



## 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.

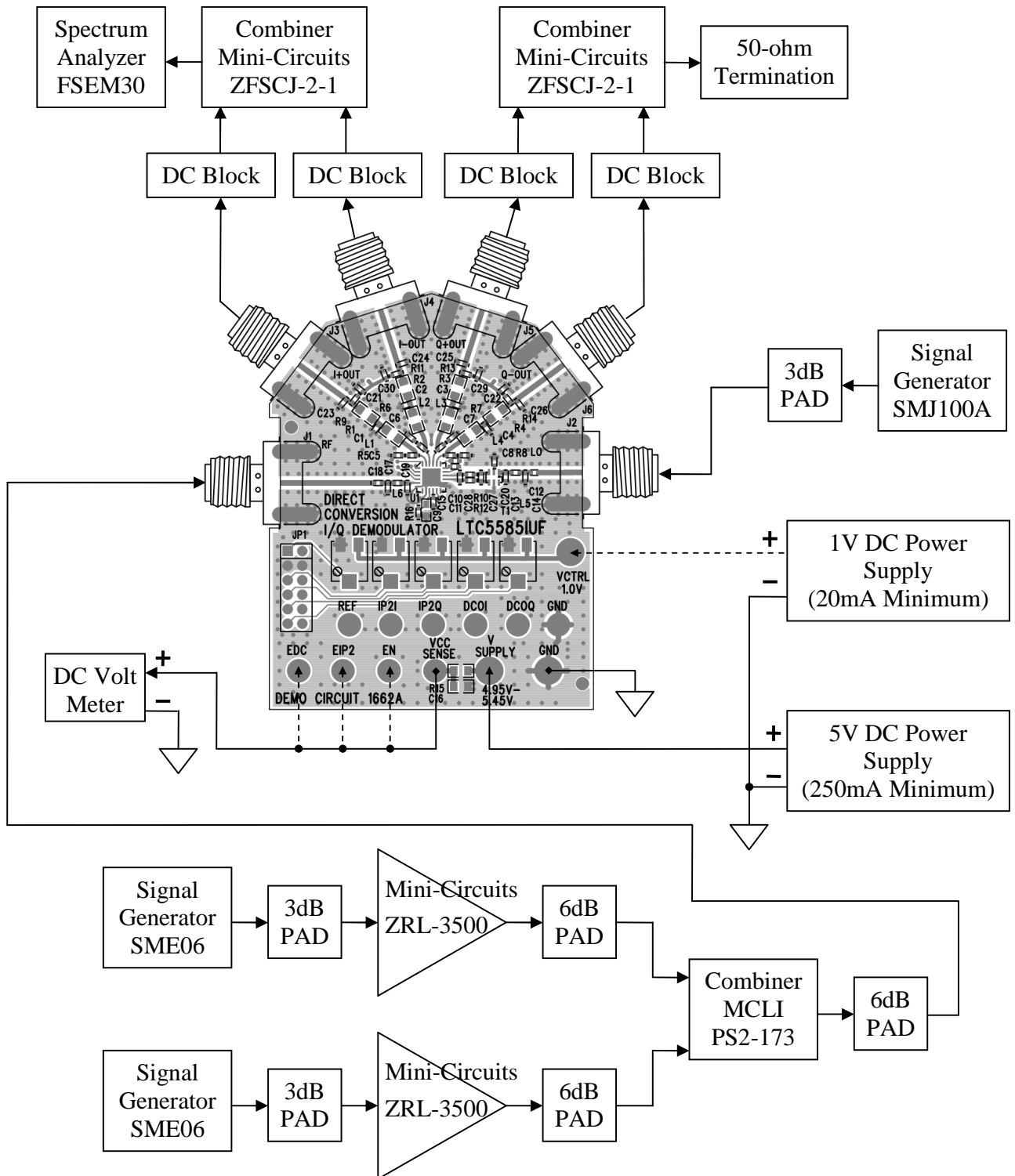
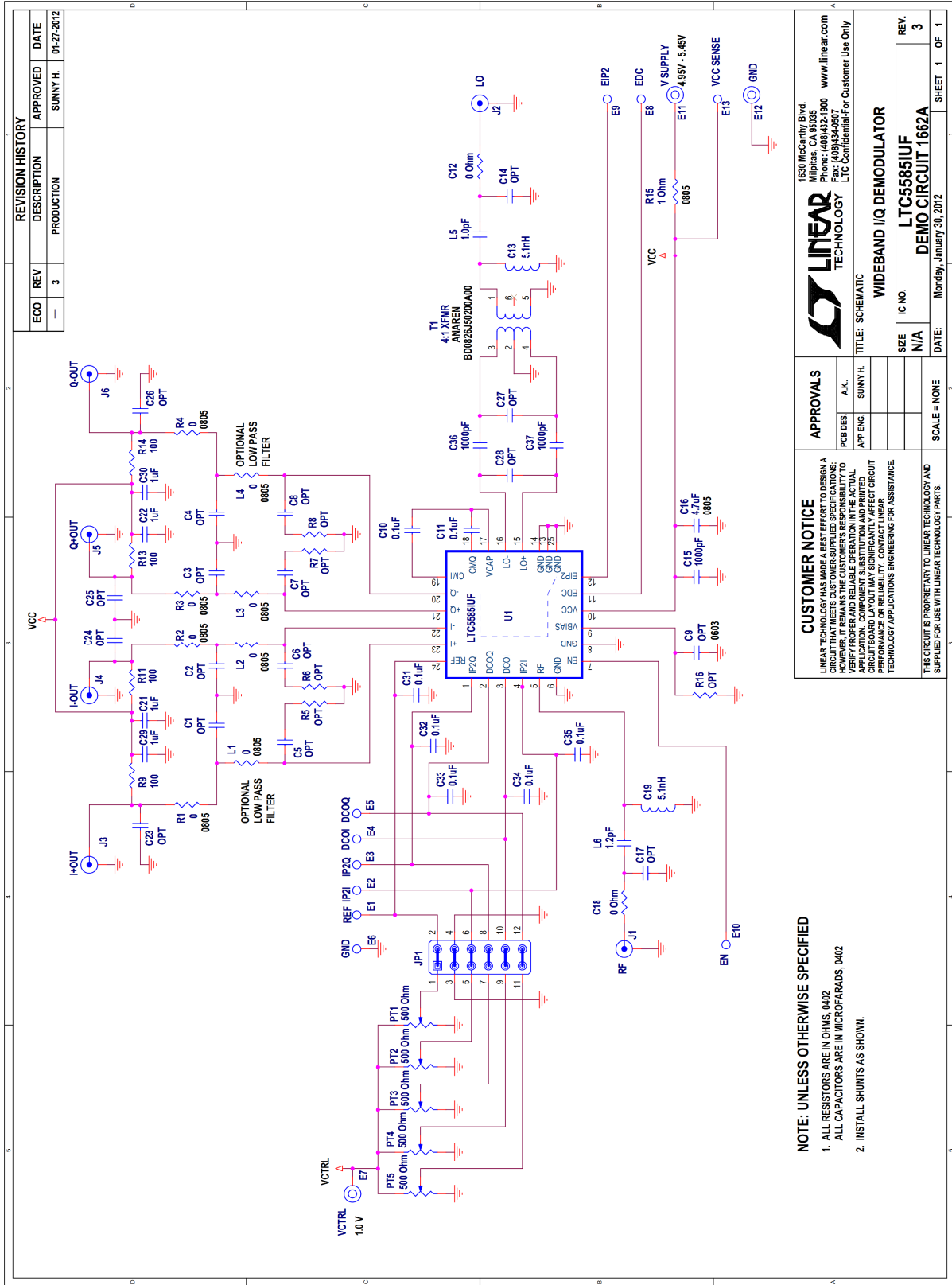


Figure 1. Measurement Setup



**CUSTOMER NOTICE**  
 LINEAR TECHNOLOGY HAS MADE A BEST EFFORT TO DESIGN A BOARD THAT WILL BE ASSEMBLED AND OPERATE AS SHOWN. HOWEVER, IT REMAINS THE CUSTOMER'S RESPONSIBILITY TO VERIFY PROPER AND RELIABLE OPERATION IN THE ACTUAL APPLICATION. COMPONENT SUBSTITUTION AND PRINTED BOARD DIMENSIONS ARE NOT GUARANTEED TO AFFECT CIRCUIT PERFORMANCE OR FUNCTIONALITY. CONTACT LINEAR TECHNOLOGY APPLICATIONS ENGINEERING FOR ASSISTANCE.

**APPROVALS**

Pcb DES	A.L.
APP ENG	SUNNY H.

**LINEAR TECHNOLOGY**  
 1630 McCarthy Blvd.  
 Milpitas, CA 95035  
 Phone: (408)432-1900 www.linear.com  
 Fax: (408)434-9597  
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TITLE: SCHEMATIC  
 WIDEBAND I/Q DEMODULATOR

SIZE	IC NO.	REV.
N/A	LTC5585IUF	3
DATE:	Monday, January 30, 2012	SHEET 1 OF 1

SCALE = NONE

- NOTE: UNLESS OTHERWISE SPECIFIED**
1. ALL RESISTORS ARE IN OHMS, 0402
  - ALL CAPACITORS ARE IN MICROFARADS, 0402
  2. INSTALL SHUNTS AS SHOWN.

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