5W corona free S-band Diplexer

for CubeSat nanosatellites applications

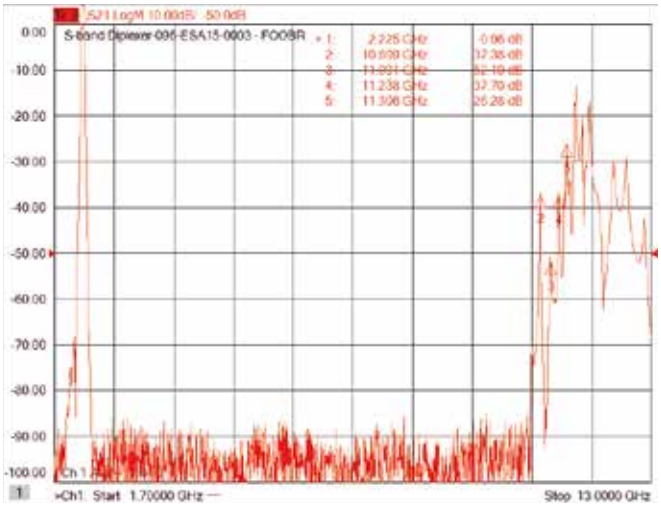
ABOUT

UNDER DEVELOPMENT

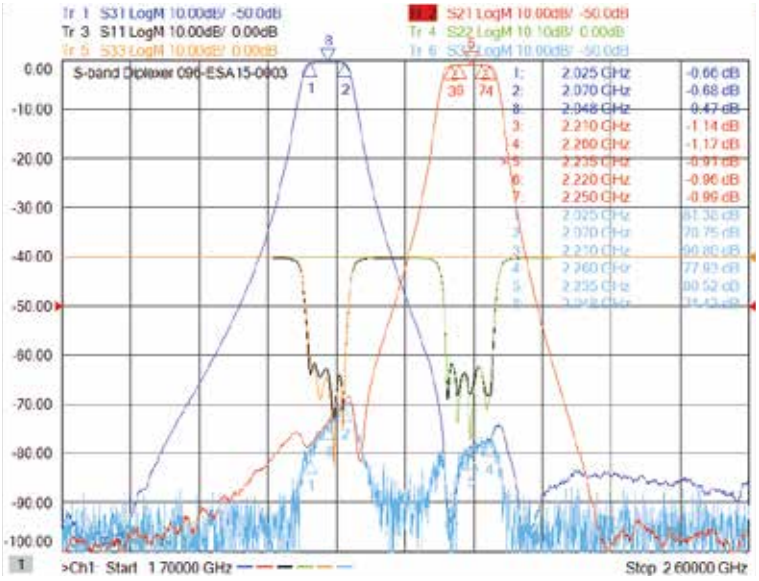
DSE 5W corona free S-band Diplexers provide full-duplex communication for data transmission and TM&TC using a single antenna. They are designed to operate in 2025-2290 MHz range.

FEATURES

- **Corona free**
- **excellent Far Out Of Band Rejection performance (up to 10,8GHz)**
- compliant with the CubeSat nanosatellite standard
- provides high isolation between RX & TX bands
- durable, mechanical-shock- and temperature-resistant aluminium housing
- fully compatible with WiRan S-Band antenna
- compatible with high power transmitters (max. 5W)



Far-Out-of-Band Rejection of the diplexer



Insertion Loss, Return Loss, Isolation of the diplexer

S-Parameters available on request.

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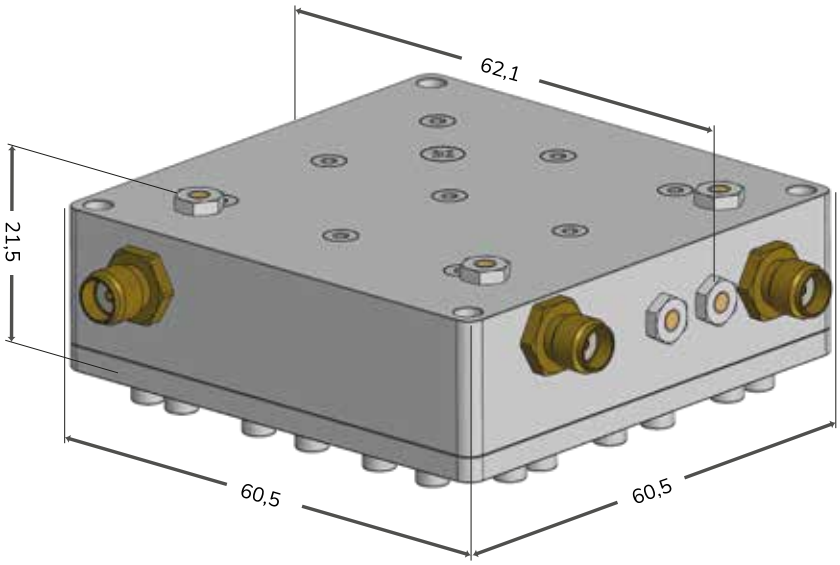
Parameter	Diplexer	Unit
RX frequency range	2025-2110	MHz
TX frequency range	2200-2290	MHz
RX bandpass channel width	40	MHz
TX bandpass channel width	50	MHz
Isolation in TX and RX	min. 70; typical 75 (TBC)	dB
Insertion loss at RX f_{centre}/f_{edge}	max. 0.7/0.85; typical 0.6/0.75 (TBC)	dB
Insertion loss at TX f_{centre}/f_{edge}	max. 1/1.2; typical 0.9/1.1 (TBC)	dB
Return loss (all ports)	min. 19; typical 22	dB
Far-Out-of-Band Rejection	min. 60 @ 10.8GHz	dB
Power Handling (multipactor & corona free)	5	W
Operating temperature range	-40 ÷ +75	°C
Weight	140	g
Maximum X/Y linear dimension	61 (w/o connectors)	mm
Maximum Z height	23	mm
RF interface	SMA female connectors	-



All values in mm.

STEP files available on request.

Ordering code	Description
DSE	5W corona free S-band Diplexer