



Maximum Permissible Exposure Report

1. Product Information

FCC ID : 2BAR7-A2X2
EUT : Human Vital Signs Monitoring Radar Module
Test Model : SW-UWB-M-A2X2
Power Supply : DC 3V~5.5V
Hardware Version : /
Software Version : /

UWB

Frequency Range : 6500-8100MHz
Channel Number : 1
Channel Frequency : 7290MHz
Modulation Type : BPSK
Antenna Description : Internal Antenna, 5dBi(Max)
RF Output Rating : -41dBm/MHz(max)
EUT Type : Production Unit
Device Type : Mobile Devices





2. Evaluation Method

A portable device is defined as a transmitting device designed to be used in other than fixed locations and to generally be used in such a way that the RF source's radiating structure(s) is/are within 20 centimetres of the body of the user.

Under §2.1093(c)(1) is stated that: Evaluation of compliance with the exposure limits in § 1.1310 is necessary for portable devices having single RF sources with more than an available maximum time-averaged power of 1 mW, more than the ERP listed in Table 1 to § 1.1307(b)(3)(i)(C), or more than the Pth in the following formula, whichever is greater. The following formula shall only be used in conjunction with portable devices not exempt by § 1.1307(b)(3)(i)(C) at distances from 0.5 centimetres to 20 centimetres and frequencies from 0.3 GHz to 6 GHz:

According to KDB447498 D04 Interim General RF Exposure Guidance v01

As discussed in § 1.1307(b)(3)(ii)(A), the 1-mW exemption intended for single transmitters may be also applied to simultaneous transmission conditions, within the same host device, according one of the following criteria:

a) When maximum available power each individual transmitting antenna within the same time averaging period is ≤ 1 mW, and the nearest parts of the antenna structures of the simultaneously operating transmitters are separated by at least 2 cm.

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

Where

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

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

d = the minimum separation distance (cm) in any direction from any part of the device antenna(s) or radiating structure(s) to the body of the device user.

f = is the lower operating frequency [GHz]



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Remark: If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

3. Evaluation Result

Mode	Frequency(MHz)	EIRP Power (dBm)	Power(mW)	Limit(mW)
UWB	7290	-11.23	0.075	1.00

The output power of EUT is no more than 1mW. Therefore, this EUT is exempt from RF exemption.

