Artemis Acceptance Test Procedure

Date: _____ / _____ / 20___   S/N: _____   SW Version: _____

Test Operator: _____   Power +5Vin: _____ Vdc (measure at PCB TP)

1) UART TX serial test: Observe Power-on banner message. Passes if message is displayed with no garbled characters.   P/F: _____

2) UART RX serial test: Issue "?" help command from PC terminal. Passes if help message is displayed with no garbled characters.   P/F: _____

3) FSEL Test: Cycle through binary inputs and observe channel display on serial terminal. Passes if all digits are recognized and displayed (after settling).   P/F: _____

4) /MUTE Test: cycle /MUTE, and observe channel display on serial terminal. Passes if channel output toggles (muted output less or equal to -40 dBc when unmuted)   P/F: _____

5) +3.3V out Test: Measure P2-15 with a DMM. Passes if voltage = 3.3V ±10%.
        $V_{(3.3V)}$: _____   P/F: _____

6) Sideband Test: Set CH2 and observe the output at 11 GHz on a spectrum analyzer (1 MHz span). Verify that any sidebands are ≤-40 dBc. Record strongest sideband. *Note: sidebands are considered measurable if they are greater than 3 dB above the noise floor*.
(Fc level: _____ dBm) – (SB level: _____ dBm) = _____ dBc
Span: _____ MHz   SB Frequency: Fc± _____ (MHz)   P/F: _____

7) Output level test #1: Set CH1 and observe the output at 8 GHz on a spectrum analyzer. Record the signal level. Passes if output is ≥ +10 dBm & frequency is 8 GHz +/-10KHz.
Level: _____ dBm   P/F: _____

8) Output level test #2: Set CH3 and observe the output at 15 GHz on a spectrum analyzer. Record the signal level. Passes if output is ≥ 0 dBm.   Level: _____ dBm   P/F: _____
Set CH0, passes if 3 GHz level is ≥ +10 dBm   Level: _____ dBm   P/F: _____

9) Noise Test: Set CH2 and observe the output at 11 GHz on a spectrum analyzer. Center on the peak, set a 100 Khz span and measure the abs. noise level. Passes if NL is better than -78 dBc/Hz at 10KHz offset. Fc level: _____ dBm   Noise level: _____ dBm/Hz
        NL (dBc) = {Noise Level} - {Fc level} = _____ dBc/Hz   P/F: _____

10) Load custom channel config and test with custom reference settings.   Done: _____
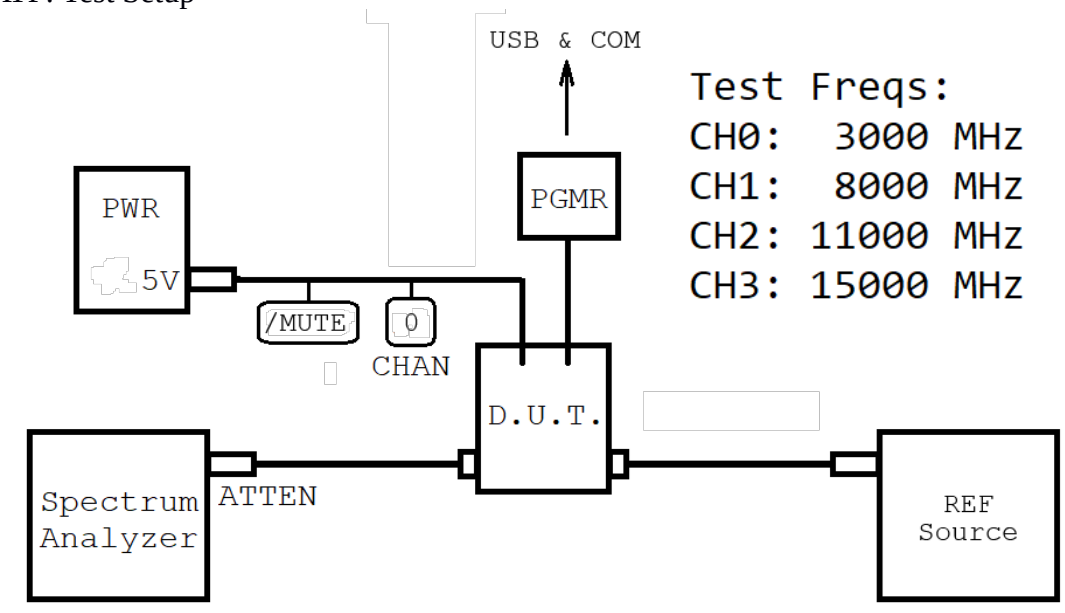
REFERENCE Freq: _____   Level: _____

FSEL 0: _____   FSEL 1: _____

FSEL 2: _____   FSEL 3: _____

Test Operator Signature: _____

Artemis ATP: Test Setup


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                              USB & COM
                                 ↑        Test Freqs:
                              ┌─────┐     CH0:   3000 MHz
  ┌───────┐                   │PGMR │     CH1:   8000 MHz
  │ PWR   │                   └──┬──┘     CH2:  11000 MHz
  │   5V  │    ┌─────┐ ┌──┐      │        CH3:  15000 MHz
  └───────┘    │/MUTE│ │ 0│   ┌──┴───┐
               └─────┘ └──┘   │       │
                        CHAN  │D.U.T. │
  ┌─────────┐ ATTEN           │       │        ┌──────────┐
  │Spectrum │──────────────────┤       ├────────│   REF    │
  │Analyzer │                 └───────┘        │  Source  │
  └─────────┘                                  └──────────┘
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POWER SUPPLY: _____

DMM Model/SN: _____

S/A: _____

EXT. ATTEN: _____ dB   ATTEN MODEL/SN: _____

D.U.T. RF OUT CABLE: _____

   LOSS AT 2 GHz: _____ dB   LOSS AT 12 GHz: _____ dB

   LOSS AT 8 GHz: _____ dB   LOSS AT 15 GHz: _____ dB

ATP REF SOURCE: _____

        LEVEL AT D.U.T. CONNECTOR: _____ dBm

Date: _____ / _____ / 20___   TEST OPERATOR: _____