

DESCRIPTION

Demonstration circuit DC1177 is a micropower dual Buck-Boost/Buck synchronous converter based on the LTC3522 monolithic regulator. The DC1177 has an input voltage range of 2.4V to 4.2V and outputs 3.3V @ 300mA and 1.8V @ 200mA. The converters can be set for Fixed Frequency (PWM) or Burst Mode, providing high conversion efficiency over a wide range of load cur-

rents. The LTC3522 comes in a 16 lead 3x3 QFN package. These features make the DC1177 demo board an ideal circuit for use in Li-Ion battery-powered, hand-held applications such as PDAs, MP3 Players, and Personal Navigation Devices.

Design files for this circuit board are available. Call the LTC factory.

QUICK START PROCEDURE

Refer to Figure 1 for proper measurement equipment setup and follow the procedure below:

1. Set Load1 between 0A → 400mA and Load2 between 0A → 200mA.
2. Set the Power Supply to ~ 3.6Vin
3. VIN can be adjusted between 2.4V and 4.2V (note: max output current for VOUT1 is lower than 400mA at VIN below 3.0V).

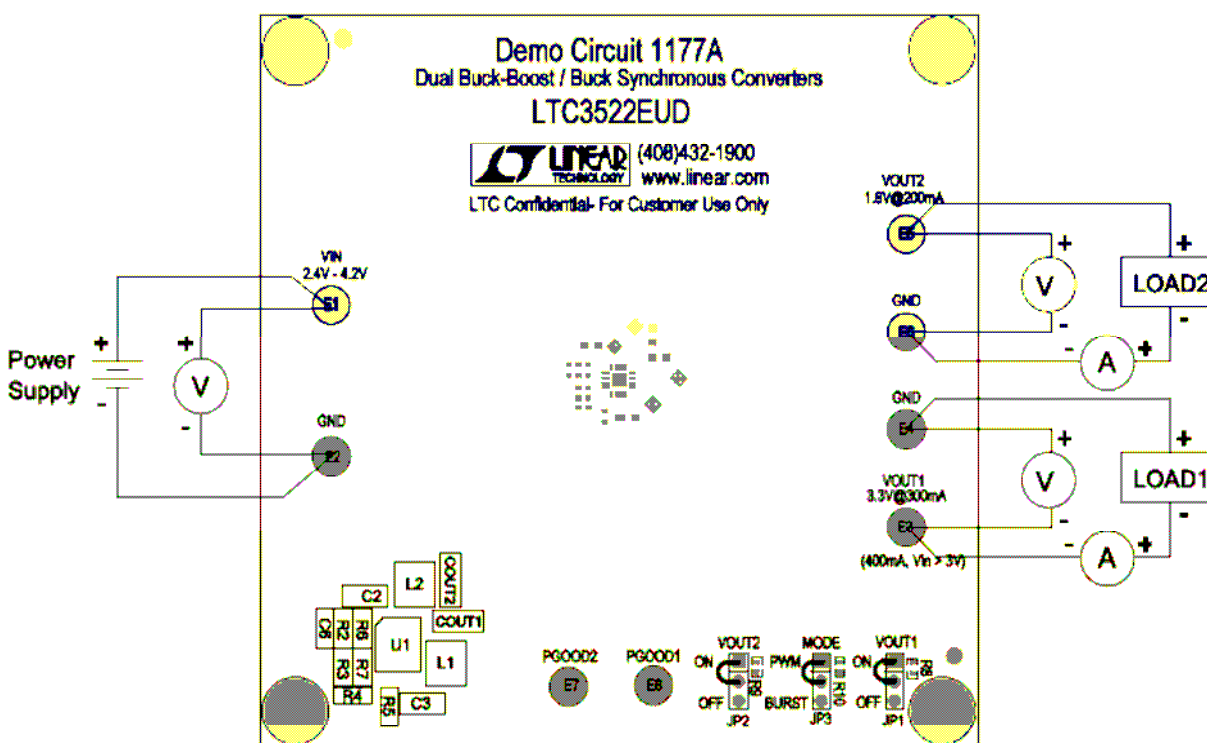
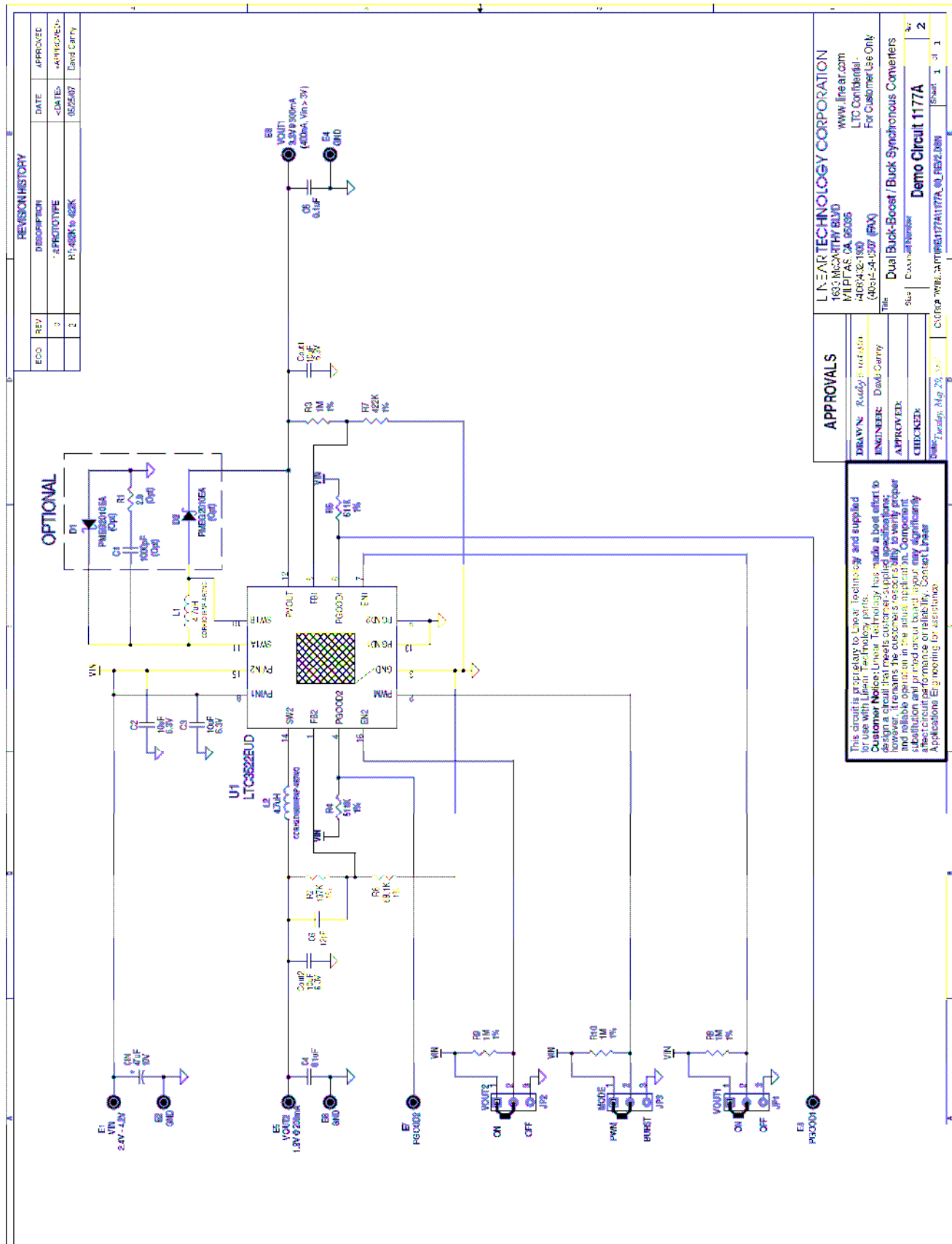


Figure 1. Proper Measurement Equipment Setup

QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 1177

DUAL BUCK-BOOST/ BUCK SYNCHRONOUS CONVERTERS



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DUAL BUCK-BOOST/ BUCK SYNCHRONOUS CONVERTERS

Item	Qty	Reference	Part Description	Manufacture / Part #
REQUIRED CIRCUIT COMPONENTS				
1	1	CIN	Cap., Tant. 47uF 10V 20%	AVX TAJB476M010R
2	4	Cout1,Cout2,C2,C3	Cap., X5R 10uF 6.3V 20%	Taiyo Yuden JMK107BJ106MA-T
3	2	C5,C4	Cap., X7R 0.1uF 16V 20%	AVX 0603YC104MAT2A
4	1	C6	Cap., X7R 12pF 25V 10%	AVX 04023C120KAT2A
5	1	L1	Inductor, 4.7uH	Sumida CDRH3D16NP-4R7NC
6	1	L2	Inductor, 4.7uH	Sumida CDRH2D18B/HPNP-4R7NC
7	1	R2	Res., Chip 137K 1/16W 1%	Vishay, CRCW0402137KFKED
8	4	R3,R8,R9,R10	Res., Chip 1M 0.06W 1%	Vishay CRCW04021M00FKED
9	2	R5,R4	Res., Chip 511K 1/16W 1%	Vishay, CRCW0402511KFKED
10	1	R6	Res., Chip 68.1K 0.06W 1%	Vishay, CRCW040268K1FKED
11	1	R7	Res., Chip 422K 1/16W 1%	Vishay, CRCW0402422KFKED
12	1	U1	I.C., DC/DC CONVERTER	Linear Tech. Corp. LTC3522EUD#PBF
ADDITIONAL DEMO BOARD CIRCUIT COMPONENTS				
1	0	C1 (Opt)	Cap., X7R 1000pF 25V 10%	AVX 04023C102KAT2A
2	0	D2,D1 (Opt)	Schottky Diodes, 1A/20V	Philips PMEG2010EA
3	0	R1 (Opt)	Res., Chip 2.0 0.06W 5%	Vishay CRCW04022R00JNED