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.

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

Where

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

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

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]

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 λ/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.