



The RFS 8PPXX202E is designed for global filtering applications associated with DTV television transmission. It is an 8-pole fan cooled filter incorporating two cross couplings to meet all mask requirements. The 8-pole filter allows for FCC tightening of emission mask for ATSC 3.0 in the future.

FEATURES / BENEFITS

- Meet FCC mask requirements plus extra protection for adjacent channels.
- Very compact for easy integration into equipment.
- Lowest insertion loss and highest power rating for its size/class.
- Tunable over UHF band (470 – 710 MHz).
- Adjustable bandwidth, available for 6, 7 & 8 MHz channels for global applications.
- External, non-invasive coupling adjustment.
- Tunable for ETSI and ISDB-T critical and non-critical, and ATSC 1.0/3.0 applications.
- 96-264V AC (50/60Hz) Fan cooling kits available in place of liquid cooling.



8PPXX202E Fan Cooled Filter

Technical features

GENERAL SPECIFICATIONS

Product Line		Filters
Product Type		Band IV/V (UHF) TV Bandpass Filter
Model		8PPXX202E
Filter type		8 Pole with 2 cross couplings - 200 mm ground plane spacing - Fan Cooled
Input / Output Connector		3-1/8" EIA Unflanged Female (Standard) or 3-1/8" EIA Flanged Female (Optional) or 3-1/8" MYAT Unflanged Female (Optional) or NAX77D (Optional)

ELECTRICAL SPECIFICATIONS

Impedance	Ω	50
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MECHANICAL SPECIFICATIONS

Dimension-WxDxH	mm (in)	439 x 986 x 432 (17.3 x 38.8 x 17.0) - Max with standard I/O connectors
Weight	kg (lb)	81 (179)

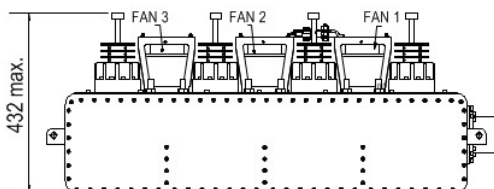
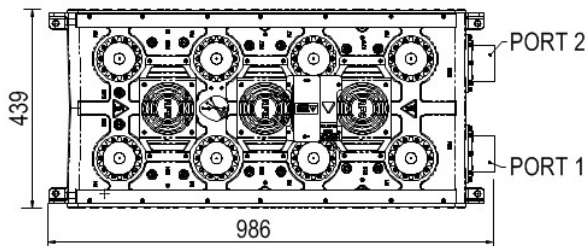
COOLING

Cooling		Forced Air
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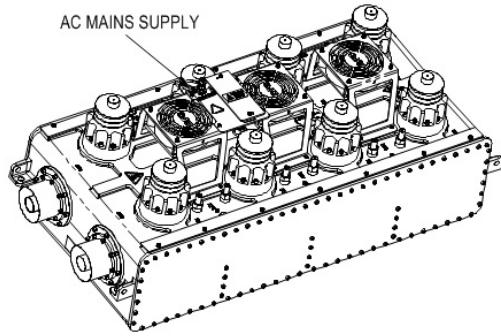


SPECIFICATIONS

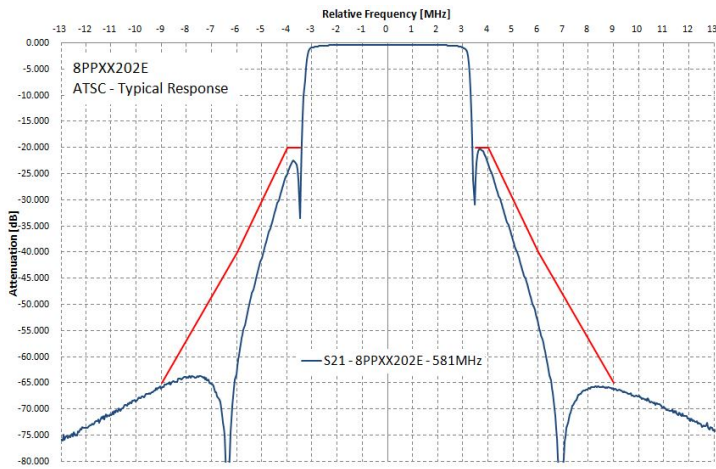
Out-of-Band Emissions Mask		DVB-T ETSI critical	DVB-T ETSI critical	ISDB-T critical	ATSC 1.0/ ATSC 3.0
Channel Bandwidths	MHz	8	6	6	6
Input Power Rating	kW	14.0 @ 474 MHz 11.2 @ 706 MHz	12.4 @ 473MHz 9.0 @ 707MHz	12.5 @ 473MHz 9.1 @ 707MHz	12.5 @ 473MHz 9.1 @ 707MHz
Insertion Loss at fc	dB	<0.27 @ 474 MHz <0.32 @ 706 MHz	<0.32 @ 473 MHz <0.40 @ 707 MHz	<0.37 @ 473 MHz <0.45 @ 707 MHz	<0.32 @ 473 MHz <0.41 @ 707 MHz
Attenuation	dB	<1.35 at Fc ± 3.8 MHz >15.0 at Fc ± 4.2 MHz >27.0 at Fc ± 6.0 MHz >52.0 at Fc ± 12.0 MHz	<1.75 at Fc ± 2.85 MHz >15.0 at Fc ± 3.15 MHz >27.0 at Fc ± 4.5 MHz >52.0 at Fc ± 9.0 MHz	<1.45 at Fc ± 2.79 MHz >14.0 at Fc ± 3.15 MHz >31.0 at Fc ± 4.5 MHz >61.0 at Fc ± 9.0 MHz	<0.8 at Fc ± 2.69 MHz <1.0 at Fc ± 2.915MHz >20.0 at Fc ± 3.5 MHz >20.0 at Fc ± 4.0 MHz >40.0 at Fc ± 6.0 MHz >65.0 at Fc ± 9.0 MHz Note 1
VSWR average across carriers		≤1.1	≤1.1	≤1.1	≤1.1
Return Loss Average Across Carriers	dB	≥26.4	≥26.4	≥26.4	≥26.4
Group Delay Variation	ns	<590 at Fc ± 3.8 MHz	<690 at Fc ± 2.85 MHz	<590 at Fc ± 2.79 MHz	<290 at Fc ± 2.69 MHz
Maximum Operating Temperature	°C (°F)	80 (176)			
Ambient Temperature Range	°C (°F)	-5 to 40 (23 to 104)			
Maximum Temperature Rise	°C (°F)	Δ40 (Δ72)			
Freq Drift - Tx Operation	kHz/°C(°F)	<2 (1.2)			
Freq Drift - Ambient Temperature	kHz/°C(°F)	<2 (1.2)			



8PPXX202E Plan and Side View



8PPXX202E Isometric View



Graph 1 - 8PPXX202E Filter Typical Response

External Document Links

- [ETSI 6MHz Application Guide](#)
- [ETSI 8MHz Application Guide](#)
- [ATSC Application Guide](#)
- [ISDB-T 6MHz Application Guide](#)

Notes

- Note 1. Tx intermod shoulder at 37dB.