



The FDEG Series of diplexers are designed to enable feeder sharing between systems in the 694-862 MHz range and in the 880-960 MHz range. RFS's innovative cavity filter design provides a very low insertion loss of 0.2dB typical while keeping the product extremely compact and lightweight. The usage of highly selective filters also guarantees a high isolation level of 50dB between ports, to ensure an interference-free environment for any technology deployed. The filter design also comprises of lightning protection for additional reliability. Designed to withstand the most severe outdoor environments, it also features an IP67 class protection with a vented enclosure to avoid any possible effects of condensation and pressure instability, thus providing a long lasting, extremely reliable solution to any network.

FEATURES / BENEFITS

- Single Unit optimizing small cell and in-building applications
- Full DC/AISG pass
- 4.3-10 Connectors - Reduce tower loading with connectors that are 40% smaller and lighter than 7-16 DIN connectors
- Extremely Low Insertion Loss
- High level of Rejection between bands - Protection against interference
- Extremely High Power Handling Capability
- Very compact & small size design - Easy installation and reduced tower load
- Exceptional reliability & environmental protection (IP-67)
- Mounting hardware for Wall and Pole mount provided (P/N SEM2-1A)
- Grounding already provided through the mounting bracket

Technical features

GENERAL SPECIFICATIONS

Product Type		Diplexer/Cross Band Combiner
Application		LTE700, EDD800, LTE800, GSM900
Configuration		Single indoor/outdoor

ELECTRICAL SPECIFICATIONS

Branch		1, 2	
Frequency Range	MHz	694-862	880-960
Impedance	Ohms	50, 50	
Frequency Band		LTE700, EDD800, LTE800, GSM900	
DC Pass		Full DC/AISG pass	
Insertion Loss	dB	0.2 typ., 0.2 typ.	
GROUP DELAYS	ns	<7 typ., 40 max., <9 typ., 35 max.	
Total Group Delay	ns	<7 typ., 40 max., <9 typ., 35 max.	
Return Loss	dB	22 typ., 22 typ.	
Power Handling Continuous, Max.	W	600 at common port, 300 in each path	
Input Power, PEP	W	3000	
Rejection between bands	dB	50	
3rd Order PIM	dBm (dBc)	-118 (-161) @2x43 typ.	



TESTING AND ENVIRONMENTAL

Temperature Range	°C (°F)	-40 to 65 (-40 to 149)
Ingress Protection		IP 67
Environmental		ETSI 300-019-2-4 Class 4.1E
Lightning Protection		EN/IEC61000-4-5 Level 4

MECHANICAL SPECIFICATIONS

RF Connectors		4.3-10 Female; 2 ports in, 1 port out
Shipping Weight	kg (lb)	3 (6.6)
Dimensions, H x W x D	mm (in)	191 x 172 x 81 (7.5 x 6.8 x 3.2)
Shipping Dimensions, H x W x D	mm (in)	191 x 172 x 81 (7.5 x 6.8 x 3.2)
Mounting		Wall Mounting: With 4 screws (maximum 6mm diameter) Pole Mounting: With included clamp set 40-110mm (1.57-4.33")

SELECTION TABLE

Type	Model Number	No DC Pass	DC Pass 880-960	DC Pass 694-862	Full DC Pass	DC pass priority
Single	FDEG5020S4-S1					880-960
Single	FDEG5020S4-S1A					880-960 with AISG
Single	FDEG5020S4-1C				X	
Single	FDEG5020S4-2C			X		
Single	FDEG5020S4-3C		X			
Single	FDEG5020S4-NC	X				

[External Document Links](#)

- [RFS Diplexer Field Test Procedure](#)
- [Installation Instructions](#)

[Notes](#)