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RE: 2.5GHz PCI Express Mini Module FCC ID: PKTPEMAAU1 MPE Calculation

To Whom It May Concern,

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

The IPWireless PCI Express Mini module uses time division duplex (TDD) technology in normal operation with a maximum duty cycle of 80%, therefore source based averaging can be applied in the MPE calculation.

MPE Distance Calculation	5.5MHz Channel		11MHz Channel	
Antenna Gain	9	dBi	9	dBi
Line Loss	0	dB	0	dB
Antenna Gain Ratio	7.943282347		7.943282	
PCIe Mini Module Model AAU Tx Output Power	24	dBm	24	dBm
Output Power mW	251.19	mW	251.19	mW
Maximum EIRP (per Channel)	1995.26	mW	1995.26	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	12.60	cm	12.60	cm
(100% Duty Cycle)	4.96	inches	4.96	inches

Table 1: 100% Duty Cycle Calculation

Sourced Based Duty Cycle Adjustment				
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Total Timeslots in Frame	15		15	
Timeslots for Transmit	12		12	
Timeslots for Receive	10		10	
Percentage time transmitting in Tx timeslot	100	%	100	%
Power Control Attenuation	0	dB	0	dB
Duty Cycle Correction Factor	80.00	%	80.00	%
Minimum Distance to meet MPE Limit	11.27	cm	11.27	cm
(33.33% Duty Cycle)	4.43	inches	4.43	inches

Table 2: Source Based Averaging Calculation

The calculations above show the 2.5GHz PCI Express Mini Module complies with the un-controlled /General Public limit of 1mW/cm² at a minimum distance of 11.3cm for operation using either 5.5MHz or 11MHz channels.

Yours Faithfully

P Warburg
Technical Associate
IPWireless UK Ltd