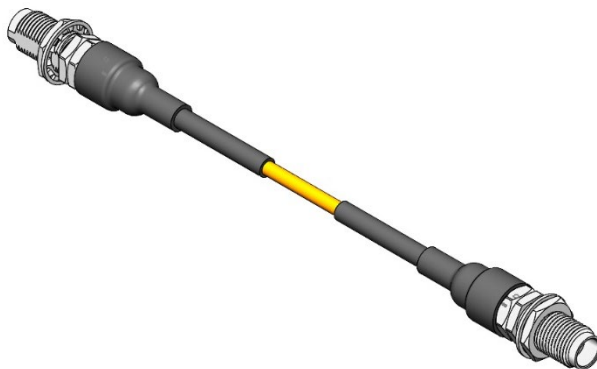




## RF Characterization Report

LL071-18BJ-18BJ-XXXX



Test Date: Aug 2025

**Description:**  
**71 GHz High-Performance Microwave Cable Assembly,**  
**1.85mm Bulkhead Jack End Option**



**Series:** LL071**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

## Table of Contents

|                                                                  |   |
|------------------------------------------------------------------|---|
| Test Setup Information .....                                     | 1 |
| Scope: .....                                                     | 1 |
| Instrument Setup & Test Accessories (LL071 cable assembly):..... | 1 |
| Calibration Type (LL071 cable assembly):.....                    | 1 |
| Adapter Use:.....                                                | 1 |
| LL071-18BJ-18BJ-XXXX Test Definition .....                       | 2 |
| LL071 Cable Assembly Under Test: .....                           | 2 |
| Results: LL071-18BJ-18BJ-0152.....                               | 3 |
| VSWR .....                                                       | 3 |
| Return Loss.....                                                 | 4 |
| Insertion Loss.....                                              | 4 |
| Results: LL071-18BJ-18BJ-1000.....                               | 5 |
| VSWR .....                                                       | 5 |
| Return Loss.....                                                 | 6 |
| Insertion Loss.....                                              | 6 |
| Instrument Setup & Test Accessories (LL071 Mated pair):.....     | 7 |
| Calibration Type (LL071 Mated pair): .....                       | 7 |
| LL071 Mated pair Under Test: .....                               | 7 |
| Results: Mated Pair (152mm assemblies) .....                     | 8 |
| VSWR .....                                                       | 8 |
| Return Loss.....                                                 | 9 |
| Insertion Loss.....                                              | 9 |

**Series:** LL071

**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

## Test Setup Information

### Scope:

Provide standing wave ratio, return loss and insertion loss performance parameters for LL071 high frequency RF cable assembly with 1.85mm Bulkhead Jack end option.

### Instrument Setup & Test Accessories (LL071 cable assembly):

|                  |                                     |
|------------------|-------------------------------------|
| Network Analyzer | Keysight PNA N5227B                 |
| Averaging Factor | 1                                   |
| Smoothing        | Off                                 |
| IF Bandwidth     | 1 KHz                               |
| Sweep Start      | 10 MHz                              |
| Sweep End        | 67 GHz                              |
| Points           | 6700                                |
| Test Cables      | Gore 0F0CACB036.0-LF (DC to 67 GHz) |

### Calibration Type (LL071 cable assembly):

A Keysight mechanical calibration is performed for N5227B using the Keysight 1.85mm MCAL 85058B.

|                 |                      |
|-----------------|----------------------|
| Calibration Kit | Keysight MCAL 85058B |
|-----------------|----------------------|

### Adapter Use:

No adapter used.

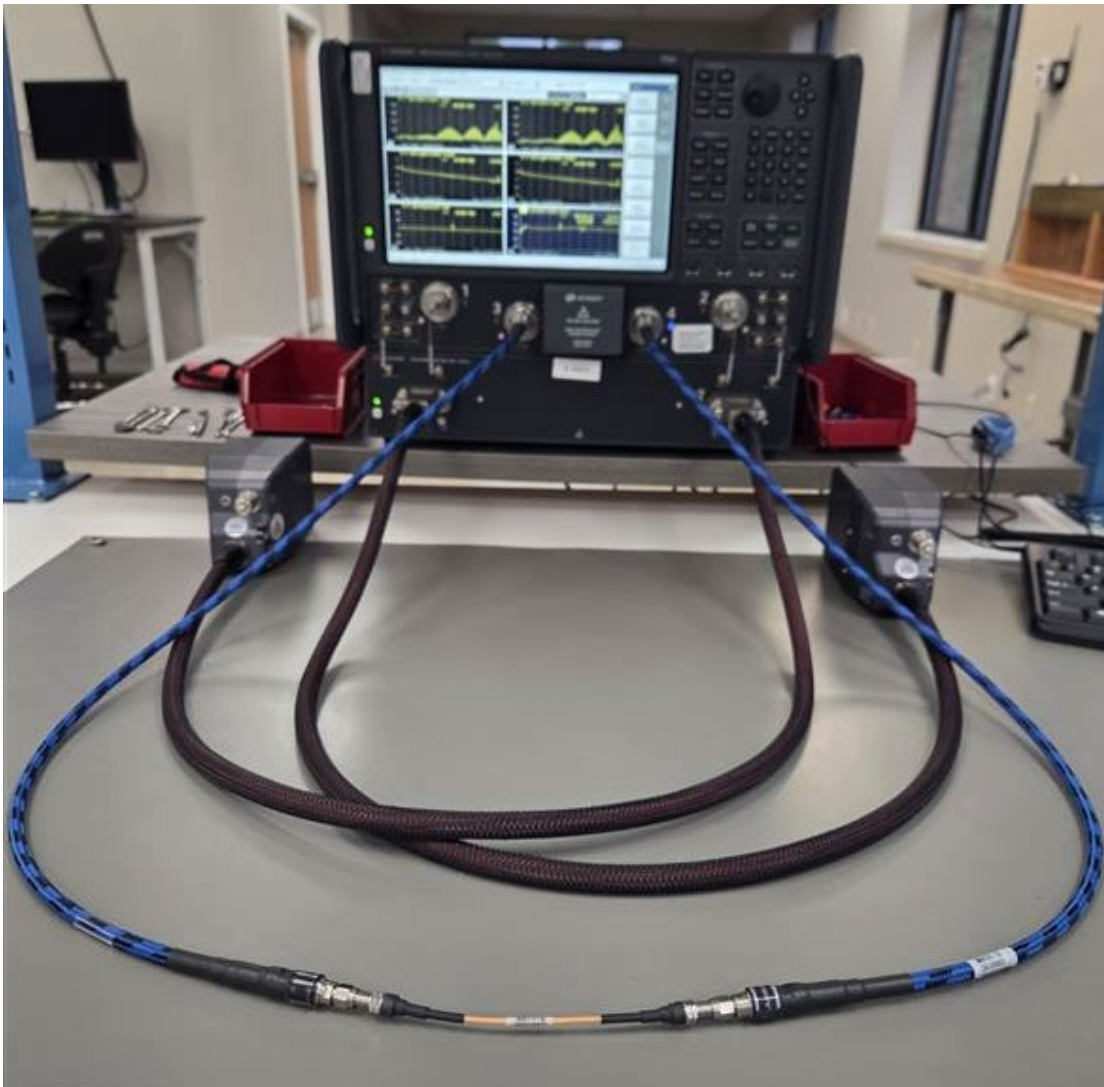
**Series:** LL071

**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

### LL071-18BJ-18BJ-XXXX Test Definition

| Part Number          | End 1                 | End 2                 |
|----------------------|-----------------------|-----------------------|
| LL110-18BJ-18BJ-0152 | 1.85 mm Bulkhead Jack | 1.85 mm Bulkhead Jack |
| LL110-18BJ-18BJ-1000 | 1.85 mm Bulkhead Jack | 1.85 mm Bulkhead Jack |

### LL071 Cable Assembly Under Test:



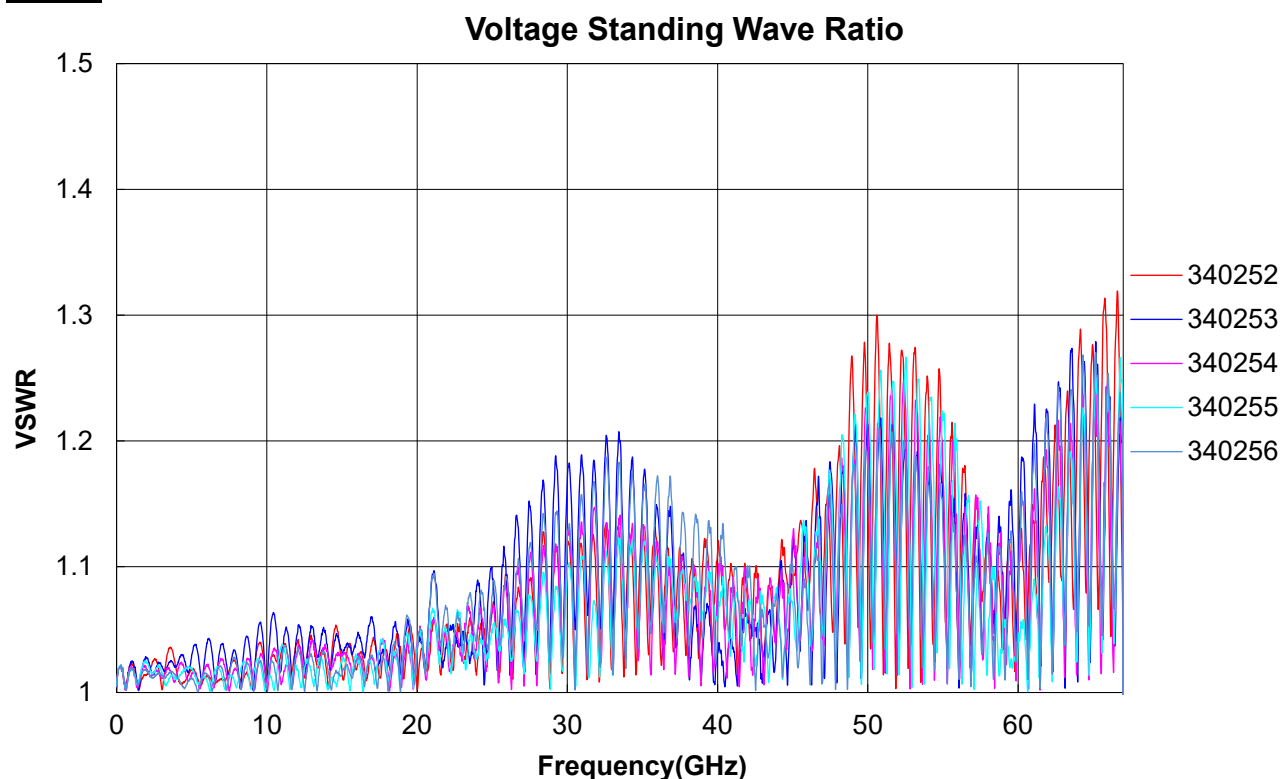
**Series:** LL071

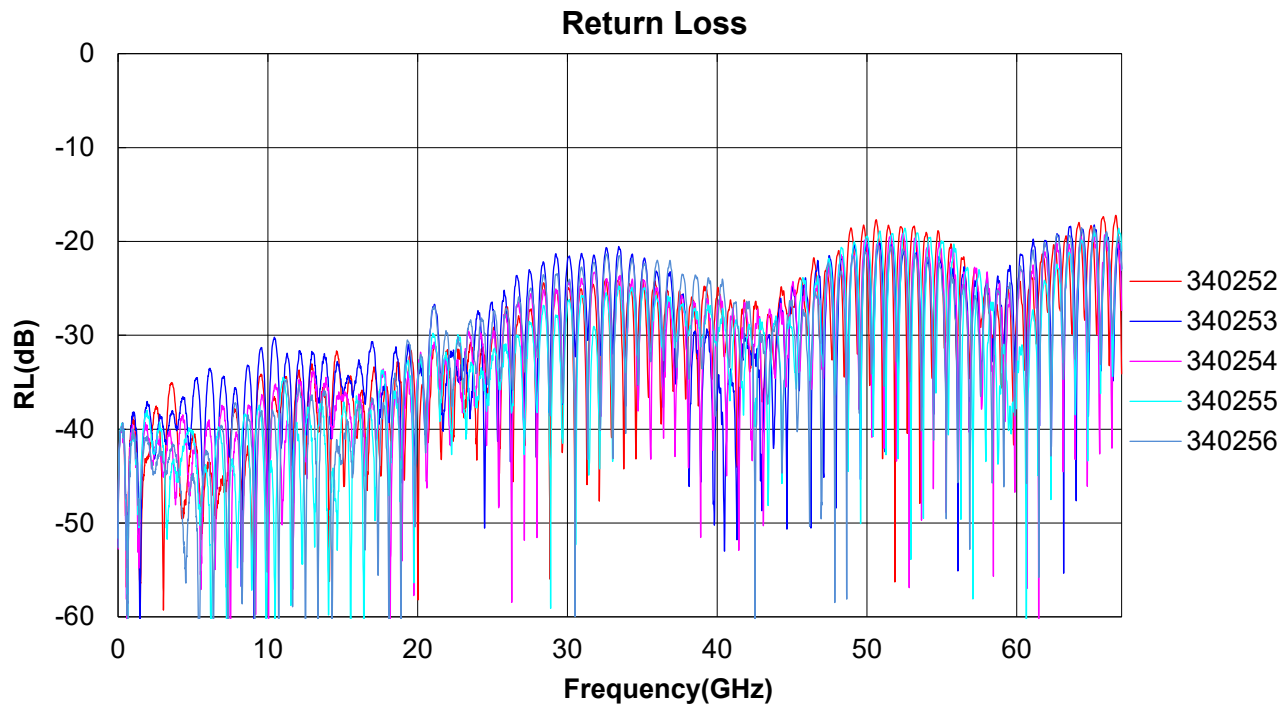
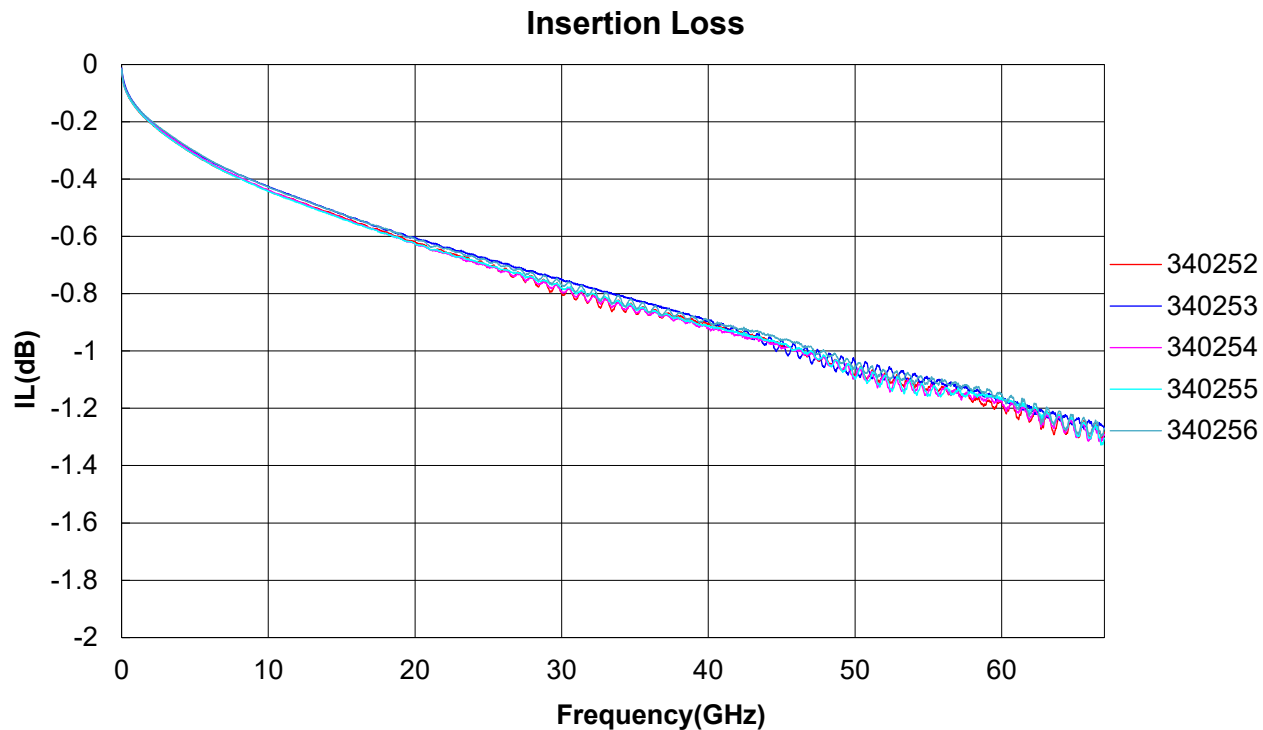
**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

**Results:** LL071-18BJ-18BJ-0152

| Description: LL071 High Frequency RF Cable Assembly |               |                 |                |
|-----------------------------------------------------|---------------|-----------------|----------------|
| Sample                                              | VSWR(max)     | RL (dB, max)    | IL(dB, min)    |
| 340252                                              | 1.32@66.61GHz | -17.22@66.61GHz | -1.33@66.62GHz |
| 340253                                              | 1.28@65.17GHz | -18.24@65.17GHz | -1.30@66.07GHz |
| 340254                                              | 1.26@65.16GHz | -18.91@65.16GHz | -1.32@66.75GHz |
| 340255                                              | 1.27@52.53GHz | -18.59@52.53GHz | -1.33@66.77GHz |
| 340256                                              | 1.27@65.17GHz | -18.49@65.17GHz | -1.30@66.77GHz |

## VSWR



**Series:** LL071**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End OptionReturn LossInsertion Loss

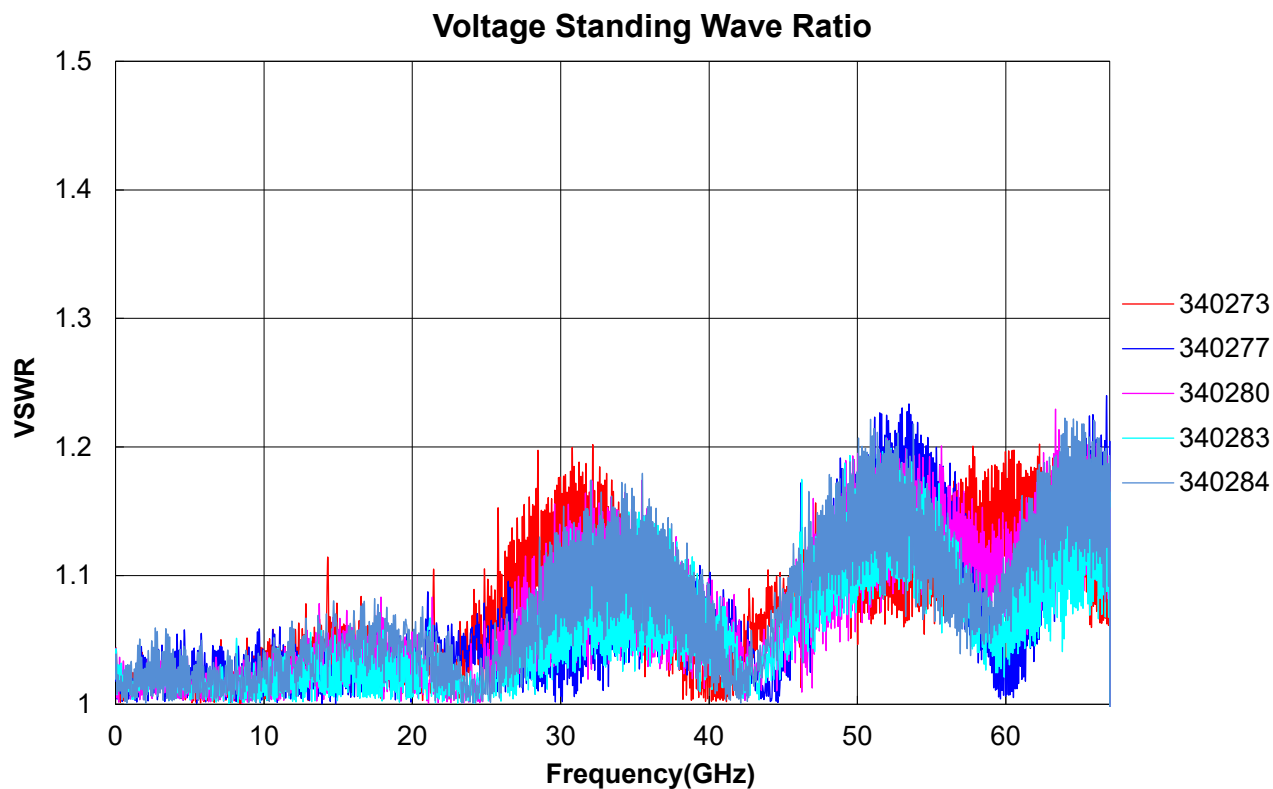
Series: LL071

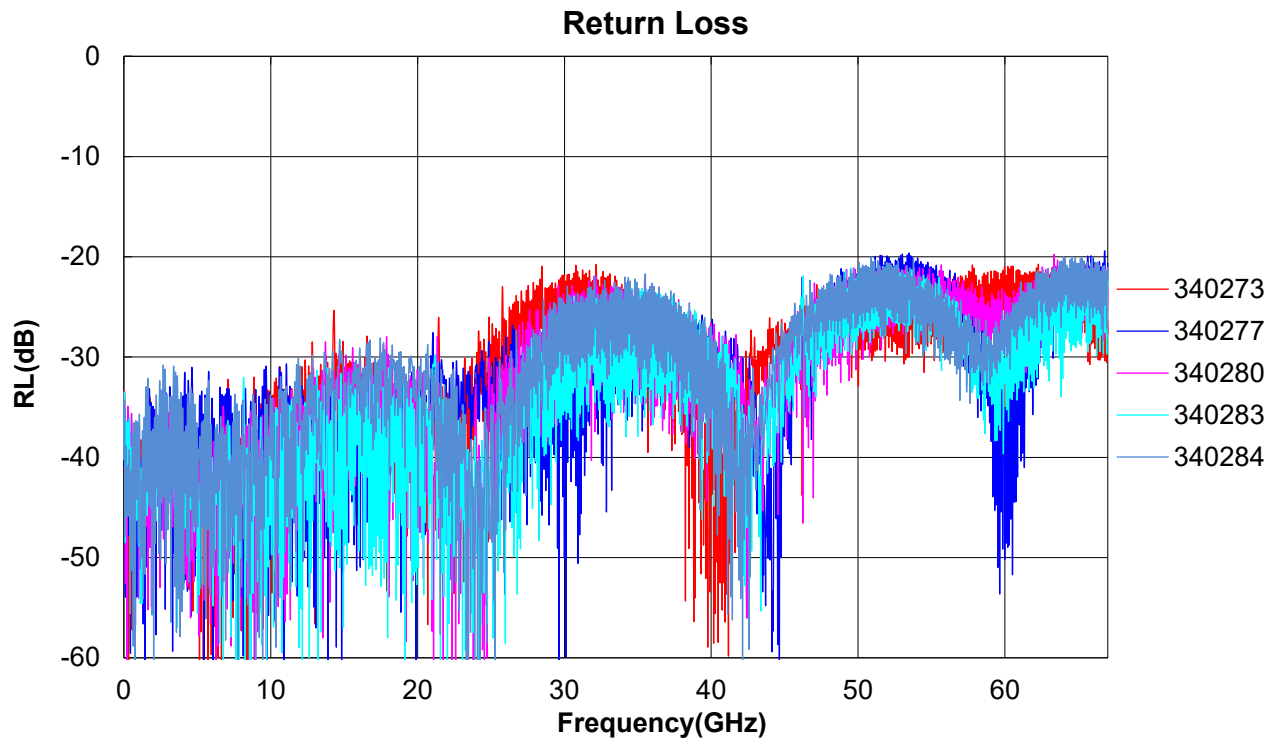
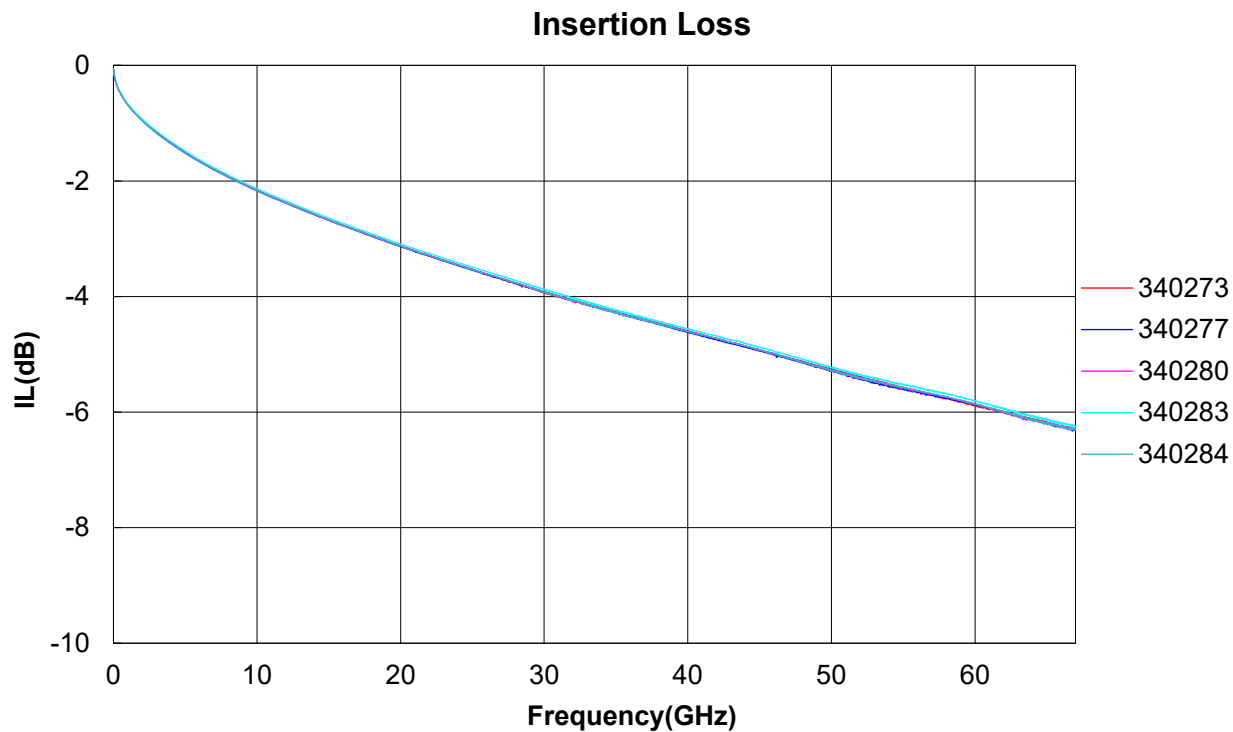
Description: 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

Results: LL071-18BJ-18BJ-1000

| Description: LL071 High Frequency RF Cable Assembly |               |                 |                |
|-----------------------------------------------------|---------------|-----------------|----------------|
| Sample                                              | VSWR(max)     | RL (dB, max)    | IL(dB, min)    |
| 340273                                              | 1.20@62.27GHz | -20.74@62.27GHz | -6.30@67.00GHz |
| 340277                                              | 1.24@66.79GHz | -19.40@66.79GHz | -6.33@66.78GHz |
| 340280                                              | 1.23@63.35GHz | -19.75@63.35GHz | -6.30@66.91GHz |
| 340283                                              | 1.20@52.27GHz | -20.86@52.27GHz | -6.26@67.00GHz |
| 340284                                              | 1.22@63.98GHz | -19.99@63.98GHz | -6.31@66.99GHz |

## VSWR



**Series:** LL071**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End OptionReturn LossInsertion Loss

**Series:** LL071

**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

**Instrument Setup & Test Accessories (LL071 Mated pair):**

|                  |                                       |
|------------------|---------------------------------------|
| Network Analyzer | Keysight PNA N5227B                   |
| Averaging Factor | 1                                     |
| Smoothing        | Off                                   |
| IF Bandwidth     | 1 KHz                                 |
| Sweep Start      | 10 MHz                                |
| Sweep End        | 72 GHz                                |
| Points           | 7200                                  |
| Test Cables      | Keysight N5293AX01 (110GHz Extenders) |

**Calibration Type (LL071 Mated pair):**

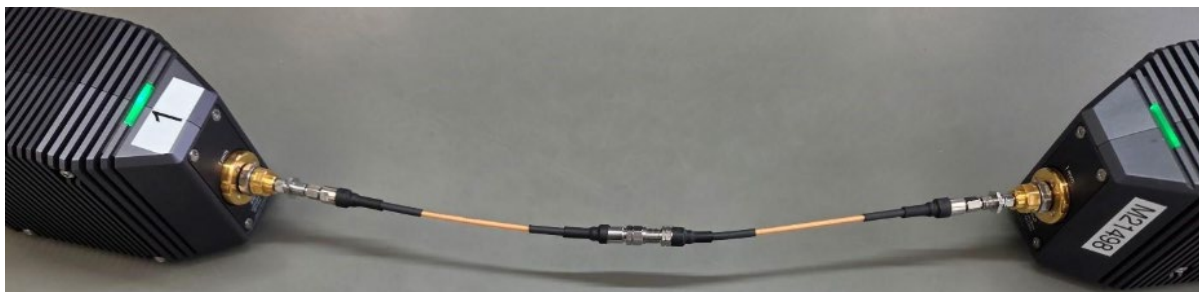
A Keysight mechanical calibration is performed for N5227B using the Keysight 1.0mm MCAL 85059B.

|                 |                      |
|-----------------|----------------------|
| Calibration Kit | Keysight MCAL 85059B |
|-----------------|----------------------|

**LL071 Mated pair Under Test:**

The following test was performed to show mode free performance through 71GHz. A pair of LL071 cable assemblies mated at the 1.85mm ends were connected to the 110 GHz heads of the PNA. One assembly had a 1.0mm Jack on one end and a 1.85mm Jack on the other. The other assembly had a 1.0mm Jack on one end and a 1.85mm Plug on the other. The PNA was calibrated to the end of male 1.0mm interfaces. The raw measurement from 0 to 72GHz included both cable assemblies.

Test Setup for mated 152mm assemblies:



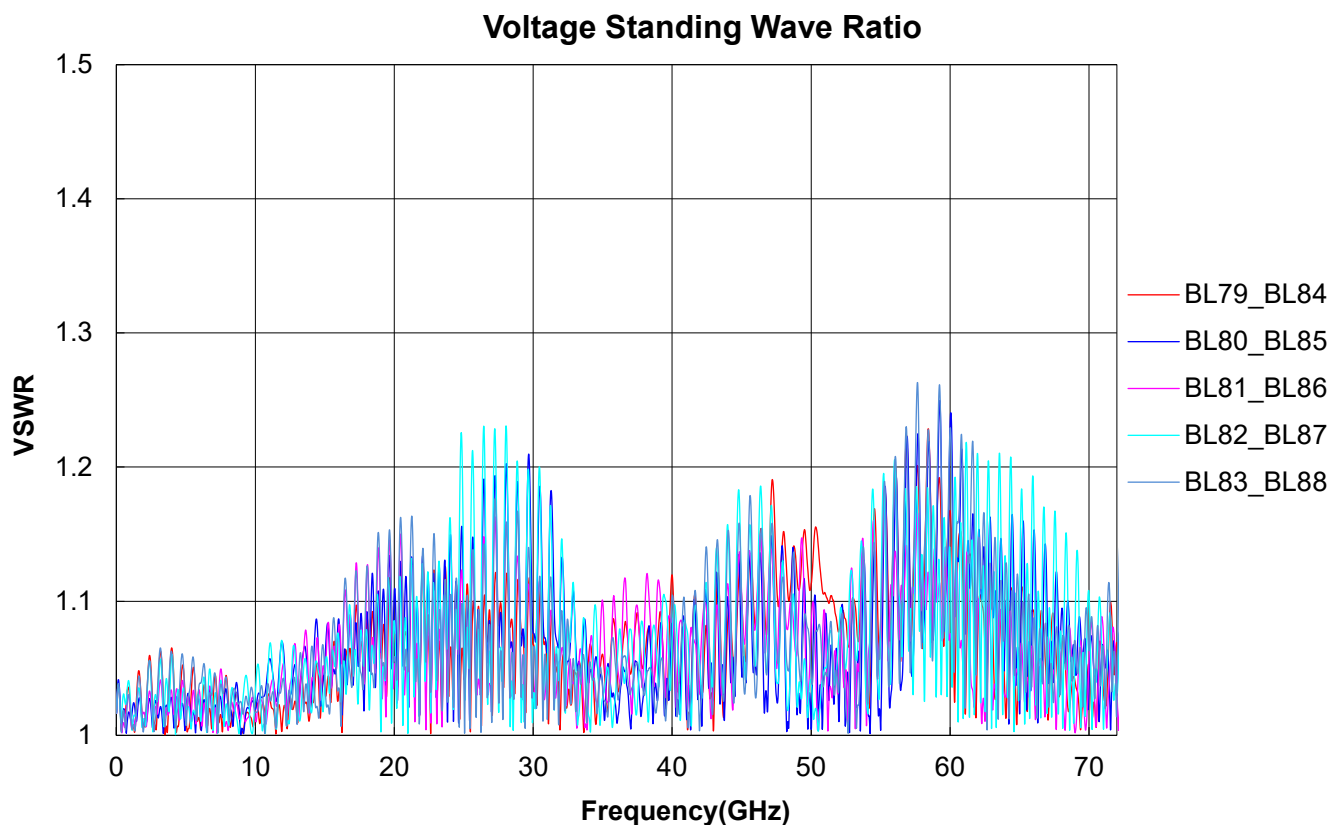
**Series:** LL071

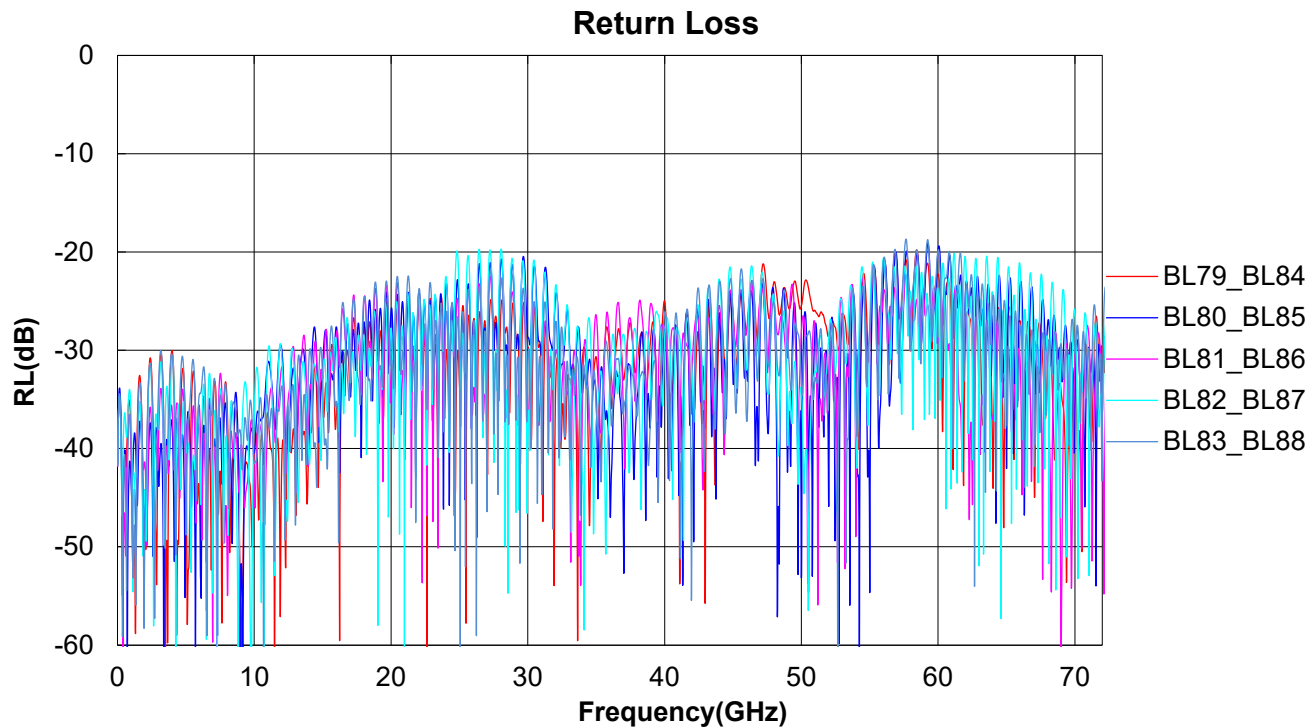
**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End Option

**Results:** Mated Pair (152mm assemblies)

| Description: LL071 High Frequency RF Cable Assembly |               |                 |                |
|-----------------------------------------------------|---------------|-----------------|----------------|
| Sample                                              | VSWR(max)     | RL (dB, max)    | IL(dB, min)    |
| BL79_BL84                                           | 1.23@58.42GHz | -19.78@58.42GHz | -2.59@71.94GHz |
| BL80_BL85                                           | 1.25@59.26GHz | -19.10@59.26GHz | -2.61@71.80GHz |
| BL81_BL86                                           | 1.19@55.28GHz | -21.39@55.28GHz | -2.68@72.00GHz |
| BL82_BL87                                           | 1.23@28.04GHz | -19.71@28.04GHz | -2.72@72.00GHz |
| BL83_BL88                                           | 1.26@57.66GHz | -18.70@57.66GHz | -2.66@72.00GHz |

## VSWR



**Series:** LL071**Description:** 71 GHz, Nitrowave™ High-Performance Microwave Cable Assembly,  
1.85mm Bulkhead Jack End OptionReturn LossInsertion Loss