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# 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 overdriving 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

Preliminary

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Figure 2. Demo Board Schematic

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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	ANAR EN, BD0826J50200A00
21	1	U1	IC, LT5585IUF#PBF, QFN 4mm X 4mm	LINEAR TECH., LT5585IUF#PBF