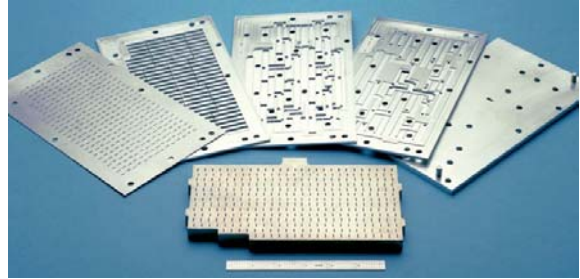


X-Band Slot Array SatCom Antenna



EMS Technologies' X-Band SatCom Antenna is low-profile, lightweight and can be shaped conformal to an allocated area. This antenna has two interleaved apertures for simultaneous Tx/Rx (full duplex) with opposite circular polarities

Technical Approach

- Meet Modified ITU Requirements
- Slot-Array Design Conformal to Allocated Area
- Low Profile Antenna
 - 22" W x 10" H
- Interleaved Tx / Rx
 - Orthogonal Slots
 - Good Tx / Rx Isolation
- Electronic Polarization Switching
- Selectable LHCP / RHCP
 - Tx / Rx Polarizations are always opposite

Measured Performance

- 27dB – 28dB Gain (~ 200 sq. in)
- Same gain as 0.4 m dish
- 12 lbs

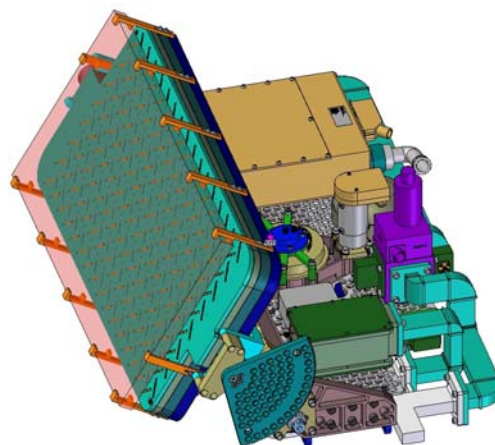
Always Making Waves

...and clearing the path to a safer world

X-Band COTM Terminal Key Performance Specifications

- Tx Frequency: 7.9 to 8.4 GHz
- Rx Frequency: 7.25 to 7.75 GHz
- G/T (at any Az or El angle): 6.3 dB/K
- EIRP (at any Az or El angle): 42.6 dBW
- Tx data rate with XTAR
 - Best Case [1]: 4.1 Mbps
 - Worst Case[2]: 2.7 Mbps
- Rx data rate with XTAR
 - Best Case [3]: 5.0 Mbps
 - Worst Case [4]: 1.5 Mbps
- Effective aperture area: 200 inches²
- Azimuth angle: 0 to 360 degrees
- Elevation angle: 0 to 90 degrees
- Height inside radome: 11.875 inches
- Diameter inside radome: 31.6 inches
- Mass (not including SSPA, modem, BUC, radome or adaptor plate: 39.5 lbs

- [1] 150W SSPA @ 2 dB OBO, X-tar spot beam, 45° look angle, 1% unavailability, no rain, 25,000 ft elevation, 50% transponder power, 3 dB impl. loss
- [2] 150W SSPA @ 2 dB OBO, X-tar spot beam, 10° look angle, 1% unavailability, Craine "F" rain region, 0 ft elevation, 20% transponder power, 3 dB impl. loss
- [3] X-tar spot beam, 45° look angle, 1% unavailability, no rain, 25,000 ft elevation, 50% transponder power, 3 dB impl. loss
- [4] X-tar spot beam, 10° look angle, 1% unavailability, Craine "F" rain region, 0 ft elevation, 20% transponder power, 3 dB impl. loss



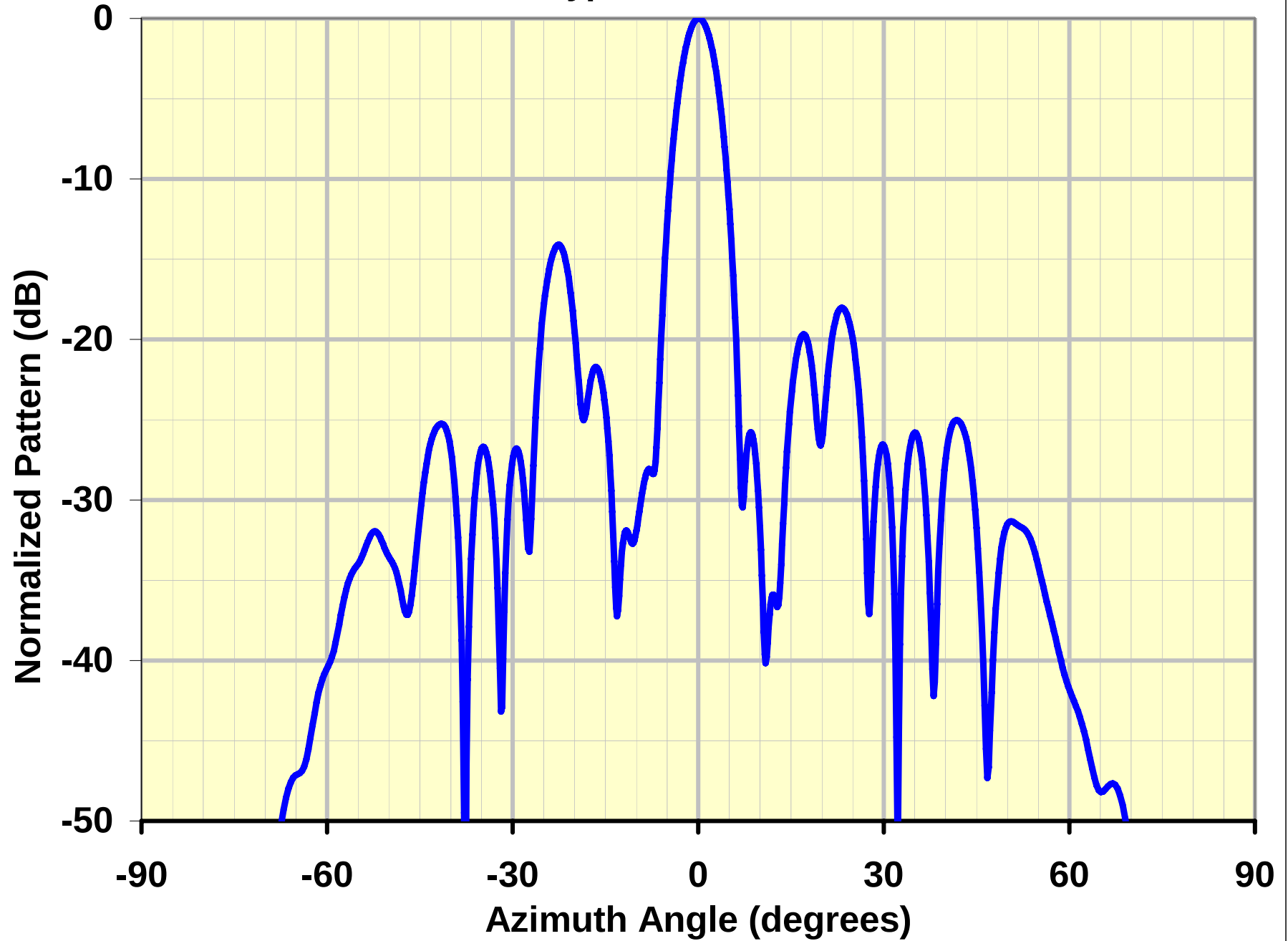
EMS Slot Array Antenna on Mechanical Positioner with integrated RF and control electronics

For more information, contact:

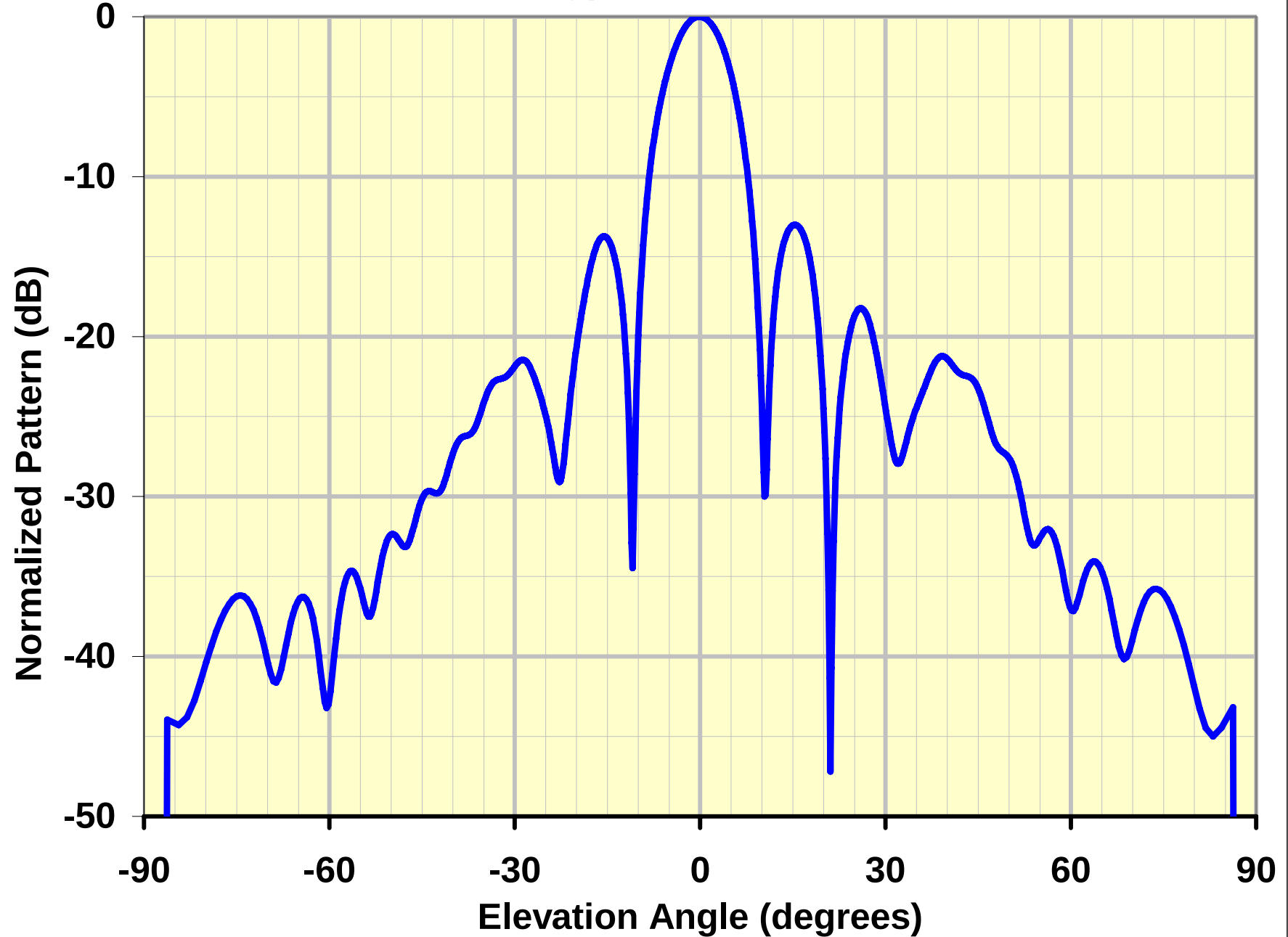
John Volpe
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Phone: 770-798-6818
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EMS TECHNOLOGIES, INC.
DEFENSE & SPACE SYSTEMS
660 Engineering Drive
Norcross, GA 30092
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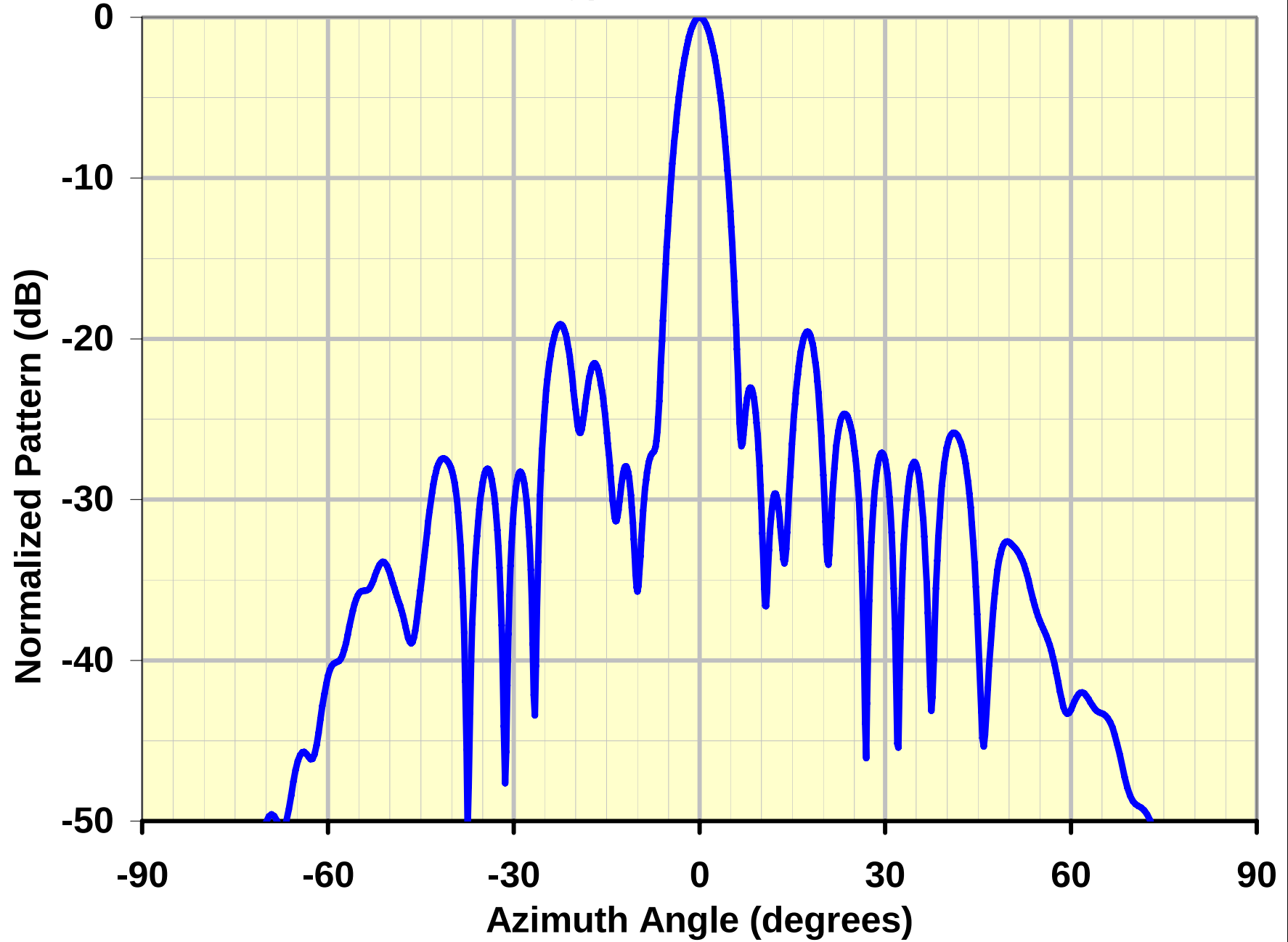
XTAR Prototype 1, Port 2, 7.2 GHz



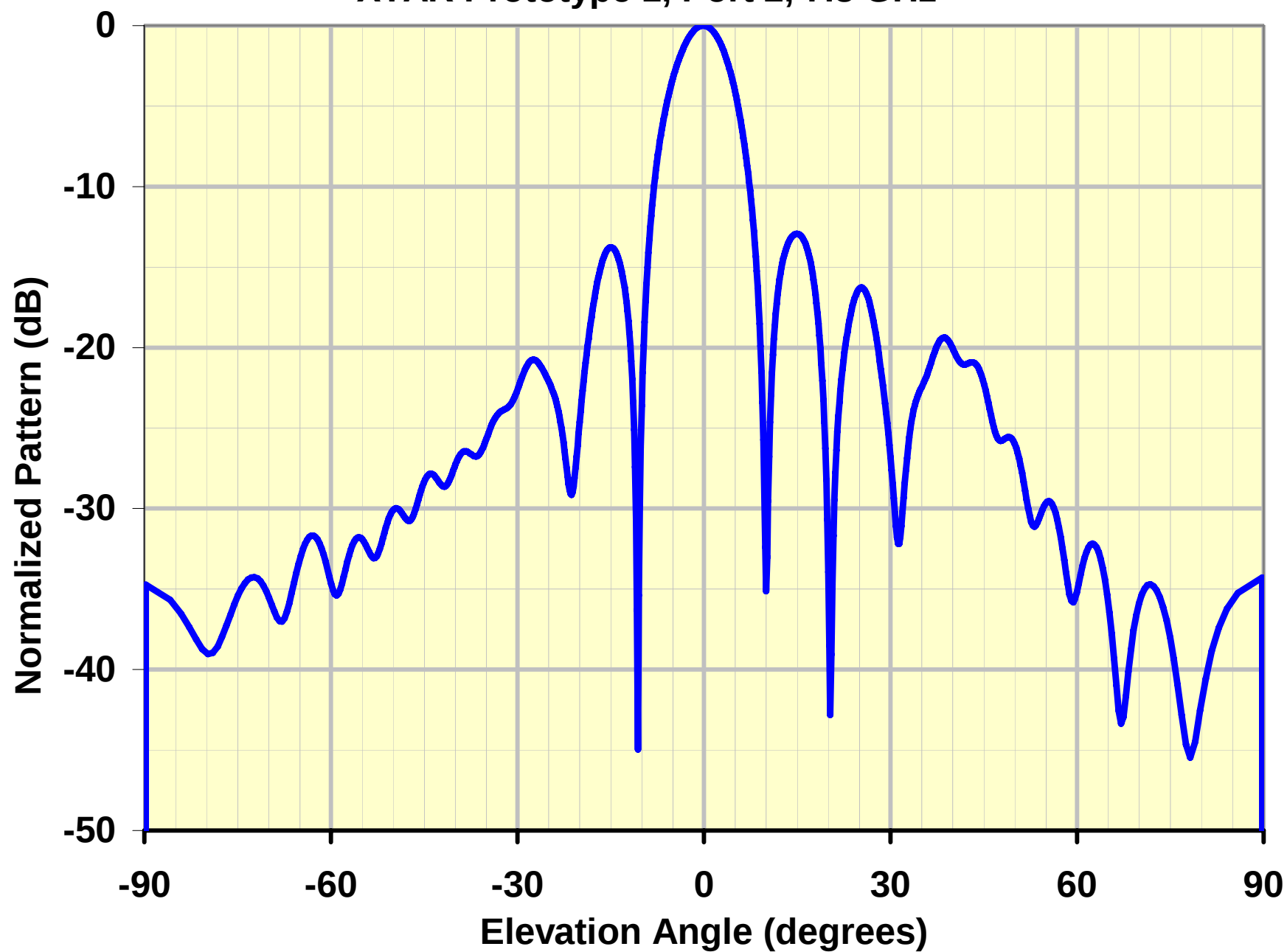
XTAR Prototype 1, Port 2, 7.2 GHz



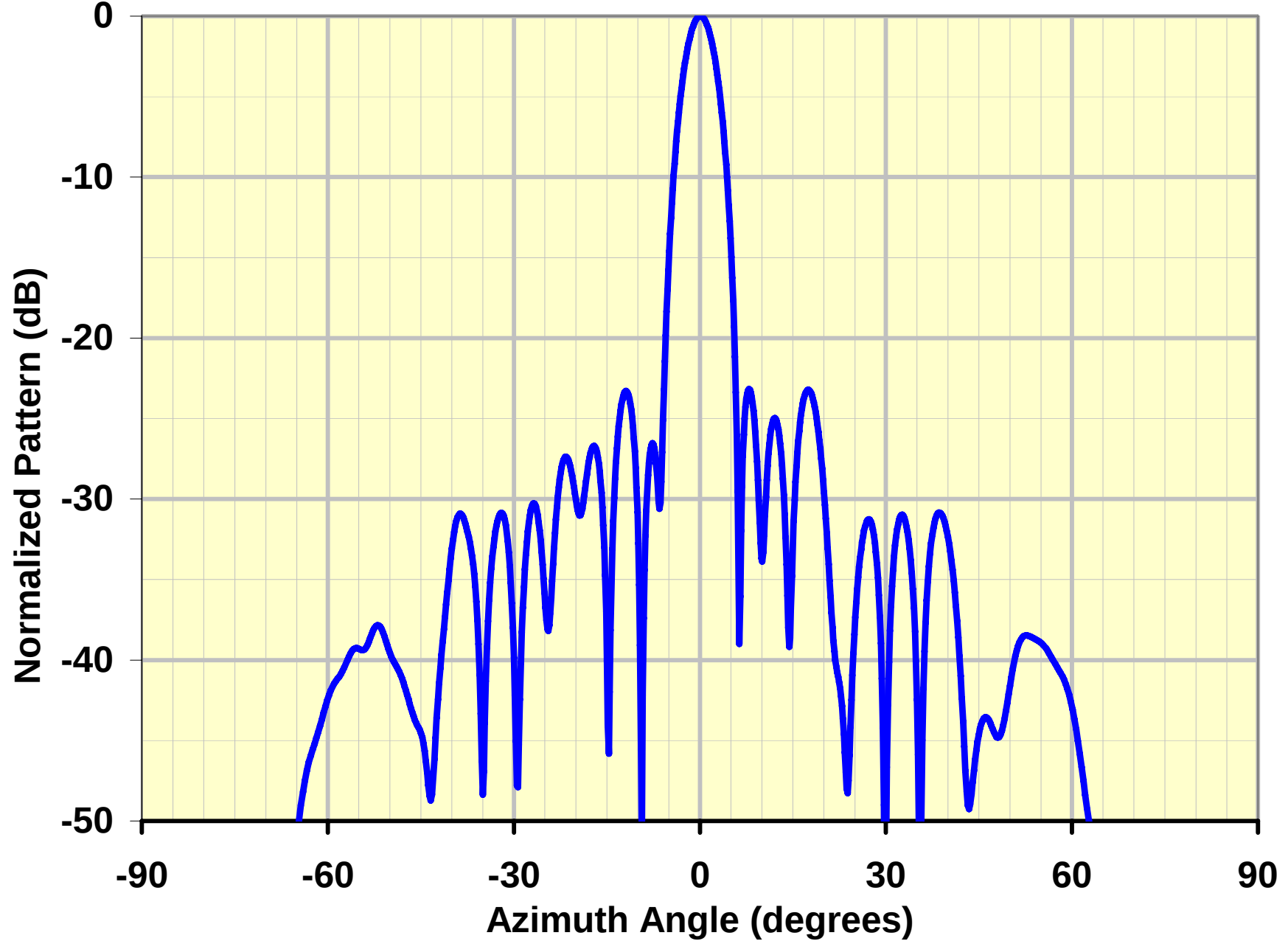
XTAR Prototype 1, Port 2, 7.3 GHz



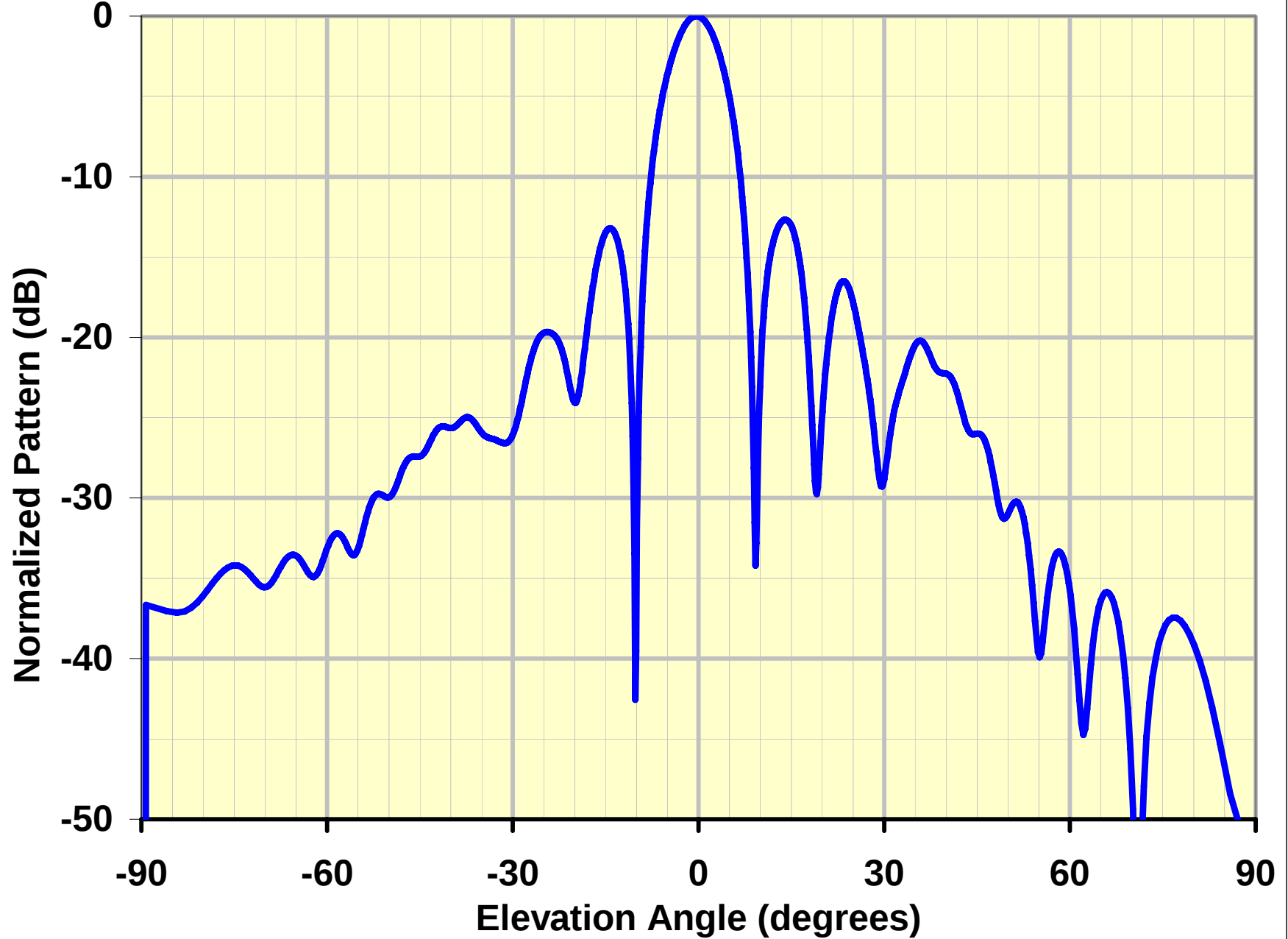
XTAR Prototype 1, Port 2, 7.3 GHz



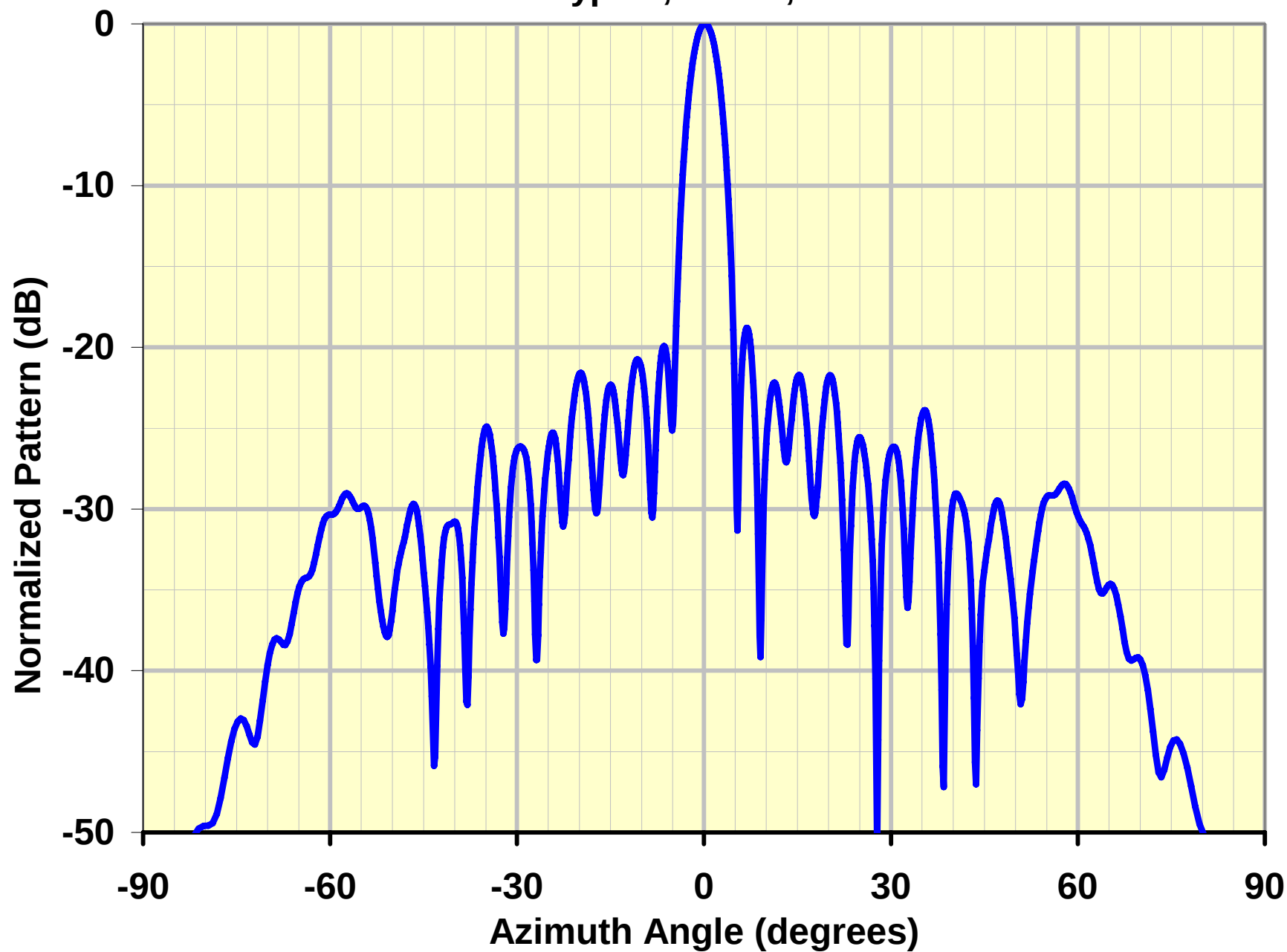
XTAR Prototype 1, Port 2, 7.8 GHz



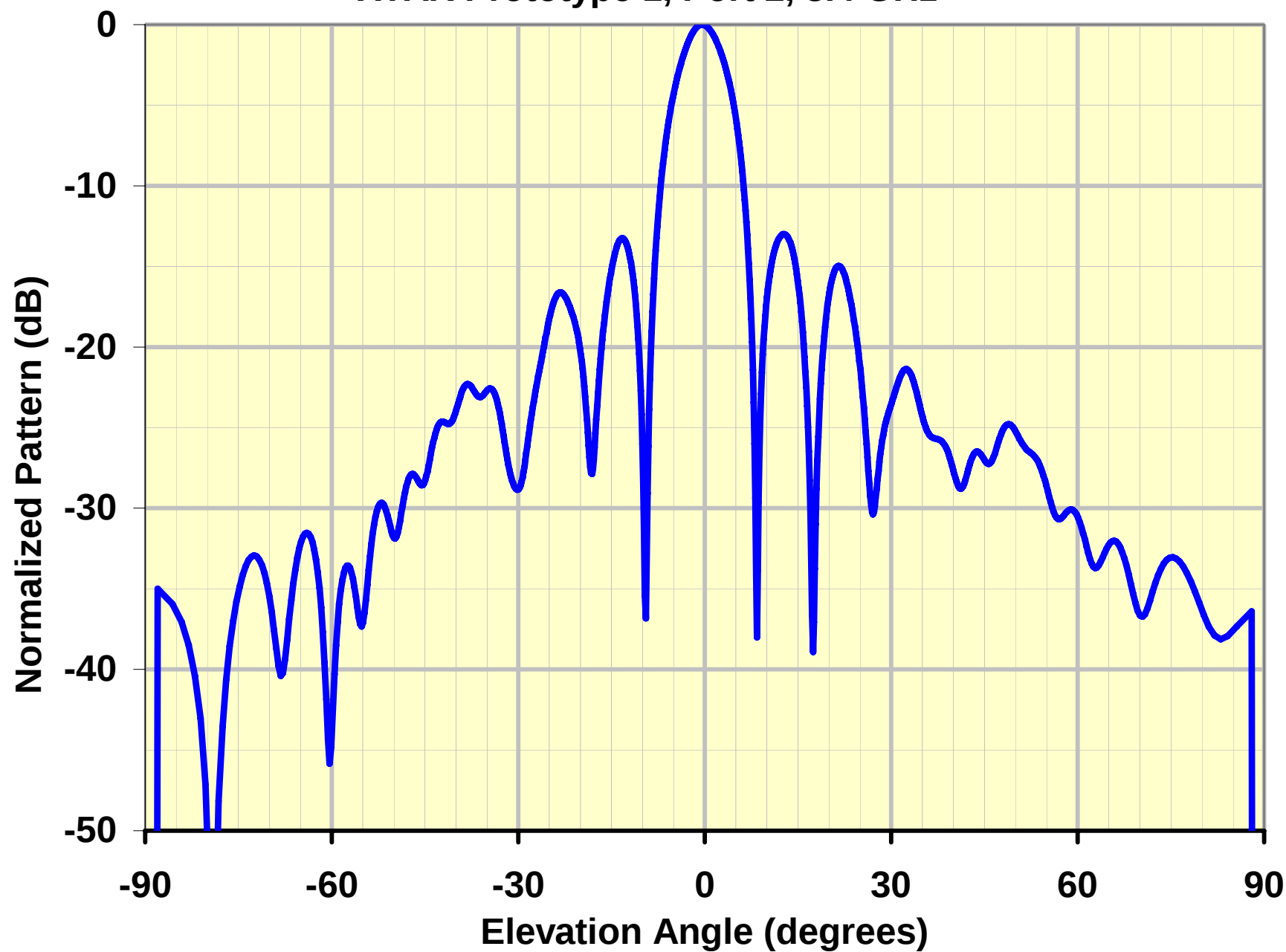
XTAR Prototype 1, Port 2, 7.8 GHz



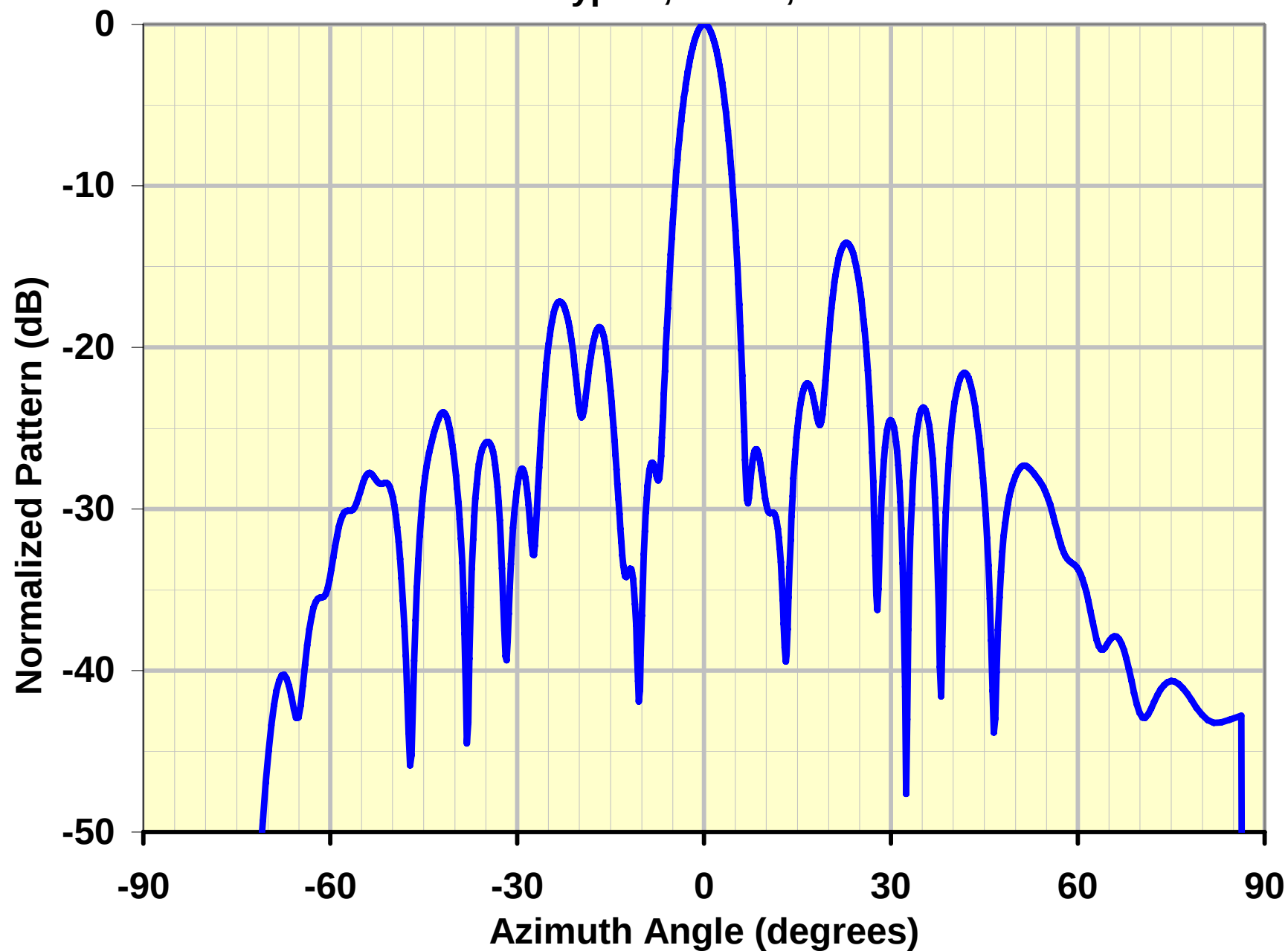
XTAR Prototype 1, Port 2, 8.4 GHz



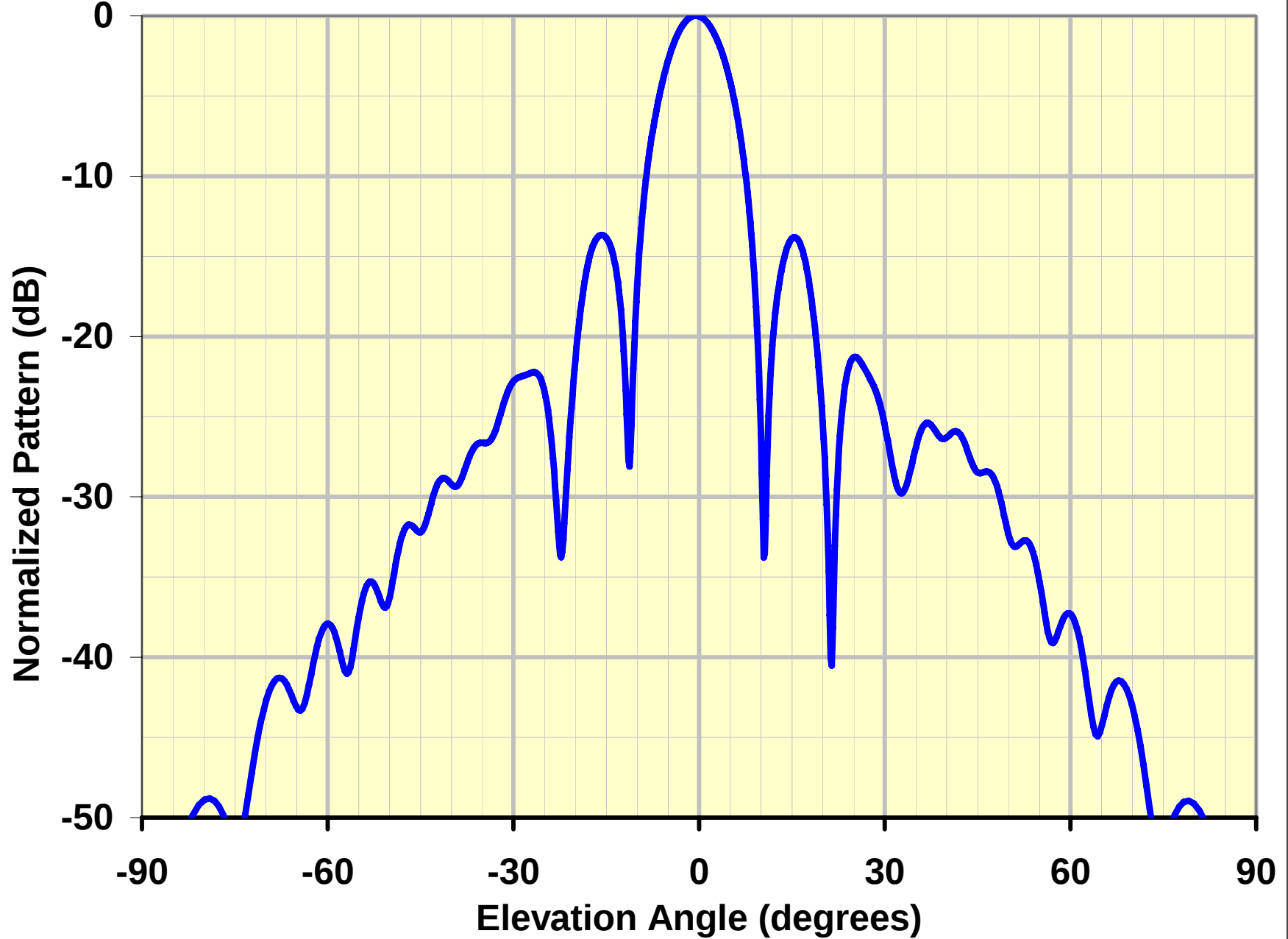
XTAR Prototype 1, Port 2, 8.4 GHz



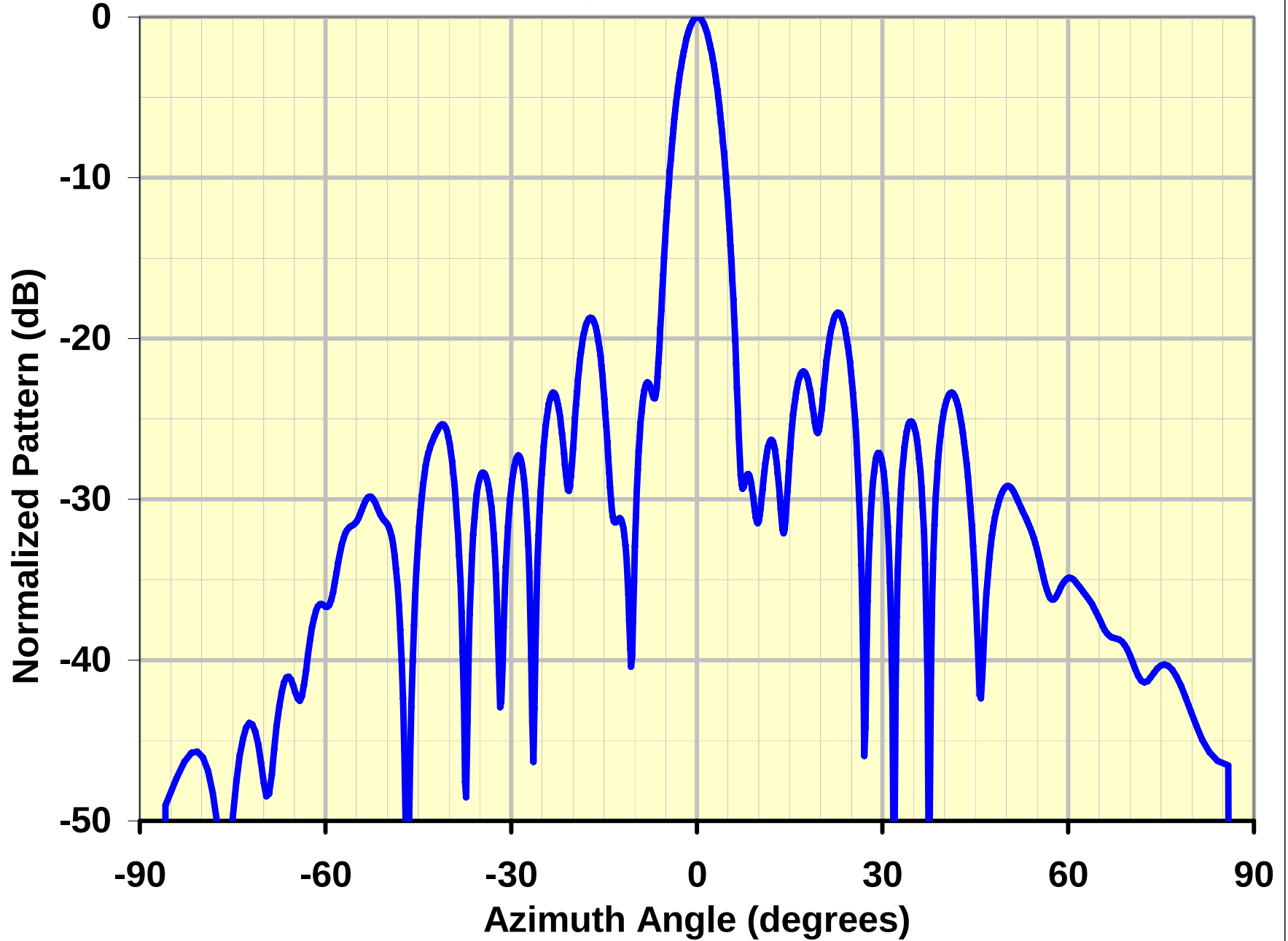
XTAR Prototype 1, Port 1, 7.2 GHz



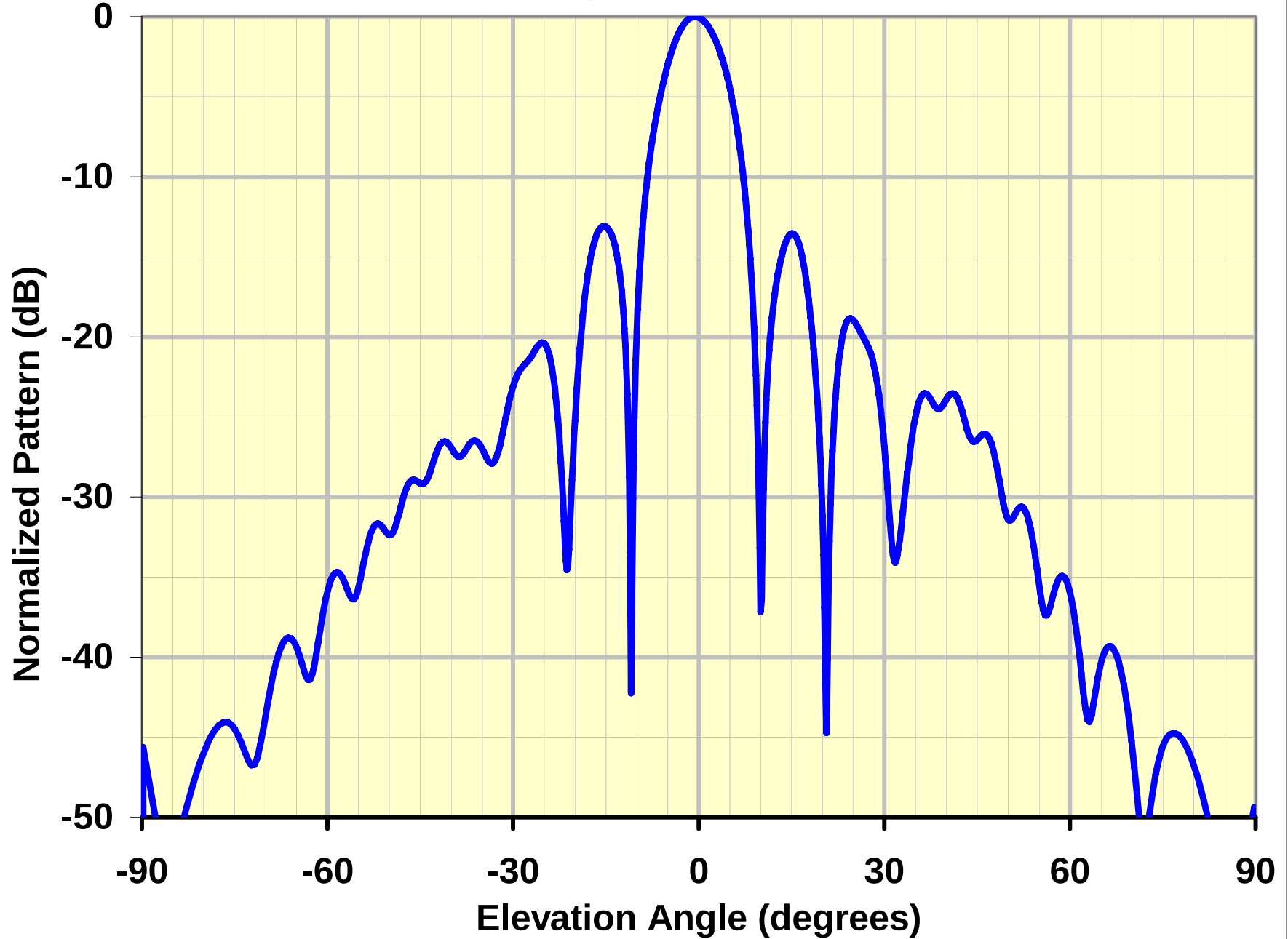
XTAR Prototype 1, Port 1, 7.2 GHz



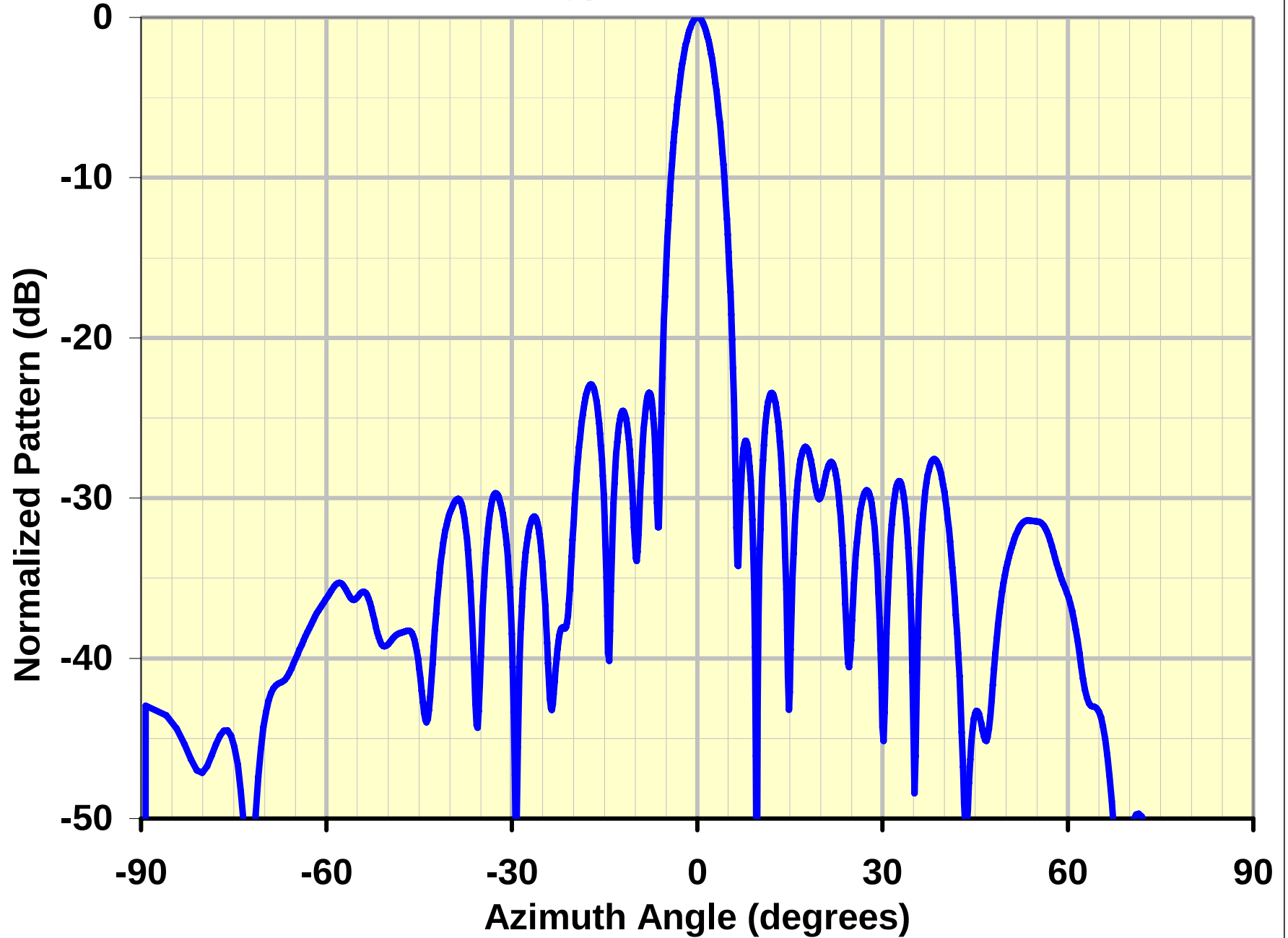
XTAR Prototype 1, Port 1, 7.3 GHz



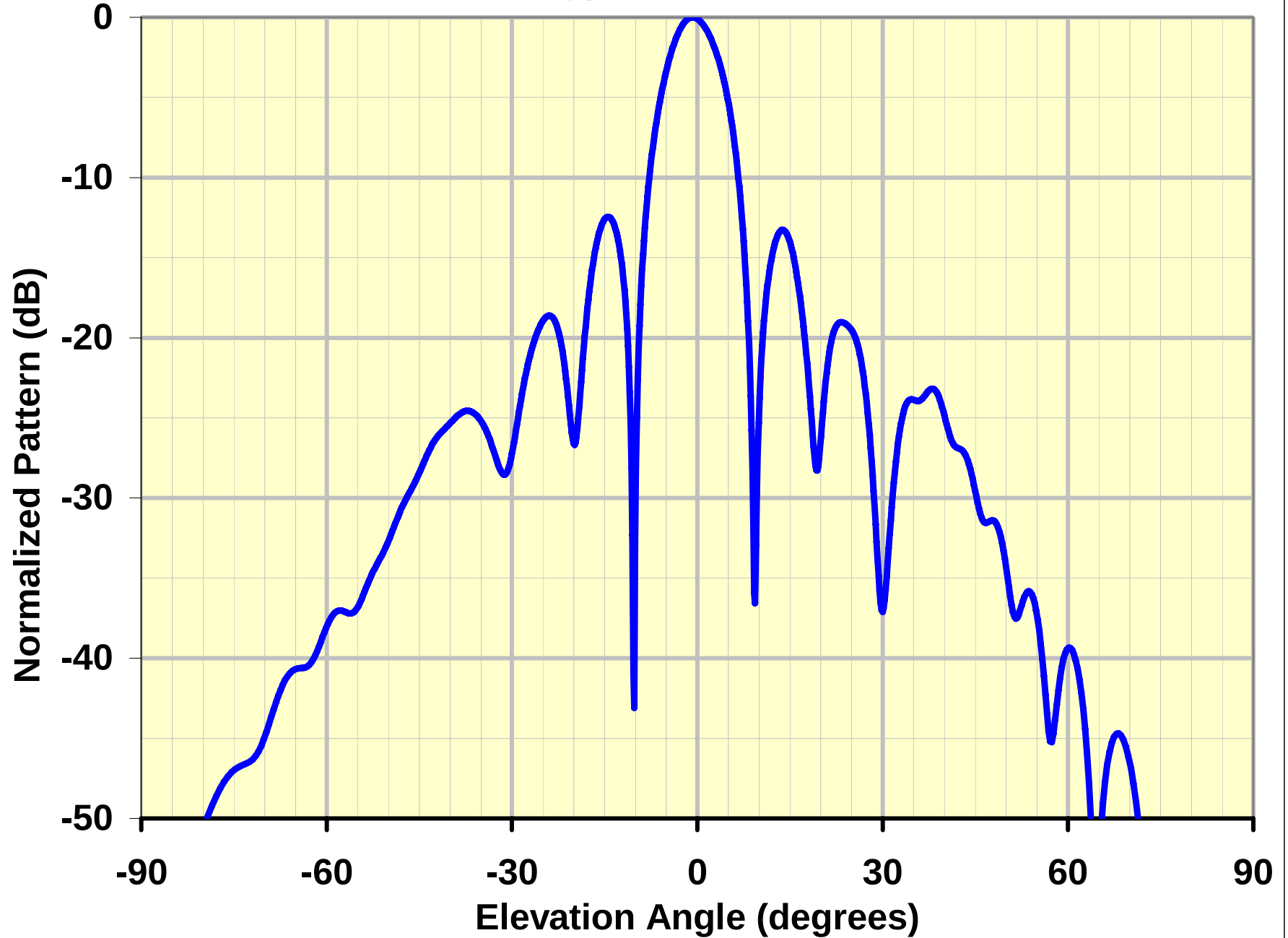
XTAR Prototype 1, Port 1, 7.3 GHz



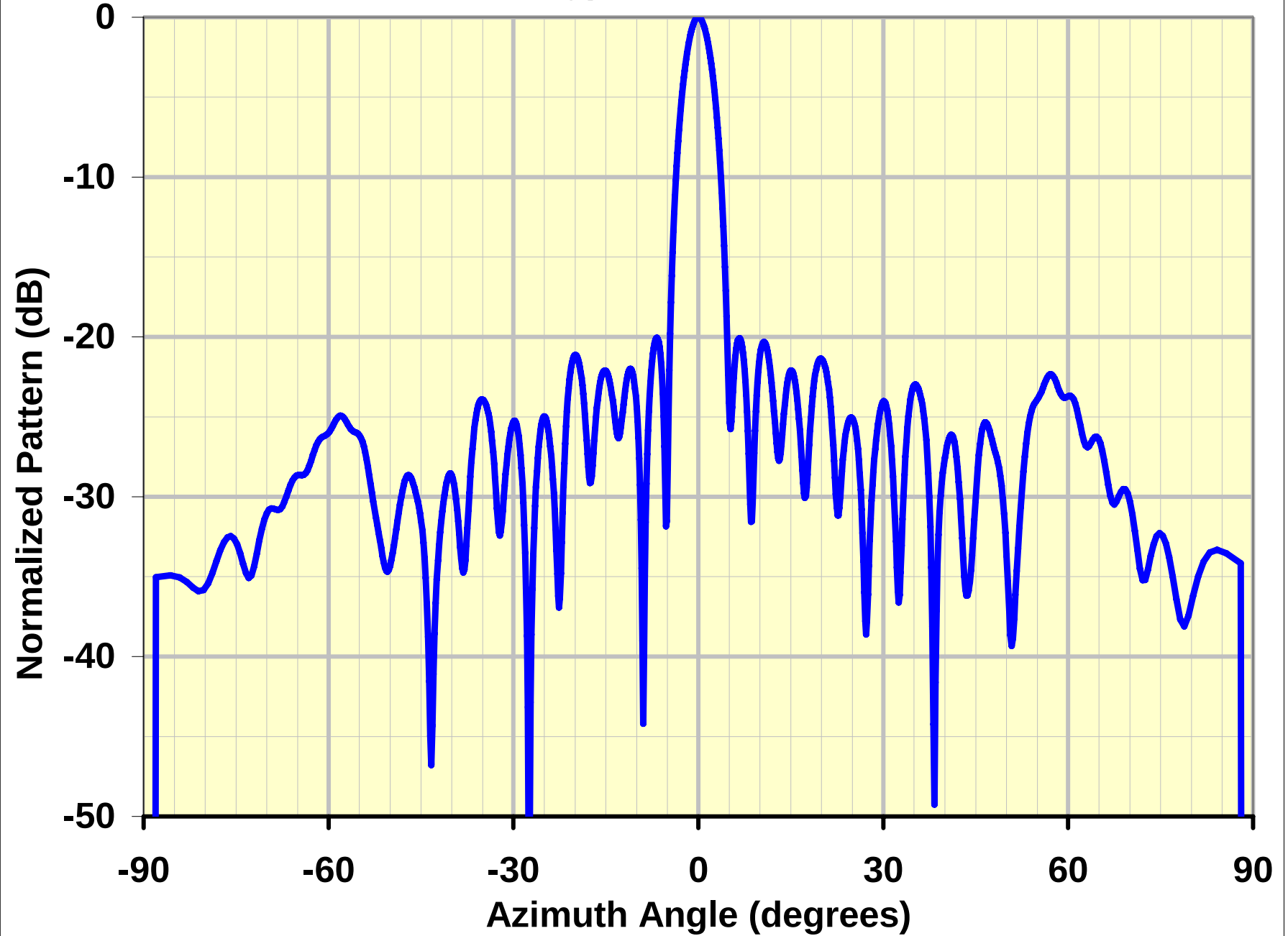
XTAR Prototype 1, Port 1, 7.8 GHz



XTAR Prototype 1, Port 1, 7.8 GHz



XTAR Prototype 1, Port 1, 8.4 GHz



XTAR Prototype 1, Port 1, 8.4 GHz

