



Test report issued under the responsibility of:
EMITECH MONTPELLIER laboratory
MRA US-EU Designation Number: FR0006
Canadian CAB Identifier: FR0003

EMF TEST REPORT

KDB 447498 D01 V06

Company: **ETS GEORGES RENAULT**
Address.....: 38 RUE BOBBY SANDS
44818 SAINT HERBLAIN
FRANCE

Test item description: **Device used to accessorize a battery nutrunner (hand held)**
Trade Mark: DESOUTTER
Manufacturer.....: ASTEELFLASH
Model/Product/Type reference: 615919138002 / TRACKER-EPBC / 6158132600
FCC ID.....: 2APE2-TRACKER
IC: 24012-TRACKER
Ratings.....: Not communicated

Testing Laboratory: **EMITECH MONTPELLIER laboratory**
Address.....: 145 rue de Massacan
34740 VENDARGUES
FRANCE

Report Reference No: **RE-EVE-21C805-1A**
Test procedure: FCC IC Certification
Diffusion.....: Mr SAJA
Applicant's name: ETS GEORGES RENAULT
Date of issue.....: October 4, 2023
Total number of pages.....: 9
Revision: 0
Modified page(s).....: Creation
Compiled by.....: Morgan PATEY
Approved by (+ signature).....: Olivier HEYER (Laboratory Manager)



*Duplication of this test report is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above.
This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of
the whole manufactured products of the tested sample.*

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REVISION HISTORY:

Revision	Date	Modified pages	Modifications
0	October 4, 2023	/	Creation

2. REFERENCE DOCUMENT(S)

NORMATIVE REFERENCES:

The following referenced documents are necessary for the application of the present test report.

FCC 47 CFR PART 15: April 2020

Code of federal regulations – Title 47 telecommunication
Part 15- Radio frequency devices

KDB 447498 D01 v06

RF exposure procedures and equipment authorization policies for mobile and portable devices.

RR-EVE-21C805-1A Ed.00

Radio Test Report Emitech.

Although the product standard uses obsolete technical standards, the latest versions of standards achievable by the laboratory will be used for testing.

INFORMATIVE REFERENCES:

The following referenced documents are not necessary for the application of the present test report but they assist the user with regard to a particular subject area.

3. EQUIPMENT TECHNICAL DESCRIPTION

3.1. Test Conditions

Test item description. : Device used to accessorize a battery nutrunner (hand held)
Model/Product/Type reference. : 615919138002 / TRACKER-EPBC / 6158132600
Trade Mark. : DESOUTTER
FCC ID..... : 2APE2-TRACKER
IC..... : 24012-TRACKER
Serial number (S/N)..... : 49xx2100342
Part number (P/N). : 6158132600
Software version..... : N/A
Firmware version..... : 2.3.30
Type of sample..... : Pre-serial
Function(s)..... : Trackers EPBC is used to accessorize a battery assembly tool.
Power is supplied by tool itself with a 5V DC connector. When
Tracker is on, it can communicate with Tracking Base (FCC ID :
2APE2-TRACKBASE). Signal exchanged between Tracker and
Tracking Base allows to measure distance between them.

Manufacturer name. : ASTEELFLASH
Address. : 6 RUE VINCENT VAN GOGH
93360 NEUILLY-PLAISANCE
FRANCE

General product information:

N/A

3.2. EUT General view & Marking plate



3.3. EUT Side view



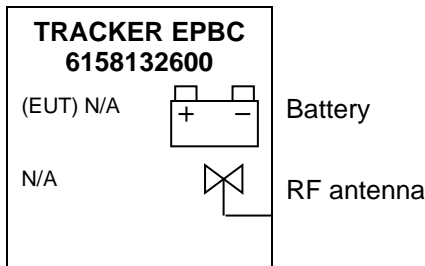
3.4. EUT Mechanical and Electrical Design

Power supply..... : 5 VDC
 Power supply range..... : Not communicated
 Power type..... : Battery powered
 Power (W)..... : Not communicated
 Nominal current (A). : 1
 Dimensions (L x W x H) (m). : 0.043 x 0.044 x 0.025
 Weight (kg). : 0.09
 Temperature range (°C). : +5 to +40
 Ground bounding strap..... : No

Comments:

N/A

3.5. EUT Input/Output ports



PORT	NAME	TYPE	LENGTH	CABLE TYPE	COMMENTS
0	Main frame	N/E	N/A	Plastic	N/A
1	Battery	DC	N/A	N/A	5VDC from EA
2	RF antenna	RF	N/A	N/A	3.5GHz to 6.5GHz

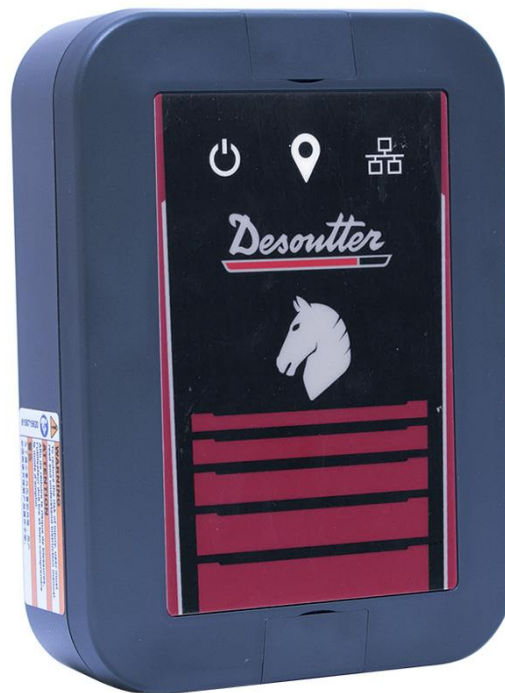
AC/DC : AC/DC Converter port AC..... : Alternative current port DC..... : Discontinuous current port
 I/O : Input or Output port TP : Telecommunication port RF : Radio frequency port
 N/E : Non Electrical port

3.6. Supporting Equipment Used During Test

Sample subject to the tests was tested with following equipment.

PRODUCT TYPE	MANUFACTURER	MODEL	N°EMITECH / COMMENTS
Anchor	DESOUTTER	N/A	Used to remote EUT power and to initiate communications in normal condition with normal duty cycle
Plastic holder + cable	DESOUTTER	N/A	Used to power and programming EUT

ANCHOR (EA)



3.7. EUT Radio Specifications

a) GENERAL INFORMATIONS	
According to manufacturer's declarations :	
EUT type.....	<i>Transmitter</i>
Technology	<i>UWB</i>
Environmental profile.....	<i>Data transmissions</i>
Temperature range.....	<i>+5°C to +40°C</i>
Antenna type	<i>Integrated</i>
Antenna Gain.....	<i>3 dBi</i>
Comments:	
<i>N/A</i>	
b) TRANSMITTER PARAMETERS (Tx)	
Frequency bands.....	<i>3.5 GHz to 6.5 GHz</i>
RF Power.....	<i>< 0 dBm EIRP</i>
Number of channels / Separation	<i>6 (channel 1,2,3,4,5,7)</i>
Modulation type	<i>BPM-BPSK</i>
Duty cycle	<i>0.5 % (calculation method : 128 slots of 0.5 ms = 64 ms). On each slot; emission is around 0.3 ms. (0.3/64 = ~0.5 %)</i>
Tested frequency.....	<i>3993.6 MHz (channel 4)</i> <i>4492.8 MHz (channel 3)</i> <i>6489.6 MHz (channel 7)</i>
c) RECEIVER PARAMETERS (Rx)	
Frequency bands.....	<i>3.5 GHz to 6.5 GHz</i>
Category/Class	<i>Not communicated</i>
Bandwidth.....	<i>according IEEE 802.15.4-2011 UWB Compliant</i>

4. RF EXPOSURE

Maximum EIRP = -0.17 dBm (0.96 mW) at 6591.32 MHz (see Radio test report referenced in §2)

For USA

In accordance with KDB 447498 D04 General RF Exposure Guidance v01, as EIRP is lower than 1 mW at 6591.32 MHz, SAR exemption for FCC can be considered for a distance ≤ 5cm.

For Canada

In accordance with RSS-102, Issue 5, Section 2.5.1., as EIRP is lower than 1 mW at 6591.32 MHz, SAR exemption for ISED can be considered for a distance ≤ 5cm.

End of evaluation report