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**RFI Global Services Ltd  
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**RE: FCC ID: PKTPCMCIAFD2 MPE Calculation for external antenna configuration.**

To Whom It May Concern,

The IPWireless UE PCMCIA Wireless Broadband Modem is considered to be mobile equipment when used with the external stick antenna. It is therefore intended for operation with a separation gap of minimum 20cm between the user and the antenna in this configuration, 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.

The calculations in tables 1 and 2 below show the 2.5GHz UE PCMCIA modem when used with external stick antenna complies with the un-controlled/General Public limit of 1mW/cm<sup>2</sup> at a minimum distance of 3.7cm for operation using either 5.5MHz or 11MHz channels.



<b>MPE Distance Calculation</b>	5.5MHz Channel		11MHz Channel	
Antenna Gain	3	dBi	3	dBi
Line Loss	0	dB	0	dB
Antenna Gain Ratio	1.995262315		1.995262	
UE P1D Model KF Tx Output Power	24	dBm	24	dBm
Output Power mW	251.19	mW	251.19	mW
Maximum EIRP (per Channel)	501.19	mW	501.19	mW
MPE Limit from 1.1310	1	mw/cm <sup>2</sup>	1	mw/cm <sup>2</sup>
Un-controlled/General Public Limit				
<b>Minimum Distance to meet MPE Limit</b>	<b>6.32</b>	<b>cm</b>	<b>6.32</b>	<b>cm</b>
(100% Duty Cycle)	<b>2.48</b>	<b>inches</b>	<b>2.48</b>	<b>inches</b>

**Table 1: 100% Duty Cycle Calculation**

<b>Sourced Based Duty Cycle Adjustment</b>				
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	%
<b>Minimum Distance to meet MPE Limit</b>	<b>3.65</b>	<b>cm</b>	<b>3.65</b>	<b>cm</b>
(33.33% Duty Cycle)	<b>1.43</b>	<b>inches</b>	<b>1.43</b>	<b>inches</b>

**Table 2: Source Based Averaging Calculation**

Yours Faithfully

P Warburg  
 Technical Associate  
 IPWireless UK Ltd