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RF EXPOSURE CALCULATIONS

Requirement:

According to USA CFR 15 §1.1307 (b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to radio frequency energy level in excess of the Commission's guidelines. For Canada, RSS-102 sets out the requirements and measurement techniques used to evaluate radio frequency (RF) exposure compliance of radiocommunication apparatus designed to be used within the vicinity of the human body.

SAR Exclusion Calculations:

USA REF: 1.1310, 2.1091/1093, 447498 D01 General RF Exposure Guidance v06
Application: Portable

Test Date: 16-Nov-23
Test Engineer: J. Nantz
EUT: Conti PEPS5/PEPS6
EUT Mode: Worst Case
Meas. Distance: 3 meters

Mode	Freq. MHz	Worst Case E3(Pk)* dBuV/m	E-field Duty Cycle** dB	Worst Case E3(Avg)* dBuV/m	EIRP (Avg)** dBm	EUT Ant Gain dBi	Po (Avg) mW	FCC SAR Exclusion Limit <50mm,<100 MHz Po (Avg)**** mW	Excluded
Polling	0.12500	95.2	29.7	65.5	-29.7	< 0	0.00107	925.8	Yes

*As Measured / Computed from highest fundamental emission, see fundamental emission section of RF Test report.
**In polling mode (worst case scenario over a 6 minute window), the EUT transmits 2 x 11.4 ms frames every 700 ms. Field Strength Duty cycle = 20 * Log10((2*11.4)/700) = -29
*** EIRP (dBm) = E3(dBuV/m) – 95.2 dB.
**** 1g SAR @ < 50 mm and 100 MHz = 237.2 mW, for 125 kHz per 4.3.1 c) 1) 237.2mW * [1 + log(100/0.125)] = 925.8 mW

Summary:

The EUT with all transmitters is compliant with both the FCC power density limit and the ISED Exposure Evaluation limits.