



HARWIN

Test Report Summary

HT05202

RF Specification of
M80-307 and M80-317 Coax Contacts
from Datamate Mix-Tek/Datamate Coax series

1. Introduction

1.1. Description and Purpose

This report summarises the RF testing performed on the M80-307 and M80-317 Coax Contacts to establish performance to the Voltage Standing Wave Ration (VSWR), Return Loss, RF Impedance, and insertion loss. Contact technical@harwin.com if you require further information.

1.2. Conclusion

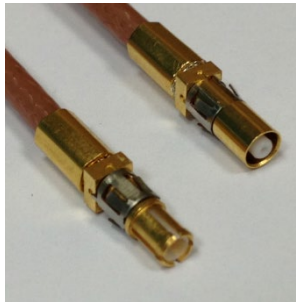
The following test data has been taken from Harwin test report 1467 which includes the full test setup. The RF performance has been tested up to 8.5GHz, which is expected to be acceptable to many engineering front-end applications. In particular, the results show less than 1dB insertion loss across the entire tested bandwidth.

2. Test Method and Results

2.1. List of Test Samples

- M80-307 = Female coax contact
- M80-317 = Male coax contact

2.2. Method Set-up



M80-307 and M80-317 coax contacts on the ends of the test cable assembly

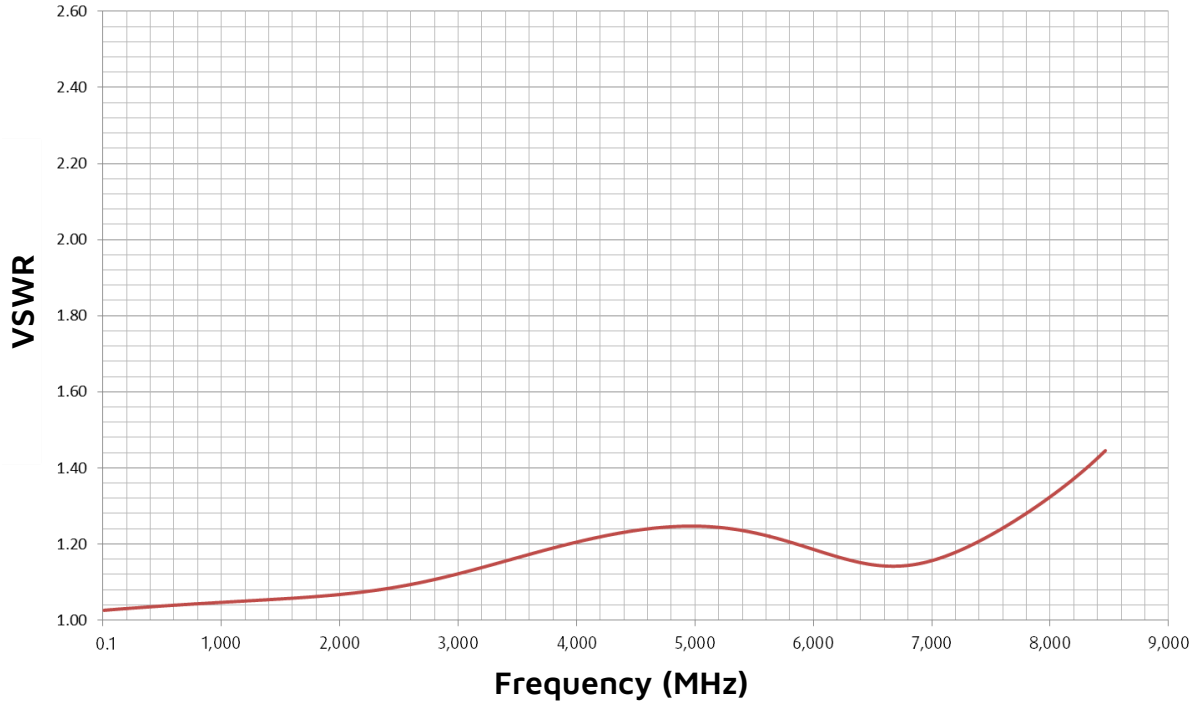


Typical test cable assembly with mated M80-307 and M80-317 coax contacts

2.3. Results

2.3.1. Voltage Standing Wave Ratio (VSWR)

VSWR - 100kHz to 8.5GHz



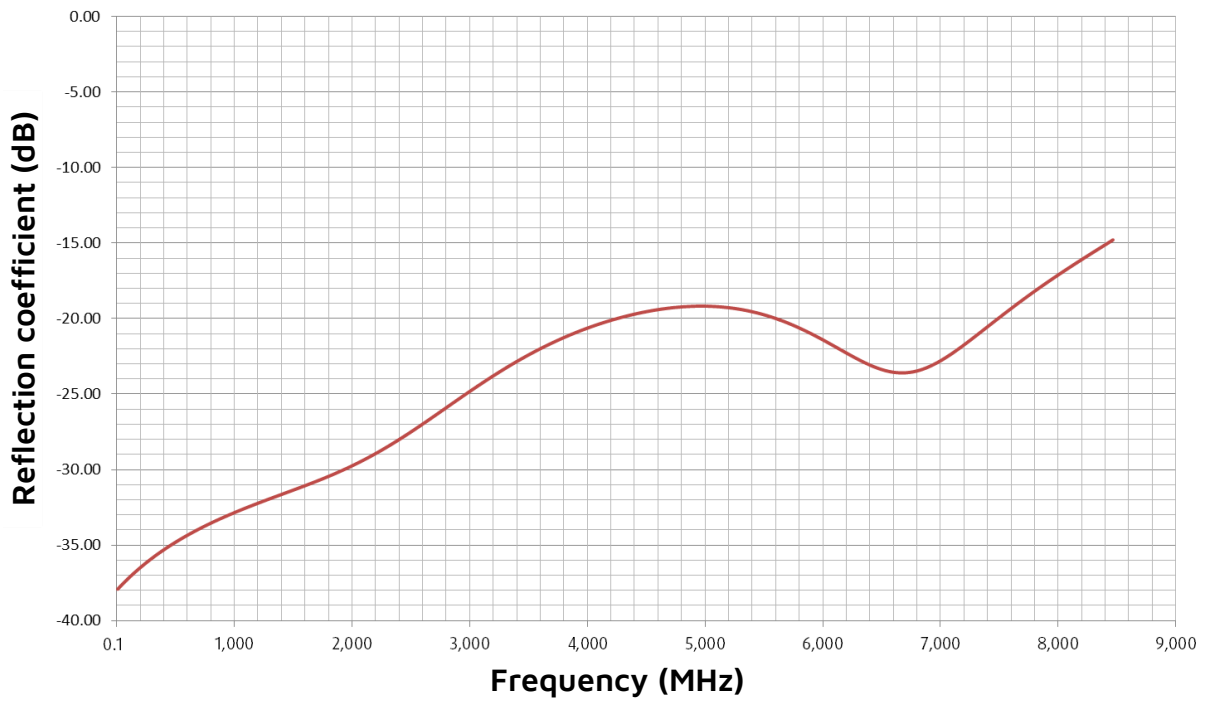
Points of note:

- 1.0 GHz = 1.04 VSWR
- 2.4 GHz = 1.08 VSWR
- 5.8 GHz = 1.21 VSWR



2.3.2. Return loss

Return Loss v Frequency |S11| - 100kHz to 8.5GHz



Points of note:

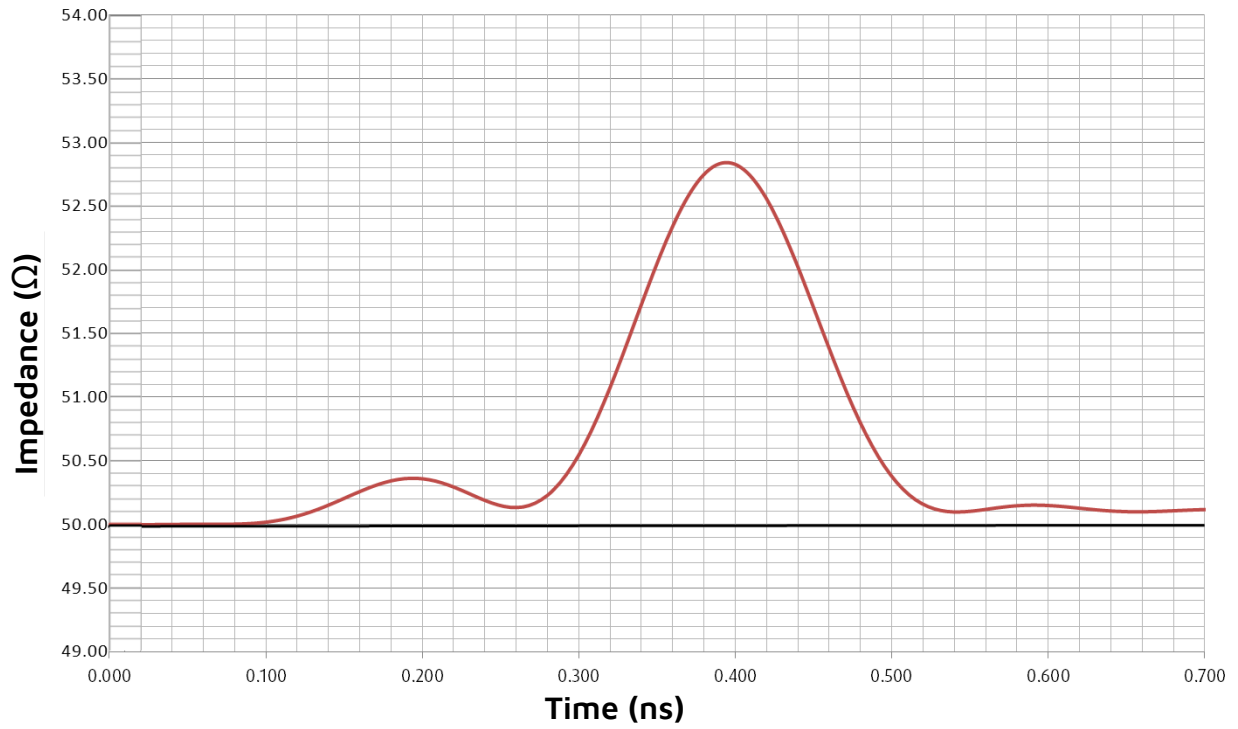
- 1.0 GHz = -32.8dB
- 2.4 GHz = -28.0dB
- 5.8 GHz = -20.6dB





2.3.3. RF impedance

Z<|S11| Time Domain measurements

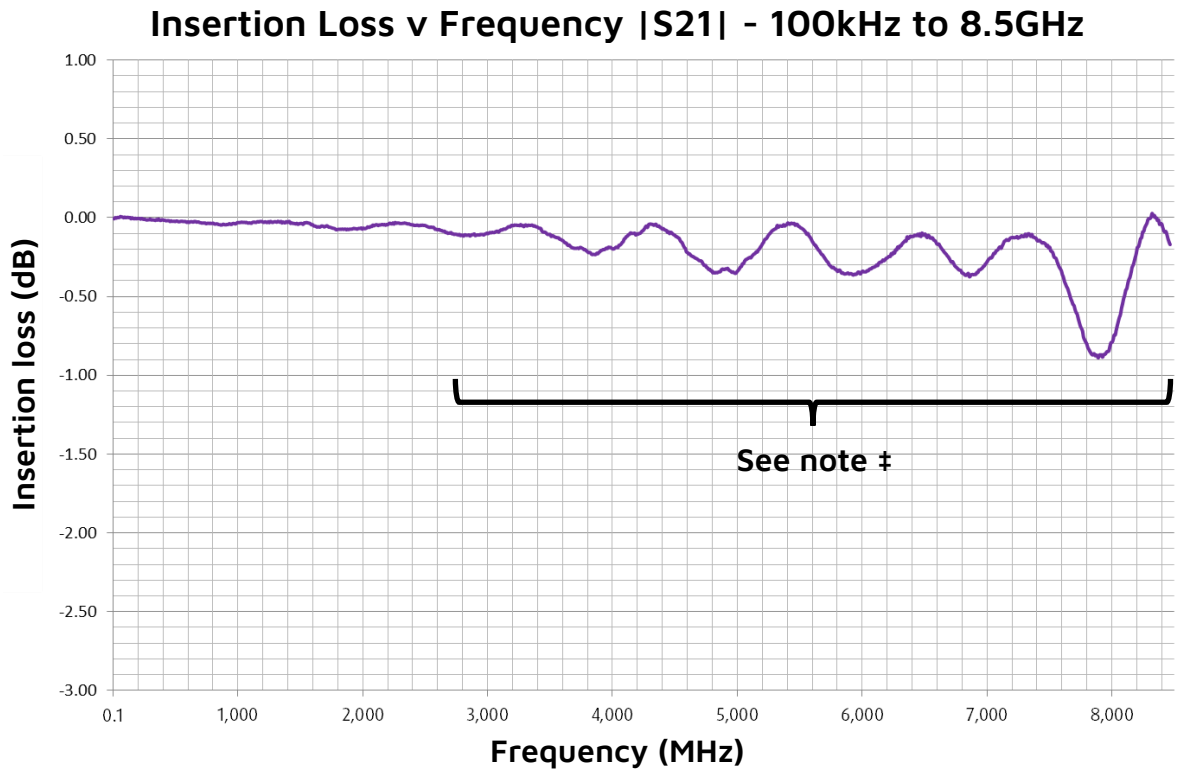


Points of note:

- The biggest variant is measured as 52.8Ω whilst stimulated up to 8.5GHz.



2.3.4. Insertion loss



Points of note:

- 1.0 GHz = -0.03dB
- 2.4 GHz = -0.05dB
- 5.8 GHz = -0.19dB
- ‡ This section of the graph shows ringing due to the test fixture. See Harwin test report 1467 for further details.