



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

Date: 29/09/2016

Ref: RF exposure analysis for the equipment FCC ID: WT7PTBSR75760B

The device BSR75 (FCC ID: WT7PTBSR75760B) 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 525 cm 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)	Minimum Insertion Loss (dBi)	Masimum Effective Antenna Gain (dBi)	Maximum antenna gain (numerical)	Average radiated power (W)	FCC/ISED 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	T1 DLMR - 20 kHz	769,0125	48,75	75,000	100,0%	75,000	20	0,9	19,1	81,28	6096,23	2,563	435,03	525	1,760
		774,9875	48,75	75,000	100,0%	75,000	20	0,9	19,1	81,28	6096,23	2,583	433,35	525	1,760
	TETRA - 22 kHz	769,0125	48,75	75,000	100,0%	75,000	20	0,9	19,1	81,28	6096,23	2,563	435,03	525	1,760
		774,9875	48,75	75,000	100,0%	75,000	20	0,9	19,1	81,28	6096,23	2,583	433,35	525	1,760

P.A.

C.B. (abw)

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