Integrated Test Protocol and Checklist (ISTPAC)

Tester:

Test 2	Connection between Front- and Backend (Without Registry Server)					Comment
Precondition		**Procedure description**				
RasPi with installed Backend together with the Frontend application is placed in the same network. The IP of the Backend is known.		After the Textbox gets an input the Add button is clicked. Then, the Table shows system messages or the Textbox reacts differently.				
Components used during test		**Checklist**				
Component	**Purpose / Label**	**No**	**Cases**	**Expected**	**Result**	
Table	System message	**2-1**	Textbox input is the IP of the Backend	User Controls are displayed, RasPI appears in RasPi list and is selected	OK	
Textbox	User Input (Backend IP)	**2-2**	Textbox input is not the IP of the Backend	Table shows connection failed	OK	
Button	Add	**2-3**	Textbox input is not related to numbers	Textbox remains empty	OK	
Grid	User Controls	**2-4**	Textbox is empty	System Message indicates to input an IP-Address.	OK	
Raspberry Pi	Backend	**2-5**	Backend is shuted down	User Controls disapear showing tooltip, RasPi disapears from RasPI List	OK	
Table	RasPi List	**2-6**				
		2-7				

Test 4	Controlling of Potentiometer Chip	Comment
Precondition	**Procedure description**	

RasPi with installed Backend together with the Frontend application are successfully connected. Besides, the RasPi is wired correctly to the Breadboard, specified by Sivantos.	The Analog Volume Control will be used to evaluate whether the Potentiometer is working correctly or not. Therefore the Multimeter is used to measure the output Voltage by connecting Pin 5 and Pin 2 the Potentiometer.

Components used during test		Checklist			
Component	**Purpose / Label**	**No**	**Cases**	**Expected**	**Result**
Slider	Volume Control	**4-1**	Slider is moved 0%	Multimeter shows 0	OK
HW Pin	Pin 2 of Potentiometer	**4-2**	Slider is moved to 50%	Multimeter shows 0,5*VBAT	OK
HW Pin	Pin 5 of Potentiometer	**4-3**	Slider is moved to 100%	Multimeter shows VBAT	OK
Tool	Multimeter set to 20V				

Test 5	**Pushbutton simulation**	**Comment**

Precondition	**Procedure description**
RasPi with installed Backend together with the Frontend application are successfully connected. Besides, the RasPi is wired correctly to the Breadboard, specified by Sivantos and the Multiplexer is set to the test configuration 1. Further, there are Pull-Up-Resistors in place.	The Pushbutton in the User Controls tab of the UI will be pressed after the duration was set to different values. The Multimeter is simultaneously used to monitor changes in voltage. Therefore, the black wire is connected to Ground-Pin and the red to PB-pin.

Components used during test		Checklist			
Component	**Purpose / Label**	**No**	**Cases**	**Expected**	**Result**
Button	Pushbutton (PB)	**5-1**	Multimeter is set and connected to Pins	Multimeter shows init-value VBAT	OK
Drop Down Menu	Duration	**5-2**	duration is set to short and PB pressed	Value drops to 0 and back to VBAT very quickly (200ms)	OK
HW Pin	PB configured x-Output-Pin of Multiplexer	**5-3**	duration is set to medium and PB pressed	Value drops to 0 and back VBAT after 1500 ms	OK
HW Pin	Ground configured x-Output-Pin of Multiplexer	**5-4**	duration is set to long and PB pressed	Value drops to 0 and back to VBAT after 3 sec	OK

Tool	Multimeter set to 20V					

Test 6	**Rocker Switch simulation**					**Comment**
Precondition		**Procedure description**				
RasPi with installed Backend together with the Frontend application are successfully connected. Besides, the RasPi is wired correctly to the Breadboard, specified by Sivantos and the Multiplexer is set to the test configuration 1. Further, there are Pull-Up-Resistors in place.		The Rocker Switch in the User Controls tab of the UI will be pressed after the duration was set to different values. The Multimeter is simultaneously used to monitor changes in voltage				
Components used during test		**Checklist**				
Component	**Purpose / Label**	**No**	**Cases**	**Expected**	**Result**	
Button	Rocker Switch Down (RSD)	**6-1**	Multimeter is set and connected to Pins	Multimeter shows init-value between 0 and 1	OK	init-Value is not deterministic!
Button	Rocker Switch Up (RSU)	**6-2**	duration is set to long (short, medium) and RSD pressed	Value drops to 0 and back to init-value after 3 sec (200ms, 1,5s)	OK	
Drop Down Menu	Duration	**6-3**	duration is set to long (short, medium) and RSU pressed	Value rise up to 1 and back to init-value after 3 sec (200ms, 1,5s)	OK	
HW Pin	RS configured x-Output-Pin of Multiplexer					
HW Pin	Ground configured x-Output-Pin of Multiplexer					
Tool	Multimeter set to 20V					