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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.

USA REF: 1.1310, 2.1091/1093, 447498 D01 General RF Exposure Guidance v06
 IC REF: RSS-102 Issue 6, Safety Code 6
 Min. Sep. Distance: <5mm

Test Date: 9-May-25
 Test Engineer: J. Brunett
 EUT: Vitesco VASWSNFC
 EUT Mode: Active
 Meas. Distance: 3m

R0	Mode	Freq. MHz	E3m (Avg) dBuV/m	EIRP (Avg) dBm	EUT		Canada RSS-102 i6			USA FCC 447498 D01	
					Ant Gain Max dBi	Pwr Rating (Avg) mW	SAR Exc. Plimit 1g mW	SAR Exc. Plimit 10g mW	FRL Limit mW	SAR Exc. Plimit 1g mW	SAR Exc. Plimit 10g mW
R1	NFC	13.56	72.10	-23.1	2.200	0.003	45.0	112.5	1000.000	443	1107
R2											
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11

(ROW) (COLUMN) NOTE:

- R0 C3 Peak field strength is used to demonstrate compliance.
- R0 C4 EIRP (dBm) = E3m (dBuV/m) - 95.2 dB
- R0 C5 Maximum Antenna Gain for Dipole < lambda/2 = 2.15 dBi
- R0 C6 EUT Pwr (mW) = 10^((EIRP(mW) - Ant Gain (dBi))/10)
- R0 C7 Power Exclusion Limit (1g) = Per RSS-102 i6, 6.3 Table 11 < 5mm, < 300 MHz
- R0 C8 Power Exclusion Limit (10g) = (1g) limit x 2.5
- R0 C9 FRL Limit (RSS-102 i6, Section 6.6) < 20 MHz limit = 1 Watt
- R0 C10 Power Exclusion Limit (1g) = 3 * 50mm / sqrt (0.1 GHz)*((1 + log(100/13.56MHz)) x 1/2)
- R0 C11 Power Exclusion Limit (10g) = 7.5 * 50mm / sqrt (0.1 GHz)*((1 + log(100/13.56MHz)) x 1/2)

Summary:

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