



User Guide

UG000442

AS5715 Reference Board

User Guidance

AS5715_TS_EK_AB

v1-00 • 2019-Dec-17

Content Guide

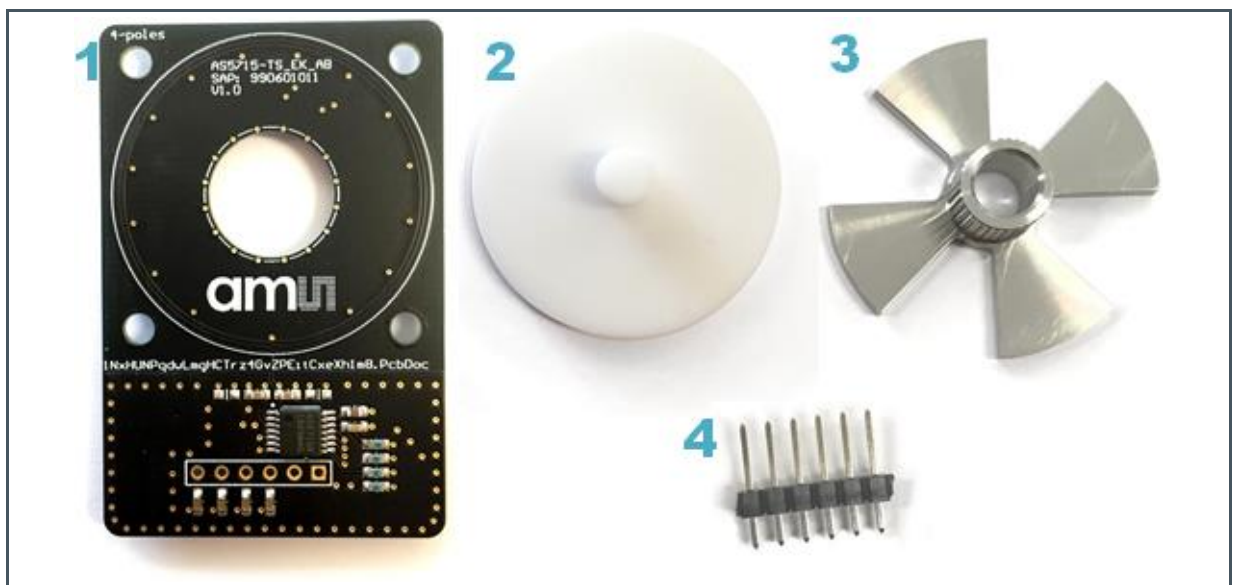
1	Introduction.....	3	3	Hardware.....	8
1.1	Kit Content.....	3	4	Revision Information.....	10
1.2	Ordering Information	4	5	Legal Information	11
2	Board Description.....	5			
2.1	First Steps	6			
2.2	Pinout	6			

1 Introduction

The AS5715 Reference Board is a simple PCB which demonstrate the performance of AS5715 in addition with coils (integrated into PCB) and target. It allows easy and quick evaluation of the AS5715 inductive position sensor. The sensor and all necessary external components are already soldered to the PCB. If the 6-pin plug strip is used, it has to be soldered on the board.

1.1 Kit Content

Figure 1:
Kit Content



- | | |
|--|--|
| <p>1 Reference Board</p> <p>2 Spacer</p> | <p>3 Target</p> <p>4 Connector</p> |
|--|--|

Figure 2:
Kit Content List

Position No.	Item	Comments
1	AS5715_TS_EK_AB	Reference Board
2	Spacer	Ceramic plate
3	Target	Target (aluminum)
4	Connector	6-pin plug strip

1.2 Ordering Information

Ordering Code	Description
AS5715_TS_EK_AB	Reference Board for inductive position sensing

2 Board Description

The AS5715 is mounted on the PCB and either peripheral components (e.g. capacitors) are located on it. The coil is integrated into the board.

Figure 3 :
Board Setup



The connector has to be populated (soldering necessary!) with a 6-pin plug strip and is required for power supply as well as I²C and analog output interfaces.



Information

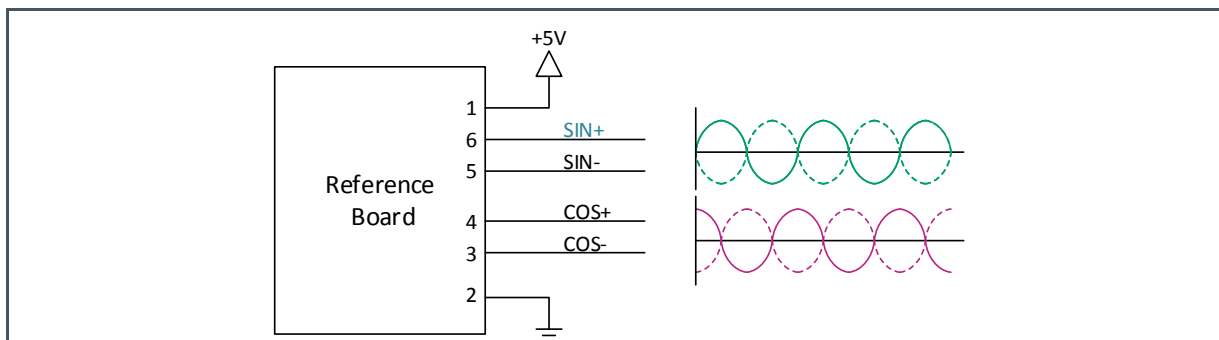
For setup and detailed communication/programming information, please see the datasheet or application note.

For communication over I²C-Interface, connect the PCB to an external microcontroller or to the production programmer of [SD4Y](#), which is available on our webpage. ([SD4Y-PP](#) [Version-not released yet])

2.1 First Steps

- Assemble the Reference Board with the ceramic spacer
- Put the target on the spacer
- Connect the Reference Board to supply

Figure 4:
Easy Setup



After powering, the sensor is in functional mode and analog sine and cosine signal are available at the connector.

2.2 Pinout

Figure 5:
Pinout On PCB

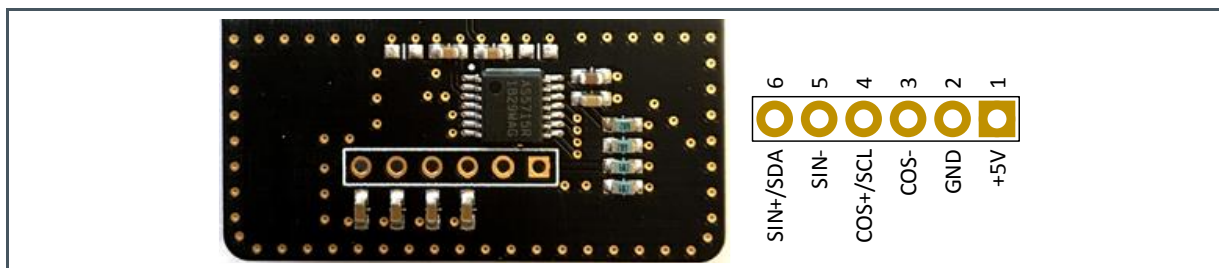


Figure 6:
Pinout

Pin#	Symbol	Type	Description
1	+5 V	Power Supply	Positive supply voltage
2	GND	Power Supply	Ground

Pin#	Symbol	Type	Description
3	COS-	Analog Output	Analog inverted cosine output signal
4	COS+ / SCL	Analog Output/ digital input	Analog cosine output signal or input clock
5	SIN-	Analog Output	Analog inverted sine output signal
6	SIN+ / SDA	Analog Output/ digital input	Analog sine output signal

3 Hardware

Figure 7:
Schematic

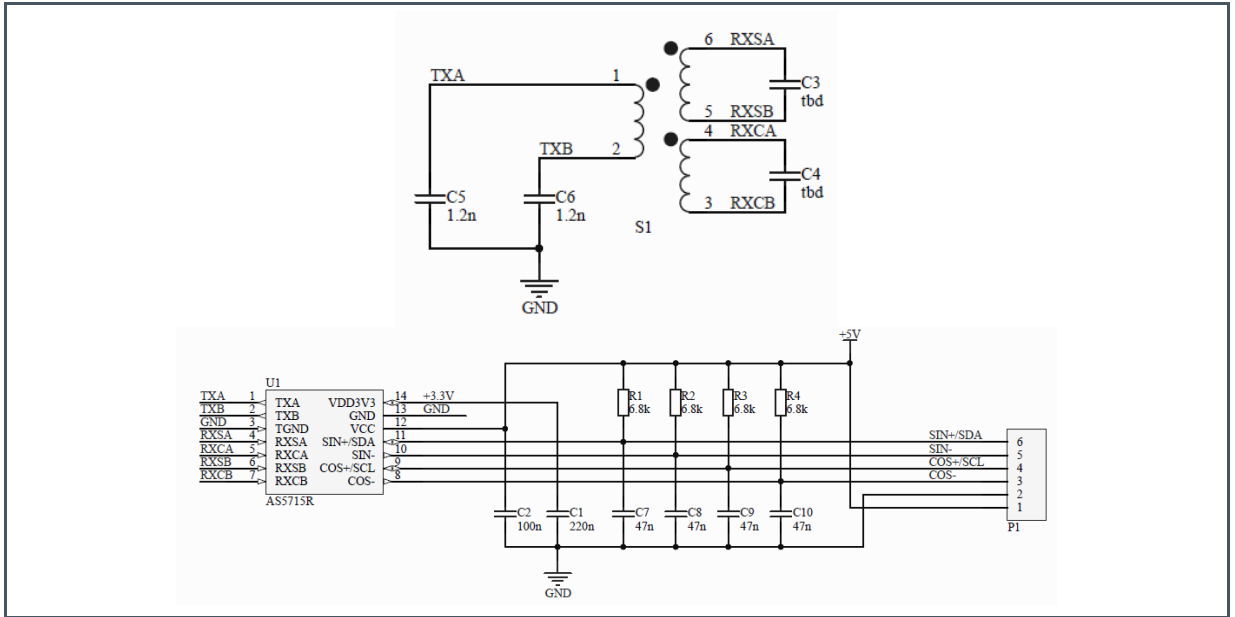


Figure 8:
Board Components

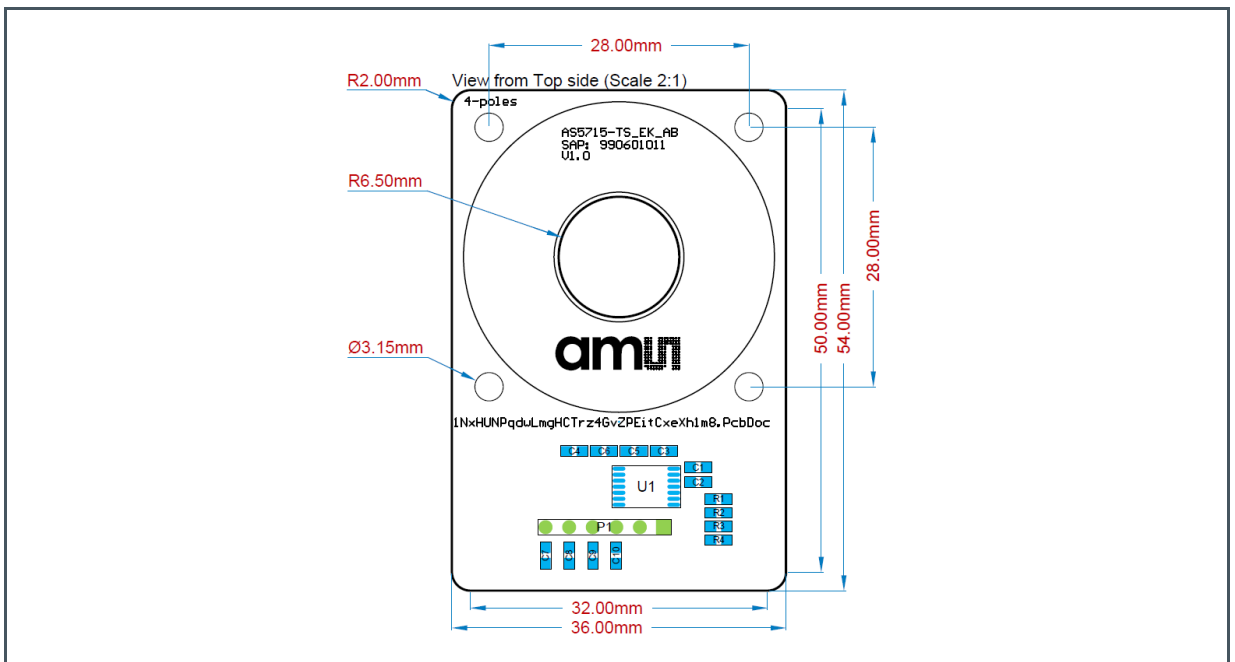


Figure 9:
Bill of Materials

#	Designator	Quantity	Value
1	C1	1	220 nF
2	C2	1	100 nF
3	C3, C4	2	tbd
4	C5, C6	2	1.2 nF
5	C7, C8, C9, C10	4	47 nF
6	P1	1	6-pin Connector
7	R1, R2, R3, R4	4	6.8 kΩ
8	U1	1	AS5715

4 Revision Information

Changes from previous version to current revision v1-00	Page
Initial version	

- Page and figure numbers for the previous version may differ from page and figure numbers in the current revision.
- Correction of typographical errors is not explicitly mentioned.

5 Legal Information

Copyrights & Disclaimer

Copyright ams AG, Tobelbader Strasse 30, 8141 Premstaetten, Austria-Europe. Trademarks Registered. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

Demo Kits, Evaluation Kits and Reference Designs are provided to recipient on an "as is" basis for demonstration and evaluation purposes only and are not considered to be finished end-products intended and fit for general consumer use, commercial applications and applications with special requirements such as but not limited to medical equipment or automotive applications. Demo Kits, Evaluation Kits and Reference Designs have not been tested for compliance with electromagnetic compatibility (EMC) standards and directives, unless otherwise specified. Demo Kits, Evaluation Kits and Reference Designs shall be used by qualified personnel only.

ams AG reserves the right to change functionality and price of Demo Kits, Evaluation Kits and Reference Designs at any time and without notice.

Any express or implied warranties, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose are disclaimed. Any claims and demands and any direct, indirect, incidental, special, exemplary or consequential damages arising from the inadequacy of the provided Demo Kits, Evaluation Kits and Reference Designs or incurred losses of any kind (e.g. loss of use, data or profits or business interruption however caused) as a consequence of their use are excluded.

ams AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of ams AG rendering of technical or other services.

RoHS Compliant & ams Green Statement

RoHS Compliant: The term RoHS compliant means that ams AG products fully comply with current RoHS directives. Our semiconductor products do not contain any chemicals for all 6 substance categories plus additional 4 substance categories (per amendment EU 2015/863), including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, RoHS compliant products are suitable for use in specified lead-free processes.

ams Green (RoHS compliant and no Sb/Br/Cl): ams Green defines that in addition to RoHS compliance, our products are free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material) and do not contain Chlorine (Cl) not exceed 0.1% by weight in homogeneous material).

Important Information: The information provided in this statement represents ams AG knowledge and belief as of the date that it is provided. ams AG bases its knowledge and belief on information provided by third parties, and makes no representation or warranty as to the accuracy of such information. Efforts are underway to better integrate information from third parties. ams AG has taken and continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals. ams AG and ams AG suppliers consider certain information to be proprietary, and thus CAS numbers and other limited information may not be available for release.

Headquarters

ams AG
Tobelbader Strasse 30
8141 Premstaetten
Austria, Europe
Tel: +43 (0) 3136 500 0

Please visit our website at www.ams.com

Buy our products or get free samples online at www.ams.com/Products

Technical Support is available at www.ams.com/Technical-Support

Provide feedback about this document at www.ams.com/Document-Feedback

For sales offices, distributors and representatives go to www.ams.com/Contact

For further information and requests, e-mail us at ams_sales@ams.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Position Sensor Development Tools](#) category:

Click to view products by [Ams](#) manufacturer:

Other Similar products are found below :

[AS5115 PB](#) [AS5215 AB](#) [STEVAL-MKI043V1](#) [EVB90340-LDC-200-Rev1.0](#) [STEVAL-STWINMAV1](#) [1032](#) [178](#) [DPP401Z000](#) [EVAL-ADXRS453Z-M](#) [EVAL-ADXRS453Z-V](#) [1007214-3](#) [STEVAL-MKI045V1](#) [STEVAL-MKI042V1](#) [STEVAL-MKI037V1](#) [IMX-070](#) [164](#) [EVAL-KIT DMU381ZA-400](#) [OpenIMU300RI EVK](#) [OpenIMU330BI EVK](#) [3595](#) [AS5200L-MF_EK_AB](#) [AS5215 DB](#) [AS5600L-SO_EK_AB](#) [AS5600L-WL_EK_AB](#) [AS5715-TS_EK_AB](#) [AS5X47D-TO_EK_ST](#) [TRK-1T02-E](#) [ADIS16265/PCBZ](#) [ADIS16260/PCBZ](#) [ADIS16477-1/PCBZ](#) [ADIS16477-3/PCBZ](#) [EVAL-ADIS2Z](#) [EVAL-ADXRS450Z-S](#) [EVAL-ADXRS453Z](#) [EVAL-ADXRS453Z-S](#) [EVAL-ADXRS646Z](#) [EVAL-ADXRS800Z-EY](#) [EVAL-ADXRS800Z-M](#) [EVAL-ADXRS800Z-RG](#) [EVAL-CN0341-SDPZ](#) [ATBNO055-XPRO](#) [DFR0027](#) [DFR0053](#) [DPP401A000](#) [EVB90365-Rev1.0](#) [EVB90371-GDC-100-Rev1.0](#) [EVB90371-GDC-200-Rev1.0](#) [EVB90371-GDC-300-Rev1.0](#) [EVB90371-GGO-100-Rev1.0](#) [EVB90371-GGO-200-Rev1.0](#)