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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:

USA REF: 1.1310, 2.1091/1093, 447498 D01 General RF Exposure Guidance v06
 IC REF: RSS-102 Issue 5, Safety Code 6
 Min. Sep. Distance: 20 cm (Mobile)

Test Date: 1-Apr-23
 Test Engineer: Joseph Brunett
 EUT: Ford SG5PHX
 EUT Mode: Worst Case of each.
 Meas. Distance: Conducted (see RF reports)

Mode	Freq. MHz	Worst Case EIRP(Avg)** dBm	E20cm(Avg) dBuV/m	S20cm(Avg)**** mW/cm2	SC6 Limit (S20cm) mW/cm2	MPE Ratio	S Limit mW/cm2	FCC MPE Ratio	
FHSS BT	2400-2483.5	13.6	132.3218	0.0046	5.47	0.0008	1.00000	0.0046	
BLE	2400-2483.5	12.7	131.4218	0.0037	5.47	0.0007	1.00000	0.0037	
WLAN 2G (b.g.n)	2400-2483.5	29.5	148.2218	0.1773	5.47	0.0324	1.00000	0.1773	
UNII-1/2A 5G (n, a, ac, ax)	5150-5240	11.6	130.3218	0.0029	5.47	0.0005	1.00000	0.0029	
UNII-2C 5G (n, a, ac, ax)	5500-5720	23.1	141.8218	0.0406	5.47	0.0074	1.00000	0.0406	
UNII-3 5G (n, a, ac, ax)	5500-5720	23.4	142.1218	0.0435	5.47	0.0080	1.00000	0.0435	
MPE Worst Case Total < Max MPE in 2G Band + Max MPE in 5G Band						MPE Total (<1):	.040	MPE Total (<1):	.221
						Complies?	Yes	Complies?	Yes

*As Measured / Computed from highest fundamental emission, see EIRP/Power section of the EUT Test Reports
 **EIRP, as computed from either measured data reported in this application or the Modular Device RF Exposure Exhibits.
 *** For FCC MPE, use of 300 kHz limit at 125 kHz as previously allowed by FCC.
 **** EIRP (mW) = S (mW/cm²) x 4 x PI x 20cm²

Summary:

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