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Maximum Permissible Exposure Report

1. Product Information

FCC ID : 2BB58-E5

EUT : Remote Control

Test Model : e5 Additional Model No. : e3

Model Declaration : The appearance of the product shape is different, The e3 model does

not have an LED indicator, PCB layout is different.

Input: DC 5V

Power Supply : DC 3.7V by Rechargeable Li-ion Battery, 700mAh

Hardware Version : M3PLUS-RF-V1.21-20221229

Software Version : e5: 1.1.7/e3: 1.1.5

UWB

Frequency Range : 6240-6739.2MHz

Channel Number : 1

Channel Frequency : 6489.6MHz

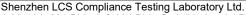
Modulation Type : BPSK

Antenna Description : PCB Antenna, 0dBi(Max)
RF Output Rating : -41dBm/MHz(max)

EUT Type : Production Unit

Device Type : Hand held UWB systems







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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 $\S 2.1093(c)(1)$ is stated that: Evaluation of compliance with the exposure limits in $\S 1.1310$ 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 $\S 1.1307(b)(3)(i)(C)$, 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 $\S 1.1307(b)(3)(i)(C)$ 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.

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

Where

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

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

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

EIRP dBm/8MHz:-22.18dBm(Max)

EIRP Limit=20log (RBW/50) dBm=20log(8/50)=-15.92dBm

EIRP dBm/50MHz=-22.18- (-15.92)=-6.26dBm

Mode	Frequency(MHz)	Power	Average	Limit(mW)
	15. A.	(dBm)	Power(mW)	(A) 10 (A)
UWB	6489.6	-6.26	0.24	1.00

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





