

# Test report

## 20144265300-Ver 5.00

based on:

FCC Part 15 Subpart C, section 15.209 (10-1-14 Edition)

IC RSS-210, Issue 8, section 2.5

IC RSS-Gen, Issue 4

Immobilizer  
Visteon  
AW1102

## Revision history

REVISION	DATE	REMARKS	REVISED BY
Ver 5.00	2015 08 28	Change of Emission designator	ing. J.C. le Clercq
Ver 4.00	2015 04 20	Change of FCC ID and IC ID	ing. J.C. le Clercq
Ver 3.00	2015 03 24	Measurement of 99 % emission bandwidth has been added	ing. J.C. le Clercq
Ver 2.00	2015 03 19	Change of FCC ID and IC ID	ing. J.C. le Clercq
Ver 1.00	2015 02 11	Initial release	ing. J.C. le Clercq
Ver 0.50	2015 02 04	Version for peer review	ing. J.C. le Clercq

## Contents

<b>REVISION HISTORY .....</b>	<b>2</b>
<b>MAIN MODULE.....</b>	<b>4</b>
1 INTRODUCTION.....	4
2 PRODUCT .....	5
3 TEST SCHEDULE .....	5
4 PRODUCT DOCUMENTATION.....	6
5 OBSERVATIONS AND COMMENTS.....	6
6 SUMMARY.....	6
7 CONCLUSIONS .....	7
<b>TEST RESULTS MODULE.....</b>	<b>8</b>
1 SUMMARY.....	8
2 EMISSION TESTS .....	9
2.1 <i>Field strength of intentional signal</i> .....	9
2.2 <i>Field strength of unwanted emissions ( &lt; 30 MHz)</i> .....	10
2.3 <i>Field strength of unwanted emissions ( &gt; 30 MHz)</i> .....	11
2.4 <i>99 % emission bandwidth</i> .....	13
<b>USED TEST EQUIPMENT MODULE.....</b>	<b>14</b>
<b>CROSS REFERENCE TABLE.....</b>	<b>15</b>

This report comprises of four modules. The total number of pages exclusive of the pages enclosed in the additional information module is: 15

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## Main module

### 1 Introduction

This report contains the result of tests performed by:

Telefication B.V.  
Edisonstraat 12a  
6902 PK Zevenaar  
The Netherlands

*Telefication complies with the accreditation criteria for test laboratories as laid down in ISO/IEC 17025:2005. The accreditation covers the quality system of the laboratory as well as the specific activities as described in the authorized annex bearing the accreditation number L021 and is granted on 30 November 1990 by the Dutch Council For Accreditation (RvA: Raad voor Accreditatie).*

*Telefication is designated by the FCC as an Accredited Test Firm for compliance testing of equipment subject to Certification under Parts 15 & 18. The Registration Number is: 282250.*

*The Industry Canada number for the Open Area Test Site of Telefication is: 4173A-1.*

*The contents of this test report, if reproduced, shall be copied in full, unless special consent in writing for reproduction in part is granted by Telefication. Copyright of this test report is reserved to Telefication.*

Ordering party:

Company name : Visteon Electronics France  
Address : Parc Saint Christophe 10, Avenue de l'Entreprise  
Zipcode : 95892  
City/town : CERGY PONTOISE  
Country : France  
Date of order : 27 January 2015

## 2 Product

A sample of the following product was submitted for testing:

Product name	:	Immobilizer
Product category	:	Intentional radiator
Manufacturer	:	Visteon Electronics Tunisia Autronic
Trade mark	:	Visteon
Type designation	:	AW1102
FCC ID	:	QI8-AW1102
IC ID	:	4419A-AW1102
Emission designator	:	25K4K1D
Hardware version	:	--
Software version	:	--
Serial number	:	--

## 3 Test schedule

Tests were carried out in accordance with the specification detailed in chapter 6 "Summary" of this report.

Tests were carried out at the following location:

- Telefication, Zevenaar

The sample of the product was received on:

- 27 January 2015

Tests were carried out on:

- 2 and 3 February 2015
-

## 4 Product documentation

For production of this report the following product documentation was used:

Description	Date	Identification
Technical Construction File	5 February 2015	TCF JCAE AW1102_V2014.pdf

The above-mentioned documentation will be filed at Telefication for a period of 10 years following the issue of this test report

## 5 Observations and comments

None.

## 6 Summary

The product is intended for use in the following application area:

Immobilizer

The sample was tested according to the following specification:

FCC Part 15 Subpart C, section 15.209 (10-1-14 Edition)  
IC RSS-210, Issue 8, section 2.5  
IC RSS-Gen, Issue 4

## 7 Conclusions

The sample of the product showed **NO NON-COMPLIANCES** to the specification stated in chapter 6 of this report.

The results of the tests as stated in this report, are exclusively applicable to the product item as identified in this report. Telefication does not accept any responsibility for the results stated in this report, with respect to the properties of product items not involved in these tests.

All tests are performed by:

name : ing. J.C. le Clercq

Review of test methods and report by:

name : J.P van de Poll

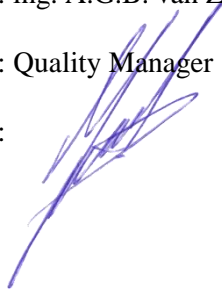
The above conclusions have been verified by the following signatory:

date : 8 September 2015

name : ing. A.G.B. van Zwieten

function : Quality Manager

signature :



## Test results module

### 1 Summary

According to FCC Part 15; subpart C; sections 15.209 the following tests have been performed:

Port	Reference	Phenomena	Result
Enclosure	section 15.209	Radiated emissions	P

Results:

P = pass  
F = fail

NA = not applicable  
NP = not performed



## 2 Emission tests

### 2.1 Field strength of intentional signal

Compliance standard : FCC part 15, subpart C, section 15.209.  
Method of test : ANSI C63.4-2003, sections 5.3 & 8.2.1; FCC part 15, subpart A, section 15.31 (f)(2), 15.33, 15.35.  
Justification : Because of strong ambient signals, a measuring distance of 3 m has been chosen. An inverse linear distance extrapolation factor of -40 dB/decade has been applied to determine results at a distance of 300 m.  
The EUT transmitting frequency was 125.1 kHz.

Test results :

Measurement in front of EUT		
Test result @ 3 m distance (dB $\mu$ V/m) (QP)	Extrapolation to 300 m distance (dB $\mu$ V/m) (QP)	Limit @ 300 m distance (dB $\mu$ V/m) (QP)
83.5	3.5	25.7

Test equipment:

Test equipment used: (Item numbers)	1, 2, 6, 7, 8.
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Item numbers refer to the used test equipment module.

Measurement uncertainty	+ 1.5 / -1.6 dB
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## 2.2 Field strength of unwanted emissions ( < 30 MHz)

Compliance standard : FCC part 15, subpart C, section 15.209.  
Method of test : ANSI C63.4-2003, sections 5.3 & 8.2.1; FCC part 15, subpart A, section 15.31 (f)(2), 15.33, 15.35.  
Justification : Because of strong ambient signals, a measuring distance of 3 m has been chosen. An inverse linear distance extrapolation factor of -40 dB/decade has been applied to determine the result at a distance of 30 or 300 meters.

Test results :

Measurement in front of EUT			
Frequency (kHz)	Test result @ 3 m distance (dB $\mu$ V/m) (QP)	Extrapolation to 30/300 m distance (dB $\mu$ V/m) (QP)	Limit @ 30/300 m (dB $\mu$ V/m) (QP)
375	44.4	-35.6 (@ 300 m)	16.1 (@ 300 m)
625	36.2	-3.8 (@ 30 m)	31.7 (@ 30 m)
875	33.4	-6.6 (@ 30 m)	28.8 (@ 30 m)

Test equipment:

Test equipment used: (Item numbers)	1, 2, 5, 6, 7.
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Item numbers refer to the used test equipment module.

Measurement uncertainty	+ 1.5 / -1.6 dB
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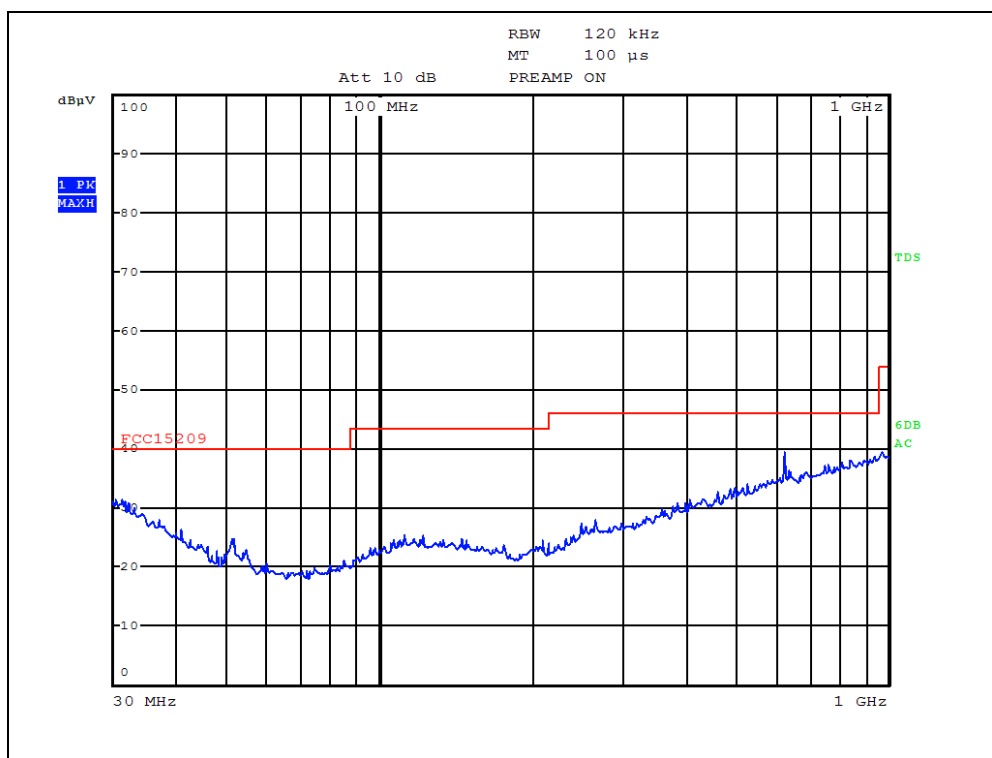
## 2.3 Field strength of unwanted emissions ( > 30 MHz)

Compliance standard : FCC part 15, subpart C, section 15.209.

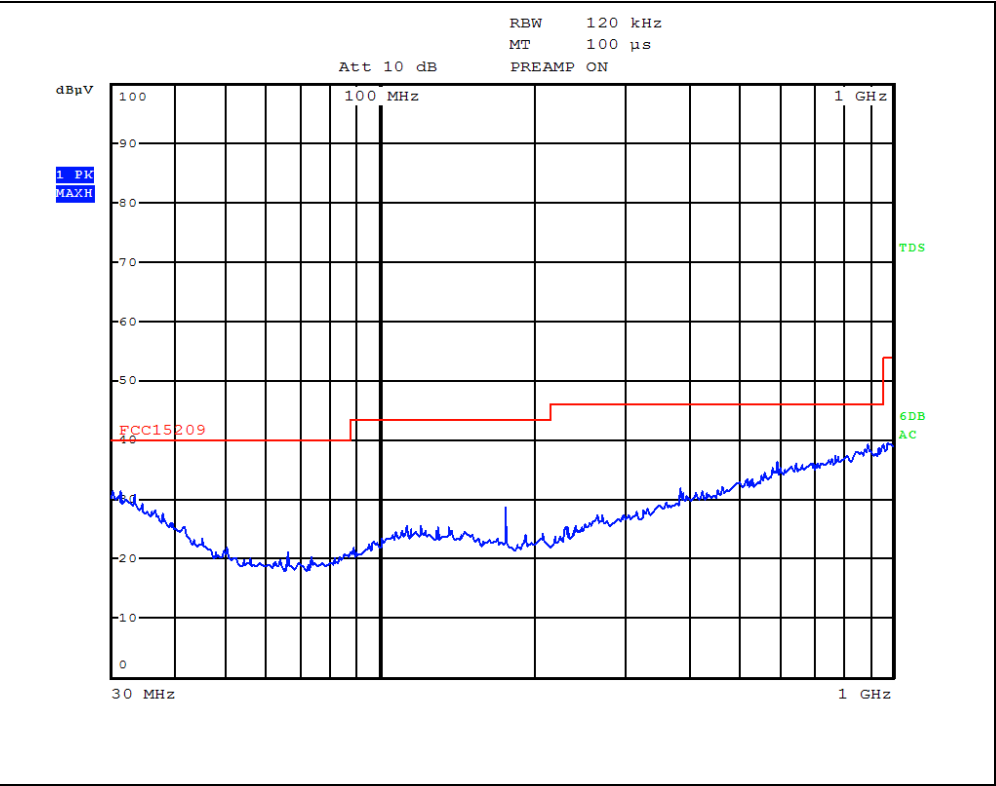
Method of test : ANSI C63.4-2003, sections 5.4, 8.2.3 & 8.3.1.2; FCC part 15, subpart A, section 15.31 (f)(2), 15.33, 15.35.

Test results :

*Polarization horizontal (max hold)*



Polarization vertical (max hold)

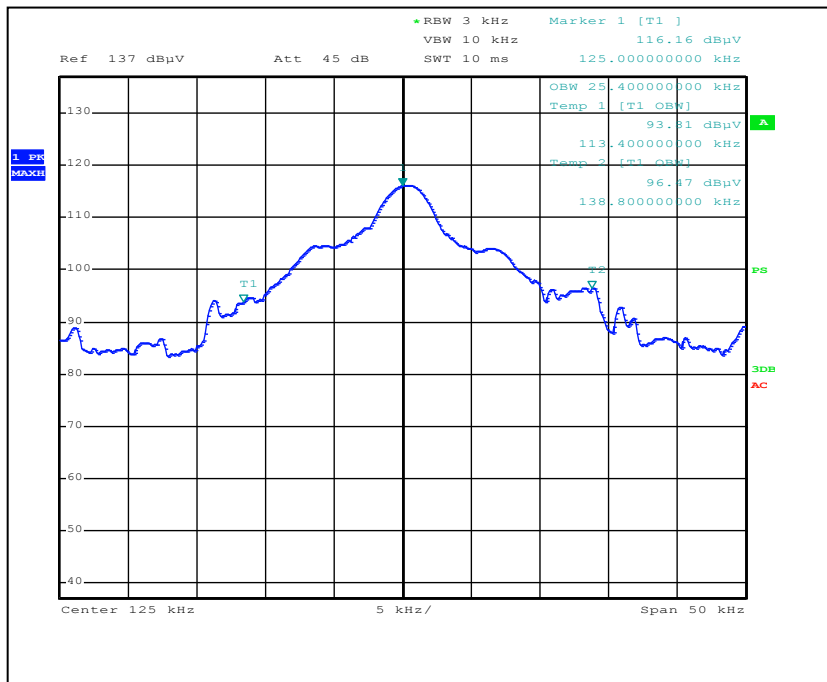


Test equipment used: (Item numbers)	3, 4, 5, 6, 7, 8, 9 (Item numbers refer to the used test equipment module)
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Measurement uncertainty	Vertical polarisation	
	30-200 MHz	5.4 dB
	200-1000 MHz	4.6 dB
	Horizontal polarisation	
	30-200 MHz	4.5 dB
	200-1000 MHz	3.6 dB

## 2.4 99 % emission bandwidth

Compliance standard: : IC RSS Gen, section 6.6  
Method of test : IC RSS Gen, section 6.6  
Test results :



Occupied bandwidth: 25.4 kHz

### Limit:

99 % emission bandwidth	RSS Gen, section 6.6 does not specify a minimum or a maximum bandwidth
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### Test equipment:

Test equipment used: (Item numbers)	1, 2 (Item numbers refer to the used test equipment module)
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Item numbers refer to the used test equipment module.

Measurement uncertainty	+ / - 2 kHz
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## Used test equipment module

This module contains the list of test equipment used.

Ref	Description	Manufacturer	Type	ID
1	EMI test receiver	R & S	ESCI	TE 11128
2	Active loop antenna	R & S	HFH2-Z2	TE 00746
3	Biconilog antenna	Chase	CBL6122A	TE 00967
4	Semi Anechoic Room	Comtest	--	TE 00861
5	Temp/RH logger	ATAL	EPD-TRH-INT	TE 01224
6	Power supply	Delta Elektronika	E030-1	TE 00886
7	Digital multimeter	Fluke	25	TE00200
8	Antenna mast	EMCO	1070	SAR
9	Turn table	EMCO	1060-2M	SAR

## Cross reference table

Transmitter	
<b>IC RSS-210 Issue 8</b>	<b>FCC 47 CFR Part 15, subpart C (1-Oct-14 edition)</b>
Section 2.5	§ 15.209
<b>IC RSS-Gen Issue 4</b>	<b>FCC 47 CFR Part 15, subpart C (1-Oct-14 edition)</b>
Section 8.9	§ 15.209
Section 6.6	--