

EMISSION -- TEST REPORT

Test Report File No. : **T 22056-1-01 HU** Date of issue : May 14, 2002

Type Designation : WFS 125 SA

Kind of Product : Immobilizer of a Keyless Entry System

Applicant : Delphi Automotive Systems Deutschland GmbH

Manufacturer : Delphi Automotive Systems Deutschland GmbH

Licence holder : Delphi Automotive Systems Deutschland GmbH

Address : Wielpuhl 4

D – 51766 Engelskirchen, Germany

Test result accdg. to the regulation(s) at page 3 :

Positive

This test report with attachment consists of **27** pages.
The test result only corresponds to the tested sample. It is not permitted to copy this report, in part or in full, without the permission of the test laboratory.

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TEST REGULATIONS

The tests were performed according to following regulations :

- o - EN 50081-1 / 2.1991
- o - EN 50081-2 / 7.1993

-
- o - EN 55011 / 3.1991

- o - Group 1
- o - class A
- o - Group 2
- o - class B

- o - EN 55014 / 4.1993

- o - Household appliances and similar
- o - tools
- o - Semiconductor devices

- o - EN 55014 / A2:1990
- o - EN 55104 / 5.1995

Category:

- o - EN 55015 / A1:1990
- o - EN 55015 / 12.1993

- o - EN 55022 / 5.1995

- o - class A
- o - class B

- o - prEN 55103-1 / 3.1995
- o - prEN 50121-3-2 / 3.1995
- o - EN 60601-1-2 / 4.1994

- o - VCCI

- o - class 1
- o - class 2

- - Part 15 Subpart C (15.209)
- o - Part 15 Subpart C (15.231)

ADDRESS OF THE TEST LABORATORY

■ - MIKES BABT PRODUCT SERVICE GmbH
Ohmstrasse 2-4
D - 94342 Strasskirchen

o - _____

ENVIRONMENTAL CONDITIONS

Temperature: 15-35 ° C

Humidity 45-60 %

Atmospheric pressure 860-1060 mbar

POWER SUPPLY SYSTEM UTILIZED

Power supply system	<input type="checkbox"/> 230V/50 Hz / 1 ϕ	<input checked="" type="checkbox"/> 12V DC converted to 5VDC
	<input type="checkbox"/> 400V/50 Hz 3PE	<input type="checkbox"/> 400V/50 Hz 3NPE

STATEMENT OF MEASUREMENT UNCERTAINTY

SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EuT)

Immobilizer of a Keyless Entry System for automobiles.

Number of received/tested samples: 2 / 1

Serial Number:	Prototype
Art. No.:	09395336
Sample No.:	5
Project:	SA 00CM

DEFINITIONS FOR SYMBOLS USED IN THIS TEST REPORT

■ The black square indicates that the listed condition, standard or equipment is applicable for this report.

o Blank box indicates that the listed condition, standard or equipment was not applicable for this report.

MEASUREMENT PROTOCOL FOR FCC, VCCI AND AUSTEL

Test Methodology

Conducted and radiated emission testing is performed according to the procedures in International Special Committee on Radio Interference (CISPR) Publication 22 (1993), European Standard EN 55022 and Australian Standard AS 3548 (which are based on CISPR 22).

The Japanese standard, "Voluntary Control Council for Interference (VCCI) by Data Processing Equipment and Electronic Office Machines, Technical Requirements" is technically equivalent to CISPR 22 (1993). For official compliance, a conformance report must be sent to and accepted by the VCCI.

In compliance with FCC Docket 92-152, "Harmonization of Rules for Digital Devices Incorporate International Standards", testing for FCC compliance may be done following the ANSI C63.4-1992 procedures and using the FCC limits or the CISPR 22 Limits.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. These test systems have a measurement uncertainty of ± 4.5 dB. The equipment comprising the test systems are calibrated on an annual basis.

Justification

The Equipment Under Test (EuT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

General Standard Information

The test methods used comply with CISPR Publication 22 (1993), EN 55022 (1987) and AS 3548 (1992) - "Limits and Methods of Measurement of Radio Interference Characteristics of Information Technology Equipment" and with ANSI C63.4-1992 - "Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz."

For detailed description of each measurement please refer to section test results.

DISCOVERY OF WORST CASE MEASUREMENT CONDITION:

The immobilizer, type WFS 125 SA, is designed for the operation on the fixed transmitter frequency range of approx. 125 kHz.

To find out the worst case conditions for the complete measurement the following tests have been performed:

- Measurement of the radiated fieldstrength of the operating frequency measured in permanent operation mode in the specified channel. This measurement have been performed in order to find out the maximum transmitted fieldstrength of the immobilizer.
- Measurement of the radiated spurious emissions measured in permanent operation mode in the specified channel. This measurement have been performed in order to find out the maximum spurious emissions of the immobilizer.

Based on this test results, the measurements have been performed completely on the specified channel. This test results are documented in the following sections of the testreport.

TEST RESULT**CONDUCTED EMISSIONS - 10/150 kHz - 30 MHz**

■ - Test not applicable

Test location :

- ☐ - Shielded room no. 1
- ☐ - Shielded room no. 2
- ☐ - Shielded room no. 3
- ☐ - Shielded room no. 4
- ☐ - Shielded room no. 5
- ☐ - Shielded room no. 6
- ☐ - Shielded room no. 7
- ☐ - Anechoic chamber
- ☐ - Full compact chamber

For test instruments and test accessories used please see attachment B

Description of Measurement

The final level, expressed in dB μ V, is arrived at by taking the reading directly from the EMI receiver. This level is compared directly to the FCC Limit or to the CISPR limit, which is equivalent to the Australian AS 3548 limit.

To convert between dB μ V and μ V, the following conversions apply:

$$\text{dB}\mu\text{V} = 20(\log \mu\text{V})$$

$$\mu\text{V} = \text{Inverse log}(\text{dB}\mu\text{V}/20)$$

Conducted emissions on the 50 Hz and/or 60 Hz power interface of the EuT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω /50 μ H (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeter's above the floor and is positioned 40 centimeter's from the vertical ground plane (wall) of the screen room. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are remeasured using a tuned receiver with quasi-peak and average detection and recorded on the data sheets.

Test result:

The requirements are

o - MET

o - NOT MET

Min. limit margin

_____ dB at _____ MHz

Max. limit exceeding

_____ dB at _____ MHz

Remarks: _____

SPURIOUS EMISSION

Spurious emissions from the EuT are measured in the frequency range of 9 kHz to 30 MHz using a tuned receiver and a shielded loop antenna. The antenna was positioned 3, 10 or 30 meters horizontally from the EuT. Measurements have been made in all three orthogonal axes and the shielded loop antenna was rotated to locate the maximum of the emissions.

Spurious emissions from the EuT are measured in the frequency range of 30 MHz to 10 times the highest used frequency using a tuned receiver and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection, remeasurement of results which may be critical will be repeated in average mode. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimetres above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimetres to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimetres from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna was positioned 3, 10 or 30 meters horizontally from the EuT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarization's and the EuT are rotated 360 degrees.

SPURIOUS EMISSION (MAGNETIC FIELD) 9 kHz - 30 MHz

o - Test not applicable

- o - in a shielded room
- - at a non - reflecting open-site and
- - in a test distance of 3 meters.
- - in a test distance of 10 meters.
- - in a test distance of 30 meters.

For test instruments and test accessories used please see attachment B SER1

Description of Measurement

The final level, expressed in dB μ V/m, is arrived at by taking the reading from the EMI receiver (Level dB μ V) and adding the antenna correction factor and cable loss factor (Factor dB) to it. This result then has to be compared with the relevant FCC limit.

The resolution bandwidth during the measurement is as follows:

9 kHz – 150 kHz: ResBW: 200 Hz
 150 kHz – 30 MHz: ResBW: 10 kHz

Example:

Frequency (MHz)	Level (dB μ V)	+	Factor (dB)	=	Level (dB μ V/m)	Limit (dB μ V/m)	=	Delta (dB)
1.705	5	+	20	=	25	30	=	5

Testresult in detail:

Test distance 3m

Frequency [kHz]	L: PK [dBµV]	L: AV [dBµV]	L: QP [dBµV]	Correct. [dB]	L: PK [dBµV/m]	L: AV [dBµV/m]	L: QP [dBµV/m]	Limit [dBµV/m]
250	< 0	< 0	< 0	20	< 20	< 20	< 20	99.7
375	31.6	22.0	25.6	20	51.6	42.0	45.6	96.1
500	< 0	< 0	< 0	20	< 20	< 20	< 20	73.6
625	< 0	< 0	< 0	20	< 20	< 20	< 20	71.7
750	< 0	< 0	< 0	20	< 20	< 20	< 20	70.1
875	< 0	< 0	< 0	20	< 20	< 20	< 20	68.8
1125	< 0	< 0	< 0	20	< 20	< 20	< 20	66.6

Test distance 10m

Frequency [kHz]	L: PK [dBµV]	L: AV [dBµV]	L: QP [dBµV]	Correct. [dB]	L: PK [dBµV/m]	L: AV [dBµV/m]	L: QP [dBµV/m]
250	< 0	< 0	< 0	20	< 20	< 20	< 20
375	< 0	< 0	< 0	20	< 20	< 20	< 20
500	< 0	< 0	< 0	20	< 20	< 20	< 20
625	< 0	< 0	< 0	20	< 20	< 20	< 20
750	< 0	< 0	< 0	20	< 20	< 20	< 20
875	< 0	< 0	< 0	20	< 20	< 20	< 20
1125	< 0	< 0	< 0	20	< 20	< 20	< 20

Test distance 30m

Frequency [kHz]	L: PK [dBµV]	L: AV [dBµV]	L: QP [dBµV]	Correct. [dB]	L: PK [dBµV/m]	L: AV [dBµV/m]	L: QP [dBµV/m]	Limit [dBµV/m]
250	< 0	< 0	< 0	20	< 20	< 20	< 20	59.7
375	< 0	< 0	< 0	20	< 20	< 20	< 20	56.1
500	< 0	< 0	< 0	20	< 20	< 20	< 20	33.6
625	< 0	< 0	< 0	20	< 20	< 20	< 20	31.7
750	< 0	< 0	< 0	20	< 20	< 20	< 20	30.1
875	< 0	< 0	< 0	20	< 20	< 20	< 20	28.8
1125	< 0	< 0	< 0	20	< 20	< 20	< 20	26.6

The requirements are

■ - MET

○ - NOT MET

Min. limit margin

> 5 dB

0.009-30 MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: The limits are met.

The measurement was performed up to the 10th harmonic.

SPURIOUS EMISSIONS (electric field) 30 MHz - 1000 MHz

<input checked="" type="checkbox"/> - Test not applicable

Test location :

- ☐ - Open-site 1
- ☐ - Open-site 2
- ☐ - 3 meters
- ☐ - 10 meters
- ☐ - 30 meters

For test instruments and test accessories used please see attachment B

Description of Measurement

The final level, expressed in dBµV/m, is arrived by taking the reading from the EMI receiver (Level dBµV) and adding the correction factors and cable loss factor (Factor dB) to it. This is done automatically in the EMI receiver, where the correction factors are stored. This result then has the FCC or CISPR limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets at page 24 - 25. The CISPR 22 limit is equivalent to the Australian AS 3548 limit.

Example:

Frequency (MHz)	Level (dBµV)	+	Factor (dB)	=	Level (dBµV/m)	Limit (dBµV/m)	=	Delta (dB)
719	75	+	32.6	=	107.6	110	=	-2.4

Testresult in detail:

Frequency [MHz]	L: PK [dBµV]	L: AV [dBµV]	L: QP [dBµV]	Correct. [dB]	L: PK [dBµV/m]	L: AV [dBµV/m]	L: QP [dBµV/m]	Limit [dBµV/m]

Test result:

The requirements are

o - MET

o - NOT MET

Min. limit margin

_____ dB

_____ MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: The test is not applicable.

Transmission frequency 125 kHz.

SPURIOUS EMISSION 1 GHz - 18 GHz

<input checked="" type="checkbox"/> - Test not applicable

Testlocation :

- ☐ - Open-site 1
- ☐ - Open-site 2
- ☐ - Anechoic chamber
- ☐ - Full compact chamber

- ☐ - 1 meters
- ☐ - 3 meters
- ☐ - 10 meters

For test instruments and test accessories used please see attachment B SER3

Description of Measurement

The final level, expressed in dB μ V/m, is arrived by taking the reading from the Spectrumalyzer in dB μ V and adding the correction factors of the test setup incl. cables.

Example of the correction value at 1.8 GHz

Level reading at 1.8 GHz	Correction EMCO 3115	correction Amplifier AWT 4534 + cable	Correction factor (summarized)	corrected level
56 dB μ V	+27.3 dB	-41.2 dB	-15.8 dB	42.1 dB μ V/m

Testresult in detail:

Frequency [MHz]	L: PK [dB μ V]	L: AV [dB μ V]	L: QP [dB μ V]	Correct. [dB]	L: PK [dB μ V/m]	L: AV [dB μ V/m]	L: QP [dB μ V/m]	Limit [dB μ V/m]

Testresult

The requirements are

☐ - MET

☐ - NOT MET

Min. limit margin

_____ dB

_____ MHz

Min. limit margin

_____ dB

_____ MHz

Remarks: _____
The test is not applicable.

_____ Transmission frequency 125 kHz.

FIELD STRENGTH OF THE FUNDAMENTAL WAVE

o - Test not applicable

- - Open-site 1
- o - Open-site 2
- - 3 meters
- - 10 meters
- - 30 meters

For test instruments and test accessories used please see attachment B CPR1

Description of Measurement

The final level, expressed in dBµV/m, is arrived by taking the reading from the EMI receiver (Level dBµV) and adding the correction factors and cable loss factor (Factor dB) to it. This is done automatically in the EMI receiver, where the correction factors are stored. This result then has the FCC or CISPR limit subtracted from it to provide the Delta which gives the tabular data as shown in the data sheets at page 24 - 25. The CISPR 22 limit is equivalent to the Australian AS 3548 limit.

Example:

Frequency (MHz)	Level (dBµV)	+	Factor (dB)	=	Level (dBµV/m)	-	Limit (dBµV/m)	=	Delta (dB)
315	45	+	22.5	=	67.5	-	74.3	=	-6.8

Testresult in detail:

Test distance 3m

Frequency [kHz]	L: PK [dBμV]	L: AV [dBμV]	L: QP [dBμV]	Correct. [dB]	L: PK [dBμV/m]	L: AV [dBμV/m]	L: QP [dBμV/m]	Limit [dBμV/m]
125	58.8	56.8	57.5	20	78.8	76.8	77.5	105.7

Test distance 10m

Frequency [kHz]	L: PK [dBμV]	L: AV [dBμV]	L: QP [dBμV]	Correct. [dB]	L: PK [dBμV/m]	L: AV [dBμV/m]	L: QP [dBμV/m]
125	28.0	24.9	25.5	20	48.0	44.9	45.5

Test distance 30m

Frequency [kHz]	L: PK [dBμV]	L: AV [dBμV]	L: QP [dBμV]	Correct. [dB]	L: PK [dBμV/m]	L: AV [dBμV/m]	L: QP [dBμV/m]	Limit [dBμV/m]
125	< 0	< 0	< 0	20	< 20	< 20	< 20	65.7

Testresult

The requirements are

■ - MET

○ - NOT MET

Min. limit margin

> 5 dB125 kHz

Min. limit margin

 dB kHzRemarks: The limits are met.

MIKES BABT PRODUCT SERVICE GmbH Ohmstrasse 2-4 94342 Strasskirchen Tel.:+9424-9407-0 Fax:+9424-9407-60 Rev. No. 9.0

EQUIPMENT UNDER TEST

Operation - mode of the EuT.:

The equipment under test was operated during the measurement under following conditions:

- ☐ - Standby
- ☐ - Test program (H - Pattern)
- ☐ - Test program (colour bar)
- ☒ - Test program (customer specific)

- Continous transmission

Configuration of the equipment under test: see attachment D

Following periphery devices and interface cables were connected during the measurement:

- | | |
|-------------------------------|--------------|
| <input type="radio"/> - _____ | Type : _____ |
| <input type="radio"/> - _____ | Type : _____ |
| <input type="radio"/> - _____ | Type : _____ |
| <input type="radio"/> - _____ | Type : _____ |
| <input type="radio"/> - _____ | Type : _____ |
| <input type="radio"/> - _____ | Type : _____ |

☒ - unshielded power cable

☒ - unshielded cables

☐ - shielded cables

MBPS.No.:

☒ - customer specific cables

- ☐ - _____
- ☐ - _____

S U M M A R Y

GENERAL REMARKS:

The product WFS 125SA has been tested on the following frequency:
TX-Mode: 125 kHz

FINAL JUDGEMENT:

The requirements according to the technical regulations and tested operation modes are

■ - met.

o - **not** met.

The Equipment Under Test

■ - **Fulfils** the general approval requirements according to page 3.

o - **Does not** fulfil the general approval requirements according to page 3.

Date of receipt of test sample : accdg. to storage record of MBPS

Testing Start Date : April 29, 2002

Testing End Date : May 03, 2002

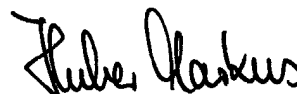
- MIKES BABT PRODUCT SERVICE GmbH -

Test engineer :

i. V.



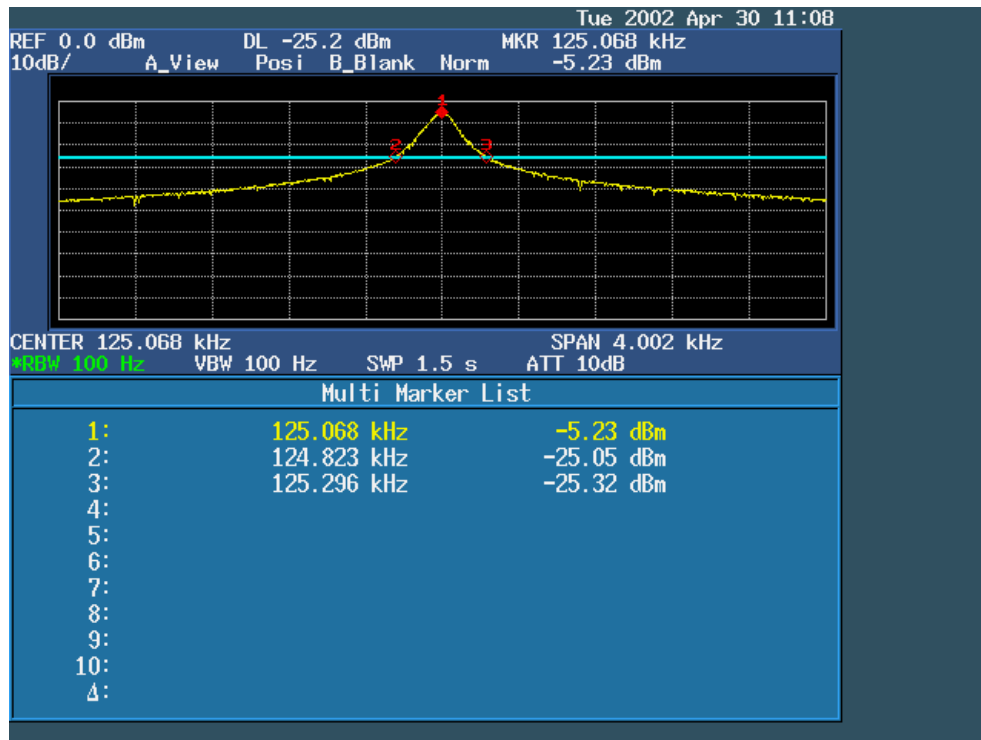
Günter Mikes
Dipl.Ing.(FH)



Markus Huber

FCC ID: LTQWFS125SA

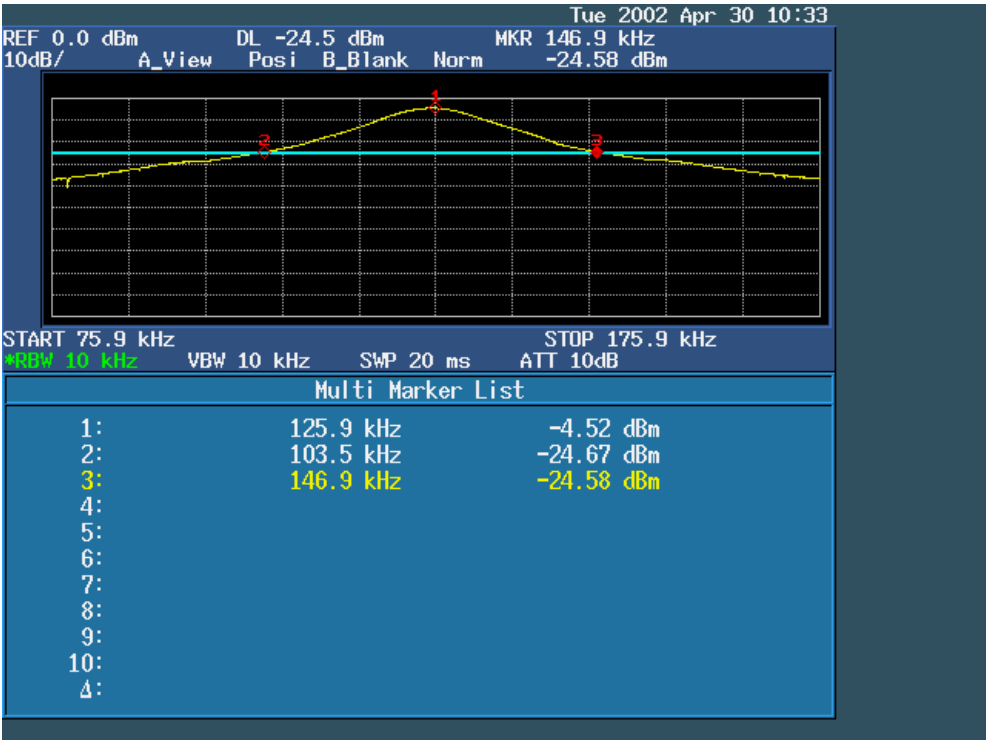
Bandwith plots 100Hz :



Bandwith plots 1kHz:



Bandwith plots 10kHz:



Test Report No: T 22056-1-01 HU
Beginning of Testing: 29-April-2002

Attachment : B

List of Test Equipment

All test instruments used, in addition to the test accessories, are calibrated and verified regularly.

Test ID	Model Type	Kind of Equipment	Manufacturer	Equipment No.
CPR1	RG 223, N-BNC, 10m	Antenna Cable	Huber+Suhner	04-07/60-01-018
	FMZB 1516	Antenna	Schwarzbeck Mess-Elektronik	04-07/62-90-018
	ESHS 30	Test Receiver	Rohde & Schwarz München	04-07/63-92-045
	ESH 3 - EZM	Spectrum Monitor	Rohde & Schwarz München	04-07/74-90-017
	DMM-830	TRMS Multimeter	Tektronix GmbH	04-10/34-97-003
MB	HZ-10	Magnetic Field Antenna	Rohde & Schwarz München	04-07/62-95-320
	R 3162	Spectrum Analyser	Advantest	04-07/74-00-001
	DMM-830	TRMS Multimeter	Tektronix GmbH	04-10/34-97-003
SER1	RG 223, N-BNC, 10m	Antenna Cable	Huber+Suhner	04-07/60-01-018
	FMZB 1516	Antenna	Schwarzbeck Mess-Elektronik	04-07/62-90-018
	ESHS 30	Test Receiver	Rohde & Schwarz München	04-07/63-92-045
	ESH 3 - EZM	Spectrum Monitor	Rohde & Schwarz München	04-07/74-90-017
	DMM-830	TRMS Multimeter	Tektronix GmbH	04-10/34-97-003

CONSTRUCTIONAL DATAFORM FOR TESTING OF RADIO EQUIPMENT

Licence holder:	Delphi Automotive Systems Deutschland GmbH		
Address:	Wiehlpuhl 4, D-51766 Engelskirchen		
Manufacturer:	see licence holder		
Address:	see licence holder		
Type:	Immobilizer		
Model:	WFS125SA		
Serial-No.:		Protection class:	

Additional informations to the above named model:

Antenna: transmitter: receiver:	Type: Transceiver coil: 620µH Length/size: Ø 33mm Type: - Length/size: -									
Power supply of the transmitter: Type:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; border-bottom: 1px solid black;">vehicle battery</td> <td style="width: 20%;">nominal voltage:</td> <td style="width: 40%; border-bottom: 1px solid black;">12V regulated to 5V</td> </tr> <tr> <td style="border-bottom: 1px solid black;"></td> <td>lowest voltage:</td> <td style="border-bottom: 1px solid black;"></td> </tr> <tr> <td style="border-bottom: 1px solid black;"></td> <td>highest voltage:</td> <td style="border-bottom: 1px solid black;"></td> </tr> </table>	vehicle battery	nominal voltage:	12V regulated to 5V		lowest voltage:			highest voltage:	
vehicle battery	nominal voltage:	12V regulated to 5V								
	lowest voltage:									
	highest voltage:									
Power supply of the receiver: Type:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; border-bottom: 1px solid black;">vehicle battery</td> <td style="width: 60%;">nominal voltage:</td> </tr> </table>	vehicle battery	nominal voltage:							
vehicle battery	nominal voltage:									

Ancillary equipment:

Description: _____	Type: _____	Serial-no.: _____
Description: _____	Type: _____	Serial-no.: _____
Description: _____	Type: _____	Serial-no.: _____

Extreme temperature range in which the approval test should be performed:

- ☒ Category I: General (-20°C to +55°C)
☐ Category II: Portable (-10°C to +55°C)
☐ Category III: Equipment for normal indoor use (0°C to +55°C)

Connectable cables:

Name of the cable	Digital	Length/m	shielded
UB	O yes <input checked="" type="checkbox"/> no		O yes <input checked="" type="checkbox"/> no
GND	O yes <input checked="" type="checkbox"/> no		O yes <input checked="" type="checkbox"/> no
K-Line	<input checked="" type="checkbox"/> yes O no		O yes <input checked="" type="checkbox"/> no
	O yes O no		O yes O no
	O yes O no		O yes O no

O If applicable, if necessary complete overleaf

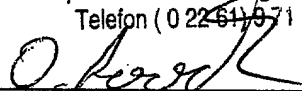
Page D1

Type designation: WFS125SA			
Name and type designation of individual units comprising the radio equipment:			
Type of equipment:			
<input type="checkbox"/> Radiotelephone equipment	<input type="checkbox"/> Remote-control equipment	<input type="checkbox"/> Radiomaritime equipment	<input checked="" type="checkbox"/> LPD
<input type="checkbox"/> One-way radiotelephone equipment	<input type="checkbox"/> Inductive loop system	<input type="checkbox"/> Inland waterways equipment	<input type="checkbox"/> RLAN
<input type="checkbox"/> Personal paging system	<input type="checkbox"/> Radio-relay system	<input type="checkbox"/> Radionavigation equipm.	<input checked="" type="checkbox"/> Immobilizer
<input type="checkbox"/> Satellite earth station	<input type="checkbox"/> CB radiotelephone equipment	<input type="checkbox"/> Antenna	<input type="checkbox"/>
<input type="checkbox"/> Data transmission equipment	<input type="checkbox"/> Movement detector	<input type="checkbox"/> Aeronautical equipment	<input type="checkbox"/>
Technical characteristics:			
	Transmitter-receiver	Transmitter	Receiver
Frequency range	125 kHz		
Maximum no. of channels			
Channel spacing			
Class of emission (type of modulation)	600H K1D		
Maximum RF output power			
Maximum effective radiated power (ERP)			
Output power variable			
Channel switching frequency range			
Method of frequency generation	<input type="checkbox"/> Synthesizer	<input type="checkbox"/> Crystal	<input checked="" type="checkbox"/> Resonator
Frequency generation TX			
Frequency generation RX			
IF	1 st IF	2nd IF	3rd IF
Integral selective calling			
Audio-frequency interface level at external data socket			
Modes of operation	<input checked="" type="checkbox"/> Duplex mode	<input type="checkbox"/> Semi-duplex mode	<input type="checkbox"/> Simplex mode
Power source	<input type="checkbox"/> Mains	<input checked="" type="checkbox"/> Vehicle-regulated	<input type="checkbox"/> Integral
Antenna socket	<input type="checkbox"/> BNC <input type="checkbox"/> M <input checked="" type="checkbox"/> None	<input type="checkbox"/> TNC <input type="checkbox"/> UHF <input type="checkbox"/>	<input type="checkbox"/> N <input type="checkbox"/> Adapter <input type="checkbox"/> Coil Connector
Test specifications: EN 300330-2			

Declarations:

- We declare that the above information are correct and the named model was supplied with the maximum configuration to the accredited test laboratory.

Wiehl-Bornig ,date 02.05..2002
place of issue

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