

## 1.5. MPE calculation

A minimum distance to the user of 20cm is assumed.

Following calculations show assumption with the limits. The maximum tolerance according the manufacturer was assumed to +2dB according the data sheet of the RF-module.

| Operation Mode                      | Frequency on channel<br>(MHz) | Declared maximum conducted output power<br>(dBm) | Max. antenna gain:<br>(dBi) | Max. positive tolerance according manufacturer<br>(dB) | Declared maximum output power (Measured+ Tune-up)<br>(dBm) | Duty cycle | Declared Maximum conducted output power<br>(W) | Equivalent conducted output power (maximum conducted output power x duty cycle)<br>(mW) |
|-------------------------------------|-------------------------------|--|-----------------------------|--|--|------------|--|---|
| W-LAN<br>5150-5250MHz<br>(20MHz BW) | 5180,0                        | 13,70  | 5,0                         | 2,00   | 20,70  | 100%       | 0,117  | 117   |
|                                     | 5200,0                        | 13,90  |                             |  | 20,90  |            | 0,123  | 123   |
|                                     | 5240,0                        | 14,40  |                             |  | 21,40  |            | 0,138  | 138   |
| W-LAN<br>5250-5350MHz<br>(20MHz BW) | 5260,0                        | 19,60  | 5,0                         | 2,00   | 26,60  | 100%       | 0,457  | 457   |
|                                     | 5280,0                        | 18,00  |                             |  | 23,00  |            | 0,200  | 200   |
|                                     | 5320,0                        | 18,60  |                             |  | 25,60  |            | 0,363  | 363   |
| W-LAN<br>5470-5700MHz<br>(20MHz BW) | 5500,0                        | 18,50  | 5,0                         | 2,00   | 25,50  | 100%       | 0,355  | 355   |
|                                     | 5580,0                        | 18,10  |                             |  | 25,10  |            | 0,324  | 324   |
|                                     | 5700,0                        | 17,50  |                             |  | 24,50  |            | 0,282  | 282   |
| W-LAN<br>5150-5250MHz<br>(40MHz BW) | 5190,0                        | 14,30  | 5,0                         | 2,00   | 21,30  | 100%       | 0,135  | 135   |
|                                     | 5230,0                        | 15,50  |                             |  | 22,50  |            | 0,178  | 178   |
| W-LAN<br>5250-5350MHz<br>(40MHz BW) | 5270,0                        | 20,40  | 5,0                         | 2,00   | 27,40  | 100%       | 0,550  | 550   |
|                                     | 5310,0                        | 13,50  |                             |  | 20,50  |            | 0,112  | 112   |
| W-LAN<br>5470-5700MHz<br>(40MHz BW) | 5510,0                        | 14,90  | 5,0                         | 2,00   | 21,90  | 100%       | 0,155  | 155   |
|                                     | 5550,0                        | 18,10  |                             |  | 23,10  |            | 0,204  | 204   |
|                                     | 5670,0                        | 17,30  |                             |  | 24,30  |            | 0,269  | 269   |

| Maximum calculated MPE value: |        |                       |
|-------------------------------|--------|-----------------------|
| MPE-Limit:                    | 1      | [mW/cm <sup>2</sup> ] |
| Highest MPE value:            | 0,1093 | [mW/cm <sup>2</sup> ] |
| Margin to limit               | 0,8907 | [mW/cm <sup>2</sup> ] |