



**CRYSTEK**  
MICROWAVE  
A DIVISION OF CRYSTEK CORPORATION

## 18 GHZ PRECISION RF COAX CABLE ASSEMBLIES WITH STAINLESS STEEL CONNECTORS

### SS402 50 Ohm 18 GHz Precision Coaxial Cables



#### Features:

|                               |                                                                              |
|-------------------------------|------------------------------------------------------------------------------|
| <b>Strain Relief:</b>         | Heavy duty adhesive strain relief                                            |
| <b>Center Conductor:</b>      | SPCCS (Silver-Plated Copper Clad Steel)                                      |
| <b>Inner Shielding:</b>       | SS (Spiral Strip Of Silver-Plated Copper)                                    |
| <b>Outer Braid:</b>           | SPC (Silver-Plated Copper Braid)                                             |
| <b>Insulation:</b>            | PTFE (Polytetrafluoroethylene) dielectric                                    |
| <b>Jacket:</b>                | ETFE (Ethylene Tetrafluoroethylene Copolymer)                                |
| <b>Cable Outer Diameter:</b>  | 0.163" (4.14mm)                                                              |
| <b>Connectors:</b>            | SST, corrosion-resistant, per ASTM-A582 (Passivated finish per SAE-AMS-2700) |
| <b>Center Pin:</b>            | GPBC (Gold-Plated Beryllium Copper)                                          |
| <b>Jacket Color:</b>          | Blue                                                                         |
| <b>Operating Temperature:</b> | -45°C to +85°C                                                               |

**Minimum Bend Radius:** 0.8" (20.32mm)

*Custom Lengths Available*

#### Available Connector Terminations:

SMA Male  
SMA Male Right Angle  
Type N Male  
Type N Bulkhead Female  
Type N Male Right Angle  
TNC Male  
TNC Bulkhead Female  
TNC Male Right Angle

#### Electrical Specifications:

|                                     |                          |
|-------------------------------------|--------------------------|
| <b>Impedance:</b>                   | 50 Ohms                  |
| <b>Frequency:</b>                   | 18 GHz                   |
| <b>Insertion Loss:</b>              | 0.66 dB/ft Typ at 18 GHz |
| <b>VSWR:</b>                        | <1.3, DC to 18 GHz       |
| <b>Nominal Capacitance:</b>         | 29 pF/ft                 |
| <b>Velocity of Propagation:</b>     | 70%                      |
| <b>Shield Effectiveness:</b>        | Greater than 110 dB      |
| <b>Attenuation (dB/ft):</b>         | 0.08 Typical at 500 MHz  |
| <i>*connector loss not included</i> |                          |
|                                     | 0.11 Typical at 1 GHz    |
|                                     | 0.21 Typical at 3 GHz    |
|                                     | 0.32 Typical at 6 GHz    |
|                                     | 0.50 Typical at 12 GHz   |
|                                     | 0.66 Typical at 18 GHz   |



|                              |               |
|------------------------------|---------------|
| <b>Avg Power in (Watts):</b> | 920 @ 500 MHz |
| <i>*as specified at 25°C</i> |               |
|                              | 620 @ 1 GHz   |
|                              | 360 @ 3 GHz   |
|                              | 220 @ 6 GHz   |
|                              | 150 @ 12 GHz  |
|                              | 120 @ 18 GHz  |

#### Mechanical Specifications:

**Connector Corrosion (salt spray):**  
MIL-STD-202, method 101, test cond. B 5% salt solution.

**Connector Durability:**  
500 connections Minimum

### **SMA Male / SMA Male[Straight/Straight]**

| Part Number        | Description                                                   | Length |
|--------------------|---------------------------------------------------------------|--------|
| CCSMA-MM-SS402-6   | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 6"     |
| CCSMA-MM-SS402-12  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 12"    |
| CCSMA-MM-SS402-24  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 24"    |
| CCSMA-MM-SS402-36  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 36"    |
| CCSMA-MM-SS402-48  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 48"    |
| CCSMA-MM-SS402-60  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 60"    |
| CCSMA-MM-SS402-72  | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 72"    |
| CCSMA-MM-SS402-120 | SS402 Precision Coax Cable, SMA Male Straight / Male Straight | 120"   |



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### SMA Male [Straight/Right Angle]

| Part Number         | Description                                                  | Length |
|---------------------|--------------------------------------------------------------|--------|
| CCSMA1-MM-SS402-6   | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 6"     |
| CCSMA1-MM-SS402-12  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 12"    |
| CCSMA1-MM-SS402-24  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 24"    |
| CCSMA1-MM-SS402-36  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 36"    |
| CCSMA1-MM-SS402-48  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 48"    |
| CCSMA1-MM-SS402-60  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 60"    |
| CCSMA1-MM-SS402-72  | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 72"    |
| CCSMA1-MM-SS402-120 | SS402 Precision Coax Cable, SMA Male Straight / SMA Male R/A | 120"   |

### SMA Male[Right Angle/Right Angle]

| Part Number         | Description                                             | Length |
|---------------------|---------------------------------------------------------|--------|
| CCSMA2-MM-SS402-6   | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 6"     |
| CCSMA2-MM-SS402-12  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 12"    |
| CCSMA2-MM-SS402-24  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 24"    |
| CCSMA2-MM-SS402-36  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 36"    |
| CCSMA2-MM-SS402-48  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 48"    |
| CCSMA2-MM-SS402-60  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 60"    |
| CCSMA2-MM-SS402-72  | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 72"    |
| CCSMA2-MM-SS402-120 | SS402 Precision Coax Cable, SMA Male R/A / SMA Male R/A | 120"   |



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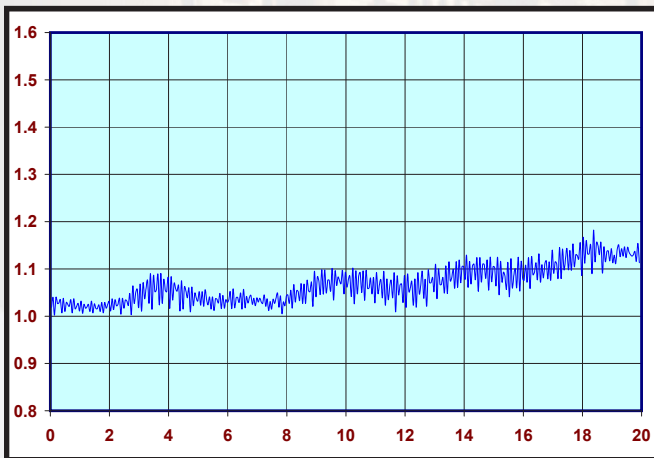
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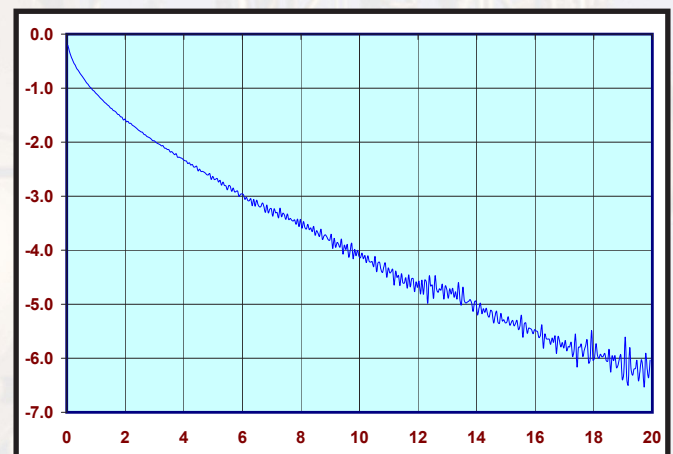


Data plots contained within this specification are generated from actual production cable assemblies. This data represents the typical performance that can be expected from each cable assembly. The data is plotted from raw data without modification (ie: Smoothing or Averaging.)

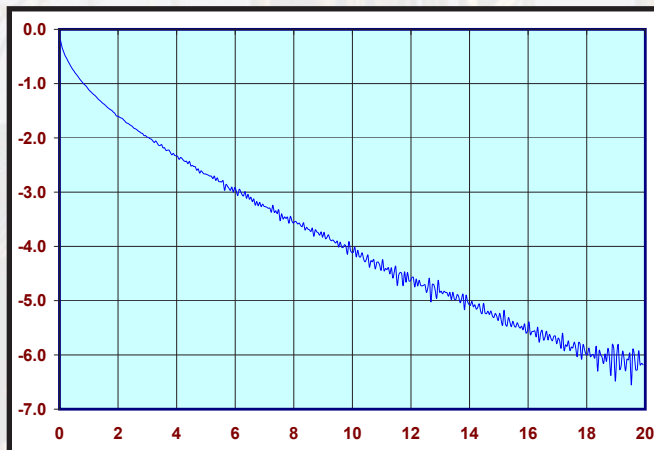
PN: CCSMA-MM-SS402-120  
VSWR (S11)



PN: CCSMA-MM-SS402-120  
INSERTION LOSS (S12)



PN: CCSMA-MM-SS402-120  
INSERTION LOSS (S21)



PN: CCSMA-MM-SS402-120  
VSWR (S22)

