# APPENDIX B: TEST SEQUENCES

1. Test sequence is generated based on below parameters of the DUT:
   a. Measured maximum power ($P_{max}$)
   b. Measured Tx_power_at_SAR_design_target ($P_{limit}$)
   c. Reserve_power_margin (dB)
      - $P_{reserve}$ (dBm) = measured $P_{limit}$ (dBm) – Reserve_power_margin (dB)
   d. *SAR_time_window* (100s for FCC)
2. Test Sequence 1 Waveform:

   Based on the parameters above, the Test Sequence 1 is generated with one transition between high and low Tx powers. Here, high power = $P_{max}$; low power = $P_{max}/2$, and the transition occurs after 80 seconds at high power $P_{max}$. As long as the power enforcement is taking into effective during one 100s/60s time window, the validation test with this defined test sequence 1 is valid, otherwise, select other radio configuration (band/DSI within the same technology group) having lower $P_{limit}$ for this test. The Test sequence 1 waveform is shown below:

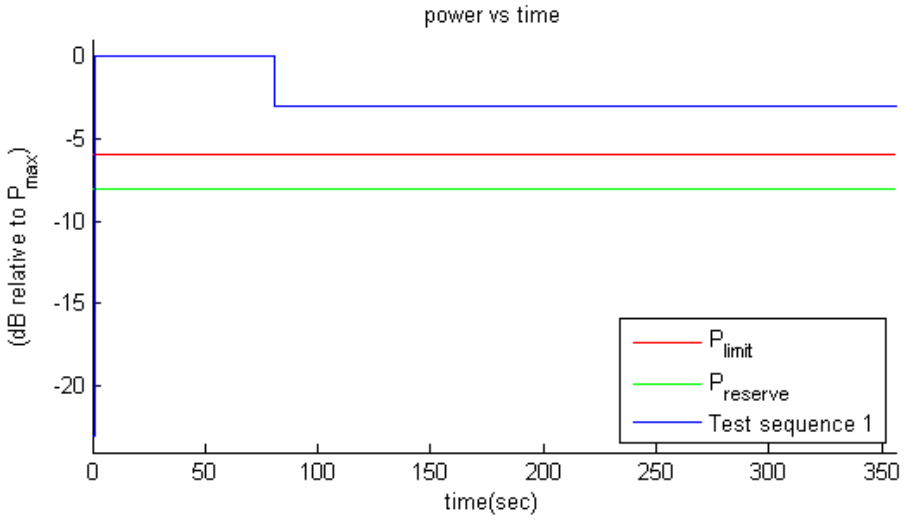


**Figure B-1**
**Test sequence 1 waveform**

3. Test Sequence 2 Waveform:

Based on the parameters described above, the Test Sequence 2 is generated as described in Table B-1, which contains two 170 second-long sequences (yellow and green highlighted rows) that are mirrored around the center row of 20s, resulting in a total duration of 360 seconds:

**Table B-1**
**Test Sequence 2**

| Time duration (seconds) | dB relative to $P_{limit}$ or $P_{reserve}$ |
|---|---|
| 15 | $P_{reserve} - 2$ |
| 20 | $P_{limit}$ |
| 20 | $(P_{limit} + P_{max})/2$ averaged in mW and rounded to nearest 0.1 dB step |
| 10 | $P_{reserve} - 6$ |
| 20 | $P_{max}$ |
| 15 | $P_{limit}$ |
| 15 | $P_{reserve} - 5$ |
| 20 | $P_{max}$ |
| 10 | $P_{reserve} - 3$ |
| 15 | $P_{limit}$ |
| 10 | $P_{reserve} - 4$ |
| 20 | $(P_{limit} + P_{max})/2$ averaged in mW and rounded to nearest 0.1 dB step |
| 10 | $P_{reserve} - 4$ |
| 15 | $P_{limit}$ |
| 10 | $P_{reserve} - 3$ |
| 20 | $P_{max}$ |
| 15 | $P_{reserve} - 5$ |
| 15 | $P_{limit}$ |
| 20 | $P_{max}$ |
| 10 | $P_{reserve} - 6$ |
| 20 | $(P_{limit} + P_{max})/2$ averaged in mW and rounded to nearest 0.1 dB step |
| 20 | $P_{limit}$ |
| 15 | $P_{reserve} - 2$ |

The Test Sequence 2 waveform is shown in Figure B-2.

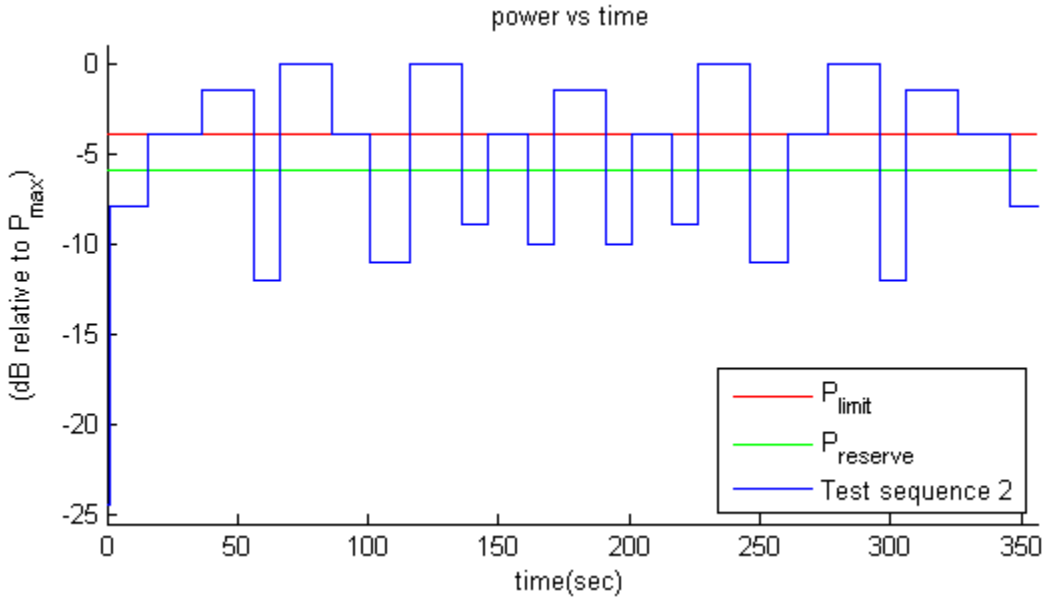


**Figure B-2**
**Test sequence 2 waveform**

4. Test sequence for WLAN Radios:

Since WLAN radios do not have closed loop power control, average Tx power level of WLAN radios is indirectly varied by transmitting at varying duty cycles (i.e., varying UL data rates). Test sequence #1 described previously can be converted into duty cycle at Pmax, i.e., duty cycle for an arbitrary Tx power level = (Tx power level / Pmax).

**Table B-2 Test Sequence 1 for WLAN radio**

| Time duration (seconds) | Duty cycle (%) |
|---|---|
| 80 | 100% |
| 120 | 50% |

NOTE: Test sequence #2 is not achievable due to current test capability. Therefore, in the interim, it is exempt.