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## Release Control Record

| Issue Report No. | Issued Date | Revisions       | Effect Section |
|------------------|-------------|-----------------|----------------|
| TR-W1712-005     | 2017-12-04  | Initial Release | All            |

## 1. EUT (Equipment Under Test)

### 1.1 General Description

The EUT is a device for transferring voltage signal and equipment information to an agent PC through wired/wireless communication. For wireless communication, the EUT has WLAN module has function for 802.11a/b/g, and measure RF output power is as following table..

### 1.2 RF Output Power

| Operating Mode            | Channel | Frequency (MHz) | Data rate (Mbps) | Output Power (dBm) |
|---------------------------|---------|-----------------|------------------|--------------------|
| 802.11b                   | Low     | 2 412           | 11               | 16.30              |
|                           | Middle  | 2 437           | 11               | 16.42              |
|                           | High    | 2 462           | 11               | 16.38              |
| 802.11g                   | Low     | 2 412           | 54               | 18.96              |
|                           | Middle  | 2 437           | 54               | 18.92              |
|                           | High    | 2 462           | 54               | 19.11              |
| 802.11a<br>(U-NII Band 1) | Low     | 5 180           | 54               | 15.13              |
|                           | Middle  | 5 200           | 54               | 15.39              |
|                           | High    | 5 240           | 54               | 15.48              |
| 802.11a<br>(U-NII Band 3) | Low     | 5 745           | 54               | 10.75              |
|                           | Middle  | 5 765           | 54               | 10.41              |
|                           | High    | 5 805           | 54               | 10.17              |

## 2. TEST RESULT

According to FCC KDB 447498 D01 General RF Exposure Guidance v06

### 4.3.1. Standalone SAR test exclusion considerations

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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \times [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR,}$$

where,

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

For the present device, the declared output power is 19.11 dBm. at 802.11g

So, max. power of channel, including tune-up tolerance = 81.47 mW

min. test separation distance = 50 mm

$f(\text{GHz}) = 2.462$

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

$$= (81.47 / 50) \times (\sqrt{2.462}) = 2.6 \leq 3.0$$

Hence the SAR Exclusion Threshold condition is satisfied and the SAR evaluation for general population exposure conditions is not required.