



LTC5585 Demo Board (DC1662A) Quick Start Guide

Quick Start Procedures:

1. Connect test equipments as shown in Figure 1 with all signal sources and DC supplies off.
2. Turn on the 5V DC power supply.
3. Connect EN to VCC_SENSE.
4. Monitor the DC volt meter, and adjust the DC supply voltage until VCC_SENSE is 5V.
5. Verify ICC is approximately 190mA.
6. Turn on the RF and the LO signal generators.
7. Adjust the spectrum analyzer settings. Be sure to use enough input attenuation to avoid over-driving the spectrum analyzer.
8. Take measurement.

Using the IIP2 and DC Offset adjustment features:

Method 1 (On-board trim pots):

1. **Install jumpers** to all 6 positions of jumper block JP1
2. Apply 1V DC to VCTRL.
3. Connect EIP2 and EDC to VCC_SENSE.
4. Adjust REF trim pot until the voltage on the REF test point reaches 0.5V.
5. Adjust IIP2 and DC Offset using the on-board trim pots.

Method 2 (External voltage sources):

1. **Remove jumpers** from all 6 positions of jumper block JP1.
2. Connect EIP2 and EDC to VCC_SENSE.
3. Using 5 separate DC power supplies, apply 0.5V to each of the demo board REF, IP2I, IP2Q, DCOI, and DCOQ test points.
4. Vary the voltages on IP2I, IP2Q, DCO1, and DCOQ to adjust IIP2 and DC Offset.

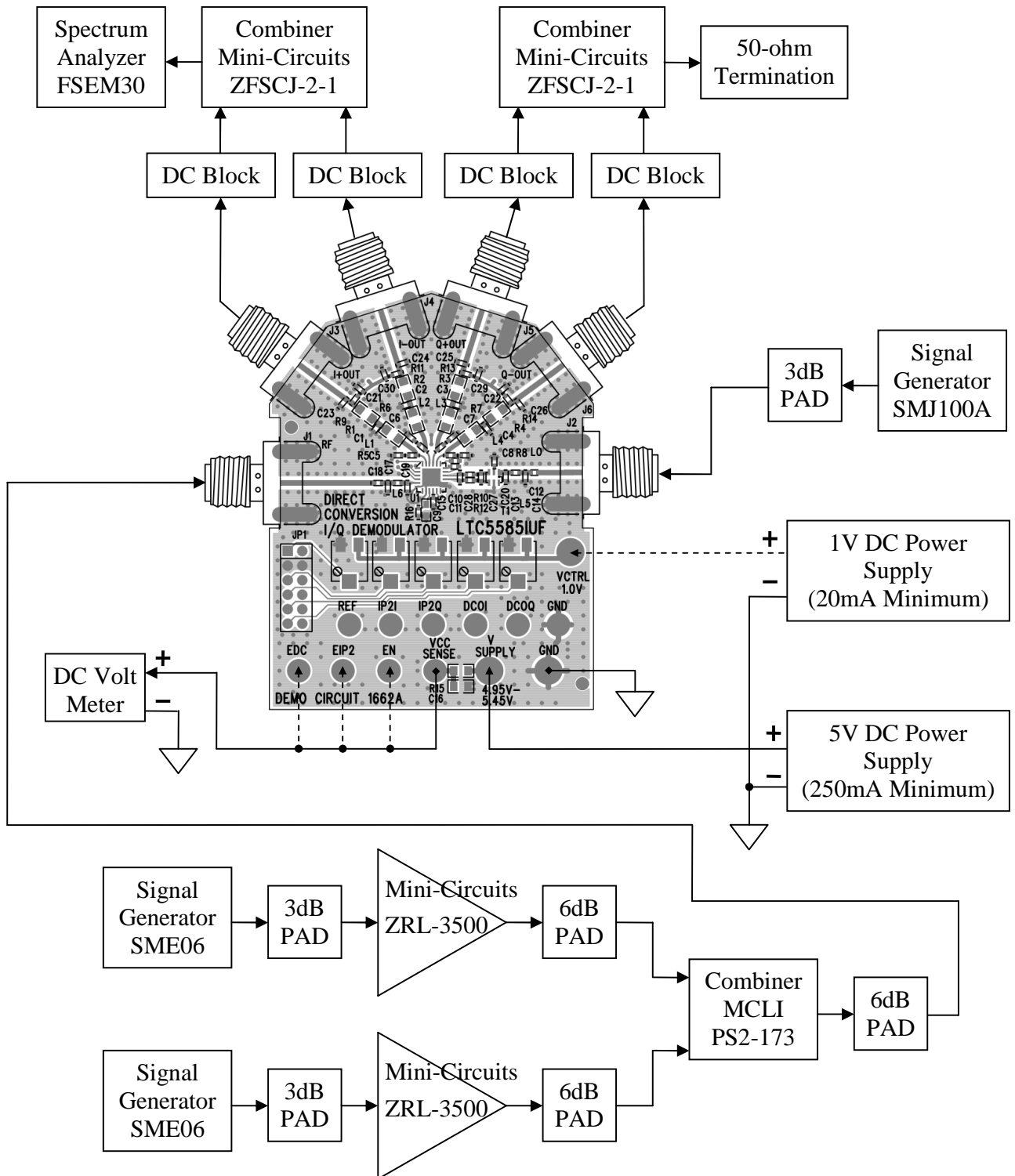


Figure 1. Measurement Setup

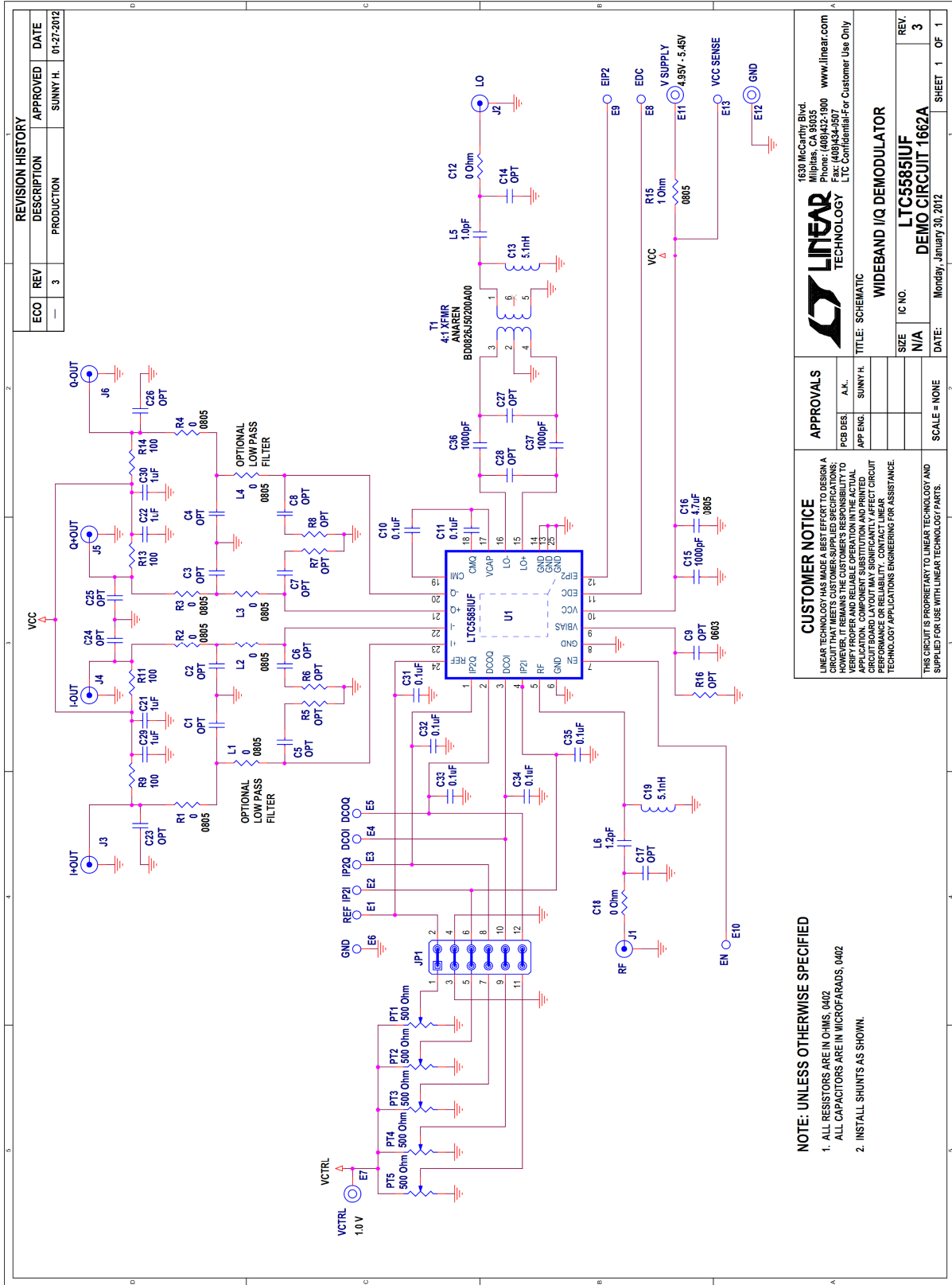


Figure2. Demo Board Schematic



| Item | Qty | Reference | Part Description | Manufacturer / Part # |
|------|-----|---------------------------------|---|-----------------------------------|
| 1 | 0 | C1-C8,C14,C17,C23-C28,R5-R8,R16 | OPT, 0402 | |
| 2 | 0 | C9 | OPT, 0603 | |
| 3 | 7 | C10,C11,C31-C35 | CAP., X7R, 0.1uF, 10%, 16V, 0402 | MURATA, GRM155R71C104KA88D |
| 4 | 2 | C13,C19 | IND., MULTILAYER, 5.1nH, +/-0.3nH, 0402 | MURATA, LQG15HS5N1S02D |
| 5 | 3 | C15,C36,C37 | CAP., C0G, 1000pF, 5%, 50V, 0402 | MURATA, GRM1555C1H102JA01D |
| 6 | 1 | C16 | CAP., X7R, 4.7uF, 10%, 16V, 0805 | MURATA, GRM21BR71C475KA73L |
| 7 | 2 | C12,C18 | RES., CHIP, 0 Ohm, 0402 | VISHAY, CRCW04020000Z0 |
| 8 | 4 | C21,C22,C29,C30 | CAP., X5R, 1uF, 10%, 10V, 0402 | MURATA, GRM155R61A105KE15D |
| 9 | 10 | E1-E6,E8-E10,E13 | TESTPOINT, TURRET, .063" | MILL-MAX, 2308-2-00-80-00-00-07-0 |
| 10 | 3 | E7,E11,E12 | TESTPOINT, TURRET, .094" | MILL-MAX, 2501-2-00-80-00-00-07-0 |
| 11 | 6 | J1-J6 | CONN., SMA, 50-OHM, EDGE-LANCH | E.F.JOHNSON, 142-0701-851 |
| 12 | 1 | JP1 | HEADER, 6 X 2 PIN, 2MM | SAMTEC, TMM-106-02-L-D |
| 13 | 6 | XJP1 (6 LOCATION FOR JP1) | SHUNT | SAMTEC, 2SN-BK-G |
| 14 | 8 | L1-L4,R1-R4 | RES., CHIP, 0 Ohm, 0805 | VISHAY, CRCW08050000Z0 |
| 15 | 1 | L5 | CAP., C0G, 1.0pF, +/-0.05pF, 0402 | MURATA, GJM1555C1H1R0WB01D |
| 16 | 1 | L6 | CAP., C0G, 1.2pF, +/-0.05pF, 0402 | MURATA, GJM1555C1H1R2WB01D |
| 17 | 5 | PT1-PT5 | POT., 4mm SMD, 500 Ohm | BOURNS, 3214X-1-501-E |
| 18 | 4 | R9,R11,R13,R14 | RES., CHIP, 100 Ohm, 1%, 1/16W, 0402 | VISHAY, CRCW0402100RFKED |
| 19 | 1 | R15 | RES., CHIP, 1 Ohm, 1%, 1/8W, 0805 | VISHAY, CRCW08051R00FNEA |
| 20 | 1 | T1 | TRANSFORMER, RF BALUN | ANAREN, BD0826J50200A00 |
| 21 | 1 | U1 | IC, LT5585IUF#PBF, QFN 4mm X 4mm | LINEAR TECH., LT5585IUF#PBF |

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