

Maximum Permissible Exposure (MPE) & Exposure evaluation

Report identification number: 1-8129/19-01-05 MPE (FCC)

Certification numbers and labeling requirements	
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EUT technologies:

Technologies:	Max. power conducted: (AVG)	Max. antenna gain:
UPCS 1925MHz	15.6 dBm	Measured : 5.4 dBi

Measurement results taken from CTC Advanced GmbH test report 1-8129/19-01-06

NOTE: Max. Declared Output power by Customer: 15.0 dBm ± 1dB

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

	Technology	DECT
	Frequency	1925 MHz
P	Declared max power input to the antenna	16 dBm
R	Distance	20 cm
G	Antenna gain	5.4 dBi
S	MPE limit for uncontrolled exposure	1.0000 mW/cm ²
	Calculated Power density:	0.0275 mW/cm ²
	Calculated percentage of limit:	2.75%

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.