

Product Data Sheet

LGMTM-7-27-24-58

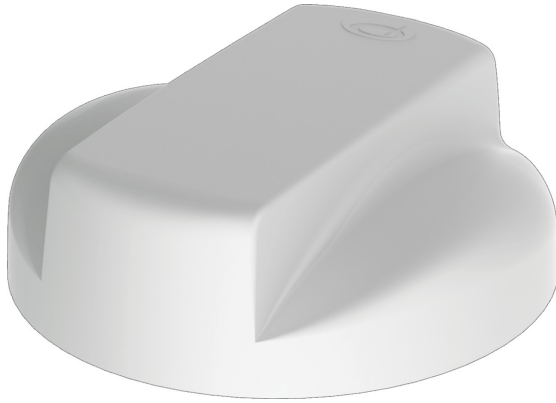
Low profile MiMo LTE & cellular antenna
with 3x3 MiMo WiFi and GPS

| C/Note | Doc Issue | Date | Approval |
|--------|-----------|------------|----------|
| 01019 | 1 | 16.12.2013 | J.J. |

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LTE MIMO Antenna

Low Profile MIMO Antenna with GPS



LGMTM-7-27-24-58

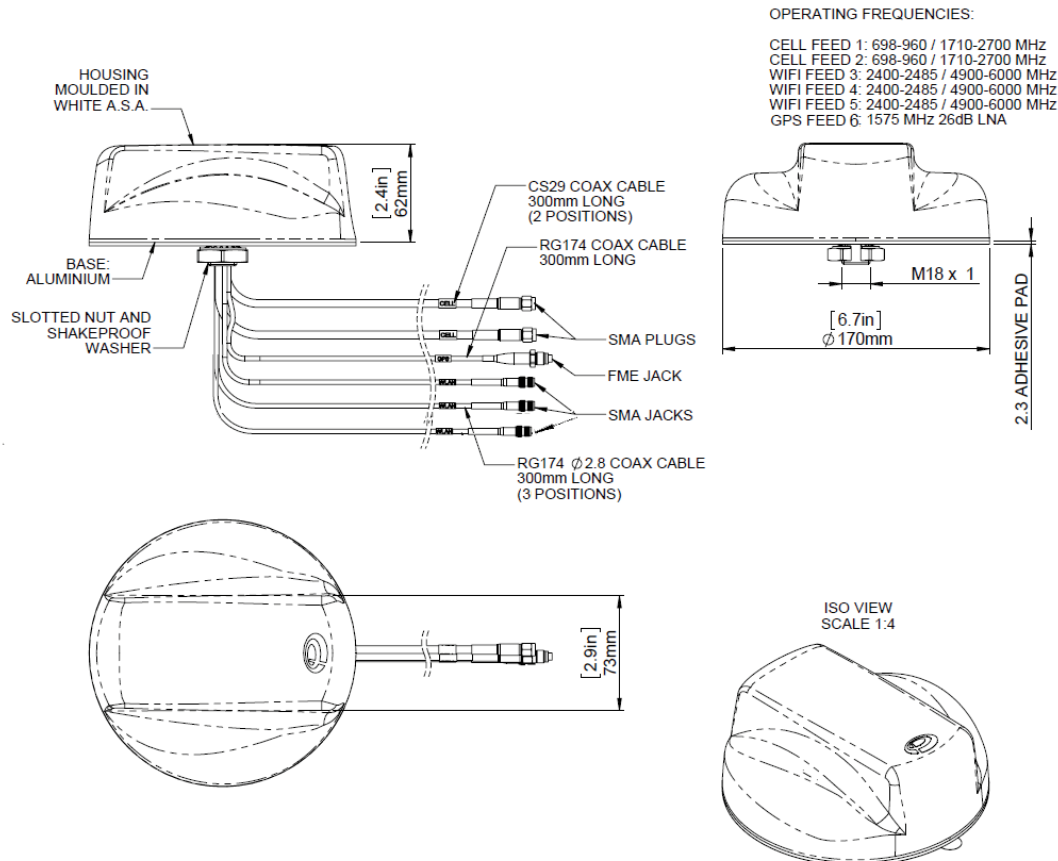
- Rugged low profile design
- 2x Wideband LTE/cellular elements
- 3x 2.4 & 4.9-6GHz Wifi/WIMAX Elements
- Integrated GPS antenna

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

The antenna enclosure contains six isolated high performance antenna elements; two ultra-wideband elements covering 698-2700MHz support MiMo/diversity at cellular/LTE frequencies and three 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

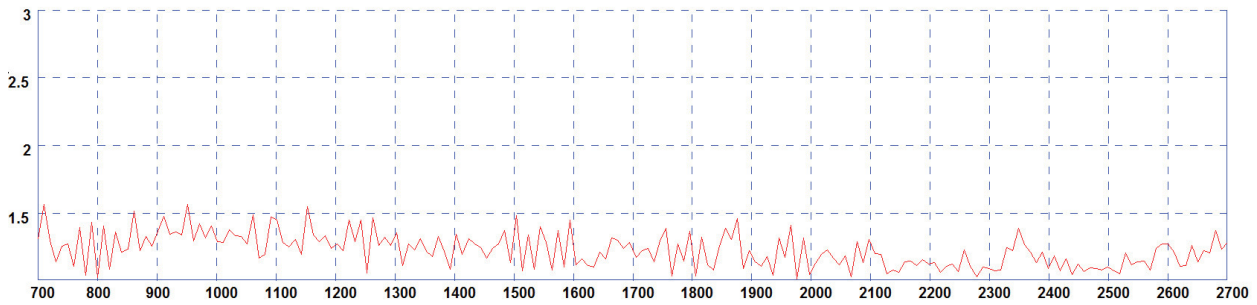
Low Profile MIMO Antenna with GPS

| Part No. | | LGMTM-7-27-24-58 | LGMTMB-7-27-24-58 |
|---------------------------|---------------------------|---|-------------------|
| Electrical Data | | | |
| Frequency Range (MHz) | Elements 1 & 2 | 698-960 / 1700-2700 | |
| | Elements 3, 4 & 5 | 2.3-2.7 / 4.9-6GHz | |
| Operational Bands | Elements 1 & 2 | LTE / Cellular | |
| | Elements 3, 4 & 5 | WIFI / WIMAX | |
| Peak Gain: Isotropic | Elements 1 & 2 -698-960 | 2.3dBi | |
| | Elements 1 & 2 -1700-2700 | 5dBi | |
| | Elements 3, 4 & 5 | 2dBi | |
| VSWR | Elements 1 & 2 | < 2.5:1 | |
| | Elements 3, 4 & 5 | < 2:1 | |
| Isolation (in free space) | Elements 1 & 2 | > 15dB | |
| | Elements 3, 4 & 5 | > 15dB | |
| Polarisation | | Vertical | |
| 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 - 5V DC (fed via coax) | |
| Current | | Typical 15mA | |
| GPS Approvals | | EN 301 489-1 V1.8.1 (2008-04), EN 300 440-1 V1.6.1 (2010-08), EN60950-1 | |
| Automotive Type Approval | | E11 - 048304 | |
| Mechanical Data | | | |
| Dimensions | Height | 2.4" (62mm) | |
| | Diameter | 6.7" (176mm) | |
| Operating Temp | | -22°/ 176°F (-30° / +80°C) | |
| Material | | A.S.A & diecast aluminium | |
| Colour | | White | Black |
| Ingress protection | | IP66 (Certificate No. 45214) | |
| Mounting Data | | | |
| Mounting type | | Panel mount | |
| Max panel thickness | | 0.27"(7mm) | |
| 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 x3 | Type | RG174 | |
| | Diameter | 0.11" (2.8mm) | |
| | Length | 1' (0.3m) | |
| | Termination | SMA (female) | |

LTE MIMO Antenna

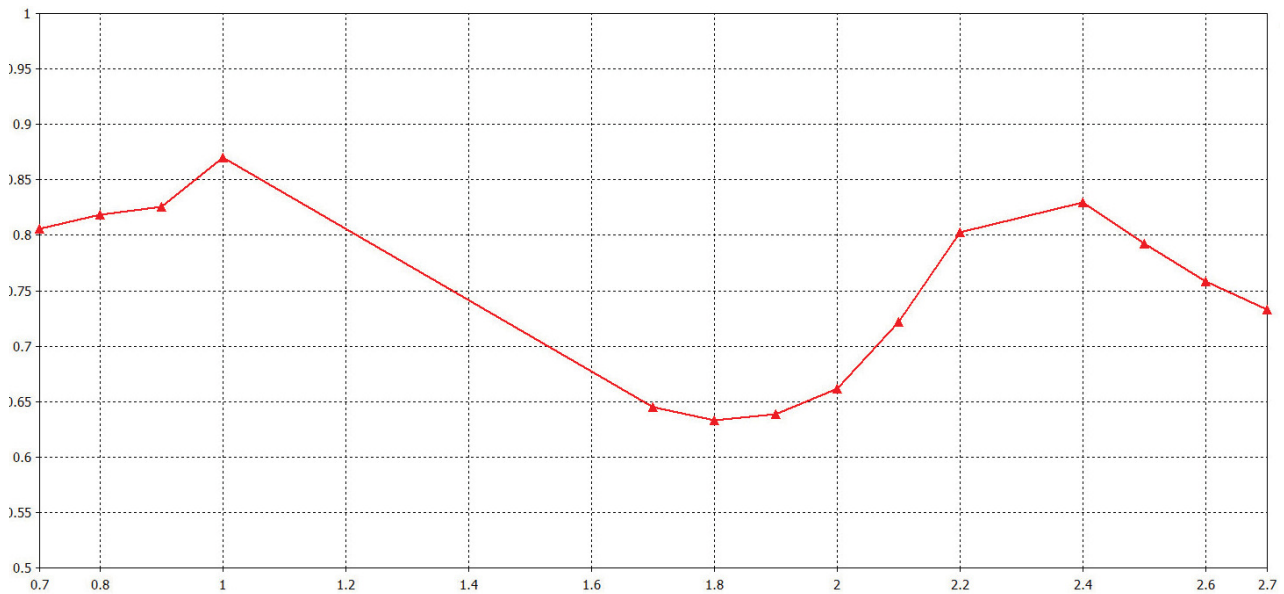
Low Profile MIMO Antenna with GPS

Typical VSWR (Elements 1 & 2)*



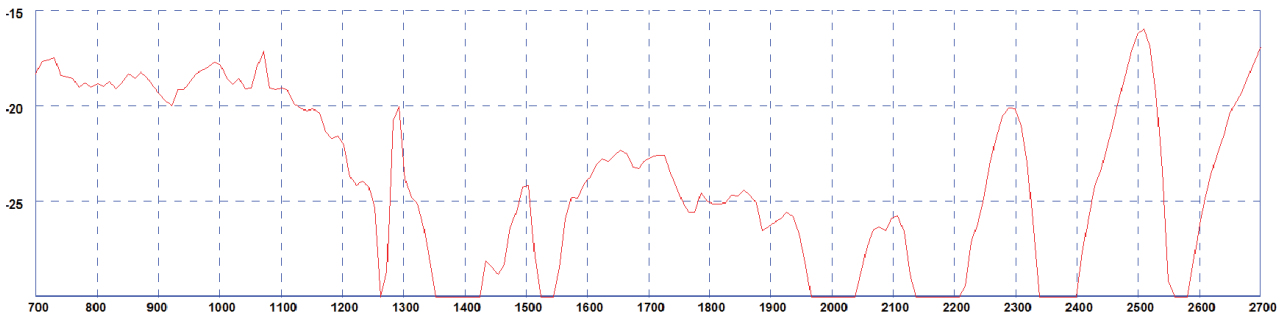
* VSWR measured with 5m (16') of cable.

Typical Total Efficiency (Elements 1 & 2)*



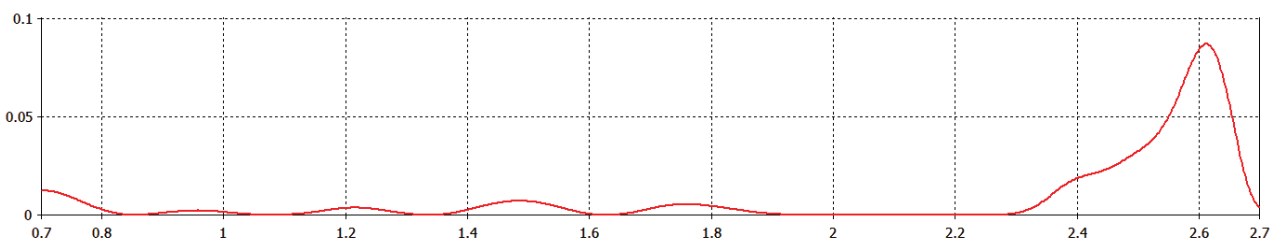
* Total efficiency does not include cable loss

Typical Isolation (elements 1 & 2)*



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

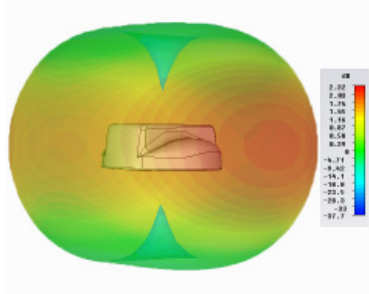
Correlation Coefficient (elements 1 & 2)



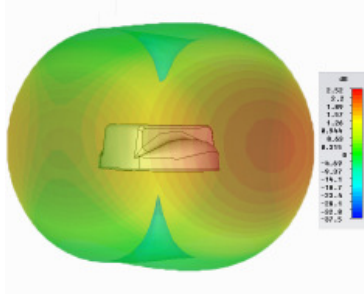
LTE MIMO Antenna

Low Profile MIMO Antenna with GPS

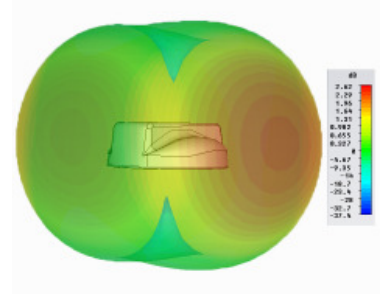
Typical 3D Pattern - Elements 1&2 700MHz



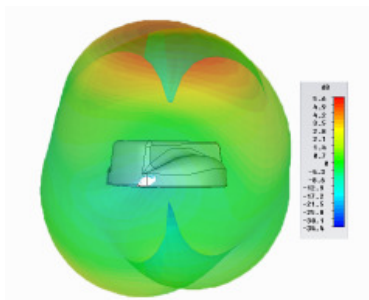
Typical 3D Pattern - Elements 1&2 800MHz



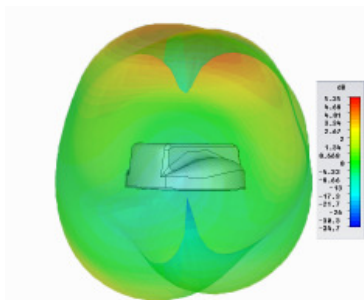
Typical 3D Pattern - Elements 1&2 900MHz



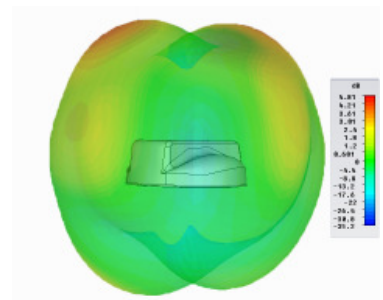
Typical 3D Pattern - Elements 1&2 1800MHz



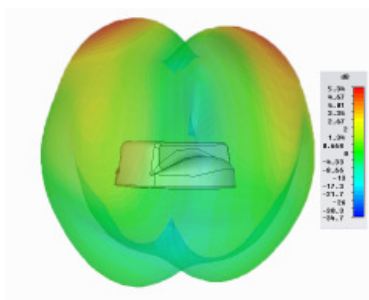
Typical 3D Pattern - Elements 1&2 1900MHz



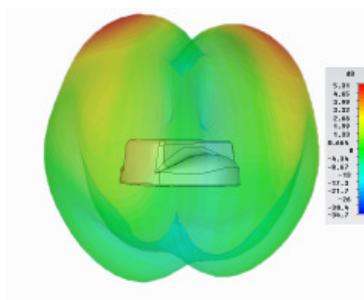
Typical 3D Pattern - Elements 1&2 2100MHz



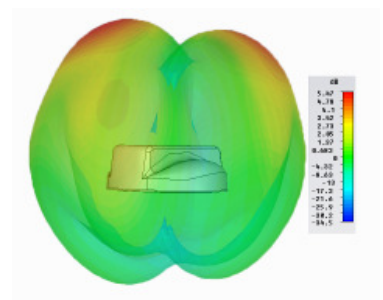
Typical 3D Pattern - Elements 1&2 2400MHz



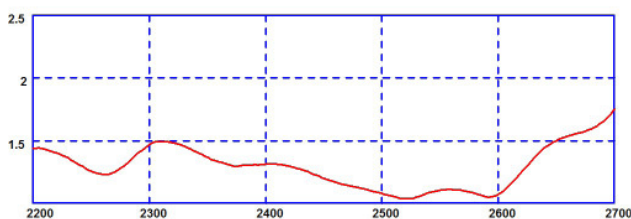
Typical 3D Pattern - Elements 1&2 2500MHz



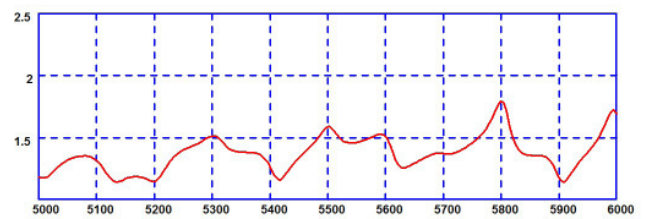
Typical 3D Pattern - Elements 1&2 2600MHz



Typical VSWR WIFI (elements 3,4 & 5) 2.4GHz*



Typical VSWR WIFI (elements 3, 4 & 5) 5GHz*



* VSWR measured with 5m (17') of CS32 cable.

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