SSK-SR723843-12-C1

Rev. 1.0

E Band Dual-Channel Down Converter, 72 or 84 GHz

Description:

Model SSK-SR723843-12-C1 is an E band, dual-channel down converter. The down converter takes a 72 or 84 GHz signal at -100 dBm power and down converters each signal to 6 GHz. The system incorporates a leading LNA to minimized noise figure and a diplexer so that 72 and 84 GHz can be down converted to seperate IF ports. The LO uses an externally sourced 9.75 GHz and an internal 8x multiplier for a 78 GHz LO. Two stages of IF amplification provide 70 dB of gain. The 6 GHz coaxial filter is implemented to clean any unwanted harmonic or spurious signals. The down converter assembly has a nominal IF output power of 0 dBm and the conversion gain and noise figure of the receiver are 100 dB and 4.5 dB respectively. The down converter assembly requires +8 V_{DC}/875 mA and +12 V_{DC}/700 mA DC bias typically. The ports are WR-12 waveguides for the input RF and female SMA connectors for both LO and IF ports.

Features:

- 72 or 84 GHz Operation
- 100 dB RF to IF Gain
- 5 dB Noise Figure
- Bread Board Configuration

Applications:

- High Sensitivity Receiving Systems
- Low Noise Receiver Systems

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Rx Frequency	72.0 GHz		84.0 GHz
Rx Input Power		-100 dBm	
Rx Noise Figure		4.5 dB	
LO Frequency		9.75 GHz	
LO Power		+6.0 dBm	+10.0 dBm
IF Frequency		6.0 GHz	
IF Power		0 dBm	+10.0 dBm
Rx Conversion Gain		100 dB	
VSWR		2:1	
DC Supply 1		+8 V_{DC} /875 mA	
DC Supply 2		+12 V_{DC}/700 mA	
Specification Temperature		+25 ˚C	
Case Temperature	0 ˚C		+50 ˚C

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Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com

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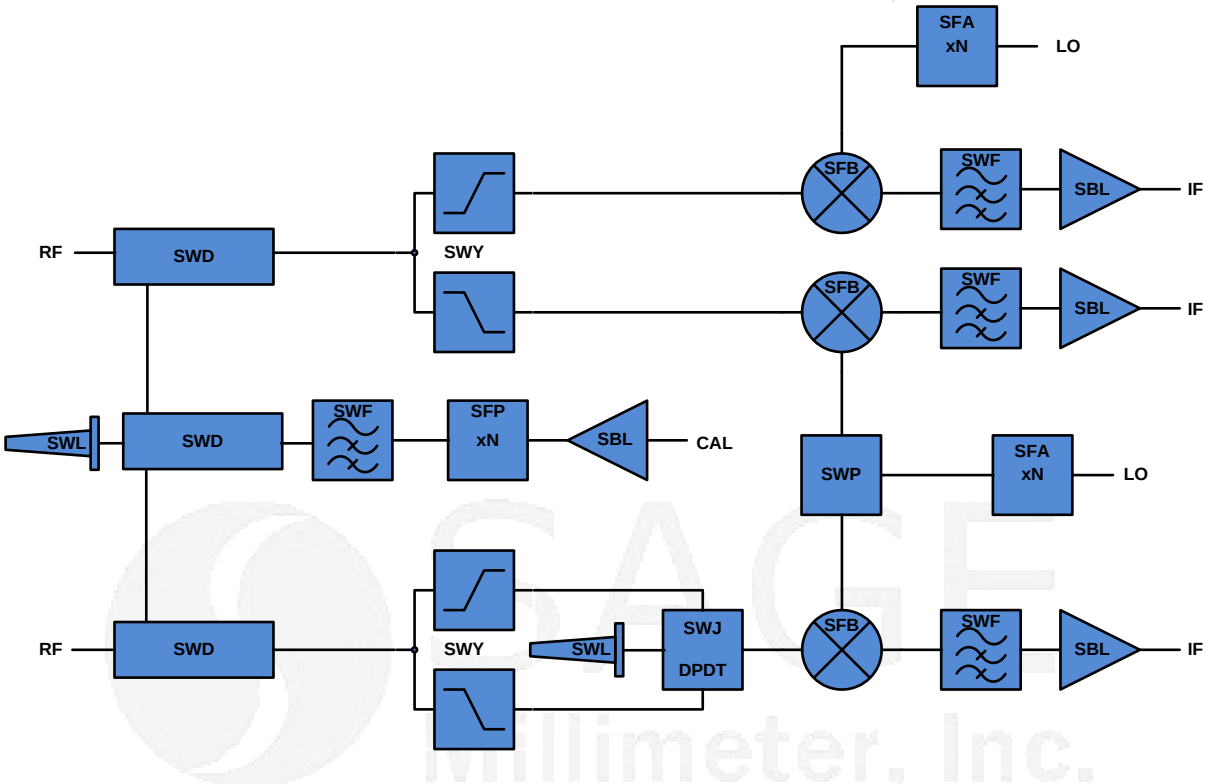
Mechanical Specifications:

Item	Specification
IF Output	SMA (F)
LO Input	SMA (F)
RF Input	WR-12 Waveguide with UG-387/U Flange
DC Bias Ports	Feedthrus
Weight	12 Pounds
Size	11.55” (W) X 26.00” (L) X 3.24” (H)
Outline	SK-SR-C1

Block Diagram:



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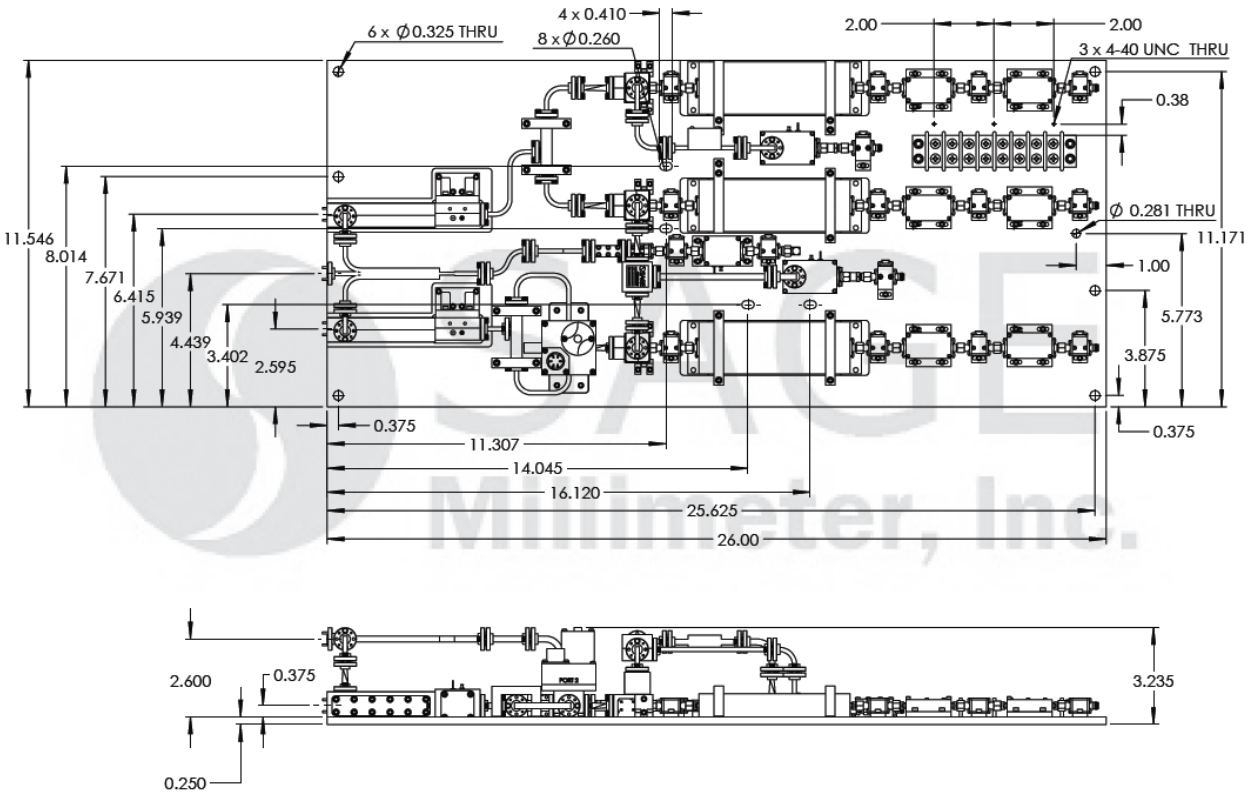
Mechanical Outline: (Unless otherwise specified, all dimensions are in inches)



Note:

- SAGE Millimeter, Inc. reserves the right to change the information presented without notice.

Caution:

- Exceeding absolute maximum ratings shown will damage the device.
- The device is static sensitive. Always follow ESD rules when working with the device.
- The case temperature of the device shall never exceed +50 ˚C. Use additional heatsink or fan if necessary.

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