

## A 2x2 MiMo LTE and WIFI multi purpose antenna for 2G/3G/4G/5G, CBRS and WIFI 6E 2.4/4.9-7.2 GHz with optional GNSS

### DESCRIPTION

- > The ProConnect Plus provides antennas for multiple technologies in fixed or mobile end-point device applications, using either Cellular or WiFi connectivity
- > Ideal for Industrial robotics and telemetry, smart metering, autonomous vehicles, smart cities and automated parking, backup and remote terminal data connections
- > In-built 2x2 MiMo antenna for use with LTE/4G (617 - 960 MHz and 1710 - 3800 MHz) or WiFi 6E 2.4/4.9-7.2 GHz
- > Optional single or dual GNSS antenna for GPS L1, Glonass, Beidou and Galileo.
- > The ProConnect Plus 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 VDC for GNSS supply.
- > DC supply via GNSS RF-connector.
- > ECE R118.02 approved cable.
- > IP69 Ingress protection.
- > IK10 rated enclosure



### SPECIFICATIONS

Electrical				
Model	ProConnect Plus			
Frequency	617 - 960 MHz	1.7 - 2.7 GHz	3.4 - 3.8 GHz	4.9 - 7.2 GHz
Antenna Type	Mobile Disk Style Antenna			
Max. Input Power	25 W			
Polarisation	Vertical			
Impedance	50 Ω			
Isolation	> 6 dB	> 15 dB	> 25 dB	> 30 dB
VSWR	< 2.5:1	< 2.0:1	< 2.0:1	< 2.0:1
EMC	Full protection (EN 301 489-1)			
Mechanical				
Compliance	ECE R118.02 approved cables			
Connection(s)	RG316 / RG179, SMA(m) (all antennas)			
Materials	ASA, Zamak 5			
Installation Torque	4 +/- 0.5 Nm			
Colour	Black (RAL 9005) / Traffic White (RAL 9016)			
Dimensions	ø 120 mm / 4.72 In.			
Height	60 mm / 2.36 In.			
Weight	Approx. 550 g. / 1.2 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 ±3dB
Noise Figure (GNSS LNA)	< 3.5 dB : 1559 - 1610 MHz Typ. 2.0 dB @ 1575 MHz
Attenuation Out Of Band (GNSS LNA)	> 25 dB, 0 - 1525 MHz > 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	IP69 (IP67 for Side Mountwith pad mount)

## ORDERING

Model	Product No.	Description
ProConnect Plus W-TH	132000305	2x2 MiMo 4G/5G/WiFi, Through Hole, White Cover
ProConnect Plus W-TH-G1	132000306	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Through Hole, White Cover
ProConnect Plus W-TH-G2	132000319	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Through Hole, White Cover
ProConnect Plus B-TH	132000308	2x2 MiMo 4G/5G/WiFi, Through Hole, Black Cover
ProConnect Plus B-TH-G1	132000309	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Through Hole, Black Cover
ProConnect Plus B-TH-G2	132000310	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Through Hole, Black Cover
ProConnect Plus W-SM	Contact for availability	2x2 MiMo 4G/5G/WiFi, Side Mount, White Cover
ProConnect Plus W-SM-G1	Contact for availability	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Side Mount, White Cover
ProConnect Plus W-SM-G2	Contact for availability	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Side Mount, White Cover
ProConnect Plus B-SM	Contact for availability	2x2 MiMo 4G/5G/WiFi, Side Mount, Black Cover
ProConnect Plus B-SM-G1	Contact for availability	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Side Mount, Black Cover
ProConnect Plus B-SM-G2	Contact for availability	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Side Mount, Black Cover

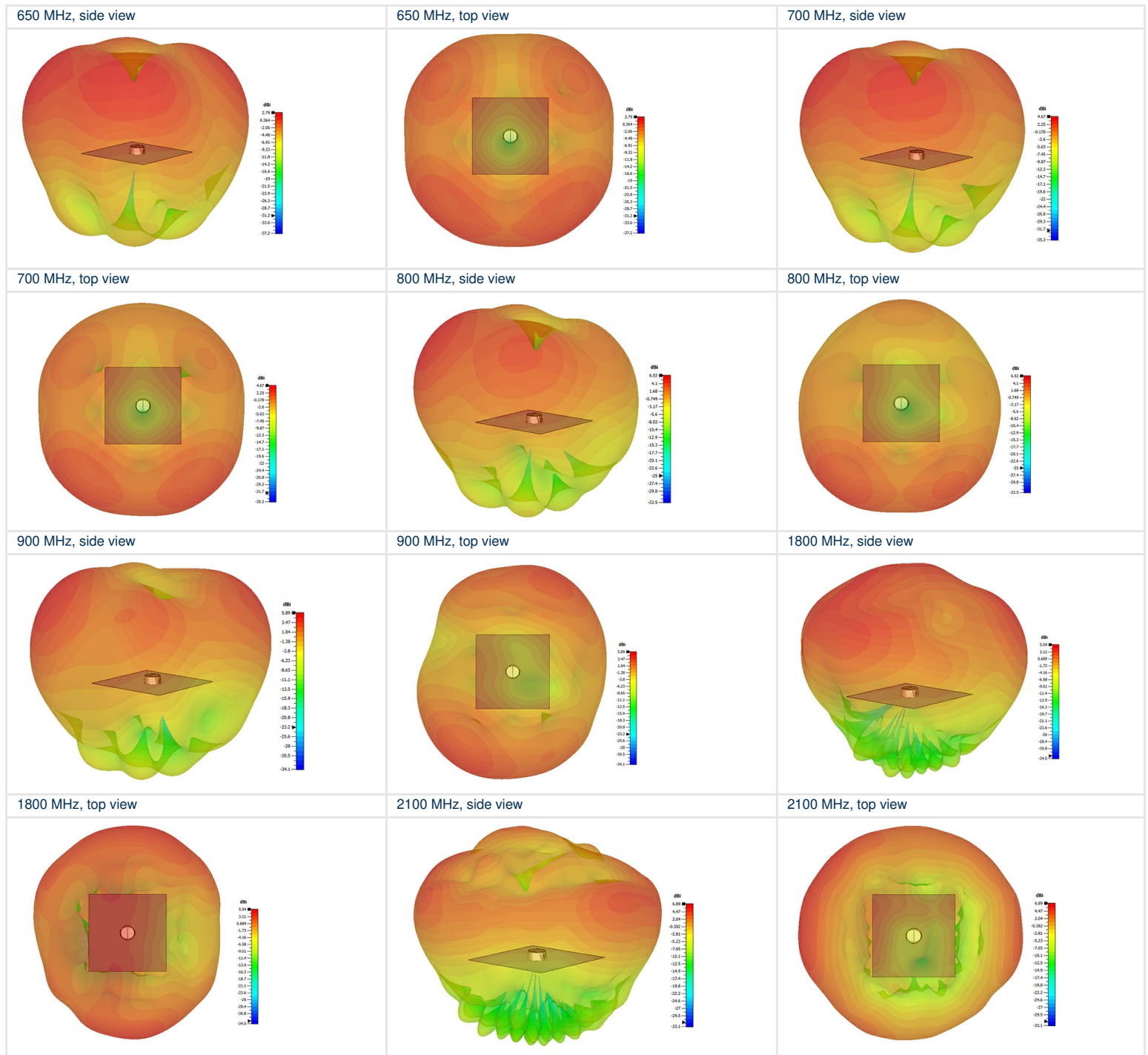
## PRODUCT MATRIX

TYPE	PRODUCT No.	DESCRIPTION	4G/5G/WiFi 617 - 960 MHz 1710 - 3800 MHz 2.4/4.9-7.2 GHz		
			GNSS 1	GNSS 2	
ProConnect Plus W-TH	132000305	2x2 MiMo 4G/5G/WiFi, Through Hole, White Cover	◆		
ProConnect Plus W-TH-G1	132000306	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Through Hole, White Cover	◆	◆	
ProConnect Plus W-TH-G2	132000319	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Through Hole, White Cover	◆	◆	◆
ProConnect Plus B-TH	132000308	2x2 MiMo 4G/5G/WiFi, Through Hole, Black Cover	◆		
ProConnect Plus B-TH-G1	132000309	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Through Hole, Black Cover	◆	◆	
ProConnect Plus B-TH-G2	132000310	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Through Hole, Black Cover	◆	◆	◆
ProConnect Plus W-SM	Check for availability	2x2 MiMo 4G/5G/WiFi, Side Mount, White Cover	◆		
ProConnect Plus W-SM-G1	Check for availability	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Through Hole, White Cover	◆	◆	
ProConnect Plus W-SM-G2	Check for availability	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Through Hole, White Cover	◆	◆	◆
ProConnect Plus B-SM	Check for availability	2x2 MiMo 4G/5G/WiFi, Side Mount, Black Cover	◆		
ProConnect Plus B-SM-G1	Check for availability	2x2 MiMo 4G/5G/WiFi, 1 x GNSS, Side Mount, Black Cover	◆	◆	
ProConnect Plus B-SM-G2	Check for availability	2x2 MiMo 4G/5G/WiFi, 2 x GNSS, Side Mount, Black Cover	◆	◆	◆

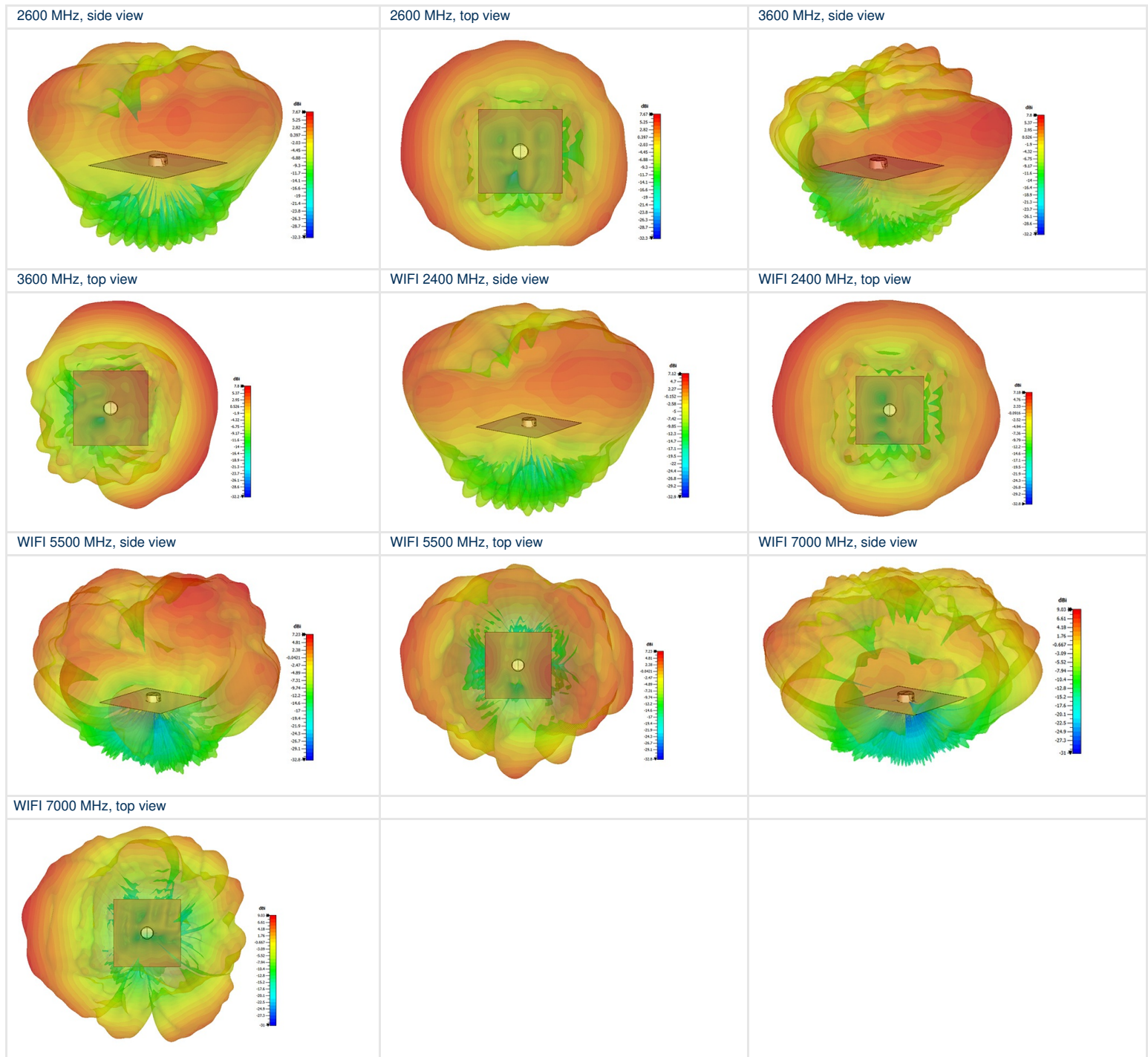
## GAIN TABLE

Element	Frequency (MHz)	Peak Gain (dBi)	Average Gain H-Plane (dBi)	Average Gain H-Plane (dBq)
4G/5G/WIFI	650	1.0	-3.5	-2.0
	750	3.9	-1.5	-0.7
	900	4.1	-2.0	-1.0
	1800	5.4	-3	-2.0
	2400	6.9	-1.5	-0.5
	2600	7.7	-2.0	-0.5
	3600	7.5	-1.0	0.0
	5500	7.1	-3.0	-1.7
	7100	8.9	-2.0	-0.5

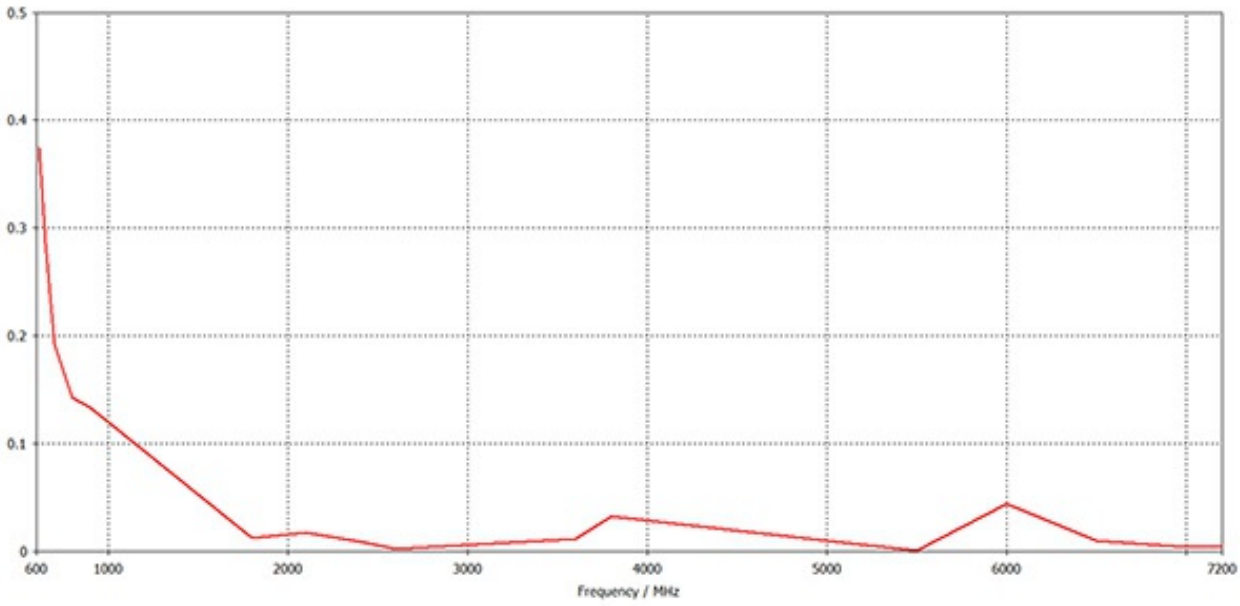
RADIATION PATTERNS (CELLULAR ANTENNAS). 650 MHZ-2100 MHZ



RADIATION PATTERNS (CELLULAR ANTENNAS) 2600 MHZ - 7000 MHZ

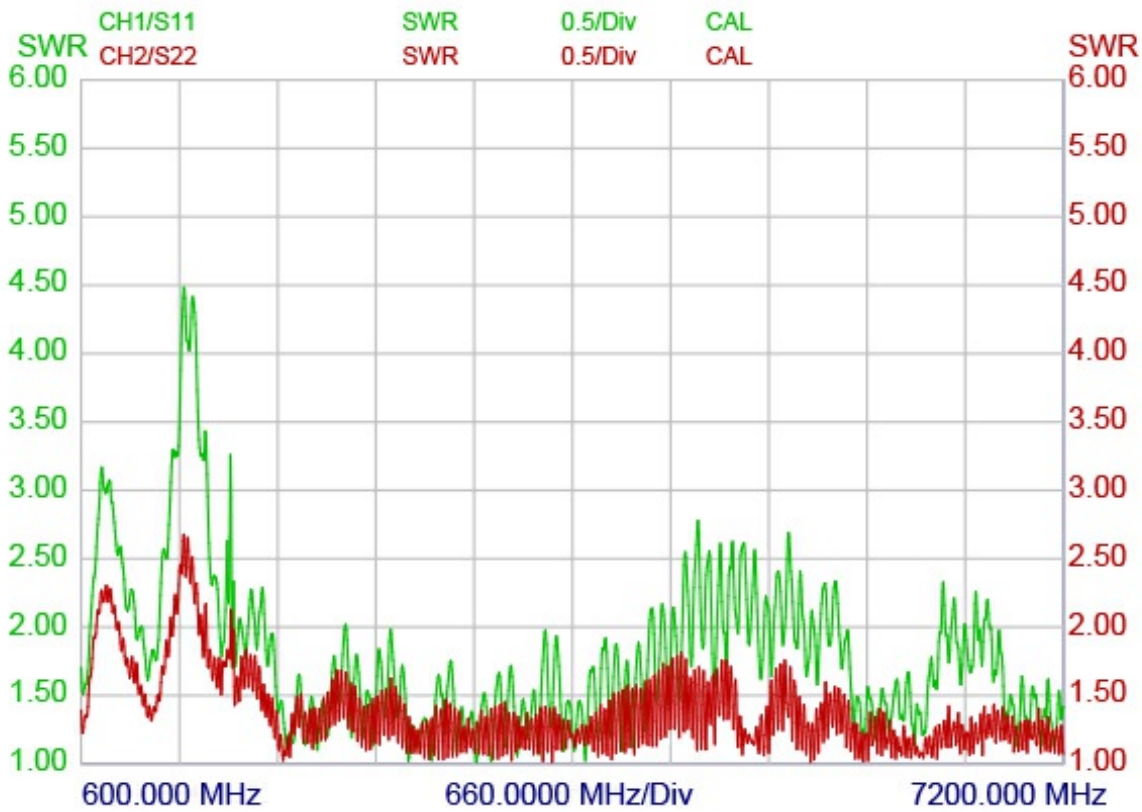


ENVELOPE CORRELATION COEFFICIENT 4G/5G/WIFI ELEMENTS\*



\*Simulated in free space with no additional cable.

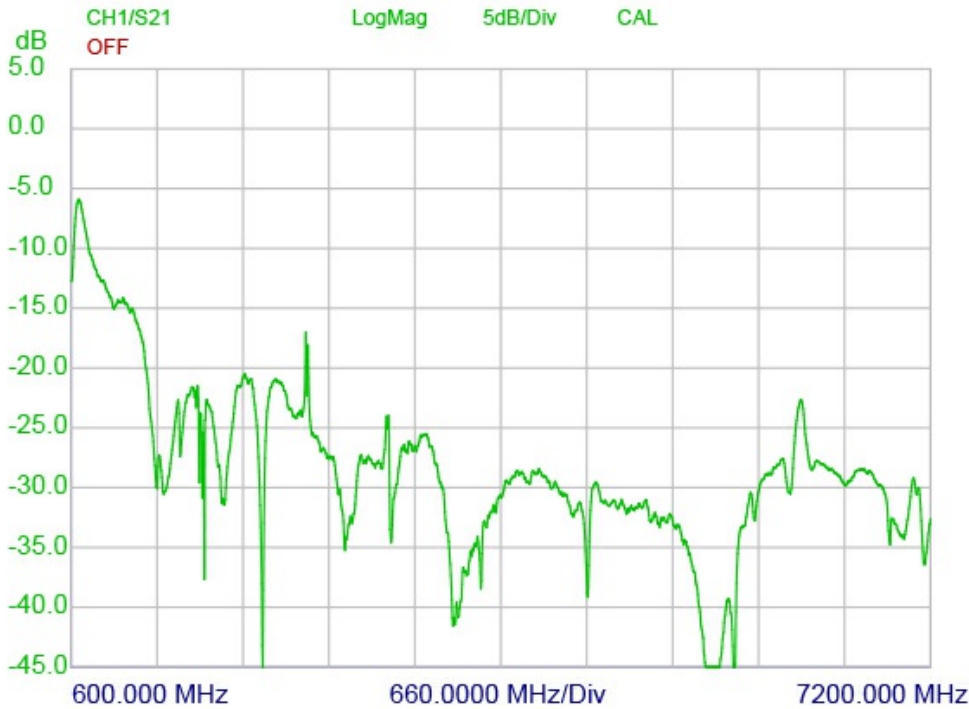
VSWR 4G/5G/WIFI ELEMENTS\*



\*Green trace measured with 1m (39.4 In.) of RG58 cable.

Red trace measured with 3m (118 In.) of RG58 cable on a 600x600mm (23.6 x 23.6 In.) groundplane.

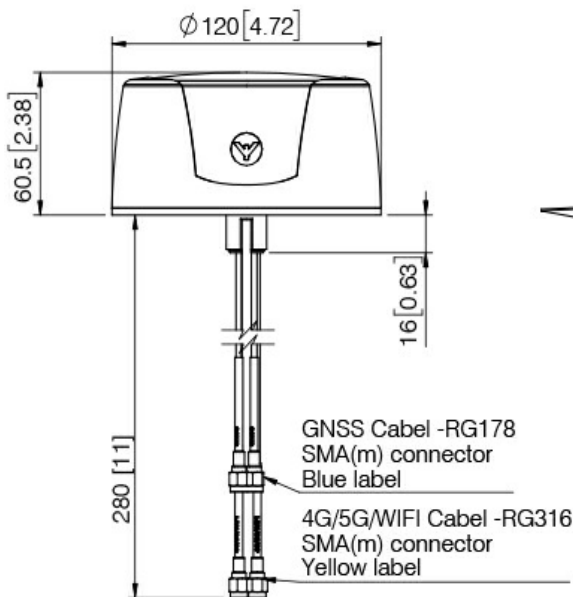
TYPICAL ISOLATION 4G/5G/WIFI ELEMENTS\*



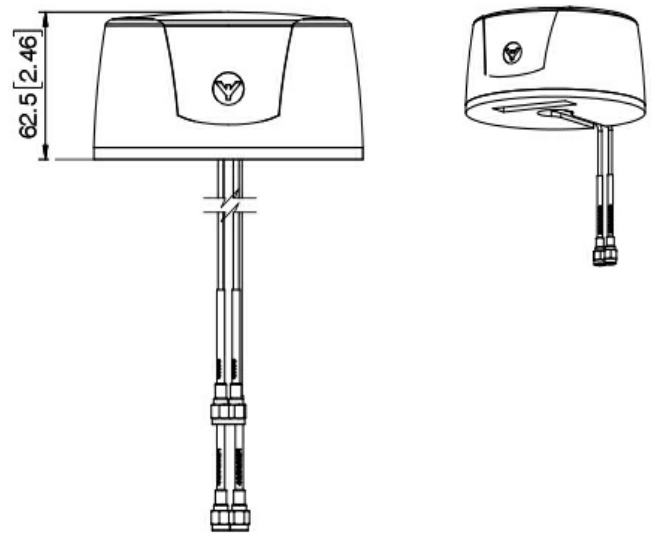
\*Measured with no additional cable, on a 600x600mm (23.6 x 23.6 In.) groundplane.

MECHANICAL OUTLINE

Stud version



Side mounted version



Mounting instructions - stud version:

- Drill a 18.5-19 mm hole in the car roof
  - Remove the cover foil for the gasket beneath the antenna.
  - Pull the cables through the hole
  - Place the antenna in the desired position.  
(note: The antenna can not be moved when the glue beneath the gasket touches the car roof.
  - Tighten the combi nut with 24 mm spanner wrench.
- Recommended torque: 5 Nm.

Mounting instructions - side mounted version:

- Remove the cover foil for the gasket beneath the antenna.
- Place the antenna in the desired position

The antenna can be mounted on a pole or on a wall with a bracket and straps (optional)

