

**RF EXPOSURE EVALUATION METHOD****SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and  $\leq 50$  mm**

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation

Distances are illustrated in the following Table.

| MHz  | 5  | 10 | 15  | 20  | 25  | mm                                      |
|------|----|----|-----|-----|-----|-----------------------------------------|
| 150  | 39 | 77 | 116 | 155 | 194 | SAR Test<br>Exclusion<br>Threshold (mW) |
| 300  | 27 | 55 | 82  | 110 | 137 |                                         |
| 450  | 22 | 45 | 67  | 89  | 112 |                                         |
| 835  | 16 | 33 | 49  | 66  | 82  |                                         |
| 900  | 16 | 32 | 47  | 63  | 79  |                                         |
| 1500 | 12 | 24 | 37  | 49  | 61  |                                         |
| 1900 | 11 | 22 | 33  | 44  | 54  |                                         |
| 2450 | 10 | 19 | 29  | 38  | 48  |                                         |
| 3600 | 8  | 16 | 24  | 32  | 40  |                                         |
| 5200 | 7  | 13 | 20  | 26  | 33  |                                         |
| 5400 | 6  | 13 | 19  | 26  | 32  |                                         |
| 5800 | 6  | 12 | 19  | 25  | 31  |                                         |

Maximum measured transmitter power

| <b>TX 802.11b Mode</b>     |           |                                          |                                          |                                          |
|----------------------------|-----------|------------------------------------------|------------------------------------------|------------------------------------------|
| Test Channel               | Frequency | Maximum Peak Conducted Output Power (PK) | Maximum Peak Conducted Output Power (AV) | Maximum Peak Conducted Output Power (AV) |
|                            | (MHz)     | (dBm)                                    | (dBm)                                    | mW                                       |
| CH01                       | 2412      | 12.37                                    | 9.12                                     | 8.166                                    |
| CH06                       | 2437      | 12.98                                    | 9.46                                     | 8.83                                     |
| CH11                       | 2462      | 12.77                                    | 9.37                                     | 8.65                                     |
| <b>TX 802.11g Mode</b>     |           |                                          |                                          |                                          |
| CH01                       | 2412      | 11.76                                    | 8.47                                     | 7.030                                    |
| CH06                       | 2437      | 11.56                                    | 8.34                                     | 6.823                                    |
| CH11                       | 2462      | 11.46                                    | 8.26                                     | 6.699                                    |
| <b>TX 802.11n(20) Mode</b> |           |                                          |                                          |                                          |
| CH01                       | 2412      | 10.33                                    | 8.33                                     | 6.808                                    |
| CH06                       | 2437      | 10.46                                    | 8.45                                     | 6.998                                    |
| CH11                       | 2462      | 10.57                                    | 8.58                                     | 7.211                                    |

Remark: The best case gain of the antenna is 0dBi.

0 dBi logarithmic terms convert to numeric result is nearly 1

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

WIFI:

| Mode        | [(max. power of channel, including tune-up tolerance, mW)] | (min. test separation distance, mm)] | [ $\sqrt{f(\text{GHz})}$ ] | Result | Limit |
|-------------|------------------------------------------------------------|--------------------------------------|----------------------------|--------|-------|
| 802.11b     |                                                            |                                      |                            |        |       |
| CH01        | 8.912                                                      | 5                                    | 2.412                      | 2.77   | 3     |
| CH06        | 8.912                                                      | 5                                    | 2.437                      | 2.78   | 3     |
| CH11        | 8.912                                                      | 5                                    | 2.462                      | 2.80   | 3     |
| 802.11g     |                                                            |                                      |                            |        |       |
| CH01        | 7.943                                                      | 5                                    | 2.412                      | 2.47   | 3     |
| CH06        | 7.943                                                      | 5                                    | 2.437                      | 2.48   | 3     |
| CH11        | 7.943                                                      | 5                                    | 2.462                      | 2.49   | 3     |
| 802.11n(20) |                                                            |                                      |                            |        |       |
| CH01        | 7.943                                                      | 5                                    | 2.412                      | 2.47   | 3     |
| CH06        | 7.943                                                      | 5                                    | 2.437                      | 2.48   | 3     |
| CH11        | 7.943                                                      | 5                                    | 2.462                      | 2.49   | 3     |

The test Result is less than 3.0 for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.

**Conclusion:** No SAR is required.