



ADP-SMAF-TNCF-B

SMA Jack to TNC Jack Adapter

The ADP-SMAF-TNCF-B is an SMA jack to TNC bulkhead jack adapter. Operating from 0 Hz to 8 GHz, the ADP-SMAF-TNCF-B combines superior performance, compact size, and a convenient threaded mating interface to provide a reliable, easy-to-use adapter. Linx SMA and TNC adapters are ideal for making sealed connections. Additionally, all Linx adapters meet RoHS lead free standards and are tested to meet requirements for corrosion resistance, vibration, mechanical and thermal shock.

FEATURES

- 0 to 8 GHz operation
- SMA jack (female socket) connection
 - Nickel plated brass body
 - Gold plated beryllium copper center contact
- TNC bulkhead jack (female socket) connection
 - Nickel plated brass body
 - Gold plated beryllium copper center contact
 - Silicone Gasket
 - Nickel plated brass washer and hex nut
- Ideal for sealed connections

APPLICATIONS

- Cellular IoT
 - LTE-M (Cat-M1), NB-IoT
- Cellular
 - 5G/4G LTE/3G/2G
- WiFi/WLAN
 - WiFi 6/6E
- GNSS
 - GPS, Galileo, GLONASS, BeiDou, QZSS
- Radar, Satellite Communications, Experimental
- Industrial, Commercial, Enterprise

ORDERING INFORMATION

Part Number	Description
ADP-SMAF-TNCF-B	SMA jack (female socket) to TNC bulkhead jack (female socket) adapter with gasket, washer and hex nut

Available from Linx Technologies and select distributors and representatives.

TABLE 1. ELECTRICAL SPECIFICATIONS

Parameter	Value
Impedance	50 Ω
Frequency Range	0 Hz to 8 GHz
Contact Resistance	Center: $\leq 3.0\text{ m}\Omega$ Outer: $\leq 2.0\text{ m}\Omega$
Insertion Loss (dB max.)	1.4
VSWR (max.)	1.7

PRODUCT DIMENSIONS

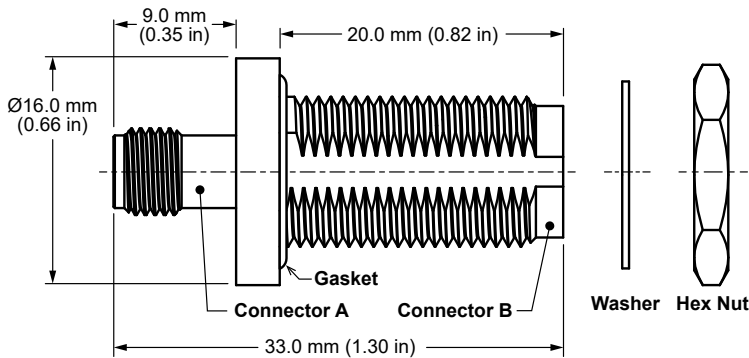


Figure 1. Product Dimensions for the ADP-SMAF-TNCF-B Adapter

TABLE 2. ADAPTER COMPONENTS

ADP-SMAF-TNCF-B	Connector A SMA jack (female socket)		Connector B TNC bulkhead jack (female socket)	
	Material	Finish	Material	Finish
Connector Part	Brass	Nickel	Brass	Nickel
Body	Beryllium copper	Gold	Brass	Gold
Insulator	PTFE	-	PTFE	-
Gasket	-	-	Silicone	-
Washer	-	-	Brass	Nickel
Hex Nut	-	-	Brass	Nickel

RECOMMENDED MOUNTING DIAGRAM

The recommended enclosure mounting dimensions for the ADP-SMAF-TNCF-B are shown in Figure 2. The enclosure wall thickness should not exceed 7.14 mm (0.281 in). Installation of the washer and hex nut should not exceed a torque value of 1.13 Nm (10 in/lbs).

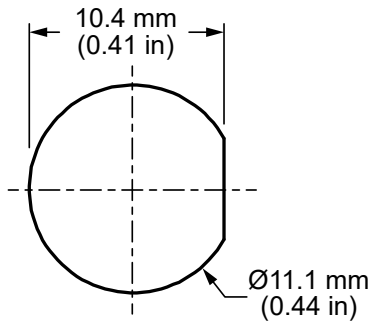


Figure 2. Recommended Enclosure Mounting Dimensions

TABLE 3. MECHANICAL SPECIFICATIONS

ADP-SMAF-TNCF-B	Connector A SMA jack (female socket)	Connector B TNC bulkhead jack (female socket)
Mounting Type	Sealed, bulkhead mount	
Fastening Type	1/4"-36UNS Threaded Coupling	7/16"-28UNEF Threaded Coupling
Interface in Accordance with	MIL-STD-348B	MIL-STD-348B
Recommended Torque	0.57 N·m (5.0 in·lbs)	1.13 N·m (10.0 in·lbs)
Coupling Nut Retention	60 lbs min.	100 lbs. min.
Durability	500 cycles min.	500 cycles min.
Weight	15.2 g (0.54 oz)	

TABLE 4. ENVIRONMENTAL SPECIFICATIONS

MIL-STD, Method, Test Condition	
Corrosion (Salt spray)	MIL-STD-202 Method 101 test condition B
Thermal Shock	MIL-STD-202 Method 107 test condition C
Vibration	MIL-STD-202 Method 204 test condition B
Mechanical Shock	MIL-STD-202 Method 213 test condition B
Moisture Resistance	MIL-STD-202 Method 106 test condition D
Temperature Range	-65 °C to +165 °C
Environmental Compliance	RoHS

INSERTION LOSS

Figure 3 shows the Insertion Loss for the ADP-SMAF-TNCF-B adapter. Insertion loss is the loss of signal power (gain) resulting from the insertion of a device in a transmission line.

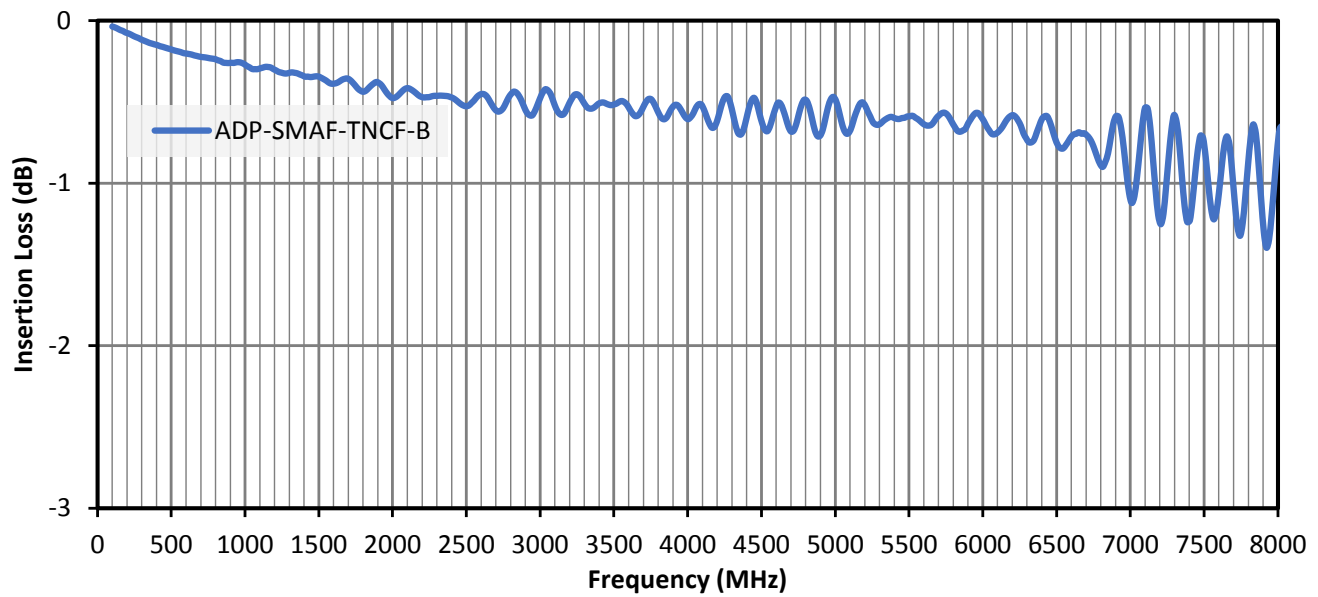


Figure 3. Insertion Loss for the ADP-SMAF-TNCF-B Adapter

VSWR

Figure 4 provides the voltage standing wave ratio (VSWR) across the adapter's bandwidth for the ADPSMAF- TNCF-B adapter. VSWR describes how efficiently power is transmitted. A lower VSWR value indicates better performance at a given frequency.

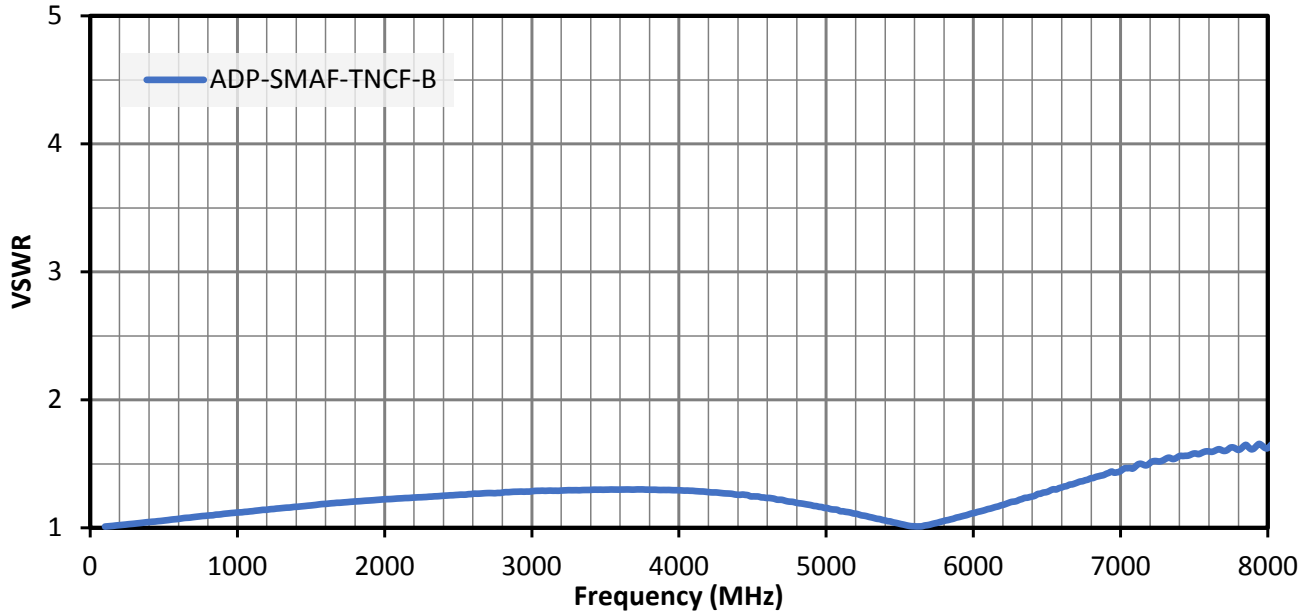


Figure 4. VSWR for the ADP-SMAF-TNCF-B Adapter

PACKAGING INFORMATION

The ADP-SMAF-TNCF-B adapter is individually placed in a clear polyethylene bag. 25 pcs are packaged in a larger protective bag. 750 pcs are packaged in a shipping carton (370 mm x 330 mm x 240 mm). Distribution channels may offer alternative packaging options.

CONNECTOR & ADAPTER DEFINITIONS AND USEFUL FORMULAS

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

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

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 .

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

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