



5G NR/4G LTE/3G/2G MIMO and GNSS Heavy-Duty Screw Mount Antenna

Description

The Next-Gen Robust 3-in-1 Solution For 5G NR MIMO and GPS/GNSS Applications

The 3-in-1 antenna combines 2x 5G NR MIMO with 1x GNSS/GPS and delivers faster and more responsive mobile broadband experiences. 2J7A84BGFa delivers powerful worldwide connectivity and is compatible with 5G NR/4G LTE MIMO, 3G and 2G bands (617-5925 MHz frequency range). This antenna facilitates communications in MIMO or separate protocols configuration, allowing devices to remain online while moving through different coverage areas. These features make it a superior candidate for the next generation of terrestrial mobile services including high-end public safety applications such as police, ambulance, fire services, rail vehicles, transportation, critical communications, and other industries. The easy-to-install heavy-duty design and SMA-Male High-Performance antenna integrates durability and efficiency into a permanent solution.

Suggested Applications:

– Terminals, Base Stations and Routers- Emergency Services- MIMO Device Connectivity- Industrial, Commercial and Residential IoT / Smart Home- Electrical and Environmental Monitoring- RFID Asset Tracking- Industrial Automation- Robotics- Real-Time Remote Control- Geo-Spatial Asset Tracking (Commercial Trucks, Fleet Management, Public Transportation, etc)- GPS-Enabled IoT Applications (Agriculture Equipment)- V2V, V2X and Fleet Management- Rail Vehicles

Cables 1-2: 5G NR MIMO Antenna

Cables 1-2 are designed for 5G NR devices that operate within all 5G NR, 4G LTE, FirstNet, CBRS, LPWA, CAT-X, CAT-Mx, CAT-NBx, NB-IoT, 3G and 2G standards (617 – 5925 MHz). The 5G NR technology introduces millimeter-wave (mmWave) frequency for new generation LTE bands and is the ideal solution for MIMO technology. It comes with standard 300 cm long LL195 Standard cable, a popular choice for in high-frequency applications up to 6 GHz. All cables are designed with omnidirectional radiation pattern and linear polarization for maximum 360-degree signal strength.

Cable 3: GNSS

Cable 3 is designed for precision navigational applications that operate within GPS and GLONASS standards. Designed with a hemispherical radiation pattern and right-hand circular polarization allows cable 3 to radiate on all planes and maximize connectivity by avoiding conflict with propagating signals, penetrating obstructions, reducing dead spots, boosting throughput and improving resistance to signal degradation caused by inclement weather conditions. Cable 3 can maintain an active gain of 23 dB @

3V and a noise figure parameter of 1.2 within the receiver system. The SAW post-filter blocks inadequate frequencies with an out of band rejection of ~32 dB across the 1575 – 1602 MHz bands. All our products have been tested by our expert engineers and measured in our certified CTIA 3D Anechoic Chamber. Please contact our experienced team for assistance with antenna selection and recommendations.

Installation / Environmental

The 2J7A84BGFa is protected with a robust and heavy-duty housing made with high-quality acrylonitrile styrene acrylate (ASA) UV stable material, known for its thermal resistant properties, and a plastic antenna base as an alternative low-cost solution to the metal base option. Ground plane independence and screw mount technology allow for solidly locking the antenna on top of its mounting location making its installation easy and reliable. Cables and connectors can be customized to specific requirements. The IP67 and IP69 ingress ratings provide this compact antenna with maximum protection against dust and water penetration, while the IK09 rating adds an extra level of anti-vandal security, with high impact resistance.

2J Antennas supports the health of our environment and manufactures all our products without hazardous materials making us fully REACH and RoHS compliant.

Technologies 5G, 4G, 3G and 2G

Standards 5G NR/4G LTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G

Frequency 617-960, 1427-2690, 3300-5000, 5150-5925

Return Loss (dB) ~-7.9, ~-13.3, ~-11.4, ~-12.9

VSWR ~2.6:1, ~1.7:1, ~1.9:1, ~1.7:1

Efficiency (%) ~44.1, ~56.3, ~44.0, ~42.4

Peak Gain (dBi) ~1.4, ~3.6, ~3.4, ~3.8

Impedance (Ohm) 50

Polarisation Linear

Radiation Pattern Omni-Directional

Max. Input Power (W) 35

Technologies 5G, 4G, 3G and 2G

Standards 5G NR/4G LTE/FirstNet/CBRS/LPWA/CAT-X/CAT-Mx/CAT-NBx/NB-IoT/3G/2G

Frequency 617-960, 1427-2690, 3300-5000, 5150-5925

Return Loss (dB) ~-7.7, ~-12.4, ~-11.9, ~-11.9

VSWR ~2.7:1, ~1.7:1, ~2.0:1, ~1.8:1

Efficiency (%) ~44.6, ~54.8, ~43.0, ~47.1

Peak Gain (dBi) ~1.5, ~3.6, ~3.5, ~3.8

Impedance (Ohm) 50

Polarisation Linear

Radiation Pattern Omni-Directional

Max. Input Power (W) 35

Standards GPS/QZSS/Galileo/GLONASS

Frequency 1575.42, 1598-1610

VSWR <=1.5:1 Impedance (Ohm) 50 Polarisation RHCP Active Gain (dB) 23 @ 3 V, 24 @ 5 V Saw

Filter Type Post-Filter Voltage (V) 2.7 - 5.5 Noise Figure (dB) 1.2 Current Consumption (mA) 15 - 25

Power Consumption (mW) 40.5 - 137.5 Out of Band Rejection (dB) 32

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