QUICK START GUIDE FOR DEMONSTRATION CIRCUIT 709
DUAL SIM/SMART CARD POWER SUPPLY AND INTERFACE

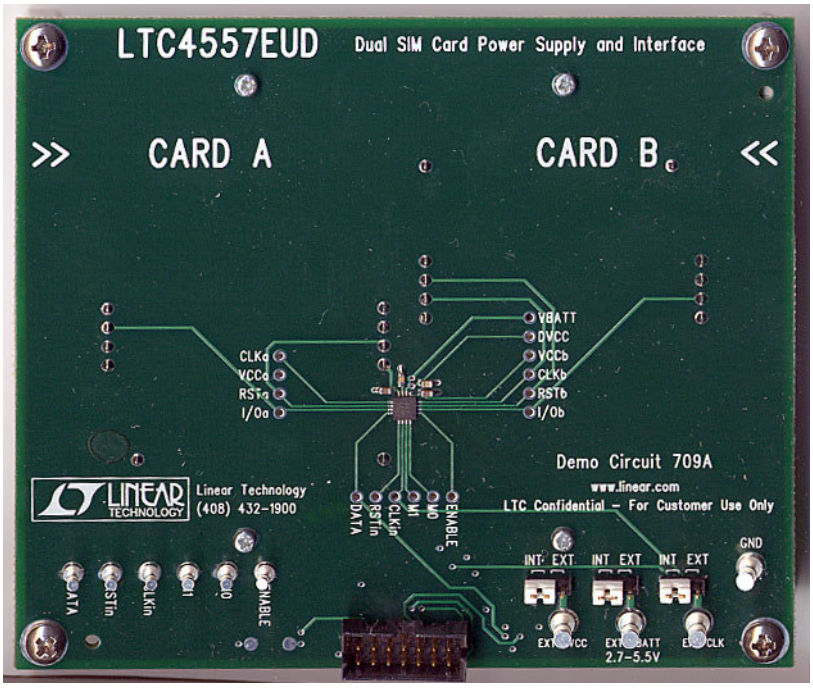
LTC4557

DESCRIPTION

The LTC®4557 provides power conversion and signal level translation needed for 2.5G and 3G cellular telephones to interface with 1.8V or 3V subscriber identity modules (SIMs). The part meets all requirements for 1.8V and 3V SIMs. The part contains LDO regulators to power 1.8V or 3V SIM cards from a 2.7V to 5.5V input. The output voltages can be set using the two voltage selection pins and up to 50mA of load current can be supplied. Internal level translators allow controllers operating with supplies as low as 1.2V to interface with 1.8V or 3V smart cards. Battery life is maximized by a low operating current of less than 100µA and a shutdown current of less than 1µA.

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

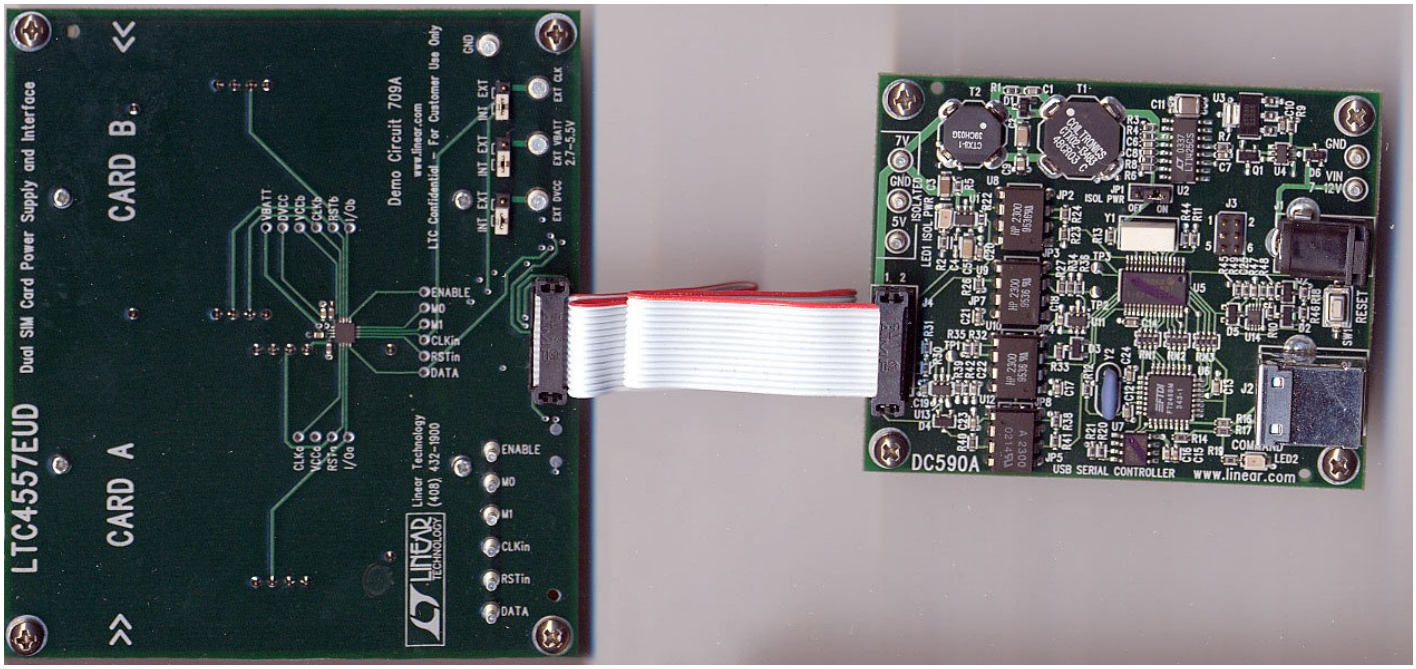
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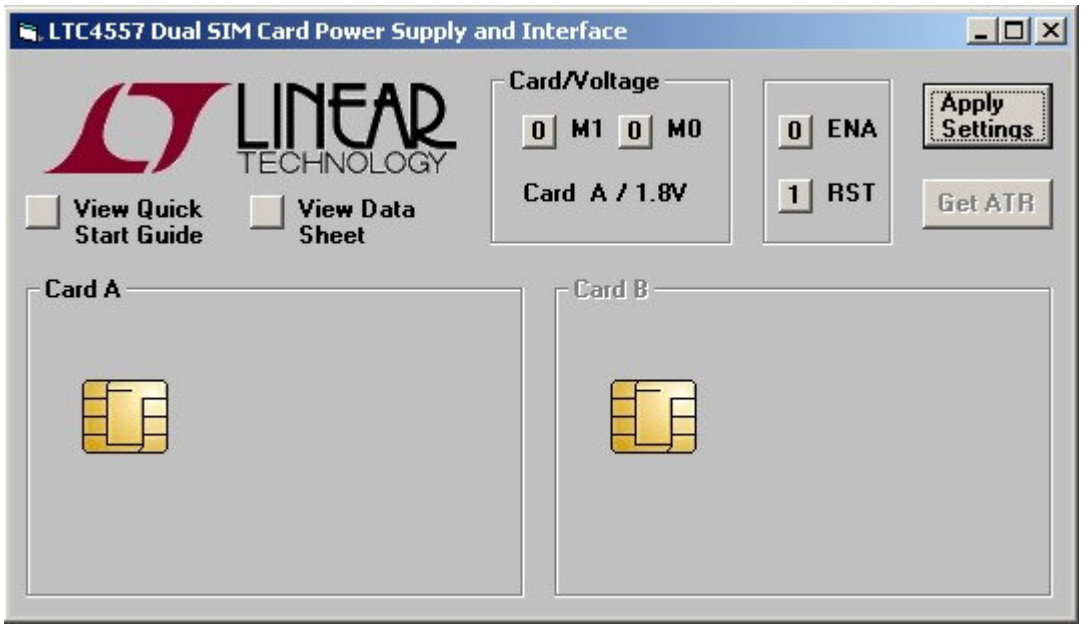
QUICK START PROCEDURE

The QuickEval™ (ltcqev.exe) software can be run from the supplied CD-ROM or by downloading it from www.linear.com. Follow the DC590A Quick Start Procedure for software installation instructions.

1. Plug the supplied USB cable into your computer and then into the DC590A controller board.
2. Run the ltcqev.exe program and the window below should appear.
3. Make certain that the three jumpers on the DC709 are set to "**INT**."
4. Attach the Ribbon cable from the DC590A to the DC709. Pin 1 is identified on the ribbon cable by a red mark. See photo below.



5. The QuickEval™ software will detect the DC709 and load the LTC4557 program (shown on page 3).



RUNNING THE APPLICATION

The program consists of an enable button (**ENA**) used to bring the part out of shutdown, mode control buttons to select the desired channel and voltage level, a reset button (**RST**), a button to apply the selected settings and a button to request an Answer-To-Reset (ATR).

Card/Voltage – These buttons are used to select the desired card socket and voltage level. The following table lists the **M1** and **M0** values and their resulting card and voltage settings:

M1	M0	Selected
0	0	Card A/1.8V
0	1	Card A/3V
1	0	Card B/1.8V
1	1	Card B/3V

ENA – This button brings the LTC4557 out of shutdown mode. The selected card socket will be powered per the startup sequence when **ENA** is set to "1" and the **Apply Settings** button is pressed.

RST – Setting this button to "1" will send a reset signal to the selected card socket when the **Apply Settings** button is pressed.

Apply Settings – This button will set the inputs to the LTC4557 to the values selected by the **M0**, **M1**, **ENA** and **RST** pins. The values sent to the LTC4557 will not change until this button is pressed.

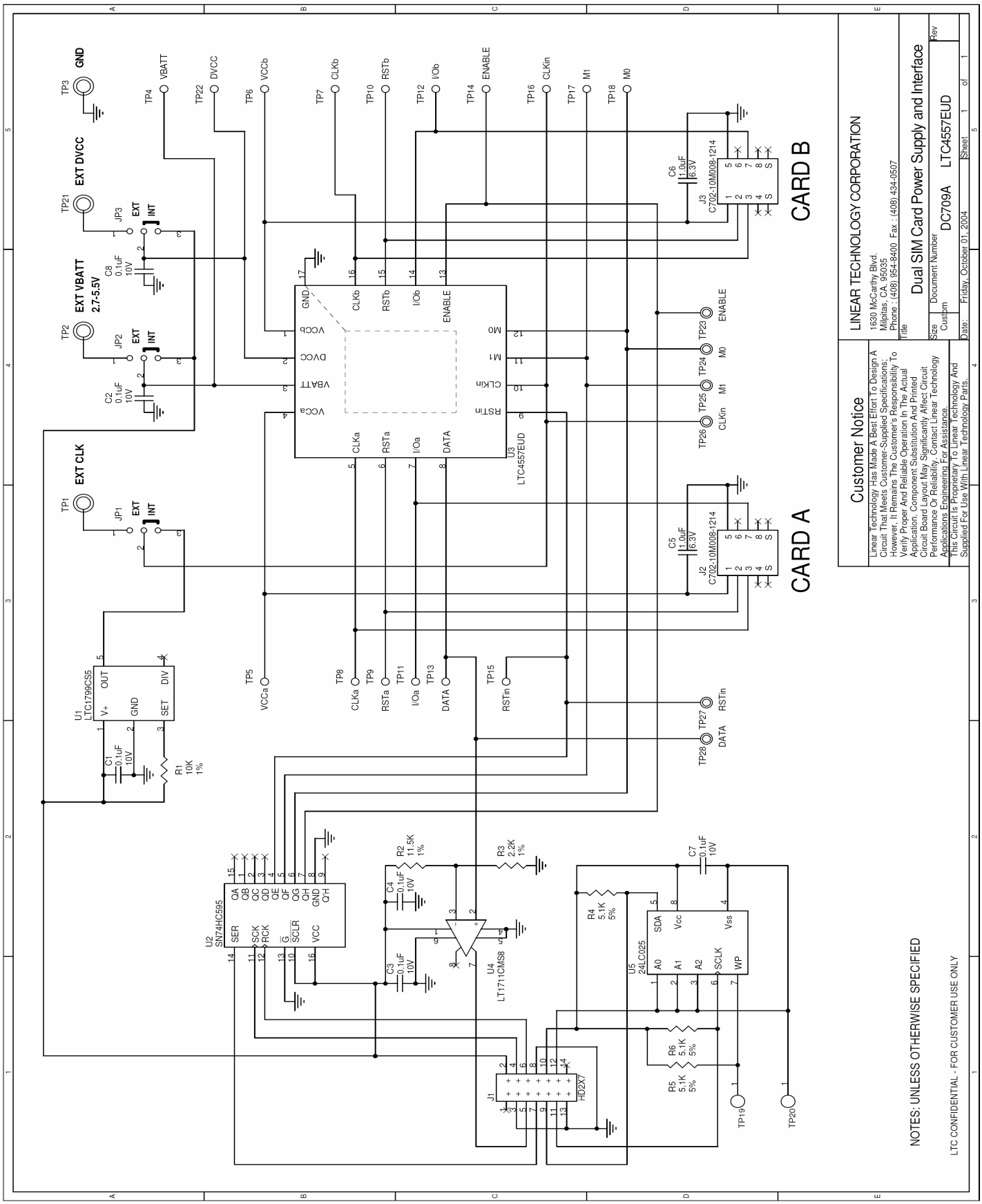
Get ATR – Pressing this button will send a reset to the selected card socket, and display the ATR in the box representing the selected card. This button is independent of the **RST** button and does not require **RST** to be set to "1." A valid card must be inserted into the card socket for an ATR to be displayed.

STANDALONE OPERATION

The DC709 may be used independently of the DC590A This is particularly useful for evaluation of the LTC4557's electrical specifications and activation/deactivation sequences. The LTC4557 demo program cannot be used without the DC590A in this mode, however.

To use the DC709 as a standalone evaluation board, set the three jumpers on the board to "**EXT**." This will enable the user to power the circuit via the power supply terminals. Connect a power supply to the **EXT VBATT**, **EXT DVCC** and **GND** terminals on the board.

An external clock signal may be applied to the **EXT CLK** terminal. **M1**, **M0**, **ENABLE** and **RSTIN** may be set by supplying signals directly to the testpoints on the board.


CARD A
CARD B
U1 LTC1799CS5
U2 SN74HC595
U3 LTC4557EUD
U4 LT1711CMS8
U5 24LC025
J1 HD2X7
J2 C702-10M008-1214
J3 C702-10M008-1214
JP1 EXT INT
JP2 EXT INT
JP3 EXT INT
EXT CLK
EXT VBATT 2.7-5.5V
EXT DVCC
GND
VBATT
DVCC
VCCb
CLKb
RSTb
I/Ob
ENABLE
CLKin
M1
M0
VCCa
CLKa
RSTa
I/Oa
DATA
RSTin
R1 10K 1%
R2 11.5K 1%
R3 2.2K 1%
R4 5.1K 5%
R5 5.1K 5%
R6 5.1K 5%
C1 0.1uF 10V
C2 0.1uF 10V
C3 0.1uF 10V
C4 0.1uF 10V
C5 1.0uF 6.3V
C6 1.0uF 6.3V
C7 0.1uF 10V
C8 0.1uF 10V
Customer Notice
Linear Technology Has Made A Best Effort To Design A Circuit That Meets Customer-Supplied Specifications; However, It Remains The Customer's Responsibility To Verify Proper And Reliable Operation In The Actual Application. Component Substitution And Printed Circuit Board Layout May Significantly Affect Circuit Performance Or Reliability. Contact Linear Technology Applications Engineering For Assistance.
This Circuit Is Proprietary To Linear Technology And Supplied For Use With Linear Technology Parts.
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Title
Dual SIM Card Power Supply and Interface
Size: Custom
Document Number DC709A LTC4557EUD
Rev
Date: Friday, October 01, 2004
Sheet 1 of 1
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