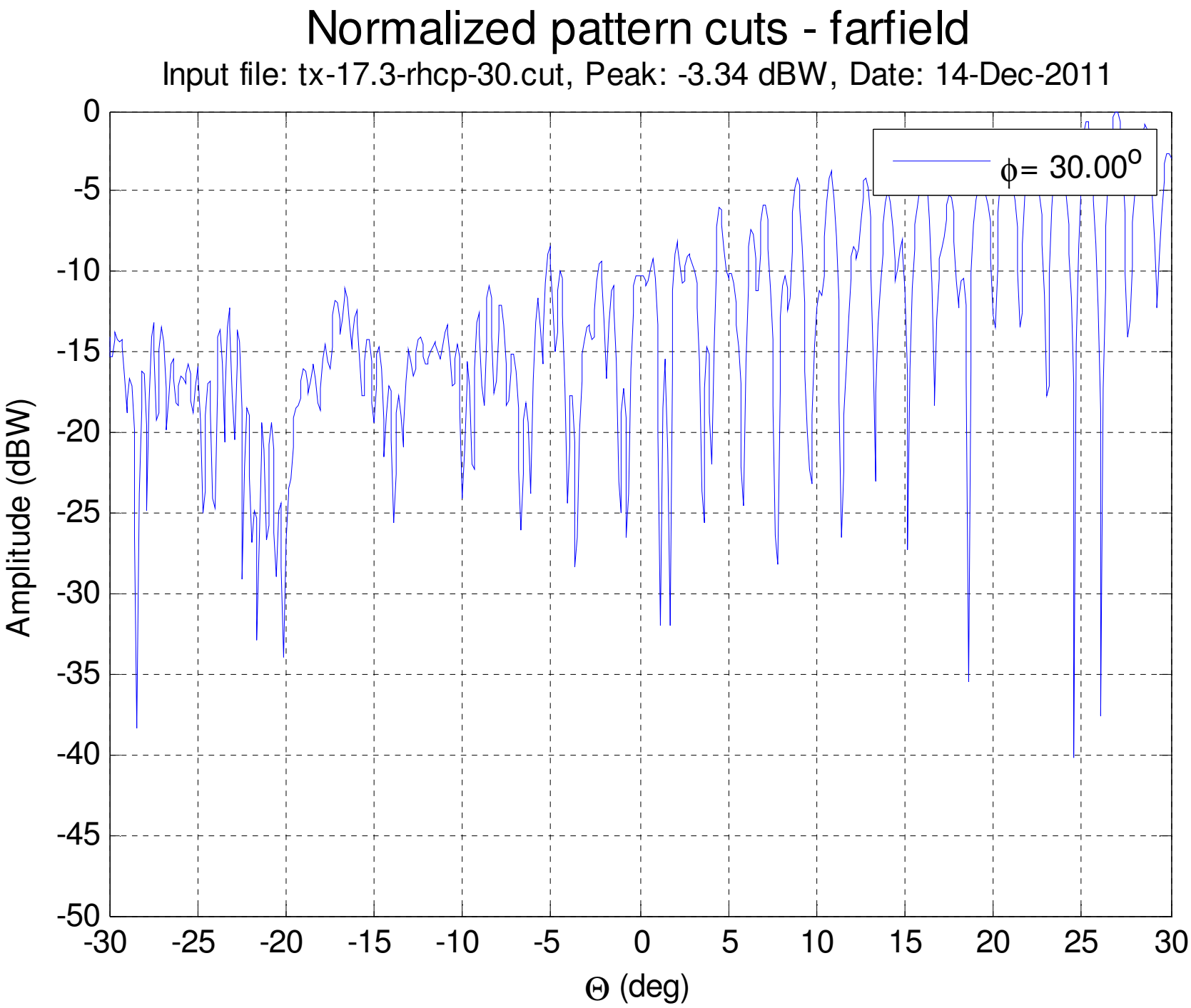

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--20.cut, Peak: 3.51 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

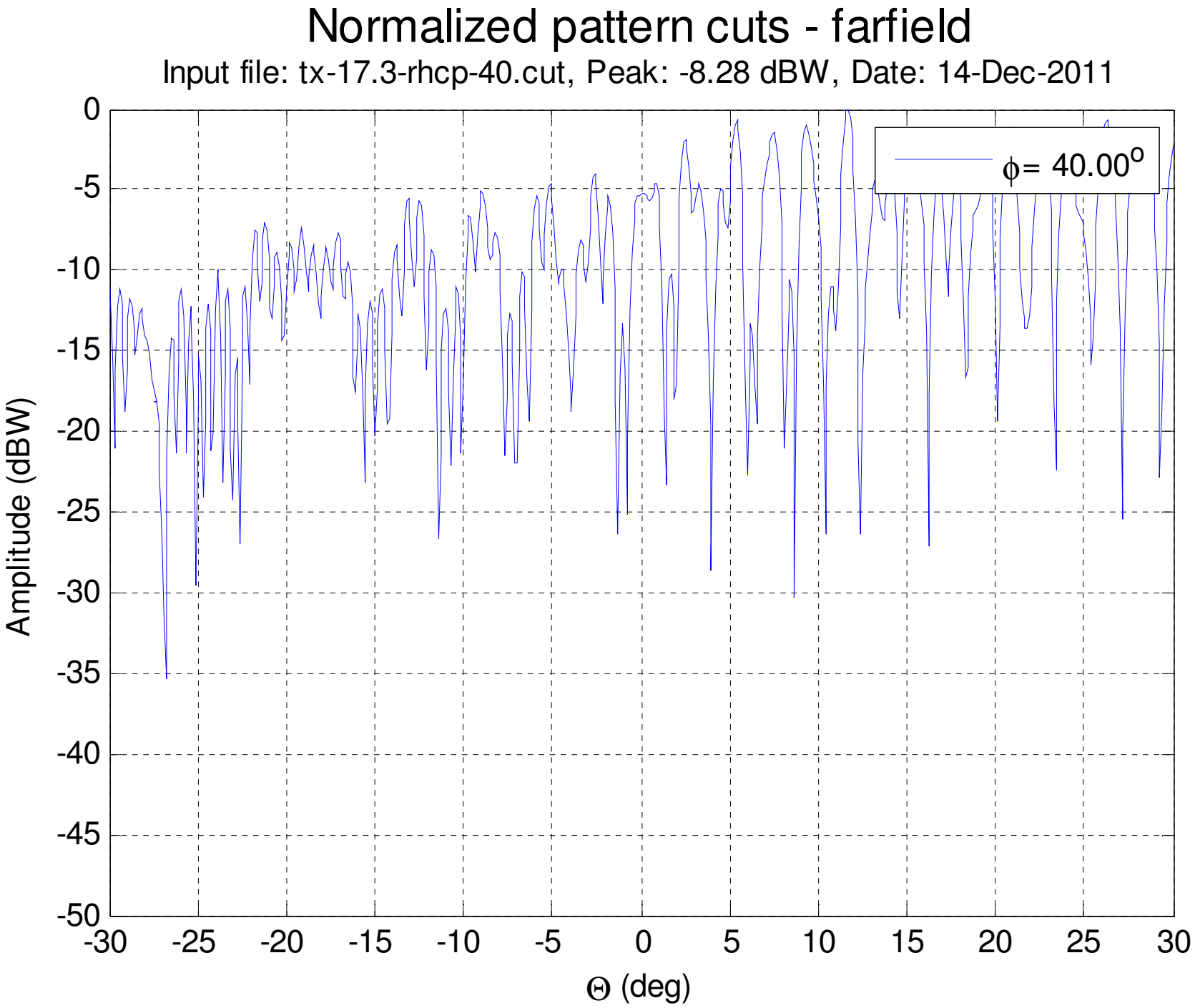

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp--10.cut, Peak: 5.02 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

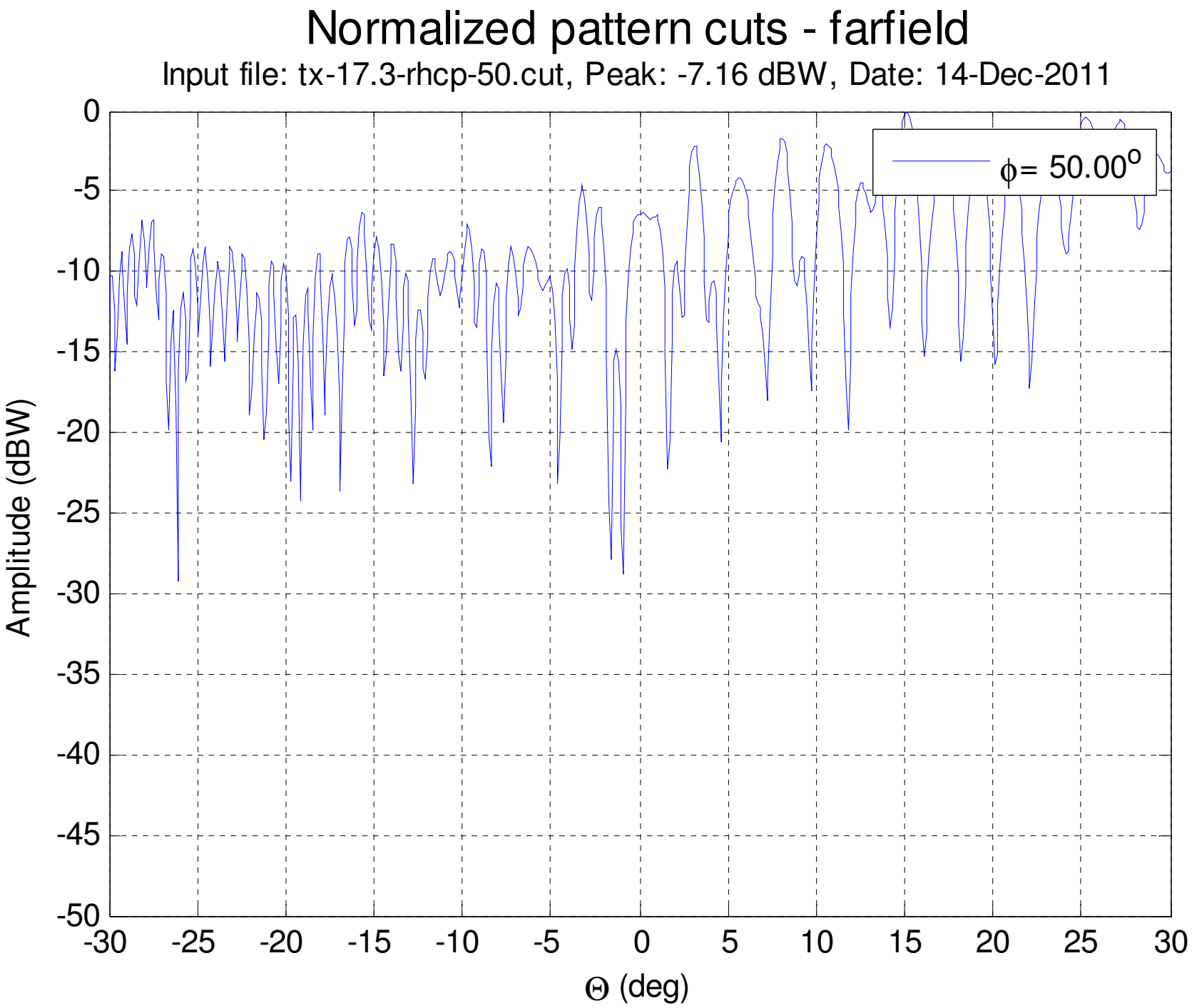

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-0.cut, Peak: 7.06 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

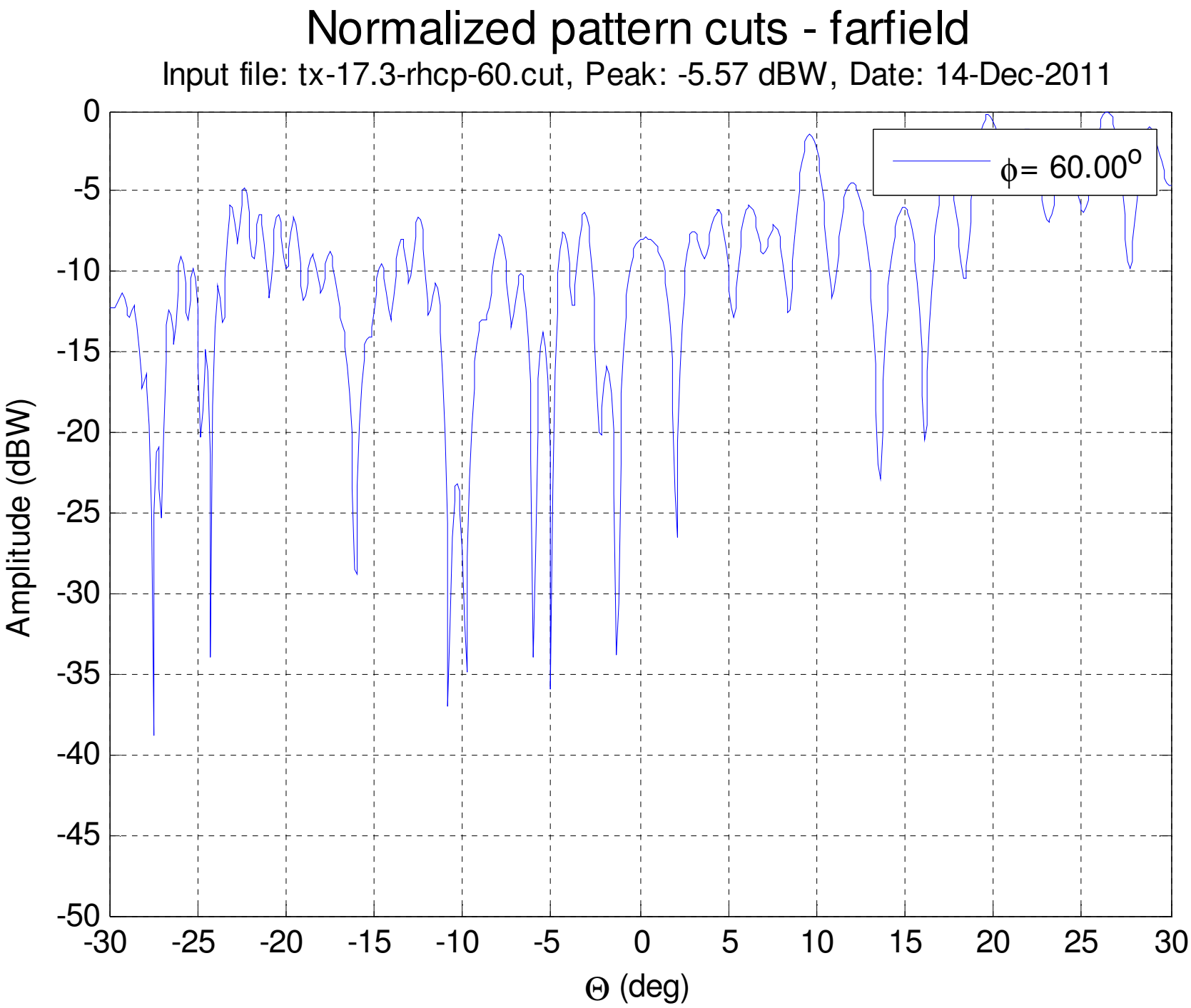

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-10.cut, Peak: 4.78 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-20.cut, Peak: -0.12 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

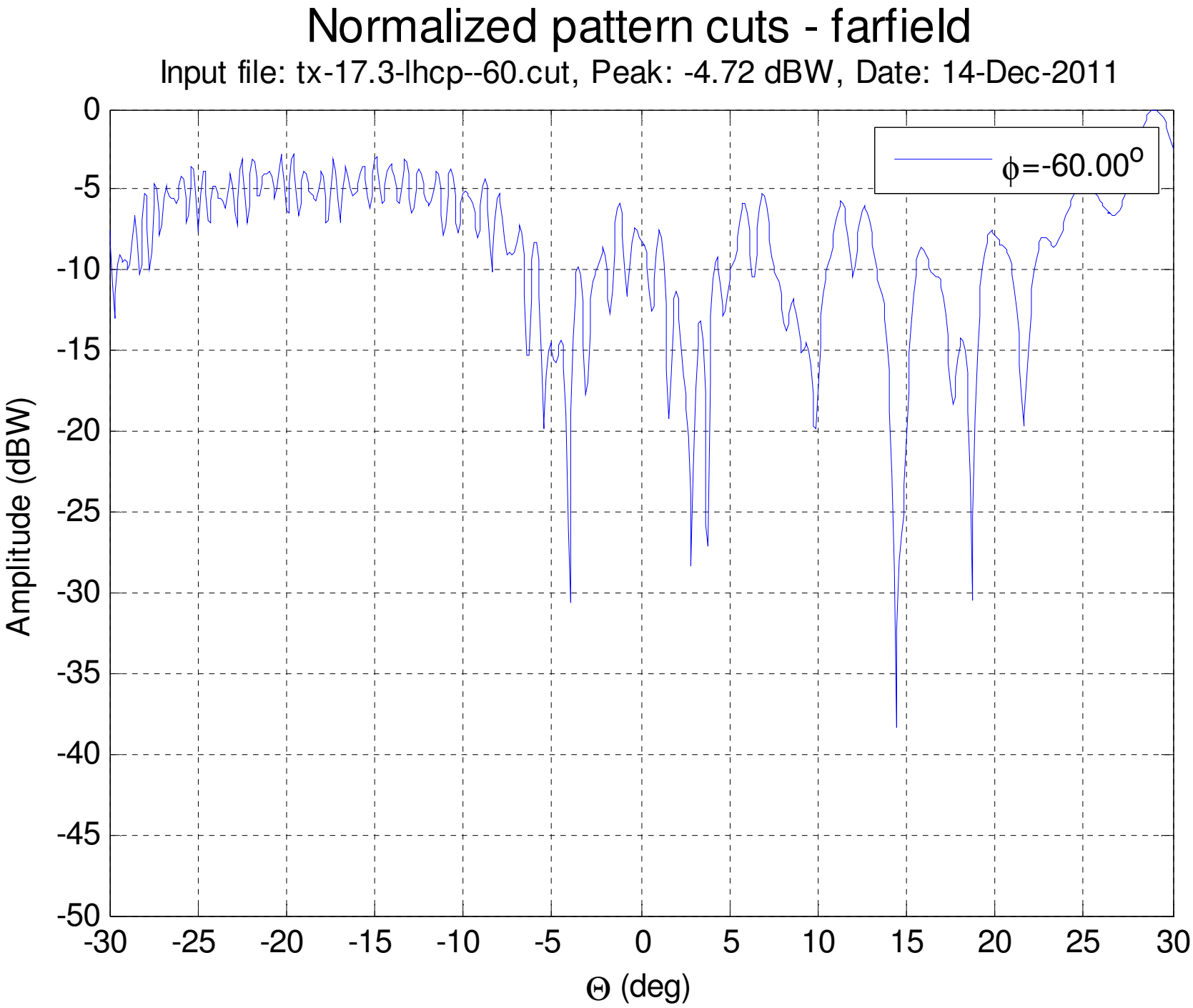

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-30.cut, Peak: -3.34 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

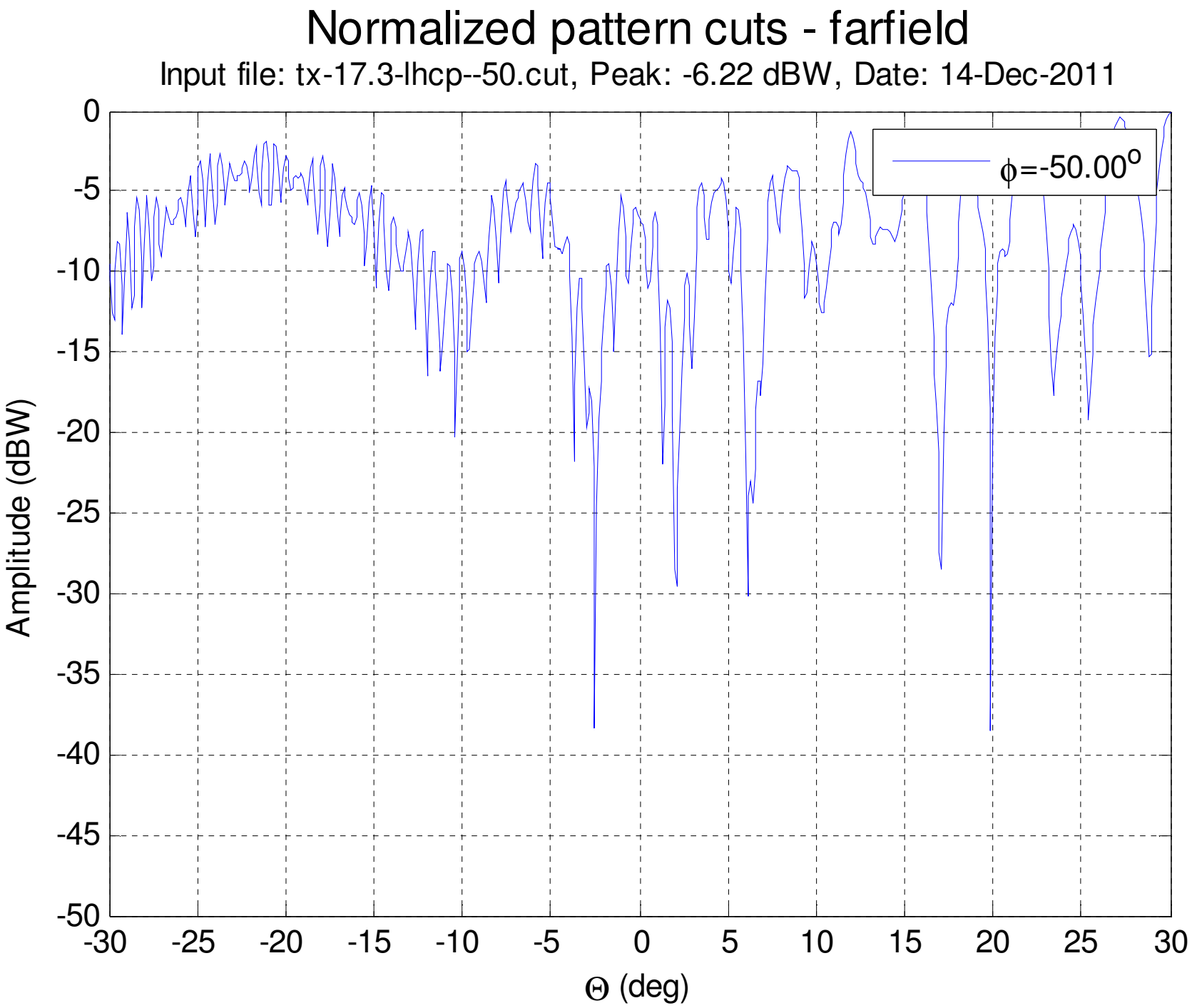

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-40.cut, Peak: -8.28 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

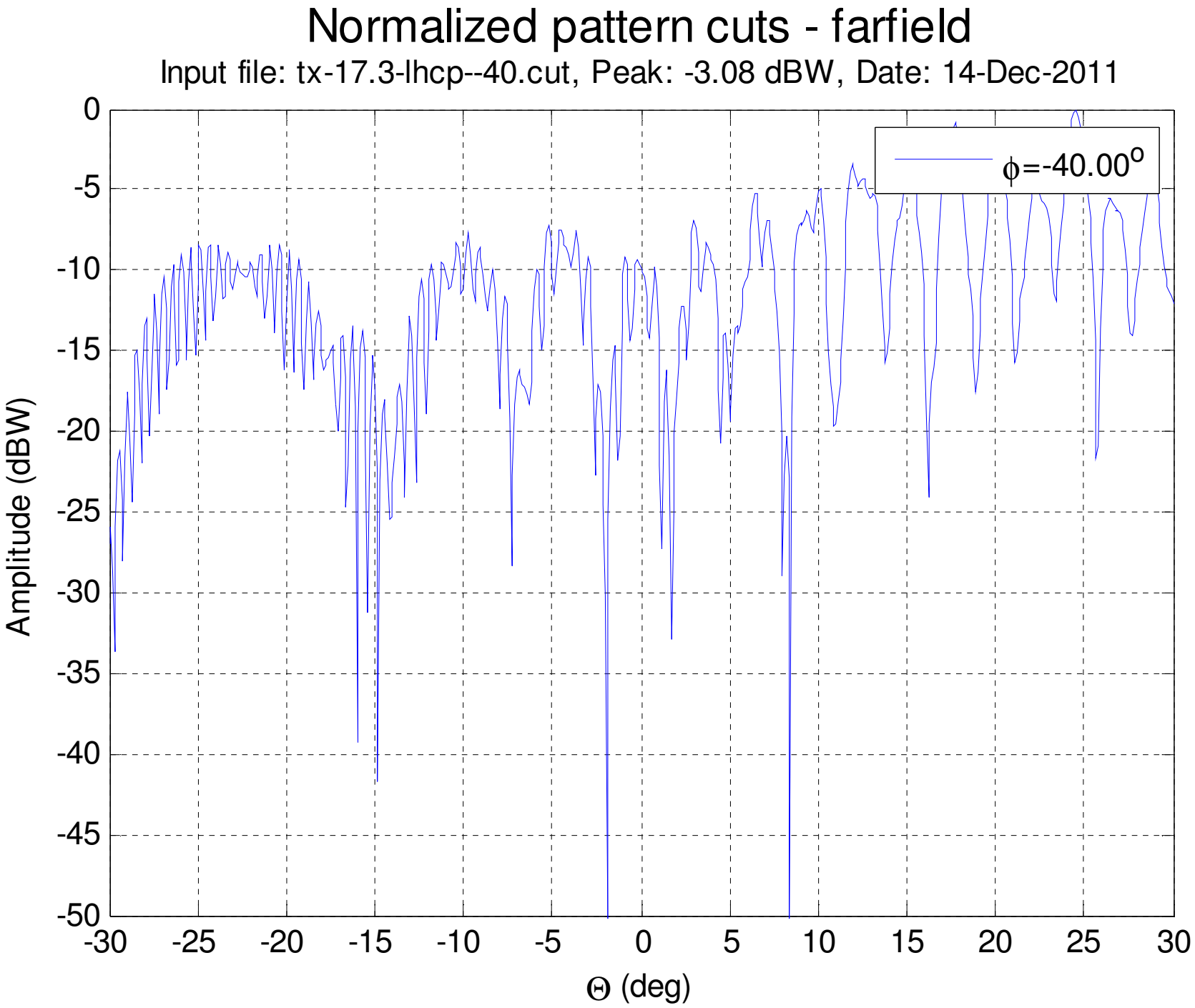

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-50.cut, Peak: -7.16 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

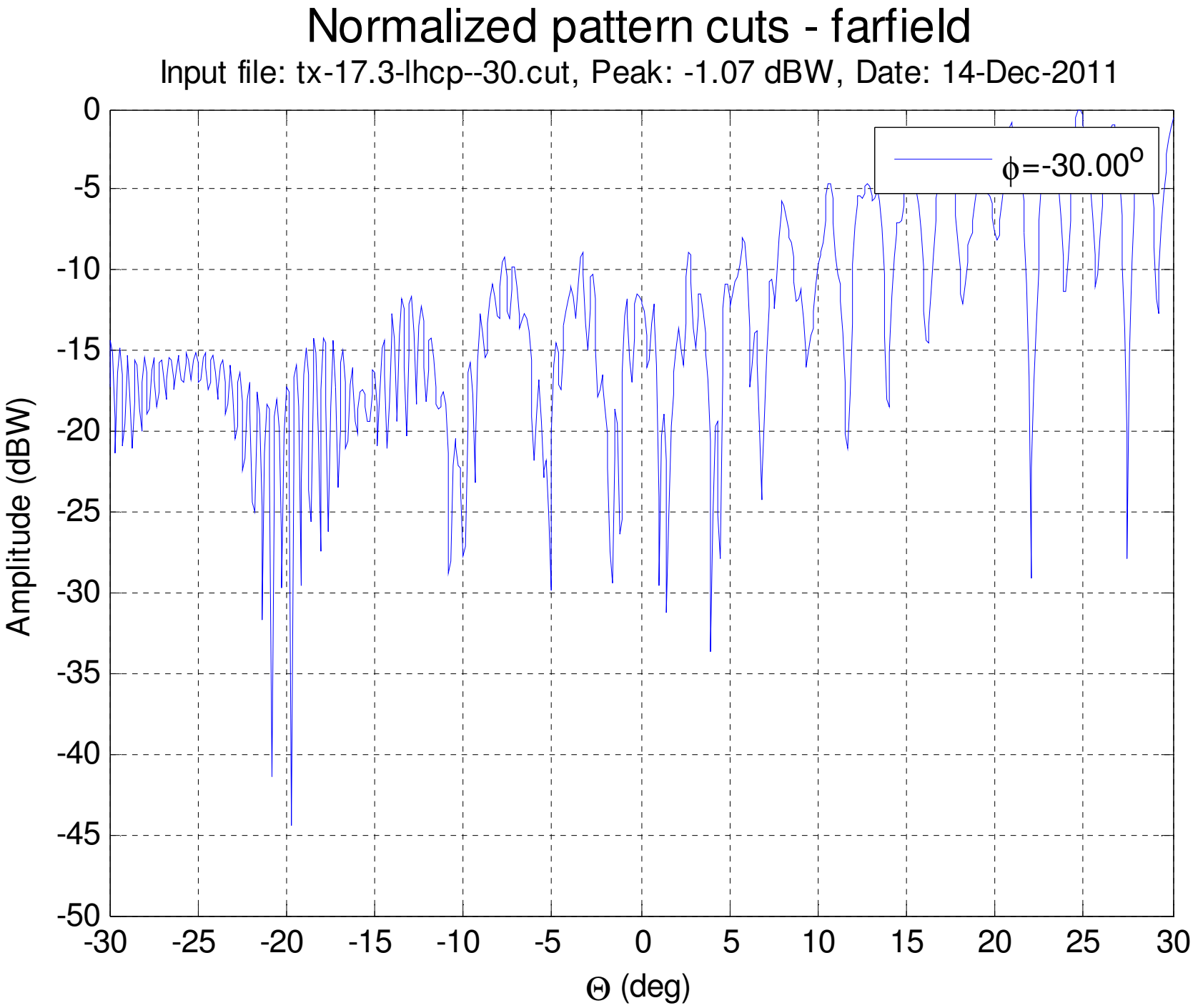

Normalized pattern cuts - farfield
Input file: tx-17.3-rhcp-60.cut, Peak: -5.57 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

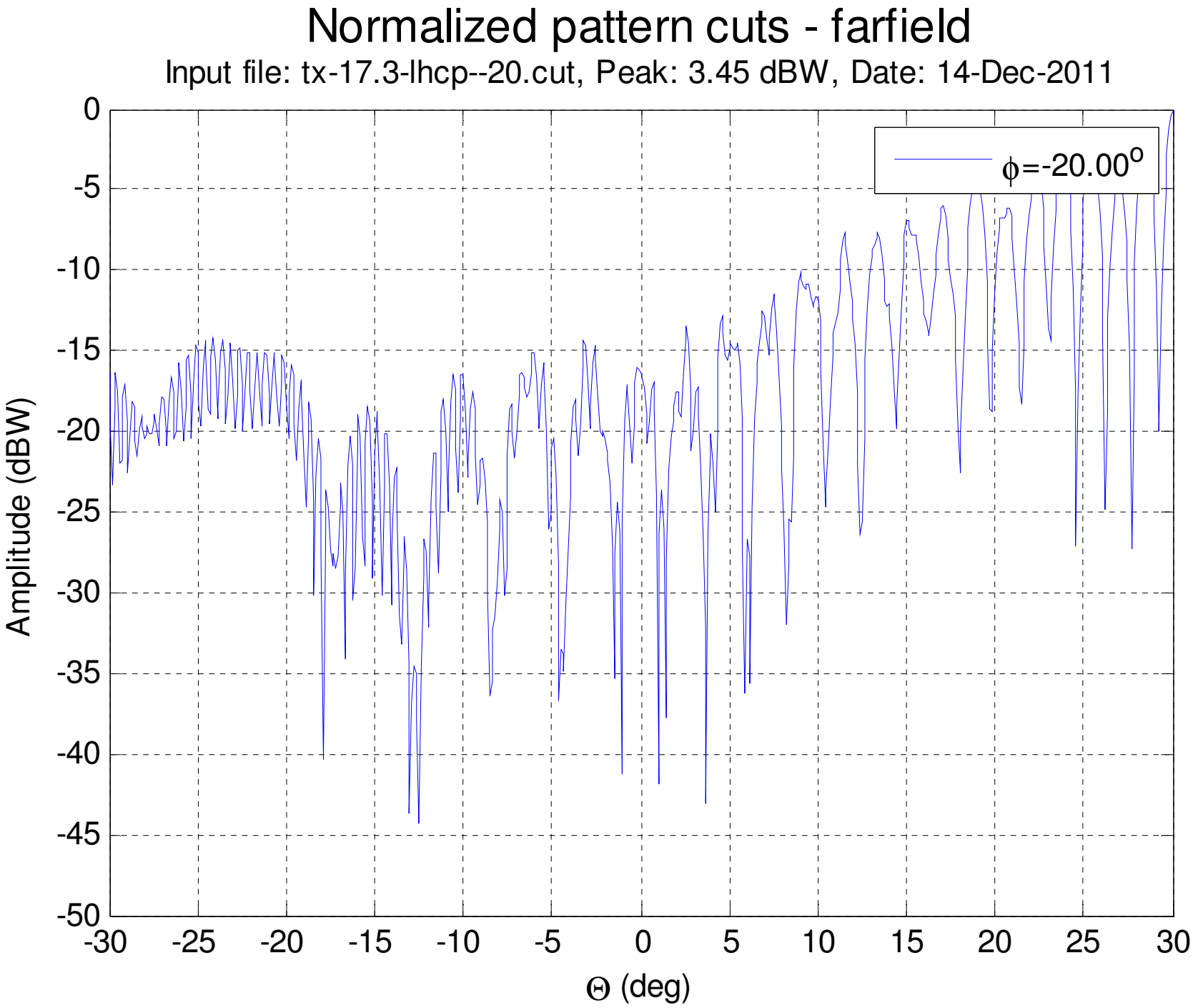
LHCP at 17.3 GHz

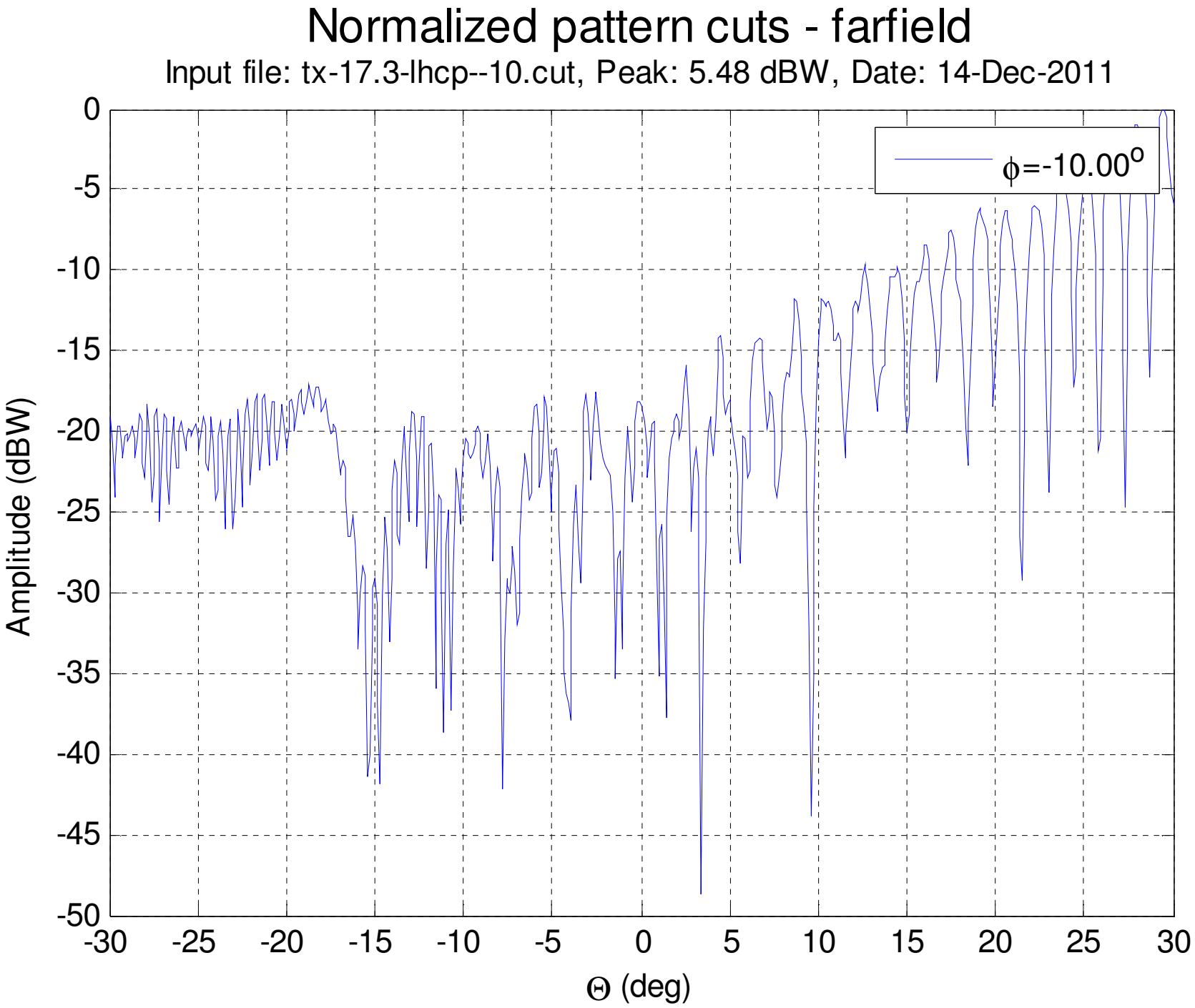

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--60.cut, Peak: -4.72 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

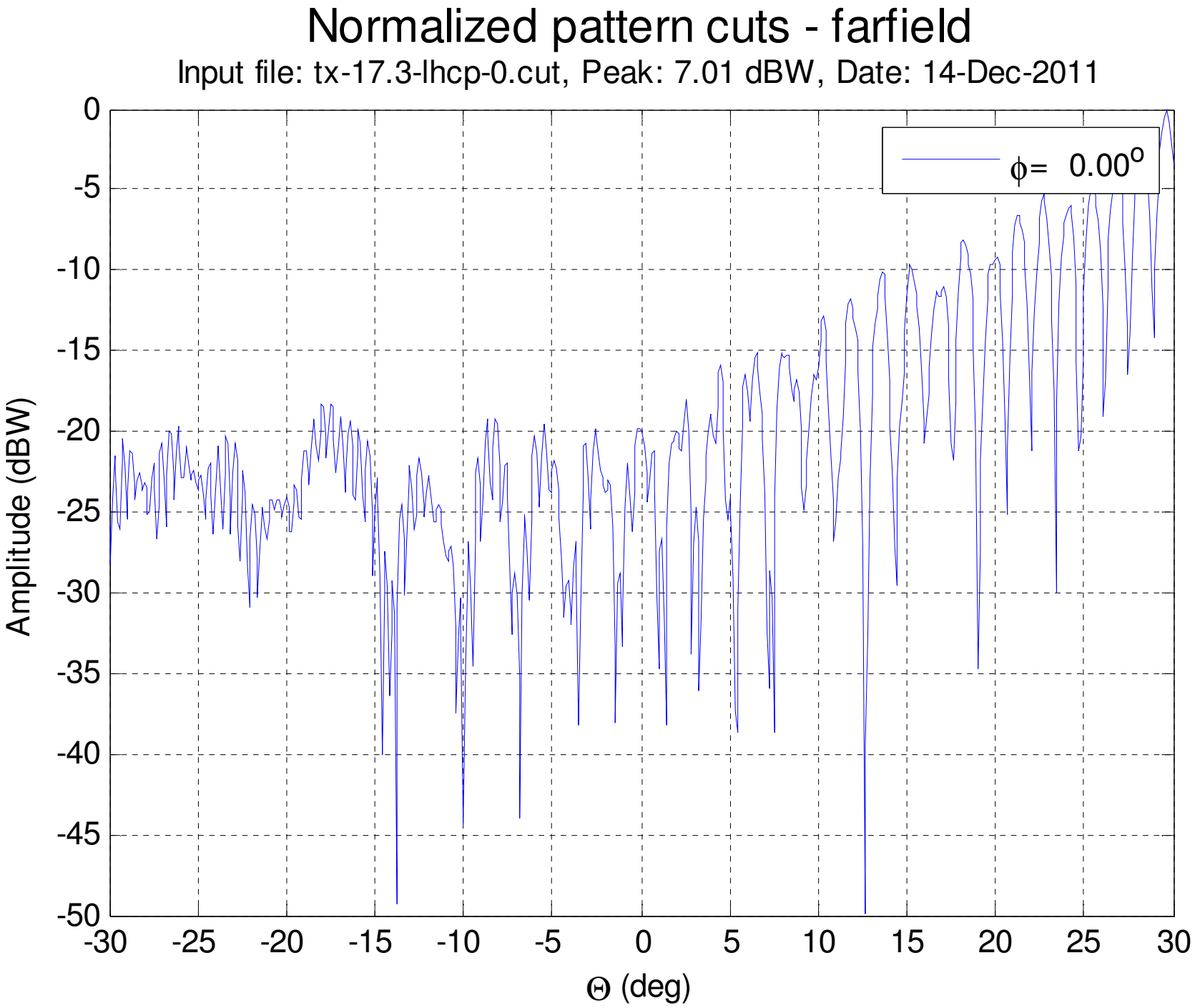

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--50.cut, Peak: -6.22 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

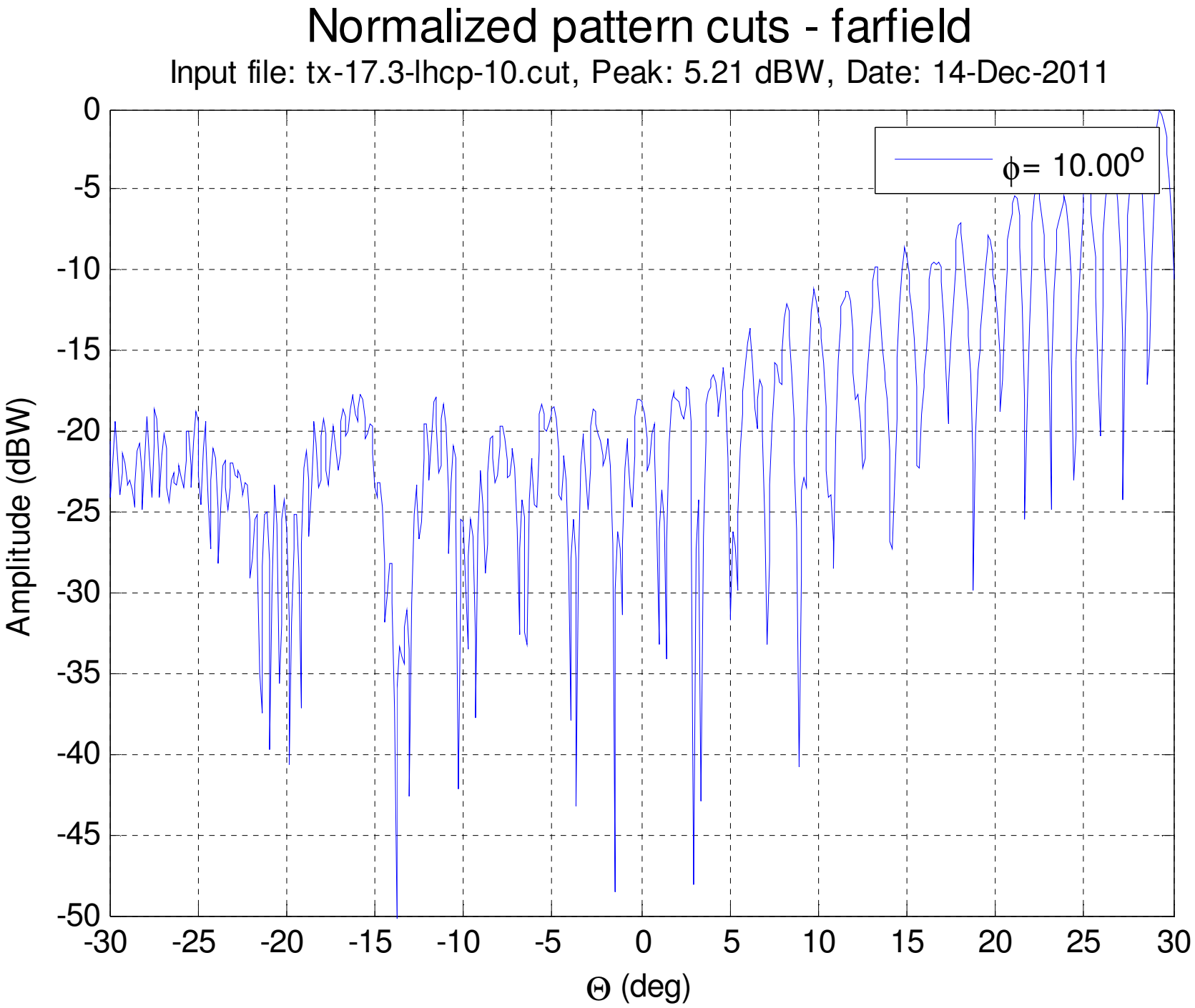

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--40.cut, Peak: -3.08 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

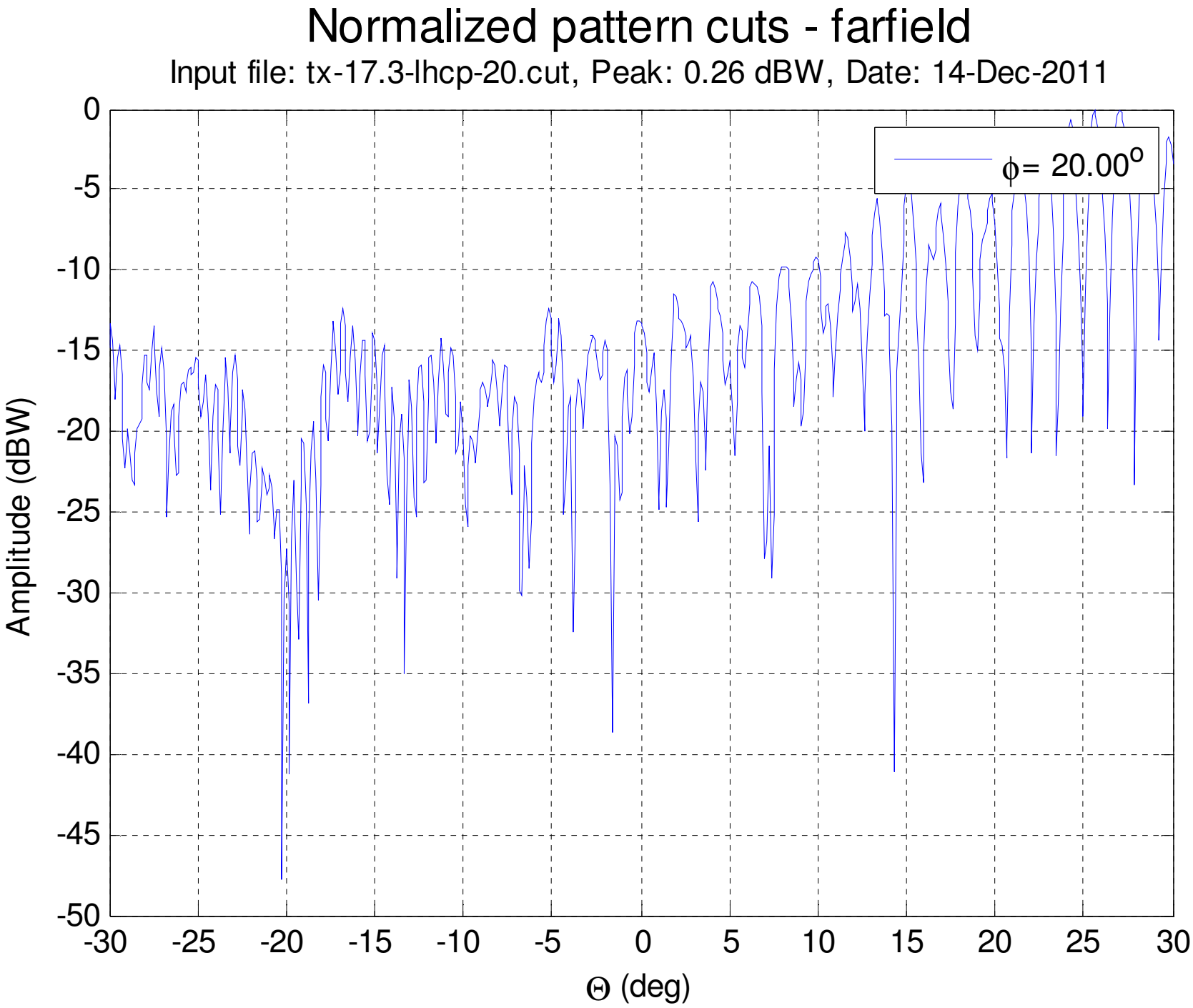

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--30.cut, Peak: -1.07 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

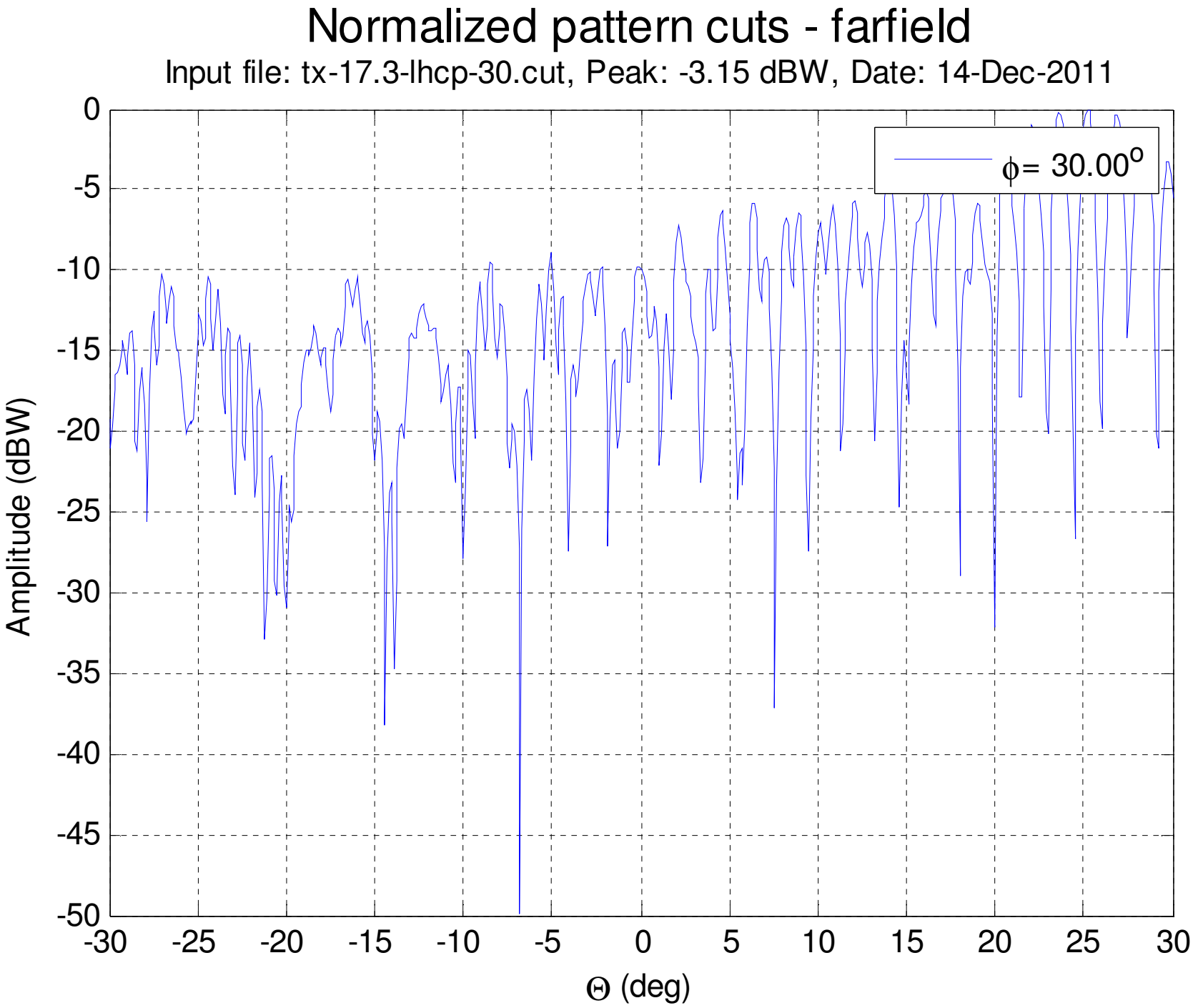

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--20.cut, Peak: 3.45 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

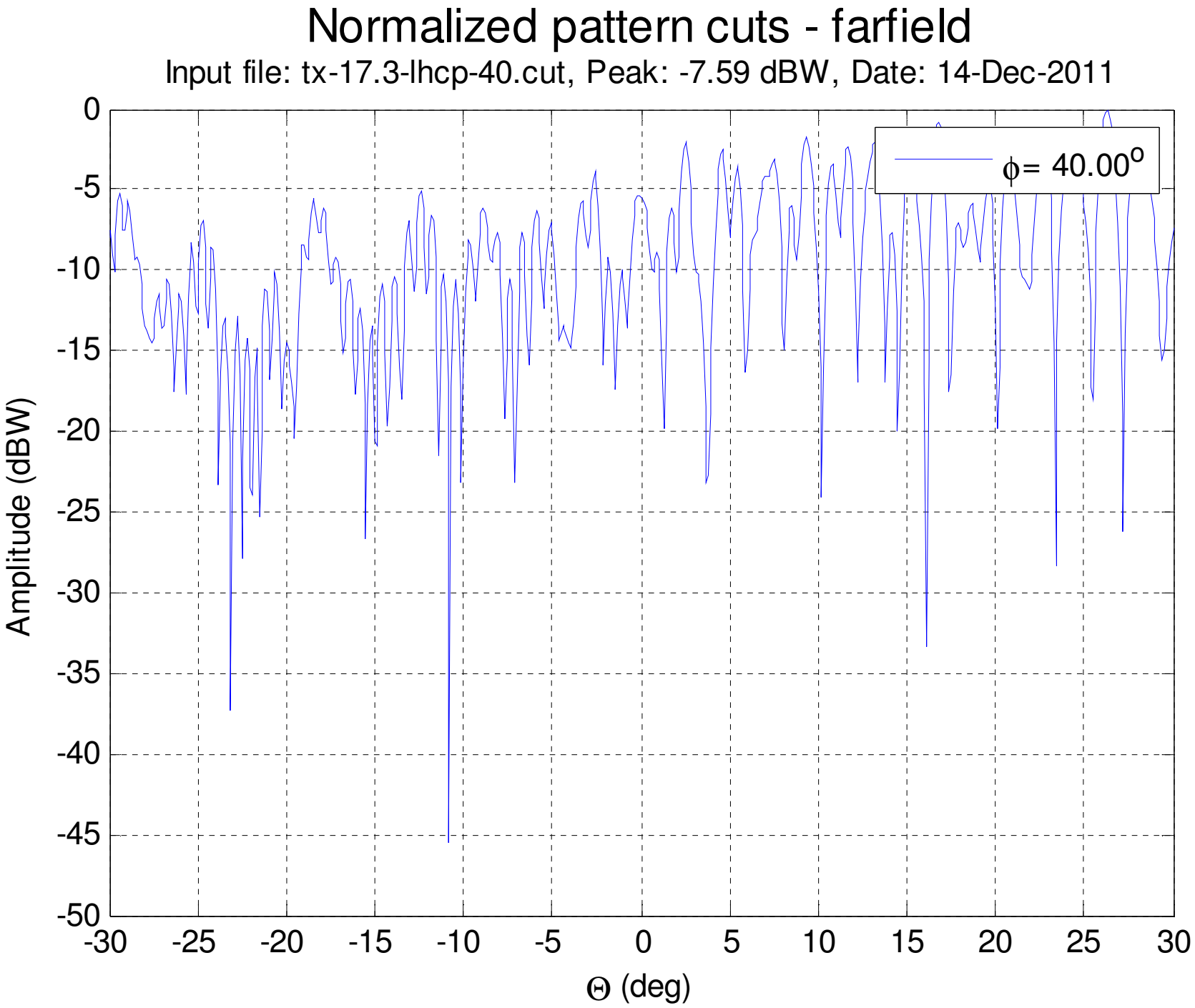

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp--10.cut, Peak: 5.48 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

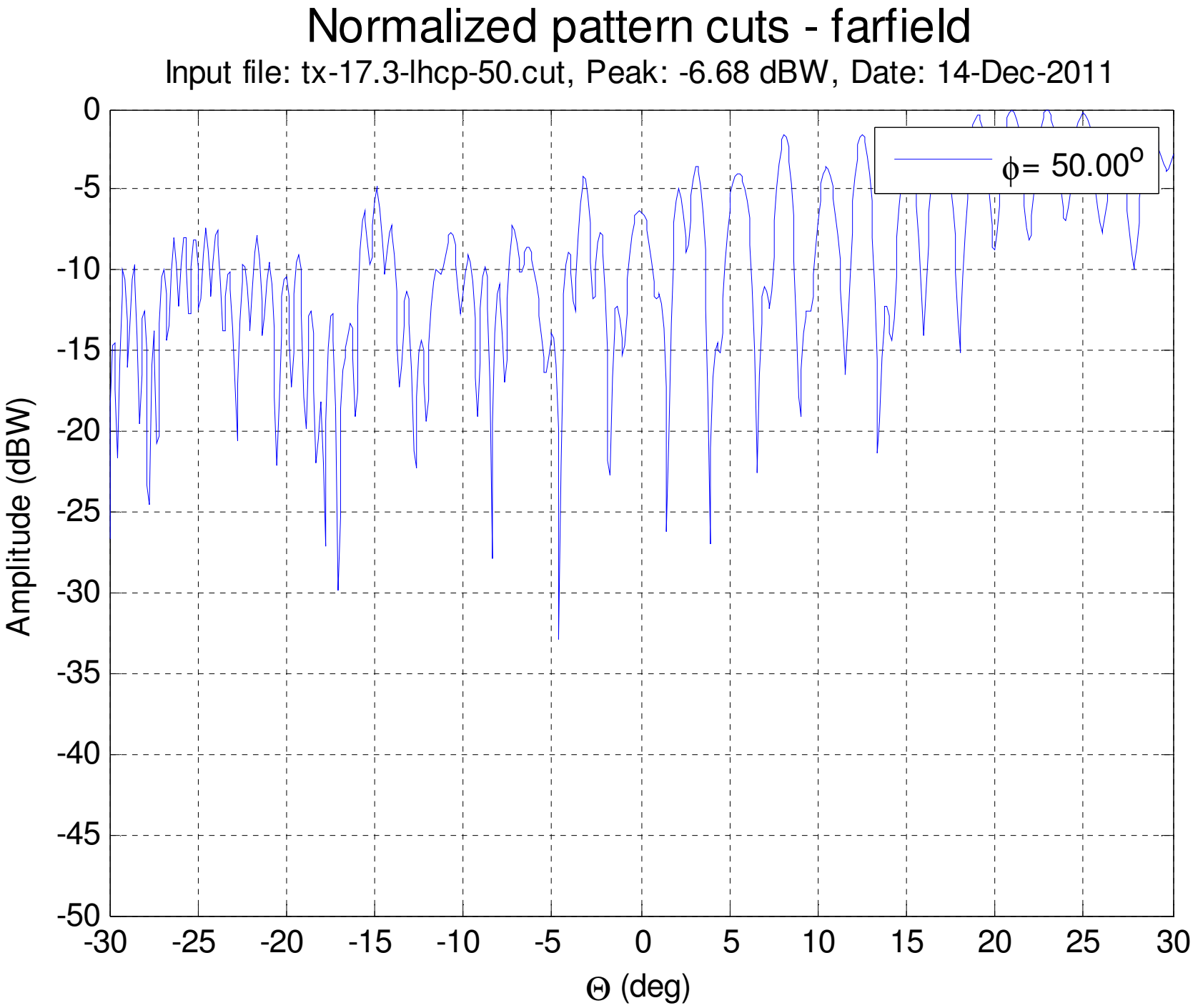

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-0.cut, Peak: 7.01 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

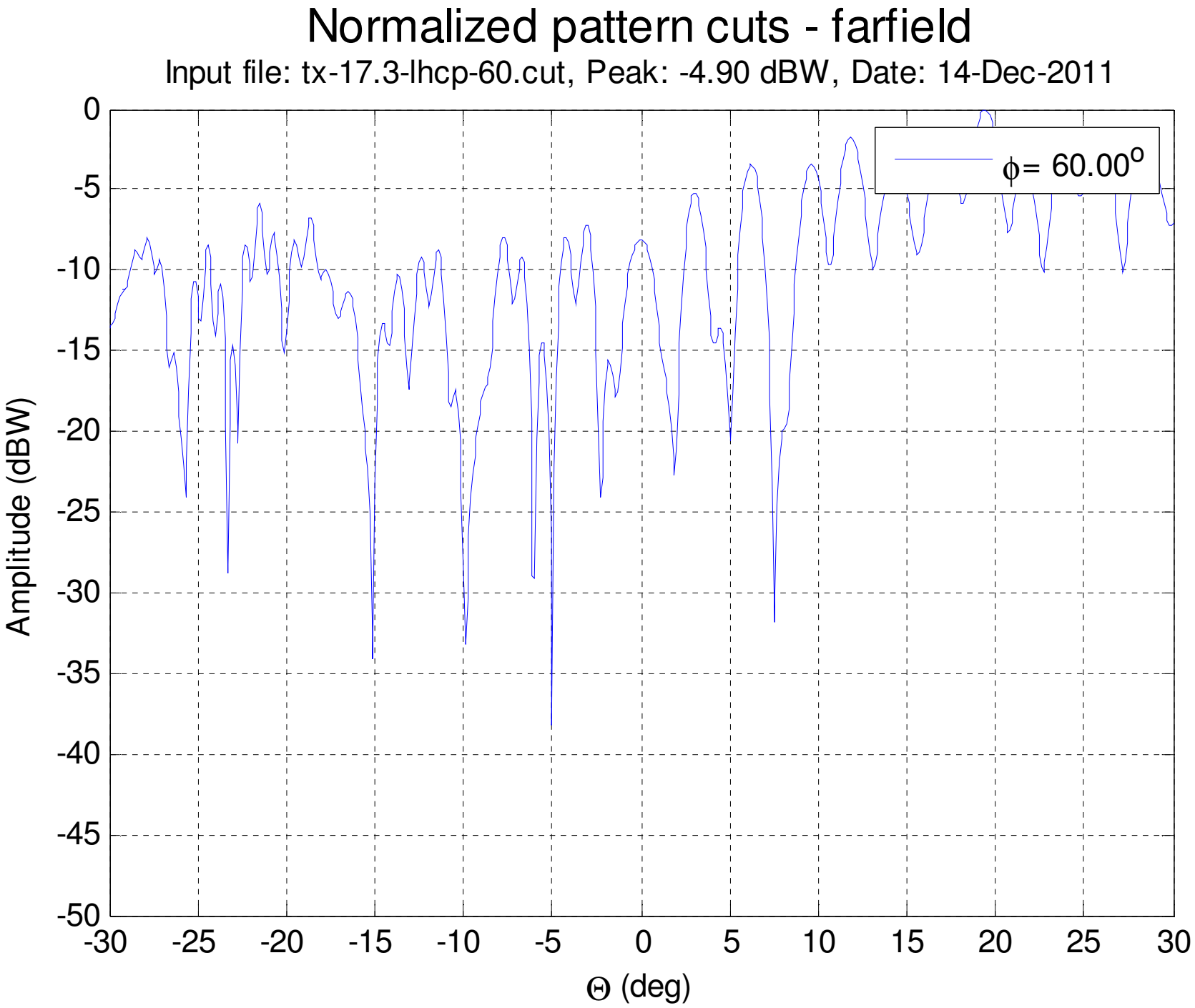

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-10.cut, Peak: 5.21 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-20.cut, Peak: 0.26 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

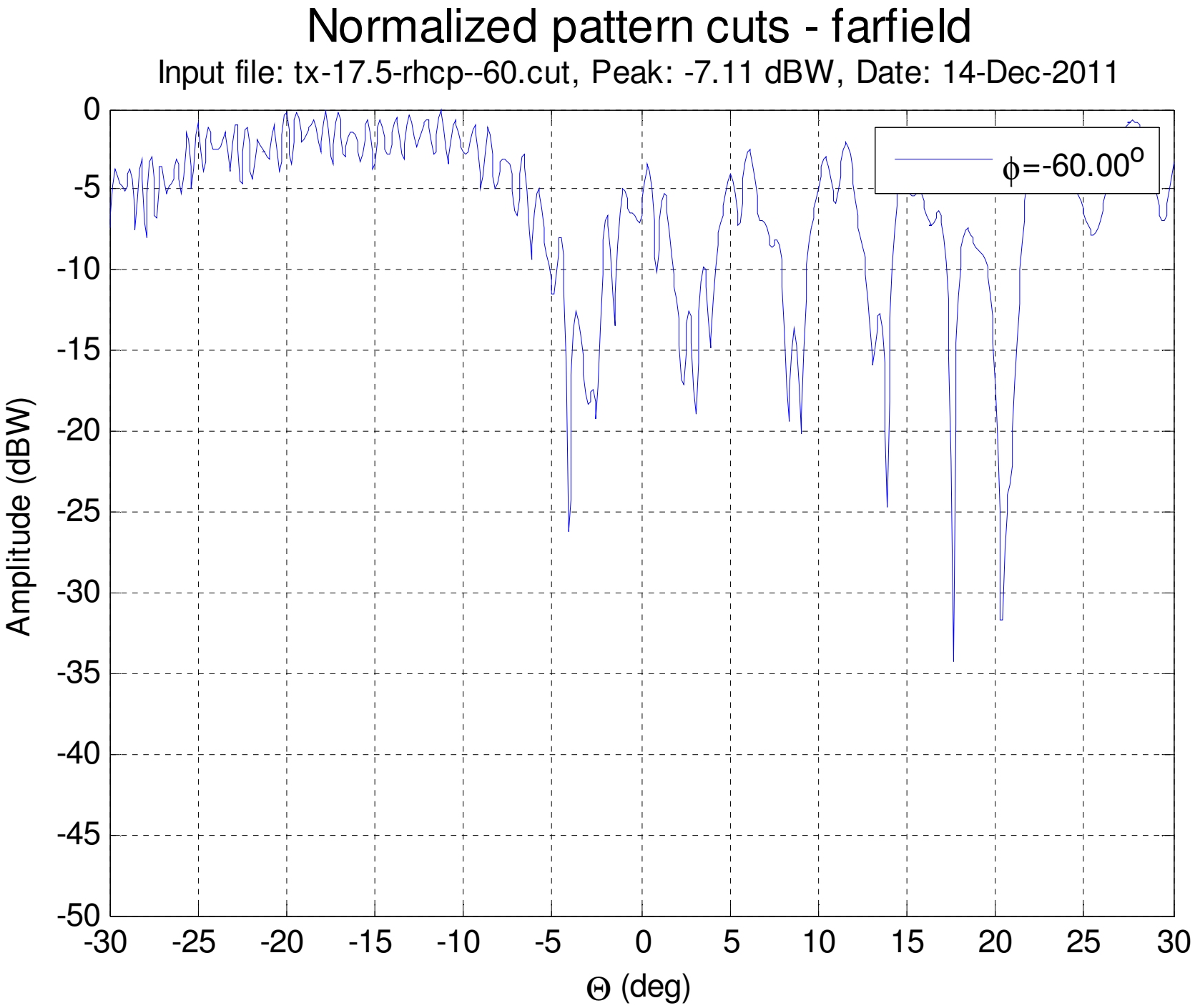

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-30.cut, Peak: -3.15 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

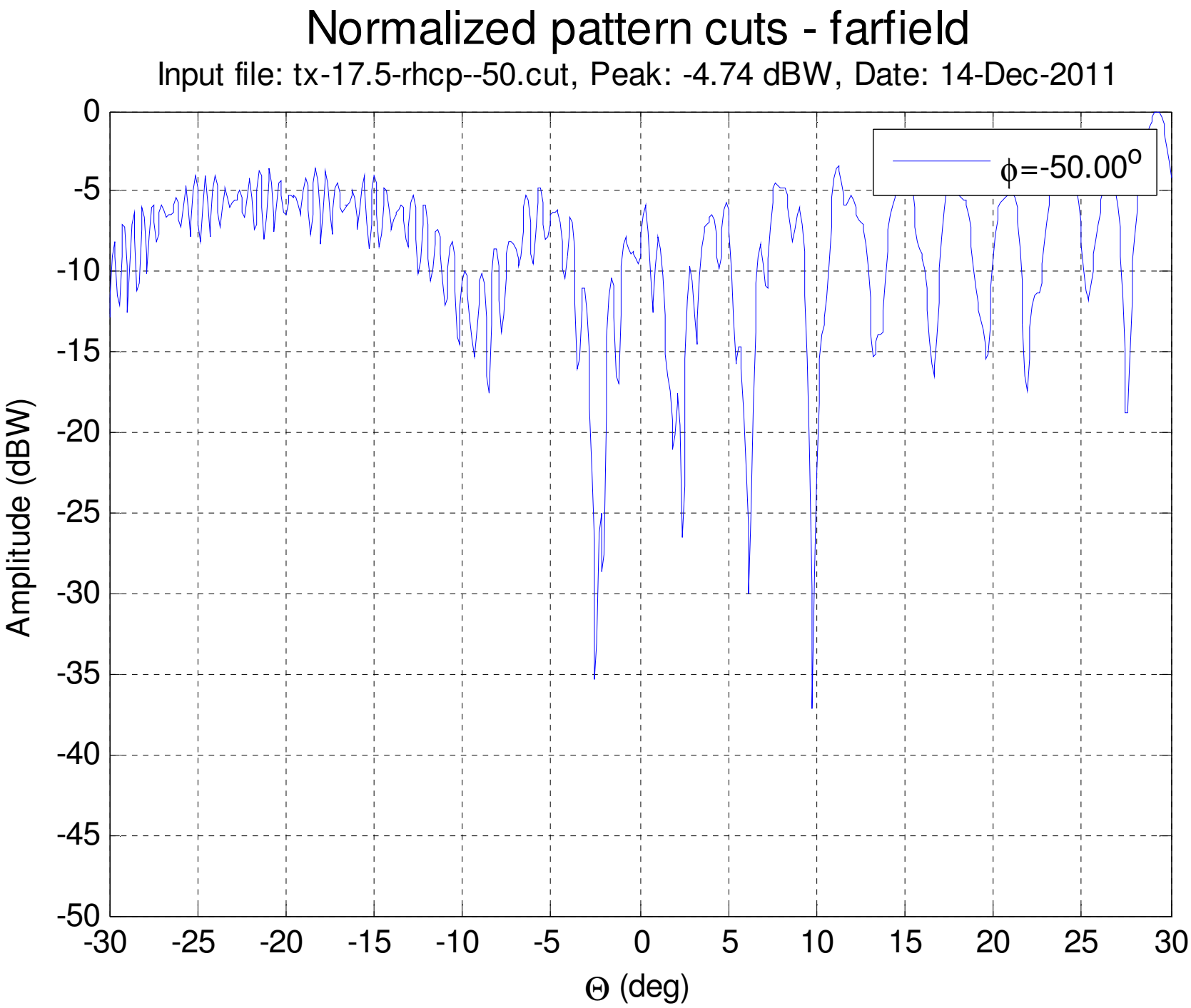

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-40.cut, Peak: -7.59 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

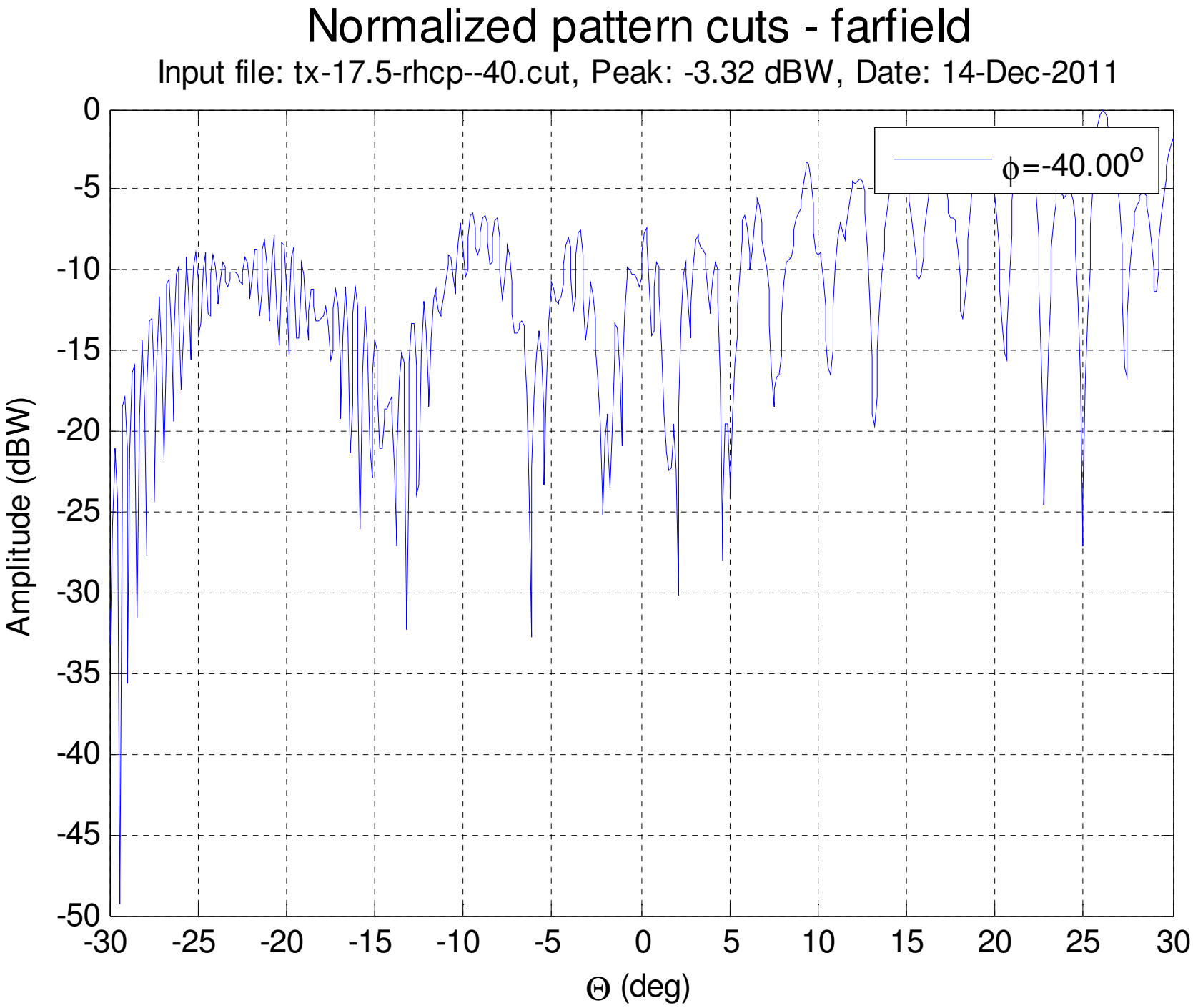

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-50.cut, Peak: -6.68 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

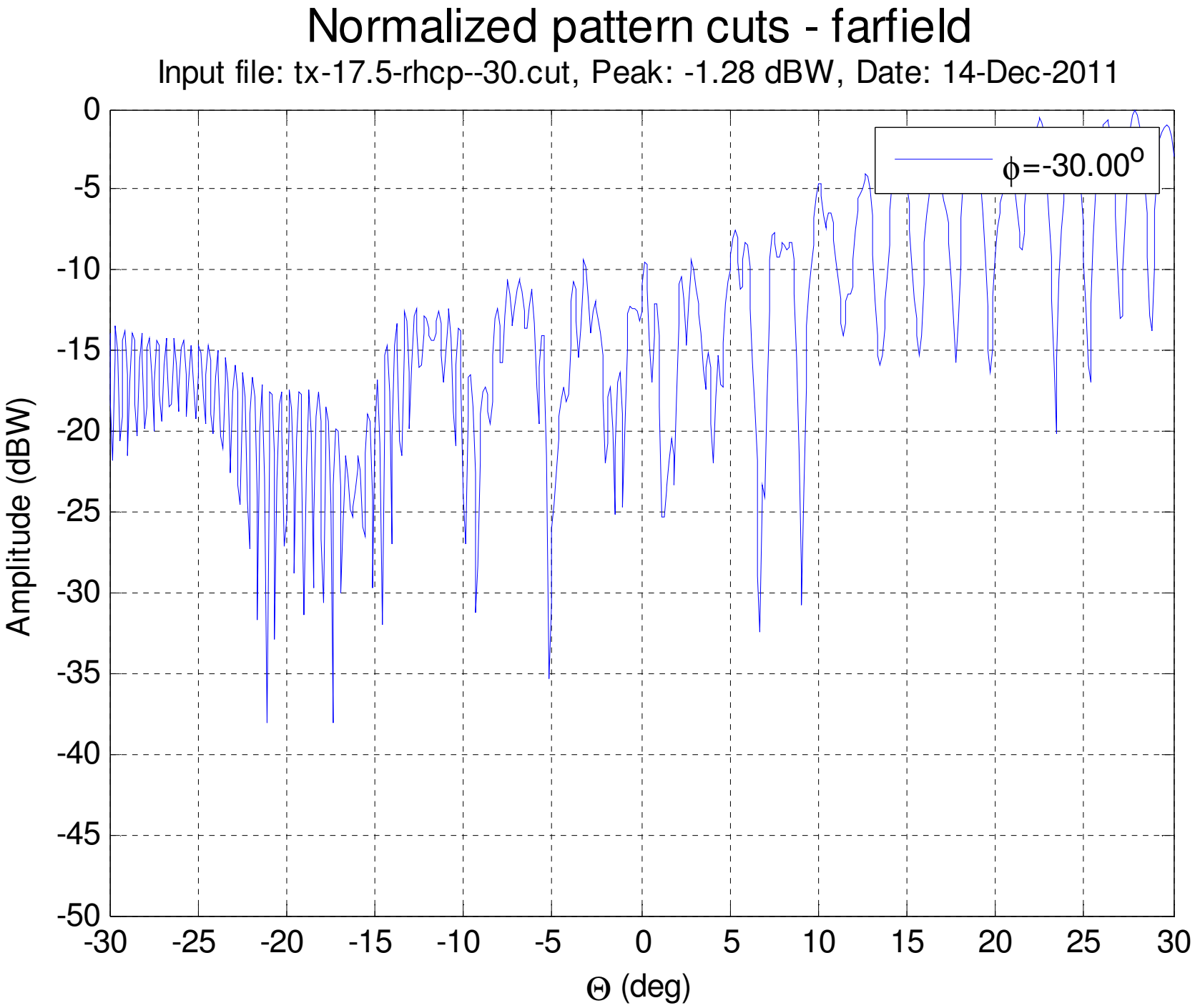

Normalized pattern cuts - farfield
Input file: tx-17.3-lhcp-60.cut, Peak: -4.90 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

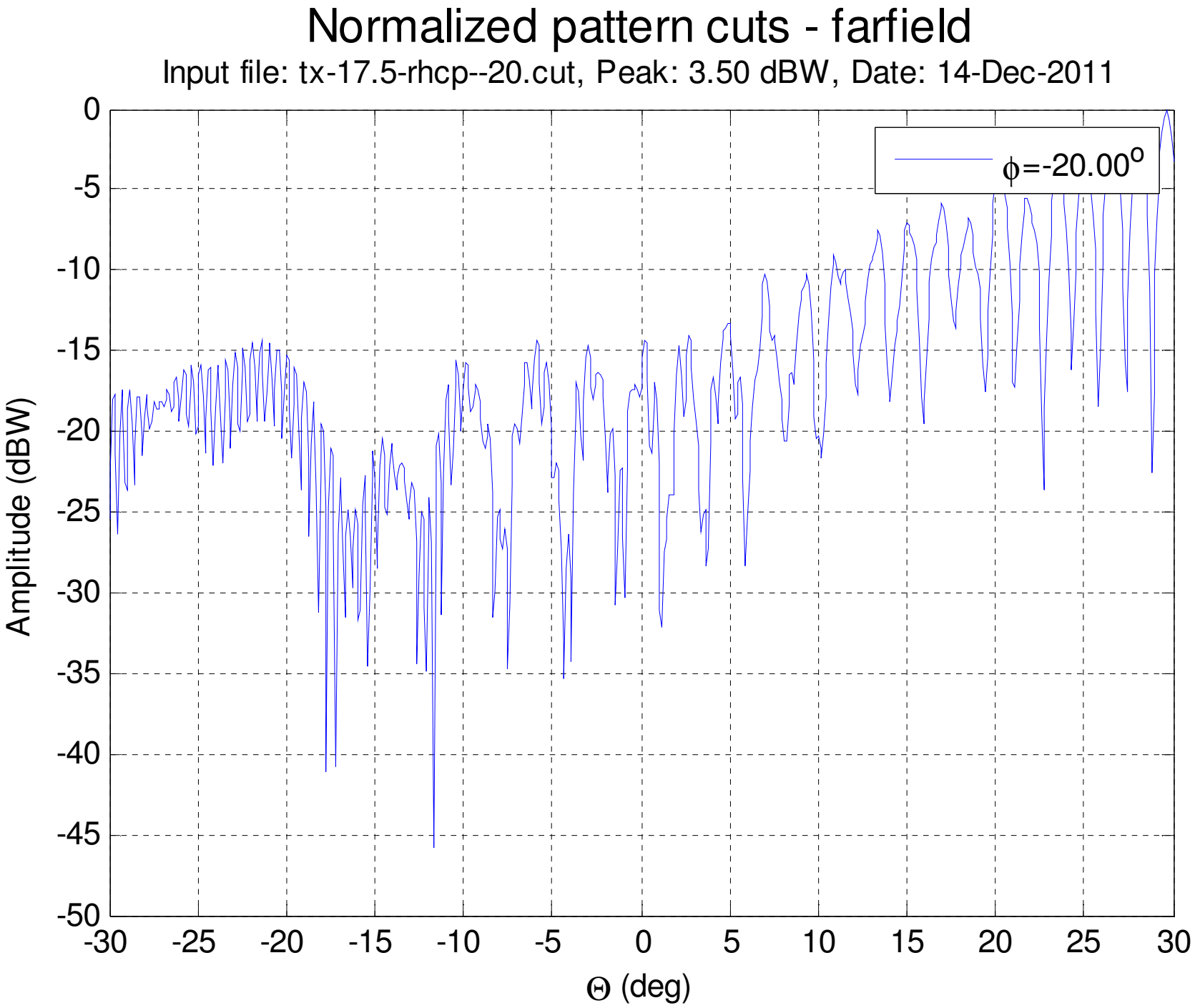
RHCP at 17.5 GHz

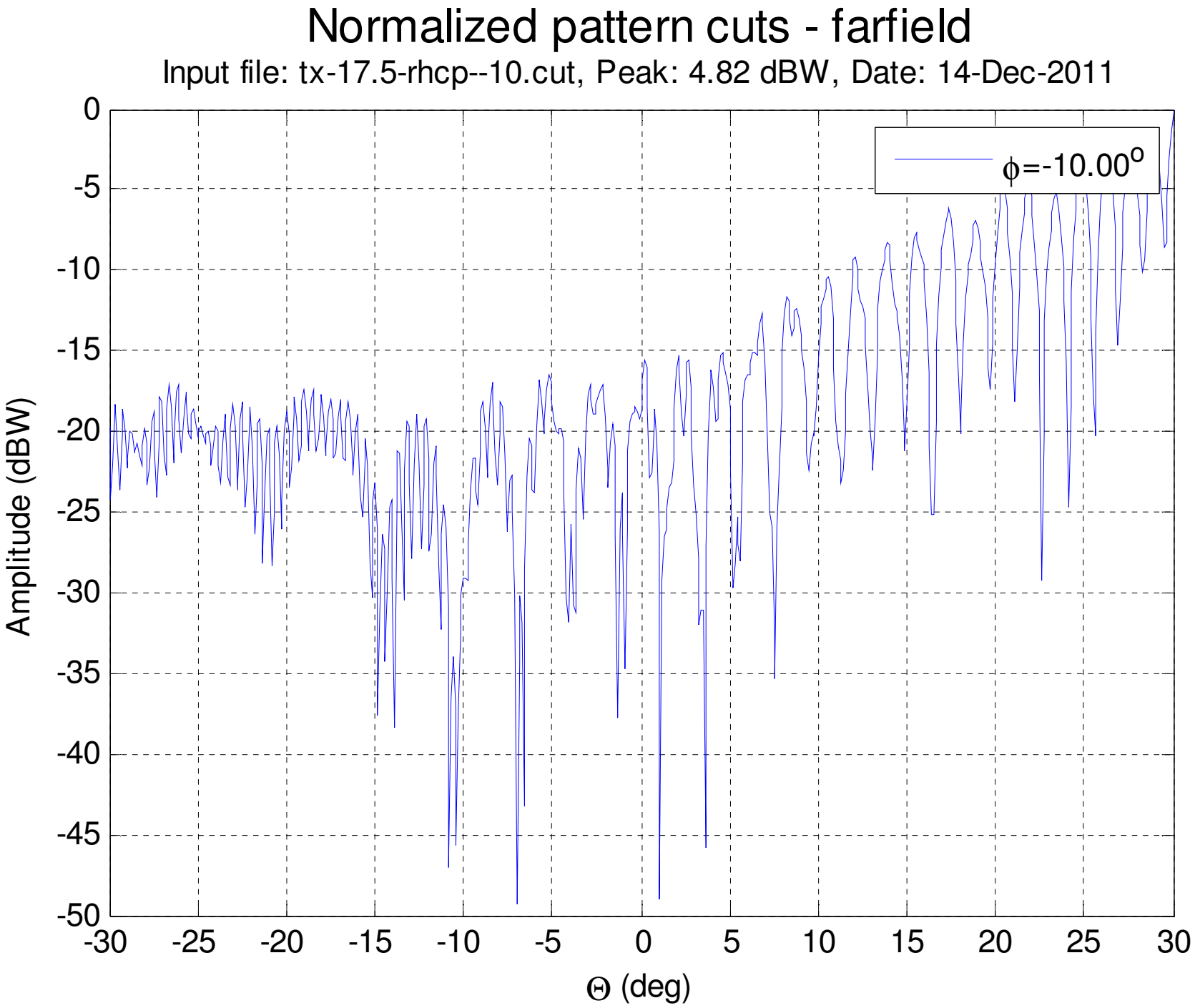

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--60.cut, Peak: -7.11 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

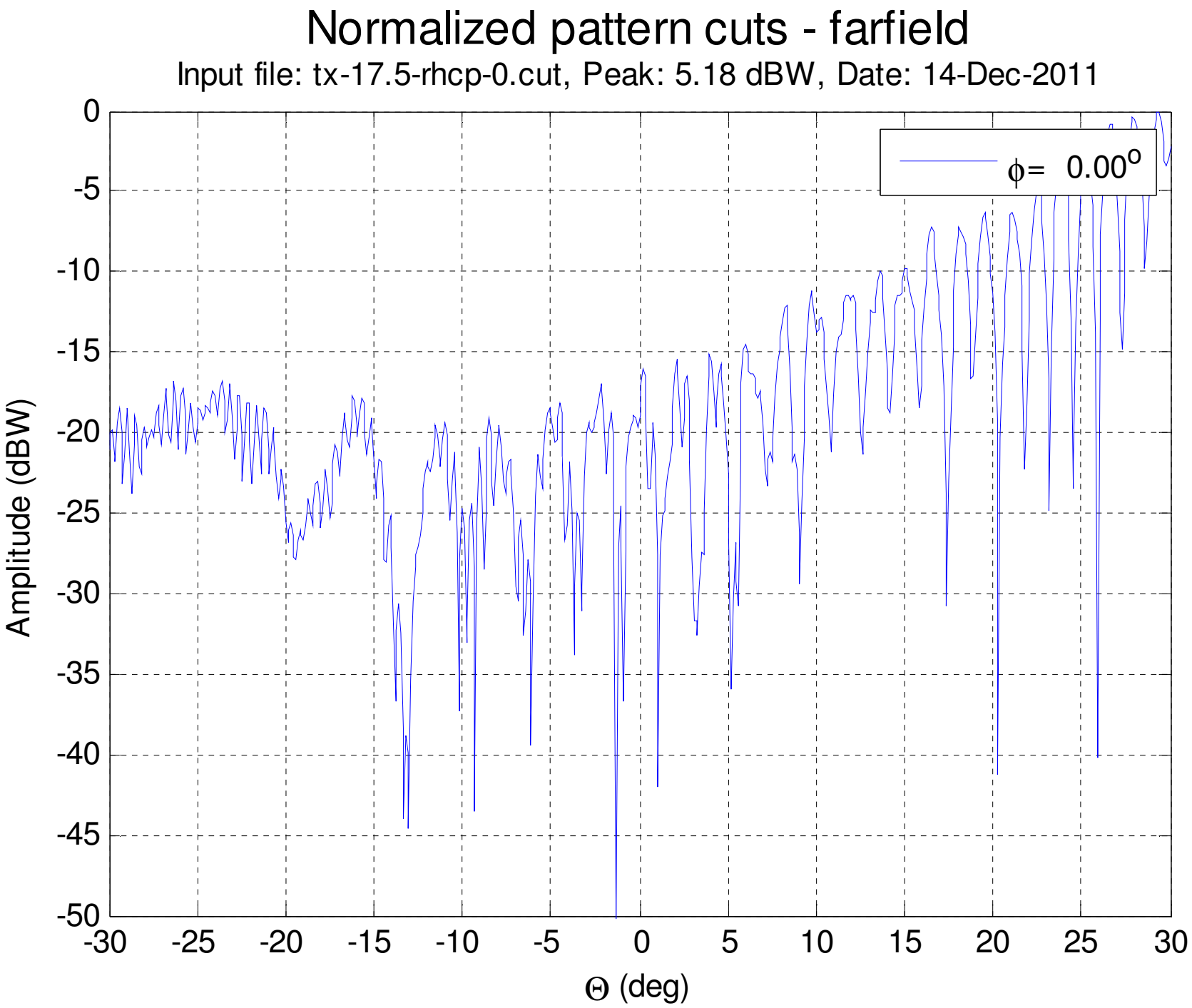

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--50.cut, Peak: -4.74 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

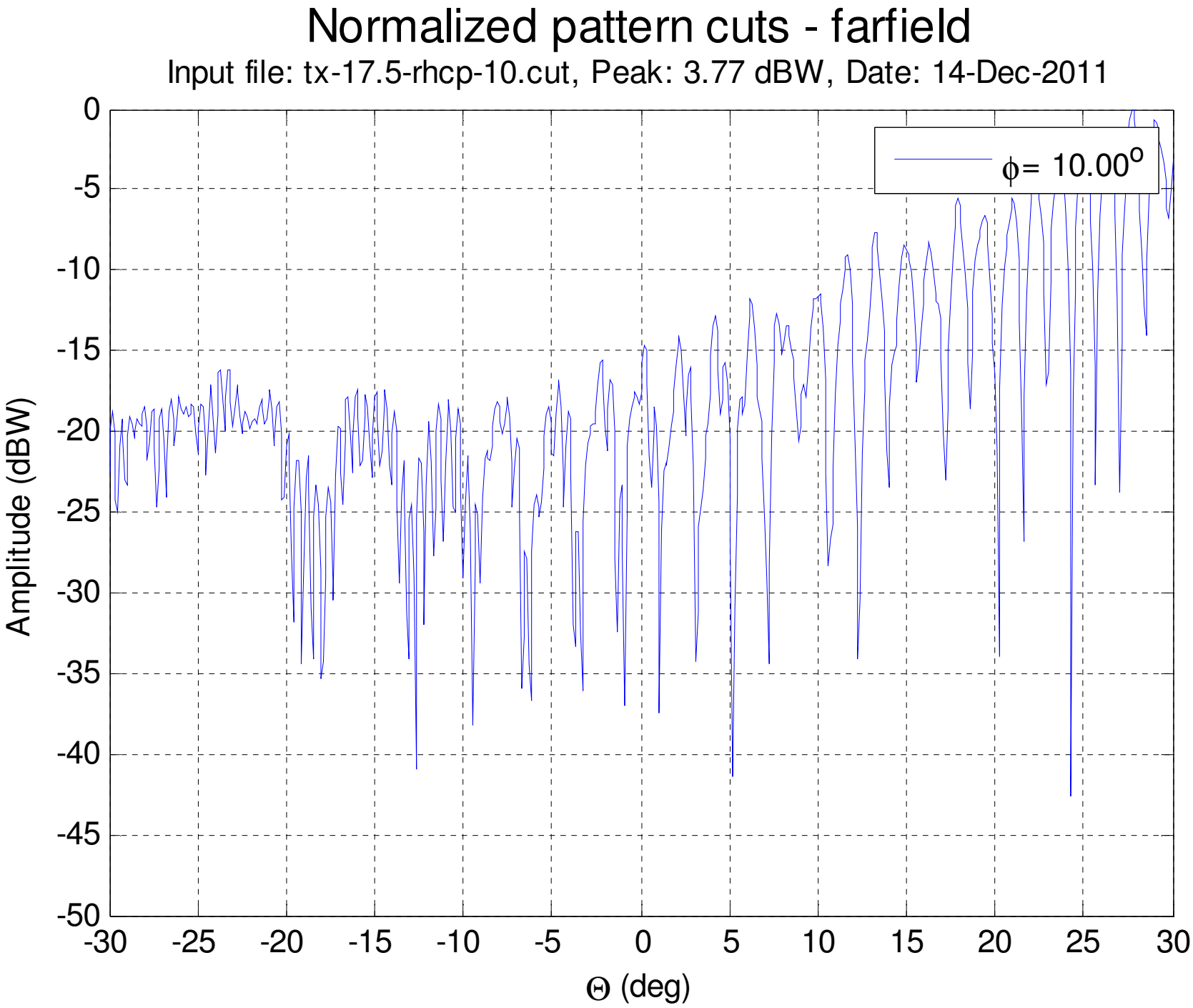

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--40.cut, Peak: -3.32 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

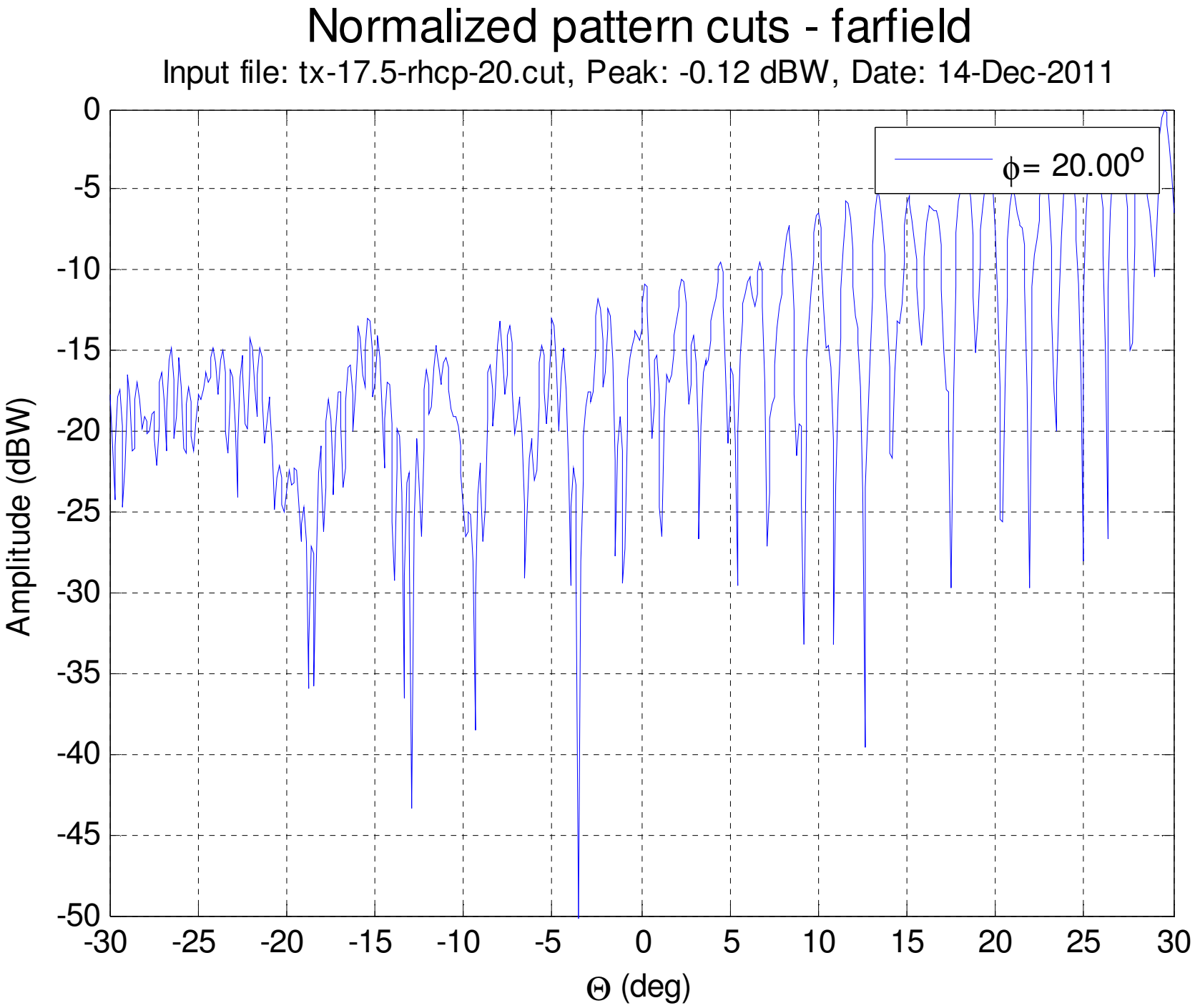

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--30.cut, Peak: -1.28 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

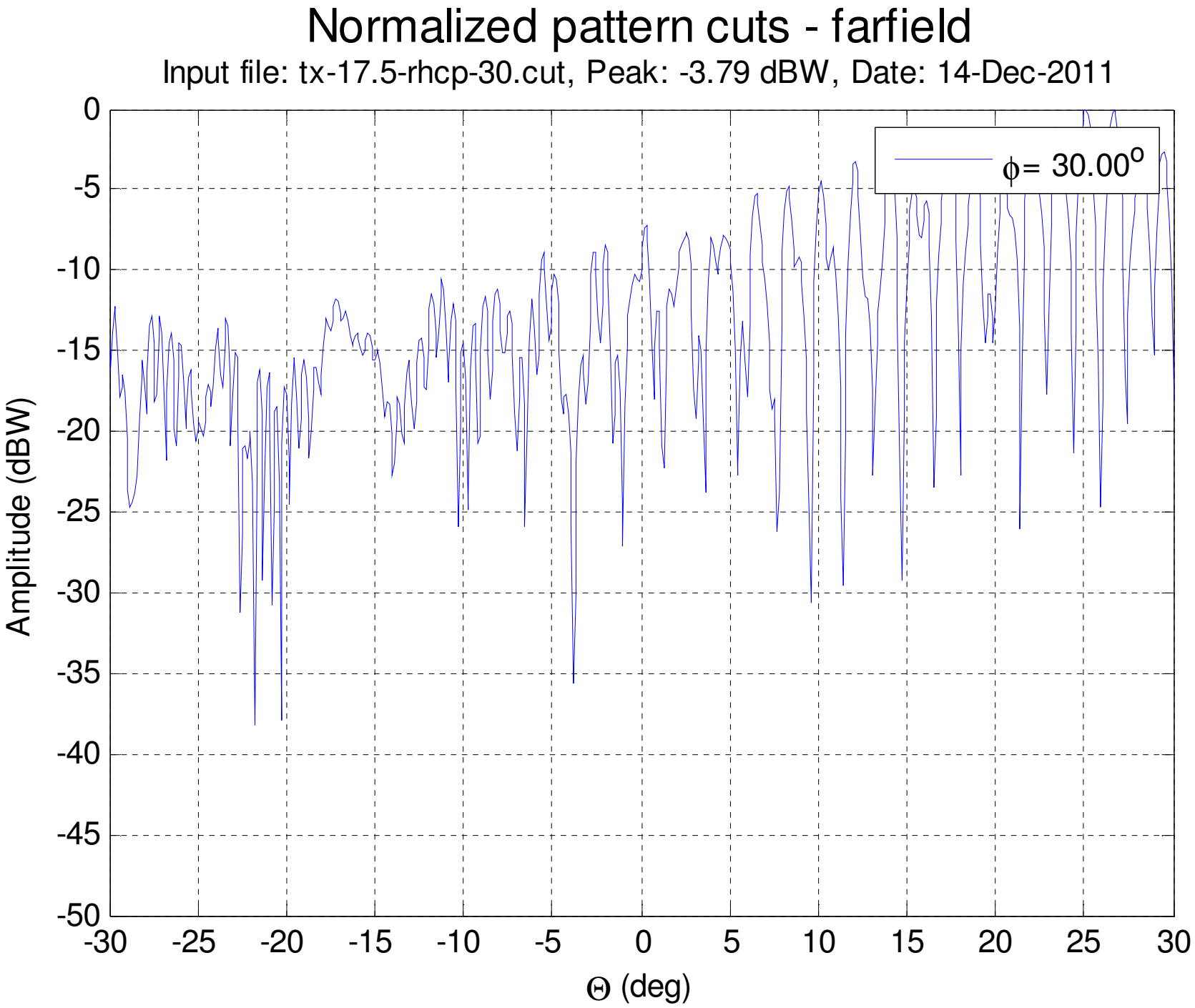

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--20.cut, Peak: 3.50 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

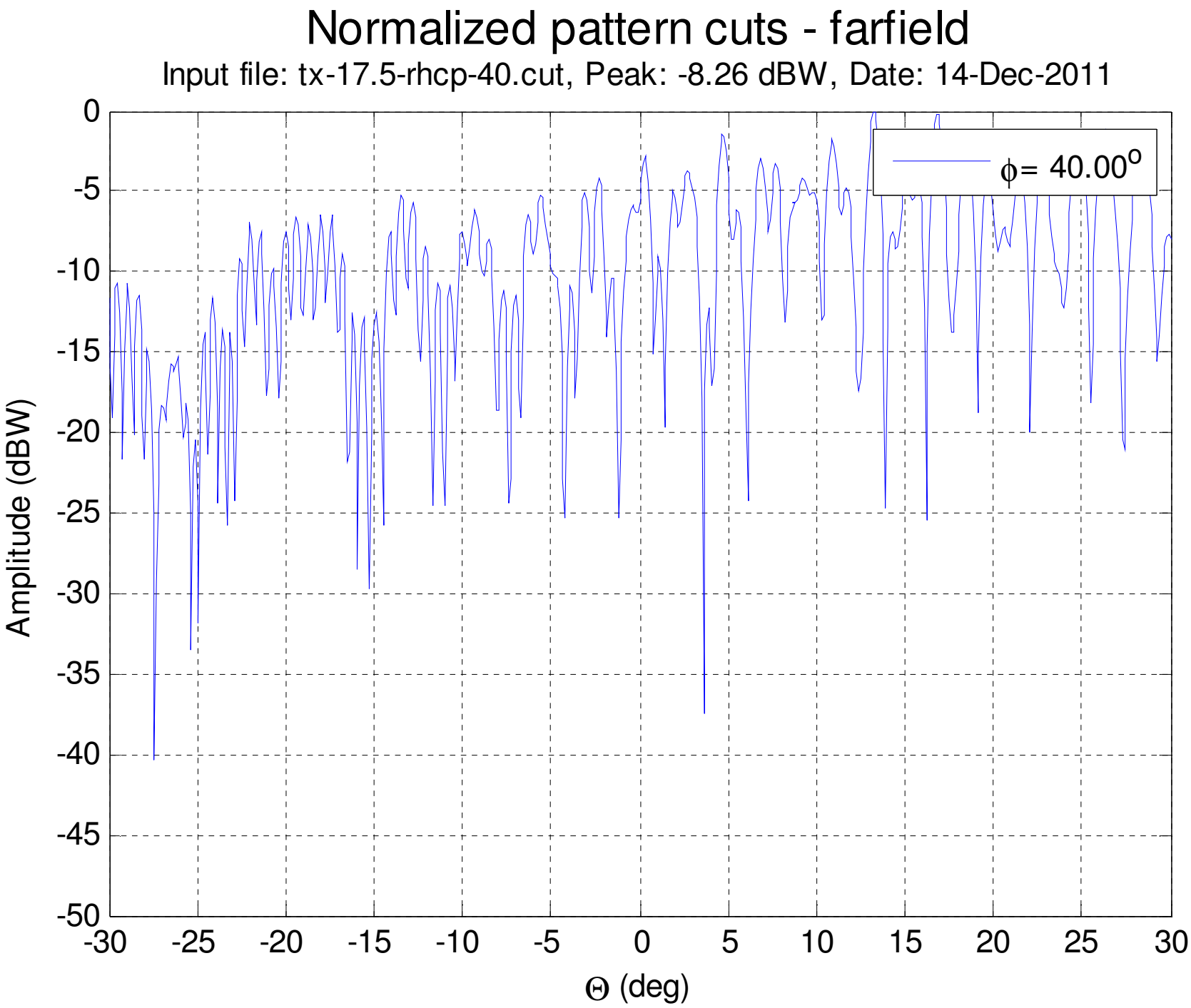

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp--10.cut, Peak: 4.82 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

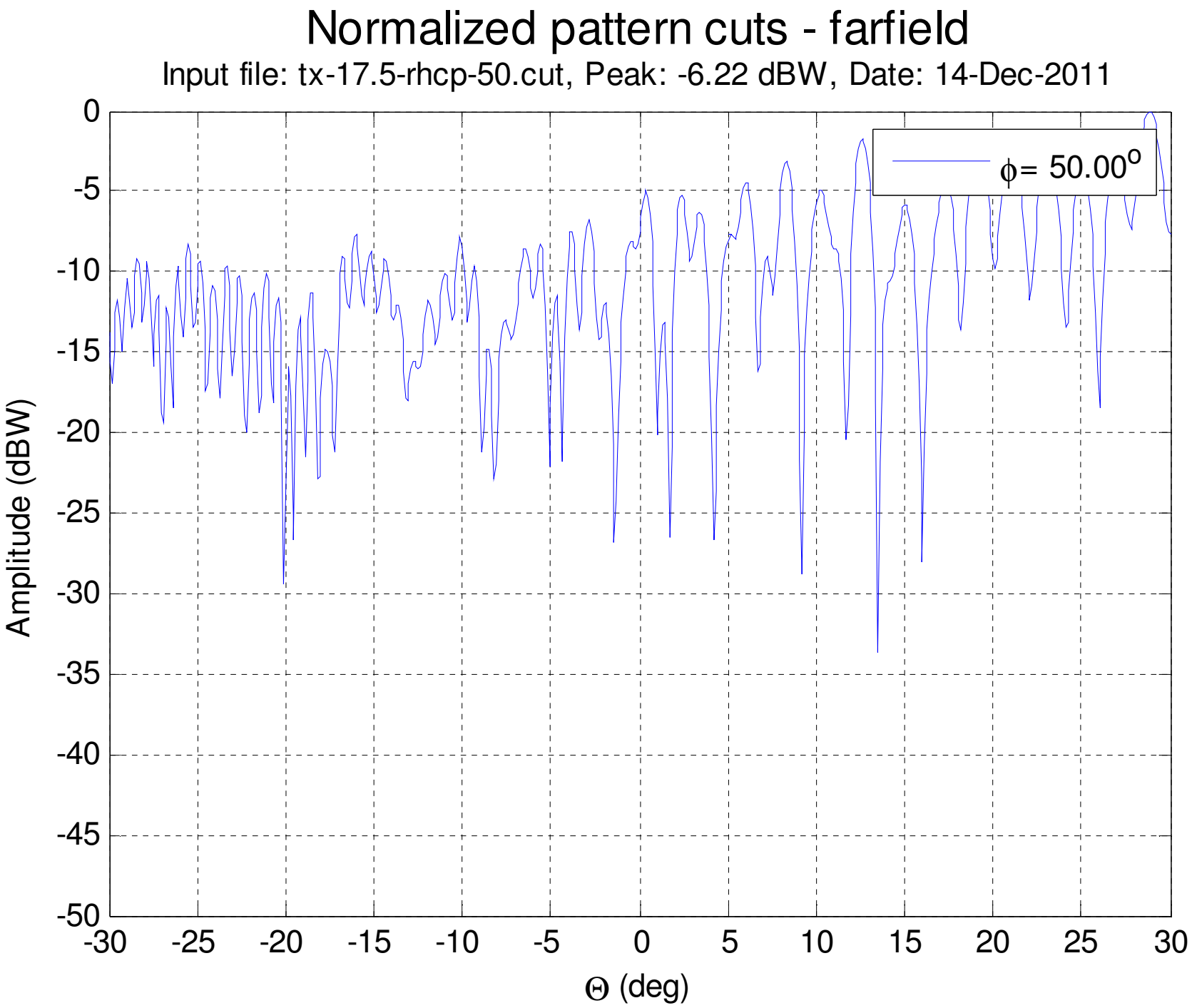

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-0.cut, Peak: 5.18 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

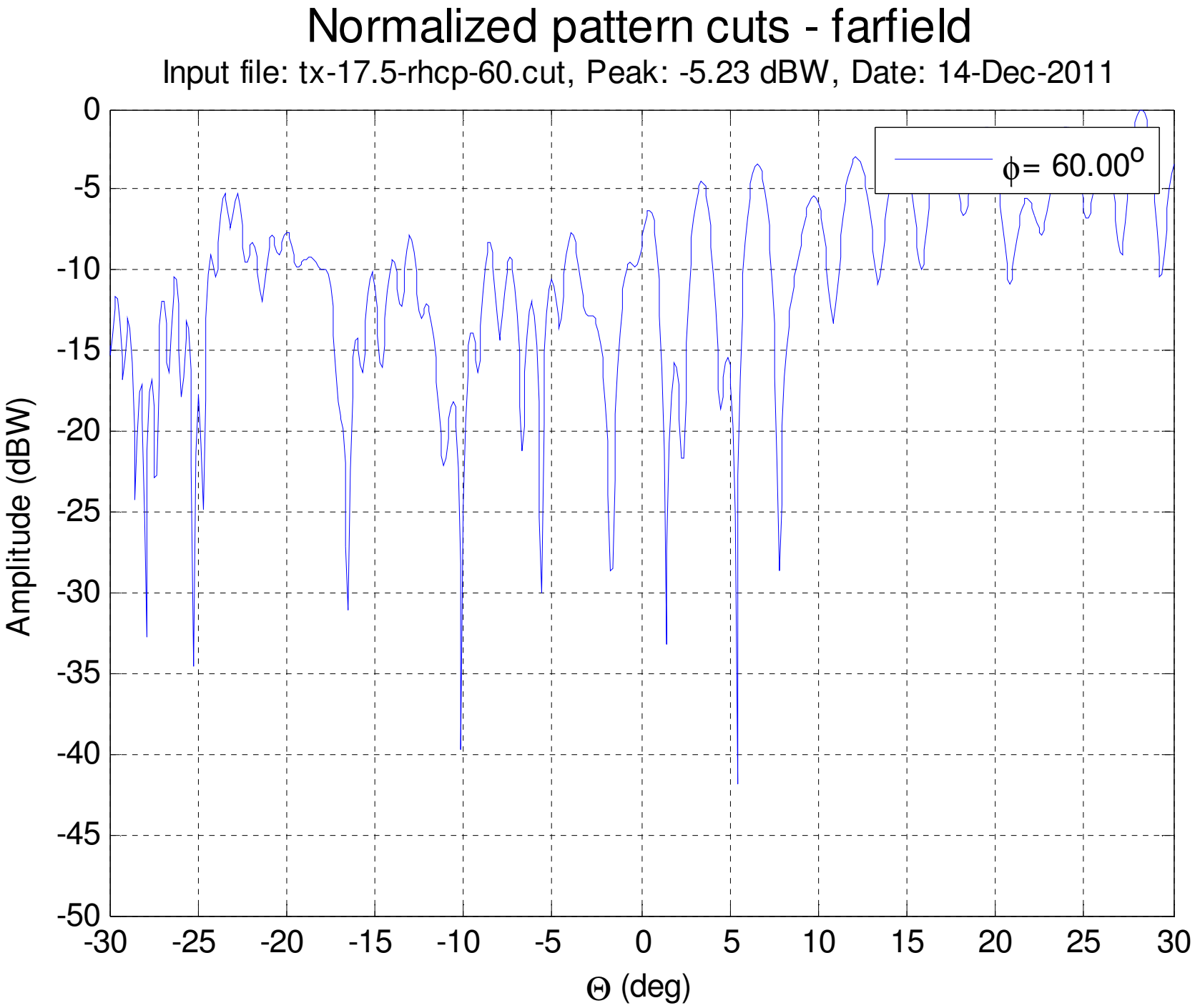

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-10.cut, Peak: 3.77 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-20.cut, Peak: -0.12 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

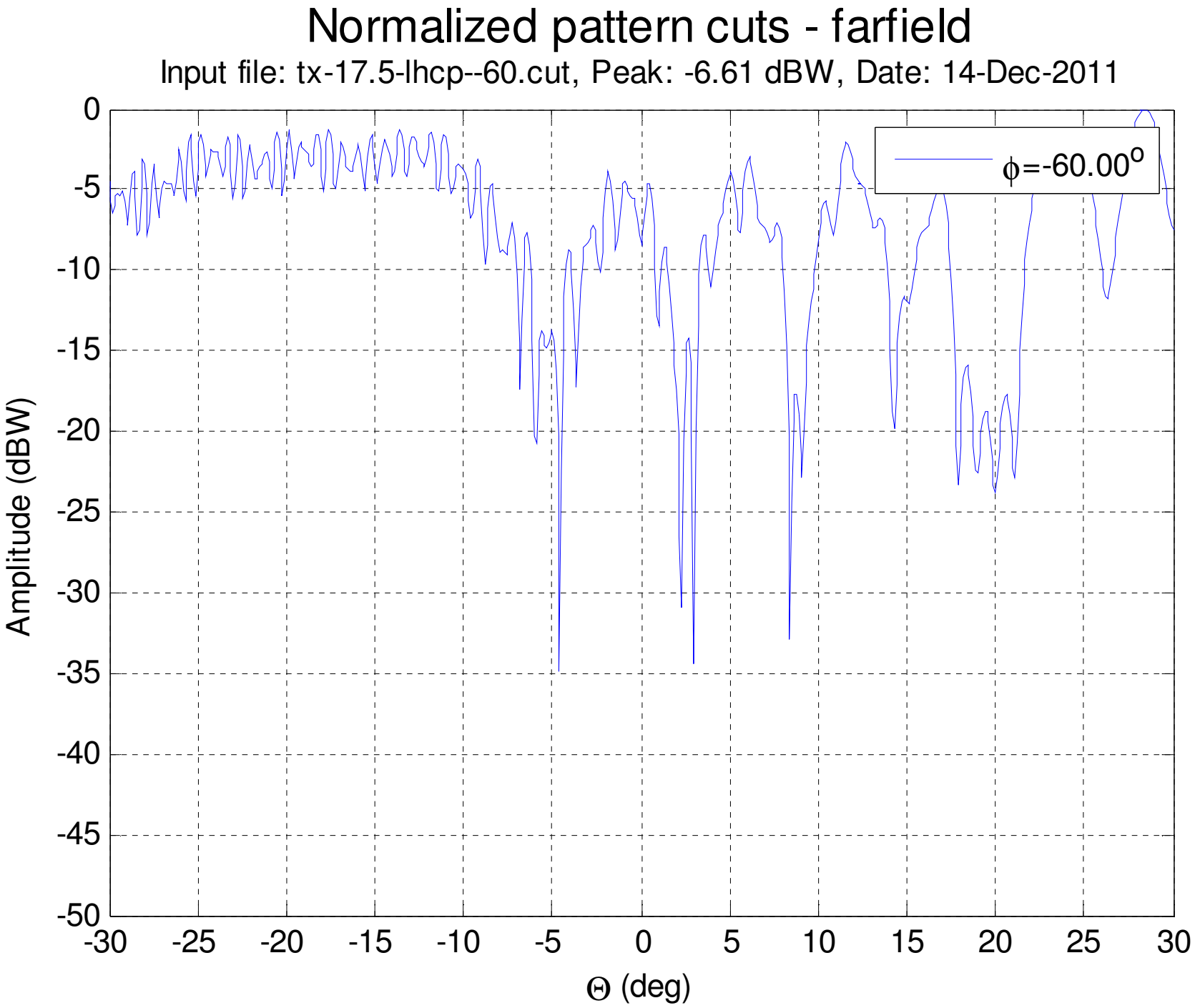

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-30.cut, Peak: -3.79 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

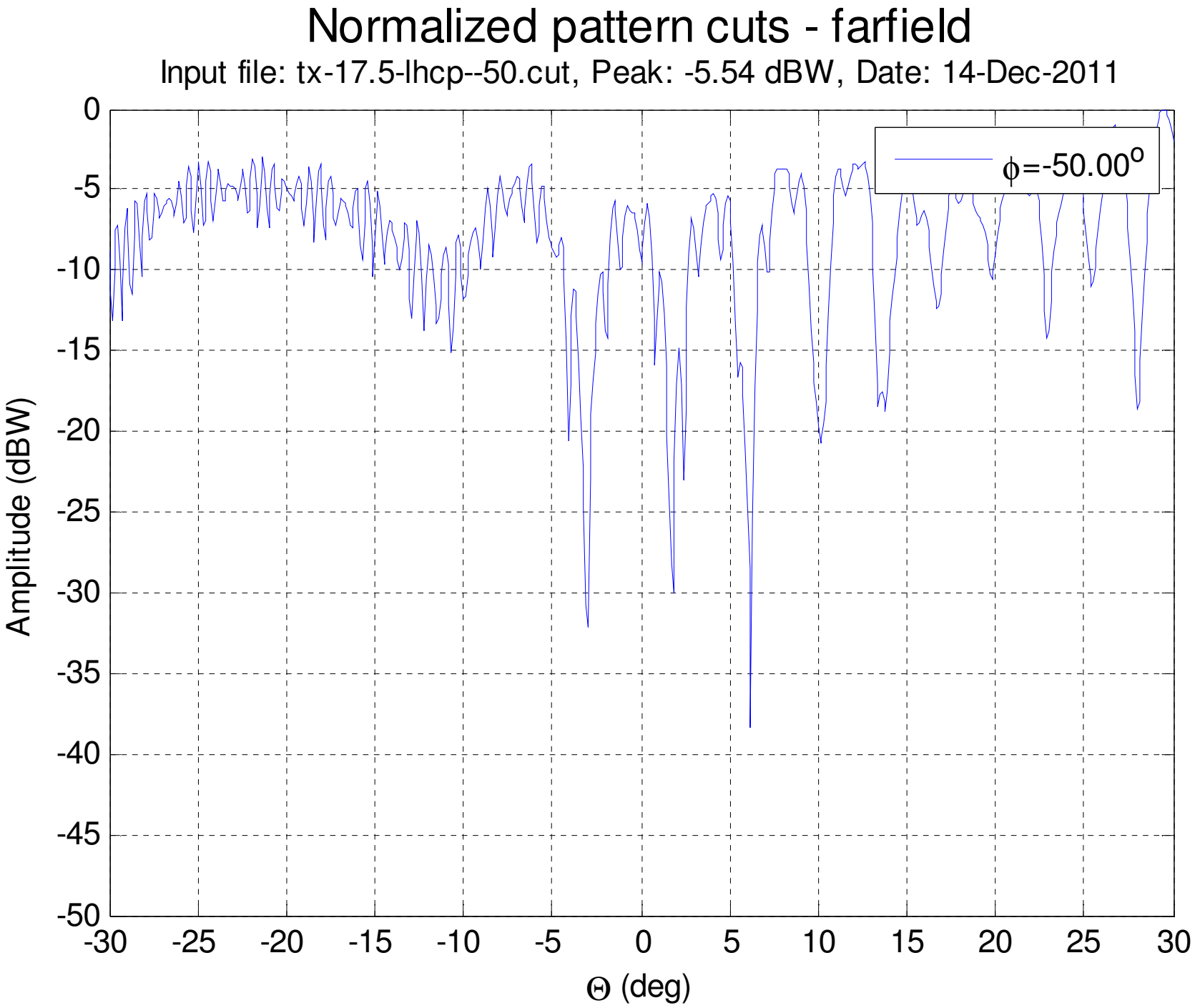

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-40.cut, Peak: -8.26 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

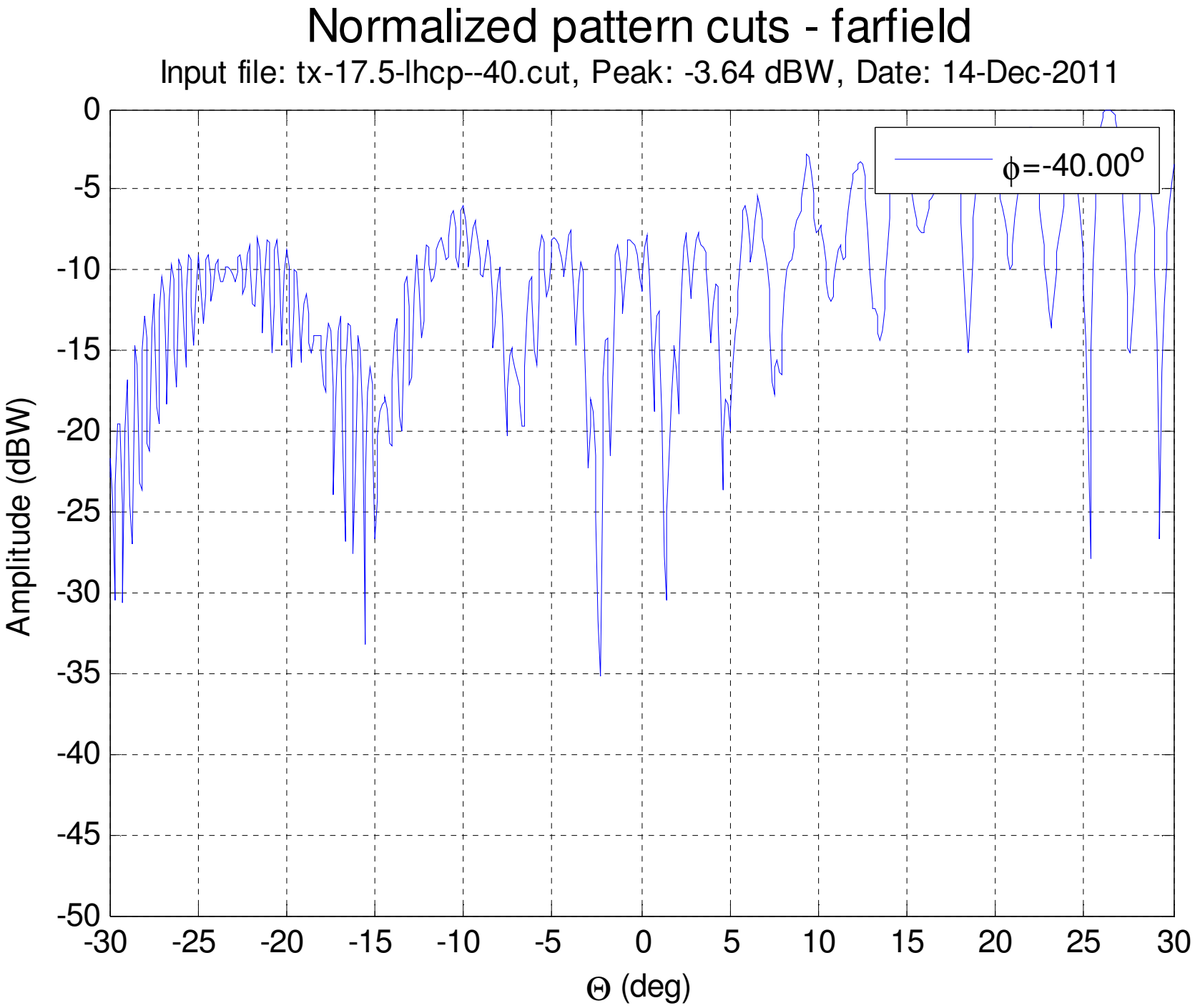

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-50.cut, Peak: -6.22 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

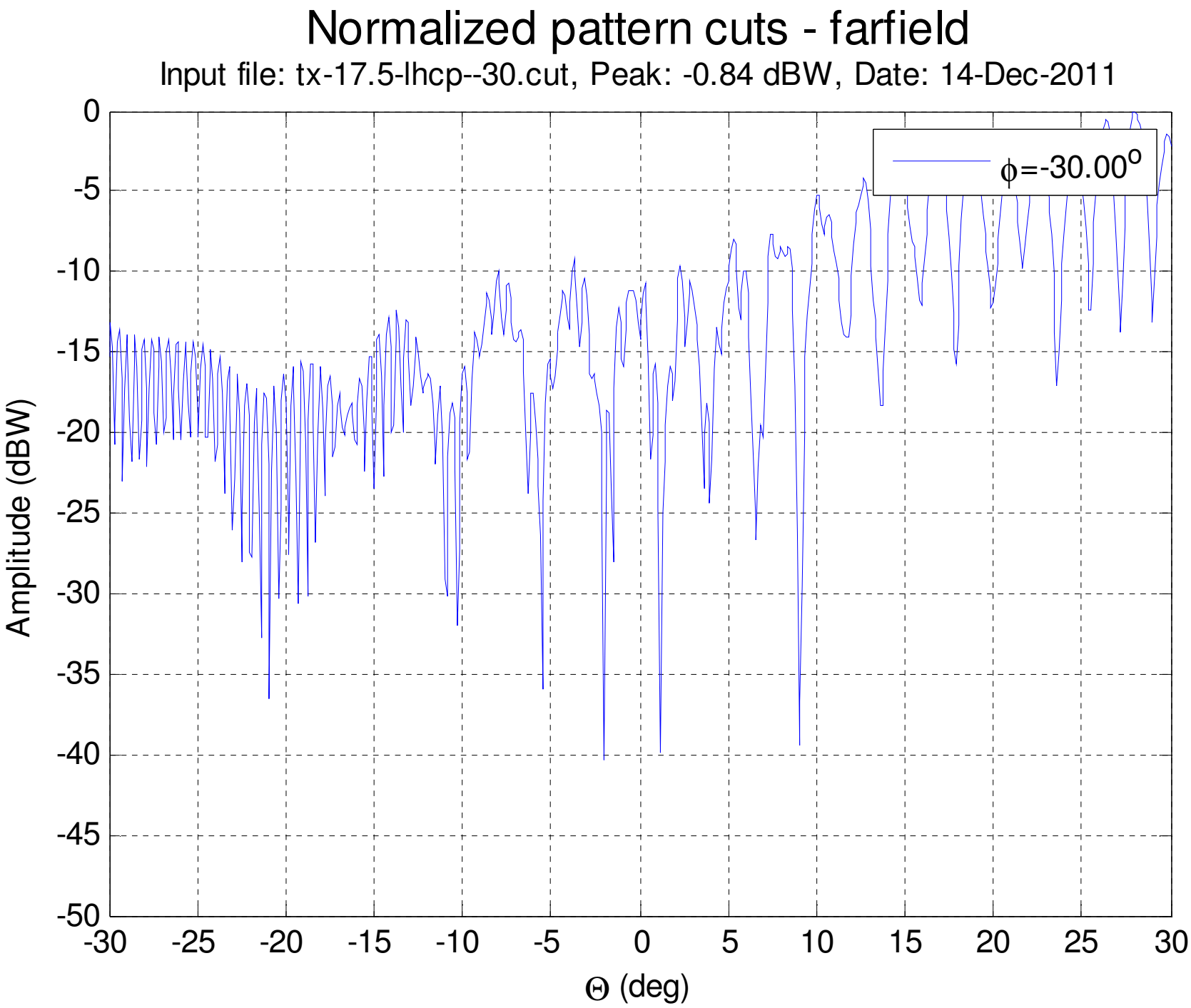

Normalized pattern cuts - farfield
Input file: tx-17.5-rhcp-60.cut, Peak: -5.23 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

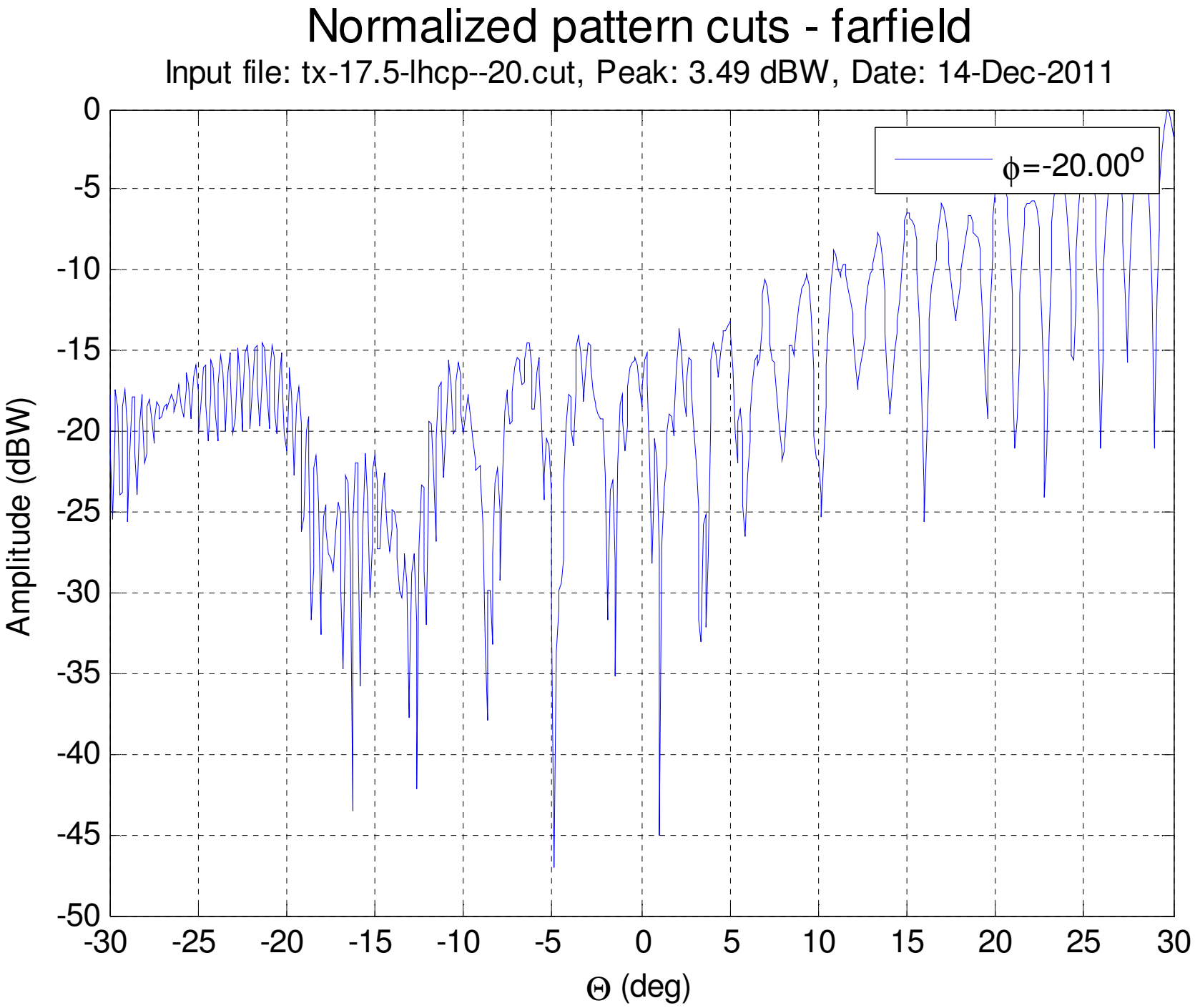
LHCP at 17.5 GHz

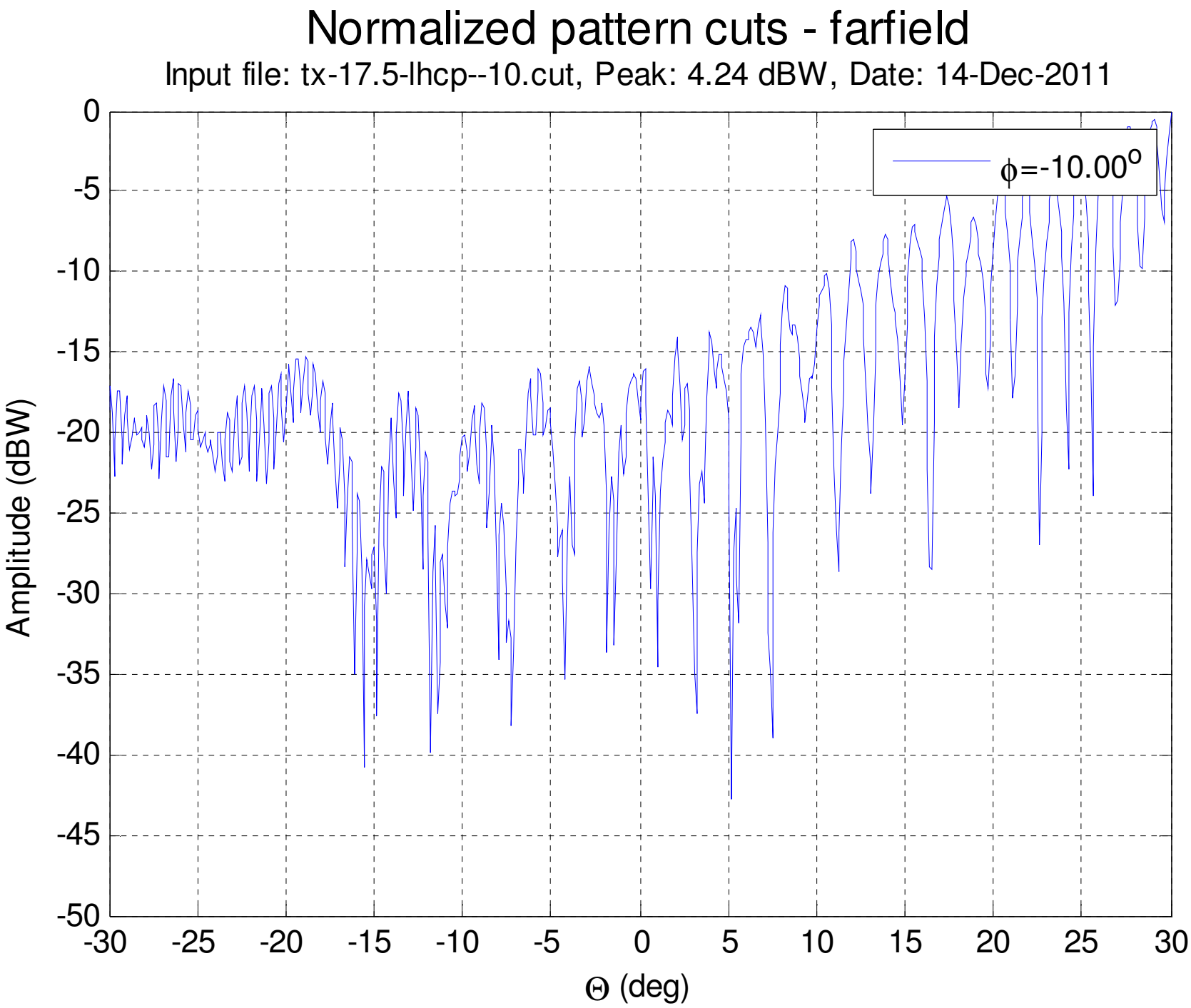

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--60.cut, Peak: -6.61 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

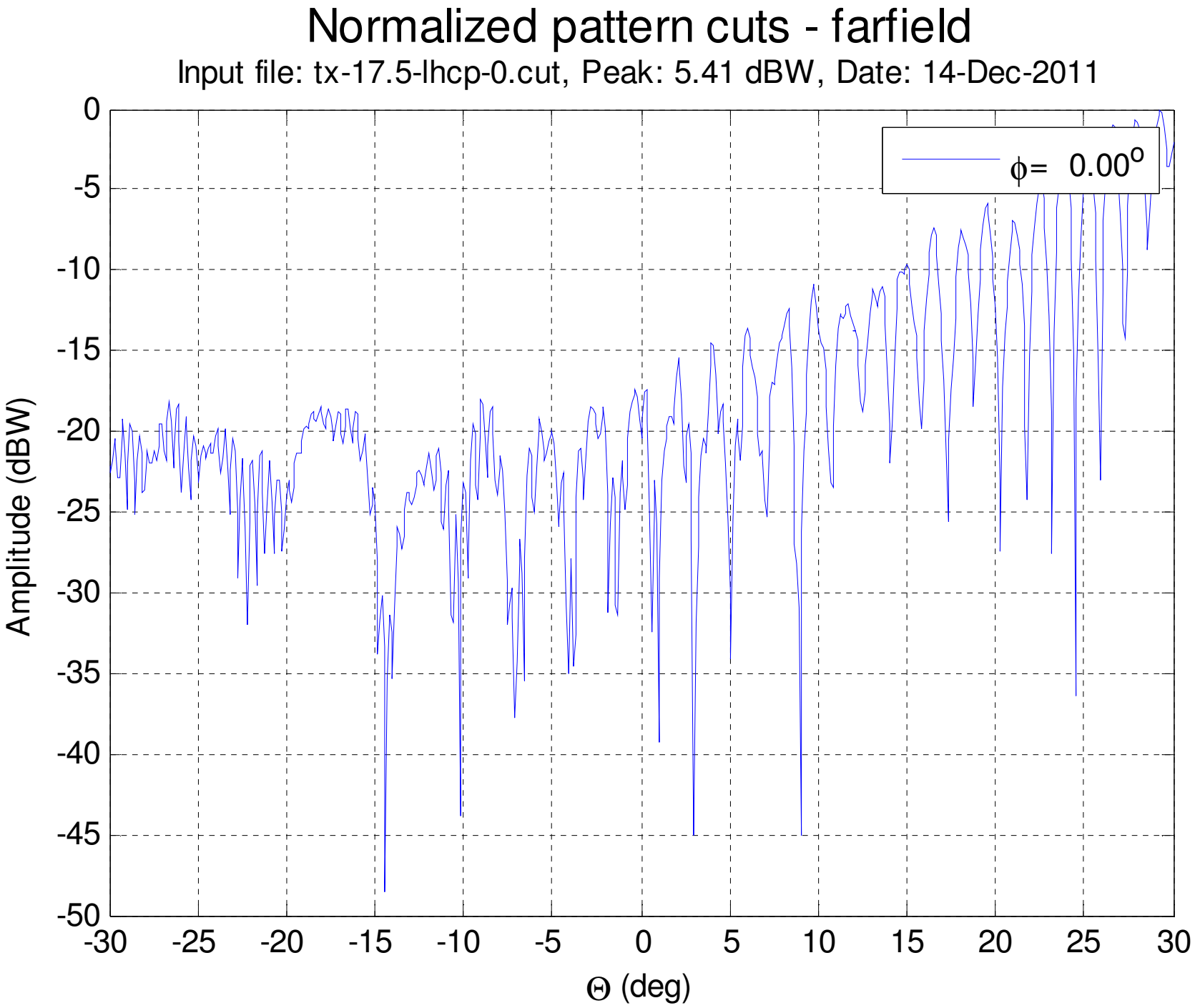

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--50.cut, Peak: -5.54 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

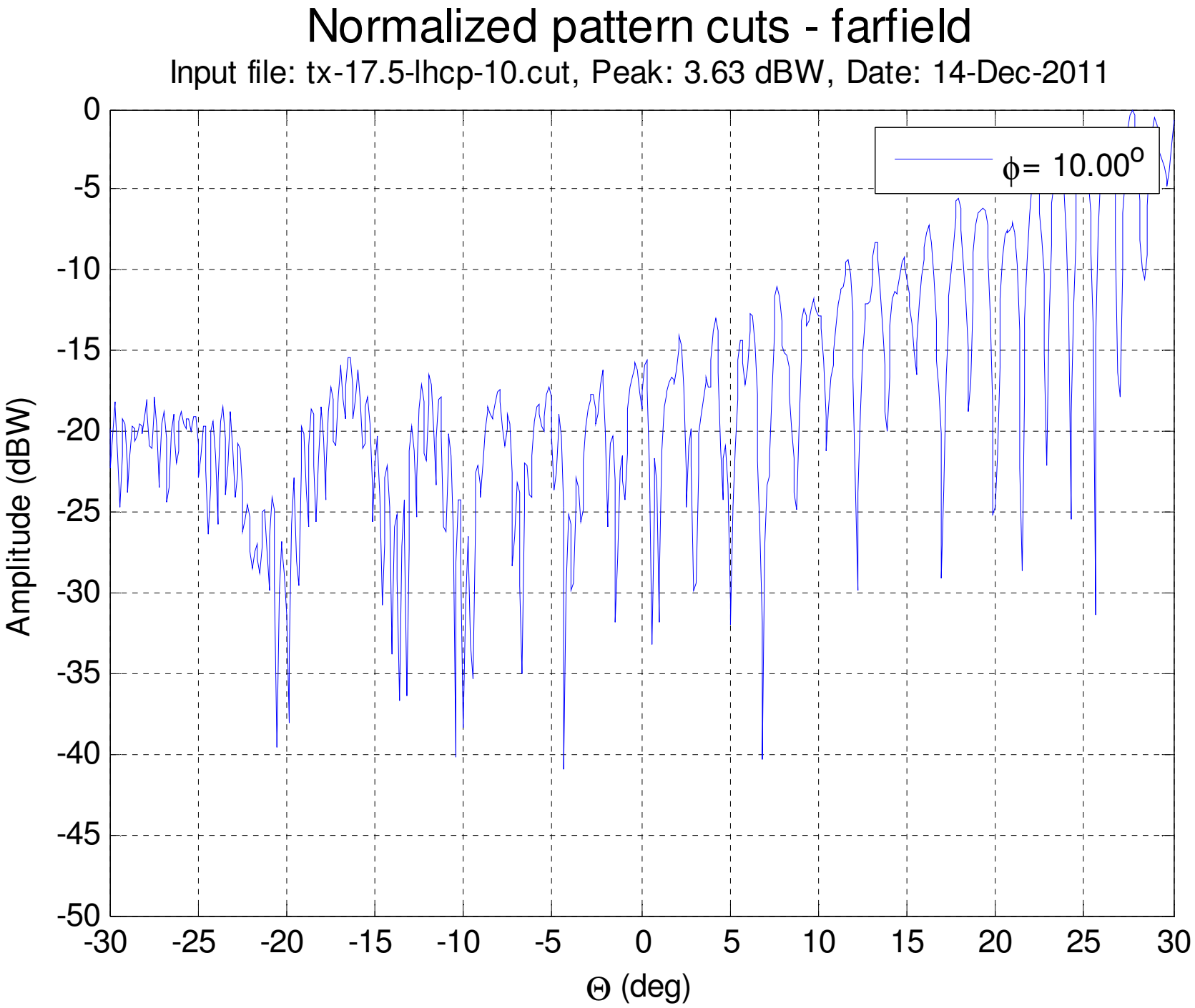

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--40.cut, Peak: -3.64 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

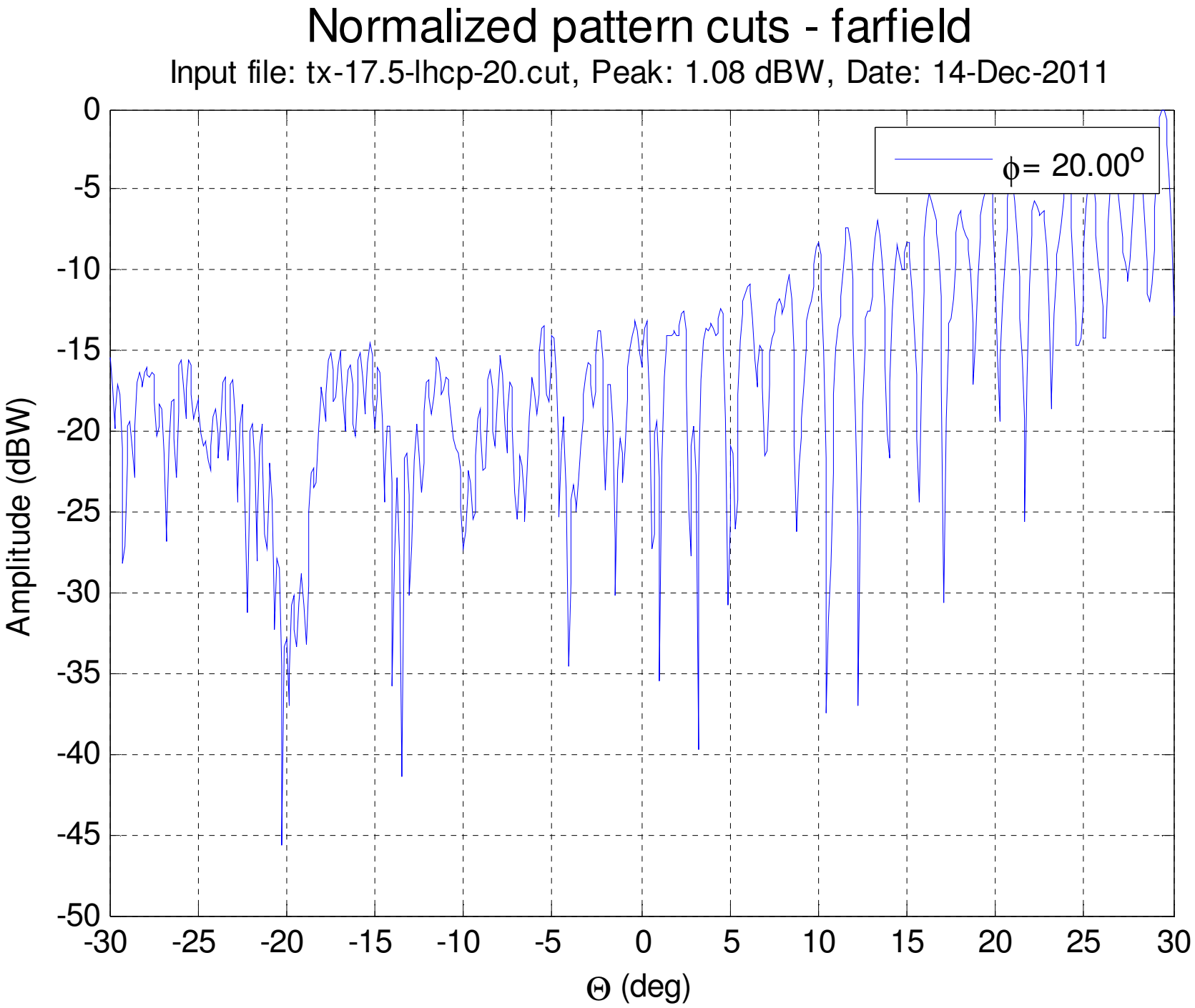

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--30.cut, Peak: -0.84 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

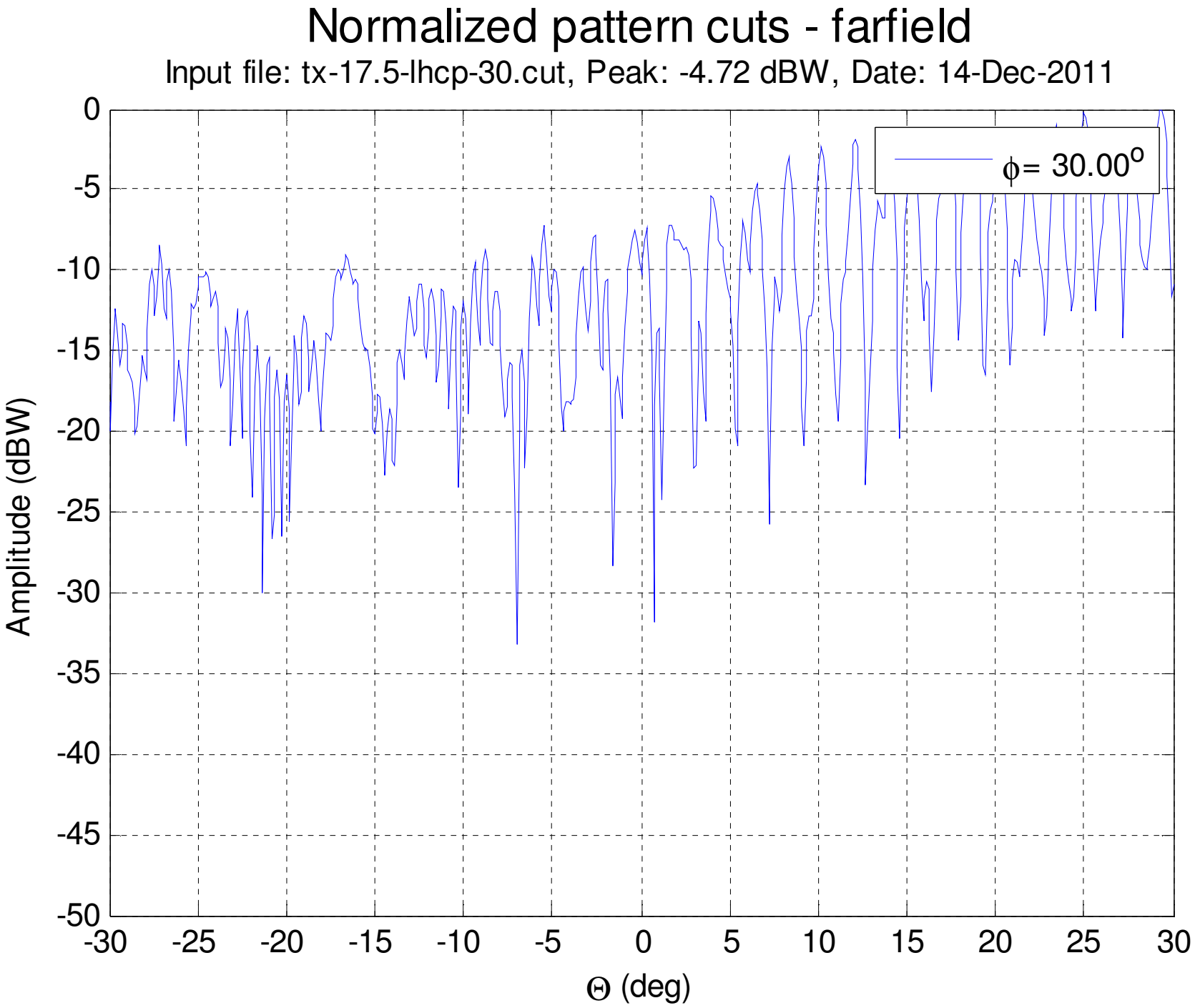

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--20.cut, Peak: 3.49 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

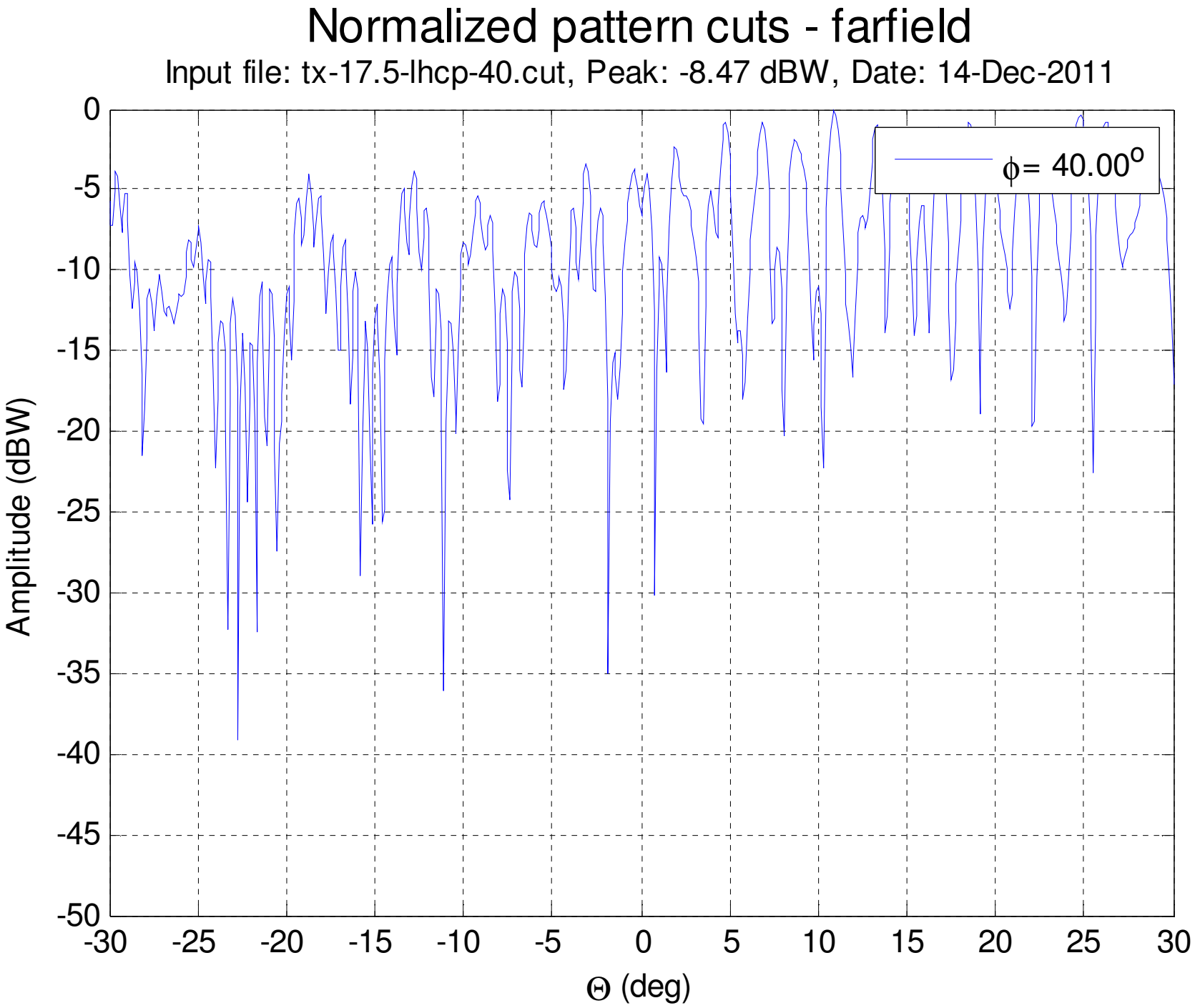

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp--10.cut, Peak: 4.24 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

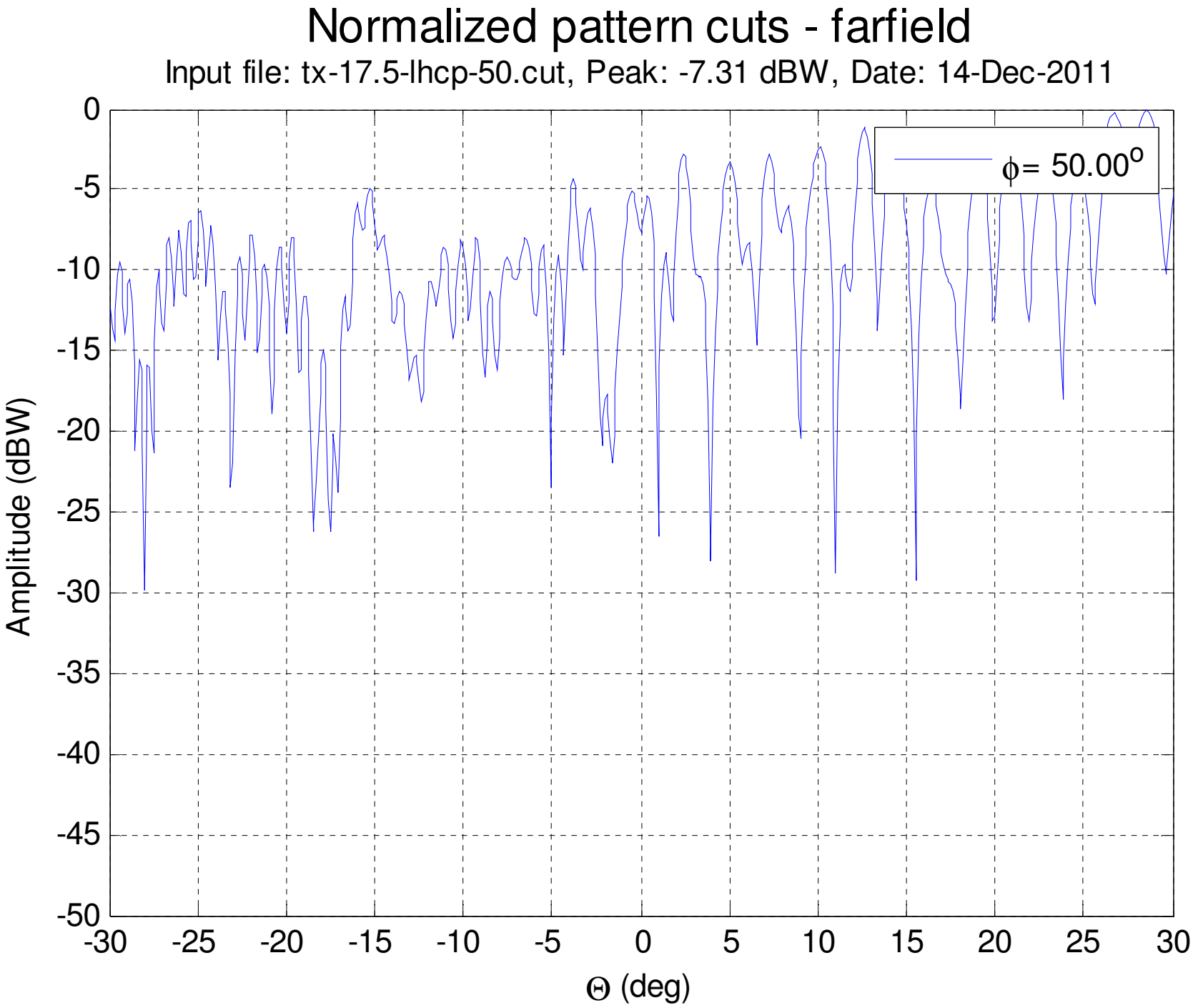

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-0.cut, Peak: 5.41 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

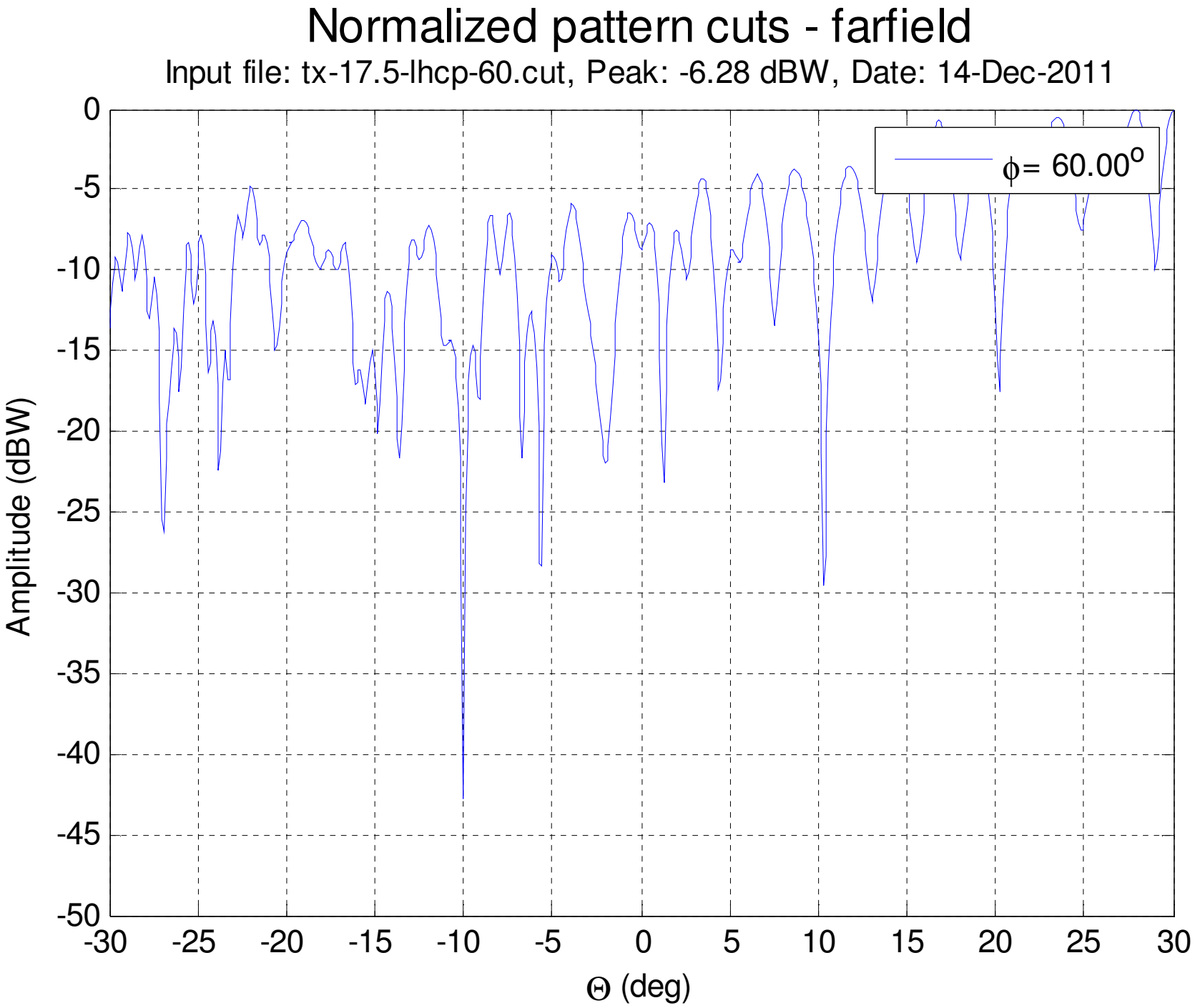

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-10.cut, Peak: 3.63 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-20.cut, Peak: 1.08 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

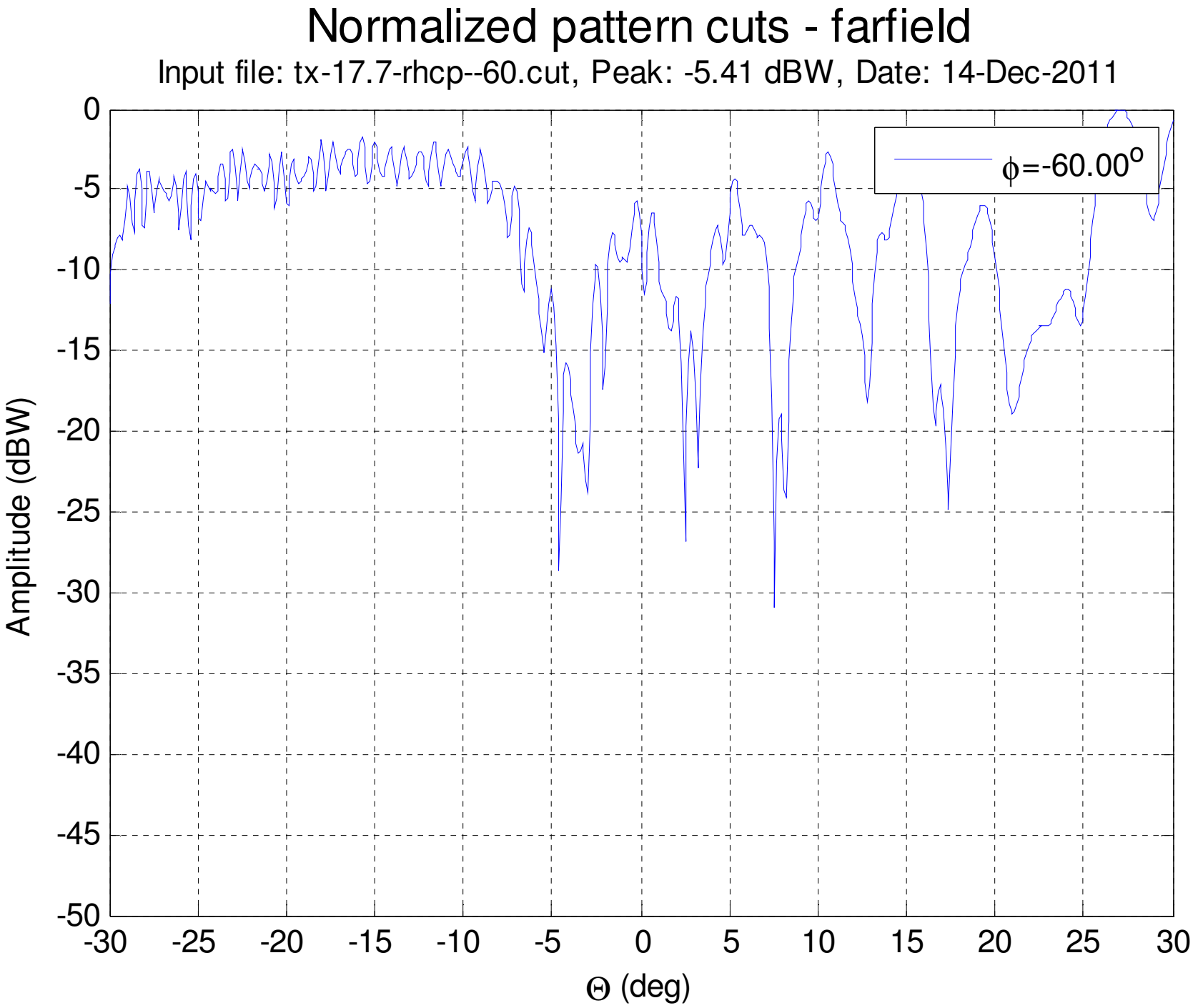

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-30.cut, Peak: -4.72 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

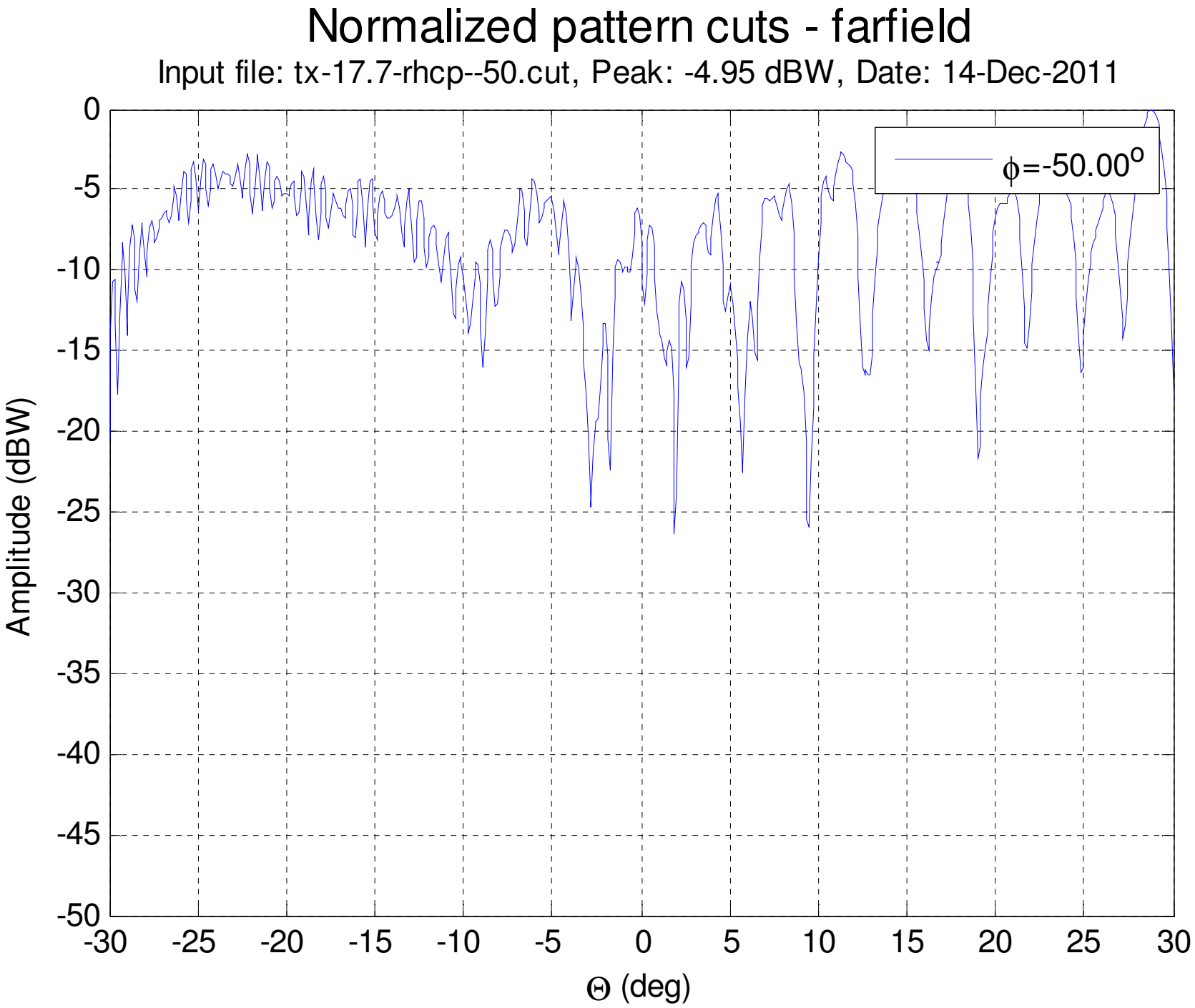

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-40.cut, Peak: -8.47 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

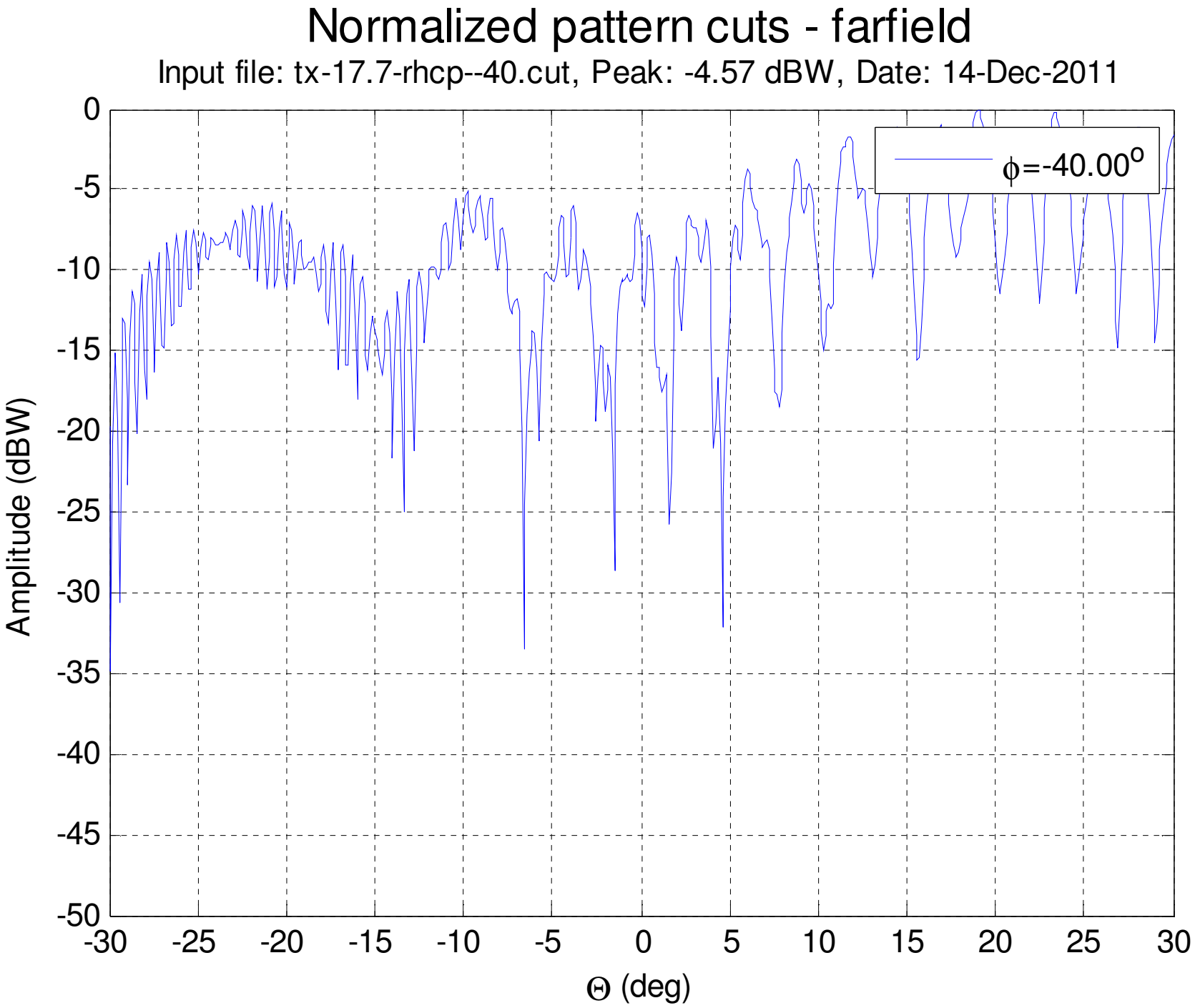

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-50.cut, Peak: -7.31 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

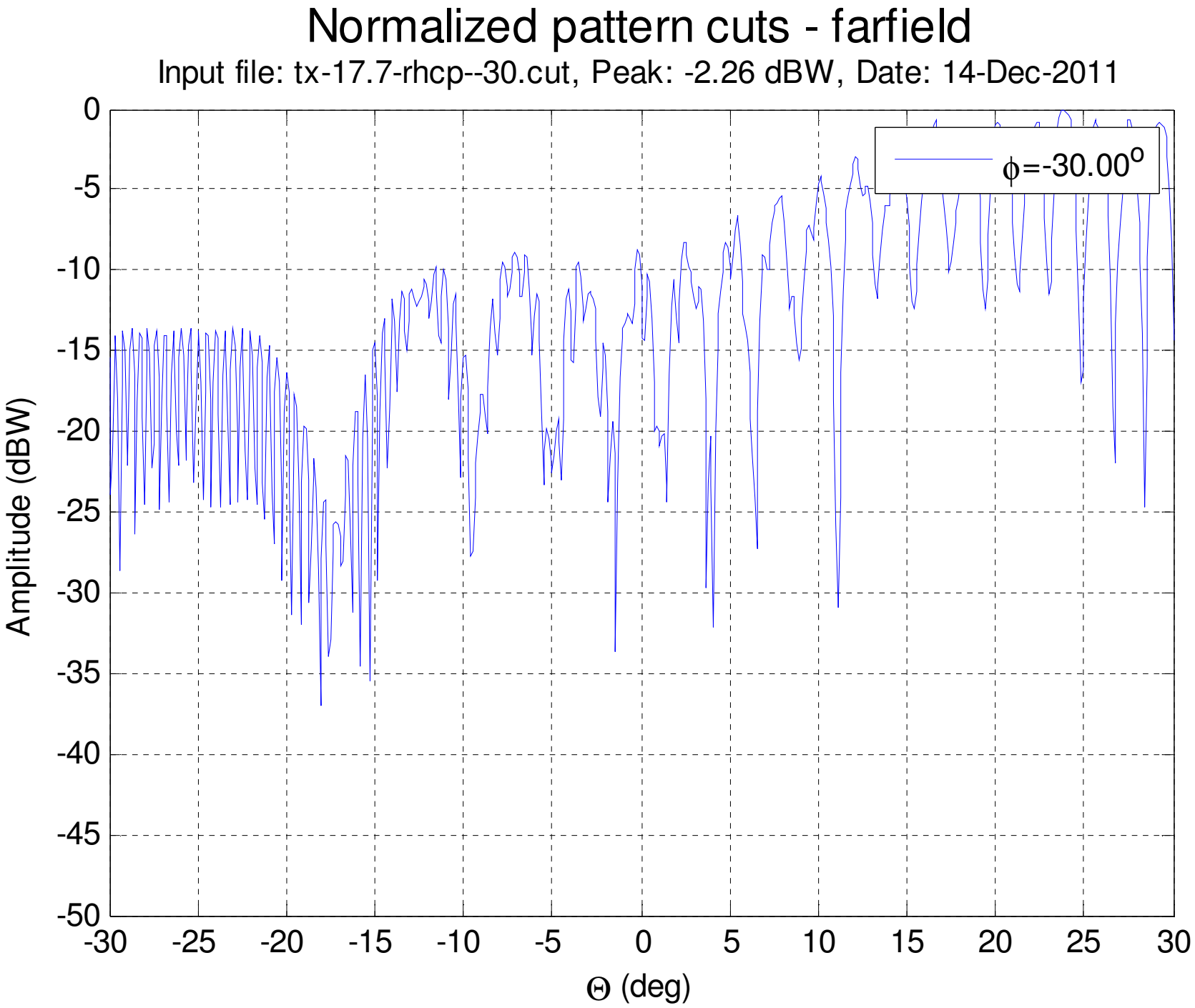

Normalized pattern cuts - farfield
Input file: tx-17.5-lhcp-60.cut, Peak: -6.28 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

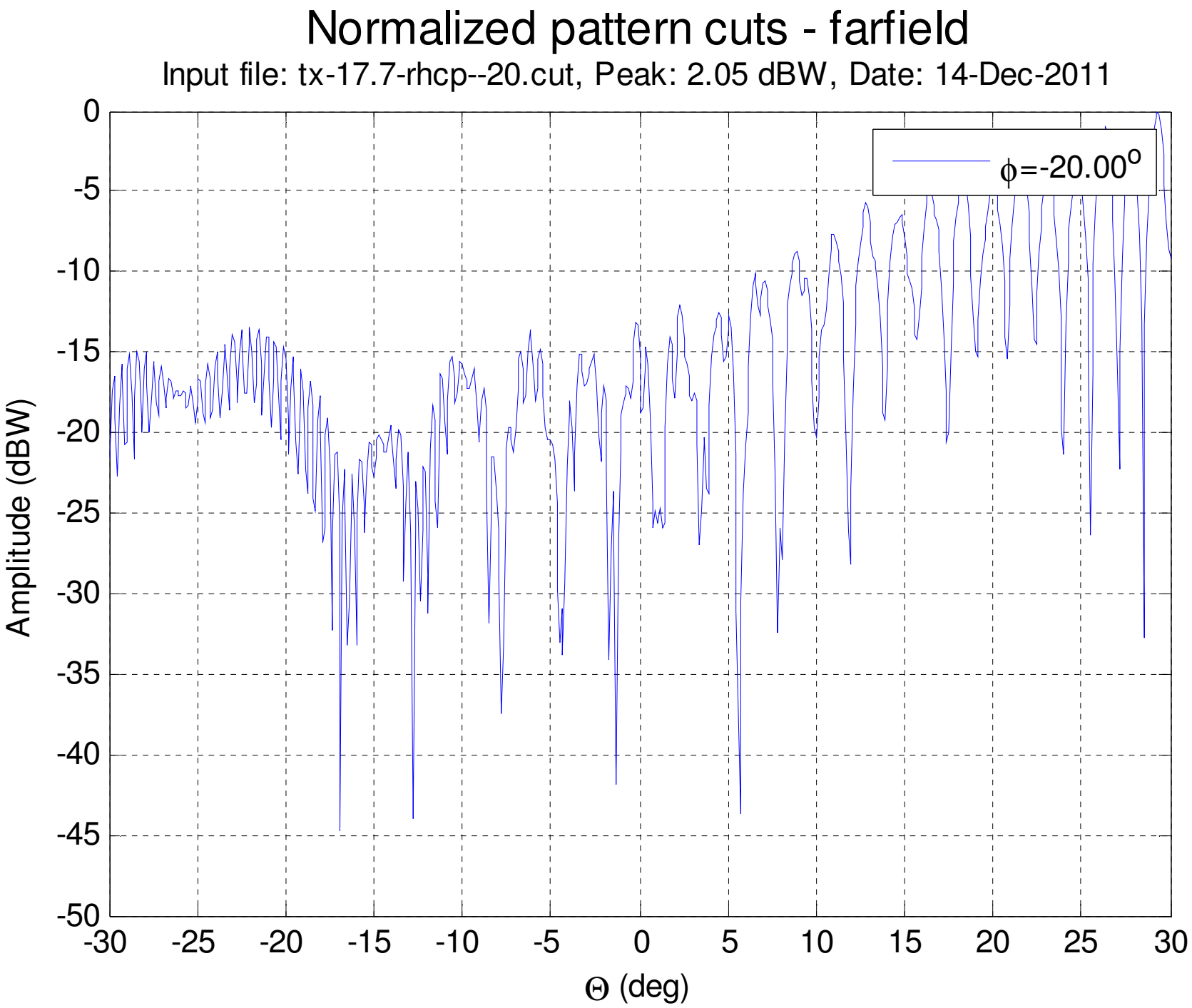
RHCP at 17.7 GHz

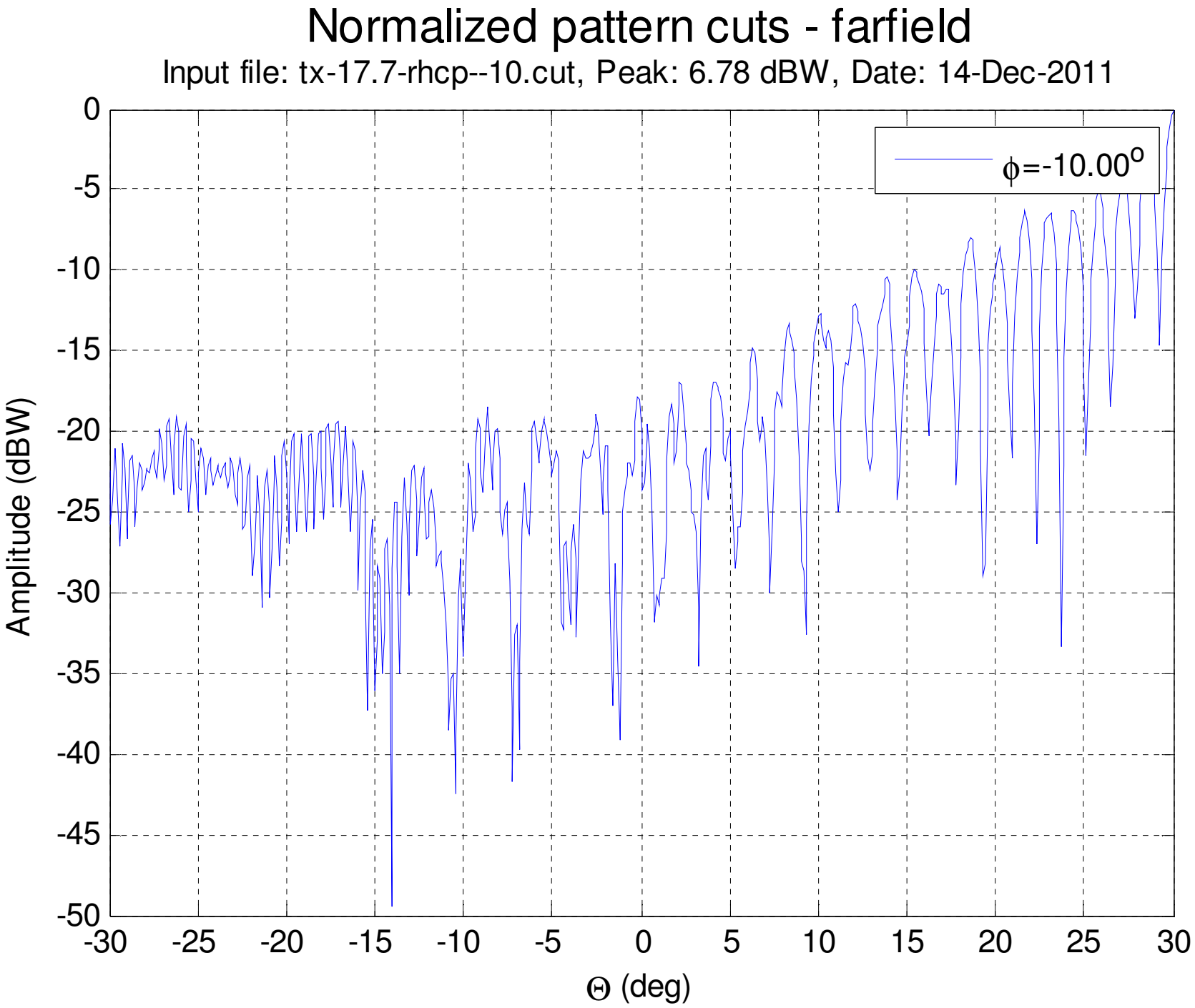

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--60.cut, Peak: -5.41 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-60.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

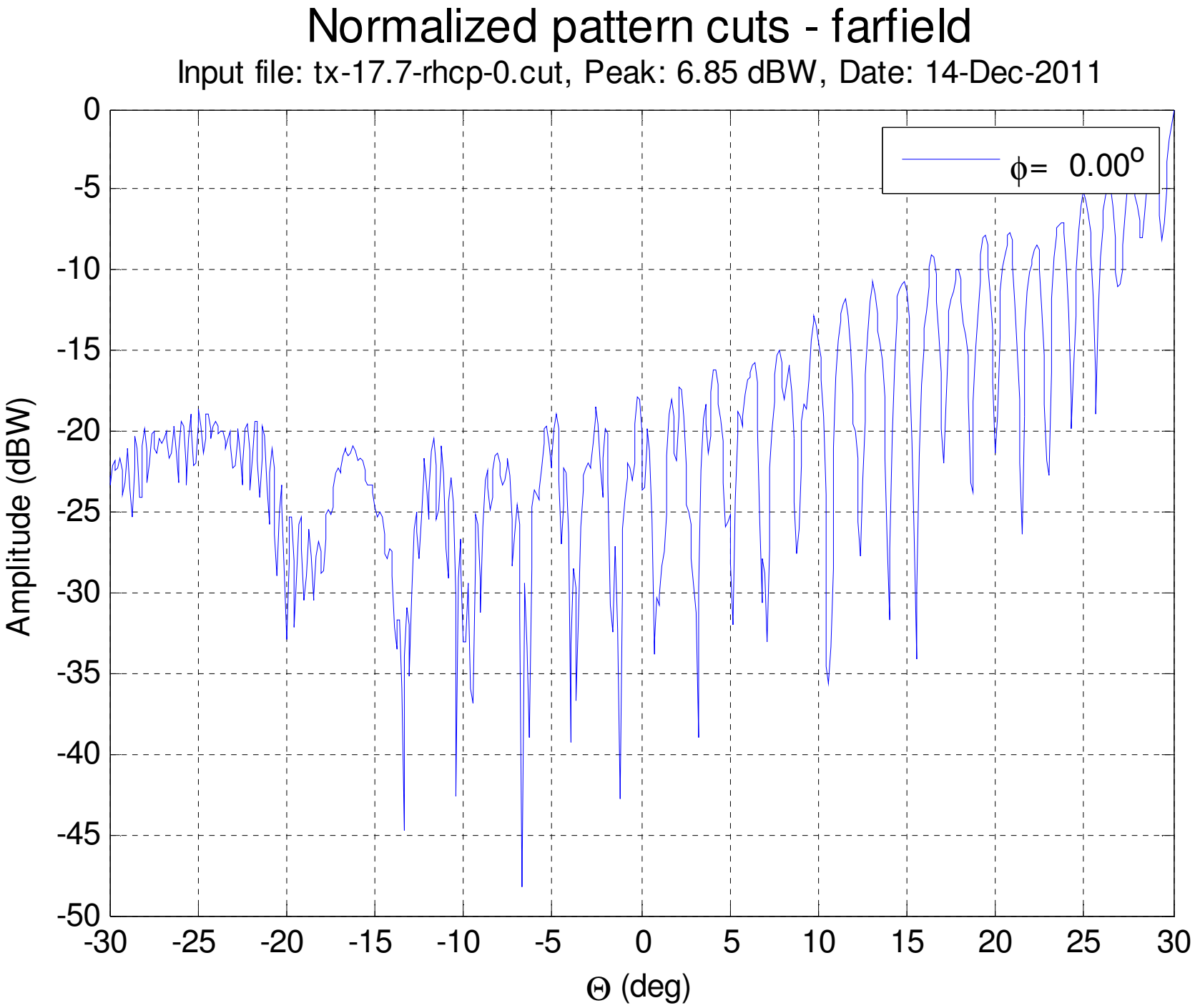

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--50.cut, Peak: -4.95 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

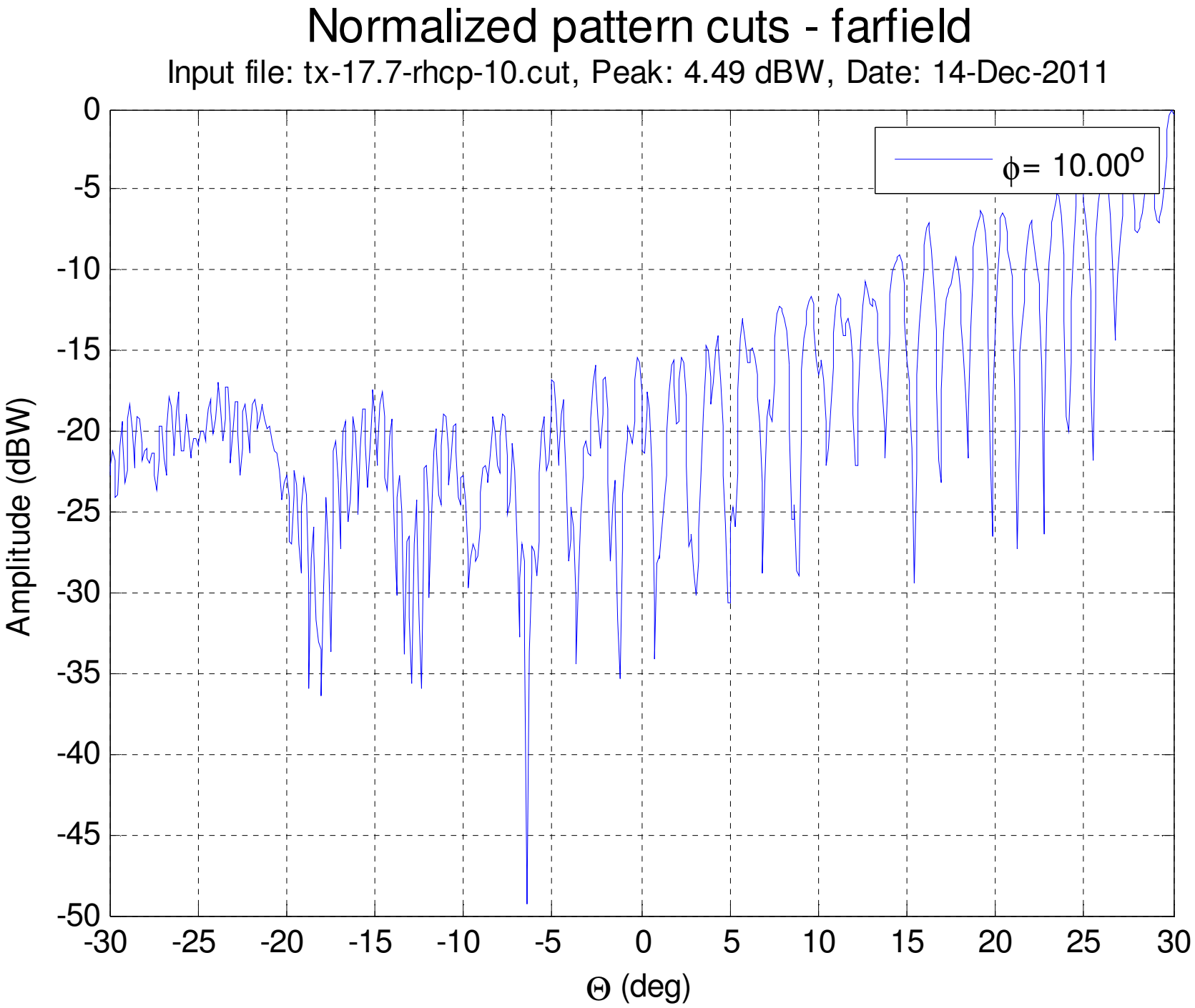

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--40.cut, Peak: -4.57 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-40.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

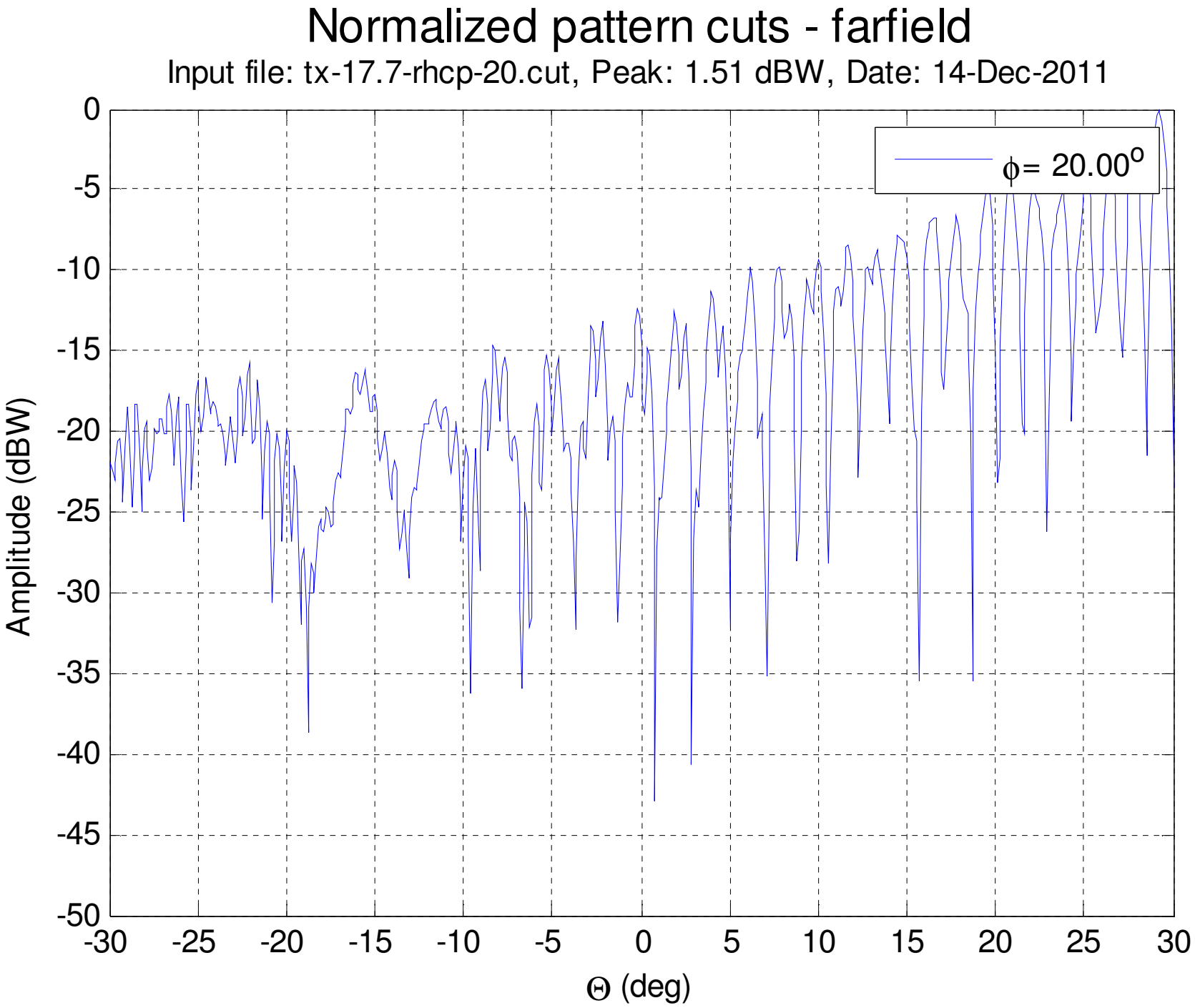

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--30.cut, Peak: -2.26 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-30.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

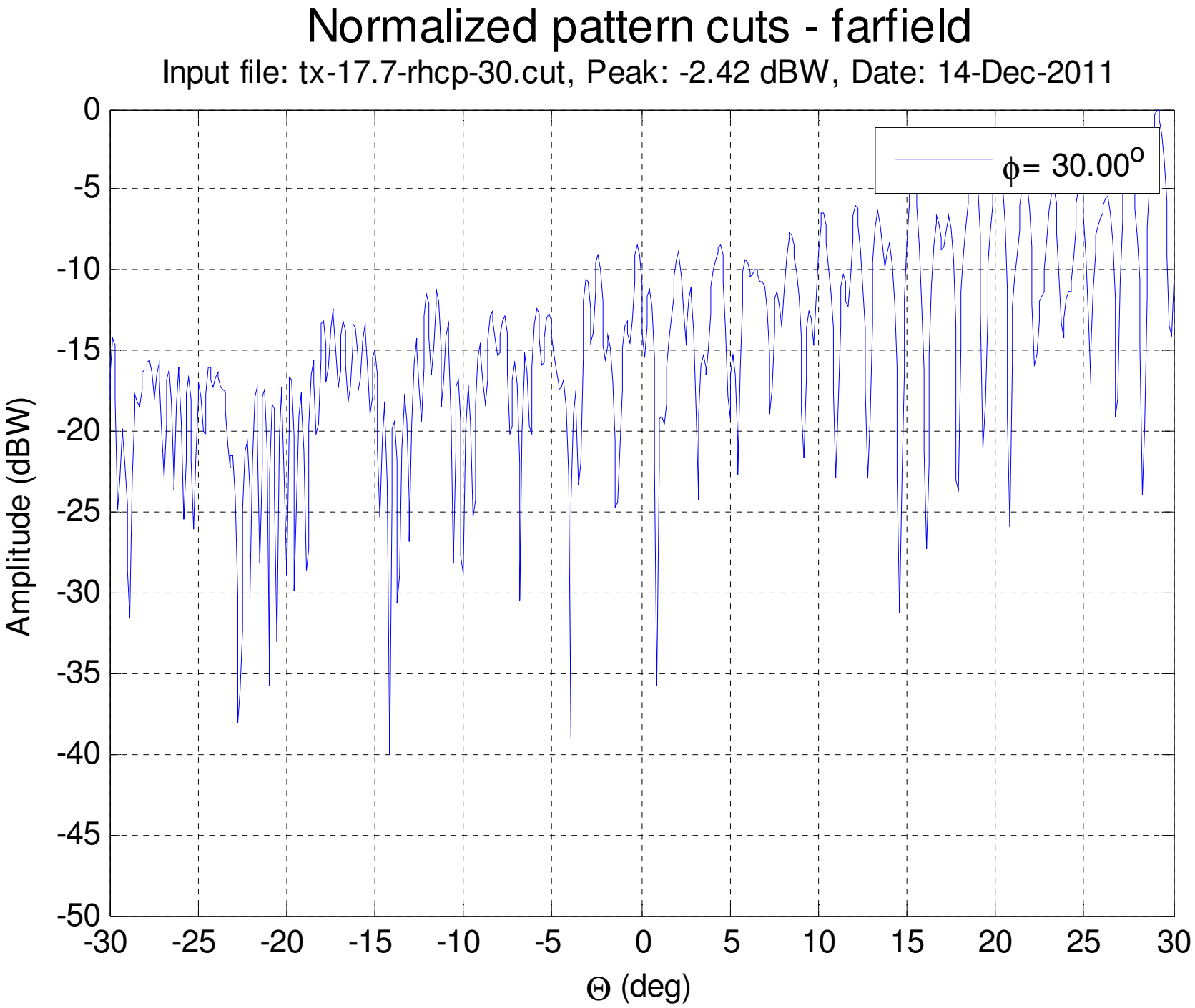

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--20.cut, Peak: 2.05 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-20.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

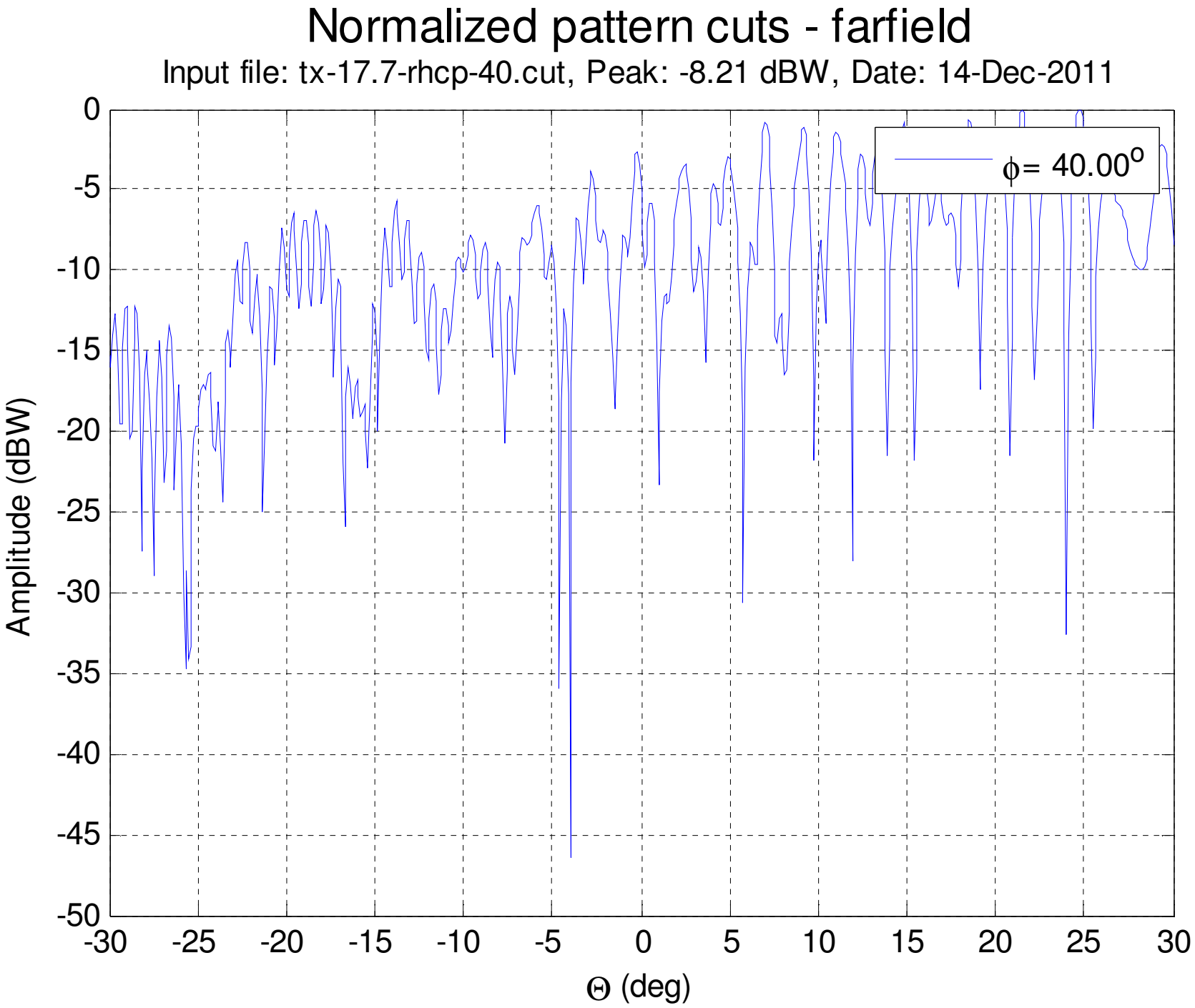

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp--10.cut, Peak: 6.78 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

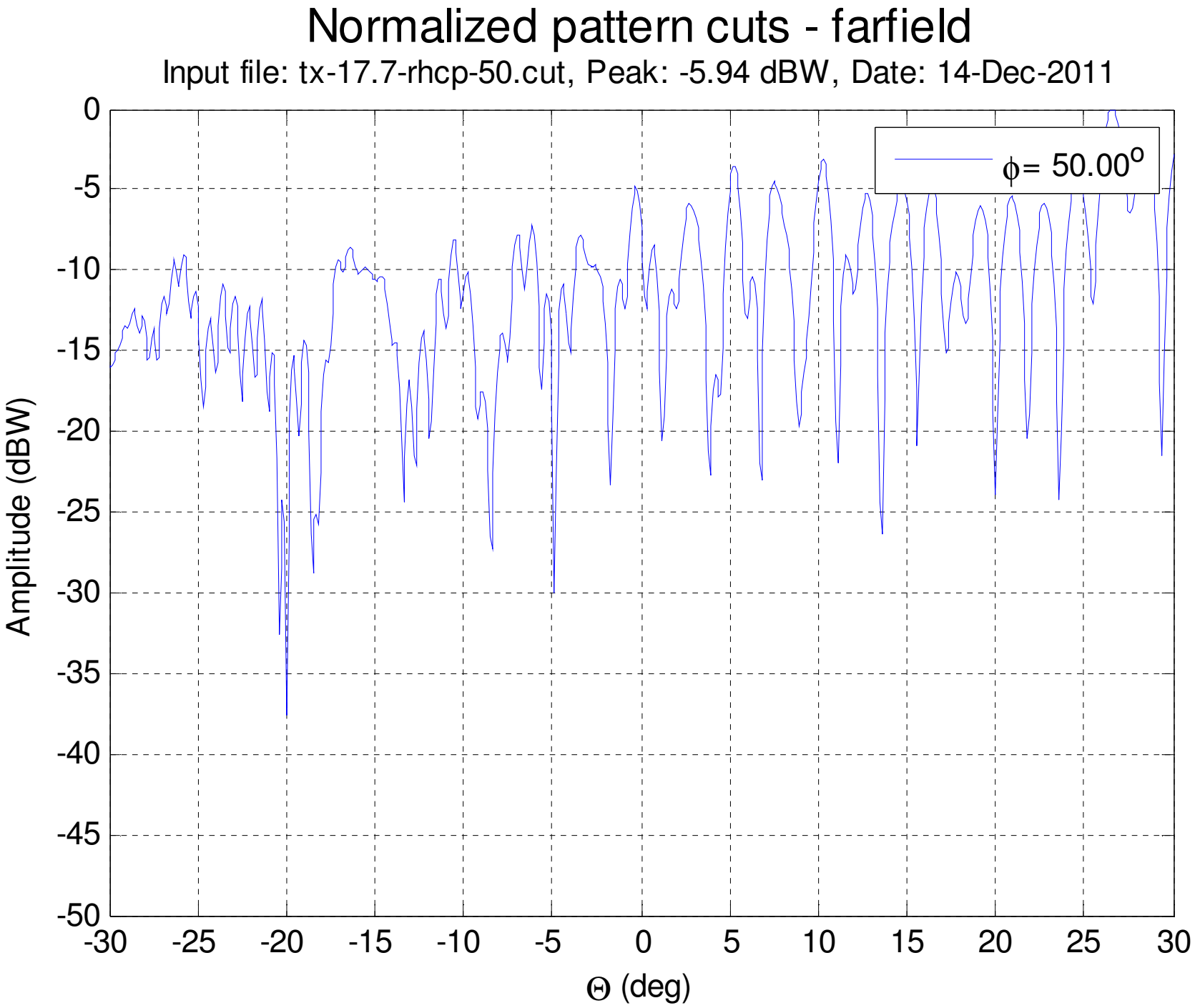

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-0.cut, Peak: 6.85 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

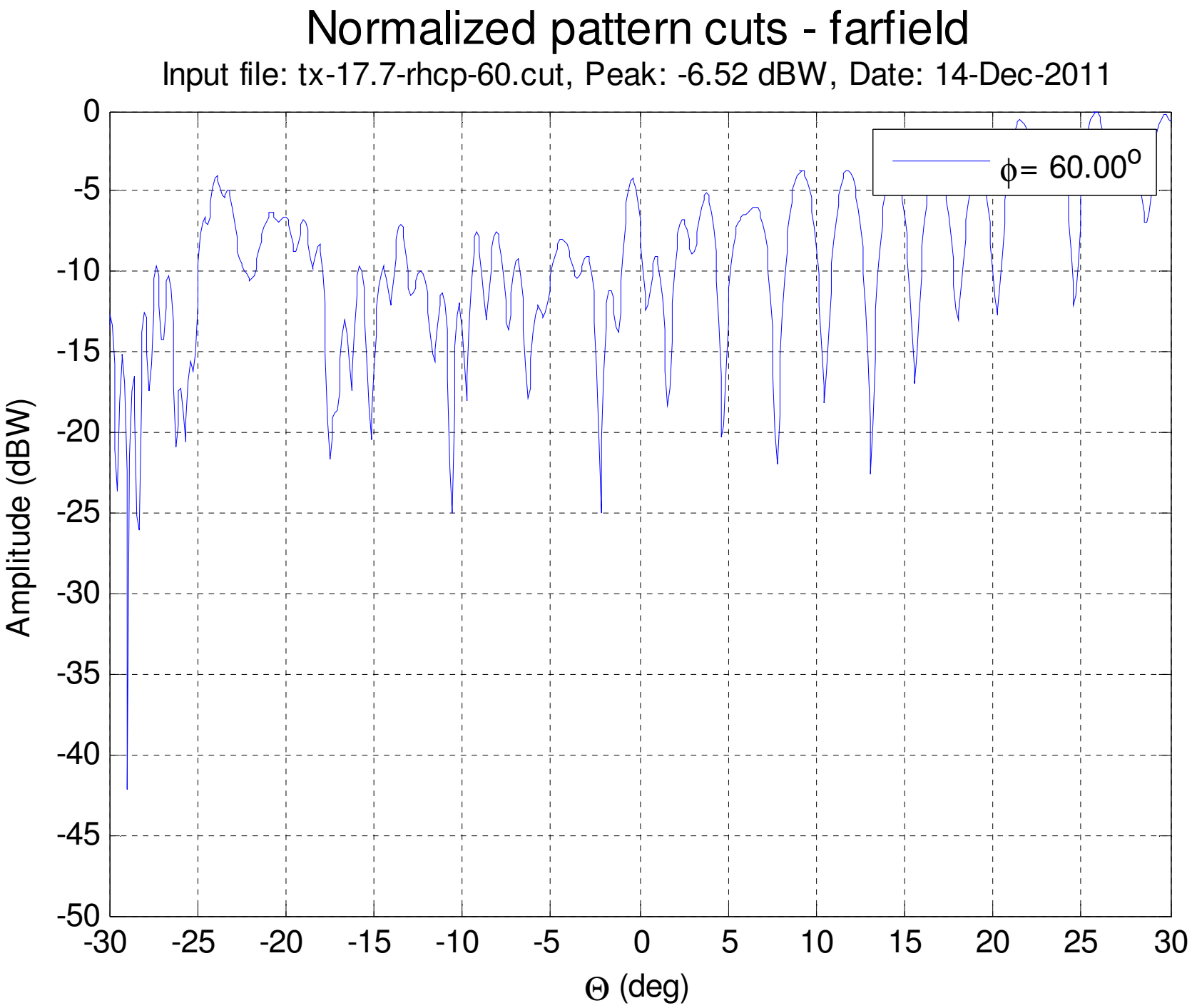

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-10.cut, Peak: 4.49 dBW, Date: 14-Dec-2011
ϕ= 10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-20.cut, Peak: 1.51 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

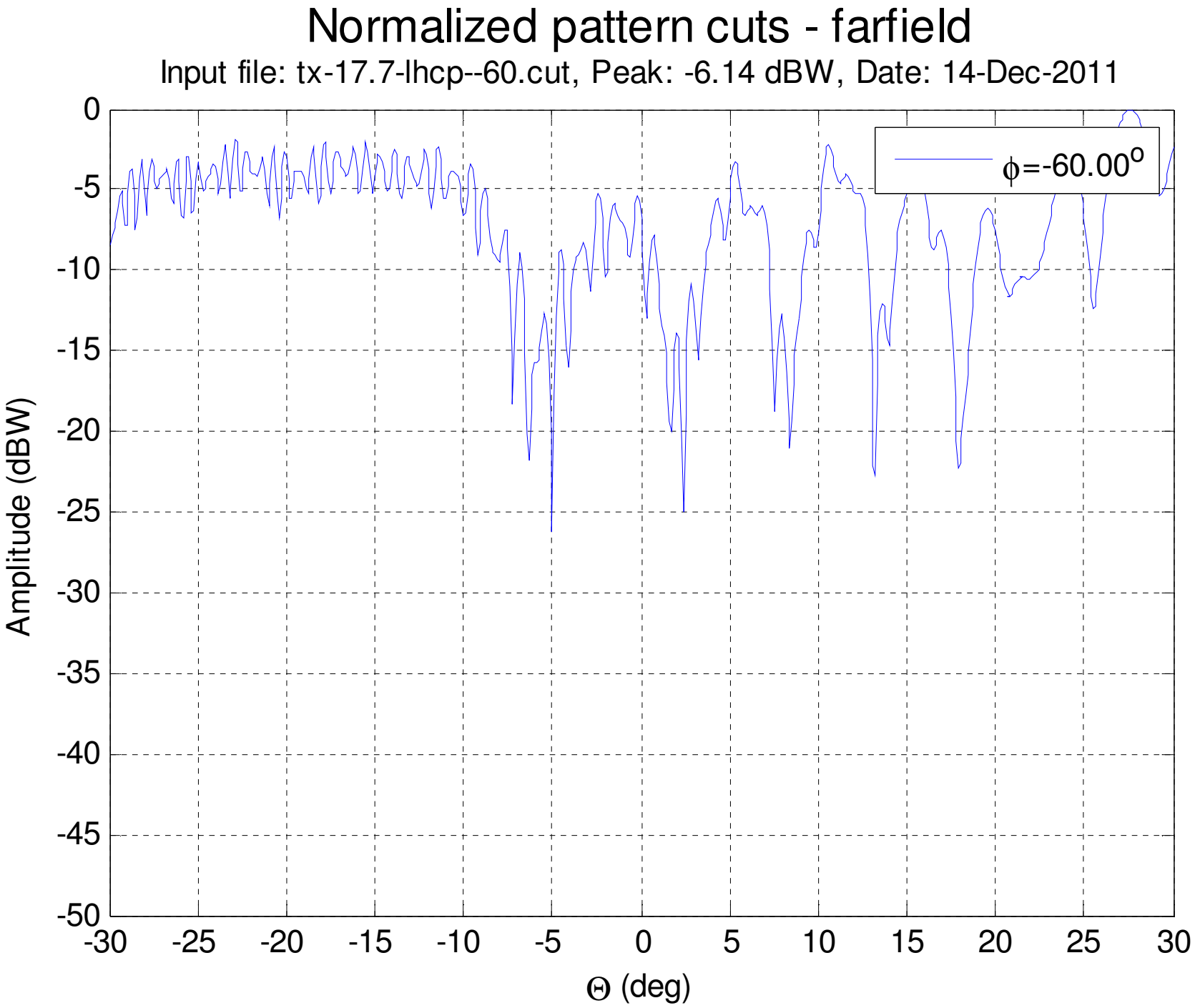

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-30.cut, Peak: -2.42 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

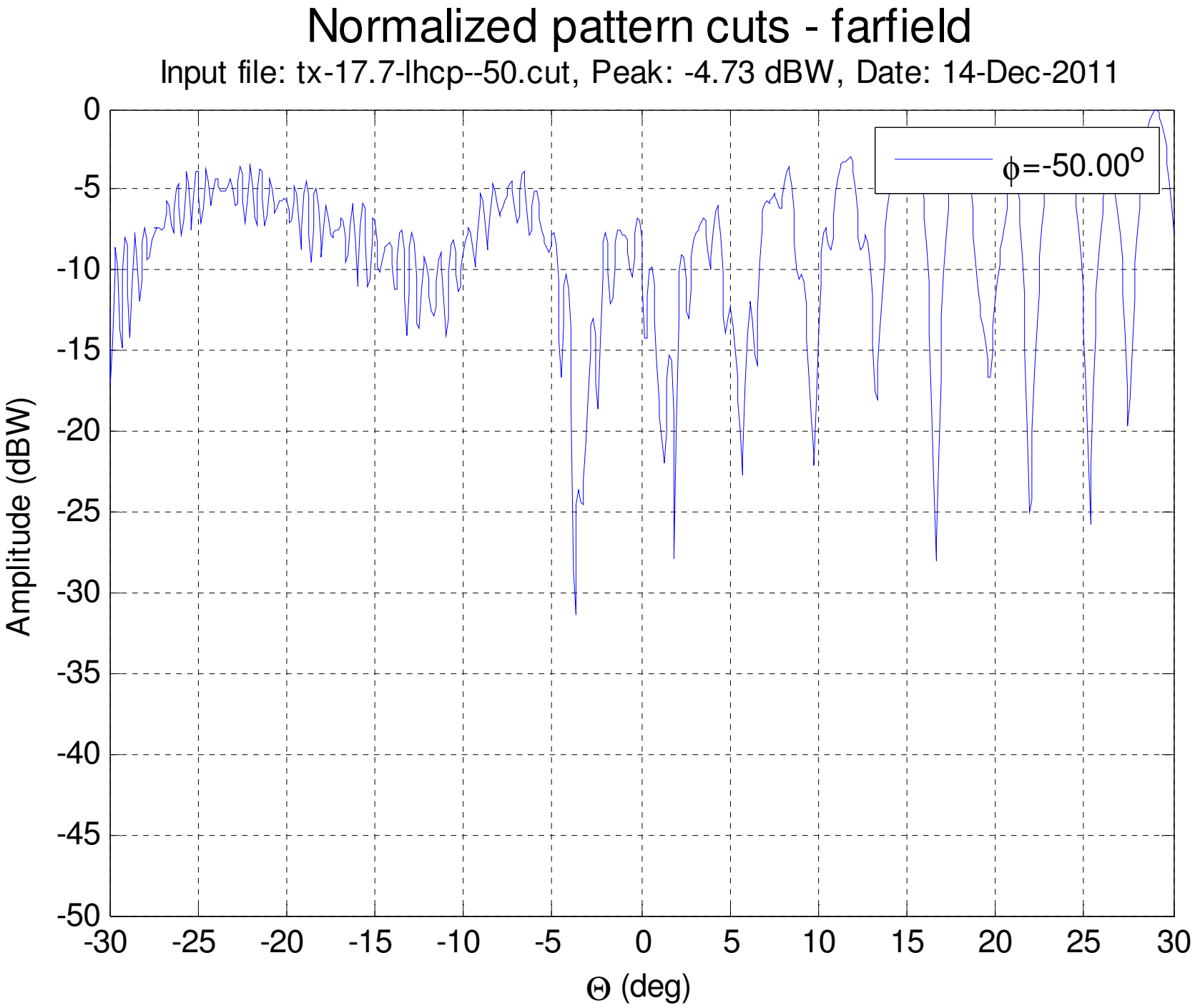

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-40.cut, Peak: -8.21 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

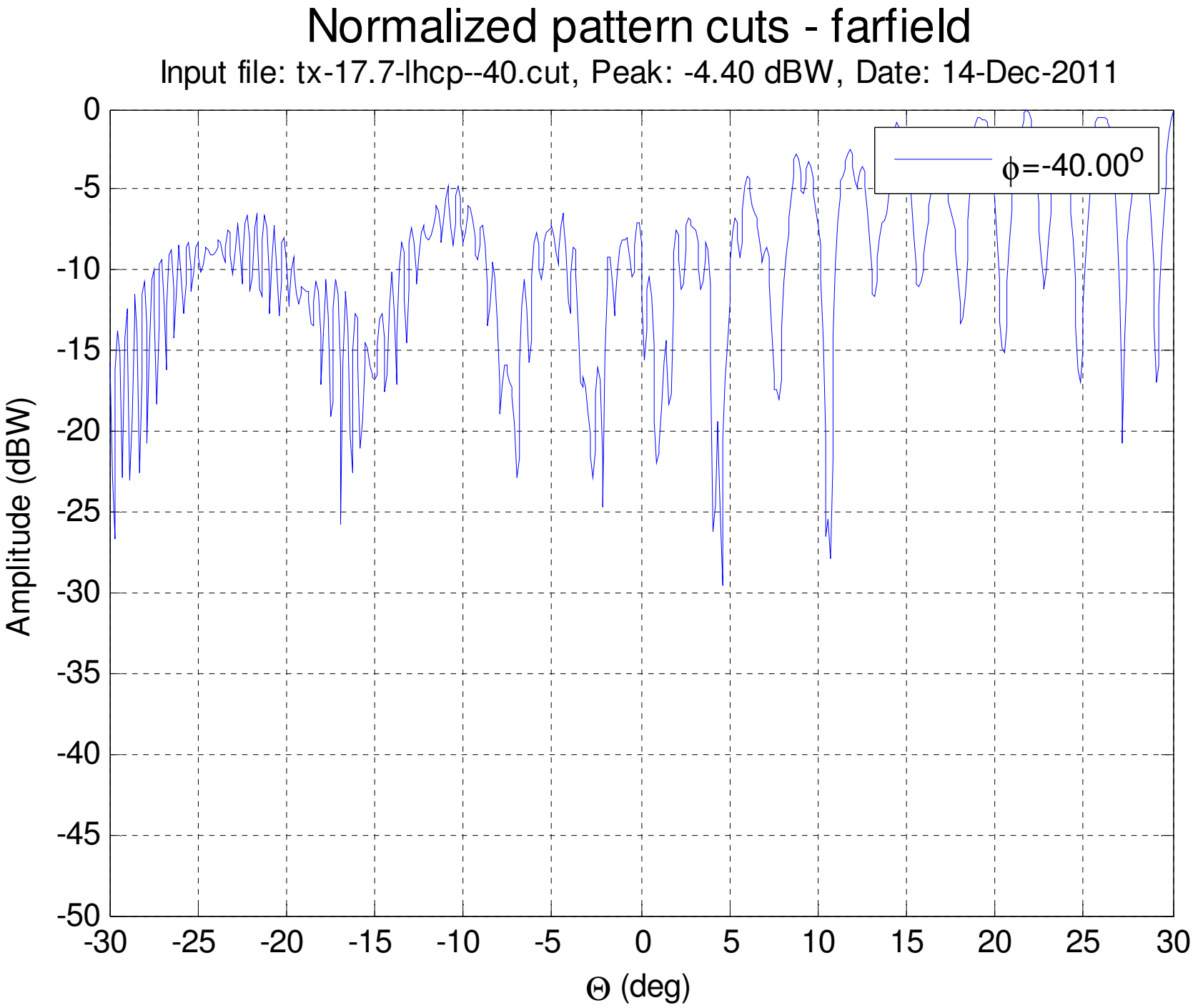

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-50.cut, Peak: -5.94 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

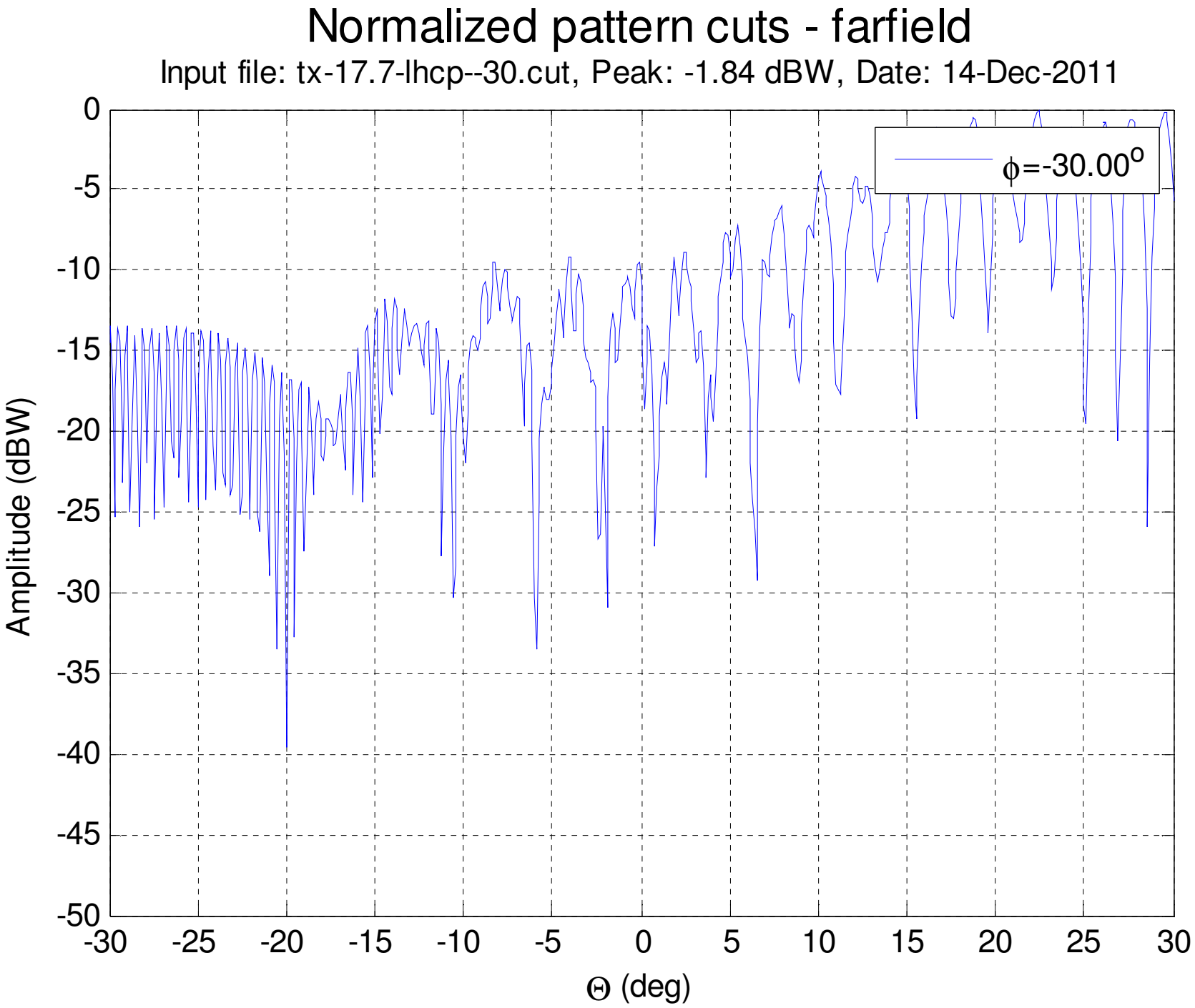

Normalized pattern cuts - farfield
Input file: tx-17.7-rhcp-60.cut, Peak: -6.52 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

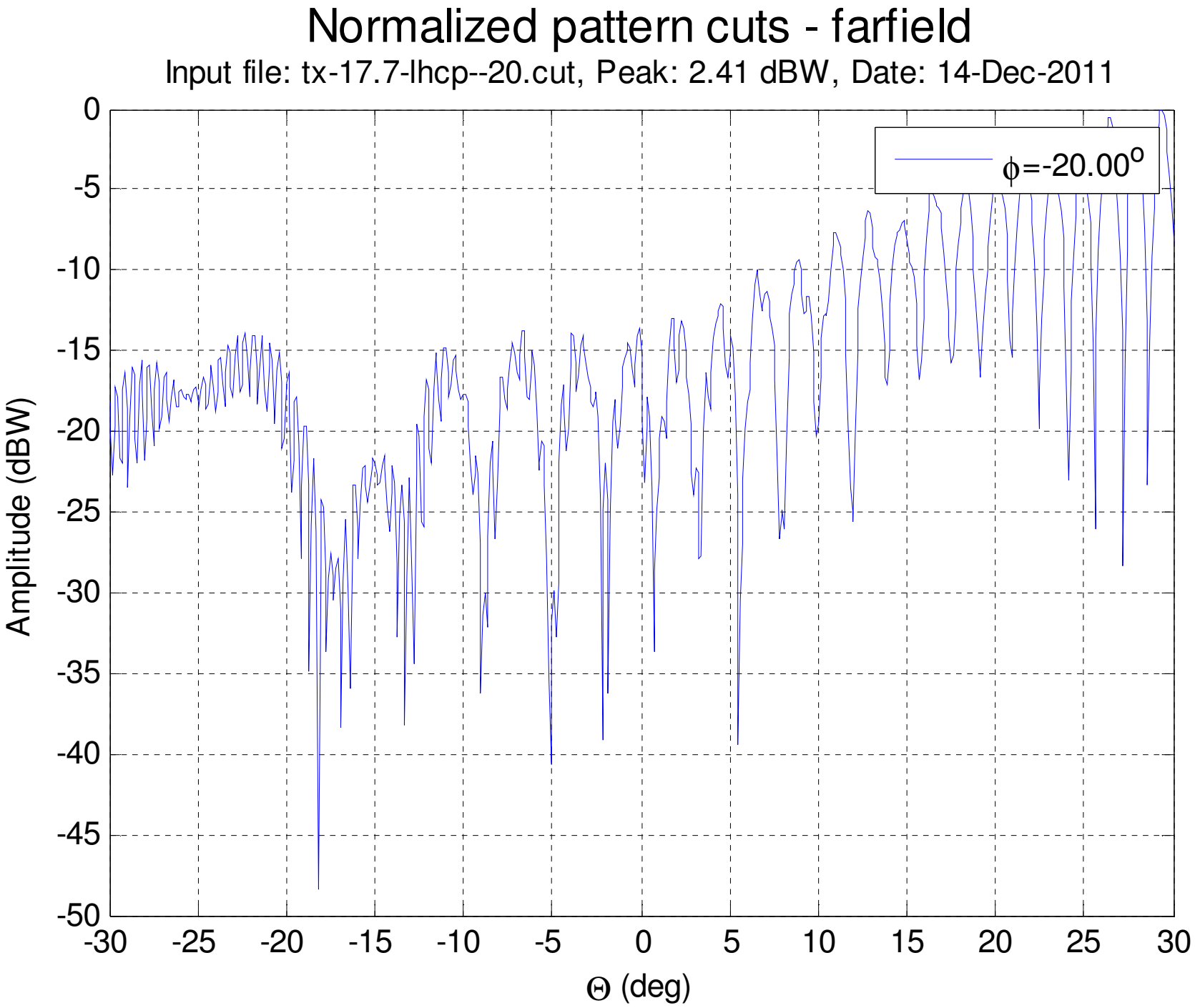
LHCP at 17.7 GHz

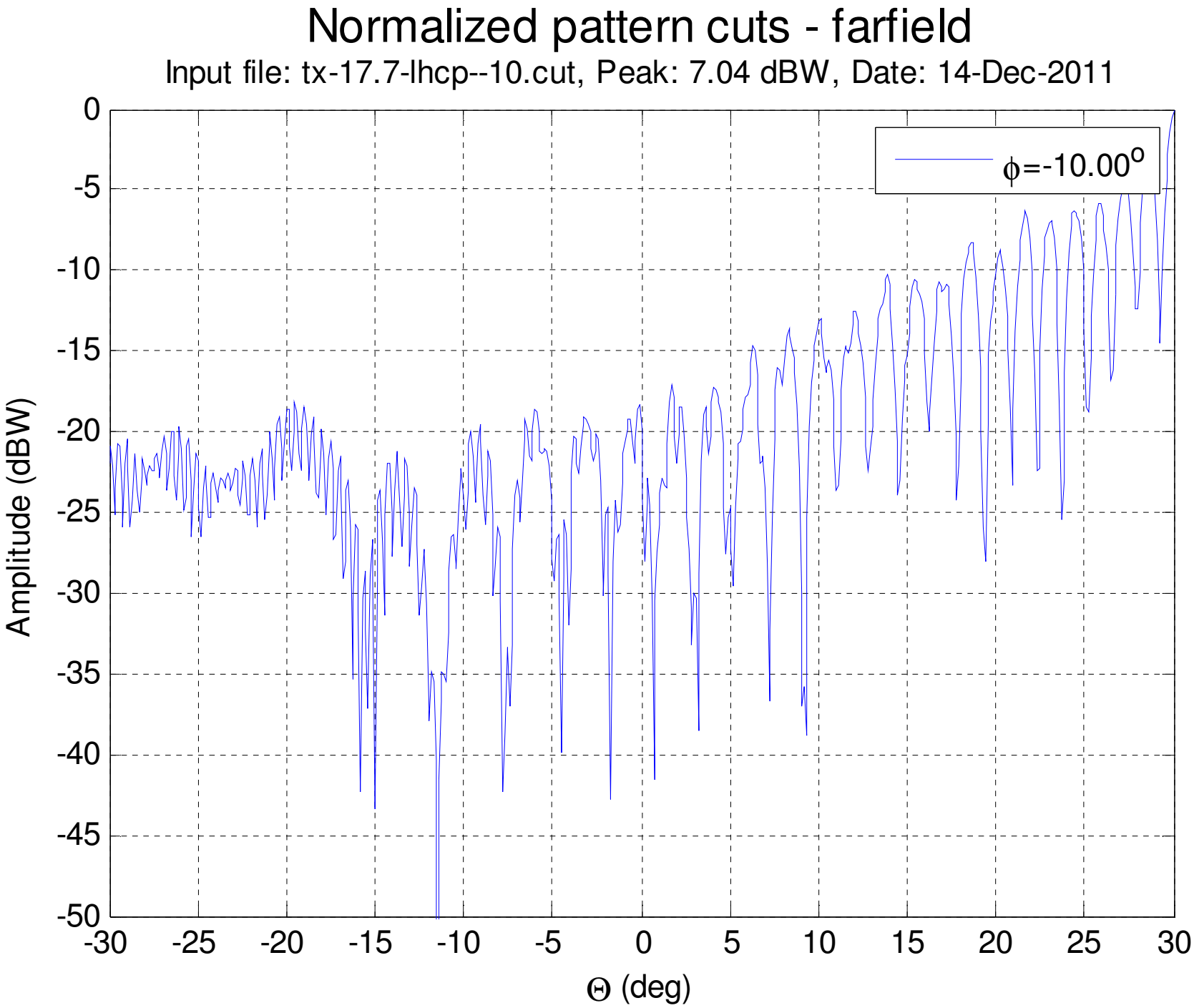

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--60.cut, Peak: -6.14 dBW, Date: 14-Dec-2011
ϕ=-60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

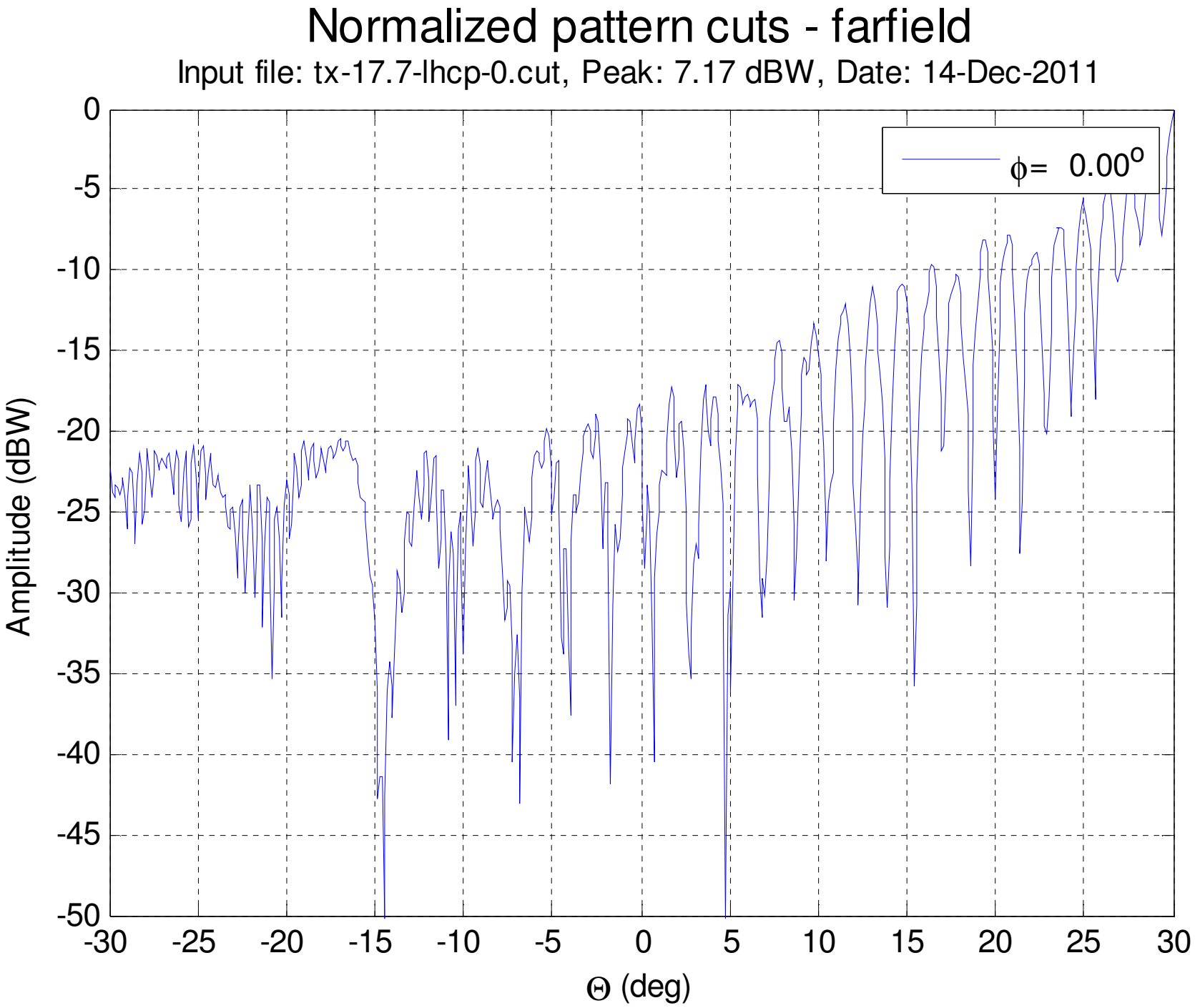

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--50.cut, Peak: -4.73 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ=-50.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

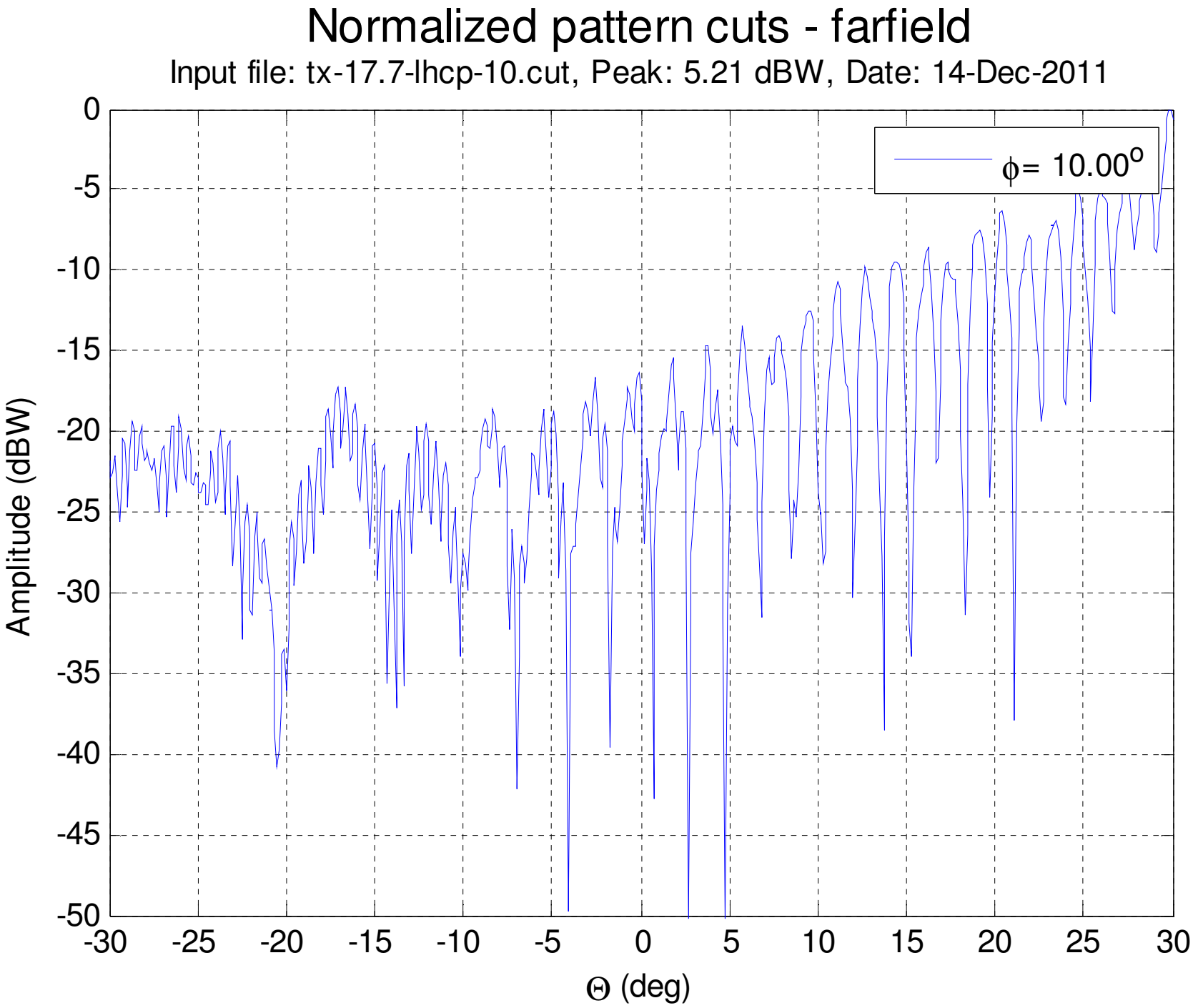

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--40.cut, Peak: -4.40 dBW, Date: 14-Dec-2011
ϕ=-40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

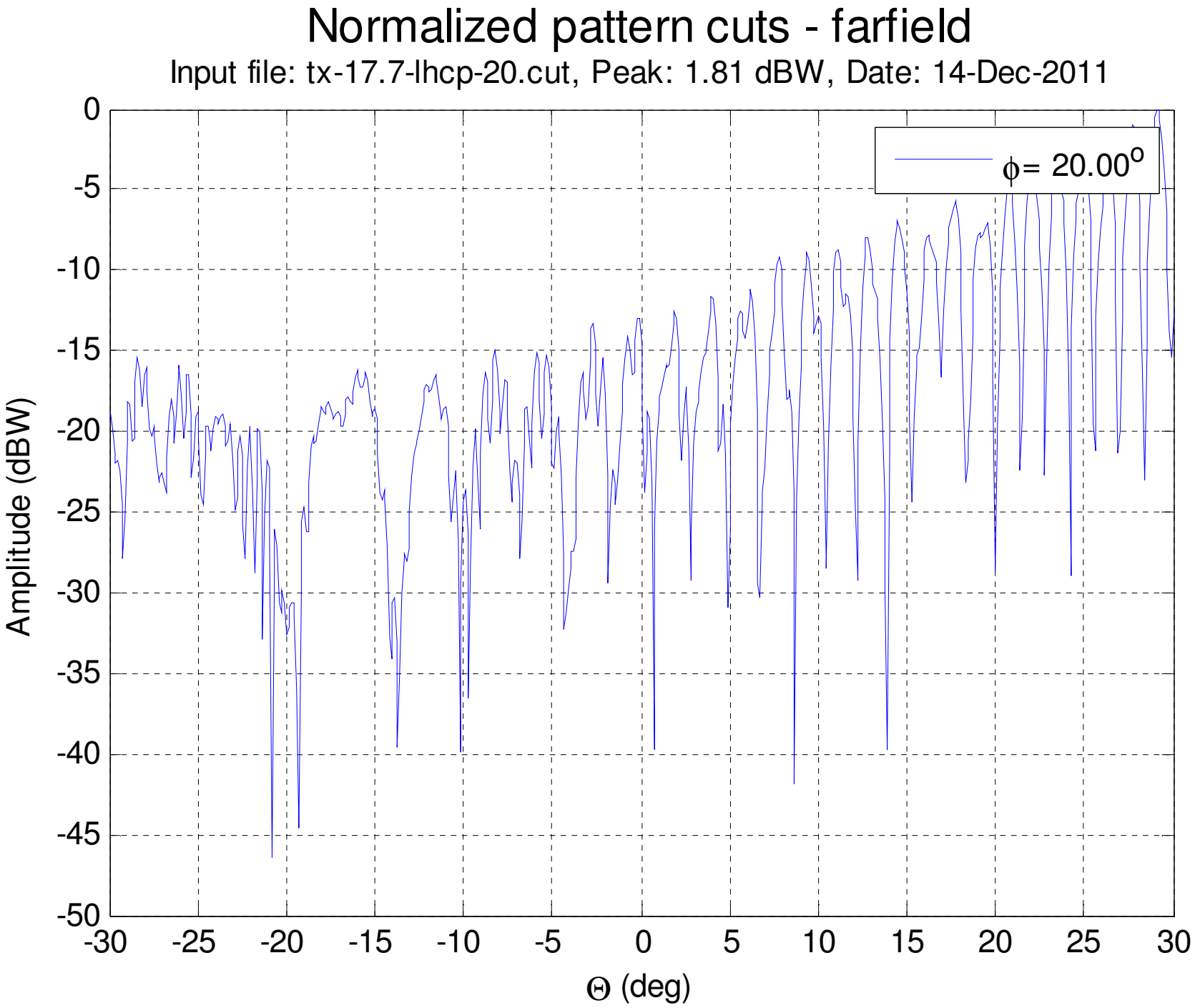

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--30.cut, Peak: -1.84 dBW, Date: 14-Dec-2011
ϕ=-30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

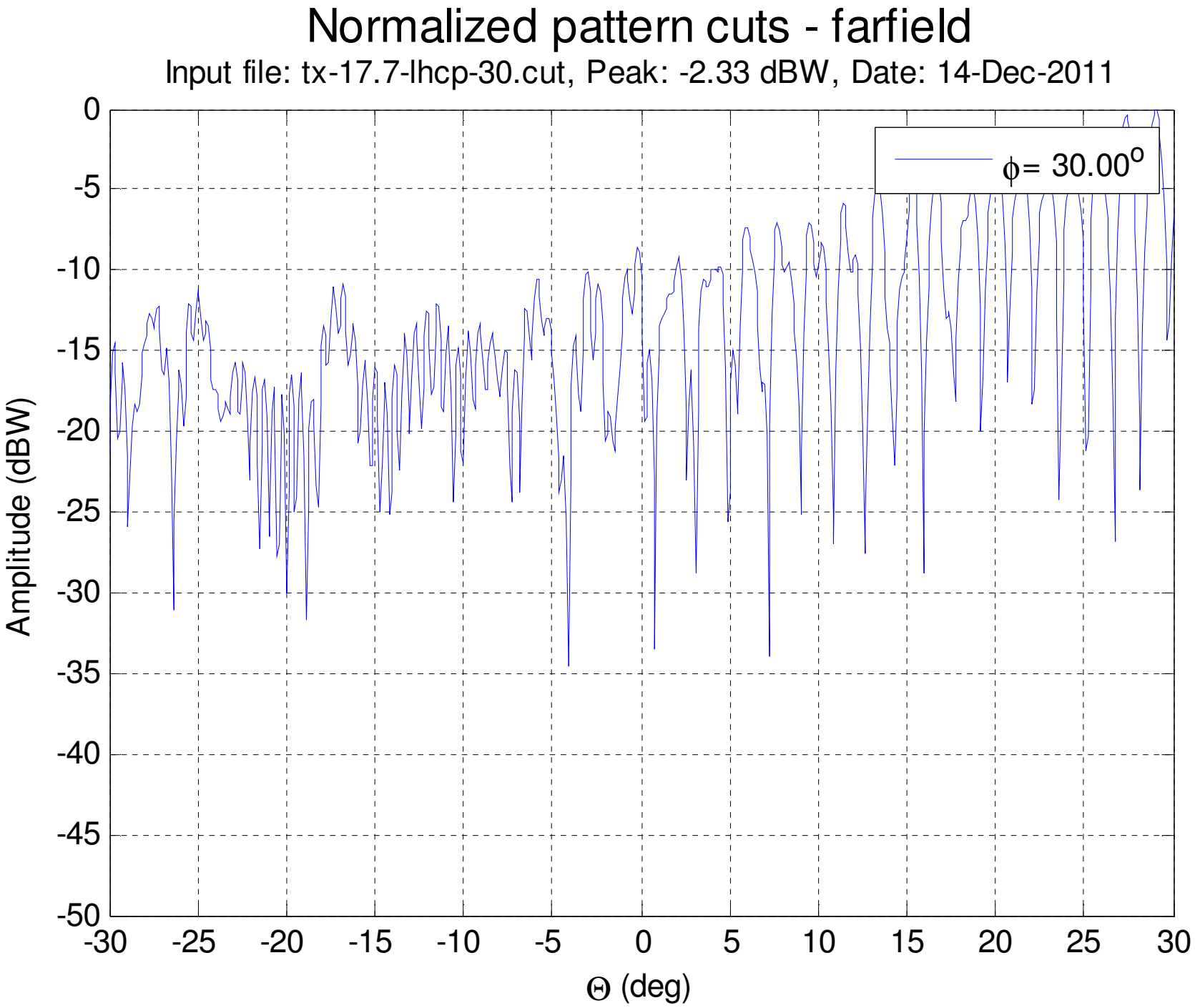

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--20.cut, Peak: 2.41 dBW, Date: 14-Dec-2011
ϕ=-20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

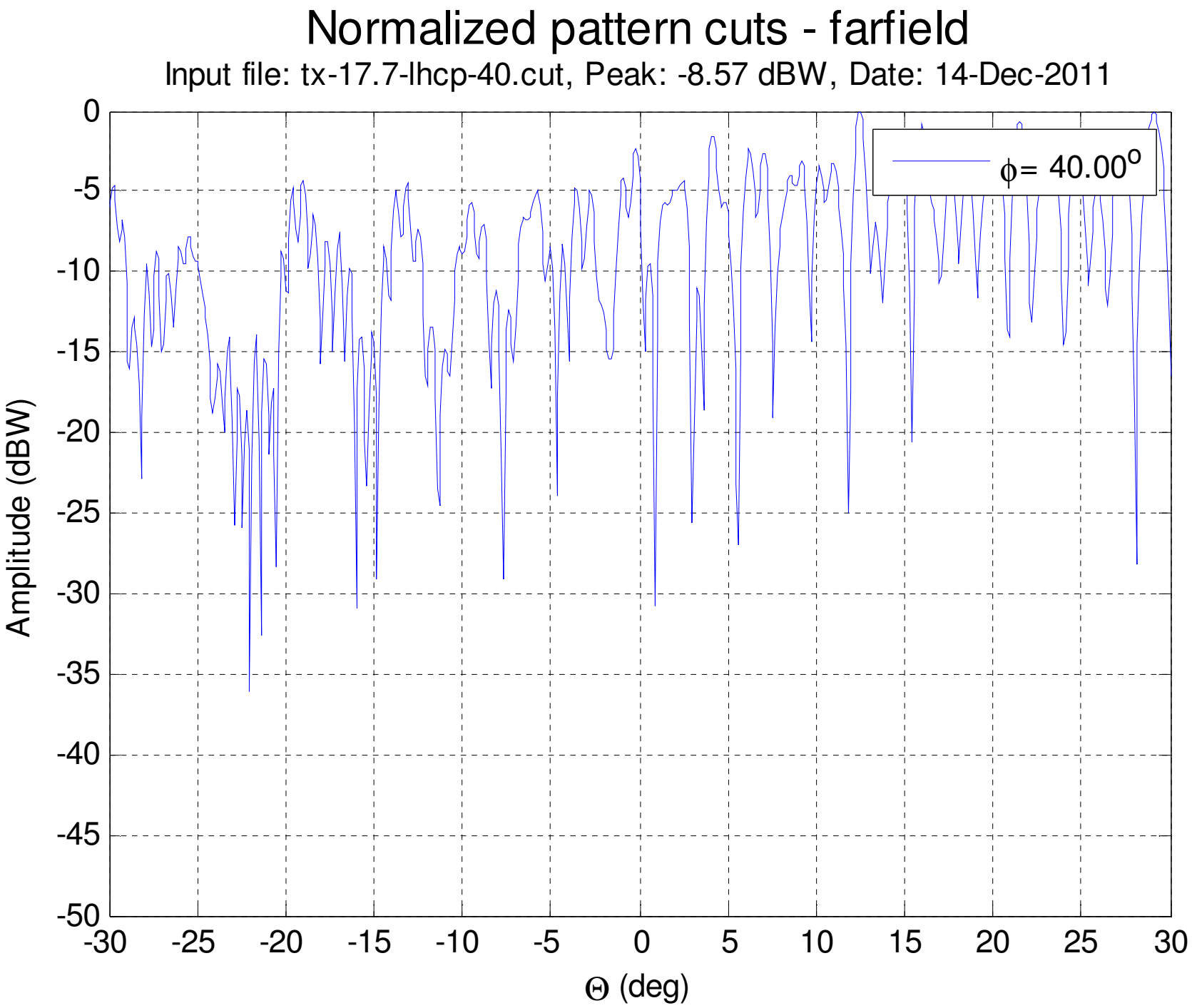

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp--10.cut, Peak: 7.04 dBW, Date: 14-Dec-2011
ϕ=-10.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

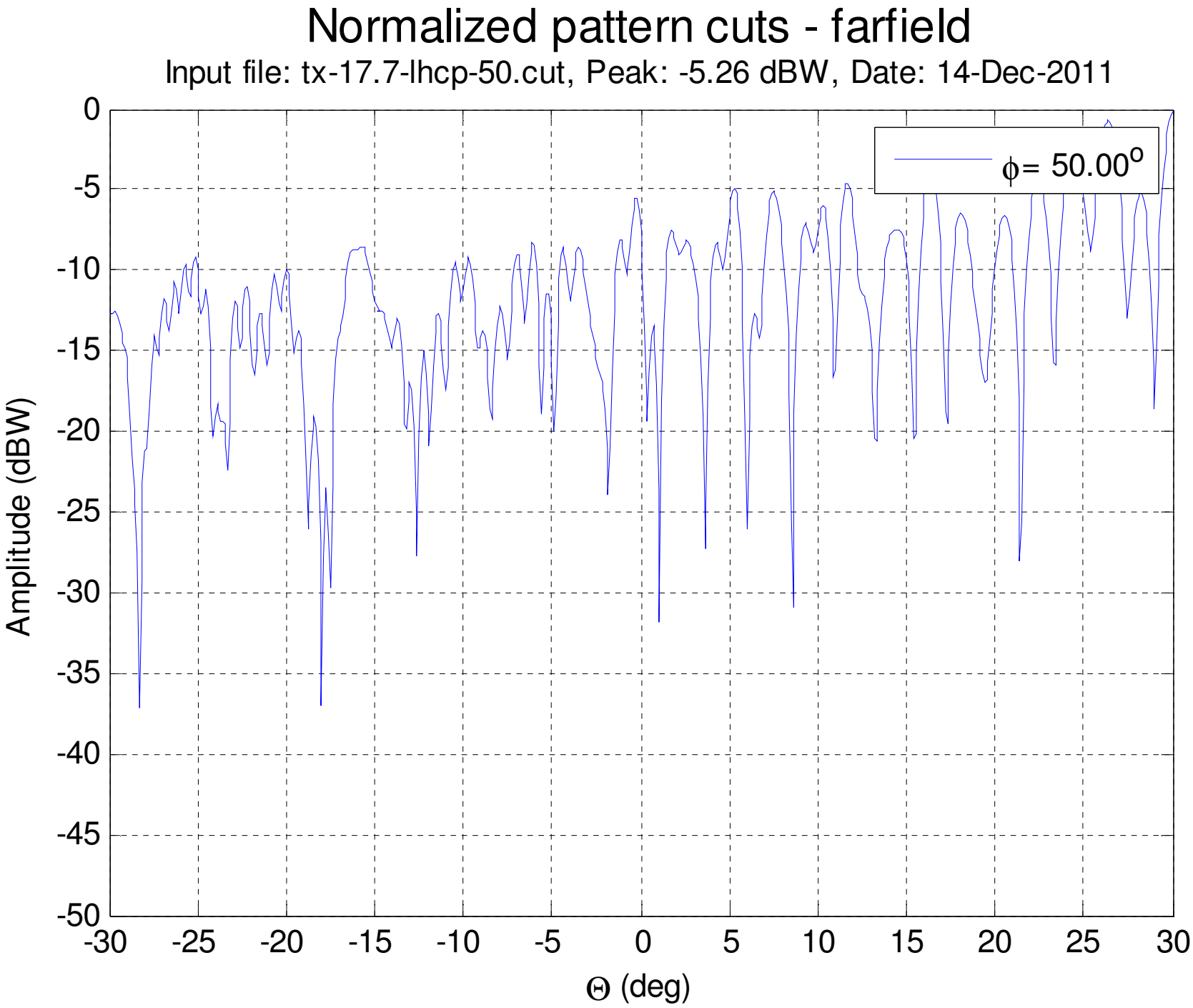

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-0.cut, Peak: 7.17 dBW, Date: 14-Dec-2011
ϕ= 0.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30

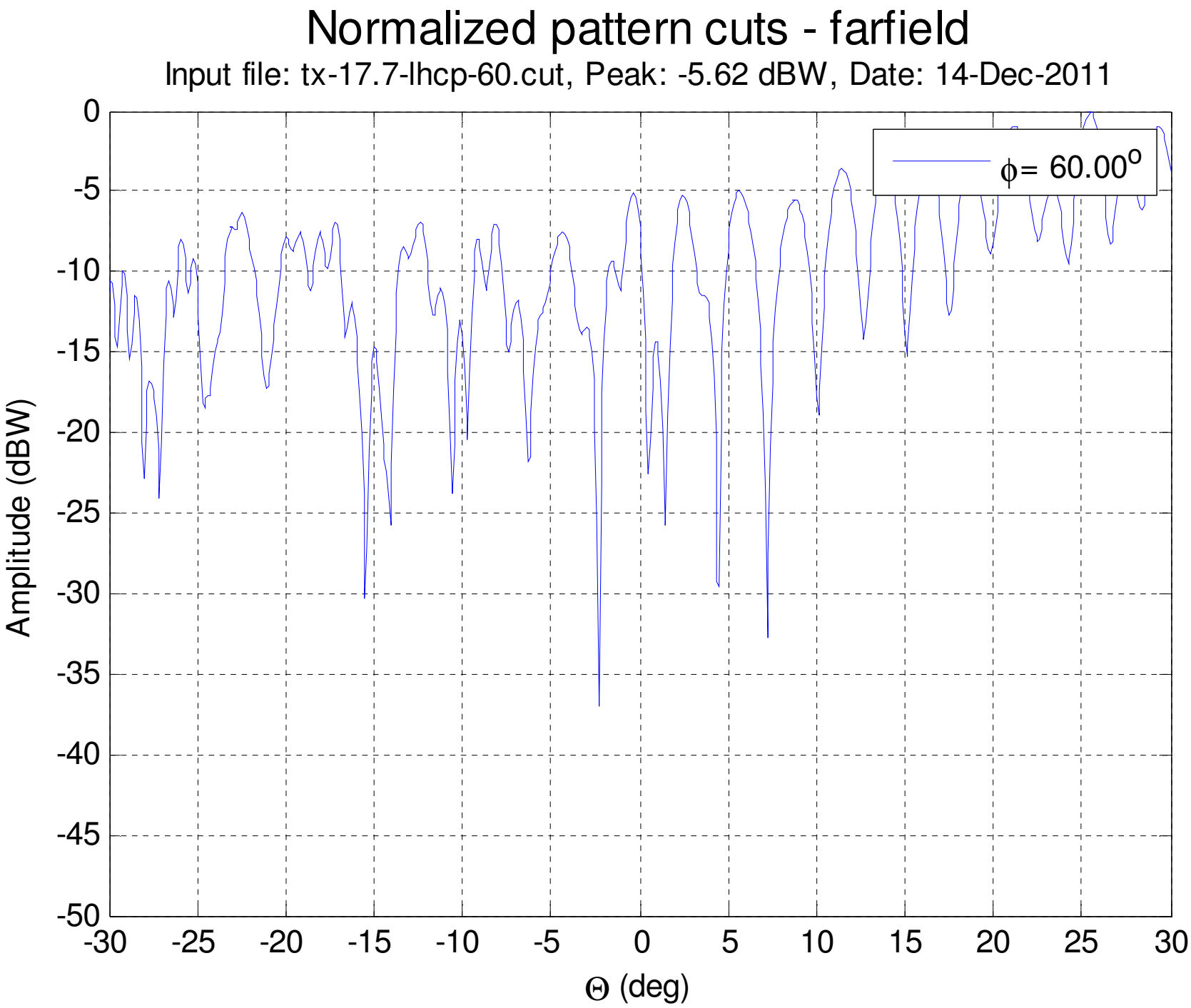

Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-10.cut, Peak: 5.21 dBW, Date: 14-Dec-2011
Amplitude (dBW)
Θ (deg)
ϕ= 10.00°
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-20.cut, Peak: 1.81 dBW, Date: 14-Dec-2011
ϕ= 20.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-30.cut, Peak: -2.33 dBW, Date: 14-Dec-2011
ϕ= 30.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-40.cut, Peak: -8.57 dBW, Date: 14-Dec-2011
ϕ= 40.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-50.cut, Peak: -5.26 dBW, Date: 14-Dec-2011
ϕ= 50.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30


Normalized pattern cuts - farfield
Input file: tx-17.7-lhcp-60.cut, Peak: -5.62 dBW, Date: 14-Dec-2011
ϕ= 60.00°
Amplitude (dBW)
Θ (deg)
0
-5
-10
-15
-20
-25
-30
-35
-40
-45
-50
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30