

# 1 Safety Human Exposure

## 1.1 Radio Frequency Exposure Compliance

### 1.1.1 Electromagnetic Fields

RESULT:

Pass

#### Test Specification

Test standard

: CFR47 FCC Part 2: Section 2.1093  
CFR47 FCC Part 1: Section 1.1310  
FCC KDB Publication 447498 v06, section 7  
RSS-102 Issue 5 March 2015, section 2.5.1

#### ➤ FCC requirements

##### a) EUT RF Exposure Evaluation operations, Worst Case mode

Test Mode	Measured conducted Power		Threshold power @5mm		Verdict
	dBm	mW	dBm	mW	
BLE	-0.47	0.90	10	10	Compliant
Proprietary Protocol	-0.82	0.83	10	10	Compliant

#### ➤ IC requirements: The EUT shall comply with the requirement of RSS-102 section 2.5.1.

Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance<sup>4,5</sup>

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

  

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

##### a) EUT RF Exposure Evaluation standalone operations, Worst Case mode

Test Mode	Measured conducted Power (dBm)	Antenna Gain (dBi)	Measured e.i.r.p (dBm)	Threshold power @5mm (mW)	Verdict
BLE	-0.47	-6.71	-7.18	4	Compliant
Proprietary Protocol	-0.82	-6.71	-7.53	4	Compliant
The higher of the maximum conducted or EIRP is much lower than the threshold power.					