



AT4 wireless, S.A.U.
Parque Tecnológico de Andalucía
C/ Severo Ochoa 2
29590 Campanillas
Málaga, España

Date: 09/01/2017

Ref: RF exposure analysis for the equipment FCC ID: WT7PTMDT500760D

The device MDT-500-2 (FCC ID: WT7PTMDT500760D) is a device designed to be used mobile/fixed exposure conditions. The analysis provided in this document only covers mobile exposure conditions and for that, the antenna(s) used for this transmitter must be installed to provide a separation of at least 1 m from all the persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

MPE exposure limits

The table below is excerpted from Table 1(A) of 47 CFR 1.1310 titled "Limits for Maximum Permissible Exposure (MPE), (A) Limits for Occupational/Controlled Exposure":

Frequency Range (MHz)	Power density (mW/cm ²)	Averaging time (minutes)
300-1500	f(MHz)/300	6

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/cm²)

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 maximum permissive exposure limits is demonstrated based on the following calculations.

Regulatory domain	Technology	Frequency (MHz)	Avg burst Conducted power (dBm) (Maximum per tune up procedure)	Avg burst Conducted power (W)	Duty cycle (%)	Average Conducted power (W)	Maximum Antenna Gain (dBi)	Maximum antenna gain (numerical)	Average radiated power (W)	FCC MPE limits (Controlled exposure) (mW/cm ²)	Safety distance to meet MPE limits (cm)	Evaluation distance/Safety distance as stated in the users guide (cm)	Maximum exposure (mW/cm ²)
FCC	P25 - 8.1 kHz	769,0125	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,563	51,11	100	0,670
		774,9875	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,583	50,91	100	0,670
		799,0125	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,663	50,14	100	0,670
		804,9875	44,25	26,607	100,0%	26,607	5	3,16	84,14	2,683	49,95	100	0,670
	TI DLMR – 20 kHz	769,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,563	24,89	100	0,159
		774,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,583	24,79	100	0,159
		799,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,663	24,42	100	0,159
		804,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,683	24,33	100	0,159
		809,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,697	24,26	100	0,159
		823,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,747	24,04	100	0,159
		854,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,847	23,62	100	0,159
		868,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,897	23,41	100	0,159
	TETRA - 22 kHz	769,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,563	24,89	100	0,159
		774,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,583	24,79	100	0,159
		799,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,663	24,42	100	0,159
		804,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,683	24,33	100	0,159
		809,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,697	24,26	100	0,159
		823,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,747	24,04	100	0,159
		854,0125	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,847	23,62	100	0,159
		868,9875	38,00	6,310	100,0%	6,310	5	3,16	19,95	2,897	23,41	100	0,159

P.A.

By: Jose Roman
 Title: Engineering Services Group Manager
 Company: Teltronic S.A.U.
 Telephone: +34 976 46 56 56
 e-mail: j-roman@teltronic.es