



XA122 Battery Board Product Brief



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Proprietary and Confidential

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1 Introduction

This document describes the Acconeer XA122 battery board for the XM122 IoT module. The battery board provides a CR2477 coin cell battery holder (battery NOT included) and is easily connected to the XM122 IoT module via a board-to-board connector.



2 XA122 Battery Board

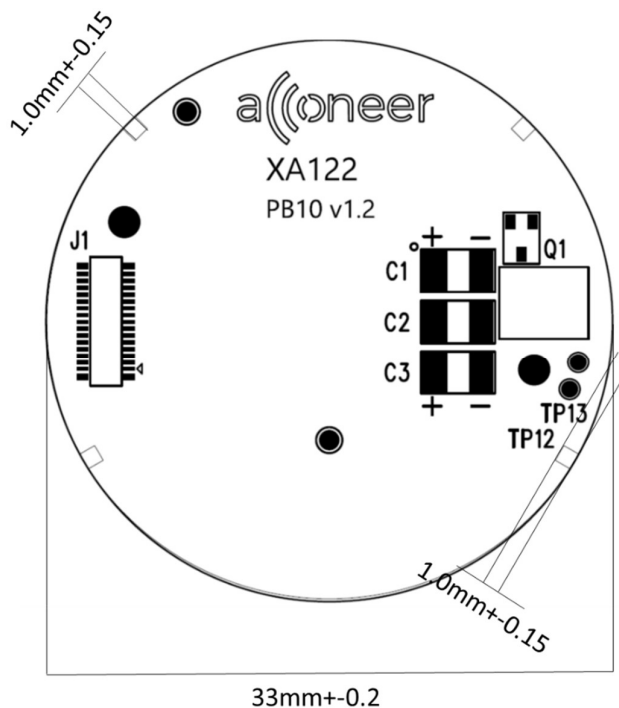
2.1 Overview

The XA122 battery board is designed to be used with the XM122 IoT module, enabling a battery-powered radar module in a small formfactor. It is easily connected to the XM122 IoT module via a board-to-board connector and contains a CR2477 battery holder (battery NOT included), tantalum capacitors for handling current peaks from the XM122 IoT module and a switch preventing the battery from being short-circuited if inserted incorrectly. It also enables access to some of the interfaces in the board-to-board connector via test points.

The picture above shows the XA122 battery board. The leftmost picture shows the front side of the XA122, with the board-to-board connector for the XM122 IoT module, and the rightmost picture shows the reverse side of the XA122.



The picture below shows the dimensions of the XA122.



The thickness of the PCB is 0.8mm +/- 0.1mm.

The block diagram of XA122 is found in Figure 1 below.

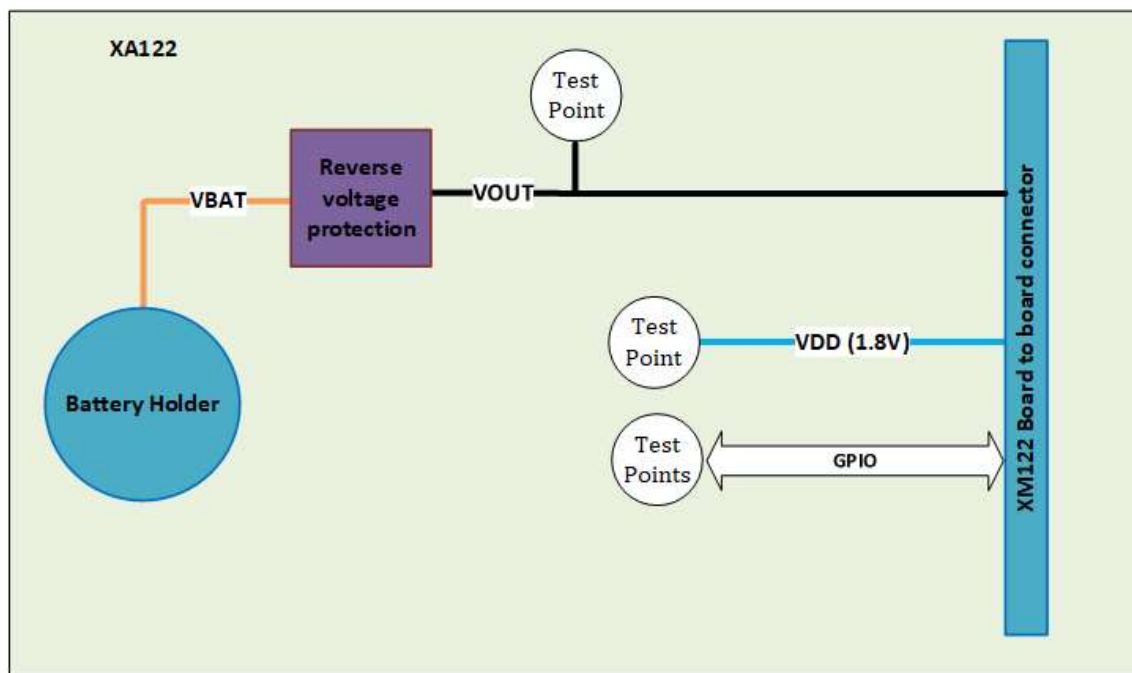


Figure 1. The block diagram of XA122.



2.2 Power

The XA122 is equipped with a CR2477 coin cell battery holder. It is compatible with CR2477 coin cell batteries which operate at 3.0V. It is the only source of power on the board. Power could also be supplied externally via the VOUT test point (TP1). TP4 provides VDD (regulated 1.8V) from the XM122 IoT module, available to supply external circuitry.

2.3 Connectors

30 pin board-to-board connector (J1)

The 30-pin board-to-board connector is intended to connect the XM122 to the XA122. The pinout is found in Table 1.

Table 1. The pinout of J1.

Pin Number	Signal	Pin Number	Signal
1	GPIO P0.23	2	GND
3	GND	4	VOUT
5	GPIO P0.21	6	VOUT
7	GND	8	GND
9	GPIO P0.24	10	GPIO P0.04
11	GND	12	GPIO P0.11 / TRACEDATA2
13	GPIO P0.22	14	GPIO P0.12 / TRACEDATA1
15	GND	16	VDD (Regulated 1.8V output voltage)
17	GPIO P0.06 / UART_TX	18	nRESET
19	GPIO P0.16 / UART_RX	20	SWDIO
21	GND	22	SWO / GPIO P1.00 / TRACEDATA0
23	GPIO P0.07 / TRACECLK	24	GND
25	GPIO P1.09 / TRACEDATA3	26	SWDCLK
27	GPIO P0.20 / UART_CTS	28	GND
29	GPIO P0.19 / UART_RTS	30	GPIO P0.25 / DFU

2.4 Test Points

XA122 has 11 test points which makes signals from the XM122 IoT Module available for probing or external connection. The test points on the bottom side of XA122 are listed in Table 2.

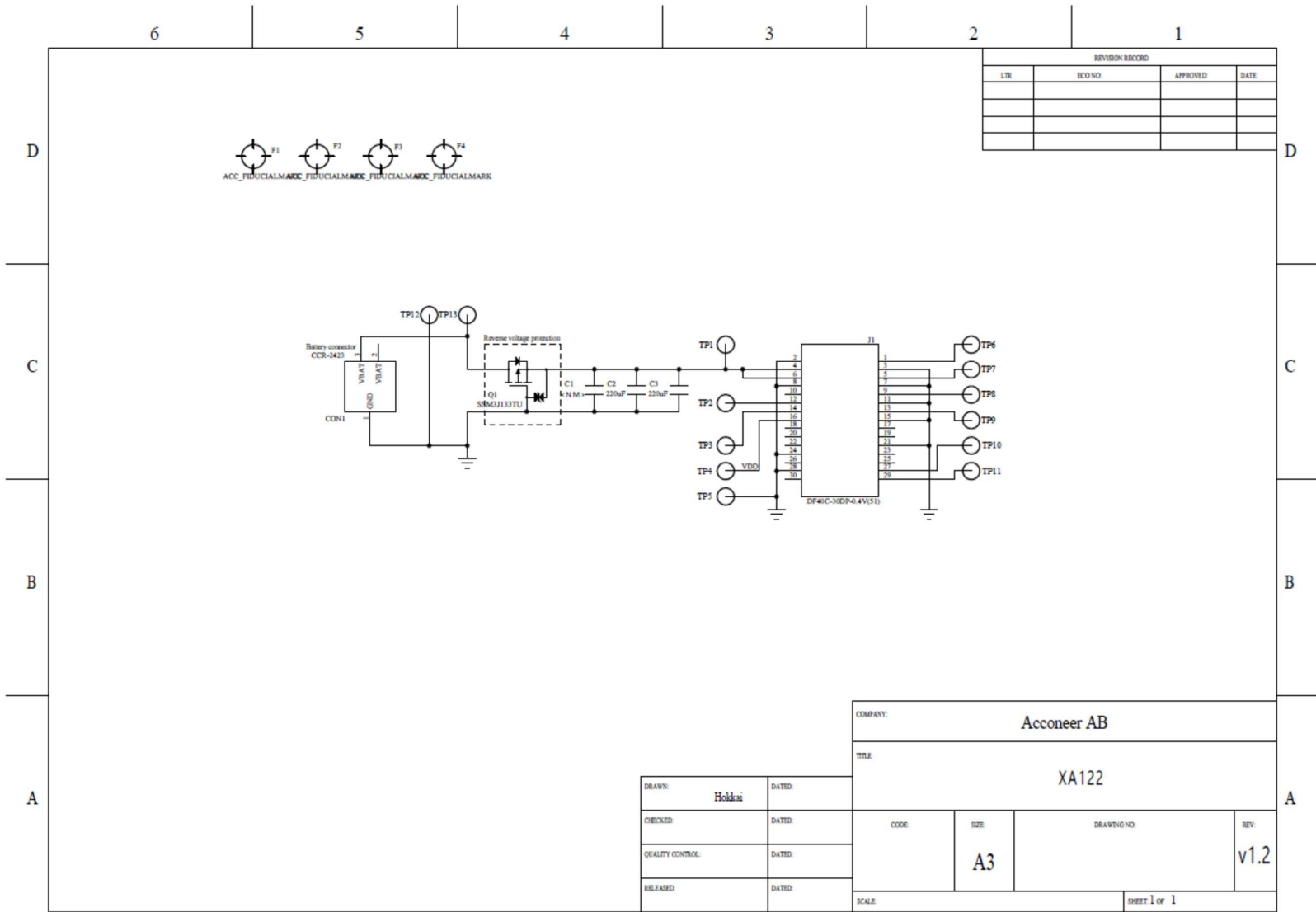
**Table 2 The test points on XA122**

Test Point	Signal (from XM122 IoT module)
TP1	VOUT
TP2	GPIO P0.11
TP3	GPIO P0.12
TP4	VDD
TP5	GND
TP6	GPIO P0.23
TP7	GPIO P0.21
TP8	GPIO P0.24
TP9	GPIO P0.22
TP10	GPIO P0.20
TP11	GPIO P0.19



2.5 Electrical Schematics

The electrical schematics for the XA122 is found on the following page:

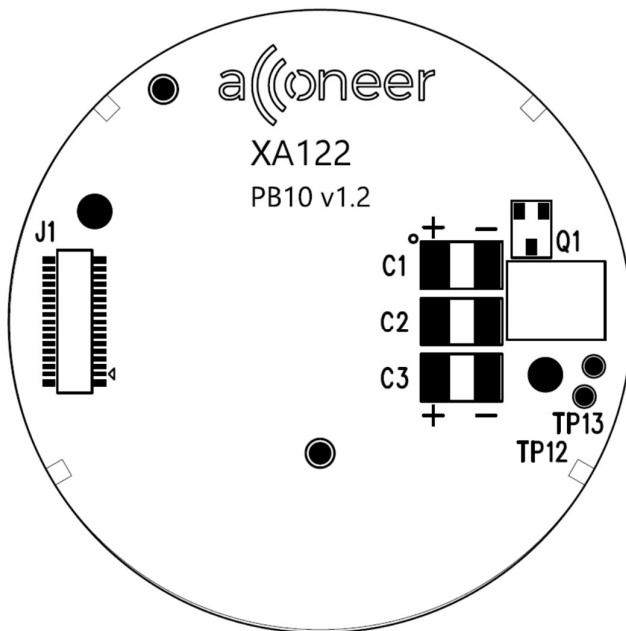




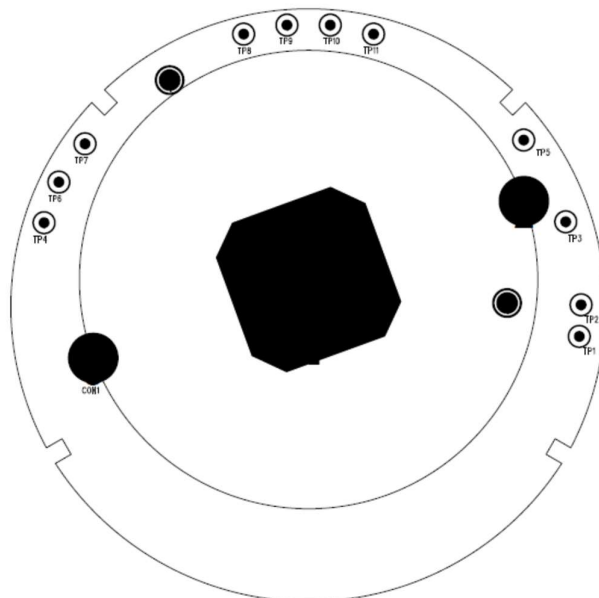
2.6 Component Placement Drawing

The component placement drawing of XA122 is found below.

Top Side:



Bottom Side:





2.7 Bill of Material

Table 3 shows the BOM for XA122.

Table 3. The BOM of XA122.

Component Ref.	Specification	QTY	Value	Comment
C2, C3	220/UF/M/6.3V/NP0/3528	2		Manufacturer: AVX Part number: F930J227MBA
CON1	BATTERY RETAINER COIN PC PIN	1		Manufacturer: Keystone electronics Part number: 3039
J1	DF40C-30DP-0.4V51	1		Manufacturer: Hirose
Q1	SSM3J133TU	1		Manufacturer: Toshiba



3 Revision History

Date	Version	Changes
2020-06-10	1.0	Original Version



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