

## CSE-SMBM-ccc-SMBM SMB Plug to SMB Plug Cable Assembly

The CSE-SMBM-ccc-SMBM cable assembly provides an SMB plug (female socket) to SMB plug (female socket) connection with the option of 6 in., 12 in., or 24 in. lengths of RG-316/U coaxial cable.

Operating from 0 GHz to 4 GHz, the CSE-SMBM-ccc-SMBM cable assembly combines superior performance, compact size, and a convenient snap-on mating interface to provide a reliable, easy-to-use connector. Additionally, all Linx coaxial cables and connectors meet RoHS lead free standards and are tested to meet requirements for corrosion resistance, vibration, mechanical and thermal shock.



### Features

- 0 to 4 GHz operation
- RG-316/U 50 Ω coaxial cable
- SMB plug (female socket)
  - Snap-on mating
  - Gold plating
  - Superior corrosion resistance

### Applications

- LPWA
  - LoRaWAN®, Sigfox®, WiFi HaLow™ (802.11ah)
- Cellular IoT – LTE-M (Cat-M1), NB-IoT
- Cellular – 5G/4G LTE/3G/2G
- PC, LAN
- ISM – Bluetooth®, ZigBee®
- GNSS – GPS, Galileo, GLONASS, BeiDou, QZSS
- Automotive, Industrial, Commercial, Enterprise

**Table 1. Electrical Specifications**

Parameter	Value		
Insertion Loss (dB max)	CSE-SMBM-152-SMBM	CSE-SMBM-305-SMBM	CSE-SMBM-610-SMBM
	-0.41	-0.72	-1.43
VSWR (max)	1.3		
Impedance	50 Ω		
Insulation Resistance	500 MΩ min.		

### Ordering Information

Part Number	Description
<b>CSE-SMBM-152-SMBM</b>	SMB plug (female socket) to SMB plug (female socket) on 152.4 mm (6.0 in) of RG-316/U coaxial cable
<b>CSE-SMBM-305-SMBM</b>	SMB plug (female socket) to SMB plug (female socket) on 304.8 mm (12.0 in) of RG-316/U coaxial cable
<b>CSE-SMBM-610-SMBM</b>	SMB plug (female socket) to SMB plug (female socket) on 609.6 mm (24.0 in) of RG-316/U coaxial cable

Available from Linx Technologies and select distributors and representatives.

Product Dimensions

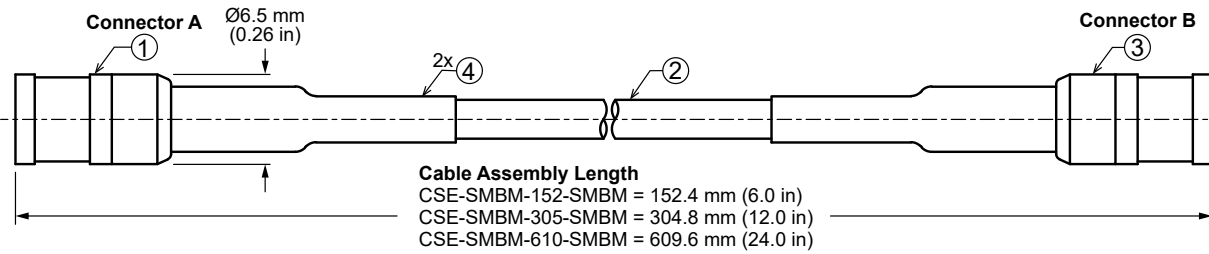


Figure 1. Product Dimensions for the CSE-SMBM-ccc-SMBM Cable Assembly

Table 2. Cable Assembly Components

Item #	Description	Material	Finish
1	Connector, SMB plug (female socket)	Brass	Gold
2	RG-316/U coaxial cable	RG-316/U	-
3	Connector, SMB plug (female socket)	Brass	Gold
4	Heat Shrink Tubing	PTFE	Black

Table 3. Cable Assembly Mechanical Specifications

Parameter	Connector A	Connector B
Fastening Type	Snap-on coupling	Snap-on coupling
Recommended Torque	-	-
Coupling Nut Retention	-	-
Connector Durability	500 cycles min.	500 cycles min.
Weight	CSE-SMBM-152-SMBM = 6.9 g (0.24 oz) CSE-SMBM-305-SMBM = 9.1 g (0.32 oz) CSE-SMBM-610-SMBM = 13.5 g (0.48 oz)	

Coaxial Cable Specifications

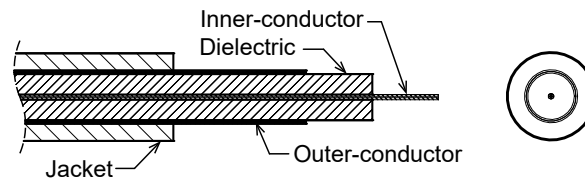


Figure 2. Coaxial Cable Cutaway Diagram

Table 4. Coaxial Cable Material Specifications for RG-316/U

RG-316/U Coax	Material	Dimensions
Inner-Conductor	Copper plated steel, 7 strand, 0.175 mm/conductor	Ø0.53 mm (0.020 in)
Dielectric	PTFE	Ø1.53 mm (0.06 in)
Outer-Conductor	Silver plated copper braid, Coverage 92.3%	Ø1.71 mm (0.067 in)
Jacket	FEP	Ø2.53 mm (0.100 in)

Table 5. Coaxial Cable Electrical and Physical Specifications for RG-316/U

Parameter	Value		
Rated Temp Voltage	105 °C 30 V		
Conductor Resistance	281 Ω/km 20 °C		
Insulation Resistance	3000 M Ω-km min.		
Dielectric Strength	AC 1000 V/Minute		
Spark Test	2.0 kV		
Insulation	Unaged	Tensile Strength	2500 psi min. (1.76 kg/mm <sup>2</sup> )
		Elongation	200% min.
	Aged	Tensile Strength	Unaged min. 75% (168 hrs x 232 °C)
		Elongation	Unaged min. 75% (168 hrs x 232 °C)
Jacket	Unaged	Tensile Strength	2500 psi min. (1.76 kg/mm <sup>2</sup> )
		Elongation	200% min.
	Aged	Tensile Strength	Unaged min. 75% (168 hrs x 232 °C)
		Elongation	Unaged min. 75% (168 hrs x 232 °C)
Nominal Impedance	50 ± 3 Ω		
Nominal Capacitance	95.8 pF/m		
Nominal Velocity of Propagation	69.5%		
VSWR (0 to 6 GHz)	≤ 1.3		
Minimum Inside Bend radius	25.4 mm (1.0 in)		

### Cable Assembly Performance

Table 6 shows insertion loss and VSWR values for the CSE-SMBM-ccc-SMBM cable assemblies at commonly used frequencies.

Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line. VSWR describes how efficiently power is transmitted through the cable assembly. A lower VSWR value indicates better performance at a given frequency.

Table 6. Insertion Loss and VSWR for the CSE-SMBM-ccc-SMBM Cable Assemblies

Band	Low-Band Cellular/ ISM/LPWA	GNSS	Midband Cellular	WiFi/ISM
Frequency Range	400 MHz to 960 MHz	1164 MHz to 1609 MHz	1427 MHz to 5000 MHz	2.4 GHz
<b>Cable Assembly CSE-SMBM-152-SMBM</b>				
Insertion Loss (dB max)	-0.18	-0.25	-0.41	-0.29
VSWR (max)	1.1	1.2	1.3	1.2
<b>Cable Assembly CSE-SMBM-305-SMBM</b>				
Insertion Loss (dB max)	-0.30	-0.41	-0.72	-0.55
VSWR (max)	1.1	1.2	1.3	1.3
<b>Cable Assembly CSE-SMBM-610-SMBM</b>				
Insertion Loss (dB max)	-0.55	-0.77	-1.43	-1.00
VSWR (max)	1.1	1.2	1.3	1.3

### Packaging Information

The CSE-SMBM-ccc-SMBM cable assembly is packaged in a clear plastic bag, in quantities of 50 pcs, (100 pcs. for the CSE-SMBM-152-SMBM). Distribution channels may offer alternative packaging options.

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