



R041-12-102605-2A - DM / CHB

## EVALUATION OF HUMAN EXPOSURE TO ELECTROMAGNETIC FIELDS

According to the standard(s):

EN 50364:2010

Equipment under test:

UHF HANDSFREE COMPACT READER GAT-R5X-X


Company:

STID

Diffusion: Mr POITRAT

(Company: STID)

Number of pages: 12 including 1 annex

Ed.	Date	Modified page(s)	Written by		Technical verification	
			Name	Visa	Name	Visa
0	12-Dec-12	Creation	David MONTAULON		Regis GONZALEZ	
						

*Duplication of this report is only permitted for an integral photographic facsimile. It includes the number of pages referenced 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 production of the item tested.*



***NAME OF THE EQUIPMENT  
UNDER TEST (E.U.T.)*** : UHF HANDSFREE COMPACT READER GAT-R5X-X

***Serial number*** : /

***P/N*** : FCC ID: OVNURF  
IC ID:10520A - URF

***Software version*** : /

***MANUFACTURER'S NAME*** : STID

***APPLICANT'S ADDRESS:***

***Company*** : STID

***Address*** : 283 ZA LES PRADEAUX - Boulevard Salvador Allende  
13850 GREASQUE  
FRANCE

***Person(s) present during the  
tests*** : /

***Responsible*** : Mr POITRAT

***DATE(S) OF TESTS*** : November, the 28<sup>th</sup> of 2012

***TESTS LOCATION(S)*** : Emitech Grand Sud Laboratory in VENDARGUES (34) -  
FRANCE

***TESTS SUPERVISOR(S)*** : None

***TESTS OPERATOR(S)*** : David MONTAULON

CONTENTS
----------

1. INTRODUCTION.....	4
2. REFERENCE DOCUMENT(S).....	4
3. EQUIPMENT UNDER TEST CONFIGURATION.....	4
4. EQUIPMENT UNDER TEST CONFIGURATION.....	4
5. EQUIPMENT UNDER TEST CONFIGURATION SCHEME.....	6
6. SUMMARY OF TEST RESULTS.....	7
7. SPACIALLY AVERAGE MEASUREMENT .....	8
ANNEX: RESULTS BOARD(S) AND PHOTOGRAPH(S).....	9

## 1. INTRODUCTION

This report presents the results of the measurements performed on **UHF HANDSFREE COMPACT READER GAT-R5X-X** in order to verify the compliance of this product with the European standard EN 50364:2001 which requirements are derived from the European recommendation 99/519/EC

## 2. REFERENCE DOCUMENT(S)

EN 50364:2001	Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0Hz to 10GHz, used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications.
EN 50357:2001	Evaluation of human exposure to electromagnetic fields from devices used in Electronic Article Surveillance (EAS), Radio Frequency Identification (RFID) and similar applications.
Recommendation 99/519/EC of 12 July 1999	Limitation of exposure of the general public to electromagnetic fields.

## 3. EQUIPMENT UNDER TEST CONFIGURATION

Cycle and operating mode during emission tests: Permanent emission mode without modulation.

Equipment modifications applied during tests: No

## 4. EQUIPMENT UNDER TEST CONFIGURATION

### Equipment under test (E.U.T.) description:

The GAT hands-free reader can identify a moving person in a 2 or 4 m wide corridor by reading a UHF tag. Single or dual-antenna configurations are possible, depending on the area to be covered. Can be installed indoors or outdoors. Optional passage sensor (counter, direction and detection).

Two versions are available to ensure the highest level of performance, whatever the configuration of buildings:

A single-unit version (2 built-in antennas) or a gate version (2 x 2 antennas).

The single-unit version covers an identification range of up to two metres\*.

The gate version extends the reader's coverage to four metres\*.

For each configuration, there is only one RF module. It is named URF

The system can use several standard communication interfaces (TTL, RS232 and RS485).

GAT-R5X-X system is identified in several models:

**GAT-R52-E:** RS232 model, single-unit.

**GAT-R51-E:** TTL Model (Clock&Data / Wiegand) model, single-unit.

**GAT-R53-E:** RS485 model, single-unit.

**GAT-R52-F:** RS232 model, gate version.

**GAT-R51-F:** TTL Model (Clock&Data / Wiegand) model, gate version.

**GAT-R53-F:** RS485 model, gate version.

The gate version includes a single unit with another unit (linked by an RF cable connected to URF module) which includes only two deported antennas.

For the purpose of the valuation, only GAT-R52-E was tested in accordance to reference standard. Concerning near field exposition, all other configurations can be considered as similar.

FCC ID: OVNURF

IC ID: 10520A - URF

Frequency range: 902MHz – 928MHz

Number of channels: 50

Tested frequencies: 902.78MHz (CH1), 915.75MHz (CH24), 927.27MHz (CH50)

RF max conducted output power: 1W

Power supply: +9 Vdc up to +36 Vdc (+12 Vdc Typical)

Consumption: 2.5 A Under +12 Vdc

Dimensions 80 x 30 x 5 cm (without fixation)

Operating temperatures: - 20°C to + 55°C - Inside / outside use

Mounting: Free-standing or wall-mounted

Antennas:

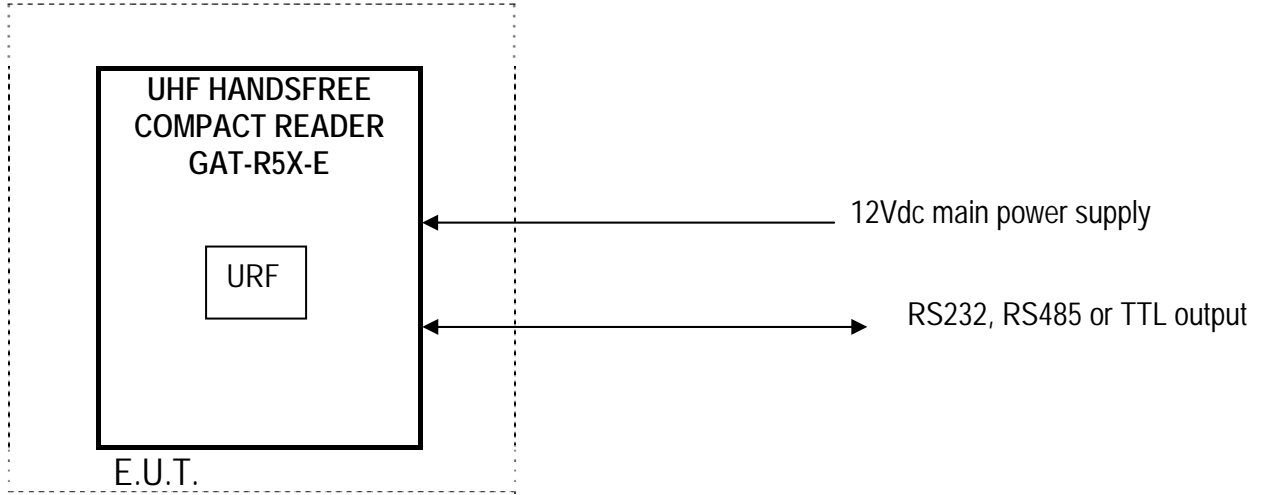
Brand: LAIRD Integrated antennas with maximum gain declared at 6dBi

Cycle and operating mode during emission tests: Hoping emission mode on channel 0, 25 or 50

Equipment modifications applied during tests: No

5. EQUIPMENT UNDER TEST CONFIGURATION SCHEME

Single unit version:



**6. SUMMARY OF TEST RESULTS**

Tests designation	Results satisfying?	Comments
Specially average measurement	YES	

N.P.: Not Performed.

N.A.: Not Applicable.

- **In emission:**

Sample subject to the test complies with prescriptions of the standard(s) EN 50364:2010 according to limits, specified in this test report.

**7. SPACIALLY AVERAGE MEASUREMENT***Temperature (°C): 21.5**Humidity (%HR): 38**Pressure (hPa): 988***Standard:** EN 50364:2010**Test method:** EN 50357:2001

The Derived Reference Levels are based on spatially averaged values over the entire body of the exposed individual. The measurement was performed to verify the compliance of the EUT with the derived reference levels in the frequencies of interest.

The frequency band of emission of EUT is 902MHz – 928MHz. The compliance with radio standard imposes that harmonics are low and spurious much lower; in consequence all the records are performed at fundamental frequency.

The limit defined for E field in consumer environment is 41.30V/m at 902MHz.

*(\*) Specific Absorption Rate*

**Test configuration according to table 1 of the standard:** Figure 2a

**Test equipment list:**

CATEGORY	BRAND	TYPE	N° EMITECH
Wandel & Goltermann	Wandel & Goltermann	Wandel & Goltermann	3608

**Results:** See **Board in annex:** E = 11.2 V/m

E field at 1cm (informative): 36.26 V/m

**□□□ End of report – 1 annex to be forwarded □□□**

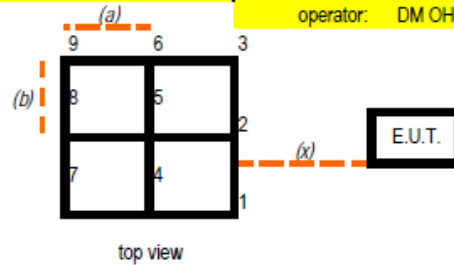


**ANNEX:  
RESULTS BOARD(S)  
AND PHOTOGRAPH(S)**

<b>STID</b>	<b>GAT RF</b>	<b>041-12-10</b>	<b>28/11/2012</b>
Test configuration :	2H	distance (x) : 0.2	21.5
		(a)=(b)=0,15m	38
Equipment height (m) :	0.7		988
			operator: DM OH

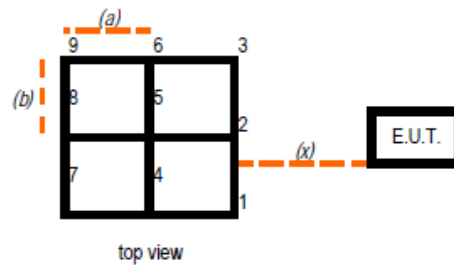
Measurement height (m): **0.85**

point	measure (dBuV)	field (V/m)
1	13.16	13.16
2	13.08	13.08
3	13.07	13.07
4	13	13.00
5	12.89	12.89
6	12.87	12.87
7	12.82	12.82
8	12.73	12.73
9	12.61	12.61



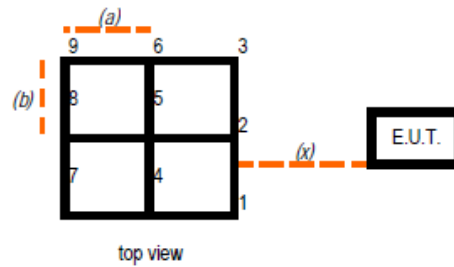
Measurement height (m): **1**

point	measure (dBuV)	field (V/m)
1	12.58	12.58
2	11.94	11.94
3	11.79	11.79
4	11.59	11.59
5	11.44	11.44
6	11.3	11.30
7	11.15	11.15
8	11.03	11.03
9	10.92	10.92



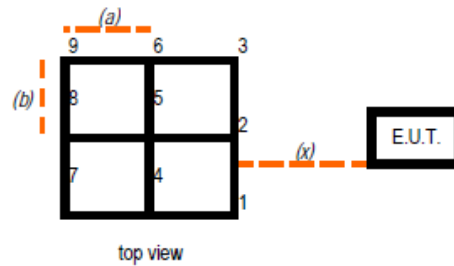
Measurement height (m): **1.15**

point	measure (dBuV)	field (V/m)
1	10.72	10.72
2	10.76	10.76
3	10.86	10.86
4	10.92	10.92
5	10.88	10.88
6	10.87	10.87
7	10.86	10.86
8	10.84	10.84
9	10.81	10.81



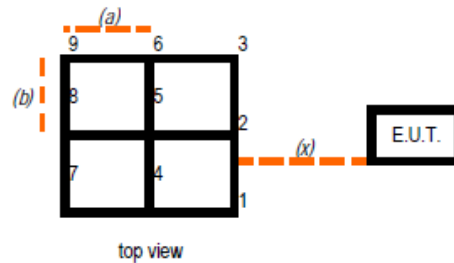
Measurement height (m): **1.3**

point	measure (dBuV)	field (V/m)
1	10.58	10.58
2	10.7	10.70
3	10.84	10.84
4	10.75	10.75
5	10.73	10.73
6	10.72	10.72
7	10.53	10.53
8	10.26	10.26
9	10.2	10.20



Measurement height (m): **1.45**

point	measure (dBuV)	field (V/m)
1	9.95	9.95
2	9.9	9.90
3	9.93	9.93
4	9.91	9.91
5	9.86	9.86
6	9.85	9.85
7	9.82	9.82
8	9.78	9.78
9	9.75	9.75



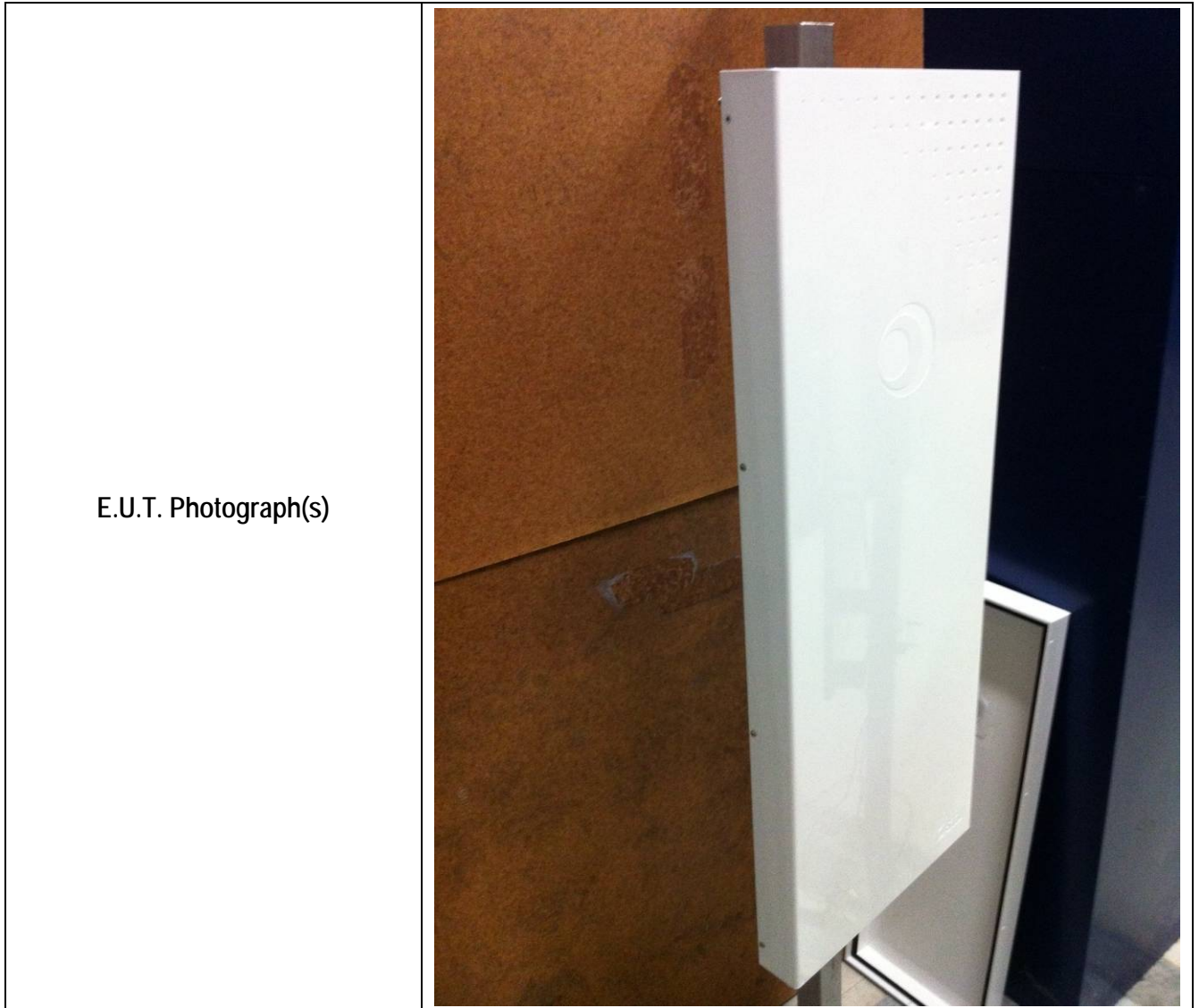
Spatially averaged measure: **11.20**

Field measure at 1cm (middle of the reader) : **36.26**

limit (V/m)	<b>41.30</b>	limit (V/m)
field (V/m)	<b>41.30</b>	limit (V/m)
		<b>none : for information</b>

EQUIPMENT UNDER TEST (E.U.T.) PHOTOGRAPH(S)

UHF HANDSFREE COMPACT READER GAT-R5X-X



Spacially average measurement

