



IMQ S.p.A. - Società con Socio Unico
Via Quintiliano, 43 I-20138 MILANO
tel 0250731 - info@imq.it - www.imq.it

RF Exposure Evaluation

No. AE14S0259859-04/2

performed in accordance with
FCC Rules: Code of Federal Regulations and KDB 447498

PRODUCT	RF radio module for wireless communication integrated in a sound system
MODEL(s) TESTED	WKBT0204AR
FCC ID	2AFJMESS-SSY
TRADE MARK(s)	EFFEGIBI

APPLICANT	EFFEGIBI S.r.l. ~ Via Gallo, 769 ~ I - 47522 Borello di Cesena (FC)
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Approved by	Roberto Colombo <i>[Laboratory manager]</i>	 
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Revision Sheet

Release No.	Date	Revision Description
Rev. 0	2015-07-15	First edition
Rev. 1	2015-09-31	Modified the FCC ID

The results of tests and checks reported in this Test Report refer exclusively to the samples tested and described in the Report itself.
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TEST 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 levels in excess of the Commission's guidelines § 1.1307(b)(1).

EUT classification (fixed, mobile or portable devices) Fixed according to § 2.1093(b) of this Chapter

LIMITS According to § 2.1093 of this Chapter, by means of the following guidelines: OET Bulletin 65 and Mobile Portable RF Exposure v.04 (KDB no 447498)

Limit for maximum permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Avarage Time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3÷3.0	614	1.63	(100)*	6
3.0÷30	1842/f	4.89/f	(900/f ²)*	6
30÷300	61.4	0.163	1.0	6
300÷1500	--	--	f/300	6
1500÷100,000	--	--	5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3÷3.0	614	1.63	(100)*	30
3.0÷30	824/f	2.19/f	(180/f ²)*	30
30÷300	27.5	0.073	0.2	30
300÷1500	--	--	f/1500	30
1500÷100,000	--	--	1.0	30

F = Frequency in MHz *Plane-wave equivalent power density

MPE Calculation method: $E(V/m) = \frac{\sqrt{30 \times P \times G}}{d}$ Power

density $Pd(W/m^2) = \frac{E^2}{377}$

E= electric field (V/m)

P= Peak RF output power (W)

G= EUT antenna numeric gain (numeric), Gain numeric=10^(dBi/10)

d= Separation distance between radiator and human body (m)

The formula can be changed to: $Pd = \frac{30 \times P \times G}{377 \times d^2}$

Equipment	Max output power (dBm)	Peak output power (mW)	Power density (S)(mW/cm ²)	Limit of power density (S)(mW/cm ²)
DOCKING	3.68	2.333	0,000464462	1
RECEIVER	3.04	2.014	0,000400821	1

TEST RESULT

This value is less than the low threshold limit corresponding to the general population exposure



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category and therefore no SAR test is required.

SAR TEST EXCLUSION CONSIDERATIONS (According to KDB 447498 §4.3)

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR, where

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz : 2.48
- Power (mW): 3.3
- Distance (mm): 5

$$\frac{3.3}{5} \times \sqrt{2.48} = 1.04$$

EVALUATIO RESULT

The device never require the SAR test.