



## Harwin Test Report Summary

**HT05201**

RF Specification of M80-307  
and M80-317 Coax Contacts

Datamate **Coax**

A decorative graphic at the bottom of the page consisting of numerous thin, red, wavy lines that flow from the left side towards the right, creating a sense of motion and depth.

## 1. **Introduction**

### 1.1. Description

This report summarises the RF testing performed on the M80-307 and M80-317 Coax Contacts. The following test data has been taken from Harwin test report 1467 which includes the full test setup. Contact [Technical@harwin.com](mailto:Technical@harwin.com) if you require further information.

### 1.2. Conclusion

The RF performance has been tested up to 8.5GHz, which is expected to be acceptable to many engineering front-end applications. For example, showing less than 1dB insertion loss across the entire tested bandwidth.

## 2. **Test method and results**

### 2.1. List of test samples

Female coax connector: M80-307  
Male coax connector: M80-317



Figure 1 – The device under test, M80-307 and M80-317 coax contacts on sample 2 of the cable assembly manufactured for the test



Figure 2 – Sample 2 of the cable containing the mated M80-307 and M80-317 coax contact combination

## 2.2. Results

### 2.2.1. Voltage Standing Wave Ratio (VSWR):

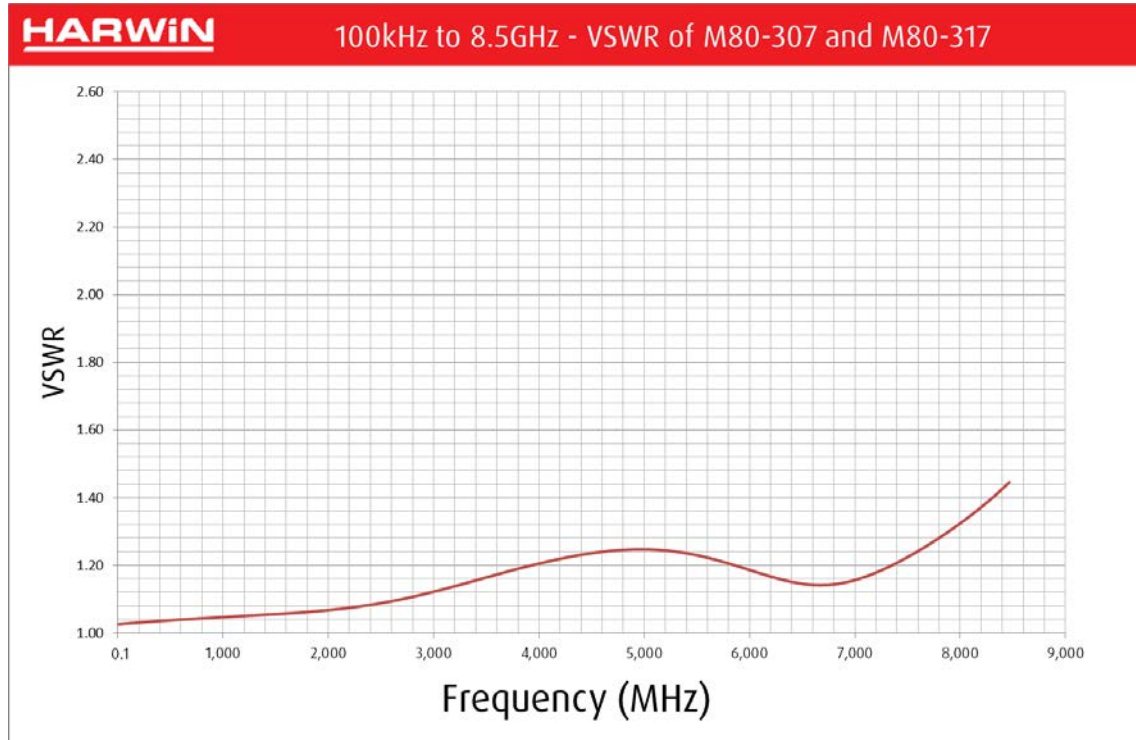


Figure 3 – VSWR of the mated M80-307 and M80-317 Harwin coax contacts

The key points are:

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

## 2.2.2. Return loss:

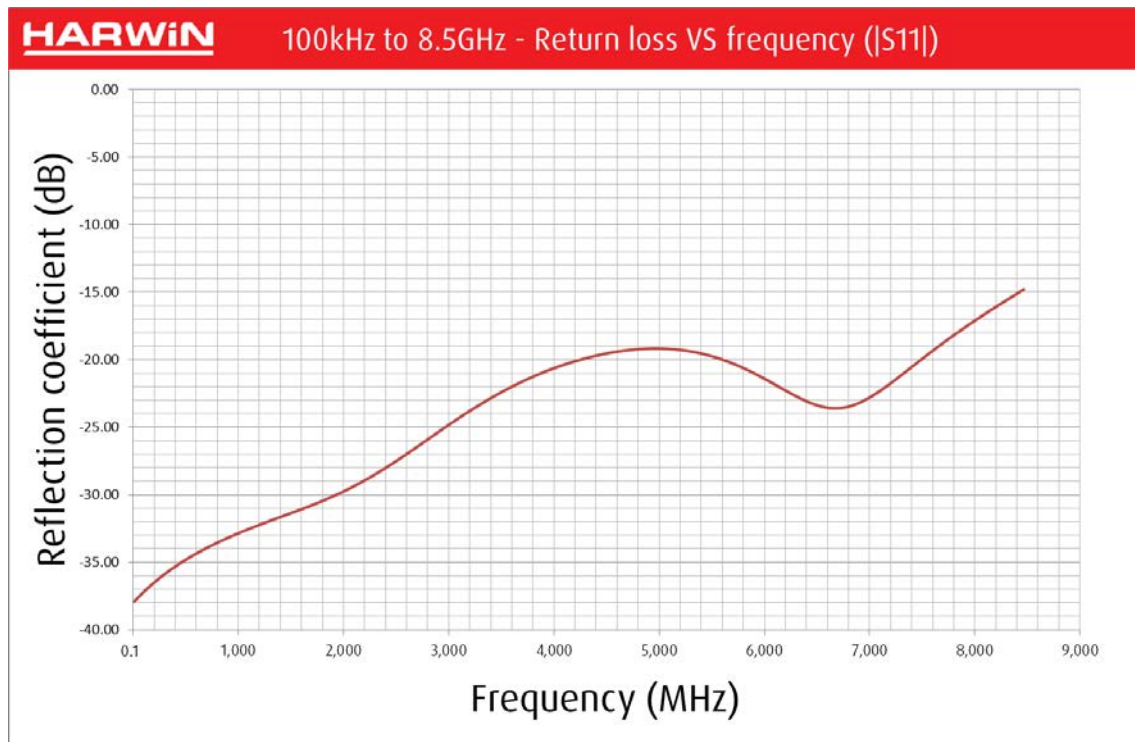


Figure 4 – Return loss of the M80-307 and M80-317 Harwin coax connectors

The key points are:

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

2.2.3. RF impedance:

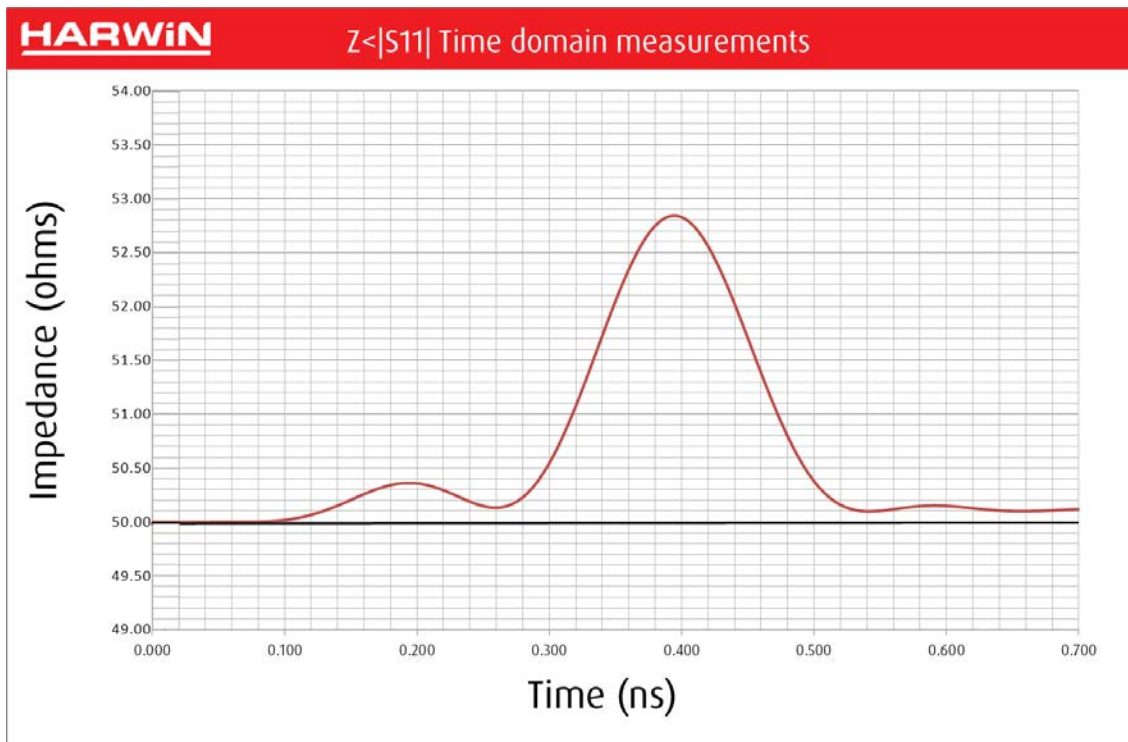


Figure 5 – RF impedance of the M80-307 and M80-317 Harwin coax connectors

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

## 2.2.4. Insertion loss:

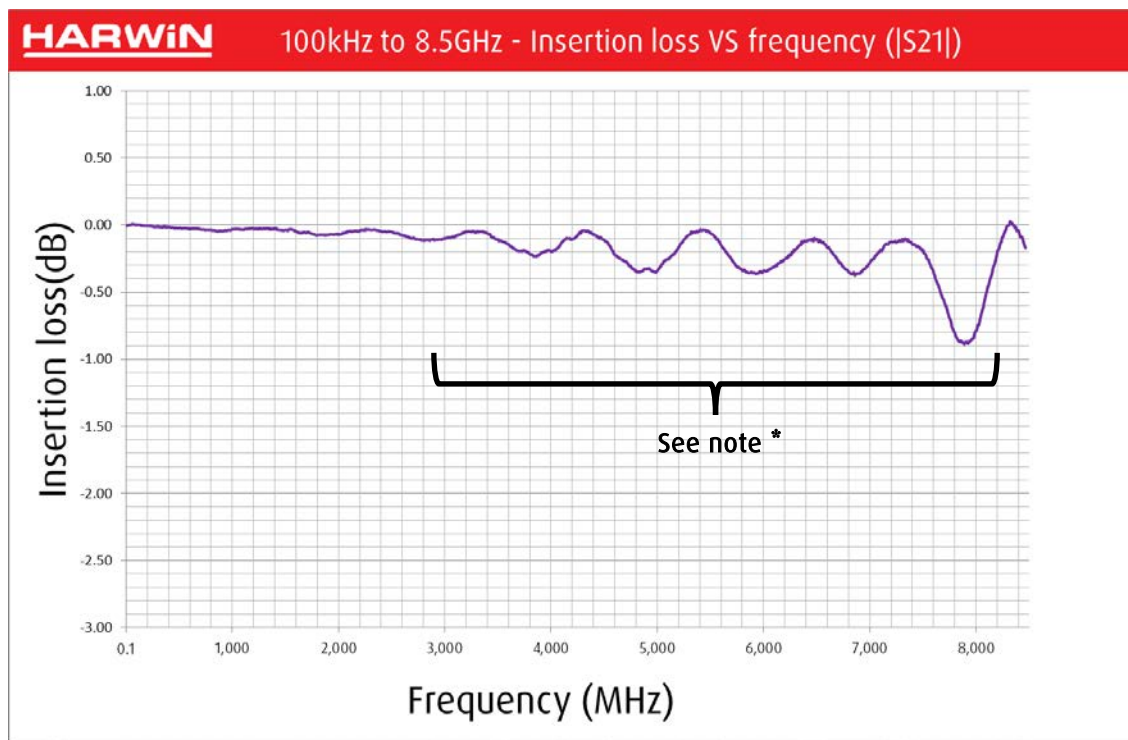


Figure 6 - Insertion loss of the M80-307 and M80-317 Harwin coax connectors

The key points are:

- 1 GHz = -0.03dB
- 2.4 GHz = -0.05dB
- 4.0 GHz = -0.19dB

*\*Ringing due to the test fixture. See Harwin test report 1467 for further details*