

## RF EXPOSURE EVALUATION

### 1. PRODUCT INFORMATION

|                     |                                            |
|---------------------|--------------------------------------------|
| Product Description | NINA-W1                                    |
| Model Name          | NINA-W106, NINA-W136, NINA-W156, NINA-B226 |
| FCC ID              | XPYNINAW106                                |

### 2. EVALUATION METHOD

According to 447498 D01 General RF Exposure Guidance v05

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:

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

### 3. CALCULATION

BLE:

$$P_t = 11.959 \text{ dBm} = 15.70 \text{ mW}$$

The value of the Maximum output power  $P_t$  is referred to the test report of the CFR47

§15.247.

The result for RF exposure evaluation  $\text{SAR} = (15.70 \text{ mW} / 45 \text{ mm}) \cdot [\sqrt{2.48(\text{GHz})}] = 0.55 < 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.

BR/EDR:

$$P_t = 15.279 \text{ dBm} = 33.72 \text{ mW}$$

The value of the Maximum output power  $P_t$  is referred to the test report of the CFR47

§15.247.

The result for RF exposure evaluation  $\text{SAR} = (33.72 \text{ mW} / 45 \text{ mm}) \cdot [\sqrt{2.48(\text{GHz})}] = 1.18 < 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.



WIFI:

$P_t=19.04\text{dBm}=80.17\text{mW}$

The value of the Maximum output power  $P_t$  is referred to the test report of the CFR47

§15.247.

The result for RF exposure evaluation  $\text{SAR}=(80.17\text{mW}/45\text{mm})\cdot[\sqrt{2.412(\text{GHz})}]=2.76<3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR.

Note:

1. Only the worst case recorded.
2. The BT and 2.4GHz WIFI can not transmit simultaneously:

#### 4. CONCLUSION

The SAR evaluation is not required.

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