



Barracuda UHF VFH69383B22JU

**380-520 MHz and 698-960/1690-3800 MHz
and 2400-2500/4900-6000 MHz
Assembly and Installation Instructions**

ELECTRICAL SPECIFICATIONS

Antenna Model	VFH69383B22JU-518J						
Number of Ports	6						
Port Configuration	1x UHF	2x- 3G/4G/ISM/CBRS				2x- Wi-Fi	
Operating Frequency (MHz)	380-520	698-806	824-894	880-960	1690-3800	2400-2500	4900-6000
Peak Gain (*) - Avg (dBi)	0.8	0.0	0.2	0.7	3.9	2.5	6.5
Peak Gain (*) - Max (dBi)	2.3	1.5	1.5	2.1	7.4	3.5	7.6
VSWR (**) - Avg	<1.4:1	<1.6:1	<1.5:1	<1.5:1	<1.2:1	<1.2:1	<1.2:1
VSWR (**) - Max	<1.2:1						
Isolation (**) LTE 1 to LTE 2 (dB)	-26	-17	-17	-17	-22	-31	-42
Isolation (**) LTE 1 to WIFI 1 (dB)	-38	-38	-37	-38	-21	-21	-42
Isolation (**) LTE 1 to WIFI 2 (dB)	-46	-40	-44	-42	-19	-19	-42
Isolation (**) LTE 2 to WIFI 1 (dB)	-44	-39	-44	-42	-21	-21	-43
Isolation (**) LTE 2 to WIFI 2 (dB)	-39	-38	-36	-35	-19	-19	-41
Isolation (**) WIFI 1 to WIFI 2 (dB)	-59	-58	-59	-57	-36	-36	-45
Isolation (**) LTE 1 to UHF (dB)	-22	-18	-20	-21	-24	-26	-47
Isolation (**) LTE 2 to UHF (dB)	-20	-18	-19	-20	-23	-26	-45
Isolation (**) WIFI 1 to UHF (dB)	-47	-47	-51	-46	-34	-34	-45
Isolation (**) WIFI 2 to UHF (dB)	-45	-47	-46	-40	-28	-28	-42
Isolation (**) GNSS to LTE 1 (dB)	-43	-41	-43	-44	-36	-40	-44
Isolation (**) GNSS to LTE 2 (dB)	-44	-44	-45	-45	-36	-41	-42
Isolation (**) GNSS to WIFI 1 (dB)	-71	-68	-70	-69	-31	-35	-39
Isolation (**) GNSS to WIFI 2 (dB)	-77	-71	-71	-71	-32	-36	-41
Isolation (**) GNSS to UHF (dB)	-61	-55	-58	-56	-40	-49	-52
Azimuth Plane 3 dB Beamwidth	360°, Omnidirectional						
Nominal Impedance (Ohms)	50						
Polarization	Vertical						
Max Power - Ambient 25°C (W)	10						

*Measures on a 1-foot circular ground plane

**Measured on a 1-foot circular ground plane with 17 feet of coaxial cable

MECHANICAL SPECIFICATIONS

Dimensions - LxWxH - mm (in.)	179 x 63 x 48 (7.04 x 2.48 x 1.69)
Weight - kg (lbs.)	0.72 (1.6)
Cable Type and Length - cm (ft.)	LMR-100 (Black), 518 (17)
Connector	SMA, Male
Mounting	P-Mount
Radome Material and Color	PC, UL94-V0, Black
Baseplate Material	Aluminum

ENVIRONMENTAL SPECIFICATIONS

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)	3	3	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 VFH69383B22JU and all associated equipment should be installed in accordance with all applicable local and national electrical code guidelines to ensure safe operation.

APPLICATION

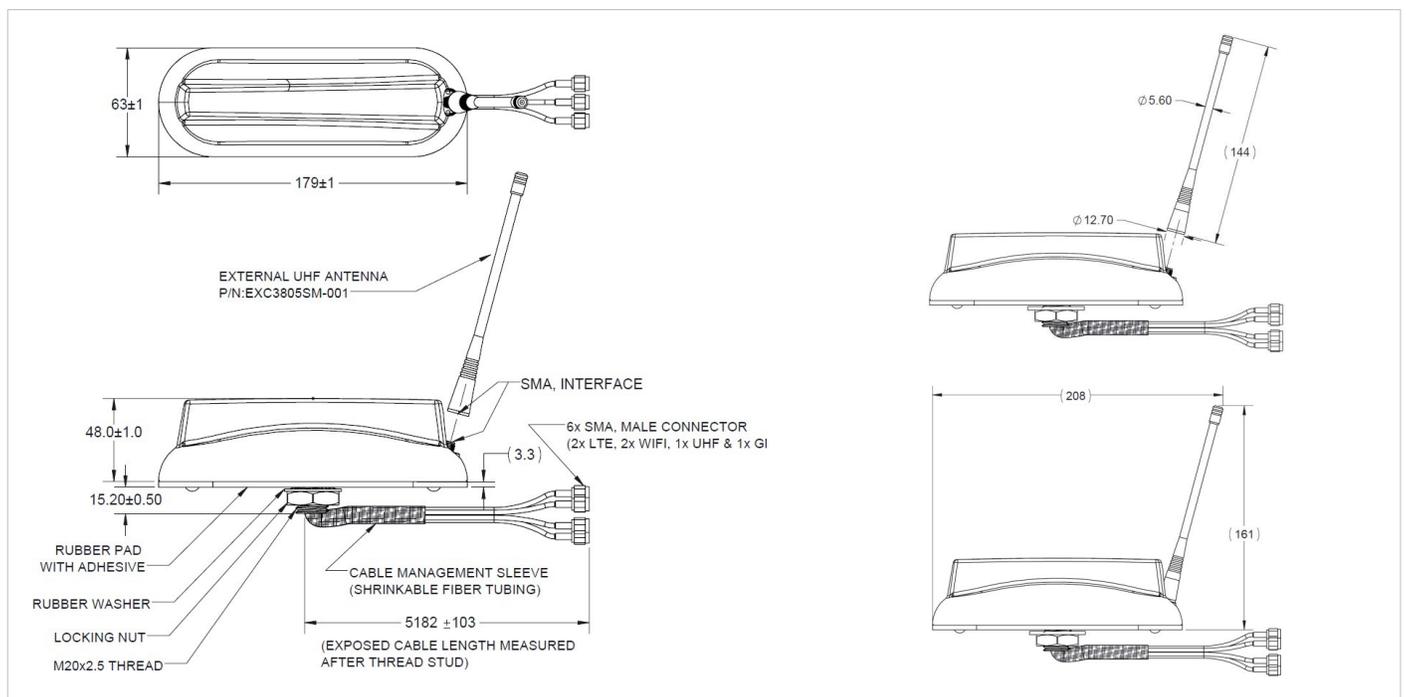
The VFH69383B22JU antenna provides an excellent solution for Public Safety, Transportation and After Market Fleet applications with an integration of wide range of frequencies within one aerodynamic housing. This six-port antenna is configured for 2x MIMO operation over 3G/4G/ISM/CBRS frequencies, 2x MIMO operation over both low/high band Wi-Fi, x1 UHF, 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-millimeter hole in the roof of the vehicle noting that a 300-millimeter clearance radius around the antenna is recommended
- The rubber washer to be installed prior to locking nut
- 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-millimeter 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 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



*** The rubber washer is required to achieve optimal performance for UHF

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