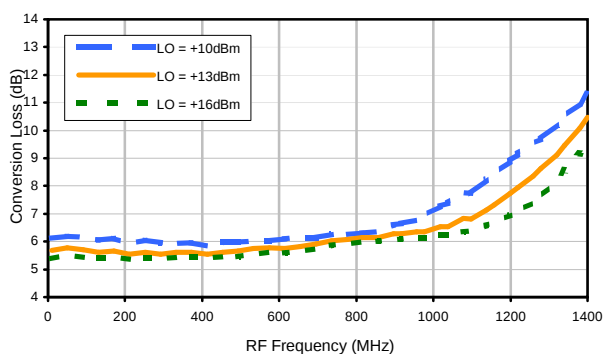


# Frequency Mixer

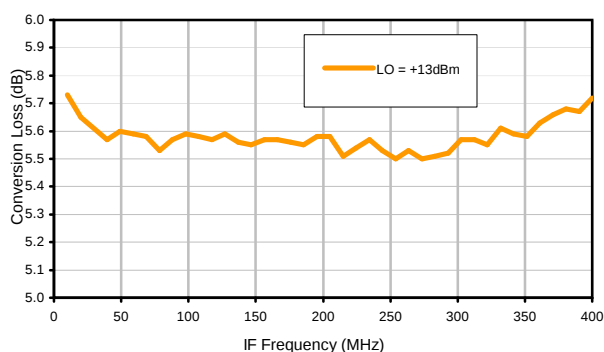
# TUF-2MHSM+

## Typical Performance Curves

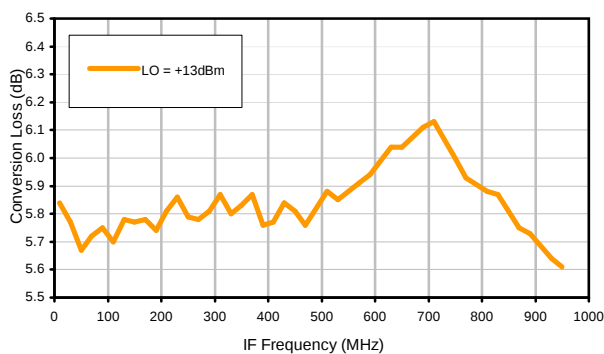
Conversion Loss @ IF=30MHz



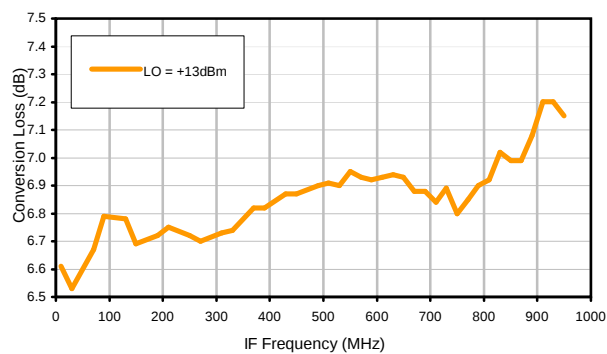
Conversion Loss vs. IF @ RF=500.1MHz



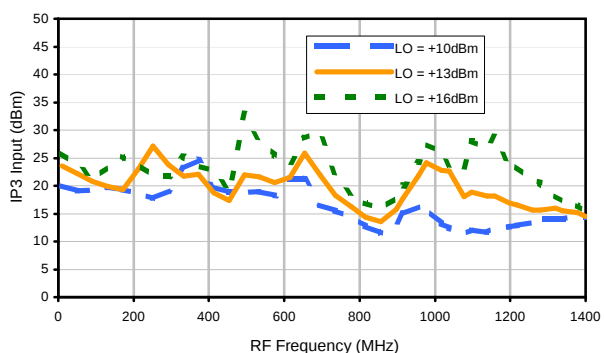
Conversion Loss vs. IF @ RF=50.1MHz



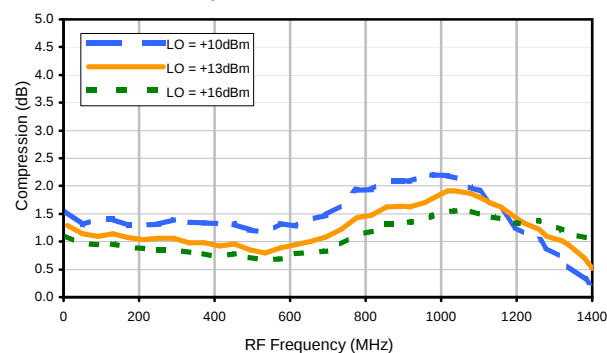
Conversion Loss vs. IF @ RF=1000.1MHz



IP3 Input

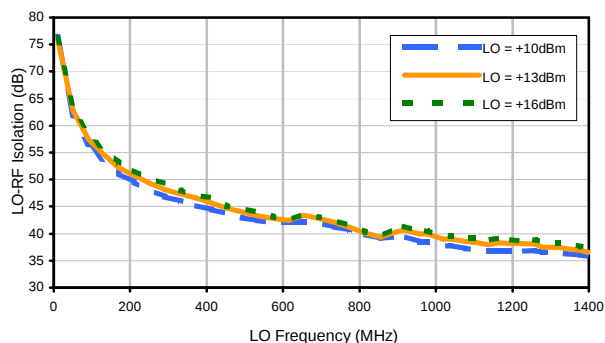


Compression @ RF IN=+9dBm

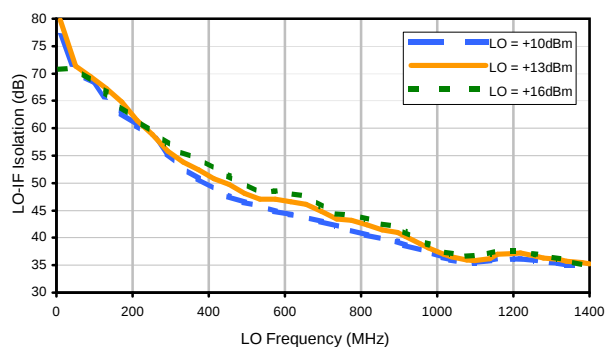


## Typical Performance Curves

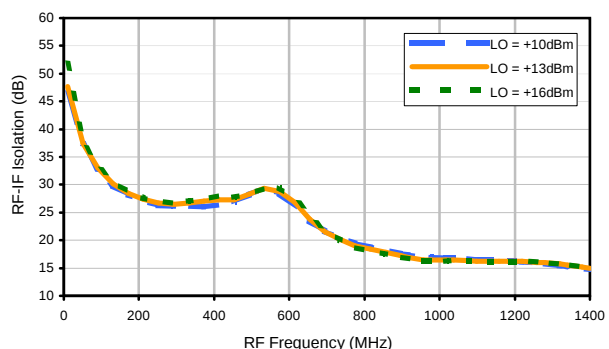
LO-RF Isolation



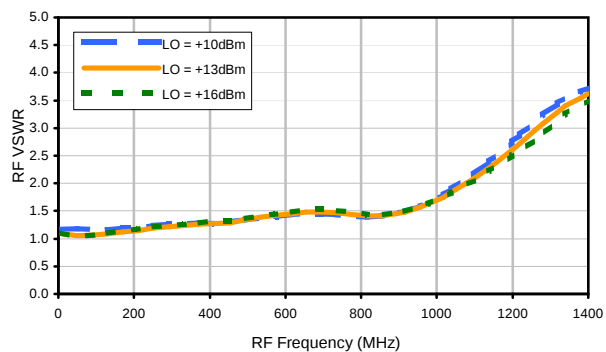
LO-IF Isolation



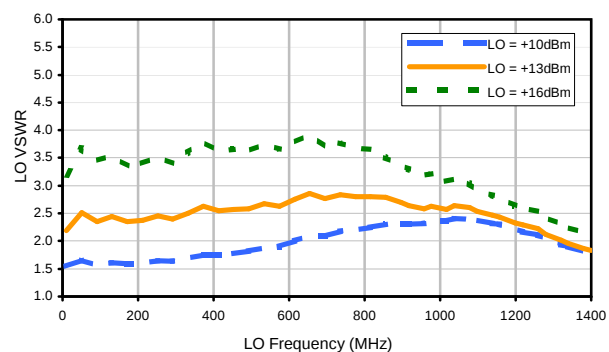
RF-IF Isolation



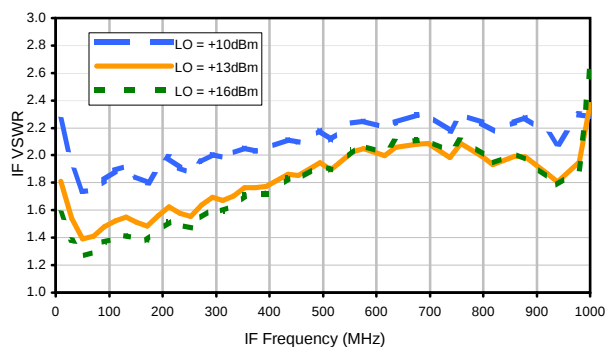
RF VSWR



LO VSWR



IF VSWR



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## Harmonics Tables

RF HARMONICS ORDER

|    | (-dBm) | (-dBc) |     |     |     |     |     |    |    |    |    |    |
|----|--------|--------|-----|-----|-----|-----|-----|----|----|----|----|----|
| 0  | -      | -      | 32  | 38  | 37  | 45  | 41  | 63 | 55 | 60 | 58 | 74 |
| 1  | -      | 23     | +0  | 29  | 12  | 33  | 21  | 41 | 45 | 45 | 56 | 61 |
| 2  | 81     | 66     | 68  | 60  | 62  | 66  | 59  | 57 | 58 | 82 | 59 | 65 |
| 3  | >100   | 64     | 41  | 56  | 43  | 52  | 38  | 57 | 46 | 53 | 56 | 50 |
| 4  | >100   | 81     | 77  | 68  | 76  | 69  | 72  | 73 | 76 | 83 | 77 | 83 |
| 5  | >100   | 71     | 64  | 73  | 53  | 66  | 50  | 60 | 47 | 64 | 52 | 74 |
| 6  | >100   | 97     | 88  | 94  | 79  | 84  | 77  | 85 | 75 | 89 | 79 | 84 |
| 7  | >100   | 84     | 78  | 84  | 75  | 84  | 74  | 96 | 69 | 81 | 65 | 80 |
| 8  | >100   | >98    | >98 | >98 | 95  | >98 | 92  | 89 | 95 | 85 | 86 | 83 |
| 9  | >100   | 89     | 90  | 89  | 90  | 87  | 92  | 86 | 77 | 83 | 74 | 79 |
| 10 | >100   | >98    | >98 | >98 | >98 | >98 | >98 | 95 | 93 | 95 | 88 | 95 |
|    | RF CAL | 0      | 1   | 2   | 3   | 4   | 5   | 6  | 7  | 8  | 9  | 10 |

### LO HARMONICS ORDER

Test conditions:

RF IN: 500.1 MHz; 4.00 dBm.

LO IN: 530.01 MHz; +13.00 dBm

IF OUT: 29.91 MHz; -1.88 dBm

RF HARMONICS ORDER

|    | (-dBm) | (-dBc) |     |     |     |     |     |     |     |     |     |     |
|----|--------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 0  | -      | -      | 22  | 28  | 26  | 31  | 29  | 54  | 37  | 42  | 41  | 74  |
| 1  | -      | 22     | +0  | 28  | 11  | 32  | 20  | 37  | 44  | 37  | 46  | 51  |
| 2  | >100   | 66     | 80  | 65  | 76  | 69  | 67  | 66  | 65  | 85  | 66  | 70  |
| 3  | >100   | >88    | 72  | 87  | 64  | 75  | 59  | 79  | 62  | 79  | 68  | 74  |
| 4  | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
| 5  | >100   | >88    | 86  | >88 | >88 | >88 | 88  | >88 | 86  | >88 | 85  | >88 |
| 6  | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
| 7  | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
| 8  | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
| 9  | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
| 10 | >100   | >88    | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 | >88 |
|    | RF CAL | 0      | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  |

### LO HARMONICS ORDER

Test conditions:

RF IN: 500.1 MHz; -6.00 dBm.

LO IN: 530.01 MHz; +13.00 dBm

IF OUT: 29.91 MHz; -11.88 dBm

Notes: 1. All Harmonics are in (dBc) relative to IF OUTPUT.

2. + entry denotes harmonics are in (dBc) above IF OUTPUT.

3. RF Cal represent the Harmonics level of the RF input signal to the mixer.

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