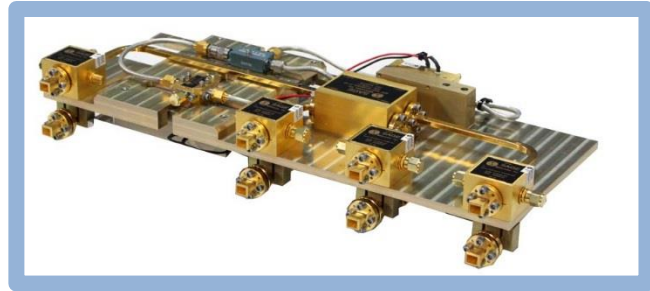


E-Band Eight Channel FMCW Transceiver, 70 to 75 GHz

Description:

Model SSC-7337331202-1212-B1 is an E band eight channel FMCW transceiver module operating at 70 to 75 GHz. The transceiver is constructed with a digitally controlled synthesizer, consisting of multipliers for transmitters and receivers, a single side band modulator, a SP4T switch for transmitter and four I/Q mixers for the receivers. The transceiver also includes eight rectangular horns with 10 dB typical gain. The transmitting power of the transmitters is +2 dBm typical for each channel and the conversion loss of the receivers is 12 dB typically. The transceiver assembly requires a typical +6 V_{DC}/ 2.3 A DC bias.



Features:

- 70 to 75 GHz Operation
- 4 TX and 4 RX Channels
- Digital Controlled FMCW Transmitter
- I/Q Receivers

Applications:

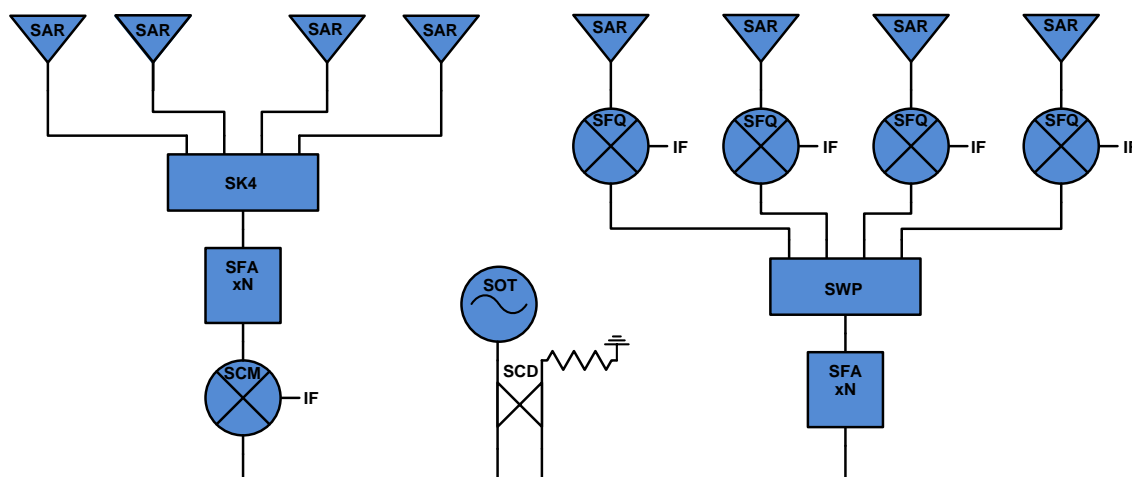
- Radar Systems
- Short Range Distance Sensing

Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Antenna 3 dB Beam-width		40°	
Antenna Gain		10 dB	
Antenna Polarization		Linear	
TX Frequency Range	70 GHz		75 GHz
TX Output P _{1dB}		+2 dBm	
TX EIRP		+12 dBm	
TX IF Input	DC/0 dBm		100 MHz/0 dBm
TX On/Off Ratio		30 dB	
TX On/Off Control		TTL	
RX Frequency	70 GHz		75 GHz
IF Frequency Range, Each Channel	DC		100 MHz
DDS Synthesizer Phase Noise		-65 dBc/Hz @ 1 KHz Offset	
DDS Synthesizer Sweep Time		80 us	100 us
DDS Synthesizer Reference		Internal	
DDS Synthesizer Frequency Stability		±2.5 ppm	
Harmonics		-20 dBc	
DC Supply Voltage		+6 V _{DC} /2.3 A	
Case Temperature	0 °C	+25 °C	+50 °C

E-Band Eight Channel FMCW Transceiver, 70 to 75 GHz

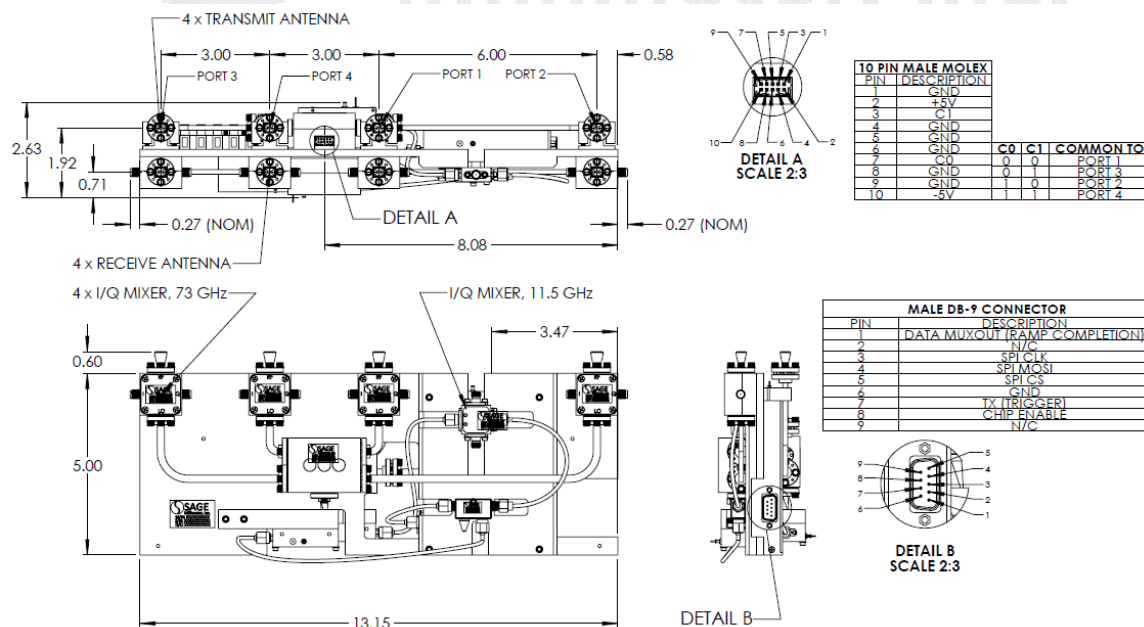
Block Diagram:



Mechanical Specifications:

Parameter	Specifications
TX IF Input	SMA(F)
RX IF Output	SMA(F)
Bias	Solder Pins
Control	Sub-D (Serial)
Size	13.15" (W) X 5.0" (D) X 2.63" (H)
Weight	23 Oz

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



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E-Band Eight Channel FMCW Transceiver, 70 to 75 GHz

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 +85°C. Use additional heatsink or fan if necessary.

