

- Adhesive Mount
- 2G/3G/4G and GPS/GNSS
- Various Rail approvals

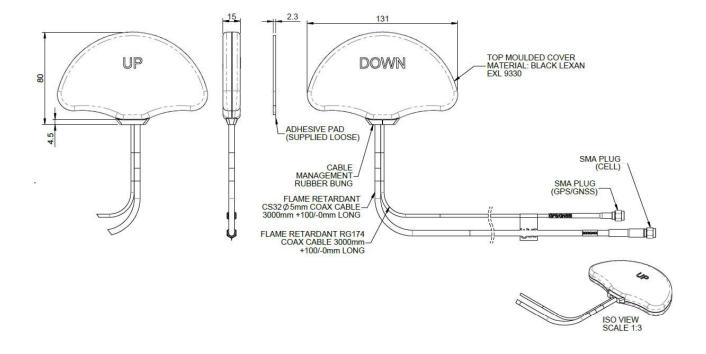
The 193383 antenna offers GPS/GNSS and 2G/3G/4G connectivity for vehicle communications and telematics. The housing incorporates two separate antennas one for Cellular/LTE, and a GPS/GLONASS/BEIDOU antenna with a 26dB gain LNA and advanced filtering to combat noise.

Adapted for rail environments the antenna features a flame retardant housing and coaxial cables approved to EN45545-2 HL3.

The antenna offers easy and quick installation on or under a plastic panel or on the windshield of a vehicle using the supplied adhesive pad\*

\* Performance may change depending on mounting position/surface. The product is not suitable for mounting on conductive surfaces or metalized windows.

Technical Drawing



## **Dual Function Adhesive Antenna** 193383



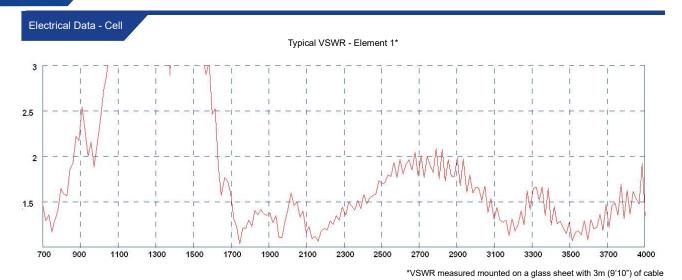
**Product Data** 

Frequency Range (MHz)   Element 1   698-960 / 1710-3800     Frequency Range (MHz)   Element 2   1562-1612     Frequency Range (MHz)   Element 1   698-960 MHz     Frequency Range (MHz)   Element 1   1710-2700 MHz     Frequency Range (MHz)   500	Part No.		
Feequency Range   Element 1			193383
MHz    Element 2   1562-1612	ElectricaL Data		
Typical VSWR*   Element 1	Frequency Range (MHz)	Element 1	698-960 / 1710-3800
Peak Gain: Isotropic I Isotro		Element 2	1562-1612
Feak Janish   Sold Feak Janis	Typical VSWR*	Element 1	<2.51
Sectorpic   Element 1: 1710-2700MHz   5dBi   mont 1: 1710-2700MHz   3dBi	Peak Gain: Isotropic t	Element 1: 698-960MHz	4dBi
Nominal Pattern         Omni-directional           Nominal Impedance         50Ω           Max input power (W)         5           CPS/CRNS Data           Frequency Range (MHz)         1562-1612MHz           LAN Gain (dB)         26           Polarisation         Right Hand Circular           Operating Voltage         3-5VDC (Fed via Coax)           Current         Typical 15mA           Rall Approvals **         EN 50121-3-2: 2016 A1: 2019           Mechanical Data           Length         15 (0.6°)           Dimensions (mm)         Length         15 (0.6°)           Diagrating Temp (*C')         -25° / +70° C (-25° / 158°F)           Material         Length Explain         15 (25° / 158°F)         15 (25° / 158°F		Element 1: 1710-2700MHz	5dBi
Nominal Impedance         50Ω           Max input power (W)         5           GPSiGNSS Data         Frequency Range (MHz)         1562-1612MHz           LNA Gain (dB)         26           Polarisation         Right Hand Circular           Operating Voltage         3-8VDC (Fed via Coax)           Current         Typical 15mA           Rail Approvals **         EN 50121-3-2: 2016 A1: 2019           Mechanical Data         Weight           Dimension (m)         Legith         15 (0.6°)           Depth         84.5 (3.33°)           Operating Temp (*C)         -25° / +70°C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         11           Mechanical Approvals         EN 50155:2021 13.44, 13.4.5 & 13.4.8 OT3           Mechanical Approvals         EN 50155:2021 13.44, 13.4.5 & 13.4.8 OT3           Mounting Data         EV 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Fixing         Adhesive pad           Cable Type         CS32 ( Meets EN45545-2 HL3)           Length (m)         3 (9.8)           Termination         SMAPlug           Termination         SMAPlug           Termination		Element 1: 3300-3800MHz	3dBi
Max input power (W) 5    CPS/CNSS Data	Nominal Pattern		Omni-directional
Prequency Range (MHz)	Nominal Impedance		50Ω
Frequency Range (MHz)  LNA Gain (dB)  Polarisation  Right Hand Circular  Operating Voltage  Greating Voltage  Current  Typical 15mA  Rent Polarisation  Right Hand Circular  Operating Voltage  Typical 15mA  Rent Polarisation  Rent Polarisati	Max input power (W)		5
LNA Gain (dB)         26           Polarisation         Right Hand Circular           Operating Voltage         3-5VDC (Fed via Coax)           Current         Typical 15mA           Rall Approvals***         EN 50121-3-2: 2016 A1: 2019           Mechanical Data         ***********************************	GPS/GNSS Data		
Polarisation         Right Hand Circular           Operating Voltage         3-5VDC (Fed via Coax)           Current         Typical 15mA           Rail Approvals**         EN 50121-3-2: 2016 A1: 2019           Mechanical Data         ***********************************	Frequency Range (MHz)		1562-1612MHz
Operating Voltage         3-5VDC (Fed via Coax)           Current         Typical 15mA           Rail Approvals***         EN 50121-3-2: 2016 A1: 2019           Mechanical Data         Height         15 (0.6°)           Dimensions (mm)         Length         131 (5.16°)           Depth         84.5 (3.33°)           Operating Temp (*C)         -25° / +70° C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Element 1: Cell         Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2°)           Length (m)         3 (9.8°)           Termination         SMA Plug           Element 2: GPS/GNS         Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1°)           Length (m)         3 (9.8°)	LNA Gain (dB)		26
Typical 15mA           Real Approvals **         EN 50121-3-2: 2016 A1: 2019           Mechanical Data           Meight         15 (0.6°)           Depth         131 (5.16°)           Depth         64.5 (3.33°)           Operating Temp (°C)         -25° / +70°C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2°)           Length (m)         3 (9.8°)           Termination         SMA Plug           Element 2: GPS/GNS         Cable Type         FR RG174 ( Meets EN45545-2 HL3)         Diameter (mm)         2.8 (0.1°)         Legen (m)         2.8 (0.1°)	Polarisation		Right Hand Circular
Rail Approvals **         EN 50121-3-2: 2016 A1: 2019           Mechanical Data           Meght         15 (0.6°)           Dimensions (mm)         Length         15 (0.6°)           Depth         84.5 (3.33°)           Operating Temp (°C)         -25° / +70°C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Element 1: Cell         Cable Type         CS32 (Meets EN45545-2 HL3)           Element 1: Cell         Diameter (mm)         5 (0.2°)           Element 2: GPS/GN School         Cable Type         FR RG174 (Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1°)           Length (m)         2.8 (0.1°)           Length (m)         2.	Operating Voltage		3-5VDC (Fed via Coax)
Mechanical Data           Dimensions (mm)         Height         15 (0.6°)           Dimensions (mm)         Length         131 (5.16°)           Depth         84.5 (3.33°)           Operating Temp (°C)         -25° / +70°C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 (Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2°)           Length (m)         3 (9.8')           FR RG174 (Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1°)           Element 2: GPS/GNS         Diameter (mm)         2.8 (0.1°)           Length (m)         3 (9.8')	Current		Typical 15mA
Height   15 (0.6")   Dimensions (mm)   Length   131 (5.16")   Depth   84.5 (3.33")   Operating Temp (*C)   -25° / +70°C (-25° / 158°F)   Material   Lexan EXL 9330     Colour   Black     Typical Weight (g)   211     Mechanical Approvals   EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3     Mounting Data     Fixing   Adhesive pad     Cable Data     Cable Type   CS32 ( Meets EN45545-2 HL3)     Length (m)   3 ( 9.8")     Termination   SMA Plug     Cable Type   FR RG174 ( Meets EN45545-2 HL3)     Diameter (mm)   2.8 (0.1")     Length (m)   3 ( 9.8")     Diameter (mm)   2.8 (0.1")     Length (m)   3 ( 9.8")     Diameter (mm)   2.8 (0.1")     Length (m)   3 ( 9.8")     L	Rail Approvals **		EN 50121-3-2: 2016 A1: 2019
Dimensions (mm)   Length   131 (5.16")   Depth   84.5 (3.33")	Mechanical Data		
Depth         84.5 (3.33°)           Operating Temp (°C)         -25° / +70° C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2°)           Length (m)         3 (9.8°)           Element 2: GPS/GNSS         Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Length (m)         2.8 (0.1")           Length (m)         3 (9.8°)		Height	15 (0.6")
Operating Temp (°C)         -25° / +70°C (-25° / 158°F)           Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Length (m)         3 ( 9.8')           Length (m)         3 ( 9.8')           Element 2: GPS/GNSS         Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8')	Dimensions (mm)	Length	131 (5.16")
Material         Lexan EXL 9330           Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 ( 9.8")           Termination         SMA Plug           FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8")		Depth	84.5 (3.33")
Colour         Black           Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Element 1: Cell         Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 (9.8')           Element 2: GPS/GNSS         Diameter (mm)         2.8 (0.1")           Length (m)         3 (9.8')	Operating Temp (°C)		-25° / +70°C (-25° / 158°F)
Typical Weight (g)         211           Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 (9.8")           Termination         SMA Plug           Element 2: GPS/GNSS         Diameter (mm)         2.8 (0.1")           Length (m)         3 (9.8")	Material		Lexan EXL 9330
Mechanical Approvals         EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3           Mounting Data           Fixing         Adhesive pad           Cable Data           Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 ( 9.8")           Termination         SMA Plug           Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8")	Colour		Black
Mounting Data           Fixing         Adhesive pad           Cable Data           Element 1: Cell         Cable Type         CS32 (Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 (9.8")           Termination         SMA Plug           Element 2: GPS/GNSS         Diameter (mm)         2.8 (0.1")           Length (m)         3 (9.8")	Typical Weight (g)		211
Fixing         Adhesive pad           Cable Data           Element 1: Cell         Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 ( 9.8")           Termination         SMA Plug           Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8")	Mechanical Approvals		EN 50155:2021 13.4.4, 13.4.5 & 13.4.8 OT3
Cable Data           Element 1: Cell         Cable Type         CS32 ( Meets EN45545-2 HL3)           Diameter (mm)         5 (0.2")           Length (m)         3 ( 9.8')           Termination         SMA Plug           Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8')	Mounting Data		
Element 1: Cell         Cable Type         CS32 ( Meets EN45545-2 HL3)           Element 1: Cell         Diameter (mm)         5 (0.2")           Length (m)         3 ( 9.8")           Termination         SMA Plug           Cable Type         FR RG174 ( Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 ( 9.8")	Fixing		Adhesive pad
Element 1: Cell         Diameter (mm)         5 (0.2")           Length (m)         3 (9.8')           Termination         SMA Plug           Cable Type         FR RG174 (Meets EN45545-2 HL3)           Diameter (mm)         2.8 (0.1")           Length (m)         3 (9.8')	Cable Data		
Element 1: Cell       Length (m)       3 ( 9.8')         Termination       SMA Plug         Cable Type       FR RG174 ( Meets EN45545-2 HL3)         Diameter (mm)       2.8 (0.1")         Length (m)       3 ( 9.8')	Element 1: Cell	Cable Type	CS32 ( Meets EN45545-2 HL3)
Length (m)       3 ( 9.8')         Termination       SMA Plug         Cable Type       FR RG174 ( Meets EN45545-2 HL3)         Diameter (mm)       2.8 (0.1")         Length (m)       3 ( 9.8')		Diameter (mm)	5 (0.2")
Cable Type       FR RG174 ( Meets EN45545-2 HL3)         Diameter (mm)       2.8 (0.1")         Length (m)       3 ( 9.8')		Length (m)	3 ( 9.8')
Cable Type       FR RG174 ( Meets EN45545-2 HL3)         Diameter (mm)       2.8 (0.1")         Length (m)       3 ( 9.8')		Termination	SMA Plug
Element 2: GPS/GNSS Length (m) 3 ( 9.8')	Element 2: GPS/GN	Cable Type	
Length (m) 3 ( 9.8')		Diameter (mm)	2.8 (0.1")
		NSS Length (m)	3 ( 9.8')
			SMA Plug

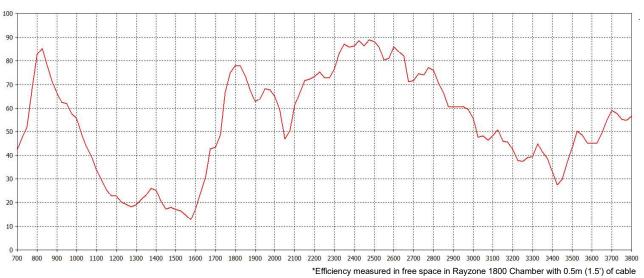
<sup>\*</sup> Typical VSWR measured on perspex sheet with 3m (9'10") of Cable

<sup>\*\*</sup> Tested installed in a different antenna platform

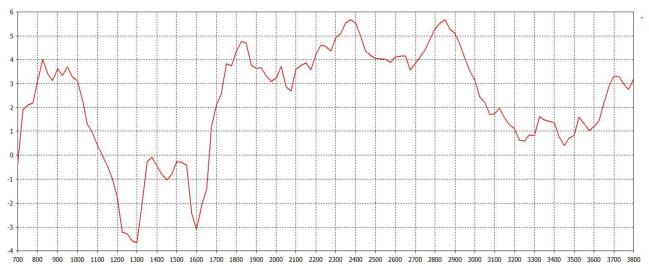
<sup>+</sup> Peak gain measured in Rayzone 1800 chamber across all polarisations with 0.5m (1.5') CS32 cable



Typical Efficiency - Element 1\*



Typical Swept Peak Gain - Element 1\*



\*Swept peak gain measured in free space in Rayzone 1800 Chamber with 0.5m (1.5') of cable