

## Example Test Case

<b>Test Author: Team 5</b>						
	<b>Test Case Name:</b>	Power Supply Testing	<b>Test ID #:</b>	90210		
	<b>Description:</b>	Using Bifurcation, and a current limited lab power supply use the onboard jumpers to safely test power delivery to all sections of the circuit	<b>Type:</b>	<input checked="" type="checkbox"/> white box <input type="checkbox"/> black box <input type="checkbox"/> _____		
<b>Tester Information</b>						
	<b>Name of Tester:</b>	Bucanan Howard	<b>Date:</b>	12/4		
	<b>HW/SW Version:</b>	Ver 4/ Ver 1.0	<b>Time:</b>	6:00 PM		
	<b>Setup:</b>	Variable PSU, board with buttons and display				
<b>S T E P</b>	<b>Action</b>	<b>Expected Result</b>	<b>P A S S</b>	<b>F A I L</b>	<b>N / A</b>	<b>Comments</b>
1	No Jumpers, Barrel Jack Plugged in	5 V on cathode of the diode	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Jumper to ESP32 plugged in	5V at Power pin of ESP 32, current draw increased	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Jumper to Screens Plugged in	Screens power on, current draw increased	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reset required to see image on screen
4	Plug in Select Button	Onboard LED on buttons turns on	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	V <sub>com</sub> on Nmos stack incompatible with power supply
5	Probe Button signal pin in	3.3 volts on each button data pin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Connect all jumpers and start game	Display lights up at full brightness as do button LEDs	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Increase current limit to 250 mA Pass on re-test
	<b>Overall test result:</b>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Core functionalities power as specced, hardware change required for the button LEDs

Example Matrix Test (for varying parameters)

Test Author: Team 5						
	Test Case Name:	Directional Button Functions	Test ID #:	90211		
	Description:	Test that the 4 directional buttons function as intended.	Type:	<input type="checkbox"/> white box <input checked="" type="checkbox"/> black box <input type="checkbox"/> _____		
Tester Information						
	Name of Tester:	Demetri Van Sickle	Date:	12/4/24		
	HW/SW Version:	4.0/1.0	Time:	6:40pm		
	Setup:	4 directional buttons, main board, 5V supply, display				
T E S T	INPUTS	EXPECTED OUTPUTS	P A S S	F A I L	N / A	Comments
1	Select button pressed at reboot	Start screen transitions to game screen	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Select button pressed at game	Select screen entered	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Exit Button Pressed	Game exits	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Left Button Pressed	Cursor scrolls left	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	Right Button Pressed	Cursor scrolls right	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	Up Button Pressed	Screen Brightness Increases	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Double check schematic for silk screen assignments
7	Down Button Pressed	Screen Brightness Decreases	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	Overall test result:		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

## Example Test Case

<b>Test Author: Team 5</b>						
	<b>Test Case Name:</b>	On/Off Switch Testing	<b>Test ID #:</b>		90212	
	<b>Description:</b>	Test that the voltage regulator correctly regulates all incoming voltage to output 5 Volts DC, that the on/off switch properly functions and activates and/or deactivates the ESP32 based on its position, and that the LEDs provide proper feedback for incoming wall voltage connection and switch position.			<b>Type:</b>	<input checked="" type="checkbox"/> white box <input type="checkbox"/> black box <input type="checkbox"/> _____
<b>Tester Information</b>						
	<b>Name of Tester:</b>	Daniyil Kashkan			<b>Date:</b>	12/4
	<b>HW/SW Version:</b>	Ver 4/ Ver 1.0			<b>Time:</b>	7:20 PM
	<b>Setup:</b>	12V cable converter, 5V voltage regulator, LEDs with resistors, on/off switch (7101J1V3QE2 C&K)				
<b>S T E P</b>	<b>Action</b>	<b>Expected Result</b>	<b>P A S S</b>	<b>F A I L</b>	<b>N / A</b>	<b>Comments</b>
1	Plug Cable into a 120V AC Wall Socket	120V AC converted to 5V 2A DC; first LED lights up	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Converted to 12V 2A DC, which is acceptable
2	Flip the Switch Position	Closes or opens the connection; second LED turns on/off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Probe Voltage Regulator	Takes in 12V (from step 1), outputs 5V at all times	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Minimum of 7V input required
4	Probe the ESP32	Turns on when switch is closed and off when switch is opened	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Requires 7V min for proper 5Vin
5	Disconnect Wall Socket Cable	The entire device, including both LEDs, shuts off	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	<b>Overall test result:</b>		<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All tests correctly passed, switch circuit ready to be applied to the rest of the device