Antenna Information

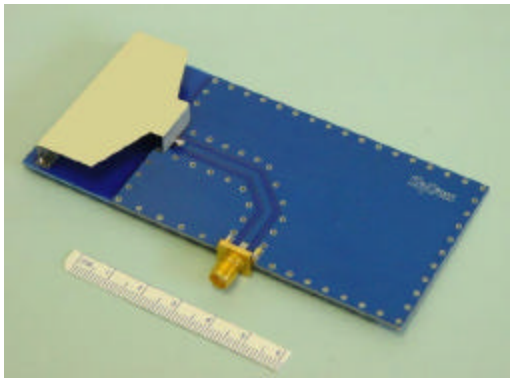
Internal and External WAN Antenna Information

FCC ID: KBCIX600-MC75

Antenna Model	Antenna Part No.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
Internal Skycross WAN	59-0479-001	806 - 960	Meander Line Antenna	3.8
Internal Skycross WAN	59-0479-001	1710-1990	Meander Line Antenna	-0.3
External MaxRad	BMLPVDB800/1900	806 - 960	Low profile vertical	3
External MaxRad	BMLPVDB800/1900	1710-1990	Low profile vertical	3

Note: Data sheets are available for both antennas.

800 - 2500 MHz Ultra-Wideband Antenna for PCMCIA Applications



Features

- *Ultra-wideband Antenna*
- *Ideal for Multi-mode Applications in a PCMIA Form Factor Including:*
  - *Cellular*
  - *GSM*
  - *PCS*
  - *GPS*
  - *WLAN/Bluetooth*

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 six different popular frequency bands into one device for PCMCIA applications.

Electrical Specifications*

Frequency Range	824 — 2500 MHz
VSWR	< 2:1 across entire band
Polarization	Linear
Azimuth Pattern	Omni-directional across entire band
Feed Impedance	50 Ohms unbalanced

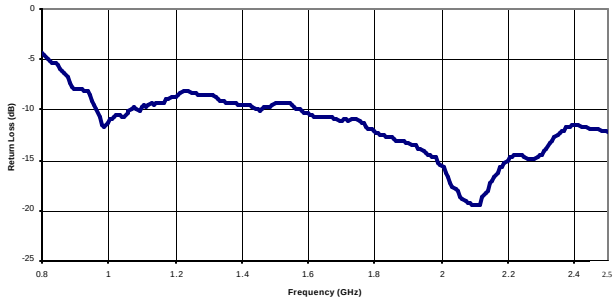
*Antenna measurements taken on 2 x 4 inch ground plane

Mechanical Specifications

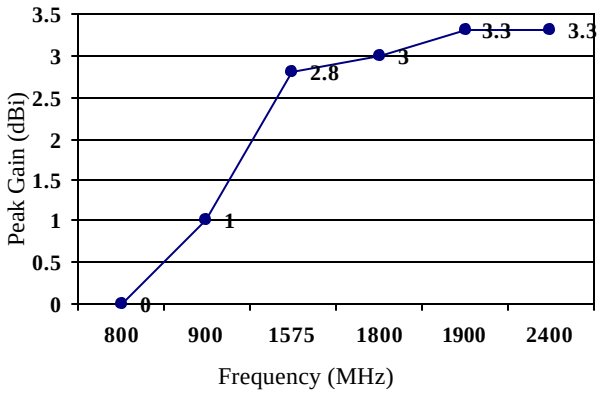
Size†	50 W x 28 L x 8 H mm 1.97 W x 1.1 L x 0.32 H in
Weight	4.2g

†does not include 2 x 4.4 inch ground plane

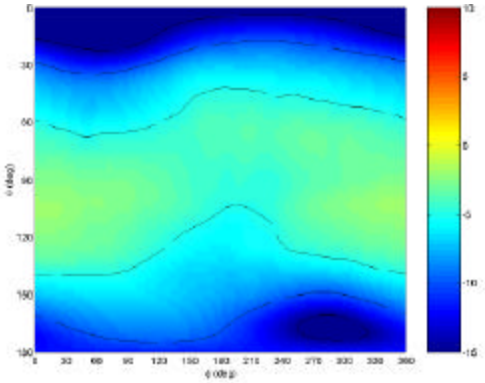
Typical Return Loss



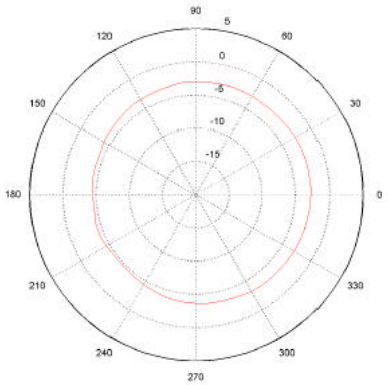
Typical Gain



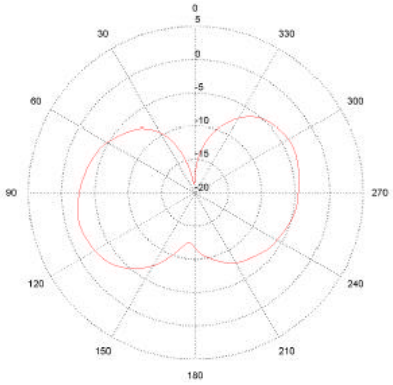
Spherical Gain Contour Map and Typical Gain Patterns at 860 MHz



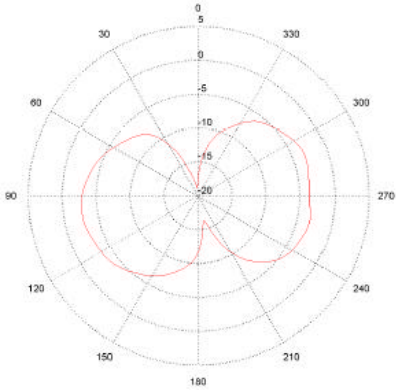
Spherical Gain Contour Map at 860 MHz



Gain at 860 MHz, Theta = 90

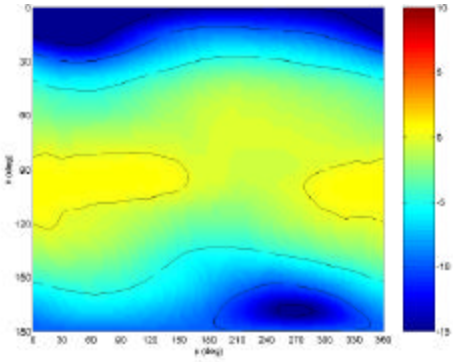


Gain at 860 MHz, Phi =0

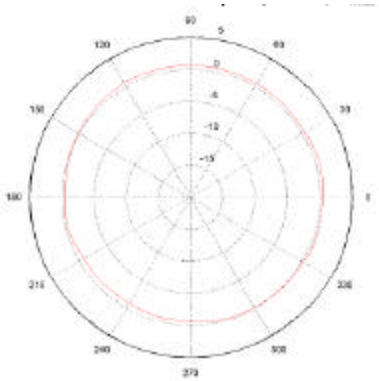


Gain at 860 MHz, Phi = 90

Spherical Gain Contour Maps and Typical Gain Pattern at 950 MHz

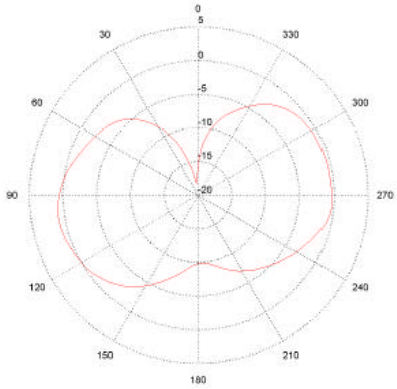


Spherical Gain Contour Map at 950 MHz

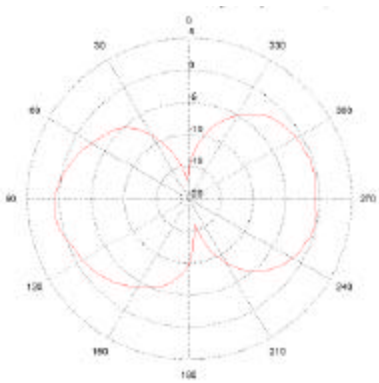


Gain at 950 MHz, Theta = 90

Typical Gain Patterns at 950 MHz

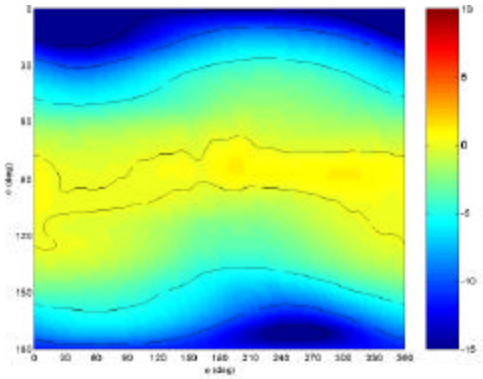


Gain at 950 MHz, Phi = 0

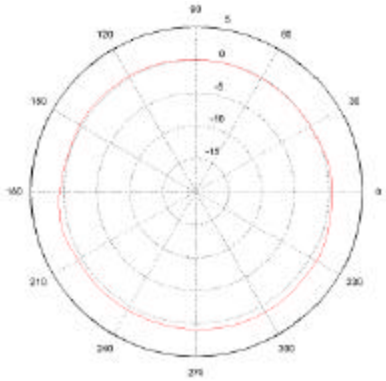


Gain at 950 MHz, Phi = 90

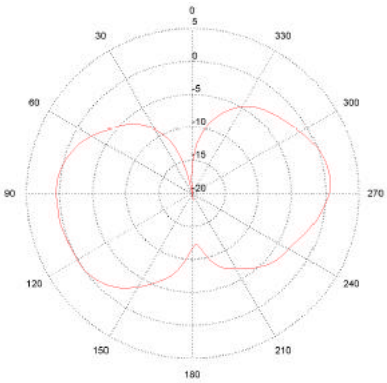
Spherical Gain Contour Maps and Typical Gain Pattern at 1580 MHz



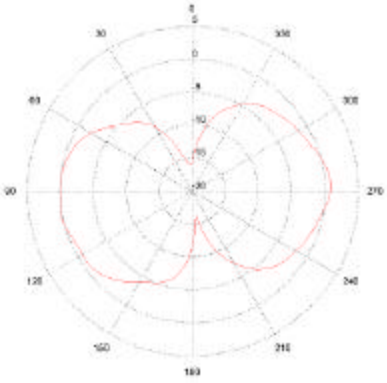
Spherical Gain Contour Map at 1580 MHz



Gain at 1580 MHz, Theta = 90

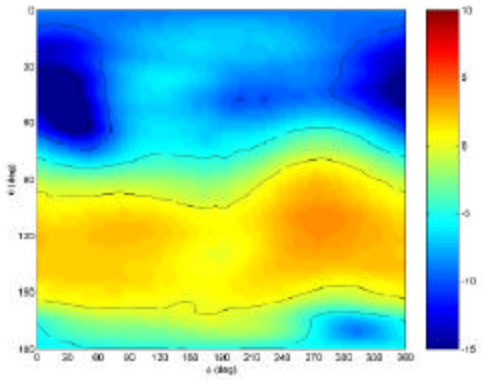


Gain at 1580 MHz, Phi = 0

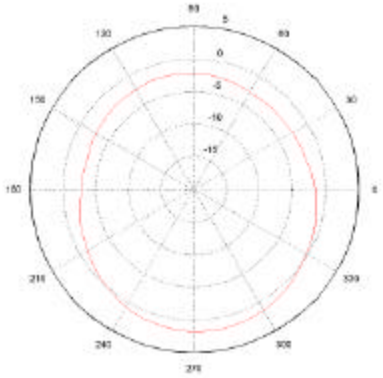


Gain at 1580 MHz, Phi = 90

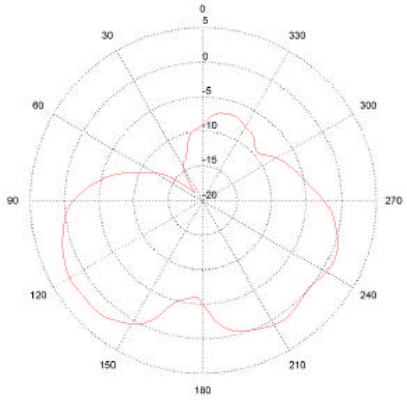
Spherical Gain Contour Map and Typical Gain Patterns at 1800 MHz



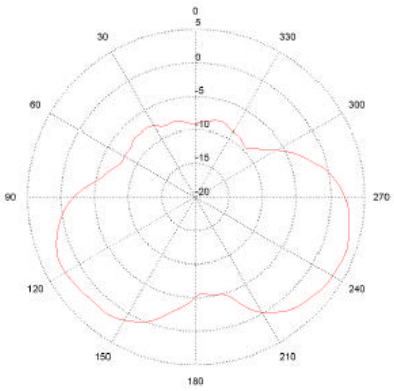
Spherical Gain Contour Map at 1800 MHz



Gain at 1800 MHz, Theta = 90

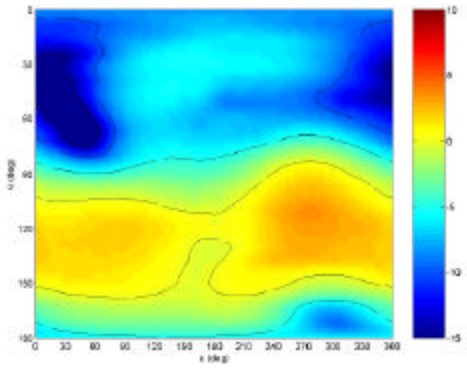


Gain at 1800 MHz, Phi = 0

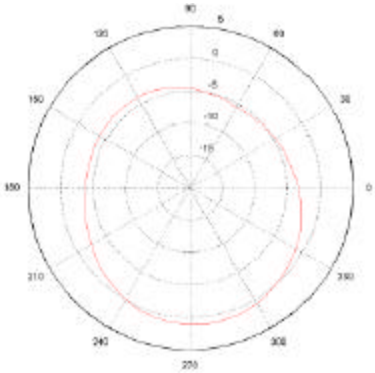


Gain at 1800 MHz, Phi = 90

Spherical Gain Contour Map and Typical Gain Pattern at 1900 MHz

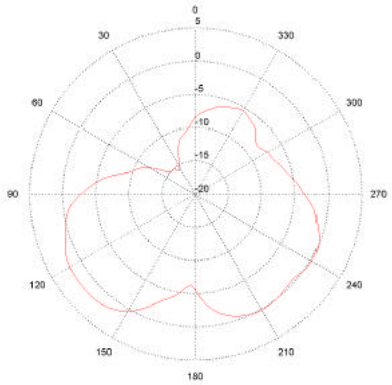


Spherical Gain Contour Map at 1900 MHz

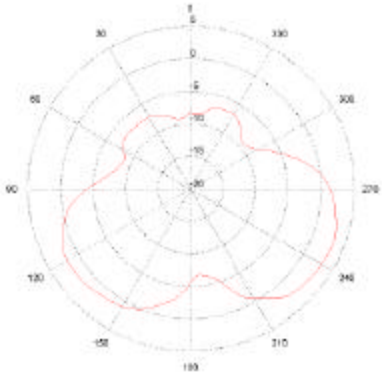


Gain at 1900 MHz, Theta = 90

Typical Gain Patterns at 1900 MHz

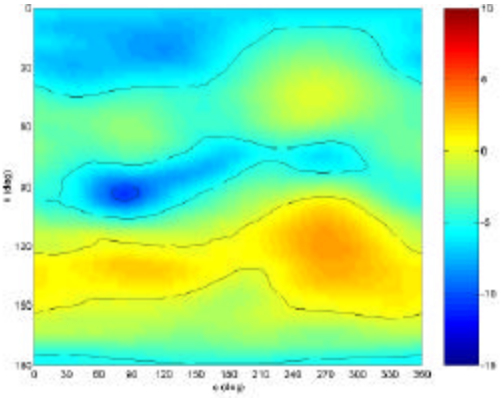


Gain at 1900 MHz, Phi = 0

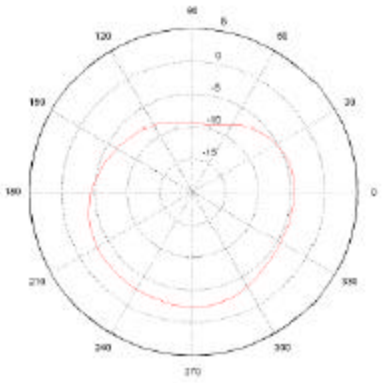


Gain at 1900 MHz, Phi = 90

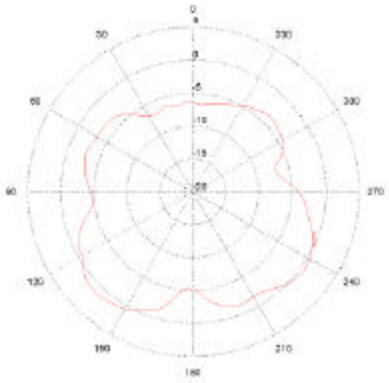
Spherical Gain Contour Map and Typical Gain Pattern at 2450 MHz



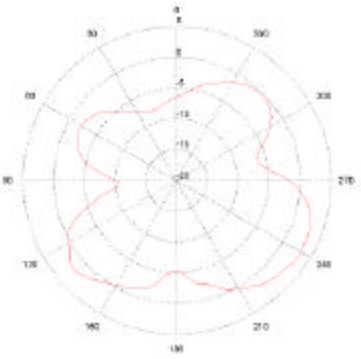
Spherical Gain Contour Map at 2450 MHz



Gain at 2450 MHz, Theta = 90



Gain at 2450 MHz, Phi = 0



Gain at 2450 MHz, Phi = 90

REV.	REF.	DESCRIPTION	INPUT BY	DATE
A	2760	Release	G.WOOD	7/9/02

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APPROVALS		**ITRONIX CORPORATION** **S. 801 STEVENS AVE.** **P.O. BOX 0179** **SPOKANE, WA 99210-0179**
ORIGINATOR **Mike Decker**	**DATE** **6/27/02**	**PART DESCRIPTION:**
ENGINEERING	**DATE**	**ANTENNA, QUAD BAND, GPRS, CDMA**
CHECKER	**DATE**	
MANUFACTURING **JOHN E. HENNESSY**	**DATE** **02-14-03**	**Drawing Number** **46-0115-000**
PURCHASING	**DATE**	**PAGE 1 OF 3**

1.0 **DESCRIPTION**:
800/900 Mhz, PCS Low Profile Vertical (MLPV) Antenna. (Covers cellular and GSM, ISM, DCS and PCS frequencies.)

2.0 **APPLICABLE DOCUMENTS AND REFERENCES:**
MANUFACTURER'S SPECIFICATION: MaxRad Website:
http://www.maxrad.com/
Datasheet: R:\D46\Datasheets\Maxrad mlpvdb.pdf

3.0 **MECHANICAL REQUIREMENTS**:
3.1 Height (For Reference Only): 2.5"
3.2 Radiator Material: Solid Brass
3.3 Mounting (For Reference Only): Compatable with various mobile mounts (consult factory for more information.)
3.4 Weight: 0.29 lbs. (0.13kg)
3.5 Colors: black or white

4.0 **ELECTRICAL REQUIREMENTS**:
4.1 VSWR: <1.5:1 and <2:1
4.2 Nominal Impedance: 50Ω
4.3 Antenna Type: Quad-band low profile vertical
4.4 Operating Frequency Range: 806 to 960Mhz and 1710 to 1990MHz
4.5 Gain: 3dBi
4.7 Maximum Power: 150 W

5.0 **ENVIRONMENTAL REQUIREMENTS**:
5.1 Temperature: -40°C to +85°C
5.2 Humidity: 0% to 100% Relative Humidity

6.0 **SAFETY REQUIREMENTS**: N/A

7.0 **MARKING REQUIREMENTS**:
The bulk shipping container must bear the Manufacturer's name and part number.

8.0 **PACKAGING REQUIREMENTS**:
Packaging of components shall be such that no damage will occur to the component during shipment.

9.0 **ACCEPTABILITY REQUIREMENTS**:
These units must meet inspection requirements.

10.0 **MANUFACTURER AND MANUFACTURER'S PART NUMBER**:

See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0115-001	MaxRad	BMLPVDB800/1900

MLPVDB800/1900

Figure 1: Antenna Likeness (For Reference Only)

REV.	REF.	DESCRIPTION	INPUT BY	DATE
A	2390	RELEASE	S. HOUCK	11/06/01

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APPROVALS		**ITRONIX CORPORATION S. 801 STEVENS AVE. P.O. BOX 0179 SPOKANE, WA 99210-0179**
ORIGINATOR Duane Radmer	**DATE 11/02/01**	**PART DESCRIPTION:**
ENGINEERING	**DATE**	**VEHICLE ANTENNA ¾" MAGNETIC MOUNT, LMR195**
CHECKER	**DATE**	
MANUFACTURING JOHN HENNESSY	**DATE 04-16-02**	**Drawing Number 46-0103-000**
		PAGE 1 OF 3

1.0 **DESCRIPTION:**
Vehicle Antenna, ¾" Magnetic Mount, LMR195 coax. (Similar to the 46-0065-XXX.)

2.0 **APLLICABLE DOCUMENTS AND REFERENCES:**
MANUFACTURER'S SPECIFICATION: CUSTOM
MaxRad Website: http://www.maxrad.com

3.0 **MECHANICAL REQUIREMENTS:**
3.1 Length of Coax: 17'
3.2 Connector: FME
3.3 Adapter: -001: FME, male to TNC, male adapter
-002: -001 with a FME male to SMA male adapter
3.4 Connector Type: Solder
3.5 Connector Diameter and Thread Size: ¾" Hole; 1-$^{1}/_{8}$"-18 Thread
3.6 Physical Representation: See Figure 1.

4.0 **ELECTRICAL REQUIREMENTS:**
The coax shall be of the LMR195 type.

5.0 **ENVIRONMENTAL REQUIREMENTS:**
5.1 Temperature: -40°C to +85°C
5.2 Humidiy: 0% to 100% Relative Humidity

6.0 **SAFETY REQUIREMENTS:** N/A

7.0 **MARKING REQUIREMENTS:**
The bulk shipping container must bear the Manufacturer's name and part number.

8.0 **PACKAGING REQUIREMENTS:**
Packaging of components shall be such that no damage will occur to the component during shipment.

9.0 **ACCEPTABILITY REQUIREMENTS:**
These units must meet inspection requirements. The mount bag should contain 17 feet of LMR195 coax with an antenna mount on one end and an FME connector on the other end. Adapters will be in the bag as specified in Section 3.3.

10.0 **MANUFACTURER AND MANUFACTURER'S PART NUMBER:**
See Section 9.0 for a list of parts included.

Part Number	Manufacturer	Manufacturer's Part Number
46-0103-001	MaxRad	Z1300
46-0103-002	MaxRad	Z1383

Figure 1: Physical Representation Magnetic
Antenna Mount Connector