FCC ID: RMN-CTSHPIO25

According to KDB 447498 D04 Interim General RF Exposure Guidance v01

1. MPE-Based Exemption

An alternative to the SAR-based exemption is provided in § 1.1307(b)(3)(i)(C), for a much wider frequency range, from 300 kHz to 100 GHz, applicable for separation distances greater or equal to $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. The MPE-based test exemption condition is in terms of ERP, defined as the product of the maximum antenna gain and the delivered maximum time-averaged power. For this case, a RF source is an RF exempt device if its ERP (watts) is no more than a frequency-dependent value, as detailed tabular form in Appendix B. These limits have been derived based on the basic specifications on Maximum Permissible Exposure (MPE) considered for the FCC rules in § 1.1310(e)(1).

Table 1 to 1.1307(b)(3)(i)(c) – Single RF Sources Subject to Routine Environmental Evaluation

RF Source Frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1 920 R^2
1.34-30	3 450 R^2/f^2
30-300	3.83 R^2
300-1 500	0.012 8 R^2f
1 500-100 000	19.2 R^2

2. RF Exposure Test Exemptions for Single Source

Antenna Port	Frequency Range (MHz)	Minimum Separation Distance (cm)	Maximum Average Target Power (dBm)	Maximum Tune up (dB)	Maximum Average Power (dBm)	Antenna Gain (dBi)	ERP		Threshold ERP	Ratio	Result
							(dBm)	(mW)	(mW)		
Port1_Internal	2 405 ~ 2 466	20	17	2	19	2.1	18.95	78.524	768	0.102	Pass
	5 727 ~ 5 847	20	17	2	19	2.4	19.25	84.140	768	0.110	Pass
Port2_Internal	2 405 ~ 2 466	20	16	2	18	2.1	17.95	62.373	768	0.081	Pass
	5 727 ~ 5 847	20	20	2	22	2.4	22.25	167.880	768	0.219	Pass
Port2_External	2 405 ~ 2 466	20	16	2	18	2.5	18.35	68.391	768	0.089	Pass
	5 727 ~ 5 847	20	20	2	22	2.9	22.75	188.365	768	0.245	Pass

Note ;

- Port 1 and Port 2 can't simultaneous transmission at the same time.
- ERP (dBm) = Maximum average output power (dBm) + Antenna gain (dBi) - 2.15 (dB).
- The ERP threshold as the "R must be at least $\lambda/2\pi$" as per 1.1307 (b)(3)(i)(C) table 1
- Maximum average target power is the manufacturer's declared rated power
- Maximum average power = Maximum average target power (dBm) + Maximum tune up (dB).

3. Conclusion: No SAR is required.