SUNTSU

RF Antenna Cables

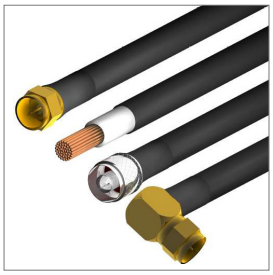
# SCBRF Series

## Features

- High Quality RF Connectors
- Industry Standard Low Loss Shielded Cable Options
- 50Ω Impedance Matched Connectors and Cables
- Custom Cable Lengths Available.
- Each Assembly Is Fully Tested Ensuring Highest Quality

## Applications

- High Speed Transmission
- GPS and Mobile Communications
- Bluetooth And IEEE802.11a/b/g
- Smart Grid / Industrial / Security
- Test And Measurement Applications



## Part Numbering Guide

Connector A: SA M S — Connector B: SA M S

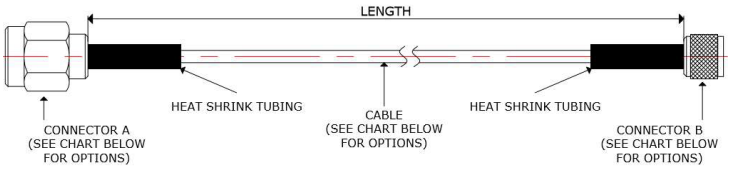
**S CB RF - X 3A RA A P - SA M S - SA M S**

| SUNTSU | CABLE | RF | *LENGTH (in Ft.) | *FREQUENCY | CABLE TYPE | IMPEDANCE | CABLE MATERIAL | CONNECTOR TYPE | CONNECTOR GENDER | CONNECTOR ORIENTATION |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | e.g.<br>F = 0.5 Ft.<br>1A = 1.0 Ft.<br>1H = 1.7 Ft. | e.g.<br>3A = 0-3.0GHz<br>6A = 0-6.0GHz<br>12A = 0-12.0GHz | e.g.<br>S1 = Ø1.37mm<br>S2 = Ø1.32mm<br>S3 = Ø1.13mm<br>S4 = Ø0.81mm<br>C1 = CFD-100<br>C2 = CFD-200<br>C3 = CFD-300<br>RA = RG-58<br>RD = RG-174<br>RG = RG-178<br>RJ = RG-213<br>RM = RG-316 | A = 50Ω<br>B = 75Ω | P = PVC<br>F = FEP | MX = MCX<br>MM = MMCX<br>NY = N-TYPE<br>SA = SMA<br>RA = RP-SMA<br>P1 = IPEX MHF1<br>P4 = IPEX MHF4L<br>NC = None | M = Male<br>F = Female<br>Blank = None | S= Straight<br>R = Right Angle<br>Blank = None |

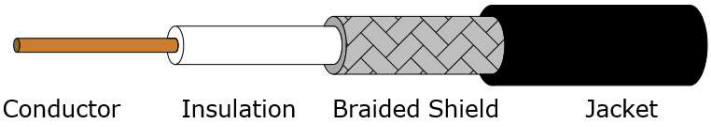
RoHS COMPLIANT

* Where letters denote decimal location (A=.0, B=.1, C=.2, etc.); e.g. B5=0.15, 3A5=3.05, 9A=9.0

## Outline Drawing




## Cable Construction




## Available Assemblies by End Connectors and Cable Type

| Connector Type | | RG-58 | RG-174 | RG-178 | RG-213 | RG-316 | Ø1.37mm | Ø1.32mm | Ø1.13mm | Ø.81mm | CFD-100 | CFD-200 | CFD-300 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SMA | Male Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| | Male Right Angle | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| | Female Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| RP-SMA | Male Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ |
| | Male Right Angle | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ |
| | Female Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ |
| N-TYPE | Male Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| | Male Right Angle | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| | Female Straight | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ |
| MCX | Male Straight | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| | Male Right Angle | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| | Female Straight | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| MMCX | Male Straight | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| | Male Right Angle | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| | Female Straight | ⬢ | ⬢ | ⬢ | | ⬢ | ⬢ | ⬢ | ⬢ | | ⬢ | | |
| IPEX | Male Right Angle | | | ⬢ | | | ⬢ | ⬢ | ⬢ | ⬢ | | | |


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Specifications are subject to change without notice.

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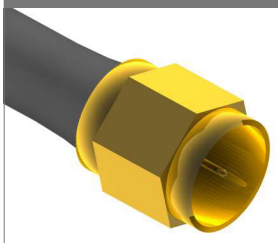
RF Antenna Cables
# SCBRF Series

## Cable Specifications

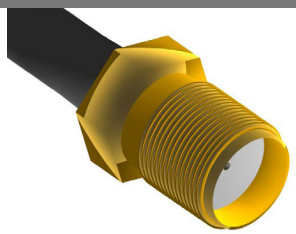
| Cable Type | Impedance | Outer Ø (mm) | VSWR | Capacitance at 1KHz | Jacket Material | Attenuation | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| RG-58 | 50Ω ±2.0 | 4.95 ±0.20 | ≤2.0 | 83.6pF/m | PVC | 10MHz | 30MHz | 150MHz | 220MHz | 450MHz | 900MHz |
| | | | | | | 0.98dB/100m | 2.0dB/100m | 4.3dB/100m | 5.2dB/100m | 7.7dB/100m | 11.2dB/100m |
| RG-174 | 50Ω ±2.0 | 2.70 ±0.10 | ≤1.05 | 100pF/m | PVC | 700MHz | 770MHz | 1.0GHz | 1.575GHz | 2.4GHz | - |
| | | | | | | 0.72dB/m | 0.71dB/m | 0.88dB/m | 1.12dB/m | 1.48dB/m | - |
| RG-178 | 50Ω ±2.0 | 1.80 ±0.08 | ≤1.35 | 105pF/m | Teflon (FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 1.7dB/m | 2.42dB/m | 3.08dB/m | 3.63dB/m | 4.15dB/m | 4.8dB/m |
| RG-213 | 50Ω ±2.0 | 10.2 ±0.20 | ≤1.10 | 99.6pF/m | PVC | 10MHz | 30MHz | 100MHz | 200MHz | 1.0GHz | 2.4GHz |
| | | | | | | 1.8dB/100m | 3.5dB/100m | 6.2dB/100m | 8.8dB/100m | 22.4dB/100m | 39.2dB/100m |
| RG-316 | 50Ω ±2.0 | 2.50 ±0.08 | ≤1.20 | 98pF/m | Teflon (FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 1.25dB/m | 1.68dB/m | 1.90dB/m | 2.45dB/m | 3.03dB/m | 3.53dB/m |
| Ø1.37mm | 50Ω ±2.0 | 1.37 ±0.05 | ≤1.35 | 105pF/m | Teflon(FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 1.74dB/m | 2.54dB/m | 2.92dB/m | 3.5dB/m | 4.16dB/m | 4.5dB/m |
| Ø1.32mm | 50Ω ±2.0 | 1.32 ±0.08 | ≤1.35 | 105pF/m | Teflon (FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 2.2dB/m | 3.1dB/m | 3.9dB/m | 4.5dB/m | 5.0dB/m | 5.5dB/m |
| Ø1.13mm | 50Ω ±2.0 | 1.13 ±0.05 | ≤1.35 | 98pF/m | Teflon (FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 2.2dB/m | 3.1dB/m | 3.9dB/m | 4.5dB/m | 5.0dB/m | 5.5dB/m |
| Ø0.81mm | 50Ω ±3.0 | 0.81 ±0.08 | ≤1.40 | 105pF/m | Teflon (FEP) | 1.0GHz | 2.0GHz | 3.0GHz | 4.0GHz | 5.0GHz | 6.0GHz |
| | | | | | | 3.1dB/m | 4.7dB/m | 5.8dB/m | 6.90dB/m | 7.8dB/m | 8.5dB/m |
| CFD-100 | 50Ω ±2.0 | 2.80 ±0.10 | ≤1.20 | 101.1pF/m | PVC | 30MHz | 150MHz | 220MHz | 1500MHz | 1800MHz | 2000MHz |
| | | | | | | 12.9dB/100m | 29.4dB/100m | 35.8dB/100m | 98.7dB/100m | 109.0dB/100m | 115.5dB/100m |
| CFD-200 | 50Ω ±2.0 | 5.0 ±0.15 | ≤1.20 | 80pF/m | PVC | 30MHz | 150MHz | 220MHz | 1500MHz | 2000MHz | 5800MHz |
| | | | | | | 5.8dB/100m | 13.1dB/100m | 15.9dB/100m | 42.4dB/100m | 49.3dB/100m | 86.5dB/100m |
| CFD-300 | 50Ω ±2.0 | 7.6 ±0.10 | 1.3 MAX | 77pF/m | PVC | 30MHz | 150MHz | 220MHz | 1500MHz | 2000MHz | 5800MHz |
| | | | | | | 2.5dB/100m | 7.9dB/100m | 9.6dB/100m | 26.0dB/100m | 30.3dB/100m | 54.3dB/100m |

## Connector Electrical Parameters

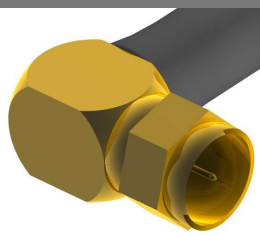
### SMA



Male Straight



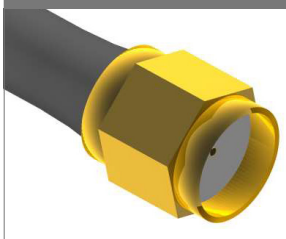
Female Straight



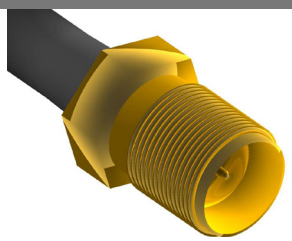
Male Right Angle

| | | |
|---|---|---|
| VSWR | | ≤1.5 |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤170Vrms |
| Dielectric Withstanding | | ≤500Vrms |
| Insulation Resistance | | ≥2000MΩ |
| Working Temperature | | -65°C - 165°C |
| Contact Resistance | Center | 3.0mΩ |
| | Outer | 2.0mΩ |
| Material | Body | Brass |
| | Contact | Brass |
| | Insulator | Teflon |

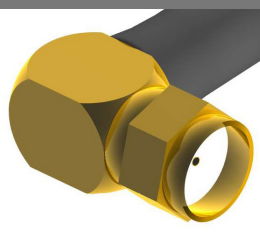
### RP-SMA



Male Straight



Female Straight



Male Right Angle

| | | |
|---|---|---|
| VSWR | | ≤1.5 |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤250Vrms |
| Dielectric Withstanding | | ≤670Vrms |
| Insulation Resistance | | ≥2000MΩ |
| Working Temperature | | -65°C - 165°C |
| Contact Resistance | Center | 3.0mΩ |
| | Outer | 2.0mΩ |
| Material | Body | Brass |
| | Contact | Brass |
| | Insulator | Teflon or Delrin |

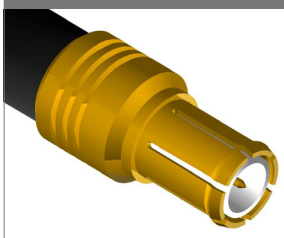



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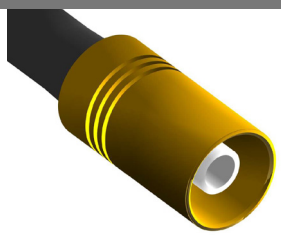
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## Connector Electrical Parameters (Cont.)

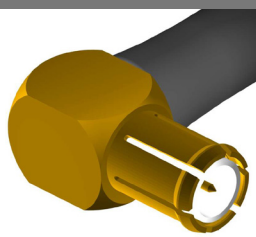
### MCX



Male Straight



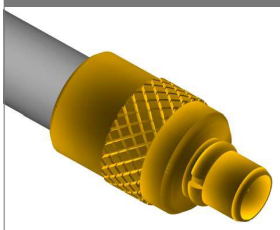
Female Straight



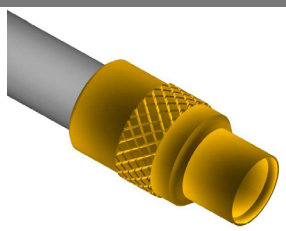
Male Right Angle

| | | |
|---|---|---|
| VSWR | | ≤1.5 |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤170Vrms |
| Dielectric Withstanding | | ≤500Vrms |
| Insulation Resistance | | ≥1000MΩ |
| Working Temperature | | -65°C - 165°C |
| Contact Resistance | Center | 5.0mΩ |
| | Outer | 1.0mΩ |
| Material | Body | Brass |
| | Contact | Brass |
| | Insulator | Teflon |

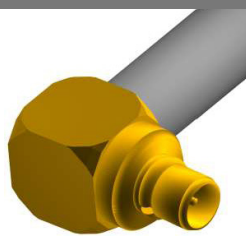
### MMCX



Male Straight



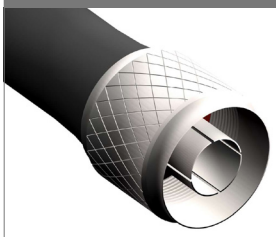
Female Straight



Male Right Angle

| | | |
|---|---|---|
| VSWR | | ≤1.5 |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤170Vrms |
| Dielectric Withstanding | | ≤500Vrms |
| Insulation Resistance | | ≥1000MΩ |
| Working Temperature | | -55°C - 155°C |
| Contact Resistance | Center | 5.0mΩ |
| | Outer | 1.0mΩ |
| Material | Body | Brass |
| | Contact | Brass |
| | Insulator | Teflon |

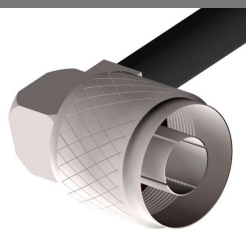
### N-TYPE



Male Straight



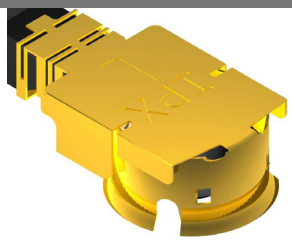
Female Straight



Male Right Angle

| | | |
|---|---|---|
| VSWR | | ≤1.5 |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤1000Vrms |
| Dielectric Withstanding | | ≤2500Vrms |
| Insulation Resistance | | ≥5000MΩ |
| Working Temperature | | -65°C - 165°C |
| Contact Resistance | Center | 1.0mΩ |
| | Outer | 1.0mΩ |
| Material | Body | Brass |
| | Contact | Brass |
| | Insulator | Teflon |

### IPEX - MHF1



Male Right Angle

| | | |
|---|---|---|
| VSWR | | 1.3MAX @ 0.1-3GHz, 1.5MAX @ 3-6GHz |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤200Vrms |
| Dielectric Withstanding | | No Creep, Flashover. |
| Insulation Resistance | | ≥500MΩ |
| Working Temperature | | -40°C - 90°C |
| Contact Resistance | Center | 20.0mΩ |
| | Outer | 10.0mΩ |
| Material | Body | Copper Alloy |
| | Contact | Copper Alloy |
| | Insulator | PBT |

### IPEX - MHF4L



Male Right Angle

| | | |
|---|---|---|
| VSWR | | 1.3MAX @ 0.1-3GHz, 1.5MAX @ 3-6GHz |
| Impedance | | 50Ω ±2Ω |
| Working Voltage | | ≤200Vrms |
| Dielectric Withstanding | | No Creep, Flashover. |
| Insulation Resistance | | ≥500MΩ |
| Working Temperature | | -40°C - 90°C |
| Contact Resistance | Center | 20.0mΩ |
| | Outer | 10.0mΩ |
| Material | Body | Copper Alloy |
| | Contact | Copper Alloy |
| | Insulator | PBT |



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