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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: 13-Jul-21  
 Test Engineer: Joseph Brunett  
 EUT: Allegion BE499WB  
 EUT Mode: Worst Case  
 Meas. Distance: 3 meters

Mode	Freq. MHz	Worst Case E3(Avg)* dBm	E20cm(Avg) dBuV/m	H20cm(Avg) dBuA/m	Canada ISED RSS-102 MPE			USA FCC 1.1310 MPE		
					SC6 Limit (E20cm) dBuV/m	SC6 Limit (H20cm) dBuA/m	Worst Case MPE Ratio	E20cm Limit*** dBuV/m	H20cm Limit*** dBuA/m	Worst Case MPE Ratio
LF Entry	13.56000	69.2	116.2	64.9	148.8	97.2	0.0006	175.8	124.2	0.0000
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	MPE Ratio	
ZigBee/BLE (module)	2400-2483.5	18.6	137.3551	0.0145	5.47	0.0027		1.00000	0.0145	
WLAN	2400-2483.5	20.4	139.1218	0.0218	5.47	0.0040		1.00000	0.0218	
					<b>MPE Total (&lt;1):</b>	<b>.003</b>		<b>MPE Total (&lt;1):</b>	<b>.015</b>	
					Complies?	<b>Yes</b>		Complies?	<b>Yes</b>	

\*As Measured / Computed from highest fundamental emission, see fundamental emission section of the NFC report.  
 \*\*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/cm<sup>2</sup>) x 4 x PI x 20cm<sup>2</sup>

### Summary:

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