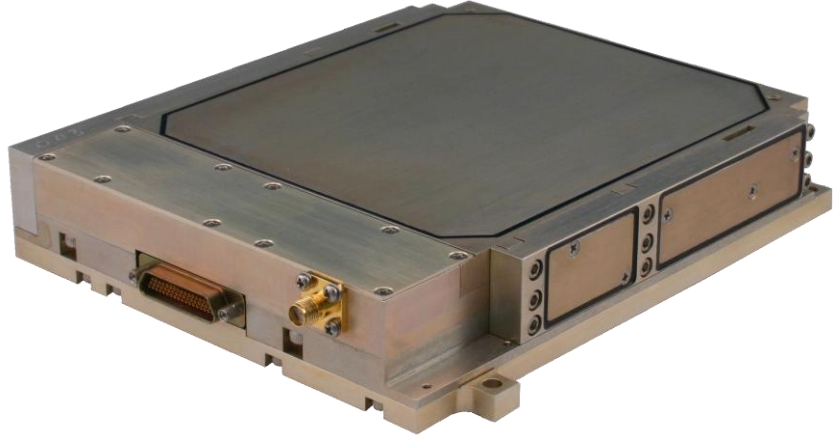


2 to 18 GHz Digital Instantaneous Frequency Measurement Unit

P/N: SP021800-001

Features

- 16 GHz Frequency Range
- 1.0 MHz Resolution
- 14 Bit Data Word
- 50 ns RF Pulse Capable
- -50dBm Sensitivity
- 60 dB Dynamic Range
- Bad Data Detection and Flag
- Out-of-Band Flag
- Small Form Factor
- Low Weight
- Low Power Consumption
- Designed for Airborne Applications



Description

The SP021800-001 DIFM takes advantage of LNX's unique expertise in microwave technology and digital signal processing. By transferring functionality from RF to Digital, we can yield a high performance, low cost DIFM with reduced size and power consumption. The SP021800-001 DIFM provides a 14-bit digital output word of the RF input frequency at sampling rates up to 80 MHz. The unit is capable of handling pulses as short as 50 ns up to CW. With a 14-bit frequency word, the SP021800-001 yields a nominal frequency resolution of 1.0 MHz and an RMS accuracy of <3.0 MHz.

Designed for very demanding AUF applications, this unit will operate over a temperature range of -40°C to +85°C. Please contact the factory for other available configurations.

Electrical Specification

REF	PARAMETERS	SPECIFICATION	Notes
1	Operating Frequency Range	2.0 to 18.0 GHz	1
2	Unambiguous Bandwidth	1808 to 18192 MHz	2
3	Frequency Resolution	1.0 MHz	
4	Digital Frequency Word	14 Bits	
5	Throughput Time	200 ns	3
6	RF Input Dynamic Range	-50 to +10 dBm	
7	RF Input Signal/Noise Ratio	0 dB (99% valid rate)	4
8	RF Input Pulse Width	50 ns to CW	
9	Recovery time	50 ns	
10	RF Input VSWR	2.2:1	
11	Frequency Error (RMS) 0 dB SNR	3.0 MHz	5
12	Frequency Peak Error 3dB SNR	8.0 MHz	
13	Simultaneous Signal: Level	6 dB, 95% Valid Rate	6
14	Temperature Range (operating)	-40 to +85°C	
15	Power Supply Current: +12V Rail	800 mA	
16	Power Supply Current: -5V Rail	100 mA	
17	Power Supply Current: +5V Rail	800 mA	
18	Weight	2.75 pounds	



Notes

- 1 Frequency accuracy is guaranteed over the operating frequency range.
- 2 Frequency is calculated from the digital word with the formula: $Frequency (MHz) = 1808.5 + (Digital Word)$
- 3 Simple throughput or pipelined processing (up to 80 MHz) is available.
- 4 Invalid data is defined as measurements that are erroneous by > 15 MHz.
- 5 RMS calculation is based on the sum of all valid measurements.
- 6 Simultaneous Signal valid rate is based on the percentage of all frequency combinations that result in the larger signal being measured accurately to within 15 MHz.