**Test Case Template-- ECE 458 Spring 2020**

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| Test Name | Commercial Detection Program | | Test Number | 3 | | | |
| Requirement(s) Tested | | 2, 2.1, 2.2 | Verification Method | I | A | D | T |
| Test Setup  -Include HW or SW Versions  -Attach Diagrams as appropriate | | 1. Raspberry Pi 3B+    1. OS: Raspbian v10 2. Connections to Pi:    1. USB Sound Card into USB port    2. HDMI cable into HDMI port    3. Micro USB into Micro USB port    4. Ethernet cable into Ethernet port    5. Keyboard & Mouse into USB ports    6. 3.5mm cable into Microphone (Pink) port of USB soundcard    7. IR Remote shield connected to pins 1 to 26 3. Connections to TV:    1. Micro USB cable into USB port    2. 3.5mm cable into 3.5mm headphone port    3. Power cable into power port    4. Antenna into Coaxial port 4. Other Connections:    1. Connect HDMI cable to secondary Monitor    2. Connect TV Power cable to power outlet 5. Other Materials:    1. Westinghouse TV remote 6. TV Settings:    1. Powered On    2. Channel set to 10.1 (NBC)    3. Volume set to Half (Aligned with vertical marker on Volume bar | | | | | |

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| Test Step | Action (Attach test data, diagrams, etc. as appropriate) | Expected Result | Observed Result | Pass  Fail |
| 1. | Point the system remote to the Raspberry Pi and press **BUTTON NAME** | Output to terminal reads **“++Algorithm is ON”** | Terminal reads **“++Algorithm is ON** | P |
| 2. | Point the system remote to the Raspberry Pi and press **BUTTON NAME 2** | Output to terminal reads **“++Reduced Volume ON”** | *Incomplete* | *Incomplete* |
| 3. | Upon a transition to a commercial break observe the terminal | Output to terminal reads **“++Commercial Detected Volume Lowered”** | Inconsistent Behavior | F |
| 4. | Upon a transition back to TV programming observe the terminal | Output to terminal reads **“++Return Detected Volume Restored”** | Inconsistent and not fully implemented | F |
| 5. | Point the system remote to the Raspberry Pi and press **BUTTON NAME 2** | Output to terminal reads **“++Reduced Volume OFF”** | *Incomplete* | *Incomplete* |
| 6. | Upon a transition to a commercial break observe the terminal | Output to terminal reads **“++Commercial Detected Muted”** | Inconsistent Behavior | F |
| 7. | Upon a transition back to TV programming observe the terminal | Output to terminal reads **“++Return Detected Unmuted”** | *Incomplete* | *Incomplete* |
| 8. | Point the system remote to the Raspberry Pi and press **BUTTON NAME** | Output to terminal reads **“++Algorithm is OFF”** | Terminal reads **“++Algorithm is OFF”** | P |

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| Comments  Many things still need to be tested further. The tests that have failed were initial results given during the first development of the algorithm. However, since no progress can be made on the design the team decided to log those results. |

Date Test Engineer Witness