



# Datasheet

## MCA4.L0610L

### Description:

High Performance mmWave Cable Assembly (Rated to 26.5GHz)  
with 610mm (24") RG-405 and 2 x 2.92(M) Connectors

### Features:

High Performance mmWave Cable Assembly  
Rated from DC to 26.5GHz  
2 x 2.92 (M) ST Connectors  
610mm (24") of RG-405 Cable  
RoHS & Reach Compliant

|                         |   |
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# 1. Introduction



Taoglas have developed a range of high frequency millimetre products with the quality and precision required for 5G NR for the millimetre wave spectrum. The diversity of applications and ever changing demands for higher frequency test systems are driving coaxial cable assemblies to the next level. The specification requirements around performance for test cables extend beyond the tight tolerance typically required for lab performance to a wider range of 5G applications.

Rated up to 26.5 GHz, the Taoglas RG-405 range includes cable assemblies terminating in 2.92(M) connectors provided in various standard length configurations.

## Features and Benefits

- High-frequency bands (DC to 26.5 GHz)
- Low-loss cable providing phase stability
- 2.92mm cross-mateable to other industry standards
- RoHS & REACH Compliant

## Typical Applications

- Communications Infrastructure
  - High-frequency, small cell-based wireless access points
  - MIMO ultra-high-speed outdoor backhaul fixed and moving wireless access points
- Satellite communications
- Military aerospace
- Test and measurement instrumentation

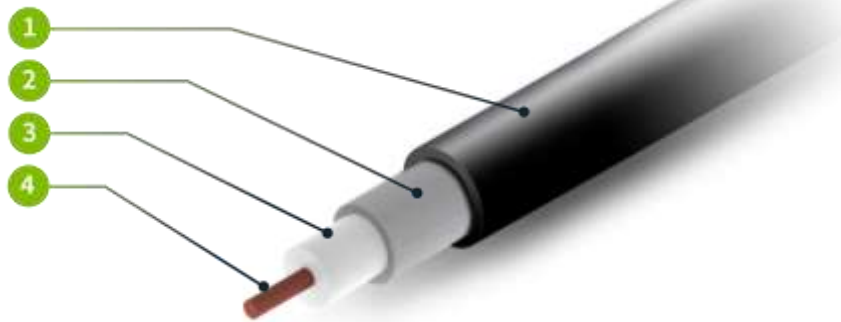
To complement the range, Taoglas also has adaptors and connectors to suit the 2.92mm(M) connector such as industry-standard SMA, 2.4mm, and SMP as well as on-board offerings including vertical and edge mount 2.92mm(F) connectors. Other cable assemblies and connector types are available subject to MOQ and NRE.

For more information or to discuss your mmWave project, contact your regional sales team.

## 2. Cable Specifications – RG-405

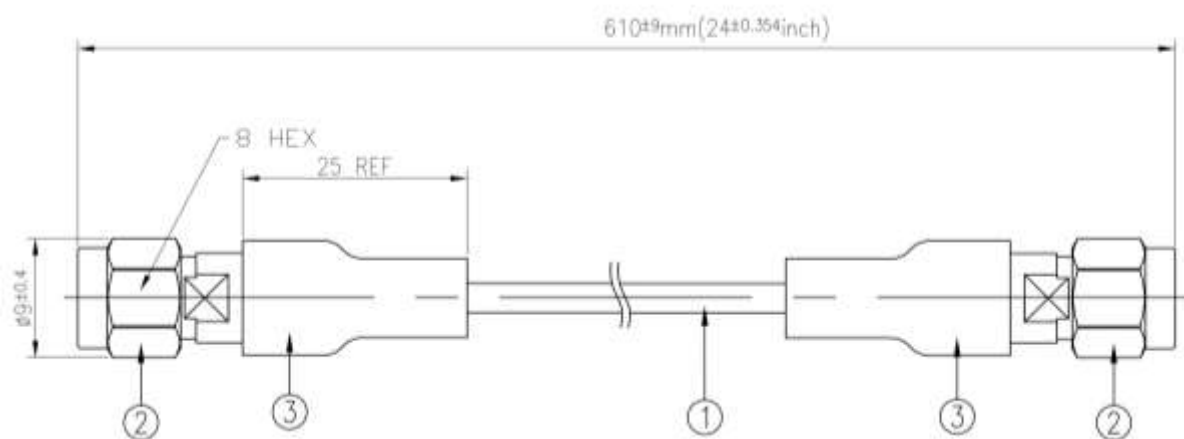
### 2.1 Cable Construction

Jacket  
Outer Conductor  
Insulation  
Inner Conductor



| Part Designation  | Material             | Outer Diameter |
|-------------------|----------------------|----------------|
| 1 Jacket          | PVC                  | 2.2mm±0.05mm   |
| 2 Inner Conductor | Silver plated copper | 0.51mm±0.01mm  |
| 3 Insulation      | PTFE                 | 1.68mm±0.05mm  |
| 4 Outer Conductor | Seamless copper tube | 2.20mm±0.05mm  |

### 2.2 Mechanical Drawing



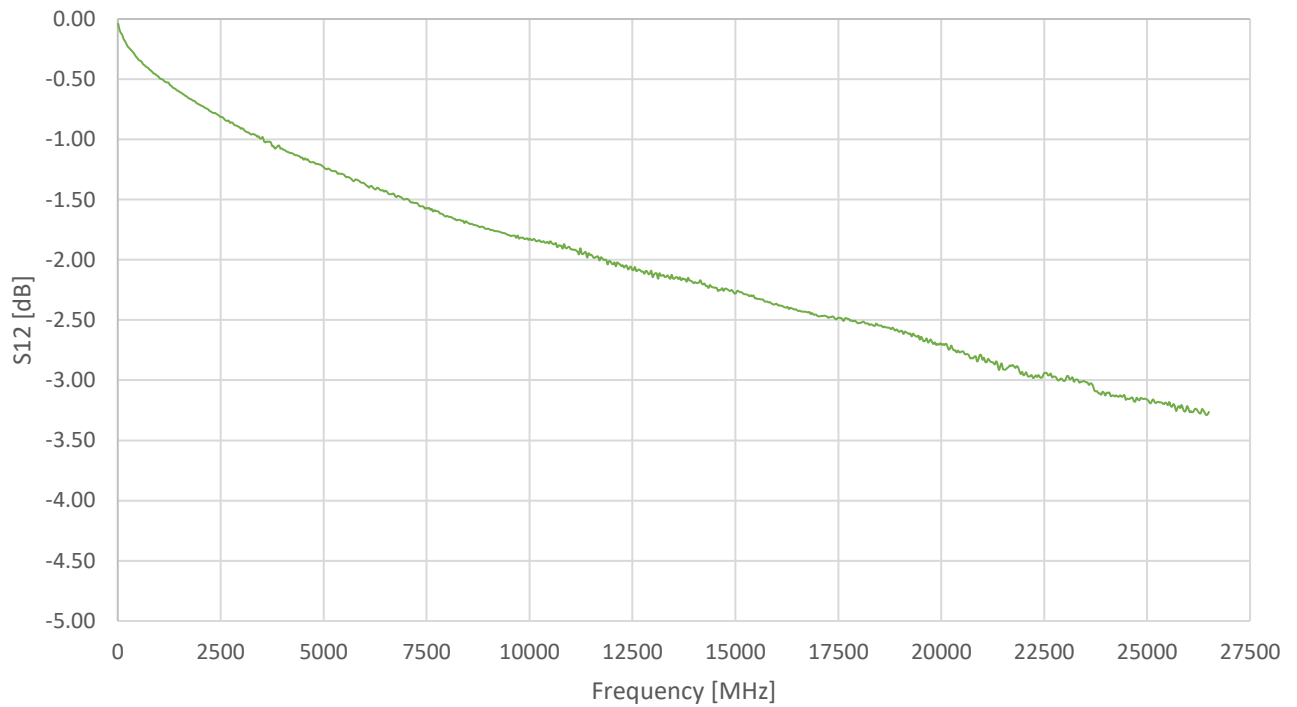
| Part Designation               | Material | Finish      | QTY |
|--------------------------------|----------|-------------|-----|
| 1 RG-405 Coaxial cable         | PVC      | Black       | 1   |
| 2 2.92(M) Connector for RG-405 | 303F     | Passivation | 2   |
| 3 Heat Shrink Tube             | PE       | Black       | 2   |

## 2.3 Cable Specifications – Rated to 26.5GHz

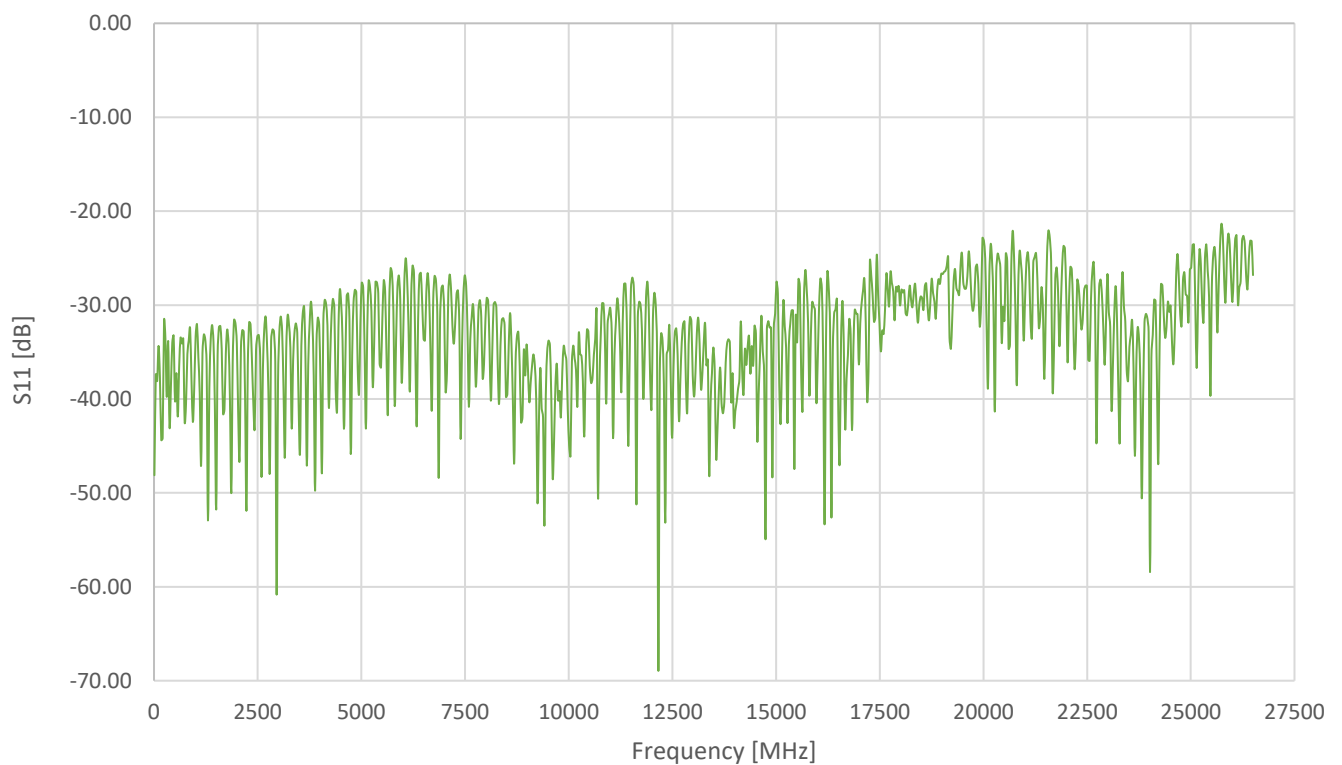
|                               |                        |      |      |
|-------------------------------|------------------------|------|------|
| Inner Conductor Diameter      | 0.51mm                 |      |      |
| Insulation                    | 1.68mm                 |      |      |
| Outer Connector Diameter      | 2.2mm                  |      |      |
| Capacitance                   | Nom. 95.1pF/m          |      |      |
| Insulation Resistance         | ≥5000 MΩ.km            |      |      |
| Voltage withstanding          | 3.5 (KVrms 50Hz/1 min) |      |      |
| Velocity (%)                  | 69.5%                  |      |      |
| Cut Off Frequency             | 61GHz                  |      |      |
| Max. operating voltage        | 1.5 (KVrms)            |      |      |
| Bend Radius                   | 7.63mm                 |      |      |
| Temperature                   | -55°C ~ +125°C         |      |      |
| Attenuation Performance (GHz) | 0.5                    | 1    | 5    |
| dB/ m                         | 0.45                   | 0.64 | 1.51 |

## 3. Cable Performance

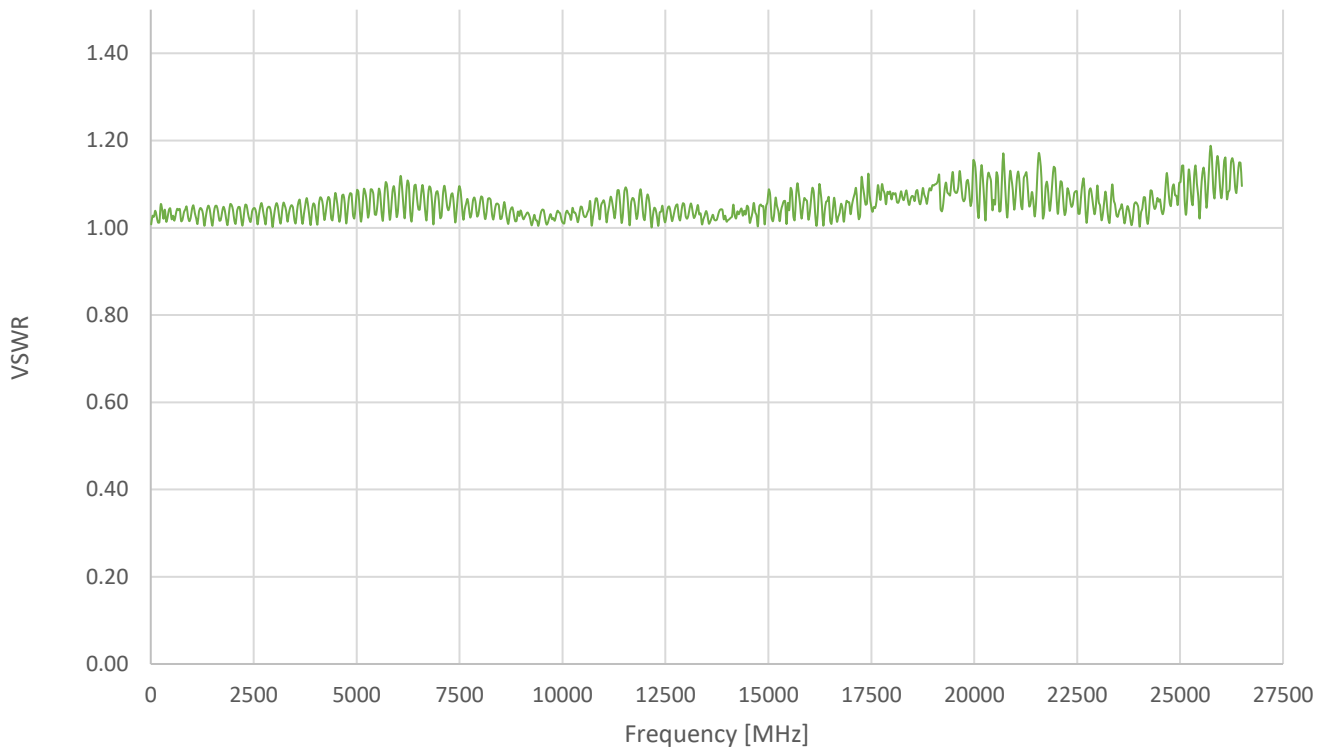
### 3.1 Insertion Loss



### 3.2 Return Loss



3.3 VSWR



Changelog for the datasheet

**SPE-20-8-117 – MCA4.L0610L**

**Revision: A (Original First Release)**

|         |             |
|---------|-------------|
| Date:   | 2020-11-13  |
| Notes:  |             |
| Author: | Jack Conroy |

**Previous Revisions**

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