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**RFI Global Services Ltd
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RE: 2.5GHz UE P1D FCC ID: PKTP1DKF2 MPE Calculation

To Whom It May Concern,

The IPWireless UE P1D Wireless Broadband Modem is considered to be mobile equipment and intended for operation with a separation gap of minimum 20cm between the user and the equipment, therefore the RF Exposure performance can be assessed by a Maximum Permissible Exposure (MPE) calculation.

The IPWireless modem uses time division duplex (TDD) technology in normal operation with a maximum duty cycle of 33%, therefore source based averaging can be applied in the MPE calculation.

MPE Distance Calculation	5.5MHz Channel		11MHz Channel	
Antenna Gain	7	dBi	7	dBi
Line Loss	0	dB	0	dB
Antenna Gain Ratio	5.011872336		5.011872	
UE P1D Model KF Tx Output Power	24	dBm	24	dBm
Output Power mW	251.19	mW	251.19	mW
Maximum EIRP (per Channel)	1258.93	mW	1258.93	mW
MPE Limit from 1.1310	1	mw/cm ²	1	mw/cm ²
Un-controlled/General Public Limit				
Minimum Distance to meet MPE Limit	10.01	cm	10.01	cm
(100% Duty Cycle)	3.94	inches	3.94	inches

Table 1: 100% Duty Cycle Calculation



Sourced Based Duty Cycle Adjustment				
Total Timeslots in Frame	15		15	
Timeslots for Transmit	5		5	
Timeslots for Receive	10		10	
Percentage time transmitting in Tx timeslot	100	%	100	%
Power Control Attenuation	0	dB	0	dB
Duty Cycle Correction Factor	33.33	%	33.33	%
Minimum Distance to meet MPE Limit	5.78	cm	5.78	cm
(33.33% Duty Cycle)	2.27	inches	2.27	inches

Table 2: Source Based Averaging Calculation

The calculations above show the 2.5GHz UE P1D modem complies with the un-controlled /General Public limit of 1mW/cm² at a minimum distance of 5.8cm for operation using either 5.5MHz or 11MHz channels.

Yours Faithfully

P Warburg
Technical Associate
IPWireless UK Ltd