

## NanoRF Edge Launch Connector

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HIGH FREQUENCY CONTACTS SUPPORT HIGH PERFORMANCE  
UP TO 70 GHZ



High frequency contacts support high performance up to 70 GHz



## ROBUST AND SPACE SAVING

- NanoRF contact plug in module is terminated to the pc board, eliminating the need for cables

## EASIER TERMINATION

- Bullet adapter takes up tolerance between edge launch termination and mating face and decreases the mating force required for stacked boards

## VERSATILE

- Contact and module design is configurable for different sizes and contact counts

## INDUSTRY STANDARDS

- Supports VITA 67.3 interface for VPX industry standard implementations with SOSA compliance to support plug-in computing modules

## MARKETS SERVED

- Military
- Radar

## Description

TE Connectivity (TE) has introduced the NanoRF Edge Launch connector. This product offers higher density and ruggedness over SMPM and SMPS edge launch options, and integrates the RF above an optical interconnect (with TE's hybrid RF/optical modules). This product offers higher density and ruggedness over SMPM and SMPS edge launch options, and the technology can be leveraged to support SOSA aligned NanoRF connector modules.

## APPLICATIONS

- RF switches
- Tuners
- Software defined radios (RF devices for use in embedded computing systems)

## ELECTRICAL

- **Frequency range** of 2 MHz to 40 GHz and 1.5:1 over the frequency range of 40 GHz to 85 GHz.
- VSWR of 1.4:1 over the frequency range of 2 MHz to 40 GHz and 1.5:1 over the frequency range of 40 GHz to 67 GHz.
- **Crosstalk:** Frequency Range 3 GHz to 27 GHz and can achieve 100 db of crosstalk
- **Insertion Loss:** Not be greater than  $0.12 \cdot \sqrt{f}$  dB, where f is in GHz. Maximum insertion loss at 20 GHz = 0.5367 dB.
- Meets VITA 72 Shock and Vibration
- Meets VITA 67 Environmental Requirement

Test report to 108-163-006-1 Spec

## STANDARDS AND SPECIFICATIONS

- **EIA-364:** Electrical Connector/Socket Test Procedures Including Environmental Classifications
- **ANSI/VITA 67.3:** Coaxial Interconnect on VPX, Spring-Loaded Contact on Backplane
- **ANSI/VITA 48.1:** Mechanical Specification for Microcomputers Using REDI Air Cooling
- **ANSI/VITA 46.0:** VPX Baseline Standard
- **ANSI/VITA 65.0-2019:** OpenVPX System Standard
- **ANSI/VITA 65.1-2019:** OpenVPX System Standard – Profile Tables
- **MIL-STD-810H:** Environmental Engineering Considerations and Laboratory Tests, Jan 2019





# NanoRF Edge Launch Connector

## Eliminates Cables in the Plug-In Module

### Direct Board Termination

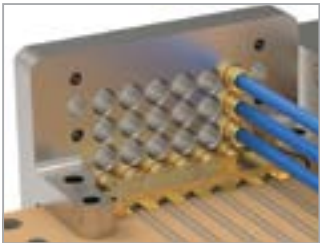
- NanoRF contact on plug-in module directly terminated to the board
- Contacts fixed in module frame mounted to board
- Upper rows (if needed) use cabling



	Part Number	Description
	2332714-2	Daughtercard Assembly, Edge Launch, 67.3 (for separable solution w/bullet)
	2332709-2	Backplane Module, RF, 67.3C, Edge Launch

### With Bullet Adapter

- NanoRF contacts tightly positioned in module
- Bullets take up tolerance between edge launch terminations and NanoRF mating face
- Ideal for stacked boards. Contact row heights in VITA 65.1 support stacked boards
- This approach is implemented today with 67.3 SMPM



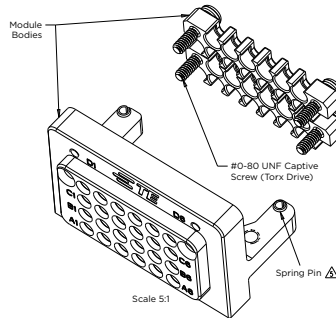
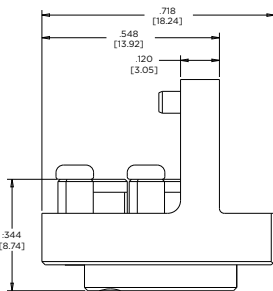
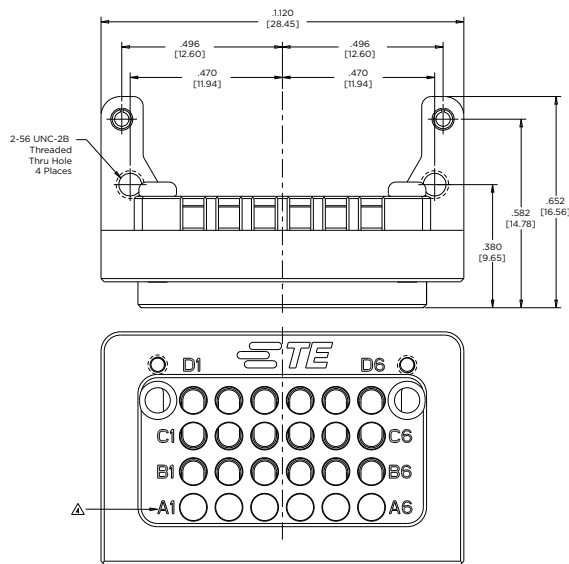
	Part Number	Description
	2332714-2	Daughtercard Assembly, Edge Launch, 67.3
	2337098-1	SMPS Edge Launch: 6 Position
	2331630-1	Adapter, SMPS, Bullet
	2332709-2	Backplane Module, RF, 67.3C, Edge Launch

### NanoRF Edge Launch Kit

- 6 bullets
- SMPS solder bar
- 6 SMPS to NanoRF adapters
- Daughtercard module



Part Number	Description
2393429-1	Stainless Steel Kit
2393429-2	Aluminum Kit



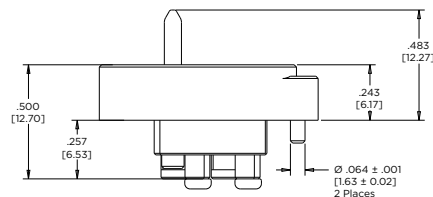
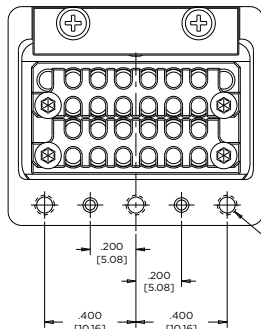
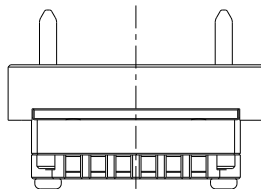
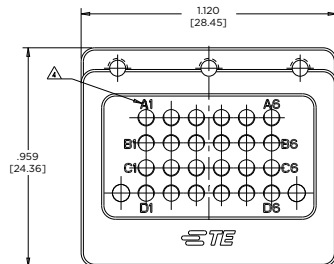
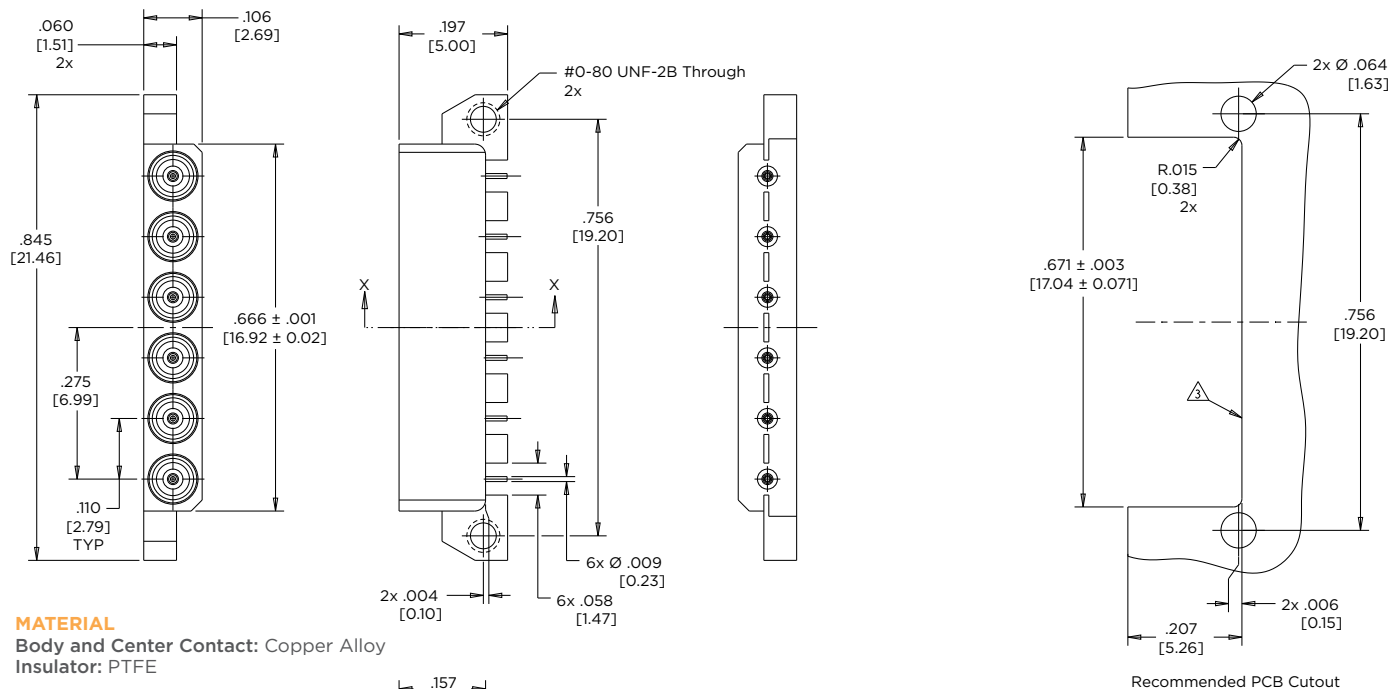
### MATERIAL

Module Bodies: Aluminum Alloy  
Screws and Spring Pins: Stainless Steel

### FINISH

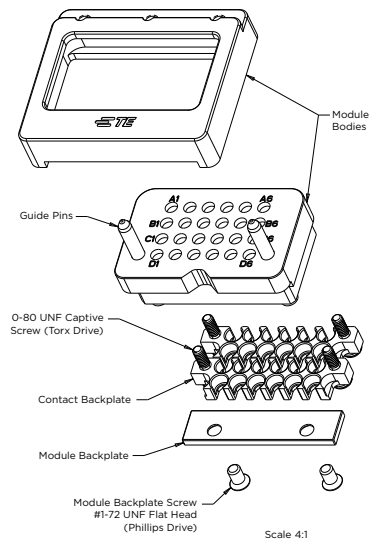
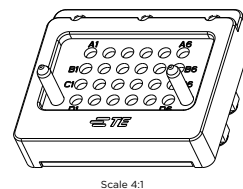
Module Bodies: Clear Chromate Conversion Coating  
Screws and Spring Pins: Passivated

# NanoRF Edge Launch Connector

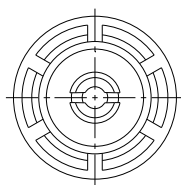
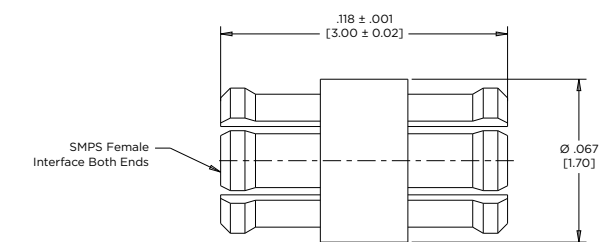


**MATERIAL**  
**Module Bodies and Backplates:** Aluminum Alloy  
**Guide Pin:** Stainless Steel, per UNS S30300  
**Screws:** 300 Series Stainless Steel

**FINISH**  
**Module Bodies:** Clear Chromate Conversion Coating  
**Screws and Guide Pin:** Passivated



# NanoRF Edge Launch Connector

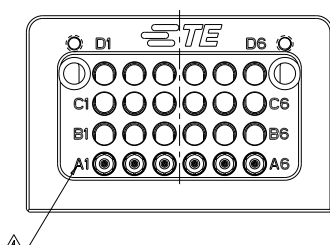
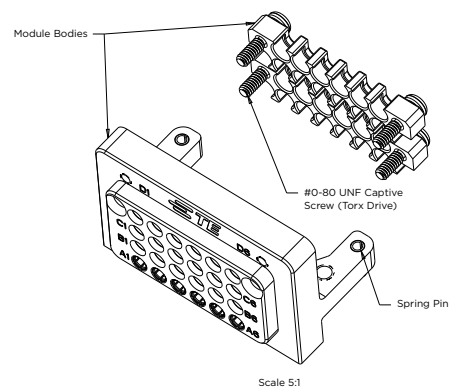
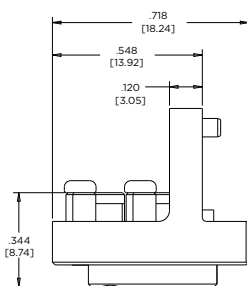
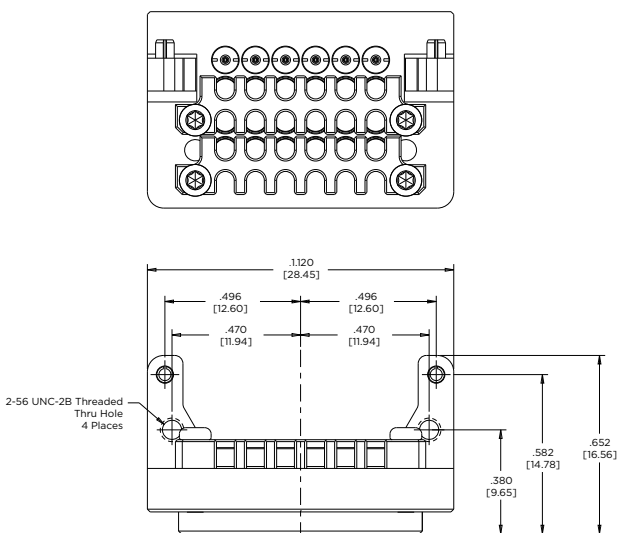


## MATERIAL

Body and Center Contact: Copper Alloy  
Insulator: PTFE

## FINISH

Body and Center Contact: Gold Plate over Nickel



## MATERIAL

Module Bodies: Aluminum Alloy  
Screws and Spring Pins: Stainless Steel  
Contact Bodies and Pin: Copper Alloy  
Insulator: PTFE

## FINISH

Module Bodies: Clear Chromate Conversion Coating  
Screws and Spring Pins: Passivated  
Front Contact Body and Pin: 50-90  $\mu\text{m}$ . Gold Plate over Nickel  
Rear Contact Body: 3-15  $\mu\text{m}$ . Gold Plate over Nickel

## Compatibility is Standard



NanoRF Backplane Modules



NanoRF Backplane Contacts



Mezzanine Connectors

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MICRODOT | NANONICS | POLAMCO | Raychem | Rochester | SEACON

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### [te.com/nanoRF-Edge](https://te.com/nanoRF-Edge)

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