SRx™

Low PIM Cable Assemblies and Coaxial Adapters

Mini-DINs
(4.1/9.5) Now Available

San·tron

Always Thinking


SRX™
The remedy to the PIM problem

In response to the growing problem that PIM presents to cellular base station and in-building system designers, such as LTE 4G and 5G, San-tron is addressing PIM problems with our growing line of SRX™ Low-PIM Cable Assemblies and Coaxial Adapters.

The SRX line is a uniquely engineered suite of low-PIM cable assemblies and adapters that are developed to support several different deployment scenarios. These include cabinet integration, short cable runs or jumper applications, long-haul cable runs, indoor use, outdoor use, riser, and plenum environments. Interconnect options include SMA, N, 7/16, TNC and now the mini-DIN (4.1/9.5) mating interface.

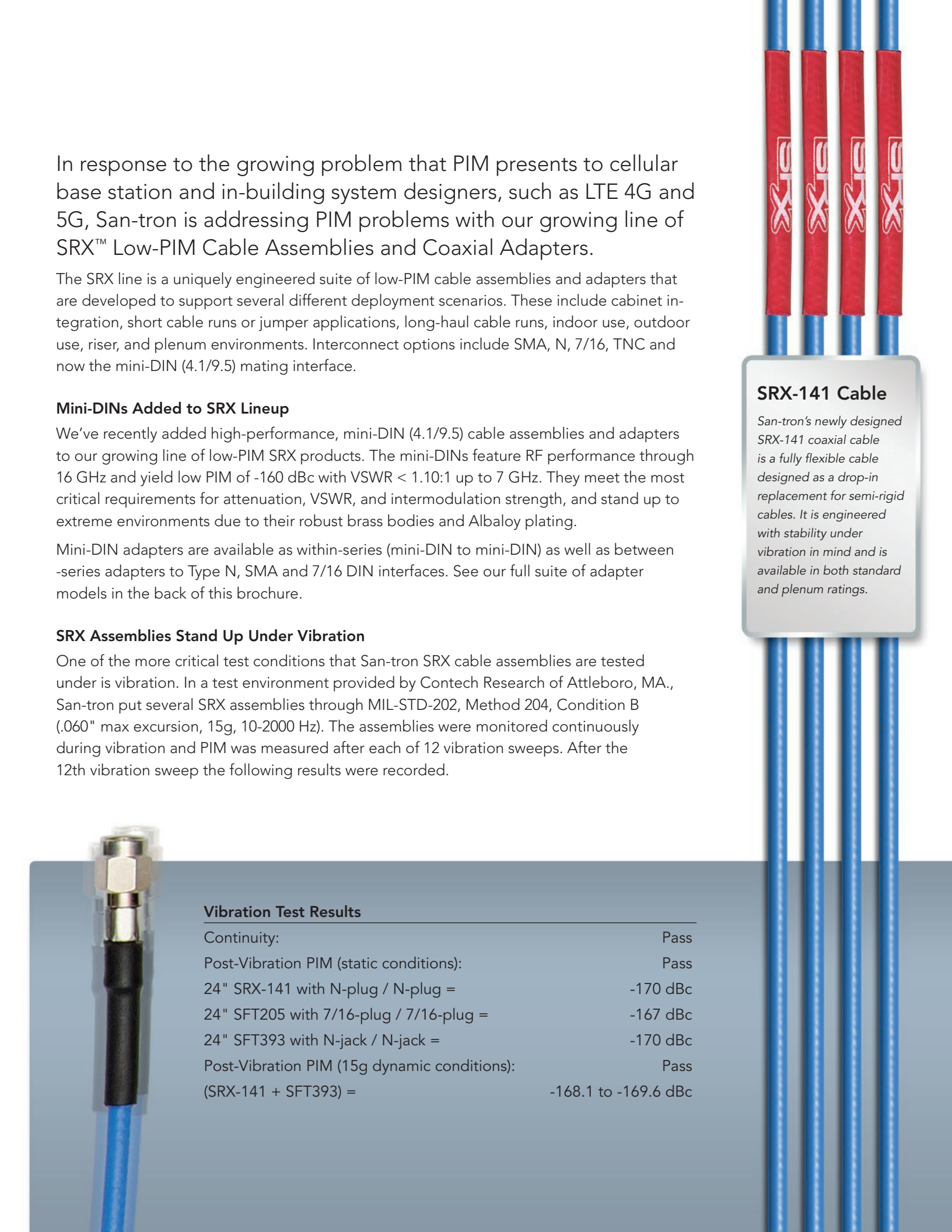
Mini-DINs Added to SRX Lineup

We've recently added high-performance, mini-DIN (4.1/9.5) cable assemblies and adapters to our growing line of low-PIM SRX products. The mini-DINs feature RF performance through 16 GHz and yield low PIM of -160 dBc with VSWR < 1.10:1 up to 7 GHz. They meet the most critical requirements for attenuation, VSWR, and intermodulation strength, and stand up to extreme environments due to their robust brass bodies and Albaloy plating.

Mini-DIN adapters are available as within-series (mini-DIN to mini-DIN) as well as between -series adapters to Type N, SMA and 7/16 DIN interfaces. See our full suite of adapter models in the back of this brochure.

SRX Assemblies Stand Up Under Vibration

One of the more critical test conditions that San-tron SRX cable assemblies are tested under is vibration. In a test environment provided by Contech Research of Attleboro, MA., San-tron put several SRX assemblies through MIL-STD-202, Method 204, Condition B (.060" max excursion, 15g, 10-2000 Hz). The assemblies were monitored continuously during vibration and PIM was measured after each of 12 vibration sweeps. After the 12th vibration sweep the following results were recorded.



SRX-141 Cable

San-tron's newly designed SRX-141 coaxial cable is a fully flexible cable designed as a drop-in replacement for semi-rigid cables. It is engineered with stability under vibration in mind and is available in both standard and plenum ratings.

Vibration Test Results

Continuity:	Pass
Post-Vibration PIM (static conditions):	Pass
24" SRX-141 with N-plug / N-plug =	-170 dBc
24" SFT205 with 7/16-plug / 7/16-plug =	-167 dBc
24" SFT393 with N-jack / N-jack =	-170 dBc
Post-Vibration PIM (15g dynamic conditions):	Pass
(SRX-141 + SFT393) =	-168.1 to -169.6 dBc

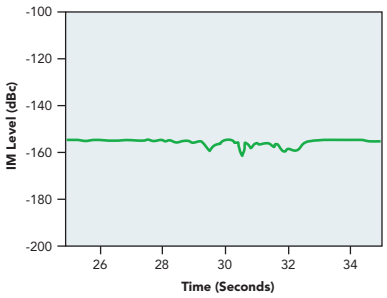
SRX Cabinet Cable Assemblies

In populating components into cabinets and "black boxes," integrators have identified to San-tron that short runs requiring tight bends are a particular challenge as a result of integrated filters, amplifiers, duplexers, and power supplies. Other design issues included protection from minor vibration, chafing against sharp edges of sheet-metal, and stability during temperature rises and presence of dust and moisture.

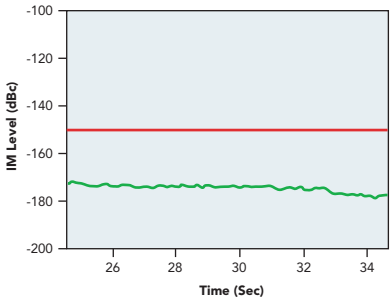
For these types of applications, San-tron has developed 16 different connectors for our proprietary SRX-141 flexible coaxial cable, conformable-141, and semi-rigid cables. These cable assemblies support PIM applications beyond -168 dBc and through 150°C. The PIM performance varies by just +/-1 dB under vibration. They support tight bends to 0.75 inches and are plenum-rated. The cornerstones of this series are a suite of four straight versions of SMA (1201-28-AG) and N (0401-257-AS) and also the very low profile right angle SMA (1202-42-AG) and N (0402-79-AS) plugs. The typical PIM performance for the SMAs are -150/-155 dBc while the typical performance for the Type Ns are -155/-165 dBc. These assemblies offer broadband performance beyond 6 GHz (18 GHz for the straight and 12.4 GHz for the right-angle connectors). These four connectors are instrumental in the interconnection of components within many black boxes.

To support TX/RX ports San-tron offers six connectors that include bulkhead and panel-mount connectors of types SMA, N, and DIN-7/16. The very low profile type N and SMA plugs on SRX-141 are extremely useful—needing only a small .160" diameter cable.

SRX-141 cable with 0401-257-AS connector



SRX-141 cable with 1901-24-AS connector



SRX Cabinet Cables (SRX-141, Conformable-141, Semi-rigid)

Description	Frequency (GHz)	PIM (dBc)	Model
eSeries N Plug – Straight	20	-158	0401-257-AS
eSeries N Plug – Right Angle	12.4	-158	0402-79-AS
eSeries N Jack – Straight	18	-158	0403-74-AS
eSeries N Jack – Bulkhead with Gasket	18	-158	0405-72-AS
eSeries TNC Plug – Straight – Reverse Polarity	6	-153	0501-75-AG
eSeries TNC Plug – Right Angle – Reverse Polarity	6	-153	0502-17-AG
eSMA Plug – Straight	20	-155	1201-28-AG
eSMA Plug – Straight – Reverse Polarity	20	-155	1201-45-AG
eSMA Plug – Right Angle	12.4	-155	1202-42-AG
eSMA Jack – Straight	20	-155	1203-08-AG
eSMA Jack – Panel	20	-155	1204-06-AG
eSMA Jack – Bulkhead	20	-155	1205-06-AG
eSMA Jack – Bulkhead with O Ring	20	-155	1205-07-AG
eSeries 7/16 Plug – Straight	8	-168	1901-24-AS
eSeries 7/16 Jack – Panel with O Ring	8	-168	1904-05-AS
eSeries 7/16 Jack – Bulkhead with O Ring	8	-168	1905-06-AS
eSeries Mini-DIN (4.1/9.5) Plug – Straight	16	-164	2101-01-AS
eSeries Mini-DIN (4.1/9.5) Plug – Right Angle	16	-164	2102-01-AS
eSeries Mini-DIN (4.1/9.5) Jack – Straight	16	-164	2103-01-AS
eSeries Mini-DIN (4.1/9.5) Jack – Panel	16	-164	2104-01-AS
eSeries Mini-DIN (4.1/9.5) Jack – Bulkhead with Gasket	16	-164	2105-01-AS

SRX Jumper and Long-Haul Cable Assemblies

For an even more robust assembly for jumper and long-haul applications, San-tron offers a variety of interconnects on Times Microwave Systems' TCOM-240, TCOM-240-FR (fire retardant), SFT-205, TCOM-400, TCOM-400-FR, and SFT-393. N male and female and also DIN-7/16 male cable assemblies offer a typical PIM performance of -158 dBc. The amount of vibration and pull that these cables can withstand is well beyond that of corrugated assemblies.

Solutions for In-Building Risers

Typically speaking, once cabinets are populated and configured, system designers need to transfer these signals to multiple floors. This will occur through risers within the building which require special flame retardant materials. The SRX solutions with Times Microwave Systems' TCOM-240-FR and TCOM-400-FR support this part of the deployment.

Solutions for In-Building Plenum Runs

Once signals are on the required floor it is very easy to branch out through the space above the dropped ceiling tiles or along cable trays. For these applications, San-tron offers plenum-rated cables to protect people from toxic fumes during fires.

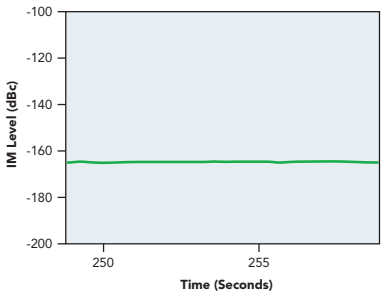
SRX Jumper Cables (TCOM-240, TCOM-240-FR, SFT-205)

Description	Frequency (GHz)	PIM (dBc)	Model
Type N Plug – Straight	6	-155	0401-279-USA
Type N Jack – Straight	6	-155	0403-73-US
Type N Jack – Bulkhead with Gasket	6	-155	0405-86-US
TNC Plug – Straight – Reverse Polarity	6	-155	0501-95-USA
7/16 Plug – Straight	6	-160	1901-30-USA
7/16 Plug – Right Angle	6	-160	1902-18-USA
7/16 Jack – Bulkhead with O Ring	6	-160	1905-12-US

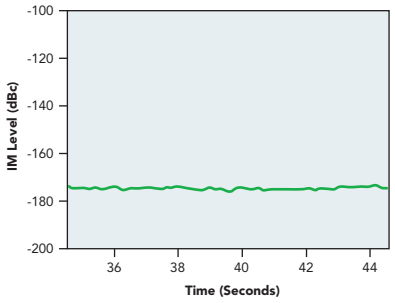
SRX Long-Haul Cables (TCOM-400, TCOM-400-FR, SFT-393)

Description	Frequency (GHz)	PIM (dBc)	Model
Type N Plug – Straight	6	-155	0401-288-USA
Type N Jack – Straight	6	-155	0403-75-US
Type N Jack – Bulkhead with Gasket	6	-155	0405-87-US
TNC Plug – Straight – Reverse Polarity	6	-155	0501-96-USA
7/16 Plug – Straight	6	-160	1901-31-USA
7/16 Plug – Right Angle	6	-160	1902-19-USA
7/16 Jack – Bulkhead with O Ring	6	-160	1905-13-US

SFT-205 cable with 0401-279-USA connector

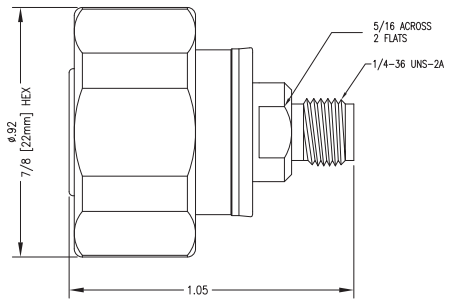


SFT-393 cable with 0403-75-US connector

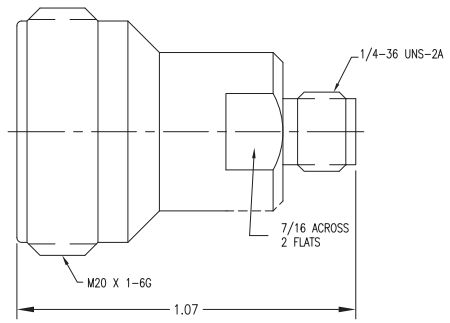


SRX Adapters

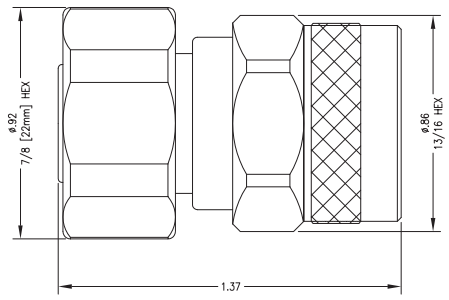
0910-125-AS — 4.1/9.5 (M) : SMA (F)



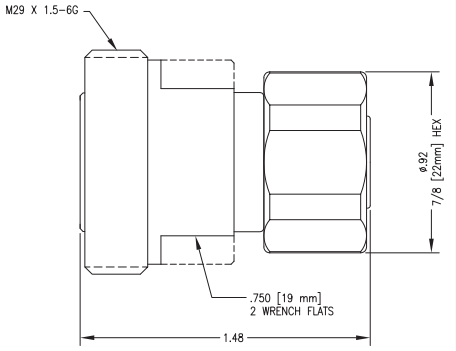
0910-126-AS — 4.1/9.5 (F) : SMA (F)



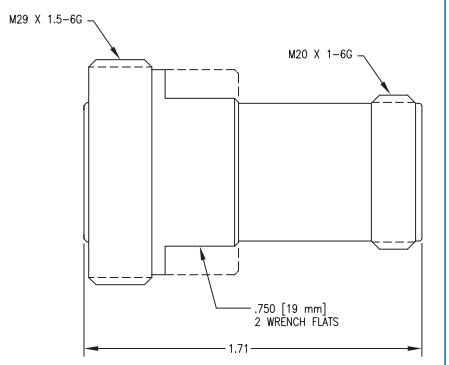
0910-134-AS — 4.1/9.5 (M) : N (M)



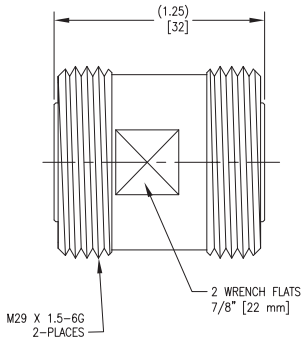
0910-142-AS — 7/16 (F) : 4.1/9.5 (M)



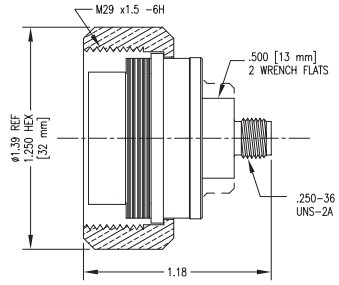
0910-143-AS — 7/16 (F) : 4.1/9.5 (F)



1910-02-US — 7/16 (F) : (F)



0910-71-AG — 7/16 (M) : SMA (F)



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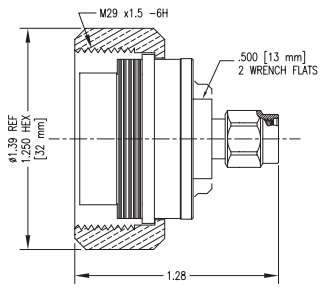
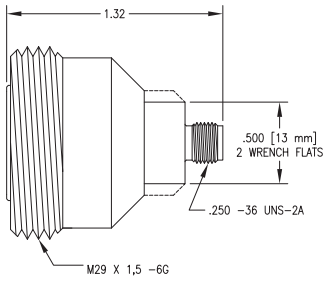
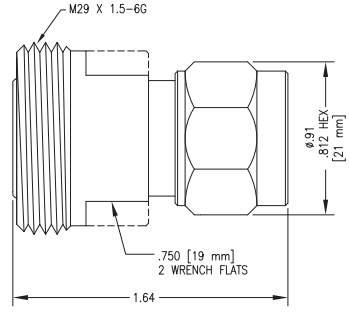


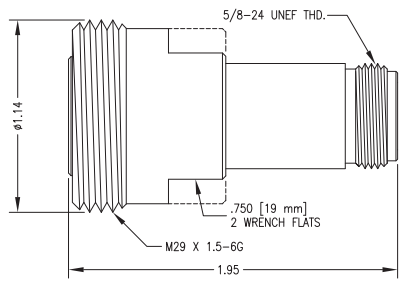
0910-73-AG — 7/16 (F) : SMA (F)



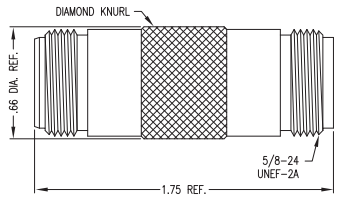
0910-46-US — 7/16 (F) : N (M)



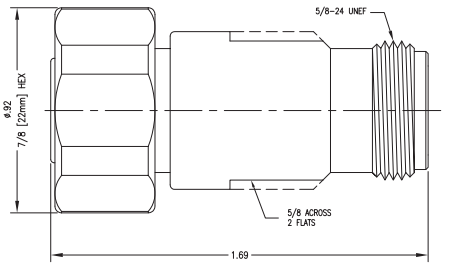
0910-47-US — 7/16 (F) : N (F)



0410-22-US — N (F) : (F)



0910-135-AS 4.1/9.5 (M) : N (F)



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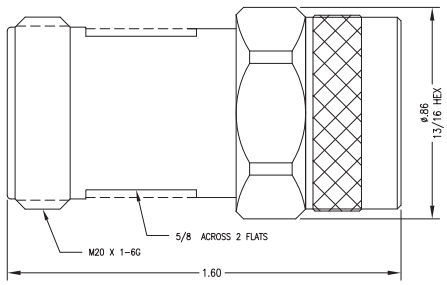
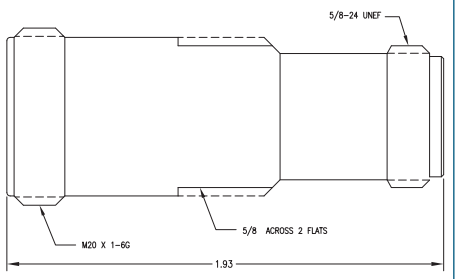
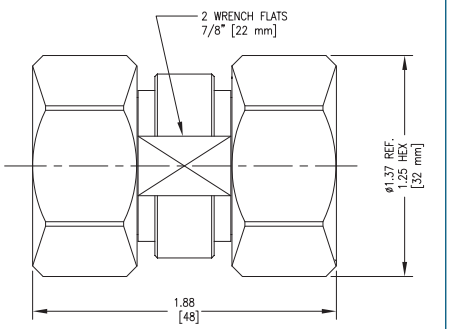


0910-137-AS 4.1/9.5 (F) : N (F)



1910-04-US 7/16 (M) : (M)



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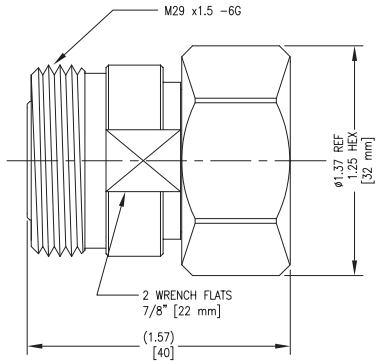
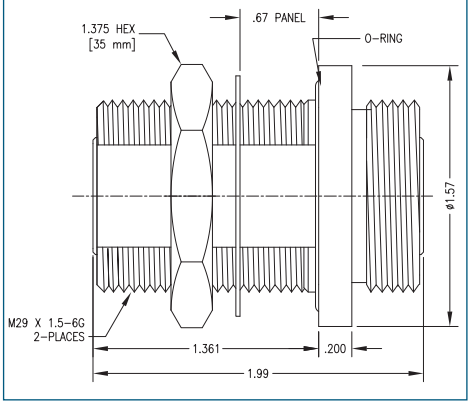
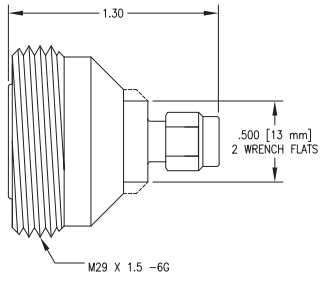


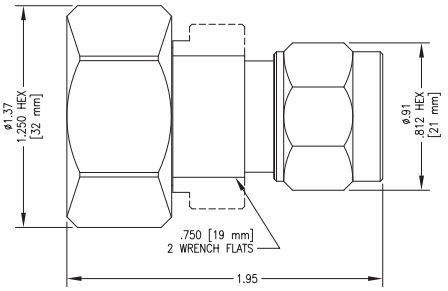
1910-13-US 7/16 BULKHEAD (F) : (F)



0910-74-AG 7/16 (F) : SMA (M)



0910-44-US 7/16 (M) : N (M)



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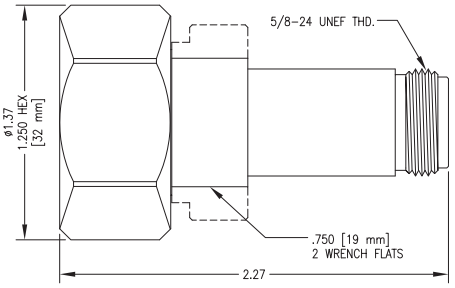
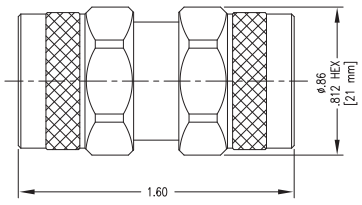


0410-52-US N (M) : (M)



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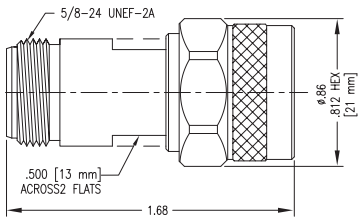
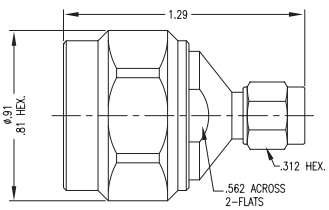


0910-12 M1-AG N (M) : SMA (M)



Request pricing and delivery at

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