



The RFS 6PPXX200E is designed for global filtering applications associated with DTV television transmission. It is a 6-pole natural air cooled filter incorporating two cross couplings to meet all mask requirements.

**FEATURES / BENEFITS**

- Very compact for easy integration into equipment.
- Lowest insertion loss and highest power rating for its 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.



6PPXX200E Filter

**Technical features**

**GENERAL SPECIFICATIONS**

|                                 |  |  |
|---------------------------------|--|--|
| <b>Product Line</b>             |  | Filters  |
| <b>Product Type</b>             |  | Band IV/V (UHF) TV Bandpass Filter   |
| <b>Model</b>                    |  | 6PPXX200E  |
| <b>Filter type</b>              |  | 6 Pole with 2 cross couplings - 200 mm ground plane spacing  |
| <b>Input / Output Connector</b> |  | 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) |

**MECHANICAL SPECIFICATIONS**

|                        |         |   |
|------------------------|---------|---|
| <b>Dimension-WxDxH</b> | mm (in) | 439 x 771 x 432 (17.3 x 30.4 x 17.0) Max with Standard I/O connectors |
| <b>Color</b>           |         | Black   |
| <b>Weight</b>          | kg (lb) | 56 (124)  |

**COOLING**

|                |  |             |
|----------------|--|-------------|
| <b>Cooling</b> |  | Natural air |
|----------------|--|-------------|



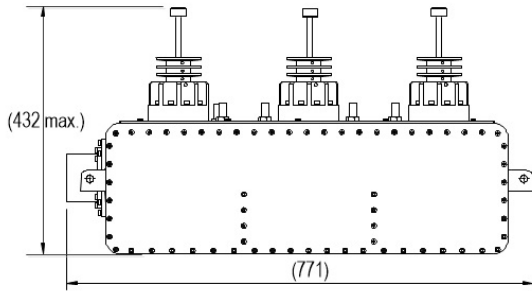
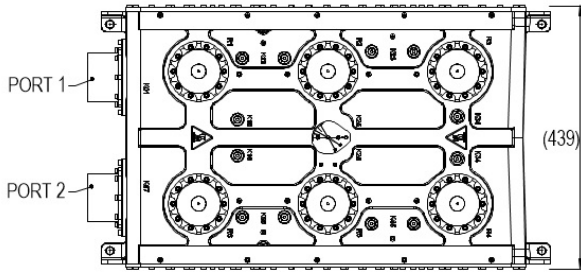
**SPECIFICATIONS**

| 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 3.0  |
|-------------------------------------|------------|---|---|--|---|---|
| Channel Bandwidths                  | MHz        | 8   | 8   | 6  | 6   | 6   |
| Input Power Rating                  | kW         | 9.4 @ 474 MHz<br>6.9 @ 858 MHz  | 8.5 @ 474 MHz<br>6.5 @ 858 MHz  | 7.0 @ 473MHz<br>5.7 @ 803MHz   | 6.5 @ 473MHz<br>5.5 @ 803MHz  | 7.5 @ 473MHz<br>5.7 @ 803MHz  |
| Insertion Loss at fc                | dB         | <0.19 @ 474 MHz<br><0.23 @ 858 MHz  | <0.23 @ 474 MHz<br><0.28 @ 858 MHz  | <0.27 @ 473 MHz<br><0.34 @ 803 MHz   | <0.30 @ 473 MHz<br><0.35 @ 803 MHz  | <0.26 @ 473 MHz<br><0.35 @ 803 MHz  |
| Attenuation                         | dB         | <0.49 ± 3.8 @ fc=474<br><0.57 ± 3.8 @ fc=666<br><0.75 ± 3.8 @ fc=858<br>>5.0 ± 4.2 MHz<br>>16.0 ± 6.0 MHz<br>>41.0 ± 12.0 MHz | <1.0 ± 3.8 @ fc=474<br><1.25 ± 3.8 @ fc=666<br><1.65 ± 3.8 @ fc=858<br>>13.0 ± 4.2 MHz<br>>24.0 ± 6.0 MHz<br>>42.0 ± 12.0 MHz | <0.84 ± 2.79 @ fc=473<br><0.94 ± 2.79 @ fc=641<br><1.09 ± 2.79 @ fc=803<br>>8.0 ± 3.15 MHz<br>>24.0 ± 4.5 MHz<br>>50.0 ± 9.0 MHz | <1.07 ± 2.79 @ fc=473<br><1.32 ± 2.79 @ fc=641<br><1.49 ± 2.79 @ fc=803<br>>11.0 ± 3.15 MHz<br>>26.0 ± 4.5 MHz<br>>53.0 ± 9.0 MHz | <0.41 ± 2.69 @ fc=473<br><0.45 ± 2.69 @ fc=641<br><0.58 ± 2.69 @ fc=803<br>>3.0 ± 3.5 MHz<br>>8.0 ± 4.0 MHz<br>>40.0 ± 6.0 MHz<br>>65.0 ± 9.0 MHz<br>Note 1 |
| 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         | <295 ± 3.8 MHz  | <585 ± 3.8 MHz  | <475 ± 2.79 MHz  | <585 ± 2.79 MHz   | <150 ± 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)    | Δ40 (Δ72)   |   |  |   |   |
| Freq Drift - Tx Operation           | kHz/°C(°F) | <2 (1.2)  |   |  |   |   |
| Freq Drift - Ambient Temperature    | kHz/°C(°F) | <2 (1.2)  |   |  |   |   |

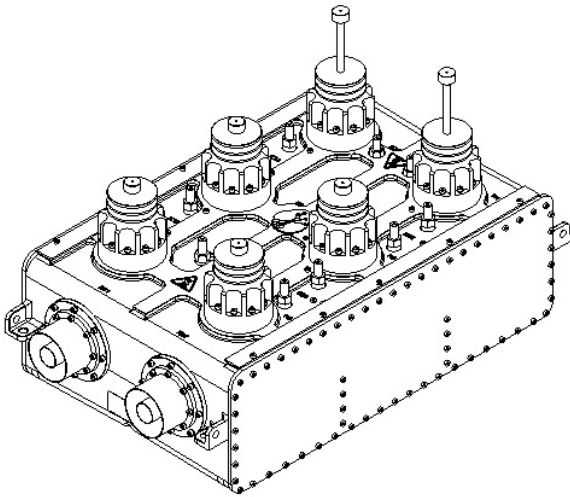


**6PPXX200E Series**

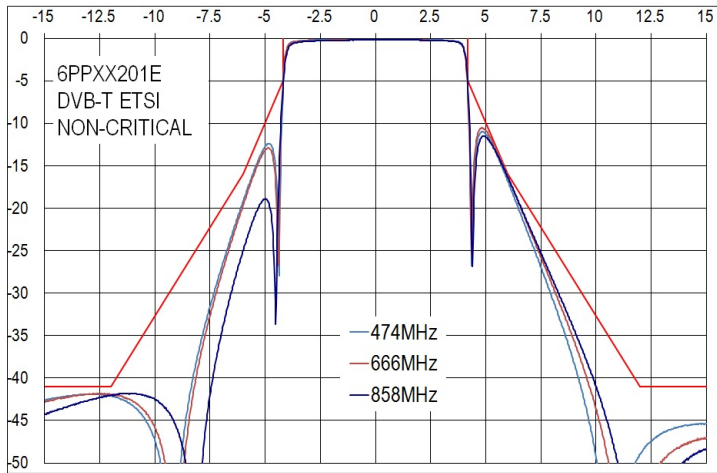
Band IV/V (UHF) PeakPower+™ bandpass filter



6PPXX200E Plan and Side Views



6PPXX200E Isometric View



Graph 1 - 6PPX200E/201E Typical Filter Response

External Document Links

[ETSI 8MHz Application Guide](#)

[ATSC Application Guide](#)

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

Notes

- Note 1. Tx intermod shoulders 37dB