|  |  |
| --- | --- |
| TNC Testing Form (REV1) | |
| Leaf on the Tree | MOSFET |
| Device Under Test (Testing Tree Number): | 1.2.4 |
| Date: | 11/1/20 |
| Person(s) Conducting Experiment: | Kobe Keopraseuth |
| Signature: |  |
| Experiment Purpose: | The purpose of this experiment is to ensure that the MOSFET is operating correctly. We are using the MOSFET as a switch to pull 15V, coming from the radio, to ground. This will tell the radio that the TNC is transmitting and the radio can stop transmitting. |
| Experiment Procedure: | We will implement the circuit shown below and input 15 V with a pull-up resistor, to act as the radio’s 15 V. Then we will use a tactile switch to switch the MOSFET on and off. A voltmeter will be used to make sure our drain to source voltage becomes very small when the MOSFET has high signal input at the gate. |
| Equipment Settings / Software Settings (w Revision): | We use a breadboard to hook up the circuit shown below and a dc power supply for the 15 V. We used LTspice for designing the circuit. We use 3.3V reference to supply to the gate. |
| Testing Diagram / Picture: | **Circuit** |
| Data Points: | A circuit board  Description automatically generated  **MOSFET Off**  **A picture containing person  Description automatically generated**  **MOSFET on** |
| Pass / Fail: | Pass |
| Interpreted Notes: | As can be seen when a low signal is inputted into the gate, then the MOSFET’s drain to source is 15 V. As can be seen when a high signal is inputted into the gate, then the MOSFET’s drain to source is 3.2 mV, which should signal the radio to stop transmitting. |
| Recommendations for Modifications: | None |