FCC ID: RMN-CTS-CFHD

According to KDB 447498 D04 Interim General RF Exposure Guidance v01

1. SAR-based Exemption

A more comprehensive exemption, considering a variable power threshold that depends on both the separation distance and power, is provided in § 1.1307(b)(3)(i)(B). This exemption is applicable to the frequency range between 300 ㎒ and 6 ㎓, with test separation distances between 0.5 ㎝ and 40 ㎝, and for all RF sources in fixed, mobile, and portable device exposure conditions.

Accordingly, a RF source is considered an RF exempt device if its available maximum time-averaged (matched conducted) power or its effective radiated power (ERP), whichever is greater, are below a specified threshold. This exemption threshold was derived based on general population 1-g SAR requirements and is detailed in Appendix C.

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

Where

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

and

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

2. RF Exposure Test Exemptions for Single Source

Antenna port	Frequency Range (㎒)	Minimum Separation Distance (㎝)	Maximum Average Target Power (dBm)	Maximum Tune up (dB)	Maximum Average Output Power (dBm)	Antenna Gain (dBi)	ERP[1]		P_{th}[2] (㎽)	Ratio	Result
							(dBm)	(㎽)			
EA	2 401 ~ 2 480	0.5	1	4	5	2.10	5.00	3.16	6.79	0.47	Pass
	5 736 ~ 5 847	0.5	-1	3	2	2.40	2.25	1.68	3.42	0.49	Pass
IA	2 401 ~ 2 480	0.5	-1	4	3	2.10	3.00	2.00	6.79	0.29	Pass
	5 736 ~ 5 847	0.5	-2	3	1	2.40	1.25	1.33	3.42	0.39	Pass

Note ;

- Maximum average target power is the manufacturer's declared rated power.
- ERP(㏈m) = Maximum average output power(㏈m) + Antenna gain(㏈i) - 2.15
- Bluetooth and WLAN 2 can't simultaneous transmission at the same time.

1) Maximum average output power(㏈m) = Maximum average target power(㏈m) + Maximum tune up(㏈).
A greater value between the ERP(㏈m) and the Maximum Average Output Power(㏈m) is applied.

2) According to clause 2.1.1 General RF Exposure Test Exemption Considerations of KDB 447498 D04 Interim General RF Exposure Guidance v01, When 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

Threshold level calculation of each mode;
- EA and IA _ 2 401 ㎒ ~ 2 480 ㎒;
1-g SAR threshold level is 2.717 ㎽, applying factor of 2.5 for 10-g extremity SAR, final threshold level is 6.79㎽.
- EA and IA_ 5 736 ㎒ ~ 5 847 ㎒;
1-g SAR threshold level is 1.367 ㎽, applying factor of 2.5 for 10-g extremity SAR, final threshold level is 3.42 ㎽.

The EUT has EA antenna and IA antenna but it can not operate simultaneously.

3. Conclusion: No SAR is required.