

TV Stick Test Box User Manual



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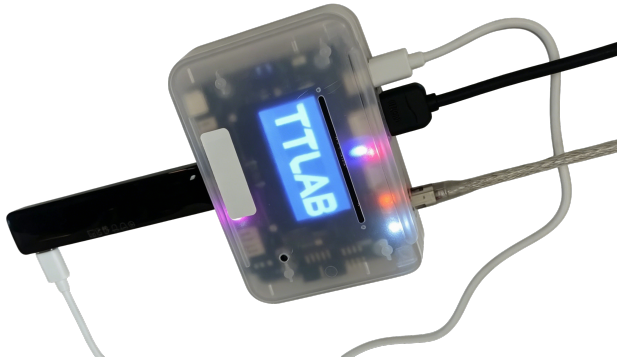
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Chapter 1: TV Stick Test Box information

1.1 Introduction

TV Stick Test Box is a universal smart test kit for TV stick and TV Box.



1.2 Features

1.2.1 HDMI Switch

To emulate physical HDMI cable plug in/out. TV Stick Test Box integrates high speed HDMI switchers which can be controlled by AT commands to switch HDMI to TVA and TVB or off.

1.2.2 Onboard UDISK (This is an enhanced HW option feature)

There's an onboard UDisk. The UDisk can be used for TV Stick(TV Box) USB to access it in OTG mode(Seldom).

1.2.3 TV Stick(TV Box) debug port support

1. UART through USB TypeC SBU1/SBU2 (For TypeC USB SMP);
2. UART through USB D+/D-;
3. Audio Jack;

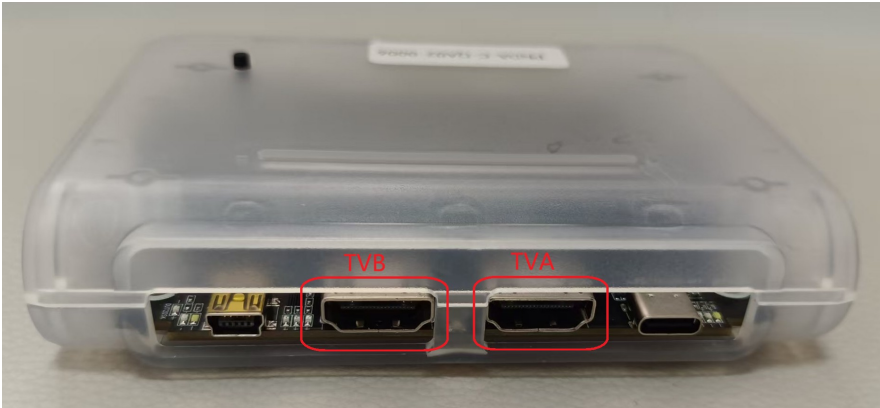
Chapter 2: TV Stick Test Box's Ports

2.1 HDMI ports

One is for HDMI IN to connect with TV Stick(TV Box) or TV Box.

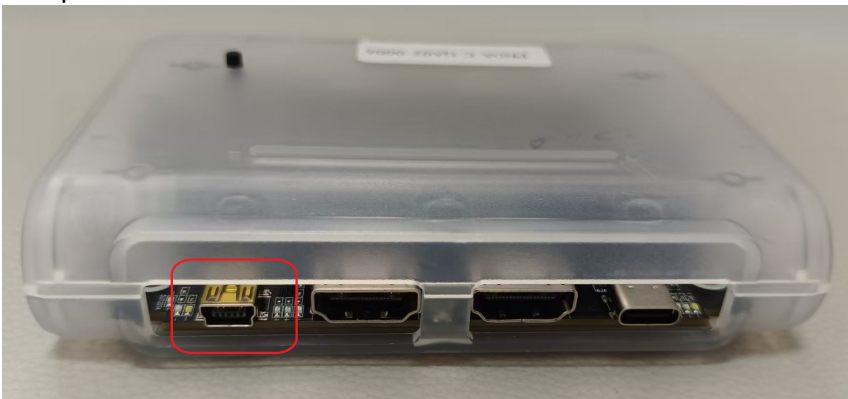


The other two are for HDMI OUT to connect with TV (TVA or TVB).



2.2 Mini USB Port

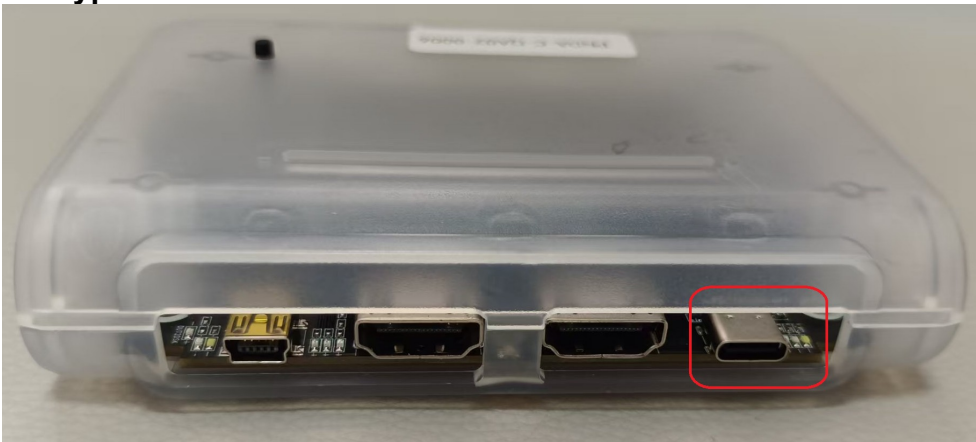
This port is connected with Host PC.





1. To get AT commands from Host PC ;
2. Get TV Stick(TV Box)'s UART log ;
3. Get power data of TV Stick(TV Box);
4. ADB connection with TV Stick(TV Box) ;
5. Get TV Stick test box's UART Log ;

2.3 TypeC USB Port



This port is connected with TV Stick(TV Box) by using a customized C2C cable specifically designed for the test box. This port provides USB power to TV Stick(TV Box) and USB link with TV Stick(TV Box) for USB ADB etc.

2.4 Power Port

A 5V power adapter provides power through this port to TypeC USB.



2.5 Audio Jack Connector

This connector is used for legacy products whose Debug UART is not through TypeC USB connector. Should use WuKong or other USB-UART bridge board to connect Debug UART with Host PC.



2.6 USB HUB Ports

2 USB HUB ports can be used to connect other testing kit with USB ports to go through USB HUB in the test box.



Chapter 3: HDMI Ports Test

3.1 HDMI1 GROUP

HDMI1 has one input and two outputs. Users can connect a TV stick with HDMI1 input as a video source. Two HDMI outputs are TVA and TVB. Users can use AT commands to switch HDMI1 Group.

HDMI1 Group AT Command			
Command	Return	Behavior	Comments
AT+HDMI1=TVA	OK	Switch HDMI1 input to TVA HDMI output and turn on the output	
AT+HDMI1=TVB	OK	Switch HDMI1 input to TVB HDMI output and turn on the output	
AT+HDMI1=OFF	OK	Switch off HDMI output	It can remember HDMI path
AT+HDMI1=ON	OK	Switch on HDMI output	It will turn on HDMI output with the previous HDMI path From P2, support CEC switch
AT+HDMI1?	HDMI1:ON,TVA HDMI1:OFF,TVA HDMI1:ON,TVB HDMI1:OFF,TVB	Check HDMI1 status	Return on/off and HDMI path information
AT+EMU_EDID=ON	OK	HDMI read EDID from TV Stick test box EEPROM	
AT+EMU_EDID=OFF	OK	HDMI read EDID from TV EEPROM	Only in this mode, can update TV Stick test box EEPROM data
AT+EMU_EDID=<value> <value> :WREDID1~WREDID7	OK ERROR	Write static emulation EDID data to TV Stick test box EEPROM	HSTDAT example: AT+EMU_EDID=WR EDID2
AT+EMU_EDID=<value> <value>: HSTDAT,<offset/4bytes> ,<length/4 bytes>,<data/real length*2><crc>	OK ERROR	Write emulation EDID data from Host PC to TV Stick test box EEPROM	HSTDAT example: AT+EMU_EDID=HSTDAT,0020,0010,XXYYZZ....XXYY (offset is 32, data is 16 bytes data and 1 byte CRC) From P2, support from 256 bytes to 2K bytes

Chapter 4: TV Stick(TV Box) USB Port Test

4.1 USB Switch

For TV Stick(TV Box) USB test. TV Stick test box uses three USB switchers to enable one of three USB paths at one time. The three USB paths are Host to DUT(Host PC use ADB control TV directly) , Host to UDisk(Host PC connect to onboard UDisk), DUT to UDisk(TV USB connect to onboard UDisk).

4.2 USB Switch ON BOARD USB DISK (OPTIONAL HW FUNCTION)

An onboard USB Disk is integrated in TV Stick test box. It can be used to test TV Stick(TV Box) USB and realize some extension features.

TV USB Test AT Commands			
Command	Return	Behavior	Comments
AT+USBPATH=HST2DUT	OK	Host USB connect with DUT	
AT+USBPATH=HST2DSK	OK	Host USB connect with UDISK	Not support by default HW
AT+USBPATH=DUT2DSK	OK	DUT connect with UDISK	Not support by default HW
AT+USBPATH=HST#DUT	OK	Host USB connect with DUT w/o VBUS	
AT+USBPATH=OFF	OK	All USB Path OFF	It can remember USB path
AT+USBPATH=ON	OK	It will turn on previous USB path	
AT+USBPATH?	USBPATH:ON,HST2DUT USBPATH:OFF,HST2DUT USBPATH:ON,HST2DSK USBPATH:OFF,HST2DSK USBPATH:ON,DUT2DSK USBPATH:OFF,DUT2DSK USBPATH:ON,HST#DUT USBPATH:OFF,HST#DUT	Check USB status	Return on/off and USB path information

Chapter 5: System AT Command

5.1 Common System AT Command

The Common System AT Commands to do system settings and to get the TV Stick Test Box's status.

Common System AT Command			
Command	Return	Behavior	Comments
AT?	OK	Basic AT command	
AT+PING?	PING:PNDA	Basic Ping command	
AT+VER?	VER:01.00.12	Return Version	
AT+SETVFLG=XXX	OK	Set lock flags for system values	Config Tool Only Valid Values: DSN PRD NVM USR ALL
AT+DELVFLG=XXX	OK	Unlock flags for system values	Config Tool Only Valid Values: DSN PRD NVM USR ALL
AT+NVMVER=1	OK	Set NVM version	Config Tool Only Protected by NVM VFLG
AT+NVMVER?	NVMVER:0x1	Return NVM version	
AT+DSN=	OK	Set DSN (Device Serial Number)	Config Tool Only Protected by DSN VFLG
AT+DSN?	DSN:PNDA-0-0000-0000	Return Device Serial Number	
AT+OWNER=	OK	Set Owner Name	Config Tool Only Protected by USR VFLG
AT+OWNER?	OWNER:TideYin	Return Owner Name	
AT+LOGIN=	OK	Set Login	Config Tool Only Protected by USR VFLG
AT+LOGIN?	LOGIN:tideyin@	Return Login	
AT+LOCAT=	OK	Set Location	Config Tool Only

			Protected by USR VFLG
AT+LOCAT?	LOCAT:PEK12	Return Location	

5.2 Specific System Command

The Specific System AT Commands to do system settings and to get the DUT①'s status.

Specific System AT Command			
Command	Return	Behavior	Comments
AT+PRODUCT=	OK	Set Remote product name	Config Tool Only Protected by PRD VFLG
AT+PRODUCT?	PRODUCT:PRD1	Return Remote product name	
AT+REBOOT=<Value>	OK		DWN -> Download mode NRM -> Normal mode

① DUT: Device under test

5.3 Common System HW Command

Common System HW AT Command			
Command	Return	Behavior	Comments
AT+SYSRST=REBOOT	OK	System Reboot	
AT+SYSRST=DFU	OK	System reboot to DFU download mode	
AT+RGB=011	OK	Set RGB LED	
AT+SYSCMD=LCDOFF	OK	Turn off LCD	
AT+SYSCMD=LCDLOGO	OK	LCD show LOGO	