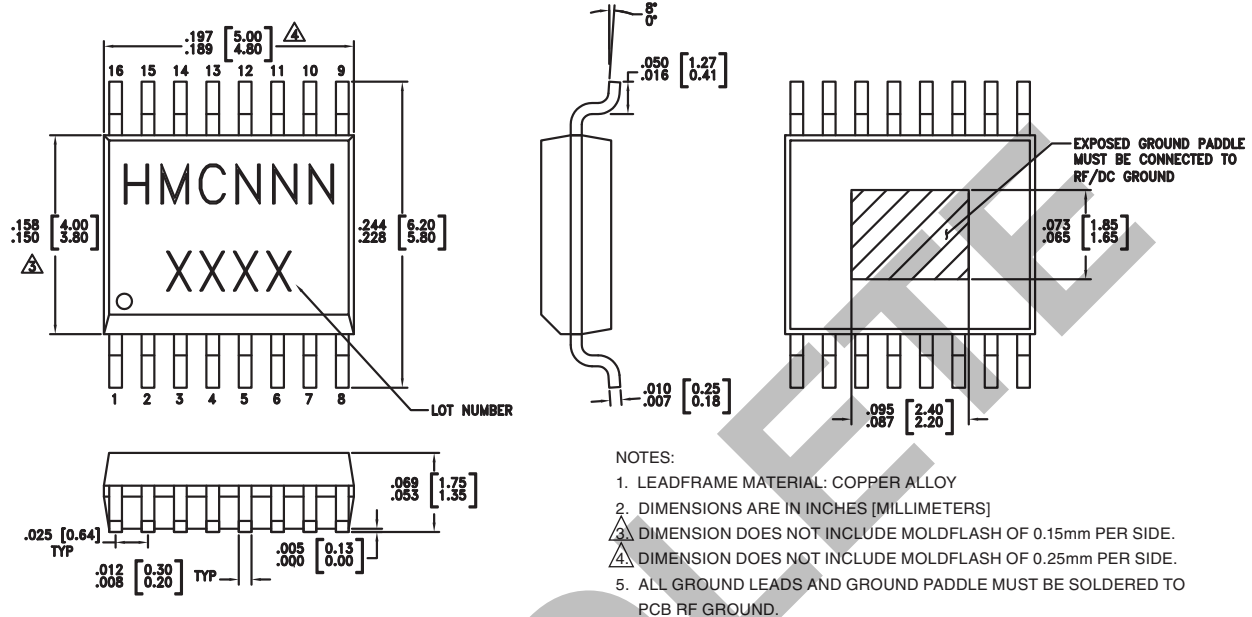




Outline Drawing



Package Information

Part Number	Package Body Material	Lead Finish	MSL Rating	Package Marking ^[3]
HMC401QS16G	Low Stress Injection Molded Plastic	Sn/Pb Solder	MSL1 ^[1]	HMC401 XXXX
HMC401QS16GE	RoHS-compliant Low Stress Injection Molded Plastic	100% matte Sn	MSL1 ^[2]	HMC401 XXXX

[1] Max peak reflow temperature of 235 °C

[2] Max peak reflow temperature of 260 °C

[3] 4-Digit lot number XXXX

Pin Descriptions

Pin Number	Function	Description	Interface Schematic
1	RFOUT	RF output (AC coupled).	
2, 3, 4, 6, 8, 9, 10, 13, 14, 16	N/C	No Connection	
5	VTUNE	Control Voltage Input. Modulation port bandwidth dependent on drive source impedance.	

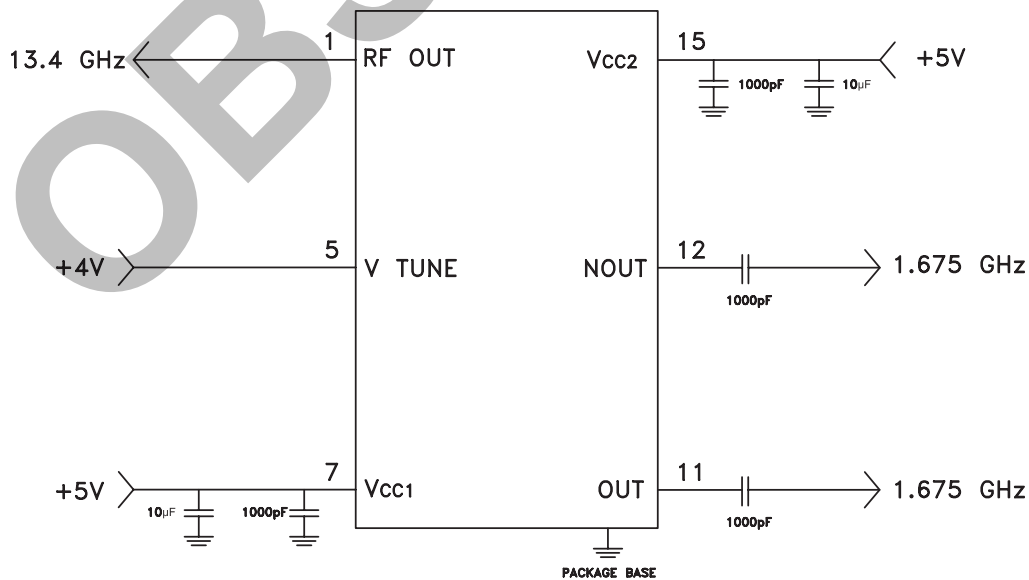


**KU-BAND MMIC VCO WITH DIVIDE-BY-8
13.2 - 13.5 GHz**

Pin Descriptions

Pin Number	Function	Description	Interface Schematic
7, 15	VCC1, VCC2	Supply Voltage, 5V	
11	OUT	Divided Output	
12	NOUT	Divided Output 180° output phase with pin 11.	
	GND	Package bottom has an exposed metal paddle that must be RF & DC grounded.	

Typical Application Circuit

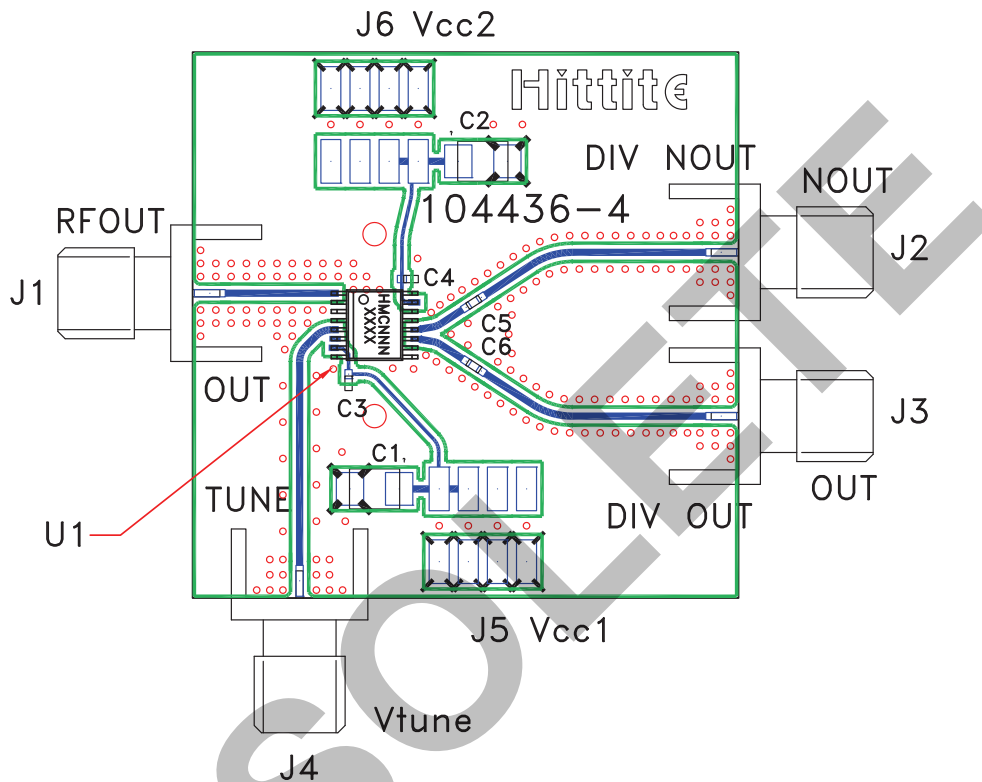


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Evaluation PCB



List of Materials for Evaluation PCB 104711 [1]

Item	Description
J1 - J4	PCB Mount SMA RF Connector
J5 - J6	2 mm DC Header
C1 - C2	10 μ F Tantalum Capacitor
C3 - C6	1,000 pF Capacitor, 0402 Pkg.
U1	HMC401QS16G / HMC401QS16GE VCO
PCB [2]	104436 Eval Board

[1] Reference this number when ordering complete evaluation PCB

[2] Circuit Board Material: Rogers 4350

The circuit board used in the application should use RF circuit design techniques. Signal lines should have 50 Ohm impedance while the package ground leads and backside ground slug should be connected directly to the ground plane similar to that shown. A sufficient number of via holes should be used to connect the top and bottom ground planes. The evaluation circuit board shown is available from Hittite upon request.