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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: 2 cm

Test Date: 12-Jun-24
Test Engineer: J. Nantz
EUT: Vitesco Dual BRFM
EUT Mode: Active
Meas. Distance: 3m

R0		Frequency Band		Po (Pk)		Tune Up (Pk)		EIRP + Duty (Pk)		Canada ISED RSS-102 SAR		USA FCC 2.1093 MPE		
	Mode	Start MHz	Stop MHz	dBm	mW	dBm	mW	dBm	mW	EIRP 20mm Exp. Limit Table 11 mW	MPE Ratio	MPE Threshold ERP (mW)	MPE Limit ERP (mW)	MPE Ratio
R1	RAD 1 DTS	2405.00	2480.00	6.9	4.90	1.00	1.26	10.5	11.22	32.0	0.35	6.842	38	0.18
R2	RAD 2 DTS	2405.00	2480.00	6.6	4.57	1.00	1.26	10.2	10.47	32.0	0.33	6.385	38	0.17
R3										Total MPE	**0.68**		Total MPE	0.35
R4										MPE Ratio < 1	**YES**		MPE Ratio < 1	**YES**
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14

(ROW (COLUMN) NOTE:
R0 C6 TUNE UP – The manufacturer declares +/-1dB tune up.
R0 C10 Using seperation of 20mm according to according to table RSS-102, table 11.
R0 C12 ERP (mW) = EIRP(mW)/1.64 = 11.22/1.64 =
R0 C13 According to CFR 47, § 2.1093 (c)(1) - ERP (mW) Limit = 3060*(10cm/20cm)^(-Log10(60/(3060*SQRT(2.480 GHz) = 38.1 mW

Summary:

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