•STM32F407VGT6 microcontroller featuring 32-bit ARM Cortex® -M4 with FPU core,

1-Mbyte Flash memory, 192-Kbyte RAM in an LQFP100 package

•On-board ST-LINK/V2 on STM32F4DISCOVERY or ST-LINK/V2-A on

STM32F407G-DISC1

• ARM® mbed Enabled™ (http://mbed.org) with ST-LINK/V2-A only

• USB ST-LINK with re-enumeration capability and three different interfaces:

– Virtual COM port (with ST-LINK/V2-A only)

– Mass storage (with ST-LINK/V2-A only)

– Debug port

• Board power supply:

– Through USB bus

– External power sources : 3 V and 5 V

•LIS302DL or LIS3DSH ST MEMS 3-axis accelerometer

•MP45DT02 ST MEMS audio sensor omni-directional digital microphone

•CS43L22 audio DAC with integrated class D speaker driver

•Eight LEDs:

– LD1 (red/green) for USB communication

– LD2 (red) for 3.3 V power on

– Four user LEDs, LD3 (orange), LD4 (green), LD5 (red) and LD6 (blue)

– 2 USB OTG LEDs LD7 (green) VBUS and LD8 (red) over-current

•Two push buttons (user and reset)

•USB OTG FS with micro-AB connector

•Extension header for all LQFP100 I/Os for quick connection to prototyping board and easy probing

•Comprehensive free software including a variety of examples, part of the STM32CubeF4 package or STSW-STM32068 for legacy standard library usage

Hardware and layout

The STM32F4DISCOVERY is designed around the STM32F407VGT6 microcontroller in a 100-pin LQFP package.

Figure 2 illustrates the connections between the STM32F407VGT6 and its peripherals (ST-LINK/V2 or ST-LINK/V2-A, push buttons, LEDs, Audio DAC, USB, ST-MEMS accelerometer and microphone, and connectors).

Figure 3 and Figure 4 help users to locate these features on the STM32F4DISCOVERY board.

