COMBINATION ANTENNA

# GL9001A01 5G/LTE/Wi-Fi/GPS MIMO Antenna

**MODEL GL9001A01**

Modular multi-system antenna with separate cellular, Wi-Fi and GPS specifications and SMA plug connections.



**KEY PERFORMANCE**

**700–960 / 1710–2700 / 3300–3800 / 4200–5000 MHz**
CELLULAR BANDS

**2400–2500 / 5150–5850 / 5925–7125 MHz**
WI-FI BANDS

**1560 / 1575.42 / 1602 MHz**
GPS FREQUENCIES

## TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **5G / LTE** | |
| **Frequency bands** | 700–960 / 1710–2700 / 3300–3800 / 4200–5000 MHz |
| **VSWR bands** | 700–960 / 1710–2700 / 3300–3800 / 4200–5000 MHz |
| **VSWR limits by band** | ≤3.8 / ≤2.5 / ≤2.5 / ≤3.0 |
| **Peak gain by band** | 0.5 / 2.0 / 2.0 / 2.0 (unit not stated in source table) |
| **Nominal impedance** | 50 Ω |
| **Polarization** | Vertical |
| **Connector** | SMA plug |
| **Material** | PCB + coaxial cable |
| **Cable** | RG174, black |
| **Operating temperature** | −20 to +80°C |
| **Storage temperature** | −20 to +80°C |
| **Antenna color** | Black |

**NOTES**

Cellular values follow the main specification (source p3). The engineering drawing (p7) lists different VSWR limits: ≤3.5 / ≤2.0 / ≤2.5 / ≤2.0. Wi-Fi specifications include 5925–7125 MHz (p4), which the drawing omits. Cellular, Wi-Fi and GPS temperature limits are listed separately.

## WI-FI, GPS & MECHANICAL SPECIFICATIONS

| | |
|---|---|
| **WI-FI** | |
| **Frequency bands** | 2400–2500 / 5150–5850 / 5925–7125 MHz |
| **VSWR** | 2.0 (source table) |
| **Peak gain** | 2.0 dBi |
| **Nominal impedance** | 50 Ω |
| **Polarization** | Linear |
| **Connector** | SMA plug |
| **Material** | PCB + coaxial cable |
| **Cable** | RG174 |
| **Operating temperature** | −40 to +80°C |
| **Storage temperature** | −40 to +85°C |
| **Antenna color** | Black |
| **GPS CERAMIC PATCH / LNA** | |
| **Ceramic patch frequency** | 1560 / 1575.42 / 1602 MHz |
| **Ceramic patch impedance / VSWR** | 50 Ω nominal / ≤2.0 |
| **Ceramic patch polarization** | RHCP |
| **Connector** | SMA plug |
| **Ceramic patch zenith gain** | 3 dBi |
| **LNA frequency** | 1560 / 1575.42 / 1602 MHz |
| **LNA impedance / VSWR** | 50 Ω nominal / ≤2.0 |
| **LNA gain at 2.8 V** | 28 ±2 dB typical |
| **DC power input** | 2.5–5.5 V |
| **Cable** | RG174, black |
| **Operating temperature** | −40 to +80°C |
| **Storage temperature** | −40 to +85°C |
| **MECHANICAL / PACKING** | |
| **Design** | Modular baseboard with reserved positions; switchable 5–9-in-1 design |
| **Packing** | 50 pcs/PE bag; 1000 pcs/carton; adjusted to actual order quantity |
| **Drawing configuration** | 4 cellular + 4 Wi-Fi + 1 GNSS leads |
| **Cable length** | 3000 ±100 mm |
| **Main dimensions** | Ø140 ±1.5 mm; height 84.5 ±1.5 mm |
| **Thread** | M20 × 1; 18 ±1 mm |

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# Measured Gain & Efficiency

Measured sample results. These do not replace the nominal specification limits.

## Cellular port 1

Source test table, page 12

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 700MHz | 27.11 | 0.78 |
| 960MHz | 20.55 | 0.43 |
| 1.71GHz | 31.94 | 2.60 |
| 2.7GHz | 36.10 | 2.28 |
| 3.3GHz | 43.88 | 3.67 |
| 3.8GHz | 42.57 | 3.21 |
| 4.2GHz | 54.74 | 3.82 |
| 5GHz | 53.09 | 3.44 |

## Cellular port 2

Source test table, page 22

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 690MHz | 40.02 | 1.41 |
| 960MHz | 22.23 | 0.43 |
| 1.71GHz | 37.84 | 1.81 |
| 2.7GHz | 33.81 | 2.04 |
| 3.3GHz | 41.11 | 3.41 |
| 3.8GHz | 42.99 | 2.12 |
| 4.2GHz | 40.11 | 3.01 |
| 5GHz | 41.07 | 3.36 |

## Cellular port 3

Source test table, page 32

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 690MHz | 30.01 | 0.49 |
| 960MHz | 33.25 | 0.58 |
| 1.71GHz | 38.19 | 2.09 |
| 2.7GHz | 42.80 | 3.34 |
| 3.3GHz | 37.83 | 2.96 |
| 3.8GHz | 32.15 | 2.29 |
| 4.2GHz | 44.08 | 3.63 |
| 5GHz | 38.98 | 2.12 |

## Cellular port 4

Source test table, page 42

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 690MHz | 43.18 | 2.34 |
| 960MHz | 25.32 | 0.57 |
| 1.71GHz | 33.82 | 2.05 |
| 2.7GHz | 43.19 | 2.26 |
| 3.3GHz | 35.58 | 2.30 |
| 3.8GHz | 35.85 | 2.29 |
| 4.2GHz | 38.25 | 2.26 |
| 5GHz | 31.94 | 2.57 |

# Measured Gain & Efficiency

Measured sample results. These do not replace the nominal specification limits.

## Wi-Fi 6E port 1

Source test table, page 52

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 2.4GHz | 29.99 | 2.46 |
| 2.45GHz | 28.83 | 2.27 |
| 2.5GHz | 26.31 | 2.41 |
| 5.15GHz | 47.01 | 3.59 |
| 5.55GHz | 43.37 | 3.37 |
| 5.85GHz | 43.66 | 3.70 |
| 5.92GHz | 42.07 | 3.62 |
| 6.5GHz | 47.22 | 4.18 |
| 7.12GHz | 46.50 | 3.14 |

## Wi-Fi 6E port 2

Source test table, page 60

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 2.4GHz | 24.59 | 2.47 |
| 2.45GHz | 31.24 | 2.66 |
| 2.5GHz | 30.70 | 2.42 |
| 5.15GHz | 41.70 | 2.55 |
| 5.55GHz | 40.91 | 3.37 |
| 5.85GHz | 35.22 | 2.26 |
| 5.92GHz | 42.41 | 3.03 |
| 6.5GHz | 46.33 | 3.76 |
| 7.12GHz | 43.72 | 3.67 |

## Wi-Fi 6E port 3

Source test table, page 68

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 2.4GHz | 44.66 | 2.70 |
| 2.45GHz | 43.00 | 2.72 |
| 2.5GHz | 38.88 | 1.86 |
| 5.15GHz | 42.38 | 2.90 |
| 5.55GHz | 40.26 | 2.97 |
| 5.85GHz | 45.96 | 3.05 |
| 5.92GHz | 41.25 | 3.29 |
| 6.5GHz | 44.51 | 3.78 |
| 7.12GHz | 44.52 | 3.46 |

## Wi-Fi 6E port 4

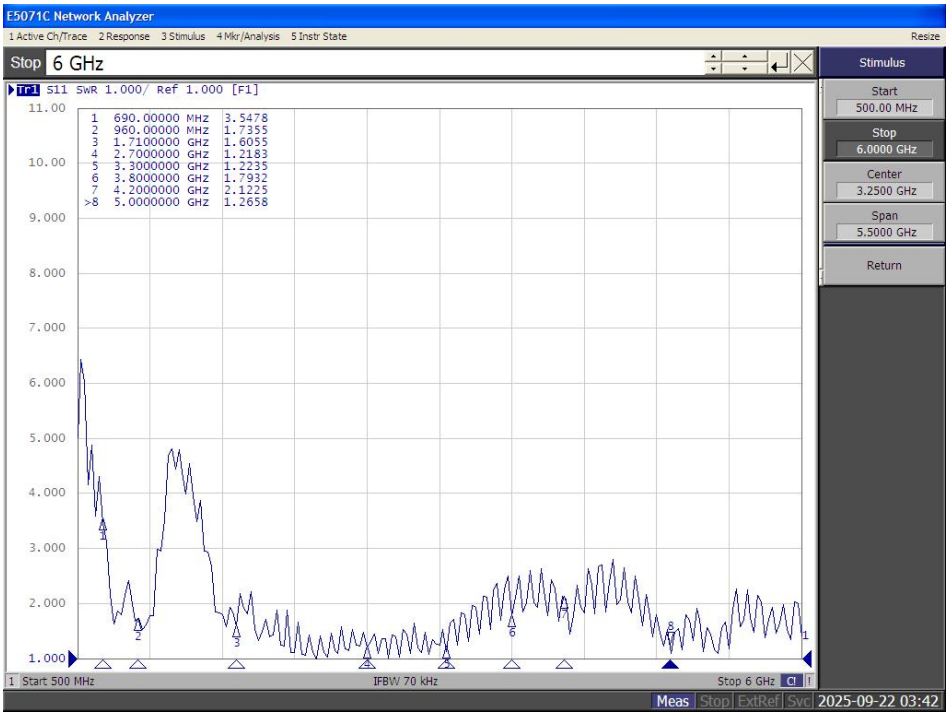
Source test table, page 76

| Frequency | Efficiency % | Gain dBi |
|---|---|---|
| 2.4GHz | 31.39 | 2.75 |
| 2.45GHz | 33.99 | 2.55 |
| 2.5GHz | 30.36 | 2.01 |
| 5.15GHz | 35.93 | 2.10 |
| 5.55GHz | 36.05 | 2.35 |
| 5.85GHz | 33.06 | 2.98 |
| 5.92GHz | 41.95 | 3.78 |
| 6.55GHz | 40.24 | 3.72 |
| 7.12GHz | 47.81 | 4.02 |

# Reference Test Figures

Measured sample results. These do not replace the nominal specification limits.

### Cellular port 1: source network-analyzer trace




### GPS: source radiation-pattern reference

