

Prediction of MPE

1. Declaration of RF exposure compliance for exemption from routine evaluation limits

Applicant:	Multiplex Modellsport GmbH & Co. KG Westliche Gewerbestr. 1 75015 Bretten-Gölshausen Germany																																			
Nemko ident. no.:	347034																																			
Number of pages:	2																																			
Product	Remote control receiver																																			
Model name:	WSRX2.4GHz																																			
FCC ID:	2APABWSRX																																			
Manufacturer:	Multiplex Modellsport GmbH & Co. KG Westliche Gewerbestr. 1 75015 Bretten-Gölshausen Germany																																			
Exposure Conditions:	The EUT is a remote control receiver used for radio control of models. It is operating in the 2.4 GHz band using frequency hopping spread spectrum technology. A voltage regulator 5V dc to 3.3V dc, interface connector and RF connector is located on PCB. The air modem is used in drones at the air, which are in a distance of more than 20cm from the human body.																																			
4.3.1. Standalone SAR test exclusion considerations:	 <u>Prediction of MPE limit at a given distance</u> Equation from page 18 of OET Bulletin 65, Edition 97-01 $S = \frac{PG}{4\pi R^2}$ where: S = power density P = power input to the antenna G = power gain of the antenna in the direction of interest relative to isotropic radiator R = distance to the center of radiation of the antenna <table border="0"> <tr> <td>PWR in dBm</td> <td>Maximum peak output power at antenna input terminal:</td> <td>18,3 dBm</td> </tr> <tr> <td></td> <td>Maximum peak output power at antenna input terminal:</td> <td>66,8 mW</td> </tr> <tr> <td>Ant. gain in dBi</td> <td>Antenna gain(maximum):</td> <td>0 dBi</td> </tr> <tr> <td></td> <td>Maximum antenna gain:</td> <td>1,0 numeric</td> </tr> <tr> <td>Use the duty cycle from test report or 100%</td> <td>Time Averaging:</td> <td>100 %</td> </tr> <tr> <td>Separation distance from antenna to user in cm</td> <td>Prediction distance:</td> <td>20 cm</td> </tr> <tr> <td>Freq. in MHz</td> <td>Prediction frequency:</td> <td>2479 MHz</td> </tr> <tr> <td></td> <td>FCC MPE limit for uncontrolled exposure at prediction frequency:</td> <td>1,00 mW/cm²</td> </tr> <tr> <td></td> <td>IC MPE limit for uncontrolled exposure at prediction frequency:</td> <td>5,47 W/m²</td> </tr> <tr> <td></td> <td>Power density at prediction frequency:</td> <td>0,01 mW/cm²</td> </tr> <tr> <td></td> <td>This equates to:</td> <td>0,13 W/m²</td> </tr> </table>			PWR in dBm	Maximum peak output power at antenna input terminal:	18,3 dBm		Maximum peak output power at antenna input terminal:	66,8 mW	Ant. gain in dBi	Antenna gain(maximum):	0 dBi		Maximum antenna gain:	1,0 numeric	Use the duty cycle from test report or 100%	Time Averaging:	100 %	Separation distance from antenna to user in cm	Prediction distance:	20 cm	Freq. in MHz	Prediction frequency:	2479 MHz		FCC MPE limit for uncontrolled exposure at prediction frequency:	1,00 mW/cm ²		IC MPE limit for uncontrolled exposure at prediction frequency:	5,47 W/m ²		Power density at prediction frequency:	0,01 mW/cm ²		This equates to:	0,13 W/m ²
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2. Attestation

ATTESTATION: I attest that the testing was performed by a FCC listed test laboratory, that the test measurements were made in accordance with the above-mentioned departmental standard(s), and that the radio equipment identified in this application has been subject to all applicable test conditions specified in the departmental standards and all of the requirements of the standards have been met.

Signature:	
Date:	September 18, 2020
Name:	Peter Lukas, Lab Manager