



**FD9R6004S4-1C**

ShareLite™ Wideband Diplexer – In-line 698-960 MHz/1710-2200 MHz, full DC/AISG pass, 4.3-10 Connectors

The ShareLite FD9R6004 Series of diplexers are designed to enable feeder sharing between systems in the 698-960 MHz range and in the 1710-2200 MHz range, including all the new AWS-3 paired spectrum blocks (G, H, I, J).. The diplexer is equipped with in-line connector placement so it can be installed in the BTS cabinet or at the tower top. This is especially valuable in crowded sites or when the feeders are not easily accessible. Due to its wideband design, the FD9R6004 Series can accommodate many combining solutions between 698-960 MHz and 1710-2200 MHz systems such as LTE 700 MHz, Cellular 800 MHz with PCS, GSM900 with GSM1800, or GSM900 with UMTS. This diplexer features a highly selective filter. It provides a high level of isolation between ports, while keeping the insertion loss on both paths at an extremely low level. The FD9R6004 diplexers are available with various DC pass options, helpful in configurations with or without the Tower Mount Amplifiers installed.



**FEATURES / BENEFITS**

- LTE and AWS-3 ready design
- Extremely Low Insertion Loss
- High level of Rejection between bands – Protection against interferences
- Extremely High Power Handling Capability
- DC/AISG 1.1/2.0 pass through all ports
- Very compact & small size design – Easy installation and reduced tower load
- In-line long-neck 4.3-10 connectors for easy connection & waterproofing
- Exceptional reliability & environmental protection (IP 67)
- Equipped with 1 \* Breathable Vent – Prevent any humidity inside the product
- Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)
- Grounding already provided through the mounting bracket
- Kit available for easy dual mount

**Technical features**

**GENERAL SPECIFICATIONS**

<b>Product Type</b>		Diplexer/Cross Band Combiner
<b>Application</b>		Wireless Communication
<b>Configuration</b>		Sharelite Single diplexer, outdoor, full DC pass, with mounting hardware SEM2-1A

**ELECTRICAL SPECIFICATIONS**

<b>Frequency Range 1</b>	MHz	698 - 960
<b>Frequency Range 2</b>	MHz	1710 - 2200
<b>Return Loss All Ports</b>	dB	19 Min/23 Typ.
<b>Power Handling Continuous, Max</b>	W	1250 at common port; 750 in low frequency path & 500 in high frequency path
<b>Power Handling Peak, Max</b>	W	15000 in low frequency path & 8000 in high frequency path
<b>Impedance</b>	Ω	50
<b>Insertion Loss, Path 1</b>	dB	0.07 typ.
<b>Insertion Loss, Path 2</b>	dB	0.13 typ.
<b>Rejection Between Bands Min/Typ</b>	dB	58/64@698-960MHz 57/70@1710-2200MHz
<b>Group Delay, Path 1</b>	ns	3 Max.
<b>Group Delay, Path 2</b>	ns	3 Max.
<b>IMP Level at the COM Port</b>	dBm (dBc)	-112 (-155) @2x43 typ.
<b>DC Pass in Path 1</b>		Yes
<b>DC Pass in Path 2</b>		Yes



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**MECHANICAL SPECIFICATIONS**

<b>Mounting</b>		Wall Mounting: With 4 screws (maximum 6mm diameter) Pole Mounting: With included clamp set 40-110mm (1.57-4.33)
<b>RF Connectors</b>		In-line long-neck 4.3-10 Female (2 Input, 1 output)
<b>Weight</b>	kg (lb)	1.2 (2.6)
<b>Shipping Weight</b>	kg (lb)	1.2 (2.6)
<b>Dimensions, H x W x D</b>	mm (in)	147 x 164 x 37 (5.8 x 6.5 x 1.5)
<b>Shipping Dimensions, H x W x D</b>	mm (in)	254 x 406 x 82 (10 x 16 x 3.2) for 2 * Single Units in 1 * box, 280 x 406 x 241 (11 x 16 x 9.5) for 6 * units = 3 * Boxes in 1 * overwrap
<b>Volume</b>	L	0.43
<b>Housing</b>		Aluminum

**TESTING AND ENVIRONMENTAL**

<b>Temperature Range</b>	°C (°F)	-40 to 60 (-40 to 140 )
<b>Environmental</b>		ETSI 300-019-2-4 Class 4.1E
<b>Ingress Protection</b>		IP 67
<b>Lightning Protection</b>		EN/IEC61000-4-5 Level 4

The FD9R6004 Series is upgradeable to a Dual Diplexer kit by means of 2 diplexers and mounting hardware kits SEM2-1A and SEM2-3

Mounting Hardware and Ground Cable Ordering Information		
Model Number	Description	
<b>SEM2-1A</b>	Mounting Hardware, Pole mount ø40-110mm (Included with the Single and Dual Diplexer) Wall Screws M6 (Not included with the product)	
<b>SEM2-3</b>	Assembly kit for 2 pcs of FD9R6004/xC-3L (Can be ordered separately but included with the Dual Diplexer Kit)	
<b>CA020-2</b>	Ground Cable, 2m, includes lugs (Optional)	
<b>CA030-2</b>	Ground Cable, 3m, includes lugs (Optional)	
<b>SEM6</b>	Mounting Hardware for 6 Diplexers, Tower Base (Optional)	

**External Document Links**

- [RFS Diplexer Field Test Procedure](#)
- [FD9R6004/1C-3L Installation Instructions](#)

**Notes**