

## 11. Power Spectral Density

### 11.1. Block diagram of test setup

Same as section 8.1

### 11.2. Limits

| CFR 47 FCC Part15 (15.247) Subpart C<br>ISED RSS-247 ISSUE 3                                                                                                      |                        |             |                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------|-----------------------|
| Section                                                                                                                                                           | Test Item              | Limit       | Frequency Range (MHz) |
| CFR 47 FCC §15.247 (e)<br>ISED RSS-247 5.2 (b)                                                                                                                    | Power Spectral Density | 8 dBm/3 kHz | 2400-2483.5           |
| Note: For 802.11n , the EUT incorporates a MIMO function. The Antenna directional gain is 7.95 dBi. The Power Spectral Density limit is the above limits-(7.95-6) |                        |             |                       |

### 11.3. Test Procedure

Connect the UUT to the spectrum analyzer and use the following settings:

|                  |                                                |
|------------------|------------------------------------------------|
| Center Frequency | The centre frequency of the channel under test |
| Detector         | Peak                                           |
| RBW              | 3 kHz ≤ RBW ≤ 100 kHz                          |
| VBW              | ≥ 3 × RBW                                      |
| Span             | 1.5 x DTS bandwidth                            |
| Trace            | Max hold                                       |
| Sweep time       | Auto couple.                                   |

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

### 11.4. Results

| Test Mode | Ant.  | Freq. (MHz) | Result (dBm/3-100kHz) | Limit (dBm/3kHz) | Verdict |
|-----------|-------|-------------|-----------------------|------------------|---------|
| 11B       | Ant1  | 2412        | -14.49                | ≤8.00            | PASS    |
|           | Ant2  | 2412        | -15.52                | ≤8.00            | PASS    |
|           | Ant1  | 2437        | -14.85                | ≤8.00            | PASS    |
|           | Ant2  | 2437        | -16.54                | ≤8.00            | PASS    |
|           | Ant1  | 2462        | -14.69                | ≤8.00            | PASS    |
|           | Ant2  | 2462        | -16.57                | ≤8.00            | PASS    |
| 11G       | Ant1  | 2412        | -19.83                | ≤8.00            | PASS    |
|           | Ant2  | 2412        | -21.14                | ≤8.00            | PASS    |
|           | Ant1  | 2437        | -21.01                | ≤8.00            | PASS    |
|           | Ant2  | 2437        | -22.38                | ≤8.00            | PASS    |
|           | Ant1  | 2462        | -20.40                | ≤8.00            | PASS    |
|           | Ant2  | 2462        | -21.63                | ≤8.00            | PASS    |
| 11N20MIMO | Ant1  | 2412        | -18.84                | ≤8.00            | PASS    |
|           | Ant2  | 2412        | -20.02                | ≤8.00            | PASS    |
|           | total | 2412        | -16.38                | ≤6.05            | PASS    |
|           | Ant1  | 2437        | -18.91                | ≤8.00            | PASS    |
|           | Ant2  | 2437        | -21.26                | ≤8.00            | PASS    |
|           | total | 2437        | -16.92                | ≤6.05            | PASS    |
|           | Ant1  | 2462        | -20.13                | ≤8.00            | PASS    |
|           | Ant2  | 2462        | -20.96                | ≤8.00            | PASS    |
|           | total | 2462        | -17.51                | ≤6.05            | PASS    |
| 11N40MIMO | Ant1  | 2422        | -23.50                | ≤8.00            | PASS    |

|  |       |      |        |  |       |      |
|--|-------|------|--------|--|-------|------|
|  | Ant2  | 2422 | -23.26 |  | ≤8.00 | PASS |
|  | total | 2422 | -20.37 |  | ≤6.05 | PASS |
|  | Ant1  | 2437 | -20.89 |  | ≤8.00 | PASS |
|  | Ant2  | 2437 | -22.68 |  | ≤8.00 | PASS |
|  | total | 2437 | -18.68 |  | ≤6.05 | PASS |
|  | Ant1  | 2452 | -22.06 |  | ≤8.00 | PASS |
|  | Ant2  | 2452 | -23.77 |  | ≤8.00 | PASS |
|  | total | 2452 | -19.82 |  | ≤6.05 | PASS |

11.5. Original test data





















