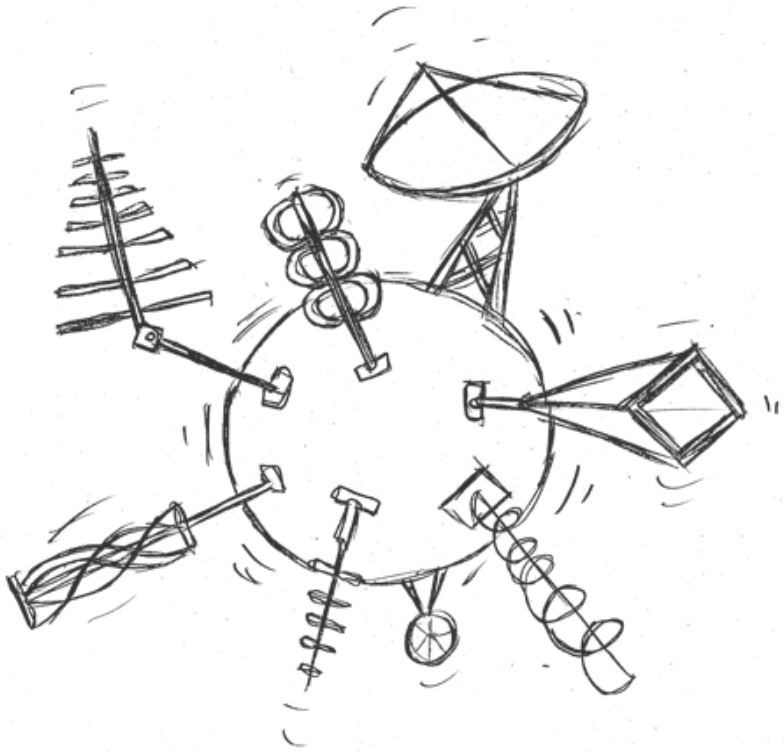
AntennaMagus
Explore. Design. Deliver.



AntennaMagus

The leading antenna design tool

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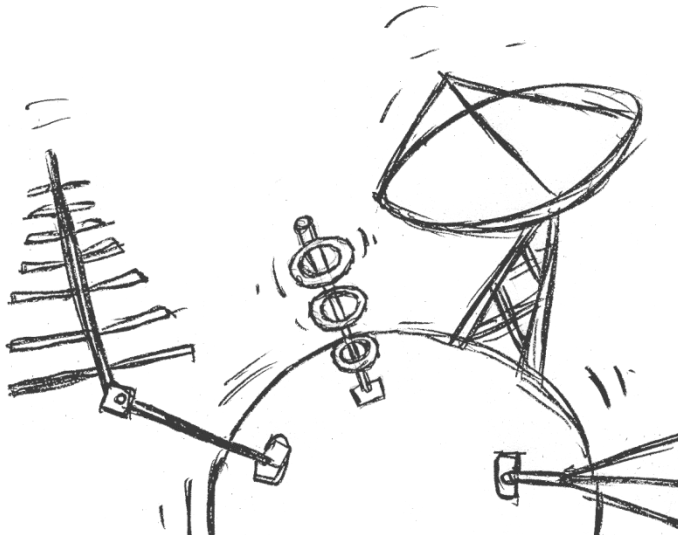
Explore.Design.Deliver.

CPW-fed annular monopole antenna

Antenna 1 : Results



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The leading antenna design tool

CPW-fed annular monopole antenna

Antenna 1 : sketches, objectives and parameters

Antenna Structure: Antenna Parameters

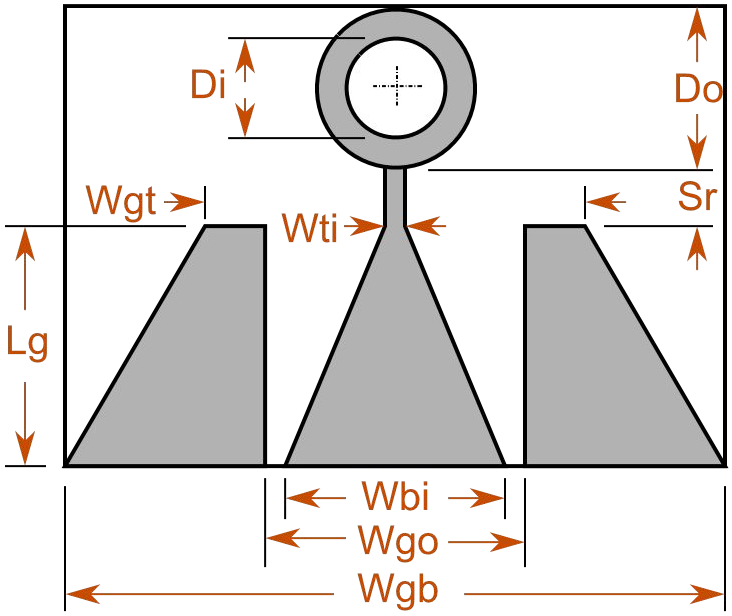
Name	Description
fmin	Minimum frequency
Di	Ring inner diameter
Do	Ring outer diameter
Sr	Ring offset
Lg	CPW groundplane length
Wgb	Bottom groundplane width
Wgt	Top groundplane width
Wbi	CPW inner width at the feedpoint
Wti	CPW inner width at the top of the CPW
Wgo	CPW outer width

Antenna Structure: Antenna Parameters (2)

Name	Description
εr	Relative permittivity of the substrate
Hs	Substrate height
tanδ	Loss tangent of the substrate
X	Device X-dimension
Y	Device Y-dimension
Z	Device Z-dimension

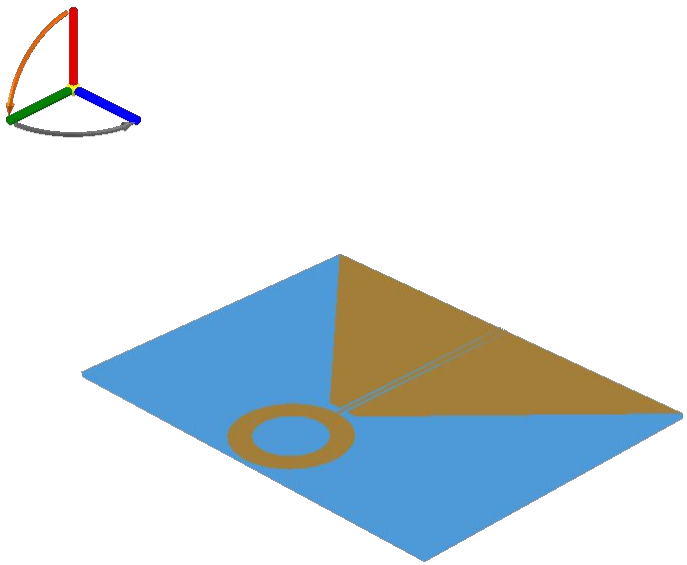
Sketches

Top view



Side view

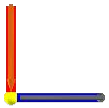
P_GSM-900 Base station (TX) 1: Preview



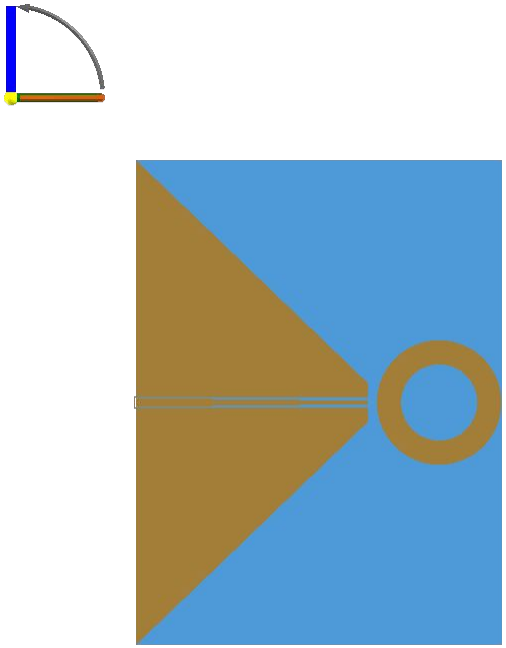
P_GSM-900 Base station (TX) 1: Front Side Preview

P_GSM-900 Base station (TX) 1: Left Side Preview

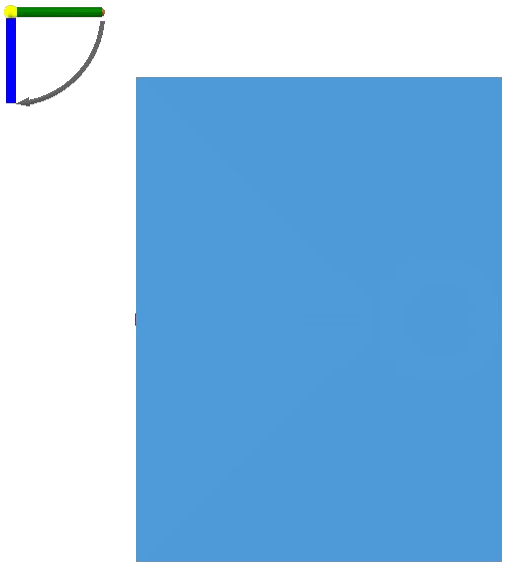
P_GSM-900 Base station (TX) 1: Right Side Preview



P_GSM-900 Base station (TX) 1: Top Side Preview



P_GSM-900 Base station (TX) 1: Bottom Side Preview



P_GSM-900 Base station (TX) 1: Design Objectives

Objective Group: all options

Name	Description	Value
fmin	Minimum frequency	935 MHz
Rin	Input resistance	50 Ω
Name	Substrate: The substrate name.	
Manufacturer	Substrate: The substrate manufacturer.	
Substrate Thickness	Substrate: The thickness of the substrate.	1.630 mm
Relative Permittivity	Substrate: The relative permittivity of the substrate.	3.48

P_GSM-900 Base station (TX) 1: Physical Parameters

Name	Description	Value
Di	Ring inner diameter	23.53 mm
Do	Ring outer diameter	38.50 mm
Sr	Ring offset	2.674 mm
Lg	CPW groundplane length	71.79 mm
Wgb	Bottom groundplane width	149.7 mm
Wgt	Top groundplane width	11.76 mm
Wbi	CPW inner width at the feedpoint	2.695 mm
Wti	CPW inner width at the top of the CPW	1.070 mm
Wgo	CPW outer width	3.083 mm
εr	Relative permittivity of the substrate	3.48

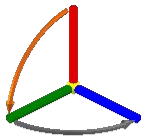
P_GSM-900 Base station (TX) 1: Physical Parameters (2)

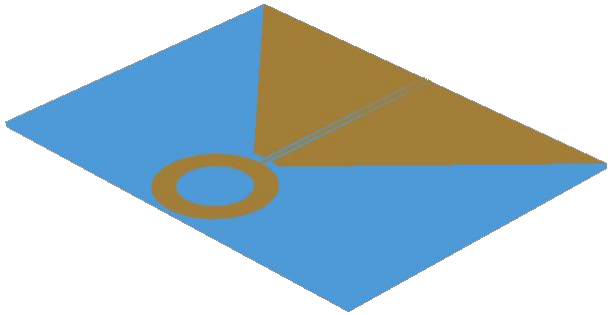
Name	Description	Value
Hs	Substrate height	1.630 mm
tanδ	Loss tangent of the substrate	0

P_GSM-900 Base station (TX) 1: Derived Quantities

Name	Description	Value
X	Device X-dimension	113.0 mm
Y	Device Y-dimension	149.7 mm
Z	Device Z-dimension	1.630 mm

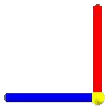
Tweak 1-1: Preview



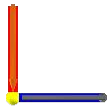


Tweak 1-1: Front Side Preview

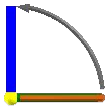
Tweak 1-1: Left Side Preview

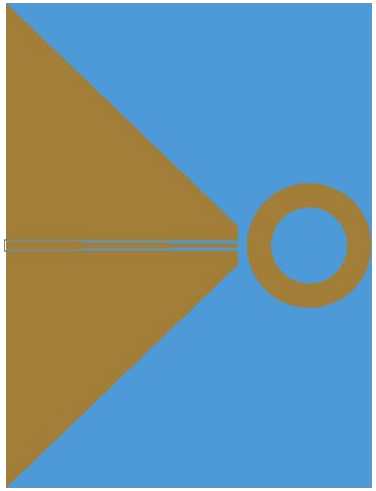


Tweak 1-1: Right Side Preview

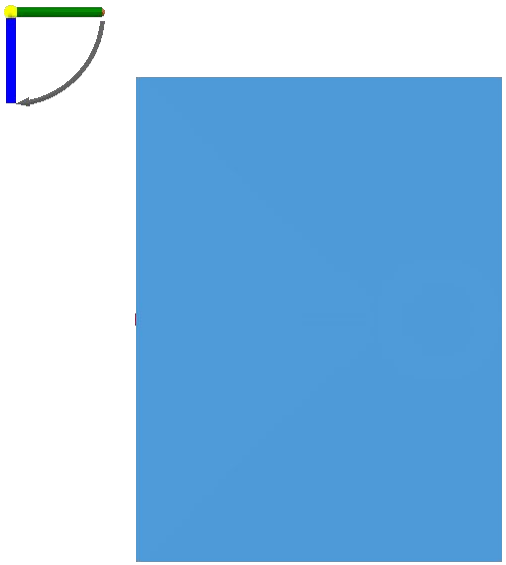


Tweak 1-1: Top Side Preview





Tweak 1-1: Bottom Side Preview



Tweak 1-1: Design Objectives

Objective Group: all options

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Tweak 1-1: Physical Parameters

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εr	Relative permittivity of the substrate	3.828

Tweak 1-1: Physical Parameters (2)

Name	Description	Value
Hs	Substrate height	1.630 mm
tanδ	Loss tangent of the substrate	20e-3

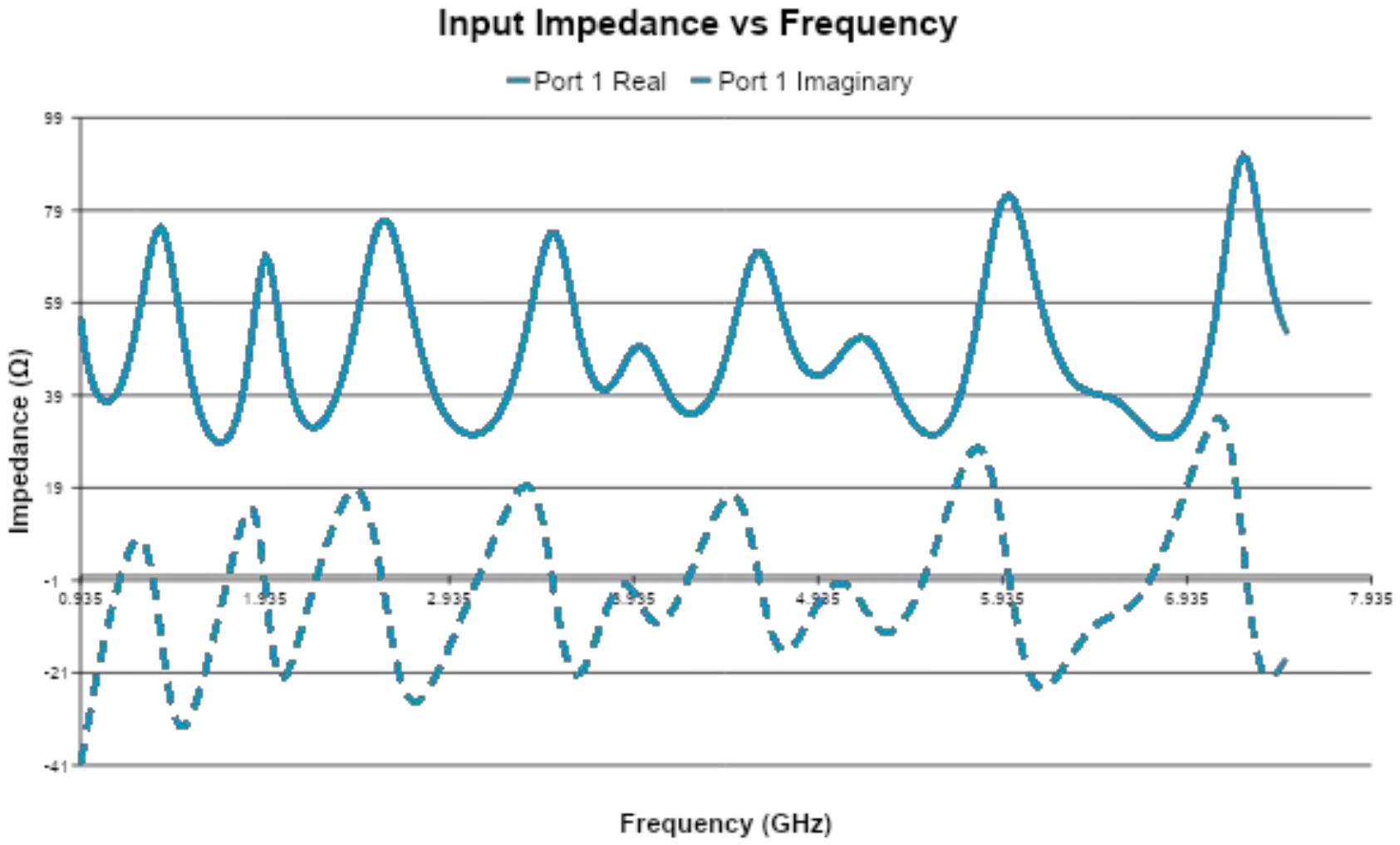
Tweak 1-1: Derived Quantities

Name	Description	Value
X	Device X-dimension	113.0 mm
Y	Device Y-dimension	149.7 mm
Z	Device Z-dimension	1.630 mm

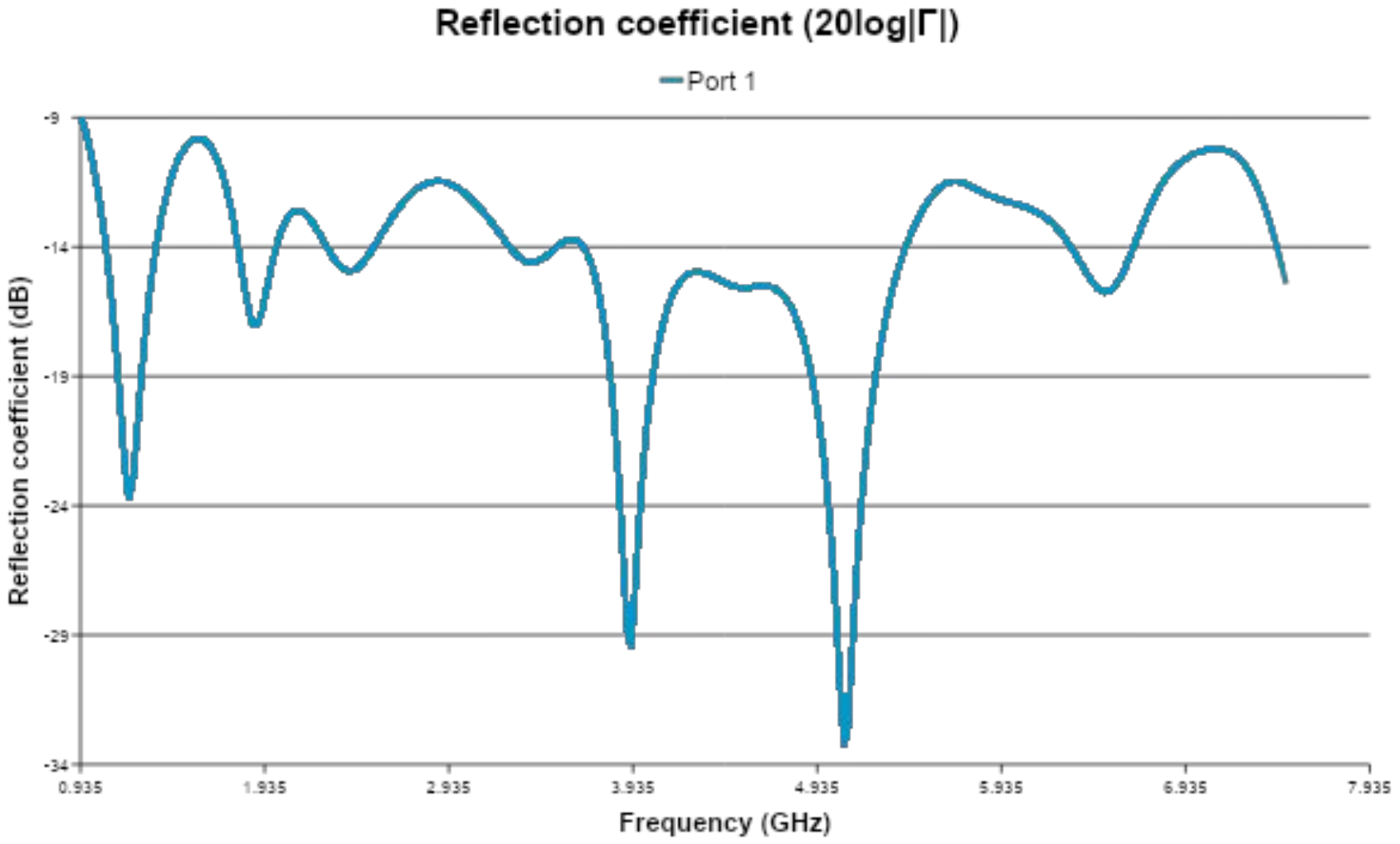
CPW-fed annular monopole antenna

Antenna 1 : estimated performance charts

Impedance vs Frequency



Impedance vs Frequency

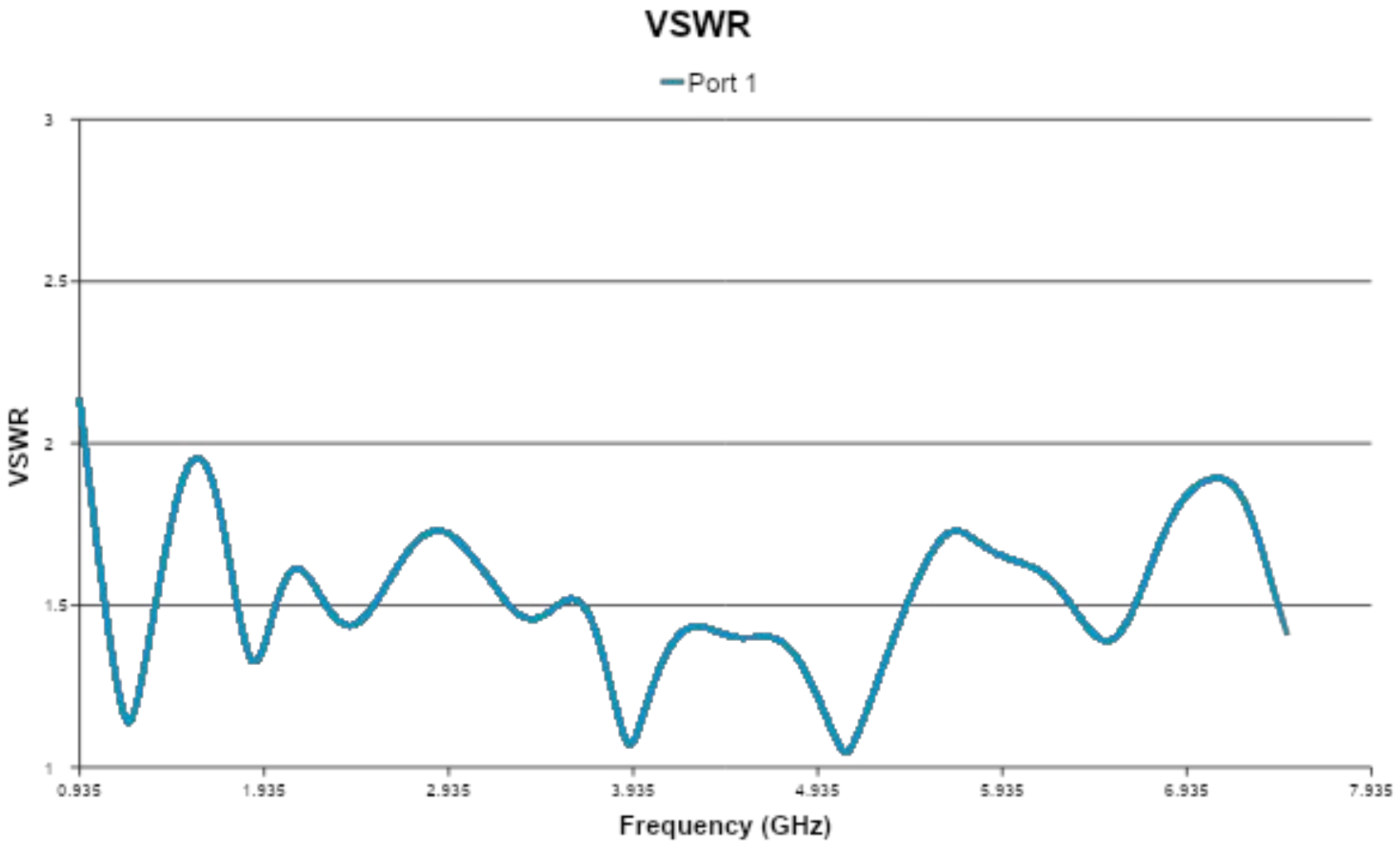


Impedance vs Frequency

Reflection coefficient (20log|Γ|)

	P_GSM-900 Base station (TX) 1
Reference impedance @ port 1	(50+0j) Ω

Impedance vs Frequency

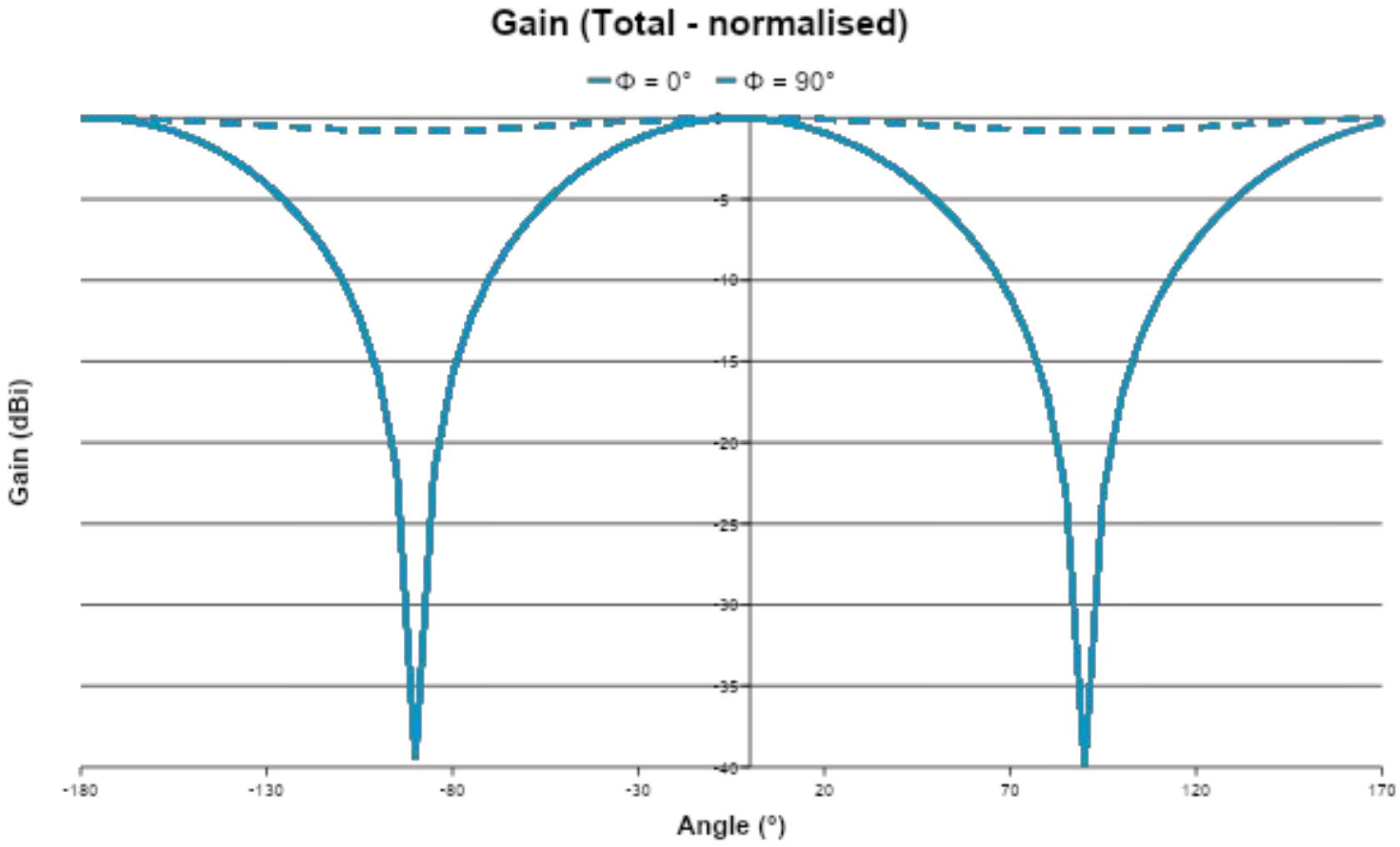


Impedance vs Frequency

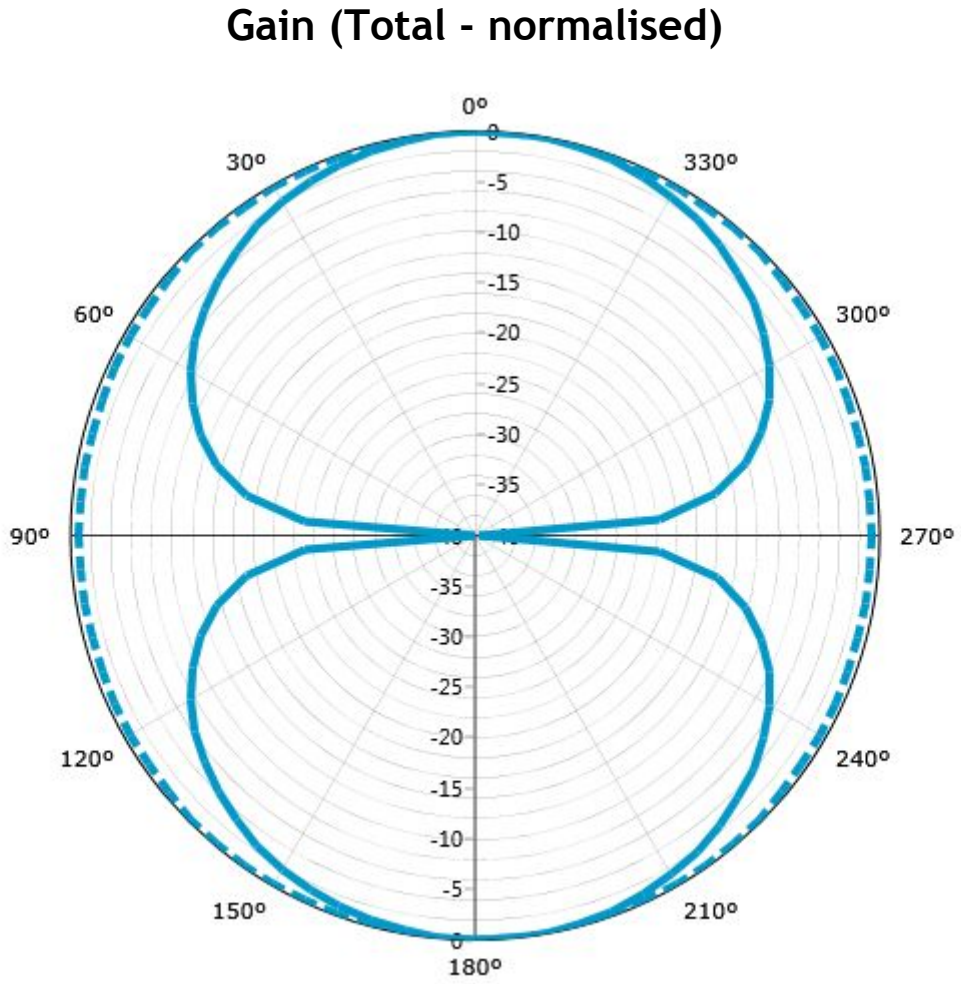
VSWR

	P_GSM-900 Base station (TX) 1
Reference impedance @ port 1	(50+0j) Ω

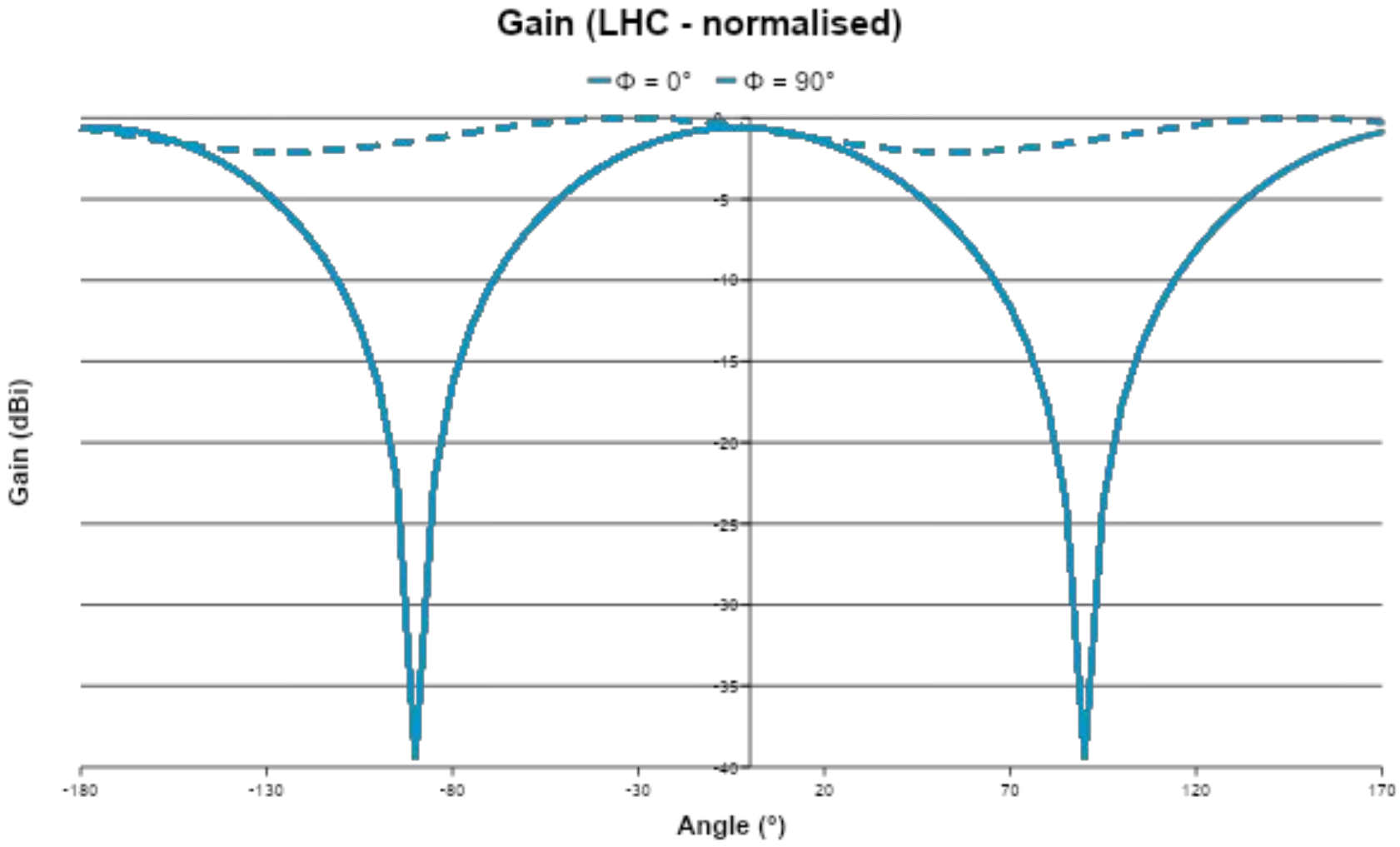
Far Field vs Angle @ fmin



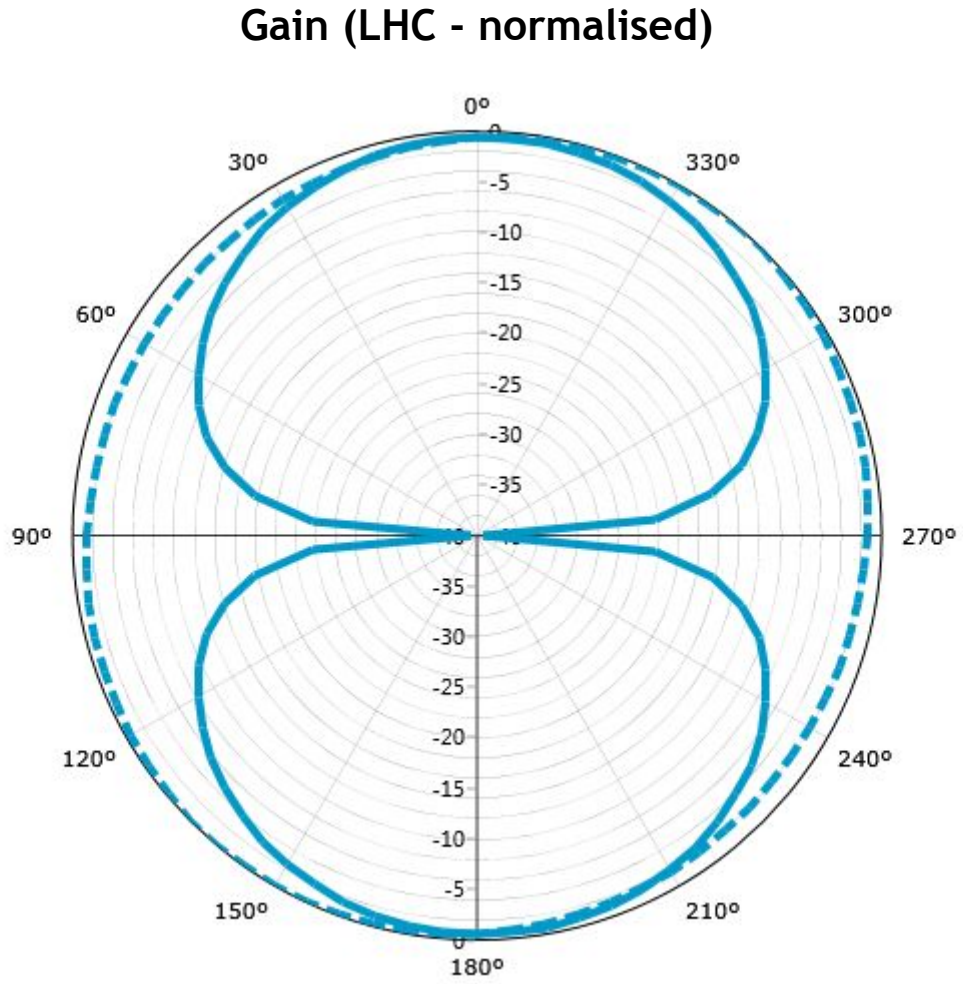
Far Field vs Angle @ fmin



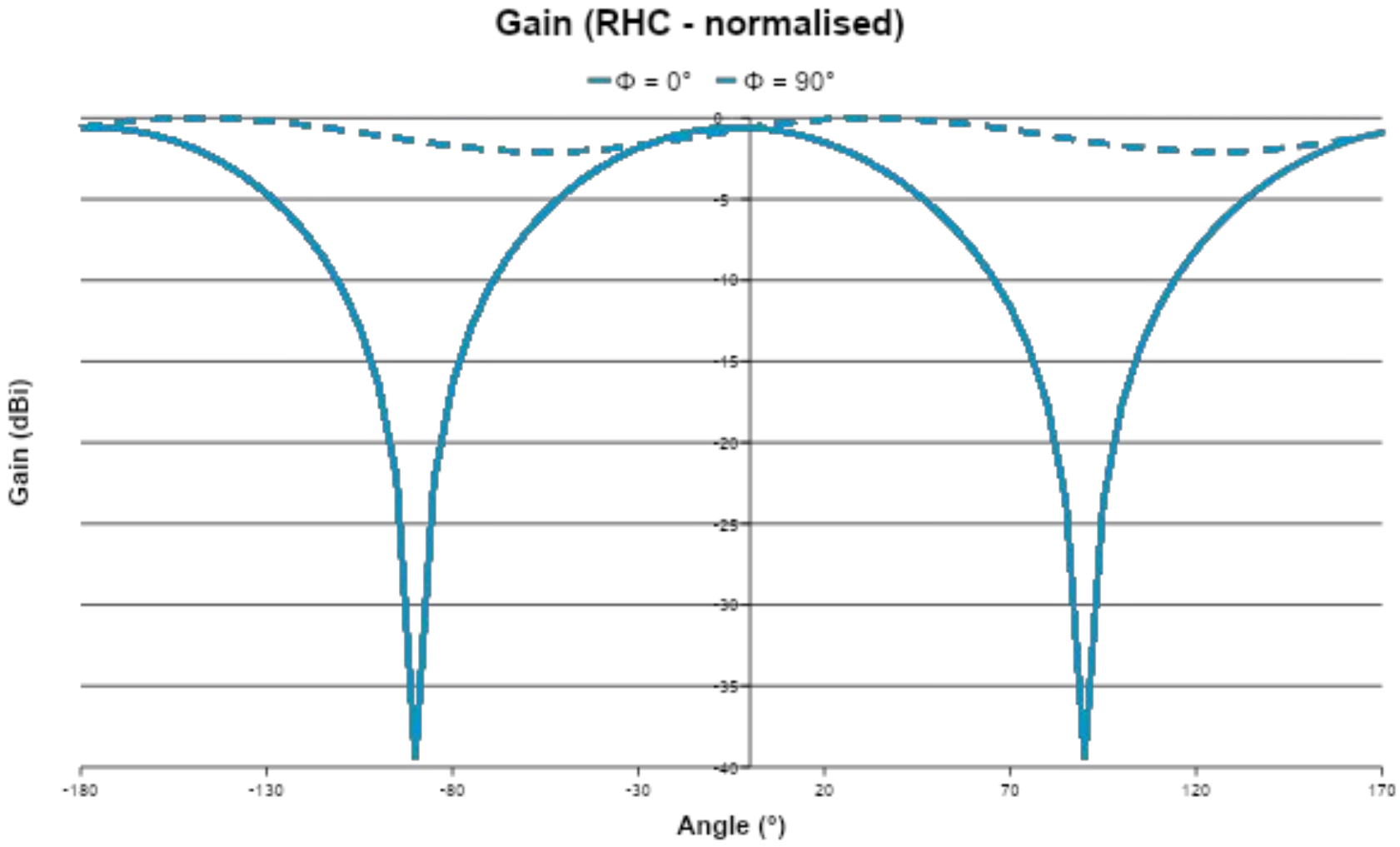
Far Field vs Angle @ fmin



Far Field vs Angle @ fmin

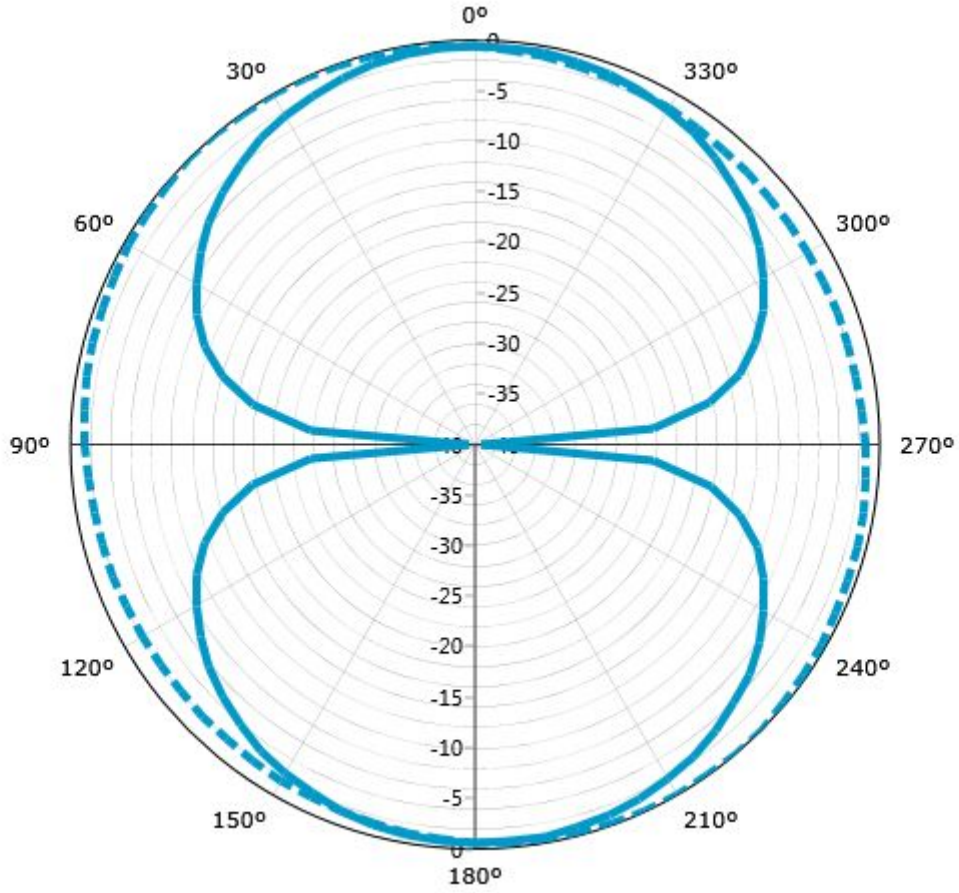


Far Field vs Angle @ fmin

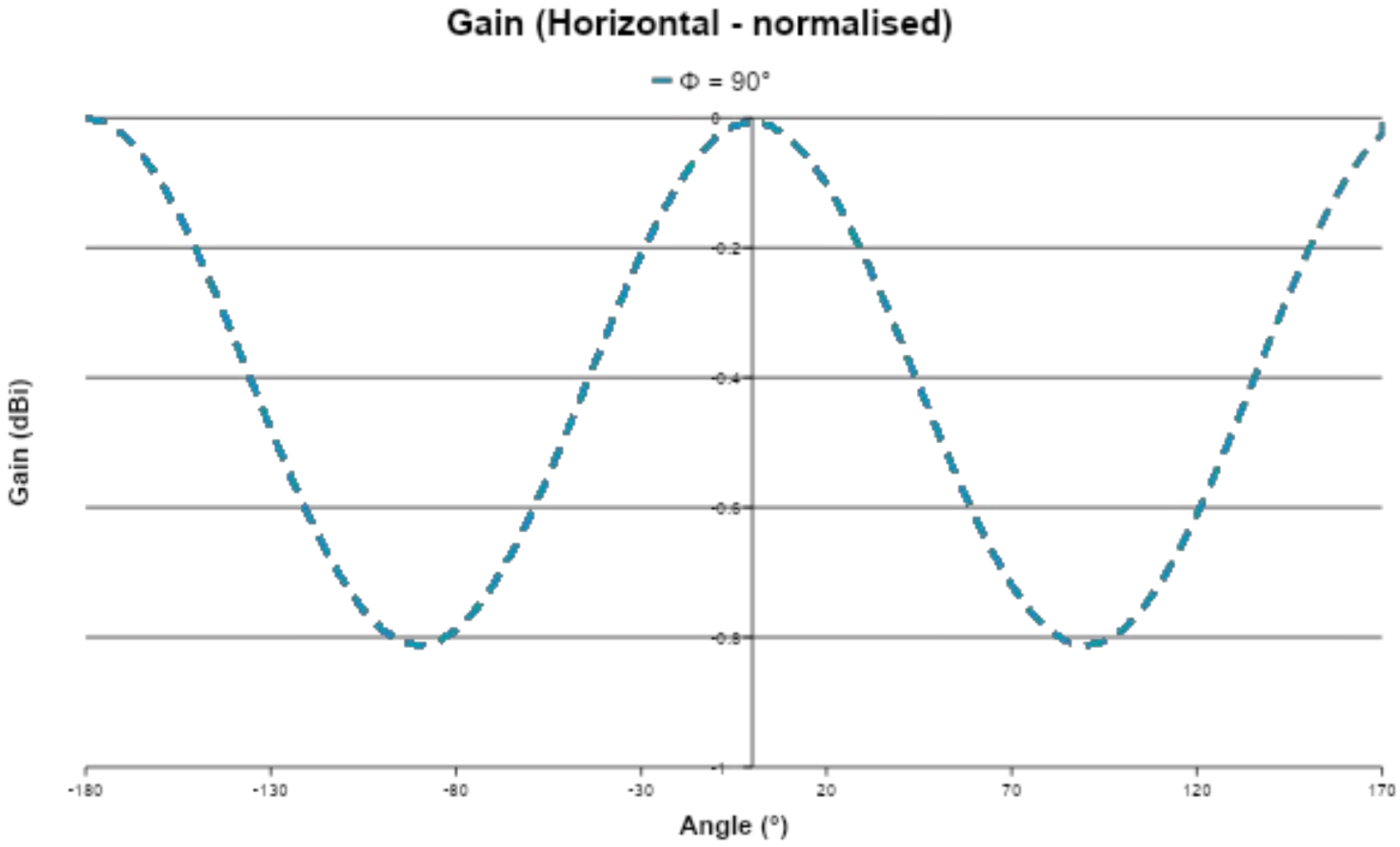


Far Field vs Angle @ fmin

Gain (RHC - normalised)



Far Field vs Angle @ fmin



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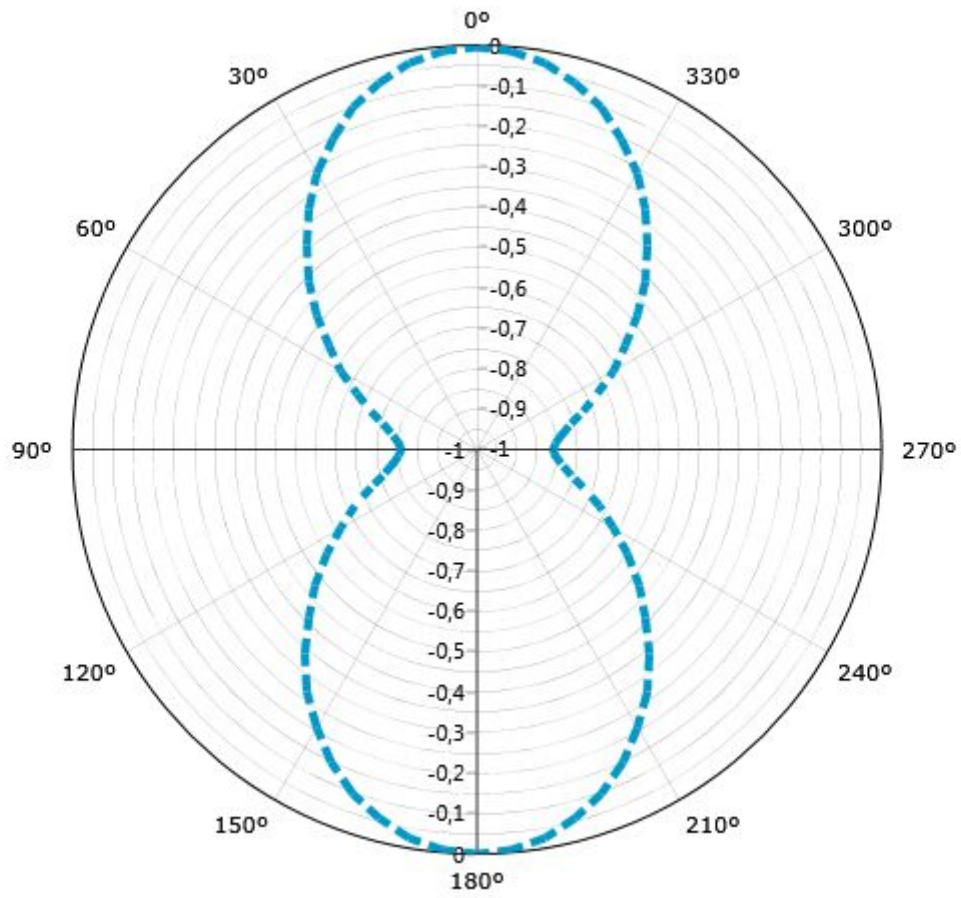
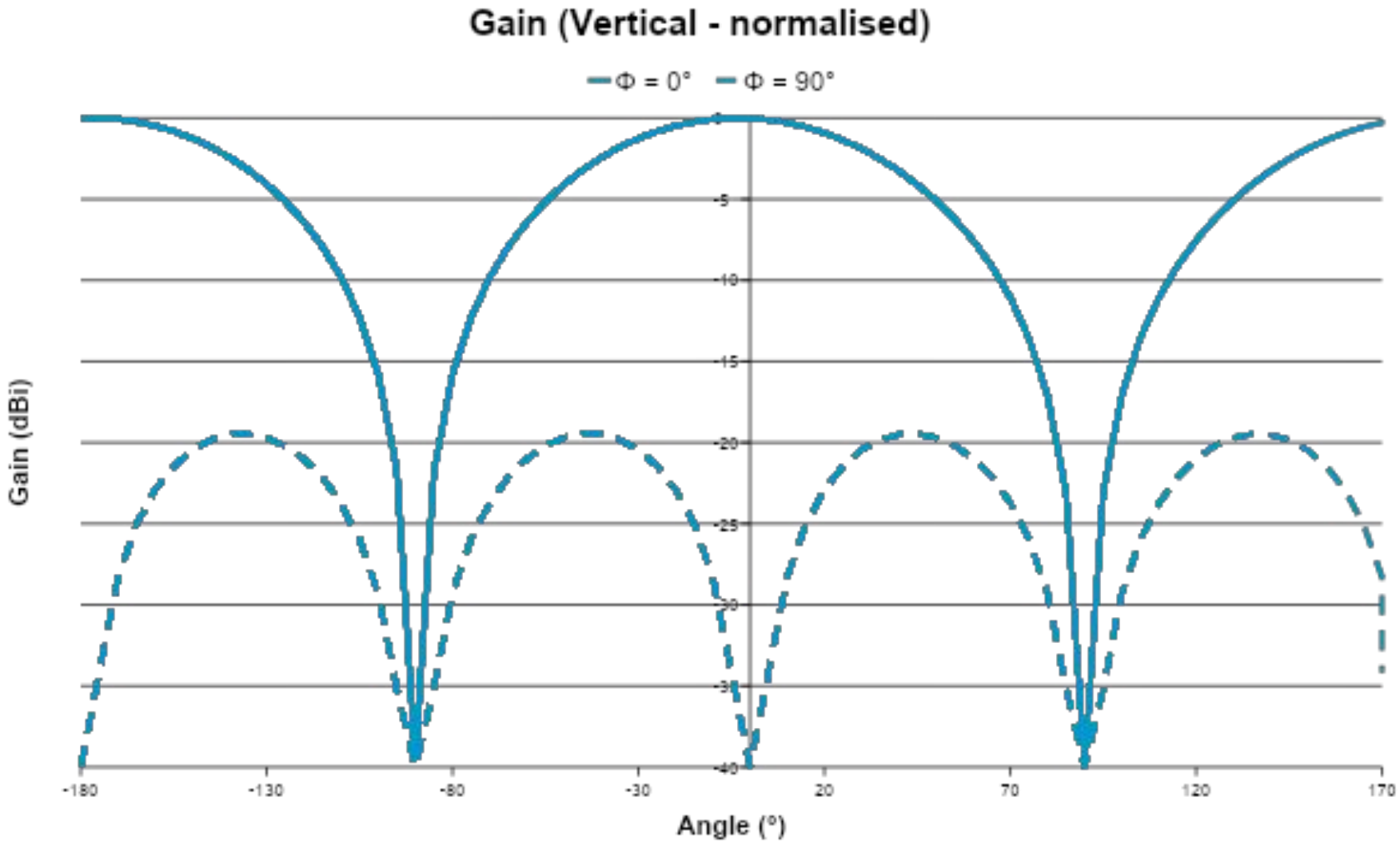
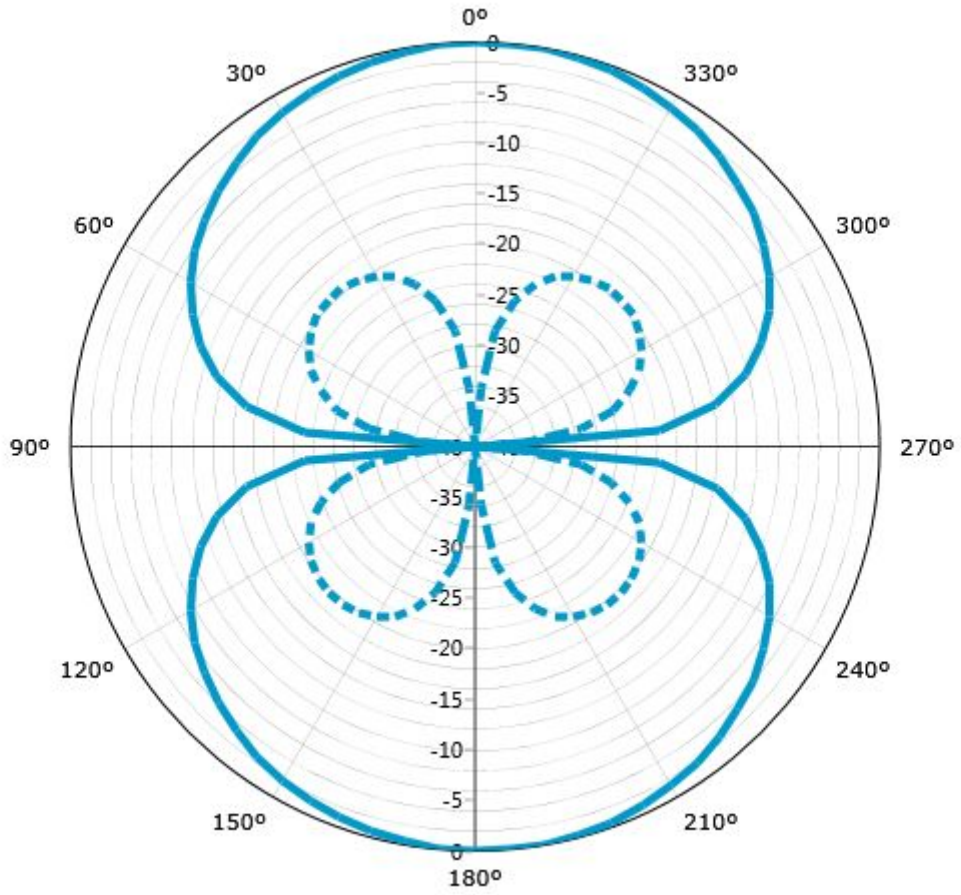


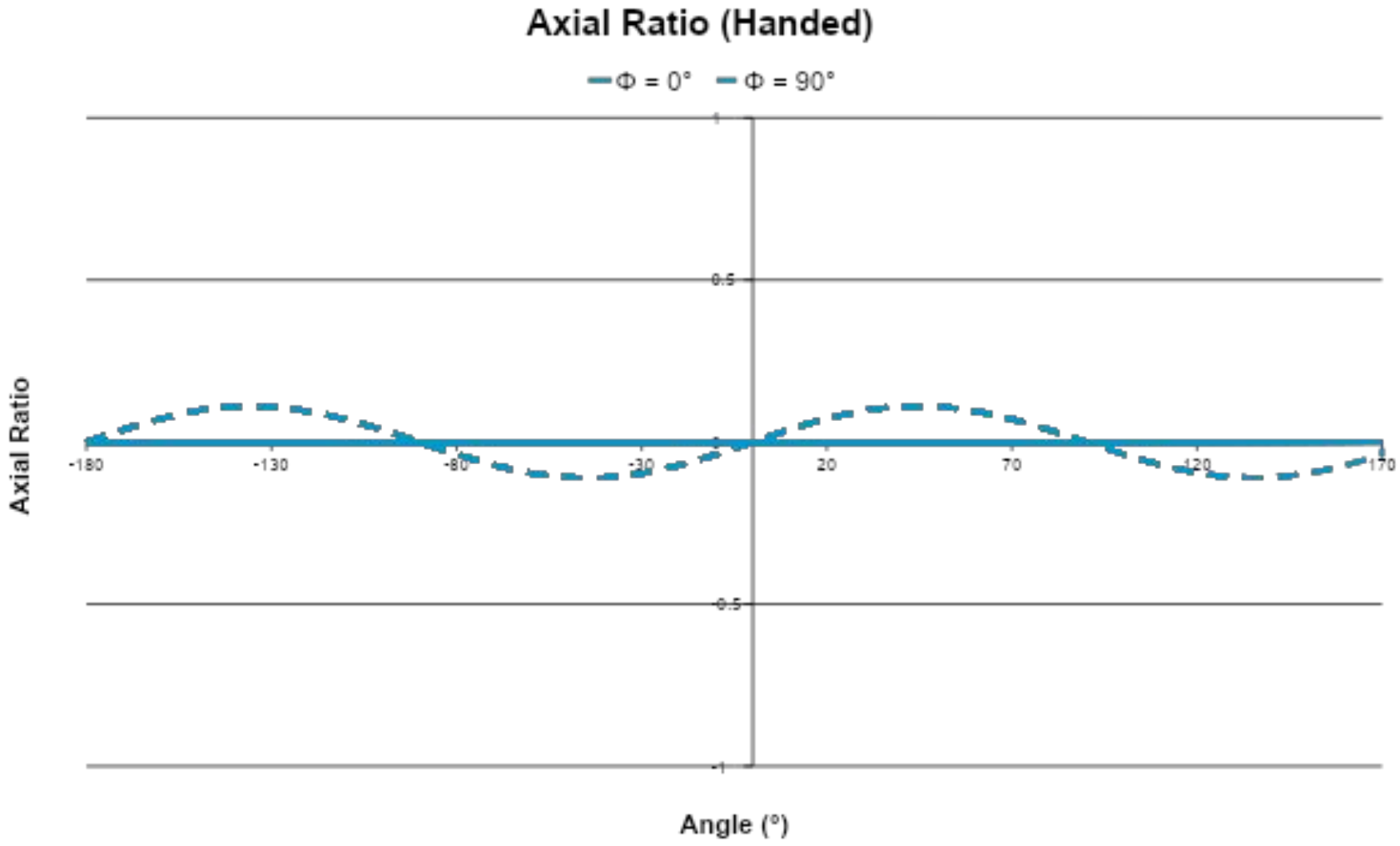
Far Field vs Angle @ fmin



Far Field vs Angle @ fmin



Far Field vs Angle @ fmin



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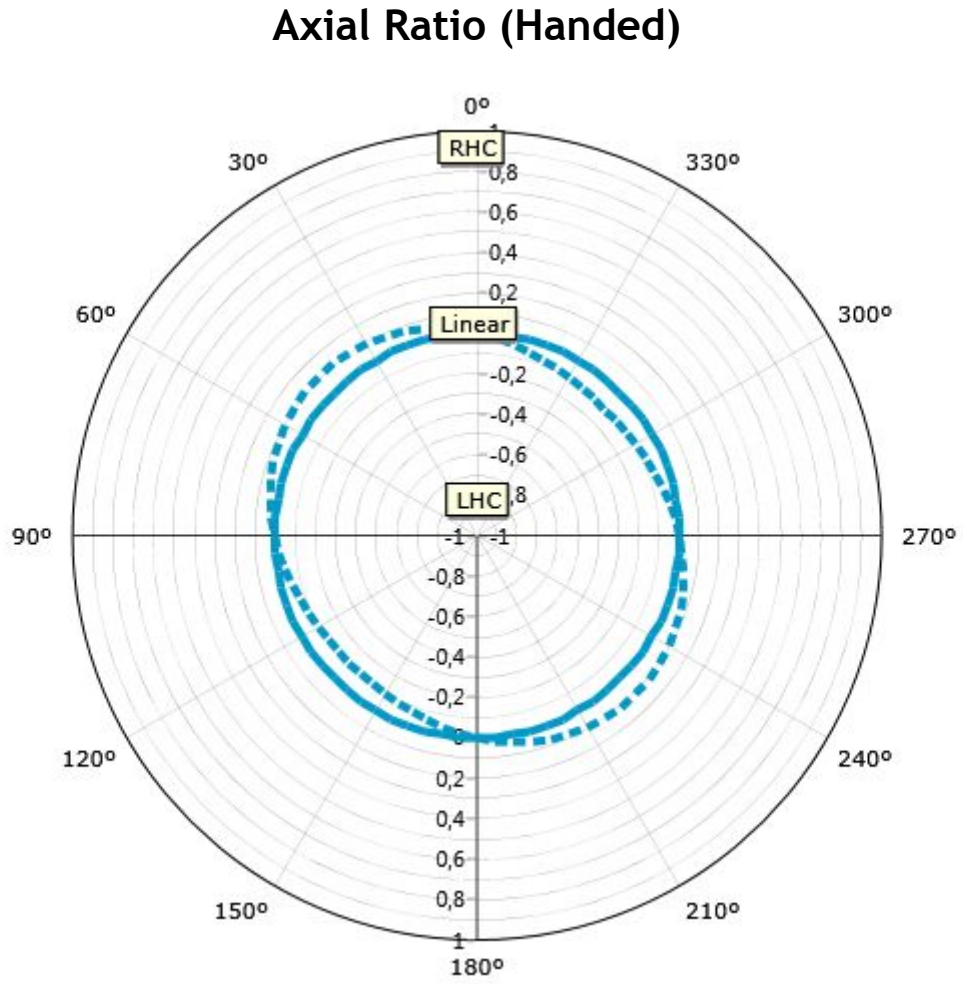

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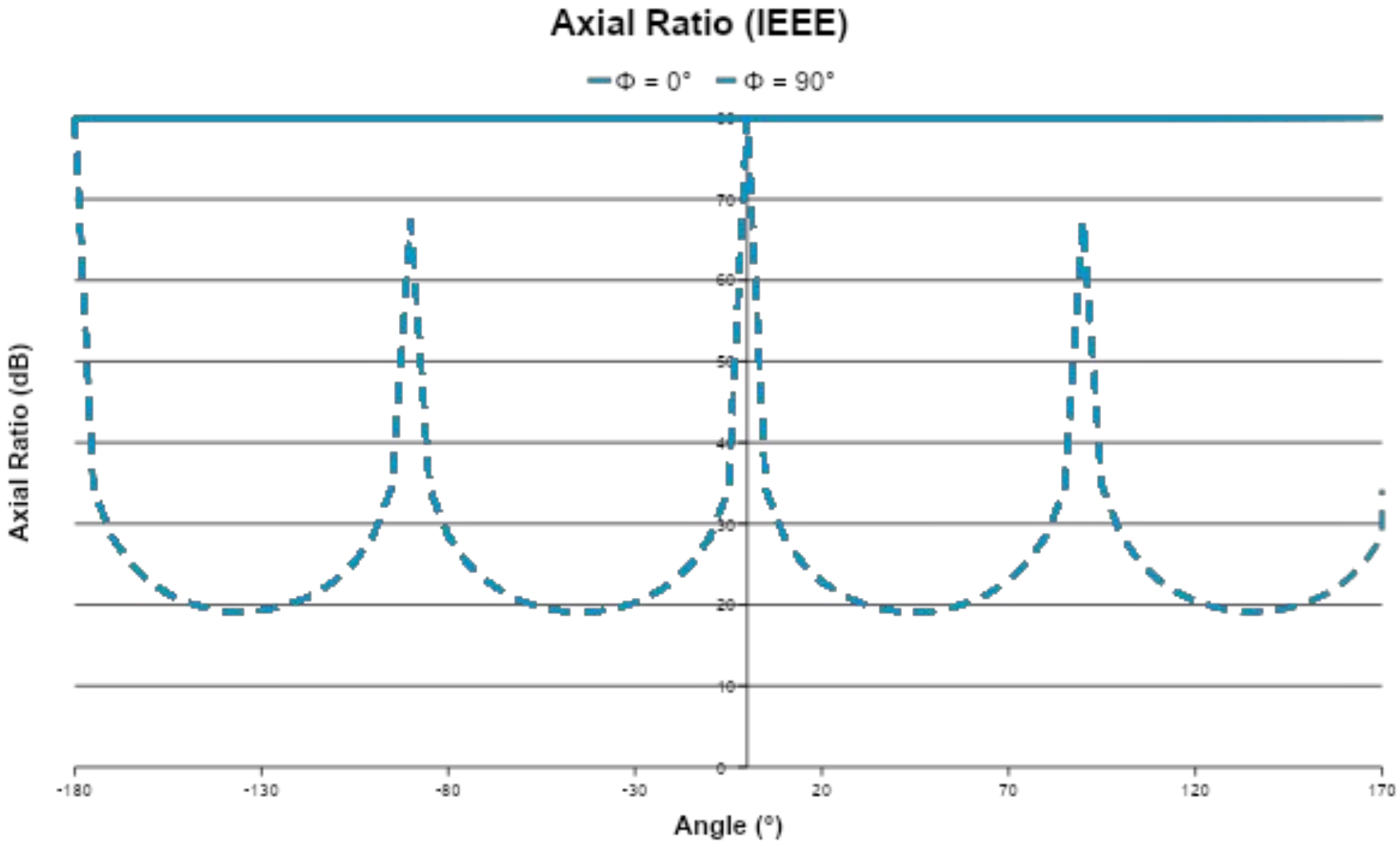

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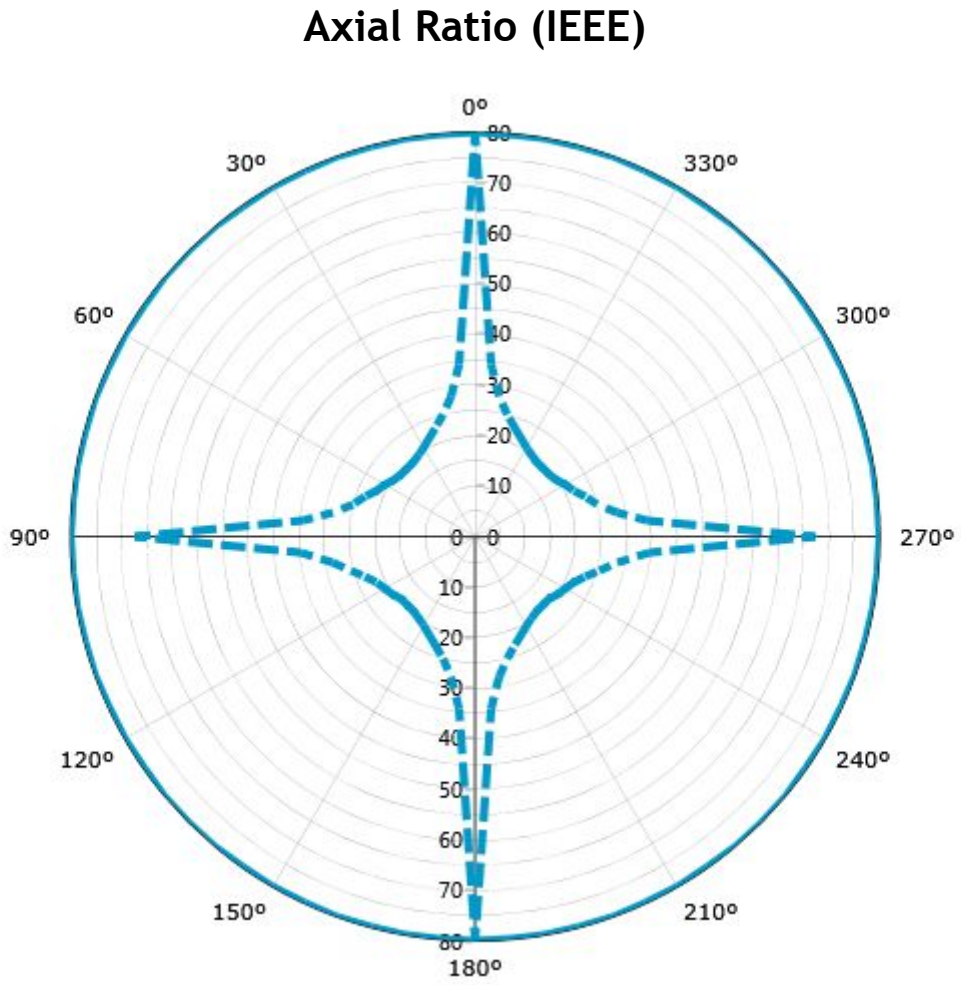
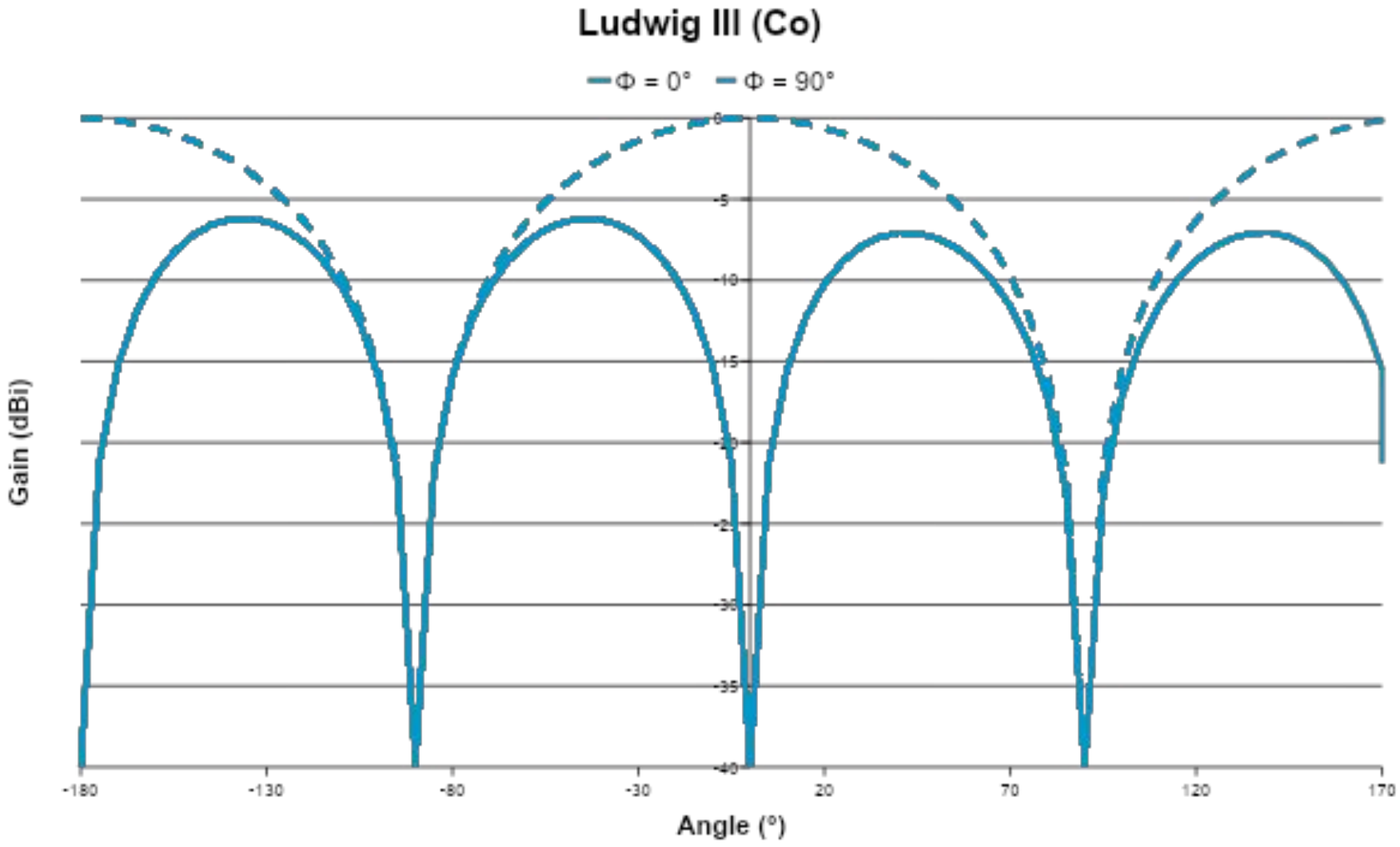


Far Field vs Angle @ fmin



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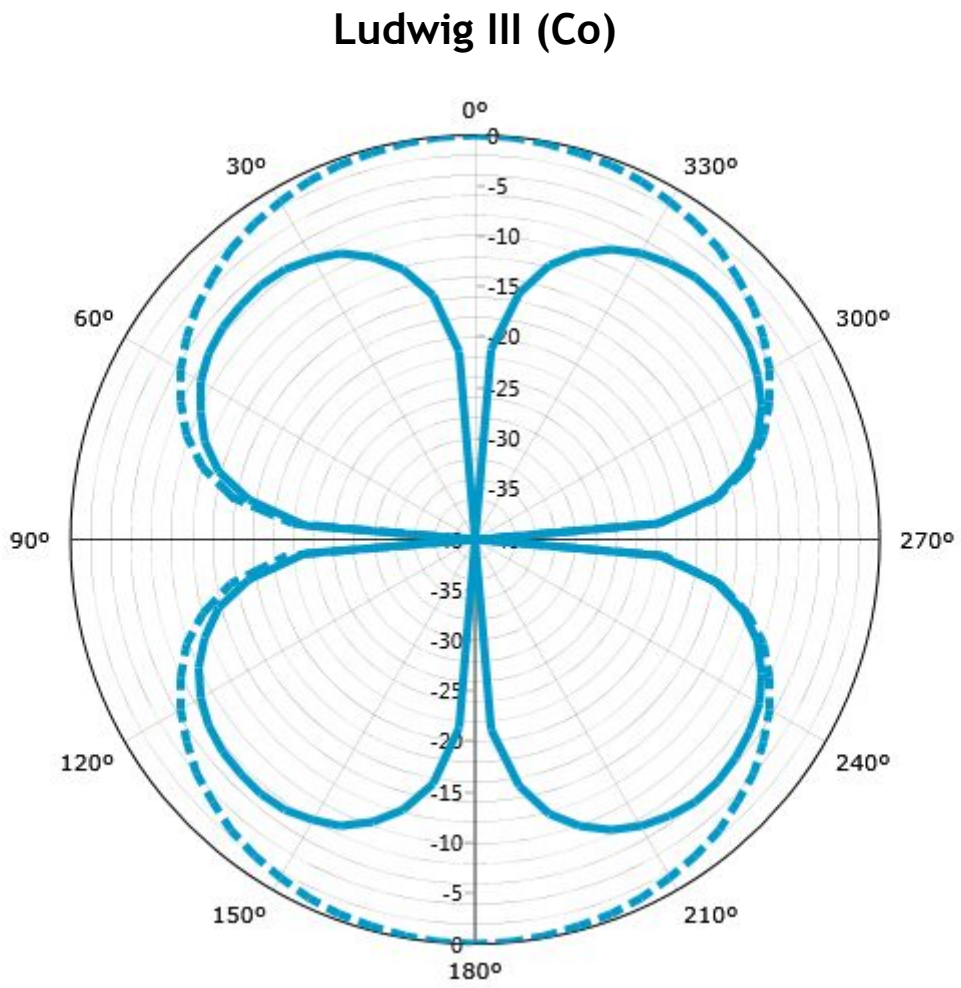
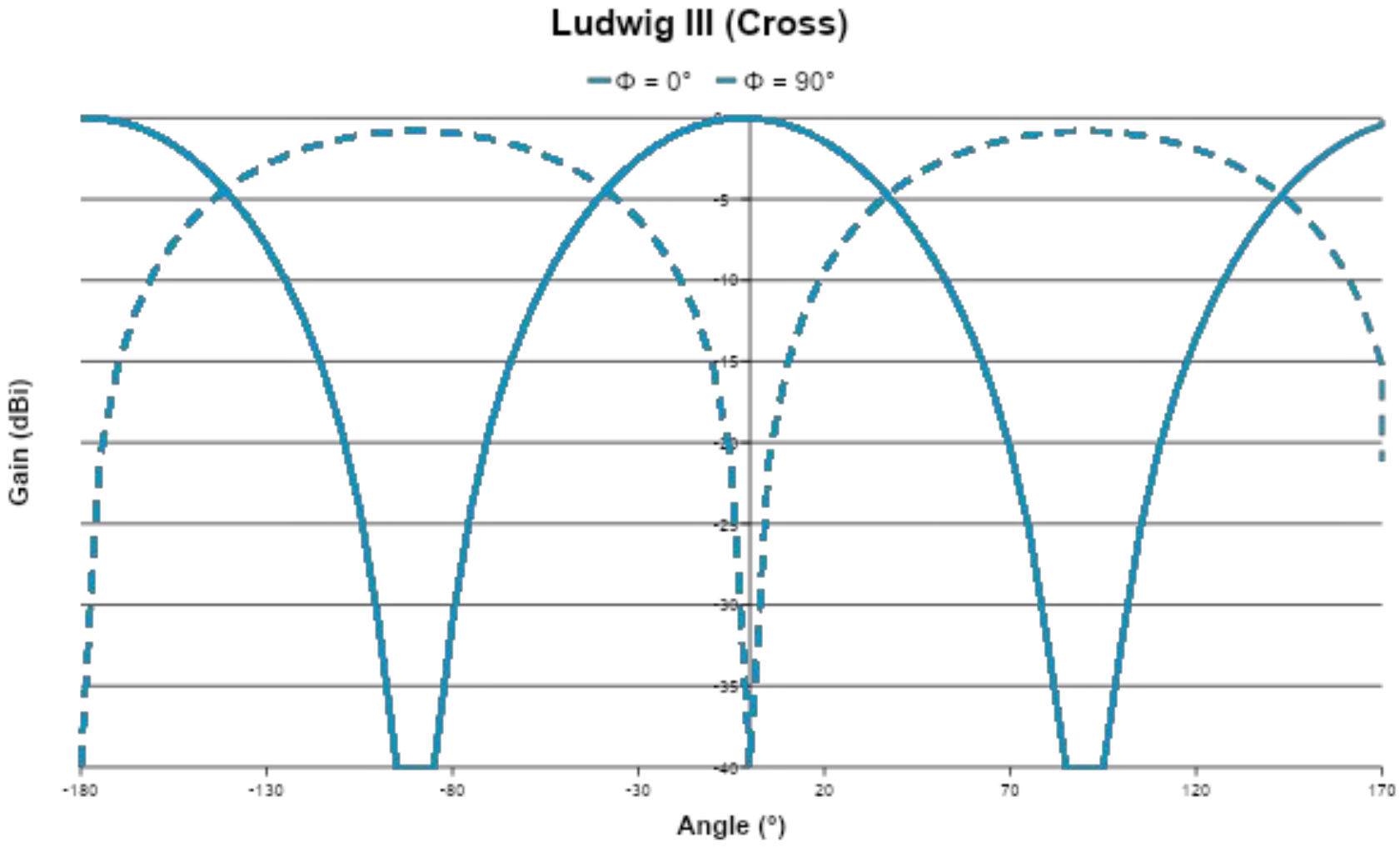
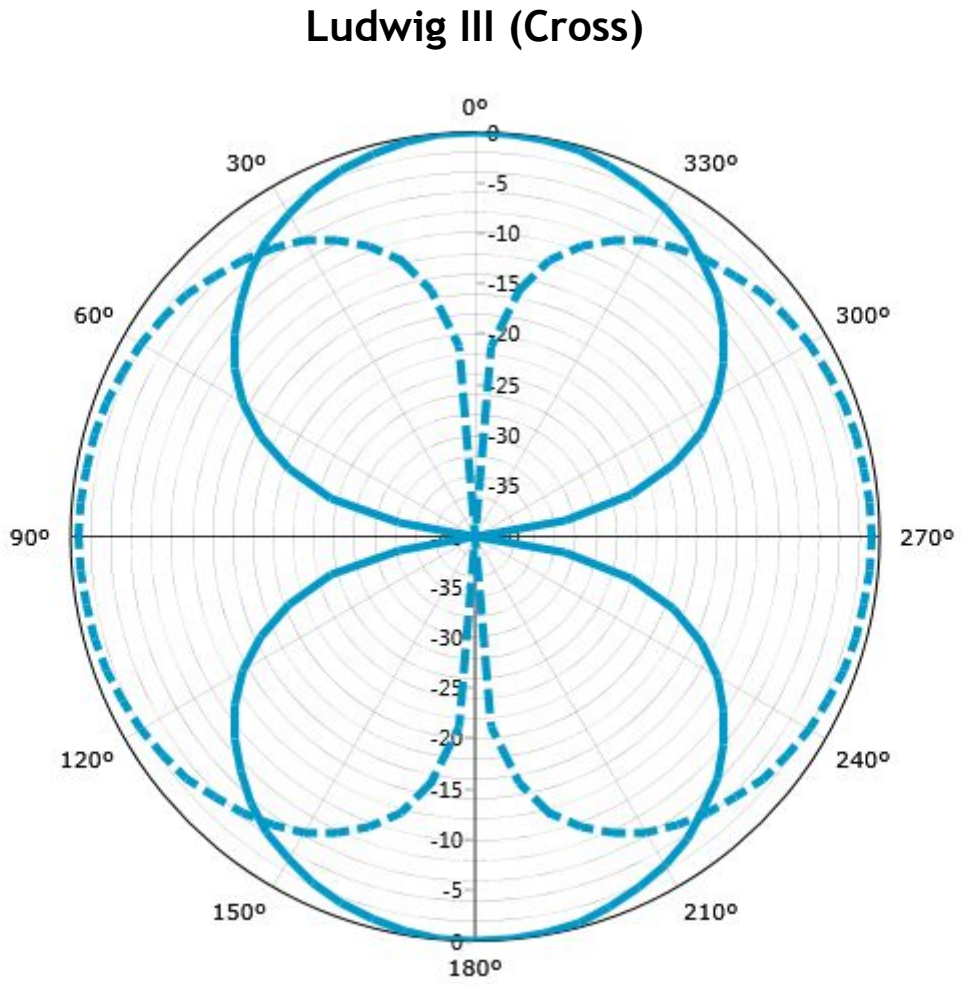


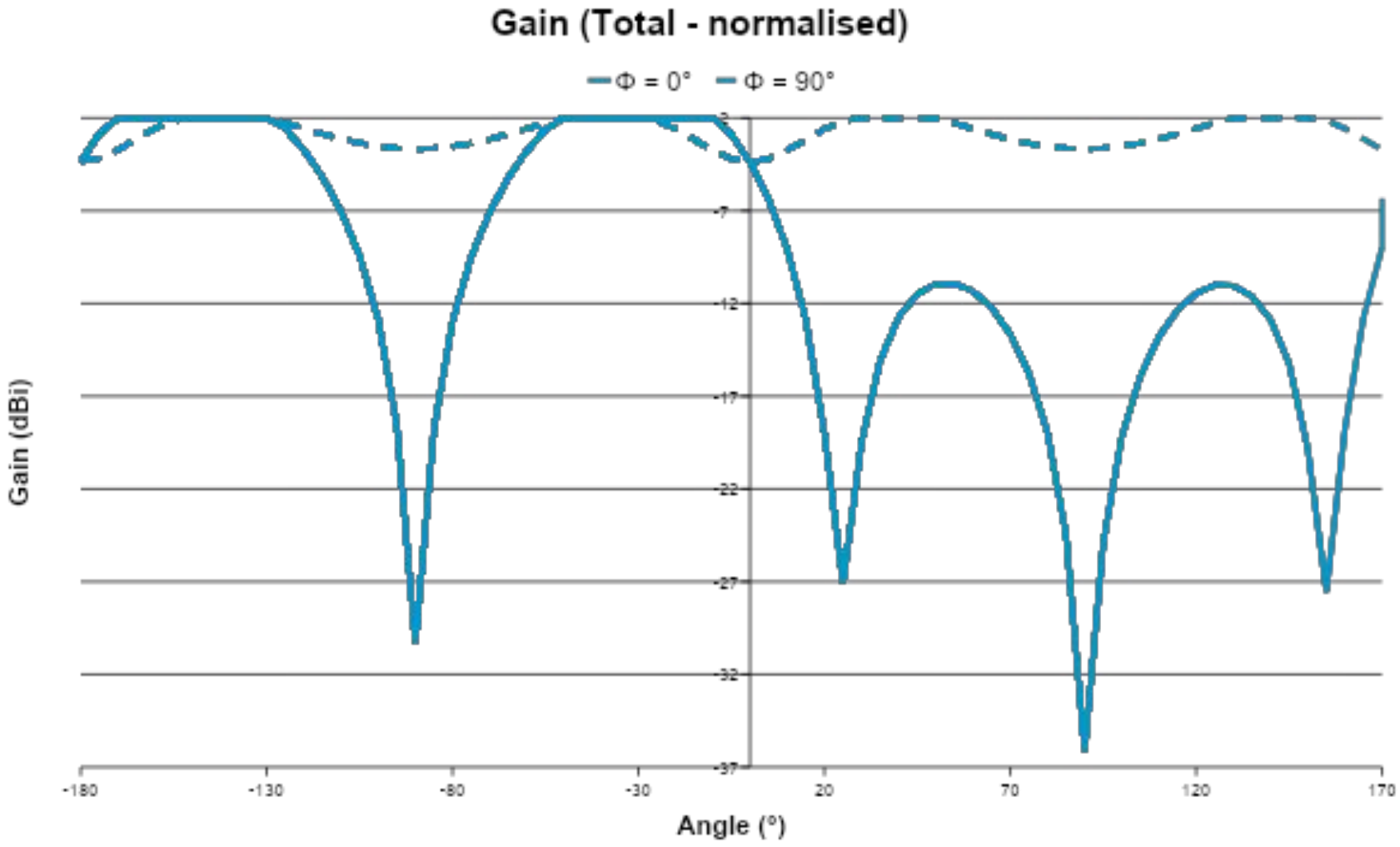
Far Field vs Angle @ fmin



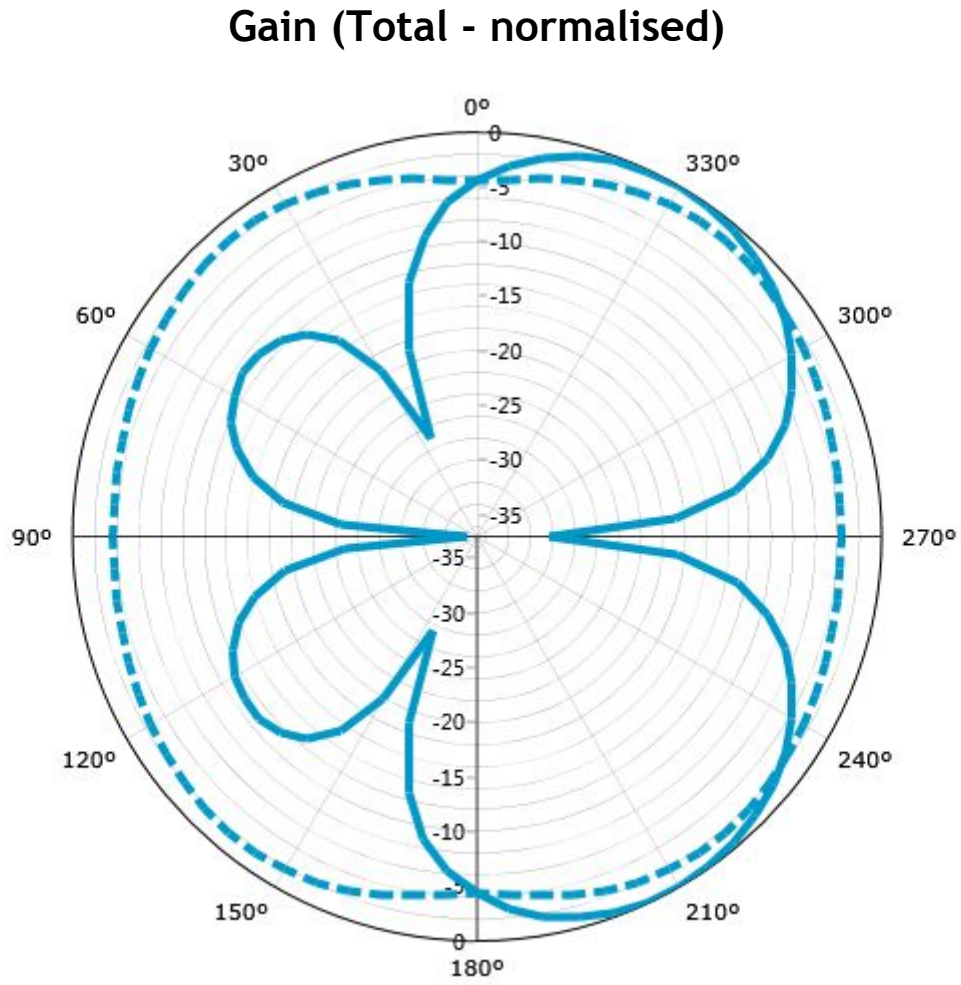
Far Field vs Angle @ fmin



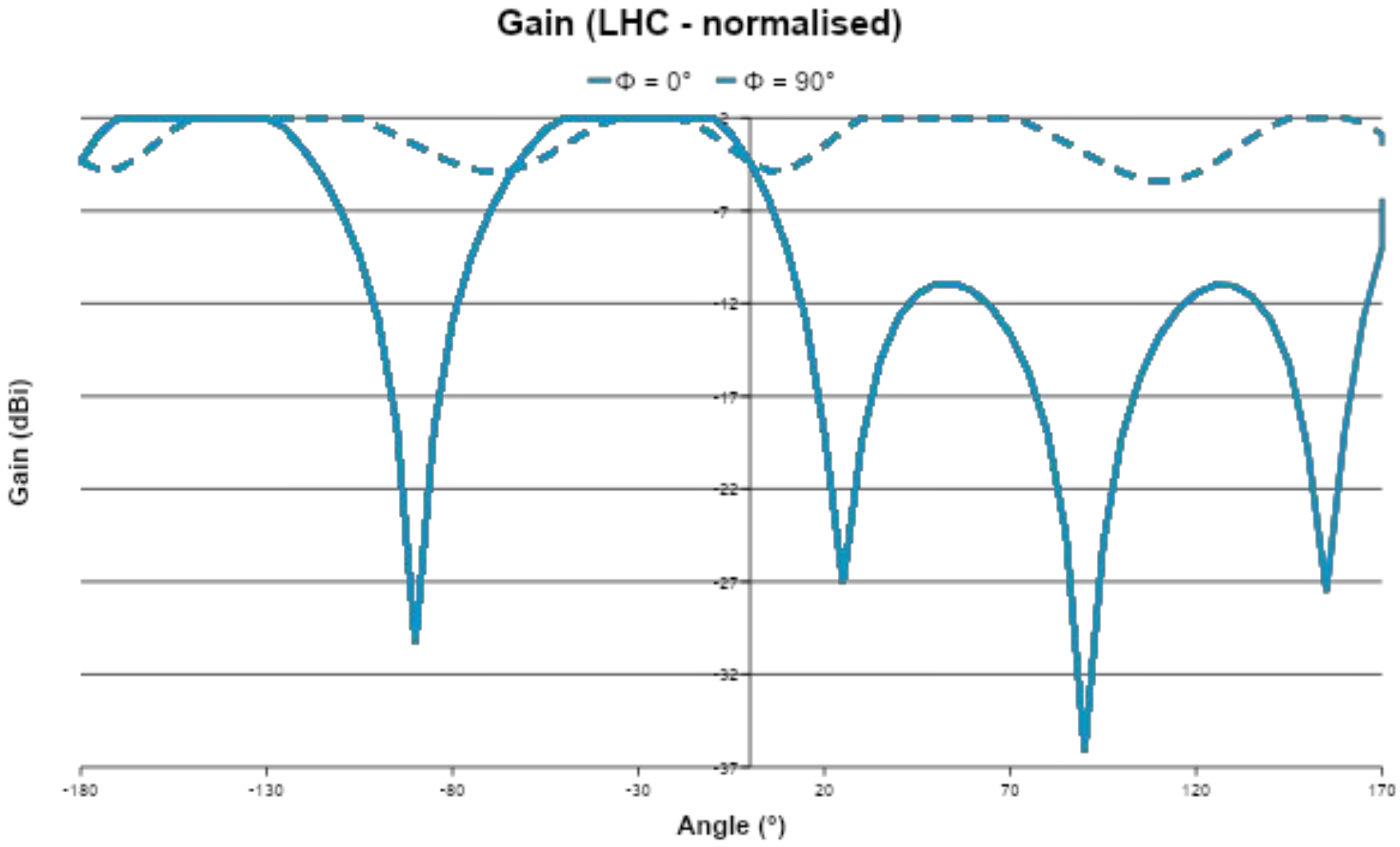
Far Field vs Angle @ 2 fmin



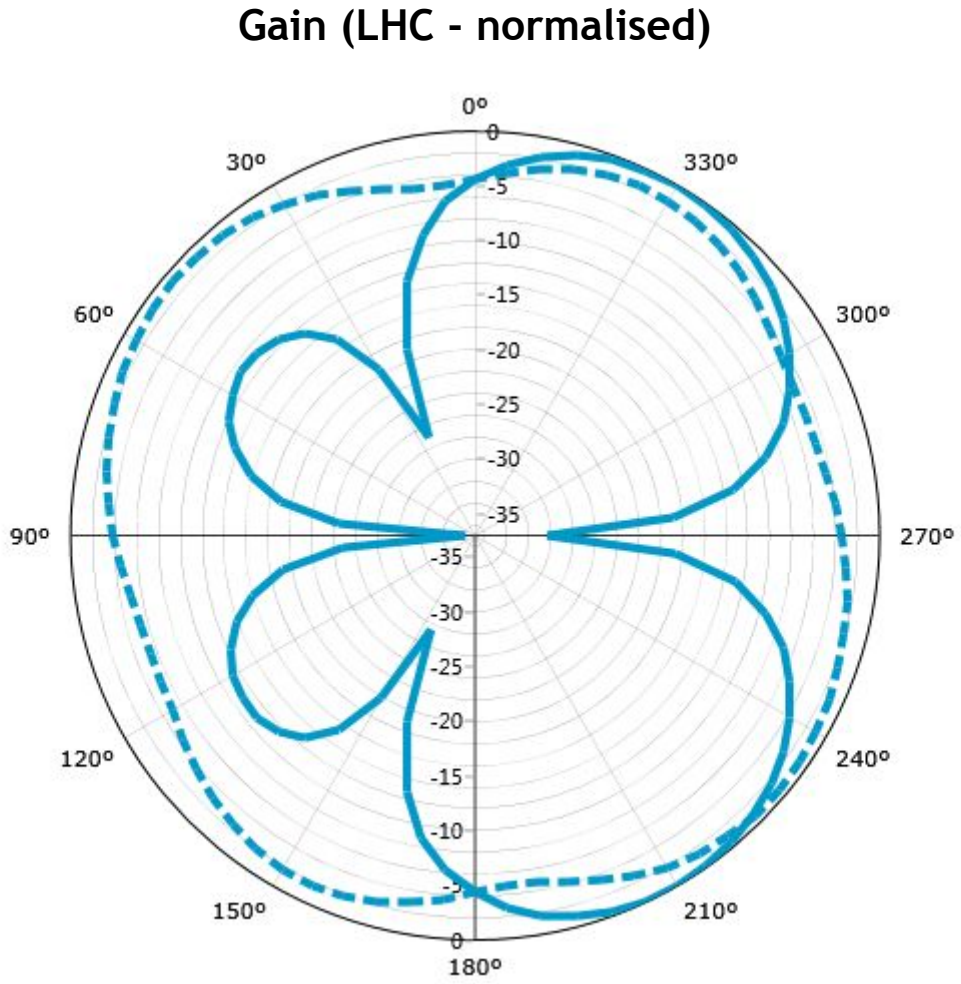
Far Field vs Angle @ 2 fmin



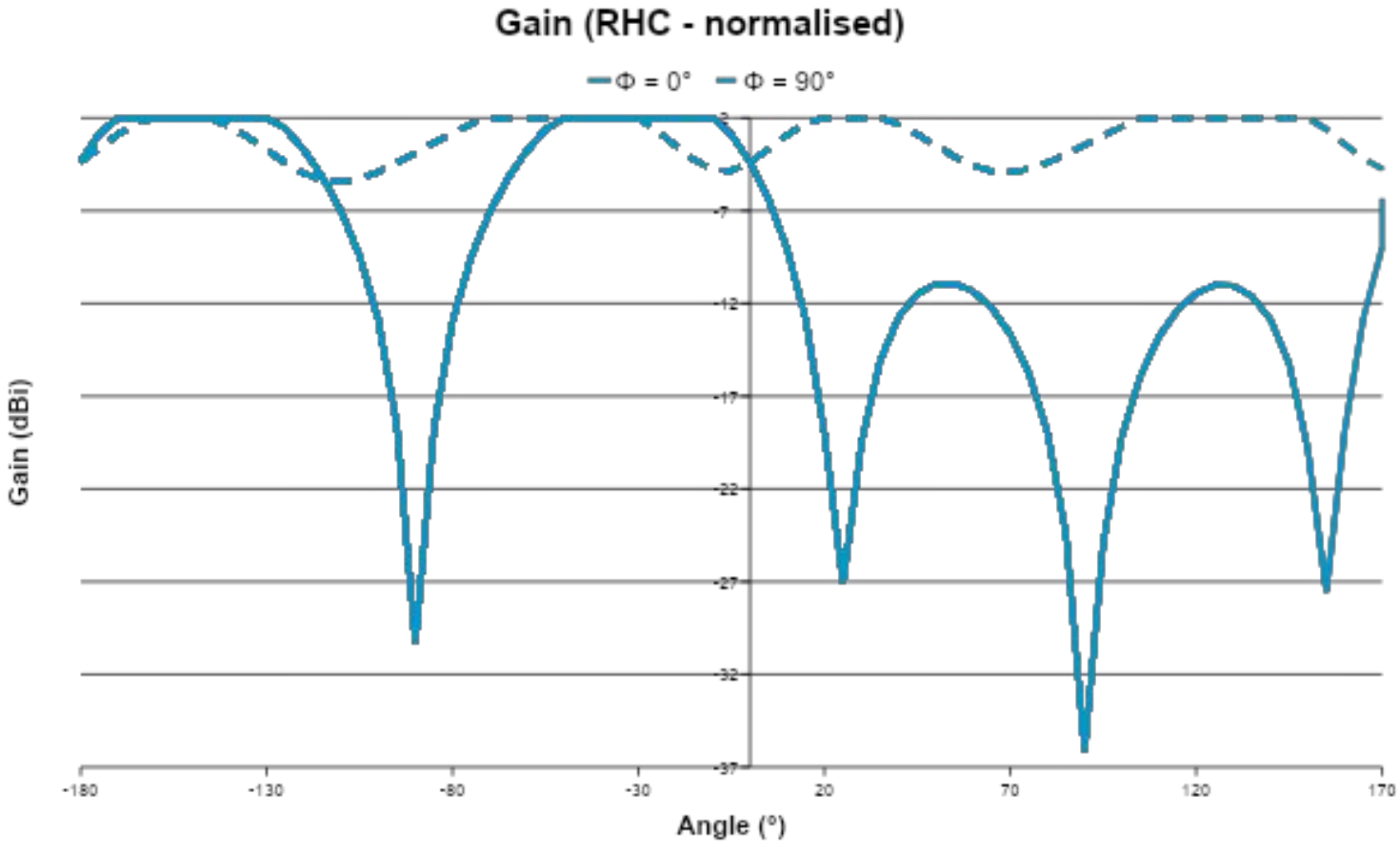
Far Field vs Angle @ 2 fmin



Far Field vs Angle @ 2 fmin

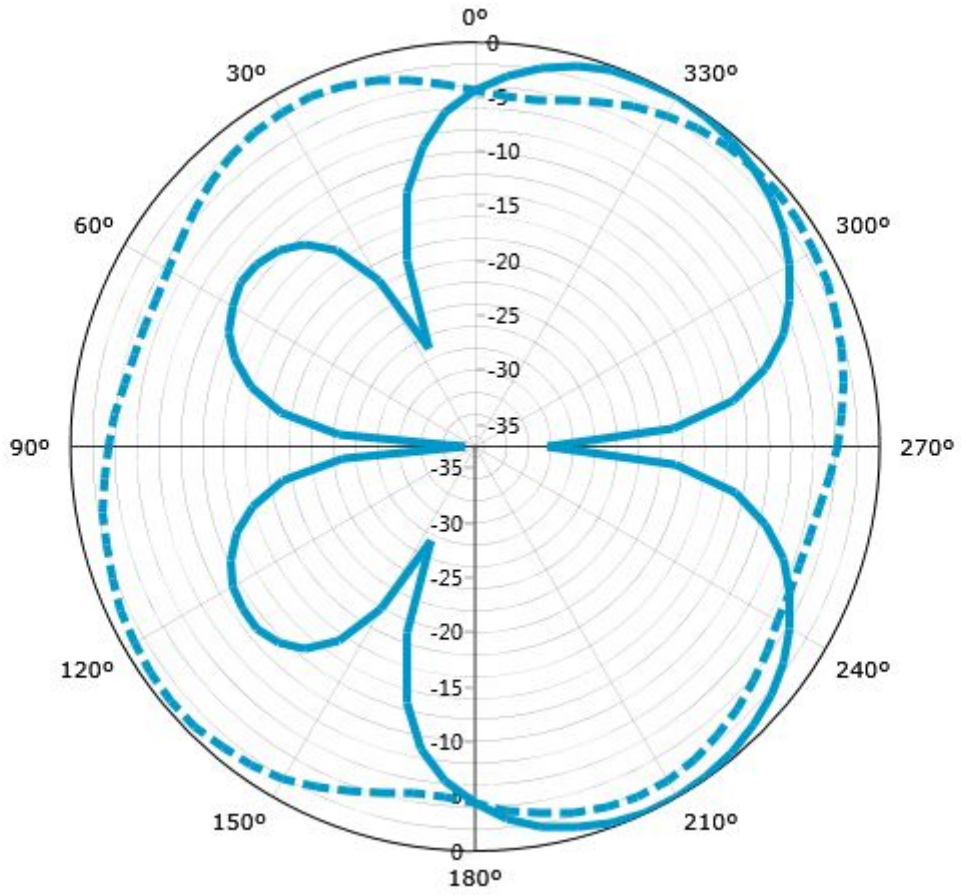


Far Field vs Angle @ 2 fmin



Far Field vs Angle @ 2 fmin

Gain (RHC - normalised)



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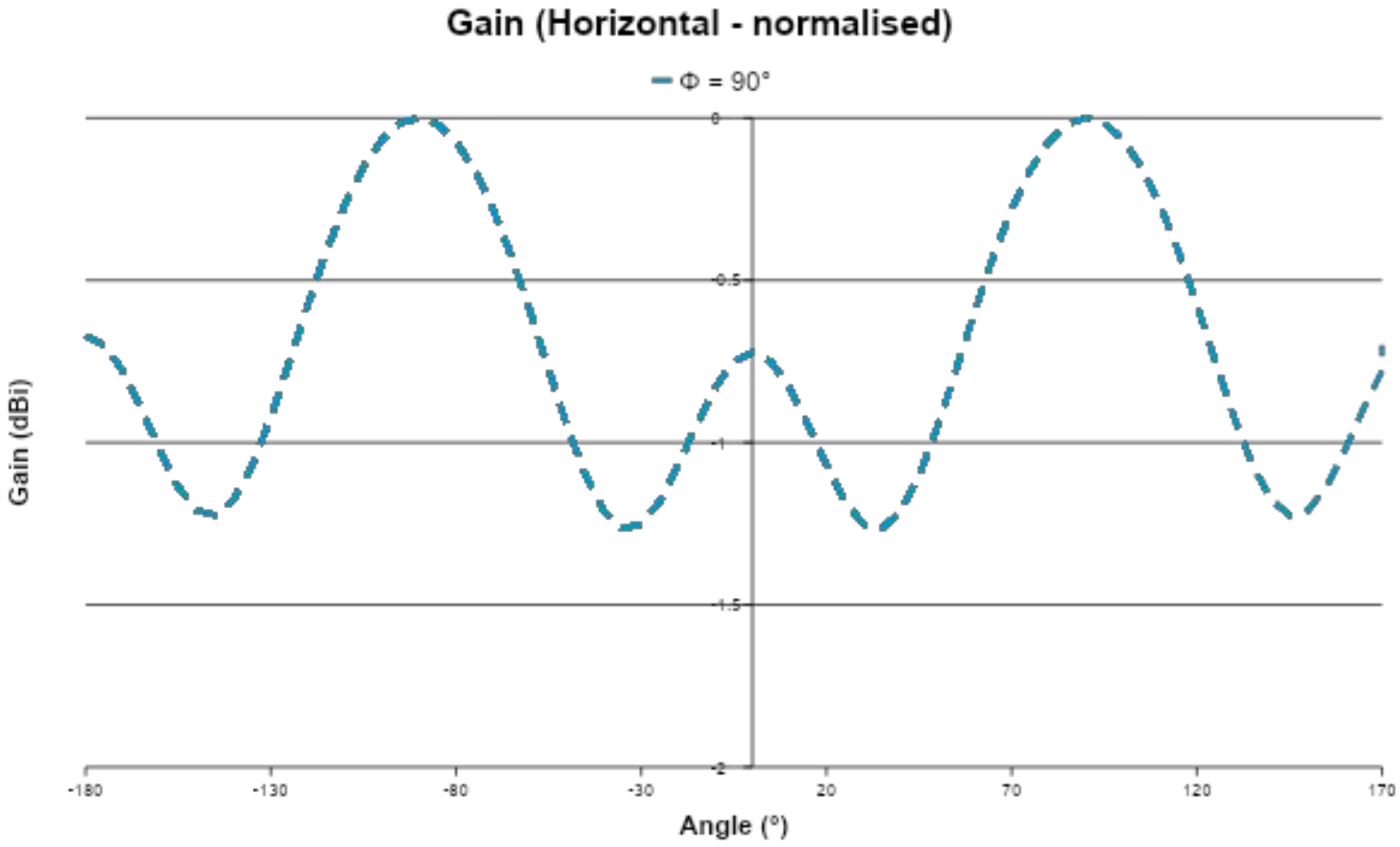

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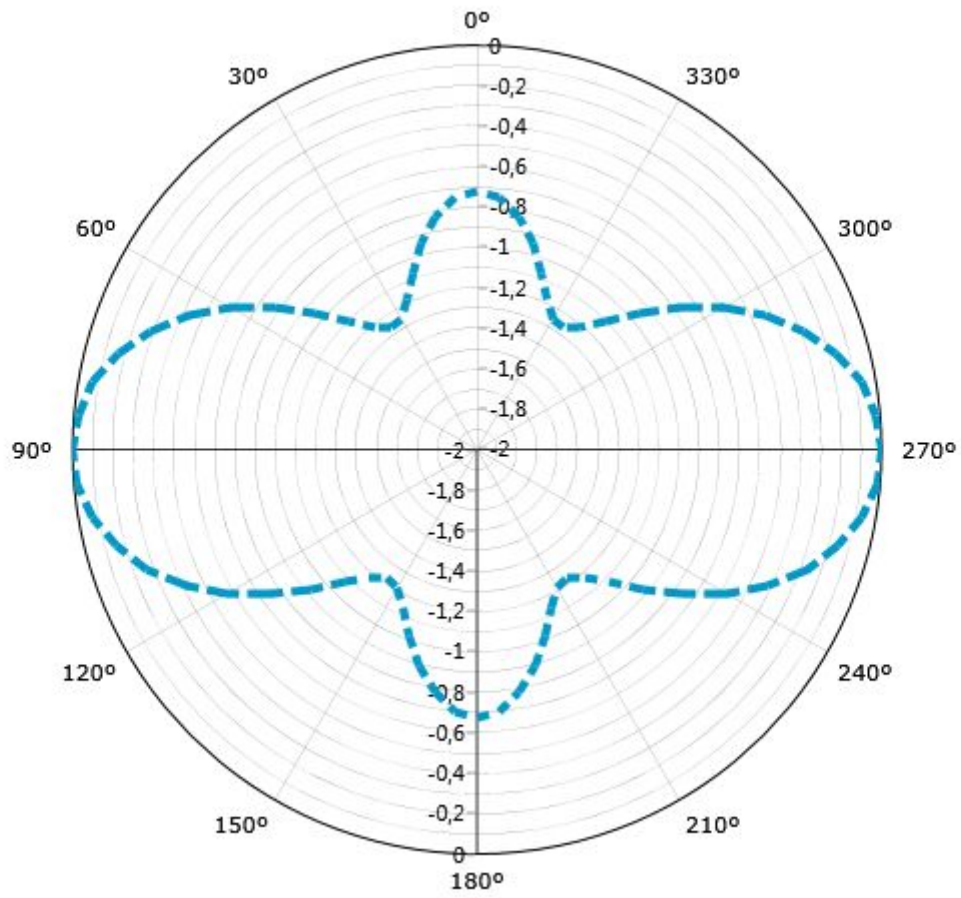
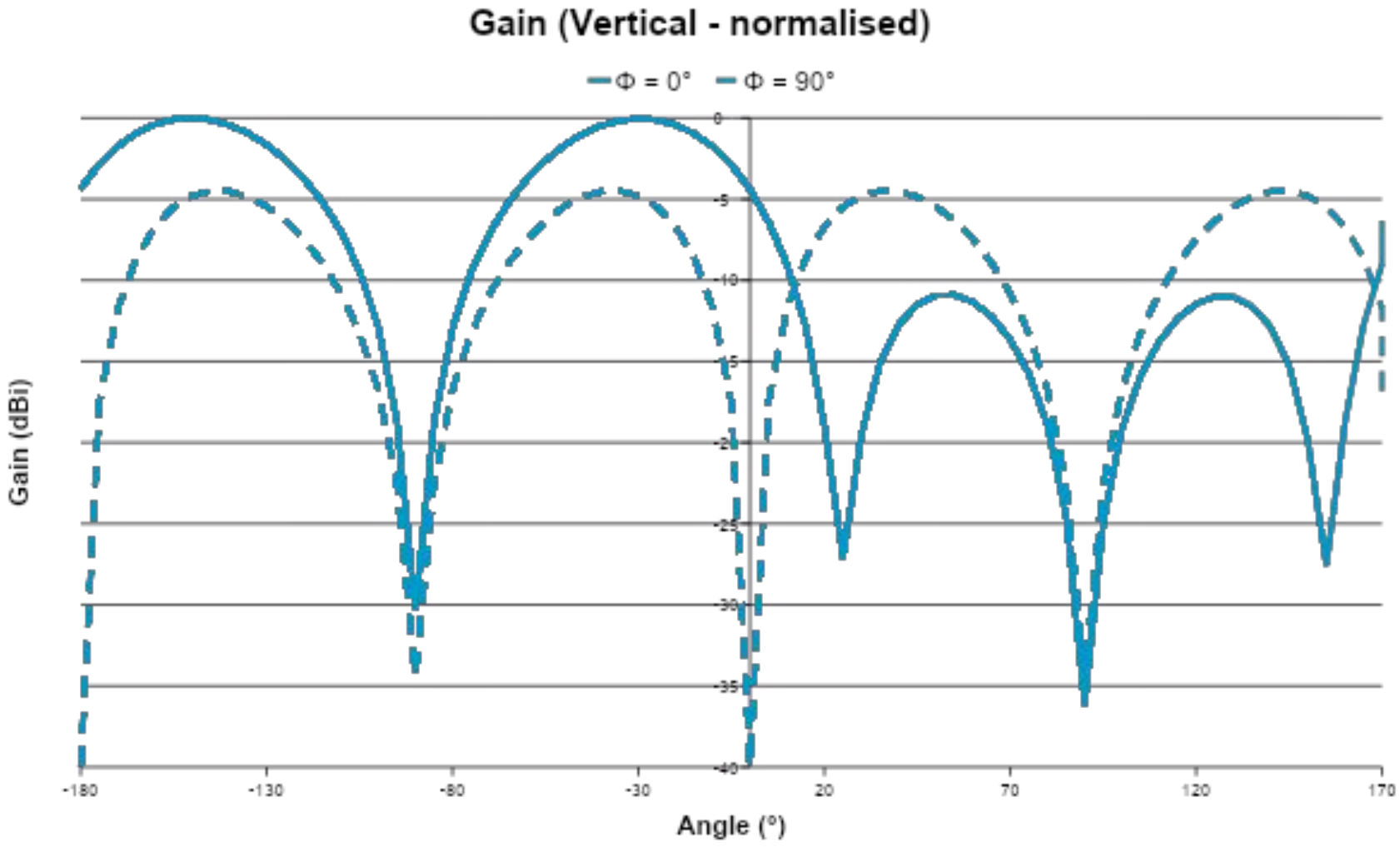


Far Field vs Angle @ 2 fmin



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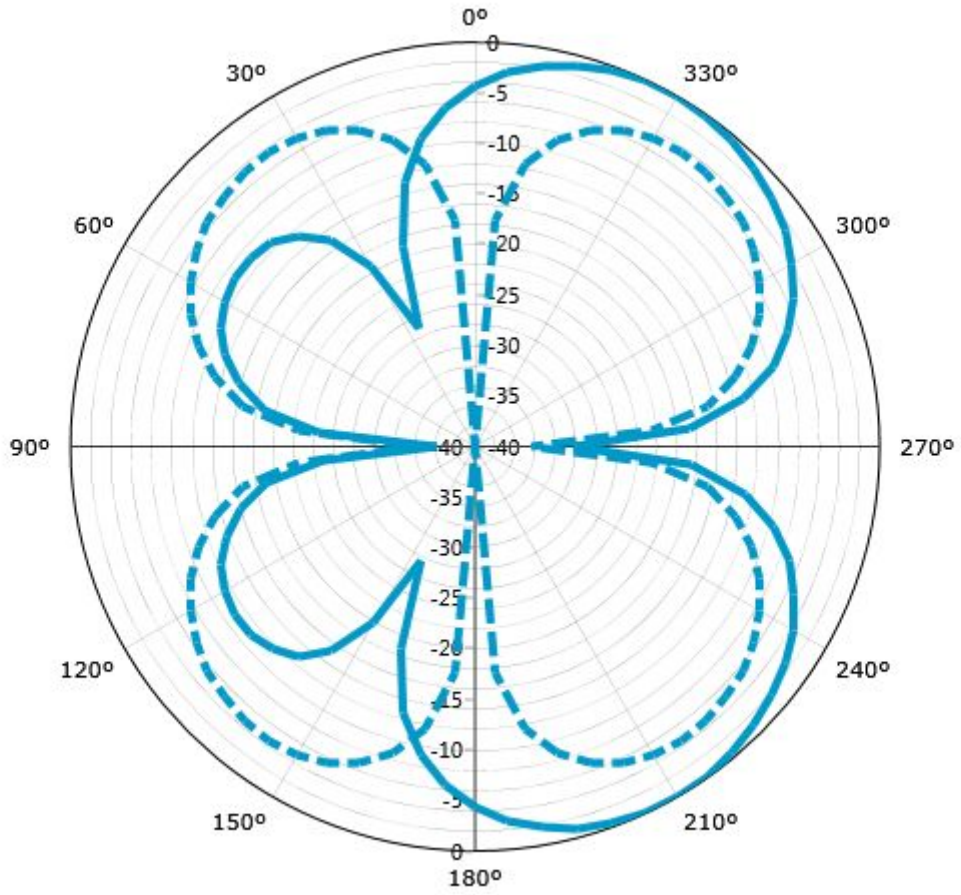
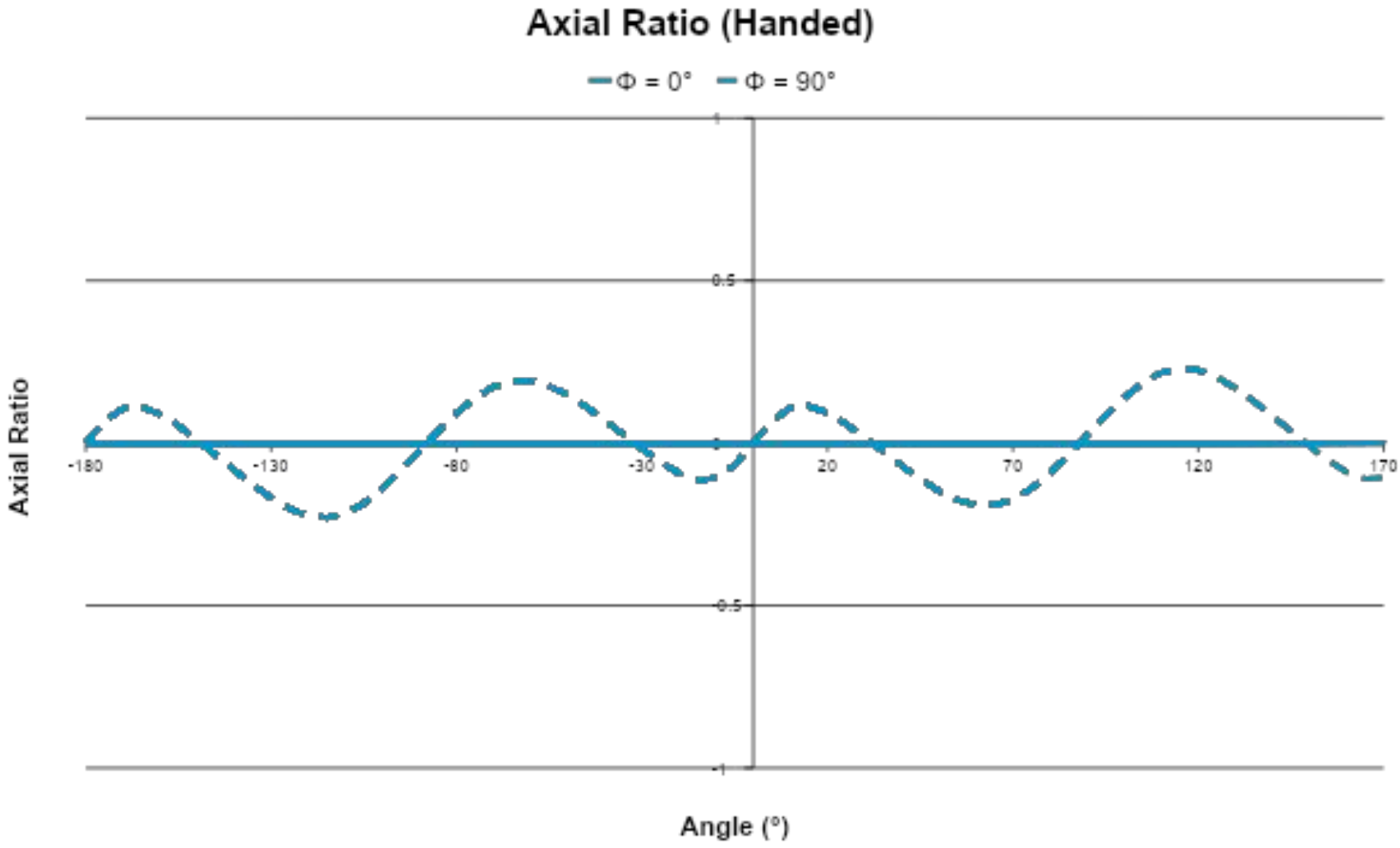


Far Field vs Angle @ 2 fmin



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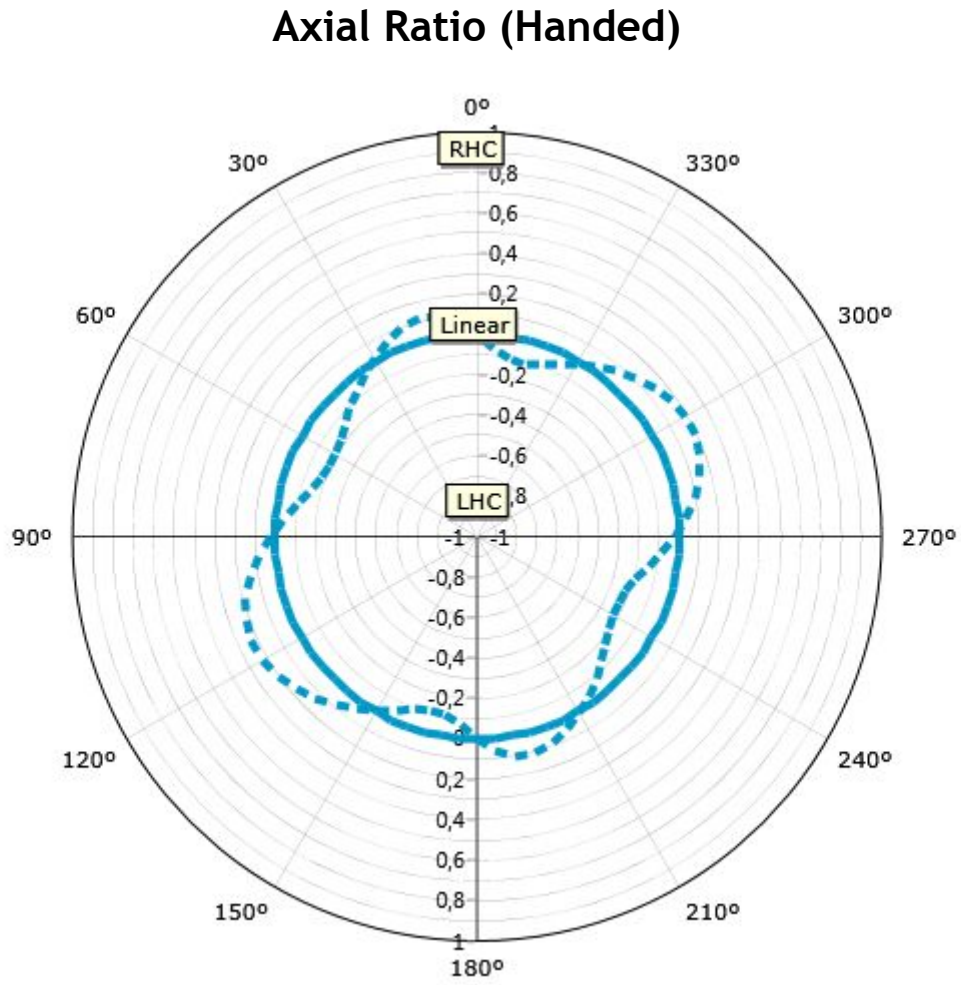

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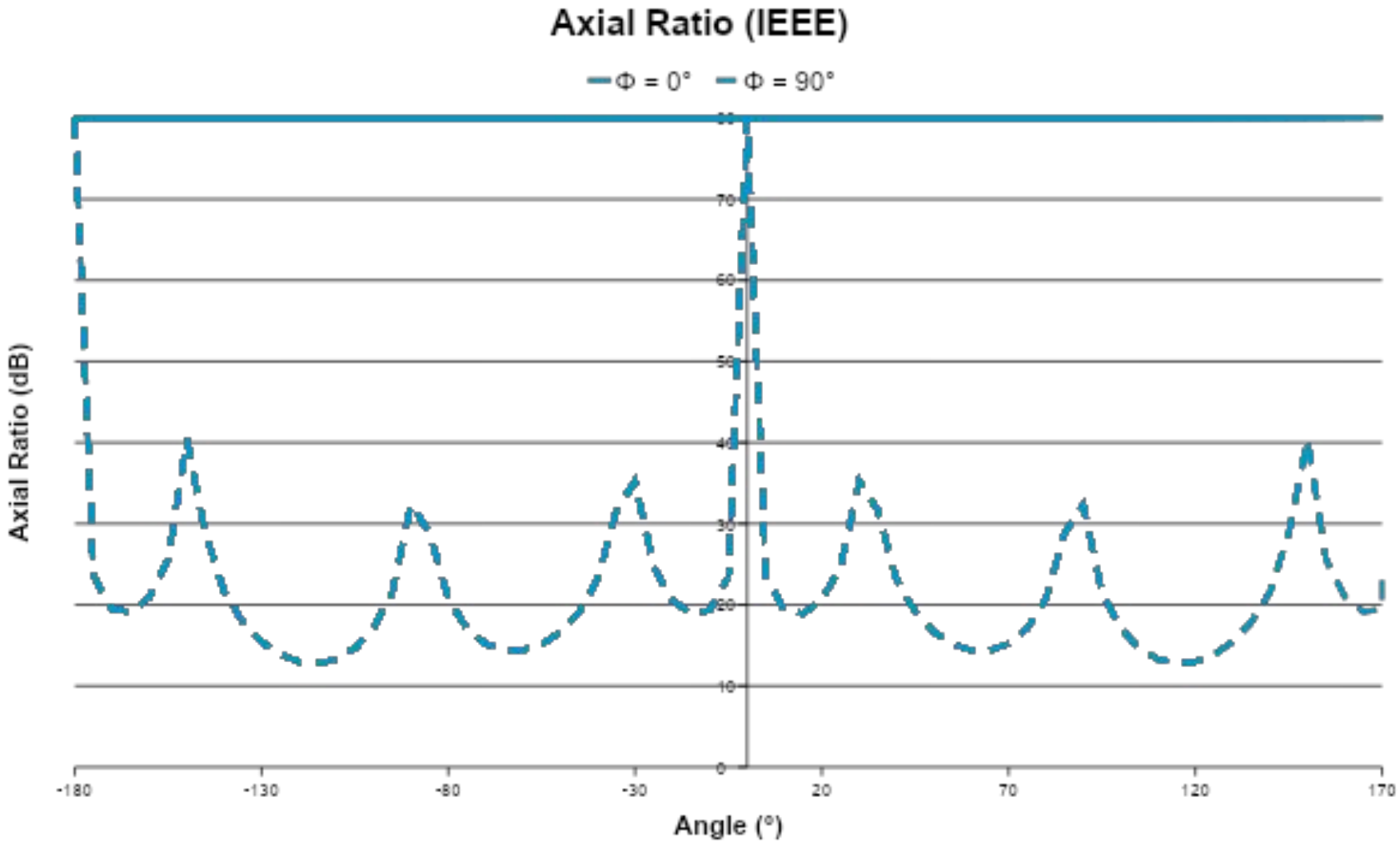

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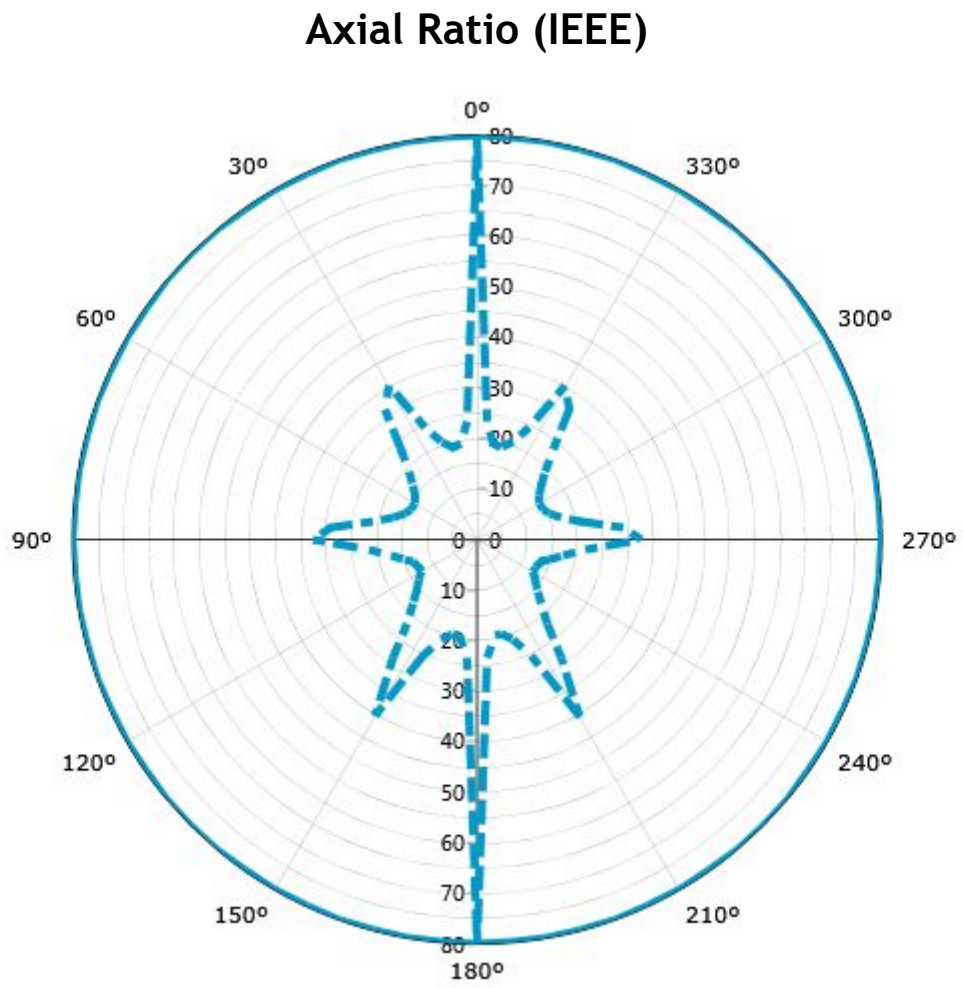

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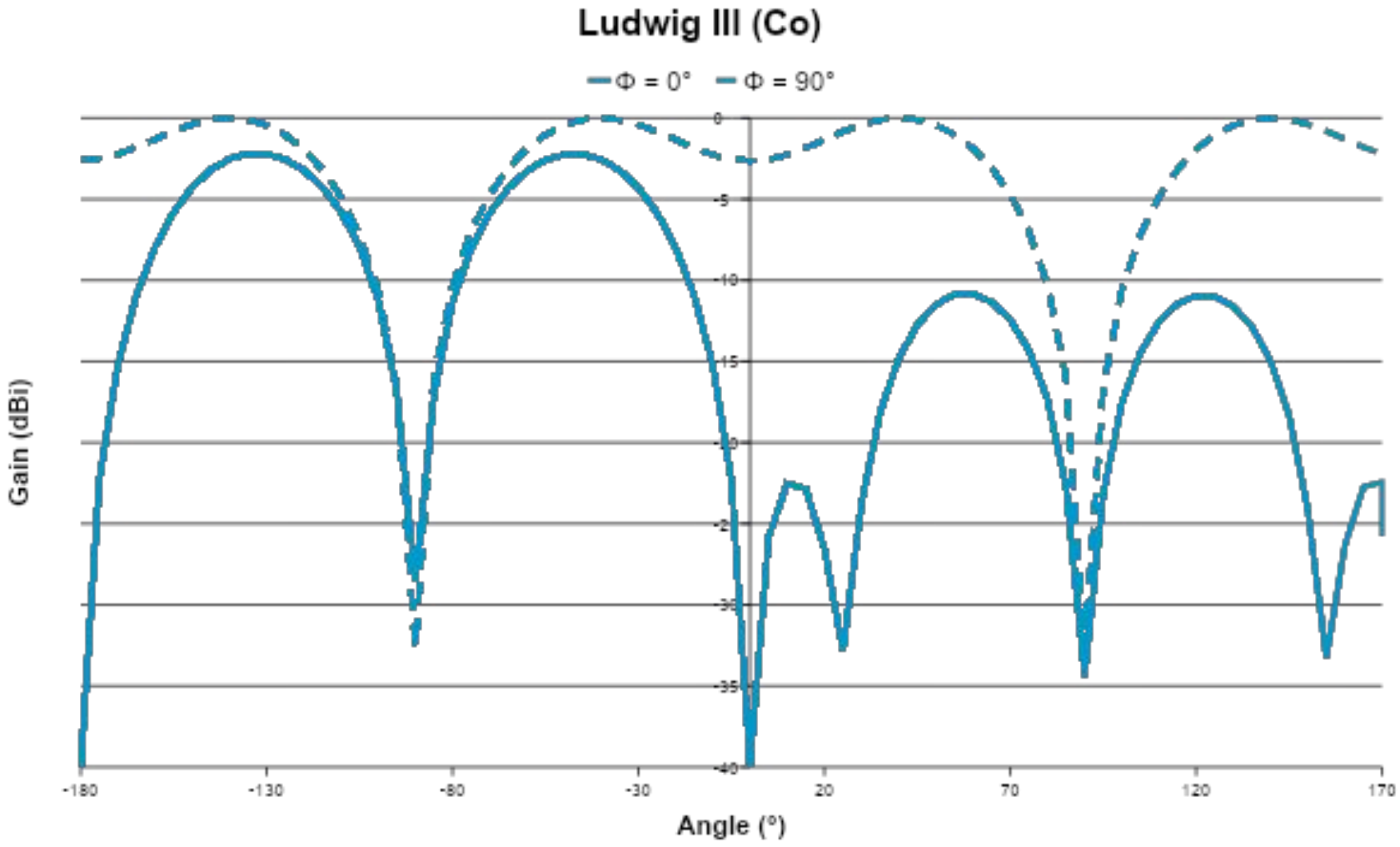

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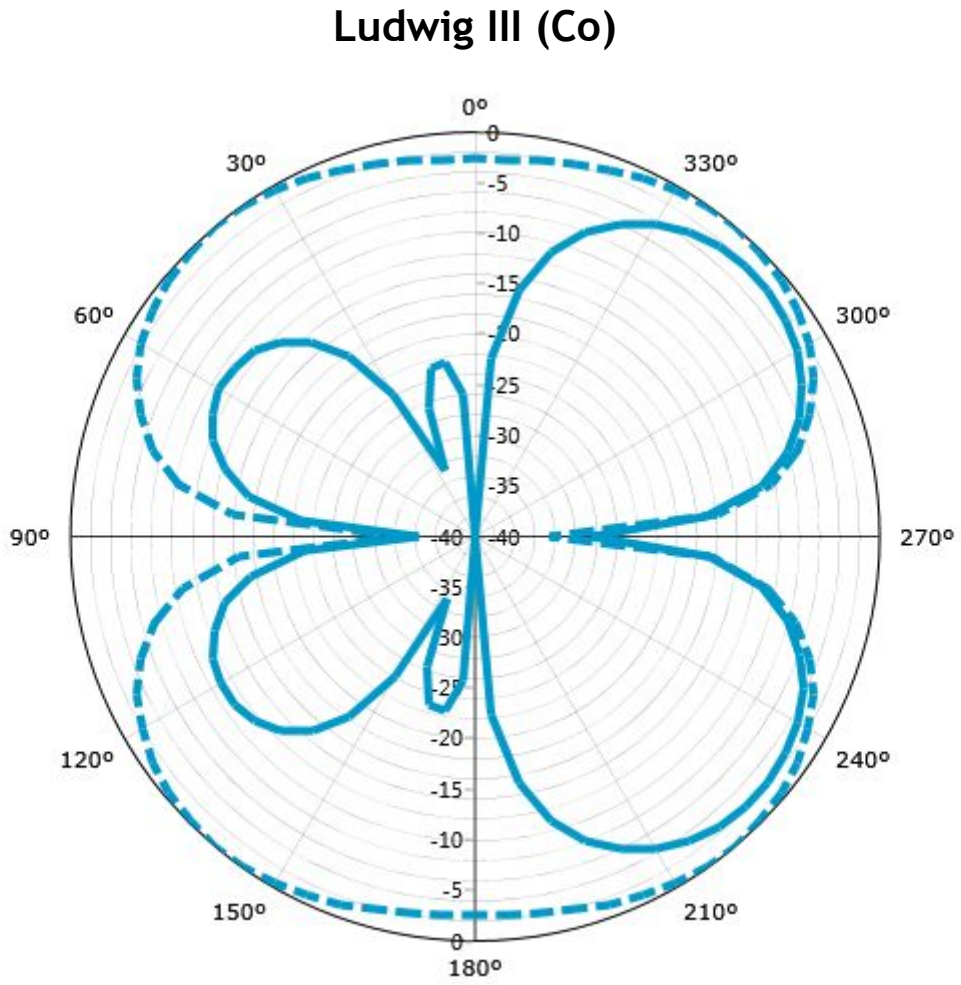
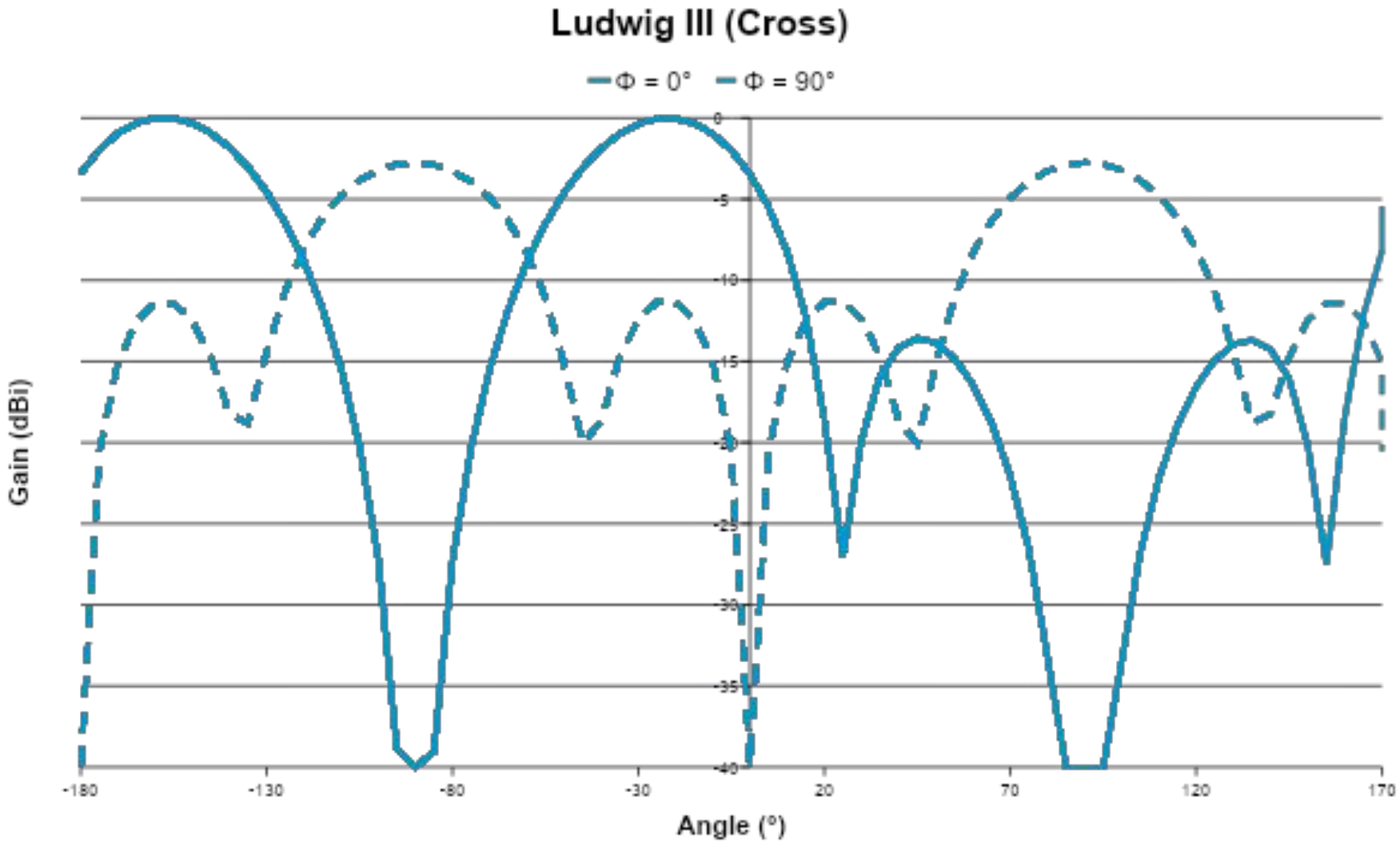
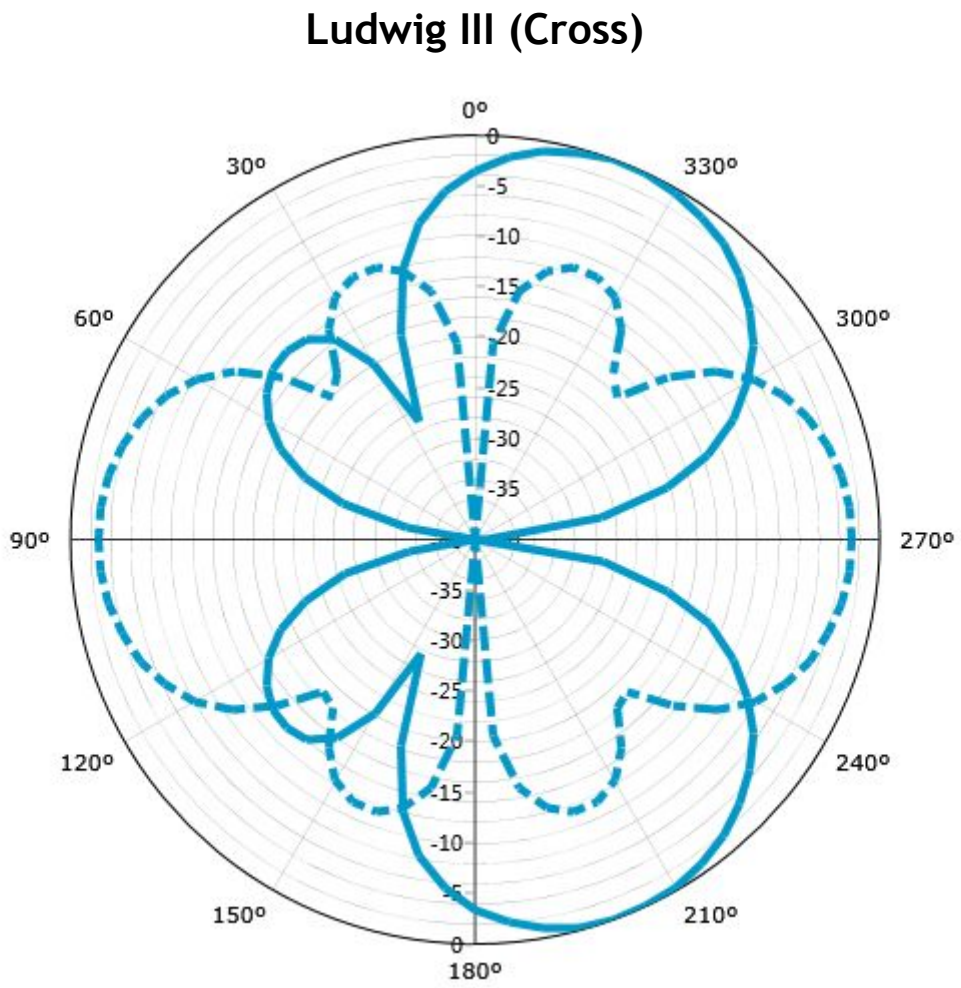


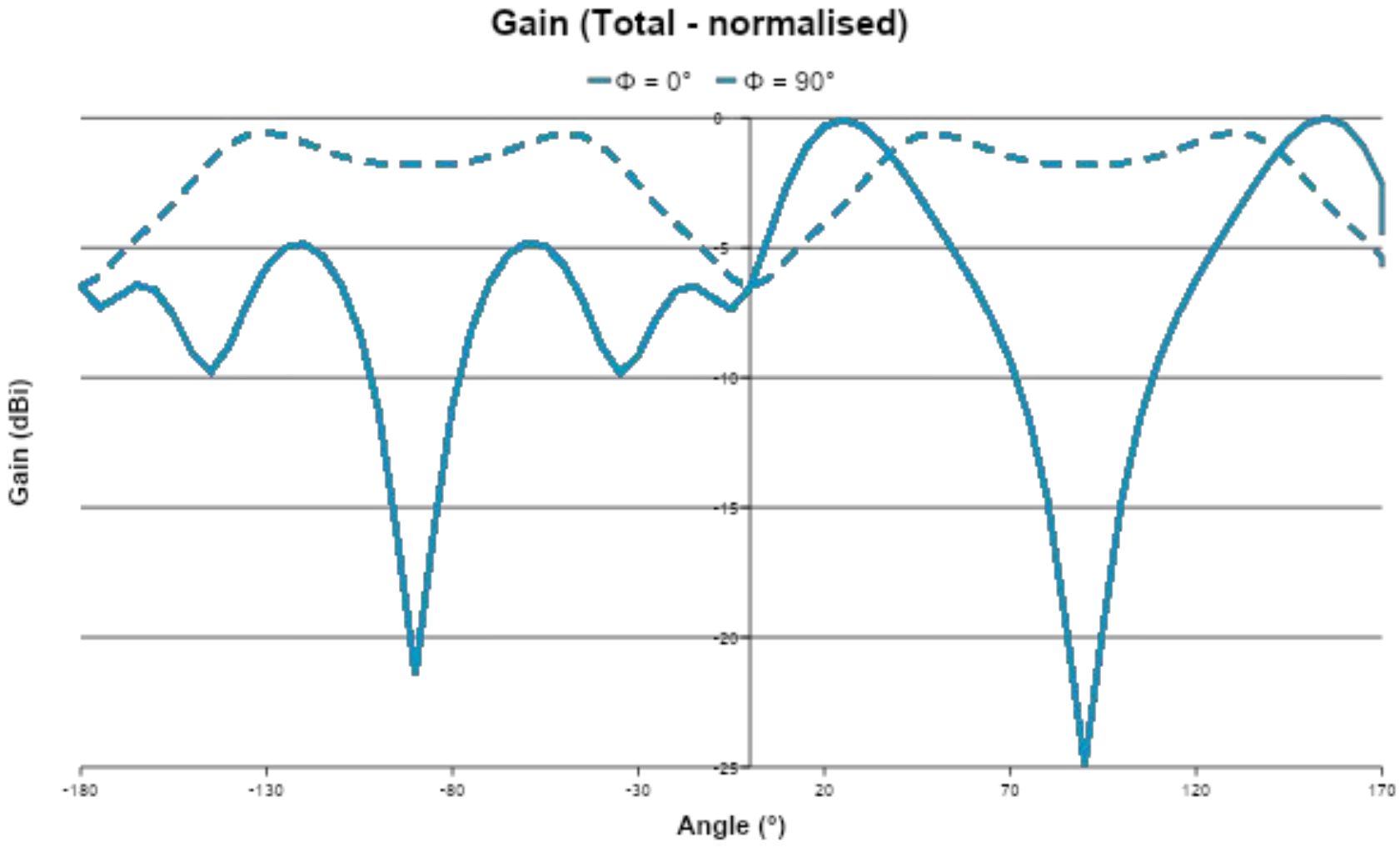
Far Field vs Angle @ 2 fmin



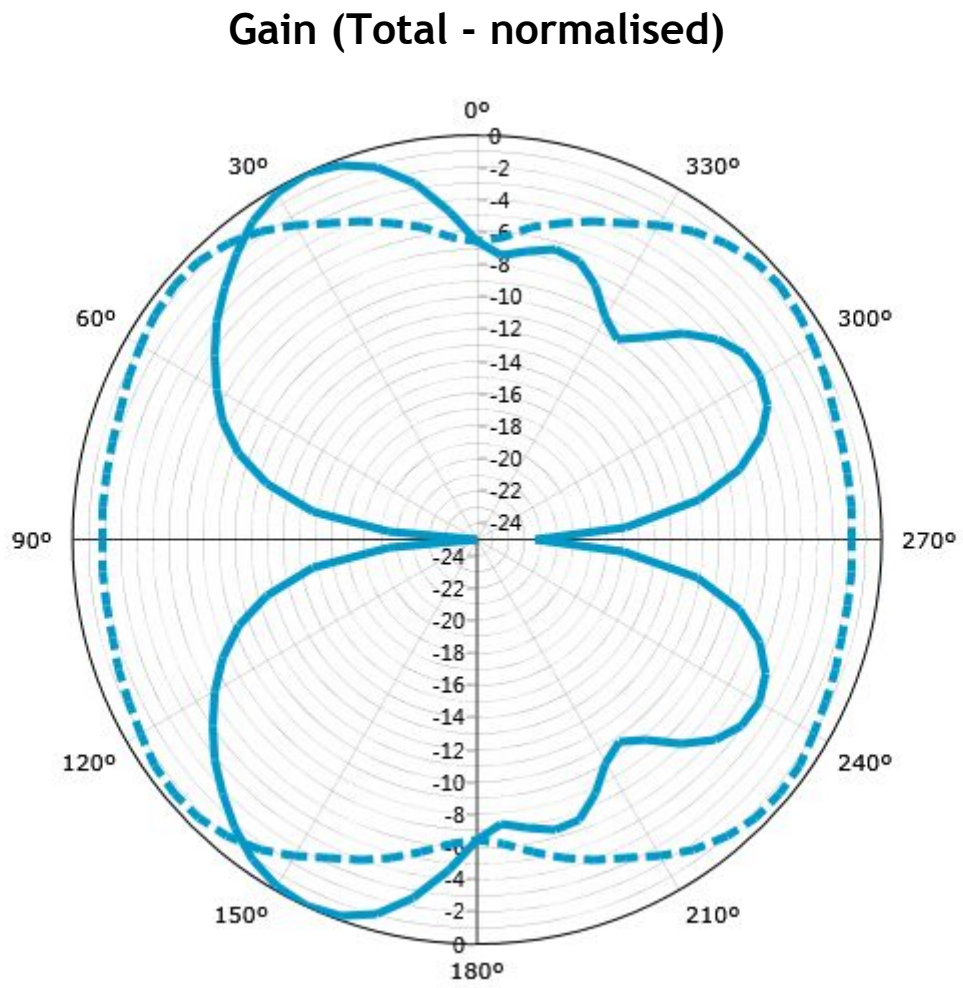
Far Field vs Angle @ 2 fmin



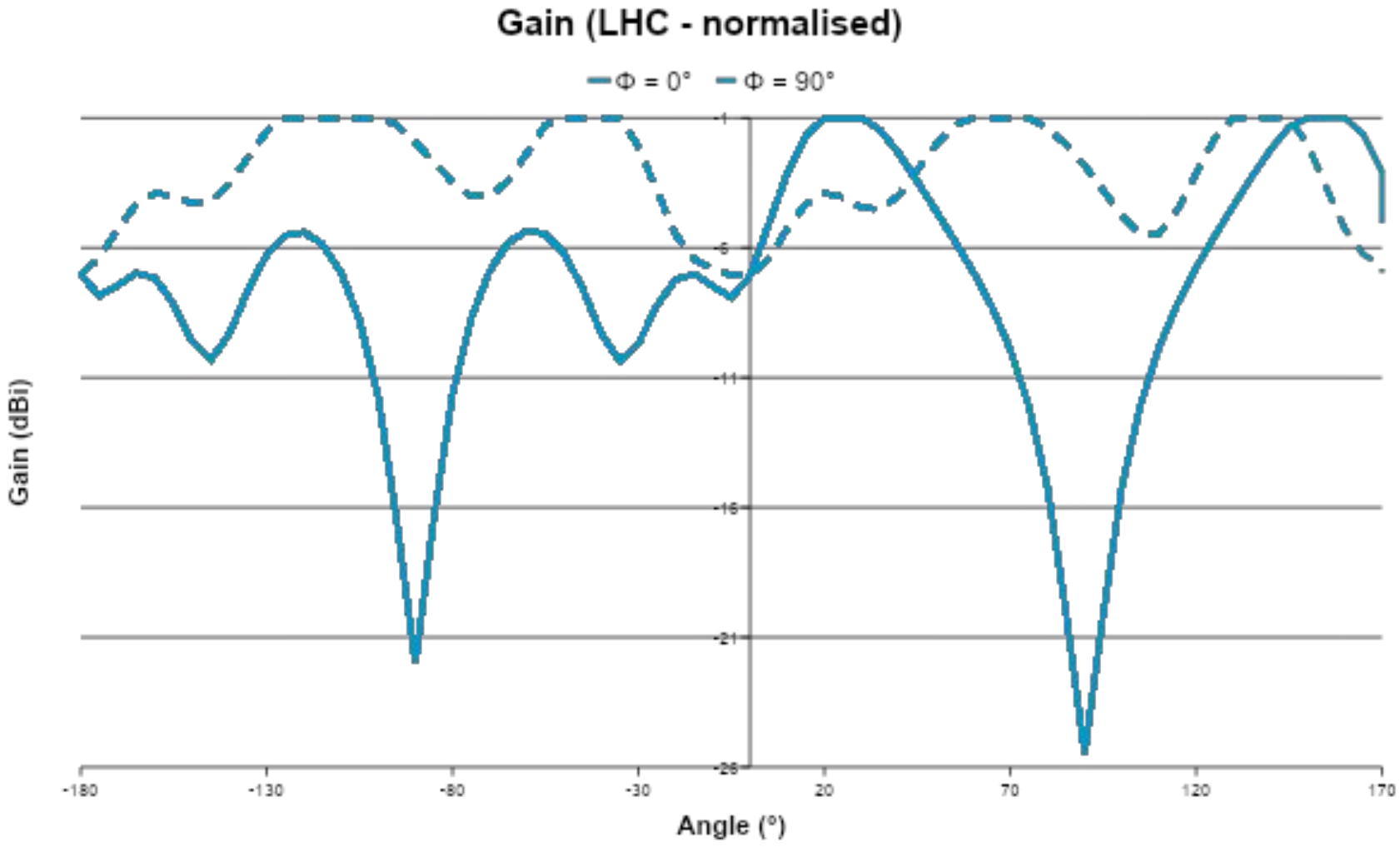
Far Field vs Angle @ 4 fmin



Far Field vs Angle @ 4 fmin



Far Field vs Angle @ 4 fmin



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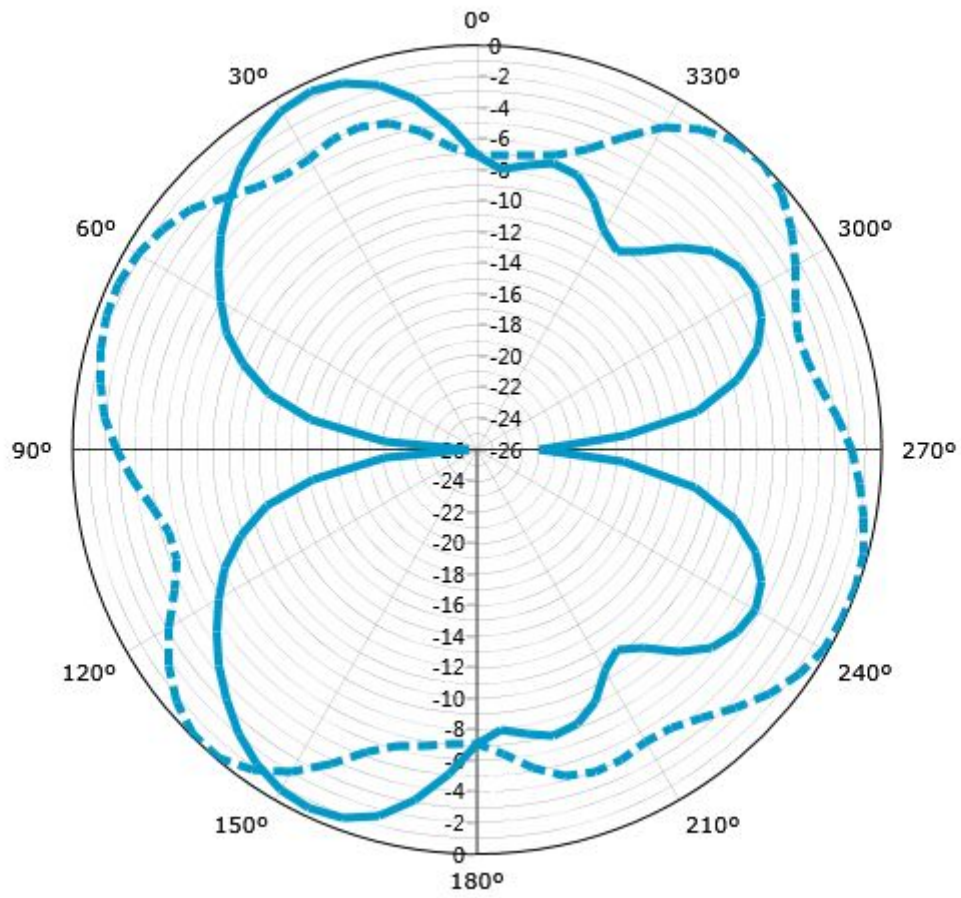
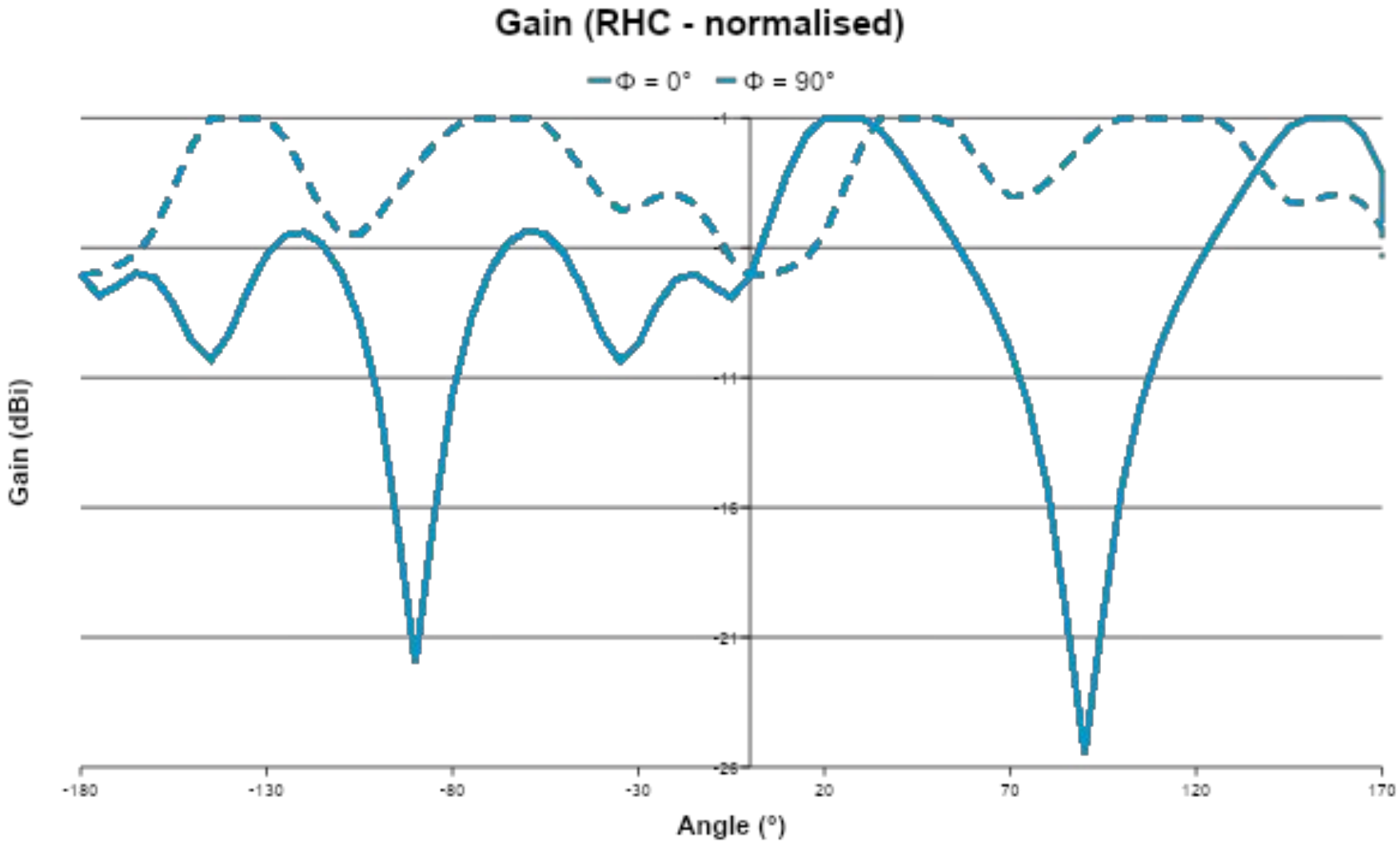


Far Field vs Angle @ 4 fmin



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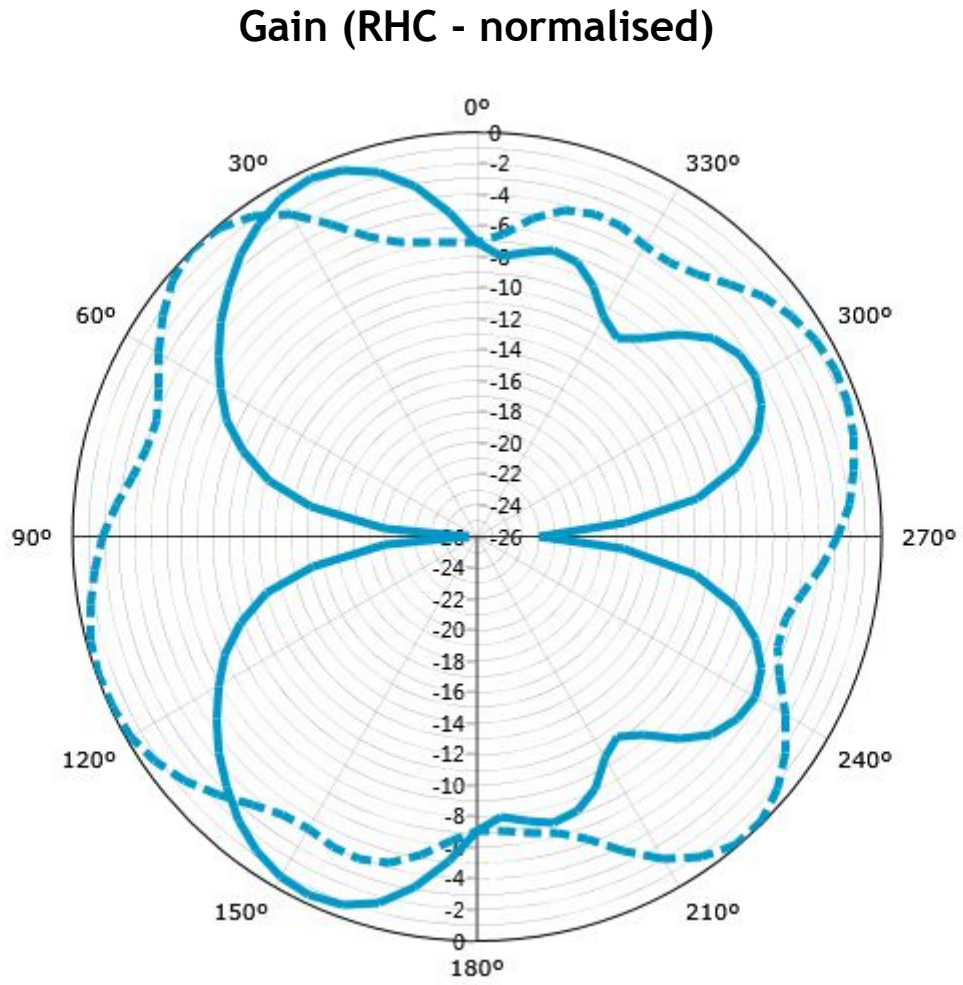
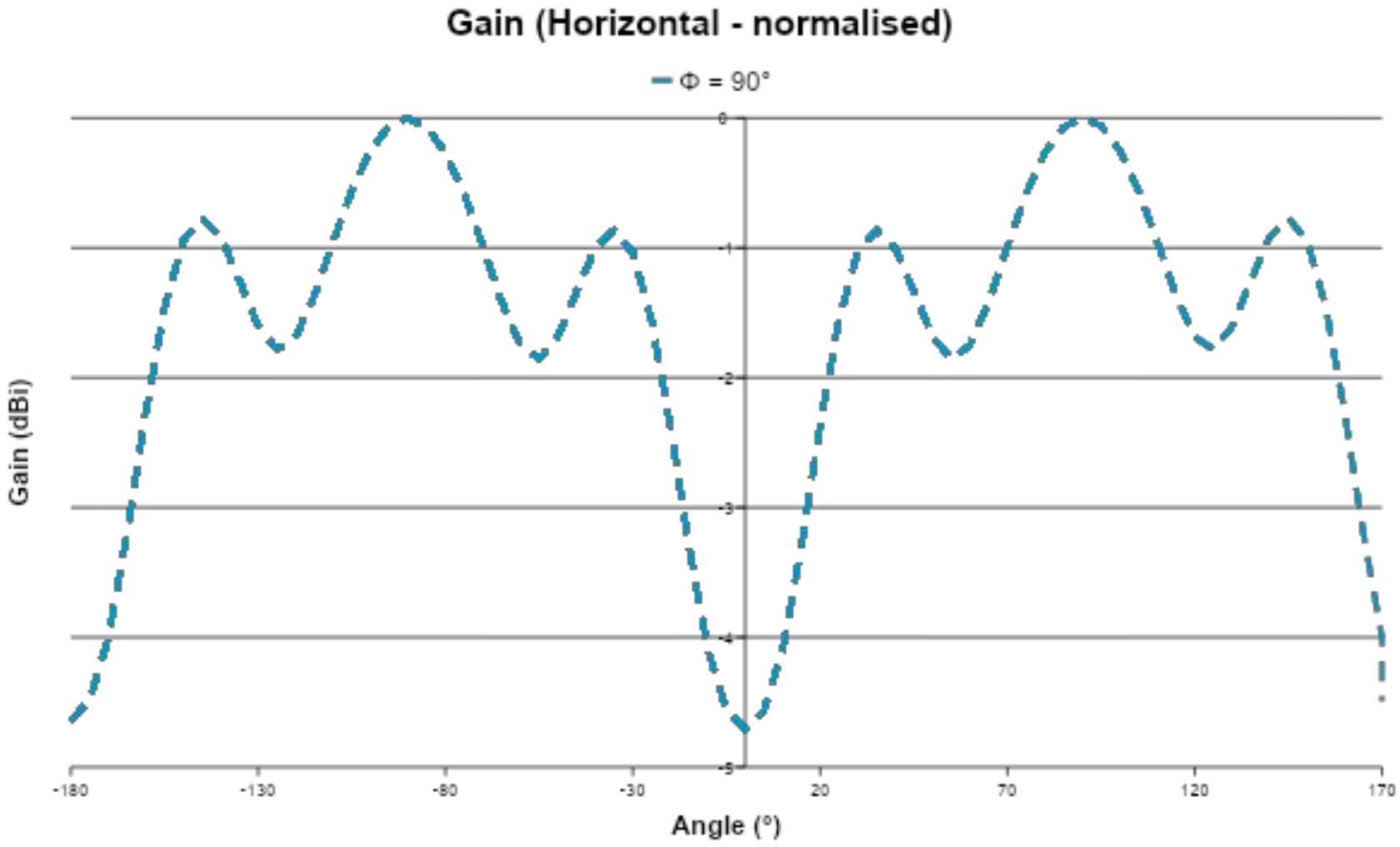
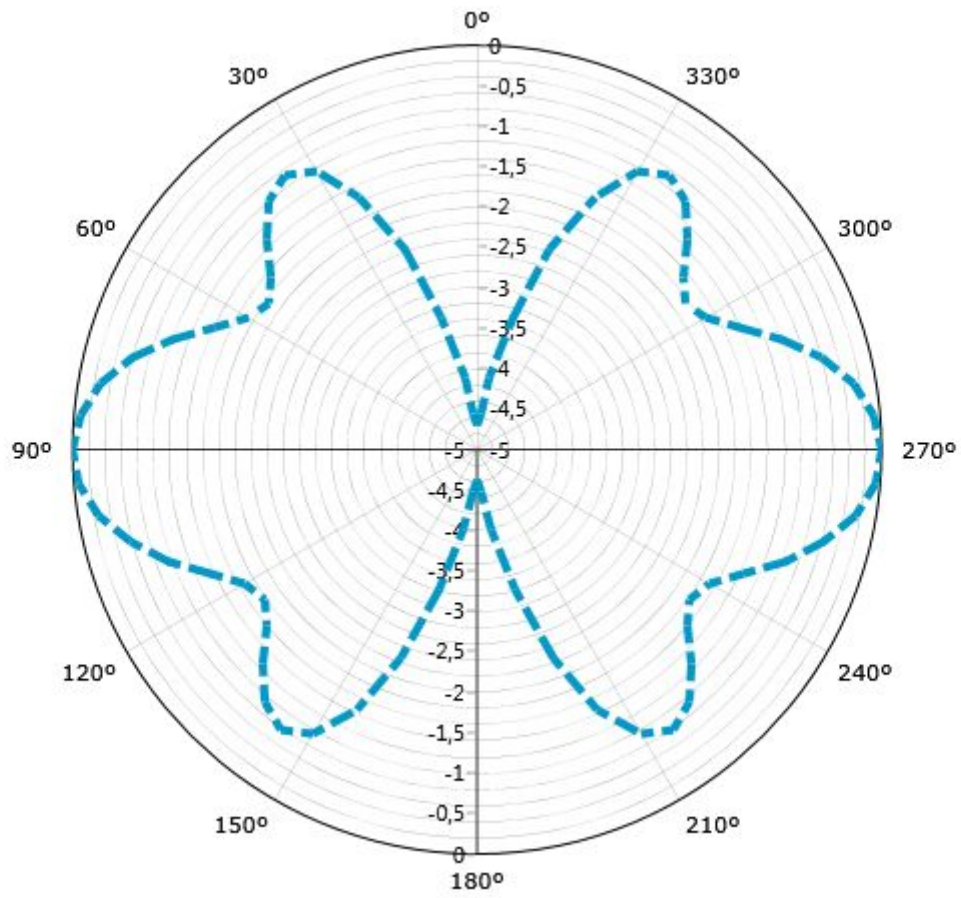


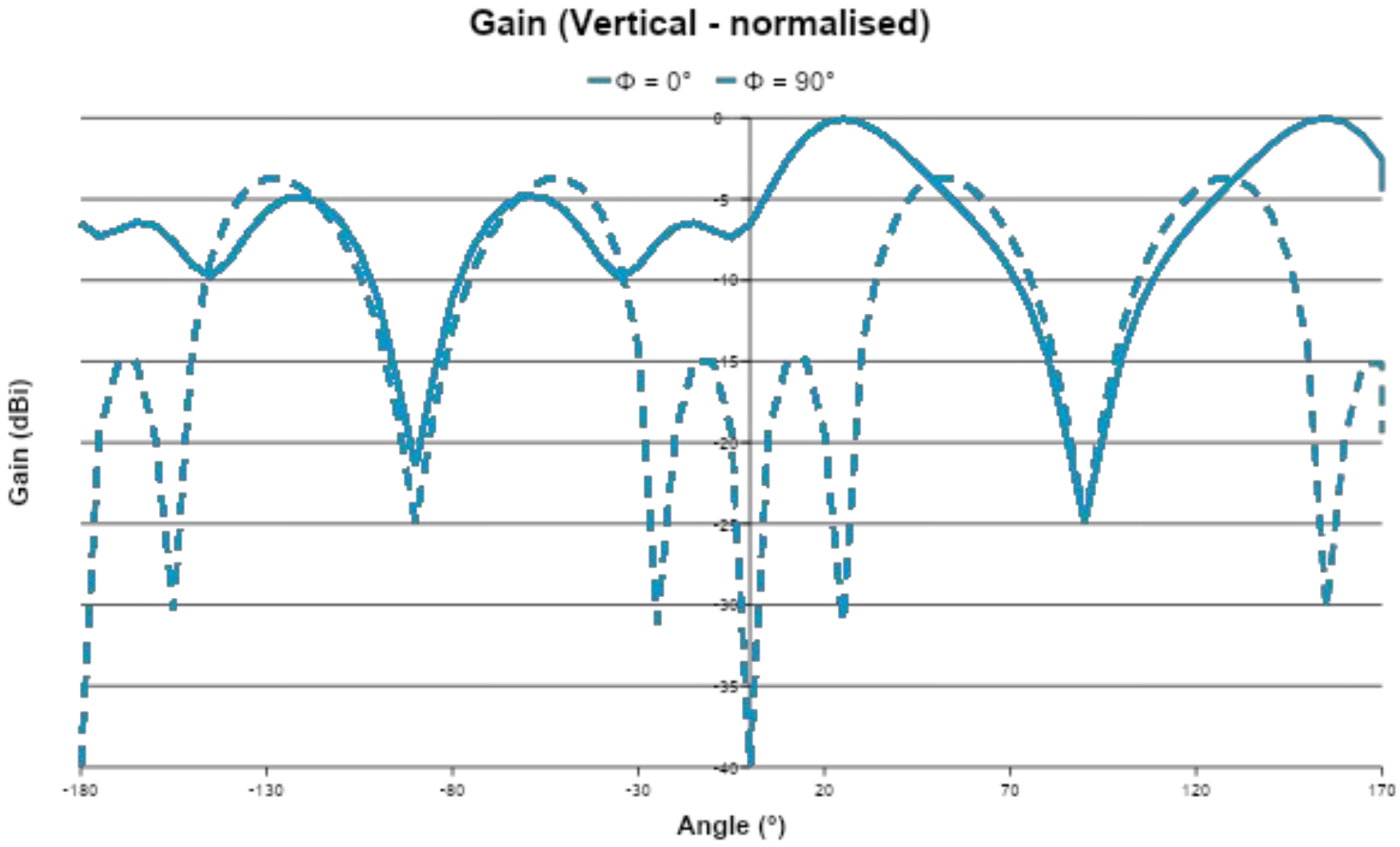
Far Field vs Angle @ 4 fmin



Far Field vs Angle @ 4 fmin

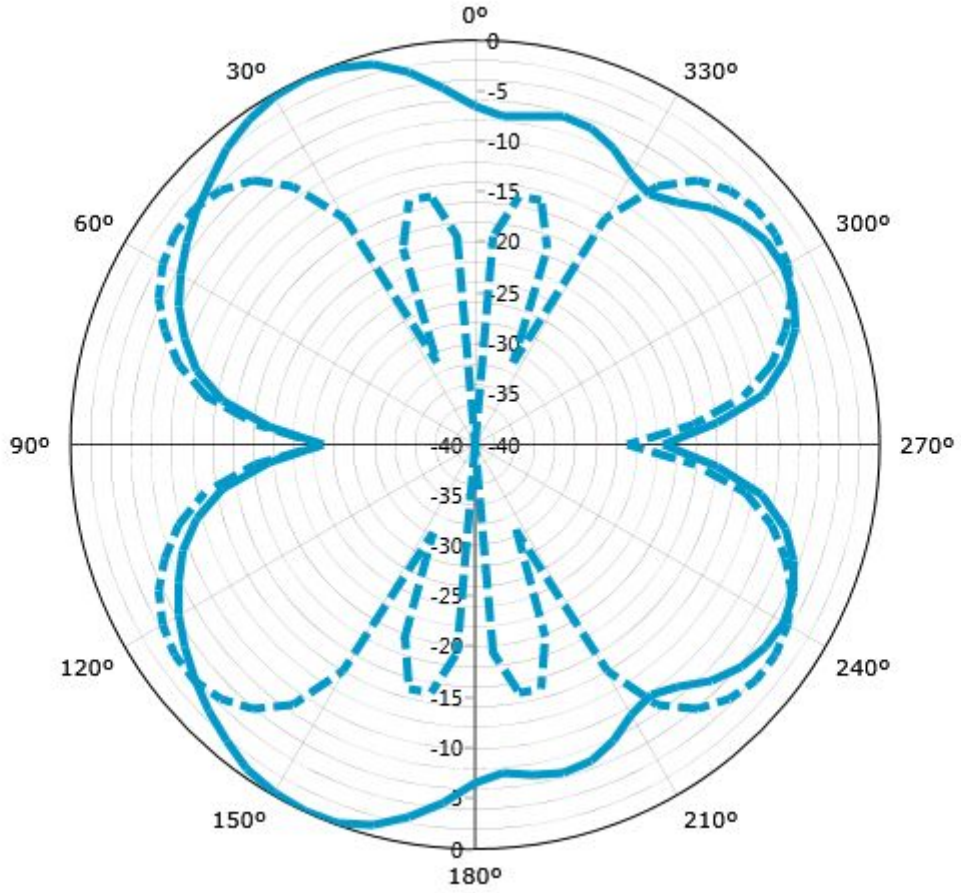


Far Field vs Angle @ 4 fmin

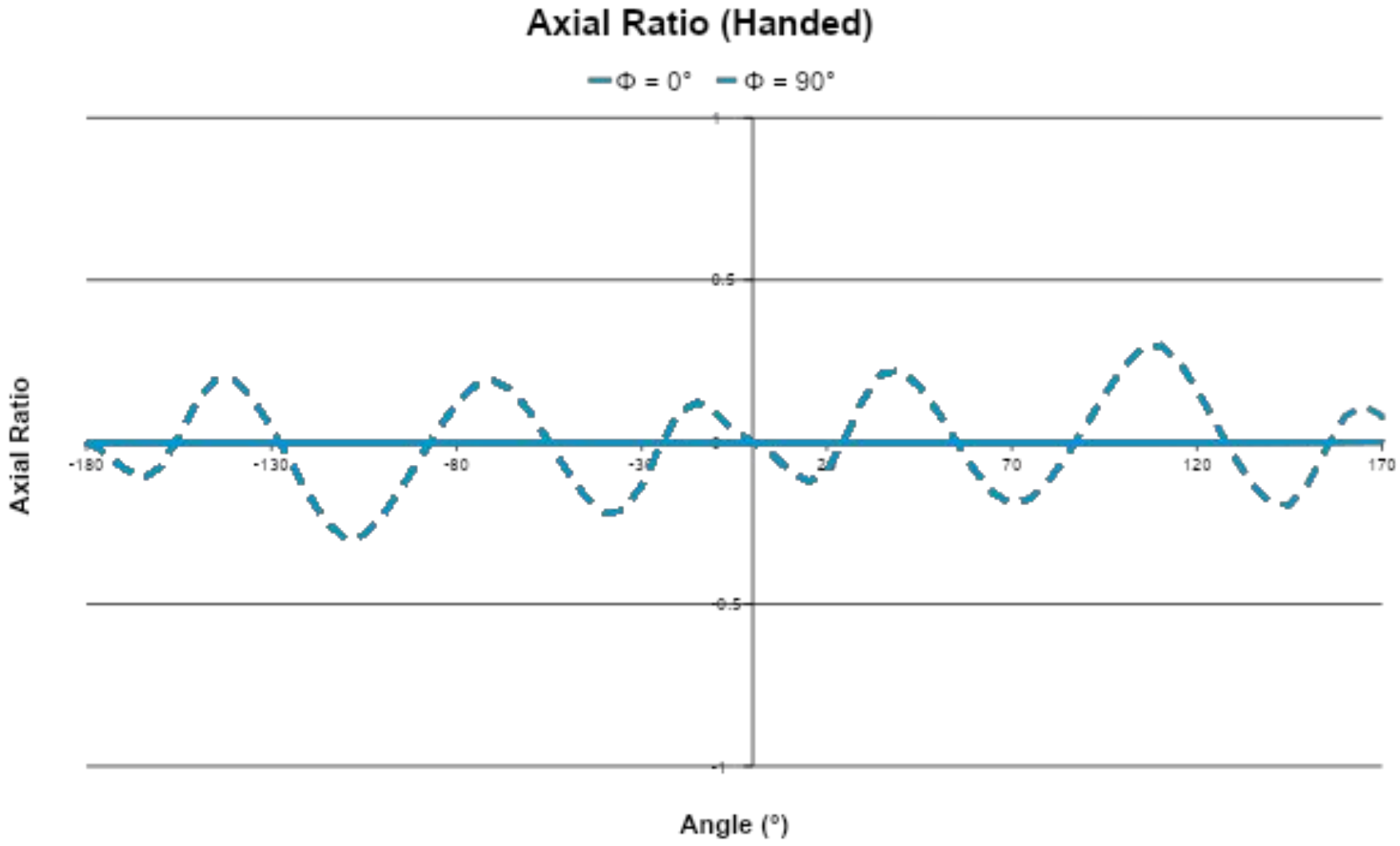


Far Field vs Angle @ 4 fmin

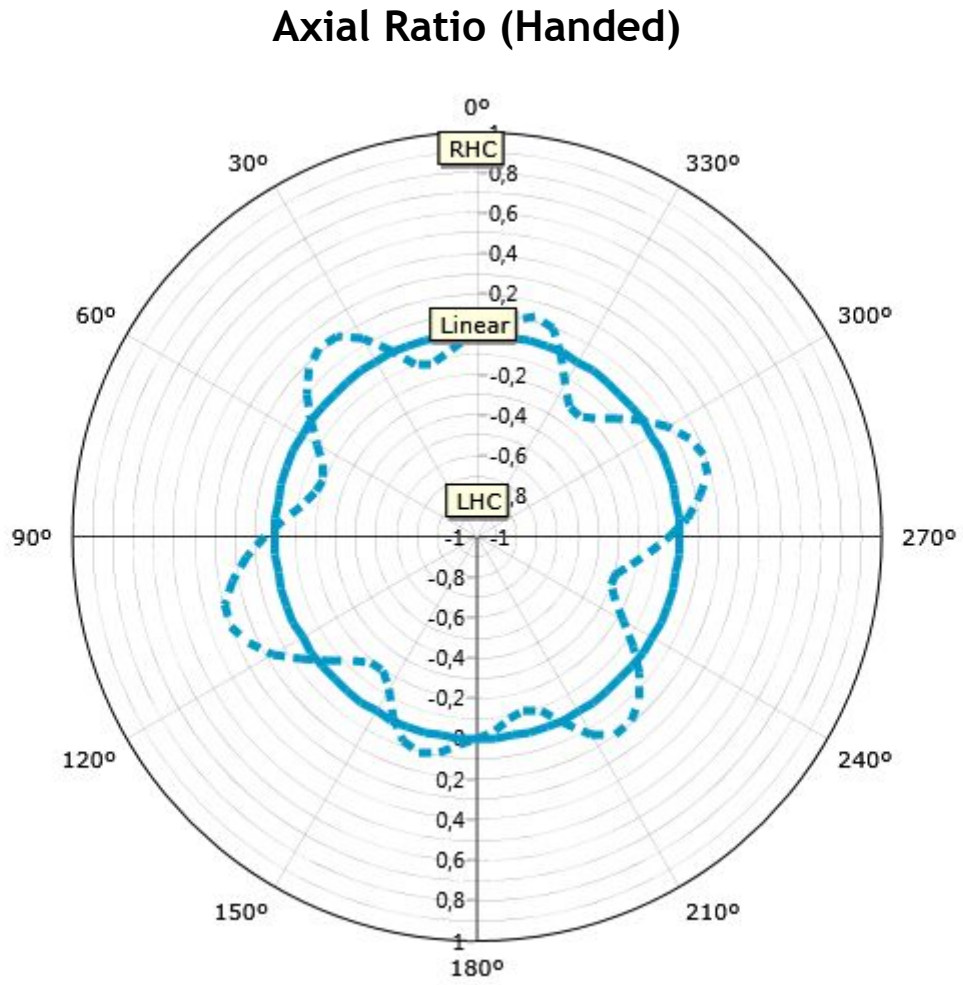
Gain (Vertical - normalised)



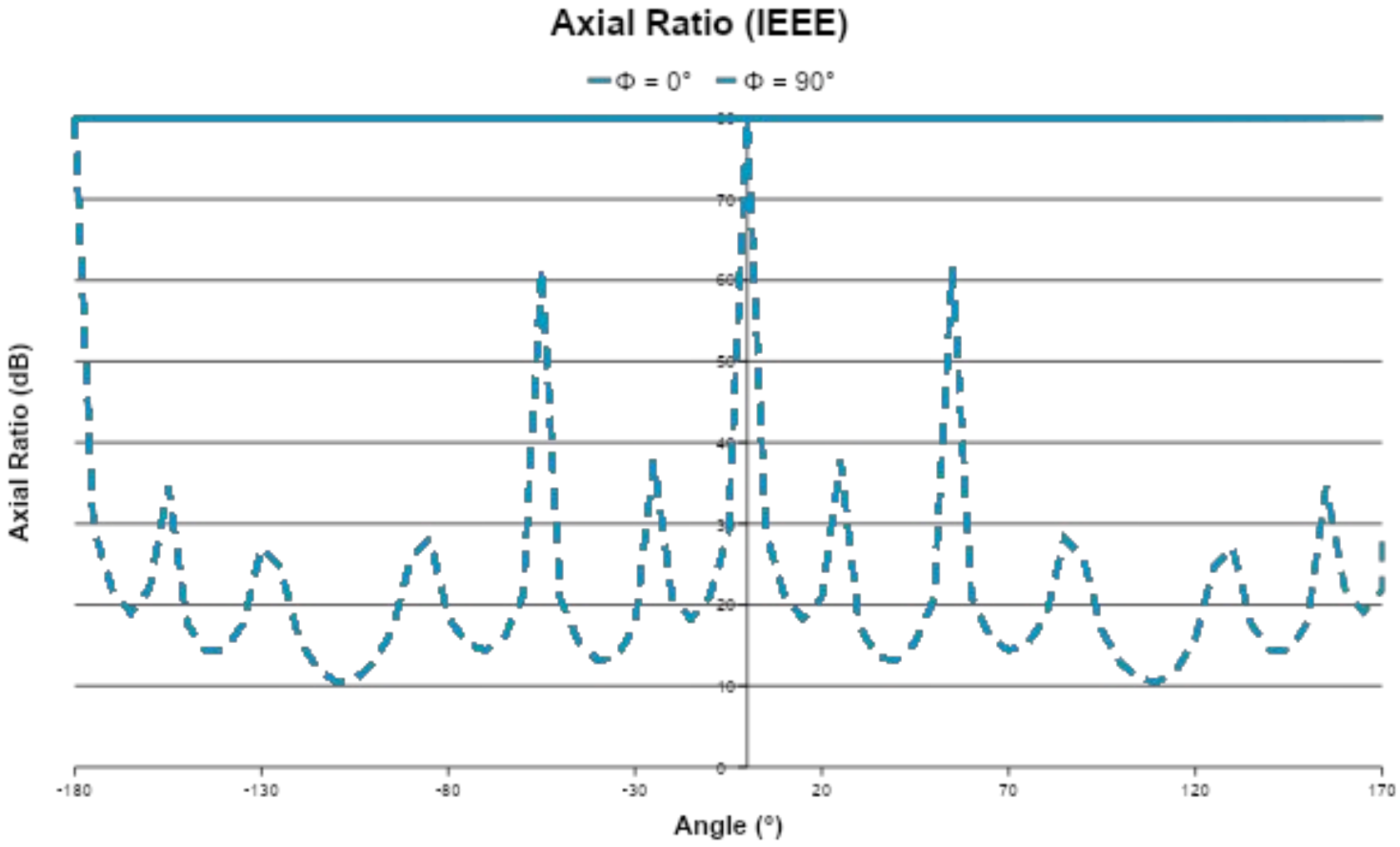
Far Field vs Angle @ 4 fmin



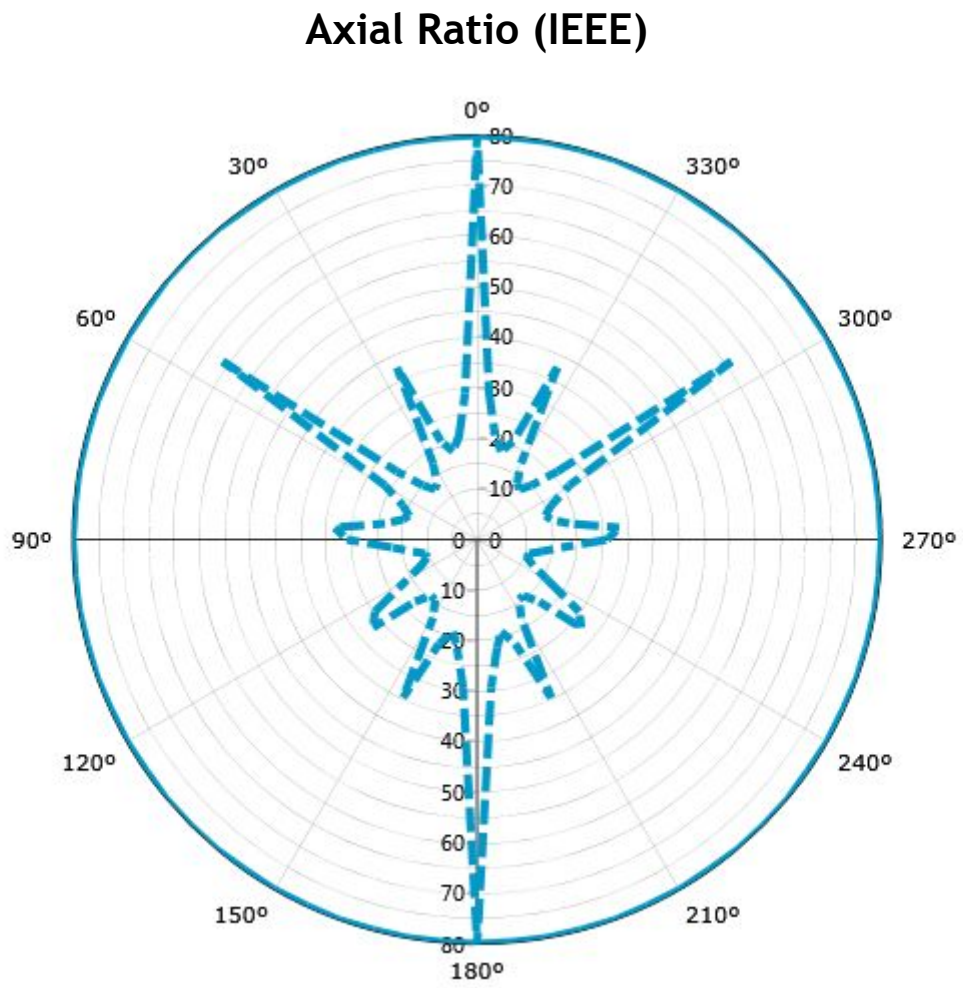
Far Field vs Angle @ 4 fmin



Far Field vs Angle @ 4 fmin



Far Field vs Angle @ 4 fmin



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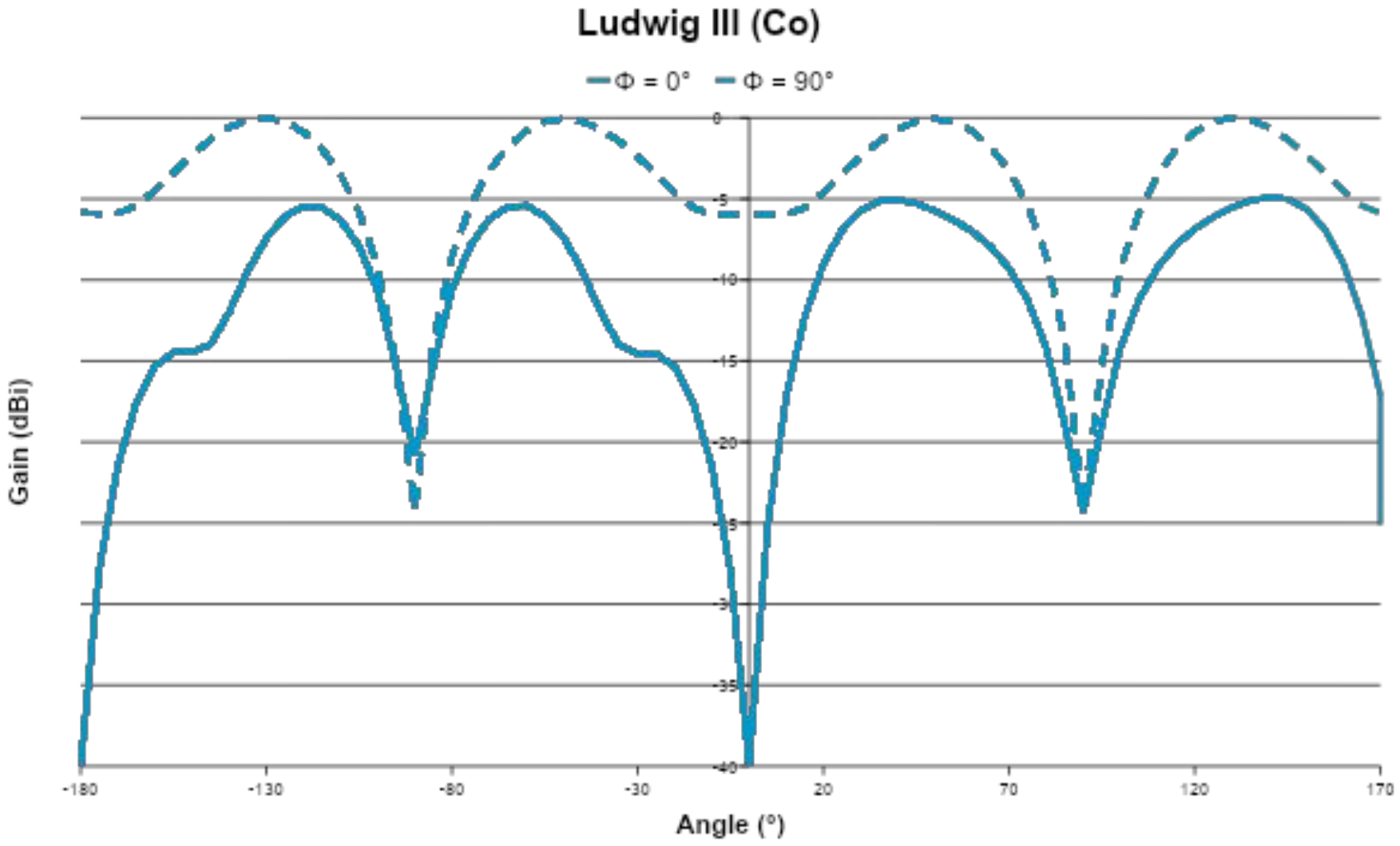

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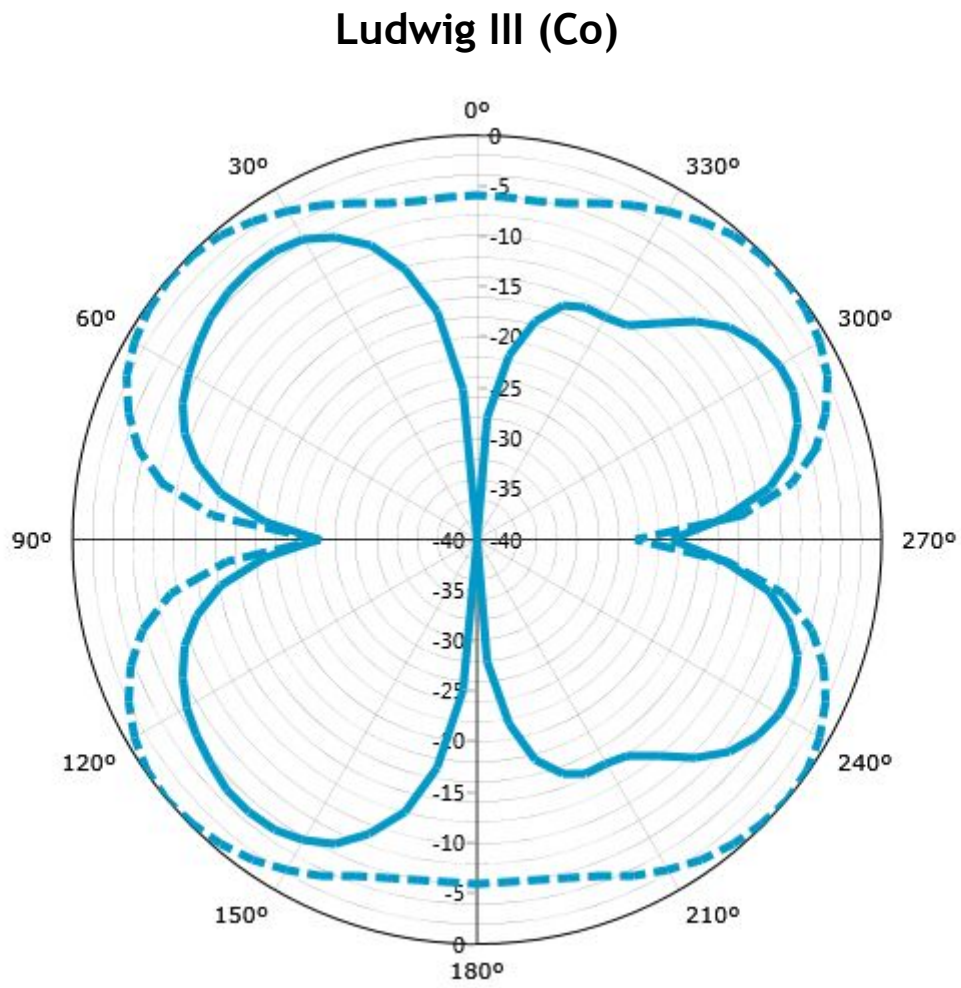

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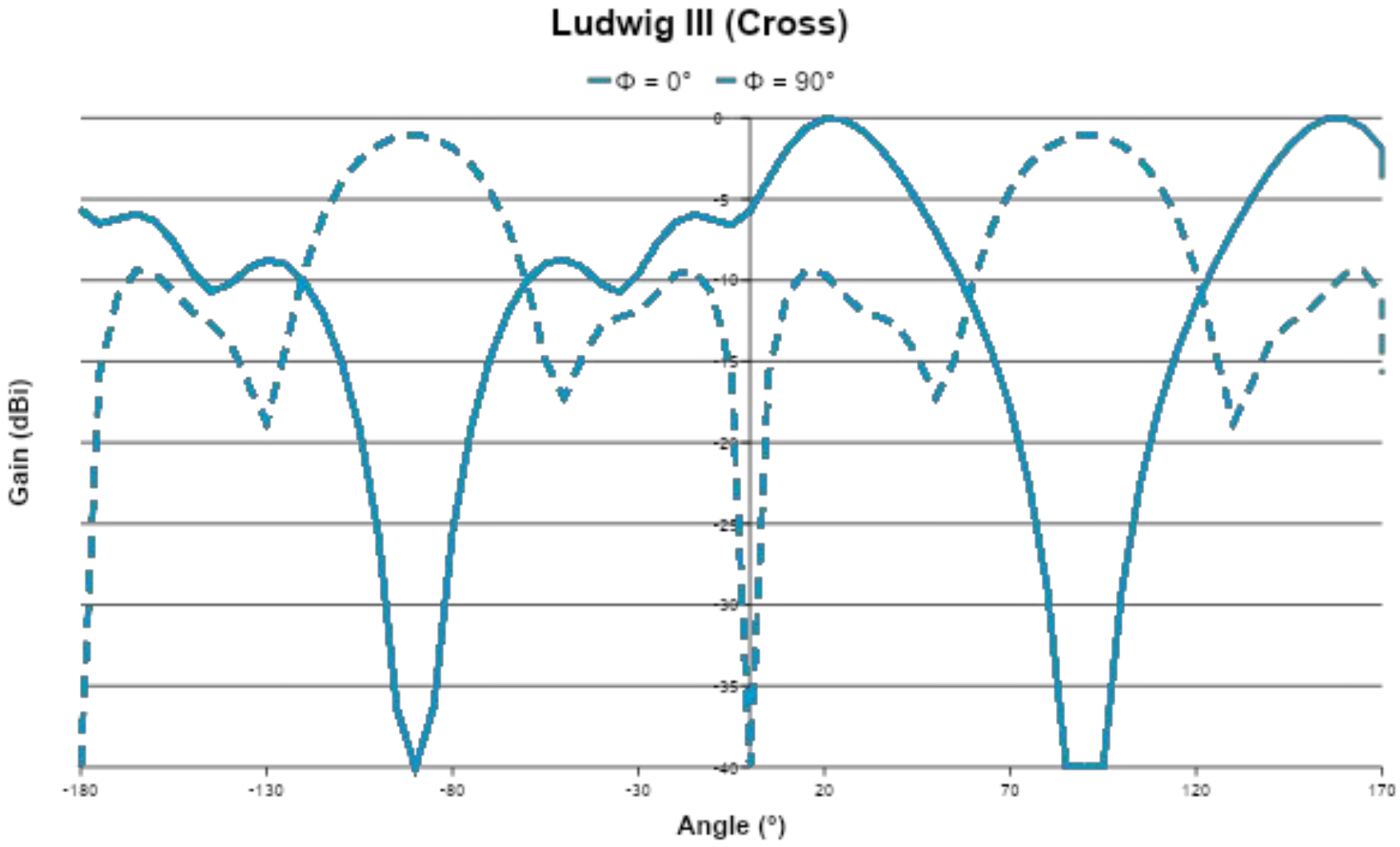
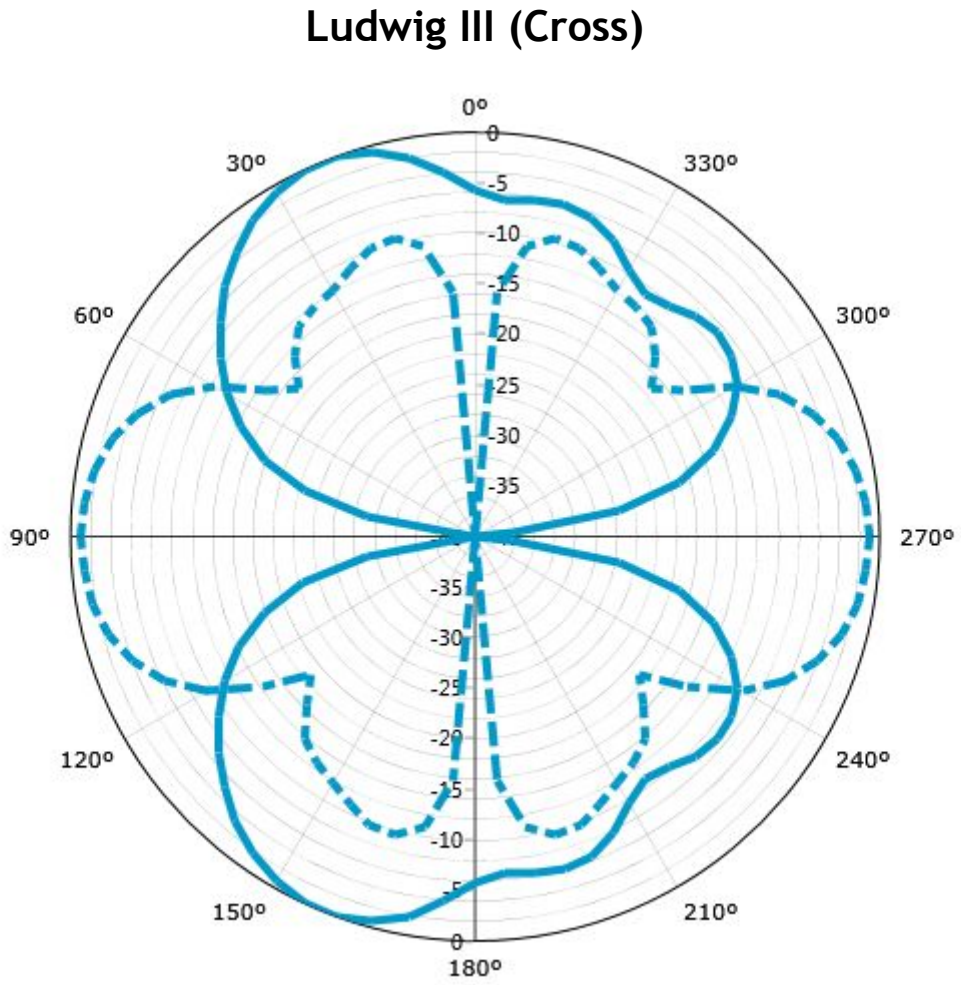
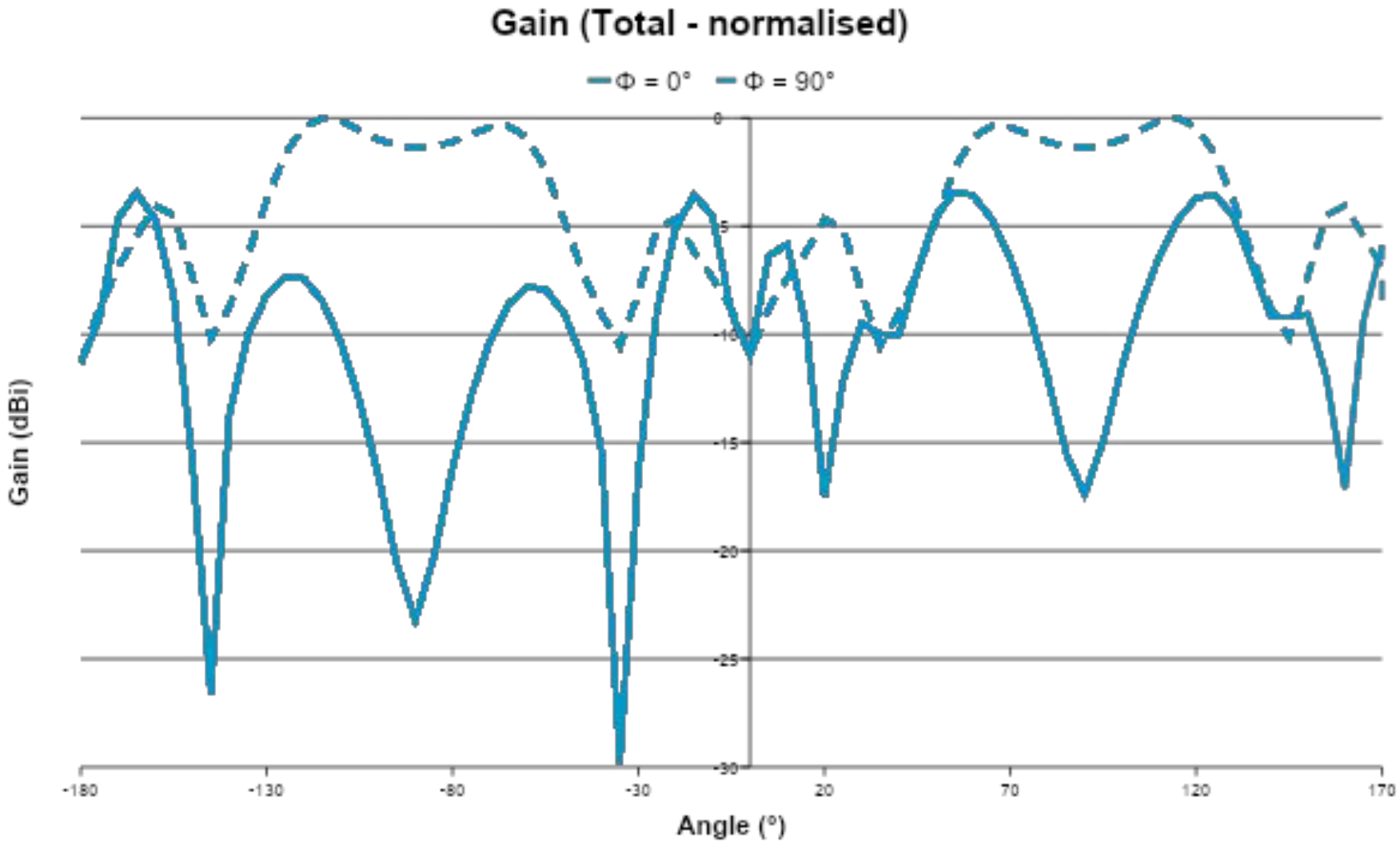


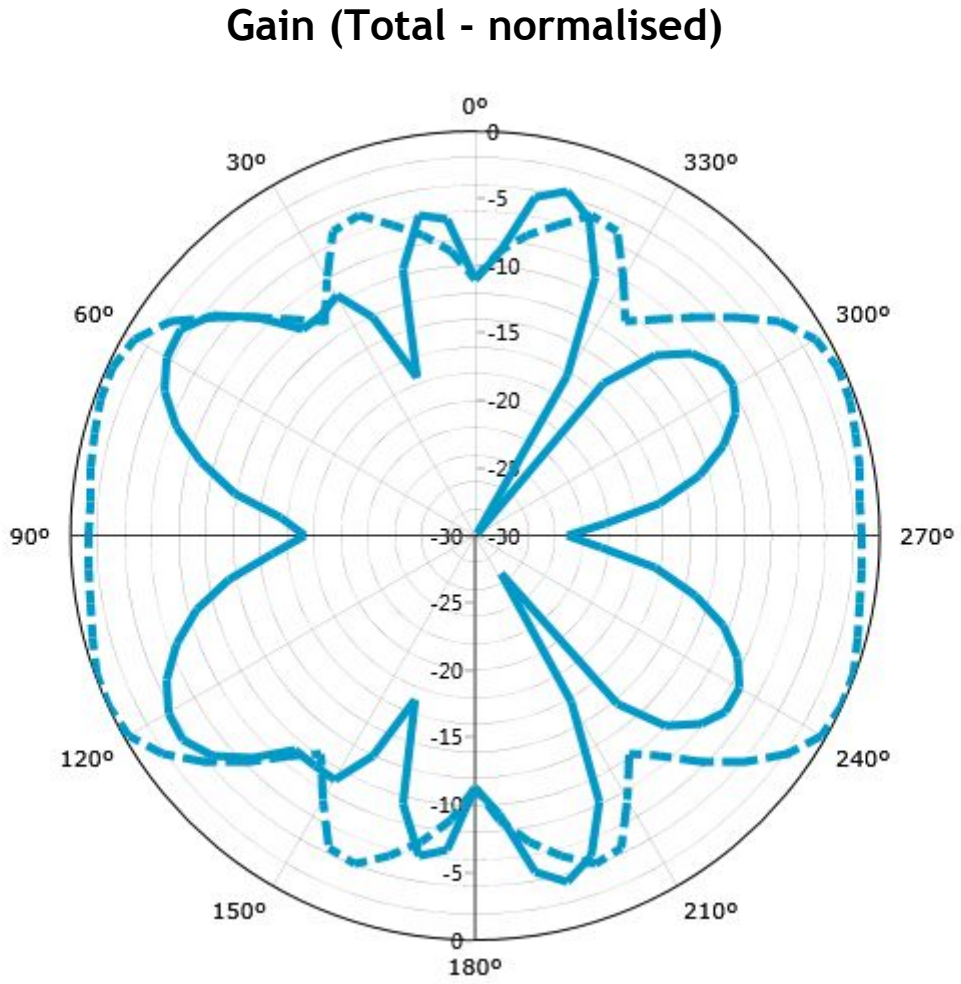
Far Field vs Angle @ 4 fmin



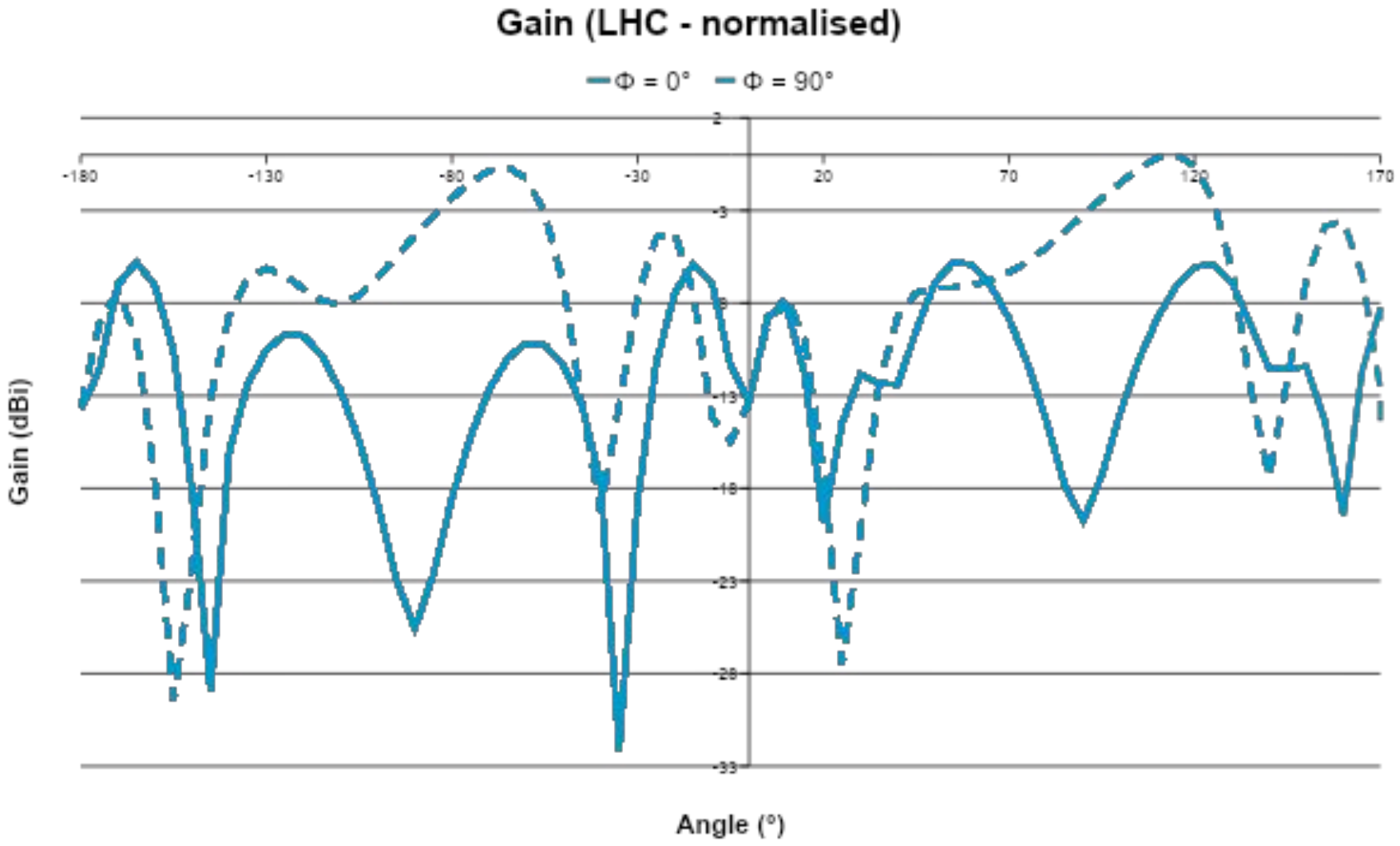
Far Field vs Angle @ 8 fmin



Far Field vs Angle @ 8 fmin

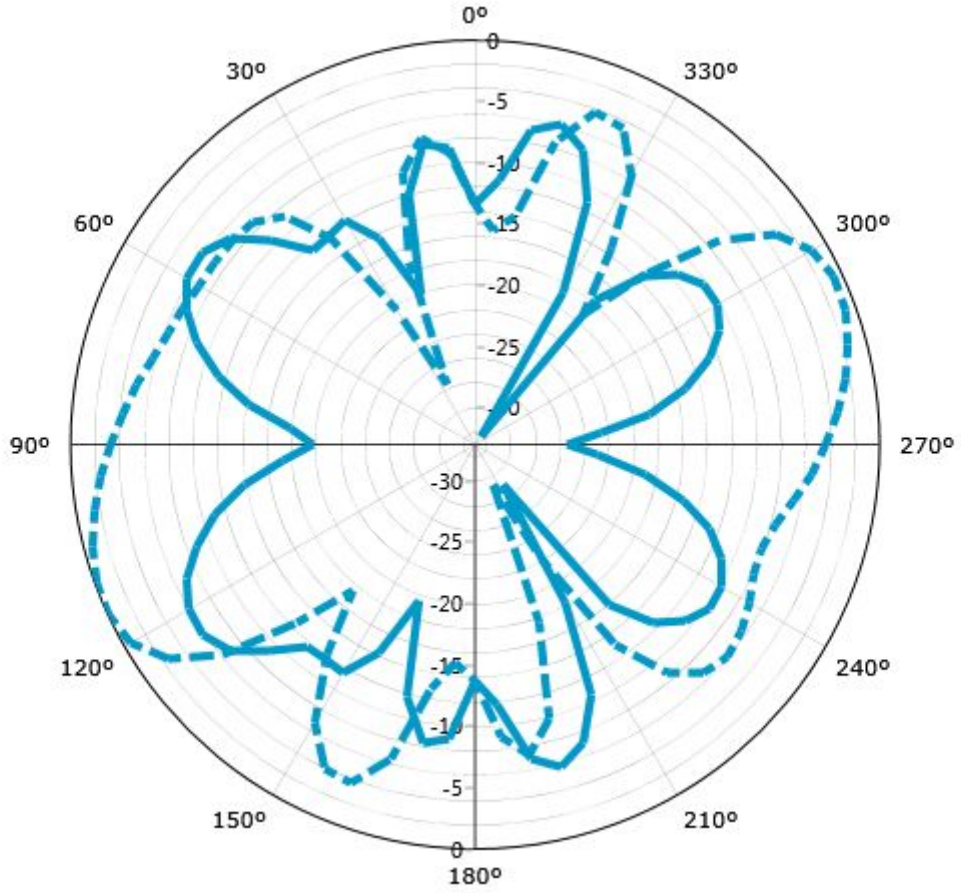


Far Field vs Angle @ 8 fmin

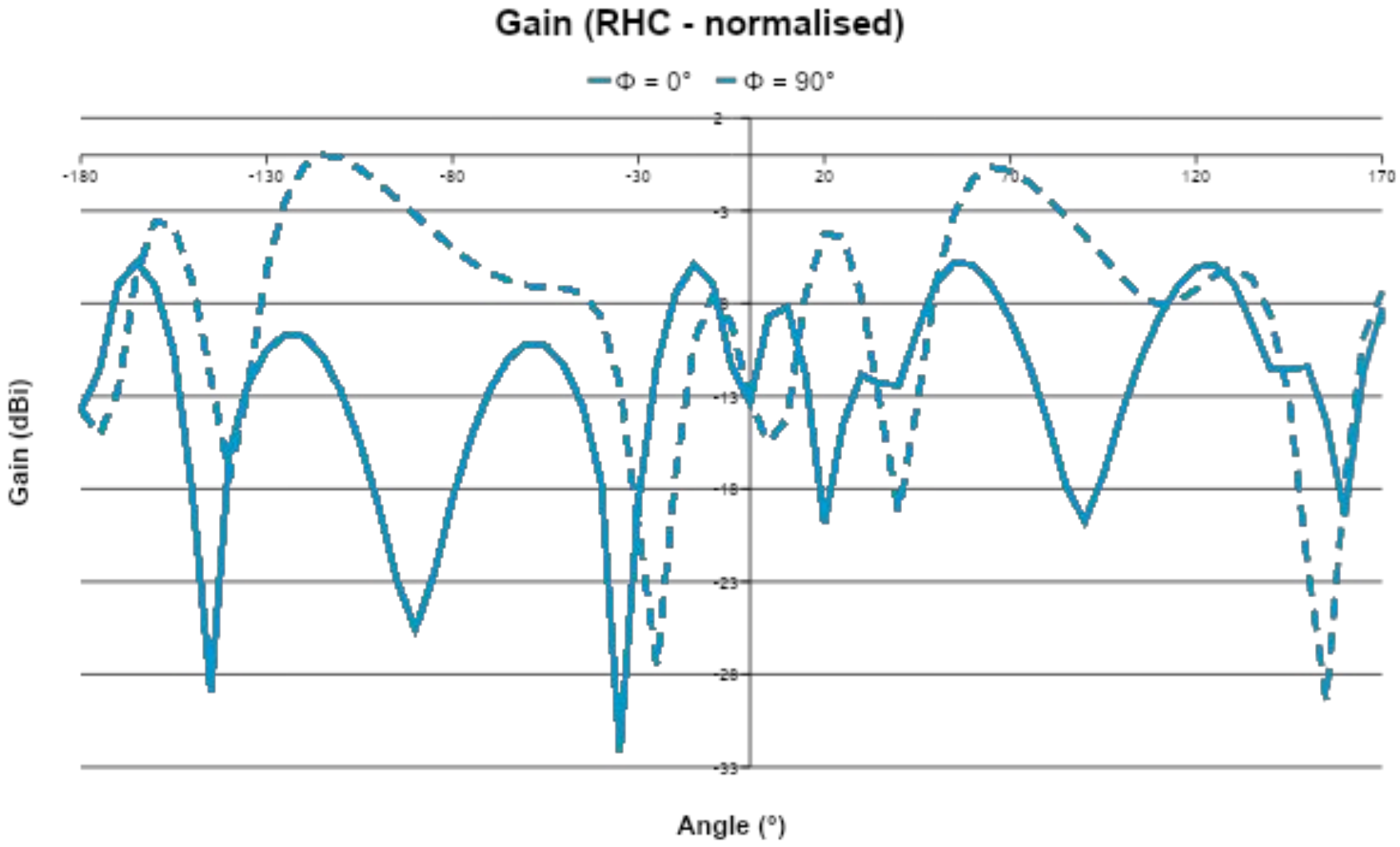


Far Field vs Angle @ 8 fmin

Gain (LHC - normalised)

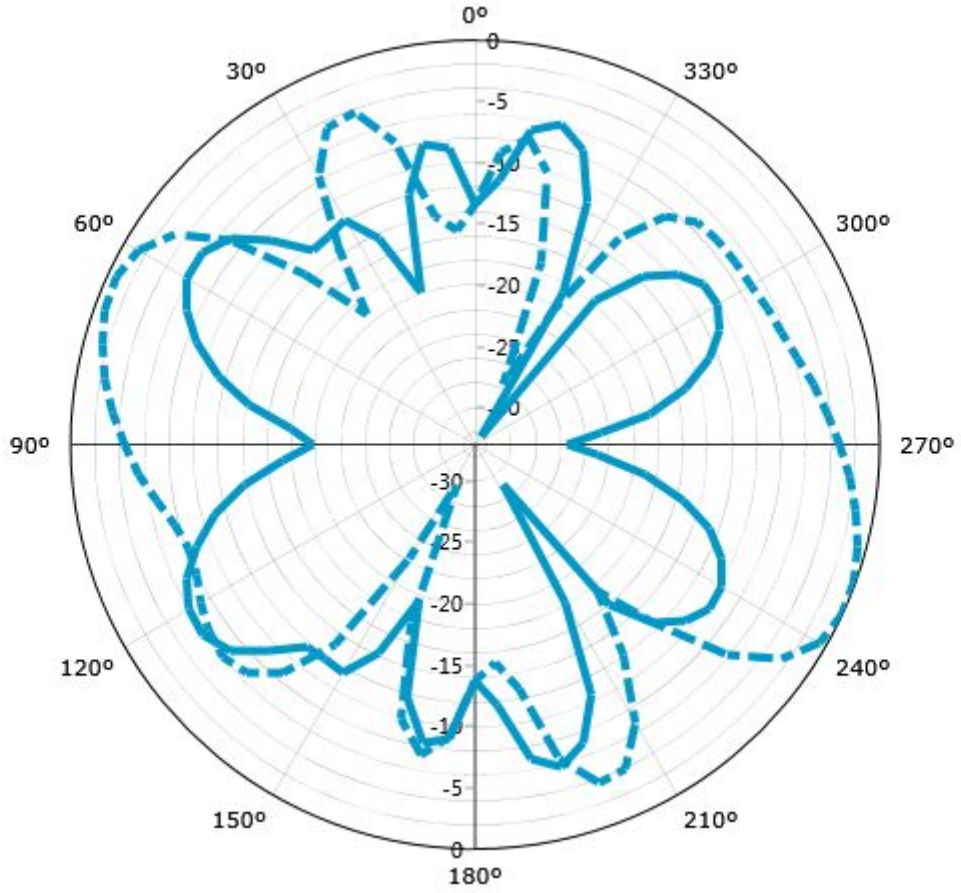


Far Field vs Angle @ 8 fmin

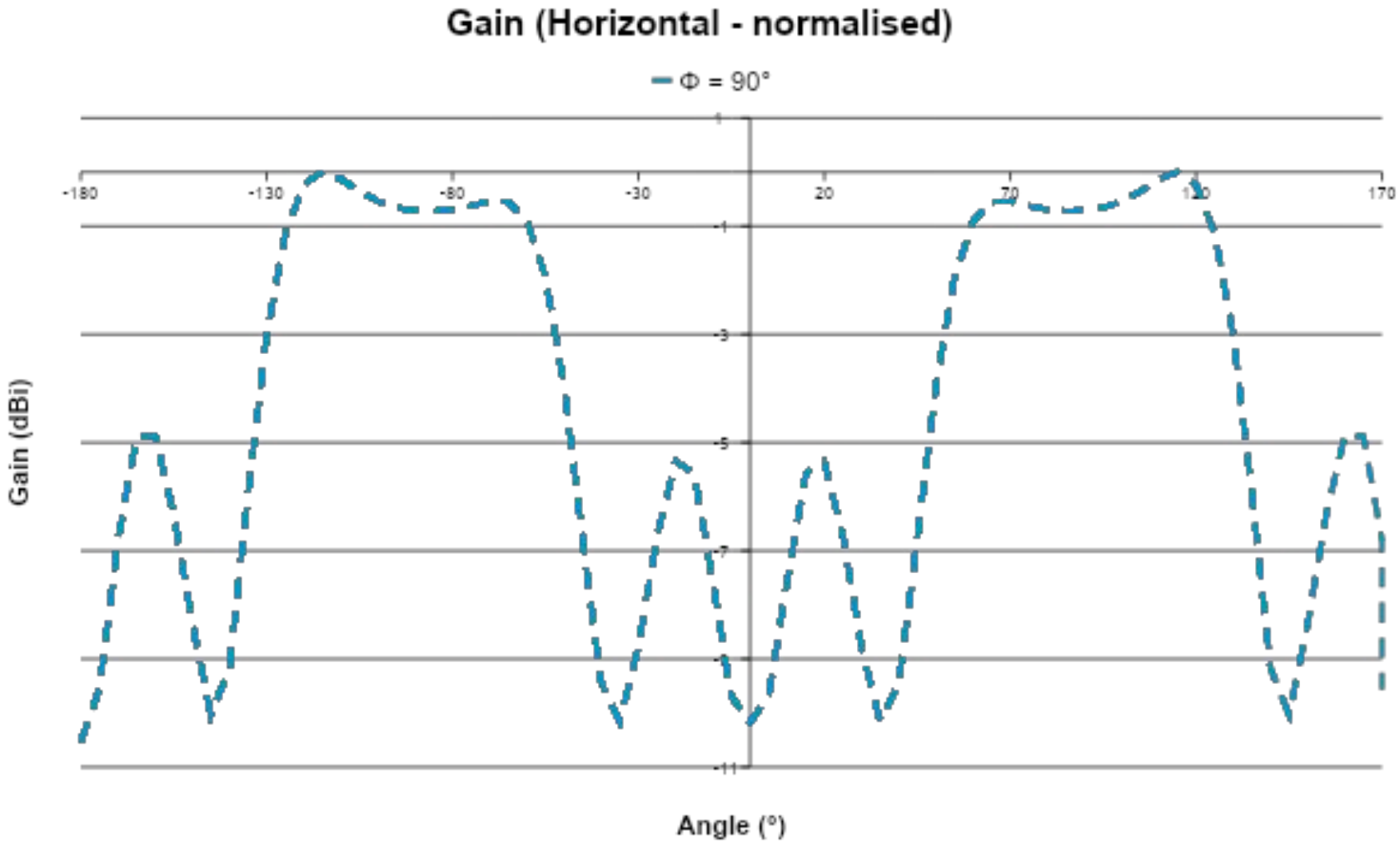


Far Field vs Angle @ 8 fmin

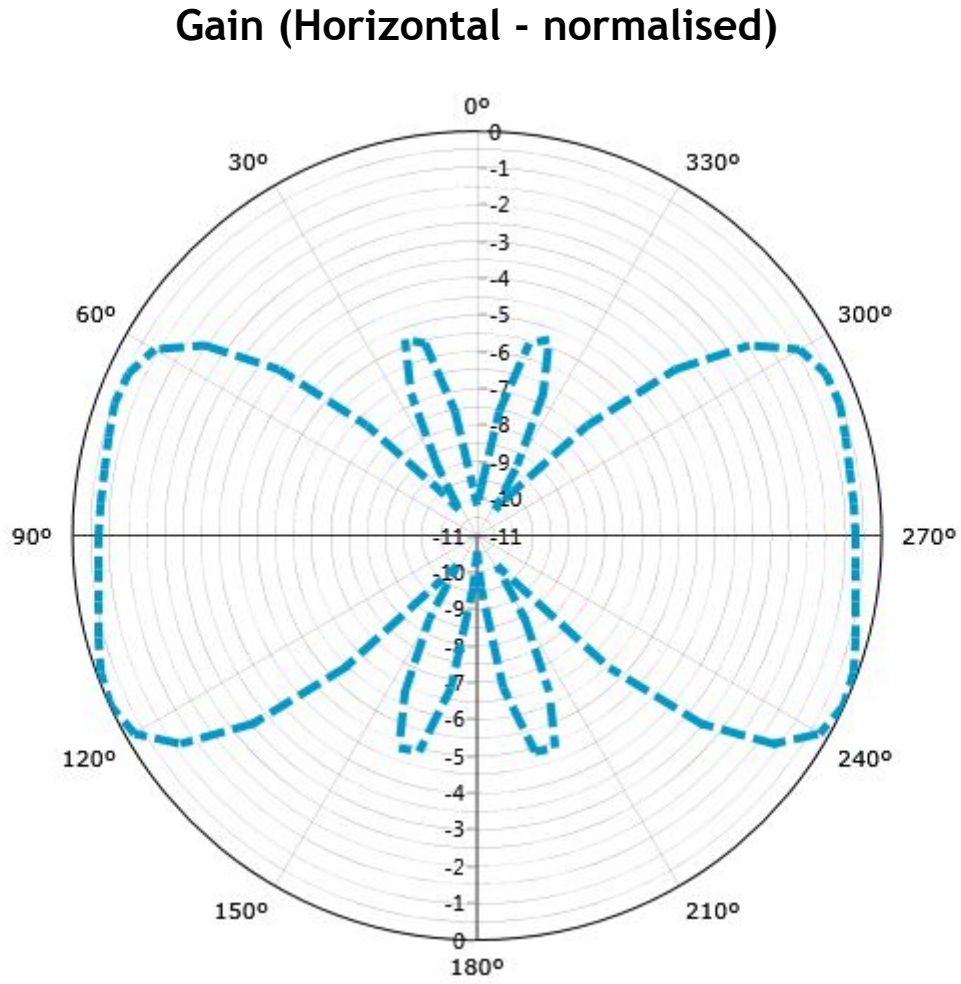
Gain (RHC - normalised)



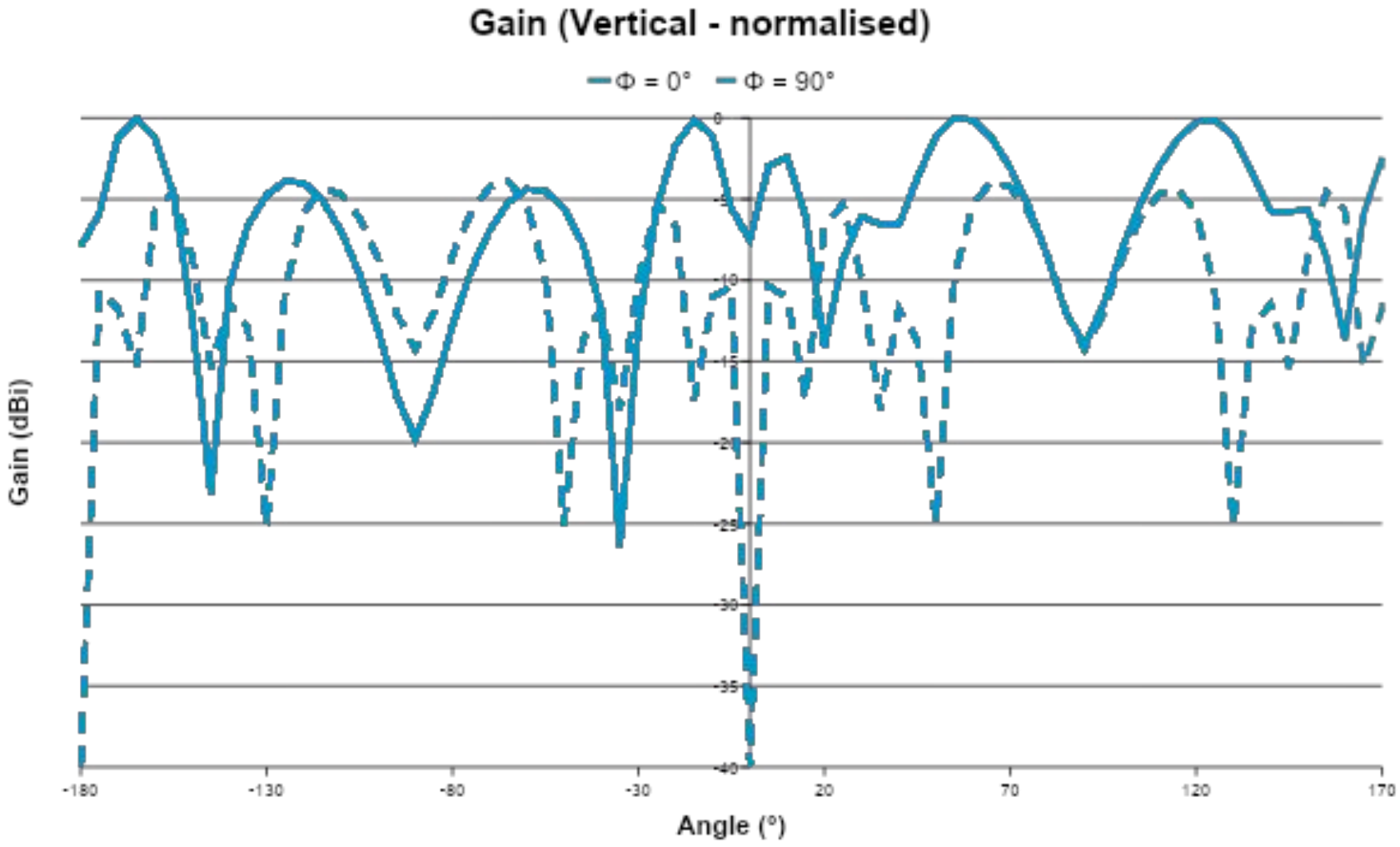
Far Field vs Angle @ 8 fmin



Far Field vs Angle @ 8 fmin

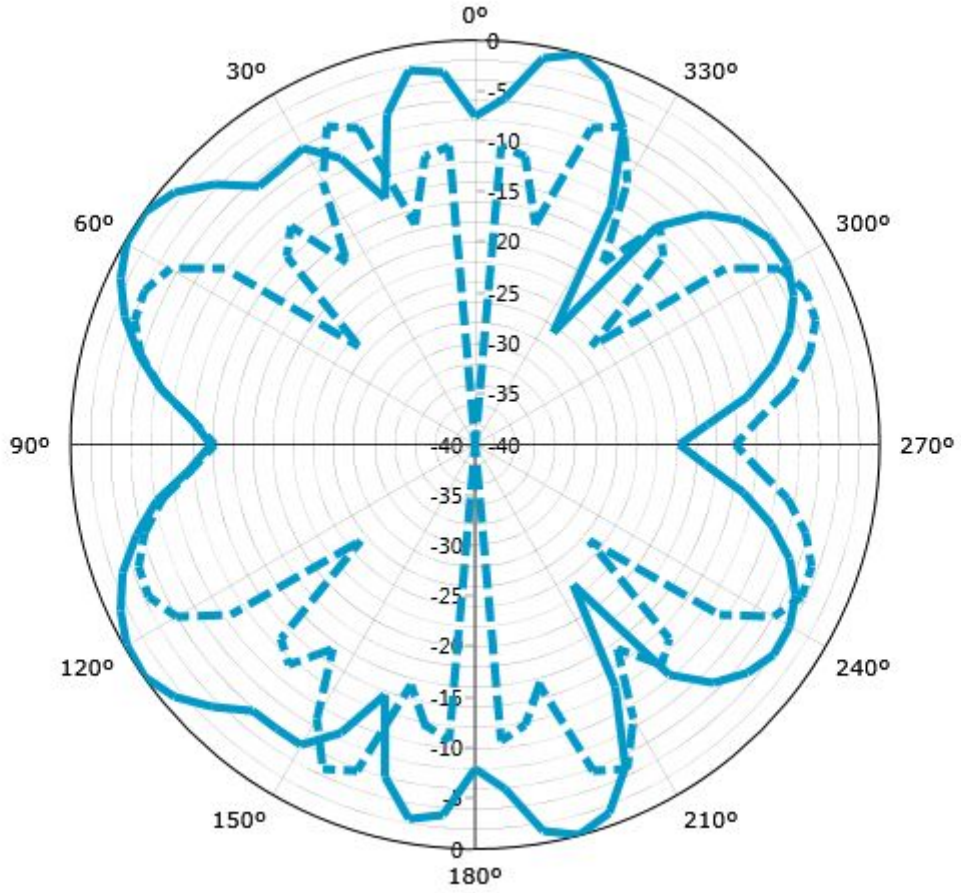


Far Field vs Angle @ 8 fmin

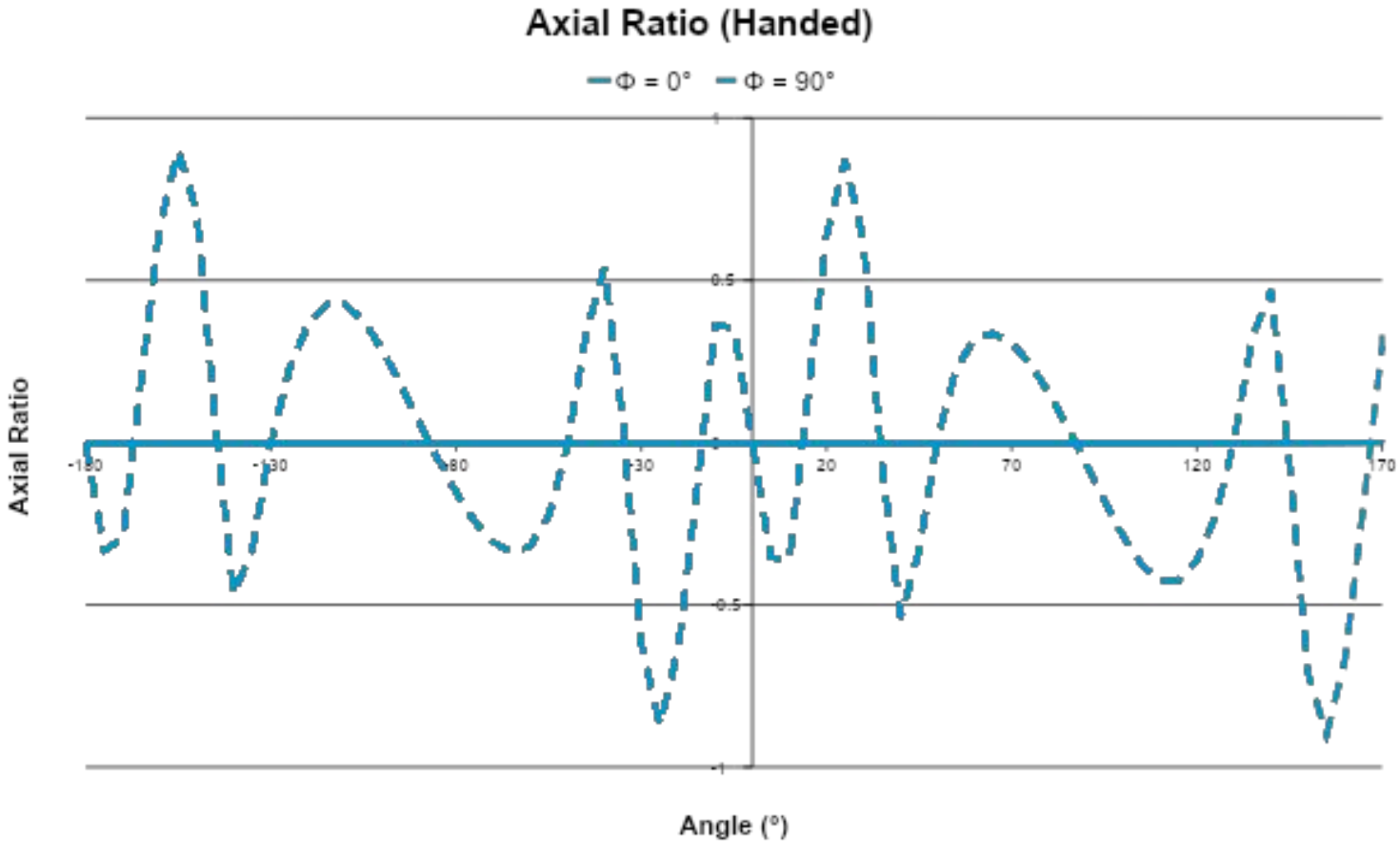


Far Field vs Angle @ 8 fmin

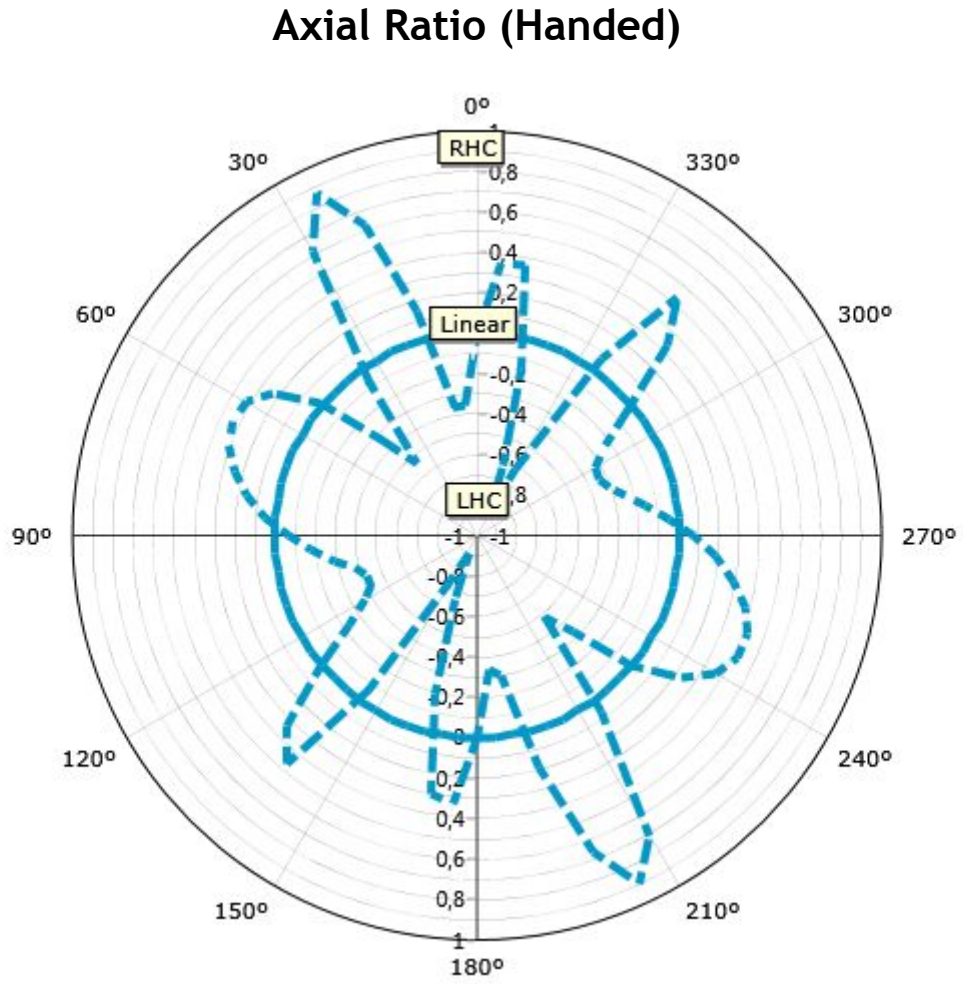
Gain (Vertical - normalised)



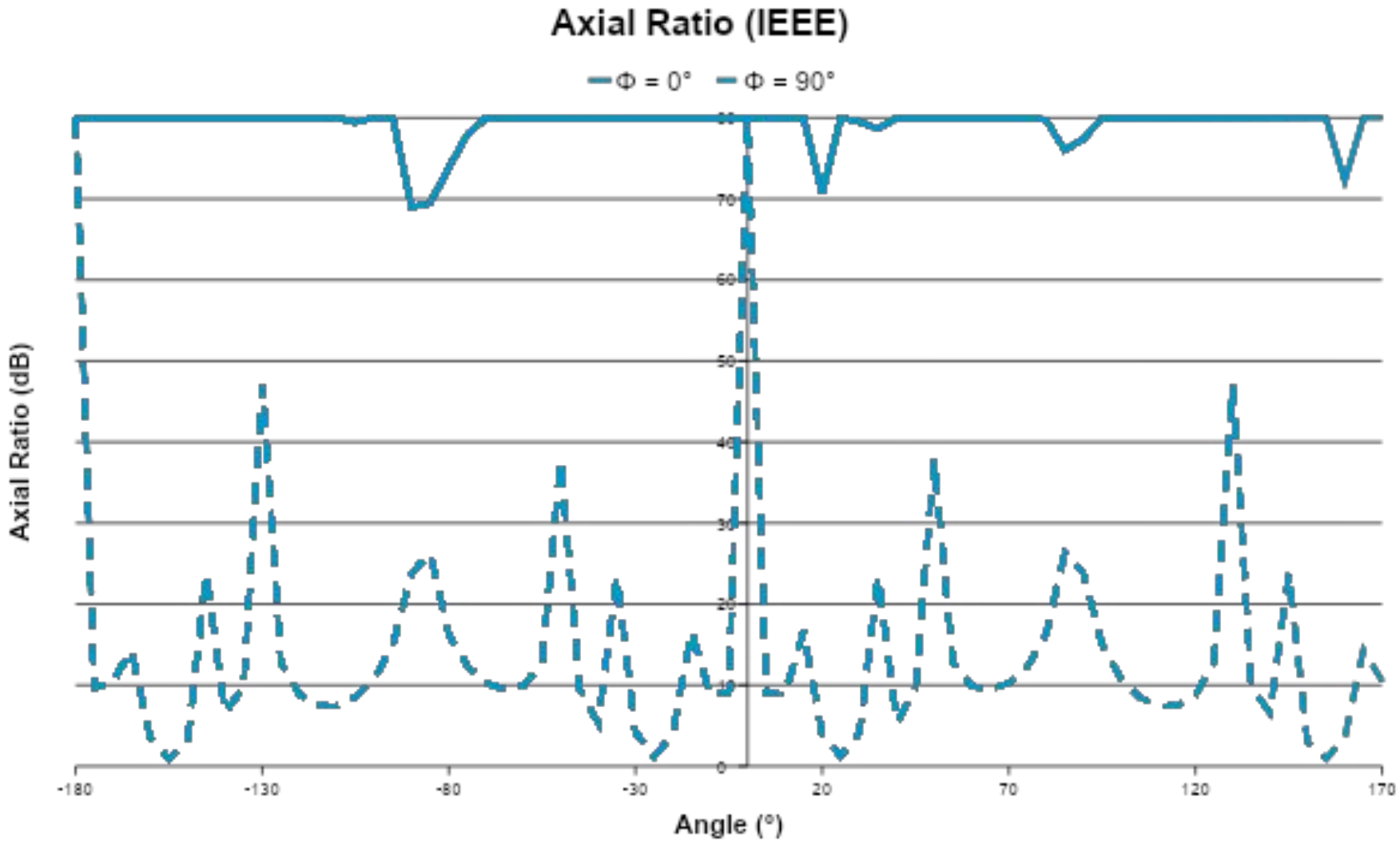
Far Field vs Angle @ 8 fmin



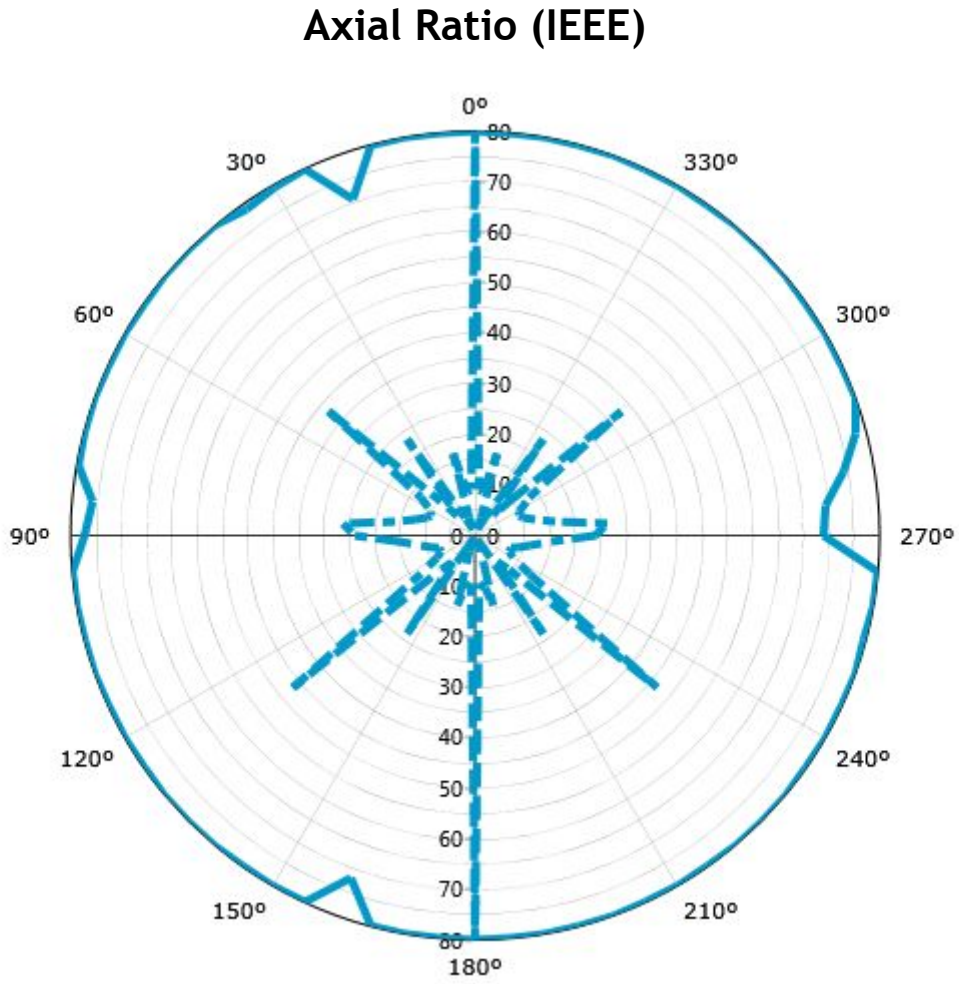
Far Field vs Angle @ 8 fmin



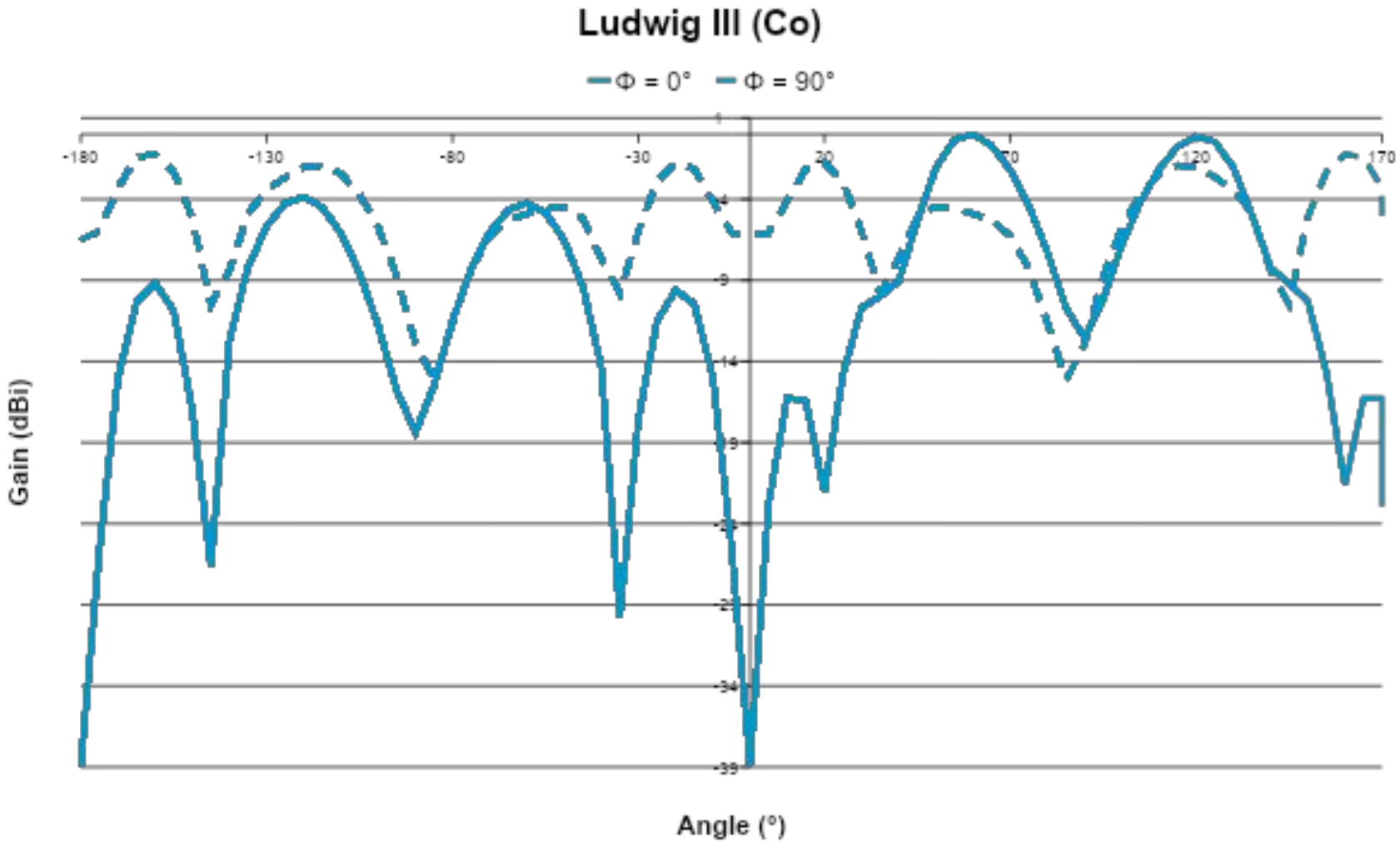
Far Field vs Angle @ 8 fmin



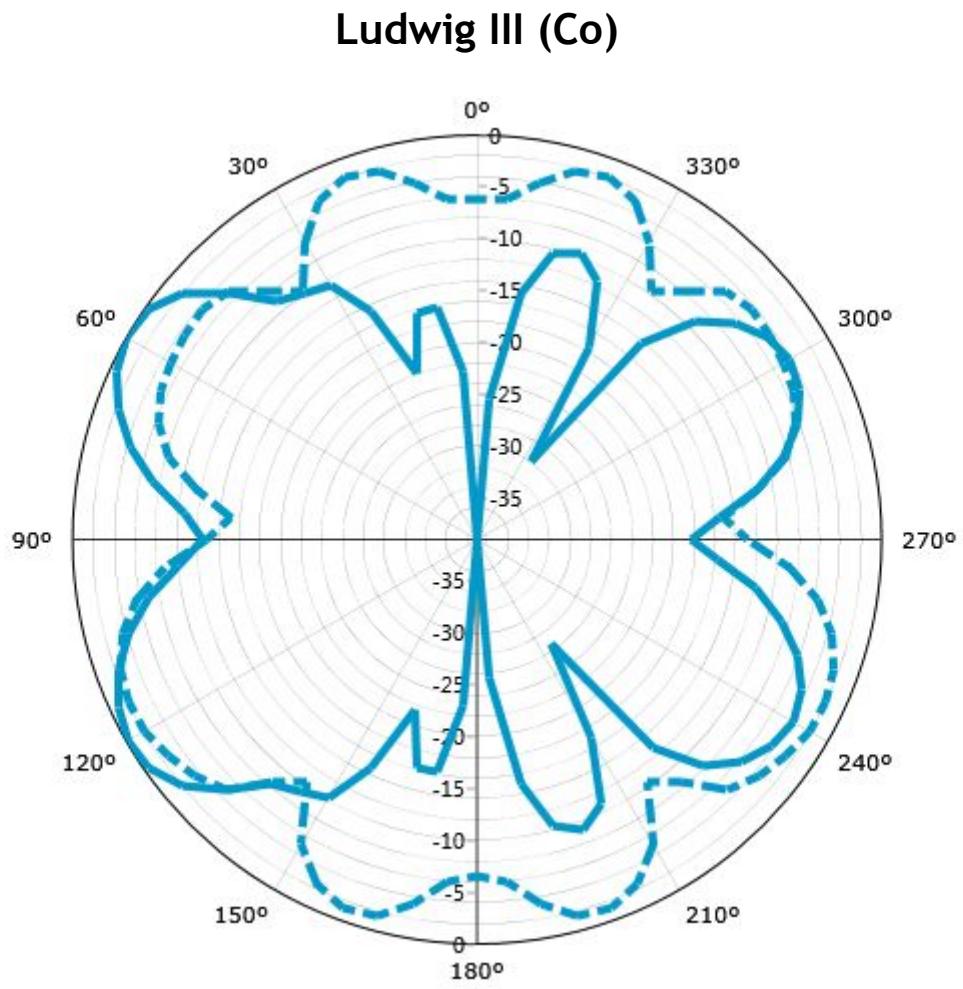
Far Field vs Angle @ 8 fmin



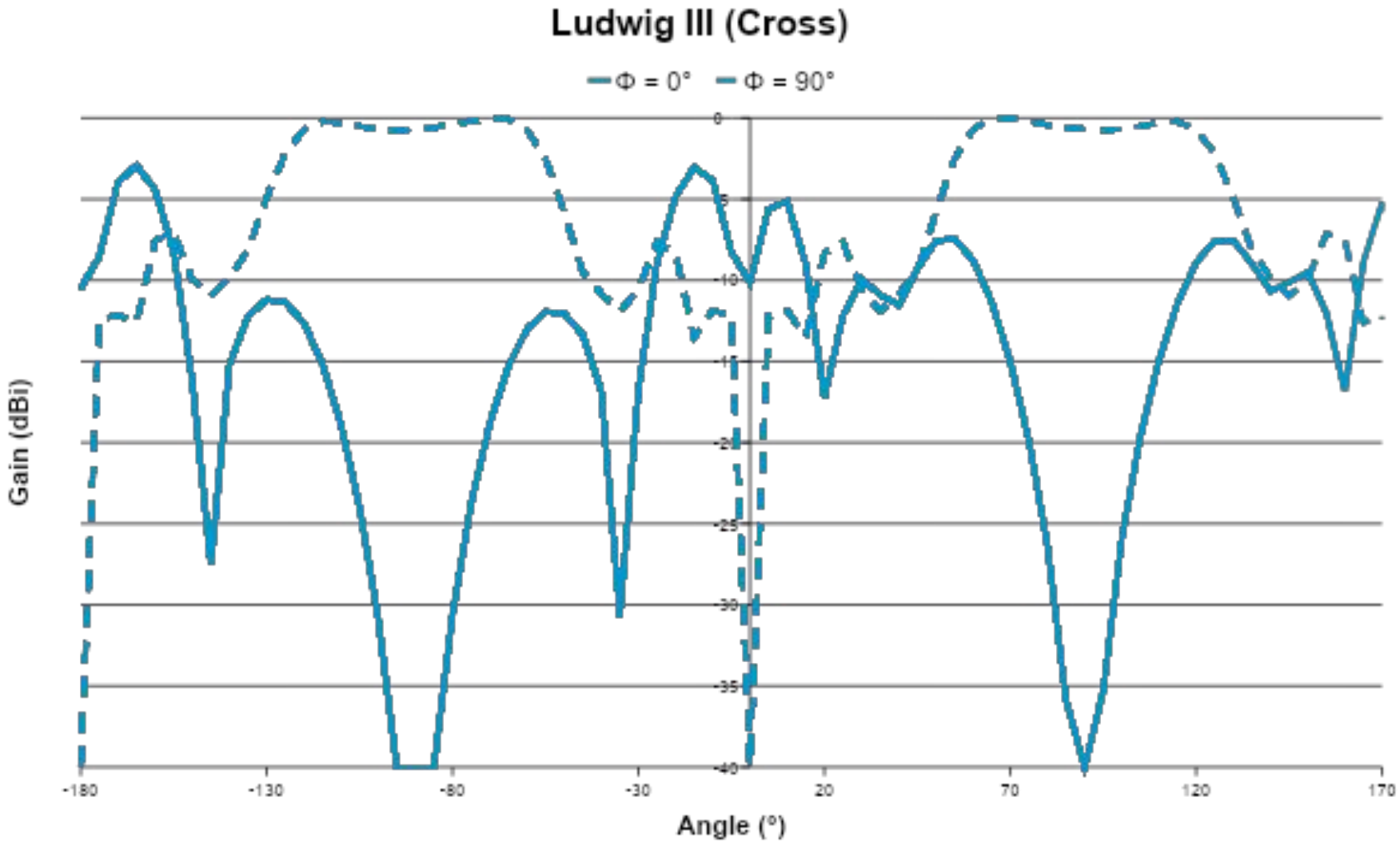
Far Field vs Angle @ 8 fmin



Far Field vs Angle @ 8 fmin



Far Field vs Angle @ 8 fmin



Far Field vs Angle @ 8 fmin