



**TEST REPORT CONCERNING THE COMPLIANCE OF A  
LOW POWER TRANSPONDER OPERATING ON 6.78 MHz,  
BRAND MYLAPS ,  
MODEL ProChip FLEX  
WITH 47 CFR PART 15B (10-1-10)**

**12110601.fcc02  
December 10, 2012**

FCC listed : 90828  
Industry Canada : 2932G-2  
VCCI Registered : R-1518, C-1598  
R&TTE, LVD, EMC Notified Body : 1856

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## MEASUREMENT/TECHNICAL REPORT

**MYLAPS**  
**Model : ProChip FLEX**

**FCC ID: NXYPROCHIPFLEX**

This report concerns: Original Certification ~~Class 2 change~~ Verification  
Equipment type: JBP Class B Computing Device Peripheral

Report prepared by:

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The data taken for this test and report herein was done in accordance with 47 CFR Part 15B (10-1-10 edition), and the measurement procedures of ANSI C63.4-2009. TÜV Rheinland EPS B.V. at Leek, The Netherlands, certifies that the data is accurate and contains a true representation of the emission profile of the Equipment Under Test (EUT) on the date of the test as noted in the test report. I have reviewed the test report and find it to be an accurate description of the test(s) performed and the EUT so tested.

Date: December 10, 2012

Signature:



O. Hoekstra  
Senior Engineer Telecom TÜV Rheinland EPS B.V.

### Summary

The device under test does:

- fulfill the general approval requirements as identified in this test report
- not fulfill the general approval requirements as identified in this test report


### Description of test item

Test item : Low Power Transponder  
Manufacturer : MYLAPS BV  
Brand : MYLAPS  
Model : ProChip FLEX  
Serial number : --  
Revision : Not applicable

### Applicant information

Applicant's representative : Mr. B. van Rens & Mr. J. Willemse  
Company : MYLAPS BV  
Address : Zuiderhoutlaan 4  
Postal code : 2012PJ  
City : Haarlem  
Country : The Netherlands  
Telephone number : +31 23 5291893  
Telefax number : +31 23 5290156  
Email : brens@mylaps.com & Jeroen.Willemse@mylaps.com  
Internet : www.mylaps.com

### Test(s) performed

Location : Leek  
Test(s) started : December 04, 2012  
Test(s) completed : December 04, 2012  
Purpose of test(s) : Original certification  
Test specification(s) : 47 CFR Part 15B (10-1-10 Edition)  
Test engineer(s) : R. van der Meer   
Report written by : R. van der Meer   
Report date : December 10, 2012

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The test results relate only to the item(s) tested.**

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## 1 General information.

### 1.1 Product description.

#### 1.1.1 Introduction.

The product tested is part of an inductive lap timing system.

The content of this report and measurement results have not been changed other than the way of presenting the data.

### 1.2 Related submittal(s) and/or Grant(s).

#### 1.2.1 General.

This test report summarizes testdata of compliances testing intended to support equipment verification.

## 2 Tested system details.

Details and an overview of the system and all of its components, as it has been tested, may be found below.

EUT	:	Low Power Transponder
Manufacturer	:	MYLAPS BV
Brand	:	MYLAPS
Model	:	ProChip FLEX
Serial number	:	--
Operating frequency	:	6.78 MHz
Modulation	:	BPSK
Voltage input rating	:	battery operated, 3V Lithium battery type CR2032
Voltage output rating	:	n.a.
Current input rating	:	--
Antenna	:	Internal
Remarks	:	n.a.
Interface cable(s)	:	n.a.
Operating configuration	:	Transponder is not transmitting
Communication port	:	USB 2.0
AUX1	:	Personal Computer
Manufacturer	:	Dell
Brand	:	Dell
Model	:	Latitude E5510
Serial number	:	n.a.
Remark	:	property applicant

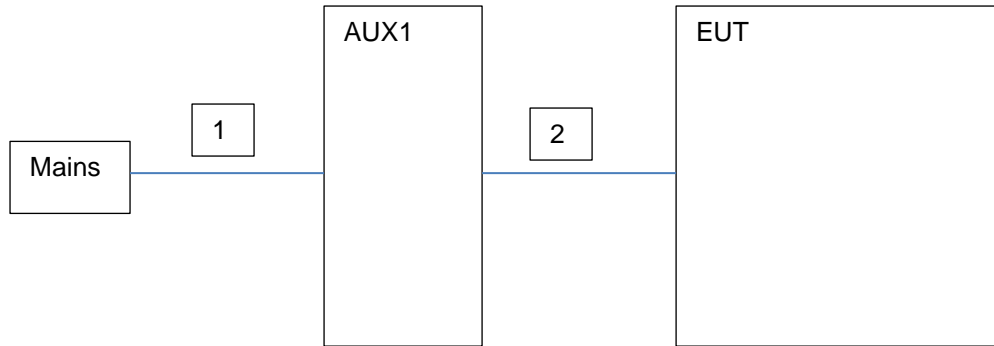


Figure 1. Basic set-up total system during testing

**2.1.1 Description of input and output ports.**

Number	Terminal	From	To	Remarks
1	Mains	Mains	AUX1	--
2	USB	EUT	AUX1	Shielded cable <3m

## 2.2 Test Summary

The EUT was tested in accordance with the specifications given in the table below.

Test Standard		Description	Page	Pass / Fail
FCC 47 CFR Part 15 (10-1-10 Edition)				
15.107(a) Class B		Conducted emissions	11-13	Pass
15.109 Class B		Radiated emissions	10	Pass

Table : testspecifications

Testmethods: ANSI C63:2009

### 2.3 Test methodology.

The test methodology used is based on the requirements of 47 CFR Part 15B (10-1-10 Edition), sections 15.31, 15.107 and 15.109.

The test methods, which have been used, are based on ANSI C63.4: 2009.

Radiated emission tests were performed at a measurement distance of 3 meters.

### 2.4 Test facility.

The Federal Communications Commission and Industry Canada has reviewed the technical characteristics of the test facilities at TÜV Rheinland EPS B.V., located in Niekerk, 9822 TL Smidshornerweg 18, The Netherlands, and has found these test facilities to be in compliance with the requirements of 47 CFR Part 15, section 2.948 (10-1-10 edition).

The description of the test facilities has been filed at the Office of the Federal Communications Commission under registration number 90828. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

The description of the test facilities has been filed to Industry Canada under registration number 2932G-2. The facility has been added to the list of laboratories performing these test services for the public on a fee basis.

### 2.5 Test conditions.

Normal test conditions:

Temperature (*)	: +15°C to +35°C
Relative humidity(*)	: 20 % to 75 %
Supply voltage	: 120VAC/60Hz
Air pressure	: 950 – 1050 hPa

When it was impracticable to carry out the tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests are stated separately.



## **3 System test configuration.**

### **3.1 Justification.**

The system was configured for testing in a typical situation as a customer would normally use it.

The justification and manipulation of cables and equipment in order to simulate a worst-case behavior of the test setup has been carried out as prescribed in ANSI C63.4: 2009.

### **3.2 EUT mode of operation.**

The tests have been performed with a complete functioning EUT and interconnections.

### **3.3 Special accessories.**

No special accessories are used and/or needed to achieve compliance.

### **3.4 Equipment modifications.**

No modifications have been made to the equipment in order to achieve compliance.

### **3.5 Product Labelling**

The product labeling information is available in the technical documentation package.

### **3.6 Block diagram of the EUT.**

The block diagram is available in the technical documentation package.

### **3.7 Schematics of the EUT.**

The schematics are available in the technical documentation package.

### **3.8 Part list of the EUT.**

The part list is available in the technical documentation package.

## 4 Radiated emission data.

### 4.1 Radiated field strength measurements (30 MHz – 1 GHz, E-field) EUT as Digital Device.

Frequency (MHz)	Test Results Vertical (dBµV/m)	Test Results Horizontal (dBµV/m)	Detector	Correction factor (dB)	Test Results Vertical (dBµV/m)	Test Results Horizontal (dBµV/m)	Limits @3m (dBµV/m)	Pass/Fail
31.94	-3.3	-2.8	Qp	17.2	13.9	14.4	40.0	Pass
167.74	-1.9	-2.7	Qp	10.4	8.5	7.7	43.5	Pass
198.78	-2.5	-1.4	Qp	10.0	7.5	8.6	43.5	Pass
233.70	-1.0	6.6	Qp	12.7	11.7	19.3	46.0	Pass
528.58	-3.3	-3.4	Qp	21.9	18.6	18.5	46.0	Pass
885.54	-2.6	-2.7	Qp	26.9	24.3	24.2	46.0	Pass

Table 1 Radiated emissions of the EUT.

#### Notes:

- Field strength values of radiated emissions at frequencies not listed in the Table 1 are more than 20 dB below the applicable limit.
- Measurement uncertainty is  $\pm 5.0$ dB
- The reported field strength values are the worst case values at the indicated frequency. The EUT was varied in three positions. the antenna was varied in horizontal and vertical orientations and also in height (between 1m and 4m).
- A Quasi-peak detector was used with a resolution bandwidth of 120 kHz.
- Tested with Wifi-board in receive mode. Low, mid and high Wifi RX channels tested. Worst case noted.
- Tested with the communication connection (USB port connected to a PC).
- Tested as Digital device, Not transmitting.
- Testspecification FCC part 15.109:2010 Class B.

Used test equipment and ancillaries:

99855	99699	15633	99741	99580/99847	99861	99608	99609	

#### Test engineer

Signature :



Name : Richard van der Meer

Date : December 04, 2012

## 5 Conducted emission data.

### 5.1 Conducted emission data of the EUT

Frequency (MHz)	Measurement results dB(μV) Line 1		Measurement results dB(μV) Line 2 (Neutral)		Limits dB(μV)		Result
	QP	AV	QP	AV	QP	AV	
0.15000	52.4	*Note 3	53.4	*Note 3	66.0	56.0	PASS
0.18601	42.3	*Note 3	5.9	*Note 3	64.0	54.0	PASS
0.23812	34.4	*Note 3	33.2	*Note 3	62.1	52.1	PASS
0.31222	30.5	*Note 3	30.6	*Note 3	60.0	50.0	PASS
0.64987	36.1	*Note 3	36.0	*Note 3	56.0	46.0	PASS
0.70378	35.6	*Note 3	36.2	*Note 3	56.0	46.0	PASS
1.25908	26.4	*Note 3	25.1	*Note 3	56.0	46.0	PASS
1.81650	28.2	*Note 3	25.4	*Note 3	56.0	46.0	PASS
4.36412	26.4	*Note 3	27.1	*Note 3	56.0	46.0	PASS
5.99422	15.0	*Note 3	19.4	*Note 3	60.0	50.0	PASS
23.0753	27.1	*Note 3	22.8	*Note 3	60.0	50.0	PASS

Table 2 Conducted emission measurements

The results of the conducted emission tests carried out in accordance with 47 CFR Part 15 section 15.107 at the 120 Volts AC mains connection terminals of the AUX1 that was connected to the EUT are depicted in Table 2. The system is tested as in whole, so with all equipment as shown in Figure.1 in place and functioning. Being the worst case situation.

#### Notes:

1. Measurement uncertainty is  $\pm 3.5$ dB
2. The resolution bandwidth used was 9 kHz.
3. Quasi peak (Qp) value already within Average limit therefor Average not tested.

Used test equipment and ancillaries:

99852	99161	12512	15667			

Test engineer

Signature : 

Name : R. van der Meer

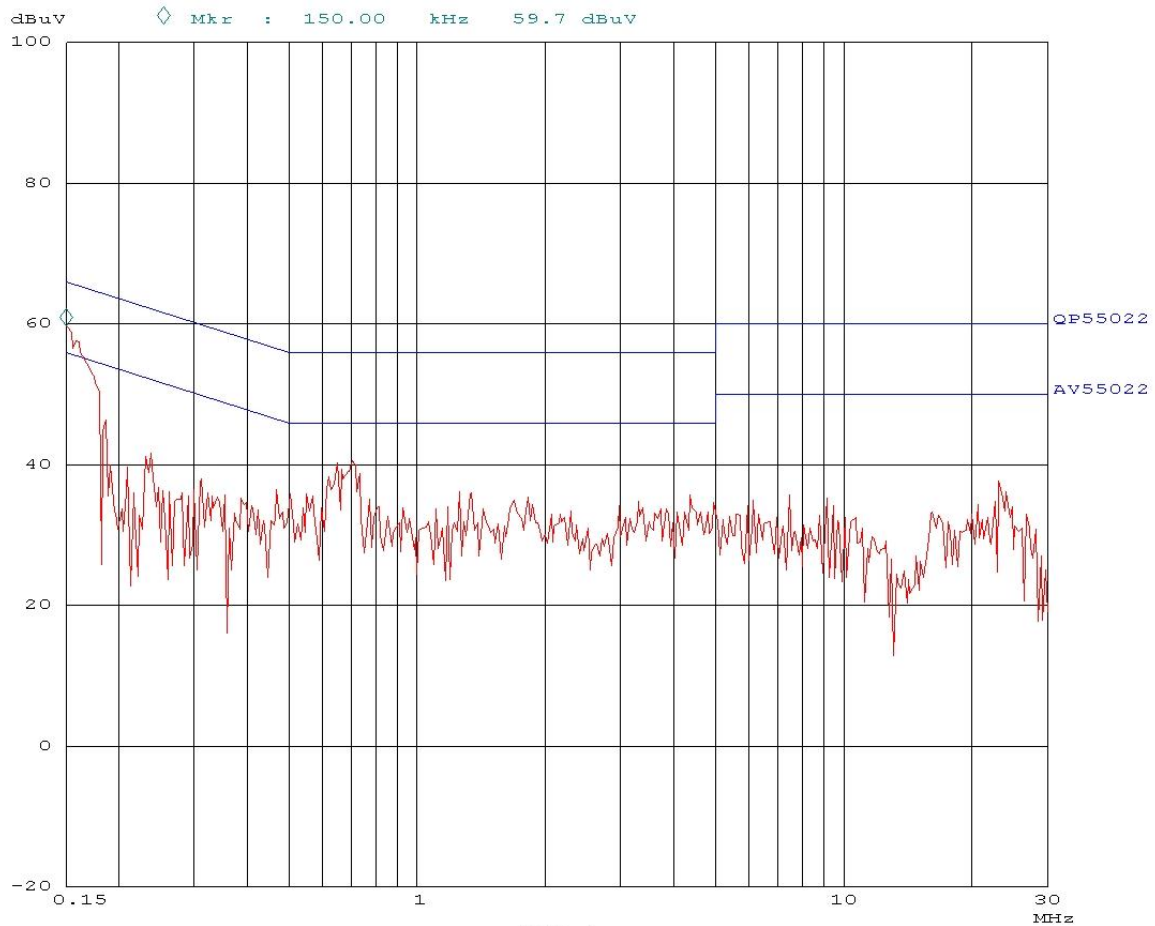
Date : December 04, 2012

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Scan Settings (1 Range)
|----- Frequencies -----|----- Receiver Settings -----|
  Start      Stop      Step      IF BW  Detector  M-Time  Atten  Preamp
  150k       30M       0.8%     9k     EK       50ms   AUTO  LN   ON

Final Measurement: x QP
                   Meas Time: 1 s
                   Subranges: 25
                   Acc Margin: 6dB
  
```



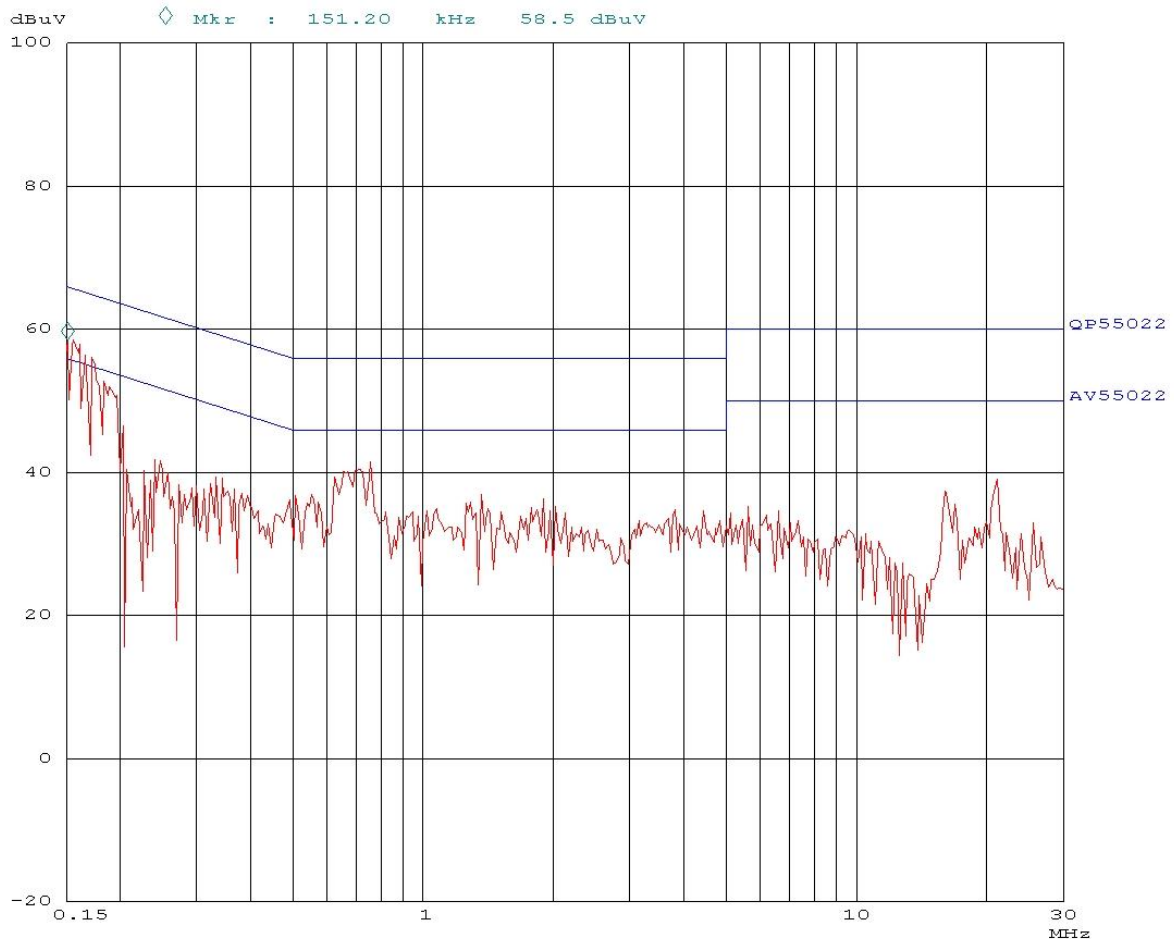
Plot 1: Conducted emissions on L1 (Pk)

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```

Scan Settings (1 Range)
|----- Frequencies -----|----- Receiver Settings -----|
  Start      Stop      Step      IF BW  Detector  M-Time  Atten  Preamp
  150k       30M       0.8%     9k     PK        50ms   AUTO  LN   ON

Final Measurement: x QP
                   Meas Time: 1 s
                   Subranges: 25
                   Acc Margin: 6dB
  
```



Plot 2: Conducted emissions on L2 (Pk)

## 6 List of utilized test equipment.

Inventory number	Description	Brand	Model	Last cal.	Next cal.
12512	LISN	EMCO	3625/2	01/2012	01/2014
15633	Biconilog Testantenna	Chase	CBL 6111B	02/2012	02/2013
99710	Power supply Pre-test setup	EMCS EMCS	--	NA	NA
99161	Variac 250V 6A	RFT	LTS006	NA	NA
99852/ 99855	Temperature-Humiditymeter	Extech	SD500	02/2012	10/2013
99580/ 99847	Testsite registration	Comtest	FCC listed: 90828	08/2011	08/2013
99609	Antenna mast	EMCS	AP-4702C	NA	NA
99608	Controller	EMCS	DOC202	NA	NA
99741	RF cable	Huber + Suhner	Sucoflex102	04/2012	04/2013
15667	Measuring receiver	R&S	ESCS30	10/2012	10/2013
99699	Measuring receiver	R&S	ESCI	03/2012	03/2013
99861	Controller	Maturo	SCU/088/8090811	NA	NA

NA= Not Applicable