



Datasheet

MCA3.J0304J

Description:

High Performance mmWave Cable Assembly (Rated to 40GHz)
with 304mm (12") GORE™ 3506 and 2.92(M) Connectors

Features:

High performance mmWave Cable Assembly
Rated from DC to 40GHz
2 x 2.92 (M) ST connector
304mm (12") of GORE™ 3506 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 40 GHz, the GORE™ 3506 range includes cable assemblies terminating in 2.92(M) connectors provided in various standard length configurations.

Features and Benefits

- High-frequency bands (DC to 40 GHz)
- Low-loss cable providing phase stability
- 2.92mm cross-mateable to other industry standards
- RoHS & REACH Compliant

Typical Applications

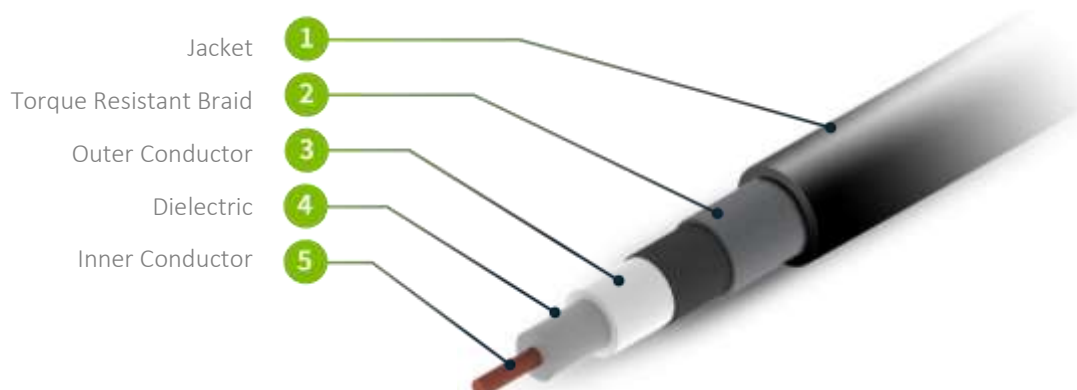
- Communications Infrastructure
 - High-frequency, small cell-based wireless access points
 - MIMO ultra-high-speed outdoor backhaul fixed and moving wireless access points
- Satellite communications
- Military aerospace
- Test and measurement instrumentation

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 Taoglas customer support team.

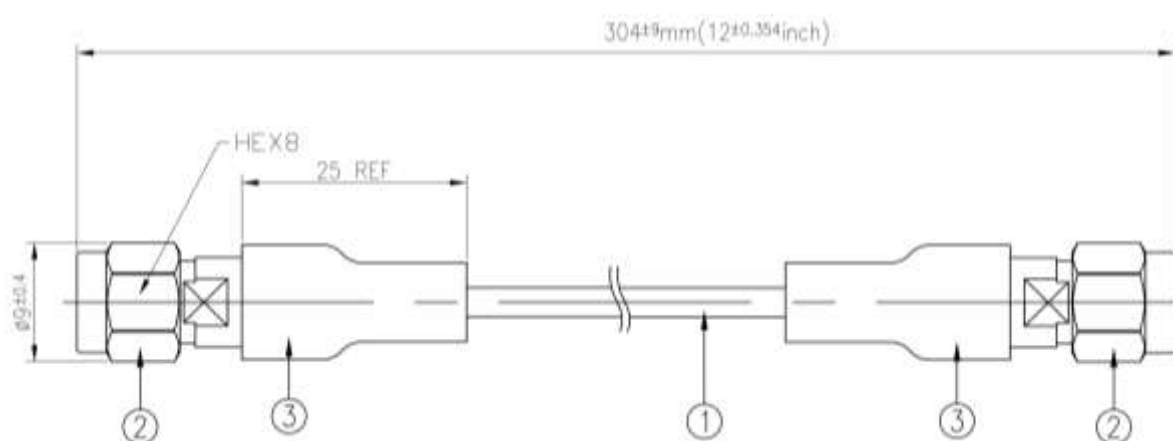
2. Cable Specifications – GORE™ 3506

2.1 Cable Construction



Part Designation	Material	Outer Diameter
1 Jacket	Perfluoroalkoxy (PFA)	2.2mm ±0.05mm
2 Torque Resistant Braid	GORE™ 3506 Braid	2mm ±0.05mm
3 Outer Conductor	Silver Plated	1.89mm ±0.05mm
4 Dielectric	Composite	1.38mm ±0.05mm
5 Inner Conductor	Silver Plated	0.5mm ±0.01mm

2.2 Mechanical Drawing



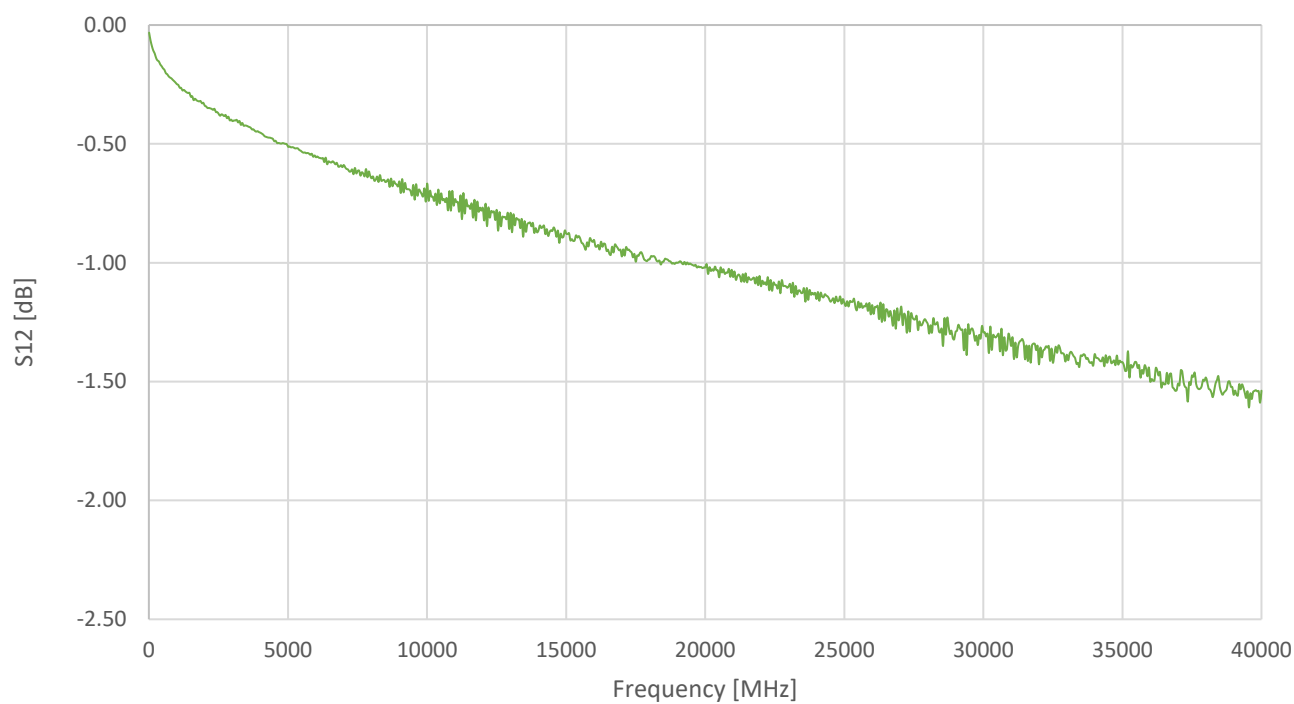
Part Designation	Material	Finish	QTY
1 GORE™ 3506 Coaxial cable	PVC	Gray	1
2 2.92(M) Connector for GORE™ 3506	303F	Passivation	2
3 Heat Shrink Tube	PE	Black	2

2.3 Cable Specifications – Rated to 40GHz

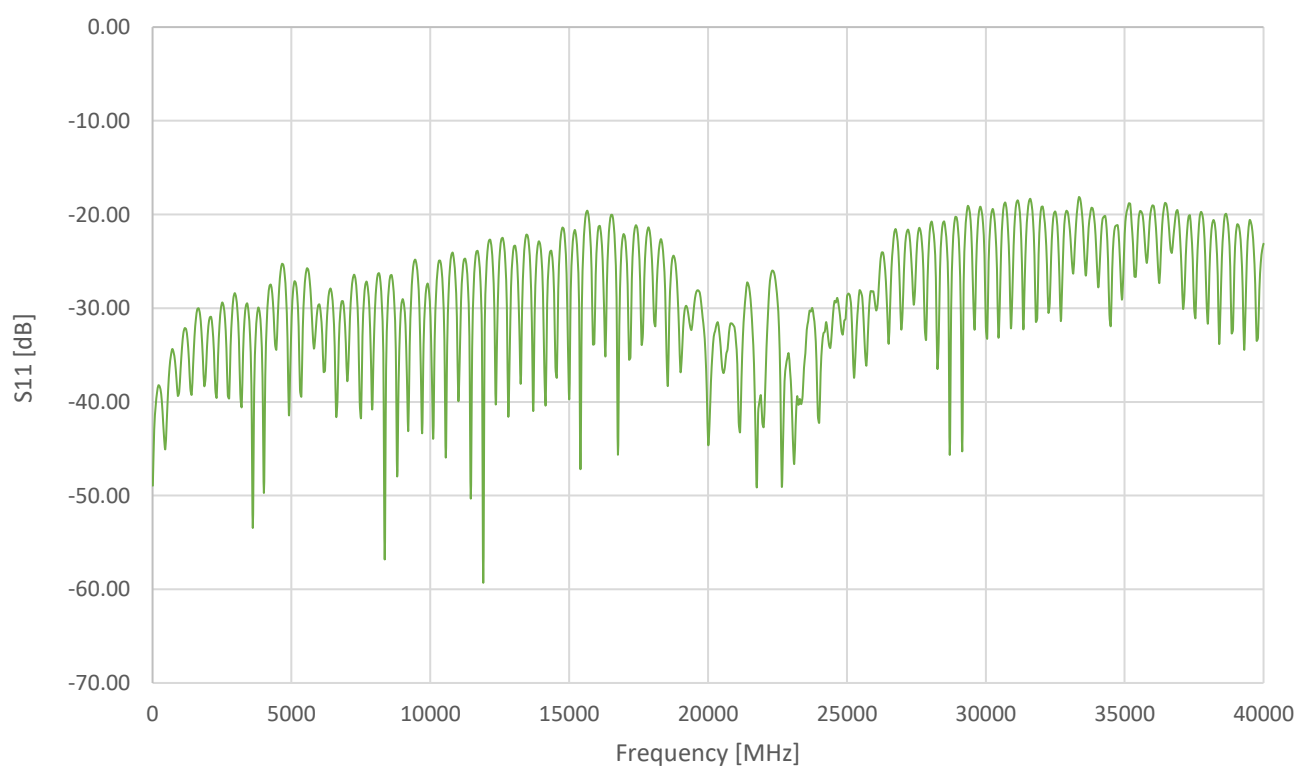
Conductor Type	Solid								
Conductor Diameter	0.5mm								
Dielectric	ePFTE								
Braid Diameter	2mm								
Overall Diameter	2.2mm								
Cable Weight	16g per m								
Dielectric Constant	1.5								
Vp (%)	82%								
Shielding Effectiveness	>90dB								
Attenuation Performance (GHz)	2	4	6	8	10	12	14	16	18
dB/ m	0.9	1.29	1.6	1.86	2.09	2.31	2.51	2.7	2.87
dB/100 ft	27.4	39.3	48.7	56.7	63.8	70.4	76.5	82.2	87.6

3. Cable Performance

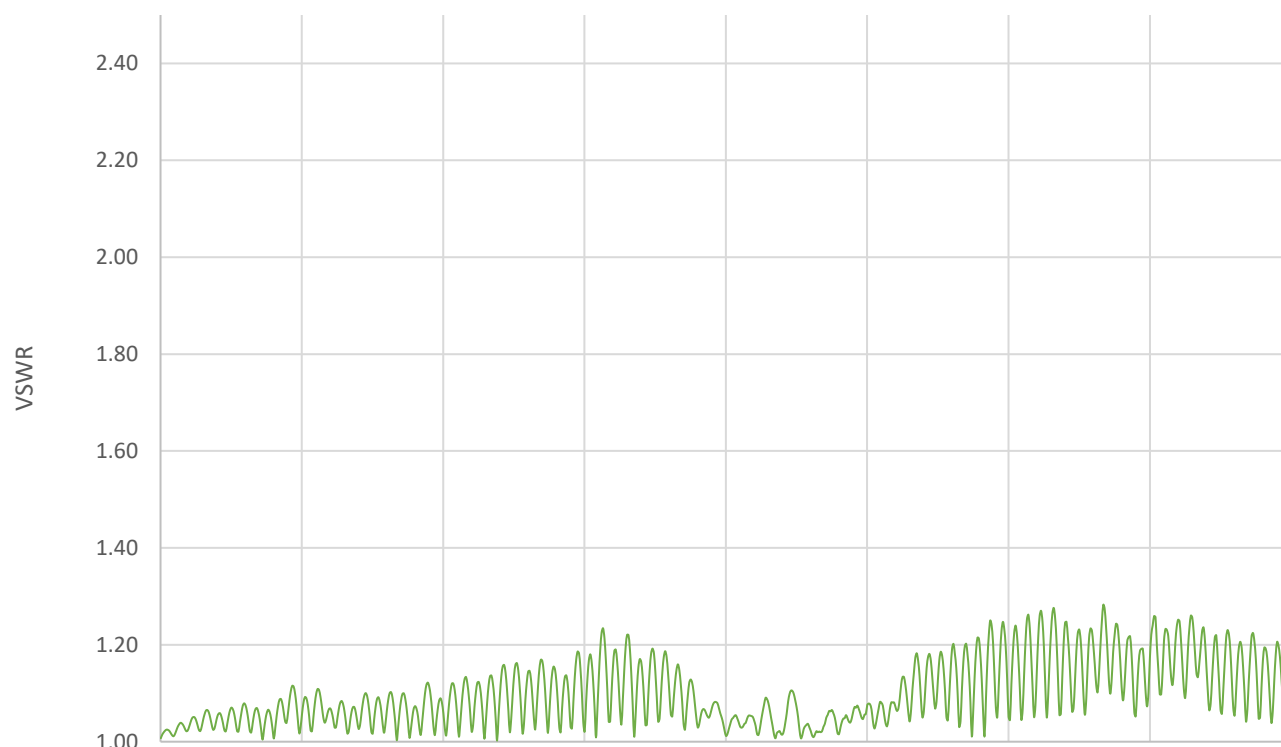
3.1 Insertion Loss



3.2 Return Loss



3.4 VSWR



Changelog for the datasheet

SPE-20-8-112 – MCA3.J304J

Revision: A (Original First Release)	
Date:	2020-11-06
Notes:	
Author:	Jack Conroy

Previous Revisions



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