Installation Note

Keysight Y1270A Front Panel Interfacing Kits For M9019A PXIe Chassis

KEYSIGHT TECHNOLOGIES

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Introduction

The Keysight Y1270A front panel Interfacing kit for the M9019A PXIe chassis has been designed to protect the PXIe modules and their associated cabling.

Input and output signals from modules installed in the M9019A chassis are routed to a connector strip on the Y1270A frame. Each connector may be labeled to identify its associated module connector.

This installation note explains how to assemble connectors on the interfacing kit connector strip. The interfacing kit can be used in two installation configurations: desktop and rack-mount. This installation note applies to both desktop and rack-mount installations.

Desktop

This configuration is suitable for desktop operation where the M9019A chassis is occasionally moved. The M9019A chassis with modules installed is heavy, and the handles make moving it more convenient.

Rack-Mount

This configuration is suitable for fixed installation where the M9019A chassis is rack-mounted and connected to other instruments within the rack. Refer to the Y1270A-301 Installation Note for details on rack-mounting the M9019A chassis with the Y1270A attached to it.

Key Components

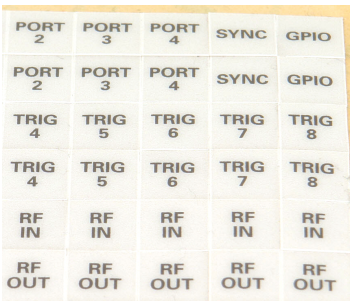
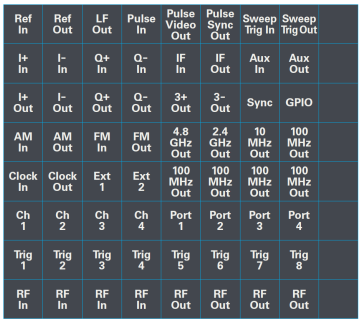
The following image shows the key components for a typical kit:

- The frame
- BNC connectors with integrated cable
- Type-N connectors
- SMA to SMA cables for the Type-N connectors
- Plugs to fill unused connector location holes
- Labels to identify each connector

Y1270A Parts List

There are three options available:

- Y1270A-101 - Frame and door assembly with two Type-N and four BNC Connectors
- Y1270A-102 - Frame and door assembly with four Type-N and eight BNC Connectors
- Y1270A-106 - Frame and door assembly for M9383A with one Bulkhead, three Type-N, and eight BNC connectors

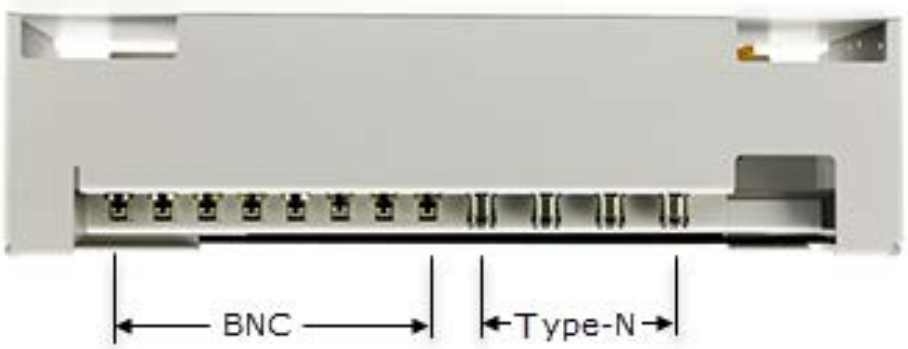
Item #	Opt 101 Qty	Opt 102 Qty	Opt 106 Qty	Part Number	Description	
1	1	1	1	M9393-60007	Frame/Door Assembly	
2	1	1	N/A	M9393-80002	Set of ID Labels	
3	N/A	N/A	1	M9393-80005	Set of ID Labels	
4	2	4	3	E4418-20009	Adapter RF N -SMA	

Item #	Opt 101 Qty	Opt 102 Qty	Opt 106 Qty	Part Number	Description	
5	2	4	3	2190-0104	Washer-Lock Internal 7/16 inch	
6	2	4	3	2950-0132	Nut Hex Dbl Cham	
7	2	4	1	E6630-60004	Cable Coaxial SMA-to SMA 12 Inch	
8	4	8	5	8121-2461	Cable Assy Coax Straight BNC-F to SMB-F	
9	4	8	8	2190-0102	Washer Lock	
10	4	8	8	0590-1251	Nut 15/32 32 THD	
11	4	4	0	6960-0178	Plug-hole for item 4	

Item #	Opt 101 Qty	Opt 102 Qty	Opt 106 Qty	Part Number	Description
12	8	8	0	6960-0149	Plug-hole for item 8
13	8	8	8	0515-1269	Machine Screw
14	N/A	N/A	1	1250-0207	Connector-RF BNC Terminator Plug Straight 50Ω
15	N/A	N/A	1	1250-4257	Adapter-Coaxial Straight Bulkhead Jack-2.4mm Jack-2.4mm 50Ω
16	N/A	N/A	2	8125-3185	Cable Assembly-Coaxial 50Ω SMB-Female SMA-Male 250mm
17	N/A	N/A	1	8121-3211	Cable Assembly-Coaxial 50Ω 2.4mm-Plug 2.4mm-Plug
18	N/A	N/A	3	8121-3219	Cable Assembly-Coaxial 50Ω BNC-Female SMP-Female 300mm
19	N/A	N/A	1	2190-0033	Washer-Lock Internal 0.314-in-ID, 0.435-in-OD

Installing Y1270A, Option 101 or 102

A maximum of four Type-N and eight BNC connectors can be installed in the Y1270A .



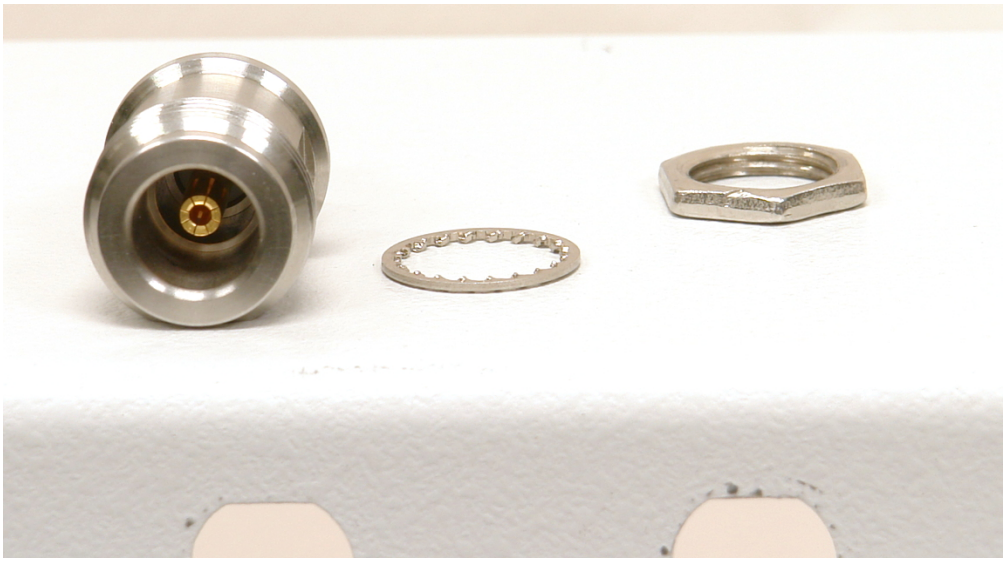
Referring to the image above, the Type-N connectors and the BNC connectors can only be installed in designated holes:

- The four Type-N connectors can only be installed in the four holes to the right when facing the front of the cover.
- The eight BNC connectors can only be installed in the eight holes to the left when facing the front of the cover.

Installing Connectors

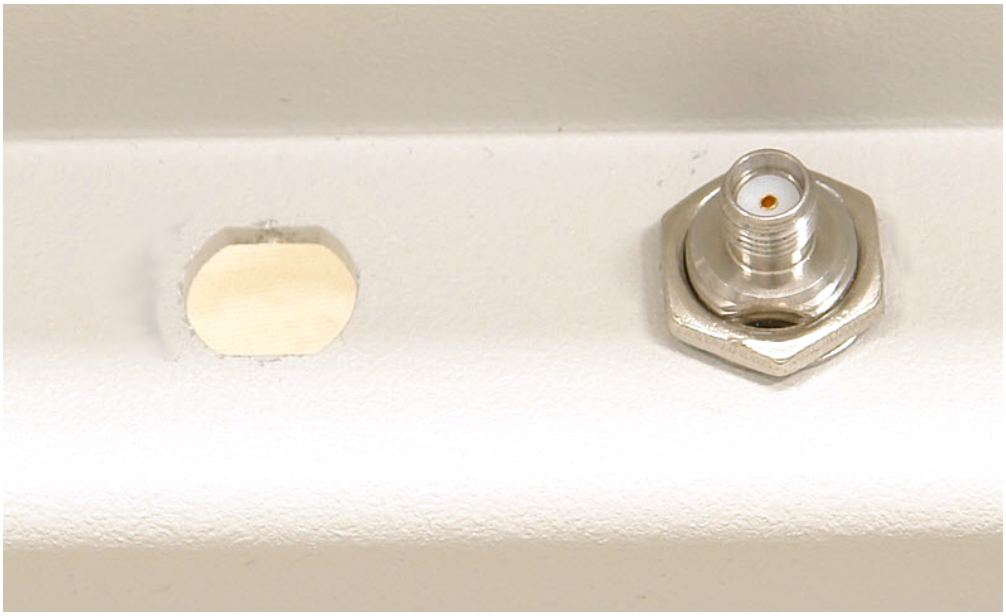
Type-N Connectors

1. The Type-N connector comes with a lock-washer and a nut. Remove the lock-washer and nut to install the Type-N connector.



2. Insert a Type-N connector through a Type-N connector mounting hole so that its threaded portion appears at the rear of the cover, (E4418-20009, parts list item 4).
   Notice the two straight edges at the top and bottom of the Type-N connector mounting hole. These straight edges prevent the connector from rotating while it is being mounted.

3. Slip the lock- washer and nut over the back of the Type-N connector behind the cover, (2190-0104 item 5 and 2950-0132 item 6 on the parts list).
   From the rear of the cover, using a 9/16 inch wrench, tighten the nut on the lock-washer and Type-N connector to 35 inch-pounds.



4. Connect a cable (E6630-60004, parts list item 7) to the back side of the Type-N connector and tighten it with a 5/16 wrench to 10 inch-pounds.

BNC Connectors

1. The BNC cable assembly comes with a lock-washer and nut. Remove the lock-washer and nut before installing the BNC connector.

2. Insert the cable end of a BNC connector assembly through a BNC mounting hole so that the BNC connector mounts from the front of the cover (8121-2461, parts list item 8).

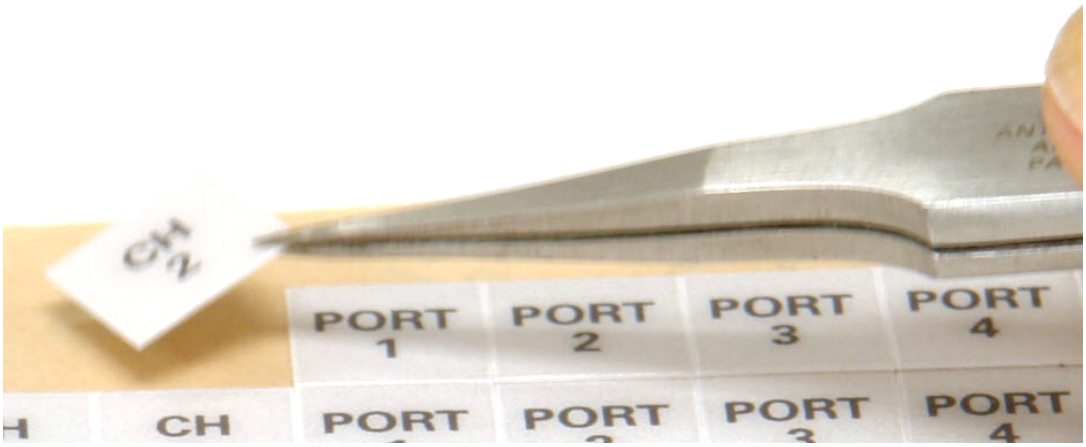
3. Slip the lock-washer and nut over the threaded portion of the BNC connector protruding through the front of the cover (2190-0102 item 9 and 0590-1251

item 10 on the parts list).

4. Tighten the nut to the lock-washer on the BNC connector using a 9/16 wrench to 35 inch-pounds.

Associate Labels to Each Connector

1. Design the layout of the connectors on the Y1270A connector panel, ensuring connector cables will reach their respective PXI modules.
2. Using tweezers, remove the appropriate label, and affix it below its designated connector on the frame.



Attach the Y1270A Frame to the Chassis

Although the Y1270A frame has eight holes on each side of the frame, only four of the eight holes are used for attaching the frame.

1. In the following image, the holes closest to the front of the chassis are used to secure the Y1270A frame to the chassis.

2. Slide the Y1270A frame onto the chassis using great care not to pinch the cables running between the Y1270A frame, and the chassis.

3. Attach the Y1270A frame to the chassis using 4 screws on each side of the Y1270A frame, (0515-1269, parts list item 13)

Installing Y1270A, Option 106 Frame and Door Assembly for M9383A

Option 106 provides the following connectors for the Y1270A Frame and Door Assembly:

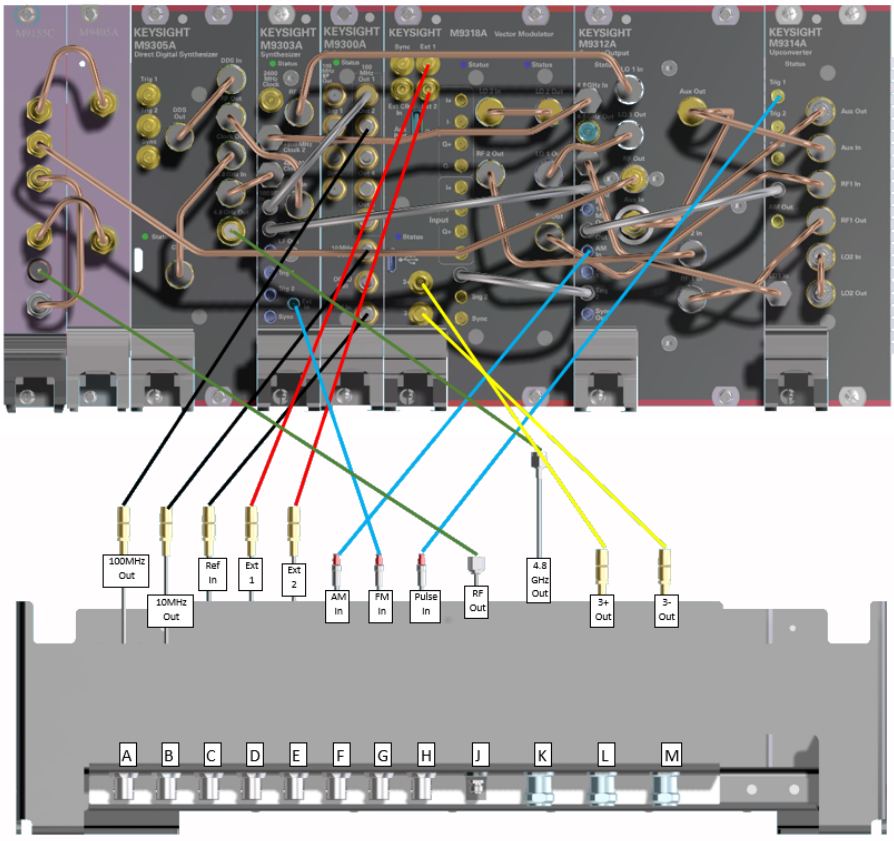
- one 2.4 mm,
- three Type-N
- eight BNC Connectors.

Step 1

Make a diagram of how you will connect your PXIe modules to the front panel. The diagram below is an example configuration when all the modules are installed in the chassis. If some modules are missing, refer to the notes below for suggestions to rearrange the cables.

a. Connect the cables to the PXIe modules as shown below.

b. If any PXIe modules are not used, refer to Important Notes about Port Connections and Use.



Panel Connector	1EB Connector	Panel Connector	1EB Connector
(A) 100 MHz Out	M9300A Out 2	(G) FM In	M9303A Ext In
(B) 10 MHz Out	M9300A 10 MHz Out	(H) Pulse In	M9314A Trig 1
(C) Ref In	M9300A Ref In	(J) RF Out	M9155C
(D) Ext 1	M9318A Ext 1	(K) GHz Out	M9305A 4.8 GHz Out
(E) Ext 2	M9318A Ext 2	(L) 3+ Out	M9318A 3+
(F) AM In	M9312A AM In	(M) 3- Out	M9318A 3-

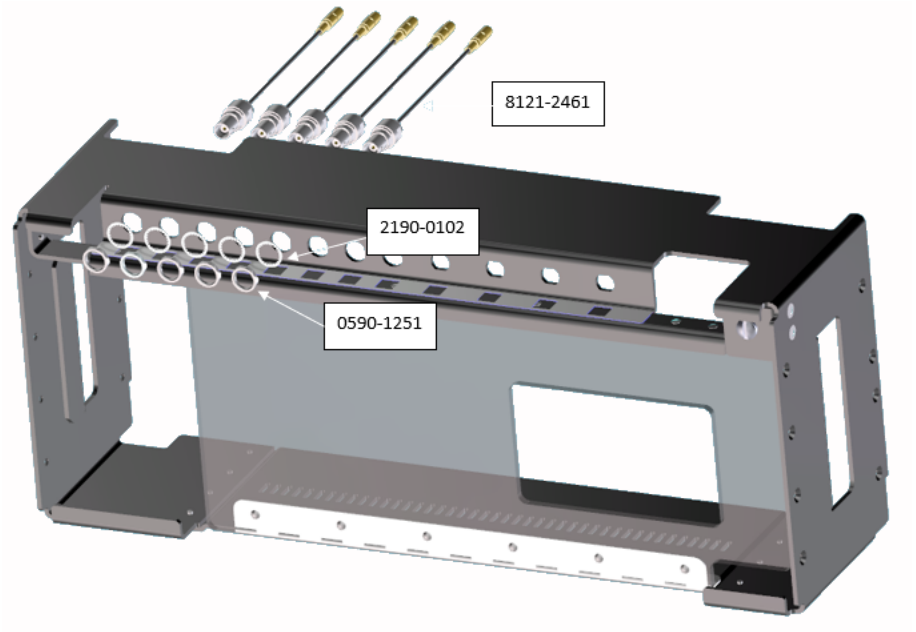
Notes about Port Connections and Use

Port	Information
A	M9300A 100 MHz Out 2. When not connected to 50 Ω device, this connector must be terminated with the included 1250-0207 50 Ω terminator.
B	M9300A 10 MHz Out
C	M9300A Ref In
D	M9318A Ext 1 or M9316A Trig 1. If neither M9318A or M9316A is installed, use M9303A Trig 1
E	M9318A Ext 2 or M9316A Trig 2. If neither M9318A or M9316A is installed, use M9303A Trig2.
F	M9312A AM In
G	M9303A FM In
H	M9314A Trig 1. If M9314A is not present, connect to M9312A Trig 2
J	M9155C H40 Switch 2 connector C. If M9155C H40 is not present, connect to M9312A RF Out. This is a 2.4mm connector. If a 3.5mm connector is preferred, attach the included 11901-60003 adapter
K	M9305A 4.8 GHz Out. If M9305A is not present, use M9312A 4.8 GHz Out.
L	M9318A 3+. If M9318A is not present, plug this hole.
M	M9318A 3-. If M9318A is not present, plug this hole

NOTE Steps 2 through 6 apply to the example configuration above when all modules are installed in the chassis. You may need to modify these steps to match your system.

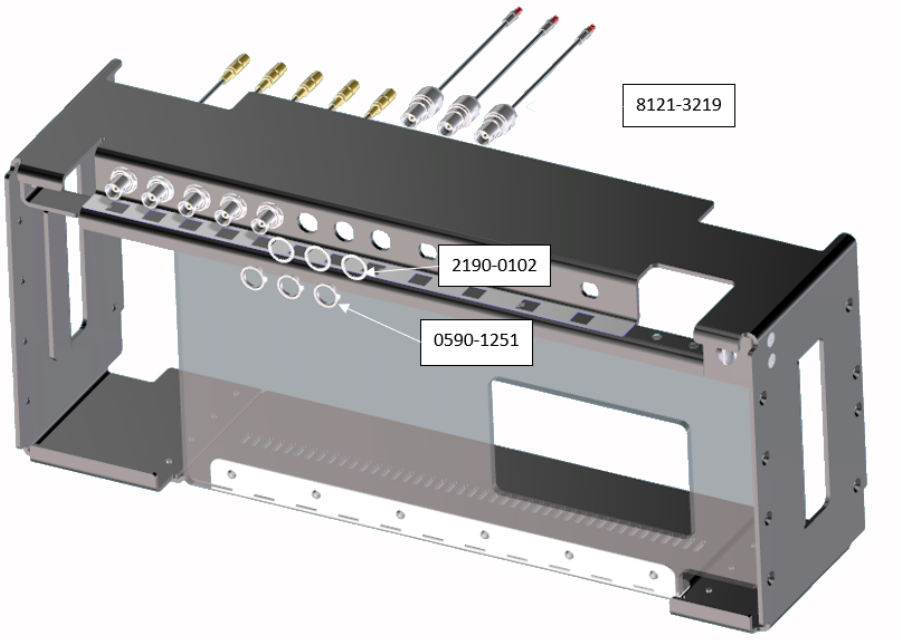
Step 2

a. Install five 8121-2461 Coaxial Cable Assemblies using washers (2190-0102) and nuts (0590-1251) to locations A, B, C, D, and E.
b. See Page 13 for instructions.
c. Torque to 21 lb-in.



Step 3

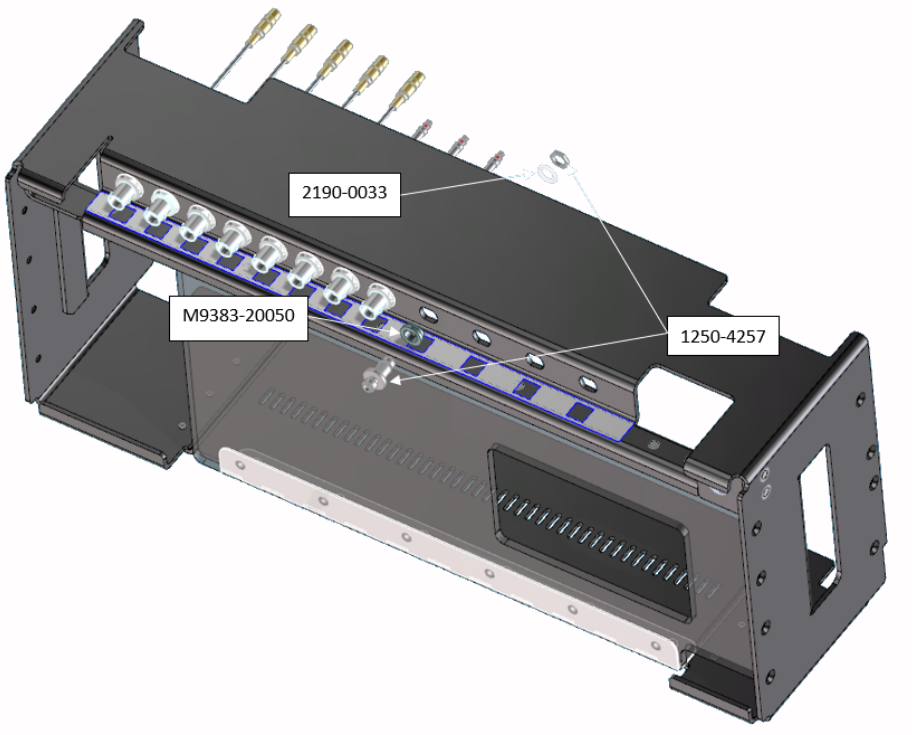
a. Install three 8121-3219 Coaxial Cable Assemblies using washers (2190-0102) and nuts (0590-1251) to locations F, G, and H.
b. See Pages 9 , 10, and 11 for instructions.
c. Torque to 21 lb-in.



Step 4

a. Install one 1250-4257 Coaxial Straight Bulkhead Adapter using the bushing (M9383-20050), a washer (2190-0033) and nut (?????) to location J.

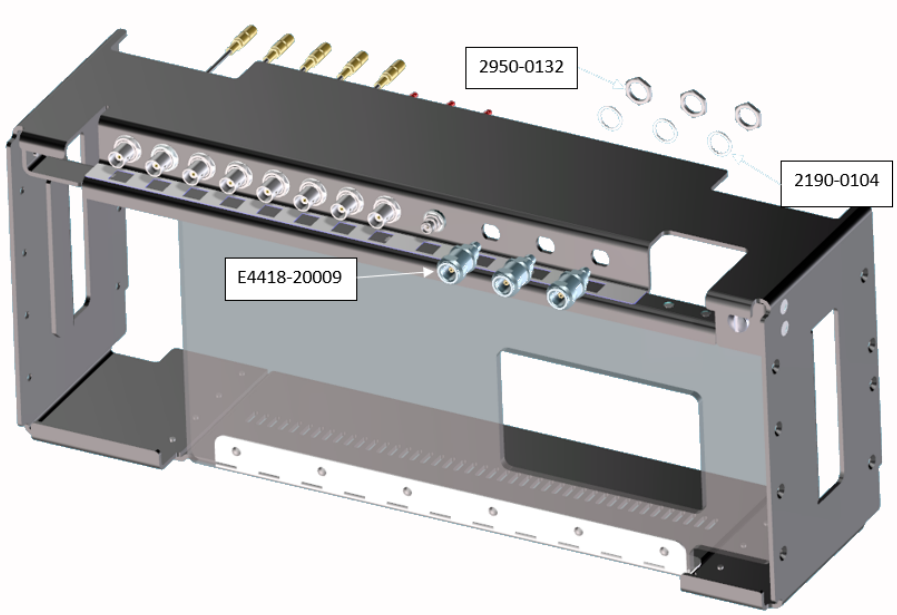
b. Torque to 21 lb-in.



Step 5

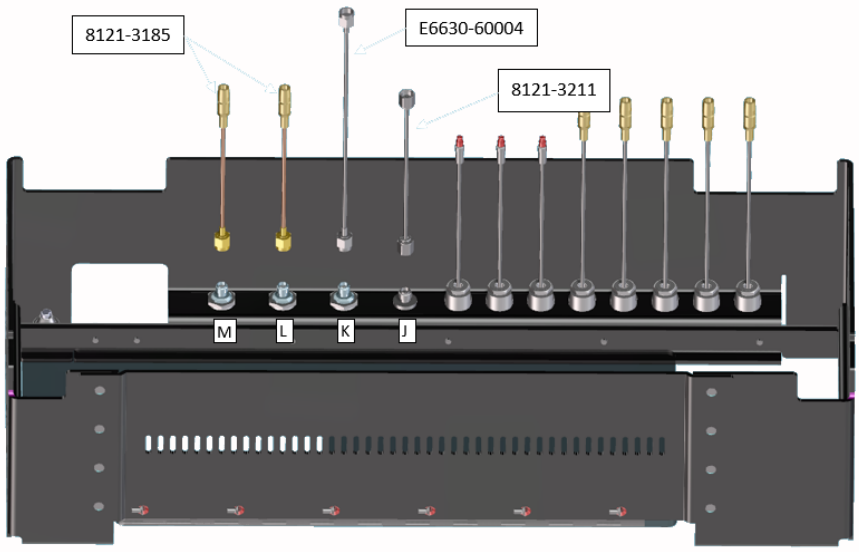
a. Install three RF N-SMA Adapters (E4418-20009) using washers (2190-0104) and nuts (2950-0132) to locations K, L, and M.

b. Torque to 21 lb-in.



Step 6

a. Install one 8-inch Coaxial Cable Assembly (8121-3211) to back side of (J) Torque to 8 lb-in.
b. Install one 12-in SMA to SAM Cable (E6630-60004) to back side of (K) Torque to 8 lb-in.
c. Install two SMB Female to SMA Male Cable Assemblies (8121-3185) to back side of (L and M).
d. Torque to 8 lb-in.



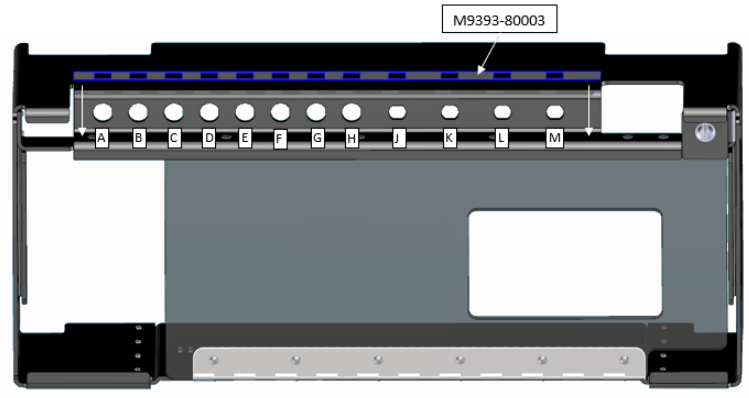
Step 7

a. Attach the Y1270A Frame to the PXIe chassis.
b. Use four T20, M4x0.7 10mm machine screws (0515-1269) per side.
c. See also Pages 16 and 17 for instructions.
d. Torque to 21 lb-in.

Step 8

Following the diagram you created in Step 1, apply the labels to the frame.

a. Review page 15 for the recommended method for affixing the labels with tweezers.
b. Install each label from the Connector Location Label Sheet M9393-80005 to match your diagram from Step 2.
c. Save unused labels for any future reconfiguration of the PXIe modules.



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