

Specifications



FEATURES

Netcom's 5693-10 tunable filter covers the frequency range of 520MHz to 1.35GHz.

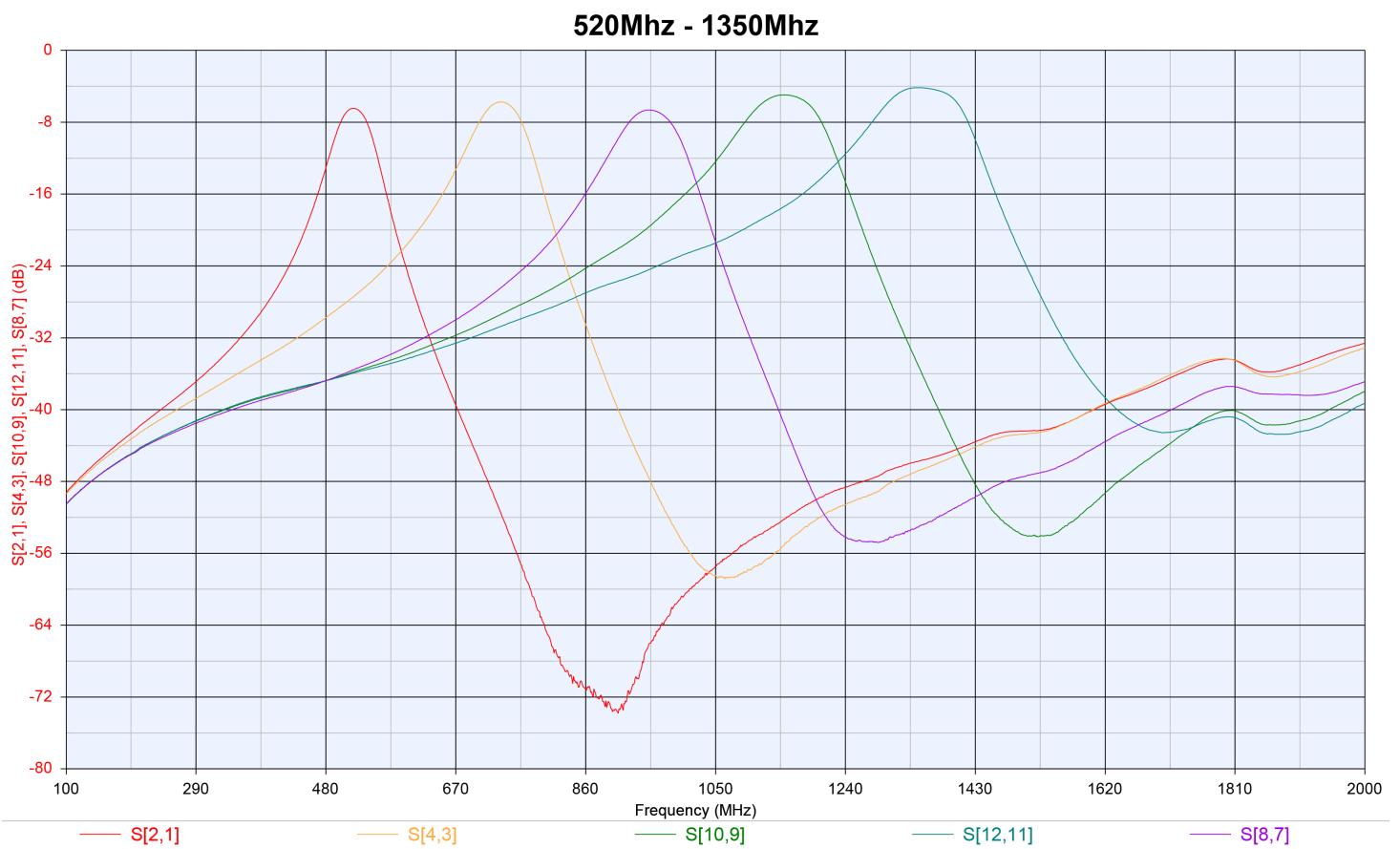
The filter is a dual band tunable filter offering the advantage of small size with a control system comparable to larger size filters.

The following table shows the typical performance of the filter.

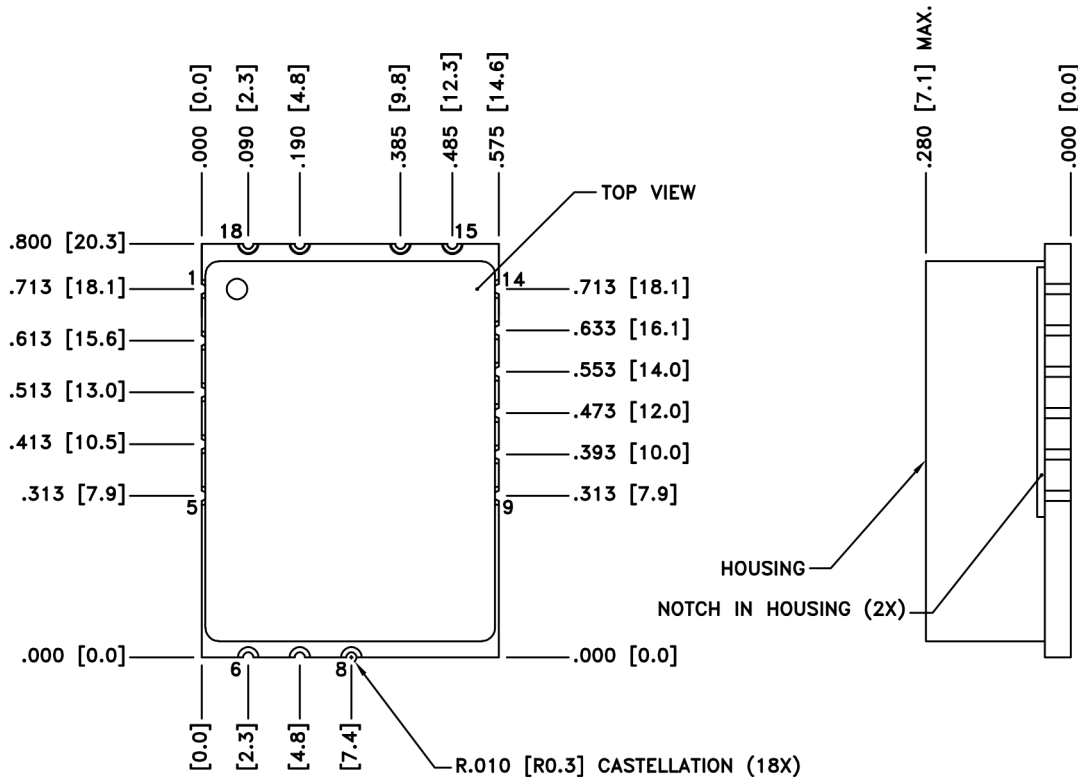
Frequency Range	520MHz to 1.35GHz
BW (Typical)	10.0%
Impedance (Input /Output) - Typical	50 Ω
Ftune +/- 10% Rejection	< -11dB
Ftune +/- 15% Rejection	< -15dB
Ftune +/- 20% Rejection	< -18dB
Tuning Speed	< 10 μs
Insertion Loss (Typical)	5.5dB
Tuning Resolution*	1MHz
P1dB	+30dBm
Maximum Power Handling	+33dBm
IIP3	+45dBm
DC Power - Typical Max	3.3 Volts 30 mA
Operating Temperature Range	-40 to +85°C
Control Interface	Serial Input
Dimensions [L x W x H]	0.800 x 0.575 x 0.280 inches 20.320 x 14.605 x 7.112 mm

*See page 3 for details

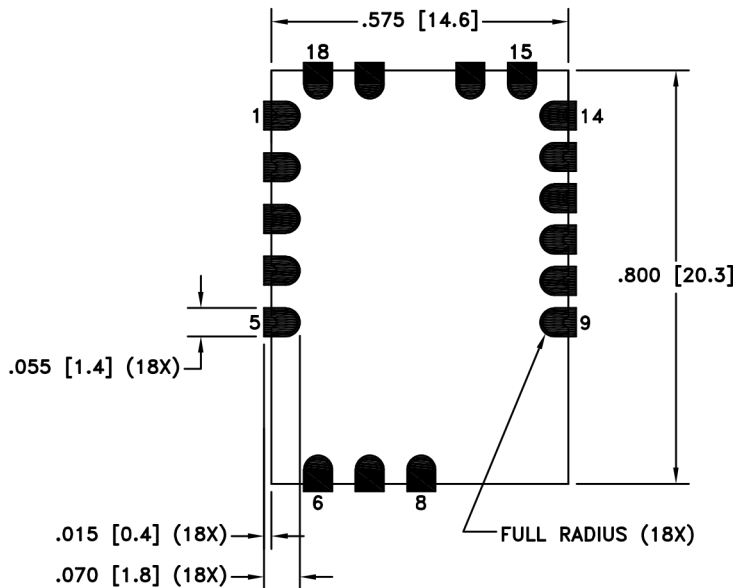
Frequency Response



Mechanical



RECOMMENDED LAYOUT PATTERN
TOP VIEW



- NOTES:
1. TOLERANCES ± 0.010 [0.25] UNLESS OTHERWISE SPECIFIED.
 2. DIMENSIONS ARE INCHES [mm].

PIN DESIGNATORS

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

NC = NO CONNECT

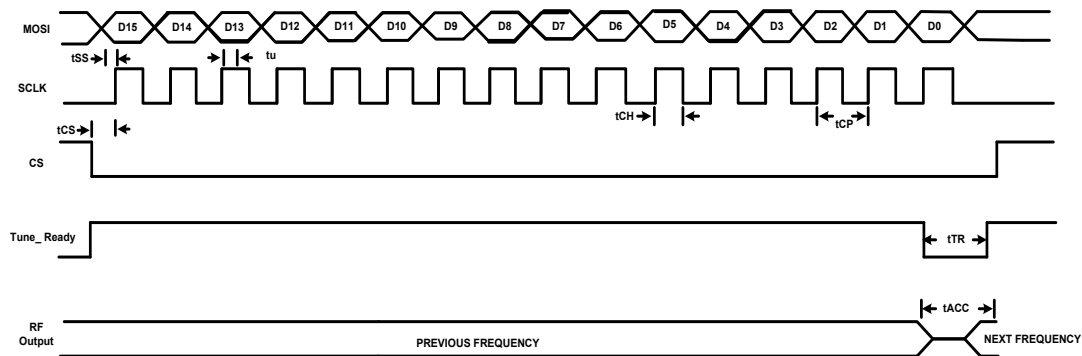
Serial Address Input Timing Diagram

Tuning resolution is 1MHz from address 520 decimal (520MHz) to 1350 decimal (1350MHz).
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

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.

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 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]

MSL (Moisture Sensitivity Level):

- Level 3

Ordering Information

Model Number	(-)	Bandwidth	(-)	Options	Add "-EB" for Unit Mounted	
5693	(-)	10	(-)		(-)	EB

Options:

- A:
- B:
- C:

Available Bandwidths

*Options available upon request
 Bandwidth options are available in increments of 1% step size

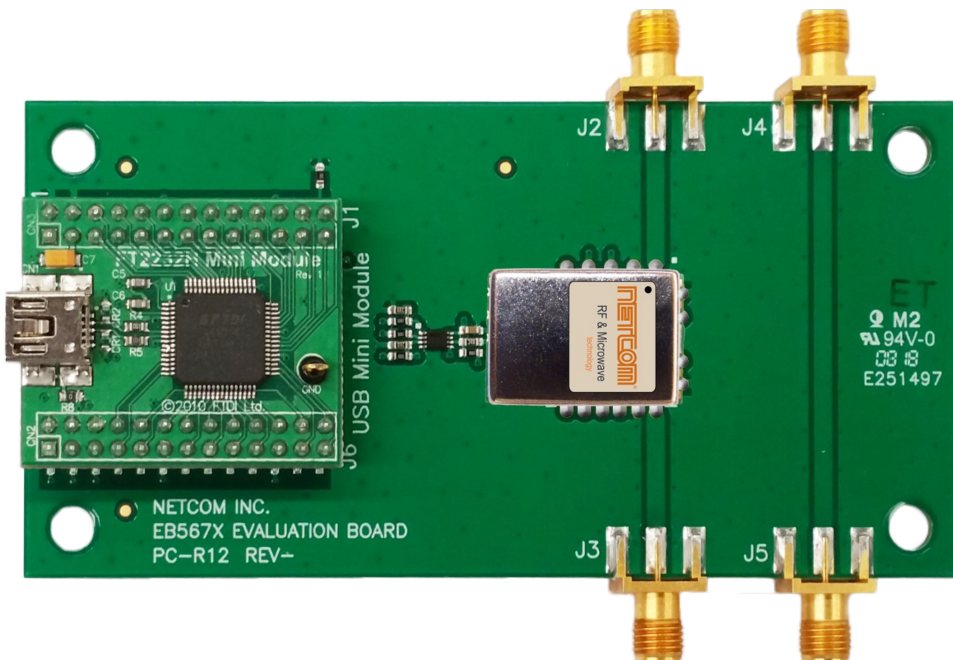
Frequency Range	520 to 1350 MHz		
Available BW	5%	7%	10%
*Ftune +/- 10% Rejection (Typical)	TBD	TBD	< -11 dB
*Ftune +/- 15% Rejection (Typical)	TBD	TBD	< -15 dB
*Ftune +/- 20% Rejection (Typical)	TBD	TBD	< -18 dB
Insertion Loss (Typical)	TBD	TBD	5.5 dB

Corresponding Evaluation Board

Netcom's TunePro2 Series Filters are tunable bandpass filters with frequency ranges from 1.1MHz to 1.85GHz.

The EB567X Evaluation Board is designed to test and evaluate Netcom's Model TunePro2 series and the 5693 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 5693 which uses a USB input and user interface program to provide frequency tuning control for the 5693 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.



Note: Parameters subject to change

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