

GENERAL DYNAMICS

SATCOM Technologies

120cm Ka-Band Rx/Tx Antenna System

Series 3122

2334 Test Report



East Maiden Antenna Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650
828-428-1485 / 828-428-1488 fax



GENERAL DYNAMICS

SATCOM Technologies

Series 3122

Ka-Band Circular Polarity Rx/Tx

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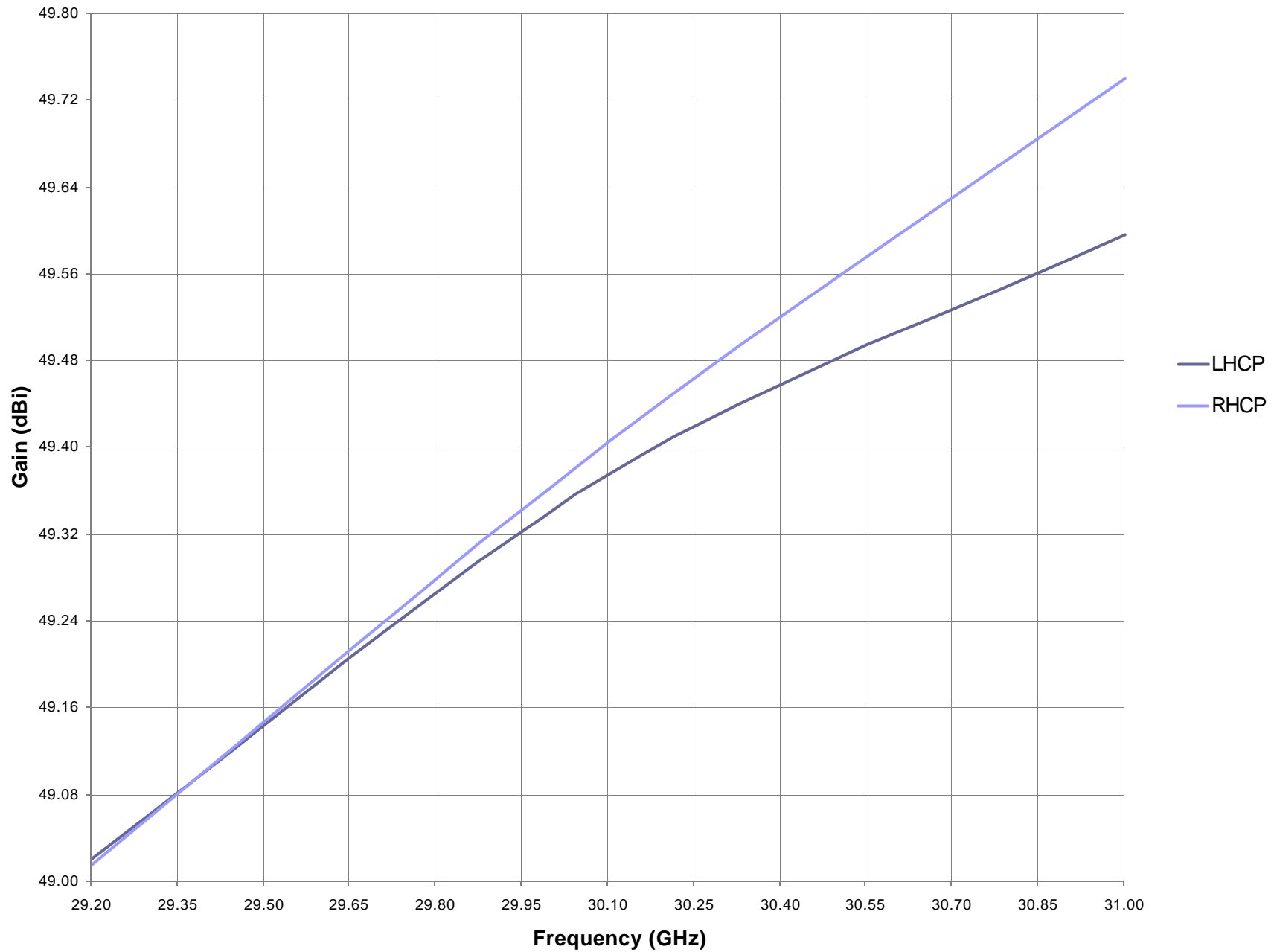
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Receive Frequencies

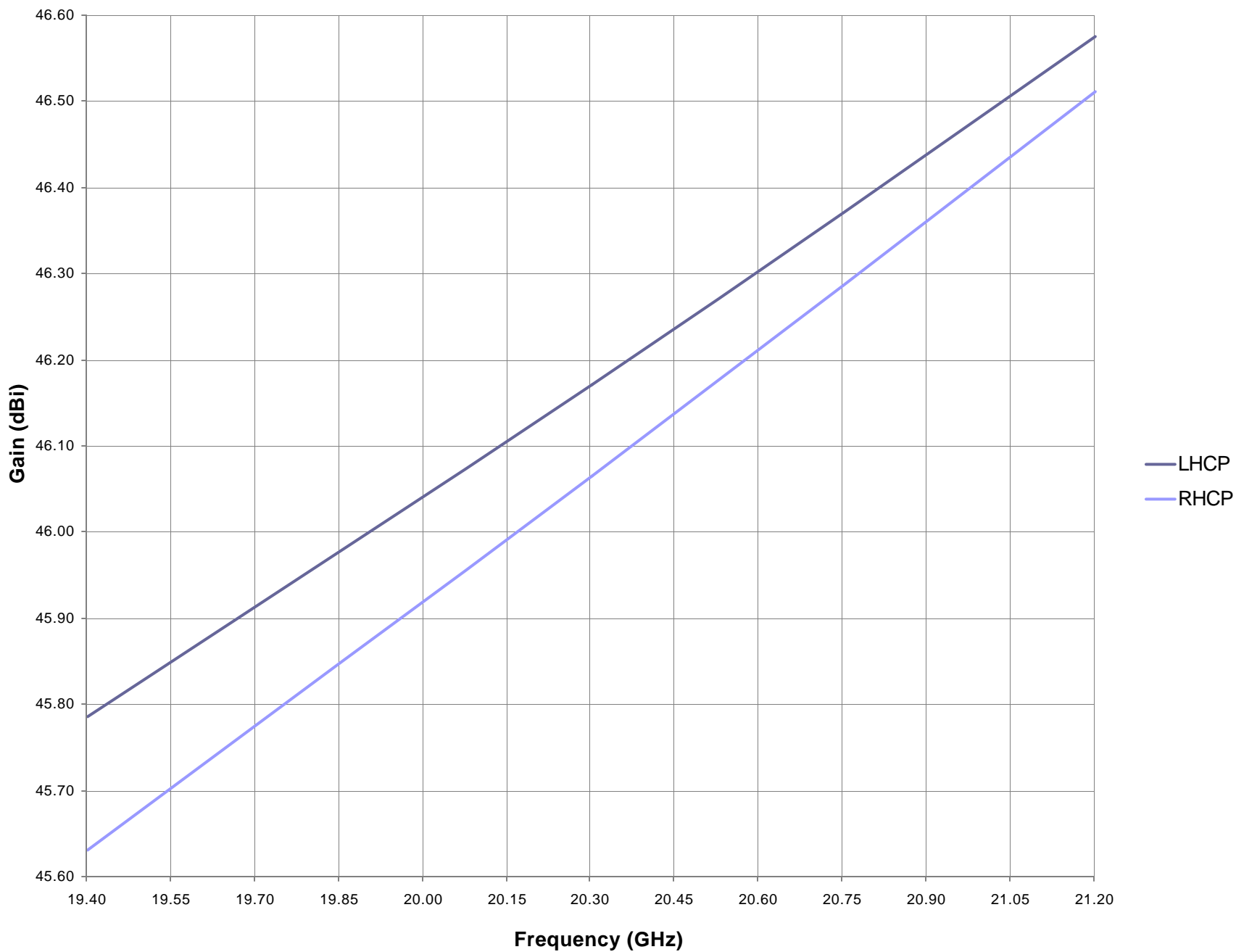


Measured Gain
Transmit and Receive

Measured Gain _ Transmit Frequencies



Measured Gain _ Receive Frequencies



RHCP Radiation Patterns
Transmit Frequencies

1.2M Ka-Band Antenna
Series 3122

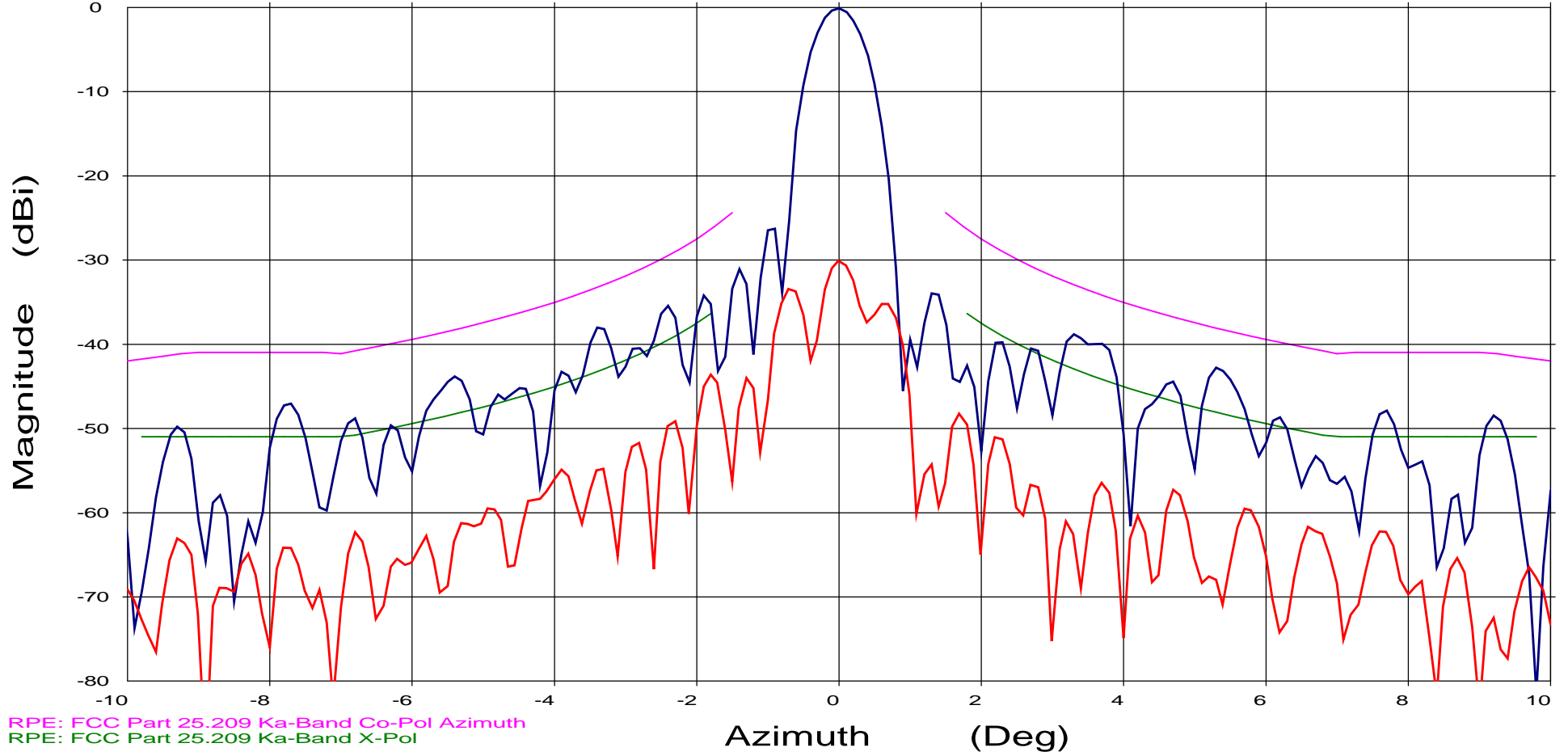
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays

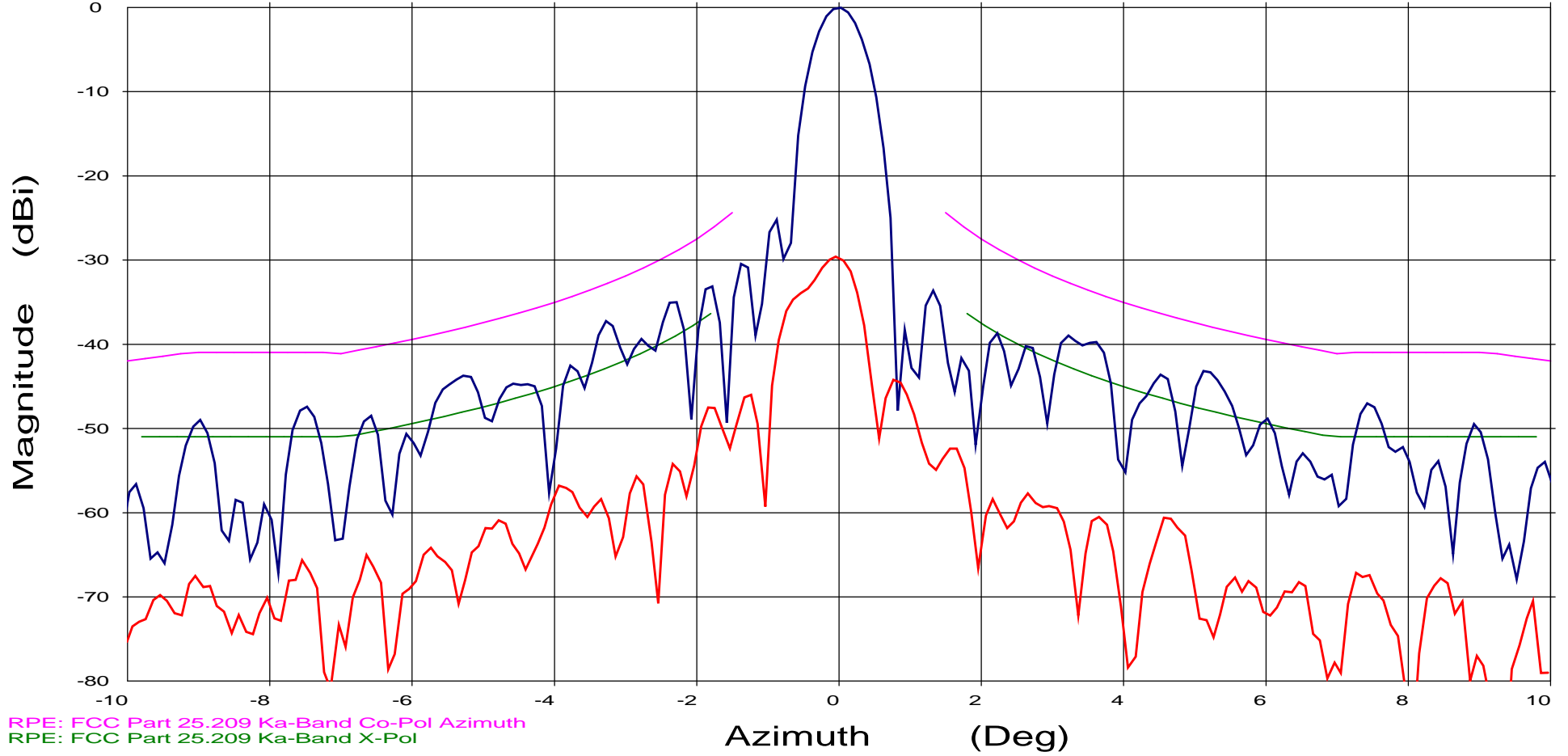
2334 47.dat-ant_under_test — (blue line)
2334 51.dat-ant_under_test — (red line)

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays

- 2334 47.dat-ant_under_test
- 2334 51.dat-ant_under_test

1.2M Ka-Band Antenna
Series 3122

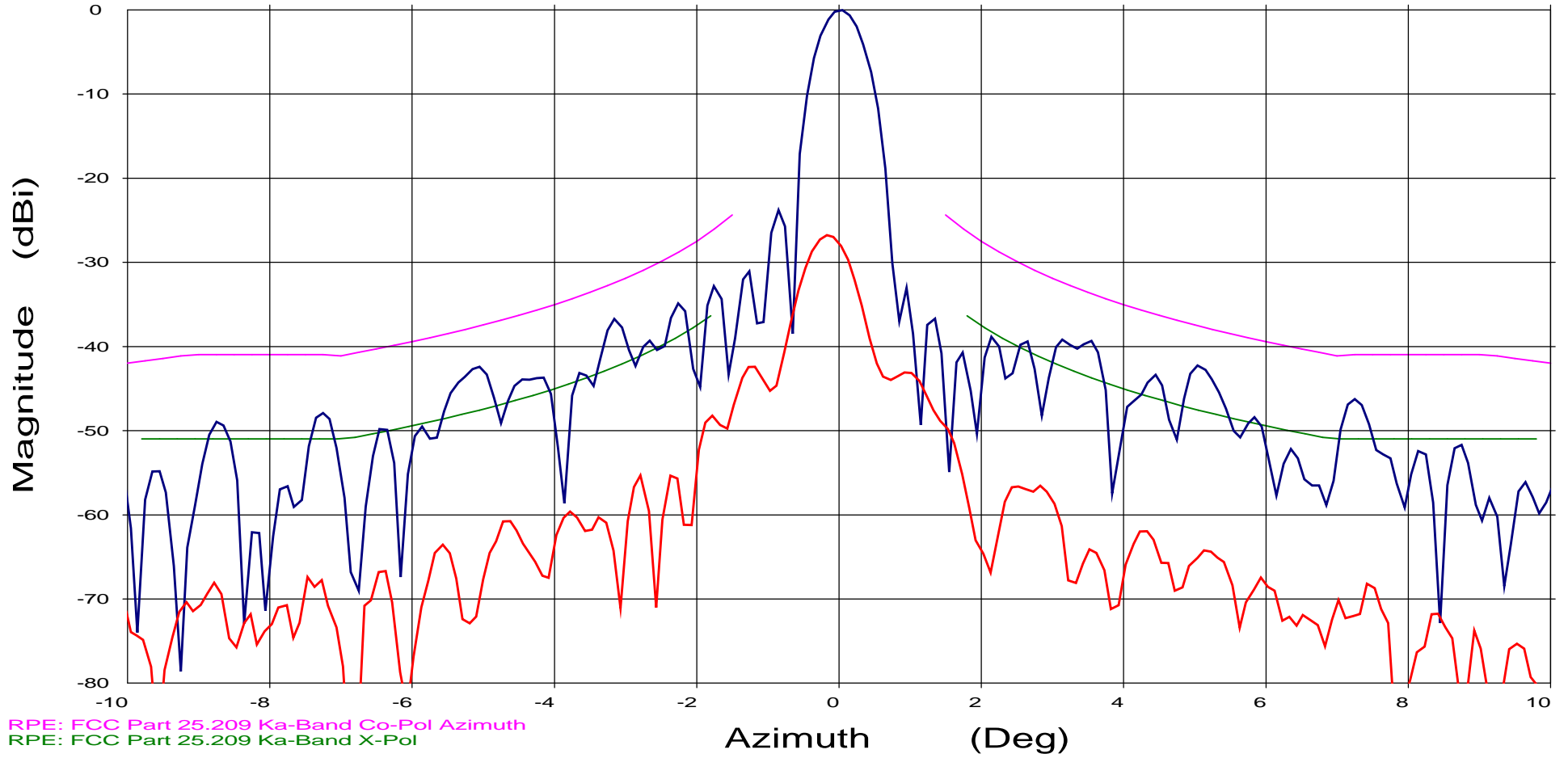
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays

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- 2334 51.dat-ant_under_test — (Red line)

1.2M Ka-Band Antenna
Series 3122

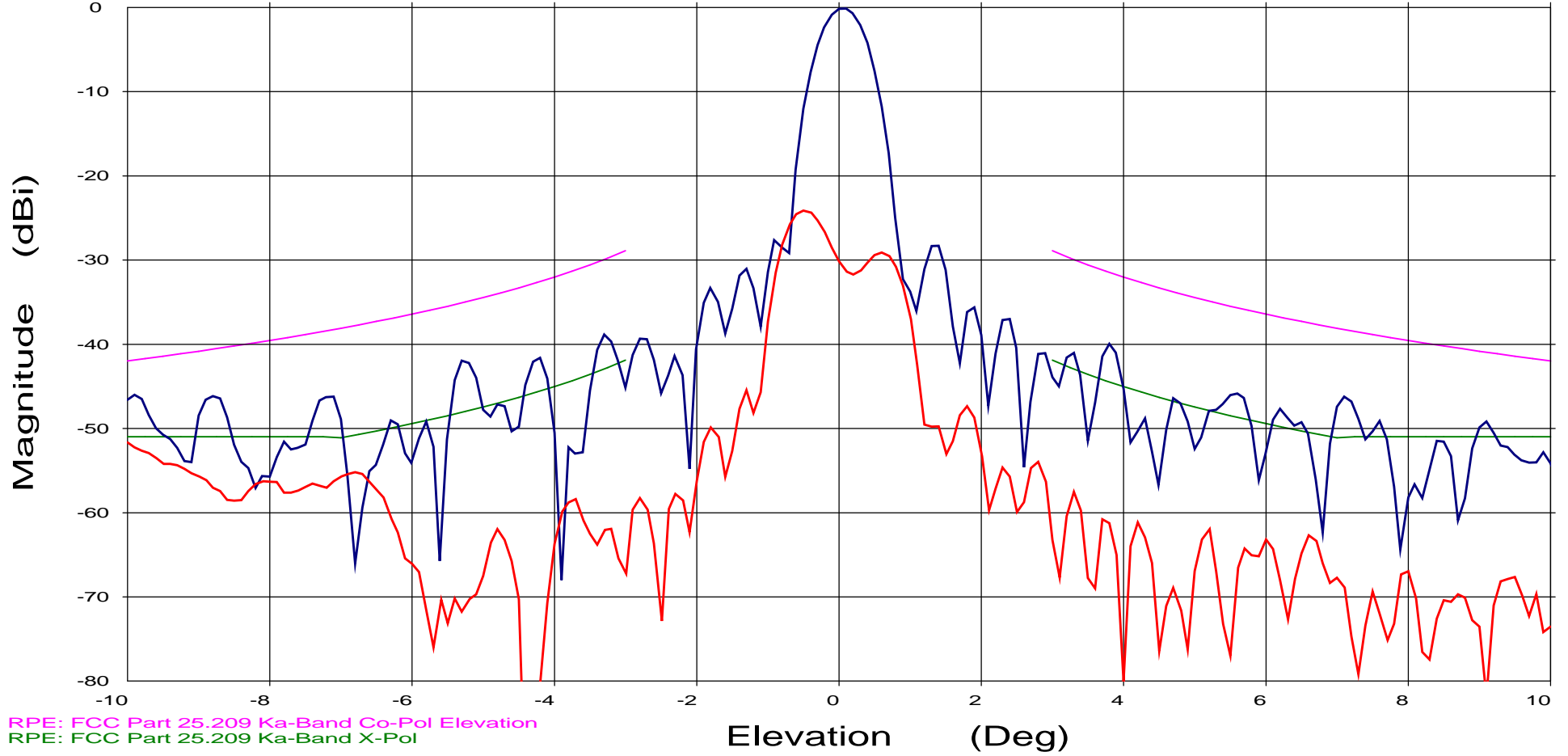
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays

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- 2334 52.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

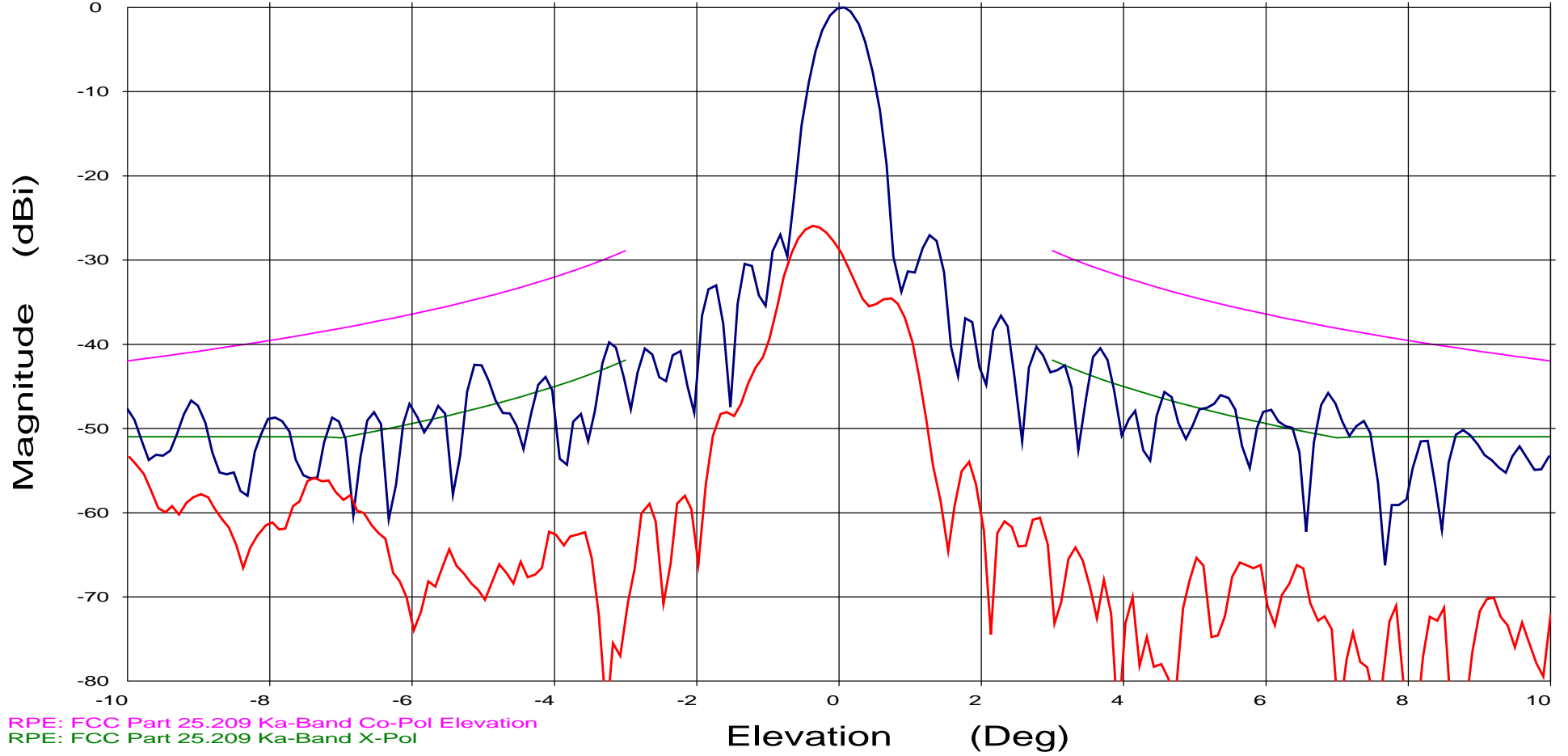
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
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2334 52.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

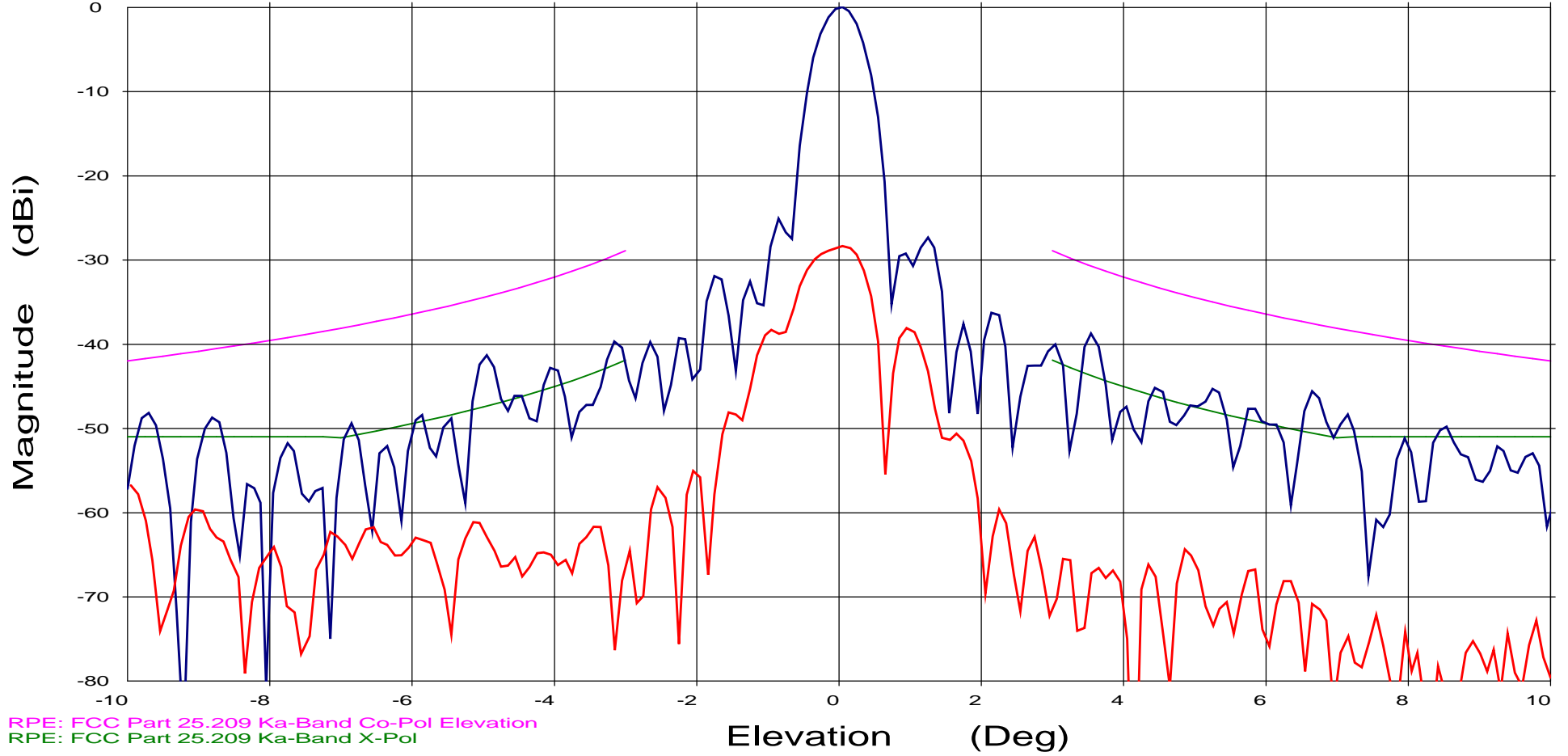
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
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2334 52.dat-ant_under_test ———

File: 2334 49.dat

1.2M Ka-Band Antenna
Series 3122

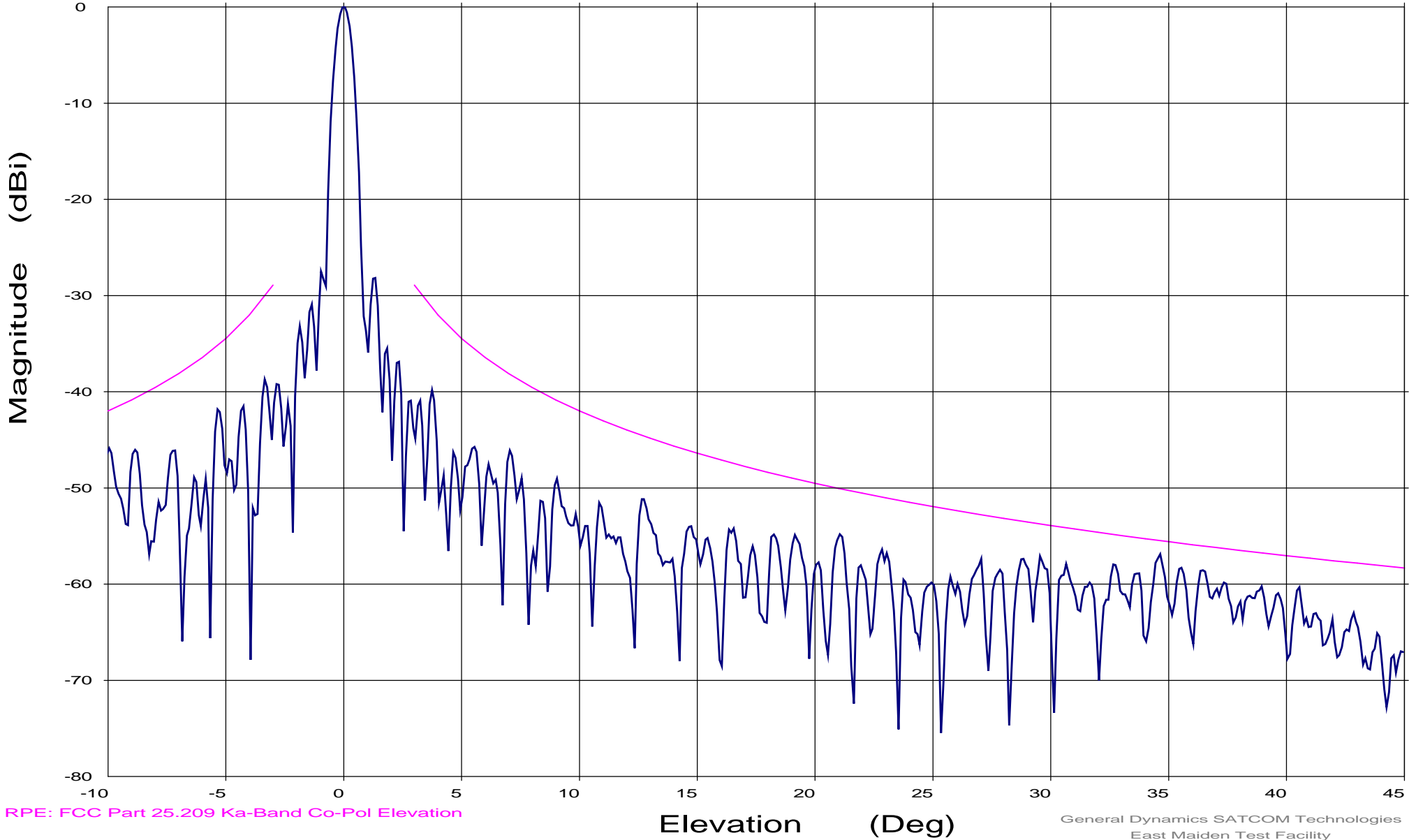
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

General Dynamics SATCOM Technologies
East Maiden Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650

File: 2334 49.dat

1.2M Ka-Band Antenna
Series 3122

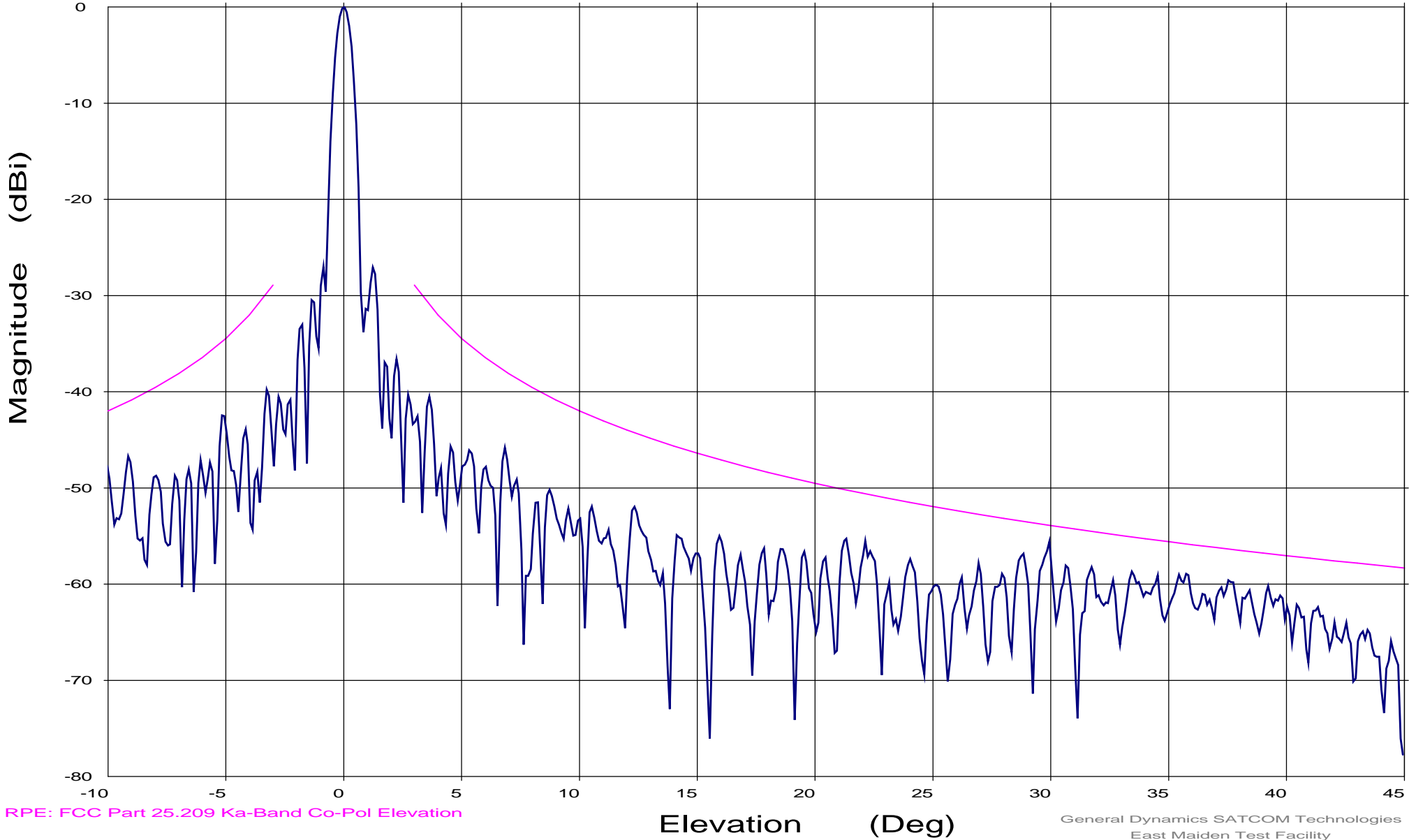
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

Elevation (Deg)

General Dynamics SATCOM Technologies
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File: 2334 49.dat

1.2M Ka-Band Antenna
Series 3122

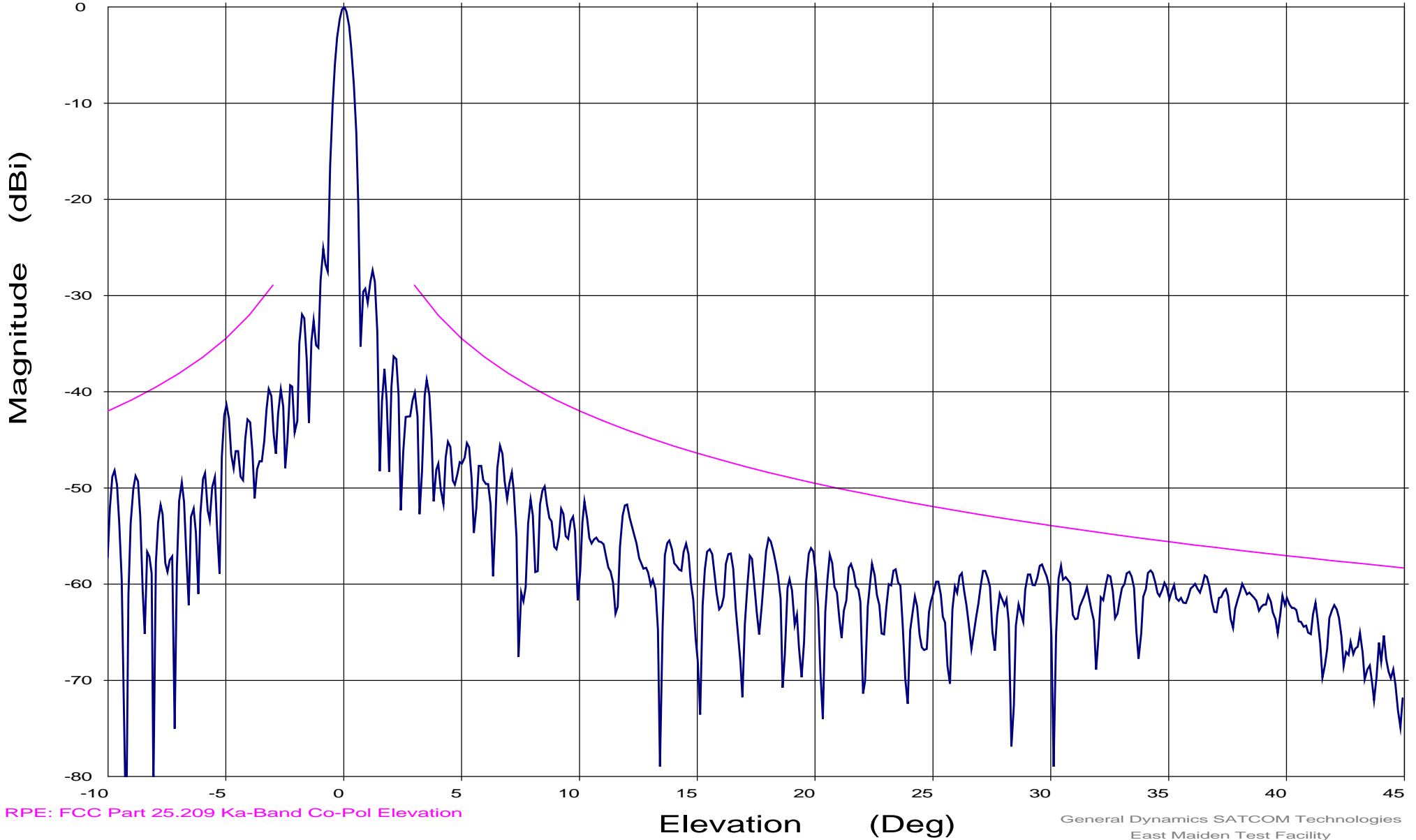
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

General Dynamics SATCOM Technologies
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File: 2334 47.dat

1.2M Ka-Band Antenna
Series 3122

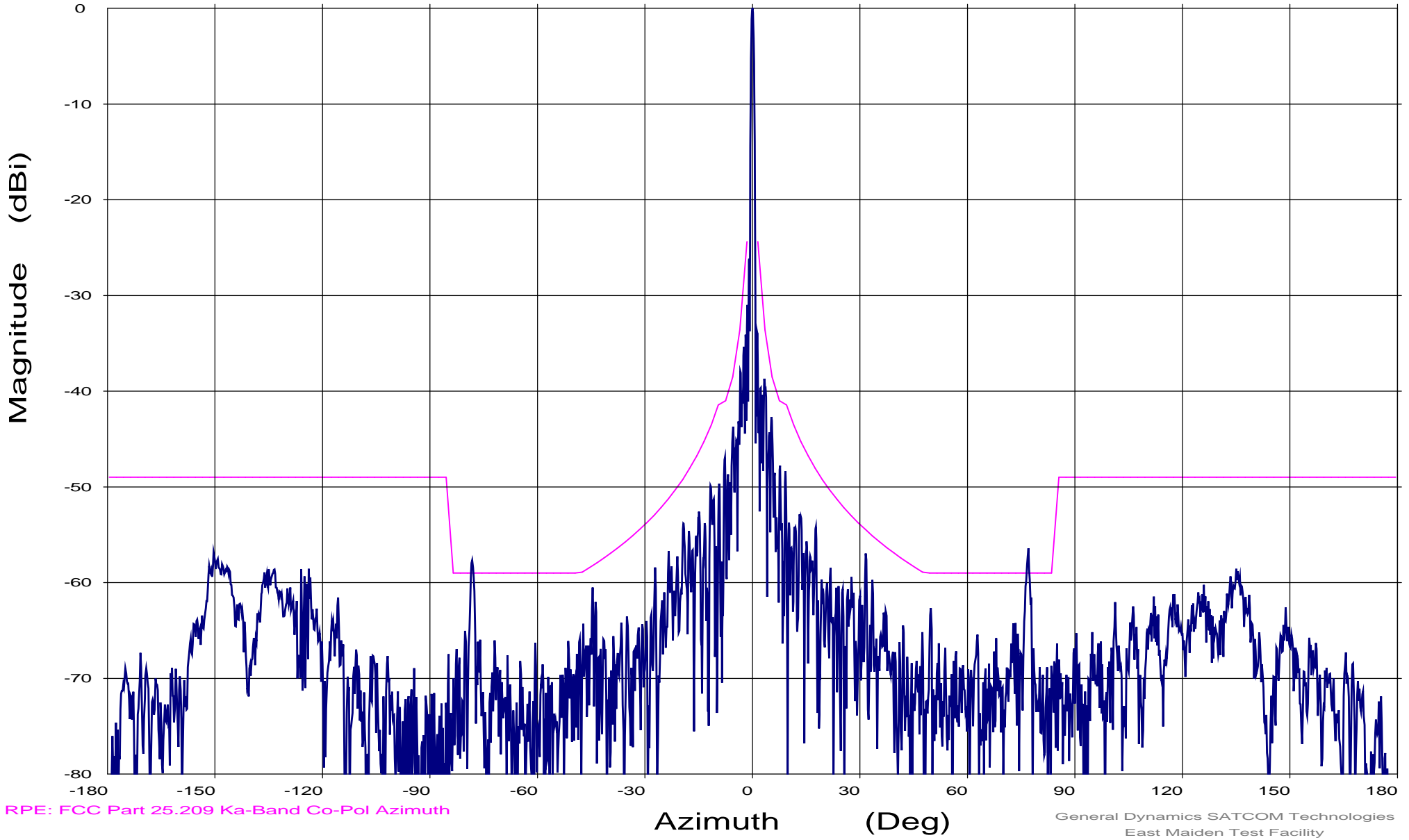
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
East Maiden Test Facility
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File: 2334 47.dat

1.2M Ka-Band Antenna
Series 3122

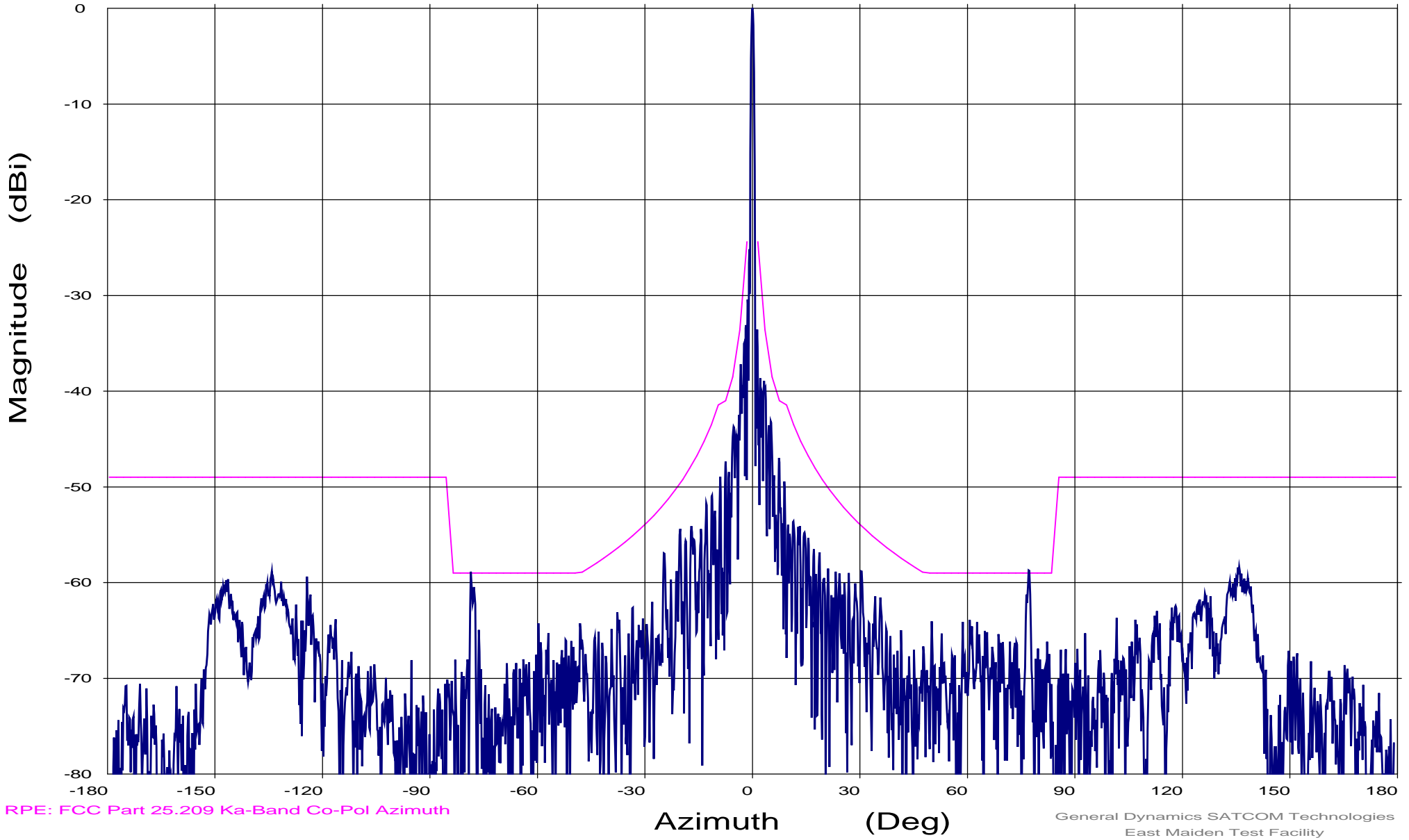
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

Azimuth (Deg)

General Dynamics SATCOM Technologies
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Maiden, North Carolina 28650

File: 2334 47.dat

1.2M Ka-Band Antenna
Series 3122

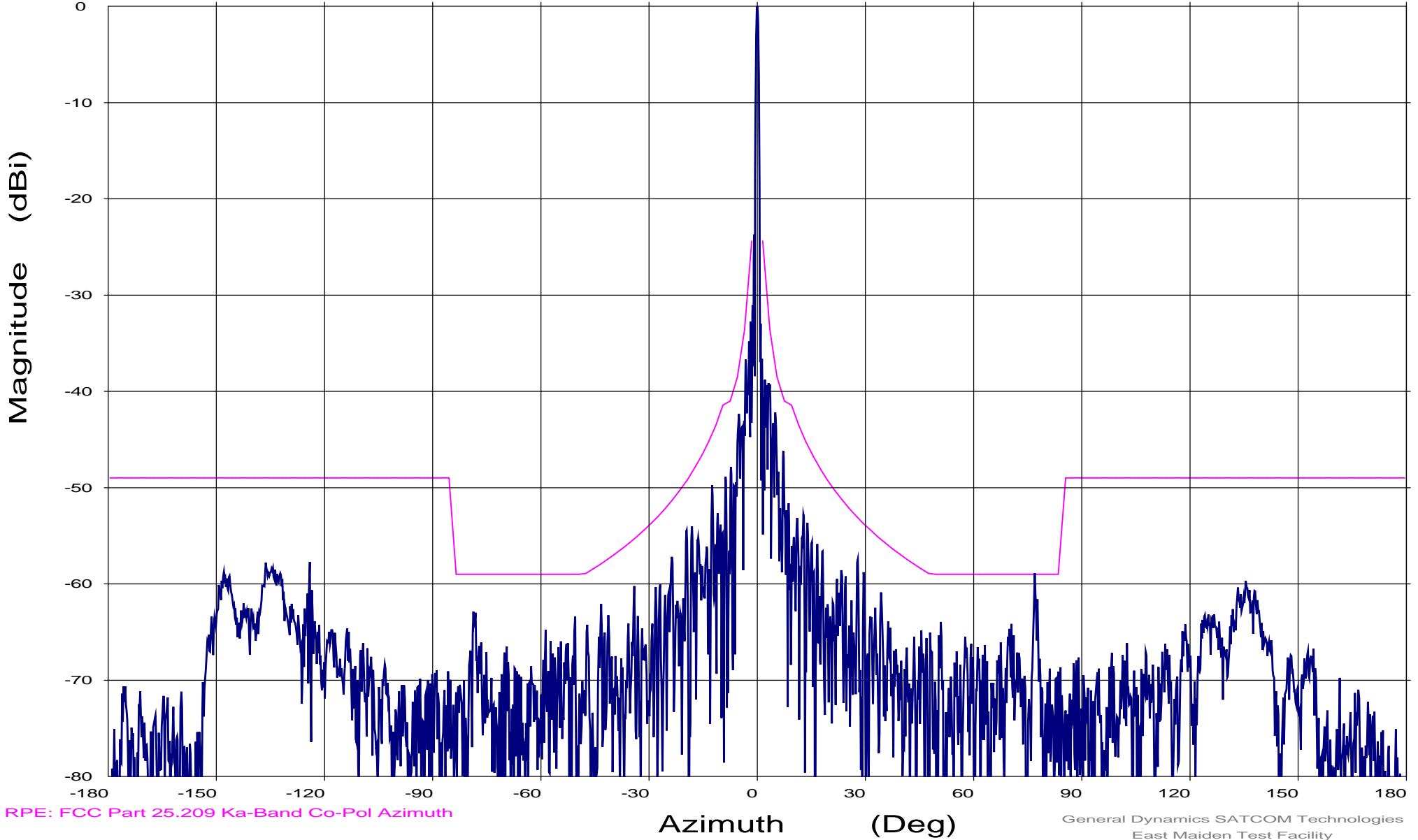
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

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East Maiden Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650

LHCP Radiation Patterns
Transmit Frequencies

1.2M Ka-Band Antenna
Series 3122

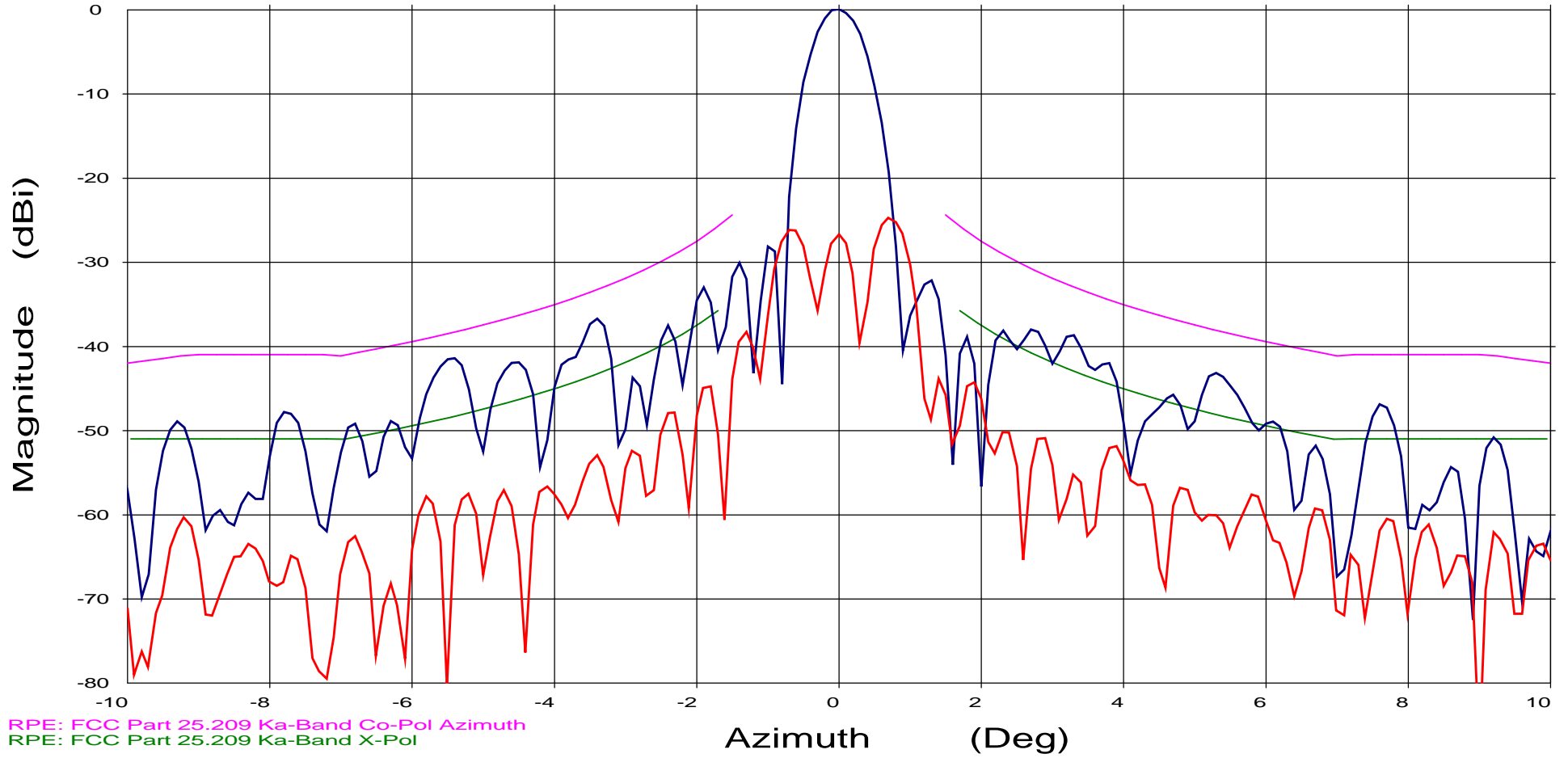
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays

2334 26.dat-ant_under_test — (blue line)
2334 56.dat-ant_under_test — (red line)

1.2M Ka-Band Antenna
Series 3122

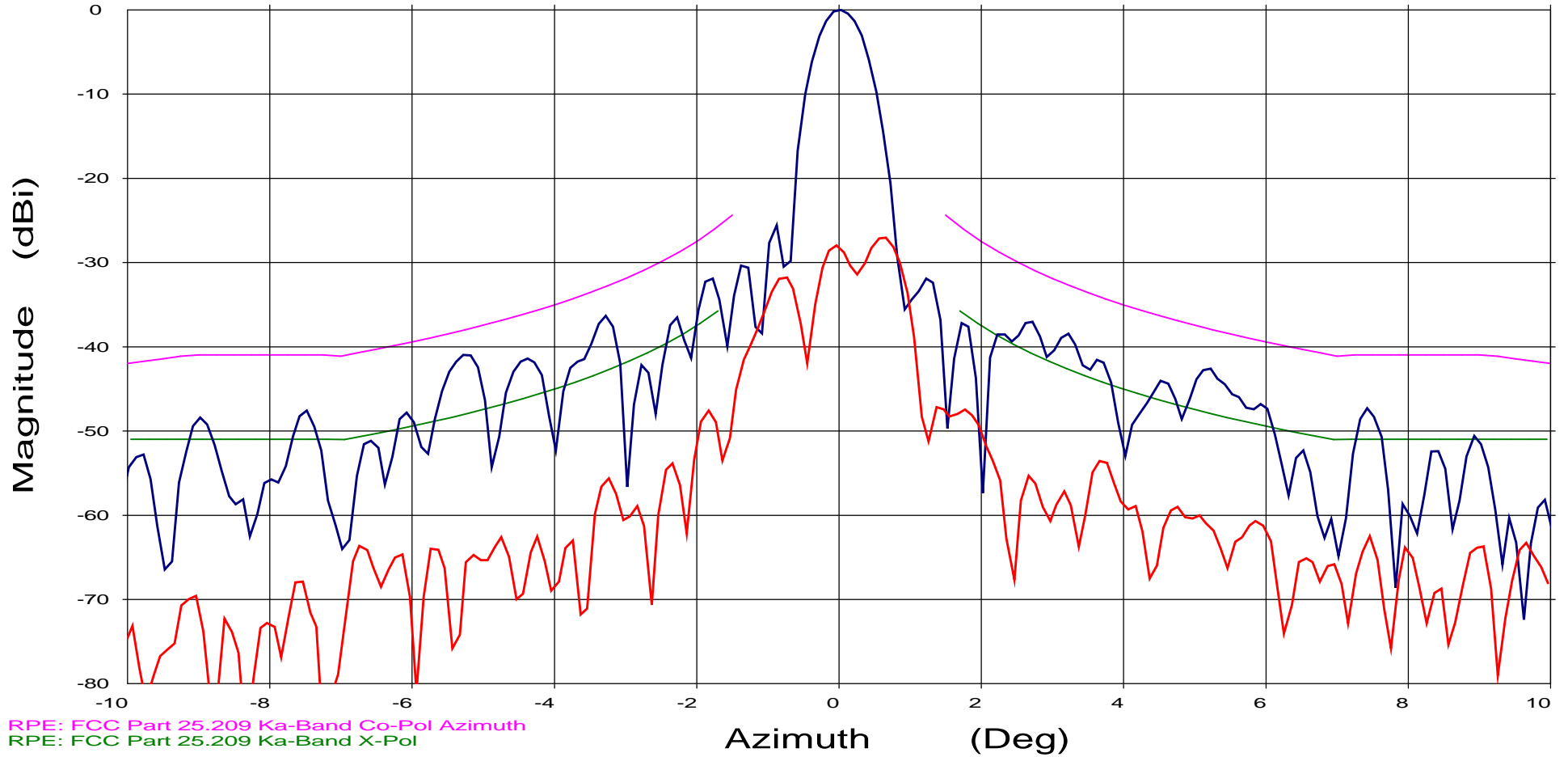
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 26.dat-ant_under_test ———
2334 56.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

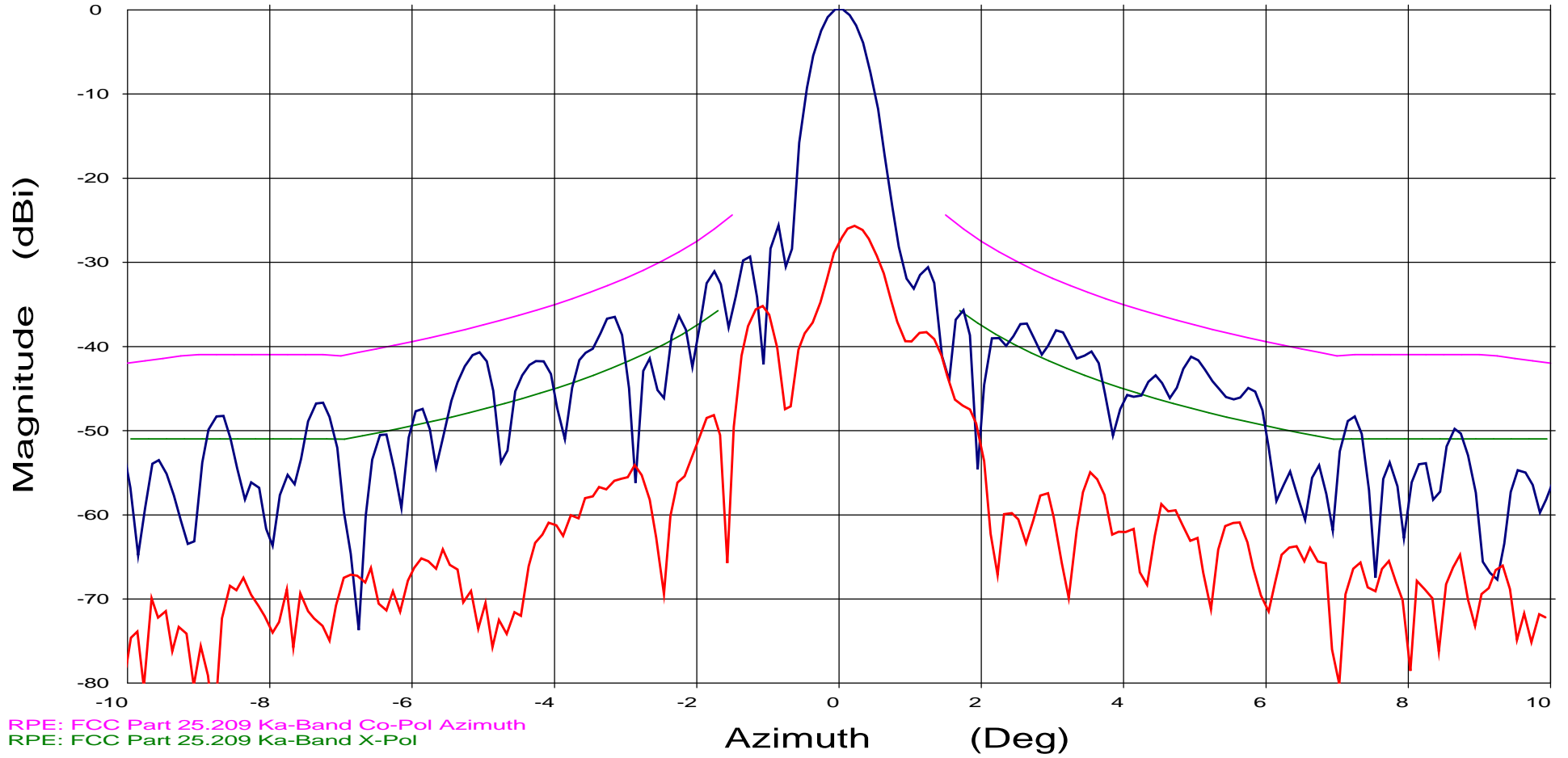
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays

- 2334 26.dat-ant_under_test — blue line
- 2334 56.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

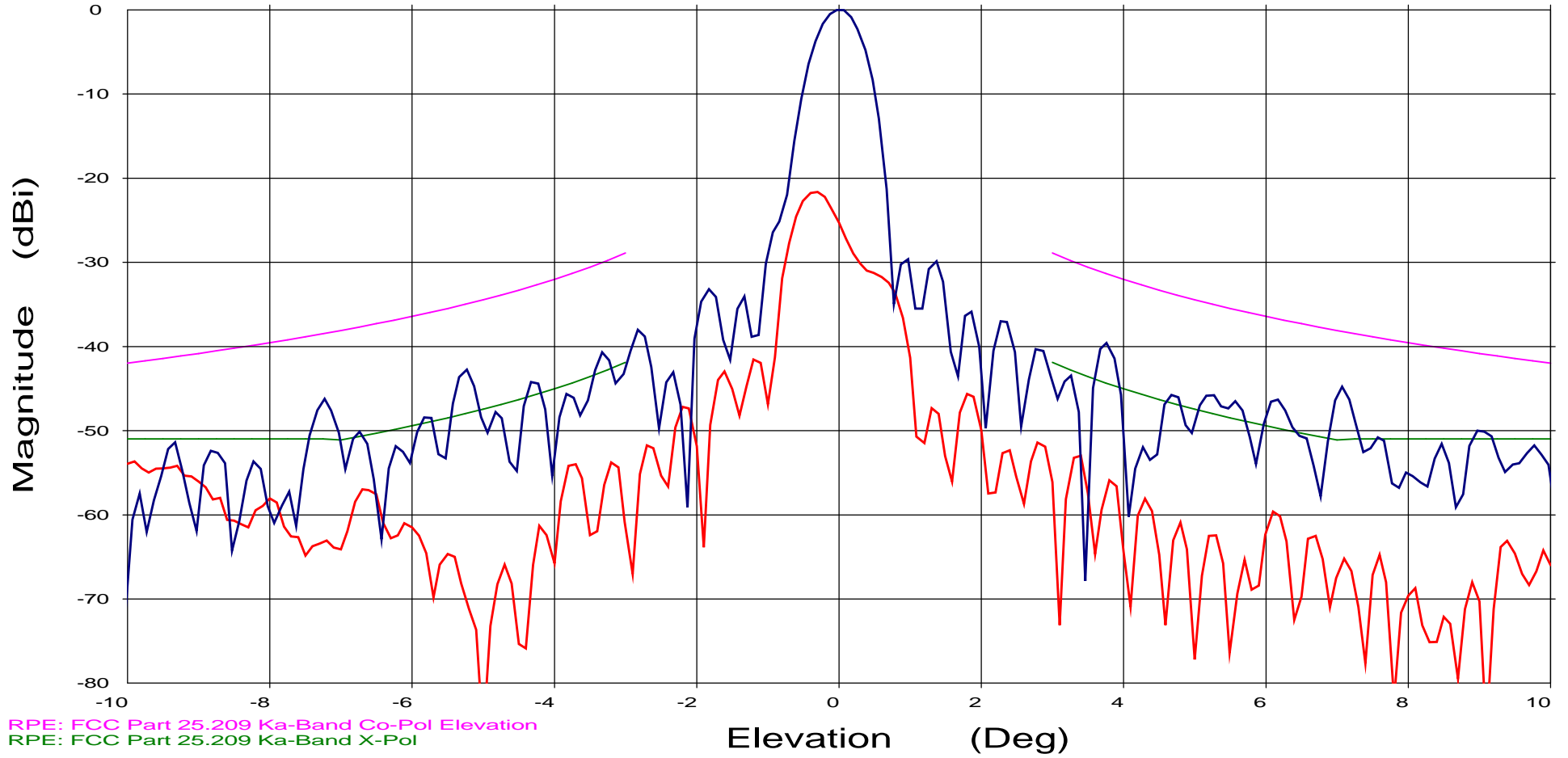
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays
2334 28.dat-ant_under_test — (blue line)
2334 58.dat-ant_under_test — (red line)

1.2M Ka-Band Antenna
Series 3122

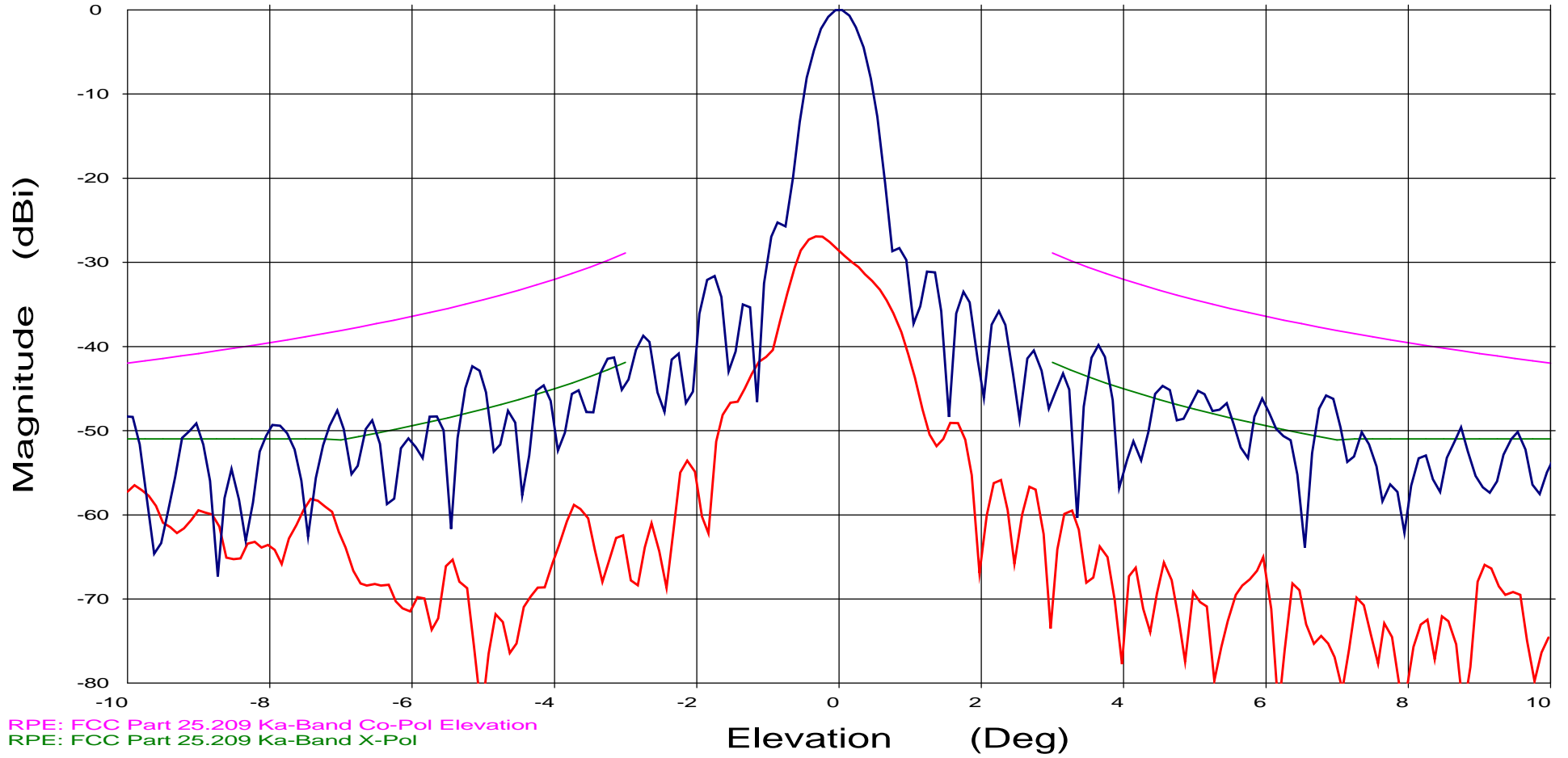
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 28.dat-ant_under_test — blue line
2334 58.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

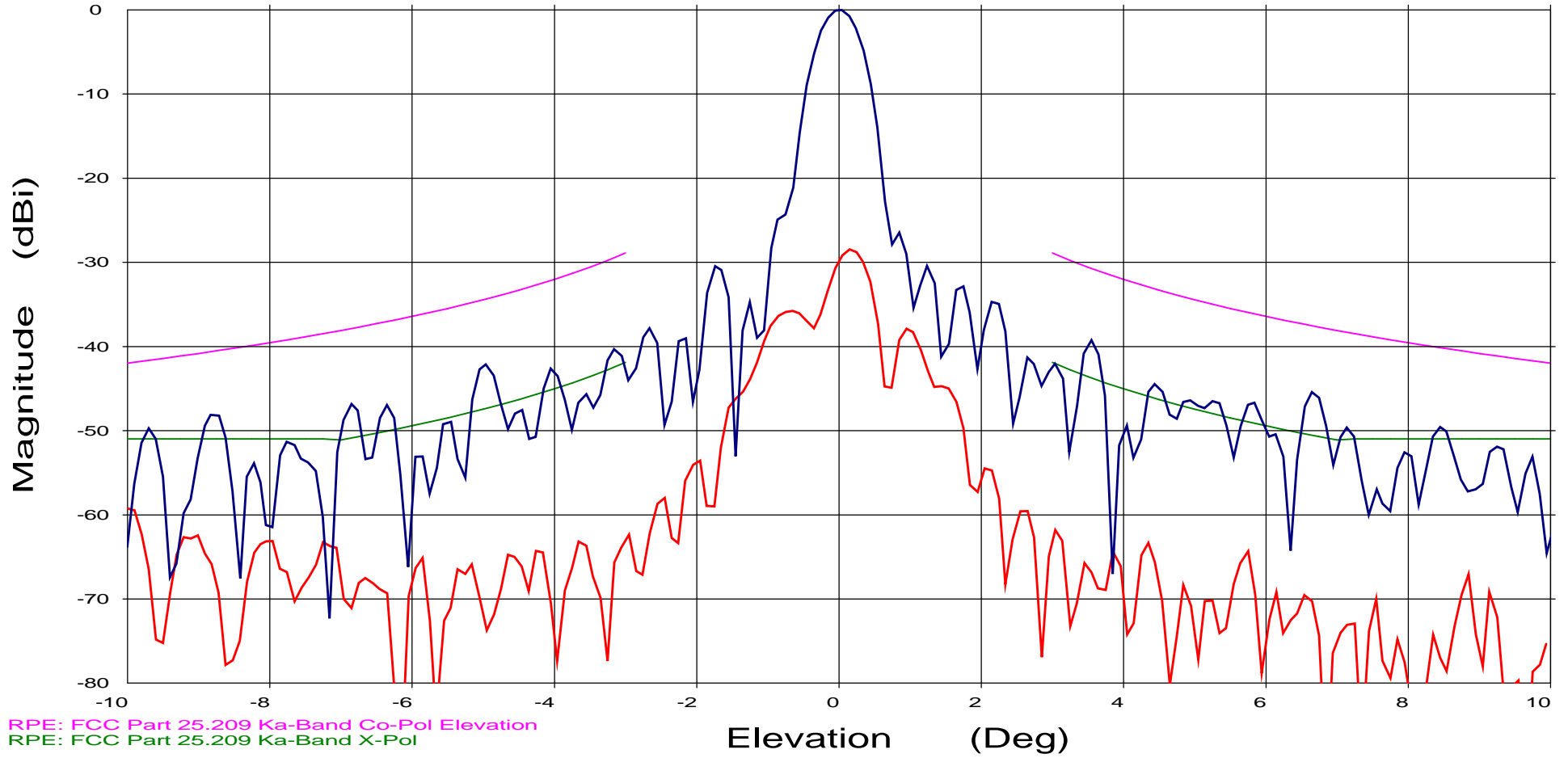
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays
2334 28.dat-ant_under_test ———
2334 58.dat-ant_under_test ———

File: 2334 28.dat

1.2M Ka-Band Antenna
Series 3122

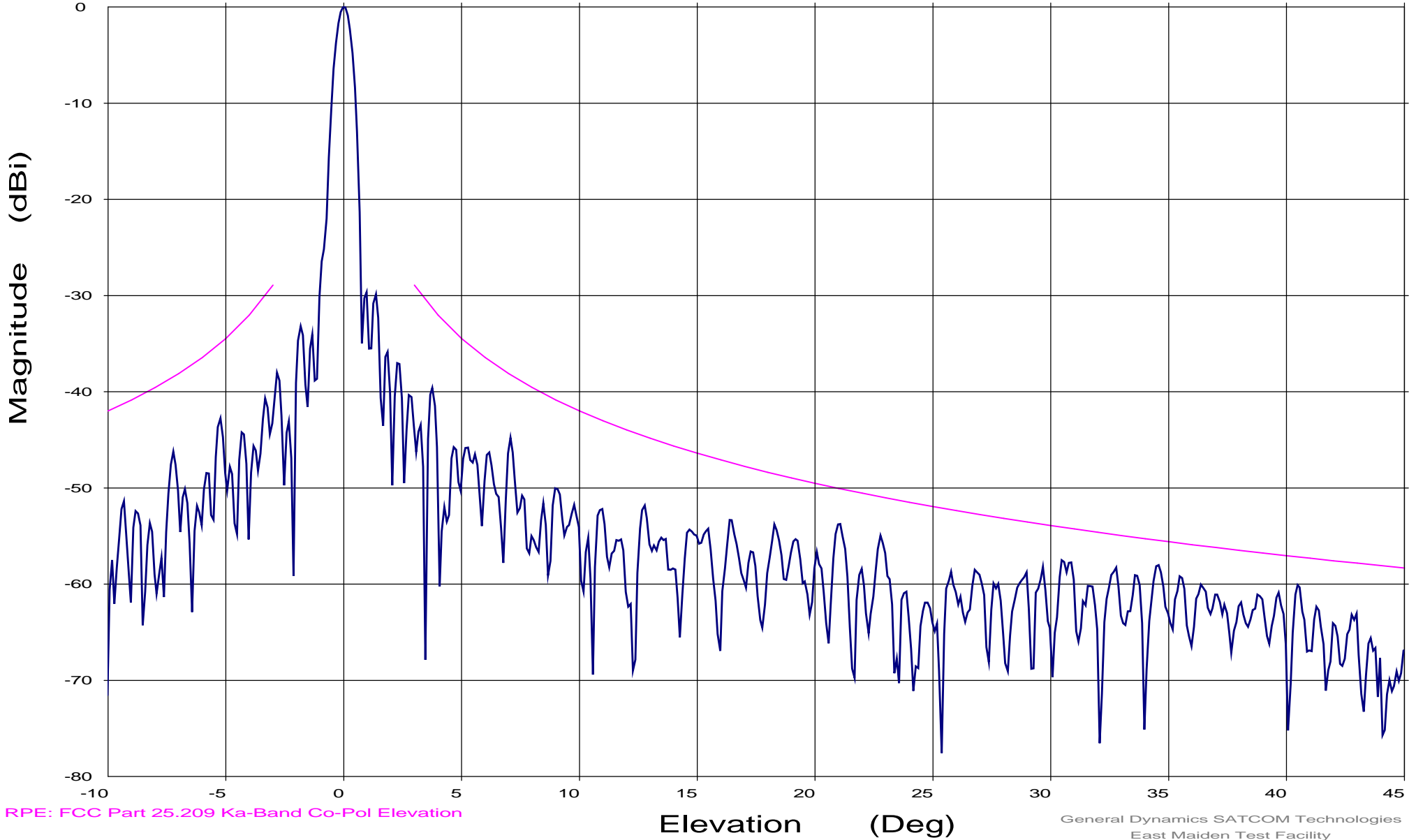
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

General Dynamics SATCOM Technologies
East Maiden Test Facility
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File: 2334 28.dat

1.2M Ka-Band Antenna
Series 3122

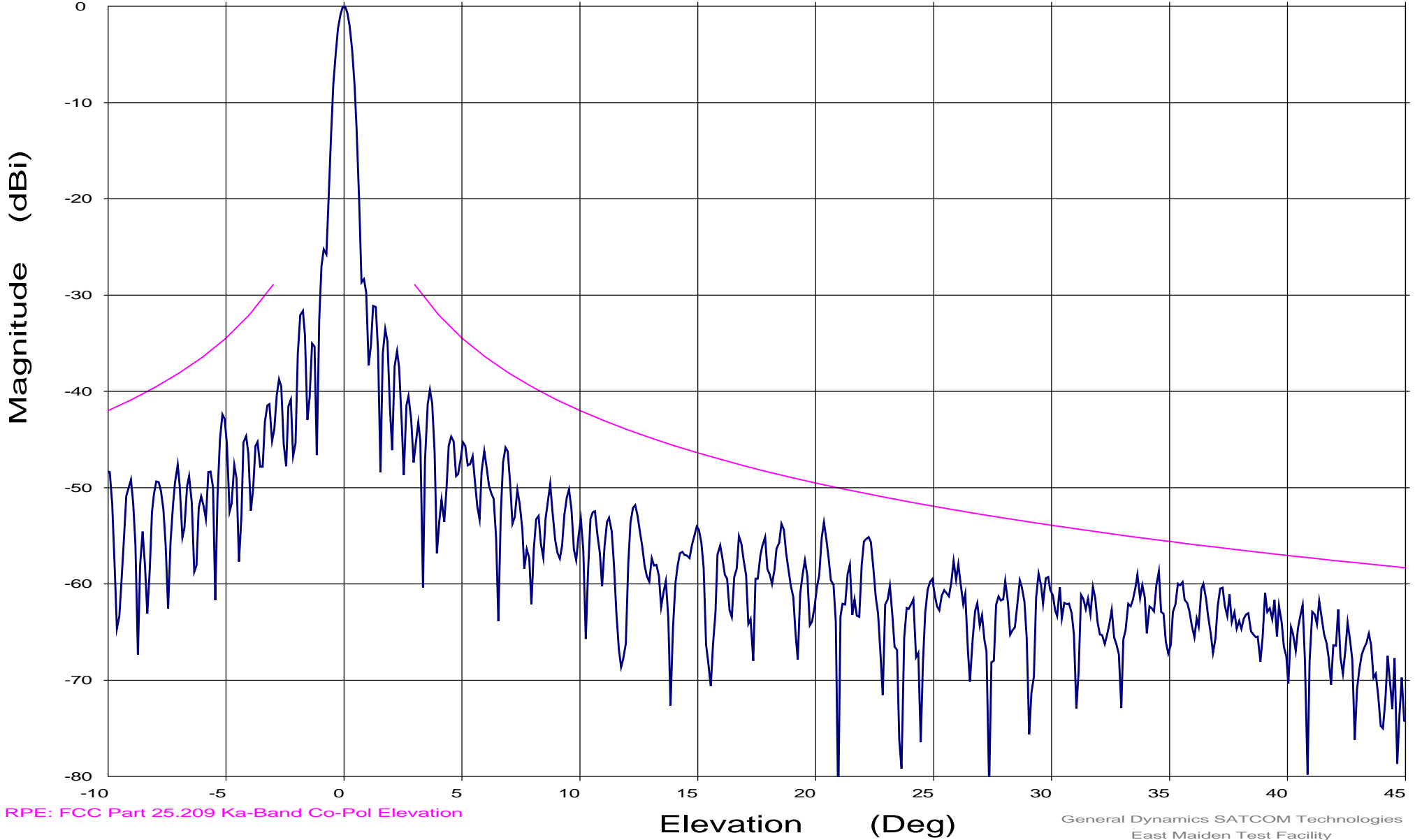
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

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File: 2334 28.dat

1.2M Ka-Band Antenna
Series 3122

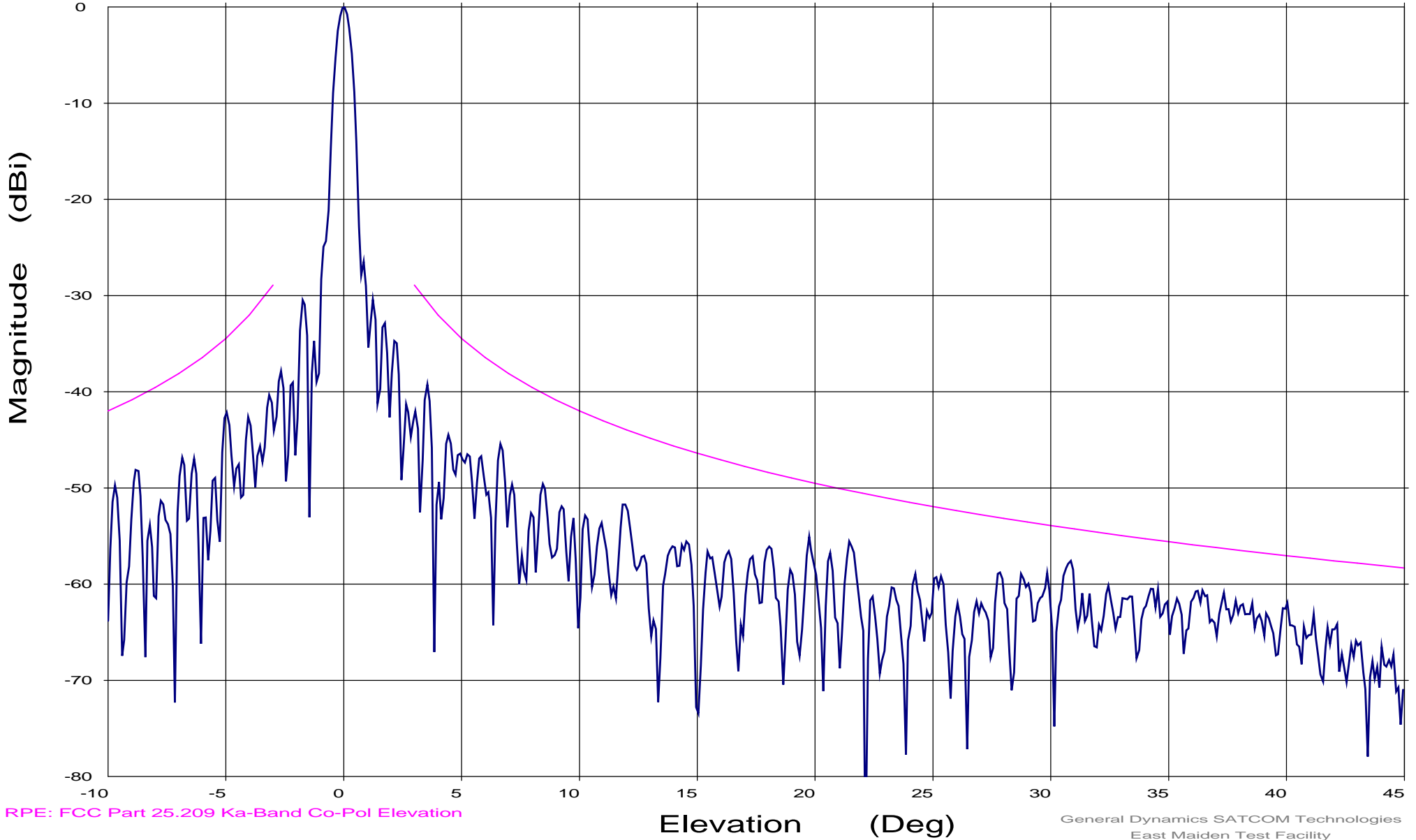
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

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File: 2334 26.dat

1.2M Ka-Band Antenna
Series 3122

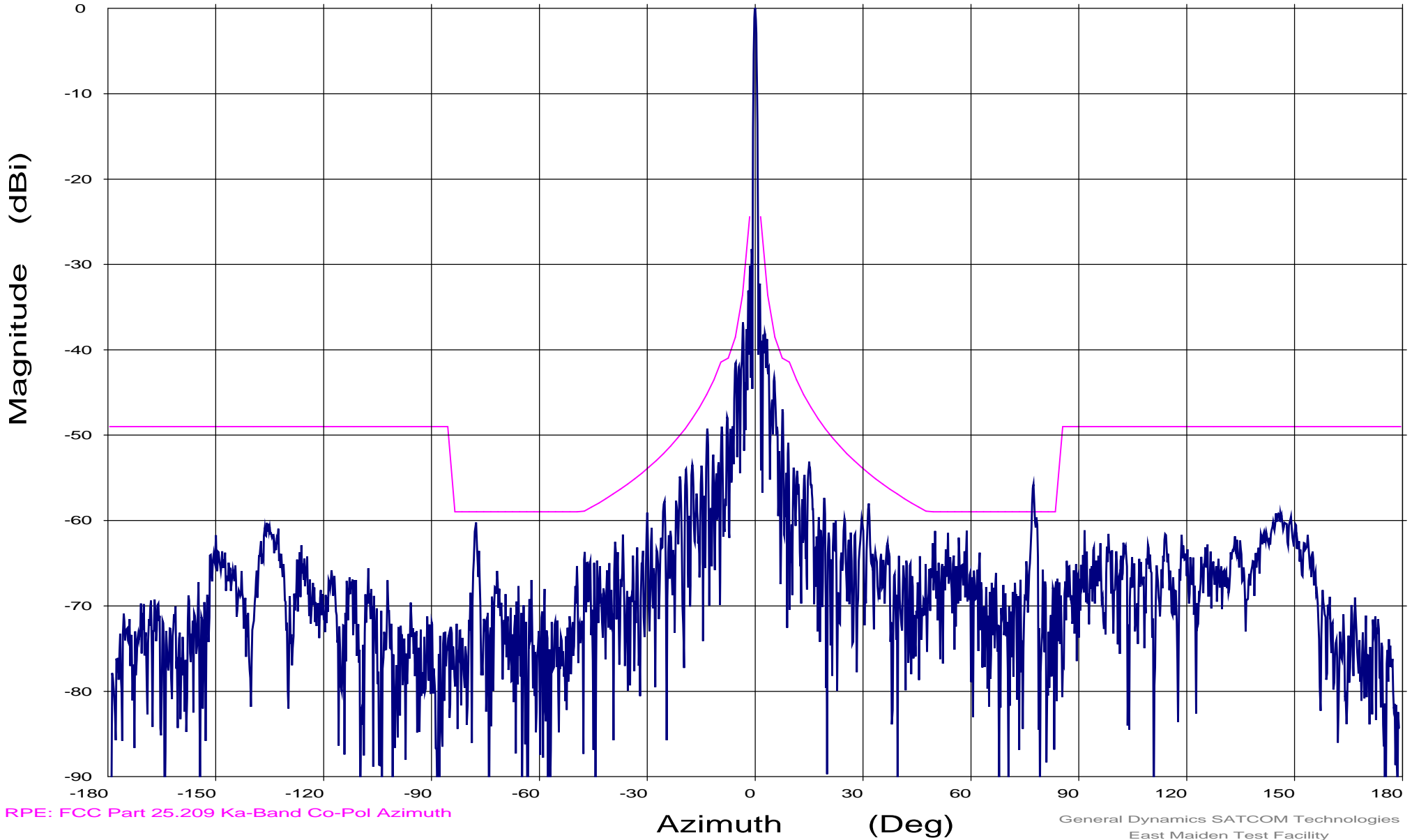
Frequency : 29.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

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File: 2334 26.dat

1.2M Ka-Band Antenna
Series 3122

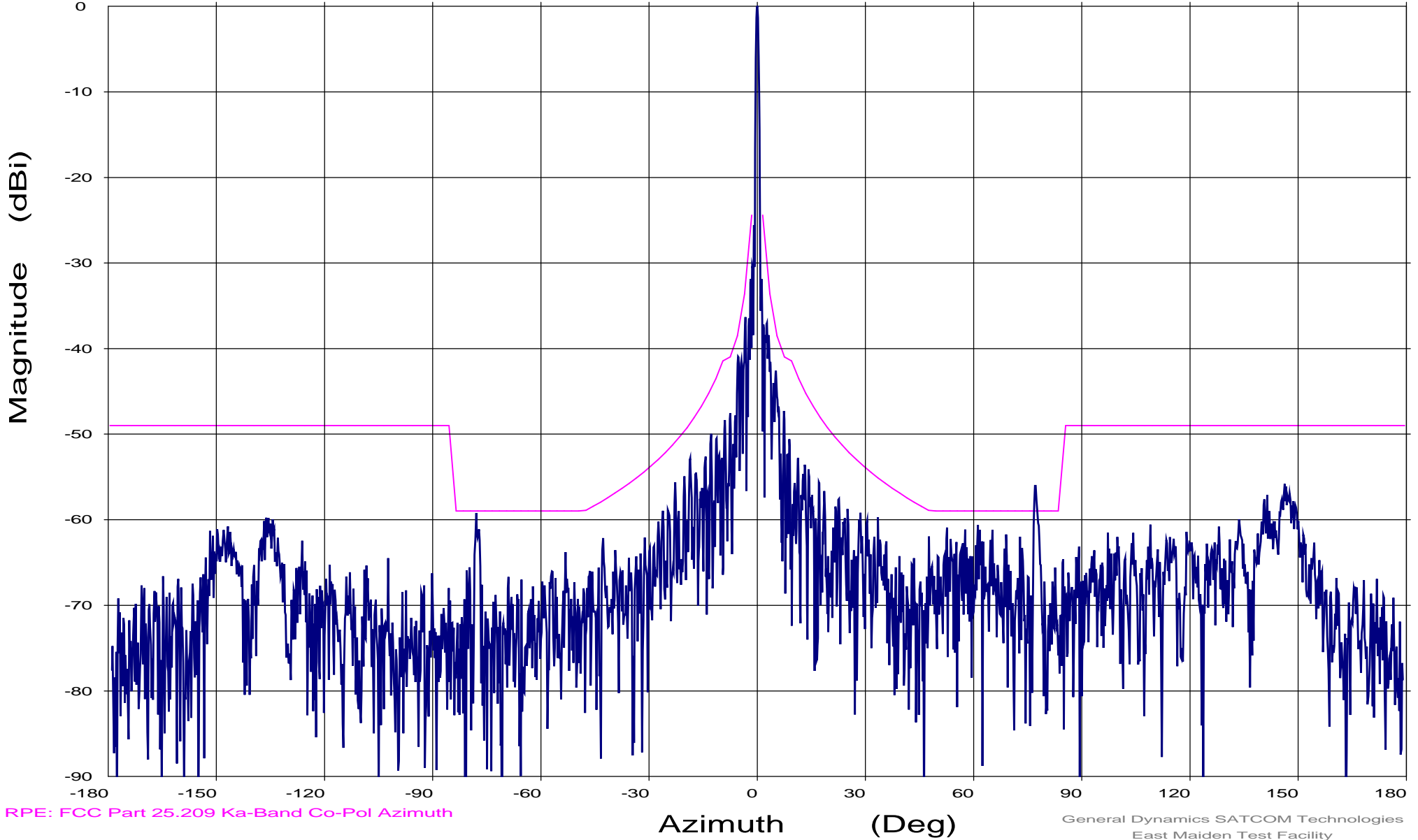
Frequency : 30.100 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
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Maiden, North Carolina 28650

File: 2334 26.dat

1.2M Ka-Band Antenna
Series 3122

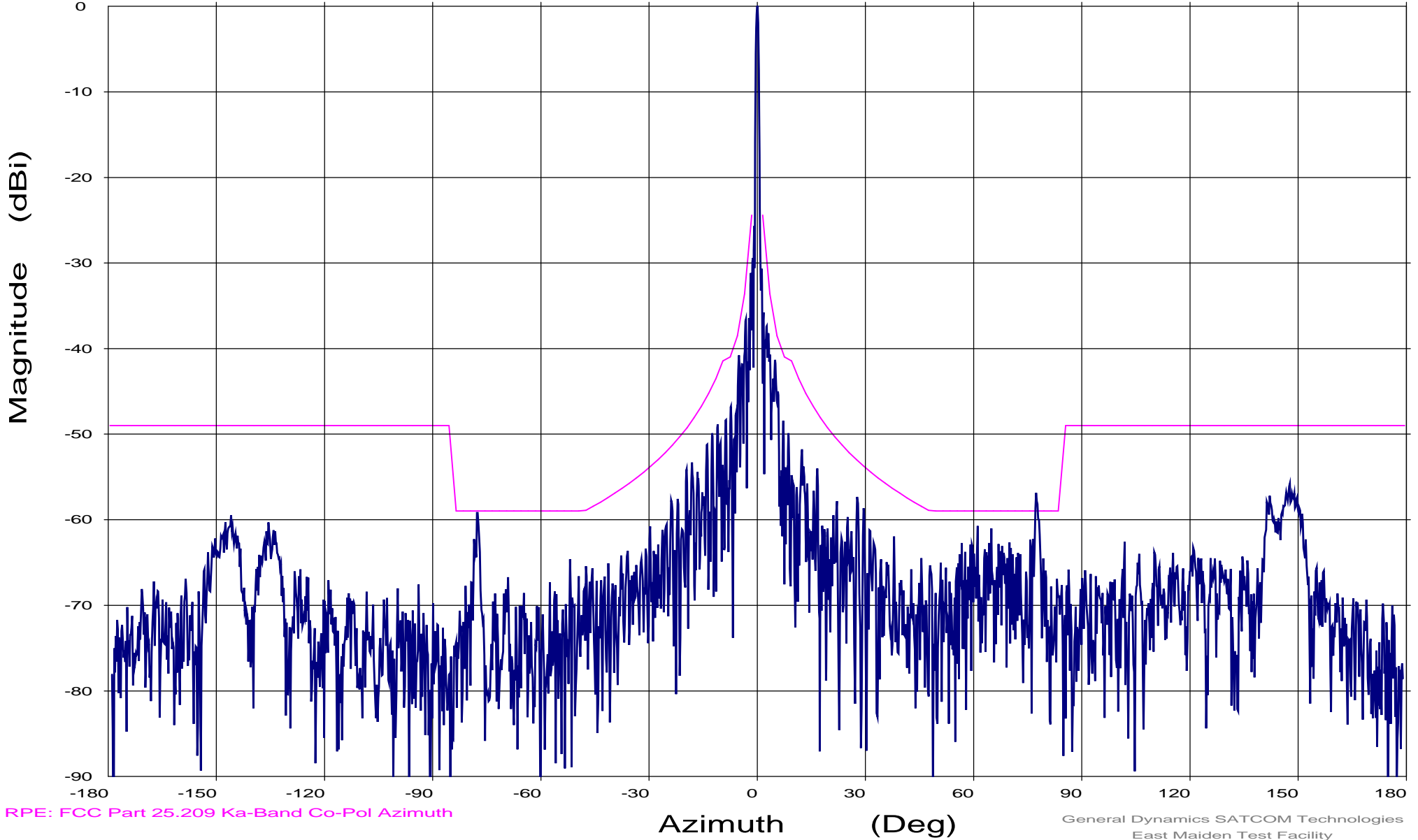
Frequency : 31.000 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
East Maiden Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650

RHCP Radiation Patterns
Receive Frequencies

1.2M Ka-Band Antenna
Series 3122

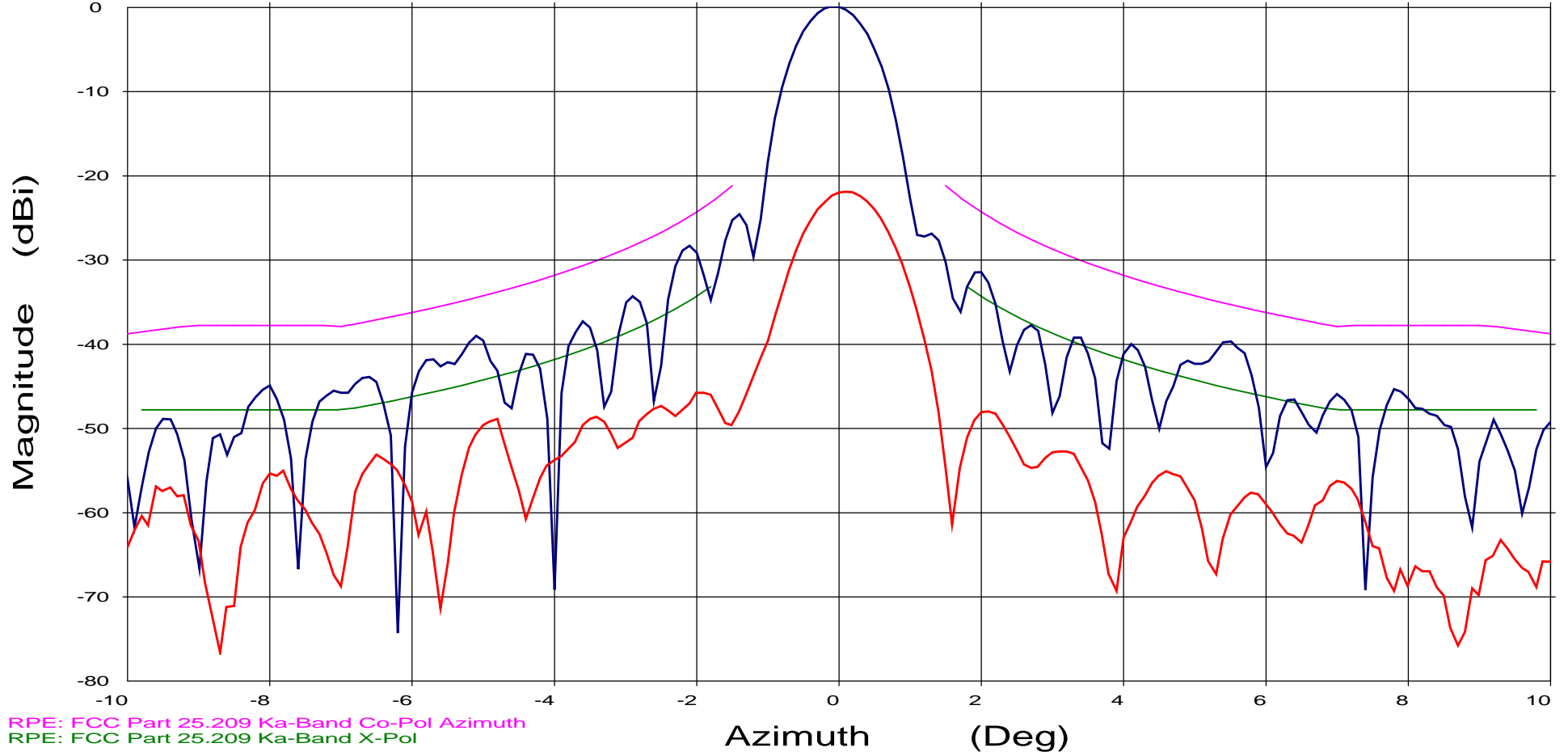
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays

2334 61.dat-ant_under_test — (blue line)
2334 64.dat-ant_under_test — (red line)

1.2M Ka-Band Antenna
Series 3122

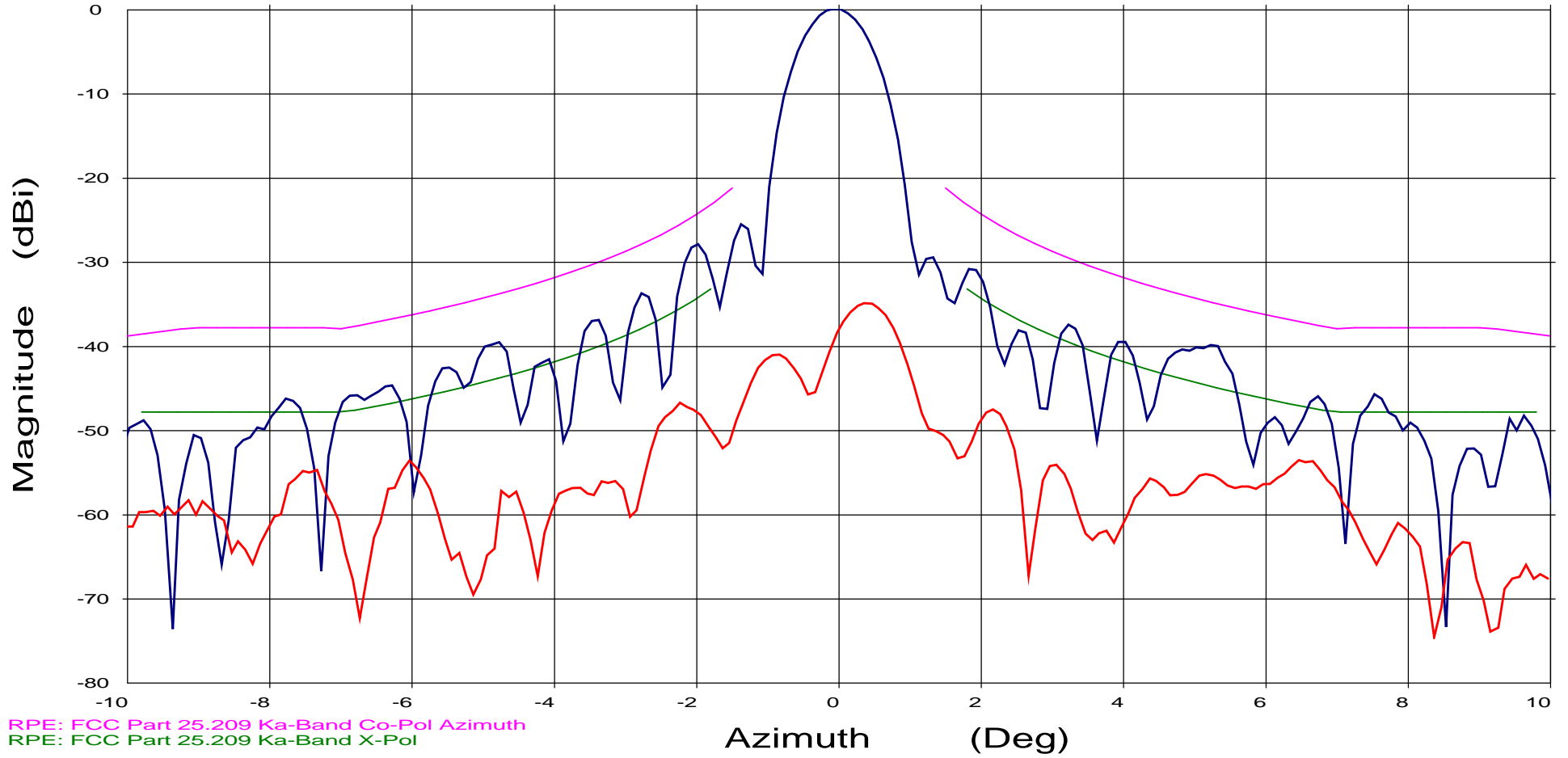
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays
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2334 64.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

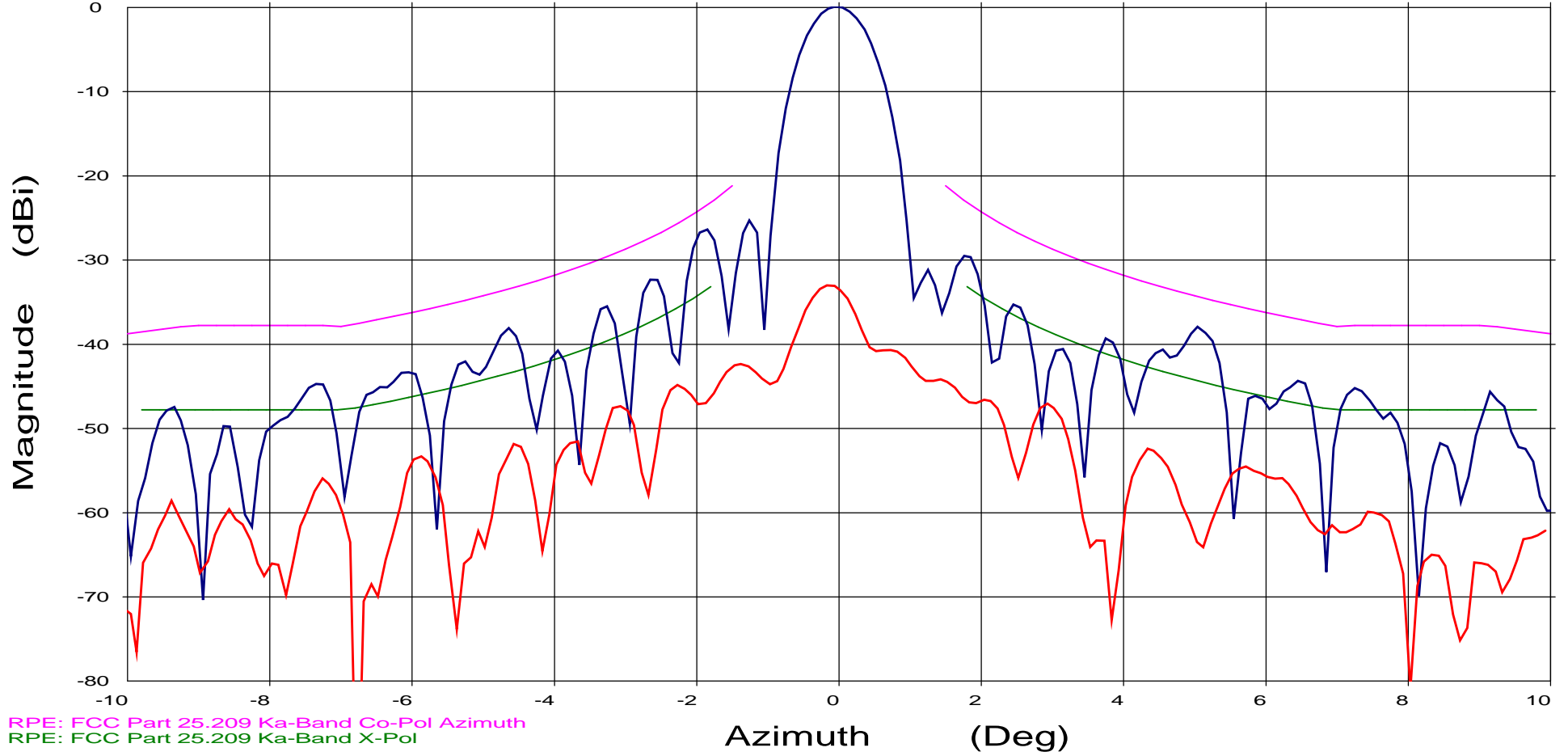
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 61.dat-ant_under_test ———
2334 64.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

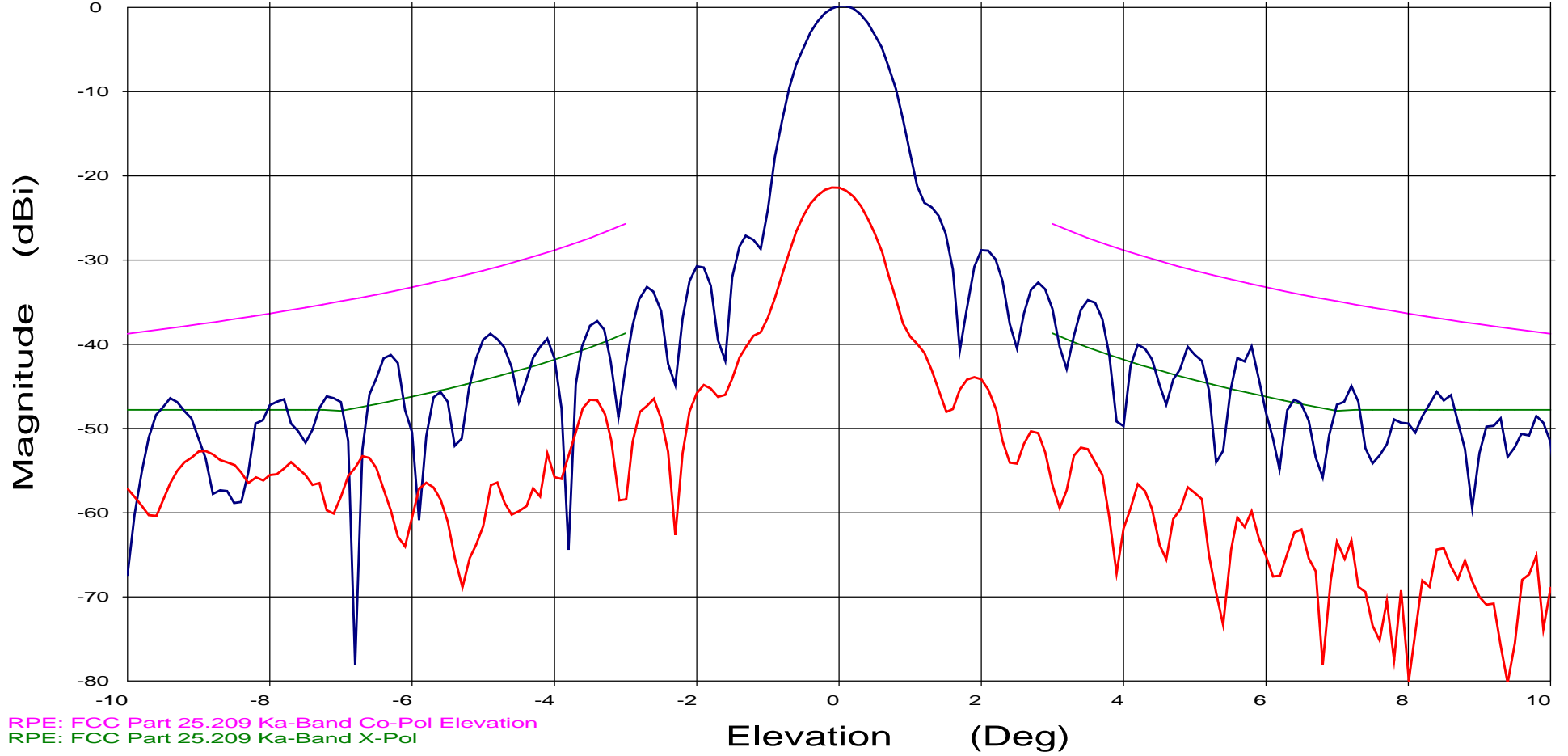
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 63.dat-ant_under_test ———
2334 66.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

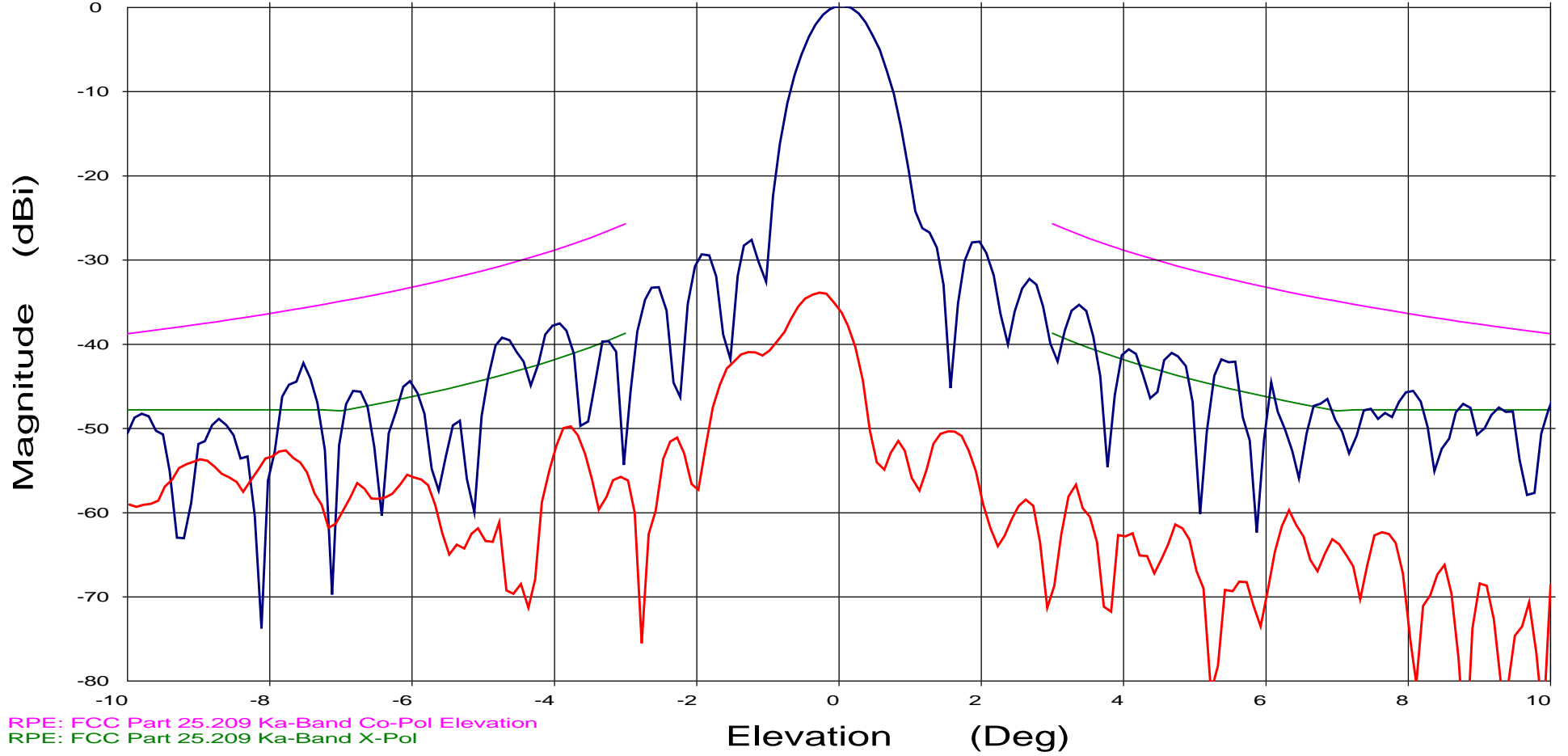
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 63.dat-ant_under_test ———
2334 66.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

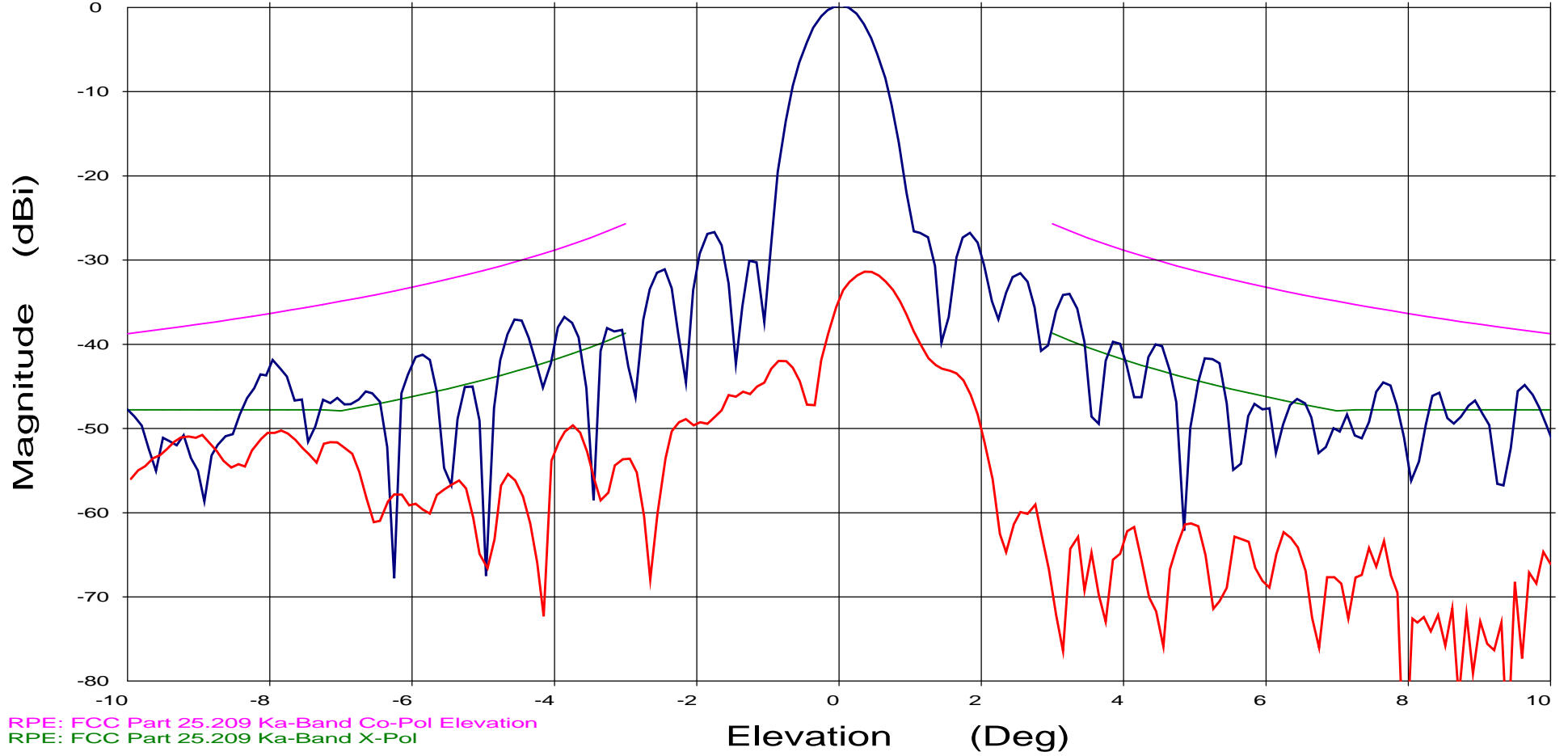
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



Overlays
2334 63.dat-ant_under_test — blue line
2334 66.dat-ant_under_test — red line

File: 2334 63.dat

1.2M Ka-Band Antenna
Series 3122

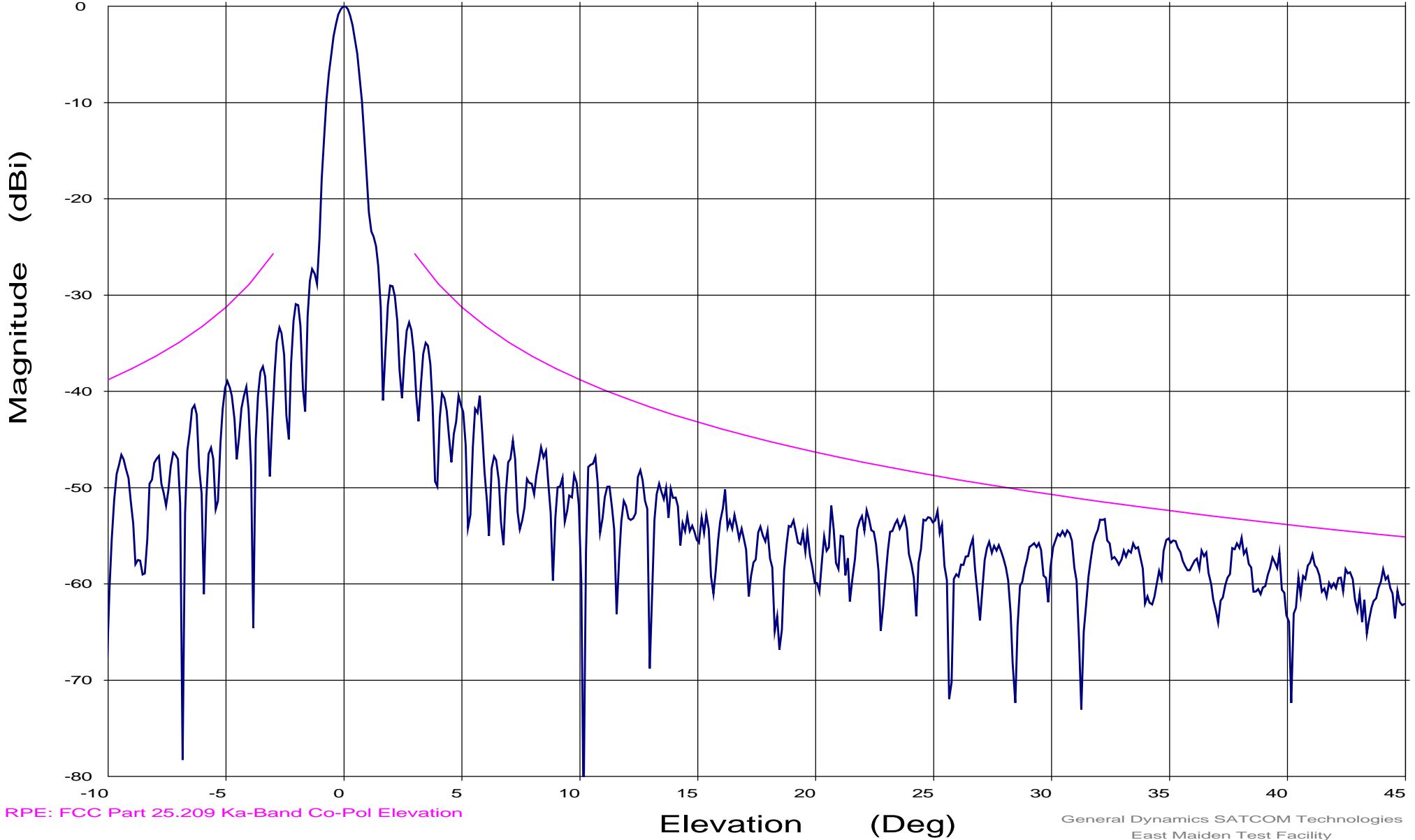
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

General Dynamics SATCOM Technologies
East Maiden Test Facility
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File: 2334 63.dat

1.2M Ka-Band Antenna
Series 3122

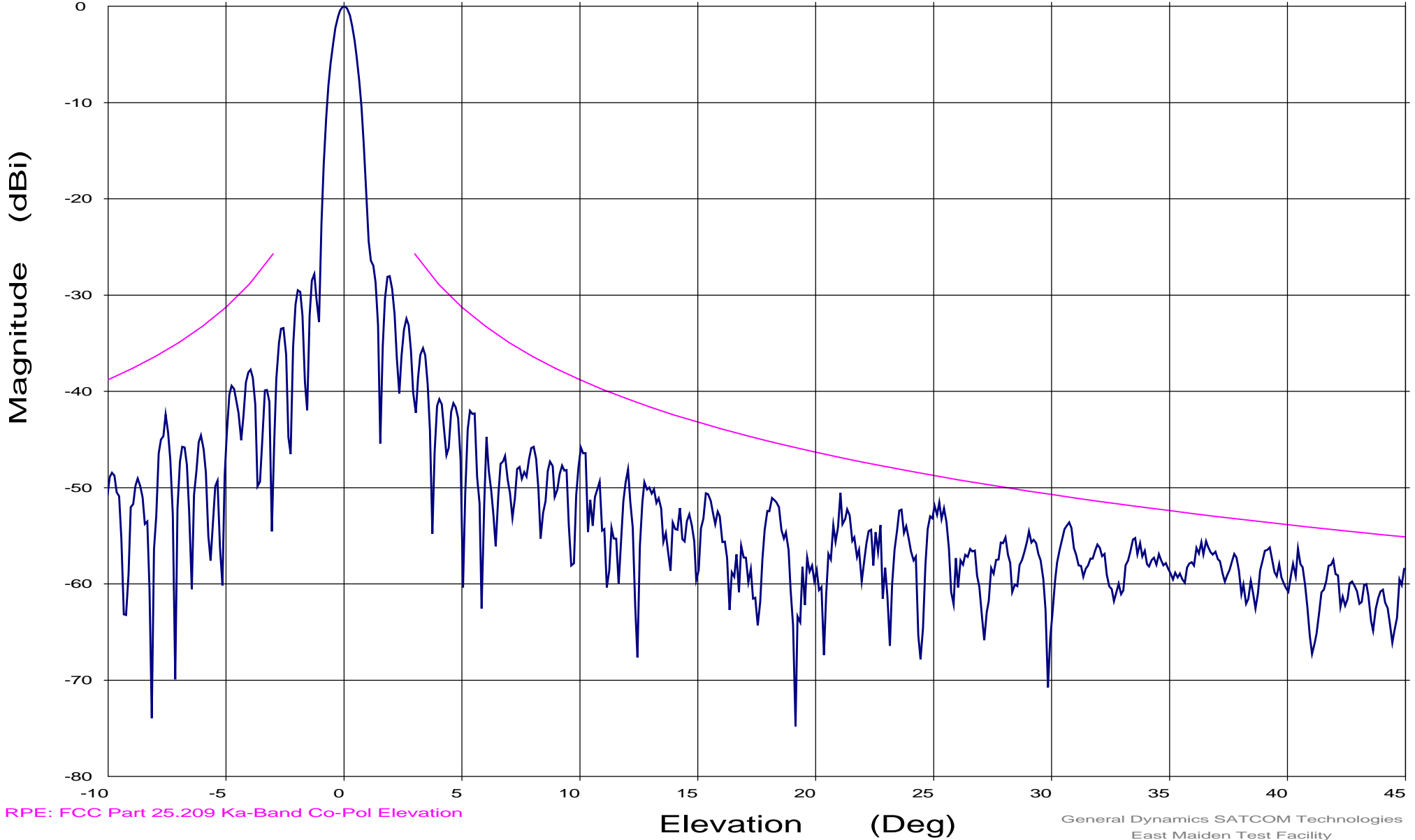
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

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File: 2334 63.dat

1.2M Ka-Band Antenna
Series 3122

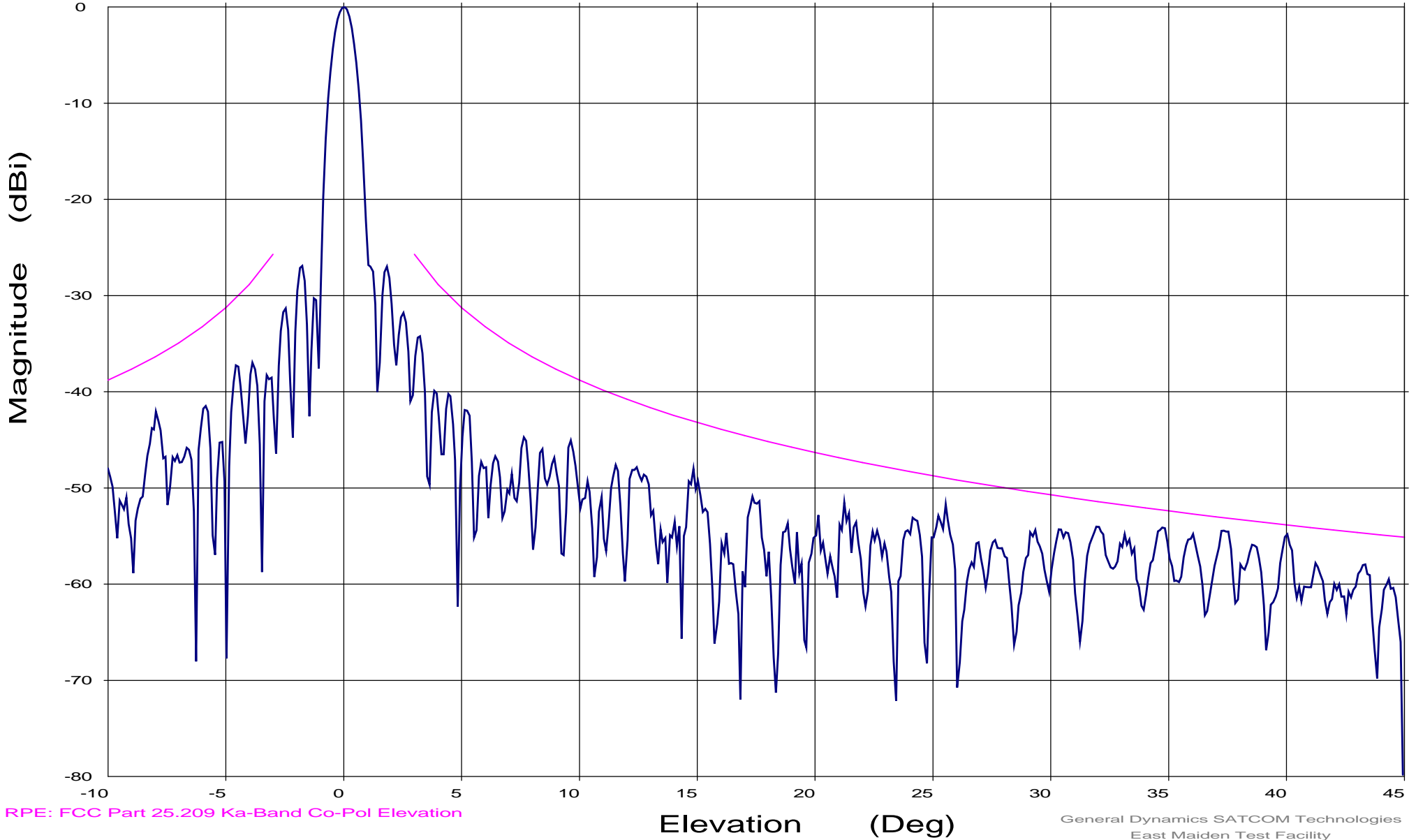
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

Elevation (Deg)

General Dynamics SATCOM Technologies
East Maiden Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650

File: 2334 61.dat

1.2M Ka-Band Antenna
Series 3122

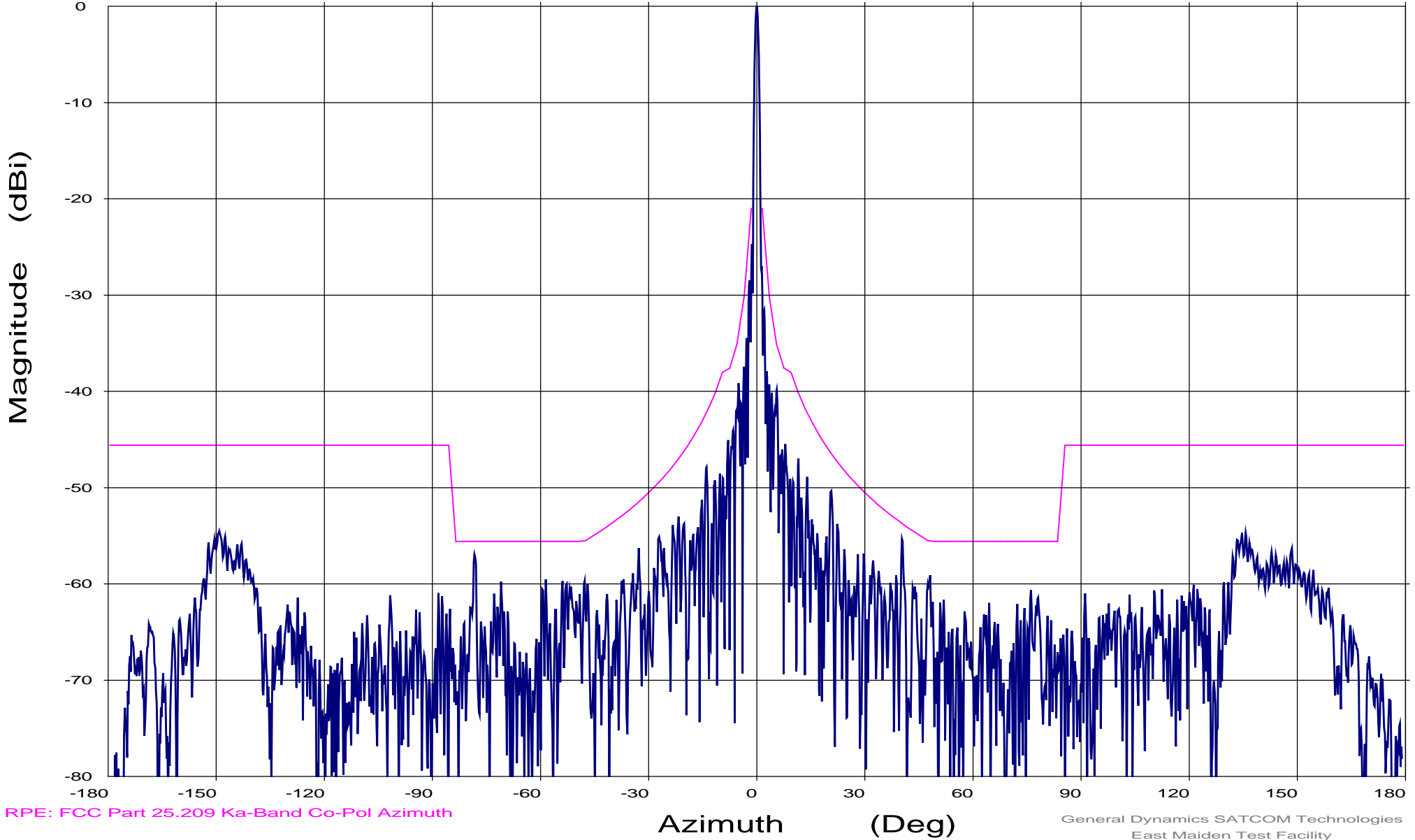
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

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File: 2334 61.dat

1.2M Ka-Band Antenna
Series 3122

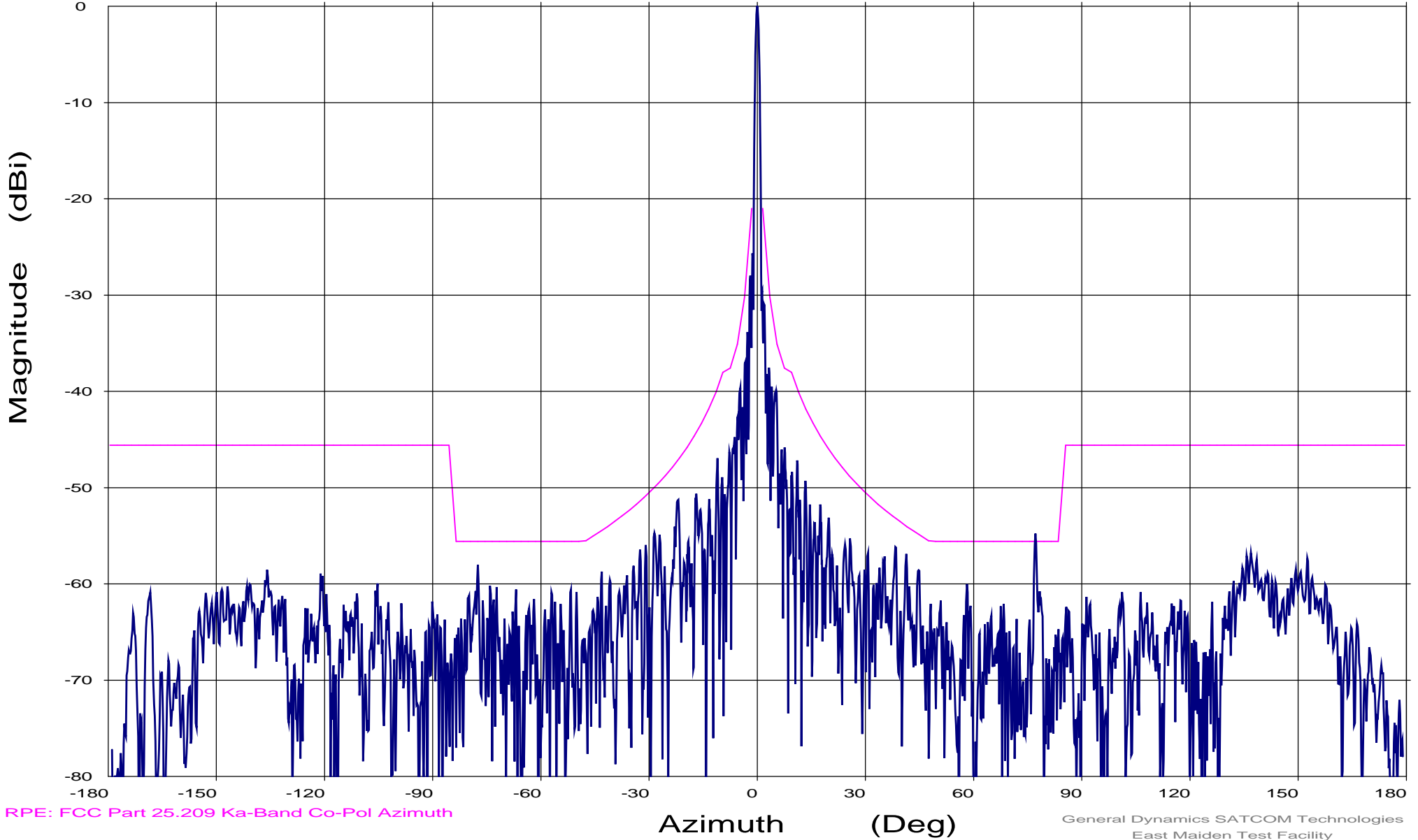
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

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File: 2334 61.dat

1.2M Ka-Band Antenna
Series 3122

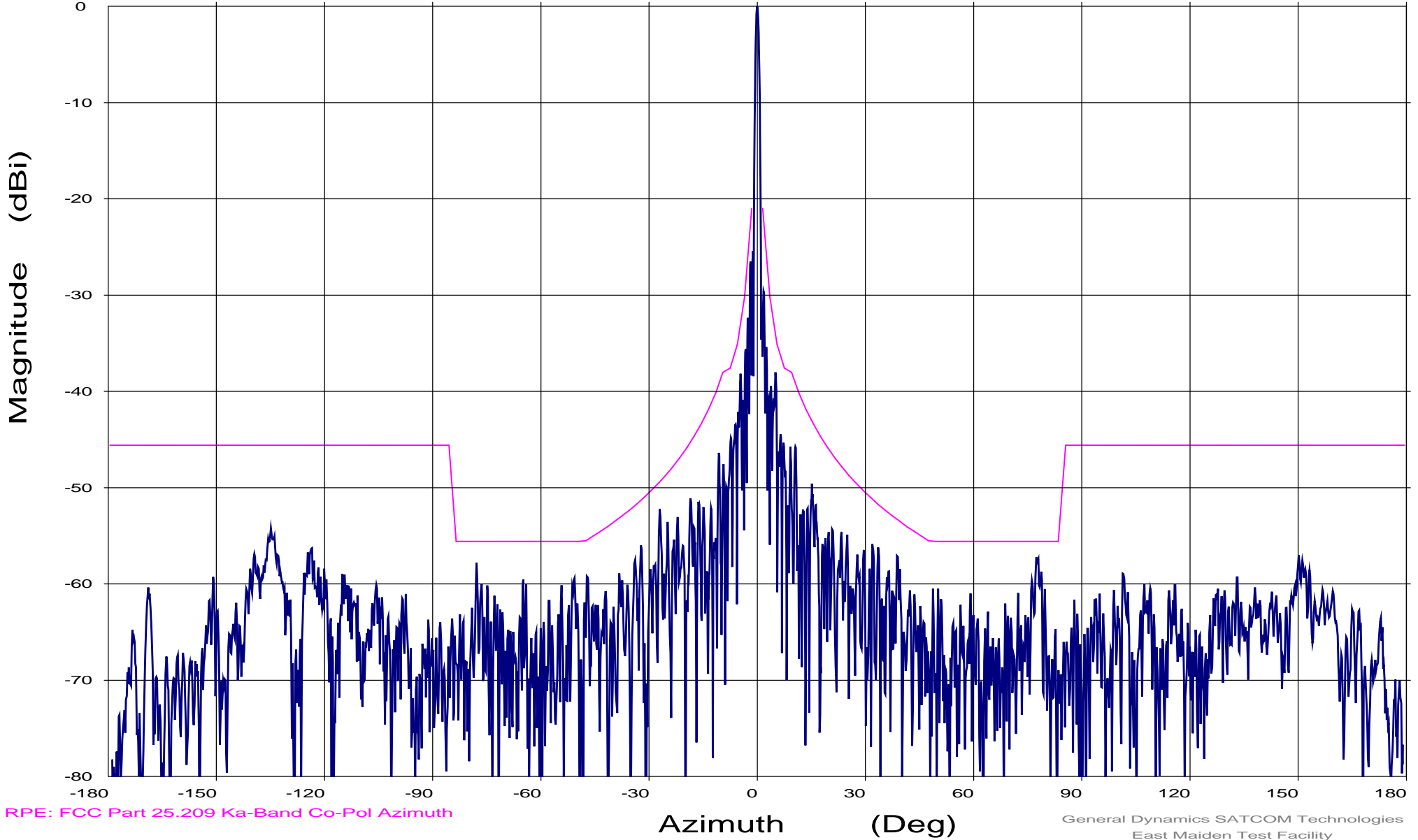
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: RHCP

Rx pol: RHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
East Maiden Test Facility
4488 Lawing Chapel Church Road
Maiden, North Carolina 28650

LHCP Radiation Patterns
Receive Frequencies

1.2M Ka-Band Antenna
Series 3122

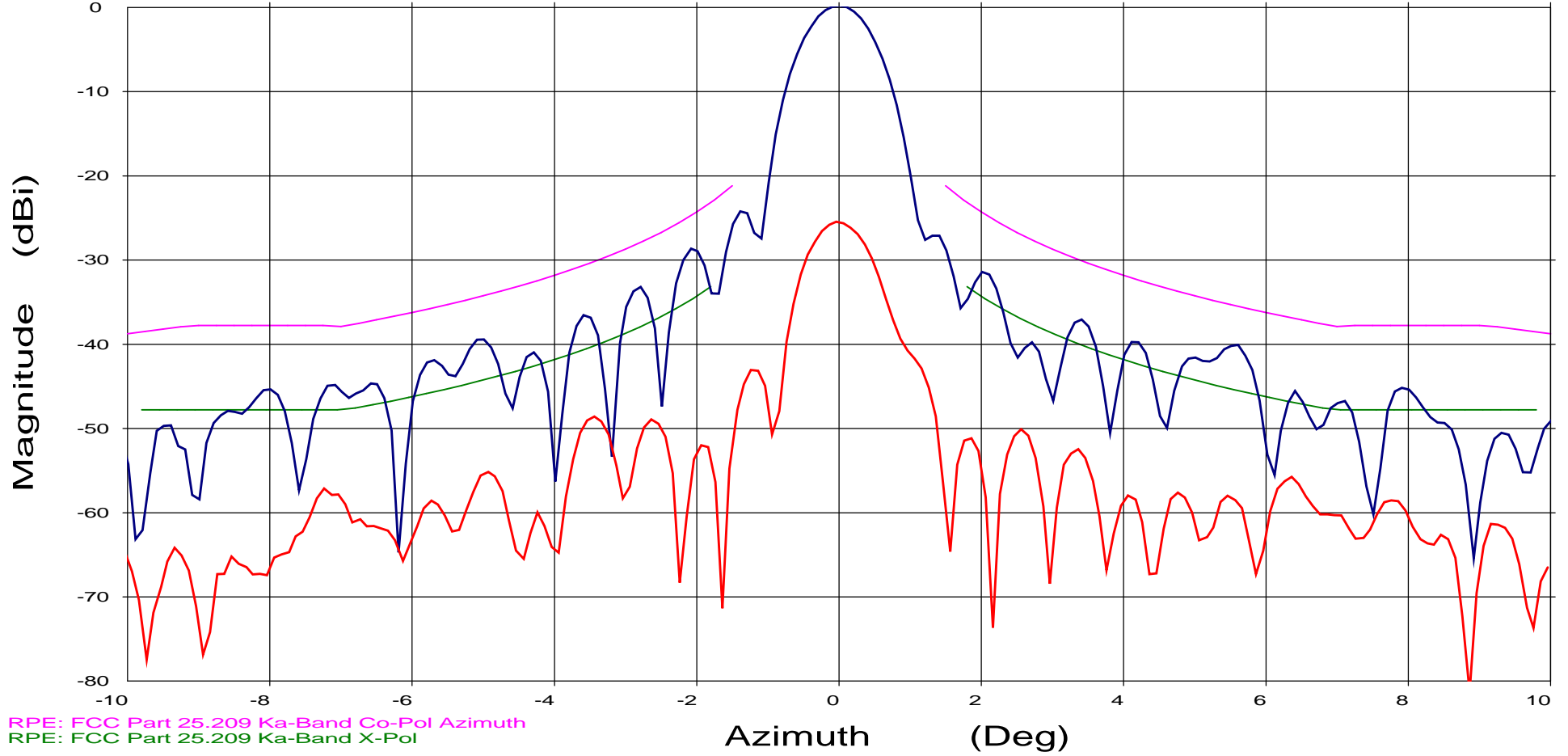
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays
2334 69.dat-ant_under_test — (Blue line)
2334 72.dat-ant_under_test — (Red line)

1.2M Ka-Band Antenna
Series 3122

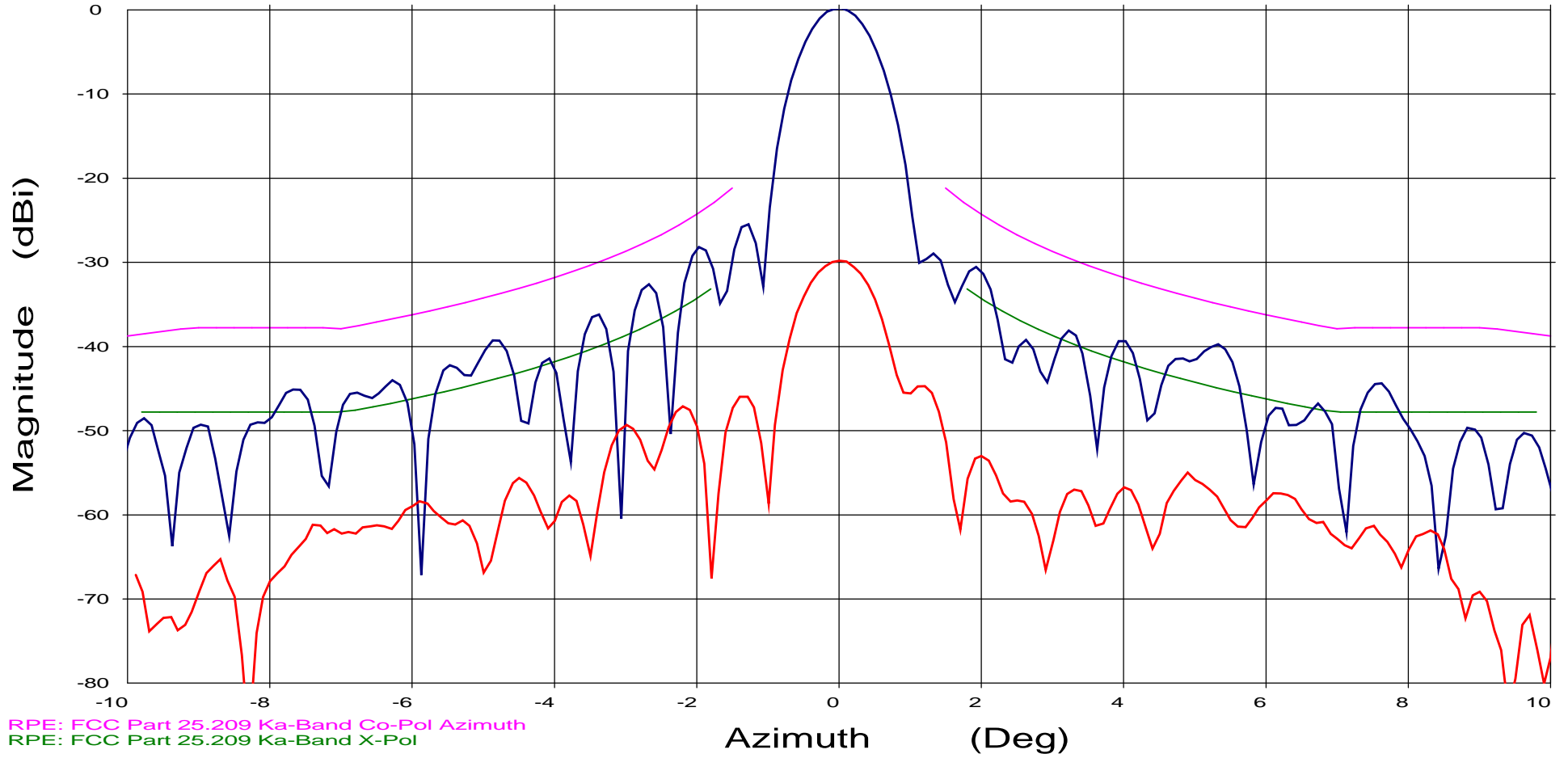
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays

- 2334 69.dat-ant_under_test — blue line
- 2334 72.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

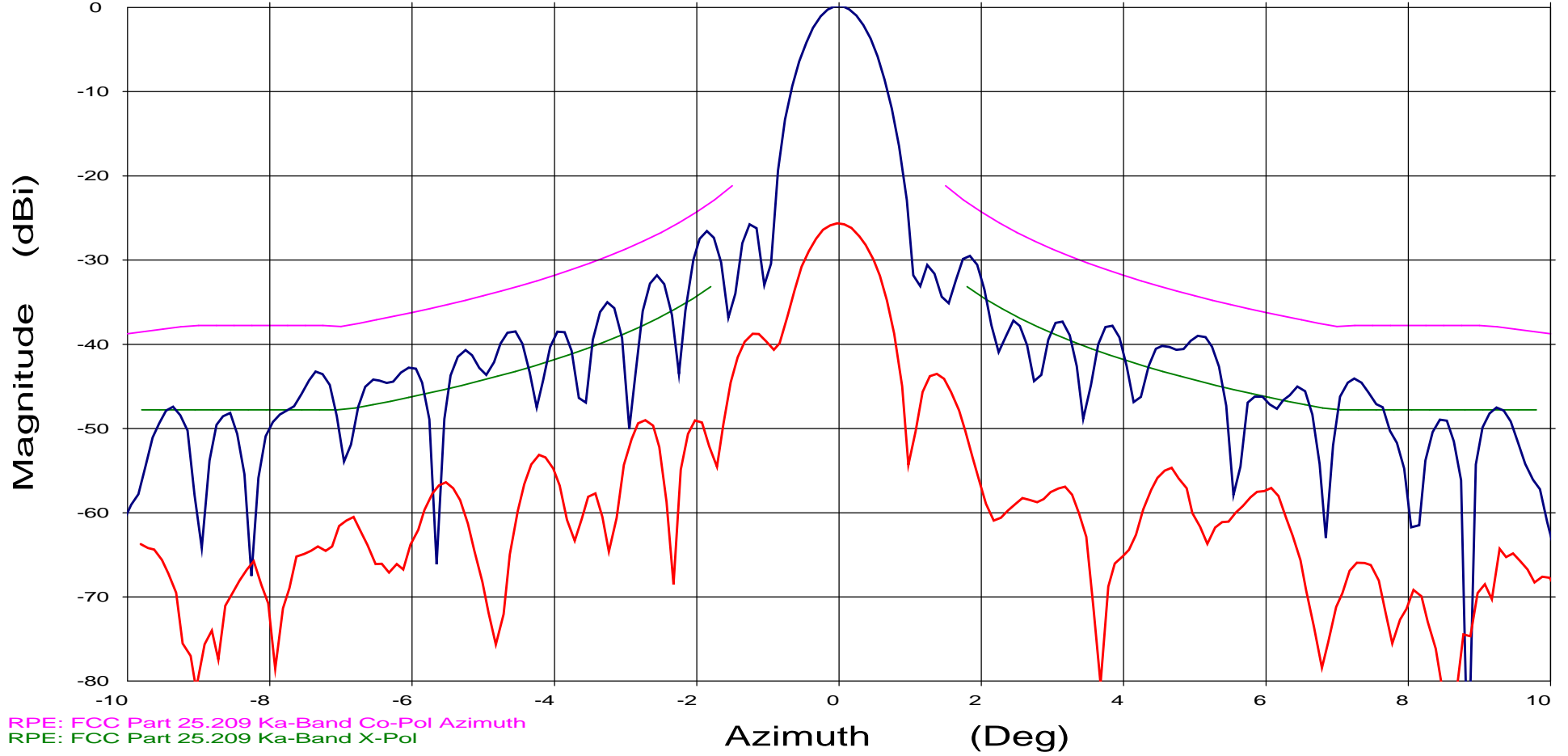
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays
2334 69.dat-ant_under_test ———
2334 72.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

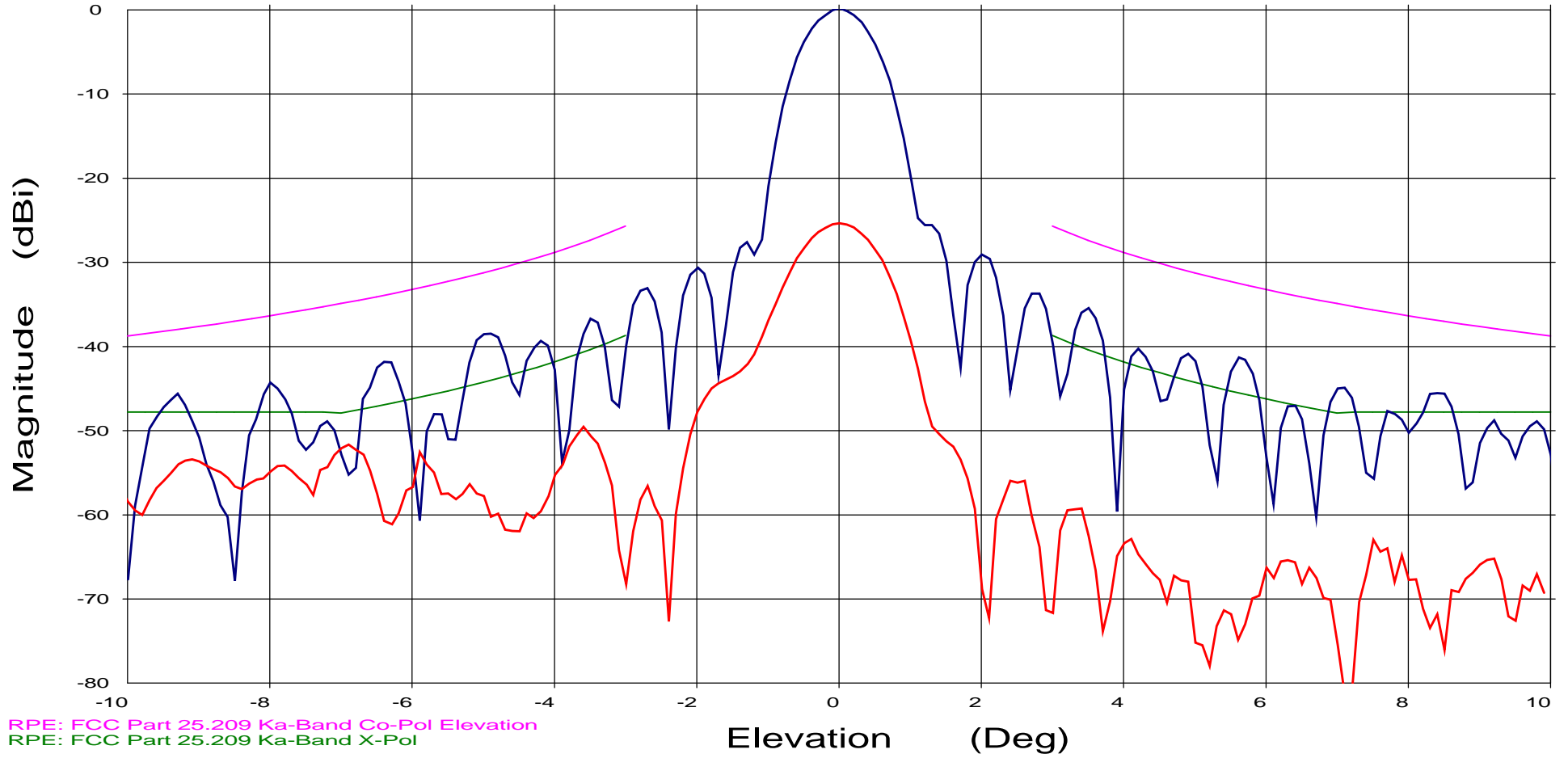
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 70.dat-ant_under_test ———
2334 73.dat-ant_under_test ———

1.2M Ka-Band Antenna
Series 3122

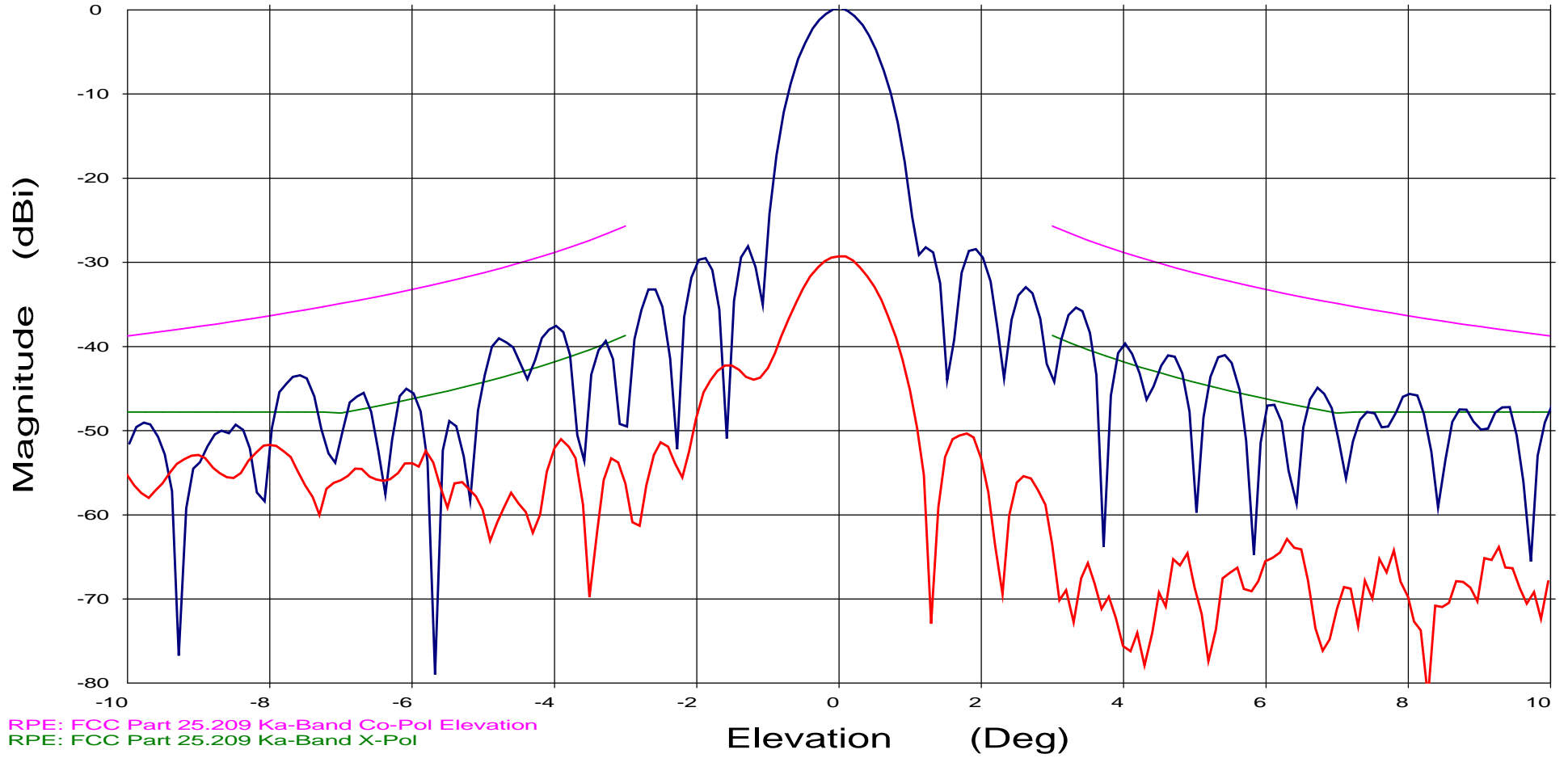
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



Overlays
2334 70.dat-ant_under_test — blue line
2334 73.dat-ant_under_test — red line

1.2M Ka-Band Antenna
Series 3122

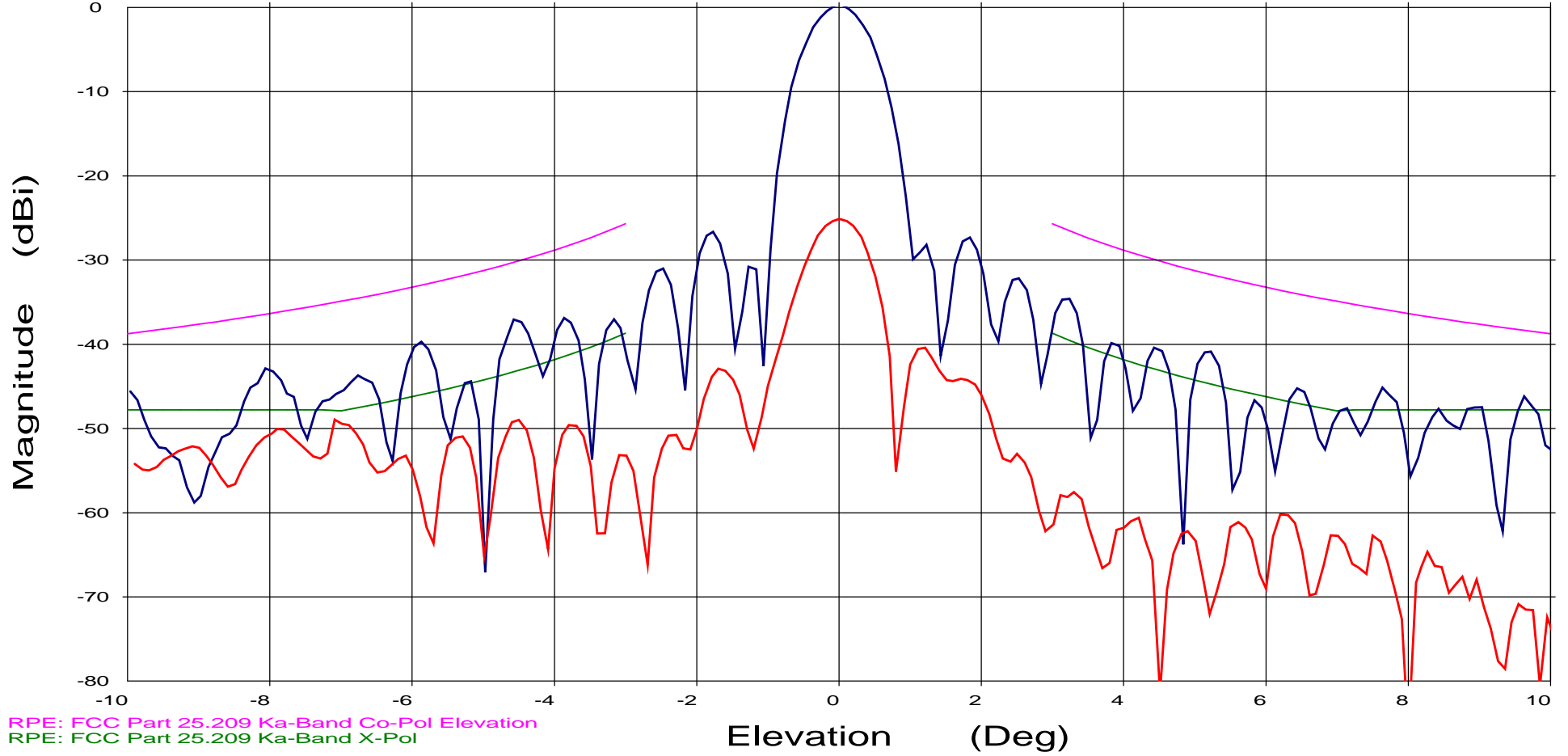
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation
RPE: FCC Part 25.209 Ka-Band X-Pol

Overlays
2334 70.dat-ant_under_test ———
2334 73.dat-ant_under_test ———

File: 2334 70.dat

1.2M Ka-Band Antenna
Series 3122

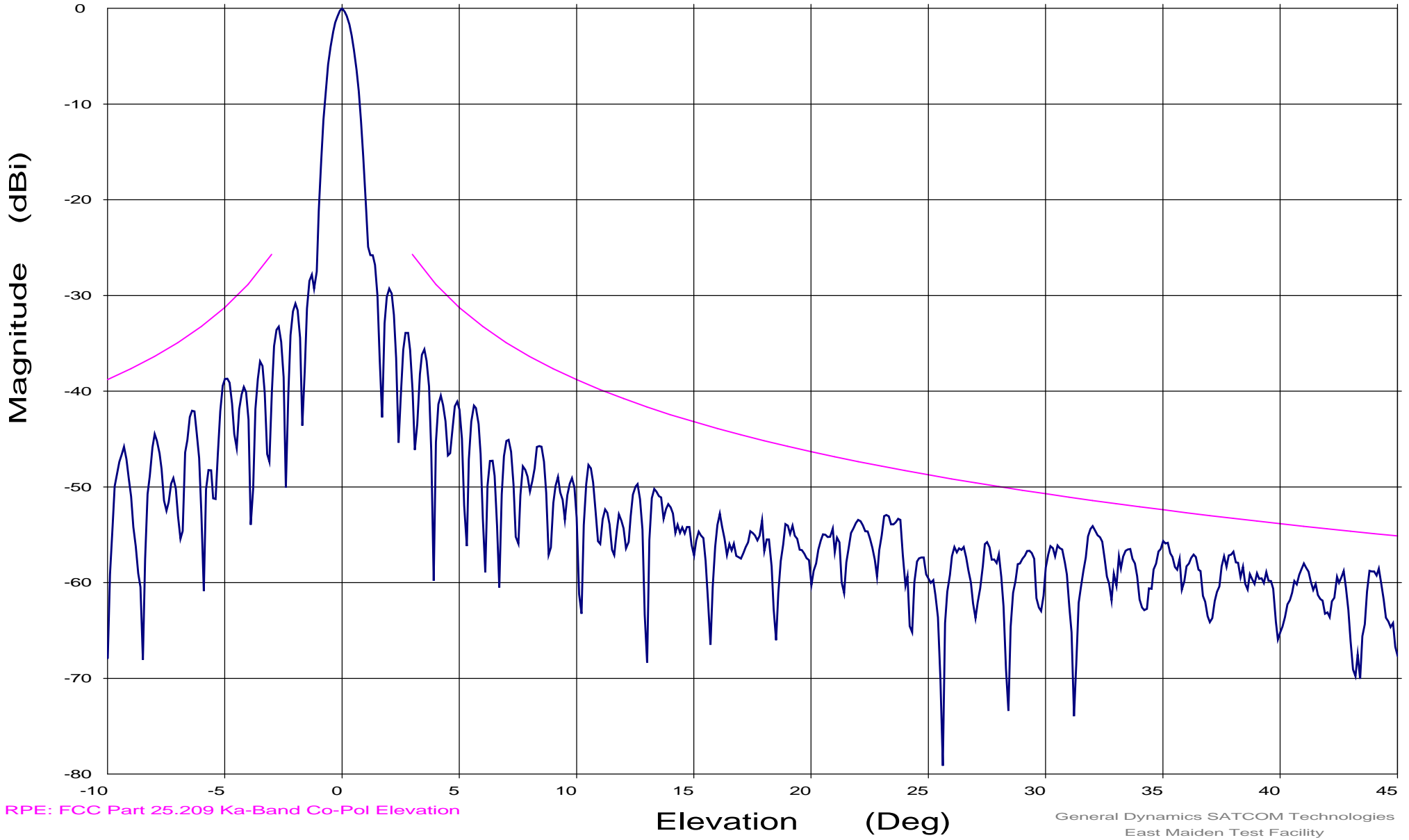
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

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Maiden, North Carolina 28650

File: 2334 70.dat

1.2M Ka-Band Antenna
Series 3122

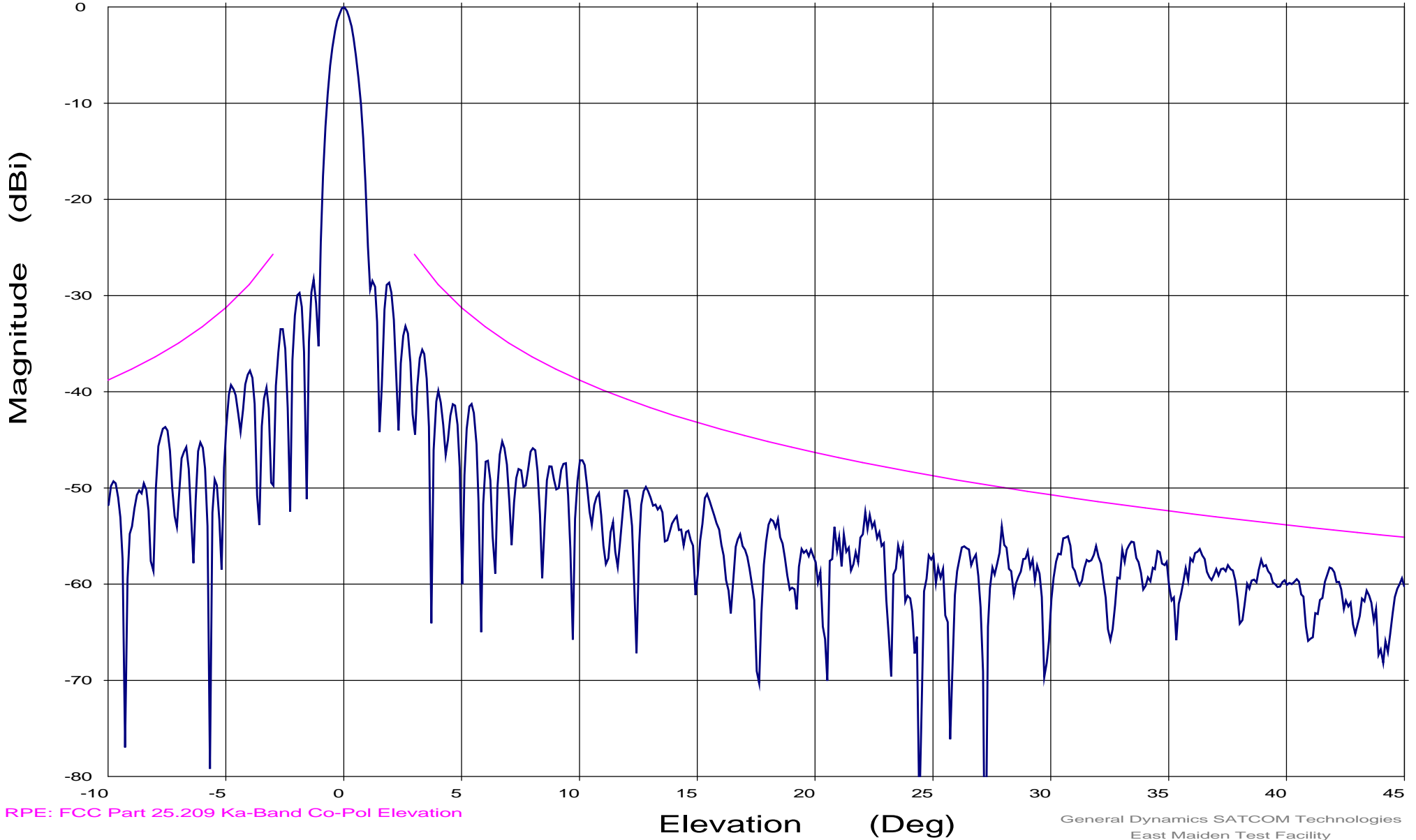
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

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Maiden, North Carolina 28650

File: 2334 70.dat

1.2M Ka-Band Antenna
Series 3122

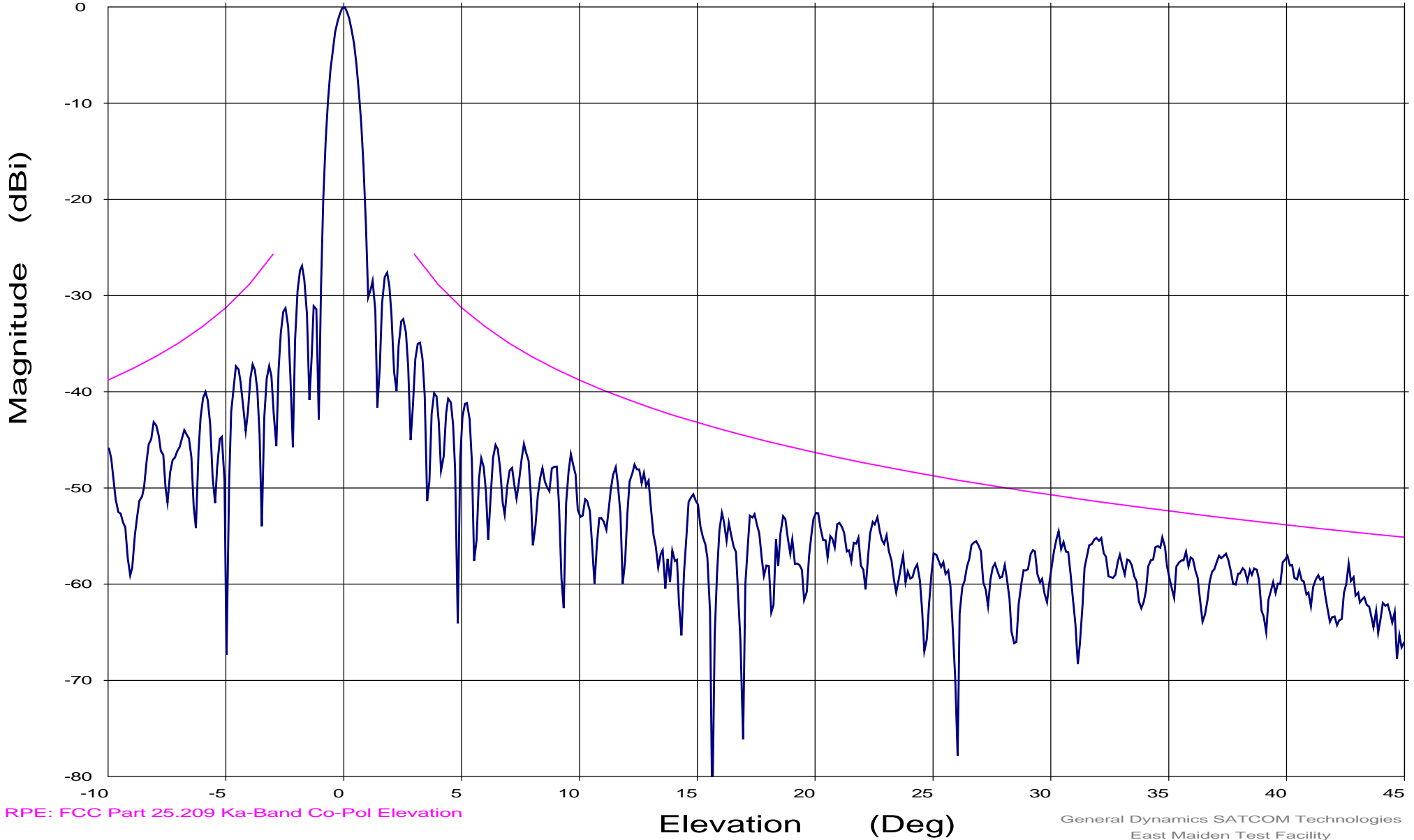
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Elevation

Elevation (Deg)

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File: 2334 69.dat

1.2M Ka-Band Antenna
Series 3122

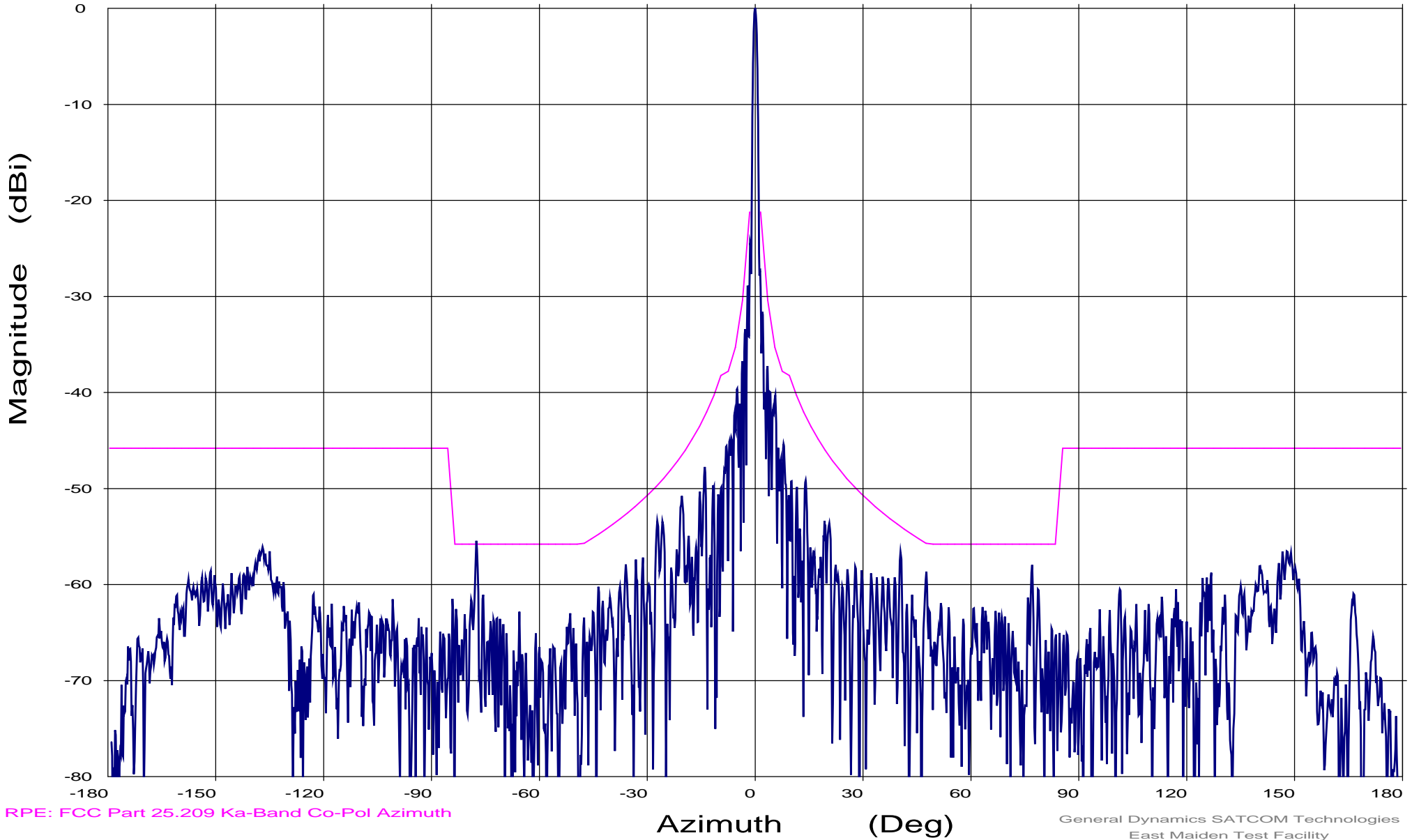
Frequency : 19.400 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
East Maiden Test Facility
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Maiden, North Carolina 28650

File: 2334 69.dat

1.2M Ka-Band Antenna
Series 3122

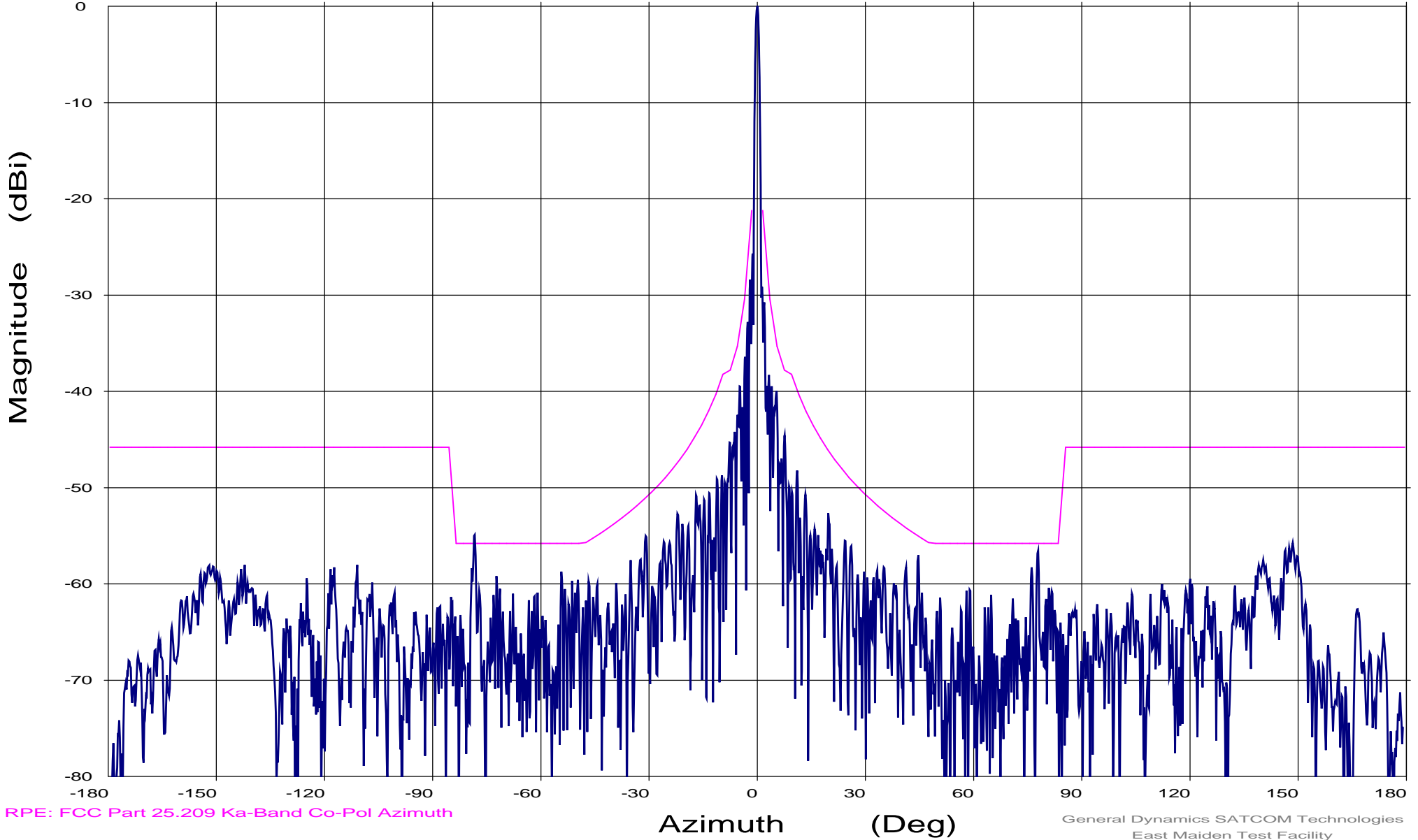
Frequency : 20.300 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

General Dynamics SATCOM Technologies
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File: 2334 69.dat

1.2M Ka-Band Antenna
Series 3122

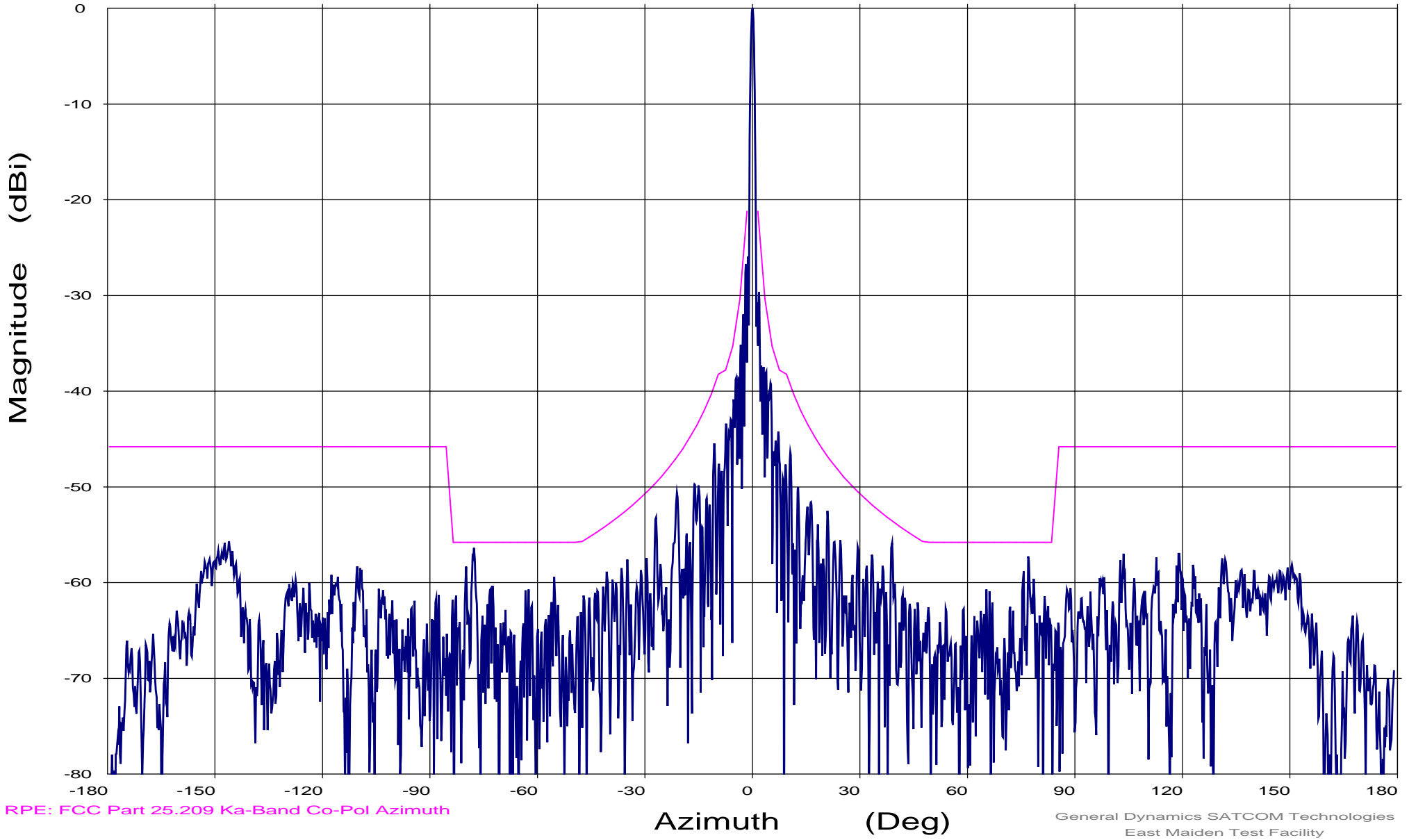
Frequency : 21.200 GHz

Operator: J Hartness

Channel: AUT

Tx pol: LHCP

Rx pol: LHCP



RPE: FCC Part 25.209 Ka-Band Co-Pol Azimuth

Azimuth (Deg)

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End of Report

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