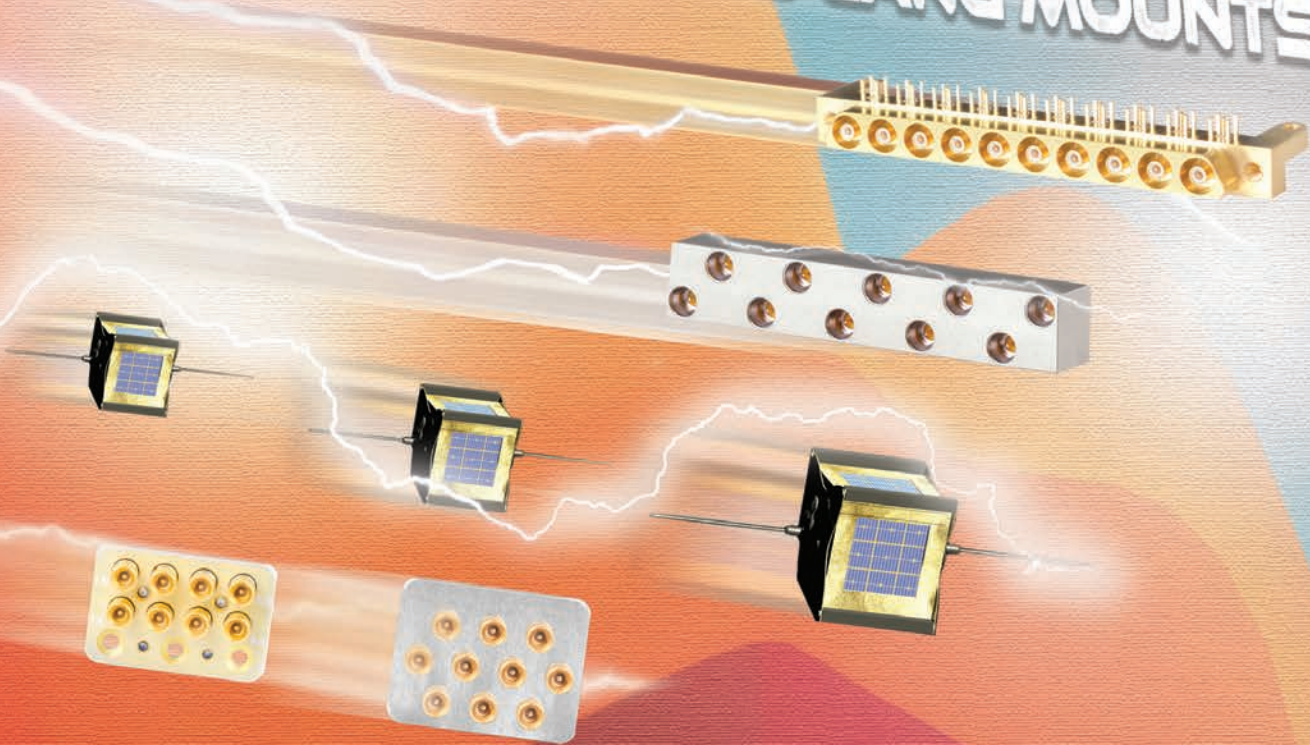




**DELTA**  
Electronics Mfg. Corp.

**SMP, SMPM, SMP3 GANG MOUNTS**

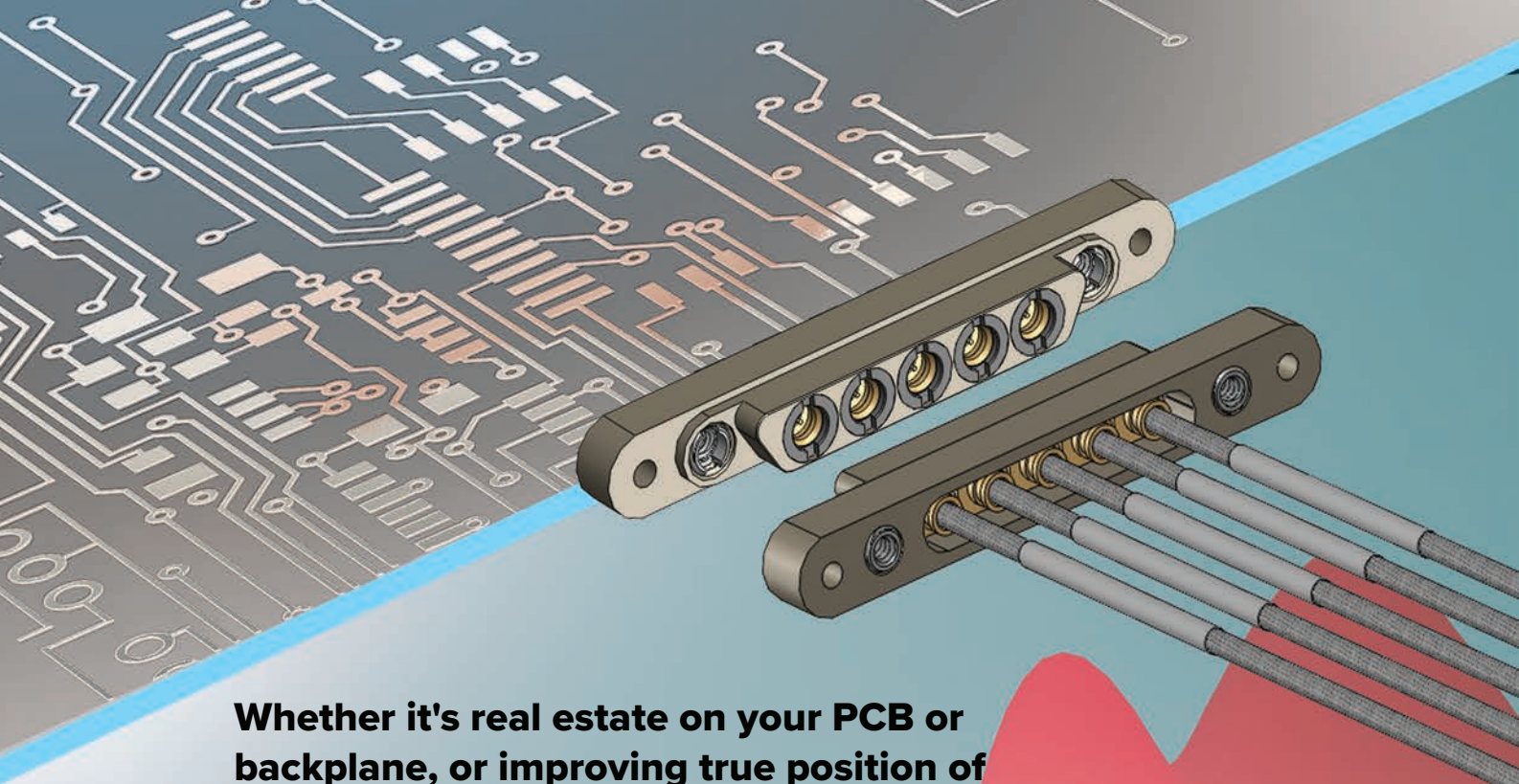


**BLIND MATE RF  
GANG MOUNTS**



[sales@deltarf.com](mailto:sales@deltarf.com) (978) 927-1060 [deltarf.com](http://deltarf.com)





**Whether it's real estate on your PCB or backplane, or improving true position of blind mate RF Interfaces, Delta's ganged RF design solutions are the answer.**

## **Features and Benefits of SMPM-G Gang Mounts**

Ideal for blind mate applications: cable-to-board, cable-to-cable and board-to-board mechanical schemes.

Delta's SMPM-G housings are standardized with 2, 3, 4, 5, 6, 7, and 8 port designs.

SMPM-G housings include female cable mount, male cable mount, male PCB edge mount and male PCB vertical launch. SMPM-G RF connectors are available in both straight and right angle configurations.

SMPM-G housings are keyed to prevent improper mating and port locations are laser marked for proper identification.

Delta's SMPM-G RF connectors and housings are gasketed for extreme weather sealing.

SMPM-G RF connectors accommodate both .047" and .086" semi-rigid cable and the flexible equivalents. Custom cable designs may also be available.

Straight cable mount SMPM-G configurations operate up to 65 GHz, right angle cable mount connectors operate up to 26.5 GHz, PCB edge mount and vertical launch configurations operate up to 40 GHz.

The versatile SMPM-G RF connector interface meets the critical interface dimensions of Mil-STD-348 offering proven blind mate performance, with axial and radial float, assuring proper mating.



# SMPM-G GANG MOUNT CABLE & PCB MOUNTS INTRODUCTION



## Discover Your SMPM-G Gang Mount Solution

A large, modern naval ship is shown sailing on a blue-green ocean under a clear sky. In the background, a small, green, hilly island is visible. The ship is equipped with various antennas and radar equipment on its deck.

  
DELTA  
Electronics Mfg. Corp.

SMPM-G  
High Performance  
Gang Mounts



SMPM



Interconnects  
that Guide &  
Protect us

| # Ports       | SMPM-G Cable Mounts Housings                                 | Part Number        | Page #       |
|---------------|--------------------------------------------------------------|--------------------|--------------|
|               | <b>SMPM-G General Specifications</b>                         |                    |              |
| <b>2 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-02</b> | <b>6-7</b>   |
| <b>2 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-02</b> | <b>10-11</b> |
| <b>3 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-03</b> | <b>6-7</b>   |
| <b>3 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-03</b> | <b>10-11</b> |
| <b>4 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-04</b> | <b>6-7</b>   |
| <b>4 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-04</b> | <b>10-11</b> |
| <b>5 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-05</b> | <b>6-7</b>   |
| <b>5 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-05</b> | <b>10-11</b> |
| <b>6 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-06</b> | <b>6-7</b>   |
| <b>6 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-06</b> | <b>10-11</b> |
| <b>7 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-07</b> | <b>6-7</b>   |
| <b>7 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-07</b> | <b>10-11</b> |
| <b>8 Port</b> | <b>Female, Cable Mount with Self Captivating Jack Screws</b> | <b>21-10459-08</b> | <b>6-7</b>   |
| <b>8 Port</b> | <b>Male, Cable Mount with Environmental Seal</b>             | <b>21-10460-08</b> | <b>10-11</b> |

| Gender        | SMPM-G Cable Mount RF Connectors                                    | Part Number            | Page #    |
|---------------|---------------------------------------------------------------------|------------------------|-----------|
| <b>Female</b> | <b>Straight Cable Mount Female for .086" (RG 405) SR or Flex</b>    | <b>8808094G003-005</b> | <b>8</b>  |
| <b>Female</b> | <b>Right Angle Cable Mount Female for .086" (RG 405) SR or Flex</b> | <b>8876094G003-011</b> | <b>9</b>  |
| <b>Female</b> | <b>Straight Cable Mount Female for .047" (RG 405) SR or Flex</b>    | <b>8808111G003-006</b> | <b>8</b>  |
| <b>Female</b> | <b>Right Angle Cable Mount Female for .047" (RG 405) SR or Flex</b> | <b>8876111G003-007</b> | <b>9</b>  |
| <b>Male</b>   | <b>Straight Cable Mount Male for .086" (RG 405) SR or Flex</b>      | <b>8801094G003-001</b> | <b>12</b> |
| <b>Male</b>   | <b>Right Angle Cable Mount Male for .086" (RG 405) SR or Flex</b>   | <b>8872094G903-004</b> | <b>13</b> |
| <b>Male</b>   | <b>Straight Cable Mount Male for .047" (RG 405) SR or Flex</b>      | <b>8801111G003-004</b> | <b>12</b> |
| <b>Male</b>   | <b>Right Angle Cable Mount Male for .047" (RG 405) SR or Flex</b>   | <b>8872111G903-000</b> | <b>13</b> |



| # Ports | SMPM-G PCB Vertical Launch Housings                          | Part Number     | Page # |
|---------|--------------------------------------------------------------|-----------------|--------|
| 2 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-101 | 14-15  |
| 3 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-102 | 14-15  |
| 4 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-103 | 14-15  |
| 5 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-104 | 14-15  |
| 6 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-105 | 14-15  |
| 7 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-106 | 14-15  |
| 8 Port  | Male, Vertical Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-049 | 14-15  |

| # Ports | SMPM-G PCB Edge Launch Housings                          | Part Number     | Page # |
|---------|----------------------------------------------------------|-----------------|--------|
| 2 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-095 | 16-17  |
| 3 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-096 | 16-17  |
| 4 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-097 | 16-17  |
| 5 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-098 | 16-17  |
| 6 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-099 | 16-17  |
| 7 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-100 | 16-17  |
| 8 Port  | Male, Edge Launch, SB, PCB Mount with 4-40 UNC-2B screws | 8869000G91P-048 | 16-17  |

| SMPM-G PCB Cable Assembly & Tooling | Part Number              | Page # |
|-------------------------------------|--------------------------|--------|
| Cable Assembly Options              | .040 / .047 / .086 Cable | 18-19  |
| More Gang Mount Options             | SMP-G / SMP3-G / VITA    | 20-24  |
| SMPM-G Extras                       | Bullet Adapters & Tools  | 25     |





**SMPM-G Electrical Specifications**

| Operating Frequency - SMPM-G RF Connectors               |
|----------------------------------------------------------|
| Straight Cable Mount - DC to 65 GHz                      |
| R/ A Cable Mount - DC to 26.5 GHz                        |
| Verical Launch PCB Mount - DC to 40 GHz                  |
| R/ A Edge Launch PCB Mount - DC to 40 GHz                |
| Impedance                                                |
| Straight and Right Angle - 50 $\Omega$                   |
| Insertion Loss                                           |
| 05 $\pm$ .04 $\sqrt{f}$ in GHz (non hermetic connectors) |
| VSWR (Voltage Standing Wave Ratio)                       |
| 1.35:1 Max. thru 26.5 GHz; 1.4 Max. thru 65 GHz          |
| RF Leakage                                               |
| -80 db to 3 GHz, -65 db to 65 GHz                        |
| Insulation Resistance                                    |
| 5,000 megohms                                            |
| DWV (@ sea level)                                        |
| 500 Vrms                                                 |

**SMPM-G Environmental Specifications**

| Temperature Range                                       |
|---------------------------------------------------------|
| -65 Cto + 165 C                                         |
| Mechanical Shock                                        |
| Meets Mil-STD-202, Method 213,                          |
| Random Vibration                                        |
| Meets MII-STD-202, Method 214,<br>Condition K-I, 46.3 g |
| Sine Vibration                                          |
| MIL-STD-202, method 204, 28 g peak                      |
| Altitude                                                |
| Meets Mil-STD-202, Method 105, Condition C              |
| Thermal Shock                                           |
| Meets Mil-STD-202, Method 107, Condition B              |
| Moisture Resistance                                     |
| MIL-STD-202, Method 106                                 |

**SMPM-G Mechanical Specifications**

| Force to Engage                  |
|----------------------------------|
| Smooth Bore • 2.0 lbs Typical    |
| Limited Detent - 3.5 lbs Typical |
| Full Detent - 5.0 lbs Typical    |
| Force to Disengage               |
| Smooth Bore 1.5 lbs Typical      |
| Limited Detent - 4.0 lbs Typical |
| Full Detent • 6.0 lbs Typical    |
| Durability                       |
| Smooth Bore • 1000 cycles        |
| Limited Detent • 500 cycles      |
| Full Detent - 100 cycles         |
| Contact Retention                |
| 1.5 lbs Min                      |
| Axial Misalignmnet               |
| .010"                            |
| Radial Misalignmnet              |
| +/- .010                         |

**SMPM-G Materials & Plating Specifications**

| Materials - RF Connector                                                                                          |
|-------------------------------------------------------------------------------------------------------------------|
| Bodies • Beryllium Copper per ASTM B196 and/or<br>ASTM B 197 or Stainless Steel, type 303, Condition A            |
| Outer & Center Contacts • Beryllium Copper per ASTM B196                                                          |
| Insulators • PTFE Fluorocarbon per ASTM D1710, type 1,<br>grade 1; Torlon per ASTMD-5204 or Ultem per ASTM D-5205 |
| Materials - Housing                                                                                               |
| Block Housing • Brass per ASTM B16, C36000 Alloy,<br>Temper H02                                                   |
| Gasket - Silicone Rubber per A-A-59588                                                                            |
| Hardware - 18-8 Stainless Steel, 316L Stainless Steel                                                             |
| Plating - RF Connectors                                                                                           |
| Bodies • Gold Plate per ASTM B488, over Nickel Plate, per<br>SAE AMS-QQ-N-290 or Passivated per SAE AMS 2700      |
| Outer Contacts • Gold Plate per MIL-G-45204, over Nickel<br>Plate per SAE - AMS-QQ-N-290                          |
| Center Contacts • Gold Plate per ASTM B488, type II, over<br>Nickel Plate, per SAE AMS-QQ-N-290                   |
| Plating - Housing                                                                                                 |
| Housing • Nickel Plate per SAE-AMS-QQ-N-290                                                                       |



**Military**



**Launch  
Vehicles**

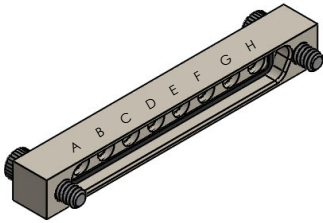


**High Speed  
Computing**



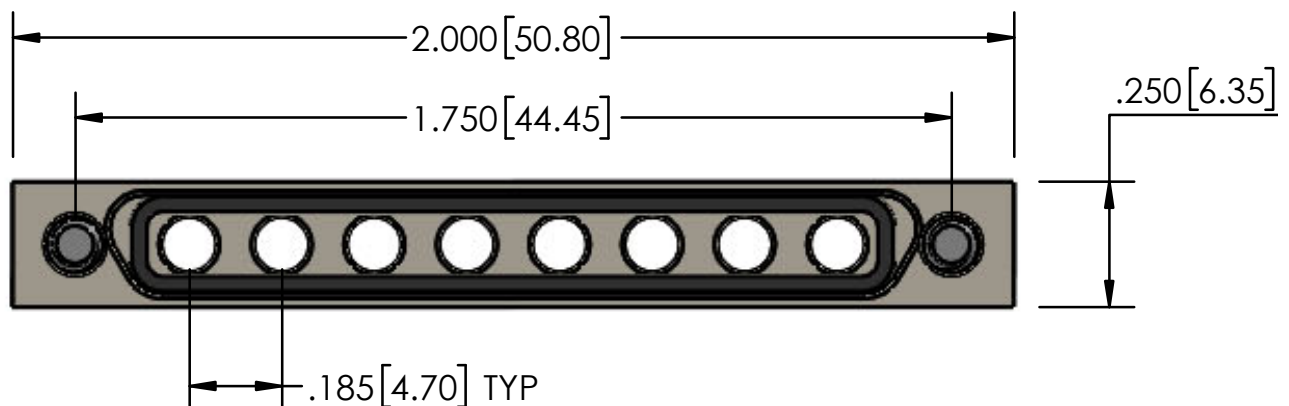
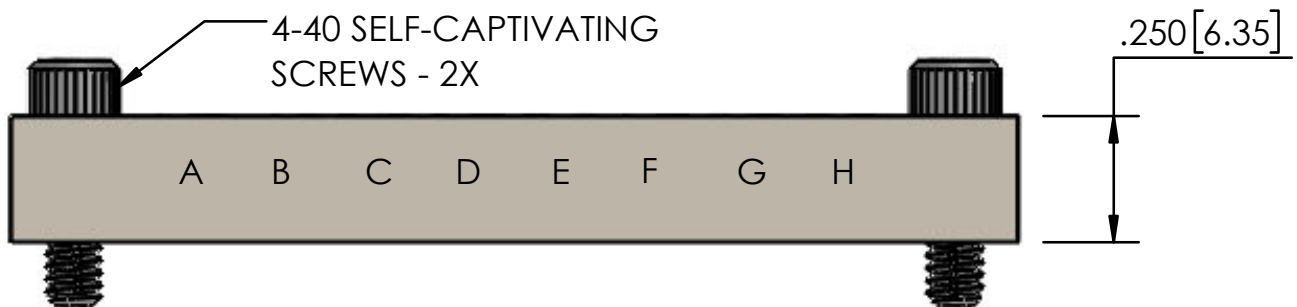
**Radar  
Applications**





**SMPM-G 21-10459-08 Female Cable Mount**  
 Straight Cable Mount Female, 8 port, with 4-40 UNC Self Captivating Jack Screws. Each port is laser marked for quick identification and the environmentally sealed housing accepts Delta's straight & right angle cable mount SMPM connectors.

| Part Number        |            | Configuration | Cable                                 | Gender           | Connectors                |
|--------------------|------------|---------------|---------------------------------------|------------------|---------------------------|
| <b>21-10459-08</b> |            | Cable Mount   | .047"<br>.086" (RG 405)<br>SR or Flex | Female           | Straight &<br>Right Angle |
| Product Features   |            |               |                                       |                  |                           |
| Housing Material   | Brass      |               | Interface Seal Material               | Silicone Rubber  |                           |
| Housing Plating    | Nickel     |               | Port Identifiers                      | Laser Marked A-H |                           |
| Hardware Material  | Steel      |               | Distance Between Ports                | .185"            |                           |
| Hardware Plating   | Passivated |               | Block Height & Width                  | .250"            |                           |

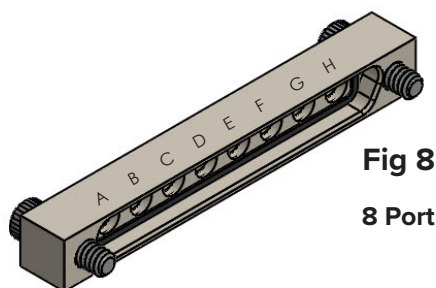
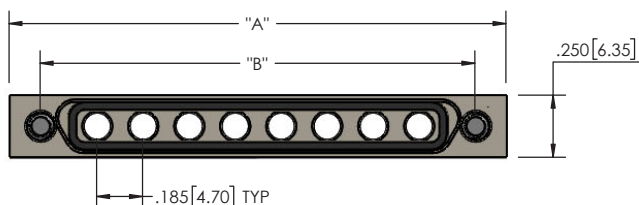


# GANG MOUNT SMPM-G FEMALE HOUSING CABLE MOUNT

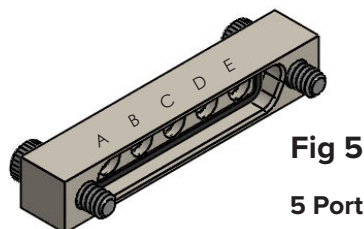
## Dimensions For 2 Port Thru 8 Port

Distance Between All Ports: .185" TYP Height & Width All Blocks .250" TYP

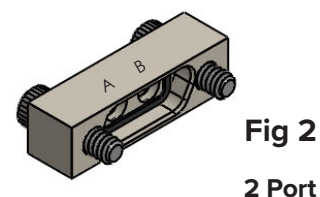
| Delta Part #        | A     | B     | Ports |  | Delta Part #        | A     | B     | Ports |
|---------------------|-------|-------|-------|--|---------------------|-------|-------|-------|
| Fig 2 - 21-10459-02 | 0.890 | 0.640 | 2     |  | Fig 6 - 21-10459-06 | 1.630 | 1.380 | 6     |
| Fig 3 - 21-10459-03 | 1.075 | 0.825 | 3     |  | Fig 7 - 21-10459-07 | 1.815 | 1.565 | 7     |
| Fig 4 - 21-10459-04 | 1.260 | 1.010 | 4     |  | Fig 8 - 21-10459-08 | 2.000 | 1.750 | 8     |
| Fig 5 - 21-10459-05 | 1.445 | 1.195 | 5     |  |                     |       |       |       |



**Fig 8**  
8 Port

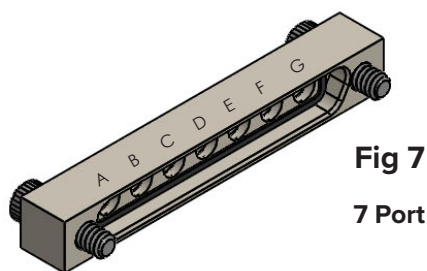


**Fig 5**  
5 Port

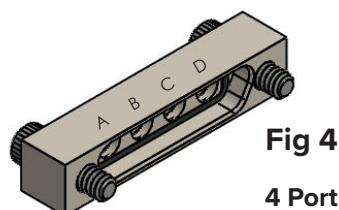


**Fig 2**  
2 Port

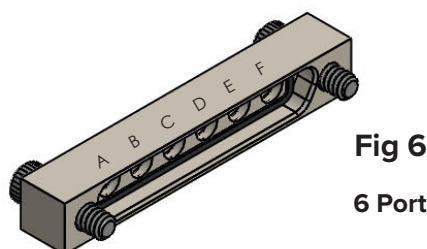
**Straight & Right  
Angle SMPM-G RF  
Connectors  
Pages 8 & 9.**



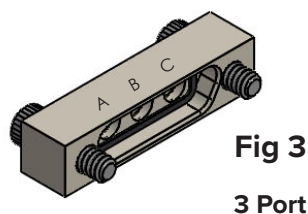
**Fig 7**  
7 Port



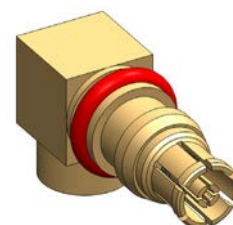
**Fig 4**  
4 Port



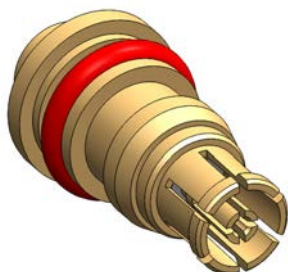
**Fig 6**  
6 Port



**Fig 3**  
3 Port



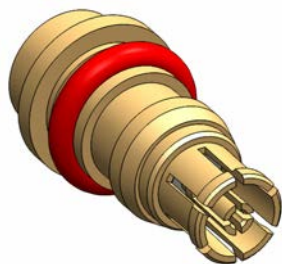
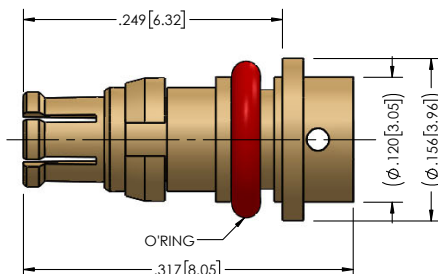
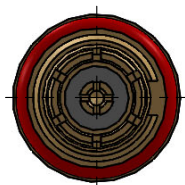




### SMPM-G 8808094G003-005

Straight Cable Mount Female for .086"  
 (RG 405) Semi-Rigid or the flexible equivalent,  
 snaps into male cable mount housing, reference  
 Delta housing Part # 21-10459-08

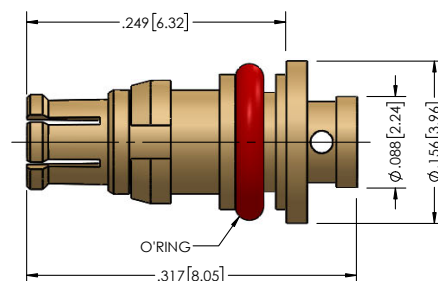
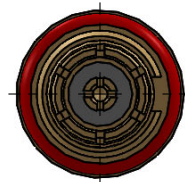
| Part Number             | Configuration | Cable                        | CC Termination           | OC Termination |
|-------------------------|---------------|------------------------------|--------------------------|----------------|
| <b>8808094G003-005</b>  | Straight      | .086" (RG-405)<br>SR or Flex | One-Step<br>(solderless) | Direct Solder  |
| <b>Product Features</b> |               |                              |                          |                |
| Frequency               | 65 GHz        |                              |                          |                |
| CC Gender               | Female        |                              |                          |                |
| Durability              | 1000 Cycles   |                              |                          |                |
| CC & Body Material      | Be Cu         |                              |                          |                |
| CC & Body Plating       | Gold          |                              |                          |                |
| Insulator               | PTFE          |                              |                          |                |

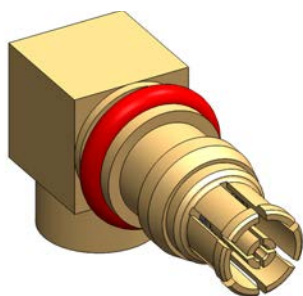


### SMPM-G 8808111G003-006

Straight Cable Mount Female for .047"  
 Semi-Rigid or the flexible equivalent, snaps into  
 male cable mount housing, reference Delta  
 housing Part # 21-10459-08

| Part Number             | Configuration | Cable               | CC Termination           | OC Termination |
|-------------------------|---------------|---------------------|--------------------------|----------------|
| <b>8808111G003-006</b>  | Right Angle   | .047"<br>SR or Flex | One-Step<br>(solderless) | Direct Solder  |
| <b>Product Features</b> |               |                     |                          |                |
| Frequency               | 65 GHz        |                     |                          |                |
| CC Gender               | Female        |                     |                          |                |
| Durability              | 1000 Cycles   |                     |                          |                |
| CC & Body Material      | Be Cu         |                     |                          |                |
| CC & Body Plating       | Gold          |                     |                          |                |
| Insulator               | PTFE          |                     |                          |                |

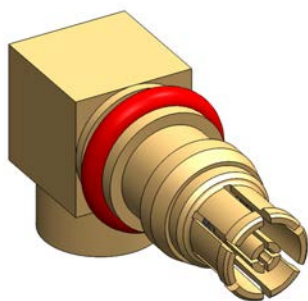
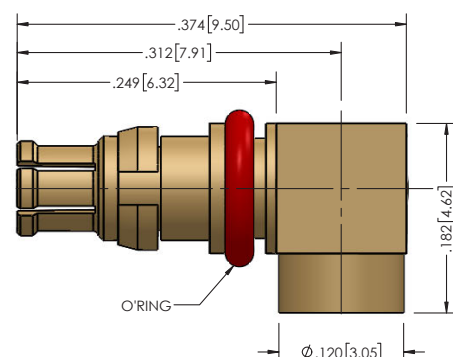
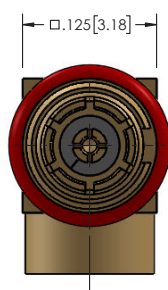




### SMPM-G 8876094G003-011

Right Angle Cable Mount Female for .086"  
(RG 405) Semi-Rigid or the flexible equivalent,  
snaps into male cable mount housing, reference  
Delta housing Part # 21-10459-08

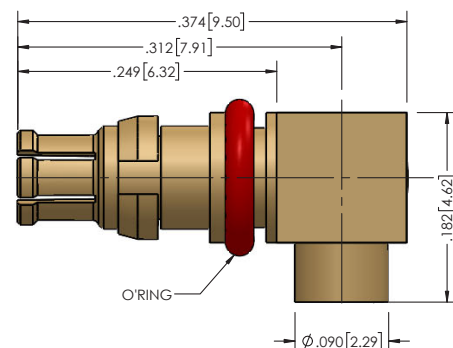
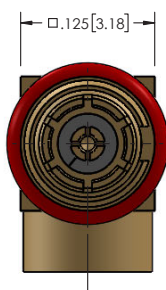
| Part Number             | Configuration | Cable                        | CC Termination | OC Termination |
|-------------------------|---------------|------------------------------|----------------|----------------|
| <b>8876094G003-011</b>  | Right Angle   | .086" (RG-405)<br>SR or Flex | Solder         | Direct Solder  |
| <b>Product Features</b> |               |                              |                |                |
| Frequency               | 26.5 GHz      |                              |                |                |
| CC Gender               | Female        |                              |                |                |
| Durability              | 1000 Cycles   |                              |                |                |
| CC & Body Material      | Be Cu         |                              |                |                |
| CC & Body Plating       | Gold          |                              |                |                |
| Insulator               | PTFE          |                              |                |                |



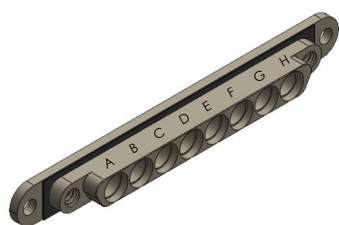
### SMPM-G 8876111G003-007

Right Angle Cable Mount Female for .047"  
Semi-Rigid or the flexible equivalent, snaps into  
male cable mount housing, reference Delta housing  
Part # 21-10459-08

| Part Number             | Configuration | Cable               | CC Termination | OC Termination |
|-------------------------|---------------|---------------------|----------------|----------------|
| <b>8876111G003-007</b>  | Right Angle   | .047"<br>SR or Flex | Solder         | Direct Solder  |
| <b>Product Features</b> |               |                     |                |                |
| Frequency               | 26.5 GHz      |                     |                |                |
| CC Gender               | Female        |                     |                |                |
| Durability              | 1000 Cycles   |                     |                |                |
| CC & Body Material      | Be Cu         |                     |                |                |
| CC & Body Plating       | Gold          |                     |                |                |
| Insulator               | PTFE          |                     |                |                |



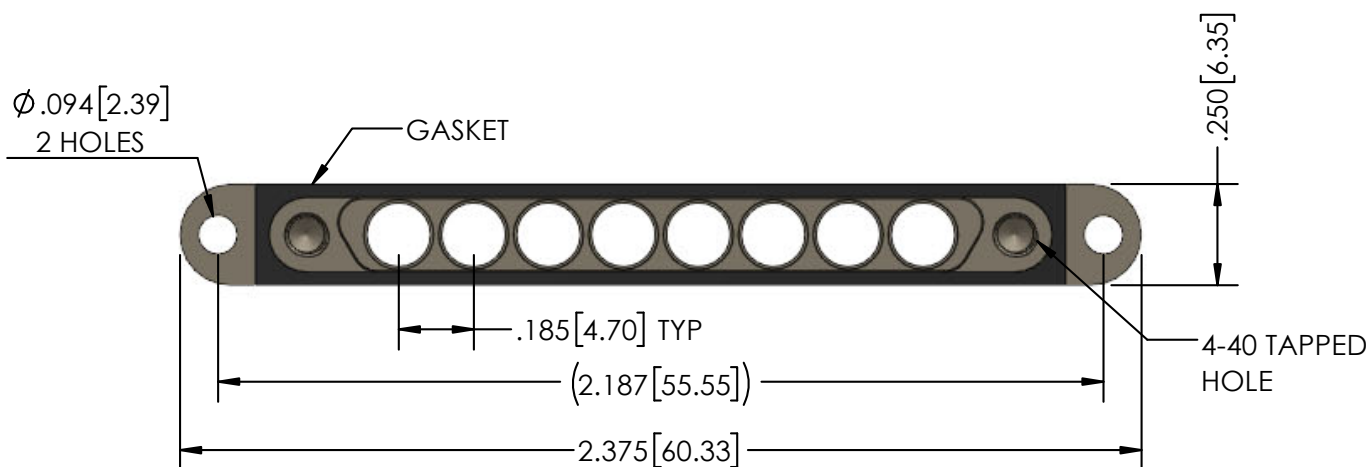
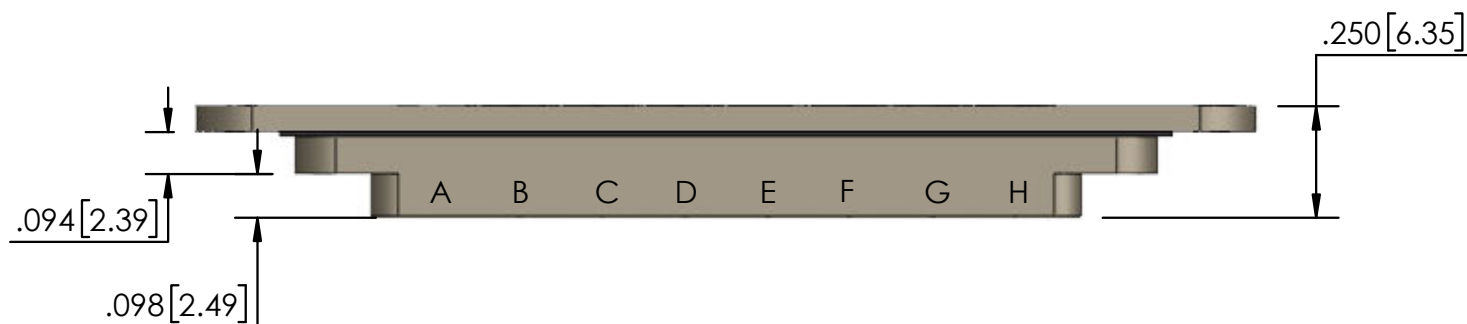




## SMPM-G 21-10460-08 Male Cable Mount

Straight Cable Mount Male, 8 port, with 4-40 UNC-2B thread x .100 Deep, 2 places. Each port is laser marked for quick identification and the environmentally sealed housing accepts Delta's straight & right angle cable mount SMPM connectors.

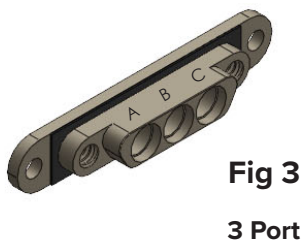
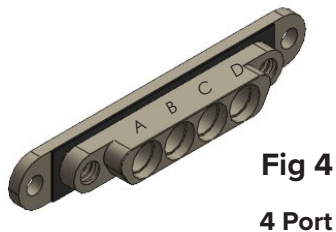
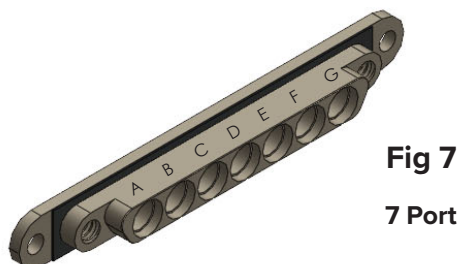
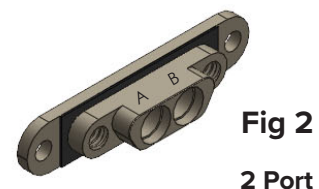
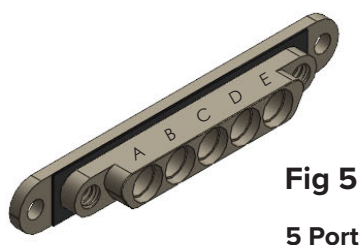
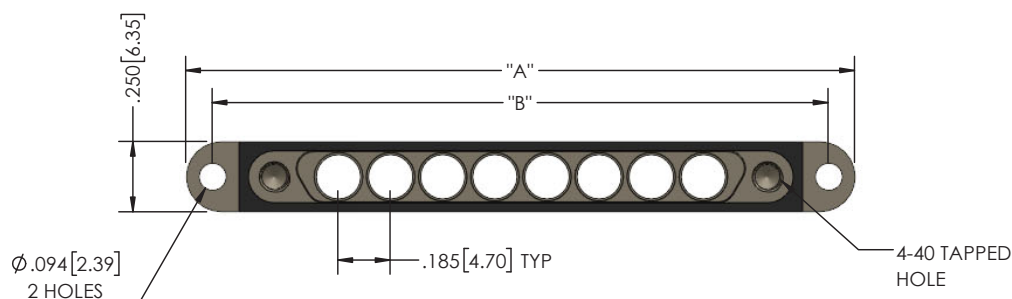
| Part Number        | Configuration | Cable                                 | Gender           | Connectors                |
|--------------------|---------------|---------------------------------------|------------------|---------------------------|
| <b>21-10460-08</b> | Cable Mount   | .047"<br>.086" (RG 405)<br>SR or Flex | Male             | Straight &<br>Right Angle |
| Product Features   |               |                                       |                  |                           |
| Housing Material   | Brass         | Interface Seal Material               | Silicone Rubber  |                           |
| Housing Plating    | Nickel        | Port Identifiers                      | Laser Marked A-H |                           |
| Hardware Material  | N/A           | Distance Between Ports                | .185"            |                           |
| Hardware Plating   | N/A           | Block Height & Width                  | .250"            |                           |



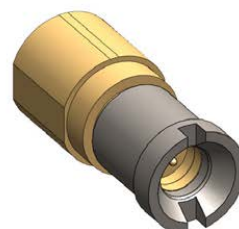
## Dimensions For 2 Port Thru 8 Port

Distance Between All Ports: .185" TYP Height & Width All Blocks .250" TYP

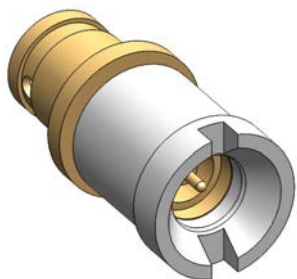
| Delta Part #        | A     | B     | Ports |  | Delta Part #        | A     | B     | Ports |
|---------------------|-------|-------|-------|--|---------------------|-------|-------|-------|
| Fig 2 - 21-10460-02 | 0.890 | 0.640 | 2     |  | Fig 6 - 21-10460-06 | 1.630 | 1.380 | 6     |
| Fig 3 - 21-10460-03 | 1.075 | 0.825 | 3     |  | Fig 7 - 21-10460-07 | 1.815 | 1.565 | 7     |
| Fig 4 - 21-10460-04 | 1.260 | 1.010 | 4     |  | Fig 8 - 21-10460-08 | 2.000 | 1.750 | 8     |
| Fig 5 - 21-10460-05 | 1.445 | 1.195 | 5     |  |                     |       |       |       |



**Straight & Right  
Angle SMPM-G RF  
Connectors  
Pages 12 & 13.**



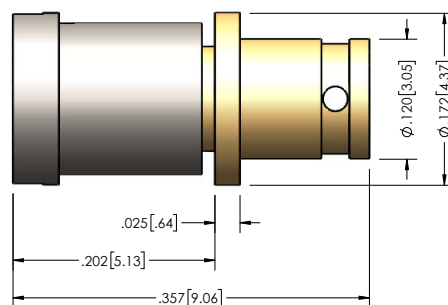
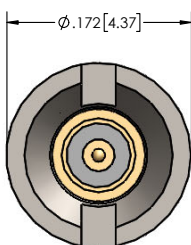




### SMPM-G 8801094G003-001

Straight Cable Mount Male for .086"  
 (RG 405) Semi-Rigid or the flexible equivalent,  
 snaps into male cable mount housing, reference  
 Delta housing Part # 21-10460-08

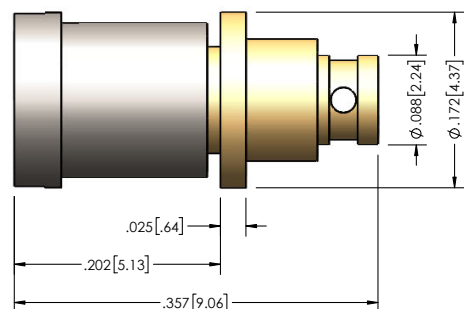
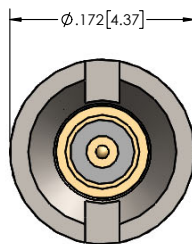
| Part Number             | Configuration | Cable                        | CC Termination           | OC Termination |
|-------------------------|---------------|------------------------------|--------------------------|----------------|
| <b>8801094G003-001</b>  | Straight      | .086" (RG-405)<br>SR or Flex | One-Step<br>(solderless) | Direct Solder  |
| <b>Product Features</b> |               |                              |                          |                |
| Frequency               | 65 GHz        |                              |                          |                |
| CC Gender               | Male          |                              |                          |                |
| Durability              | 1000 Cycles   |                              |                          |                |
| CC & Body Material      | HT Be Cu      |                              |                          |                |
| CC & Body Plating       | Gold          |                              |                          |                |
| Insulator               | PTFE          |                              |                          |                |
| Bushing Material        | CRS           |                              |                          |                |

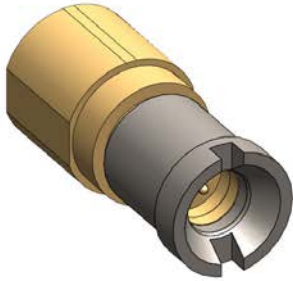


### SMPM-G 8801111G003-004

Straight Cable Mount Male for .047"  
 Semi-Rigid or the flexible equivalent, snaps into  
 male cable mount housing, reference Delta  
 housing Part # 21-10460-08

| Part Number             | Configuration | Cable               | CC Termination           | OC Termination |
|-------------------------|---------------|---------------------|--------------------------|----------------|
| <b>8801111G003-004</b>  | Right Angle   | .047"<br>SR or Flex | One-Step<br>(solderless) | Direct Solder  |
| <b>Product Features</b> |               |                     |                          |                |
| Frequency               | 65 GHz        |                     |                          |                |
| CC Gender               | Male          |                     |                          |                |
| Durability              | 1000 Cycles   |                     |                          |                |
| CC & Body Material      | HT Be Cu      |                     |                          |                |
| CC & Body Plating       | Gold          |                     |                          |                |
| Insulator               | PTFE          |                     |                          |                |
| Bushing Material        | CRS           |                     |                          |                |

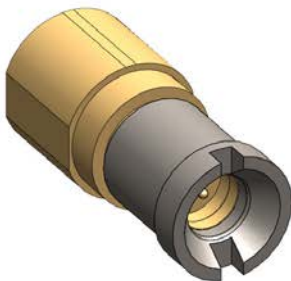
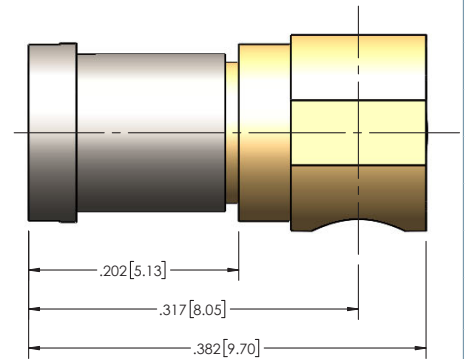
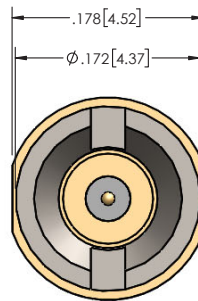




### SMPM-G 8872094G903-004

Right Angle Cable Mount Male for .086"  
(RG 405) Semi-Rigid or the flexible equivalent,  
snaps into male cable mount housing, reference  
Delta housing Part # 21-10460-08

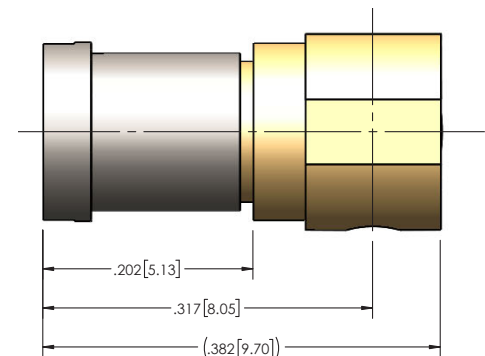
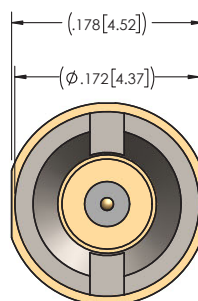
| Part Number             | Configuration | Cable                        | CC Termination | OC Termination |
|-------------------------|---------------|------------------------------|----------------|----------------|
| <b>8872094G903-004</b>  | Right Angle   | .086" (RG-405)<br>SR or Flex | Solder         | Direct Solder  |
| <b>Product Features</b> |               |                              |                |                |
| Frequency               | 40 GHz        |                              |                |                |
| CC Gender               | Male          |                              |                |                |
| Durability              | 1000 Cycles   |                              |                |                |
| CC & Body Material      | HT Be Cu      |                              |                |                |
| CC & Body Plating       | Gold          |                              |                |                |
| Insulator               | PTFE          |                              |                |                |
| Bushing Material        | CRS           |                              |                |                |



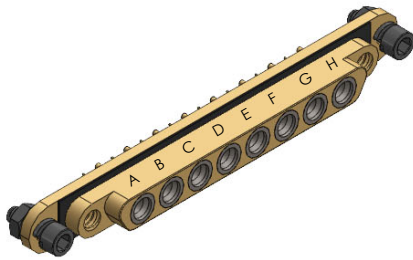
### SMPM-G 8872111G903-000

Right Angle Cable Mount Male for .047"  
Semi-Rigid or the flexible equivalent, snaps into  
male cable mount housing, reference Delta housing  
Part # 21-10460-08

| Part Number             | Configuration | Cable               | CC Termination           | OC Termination |
|-------------------------|---------------|---------------------|--------------------------|----------------|
| <b>8872111G903-000</b>  | Right Angle   | .047"<br>SR or Flex | One-Step<br>(solderless) | Direct Solder  |
| <b>Product Features</b> |               |                     |                          |                |
| Frequency               | 40 GHz        |                     |                          |                |
| CC Gender               | Male          |                     |                          |                |
| Durability              | 1000 Cycles   |                     |                          |                |
| CC & Body Material      | HT Be Cu      |                     |                          |                |
| CC & Body Plating       | Gold          |                     |                          |                |
| Insulator               | PTFE          |                     |                          |                |
| Bushing Material        | CRS           |                     |                          |                |



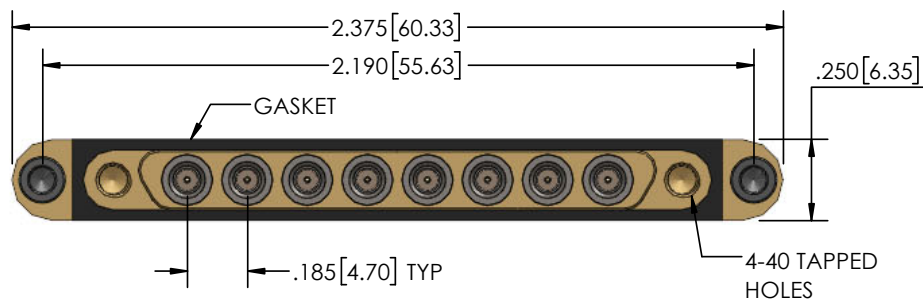
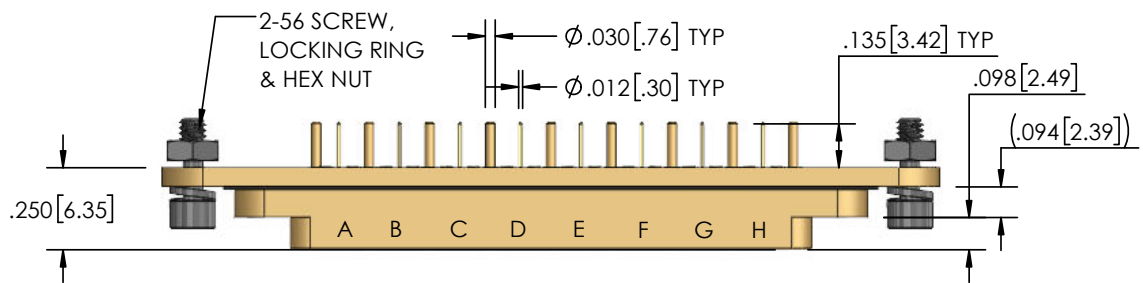




## SMPM-G 8869000G91P-049

8 Port PCB Mount  
 Vertical Launch Male With  
 4-40 UNC-2B Screws

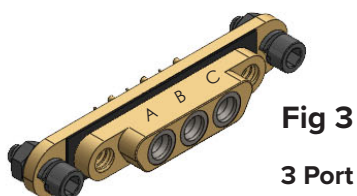
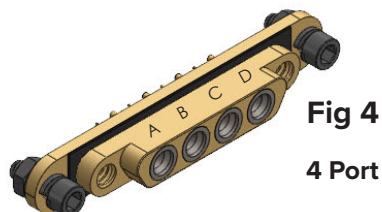
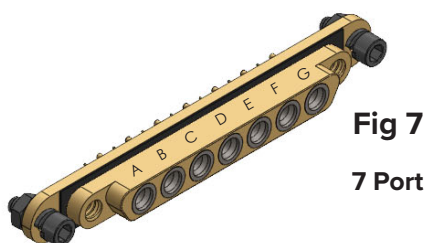
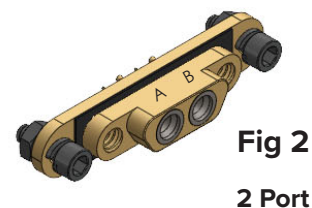
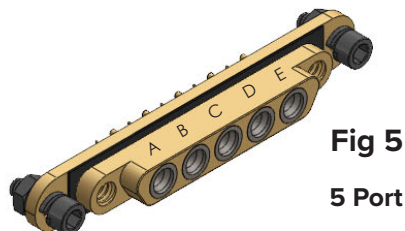
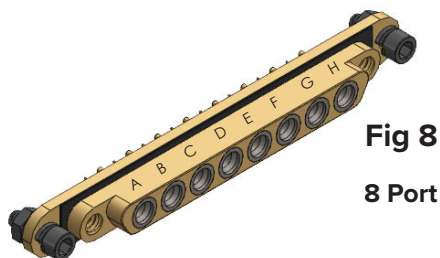
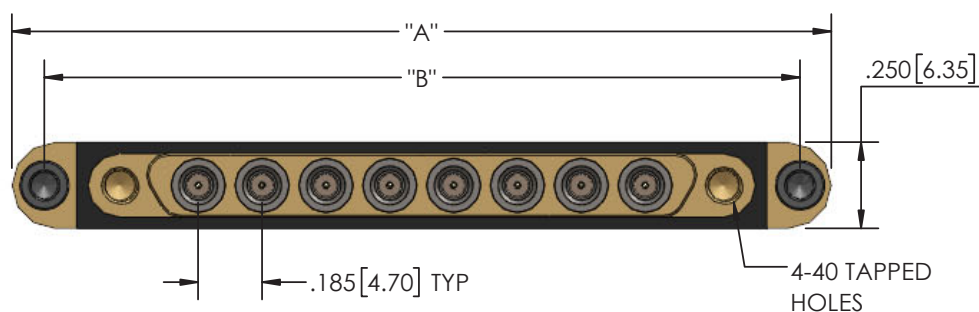
| Part Number            | Housing Configuration | PCB Mount               | CC Termination   | OC Termination |
|------------------------|-----------------------|-------------------------|------------------|----------------|
| <b>8869000G91P-049</b> | Staight               | Vertical Launch         | Thru Hole        | Thru Hole      |
| Product Features       |                       |                         |                  |                |
| Housing Material       | Brass                 | Interface Seal Material | Silicone Rubber  |                |
| Housing Plating        | Gold                  | Port Identifiers        | Laser Marked A-H |                |
| Hardware Material      | Steel                 | Distance Between Ports  | .185"            |                |
| Hardware Plating       | Passivated            | Block Height & Width    | .250"            |                |

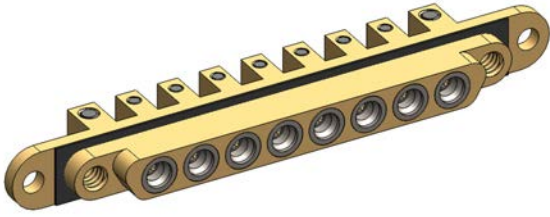


## Dimensions For 2 Port Thru 8 Port

Distance Between All Ports: .185" TYP Height & Width All Blocks .250" TYP

| Delta Part #            | A     | B     | Ports |  | Delta Part #            | A     | B     | Ports |
|-------------------------|-------|-------|-------|--|-------------------------|-------|-------|-------|
| Fig 2 - 8869000G91P-101 | 1.265 | 1.077 | 2     |  | Fig 6 - 8869000G91P-105 | 2.005 | 1.817 | 6     |
| Fig 3 - 8869000G91P-102 | 1.450 | 1.262 | 3     |  | Fig 7 - 8869000G91P-106 | 2.190 | 2.002 | 7     |
| Fig 4 - 8869000G91P-103 | 1.635 | 1.447 | 4     |  | Fig 8 - 8869000G91P-049 | 2.375 | 2.187 | 8     |
| Fig 5 - 8869000G91P-104 | 1.820 | 1.632 | 5     |  |                         |       |       |       |

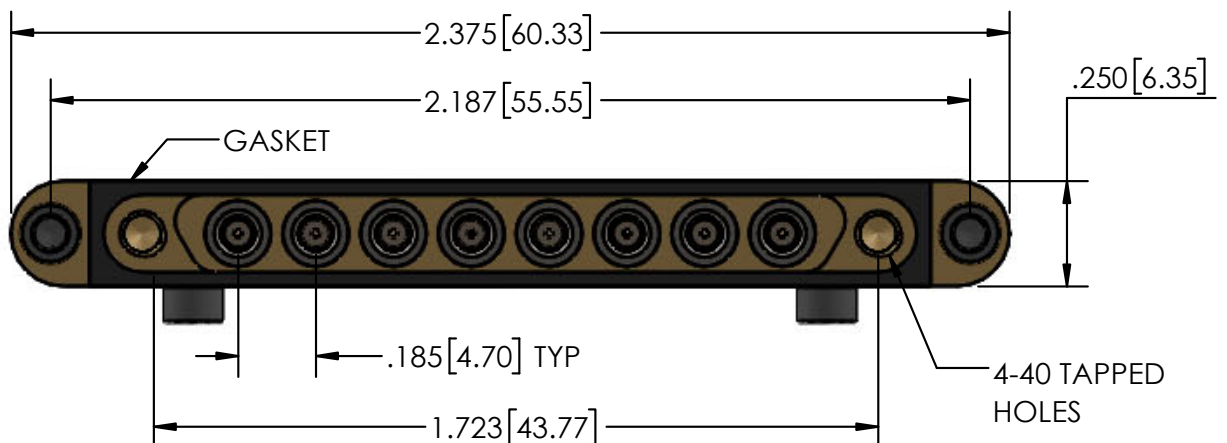
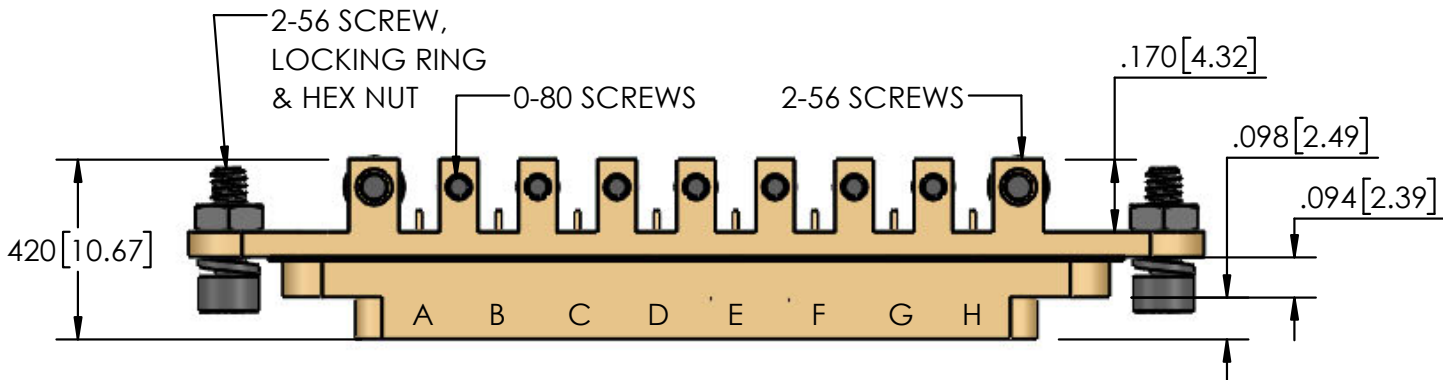




## SMPM-G 8869000G91P-048

8 Port PCB Mount  
 Edge Launch Male With  
 4-40 UNC-2B Screws

| Part Number            | Housing Configuration | PCB Mount               | CC Termination   | OC Termination |
|------------------------|-----------------------|-------------------------|------------------|----------------|
| <b>8869000G91P-048</b> | Right Angle           | Edge Launch             | Surface Mount    | Surface Mount  |
| Product Features       |                       |                         |                  |                |
| Housing Material       | Brass                 | Interface Seal Material | Silicone Rubber  |                |
| Housing Plating        | Gold                  | Port Identifiers        | Laser Marked A-H |                |
| Hardware Material      | Steel                 | Distance Between Ports  | .185"            |                |
| Hardware Plating       | Passivated            | Block Height & Width    | .250"            |                |

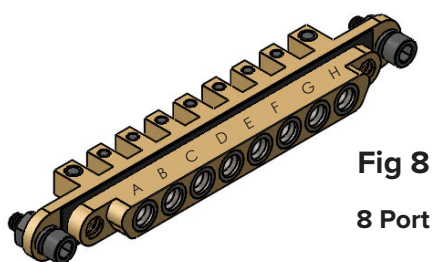
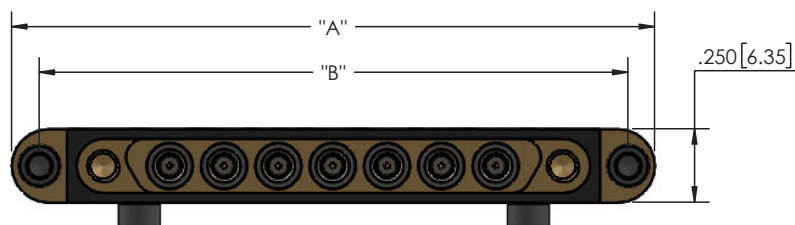




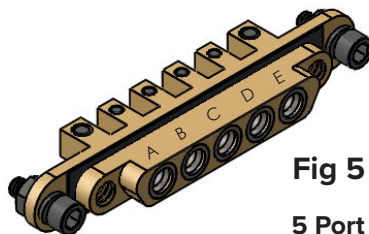
## Dimensions For 2 Port Thru 8 Port

Distance Between All Ports: .185" TYP Height & Width All Blocks .250" TYP

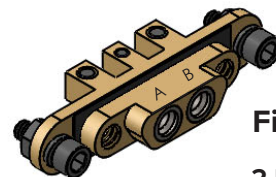
| Delta Part #            | A     | B     | Ports |  | Delta Part #             | A     | B     | Ports |
|-------------------------|-------|-------|-------|--|--------------------------|-------|-------|-------|
| Fig 2 - 8869000G91P-095 | 1.265 | 1.077 | 2     |  | Fig 6 - 8869000G91P-099  | 2.005 | 1.817 | 6     |
| Fig 3 - 8869000G91P-096 | 1.450 | 1.262 | 3     |  | Fig 7 - 8869000G91P-0100 | 2.190 | 2.002 | 7     |
| Fig 4 - 8869000G91P-097 | 1.635 | 1.447 | 4     |  | Fig 8 - 8869000G91P-048  | 2.375 | 2.187 | 8     |
| Fig 5 - 8869000G91P-098 | 1.820 | 1.632 | 5     |  |                          |       |       |       |



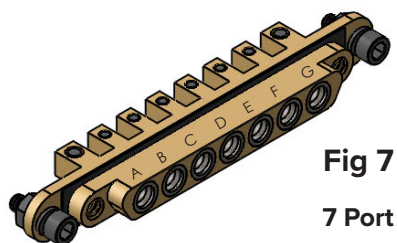
**Fig 8**  
8 Port



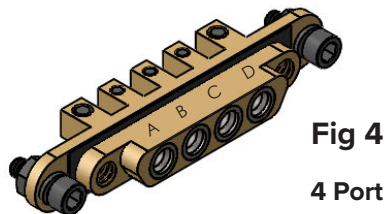
**Fig 5**  
5 Port



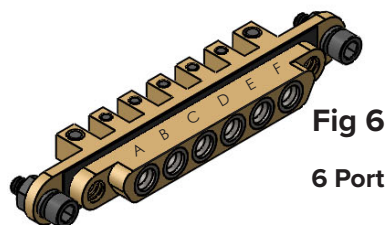
**Fig 2**  
2 Port



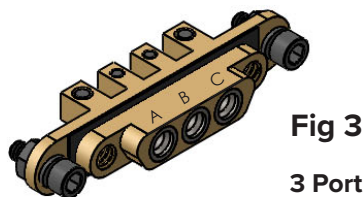
**Fig 7**  
7 Port



**Fig 4**  
4 Port

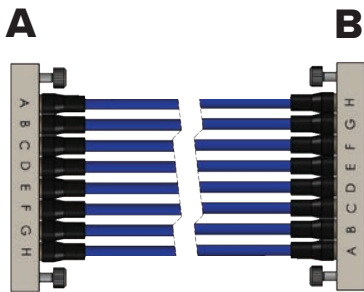


**Fig 6**  
6 Port

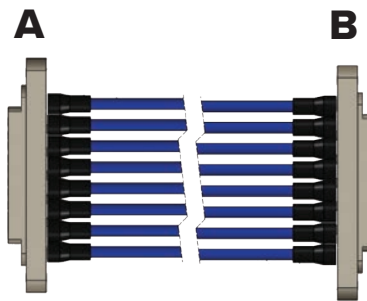


**Fig 3**  
3 Port

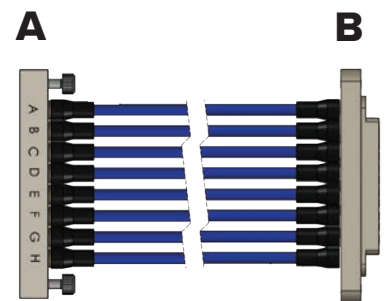
**Build Your Own SMPM-G Assembly**



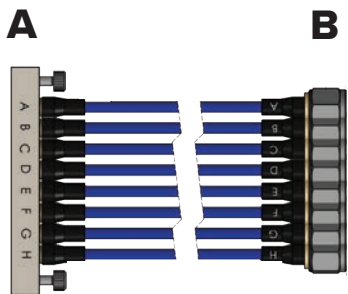
**Configuration 1**  
**Female to Female**



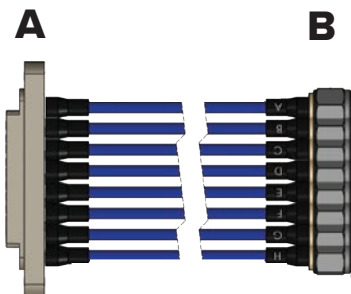
**Configuration 2**  
**Male to Male**



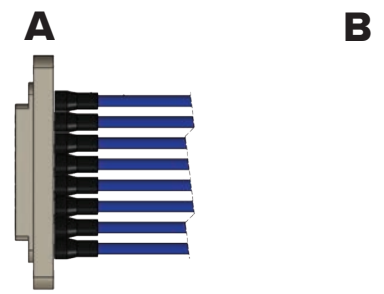
**Configuration 3**  
**Female to Male**



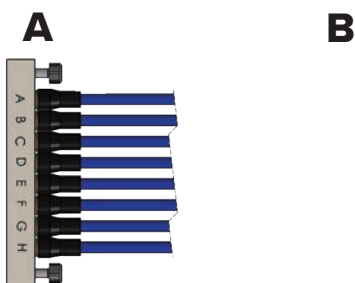
**Configuration 4**  
**Female to Discrete RF**



**Configuration 5**  
**Male to Discrete RF**



**Configuration 6**  
**Male to Blunt Cut**



**Configuration 7**  
**Female to Blunt Cut**





# Build Your Own SMPM-G Cable Assembly

**Configuration #** \_\_\_\_\_

**Begin a Cable Gang Mount** ▶▶

**Choose Configuration On Left**

1. F - F

2. M - M

3. F - M

4. F - Discrete RF

5. M - Discrete RF

6. M - Blunt Cut

7. F - Blunt Cut

**# Ports Per Housing**

**Housing A:** \_\_\_\_ **B:** \_\_\_\_

**Choose From 2 to 8 Port Housing A & B:**



**Select Connector**

**Housing A:** \_\_\_\_

**Housing B:** \_\_\_\_

**Choose Connector Options**

 C1  
 C2  
 C3  
 C4  
 C5

**Define length of assembly in inches, from the end of the straight connectors & from the centerline of R/A connectors**

\_\_\_\_\_

**Selects Cable Type** \_\_\_\_\_

**Choose Cable Type**

Flex SR



Semi-Rigid



**Choose** .047" .086"

**Select Cable Diameter** \_\_\_\_\_



**Provide Target Return Loss or VSWR Max. Frequency**

\_\_\_\_\_

**Choose Frequency Requirements**

DC-65 GHz

**Shrink Sleeve Markings**



**Provide Target Insertion Loss or VSWR Max. Frequency**

\_\_\_\_\_

**Provide Max. Operating Frequency**

\_\_\_\_\_

**Labels & Identification Circle Your Choices**

|                                  |             |           |
|----------------------------------|-------------|-----------|
| <b>Connector A Shrink Tubing</b> | Yes - .500" | No Tubing |
| <b>Add Marking:</b>              |             |           |
| <b>Connector B Shrink Tubing</b> | Yes - .500" | No Tubing |
| <b>Add Marking:</b>              |             |           |
| <b>Center Label, .750"</b>       | Yes - .750" | No Tubing |
| <b>Add Marking:</b>              |             |           |



A Delta Finished Customized Gang Mount Cable Assembly ◀◀



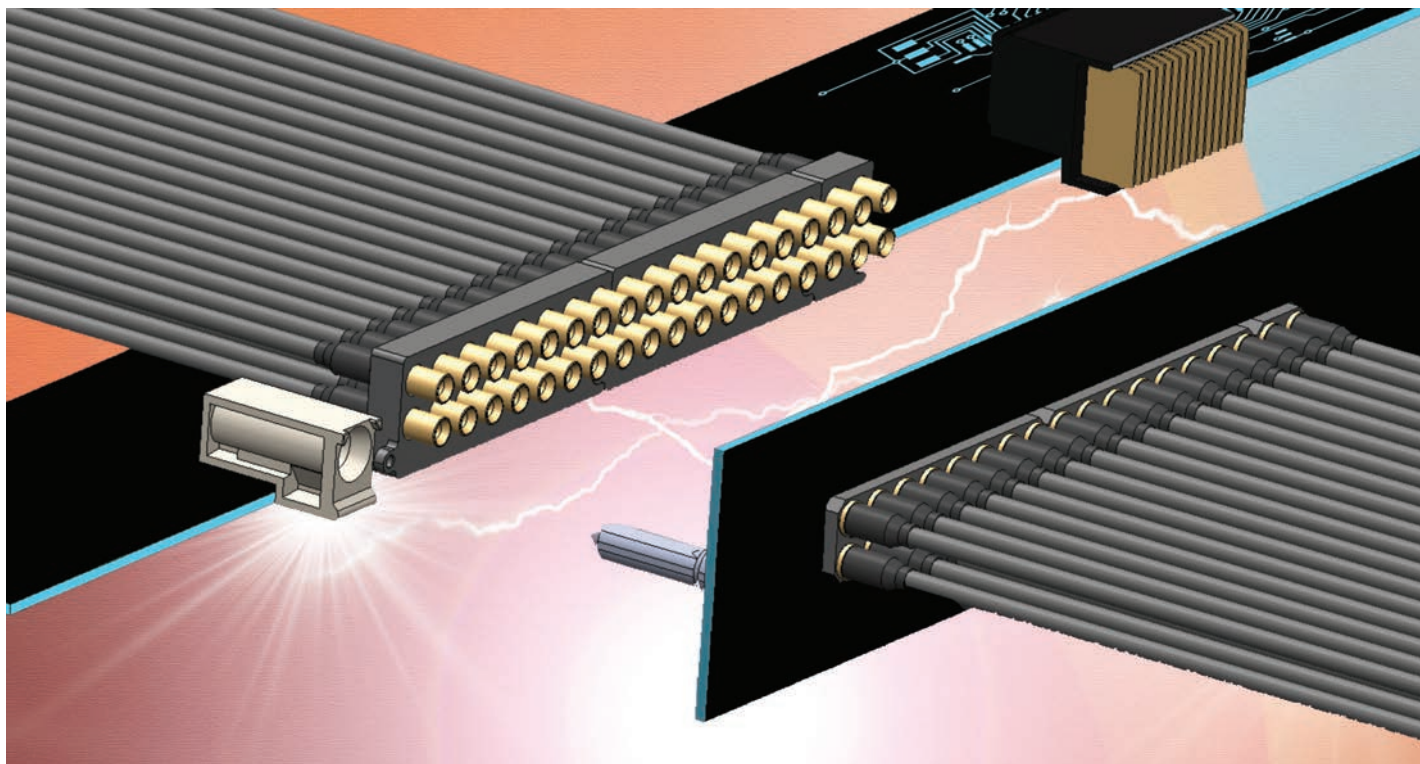
**SMP-G, SMPM-G and SMP3-G Cable Assemblies.**



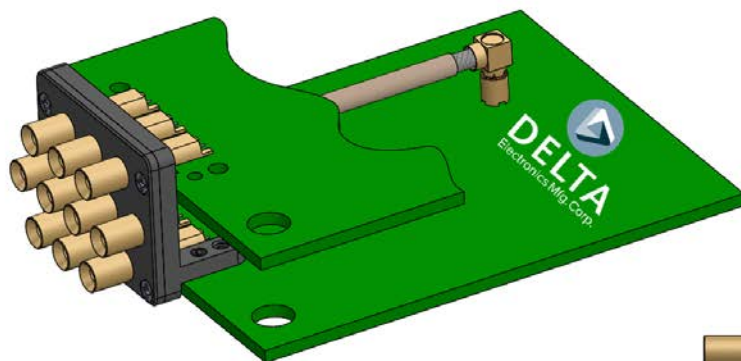
Delta offers custom RF cables with either .047" or .086" semi-rigid or the flexible equivalents. Lower loss cable options, with VoP's up to 83%, may also be available for specific configurations.

Insertion loss, return Loss, phase and delay measurements are available up to 65 GHz.

Delta's cable assembly technicians are trained to IPC-A-620 and J-STD-001 inspection and soldering.

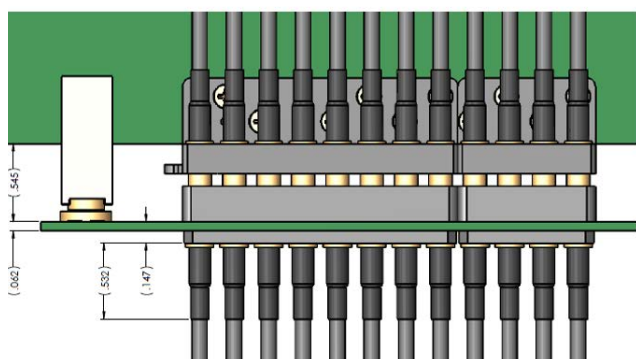
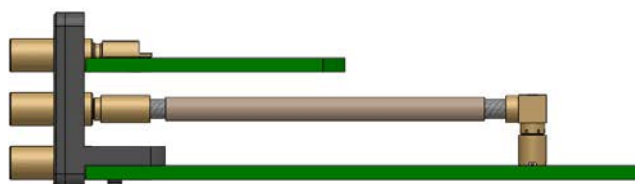


**SMP-G, SMPM-G and SMP3-G PCB Board Mounts**



VITA 67.3 offers a new design option where you now can launch directly from the Plug-In Connector Module directly to a PCB.

The concept shown includes an example of two PCB options: Direct to PCB using edge launch or cables.



In addition to SMPM-G, Delta provides ganged RF solutions using the SMP and SMP3 interfaces. Housings are standardized with 2, 3, 4, 5, 6, 7, and 8 port designs. Critical interface dimensions meet Mil-STD-348, DSCC 94007, 94008, IEC 61169-60 and IEC 61169-44 industry specifications as applicable.

Custom configurations can be designed for all ganged series including SMP-G, SMPM-G and SMP3-G with up to four rows and SMP port counts up to 16, SMPM port counts up to 32 and SMP3 port counts up to 64. From a dimensional perspective, the center-to-center spacing of ports for an SMP-G is .240", the SMPM-G is .185" and the SMP3-G is .098".

Delta's hyper-responsive engineering team will customize mechanical layouts for varying board thicknesses, unique footprints, custom cable designs and extreme mechanical, electrical or environmental requirements.

Vita 67.1, 67.2 and 67.3 Housings and SMPM connector designs are also available with many configurations already stocked with Delta's franchised distributors.

**SMPM-G Cable Options**

**Cable Options**

| Mechanical          | .040" | .047" | .086"  |
|---------------------|-------|-------|--------|
| Center Conductor    | .008" | .011" | .020"  |
| Dielectric          | .026" | .036" | .064"  |
| Braid               | .040" | .047" | .085"  |
| Outer Jacket        | .060" | .059" | .104"  |
| Static Bend Radius  | 5mm   | 5mm   | 6.35mm |
| Dynamic Bend Radius | 10mm  | 10mm  | 12.7mm |

| Materials        | .040"                | .047"                | .086"                |
|------------------|----------------------|----------------------|----------------------|
| Center Conductor | Silver Plated Copper | Silver Plated Copper | Silver Plated Copper |
| Dielectric       | PTFE                 | PFA                  | PTFE                 |
| Inner Shield     | Flat SPC             | Flat SPC             | Flat SPC             |
| Outer Shield     | Silver Plated Copper | Silver Plated Copper | Silver Plated Copper |
| Outer Jacket     | FEP                  | FEP                  | FEP                  |

| Electrical              | .040"   | .047"   | .086"   |
|-------------------------|---------|---------|---------|
| Operating Frequency     | 110 GHz | 50 GHz  | 40 GHz  |
| Impedance               | 50 Ω    | 50 Ω    | 50 Ω    |
| VoP (%)                 | 71.00%  | 70.00%  | 70.00%  |
| Shielding Effectiveness | > 90 dB | > 90 dB | > 90 dB |
| Attenuation dB/ft       |         |         |         |
| 1.0 GHz                 | 0.60    | 0.35    | 0.21    |
| 2.0 GHz                 | 0.86    | 0.53    | 0.31    |
| 8.0 GHz                 | 1.74    | 1.15    | 0.66    |
| 12 GHz                  | 2.14    | 1.44    | 0.83    |
| 18 GHz                  | 2.64    | 1.85    | 1.06    |
| 26 GHz                  | 3.18    | 2.22    | 1.34    |
| 40 GHz                  | 3.96    | 2.83    | 1.73    |
| 50 GHz                  | 4.44    | 3.20    |         |
| 60 GHz                  | 4.88    |         |         |

*\*All specifications for reference only*

| Environmental        |                    |                    |                    |
|----------------------|--------------------|--------------------|--------------------|
| Operating Temp Range | -65° C to + 150° C | -65° C to + 150° C | -55° C to + 125° C |

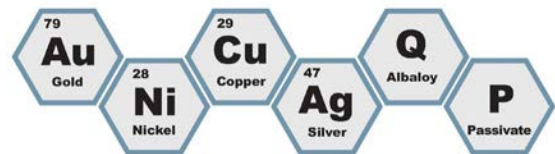


## **Delta Vertical Integration In-house Automated Precious Metal Plating**

Connectors are only as good as their plating, and that's why we decided this important process needed to be on-site. Having our own plating line, yields high quality, low costs, and reduced lead times. Call Delta for your electroplating needs. We also encourage current and potential customers to tour our facility.



### **Delta Plating Finishes:**



### **Automated Tin/Lead Dipping For SMP-T, SMPM-T & SMP3-T**

Our customized automated tin / lead dipping equipment enables high volume processing of our SMP-T, SMPM-T and SMP3-T PCB mount configurations. The finished connector is of high quality, with a consistent tin/lead flowed finish. Experience the Delta Difference!

## Spring Loaded Bullets

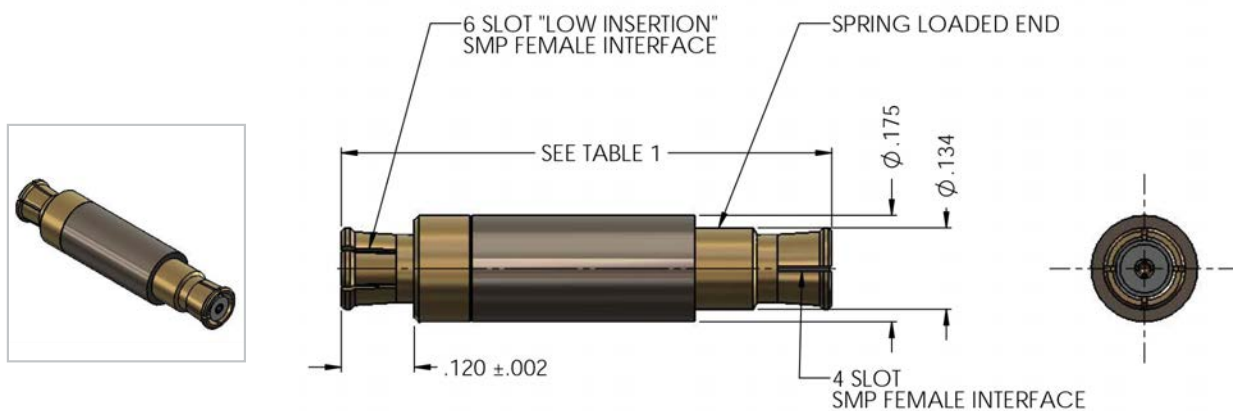
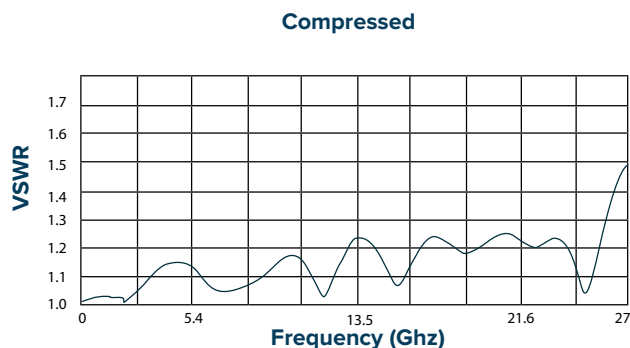
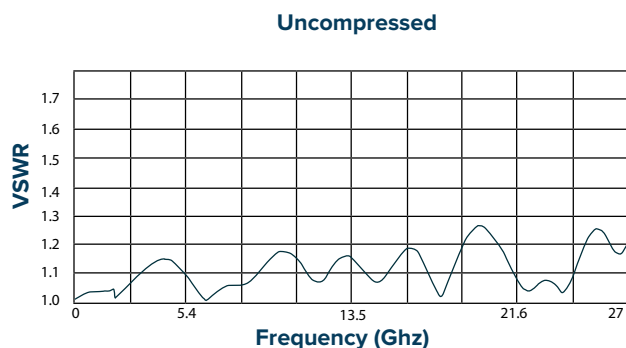
### Feature:

- Increased axial & radial float
- One side has as a low insertion SMP interface
- High compression load on interfaces

### Benefit:

- Enhanced self alignment during mating
- Consistently un-mate from the same end
- Improved VSWR at higher frequencies

### VSWR



**VSWR:** 1.5:1 Max

**Frequency Range:** DC - 26.5 GHz

**Float:** Axial .075 / Radial .015

| Delta P/N       | Uncompressed Length | Fully Compressed Length |
|-----------------|---------------------|-------------------------|
| 8628000G911-005 | 1.075               | 1.000                   |
| 8628000G911-004 | .675                | .600                    |

Please contact the factory for additional lengths.

### 8628000G911 - XXX

Spring Loaded Female to Female "Bullet" Adapter

**SMP / SMPM / SMP3 Bullets**

## Delta's Bullet Adapters

Ideal for board-to-board mechanical schemes, Delta's Bullet Adapters make the connections and accommodate varying board-to-board stack heights.

Available in fixed lengths and spring loaded configurations.

Call Delta today to find the perfect fit! 978-927-1060 or email [sales@deltarf.com](mailto:sales@deltarf.com)



## SMPM-G Tooling



BASE TOOL

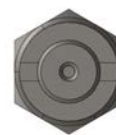
**T38-88006-01**



EXTRACTION HEAD



INSERTION HEAD



**T33-88001-01**





# BLIND MATE RF GANG MOUNTS



**sales@deltarf.com (978) 927-1060 deltarf.com**

**416 Cabot Street, Beverly, MA 01915**