

SAX271-F1

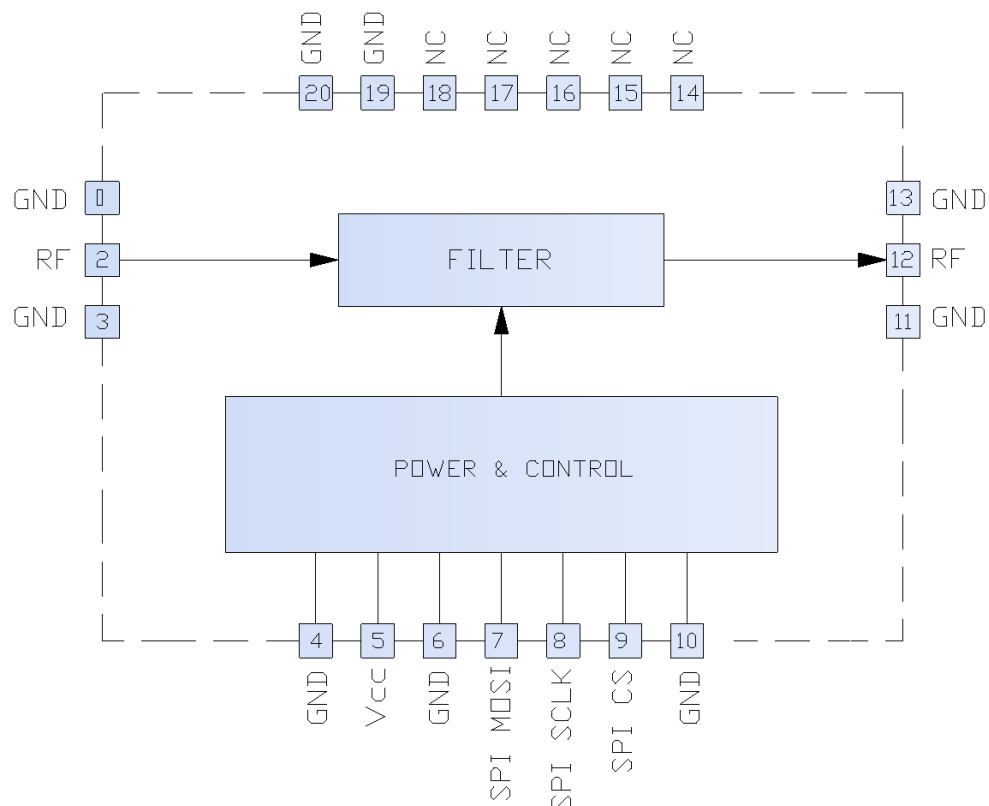
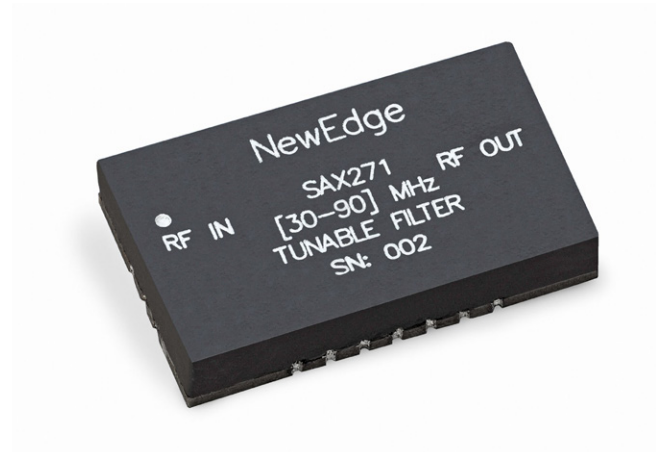
[30 – 90] MHz Tunable Bandpass Filter

Features

- 5W CW Continuous Power Handling
- Low Insertion Loss [4.6dB typ]
- 20dB [typ] Selectivity @ $f_c \pm 15\%$
- DC Power +5.0V @ < 25mA
- Peak Power 10W for 5usec
- Serial Control Interface

Application

- Military Radios
- Military Radar
- SATCOM
- Test and Measurement

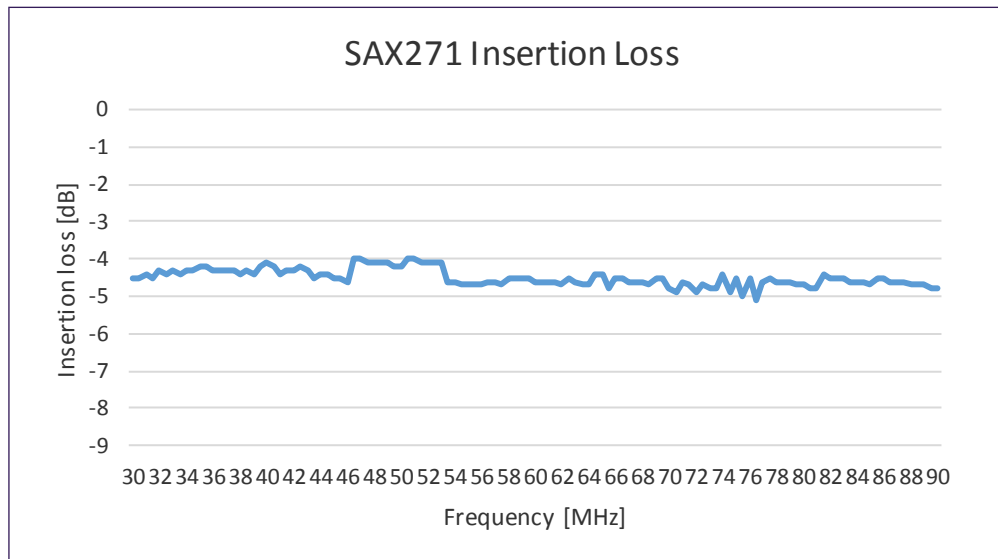


Specifications

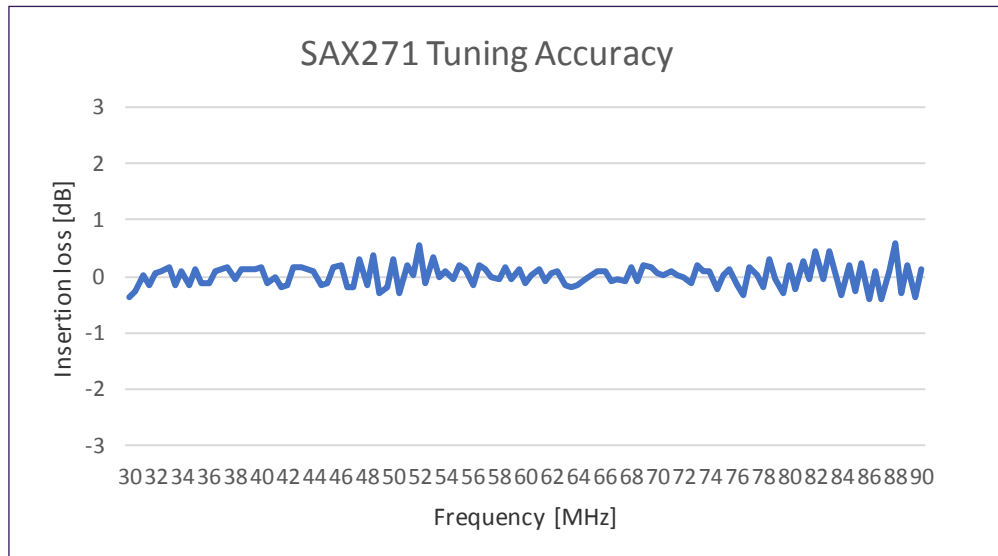
Parameter	Specification	Min	Typ	Max	Units
Tunable Frequency Range	–	30	–	90	MHz
Input / Output Impedance	–	–	50	–	Ohms
Return Loss	[30-90] MHz	9.54	15.56	–	dB
Insertion Loss	[30-90] MHz	–	4.6	5.2	dB
Rejection	Fc +/- 15 %	–	20	–	dB
	Fc +/- 20 %	–	25	–	dB
	[2*Ftune40 to 250] MHz	40	–	–	dB
Tuning Time	Time to switch from one frequency word to the next	–	35	50	µs
Tuning Step Size	[30-90] MHz	–	0.5	–	MHz
Supply Voltage	Vcc	+4.9	+5.0	+5.1	V
Supply Current	Current for Vcc		18	25	mA
Tuning Control	SPI	–	–	–	–
P1dB	[30 - 90] MHz	–	–	37	dBm
Peak Power Handling	Max. Input Power for 5usec duration	–	–	10	W
Dimensions	[1.30 x 0.75 x 0.25]	–	–	–	inch
Vibration	Vehicular to MIL_STD_810G Method 514.6 Jet Fighter to MIL_STD_810F Method 514.5G	–	–	–	–

Pin No.	Label	Description, Conditions
1, 3, 4, 6, 10, 11, 13, 15, 20	GND	Digital and Analogue Ground
2, 12	RF IN / RF OUT	RF Input Signal / RF Output Signal
5	Vcc	Input Supply Voltage, +5.0V +/- 0.2V
7	SPI MOSI	Serial Tune Interface Master Out Slave Input
8	SPI CLK	Serial Tune Interface Clock. Data is latched onto the rising edge.
9	SPI CS	Serial Tune Chip Select
14, 16, 17, 18, 19	NC	Do Not Connect. Factory Use Only

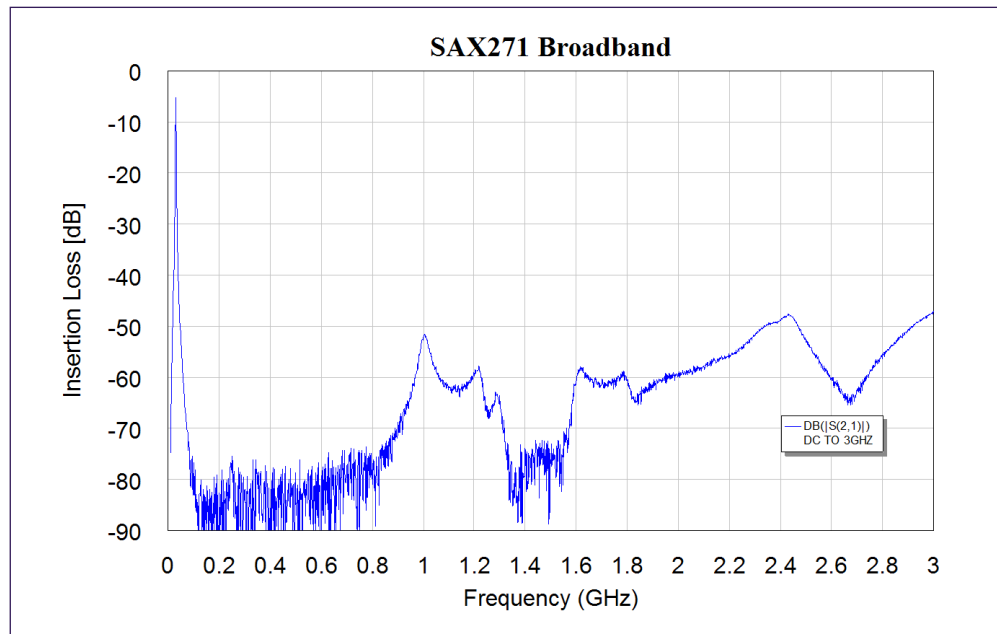
Passband Insertion Loss: 4.6dB typ.



Frequency Accuracy: Step Size 0.5MHz

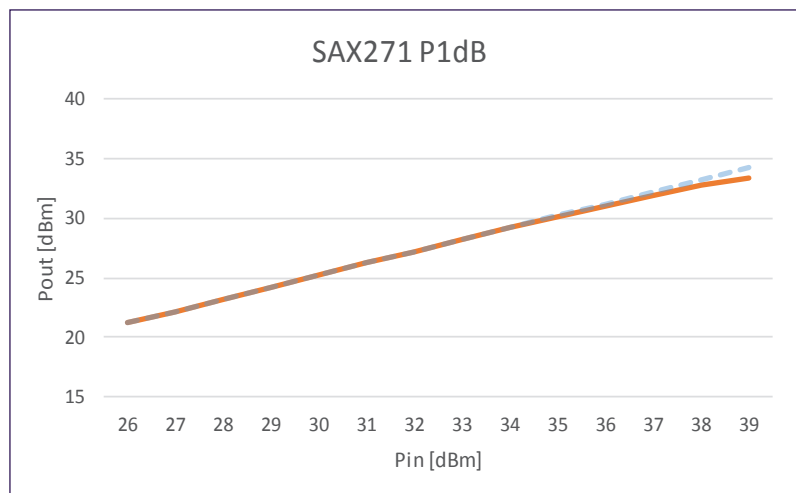


Upper Rejection: [2* f_{tune} to 250] MHz > 40dB

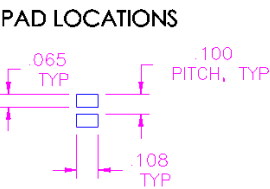
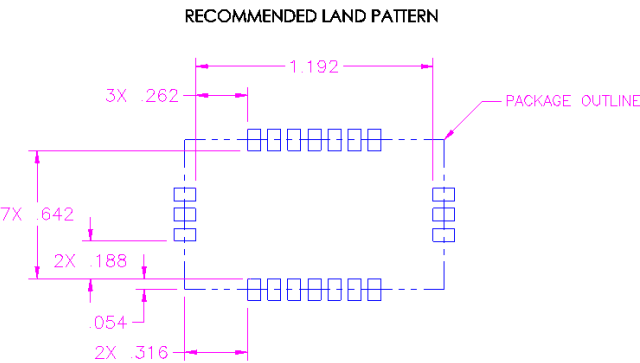
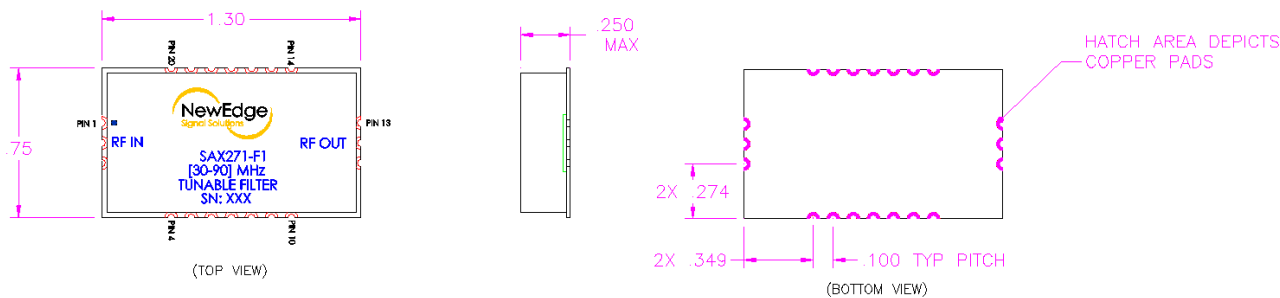


Power Testing: P1dB 37dBm

Pin [W]	Pin [dBm]	Pout [dBm]
0.4	26	21.2
0.5	27	22.2
0.6	28	23.2
0.8	29	24.2
1.0	30	25.2
1.2	31	26.2
1.6	32	27.2
2.0	33	28.2
2.5	34	29.2
3.2	35	30.1
4.0	36	31
5.0	37	31.9
6.3	38	32.7
8.0	39	33.3



Outline Drawing



PIN	DESCRIPTION
1	GROUND
2	RF IN
3	GROUND
4	GROUND
5	Vcc [+5v]
6	GROUND
7	SPI_MOSI
8	SPI_CLK
9	SPI_CS
10	GROUND
11	GROUND
12	RF OUT
13	GROUND
14	NC
15	GROUND
16	NC
17	NC
18	NC
19	NC
20	GROUND

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www.unified.co.in email: venkat_reddy@unified.co.in



NewEdge Signal Solutions | 323 West Main Street, Suite 1 | Ayer, MA 01432 | 978-425-5400 | www.NewEdgeS2.com

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