Multi-Band LTE MIMO & 802.11ac Antennas with High Rejection GPS/GLONASS, Compact Footprint

The Trooper™ antenna platform supports the high speed requirements of complex RF communication systems used for Intelligent Transportation Systems (ITS), and IIoT applications. Its compact footprint makes this antenna ideal for installation on surfaces with limited surface space, including leading public safety vehicle rooftops and Industrial Iot (IIoT) cabinet installations. These antennas feature two 5G elements compatible with the world's leading cellular routers supporting 600 MHz to 6 GHz frequencies. In addition, PCTEL's proprietary high-rejection multi GNSS technology is included for high precision tracking and asset management.

GLHPDLTEMIMO-LTB and GLHPDLTEMIMO-LTW

Features

- No tune, multi-band coverage: dual LTE, 802.11ac Wi-Fi and GPS L1/GLONASS frequencies
- Metal 3/4-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
- Meets AAR certification requirements for rail applications

STANDARD CONFIGURATION

Model	Cable	Connector**	Mount	Housing Color
GLHPDLTE-LTB	Two-17 feet Pro-Flex™ Plus 195 (LTE) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	Black
GLHPDLTE-LTW	Two-17 feet Pro-Flex™ Plus 195 (LTE) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	White
GLHPDLTEMIMO-LTB	Two-17 feet Pro-Flex™ Plus 195 (LTE) Two-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	Black
GLHPDLTEMIMO-LTW	Two-17 feet Pro-Flex™ Plus 195 (LTE) Two-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	White
GLHPDM3-LTB	Two-17 feet Pro-Flex™ Plus 195 (LTE) Three-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	Black
GLHPDM3-LTW	Two-17 feet Pro-Flex™ Plus 195 (LTE) Three-17 feet Pro-Flex™ Plus 195 (802.11ac Wi-Fi) One-17 feet RG-174/U (GNSS)	SMA Plug (LTE) Reverse Polarity SMA Plug (Wi-Fi) SMA Plug (GNSS)	1-inch hole, 3/4-inch long (.75") zinc stud mount with jam nut	White

* If installed according to PCTEL's installation instructions ** Consult Customer Service for other connector options

Multi-Band LTE MIMO & 802.11ac Antennas with High Rejection GPS/GLONASS, Compact Footprint

ELECTRICAL SPECIFICATIONS - RF ANTENNAS

Elements	F1 (MHz)	F2 (MHz)	SWR***	Gain (dB)****			Efficiency****		Polarization	Nominal Impedance	Maximum Power
				Max	Typical	Range (+/-)	Avg	Range +/-			
LTE Primary (1&2)	617	698	2.2	4.0	2.2	1.8	54%	19%	Linear	50 ohms	50 watts
	698	802	1.6	5.0	4.0	0.9	68%	5%			
	824	960	1.4	5.5	4.3	1.2	61%	5%			
	1710	2200	1.4	6.5	5.5	0.9	78%	3%			
	2300	2690	1.5	8.8	6.8	1.9	78%	4%			
	3400	3800	1.8	6.8	6.1	0.7	73%	3%			
	5150	5950	1.4	10.1	8.6	1.5	81%	13%			
Wi-Fi	2400	2500	1.2	9.4	9.0	0.4	81%	3%			
	4900	5900	1.4	9.4	8.9	0.5	70%	12%			

ELECTRICAL SPECIFICATIONS - RF ANTENNAS, continued

Minimum Isolation (dB)***

Elements	LTE Primary (1&2)		Wi-Fi	
LTE Primary (1&2)	617-960 MHz	9.0	698-960 MHz	20.0
	1.71-2.7 GHz	15.0	1.71-2.7 GHz	17.0
	3.3-3.59 GHz	32.0	3.3-5.9 GHz	35.0
Wi-Fi			2.4-2.5 GHz	21.0
			4.9-5.9 GHz	27.0

ELECTRICAL SPECIFICATIONS - GNSS ANTENNA

Frequency Range	Amplifier Gain	Nominal Impedance	Output VSWR	DC Current	DC Voltage	Noise Figure
1565-1608 MHz	@ 3.0 VDC: 26 dB (typical)	50 ohms	2.0:1 (maximum)	25 mA (typical)	2.8-6.0 V (operating) ≤ 12.0 V (survivability)	< 2.0 dB (typical)

ELECTRICAL SPECIFICATIONS - GNSS ANTENNA, continued

Out-of-Band Rejection	Nominal Gain	Polarization
f0 = 1586 MHz / f0 ± 50 MHz: ≥ 60 dBc / f0 ± 60 MHz: ≥ 70 dBc	3 dBic @ 90° / -2 dBic @ 20°	Right hand circular

MECHANICAL SPECIFICATIONS

Dimensions (W x H)	Weight	Radome Construction	Operating/Storage Temperature	Gasket Design & Construction
4.05 W x 3.46 H in (10.3 x 8.8 cm)	2.3 lbs (3-port models) 2.9 lbs (5-port models) 3.1 lbs (6-port models)	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.

*** SWR and isolation measured with 17-ft cables and 2-ft ground plane **** Gain and efficiency measured with no cable and 2-ft ground plane.
3M is a registered trade mark of 3M Company.