

# Mitron

**Model MFS0218M**

**FAST 1 usec. SYNTHESIZER WITH MODULATION**

## Main Features

- ◆ High Speed: 1  $\mu$ sec
- ◆ Wide Frequency Range: 2 to 18 GHz
- ◆ Modulation Span: 1 GHz
- ◆ Analog & Digital Modulation Input
- ◆ High Reliability



## APPLICATIONS

The Model MFS0218M Fast Synthesizer, with Frequency Modulation capability, was developed as an enhancement to the existing Series SF60 1 usec, CW Synthesizer family. It offers a higher performance and cost effective alternative to signal generators currently used in various applications such as Electronic Warfare (EW), Simulators, Test Systems and especially those which require improved frequency accuracy, phase noise and frequency modulation capabilities. In addition, the Model MFS0218M design allows the flexibility to customize performance to specific application requirements.

# MODEL MFS0218M – TYPICAL MODULATION SPECTRUMS

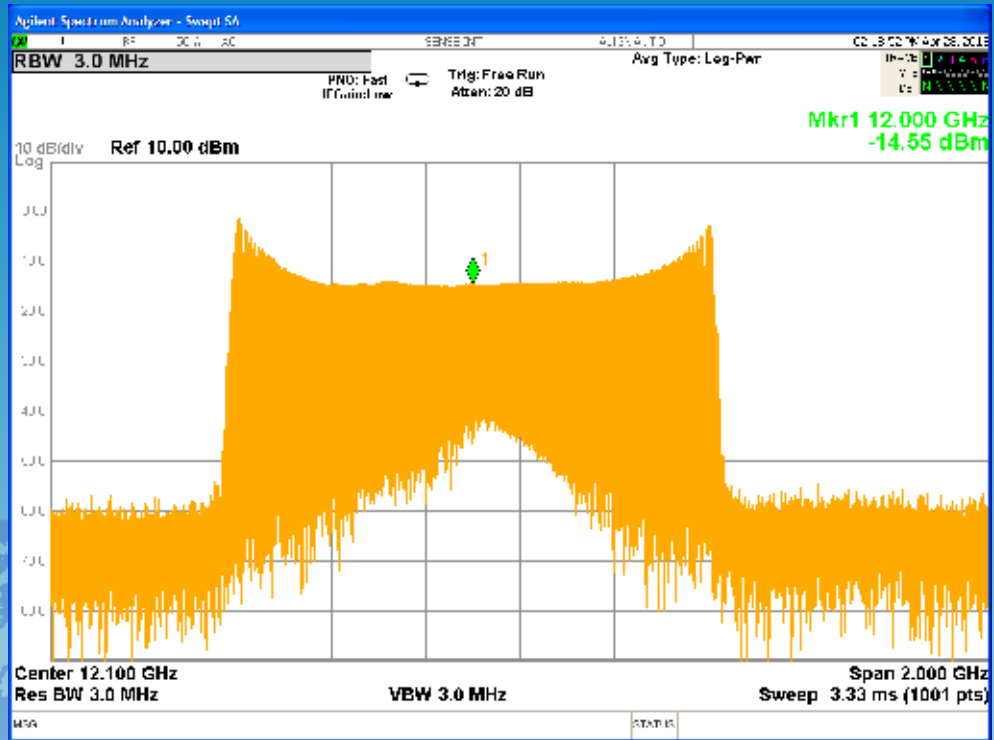


Fig. 1 - 1 GHz Modulation Spectrum using a Sine wave signal

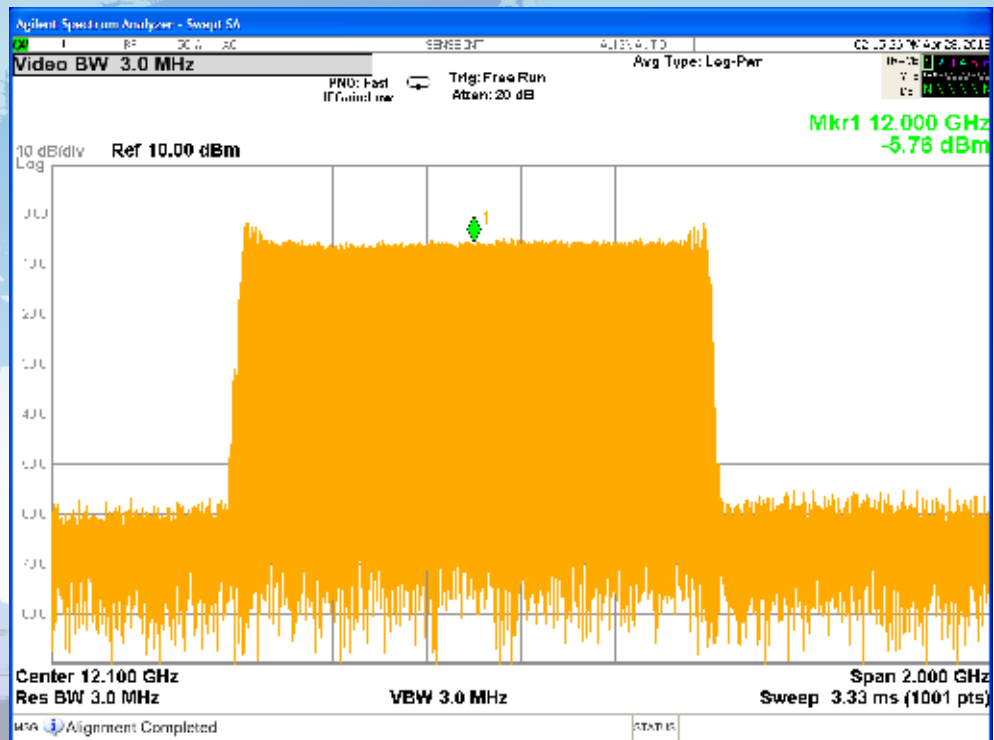


Fig. 1 - 1 GHz Modulation Spectrum using a Triangle signal

		MODEL MFS0218M
PARAMETER		SPECIFICATION
1	FREQUENCY RANGE (GHz)	2 to 18 <sup>(1)</sup>
2	ACCURACY	Same (PPM) as of the reference crystal oscillator
3	FREQUENCY AGING	Same (PPM) as of the reference crystal oscillator
4	OUTPUT POWER	
4.1	Min. (dBm) <sup>(1)</sup>	10
4.2	Variation, over freq. at a given temp., max. (dB)	± 1.5
4.3	Variation, over temperature, max. (dB)	± 2.5
5	SETTLING TIME, max. (µsec)	1
6	SSB PHASE NOISE, max (dBc/Hz) <sup>(4)</sup>	
6.1	@ 100 Hz Offset	-72
6.2	@ 1 kHz Offset	-85
6.3	@ 10 kHz Offset	-97
6.4	@ 100 kHz Offset	-97
6.5	@ 1 MHz Offset	-97
6.6	@ 10 MHz Offset	-100
7	HARMONICS, max (dBc)	-30
8	SUB-HARMONICS, max (dBc)	NA
9	SPURIOUS, max (dBc) <sup>(2)</sup>	-55
10	FREQUENCY CONTROL (PARALLEL)	18 BITS
11	FREQ. STEP SIZE, nominal LSB (kHz) <sup>(1)</sup>	100
12	REFERENCE CRYSTAL OSCILLATOR - EXTERNAL <sup>(4)</sup>	
12.1	INPUT FREQUENCY, (MHz)	100
12.2	INPUT POWER, (dBm)	0 ± 2
13	MODULATION	
13.1	Bandwidth, (MHz)	DC to 10
13.2	Frequency Deviation, min. (MHz)	± 500
13.3	Sensitivity control (3 levels plus Mod. OFF)	2 BITS
13.4	Digital Modulation Control	10 BITS
13.4	Digital Sensitivity, nominal (MHz/bit)	1, 1/4, 1/16, Mod. OFF
13.5	Analog Control, (V)	± 1
13.5	Analog Sensitivity, nominal (MHz/V)	500, 125, 30, Mod. OFF
14	POWER SUPPLY REQUIREMENT, max. (Amp)	
14.1	+12V to +15V	2.9
14.2	-12V to -15V	0.45
14.3	+5V ± 5%	2.1
15	OPERATING TEMP. (°C) <sup>(1)</sup>	-20 to +70
18	OTHER ENVIRONMENTAL PARAMETERS	APPLICABLE FOR AIRBORNE APPLICATIONS

(1) Other Parameters are Optional

(2) Spurious level is guaranteed during modulation at OFF state. When modulation is set to ON, the spurious level is -50 dBc typical.

(3) Internal Reference Oscillator is optional

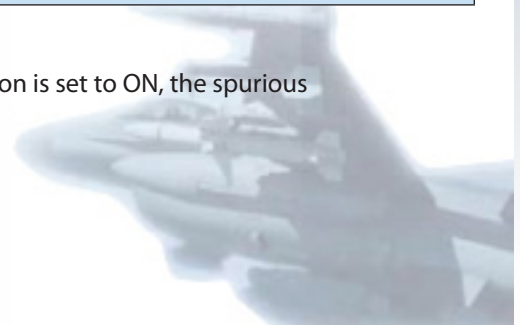
(4) With an external reference oscillator with the following phase noise dBc/Hz

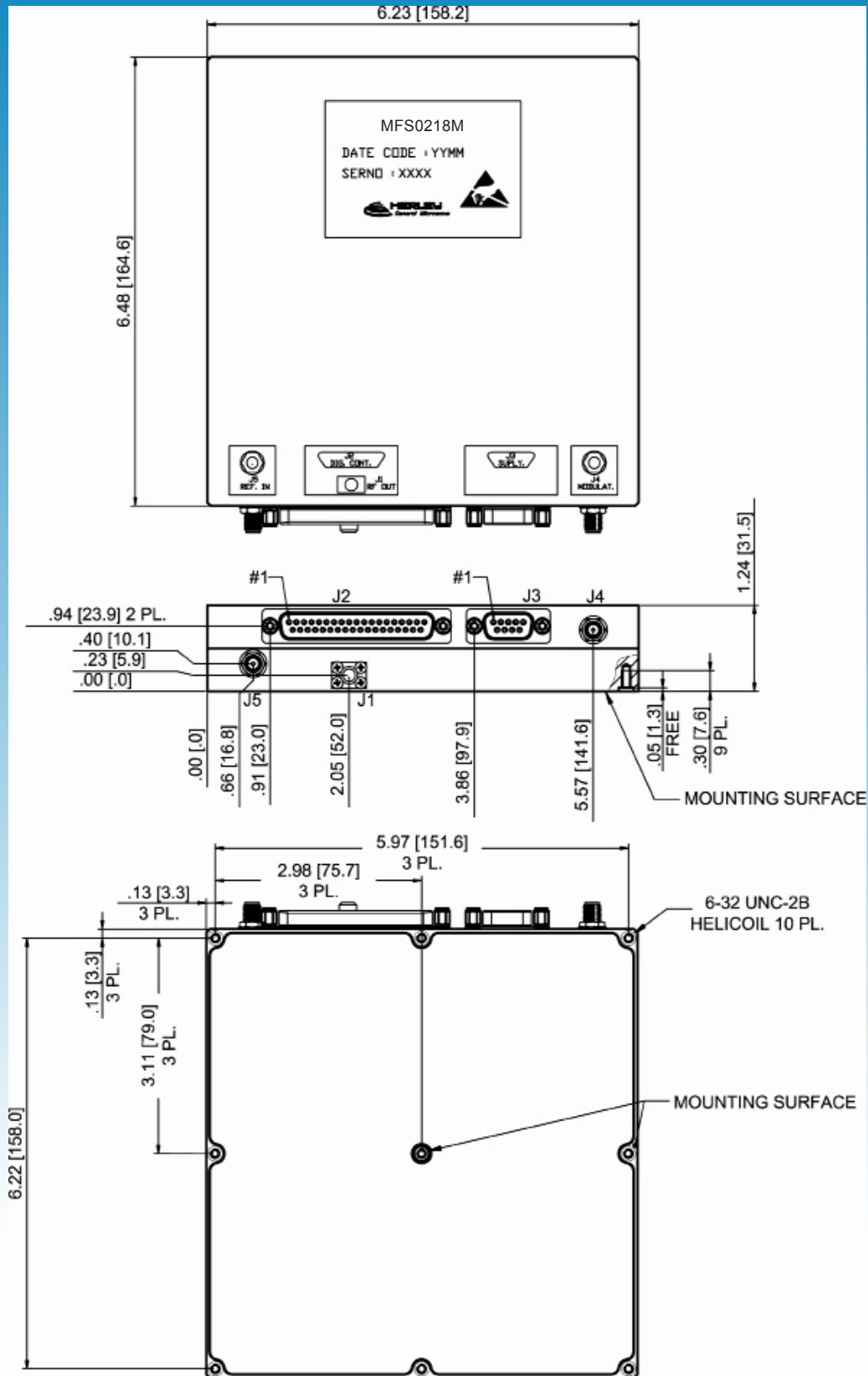
@ 100 Hz Offset: -125

@ 1 kHz Offset: -140

@ 10 kHz Offset: -155

@ >100 kHz Offset: -160





Weight (Approx.): 1,4 Kg (3.1 Pounds)

**Mitron Inc.(China):**

4/F, Building 29, Zone A Software Park, Tongpan Road, Fuzhou Fujian 350003 P.R. China  
 Tel: + 86 400-887-3088, Fax +86 591-8787 0011, E-mail: sales@mitron.cn, Web: www.mitron.cn

**Israel:** 20 Pierre Koenig, P.O.B 53278, Jerusalem 91531, Israel