



Specifications

FEATURES

Netcom's 5702 is a tunable filter covering the frequency range of 1.5MHz to 30MHz.

The filter has been designed using three bands of tunable filters. This tri-band filter is offered in a mechanical package to support applications where compact design, power requirements, and mechanical installation 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 5.3%. Options are available upon request for different bandwidths.

Frequency Range	1.5 to 30 MHz
BW (Typical)	5.3%
Impedance (Input /Output) - Typical	50 Ω
$F_c \pm 10\%$ Selectivity - Typical	< -19dBc
2F _c	< -60dBc
Tuning Speed	< 200 μ s
Insertion Loss Typical	3.5 dB
Insertion Loss Max	4.5 dB
Return Loss Min	8.5 dB
Tuning Channels	
1.5MHz- 4MHz	250
4.0MHz- 10MHz	249
10MHz- 30MHz	249
RF Input Power (P1dB)	
1.5MHz to 4MHz	20dBm
4MHz to 10MHz	27dBm
10MHz to 30MHz	28dBm
In Band Power Handling Max	30dBm
Out of Band Power Handling	33dBm
IP3	
1.5MHz to 4MHz	31dBm
4MHz to 10MHz	38dBm
10MHz to 30MHz	39dBm
Vcc Range	6.0V to 15.0V
DC Current Max	275mA
Operating Temperature Range	-40 to +85°C
Control Interface	SPI Interface
Dimensions [L x W x H]	5.50 x 4.00 x 1.966 inches 139.70 x 101.60 x 49.92 mm

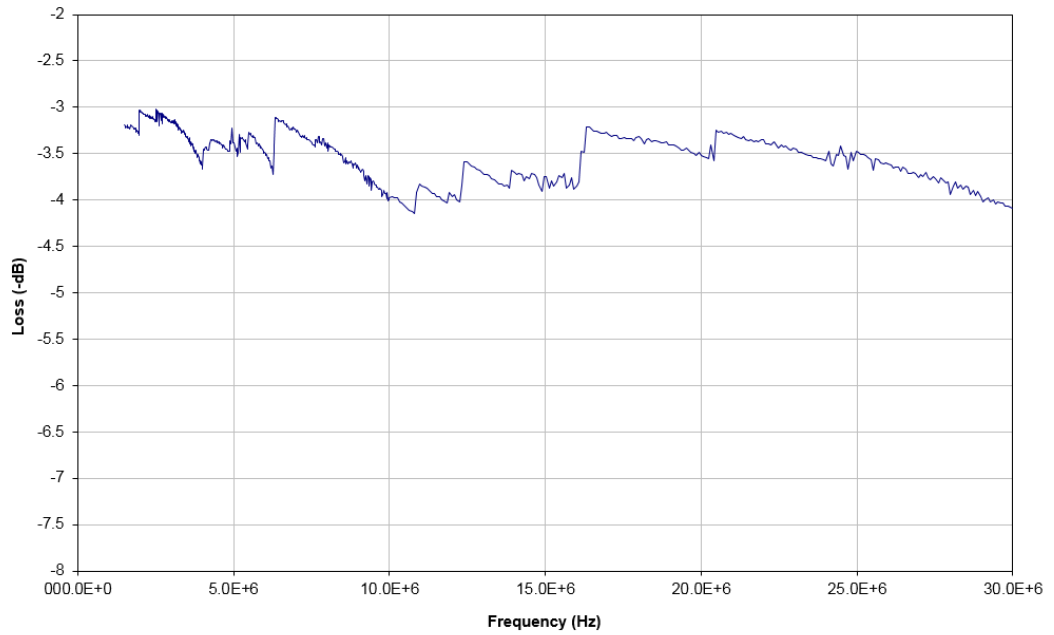
Performance

Date: 01/12/2021
Time: 15:55
Operation: Room-Verify

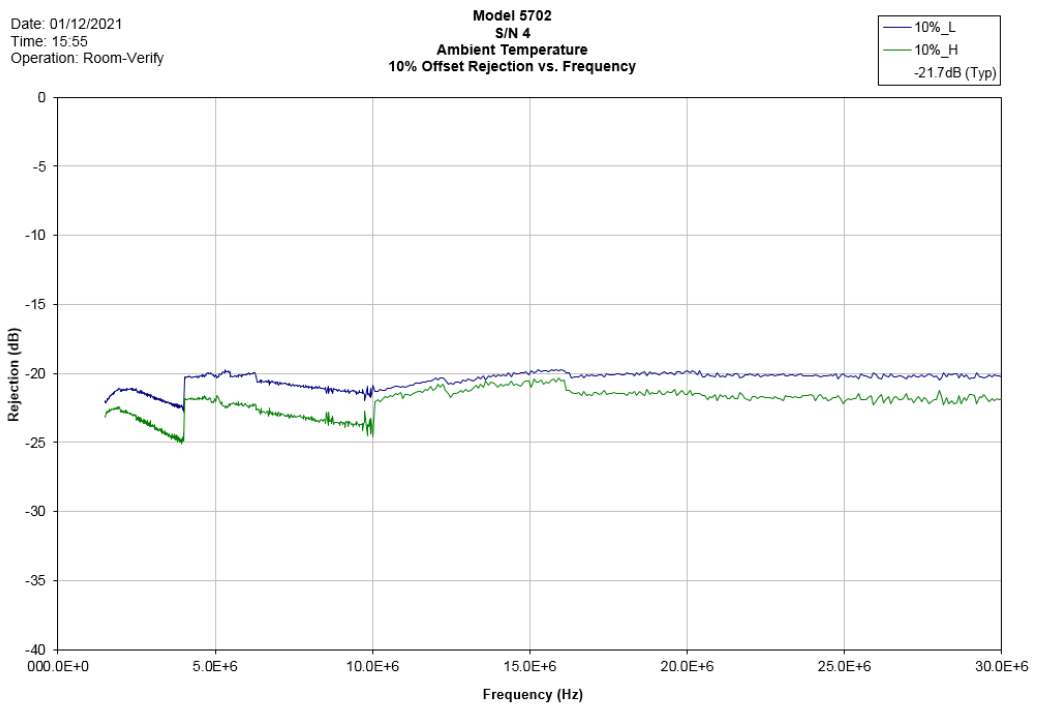
Model 5702
S/N 4
Ambient Temperature
Insertion Loss vs. Frequency

IL
-3.4 dB (Typ)

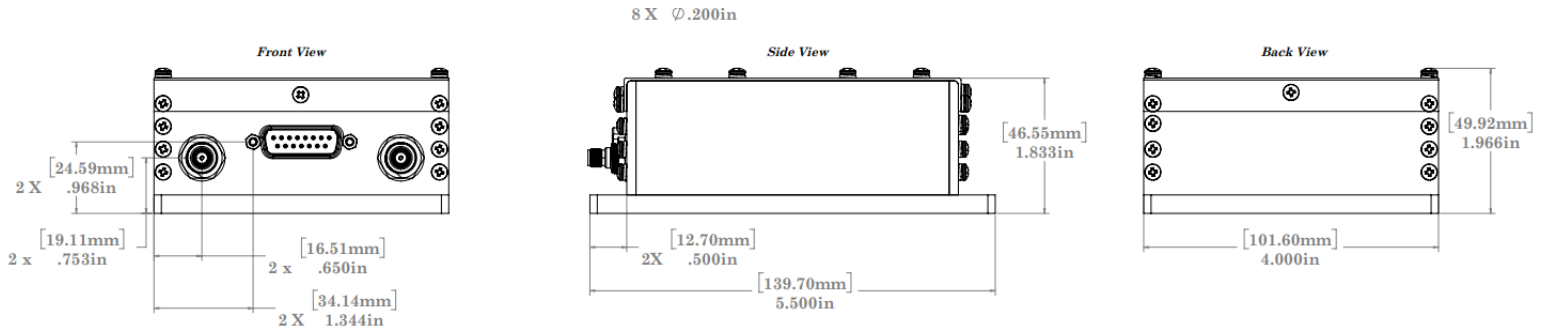
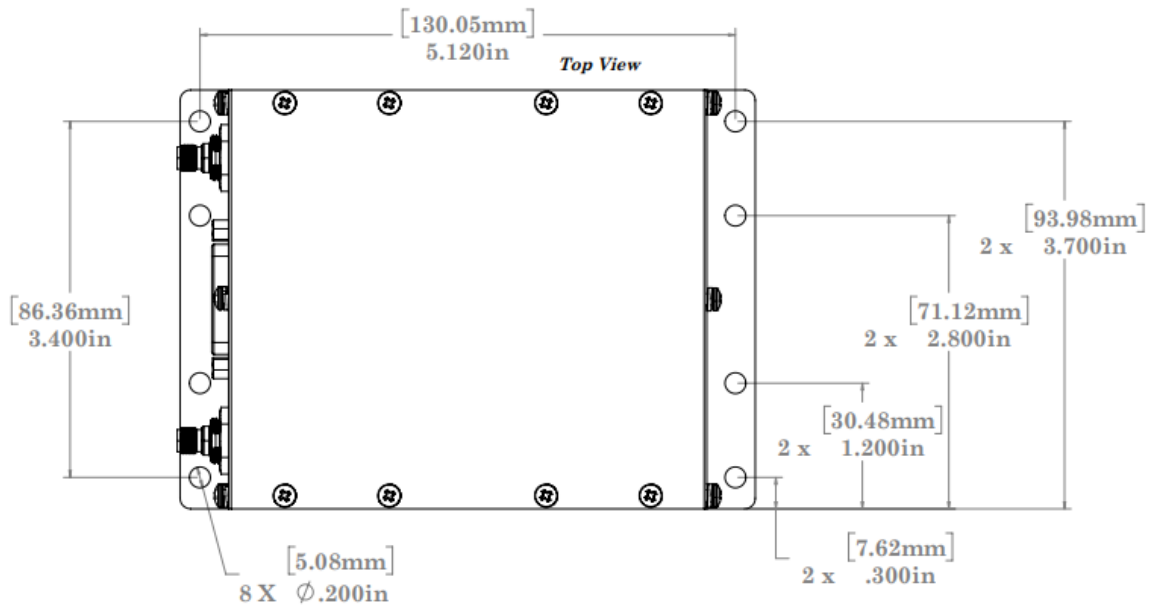
Insertion Loss



10% Rejection



Mechanical



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

Connector Pin Out (DB15 Male)

PIN DESIGNATORS	
PIN NUMBER	DESCRIPTION
1	TUNE_READY
2	NC
3	NC
4	NC
5	NC
6	NC
7	GND
8	VCC (6V to 15V)
9	GND
10	NC
11	GND
12	GND
13	SPI_CS
14	SPI_SCLK
15	SPI_MOSI

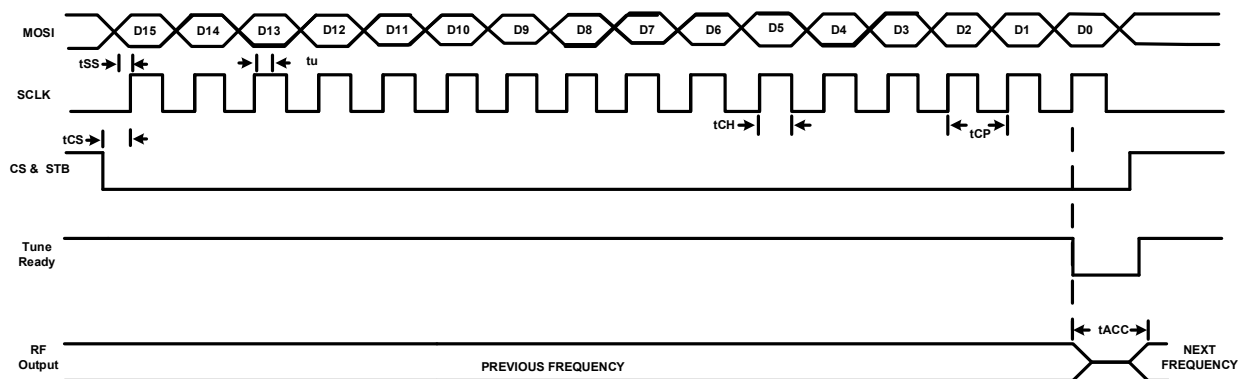
Serial Address Input Timing Diagram

When the SPI_CS line is shifted low, the Tune_Ready line will go high indicating the unit is ready to accept the tune word. Tuning of the filter starts when the last data clock (16th) pulse of the address is sent to the unit while the SPI_CS (Chip Select) is low. While the filter is processing the tune word request, The Tune_Ready Line will be low. When the filter tuning is complete the Tune_Ready line will go high to indicate the filter tuning is complete. Reset the SPI_CS line high after sending the 16th clock bit to allow the unit to reset after the filter tuning is complete.

Note: Monitoring of Tune_Ready line is not required.

Symbol	Parameter	Min	Max	Units
tSS	Setup time MOSI Data to SPICLK	50		ns
tu	Hold Time MOSI Data From SPICLK		0	ns
tCH	Clock High Time	125		ns
tCP	Clock Period	250		ns
tCS	Chip Setup Time (CS falling edge to SPICLK start)	125		ns
tTR	Tune_Ready indicator		200	us
tACC	Access time from Last (16th) SPICLK edge to Fo		200	us
	Maximum Hop Rate Tune Frequency to next Tuned Frequency		500	Hz

5702 SERIAL ADDRESS PROTOCOL



Bit Map

Band Switch Byte								Address Byte							
D15 MSB	D14	D13	D12	D11	D10	D9	D8	D7	D6	D5	D4	D3	D2	D1	D0 LSB
0	0	0	0	0	0	B1*	B0*	Filter Tune Address**							

* Refer to Band Switch Table for B1 and B0 codes of Band Switch Byte.

** Refer to Address Table for selected band start and end addresses.

Band Switch Table

Band	B1	B0	Frequency Range
1	0	0	1.50MHz – 4.00MHz
2	0	1	4.02MHz – 10.00MHz
3	1	0	10.08MHz – 30.00MHz
Illegal Selection	1	1	Do Not Select

Address Table

Band	Start Address	End Address	Frequency Range	Step Size
1	0	250	1.50MHz – 4.00MHz	10.00KHz
2	0	249	4.02MHz – 10.00MHz	24.02KHz
3	0	249	10.08MHz – 30.00MHz	80.00KHz

Environmental Specification Standards

Temperature:

- High temperature shall meet MIL-STD-810E, Method 501.3, Procedure I to 85°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 Ground Mobile Test Procedure I, Test Condition I - 3.4.7

Shock:

- MIL-STD-810E Procedure I, Method 516.4 - Functional Shock.

Reflow:

- None

MSL (Moisture Sensitivity Level):

- Level 0

Note: Parameters may be subject to change



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REVISION CONTROL

Date (if applicable)	REV. (if applicable)	Notes / Changes
01122021	N/A	*Initial Cutsheet
01142021	N/A	Updated band switch and address table, added unit photo to first page.
02172021	N/A	Cleaned up aesthetics.

DO NOT PRINT