



The RFS 8PPXX272E is designed for global filtering applications associated with DTV television transmission. It is an 8-pole fan cooled filter incorporating dual cross couplings. 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.
- Both fan-cooled and liquid-cooled filters have equal power handling capability.
- Very compact for easy integration into equipment.
- Lowest insertion loss and highest power rating for its size/class.
- Tunable over UHF band (470 – 620MHz).
- Adjustable bandwidth, available for 6 and 8 MHz channels for global applications.
- External coupling adjustment simplifies tuning.
- All data presented upon field measured results.
- 115V (50/60Hz) and 230V (50/60Hz) fan cooling kits available in place of liquid cooling.



8PPXX272E Frame Filter

Technical features

GENERAL SPECIFICATIONS

Product Line		Filters
Product Type		Band IV/V (UHF) TV Bandpass Filter
Model		8PPXX272E
Filter type		8 Pole with 2 cross couplings - 270 mm ground plane spacing - Fan Cooled
Input / Output Connector		3-1/8" to 6-1/8" Unflanged and Flanged Female Connectors Are Available

ELECTRICAL SPECIFICATIONS

Impedance	Ω	50
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MECHANICAL SPECIFICATIONS

Dimension-WxDxH	mm (in)	1391 x 640 x 630 (54.8 x 25.2 x 24.8) Max - Frame Included
Weight	kg (lb)	182 (401)

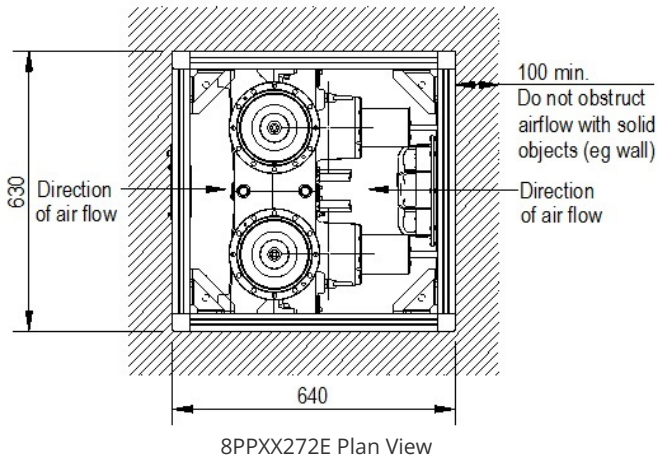
COOLING

Cooling		Forced Air
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SPECIFICATIONS

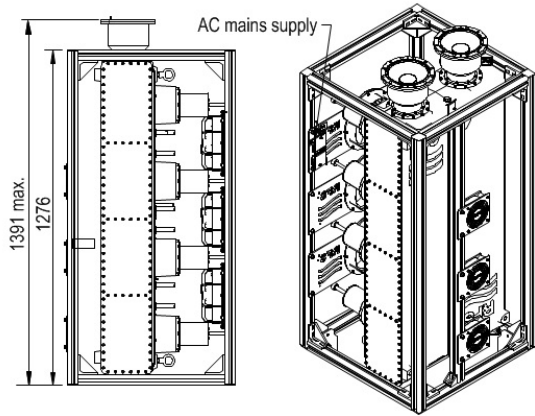
Out-of-Band Emissions Mask		DVB-T ETSI critical	DVB-T ETSI critical	ISDB-T critical	ATSC 1.0/ATSC 3.0 Note 1
Channel Bandwidths	MHz	8	6	6	6
Frequency Range	MHz	470-620			
Input Power Rating	kW	26.5 @ 474 MHz 27.8 @ 618 MHz	24 @ 473MHz 22.7 @ 617MHz	24 @ 473MHz 22.7 @ 617MHz	30/24 @ 473MHz 30/24.6 @ 617MHz Note 2
Insertion Loss at fc	dB	<0.24 @ 474 MHz <0.25 @ 618 MHz	<0.33 @ 473 MHz <0.34 @ 617 MHz	<0.33 @ 473 MHz <0.34 @ 617 MHz	<0.31 @ 473 MHz <0.32 @ 617 MHz
Attenuation	dB	<1.2 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	<1.6 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	<1.3 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	<0.7 at Fc ± 2.69 MHz <0.9 at Fc ± 2.915 MHz >20 at Fc ± 3.5 MHz >20 at Fc ± 4 MHz >40 at Fc ± 6 MHz >65 at Fc ± 9 MHz Note 3
VSWR average across carriers		≤1.1			
Return Loss Average Across Carriers	dB	≥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 55 (23 to 131) Note 2			
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)			



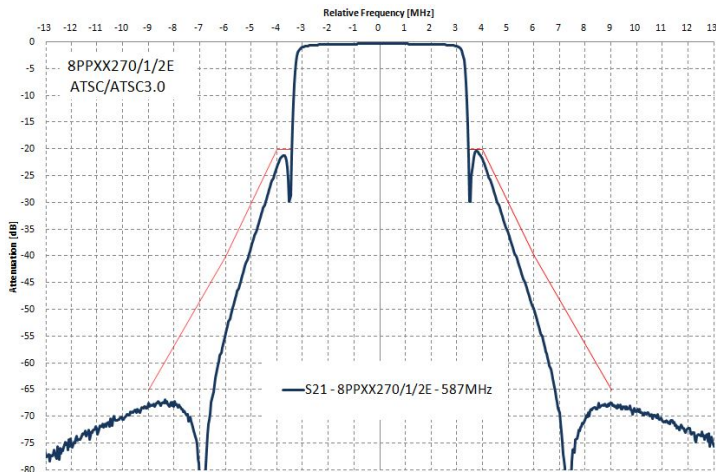


8PPXX272E Series

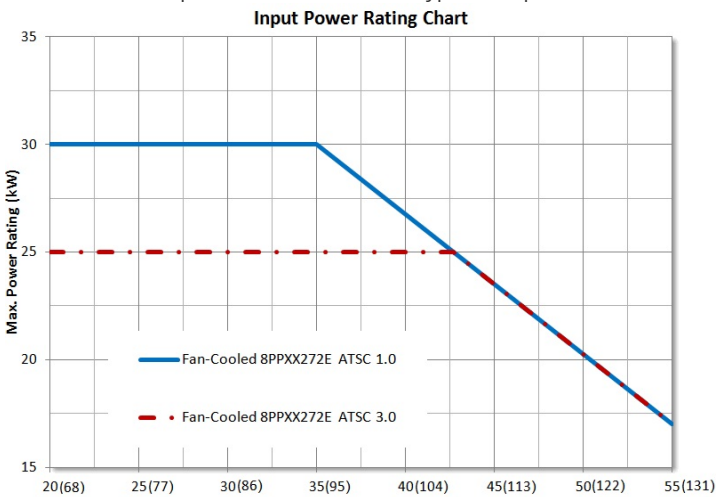
Band IV/V (UHF) PeakPower+™ 30kW bandpass filter



8PPXX272E Side and Iso Views



Graph 1 - 8PPXX272E Filter Typical Response



Graph 2 - Ambient (Fan Cooled) Temperature [°C(°F)]

External Document Links

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

Notes

- Note 1. Other out-of-band emission masks upon request.
- Note 2. >25kW input power for ATSC 1.0 only. Refer to Graph 2 for required cooling conditions.
- Note 3. TX intermod shoulders 37 dB.



PRODUCT DATASHEET

8PPXX272E Series

Band IV/V (UHF) PeakPower+™ 30kW bandpass filter

