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XR112 Radar Sensor Board Product Brief



XR112 Radar Sensor Board Product Brief

Proprietary and Confidential

Author: Acconeer

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1 Introduction

This document briefly describes the Acconeer XR112 sensor board. It has been designed with the purpose of demonstrating and debugging Acconeer A111 Pulsed Coherent Radar Sensor. XR112 should be used together with the XC112 connector board, connected via a flat, flexible cable. A cable of length 203.2mm (Molex 15020-0175) is included in the XR112 package. This combination is referred to as the XC112-XR112 Evaluation Kit (EVK). The EVK will also require a Raspberry Pi 3 for secure processing and power supply.

For More information please read:

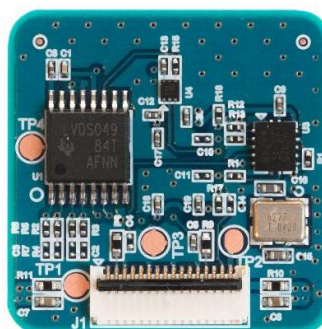
- [A111 Data Sheet](#)
- [XC112-XR112 User Guide](#)



2 XR112 Radar Sensor Board

2.1 Overview

Picture below shows the XR112 radar sensor board. The leftmost picture shows the front side of the XR112, with the A111 radar sensor mounted centrally, and the rightmost picture shows the reverse side of the XR112.



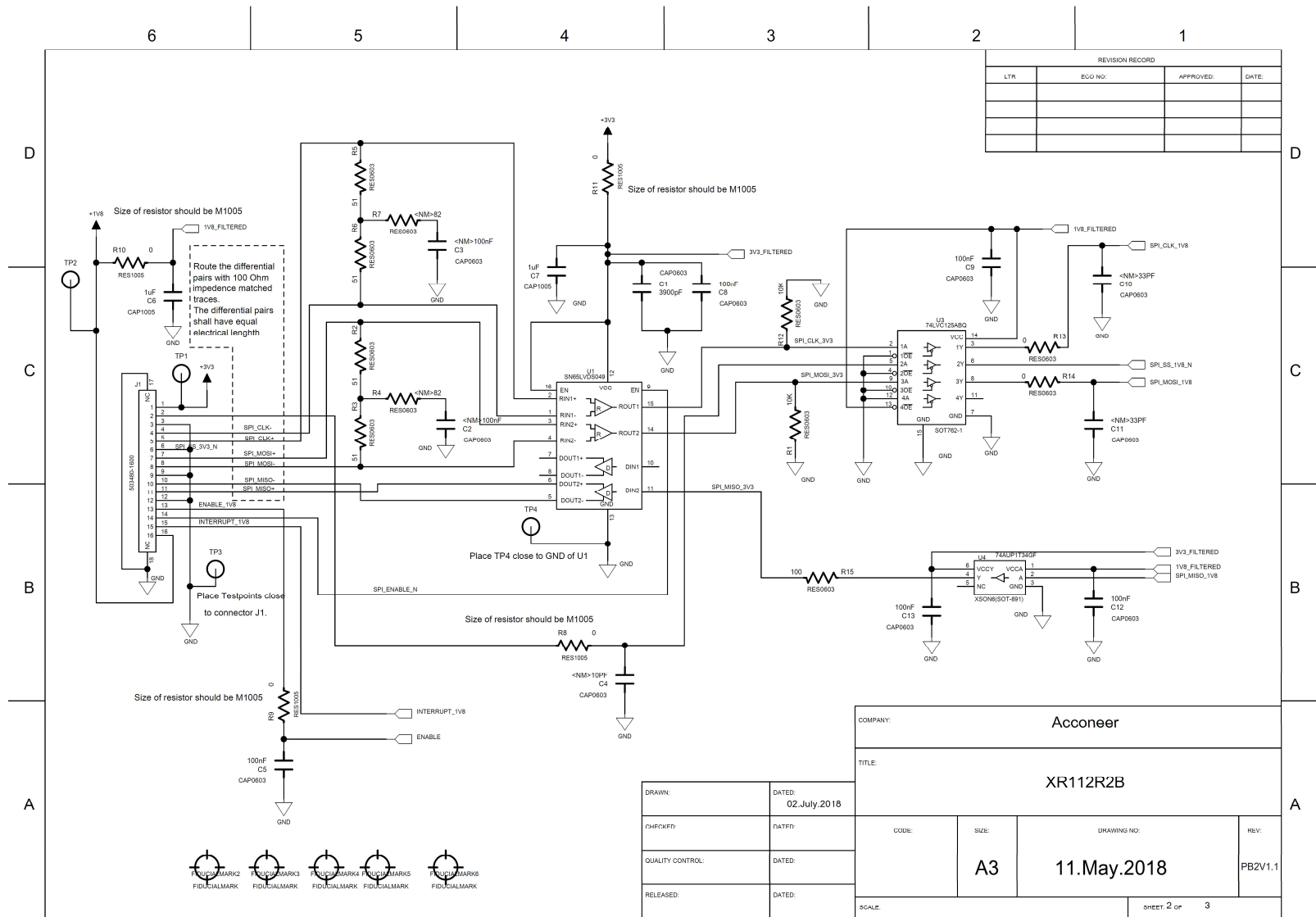
2.2 Power

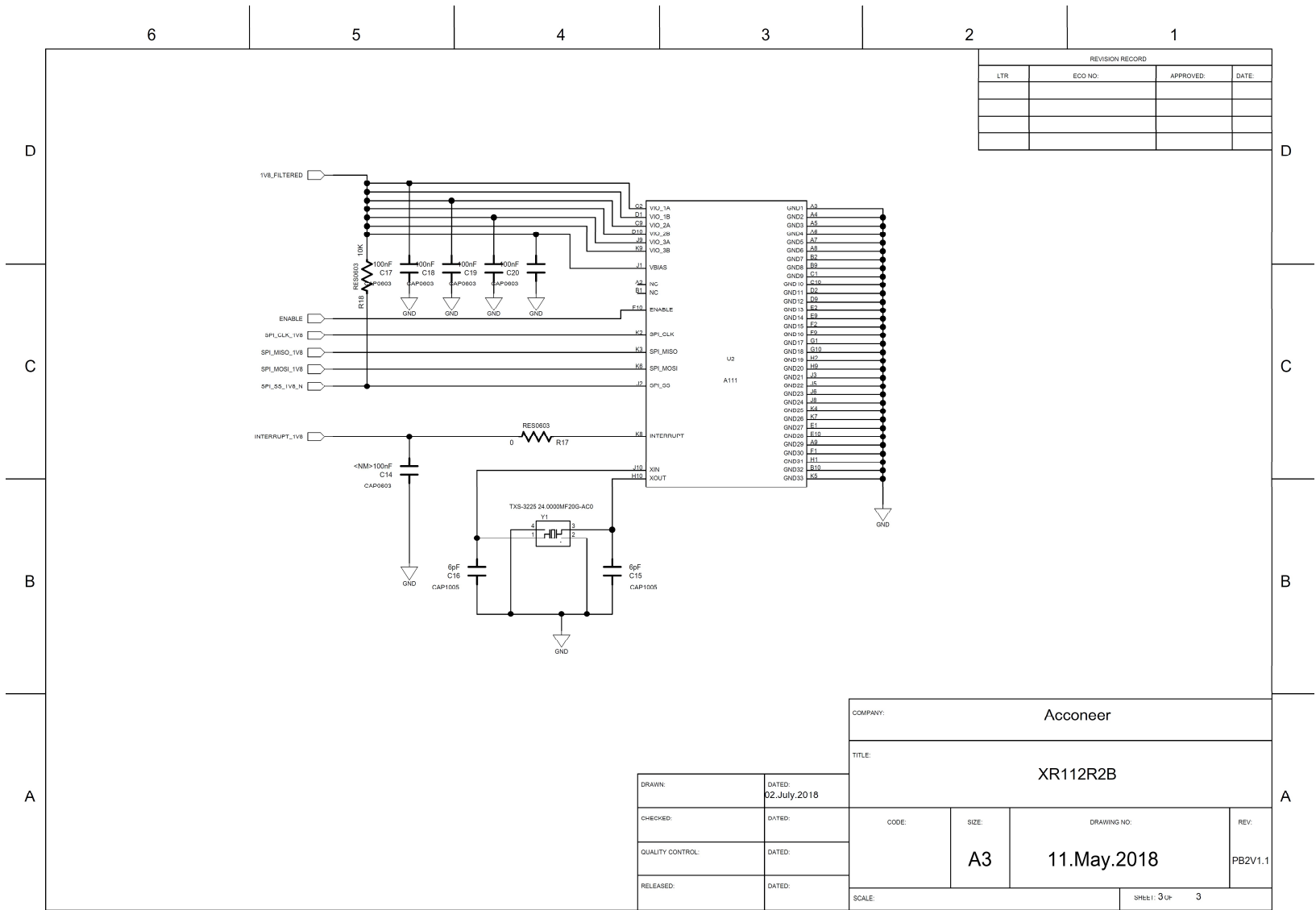
The XC112-XR112 Evaluation Kit is powered through the Raspberry Pi. When the power LED on the Raspberry Pi is lit, the Evaluation Kit is powered on and ready for use.



2.3 Electrical Schematics

Below, please find the electrical schematics for the XR112:





REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE

COMPANY:				Acconeer			
TITLE:				XR112R2B			
DRAWN:	DATED:	CODE:	SIZE:	DRAWING NO.:	REV.:		
CHECKED:	DATED:		A3	11.May.2018	PB2V1.1		
QUALITY CONTROL:	DATED:	SCALE:		SHEET: 3 of 3			
RELEASED:	DATED:						



2.4 Bill of Material

Table 1 shows the BOM for XR112

Component Ref.	Part Number	QTY	Value	Comment
C1	3.9/NF/K/10V/X5R/0603	1	3900pF	
C12, C13, C17, C18, C19, C20, C5, C8, C9	100/NF/K/6.3V/X5R/0603	9	100nF	
C6, C7	1/UF/K/10V/X5R/1005	2	1uF	
C15, C16	6/PF/C/50V/C0G/1005	2	6pF	
J1	503480-1600	1		16Pin 0.5 FPCB CONN BACKFLIP
R1, R12, R18	10/KOHM/J/0603	3	10kOhm	
R2, R3, R5, R6	51/OHM/F,J/0603	4	50Ohm	
R8, R9, R10, R11	0/OHM/J/1005	4	0Ohm	
R13, R14, R17	0/OHM/J/0603	3	0Ohm	
R15	100/OHM/J/0603	1	100Ohm	
U1	SN65LVDS049PW	1		
U2	A111R2C	1		
U3	74LVC125ABQ	1		
U4	74AUP1T34GF	1		
Y1	EPSON, TSX-3225 24.0000MF20G-AC0	1		24MHz



2.5 Pinning

Table 2 shows the PIN connections of XR112.

Pin Number	Description
1	+3.3V
2	SPI_SS_3V3_N, SPI slave select.
3	GND
4	SPI_CLK-
5	SPI_CLK+
6	GND
7	SPI_MOSI+
8	SPI_MOSI-
9	GND
10	SPI_MISO-
11	SPI_MISO+
12	GND
13	ENABLE_1V8, Sensor Enable.
14	SPI_ENABLE_N, Enable signal for differential converter IC.
15	INTERRUPT_1V8, Interrupt from the Sensor.
16	1.8V



3 Revision History

Date	Version	Changes
2018-08-14	1.0	Original Version



4 Disclaimer

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