



## All Band LTE External Waterproof Antenna

### Product Description

Parsec's PTA-0727B-5-001 is a compact external waterproof antenna that works on all the common worldwide LTE bands with high efficiency. This antenna is a center-fed dipole design that provides consistent performance independent of nearby antennas and metal structures for maximum mounting flexibility. The PTA-0727B-5-001 is optimized for broad bandwidth to support a wide variety of applications.

Detailed product information and options are available under NDA. Patent pending.

### Features

- **LTE frequency range: 698 – 960 MHz  
1695 – 2700 MHz**
- **Omni-directional**
- **No ground plane required**
- **High Efficiency: 70%**

### Applications

- **External M2M, IoT Applications**
- **Remote video monitoring, Mobile broadband,**
- **First Responders / Fleet management**

### Electrical Specifications

| ID  | Parameters      | Units | Typ.   |
|---|-----------------|-------|--------|
| <b>Radiated Efficiency</b>                  | 698 – 960 MHz   | %     | 70     |
|   | 1695 – 2700 MHz |       | 70     |
| <b>Peak Gain</b>                            | 698 – 960 MHz   | dBi   | 1.9    |
|   | 1695 – 2700 MHz |       | 5.4    |
| <b>Return Loss (50 <math>\Omega</math>)</b> | 698 – 960 MHz   | dB    | 9.5    |
|   | 1695 – 2700 MHz |       | 9.5    |
| <b>Polarization</b>                         |                 |       | Linear |
| <b>Max Input Power</b>                      |                 | Watts | 10     |
| <b>RF Connector</b>                         |                 |       | SMA    |

### Notes:

1. See antenna pattern plots to determine antenna gain across frequency and angle.
2. Return loss may be degraded by metal objects near antenna.

**Mechanical**

|                   |                     |
|-------------------|---------------------|
| <b>Dimensions</b> | 16 cm x 5 cm x 3 cm |
|-------------------|---------------------|

**Environmental**

|                              |                 |
|------------------------------|-----------------|
| <b>Operating Temperature</b> | -40°C to 70°C   |
| <b>Storage Temperature</b>   | -40°C to 85°C   |
| <b>Rating</b>                | IP67 waterproof |



**Figure 1. PTA-0727B-5-001 Mounted on DIN Rail**

## Typical Performance

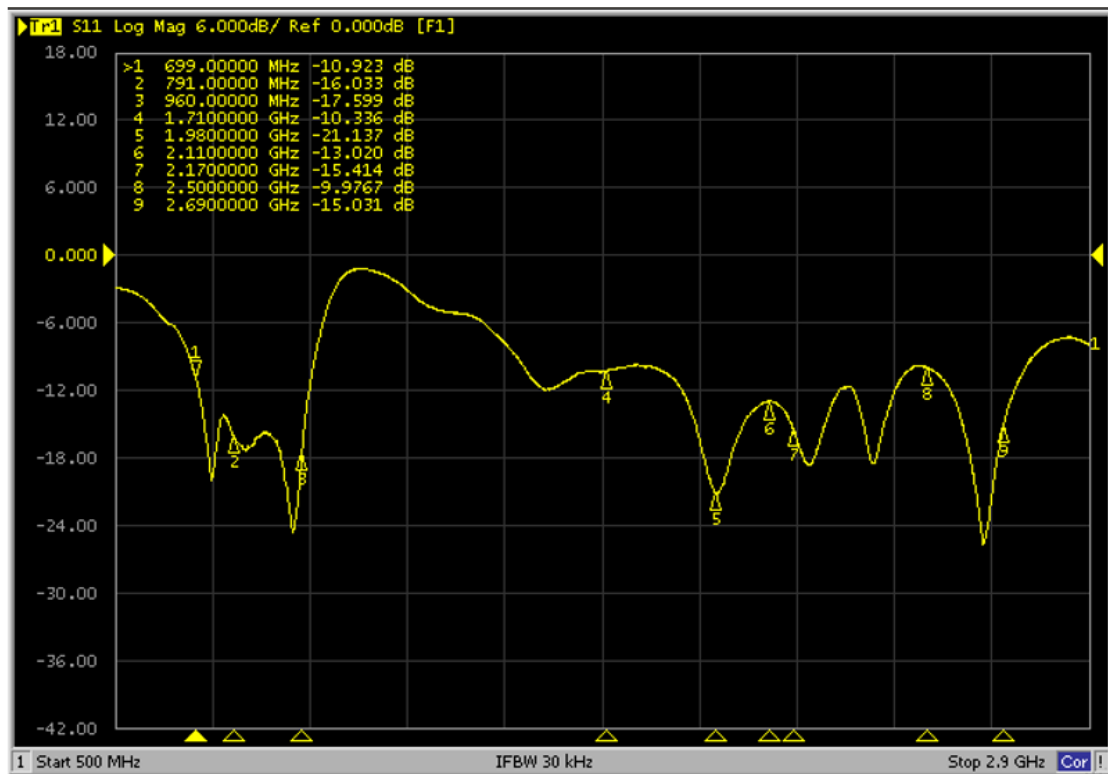


Figure 2. PTA-0727B-5-001 Return Loss

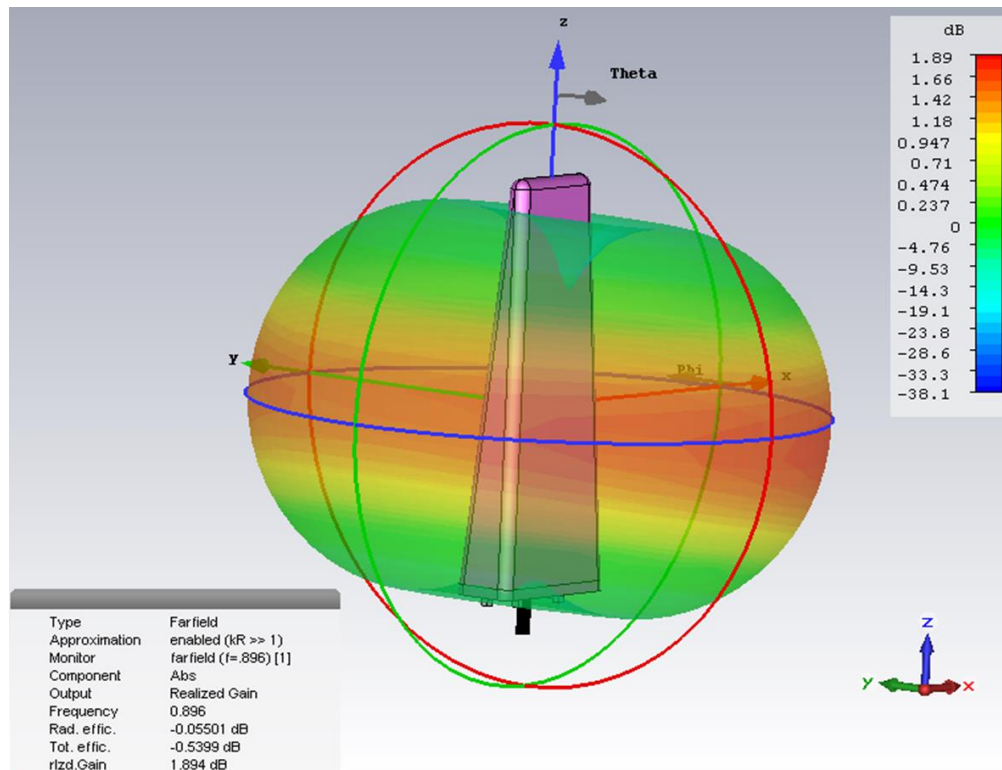


Figure 3. Low Band Peak Gain and Orientation for Radiation Patterns

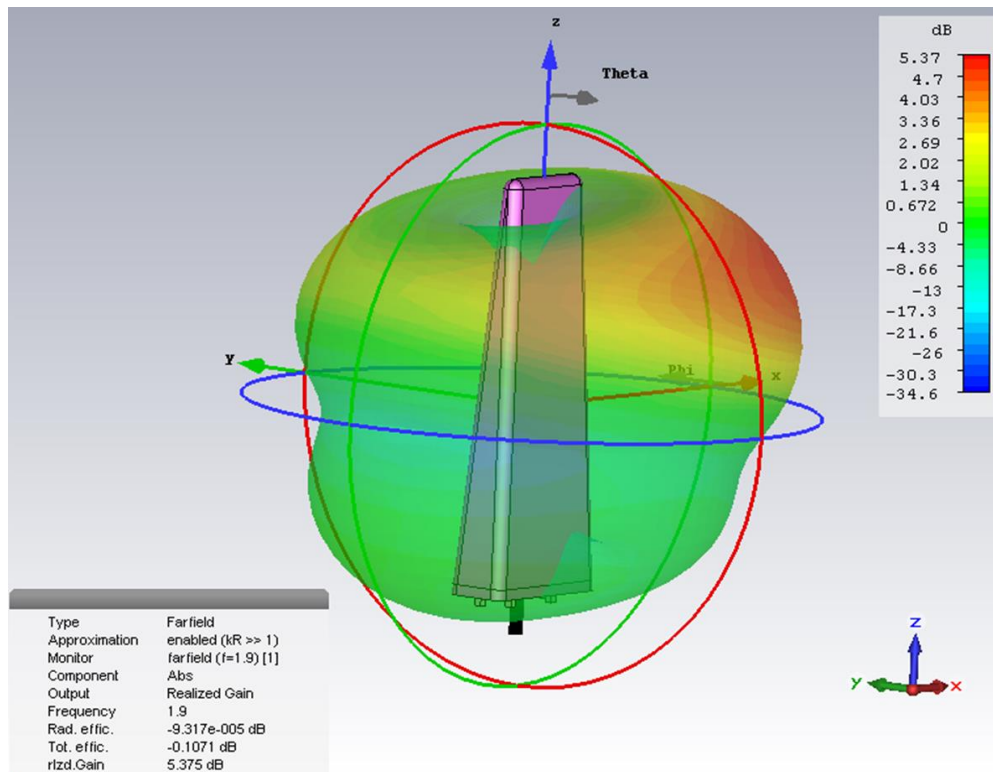
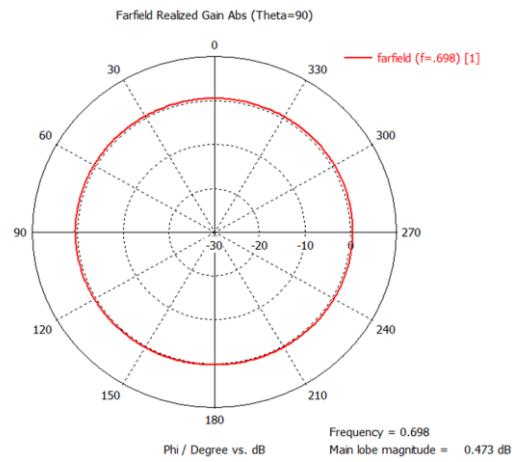
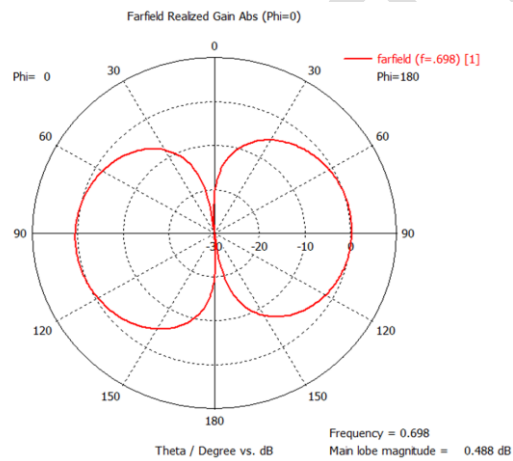


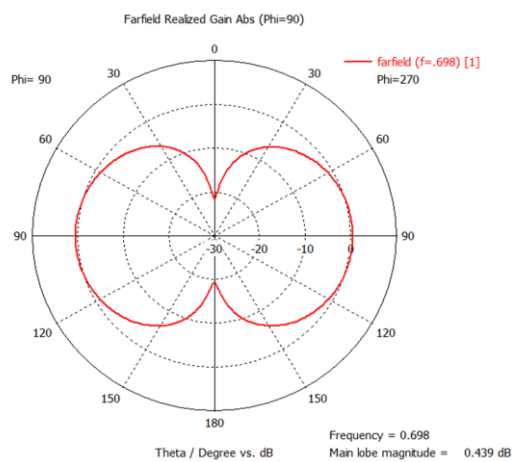
Figure 4. High Band Peak Gain and Orientation for Radiation Patterns



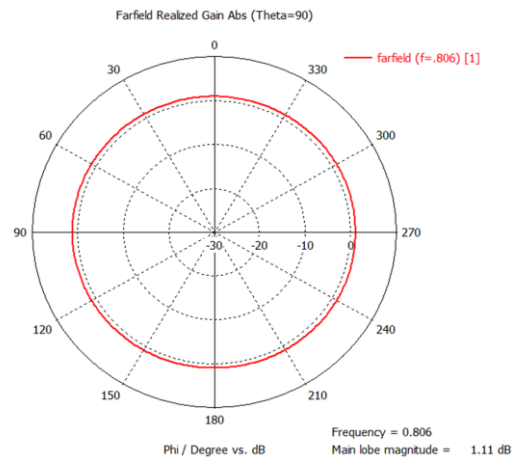
**Figure 5. Antenna Pattern, 698 MHz, Phi/Deg, Theta = 90**



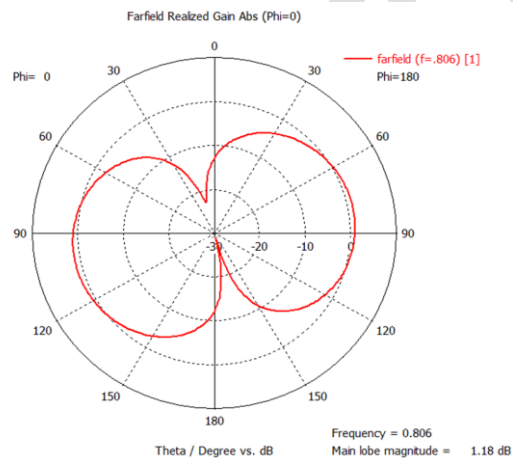
**Figure 6. Antenna Pattern, 698 MHz, Theta/Deg, Phi = 0**



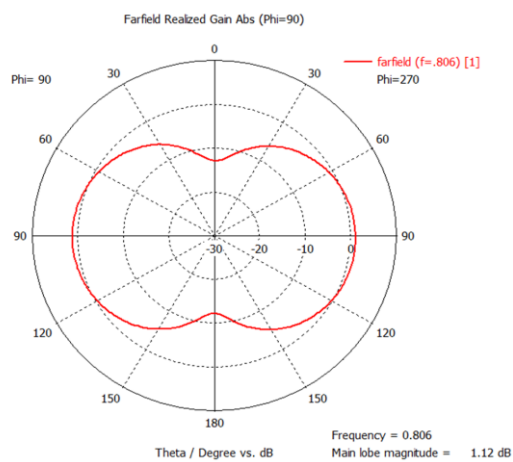
**Figure 7. Antenna Pattern, 698 MHz, Theta/Deg, Phi = 90**



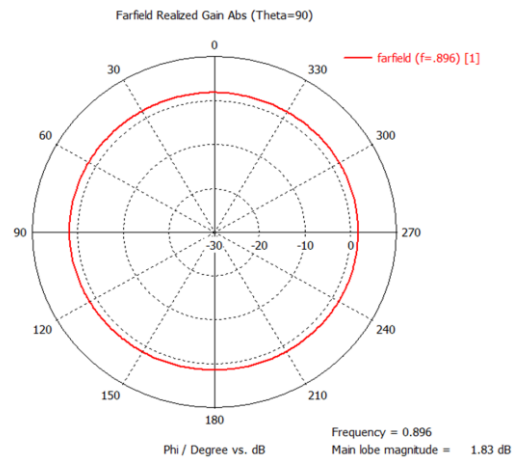
**Figure 8. Antenna Pattern, 806 MHz, Phi/Deg, Theta = 90**



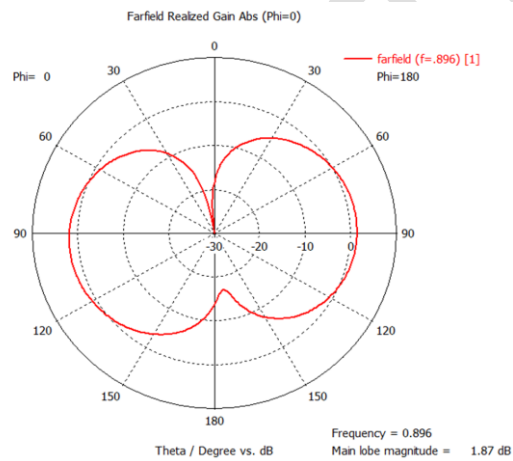
**Figure 9. Antenna Pattern, 806 MHz, Theta/Deg, Phi = 0**



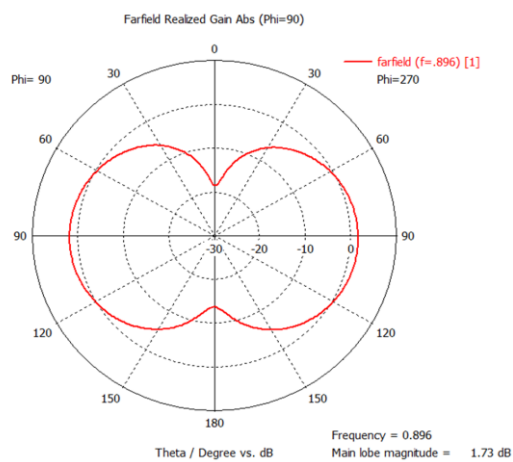
**Figure 10. Antenna Pattern, 806 MHz, Theta/Deg, Phi = 90**



**Figure 11. Antenna Pattern, 896 MHz, Phi/Deg, Theta = 90**

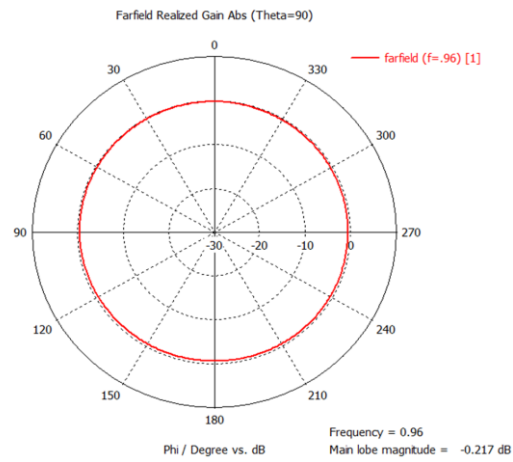


**Figure 12. Antenna Pattern, 896 MHz, Theta/Deg, Phi = 0**

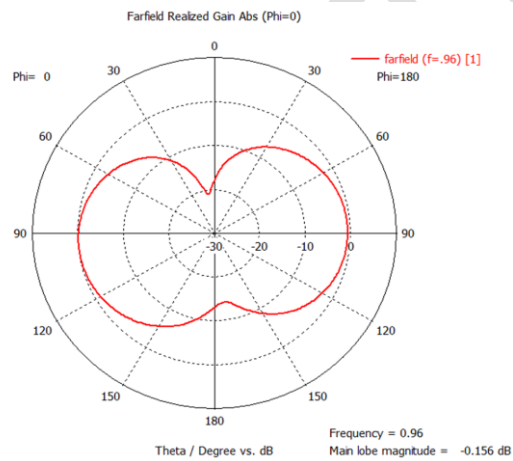


**Figure 13. Antenna Pattern, 896 MHz, Theta/Deg, Phi = 90**

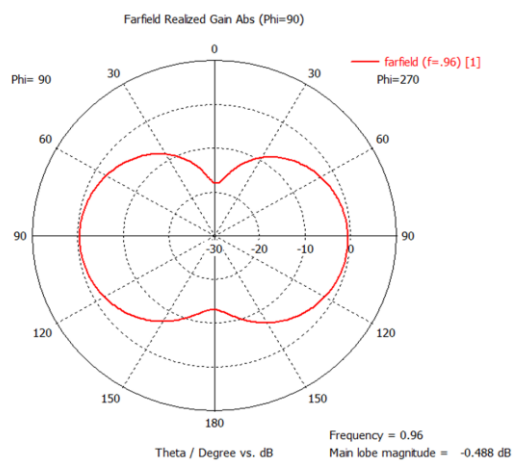




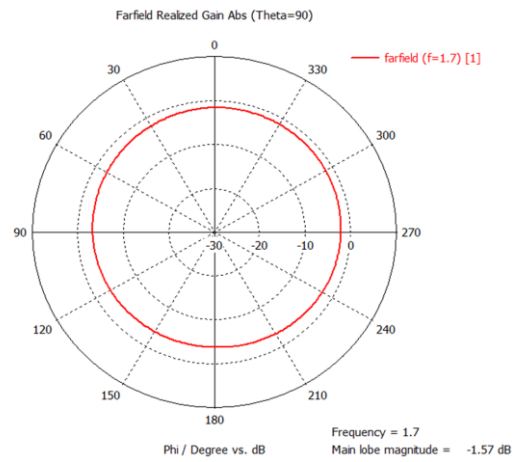
**Figure 14. Antenna Pattern, 960 MHz, Phi/Deg, Theta = 90**



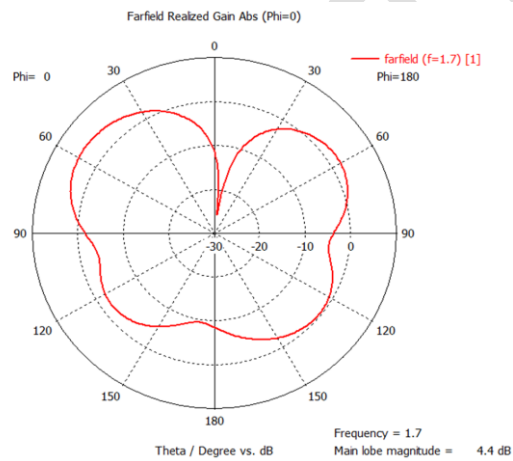
**Figure 15. Antenna Pattern, 960 MHz, Theta/Deg, Phi = 0**



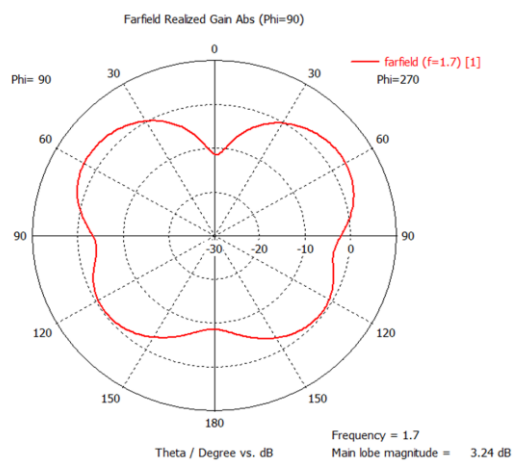
**Figure 16. Antenna Pattern, 960 MHz, Theta/Deg, Phi = 90**



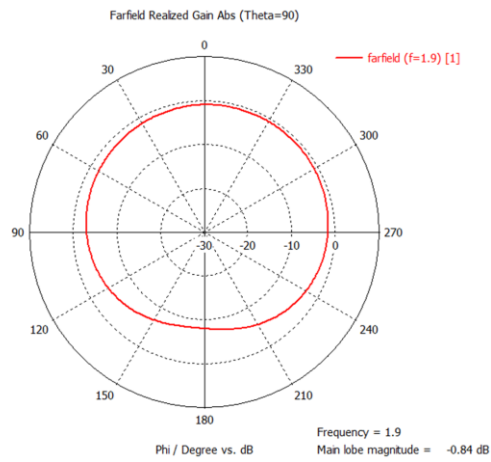
**Figure 17. Antenna Pattern, 1700 MHz, Phi/Deg, Theta = 90**



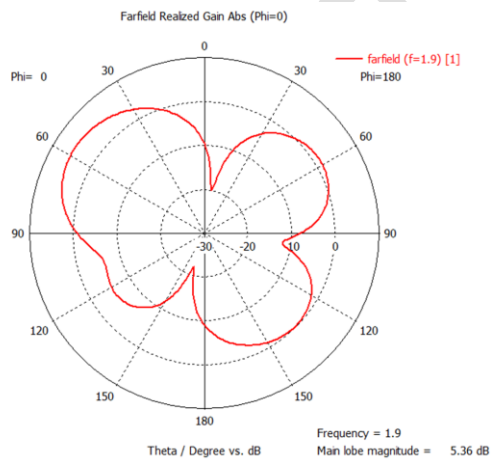
**Figure 18. Antenna Pattern, 1700 MHz, Theta/Deg, Phi = 0**



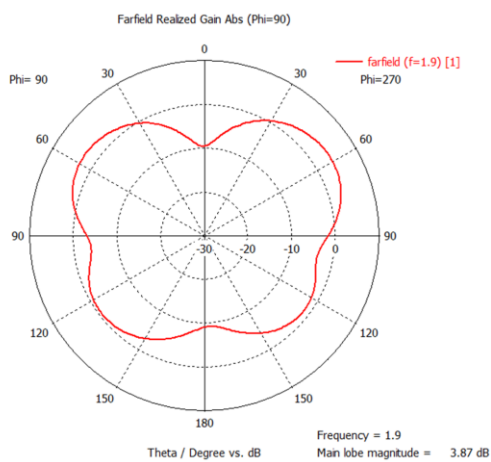
**Figure 19. Antenna Pattern, 1700 MHz, Theta/Deg, Phi = 90**



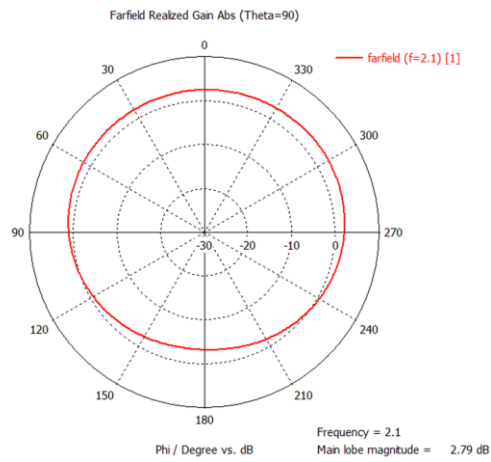
**Figure 20. Antenna Pattern, 1900 MHz, Phi/Deg, Theta = 90**



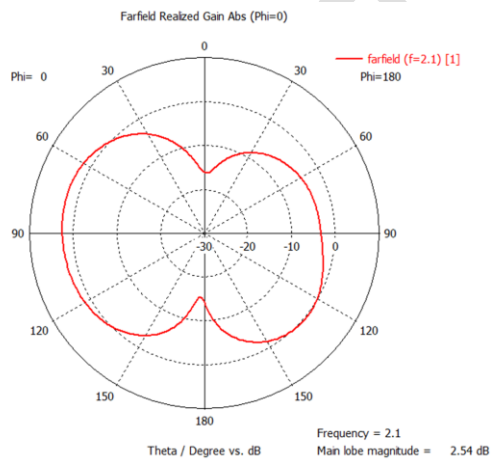
**Figure 21. Antenna Pattern, 1900 MHz, Theta/Deg, Phi = 0**



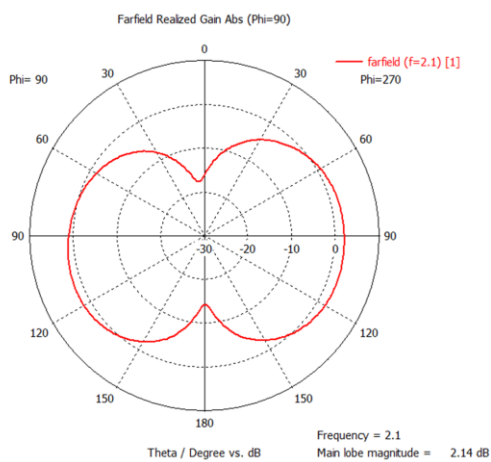
**Figure 22. Antenna Pattern, 1900 MHz, Theta/Deg, Phi = 90**



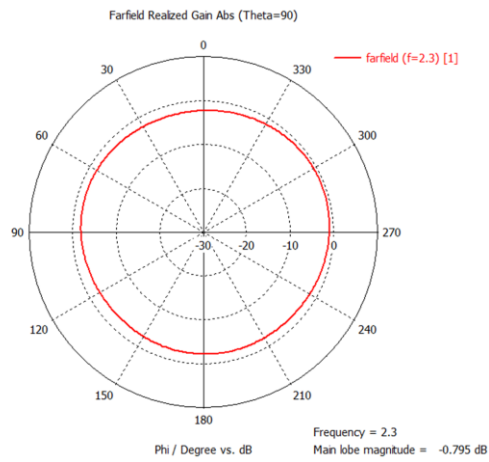
**Figure 23. Antenna Pattern, 2100 MHz, Phi/Deg, Theta = 90**



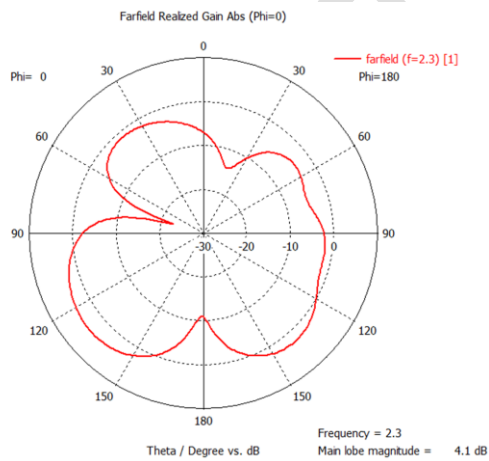
**Figure 24. Antenna Pattern, 2100 MHz, Theta/Deg, Phi = 0**



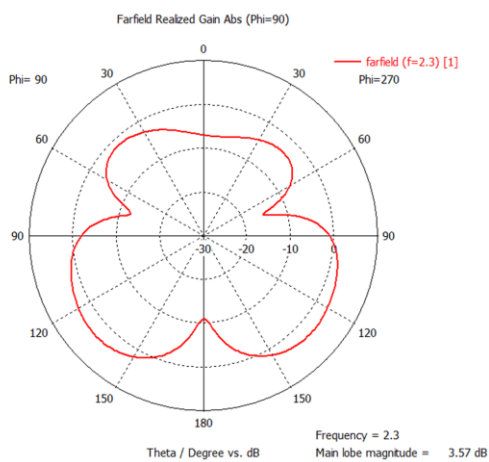
**Figure 25. Antenna Pattern, 2100 MHz, Theta/Deg, Phi = 90**



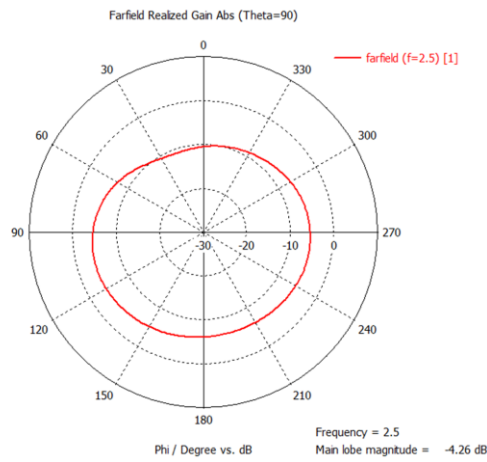
**Figure 26. Antenna Pattern, 2300 MHz, Phi/Deg, Theta = 90**



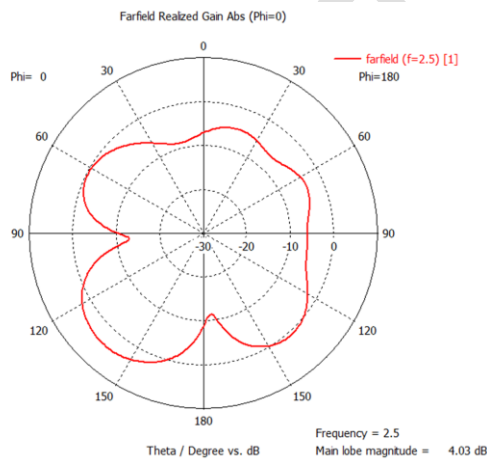
**Figure 27. Antenna Pattern, 2300 MHz, Theta/Deg, Phi = 0**



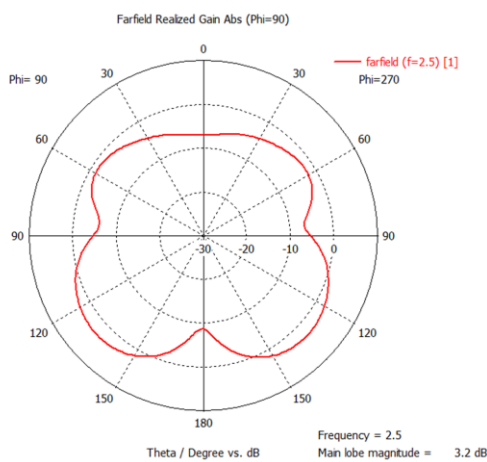
**Figure 28. Antenna Pattern, 2300 MHz, Theta/Deg, Phi = 90**



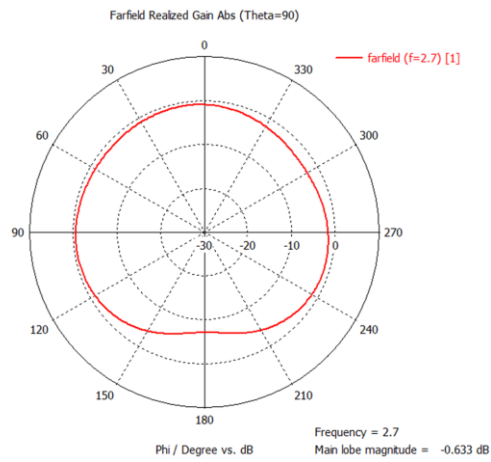
**Figure 29. Antenna Pattern, 2500 MHz, Phi/Deg, Theta = 90**



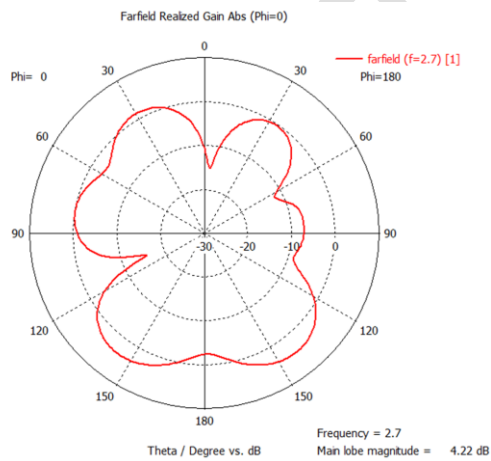
**Figure 30. Antenna Pattern, 2500 MHz, Theta/Deg, Phi = 0**



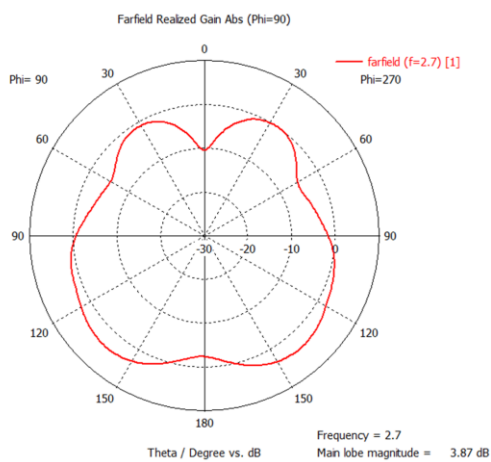
**Figure 31. Antenna Pattern, 2500 MHz, Theta/Deg, Phi = 90**



**Figure 32. Antenna Pattern, 2700 MHz, Phi/Deg, Theta = 90**



**Figure 33. Antenna Pattern, 2700 MHz, Theta/Deg, Phi = 0**



**Figure 34. Antenna Pattern, 2700 MHz, Theta/Deg, Phi = 90**

## Contact Information

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## Ordering Information

|                      |                                   |
|----------------------|-----------------------------------|
| Part Number          | PTA-0727B-5-001                   |
| Packing for Shipment | Protective box, qty. per box TBD. |