

# AT4 wireless, S.A.U.

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## RF exposure analysis for the equipment LS-G6-DIG-2 (FCC ID: 2AHN4-LS-G6-DIG-2; IC: 21260-LSG6DIG2)

The device LS-G6-DIG-2 (FCC ID: 2AHN4-LS-G6-DIG-2; IC: 21260-LSG6DIG2) is a digital wireless datalogger integrating a 902-928 MHz FHSS transmitter. This device is to be used only for fixed and mobile applications.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all the persons and must not be co-located or operating in conjunction with any other antenna or transmitter except as under the conditions described KDB 447498 D01 General RF Exposure Guidance.

### MPE exposure limits

The table below is excerpted from Table 1B of 47 CFR 1.1310 titled Limits for Maximum Permissible Exposure (MPE), Limits for General Population/Uncontrolled Exposure:

Frequency Range (MHz)	Power density (mW/cm <sup>2</sup> )	Averaging time (minutes)
300 – 1500	f (MHz) /1500	30

The table below is excerpted from RSS-102, Issue 5, 4, titled "Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)":

Frequency Range (MHz)	Power density (W/m <sup>2</sup> )	Averaging time (minutes)
300-6000	0.02619 f <sup>0.6834</sup>	6

### Compliance analysis

Using the equation  $S = \frac{PG}{4\pi R^2}$  to calculate the exposure to electromagnetic fields

where: S = power density (in appropriate units, e.g. mW/cm<sup>2</sup>)  
P = power input to the antenna (in appropriate units, e.g., mW)  
G = power gain of the antenna in the direction of interest relative to an isotropic radiator  
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

compliance with FCC/IC MPE limits is demonstrated following the calculations:

Frequency Band	Mode	Frequency Range (MHz)	Maximum conducted output power (dBm)	Duty cycle (%)	Antenna gain (dBi)	Evaluation distance for compliance with MPE limits (cm)	$S = \frac{PG}{4\pi R^2}$ (mW/cm <sup>2</sup> )	FCC MPE limit (mW/cm <sup>2</sup> )	IC MPE limit (mW/cm <sup>2</sup> )
902-928 MHz	FHSS-LORA	902.30 - 914.90	18,17	100,0%	3,00	20	0,02605	0,60153	0,27405

Yours sincerely,



p.a.

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