

# MiMo 4G/5G Dome Combination Antenna Range

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L[G]M[X]M[X]-6-60[-24-58]



**Low Profile 2x2 4G/5G MiMo**  
**Up to 6 x 6 MiMo Dual Band WiFi**  
**Optional GPS/GNSS Active Antenna 26dB LNA**

The L[G]M[X]M[X]-6-60[-24-58] range has been designed to provide 2x2 4G/5G MiMo performance from 617-960/1710-6000MHz in a robust low profile package. The flexible platform allows the main elements to be combined with a number of other functions including GPS/GNSS and up to 6x6 MiMo WiFi 2.4/5.0GHz.

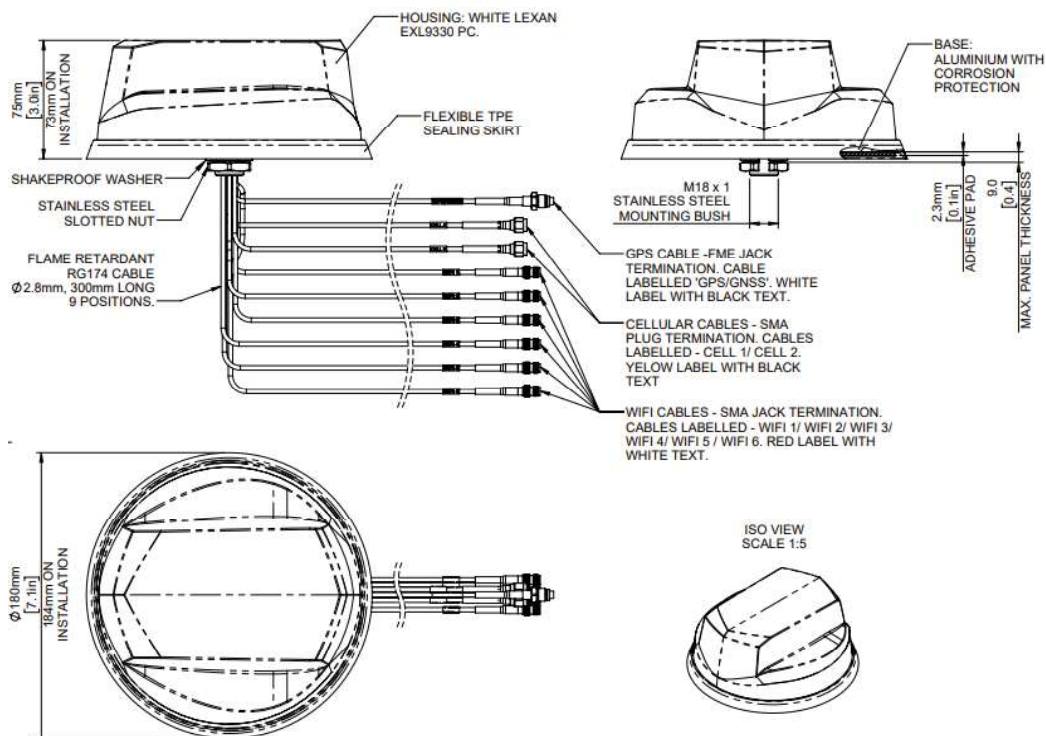
The antenna is designed to be panel mounted and can be fitted on a conductive or non- conductive panel. Supplied with integrated flame retardant RG174 cables (Compliant to UNECE 118.01 and EN45545-2) and a halogen free flame retardant radome the antenna is suitable for many environments and applications.

The LGM variants have an integrated GPS/GNSS module supporting GPS, Glonass, Galileo and Compass with 26dB LNA gain. This GPS module features advanced filtering for LTE B13/14 designed to minimise potential in band interference.

The antenna is available with a black or white radome which meets IK10 for vandal resistance and IP69K for ingress protection.

Technical Drawing

LGMHM-6-60-24-58 Shown



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| Part No.                                | LGMHM-6-60-24-58              | LGMHMB-6-60-24-58                  | LGMQM-6-60-24-58 | LGMQMB-6-60-24-58 |
|---|-------------------------------|------------------------------------|------------------|-------------------|
| <b>Electrical Data</b>                  |                               |                                    |                  |                   |
| Frequency Range (MHz)                   | 4G/5G Elements                | 2x 617-960 / 1710-6000             |                  |                   |
|   | WiFi Elements                 | 6x 2.4/4.9-6GHz                    | 4x 2.4/4.9-6GHz  |                   |
| Peak Gain: Isotropic : All Elements Fed | 617-960MHz                    | 5                                  |                  |                   |
|   | 4G/5G Elements                | 1710-3800MHz                       | 9                |                   |
|   |                               | 4900-6000MHz                       | 10               |                   |
|   | WiFi Elements                 | 2.4GHz                             | 8                |                   |
|   |                               | 4.9-6.0GHz                         | 10               |                   |
| Typical Efficiency                      | 4G/5G Elements                | >70%                               |                  |                   |
|   | WiFi Elements                 | >80%                               |                  |                   |
| Isolation                               | 4G/5G Elements                | >12dB                              |                  |                   |
|   | WiFi Elements                 | >20dB                              |                  |                   |
| Correlation Co-efficient                | 4G/5G Elements                | < 0.1                              |                  |                   |
|   | WiFi Elements                 | <0.1                               |                  |                   |
| Nominal Impedance                       | 50Ω                           |                                    |                  |                   |
| <b>GPS/GNSS Data</b>                    |                               |                                    |                  |                   |
| Frequency Range (MHz)                   | 1562-1612                     |                                    |                  |                   |
| VSWR                                    | <2.0:1 ± 4MHz                 |                                    |                  |                   |
| Gain: LNA                               | 26dB                          |                                    |                  |                   |
| Out of band rejection                   | >40dB (@ > +/- 100MHz f)      |                                    |                  |                   |
| Typical Noise Figure                    | -2.7dB                        |                                    |                  |                   |
| Notch Filter rejection @787MHz          | 23dBm                         |                                    |                  |                   |
| Operating Voltage                       | 3 - 5V DC                     |                                    |                  |                   |
| Typical Current (mA)                    | 15                            |                                    |                  |                   |
| <b>Mechanical Data</b>                  |                               |                                    |                  |                   |
| Dimensions (mm)                         | Height                        | 75 (3")                            |                  |                   |
|   | Diameter                      | 180 (7.1")                         |                  |                   |
| Operating Temp                          | -40° / +80°C (-40° / +176°F ) |                                    |                  |                   |
| Colour                                  | White                         | Black                              | White            | Black             |
| Ingress Protection                      | IP69K                         |                                    |                  |                   |
| <b>Mounting Data</b>                    |                               |                                    |                  |                   |
| Mounting type                           | Panel mount                   |                                    |                  |                   |
| Max panel thickness (mm)                | 7 (0.27")                     |                                    |                  |                   |
| Mounting hole (mm)                      | 19 (3/4")                     |                                    |                  |                   |
| <b>Cable Data</b>                       |                               |                                    |                  |                   |
| All Cables                              | Type                          | RG174 -FR (UN ECE118.01 Compliant) |                  |                   |
|   | Diameter (mm)                 | 2.8 (0.1")                         |                  |                   |
|   | Length (m)                    | 0.3 (1')                           |                  |                   |
| <b>Terminations</b>                     |                               |                                    |                  |                   |
| 4G/5G                                   | SMA (m)                       |                                    |                  |                   |
| WiFi                                    | SMA (f)                       |                                    |                  |                   |
| GPS/GNSS                                | FME (f)                       |                                    |                  |                   |

# MiMo 4G/5G Dome Combination Antenna Range



L[G]M[X]M[X]-6-60-[24-58]

| Part No.                                |                              | LGMTM-6-60-24-58                   | LGMTMB-6-60-24-58 | LGMDM-6-60-24-58 | LGMDMB-6-60-24-58 |
|---|------------------------------|------------------------------------|-------------------|------------------|-------------------|
| <b>Electrical Data</b>                  |                              |                                    |                   |                  |                   |
| Frequency Range (MHz)                   | 4G/5G Elements               | 2x 617-960 / 1710-6000             |                   |                  |                   |
|   | WiFi Elements                | 3x 2.4/4.9-6GHz                    |                   | 2x 2.4/4.9-6GHz  |                   |
| Peak Gain: Isotropic : All Elements Fed |                              | 67-960MHz                          | 5                 |                  |                   |
|   | 4G/5G Elements               | 1710-3800MHz                       | 9                 |                  |                   |
|   |                              | 4900-6000MHz                       | 10                |                  |                   |
|   | WiFi Elements                | 2.4GHz                             | 8                 |                  |                   |
|   |                              | 4.9-6.0GHz                         | 10                |                  |                   |
| Typical Efficiency                      | 4G/5G Elements               | >70%                               |                   |                  |                   |
|   | WiFi Elements                | >80%                               |                   |                  |                   |
| Isolation                               | 4G/5G Elements               | >12dB                              |                   |                  |                   |
|   | WiFi Elements                | >20dB                              |                   |                  |                   |
| Correlation Co-efficient                | 4G/5G Elements               | < 0.1                              |                   |                  |                   |
|   | WiFi Elements                | <0.1                               |                   |                  |                   |
| Nominal Impedance                       | 50Ω                          |                                    |                   |                  |                   |
| <b>GPS/GNSS Data</b>                    |                              |                                    |                   |                  |                   |
| Frequency Range (MHz)                   | 1562-1612                    |                                    |                   |                  |                   |
| VSWR                                    | <2.0:1 ± 4MHz                |                                    |                   |                  |                   |
| Gain: LNA                               | 26dB                         |                                    |                   |                  |                   |
| Out of band rejection                   | >40dB (@ > +/- 100MHz f)     |                                    |                   |                  |                   |
| Typical Noise Figure                    | -2.7dB                       |                                    |                   |                  |                   |
| Notch Filter rejection @787MHz          | 23dBm                        |                                    |                   |                  |                   |
| Operating Voltage                       | 3 - 5V DC                    |                                    |                   |                  |                   |
| Typical Current (mA)                    | 15                           |                                    |                   |                  |                   |
| <b>Mechanical Data</b>                  |                              |                                    |                   |                  |                   |
| Dimensions                              | Height                       | 75 (3")                            |                   |                  |                   |
|   | Diameter                     | 180 (7.1")                         |                   |                  |                   |
| Operating Temp                          | -40° / +80°C (-40° / +176°F) |                                    |                   |                  |                   |
| Colour                                  | White                        | Black                              | White             | Black            |                   |
| Ingress Protection                      | IP69K                        |                                    |                   |                  |                   |
| <b>Mounting Data</b>                    |                              |                                    |                   |                  |                   |
| Mounting type                           | Panel mount                  |                                    |                   |                  |                   |
| Max panel thickness (mm)                | 7 (0.27")                    |                                    |                   |                  |                   |
| Mounting hole (mm)                      | 19 (3/4")                    |                                    |                   |                  |                   |
| <b>Cable Data</b>                       |                              |                                    |                   |                  |                   |
| All Cables                              | Type                         | RG174 -FR (UN ECE118.01 Compliant) |                   |                  |                   |
|   | Diameter (mm)                | 2.8 (0.1")                         |                   |                  |                   |
|   | Length (m)                   | 0.3 (1')                           |                   |                  |                   |
| <b>Terminations</b>                     |                              |                                    |                   |                  |                   |
| 4G/5G                                   | SMA (m)                      |                                    |                   |                  |                   |
| WiFi                                    | SMA (f)                      |                                    |                   |                  |                   |
| GPS/GNSS                                | FME (f)                      |                                    |                   |                  |                   |

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L[G]M[X]M[X]-6-60[24-58]

| Part No.                                | LGMM-6-60                    | LGMMB-6-60                         | LPMM-6-60              | LPMMB-6-60 |
|---|------------------------------|------------------------------------|------------------------|------------|
| <b>Electrical Data</b>                  |                              |                                    |                        |            |
| Frequency Range (MHz)                   | 4G/5G Elements               |                                    | 2x 617-960 / 1710-6000 |            |
|   | 617-960MHz                   | 5                                  |                        |            |
| Peak Gain: Isotropic : All Elements Fed | 4G/5G Elements               | 1710-3800MHz                       | 9                      |            |
|   |                              | 4900-6000MHz                       | 10                     |            |
| Typical Efficiency                      | 4G/5G Elements               | >70%                               |                        |            |
| Isolation                               | 4G/5G Elements               | >12dB                              |                        |            |
| Correlation Co-efficient                | 4G/5G Elements               | < 0.1                              |                        |            |
| Nominal Impedance                       | 50Ω                          |                                    |                        |            |
| <b>GPS/GNSS Data</b>                    |                              |                                    |                        |            |
| Frequency Range (MHz)                   | 1562-1612                    |                                    | -                      |            |
| VSWR                                    | <2.0:1 ± 4MHz                |                                    | -                      |            |
| Gain: LNA                               | 26dB                         |                                    | -                      |            |
| Out of band rejection                   | >40dB (@ > +/- 100MHz f)     |                                    | -                      |            |
| Typical Noise Figure                    | -2.7dB                       |                                    | -                      |            |
| Notch Filter rejection @787MHz          | 23dBm                        |                                    | -                      |            |
| Operating Voltage                       | 3 - 5V DC                    |                                    | -                      |            |
| Typical Current (mA)                    | 15                           |                                    | -                      |            |
| <b>Mechanical Data</b>                  |                              |                                    |                        |            |
| Dimensions                              | Height                       | 75 (3")                            |                        |            |
|   | Diameter                     | 180 (7.1")                         |                        |            |
| Operating Temp                          | -40° / +80°C (-40° / +176°F) |                                    |                        |            |
| Colour                                  | White                        | Black                              | White                  | Black      |
| Ingress Protection                      | IP69K                        |                                    |                        |            |
| <b>Mounting Data</b>                    |                              |                                    |                        |            |
| Mounting type                           | Panel mount                  |                                    |                        |            |
| Max panel thickness (mm)                | 7 (0.27")                    |                                    |                        |            |
| Mounting hole (mm)                      | 19 (3/4")                    |                                    |                        |            |
| <b>Cable Data</b>                       |                              |                                    |                        |            |
| All Cables                              | Type                         | RG174 -FR (UN ECE118.01 Compliant) |                        |            |
|   | Diameter (mm)                | 2.8 (0.1")                         |                        |            |
|   | Length (m)                   | 0.3 (1')                           |                        |            |
| <b>Terminations</b>                     |                              |                                    |                        |            |
| 4G/5G                                   | SMA (m)                      |                                    |                        |            |
| GPS/GNSS                                | FME (f)                      |                                    | -                      |            |

\* Typical Isolation and VSWR stated as measured with 0.5m (1.5') of cable

+ Peak gain simulated with all elements fed on 600x600mm ground plane excluding cable loss

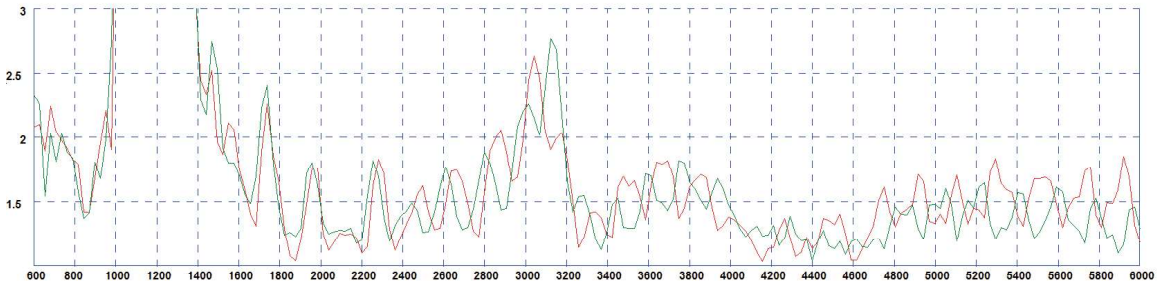
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L[G]M[X]M[X]-6-60[24-58]

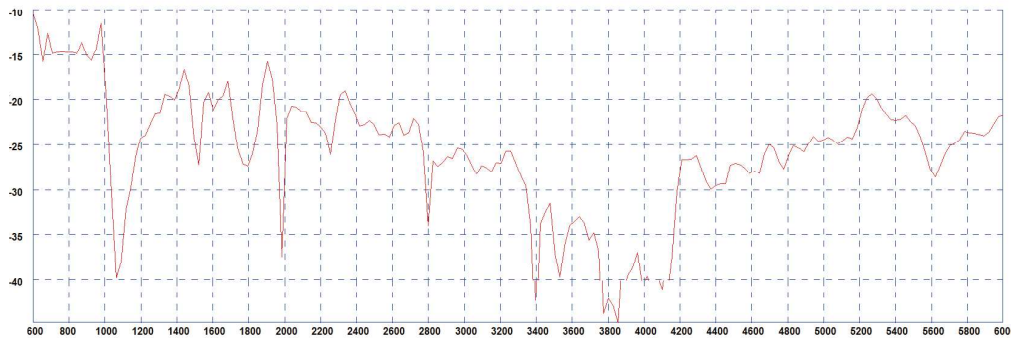
## Electrical Data

Typical VSWR - 4G/5G Elements\*



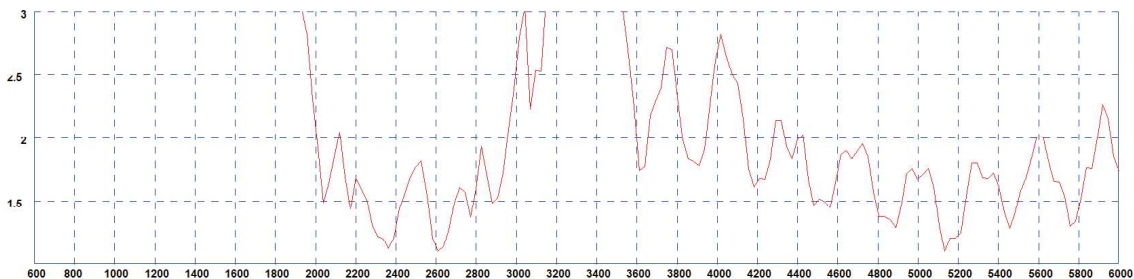
\* measured with 0.5m (1.5') of RG174 cable on a 600x600mm (2'x2') groundplane

Typical Isolation - 4G/5G Elements\*



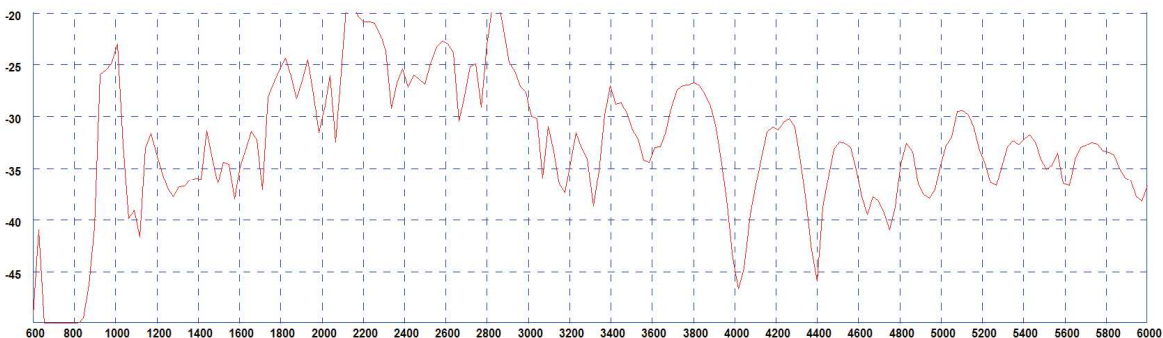
\* measured with 0.5m (1.5') of RG174 cable on a 600x600mm (2'x2') groundplane

Typical VSWR - WiFi Elements\*



\* measured with 0.5m (1.5') of RG174 cable on a 600x600mm (2'x2') groundplane

Typical Isolation - WiFi Elements\*



\* measured with 0.5m (1.5') of RG174 cable on a 600x600mm (2'x2') groundplane

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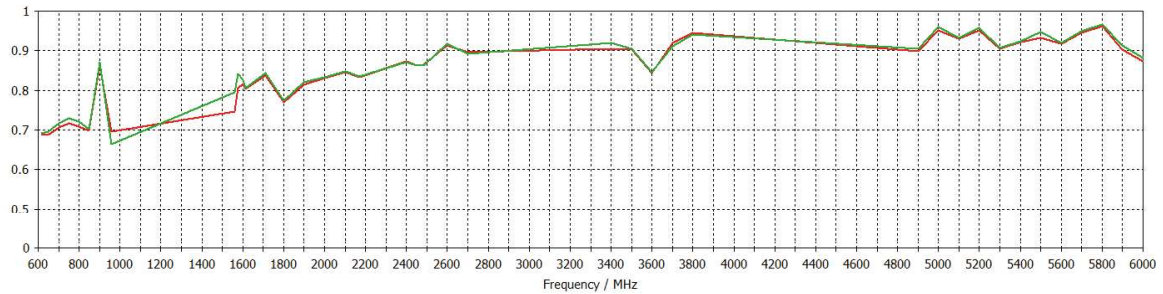


# MiMo 4G/5G Dome Combination Antenna Range



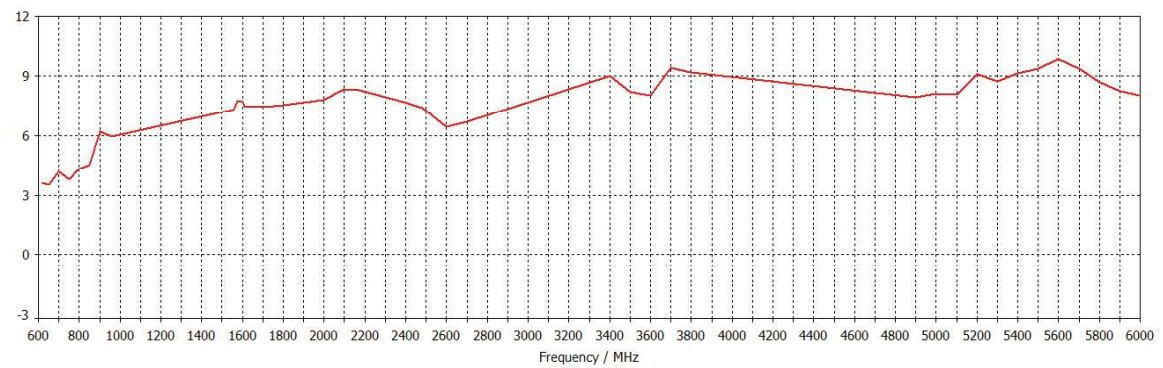
L[G]M[X]M[X]-6-60[24-58]

Typical Efficiency- 4G/5G Elements\*



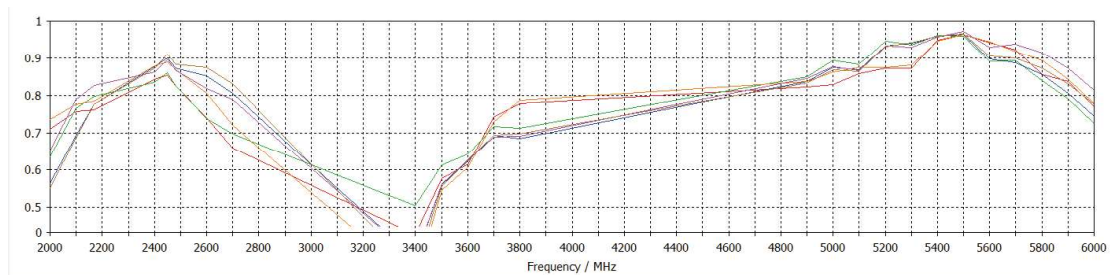
\* Efficiency modelled with CST Microwave Studio and ignores cable losses

Typical Peak Gain - 4G/5G Elements\*



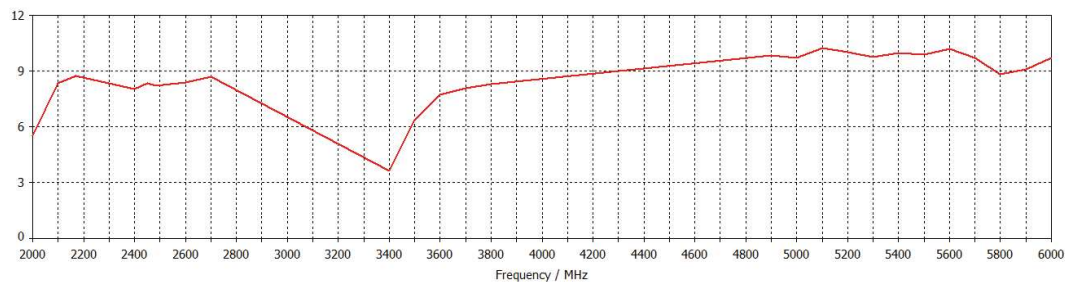
\*Swept peak gain modelled with all elements fed in CST Microwave Studio on a 600x600mm (2'x2') ground plane excluding cable loss

Typical Efficiency - WiFi Elements\*



\* Efficiency modelled with CST Microwave Studio and ignores cable losses

Typical Swept Peak Gain - WiFi Elements\*



\*Swept peak gain modelled with all elements fed in CST Microwave Studio on a 600x600mm (2'x2') ground plane excluding cable loss

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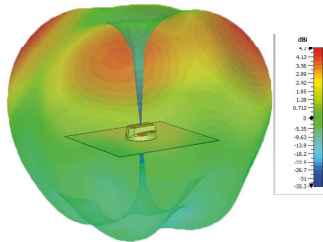
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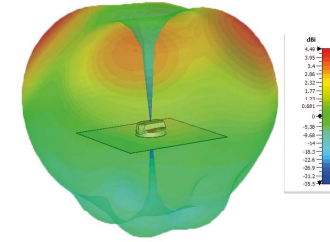
L[G]M[X]M[X]-6-60-[24-58]

## 4G/5G Pattern Data

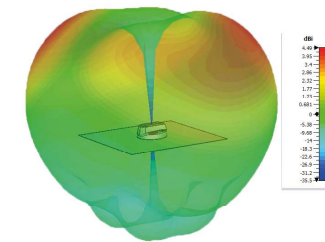
Typical 3D Pattern - 4G/5G Elements 617MHz



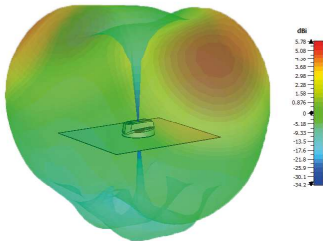
Typical 3D Pattern - 4G/5G Elements 700MHz



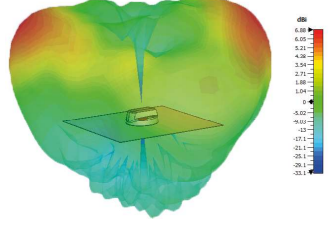
Typical 3D Pattern - 4G/5G Elements 800MHz



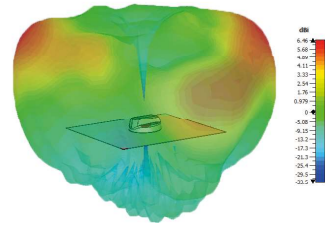
Typical 3D Pattern - 4G/5G Elements 900MHz



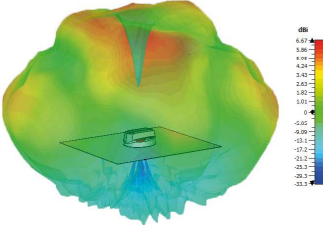
Typical 3D Pattern - 4G/5G Elements 1800MHz



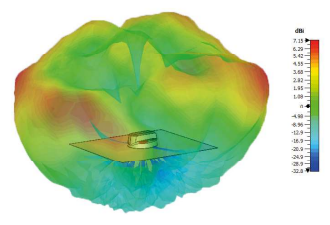
Typical 3D Pattern - 4G/5G Elements 2000MHz



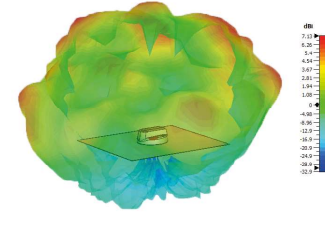
Typical 3D Pattern - 4G/5G Elements 2600MHz



Typical 3D Pattern - 4G/5G Elements 3600MHz

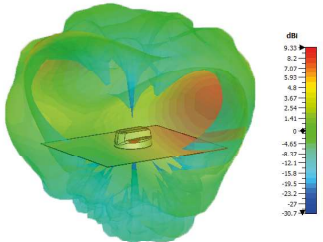


Typical 3D Pattern - 4G/5G Elements 5400MHz

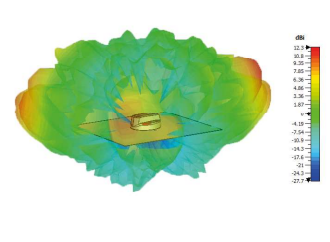


## WiFi Pattern Data

Typical 3D Pattern - WiFi Elements 2400MHz



Typical 3D Pattern - WiFi Elements 5400MHz



\*Patterns are LGMHM-6-60-24-58 modelled in CST Microwave Studio with all elements of each type fed.

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