HID Global

2.4GHz Test Report

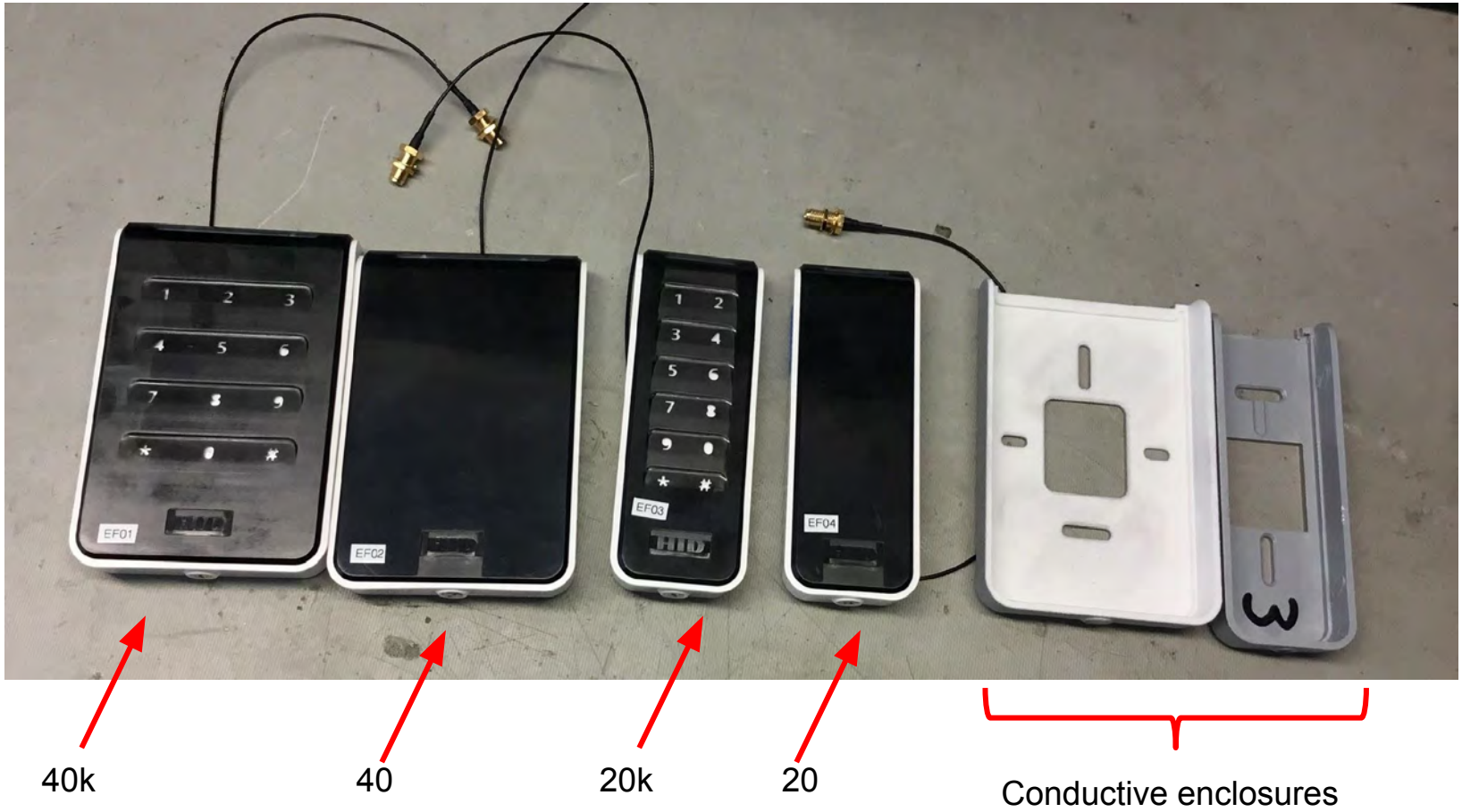
7-29-2019

BLUFLUX, LLC

Executive Summary

- All antennas are tuned higher than the band of interest
- The conductive enclosures have no impact on efficiency or gain

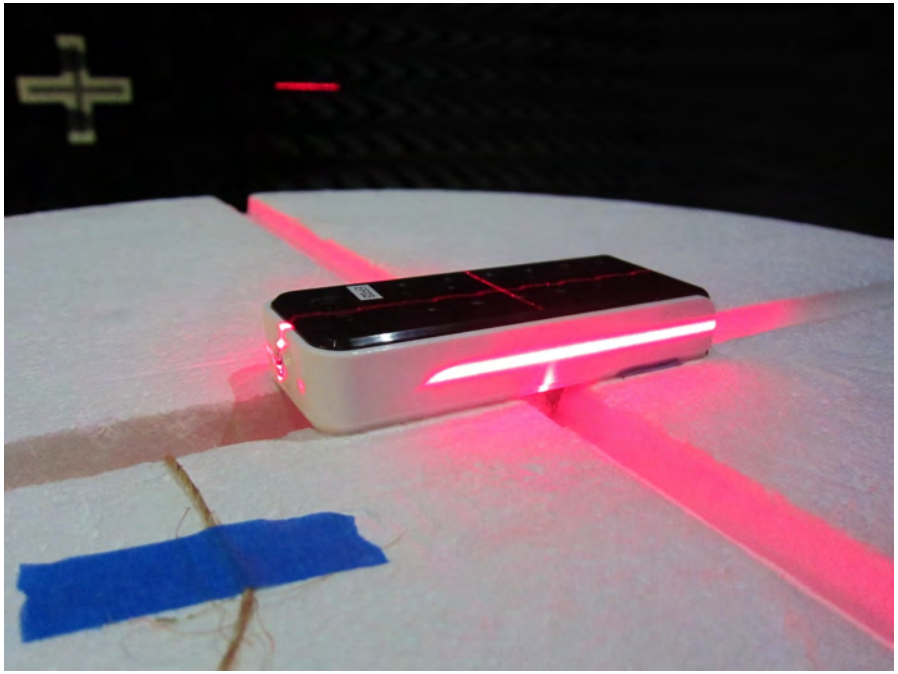
Devices Tested



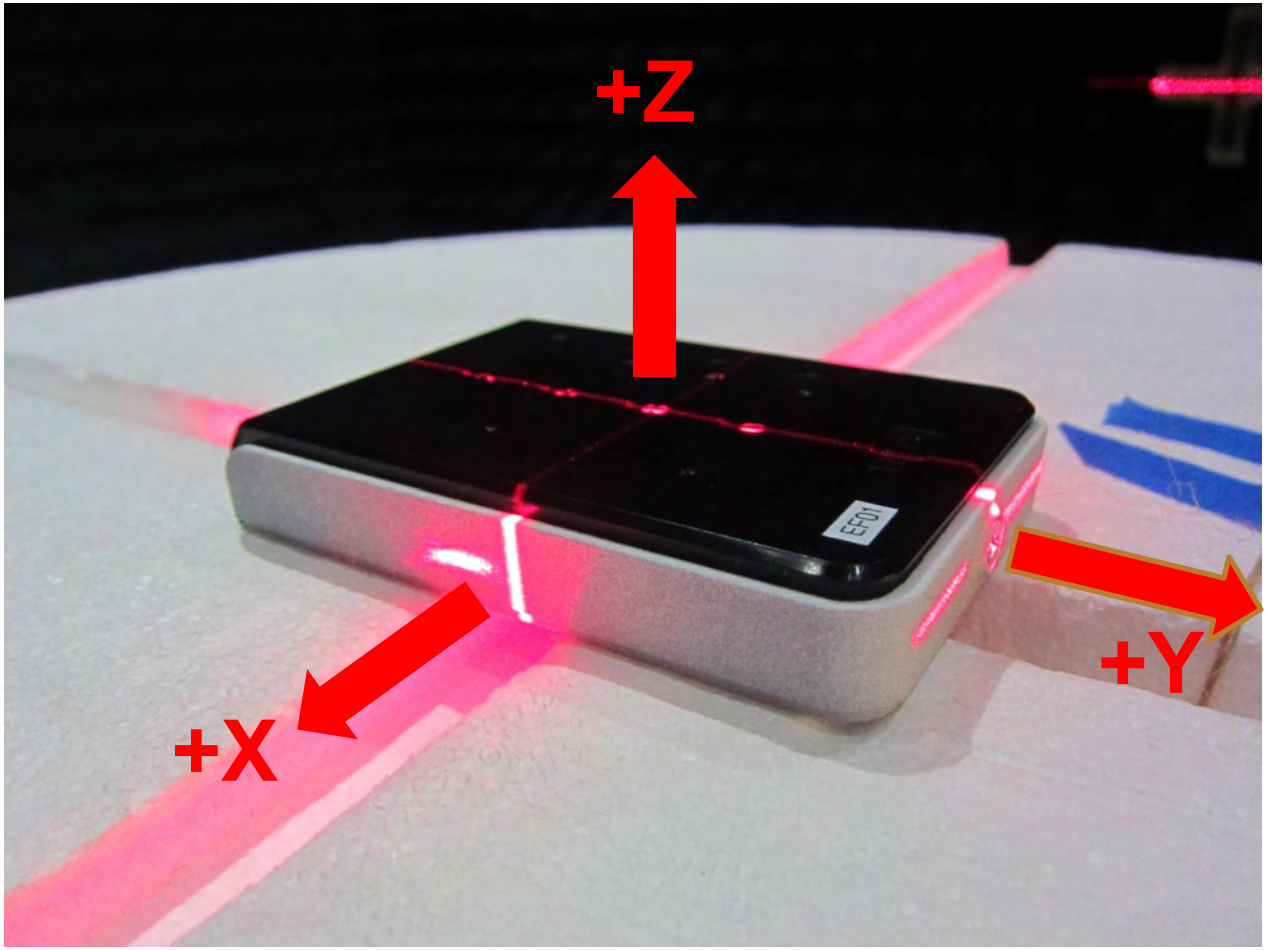
Test Setup: S-parameters and 3D patterns

S-parameter

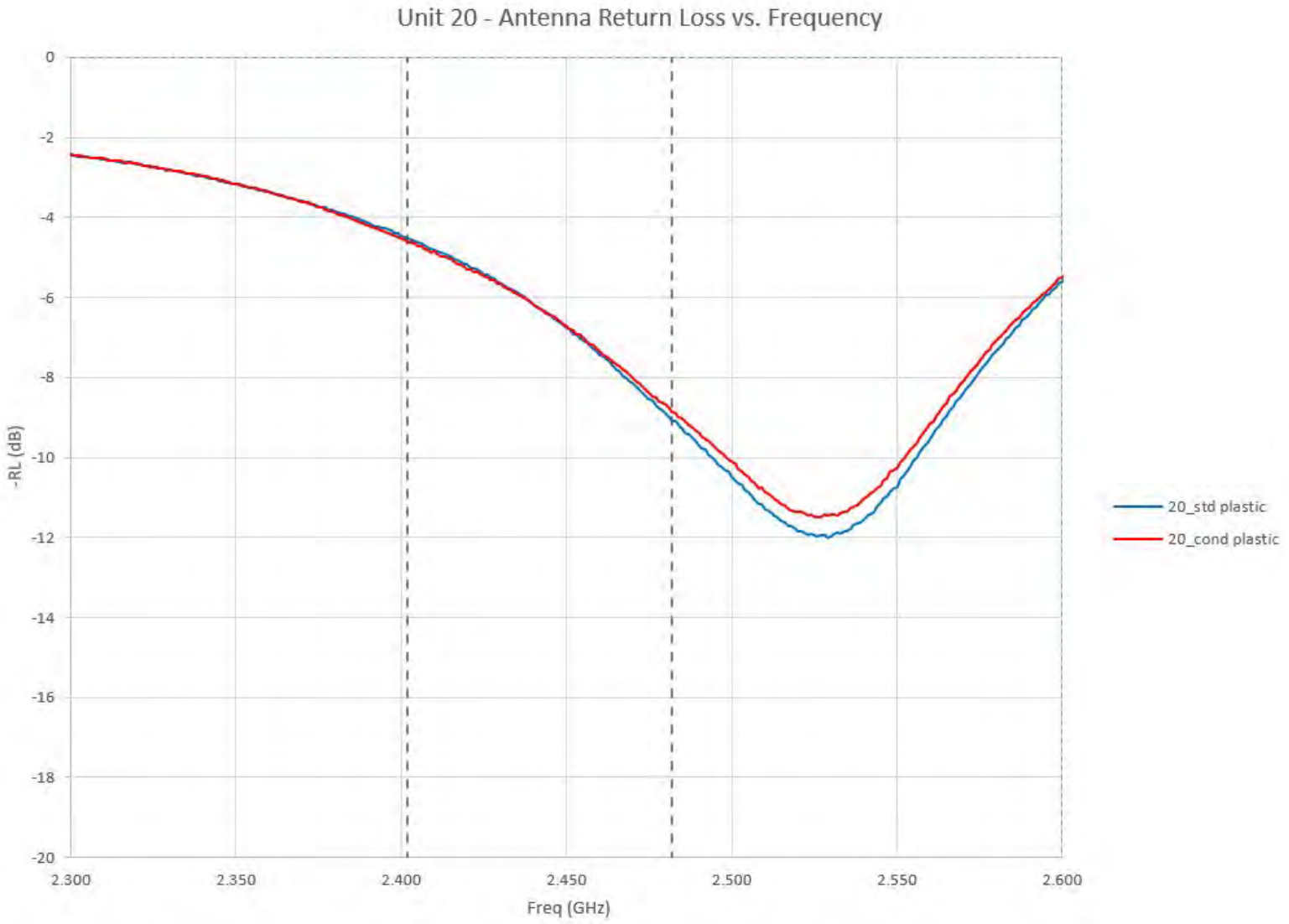
Chamber 3D patterns



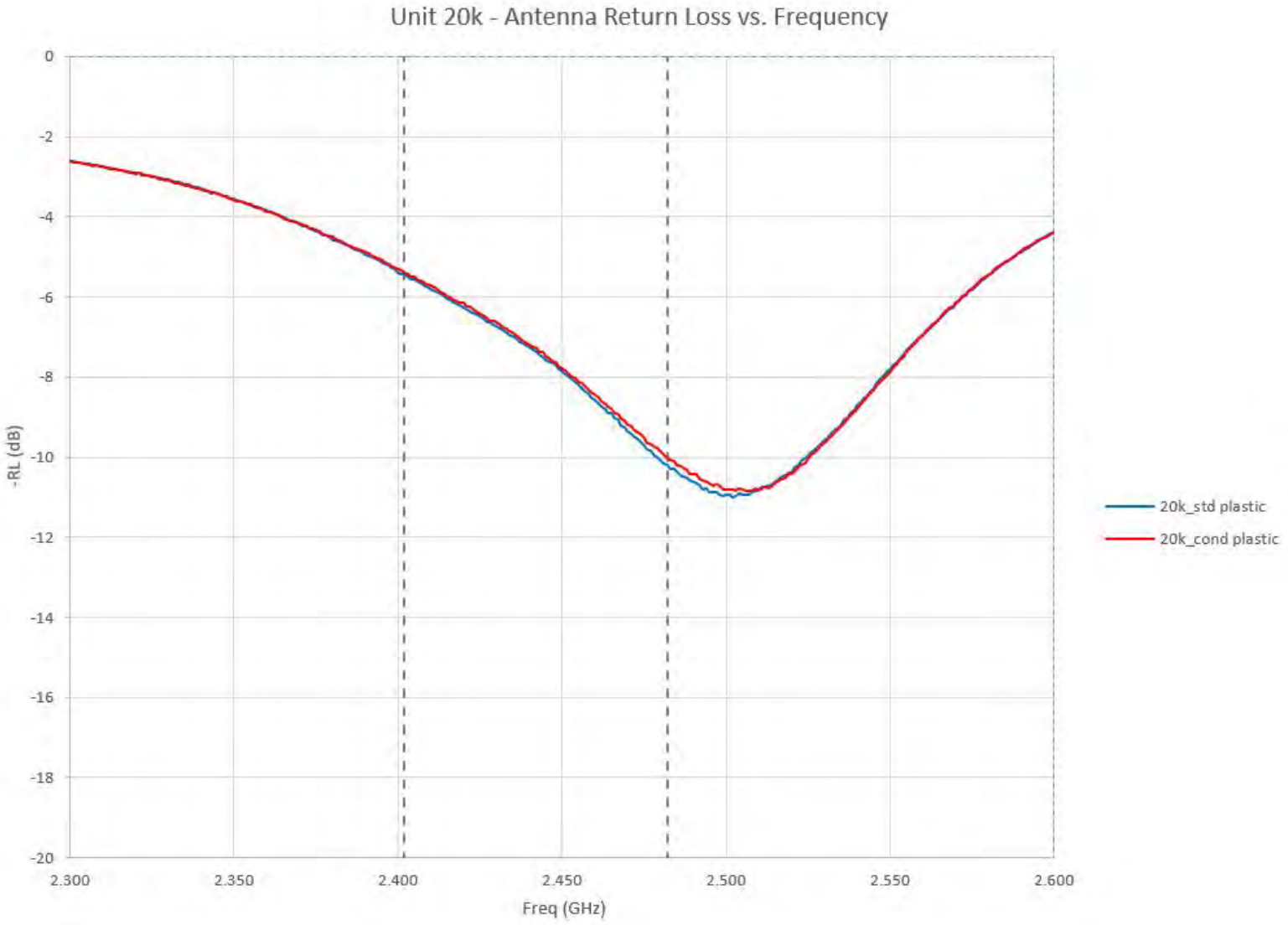
Coordinate system for pattern testing



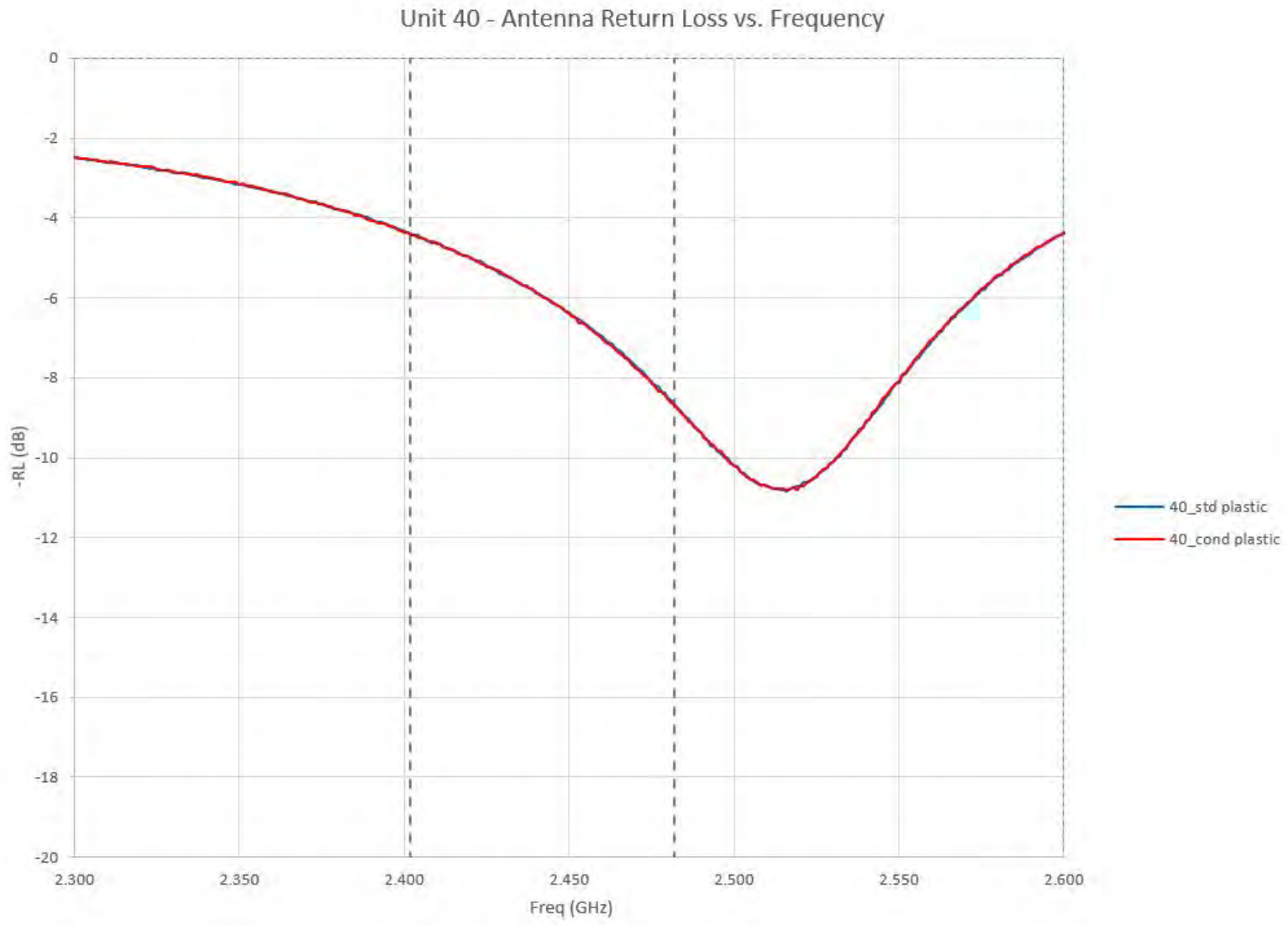
S-parameters: Unit 20



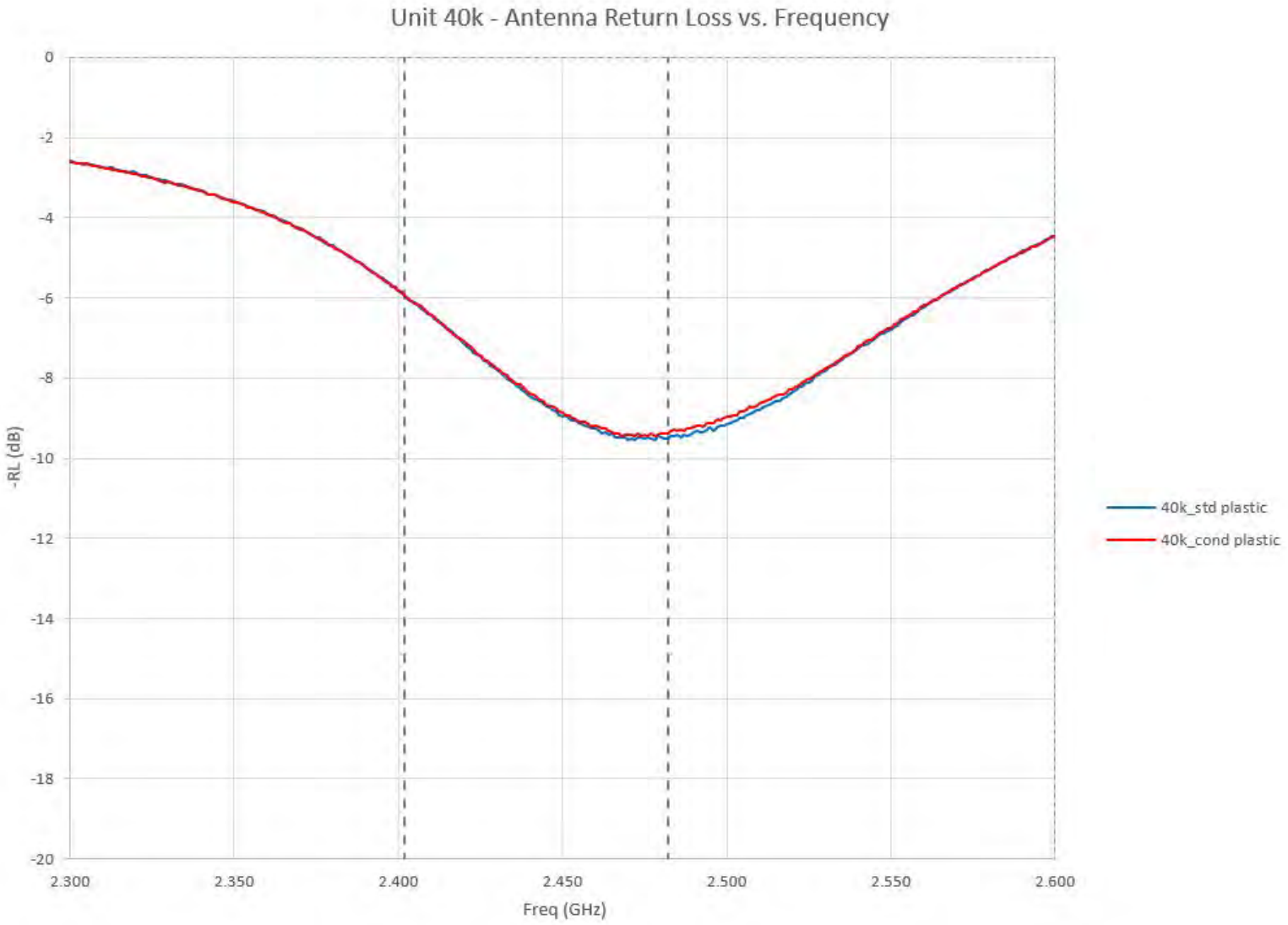
S-parameters: Unit 20k



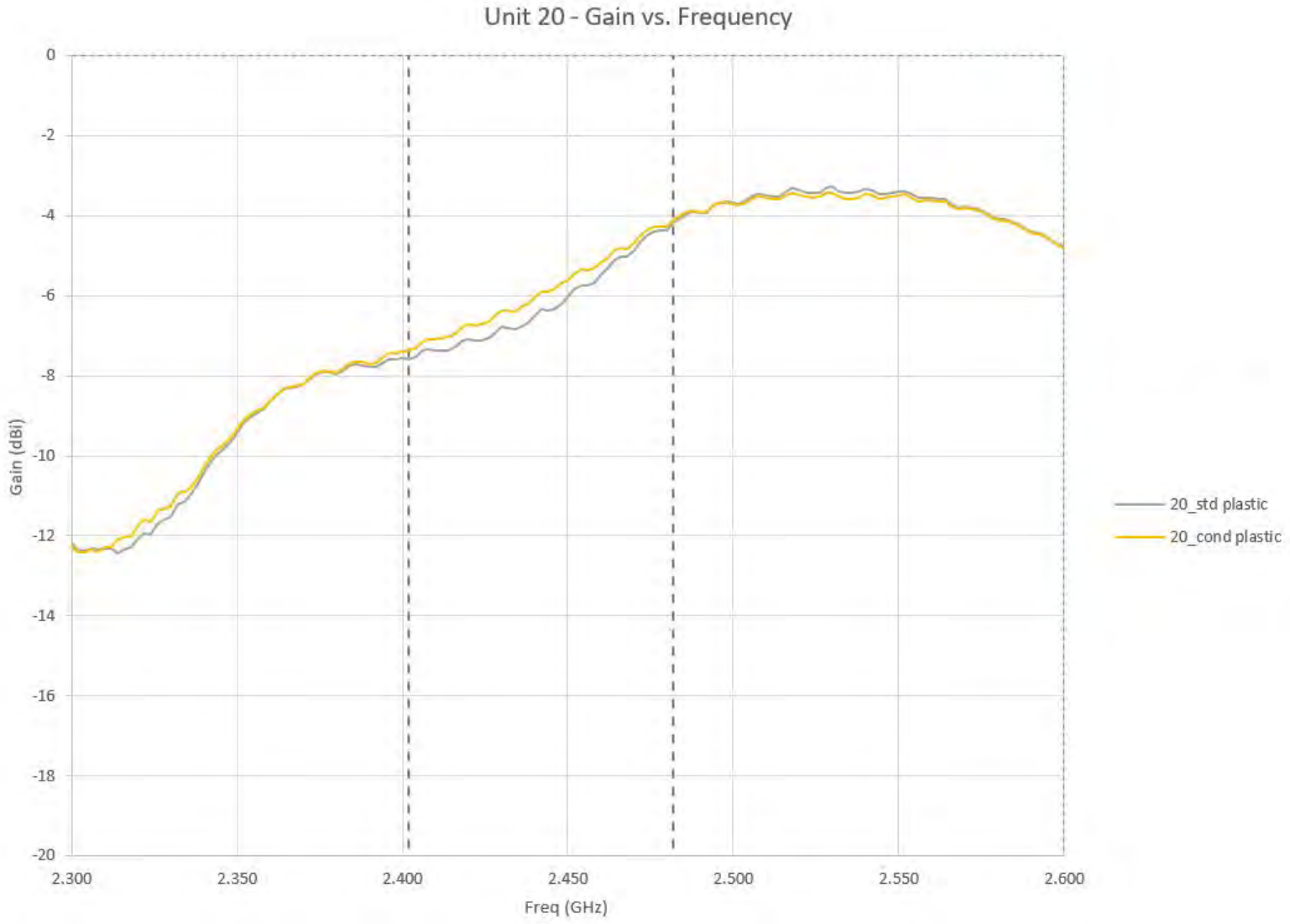
S-parameters: Unit 40



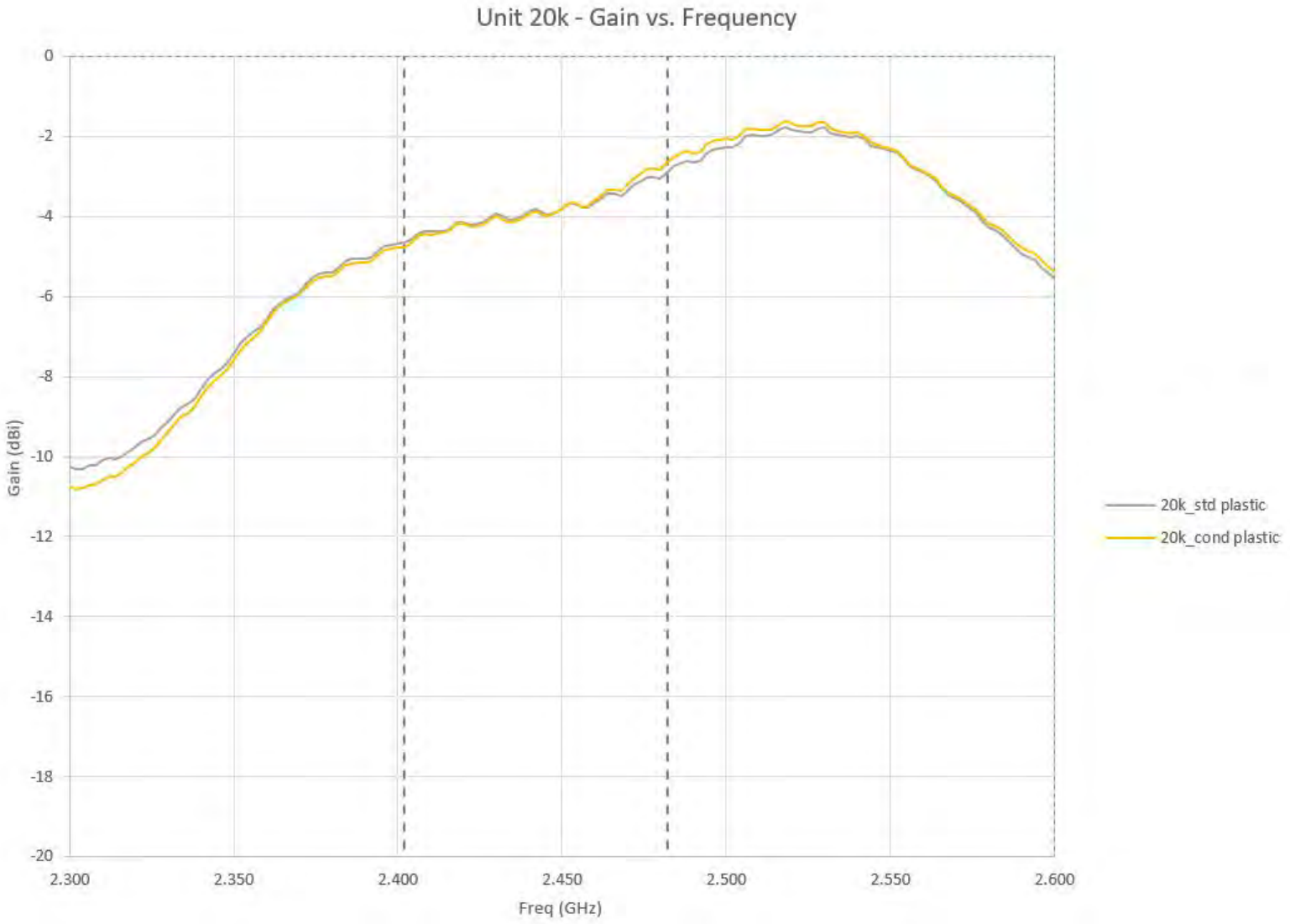
S-parameters: Unit 40k



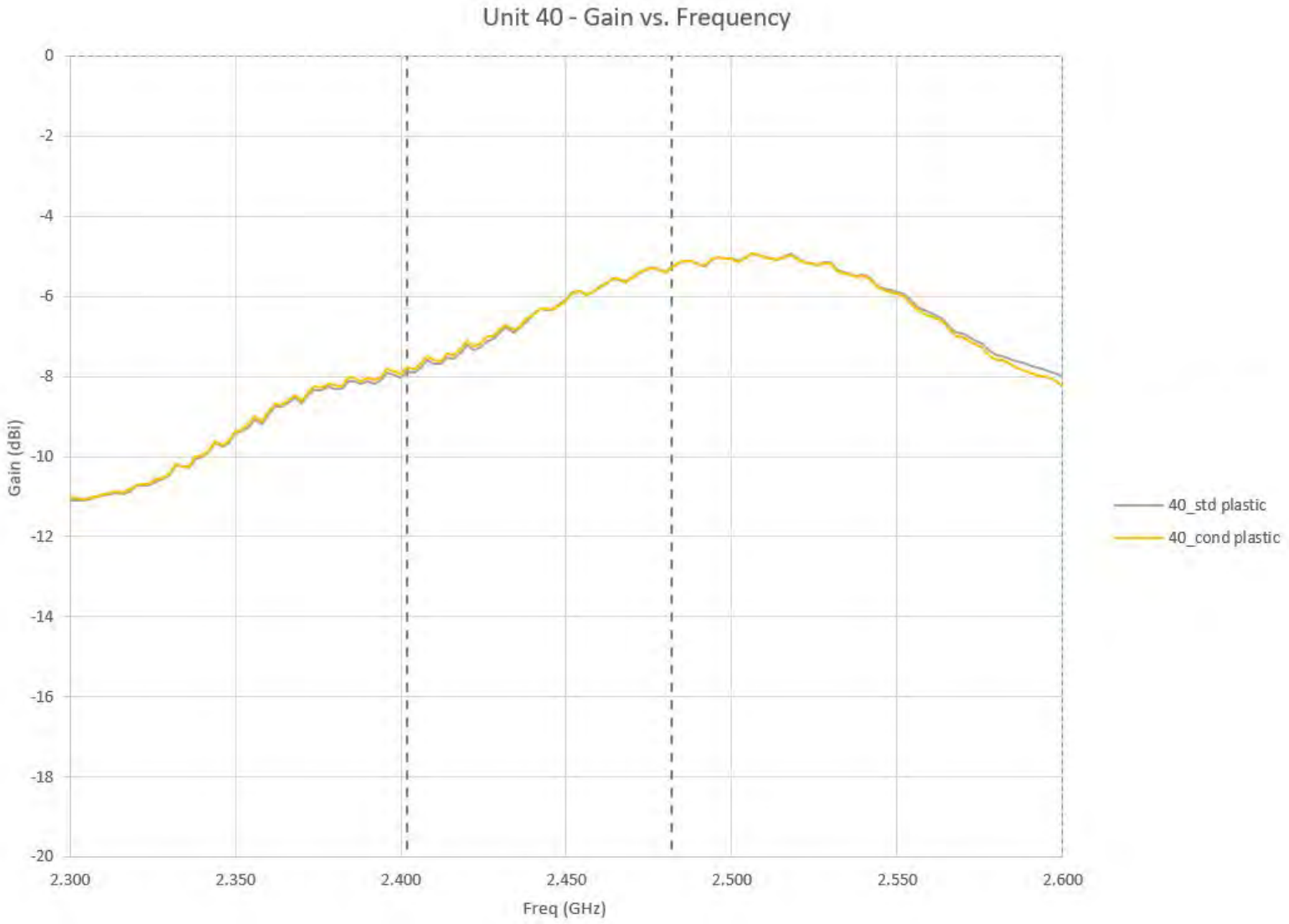
Peak Gain - Unit 20



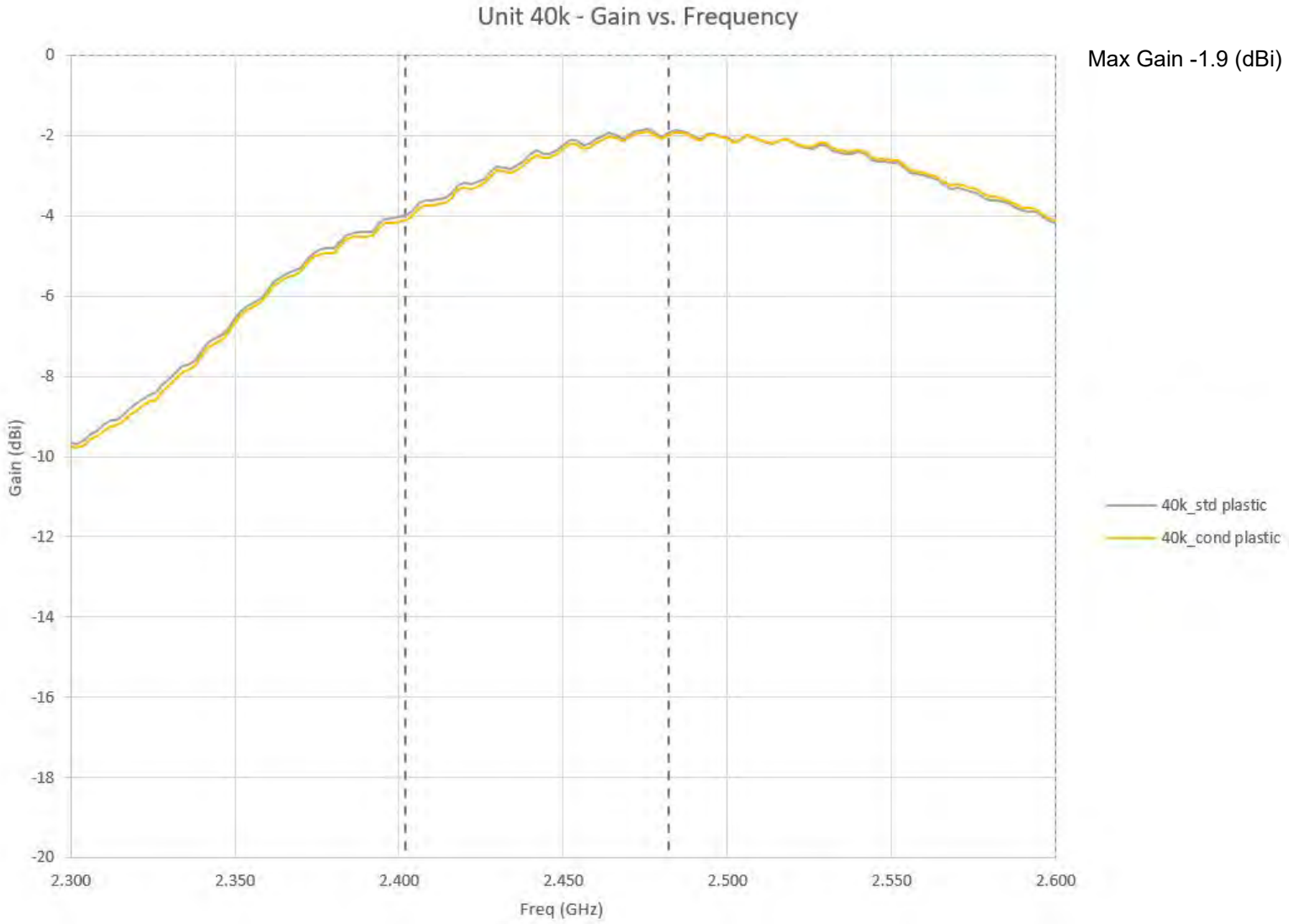
Peak Gain - Unit 20k



Peak Gain - Unit 40

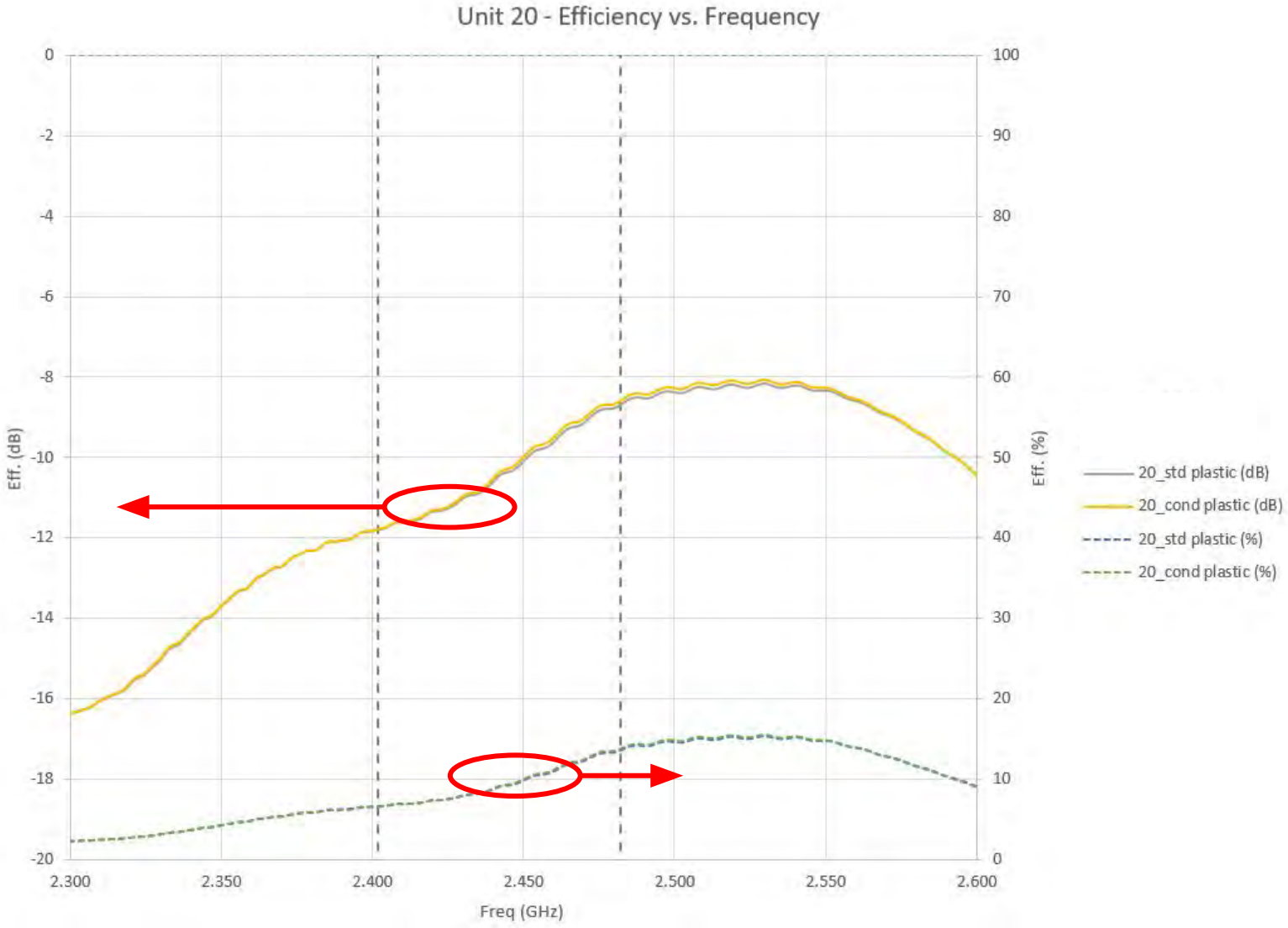


Peak Gain - Unit 40k



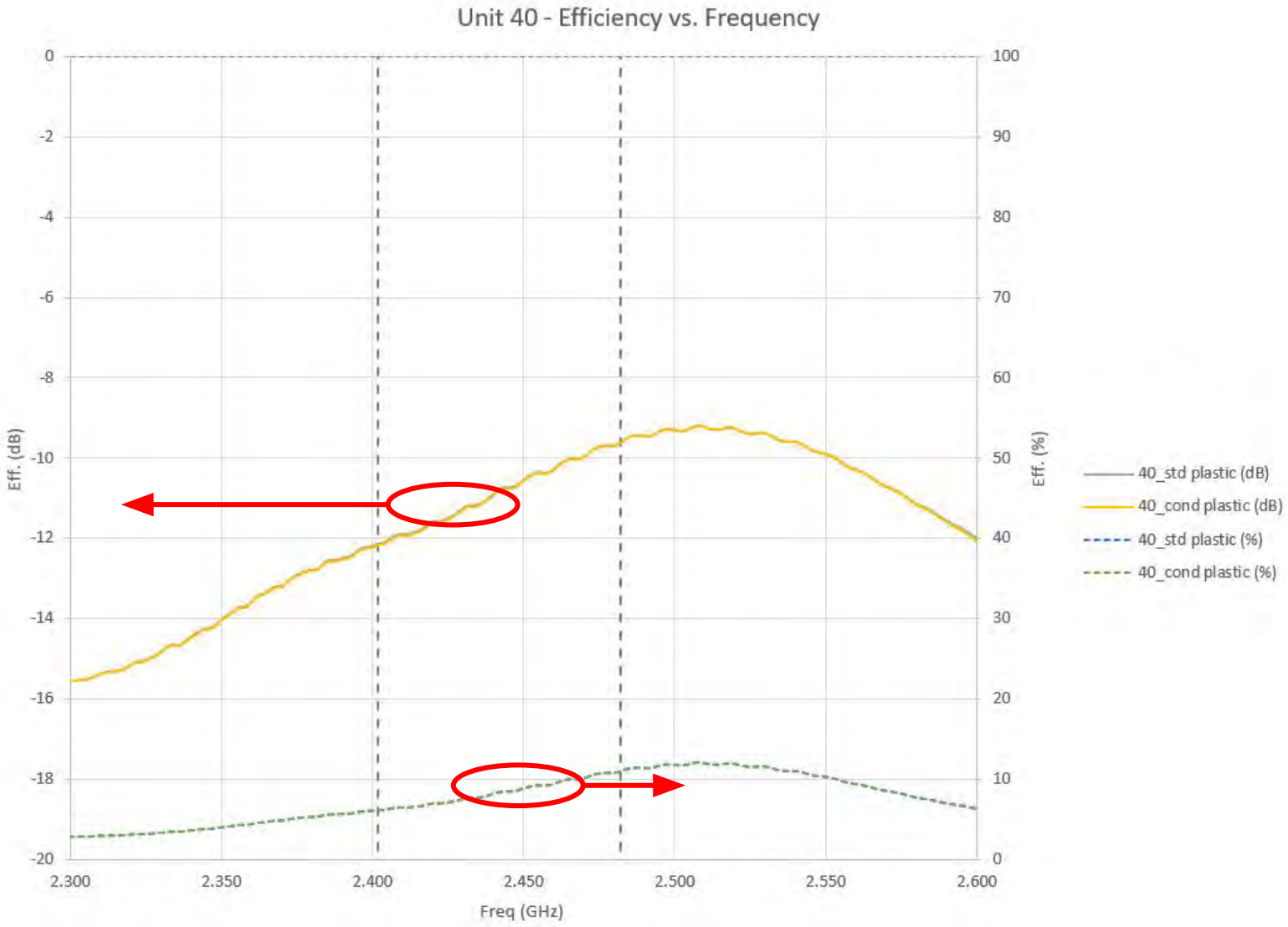
Max Gain -1.9 (dBi)

Efficiency - Unit 20

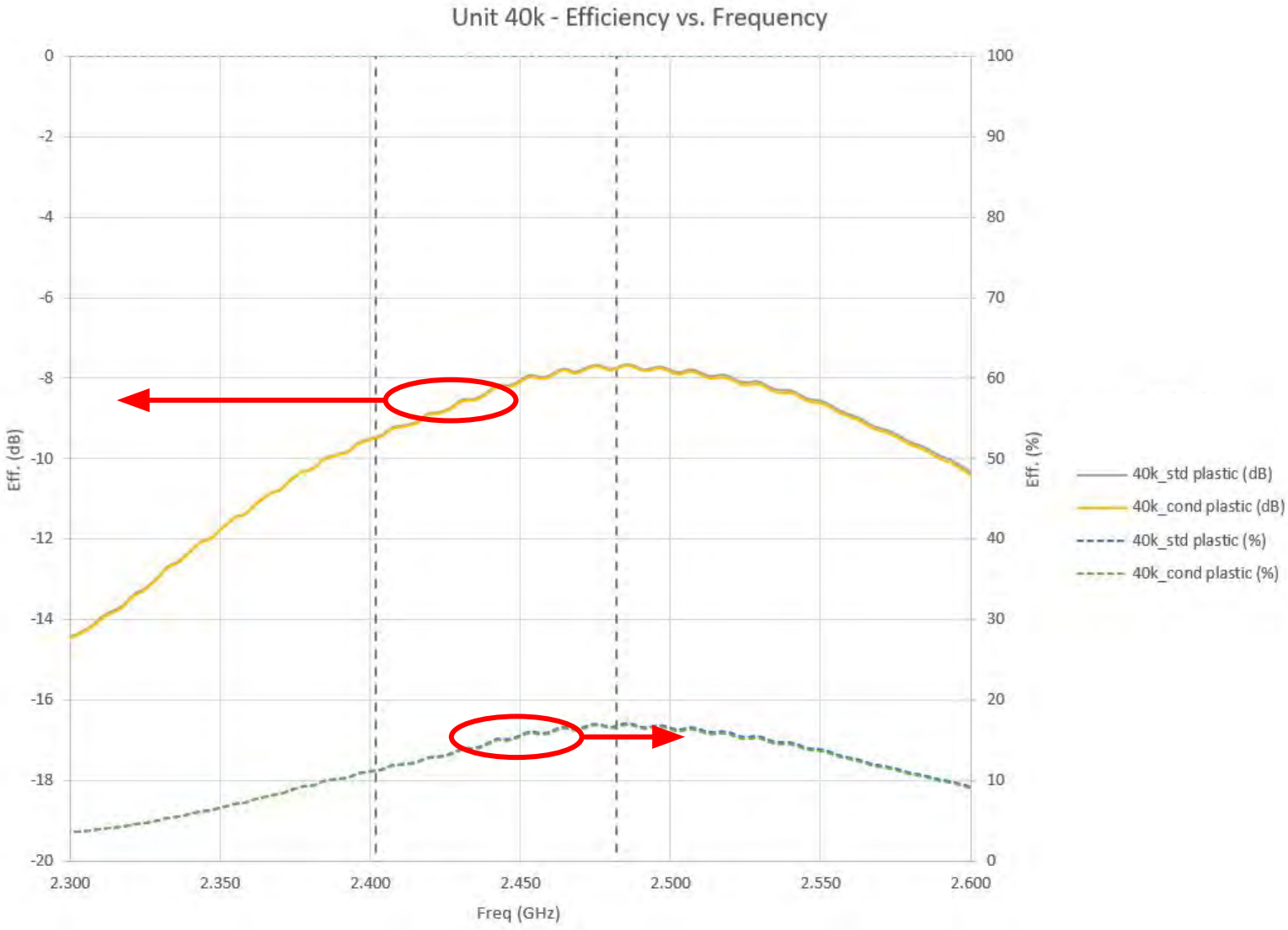


Efficiency - Unit 20k

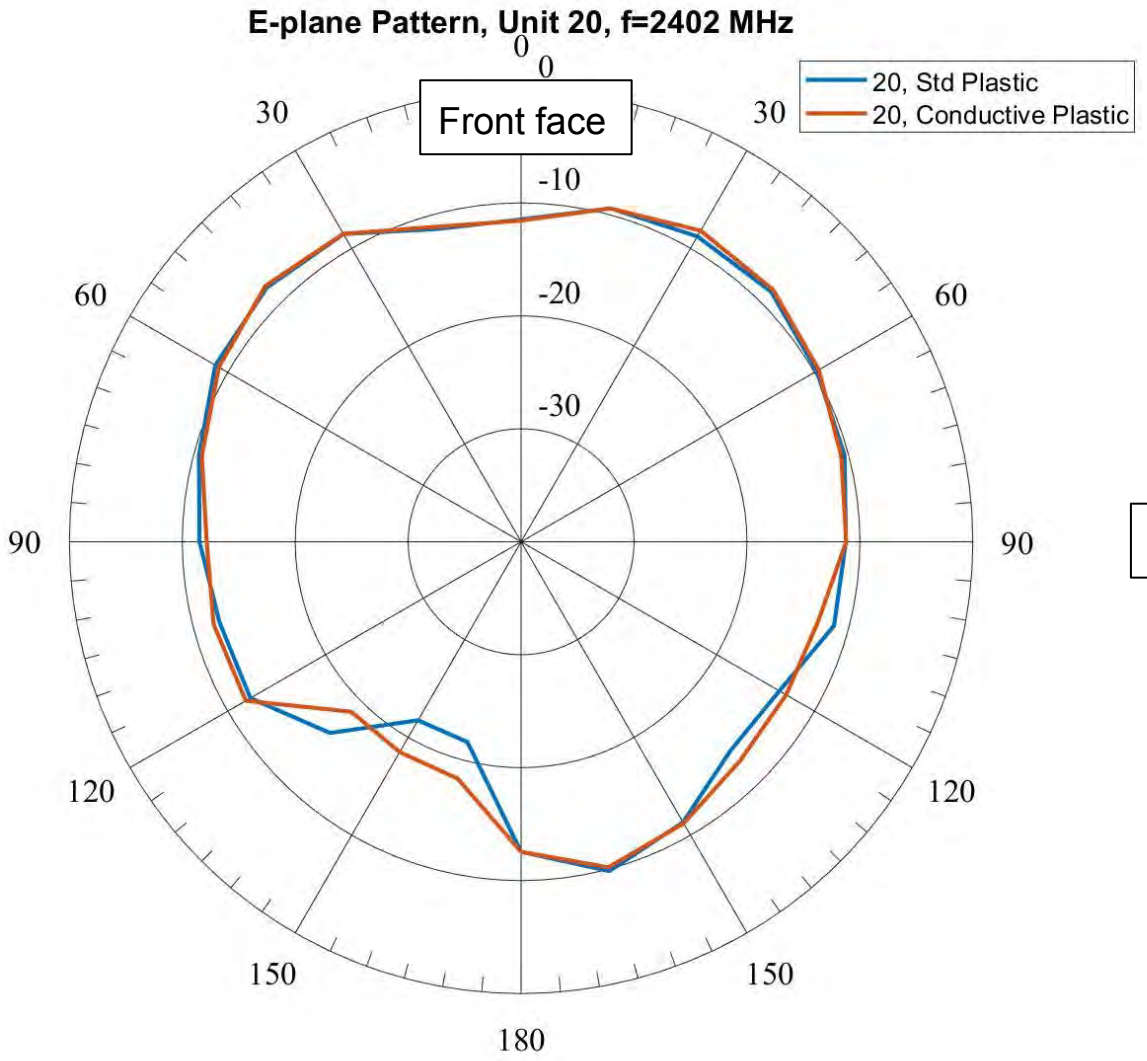
Efficiency - Unit 40



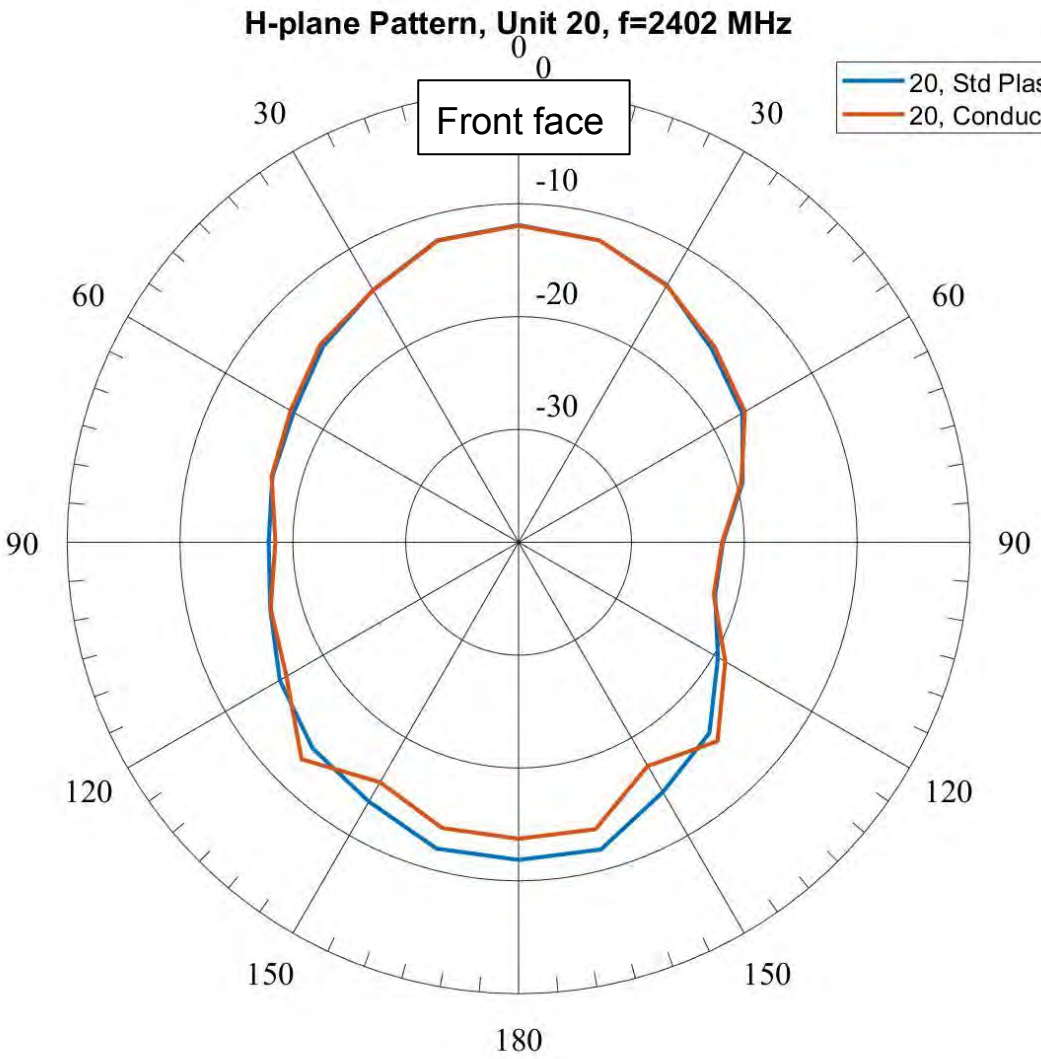
Efficiency - Unit 40k



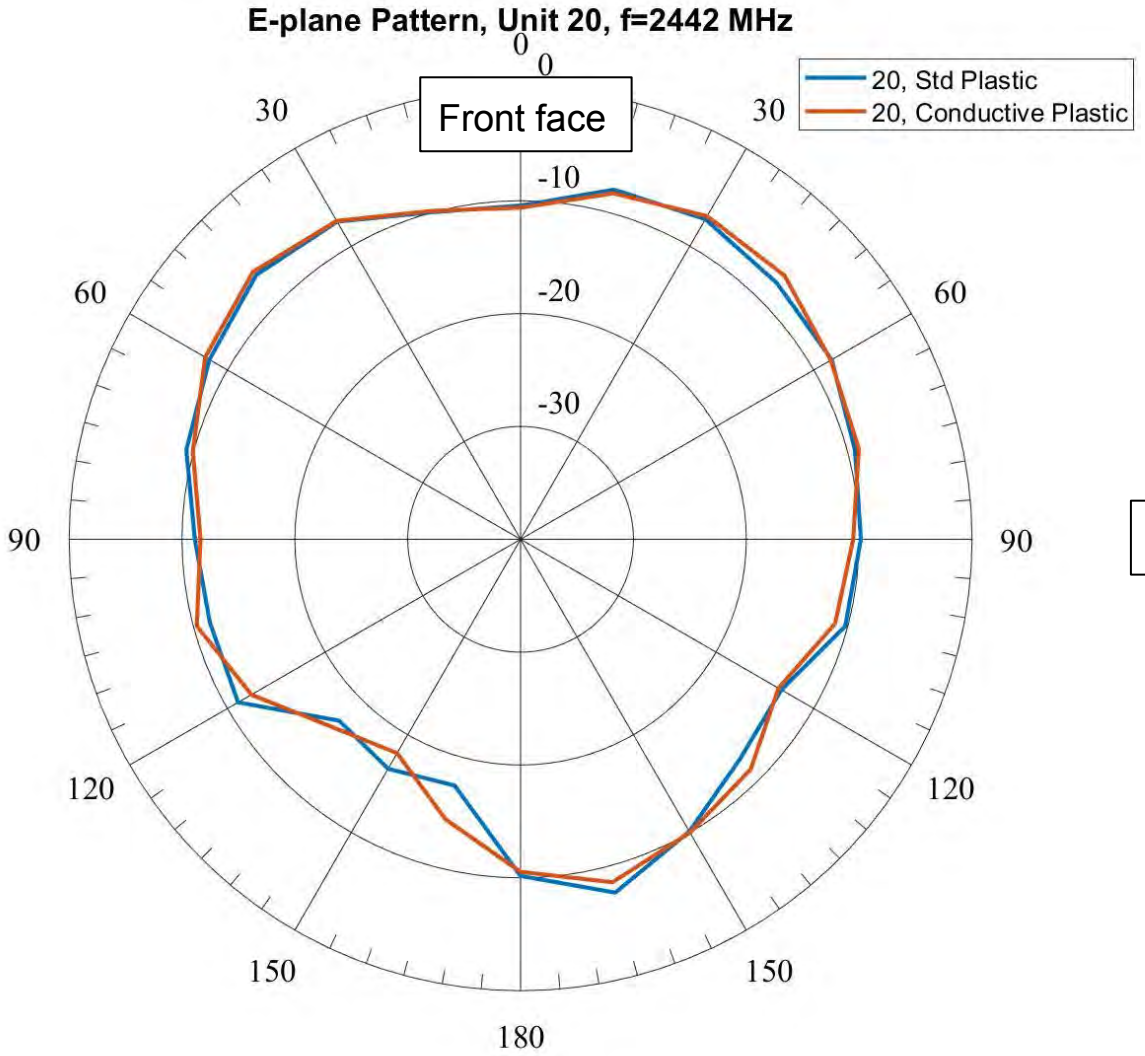
Elevation / E-Plane; Unit 20; Low Channel



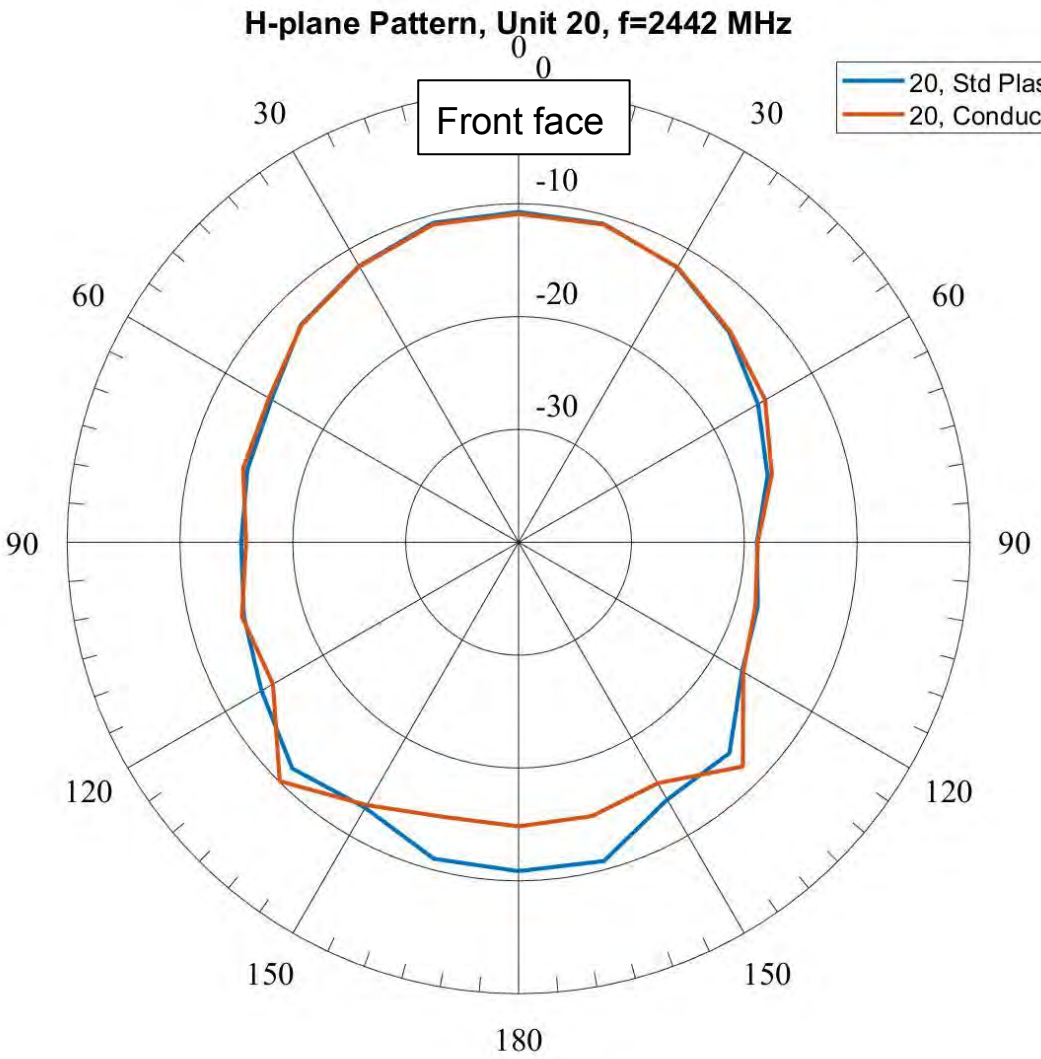
Azimuth / H-Plane; Unit 20; Low Channel



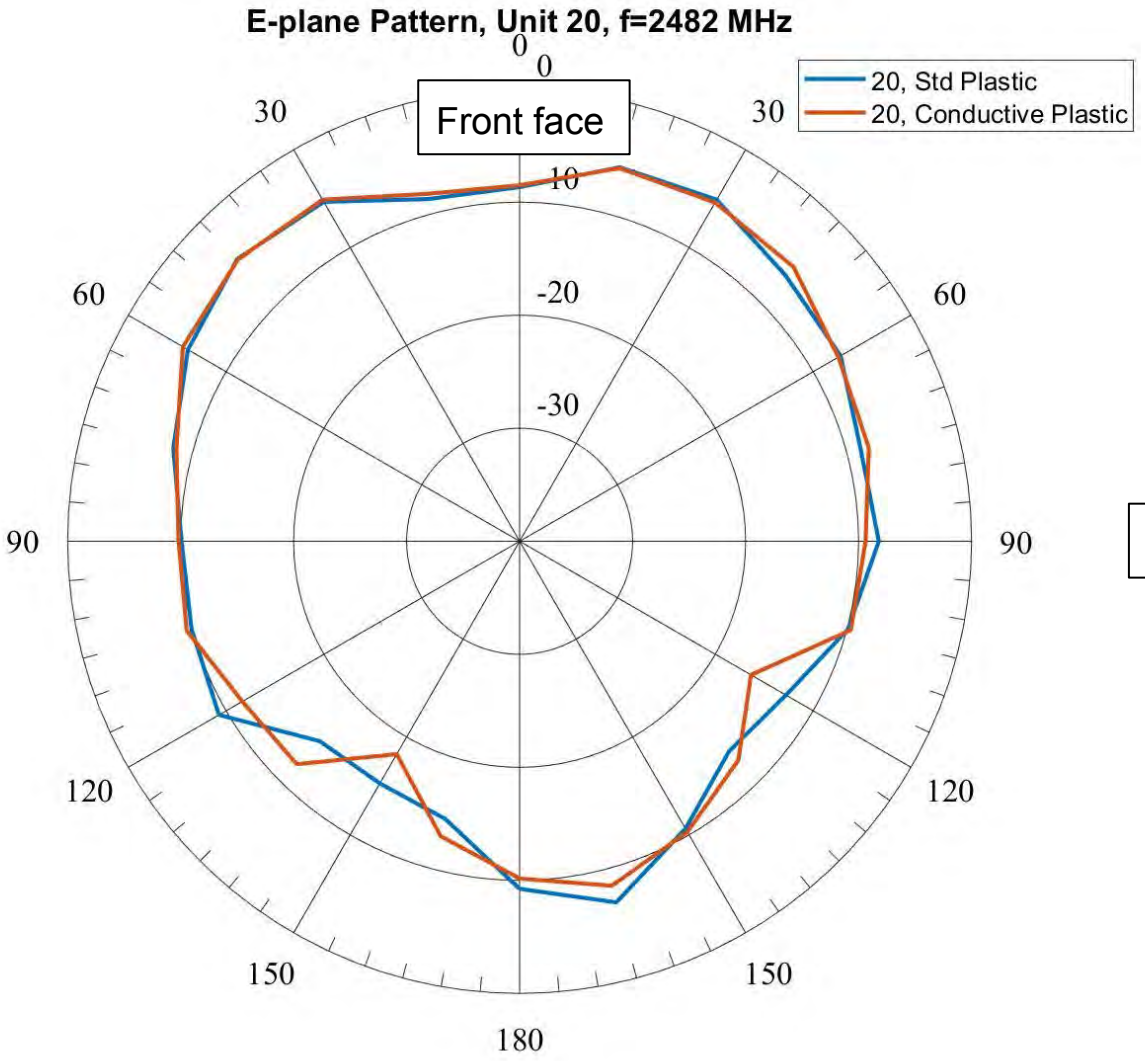
Elevation / E-Plane; Unit 20; Mid Channel



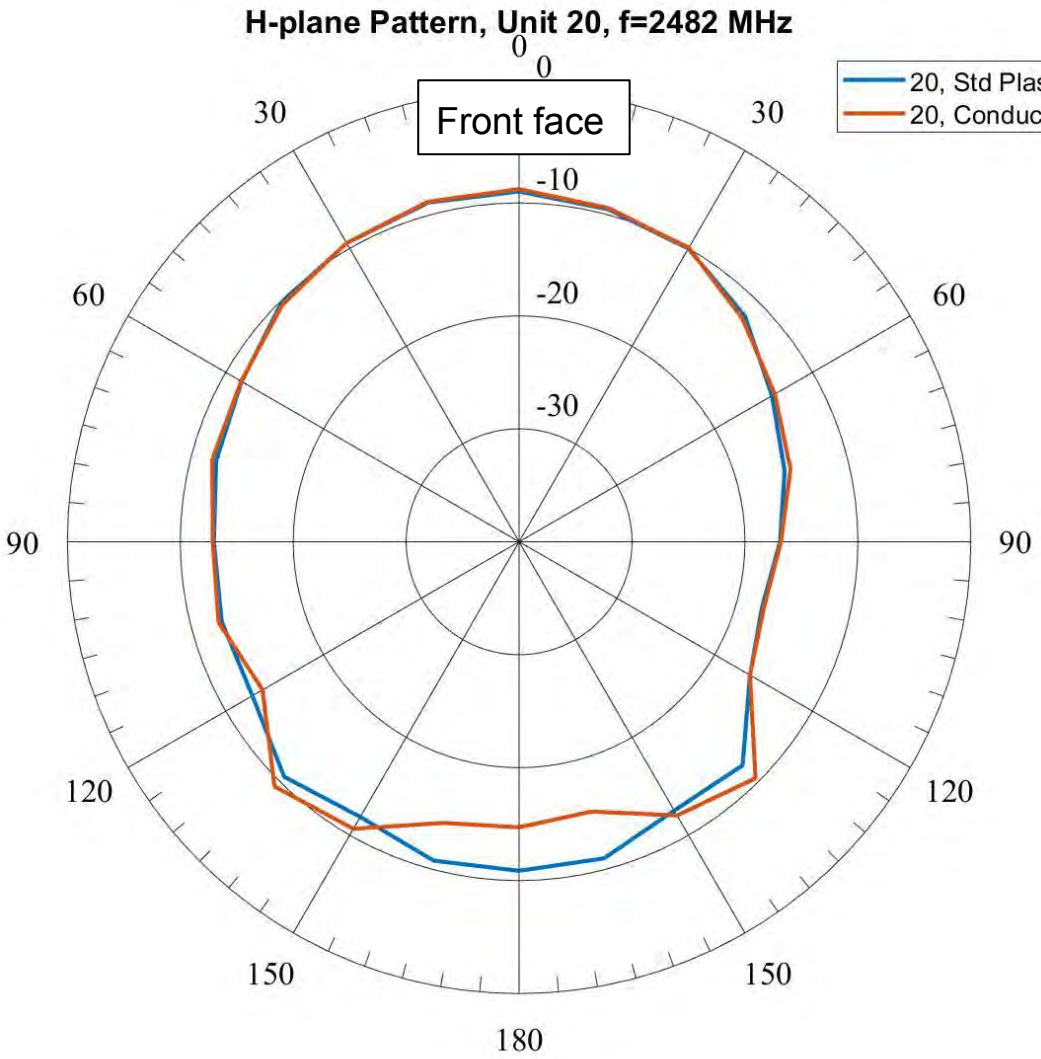
Azimuth / H-Plane; Unit 20; Mid Channel



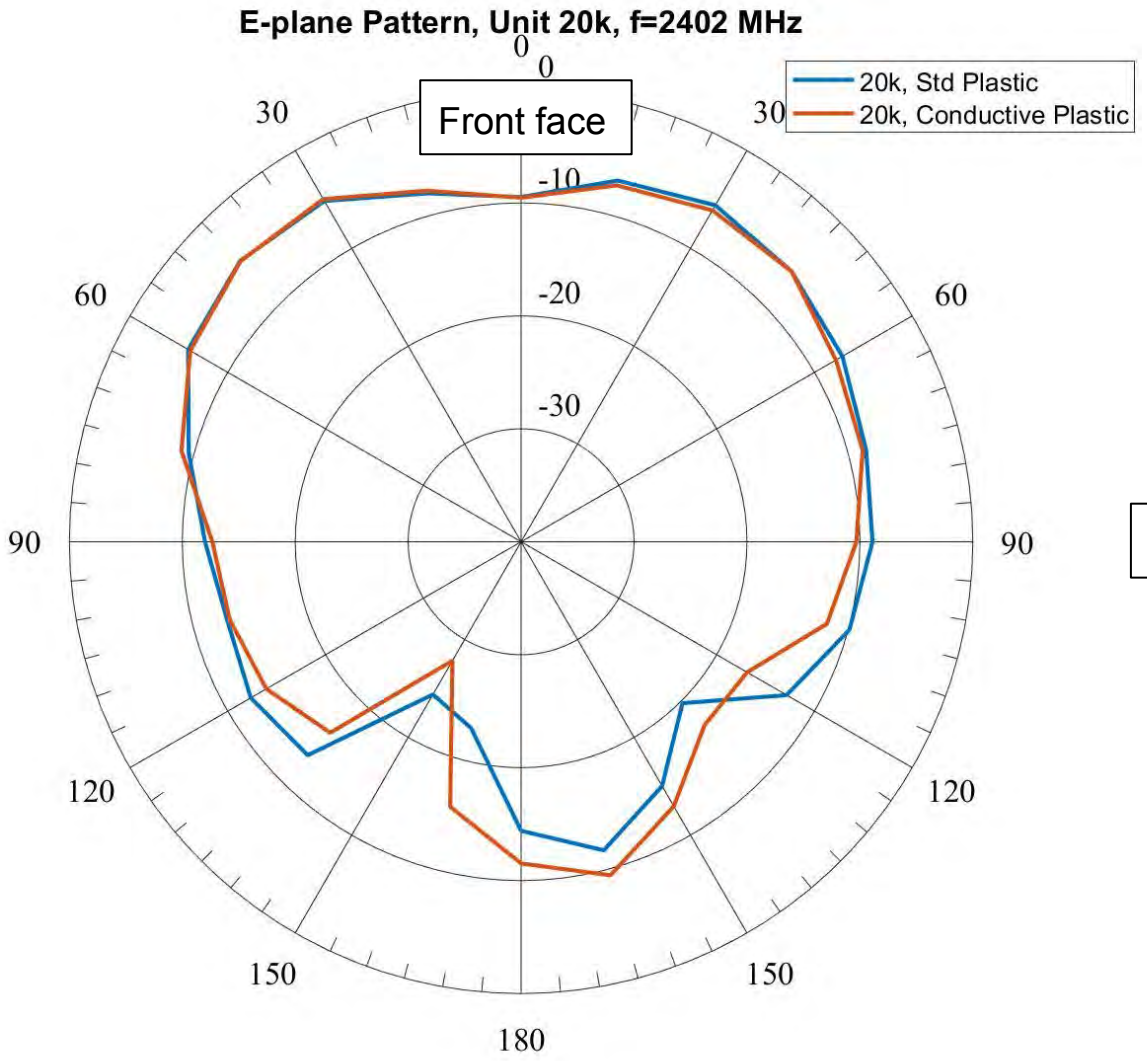
Elevation / E-Plane; Unit 20; High Channel



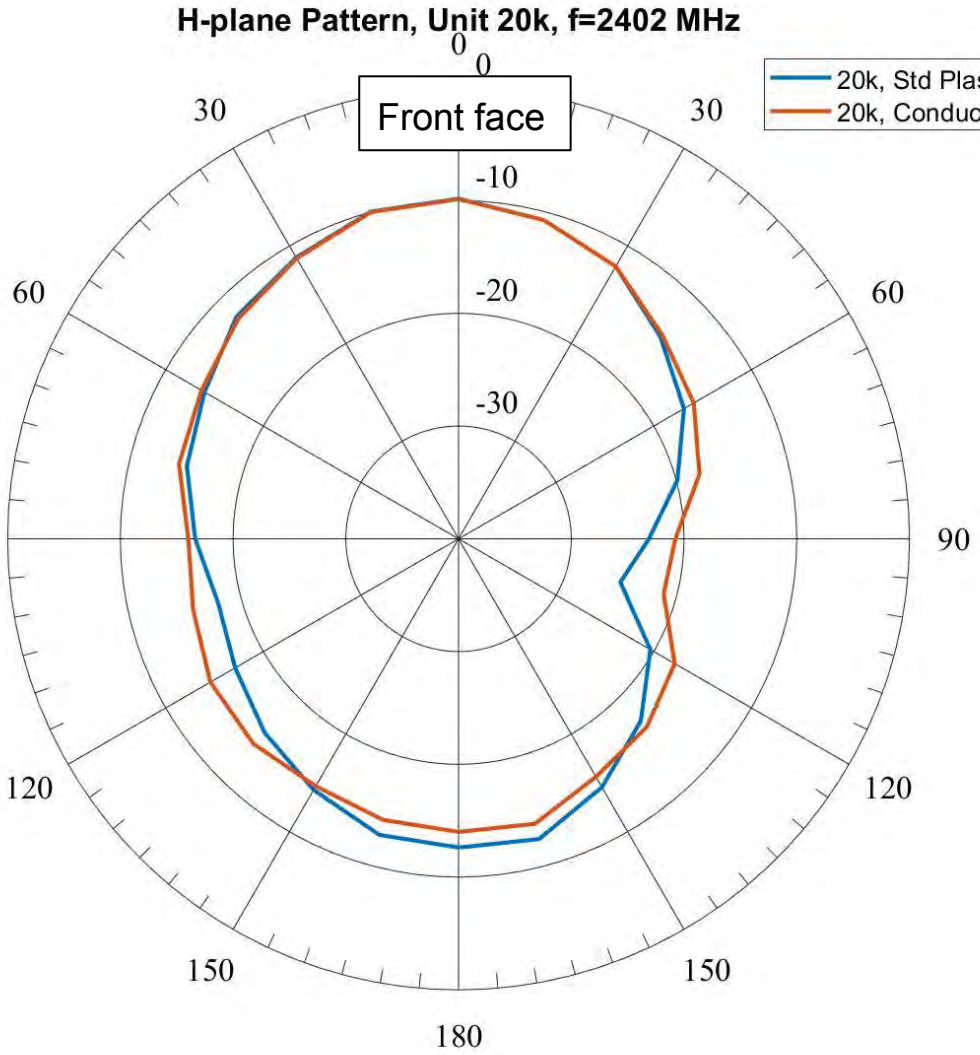
Azimuth / H-Plane; Unit 20; High Channel



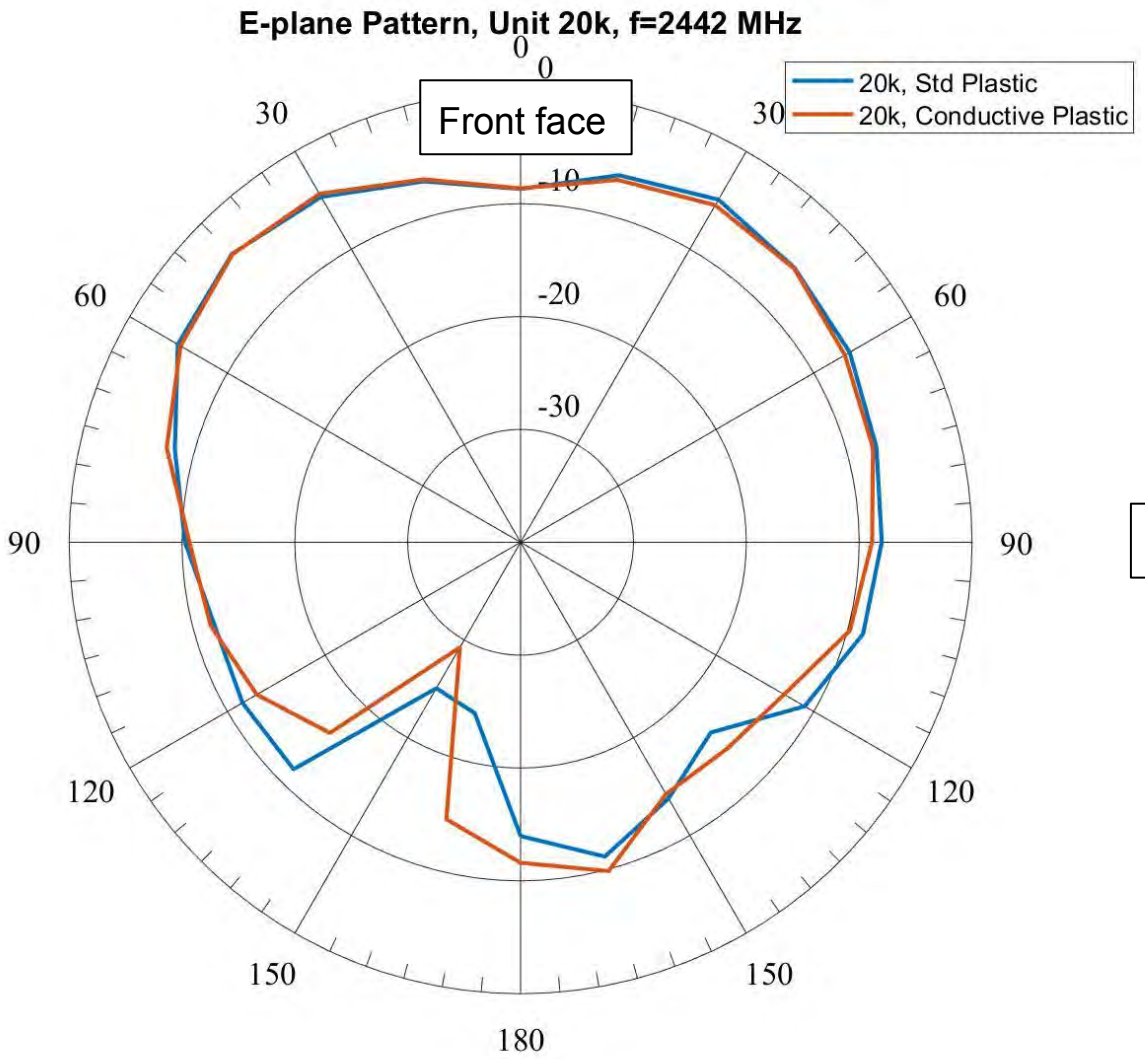
Elevation / E-Plane; Unit 20k; Low Channel



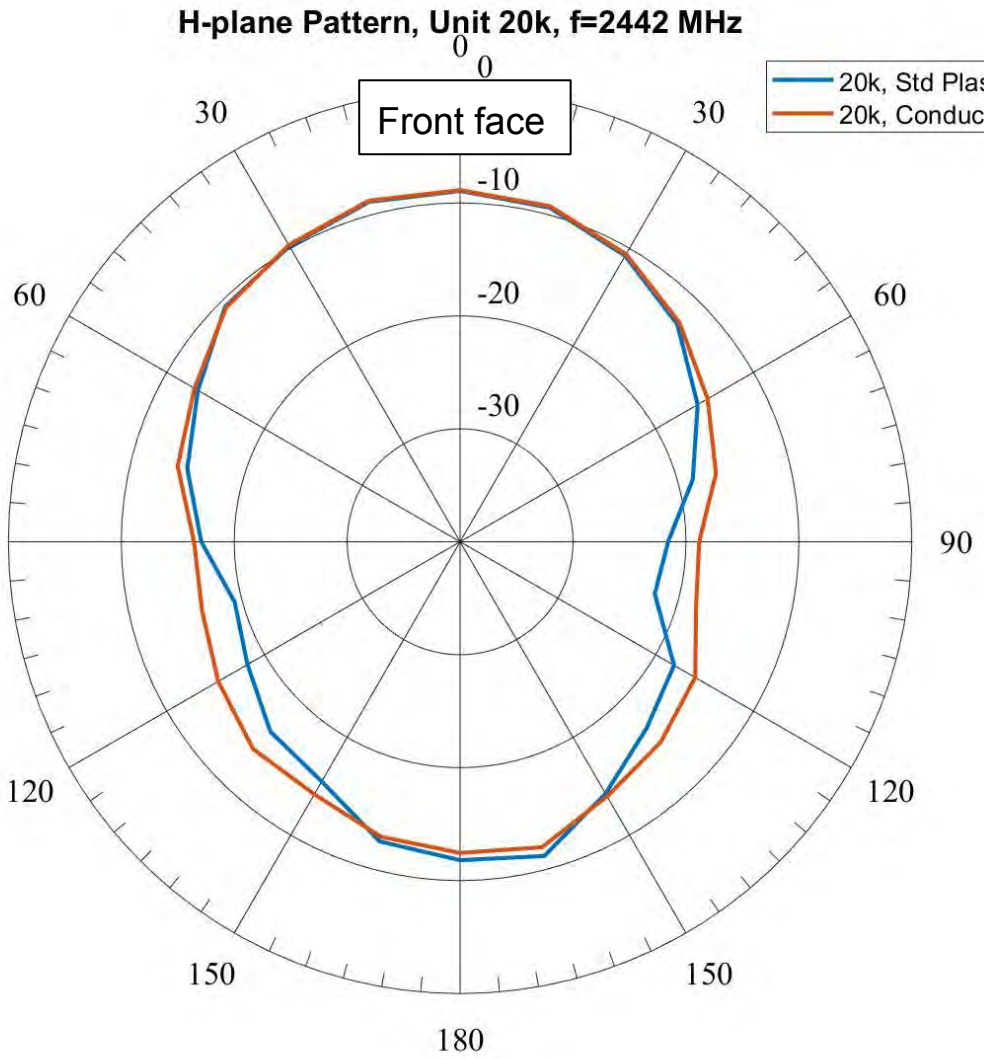
Azimuth / H-Plane; Unit 20k; Low Channel



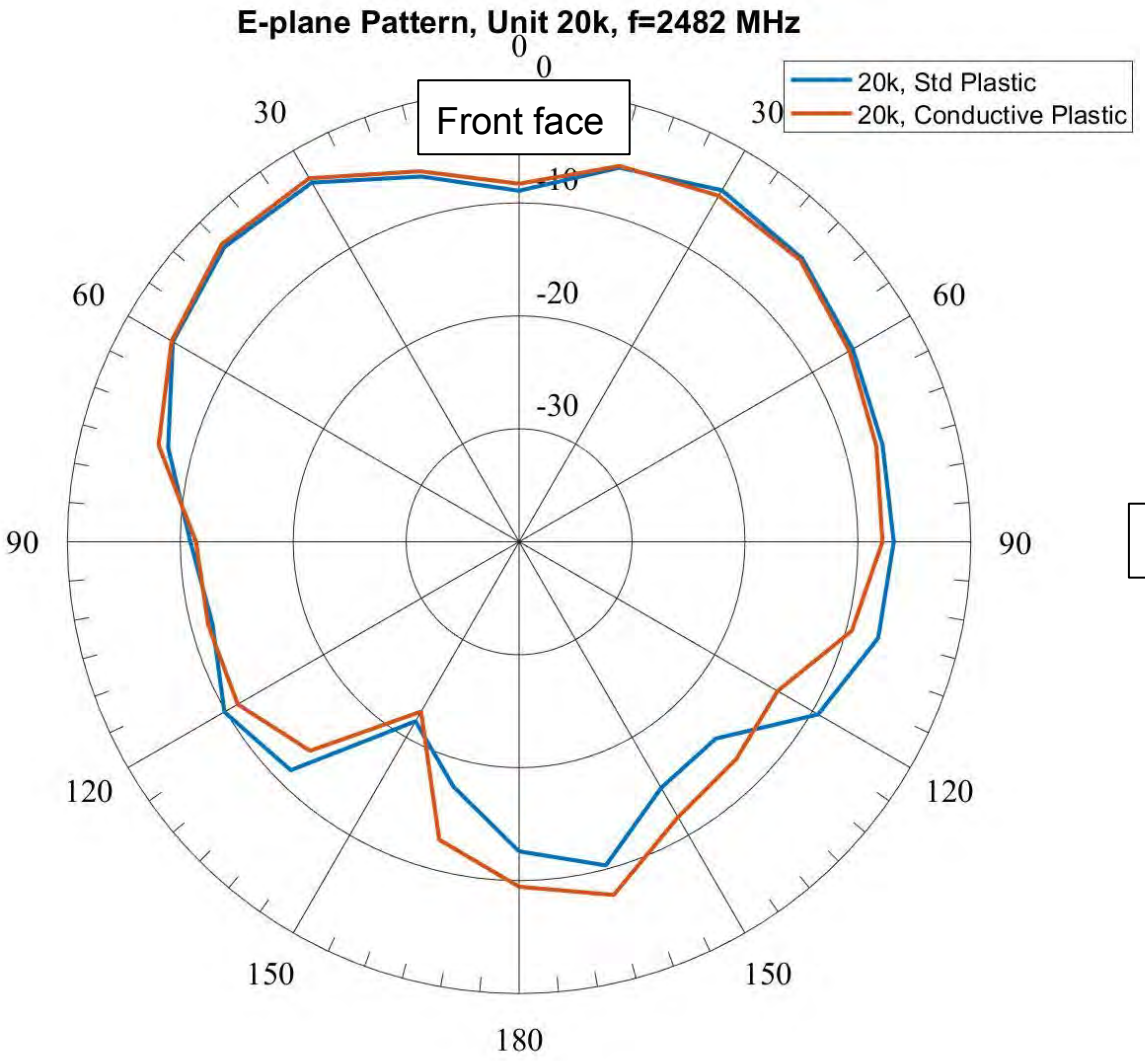
Elevation / E-Plane; Unit 20k; Mid Channel



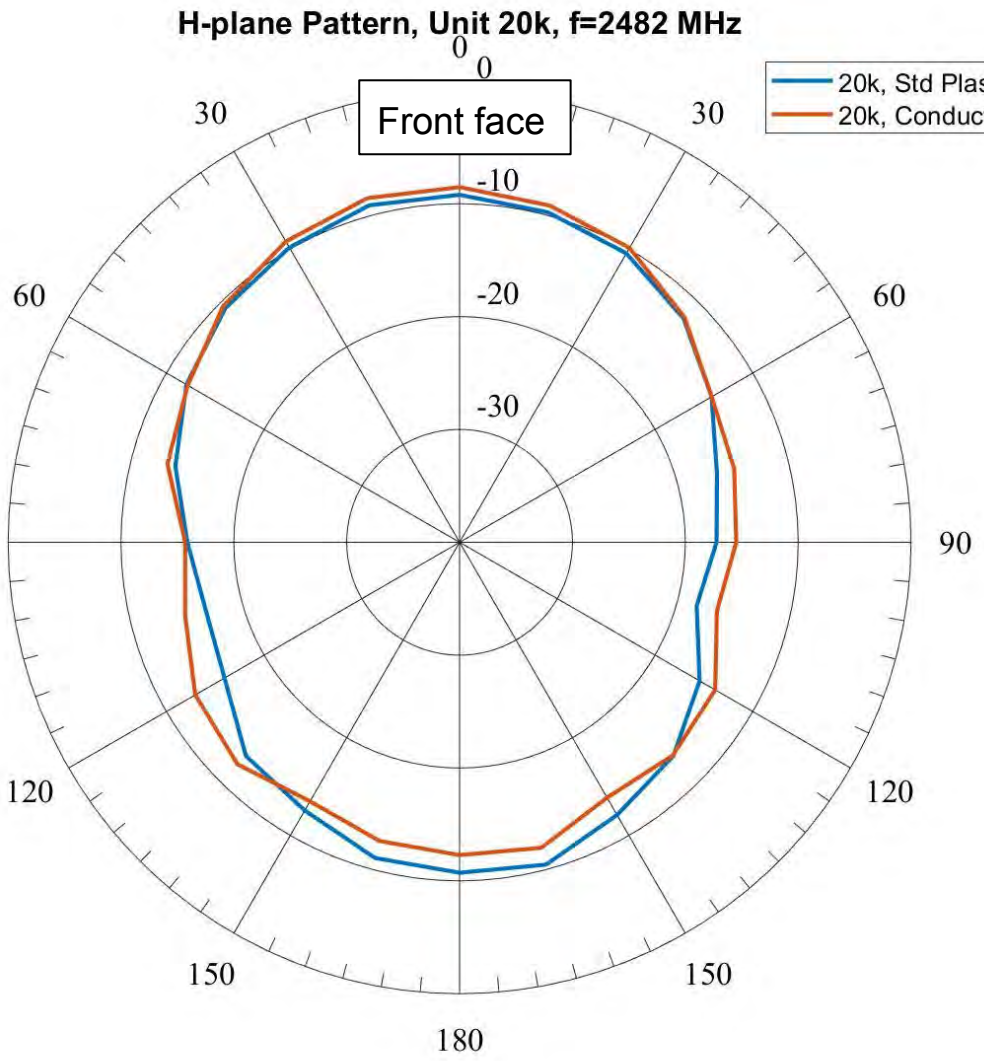
Azimuth / H-Plane; Unit 20k; Mid Channel



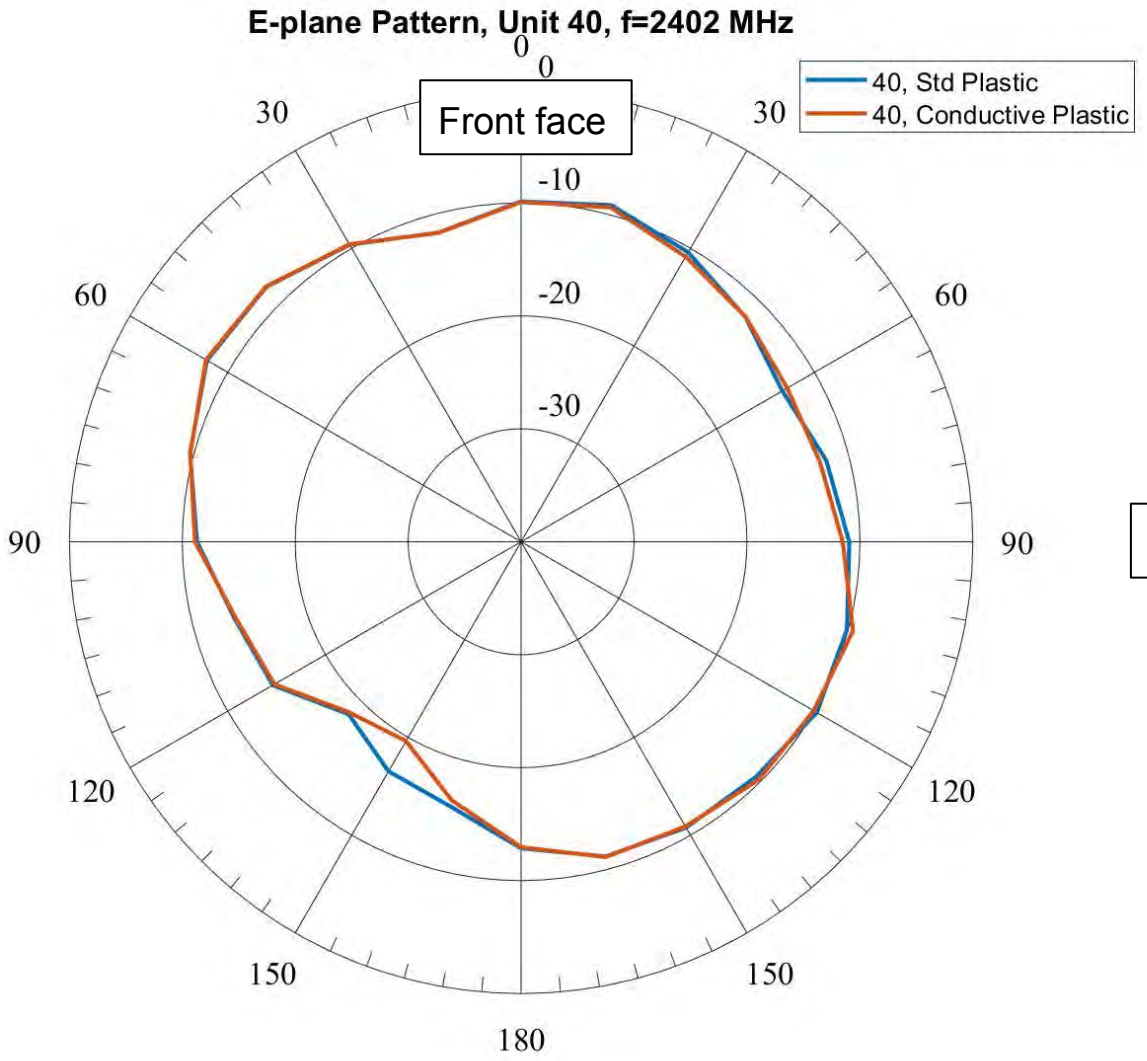
Elevation / E-Plane; Unit 20k; High Channel



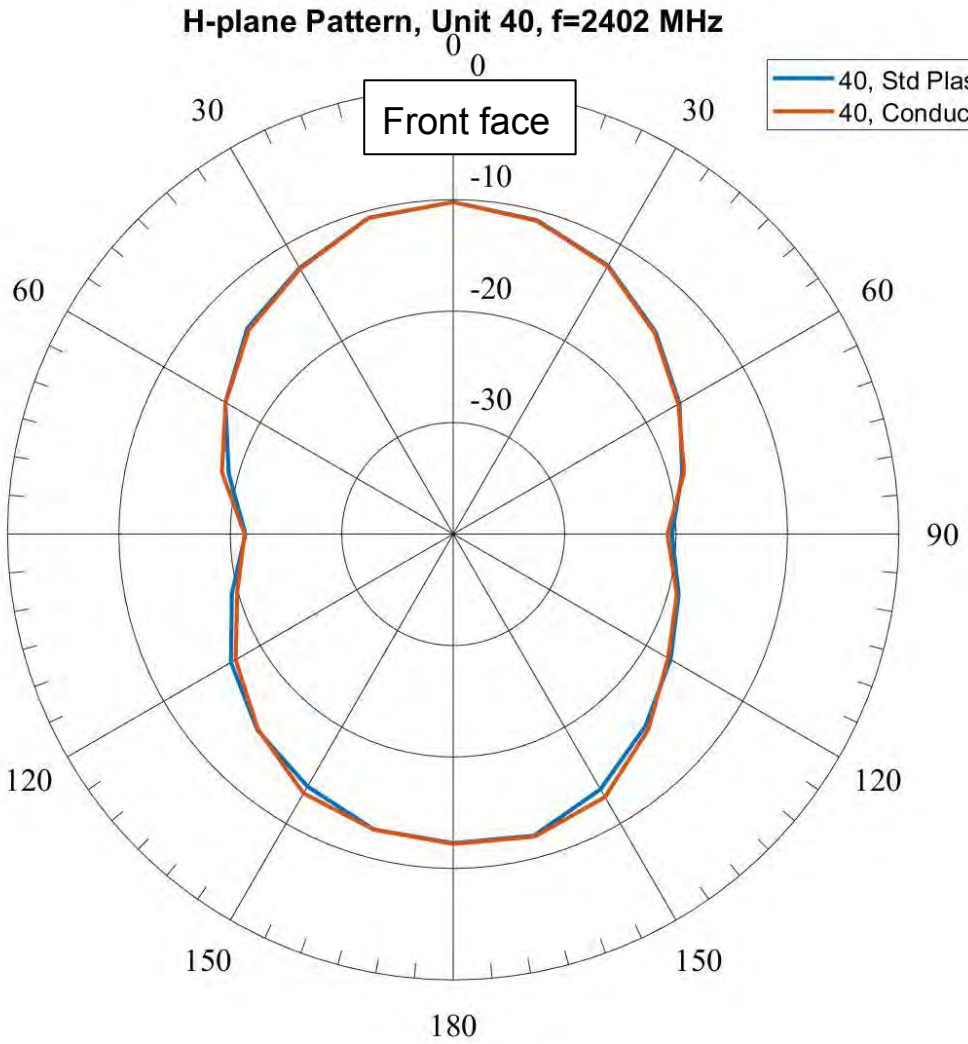
Azimuth / H-Plane; Unit 20k; High Channel



Elevation / E-Plane; Unit 40; Low Channel



Azimuth / H-Plane; Unit 40; Low Channel



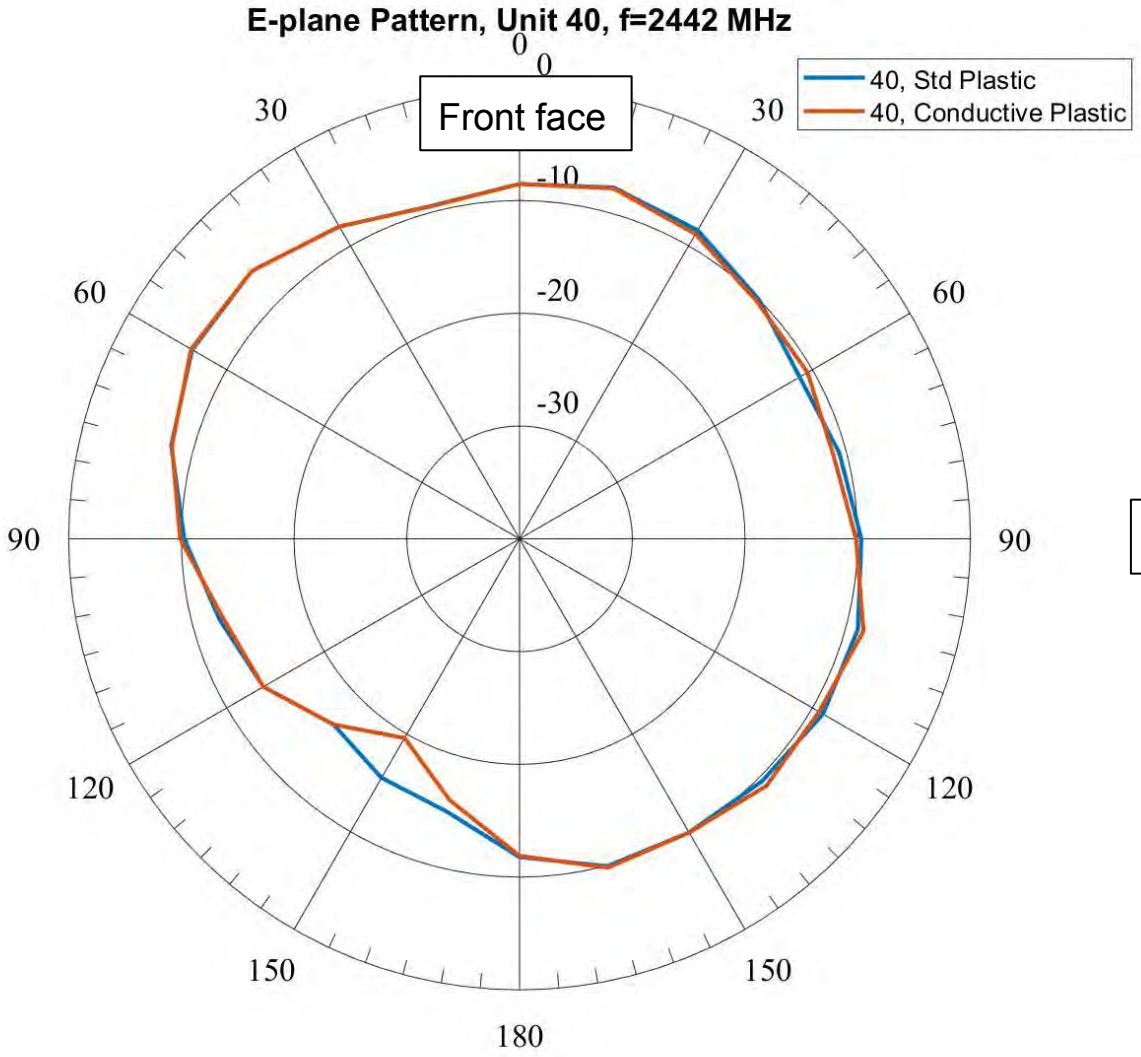
Front face

Left Side

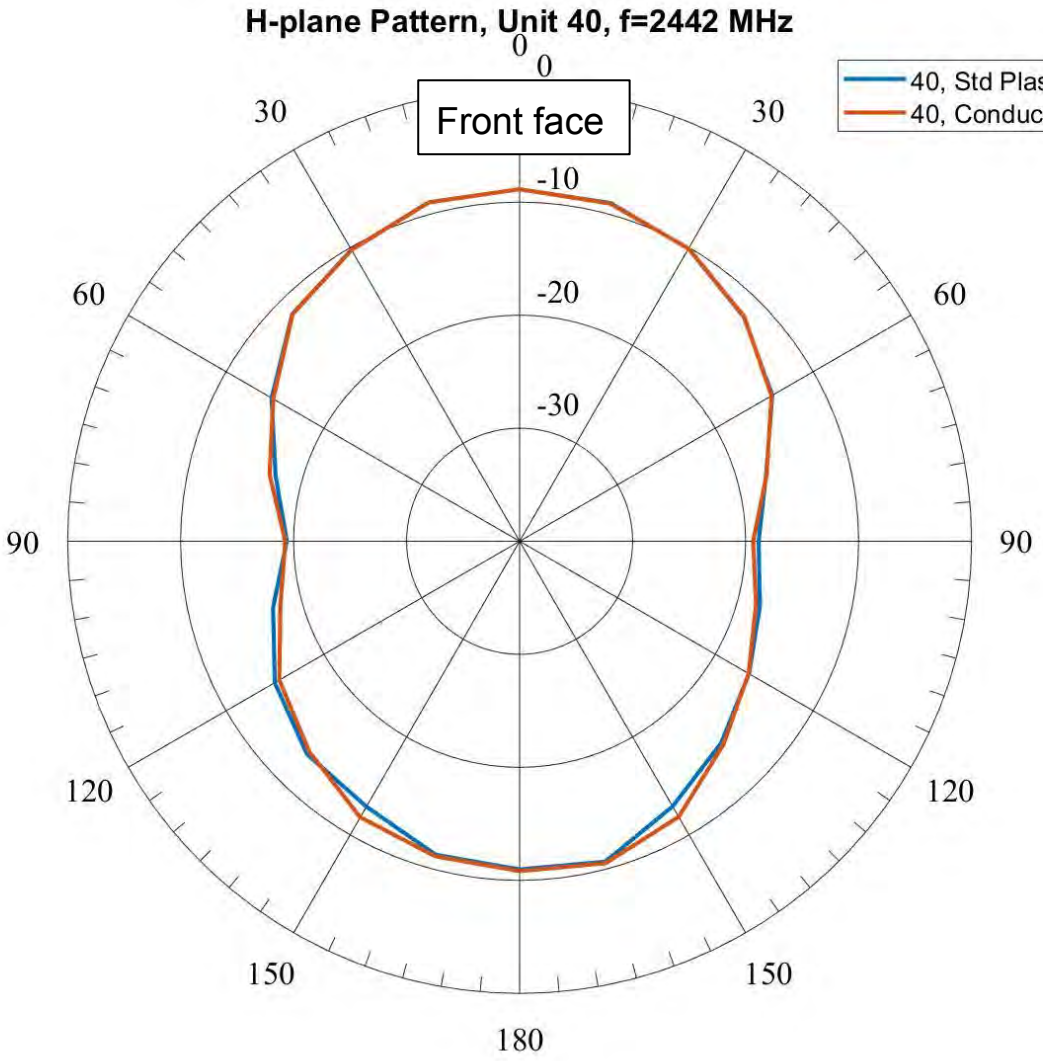
Right Side

Back face

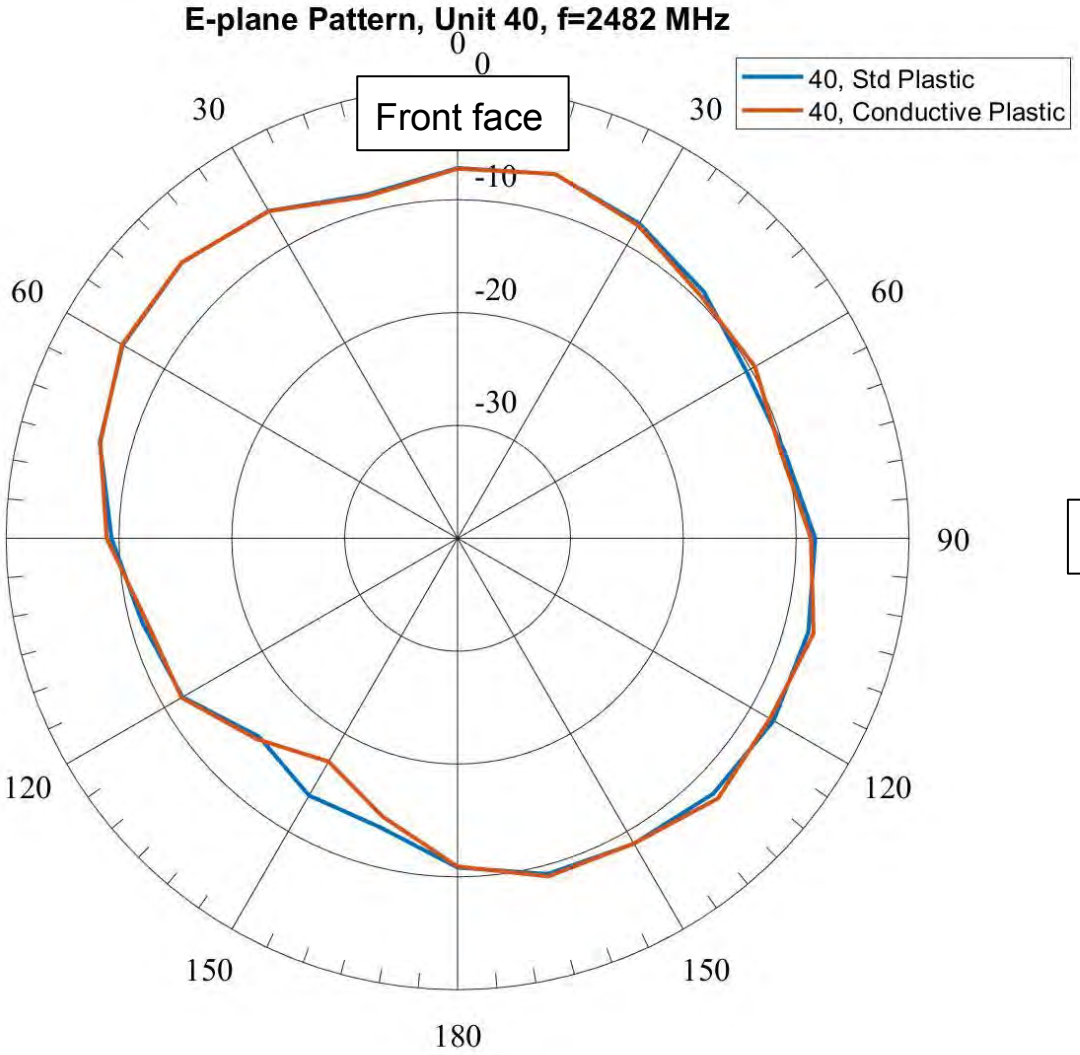
Elevation / E-Plane; Unit 40; Mid Channel



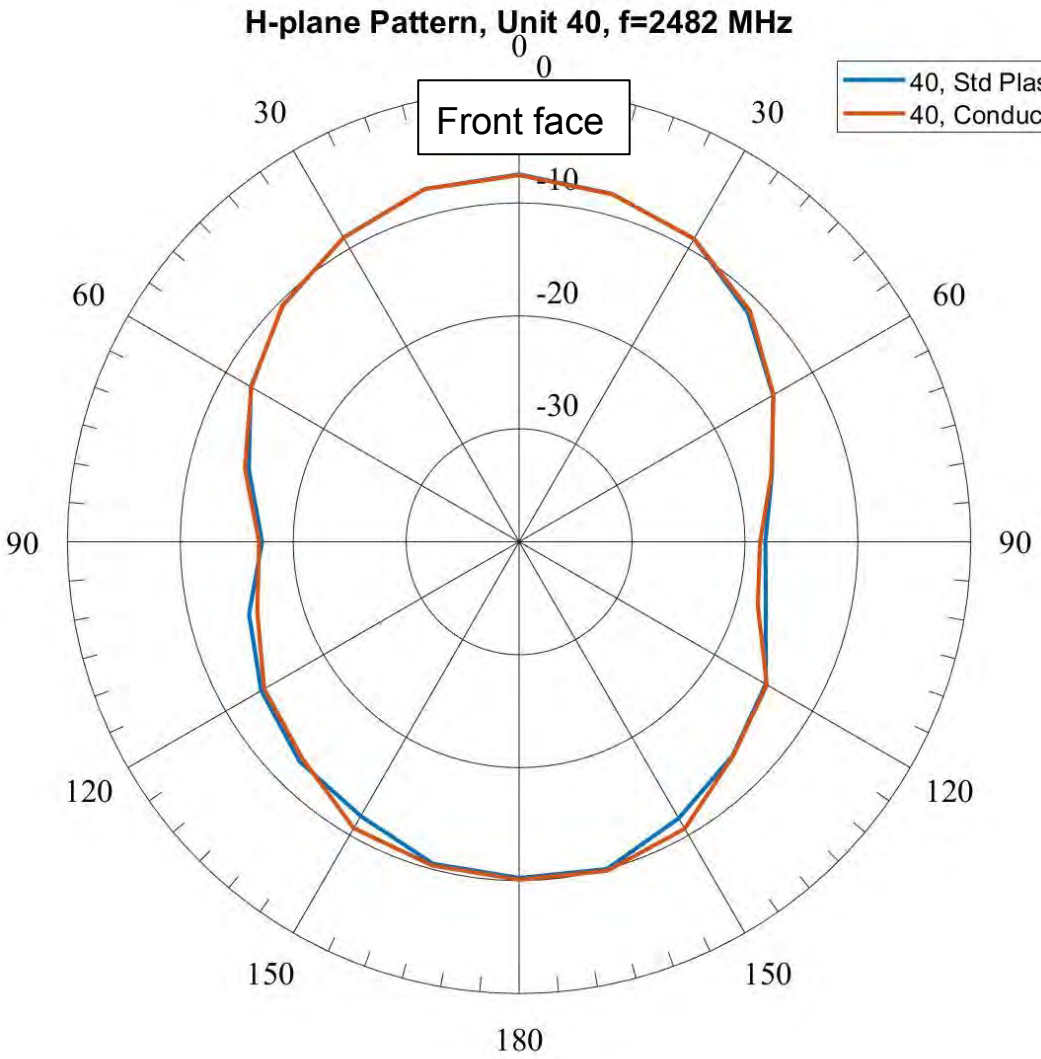
Azimuth / H-Plane; Unit 40; Mid Channel



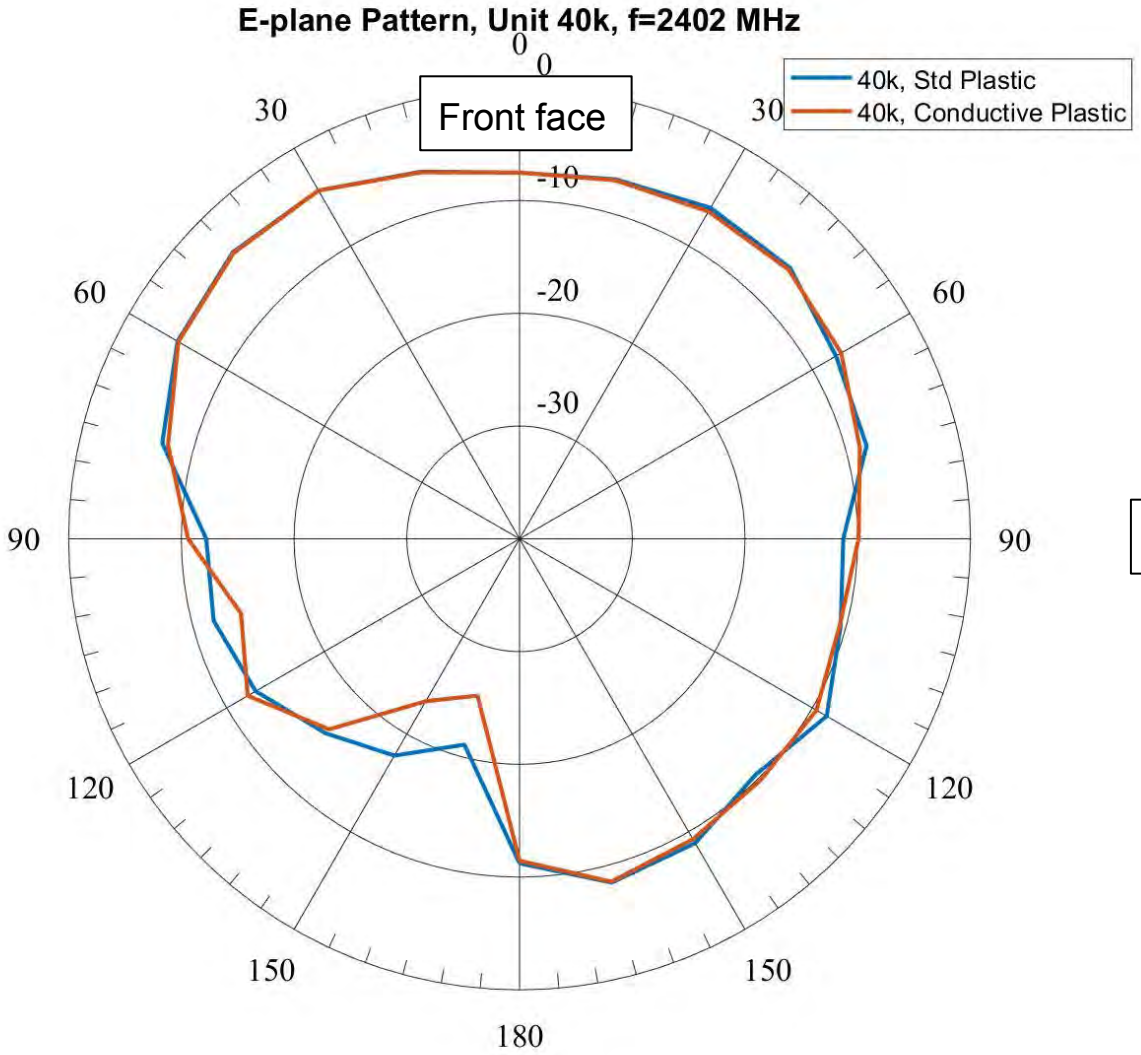
Elevation / E-Plane; Unit 40; High Channel



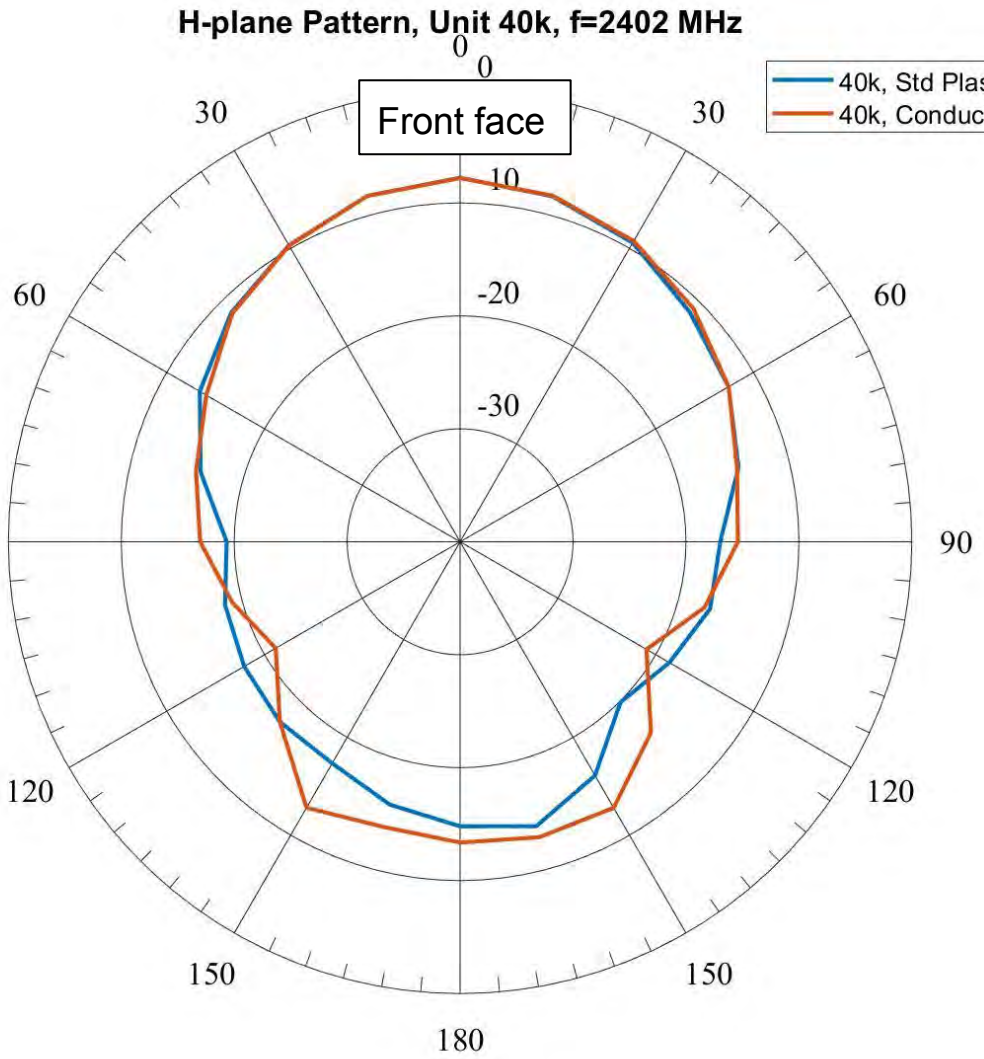
Azimuth / H-Plane; Unit 40; High Channel



Elevation / E-Plane; Unit 40k; Low Channel



Azimuth / H-Plane; Unit 40k; Low Channel



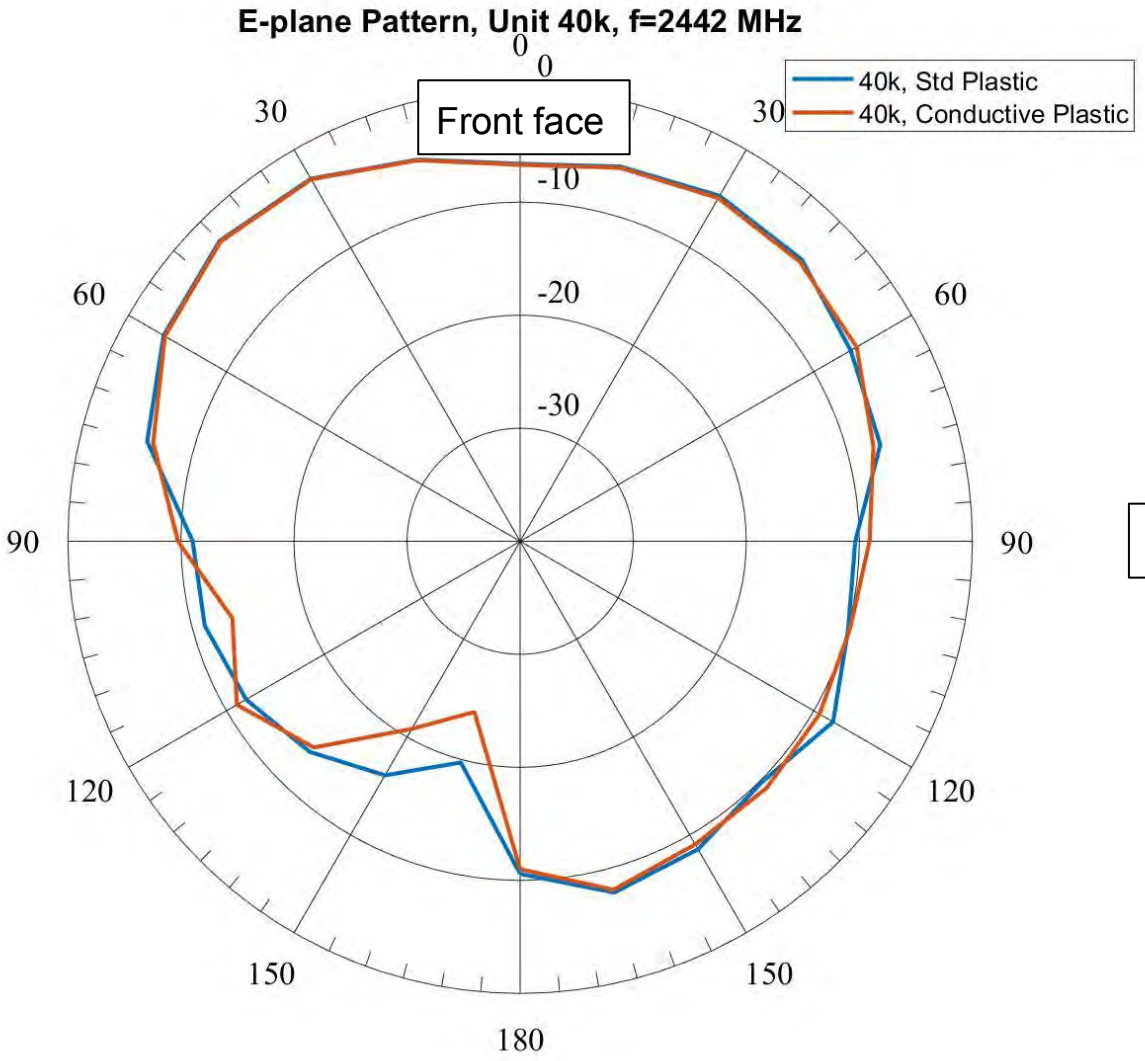
Front face

Left Side

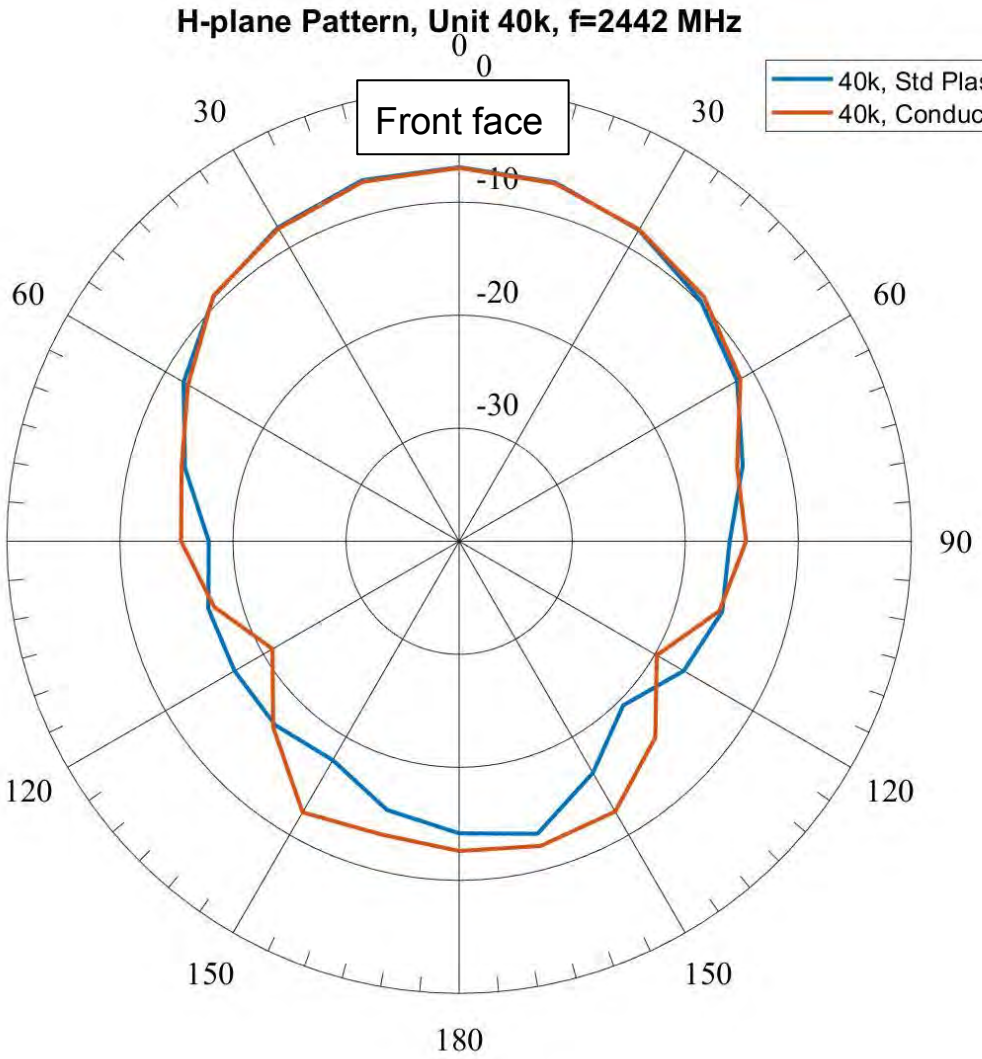
Right Side

Back face

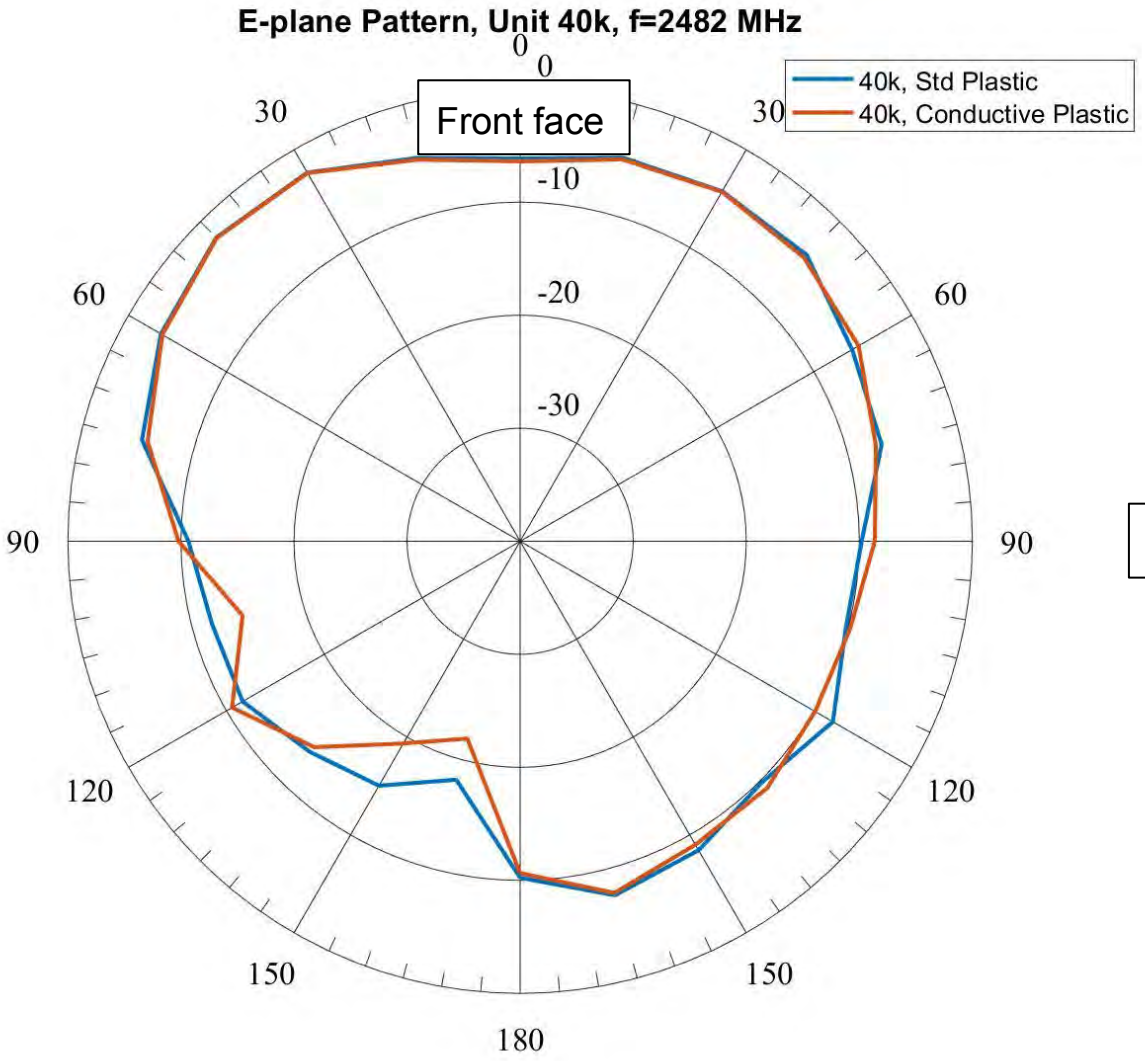
Elevation / E-Plane; Unit 40k; Mid Channel



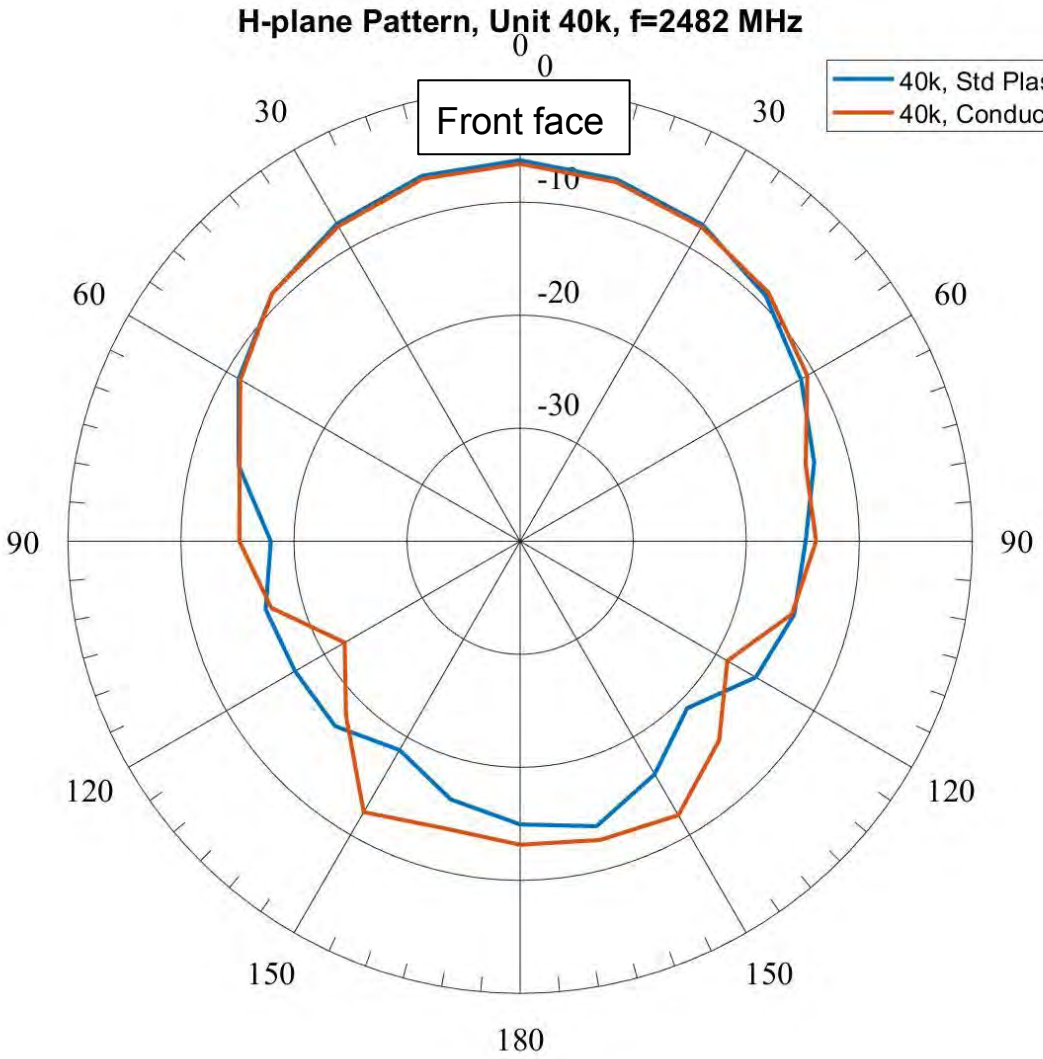
Azimuth / H-Plane; Unit 40k; Mid Channel



Elevation / E-Plane; Unit 40k; High Channel



Azimuth / H-Plane; Unit 40k; High Channel



Front face

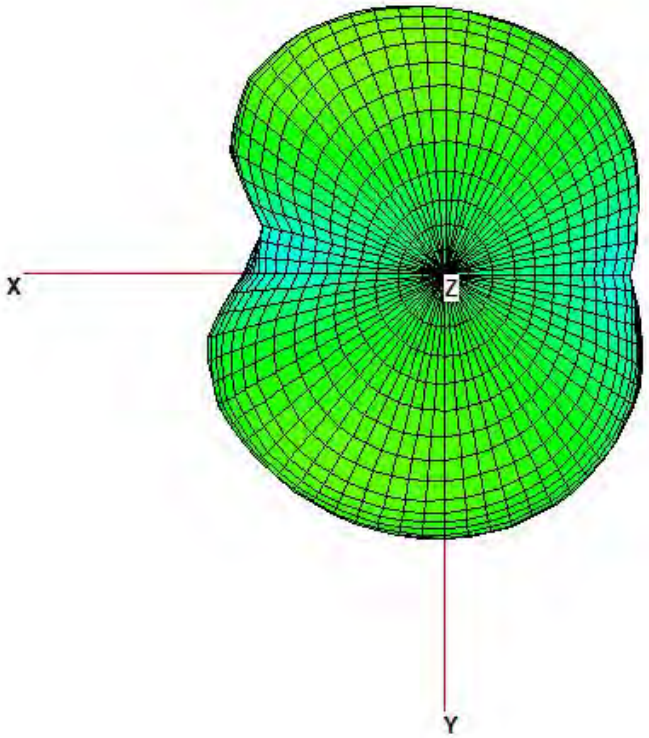
Left Side

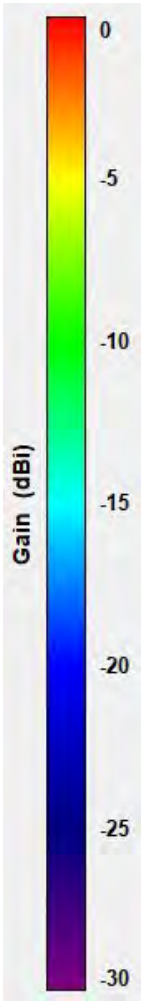
Right Side

Back face

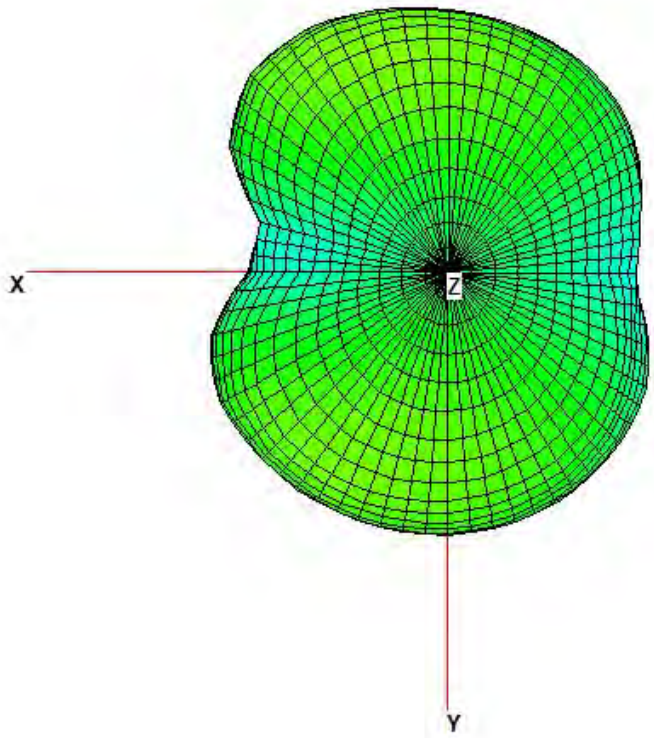
3D Patterns - Unit 20, 2.402 GHz

standard



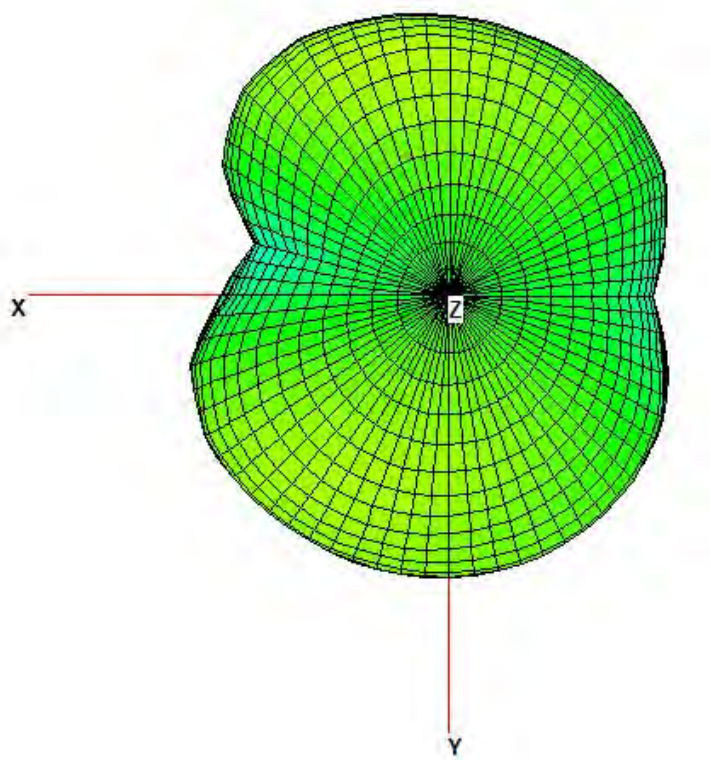


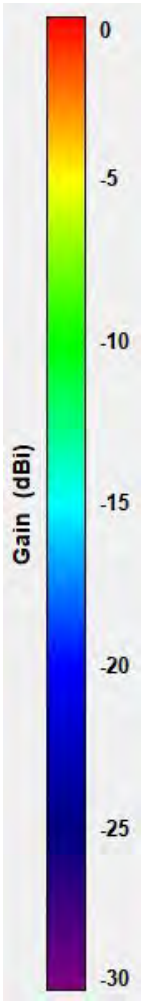
conductive



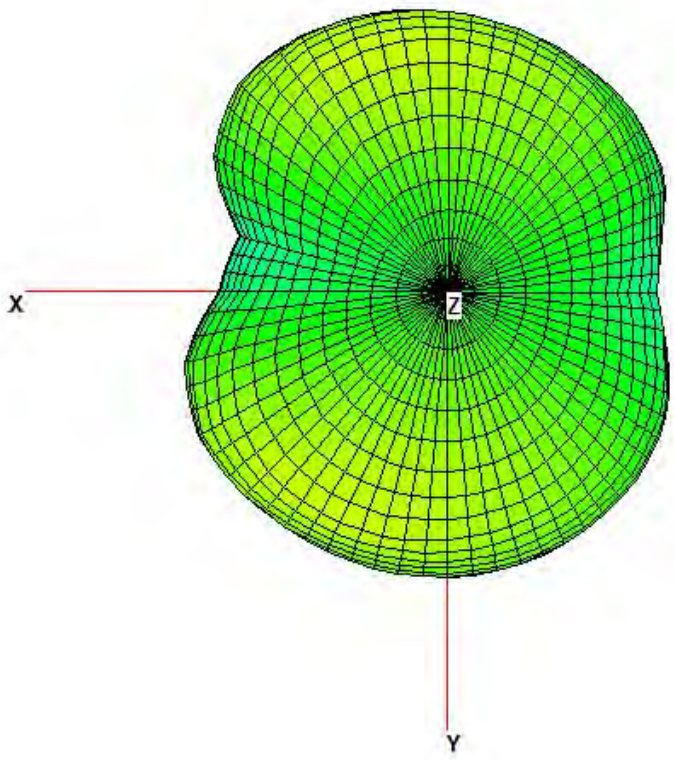
3D Patterns - Unit 20, 2.442 GHz

standard



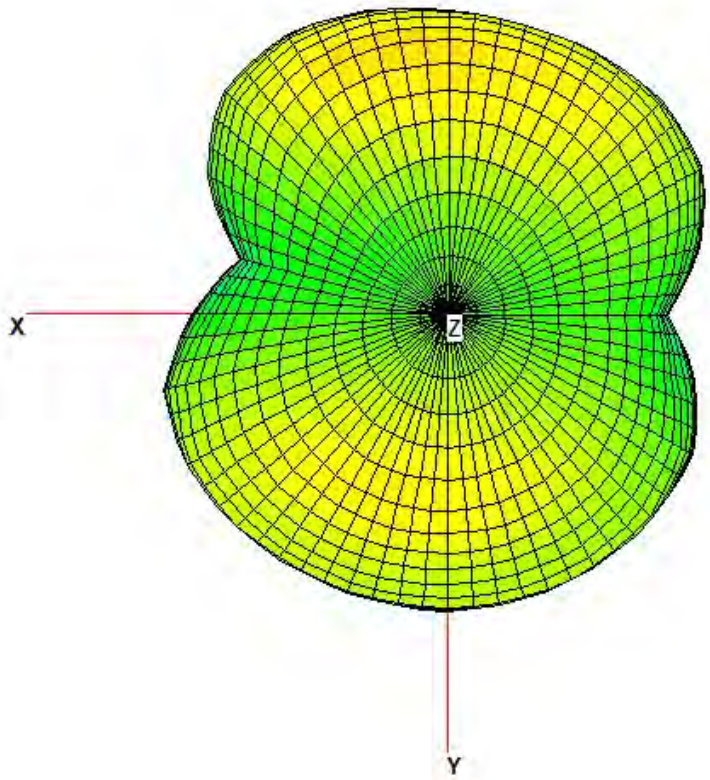


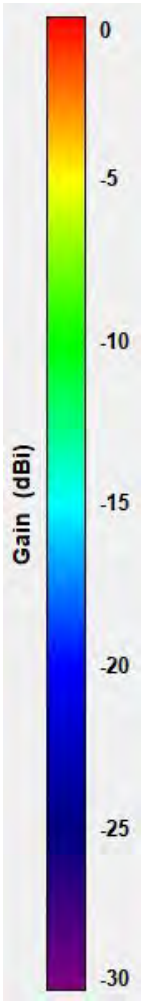
conductive



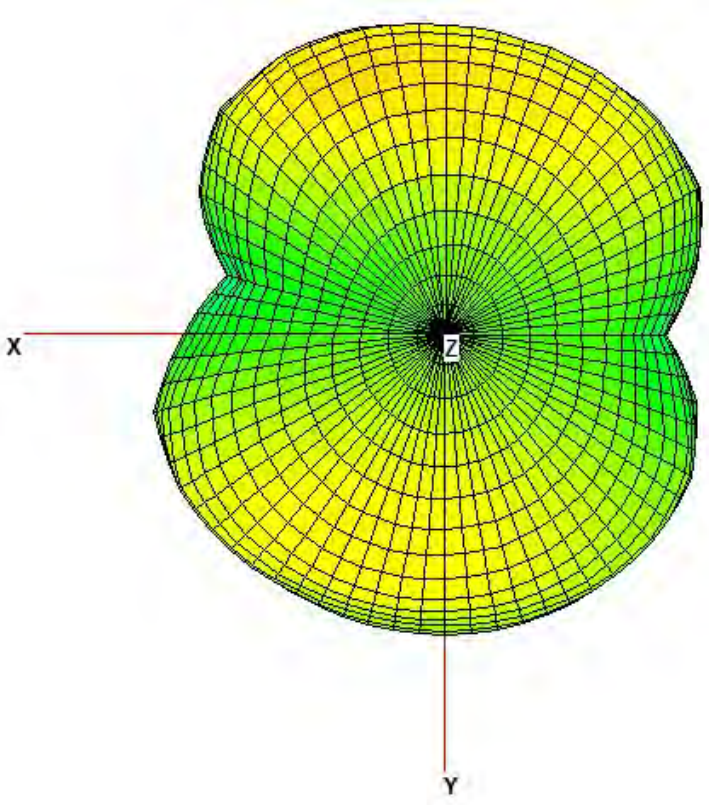
3D Patterns - Unit 20, 2.482 GHz

standard



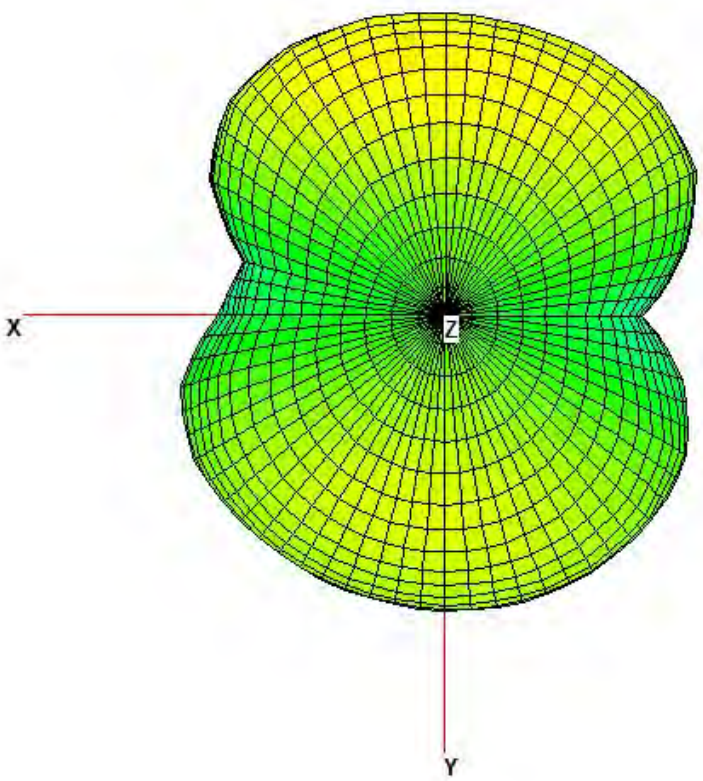


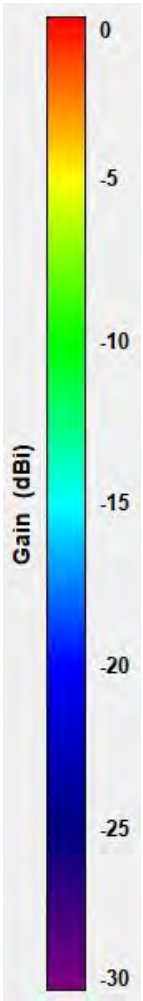
conductive



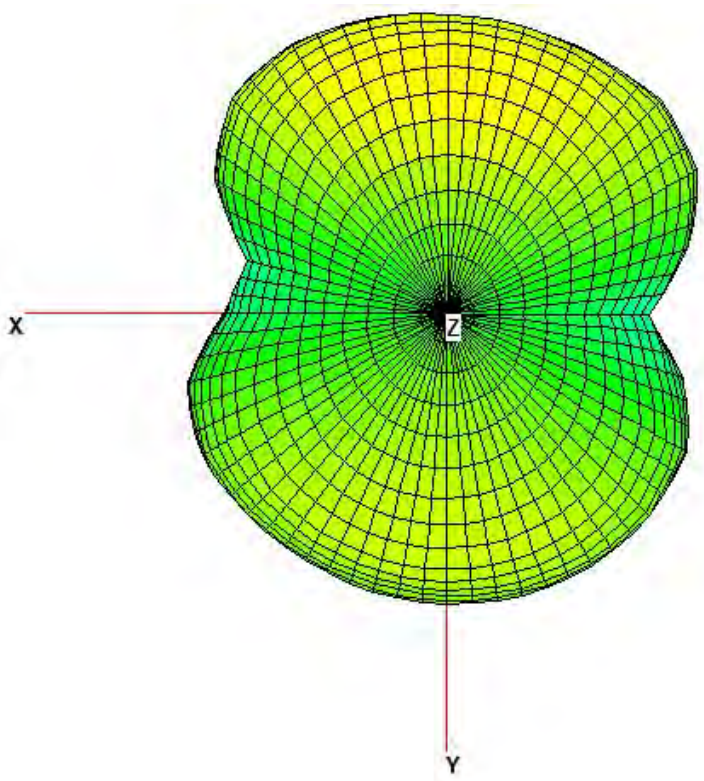
3D Patterns - Unit 20k, 2.402 GHz

standard



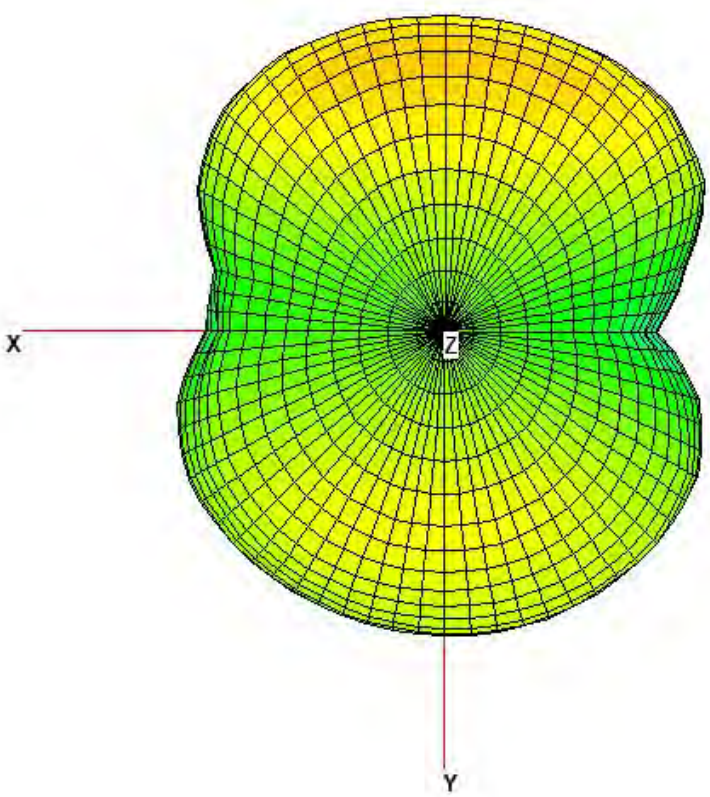


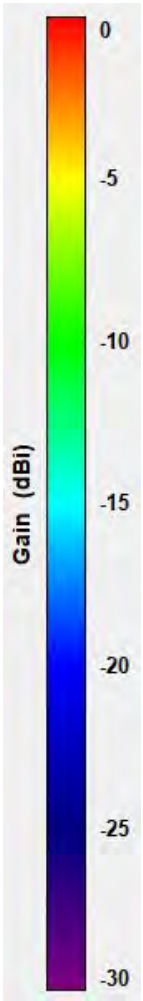
conductive



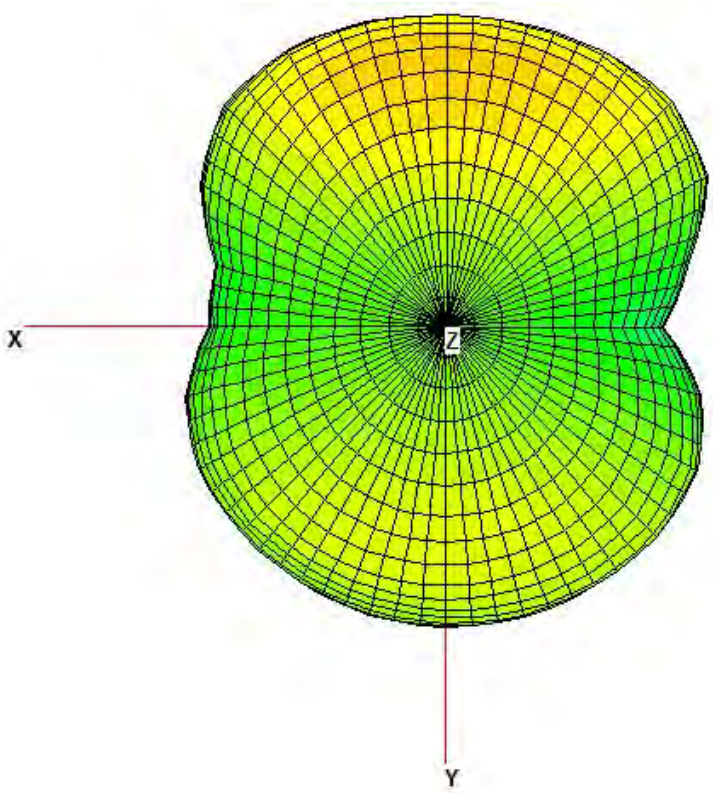
3D Patterns - Unit 20k, 2.442 GHz

standard



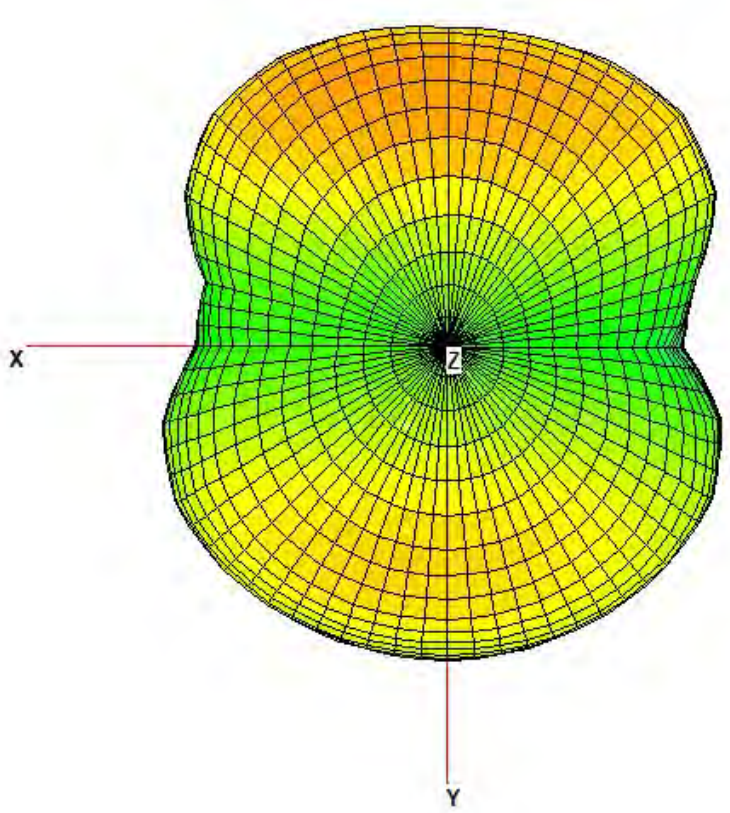


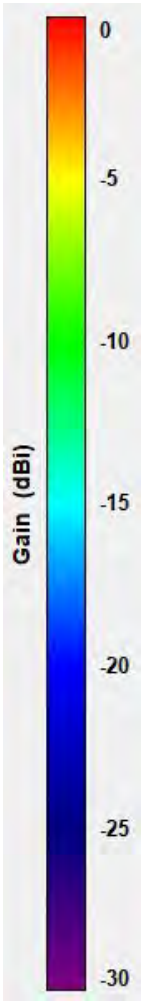
conductive



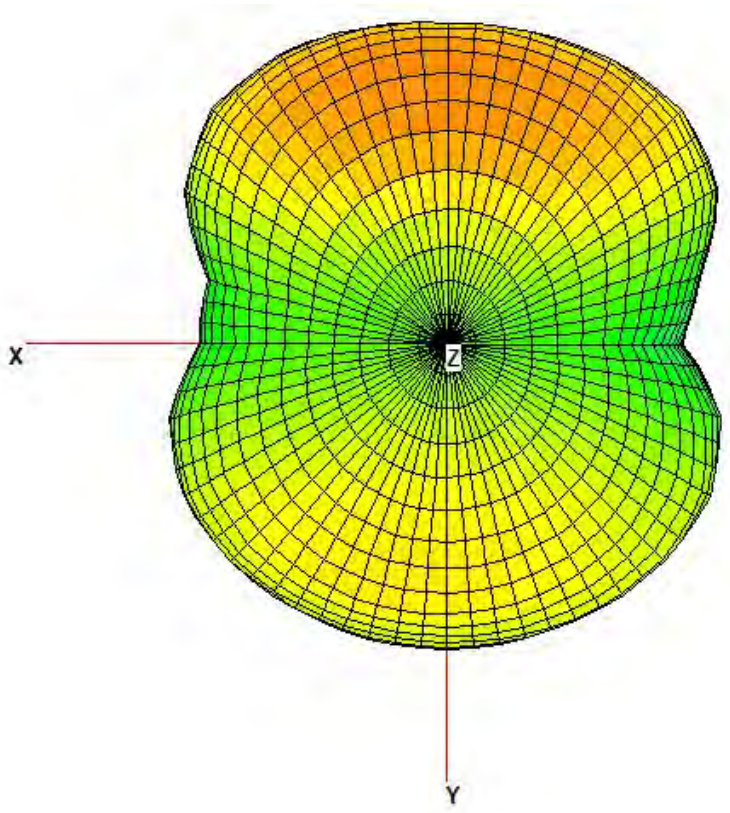
3D Patterns - Unit 20k, 2.482 GHz

standard



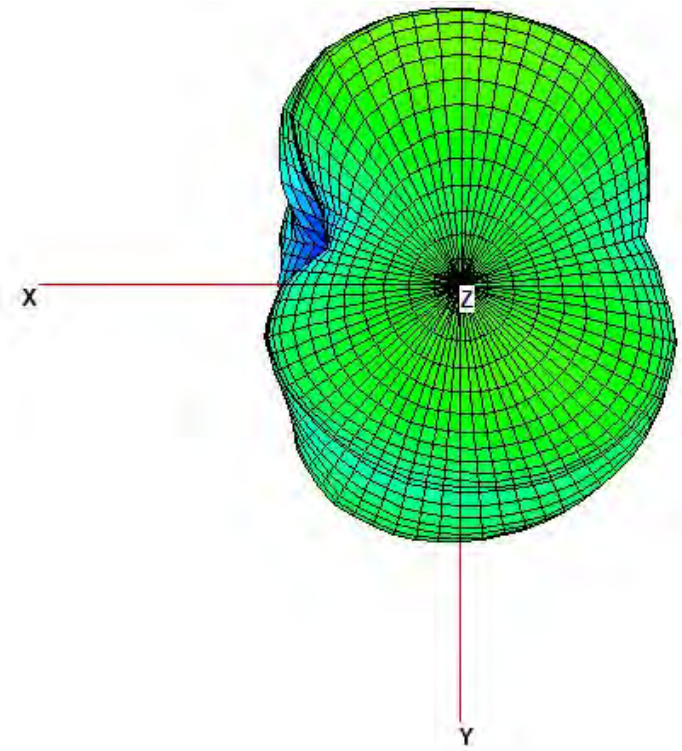


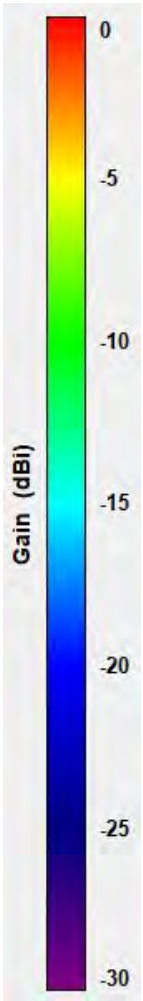
conductive



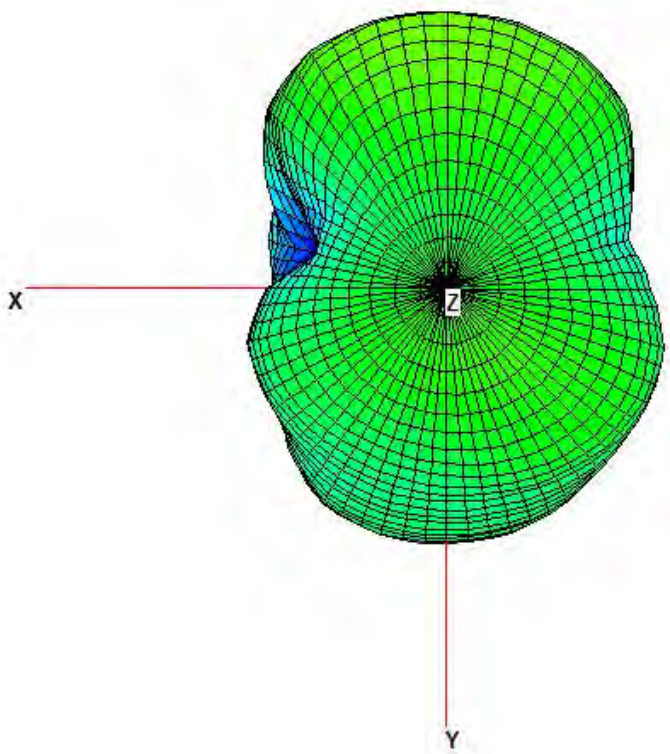
3D Patterns - Unit 40, 2.402 GHz

standard



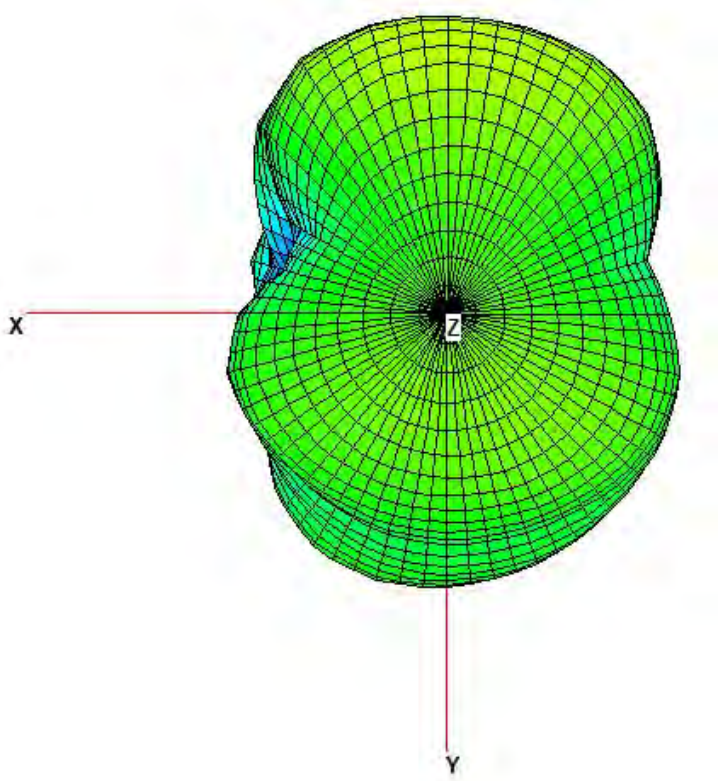


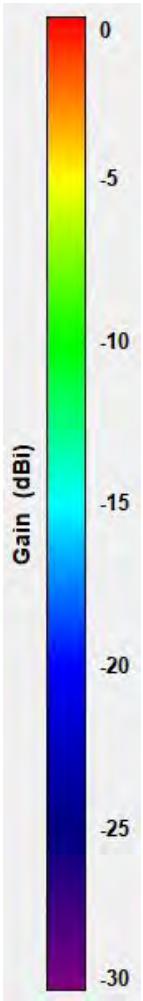
conductive



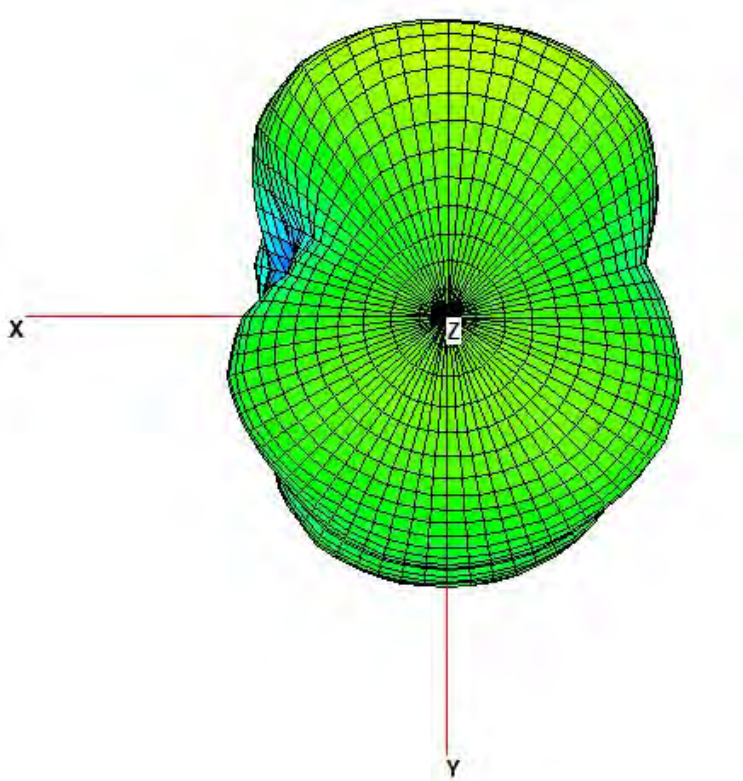
3D Patterns - Unit 40, 2.442 GHz

standard



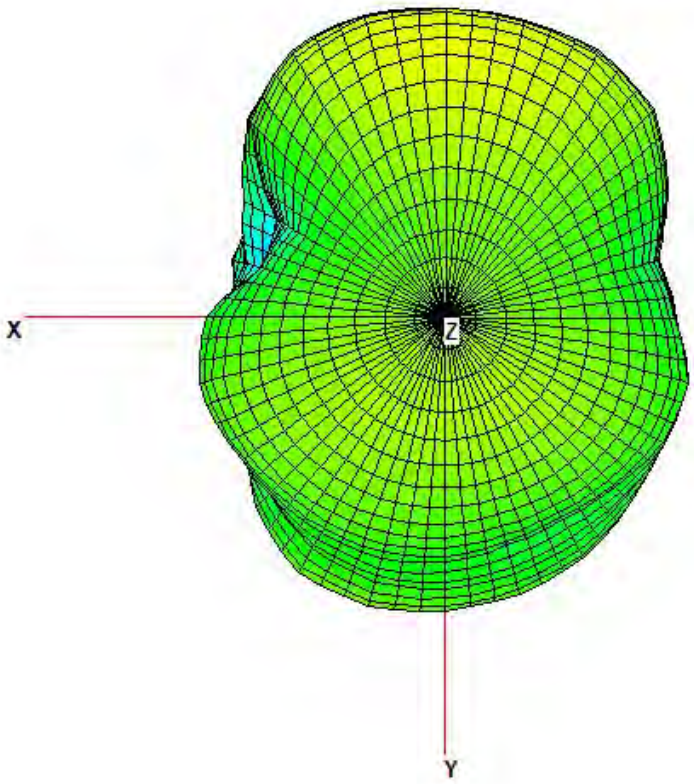


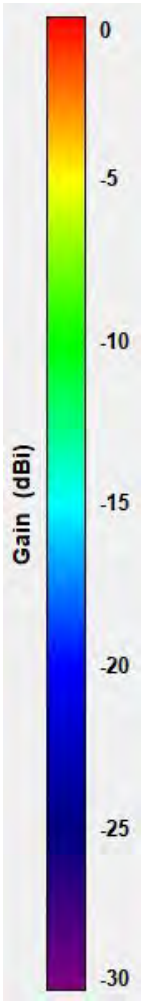
conductive



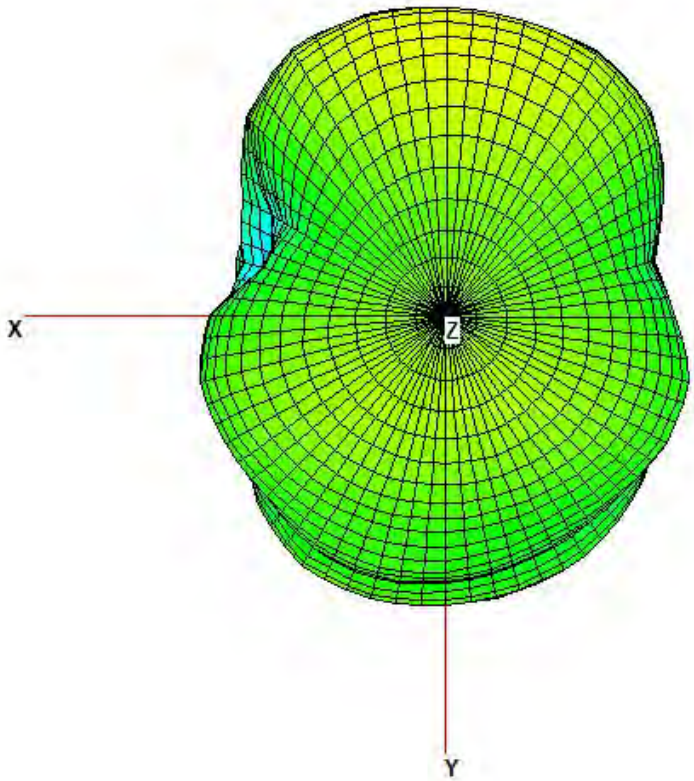
3D Patterns - Unit 40, 2.482 GHz

standard



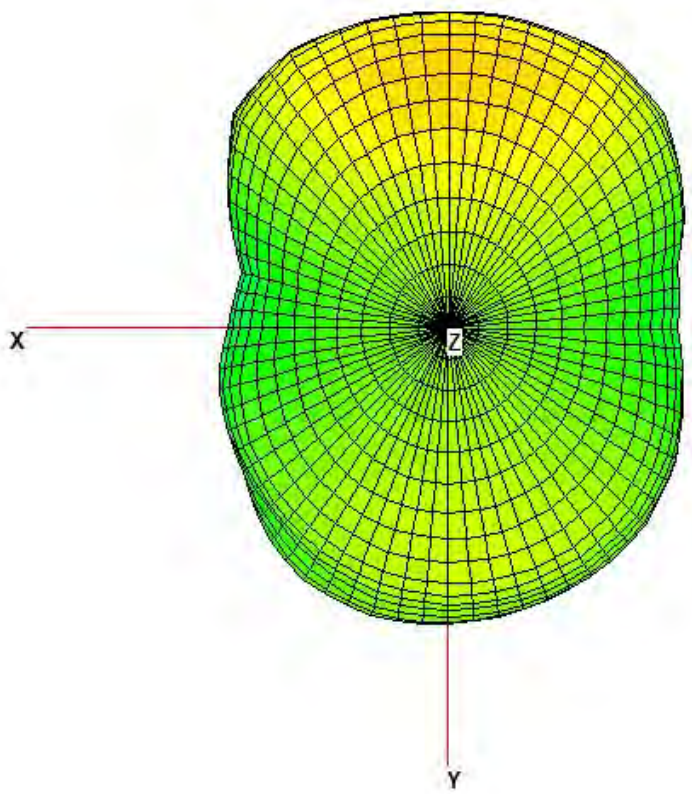


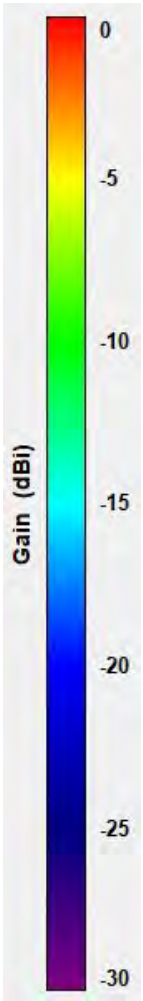
conductive



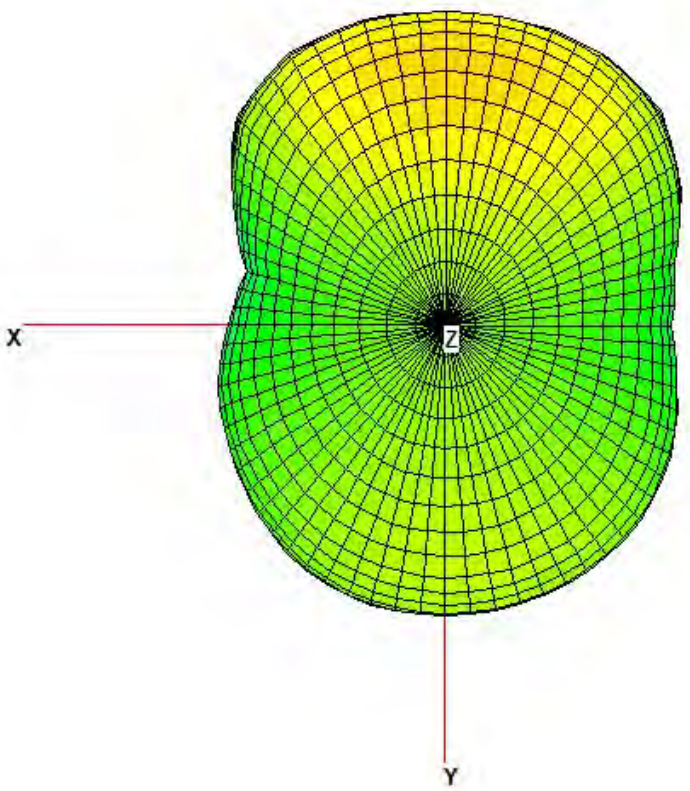
3D Patterns - Unit 40k, 2.402 GHz

standard



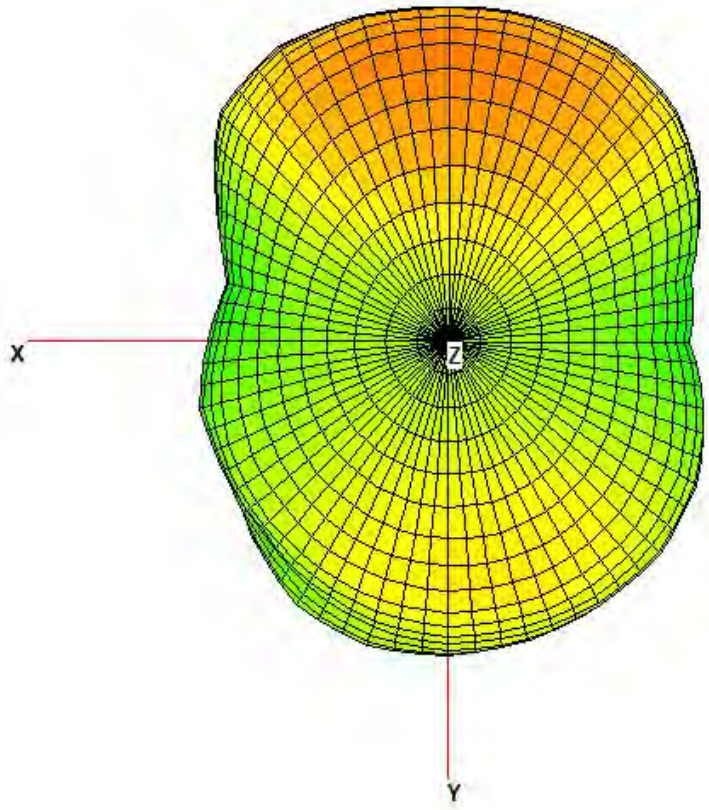


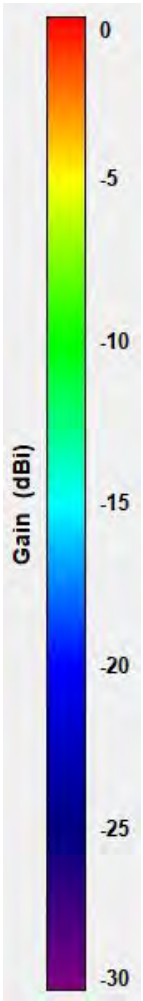
conductive



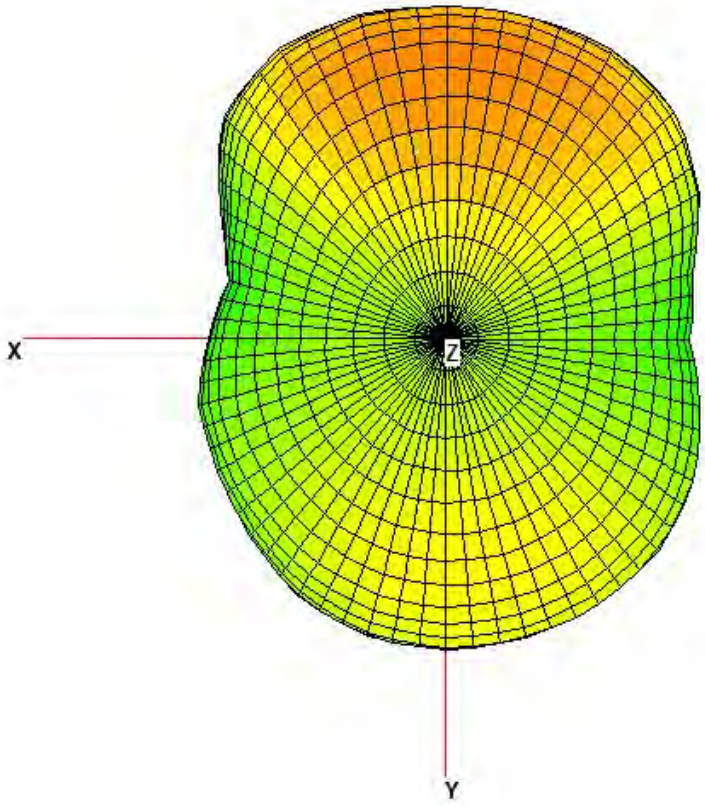
3D Patterns - Unit 40k, 2.442 GHz

standard



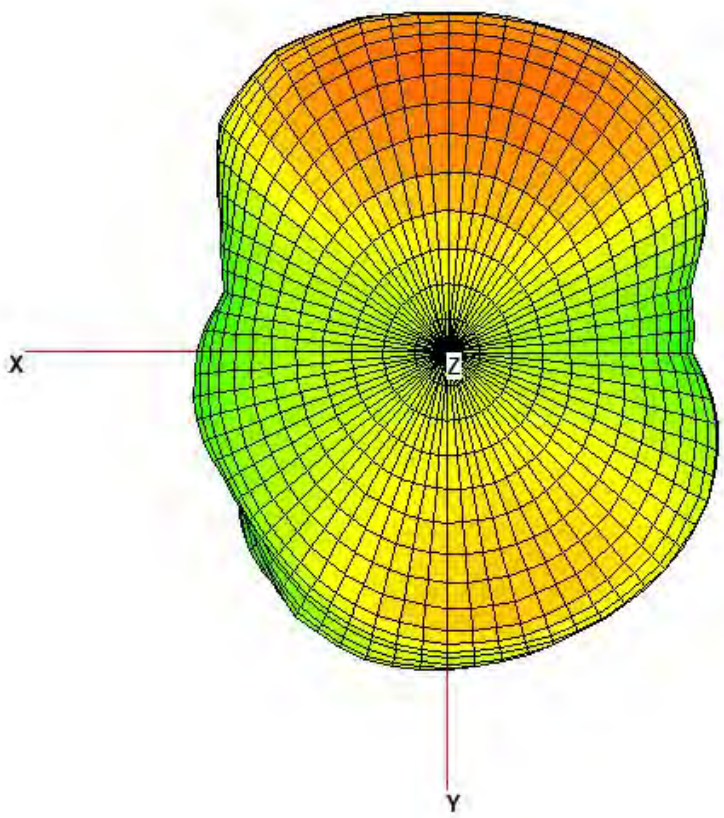


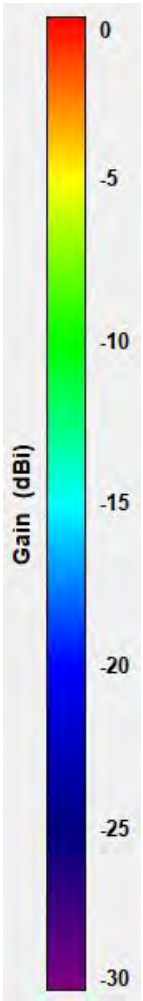
conductive



3D Patterns - Unit 40k, 2.482 GHz

standard





conductive