

EXEMPTION FROM RF EXPOSURE EVALUATION



Test Report Number: TRA-066786-47-12A
Issue: A

RADIO FREQUENCY RADIATION EXPOSURE

Pektron Group Ltd

ON

Parrot Infotainment System

To

General SAR test reduction & exclusion guidance

KDB 447498

EXEMPTION FROM RF EXPOSURE EVALUATION



Test Report Number: TRA-066786-47-12A
Works Order Number: TRA-066786-04
Equipment Under Test (EUT): Parrot Infotainment System
FCC Identification Number: AQO018
Manufacturer: Pektron Group Ltd
Address: Alfreton Road
Derby
Derbyshire
DE21 4AP
United Kingdom
Richard Jones
Client Contact: ☎ 01332832424 ext 382
✉ rjones@pektron.co.uk

Written by: 

Digitally signed by Daniel Winstanley
DN: cn=Daniel Winstanley gn=Daniel
Winstanley c=GB United Kingdom
l=GB United Kingdom
Reason: I am the author of this
document
Date: 2025-12-02 10:24Z

D Winstanley
Radio Senior Test Engineer

Approved by: 

Digitally signed by
John Charters
Date: 2025.12.02
12:22:55 Z

J Charters
Lab Manager

Issue Date: 2nd December 2025

EXEMPTION FROM RF EXPOSURE EVALUATION



OVERVIEW

Section 1.3 of KDB 44798 D04 v01 states that, “Under the new rules, all radio services and operations are subject to Routine Evaluation [§§ 1.1307(b)(1), 2.1033(f), etc.], unless shown to qualify under the exemptions provided in the rules and OET Lab policies for equipment authorization.”

The glossary of KDB 447498 D04 v01 specifies that an exempt RF device is defined “solely from the obligation to perform a routine environmental evaluation to demonstrate compliance with the RF exposure limits in § 1.1310; it is not exemption from the equipment authorization procedures described in 47 CFR Part 2, not exemption from general obligations of compliance with the RF exposure limits in § 1.1310 of this chapter, and not exemption from determination of whether there is no significant effect on the quality of the human environment under § 1.1306.” Compliance with the exemption criteria defined in 1.1307(b) confirm compliance with the limits in § 1.1310.

COMPLIANCE WITH FCC 1.1310

Per 1.1307(b)(3), (i) For single RF sources (*i.e.*, any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

- (A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);
- (B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by:

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

Where

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

And

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

- (C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least $\lambda/2\pi$, where λ is the free-space operating wavelength in meters. 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).

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	$0.0128 R^2 f$.
1,500-100,000	$19.2 R^2$.

EXEMPTION FROM RF EXPOSURE EVALUATION

(ii) For multiple RF sources: Multiple RF sources are exempt if:

- (A) The available maximum time-averaged power of each source is no more than 1 mW and there is a separation distance of two centimeters between any portion of a radiating structure operating and the nearest portion of any other radiating structure in the same device, except if the sum of multiple sources is less than 1 mW during the time-averaging period, in which case they may be treated as a single source (separation is not required). This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(i)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(i)(A).
- (B) In the case of fixed RF sources operating in the same time-averaging period, or of multiple mobile or portable RF sources within a device operating in the same time averaging period, if the sum of the fractional contributions to the applicable thresholds is less than or equal to 1 as indicated in the following equation.

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

Where:

a = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(B) of this section for P_{th} , including existing exempt transmitters and those being added.

b = number of fixed, mobile, or portable RF sources claiming exemption using paragraph (b)(3)(i)(C) of this section for Threshold ERP, including existing exempt transmitters and those being added.

c = number of existing fixed, mobile, or portable RF sources with known evaluation for the specified minimum distance including existing evaluated transmitters.

P_i = the available maximum time-averaged power or the ERP, whichever is greater, for fixed, mobile, or portable RF source i at a distance between 0.5 cm and 40 cm (inclusive).

$P_{th,i}$ = the exemption threshold power (P_{th}) according to paragraph (b)(3)(i)(B) of this section for fixed, mobile, or portable RF source i .

ERP_j = the ERP of fixed, mobile, or portable RF source j .

$ERP_{th,j}$ = exemption threshold ERP for fixed, mobile, or portable RF source j , at a distance of at least $\lambda/2\pi$ according to the applicable formula of paragraph (b)(3)(i)(C) of this section.

$Evaluated_k$ = the maximum reported SAR or MPE of fixed, mobile, or portable RF source k either in the device or at the transmitter site from an existing evaluation at the location of exposure.

$Exposure Limit_k$ = either the general population/uncontrolled maximum permissible exposure (MPE) or specific absorption rate (SAR) limit for each fixed, mobile, or portable RF source k , as applicable from §1.1310

The relationship between EIRP and ERP is:

$$ERP \text{ (dBm)} = EIRP \text{ (dBm)} - 2.14 \text{ dB}$$

Where EIRP is the sum of the conducted power (dBm) and the antenna gain (dBi).

EXEMPTION FROM RF EXPOSURE EVALUATION

ASSESSMENT

The exemption from RF exposure evaluation is summarized in the following table(s):

Radio	Transmit Frequency (MHz)	Conducted Output Power (dBm)	Power Tolerance (dB)	Duty Cycle (%)	Antenna Assembly Gain (dBi)	Minimum Separation Distance (cm)	Calculated Radiated Exposure Power (mW) ERP	Calculated Conducted Exposure Power (mW)	Limit (mW)	Compliant
Bluetooth	2402-2480	3.3	3.0	100.0%	4.9	20	8.0	4.3	3060.0	Yes
2.4 GHz WLAN	2412-2462	17	2.0	100.0%	4.9	20	149.7	79.4	3060.0	Yes
5.0 GHz WLAN	5180-5825	16	2.0	100.0%	3.5	20	86.1	63.1	3060.0	Yes

Note 1: The manufacturer's rated value was used in these calculations, including tune-up.

Note 2: This calculation is based on 100% duty cycle.

If the device is designed such that more than one antenna can transmit at the same time (i.e. simultaneous transmission), the exposure evaluation shall be conducted while all antennas are transmitting. The individual exposure level ratio of each transmitting antenna shall be totaled and used for compliance purposes.

Radio	Lowest Frequency (MHz)	Radiated (mW) EIRP	Limit (mW)	Ratio	Sum of Ratios	Ratio Limit
Bluetooth	2402	8.0	3060.0	0.003	0.053	1
802.11b/g/n	2412	149.7	3060.0	0.050		

Radio	Lowest Frequency (MHz)	Radiated (mW) EIRP	Limit (mW)	Ratio	Sum of Ratios	Ratio Limit
Bluetooth	2402	8.0	3060.0	0.003	0.033	1
802.11a/b/g/n/ac	5180	86.1	3060.0	0.030		