Datasheet

CSH-SGFB-ccc-UFFR
SMA Bulkhead Jack to U.FL Plug Cable Assembly

Linx offers cable assemblies selected for high quality, durability and wide bandwidth operation. Connectors and coaxial cable meet RoHS lead free standards and have been tested to meet requirements for corrosion resistance, vibration, mechanical and thermal shock.

The CSH-SGFB-ccc-UFFR cable assembly provides an SMA bulkhead jack (female socket) and U.FL-type plug (female socket) on 100 mm or 200 mm length of 1.32 mm coaxial cable. The SMA connector is supplied with a washer and 1/4”-36UNS hex nut for bulkhead mounting.

Features

- 1.32 mm double-shielded 50 Ω coaxial cable
- SMA jack (female socket)
  - Gold plated
  - Bulkhead mount
  - Gold plated brass washer and 1/4”-36UNS hex nut provided
- U.FL-type plug (female socket) compatible with:
  - MHF1
  - AMC
  - UMCC

Electrical Specifications

Impedance	50 Ω
VSWR	≤ 1.3 @ 6 GHz
Insulation Resistance	500 MΩ min.
Withstanding Voltage	200 V AC
Operating Temperature Range	-40 °C to +90 °C

Ordering Information

Part Number	Description
CSH-SGFB-100-UFFR	SMA bulkhead jack (female socket) to U.FL-type plug (female socket) on 100 mm of 1.32 mm coaxial cable
CSH-SGFB-200-UFFR	SMA bulkhead jack (female socket) to U.FL-type plug (female socket) on 200 mm of 1.32 mm coaxial cable

Available from Linx Technologies and select distributors and representatives.

Product Dimensions

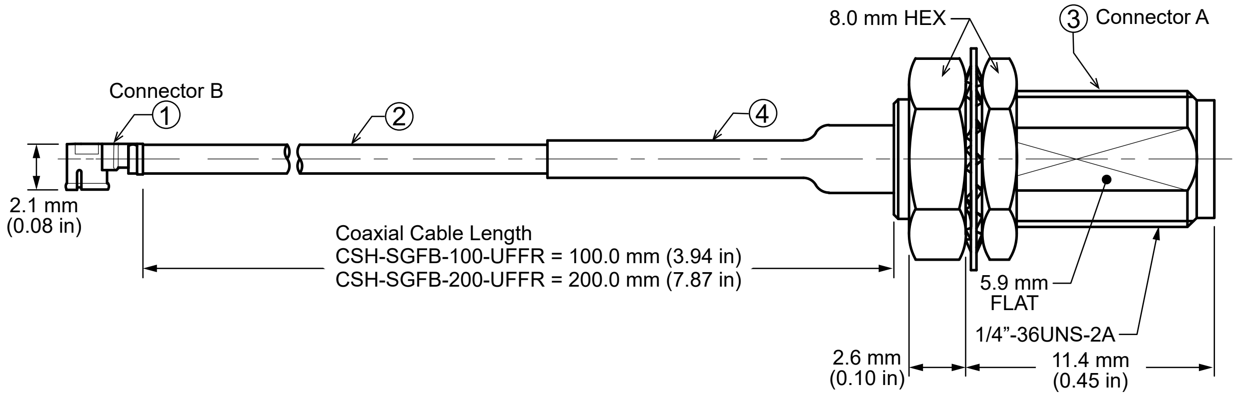

Figure 1. Product Dimensions for the CSH-SGFB-ccc-UFFR Cable Assembly

Cable Assembly Components

Item #	Description	Material	Finish
1	Connector, U.FL-type plug (female socket)	Brass	Gold
2	1.32 mm double-shielded coaxial cable	1.32 mm coaxial	Black
3	Connector, SMA bulkhead jack (female socket) hex nut and washer	Brass	Gold
4	Heat Shrink Tubing	PTFE	Black

	Connector A	Connector B
Fastening Type	1/4”-36 UNS-2A threaded coupling	Snap-on coupling
Recommended Torque	0.9 N m (8.0 in lbs)	–
Coupling Nut Retention	60 lbs. min.	–
Connector Durability	500 cycles min.	500 cycles min.
Weight	CSH-SGFB-100-UFFR, 3.9 g (0.14 oz) CSH-SGFB-200-UFFR, 4.3 g (0.15 oz)	

Recommended Mounting

Figure 2 shows the recommended mounting hole dimensions for the SMA connector (bulkhead) end of the cable assembly.

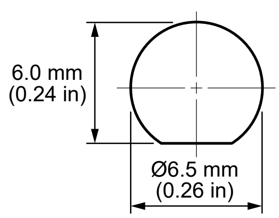

Figure 2. Recommended Mounting Hole Dimensions for the CSH-SGFB-ccc-UFFR Cable Assembly

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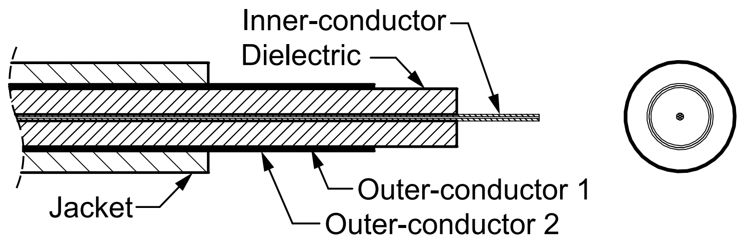
Coaxial Cable Specifications



1.32 mm Coax	Material	Dimensions
Inner-Conductor	Silver plated copper, 7 strand, 32 AWG	Ø0.085 mm (0.003 in)
Dielectric	FEP, clear	Ø0.70 mm (0.028 in)
Outer-Conductor 1	Silver plated copper braid, 16/4/0.050, coverage 89.4%	Ø0.75 mm (0.030 in)
Outer-Conductor 2	Silver plated copper braid, 16/4/0.050, coverage 78.4%	Ø0.80 mm (0.031 in)
Jacket	FEP, black	Ø1.32 mm (0.05 in) ±0.05 mm

1.32 mm Coaxial Cable Electrical and Physical Specifications					
Rated Temp Voltage	105 °C 30 V				
Conductor Resistance	497 Ω/km 20 °C				
Insulation Resistance	3000 M Ω-km min.				
Dielectric Strength	AC 500 V/Minute				
Spark Test	2.5 kV				
Insulation	Unaged	Tensile Strength	2500 psi min. (1.76 kg/mm^2)		
		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^2)		
		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	96 ± 3 pF/m				
Nominal Velocity of Propagation	69%				
VSWR (0 to 6 GHz)	≤ 1.3				
Flame Test	VW-1 OK				
Attenuation (dB/1M)	2.0 GHz 2.80	2.4 GHz 3.10	2.5 GHz 3.15	5.0 GHz 4.85	6.0 GHz 5.20
Minimum Inside Bend radius	4.0 mm (0.16 in)				

Packaging Information

The CSH-SGFB-ccc-UFFR cable assembly is packaged in a clear plastic bag, in quantities of 100. Distribution channels may offer alternative packaging options.

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Insertion Loss

Figure 3 shows the Insertion Loss for CSH-SGFB-100-UFFR & CSH-SGFB-200-UFFR cable assemblies. Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line.

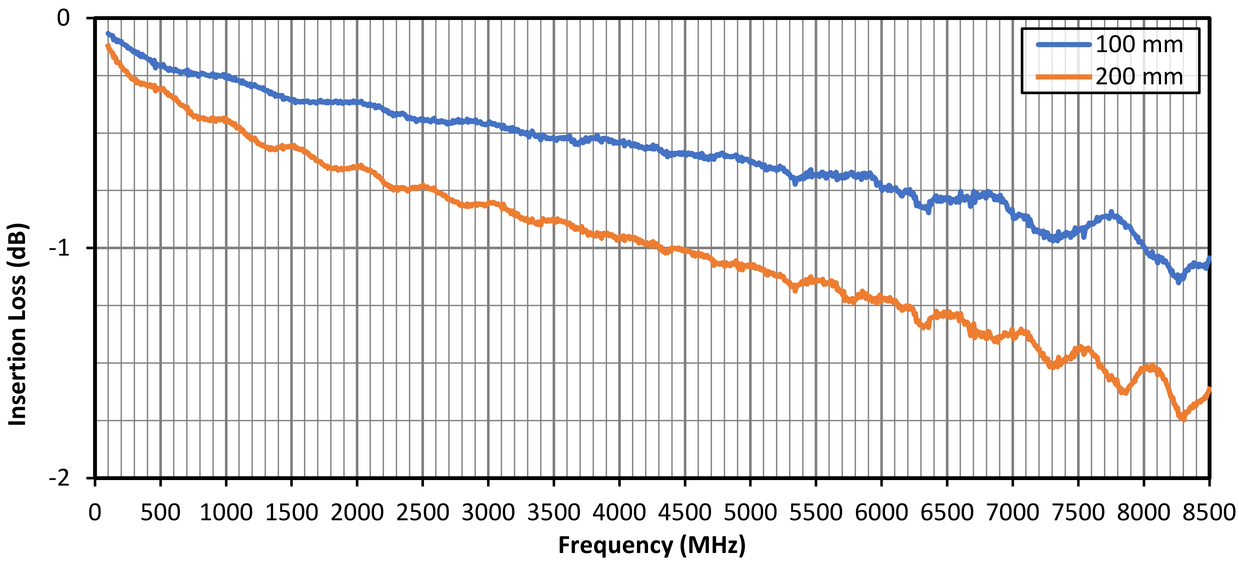

Figure 3. Insertion Loss for the CSH-SGFB-ccc-UFFR Cable Assembly

VSWR

Figure 4 provides the voltage standing wave ratio (VSWR) across the cable assembly's bandwidth for the CSH-SGFB-100-UFFR and CSH-SGFB-200-UFFR cable assemblies. VSWR describes how efficiently power is transmitted through the cable assembly. A lower VSWR value indicates better performance at a given frequency.

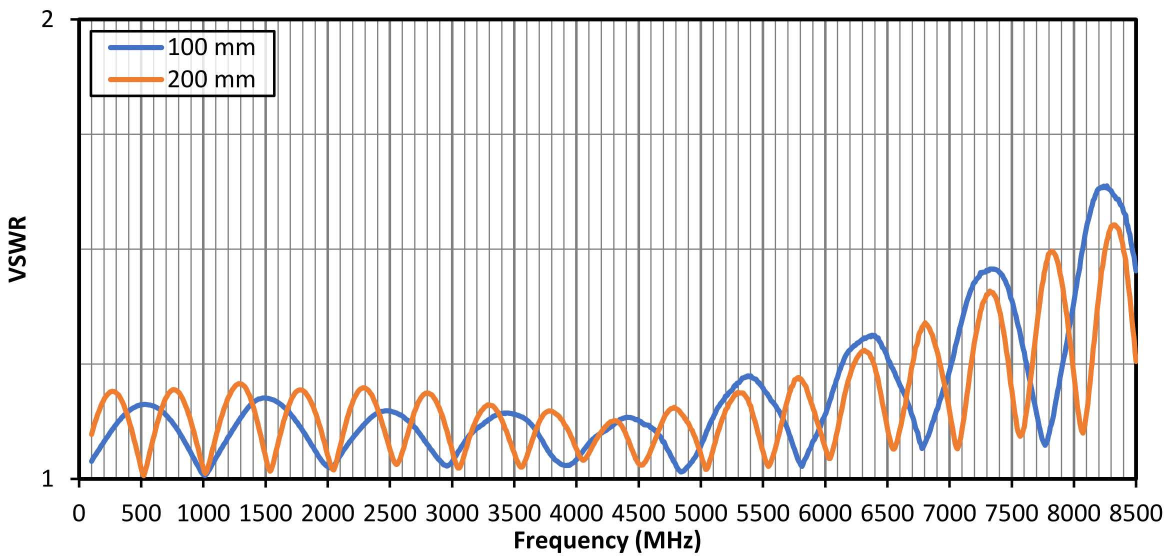

Figure 4. VSWR for the CSH-SGFB-ccc-UFFR Cable Assembly

Cable Assembly Definitions and Useful Formulas

VSWR - Voltage Standing Wave Ratio. VSWR is a unitless ratio that describes how efficiently power is transmitted through the cable assembly. A lower VSWR value indicates better performance at a given frequency. VSWR is easily derived from Return Loss.

$$\mathrm{VSWR} = \frac{10^{\left[\frac{\mathrm{Return\ \ Loss}}{20}\right]} + 1}{10^{\left[\frac{\mathrm{Return\ \ Loss}}{20}\right]} - 1}$$

Insertion Loss - The loss of signal power (gain) resulting from the insertion of a device in a transmission line. Insertion loss can be derived from the power transmitted to the load before the insertion of the component P_T and the power transmitted to the load after the insertion of the component P_R.

$$Insertion\ Loss\ (\mathrm{dB}) = 10 \log_{10} \frac{P_T}{P_R}$$

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