

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 1 of 10

Test Report No.: A-0033-1151-03 SB

Based on the test of an electric/electronic sub-assemblies
adapting to technical progress council directive on
the approximation of the laws of the member states
to the suppression of radio interference fitted to motor vehicles
(electro magnetical compatibility)
72/245/EWG from 20.06.1972
including all changes until
95/54/EG from 31.10.1995

0 General:

0.1 Tradename of manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI

0.2 Type: SDS312

Variant: SDS313; SDS309

0.3 Means of identification of type: Not applicable

0.3.1 Location of the marking: Not applicable

0.4 Name and address of manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Gülsuyu Cicek Sokak No. 5 Maltepe
34848 Istanbul
TURKEY

0.5 Document file number: A-0033-1151

Date of issue: 25.06.2003
Date of changes: 07.09.2006

Test result: Positive

Technical Service
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektroniği İmalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 2 of 10

1 Description of the test sample:

1.1 Representative ESA: yes

Development status: Prototype

1.2 Description of the ESA: See attachment: Description of the system

Rated voltage: 24 V_{DC}

Test sample configuration: The unit was tested in the following modes:
- The SDS309 was displaying the temperature and time

Recognisable EMC measure on the sample: N.A.

Connected lines to the sample:

Pos.	Line	Length [m]	Type	Line		Line termination
				shielded	unshielded	
1	power line	2	2-wires	<input type="checkbox"/>	<input checked="" type="checkbox"/>	artificial network
2	Sensor-line	5	2-wires	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Temperature sensor

Periphery: N.A.

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

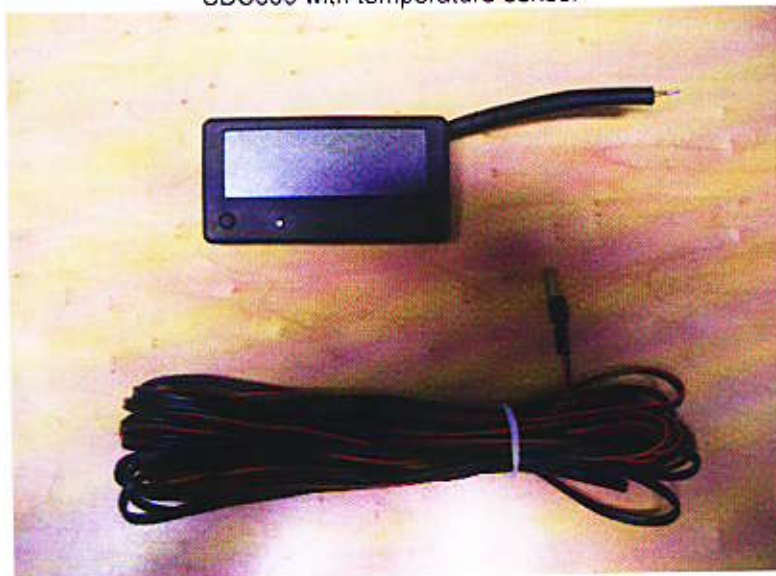
Page: 3 of 10

Photo documentation of the ESA:

SDS309



SDS309 with temperature-sensor



Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektroniği İmalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 4 of 10

2 Test protocol:

2.1 Radiated broadband electromagnetic emission:

2.1.1 Test set-up:



Used test equipment:

see Attachment B (ARE)

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

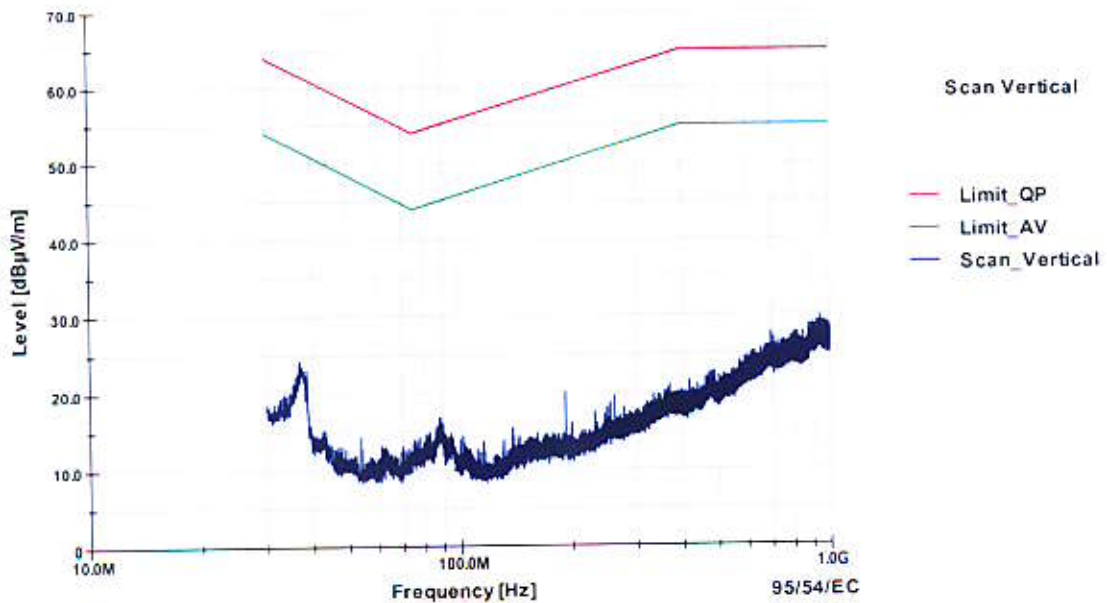
Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

2.1.2 Test result:

Type:	SDS309	Result:	
Manufacturer:	Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI	BB:	■ ok
Serial number:	Prototype		
Mode:	The SDS309 was displaying the temperature and time		
Antenna position:	front		
Antenna polarisation:	vertical	NB:	■ ok
Remarks:	A margin of 2 dB has to be kept to the limits. Frequencies, which are not listed, have a margin more than 5 dB.		

Frequency [MHz]	Test result [dBµV/m]		Limit margin [dBµV/m]	
	Broadband (BB) Quasi-Peak	Narrowband (NB) Average	(quasi-peak)	(average)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-



Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

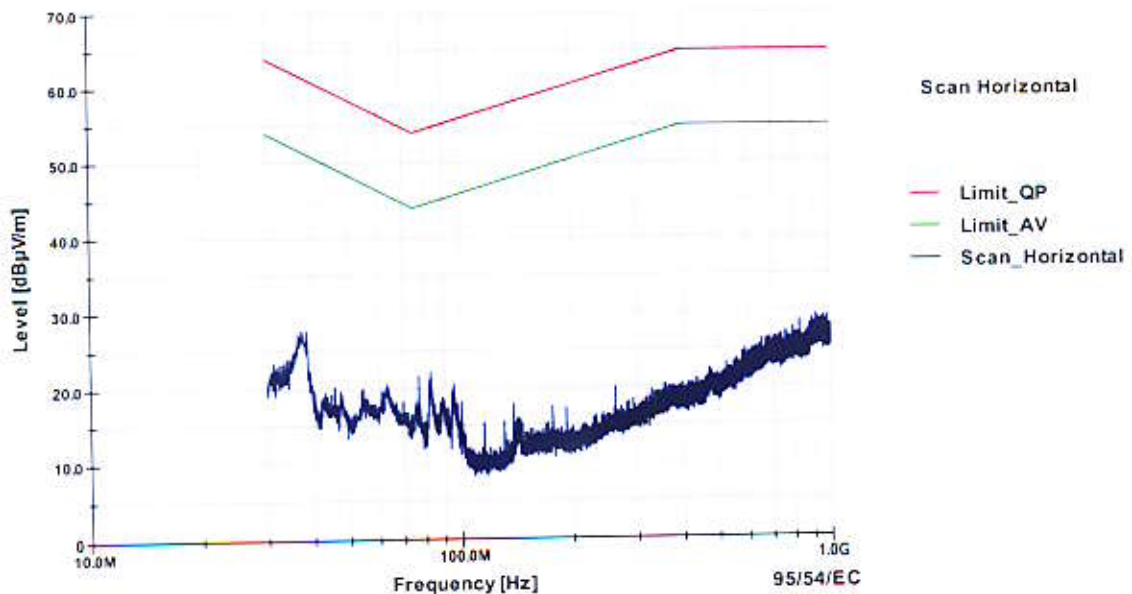
Test report No.:
A-0033-1151-03 SB

Page: 6 of 10

Type: SDS309
 Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
 Serial number: Prototype
 Mode: The SDS309 was displaying the temperature and time
 Antenna position: front
 Antenna polarisation: horizontal
 Remarks: A margin of 2 dB has to be kept to the limits.
 Frequencies, which are not listed, have a margin more than 5 dB.

Result:
 BB: ■ ok
 NB: ■ ok

Frequency [MHz]	Test result [dB μ V/m]		Limit margin [dB μ V/m]	
	Broadband (BB) Quasi-Peak	Narrowband (NB) Average	(quasi-peak)	(average)
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-



Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik İmalat ve Ticaret LTD. STI
Type: SDS312

Test report No:
A-0033-1151-03 SB

Page: 7 of 10

2.2 Radiated narrowband electromagnetic emission:

2.2.1 Test set-up:

Refer to item 2.1.1

2.2.2 Test result:

Refer to item 2.1.2

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 8 of 10

2.3 Immunity test against electromagnetic radiation:

2.3.1 Test method:

2.3.1.1 Test set-up:

Not applicable

2.3.1.2 Test result:

displaying the temperature and time

The ESA has no function involved in the direct control of the vehicle. (see §8.3 of 95/54/EC) Therefore it is deemed to comply with § 6.7 of Annex 1 and with Annex IX of 95/54/EC.

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 9 of 10

2.4 Date of the test: 04.08.2006
2.5 Location of the test facility: Strasskirchen
2.6 Remarks: none

3 Attachment:

3.1 Description of the representative ESA according to Annex 2B, Appendix I:

See Information document No. A-0033-1151

3.2 List of all additional relevant test reports according to Annex 2B, Appendix II:

None

3.3 Additional attachment:

None

4 Summary:

The above named documentation file (see item 0.5) and the described type are in compliance with the test requirements.

The test laboratory is accredited by the accreditation department of the Kraftfahrt-Bundesamt, Federal republic of Germany, with the KBA-accreditation number **KBA-P 00057-01**.

It is not allowed to copy this report even partly without the allowance of the test laboratory. The test report merely corresponds to the test sample.

The test report covers page 1 to 10

Strasskirchen, 07.09.2006
(place) (date)

emitel AG:

 *Martin Stern*

Digital unterschrieben von Dieter
Fröhlich
DN: cn=Dieter Fröhlich, o=CE,
ou=emitel AG, email=dieter.
froehlich@emitel.de
Grund: Ich bestätige die Richtigkeit
und Integrität dieses Dokuments.
Datum: 2006.09.07 10:44:10 +02:00

i.s.

Martin Stern
Dipl. Ing.(FH)

tested by:



Sigi Brunner
Ich bin der Verfasser
dieses Dokuments
2006.09.07 10:50:53
+02'00'

Siegfried Brunner

Technical Service:
emitel AG
KBA-Nr.: KBA-P 00057-01

Manufacturer: Sanel Sanayi Elektronik Imalat ve Ticaret LTD. STI
Type: SDS312

Test report No.:
A-0033-1151-03 SB

Page: 10 of 10

List of modification

Appendix 1

More details for application:

Date: 25.06.2003

Correction of:

N.A.

Modification of:

N.A.

Addition of:

Type SDS309

Deletion of:

N.A.

USED TEST EQUIPMENT AND ACCESSORIES

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.
ARE	ESPI 3	EMI Test Receiver	Rohde & Schwarz München	01-02/03-03-004
	ESH 3 - Z 6	Artificial Network	Rohde & Schwarz München	01-02/20-01-002
	ESH 3 - Z 6	Artificial Network	Rohde & Schwarz München	01-02/20-05-007
	3142B	Antenna	ETS EMC Systems LP	01-02/24-01-010
	N-3000-N	RF Cable	emitel AG	01-02/50-05-122
	N-6000-N	RF Cable	emitel AG	01-02/50-05-125

Date of issue: 25.06.2003
Date of changes: 07.09.2006

ANNEX II B

Information document No. **A-0033-1151** relating to EEC type-approval of an electric/electronic sub-assembly with respect to electromagnetic compatibility (72/245/EEC), as last amended by the Directive 95/54/EC

0. General:

- 0.1. Make (trade name of manufacturer):** Sanel Sanayi Elektroniği İmalat ve Ticaret LTD. STI
- 0.2. Type:** SDS312
- Variant:** SDS313, SDS309
- General commercial description:** Digital clock (with thermometer)
- 0.5. Name and address of manufacturer:** Sanel Sanayi Elektroniği İmalat ve Ticaret LTD. STI
Gülsuyu Çiçek Sokak No. 5 Maltepe
34848 İstanbul
TURKEY

0.7. In the case of components and separate technical units, location and method of affixing of the EEC approval mark:

Stick-on-label on the housing of the product.

- 0.8. Address of assembly plant(s):** Sanel Sanayi Elektroniği İmalat ve Ticaret LTD. STI
Gülsuyu Çiçek Sokak No. 5 Maltepe
34848 İstanbul
TURKEY

1. This ESA shall be approved as a component
2. Any restriction of use and condition for fitting:

Rated voltage: 24V
The operation and installation conditions are described in the user manual.

Appendix 1

Description of the ESA chosen to represent the type:

SDS312; SDS313; SDS309

Appendix 2

Relevant test report(s) supplied by the manufacturer or approved/recognized laboratories for the purpose of the drawing up the type-approval certificate:

A-0033-1151-00 SB

A-0033-1151-02 SB

A-0033-1151-03 SB