

ACCEPTANCE TEST PLAN

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Upon completion of all manufacturing activities and processes, all space flight hardware shall be tested according to and following the order of the test plan found in Table 5. This test plan constitutes DiTom Microwave’s standard acceptance test procedure for all space flight model hardware. Additional tests can be added and/or existing tests can be modified to fit specific contract requirements per customer request.

Please feel free to contact us at 559.255.7042 or sales@ditom.com for additional information.

TABLE 4 – ACCEPTANCE TEST PLAN

Test Description	Applicable Paragraph
Initial Electrical Performance Test	Paragraph 9.1
Storage Temperature Cycling	Paragraph 9.2
Electrical Performance Test	Paragraph 9.1
Random Vibration	Paragraph 9.3
Electrical Performance Test	Paragraph 9.1
Operational Temperature Performance	Paragraph 9.4
Final Electrical Performance Test	Paragraph 9.1

9.1 ELECTRICAL PERFORMANCE TESTS (INITIAL, IN-PROCESS, FINAL)

Electrical performance measurements shall be performed to verify the electrical performance of the isolator/circulator. Measured data displaying insertion loss, VSWR (every port), and isolation (isolator only) performance over the full operating bandwidth shall be captured for each test. During the initial and final electrical performance tests, RF leakage performance shall also be measured at the center frequency of operation. All electrical performance tests shall be captured on a calibrated VNA given no less than 1h of warm up time and kept in ambient conditions (18 - 26°C, 20-65% RH) for the entire duration of the test unless otherwise specified. Tolerances/margin of error for measurements shall be per the manufacturer's user manual specifications for the VNA being used. Please contact us for a detailed electrical performance measurement procedure and VNA tolerances.

9.2 STORAGE TEMPERATURE CYCLING

Non-operational temperature cycling shall be performed to ensure the hardware meets all electrical performance specifications after being exposed to the storage temperature range per Table 2. The hardware shall be exposed to each temperature extreme for a minimum of 1 hour. The rate of change between each temperature extreme shall not exceed 20°C/minute. The hardware shall be kept at ambient conditions for no less than 1h after the test is complete prior to electrical performance measurements. Please contact us for a detailed test procedure.

9.3 RANDOM VIBRATION

Random vibration testing shall be performed to ensure the hardware can survive the vibrations associated with the launch and ascent of satellite vehicles without any degradation to its coatings, surfaces, or electrical performance. Please contact us for a detailed test procedure.

9.4 OPERATIONAL TEMPERATURE CYCLING

Operational temperature cycling shall be performed to ensure the hardware meets all electrical performance specifications while being exposed to the operational temperature range per Table 2. The hardware shall be powered on and exposed to each temperature extreme for 10 minutes, at which point an electrical measurement shall be made. Please contact us for a detailed test procedure.