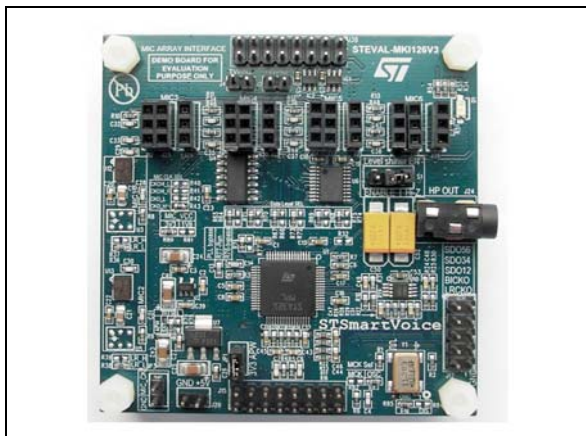


## STSmartVoice demonstration board based on MP34DT01

Data brief



### Features

- 2 on-board MEMS MP34DT01 microphones on board
- Capable of driving up to 6 digital MEMS microphones
- 3 independent I<sup>2</sup>S outputs
- Up to 10 independent 32-bit user programmable biquads per channel
- The demonstration board is fully configurable with:
  - STEVAL-MKI129V1/V2/V3
  - STEVAL-MKI131V1/V2/V3
  - STEVAL-MKI116V1
  - STEVAL-MKI117V1/V2
  - STEVAL-CCA035V1
- Controllable via APWorkbench software suite
- RoHS compliant

### Description

The STEVAL-MKI126V3 demonstration board allows the connection of up to six microphones using the sockets provided, or through the connection of a dedicated six-microphone array.

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

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

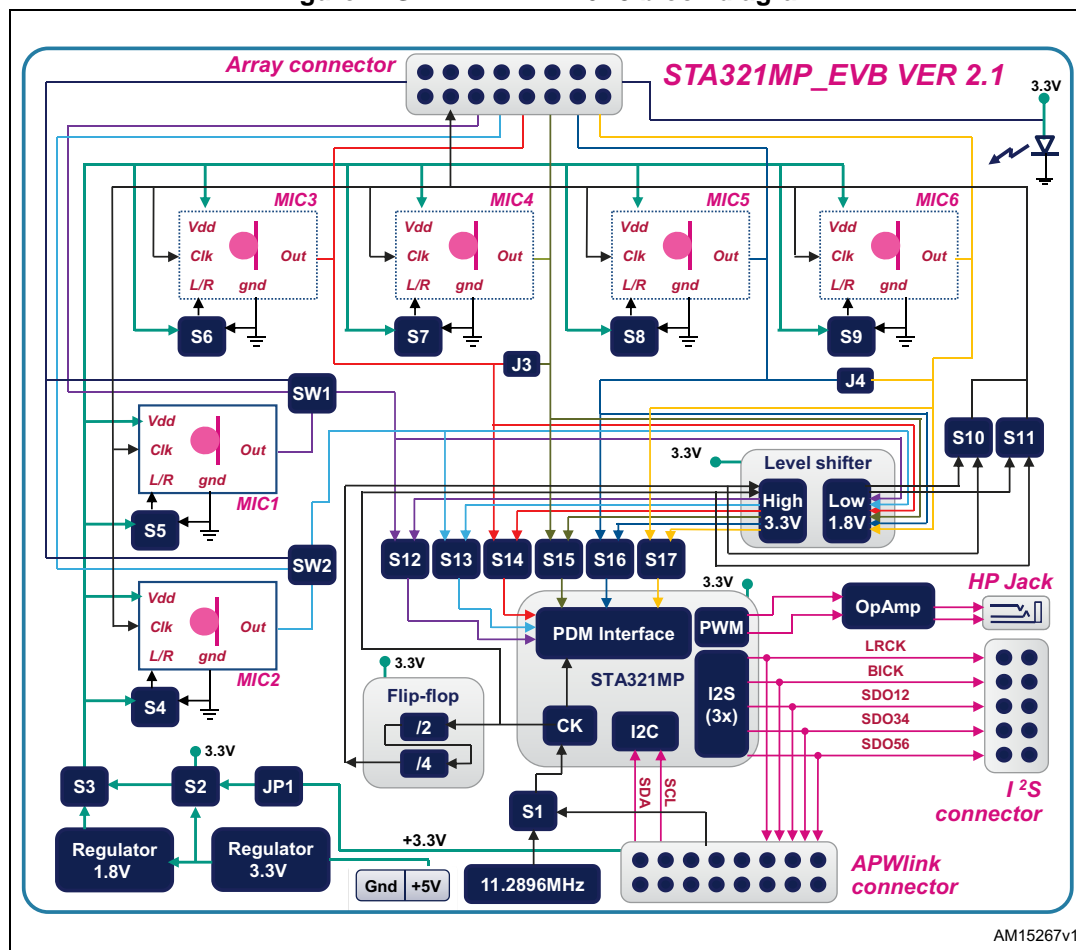
The main function of the STEVAL-MKI126V3 is to convert the PDM signals from the microphones into more common I<sup>2</sup>S and PWM signals.

The I<sup>2</sup>S signal is routed both on a general and interface connector. appropriately filtered PWM signals provide an analog interface.

The STEVAL-MKI126V3 is equipped with two MP34DT01 microphones and an STA321MPL scalable digital microphone processor.

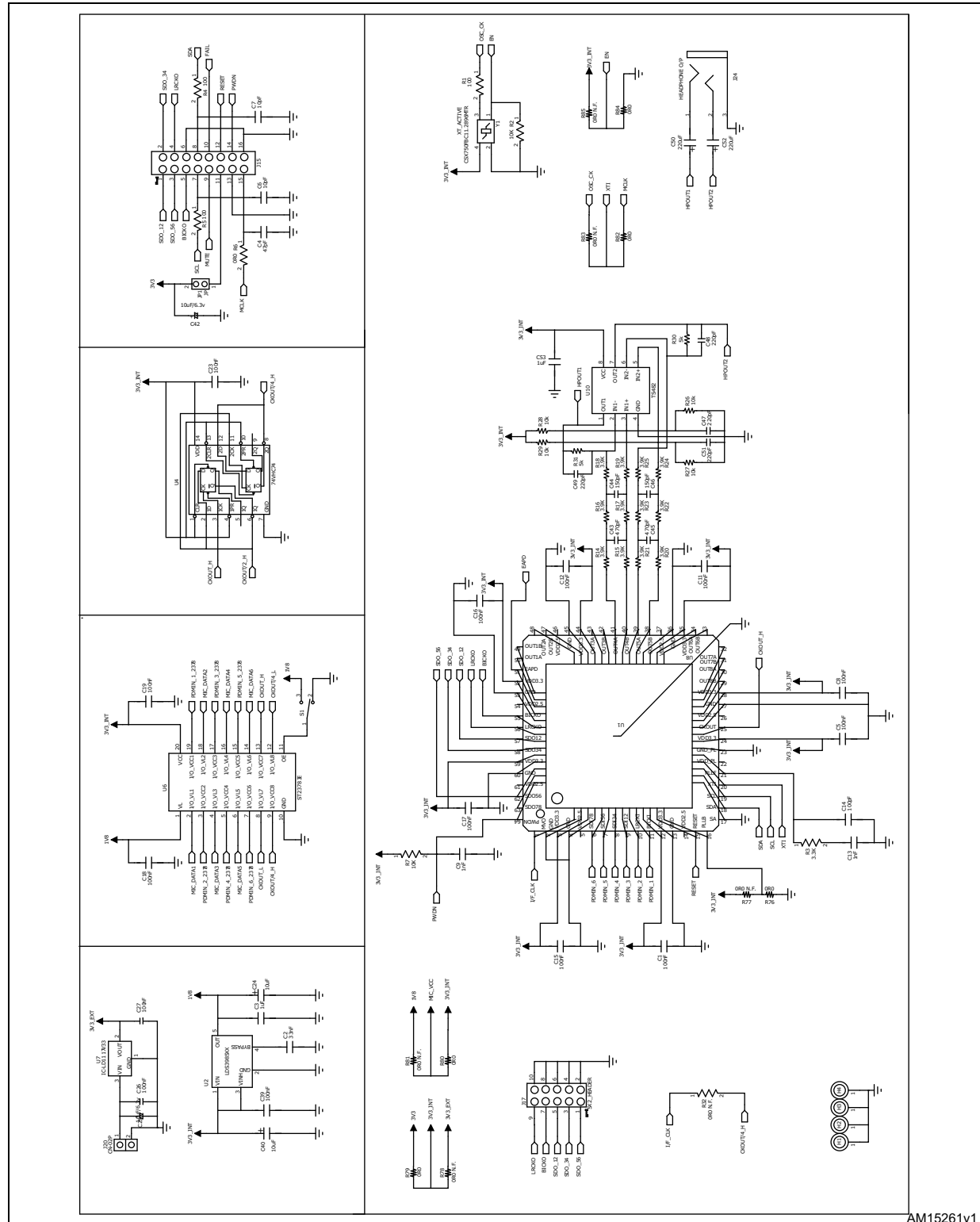
# 1 Block diagram

Figure 1. STEVAL-MKI126V3 block diagram



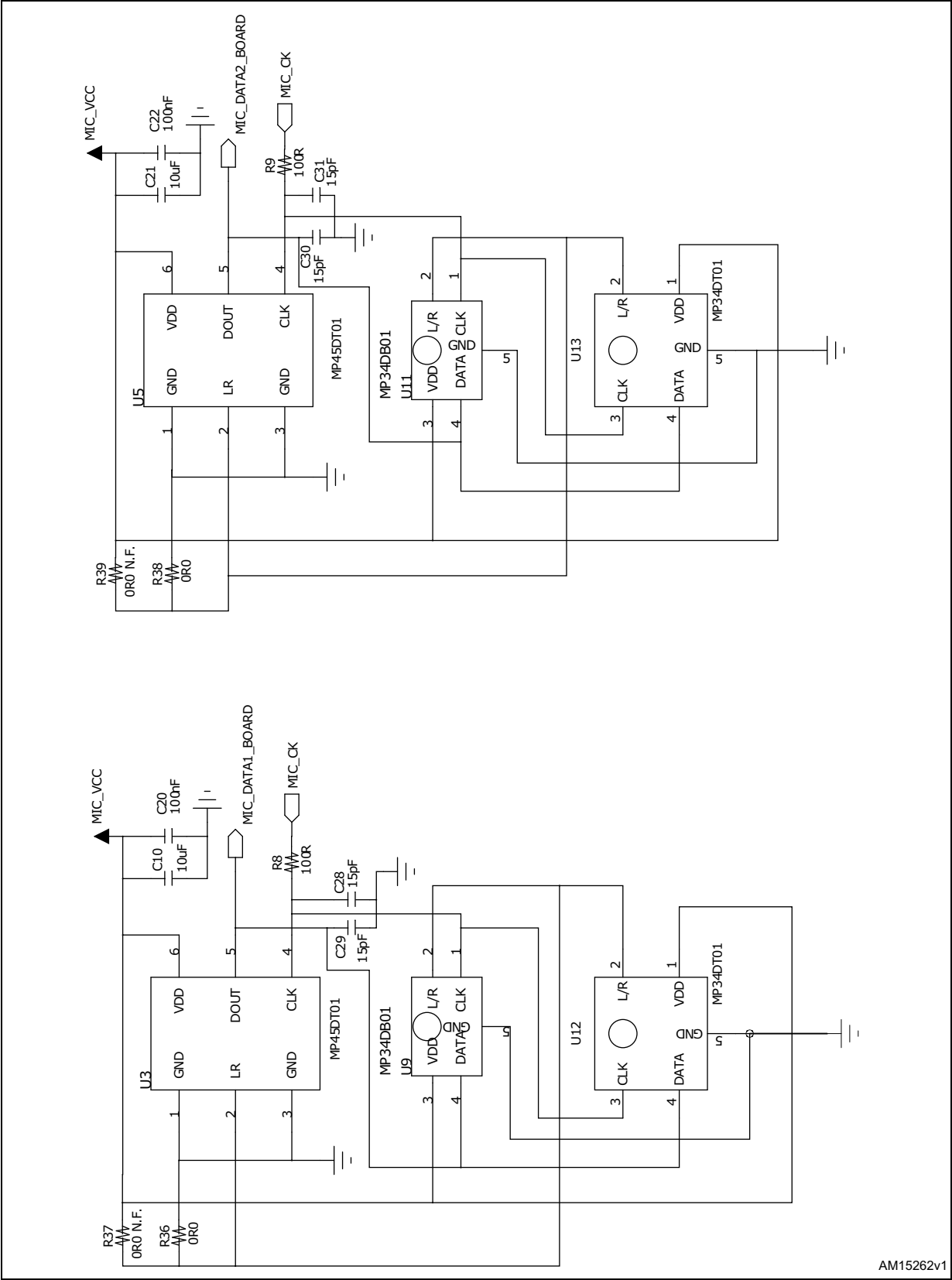
## 2 Schematic diagrams

Figure 2. Schematic diagram 1/5



AM15261v1

Figure 3. Schematic diagram 2/5



AM15262v1

**Figure 4. Schematic diagram 3/5**

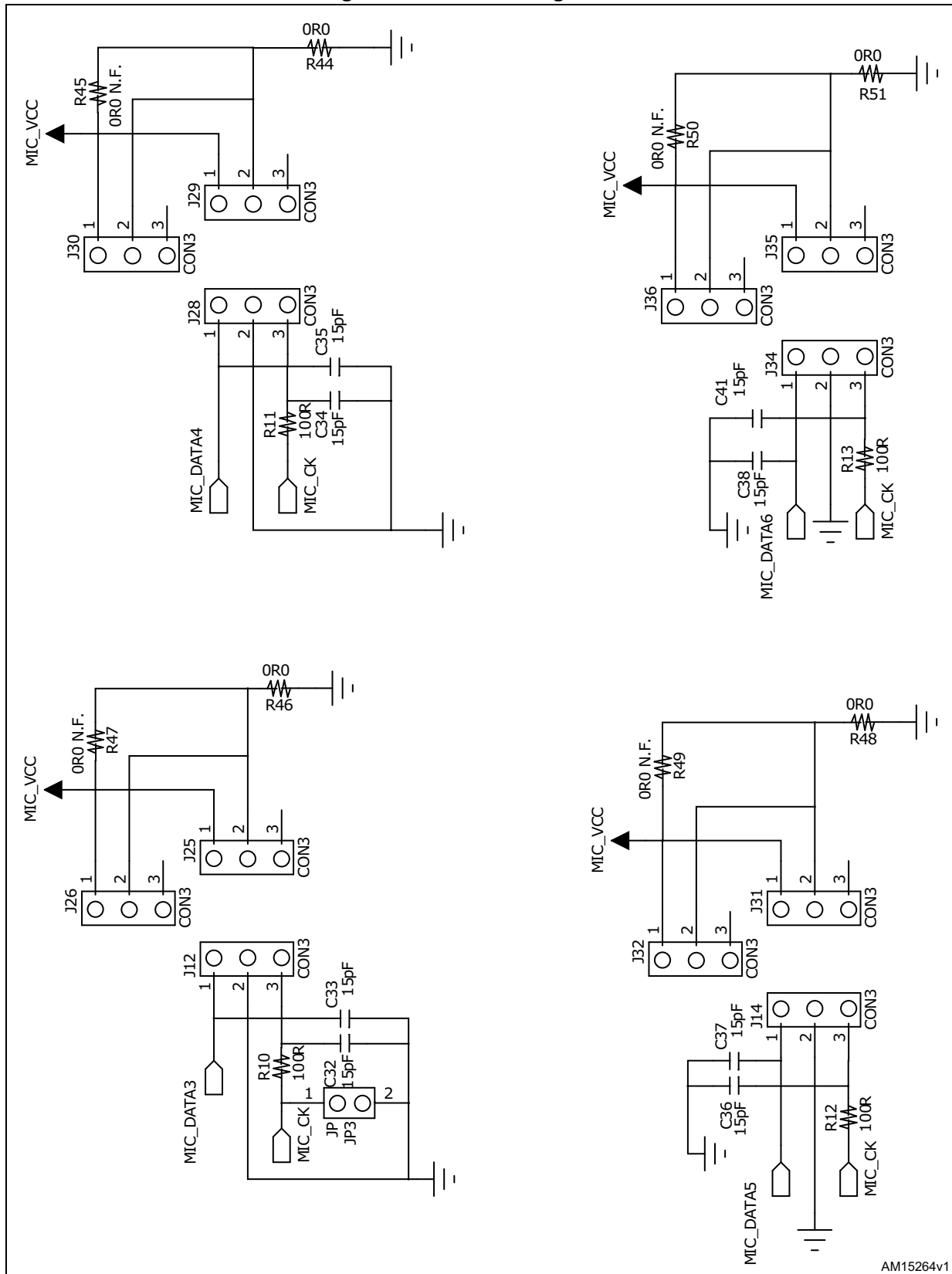


Figure 5. Schematic diagram 4/5

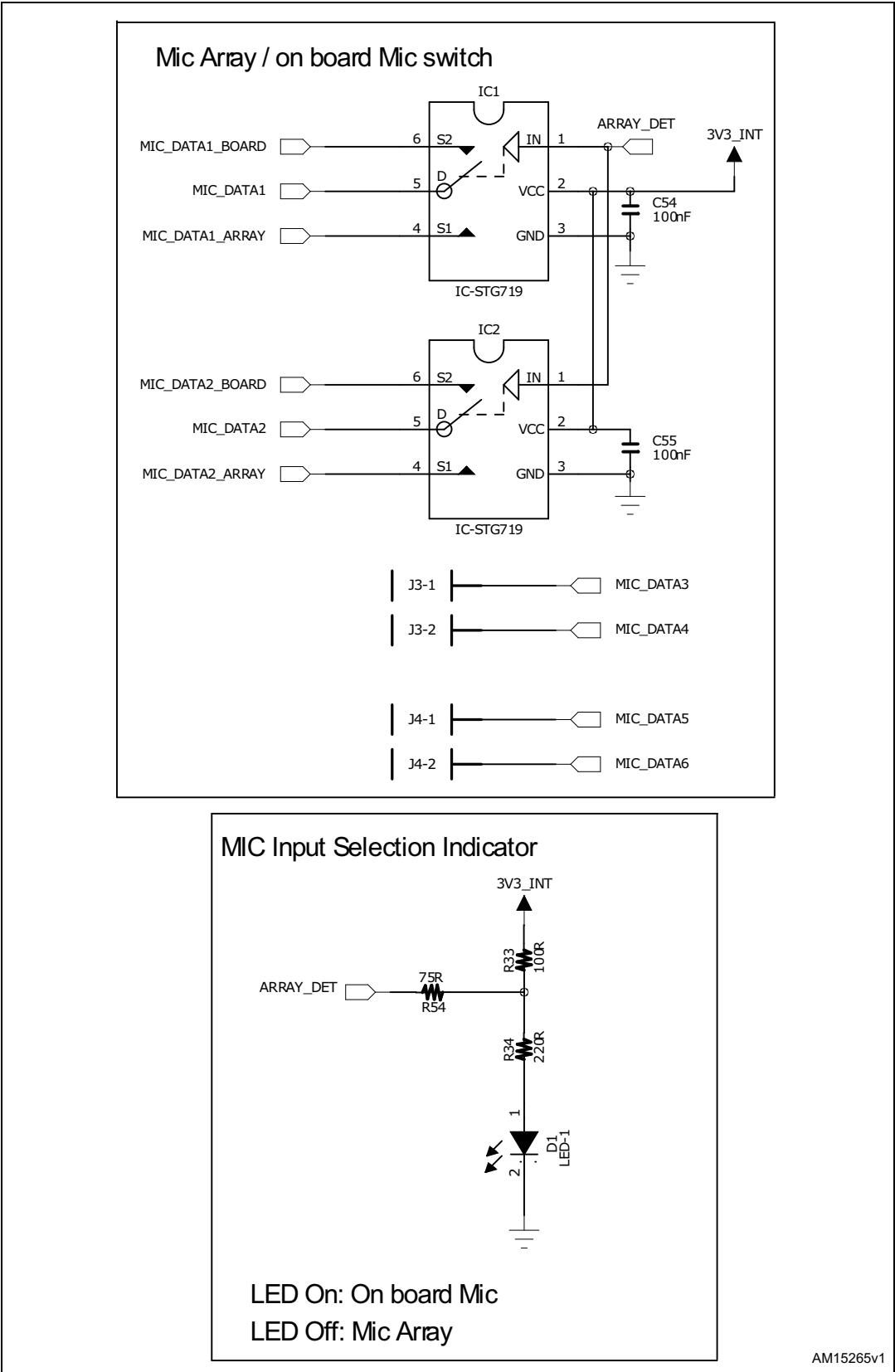
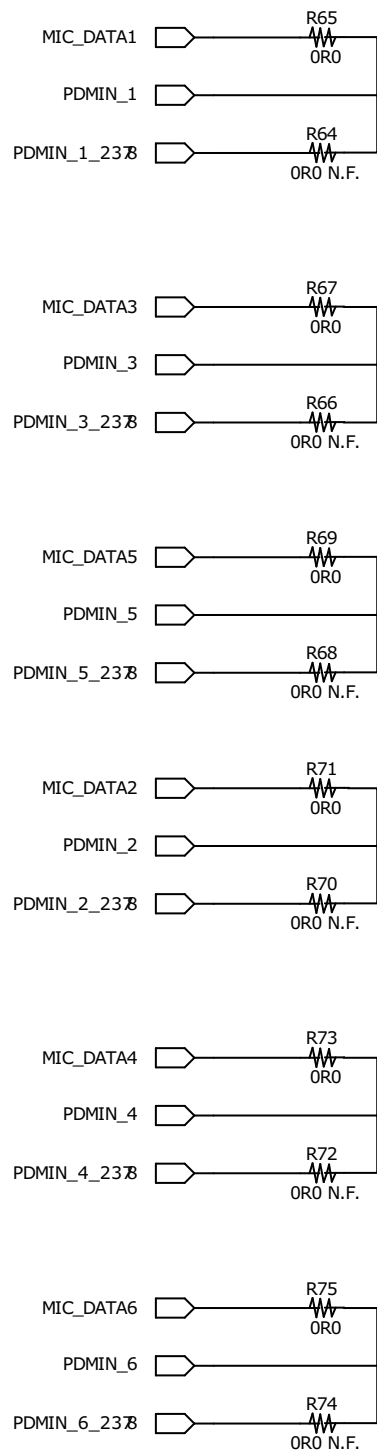


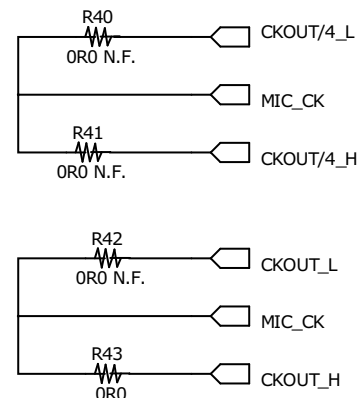
Figure 6. Schematic diagram 5/5

## Mic data level selection

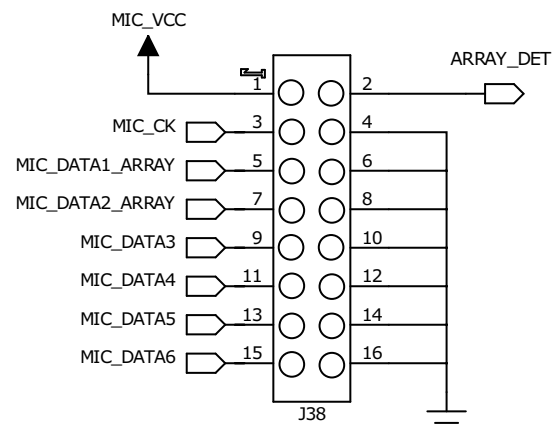
Default setting : 3V3



## MIC CLOCK SELECTION



## MIC ARRAY INTERFACE



AM15266v1

### 3 Revision history

**Table 1. Document revision history**

Date	Revision	Changes
18-Sep-2012	1	Initial release.
24-Jun-2013	3	Title has been changed.



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