Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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# Contact us

# AS3606/7 – AN01 - Evalboard
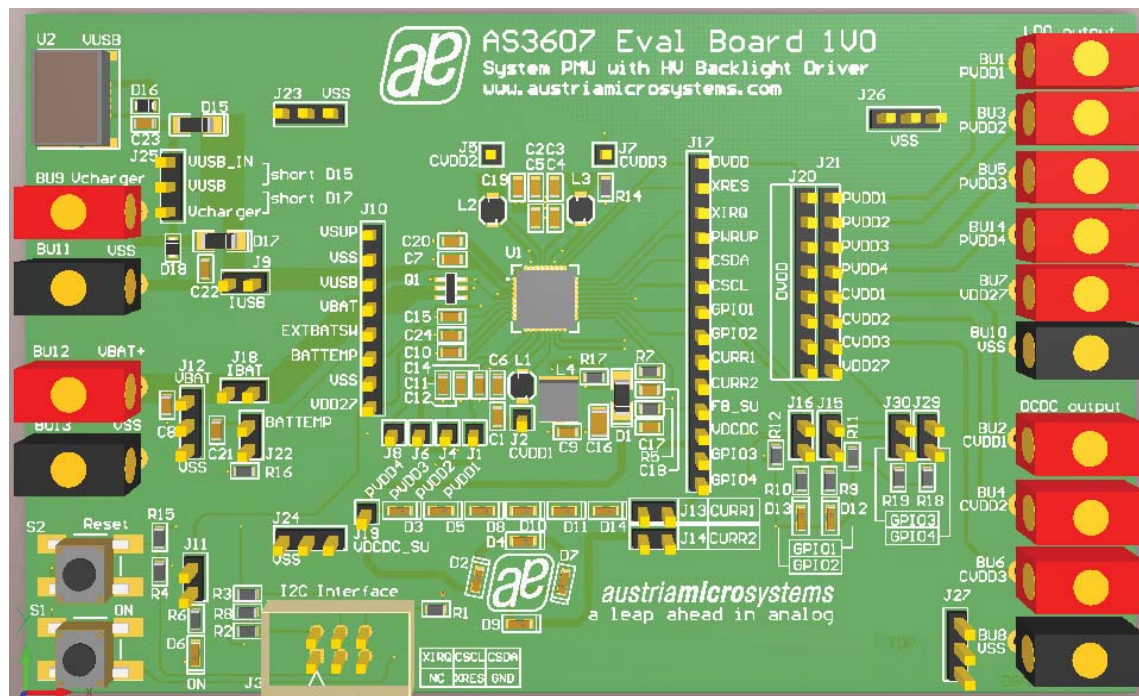## System PMU with HV Back Light Driver

## 1    General Description

The AS3606/07 is an ultra compact System PMU with
integrated battery charger and HV back light driver.
The device offers advanced power management functions.
All necessary ICs and peripherals in a battery
powered mobile device are supplied by the AS3606/07.
It features 3 DCDC converters as well as 5 low noise
LDOs.
The different regulated supply voltages are programmable
via the serial control interface.
The step-up converter for the backlight can operate up
to 26V. Both constant voltage (OLED supply) as well as
constant current (white LED backlight) operations with 2
current sinks are possible. An internal voltage protection
is limiting the output voltage in the case of external component
failures.
AS3606/07 also contains a Li-Ion battery charger with
constant current and constant voltage. The maximum
charging current is 1A. An integrated battery switch and
an optional external switch are separating the battery
during charging or whenever an external power supply
is present. With this switch it is also possible to operate
with no or deeply discharged batteries. A programmable
current limit can be used to control the maximum current
used from a USB supply.
The single supply voltage may vary from 2.7V to 5.5V.

# Table of Contents

## 2    Other applicable documents and papers

Data Sheet: AS3607 0v1

## 3    Further Applications

Applications based on the AS3607 are continuously updated. Visit our home-page:
**http://www.austriamicrosystems.com**

## 4    Revision status

AS3607_AN01_Evalboard Application note (this document):    Rev.: 1v1
AS3607 Evalboard schematic:    Rev.: 1v0
AS3607 Evalboard layout    Rev.: 1v0
AS3606 Evalboard schematic:    Rev.: 1v1
AS3606 Evalboard layout    Rev.: 1v1

## 5    General description

Remark: all subsequent component numbering refers to the application schematics, shown in pt. Application Schematic.

# 6 Getting Started

## 6.1 AS3606/07 Demo Software Installation

Start the demo software Installation Shield with "Install Demo Software".
The Install Shield will guide you through the rest of the installation.
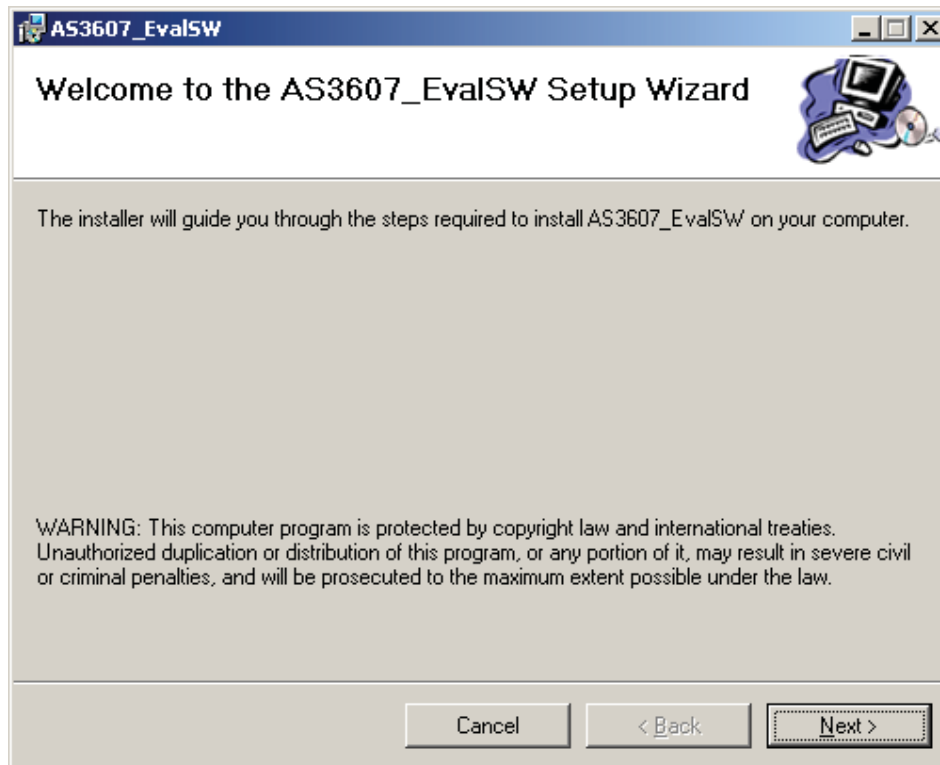
## 6.2  Connecting the Evalboard and USB Box with the PC

After the successful installation of the demo software, the USB Box can be connected to the PC and to the Evalboard as shown in the picture below.
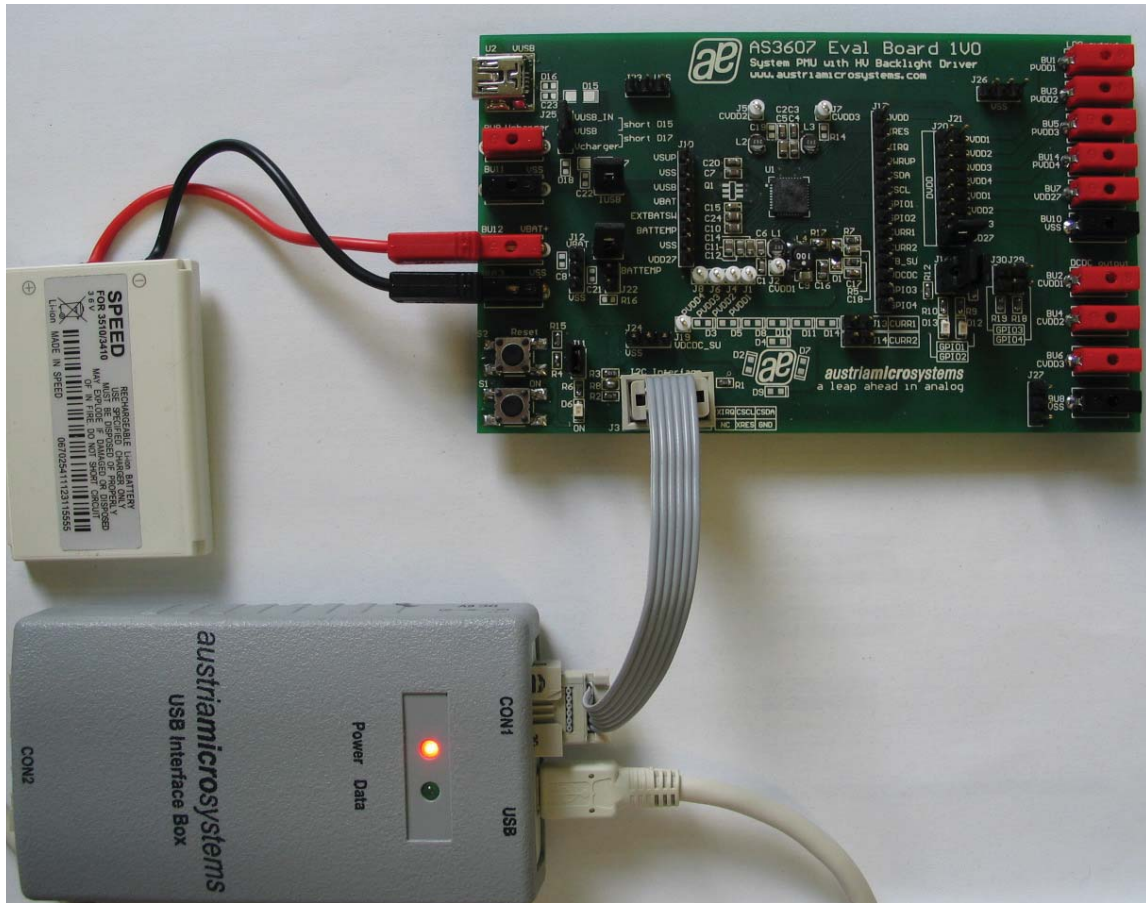
## 6.3  Starting the AS3607 Demo software

The correct installed demo software can be started from **Start > Programs > austriamicrosystems > AS3607 EvalSW**.
USB connection is immediately indicated in the status bar of the demo software.
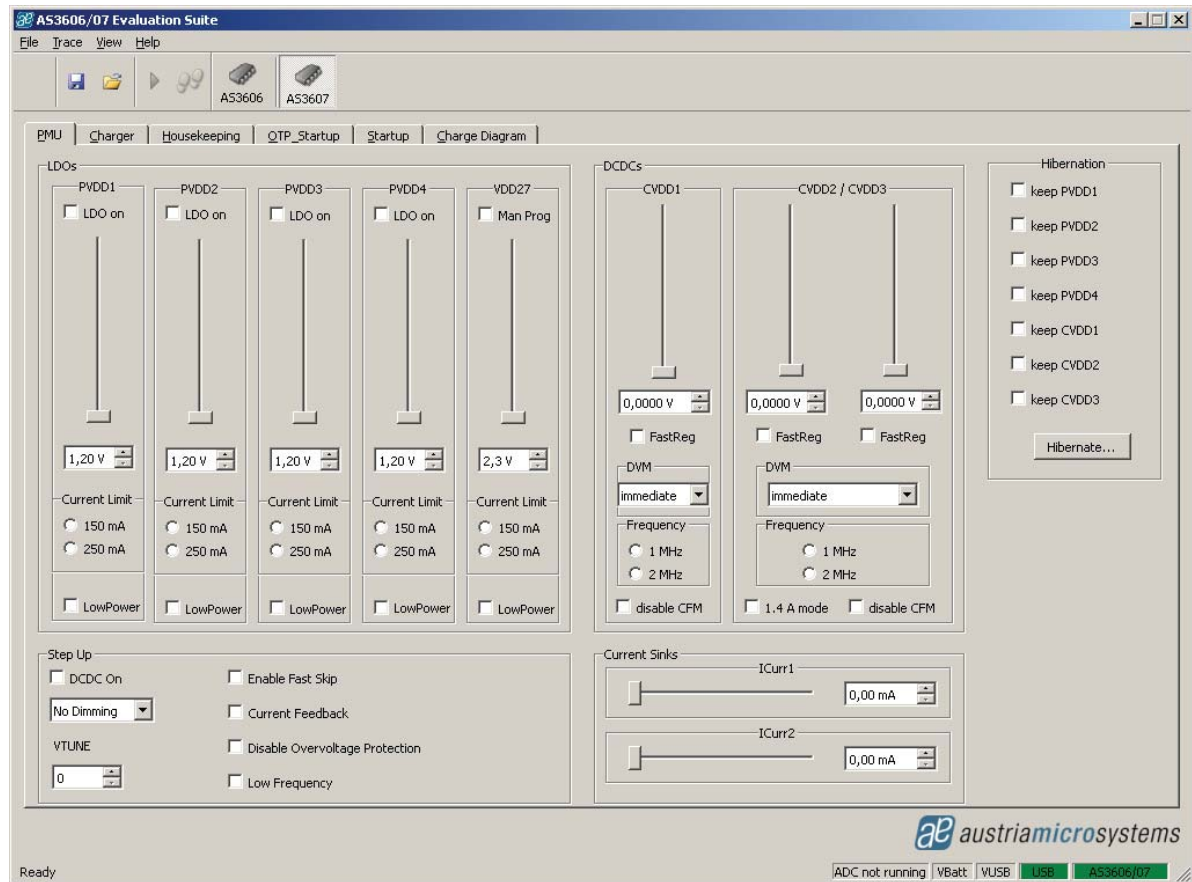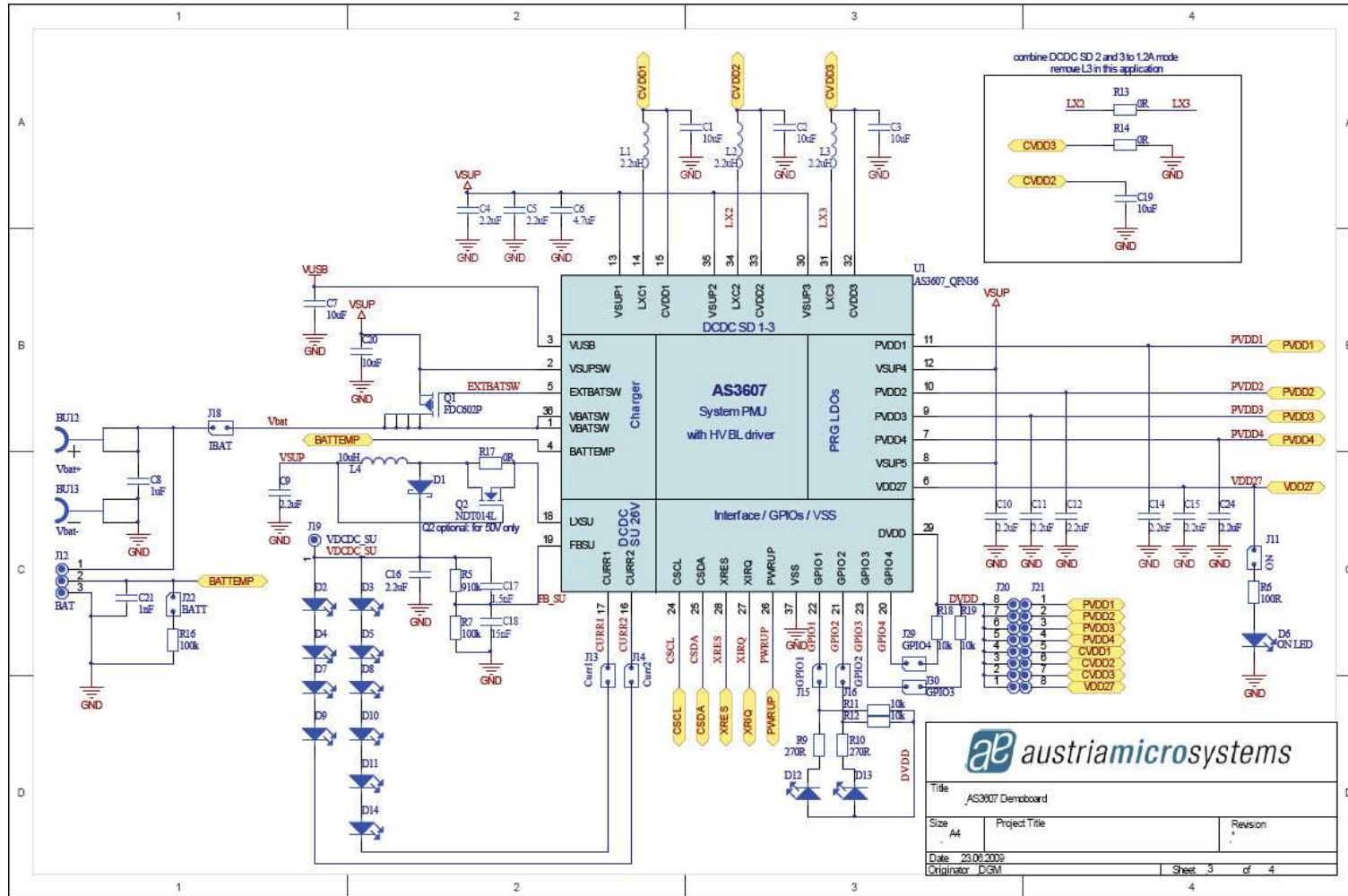
# 7 AS3607 Evalboard 1V0 connector and jumper locations

Listed below are the various connectors and jumpers.

| Jumper | Function | comment |
|---|---|---|
| J1 | PVDD1 | measurement pinhead of LDO PVDD1 |
| J2 | CVDD1 | measurement pinhead of DCDC CVDD1 |
| J3 | I2C Interface | USB-Box connector |
| J4 | PVDD2 | measurement pinhead of LDO PVDD2 |
| J5 | CVDD2 | measurement pinhead of DCDC CVDD2 |
| J6 | PVDD3 | measurement pinhead of LDO PVDD3 |
| J7 | CVDD3 | measurement pinhead of DCDC CVDD3 |
| J8 | PVDD4 | measurement pinhead of LDO PVDD4 |
| J9 | I USB | current measurement jumper of charge current |
| J10 | measurement pinhead | |
| J11 | ON LED | status LED connected to VDD27 |
| J12 | VBAT | Battery voltage measurement pinhead |
| J13 | CURR1 | current measurement jumper of CURR1 |
| J14 | CURR2 | current measurement jumper of CURR2 |
| J15 | GPIO1 | if set, LED D12 is connected to GPIO1 |
| J16 | GPIO2 | if set, LED D13 is connected to GPIO2 |
| J17 | measurement pinhead | |
| J18 | I BAT | current measurement jumper of battery current |
| J20 | DVDD | DVDD can be supplied with one of the regulators; default: set to VDD27 |
| J21 | regulator output | DVDD can be supplied with one of the regulators; default: set to VDD27 |
| J22 | BATTEMP | |
| J23, J24, J26,J27 | VSS | |
| J25 | disable protection jumper | |
| J29,J30 | GPIO3, GPIO4 | if set, pull up resistor is connected to GPIO3/4 |
| BU1 – BU7 | LDO and DCDC converter output | |
| BU9 | Charger input | Charger input: 2mm connector |
| U2 | Charger input | Charger input: USB connector |
| B12 | VBAT+ | Battery connector |
| B13 | VBAT- | Battery connector |
| B8,B10, B13 | VSS | |
| S1 | ON | ON button |
| S2 | Reset | Reset button |

Connector and Jumper locations of AS3607 Eval Board 1V0

# 8   Application Schematic of AS3607 Evalboard 1v0



Application Schematic AS3607 Evalboard 1v0- page 1

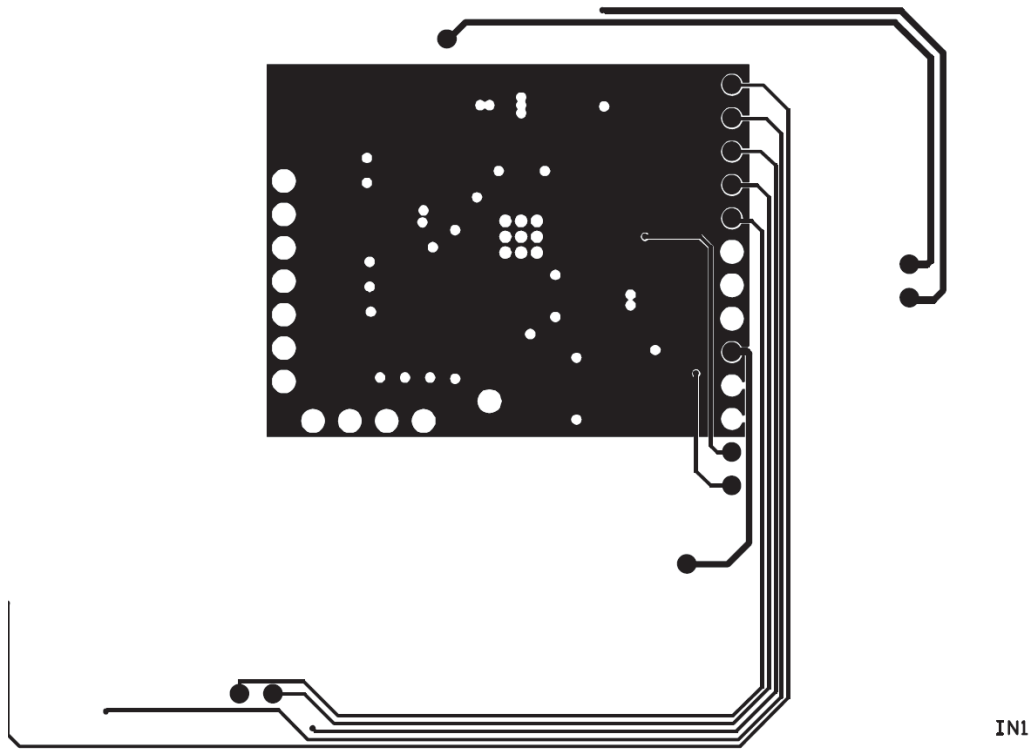Preliminary Application Note - Confidential
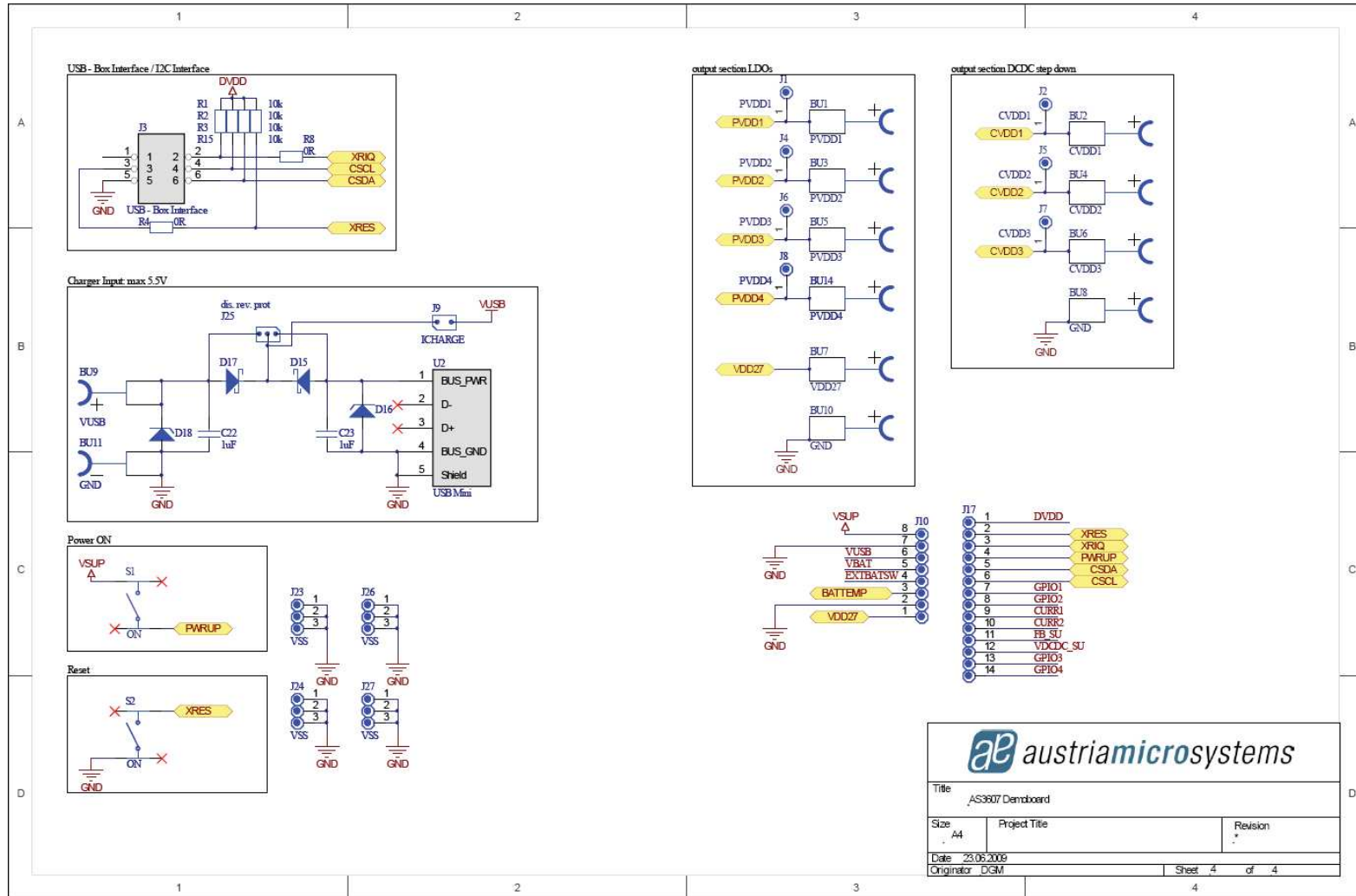


Application Schematic AS3607 Evalboard 1v0 – page2
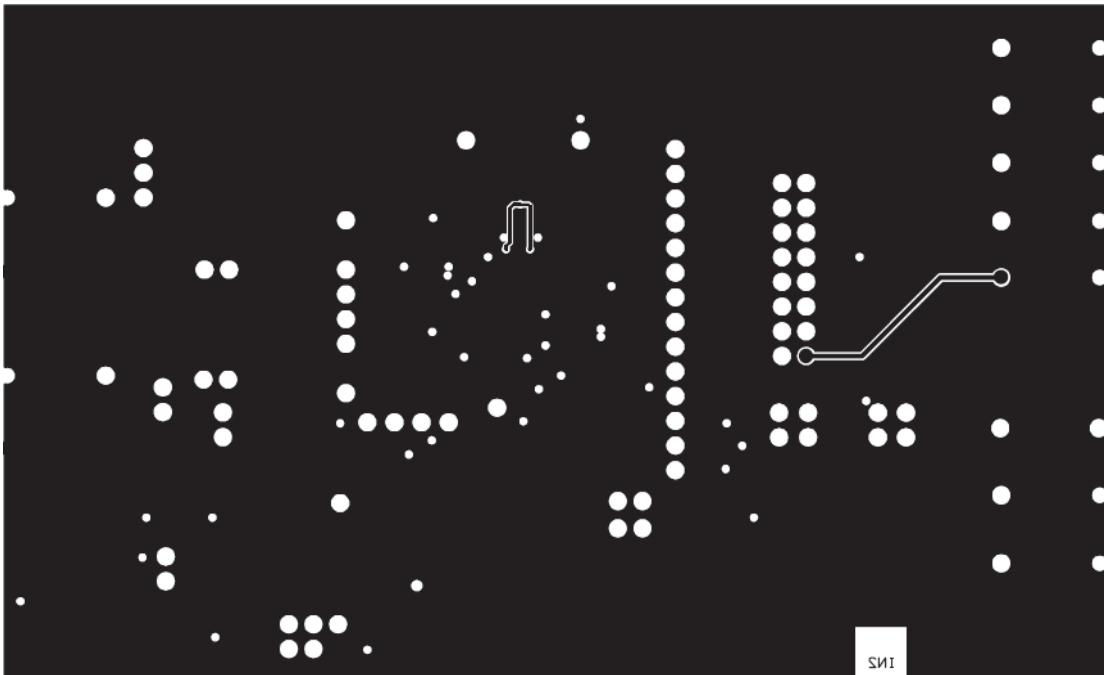
## 9   AS3607 Evalboard 1v0: Layout (top view)
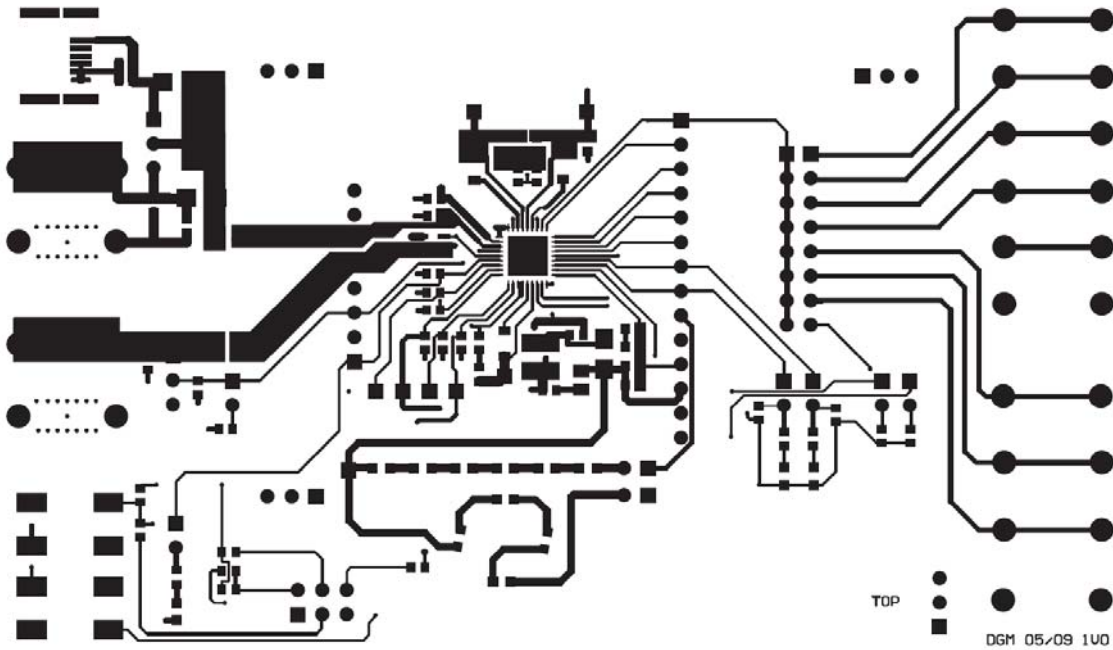


Layout (top view)
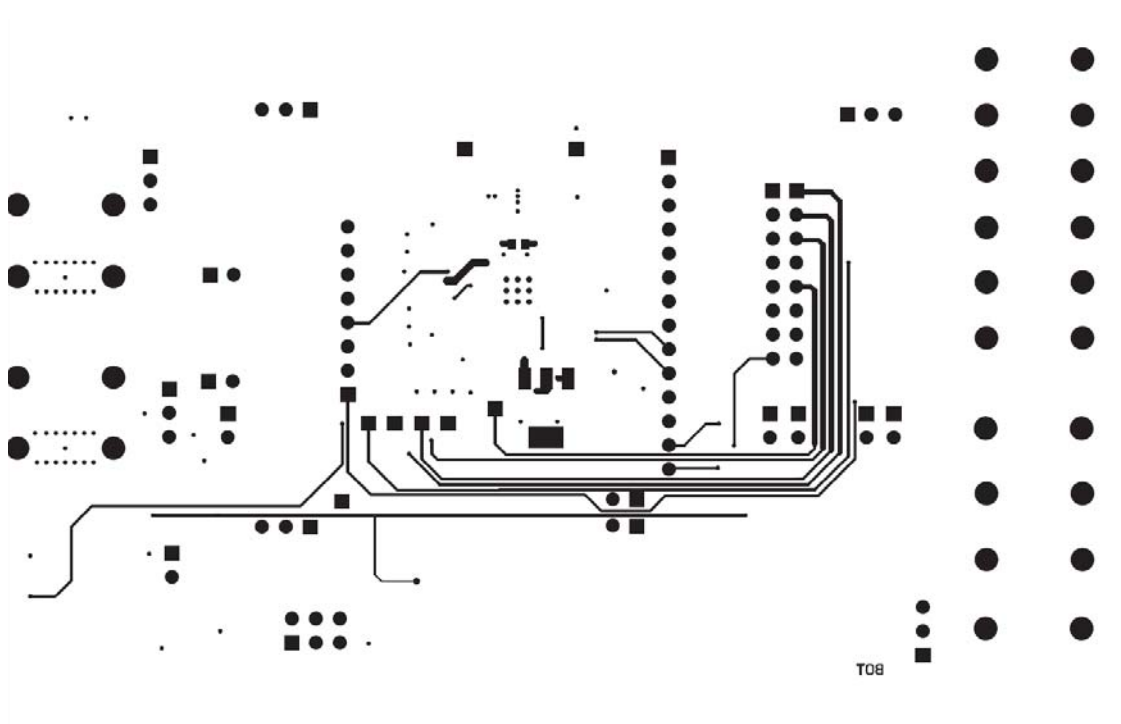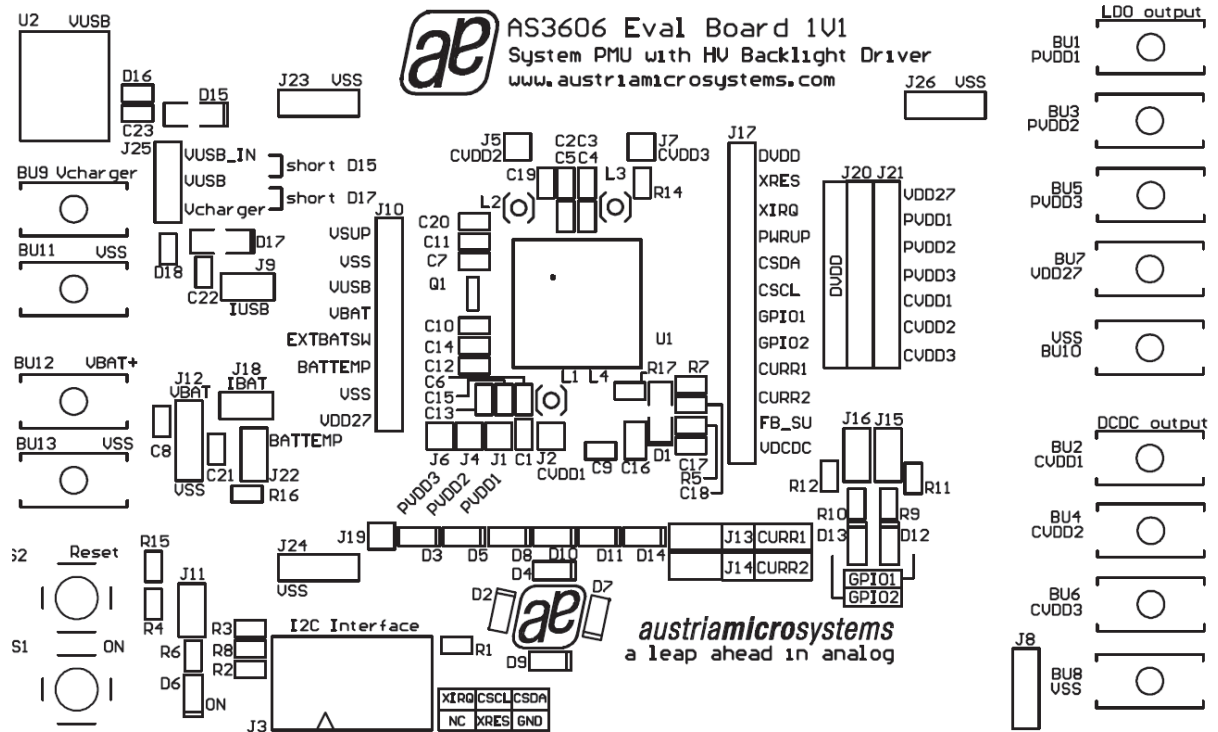
## 10  AS3607 Evalboard 1v0: Layout (mid layer 1)



Layout (mid1 view)

## 11 AS3607 Evalboard 1v0: Layout (mid layer 2)



Layout (mid2 view)

## 12 AS3607 Evalboard 1v0: Layout (bottom view)



Layout (bottom view)

# 13 AS3606 Evalboard 1V1 connector and jumper locations

Listed below are the various connectors and jumpers.

| Jumper | Function | comment |
|---|---|---|
| J1 | PVDD1 | measurement pinhead of LDO PVDD1 |
| J2 | CVDD1 | measurement pinhead of DCDC CVDD1 |
| J3 | I2C Interface | USB-Box connector |
| J4 | PVDD2 | measurement pinhead of LDO PVDD2 |
| J5 | CVDD2 | measurement pinhead of DCDC CVDD2 |
| J6 | PVDD3 | measurement pinhead of LDO PVDD3 |
| J7 | CVDD3 | measurement pinhead of DCDC CVDD3 |
| J9 | I USB | current measurement jumper of charge current |
| J10 | measurement pinhead | |
| J11 | ON LED | status LED connected to VDD27 |
| J12 | VBAT | Battery voltage measurement pinhead |
| J13 | CURR1 | current measurement jumper of CURR1 |
| J14 | CURR2 | current measurement jumper of CURR2 |
| J15 | GPIO1 | if set, LED D12 is connected to GPIO1 |
| J16 | GPIO2 | if set, LED D13 is connected to GPIO2 |
| J17 | measurement pinhead | |
| J18 | I BAT | current measurement jumper of battery current |
| J20 | DVDD | DVDD can be supplied with one of the regulators; default: set to VDD27 |
| J21 | regulator output | DVDD can be supplied with one of the regulators; default: set to VDD27 |
| J22 | BATTEMP | |
| J23, J24, J26,J8 | VSS | |
| J25 | disable protection jumper | |
| BU1 – BU7 | LDO and DCDC converter output | |
| BU9 | Charger input | Charger input: 2mm connector |
| U2 | Charger input | Charger input: USB connector |
| B12 | VBAT+ | Battery connector |
| B13 | VBAT- | Battery connector |
| B8,B10, B11 | VSS | |
| S1 | ON | ON button |
| S2 | Reset | Reset button |

Connector and Jumper locations of AS3606 Eval Board 1V1
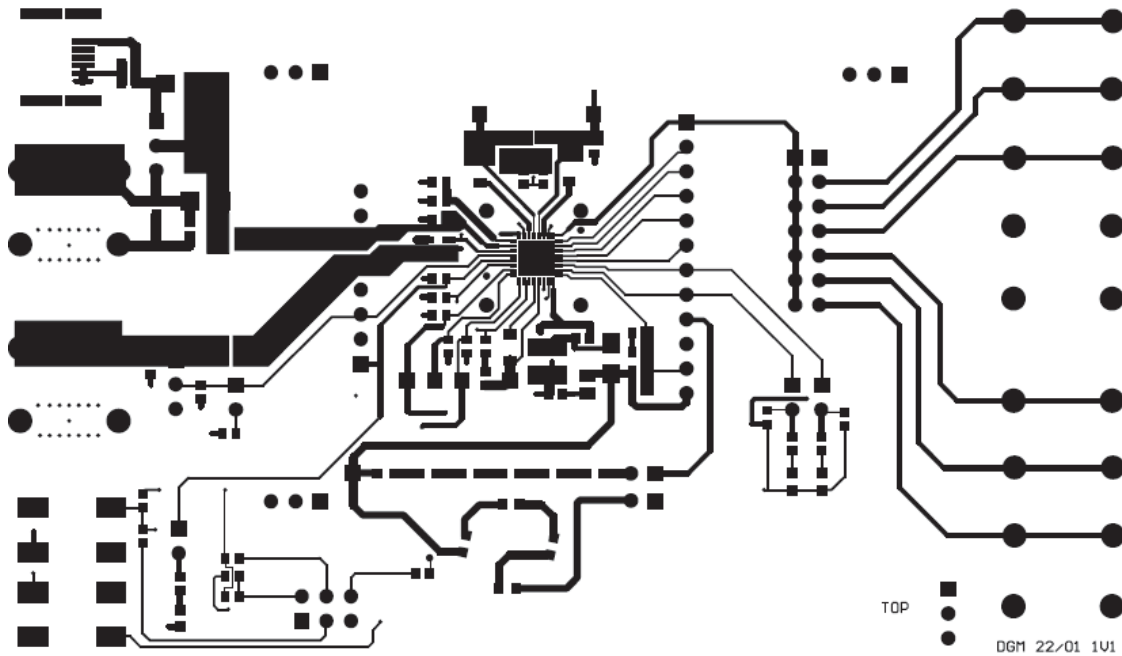
# 14 Application Schematic of AS3606 Evalboard 1v1
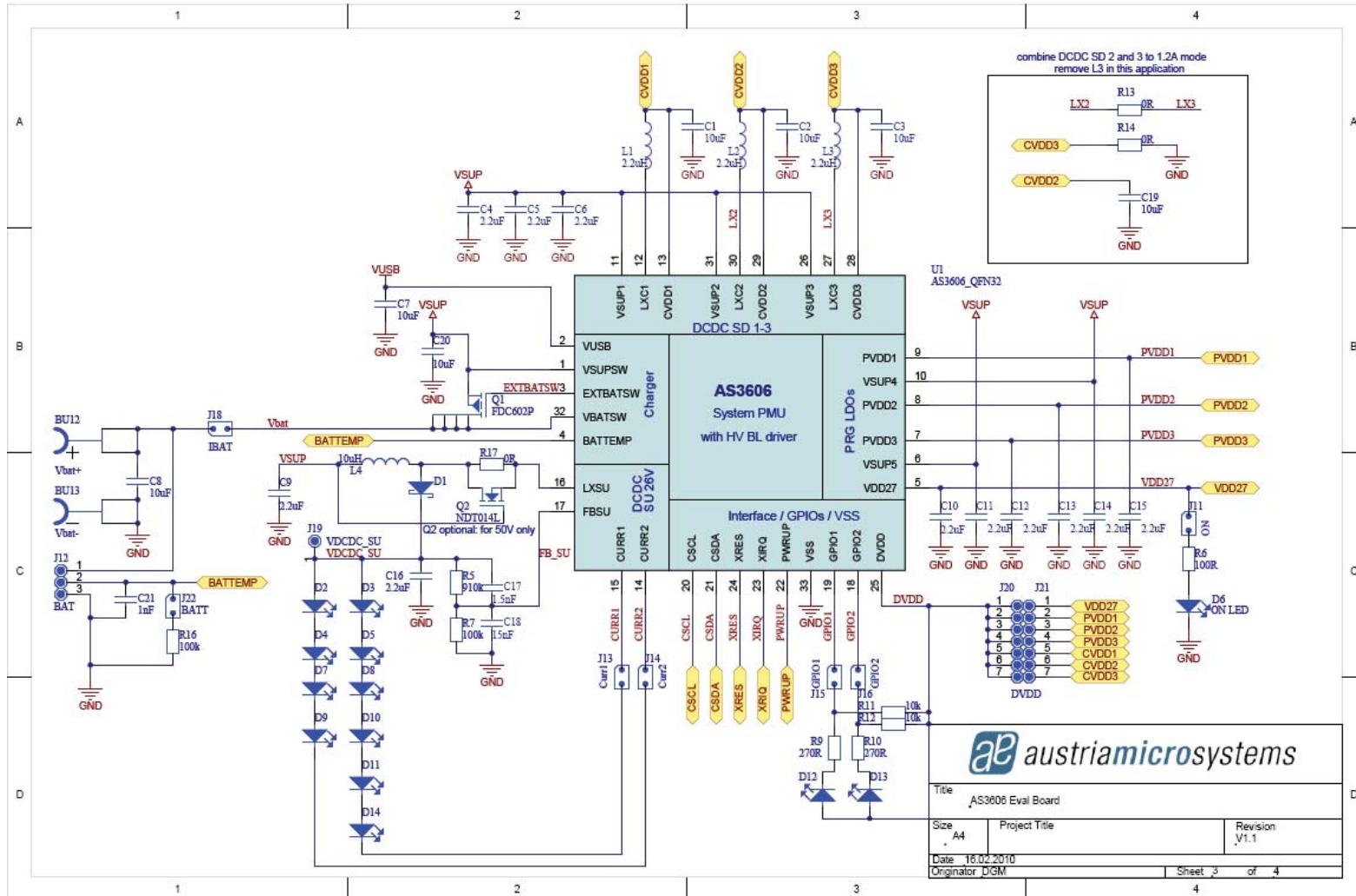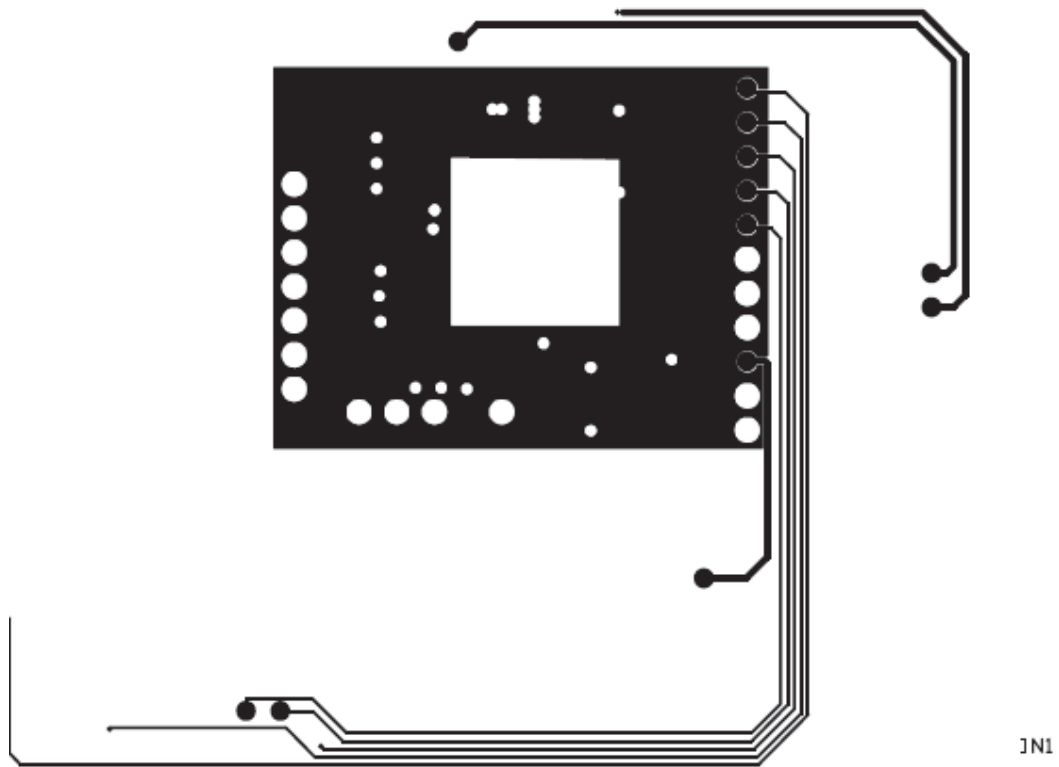


Application Schematic AS3606 Evalboard 1v1 – page1
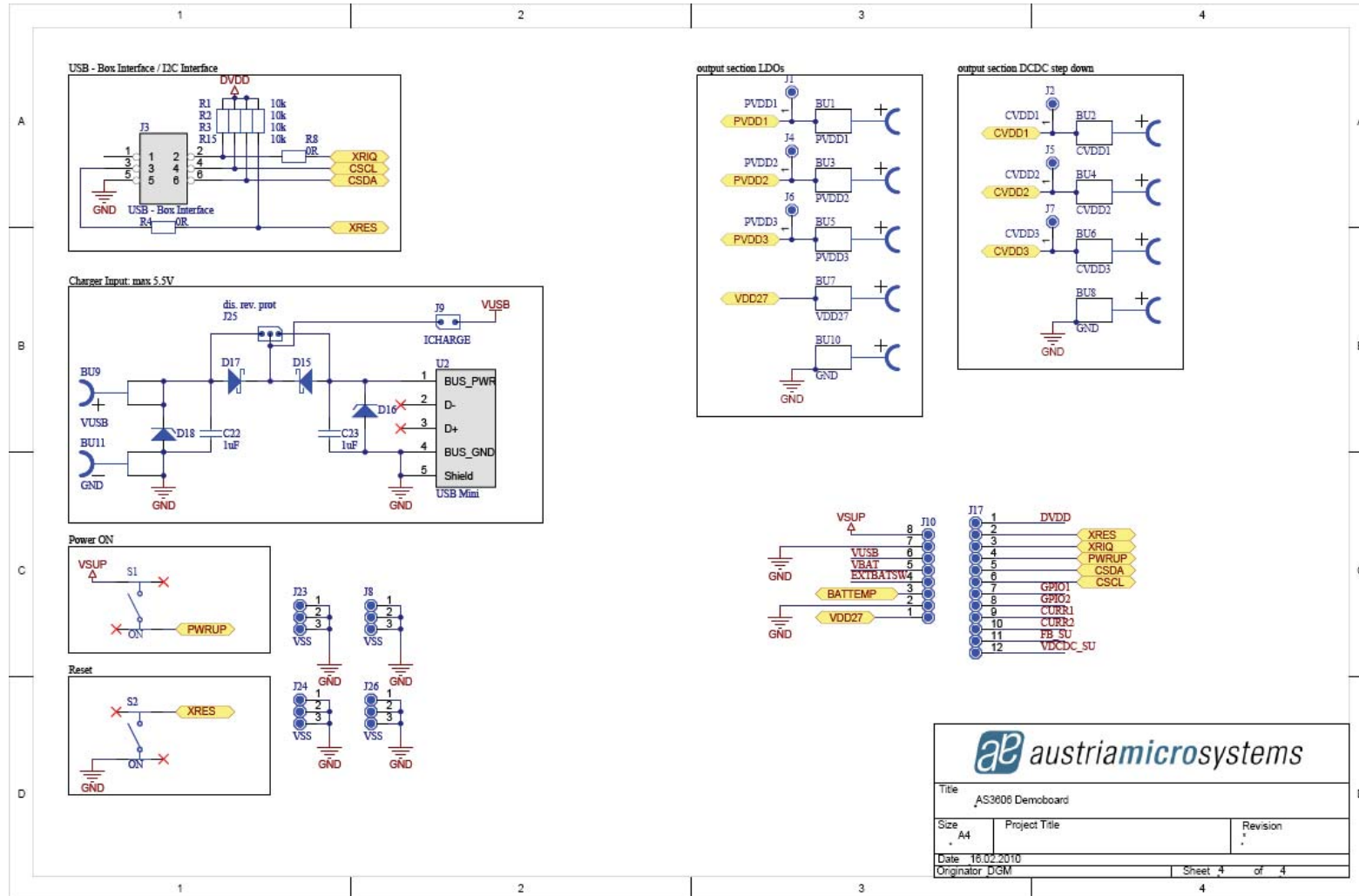
Application Schematic AS3606 Evalboard 1v1 – page2
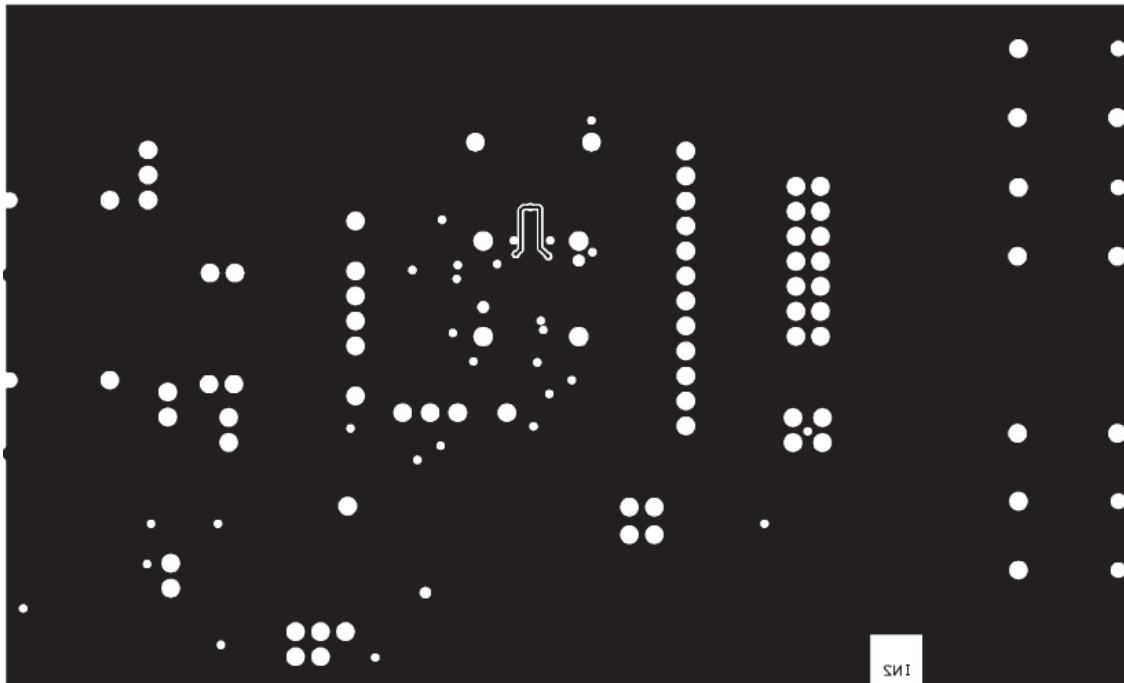
## 15  AS3606 Evalboard 1v1: Layout (top view)

Layout (top view)
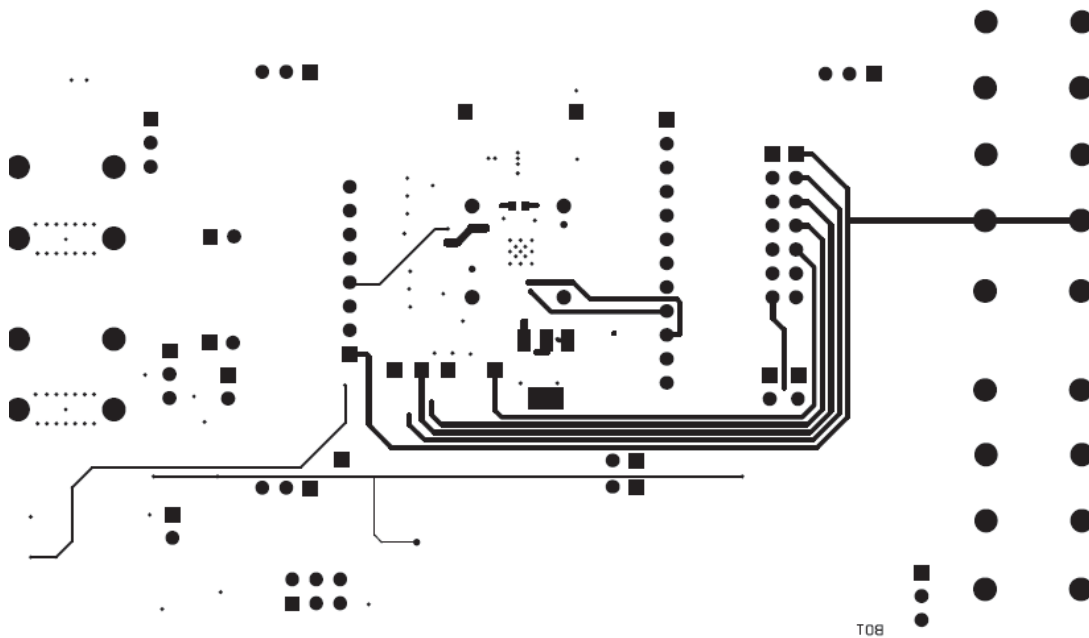
## 16  AS3606 Evalboard 1v1: Layout (mid layer 1)

Layout (mid1 view)

## 17  AS3606 Evalboard 1v1: Layout (mid layer 2)



Layout (mid2 view)

## 18  AS3606 Evalboard 1v1: Layout (bottom view)



Layout (bottom view)

Preliminary Application Note - Confidential

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# Diclaimer

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