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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 5, Safety Code 6

Min. Sep. Distance: 20 cm (Mobile)

Test Engineer: EUT: EUT Mode: Meas. Distance:

Joseph Brunett Allegion Digital Core + Access Core Modules Worst Case 3 meters

					Canada ISED RSS-102 MPE			USA FCC 1.1310 MPE		
Mode	Freq.	Worst Case E3(Avg)*	E20cm(Avg)	H20cm(Avg)	SC6 Limit (E20cm)	SC6 Limit (H20cm)	Worst Case MPE Ratio	E20cm Limit***	H20cm Limit***	Worst Case MPE Ratio
	MHz	dBuV/m	dBuV/m	dBuA/m	dBuV/m	dBuA/m		dBuV/m	dBuA/m	
NFC (47446668)	13.56000	73.3	120.3	69.0	148.8	97.2	0.0015	175.8	124.2	0.0000030
NFC (47446672)	13.56000	73.3	120.3	69.0	148.8	97.2	0.0015	175.8	124.2	0.0000030
LF (47446672)	0.12500	84.9	131.9	80.6		135.3	0.000003	155.7	104.2	0.0044
Mode	Freq.	Worst Case EIRP(Avg)**	E20cm(Avg)	S20cm(Avg)****		SC6 Limit (S20cm)	MPE Ratio		S Limit	MPE Ratio
	MHz	dBm	dBuV/m	mW/cm2		mW/cm2			mW/cm2	
BLE (47334317)	2400-2483.5	10.9	129.6218	0.0024		5.47	0.0004		1.00000	0.0024
BLE (47334321)	2400-2483.5	11.4	130.1218	0.0027		5.47	0.0005		1.00000	0.0027
WLAN (47334321)	2400-2483.5	16.8	135.5218	0.0095		5.47	0.0017		1.00000	0.0095
						MPE Total (<1):	.002		MPE Total (<1):	.019
						Complies?	Yes		Complies?	Ves

^{*}As Measured / Computed from highest fundamental emission, see fundamental emission section of the respective radio 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.

Summary:

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

^{****} EIRP (mW) = S (mW/cm^2) x 4 x PI x 20cm^2