

GENERAL DESCRIPTION

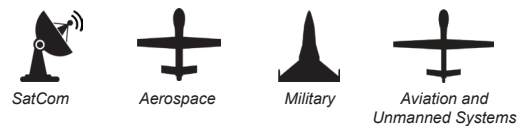
The EMC-9500-02 is a miniature broadband frequency synthesizer covering 5.5 GHz to 9.5 GHz. This part features optional hermetic sealing and optional alternate frequencies. The EMC is ready for the most confined spaces and the most demanding environments.



EMC-9500-02 FEATURES

- 5.5 GHz to 9.5 GHz in 10 MHz steps
- +19 dBm Output Power
- 3.3 V TTL Serial Programming
- Miniature Footprint

APPLIED INDUSTRIES



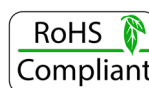
EMC SERIES OPTIONS

- Hermetic Seal
- Other Frequency Ranges Available
- Inquire for Additional Options

EMC SERIES TYPICAL APPLICATIONS

- Electronic Warfare
- Laboratory Testing and Conversion
- Jammers
- Frequency Hoppers

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



HIGHEST QUALITY • COMPREHENSIVE SERVICE • BEST PERFORMANCE



ELECTRICAL SPECIFICATIONS

Frequency	5500 - 9500 MHz	
Step Size	10 MHz	
Ref. Input Imped.	50 Ω , Input VSWR 2:1 MAX	
Stability	Same as Reference	
Spurs	<-60 dBc TYP, <-50 dBc MAX	
Second Harmonics	<-15 dBc TYP, <-10 dBc MAX	
Third Harmonics	<-25 dBc TYP, <-15 dBc MAX	
Reference	10 MHz, External	
Ref. Input Power	6 dBm, $\pm$ 3 dB	
Output Impedance	50 Ω	
Output Power	+19 dBm, $\pm$ 2 dB, 50 Ω	
Output Return Loss	13 dB TYP, 11 dB MAX	
REF Phase Noise	100 Hz	-130 dBc/Hz Max
	1 KHz	-150 dBc/Hz Max
	10 KHz	-160 dBc/Hz Max

Phase Noise @ 5.5 GHz		
Offset	TYP (dBc/Hz)	MAX (dBc/Hz)
100 Hz	-70	-65
1 KHz	-85	-80
10 KHz	-88	-83
100 KHz	-90	-85
1 MHz	-112	-107

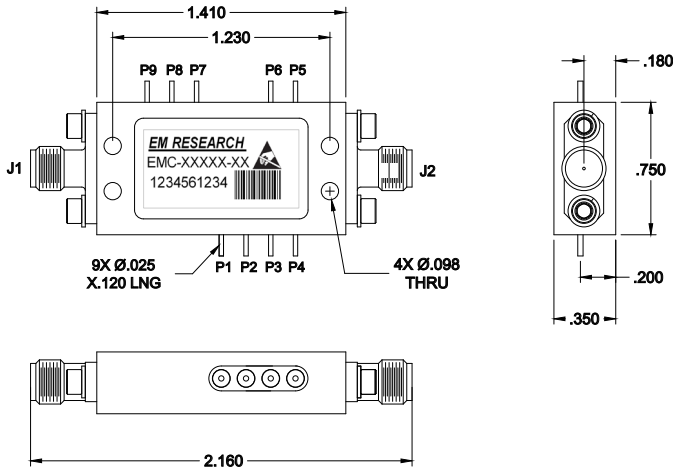
Phase Noise @ 9.5 GHz		
Offset	TYP (dBc/Hz)	MAX (dBc/Hz)
100 Hz	-65	-60
1 KHz	-82	-78
10 KHz	-85	-80
100 KHz	-87	-82
1 MHz	-112	-107

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PACKAGE OUTLINE



All dimensions are in inches unless otherwise specified
.XX = +/- 0.03

PIN DESCRIPTIONS

P1	ENABLE
P2	DATA
P3	CLOCK
P4	LOCK OUT
P5	VD3
P6	GND
P7	VD2
P8	GND
P9	VD1
J1	RF IN
J2	RF OUT

ENVIRONMENTAL SPECIFICATIONS

Standard Operating Temperature	-30°C to +70°C
Storage Temperature	-40°C to +85°C

MECHANICAL SPECIFICATIONS

Dimensions	1.41" x 0.75" x 0.35"	
Package Outline	EM Drawing 2200049002	
Part Label	EM Drawing 8000060001	
Programming	Serial, Clock, Data, Enable, 3.3V TTL	
Prog. Format	PF-26	
Lock Detect	3.3V TTL, HIGH=LOCK	
RF Connector	Removable SMA Attached	
Power Supply	Vd1	5V ± 0.5V @ 125 mA MAX
	Vd2	20V ± 2V @ 10 mA MAX
	Vd3	6V ± 0.5V @ 250 mA MAX

Custom designs are available. Please contact EM Research.

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DETAILS

Title	Programmable Frequency Synthesizer Part No. EMC-9500-02
File	DS-EMC-9500-02-REVB
Scale	N/A
Size	A

APPROVALS

Department	Date
DWN: Kieley Smith	7/9/24
QA: Sandi Renden	7/9/24
MKTG: Nick Hicks	5/9/24
ENG: Matt Anthony	6/19/24
MFG: Louie Macias	5/7/24
Other: Sierra Fulton	6/17/24

REVISION HISTORY

Rev.	Description	Date	Approved
B	Configurable Product	7/9/24	DCR# 2408847

NOTES

