



Laird's unique patented Phantom<sup>®</sup> multi band cellular antenna operates simultaneously on seven bands and is a tough antenna for outdoor or indoor applications. The revolutionary design measures only 2.3 inches. The patented field Phantom<sup>®</sup> technology ensures uninterrupted voice and data transmissions in urban canyons and rural drop-off areas.

The industry standard NMO mounting socket mates with all Laird's magnetic, trunk lid, and hole mounts. A threaded permanent stud mount model is also available for vandal resistant mounting on brackets, panels, ceilings or any other kind of housing.

## FEATURES AND BENEFITS

- Operates simultaneously on seven frequency bands: AMPS, GSM, GPS, DCS, PCS, UMTS, and ISM
- Patented Phantom<sup>®</sup> technology ensures uninterrupted voice and data transmissions in urban canyons and rural drop off areas
- U.S. Patent Nos. 5,977,931 – 6,292,156; other patents pending

| ELECTRICAL SPECIFICATIONS | AMPS     | GSM     | GPS     | DCS       | PCS       | UMTS      | ISM       |
|---------------------------|----------|---------|---------|-----------|-----------|-----------|-----------|
| Frequency Range MHz (MHz) | 806-896  | 890-960 | 1575.42 | 1710-1880 | 1850-1990 | 1900-2170 | 2400-2500 |
| Peak Gain (dBi)           | 5.9      | 5.8     | 5.1     | 4.2       | 4.2       | 4.4       | 3.0       |
| VSWR* , Max               | 2:1      |         |         |           |           |           | 2:1       |
| Polarization              | Vertical |         |         |           |           |           |           |
| Nominal Impedance (Ohms)  | 50       |         |         |           |           |           |           |
| Input Power (W)           | 100      |         |         |           |           |           |           |

\*Antenna measured on a 0.61m x 0.61m (2 ft. x 2 ft.) ground plane

| MECHANICAL SPECIFICATIONS            |                                                                  |
|--------------------------------------|------------------------------------------------------------------|
| Dimensions – width x height cm (in.) | 3.66 x 5.84 (1.44 x 2.30) NMO, 3.66 x 8.00 (1.44 x 3.15) P-mount |
| Weight – kg (lbs.)                   | 0.068 (0.15) NMO, 0.11 (0.25) P-mount                            |
| Radome Material                      | SABIC Lexan                                                      |

| ENVIRONMENTAL SPECIFICATIONS              |                              |
|-------------------------------------------|------------------------------|
| Operating Environment (Indoor or Outdoor) | Indoor and Outdoor           |
| Operating Temperature – °C (°F)           | -30 to +70°C (-22 to +158°F) |
| Storage Temperature – °C (°F)             | -40 to +85°C (-40 to +185°F) |
| Material Substance Compliance             | RoHS                         |
| Ingress Protection Rating                 | IP67                         |

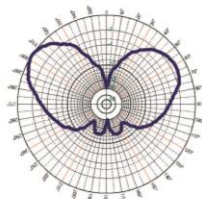
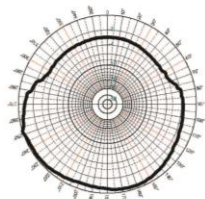
## CONFIGURATION

| MODEL          | DESCRIPTION                                                                                 | MOUNT     | COLOR | HEIGHT             | WEIGHT             | CONNECTOR |
|----------------|---------------------------------------------------------------------------------------------|-----------|-------|--------------------|--------------------|-----------|
| TRAB806/17103  | Multi-Band Phantom <sup>®</sup>                                                             | NMO       | Black | 5.84 cm (2.30 in.) | 0.07 kg (0.15 lbs) | NMO       |
| TRAB806/17103P | Multi-Band Phantom <sup>®</sup>                                                             | Permanent | Black | 8.0 cm (3.15 in.)  | 0.11 kg (0.25 lbs) | N Female  |
| TRA806/17103   | Multi-Band Phantom <sup>®</sup>                                                             | NMO       | White | 5.84 cm (2.30 in.) | 0.07 kg (0.15 lbs) | NMO       |
| TRA806/17103P  | Multi-Band Phantom <sup>®</sup>                                                             | Permanent | White | 8.0 cm (3.15 in.)  | 0.11 kg (0.25 lbs) | N Female  |
| TRADCA         | Drop ceiling antenna adaptor for P-mount Phantom                                            |           |       |                    |                    |           |
| TRADCAGP       | Drop ceiling antenna adaptor for P-mount Phantom with 6 in. x 6 in. x .016 in. ground plane |           |       |                    |                    |           |

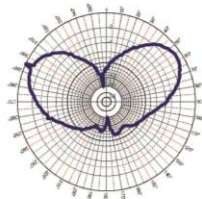
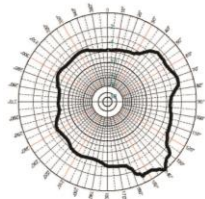
## ANTENNA PATTERNS

Azimuthal (X, Y or E-Plane)

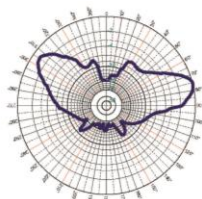
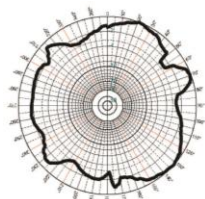
Elevation (Y, Z or H-Plane)



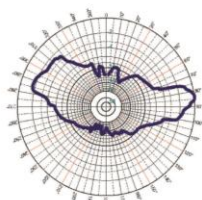
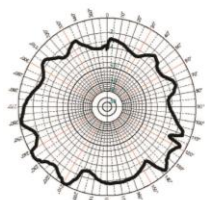
**AMPS / GSM900**  
880-960 MHz  
Test Freq = 920 MHz  
Peak Gain: 5.8 dBi



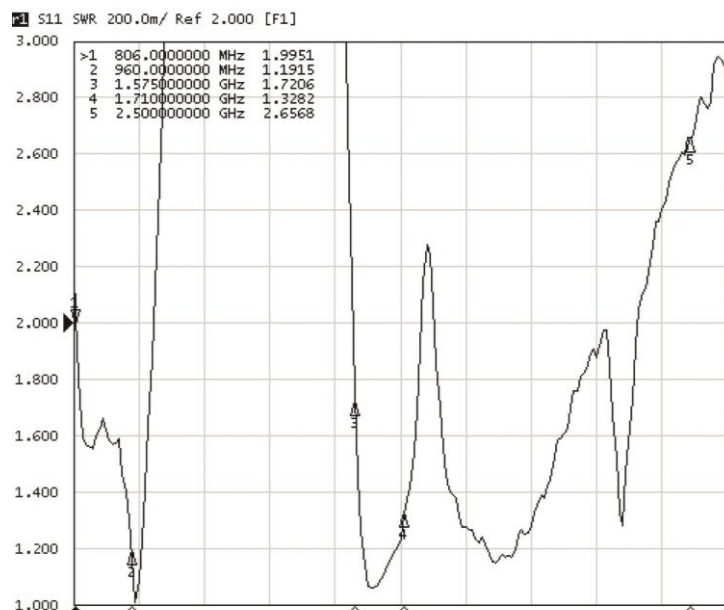
**GSM1800**  
1710-1880 MHz  
Test Freq = 1795 MHz  
Peak Gain: 4.2 dBi



**UMTS**  
1900-2170 MHz  
Test Freq = 2035 MHz  
Peak Gain: 4.4 dBi



**ISM / BT / Wifi**  
2400-2500 MHz  
Test Freq = 2450 MHz  
Peak Gain: 3.0 dBi



TRA(B)806/17103(P) Typical VSWR sweeps  
Cell / GSM900 Frequency Range 806-960 MHz (VSWR <2:1)  
Marker 1: 1.9951 to 1 @ 806 MHz  
Marker 2: 1.1915 to 1 @ 960 MHz

GPS Frequency 1575 MHz (VSWR <2:1)  
Marker 3: 1.7206 to 1 @ 1575 MHz

DCS / GSM1800 / UMTS / WiFi Frequency Range 1710-2500 MHz (VSWR <2:1)  
Marker 4: 1.3282 to 1 @ 1710 MHz  
Marker 5: 2.6568 to 1 @ 2500 MHz

6/30/2006



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