

## Specifications

### FEATURES

Netcom's 5670 is a tunable filter covering the frequency range of 30 MHz to 520 MHz.

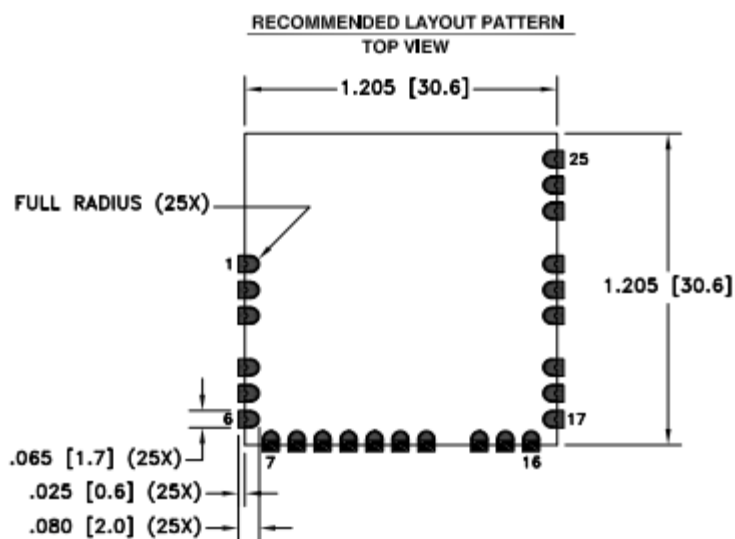
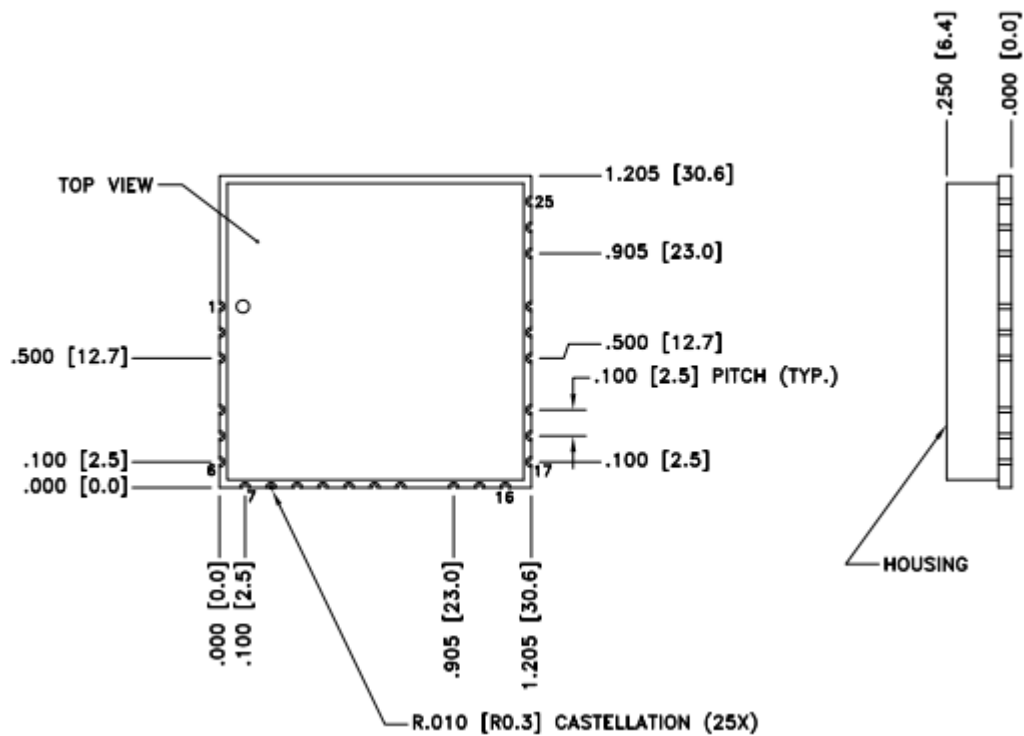
The filter has been designed using three bands of tunable filters. This tri-band filter is offered in a small integrated SMT package to support applications where compact design, power requirements, and board layout flexibility are important. It meets the vibration and shock requirements of systems used in ground-mobile and airborne environments.

The following table shows the typical performance of the filter at a bandwidth of 5% and 7%. Options are available upon request for different bandwidths.



Frequency Range	30 to 520 MHz	
Available BW	5%	7%
Ftune +/- 10% Rejection	< -23 dB	< -15 dB
Ftune +/- 15% Rejection	< -28 dB	< -22 dB
Ftune +/- 20% Rejection	< -34 dB	< -27 dB
Insertion Loss (Typical)	8.5 dB	5.0 dB
Impedance (Input /Output)	50 Ω	
Tuning Speed	< 40 μs	
Tuning Resolution	1 MHz	
P1dB	+24 dBm	
IIP3	+39 dBm	
DC Power		
DC Voltage	3.3 VDC +/- 0.3 VDC	
DC Current Max	30 mA	
Operating Temperature Range	-40 to +85°C	
Control Interface	SPI Serial Input	
Dimensions	1.2 x 1.2 x 0.25 inches	

# Mechanical

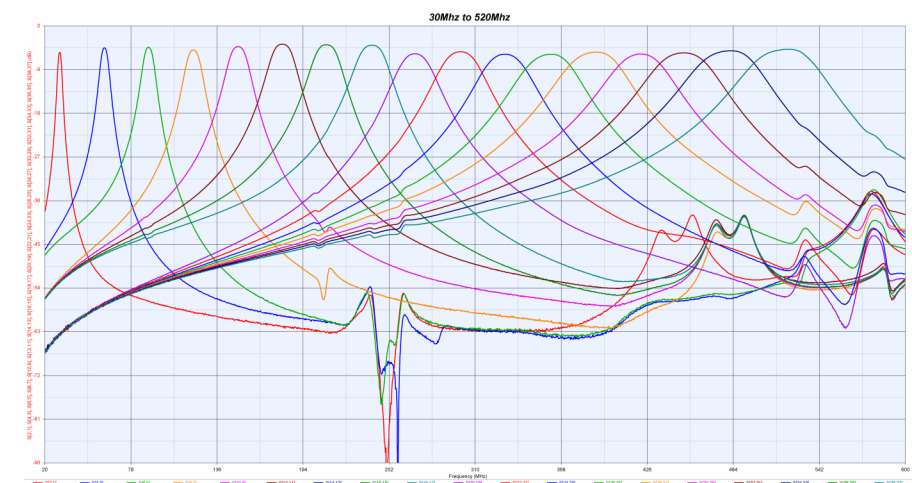


- NOTES:**
1. TOLERANCES  $\pm 0.010$  [0.25] UNLESS OTHERWISE SPECIFIED.
  2. DIMENSIONS ARE INCHES [mm].

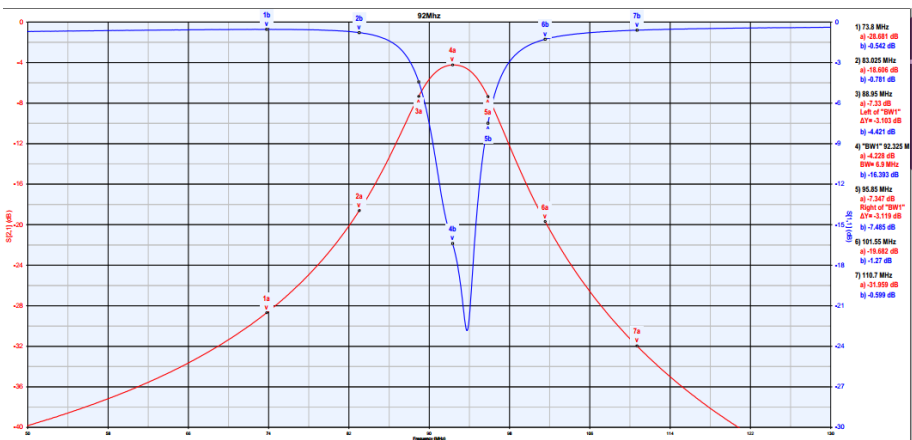
PIN DESIGNATORS			
PIN NUMBER	DESCRIPTION	PIN NUMBER	DESCRIPTION
1	GND	14	GND
2	RF_IN	15	SPI_CLK
3	GND	16	SPI_MOSI
4	GND	17	SPI_CS
5	NC	18	NC
6	NC	19	GND
7	TUNE_READY	20	GND
8	NC	21	RF_OUT
9	NC	22	GND
10	NC	23	GND
11	NC	24	VCC (+3.3V)
12	NC	25	GND
13	GND		

# Sweep Response

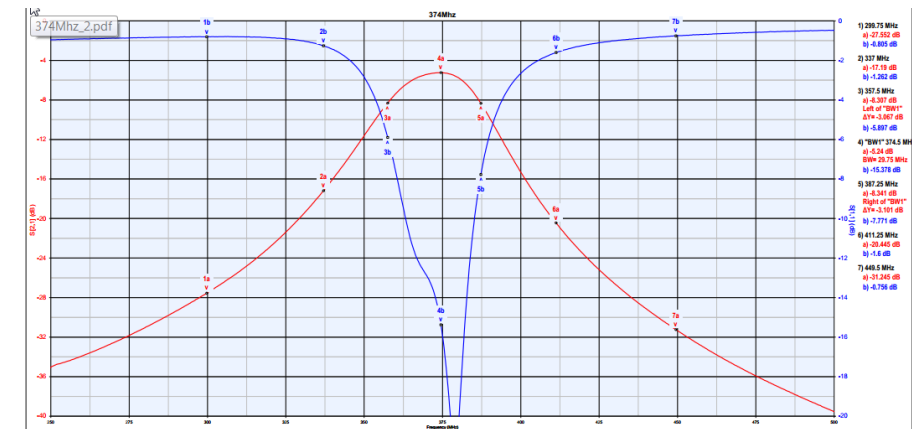
30MHz to 520MHz



92MHz

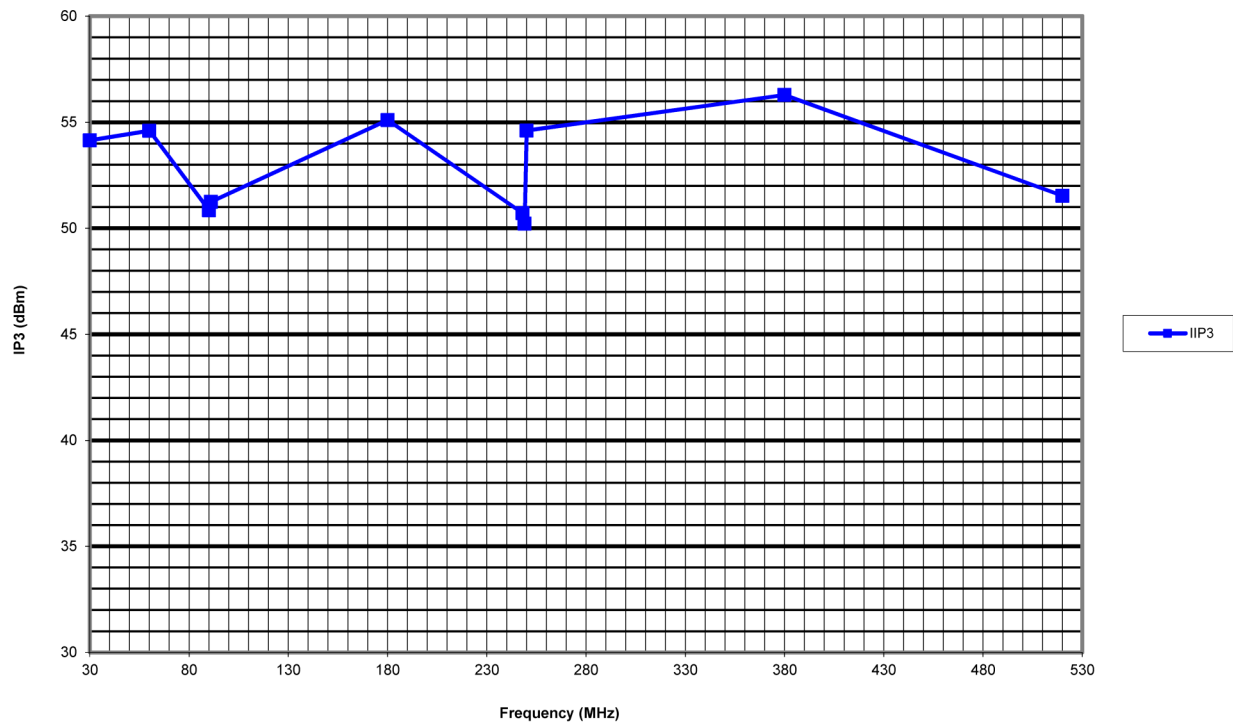


374MHz

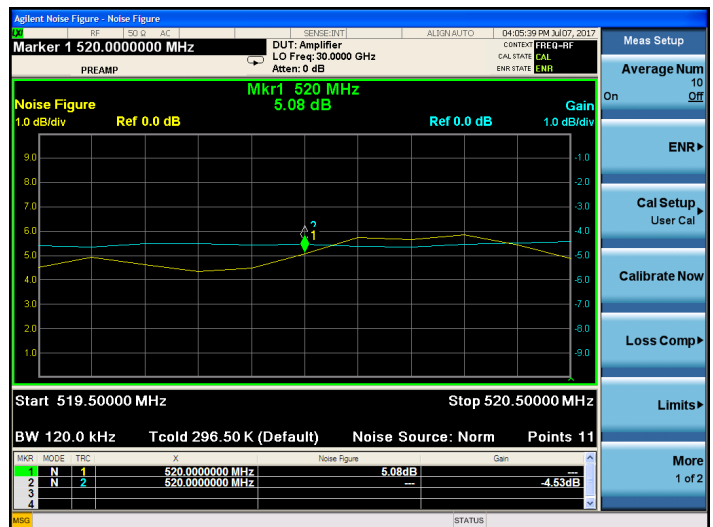
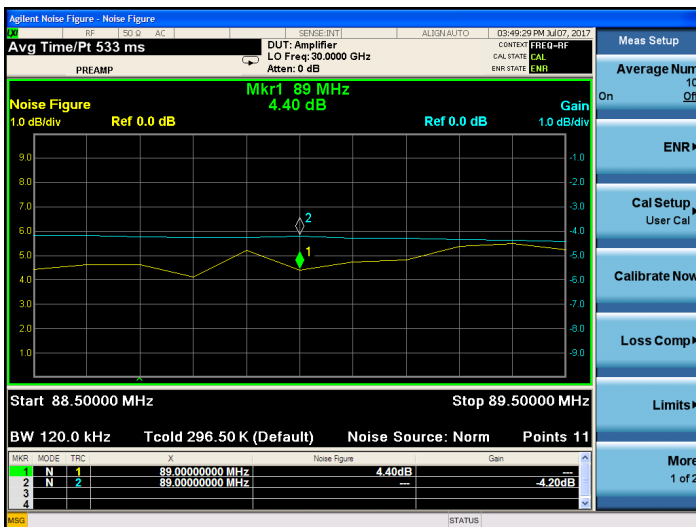


# IP3

IP3 Data



## Noise Figure and Gain (Insertion Loss)



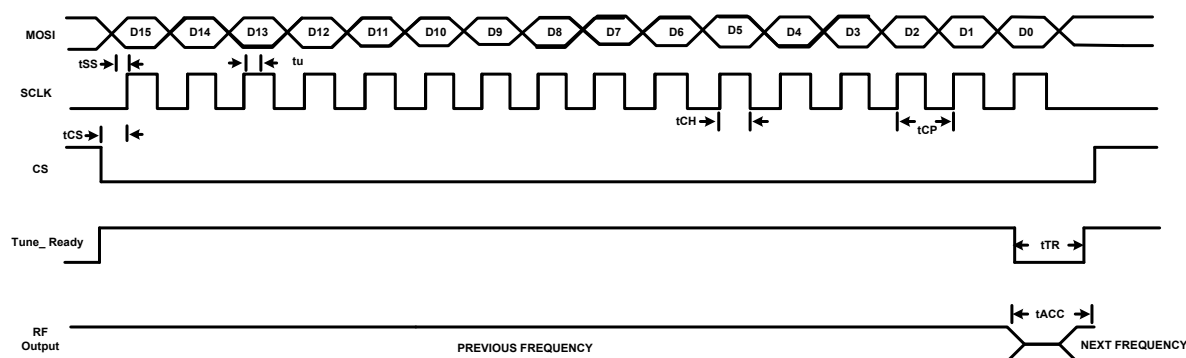
# Serial Address Input Timing Diagram

Tuning addresses start at 30 decimal (30MHz) and end at 520 decimal (520MHz) in 1MHz increments. 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***		35	us
tACC	Access time from Last (16th) SCLK edge to Fo**		35	us

## 56XX 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

## **Temperature:**

- High temperature shall meet MIL-STD-810E, Method 501.3, Procedure I to 125°C storage, and procedure II to 85°C operating.
- Low temperature shall meet MIL-STD-810E Method 502.3, Procedure I to -57°C storage, and Procedure II to -40°C operating.

## **Vibration:**

- MIL-STD-810E Method 514.4

## **Shock:**



# Notes



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