



RF Diplexer

Dual-Band Signal Splitter / Combiner for RF Systems

Product Overview

The TT-RF-FL-002 Diplexer is a passive RF filtering device designed to separate or combine signals in the VHF (Very High Frequency) and UHF (Ultra High Frequency) bands using a single common port. It enables simultaneous operation of multiple RF systems on a shared antenna or transmission line while maintaining high isolation and low insertion loss.

Application Domains

Amateur (HAM) radio applications, dual-band communication systems, RF front-end filtering, repeaters, and RF laboratories.

Product Identification

Part Number	TT-RF-DPX-001
Description	Dual-Band RF Diplexer
Device Category	Passive RF Filtering Device

Electrical Specifications

Impedance	50 Ω
Low Band Frequency Range	144 – 146 MHz
High Band Frequency Range	433 – 438 MHz
Return Loss	< -20 dB
SWR	< 1.2
Insertion Loss (Low Band)	0.5 dB
Insertion Loss (High Band)	0.5 dB
Isolation Between Bands	> 40 dB
Power Handling	Up to 50 W
Connector Type	SO-239
Configuration	3-Port (Common, Low Band, High Band)

Environmental and Mechanical Characteristics

Housing Material	Aluminium Alloy (6061)
Mounting Type	Chassis-mount enclosure
Ingress Protection	IP69
Weight	450 gm

Standard Status

RF Compliance	Industry standard RF filtering characteristics
Declaration of Conformity	RoHS, CE

Product Visuals



Figure 1: Front View



Figure 2: VHF - UHF Ports



Figure 3: Common Port

RF Performance

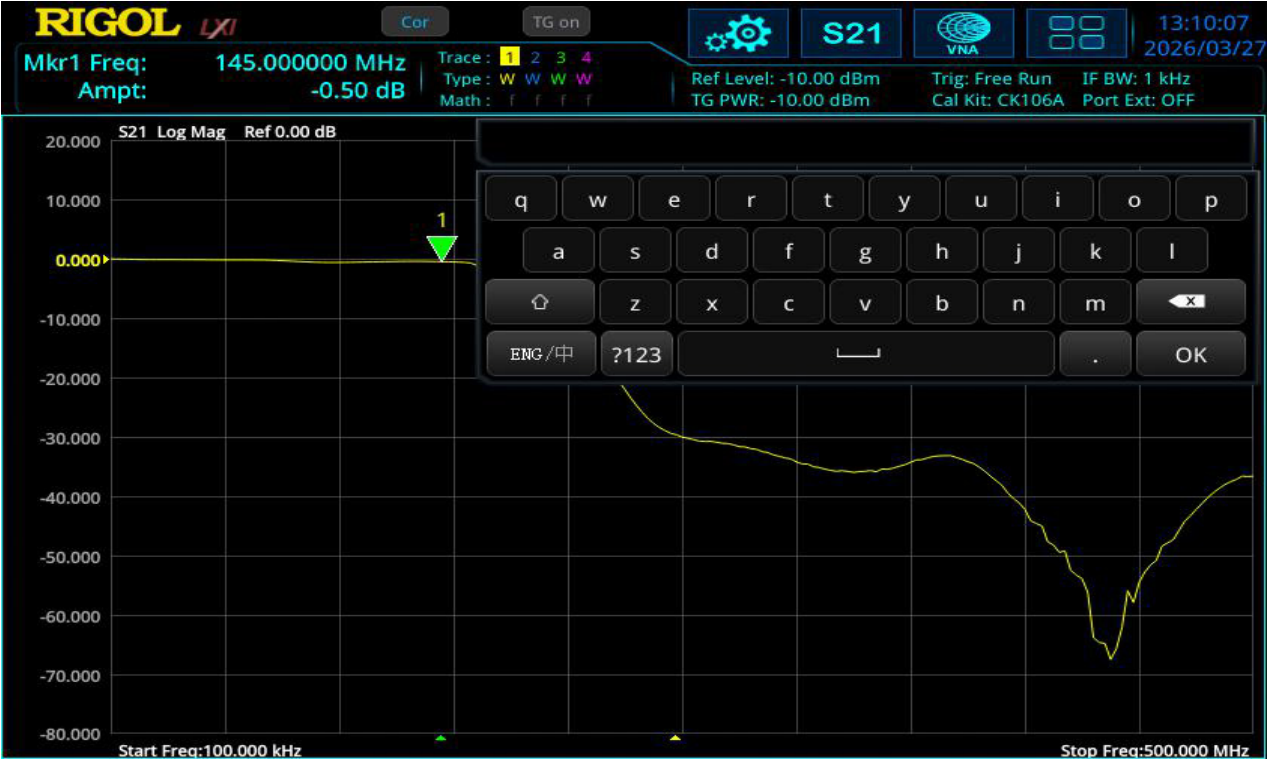


Figure 4: Insertion Loss (Low Band)

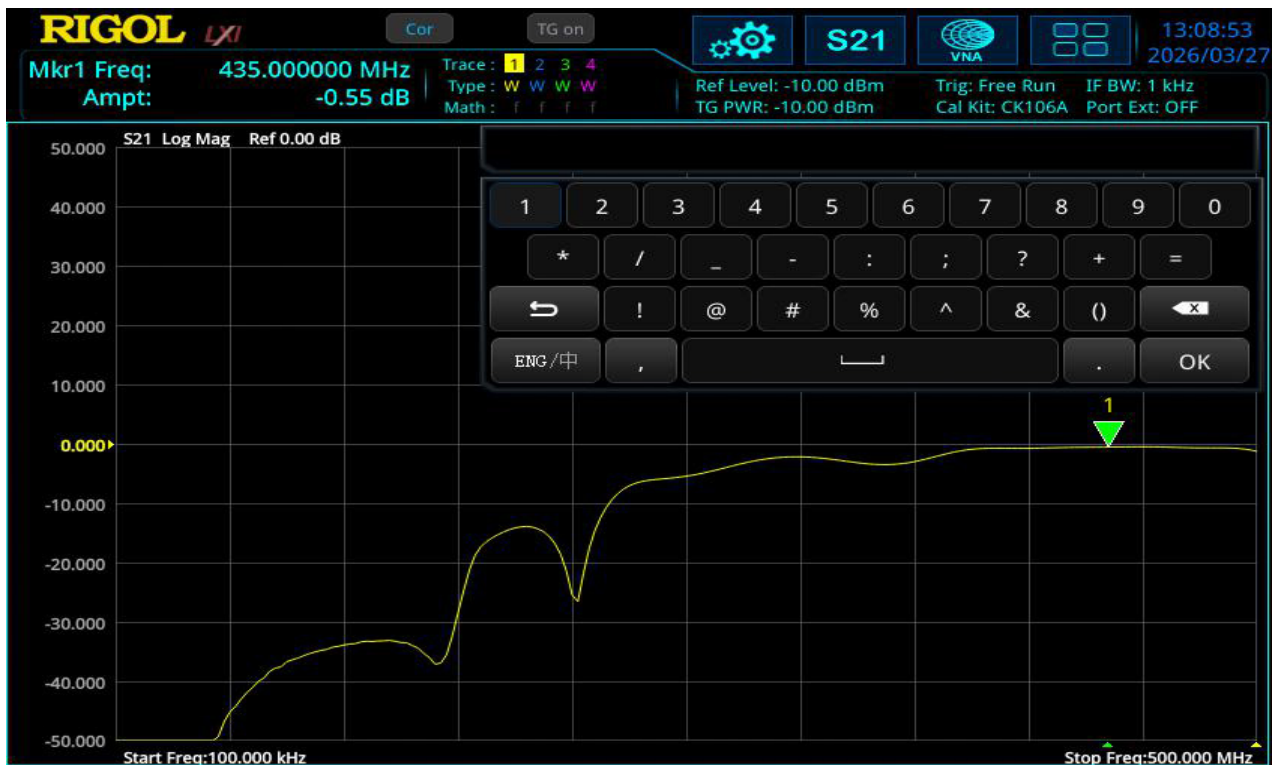


Figure 5: Insertion Loss (High Band)



Figure 6: Return Loss (S11) (low band)



Figure 7: Return Loss (S11) (high band)



Figure 8: SWR (low band)



Figure 9: SWR (low band)



Figure 10: VHF on UHF port

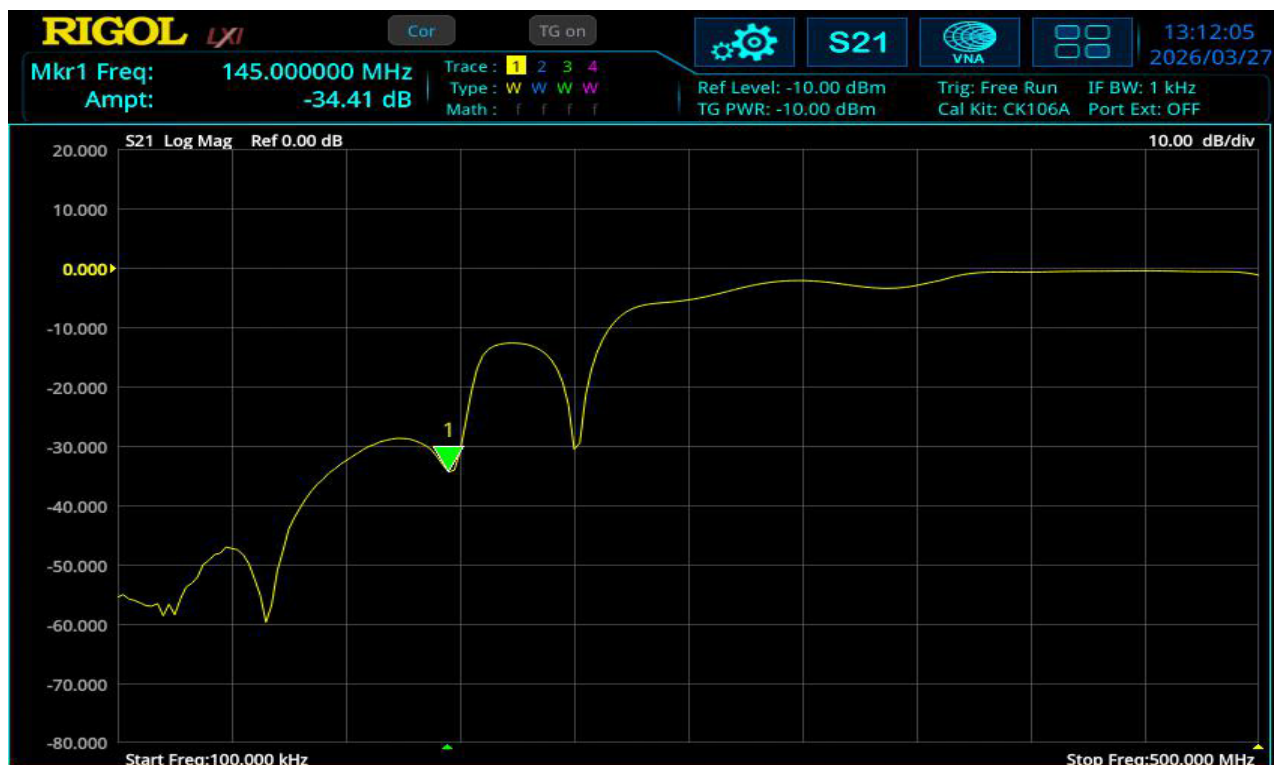


Figure 11: UHF on VHF port