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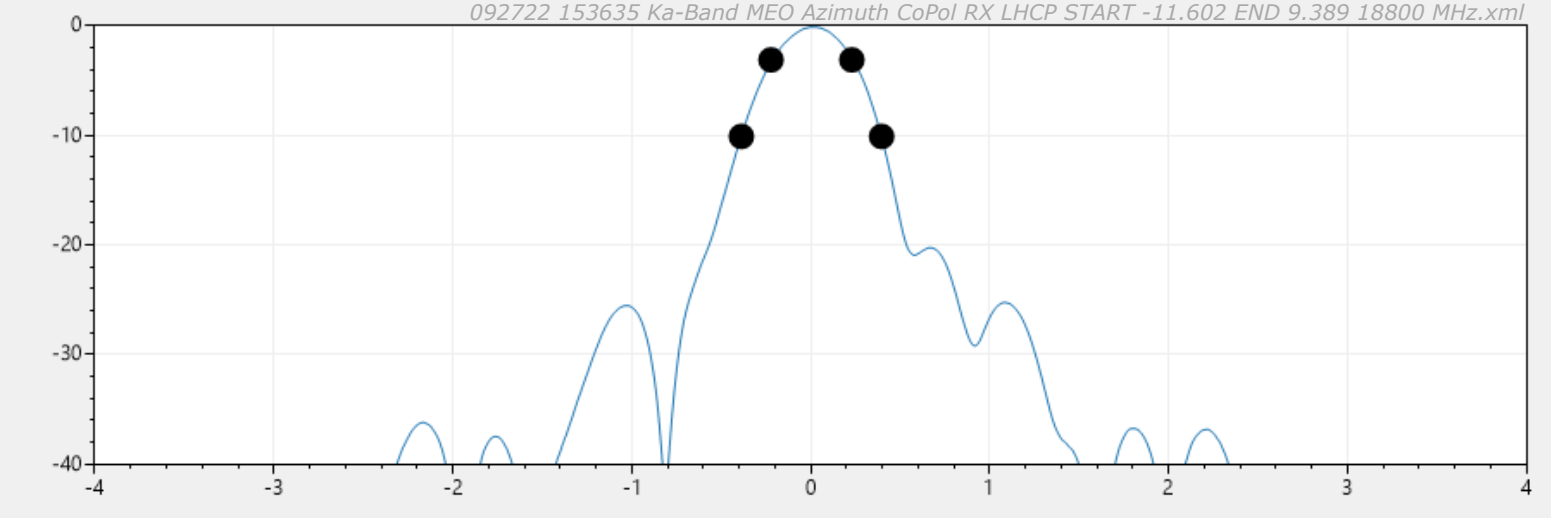
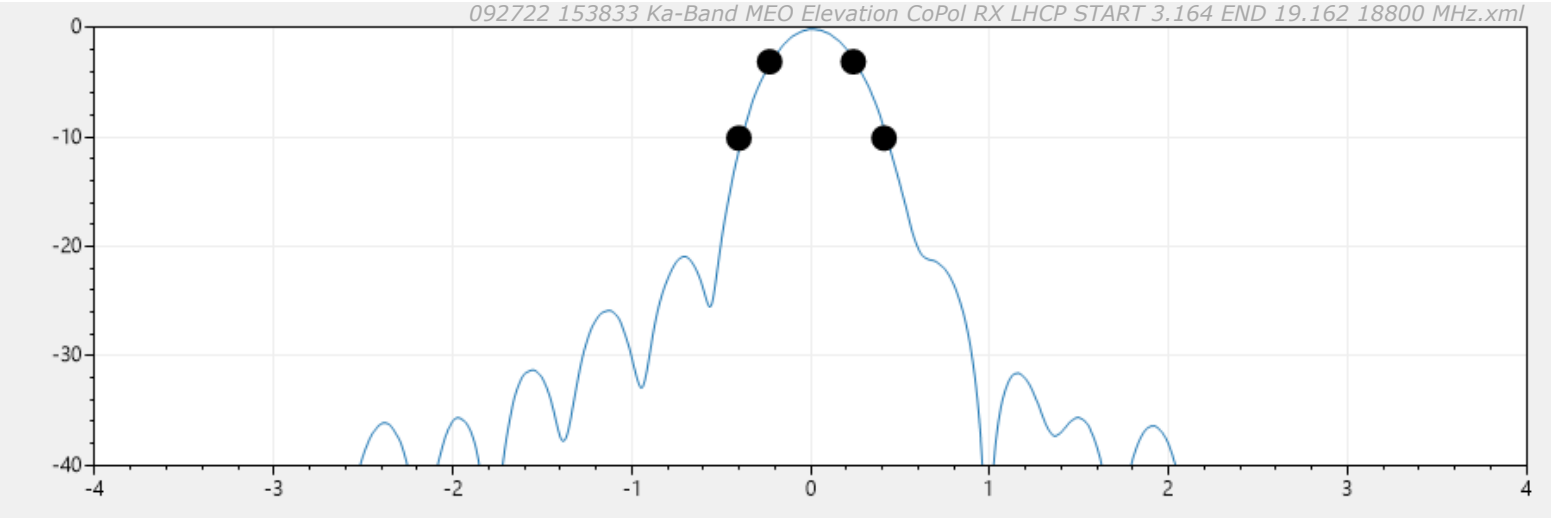
Gain by Beamwidth

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



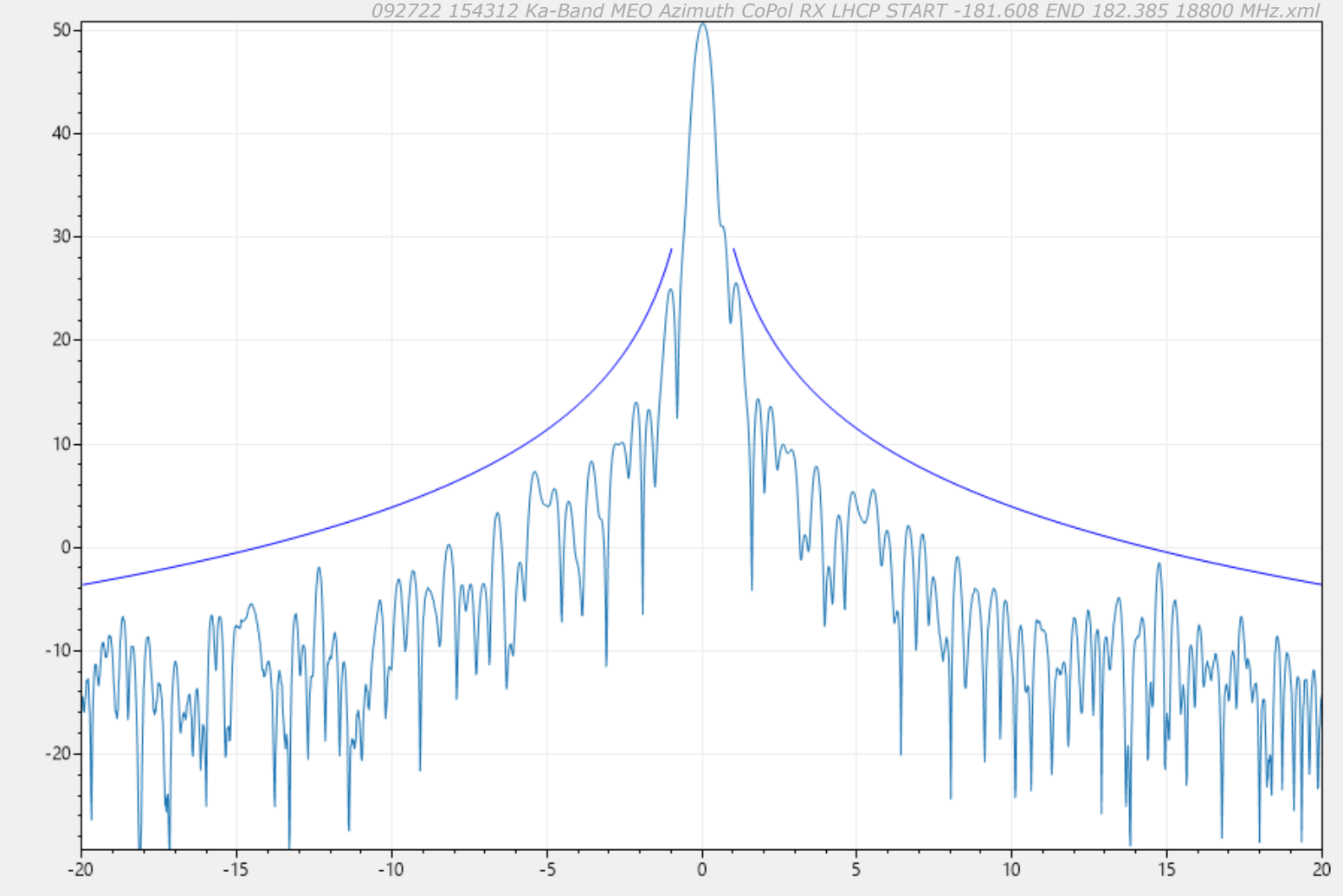
Elevation

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

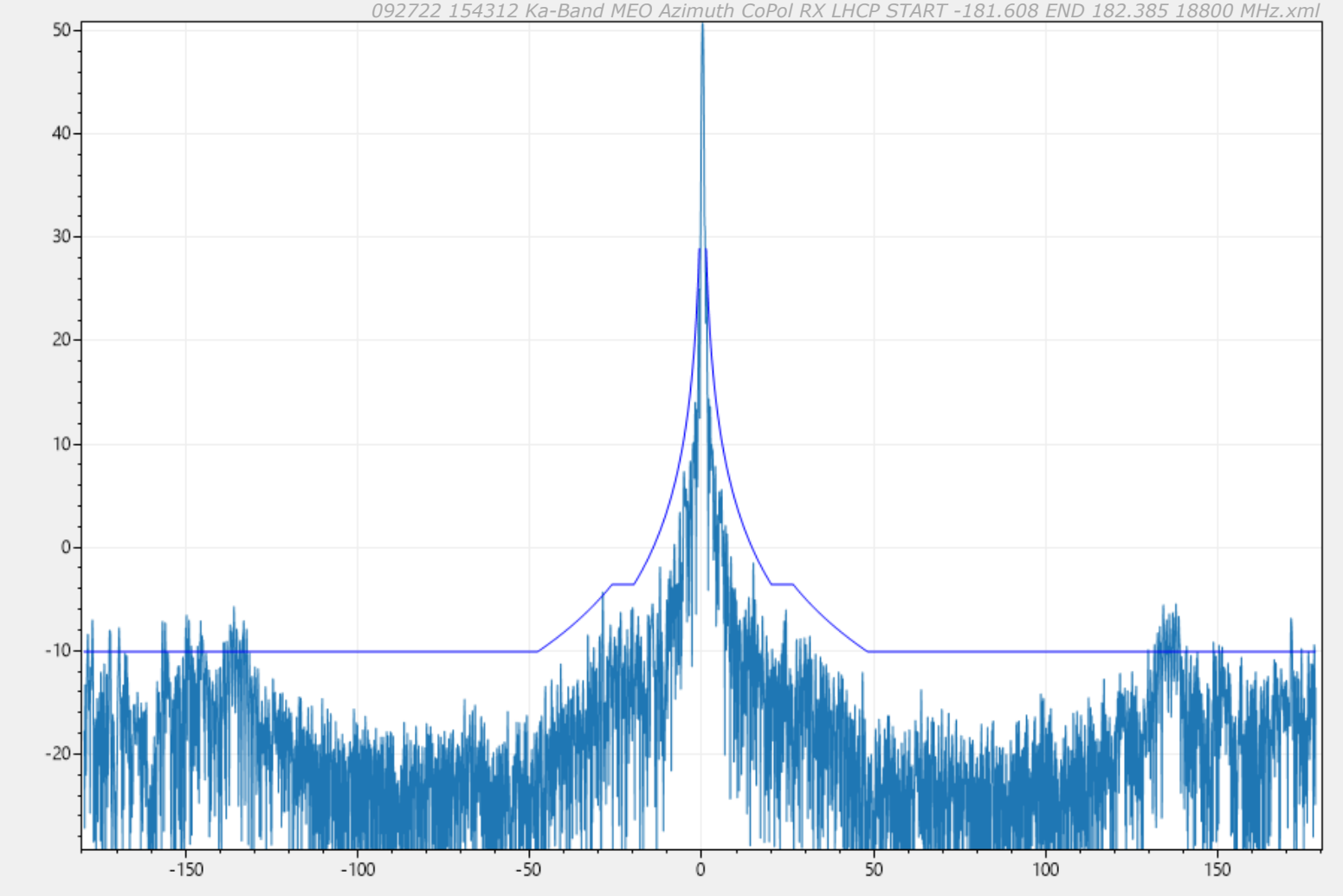
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

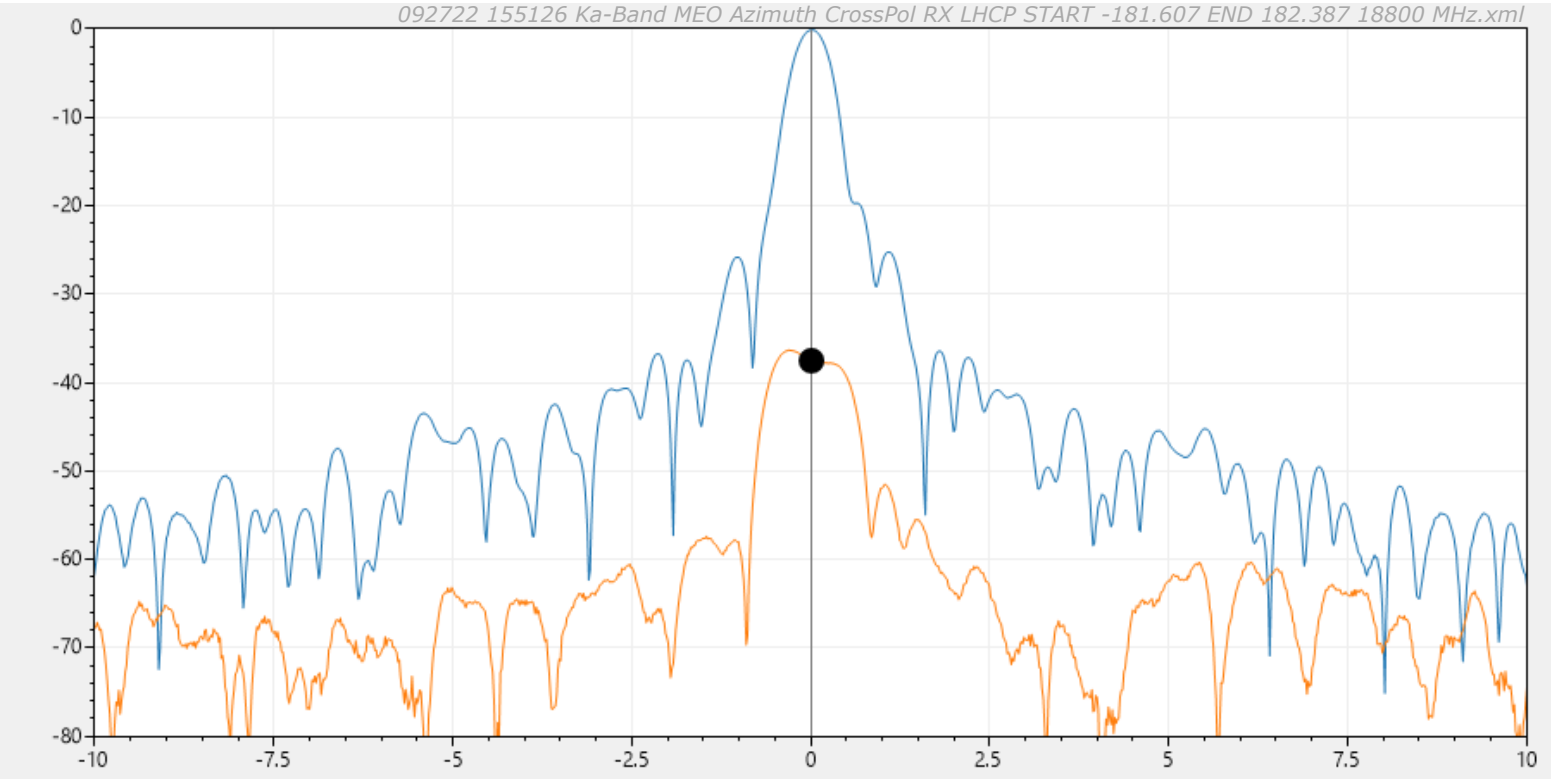


Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	3.02%	Band:	Receive
		Polarization:	LHCP

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

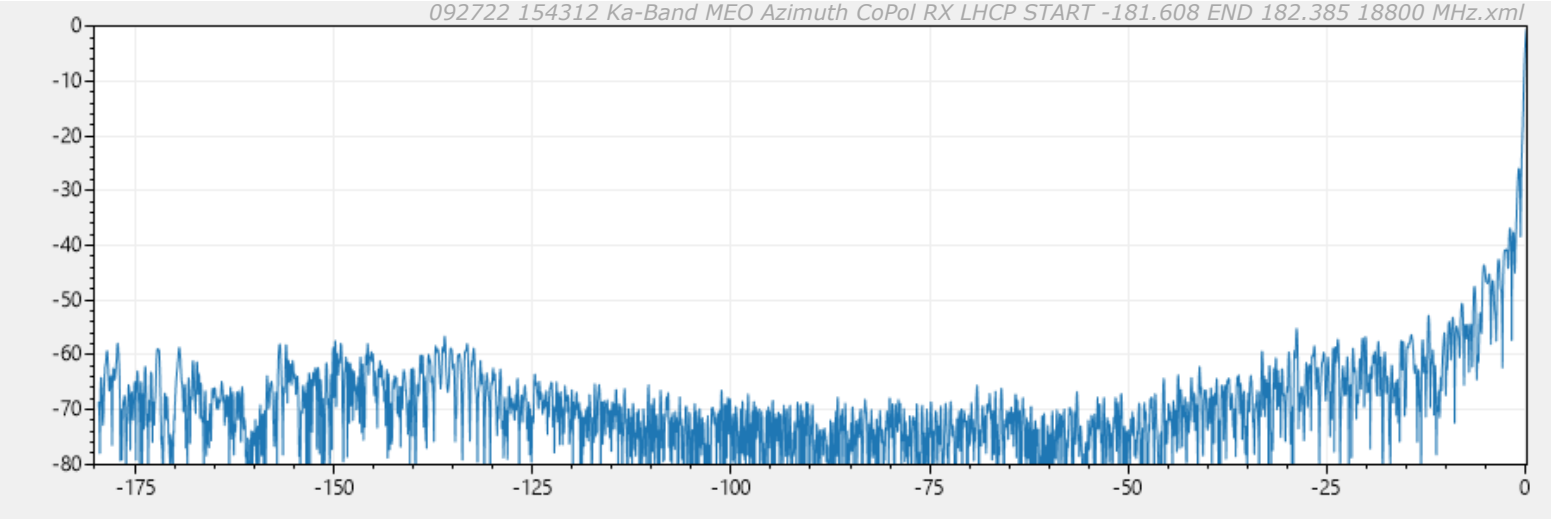


Azimuth

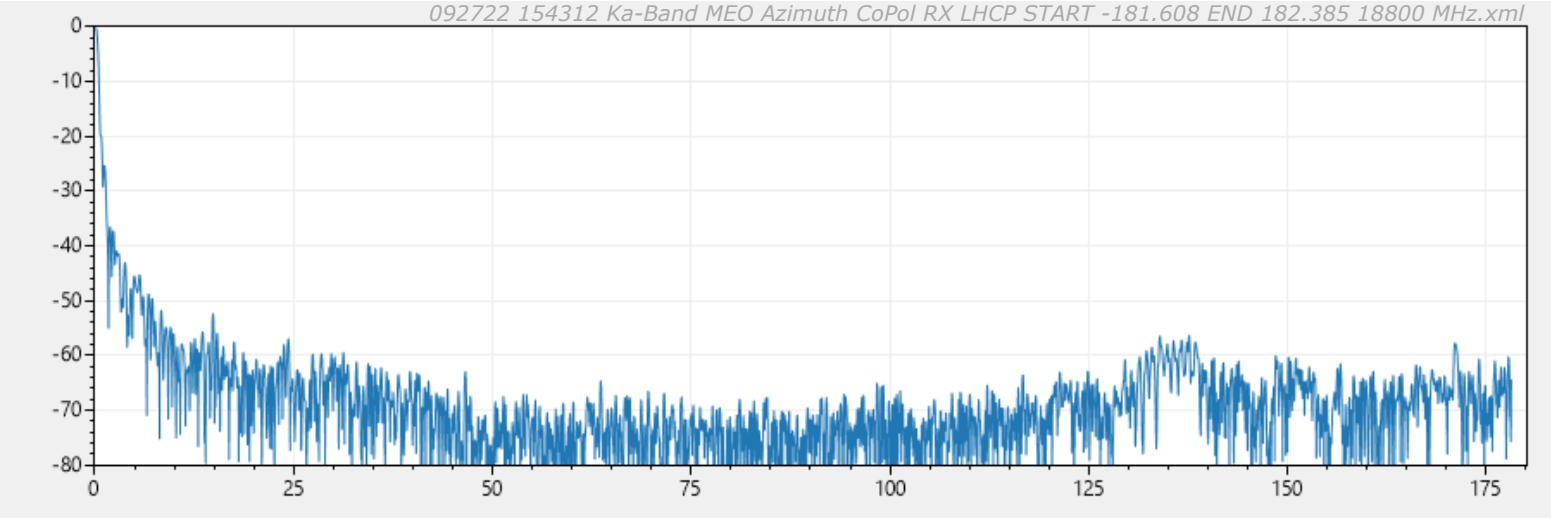
Test Frequency (GHz):	18.8
Band:	Receive
Polarization:	LHCP

Gain by Integration

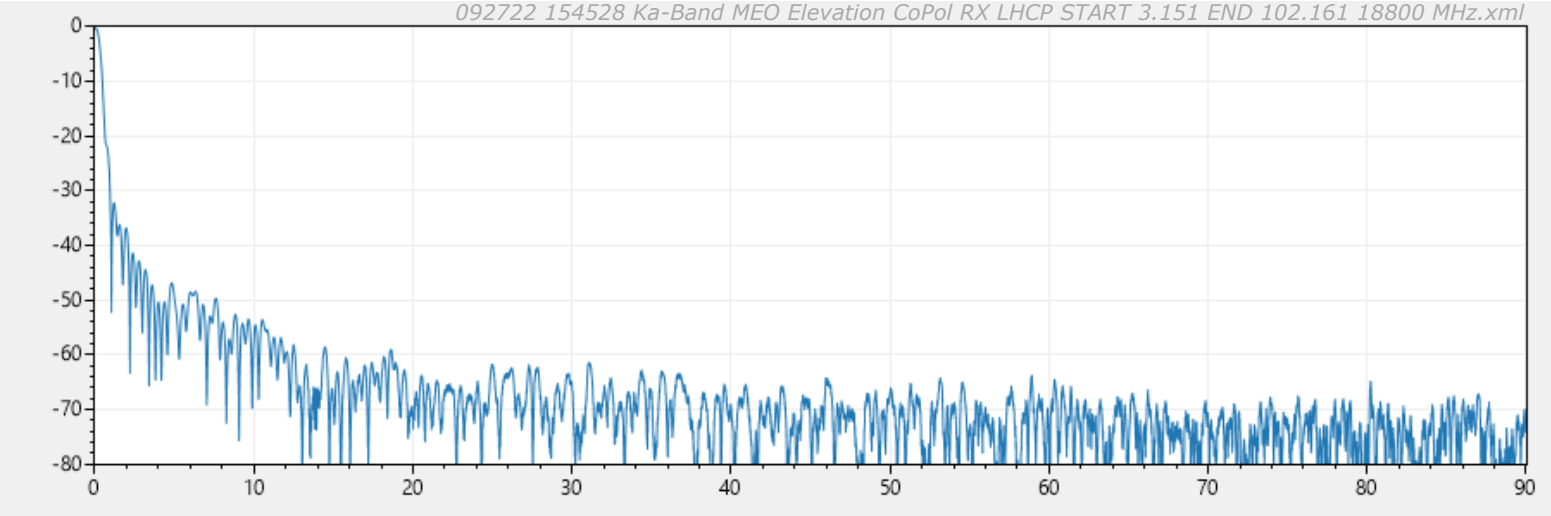
Customer:	Airbus	Specified Gain (dBi):	50.800
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.545
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



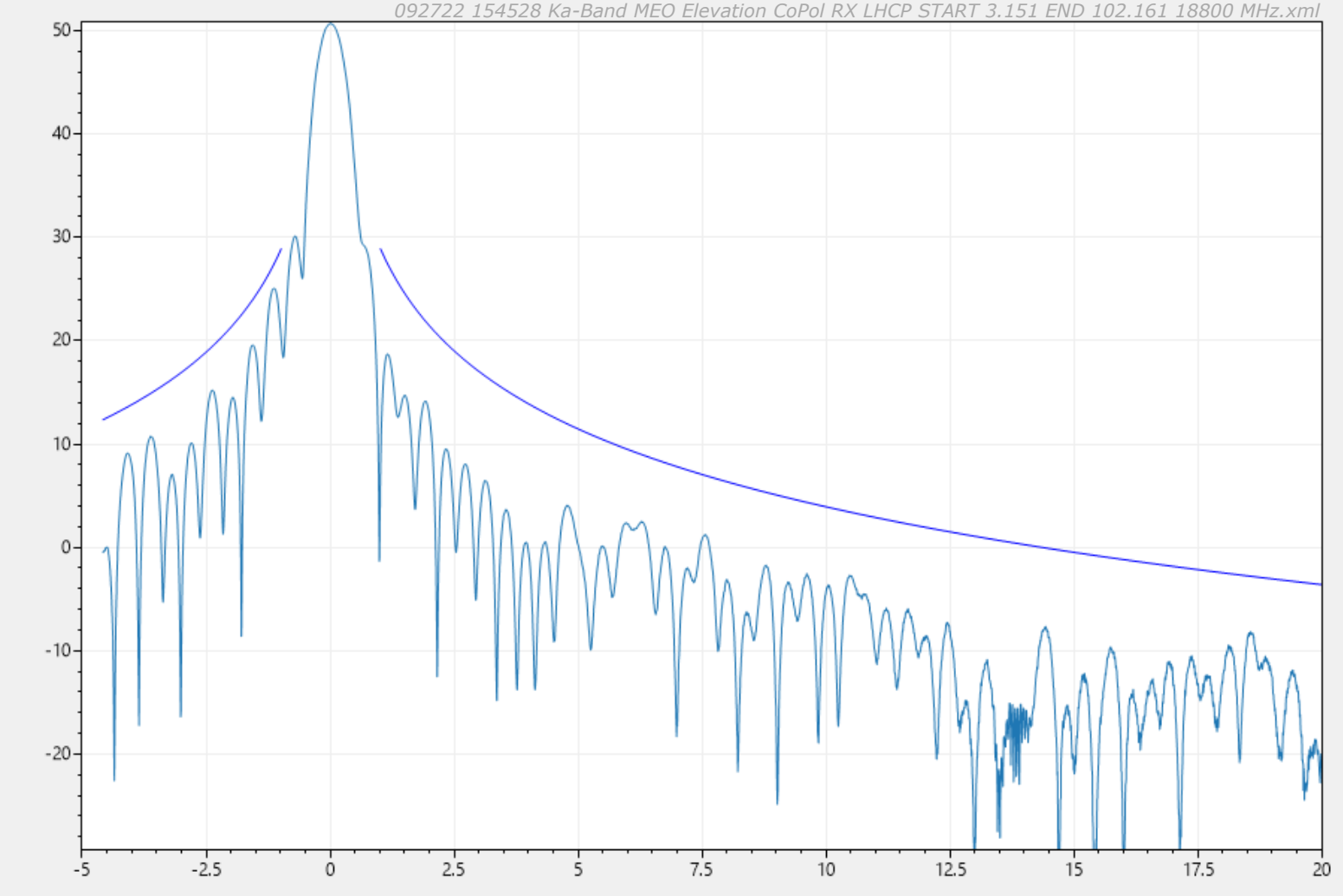
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

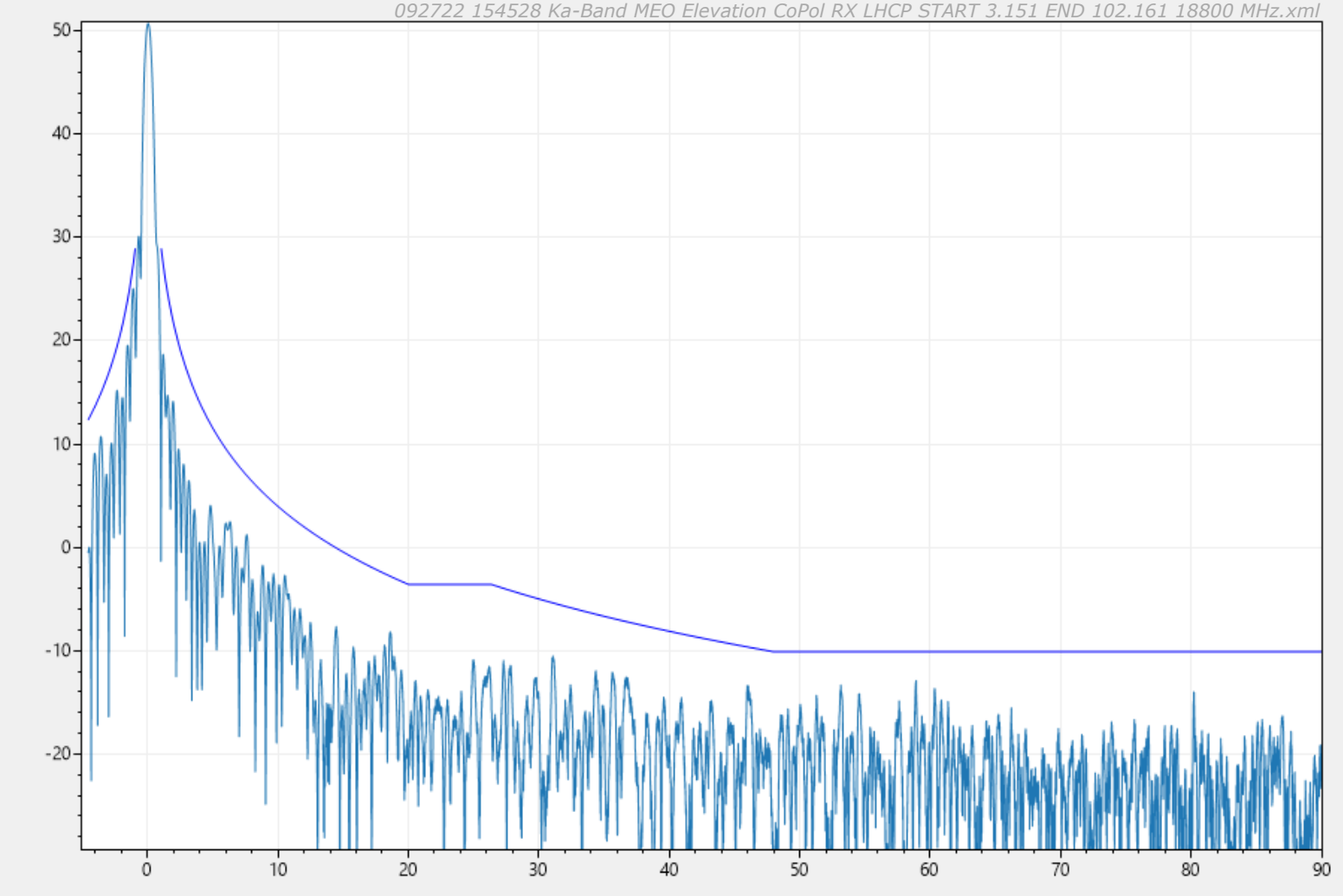


Elevation

Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



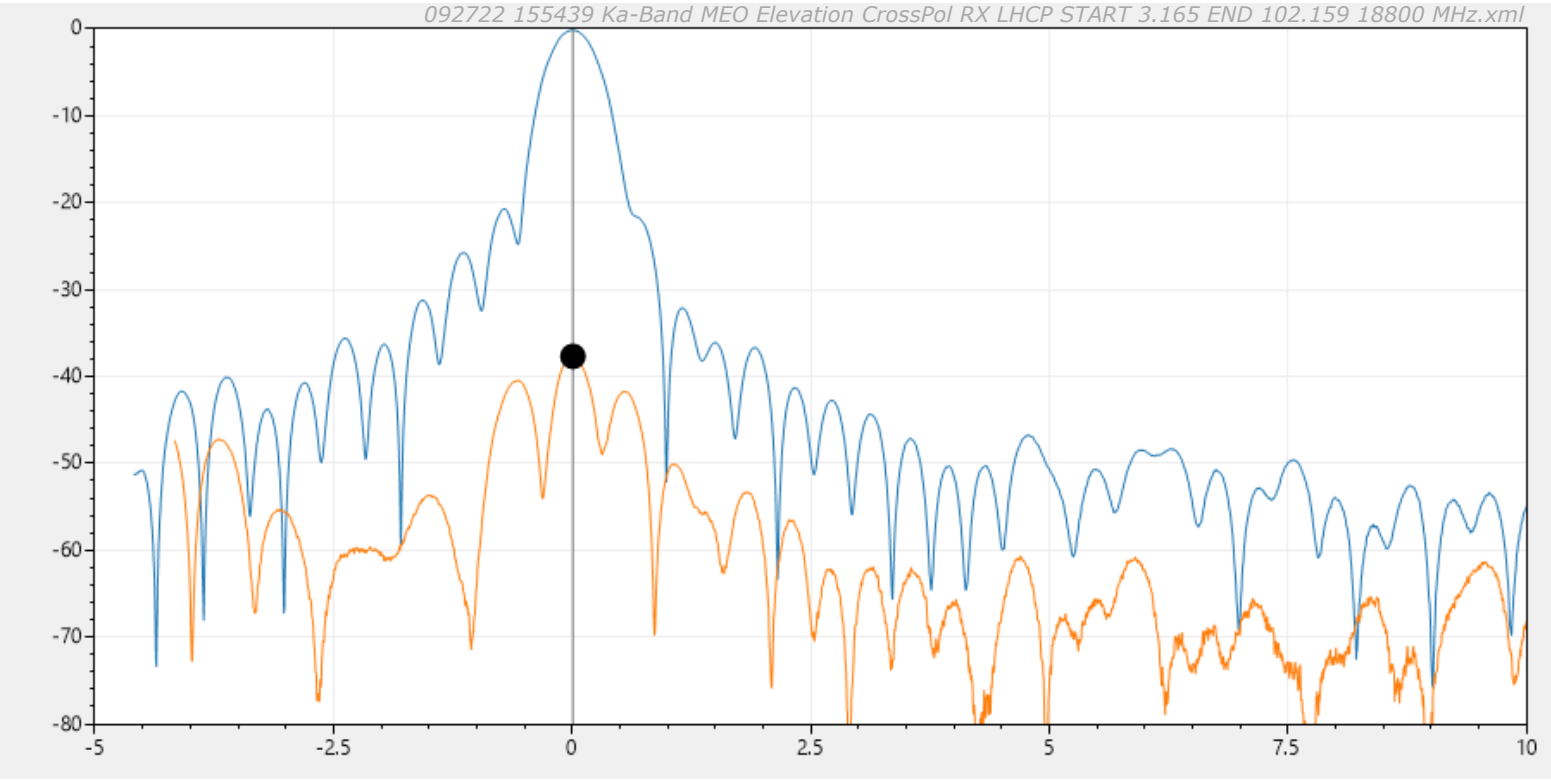
Elevation

Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	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



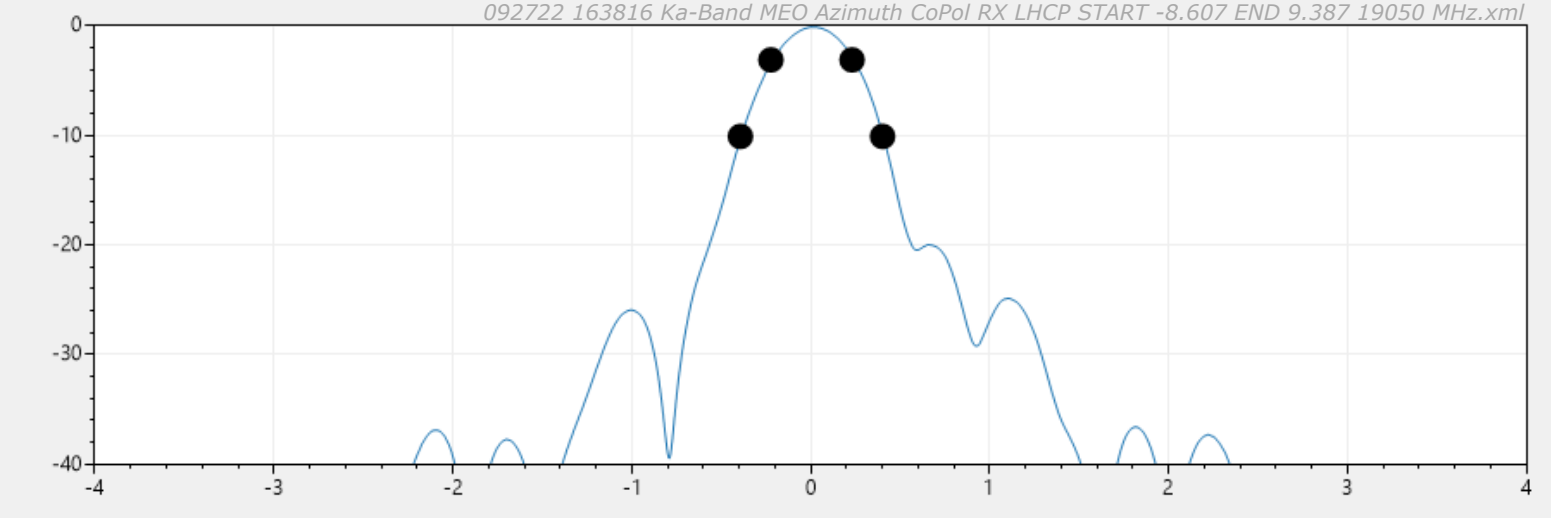
Elevation

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

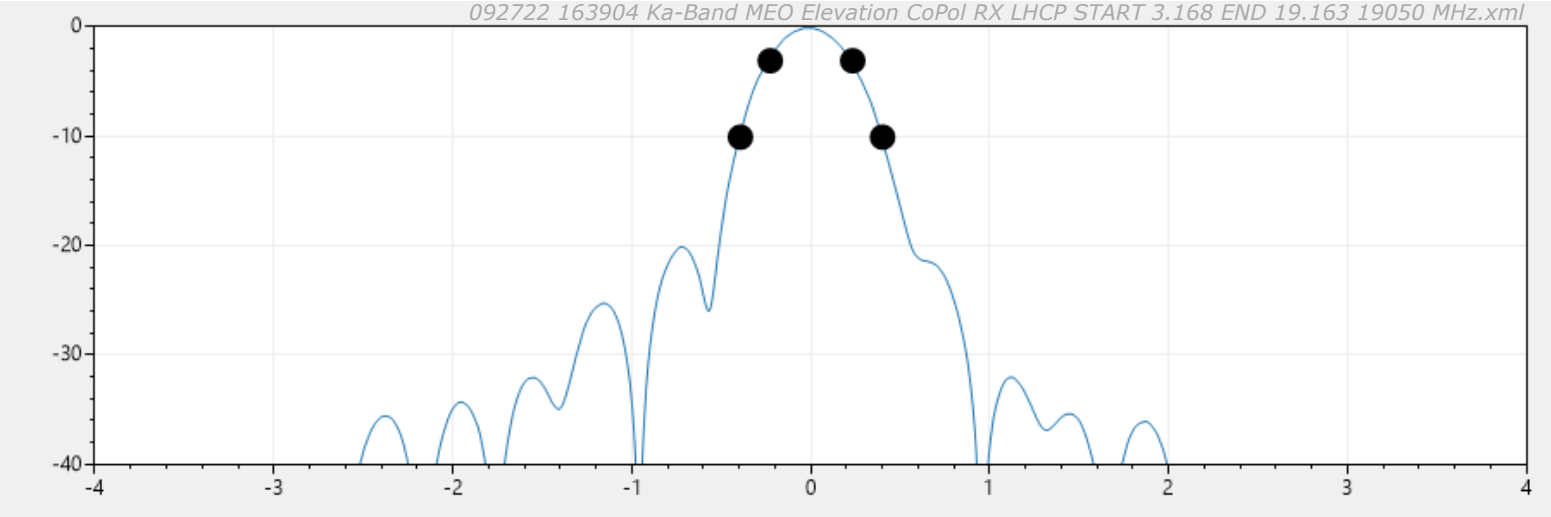
Gain by Beamwidth

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



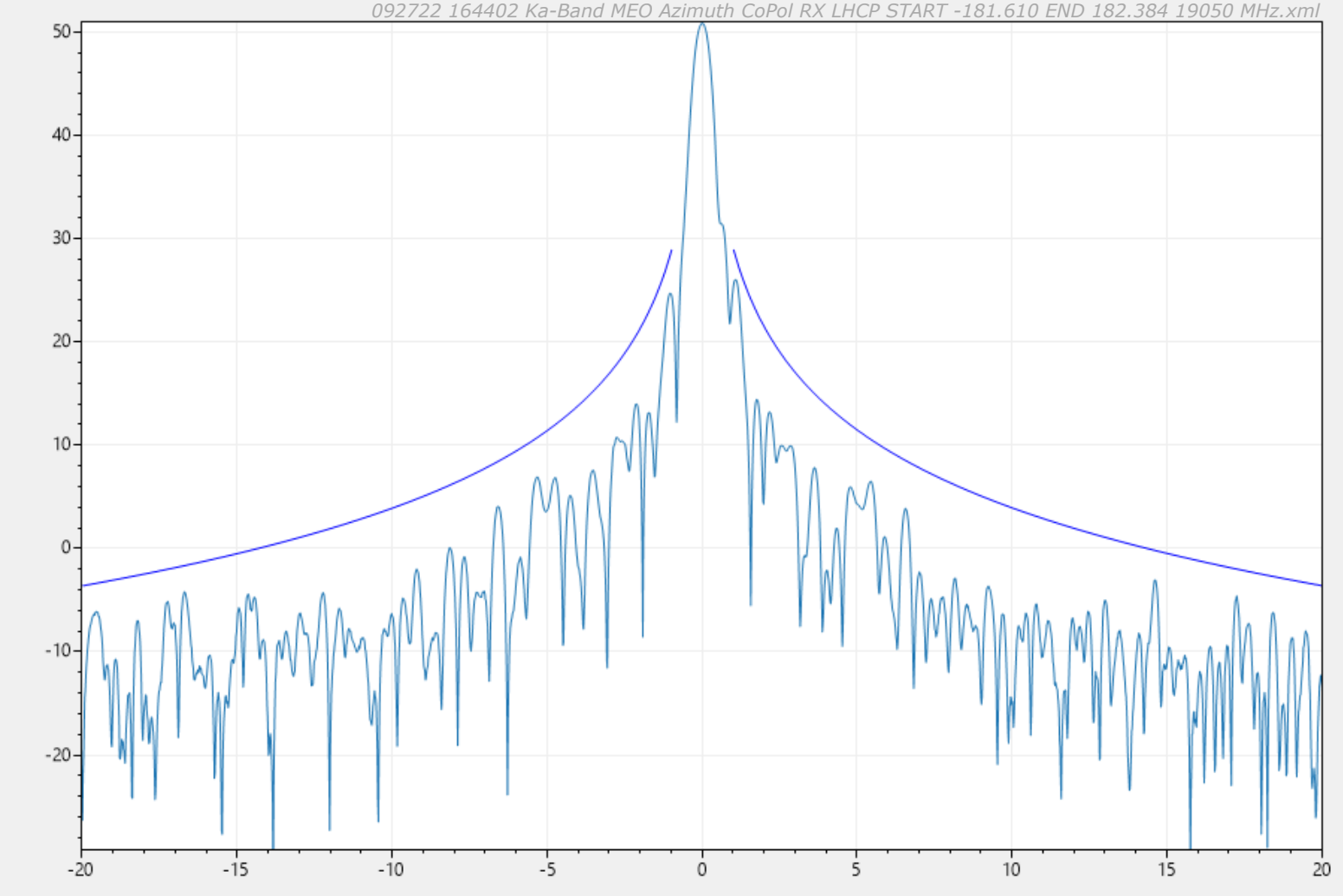
Elevation

3 dB Factor:	37000	Test Frequency (GHz):	19.05	Azimuth 3 dB:	0.454°
10 dB Factor:	107000	Band:	Receive	Azimuth 10 dB:	0.794°
Dish RMS (in):	0.01	Polarization:	LHCP	Elevation 3 dB:	0.461°
Feed Loss (dB):	0.55	Surface RMS Loss (dB):	0.179	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	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

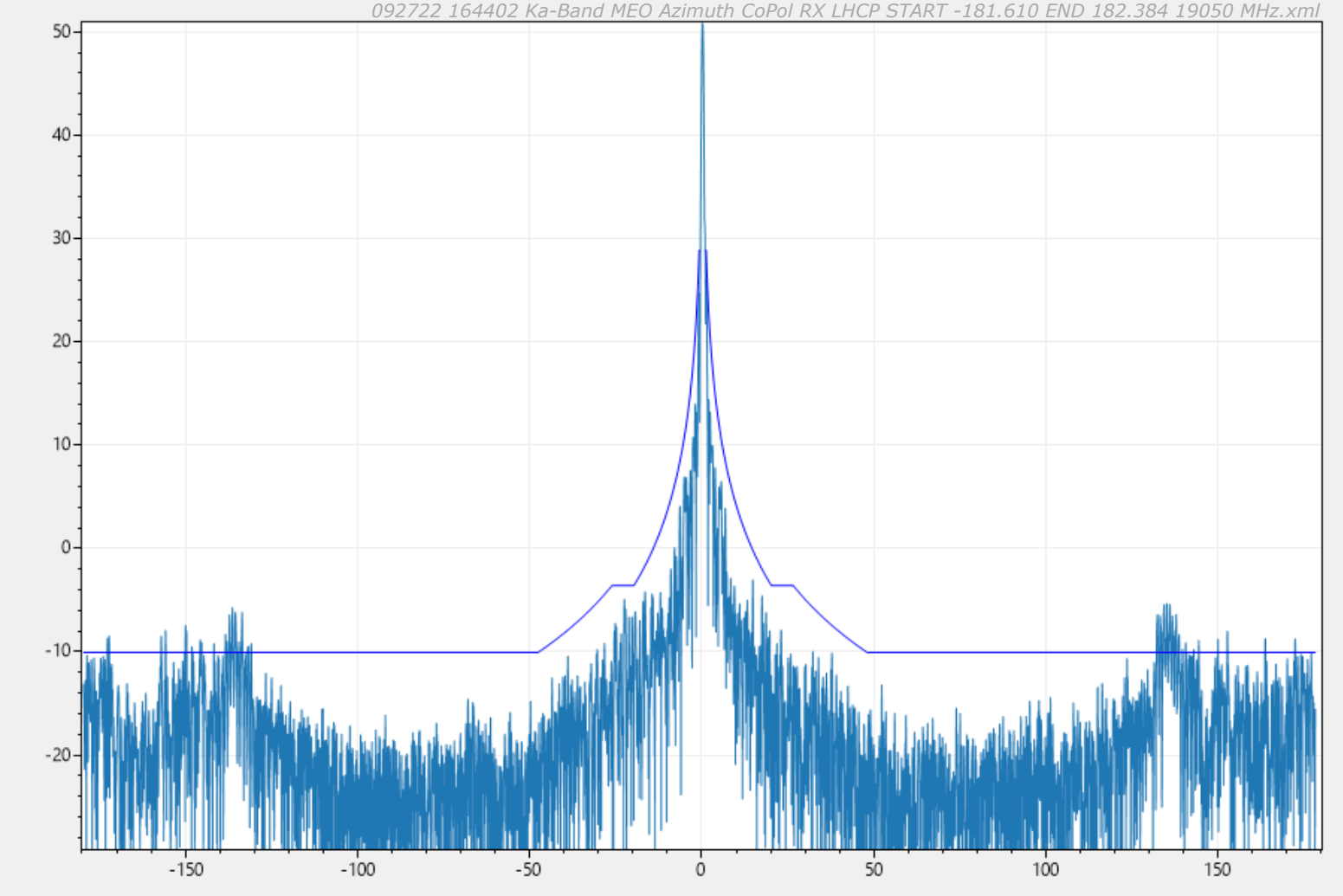


Azimuth

Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

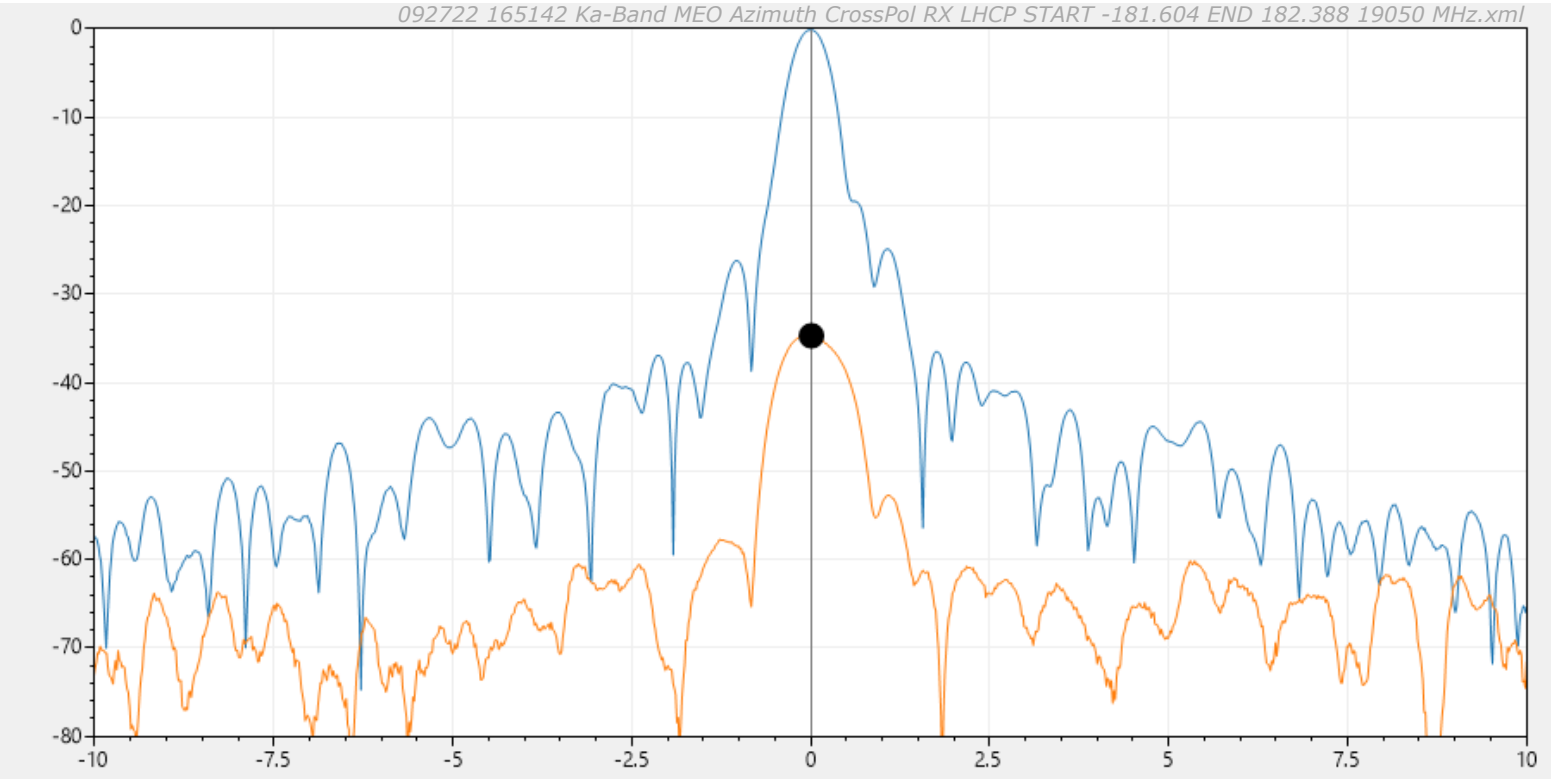


Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	2.52%	Band:	Receive
		Polarization:	LHCP

Azimuth Cross Polarization

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

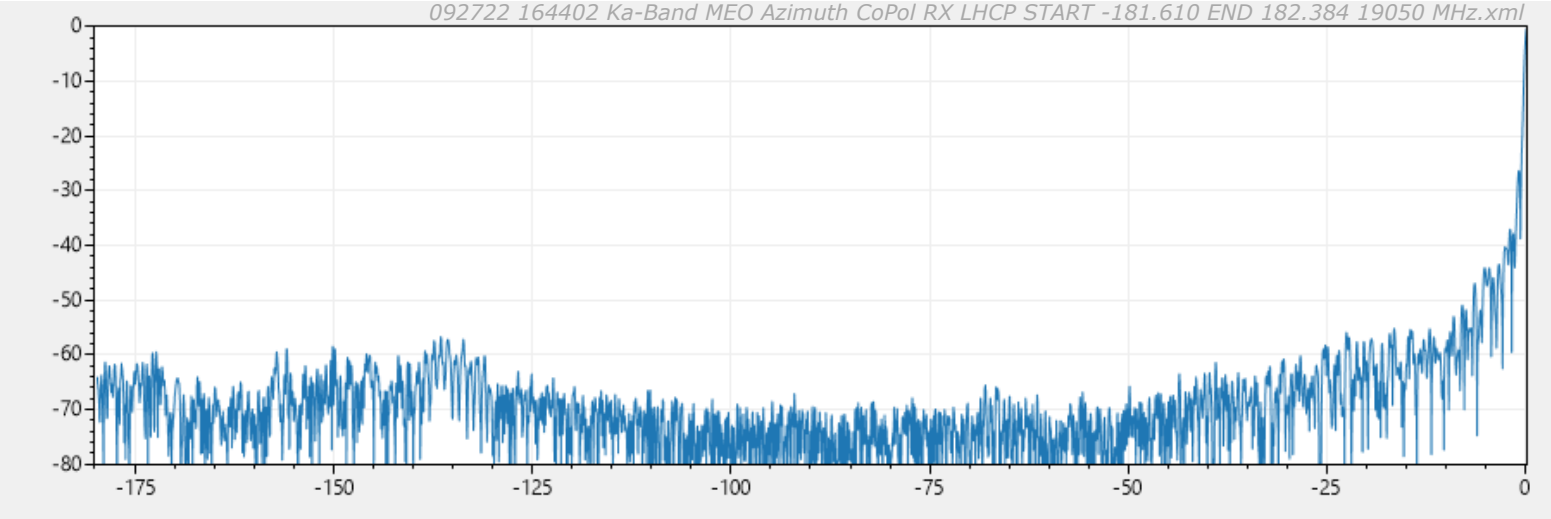
Measured Cross-Pol (dB):	34.6
Spec Cross-Pol (dB):	30.0



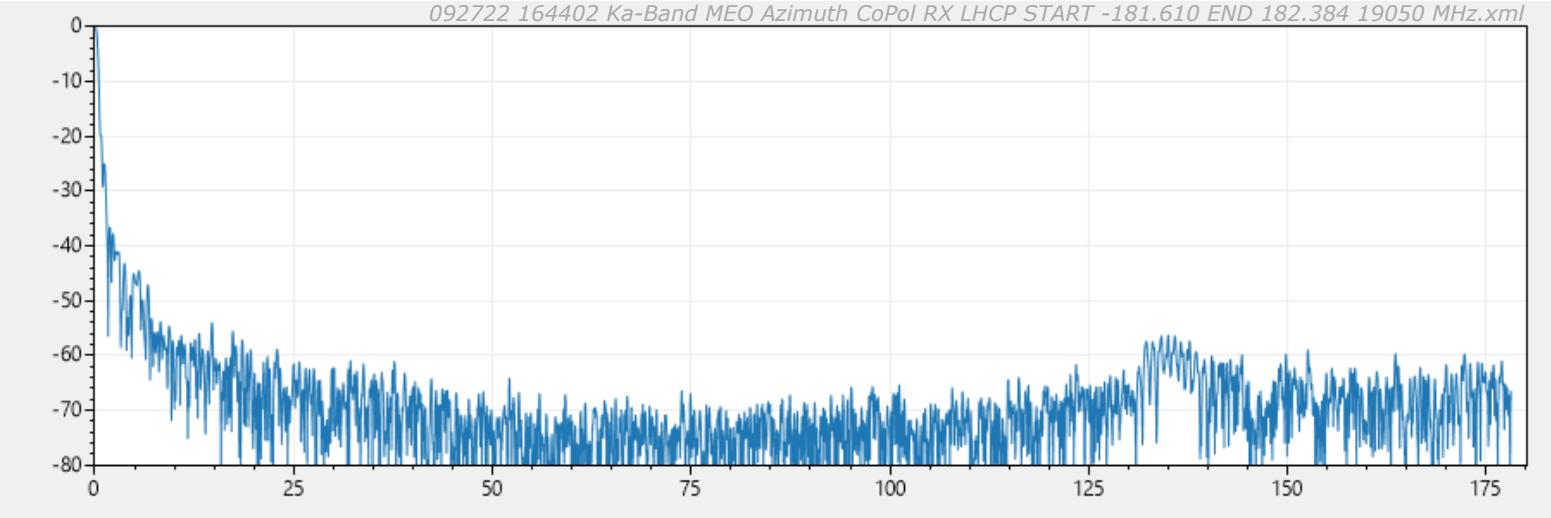
Test Frequency (GHz):	19.05
Band:	Receive
Polarization:	LHCP

Gain by Integration

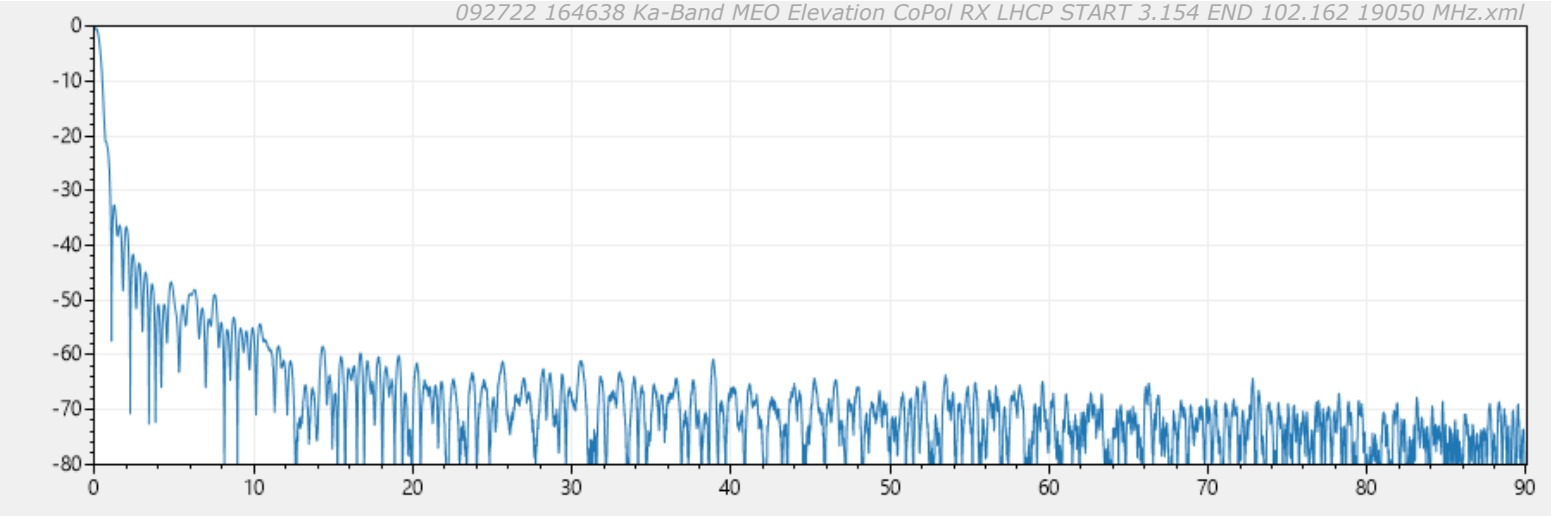
Customer:	Airbus	Specified Gain (dBi):	50.900
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.537
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



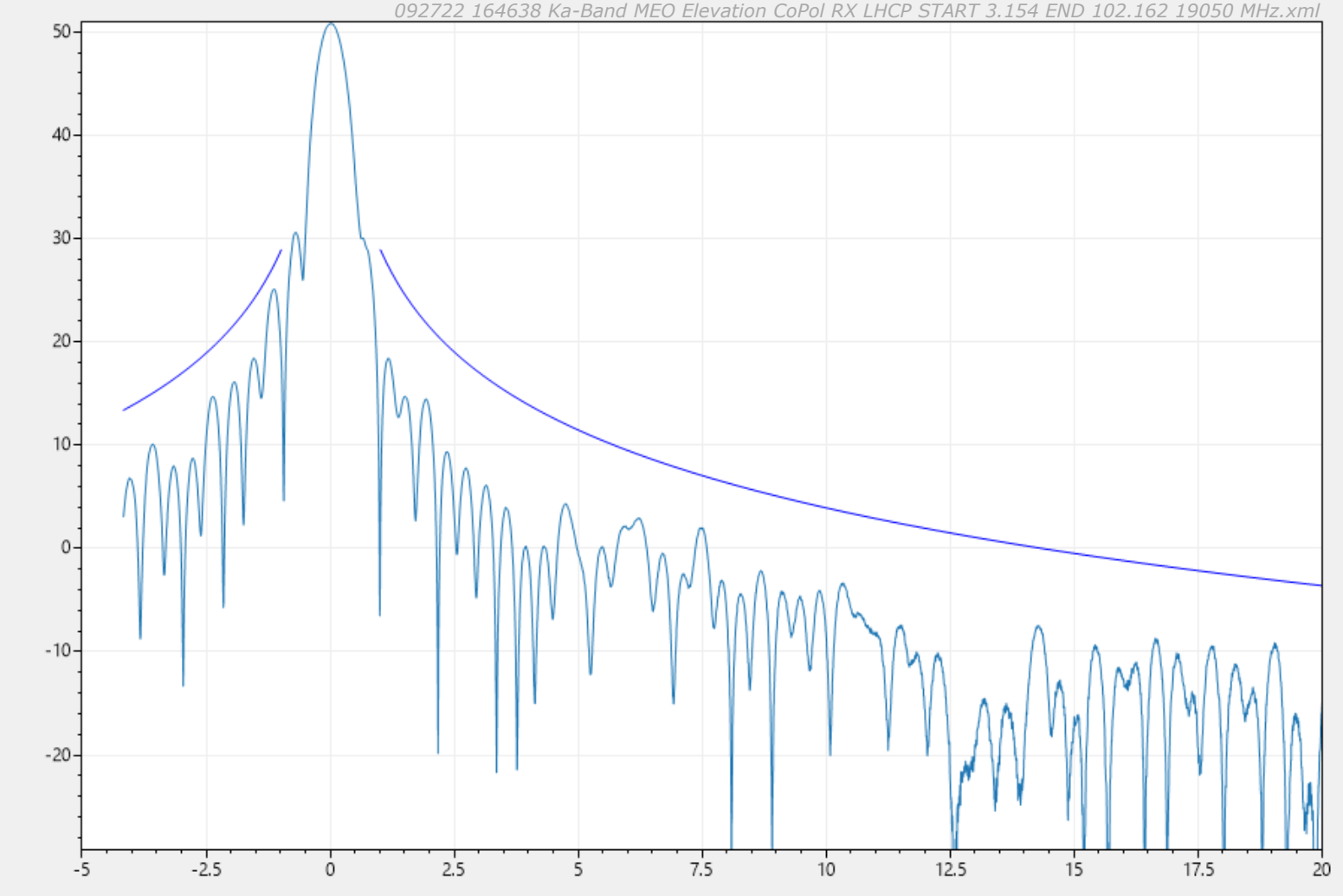
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

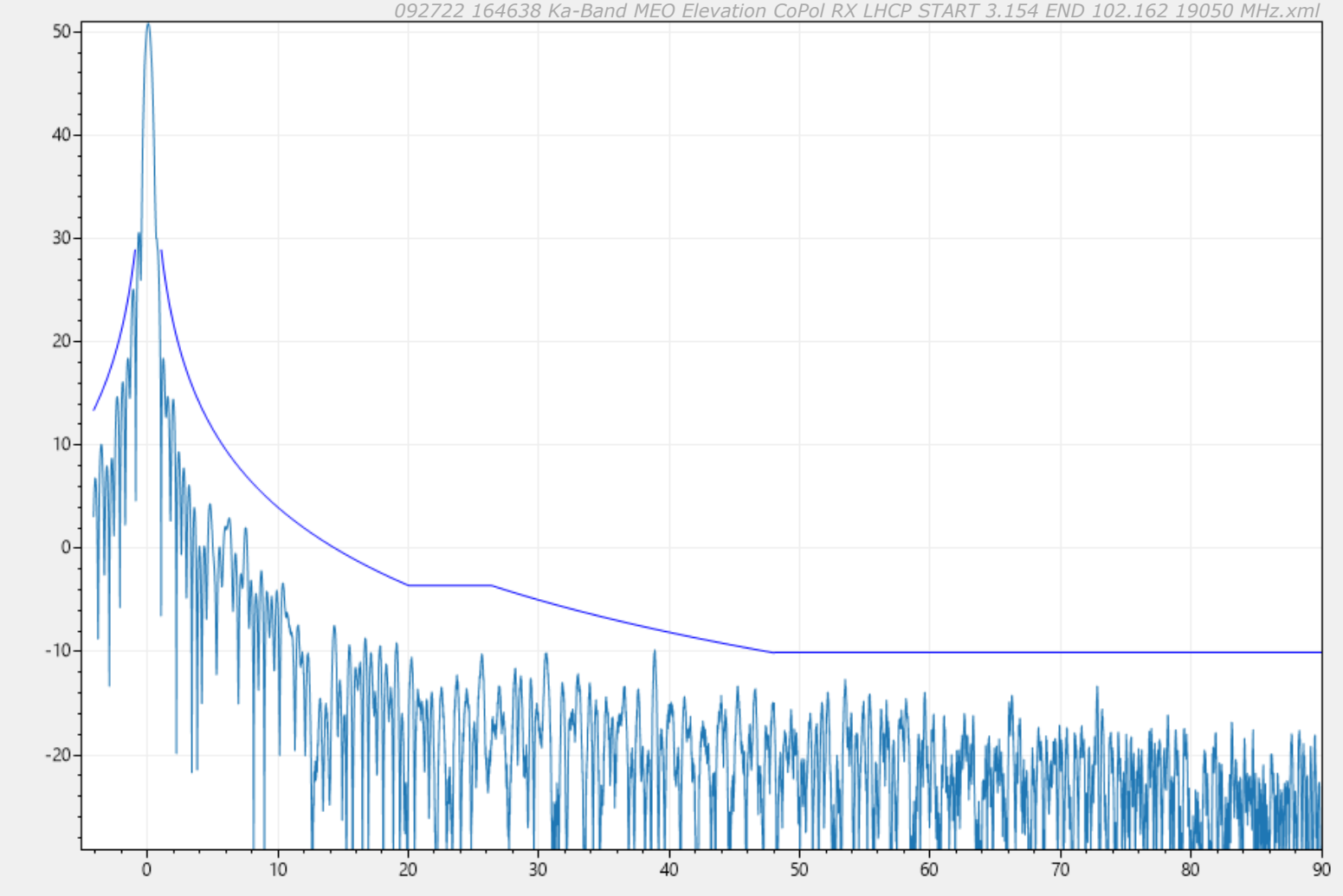
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

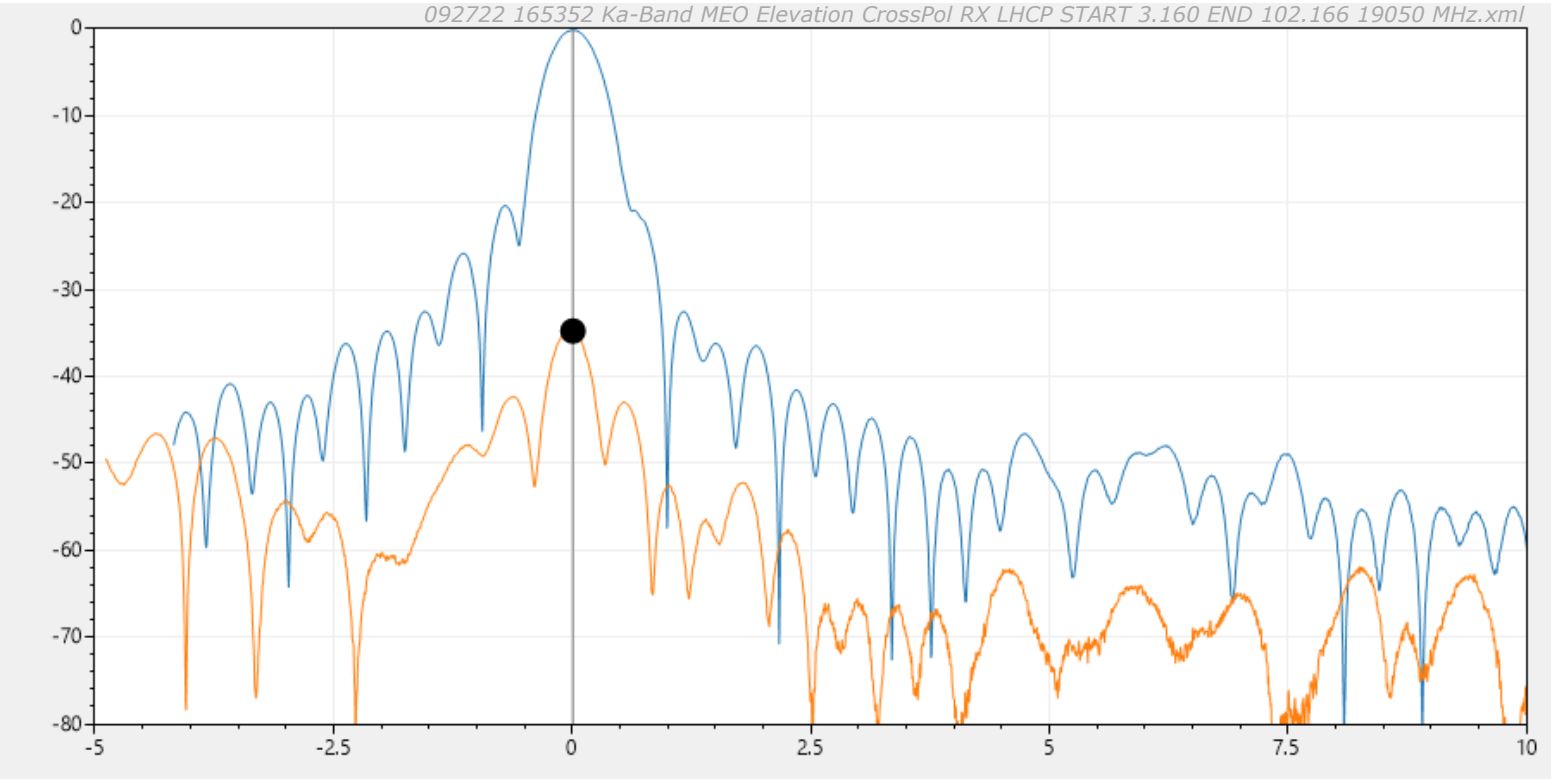


Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

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



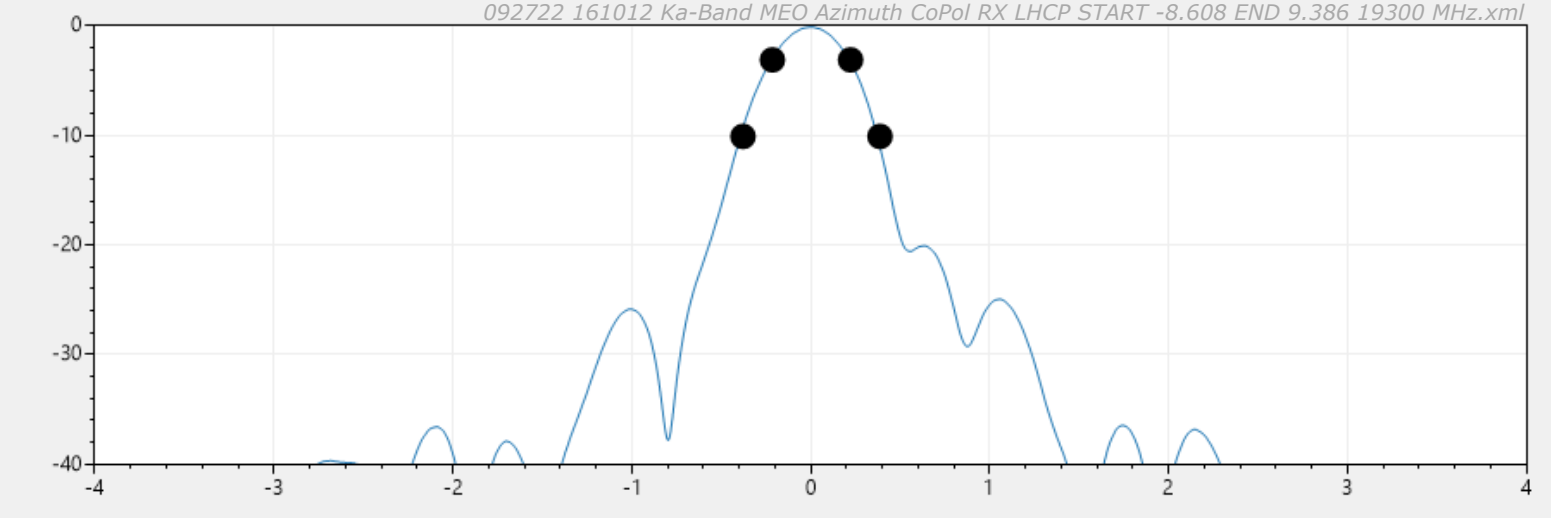
Elevation

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

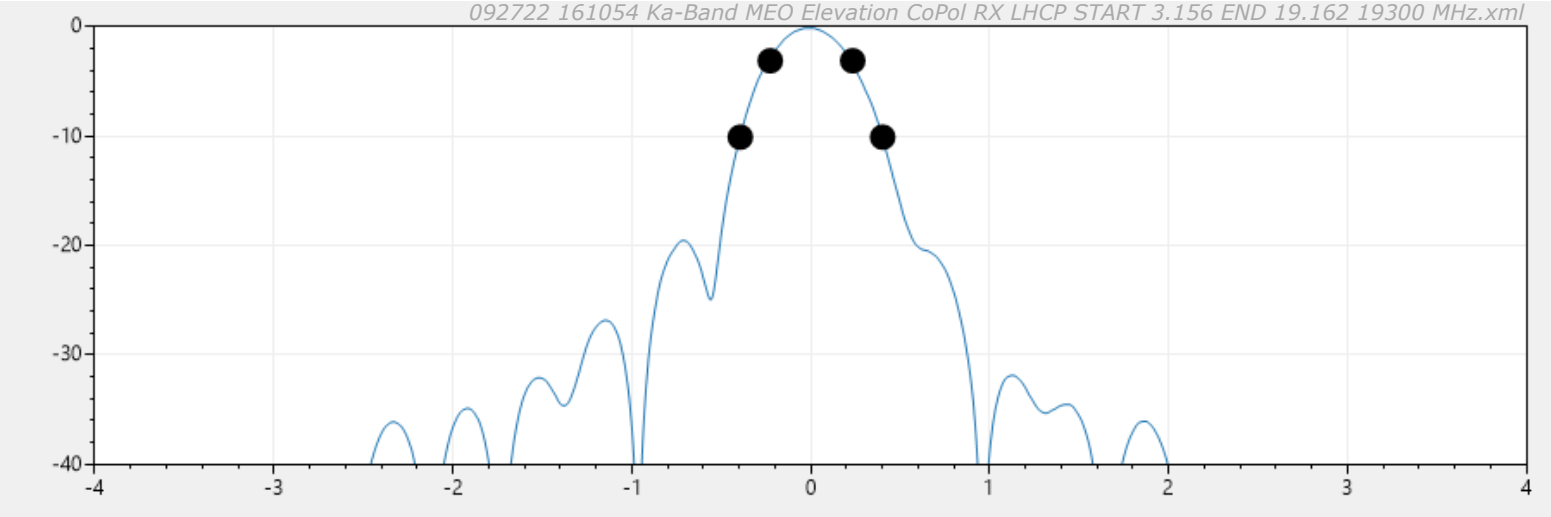
Gain by Beamwidth

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



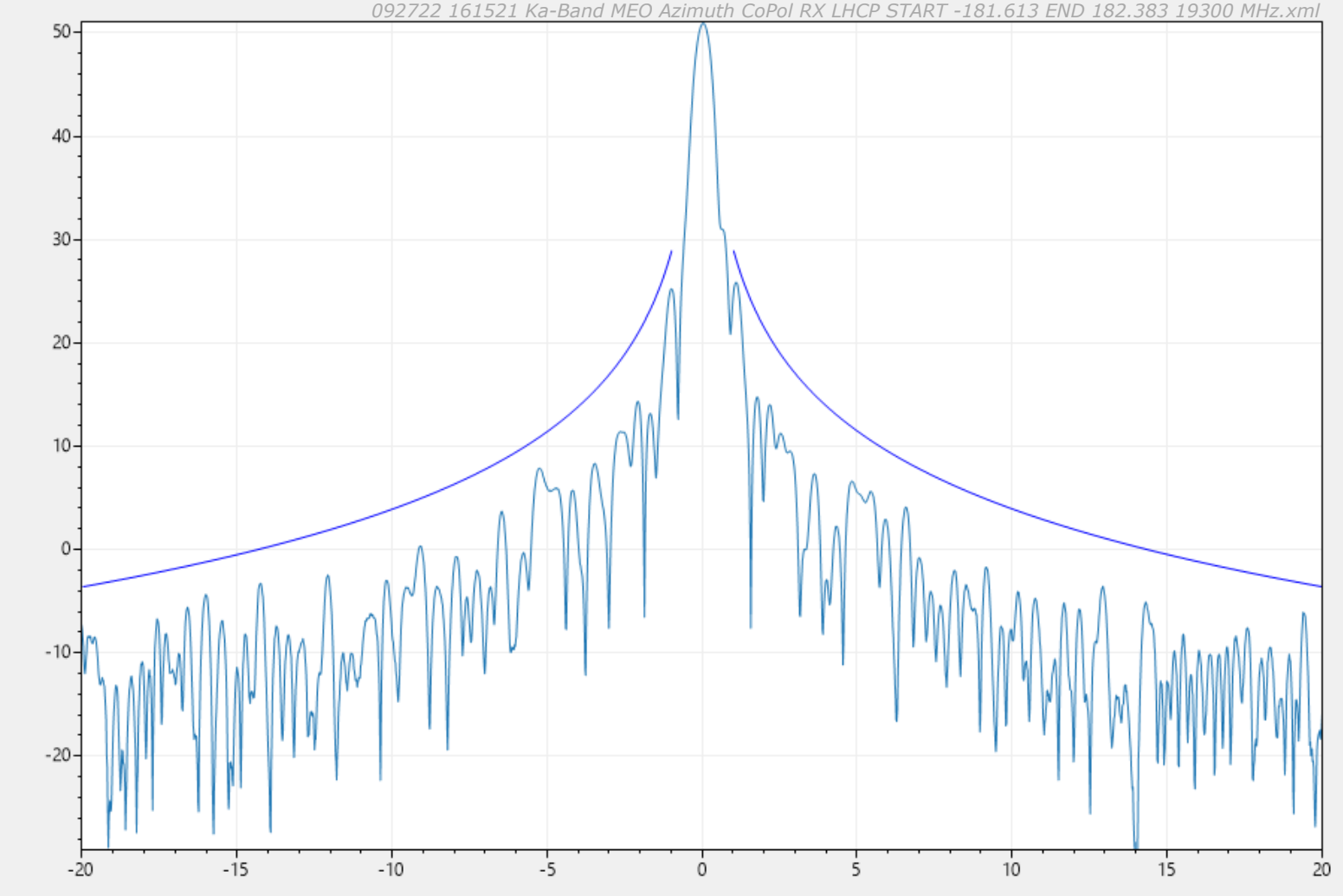
Elevation

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

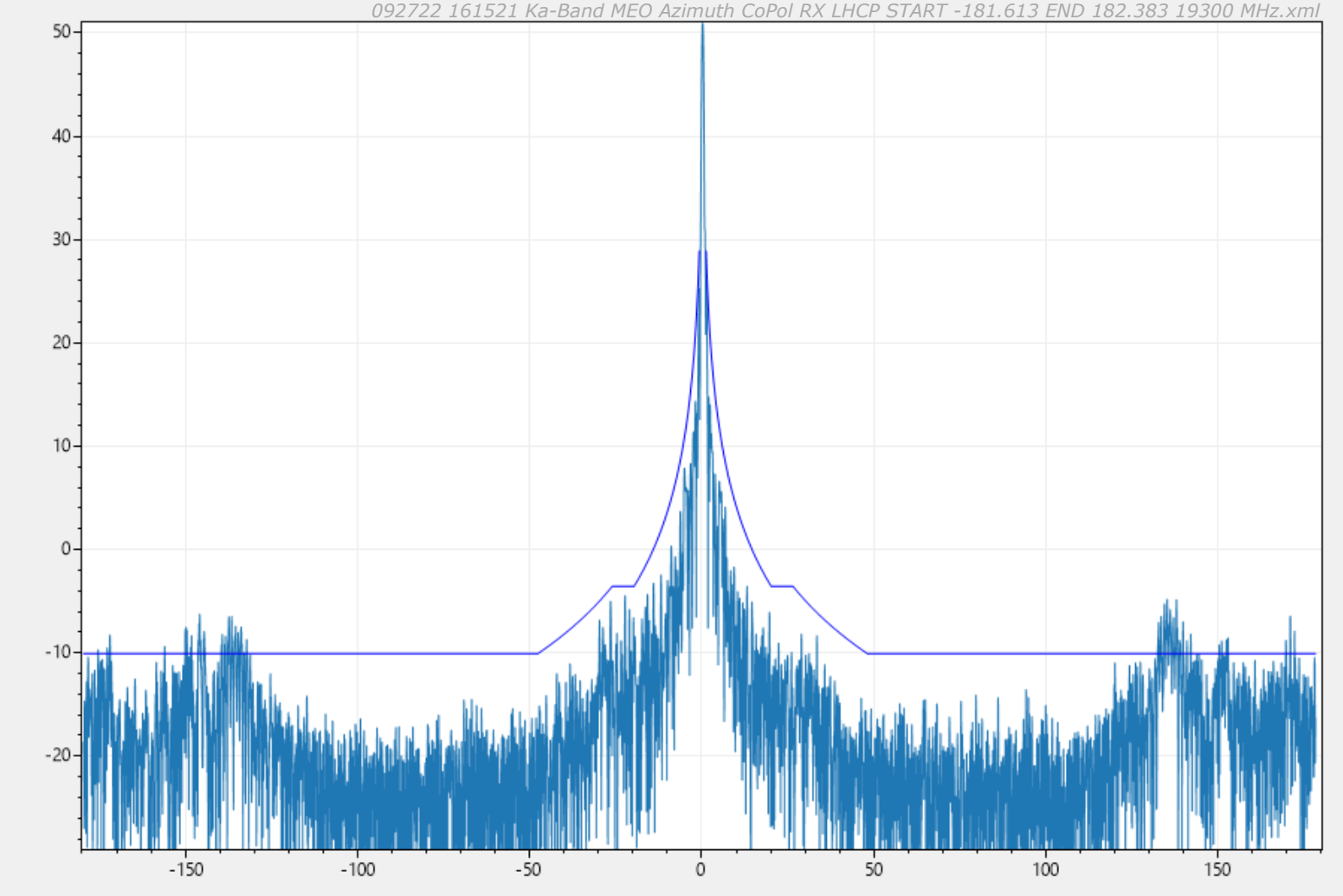
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

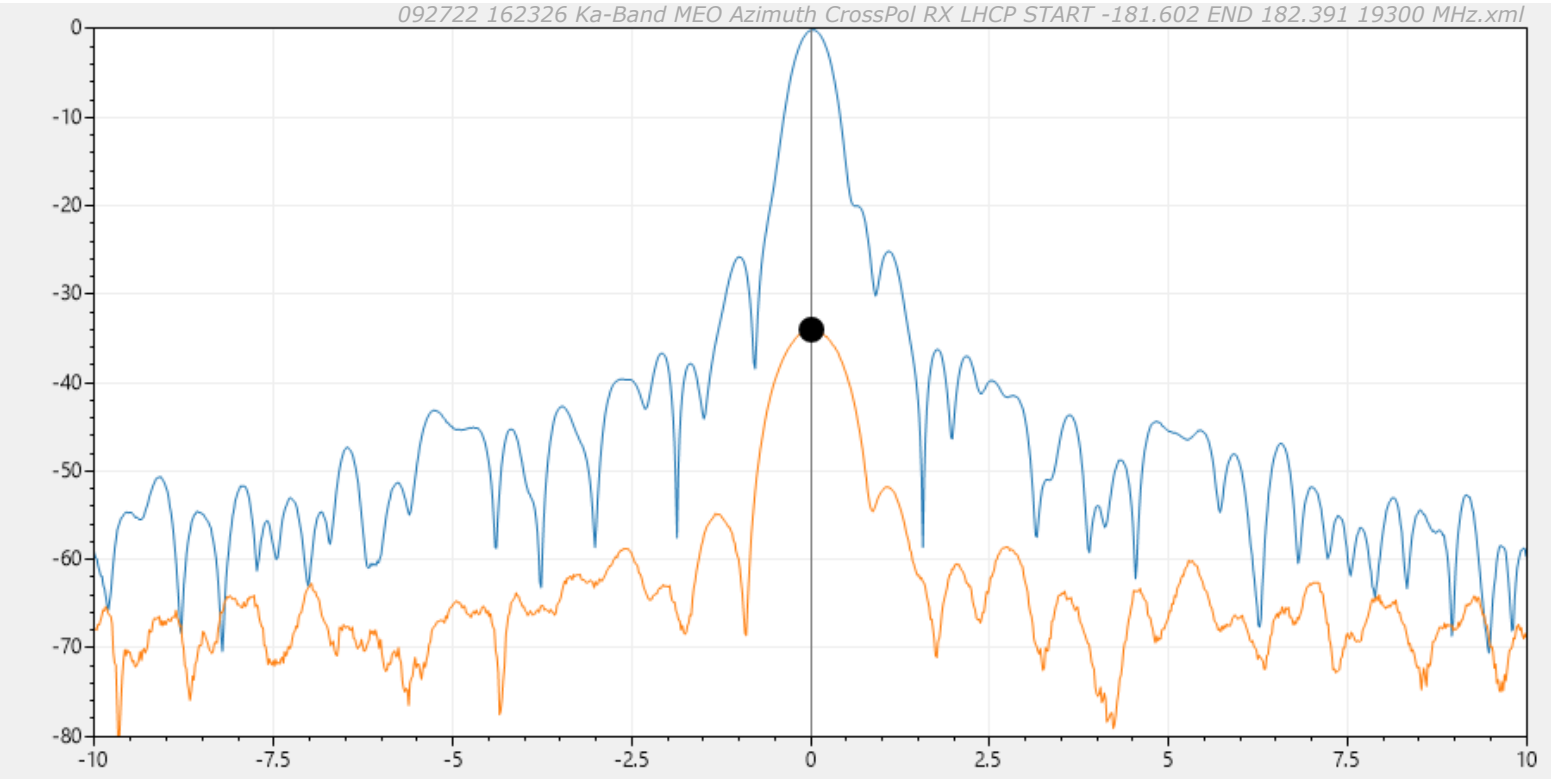


Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	2.95%	Band:	Receive
		Polarization:	LHCP

Azimuth Cross Polarization

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

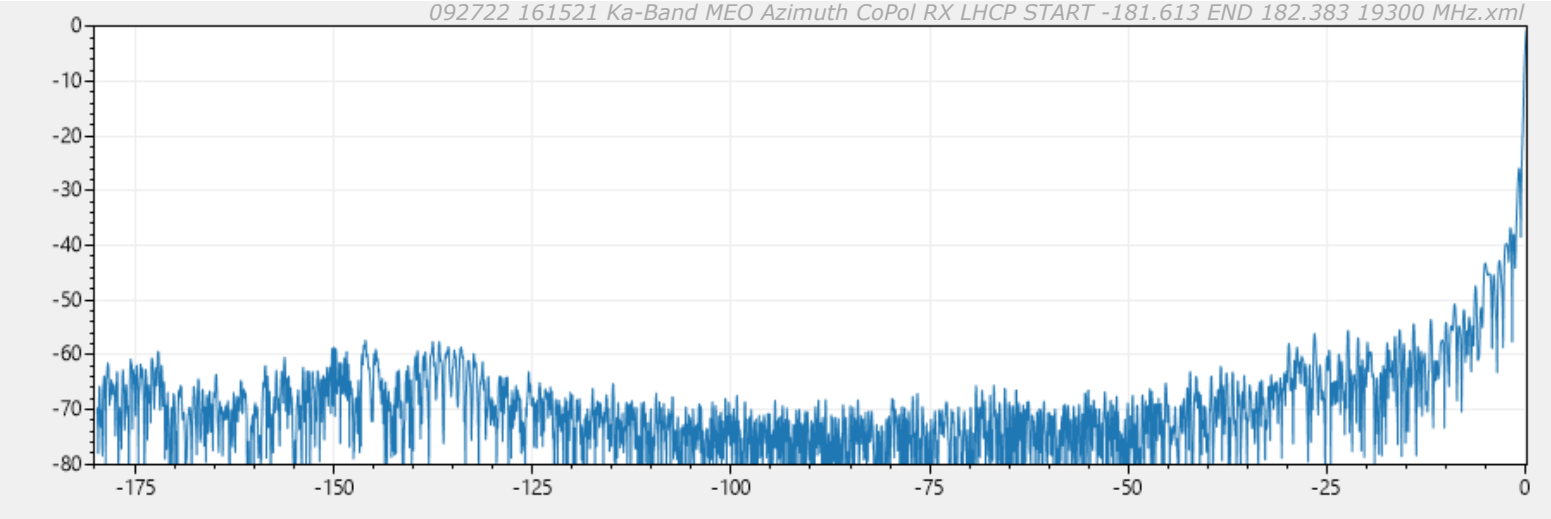
Measured Cross-Pol (dB):	33.9
Spec Cross-Pol (dB):	30.0



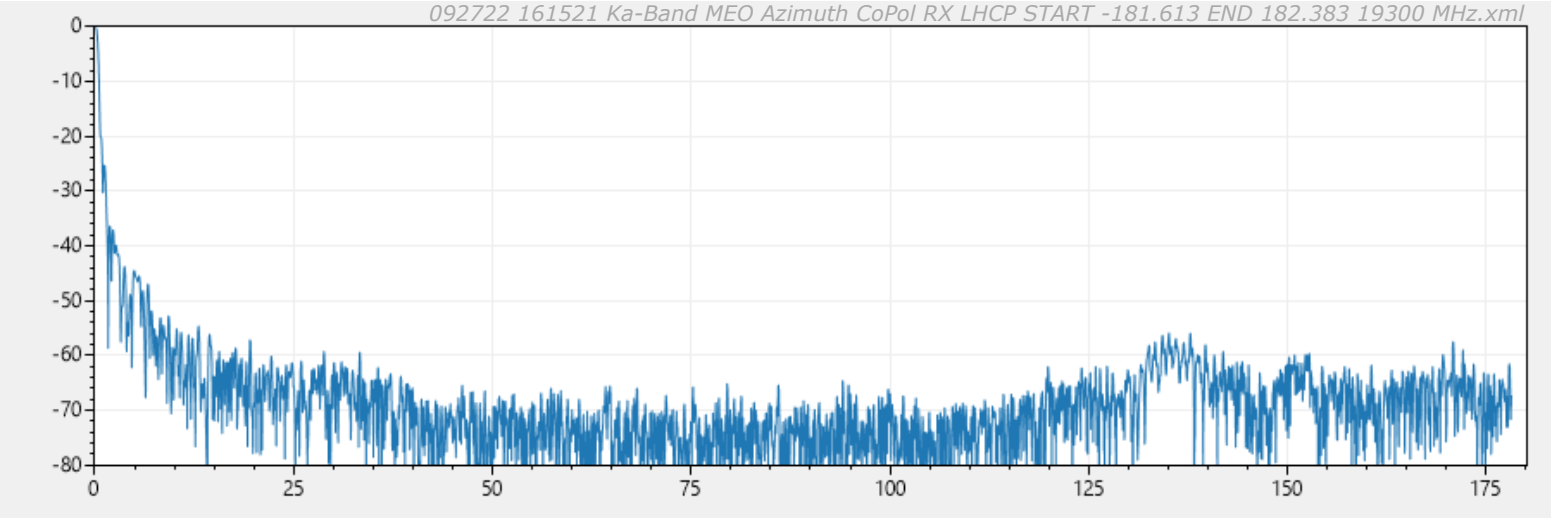
Test Frequency (GHz):	19.3
Band:	Receive
Polarization:	LHCP

Gain by Integration

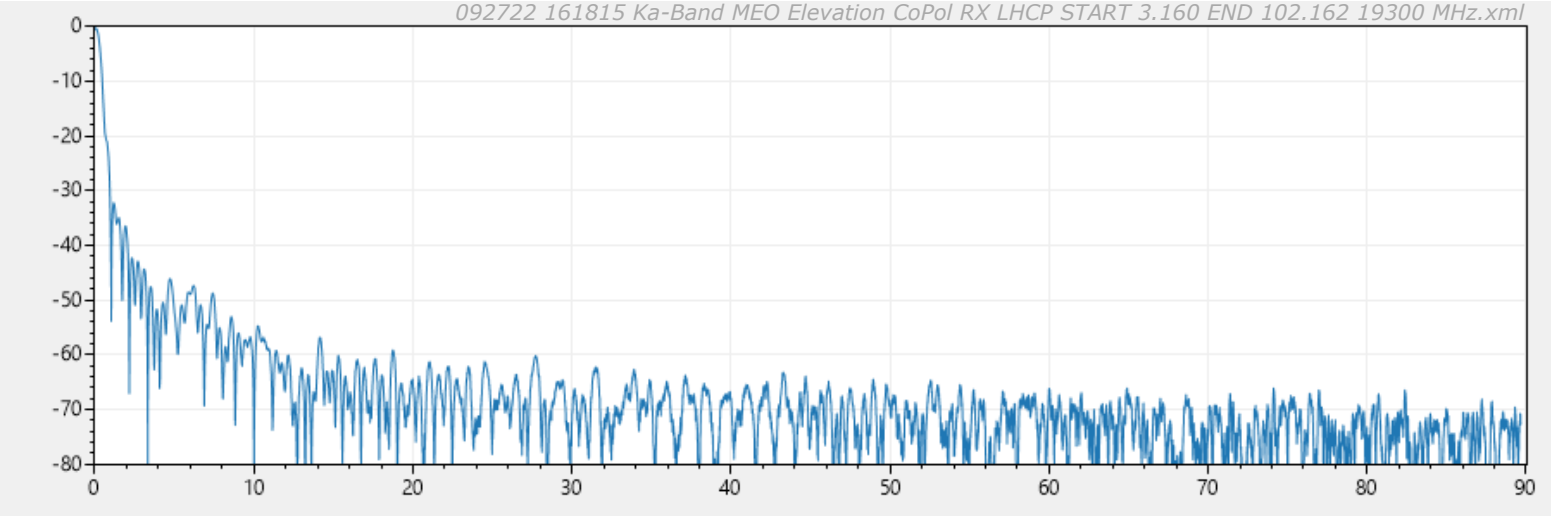
Customer:	Airbus	Specified Gain (dBi):	51.000
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.626
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



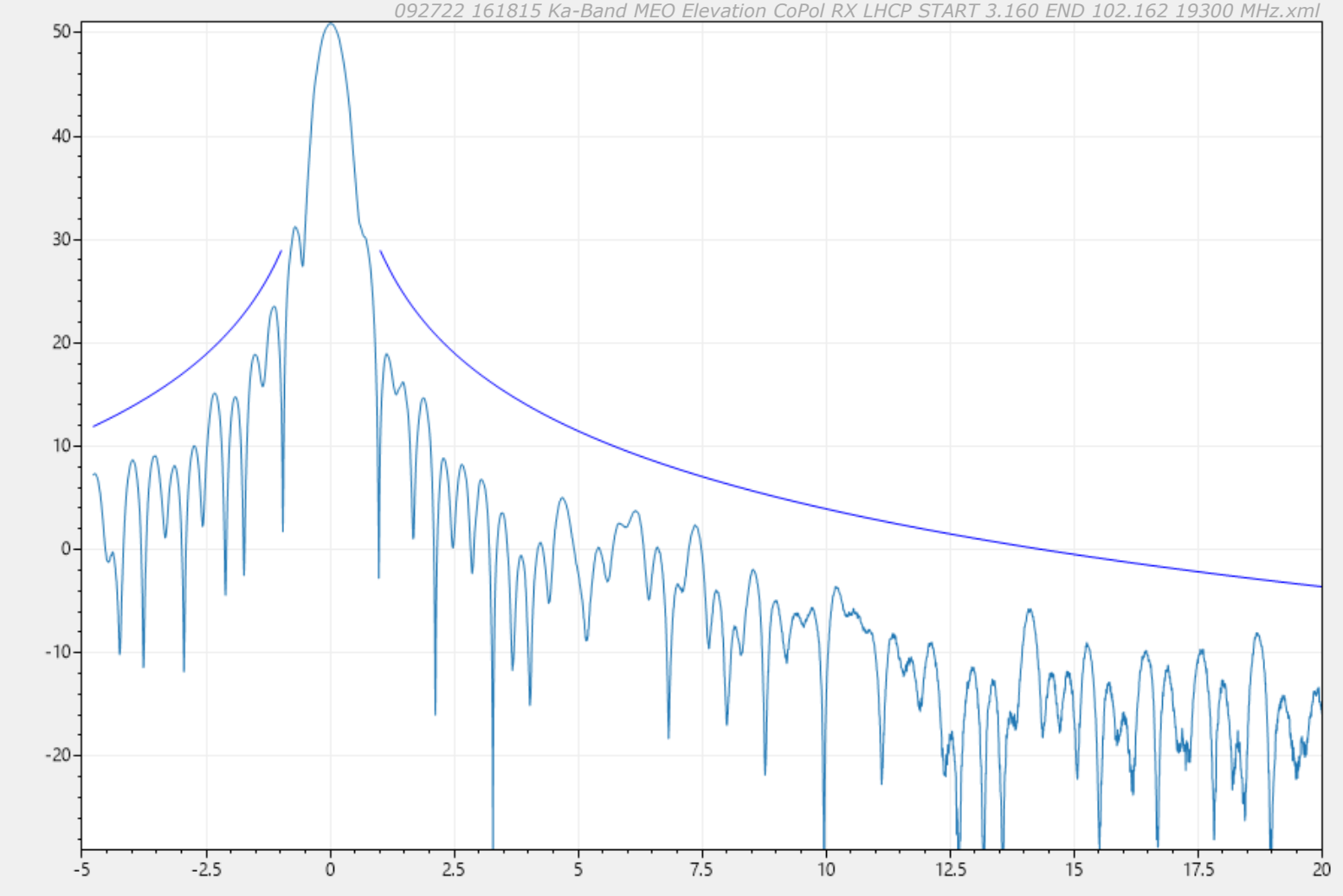
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

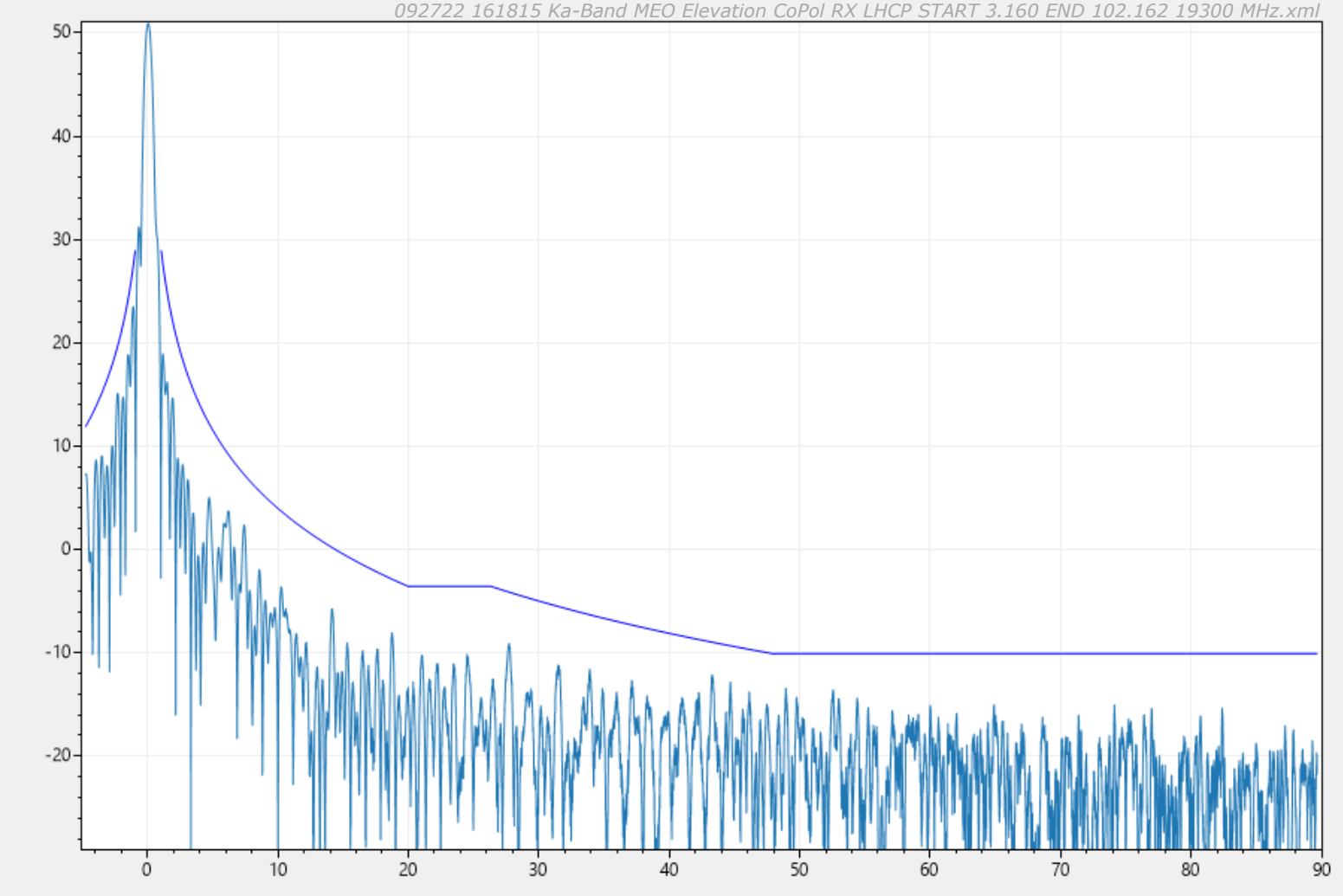
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

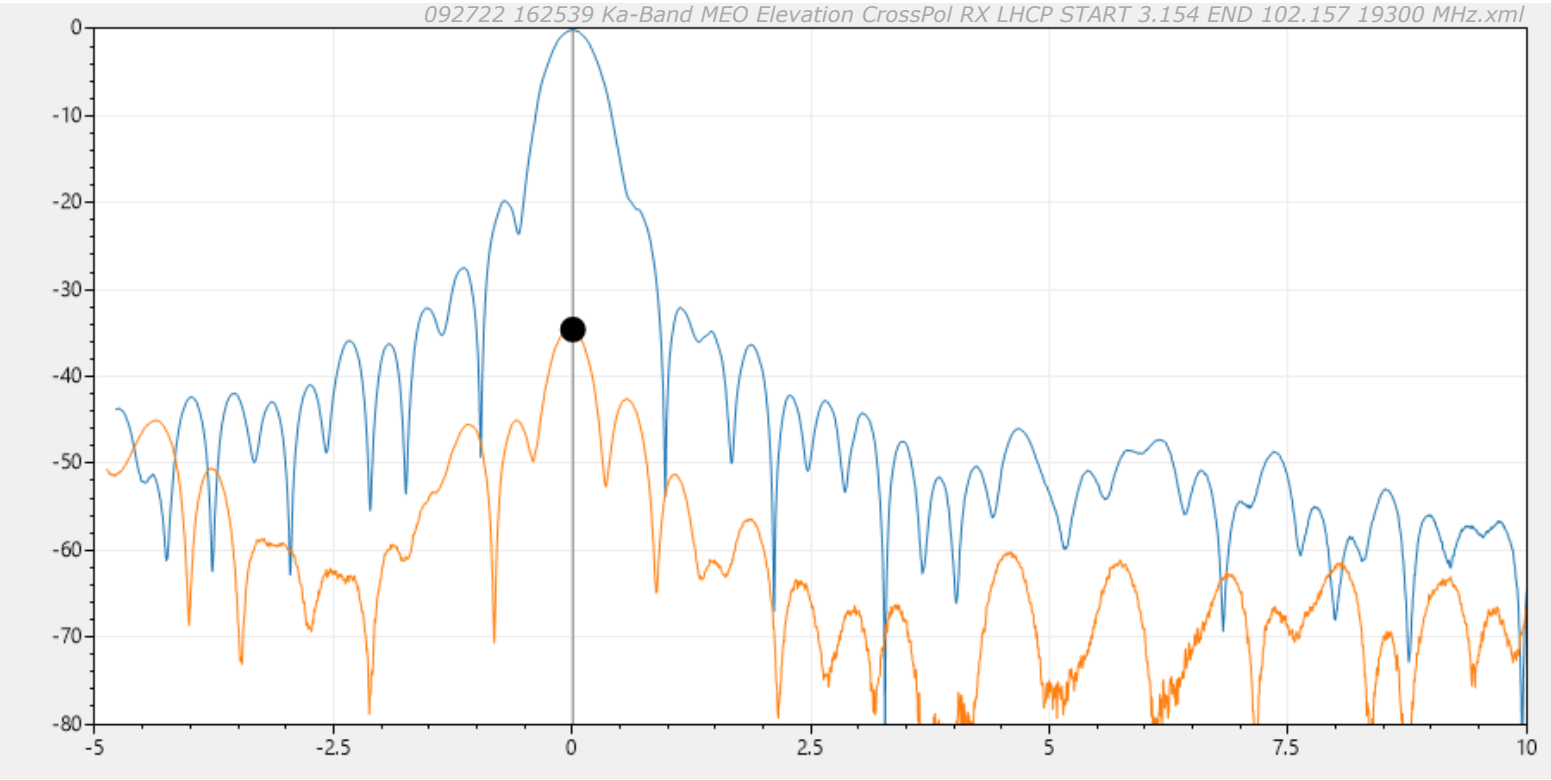


Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	LHCP

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



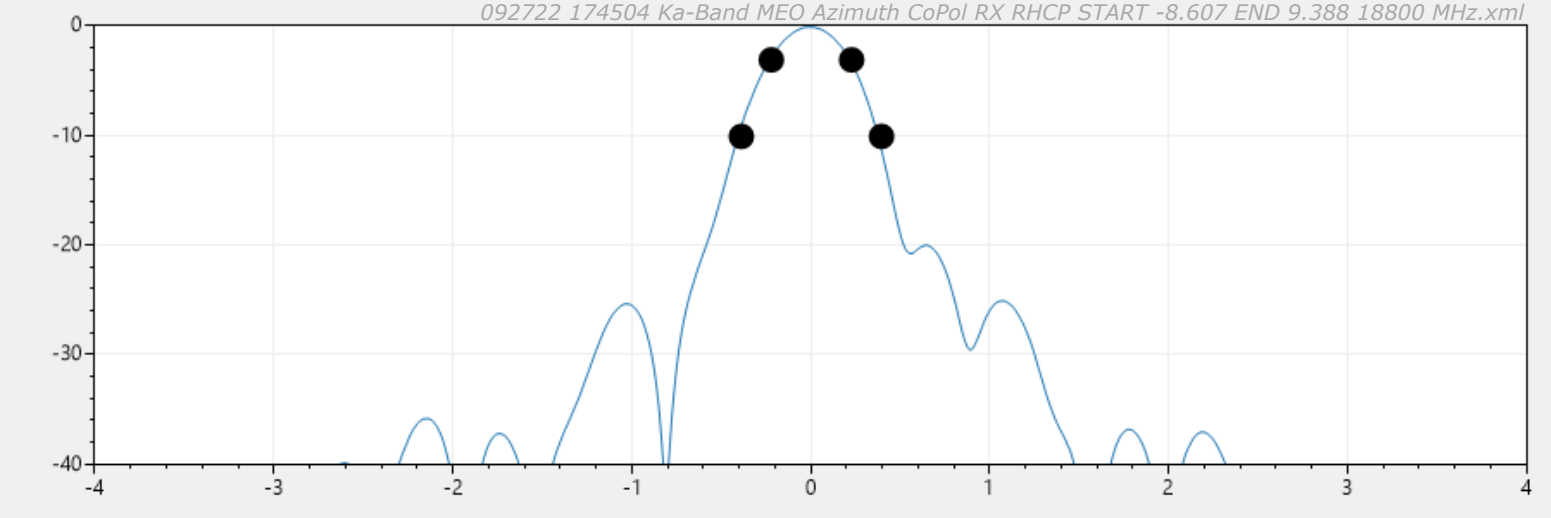
Elevation

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

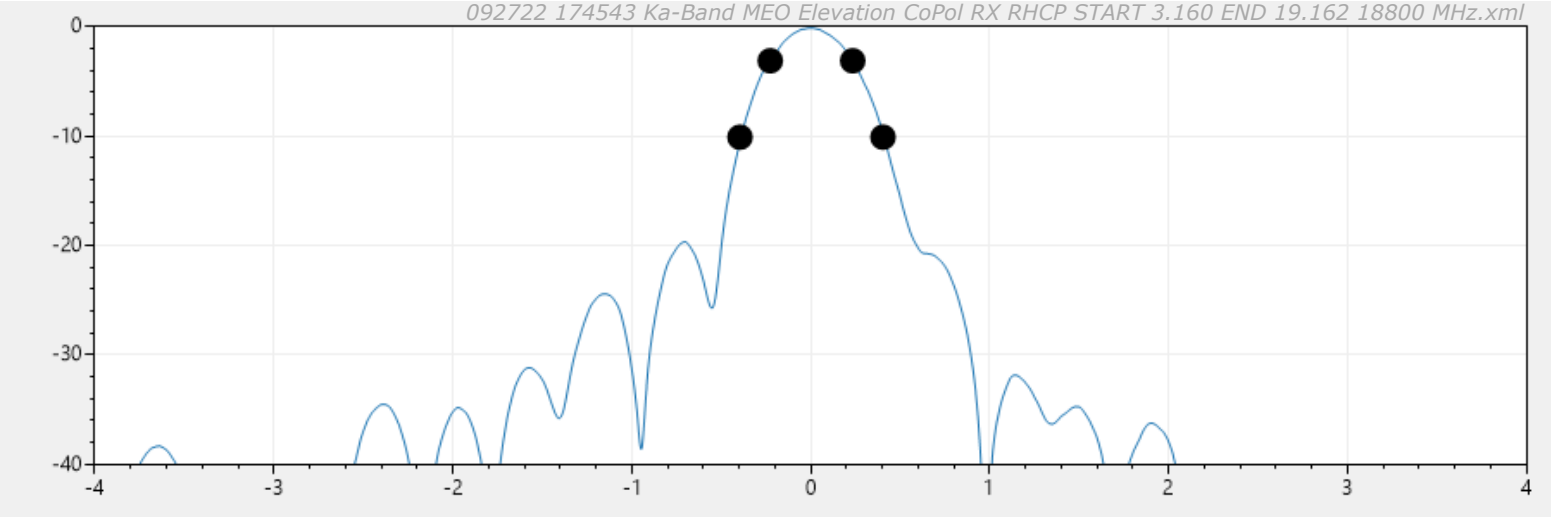
Gain by Beamwidth

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



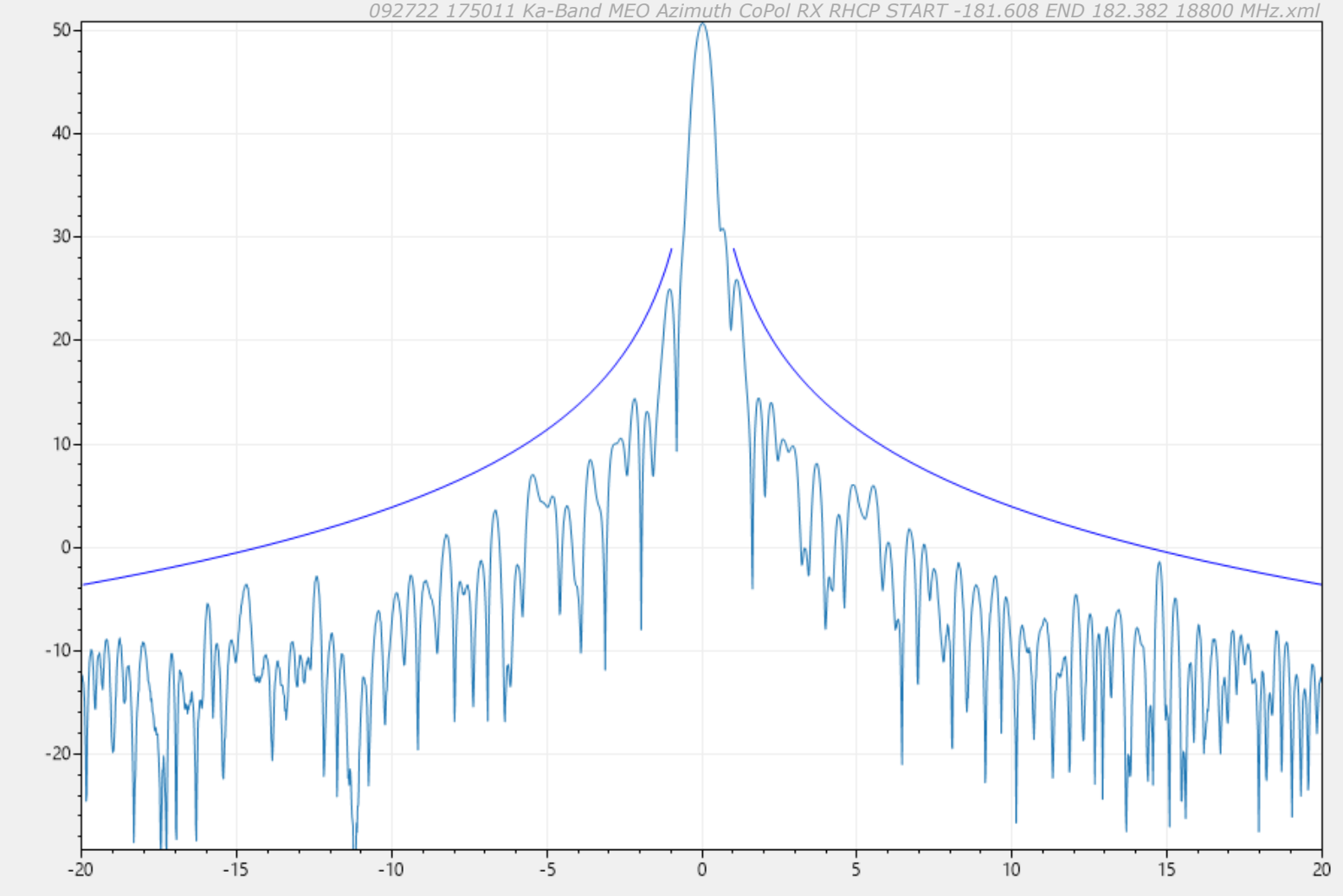
Elevation

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

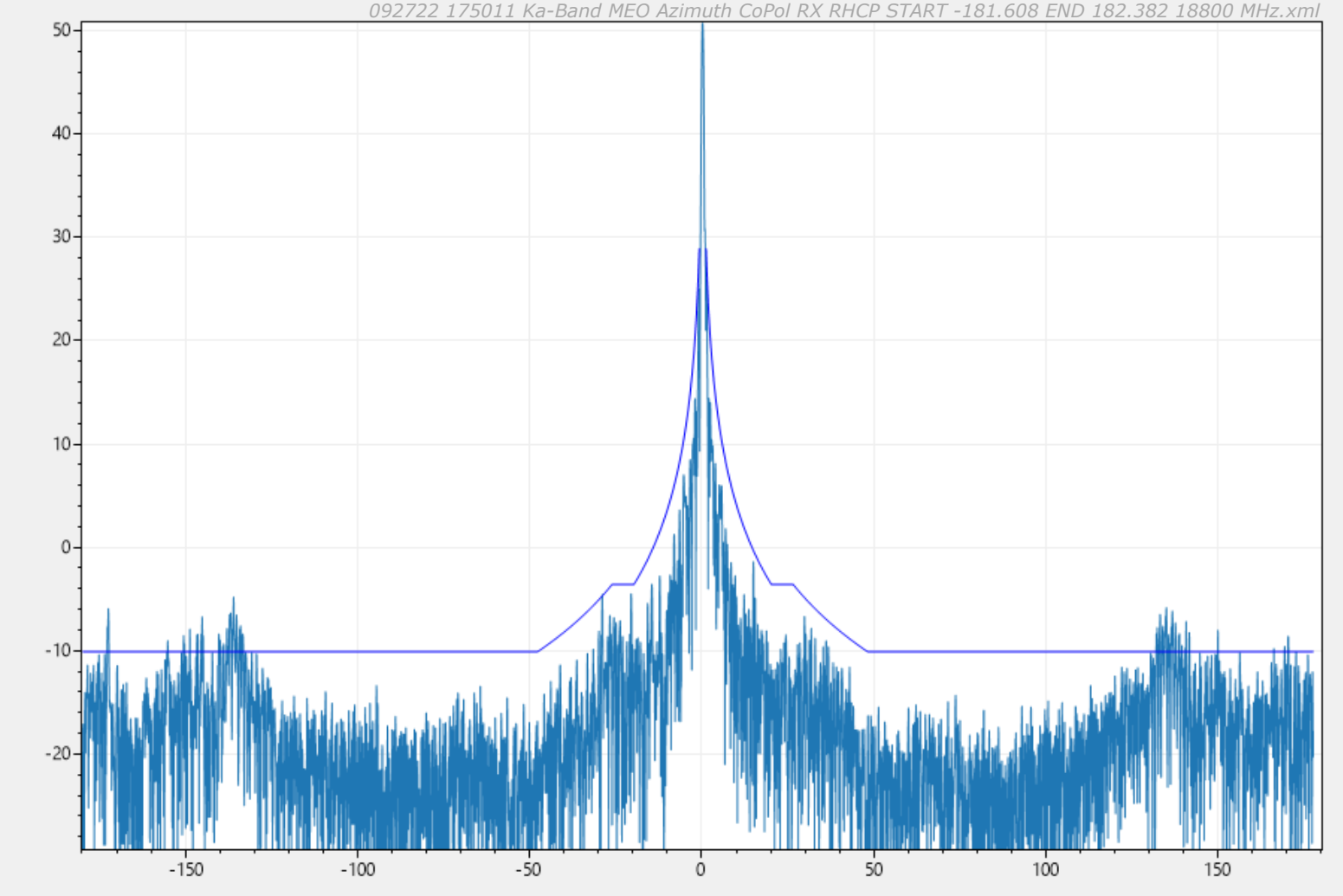
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

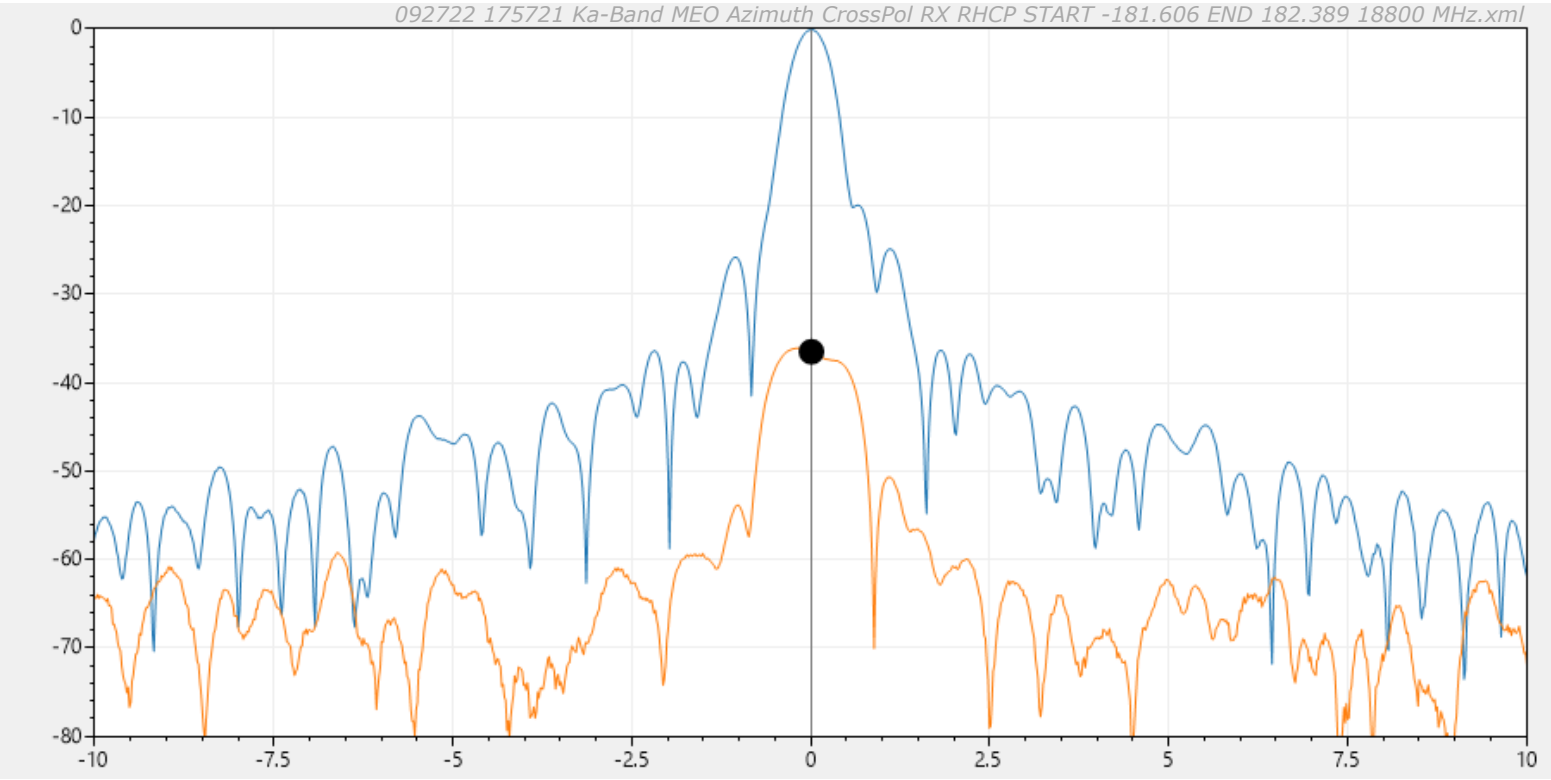


Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	2.73%	Band:	Receive
		Polarization:	RHCP

Azimuth Cross Polarization

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

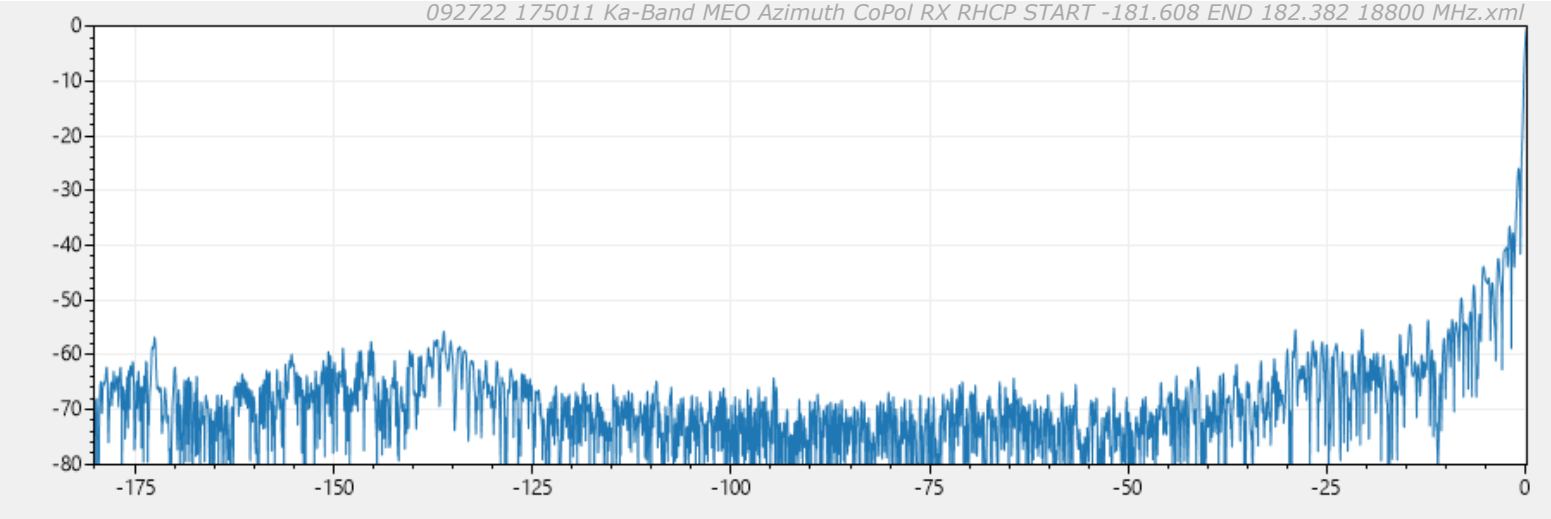
Measured Cross-Pol (dB):	36.4
Spec Cross-Pol (dB):	30.0



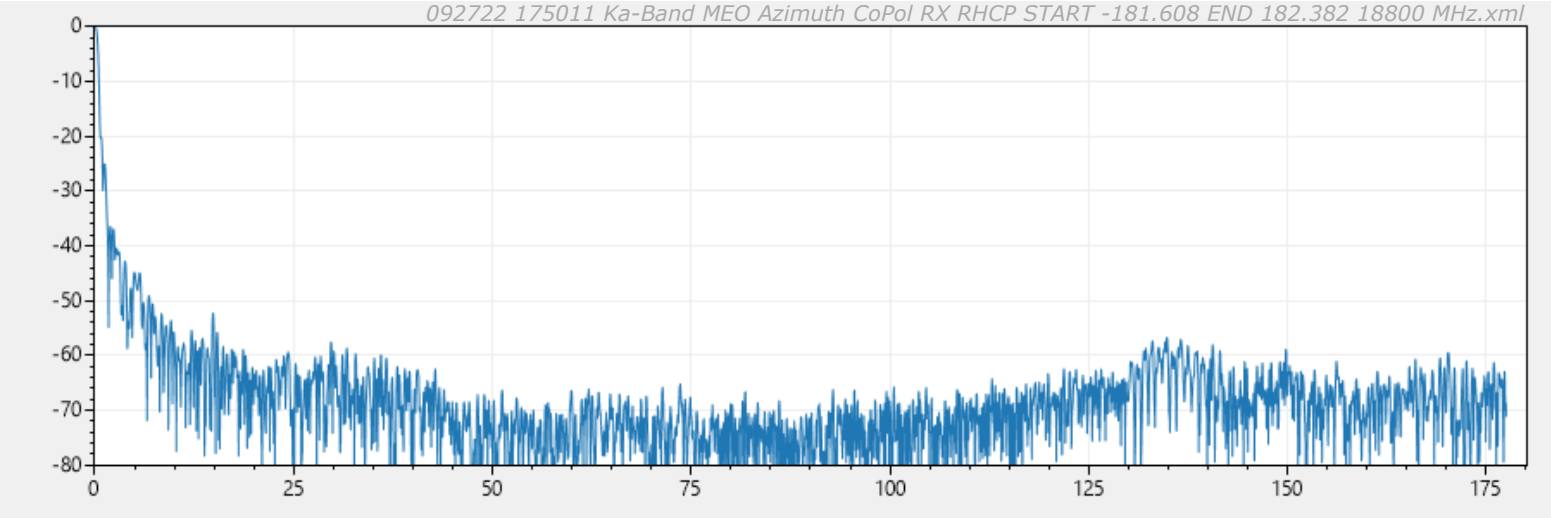
Test Frequency (GHz):	18.8
Band:	Receive
Polarization:	RHCP

Gain by Integration

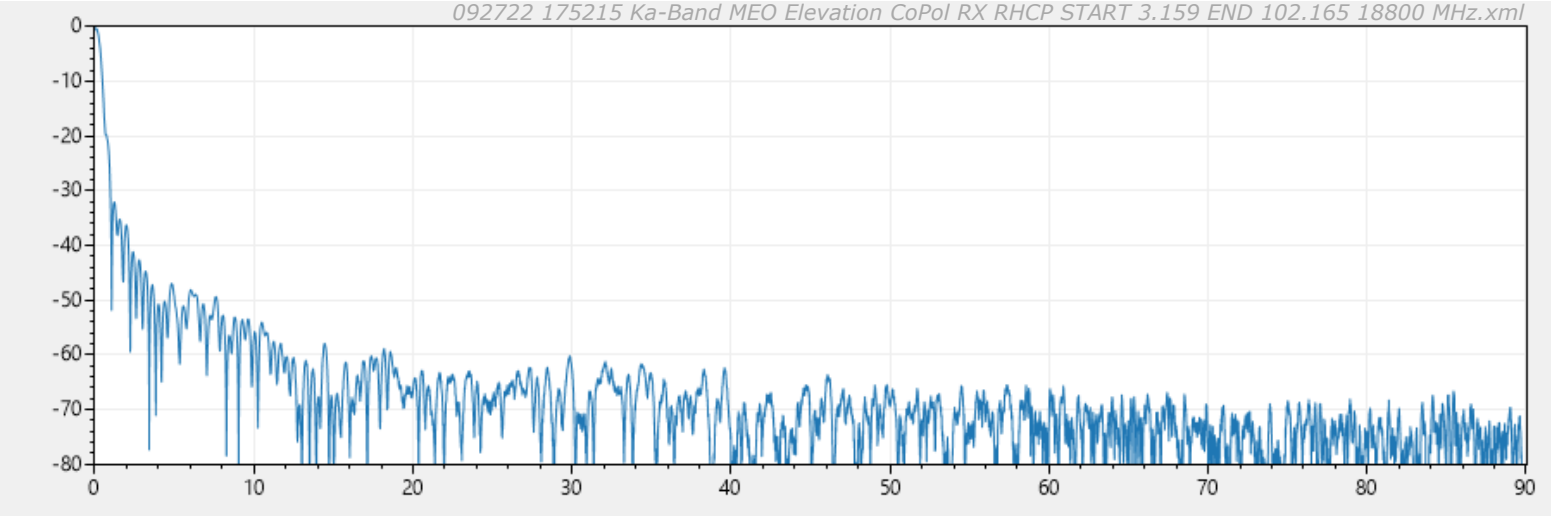
Customer:	Airbus	Specified Gain (dBi):	50.800
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.391
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



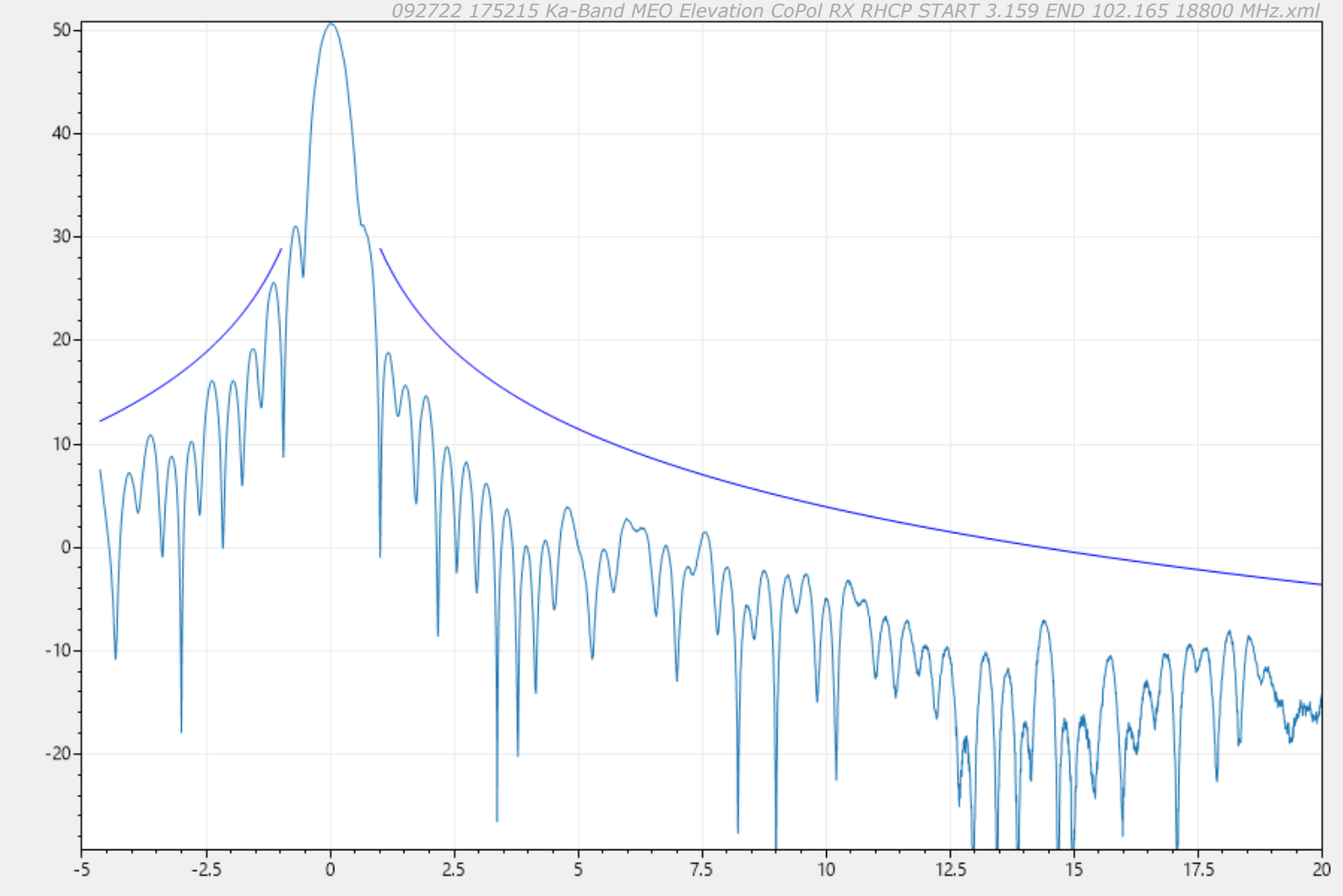
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

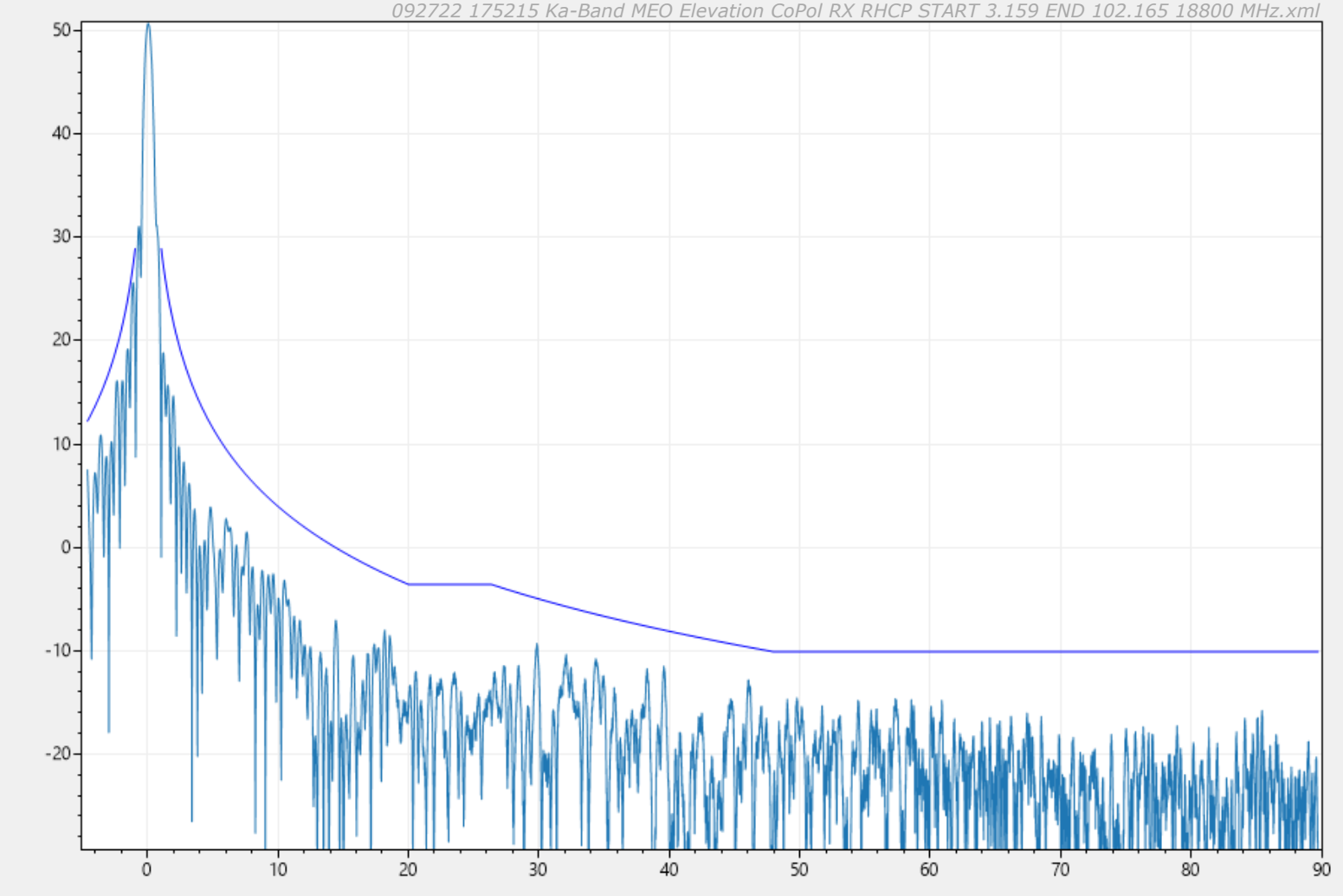


Elevation

Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

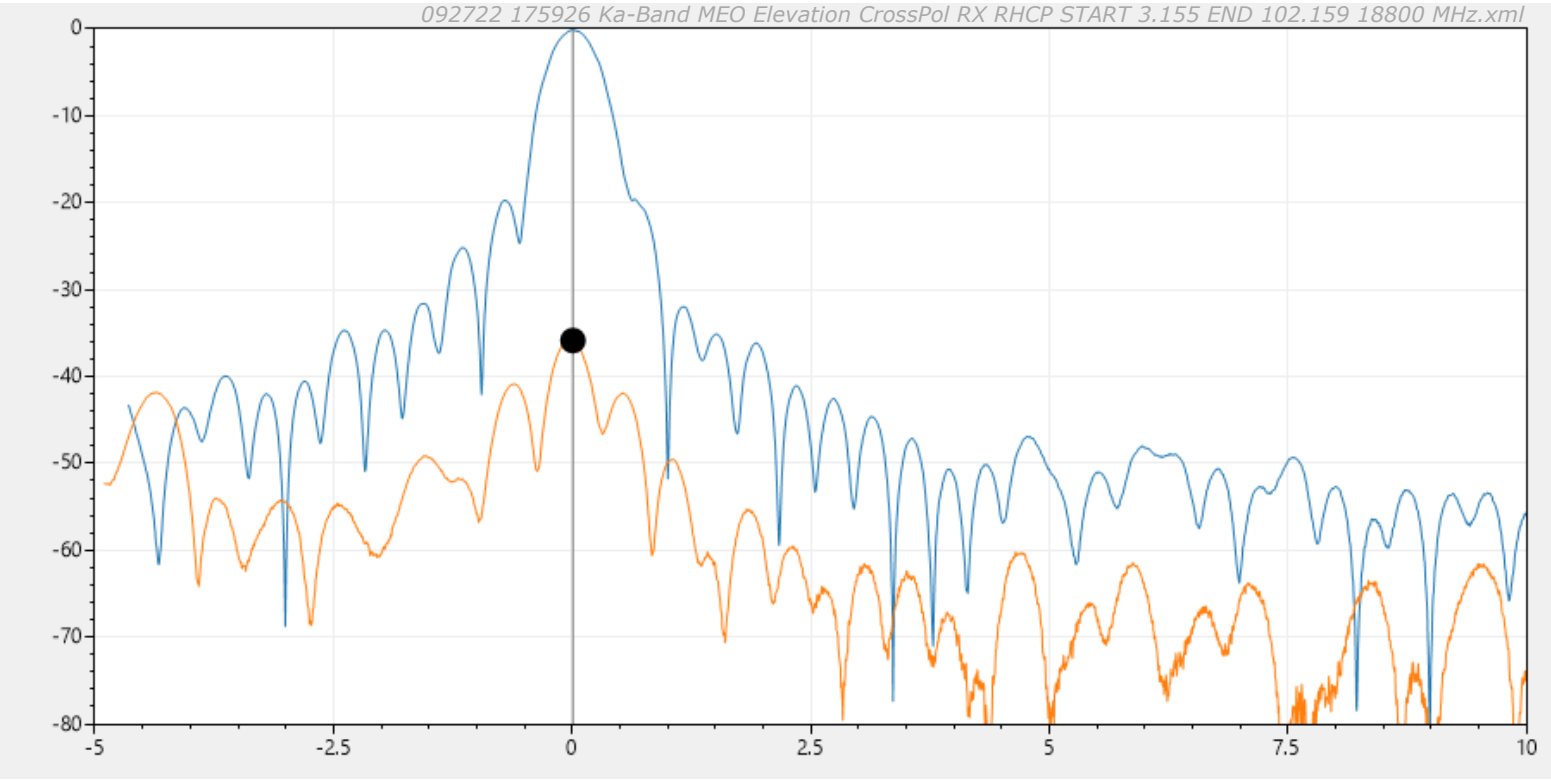


Gain (dBi):	50.8	Test Frequency (GHz):	18.8
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

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



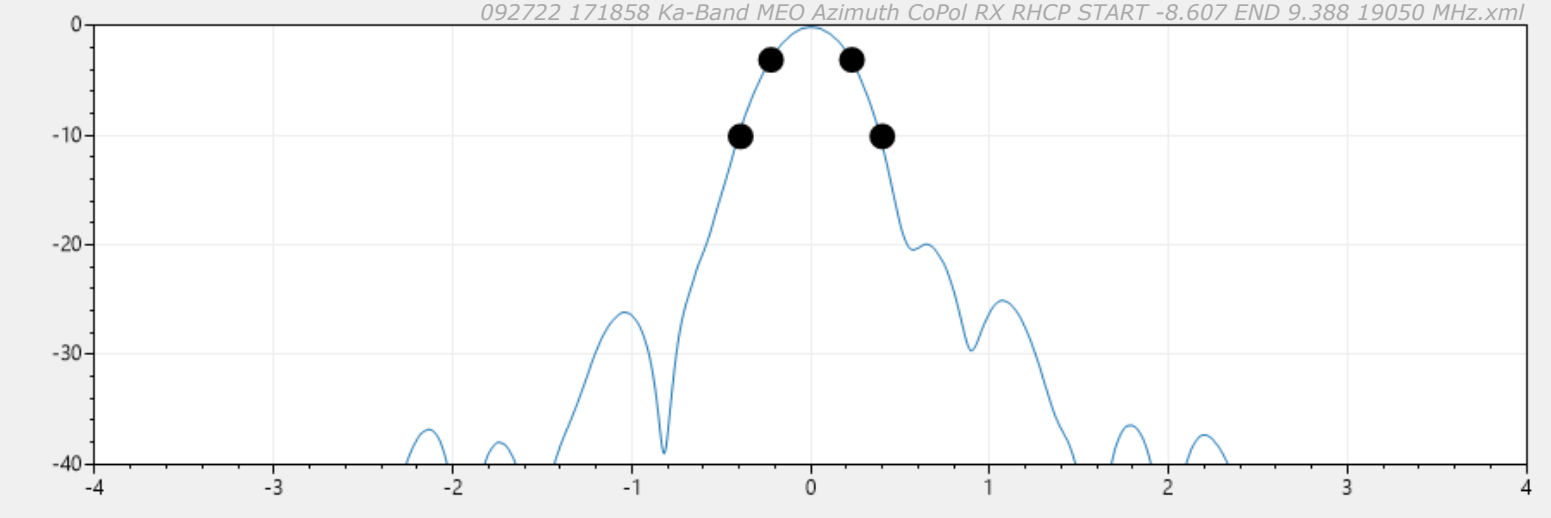
Elevation

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

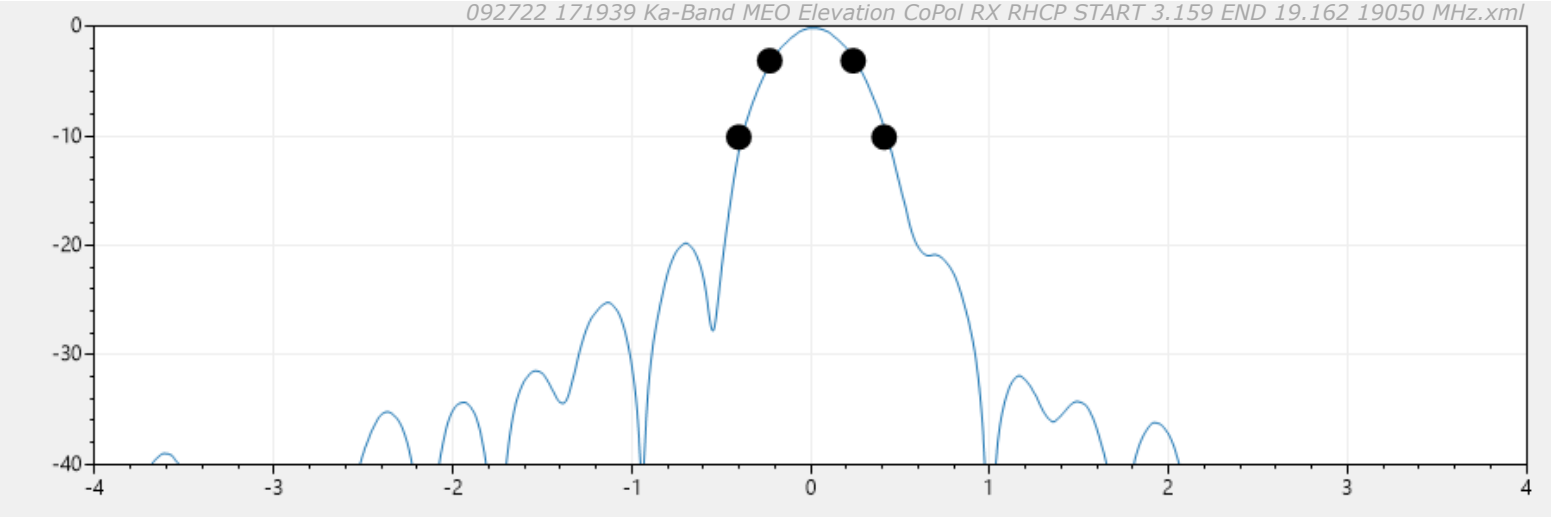
Gain by Beamwidth

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



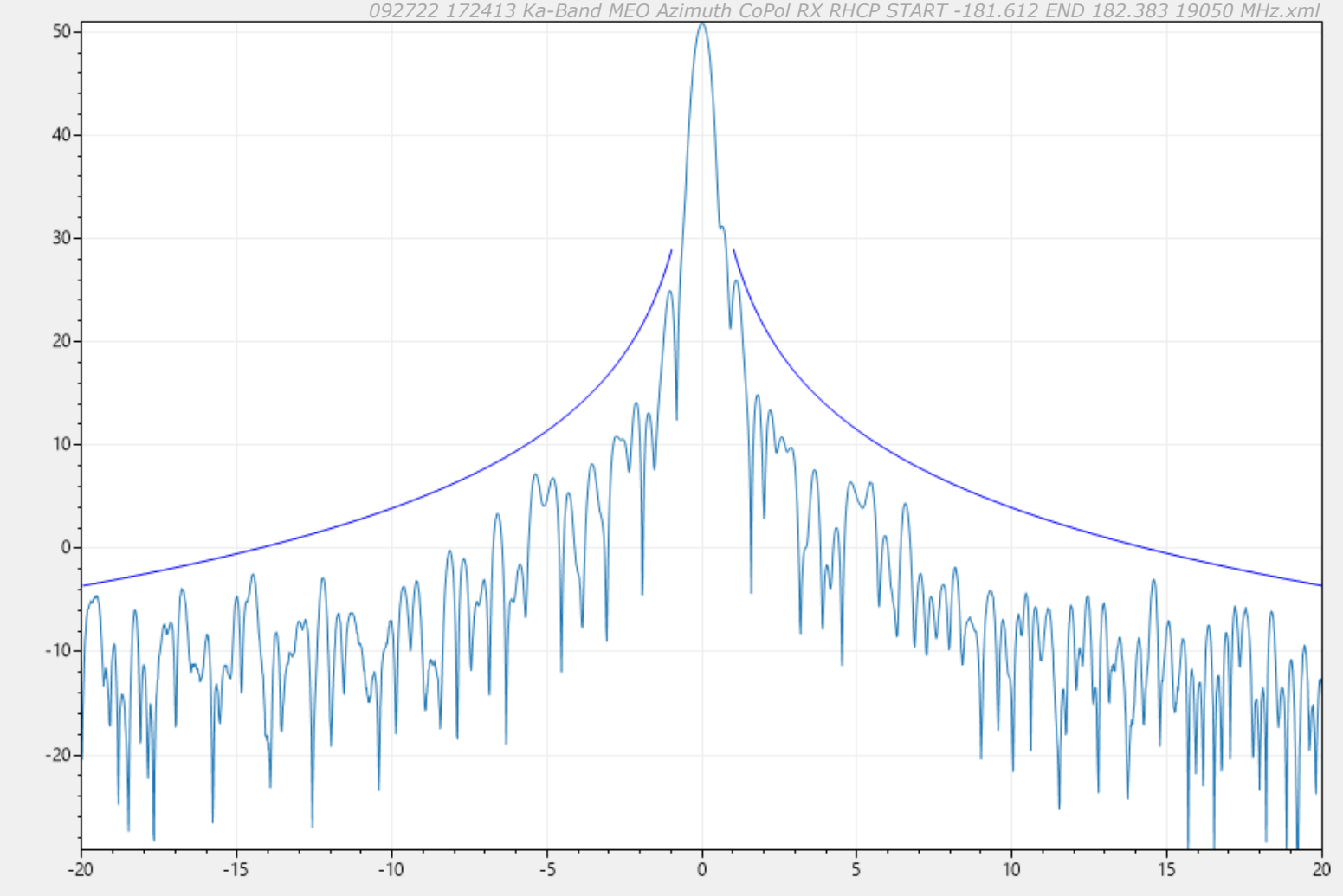
Elevation

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

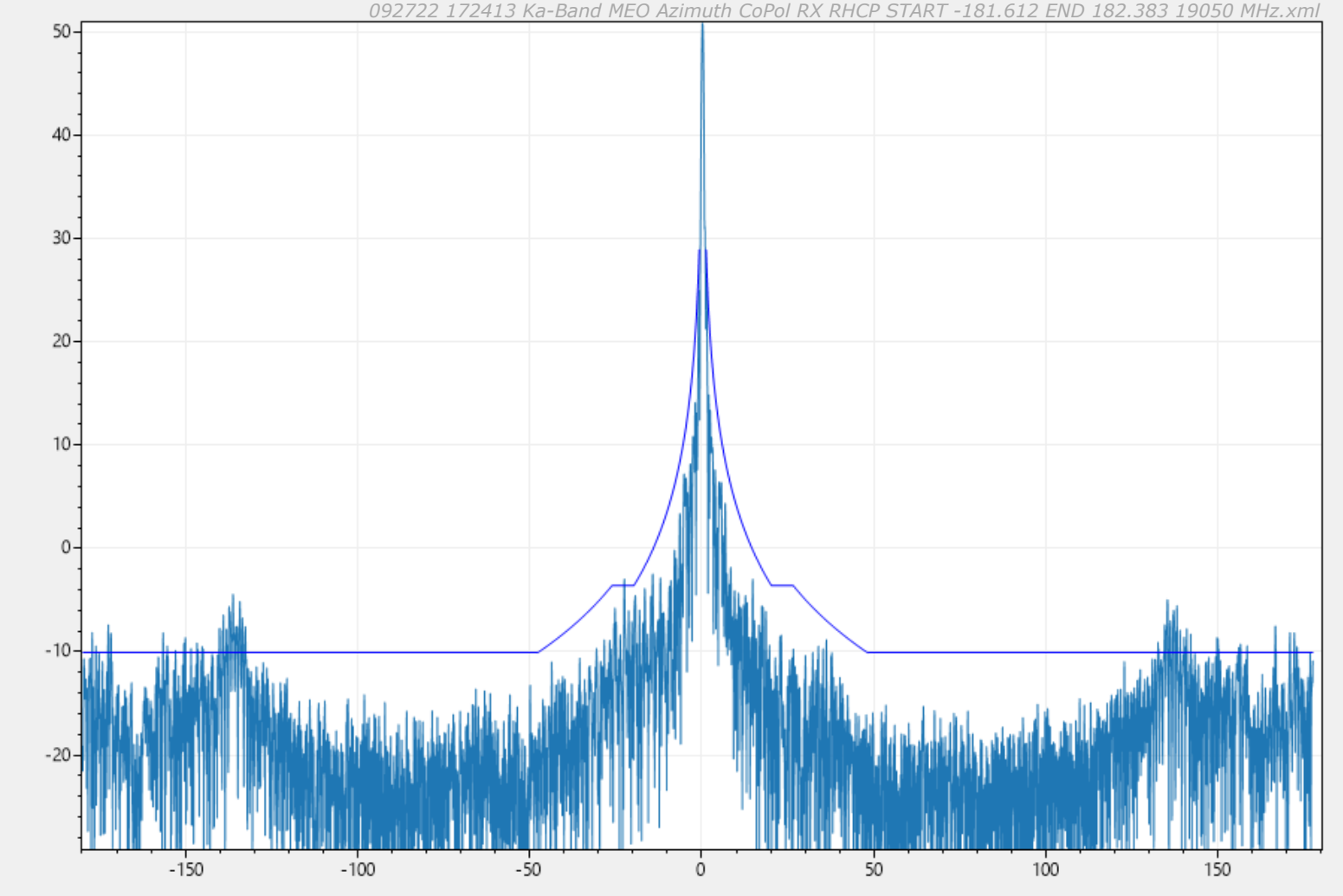
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

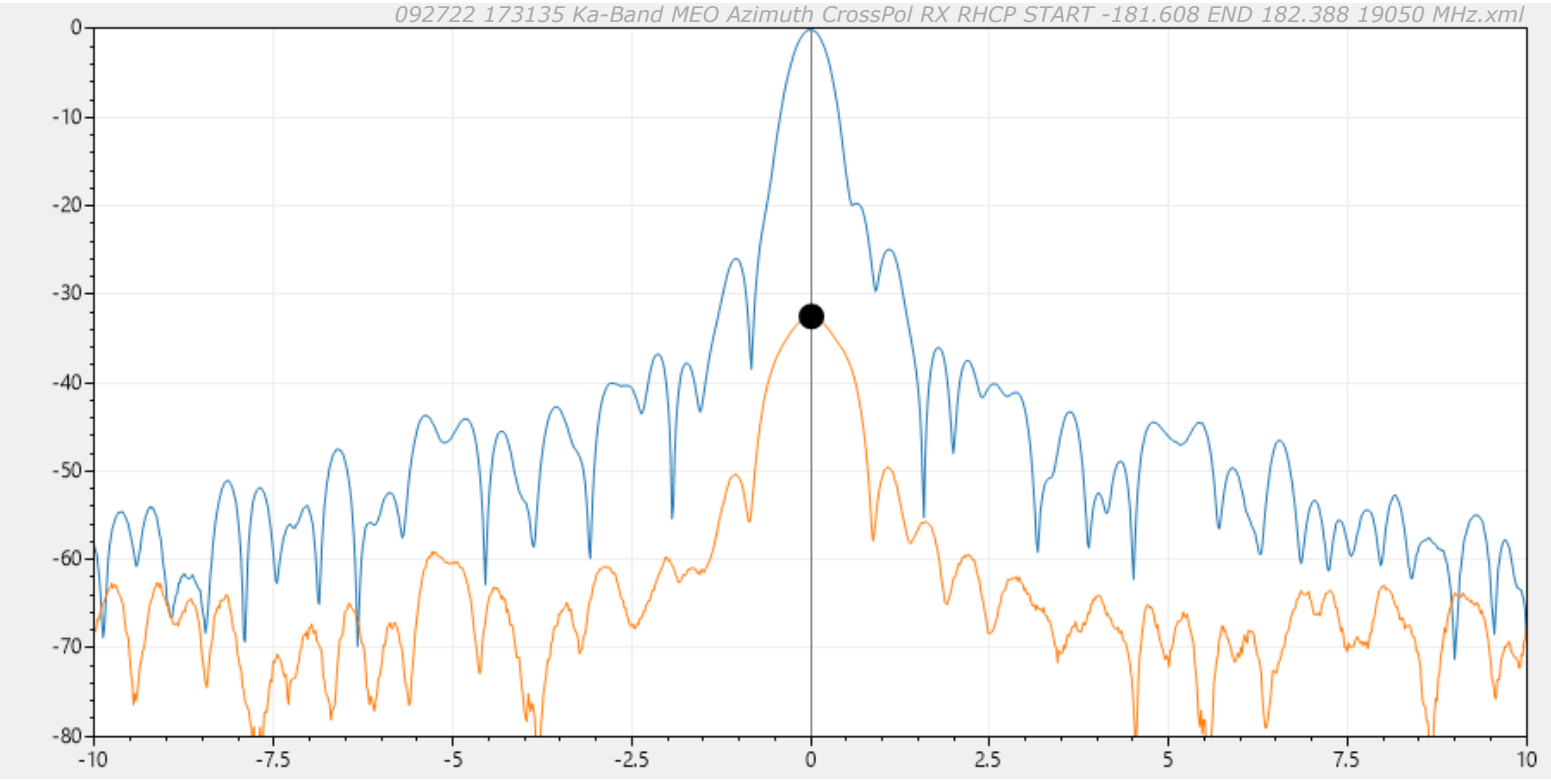


Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	2.85%	Band:	Receive
		Polarization:	RHCP

Azimuth Cross Polarization

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

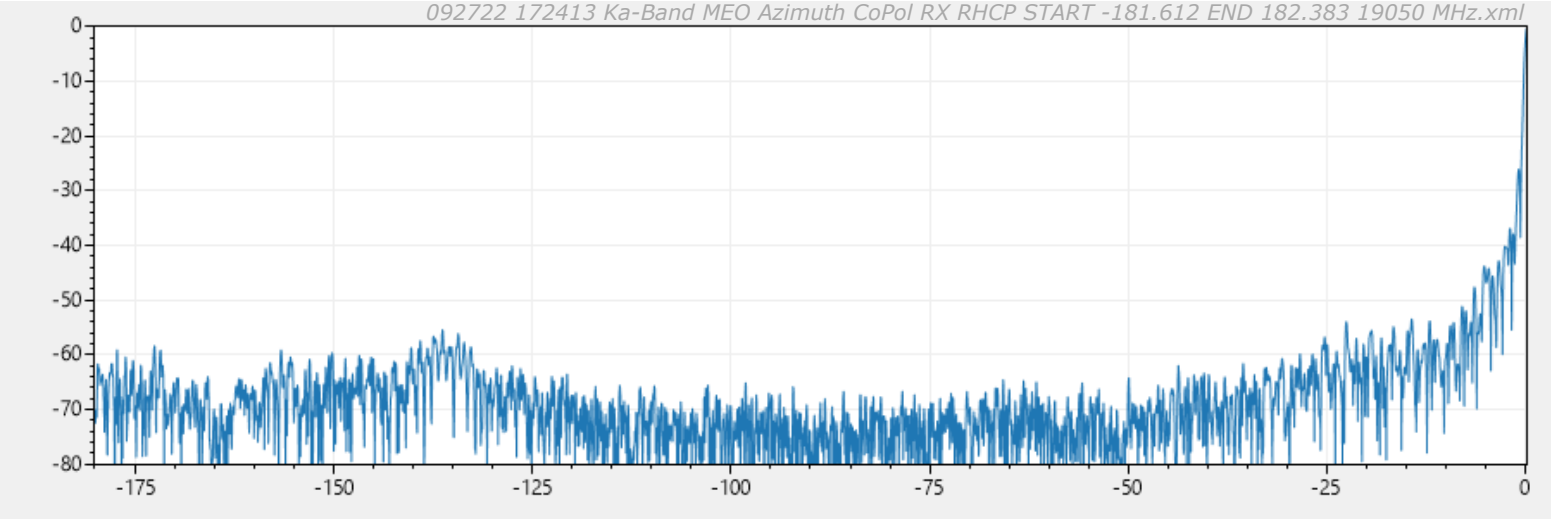
Measured Cross-Pol (dB):	32.4
Spec Cross-Pol (dB):	30.0



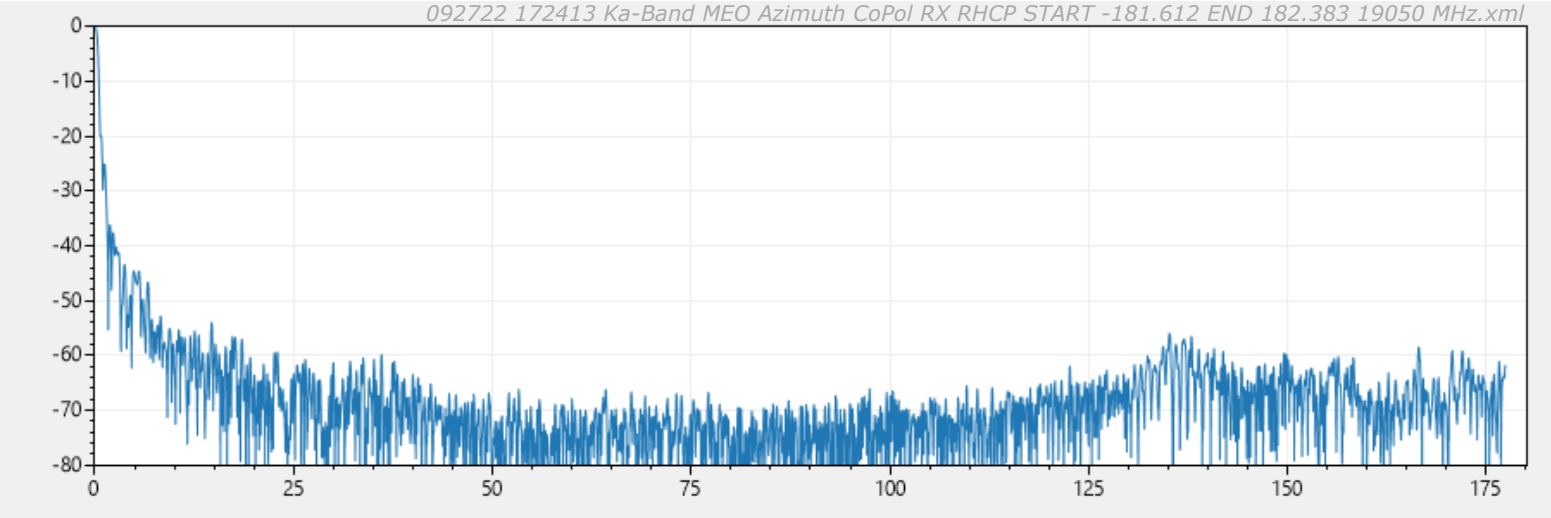
Test Frequency (GHz):	19.05
Band:	Receive
Polarization:	RHCP

Gain by Integration

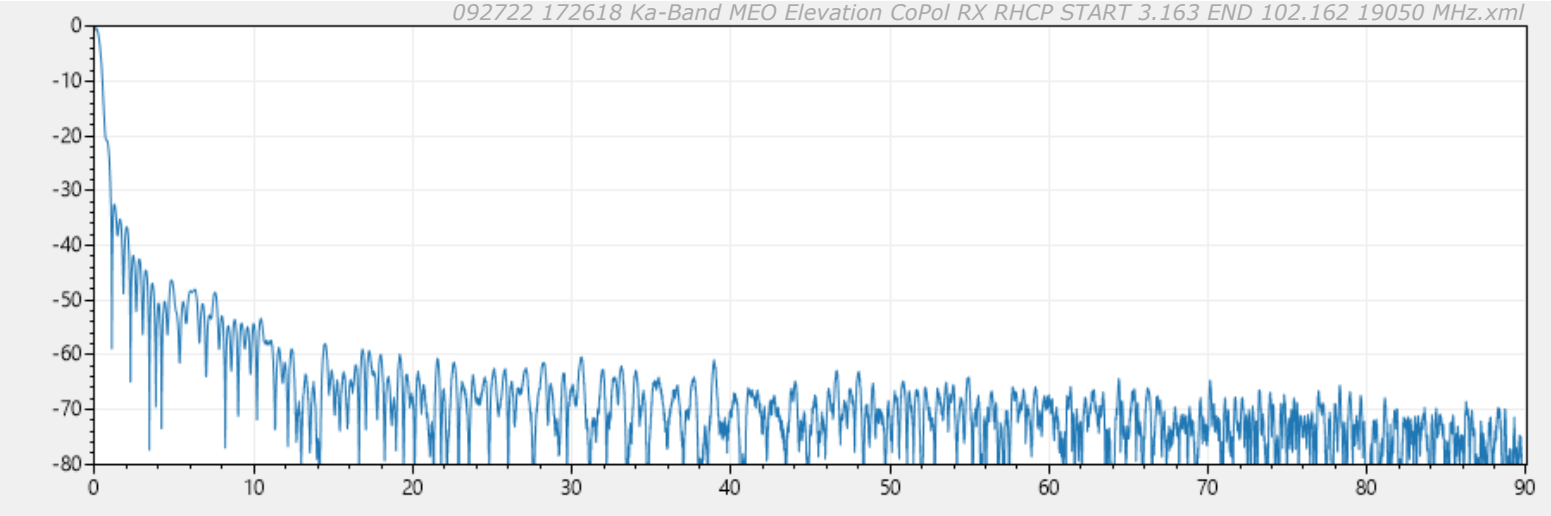
Customer:	Airbus	Specified Gain (dBi):	50.900
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.275
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



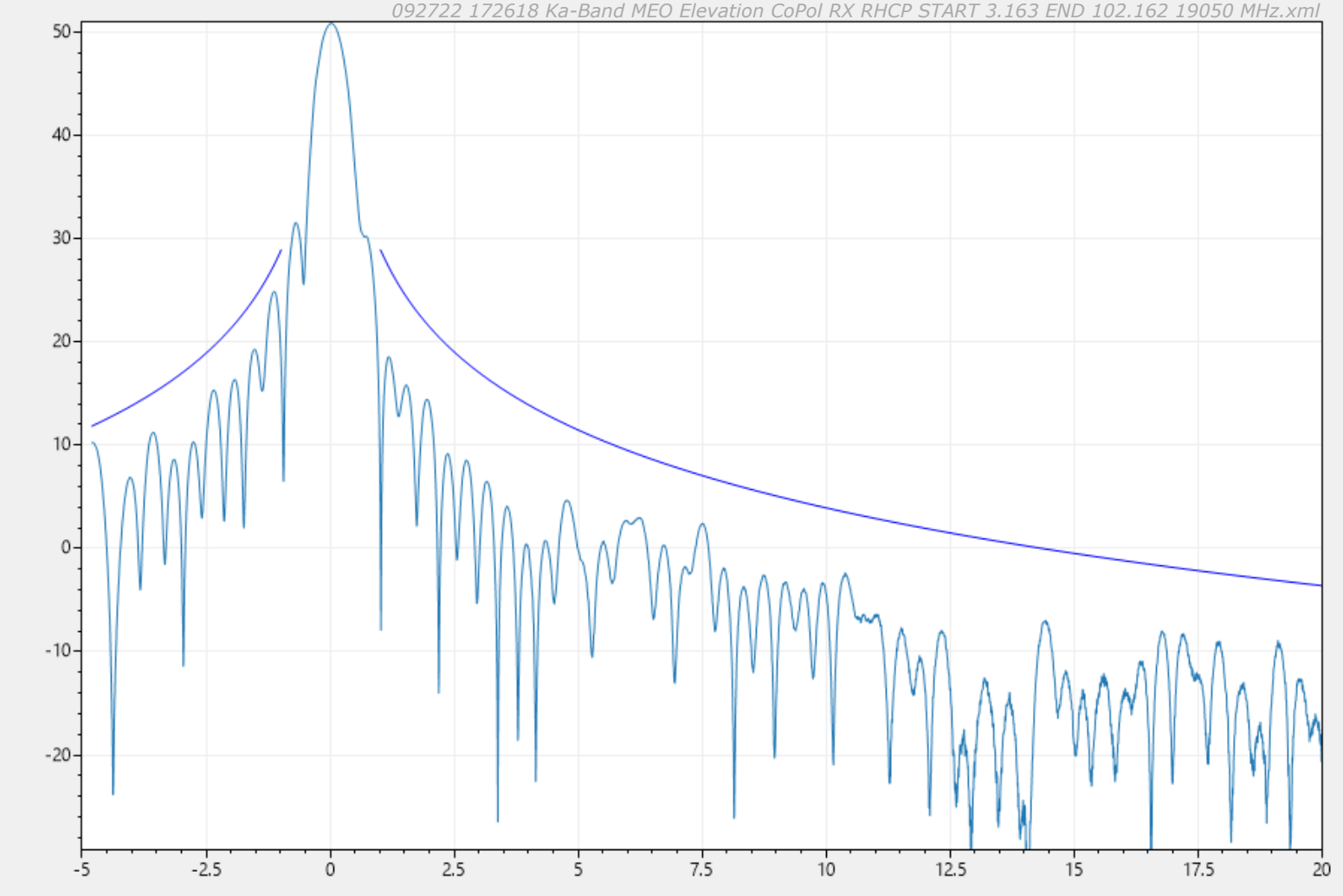
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

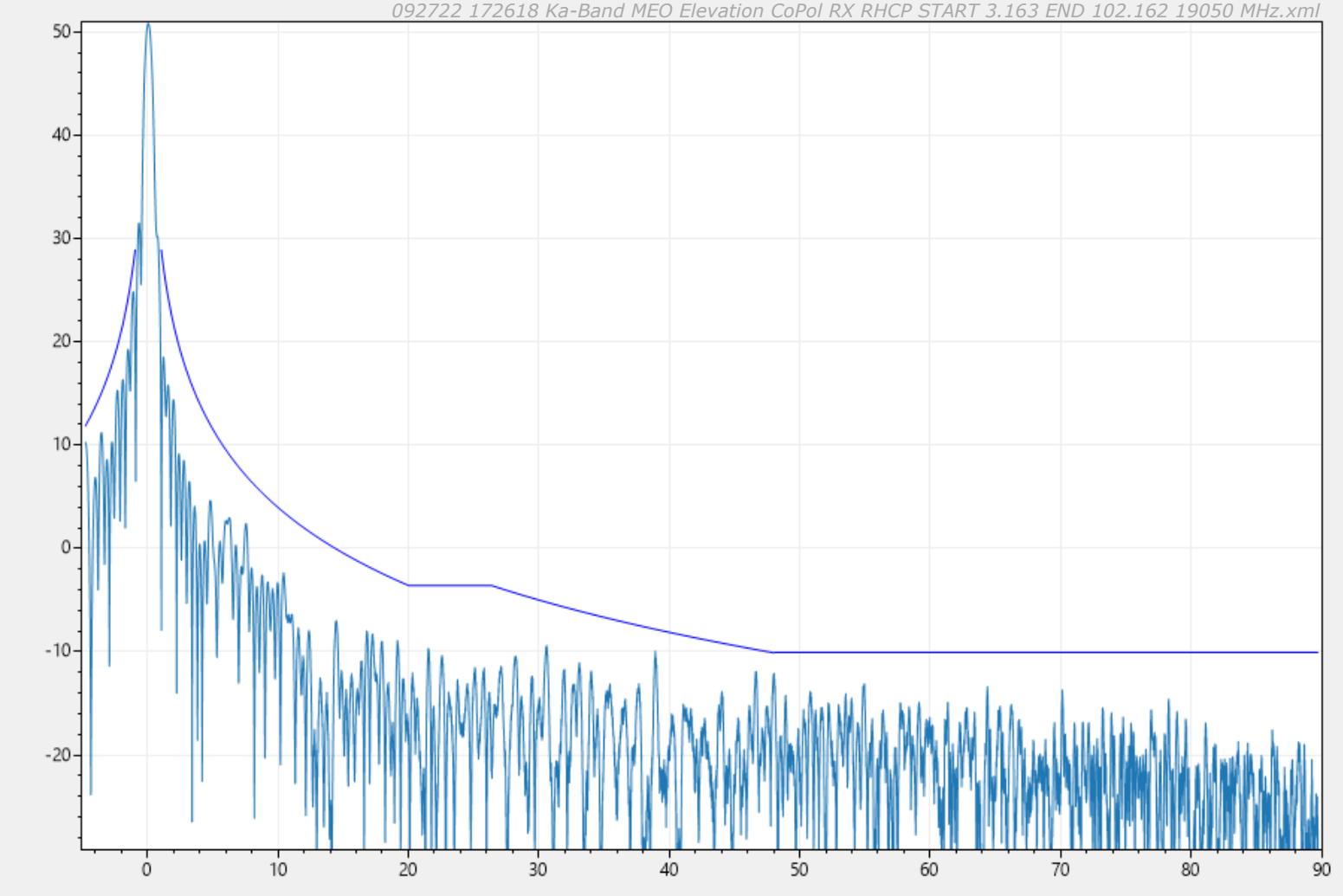
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

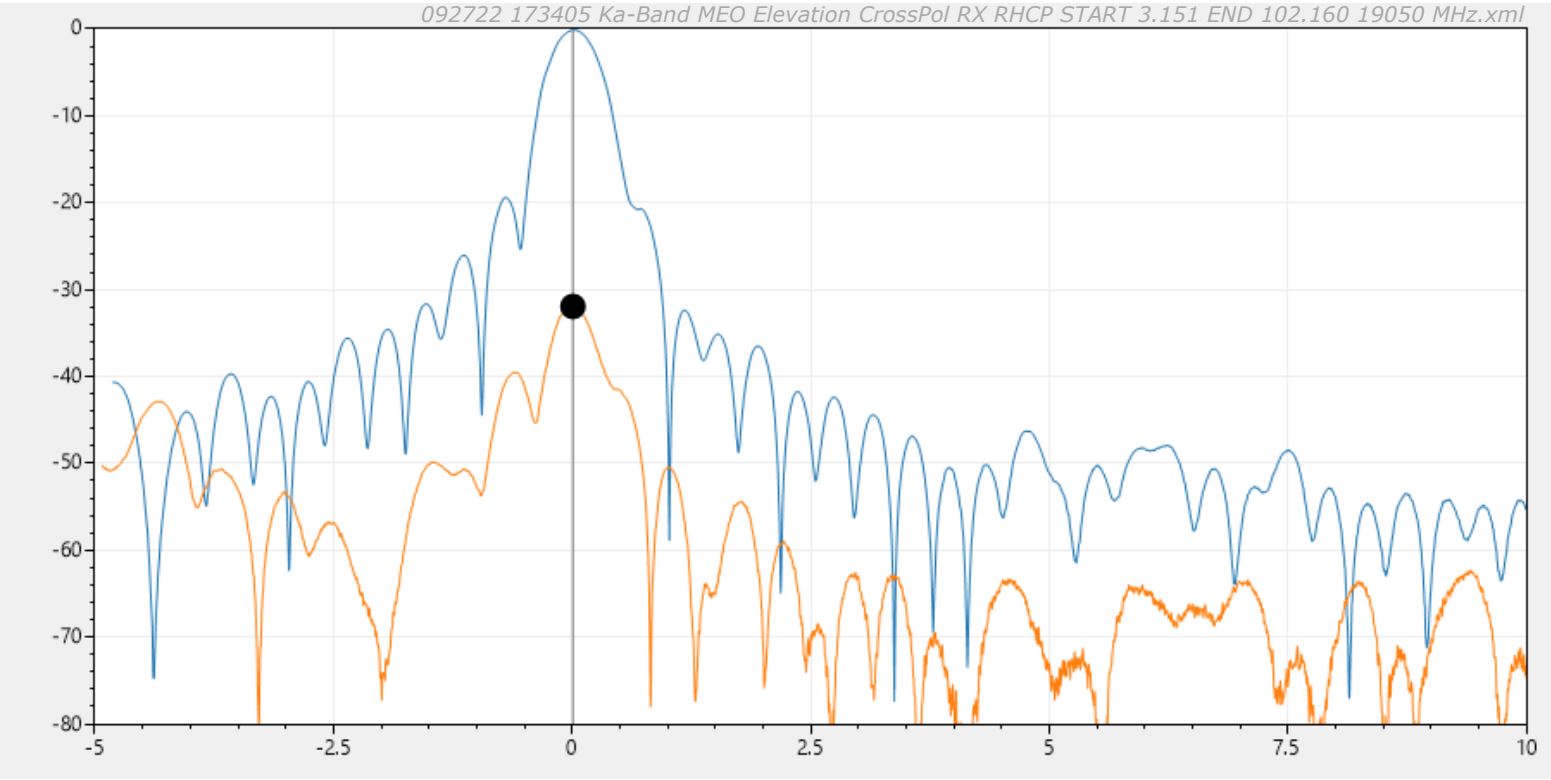


Gain (dBi):	50.9	Test Frequency (GHz):	19.05
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

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



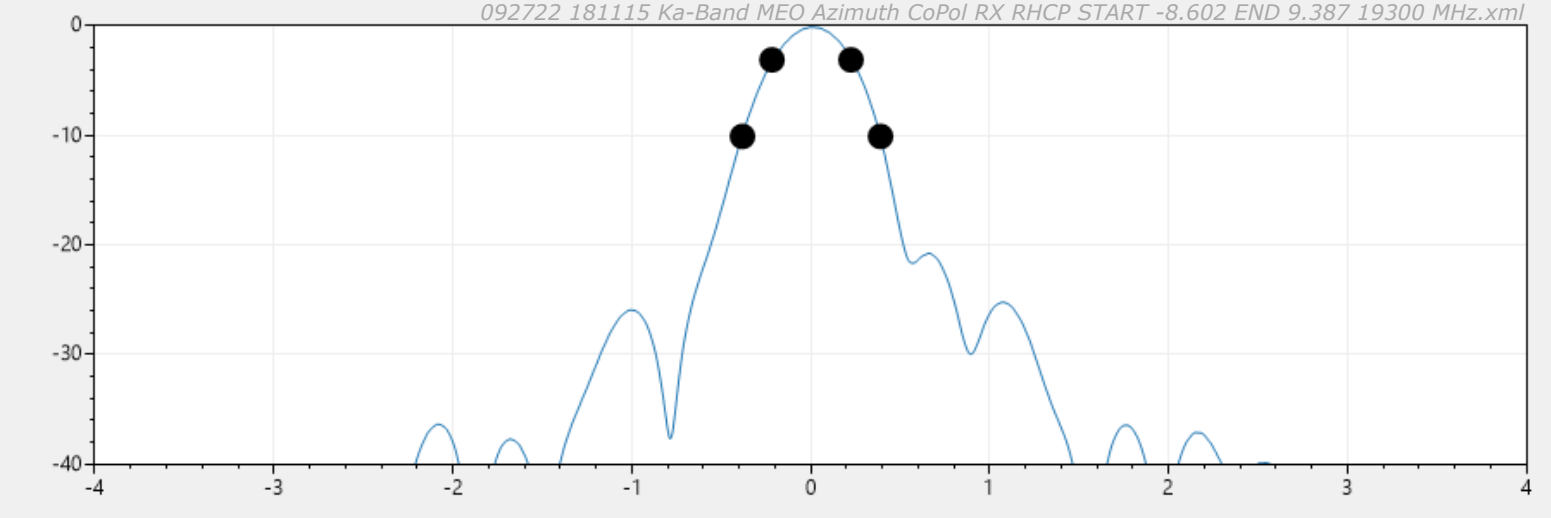
Elevation

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

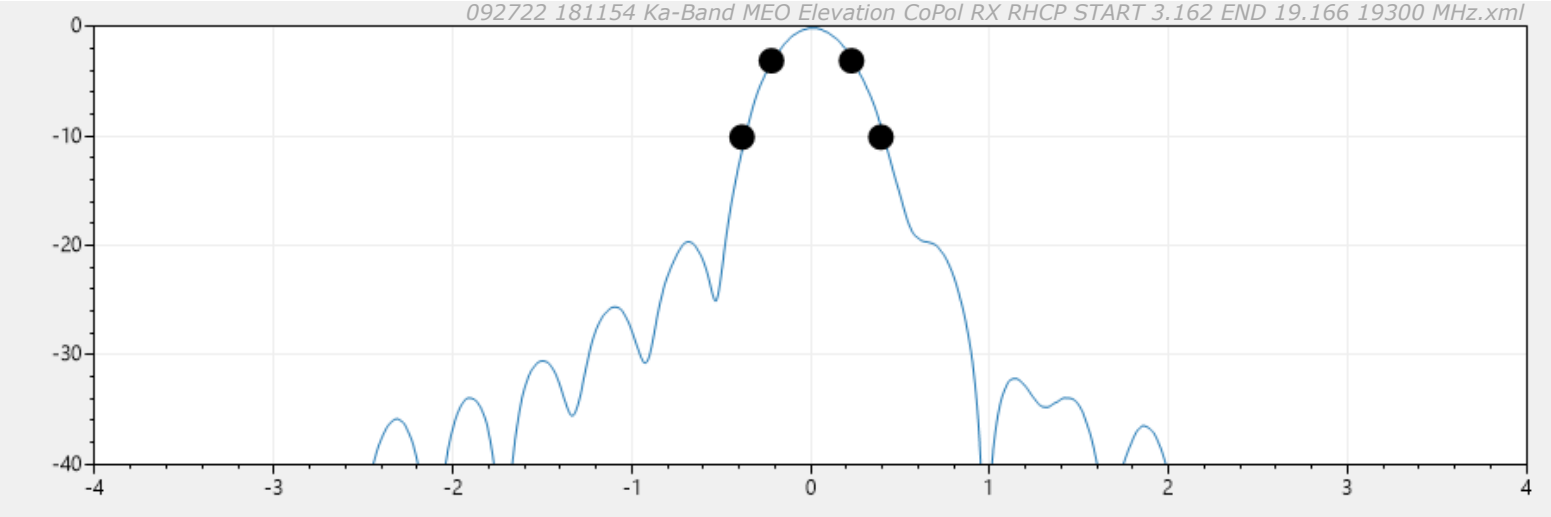
Gain by Beamwidth

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



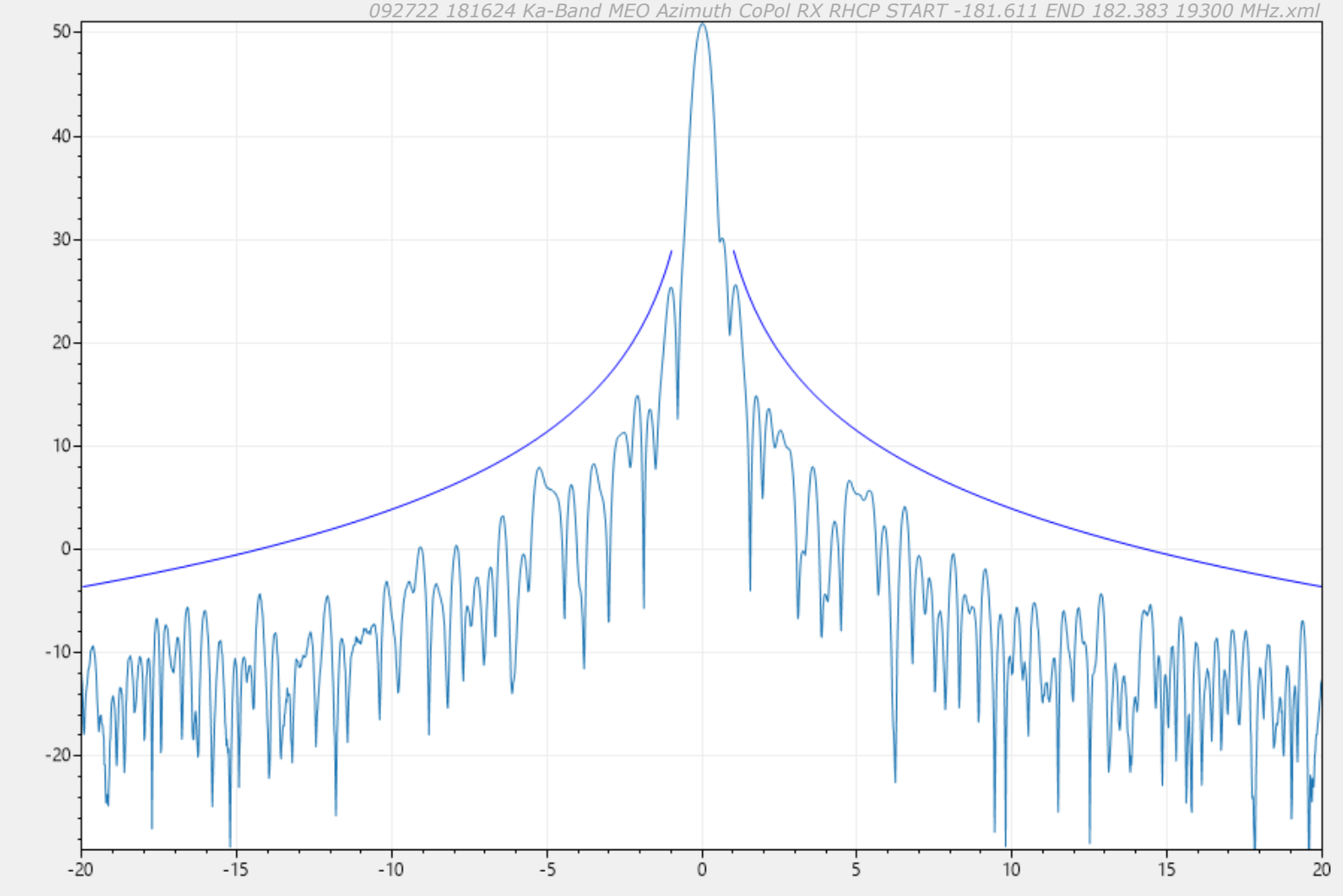
Elevation

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

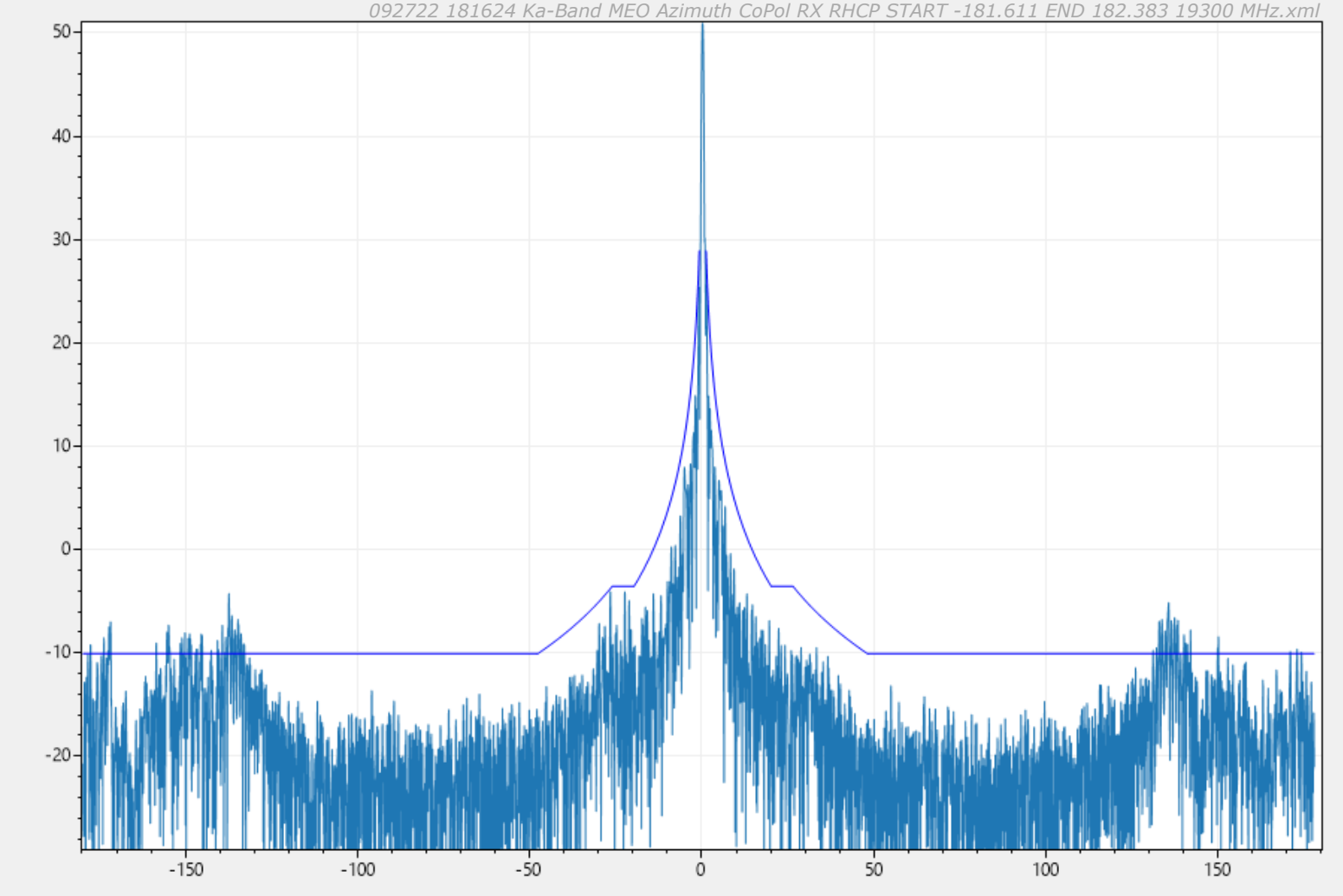
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

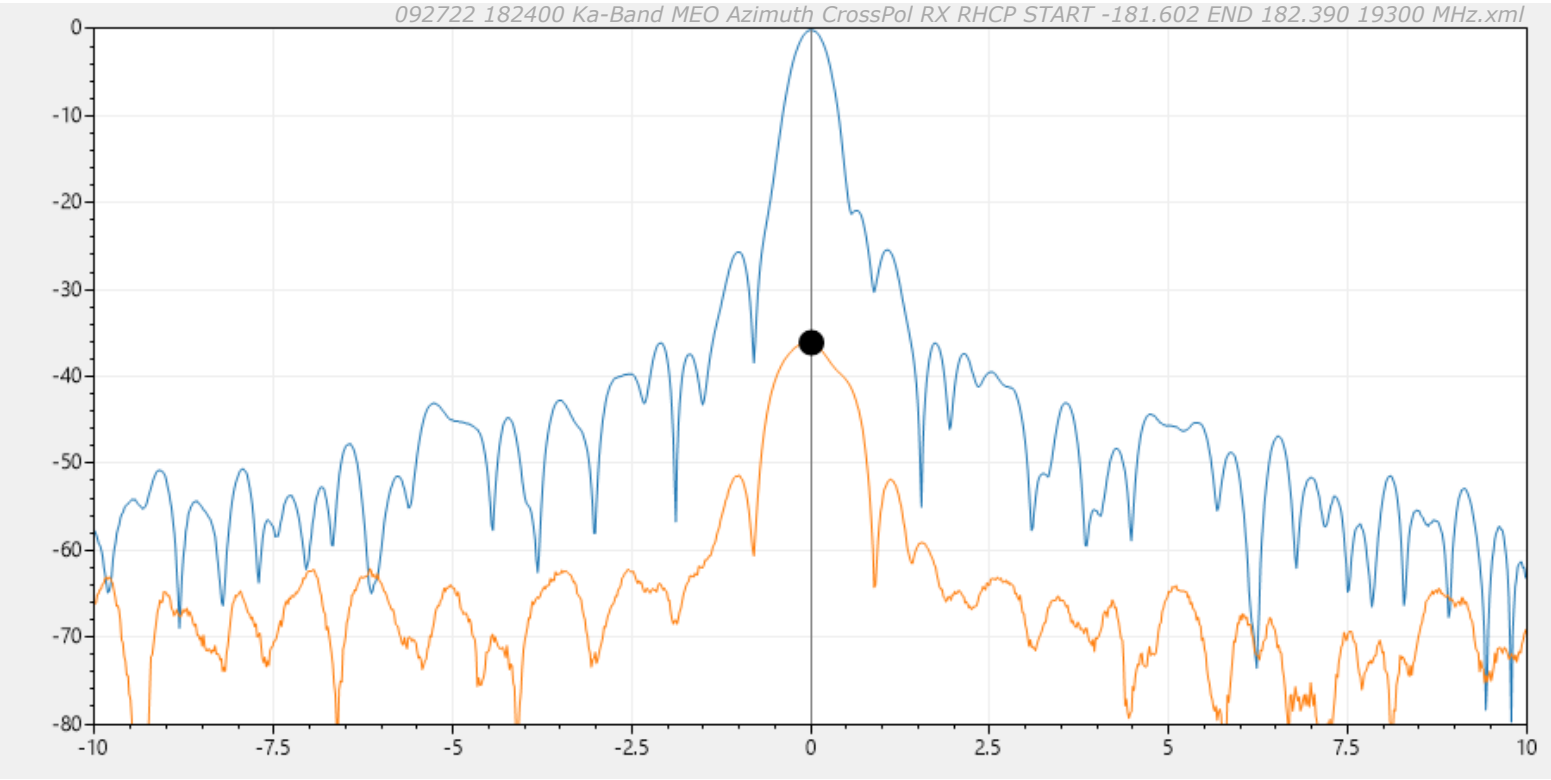


Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	3.12%	Band:	Receive
		Polarization:	RHCP

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

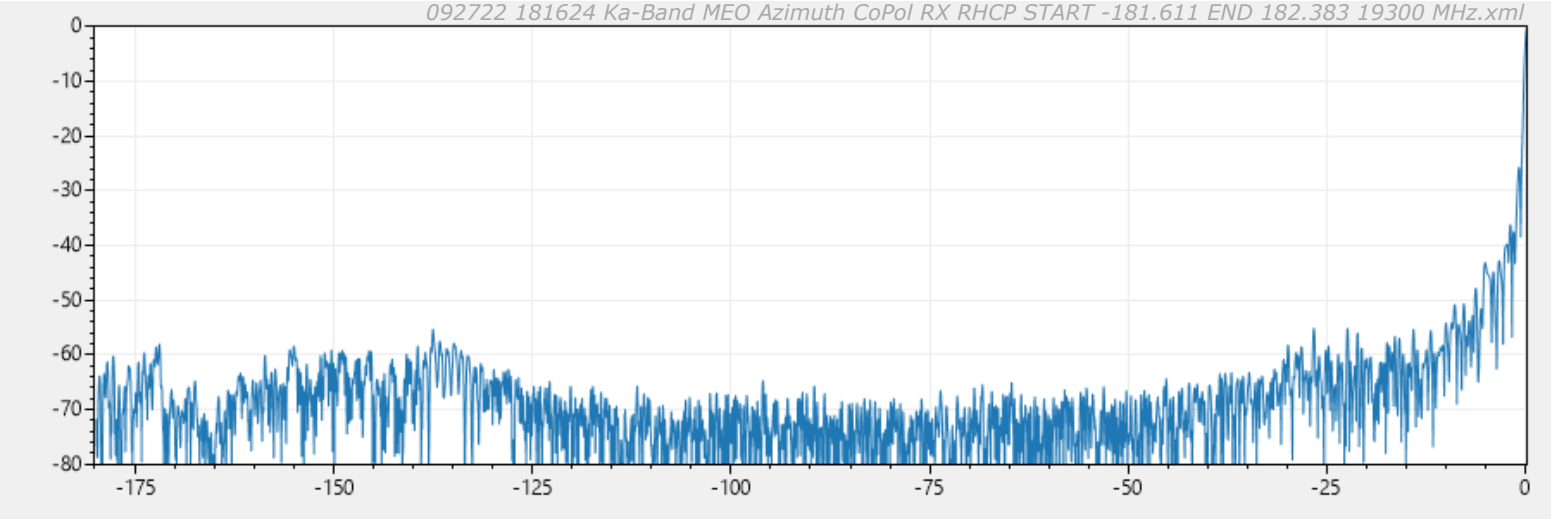


Azimuth

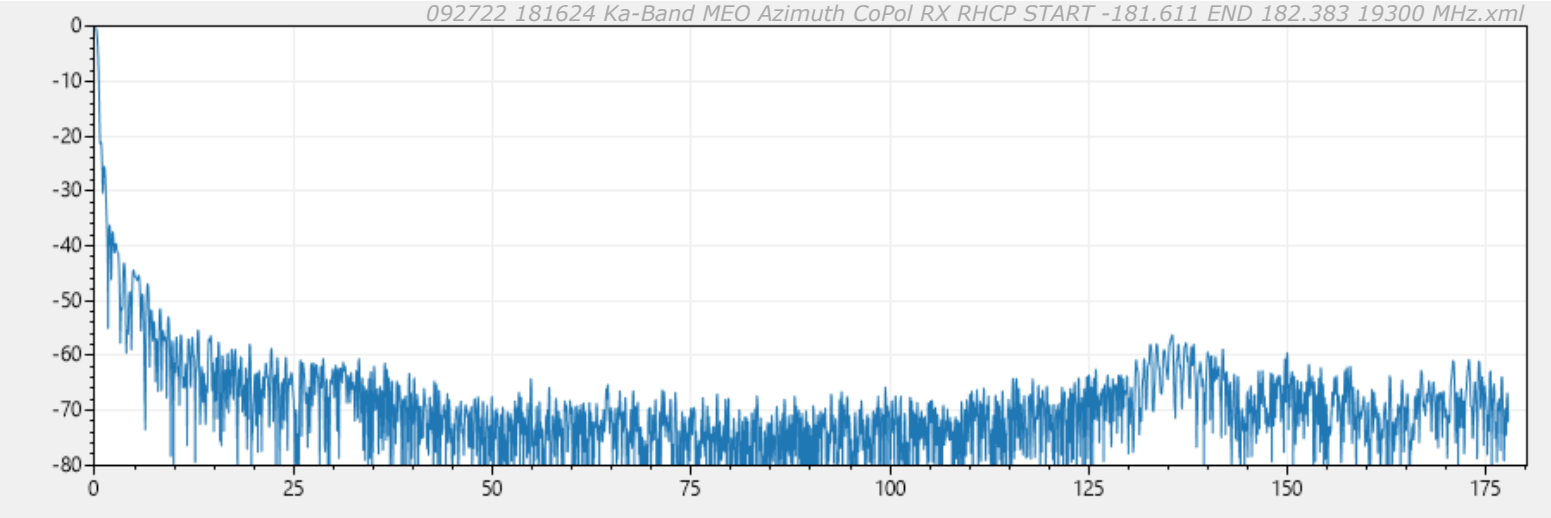
Test Frequency (GHz):	19.3
Band:	Receive
Polarization:	RHCP

Gain by Integration

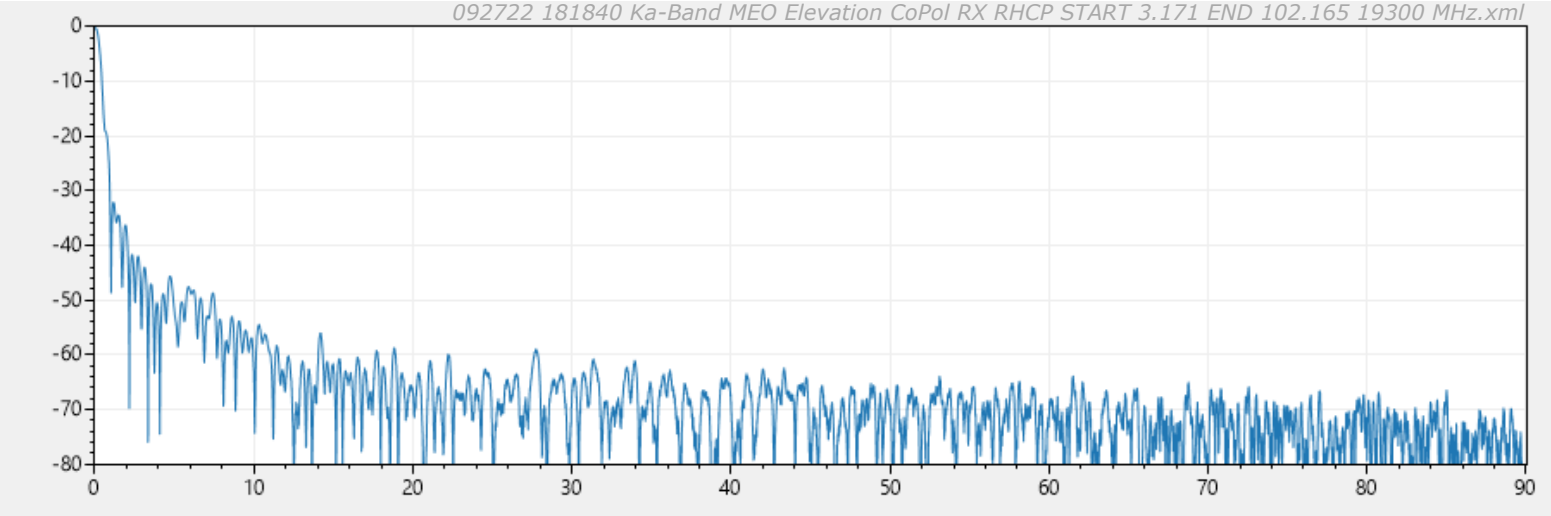
Customer:	Airbus	Specified Gain (dBi):	51.000
Job:	Ka-Band MEO	Calculated Gain (dBi):	51.866
Antenna:	2.4 M	Feed Loss (dB):	0.55
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



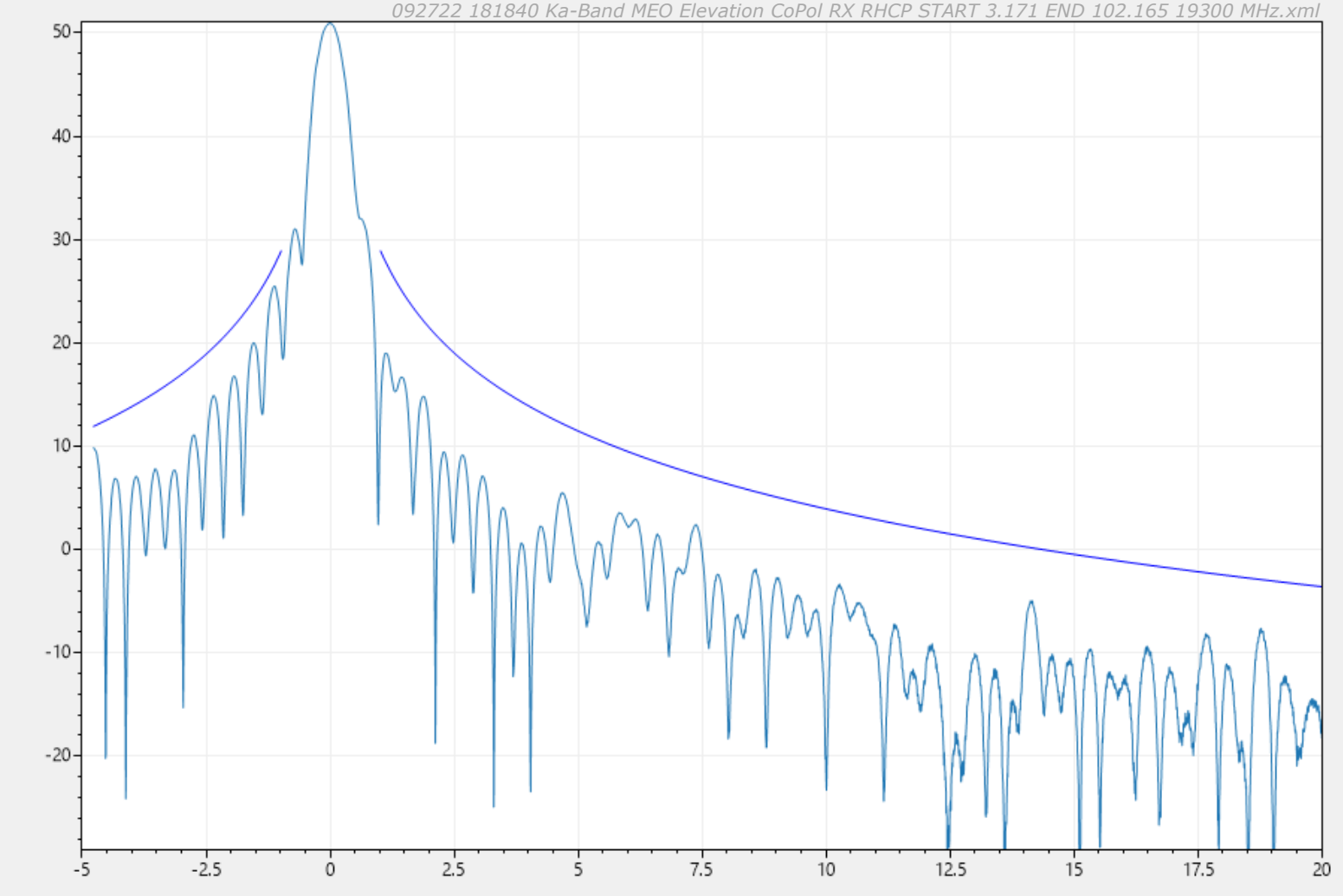
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

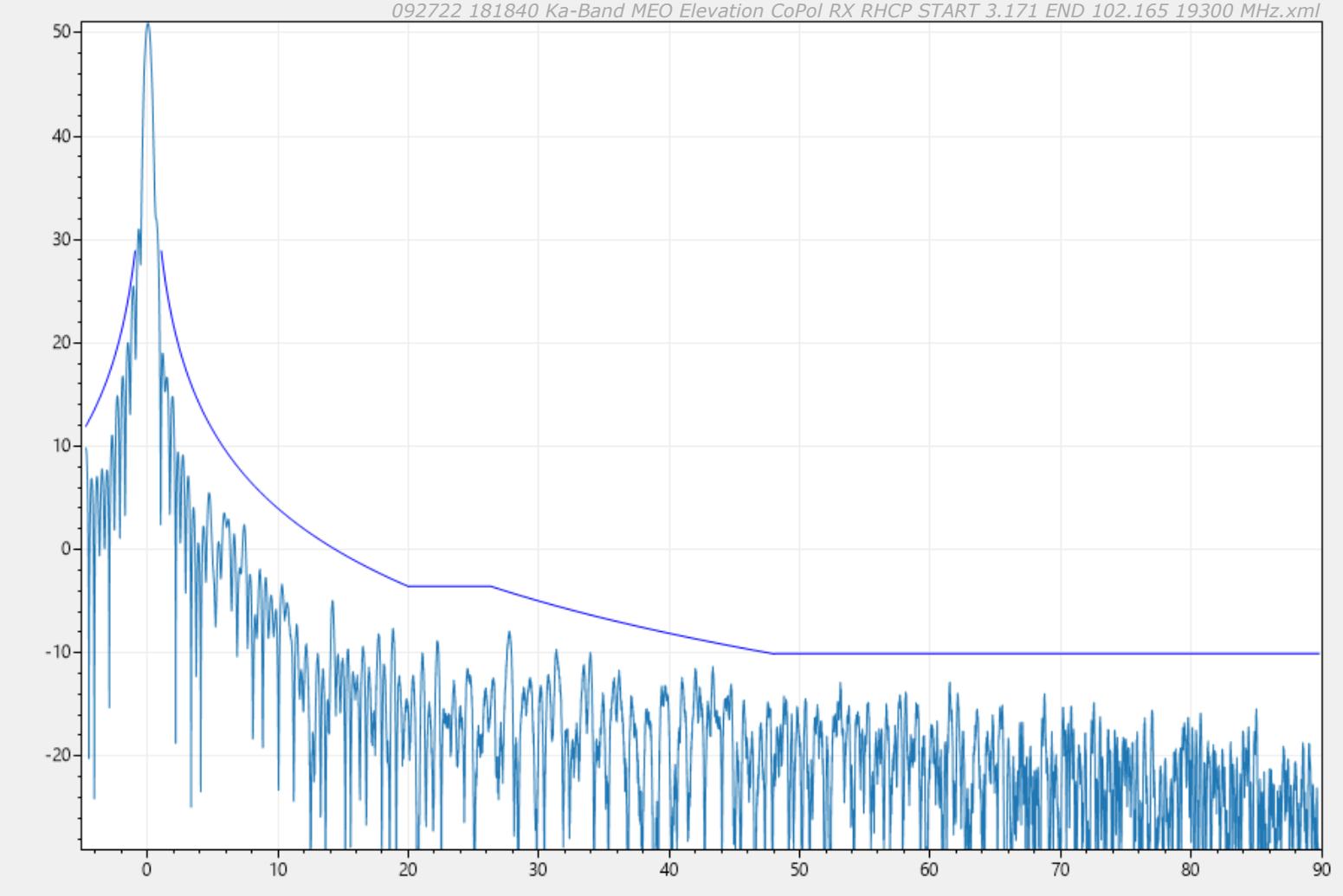
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

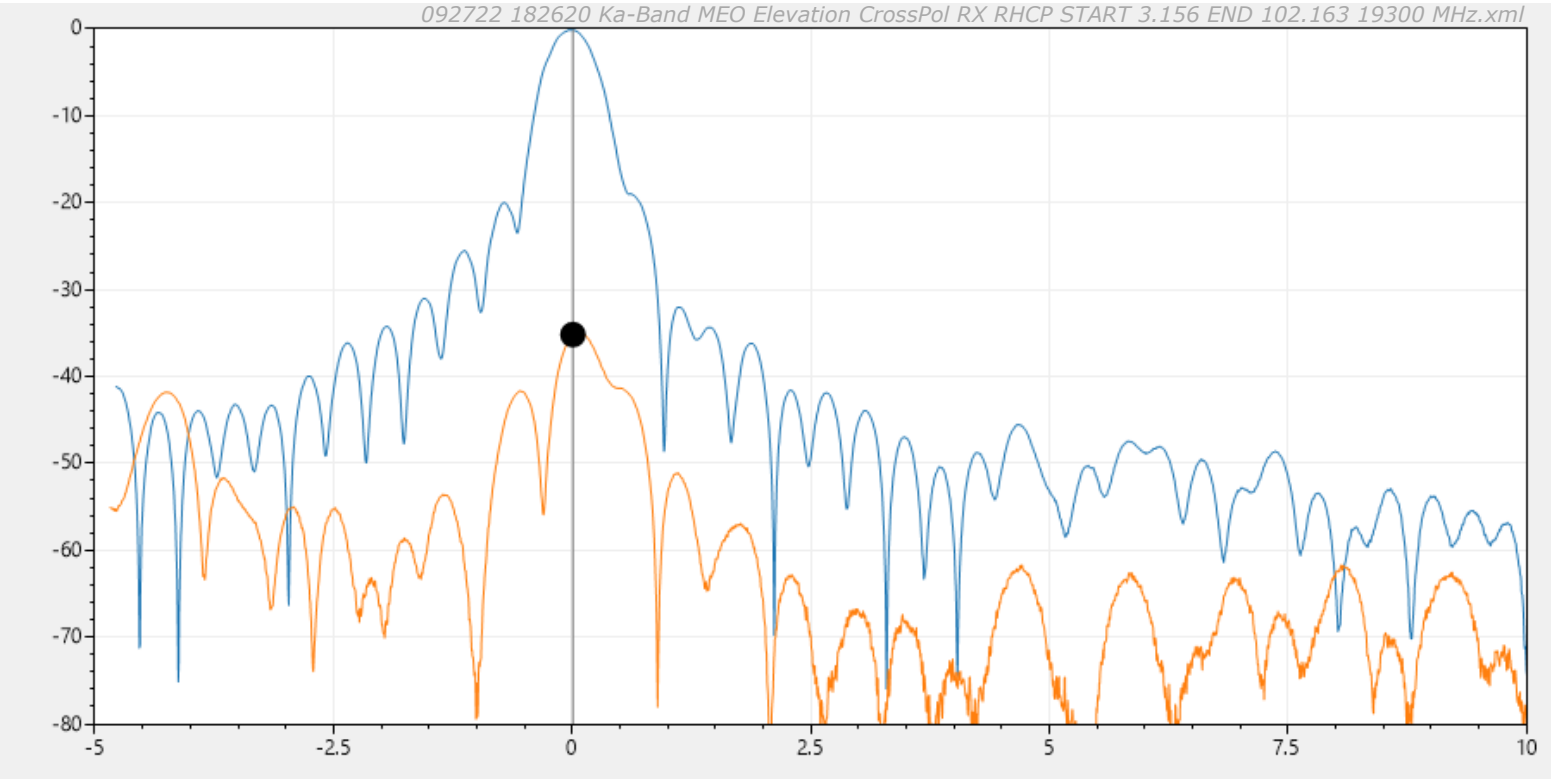


Gain (dBi):	51.0	Test Frequency (GHz):	19.3
Sidelobes Over Curve:	0.00%	Band:	Receive
		Polarization:	RHCP

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



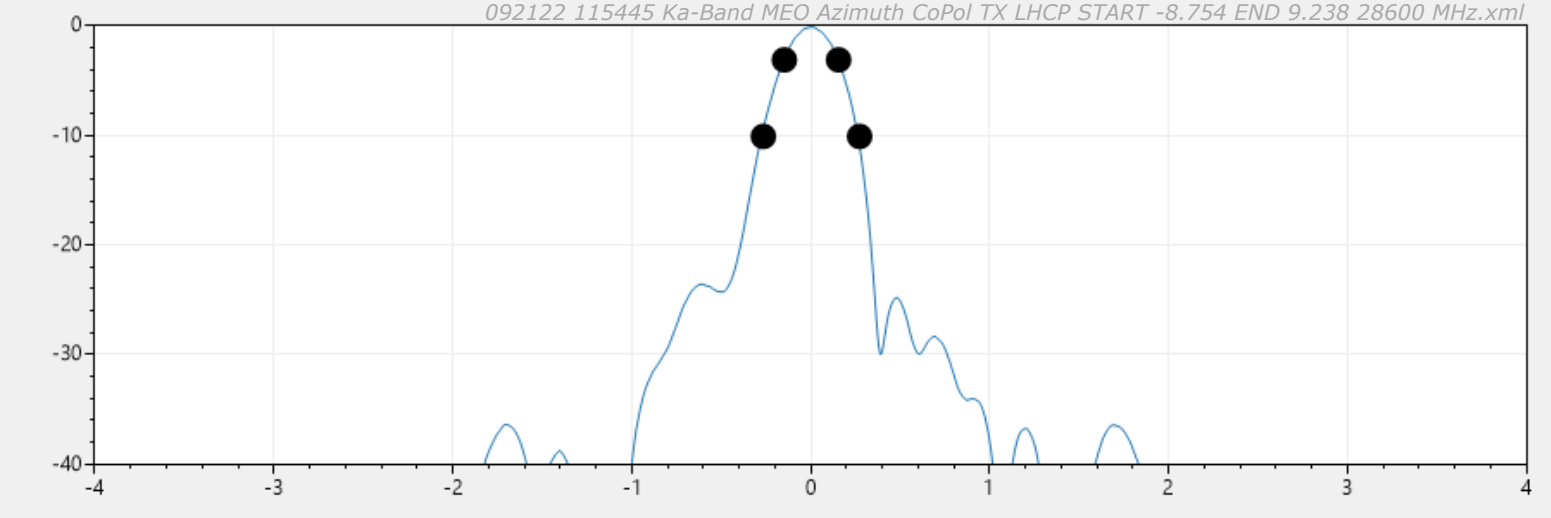
Elevation

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

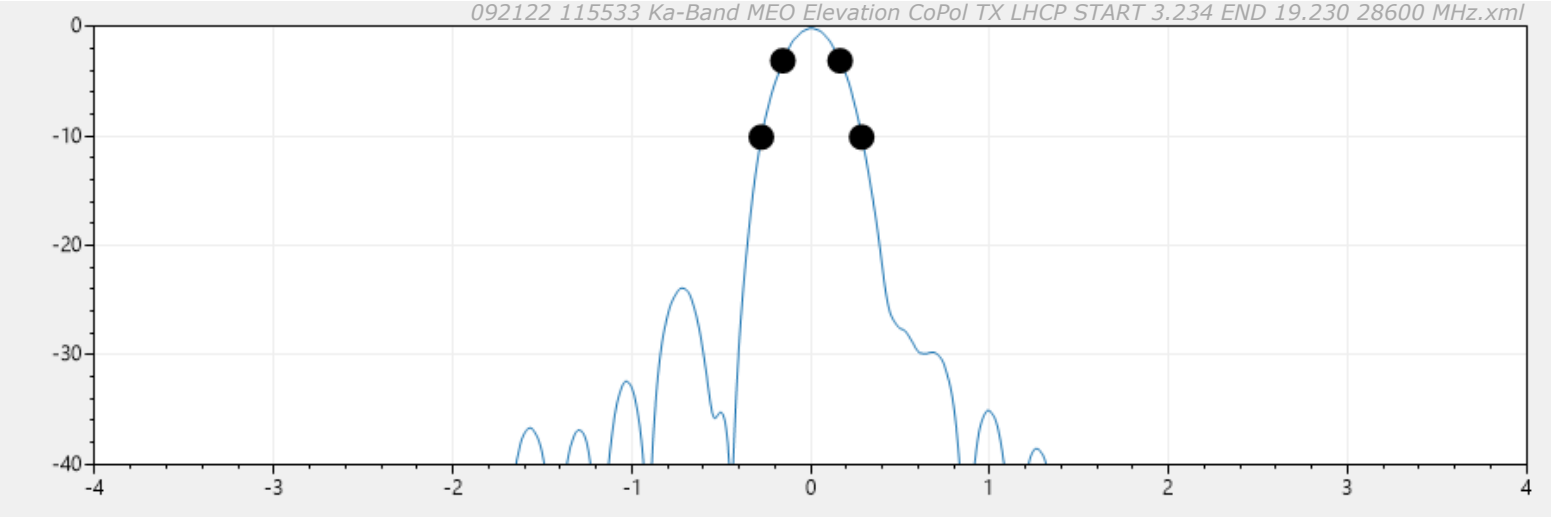
Gain by Beamwidth

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



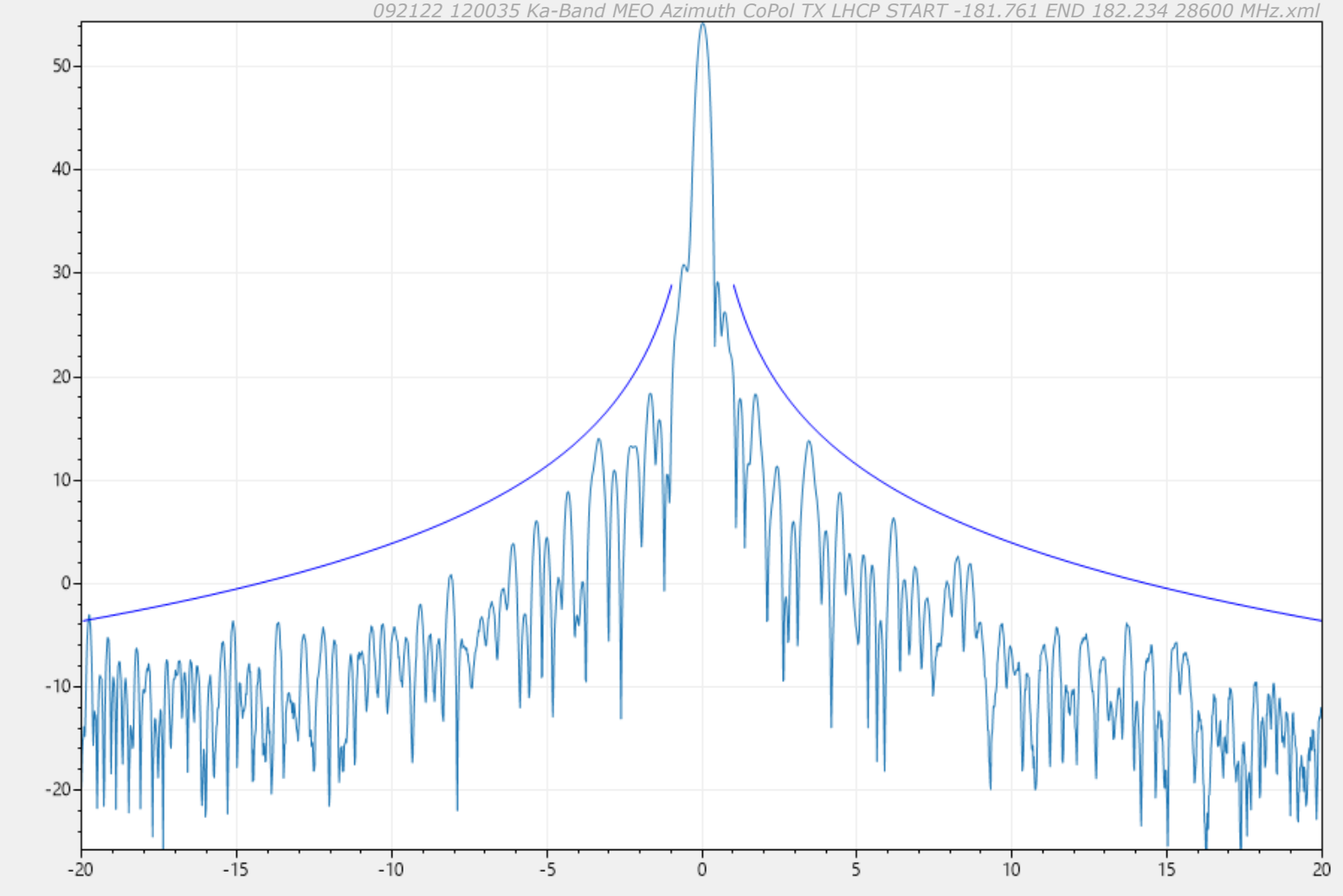
Elevation

3 dB Factor:	37000	Test Frequency (GHz):	28.6	Azimuth 3 dB:	0.303°
10 dB Factor:	107000	Band:	Transmit	Azimuth 10 dB:	0.538°
Dish RMS (in):	0.01	Polarization:	LHCP	Elevation 3 dB:	0.320°
Feed Loss (dB):	0.45	Surface RMS Loss (dB):	0.403	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

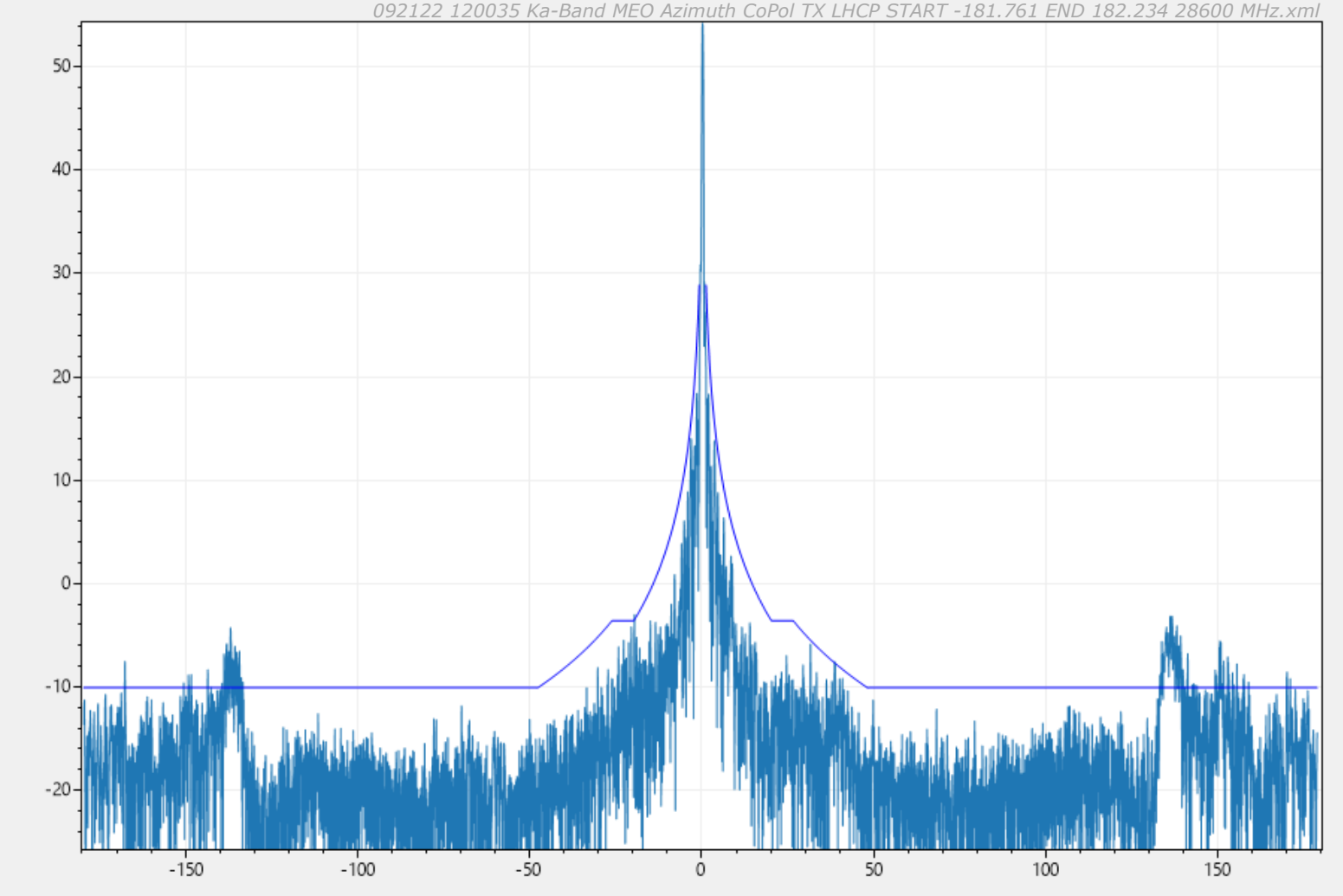
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.09%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

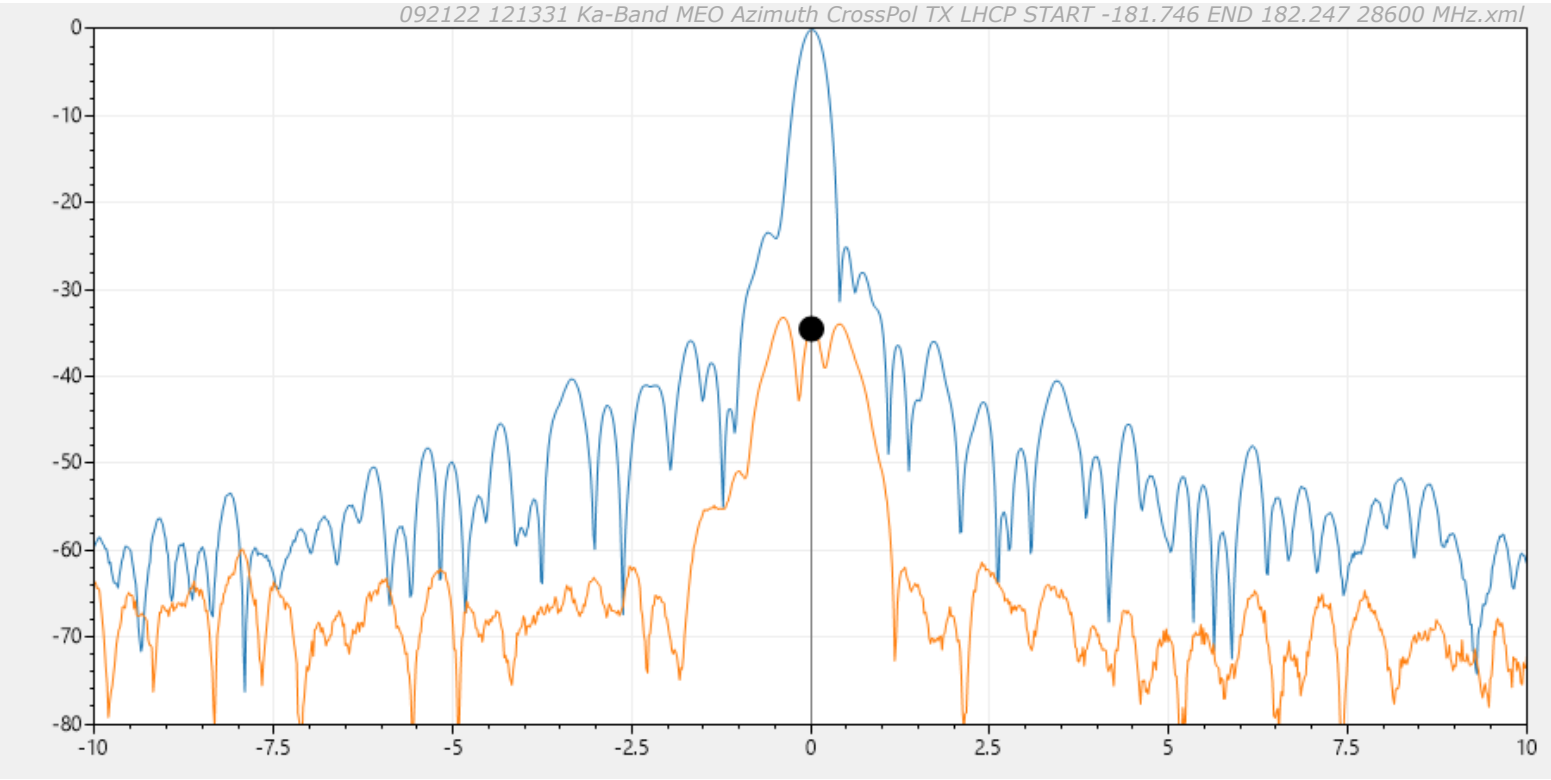


Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	3.48%	Band:	Transmit
		Polarization:	LHCP

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

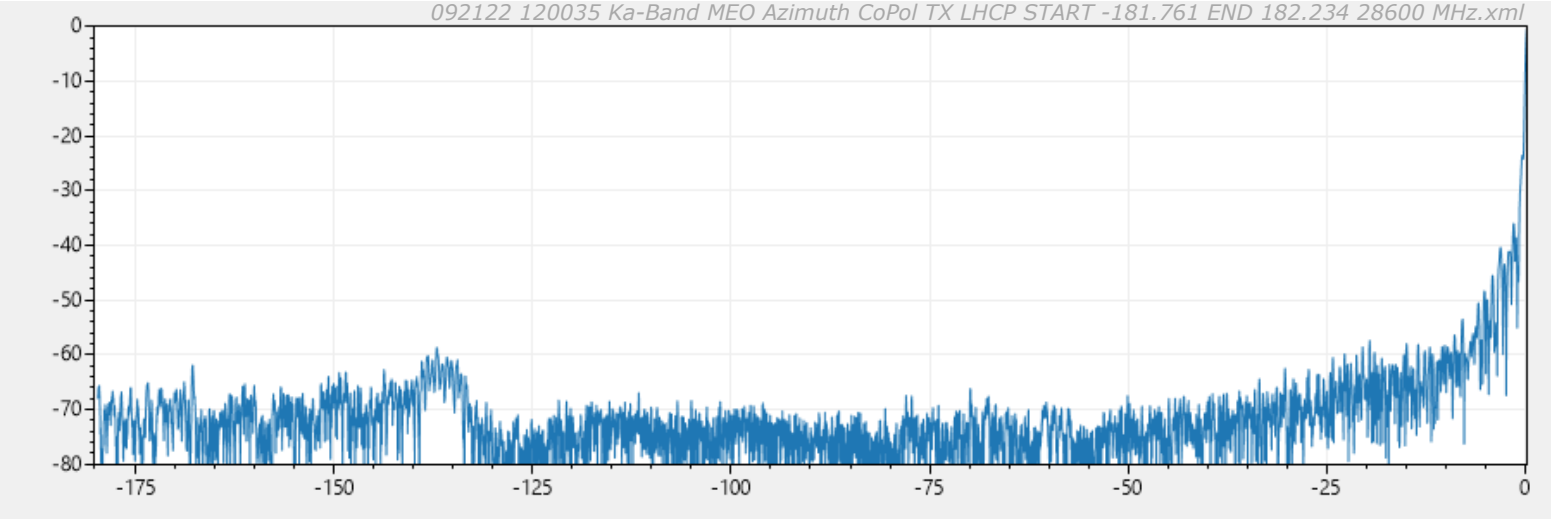


Azimuth

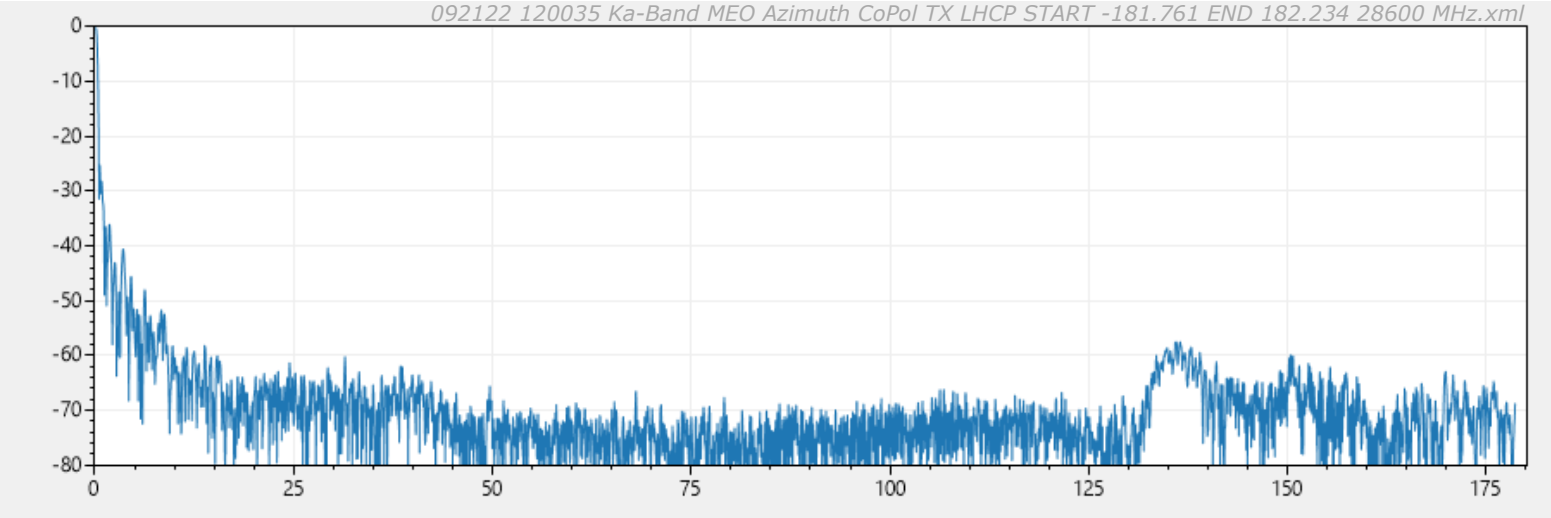
Test Frequency (GHz):	28.6
Band:	Transmit
Polarization:	LHCP

Gain by Integration

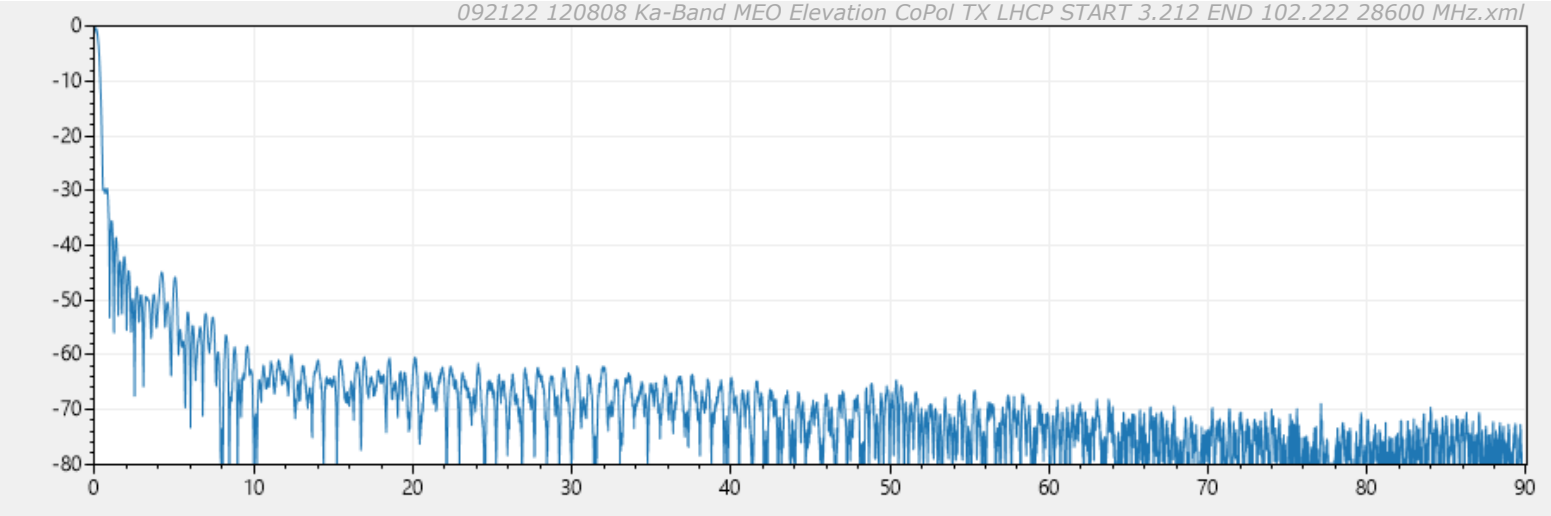
Customer:	Airbus	Specified Gain (dBi):	54.300
Job:	Ka-Band MEO	Calculated Gain (dBi):	54.878
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/21/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



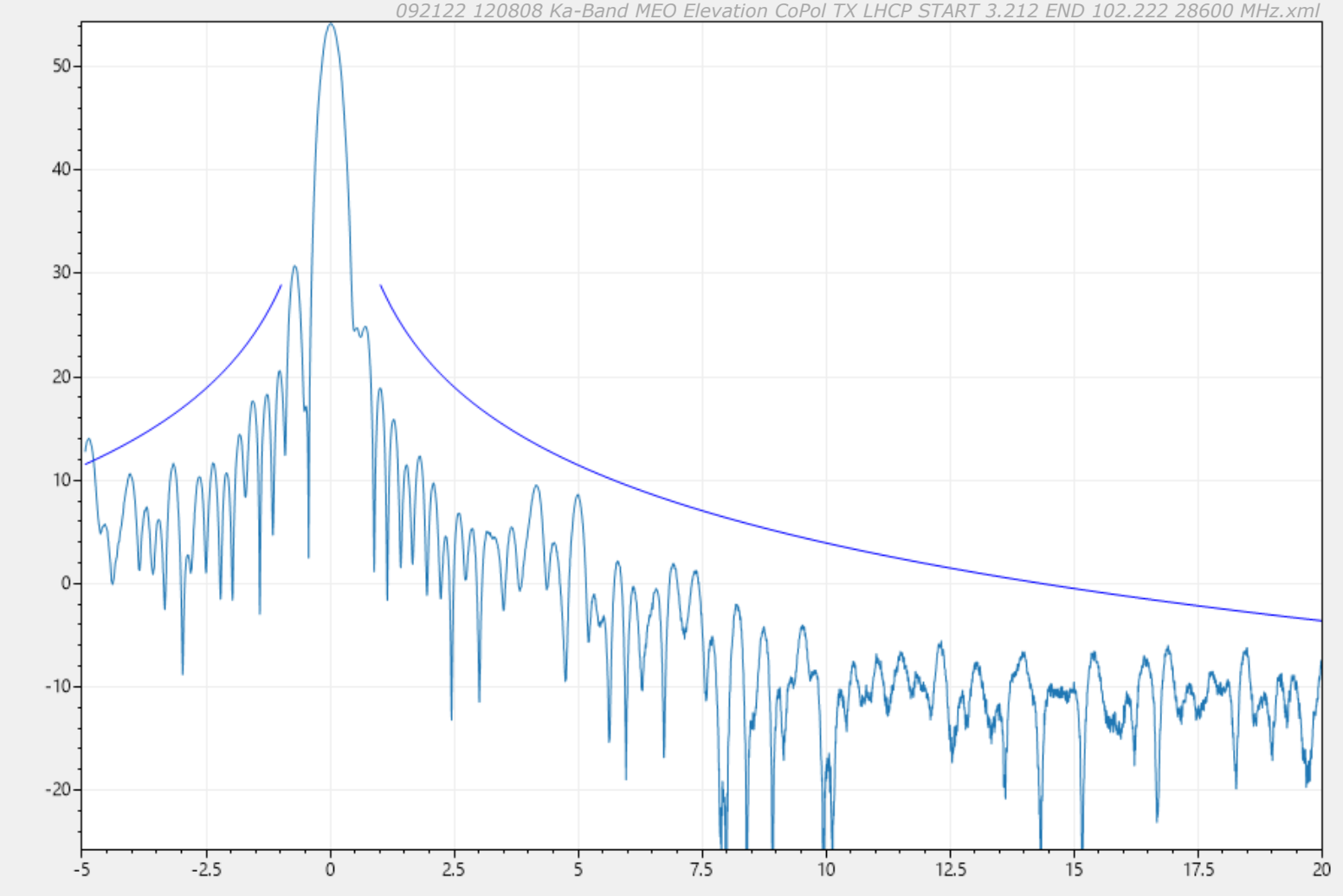
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

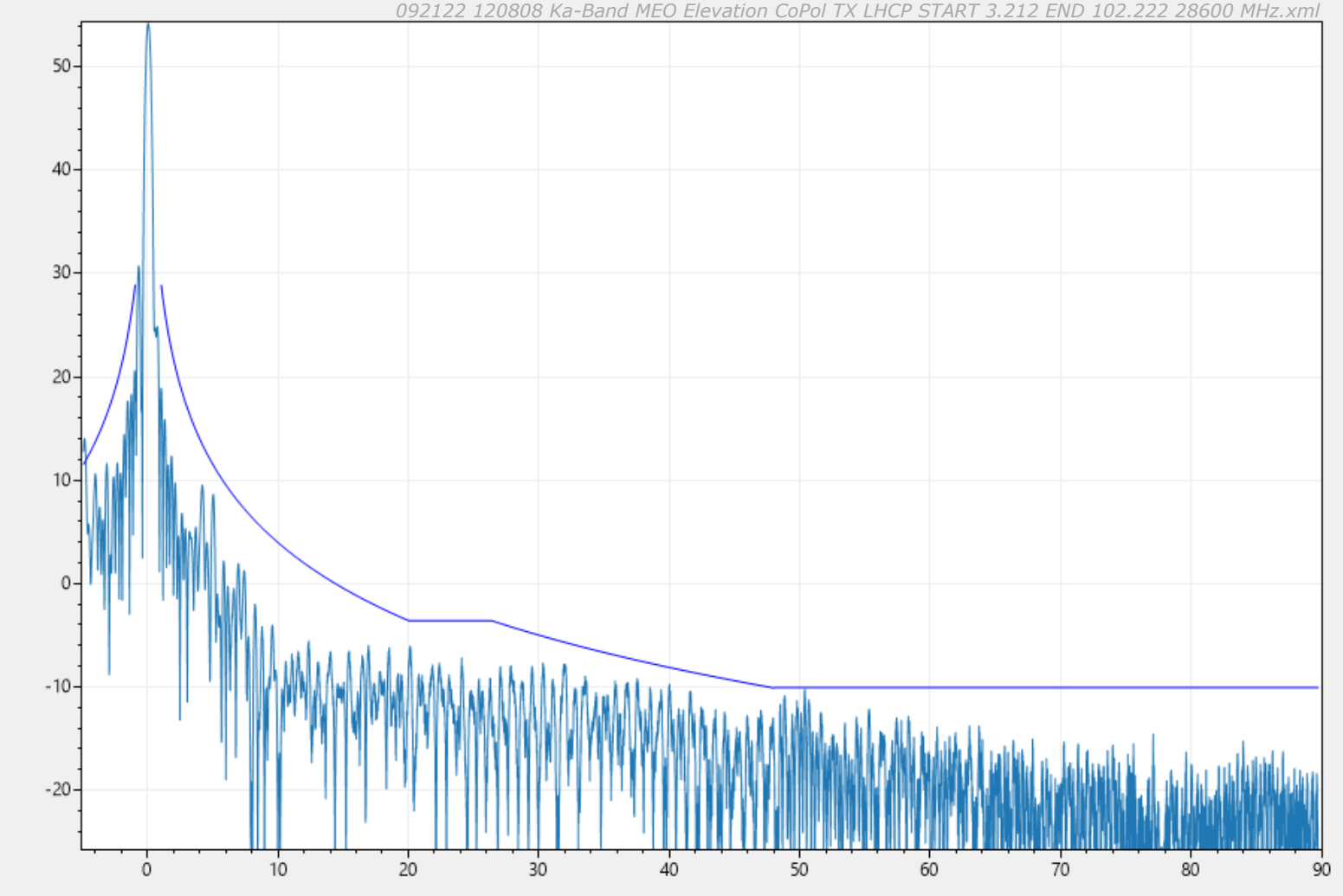
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.74%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



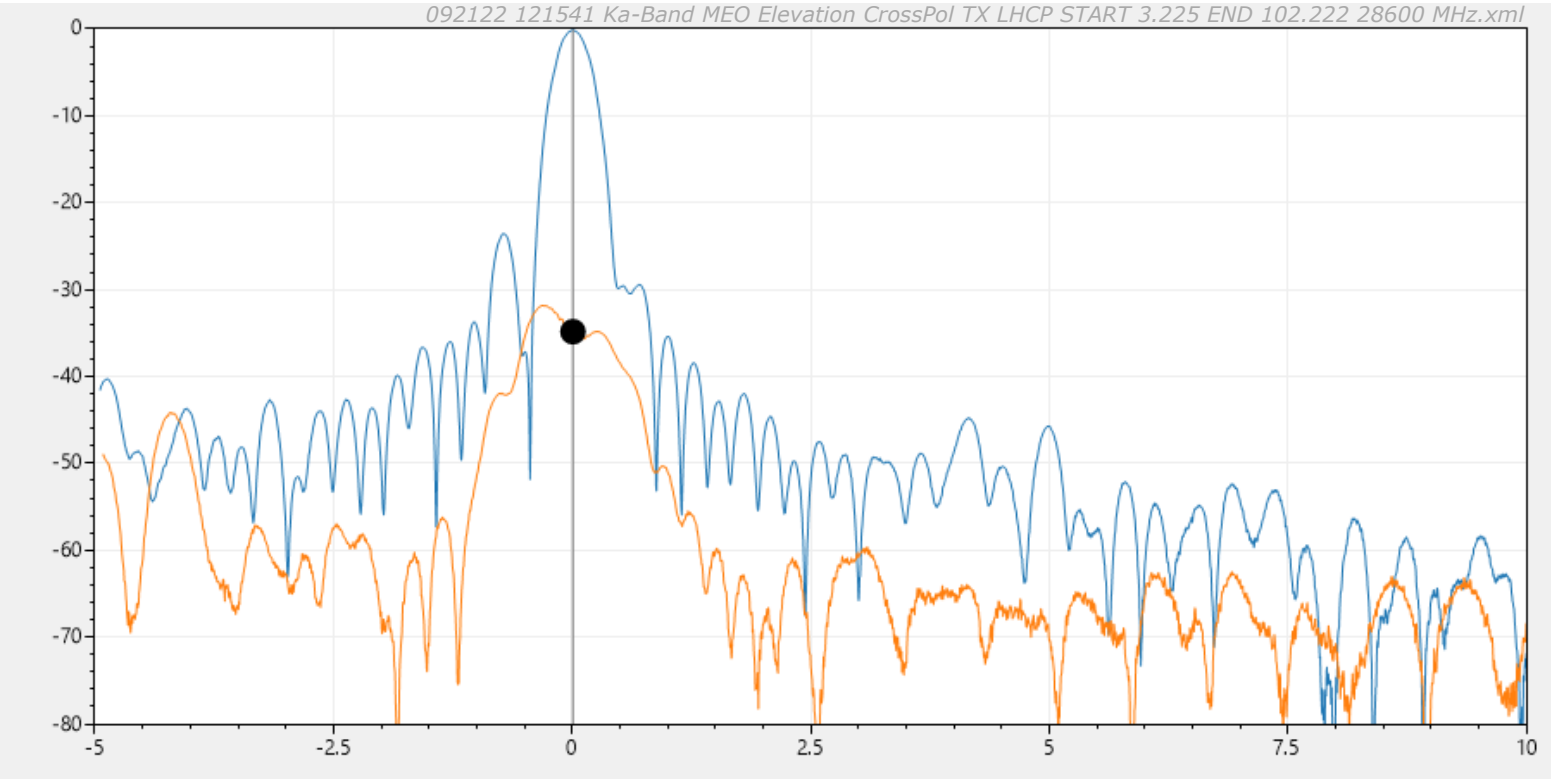
Elevation

Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.18%	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

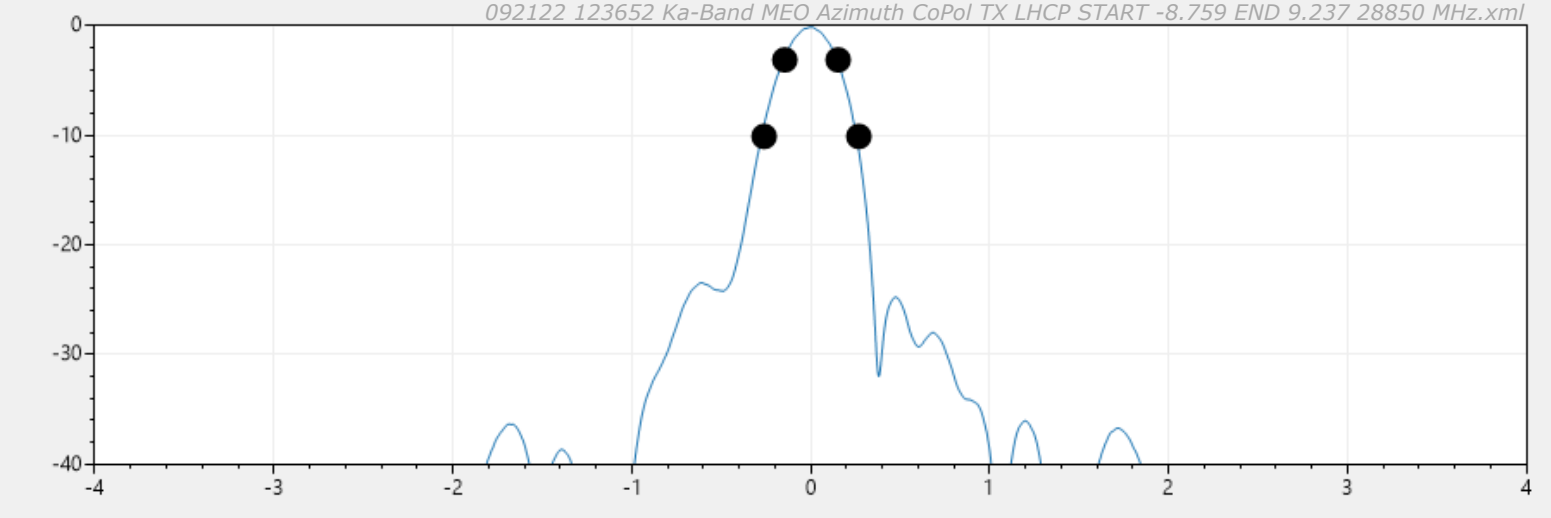


Test Frequency (GHz):	28.6
Band:	Transmit
Polarization:	LHCP

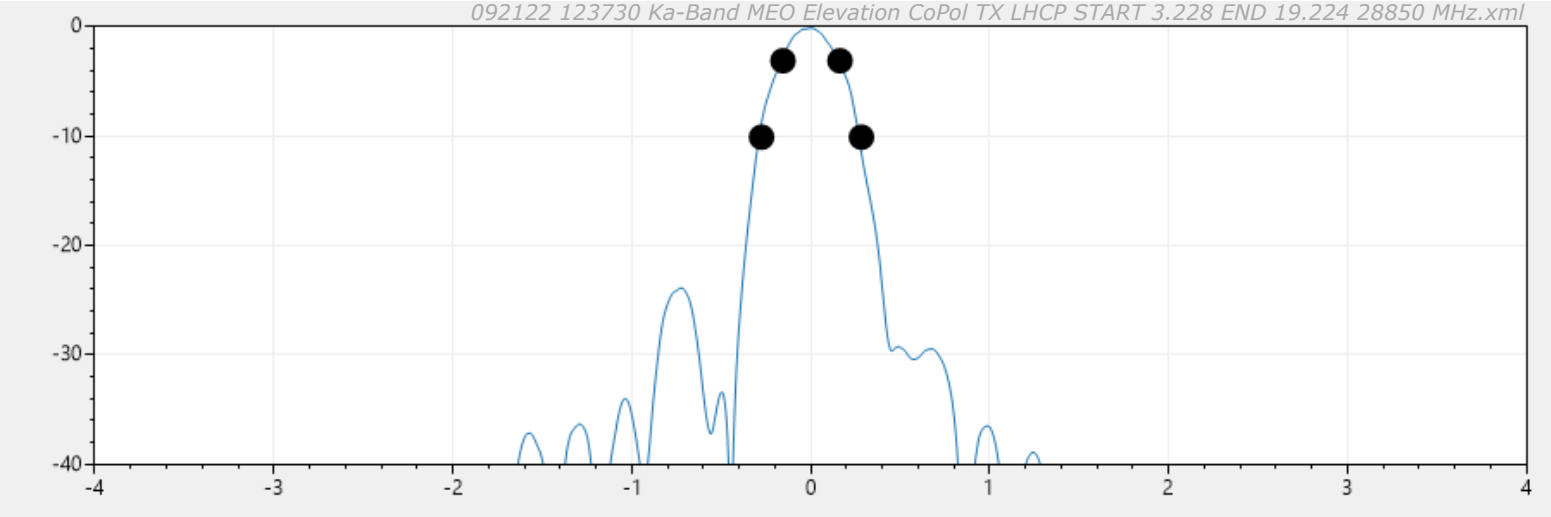
Gain by Beamwidth

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



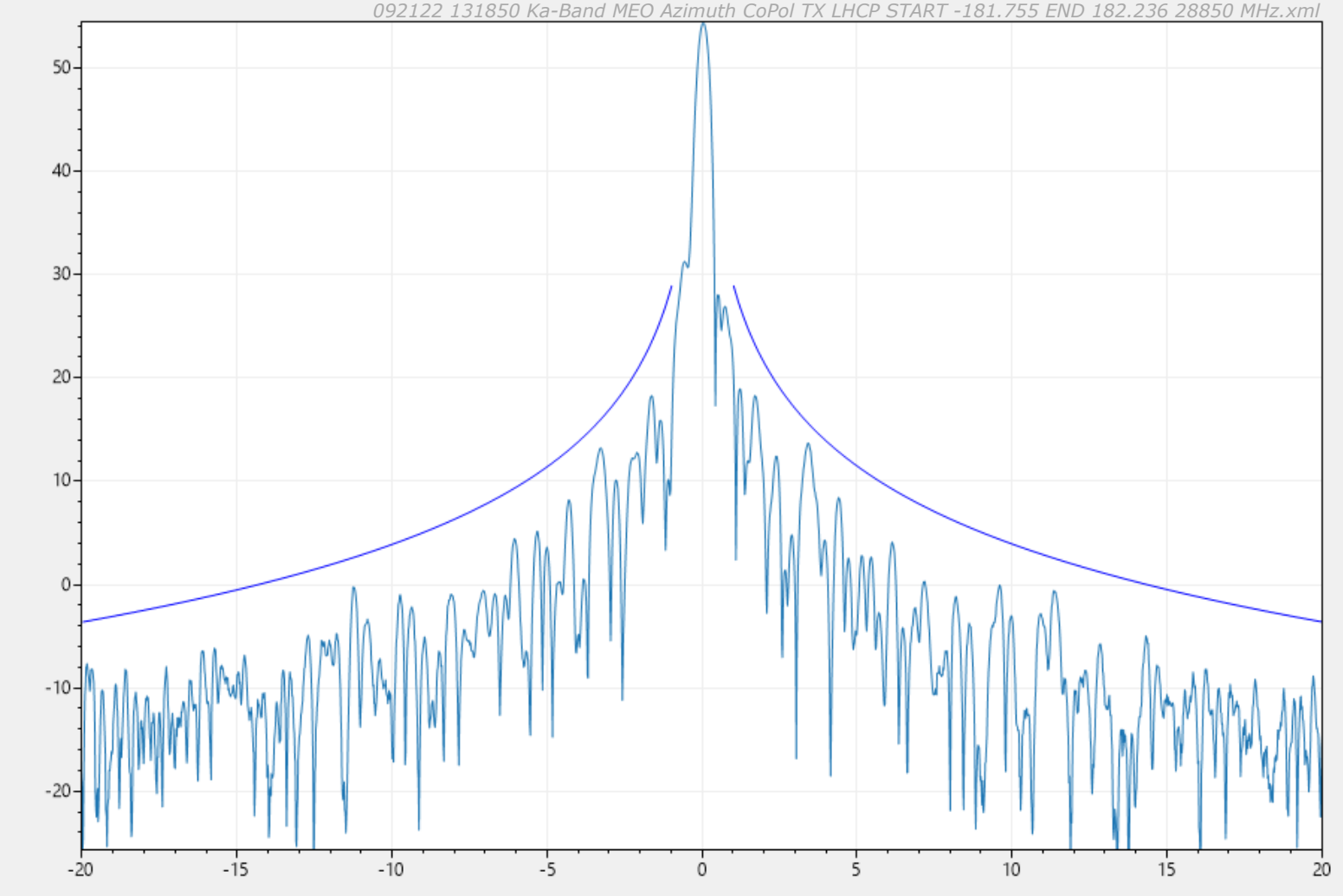
Elevation

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

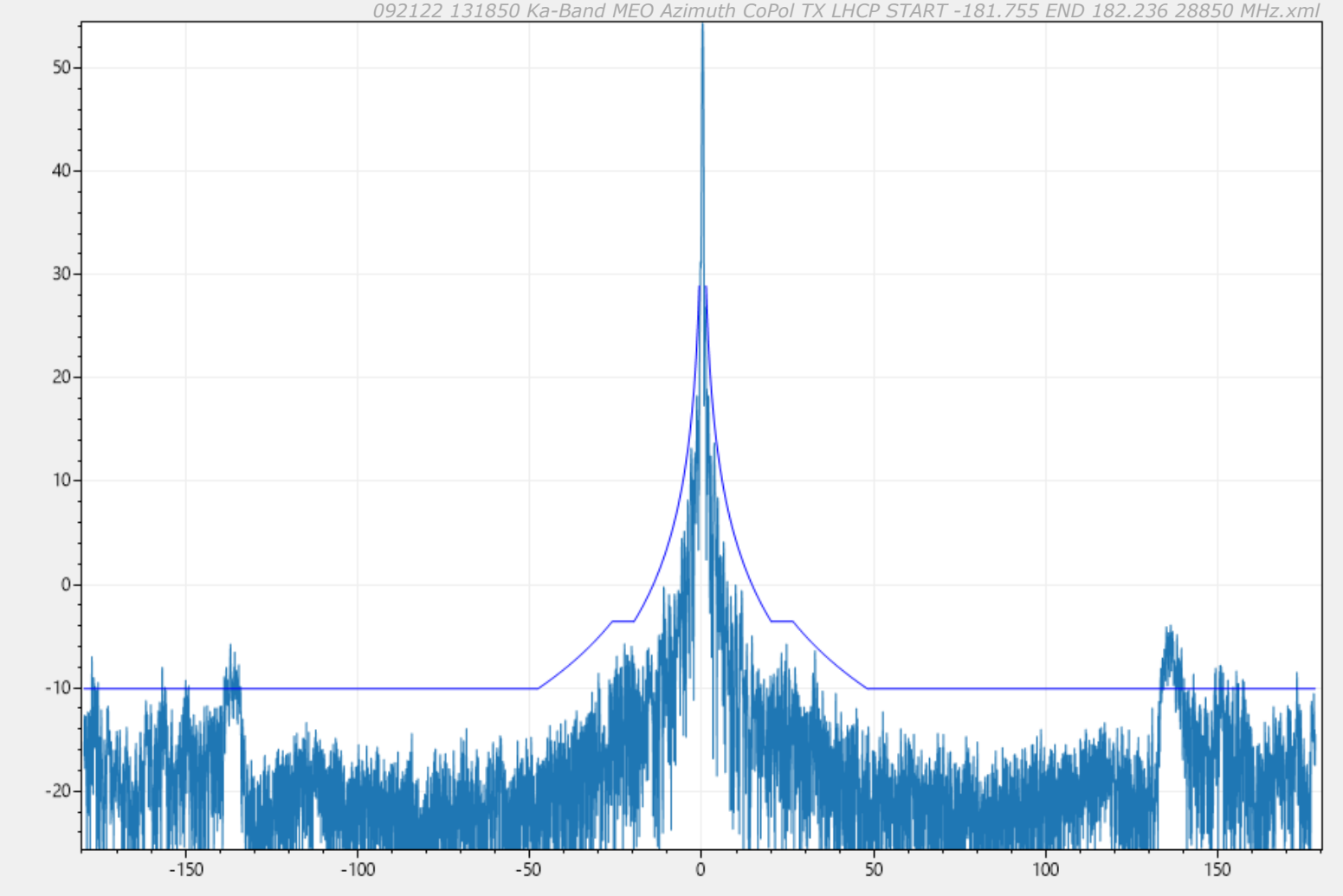
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.4	Test Frequency (GHz):	28.850000007
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

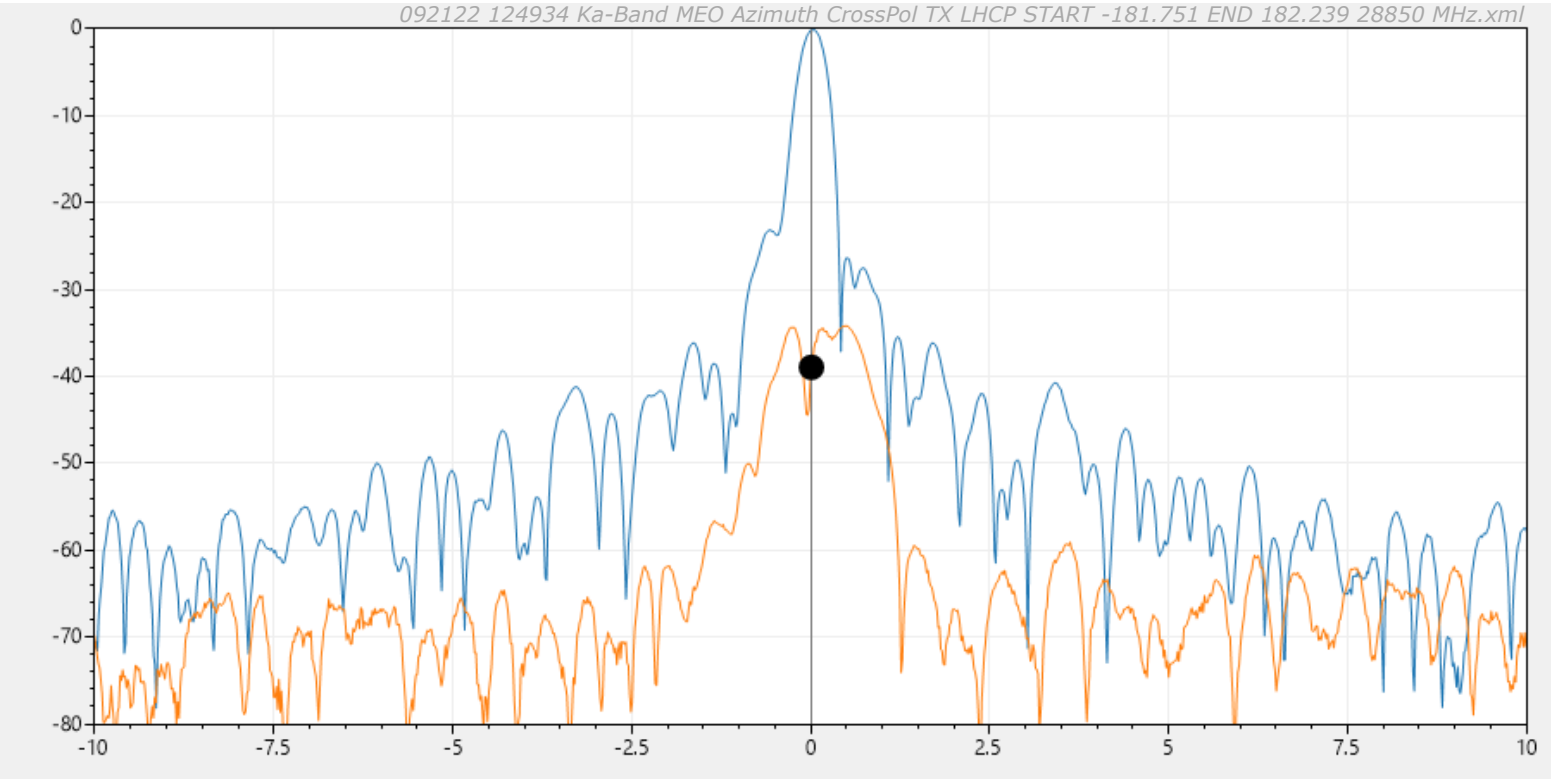


Gain (dBi):	54.4	Test Frequency (GHz):	28.850000007
Sidelobes Over Curve:	2.77%	Band:	Transmit
		Polarization:	LHCP

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

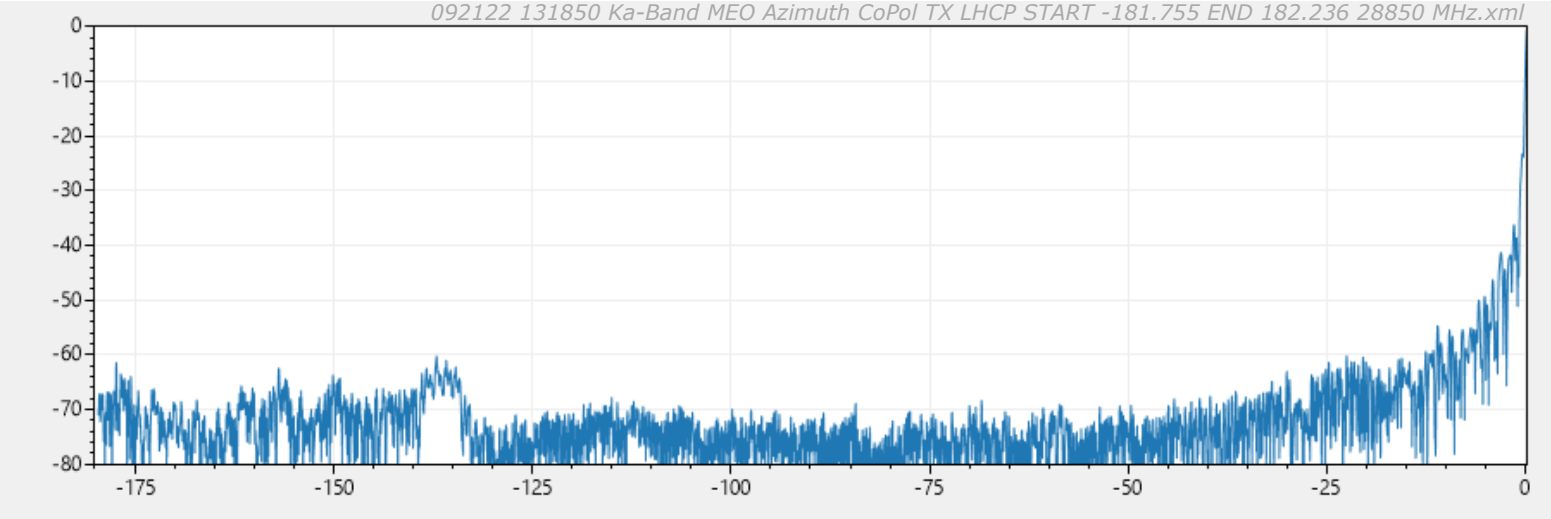


Azimuth

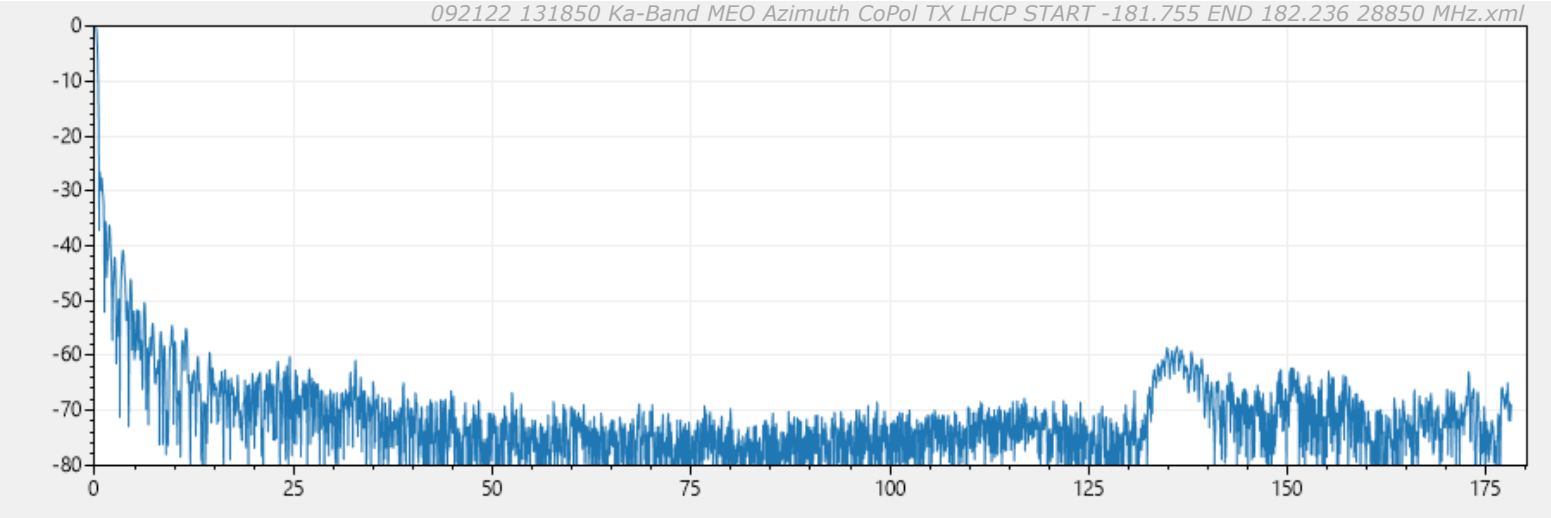
Test Frequency (GHz):	28.850000007
Band:	Transmit
Polarization:	LHCP

Gain by Integration

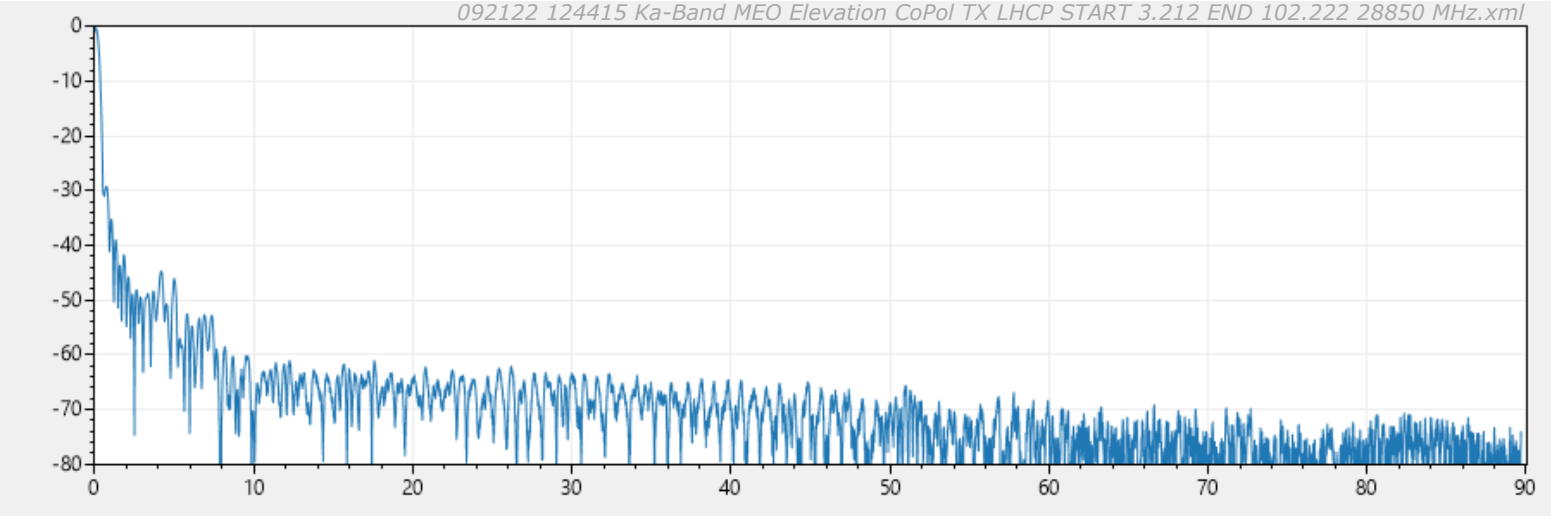
Customer:	Airbus	Specified Gain (dBi):	54.400
Job:	Ka-Band MEO	Calculated Gain (dBi):	54.898
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/21/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



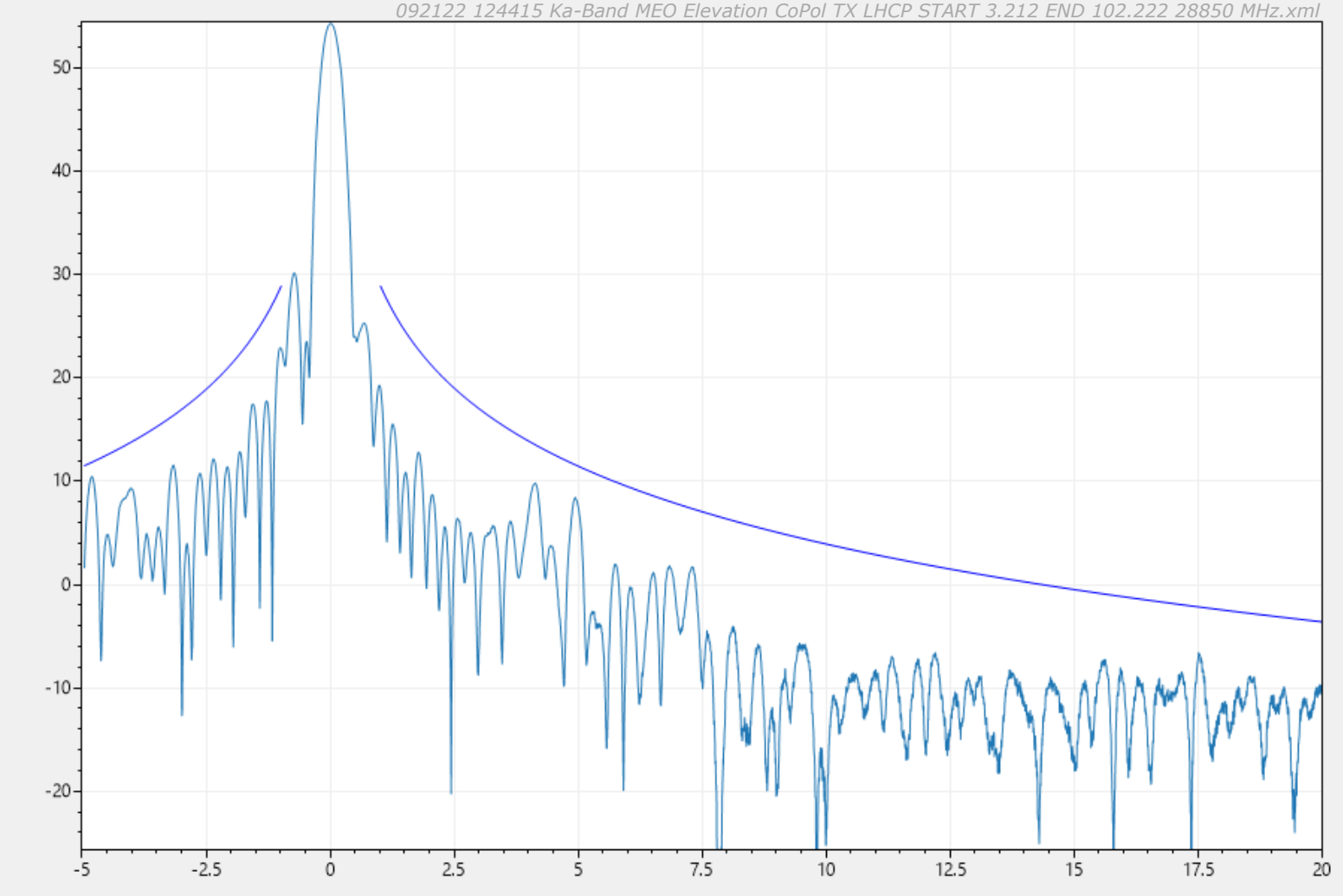
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

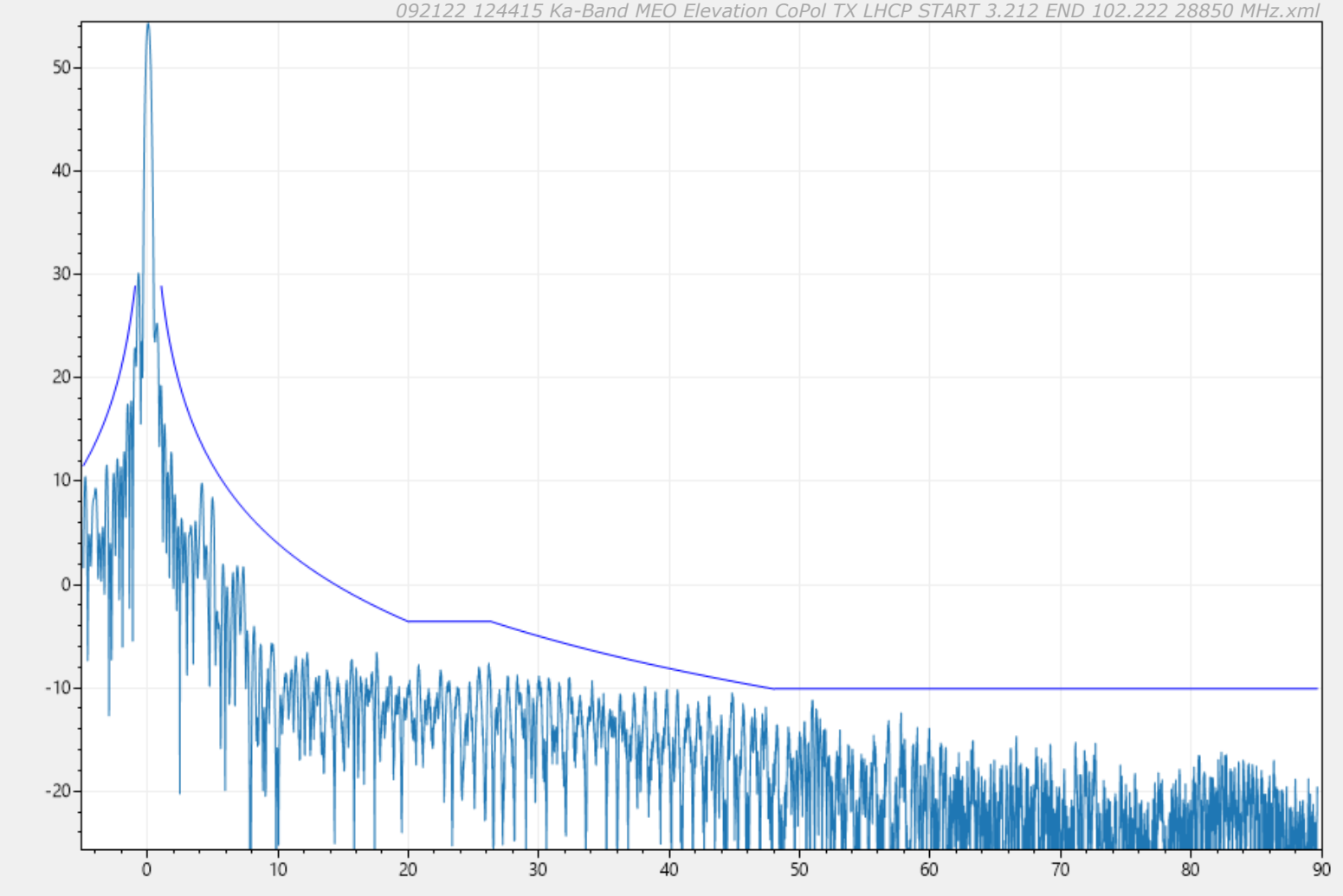
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



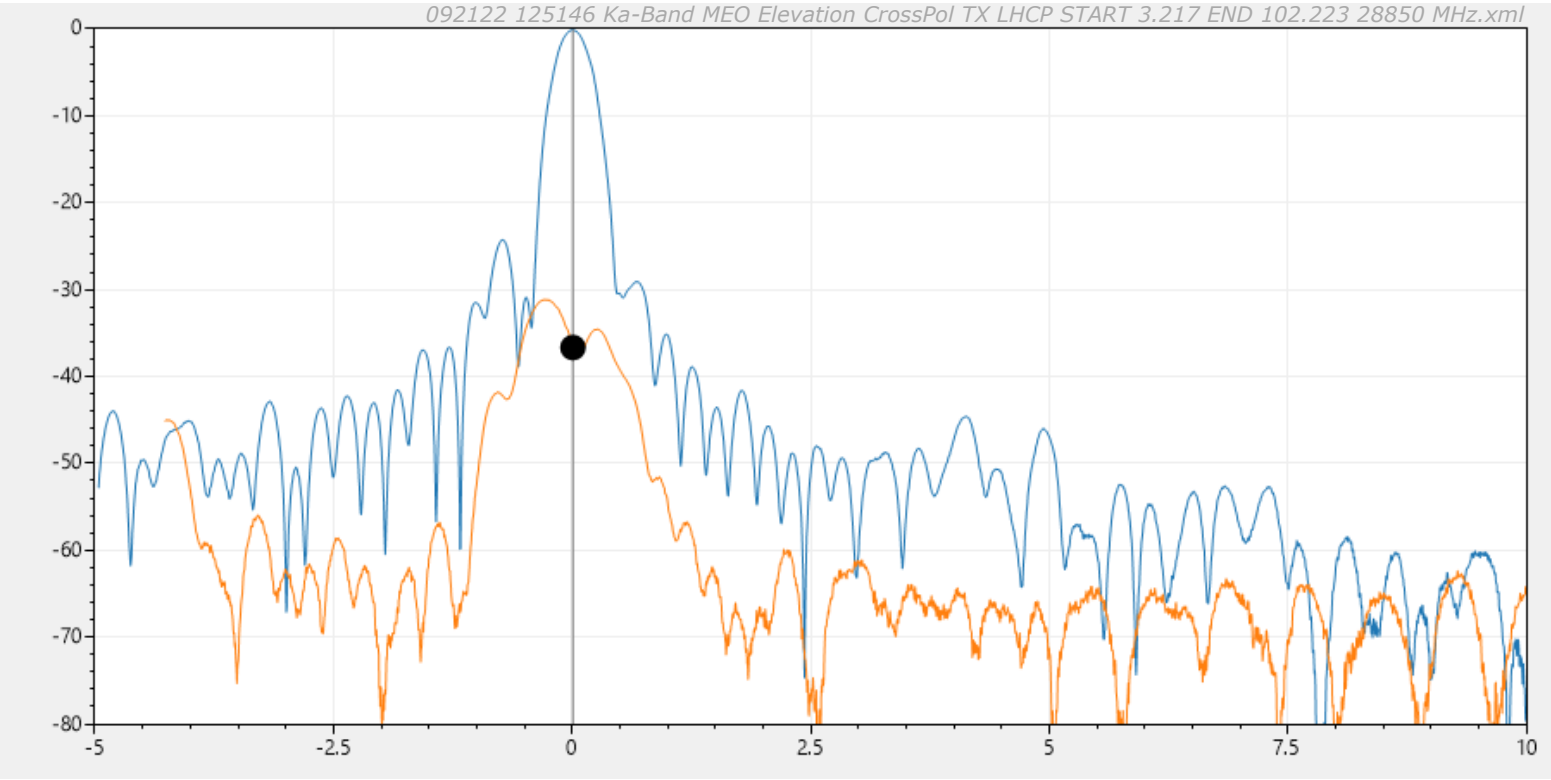
Elevation

Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	0.00%	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



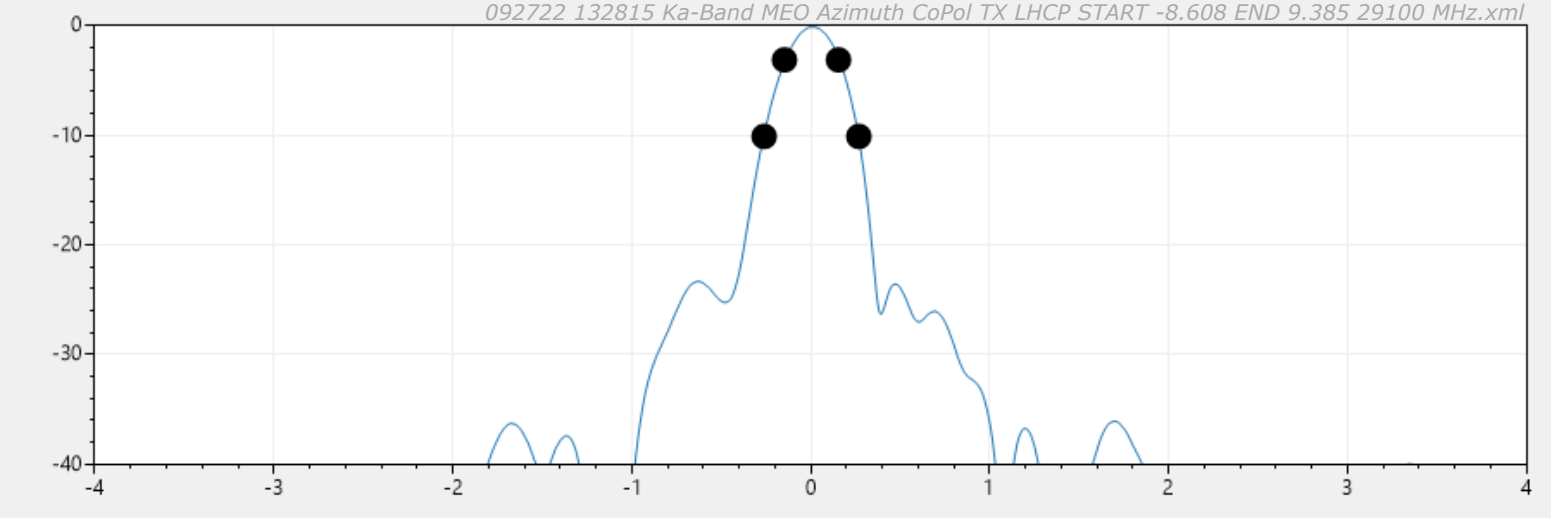
Elevation

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

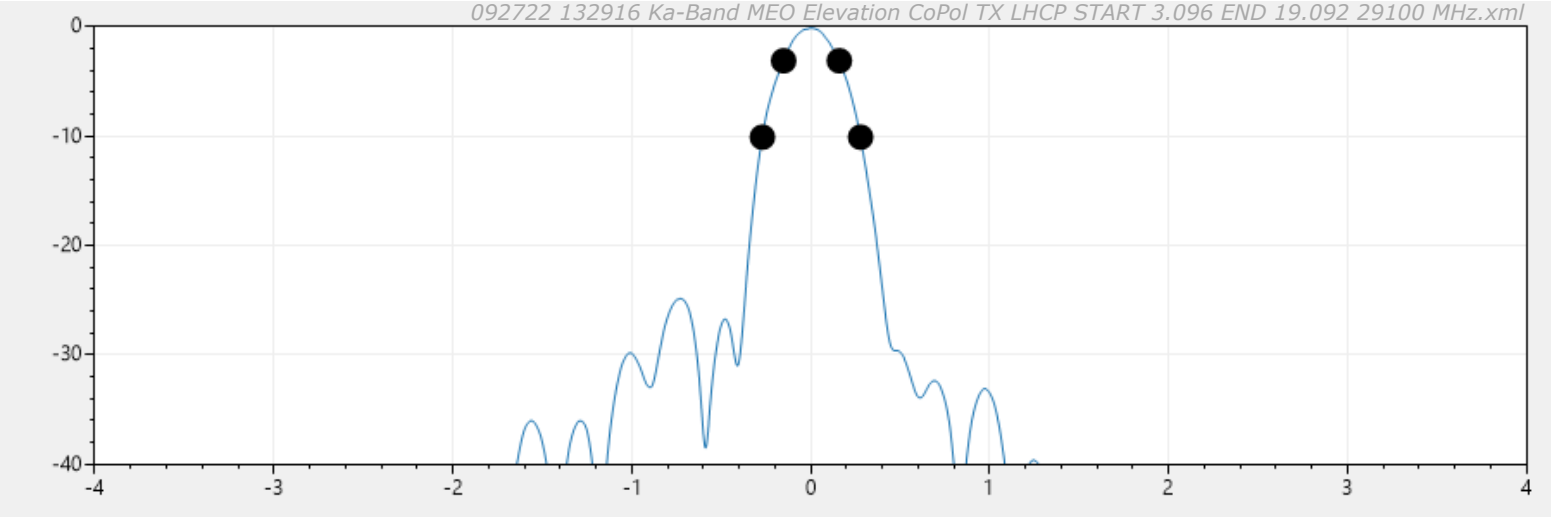
Gain by Beamwidth

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



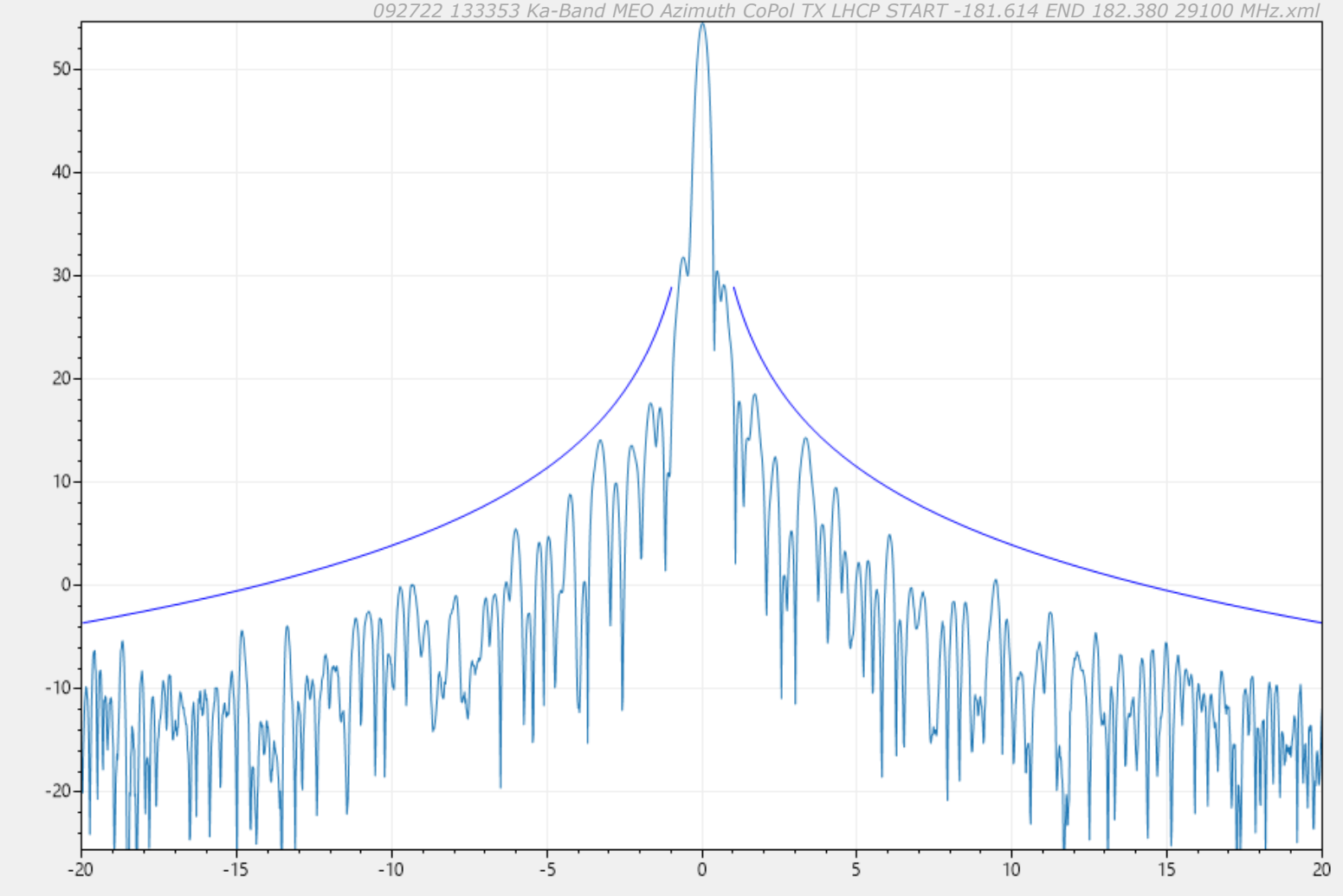
Elevation

3 dB Factor:	37000	Test Frequency (GHz):	29.1	Azimuth 3 dB:	0.301°
10 dB Factor:	107000	Band:	Transmit	Azimuth 10 dB:	0.530°
Dish RMS (in):	0.01	Polarization:	LHCP	Elevation 3 dB:	0.312°
Feed Loss (dB):	0.45	Surface RMS Loss (dB):	0.417	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	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

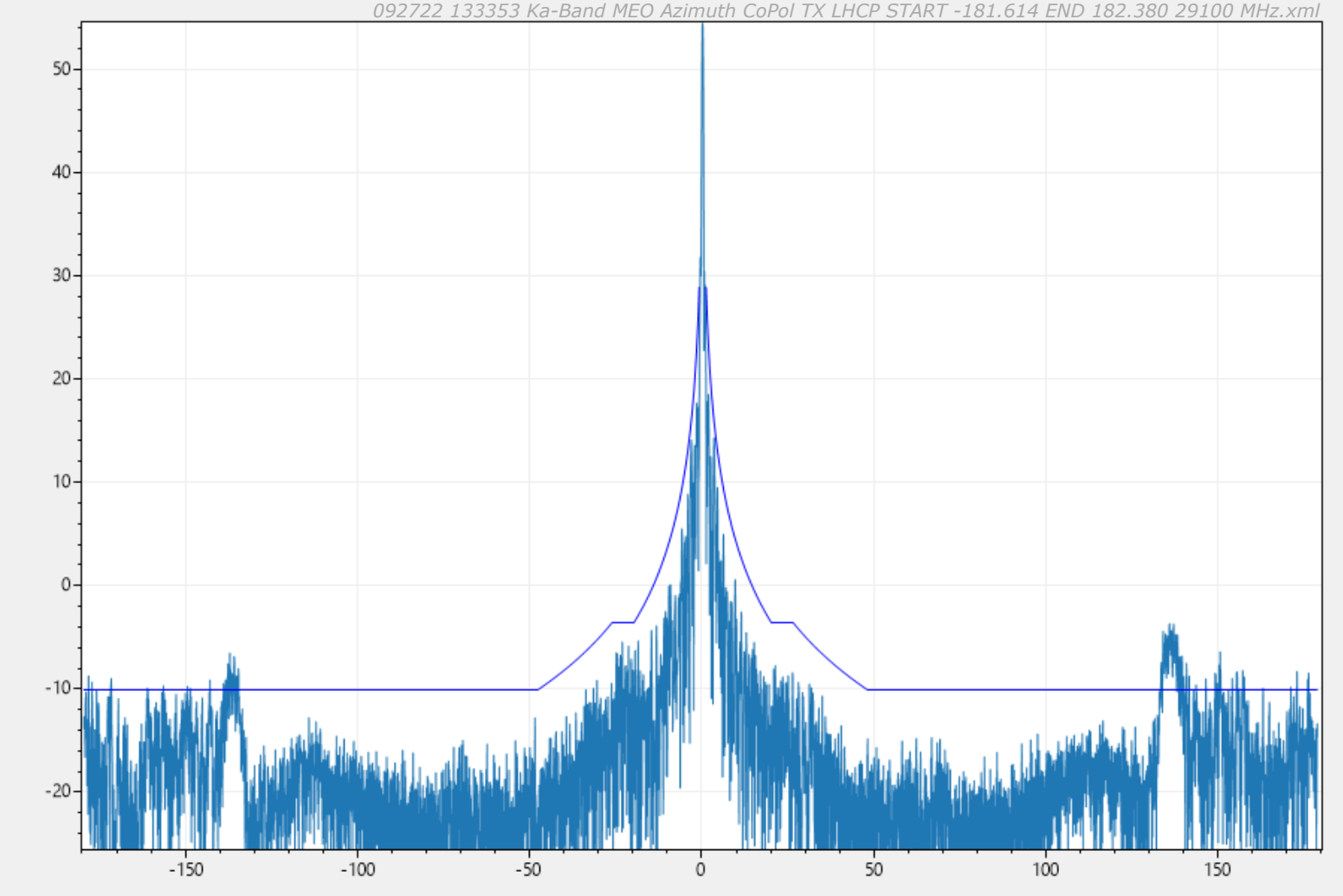


Azimuth

Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



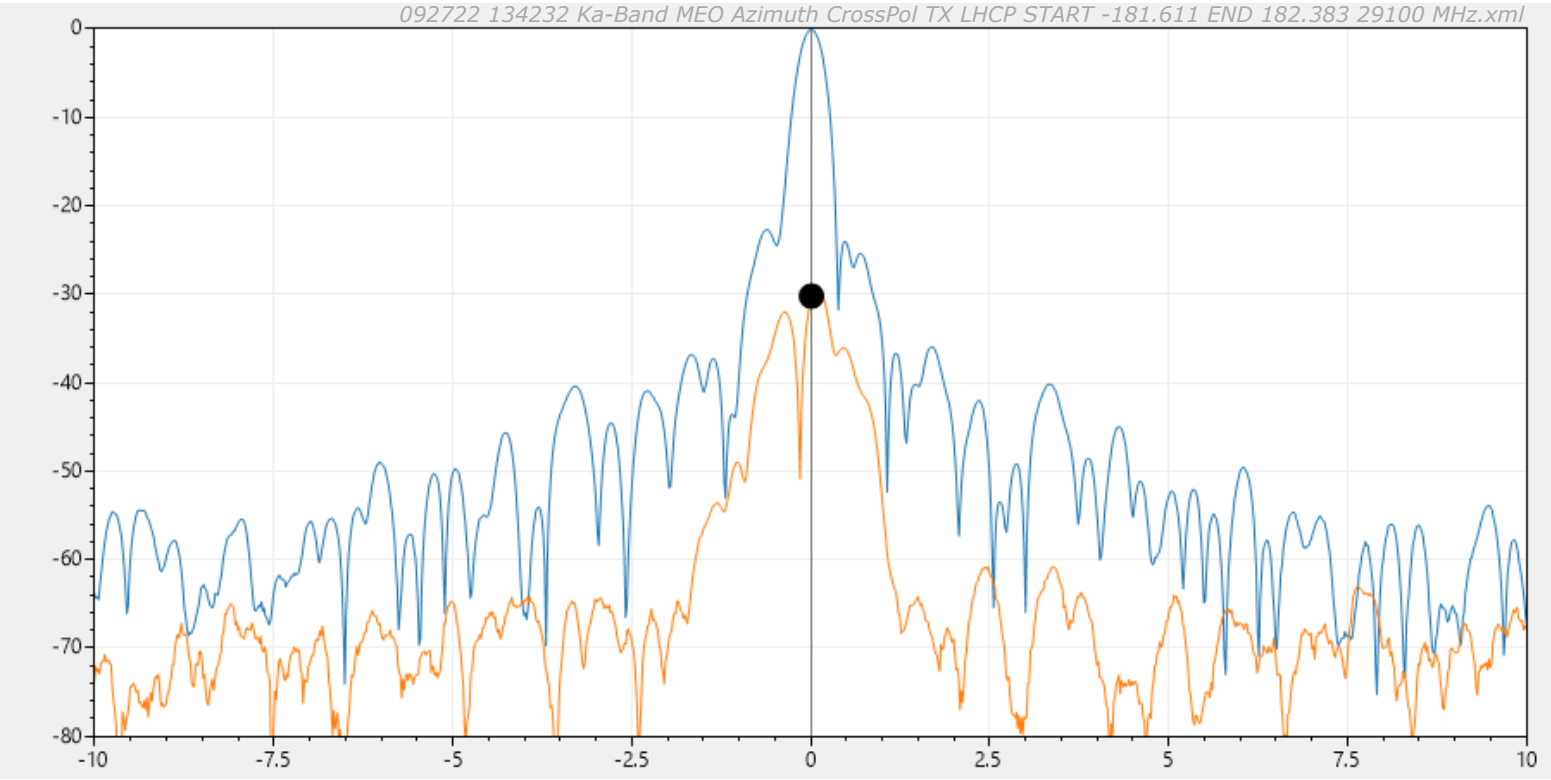
Azimuth

Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	3.11%	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

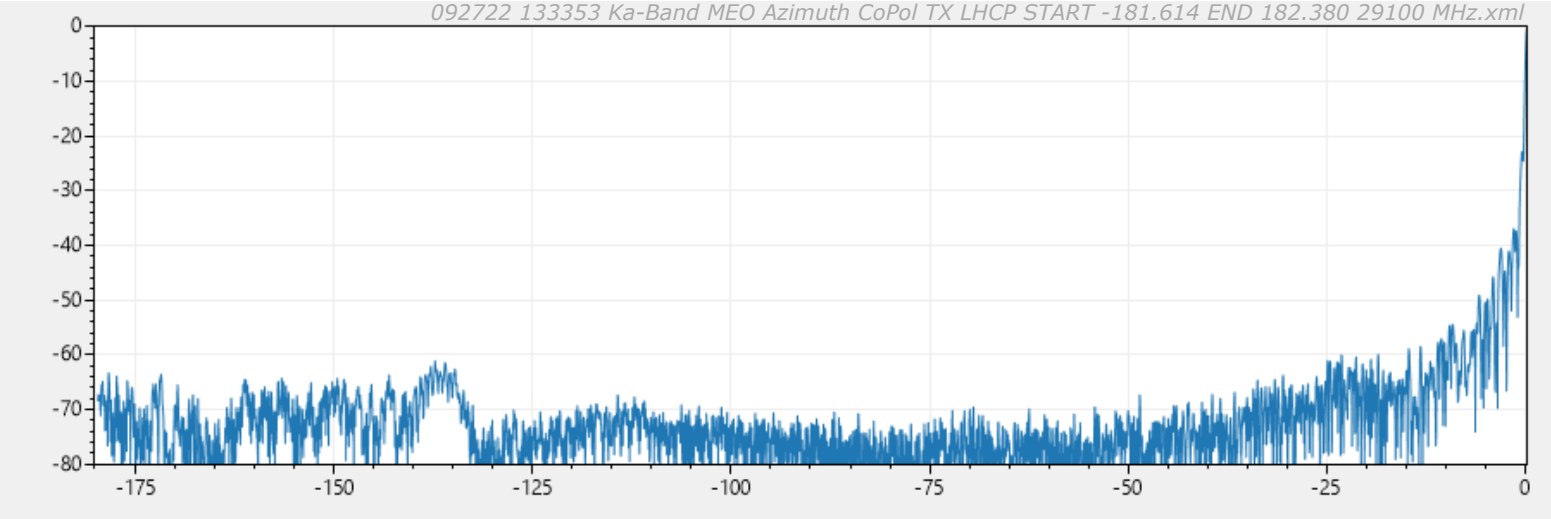
Measured Cross-Pol (dB):	30.1
Spec Cross-Pol (dB):	30.0



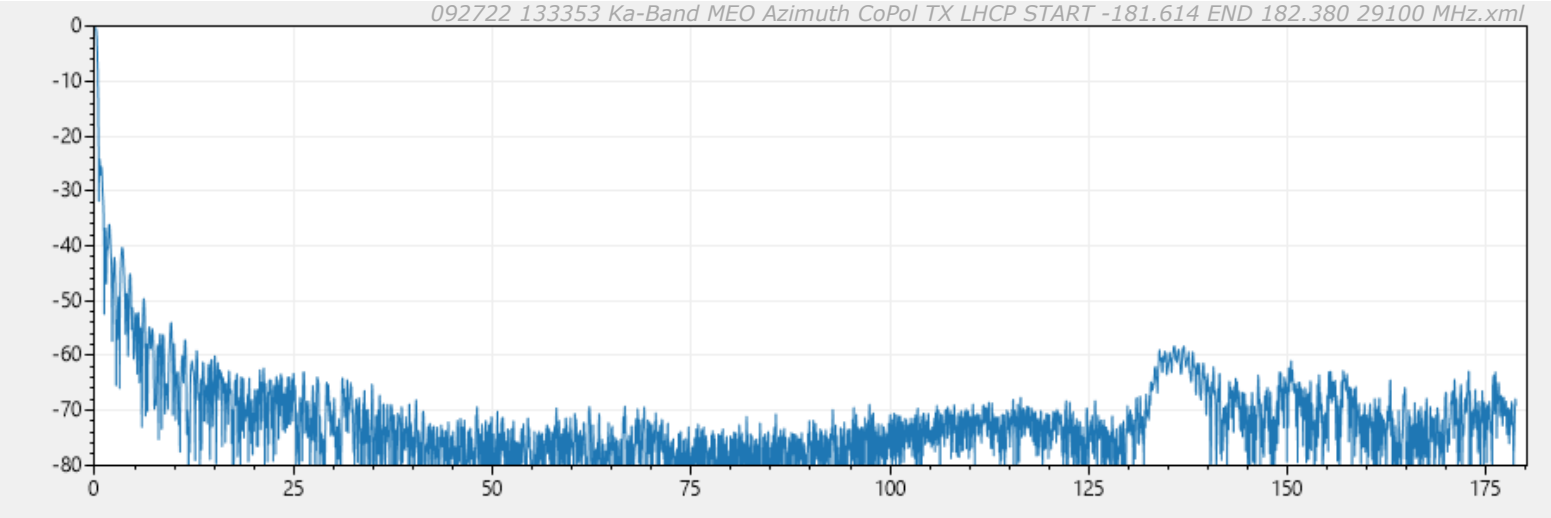
Test Frequency (GHz):	29.1
Band:	Transmit
Polarization:	LHCP

Gain by Integration

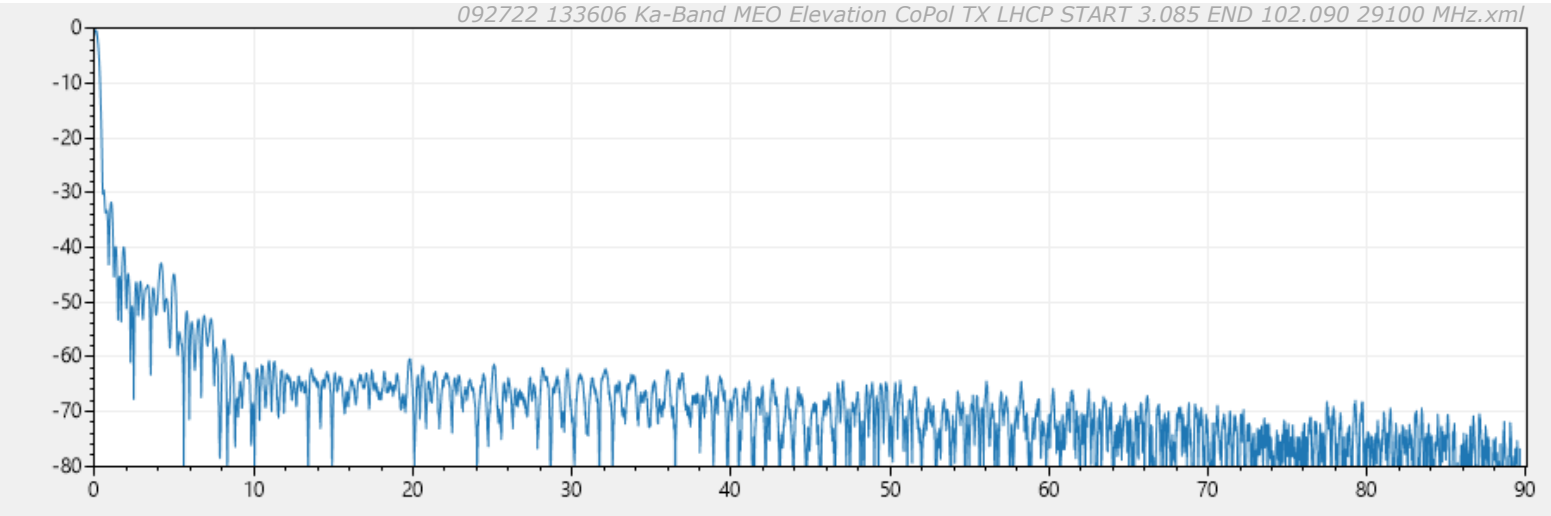
Customer:	Airbus	Specified Gain (dBi):	54.500
Job:	Ka-Band MEO	Calculated Gain (dBi):	55.087
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/27/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



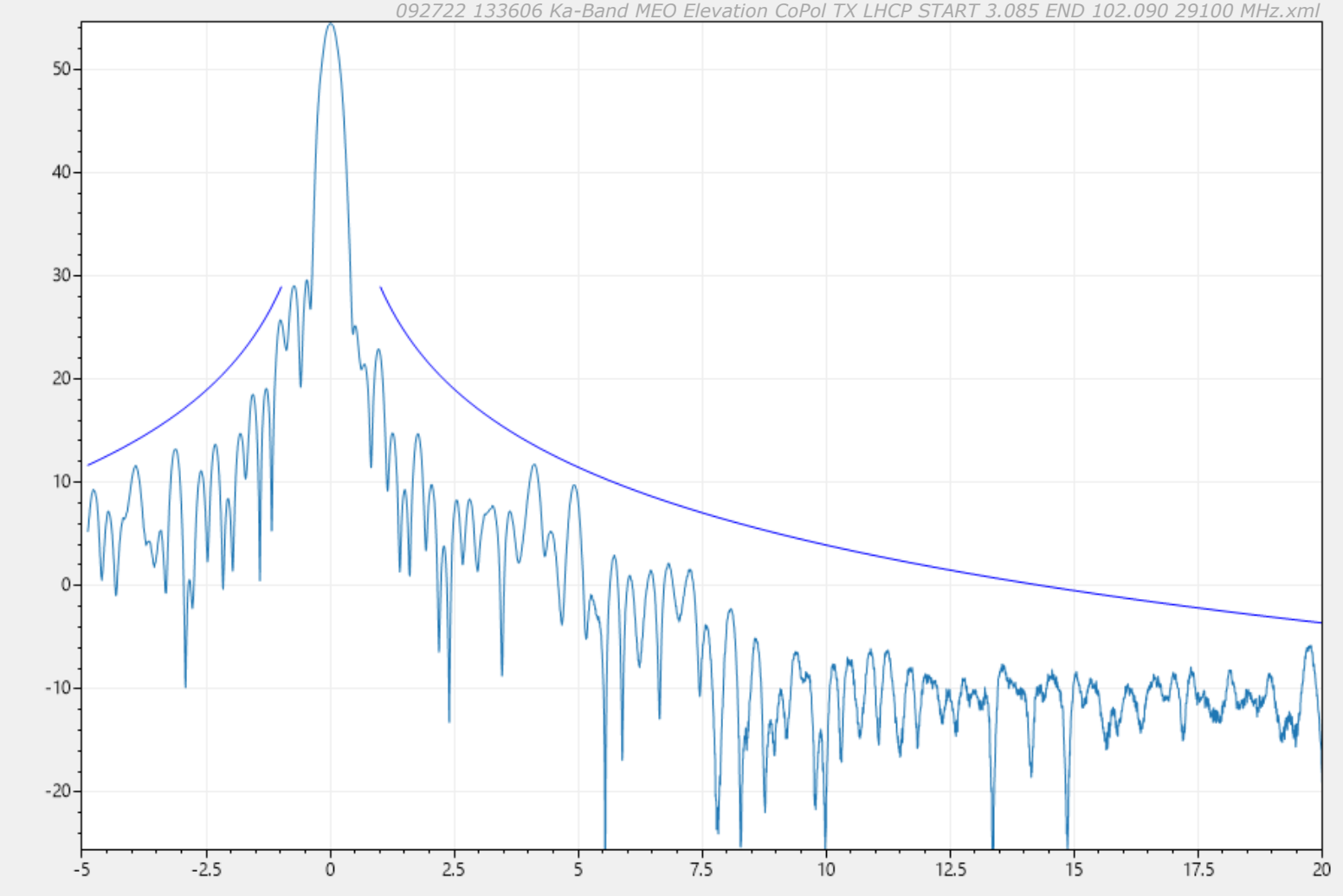
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

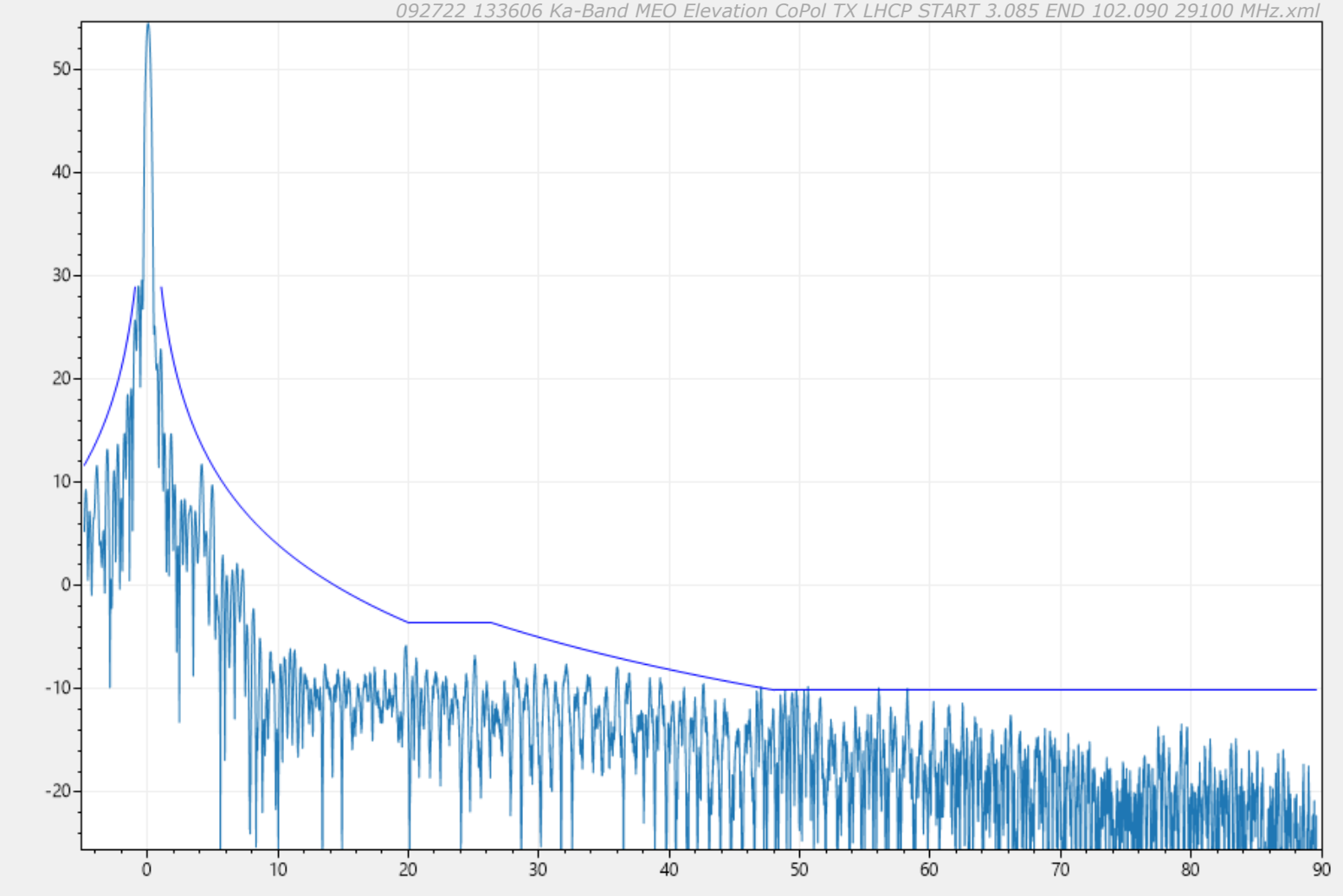
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	LHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/27/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



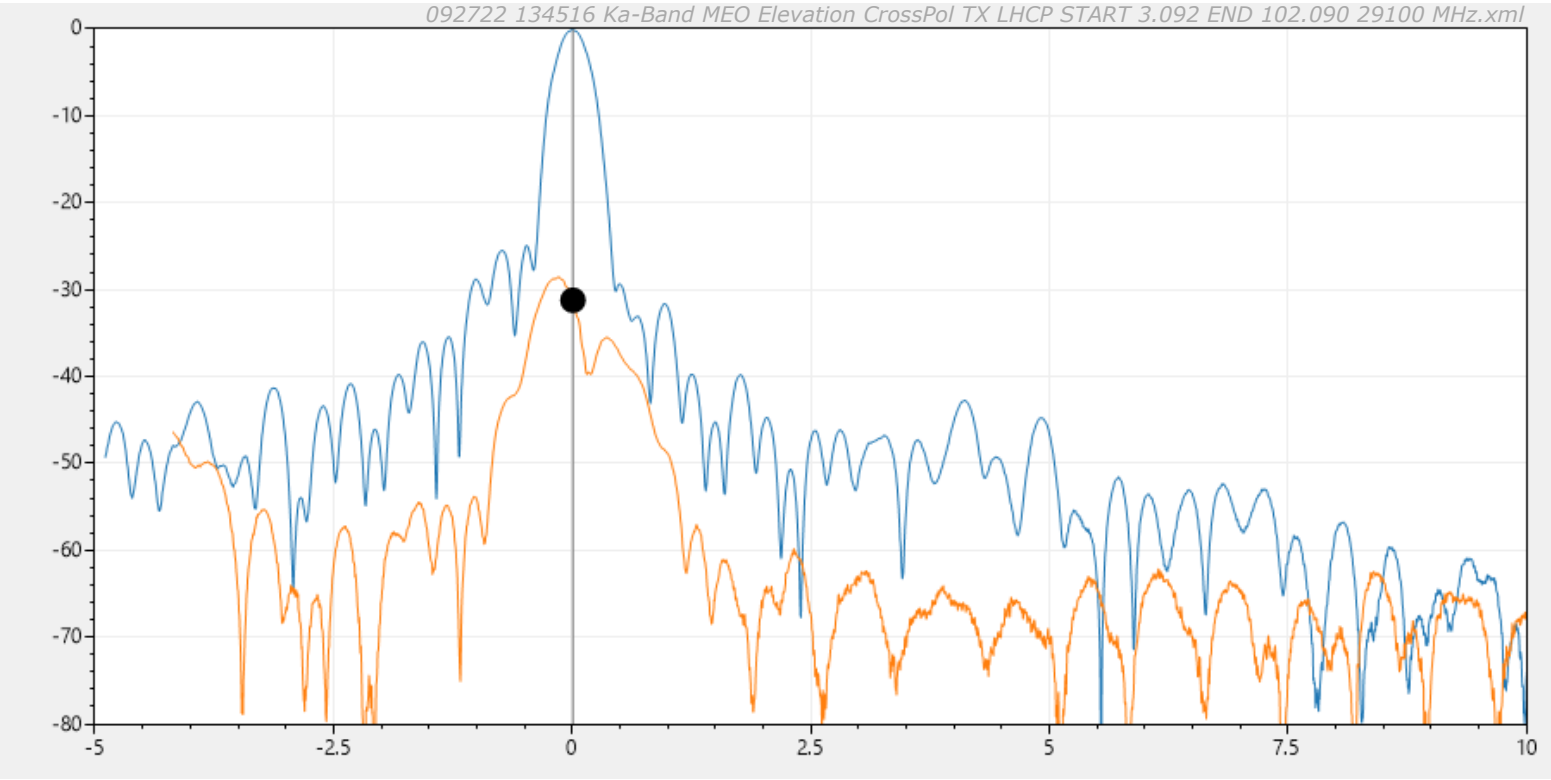
Elevation

Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.05%	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



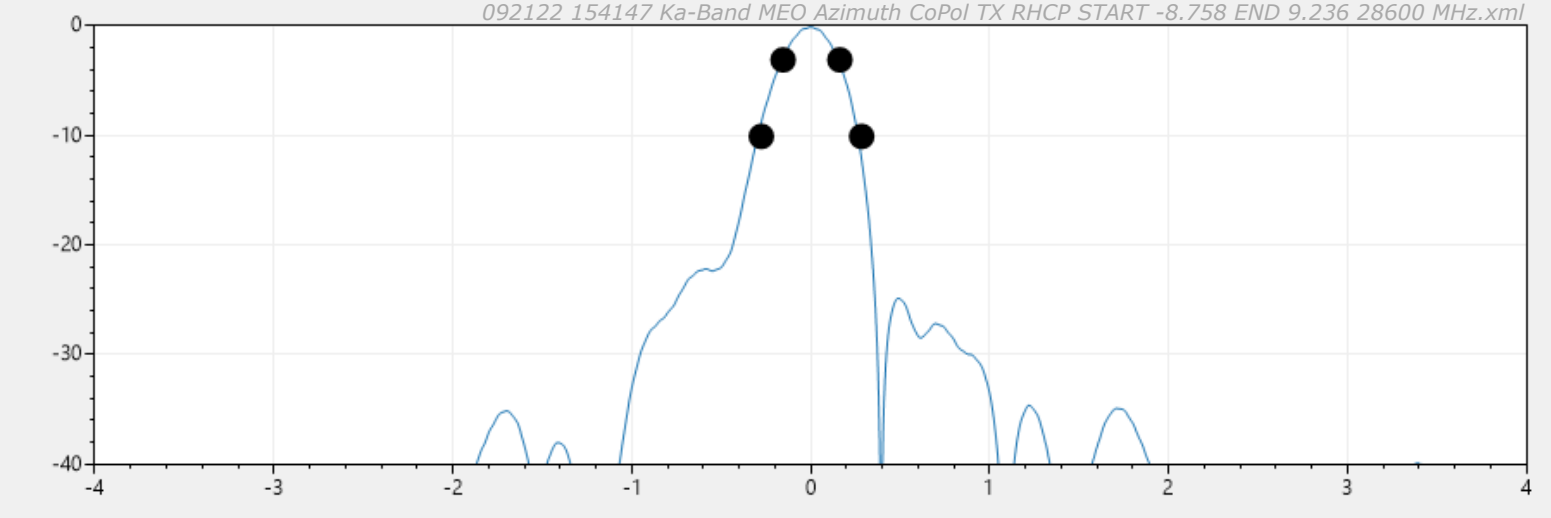
Elevation

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

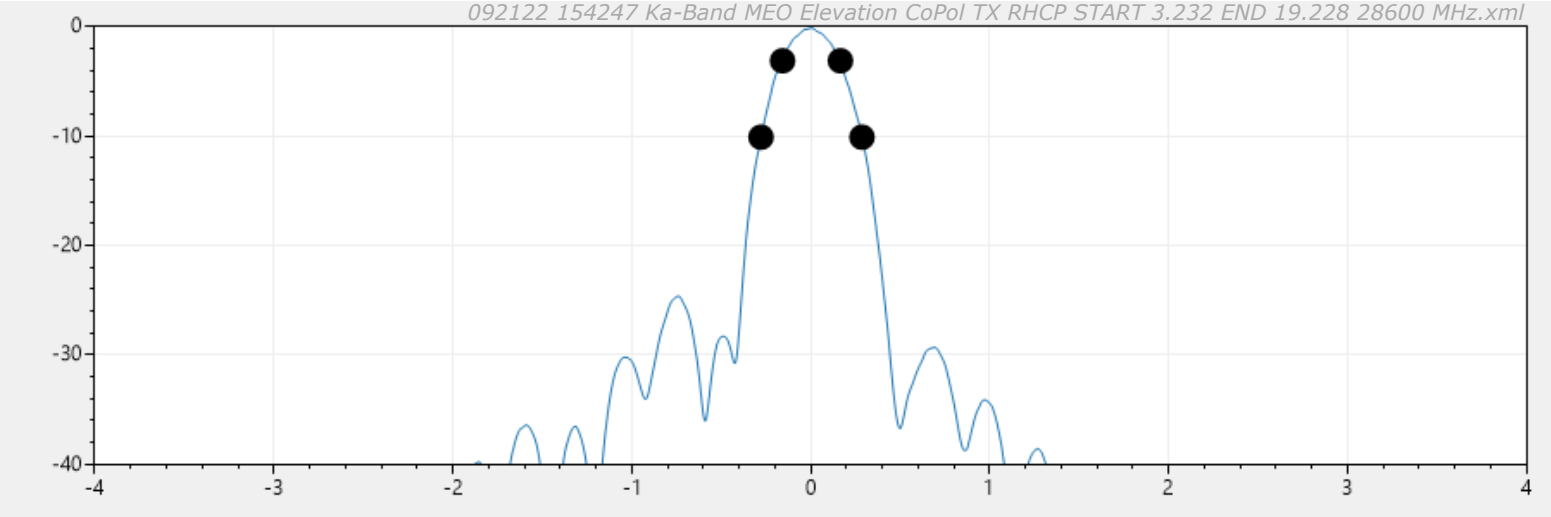
Gain by Beamwidth

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



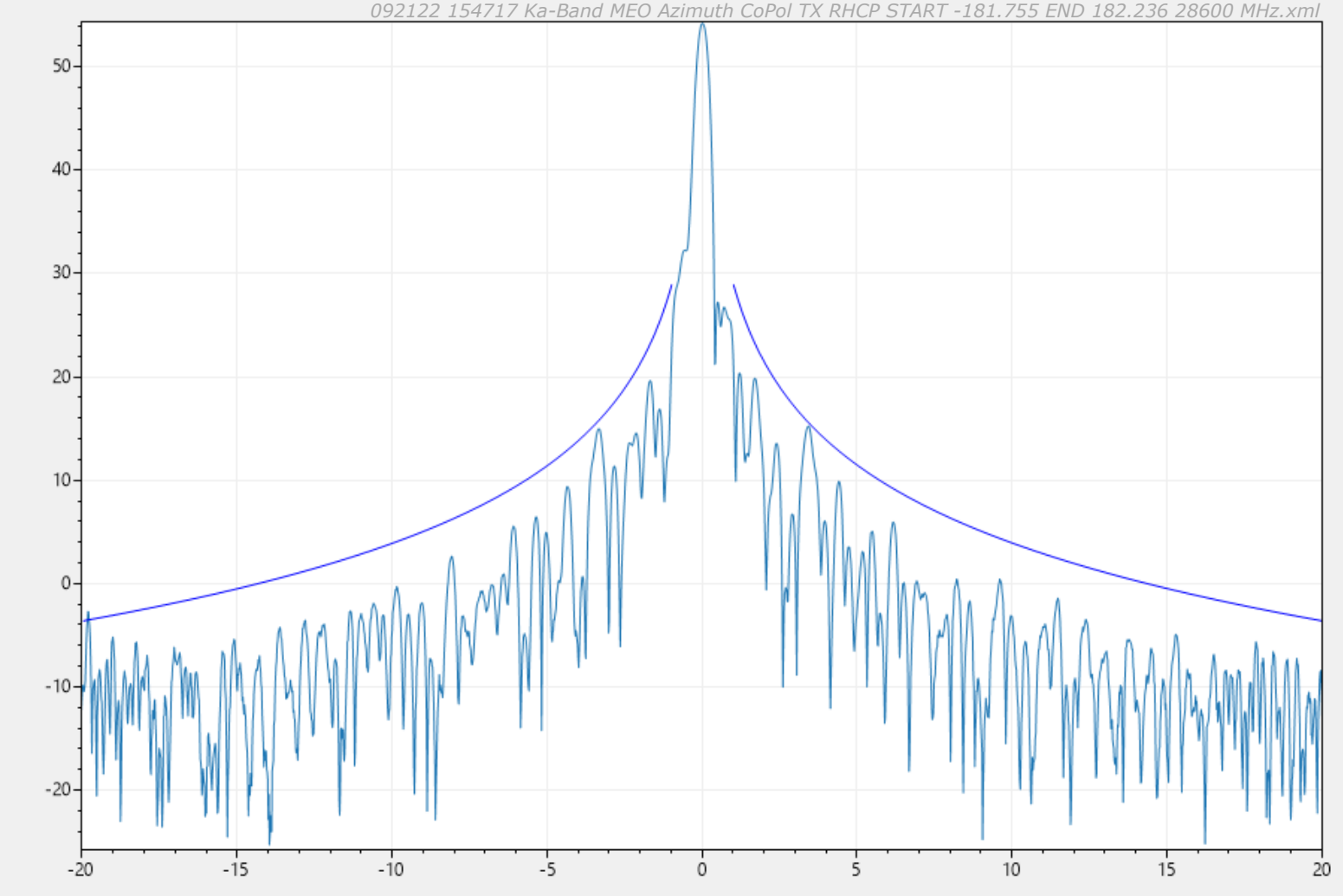
Elevation

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

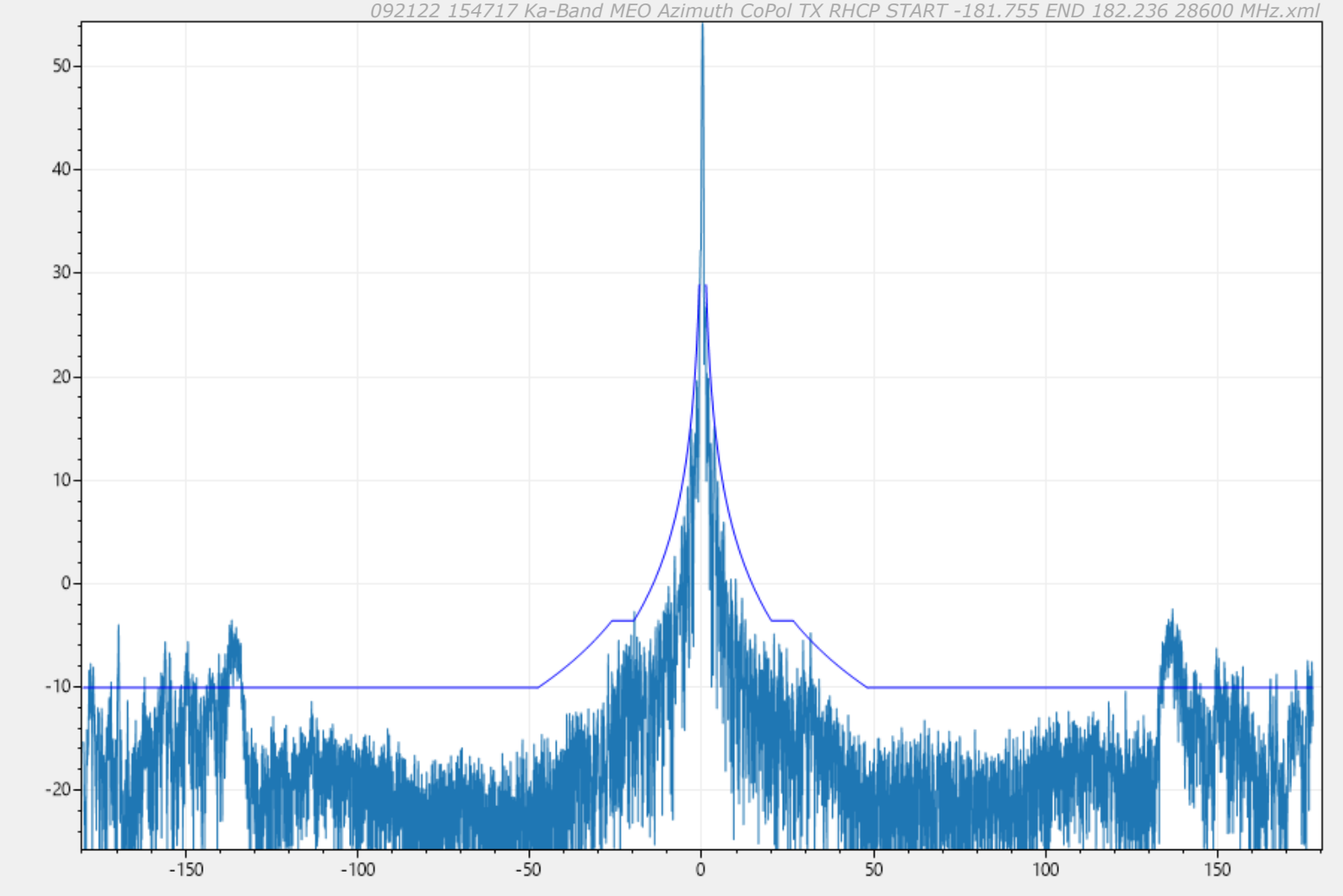
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.14%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



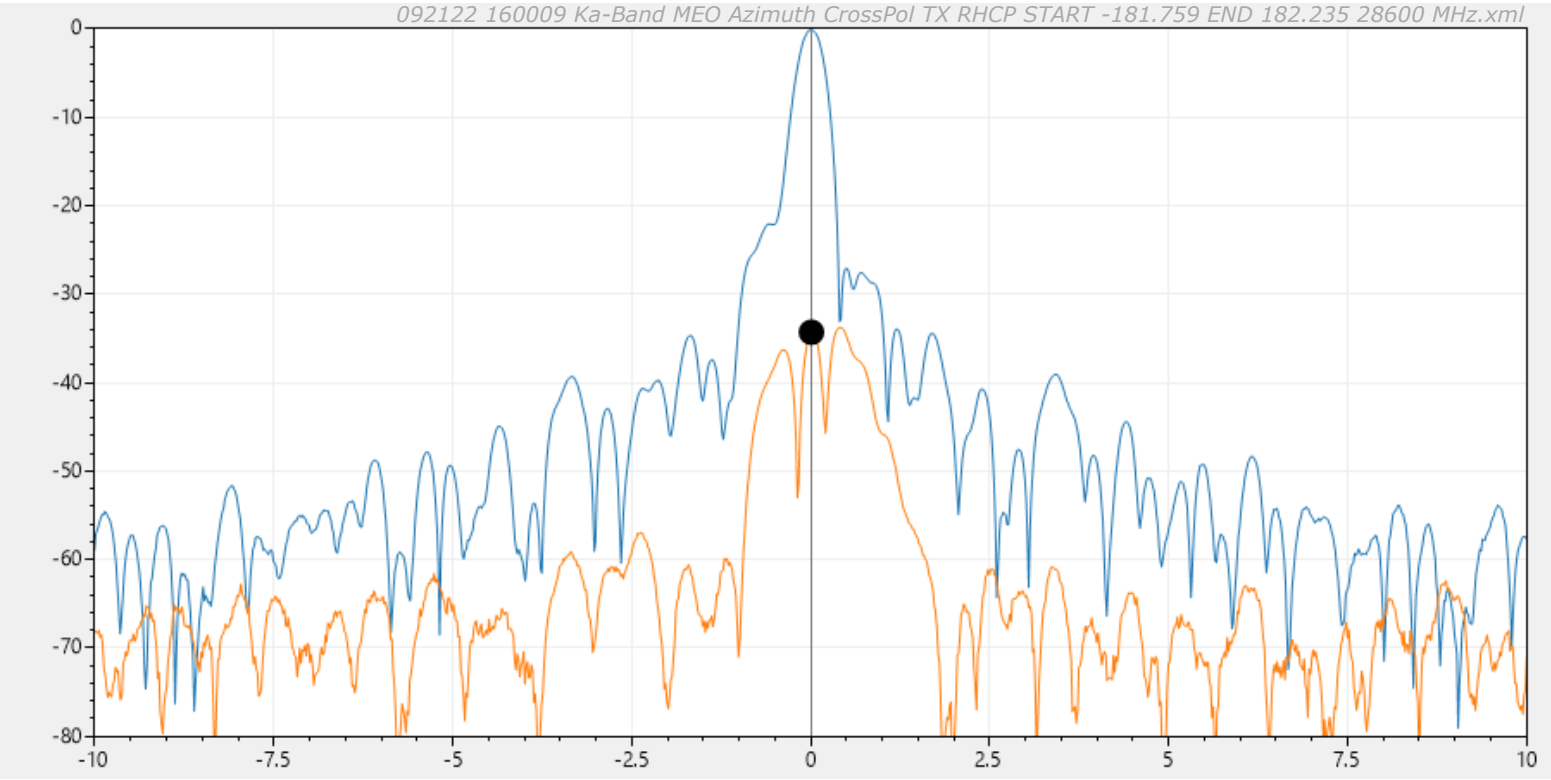
Azimuth

Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	5.26%	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

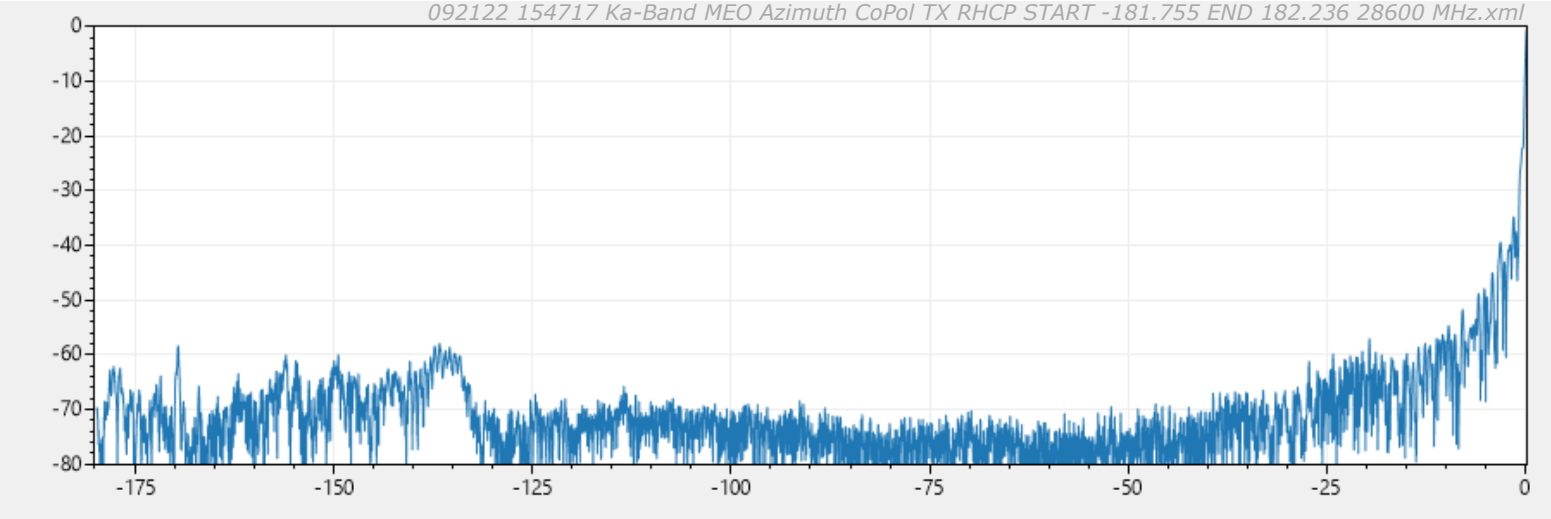
Measured Cross-Pol (dB):	34.2
Spec Cross-Pol (dB):	30.0



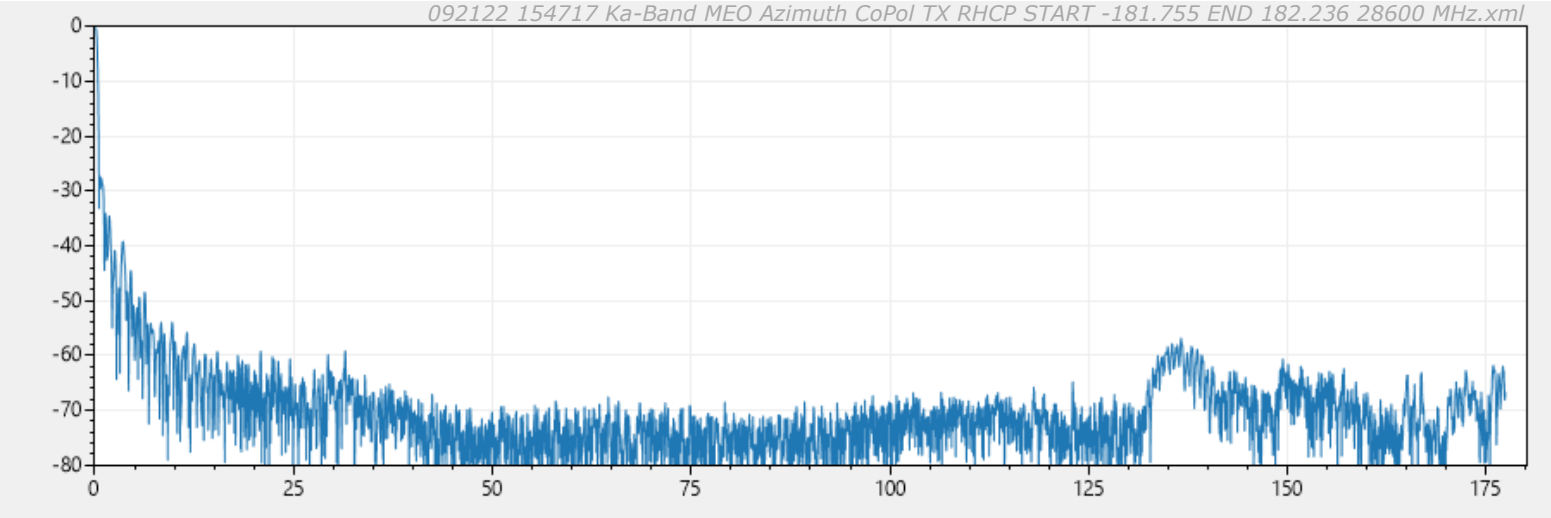
Test Frequency (GHz):	28.6
Band:	Transmit
Polarization:	RHCP

Gain by Integration

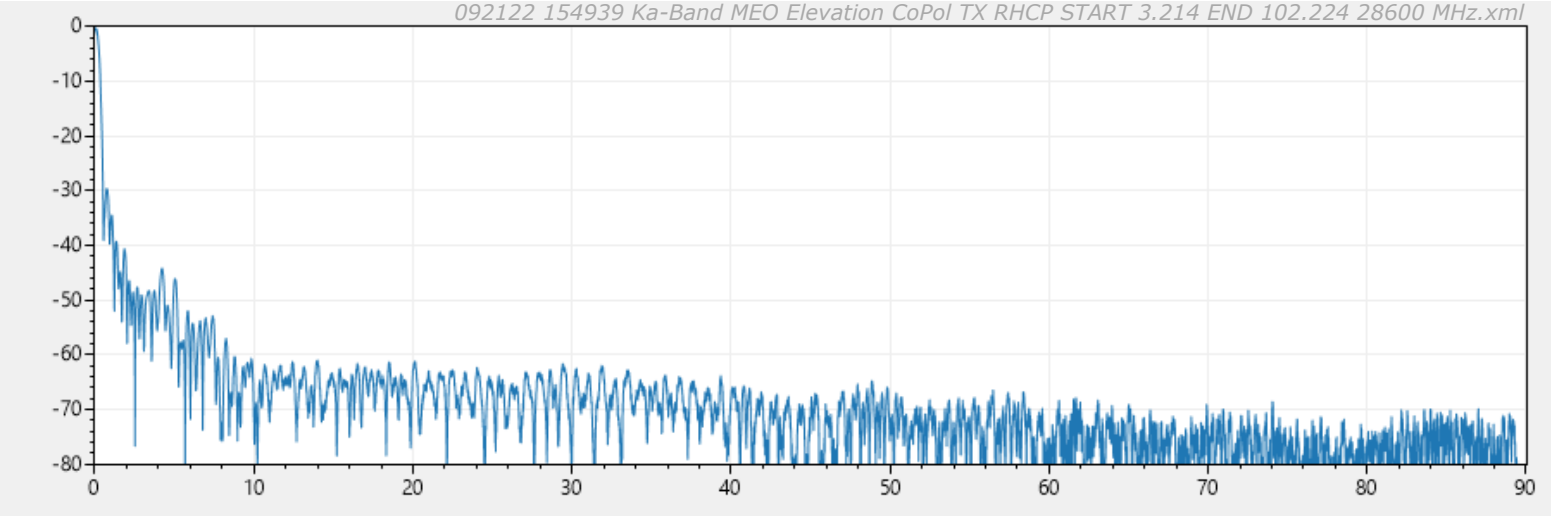
Customer:	Airbus	Specified Gain (dBi):	54.300
Job:	Ka-Band MEO	Calculated Gain (dBi):	54.667
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/21/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



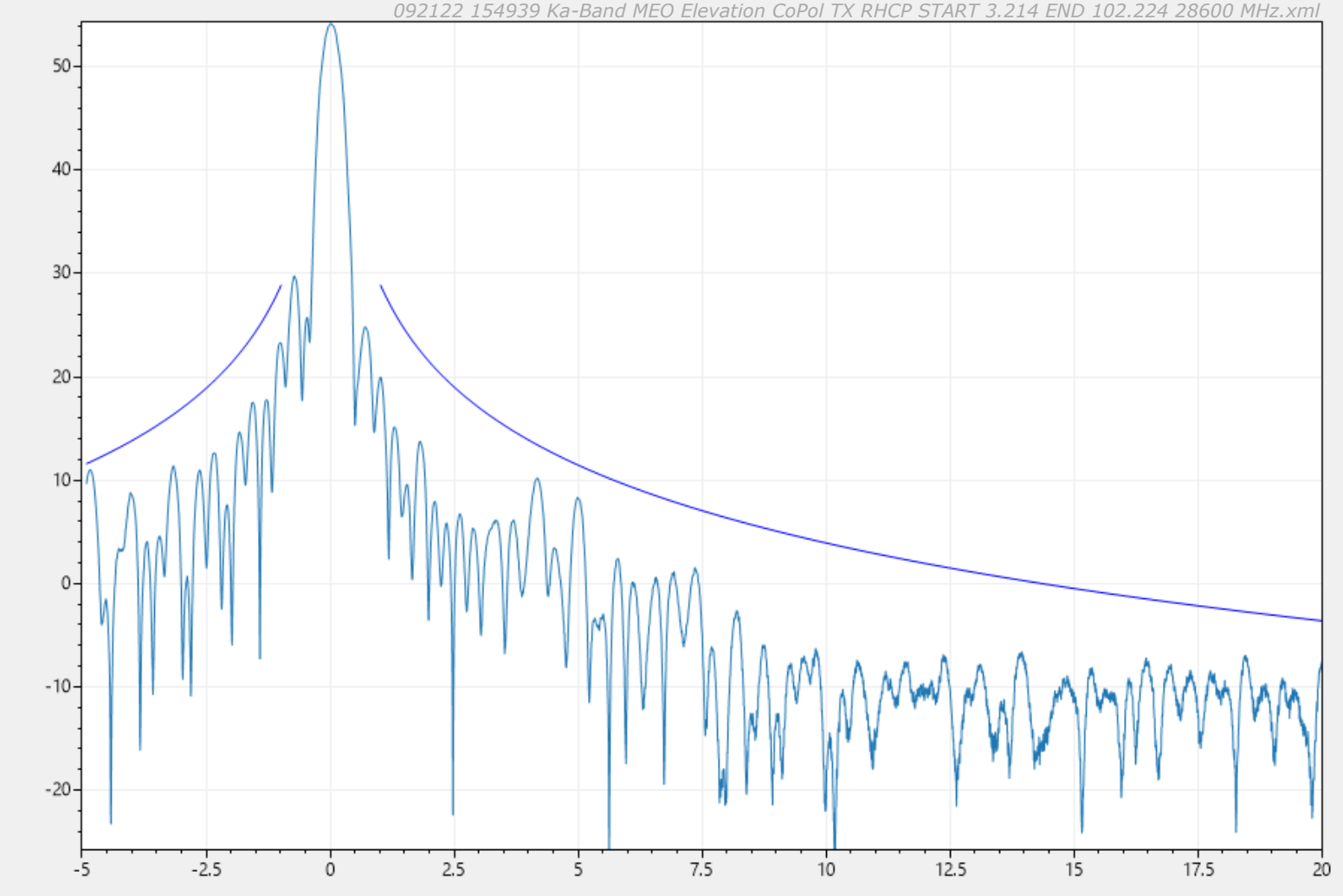
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

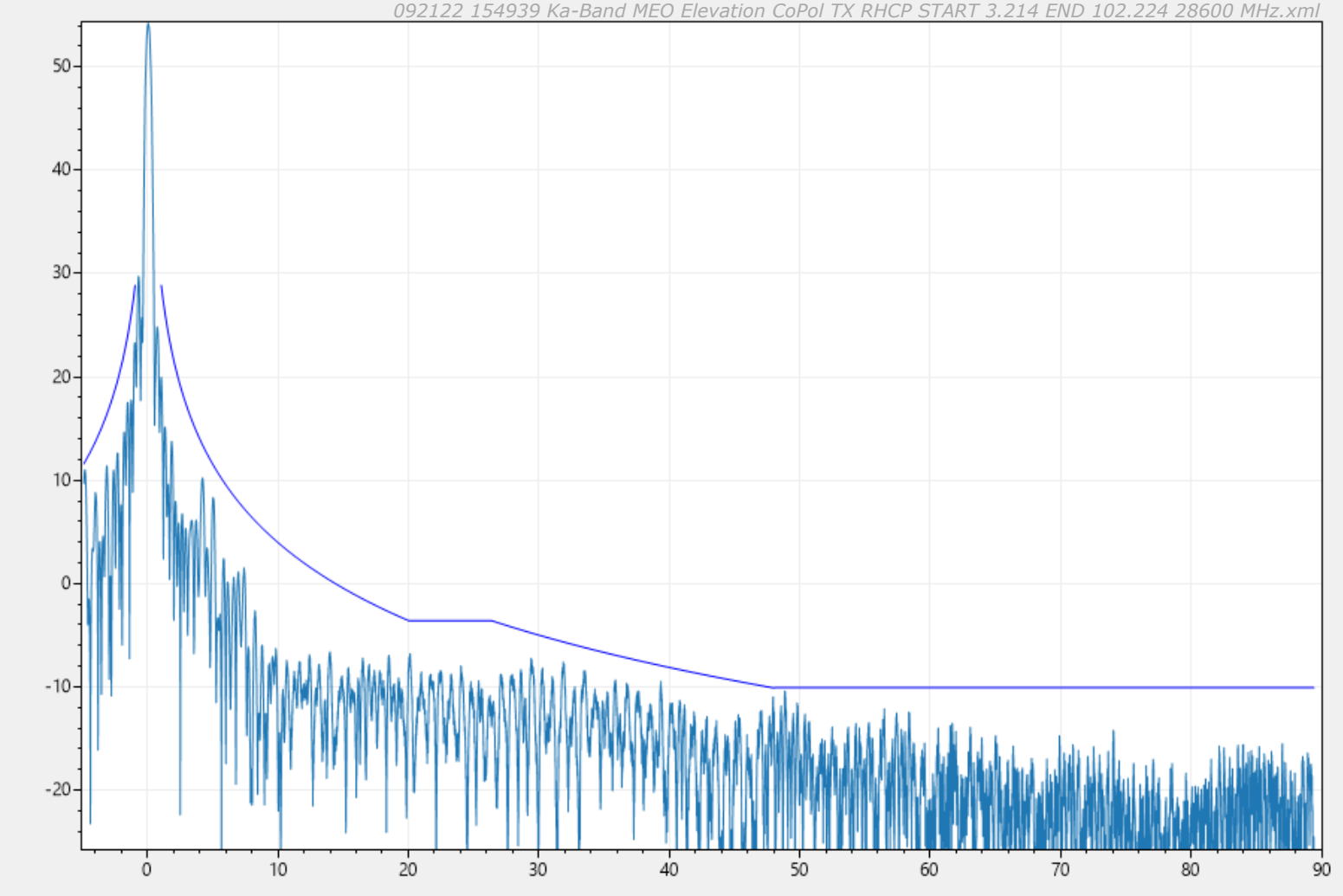
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



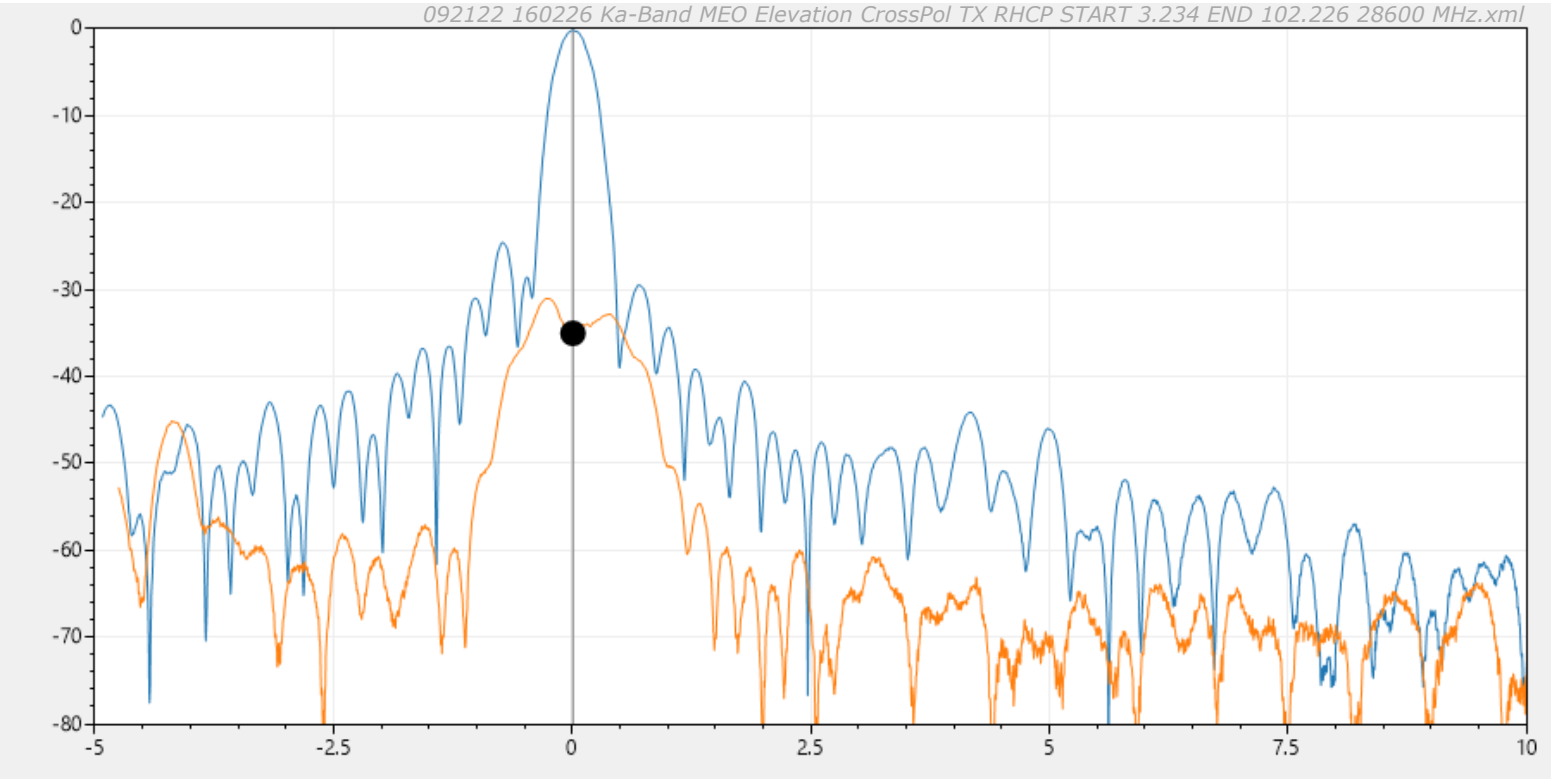
Elevation

Gain (dBi):	54.3	Test Frequency (GHz):	28.6
Sidelobes Over Curve:	0.00%	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

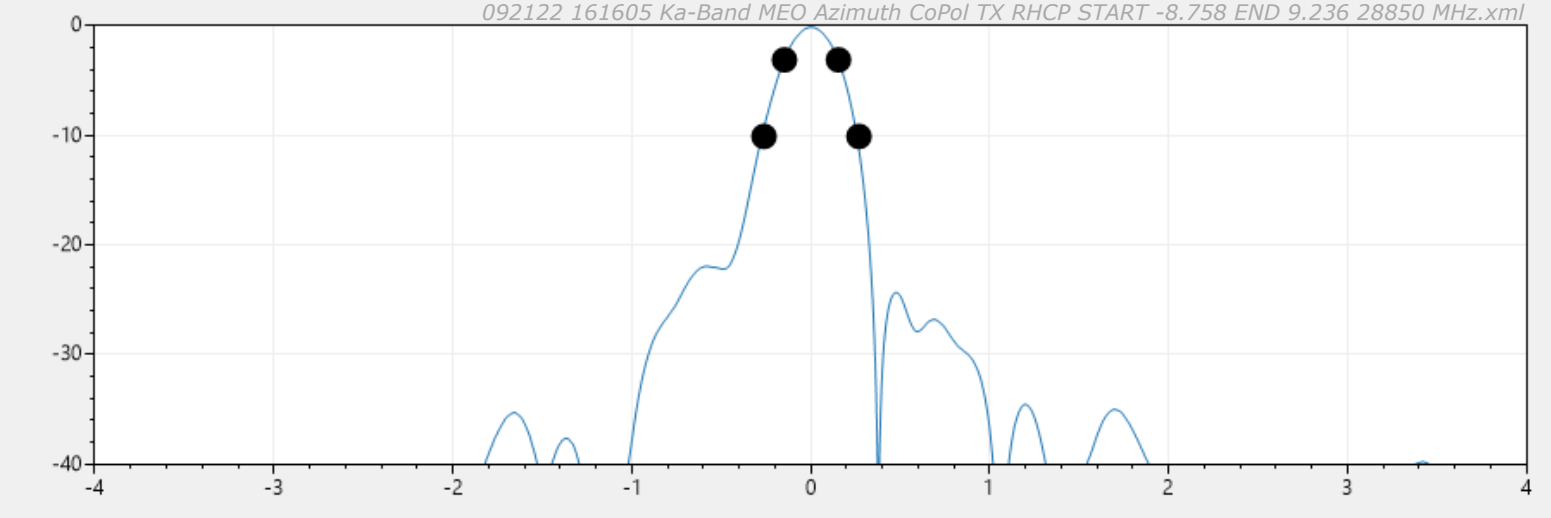


Elevation

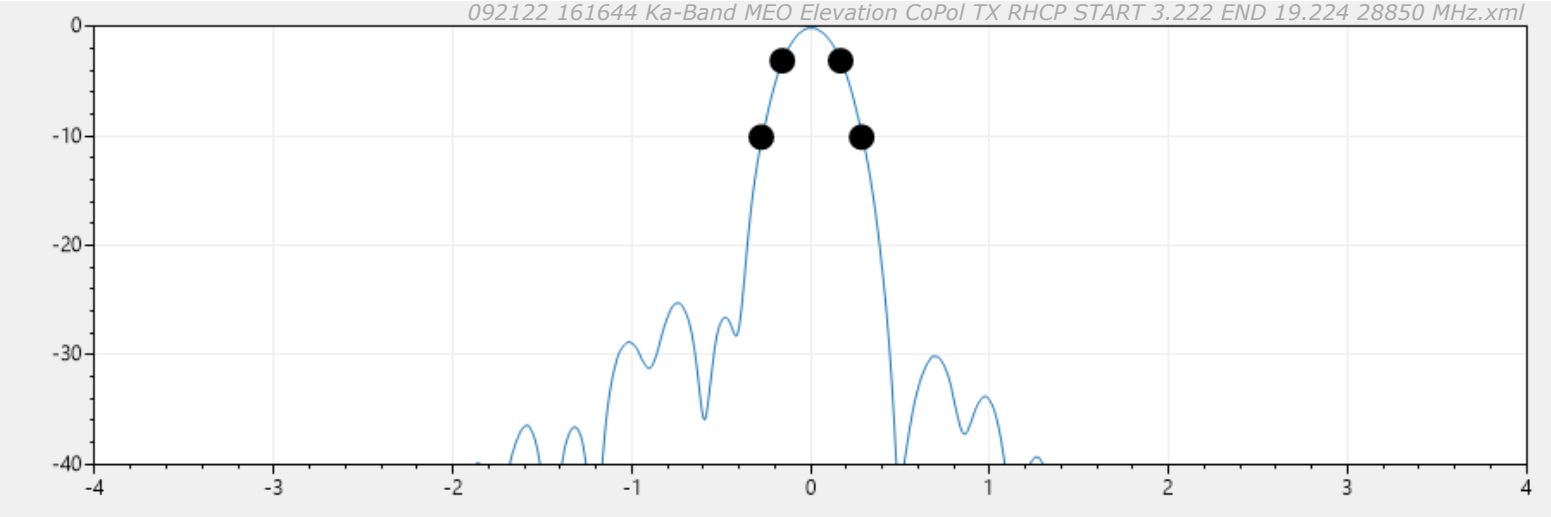
Test Frequency (GHz):	28.6
Band:	Transmit
Polarization:	RHCP

Gain by Beamwidth

Customer:	Airbus		
Job:	Ka-Band MEO		
Antenna:	2.4 M	Specified Gain (dBi):	54.400
Weather:	Clear	Calculated Gain (dBi):	54.794
Location:	Gilmer		
Date:	9/21/2022		
Tester:	JAW		



Azimuth



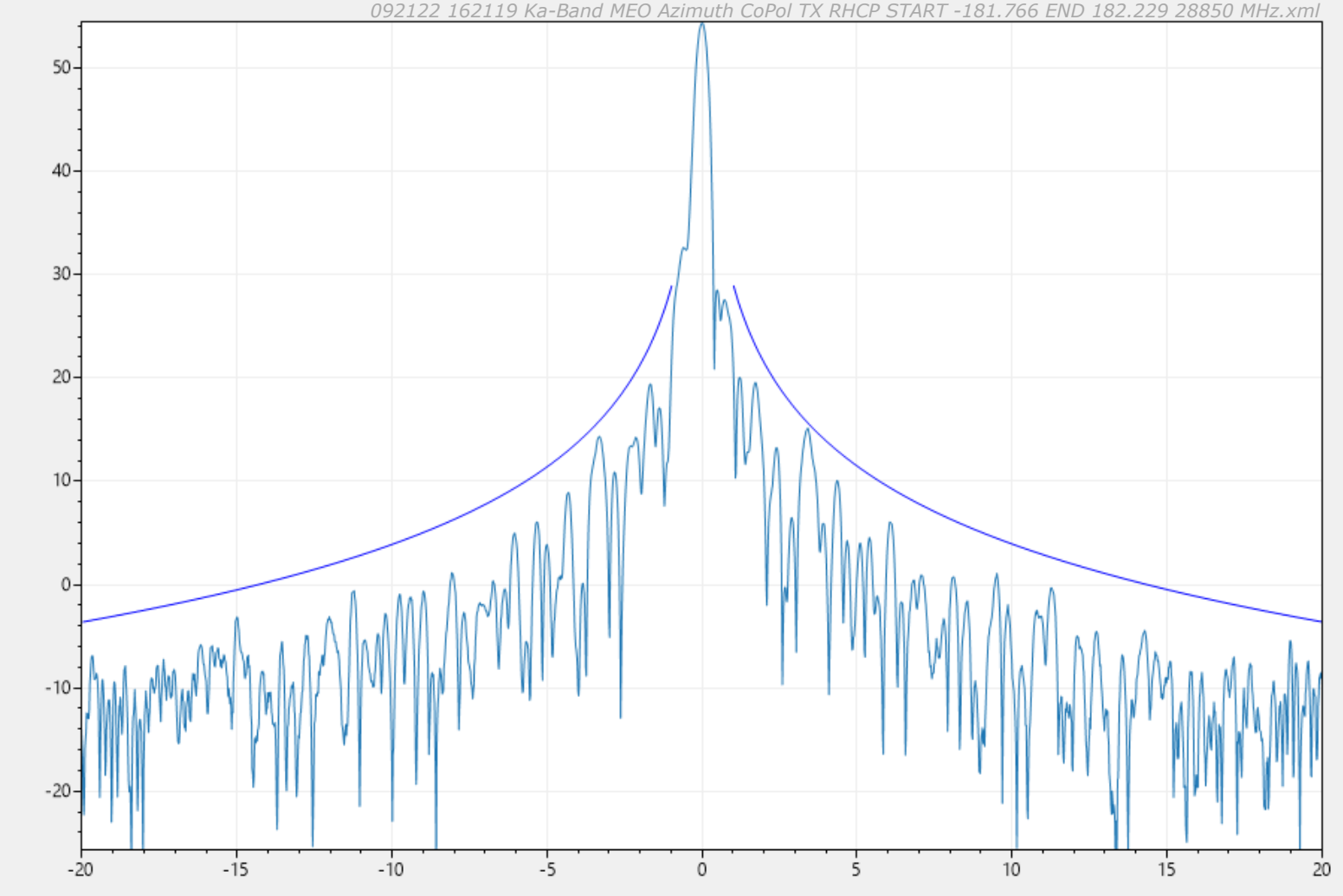
Elevation

3 dB Factor:	37000	Test Frequency (GHz):	28.85	Azimuth 3 dB:	0.302°
10 dB Factor:	107000	Band:	Transmit	Azimuth 10 dB:	0.531°
Dish RMS (in):	0.01	Polarization:	RHCP	Elevation 3 dB:	0.326°
Feed Loss (dB):	0.45	Surface RMS Loss (dB):	0.410	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

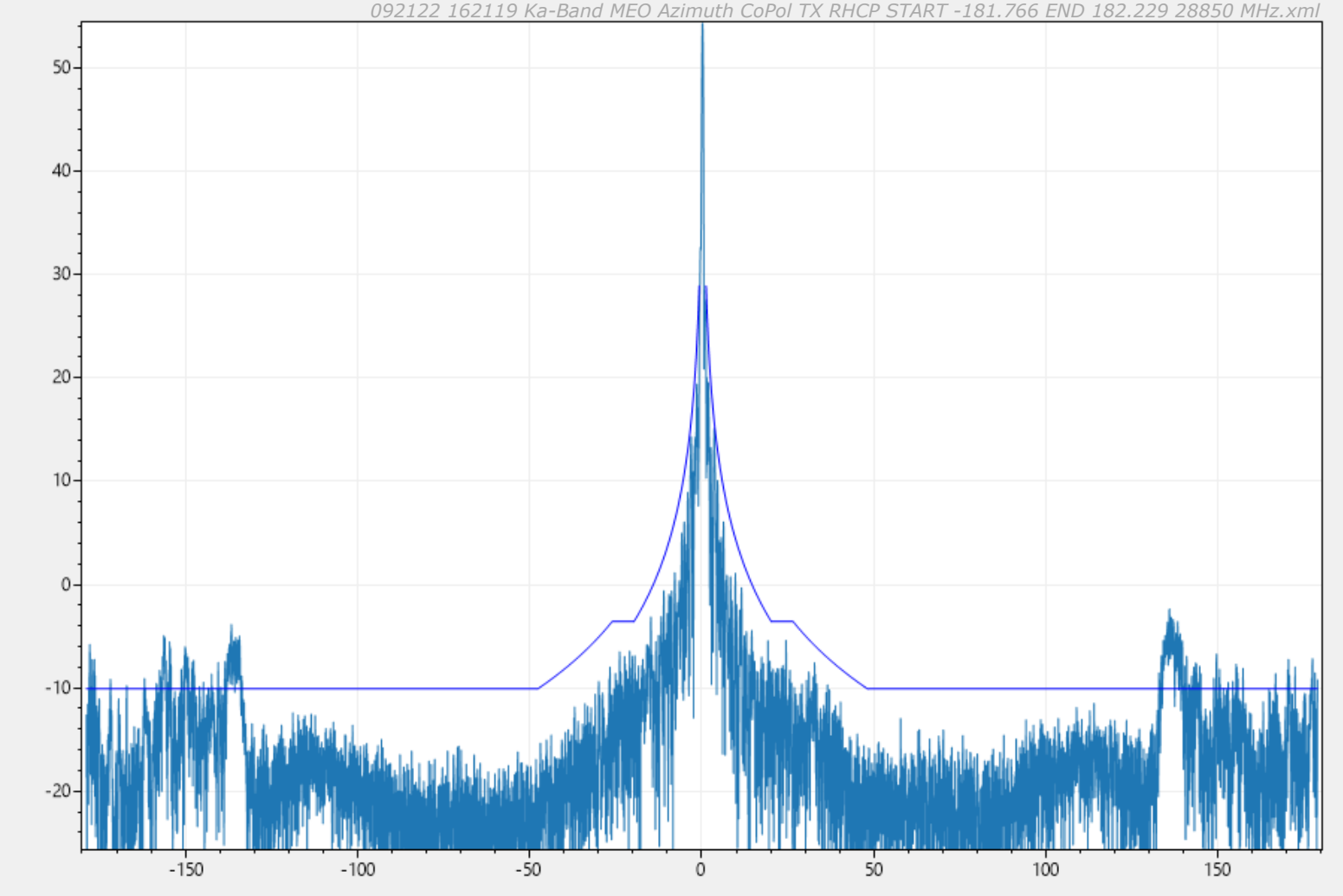
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

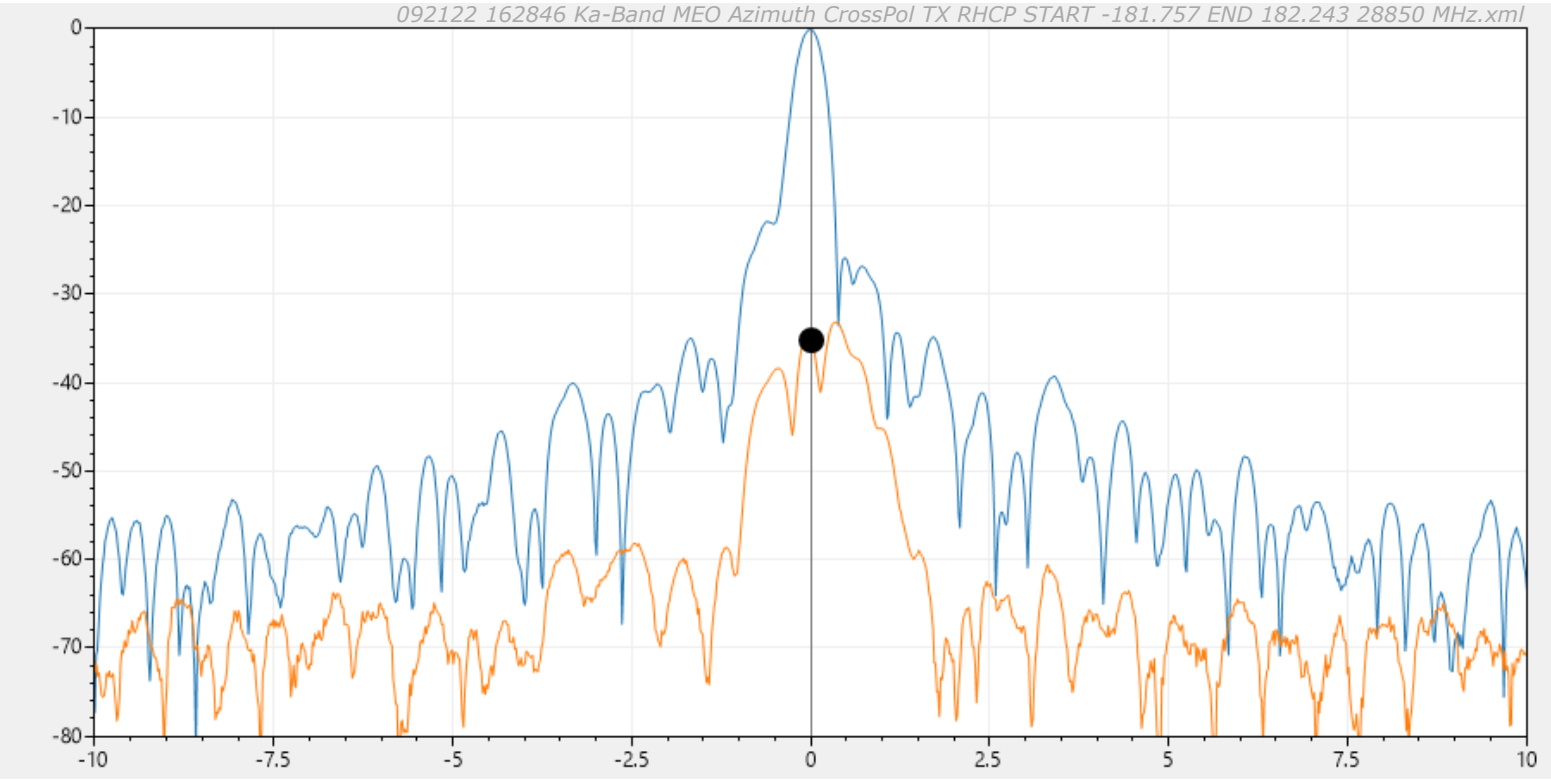


Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	5.39%	Band:	Transmit
		Polarization:	RHCP

Azimuth Cross Polarization

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

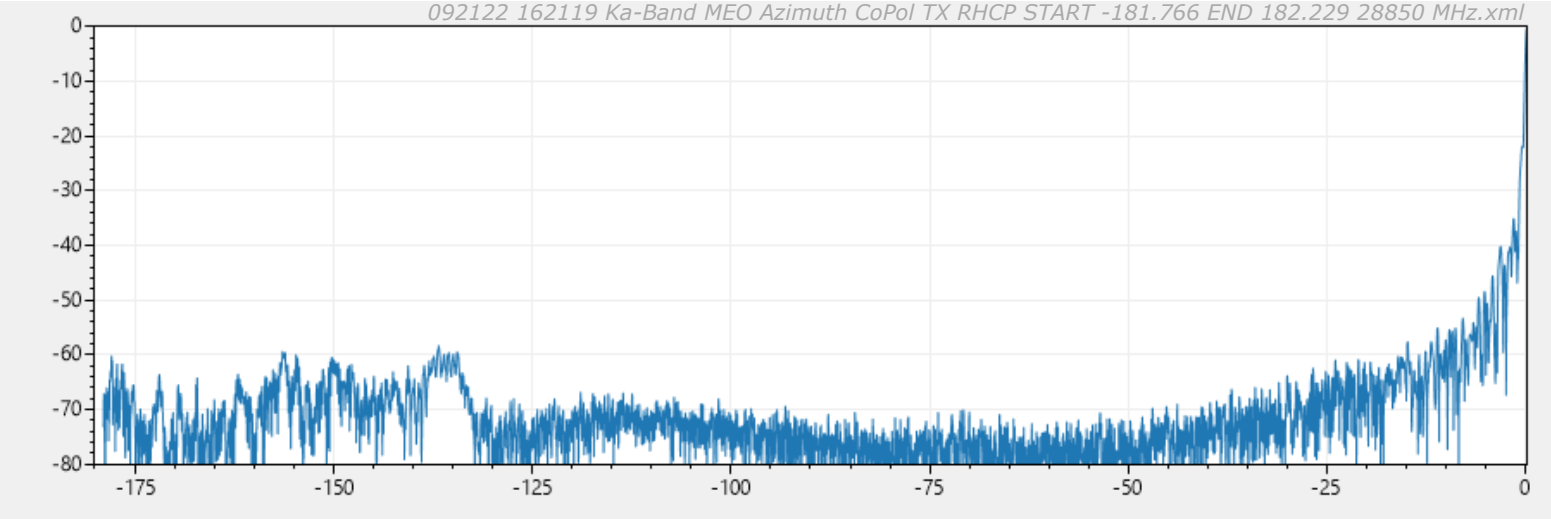
Measured Cross-Pol (dB):	35.1
Spec Cross-Pol (dB):	30.0



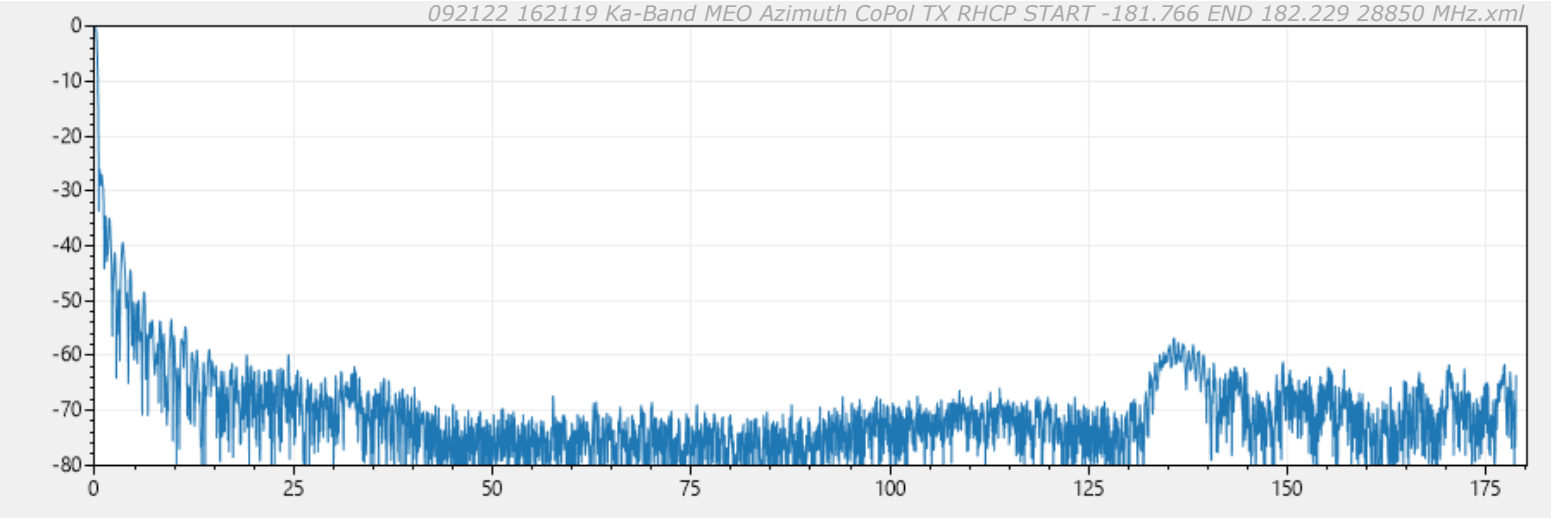
Test Frequency (GHz):	28.85
Band:	Transmit
Polarization:	RHCP

Gain by Integration

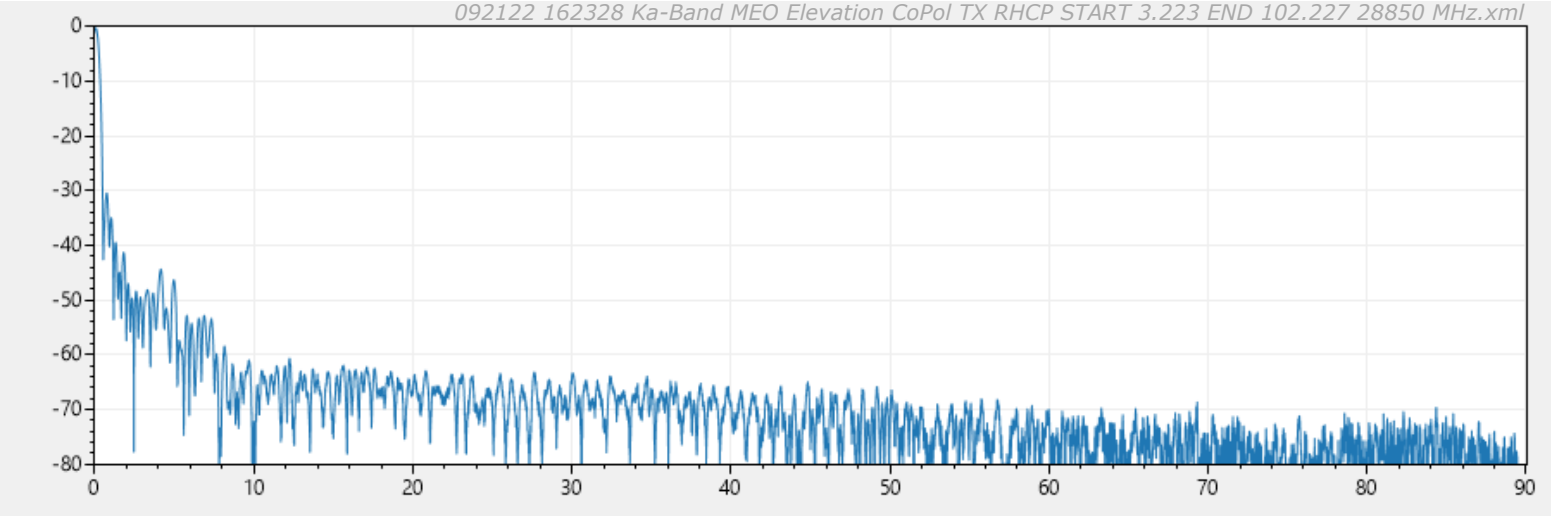
Customer:	Airbus	Specified Gain (dBi):	54.400
Job:	Ka-Band MEO	Calculated Gain (dBi):	54.840
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/21/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



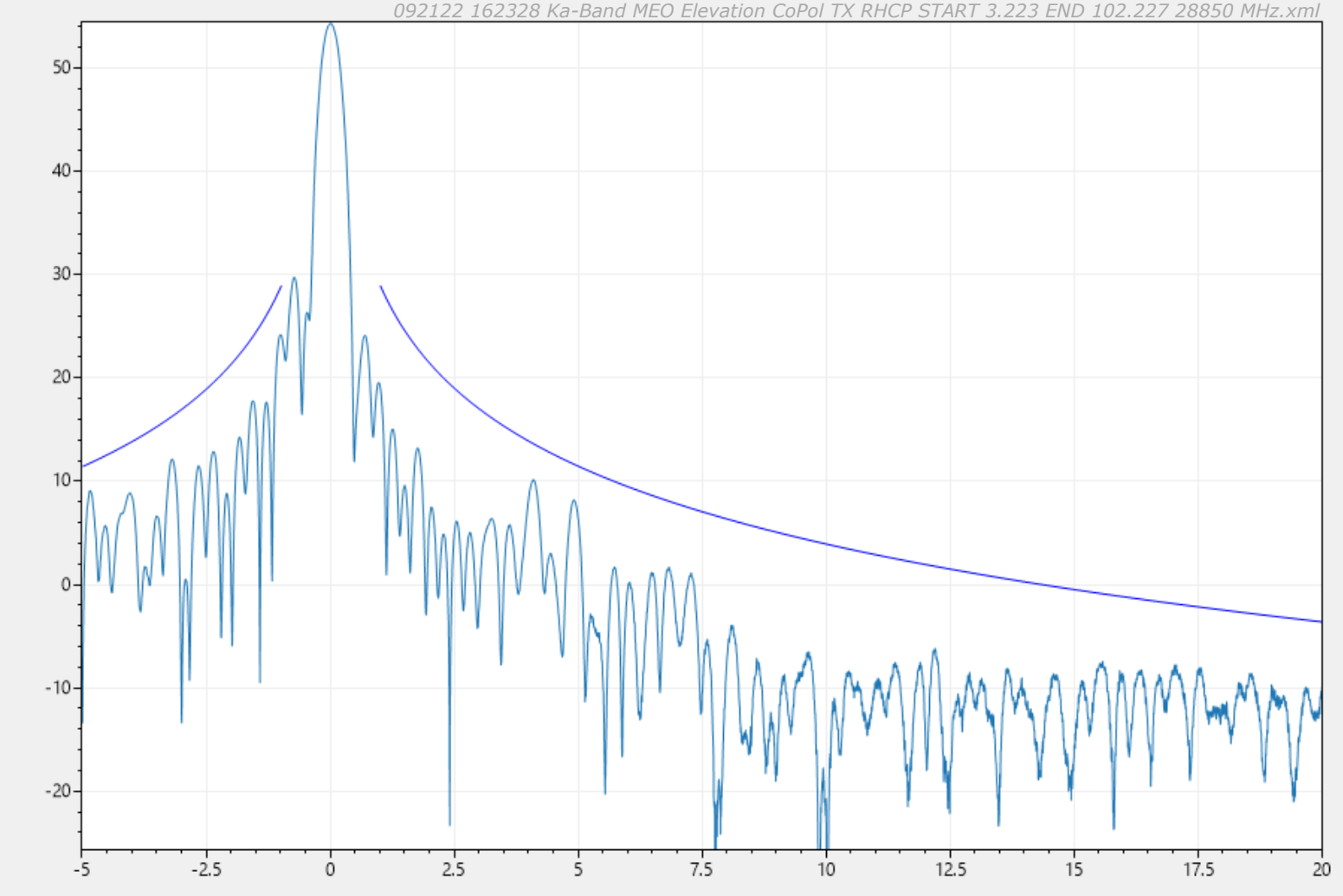
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

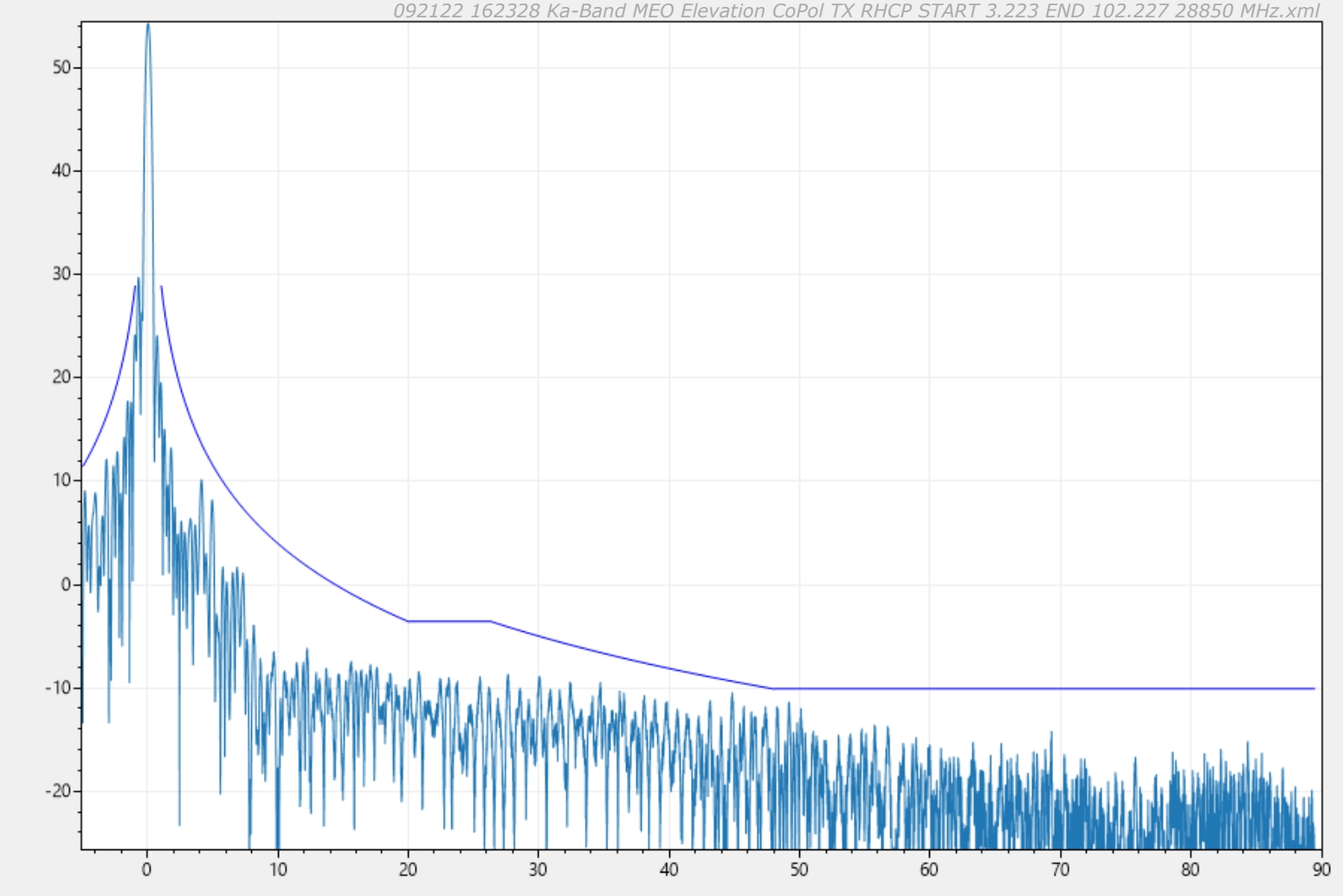


Elevation

Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



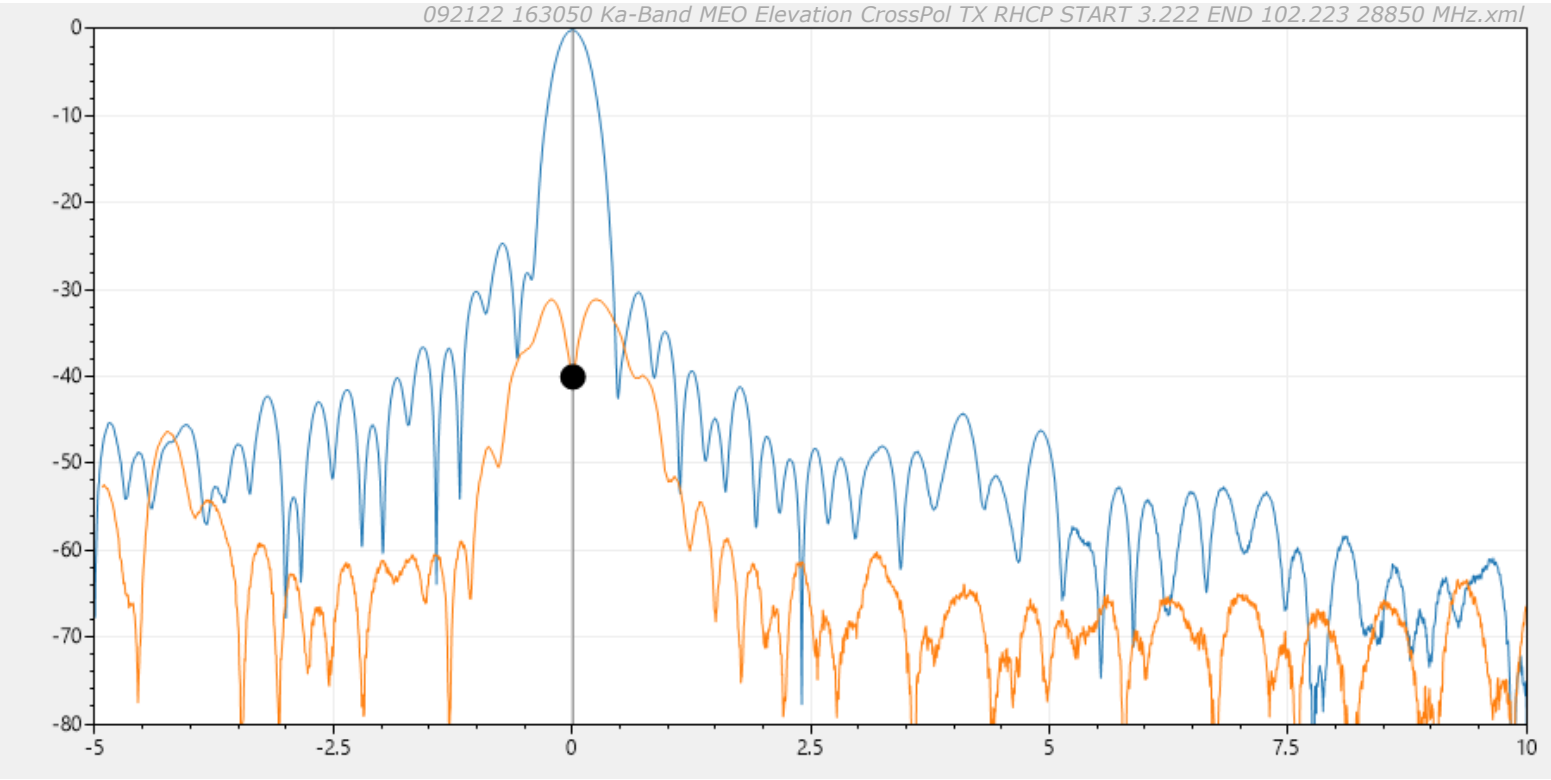
Elevation

Gain (dBi):	54.4	Test Frequency (GHz):	28.85
Sidelobes Over Curve:	0.00%	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



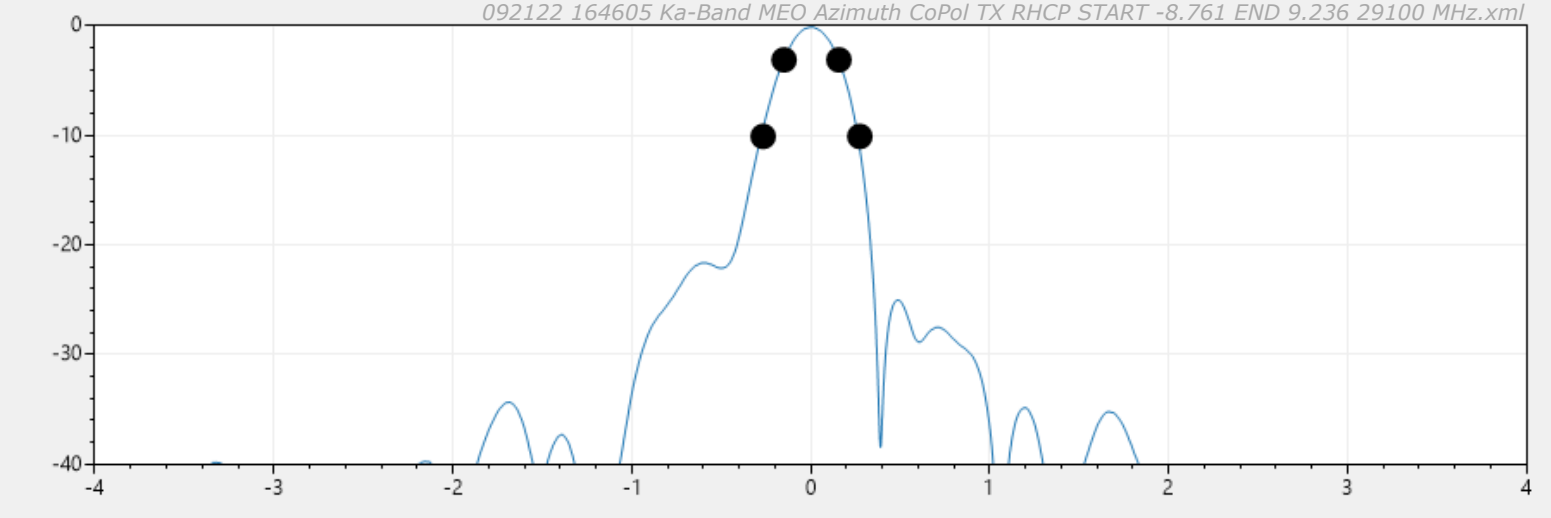
Elevation

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

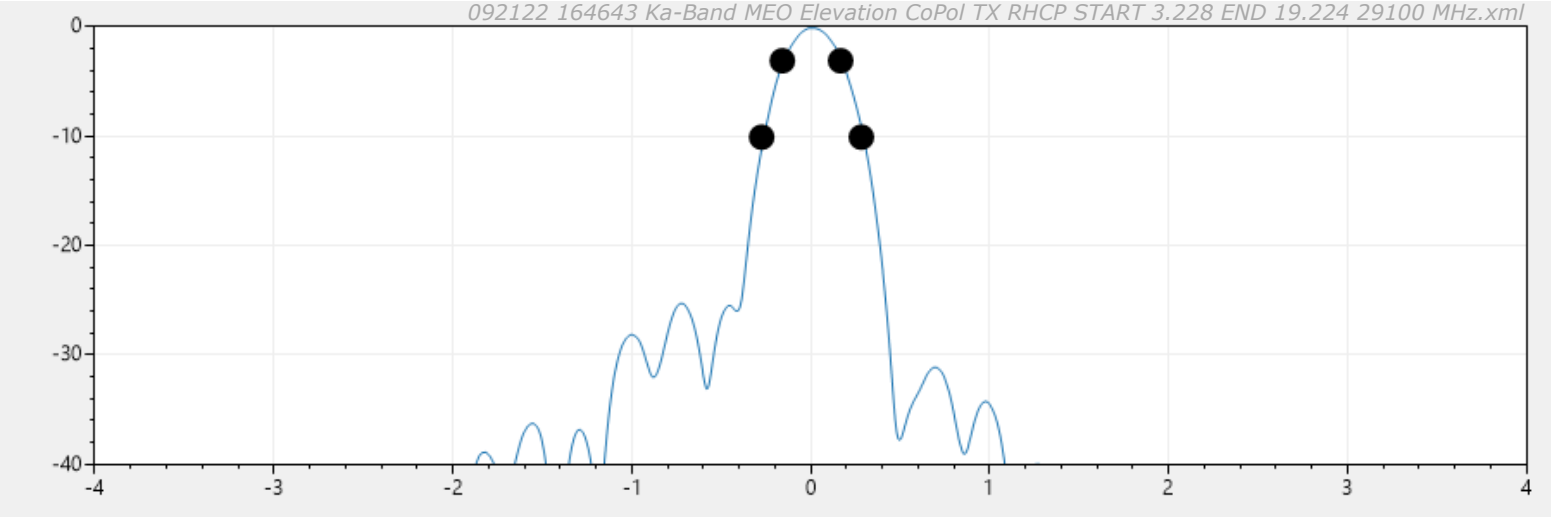
Gain by Beamwidth

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



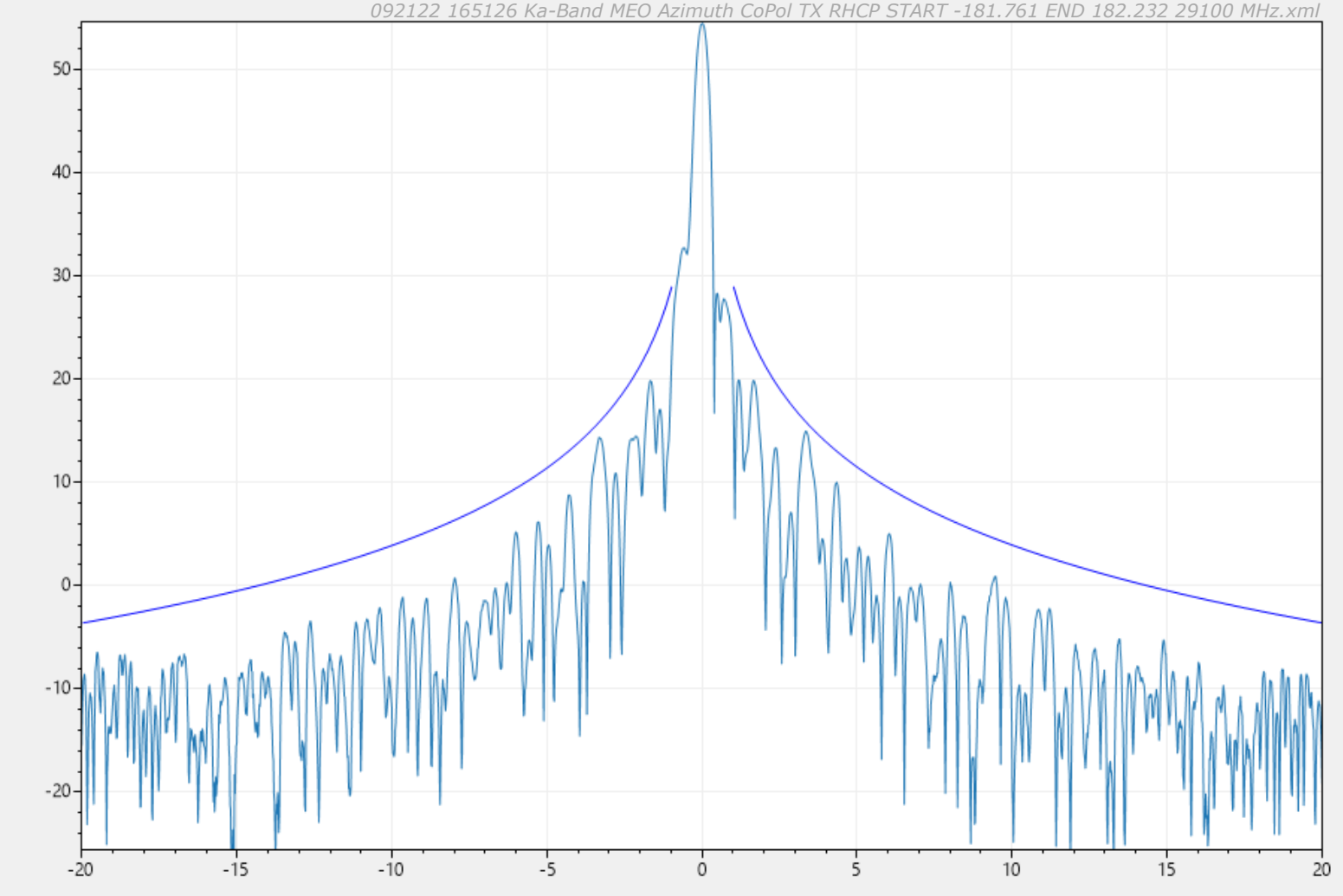
Elevation

3 dB Factor:	37000	Test Frequency (GHz):	29.1	Azimuth 3 dB:	0.306°
10 dB Factor:	107000	Band:	Transmit	Azimuth 10 dB:	0.541°
Dish RMS (in):	0.01	Polarization:	RHCP	Elevation 3 dB:	0.326°
Feed Loss (dB):	0.45	Surface RMS Loss (dB):	0.417	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

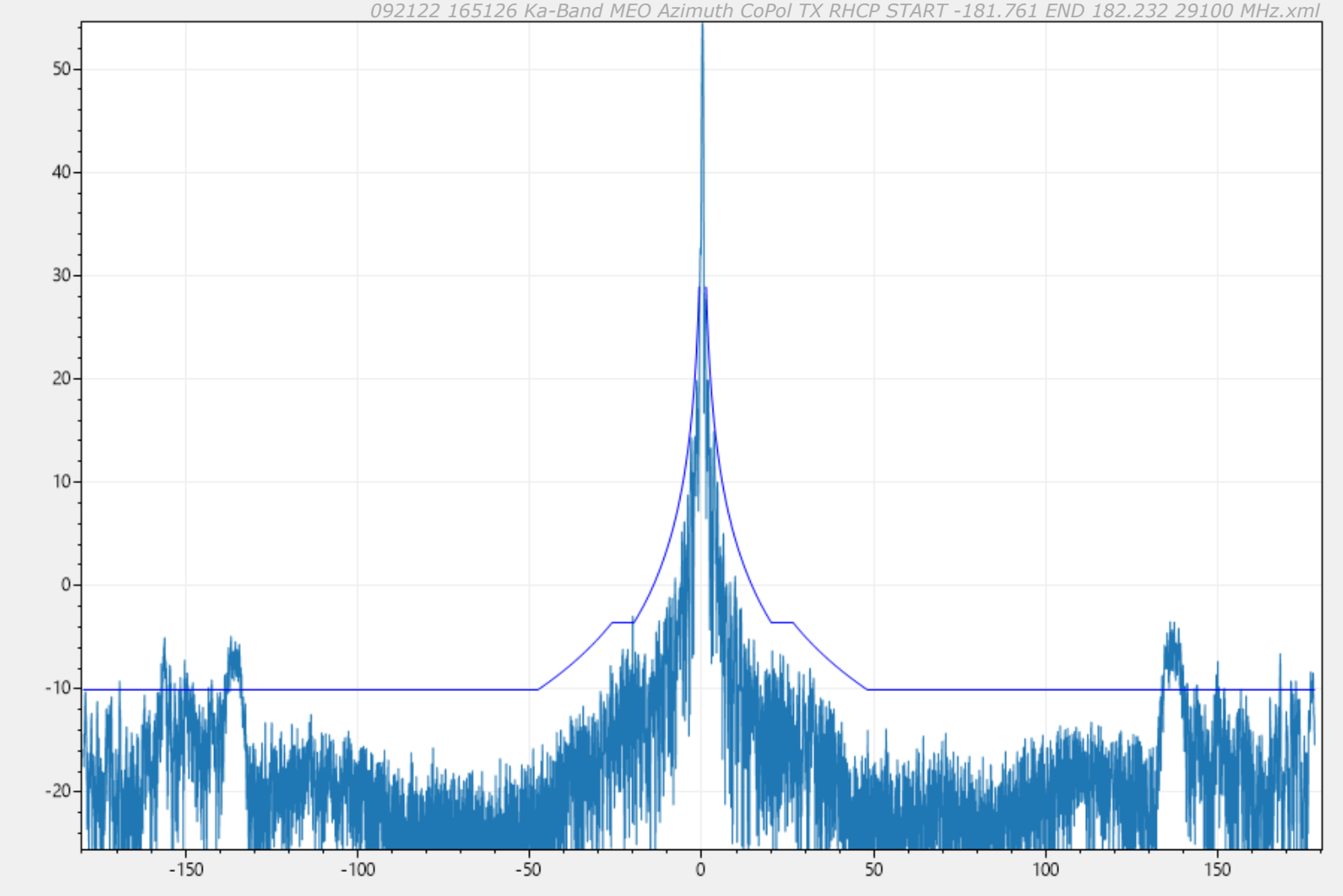
Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c
Job:	Ka-Band MEO		
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Azimuth CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

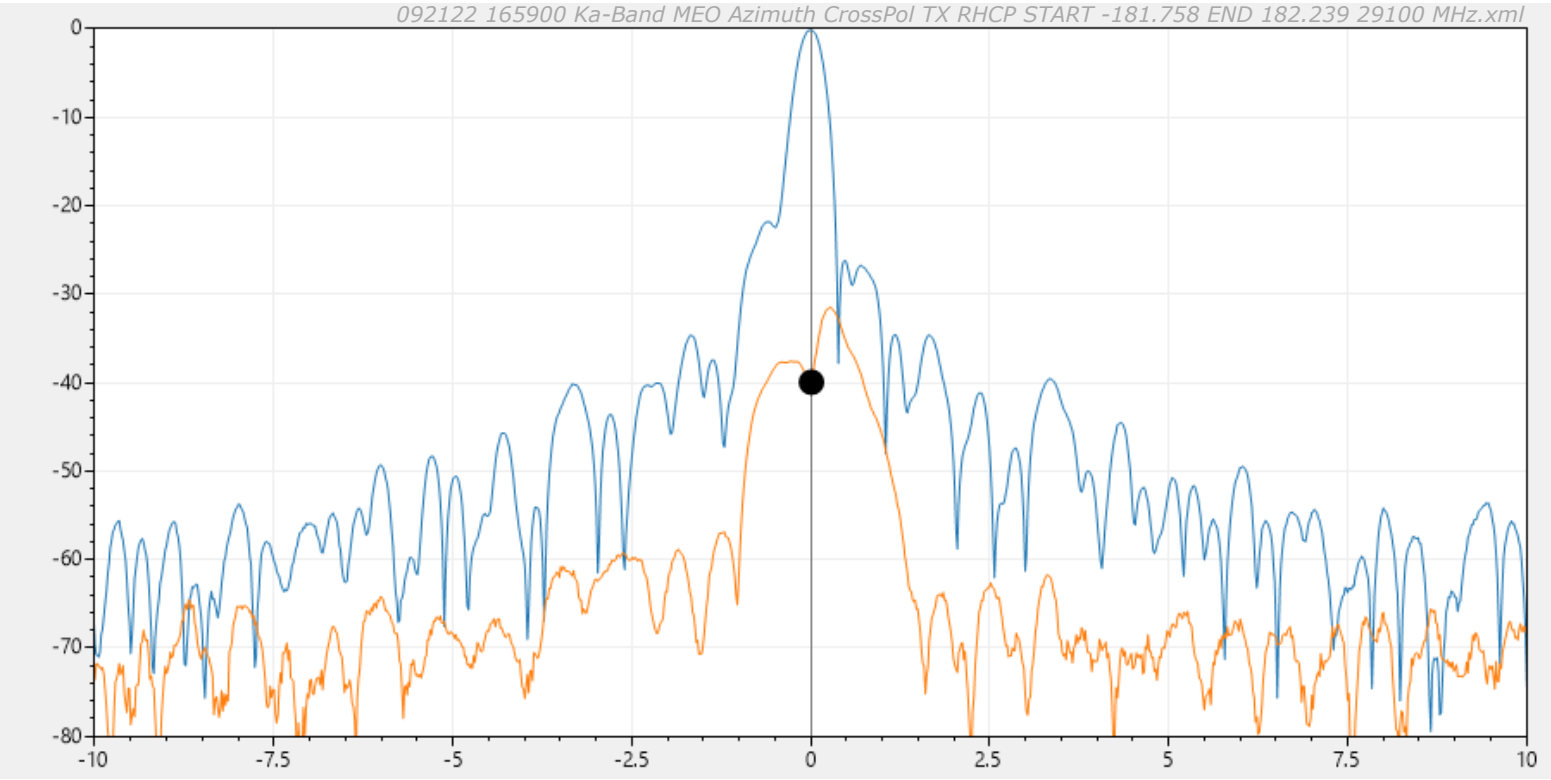


Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	4.10%	Band:	Transmit
		Polarization:	RHCP

Azimuth Cross Polarization

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

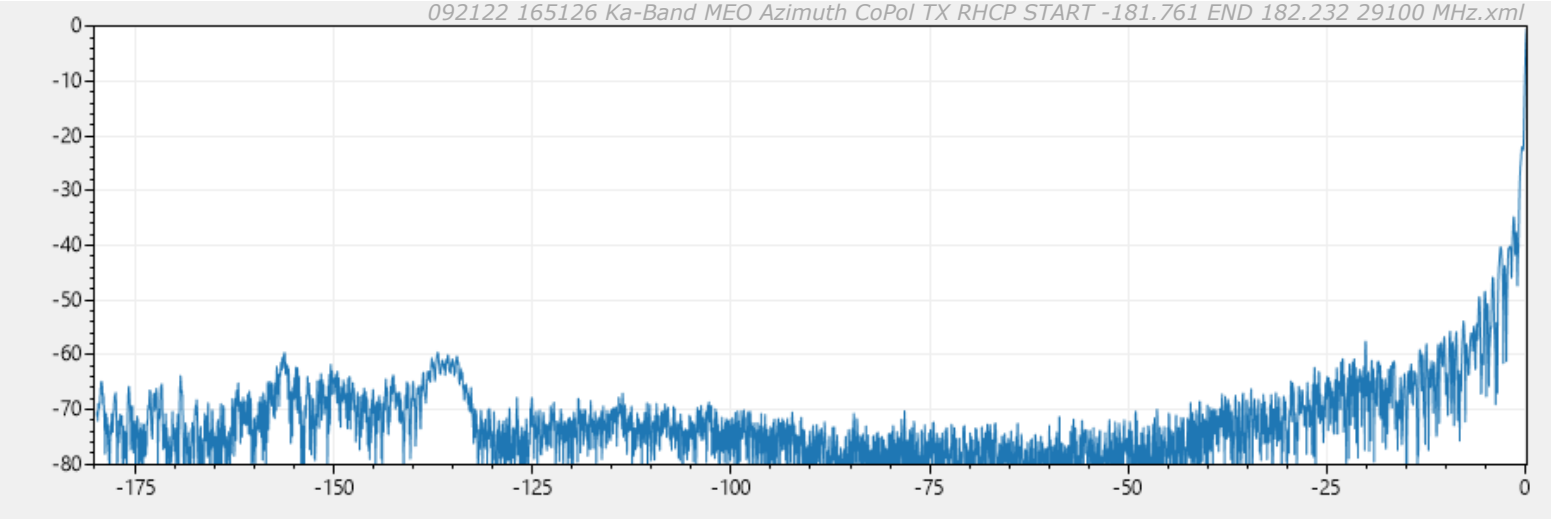
Measured Cross-Pol (dB):	39.9
Spec Cross-Pol (dB):	30.0



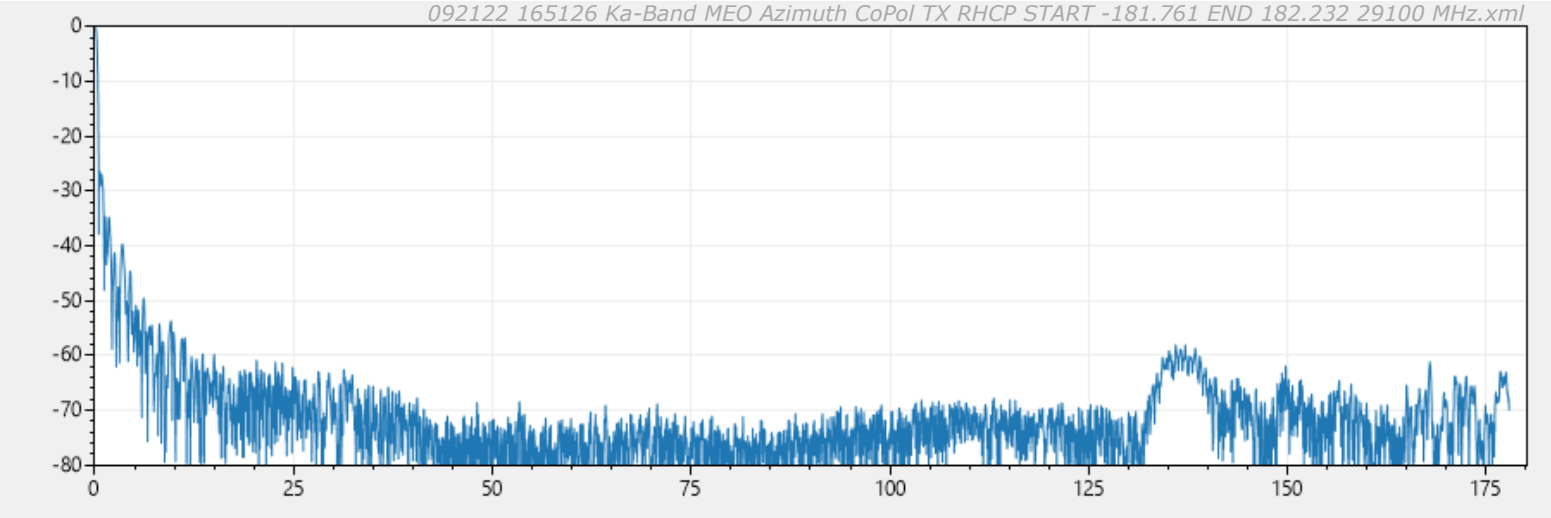
Test Frequency (GHz):	29.1
Band:	Transmit
Polarization:	RHCP

Gain by Integration

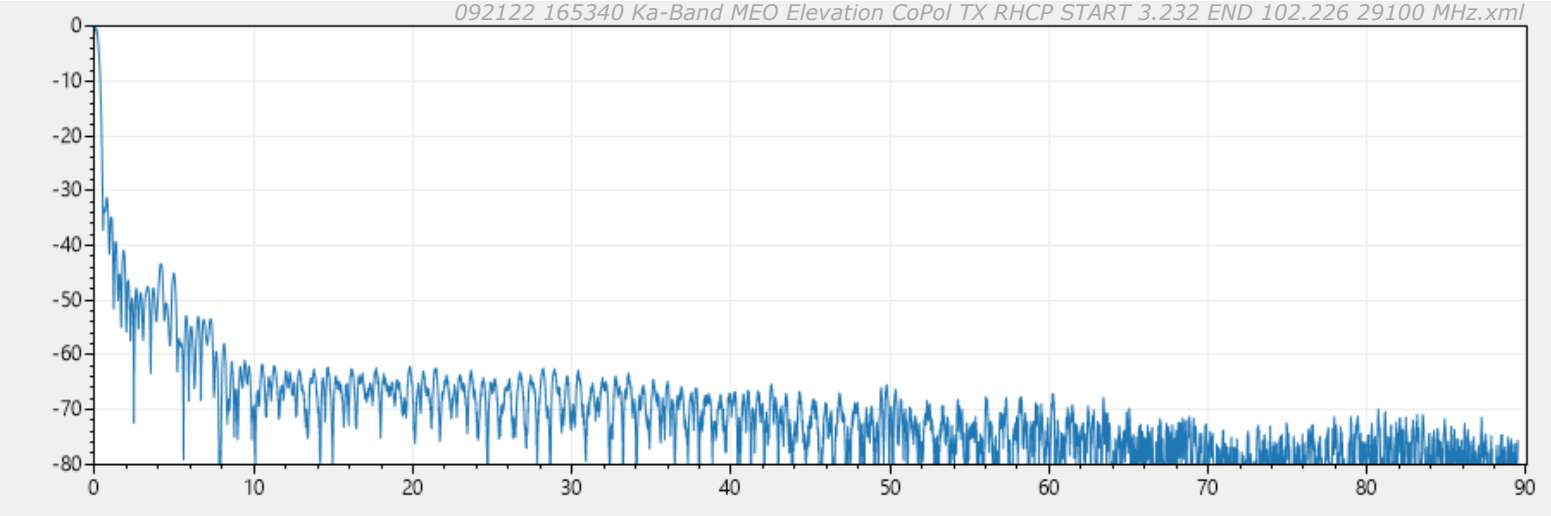
Customer:	Airbus	Specified Gain (dBi):	54.500
Job:	Ka-Band MEO	Calculated Gain (dBi):	54.916
Antenna:	2.4 M	Feed Loss (dB):	0.45
Weather:	Clear	Cross-Pol Loss (dB):	0.03
Location:	Gilmer	Spar Blockage (dB):	0
Date:	9/21/2022	Angular Extents (dB)	
Tester:	JAW	Left Az: 0, Right Az: 0, El: 0.05	



Left Azimuth



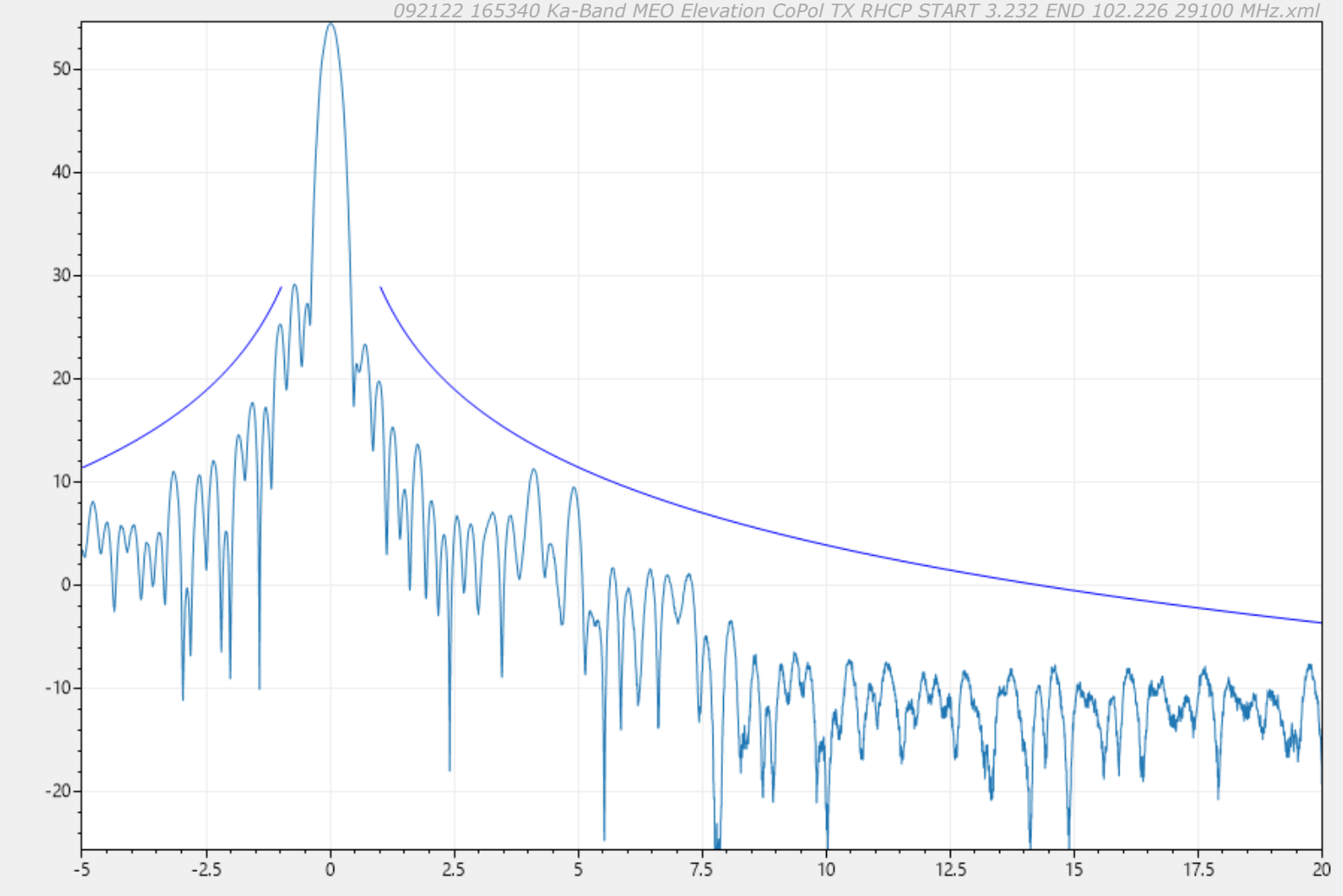
Right Azimuth



Elevation

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10

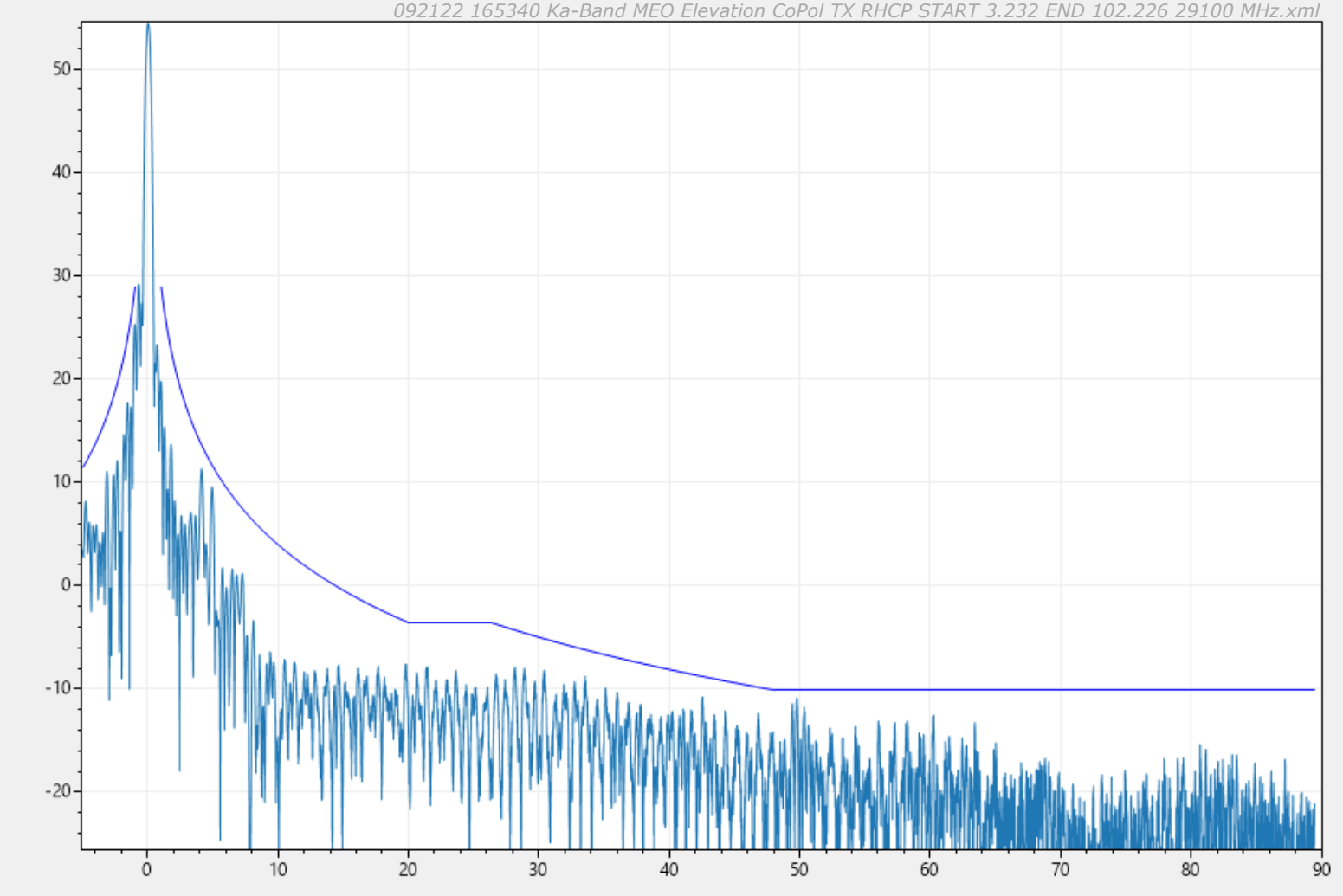


Elevation

Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.00%	Band:	Transmit
		Polarization:	RHCP

Sidelobe Curves - Elevation CoPol

Customer:	Airbus	Sidelobe Spec:	Mil Std 188-164c	
Job:	Ka-Band MEO			
Antenna:	2.4 M	Start Angle (°)	End Angle (°)	Formula (dBi)
Weather:	Clear	1.0	20	29-25*log(x)
Location:	Gilmer	20	26.3	-3.5
Date:	9/21/2022	26.3	48	32-25*log(x)
Tester:	JAW	48	180	-10



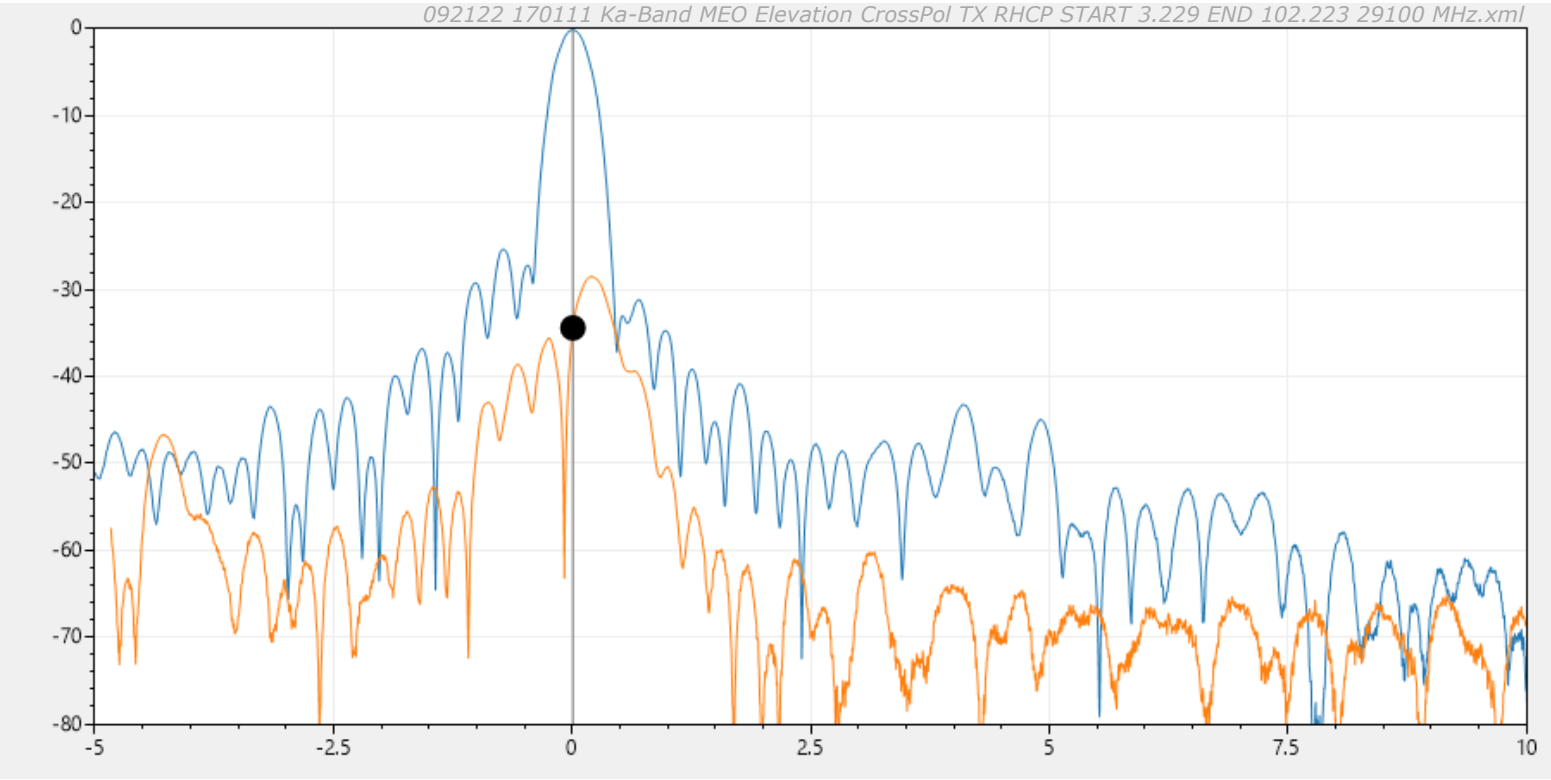
Elevation

Gain (dBi):	54.5	Test Frequency (GHz):	29.1
Sidelobes Over Curve:	0.00%	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



Elevation

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