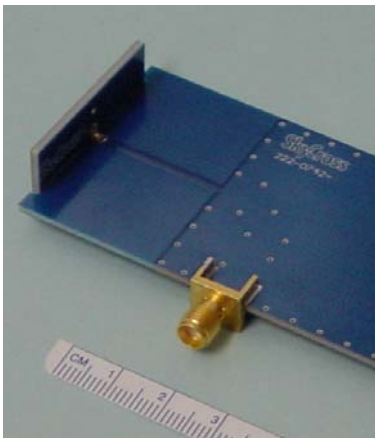
# 800 - 2700 MHz Ultra-wideband Antenna for Worldphone Handheld Applications



## Features

- *Ultra-wideband Antenna Element*
  - *Monopole Pattern Covers Almost Two Octaves*
- *Frequency Range Covers Many Consumer Wireless Bands*
  - *SMR, AMPS, GSM, PDC, PHS, GPS, DCS, IMT-2000, ISM, MMDS*
- *Single Feed Point*

**This Ultra-wideband antenna is designed using SkyCross' patented Meander Line Antenna (MLA) technology, providing superior efficiency and gain directivity in a small package. This antenna enables integration of many different frequency bands into one device for handheld or mobile applications.**

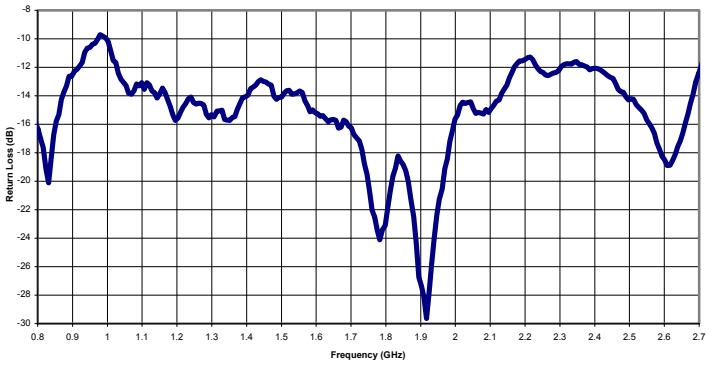
| Electrical Specifications* | |
|---|---|
| Frequency Range | 800 — 2700 MHz |
| VSWR | < 2:1 across entire band |
| Polarization | Linear |
| Azimuth Pattern | Omni-directional across entire band |
| Feed Impedance | 50 Ohms unbalanced |

*Antenna measurements taken on 3 inch ground plane, which includes a portion of the antenna

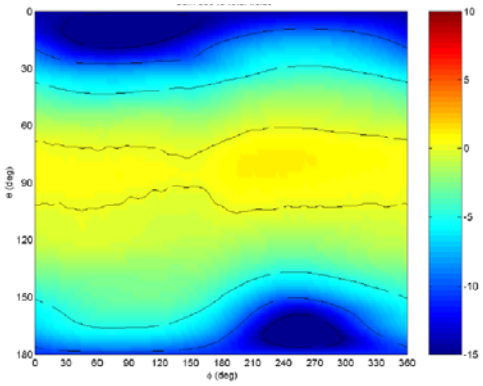
| Performance Data | | | |
|---|---|---|---|
| **Band** | **Application** | **Peak Gain** | **Efficiency** |
| 800 MHz | AMPS | 1.5 dBi | 79% |
| 900 MHz | GSM | 1.4 dBi | 76% |
| 1575 MHz | GPS | 3.0 dBi | 84% |
| 1800 MHz | DCS | 3.7 dBi | 83% |
| 1900 MHz | PCS | 3.6 dBi | 77% |
| 2400 MHz | ISM | 4.4 dBi | 79% |
| 2700 MHz | MMDS | 4.5 dBi | 77% |

| Mechanical Specifications | |
|---|---|
| Size | 1.10 x 1.69 x 0.42 in<br>28 x 43 x 10.8 mm |
| Weight | 5 g |

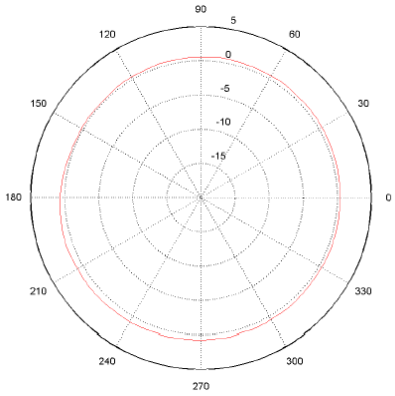
## Typical Return Loss



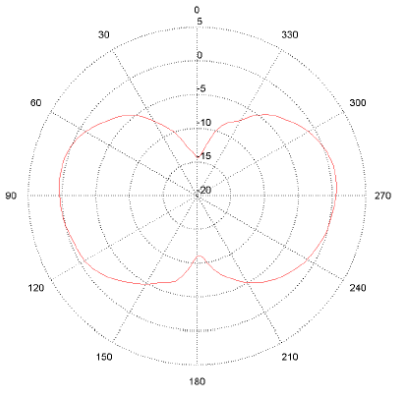
## Spherical Gain Contour Map and Typical Gain Patterns at 820 MHz



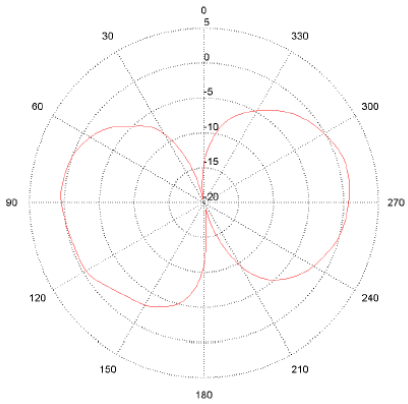
Spherical Gain Contour Map at 820 MHz



Gain at 820 MHz, Theta = 90

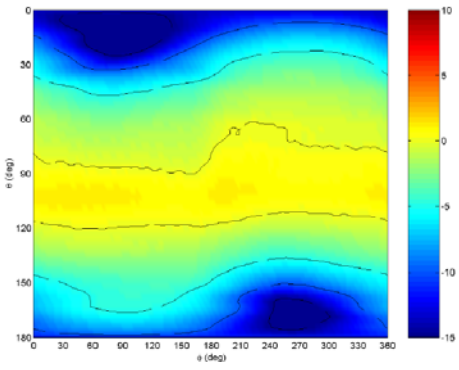


Gain at 820 MHz, Phi =0

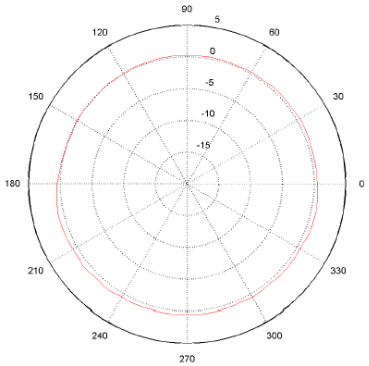


Gain at 820 MHz, Phi = 90

## Spherical Gain Contour Maps and Typical Gain Pattern at 950 MHz

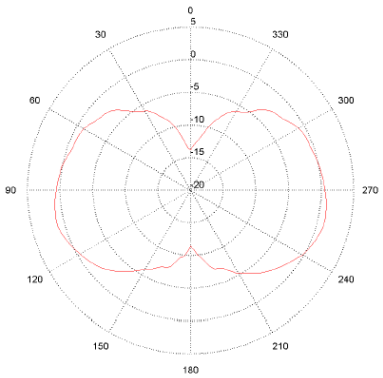


Spherical Gain Contour Map at 950 MHz

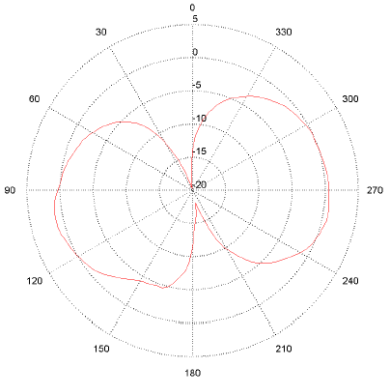


Gain at 950 MHz, Theta = 90

## Typical Gain Patterns at 950 MHz

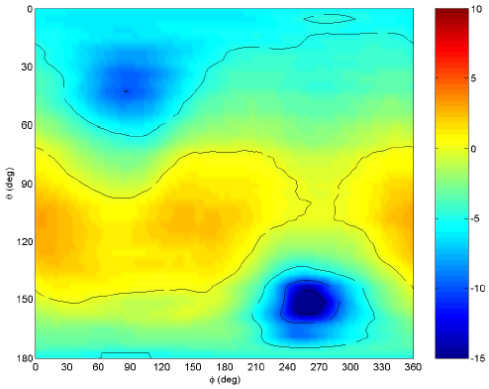



Gain at 950 MHz, Phi = 0

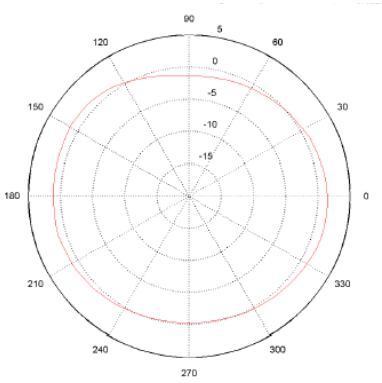



Gain at 950 MHz, Phi = 90

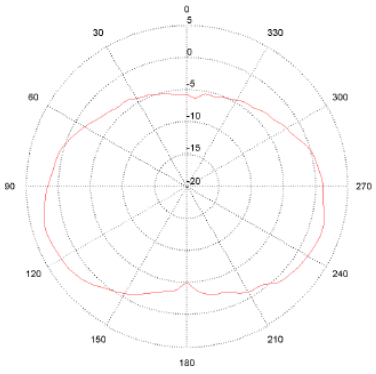
## Spherical Gain Contour Maps and Typical Gain Pattern at 1575 MHz



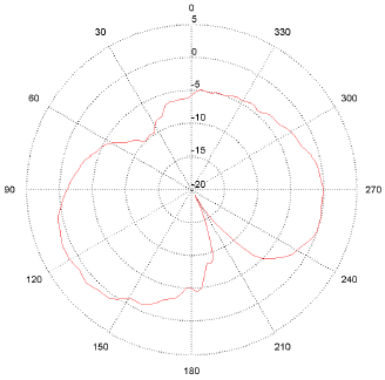

Spherical Gain Contour Map at 1575 MHz




Gain at 1575 MHz, Theta = 90

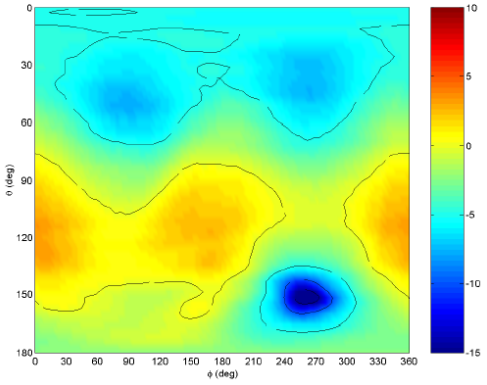



Gain at 1575 MHz, Phi = 0

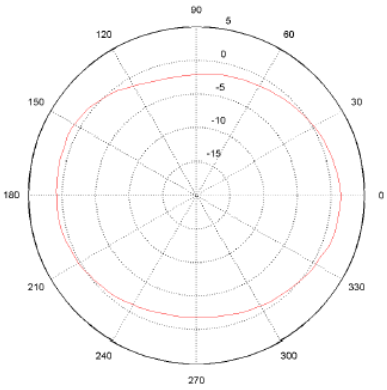



Gain at 1575 MHz, Phi = 90

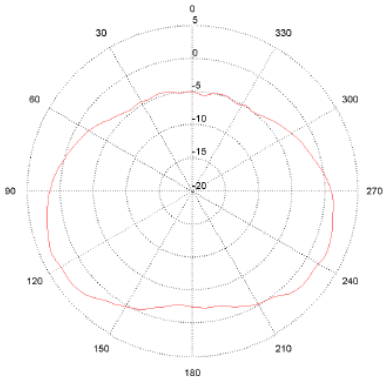
## Spherical Gain Contour Map and Typical Gain Patterns at 1800 MHz



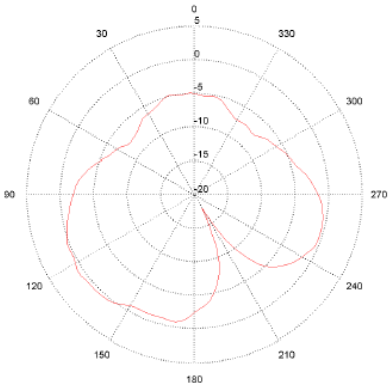

Spherical Gain Contour Map at 1800 MHz



Gain at 1800 MHz, Theta = 90

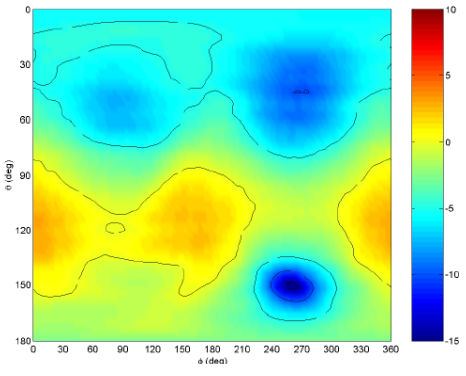


Gain at 1800 MHz, Phi = 0

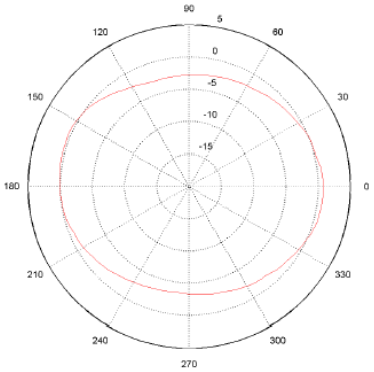


Gain at 1800 MHz, Phi = 90

## Spherical Gain Contour Map and Typical Gain Pattern at 1900 MHz

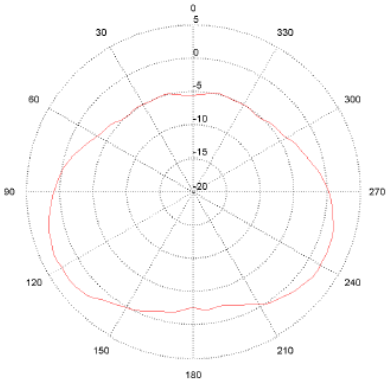



Spherical Gain Contour Map at 1900 MHz

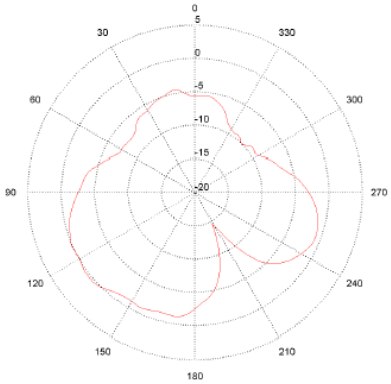


Gain at 1900 MHz, Theta = 90

## Typical Gain Patterns at 1900 MHz

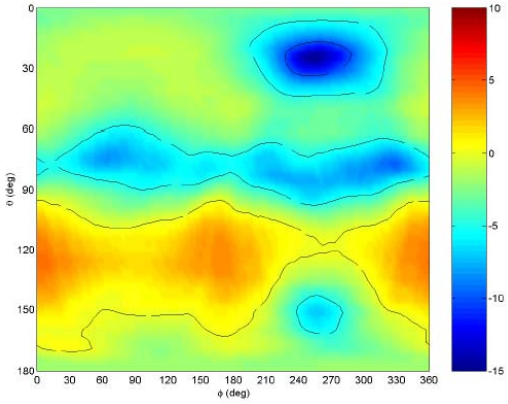



Gain at 1900 MHz, Phi = 0

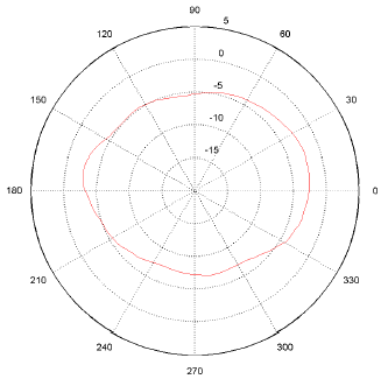



Gain at 1900 MHz, Phi = 90

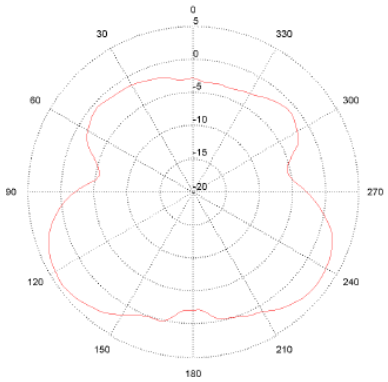
## Spherical Gain Contour Map and Typical Gain Pattern at 2450 MHz



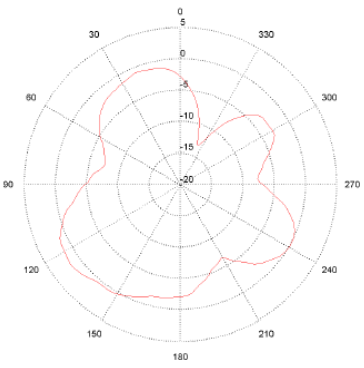

Spherical Gain Contour Map at 2450 MHz




Gain at 2450 MHz, Theta = 90

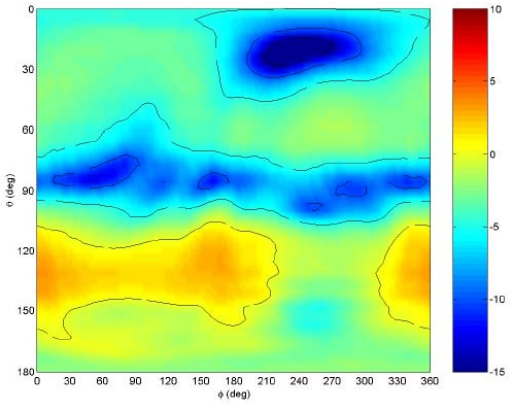



Gain at 2450 MHz, Phi = 0

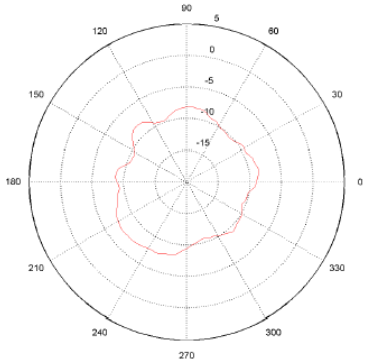



Gain at 2450 MHz, Phi = 90

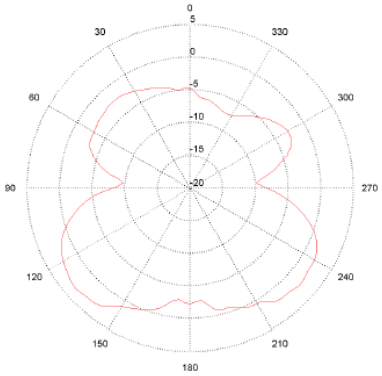
## Spherical Gain Contour Map and Typical Gain Pattern at 2700 MHz



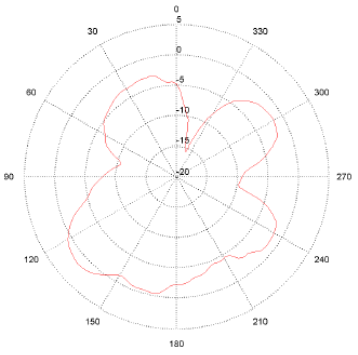

Spherical Gain Contour Map at 2700 MHz



Gain at 2700 MHz, Theta = 90



Gain at 2700 MHz, Phi = 0



Gain at 2700 MHz, Phi = 90