GENERAL INFORMATION

FCCID: **YCP-MB1263-000**

1.1.   Product description

STM32MP157A-EV1 STM32MP157C-EV1

Data brief

Evaluation boards with STM32MP157 MPUs

Features

- STM32MP157 Arm®-based dual Cortex®-A7 32 bits + Cortex®-M4 32 bits MPU in LFBGA448 package
- ST PMIC STPMIC1A
- 2 × 4-Gbit DDR3L, 16 bits, 533 MHz
- 2 × 512-Mbit Quad-SPI Flash
- 32-Gbit eMMC v5.0
- 8-Gbit SLC NAND, 8 bits, 8-bit ECC, 4-KB PS
- 1-Gbit/s Ethernet (RGMII) compliant with IEEE-802.3ab
- USB Host 4-port hub
- USB OTG HS
- CAN FD
- 5.5" TFT 720×1280 pixels with LED backlight, MIPI DSI℠ interface, and capacitive touch panel
- SAI audio codec
- 5-megapixel, 8-bit camera
- 4 × ST-MEMS digital microphones
- Smart card
- microSD™ card
- 2 user LEDs
- 2 user and reset push-buttons, 1 wake-up button
- 4-direction joystick with selection button
- 5 V / 4 A power supply
- Board connectors:
  - Ethernet RJ45
  - 4 × USB Host Type-A
  - USB OTG Micro-AB
  - SPDIF RCA input and output
  - CAN FD
  - Stereo headset jack including analog microphone input
  - Audio jack for external speakers
  - Motor control
  - External I2C
  - LTDC
  - Trace, JTAG, RS-232
  - GPIO expansion connector (Raspberry Pi® shields capability)
  - MEMS-microphone daughterboard expansion connector
- On-board ST-LINK/V2-1 debugger/programmer with USB re-enumeration capability: Virtual COM port and debug port
- STM32CubeMP1 and full mainline open-source Linux® STM32 MPU OpenSTLinux Distribution (such as STM32MP1Starter) software and examples
- Support of a wide choice of Integrated Development Environments (IDEs) including IAR™, Keil®, GCC-based IDEs

STM32MP157C-EV1 top view. Picture is not contractual.

Product status link
STM32MP157A-EV1
STM32MP157C-EV1

DB3800 - Rev 1 - February 2019
For further information contact your local STMicroelectronics sales office.

www.st.com

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STM32MP157A-EV1 STM32MP157C-EV1

Description

The STM32MP157A-EV1 and STM32MP157C-EV1 Evaluation boards are the full-feature demonstration and development platforms for STMicroelectronics Arm®-based dual Cortex®-A7 32 bits and Cortex®-M4 32 bits MPUs in the STM32MP1 Series. They leverage the capabilities of STM32MP1 Series microprocessors to allow users develop applications using STM32 MPU OpenSTLinux Distribution software for the main processor and STM32CubeMP1 software for the co-processor.

They include an ST-LINK embedded debug tool, LEDs, push-buttons, one joystick, 1-Gbps Ethernet, CAN FD, one USB OTG Micro-AB connector, four USB Host Type-A connectors, LCD display with touch panel, camera, stereo headset jack with analog microphone input, four digital microphones, one SPDIF Rx/Tx, Smartcard, microSD™ card, and eMMC, NOR and NAND Flash memories.

To expand the functionality of the STM32MP157A-EV1 and STM32MP157C-EV1 Evaluation boards, two GPIO expansion connectors are also available for motor control and Raspberry Pi® shields.

Data sheet of equipment

1.2. Tested System Details

2. EQUIPMENT UNDER TEST: CONFIGURATION (DECLARED BY PROVIDER)

2.1. INFORMATIONS

The STM32MP157C-EV1 and STM32MP157A-EV1 Evaluation boards are high-end development platforms for STM32MP157 microprocessor devices.
Version C supports encryption (Advanced Encryption Standard, Data Encryption Standard and Triple Data Encryption Standard): it is this version, the most constraining, which has been submitted to the EMC tests
All tests describe in this report have been performed on STM32MP157C-EV1

2.2. HARDWARE IDENTIFICATION (EUT AND AUXILIARIES):

Equipment under test (EUT):
STM32MP157C-EV1   Serial Number: 118

Equipment Under Test

Power supply:
During all the tests, EUT is supplied by V$_{nom}$: 120 VAC or/and 240 VAC
For measurement with different voltage, it will be presented in test method.

Name	Type	Rating	Reference / Sn	Comments
Supply	☑ AC ☐ DC ☐ Battery	100-240V 50-60Hz	CINCON ELECTRONICS CO. LTD Model: TRG30R050V	-

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Voltage table used:

Type	Measurement performed:	
☑ AC	☑ 120VAC/60Hz	☑ 240VAC/50Hz
☐ DC	☐ +....VDC	☐ -....VDC
☐ USB (Laptop auxiliary)	☐ 120VAC/60Hz (Laptop auxiliary)	☐ 240VAC/50Hz(Laptop auxiliary)

Inputs/outputs - Cable:

Access	Type	Length used (m)	Declared <3m	Shielded	Under test	Comments
Supply	AC Port	/	☐	☐	☑	Wall plug
ETHERNET	Communication Port	10	☐	☑	☑	RJ45
CAN	Communication Port	1	☐	☑	☑	SubD9
Headset	I/O Port	1	☑	☐	☑	Jack
Speaker OUT	I/O Port	1	☑	☐	☑	Jack
USB_OTG	I/O Port	0.2	☑	☐	☑	USB
USB HOST	I/O Port	/	☑	☐	☑	USB
USB HOST	I/O Port	/	☑	☐	☑	USB
USB HOST	I/O Port	1	☑	☑	☑	USB
USB HOST	I/O Port	1	☑	☑	☑	USB
UART	I/O Port	10	☐	☑	☐	Maintenance port
SPDIF Input	I/O Port	1	☐	☐	☑	
SPDIF Output	I/O Port	1	☐	☐	☑	

Auxiliary equipment used during test:

Type	FCC Id	Reference	Sn	Comments
Laptop	ACER	-	-	Laptop
USB Key (x 3)	-	-	-	USB Key (x 3)
Headphone	-	-	-	Headphone

2.3. EUT CONFIGURATION – RUNNING MODE

Hardware information			
Highest internal frequency (PLL, Quartz, Clock, Microprocessor…):	$F_{Highest}$:	650	MHz
Firmware (if applicable):	V. :	/	
Software (if applicable): For conducted emission test	V. :	ST OpenSTLinux - Weston - (A Yocto Project Based Distro) 2.4+openstlinux-4.14-rocko-mp1-18-11-02 stm32mp1 ttyS3	
Software (if applicable): For radiated emission test	V. :	ST OpenSTLinux - Weston - (A Yocto Project Based Distro) 2.4+openstlinux-4.19-rocko-mp1-19-02-20 stm32mp1 ttyS3	

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1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4 or ANSI C63.10, FCC Part 15 Subpart B.

Radiated testing was performed at an antenna to EUT distance of 10 meters. During testing, all equipment's and cables were moved relative to each other in order to identify the worst case set-up.

1.4. Test facility

Tests have been performed: **December 20, 2018 and February** 25, 2019

This test facility has been fully described in a report and accepted by FCC as compliant with the radiated and AC line conducted test site criteria in ANSI C63.4 and ANSI C63.10.

This test facility has also been accredited by COFRAC (French accreditation authority for European Union test lab accreditation organization) according to NF EN ISO/IEC 17025, as compliant with test site criteria and competence in 47 CFR Part 15/ANSI C63.4 and EN55022/CISPR22 norms for 89/336/EEC European EMC Directive application. All pertinent data for this test facility remains unchanged.