

GENERAL DESCRIPTION

The ZFR-17000-04 synthesizer combines multi-octave bandwidth with a small step size, fast switching speed, good phase noise, and a compact package size. It is a versatile synthesizer that can be tailored to the specific frequency range and control interface required. It is used in applications from lab benchtops to airborne military electronics.

ZFR SERIES FEATURES

- Programmable Frequencies to 20 GHz
- Fast Switching Speed
- Step Sizes as low as 10 kHz
- Multi-octave bandwidth
- Low Phase Noise
- Small Package Size: 2.5" x 4.5" x 0.6" typical

ZFR SERIES OPTIONS

- Step size configurable to larger size
- Switch speeds <150 usec available
- Serial or USB communication interfaces available
- Internal Reference available

ELECTRICAL SPECIFICATIONS

Frequency	7000 - 17000 MHz
Output Power	+10 dBm ± 3 dB , 50 Ω
Step Size	10 KHz
Switch Speed	<150 usec to within ± 10 KHz Final Freq. <250 usec to within Final Phase $\pm 10^\circ$
Stability	± 5 PPM
Reference	Internal
Power Supply	+5V ± 0.15 V @1150mA TYP,1250mA MAX
Lock Detect	3V TTL, HIGH=LOCK
Programming	Serial; Clock, Data, Enable, 3.3V TTL Logic

All specifications are typical unless otherwise specified and subject to change without notice.



INDUSTRIES



TYPICAL APPLICATIONS

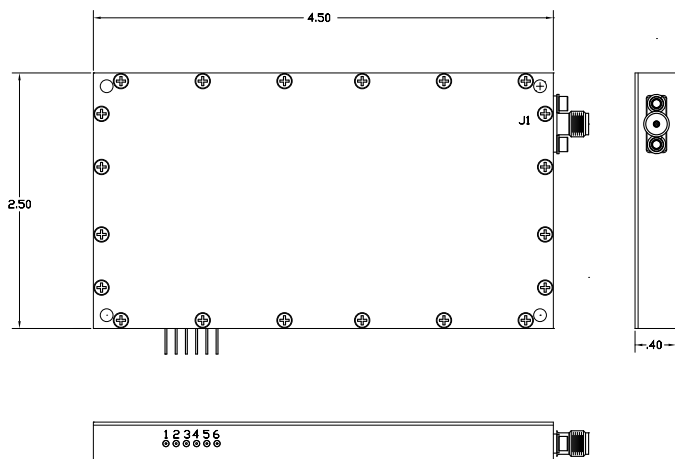
- Laboratory Testing
- Remote Sensing / Monitoring
- Electronic Countermeasures
- Radar Systems

Phase Noise		
	7000-10000 MHz (dBc/Hz) MAX	10000-17000 MHz (dBc/Hz) MAX
1 KHz	-92	-86
10 KHz	-96	-90
100 KHz	-96	-90
1 MHz	-106	-100
10 MHz	-126	-120

Spurs	7 - 10 GHz	-65 dBc TYP, -60 dBc MAX
	10 - 17 GHz	-60 dBc TYP, -55 dBc MAX
Harmonics	-20 dBc TYP, -15 dBc MAX	



PACKAGE OUTLINE



PIN DESCRIPTIONS

J1	RF OUT	Female SMA
1	VCC	Feedthrough
2	GND	Feedthrough
3	ENABLE	Feedthrough
4	DATA	Feedthrough
5	CLOCK	Feedthrough
6	LOCK	Feedthrough

All dimensions are in inches unless otherwise specified
 .XX = +/- 0.01
 .XXX = +/- 0.005.

ENVIRONMENTAL SPECIFICATIONS

Standard Operating Temperature	-30°C to +71°C
Storage Temperature	-55°C to +125°C

Custom designs are available. Please contact EM Research.

MECHANICAL SPECIFICATIONS

RF Connector	Female SMA
Package	Aluminum 4.5" x 2.5" x 0.4"
Package Outline	EM Drawing 2200029004
Part Label	EM Drawing 8000040007



DETAILS

Title	Programmable Frequency Synthesizer Part No. ZFR-17000-04
File	SPC-ZFR-17000-04-REVA
Scale	N/A
Size	A
Rev.	A

APPROVALS

Department	Date
DWN: M. Anderson	1/15/18
QA: S. Zandonella	12/27/17
MKTG: M. Eiting	1/15/18
ENG: E. Smith	1/8/18
MFG: G. Evans	12/28/17
Other:	

REVISION HISTORY

Rev.	Description	Date	Approved
A	Configurable Product	1/17/18	DCR# 1703775

NOTES

