

SAX103 / 103E-1

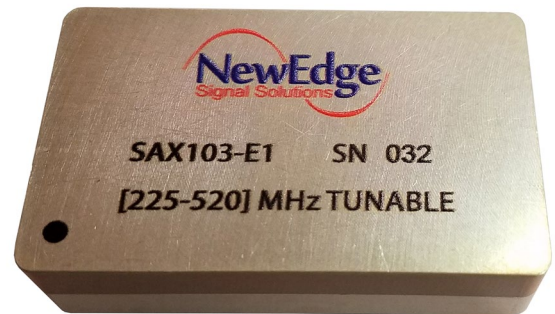
[225 – 520] MHz Tunable Bandpass Filter

Application

The SAX103 electronically tunable bandpass filter is designed for Tactical Communications Applications using binary weighted digital tunable capacitor arrays to cover greater than an octave bandwidth.

Features

- Full Tactical Communications band resolutions
- Low insertion loss
- High power 4W operation
- Fast tuning across band to 1.18 MHz resolution
 - E-1 version .59 MHz resolution
- Convenient 8-bit digital control
 - E-1 version 9-bit control
- Custom designs and specification levels available



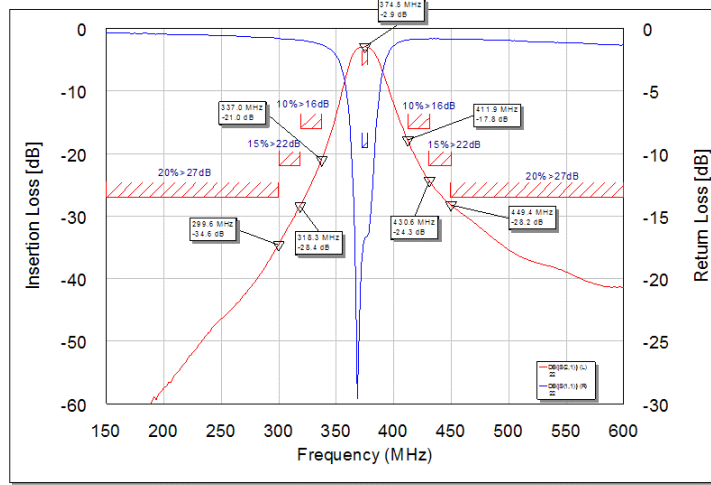
Specifications

Mechanical	Dimensions	[2.3 x 1.4 x 0.6] inches
RF Power Handling	P0.1dB	+36 dBm
Filter Performance	Tuning Range	[225 – 520] MHz
	Bandpass Bandwidth	fc +/- 2.5 MHz
	Insertion Loss @ fc	< 3.5 dB [2.7 dB typ]
	Bandpass VSWR	< 2:1
	Rejection	Ftune +/- 10% > 16 dB
		Ftune +/- 15% > 22 dB
		Ftune +/- 20% > 27 dB
		30 MHz to 0.5*Ftune > 38 dB
		[2*Ftune to 750] MHz > 35 dB
		[750 – 1200] MHz > 25 dB
		[1200 – 2000] MHz > 15 dB
Control & Interface	Tuning Control	8 bit parallel
	DC Power	+5Vdc @ < 260 mA. [110 mA typ]
	Tuning Speed	= 30 μs
	Strobe Rate	2 KHz max. [0.5mS max]
	Strobe Pulse Width	20nS
	Tuning Algorithm	Tune Word = (Ftune -225)/1.18 = (Ftune -225)/0.59 (E1)

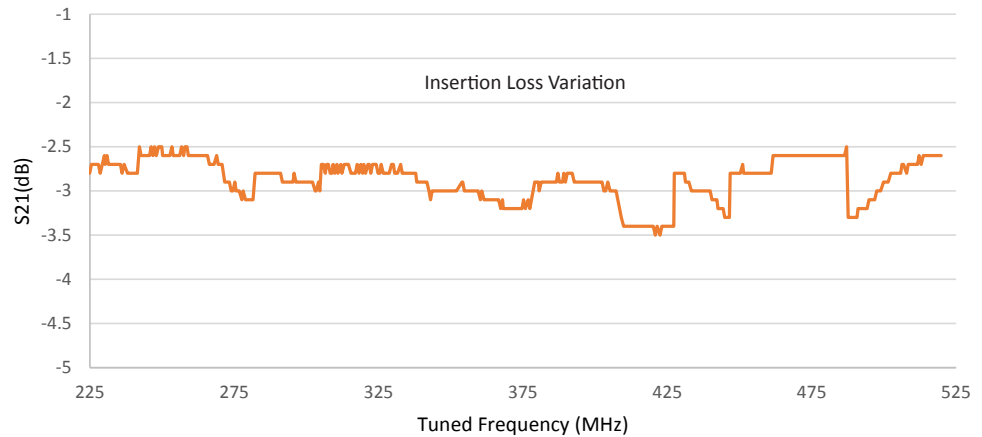
Ordering Information

Version	Part Number
1.18 MHz Tuning Step Size/8 bit Digital Control	SAX 103
.59 MHz Tuning Step Size/9 bit Digital Control	SAX103-E1

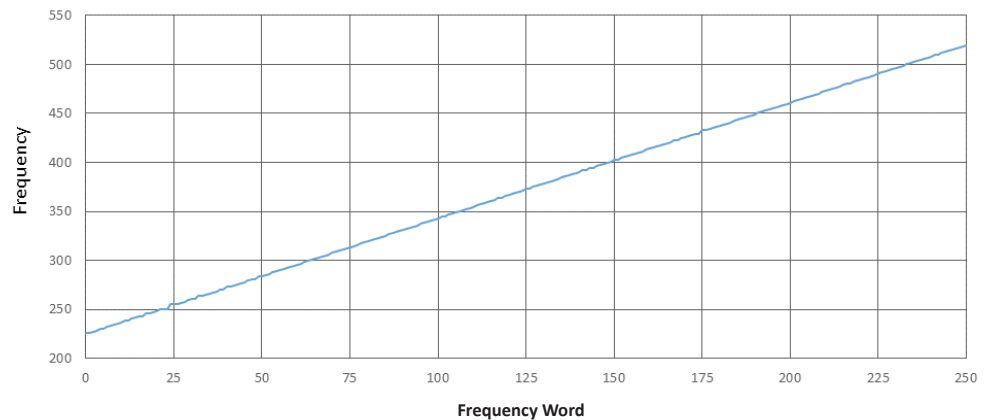
SAX103 Filter Shape



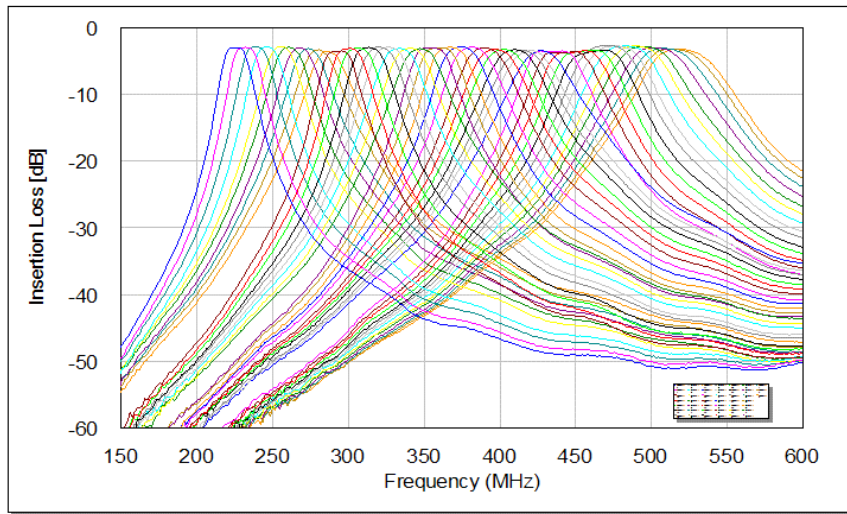
SAX103 Bandpass Insertions per Frequency Word



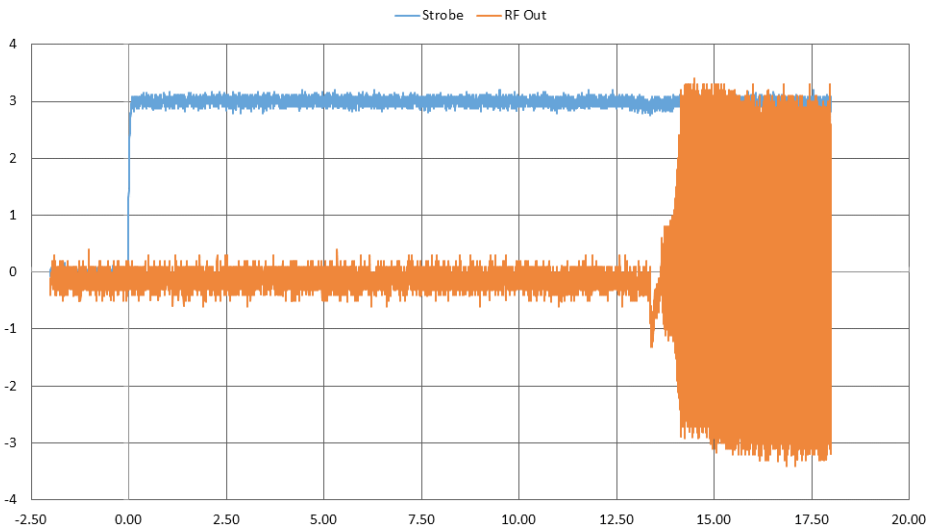
SAX103 Tuning Accuracy



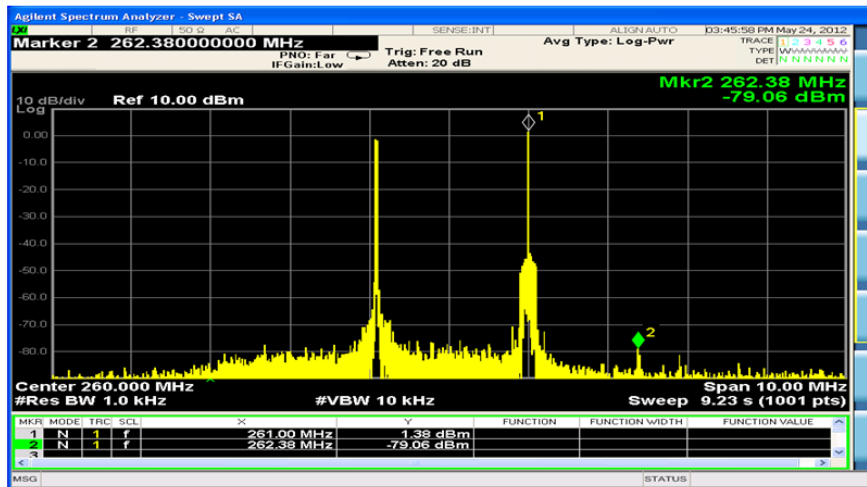
SAX103 Insertion Loss vs Frequency

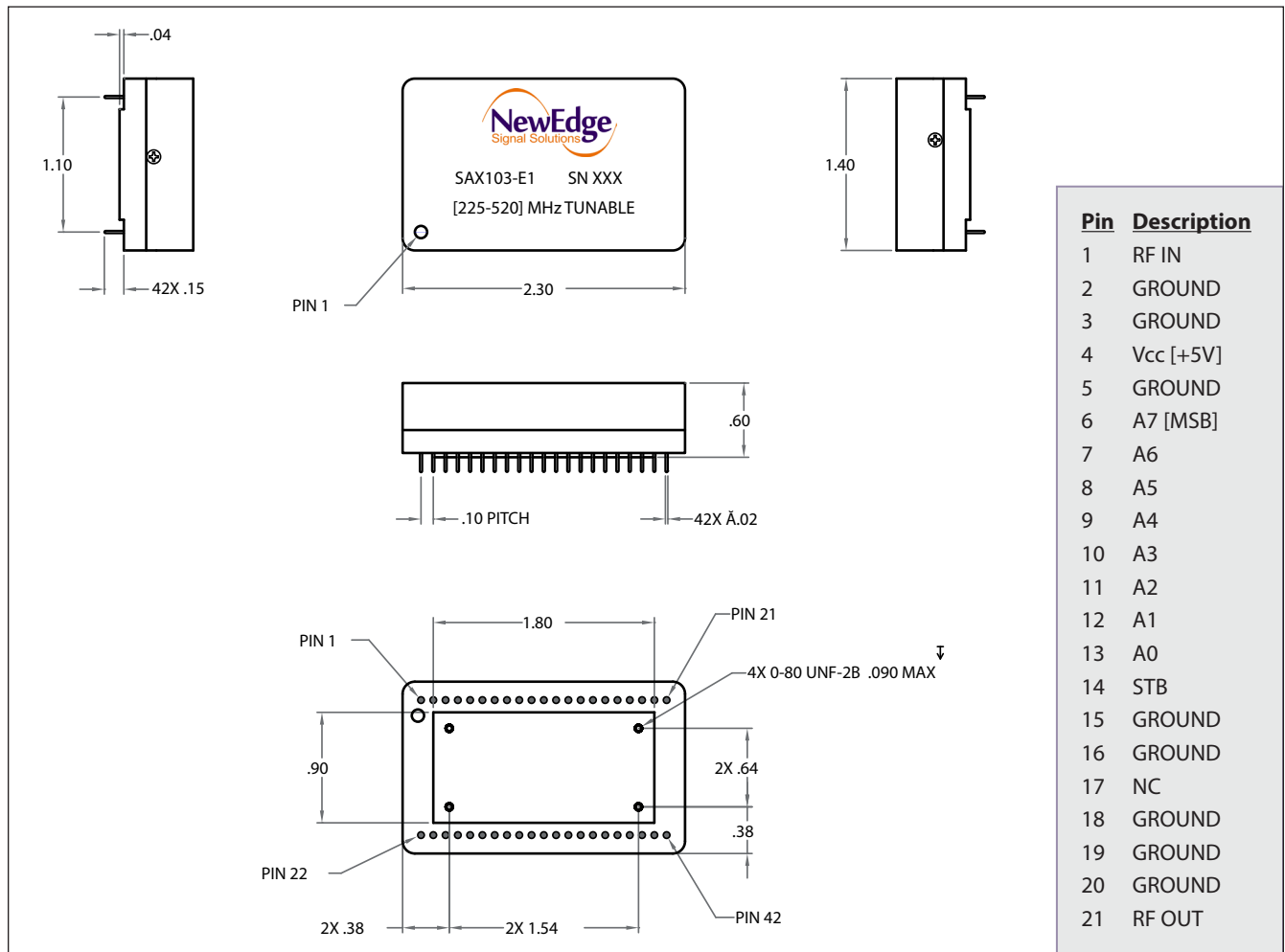


SAX103 Switching Speed Information



SAX103 Input IP3 Measurements





Disclaimer

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