

Circuit Description

X-431 TOOL C

Power supply system (DC):

The system power supply is provided by the OBD connector and converted to 5V as a main supply by DC/DC (U25). A branch of this 5V power supply is divided to supply the relay group and CAN bus transceiver. And meanwhile, the other branch is converted to 3.3V by LDO (U23) for the main CPU(U5) and extended logic.

System clock configuration:

The 8MHZ crystal oscillator provides the primary frequency clock.

Memory system structure:

LPC2368 is the CPU (U5) and with SRAM (U6) extended.

The data transmits wireless via the Bluetooth module U15 to CPU U5 diagnostic box.

The Bluetooth transmit frequency is 2402~2480MHz.

Extended logistic structure:

An extended CPLD (U7) fulfills the logistic extension to adapt the switches.

Function module:

The CAN bus transceiver (U21) performs the CAN BUS protocol among the vehicle ECUs.

The SINGLE CAN bus transceiver (U20) communicates in single CAN BUS.

The LOGIC LEVEL SHIFT converts the logic level to communicate.

The PWM BUS UNIT links the special vehicle communication.

The communication links can be switched by relay arrays which is driven by the relay drive unit U8,U9,U10,U11,U12 and U13 according to the signal from the extended logic unit, so the shift fulfill various requirement of different car models and tests.