

Maximum Permissible Exposure (MPE) Evaluation

FCC ID : X6O-AAC00XX

Model : AAC00XX

name			nature value	log value		
max conducted power			31,48 mW	14,98 dBm		
max Antenna gain			1,26	1,00 dBi		
calculated radiated power		ERP	39,63 mW	15,98 dBm		
measured radiated power		ERP	0,40 mW	-3,96 dBm		
Tx frequency 917,000 MHz						
duty cycle factor						
duty cycle factor	10log(dwell time/100 ms)	declared	100,0%	0,00 dB		
max source-based time-averaged power						
conducted power			31,48 mW	14,98 dB		
calculated radiated power		ERP	39,63 mW	15,98 dB		
measured radiated power		ERP	0,40 mW	-3,96 dB		
M P E						
$S = \frac{PG}{4\pi R^2}$		calculated with max source-based time-averaged power measured conducted power				
		r [cm]	20	2,5	1,5	2,27
		S [mW/cm ²]	0,008	0,505	1,402	0,6
Limit general population		[mW/cm ²]	0,6	for f = 917,000 MHz		
Limit occupational population		[mW/cm ²]	3,1			
$S = \frac{EIRP}{4\pi R^2} = \frac{1.64 ERP}{4\pi R^2} = \frac{0.41 ERP}{\pi R^2}$		calculated with max source-based time-averaged power measured radiated power				
		r [cm]	20	2,5	1,5	0,18
		S [mW/cm ²]	0,000	0,005	0,014	1,0

Verdict : pass

Note : The high difference between calculated and radiated transmit power value (18dB) results from the strong housing attenuation. The intended use of the device is for hazardous location where explosion protection demands fully electrically conductive housing.