

## Specifications



## FEATURES

Netcom's 5771-10 tunable filter covers the frequency range of 30MHz to 90MHz, with a 10% bandwidth.

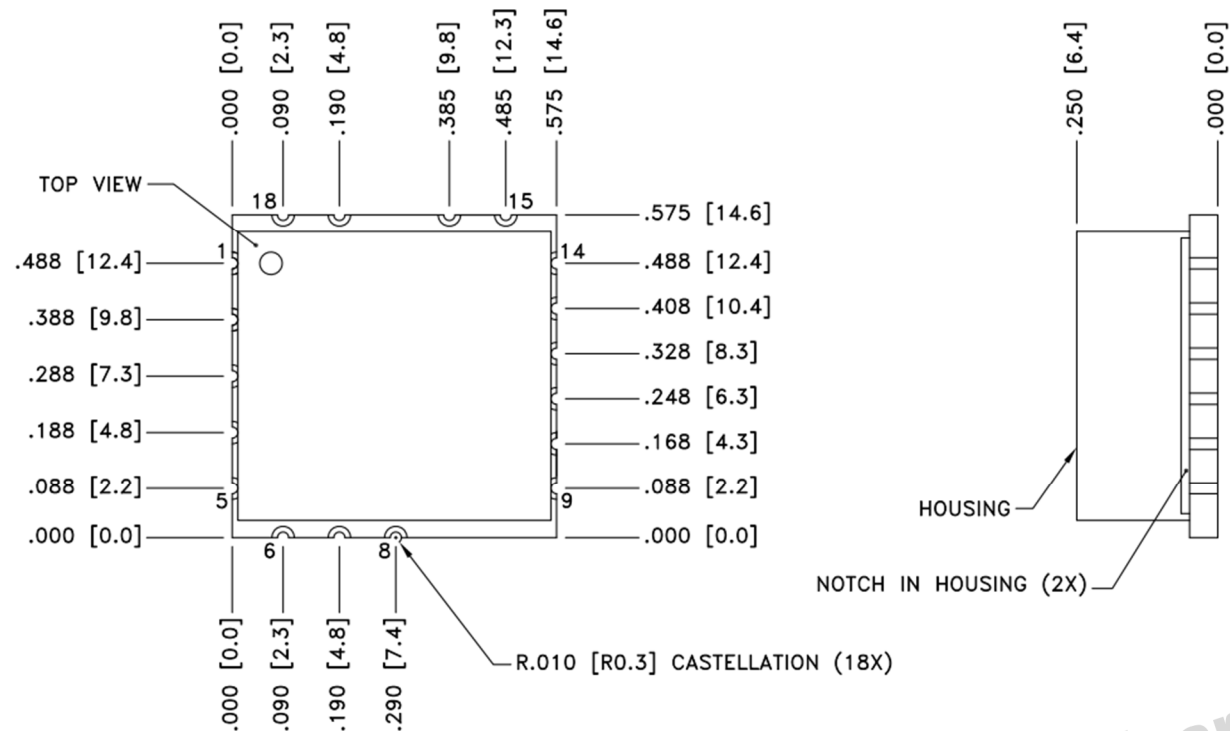
The filter is a single band tunable filter offering the advantage of small size with a control system comparable to larger size filters. The 5771-10 filter has 2 watt power handling capability.

The following table shows the typical performance of the filter.

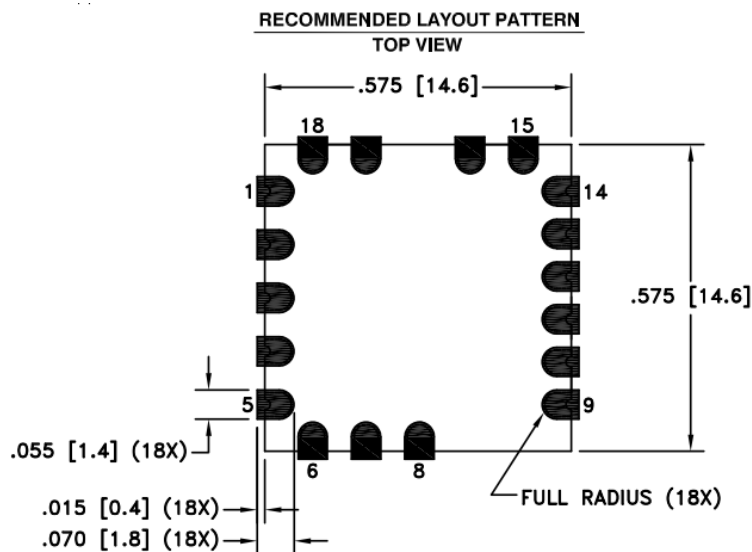
|                                    |                                                            |
|------------------------------------|------------------------------------------------------------|
| Frequency Range                    | 30 to 90 MHz                                               |
| Available BW                       | 10%                                                        |
| *Ftune +/- 10% Rejection (Typical) | < -11 dB                                                   |
| *Ftune +/- 15% Rejection (Typical) | < -17 dB                                                   |
| *Ftune +/- 20% Rejection (Typical) | < -21 dB                                                   |
| Insertion Loss (Typical)           | 4.5 dB                                                     |
| Impedance (Input /Output)          | 50 $\Omega$                                                |
| Tuning Speed                       | 10 $\mu$ s                                                 |
| Tuning Resolution*                 | 125 KHz                                                    |
| P1dB                               | +33 dBm                                                    |
| IIP3                               | +45 dBm                                                    |
| Noise Figure                       | < 0.5 dB above Insertion Loss                              |
| DC Power                           |                                                            |
| DC Voltage                         | 3.3 VDC (+0.3/-1.0 VDC)                                    |
| DC Current Max                     | 30 mA                                                      |
| Operating Temperature Range        | -40 to +85°C                                               |
| Control Interface                  | - SPI Serial Input                                         |
| Dimensions [L x W x H]             | 0.575 x 0.575 x 0.250 inches<br>14.605 x 14.605 x 6.350 mm |

\*See page 3 for details

## Mechanical



Preliminary



### NOTES:

1. TOLERANCES  $\pm 0.010$  (0.25) UNLESS OTHERWISE SPECIFIED.
2. DIMENSIONS ARE IN INCHES (mm).

| PIN DESIGNATORS |             |     |             |
|-----------------|-------------|-----|-------------|
| PIN             | Description | PIN | Description |
| 1               | RF_IN       | 10  | NC          |
| 2               | GND         | 11  | NC          |
| 3               | SPI_CLK     | 12  | TUNE_READY  |
| 4               | SPI_MOSI    | 13  | GND         |
| 5               | NC          | 14  | RF_OUT      |
| 6               | NC          | 15  | GND         |
| 7               | NC          | 16  | VCC (+3.3V) |
| 8               | NC          | 17  | SPI_CS      |
| 9               | NC          | 18  | GND         |
| NC = NO CONNECT |             |     |             |

## Serial Address Input Timing Diagram

Tuning addresses start at 240 decimal (30MHz) and end at 720 decimal (90MHz).

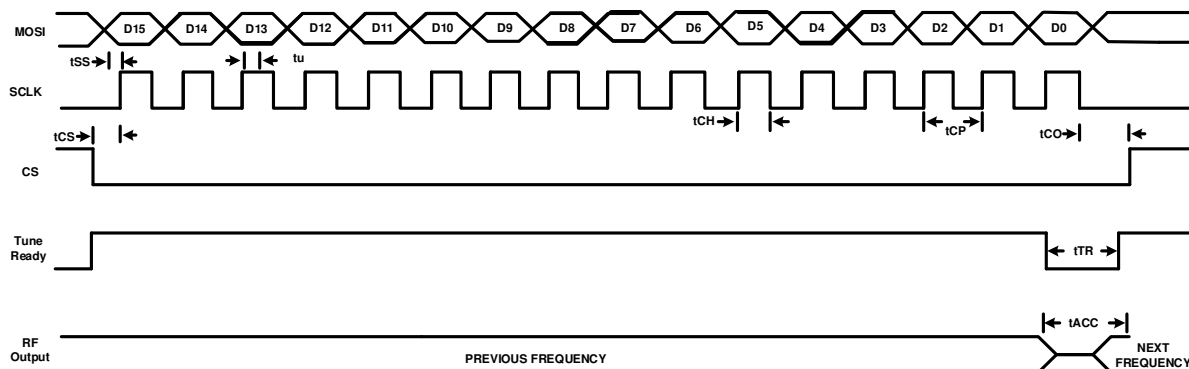
Tuning resolution is 125KHz from address 240 decimal (30MHz) to 511 decimal (63.875MHz).

Tuning resolution is 250KHz from address 512 decimal (64.000MHz) to 720 decimal (90.000MHz).

Tuning of the filter starts when the last data clock (16th) pulse of the address is sent to the unit while the CS (Chip select) is low. The filter will move to the correct tune channel which allows the tuned address frequency to pass while meeting all of the tuning parameters. In some cases the filter tune channel may not move.

| Symbol | Parameter                                       | Min | Max | Units |
|--------|-------------------------------------------------|-----|-----|-------|
| tSS    | Setup time MOSI Data to SCLK*                   | 50  |     | ns    |
| tu     | Hold Time MOSI Data From SCLK                   |     | 0   | ns    |
| tCH    | Clock High Time                                 | 125 |     | ns    |
| tCP    | Clock Period                                    | 250 |     | ns    |
| tCS    | Chip Setup Time (CS falling edge to SCLK start) | 125 |     | ns    |
| tTR    | Tune_Ready indicator***                         |     | 10  | us    |
| tACC   | Access time from Last (16th) SCLK edge to Fo**  |     | 10  | us    |

### 57XX ADDRESS PROTOCOL



\* Data clocked in on SCLK leading edge.

\*\* Filter tunes to address on last clock bit of address SCLK.

\*\*\* Tune\_Ready at logic low when filter processing tuned address.

## Environmental Specification Standards (Development stage testing)

**Temperature:** MIL-STD-810E,

- High temperature shall meet Method 501.3, Procedure I to 125°C storage, and procedure II to 85°C operating.
- Low temperature shall meet Method 502.3, Procedure I to -57°C storage, and Procedure II to -40°C operating.

**Vibration:** MIL-STD-810E Method 514.4

**Shock:** MIL-STD-810E Procedure VI, Method 516.4

**Solder Reflow:** 245°C [max] for 30 seconds [max]

## Ordering Information

| Model Number | ( - ) | Bandwidth | ( - ) | Options | Add “-EB” for Unit Mounted |    |
|--------------|-------|-----------|-------|---------|----------------------------|----|
| 5771         | ( - ) | 10        | ( - ) |         | ( - )                      | EB |

Options:

A:  
B:  
C:

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## Available Bandwidths

\*Options available upon request

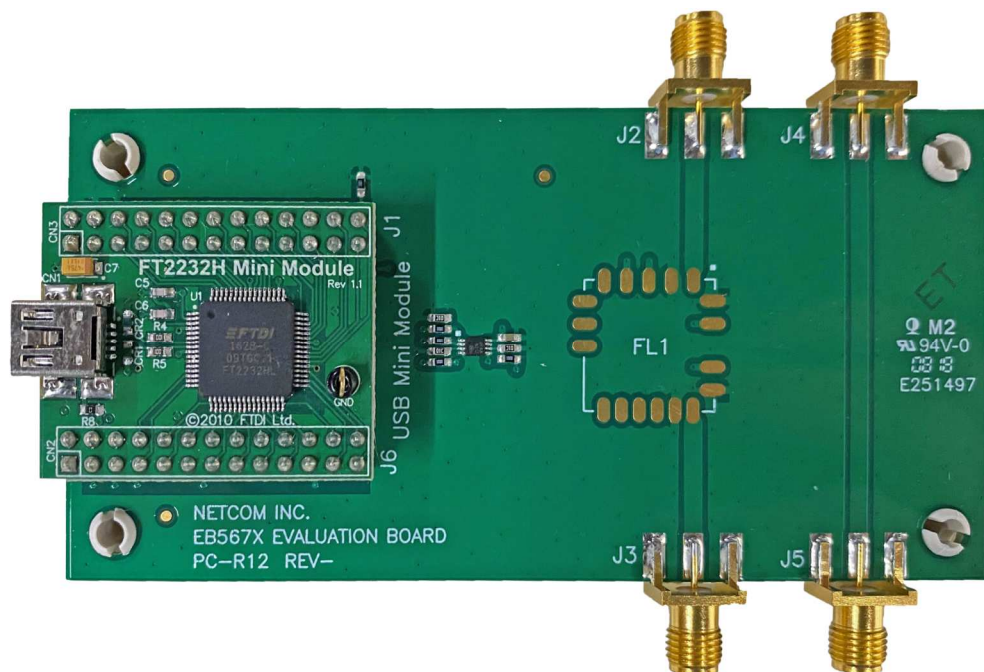
| Frequency Range                    | 30 to 90 MHz |          |
|------------------------------------|--------------|----------|
| Available BW                       | 7%           | 10%      |
| *Ftune +/- 10% Rejection (Typical) | TBD          | < -11 dB |
| *Ftune +/- 15% Rejection (Typical) | TBD          | < -17 dB |
| *Ftune +/- 20% Rejection (Typical) | TBD          | < -21 dB |
| Insertion Loss (Typical)           | TBD          | 4.5 dB   |

## Corresponding Evaluation Board

Netcom's TunePro Series Filters are tunable bandpass filters with frequency ranges from 30MHz to 2.3GHz.

The EB567X Evaluation Board is designed to test and evaluate Netcom's Model 5771 Frequency Agile Filter. The evaluation board is used to supply power to the filter, provide tuning control. Facilitate measurement of the filter's RF parameters. Switching speed and power consumption.

Tuning control of the filter is provided by the EB567X Evaluation Board in the form of frequency tuning control for the 5771 uses a USB input and user interface program to provide frequency tuning control for the 5771 Frequency Agile Filter. The EB567X Evaluation Board includes a separate RF thru path for calibration of test equipment to improve the accuracy of RF measurements.



# Preliminary

Note: Parameters subject to change



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