



The RFS 6PPXX161E is designed for global filtering applications associated with DTV television transmission. It is a 6-pole liquid-cooled filter incorporating two cross couplings to meet all mask requirements.

**FEATURES / BENEFITS**

- Very compact for easy integration into equipment.
- Very low insertion loss (lowest for this size).
- Highest power rating for size/class.
- Tunable over full UHF band (470 – 862 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 applications.
- -5 to 55 degree ambient temperature operation.
- Low profile rodless resonators design - integrated tuning mechanism - available upon request.



6PPXX161E

**Technical features**

**GENERAL SPECIFICATIONS**

<b>Product Line</b>		Filters
<b>Product Type</b>		Band IV/V (UHF) TV Bandpass Filter
<b>Model</b>		6PPXX161E
<b>Filter type</b>		6 Pole with 2 cross couplings - 160 mm ground plane spacing
<b>Input / Output Connector</b>		NAX77D, 1-5/8" EIA Unflanged Female, 1-5/8" EIA Flanged Female & 3-1/8" EIA Flanged or Unflanged Female (Standard)

**ELECTRICAL SPECIFICATIONS**

<b>Impedance</b>	Ω	50
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**MECHANICAL SPECIFICATIONS**

<b>Dimension-WxDxH</b>	mm (in)	346 x 619 x 270 (13.6 x 24.4 x 10.6)
<b>Weight</b>	kg (lb)	34.8 (76.7)

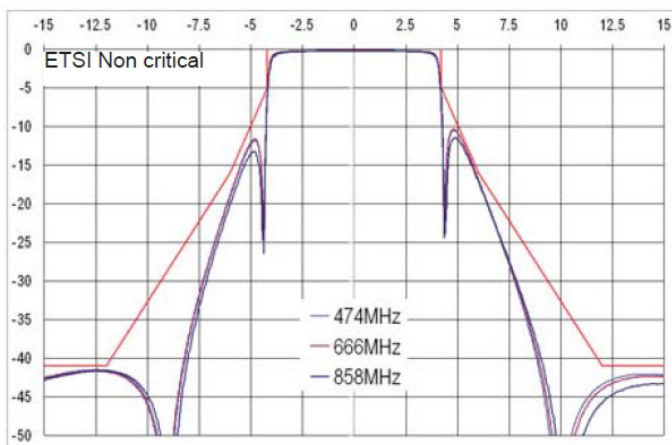
**COOLING**

<b>Maximum Coolant Temp</b>	°C (°F)	55 (131)
<b>Flow Rate</b>	l/min	3 ≤ rate ≤ 12 (1 ≤ rate ≤ 4 US gal.min)
<b>Max. Propylene Glycol / Water Concentration</b>	%	50



**SPECIFICATIONS**

Out-of-Band Emissions Mask		DVB-T ETSI non-critical	DVB-T ETSI critical	ISDB-T sub critical	ISDB-T critical	ATSC 1.0/ ATSC 3
Channel Bandwidths	MHz	8	8	6	6	6
Input Power Rating	kW	8.0 @ 474 MHz 7.2 @ 858 MHz	7.9 @ 474 MHz 6.7 @ 858 MHz	6.8 @ 473 MHz 4.8 @ 803 MHz	6.5 @ 473 MHz 4.7 @ 803 MHz	8.3 @ 473 MHz 6.0 @ 803 MHz
Insertion Loss at fc	dB	<0.22 @ 474 MHz <0.28 @ 858 MHz	<0.27 @ 474 MHz <0.32 @ 858 MHz	<0.33 @ 473 MHz <0.40 @ 803 MHz	<0.35 @ 473 MHz <0.41 @ 803 MHz	<0.33 @ 473 MHz <0.41 @ 803 MHz
Attenuation	dB	<0.8 at Fc ± 3.8 MHz >5.0 at Fc ± 4.2 MHz >16.0 at Fc ± 6.0 MHz >41.0 at Fc ± 12.0 MHz	<1.28 at Fc ± 3.8 MHz >13.0 at Fc ± 4.2 MHz >24.0 at Fc ± 6.0 MHz >42.0 at Fc ± 12.0 MHz	<1.28 at Fc ± 2.79 MHz >8.0 at Fc ± 3.15 MHz >24.0 at Fc ± 4.5 MHz >50.0 at Fc ± 9.0 MHz	<1.55 at Fc ± 2.79 MHz >11.0 at Fc ± 3.15 MHz >26.0 at Fc ± 4.5 MHz >53.0 at Fc ± 9.0 MHz	>0.65 at Fc ± 2.69 MHz >3.0 at Fc ± 3.5 MHz >8.0 at Fc ± 4.0 MHz >40.0 at Fc ± 6.0 MHz >65.0 at Fc ± 9.0 MHz
VSWR average across carriers		<1.1	<1.2	<1.17	<1.2	<1.1
Return Loss Average Across Carriers	dB	26.4	20.8	22.1	20.8	26.4
Group Delay Variation	ns	<285 at Fc ± 3.8 MHz	<555 at Fc ± 3.8 MHz	<455 at Fc ± 2.79 MHz	<555 at Fc ± 2.79 MHz	<150 at Fc ± 2.69 MHz
Maximum Operating Temperature	°C (°F)	80 (176)				
Ambient Temperature Range	°C (°F)	-5 to 55 (23 to 131)				
Maximum Temperature Rise	°C (°F)	40 (104)				
Freq Drift - Tx Operation	kHz/°C(°F)	<2 (1.2)				
Freq Drift - Ambient Temperature	kHz/°C(°F)	<2 (1.2)				

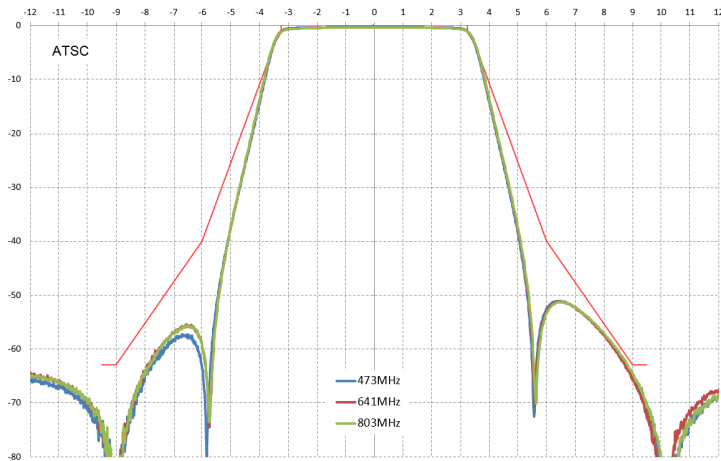


6PPXX161E Filter Response - ETSI Mask

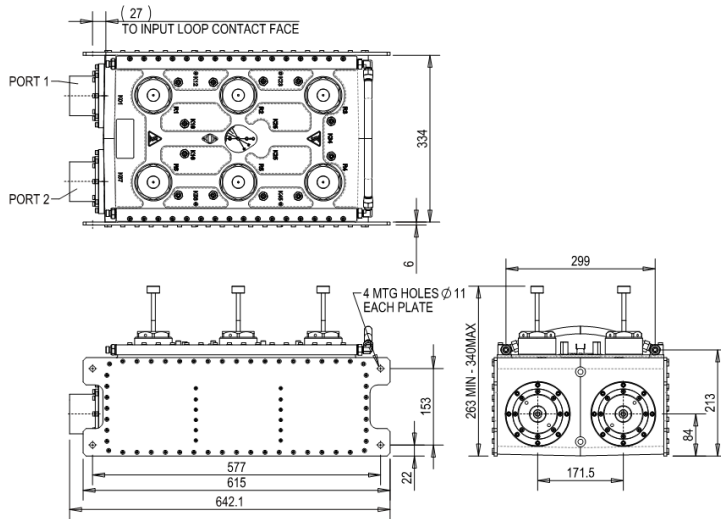


6PPXX161E Series

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



6PPXX161E Filter Response - ATSC Mask



6PPXX161E Filter Views

External Document Links

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

Notes