

A 4x4 MIMO LTE and 4x4 or 6x6 MIMO WIFI multi purpose 'Disk' antenna for GNSS, 2G/3G/4G/5G and WIFI 6E 2.4/4.9-7.2 GHz

DESCRIPTION

- Can be configured as 9-in-1, 10-in-1, 11-in-1, and 12-in-1
- In-built 4x4 MIMO LTE antenna (617 - 960 MHz and 1710 - 3800 MHz)
- Up to 6x6 MIMO WIFI 6E 2.4/4.9-7.2 GHz
- GNSS antenna for GPS L1, Glonass, Beidou and Galileo.
- No diplexer needed.
- The ProNexus provides antennas for multiple technologies and multiband routers.
- The ProNexus covers 4G, GNSS inc. 5G cellular bands, WIFI 2.4/5.8 and 7.2 GHz.
- Full hemispherical coverage for the GNSS antennas.
- Built-in high gain, low noise amplifier.
- Right-Hand Circular Polarization.
- 3 - 15 V DC for GNSS supply.
- DC supply via GNSS RF-connector.
- ECE R118.02 approved cable.
- IP69 Ingress protection.
- IK10 rated enclosure.



SPECIFICATIONS

| Electrical              |                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------|
| Model                   | ProNexus                                                                                                               |
| Frequency               | 4G/5G 4x4 MIMO: 617 - 960 MHz, 1710 - 3800 MHz<br>WIFI 4x4 or 6x6 MIMO: 2400 - 2500 MHz, 4900 - 7200 MHz               |
| Antenna Type            | Mobile Disk Style Antenna                                                                                              |
| Max. Input Power        | 25 W                                                                                                                   |
| Polarisation            | Vertical                                                                                                               |
| Impedance               | 50 Ω                                                                                                                   |
| Gain (peak)             | 4G/5G 3dBi (617 - 960 MHz)<br>4G/5G 7dBi (1710 - 3800 MHz)<br>WiFi 7 dBi (2.4/5.8/7.2 GHz)                             |
| Isolation               | >10 dB for 617 - 960 MHz<br>>20 dB for 1710 - 3800 MHz<br>>15 dB for WiFi                                              |
| Correlation Coefficient | < 0.2 for 617 - 960 MHz<br>< 0.02 for 1710 - 3800 MHz<br>< 0.02 for WiFi                                               |
| VSWR                    | < 2.5:1 for 617 - 960 MHz<br>< 2.0:1 for 1710 - 3800 MHz<br>< 2.0:1 for 2400 - 2500 MHz<br>< 2.0:1 for 4900 - 7200 MHz |
| EMC                     | Full protection (EN 301 489-1)                                                                                         |
| Mechanical              |                                                                                                                        |
| Compliance              | ECE R118.02 approved cables                                                                                            |
| Connection(s)           | SMA(m) (all antennas)                                                                                                  |
| Materials               | ASA, Zamak 5                                                                                                           |
| Installation Torque     | 4 ±0.5 Nm                                                                                                              |
| Colour                  | Black (RAL 9005) / Traffic White (RAL 9010)                                                                            |
| Dimensions              | 208 mm x 166 mm x 69 mm/ 8.19 in. x 6.5 in. x 2.7 in. (Approx)                                                         |
| Max. Roof Thickness     | 3 mm / 0.12 in.                                                                                                        |
| Weight                  | 1.04kg / 2.3 lb                                                                                                        |
| Mounting                | 18.5 mm / 0.8 in. dia. hole                                                                                            |

| GNSS Antenna                       |                                                       |
|------------------------------------|-------------------------------------------------------|
| Cross Polar Discrimination (GNSS)  | > 10 dB (typ.)                                        |
| Frequency (GNSS)                   | 1559 - 1609 MHz (GPS L1, Glonass, Beidou and Galileo) |
| Polarisation (GNSS)                | RH Circular                                           |
| Impedance (GNSS)                   | 50 Ω                                                  |
| GNSS LNA                           |                                                       |
| Gain (GNSS LNA)                    | 25 dB ±3 dB                                           |
| Noise Figure (GNSS LNA)            | < 3.5 dB : 1559 - 1610 MHz<br>Typ. 2.0 dB @ 1575 MHz  |
| Attenuation Out Of Band (GNSS LNA) | > 25 dB, 0 - 1525 MHz<br>> 25 dB, 1640 - 3000 MHz     |
| P1dB (GNSS LNA)                    | > 6 dBm                                               |
| VSWR (output) (GNSS LNA)           | < 2.0:1                                               |
| Supply Voltage (GNSS LNA)          | 3-15 VDC                                              |
| Current Consumption (GNSS LNA)     | 20 mA                                                 |
| Environmental                      |                                                       |
| Operating temperature range        | -50°C to +75°C                                        |
| Ingress Protection                 | IP69K                                                 |
| Impact Protection                  | IK10                                                  |

ORDERING DESIGNATIONS

Use the guide below to assign the name of the ProNexus you would like to order.

| Model Name     | Cover color              | No. of GNSS                      | No. of LTE antennas | No. of WIFI antennas                                                                                                                               | Cable length                                                                  | Connectors on GNSS                | Connectors on LTE                 | Connectors WIFI                                                     |
|----------------|--------------------------|----------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-----------------------------------|-----------------------------------|---------------------------------------------------------------------|
| ProNexus       | -W (White)<br>-B (Black) | -G1 (1 x GNSS)<br>-G2 (2 x GNSS) | -L4                 | -W1 (1x WIFI antenna)<br>-W2 (2x WIFI antenna)<br>-W3 (3x WIFI antenna)<br>-W4 (4x WIFI antenna)<br>-W5 (5x WIFI antenna)<br>-W6 (6x WIFI antenna) | Blank (approx. 0.3 m / 1 ft cable length)<br>-P5 (5 m / 16.4 ft cable length) | -S (SMA-M)<br>-FAKRA (on request) | /S (SMA-M)<br>/FAKRA (on request) | /S (SMA-M)<br>/RP-S (Reverse Polarity SMA-M)<br>/FAKRA (on request) |
| Naming Example |                          |                                  |                     |                                                                                                                                                    |                                                                               |                                   |                                   |                                                                     |
| ProNexus       | -W                       | -G2                              | -L4                 | -W6                                                                                                                                                | -P5                                                                           | -S                                | /S                                | /RP-S                                                               |

ProNexus-W-G2-L4-W6-P5-S/S/RP-S

GAIN TABLE

| TYPE  | FREQUENCY (MHz) | PEAK GAIN (dBi) | AVERAGE GAIN H-PLANE (dBi) | AVERAGE GAIN H-PLANE (dBq) |
|-------|-----------------|-----------------|----------------------------|----------------------------|
| 4G/5G | 650             | 2.0             |                            |                            |
|       | 900             | 3.0             | -1.7                       | -1.0                       |
|       | 1800            | 4.0             | -3.6                       | -2.0                       |
|       | 2500            | 6.0             | -4.1                       | -2.0                       |
|       | 3600            | 6.0             | -3.2<br>-2.5               | -1.0<br>0.0                |
| WIFI  | 2400            | 7.0             | -1.0                       | -2.0                       |
|       | 5500            | 7.0             | -3.0                       | -3.0                       |
|       | 7200            | 9.0             | -2.4                       | -2.0                       |

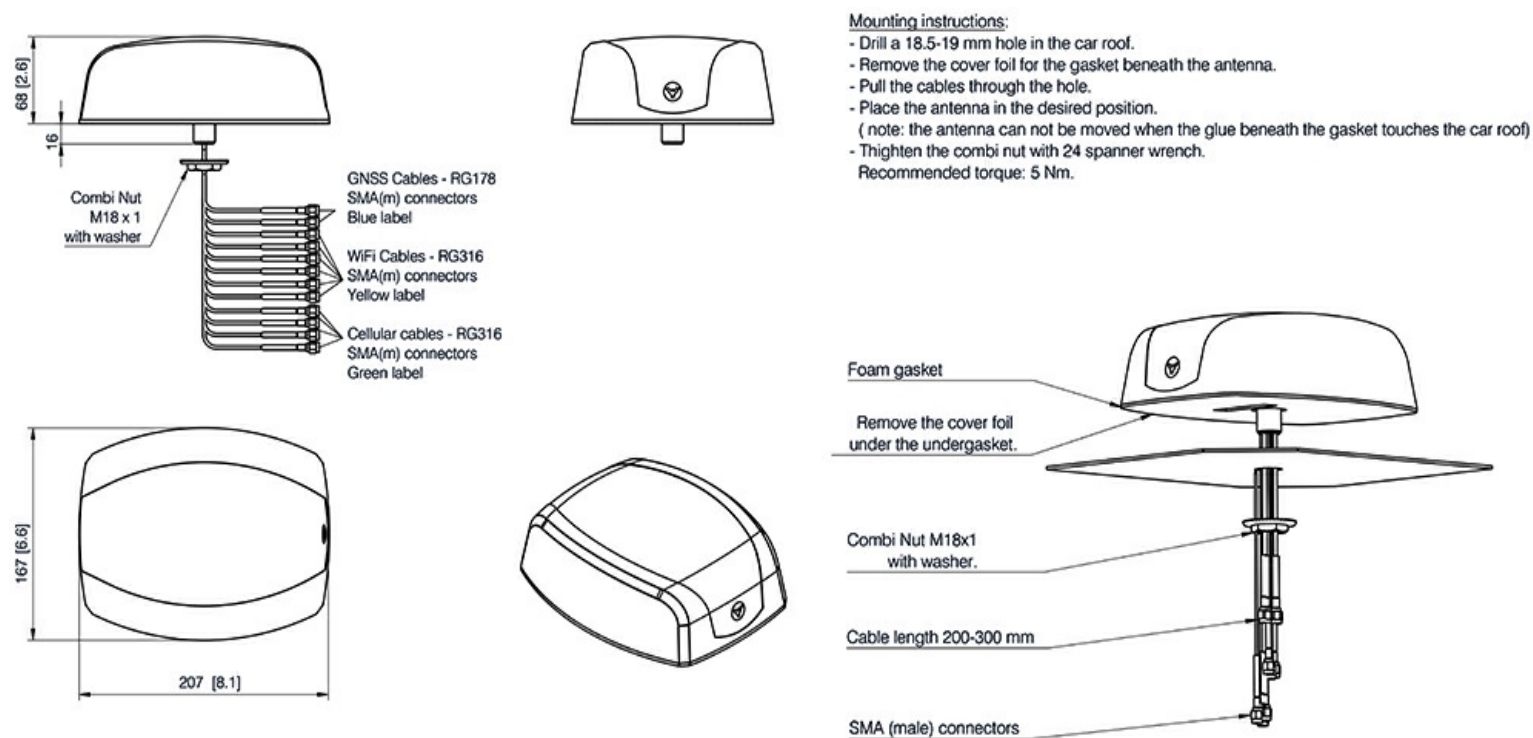
FAKRA CONNECTORS



Amphenol RF FAKRA connectors are available for this product in standard key code configurations. Please contact us with configuration details for availability.

FAKRA Connectors - RF Connectors | Amphenol RF

## MECHANICAL OUTLINE



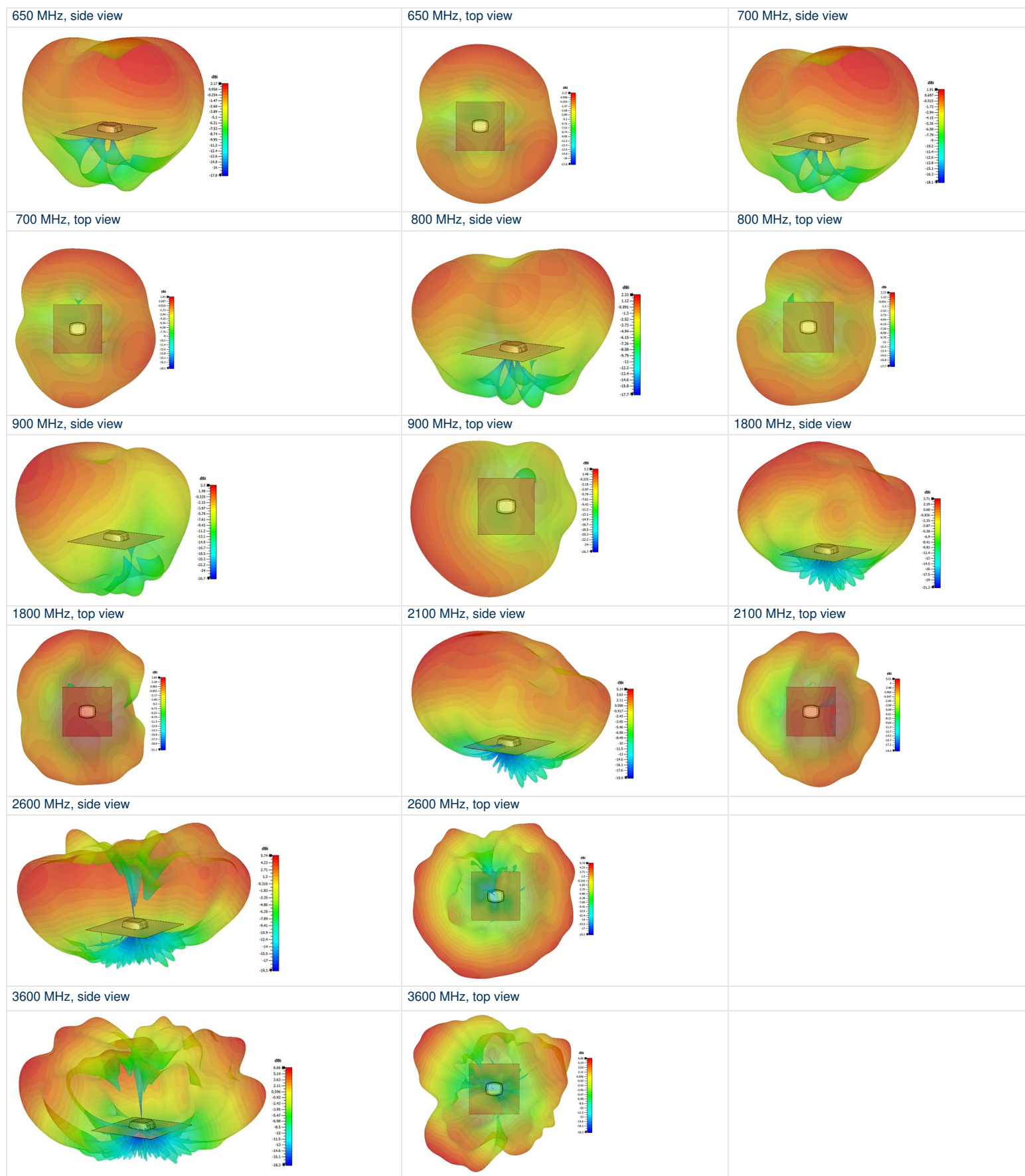
## EU AND UK DECLARATION OF CONFORMITY

Hereby Amphenol Procom declare that the product type ProNexus is in compliance with EU Directive 2014/53/EU and the UK Radio Equipment Regulations 2017 (S.I. 2017 No. 1206).

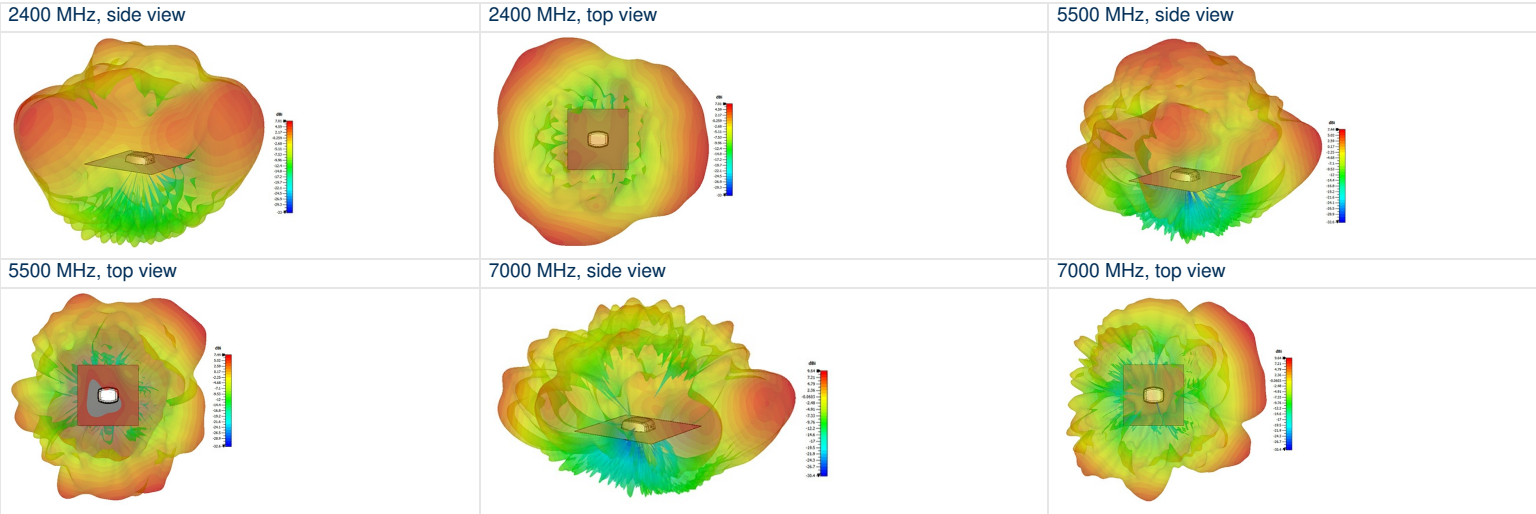
The full text of the Declaration of Conformity is available at:

<http://amphenolprocom.com/images/shop/catalog/pdf-for-catalogues/Declaration-of-Conformity-ProNexus.pdf>

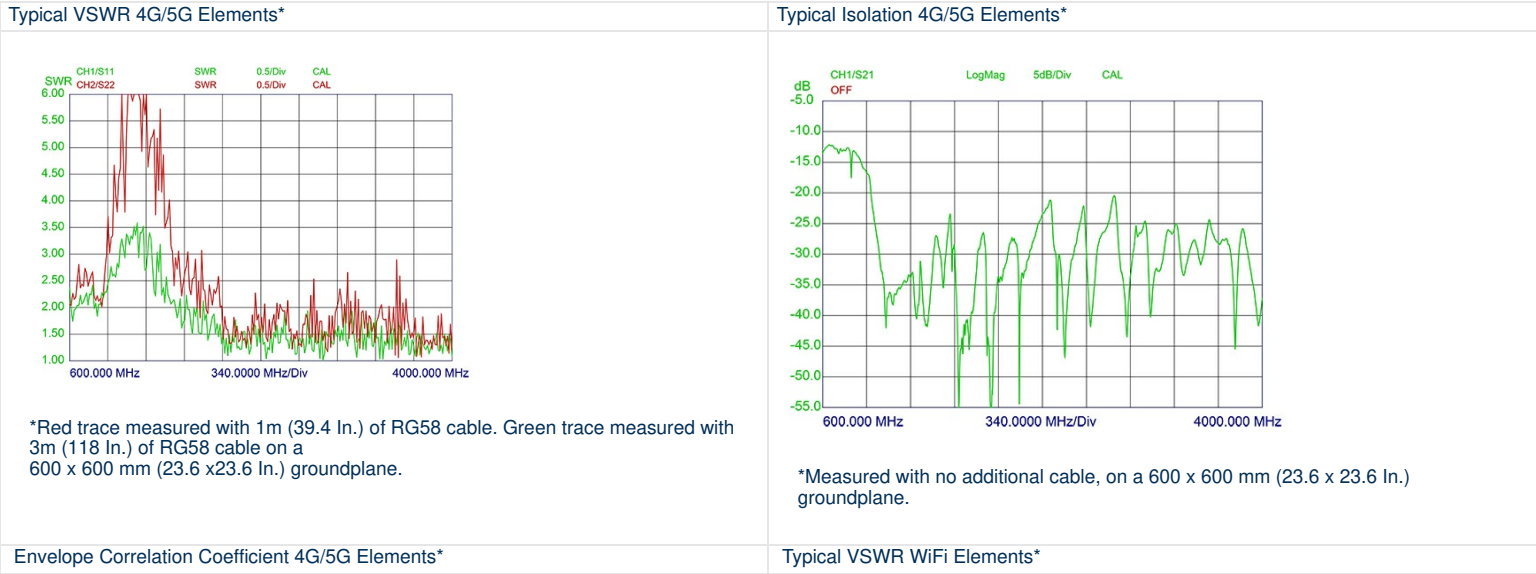
## RADIATION PATTERNS (CELLULAR ANTENNAS)

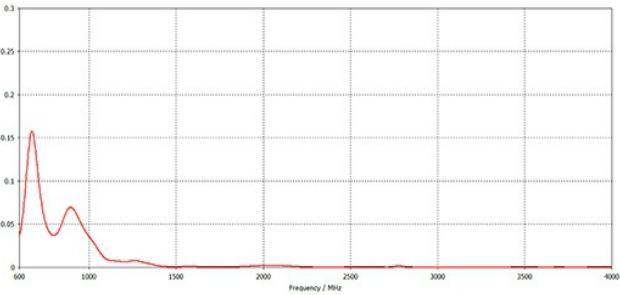


RADIATION PATTERNS (WIFI ANTENNAS)

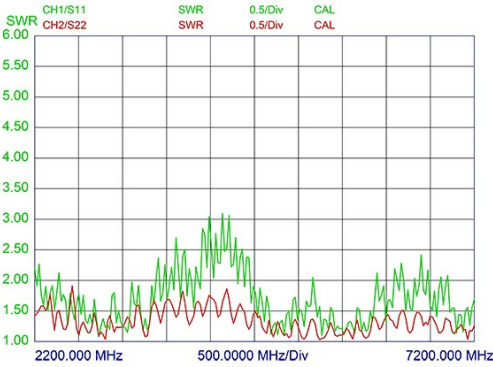


PERFORMANCE CURVES



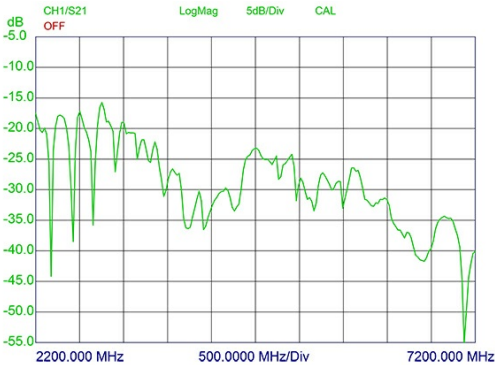


\*Simulated in free space with no additional cable.



\*Green trace measured with 1m (39.4 In.) of RG58 cable. Red trace measured with 3m (118 In.) of RG58 cable on a 600 x 600 mm (23.6 x23.6 In.) groundplane.

Typical Isolation WiFi Elements\*



\*Measured with no additional cable, on a 600 x 600 mm (23.6 x 23.6 In.) groundplane.

