

RF EXPOSURE EVALUATION

1. PRODUCT INFORMATION

Product Description	NINA-B411
Model Name	NINA-B411
FCC ID	XPYNINAB4

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 ≤ 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 ≤ 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

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

The exposure safety distance is less than 5mm.

3. CALCULATION

GFSK 1M:

$P_t=8.461\text{dBm}=7.02\text{mW}$

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 $\text{SAR}=(7.02\text{mW}/5\text{mm}) \cdot [\sqrt{2.480(\text{GHz})}]=2.20<3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

GFSK 2M:

$P_t=7.973\text{dBm}=6.27\text{mW}$

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 $\text{SAR}=(6.27\text{mW}/5\text{mm}) \cdot [\sqrt{2.402(\text{GHz})}]=1.97<3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR.

4. CONCLUSION

The SAR evaluation is not required.