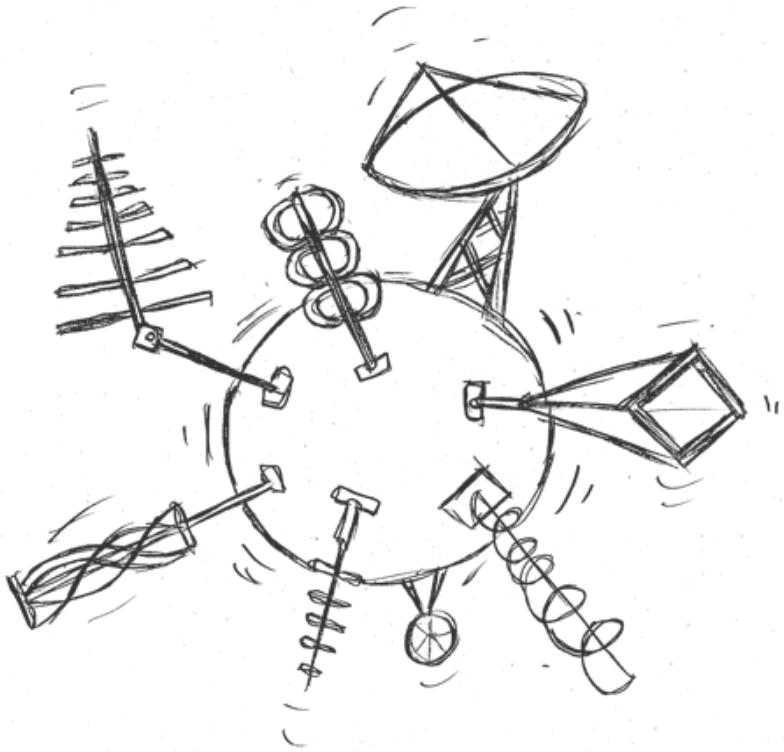
AntennaMagus
Explore. Design. Deliver.



AntennaMagus

The leading antenna design tool

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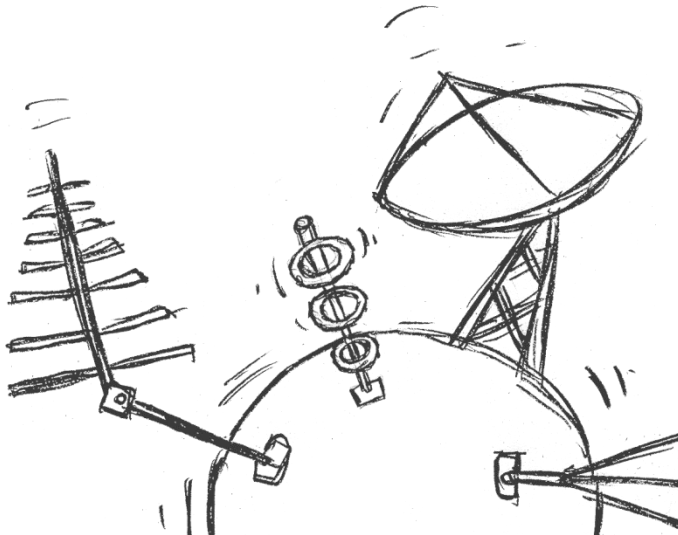
Explore.Design.Deliver.

Yagi-Uda dipole array with folded dipole driven element

Antenna 6 : Results



Antenna Magus
The leading antenna design tool

Yagi-Uda dipole array with folded dipole driven element

Antenna 6 : sketches, objectives and parameters

Antenna Structure: Antenna Parameters

Name	Description
f_0	Centre frequency
N	Number of elements
Lr	Reflector element length
Sr	Spacing between reflector and centre of the driven element
Lde	Driven element length
Sdl	Centre to centre spacing of the driven element
Dc	Diameter of the wire connecting the loop and feed side of the driven element
Df	Diameter of the driven element on the feed side
Dl	Diameter of the driven element on the loop side
Dw	Wire diameter

Antenna Structure: Antenna Parameters (2)

Name	Description
Ld1	Director 1 length
Ld2	Director 2 length
Ld3	Director 3 length
Ld4	Director 4 length
Ld5	Director 5 length
Ld6	Director 6 length
Ld7	Director 7 length
Ld8	Director 8 length
Ld9	Director 9 length
Ld10	Director 10 length

Antenna Structure: Antenna Parameters (3)

Name	Description
Ld11	Director 11 length
Ld12	Director 12 length
Ld13	Director 13 length
Ld14	Director 14 length
Ld15	Director 15 length
Ld16	Director 16 length
Ld17	Director 17 length
Ld18	Director 18 length
Ld19	Director 19 length
Ld20	Director 20 length

Antenna Structure: Antenna Parameters (4)

Name	Description
Ld21	Director 21 length
Ld22	Director 22 length
Ld23	Director 23 length
Ld24	Director 24 length
Ld25	Director 25 length
Ld26	Director 26 length
Ld27	Director 27 length
Ld28	Director 28 length
Ld29	Director 29 length
Ld30	Director 30 length

Antenna Structure: Antenna Parameters (5)

Name	Description
Ld31	Director 31 length
Ld32	Director 32 length
Ld33	Director 33 length
Ld34	Director 34 length
Ld35	Director 35 length
Ld36	Director 36 length
Ld37	Director 37 length
Ld38	Director 38 length
Sd1	Spacing between director 1 and previous element
Sd2	Spacing between director 2 and previous element

Antenna Structure: Antenna Parameters (6)

Name	Description
Sd3	Spacing between director 3 and previous element
Sd4	Spacing between director 4 and previous element
Sd5	Spacing between director 5 and previous element
Sd6	Spacing between director 6 and previous element
Sd7	Spacing between director 7 and previous element
Sd8	Spacing between director 8 and previous element
Sd9	Spacing between director 9 and previous element
Sd10	Spacing between director 10 and previous element
Sd11	Spacing between director 11 and previous element
Sd12	Spacing between director 12 and previous element

Antenna Structure: Antenna Parameters (7)

Name	Description
Sd13	Spacing between director 13 and previous element
Sd14	Spacing between director 14 and previous element
Sd15	Spacing between director 15 and previous element
Sd16	Spacing between director 16 and previous element
Sd17	Spacing between director 17 and previous element
Sd18	Spacing between director 18 and previous element
Sd19	Spacing between director 19 and previous element
Sd20	Spacing between director 20 and previous element
Sd21	Spacing between director 21 and previous element
Sd22	Spacing between director 22 and previous element

Antenna Structure: Antenna Parameters (8)

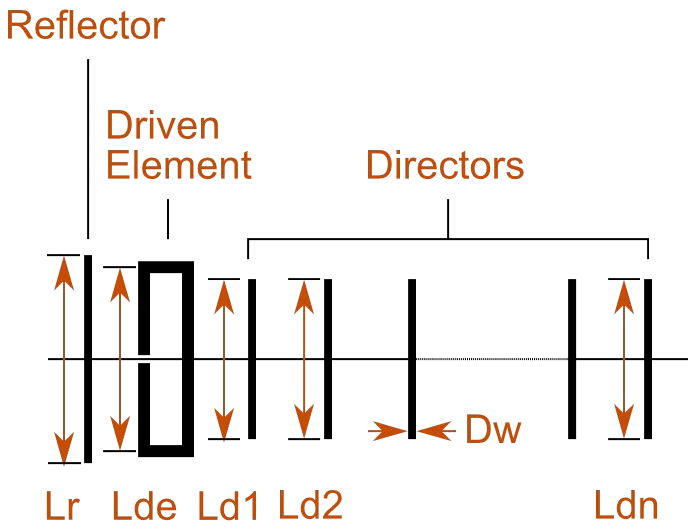
Name	Description
Sd23	Spacing between director 23 and previous element
Sd24	Spacing between director 24 and previous element
Sd25	Spacing between director 25 and previous element
Sd26	Spacing between director 26 and previous element
Sd27	Spacing between director 27 and previous element
Sd28	Spacing between director 28 and previous element
Sd29	Spacing between director 29 and previous element
Sd30	Spacing between director 30 and previous element
Sd31	Spacing between director 31 and previous element
Sd32	Spacing between director 32 and previous element

Antenna Structure: Antenna Parameters (9)

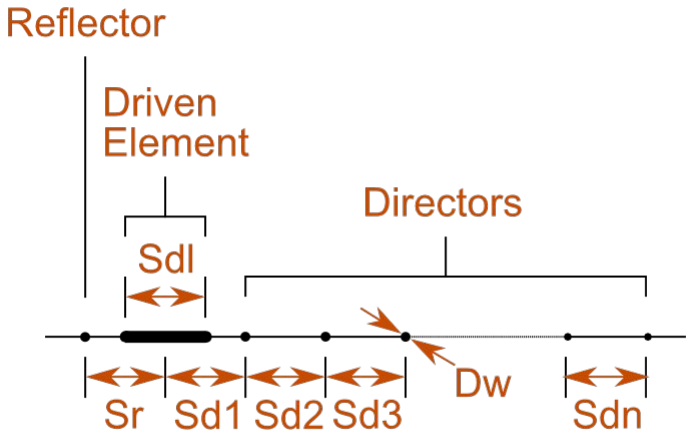
Name	Description
Sd33	Spacing between director 33 and previous element
Sd34	Spacing between director 34 and previous element
Sd35	Spacing between director 35 and previous element
Sd36	Spacing between director 36 and previous element
Sd37	Spacing between director 37 and previous element
Sd38	Spacing between director 38 and previous element
X	Device X-dimension
Y	Device Y-dimension
Z	Device Z-dimension

Sketches

Side view

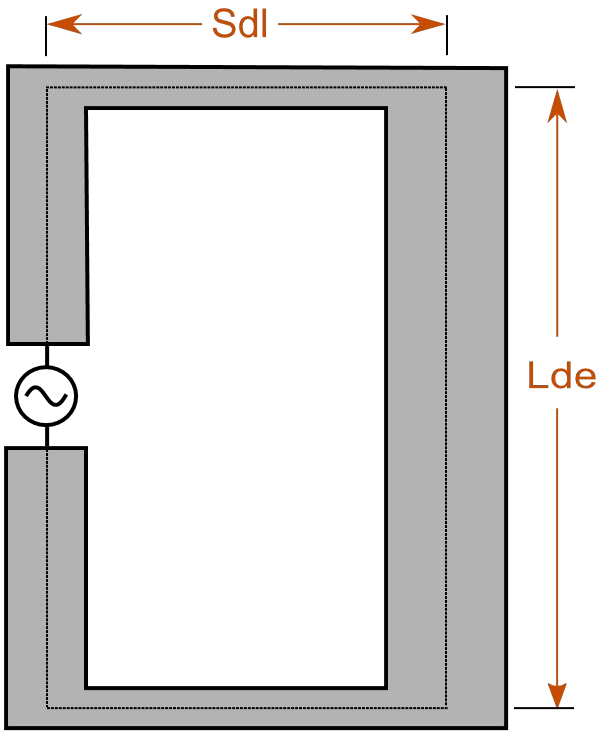


Top view

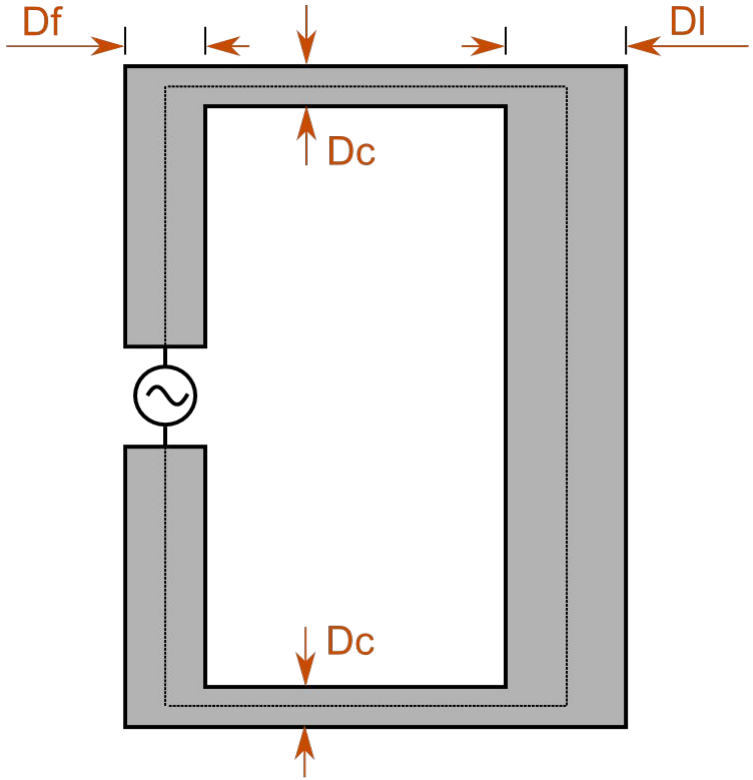


Sketches (2)

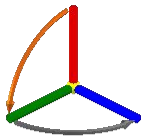
Driven element

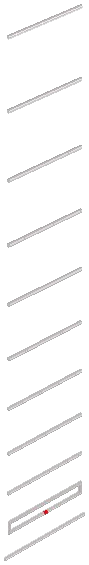


Driven element



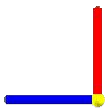
Design 1: Preview



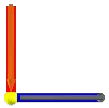


Design 1: Front Side Preview

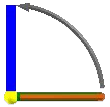
Design 1: Left Side Preview



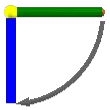
Design 1: Right Side Preview



Design 1: Top Side Preview



Design 1: Bottom Side Preview



Design 1: Design Objectives

Objective Group: operating frequency

Name	Description	Value
f_0	Centre frequency	405.5 MHz

Design 1: Physical Parameters

Name	Description	Value
N	Number of elements	11
Lr	Reflector element length	361.2 mm
Sr	Spacing between reflector and centre of the driven element	110.9 mm
Lde	Driven element length	318.3 mm
Sdl	Centre to centre spacing of the driven element	36.97 mm
Dc	Diameter of the wire connecting the loop and feed side of the driven element	11.09 mm
Df	Diameter of the driven element on the feed side	11.09 mm
Dl	Diameter of the driven element on the loop side	11.09 mm
Dw	Wire diameter	11.09 mm
Ld1	Director 1 length	328.3 mm

Design 1: Physical Parameters (2)

Name	Description	Value
Ld2	Director 2 length	324.2 mm
Ld3	Director 3 length	320.2 mm
Ld4	Director 4 length	316.1 mm
Ld5	Director 5 length	313.0 mm
Ld6	Director 6 length	310.0 mm
Ld7	Director 7 length	307.1 mm
Ld8	Director 8 length	304.7 mm
Ld9	Director 9 length	302.2 mm
Ld10	Director 10 length	299.9 mm
Ld11	Director 11 length	298.1 mm

Design 1: Physical Parameters (3)

Name	Description	Value
Ld12	Director 12 length	296.6 mm
Ld13	Director 13 length	295.1 mm
Ld14	Director 14 length	293.7 mm
Ld15	Director 15 length	292.1 mm
Ld16	Director 16 length	290.8 mm
Ld17	Director 17 length	289.6 mm
Ld18	Director 18 length	288.3 mm
Ld19	Director 19 length	287.1 mm
Ld20	Director 20 length	285.8 mm
Ld21	Director 21 length	284.5 mm

Design 1: Physical Parameters (4)

Name	Description	Value
Ld22	Director 22 length	283.2 mm
Ld23	Director 23 length	282.3 mm
Ld24	Director 24 length	281.5 mm
Ld25	Director 25 length	280.6 mm
Ld26	Director 26 length	279.8 mm
Ld27	Director 27 length	278.9 mm
Ld28	Director 28 length	278.0 mm
Ld29	Director 29 length	277.3 mm
Ld30	Director 30 length	276.8 mm
Ld31	Director 31 length	276.3 mm

Design 1: Physical Parameters (5)

Name	Description	Value
Ld32	Director 32 length	275.7 mm
Ld33	Director 33 length	275.2 mm
Ld34	Director 34 length	274.7 mm
Ld35	Director 35 length	274.1 mm
Ld36	Director 36 length	273.5 mm
Ld37	Director 37 length	273.0 mm
Ld38	Director 38 length	272.5 mm
Sd1	Spacing between director 1 and previous element	131.3 mm
Sd2	Spacing between director 2 and previous element	147.3 mm
Sd3	Spacing between director 3 and previous element	163.5 mm

Design 1: Physical Parameters (6)

Name	Description	Value
Sd4	Spacing between director 4 and previous element	178.6 mm
Sd5	Spacing between director 5 and previous element	192.1 mm
Sd6	Spacing between director 6 and previous element	205.6 mm
Sd7	Spacing between director 7 and previous element	218.8 mm
Sd8	Spacing between director 8 and previous element	228.2 mm
Sd9	Spacing between director 9 and previous element	237.6 mm
Sd10	Spacing between director 10 and previous element	247.1 mm
Sd11	Spacing between director 11 and previous element	256.5 mm
Sd12	Spacing between director 12 and previous element	263.7 mm
Sd13	Spacing between director 13 and previous element	267.9 mm

Design 1: Physical Parameters (7)

Name	Description	Value
Sd14	Spacing between director 14 and previous element	272.0 mm
Sd15	Spacing between director 15 and previous element	276.1 mm
Sd16	Spacing between director 16 and previous element	280.2 mm
Sd17	Spacing between director 17 and previous element	284.3 mm
Sd18	Spacing between director 18 and previous element	288.4 mm
Sd19	Spacing between director 19 and previous element	290.7 mm
Sd20	Spacing between director 20 and previous element	292.9 mm
Sd21	Spacing between director 21 and previous element	295.1 mm
Sd22	Spacing between director 22 and previous element	297.3 mm
Sd23	Spacing between director 23 and previous element	299.2 mm

Design 1: Physical Parameters (8)

Name	Description	Value
Sd24	Spacing between director 24 and previous element	299.9 mm
Sd25	Spacing between director 25 and previous element	300.6 mm
Sd26	Spacing between director 26 and previous element	301.3 mm
Sd27	Spacing between director 27 and previous element	302.1 mm
Sd28	Spacing between director 28 and previous element	302.8 mm
Sd29	Spacing between director 29 and previous element	303.0 mm
Sd30	Spacing between director 30 and previous element	303.2 mm
Sd31	Spacing between director 31 and previous element	303.4 mm
Sd32	Spacing between director 32 and previous element	303.6 mm
Sd33	Spacing between director 33 and previous element	303.8 mm

Design 1: Physical Parameters (9)

Name	Description	Value
Sd34	Spacing between director 34 and previous element	304.2 mm
Sd35	Spacing between director 35 and previous element	304.5 mm
Sd36	Spacing between director 36 and previous element	305.0 mm
Sd37	Spacing between director 37 and previous element	305.3 mm
Sd38	Spacing between director 38 and previous element	305.7 mm

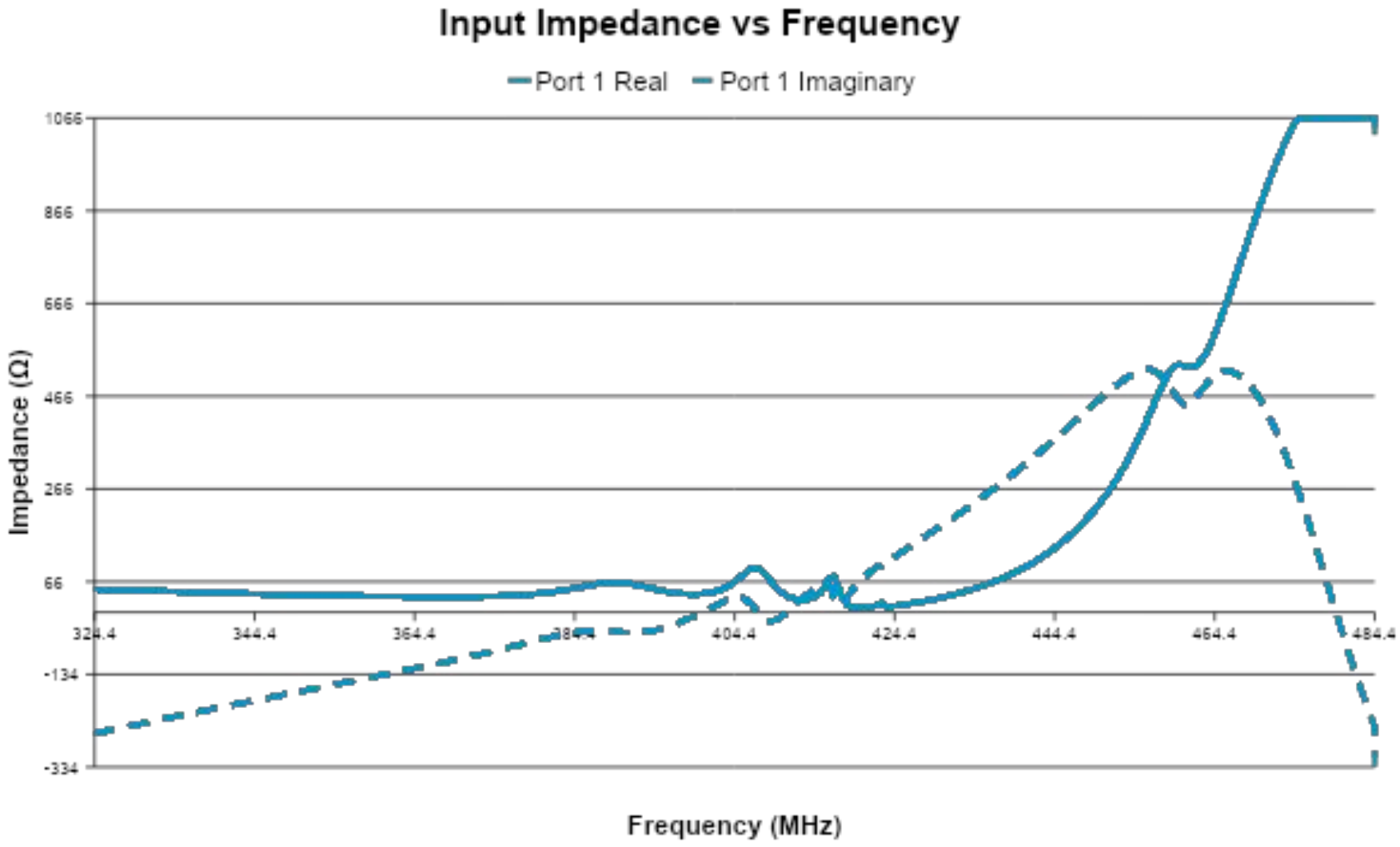
Design 1: Derived Quantities

Name	Description	Value
X	Device X-dimension	361.2 mm
Y	Device Y-dimension	11.09 mm
Z	Device Z-dimension	1.825 m

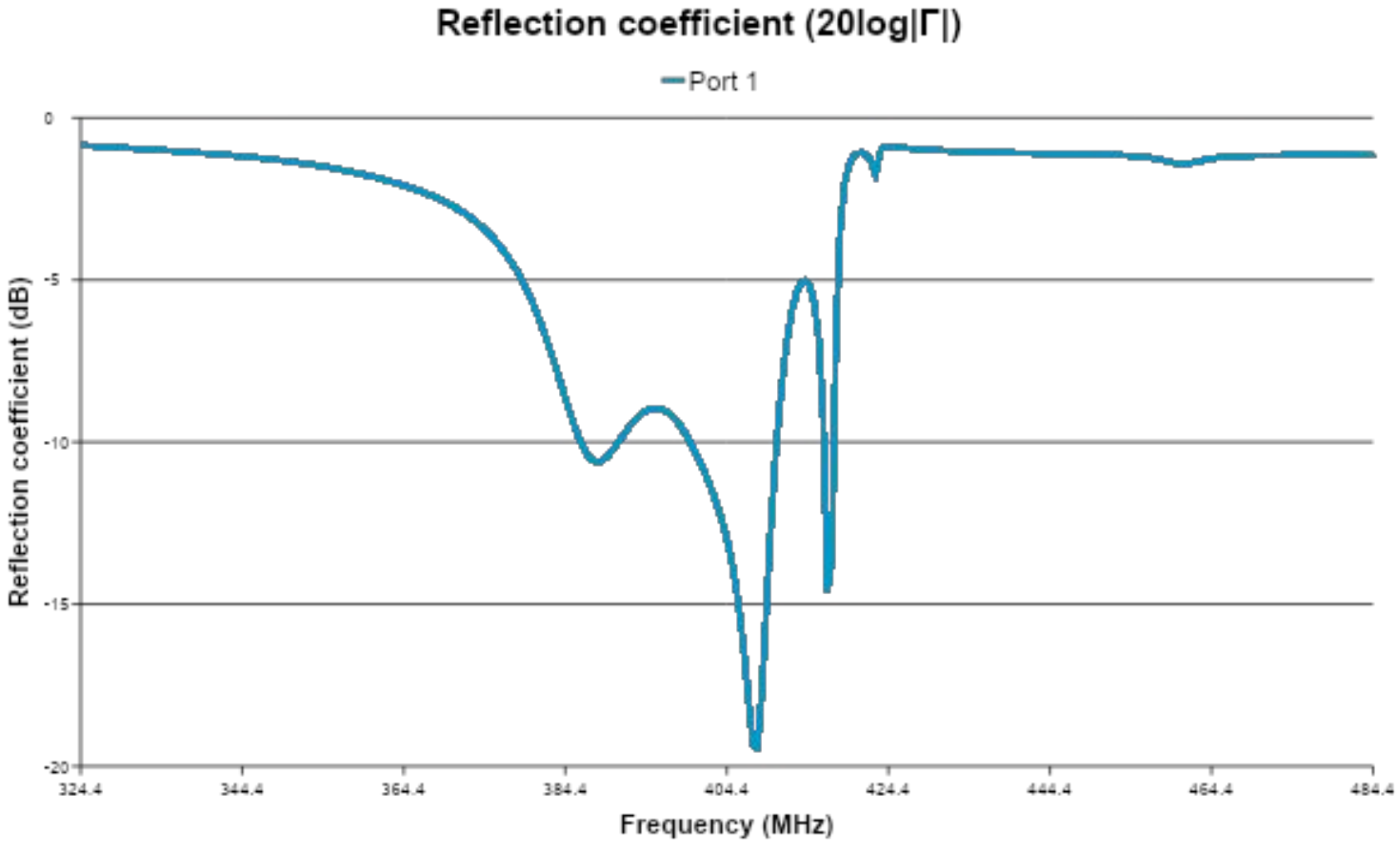
Yagi-Uda dipole array with folded dipole driven element

Antenna 6 : estimated performance charts

Impedance vs Frequency



Impedance vs Frequency

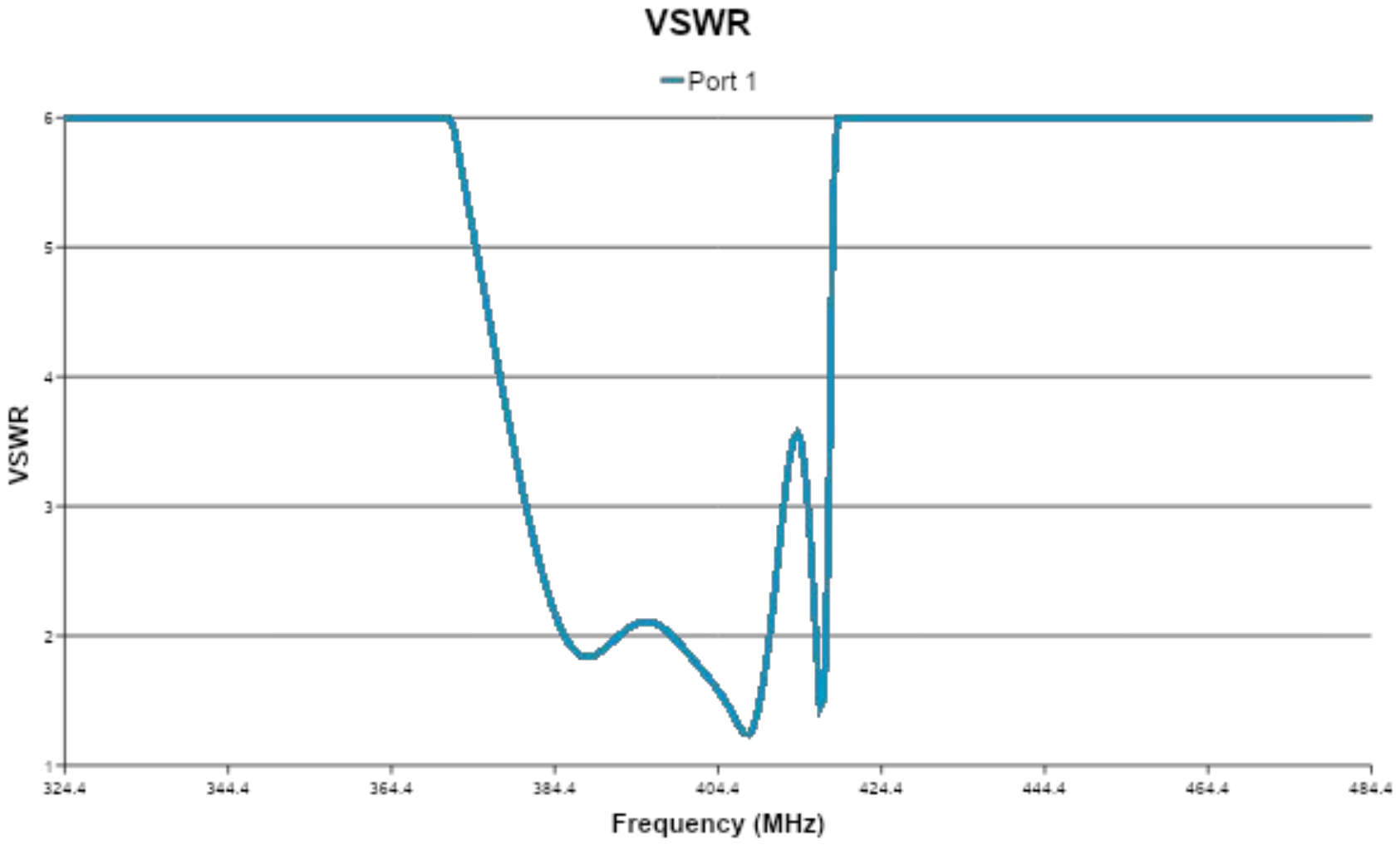


Impedance vs Frequency

Reflection coefficient (20log|Γ|)

	Design 1
Reference impedance @ port 1	(75+0j) Ω

Impedance vs Frequency

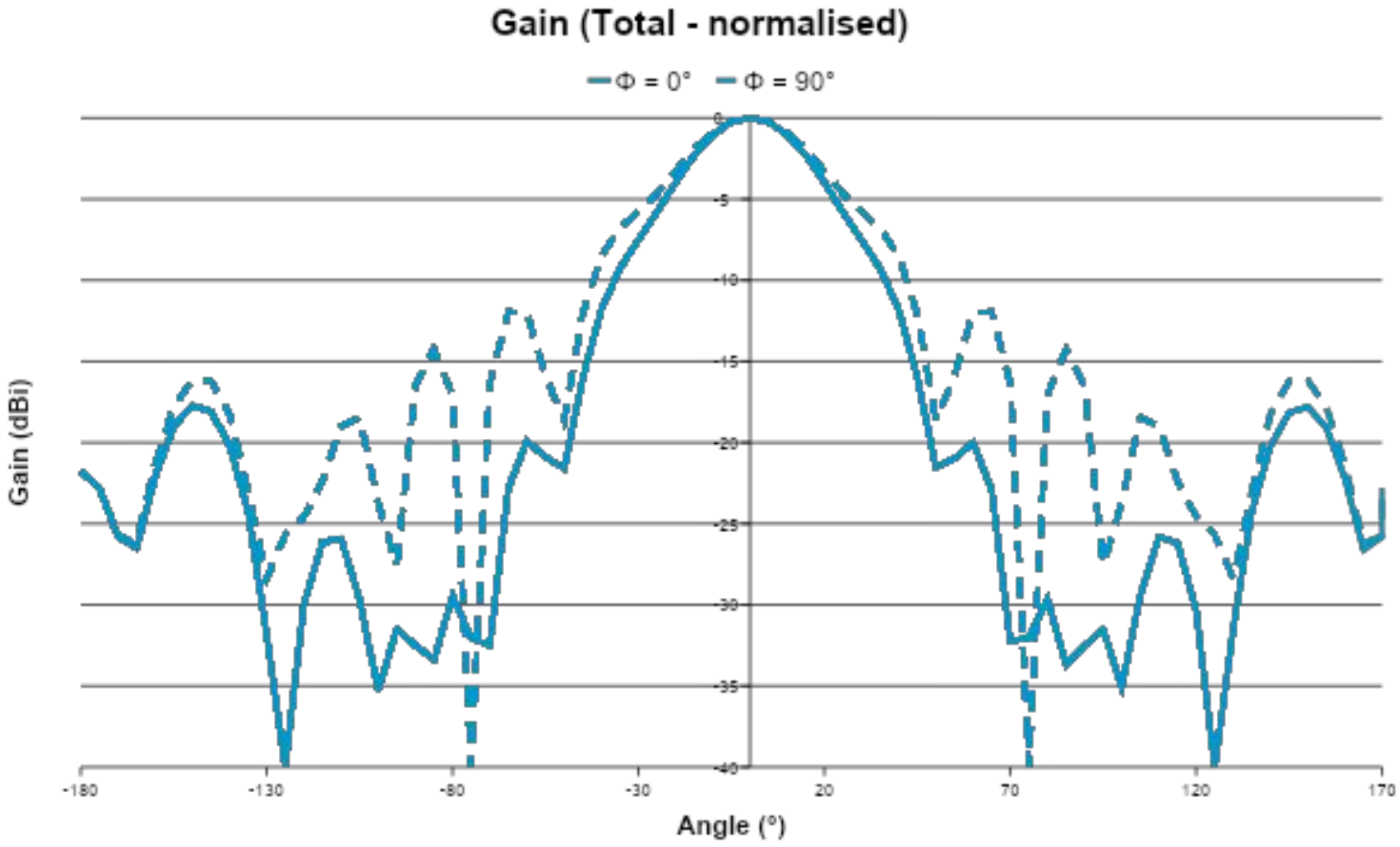


Impedance vs Frequency

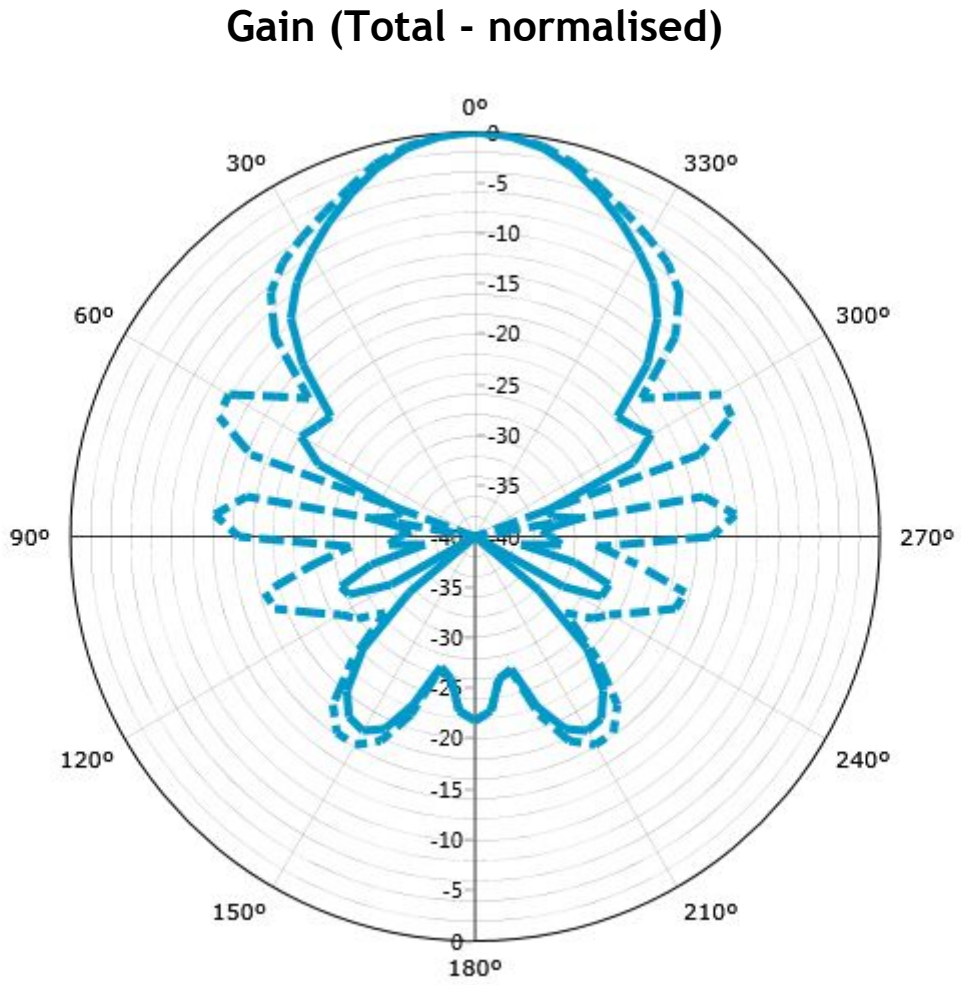
VSWR

	Design 1
Reference impedance @ port 1	(75+0j) Ω

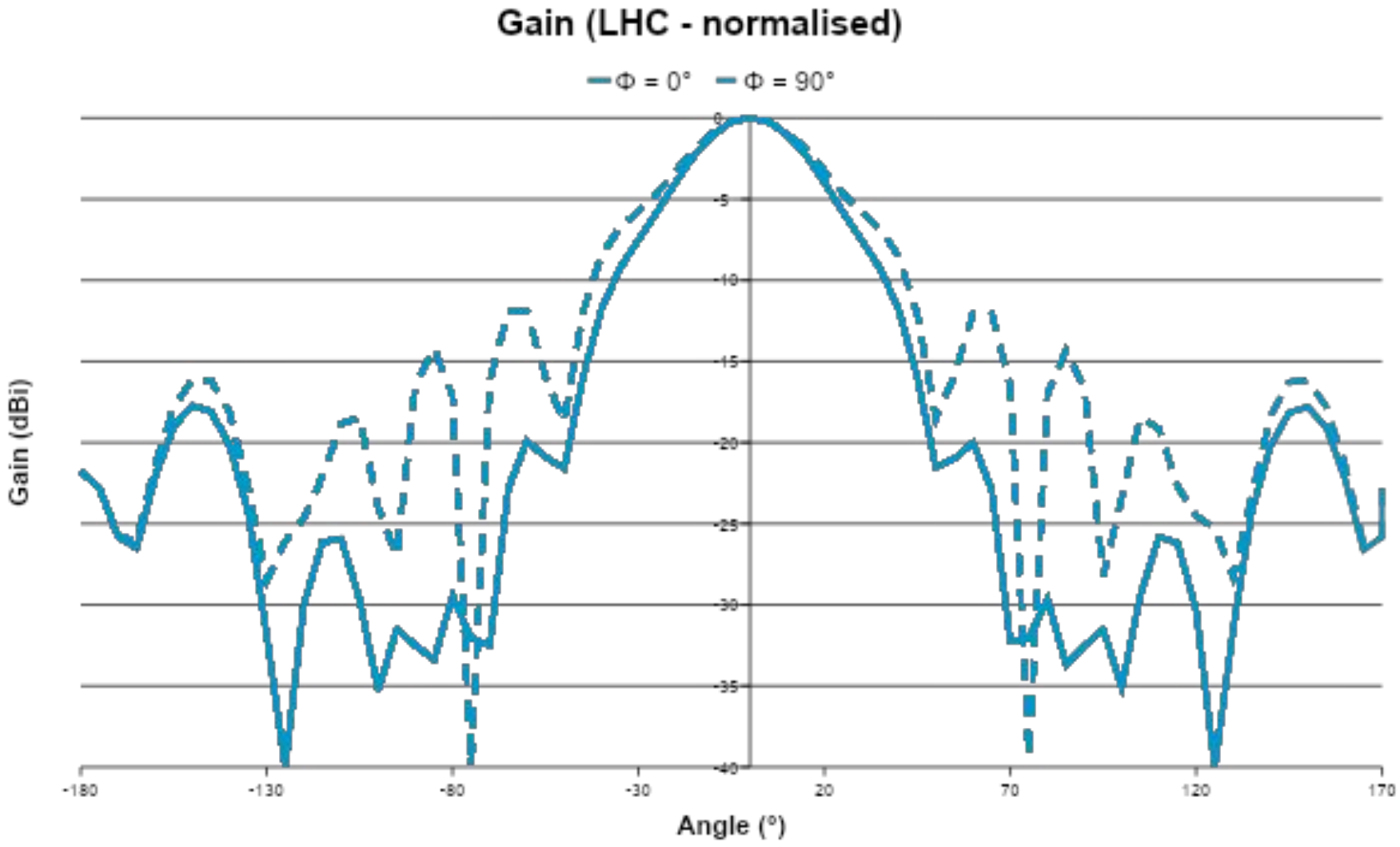
Far Field vs Angle @ f0



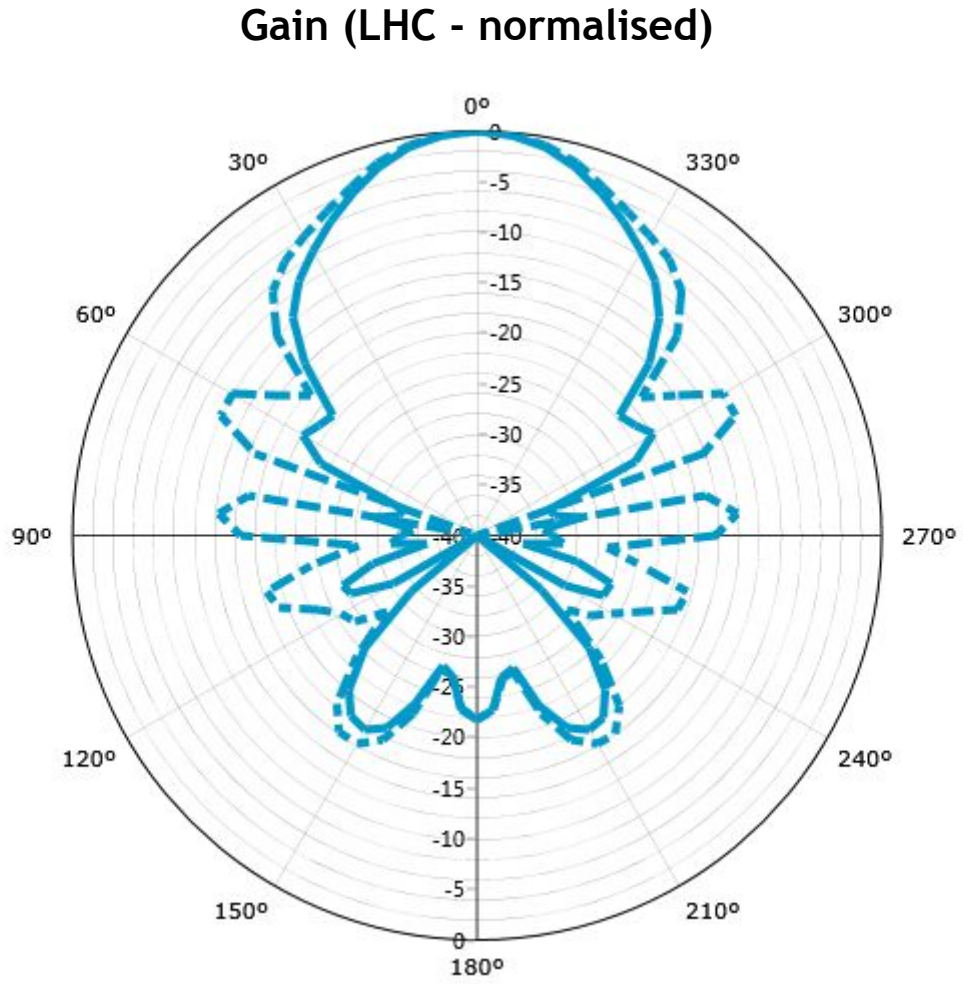
Far Field vs Angle @ f0



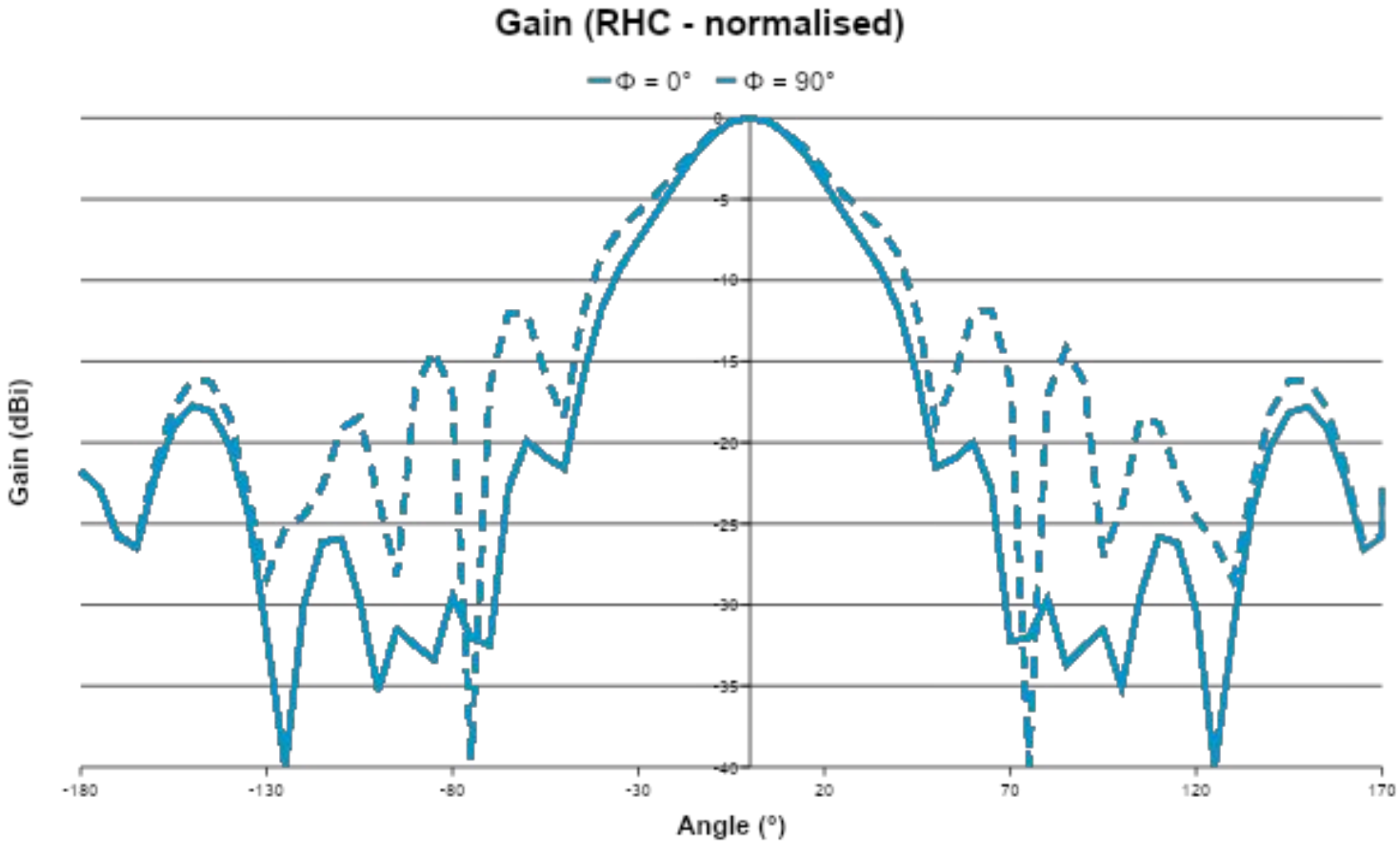
Far Field vs Angle @ f0



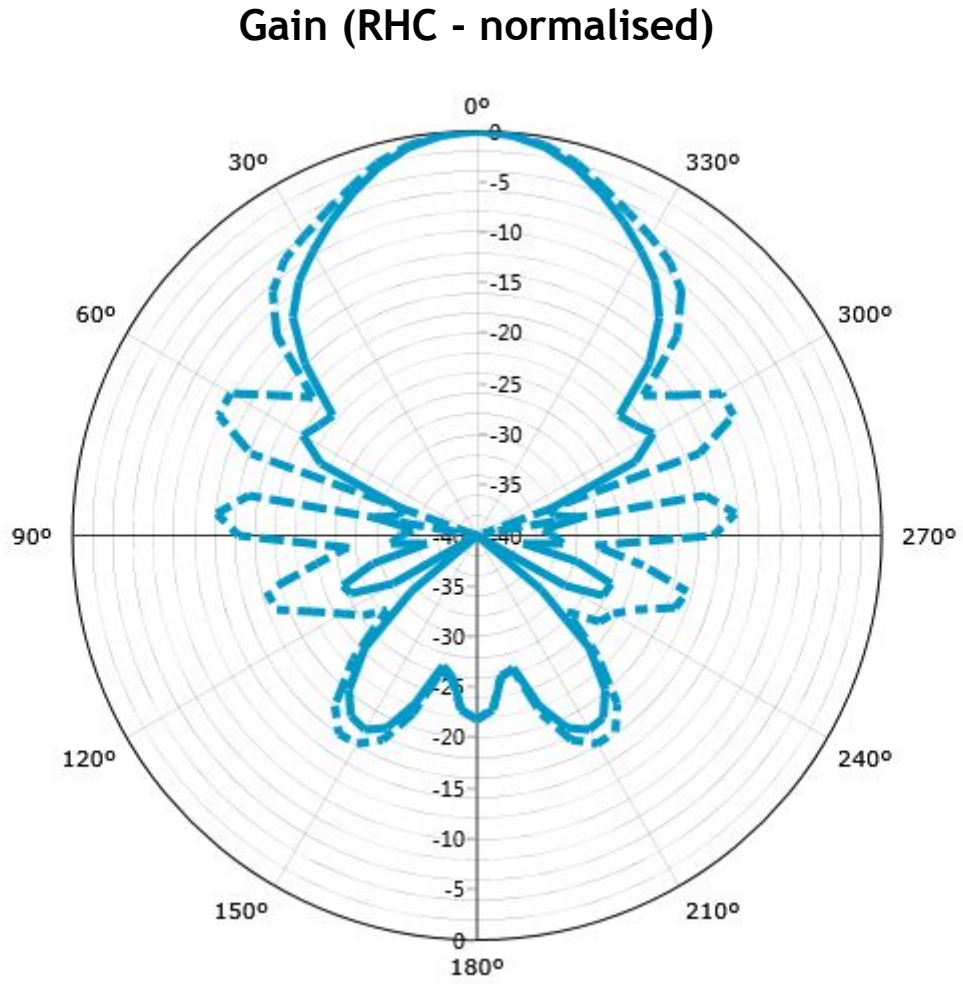
Far Field vs Angle @ f0



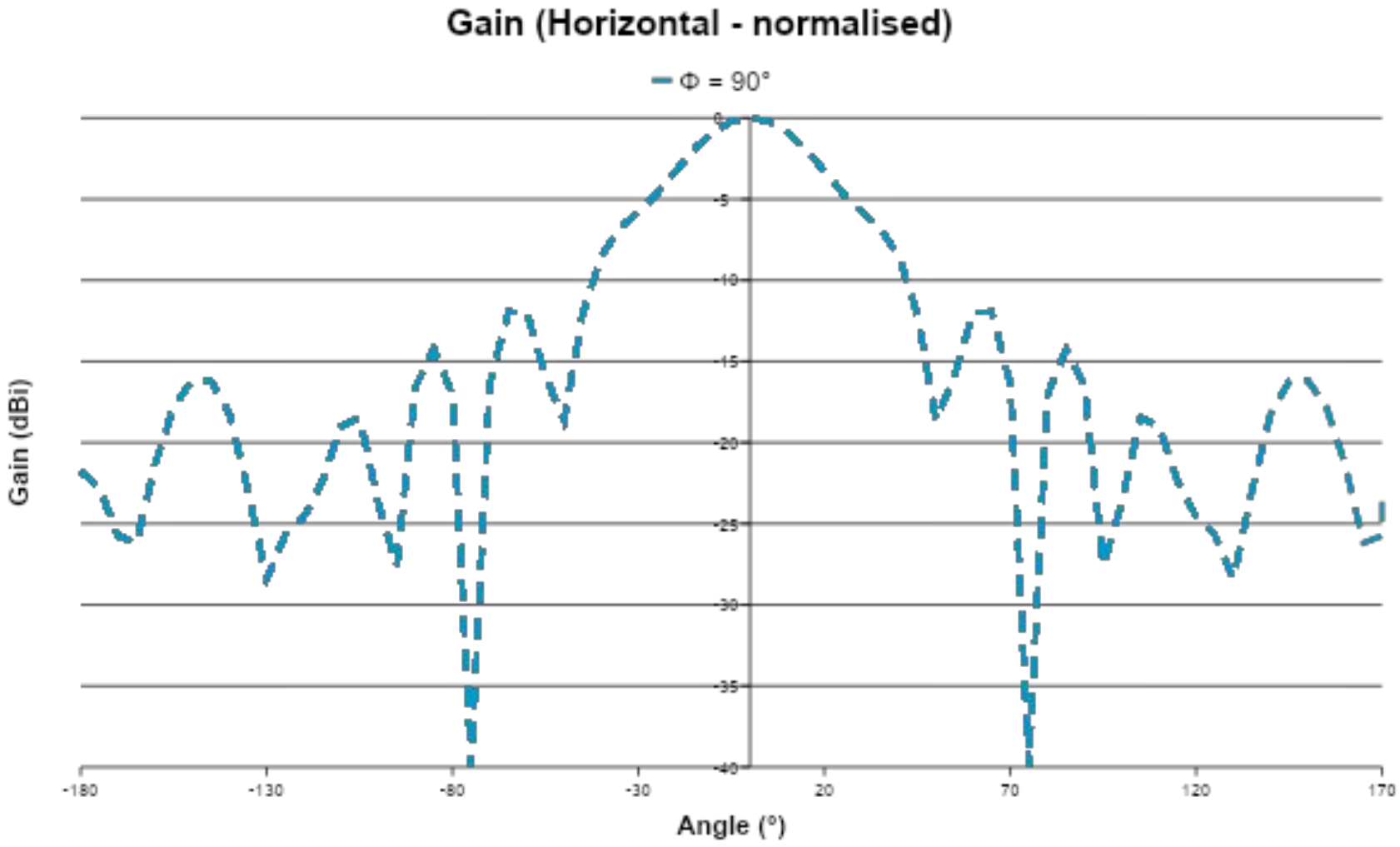
Far Field vs Angle @ f0



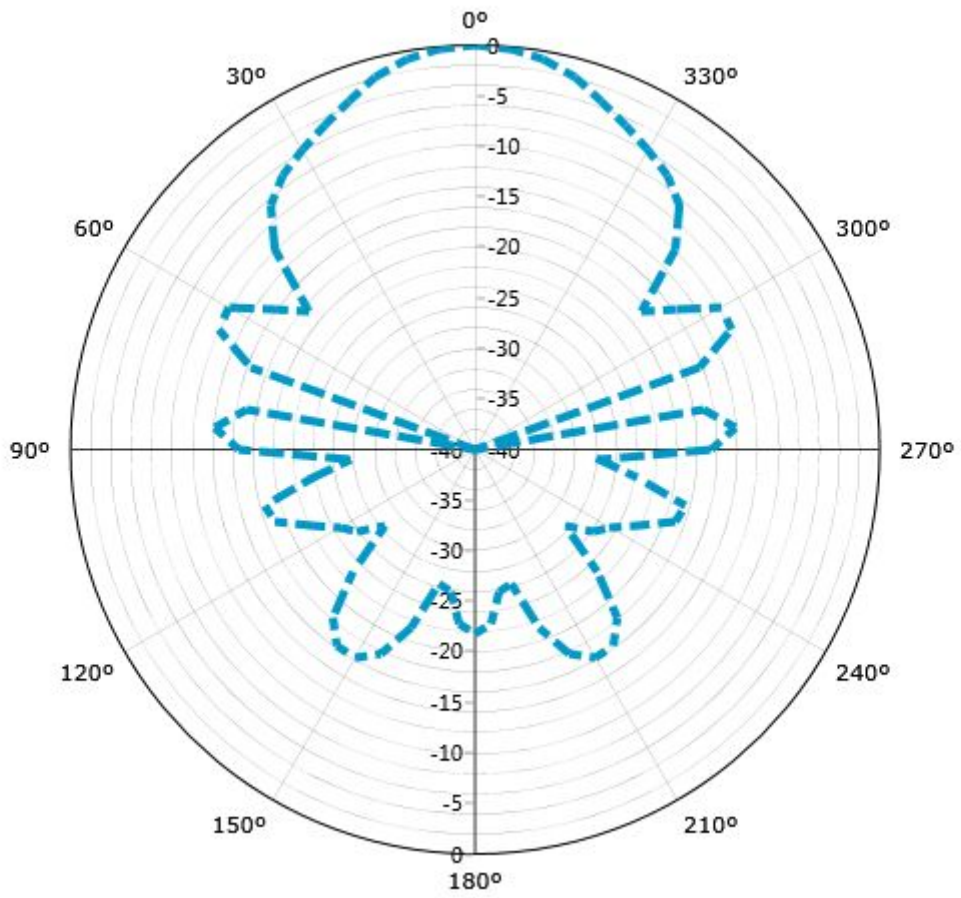
Far Field vs Angle @ f0



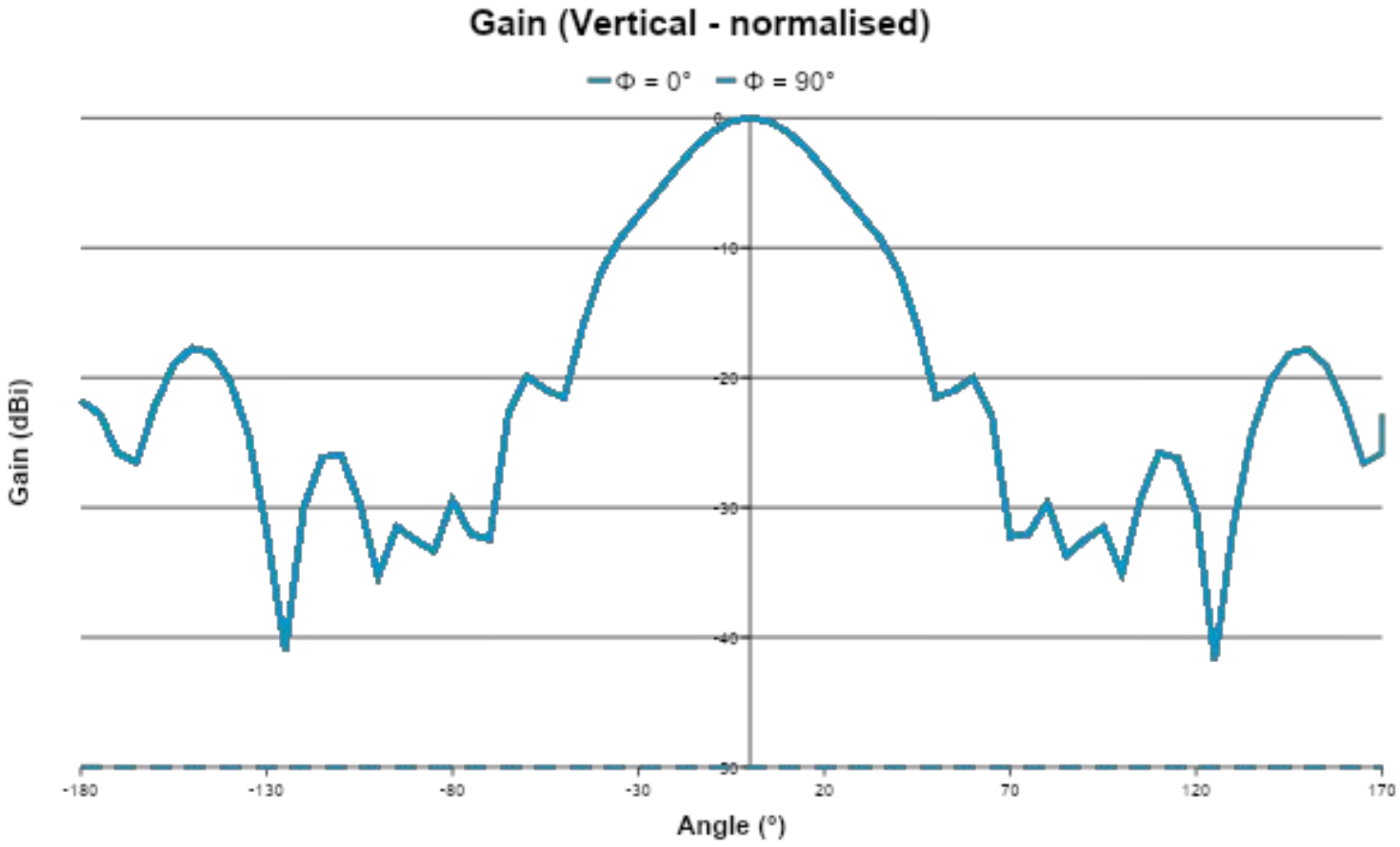
Far Field vs Angle @ f0



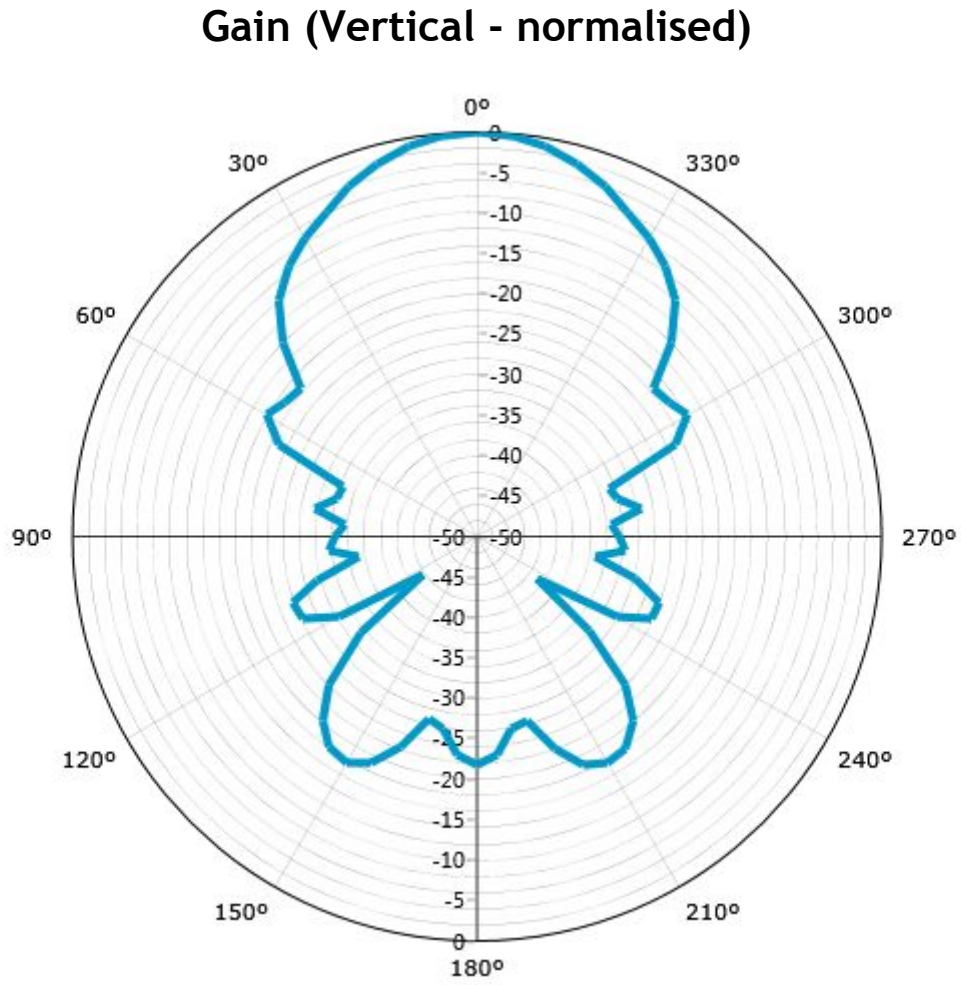
Far Field vs Angle @ f0



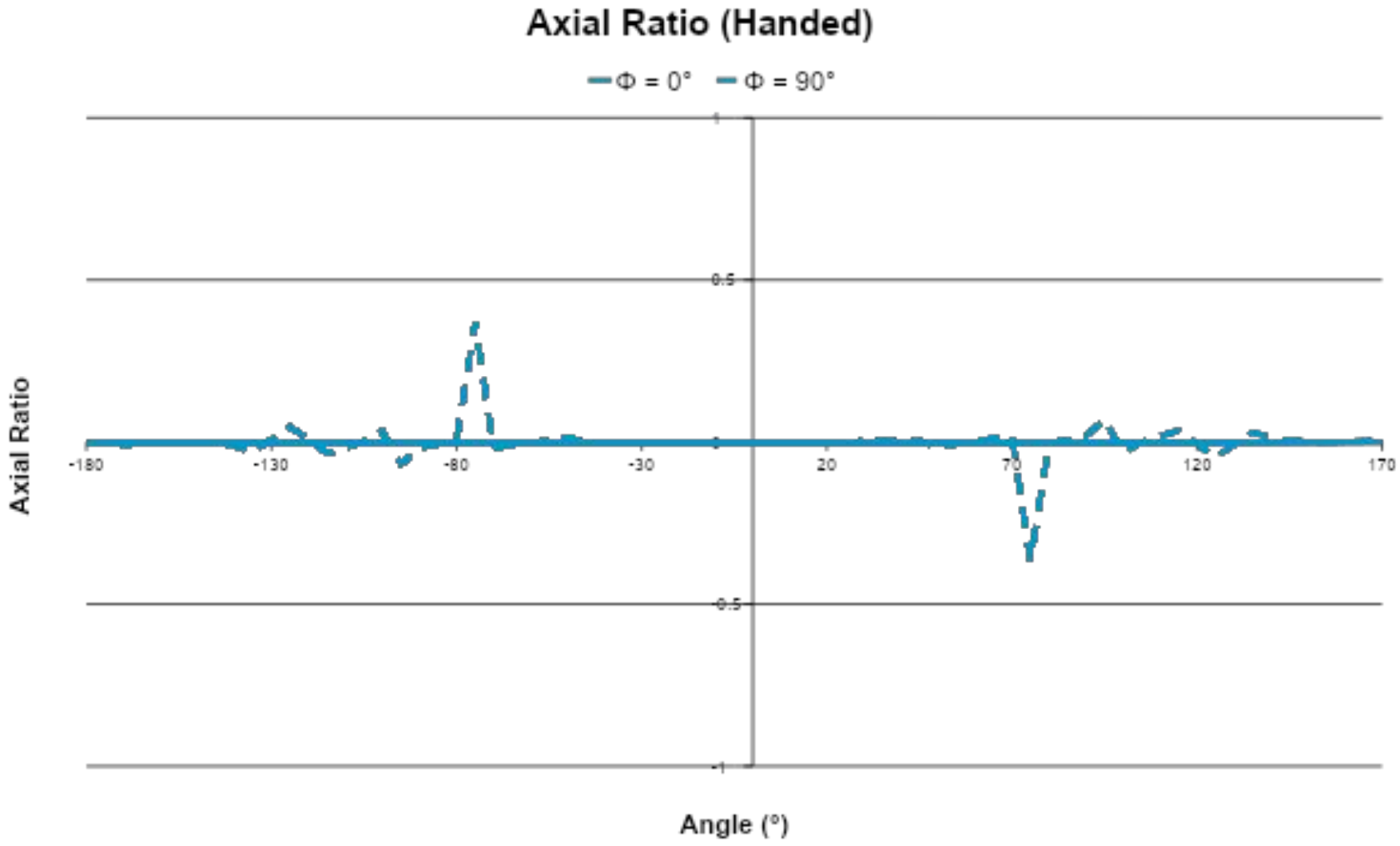
Far Field vs Angle @ f0



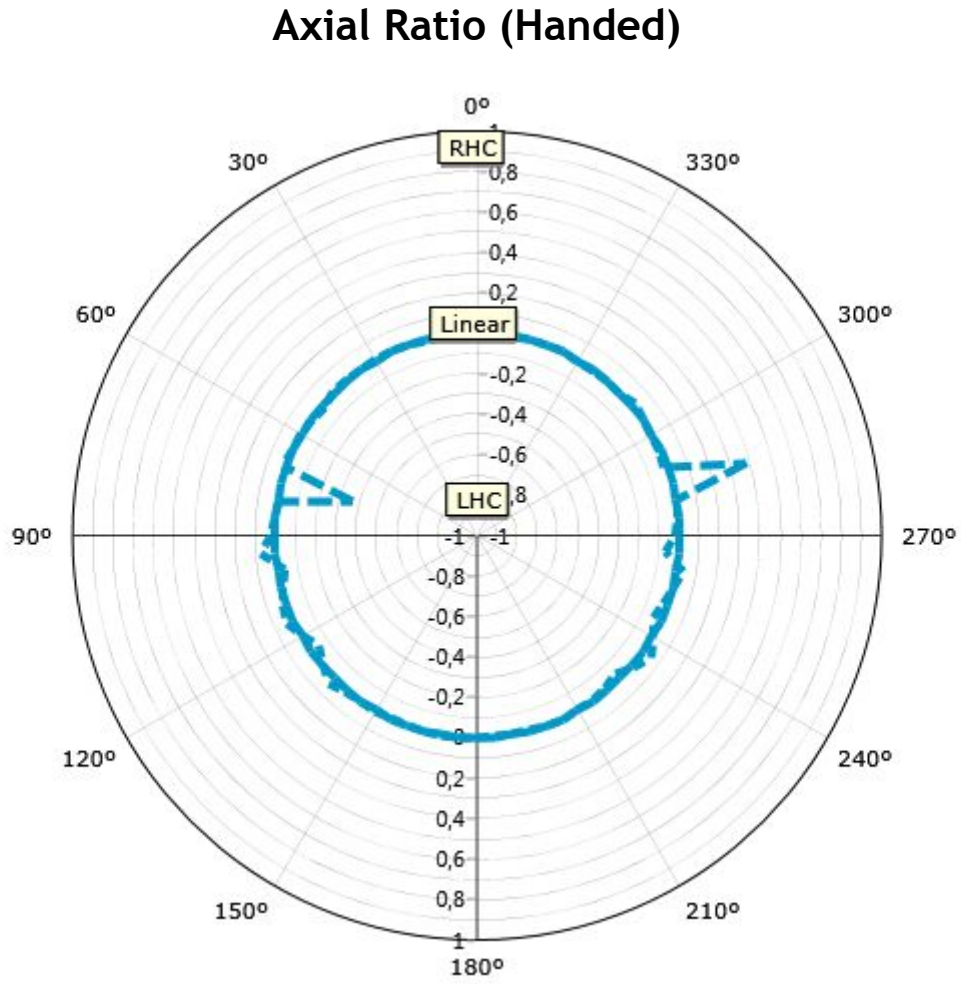
Far Field vs Angle @ f0



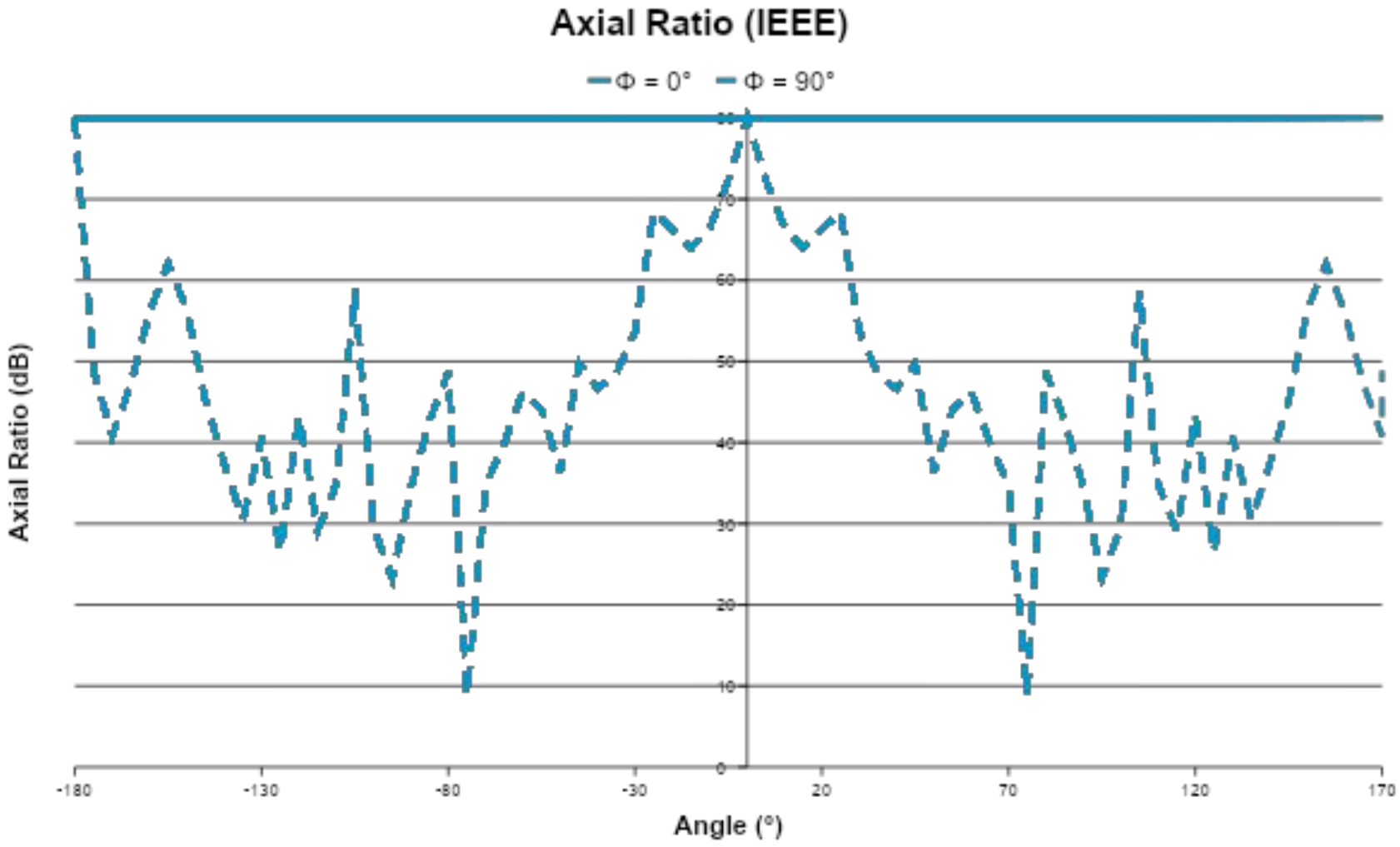
Far Field vs Angle @ f0



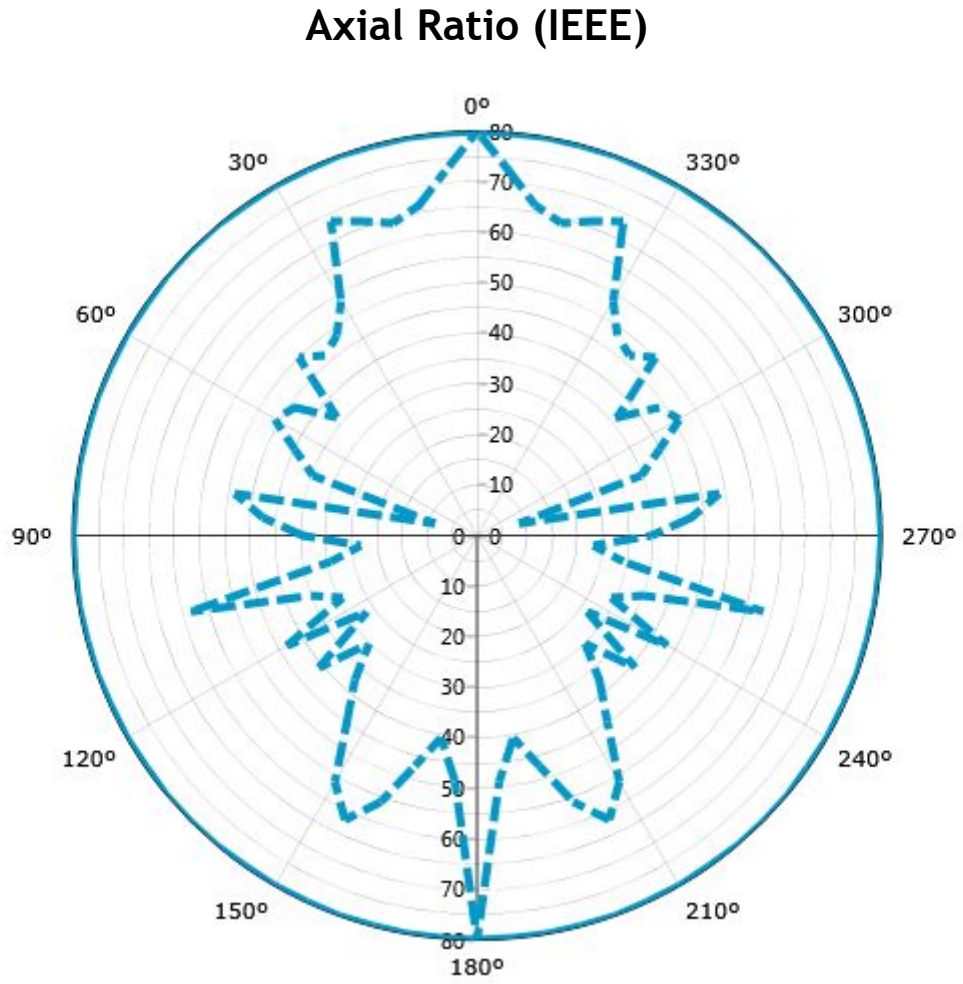
Far Field vs Angle @ f0



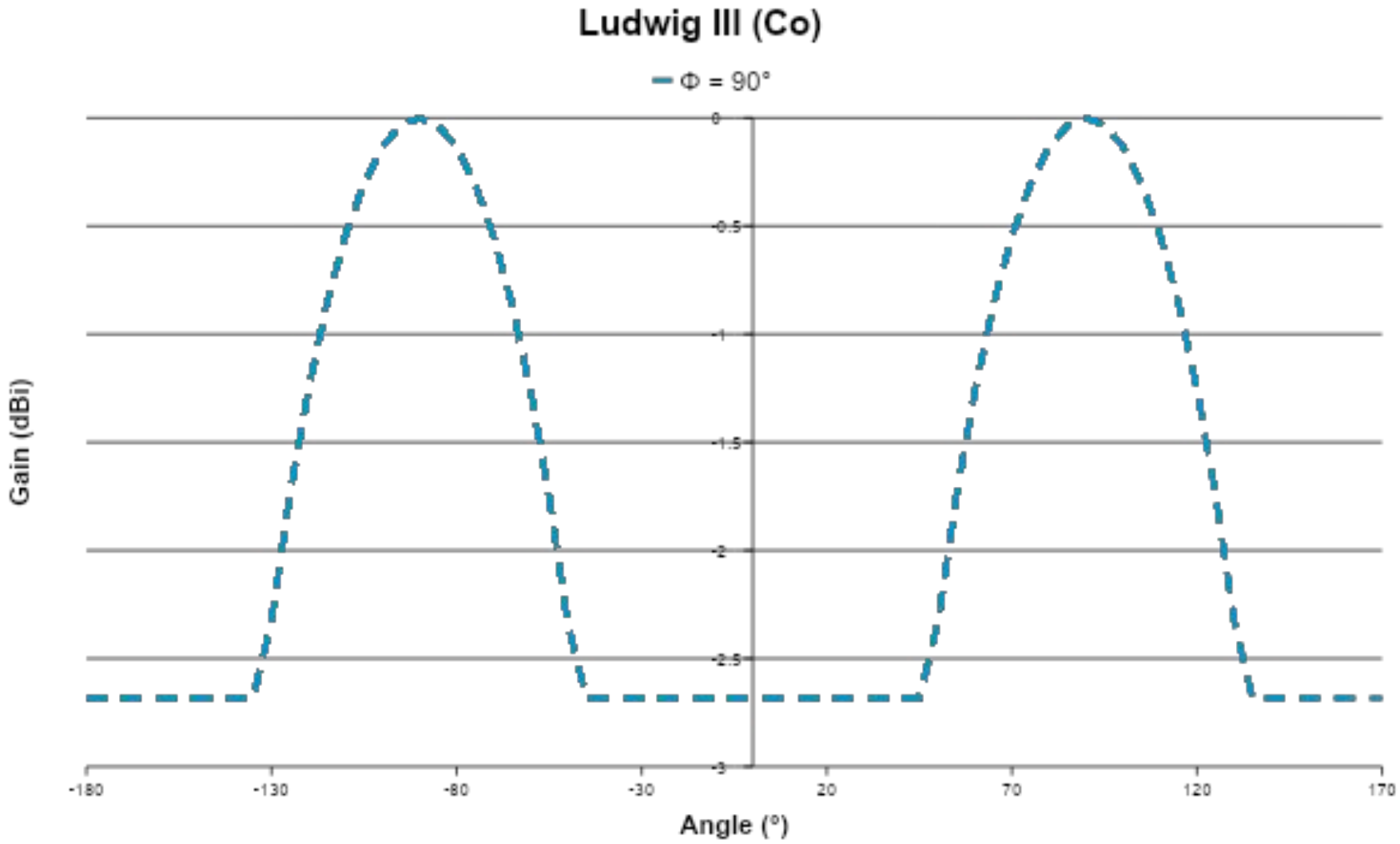
Far Field vs Angle @ f0



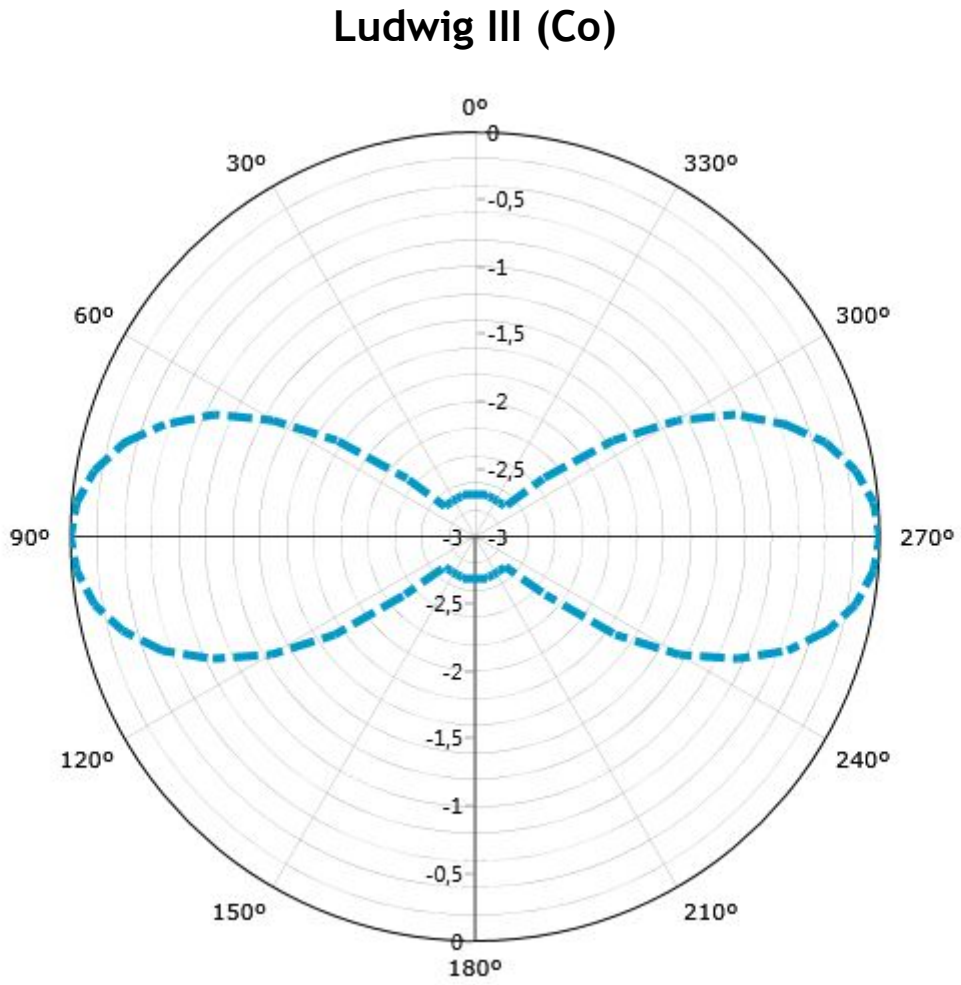
Far Field vs Angle @ f0



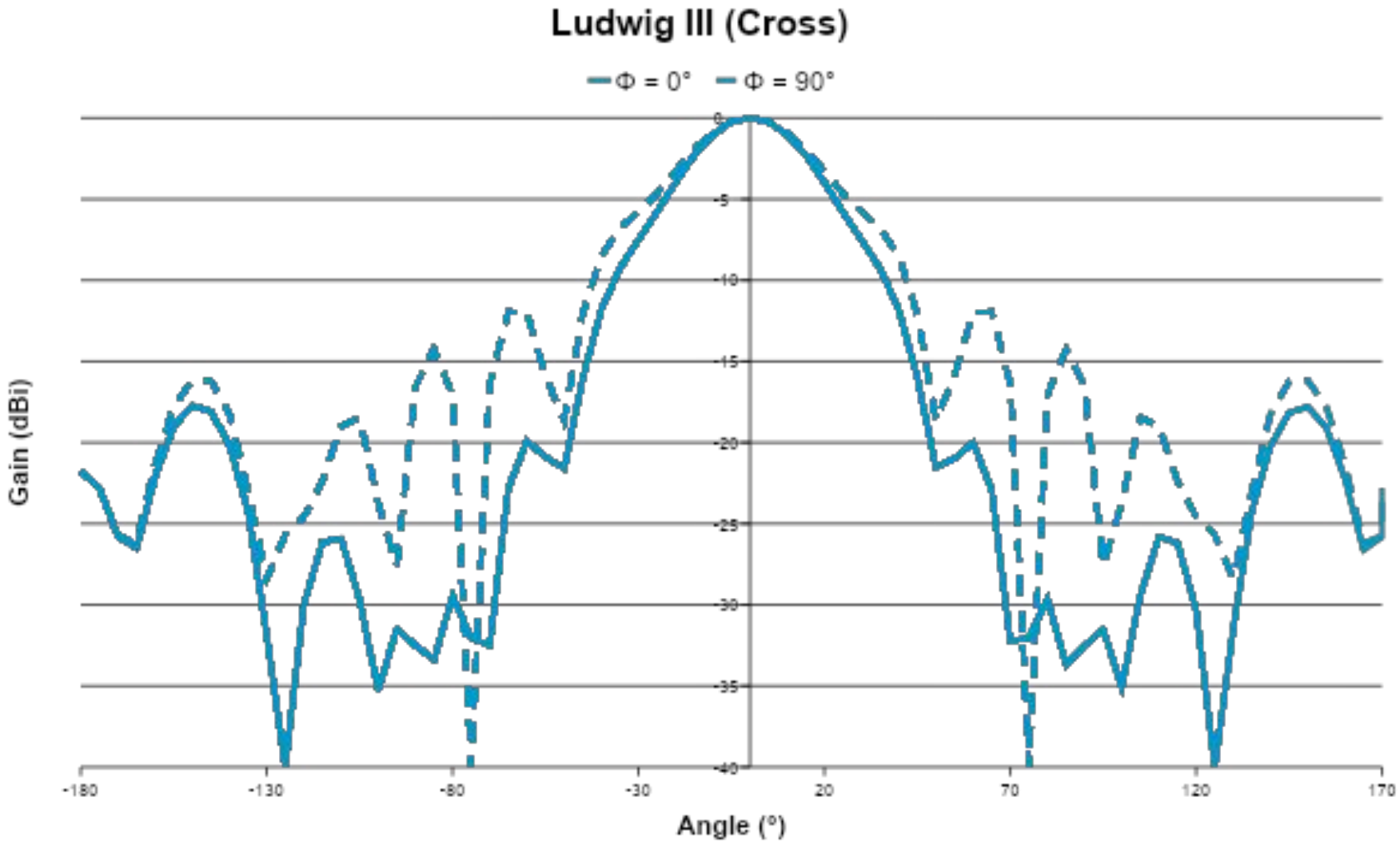
Far Field vs Angle @ f0



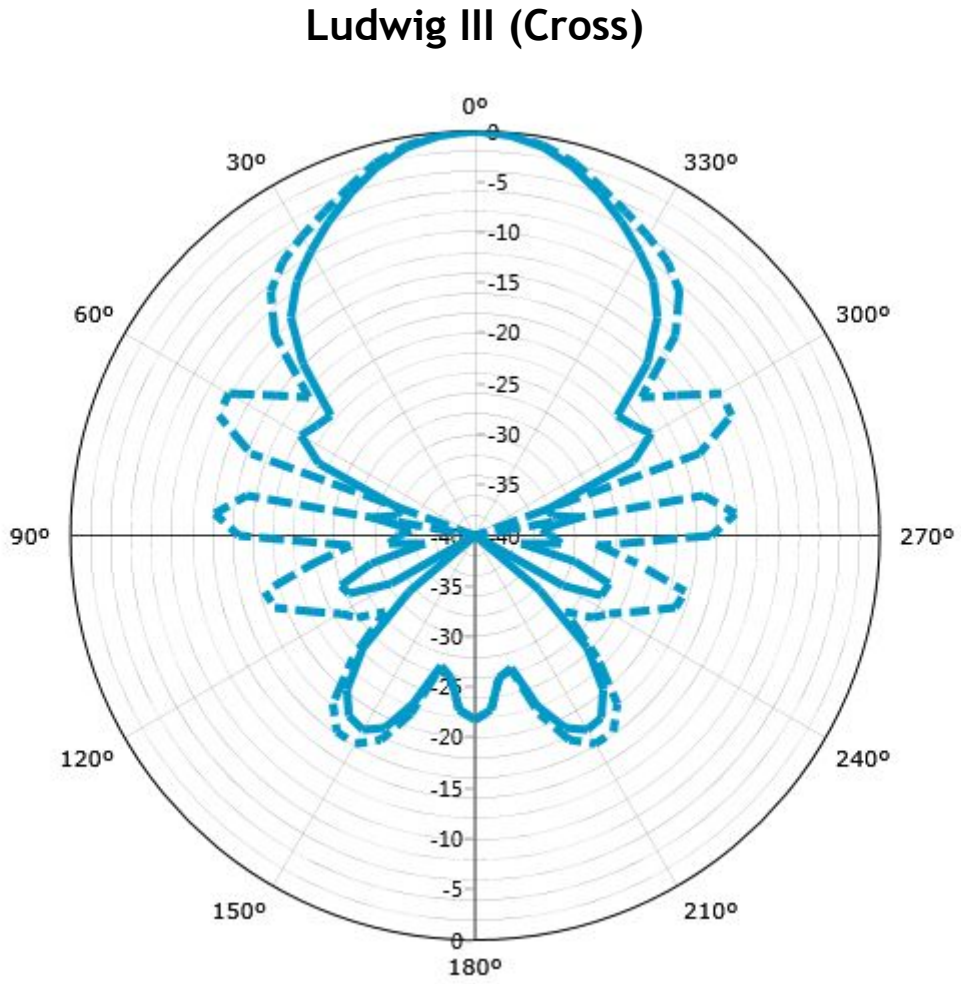
Far Field vs Angle @ f0



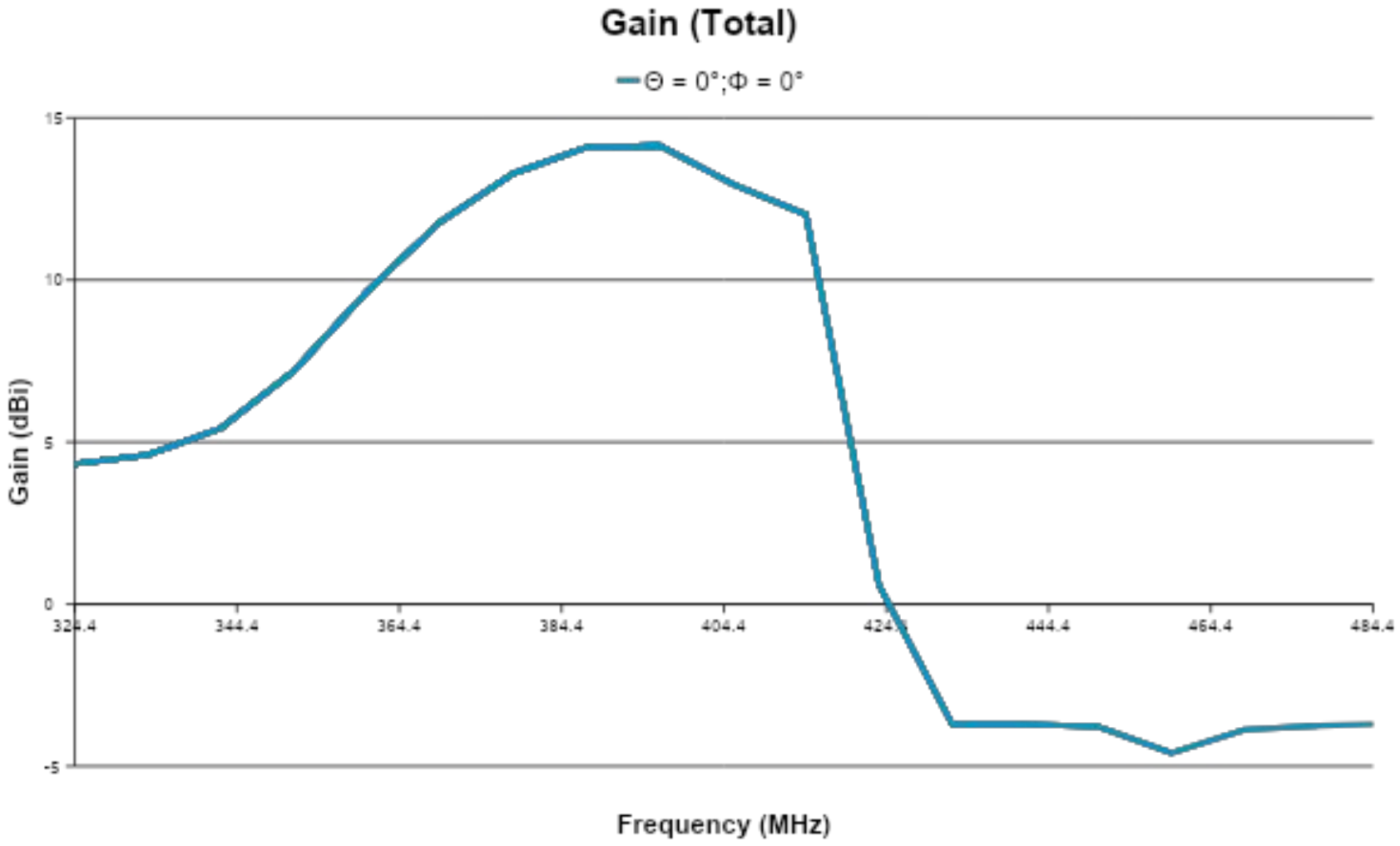
Far Field vs Angle @ f0



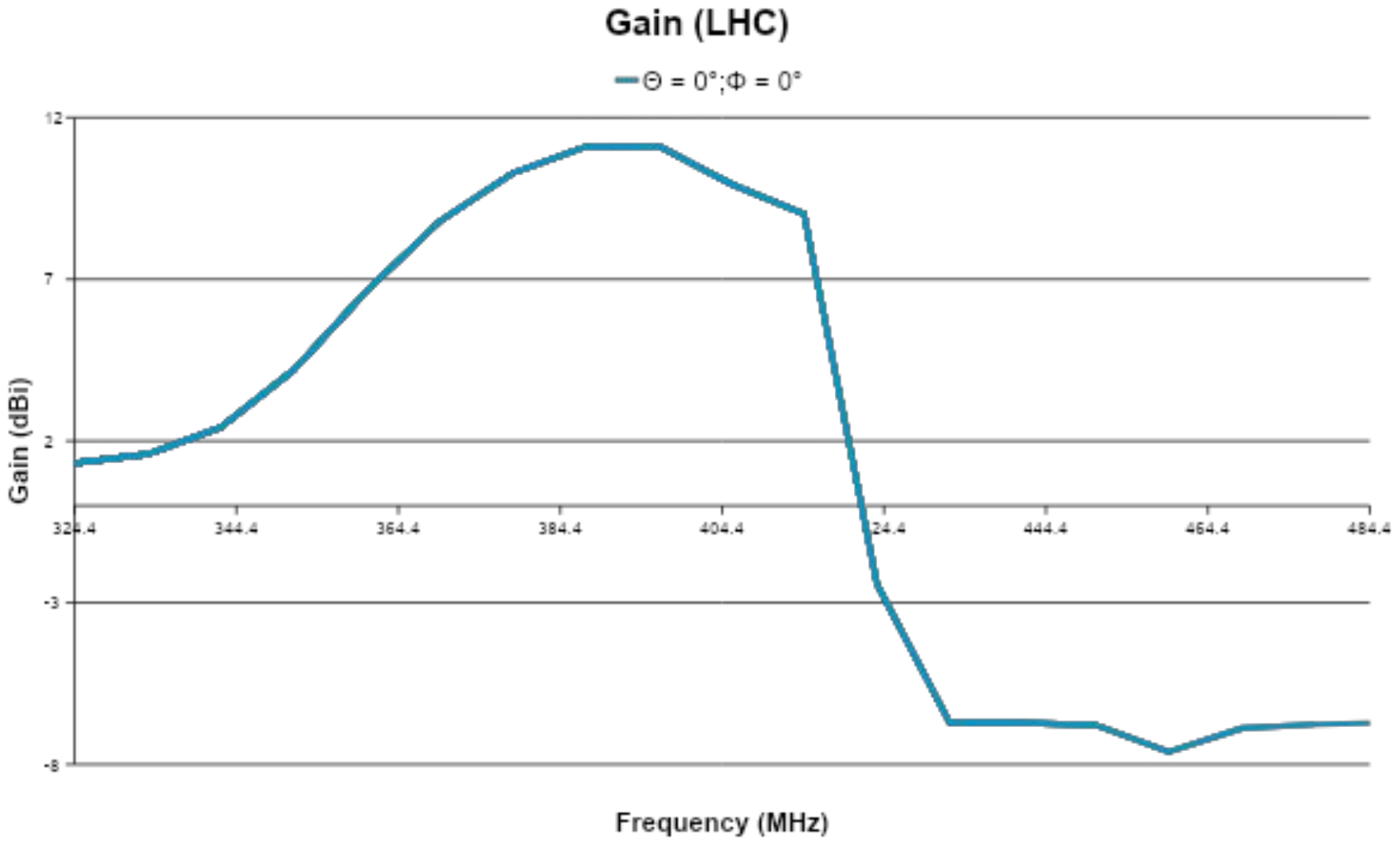
Far Field vs Angle @ f0



Far Field vs Frequency



Far Field vs Frequency



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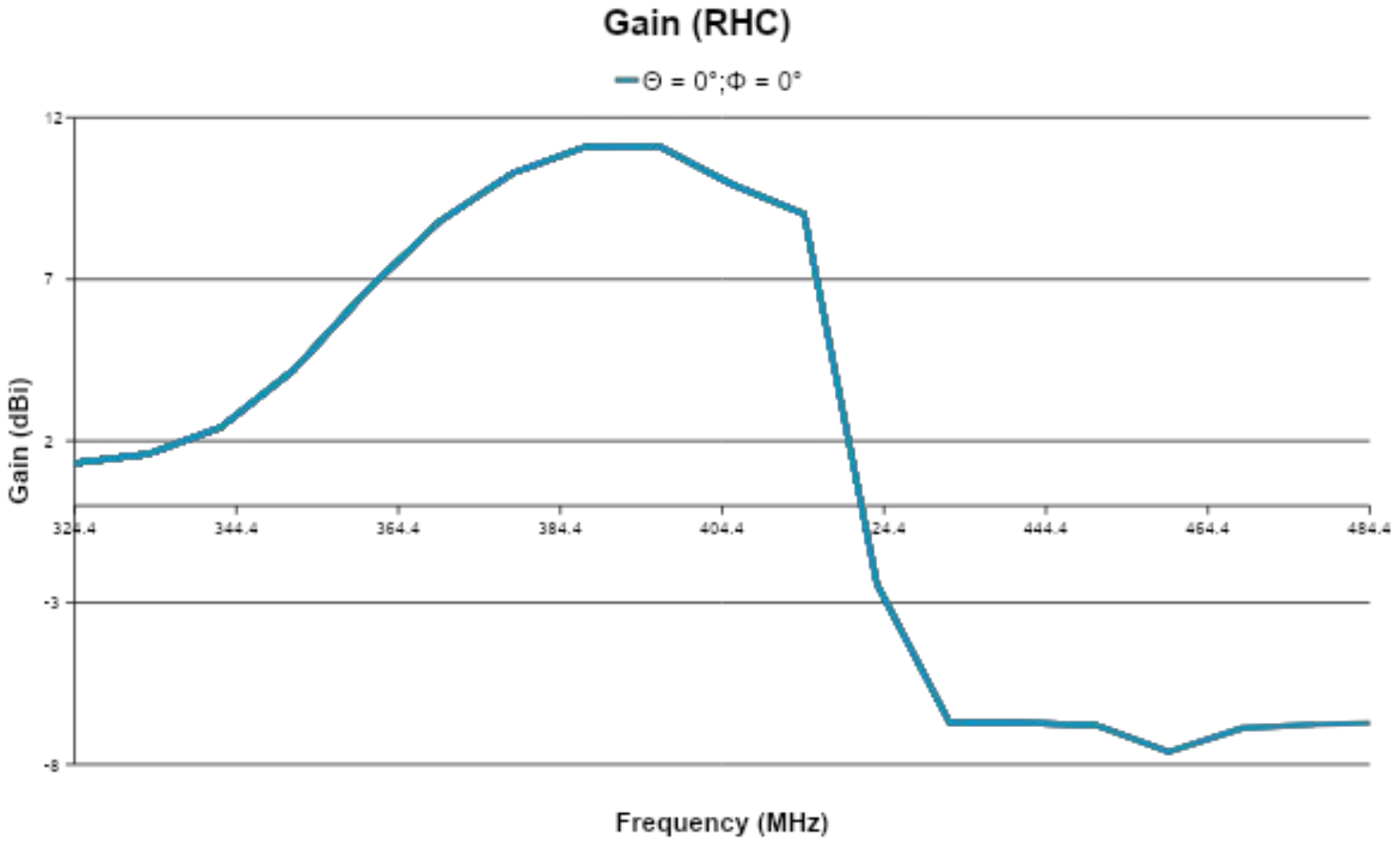

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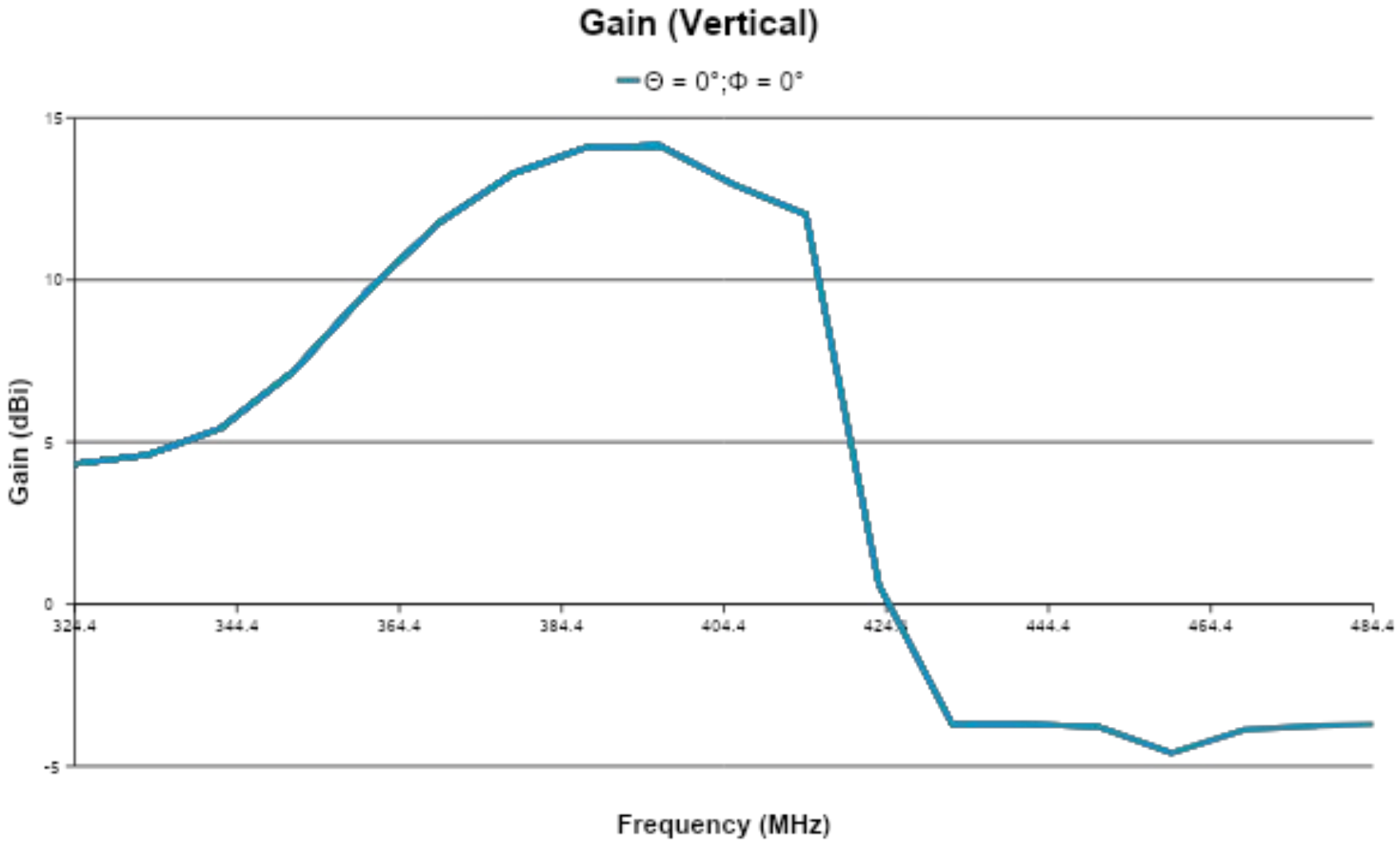

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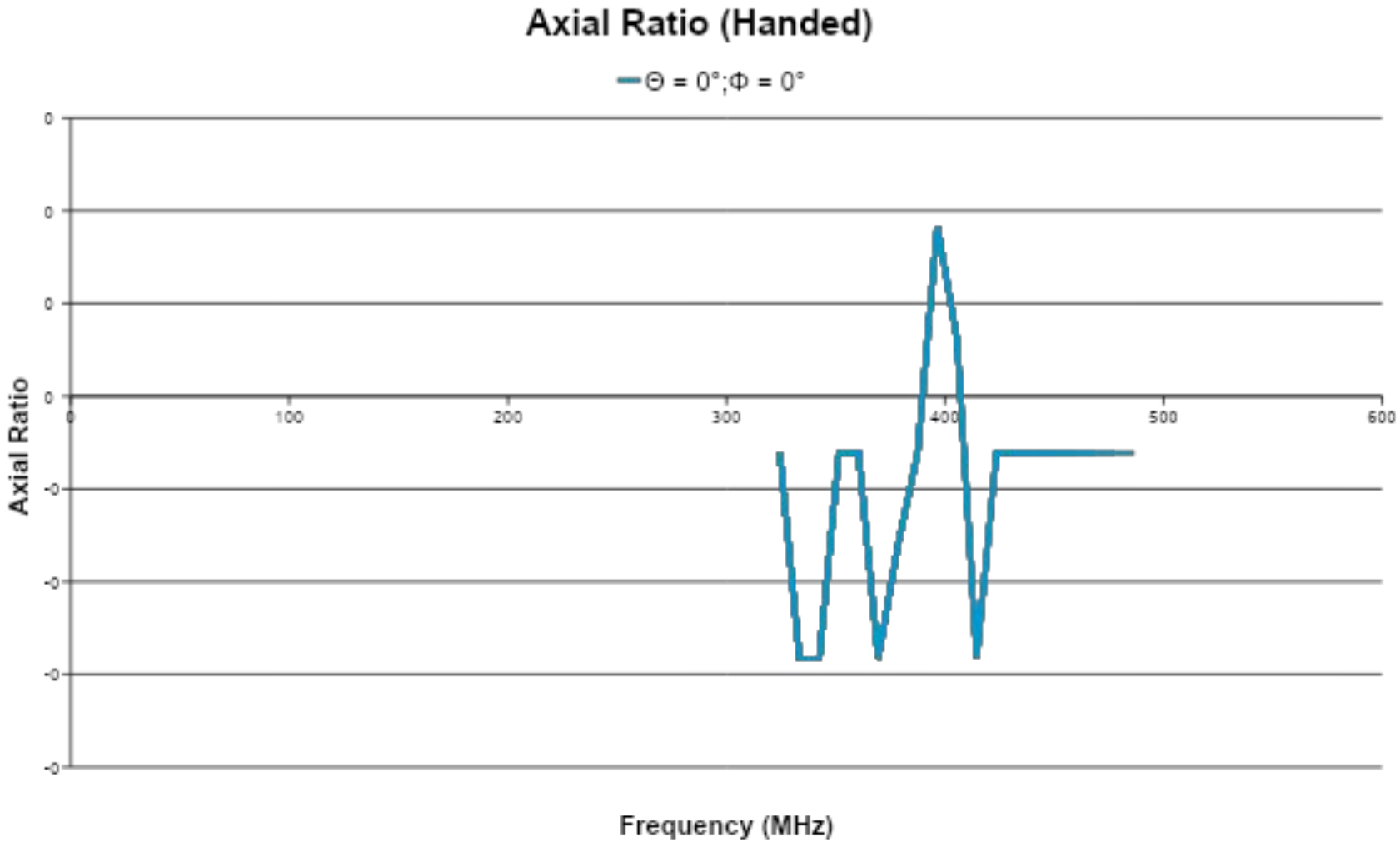
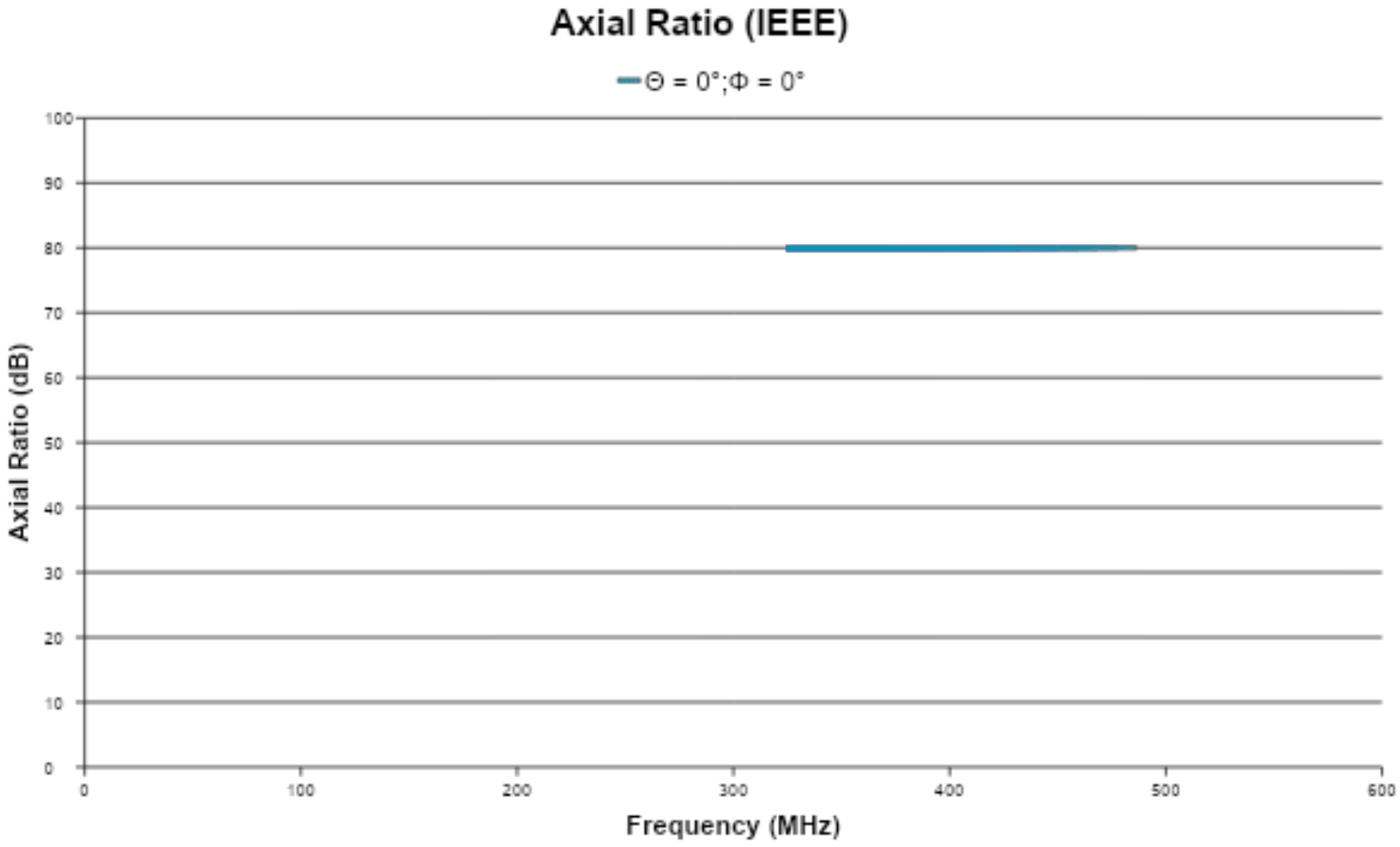


Far Field vs Frequency



Far Field vs Frequency