



## Radiofrequency radiation exposure evaluation: mobile devices

RESULT :

Pass

### Test Specification

Test item	:	Noise Sensor
Identification / Type No.	:	NS100-Z, N02-Z10T
FCC ID	:	2AUHL-NS100-Z
Test standard	:	CFR47 FCC Part 2: Section 2.1091 CFR47 FCC Part 1: Section 1.1310 FCC KDB Publication 447498 D04

### ➤ FCC requirements

**FCC requirement:** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

### MPE Calculation Method according to KDB 447498 D04

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES  
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency $f_L$ MHz	Minimum Distance		Threshold ERP	
	$f_H$ MHz	$\lambda_L / 2\pi$	$\lambda_H / 2\pi$	W
0.3	—	1.34	159 m	—
1.34	—	30	35.6 m	—
30	—	300	1.6 m	—
300	—	1,500	159 mm	—
1,500	—	100,000	31.8 mm	—
	0	31.8 mm	0.5 mm	19.2R <sup>2</sup>

Subscripts L and H are low and high;  $\lambda$  is wavelength.  
From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$



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**a) EUT RF Exposure Evaluation operations, Worst Case mode**

<b>Test Mode</b>	<b>Measured Power (dBm)</b>	<b>ERP (dBm)</b>	<b>ERP (mW)</b>	<b>Minimum Separation Distances (cm)</b>	<b>Limit (mW)</b>
ZigBee	10.06	10.06	10.139	20	3060