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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.

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: 20 cm (Mobile)

Test Date: 31-Dec-24
Test Engineer: J. Brunett
EUT: Density Waffle
EUT Mode: Worst Case (all radios active)
Meas. Distance: 3 meters

R0	SAR Exemption							Canada ISED RSS-102 MPE			USA FCC 1.1310 MPE	
	Mode	Freq. MHz	Max EIRP(Pk) dBm	Max EIRP (Avg) dBm	EIRP(Avg) mW	S20cm(Avg) mW/cm2		SC6 Limit (S20cm) mW/cm2	MPE Ratio		S Limit mW/cm2	MPE Ratio
R1	NARROWBAND	60270.000	17.5	6.2	56.2341	0.0112		1.00	0.0112		1.00000	0.0112
R2	WIDEBAND	59912.000	17.6	6.3	57.5440	0.0114		1.00	0.0114		1.00000	0.0114
R3												
R4	Mode	Freq. MHz	Worst Case EIRP(Avg) dBm		EIRP(Avg) mW	S20cm(Avg) mW/cm2		SC6 Limit (S20cm) mW/cm2	MPE Ratio		S Limit mW/cm2	MPE Ratio
R5	MODULE BT/BLE	2480.00	17.5		55.5904	0.0111		0.55	0.0202		1.00000	0.0111
R6	MODULE 802.15.4	2475.00	19.5		88.1049	0.0175		0.55	0.0321		1.00000	0.0175
R7	MODULE 2.4G	2437.00	21.5		139.6368	0.0278		0.54	0.0514		1.00000	0.0278
R8	MODULE 5G	5785.00	20.5		110.9175	0.0221		0.98	0.0226		1.00000	0.0221
R9								**MPE Total (<1):**	**.138**		**MPE Total (<1):**	**.090**
R11								Complies?	**Yes**		Complies?	**Yes**
#	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12

(ROW)	(COLUMN)	NOTE
R0/R4	C3	As Measured / Computed from highest fundamental emission, see fundamental emission section of the respective radio reports. Includes antenna gain.
R4	C4	Conversion from EIRP dBm to EIRP(mW): 10^(EIRP dBm/10)
R4	C5	EIRP (mW) = S (mW/cm^2) x 4 x PI x 20cm^2
R4	C10	Limit for uncontrolled environment according to FCC 1.1310, Table 1

REF Module RF MPE Report: FCC ID: VPYLBES5PL2EL, IC: 772C-LBES5PL2EL, Report No. TESA2211000527ES

Summary:

The EUT with all transmitters is compliant with both the FCC power density limit.