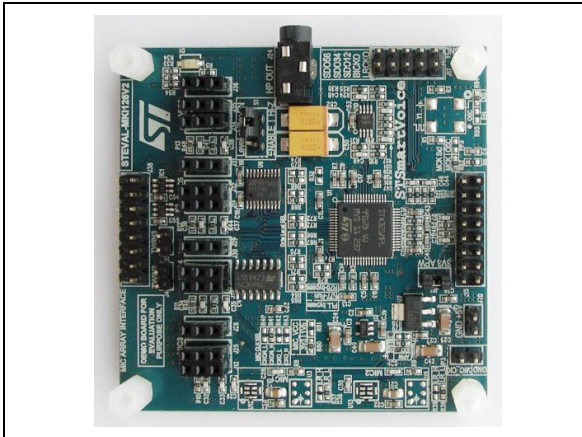


MEMS microphone system evaluation board based on the STA321MPL and MP34DB01

Data brief



Features

- 2 MP34DB01 MEMS microphones
- Capable of driving up to 6 digital MEMS microphones
- 3 independent I²S outputs
- Up to 10 independent 32-bit user programmable biquads per channel
- Fully configurable with:
 - STEVAL-MKI29V1/V2/V3
 - STEVAL-MKI131V1/V2/V3
 - STEVAL-MKI116V1
 - STEVAL-MKI117V1/V2
 - STEVAL-CCA035V1
- Controllable via APWorkbench software suite
- RoHS compliant

Description

The STEVAL-MKI126V2 system evaluation board can connect up to six microphones using the sockets provided or through a dedicated six-microphone array.

The digital interface of the device allows interfacing the MIC output to the most widely used audio receivers and digital amplifiers or simple evaluation of the MIC using generic audio measurement equipment. The filtered PWM signals allow the connection of a headset to listen to the audio received through the microphones.

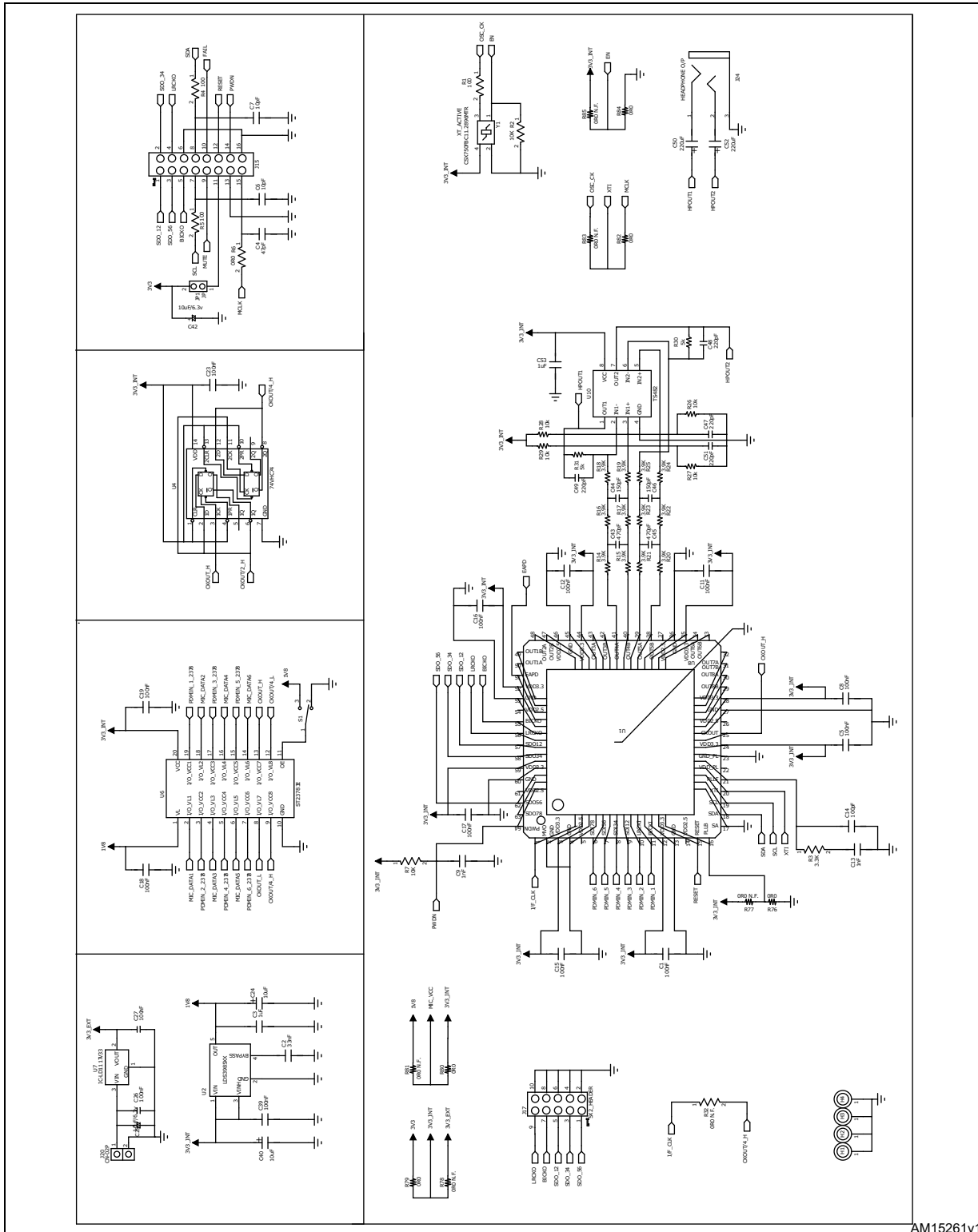
The fully digital path ensures a high level of processing with sound preconditioning, filtering and voice enhancement.

The main purpose of the STEVAL-MKI126V2 is to convert the PDM signals provided by the microphones into the more common I²S and PWM signals. The I²S signal is routed both on general and interface connectors, while the suitably-filtered PWM signals provide an analog interface.

Mounted on the STEVAL-MKI126V2 are two MP34DB01 microphones and an STA321MPL processor.

1 Schematic diagrams

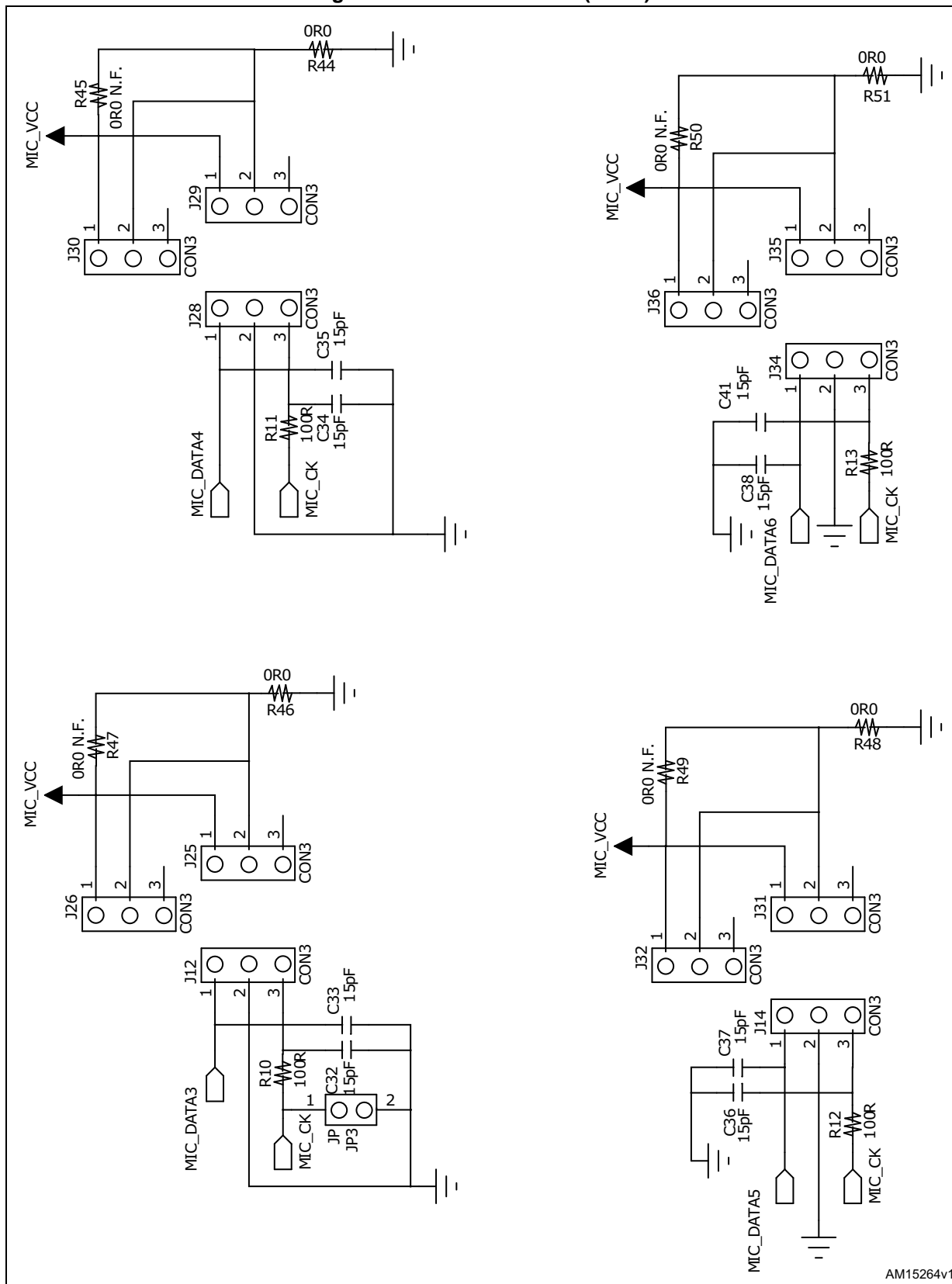
Figure 1. Circuit schematic (1 of 5)



AM15261v1

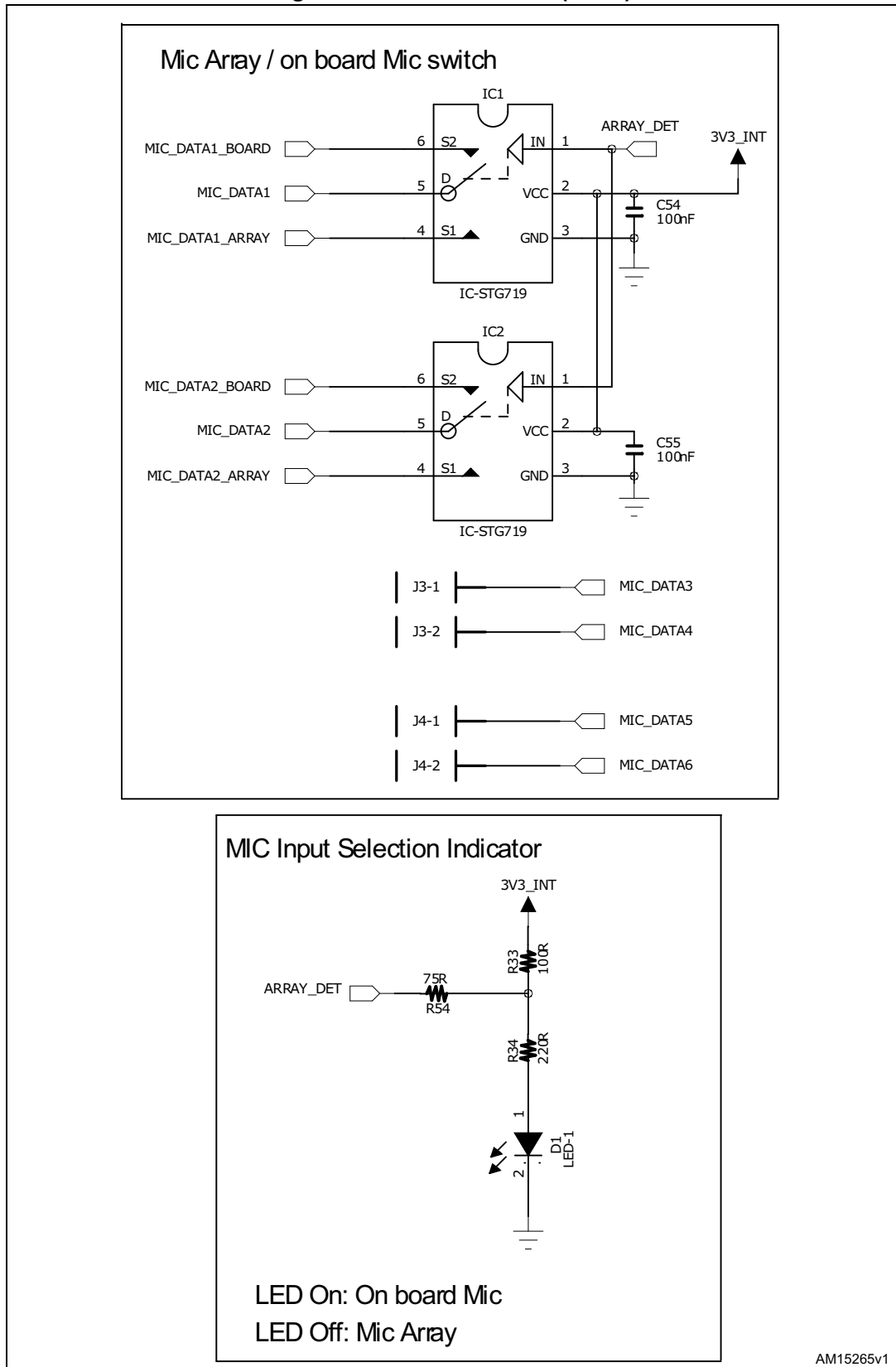


Figure 3. Circuit schematic (3 of 5)



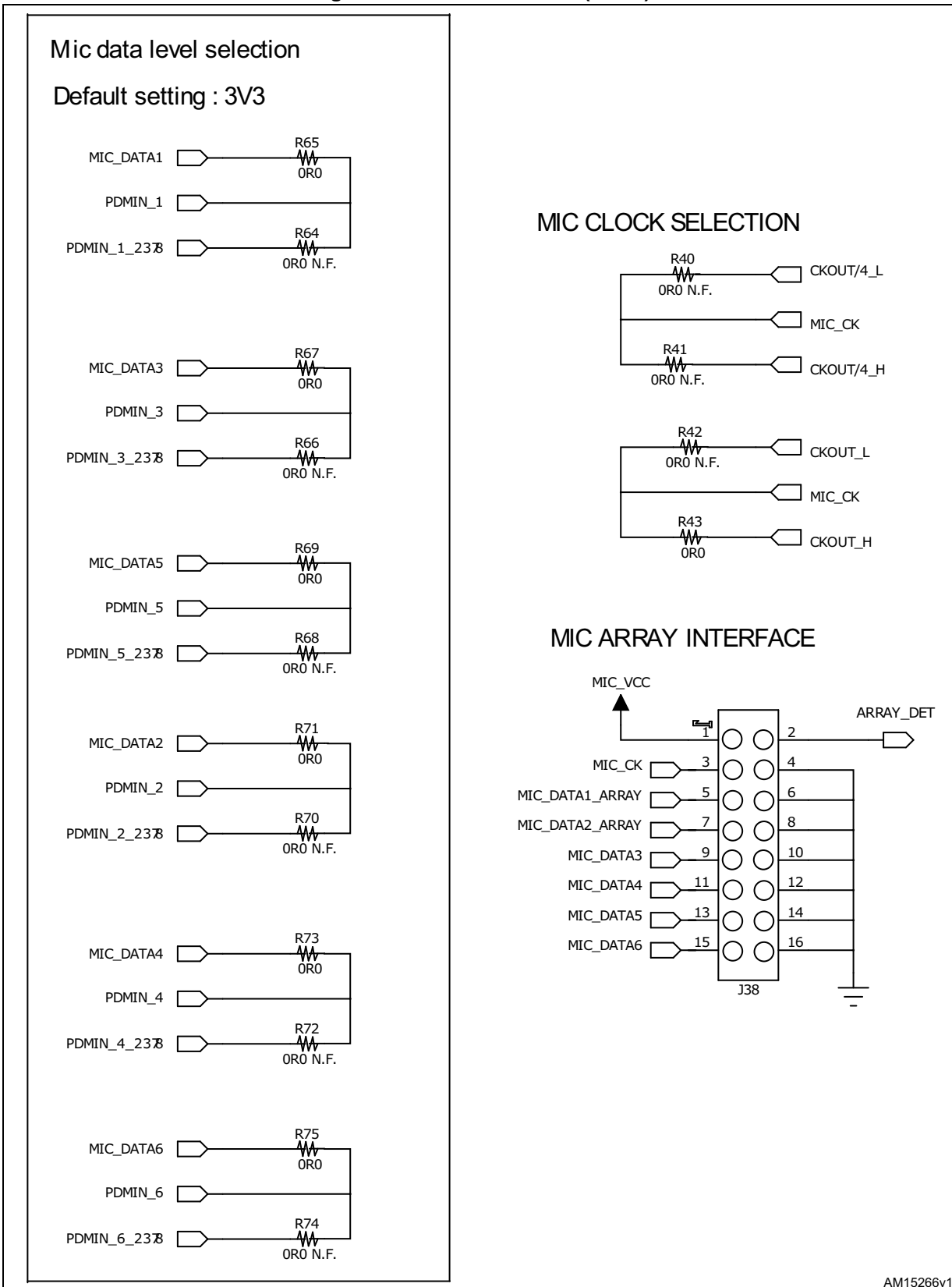
AM15264v1

Figure 4. Circuit schematic (4 of 5)



AM15265v1

Figure 5. Circuit schematic (5 of 5)



AM15266v1

2 Revision history

Table 1. Document revision history

Date	Revision	Changes
11-Nov-2013	1	Initial release.

Please Read Carefully:

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.

ST PRODUCTS ARE NOT DESIGNED OR AUTHORIZED FOR USE IN: (A) SAFETY CRITICAL APPLICATIONS SUCH AS LIFE SUPPORTING, ACTIVE IMPLANTED DEVICES OR SYSTEMS WITH PRODUCT FUNCTIONAL SAFETY REQUIREMENTS; (B) AERONAUTIC APPLICATIONS; (C) AUTOMOTIVE APPLICATIONS OR ENVIRONMENTS, AND/OR (D) AEROSPACE APPLICATIONS OR ENVIRONMENTS. WHERE ST PRODUCTS ARE NOT DESIGNED FOR SUCH USE, THE PURCHASER SHALL USE PRODUCTS AT PURCHASER'S SOLE RISK, EVEN IF ST HAS BEEN INFORMED IN WRITING OF SUCH USAGE, UNLESS A PRODUCT IS EXPRESSLY DESIGNATED BY ST AS BEING INTENDED FOR "AUTOMOTIVE, AUTOMOTIVE SAFETY OR MEDICAL" INDUSTRY DOMAINS ACCORDING TO ST PRODUCT DESIGN SPECIFICATIONS. PRODUCTS FORMALLY ESCC, QML OR JAN QUALIFIED ARE DEEMED SUITABLE FOR USE IN AEROSPACE BY THE CORRESPONDING GOVERNMENTAL AGENCY.

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners.

© 2013 STMicroelectronics - All rights reserved

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Philippines - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

www.st.com