A 2x2 MiMo LTE and WIFI multi purpose shark fin antenna for GNSS, GPS, 2G/3G/4G/5G and dual WIFI 2.4/5.8 GHz

DESCRIPTION

- In-built 2x2 MiMo LTE antenna (617-960 MHz and 1710-3800 MHz)
- 2x2 MiMo Dual WiFi 2.4 and 5.8 GHz.
- GNSS antenna for GPS L1, Glonass, Beidou and Galileo.
- Supports external whip.
- No diplexer needed.
- The ProFin*Plus* provides antennas for multiple technologies.
- The ProFin*Plus* covers , 4G, GNSS, GPS L1, inc. 5G cellular bands, dual WIFI 2.4 and 5.8 GHz and an optional whip.
- The ProFin*Plus* can support antenna whip in the range 66 - 6000 MHz.
- All ProFin*Plus* configurations are prepared for external whip.
- Easily removable whip for car wash.
- Full hemispherical coverage for the GNSS and GPS (optional).
- Built-in high gain, low noise amplifier.
- Right-Hand Circular Polarization.
- 3 - 15 VDC for GNSS supply.
- DC supply via GNSS RF-connector.
- Model with optional GPS.
- ECE R118.02 approved cable.

SHOWN WITH OPTIONAL EXTERNAL WHIP.



SPECIFICATIONS

Electrical	
Model	ProFin Plus
Frequency	4G/5G 2x2 MiMo : 617 - 960 MHz, 1710 - 3800 MHz WIFI 2x2 MiMo : 2400 - 2500 MHz, 5000 - 6000 MHz
Antenna Type	Mobile Shark Fin Style Antenna
Max. Input Power	25 W for 4G/5G and WIFI 100 W for whip
Polarisation	Vertical
Impedance	50 Ω
Gain (peak)	4G/5G 4dBi (617 - 960 MHz) 4G/5G 7dBi (1710 - 3800 MHz) WiFi 6 dBi (2.4 GHz & 5.8 GHz)
Isolation	(With 5m RG58) >10 dB for 617 - 960MHz >20 dB for 1710 - 3800MHz >25 dB for WiFi
Correlation Coefficient	< 0.4 for 617 - 700 MHz < 0.25 for 700 - 960 MHz < 0.1 for 1710 - 3800 MHz
VSWR	< 2.2:1 for 617 -960 MHz < 2.0:1 for 1710 - 3800 MHz < 2.0:1 for 2400 - 2500 MHz < 2.0:1 for 5000 - 6000 MHz



Mechanical	
Compliance	ECE R118.02 approved cable
Antenna Colour	Black (RAL 9005)
Connection(s)	SMA(m) (all antennas)
Materials	Reinforced PA, Zamak 5
Installation Torque	4 ± 0.5 Nm
Dimensions	Approx. 83 x 173 mm / 3.3 x 6.8 in.
Max. Roof Thickness	3 mm / 0.12 in.
Whip Connection	M5
Height	Approx. 66 mm/ 2.6 in.
Weight	Approx. 0.35 kg / 0.77 lb.
Mounting	18.5 mm / 0.8 in. dia. hole Max roof curvature: 2.0 mm / 0.08 in. (on 173 mm)

Environmental	
Operating Temperature Range	-50 °C to +75 °C
Water Resistance	IP67

GPS Antenna	
P1dB (GPS Amplifier)	Approx. 7 dBm
Noise Figure (GPS Amplifier)	< 1.5 dB (typ. 1.1 dB)
Gain (GPS Amplifier)	22 dB ± 2 dB
Selectivity (GPS Amplifier)	> 25 dB down @ 0 - 1535 MHz > 25 dB down @ 1635 - 3000 MHz
VSWR (GPS Amplifier)	< 2.0:1
Frequency (GPS)	1575 MHz
Power Supply (GPS)	3 - 15 V DC
Current Consumption (GPS Amplifier)	< 12 mA
Polarisation (GPS)	RH Circular
Impedance (GPS)	50 Ω

GNSS Antenna	
P1dB (GNSS Amplifier)	Approx. 7 dBm
Noise Figure (GNSS Amplifier)	1.6 dB (typ.)
Cross Polar Discrimination (GNSS)	> 10 dB (typ.)
Gain (GNSS Amplifier)	28 dB (typ.) ic in axial direction (typ.)
Selectivity (GNSS Amplifier)	> 25 dB down @ 0 - 1540 MHz > 27 dB down @ 1625 - 3000 MHz
VSWR (GNSS Amplifier)	< 2.0:1
Frequency (GNSS)	1559 - 1609 MHz (GPS L1, Glonass, Beidou and Galileo)
Power Supply (GNSS)	3 - 15 V DC
Current Consumption (GNSS Amplifier)	Approx. 20 mA
Polarisation (GNSS)	RH Circular
Impedance (GNSS)	50 Ω

ORDERING

Model	Product No.	Description
ProFin Plus G1	130002476	2 x 4G/5G, 2 x WiFi, GNSS
ProFin Plus G2	132000269	2 x 4G/5G, 2 x WiFi, GNSS, GPS (L1)
Accessories - Whips		
MP-SS-S/FM whip	132000244	Stainless steel whip with shock spring.
MP-SS-S/DAB whip	132000260	Stainless steel whip with shock spring.
MP-SS-S/150 whip	132000245	Stainless steel whip with shock spring. (Adjustable by customer)
MP-B/450/405 MHz whip	132000247	Flexible whip (0dB acc.to TIA-329.2-C
MP-B/450/445 MHz whip	132000248	Flexible whip (0dB acc.to TIA-329.2-C
MP-SS/450-4/395 MHz whip	132000249	Stainless steel collinear whip (4 dB acc. to TIA-329.2-C)
MP-SS/450-4/425 MHz whip	132000250	Stainless steel collinear whip (4 dB acc. to TIA-329.2-C)
MP-SS/450-4/455 MHz whip	132000251	Stainless steel collinear whip (4 dB acc. to TIA-329.2-C)
MP-G-S/150/450/.../...whip	132000224	Flexible whip with shock spring (factory adjusted)
MP-G-S/450/FM/395 whip	132000256	Flexible whip with shock spring (factory adjusted)
Accesories - Cables		
5m ProFin Plus Cable Kit	132000270	"7 pcs. RG174 cables in one cable bundle. Provides ease of installation"
3m SMA(f)-BNC(m)	130002416	
4m SMA(f)-BNC(m)	130002417	
5m SMA(f)-BNC(m)	130002418	
3m SMA(f)-TNC(m)	130002421	
4m SMA(f)-TNC(m)	130002422	
5m SMA(f)-TNC(m)	130002423	
3m SMA(f)-SMA(m)	130002426	
4m SMA(f)-SMA(m)	130002427	
5m SMA(f)-SMA(m)	130002428	
Accessories - Adaptors		
SMA(f)-N(m)	130002429	
SMA(f)-BNC(m)	130002430	
SMA(f)-TNC(m)	130002431	
SMA(f)-SMB(m)	130002432	
SMA(f)-QMA(m)	130002522	

ORDERING DESIGNATIONS - MOUNT MATRIX

TYPE	PRODUCT NO.	DESCRIPTION	2G/3G/4G/5G 617 - 960 1710 - 3800 MHz	WIFI 2400 - 2500 5000 - 6000 MHz	GNSS	GPS L1
ProFin Plus G1	132000269	2 x 4G/5G, 2 x WIFI, GNSS	♦	♦	♦	
ProFin Plus G2	132000269	2 x 4G, 2 x WIFI, GNSS, GPS	♦	♦	♦	♦

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

FAKRA CONNECTORS



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

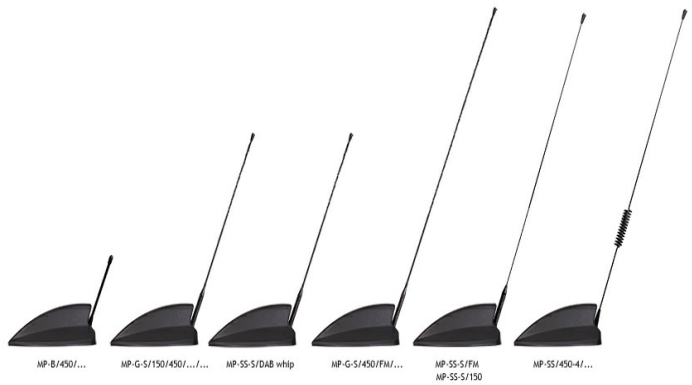
FAKRA Connectors - RF Connectors | Amphenol RF

ORDERING DESIGNATIONS - WHIP MATRIX

TYPE	DESCRIPTION	FM 88-108 MHz	VHF 144..240 MHz	UHF 380..470 MHz	UHF (Gain) 380..470 MHz
MP-SS-S/FM whip	Stainless steel whip with shock spring.	♦			
MP-SS-S/150 whip	Stainless steel whip with shock spring.	♦	♦		
MP-SS-S/DAB whip	Stainless steel whip with shock spring.	♦	♦		
MP-B/450/...whip	Flexible whip (0 dB acc. to TIA-329.2-C)			♦	
MP-SS/450-4/...whip	Stainless steel collinear whip (4 dB acc. to TIA-329.2-C)				♦
MP-G-S/150/450/.../...whip	Flexible whip with shock spring (factory adjusted)		♦	♦	
MP-G-S/450/FM/... whip	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



ACCESSORIES - CABLES



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

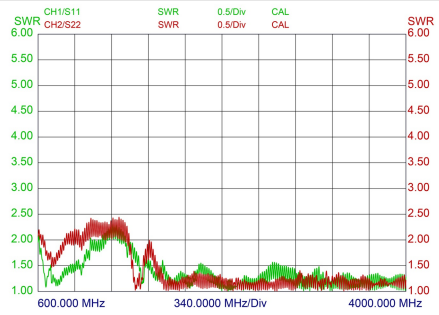
GAIN TABLE FOR IN-BUILT ANTENNAS

TYPE	FREQUENCY (MHz)	AVERAGE PEAK GAIN (dBi)	AVERAGE GAIN H-PLANE (dBi)	AVERAGE GAIN H-PLANE (dBq) *
4G/5G	650 900 1800 2500 3600	4.0 5.0 6.0 7.0 7.0	-1.0 -2.0 -2.0 -1.0 -1.0	-1.0 -1.0 -1.0 0.0 0.0
WIFI	2400 5500	6.0 7.0	-3.0 -2.0	-2.0 -3.0

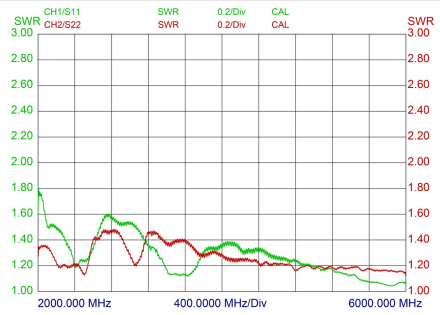
* According to TIA-329.2-C

TYPICAL VSWR CURVES

Typical VSWR Curves 2 x 4G/5G *

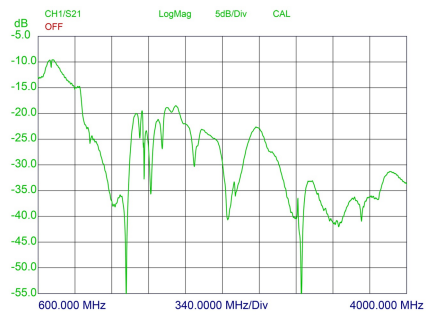


Typical VSWR Curves 2 x WIFI 2.4/5.8 GHz *

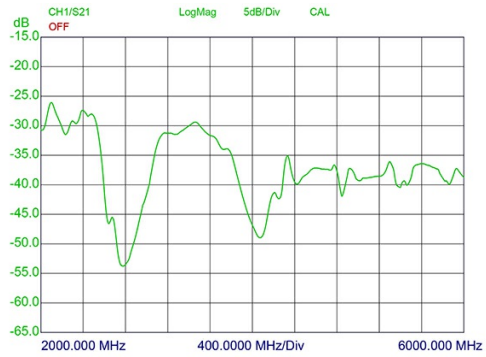


Typical Isolation Curves

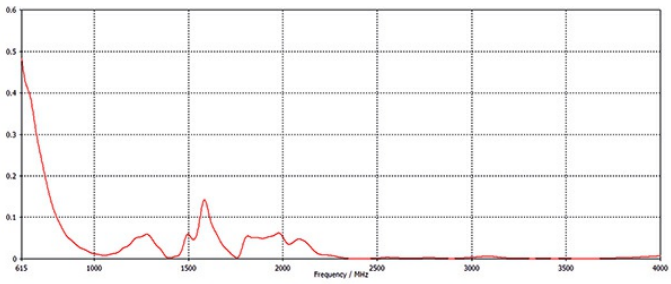
Isolation 2 x 4G/5G *



Isolation 2 x WIFI 2.4/5.8 GHz *



Correlation Coefficient 4G/5G**



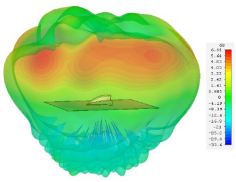
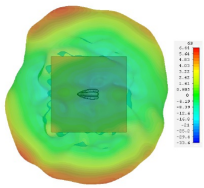
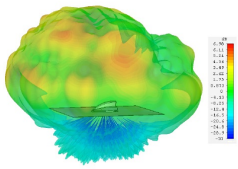
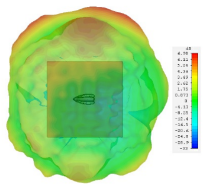
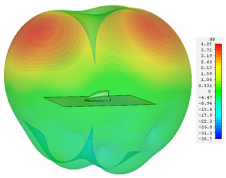
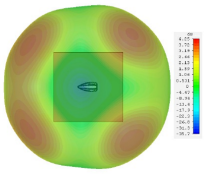
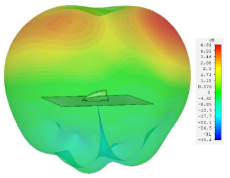
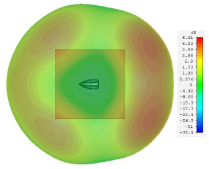
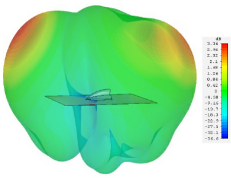
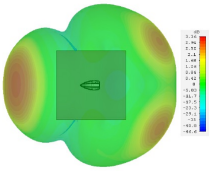
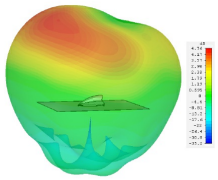
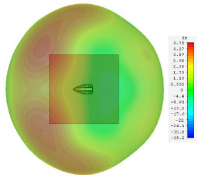
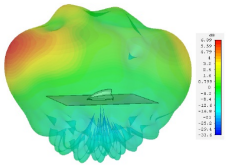
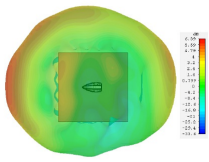
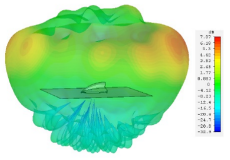
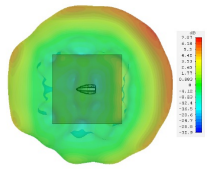
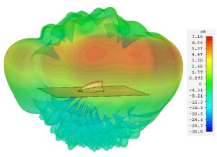
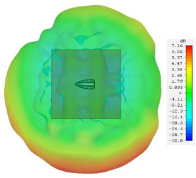
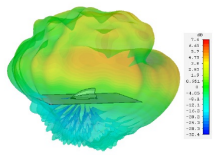
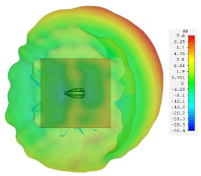
* Measured with no whip and 5 m (197 in.) of RG 58 cable on a 500 x 500 mm (19.6 in. x 19.6 in.) ground plane.
** Simulated in free space with no whip, no ground plane and no additional cable.

EU AND UK DECLARATION OF CONFORMITY

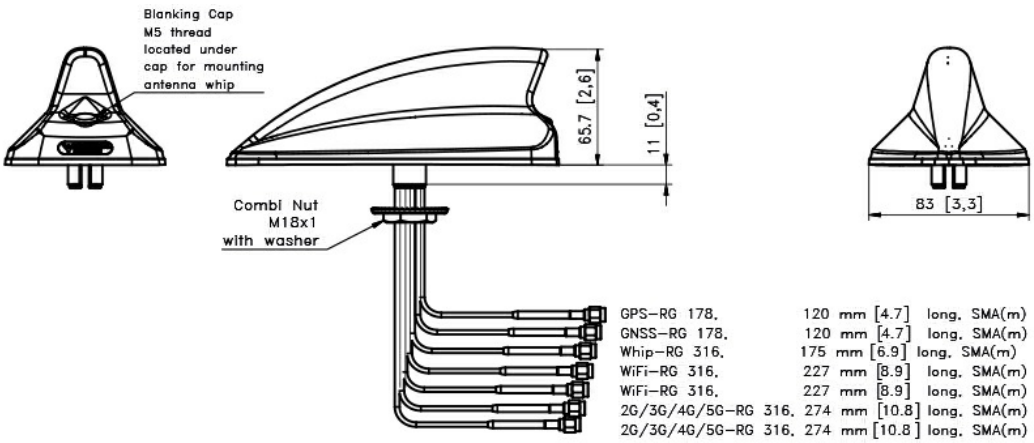
Hereby Amphenol Procom declare that the product type ProFin Plus is in compliance with EU Directive 2014/53/EU and the UK Radio Equipment Regulations 2017 (S.I. 2017 No. 1206).
The full text of the Declaration of Conformity is available at:

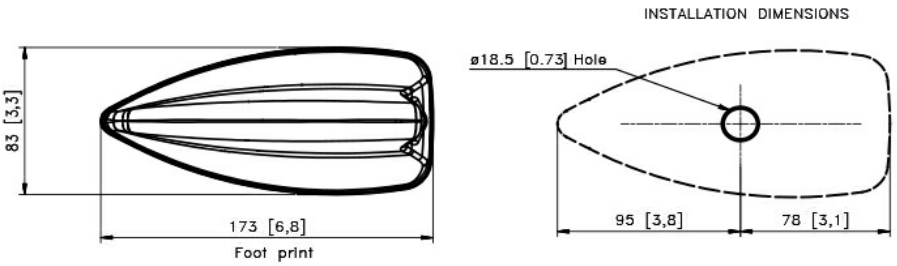
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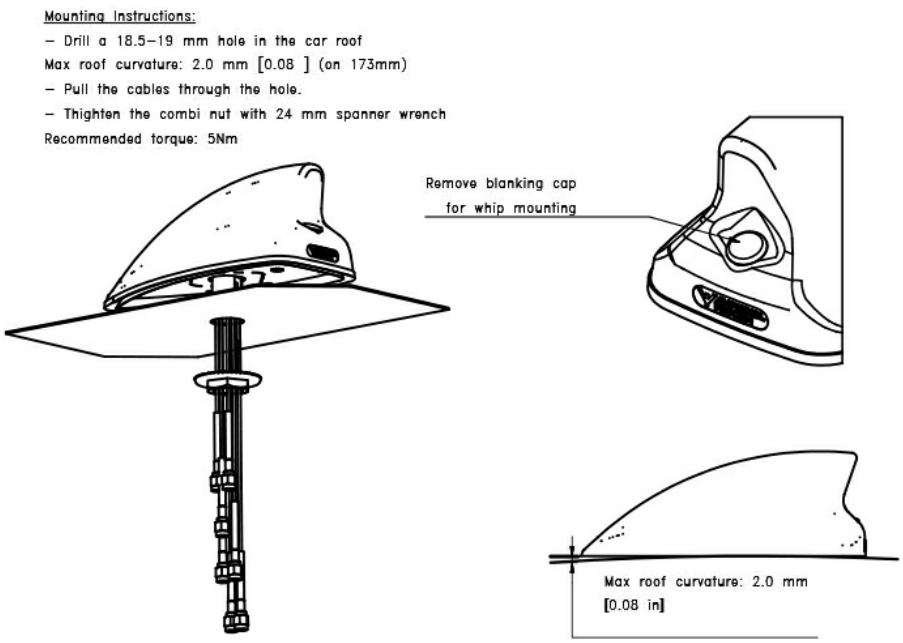
RADIATION PATTERNS

WIFI 2400 MHz, side view	WIFI 2400 MHz, top view	WIFI 5500 MHz, side view	WIFI 5500 MHz, top view
			
4G/5G 650 MHz, side view	4G/5G 650 MHz, top view	4G/5G 700 MHz, side view	4G/5G 700 MHz, top view
			
4G/5G 800 MHz, side view	4G/5G 800 MHz, top view	4G/5G 900 MHz, side view	4G/5G 900 MHz, top view
			
4G/5G 1800 MHz, side view	4G/5G 1800 MHz, top view	4G/5G 2100 MHz, side view	4G/5G 2100 MHz, top view
			
4G/5G 2600 MHz, side view	4G/5G 2600 MHz, top view	4G/5G 3600 MHz, side view	4G/5G 3600 MHz, top view
			

MOUNTING DETAILS







All dimensions are given in mm [in.]

Important: The whip should always be dismounted during car wash.