

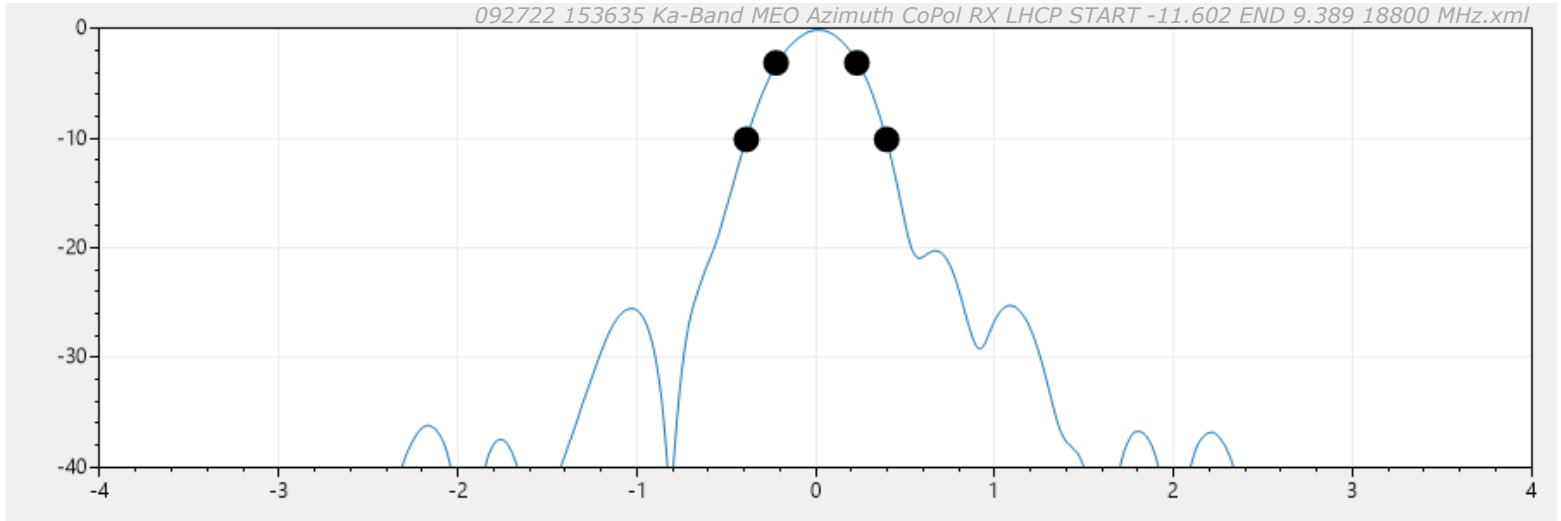
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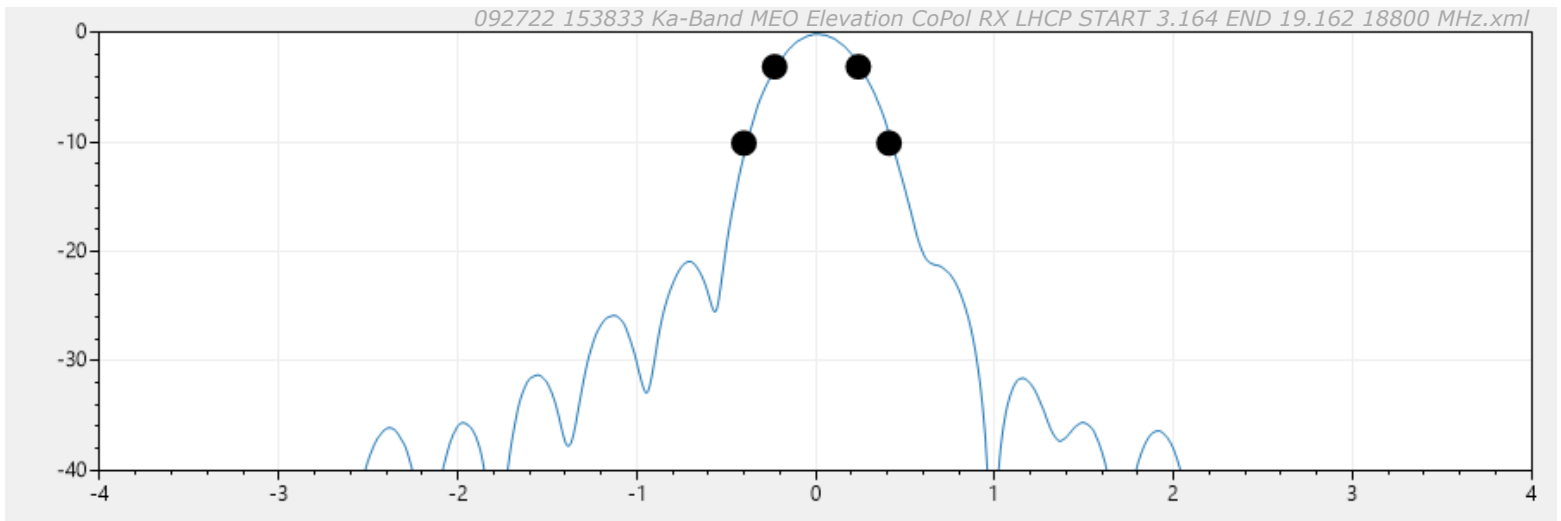
Gain by Beamwidth

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 50.800
Calculated Gain (dBi): 51.624



Azimuth



Elevation

3 dB Factor: 37000	Test Frequency (GHz): 18.8	Azimuth 3 dB: 0.452°
10 dB Factor: 107000	Band: Receive	Azimuth 10 dB: 0.784°
Dish RMS (in): 0.01	Polarization: LHCP	Elevation 3 dB: 0.468°
Feed Loss (dB): 0.55	Surface RMS Loss (dB): 0.174	Elevation 10 dB: 0.811°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (52.348)) - Feed Loss (0.55) - Surface RMS Loss (0.174)

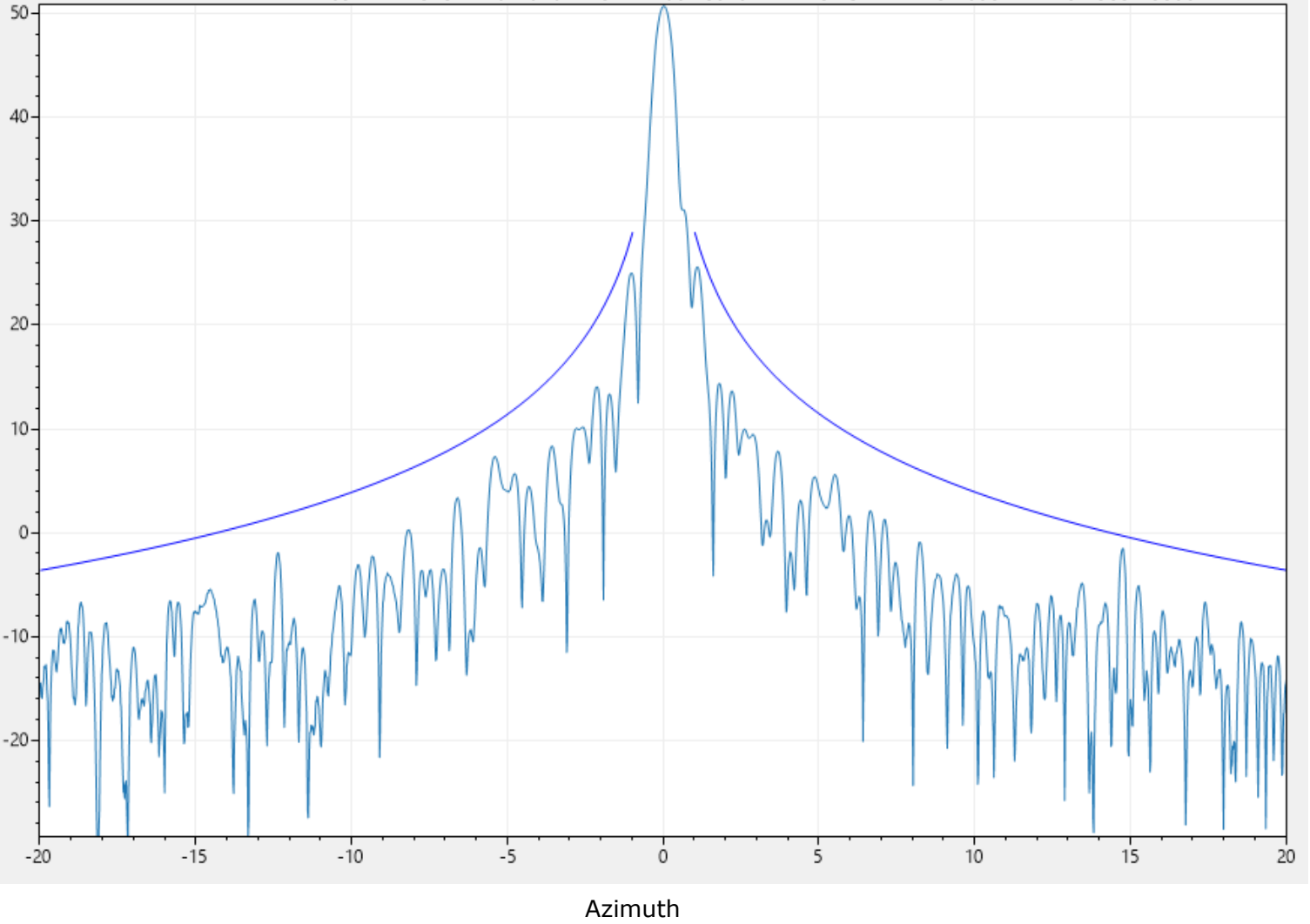
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 154312 Ka-Band MEO Azimuth CoPol RX LHCP START -181.608 END 182.385 18800 MHz.xml



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

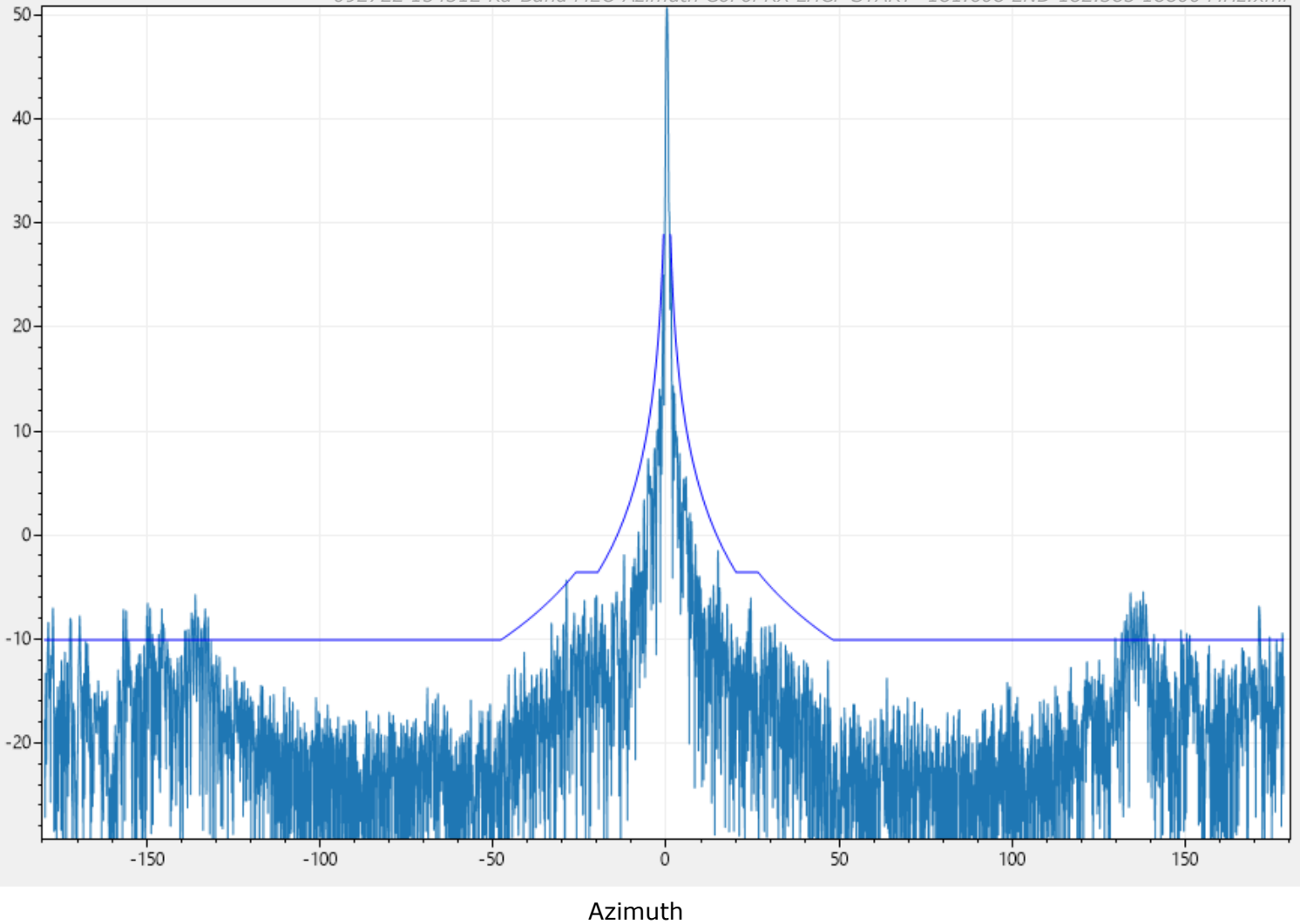
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 154312 Ka-Band MEO Azimuth CoPol RX LHCP START -181.608 END 182.385 18800 MHz.xml



Gain (dBi): 50.8
Sidelobes Over Curve: 3.02%

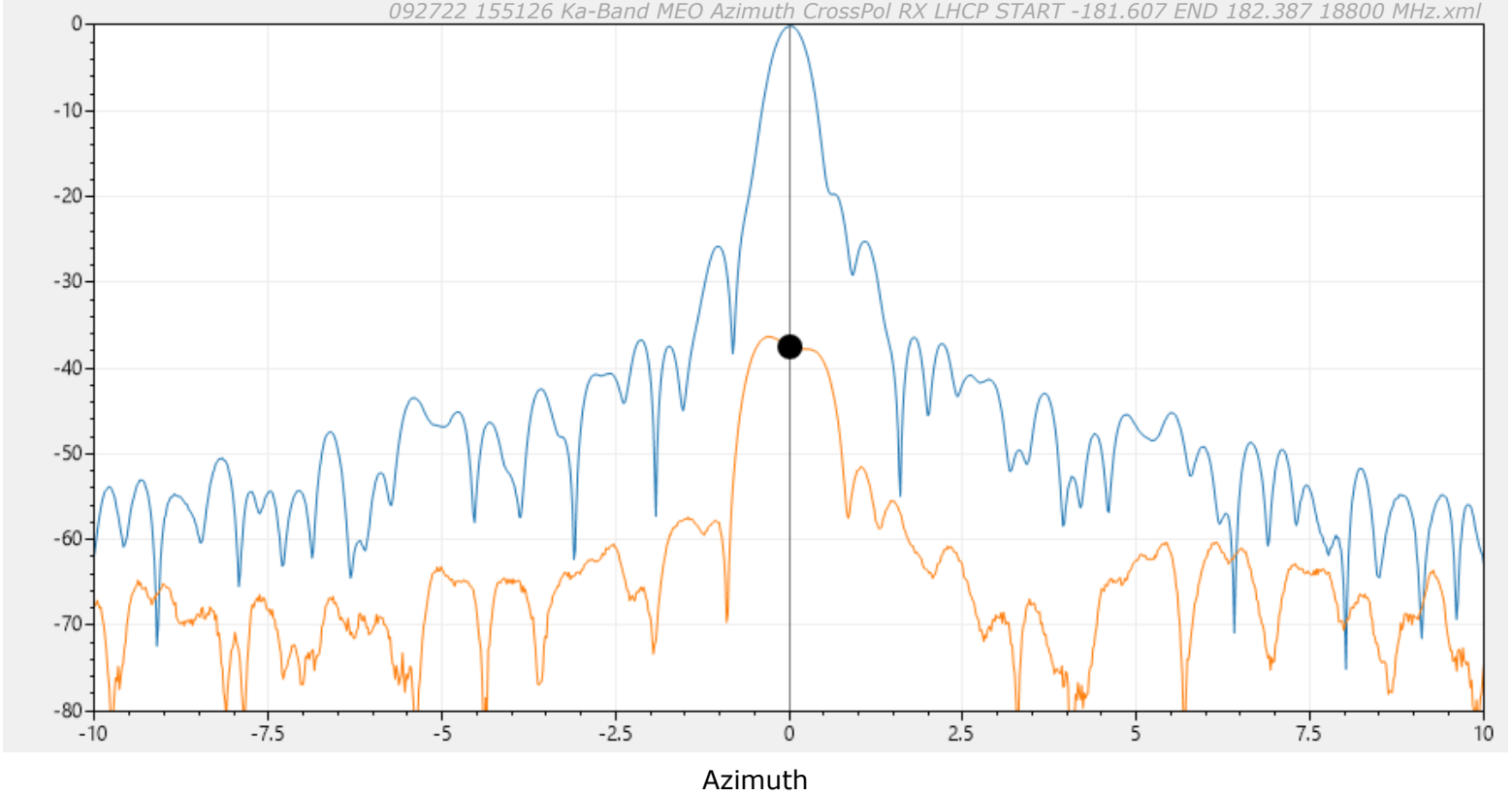
Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 37.4
Spec Cross-Pol (dB): 30.0

092722 154312 Ka-Band MEO Azimuth CoPol RX LHCP START -181.608 END 182.385 18800 MHz.xml
092722 155126 Ka-Band MEO Azimuth CrossPol RX LHCP START -181.607 END 182.387 18800 MHz.xml

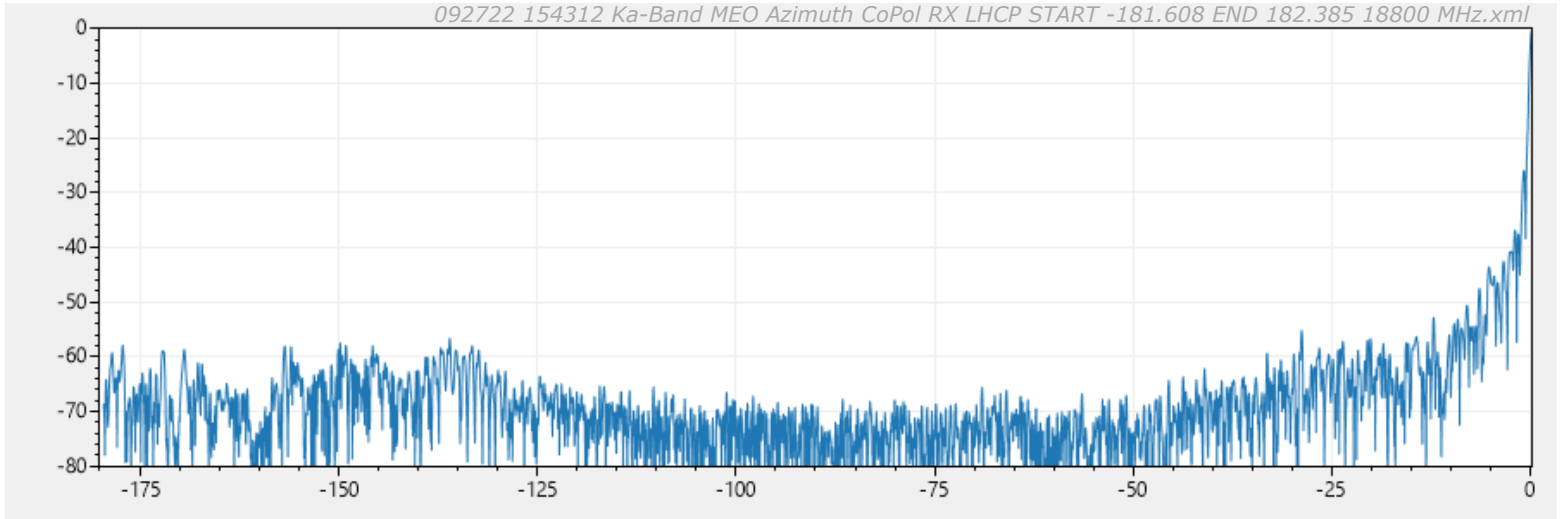


Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

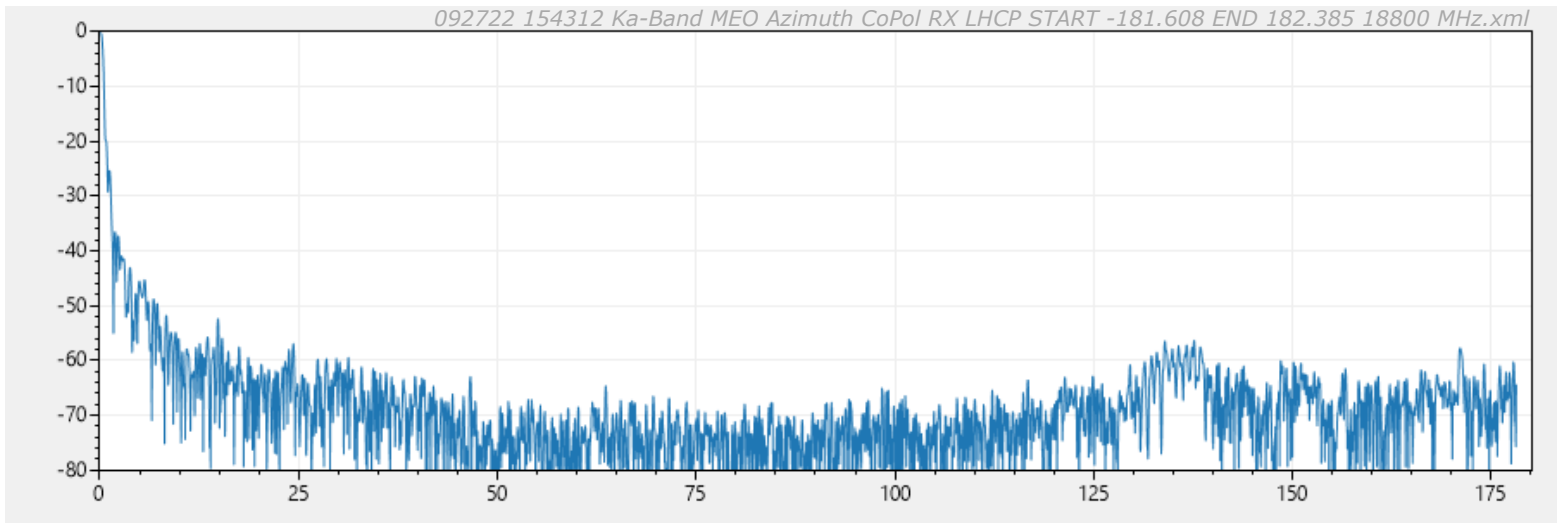
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

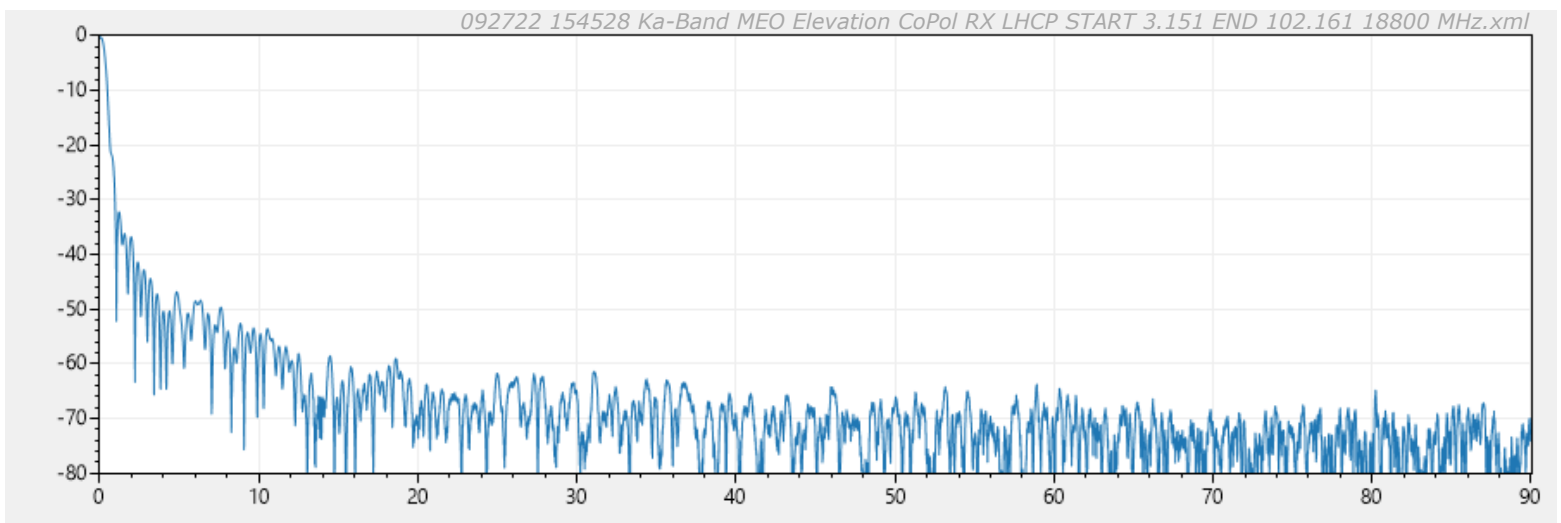
Specified Gain (dBi): 50.800
Calculated Gain (dBi): 51.545
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



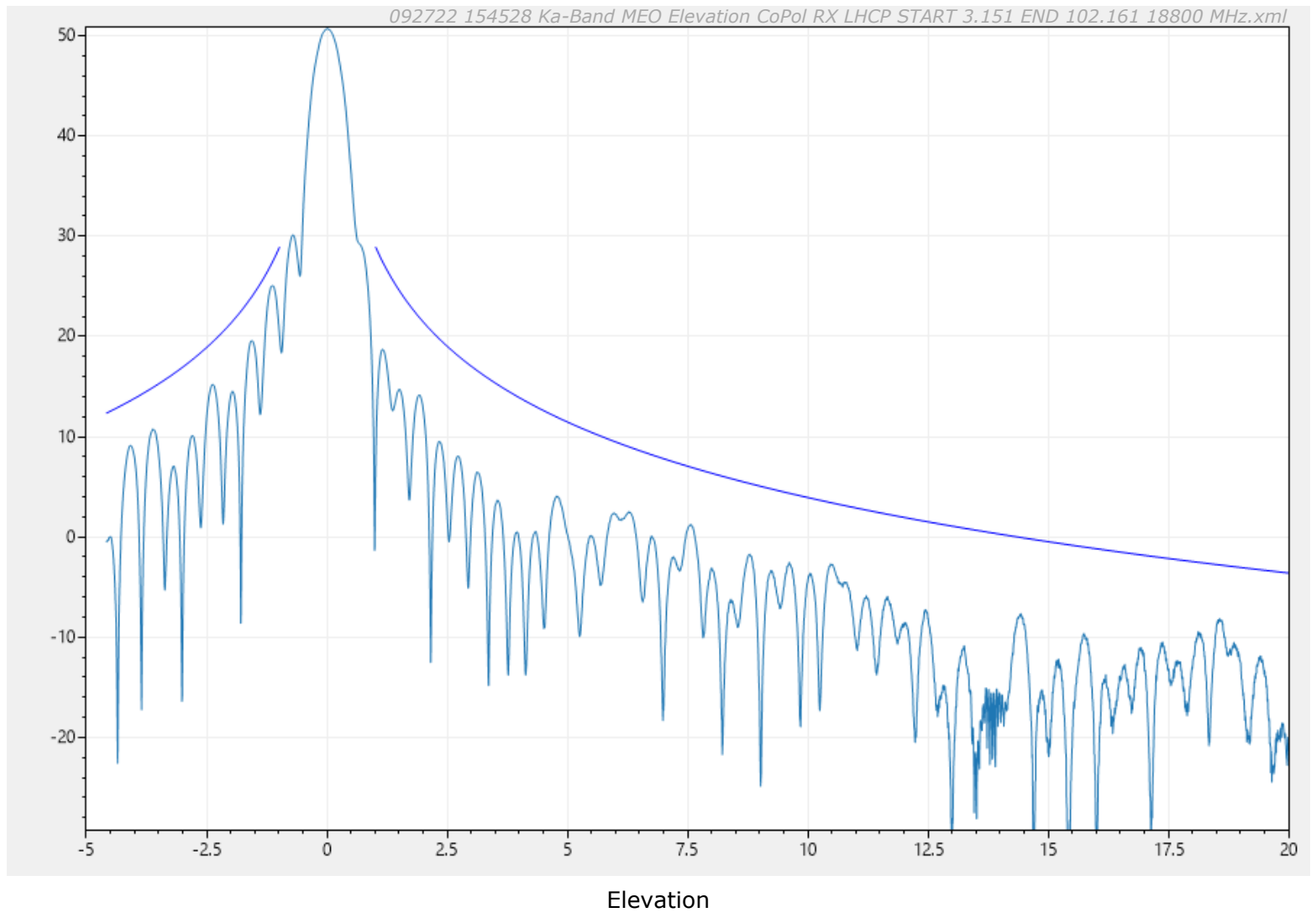
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

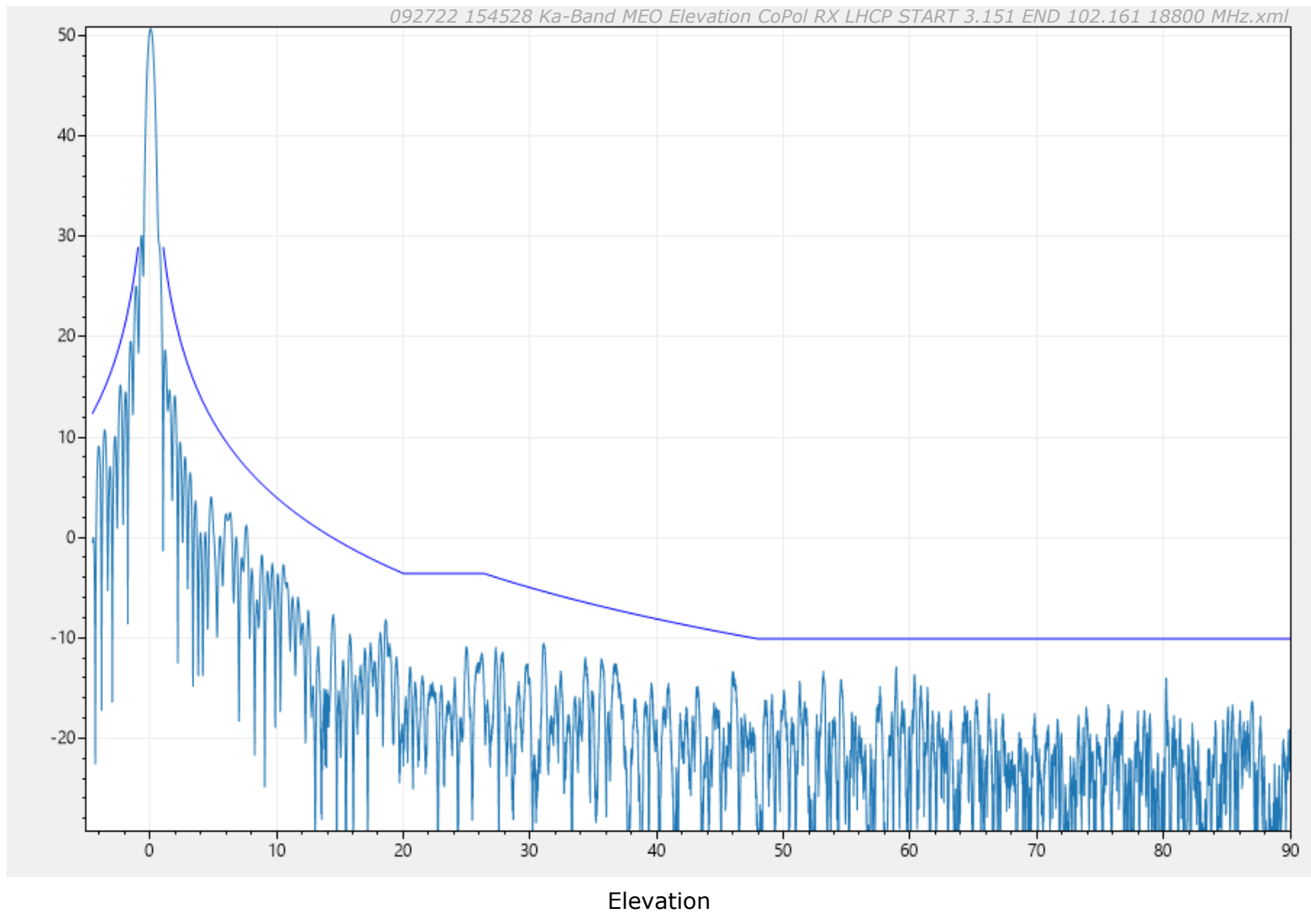
Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

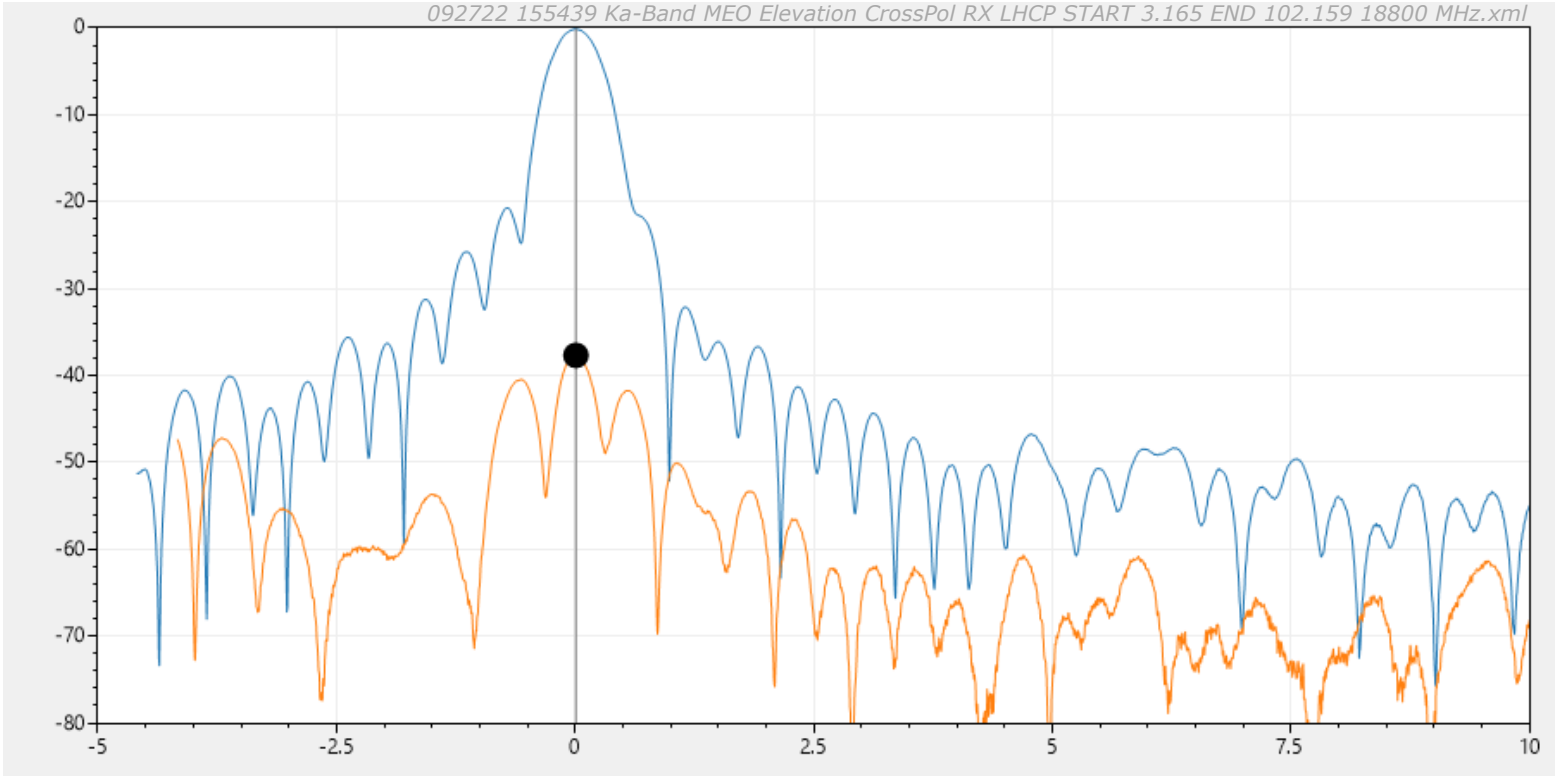
Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 37.6
Spec Cross-Pol (dB): 30.0

092722 154528 Ka-Band MEO Elevation CoPol RX LHCP START 3.151 END 102.161 18800 MHz.xml
092722 155439 Ka-Band MEO Elevation CrossPol RX LHCP START 3.165 END 102.159 18800 MHz.xml



Elevation

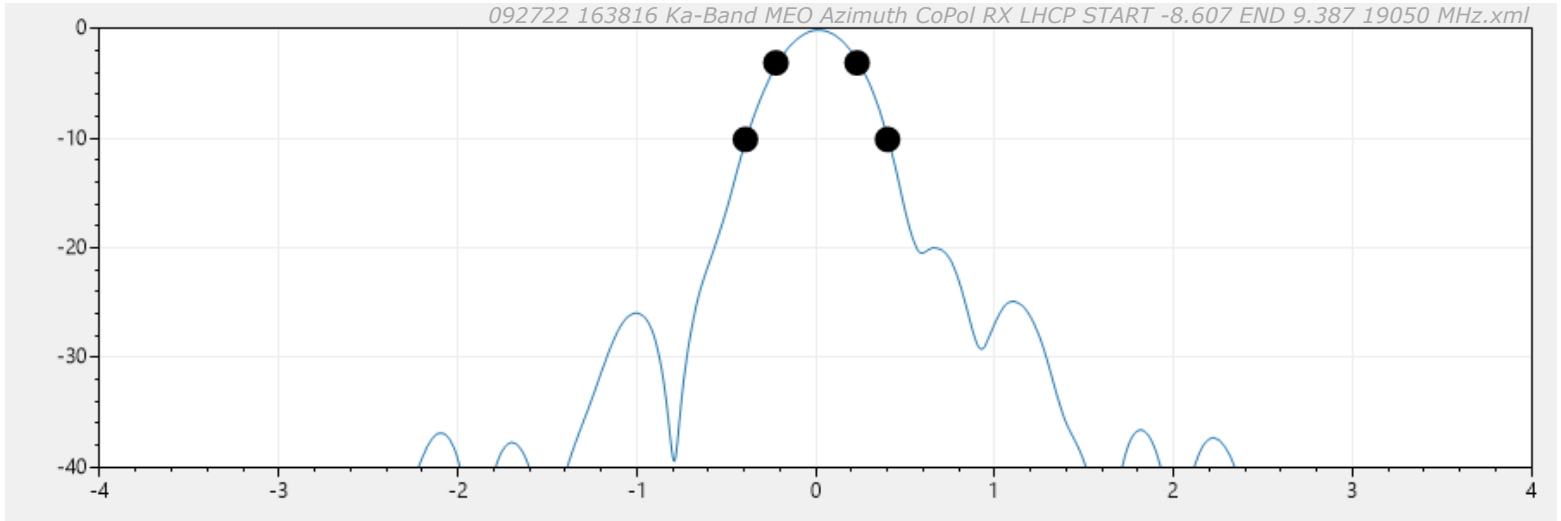
Test Frequency (GHz): 18.8
Band: Receive
Polarization: LHCP

Gain by Beamwidth

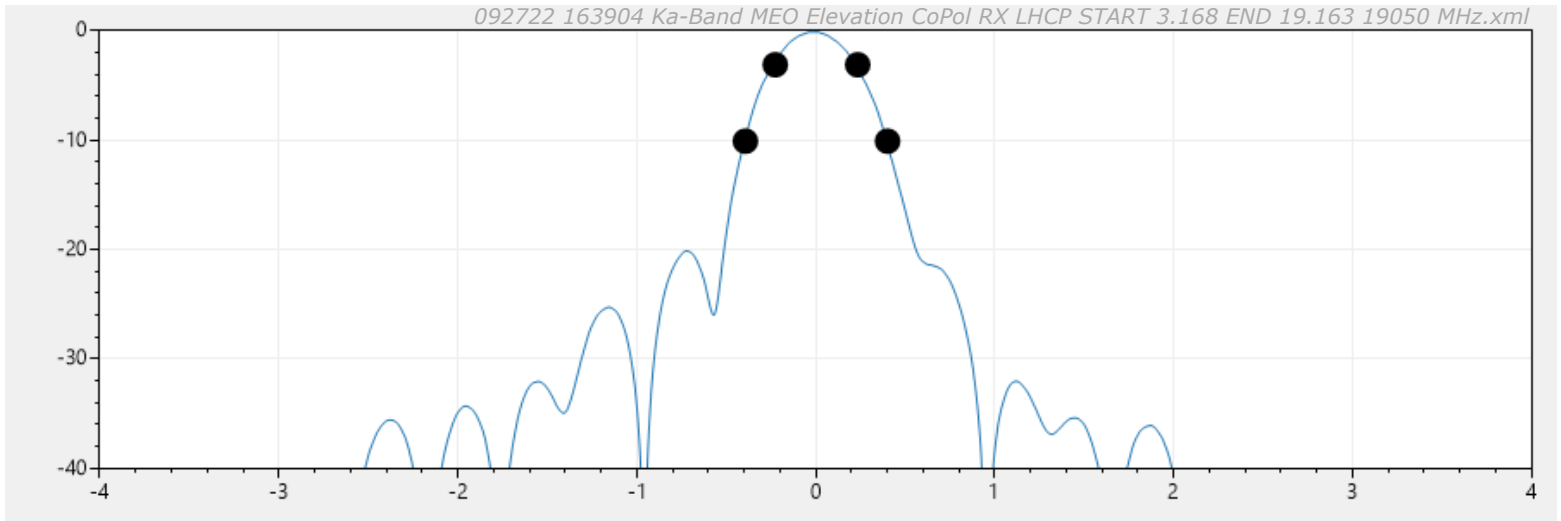
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 50.900

Calculated Gain (dBi): 51.655



Azimuth



Elevation

3 dB Factor: 37000
10 dB Factor: 107000
Dish RMS (in): 0.01
Feed Loss (dB): 0.55

Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP
Surface RMS Loss (dB): 0.179

Azimuth 3 dB: 0.454°
Azimuth 10 dB: 0.794°
Elevation 3 dB: 0.461°
Elevation 10 dB: 0.794°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (52.384)) - Feed Loss (0.55) - Surface RMS Loss (0.179)

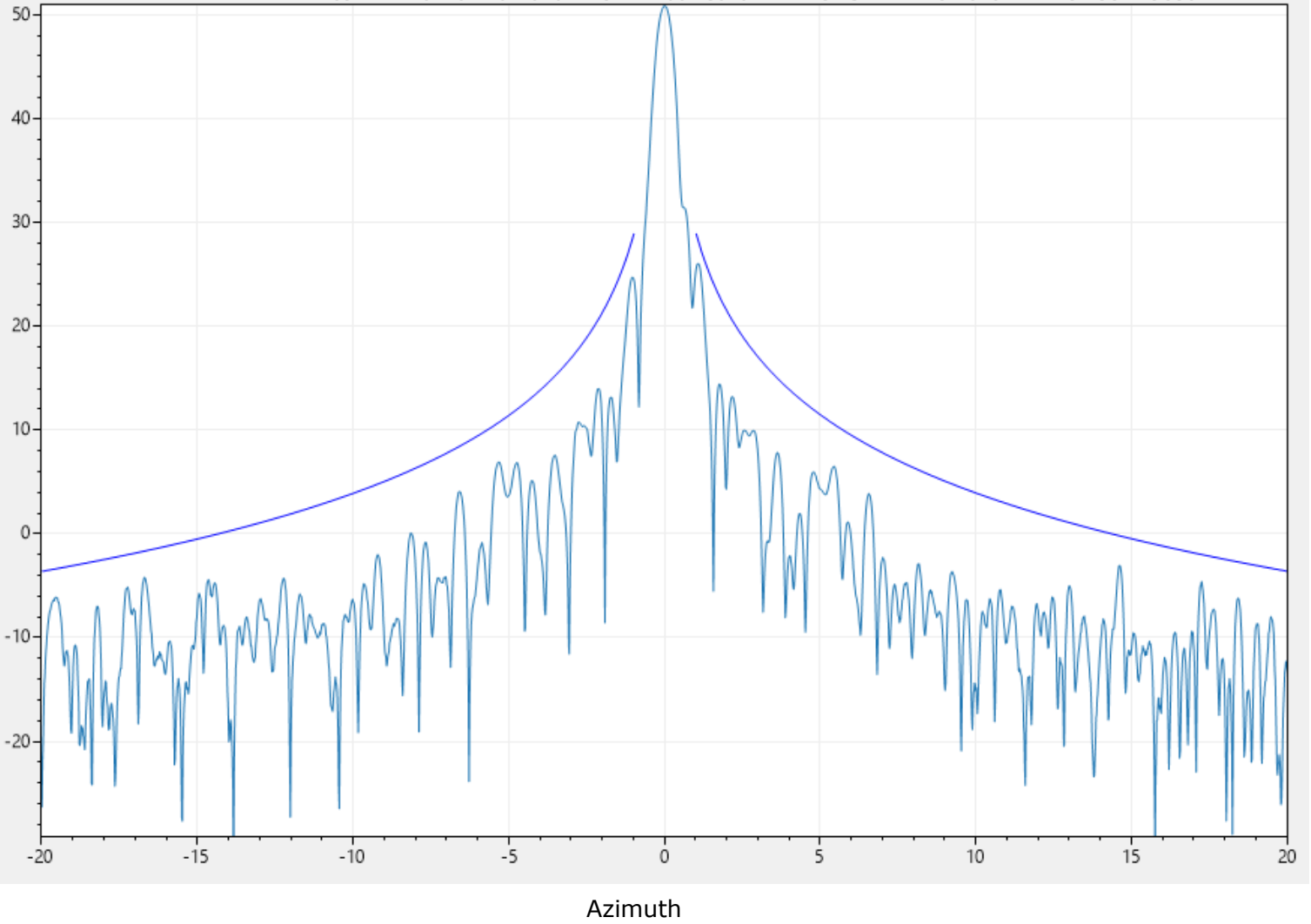
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 164402 Ka-Band MEO Azimuth CoPol RX LHCP START -181.610 END 182.384 19050 MHz.xml



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

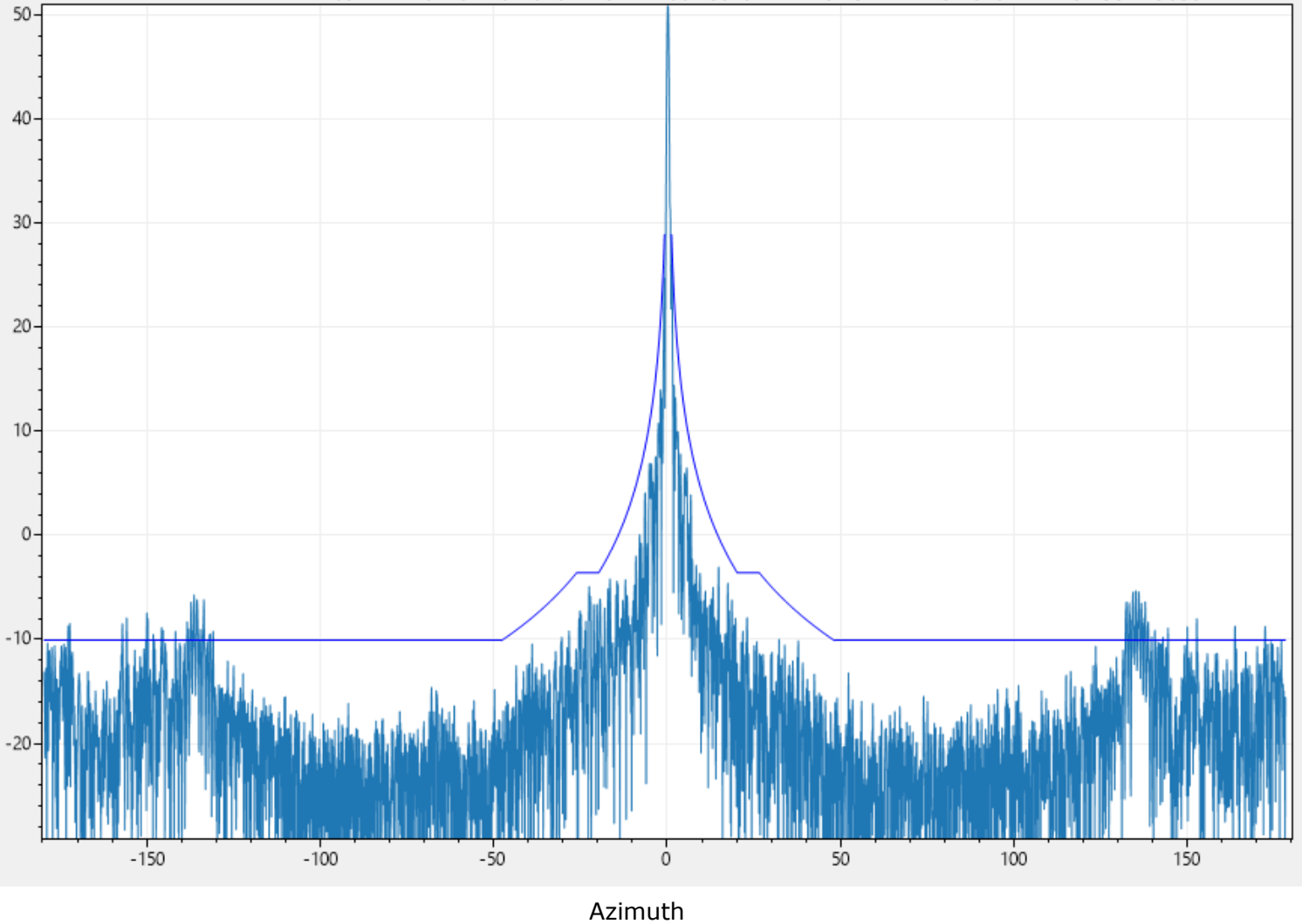
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 164402 Ka-Band MEO Azimuth CoPol RX LHCP START -181.610 END 182.384 19050 MHz.xml



Gain (dBi): 50.9
Sidelobes Over Curve: 2.52%

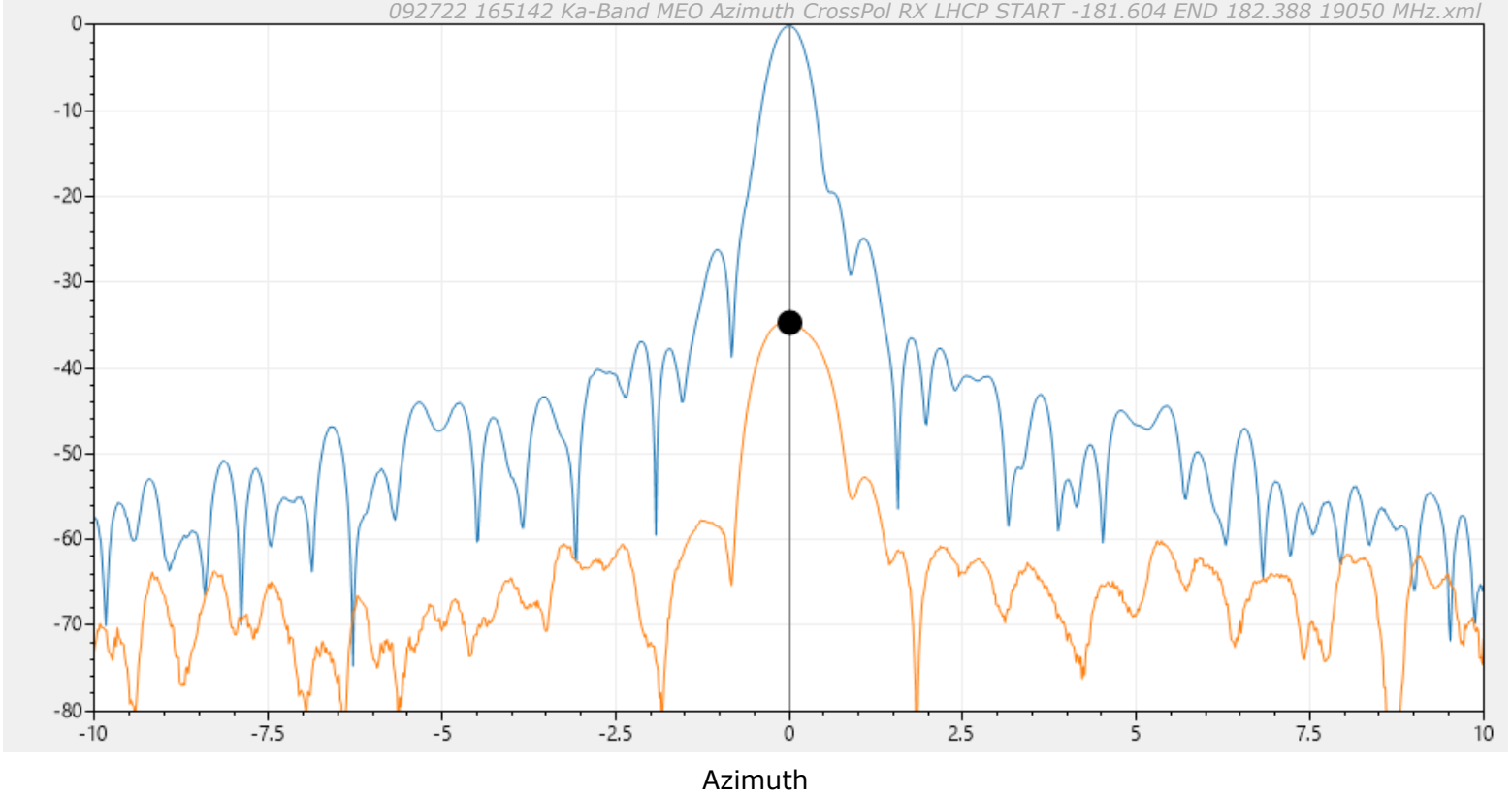
Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 34.6
Spec Cross-Pol (dB): 30.0

092722 164402 Ka-Band MEO Azimuth CoPol RX LHCP START -181.610 END 182.384 19050 MHz.xml
092722 165142 Ka-Band MEO Azimuth CrossPol RX LHCP START -181.604 END 182.388 19050 MHz.xml

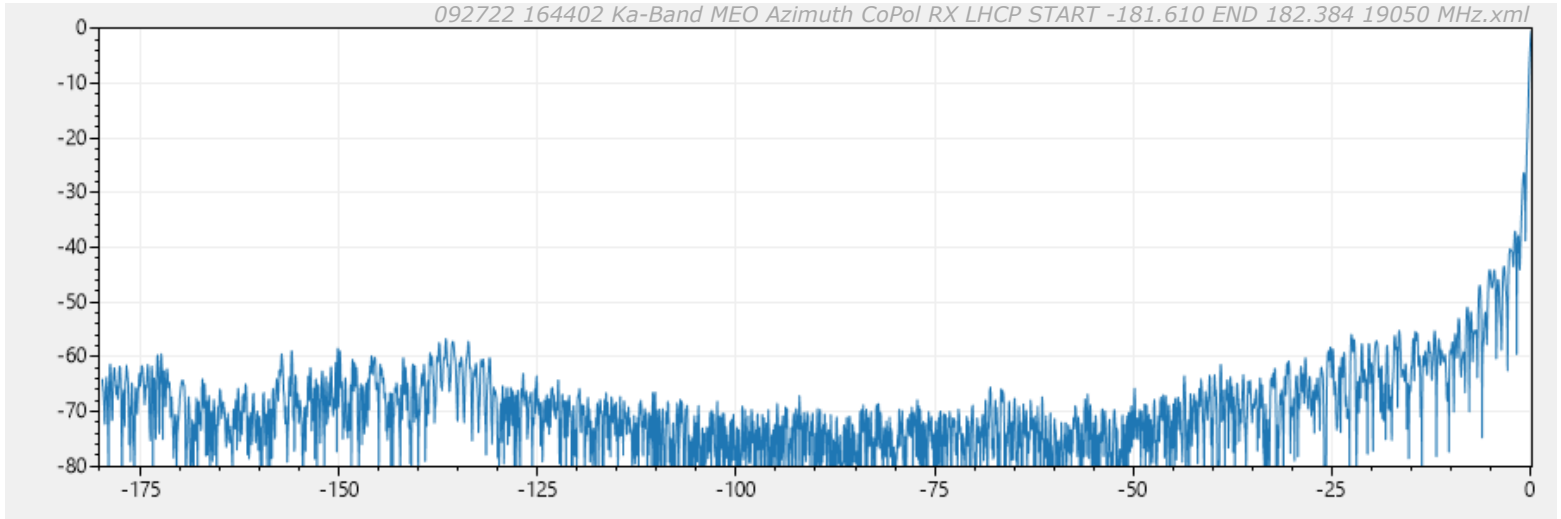


Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

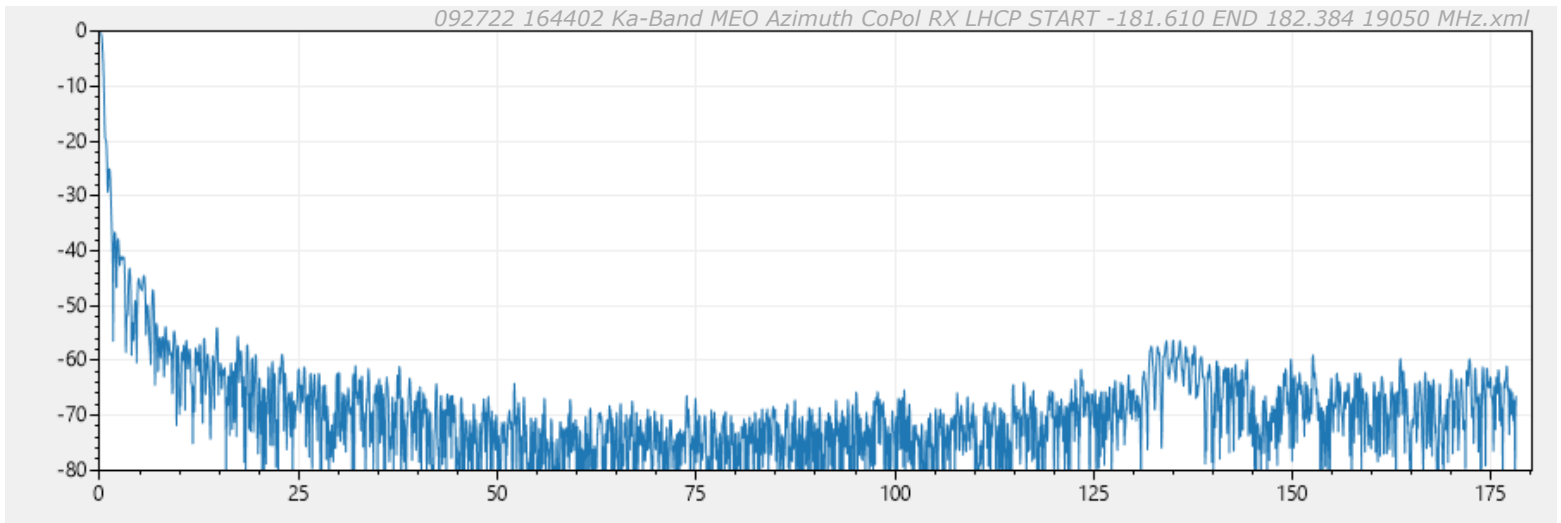
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

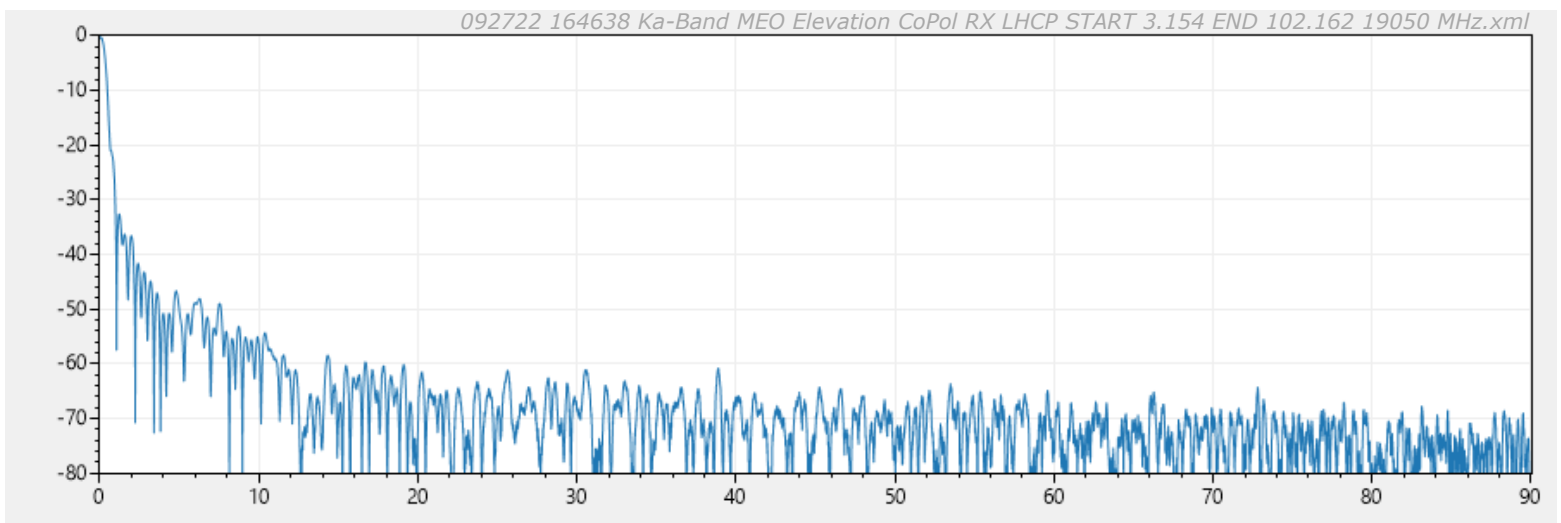
Specified Gain (dBi): 50.900
Calculated Gain (dBi): 51.537
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth

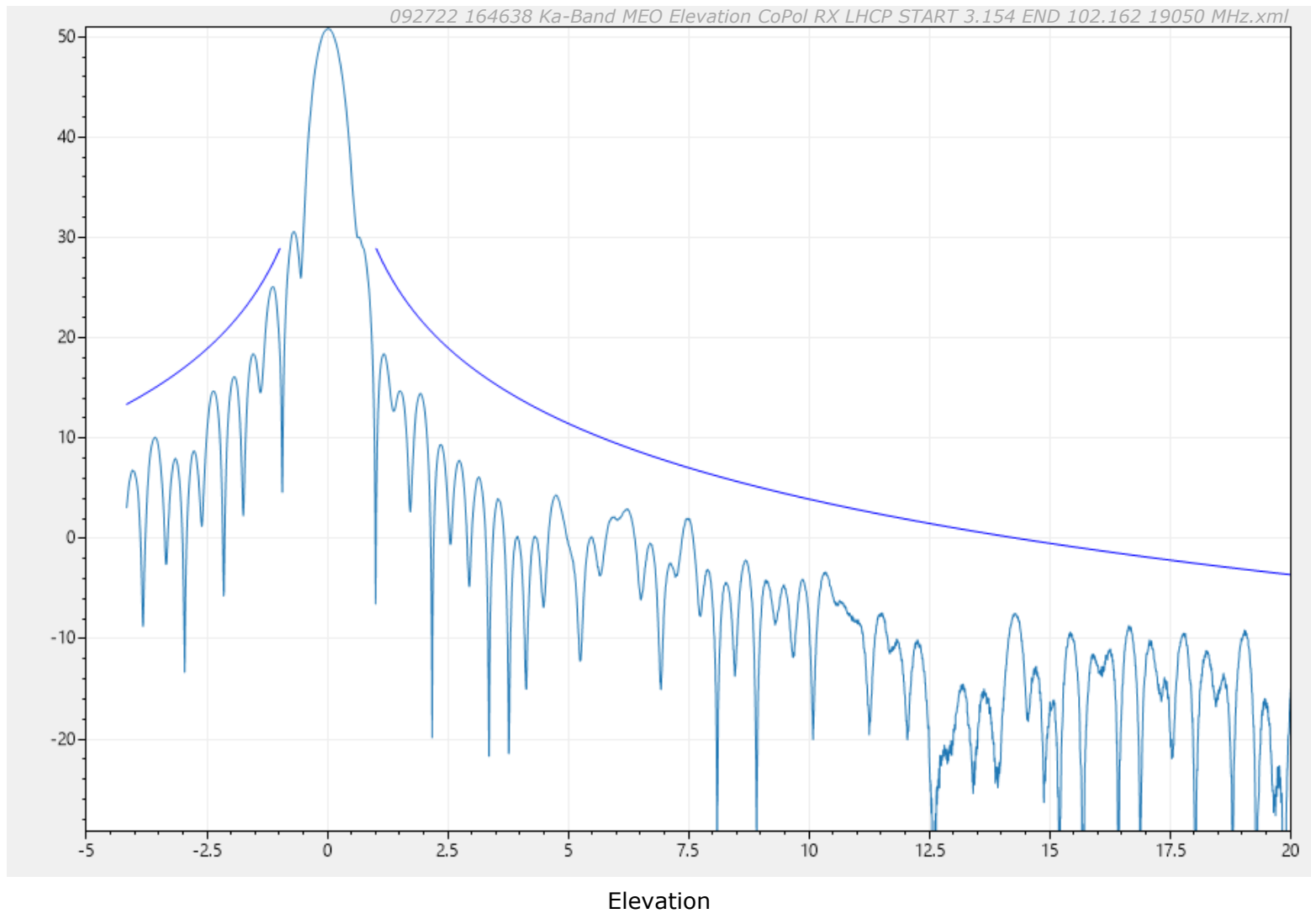


Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec:	Mil Std 188-164c		
Start Angle (°)	End Angle (°)	Formula (dBi)	
1.0	20	29-25*log(x)	
20	26.3	-3.5	
26.3	48	32-25*log(x)	
48	180	-10	



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

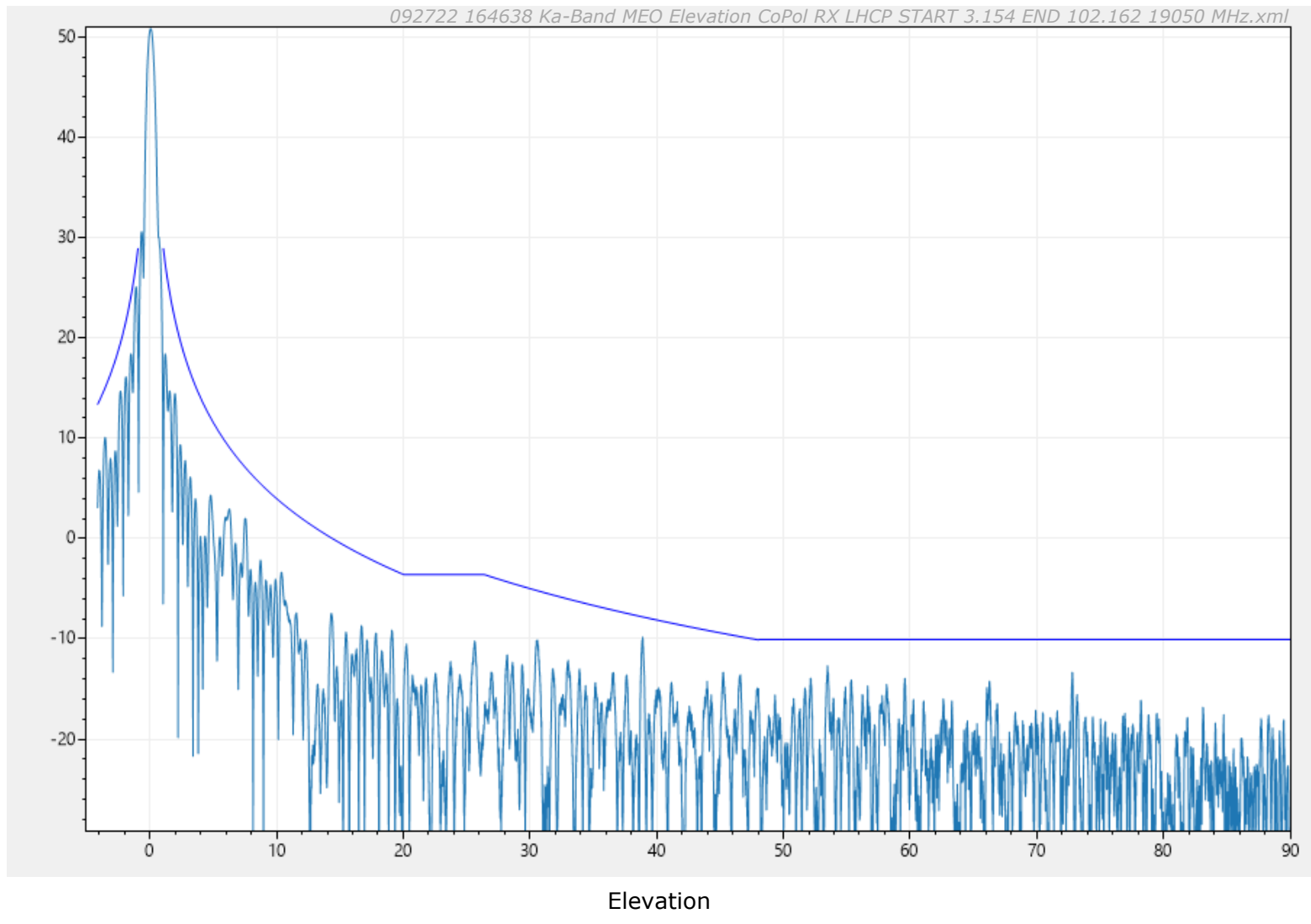
Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

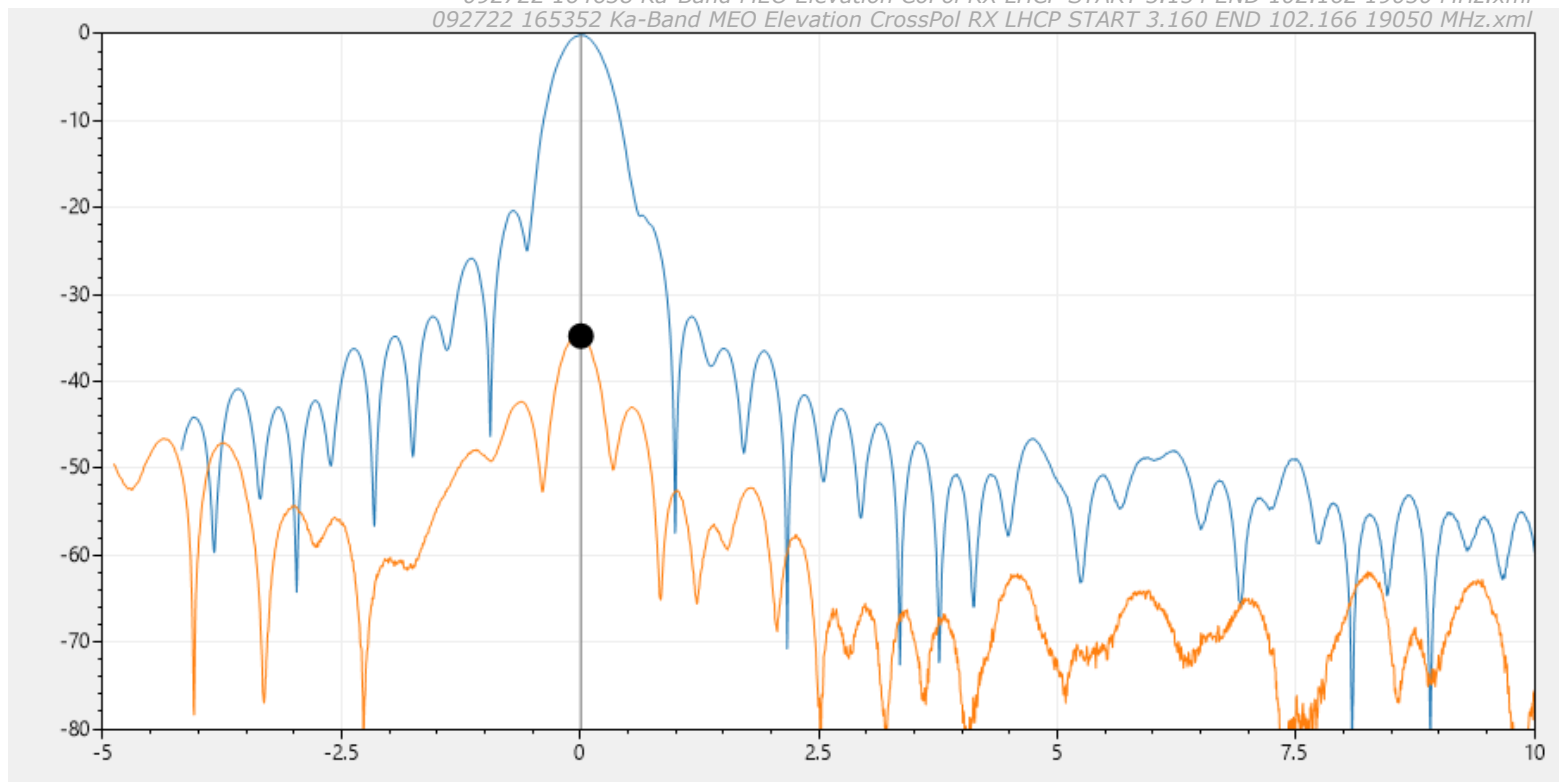
Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 34.7
Spec Cross-Pol (dB): 30.0

092722 164638 Ka-Band MEO Elevation CoPol RX LHCP START 3.154 END 102.162 19050 MHz.xml
092722 165352 Ka-Band MEO Elevation CrossPol RX LHCP START 3.160 END 102.166 19050 MHz.xml



Elevation

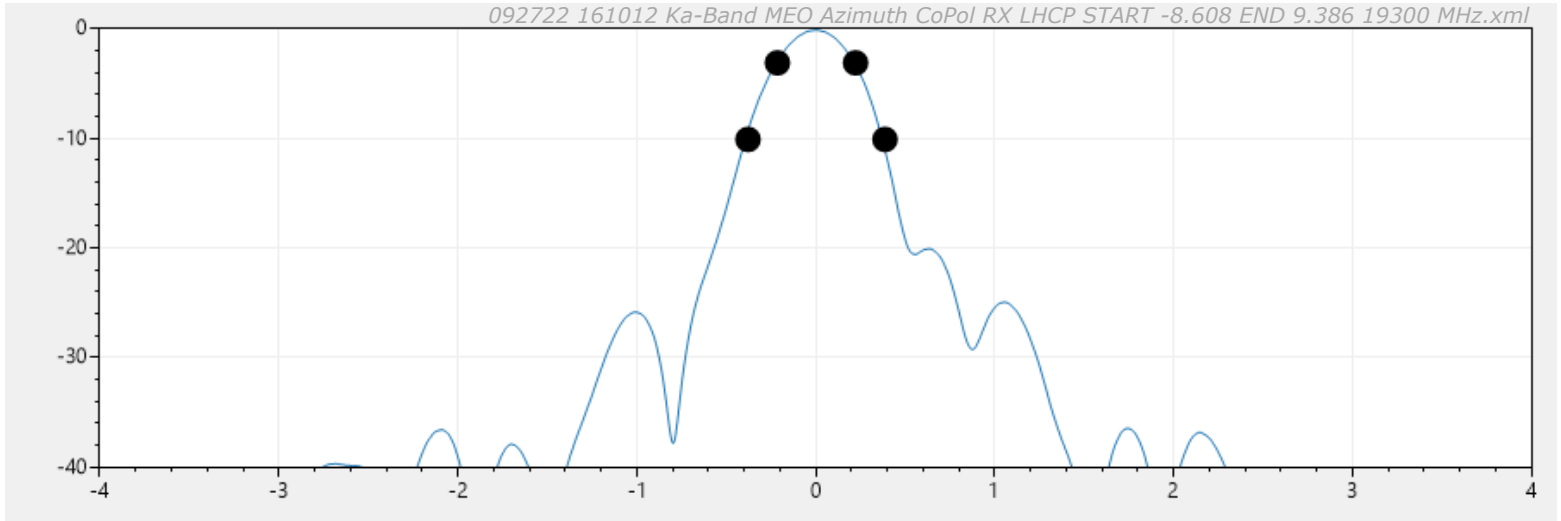
Test Frequency (GHz): 19.05
Band: Receive
Polarization: LHCP

Gain by Beamwidth

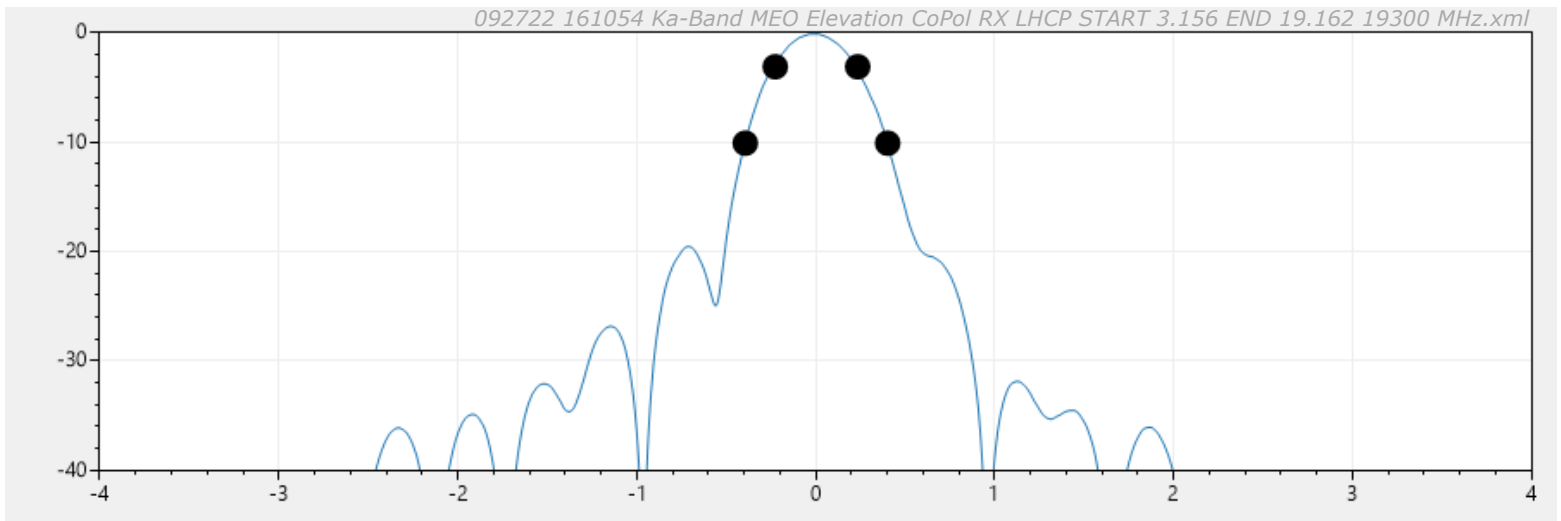
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 51.000

Calculated Gain (dBi): 51.815



Azimuth



Elevation

3 dB Factor:	37000	Test Frequency (GHz):	19.3	Azimuth 3 dB:	0.436°
10 dB Factor:	107000	Band:	Receive	Azimuth 10 dB:	0.765°
Dish RMS (in):	0.01	Polarization:	LHCP	Elevation 3 dB:	0.461°
Feed Loss (dB):	0.55	Surface RMS Loss (dB):	0.183	Elevation 10 dB:	0.796°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (52.549)) - Feed Loss (0.55) - Surface RMS Loss (0.183)

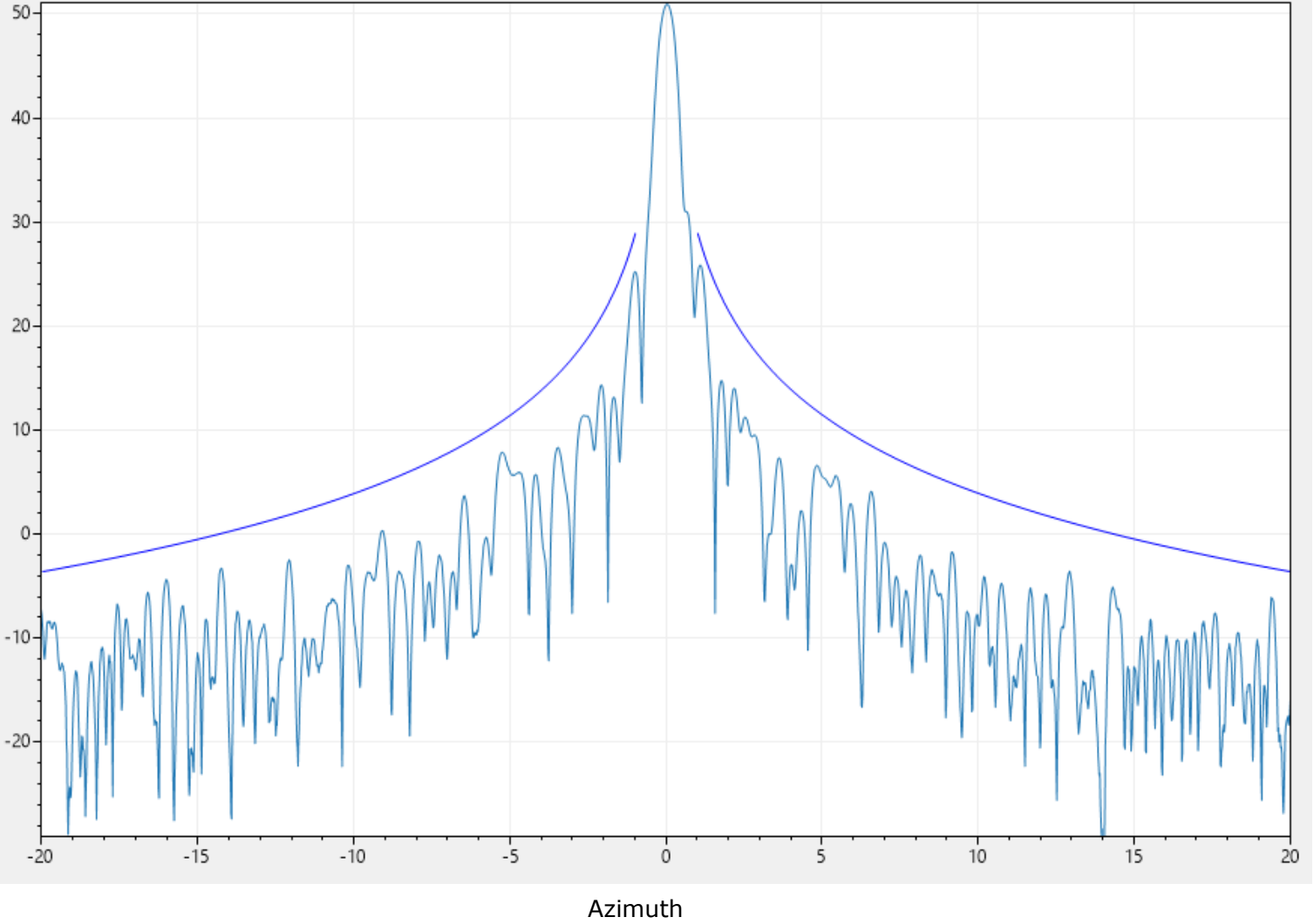
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 161521 Ka-Band MEO Azimuth CoPol RX LHCP START -181.613 END 182.383 19300 MHz.xml



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

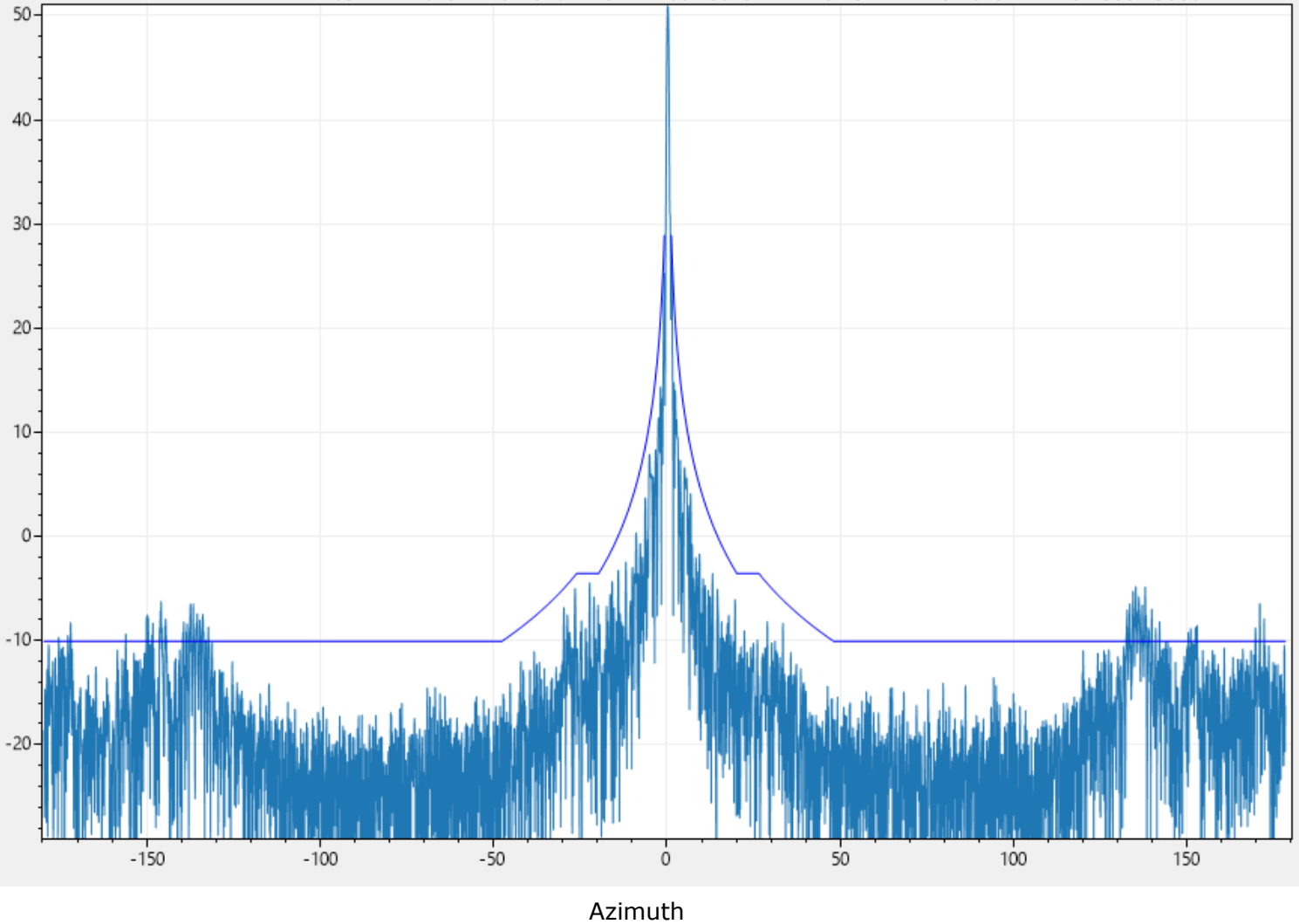
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 161521 Ka-Band MEO Azimuth CoPol RX LHCP START -181.613 END 182.383 19300 MHz.xml



Gain (dBi): 51.0
Sidelobes Over Curve: 2.95%

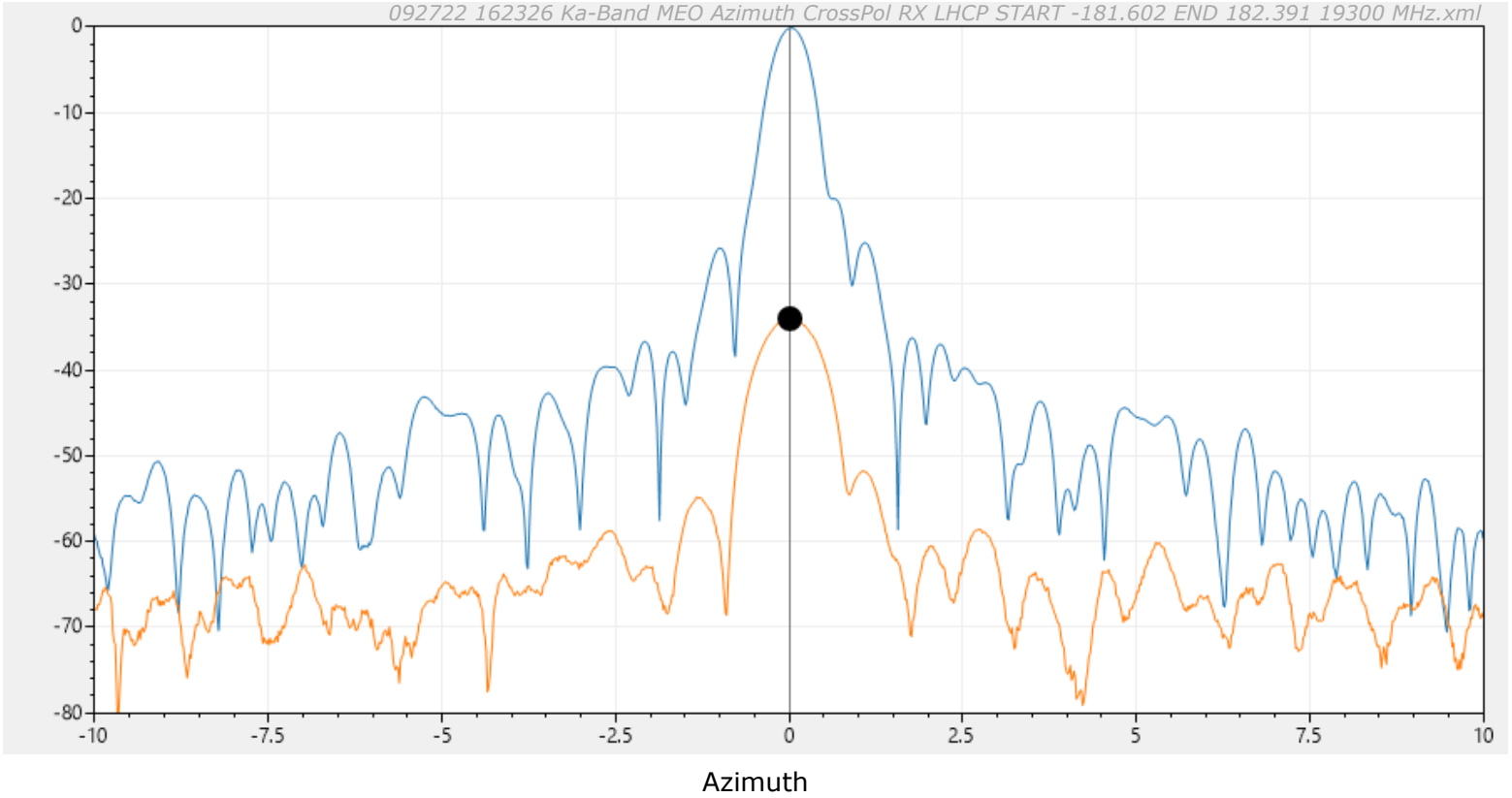
Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 33.9
Spec Cross-Pol (dB): 30.0

092722 161521 Ka-Band MEO Azimuth CoPol RX LHCP START -181.613 END 182.383 19300 MHz.xml
092722 162326 Ka-Band MEO Azimuth CrossPol RX LHCP START -181.602 END 182.391 19300 MHz.xml

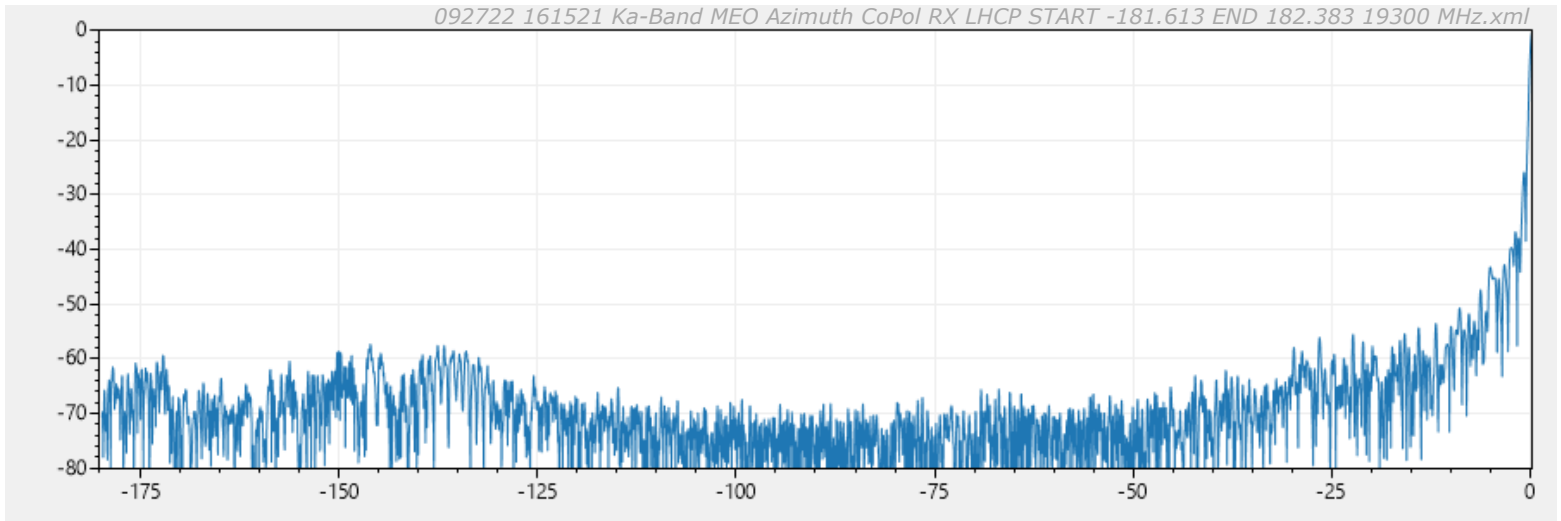


Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

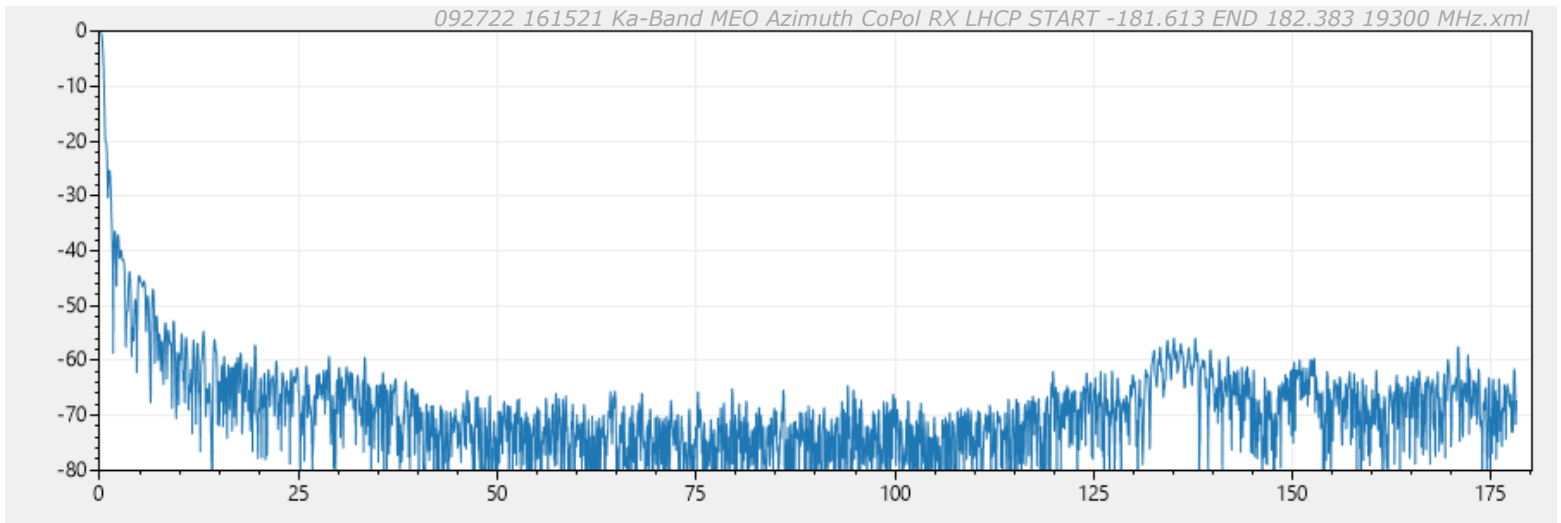
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

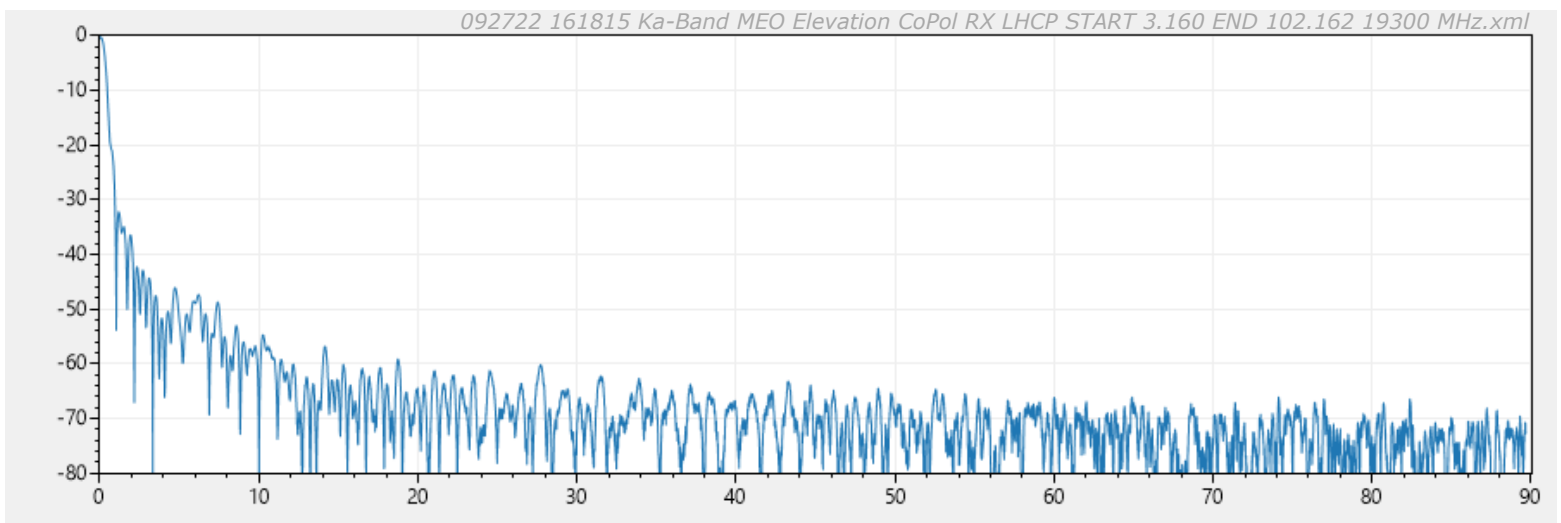
Specified Gain (dBi): 51.000
Calculated Gain (dBi): 51.626
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



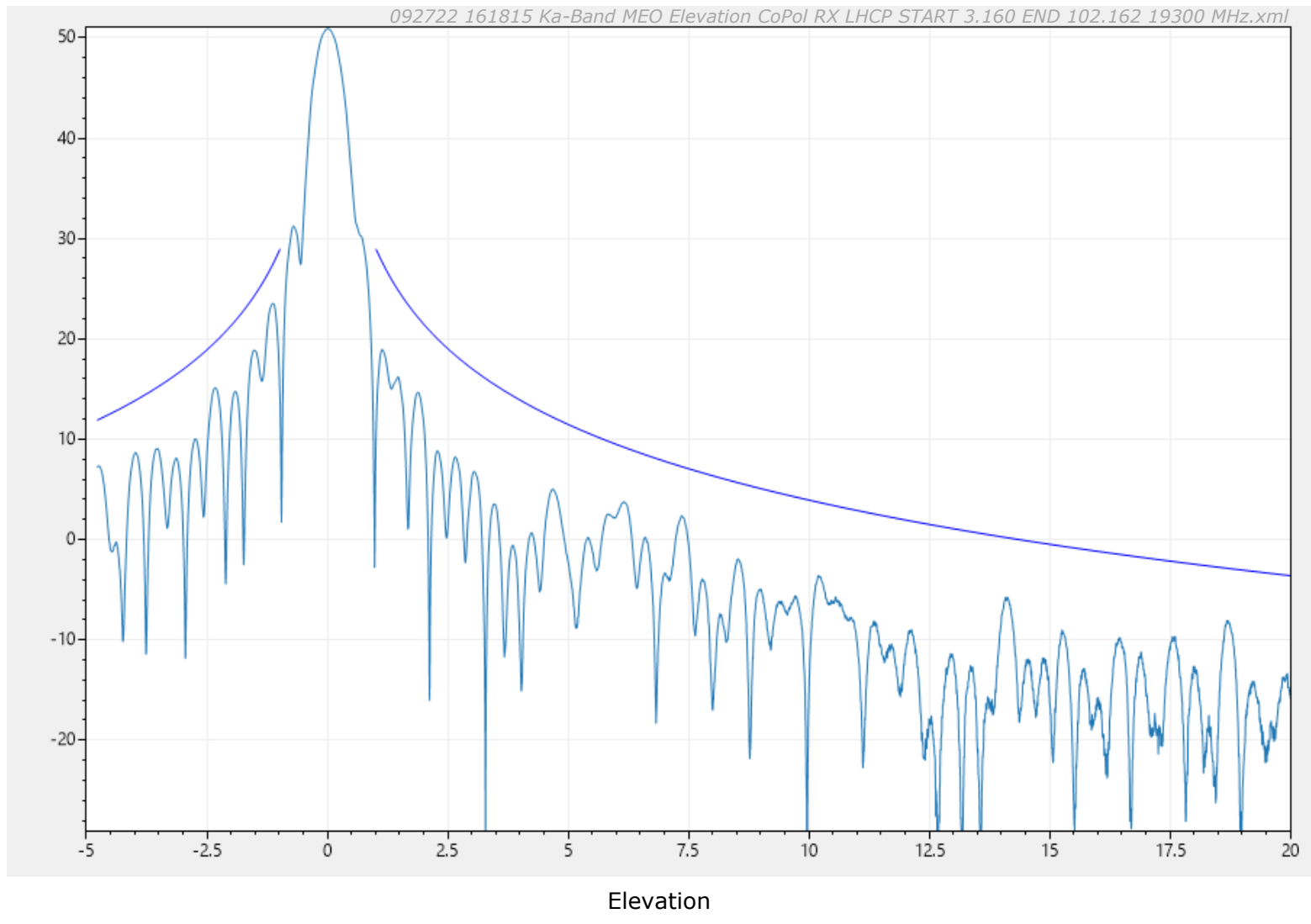
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

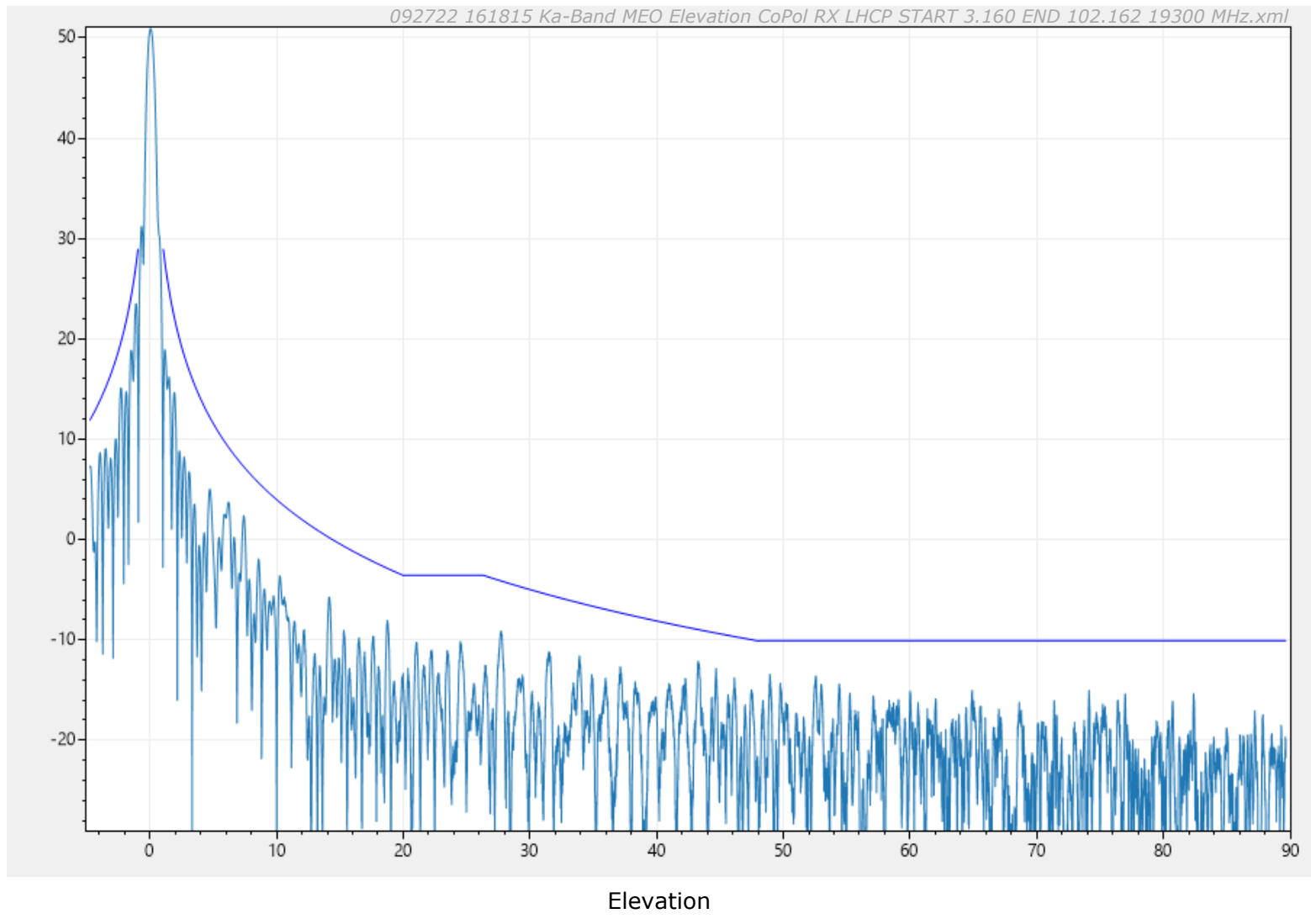
Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

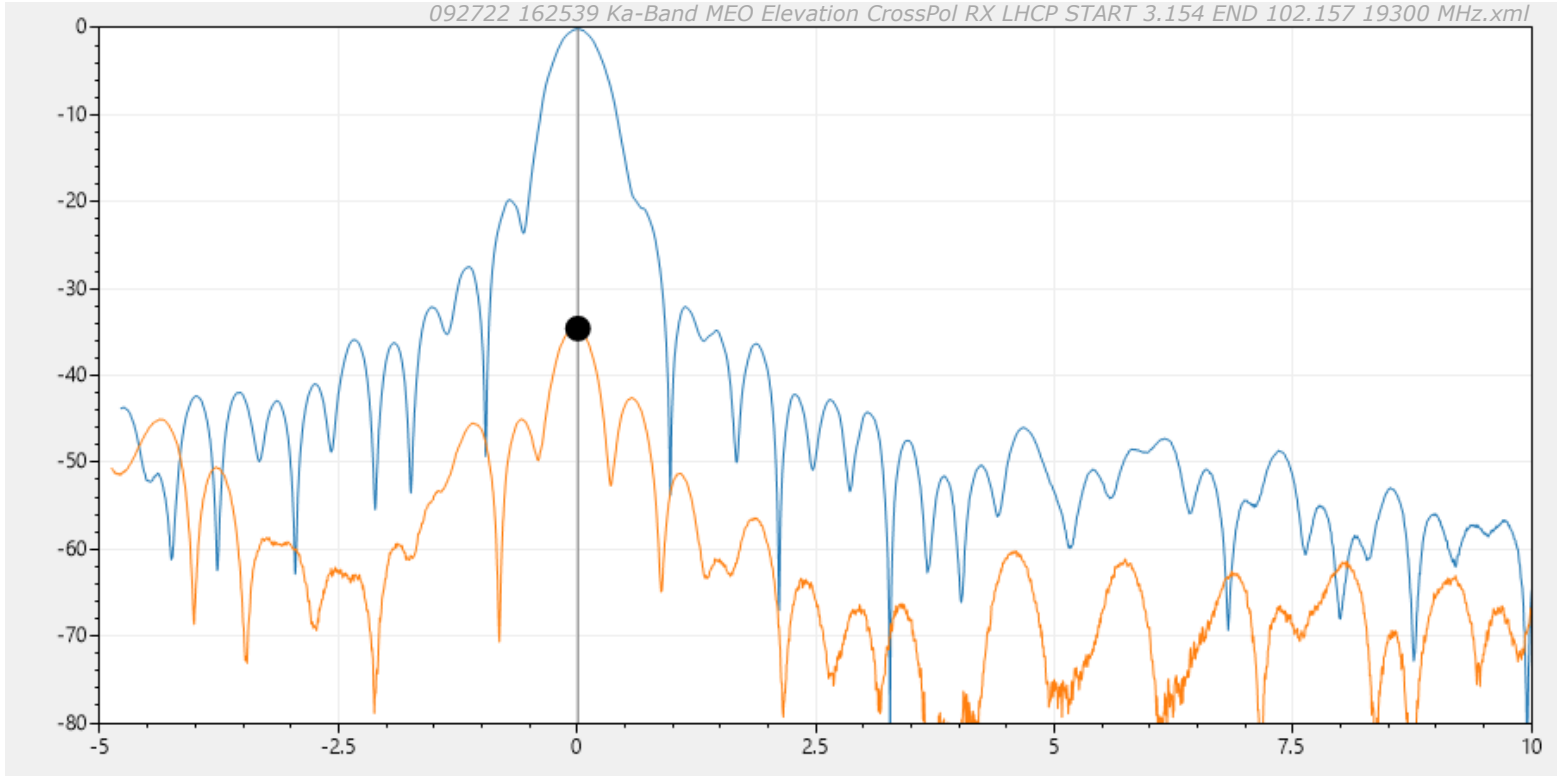
Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 34.5
Spec Cross-Pol (dB): 30.0

092722 161815 Ka-Band MEO Elevation CoPol RX LHCP START 3.160 END 102.162 19300 MHz.xml
092722 162539 Ka-Band MEO Elevation CrossPol RX LHCP START 3.154 END 102.157 19300 MHz.xml



Elevation

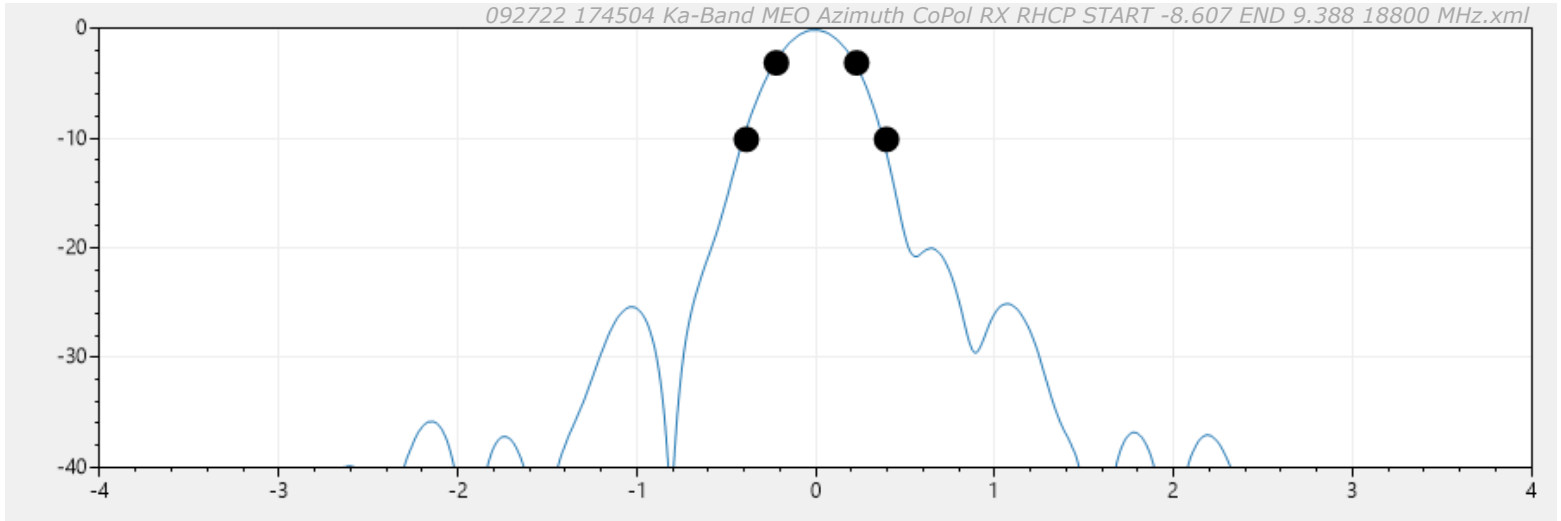
Test Frequency (GHz): 19.3
Band: Receive
Polarization: LHCP

Gain by Beamwidth

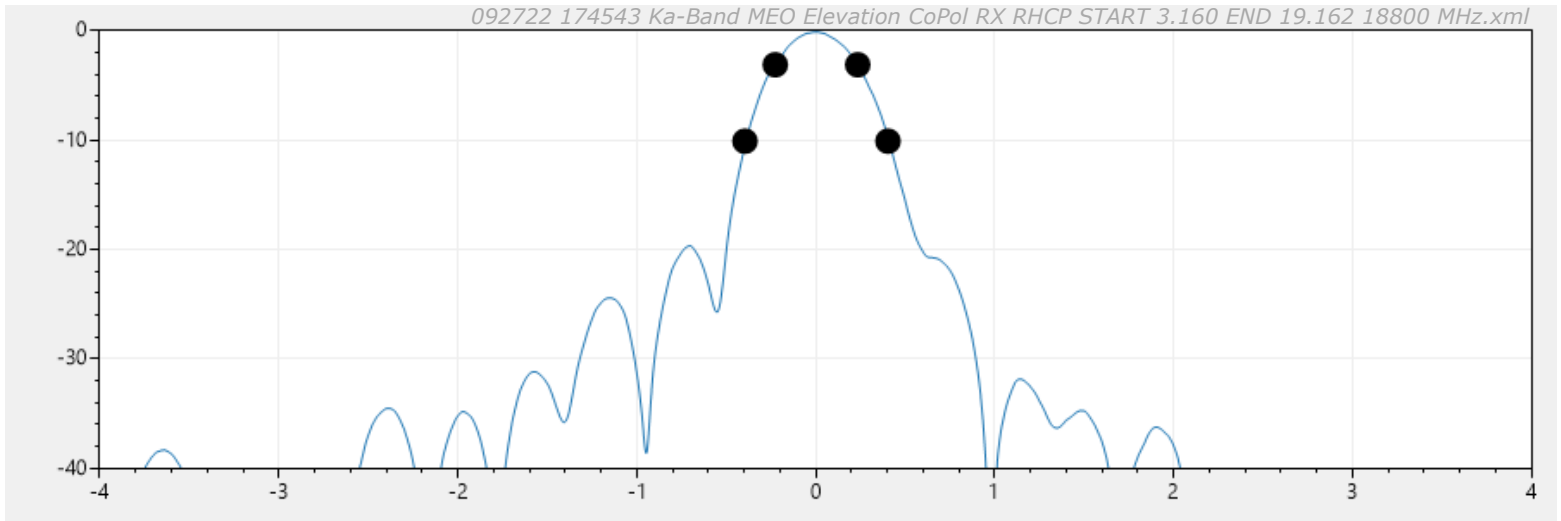
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 50.800

Calculated Gain (dBi): 51.705



Azimuth



Elevation

3 dB Factor:	37000	Test Frequency (GHz):	18.8	Azimuth 3 dB:	0.448°
10 dB Factor:	107000	Band:	Receive	Azimuth 10 dB:	0.783°
Dish RMS (in):	0.01	Polarization:	RHCP	Elevation 3 dB:	0.461°
Feed Loss (dB):	0.55	Surface RMS Loss (dB):	0.174	Elevation 10 dB:	0.799°

Calculated Gain =

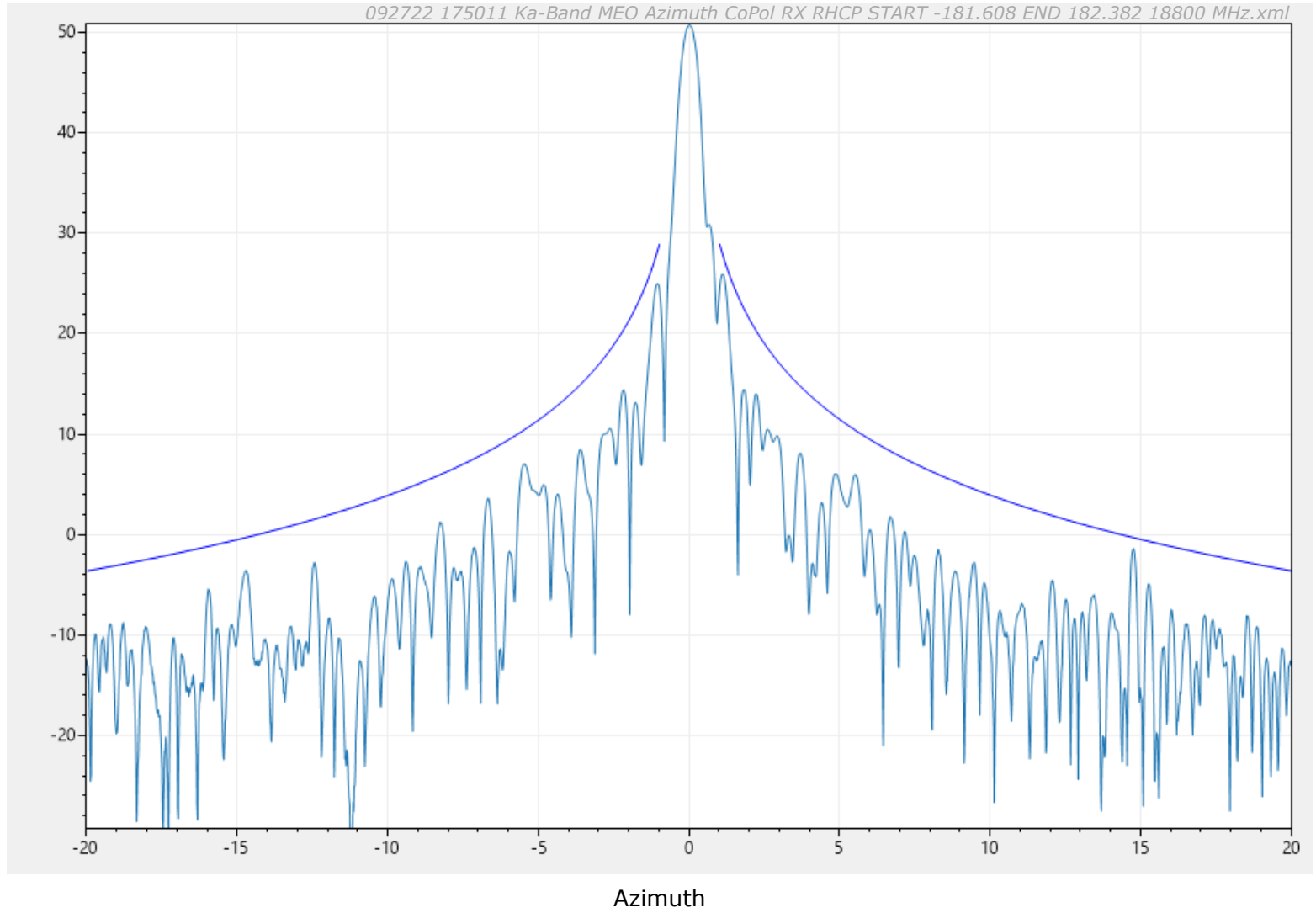
(Average of gain from 3dB and 10dB Beamwidth (52.429)) - Feed Loss (0.55) - Surface RMS Loss (0.174)

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

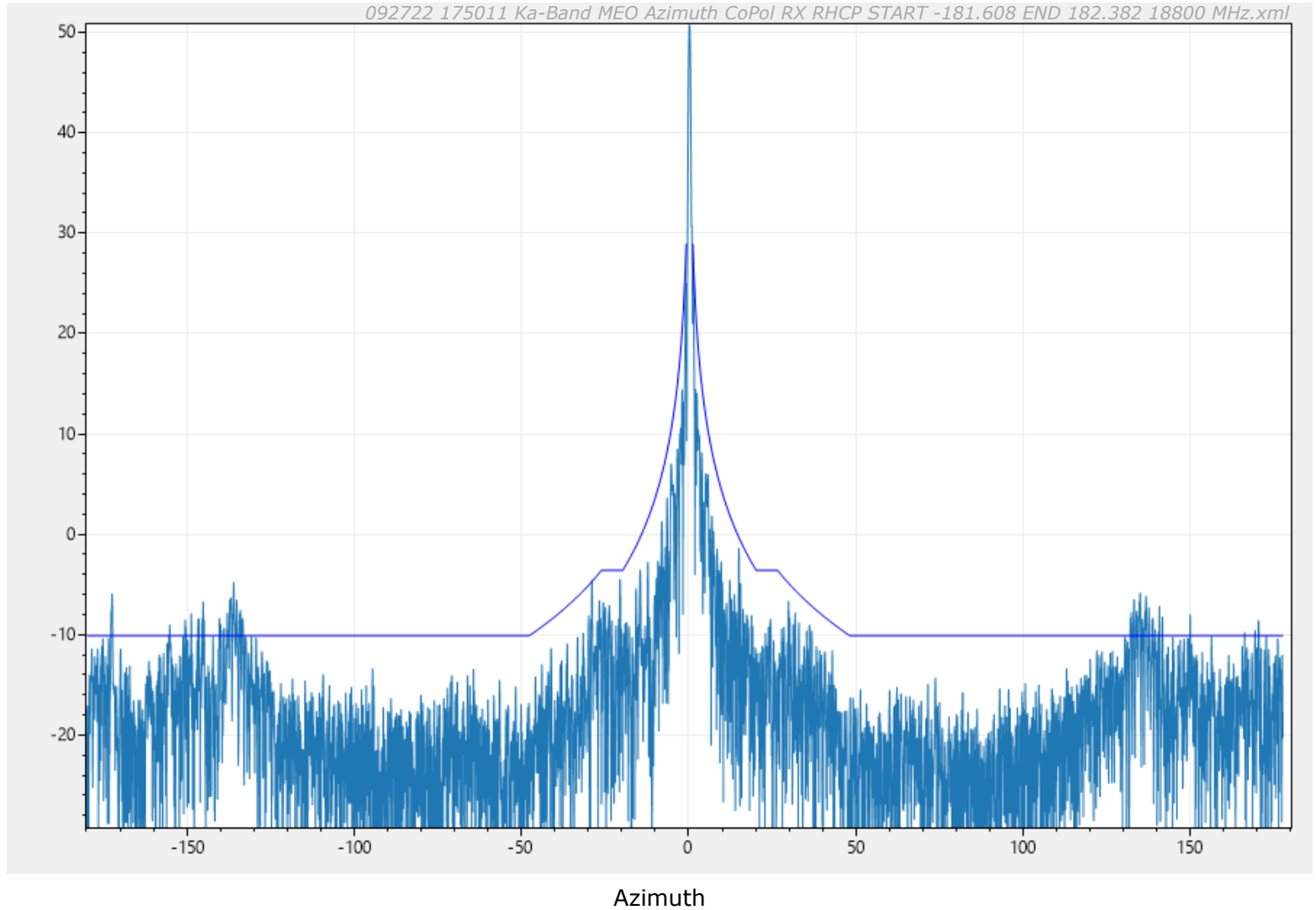
Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 2.73%

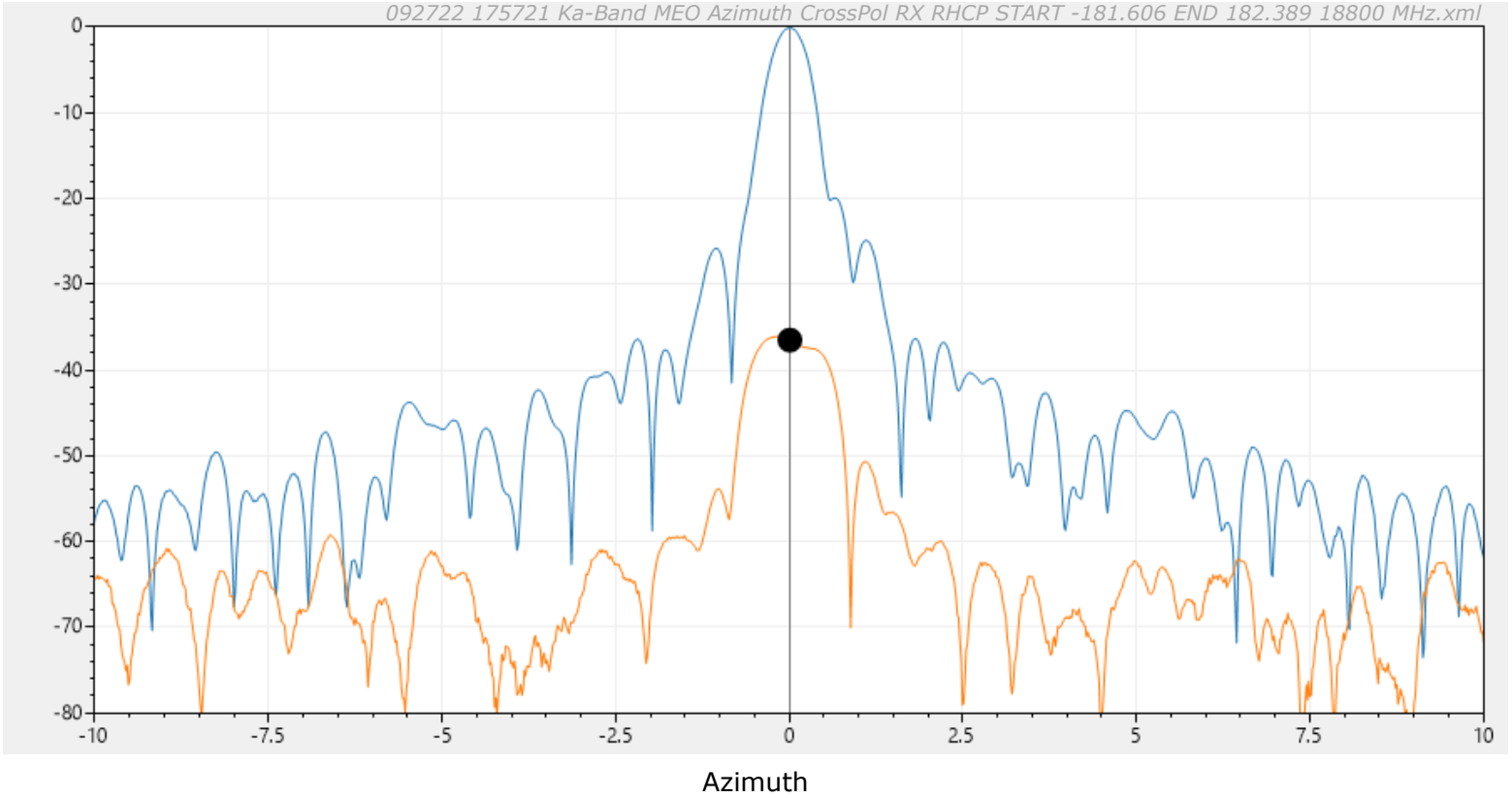
Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 36.4
Spec Cross-Pol (dB): 30.0

092722_175011_Ka-Band_MEO_Azimuth_CoPol_RX_RHCP_START_-181.608_END_182.382_18800_MHz.xml
092722_175721_Ka-Band_MEO_Azimuth_CrossPol_RX_RHCP_START_-181.606_END_182.389_18800_MHz.xml

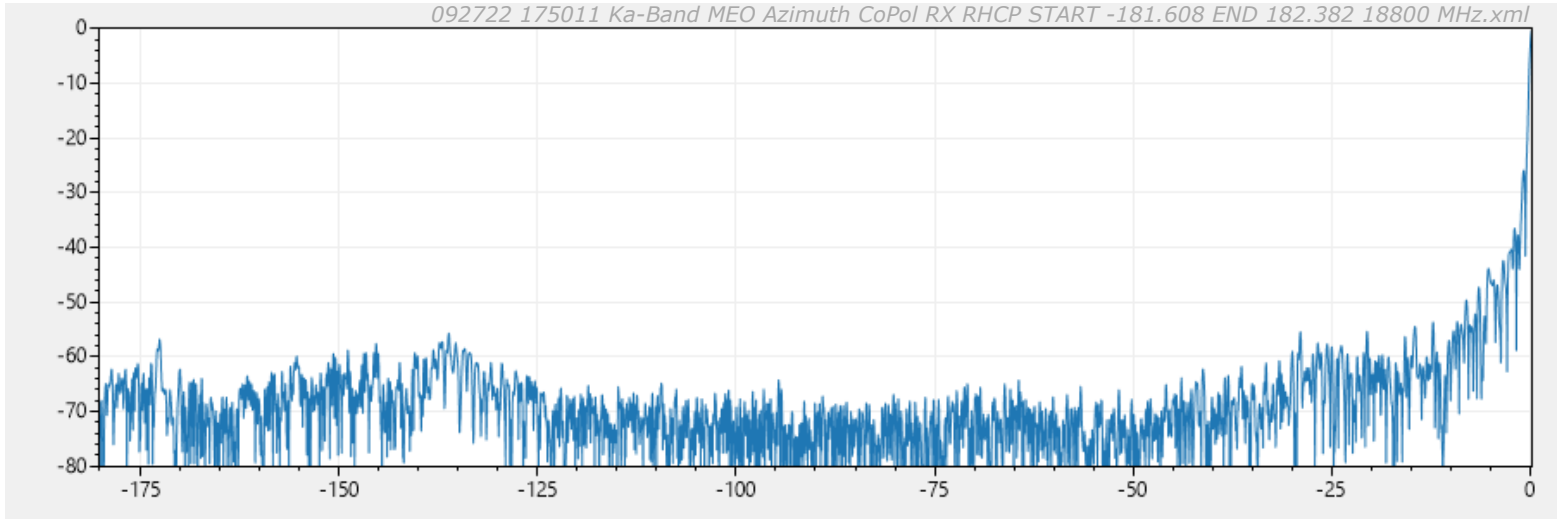


Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

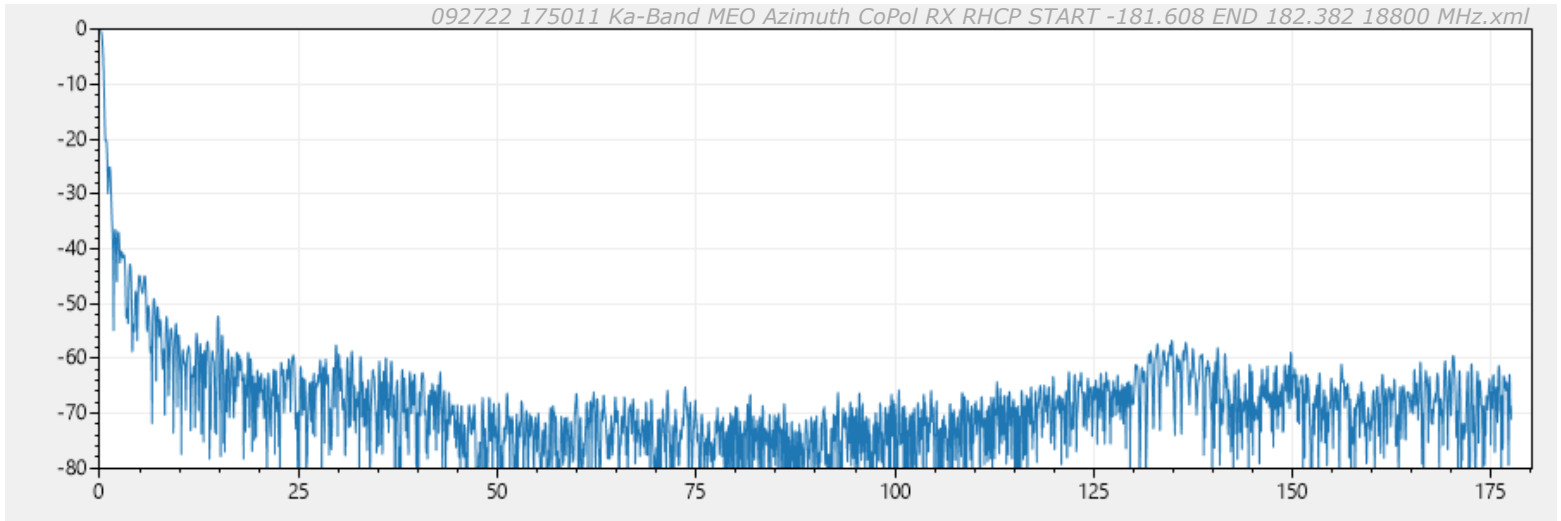
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

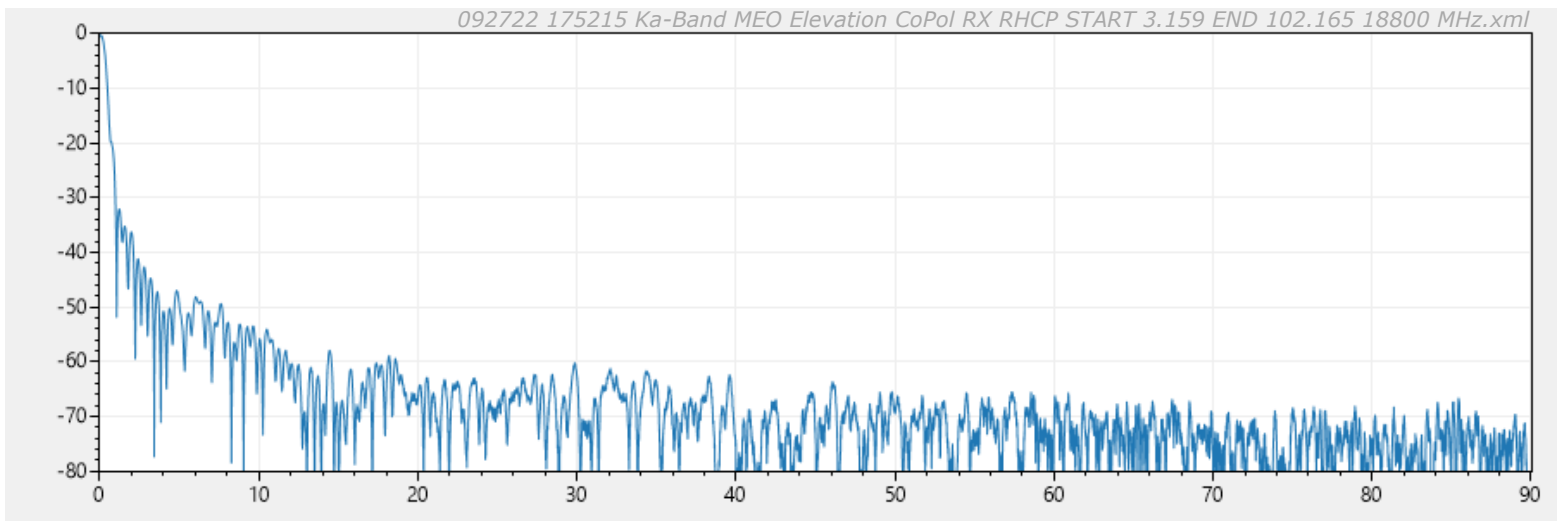
Specified Gain (dBi): 50.800
Calculated Gain (dBi): 51.391
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



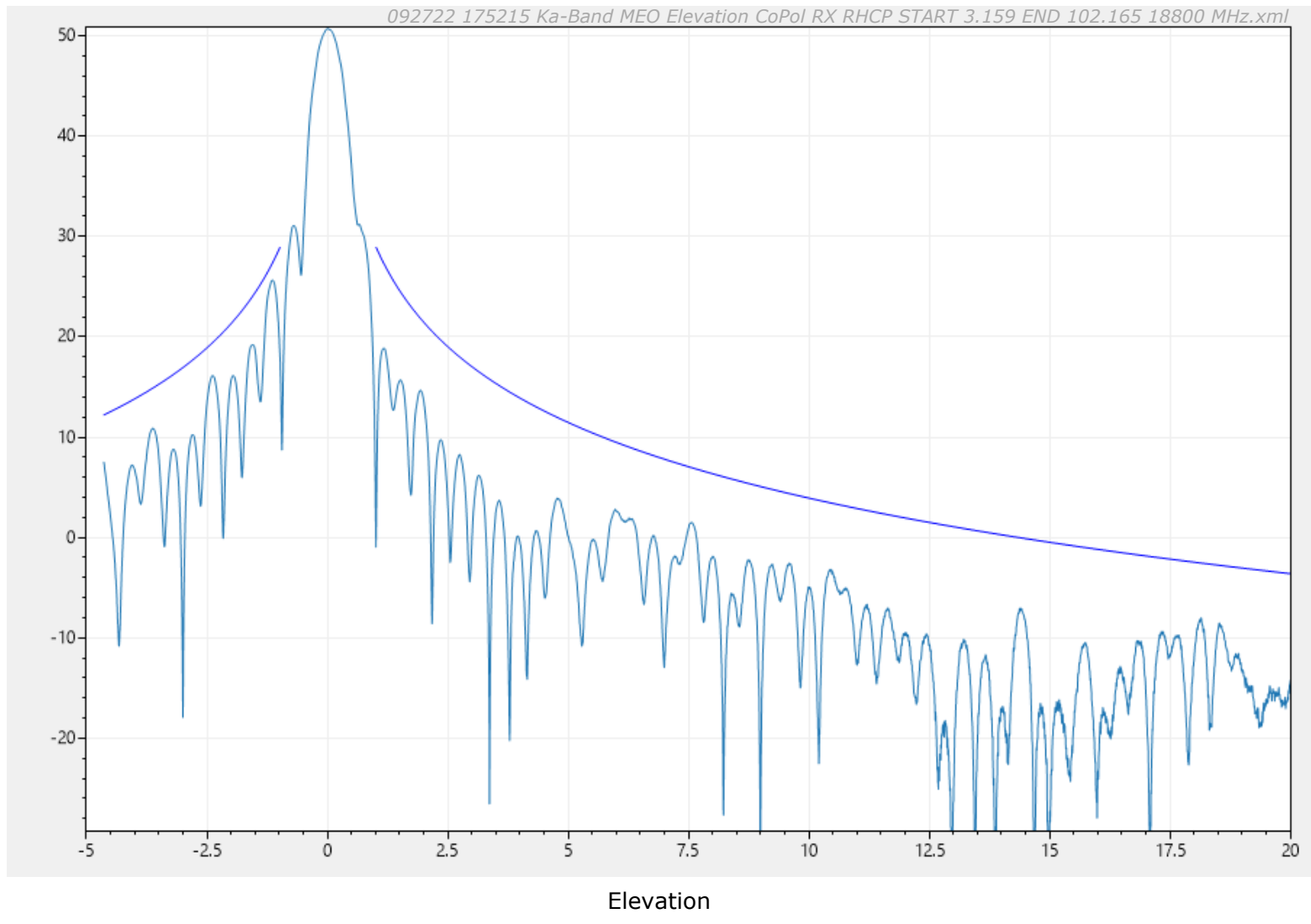
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

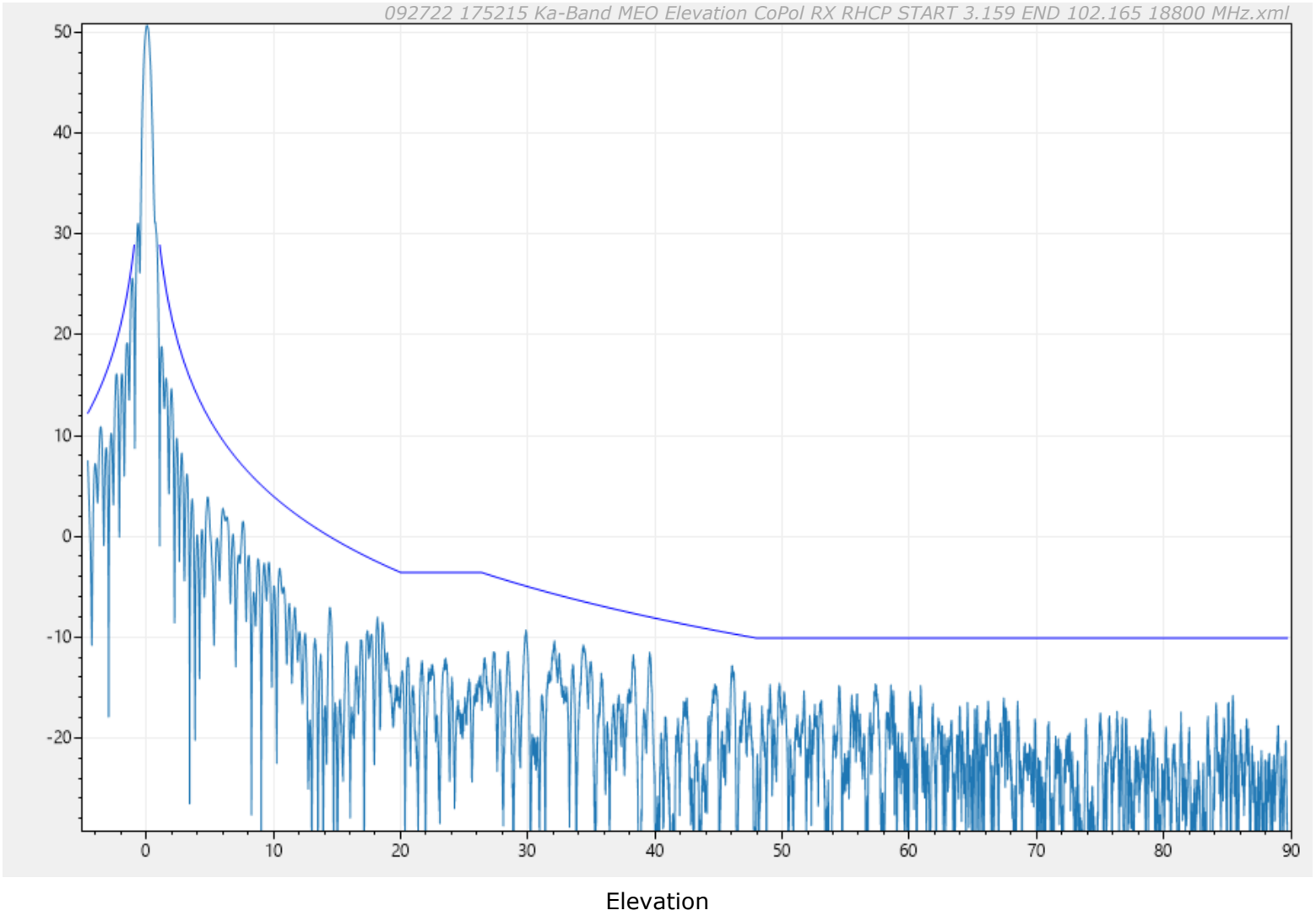
Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.8
Sidelobes Over Curve: 0.00%

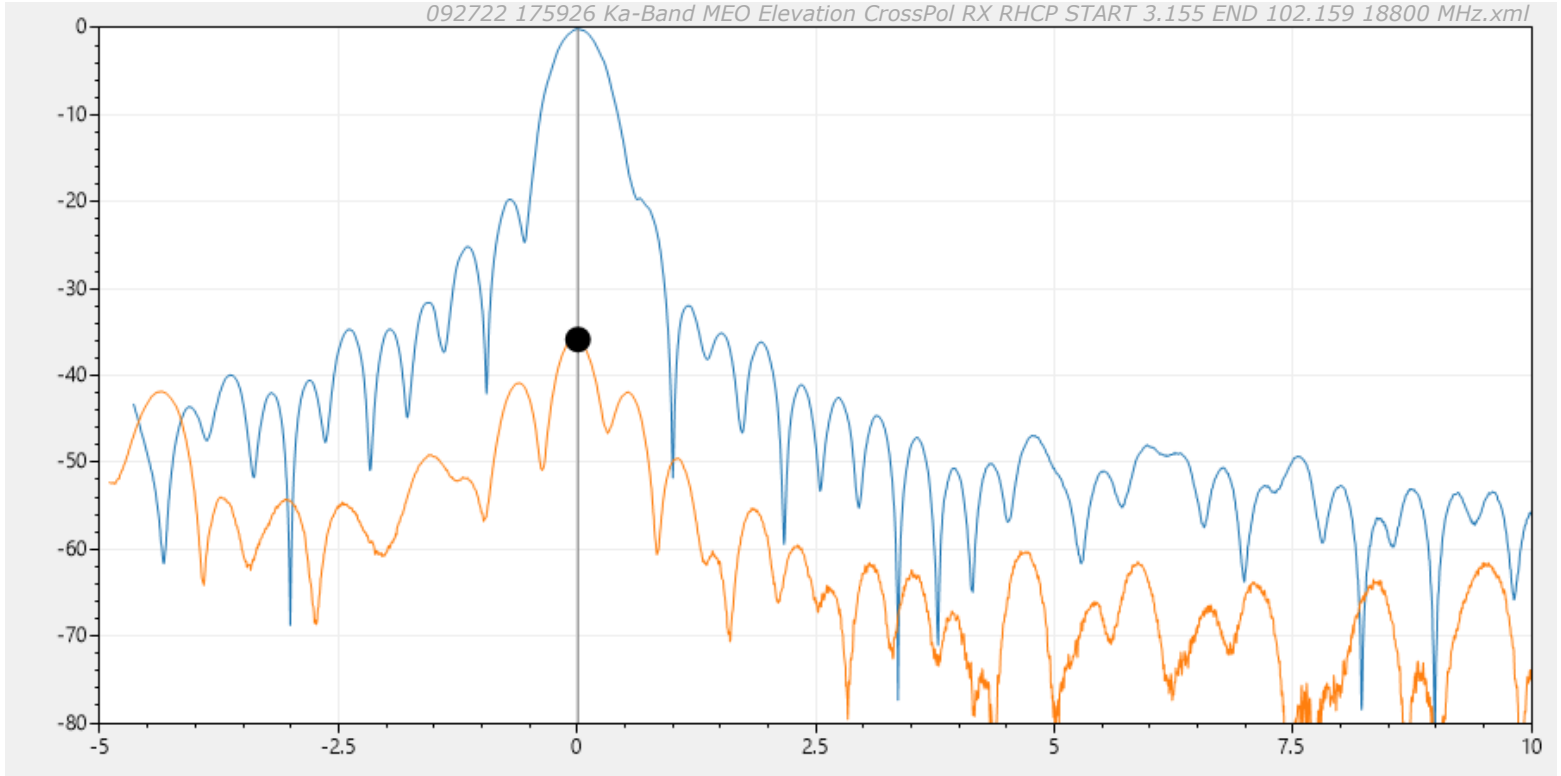
Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 35.8
Spec Cross-Pol (dB): 30.0

092722 175215 Ka-Band MEO Elevation CoPol RX RHCP START 3.159 END 102.165 18800 MHz.xml
092722 175926 Ka-Band MEO Elevation CrossPol RX RHCP START 3.155 END 102.159 18800 MHz.xml



Elevation

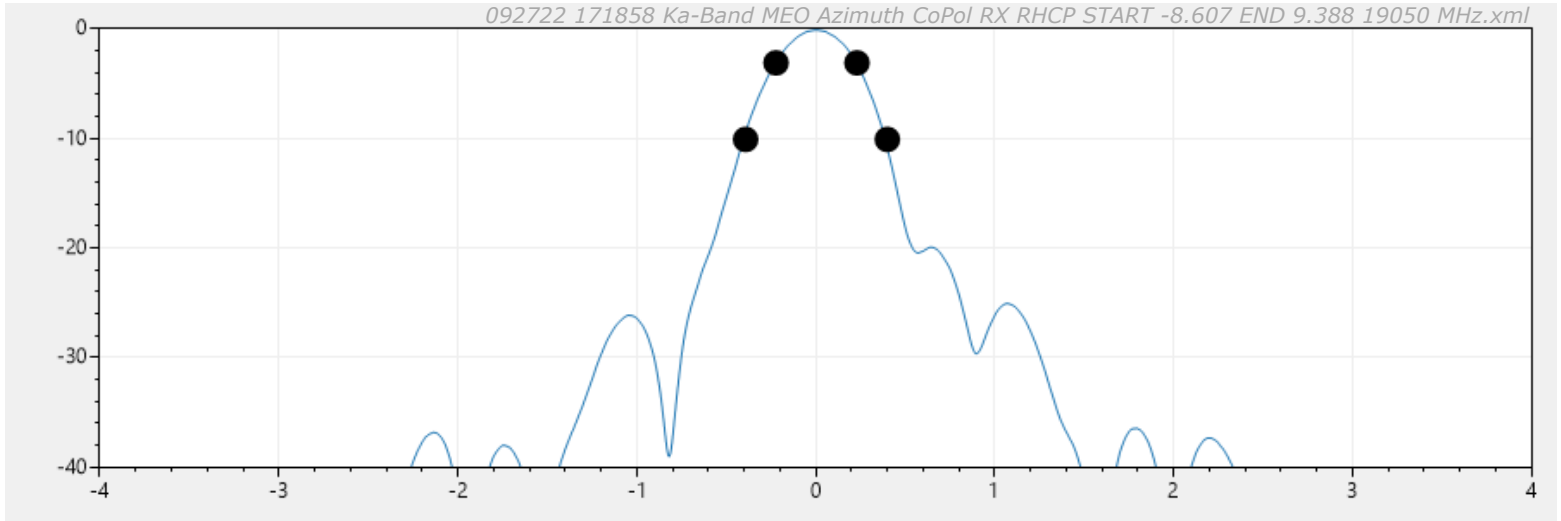
Test Frequency (GHz): 18.8
Band: Receive
Polarization: RHCP

Gain by Beamwidth

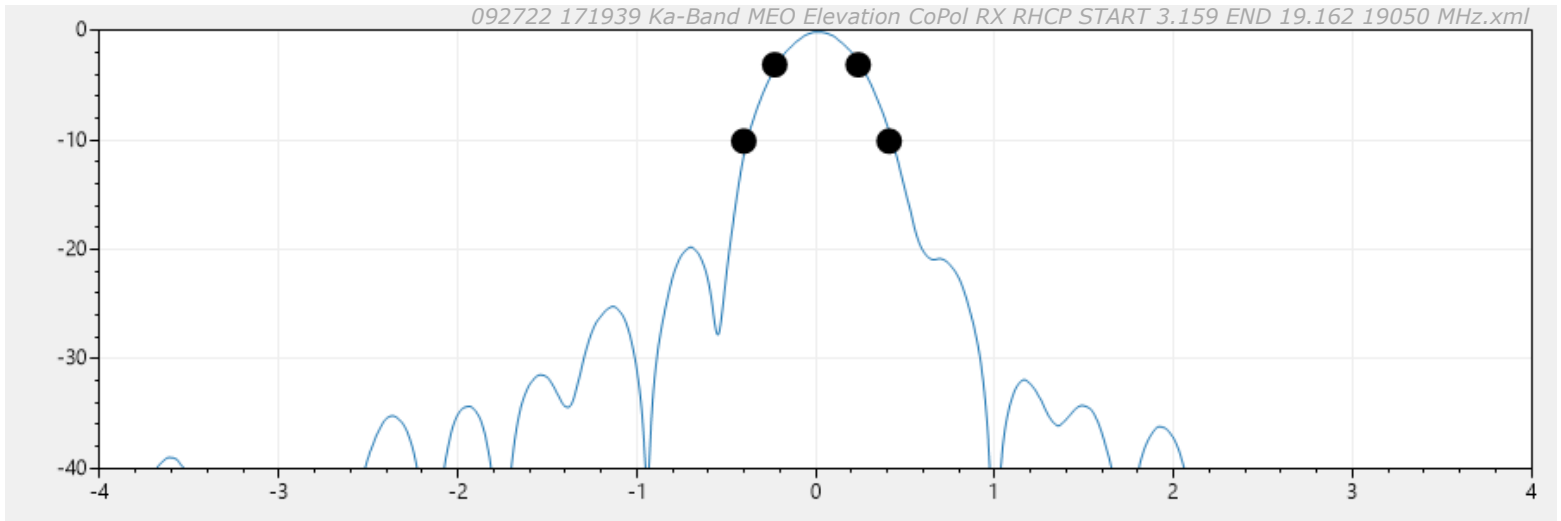
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 50.900

Calculated Gain (dBi): 51.589



Azimuth



Elevation

3 dB Factor: 37000	Test Frequency (GHz): 19.05	Azimuth 3 dB: 0.453°
10 dB Factor: 107000	Band: Receive	Azimuth 10 dB: 0.792°
Dish RMS (in): 0.01	Polarization: RHCP	Elevation 3 dB: 0.467°
Feed Loss (dB): 0.55	Surface RMS Loss (dB): 0.179	Elevation 10 dB: 0.813°

Calculated Gain =

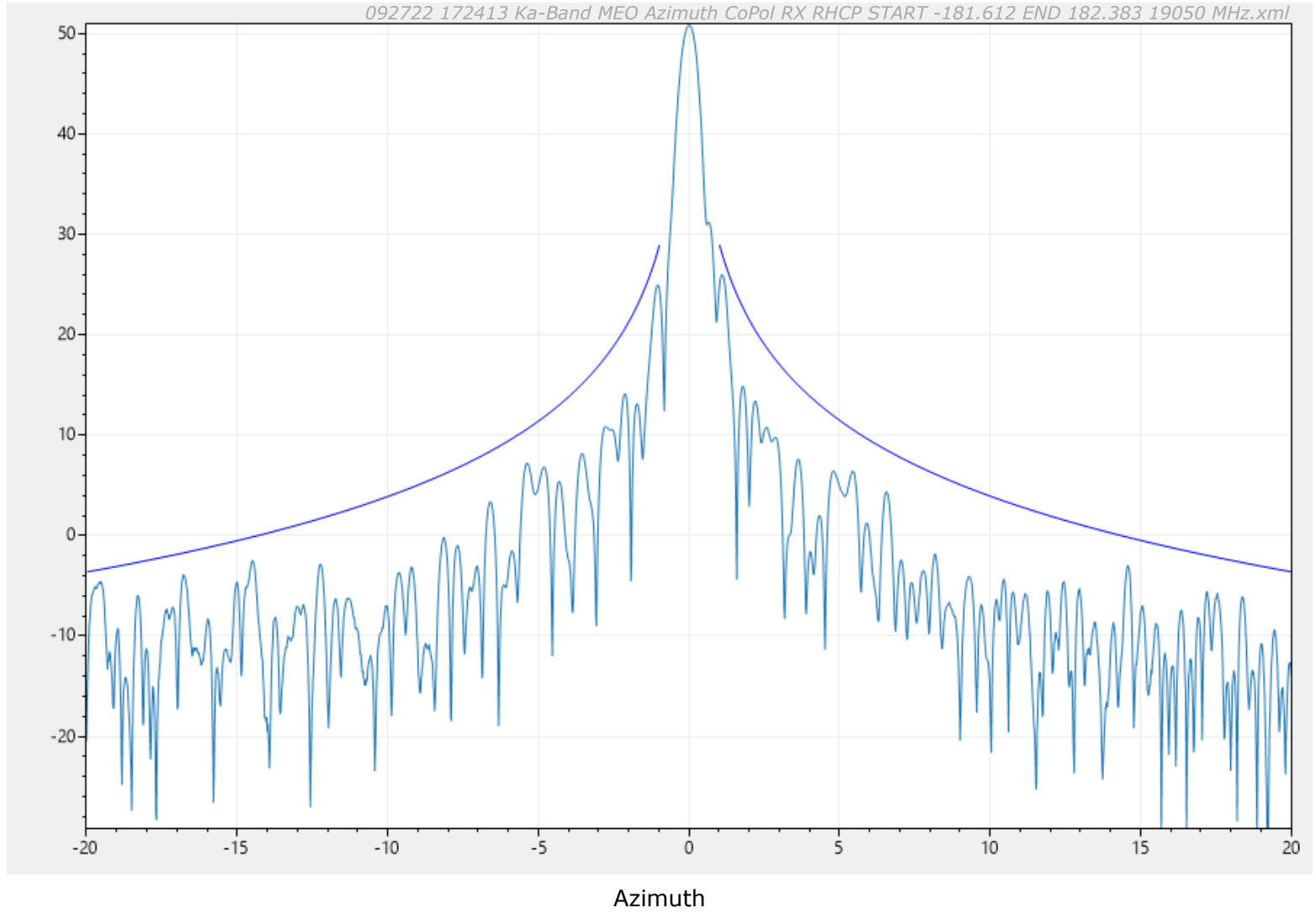
(Average of gain from 3dB and 10dB Beamwidth (52.318)) - Feed Loss (0.55) - Surface RMS Loss (0.179)

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	$29-25*\log(x)$
20	26.3	-3.5
26.3	48	$32-25*\log(x)$
48	180	-10



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

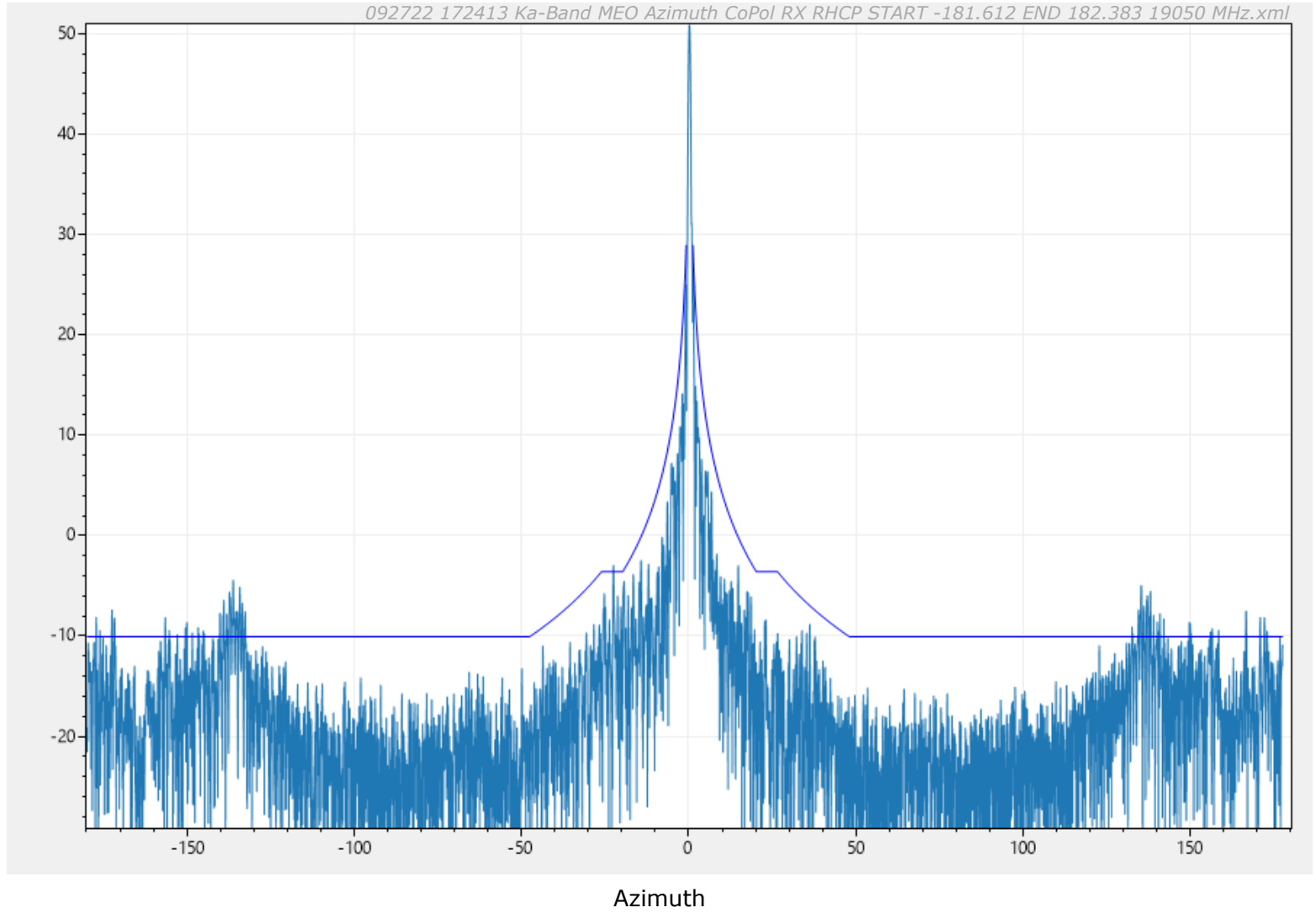
Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.9
Sidelobes Over Curve: 2.85%

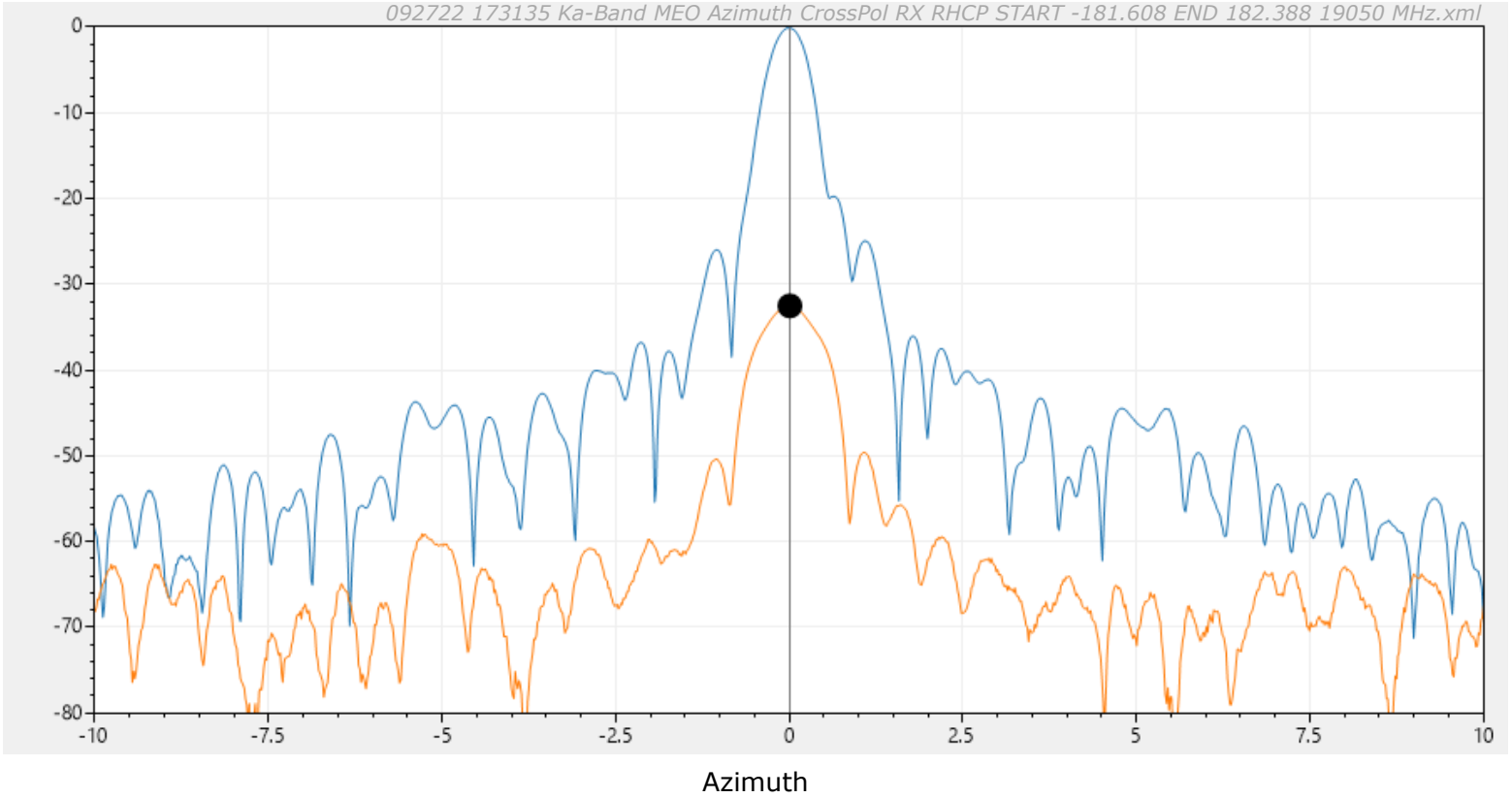
Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 32.4
Spec Cross-Pol (dB): 30.0

092722 172413 Ka-Band MEO Azimuth CoPol RX RHCP START -181.612 END 182.383 19050 MHz.xml
092722 173135 Ka-Band MEO Azimuth CrossPol RX RHCP START -181.608 END 182.388 19050 MHz.xml

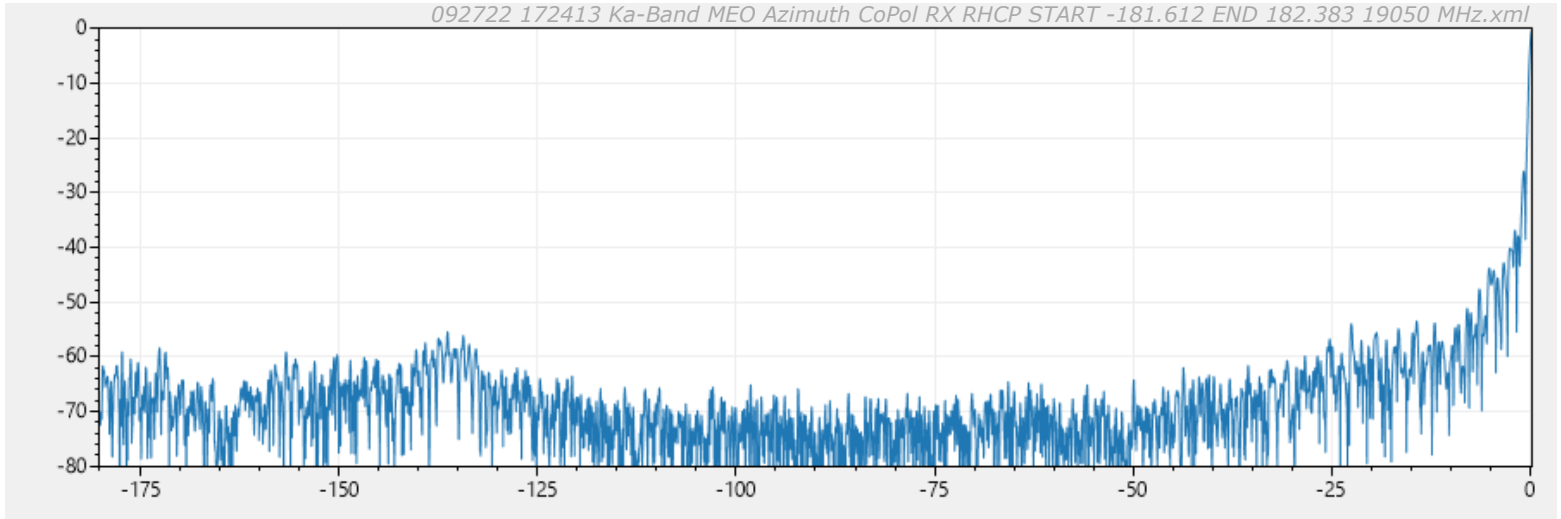


Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

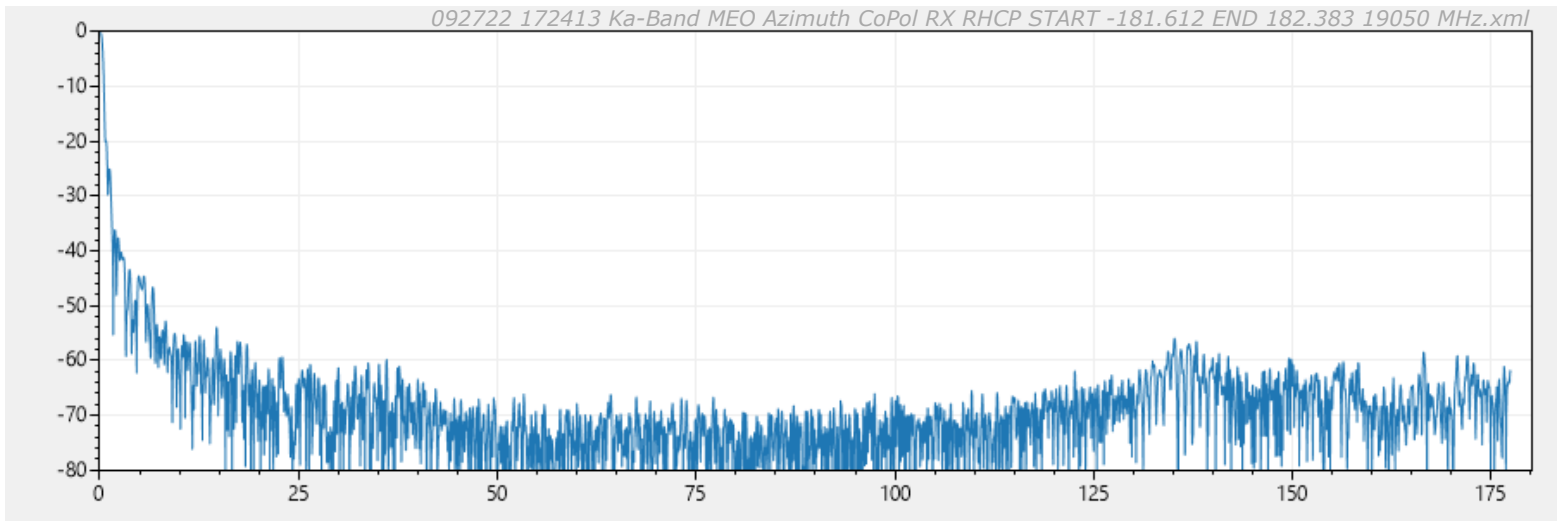
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

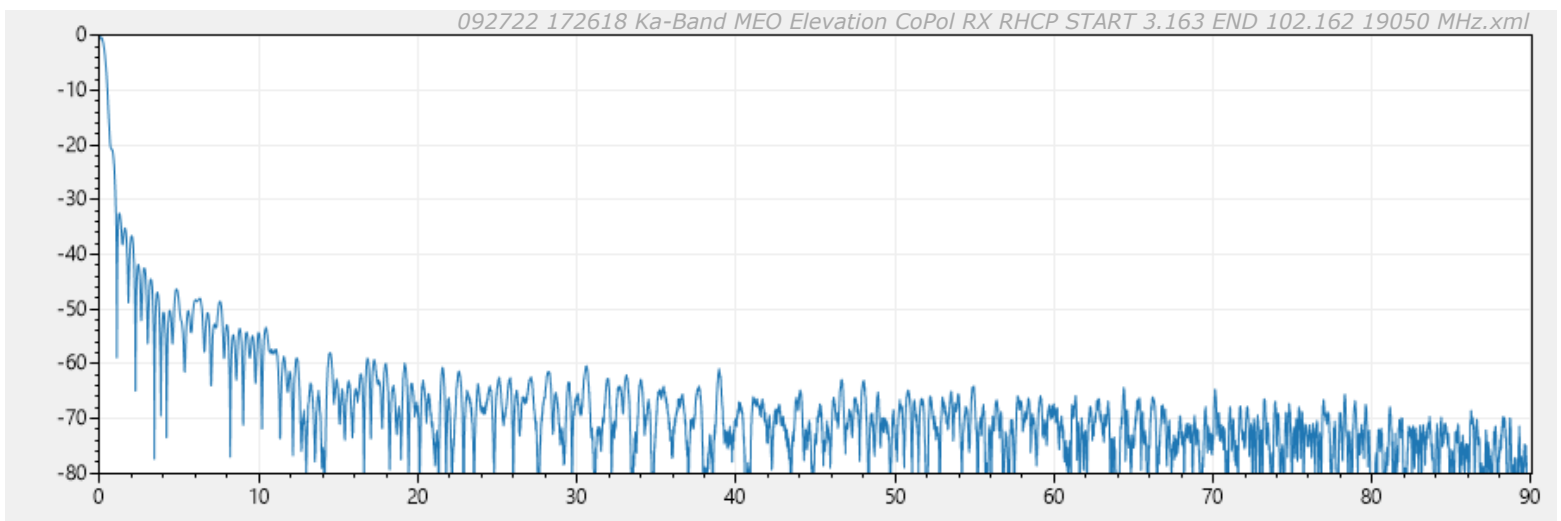
Specified Gain (dBi): 50.900
Calculated Gain (dBi): 51.275
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



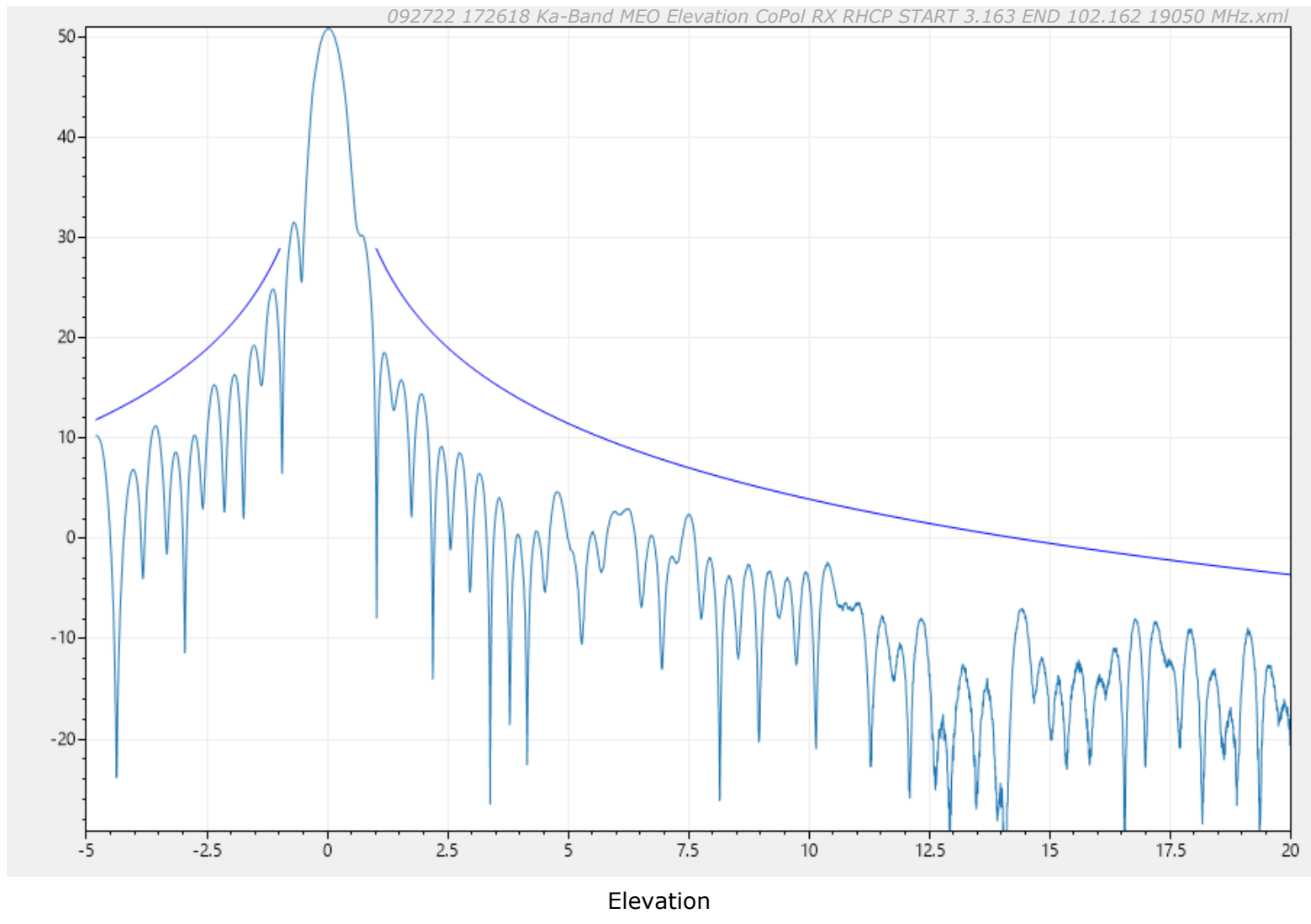
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

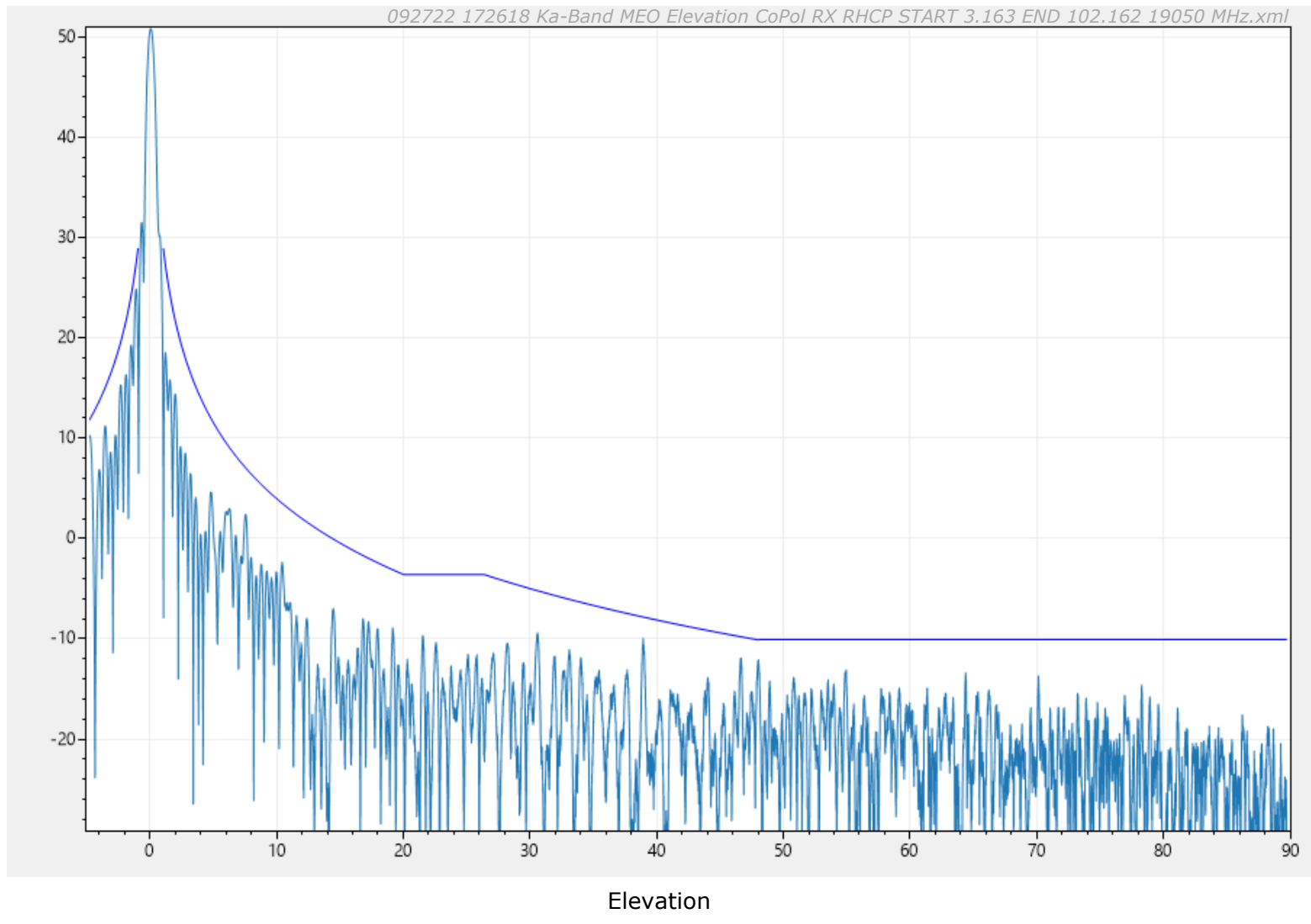
Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 50.9
Sidelobes Over Curve: 0.00%

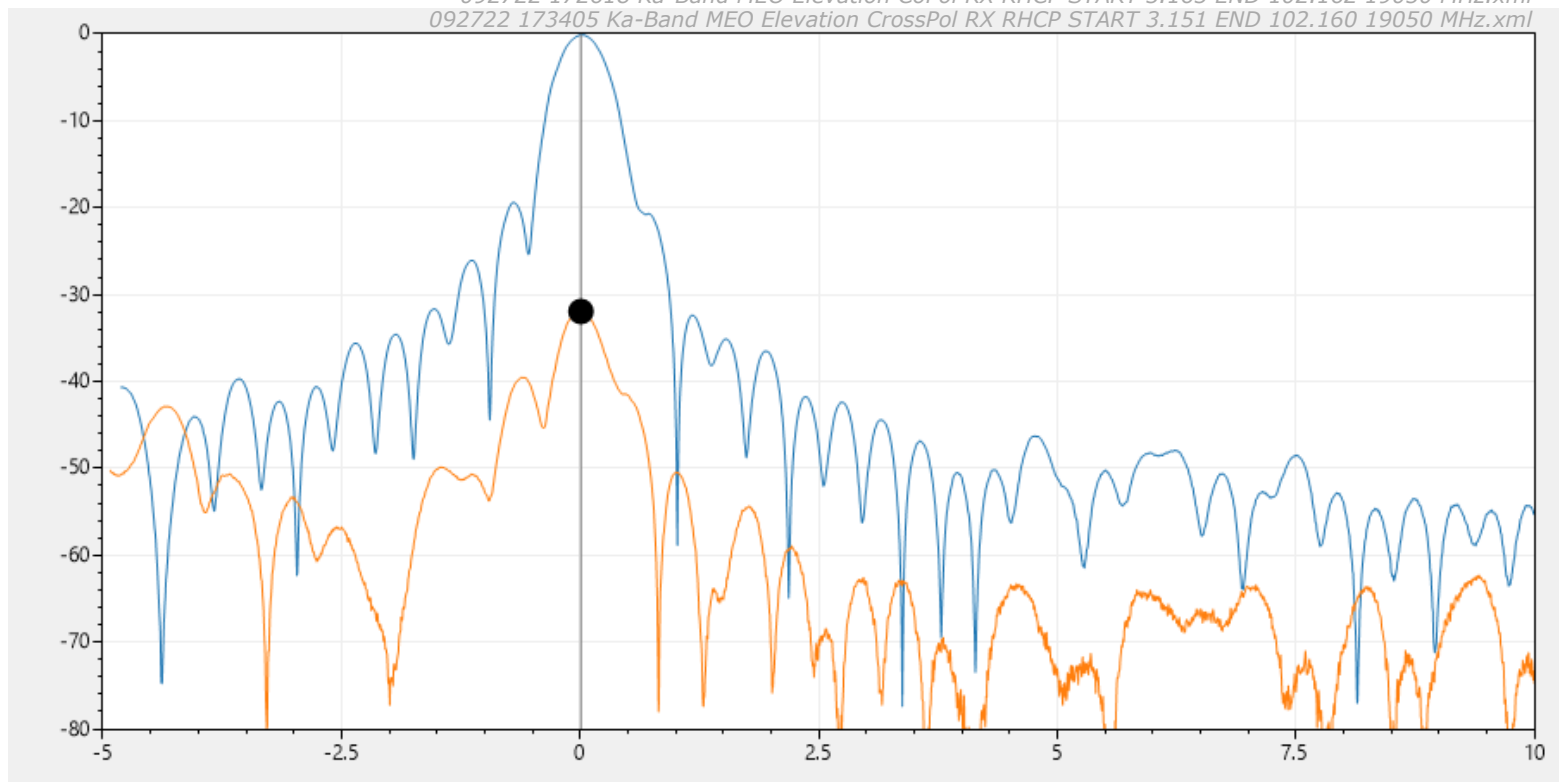
Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 31.8
Spec Cross-Pol (dB): 30.0

092722 172618 Ka-Band MEO Elevation CoPol RX RHCP START 3.163 END 102.162 19050 MHz.xml
092722 173405 Ka-Band MEO Elevation CrossPol RX RHCP START 3.151 END 102.160 19050 MHz.xml



Elevation

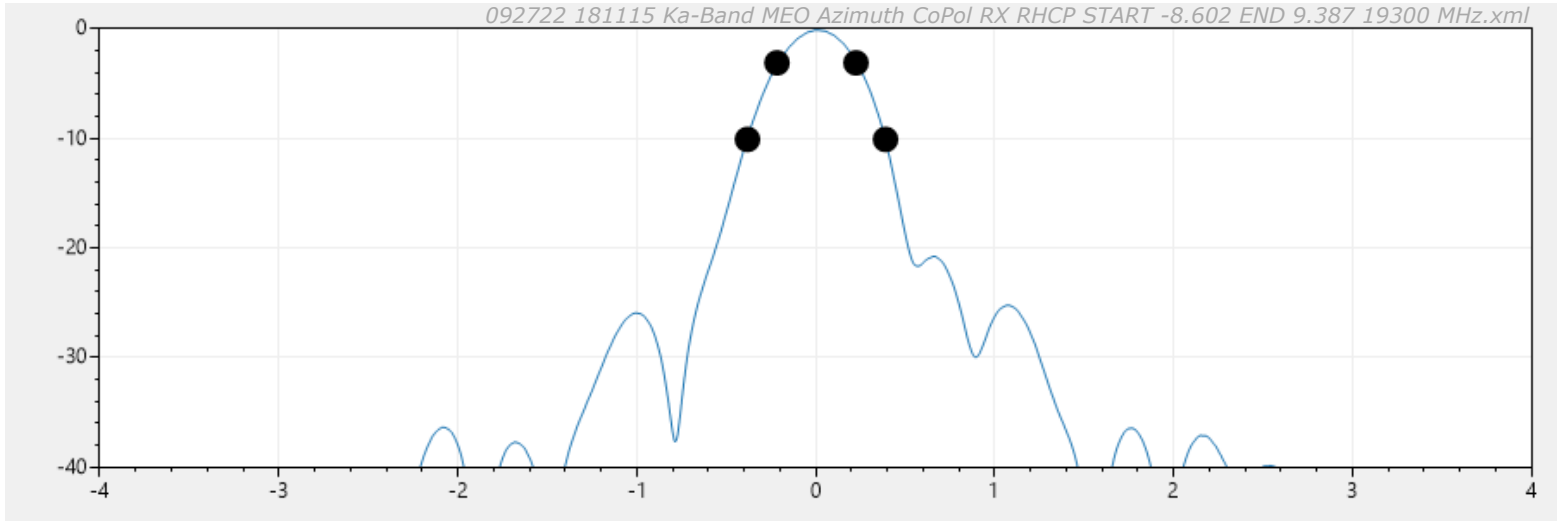
Test Frequency (GHz): 19.05
Band: Receive
Polarization: RHCP

Gain by Beamwidth

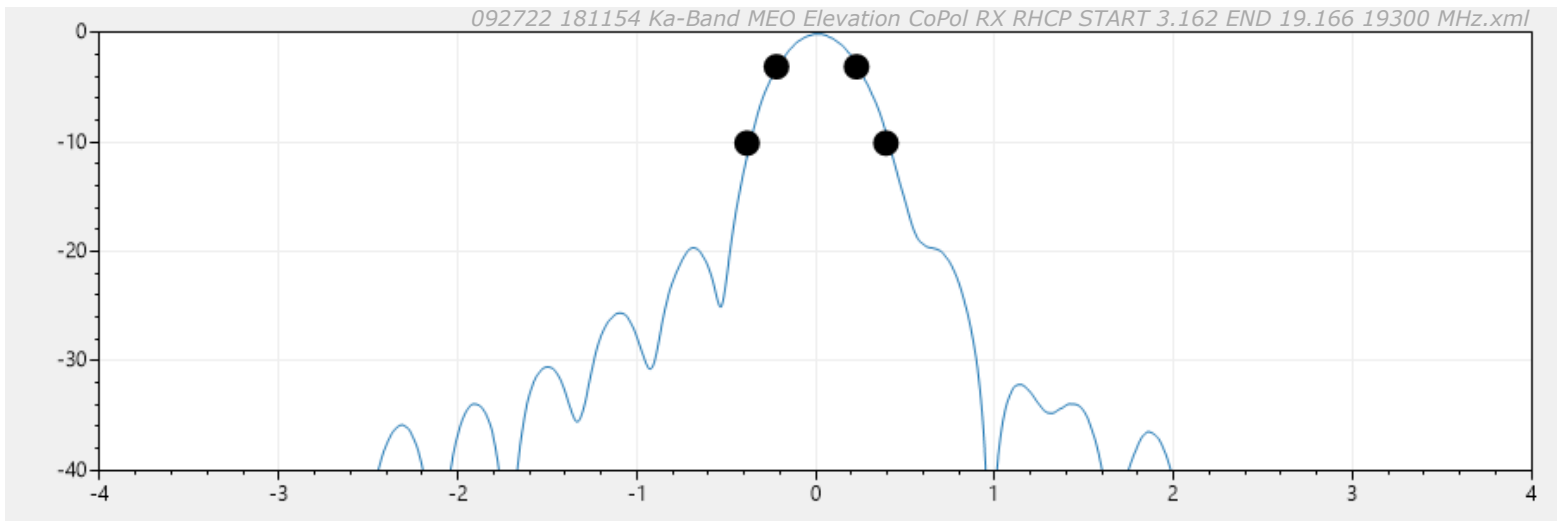
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 51.000

Calculated Gain (dBi): 51.888



Azimuth



Elevation

3 dB Factor:	37000	Test Frequency (GHz):	19.3	Azimuth 3 dB:	0.441°
10 dB Factor:	107000	Band:	Receive	Azimuth 10 dB:	0.772°
Dish RMS (in):	0.01	Polarization:	RHCP	Elevation 3 dB:	0.448°
Feed Loss (dB):	0.55	Surface RMS Loss (dB):	0.183	Elevation 10 dB:	0.776°

Calculated Gain =

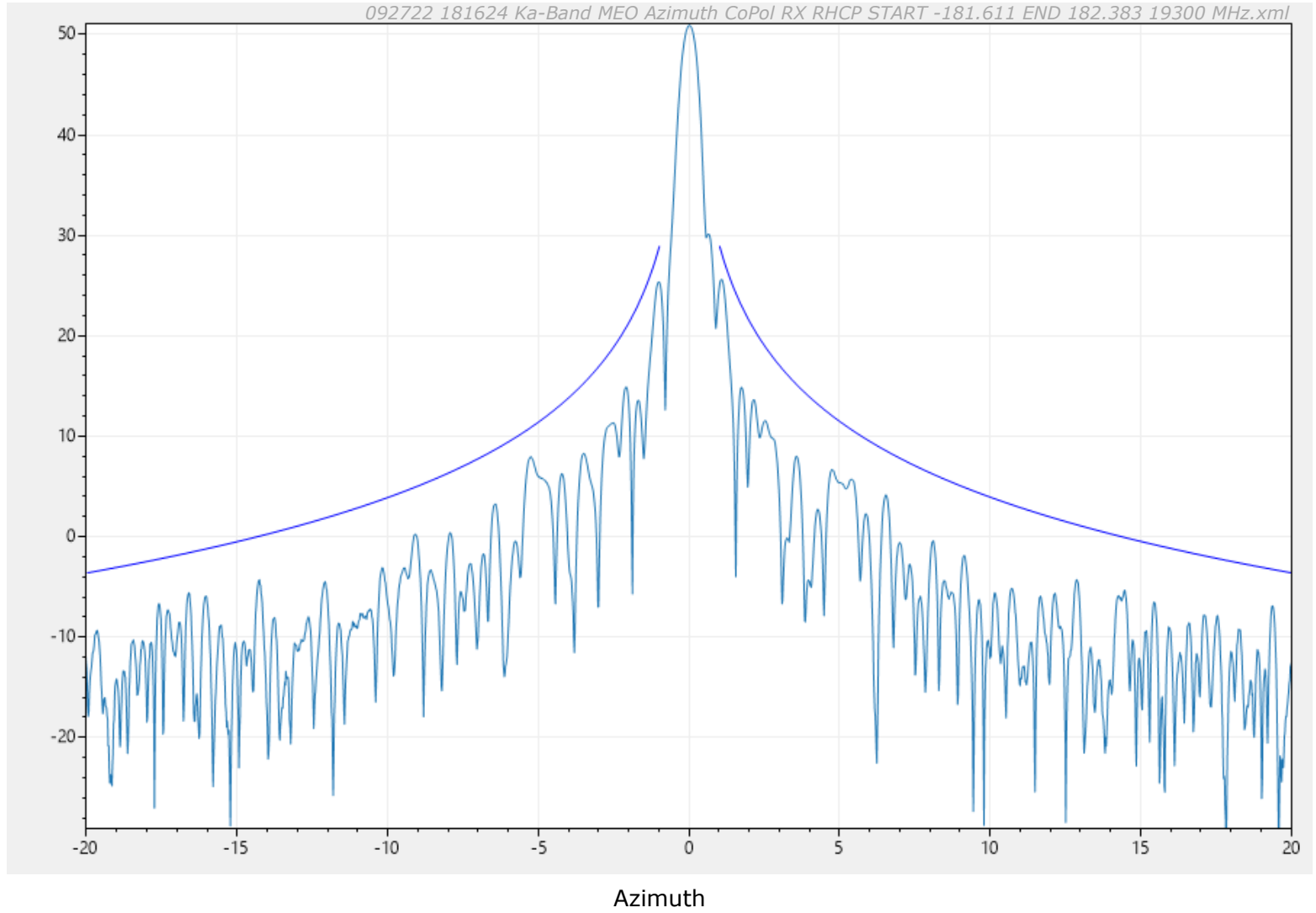
(Average of gain from 3dB and 10dB Beamwidth (52.621)) - Feed Loss (0.55) - Surface RMS Loss (0.183)

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

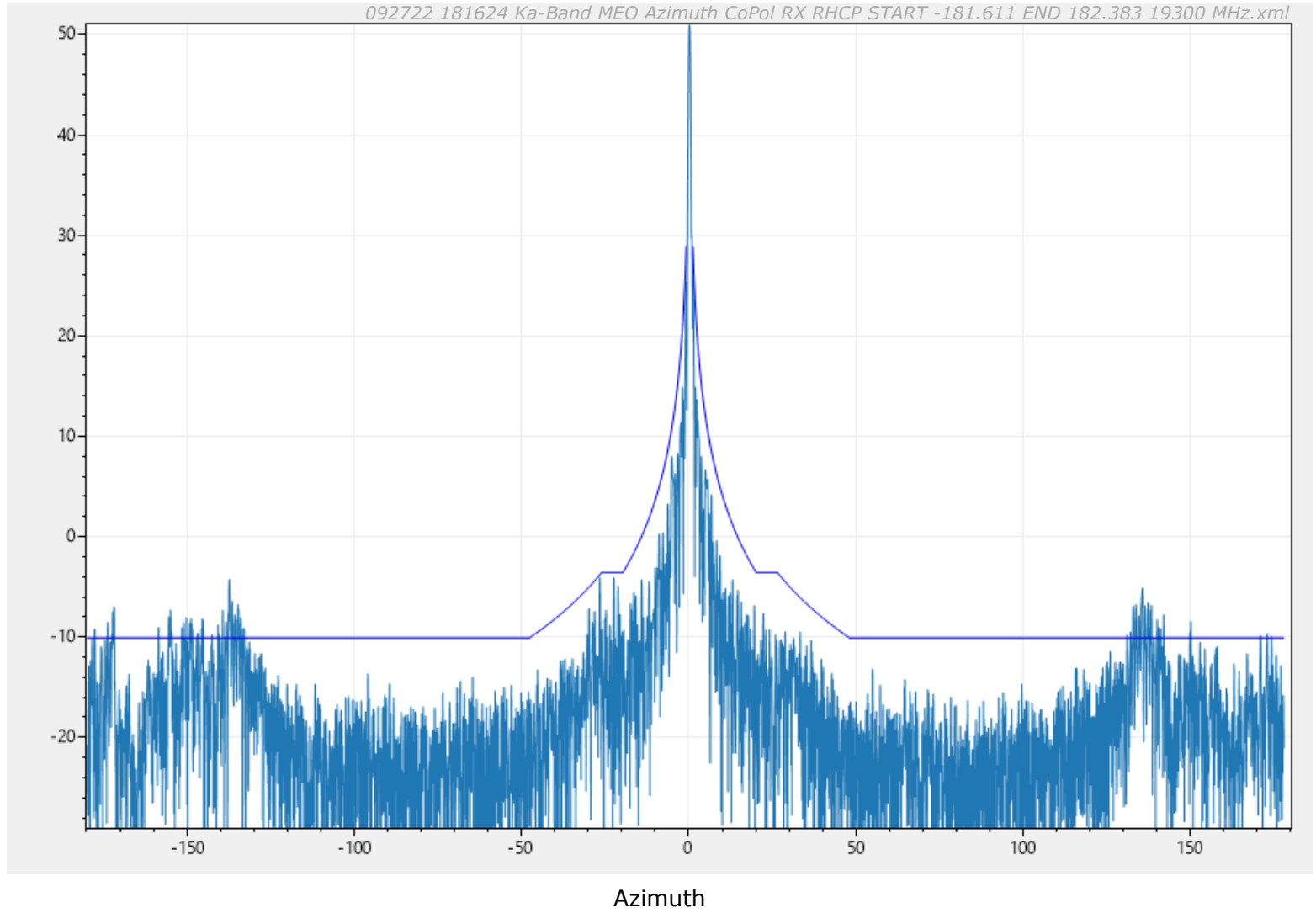
Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 51.0
Sidelobes Over Curve: 3.12%

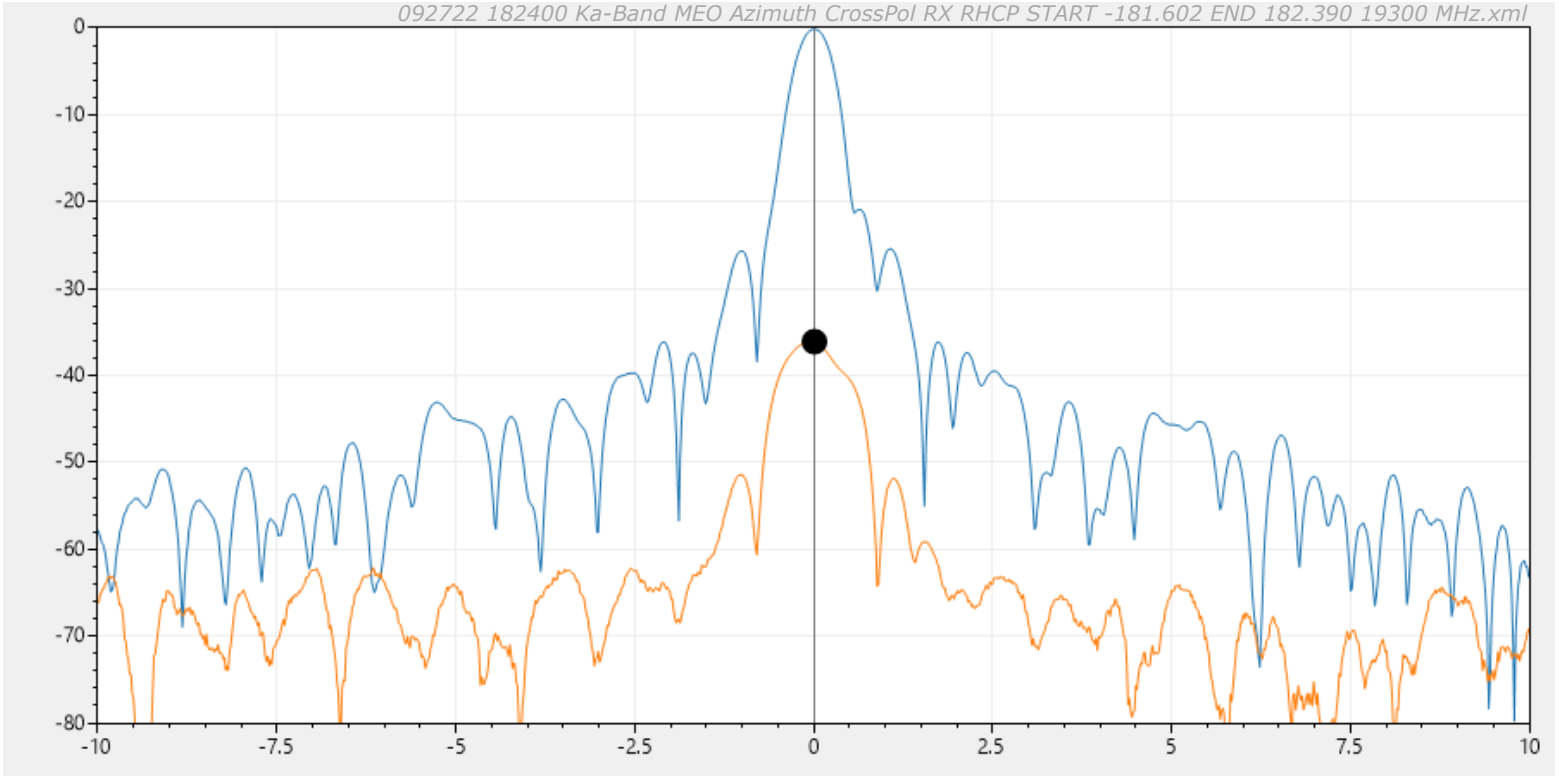
Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 36.0
Spec Cross-Pol (dB): 30.0

092722 181624 Ka-Band MEO Azimuth CoPol RX RHCP START -181.611 END 182.383 19300 MHz.xml
092722 182400 Ka-Band MEO Azimuth CrossPol RX RHCP START -181.602 END 182.390 19300 MHz.xml



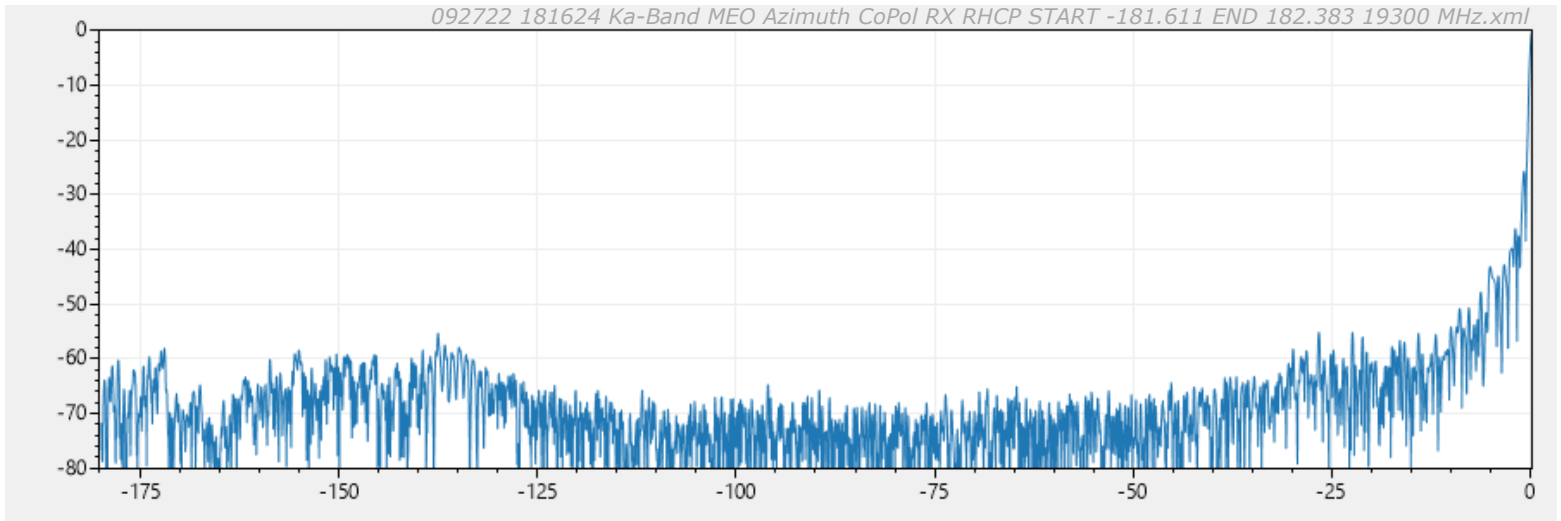
Azimuth

Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

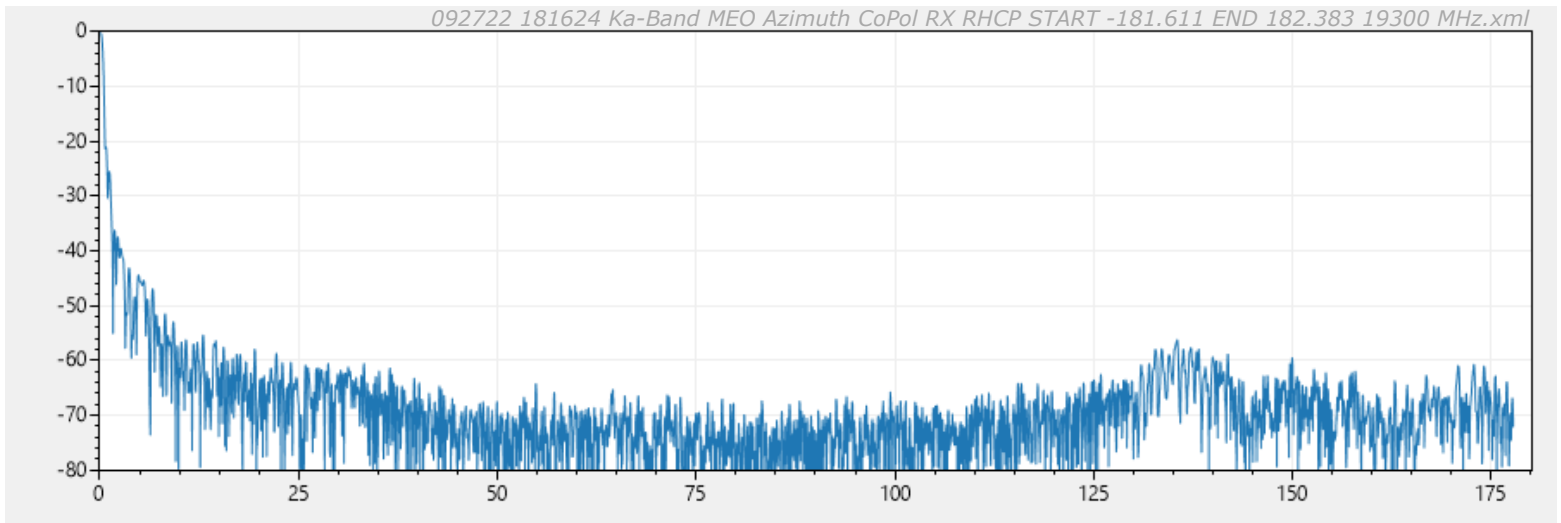
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

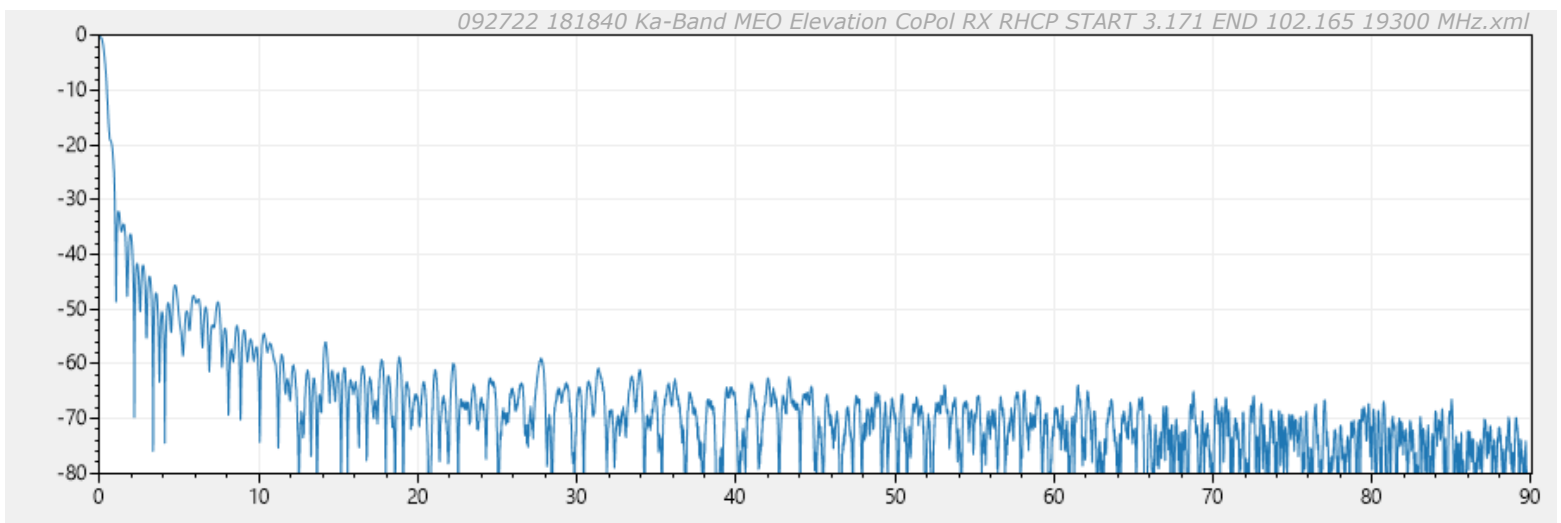
Specified Gain (dBi): 51.000
Calculated Gain (dBi): 51.866
Feed Loss (dB): 0.55
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



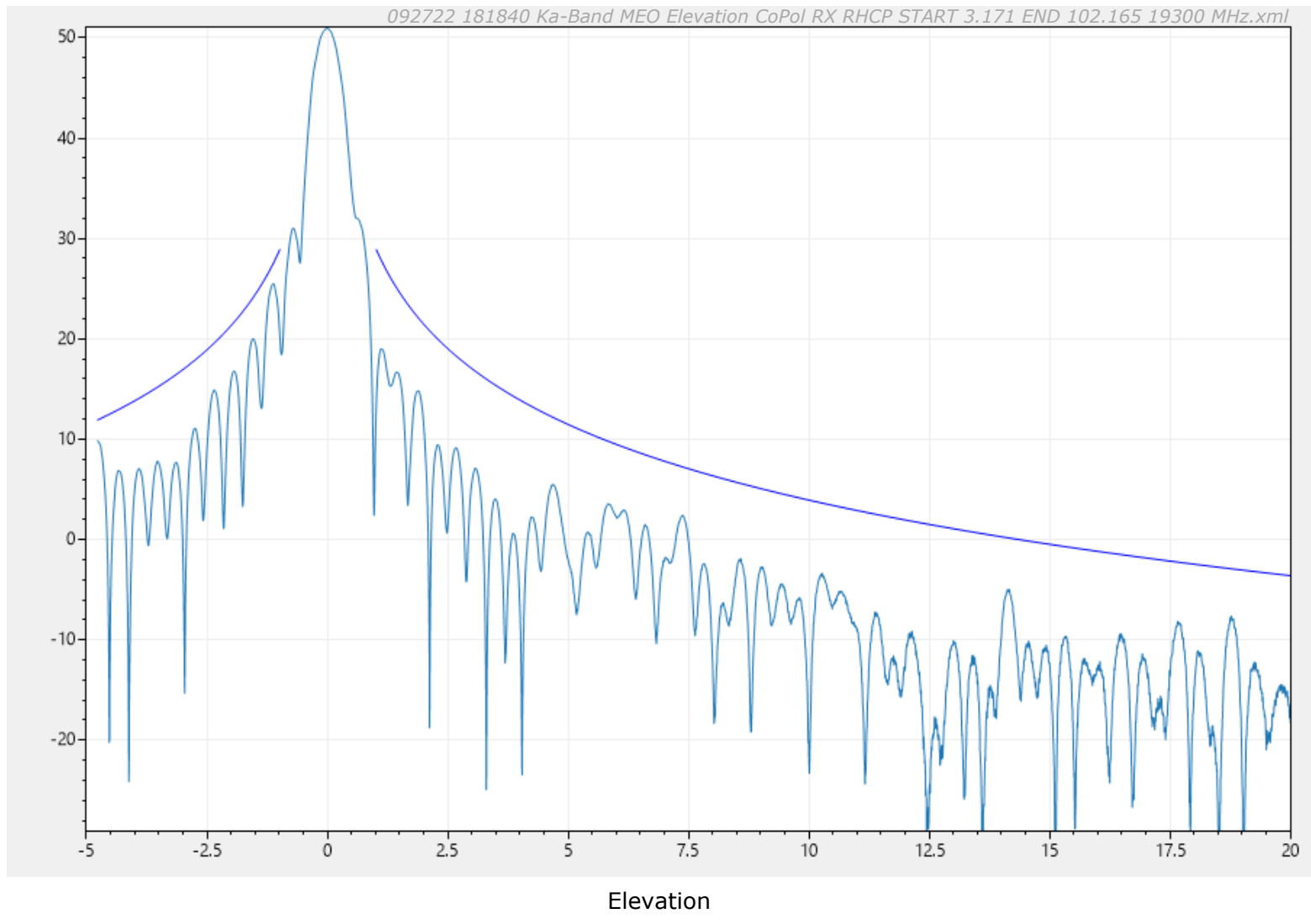
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

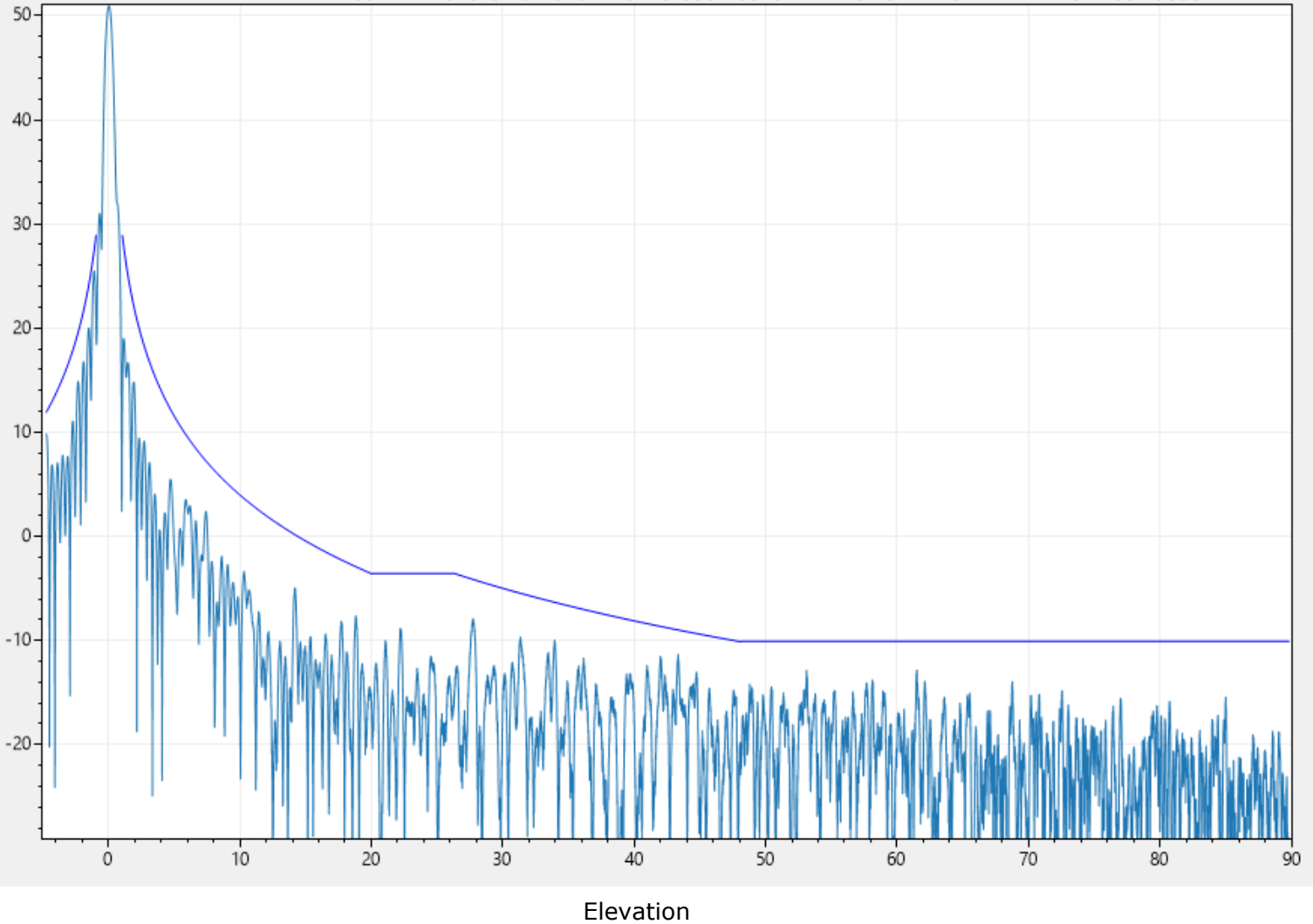
Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 181840 Ka-Band MEO Elevation CoPol RX RHCP START 3.171 END 102.165 19300 MHz.xml



Gain (dBi): 51.0
Sidelobes Over Curve: 0.00%

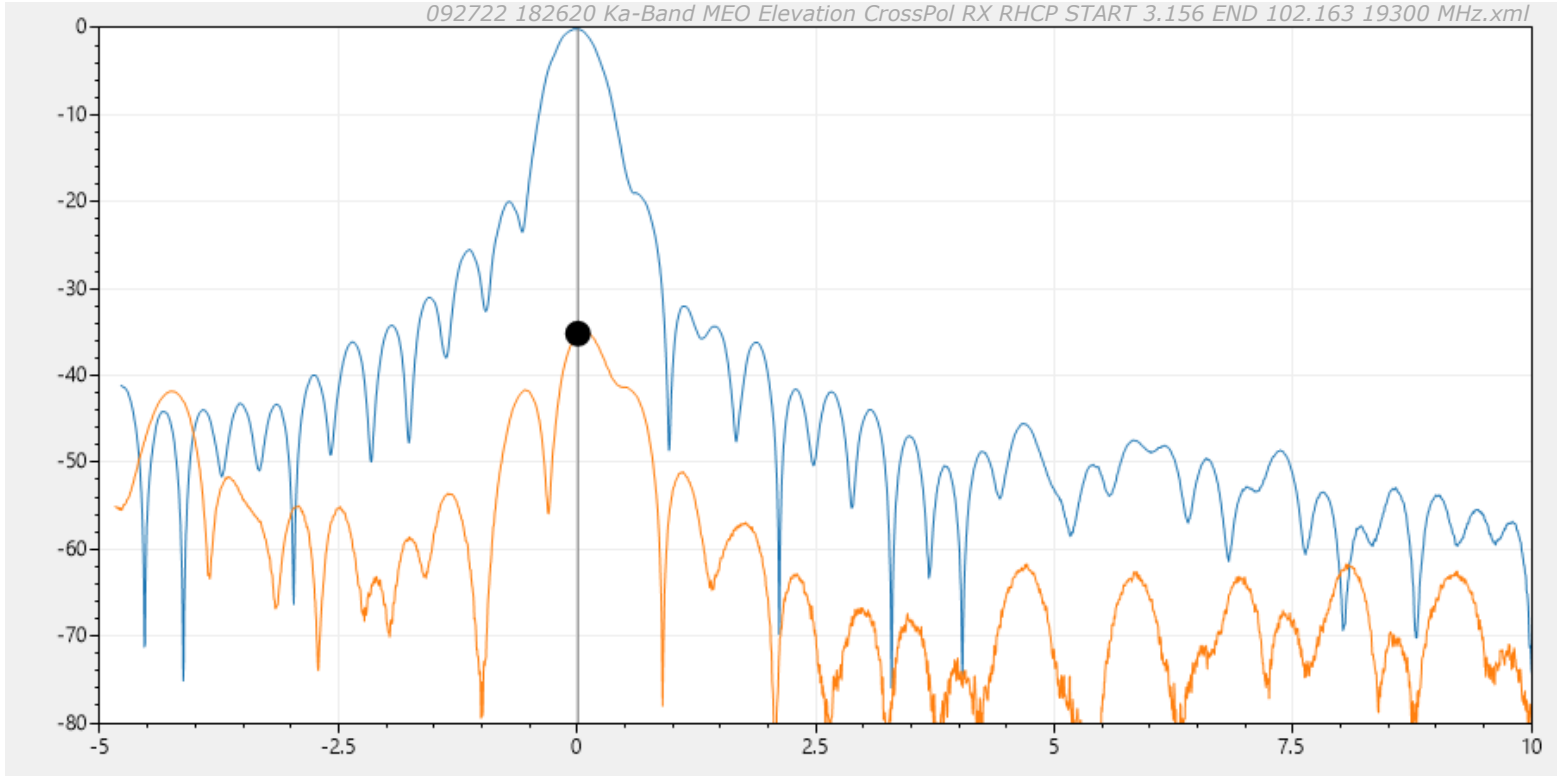
Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 35.1
Spec Cross-Pol (dB): 30.0

092722 181840 Ka-Band MEO Elevation CoPol RX RHCP START 3.171 END 102.165 19300 MHz.xml
092722 182620 Ka-Band MEO Elevation CrossPol RX RHCP START 3.156 END 102.163 19300 MHz.xml



Elevation

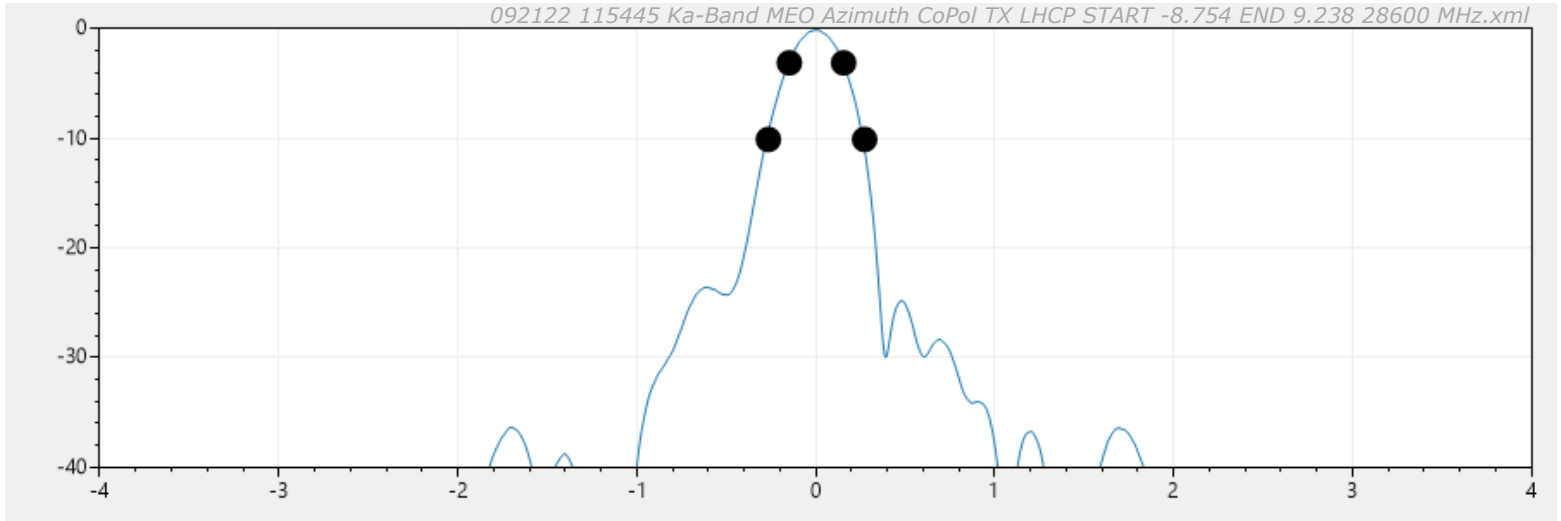
Test Frequency (GHz): 19.3
Band: Receive
Polarization: RHCP

Gain by Beamwidth

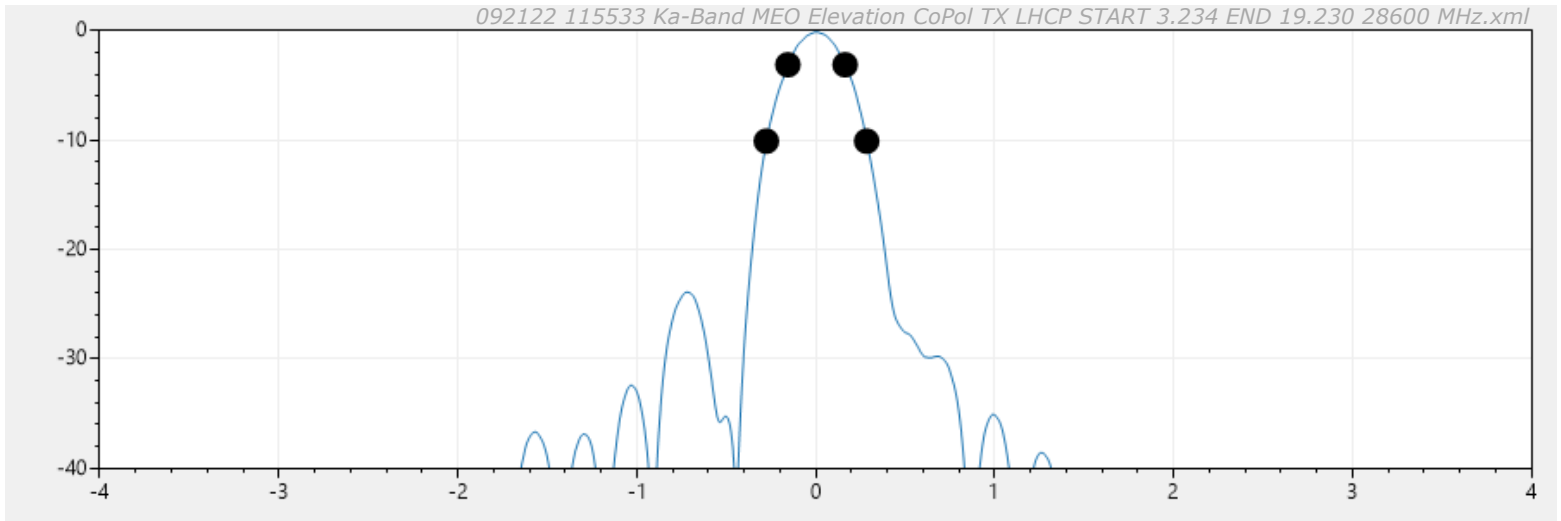
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Specified Gain (dBi): 54.300

Calculated Gain (dBi): 54.809



Azimuth



Elevation

3 dB Factor: 37000
10 dB Factor: 107000
Dish RMS (in): 0.01
Feed Loss (dB): 0.45

Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP
Surface RMS Loss (dB): 0.403

Azimuth 3 dB: 0.303°
Azimuth 10 dB: 0.538°
Elevation 3 dB: 0.320°
Elevation 10 dB: 0.561°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.662)) - Feed Loss (0.45) - Surface RMS Loss (0.403)

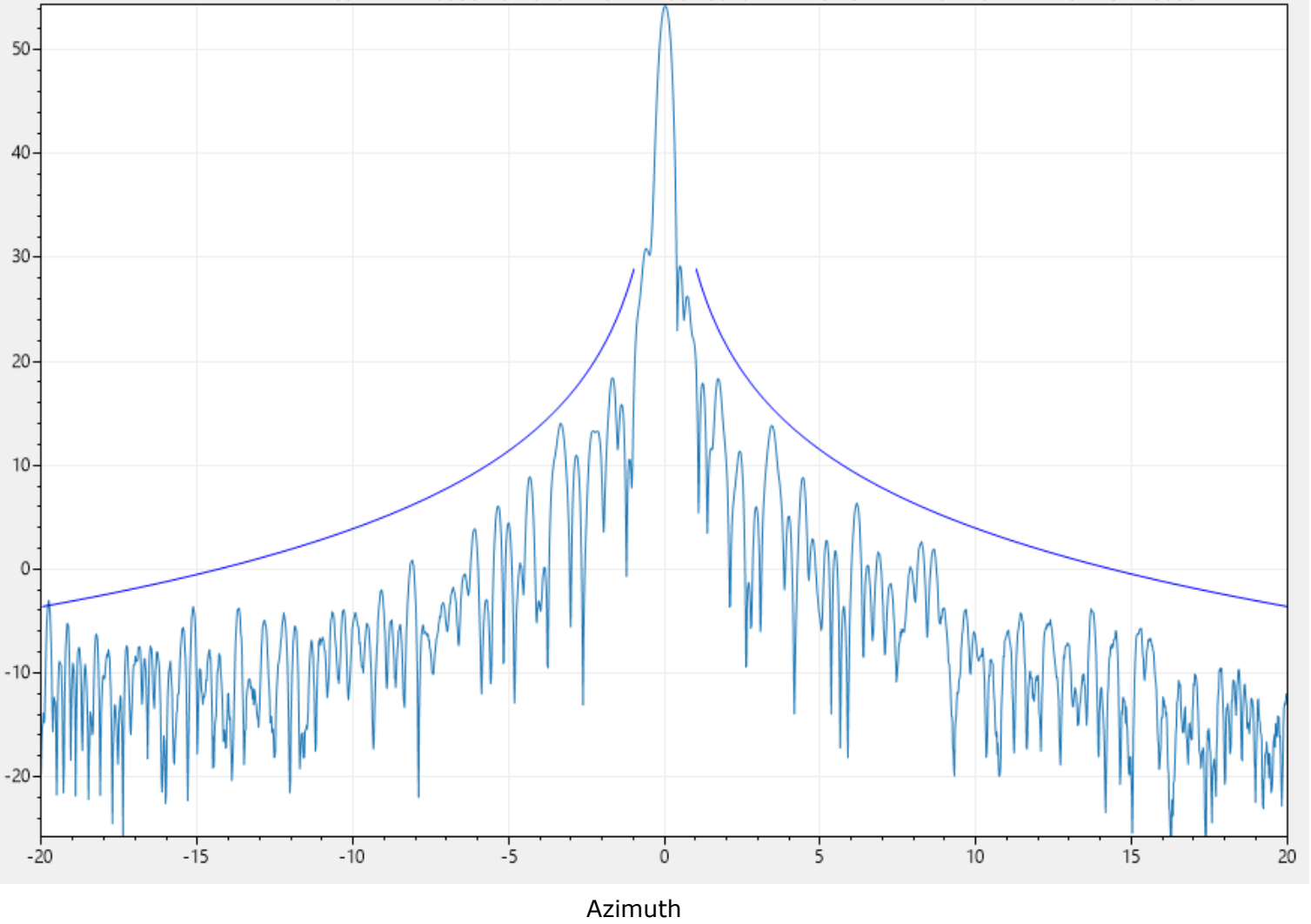
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 120035 Ka-Band MEO Azimuth CoPol TX LHCP START -181.761 END 182.234 28600 MHz.xml



Gain (dBi): 54.3
Sidelobes Over Curve: 0.09%

Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

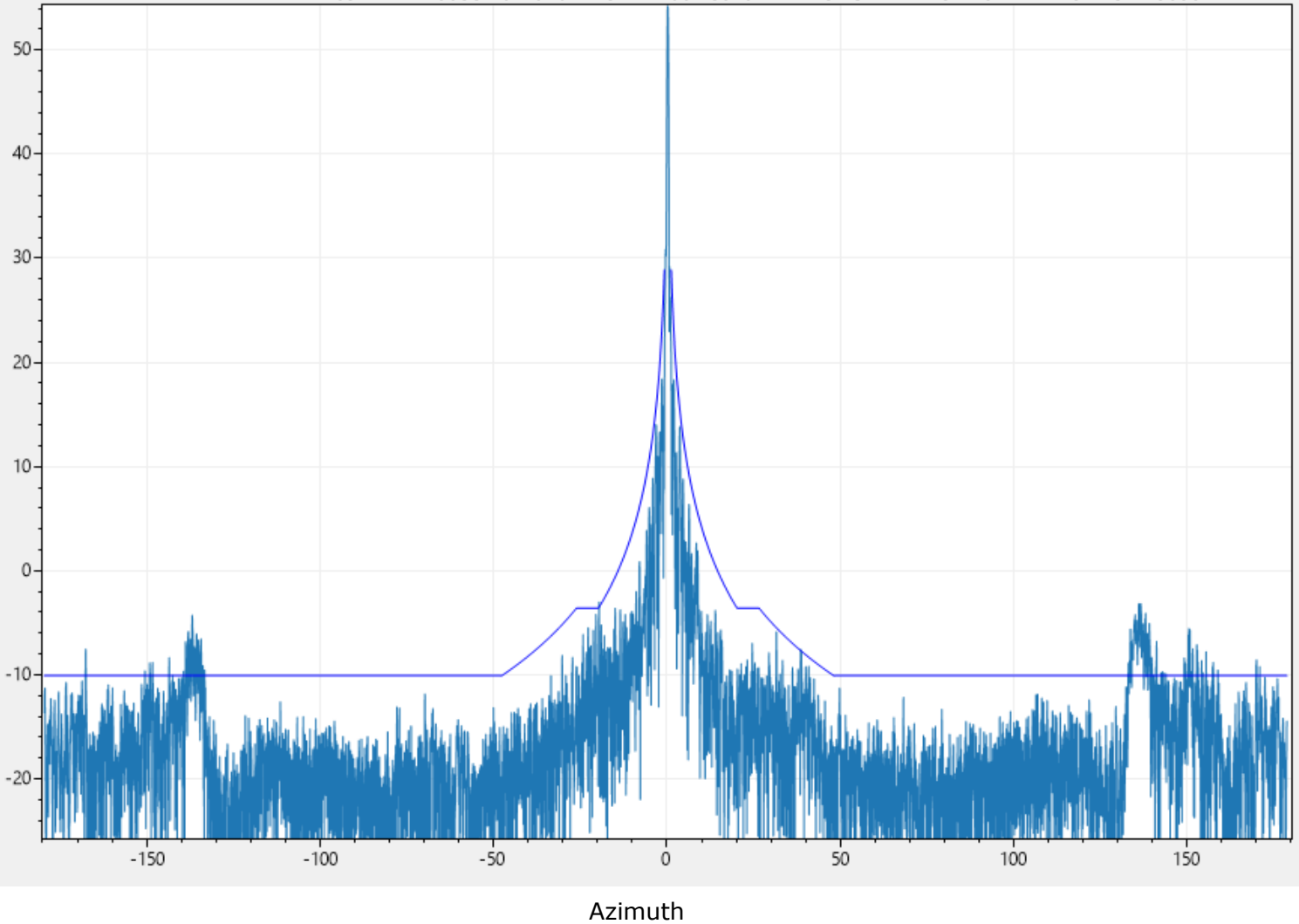
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 120035 Ka-Band MEO Azimuth CoPol TX LHCP START -181.761 END 182.234 28600 MHz.xml



Gain (dBi): 54.3
Sidelobes Over Curve: 3.48%

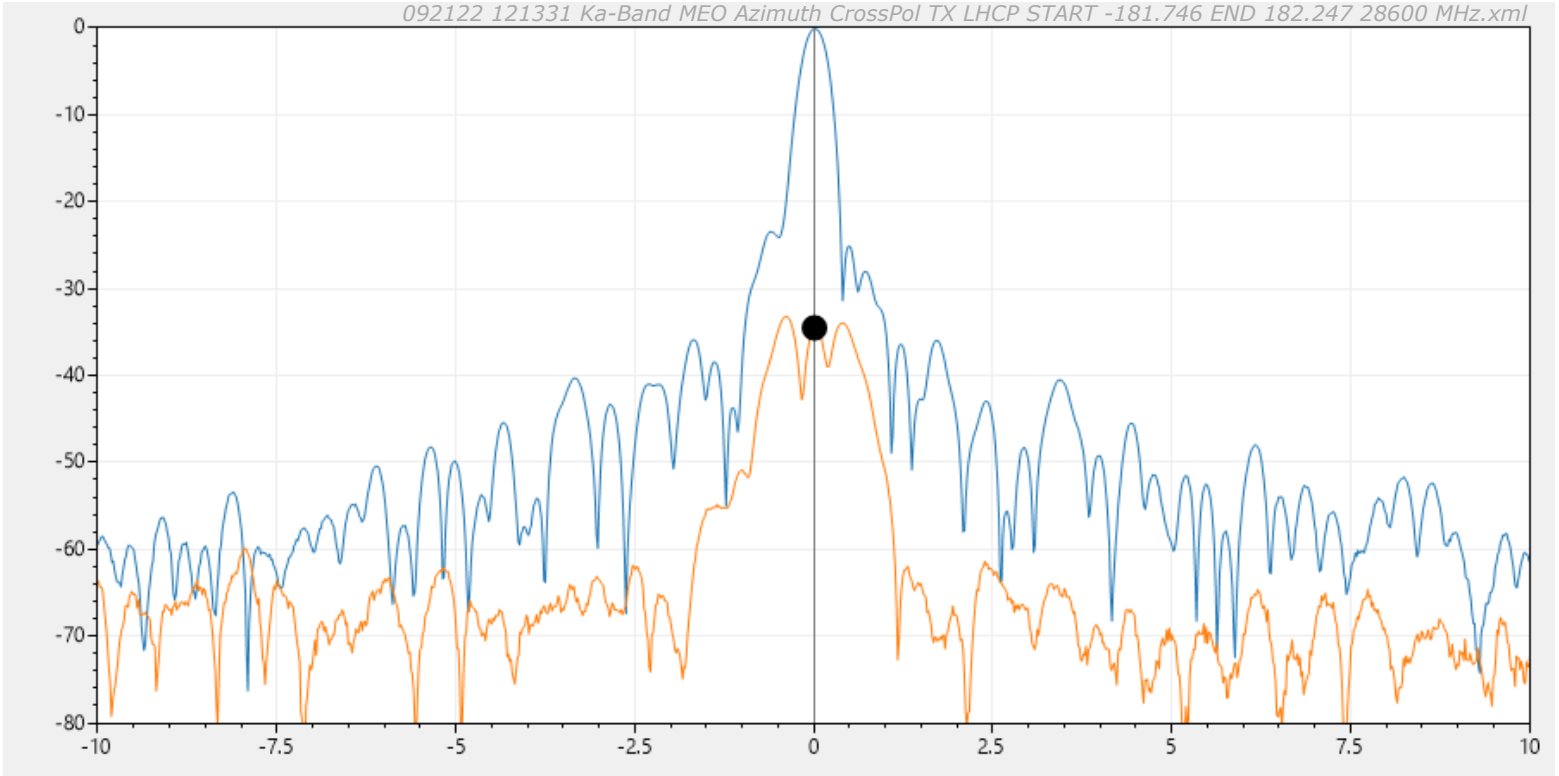
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 34.4
Spec Cross-Pol (dB): 30.0

092122 120035 Ka-Band MEO Azimuth CoPol TX LHCP START -181.761 END 182.234 28600 MHz.xml
092122 121331 Ka-Band MEO Azimuth CrossPol TX LHCP START -181.746 END 182.247 28600 MHz.xml



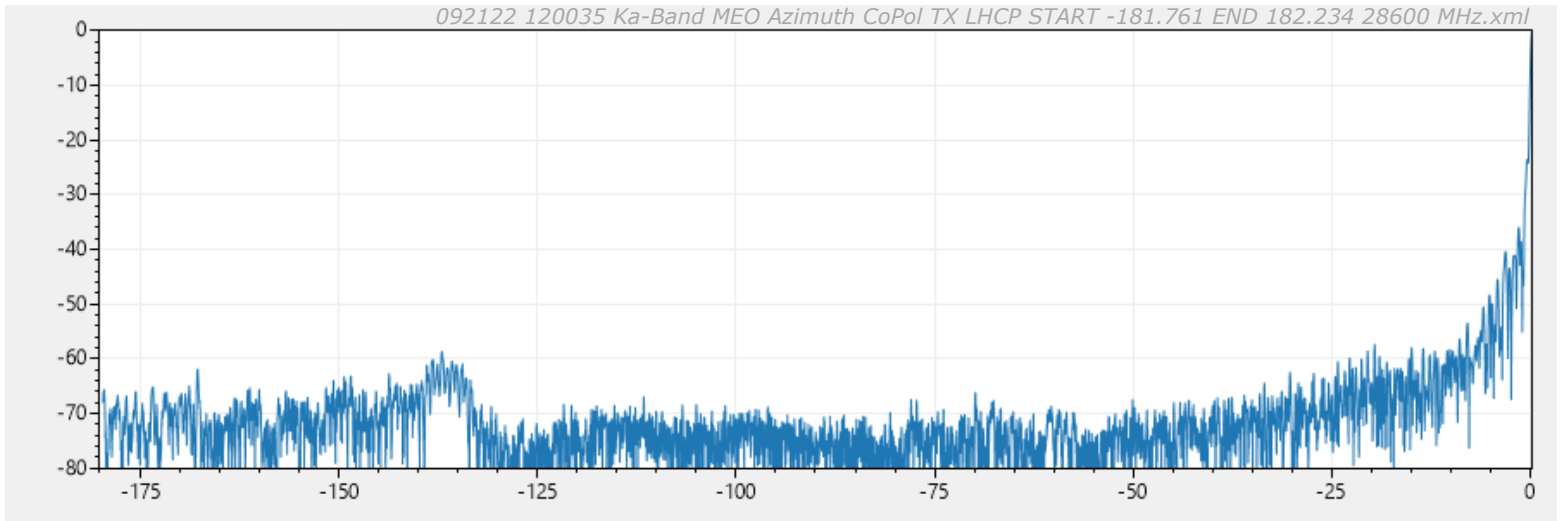
Azimuth

Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

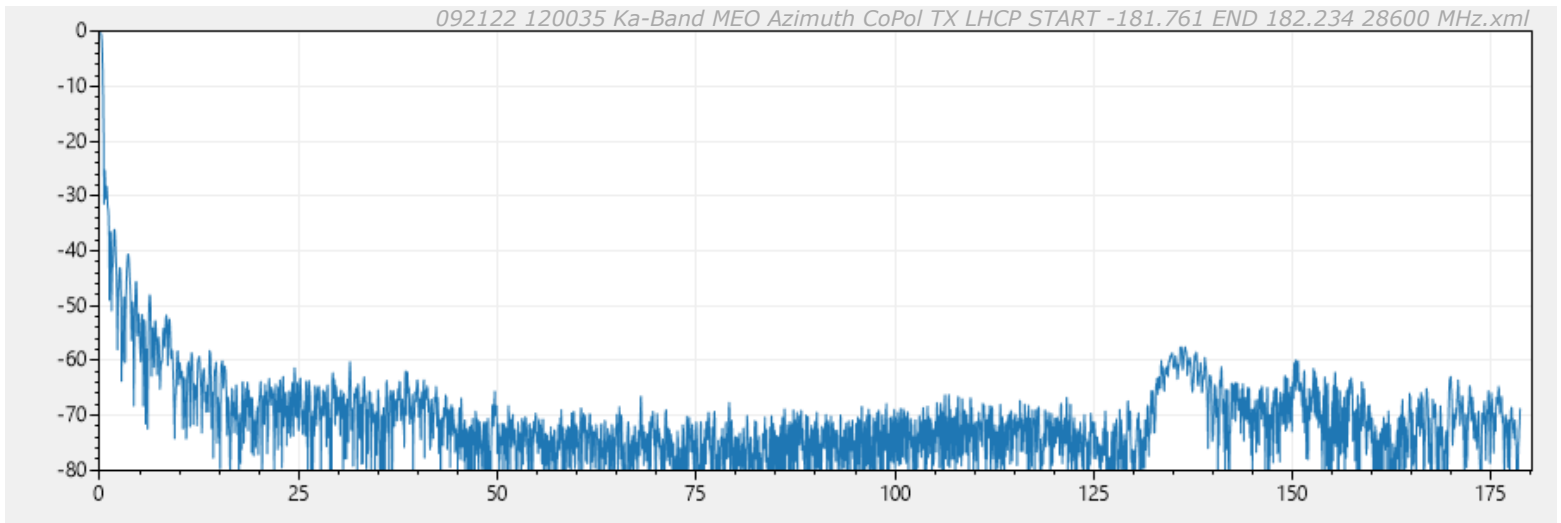
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

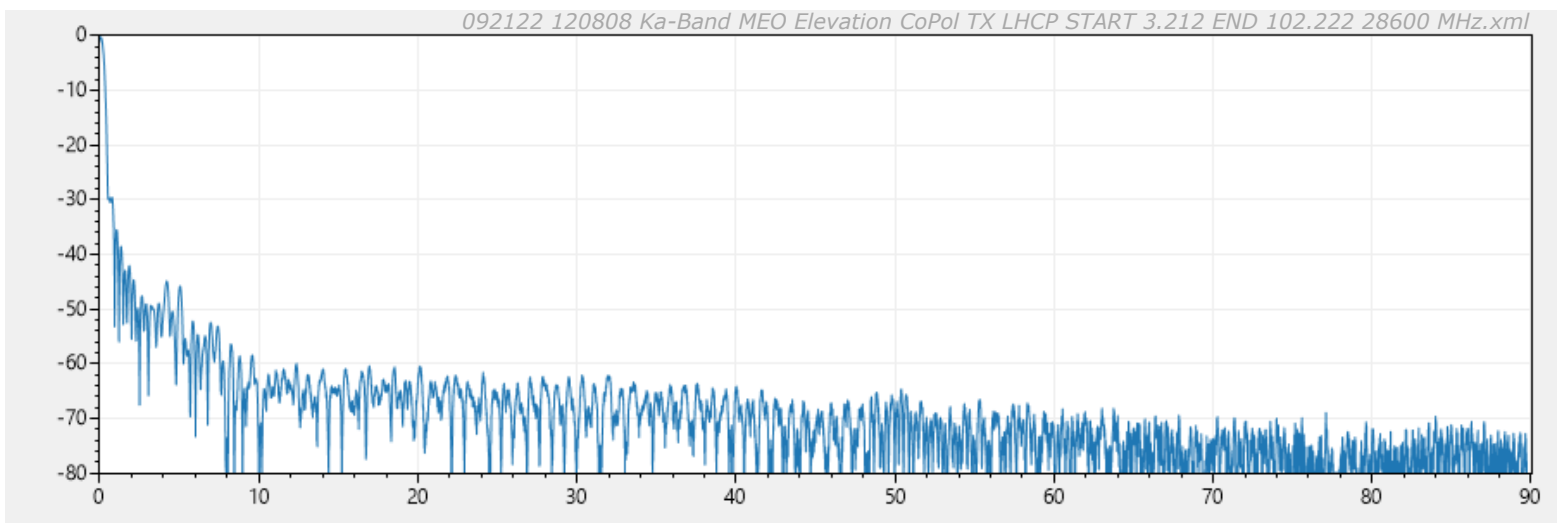
Specified Gain (dBi): 54.300
Calculated Gain (dBi): 54.878
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth

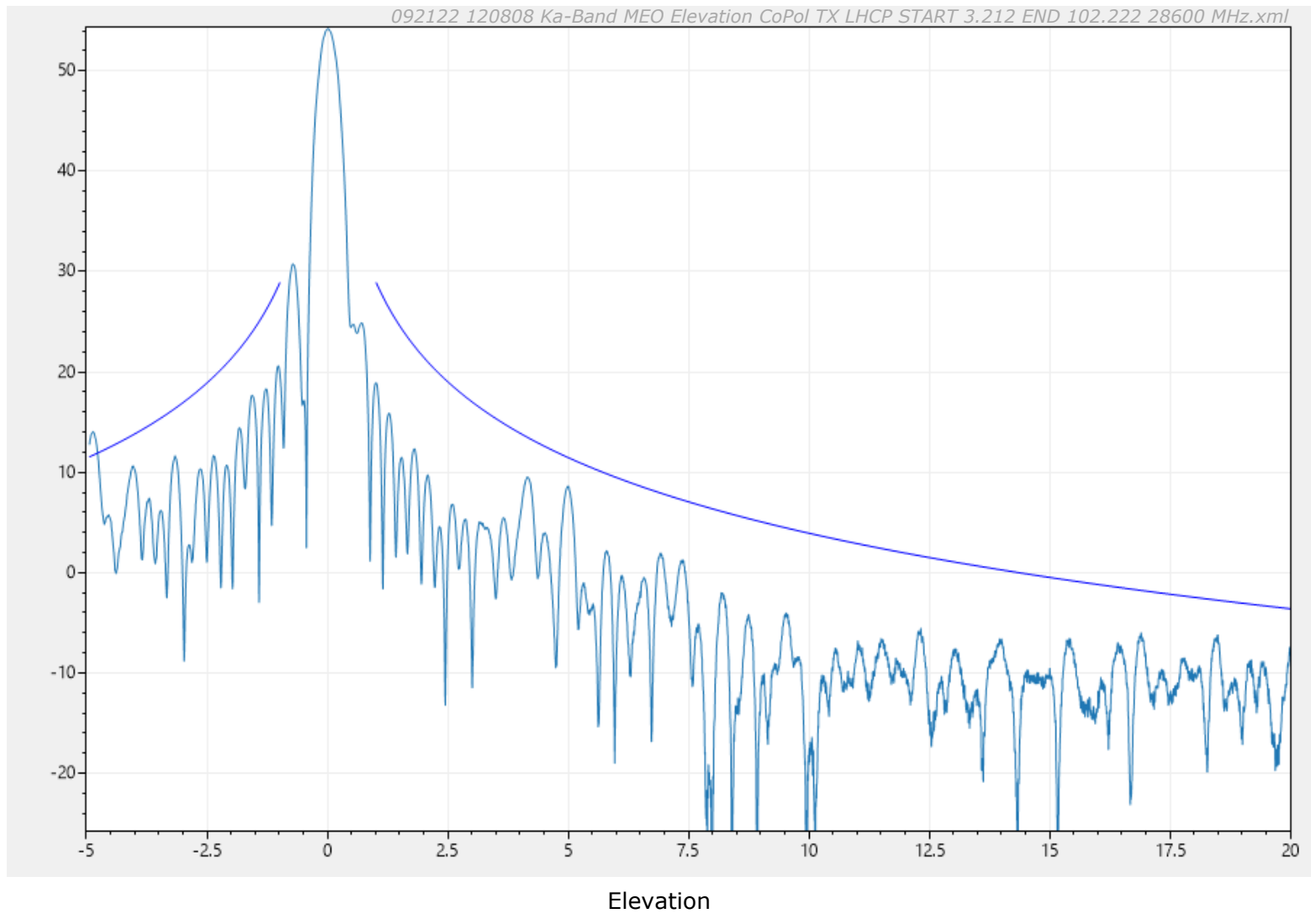


Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec:	Mil Std 188-164c		
Start Angle (°)	End Angle (°)	Formula (dBi)	
1.0	20	29-25*log(x)	
20	26.3	-3.5	
26.3	48	32-25*log(x)	
48	180	-10	



Gain (dBi): 54.3
Sidelobes Over Curve: 0.74%

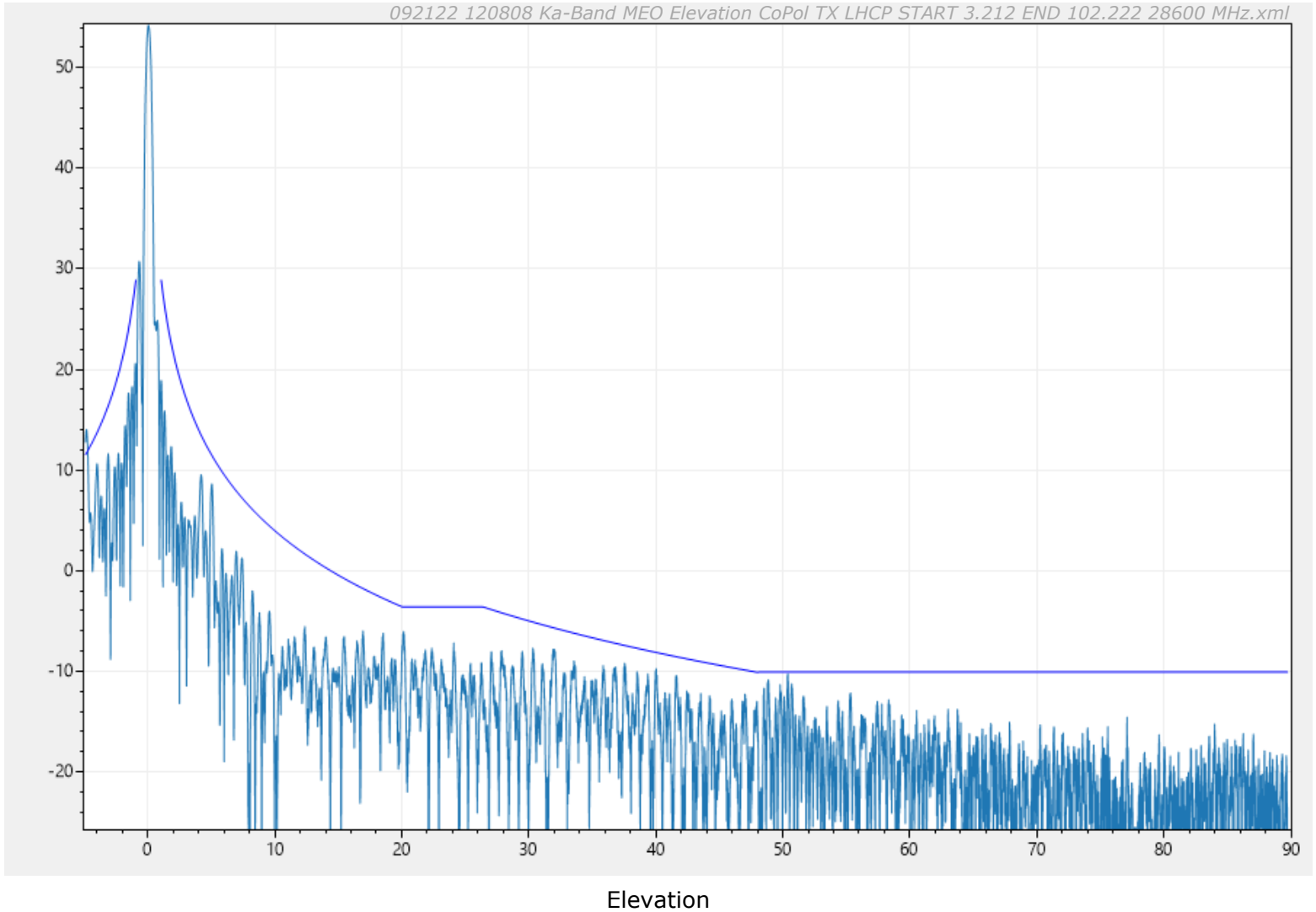
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.3
Sidelobes Over Curve: 0.18%

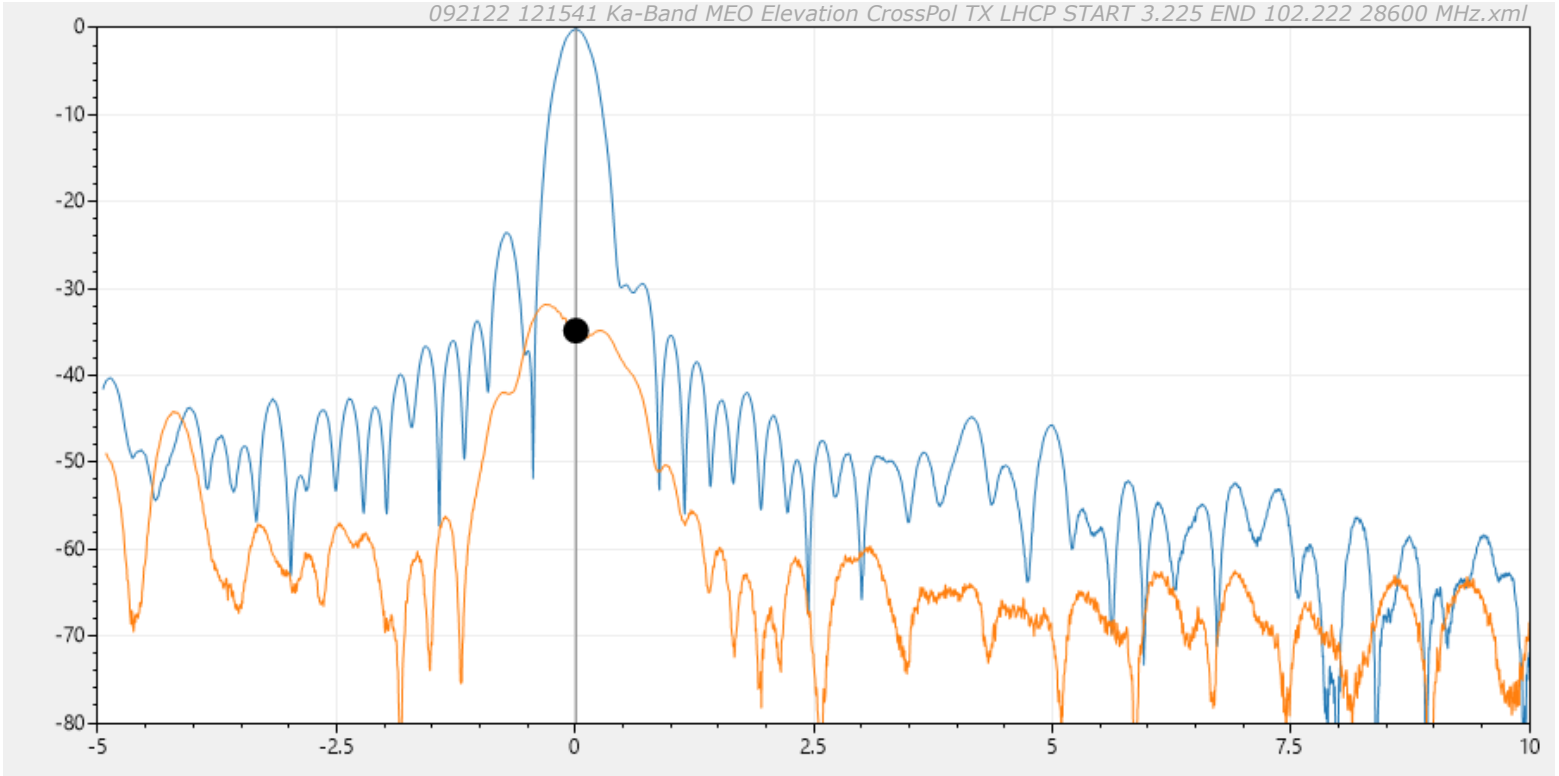
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 34.7
Spec Cross-Pol (dB): 30.0

092122 120808 Ka-Band MEO Elevation CoPol TX LHCP START 3.212 END 102.222 28600 MHz.xml
092122 121541 Ka-Band MEO Elevation CrossPol TX LHCP START 3.225 END 102.222 28600 MHz.xml



Elevation

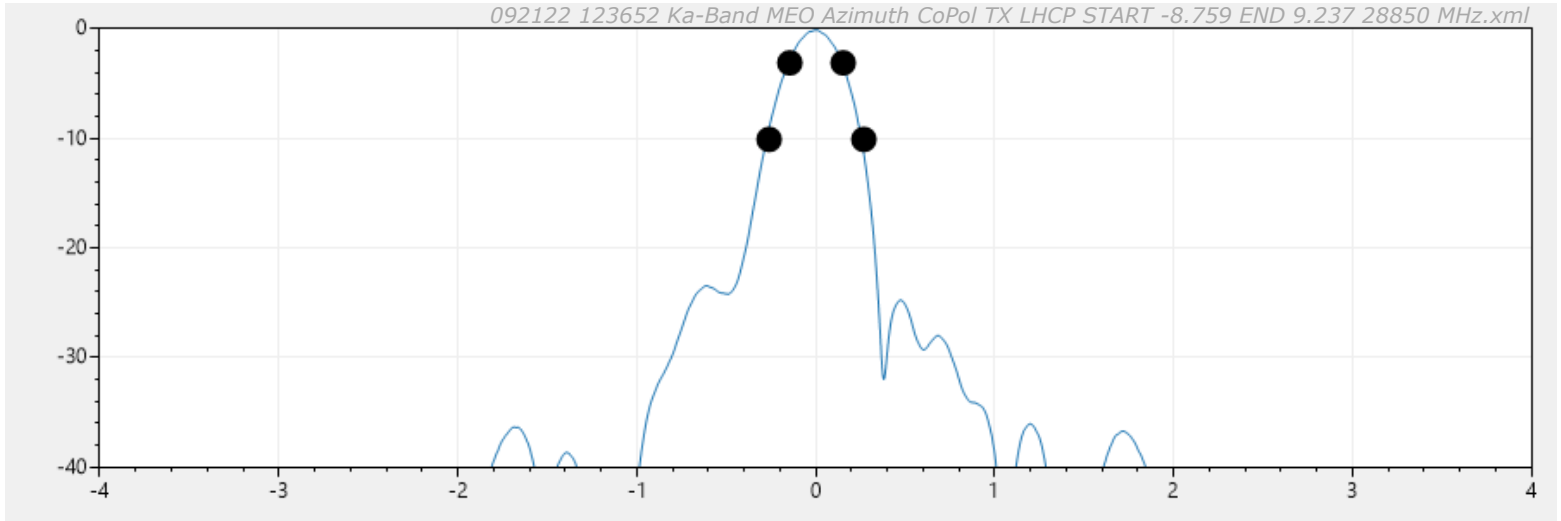
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: LHCP

Gain by Beamwidth

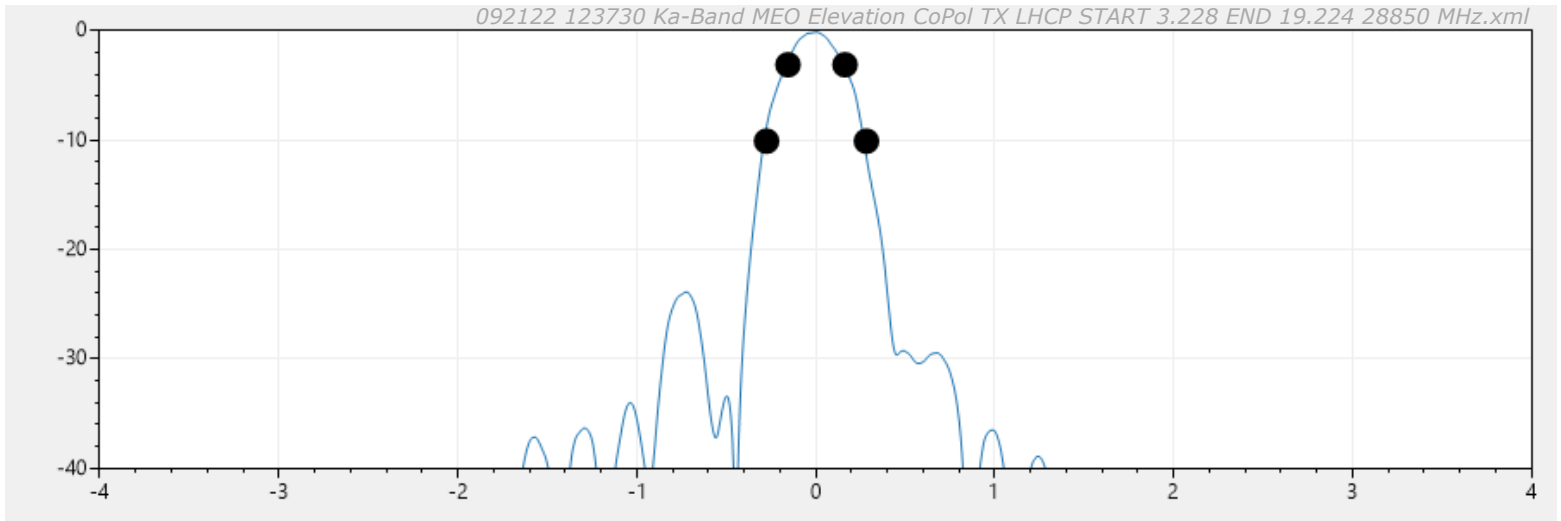
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Specified Gain (dBi): 54.400

Calculated Gain (dBi): 54.887



Azimuth



Elevation

3 dB Factor: 37000	Test Frequency (GHz): 28.85	Azimuth 3 dB: 0.299°
10 dB Factor: 107000	Band: Transmit	Azimuth 10 dB: 0.529°
Dish RMS (in): 0.01	Polarization: LHCP	Elevation 3 dB: 0.318°
Feed Loss (dB): 0.45	Surface RMS Loss (dB): 0.410	Elevation 10 dB: 0.558°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.747)) - Feed Loss (0.45) - Surface RMS Loss (0.410)

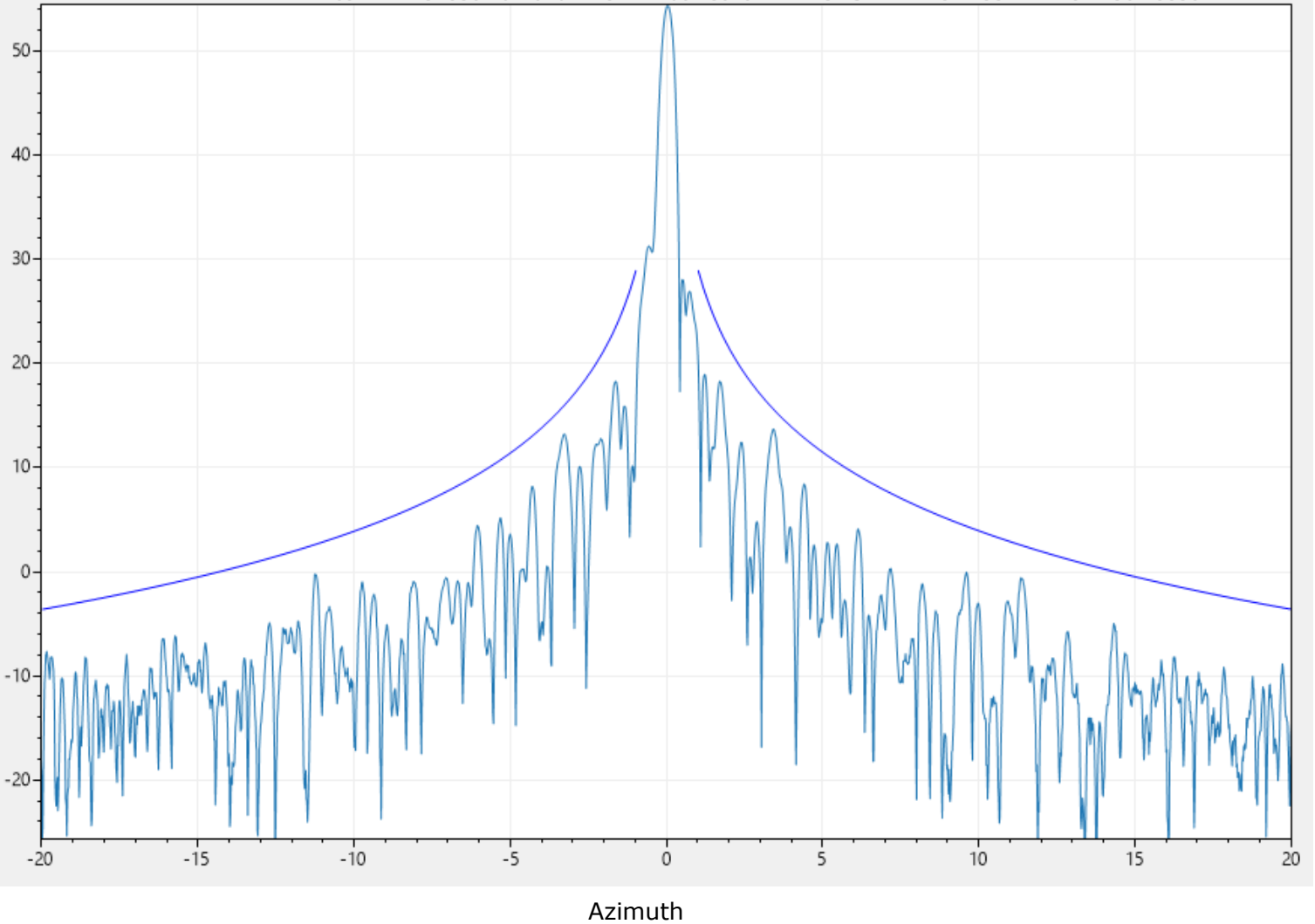
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 131850 Ka-Band MEO Azimuth CoPol TX LHCP START -181.755 END 182.236 28850 MHz.xml



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 28.85000007
Band: Transmit
Polarization: LHCP

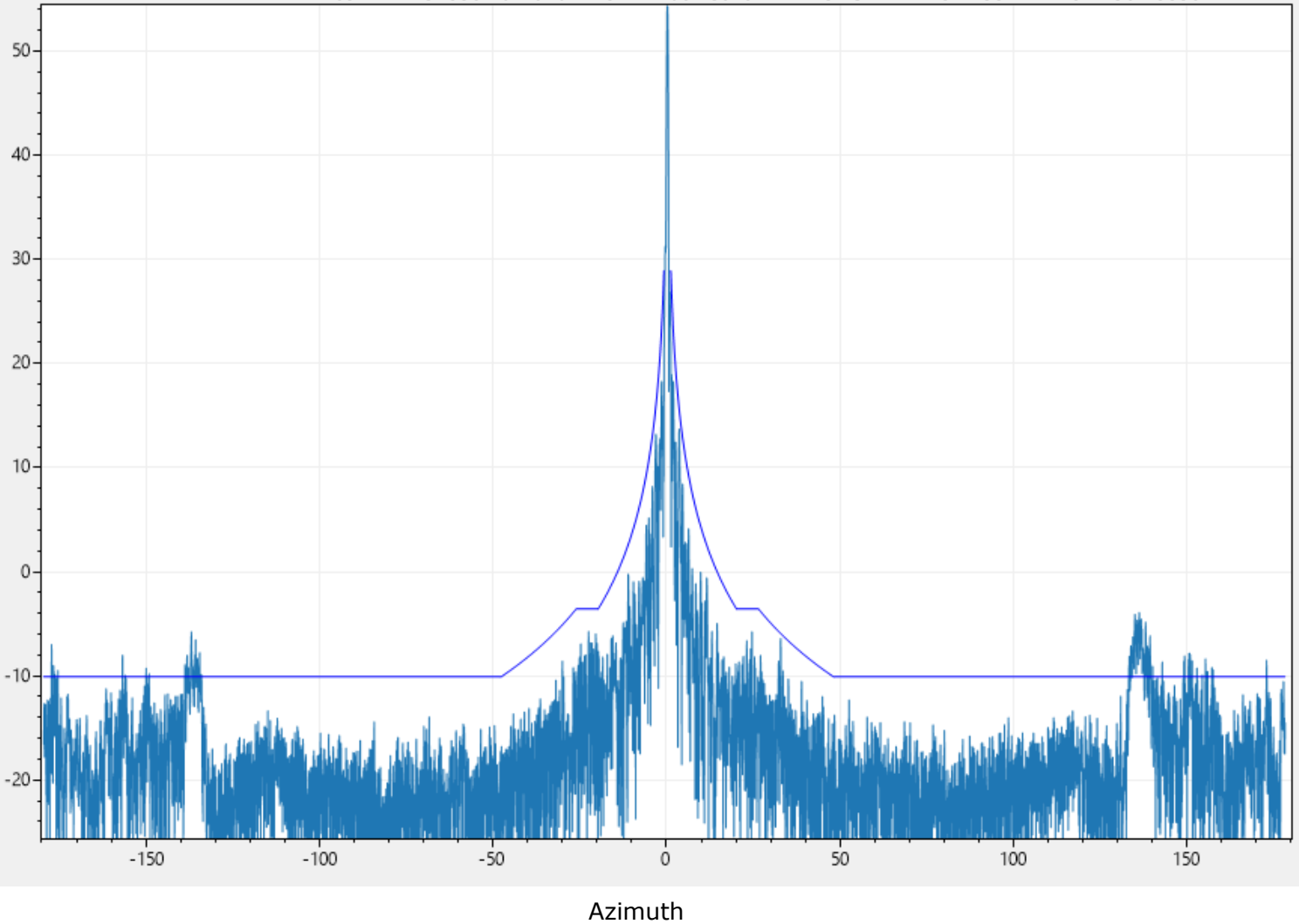
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 131850 Ka-Band MEO Azimuth CoPol TX LHCP START -181.755 END 182.236 28850 MHz.xml



Gain (dBi): 54.4
Sidelobes Over Curve: 2.77%

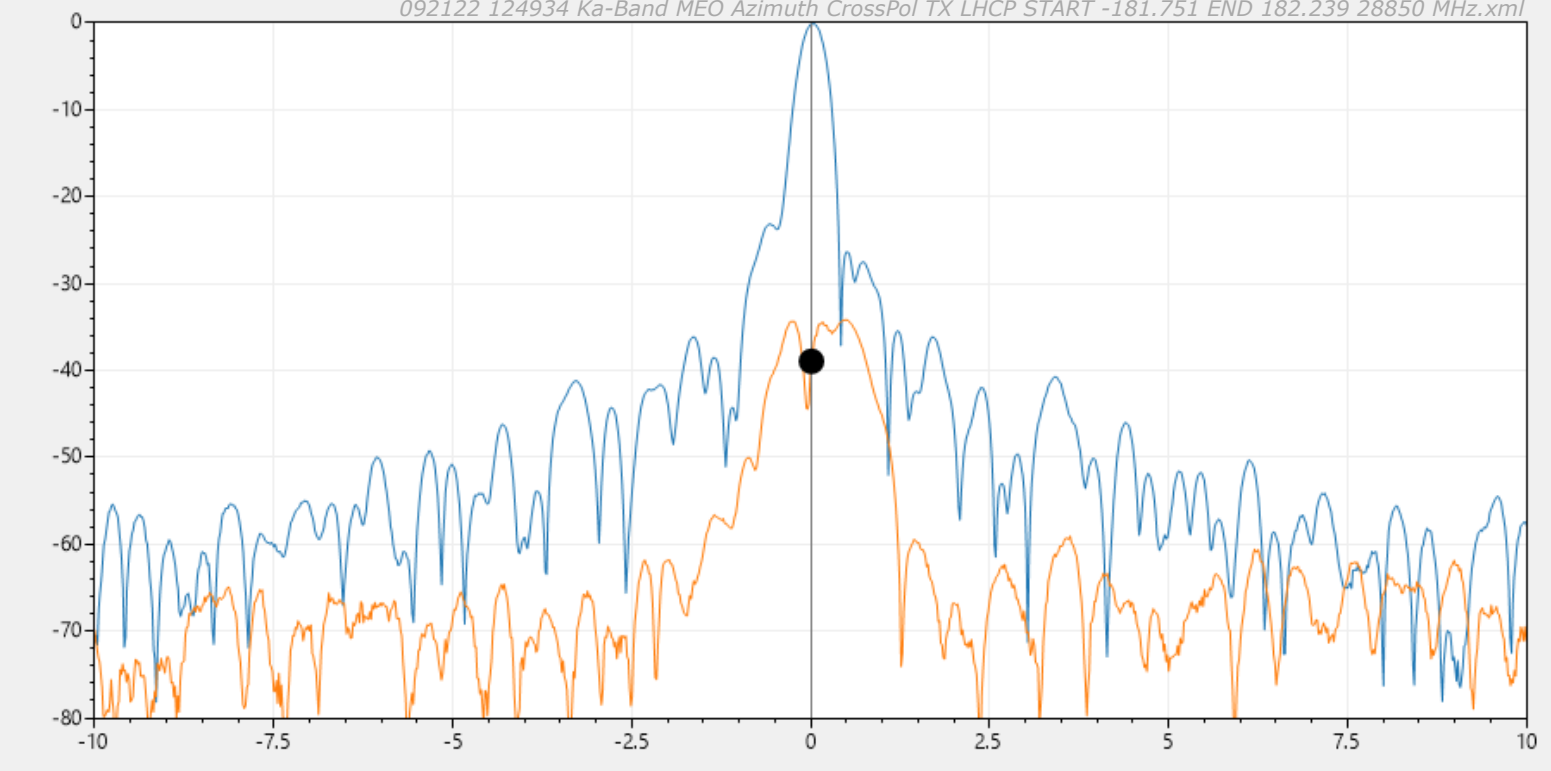
Test Frequency (GHz): 28.85000007
Band: Transmit
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 38.8
Spec Cross-Pol (dB): 30.0

092122 131850 Ka-Band MEO Azimuth CoPol TX LHCP START -181.755 END 182.236 28850 MHz.xml
092122 124934 Ka-Band MEO Azimuth CrossPol TX LHCP START -181.751 END 182.239 28850 MHz.xml



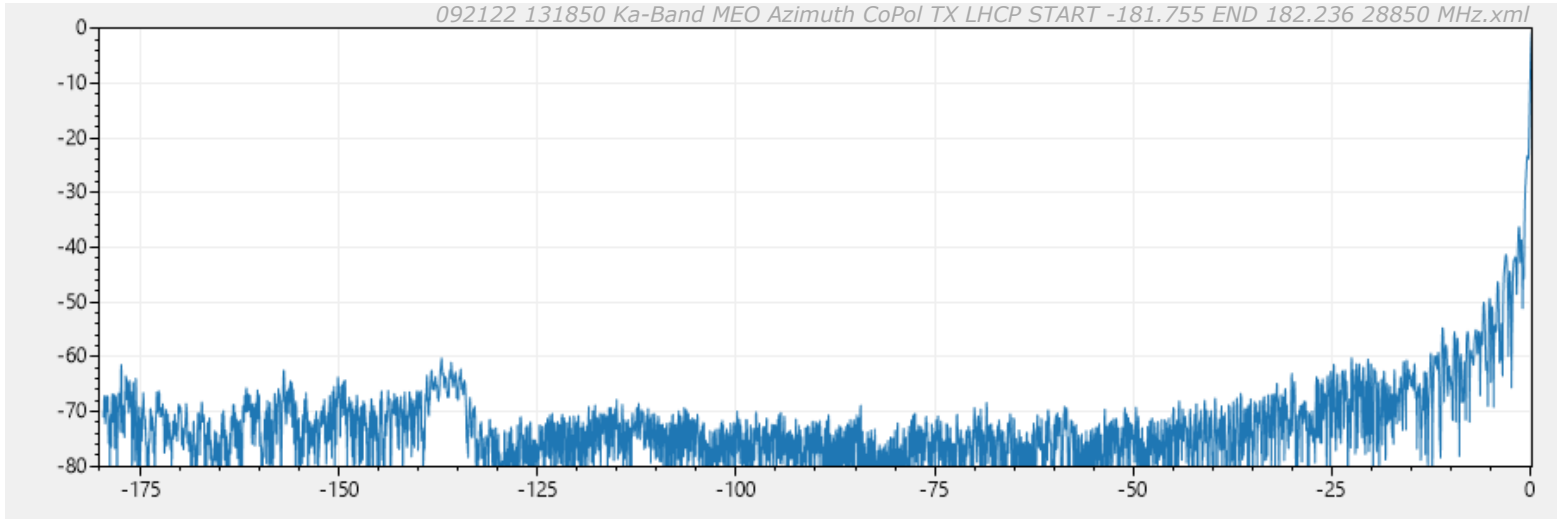
Azimuth

Test Frequency (GHz): 28.85000007
Band: Transmit
Polarization: LHCP

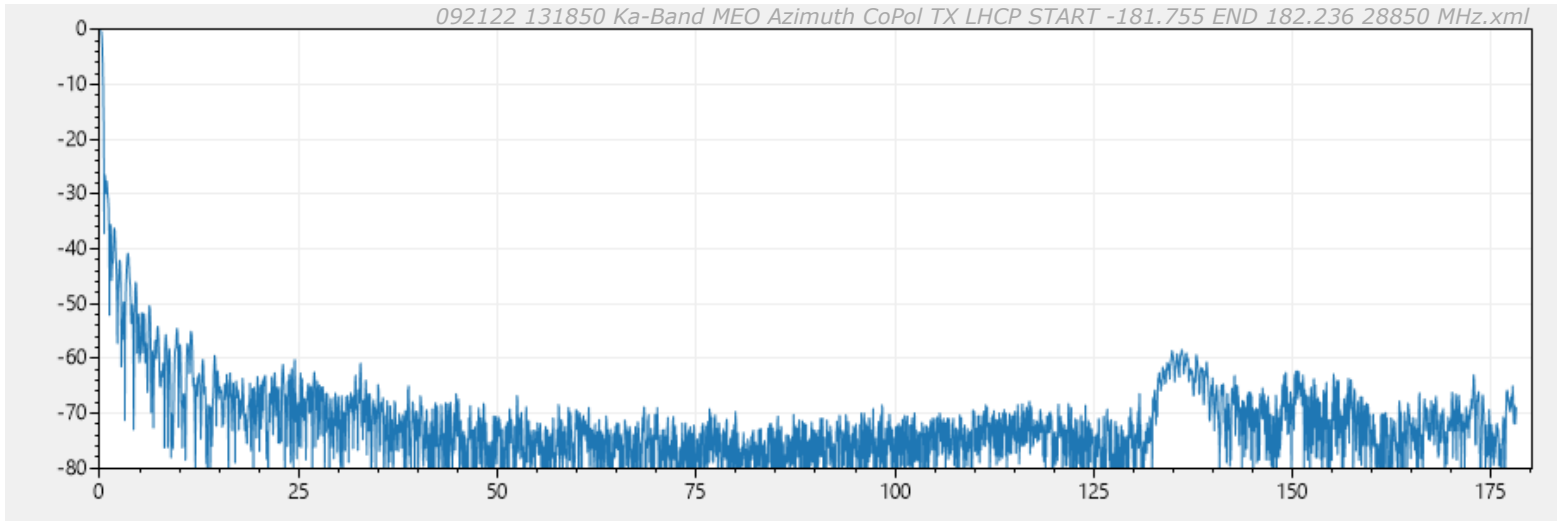
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

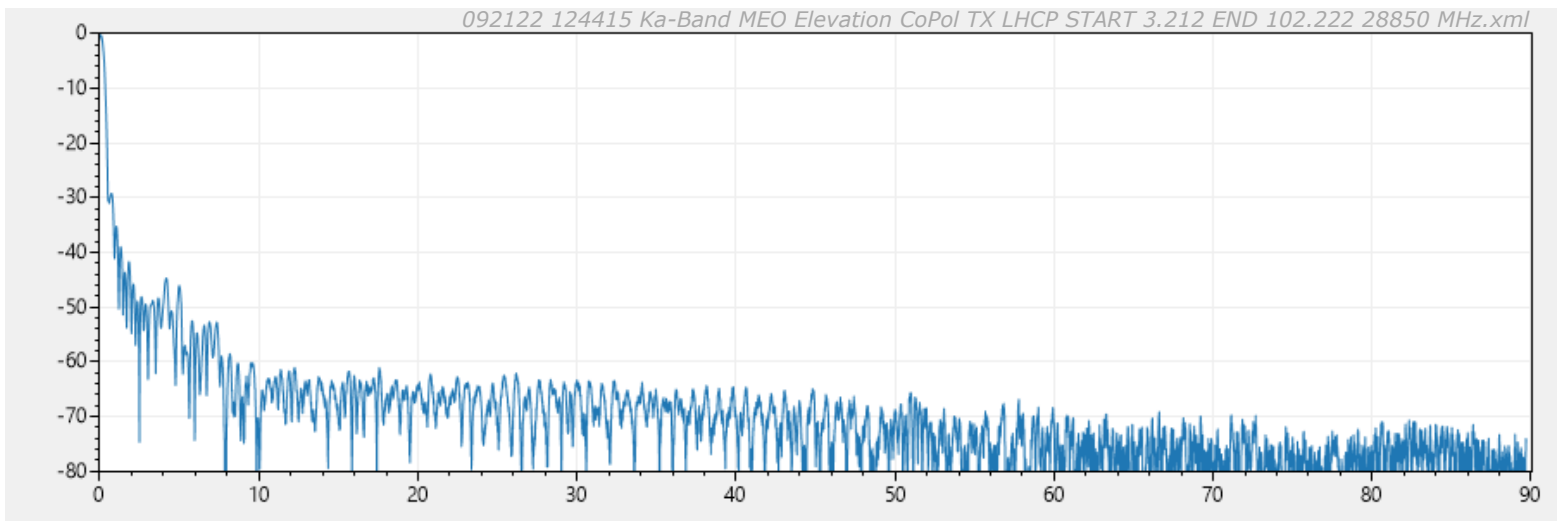
Specified Gain (dBi): 54.400
Calculated Gain (dBi): 54.898
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



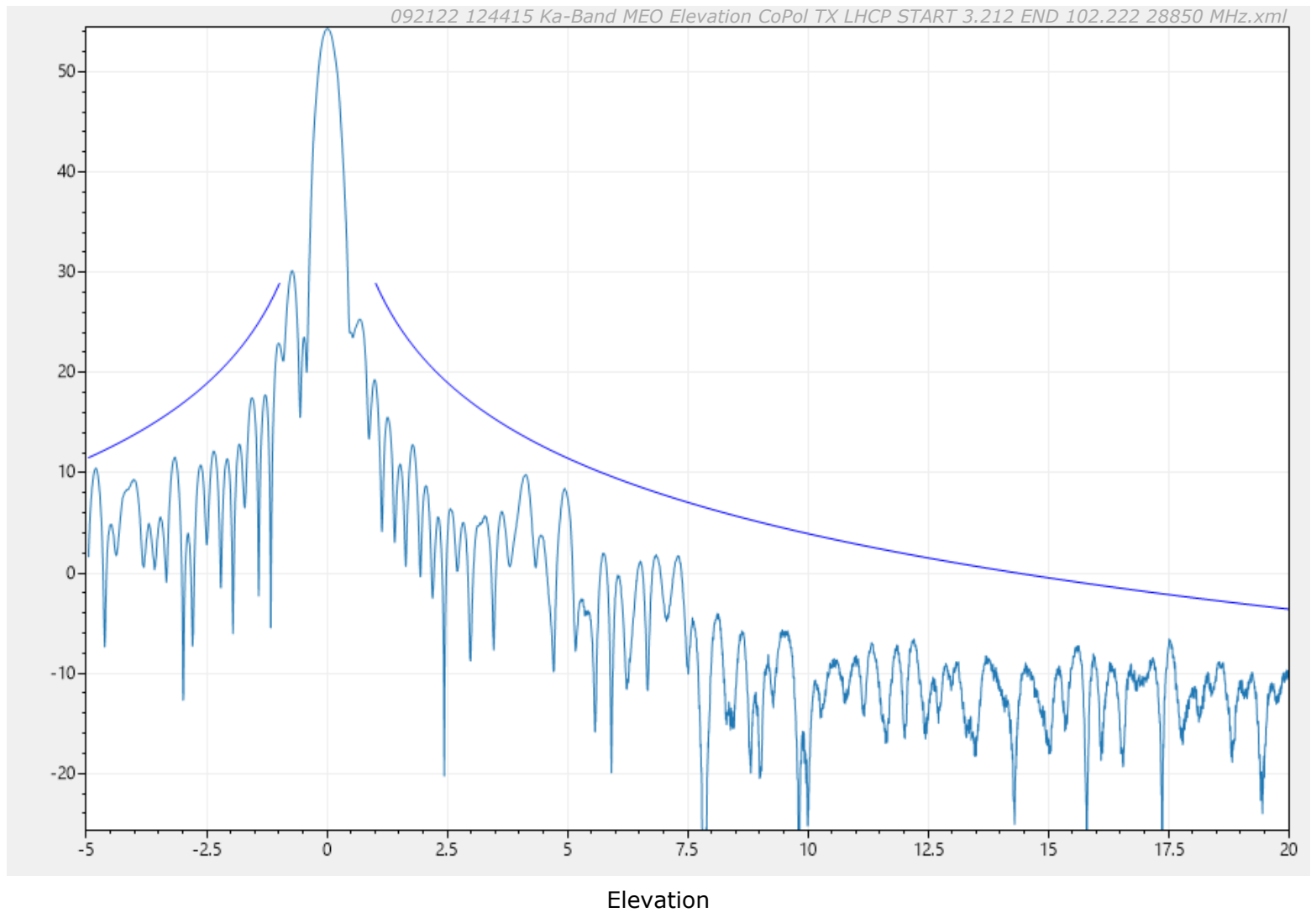
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

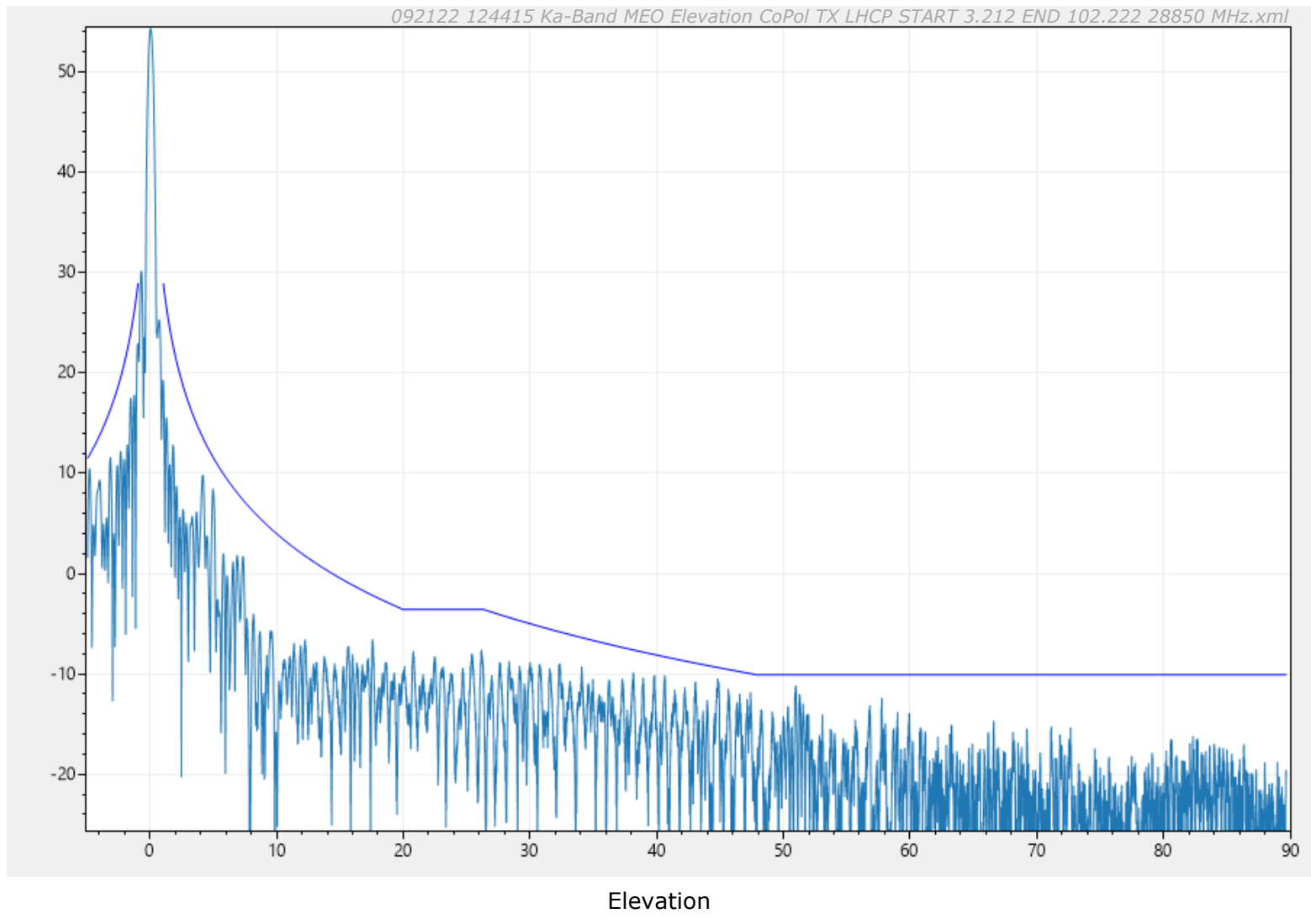
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

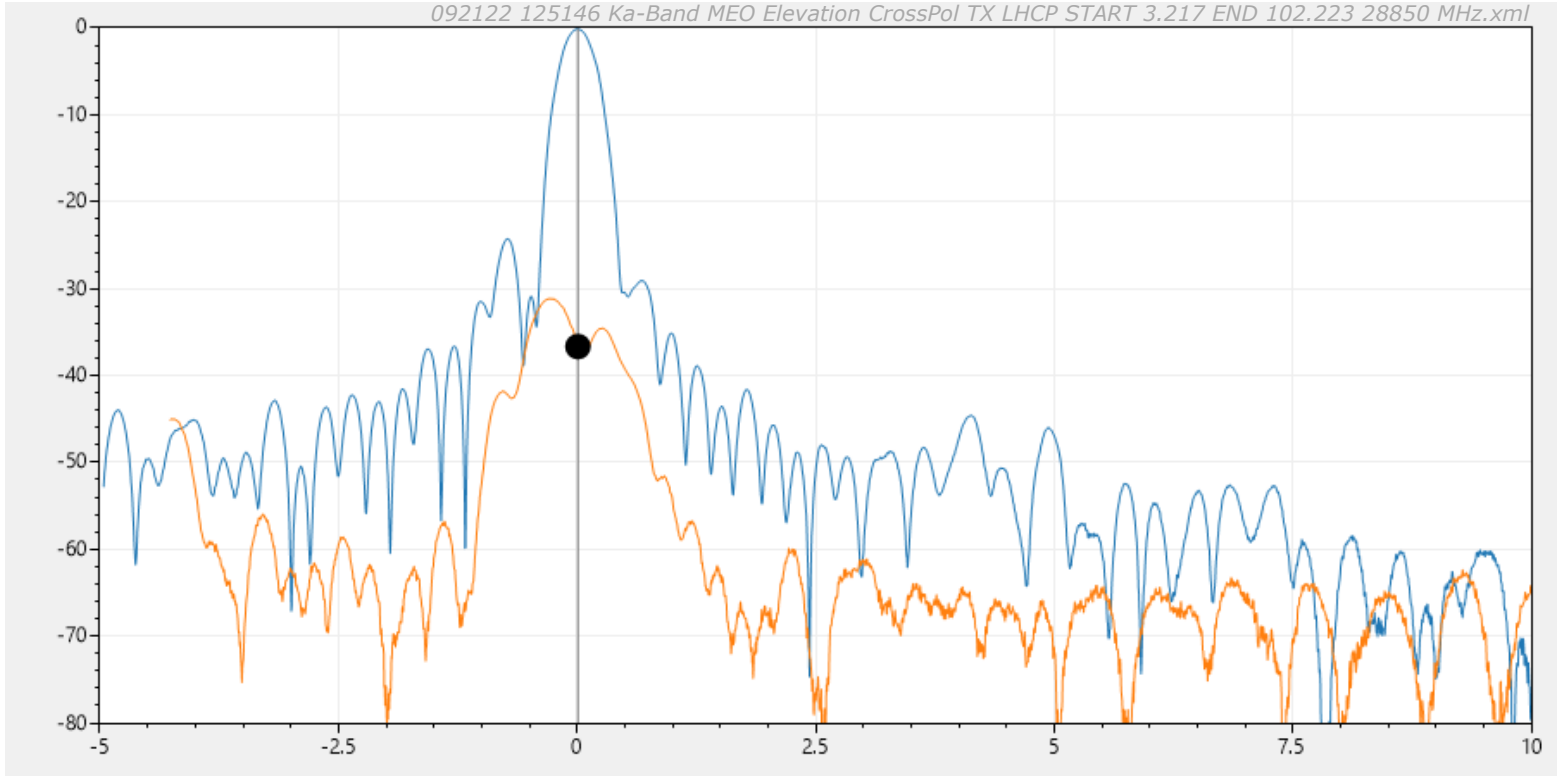
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 36.6
Spec Cross-Pol (dB): 30.0

092122 124415 Ka-Band MEO Elevation CoPol TX LHCP START 3.212 END 102.222 28850 MHz.xml
092122 125146 Ka-Band MEO Elevation CrossPol TX LHCP START 3.217 END 102.223 28850 MHz.xml



Elevation

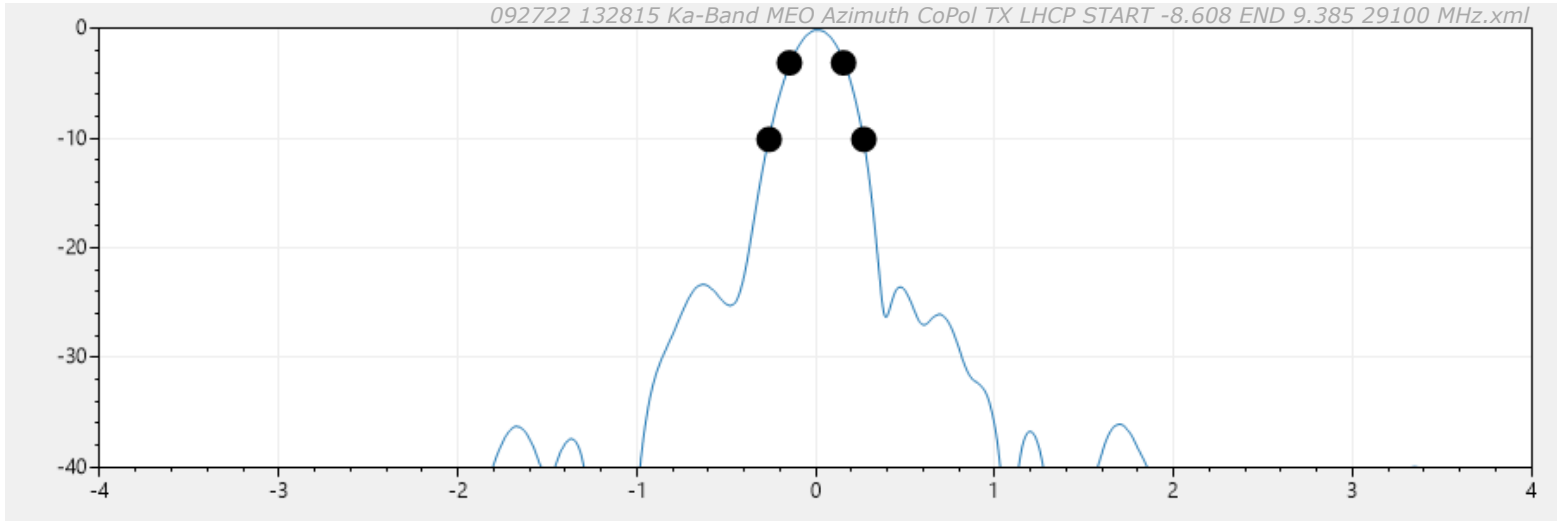
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: LHCP

Gain by Beamwidth

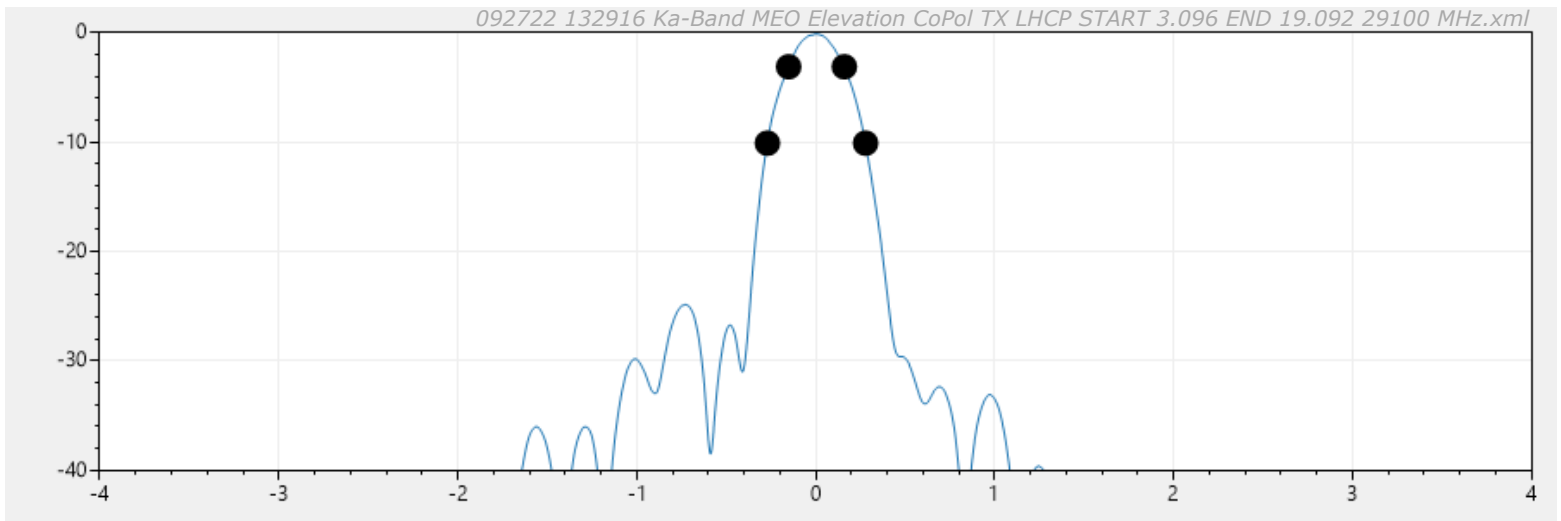
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Specified Gain (dBi): 54.500

Calculated Gain (dBi): 54.940



Azimuth



Elevation

3 dB Factor: 37000
10 dB Factor: 107000
Dish RMS (in): 0.01
Feed Loss (dB): 0.45

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP
Surface RMS Loss (dB): 0.417

Azimuth 3 dB: 0.301°
Azimuth 10 dB: 0.530°
Elevation 3 dB: 0.312°
Elevation 10 dB: 0.548°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.807)) - Feed Loss (0.45) - Surface RMS Loss (0.417)

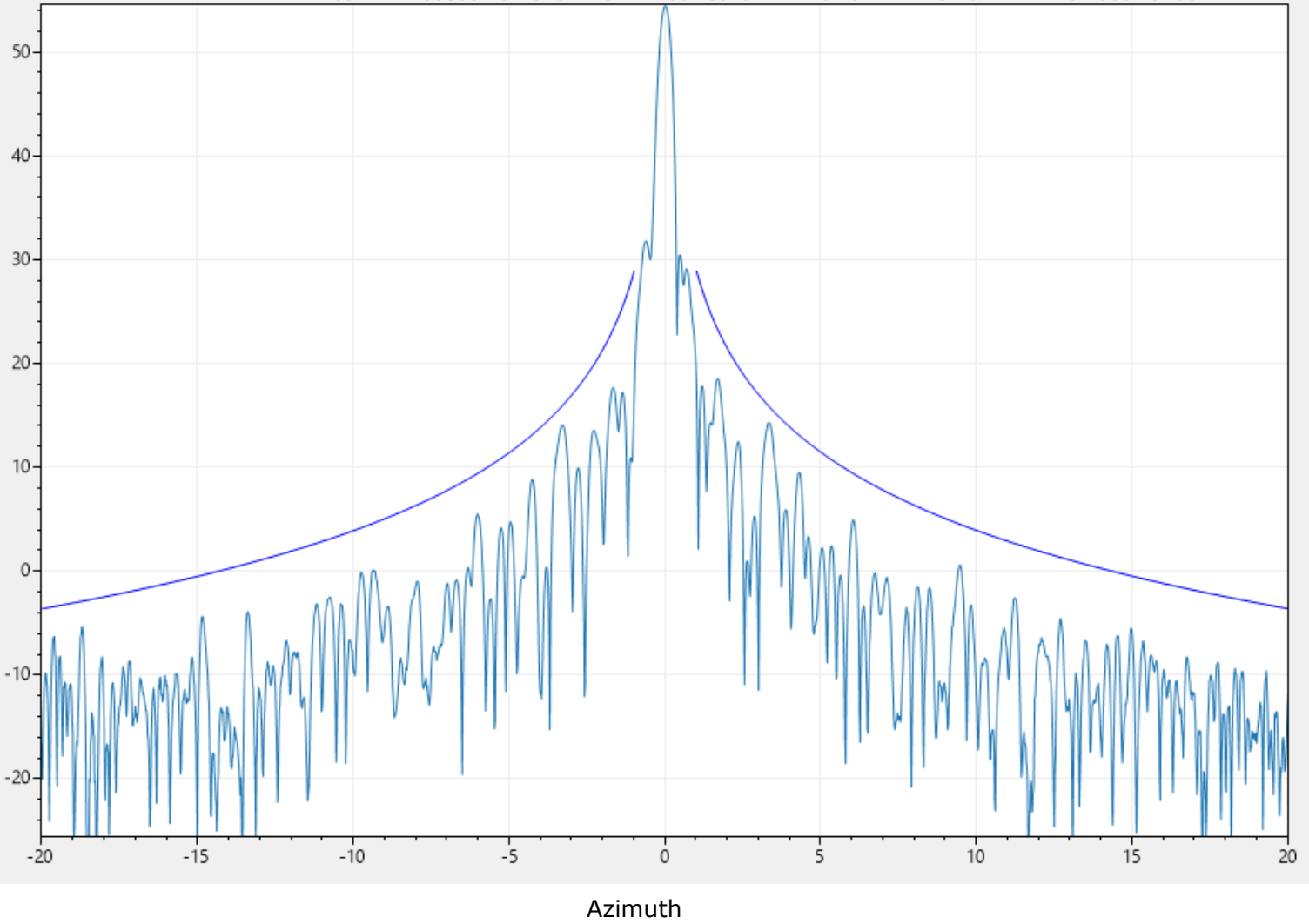
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 133353 Ka-Band MEO Azimuth CoPol TX LHCP START -181.614 END 182.380 29100 MHz.xml



Gain (dBi): 54.5
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

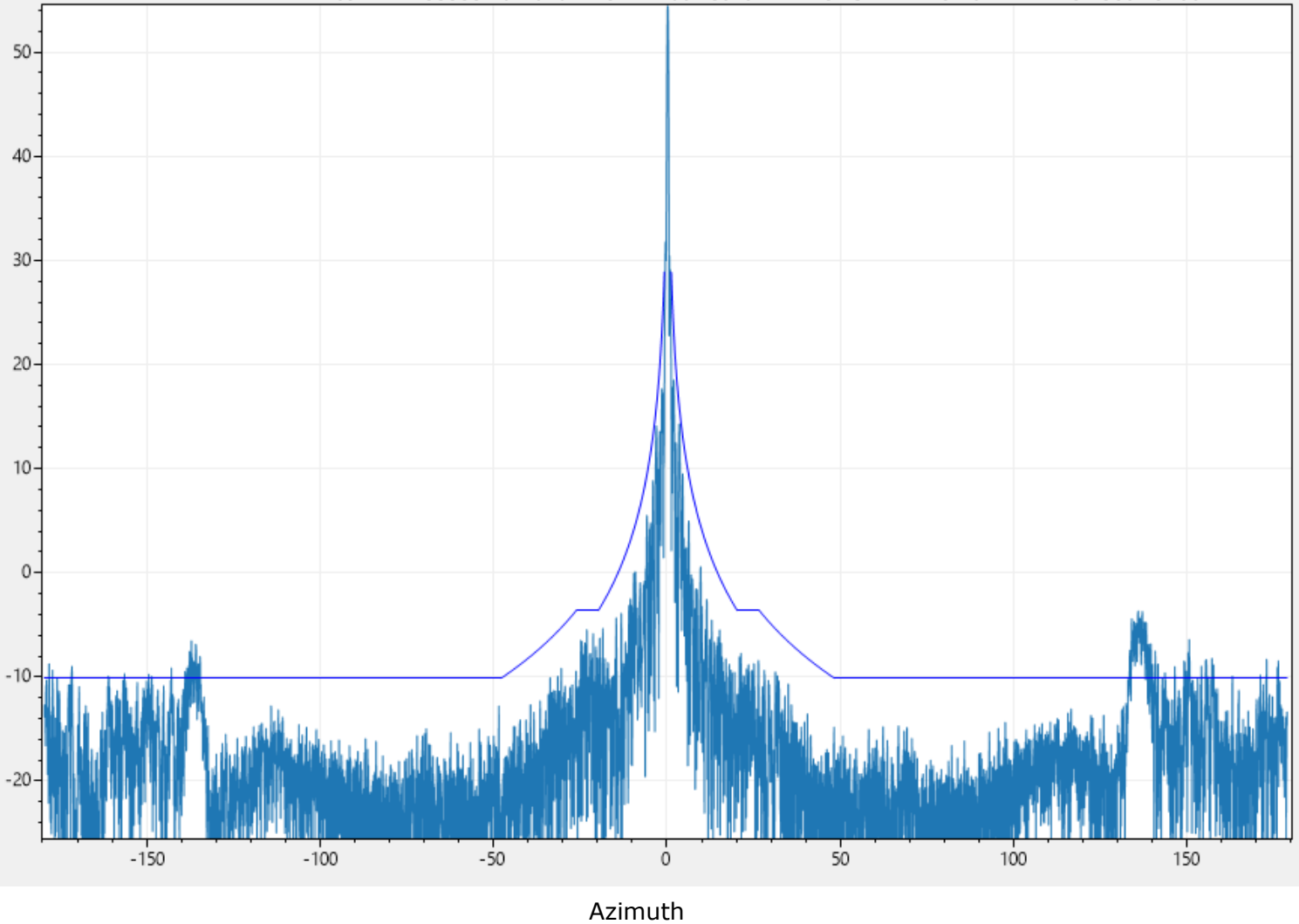
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092722 133353 Ka-Band MEO Azimuth CoPol TX LHCP START -181.614 END 182.380 29100 MHz.xml



Gain (dBi): 54.5
Sidelobes Over Curve: 3.11%

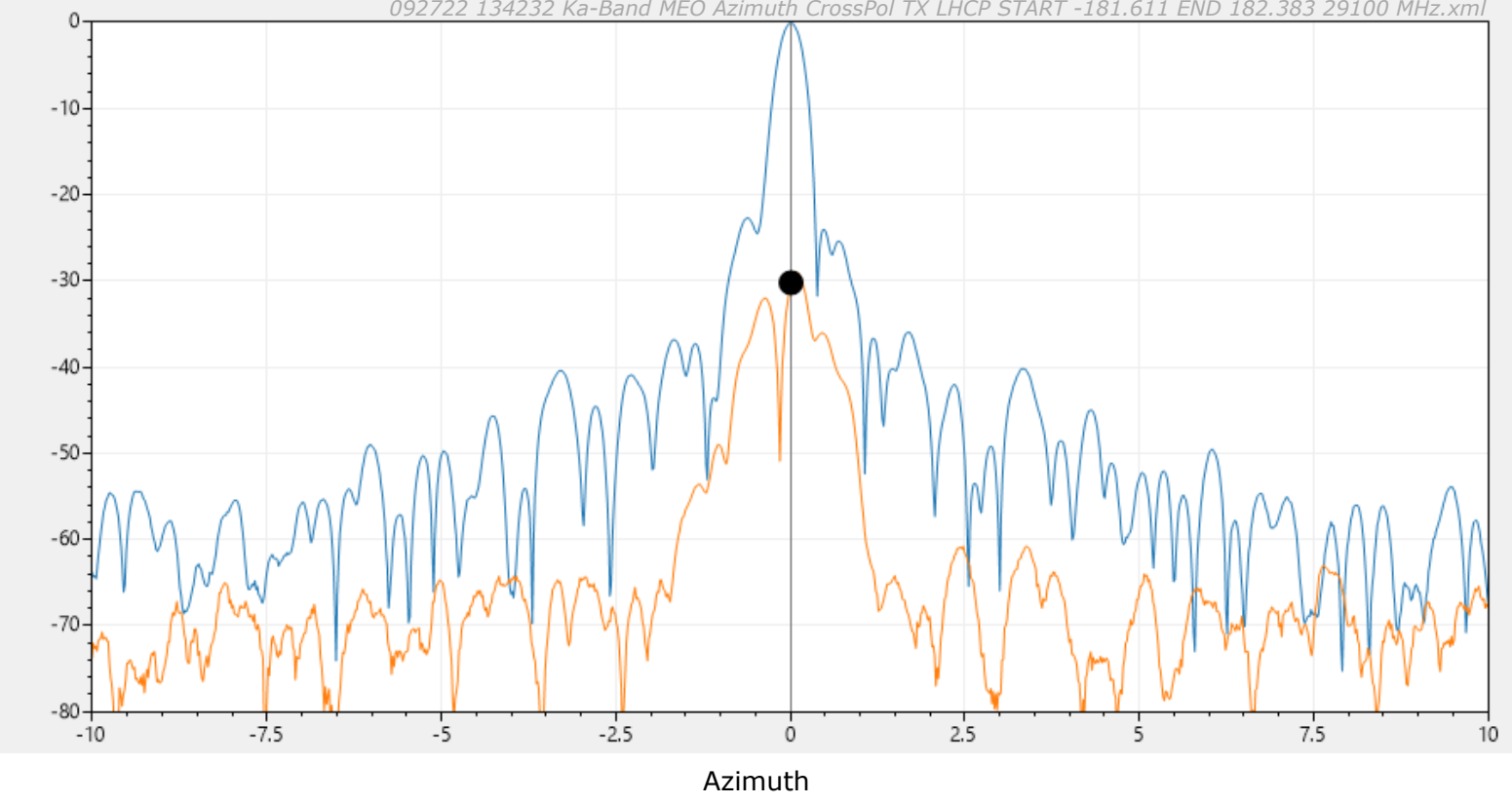
Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 30.1
Spec Cross-Pol (dB): 30.0

092722 133353 Ka-Band MEO Azimuth CoPol TX LHCP START -181.614 END 182.380 29100 MHz.xml
092722 134232 Ka-Band MEO Azimuth CrossPol TX LHCP START -181.611 END 182.383 29100 MHz.xml

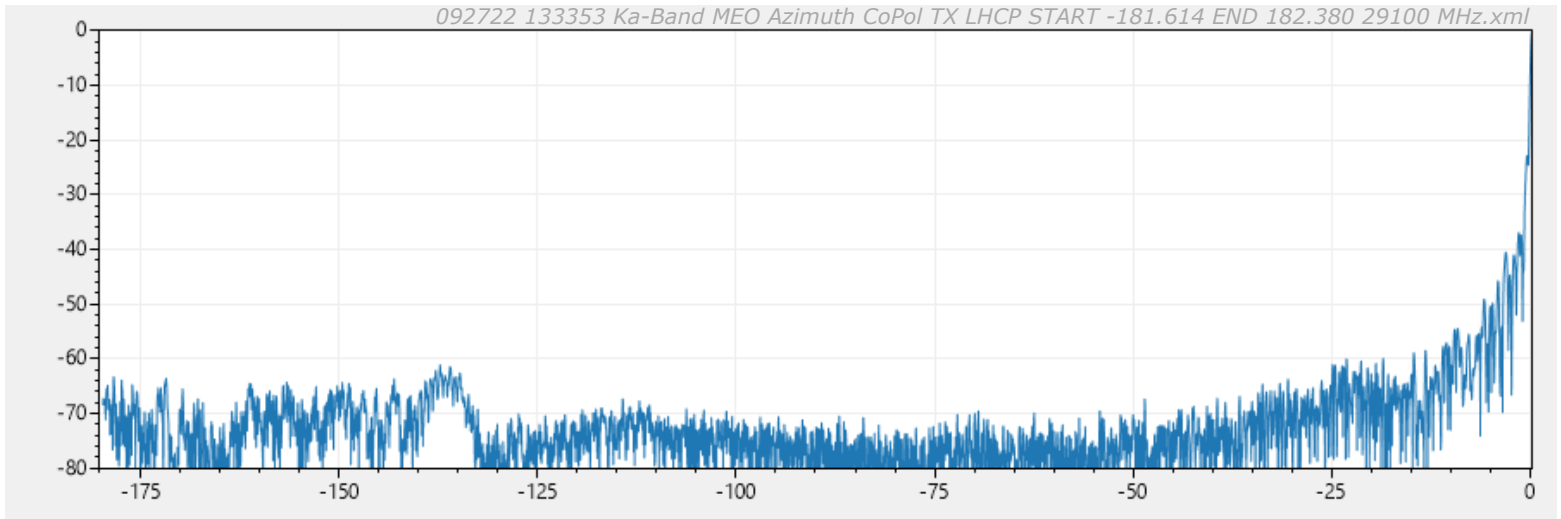


Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

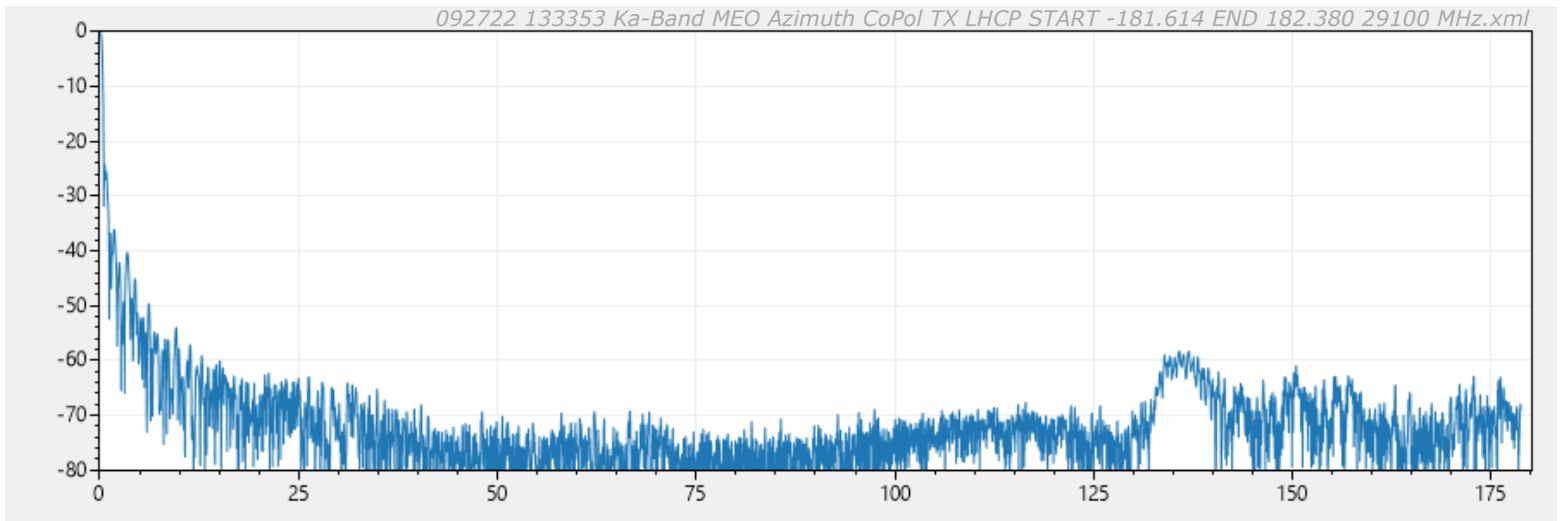
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

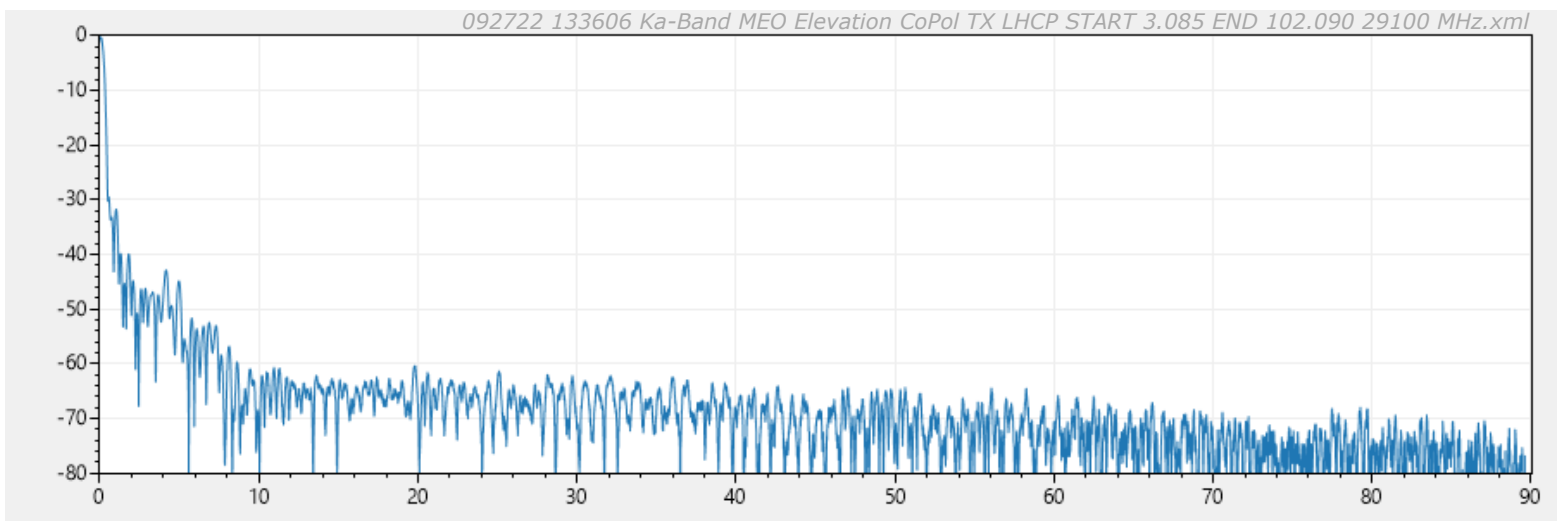
Specified Gain (dBi): 54.500
Calculated Gain (dBi): 55.087
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth

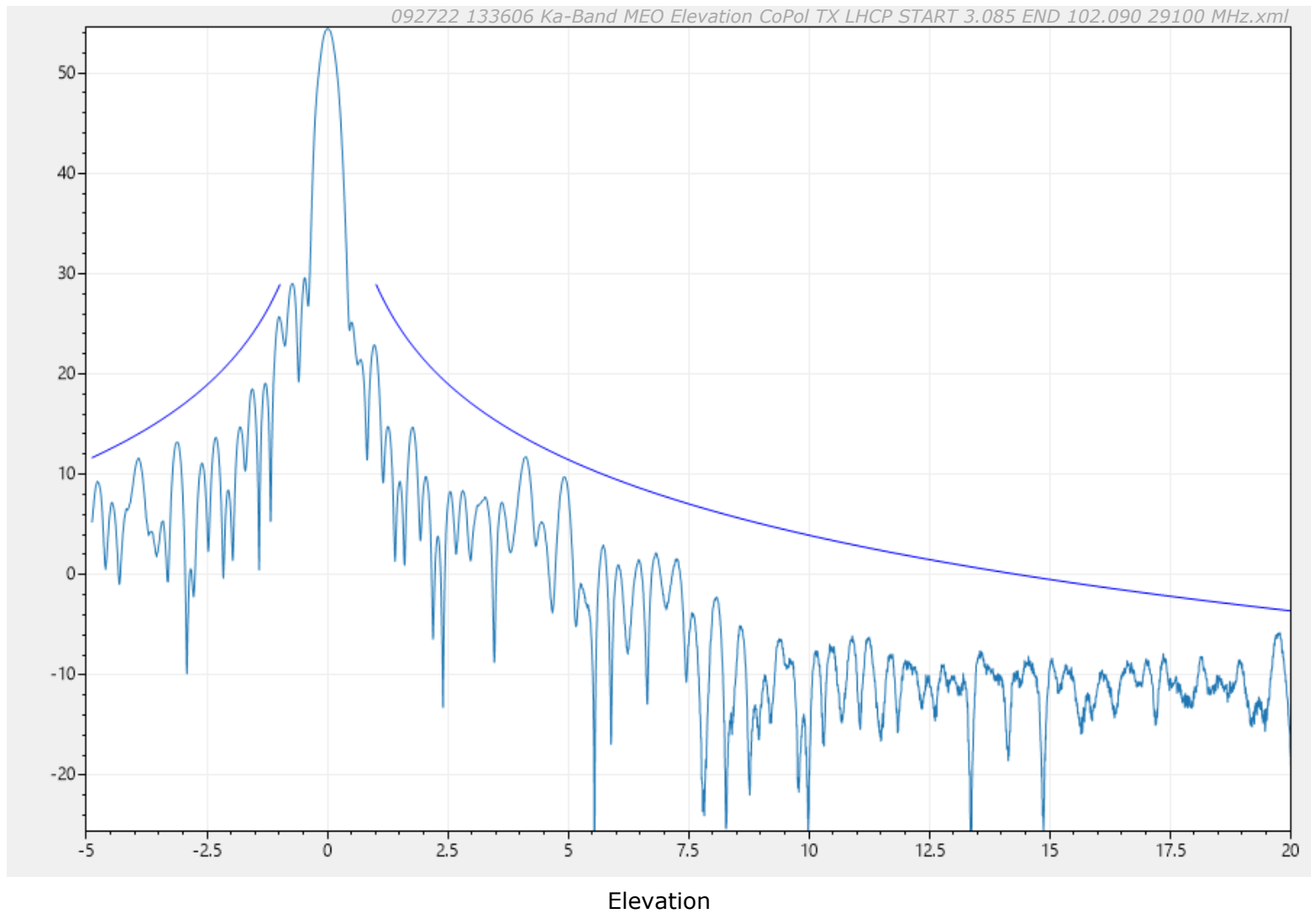


Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec:	Mil Std 188-164c		
Start Angle (°)	End Angle (°)	Formula (dBi)	
1.0	20	29-25*log(x)	
20	26.3	-3.5	
26.3	48	32-25*log(x)	
48	180	-10	



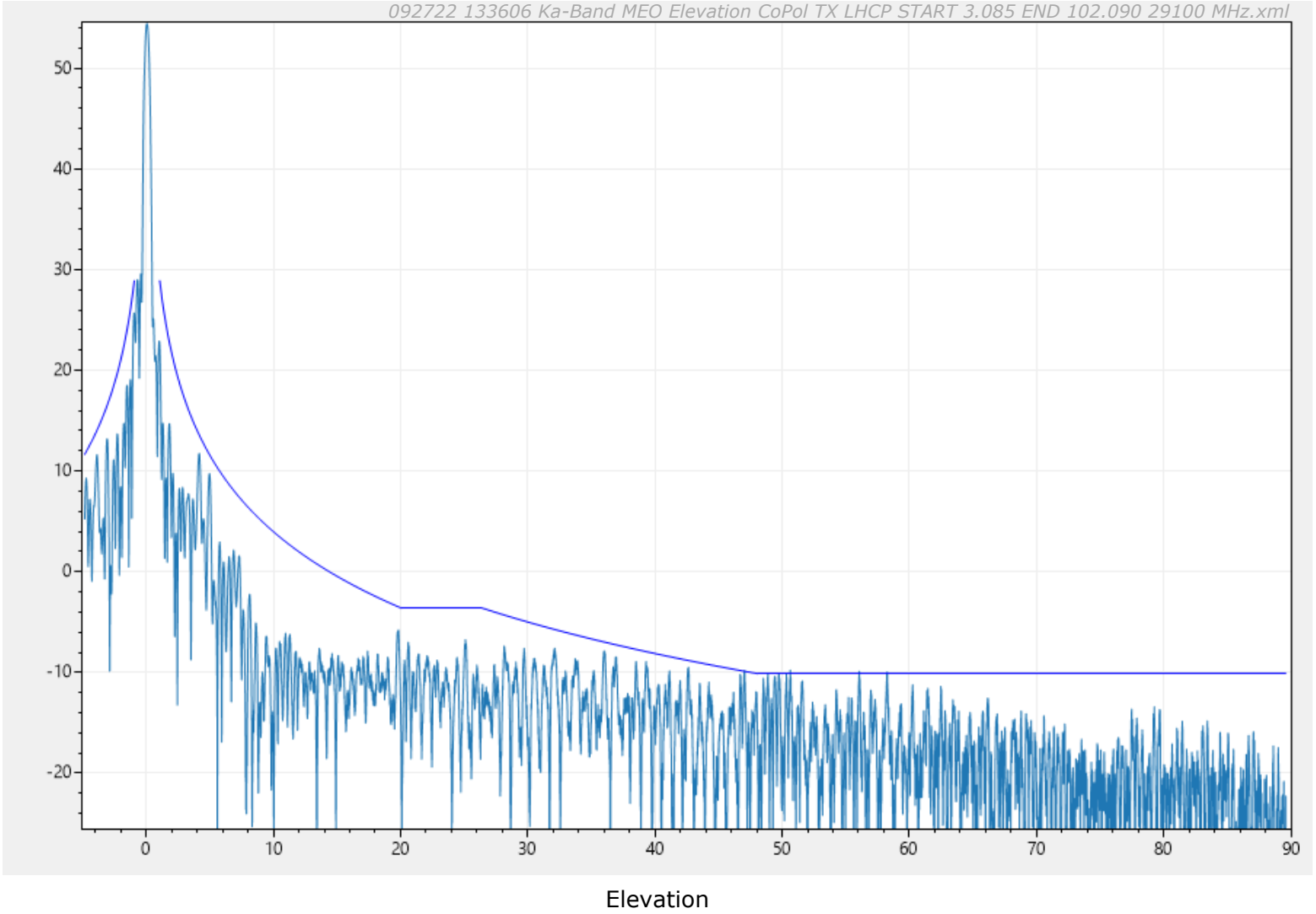
Gain (dBi): 54.5
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Sidelobe Spec:	Mil Std 188-164c		
Start Angle (°)	End Angle (°)	Formula (dBi)	
1.0	20	29-25*log(x)	
20	26.3	-3.5	
26.3	48	32-25*log(x)	
48	180	-10	



Gain (dBi): 54.5
Sidelobes Over Curve: 0.05%

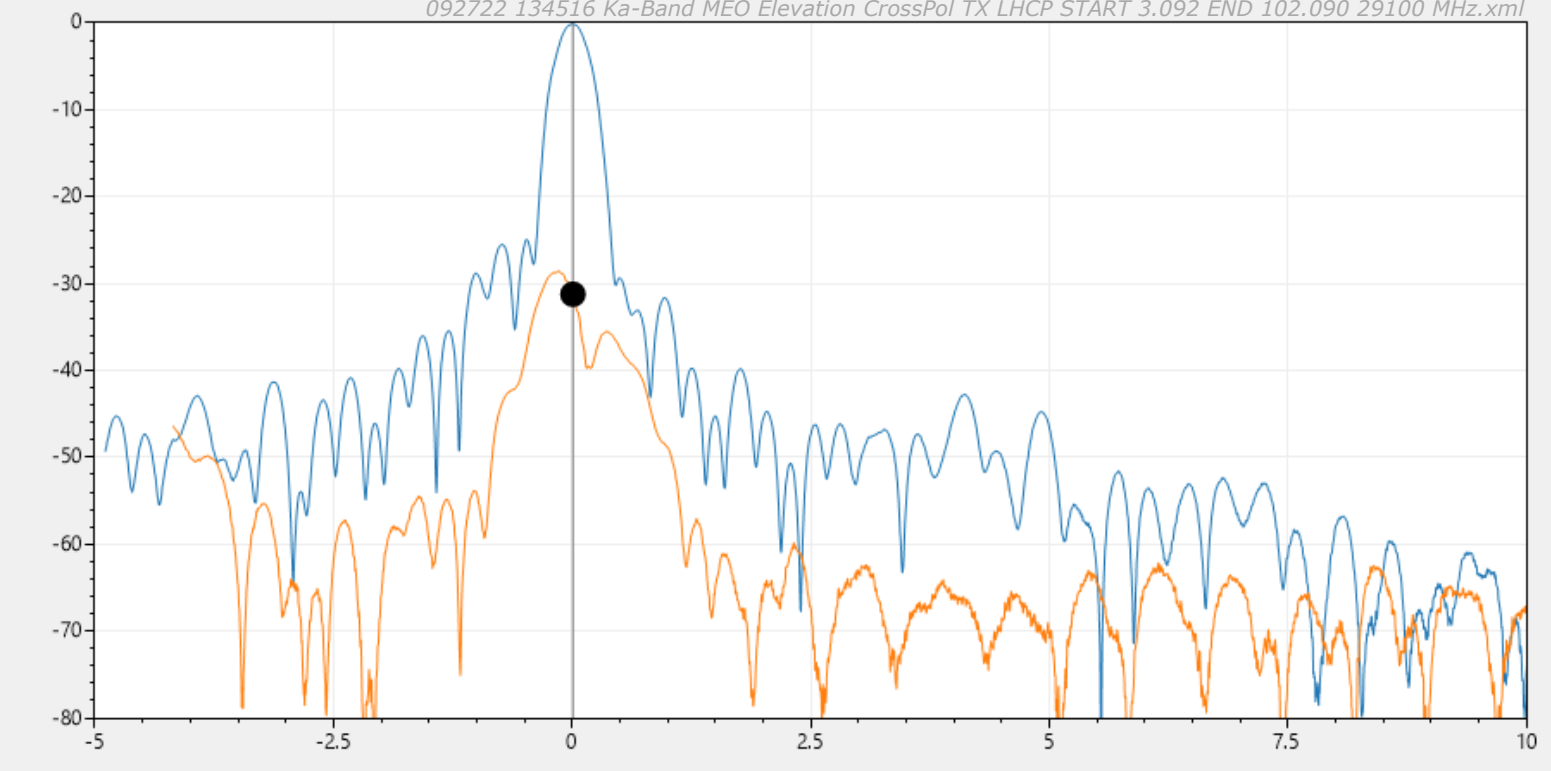
Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/27/2022
Tester: JAW

Measured Cross-Pol (dB): 31.1
Spec Cross-Pol (dB): 30.0

092722 133606 Ka-Band MEO Elevation CoPol TX LHCP START 3.085 END 102.090 29100 MHz.xml
092722 134516 Ka-Band MEO Elevation CrossPol TX LHCP START 3.092 END 102.090 29100 MHz.xml



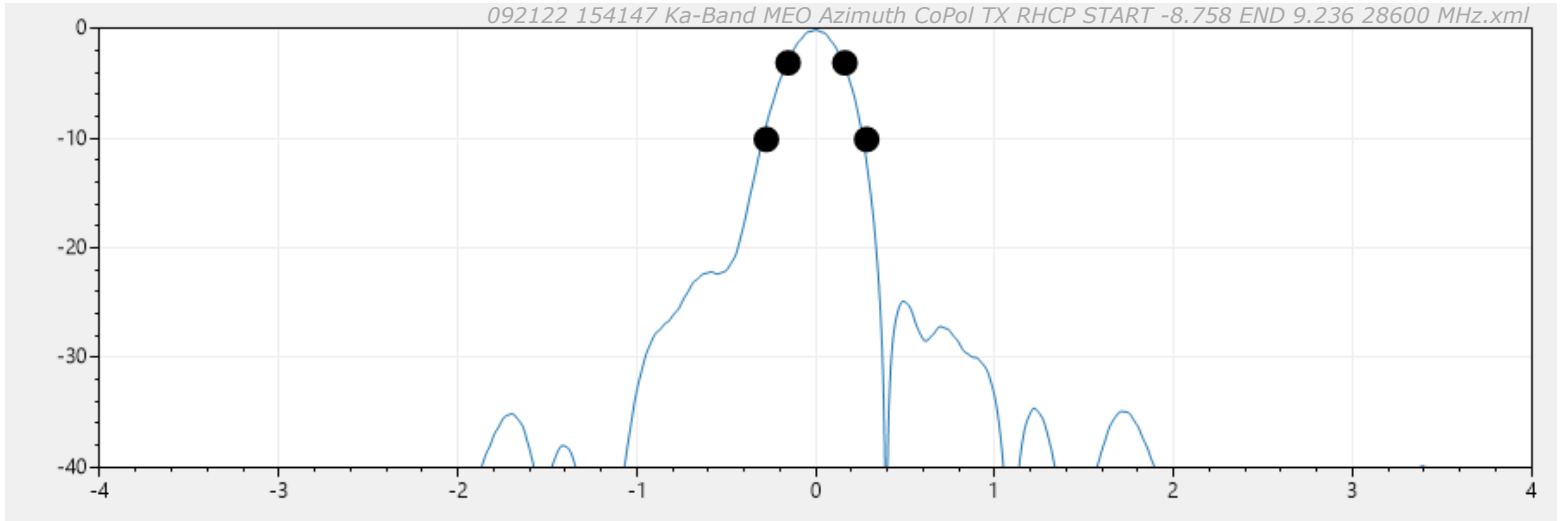
Elevation

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: LHCP

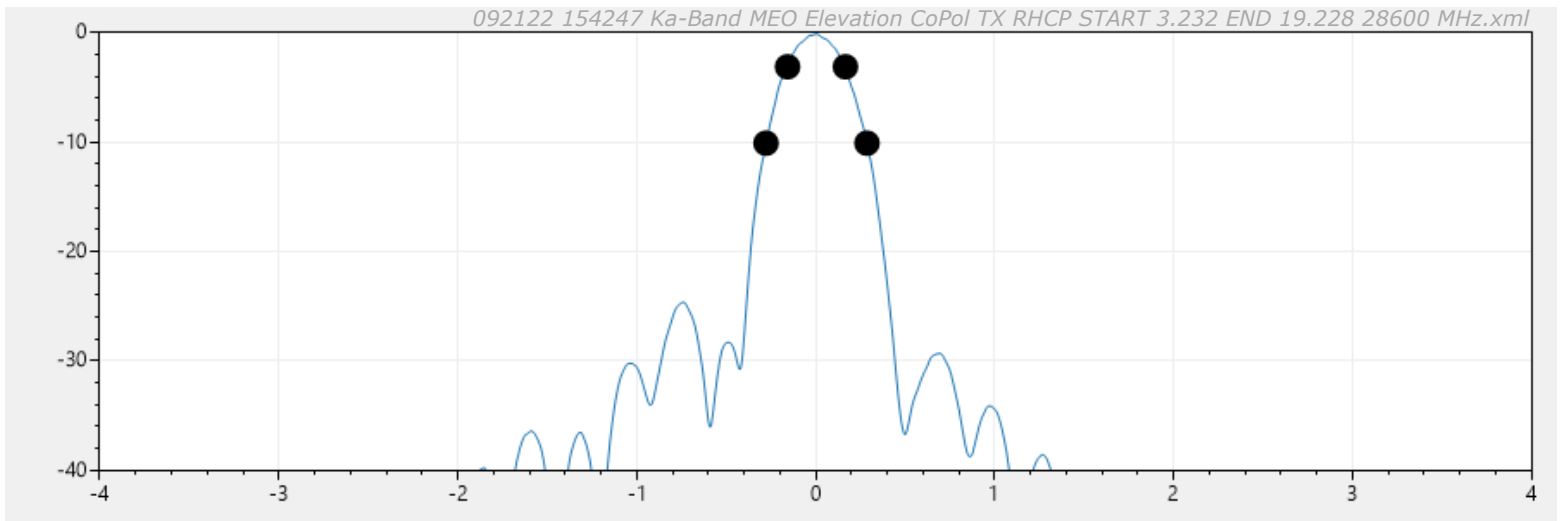
Gain by Beamwidth

Customer: Airbus
 Job: Ka-Band MEO
 Antenna: 2.4 M
 Weather: Clear
 Location: Gilmer
 Date: 9/21/2022
 Tester: JAW

Specified Gain (dBi): 54.300
 Calculated Gain (dBi): 54.571



Azimuth



Elevation

3 dB Factor: 37000	Test Frequency (GHz): 28.6	Azimuth 3 dB: 0.318°
10 dB Factor: 107000	Band: Transmit	Azimuth 10 dB: 0.561°
Dish RMS (in): 0.01	Polarization: RHCP	Elevation 3 dB: 0.324°
Feed Loss (dB): 0.45	Surface RMS Loss (dB): 0.403	Elevation 10 dB: 0.565°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.423)) - Feed Loss (0.45) - Surface RMS Loss (0.403)

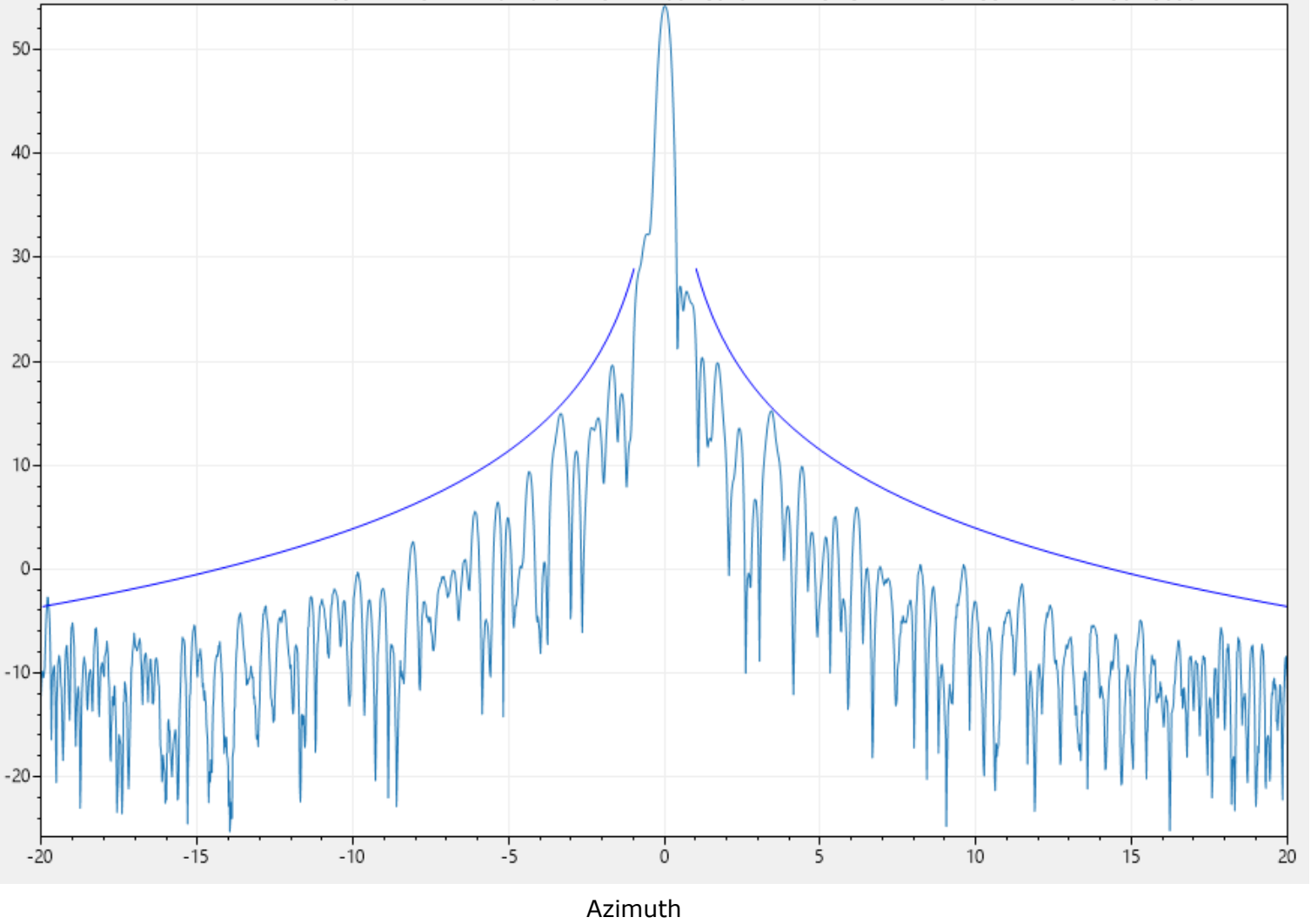
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122_154717_Ka-Band_MEO_Azimuth_CoPol_TX_RHCP_START_-181.755_END_182.236_28600_MHz.xml



Gain (dBi): 54.3
Sidelobes Over Curve: 0.14%

Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

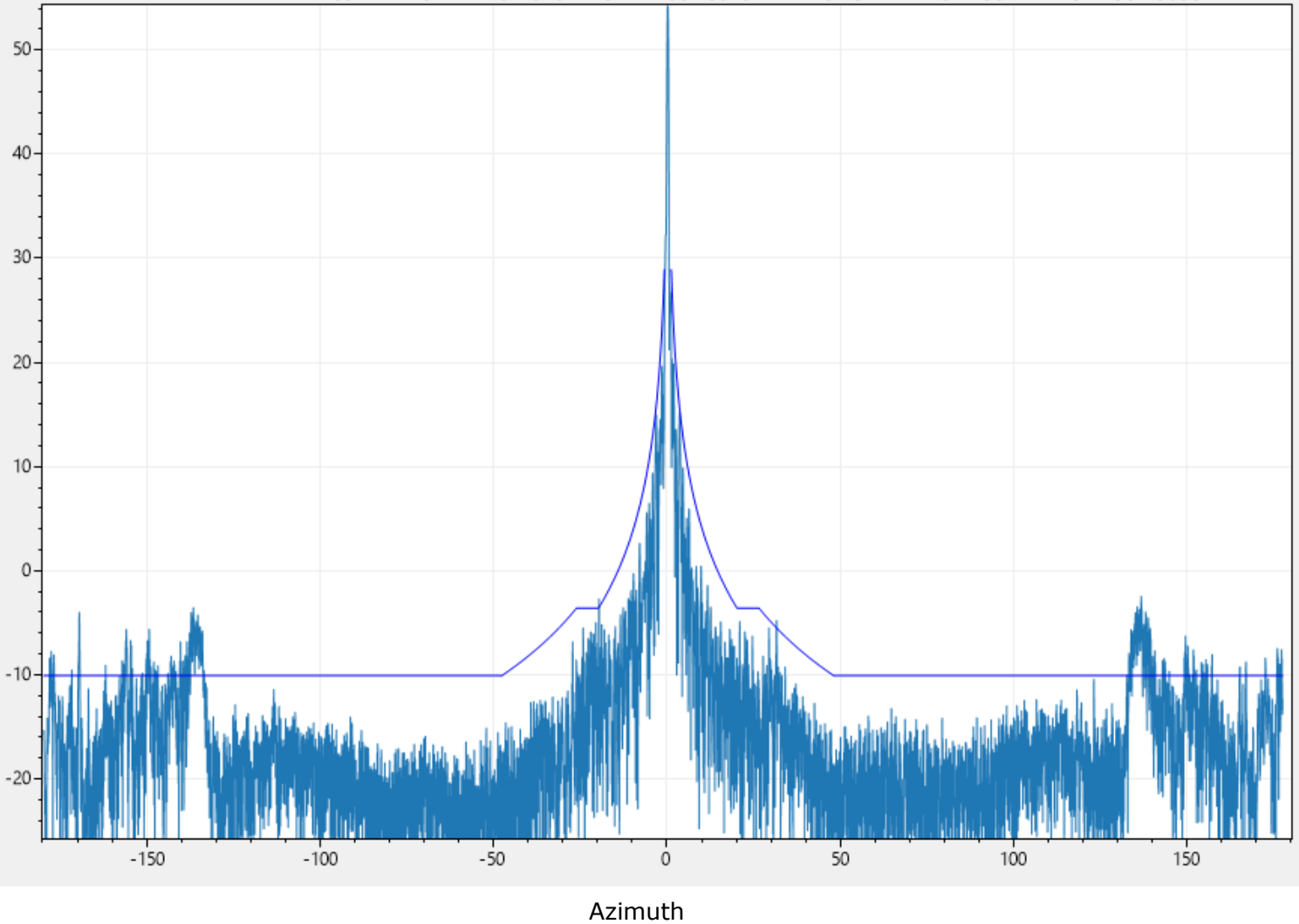
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122_154717_Ka-Band_MEO_Azimuth_CoPol_TX_RHCP_START_-181.755_END_182.236_28600_MHz.xml



Gain (dBi): 54.3
Sidelobes Over Curve: 5.26%

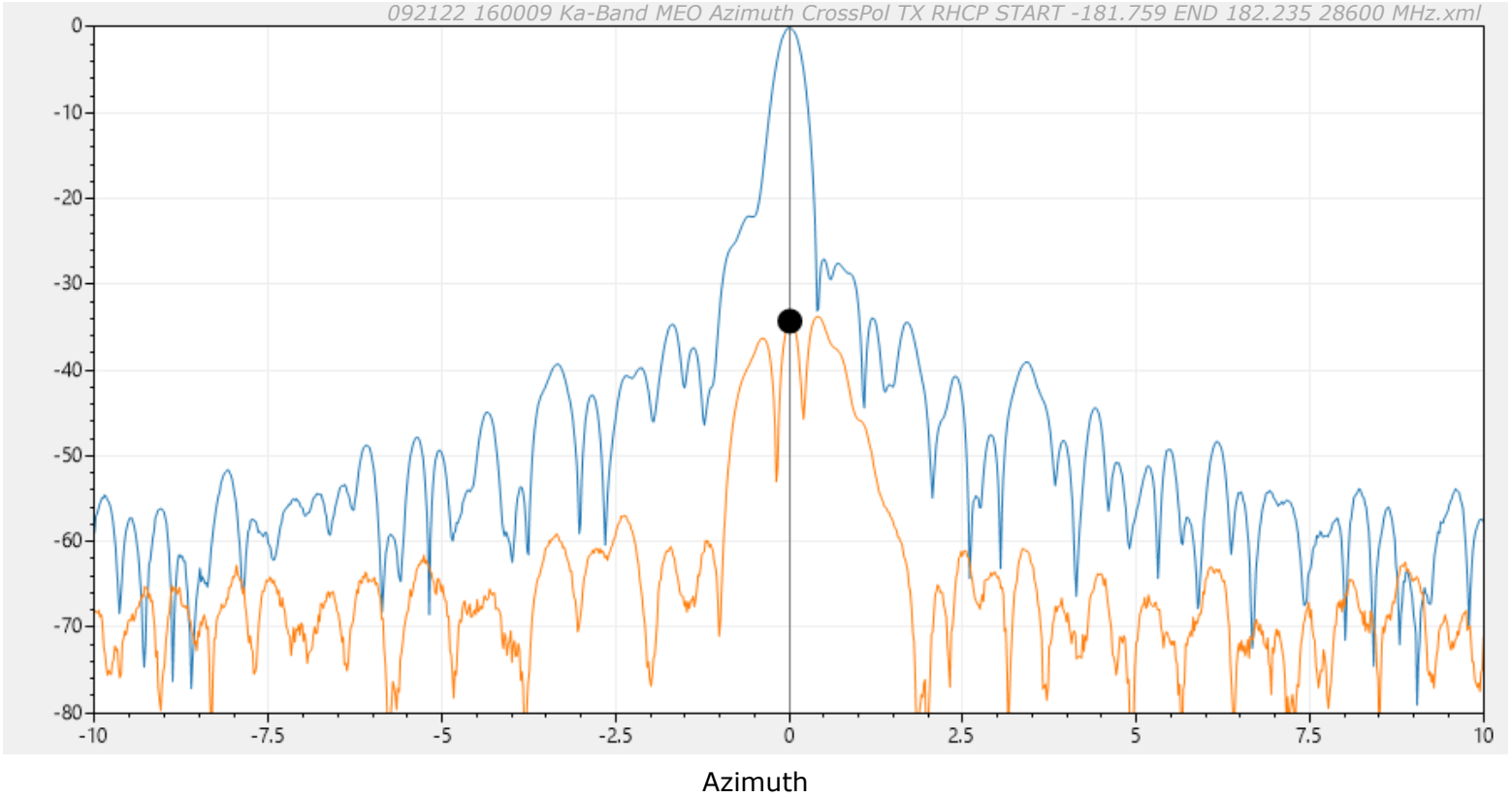
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 34.2
Spec Cross-Pol (dB): 30.0

092122 154717 Ka-Band MEO Azimuth CoPol TX RHCP START -181.755 END 182.236 28600 MHz.xml
092122 160009 Ka-Band MEO Azimuth CrossPol TX RHCP START -181.759 END 182.235 28600 MHz.xml

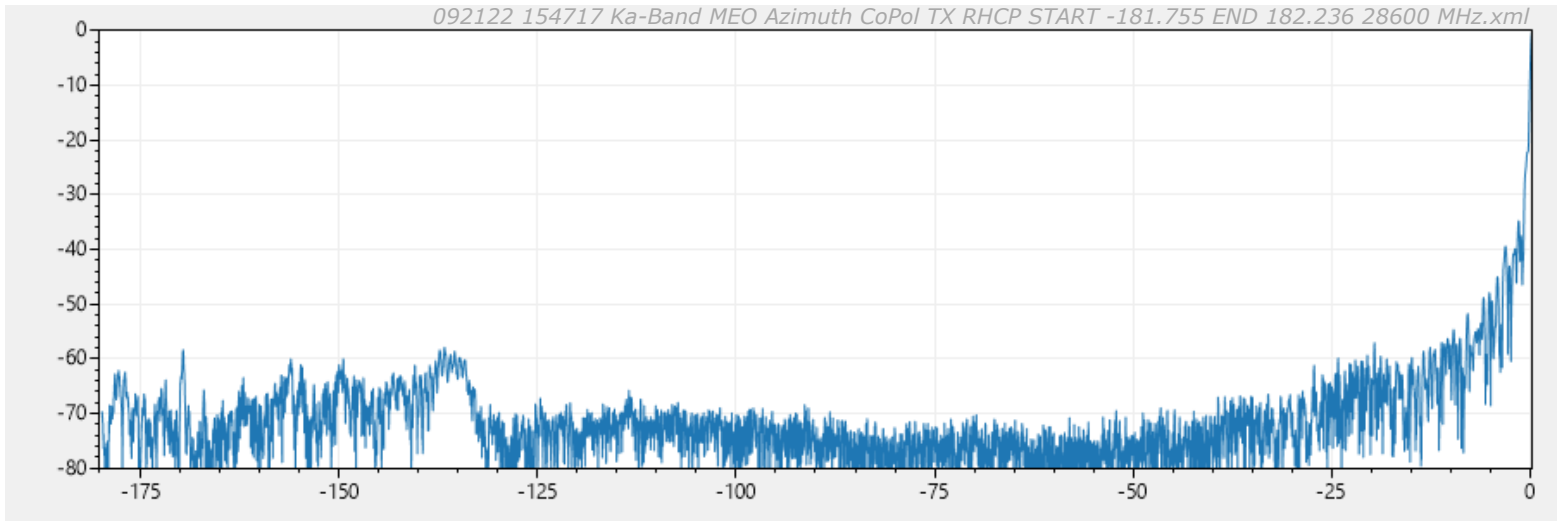


Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

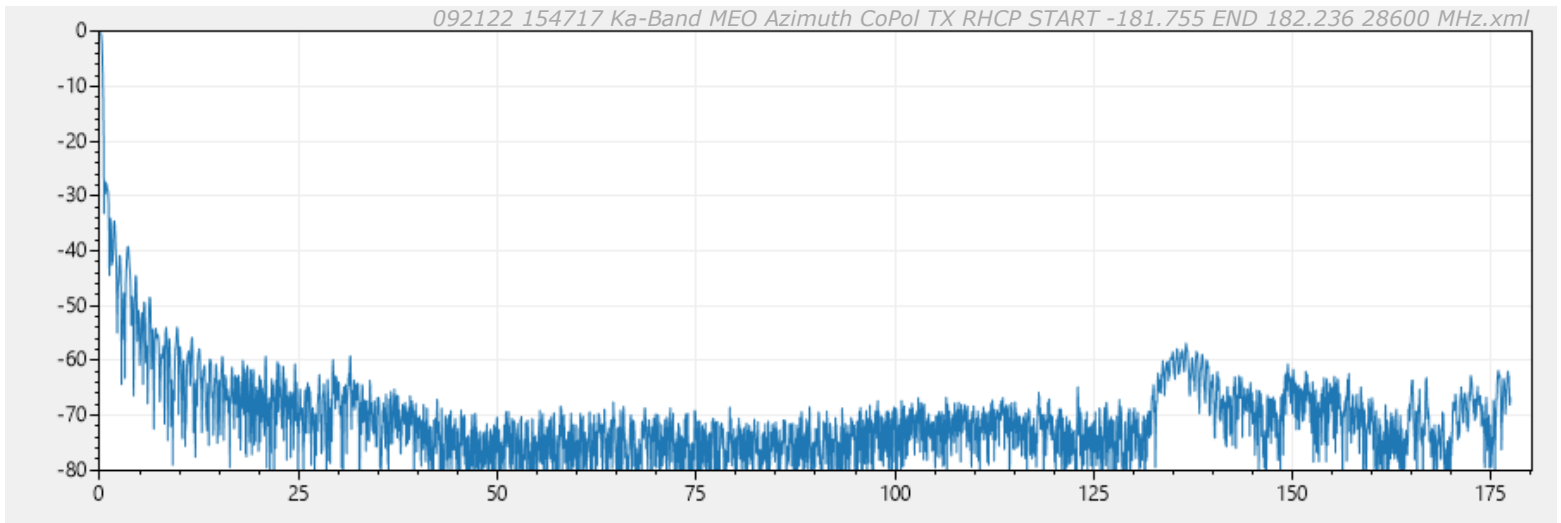
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

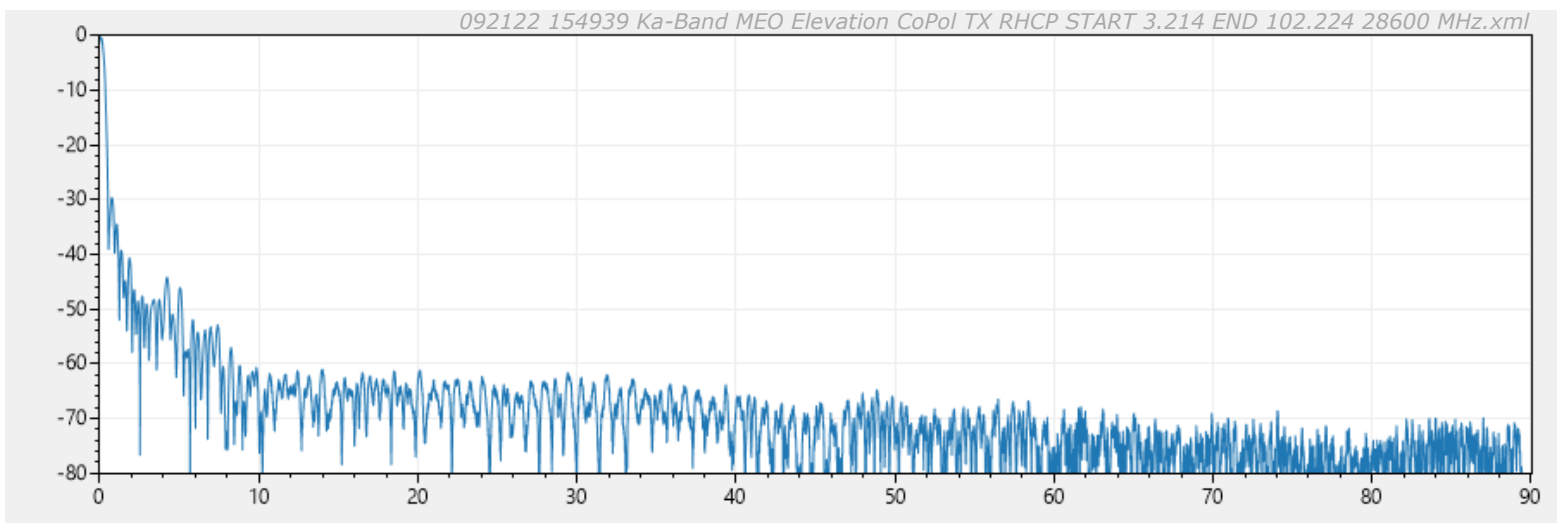
Specified Gain (dBi): 54.300
Calculated Gain (dBi): 54.667
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



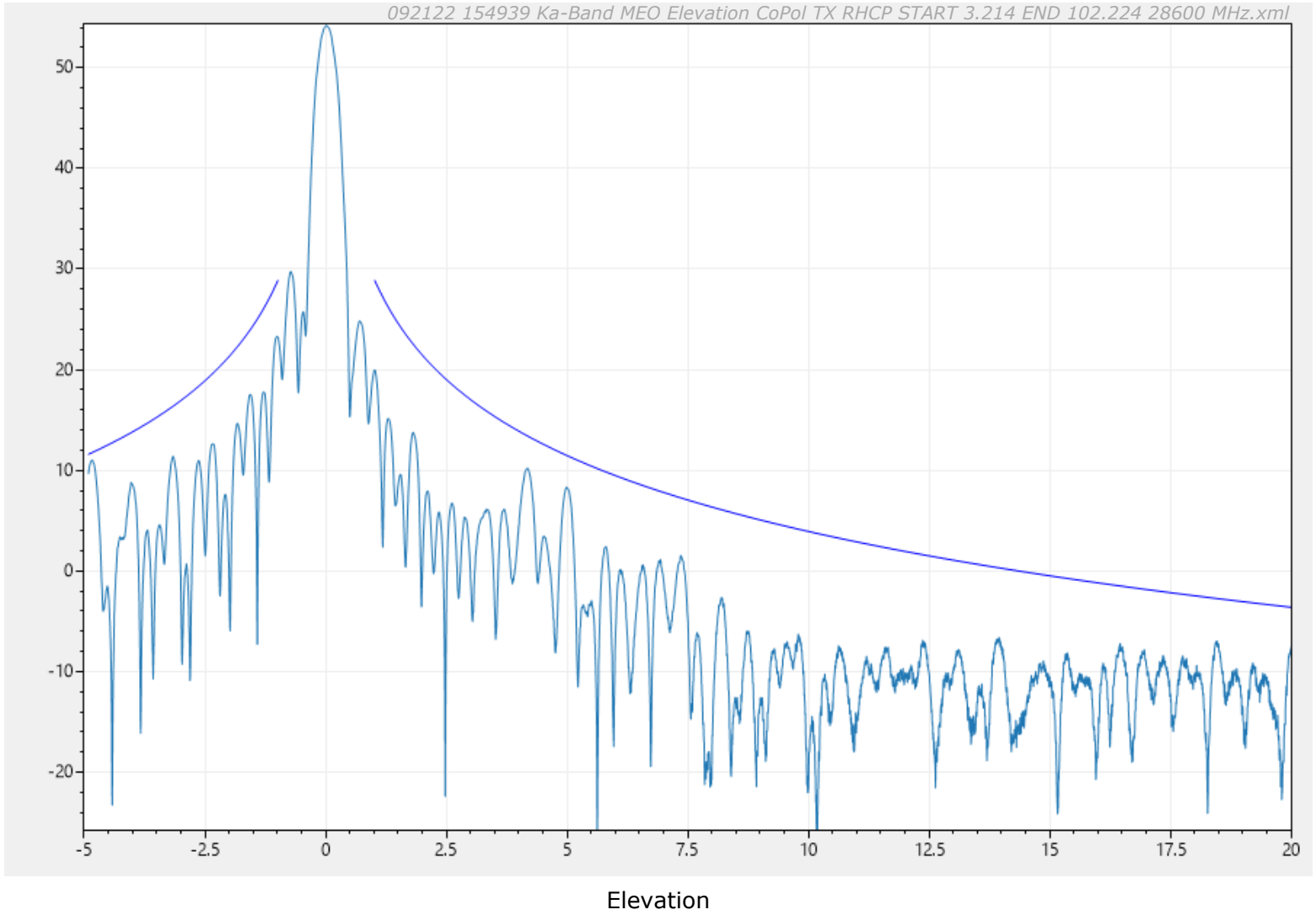
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.3
Sidelobes Over Curve: 0.00%

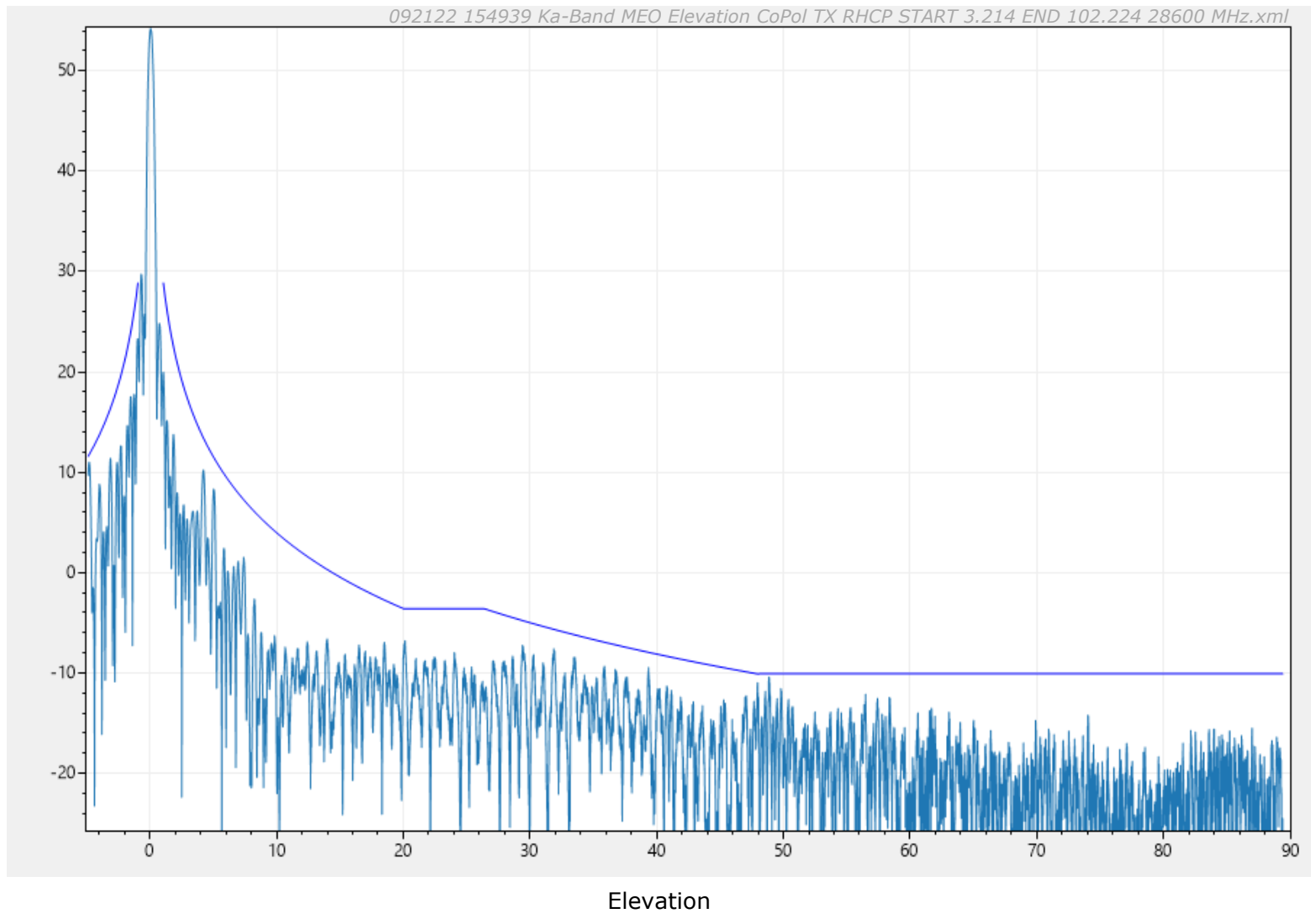
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.3
Sidelobes Over Curve: 0.00%

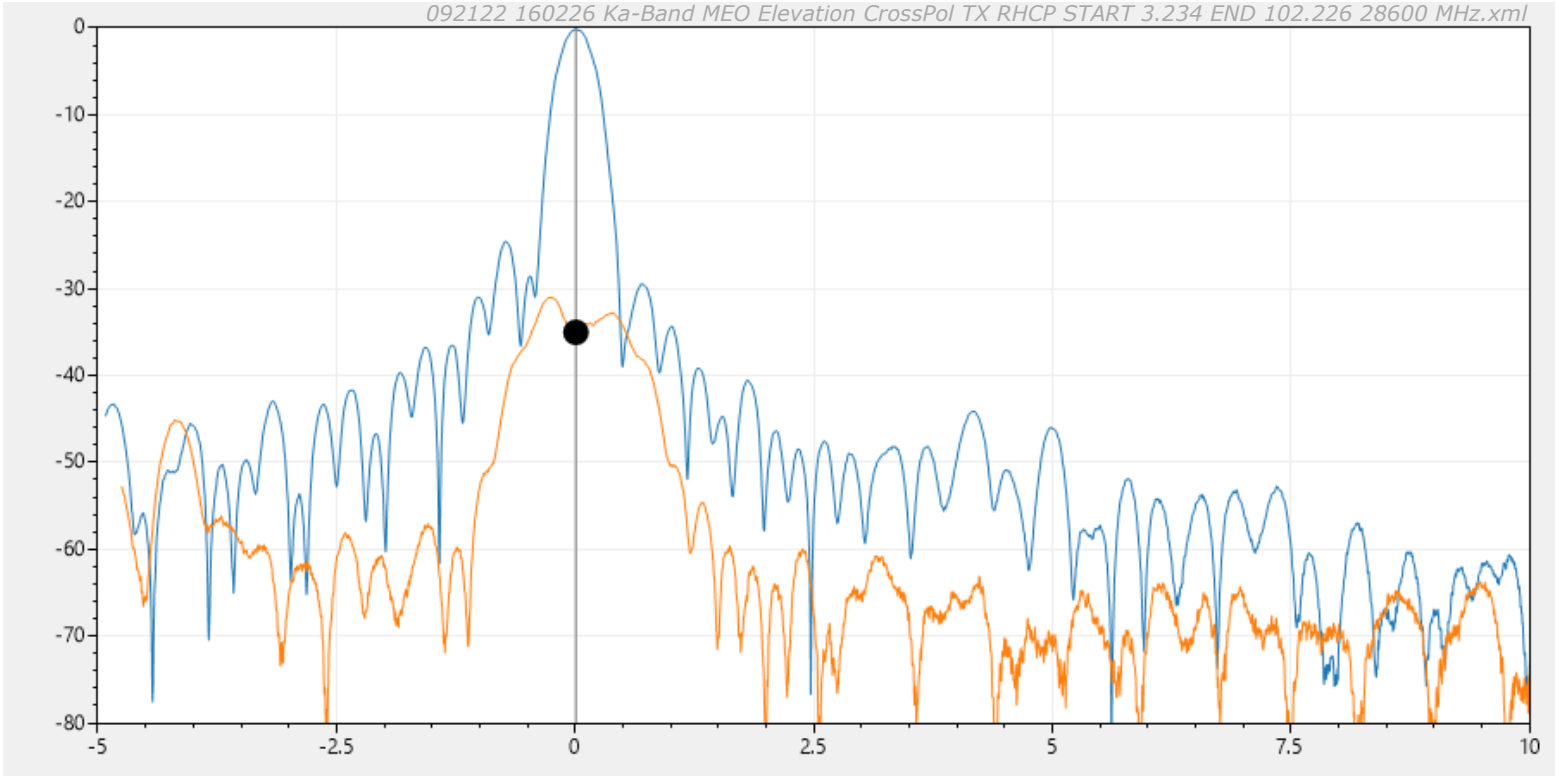
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 34.9
Spec Cross-Pol (dB): 30.0

092122 154939 Ka-Band MEO Elevation CoPol TX RHCP START 3.214 END 102.224 28600 MHz.xml
092122 160226 Ka-Band MEO Elevation CrossPol TX RHCP START 3.234 END 102.226 28600 MHz.xml



Elevation

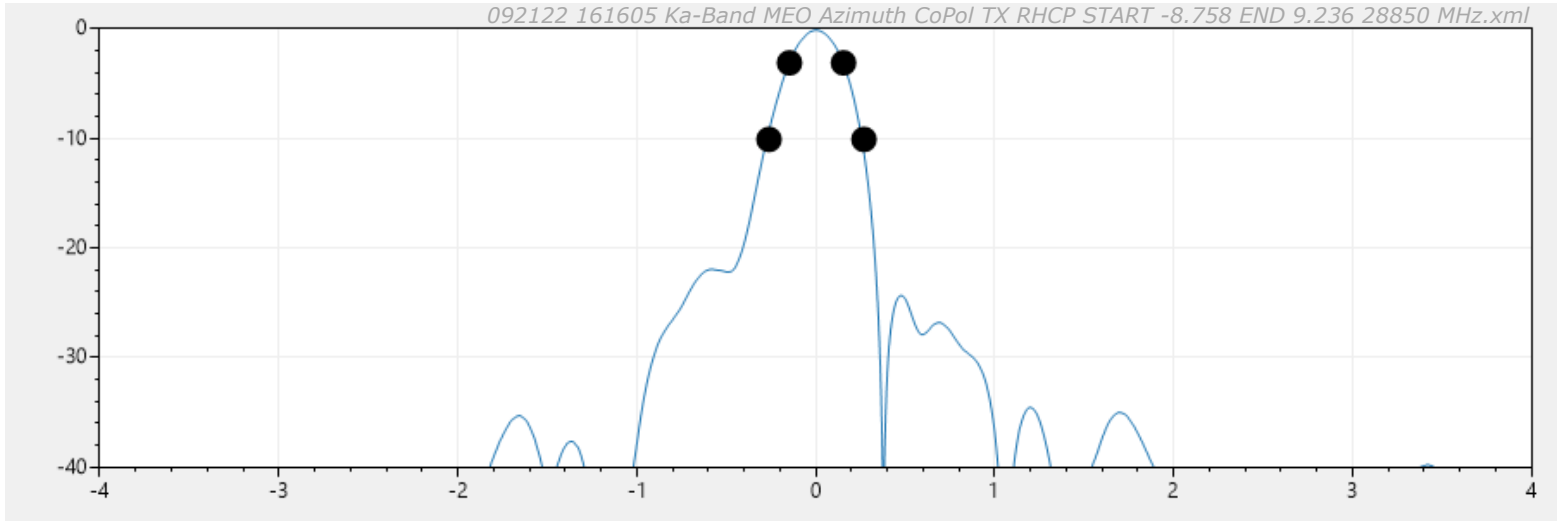
Test Frequency (GHz): 28.6
Band: Transmit
Polarization: RHCP

Gain by Beamwidth

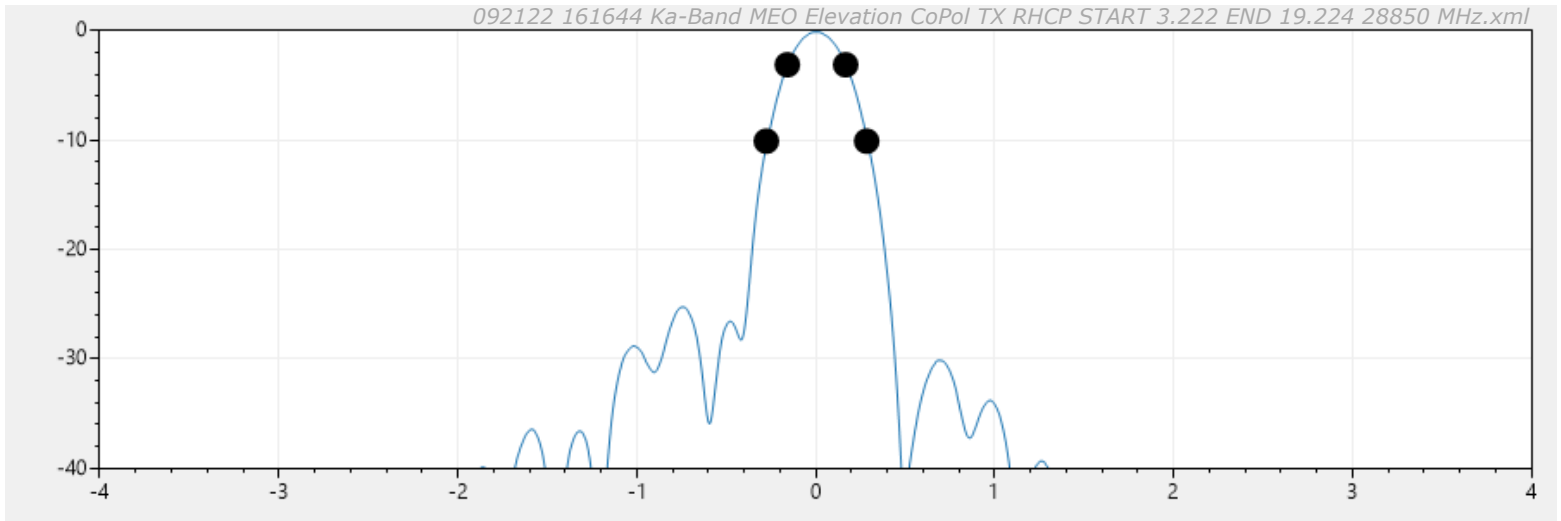
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Specified Gain (dBi): 54.400

Calculated Gain (dBi): 54.794



Azimuth



Elevation

3 dB Factor: 37000
10 dB Factor: 107000
Dish RMS (in): 0.01
Feed Loss (dB): 0.45

Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP
Surface RMS Loss (dB): 0.410

Azimuth 3 dB: 0.302°
Azimuth 10 dB: 0.531°
Elevation 3 dB: 0.326°
Elevation 10 dB: 0.561°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.654)) - Feed Loss (0.45) - Surface RMS Loss (0.410)

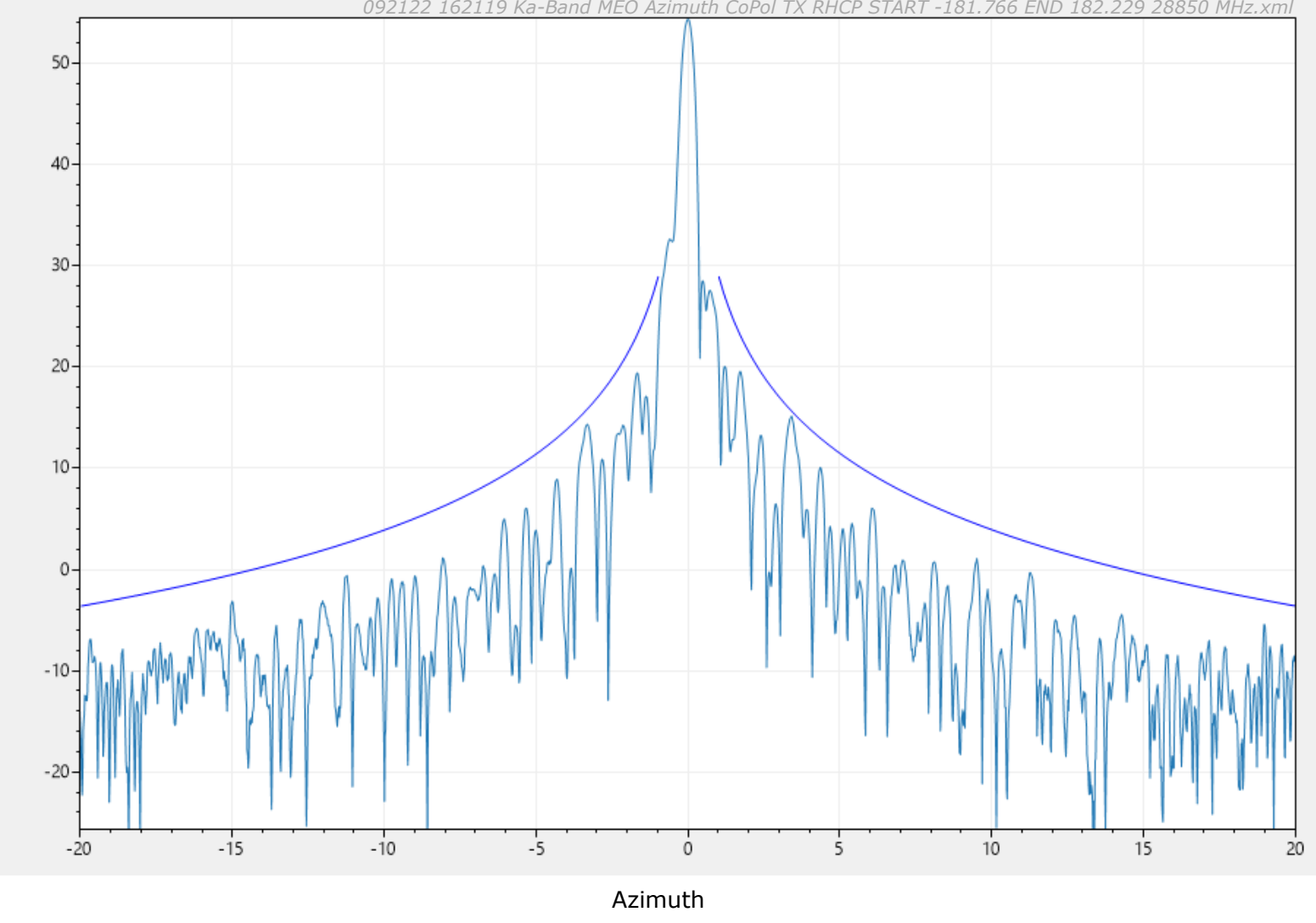
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 162119 Ka-Band MEO Azimuth CoPol TX RHCP START -181.766 END 182.229 28850 MHz.xml



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

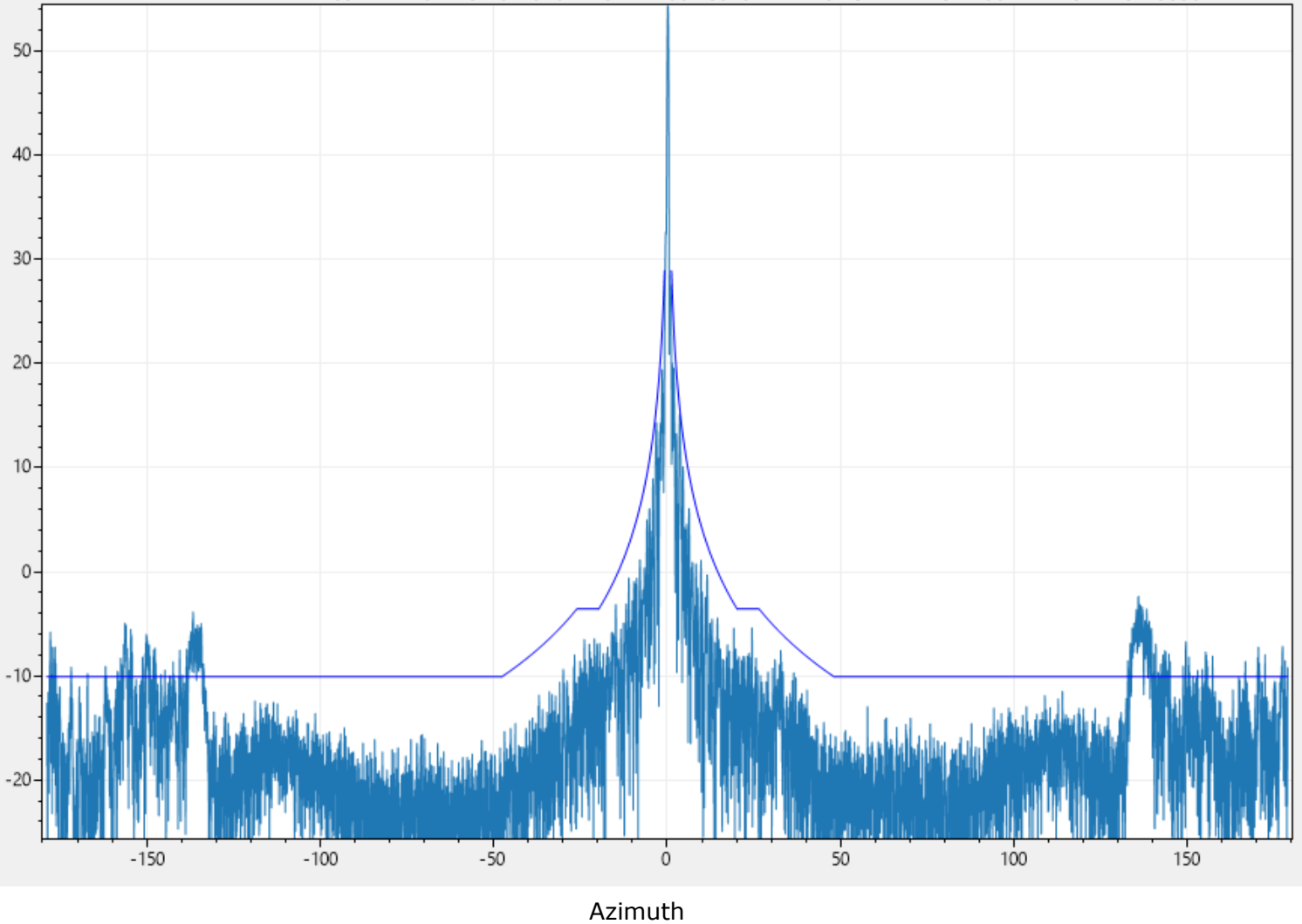
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122_162119_Ka-Band_MEO_Azimuth_CoPol_TX_RHCP_START_-181.766_END_182.229_28850_MHz.xml



Gain (dBi): 54.4
Sidelobes Over Curve: 5.39%

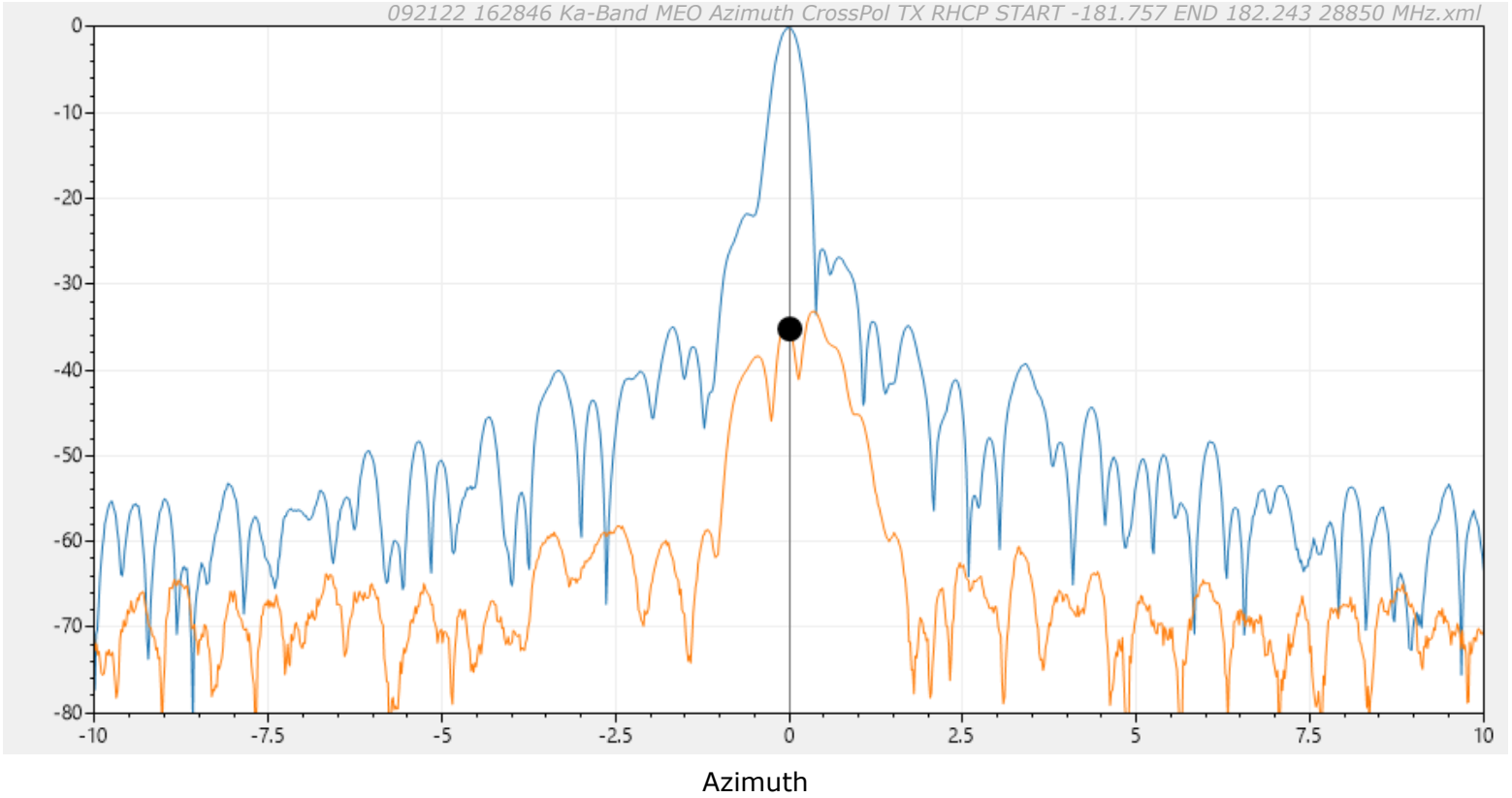
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 35.1
Spec Cross-Pol (dB): 30.0

092122 162119 Ka-Band MEO Azimuth CoPol TX RHCP START -181.766 END 182.229 28850 MHz.xml
092122 162846 Ka-Band MEO Azimuth CrossPol TX RHCP START -181.757 END 182.243 28850 MHz.xml

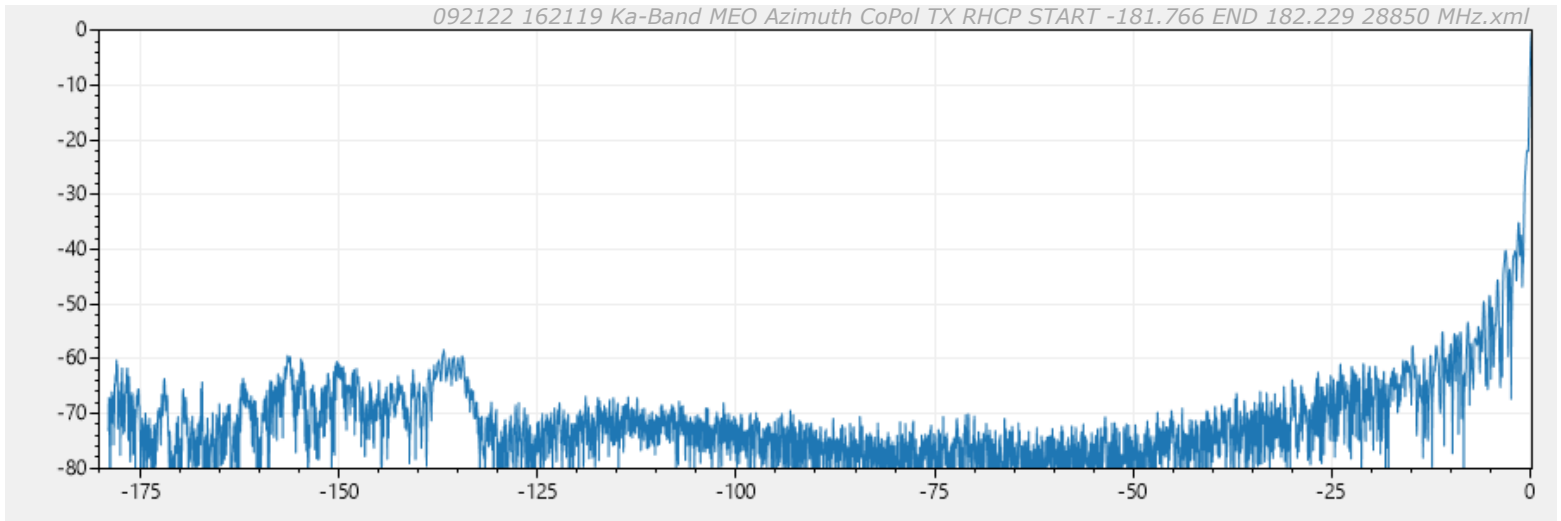


Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

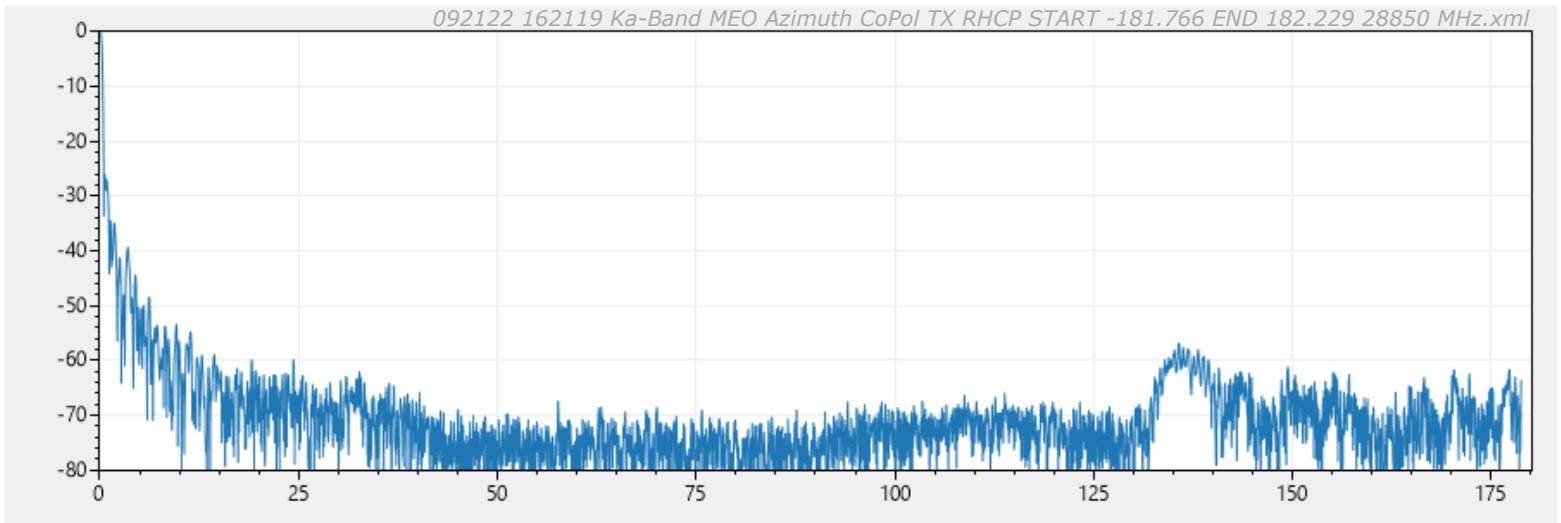
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

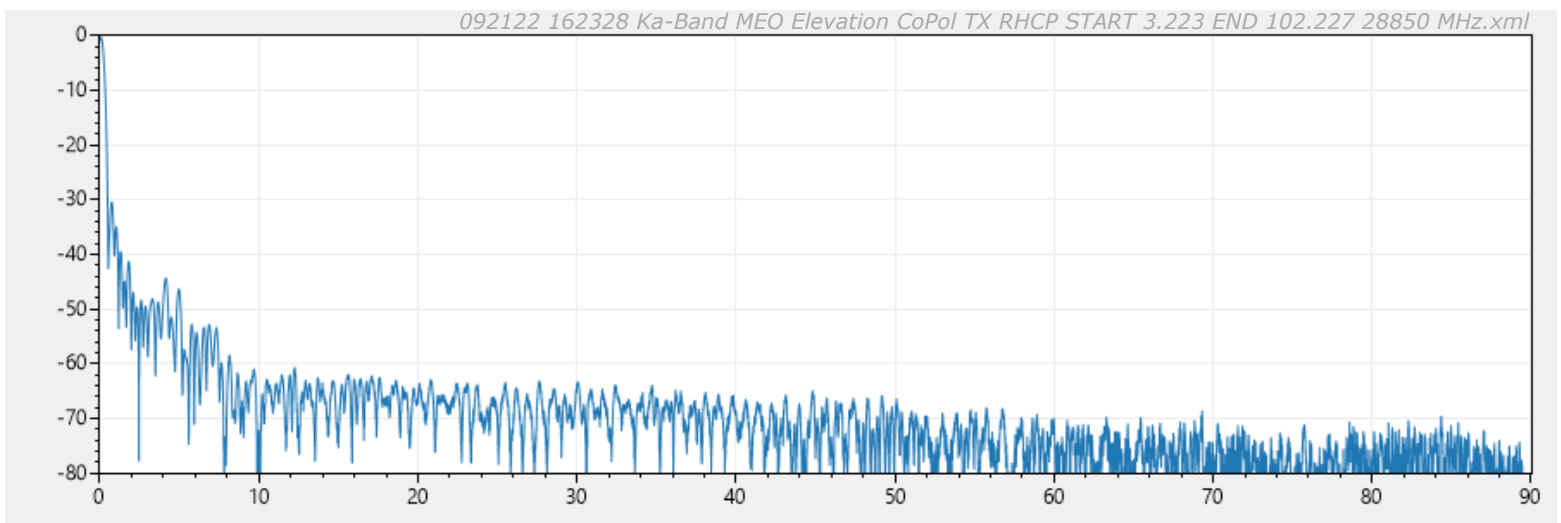
Specified Gain (dBi): 54.400
Calculated Gain (dBi): 54.840
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth



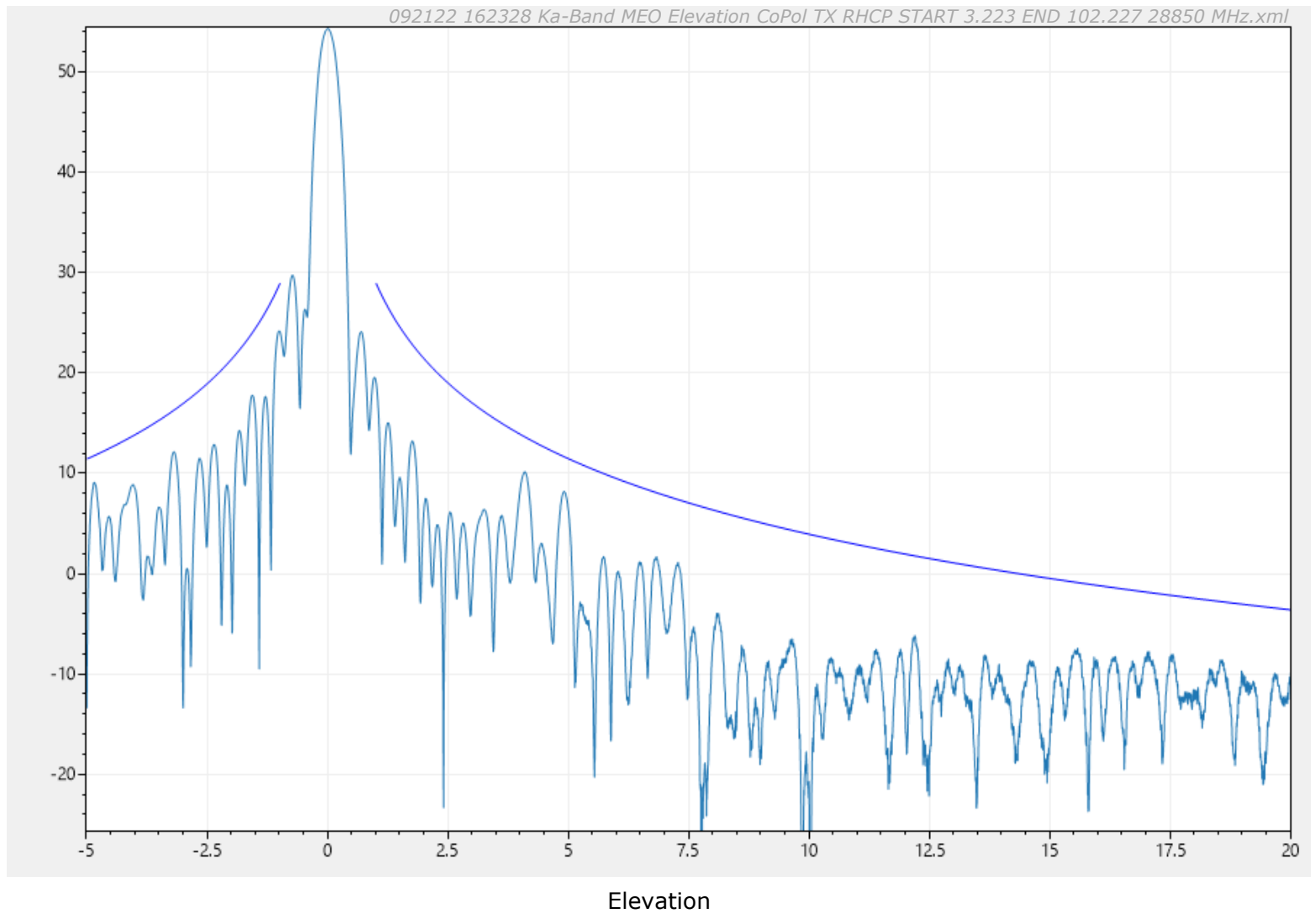
Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

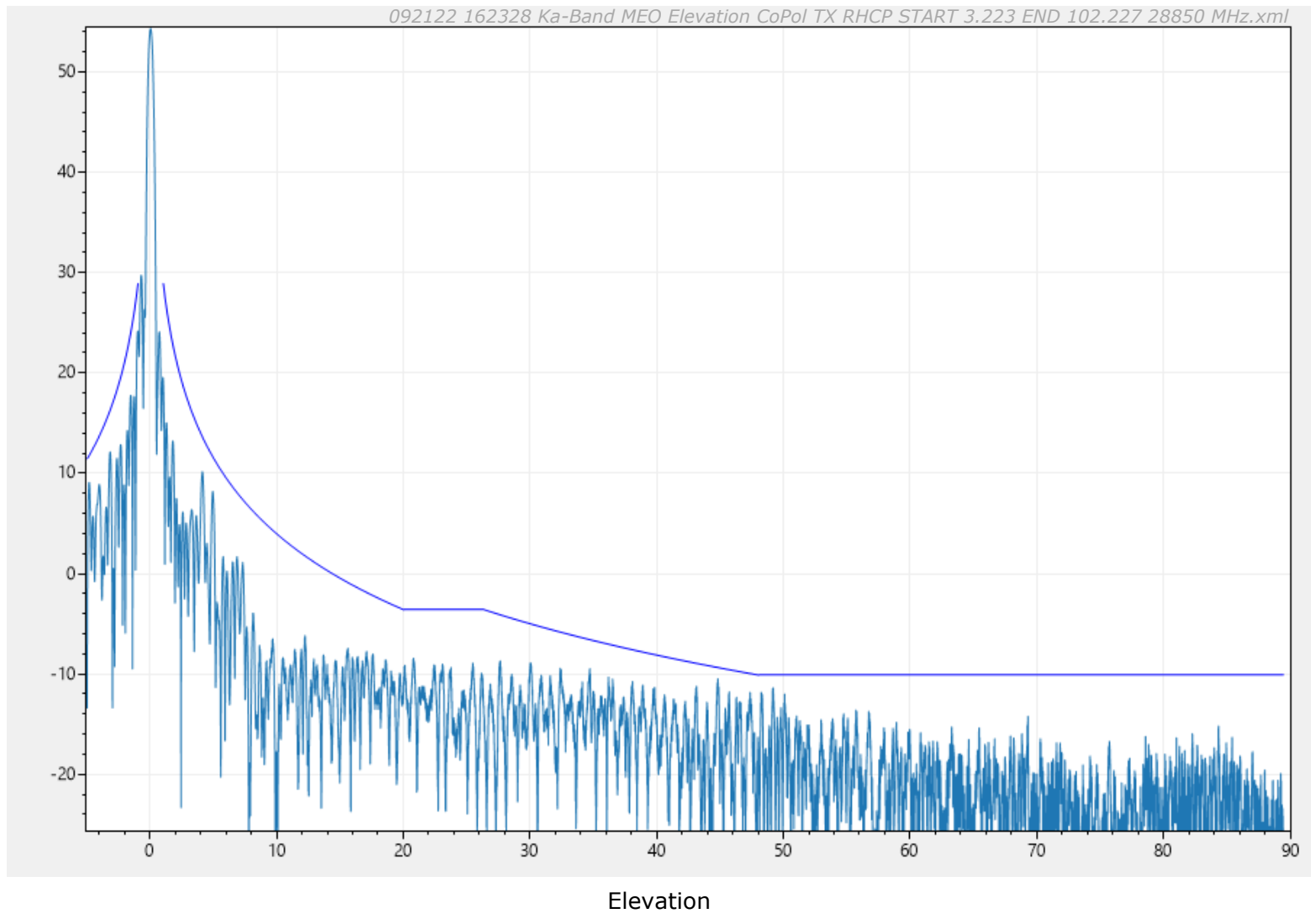
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.4
Sidelobes Over Curve: 0.00%

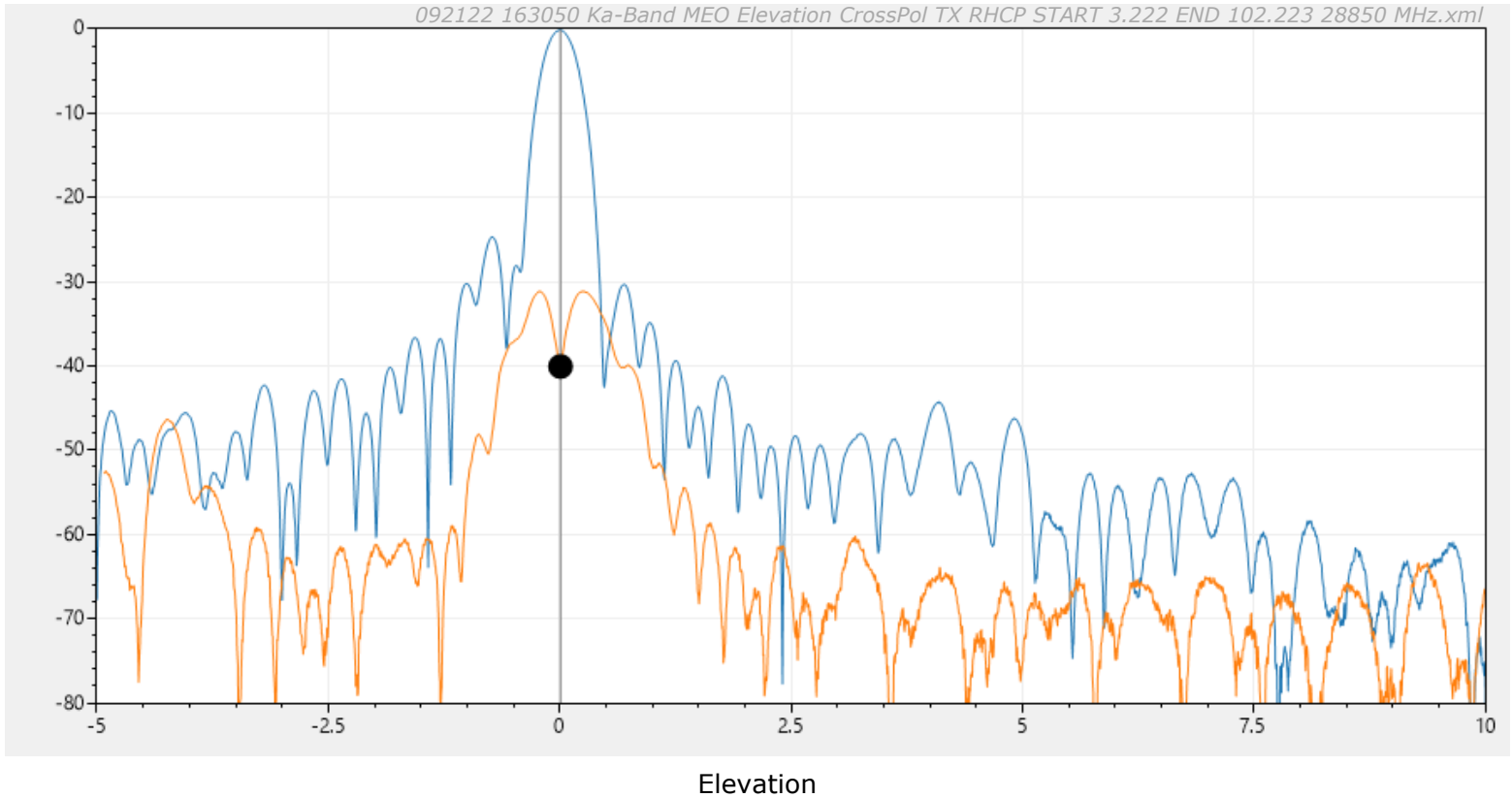
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 39.9
Spec Cross-Pol (dB): 30.0

092122 162328 Ka-Band MEO Elevation CoPol TX RHCP START 3.223 END 102.227 28850 MHz.xml
092122 163050 Ka-Band MEO Elevation CrossPol TX RHCP START 3.222 END 102.223 28850 MHz.xml



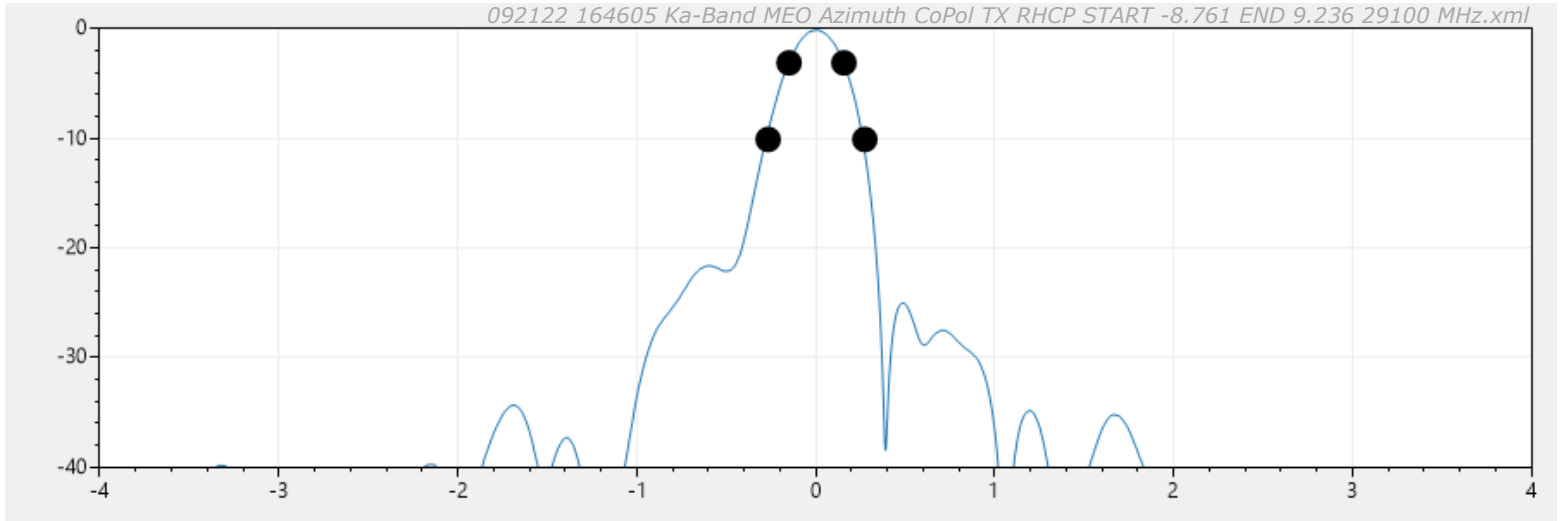
Test Frequency (GHz): 28.85
Band: Transmit
Polarization: RHCP

Gain by Beamwidth

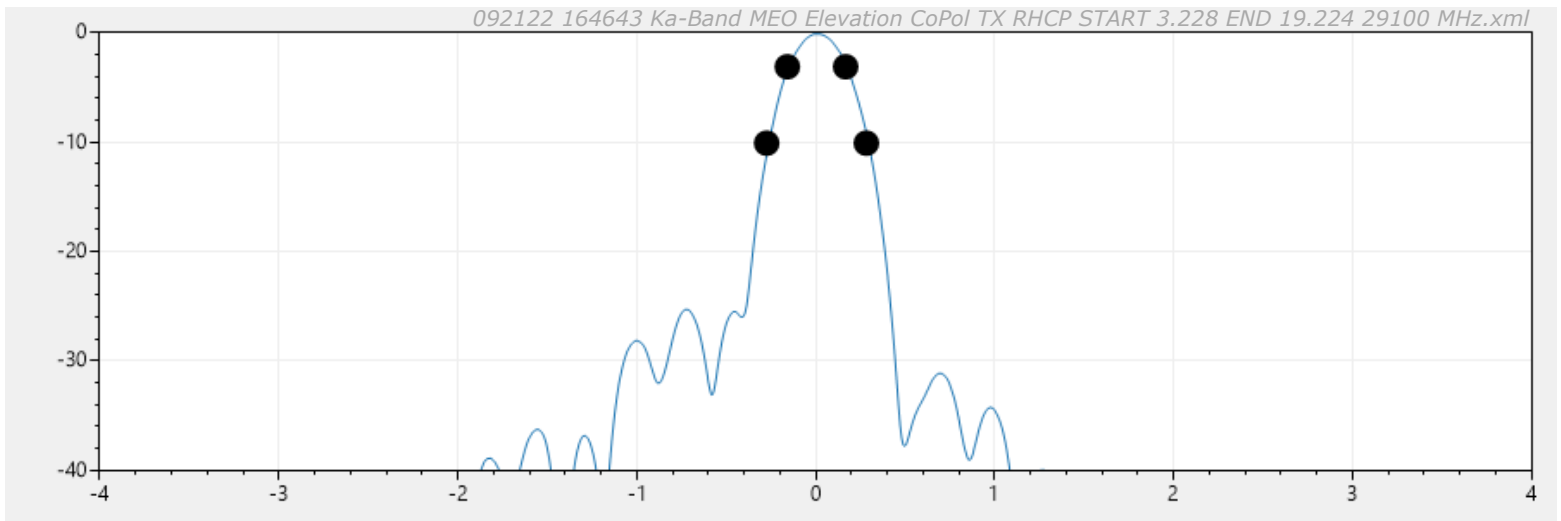
Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Specified Gain (dBi): 54.500

Calculated Gain (dBi): 54.732



Azimuth



Elevation

3 dB Factor: 37000
10 dB Factor: 107000
Dish RMS (in): 0.01
Feed Loss (dB): 0.45

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP
Surface RMS Loss (dB): 0.417

Azimuth 3 dB: 0.306°
Azimuth 10 dB: 0.541°
Elevation 3 dB: 0.326°
Elevation 10 dB: 0.558°

Calculated Gain =

(Average of gain from 3dB and 10dB Beamwidth (55.599)) - Feed Loss (0.45) - Surface RMS Loss (0.417)

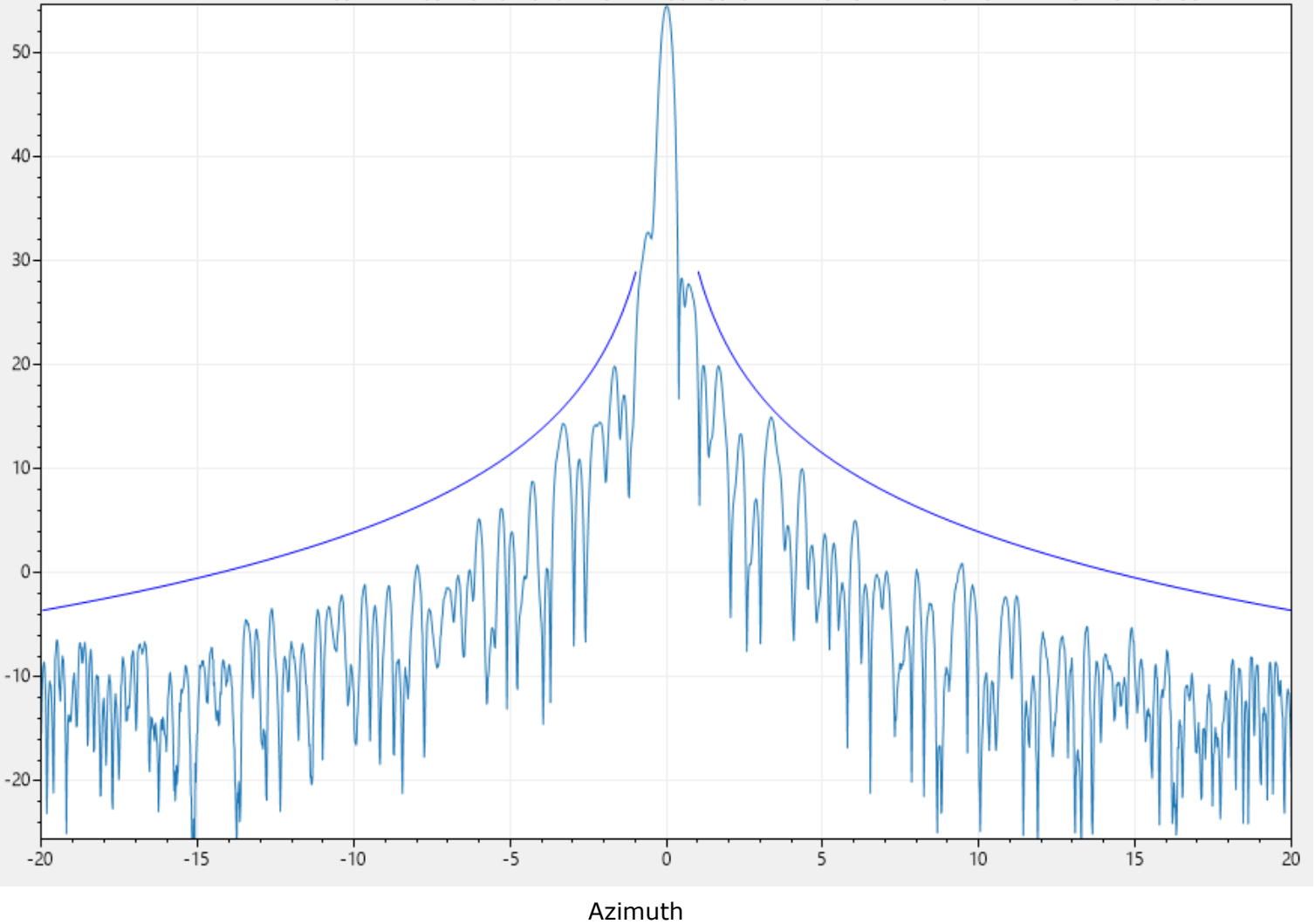
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122_165126_Ka-Band_MEO_Azimuth_CoPol_TX_RHCP_START_-181.761_END_182.232_29100_MHz.xml



Gain (dBi): 54.5
Sidelobes Over Curve: 0.00%

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP

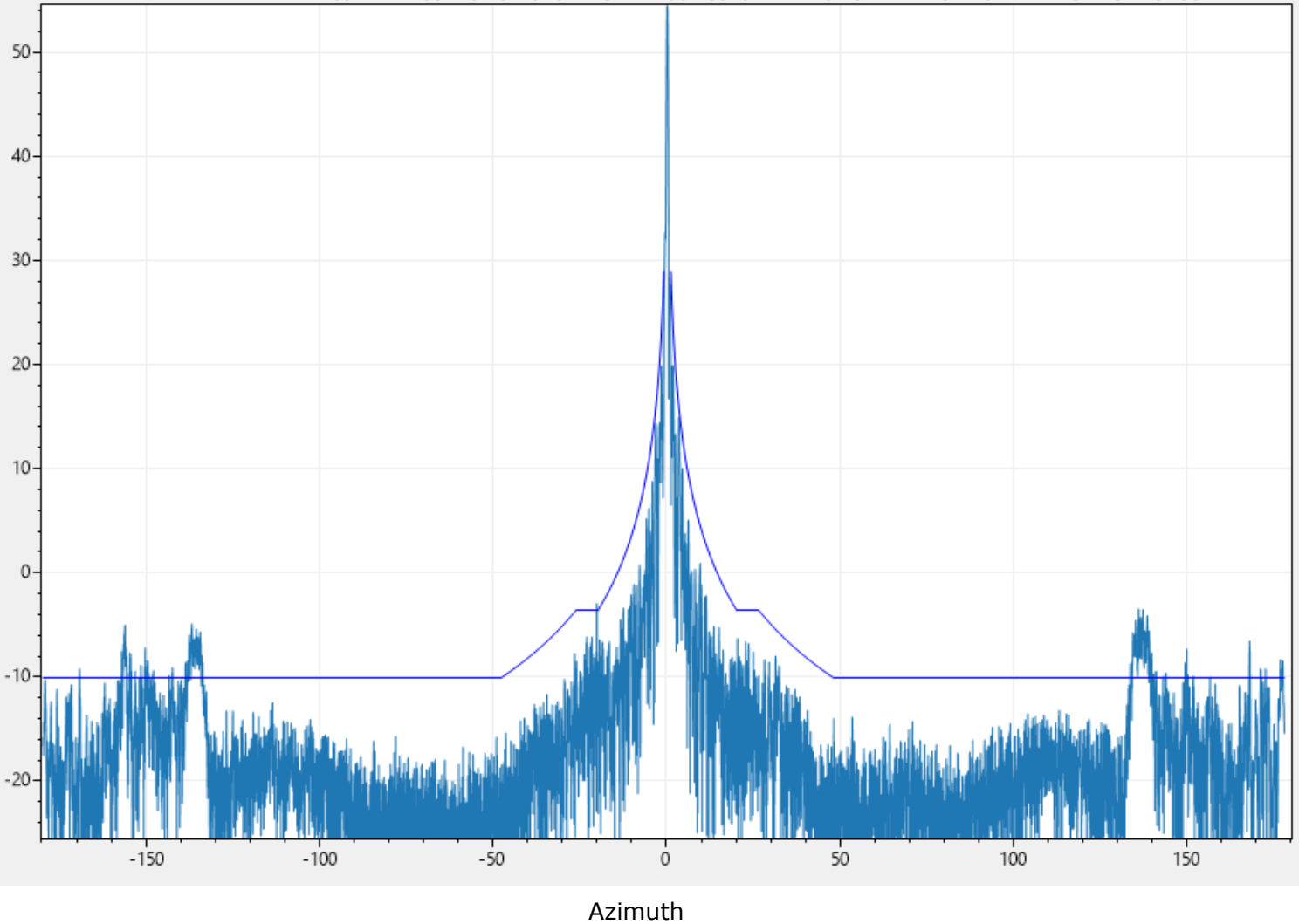
Sidelobe Curves - Azimuth CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10

092122 165126 Ka-Band MEO Azimuth CoPol TX RHCP START -181.761 END 182.232 29100 MHz.xml



Gain (dBi): 54.5
Sidelobes Over Curve: 4.10%

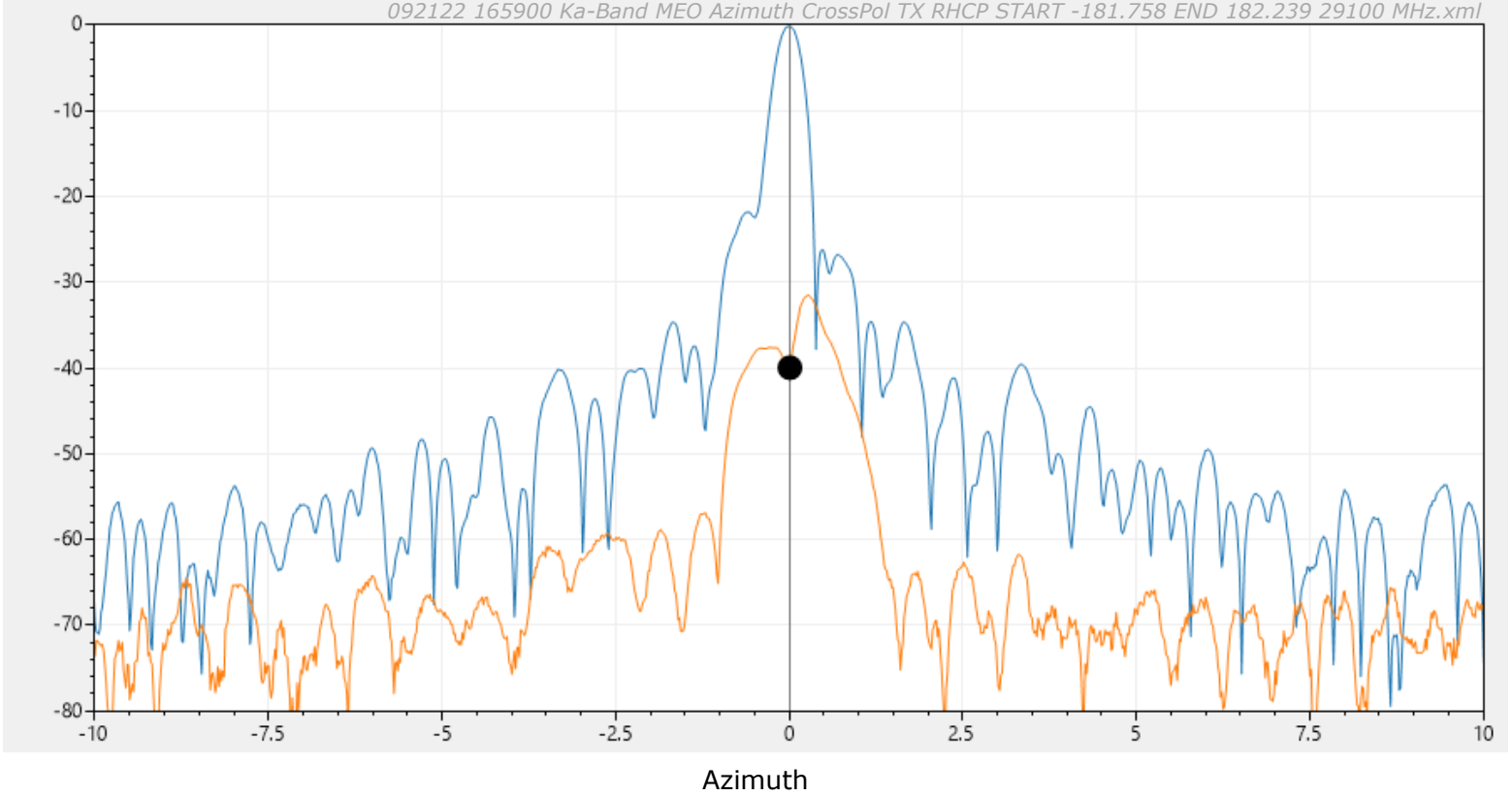
Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP

Azimuth Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 39.9
Spec Cross-Pol (dB): 30.0

092122 165126 Ka-Band MEO Azimuth CoPol TX RHCP START -181.761 END 182.232 29100 MHz.xml
092122 165900 Ka-Band MEO Azimuth CrossPol TX RHCP START -181.758 END 182.239 29100 MHz.xml

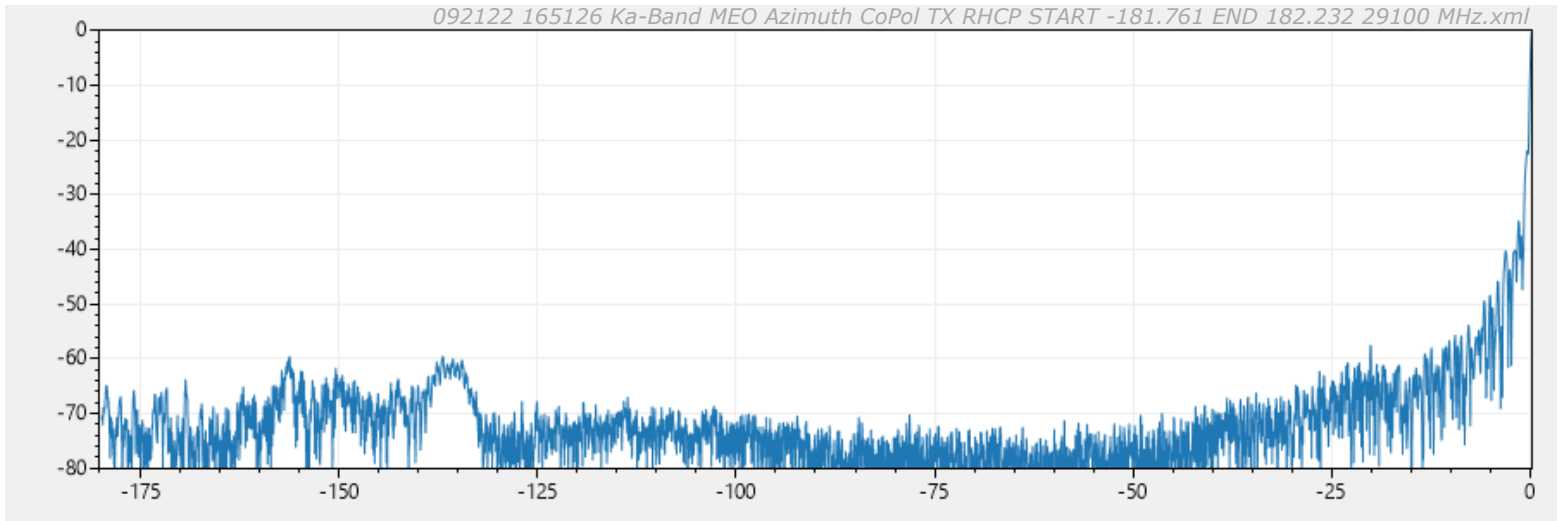


Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP

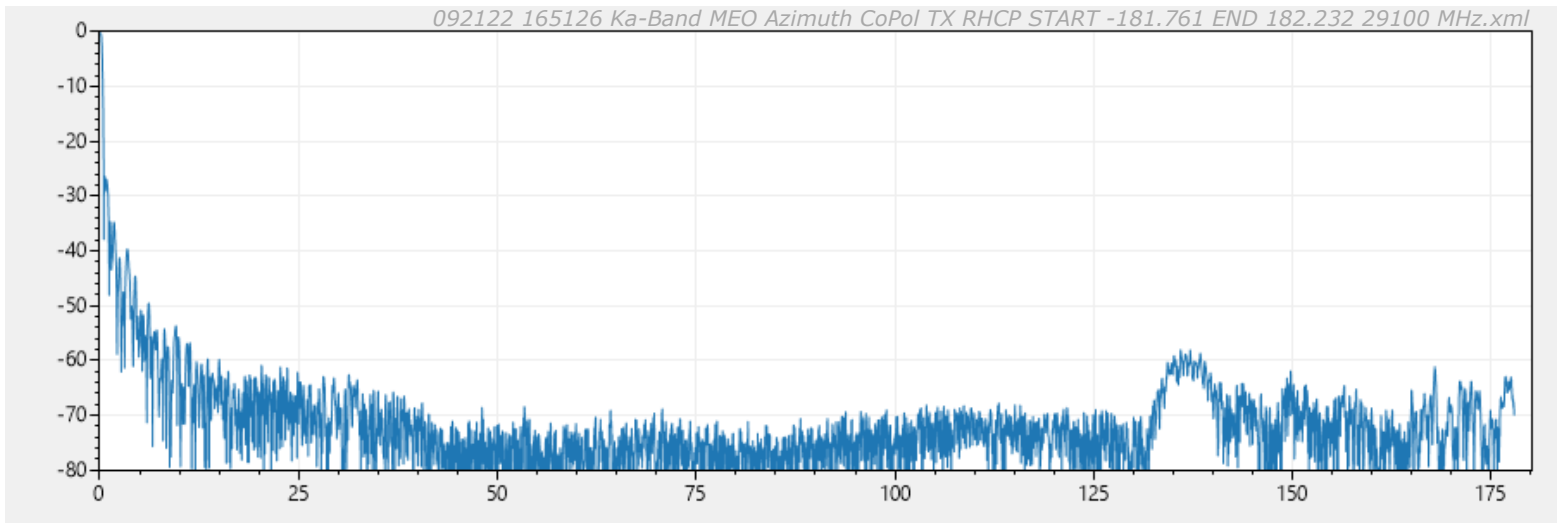
Gain by Integration

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

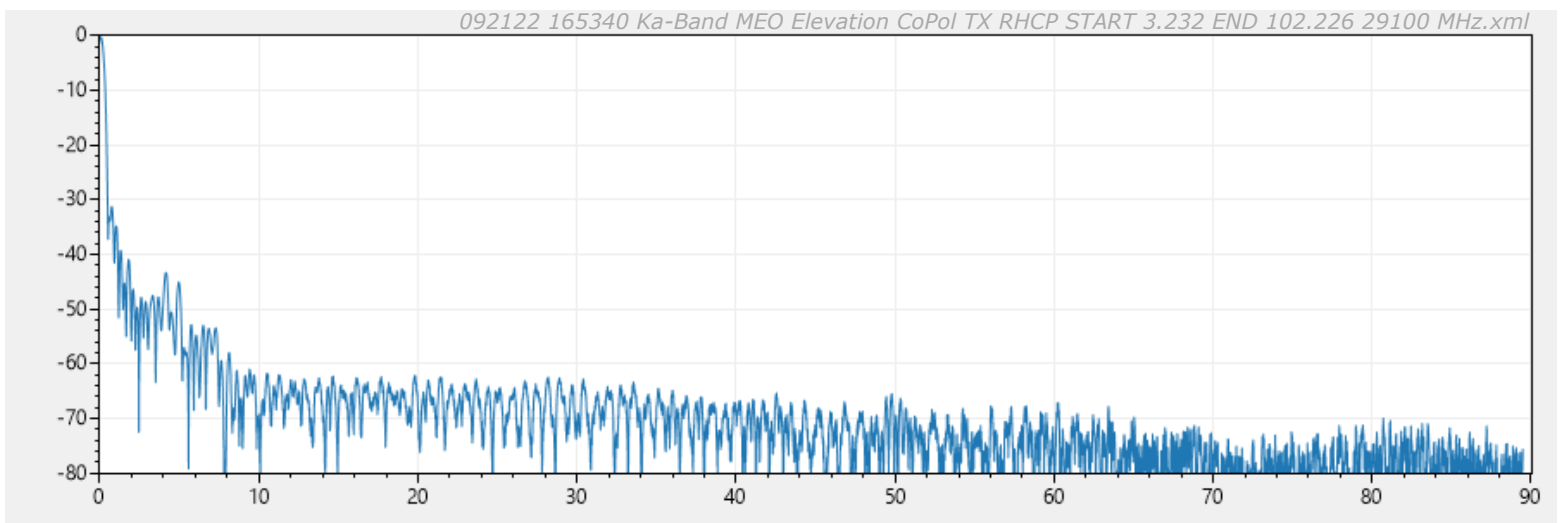
Specified Gain (dBi): 54.500
Calculated Gain (dBi): 54.916
Feed Loss (dB): 0.45
Cross-Pol Loss (dB): 0.03
Spar Blockage (dB): 0
Angular Extents (dB)
Left Az: 0, Right Az: 0, El: 0.05



Left Azimuth



Right Azimuth

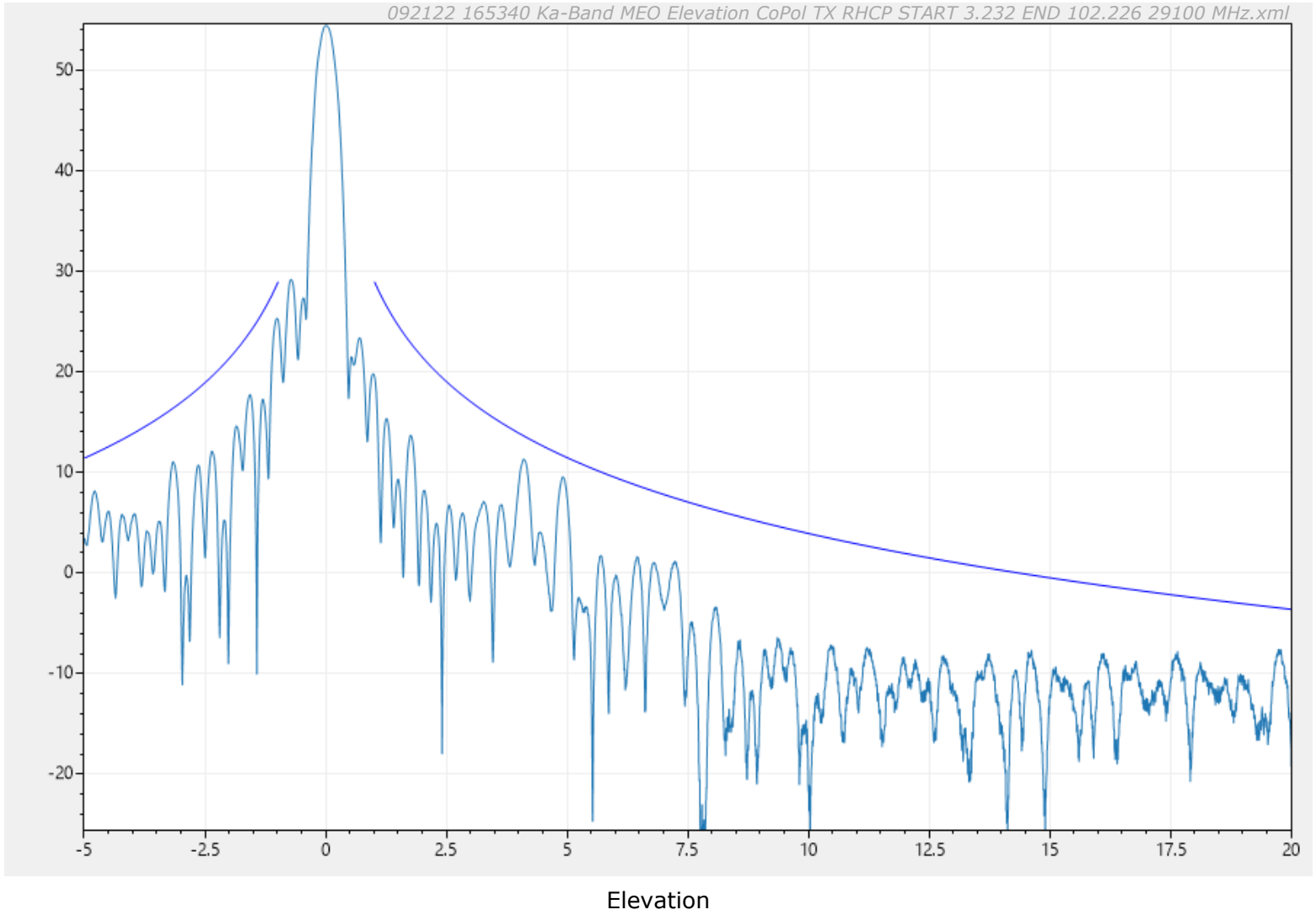


Elevation

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec:	Mil Std 188-164c		
Start Angle (°)	End Angle (°)	Formula (dBi)	
1.0	20	29-25*log(x)	
20	26.3	-3.5	
26.3	48	32-25*log(x)	
48	180	-10	



Gain (dBi): 54.5
Sidelobes Over Curve: 0.00%

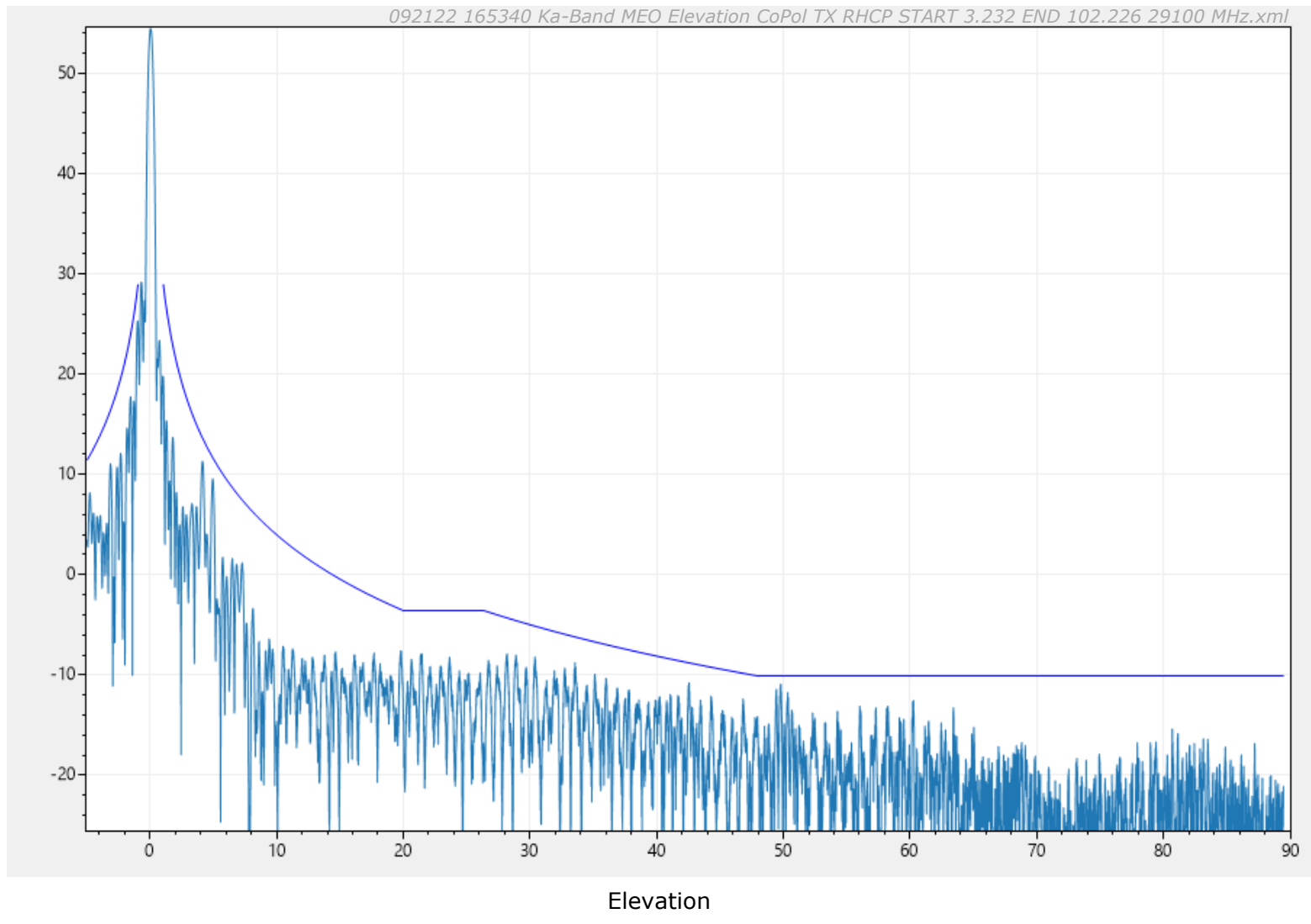
Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP

Sidelobe Curves - Elevation CoPol

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Sidelobe Spec: Mil Std 188-164c

Start Angle (°)	End Angle (°)	Formula (dBi)
1.0	20	29-25*log(x)
20	26.3	-3.5
26.3	48	32-25*log(x)
48	180	-10



Gain (dBi): 54.5
Sidelobes Over Curve: 0.00%

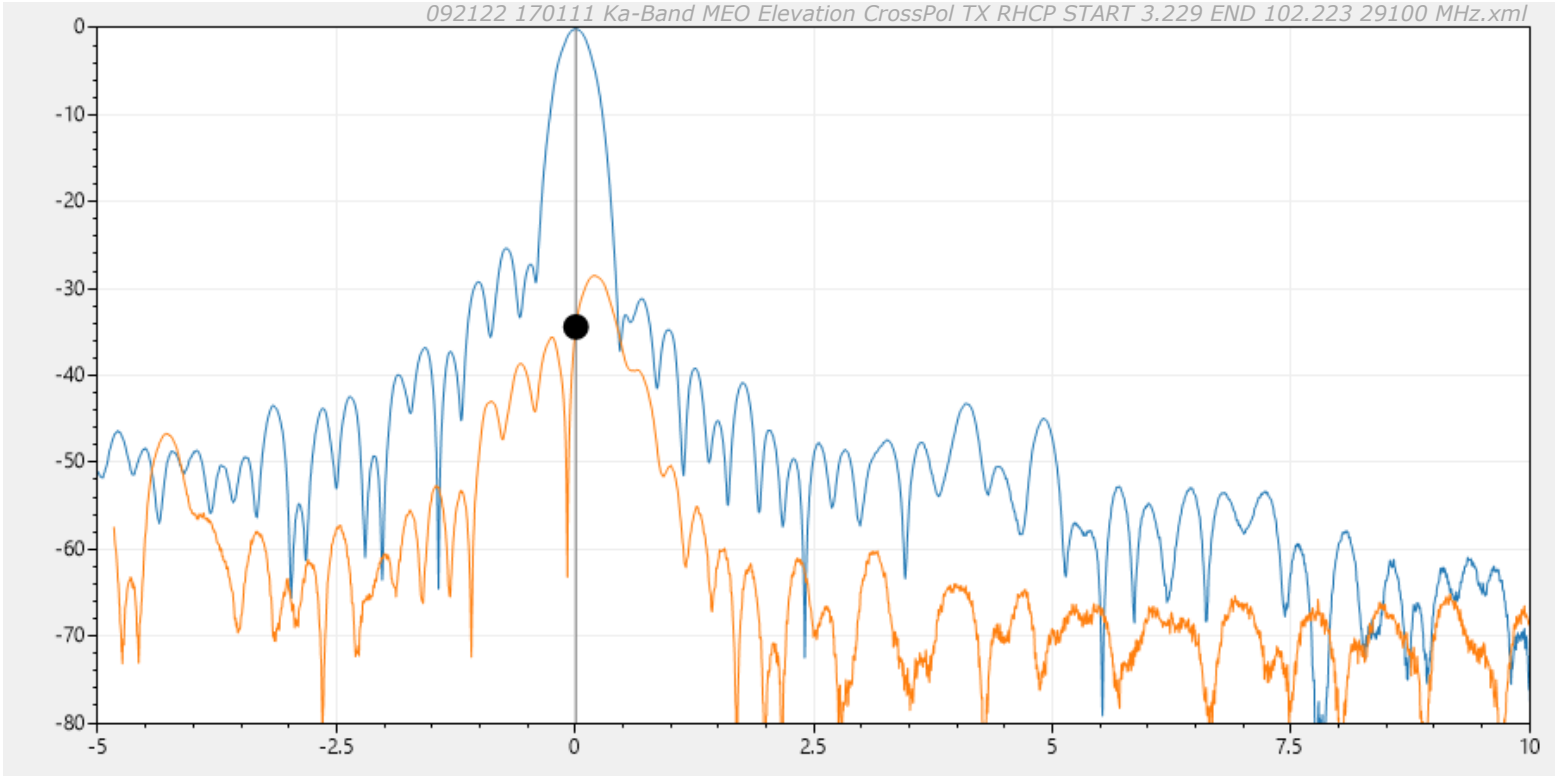
Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP

Elevation Cross Polarization

Customer: Airbus
Job: Ka-Band MEO
Antenna: 2.4 M
Weather: Clear
Location: Gilmer
Date: 9/21/2022
Tester: JAW

Measured Cross-Pol (dB): 34.3
Spec Cross-Pol (dB): 30.0

092122 165340 Ka-Band MEO Elevation CoPol TX RHCP START 3.232 END 102.226 29100 MHz.xml
092122 170111 Ka-Band MEO Elevation CrossPol TX RHCP START 3.229 END 102.223 29100 MHz.xml



Elevation

Test Frequency (GHz): 29.1
Band: Transmit
Polarization: RHCP