

## SAR EXCLUSION JUSTIFICATION

This device FCC ID: **EF400155** is excluded from SAR testing by the following justification

The maximum power that the transmitter is capable of is **11.59** mW Applied duty cycle? **yes**

Using the following formula from section 4.3.1 of KDB 447498 at test separation distances  $\leq 50$  mm

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

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.

| Duty Cycle | Max Peak Power (dBm) | Min Separation distance (mm)* | Frequency (GHz) |
|------------|----------------------|-------------------------------|-----------------|
| 25.29%     | 16.61                | 5                             | 0.922           |

| Value |
|-------|
| 2.23  |

"Value" shall be  **$\leq 3.0$  for 1-g SAR** and  **$\leq 7.5$  for 10-g extremity SAR**

$< 50\text{mm}$  power limits for above frequency and distance

|                        |                         |
|------------------------|-------------------------|
| <u>1-g power limit</u> | <u>10-g power limit</u> |
| 156                    | 391                     |

"source-based" time-averaging based on an inherent property or duty-cycle of a device is allowed. An example of this is the determination of exposure from a device that uses digital technology such as a time-division multiple-access (TDMA) scheme for transmission

**In the case the ACK is received after first transmission: (25.29%)**  
 Packet Transmission Time

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Packet Transmission Time + Turnaround Time

Maximum Size Packet Transmission Time = 3.047 ms/packet  
 Turnaround Time = 9ms

**In the case the ACK is missed after first transmission: (25.29%)**  
 Packet Transmission Time + Packet Transmission Time

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Packet Transmission Time + Turnaround Time + Packet Transmission Time + Turnaround Time

Maximum Size Packet Transmission Time = 3.047 ms/packet  
 Turnaround Time & ACK Listen = 9ms