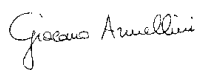


RAPPORTO DI PROVA / TEST REPORT

Rif./Ref.No. MPETR_161928-1	Data / Date:22/06/2017	Pagine / Pages :7
Scopo delle prove / Test object :	Prove di tipo in accordo a / Type test according to FCC Cfr 47 part 2 - §2.1091, part 1 - §1.1310	
Richiedente / Applicant :	OPENMATICS s.r.o. Podebradova 2842/1 – 30100 PLZEN - CZECH REPUBLIC Telephon: +42 0371150807	
Persona di riferimento / Applicant's referee :	Jan Beseda (jan.beseda@zf.com)	
Marchio commerciale / Trademark :	deTAGtive	
Fabbricante / Manufacturer :	OPENMATICS s.r.o.	
Prodotto / Product :	Bluetooth telemetry device	
Modello / Model :	deTAGtive logistics TAG 2	
FCC ID	2AIQK-TAG2	
Part number.	0501.222.811	
Data ricevimento campioni / Date of test samples receipt.	21/06/2016	
Campioni verificati / No. of tested samples	1	
Data verifiche / Testing date :	28-29/07/2016, 22/06/2017	
Sito di prova / Testing site :	Prima Ricerca & Sviluppo Via Campagna 92 I-22020 FALOPPIO (CO)	
Esito delle valutazioni / Assessment results :	CONFORME / COMPLIANT	
Verifiche effettuate da / Verifications carried out by :	Giacomo ARMELLINI Responsabile Laboratorio EMC e RADIO/ EMC and RADIO Laboratory Manager	
Approvato / Approved by :	Enrico BANFI Coordinatore Laboratori / 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 sample tested

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PRIMA RICERCA & SVILUPPO

Sede operativa e Laboratori di prova / Headquarter and Testing lab: Via Campagna, 92 – I-22020 FALOPPIO (CO)

Tel. +39 031 3500011 – Fax +39 031 991309 – info@primaricerca.it – www.primaricerca.it

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0 RELEASE CONTROL RECORD

TEST REPORT NUMBER	REASON OF CHANGE	DATE OF ISSUE
MPETR_161928-0	Original Release	28/09/2016
MPETR_161928-1	Editorial Change	22/06/2017

1 TECHNICAL INFORMATION OF EQUIPMENT UNDER TEST (EUT)

1.1 Identification

Trademark:	deTAGtive
Manufacturer:	OPENMATICS S.r.o.
Type of Equipment :	Bluetooth telemetry device
Model name:	deTAGtive logistics TAG 2
FCC ID	2AIQK-TAG2
Part number:	0501.222.811
Serial number :	H236.00.000.402
Country of manufacturer:	Czech Republic
Marking label	

1.2 Technical data

Product type:	Radio Equipment
Radio type:	Intentional radiators
Product description / application	Bluetooth telemetry device
Power supply requirements :	3V (internal battery)
Operating Frequency range	2400-2483.5MHz
Operating Frequency:	From 2402MHz to 2480MHz
Channel bandwidth	2MHz
Channel spacing	2MHz
Number of Channel	40
Modulation Type	GFSK
Antenna Type	Internal PCB wired antenna

1.3 Ports identification

This section contains descriptions of all signal ports and AC/DC power input/output ports, the length and the type of the cable provided by manufacturer needed for the tests. Moreover it is specified if the ports are ever or optionally connected.

Port		Description	Connection
1	Enclosure	Plastic	Snaps
2	AC Power Supply	Port Not present	-----
3	DC power supply	Port Not present (internal battery)	-----
4	Signal lines	Port Not present	-----
5	Telecomm. Lines	Port Not present	-----
6	Antenna port	Port Not present	-----

Note: During the tests all cables must be what provided the manufacturer or the same that used in the real employment of the EUT.

1.4 Auxiliary equipment

- SAMSUNG Tablet for channel control

2 REFERENCE STANDARDS

CODE OF FEDERAL REGULATIONS	
Title 47 Part 1 Subpart I § 1.1310	Procedures Implementing the National Environmental Policy Act of 1969. Radiofrequency radiation exposure limits.
Title 47 Part 2 Subpart J § 2.1091	Radiofrequency radiation exposure evaluation: mobile 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 Calculation Method

Far Field Power flux Calculation model.

This model is applicable in the far-field region and over-estimates in the radiating near-field region. The far-field calculations are accurate when the distance, r , from an antenna of length D to a point of investigation is greater than

$$r = \frac{2D^2}{\lambda}$$

The Power Flux is

$$S = \frac{PG}{4\pi r^2} \text{ or equivalent } S = \frac{EIRP}{4\pi r^2}$$

where

P = input power of the antenna

G = antenna gain relative to an isotropic antenna

r = distance from the antenna to the point of investigation.

EIRP = Effective Isotropic Radiated Power

3.2 Limits

Tab. 1 of CFR Title 47 Part 1 Subpart I § 1.1310

Table 1—Limits for **Maximum Permissible Exposure (MPE)**

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(B) Limits for General Population/Uncontrolled Exposure				
.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note to Table 1: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

3.3 Measurements

WORST CASE

Channel	Frequency (MHz)	EIRP (dBm)	EIRP (W)
19	2440	-6.06	0.000247

3.4 RF Exposure Evaluation

TX Freq. (MHz)	EIRP (W)	Evaluation distance (m)	Power density at evaluation distance (W/m ²)	FCC Power density Limit (W/m ²)	RESULT
2440	0.000247	0.20	0.000491	10.00	WITHIN THE LIMIT