



Maximum Permissible Exposure (MPE) & Exposure evaluation

Report identification number: 1-2606/21-01-05 MPE (FCC)

Certification numbers and labeling requirements	
FCC ID	2AGMK-GWL-AJV3

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EUT technologies:

Technologies:	Max. power [dBm]		Antenna gain max.: [dBi]	Declared by customer	#
	conducted	EIRP			
Sigfox 902 to 928 MHz	24.3	24.3	< 0.0	24.0 dBm +/-1 dB	A

Details and origins of the measurements shown in the table above:

#	Results from:	Additional information
A	1-2606/21-02-A CTC advanced GmbH	Antenna gain page 19, Max conducted page 38

Prediction of MPE limit at given distance - FCC

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG / 4\pi R^2$$

where: S = Power density
 P = Power input to the antenna
 G = Antenna gain
 R = Distance to the center of radiation of the antenna
 PG = Output Power including antenna gain

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 ²)	Averaging Time (minutes)
300 -1500	f/1500	30
1500 - 100000	1.0	30

where f = Frequency (MHz)

Prediction: worst case

Technologies:	Sigfox	
Frequency (MHz)	902	
PG Declared max power (EIRP)	25	dBm
R Distance	20	cm
S MPE limit for uncontrolled exposure	0.601	mW/cm ²
Calculated Power density:	0.063	mW/cm ²
Calculated percentage of Limit:	10.47%	

This prediction demonstrates the following:

The power density levels for FCC at a distance of 20 cm are below the maximum levels allowed by regulations.