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# Vehicular 5-Port MIMO Antenna

## VHP69273x22G



Patent Pending VHP69273x22G

### 698-960 / 1710-2700 / 2300-2700 / 4900-5900 MHz + GPS MIMO ANTENNA

The Laird vehicular 5-port MIMO antenna covers the 698-960 / 1710-2700 MHz, 2300-2700 / 4900-5900 MHz as well as GPS (1575.42 MHz) frequency ranges. Configured with 4-port, dual-band elements in addition to 1-port with integrated GPS.

Connector options include SMA male connectors for 3G/4G LTE and GPS ports with an RPSMA male connector for the WiFi port. The housing incorporates a low-profile, rugged design that meets IP67 standards. The antenna also features high impact, UV-resistant polycarbonate plastic available in black or white.

### SPECIFICATIONS

| PARAMETER                        | PERFORMANCE                                     |               |                           |               |
|----------------------------------|---|---------------|---------------------------|---------------|
| Model Number                     | VHP69273B22G-518A (Black)                       |               | VHP69273W22G-518A (White) |               |
| No. of Ports                     | 5 (2-ports 3G/4G LTE, 2-ports WiFi, 1-port GPS) |               |                           |               |
|                                  | 3G/4G Port                                      |               | WiFi Port                 |               |
| Frequency Bands (MHz)            | 698-960 MHz                                     | 1710-2700 MHz | 2300-2700 MHz             | 4900-5900 MHz |
| Peak Gain * dBi                  | 4.1   | 5.9           | 6.2                       | 6.5           |
| Max Gain +/- 30 above horizon    | N/A   | N/A           | N/A                       | 6.2           |
| VSWR* Typical                    | < 1.7:1   | < 1.6:1       | < 1.7:1                   | < 1.4:1       |
| VSWR * Max                       | < 2.0:1   | < 2.0:1       | < 2.0:1                   | < 2.0:1       |
| Typical Port-to-Port Isolation * | 698-960   | 1710-2700     | 2300-2700                 | 4900-5900     |
| LTE 1-to-LTE 2                   | > 14 dB   | > 26 dB       | > 28 dB                   | N/A           |
| LTE 1-to-WiFi 1                  | > 27 dB   | > 18 dB       | > 20 dB                   | > 31 dB       |
| LTE 1-to-WiFi 2                  | > 26 dB   | > 23 dB       | > 23 dB                   | > 29 dB       |
| LTE 2-to-WiFi 1                  | > 27 dB   | > 23 dB       | > 23 dB                   | > 28 dB       |
| LTE 2-to-WiFi 2                  | > 26 dB   | > 18 dB       | > 20 dB                   | > 33 dB       |
| WiFi 1-to-WiFi 2                 | N/A   | N/A           | > 21 dB                   | > 29 dB       |
| Nominal Impedance                | 50 Ω  |               |                           |               |
| Polarization                     | Vertical Linear                                 |               |                           |               |
| Azimuth Beam Width               | Omnidirectional                                 |               |                           |               |
| Input Power, Max                 | 50 watts (ambient temp of 25°C/ 77°F)           |               |                           |               |
| Operating Temperature            | -30° C - +70° C (-22°F to +158°F)               |               |                           |               |
| Dimensions (dia. x hgt)          | 132 mm x 87 mm (5.2" x 3.4")                    |               |                           |               |
| Weight                           | Approximately 1.16kg (2.56lbs)                  |               |                           |               |
| RF Connector                     | SMA-Male (3G/4G LTE port)                       |               | RPSMA-Male (WiFi port)    |               |
| Cable (exposed length)           | LMR195M- 518.2 cm (17 ft)                       |               |                           |               |
| Radome / Baseplate Material      | PC, UL94 - V0 Rating, UV Stable (Black & White) |               |                           |               |
| Material Compliance              | ROHS compliant                                  |               |                           |               |
| IP Dust & Water Ingress Rating   | IP67  |               |                           |               |

\*Measured on 1 ft. (30.48 cm) diameter ground plane

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## GPS ANTENNA SPECIFICATIONS

| PARAMETER   |                 | PERFORMANCE  |                   |     |
|---|-----------------|--|-------------------|-----|
| Frequency Band  |                 | 1575.42 MHz (GPS L1)                               |                   |     |
| Band Width  |                 | 6 MHz (Typical)                                    |                   |     |
| Amplifier Gain  |                 | 27 dB ± 3 dBc                                      |                   |     |
| Nominal Impedance                                     |                 | 50 Ω   |                   |     |
| Output VSWR   |                 | < 1.5:1  |                   |     |
| DC Voltage  |                 | 2.7 - 12 Vdc                                       |                   |     |
| DC Current  |                 | 20 mA (Nominal); < 30 mA (-40°C - +85°C)           |                   |     |
| Out-of-Band Signal Rejection                          |                 | > 40 dB rejection @ ± 50 MHz from center frequency |                   |     |
| Intermodulation@ CW Mode (-40°C - +85°C)              |                 |  |                   |     |
|   |                 | Int1   | Int2              | IM3 |
| Power, dBm  | -10(1842.8 MHz) | -10(2110 MHz)                                      | -100(1575.6 MHz)  |     |
| Power, dBm  | -10(829.58 MHz) | -10(2405 MHz)                                      | -100(1575.42 MHz) |     |
| Power, dBm  | -10(755.42 MHz) | -10(820 MHz)                                       | -100(1575.42 MHz) |     |
| Input 1 dB Compression @ 750 MHz, 2000 MHz & 3500 MHz |                 | > 10 dBm (-40°C - +85°C)                           |                   |     |
| RF Connector  |                 | SMA-Male   |                   |     |
| Cable (exposed length)                                |                 | RG174-518.2 cm (17ft)                              |                   |     |

## PART NUMBERS

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VHP69273B22G-518A 2-Ports 4G/LTE, 1-Port GPS: SMA Male; 2 Ports WiFi:RPSMA Male(Black)

VHP69273W22G-518A 2-Ports 4G/LTE, 1-Port GPS: SMA Male; 2 Ports WiFi:RPSMA Male(White)

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