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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.

Maximum Permissible Exposure Calculations:

	Level	Units
MPE Field Strength Limit	61	V/m
MPE Power Density Limit	1.0	mW/cm2

Test Date: 1-May-23
Test Engineer: J. Brunett
EUT Mode: Max All - Worst Case
Meas. Distance: 3m

R0	Freq. MHz	Temp / Hum. °C, %	EIRP (Pk) dBm	Exposure Duty dB	EIRP (Avg) dBm	RS-102 2.5.2 EIRP dBm Limit	EUT Ant. Dim. cm	Far-field Distance m	S = 1mW/cm2 Dist.* cm	S @ 20 cm Distance mW/cm2	MPE S Limit mW/cm2	Comments
R1	77008	20, 38	35.8	0.0	35.8	37.0	6.00	1.85	**17.4**	0.749	1.000	
R2	77500	20, 38	35.7	0.0	35.7	37.0	6.00	1.86	**17.2**	0.739	1.000	
R3	77998	20, 38	36.2	0.0	36.2	37.0	6.00	1.87	**18.3**	0.829	1.000	
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12

(ROW)	(COLUMN)	NOTE:
R1-R3	C10	S @ 20cm = EIRP – 10*log10(4 * PI * 20^2)
R1-R3	C9	S = 1mW/cm2 Distance = sqrt(EIRPmW/(4*PI*1mW/cm2))
R1-R3	C9	S = 1mW/cm2 Distance is an overestimated value when smaller than the EUT far field distance, and demonstrates compliance with FCC Part 1.1307, 1.1310, 2.1091, and 2.0193 requirements when the EUT is mounted into the motor vehicle. EUT is a Forward Looking radar used when the vehicle is in motion.

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