



## GNSS Multi-Band Antennas, 5G & 4G Dual LTE with 802.11ac

The Coach™ multi-band antenna platform supports the high speed requirements of complex RF communication systems used for Intelligent Transportation Systems (ITS), and IIoT applications. These antennas feature two 5G elements compatible with the world's leading cellular routers that support 600 MHz to 6 GHz frequencies. The platform also incorporates 802.11ac Wi-Fi MIMO connectivity, with dual band 2.4/5 GHz Wi-Fi elements supporting DSRC 5.99 GHz applications. In addition, PCTEL's proprietary high-rejection multi GNSS technology is included for high precision tracking and asset management.



GLHPDLTEMIMO-SF (left)  
BGLHPDLTEMIMO-SF (right)

### Features

- No tune, multi-band coverage
- Metal 1-inch stud mount with slotted jam nut provides single cable exit for easier installation and/or antenna replacement
- IP67 compliant design provides maximum protection against water or dust ingress under severe environmental conditions\*
- UV-resistant black or white housing options complement most vehicular aesthetic requirements
- Proprietary filtering design allows wideband coverage while achieving superior out-of-band rejection for GPS/GLONASS

### STANDARD CONFIGURATION

Model	Cable	Connectors	Mounting Method
GLHPDLTEMIMO-SF	Two-17 feet Pro-Flex™ Plus 195 (LTE Elements) Two-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi Elements) One-17 feet RG-174/U (GNSS Element)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	1-inch OD, 3/4-inch long (.75") zinc stud mount with jam nut (all models)
GLHPDLTE-SF	Two-17 feet Pro-Flex™ Plus 195 (LTE Elements) One-17 feet RG-174/U (GNSS Element)	SMA Plug (LTE) SMA Plug (GNSS)	
GLHPDM3-SF	Two-17 feet Pro-Flex™ Plus 195 (LTE Elements) Three-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi Elements) One-17 feet RG-174/U (GNSS Element)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	

### ELECTRICAL SPECIFICATIONS - RF ANTENNAS

Elements	Frequency Range (MHz)		SWR**	Gain (dB)***			Efficiency***		Polarization	Nominal Impedance	Maximum Power
	Low	High		Max.	Typical	Range (+/-)	Avg.	Range (+/-)			
LTE 1&2	617	698	2.4	3.8	2.4	1.4	55%	19%	Linear	50 ohms	50 watts
	698	802	1.7	5.2	4.1	1.1	68%	6%			
	824	960	1.3	6.2	4.3	1.9	61%	12%			
	1710	2200	1.5	7.5	6.0	1.5	78%	11%			
	2300	2690	1.6	8.9	7.1	1.8	78%	8%			
	3400	3800	1.9	5.4	4.7	0.6	57%	5%			
Wi-Fi (all)	5150	5950	1.7	8.1	6.8	1.3	59%	10%			
	2400	2500	1.1	9.4	9.0	0.4	81%	3%			
	4900	5925	1.4	9.4	8.9	0.5	70%	12%			

\* When installed on a sealed surface according to PCTEL installation instructions \*\* Measured with 17-ft of cable and 2-ft ground plane \*\*\* Gain and efficiency values measured at the base of the antenna (no cable included)



## Multi-Band LTE MIMO & 802.11ac Antennas with High Rejection GPS/GLONASS

### ISOLATION SPECIFICATIONS

Minimum Isolation (dB)  
(measured with 17-ft of cable and 2-ft ground plane)

Elements	LTE Primary (1&2)		Wi-Fi	
LTE 1&2	617-960MHz	9	617-960MHz	20.0
	1.71-2.7GHz	15	1.71-2.7GHz	17.0
	3.3-5.9 GHz	32	3.3-5.9 GHz	35.0
Wi-Fi			2.4-2.5GHz	25.0
			4.9-5.9GHz	32.0

### ELECTRICAL SPECIFICATIONS - GNSS ANTENNA

Frequency Band	Amplifier Gain	Output VSWR	DC Current	DC Voltage	Noise Figure	Out-of-Band Rejection
1565-1608 MHz	@ 3.0 VDC: 26 dB (typical)	2.0:1 (maximum)	25 mA (typical)	2.8-6.0 V (operating) ≤ 12.0 V (survivability)	< 2.0 dB (typical)	f0 = 1586 MHz f0 ± 50 MHz: ≥ 60 dBc f0 ± 60 MHz: ≥ 70 dBc

### ELECTRICAL SPECIFICATIONS - GNSS ANTENNA

Frequency Band	Nominal Gain	Polarization	Nominal Impedance
1565-1608 MHz	3 dBic @ 90° -2 dBic @ 20°	Right hand circular	50 ohms

### MECHANICAL SPECIFICATIONS AND ENVIRONMENTAL SPECIFICATIONS (ALL MODELS)

Dimensions	Weight	Housing Material*****	Temperature Range	Gasket Design & Construction
5.38 x 3.53 in (136.5 x 89.7 mm)	3 lbs (1.4 kg) - 5 ports  2.6 lbs (0.9 kg) - 3 ports	White or Black, UV-Stable Rugged Thermoplastics	-40°C to +85°C	Contour matching, conformable, thermoplastic-elastomer gasket designed to seal between radome and baseplate. Gasket flexes and conforms to contoured surfaces. Baseplate has a 3M™ VHB mounting pad for anti-rotation.

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\*\*\*\*\* For black radome option, add a "B" prefix in front of the part number (eg. BGLPHDLTE-SF)