TRNM[G]-7-60-NJ

Standard four hole rail fixing
2x2 MiMo Cell / LTE / WiFi 2.4/5.0
Optional Integrated GPS / GNSS / Beidou antenna

The TRNM[G] MiMo antenna series is designed specifically for use on trains, trams and buses underground or over ground. Incorporating two elements operating wideband across all frequencies from 698MHz to 6000MHz the TRNM[G] range is versatile and future proof.

The TRNM[G] series covers GSM, 700 MHz LTE, 800MHz TETRA and Trunking bands along with all Cellular and GSM frequencies, 2.4 & 5.8GHz WLAN, 2.6 GHz LTE and WiMAX all in one housing.

The TRNM[G] has two DC grounded radiating elements, in versions with a GPS module it is protected by a gas discharge surge arrestor.

Housed in a high impact, flame retardant Ultem housing, the TRNM[G] series is weatherproof ensuring that the antenna’s performance is never compromised.

Technical Drawing
GSM-R / LTE
MiMo Transit Antenna with GPS

Electrical Data

Typical VSWR *

Typical Isolation *

Swept Peak Gain *

* Measured on a 600 x 600 mm (2 x 2') ground plane with 1 m (3') of low loss cable

* Simulated in CST Microwave Studio on a 600 x 600 mm (2 x 2') ground plane with 1 m (3') of low loss cable
GSM-R / LTE
MiMo Transit Antenna with GPS

Patterns

Typical 3D Pattern - 700MHz

Typical 3D Pattern - 900MHz

Typical 3D Pattern - 1800MHz

Typical 3D Pattern 2100MHz

Typical 3D Pattern 2500MHz

Typical 3D Pattern 5500MHz

Typical E-Plane Pattern - (GPS) 1575MHz

3D patterns simulated with both elements fed on a 600 x 600 (2 x 2) ground plane without cable.
## GSM-R / LTE

**MiMo Transit Antenna with GPS**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>TRNM-740-N</th>
<th>TRNM[1-7-604-N]</th>
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</thead>
</table>

### Electrical Data

- **Frequency Range (MHz)**: 2 x 698-960 / 1700-2100 MHz
- **Peak Gain Isotropic** ****: 6dB
- **4.9-60 Hz**: 10dB
- **Polarisation**: Vertical
- **Typical VSWR**: < 2.5:1
- **Correlation Co-efficient**: < 0.1
- **Typical Isolation**: < 15dB
- **Pattern**: Omni-directional
- **Impedance**: 500
- **Max Input Power (W)**: 60

### GPS Data

- **Frequency Range (MHz)**: - 1560-1612
- **Impedance**: - 500
- **LNA Gain**: - 26dB ± 3
- **Polarisation**: Right H and Circular
- **Operating Voltage**: - 3.5V DC
- **Current (Typical)**: - 15mA

### Antenna EMC Compliance

- **EN 301 489-1 V1.8.1 & EN 301 489-3 V1.6.1 & EN 50122-3-2:2015**

### Mechanical Data

- **Height (Incl. pad)**: 98 (3.86"
- **Width**: 87 (3.42"
- **Length**: 265 (10.4"

### Environmental Specification

- **Operating Temp (°C)**: -40° / +80°C (-40° / +168°F)
- **Radome Material**: Ultem 1000
- **Radome Flame Retardance Rating**: VO (UL 94)
- **Base Material**: Cast Aluminium (corrosion protected & powder coated)
- **Ingress Protection**: IP67 (Report No. 48621)

### Approvals Data

- **EN60155-2007 (Dry heat & Cooling)**, **EN1373:2010 & EN50155-2007 (Shock & Vibration)**, **EN45545 - HI.3 (flammability)**,
- **EN50124-1 (Rated Insulation UNom 17,25/27,5 KV | Short Circuit Current 25 Kg. 100ms)**

### Mounting Data

- **Fixing**: 4 x mounting holes to suit M12 bolts

### Termination Data

- **Comms**: 2 x N (female) - DC grounded
- **GPS**: -
- **TNC (female)**: - surge protected

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**Waiver**: The data given above is indicative of the performance of the product(s) under particular conditions and does not imply a guarantee of performance. These specifications are subject to change without notice.

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