

Abstract

AKD4182A-A is the board for evaluation of the touch screen controller AK4182A which adopted the QFN small package suitable for the cellular phone, the handheld game machine, etc. Since AKD4182A-A has a touch-panel I/F and a digital I/O power supply input terminal, it is easily connectable with a target system of low power/voltage drive. Furthermore, since the analog input terminal is equipped analog voltage and external battery voltage can also be measured.

Function

- AK4182A (QFN16 package)
- Digital I/F for uP
- Touch-panel I/F
- Analog input terminal
- Digital I/O power supply terminal

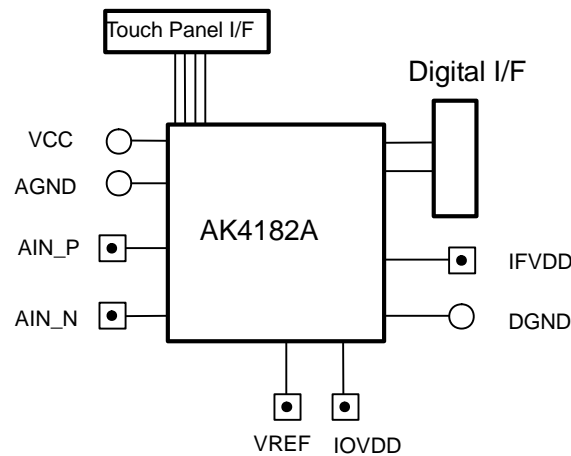


Figure 1 AKD4182A-A Block Diagram

■ Operation procedure

1. Wiring of a power supply
 - VCC (Red) = 2.2V~3.6V
 - AGND (Black) = 0V
 - DGND (Black) = 0V
 - IOVDD (Blue) = IFVDD (Orange) = 1.5V~VCC
 - JP1, JP5-short
2. A setup of evaluation mode and a jumper
3. Power supply injection

■ Evaluation mode selection

- 1) Position, Pen Pressure
- 2) Analog input voltage measurement

1) Position, Pen Pressure

4 wire touch-panel (X+, X-, Y+, and Y-) is connected to J1 connector.

Jumper setup

JP2 (XPSEL)	-----select XP
JP3 (YPSEL)	-----select YP
JP4 (XNSEL)	-----select XN
JP6 (YNSEL)	-----select YN

- 2) Analog input voltage measurement
 AIN_P (Green) ----- Analog input
 AIN_N (Black) ----- AGND
 Input pin selection: PORT2 (VBAT, IN)

■ Power supply injection, Evaluation

1) Digital serial data input

When the control command data indicated by specification from digital I/F (P1 or PORT3) was inputted the AD conversion is carried out and is outputted from a DOUT.

■ Driver install

Attached software is the application software which checks the function of the AK4182A. Windows(R) Win98, Win2K, and WinXP are supported. However, to make it operate on Win2K and XP, it is necessary to install driver in advance. Please follow a procedure with reference to DriverSetupe.pdf. Installation of a driver is unnecessary to use it by the Windows 98 system.

■ Run the software

First match Port Address of your PC environment. Measurements are started when the start button is clicked after select Channel Selection, MODE, and Power Down 1 and 2. A result will be displayed on AD OUT Section. When carrying out position detection, the position where pen clicked on the touch panel is measured.

Operation can set up two control commands. Continuation operation can be performed. Each data (mean, max, and min) is also displayed at the same time. PENIRQN can be seen by the break of a command.

AK4182 Control Soft

Channel Selection

1st Measurement: DFR X-axis CS "H"

2nd Measurement: DFR Y-axis CS "H"

Port Address: 0x378

of repetition: 8

Clocks/Conversion: 24

Temperature(°C): 0.00

MODE: 12bit 8bit

Power Down 1: PD1 PD0

Power Down 2: PD1 PD0

Pressure: Rtouch = Rxplate * 0.00

X Postion: 0.00 Y Postion: 0.00

AD OUT Section

MEAN	0.00	0.00
MAX	0	0
MIN	0	0
SIGMA	0.00	0.00

START
RESET
CLOSE

CS = H DIN = H DCLK = H

CS = L DIN = L DCLK = L

■ Trouble Shooting

1. Application error is occurred and doesn't start up
If the operating system is Windows 2000/XP, Please install AKMport driver first.
2. MEAN value in AD OUT section does not change when click start button (cannot write control command to AK4182A)
Please set the port address to your PC platform environment.
3. The MEAN, MAX, MIN value doesn't change wherever the pen pushes down on the panel.
There is a possibility of the trouble of the contact of the relay connector (plat 8pin-8-wire converter) that connects the touch panel. Please open JP2, 3, 4, and 6 on the evaluation board, measure panel seat resistance (XP-XN, YP-YN), and check the resistance. Generally, the panel seat resistance is hundreds of Ω . There is a possibility that the touch panel is not correctly connected if the value is over thousands of $k\Omega$. Please connect the relay connector and check the resistance value again.

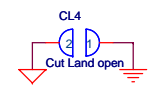
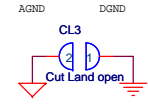
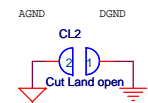
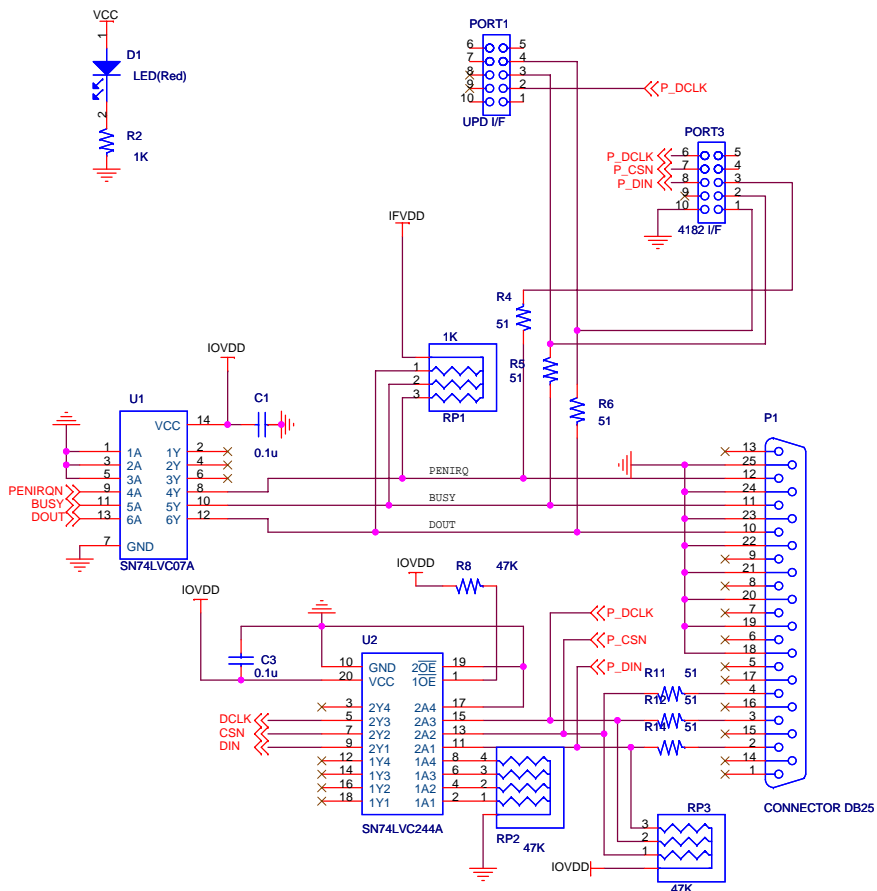
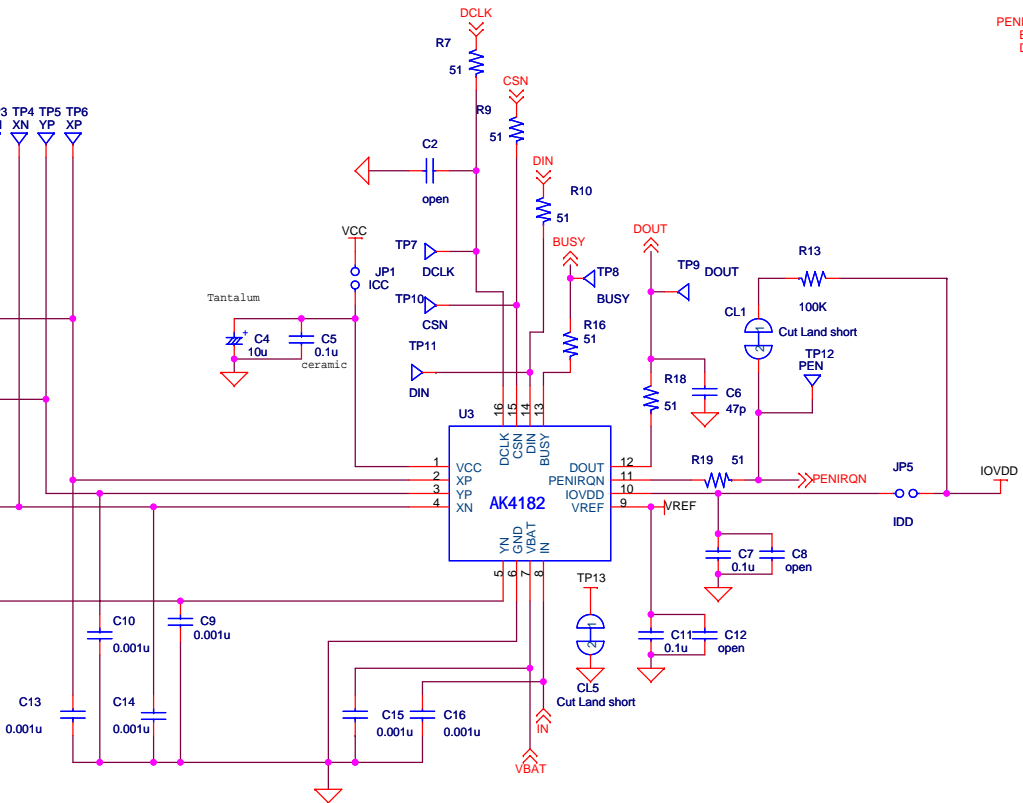
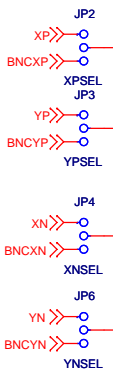
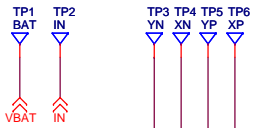
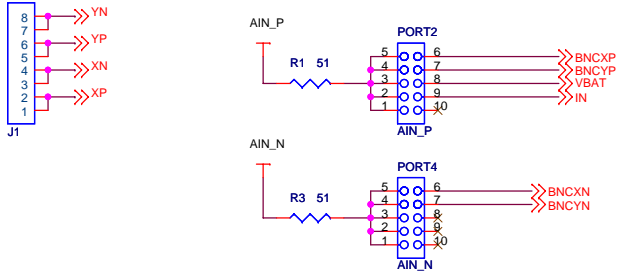
Revision History

Date (YY/MM/DD)	Manual Revision	Board Revision	Reason	Page	Contents
07/07/09	KM077600	0	First Edition		

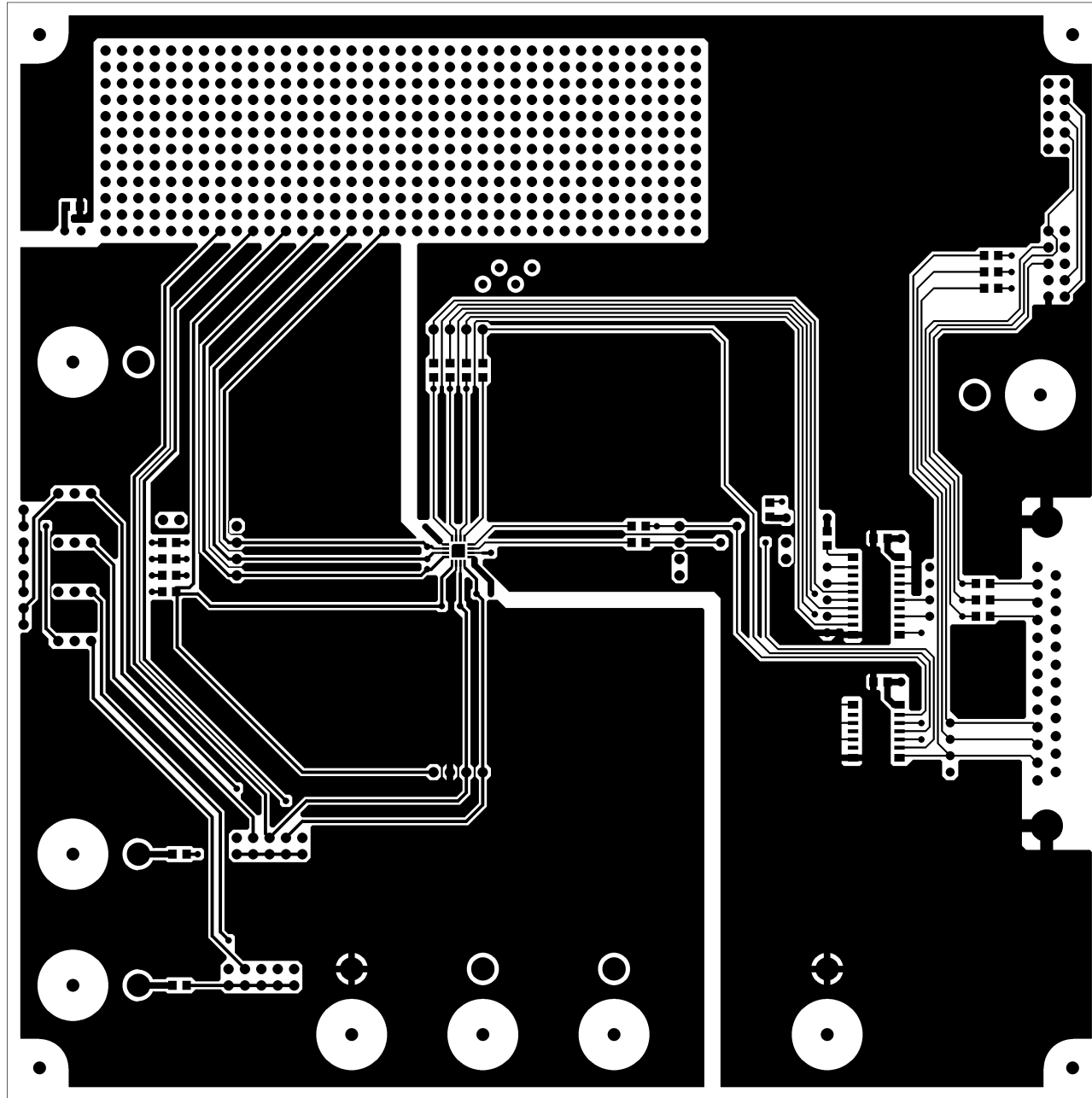
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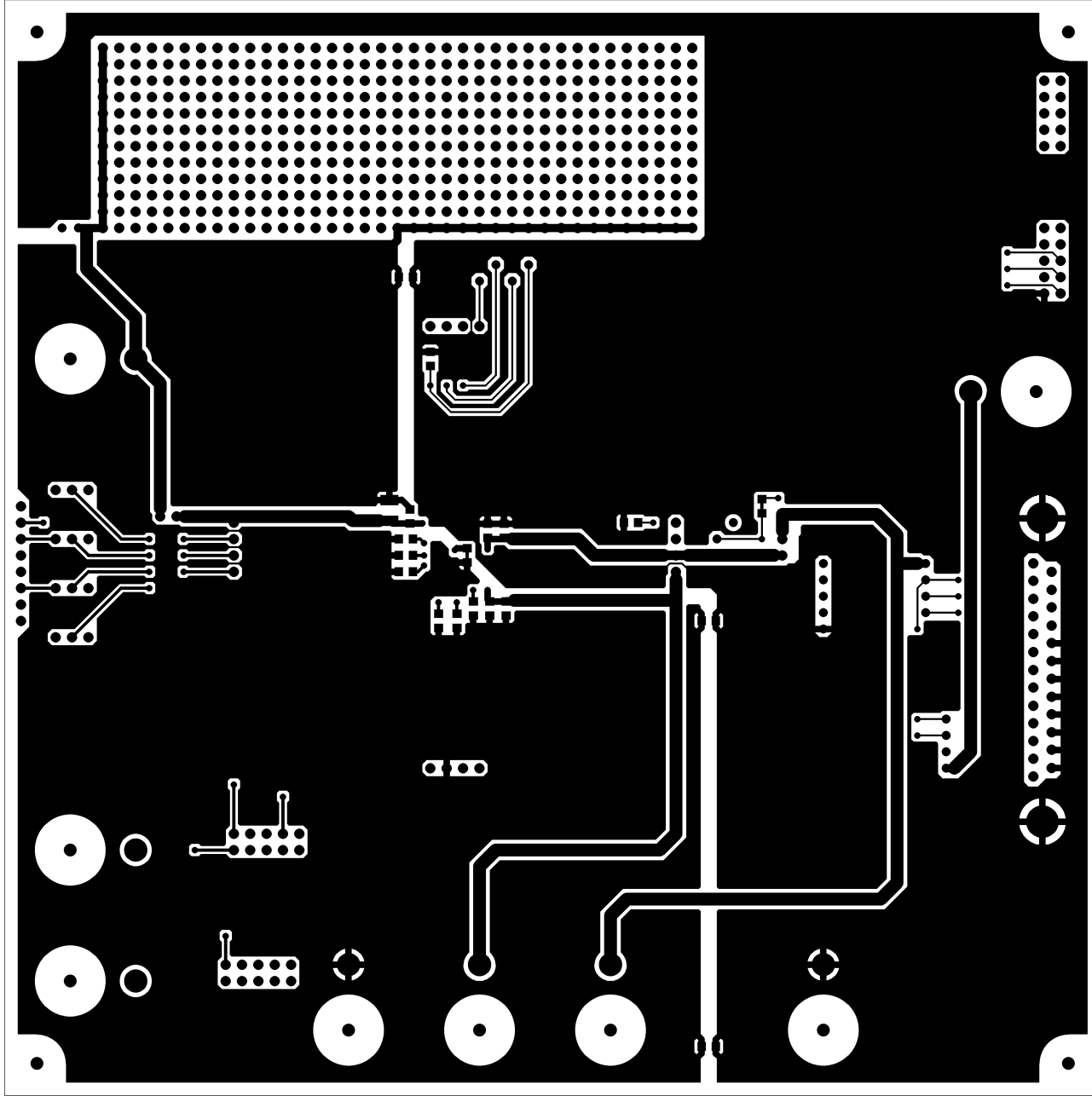
TouchScreen



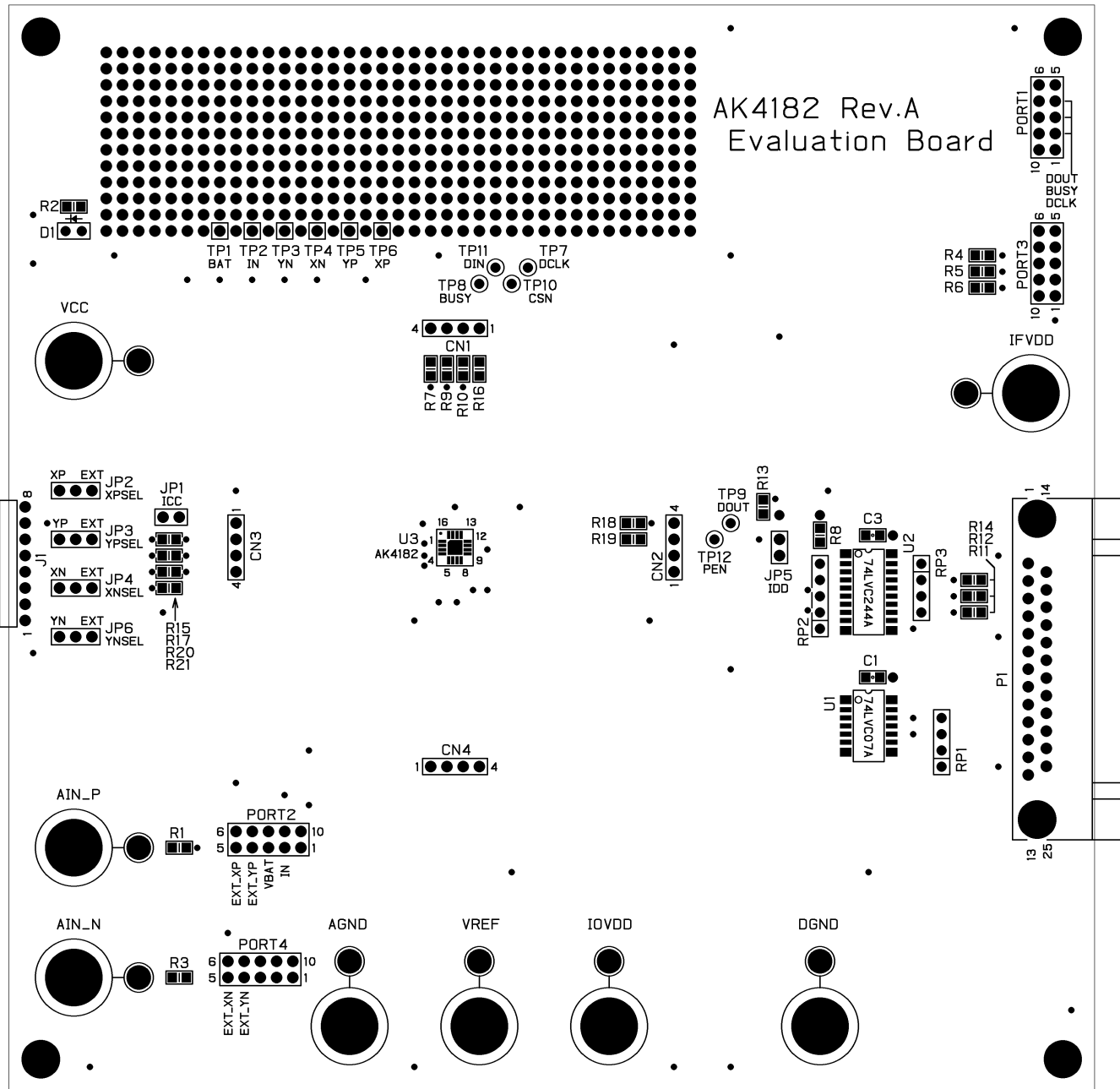
Title		
AKD4182-A Main board		
Size	Document Number	Rev
A3	<Doc>	0.84
Date:	Monday, July 09, 2007	Sheet 1 of 1



AK4182 Rev.A L1



AK418Z Rev.A LS



AK4182 Rev.A L1 SR SILK

