



Product Data Sheet

LGMM-7-27-24-58

Low profile MiMo LTE & cellular antenna
with MiMo WiFi and GPS

| C/Note | Doc Issue | Date | Approval |
|--------|-----------|------------|----------|
| 01019 | 3 | 04.06.2013 | J.J. |

LTE MIMO Antenna

Low Profile MIMO Antenna with GPS



LGMM-7-27-24-58

Rugged low profile design

2x Wideband LTE/cellular elements

2x 2.4 & 4.9-6GHz Wifi / WIMAX Elements

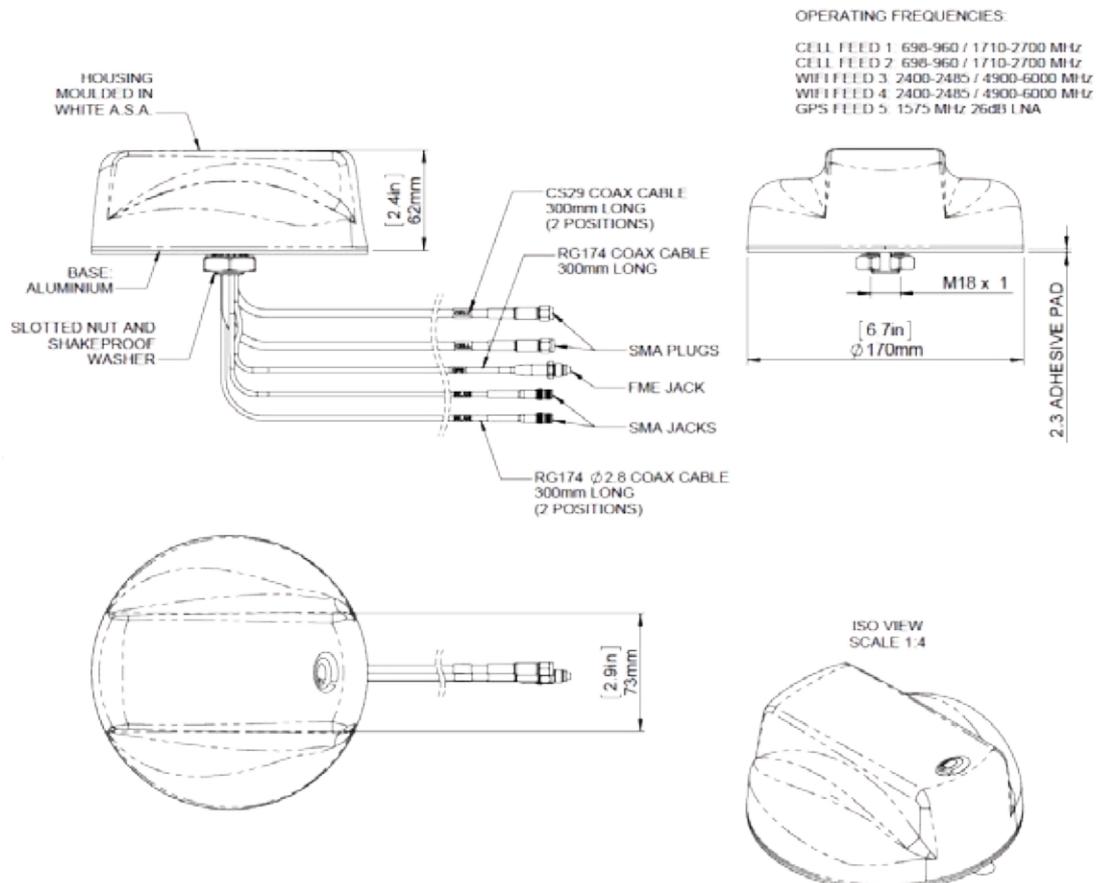
Integrated GPS antenna

The Panorama LGMM low profile MIMO antenna range has been designed to support the new generation of vehicular LTE routers.

The antenna enclosure contains five isolated high performance antenna elements; two ultra-wideband elements covering 698-2700MHz support MiMo / diversity at cellular / LTE frequencies and two dual band elements covering 2.3-2.7 & 4.9-6GHz support MiMo / diversity operation for WIFI and WiMAX. The LGMM also contains a high performance GPS antenna with an integrated 26dB gain LNA and high quality filtering to combat noise.

The antenna does not require a metallic ground plane, and maintains a high level of performance even when mounted on a non-metallic surface.

Technical Drawing



LTE MIMO Antenna

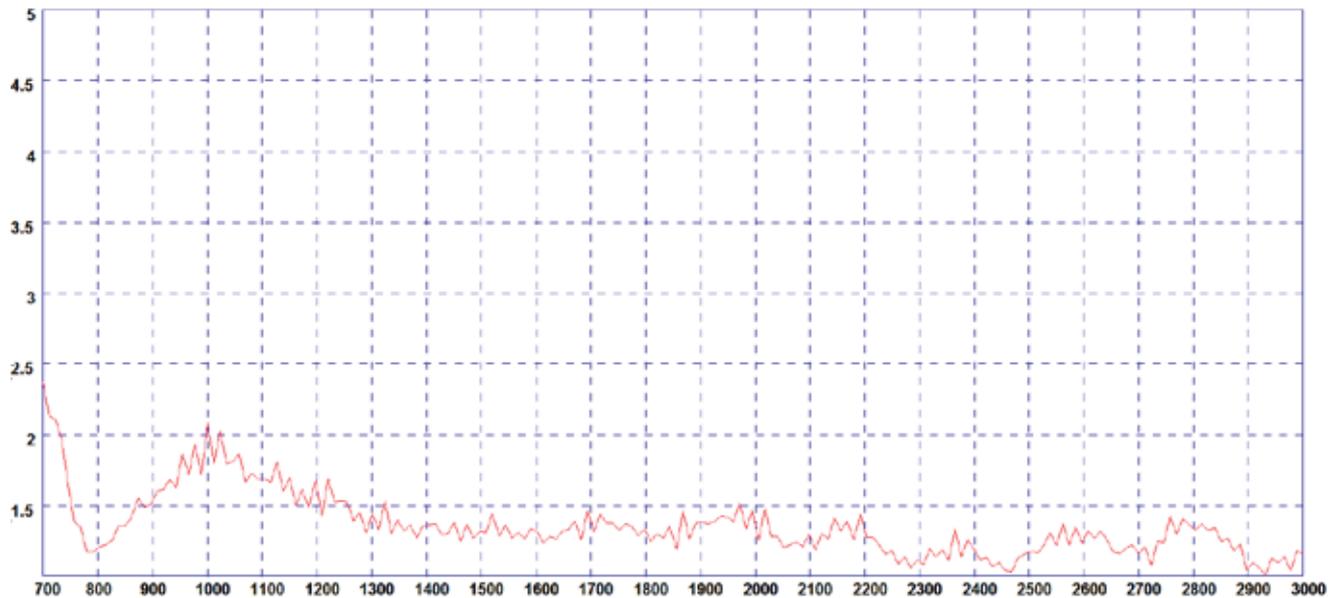
Low Profile MIMO Antenna with GPS

| | | |
|---------------------------|---------------------------|------------------------------|
| Part No. | | LGMM-7-27-24-58 |
| Electrical Data | | |
| Frequency Range (MHz) | Elements 1 & 2 | 698-960 / 1700-2700 |
| | Elements 3 & 4 | 2.3-2.7 / 4.9-6GHz |
| Operational Bands | Elements 1 & 2 | LTE / Cellular |
| | Elements 3 & 4 | WIFI / WiMAX |
| Peak Gain: Isotropic | Elements 1 & 2 -698-960 | 2.3dBi |
| | Elements 1 & 2 -1700-2700 | 5dBi |
| | Elements 3 & 4 | 2dBi |
| VSWR | Elements 1 & 2 | < 2.5:1 |
| | Elements 3 & 4 | < 2:1 |
| Isolation (in free space) | Elements 1 & 2 | > 15dB |
| | Elements 3 & 4 | > 20dB |
| Polarisation | | Vertical |
| Impedance | | 50Ω |
| Max Input Power (W) | | 50 |
| GPS Data | | |
| Frequency Range (MHz) | | 1575 |
| VSWR | | <2.0:1 ± 4MHz |
| Gain: LNA | | 26dB |
| Polarisation | | Right Hand Circular |
| Operating Voltage | | 3 - 7V DC (fed via coax) |
| Current | | Typical 14mA |
| Mechanical Data | | |
| Dimensions | Height | 2.4" (82mm) |
| | Diameter | 6.7" (176mm) |
| Operating Temp | | -22° / 176°F (-30° / +80°C) |
| Material | | A.S.A & diecast aluminium |
| Colour | | White |
| Mounting Data | | |
| Mounting type | | Panel mount |
| Max panel thickness | | 0.236"(6mm) |
| Mounting hole | | 3/4" (19mm) |
| Cable Data | | |
| GPS Cable | Type | RG174 |
| | Diameter | 0.11" (2.8mm) |
| | Length | 1' (0.3m) |
| | Termination | FME (female) |
| Cell / LTE Cables x2 | Type | CS29 (double shielded RG58) |
| | Diameter | 0.2"(5mm) |
| | Length | 1' (0.3m) |
| | Termination | SMA (male) |
| WIFI / WiMAX Cables x2 | Type | RG174 |
| | Diameter | 0.11" (2.8mm) |
| | Length | 1' (0.3m) |
| | Termination | SMA (female) |

LTE MIMO Antenna

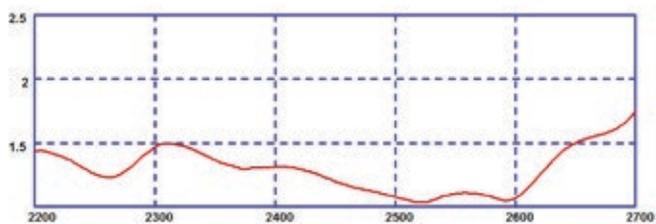
Low Profile MIMO Antenna with GPS

Typical VSWR cellular / LTE elements*



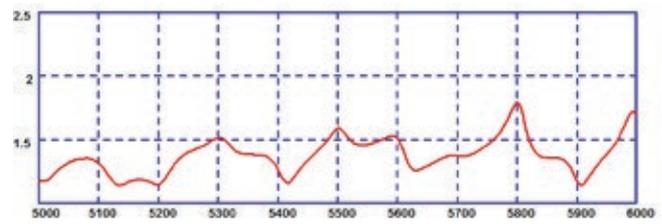
* VSWR measured in free space with 4.5m (15') of CS29 cable.

Typical VSWR WIFI elements 2.4GHz*

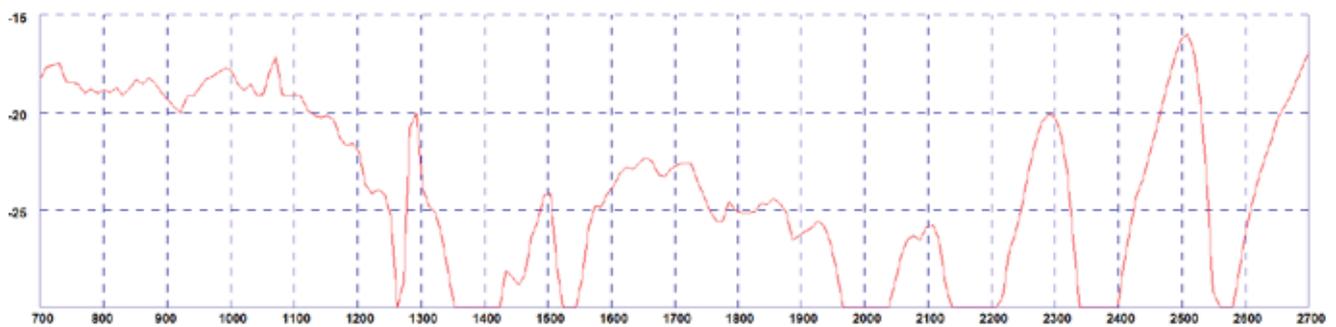


* VSWR measured with 5m (17') of cable.

Typical VSWR WIFI elements 5GHz*



Typical Isolation cellular / LTE elements*

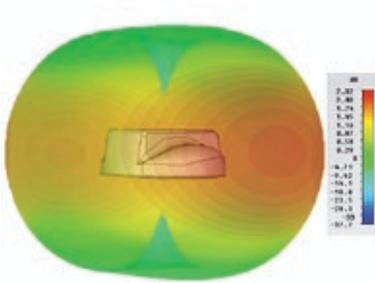


* Isolation measured in free space with 300mm (1') of cable.

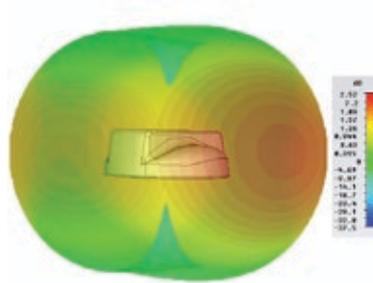
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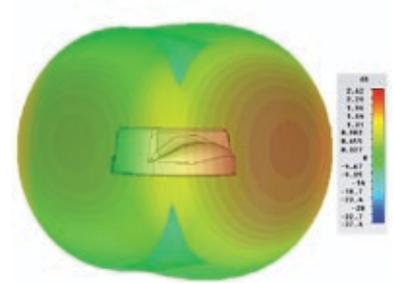
Typical 3D Pattern - Elements 1&2 700MHz



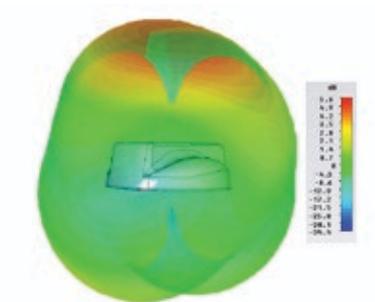
Typical 3D Pattern - Elements 1&2 800MHz



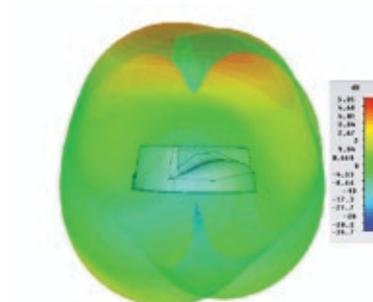
Typical 3D Pattern - Elements 1&2 900MHz



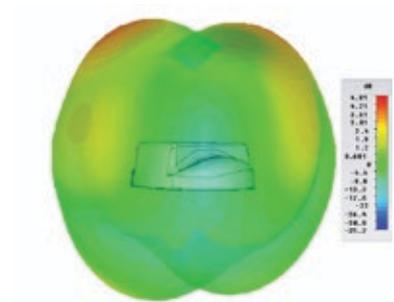
Typical 3D Pattern - Elements 1&2 1800MHz



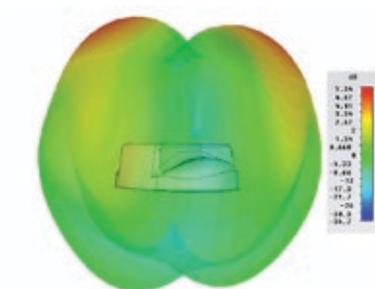
Typical 3D Pattern - Elements 1&2 1900MHz



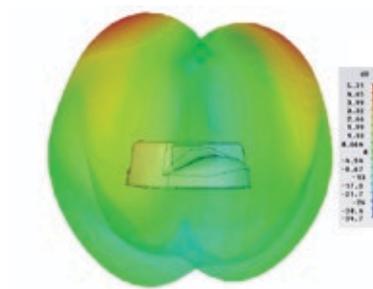
Typical 3D Pattern - Elements 1&2 2100MHz



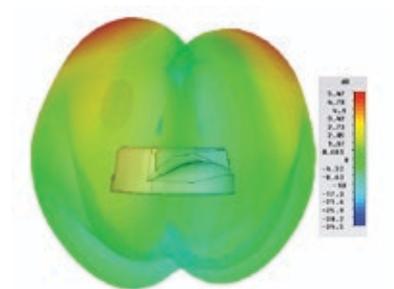
Typical 3D Pattern - Elements 1&2 2400MHz



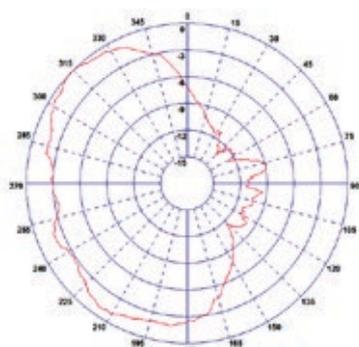
Typical 3D Pattern - Elements 1&2 2500MHz



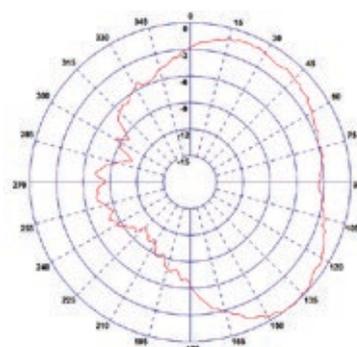
Typical 3D Pattern - Elements 1&2 2600MHz



Typical H-Plane - Element 3 2450 MHz



Typical H-Plane - Element 4 2450MHz



N.B. All pattern and gain measurements taken in free space without additional ground plane.

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