

## **HMC143/144 MIXER OPERATION NOTE**

### ***RF & LO Port Designations for the HMC143 and HMC144 Double-Balanced Mixers***

Although the mixers operate acceptably when RF & LO ports are interchanged, use the following guidelines for best performance:

#### ***Upconverter & Downconverter Operation***

The RF & LO port markings on the MMIC die are correct and are consistent with the connection designated in the Datasheet Outline Drawing (DOD) found on the HMC143/144 data sheet.

Use the Datasheet Outline Drawing (DOD) to determine port designation for typical performance per data sheet.

Use the same port designations for both upconverter & downconverter operation.

#### ***For Example, in Downconverter Operation:***

- Apply RF Input to RF Port so labelled on DOD and labelled “RF” on the MMIC die.
- Apply LO Input to LO Port so labelled on DOD and labelled “LO” on the MMIC die.
- Access IF Output at IF Port so labelled on DOD and on MMIC die.

#### ***For Example, in Upconverter Operation:***

- Apply IF Input to IF Port so labelled on DOD and on MMIC die.
- Apply LO Input to LO Port so labelled on DOD and labelled “LO” on the MMIC die.
- Access RF Output at RF Port so labelled on DOD and labelled “RF” on the MMIC die.