
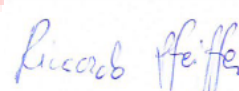


## RAPPORTO DI PROVA / TEST REPORT

Rif./Ref.No. MPETR_170683-2	Data / Date: 23/04/2019	Pagine / Pages : 5
Scopo delle prove / Test object :	Valutazione dell'esposizione ai campi RF in accordo a / Radio Frequency Radiation Exposure evaluation according to FCC Cfr 47 part 2 - §2.1093	
Richiedente / Applicant :	<b>B810 SRL</b> VIA E. LAZZARETTI 2/1 - ZONA IND. MANCASALE Tel. 0522-510252; 335-7425594	
Persona di riferimento / Applicant's referee :	MR. SCAGLIOSO	
Marchio commerciale / Trade mark :	B810	
Fabbricante / Manufacturer :	B810 SRL	
Prodotto / Product :	Smart Tag with BT Module	
Modello / Model :	P106STAG	
Data ricevimento campioni / Date of test samples receipt:	March 2018	
Campioni verificati / No. of tested samples	1	
Data verifiche / Testing date :	November 2017	
Sito di prova / Testing site :	PRSLAB, Via Campagna 92 - ITALY - 22020 Faloppio CO FCC test registration number: 177269	
Esito delle valutazioni / Assessment results :	<b>CONFORME / COMPLIANT</b>	
Verifiche effettuate da / Verifications carried out by :	Daniele AOSANI Tecnico Laboratorio EMC & RADIO / EMC & RADIO Laboratory Technician	
Approvato / Approved by :	Riccardo PFEIFFER Responsabile Laboratorio EMC & RADIO / EMC & RADIO Laboratory Manager	

**I risultati delle prove riportati nel presente rapporto di prova si riferiscono solo ai campioni esaminati./**  
*The test results reported in this test report shall refer only to the samples tested*  
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## 0 RELEASE CONTROL RECORD

TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
MPETR_170683-0	Original release	19/04/2017
MPETR_170683-1	Editorial change	10/01/2019
MPETR_170683-2	Editorial change	23/04/2019

## **1 TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)**

### **1.1 EUT Identification**

<b>Trademark:</b>	B810
<b>Manufacturer:</b>	B810 SRL
<b>Type of Equipment :</b>	Smart Tag with BT Module
<b>Model name:</b>	P106STAG
<b>Serial number :</b>	prototype
<b>Country of manufacturer:</b>	ITALY

### **1.2 EUT technical information**

<b>Product type:</b>	Radio Equipment
<b>Radio type:</b>	Intentional radiators
<b>Product description / application</b>	The EUT is 2.4GHz BT Transceiver
<b>Power supply requirements :</b>	3Vdc
<b>Operating Frequency range</b>	2400-2483,5MHz
<b>Operating Frequency:</b>	From 2402MHz to 2480MHz
<b>Channel bandwidth</b>	2MHz
<b>Channel spacing</b>	2MHz
<b>Number of Channel</b>	40 (from 0 to 39)
<b>Modulation Type</b>	GFSK
<b>Antenna Type</b>	Integral PCB Printed antenna

Note: FCC classifies Bluetooth LE as a system using digital modulation techniques.

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### 1.3 EUT modification

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- None

### 1.4 Auxiliary equipment

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- None

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## 2 REFERENCE STANDARDS

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CODE OF FEDERAL REGULATIONS	
Title 47 Part 2 Subpart J § 2.1093	Radiofrequency radiation exposure evaluation: portable devices.
ANSI C63.4	American National Standard for Methods of Measuring of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz

## 3 MEASUREMENTS AND CALCULATION RESULTS

### 3.1 SAR exemption

This device has been excluded from SAR testing based on source-based time-averaged conducted output power and KDB 447498 D01 section 4.3.1 1). This document serves as the RF exposure exhibit in the FCC Form 731 application in lieu of a SAR report.

### 3.2 Operational Description

The P106STAG is a Smart Tag with Bluetooth LE module to transmit data. The user's hand will touch the device when it is transmitting and there is nothing to stop him being within 20 cm therefore it is necessary a calculation for portable use demonstrating that the transmitter can be excluded from SAR testing.

### 3.3 RF Exposure Conditions:

The device is intended for use in the portable exposure condition and the General Population / Uncontrolled RF exposure environment.

### 3.4 RF Output Power:

Tx frequency range: 2402 – 2480 MHz

Maximum Output Power: -1.5dBm (0,70mW)

Maximum Output Power + Tune-up Tolerance: -0.5dBm (0,89mW)

### 3.5 Calculation method and limits

SAR Test Exclusion Thresholds:

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

where respectively

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

### 3.6 Calculation results

Measured Output Power, including tune-up tolerance: 0.89mW

Min Test separation distance: 5mm

f: 2.440GHz (as worst case)

Exclusion Threshold: 7.5 (10-g extremity SAR)

$$\frac{0.89\text{mW}}{5\text{mm}} * \sqrt{2.440} = 0.28 \leq 7.5$$

**RESULT: The device is excluded from SAR testing.**