



VFP69383B22JN

698-960/1690-3800 MHz and
2400-2500/4900-6000 MHz
Assembly and Installation Instructions

ELECTRICAL SPECIFICATIONS

Antenna Model	VFP69383B22JN-518J					
ANumber of Ports	5					
Port Configuration	2x- 3G/4G/ISM/CBRS			2x- Wi-Fi		
Operating Frequency (MHz)	698-806	824-894	880-960	1690-3800	2400-2500	4900-6000
Avg. Peak Gain* (dBi) – Gnd. Plane [No Gnd. Plane]	0.4 [1.5]	0.8 [2.1]	1.2 [1.7]	4.0 [1.8]	2.6 [0.4]	6.6 [3.8]
Max Peak Gain* (dBi) – Gnd. Plane [No Gnd. Plane]	1.6 [2.5]	1.4 [2.8]	1.5 [2.0]	7.2 [4.8]	3.1 [1.7]	7.5 [4.9]
VSWR** – Avg, Gnd. Plane [No Gnd. Plane]	1.7 [1.8]	1.8 [1.8]	1.9 [1.8]	1.5 [1.5]	1.5 [1.5]	1.2 [1.2]
VSWR** – Max, Gnd. Plane [No Gnd. Plane]	2.5 [2.5]	2.1 [2.5]	2.2 [2.5]	2.1 [2.1]	2.0 [2.0]	
Isolation (dB)– Gnd. Plane [No Gnd. Plane]						
LTE1 to LTE2	-11 [-11]					
LTE1 to WIFI	-36 [-30]					
LTE1 to WIFI 2	-39 [-40]					
LTE2 to WIFI 1	-39 [-40]					
LTE2 to WIFI 2	-34 [-32]					
WIFI 1 to WIFI 2	-74 [-70]					
GNSS to LTE 1	-68 [-68]					
GNSS to LTE 2	-43 [-43]					
GNSS to WIFI 1	-65 [-62]					
GNSS to WIFI 2	-68 [-66]					
Azimuth Plane 3 dB Beamwidth	360°, Omnidirectional					
Nominal Impedance (Ohms)	50					
Polarization	Linear Vertical					
Max Power-Ambient 25°C (W)	30 (LTE/CELL) /10 (WIFI)					

Notes: (*) – This parameter is based on a 30cm (1ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used
 (***) – This parameter is based on a 518cm (17ft) cable length. For the ground plane measurement, a 30cm (1ft) ground plane was used.
 Antenna specifications are subject to change according to the ground plane size

MECHANICAL SPECIFICATIONS

Dimensions - LxWxH - mm (in.)	179 x 63 x 48 (7.04 x 2.48 x 1.69)
Weight - kg (lbs.)	0.63 (1.4)
Cable Type	LMR 100, Black
Mounting	P-Mount
Radome Material	PC, UL94-V0
Baseplate Material	Aluminum

ENVIRONMENTAL SPECIFICATIONS

Operating Environment	Outdoor Vehicle
Operating Temperature - °C (°F)	-30 to +70°C (-22 to +158°F)
Storage Temperature - °C (°F)	-40 to +85°C (-40 to +185°F)
Ingress Protection Rating	IP67
Material Substance Compliance	RoHS

GNSS ANTENNA SPECIFICATIONS

Frequency of Operation (MHz)	1559 - 1606		
Band	BEIDOU	GPS	GLONASS
Frequency Band (MHz)	1559.052 - 1563.144	1574.42 - 1576.42	1598.0625 - 1605.89
Absolute Gain (dBi) - Gnd. Plane [No Gnd. Plane]	2 [3.2]	2 [5.0]	2 [5.3]
LNA Gain, Typ. @ room temp. (dBi)	26	27	26
Noise Figure @ room temp., Max (dB)	3.0	2.5	2.8
Max VSWR @ room temp.	2:1	2:1	2:1
Polarization	RHCP		
Nominal Impedance (Ohms)	50		
DC Voltage (Vdc)	3.3		
Operating Supply Voltage (Vdc)	2.5 - 7.0		
Current Consumption, Max @ room temp (mA)	20		
Out-of-band Signal Rejection Min @ room temp (dBc)	60 (@1-1525 MHz)	60 (@1675-2000 MHz)	50 (@2000-3000 MHz)
Input Max Power (dBm)	-30		
Cable Type	RG174		

SAFETY

The VFP69383B22JN and all associated equipment should be installed in accordance with all applicable local and national electrical code guidelines to ensure safe operation.

APPLICATION

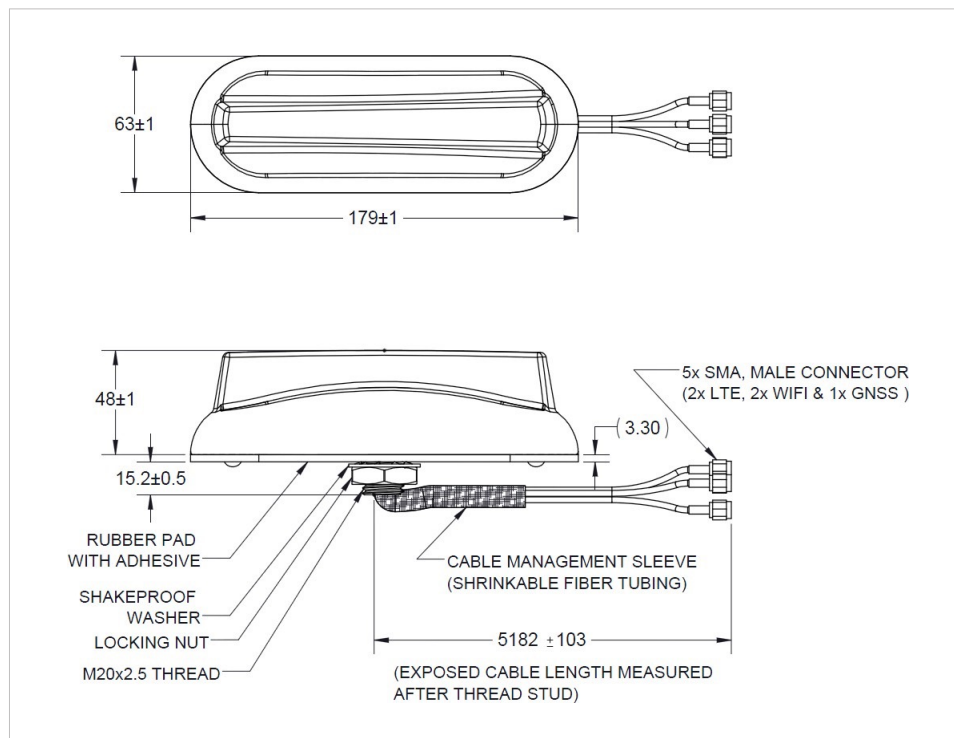
The VFP69383B22JN antenna provides an excellent solution for Public Safety, Transportation and After Market Fleet applications with an integration of wide range of frequencies within one aerodynamic housing. This 5-port antenna is configured for 2x MIMO operation over 3G/4G/ISM/CBRS frequencies, 2x MIMO operation over both Low/High Band WiFi and 1x port that provides an active antenna for enabling GNSS global navigational services.

LOCATION

The antenna should be mounted on the desired location before connecting the cable. This is to ensure that the cable is not twisted or damage during the mounting of the antenna.

MOUNTING

- The mounting area should be clean of any debris, clear from obstructions and as flat as possible
- Punch or drill a 21 mm in the roof of the vehicle noting that a 300 mm clearance radius around the antenna is recommended
- The recommended orientation is facing the front of the vehicle with cables facing the rear: see illustration below
- Feed the cables from the bottom of the antenna through the topside of the 21 mm hole. Peel the adhesive covering on the bottom side of the antenna's gasket. Place the threads of the antenna through the hole so that the gasket of the antenna is flat on the vehicle surface. Slide the lock-nut and washer around the 5 cables and finger-tighten to the stud of the antenna. Tighten the nut with a wrench using 30 Nm of torque
- Use a short service loop (slack) with tie-downs to secure the antenna cables such that any force or movement will not be transmitted to the antenna connectors or the apparatus. Minimum bending radius for the cable exiting the bottom of the antenna is 10 mm



TE TECHNICAL SUPPORT CENTER

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico:	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

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