

## ProFin

A multi purpose shark fin antenna for UHF, GNSS, GPS, 2G/3G/4G and dual WiFi 2.4 + 5.0 GHz

- In-built UHF antenna available.
- In-built 4G antenna (698 - 960 MHz and 1710 - 2700 MHz).
- GNSS antenna for GPS L1, Glonass, Beidou and Galileo.
- Dual WiFi 2.4 and 5.0 GHz.
- Supports external whip.
- No diplexer needed.

### DESCRIPTION

- The ProFin provides antennas for multiple technologies.
- The ProFin covers UHF, GNSS, GPS L1, 2G/3G/4G cellular bands, dual WiFi 2.4 and 5.0 GHz and an optional whip.
- The ProFin can support antenna whip in the range 66 - 6000 MHz.
- All ProFin configurations are prepared for external whip.
- Easily removable whip for car wash.
- Full hemispherical coverage for the GNSS and GPS.
- Built-in high gain, low noise amplifier.
- Right-Hand Circular Polarization (RHCP).
- 3 - 15 VDC for GPS supply.
- DC supply via GPS RF-connector.



Shown with optional external whip.

### ORDERING DESIGNATIONS - MOUNT MATRIX

| TYPE          | PRODUCT NO. | DESCRIPTION                       | 2G/3G/4G<br>698 - 960<br>1710 - 2700<br>MHz | WIFI<br>2300 - 2500<br>5000 - 6000<br>MHz | GNSS | GPS L1 | IN-BUILT ANTENNA |                  |                  |
|---------------|-------------|-----------------------------------|---|---|------|--------|------------------|------------------|------------------|
|               |             |                                   |   |   |      |        | 380 - 410<br>MHz | 410 - 450<br>MHz | 430 - 470<br>MHz |
| ProFin G1     | 132000230   | 4G, WIFI,GNSS                     | ◆   | ◆   | ◆    |        |                  |                  |                  |
| ProFin G2     | 132000231   | 4G, WIFI,GNSS,GPS                 | ◆   | ◆   | ◆    | ◆      |                  |                  |                  |
| ProFin G1-395 | 132000232   | 4G, WIFI,GNSS,UHF 380-410 MHz     | ◆   | ◆   | ◆    |        | ◆                |                  |                  |
| ProFin G1-430 | 132000233   | 4G, WIFI,GNSS,UHF 410-450 MHz     | ◆   | ◆   | ◆    |        |                  | ◆                |                  |
| ProFin G1-450 | 132000234   | 4G, WIFI,GNSS,UHF 430-470 MHz     | ◆   | ◆   | ◆    |        |                  |                  | ◆                |
| ProFin G2-395 | 132000236   | 4G, WIFI,GNSS,GPS,UHF 380-410 MHz | ◆   | ◆   | ◆    | ◆      | ◆                |                  |                  |
| ProFin G2-430 | 132000237   | 4G, WIFI,GNSS,GPS,UHF 410-450 MHz | ◆   | ◆   | ◆    | ◆      |                  | ◆                |                  |
| ProFin G2-450 | 132000238   | 4G, WIFI,GNSS,GPS,UHF 430-470 MHz | ◆   | ◆   | ◆    | ◆      |                  |                  | ◆                |

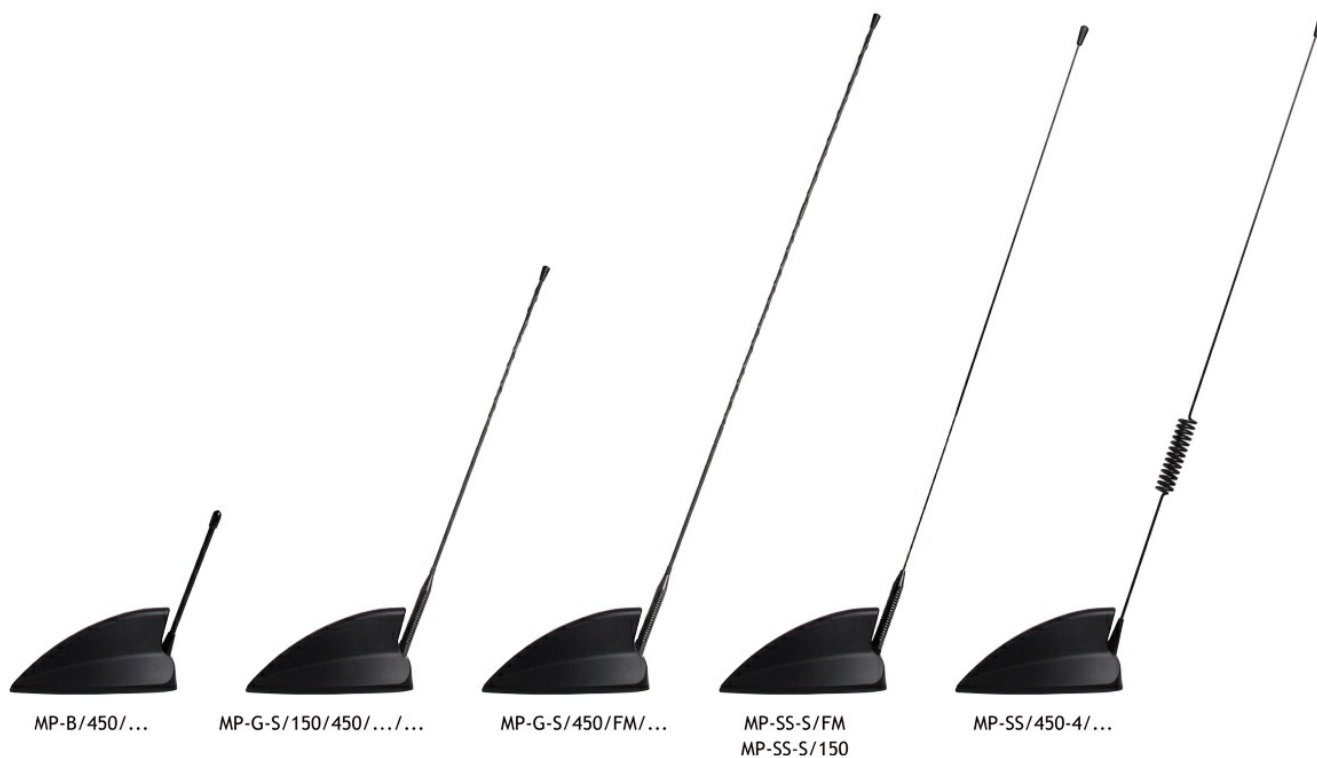
We recommend not to use the in-built UHF antenna in combination with an external whip, since its performance will be degraded.

ORDERING DESIGNATIONS - WHIP MATRIX

| TYPE                                       | DESCRIPTION  | FM<br>88-108 MHz | VHF<br>144..175 MHz | UHF<br>380..470 MHz | UHF (Gain)<br>380..470 MHz |
|--|--|------------------|---------------------|---------------------|----------------------------|
| <a href="#">MP-SS-S/FM whip</a>            | Stainless steel whip with shock spring.                          | ◆                |                     |                     |                            |
| <a href="#">MP-SS-S/150 whip</a>           | Stainless steel whip with shock spring. (adjustable by customer) | ◆                | ◆                   |                     |                            |
| <a href="#">MP-B/450/...whip</a>           | Flexible whip<br>(0 dB acc. to TIA-329.2-C)                      |                  |                     | ◆                   |                            |
| <a href="#">MP-SS/450-4/...whip</a>        | Stainless steel collinear whip<br>(4 dB acc. to TIA-329.2-C)     |                  |                     |                     | ◆                          |
| <a href="#">MP-G-S/150/450/.../...whip</a> | Flexible whip with shock spring (factory adjusted)               |                  | ◆                   | ◆                   |                            |
| <a href="#">MP-G-S/450/FM/... whip</a>     | Flexible whip with shock spring (factory adjusted)               | ◆                |                     | ◆                   |                            |

For more information we refer to the corresponding whip datasheets. The in-built antennas can be used without an external ground-plane, but with degraded electrical performance.

WHIP MODELS



### SPECIFICATIONS FOR IN-BUILT ANTENNAS

| ELECTRICAL                  |  |                                |
|-----------------------------|--|--------------------------------|
| MODEL                       | ProFin   |                                |
| ANTENNA TYPE                | Mobile Shark Fin Style Antenna                         |                                |
| FREQUENCY                   | UHF  | 380-470 MHz (in three models)  |
|                             | WIFI   | 2300-2500 MHz<br>5000-6000 MHz |
|                             | 4G   | 698-960 MHz<br>1710-2700 MHz   |
| IMPEDANCE                   | Nom. 50 Ω  |                                |
| RADIATION                   | Omni-directional                                       |                                |
| POLARIZATION                | Vertical   |                                |
| SWR                         | 380 - 470 MHz  | ≤ 2                            |
|                             | 698 - 960 MHz  | ≤ 2.5                          |
|                             | 1710 - 2700 MHz  | ≤ 2                            |
|                             | 2300 - 2500 MHz  | ≤ 2                            |
|                             | 5000 - 6000 MHz  | ≤ 2                            |
| GAIN                        | Varies over frequency (see gain table and plots)       |                                |
| MAX. POWER                  | 25 W for built-in UHF and 4G antenna<br>100 W for whip |                                |
| MECHANICAL                  |  |                                |
| MATERIALS                   | Reinforced PA, Zamak 5                                 |                                |
| ANTENNA COLOUR              | Black (RAL 9005)                                       |                                |
| TEMP. RANGE                 | -50° C → +75° C  |                                |
| CONNECTOR                   | GNSS   | SMA-male                       |
|                             | GPS  | SMA-male                       |
|                             | 4G   | SMA-male                       |
|                             | WIFI   | SMA-male                       |
|                             | UHF  | SMA-male                       |
|                             | WHIP   | SMA-male                       |
| RECOMMENDED INSTALL. TORQUE | 4 ± 0.5 Nm   |                                |
| DIMENSIONS (H x L)          | Approx. 76 x 142.5 mm / 2.99 x 5.61 in.                |                                |
| WEIGHT                      | Approx. 260 g / 0.57 lb.                               |                                |
| ROOF THICKNESS              | Max. 3 mm / 0.12 in.                                   |                                |
| MOUNTING                    | ø18.5 mm / 0.8 in. dia. hole                           |                                |
|                             | Max roof curvature: 2.0 mm/0.08 in. (on 142 mm)        |                                |

### GAIN TABLE FOR IN-BUILT ANTENNAS

| TYPE             | FREQUENCY (MHz) | AVERAGE PEAK GAIN (dBi) | AVERAGE GAIN H-PLANE (dBi) | AVERAGE GAIN H-PLANE (dBq) * |
|------------------|-----------------|-------------------------|----------------------------|------------------------------|
| UHF element      | 400             | -3.0                    | -7.0                       | -6.5                         |
|                  | 700             | 4.0                     | -1.5                       | -1.0                         |
| 2G/3G/4G element | 900             | 4.0                     | -1.0                       | -0.5                         |
|                  | 1800            | 5.0                     | -1.0                       | 0.0                          |
|                  | 2500            | 9.0                     | 1.0                        | 1.5                          |
|                  | 2400            | 5.0                     | -2.0                       | -2.0                         |
| WIFI element     | 5500            | 6.0                     | -2.0                       | -3.0                         |

\* According to TIA-329.2-C

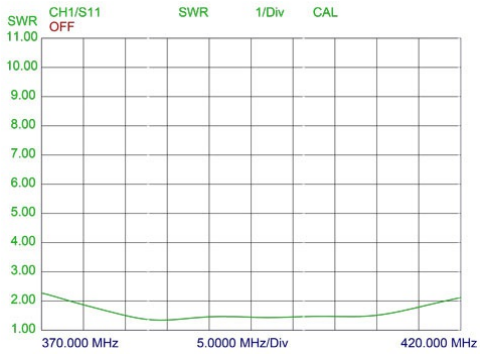
### SPECIFICATIONS FOR GNSS ANTENNA

| ELECTRICAL General specifications |   |
|-----------------------------------|---|
| ANTENNA TYPE                      | Active patch antenna  |
| FREQUENCY                         | 1559 - 1609 MHz (GPS L1, Glonass, Beidou and Galileo)         |
| IMPEDANCE                         | Nom. 50 Ω   |
| POLARISATION                      | Circular right-hand   |
| COVERAGE                          | Hemispherical   |
| GAIN                              | 28 dBic in axial direction (typ.)                             |
| CROSS-POLARISATION ATT.           | > 10 dB (typ.)  |
| SELECTIVITY                       | > 25 dB down @ 0 - 1540 MHz<br>> 27 dB down @ 1625 - 3000 MHz |
| BUILT-IN AMPLIFIER                |   |
| GAIN                              | 26 dB (typ.)  |
| NOISE FIGURE                      | 1.6 dB (typ.)   |
| P 1dB                             | Approx. +7 dBm  |
| SWR (output)                      | ≤ 2.0   |
| SUPPLY VOLTAGE                    | 3 - 15 VDC  |
| CURRENT CONSUMPTION               | Approx. 20 mA   |

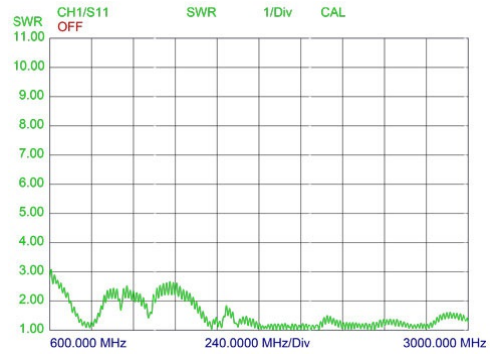
### SPECIFICATIONS FOR GPS ANTENNA

| ELECTRICAL General specifications |                              |
|-----------------------------------|------------------------------|
| ANTENNA TYPE                      | Active patch antenna         |
| FREQUENCY                         | 1575 MHz                     |
| IMPEDANCE                         | Nom. 50 Ω                    |
| LNA GAIN                          | 22 dB ± 2 dB                 |
| NOISE FIGURE                      | Max. 1.5 dB (typical 1.1 dB) |
| SUPPLY VOLTAGE                    | 3 - 15 VDC                   |
| CURRENT CONSUMPTION               | < 12 mA                      |
| MECHANICAL (Whip)                 |                              |
| MATERIALS                         | See Whip data sheets         |
| COLOUR                            | Black (RAL 9005)             |
| MOUNTING                          | On the ProFin mount          |

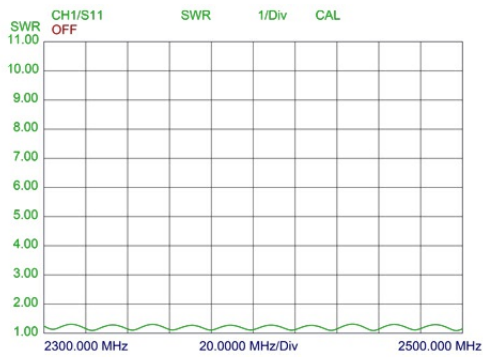
TYPICAL SWR CURVE INBUILT-UHF \*



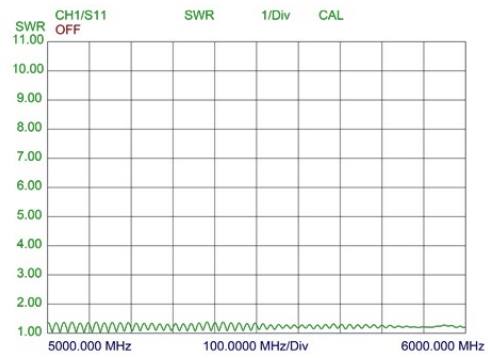
TYPICAL SWR CURVE 2G / 3G / 4G \*



TYPICAL SWR CURVE WIFI 2.4 GHZ \*

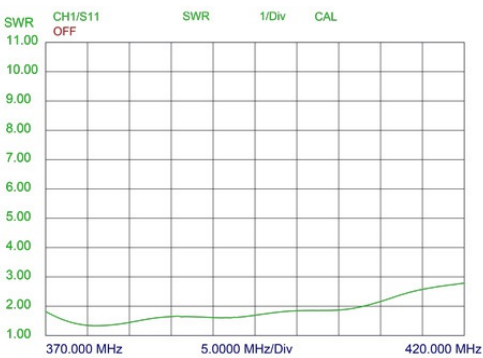


TYPICAL SWR CURVE WIFI 5.6 GHZ \*



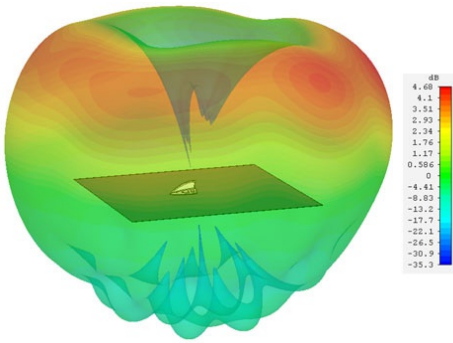
\* SWR measured with no whip and 5 m (197 in.) of RG58 cable on a 1000 x 1000 mm (39 in. x 39 in.) ground plane.

TYPICAL SWR CURVE INBUILT-UHF WITH WHIP \*\*

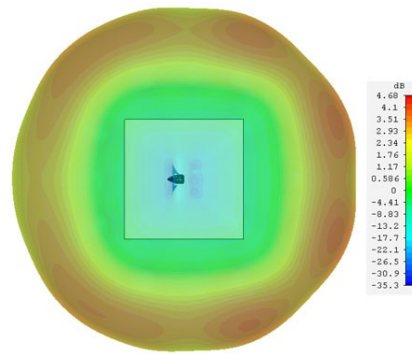


\*\* SWR measured with collinear whip and 5 m (197 in.) of RG58 cable on a 1000 x 1000 mm (39 in. x 39 in.) ground plane.

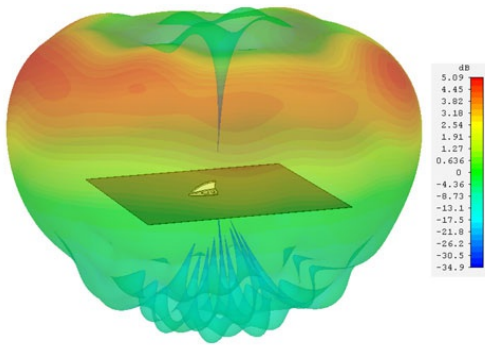
3D GAIN PLOT SIDE VIEW  
4G-element 700 MHz



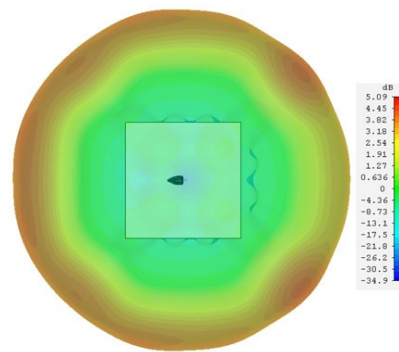
3D GAIN PLOT TOP VIEW  
4G-element 700 MHz



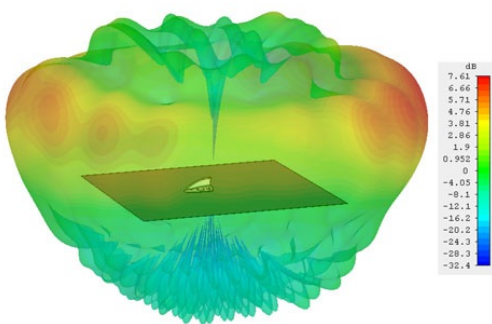
4G-element 900 MHz



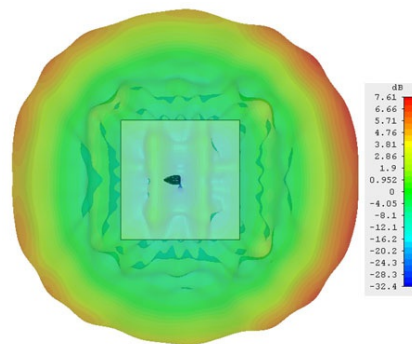
4G-element 900 MHz



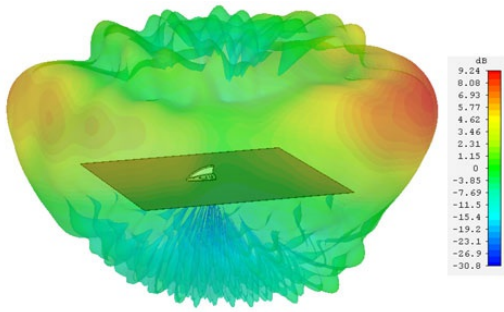
4G-element 1800 MHz



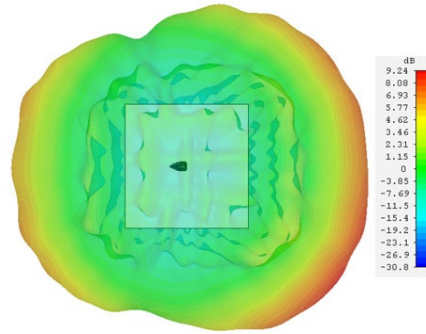
4G-element 1800 MHz



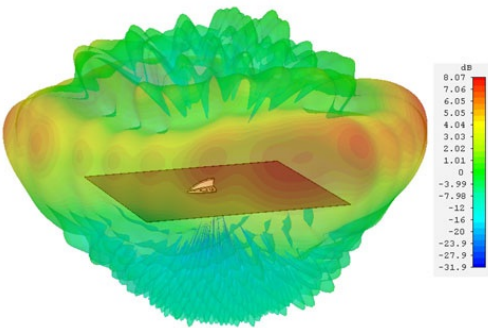
4G-element 2100 MHz



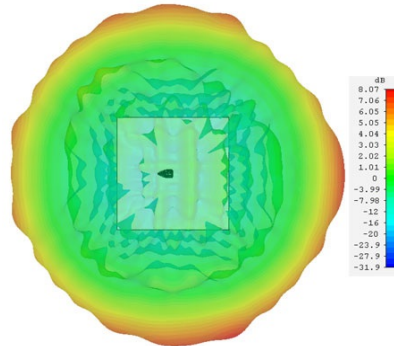
4G-element 2100 MHz



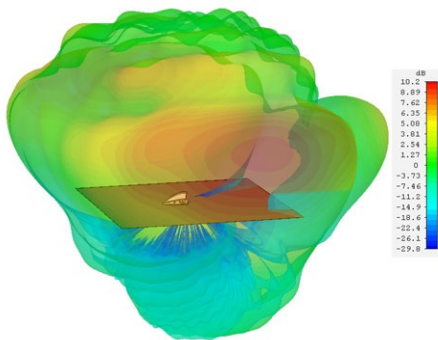
4G-element 2600 MHz



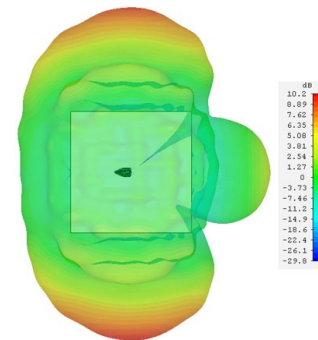
4G-element 2600 MHz



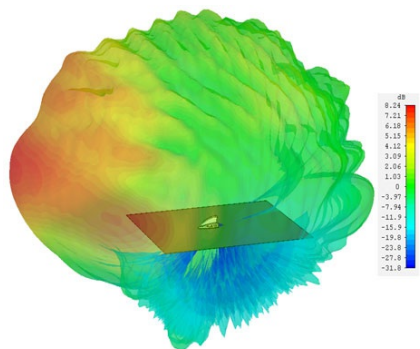
WIFI-element 2400 MHz



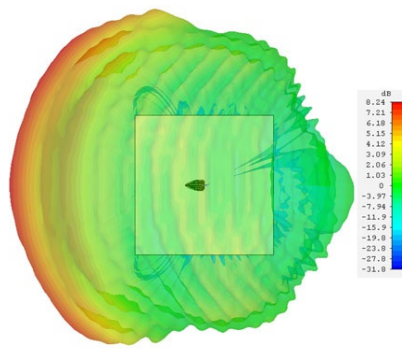
WIFI-element 2400 MHz



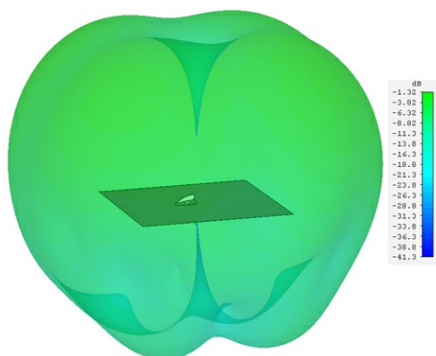
WIFI-element 5600 MHz



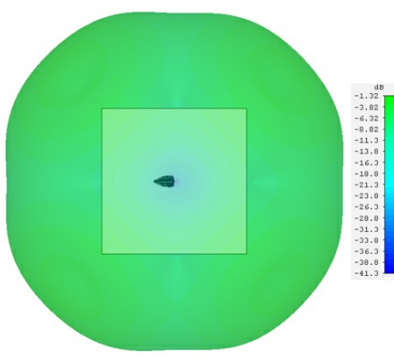
WIFI-element 5600 MHz



UHF-element 380 MHz



UHF-element 380 MHz



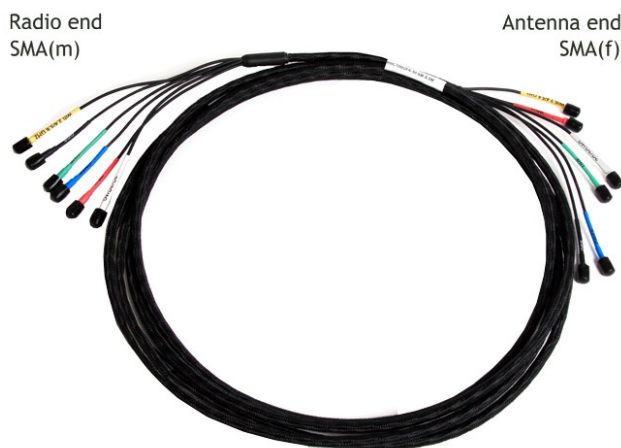
ACCESSORIES - CABLES

| TYPE                    | PRODUCT NO. |
|-------------------------|-------------|
| 5m ProFin Cable Kit     | 132000243   |
| All cables below: RG 58 |             |
| 1m SMA(f)-N(m)          | 130002409   |
| 2m SMA(f)-N(m)          | 130002410   |
| 3m SMA(f)-N(m)          | 130002411   |
| 4m SMA(f)-N(m)          | 130002412   |
| 5m SMA(f)-N(m)          | 130002413   |
| 1m SMA(f)-BNC(m)        | 130002414   |
| 2m SMA(f)-BNC(m)        | 130002415   |
| 3m SMA(f)-BNC(m)        | 130002416   |
| 4m SMA(f)-BNC(m)        | 130002417   |
| 5m SMA(f)-BNC(m)        | 130002418   |
| 1m SMA(f)-TNC(m)        | 130002419   |
| 2m SMA(f)-TNC(m)        | 130002420   |
| 3m SMA(f)-TNC(m)        | 130002421   |
| 4m SMA(f)-TNC(m)        | 130002422   |
| 5m SMA(f)-TNC(m)        | 130002423   |
| 1m SMA(f)-SMA(m)        | 130002424   |
| 2m SMA(f)-SMA(m)        | 130002425   |
| 3m SMA(f)-SMA(m)        | 130002426   |
| 4m SMA(f)-SMA(m)        | 130002427   |
| 5m SMA(f)-SMA(m)        | 130002428   |

ACCESSORIES - ADAPTORS

| TYPE          | PRODUCT NO. |
|---------------|-------------|
| SMA(f)-N(m)   | 130002429   |
| SMA(f)-BNC(m) | 130002430   |
| SMA(f)-TNC(m) | 130002431   |
| SMA(f)-SMB(m) | 130002432   |

CABLES

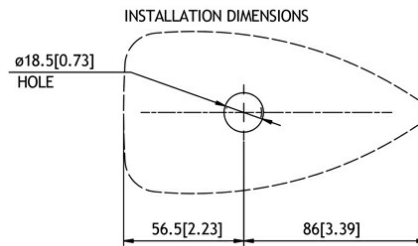
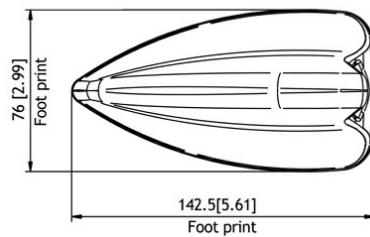
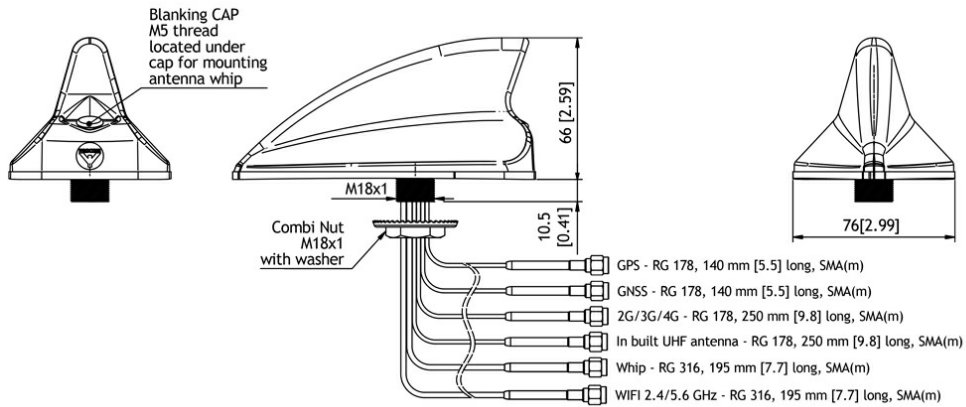


5m ProFin Cable Kit.  
6 pcs. RG 174 cables in one cable bundle (ø9 mm).  
Provides ease of installation.

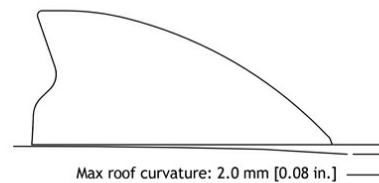
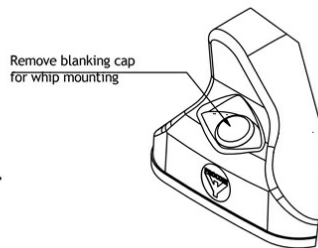
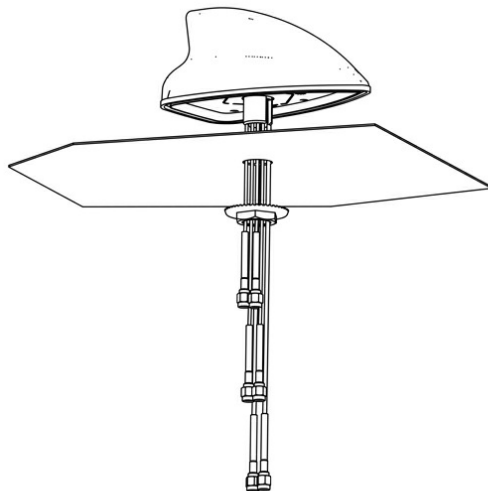




MOUNTING DETAILS



- Mounting Instructions:
- Drill a 18.5-19 mm hole in the car roof
  - Max roof curvature: 2.0 mm [0.08 in.] (on 142 mm [5.59 in.] )
  - Pull the cables through the hole.
  - Tighten the combi nut with 24 mm spanner wrench
- Recommended torque: 5 Nm



All dimensions are given in mm[in.]

**Important:** The whip should always be dismantled during car wash.

EU DECLARATION OF CONFORMITY

Hereby PROCOM A/S declare that the product type ProFin is in compliance with EU Directive 2014/53/EU.  
The full text of the EU Declaration of Conformity is available at:

[http://procom.dk/images/pdf-for-catalogues/Declaration\\_of\\_Conformity\\_ProFin\\_070218.pdf](http://procom.dk/images/pdf-for-catalogues/Declaration_of_Conformity_ProFin_070218.pdf)