

## Radiofrequency radiation exposure evaluation: mobile devices

**RESULT :**

**Pass**

### Test Specification

Test item	:	SPA
Identification / Type No.	:	SB-HWF10, SC-WF10, SC-WF10-1, SB-HSWF10,SB-HSWF10-1 SB-HWF10-1, SB-HSWF10-2, SB-HSWF10-3
FCC ID	:	SVYSB-HSWF10
Test standard	:	CFR47 FCC Part 2: Section 2.1091 CFR47 FCC Part 1: Section 1.1310 FCC KDB Publication 447498 D04

### ➤ FCC requirements

**FCC requirement:** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 20cm normally can be maintained between the user and the device.

### MPE Calculation Method according to KDB 447498 D04

TABLE B.1—THRESHOLDS FOR SINGLE RF SOURCES  
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

RF Source Frequency		Minimum Distance			Threshold ERP
$f_L$ MHz	$f_H$ MHz	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	—	1.34	159 m	—	35.6 m
1.34	—	30	35.6 m	—	1.6 m
30	—	300	1.6 m	—	159 mm
300	—	1,500	159 mm	—	31.8 mm
1,500	—	100,000	31.8 mm	—	0.5 mm
	0				19.2R <sup>2</sup>

Subscripts L and H are low and high;  $\lambda$  is wavelength.  
From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B.1})$$

$$P_{\text{th}} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left( \frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

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

For 2.4G SRD power:

$$\text{E.I.R.P} = 93.78 - 95.2 = -1.42 \text{ dBm}$$

$$\text{ERP} = \text{E.I.R.P} - 2.15 = -3.57 \text{ dBm}$$

Test Mode	Measured Power (dBm)	Measured Power (mW)	Minimum Separation Distances (cm)	Limit (mW)
2.4GHz band Wi-Fi	16.52	44.87	20	768
2.4GHz SRD	-3.57	0.439		