

Operational description

This device is a conference terminal, it can get the Ethernet signal from outside control device, and show the meeting information on the display, and it has microphone and speaker, so that the meeting attendances can talk to each other.

Here are the inside modules:

1. MPU Module: In this module, there is a dual-core A9 embedded MPU, and it is the main processor of the MMD2 product. It can control the camera through the 8-bit camera interface and control the LCD through the RGB666 interface and control the NFC through the UART interface. It can also communicate with outside through GMII interface and communicate with Audio module through I2S signal, and control CAP module through I2C interface. There are one 8Gb NAND flash and two 2Gb DDR3 SDRAMs in this module. 32.768KHz crystal is used as the real time clock and 24MHz crystal is used as fast clock.
2. Camera Module: The camera sensor sends the MIPI signal to an 8M imaging processor which can send the 8-bit camera signal to MPU.
3. LCD Module: It gets the RGB666 signals from MPU and transfer the signals to LVDS signals which have less pins and easy to transfer to the LCD.
4. NFC Module: It can access the signals from NFC antenna and transfer the signals from and to MPU by UART signal. A 27.12MHz oscillator is used as the time reference for the NFC chipset.
5. Ethernet Module: It is Gigabit Ethernet switch module. It can transfer the Ethernet signal with external network devices through the Ethernet connector, and it can also communicate with MPU through the GMII interface.
6. Audio Module: It gets the analogue signal from external microphone or headset microphone, and transfer it into digital signal, then sends it to CAP module through SPI or I2S. It can also get digital signal from CAP module by SPI or I2S and transfer it into analogue signal then sends to Tweeter and Woofer speaker or headset.
7. CAP Module: CAP means Common Audio Platform which is used to process the audio signal. An ARM-based 32-bit MCU is used to transfer the audio signal to the audio module. It can also transfer the audio signal between a FPGA which can process the audio signal, and the FPGA has a 64Mb flash and a 512Mb DDR2 SDRAM.
8. Power Module: It can get the 48V power through the Ethernet module, and the 48V is converted to 5V by DC-DC, and the 5V power can be converted to 1.0V, 2.5V, 1.8V, 3.3V and so on.