



**SMARTER ANTENNA SOLUTIONS
READY FOR ESN TRANSITION**



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Sure Antennas is a trading brand of SFL Mobile Radio Limited, located in the North West of England since 1977.

The company occupies a niche position within the mobile antenna design and build marketplace, having developed thousands of RF critical antenna solutions for specialist radio operators including the police and military around the world.

In the past, Sure Antennas has focused on the design, manufacture and modification of OEM discreet antenna applications to vehicles that require total anonymity within the environment that they are deployed.

More recently it has created a portfolio of overt high performance multi-function ESN vehicle antennas including duplexers, multiplexers and combiner units.



SURE ANTENNAS READY FOR ESN

Providing LTE, 4G, Tetra, GPS & Wi-Fi to public safety vehicles in the UK

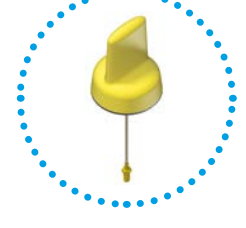
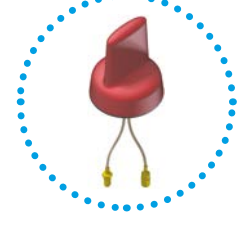
Sure Antennas has been investing time and development in overt antennas for the emergency services next generation communication system Emergency Services Network (ESN).

ESN will operate on EE's 4G network, using LTE technology, it will provide a mobile broadband service while still retaining Tetra usage for the ESMCP incremental approach.

Through utilising the latest mobile technology in 4G and LTE, ESN will ensure the functionality, coverage, security and availability needs of the UK's emergency services are fully met.

The new network will enable high bandwidth functionality, meaning services such as high-resolution streaming will be possible. Such improvements will allow a control room or responding officer to make a better assessment of an incident than was previously possible.

And with the imminent transition to ESN, Sure Antennas has developed a range of antennas which can provide LTE to public safety vehicles in the UK.



ESN Multifunction Wideband MiMo Antenna System 12 Functions

8000-310



FEATURES

- > 4x Wideband LTE 2G 3G 4G outputs
- > 12 functions in 1 antenna
- > Ultra Wide Bandwidth 700MHz - 6000Mhz
- > Optional MiMo Dual Band Wi-Fi / WiMAX
- > Low Profile
- > Simple single hole installation
- > Up to 4 GPS / GLNSS Ports DC isolated
- > Optional support for Tetra / Wi-Fi / LTE whip

Part number 8000-310, affectionately known as the 'Sand Castle' is a multifunction antenna specifically designed to help your ESN transition. With 4x Ultra Wideband antenna outputs covering 700MHz to 6GHz, this antenna could future proof your vehicle installation for years to come. It has a minimum 4dBi gain across the band*, and is an efficient option for all public safety applications.

With the option of additional MiMo Dual Band Wi-Fi, and optional Tetra whip mounting, the need for drilling extra holes in your vehicles roof is long gone. And with a single hole fitting, cost of installation is reduced whilst protecting the resale value of your vehicle. Other variants are available including extension cable options.

[Please contact us for more information.](#)

Part No	8000-310		
Frequency Range (MHz)	380 - 430 MHz	700 - 6000 MHz	2.4 GHz & 5.8 GHz
Band	TETRA	4x LTE	3x Dual Band Wi-Fi
VSWR	<2.1:1 TYPICALLY 1.5:1	<2.1:1 TYPICALLY 1.5:1	<2.1:1 TYPICALLY 1.5:1
Gain	2dBi*	Minimum 4dBi*	Minimum 4dBi*
Max Power Input (W)	25W	10W	10W
Cable Type	RG316	RG316	RG316
Termination	TNC (f)	SMA (f)	SMA (m) Reverse Polarity
Dimensions (mm)	H 76 x W 225 x L 240 **		
Weight (g)	600		
GPS / GLNSS Data			
Frequency Range (MHz)	1562 - 1612 MHz		
VSWR	<2:1		
Gain	>26dB		
Operating Voltage	3-5v DC (fed via coax, each port is DC isolated)		
Cable	4x RG316 Terminated to SMA (m)		

Subject to change without prior notice.

*Ground plane dependent. **Excluding optional whip.

ESN Multifunction Wideband MiMo OEM Sharkfin Antenna 8 Functions

7000-308



FEATURES

- > 2x Wideband LTE 2G 3G 4G outputs
- > Ultra Wide Bandwidth 700MHz - 6000Mhz
- > Optional MiMo Dual Band Wi-Fi / WiMAX
- > Low Profile OEM styled sharkfin
- > Simple single hole installation
- > Up to 2 GPS / GLNSS Ports DC isolated
- > Optional support for Tetra / Wi-Fi / LTE whip

Part number 7000-308 also known as the 'Mallard' is an OEM sleek styled compact sharkfin antenna that can support up to 8 functions. Its robust exterior houses 2x Ultra Wideband antenna elements supporting 700MHz to 6GHz with a minimum 4dBi gain across the whole band*.

to provide many frequency options including Tetra, Wi-Fi or LTE for an additional connection to help your ESN transition. With a single hole installation, and so many potential frequency functions on offer, this antenna would help reduce installation costs and protect your vehicles resale value by helping to future proof your vehicles installation. Available in different colours, with a wide range of low loss coax extension cables.

[Please contact us for more information.](#)

Part No	7000-308		
Frequency Range (MHz)	380 - 430 MHz	700 - 6000 MHz	2.4 GHz & 5.8 GHz
Band	TETRA	2x LTE	3x Dual Band Wi-Fi
VSWR	<2:1		
Gain	2dBi*	Minimum 4dBi*	Minimum 4dBi*
Max Power Input (W)	25W	10W	10W
Cable Type	RG316	RG316	RG316
Termination	TNC (f)	SMA (f)	SMA (m) Reverse Polarity
Dimensions (mm)	H 82 x W 70 x L 220 **		
Weight (g)	310		
GPS / GLNSS Data			
Frequency Range (MHz)	1562 - 1612 MHz		
VSWR	<2:1		
Gain	>26dB		
Operating Voltage	3-5v DC (fed via coax)		
Cable	2x RG316 Terminated to SMA (m)		

Subject to change without prior notice.

*Ground plane dependent. **Excluding optional whip.

OEM Multifunction MiMo Shark Fin Antenna 6 Functions

6000-306



FEATURES

- > Covering all 2G, 3G, 4G cellular bands
- > MiMo Dual Band Wi-Fi
- > OEM sharkfin antenna style
- > Simple adhesive mount
- > MiMo LTE 2G, 3G, 4G
- > Ideal for migration to ESN
- > Overt and covert applications
- > Suitable for blue lights fleets
- > Can be painted to match any vehicle colour

This OEM styled antenna, part number 6000-306 is an ideal fit to any vehicle as a universal antenna, and supports six functions. It boasts MiMo LTE/2G/3G/4G elements, dual band Wi-Fi outputs and GPS. This OEM styled sharkfin antenna could easily suit most vehicles without drawing attention.

It is supplied painted gloss white, or can be painted to match any vehicle's colour code. Once painted each of

our antennas is individually tested to make sure the frequency performance is not affected by the paint finish supplied. A simple adhesive fixing allows for a quick installation. This antenna has 6x 300mm RG316 low loss cables exiting the antenna. It can be purchased with many different functions.

[Please contact us for more information.](#)

Part No	6000-306		
Frequency Range (MHz)	2.4 GHz & 5.5 GHz	1575 MHz	700 - 960, 1750 - 2700 MHz
Band	2x Dual Band Wi-Fi	2x GPS	2x LTE
Gain	Minimum 4dBi*	>25dB	Minimum 4dBi*
Max Power Input (W)	10W	–	10W
Polarisation	Vertical	RHCP	Vertical
VSWR	<2.1:1 TYPICALLY 1.5:1	<1.5:1	<2.1:1 TYPICALLY 1.5:1
Dimensions (mm)	H 60 x W 75 x L 170		
Temp. Range	-40° C to +80° C (-40° F to 176° F)		
Coax & Termination	2x 300mm RG316 Low Loss Coax Terminated to SMA (m) Reverse Polarity	2x 300mm RG316 Low Loss Coax terminated to SMA (m)	2x 300mm RG316 Low Loss Coax Terminated to SMA (f)
Impedance	50Ω	50Ω	50Ω

Subject to change without prior notice.

*Ground plane dependent.

Ultra Wideband LTE Cellular 2G 3G 4G Wi-Fi Antenna 2 Functions

5000-302



FEATURES

- > Ideal for ESN transition
- > Ultra Wide Bandwidth 700MHz - 6000Mhz
- > With GPS / GLNSS
- > Simple single hole installation
- > Suitable for blue light fleets
- > Low Profile housing

This overt low profile LTE / Cellular / Wi-Fi Antenna features a wideband element encased in a tough IP66 housing with a single nut fitting.

In addition the unit also includes a GPS / GLNSS receiving element with a gain of >25dB.

This part number is supplied in a black plastic finish but can be supplied in other colour variants.

[Please contact us for more information.](#)

Part No	5000-302	
Band	LTE	GPS / GLNSS
Frequency Range (MHz)	700 - 6000 MHz	1575.42 MHz, 1602 MHz
Gain	Minimum 4dBi*	>25dB Typical
Max Power Input (W)	10W	–
Polarisation	Vertical	RHCP
VSWR	<2.5:1 (typical 1.5:1)	<1.5:1
Dimensions (mm)	H 75 x W 66	
Temp. Range	-20° C to +60° C	
Coax & Termination	1x 300mm RG316 Low Loss Coax terminated to SMA (f)	1x 300mm RG316 Low Loss Coax terminated to SMA (m)
Impedance	50Ω	50Ω

Subject to change without prior notice.

*Ground plane dependent.

Ultra Wideband LTE Cellular 2G 3G 4G Wi-Fi Antenna

4000-301



FEATURES

- > Ultra Wide Bandwidth 700MHz - 6000Mhz
- > Low Profile housing
- > Simple single hole installation
- > Ideal for ESN transition
- > Suitable for blue light fleets

The 4000-301 is a low profile antenna giving reliable performance over an ultra-wide bandwidth.

Covering 700 - 6000 Mhz, this versatile antenna supports public safety LTE, worldwide cellular, and dual band Wi-Fi frequencies with a reliable gain throughout the entire band.

With a convenient adhesive pad and a single nut fitment allowing a simple cost effective solution. Available in different colours, with a wide range of custom low coax extension cables.

[Please contact us for more information.](#)

Part No	4000-301
Frequency Range (MHz)	700 - 6000 MHz
Band	LTE
Gain	Minimum 4dBi*
Max Power Input (W)	10W
Polarisation	Vertical
Pattern	Omni-directional
Dimensions (mm)	H 75 x W 66
Weight (g)	250
Temp. Range	-40° C to +80° C (-40° F to 176° F)
Impedance	50Ω
Cable Type	RG316
Termination	SMA (f)

Subject to change without prior notice.

*Ground plane dependent.

Tetra Combiner / Divider Unit

SM3400



FEATURES

- > Connect 2x Tetra Transceivers through one antenna
- > Input power up to 50w
- > Custom frequencies available within 70 - 2400 MHz
- > Other connectors available on request
- > Combine 2x antennas to one transceiver

The SM3400 'combiner / divider unit' was specifically designed to enable two transmitters to transmit simultaneously, without the use of switching circuitry.

This passive unit can operate 380 - 400MHz with an insertion loss of less than -0.4 dB* and isolation port to

port of less than -30 dB across 20MHz bandwidth and offers a great performance against active switch units. The SM3400 can be built to support other frequencies within 70 - 2400 MHz.

[Please contact us for more information.](#)

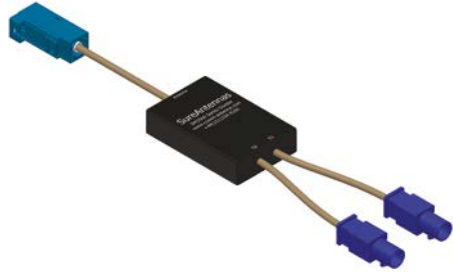
Part No	SM3400W50S0-4	SM3400W25S0-4	SM3400W10S0-4
Frequency Range (MHz)	380 - 400 MHz		
Band	Tetra x 2		
Max Power Input (W)	50W	25W	10W
Insertion loss	< 0.4dB*		
VSWR	<1.2:1		
Port Isolation	>30dB		
Temp. Range	-20° C to +60° C		
Connection	SMA (f)**		
Impedance	50Ω		

Subject to change without prior notice.

*Excluding combining losses. **Custom Connection Configurations available.

SM3500 GPS Wilkinson Power Divider

SM3500-OC1C1C



FEATURES

- > Combine 2x GPS receivers to one antenna
- > Both GPS tails DC isolated
- > Custom connection options available

The SM3500 'divider unit' was specifically designed to enable two GPS devices to connect to a single antenna without blocking DC input.

When used with one of our full covert antenna systems this unit can be attached to retain OEM functionality of a factory fitted satellite navigation system, and to operate a GPS enabled mobile radio simultaneously

through a single GPS element helping eliminate unwanted error messages on your vehicles dashboard.

The passive unit can operate at 1575MHz and 1620MHz and supplied with custom terminations on request.

[Please contact us for more information.](#)

Part No	SM3500-OC1C1C
Frequency Range (MHz)	1575 - 1620 MHz
Max Power Input (W)	0.5W
Insertion Loss	< 0.5dB*
Port Isolation	> 20dB
VSWR	< 1.2:1
Impedance	50Ω
DC Input	DC Fed From independently fed from both ports
Output Connection	FAKRA C Male Blue**
Input Connection	FAKRA Z Female Water blue**
Temperature Range	-20° C to +60° C

Subject to change without prior notice.

*Excluding combining losses. **Custom Connection Configurations available.

Important Waiver Information

All information and data in this brochure is providing an indication of typical performance of our products under a common installation type, it does not guarantee performance or suitability for all installation requirements.

It is therefore encouraged all customers should conduct their own tests on a product to establish it is correct for their particular installation.

Products should only be installed by a qualified installer, familiar with appropriate local laws and regulations. We advise customers to consult and comply with the appropriate Sure Antennas installation instructions.

All specifications and product information in this catalogue are subject to change without notice.





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A brand of SFL Mobile Radio Ltd

