



TERMINAL EQUIPMENT CONFORMANCE TEST REPORT

Report No.:
60.860.6.106.01

ACCORDING TO: ETSI ES 203 021-1,2,3. Access and Terminals (AT);
Harmonized basic attachments for Terminals for connection to
analogue interfaces of the Telephone Networks; TBR 021, EN
301 437, TBR 015, TBR 017 (PART 1 General Aspect, PART 2
Basic transmission and protection of the network from harm,
PART 3 Basic Interworking with the Public Telephone
Networks).

REFERENCE NORMATIVE: ETSI ES 203 021-1,2,3

PRODUCT: DECT Phone (FP+PP)

MODEL: H315-S1 / HS315-S1

REQUESTED BY: Aztech Systems Ltd.

TEST RESULTS: COMPLIED.

This test report includes 5 annexes and therefore the total number of pages is 119.

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Test Laboratory and shall not be quoted out of context.**

Date: Jun 14, 06	Test operator Date: <i>[Signature]</i> 20 th June 2006	Supervisor Date: <i>[Signature]</i> 30 Jun 06	
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1. IDENTIFICATION SUMMARY

1.1. TESTING LABORATORY

Name: TÜV SÜD Hong Kong Ltd.
Address: Unit 601, InnoCentre, 72 Tat Chee Avenue, Kowloon Tong, Hong Kong.
Telephone: (852) 2776 1323
Fax: (852) 2776 1372

1.2. IMPLEMENTATION UNDER TEST

Product: DECT Phone (FP +PP)
Model: H315-S1 / HS315-S1
Serial Number(s): --
Date of receipt 4-May-2006
Software Version: N/A
Hardware Version: N/A
Additional Information: -
Standard: ETSI ES 203 021-1,2,3
ICS: See Annex A to this TCTR
Previous TCTRs: --

1.3. CLIENT

Name: Aztech Systems Ltd.
Contact person: Mr. Terence Kwong
Address: 31 Ubi Road1, Aztech Building, Singapore 408694
Telephone: +852 2655-8991
Fax: +852 2753-0578

1.4. MANUFACTURER

Name: --
Contact person: --
Address: --
Telephone: --
Fax: --

1.5. TESTING ENVIRONMENT

IXIT: See Annex B to this TCTR
Conformance Testing Standard: ETSI ES 203 021-1,2,3
Abstract Test Method: --
Means of testing Identification
 Hardware: ESP-Telekom-Elektronik-GmbH, Analogue Telecom Testsystem,
 Version: Rohde & Schwarz FS 300 Spectrum Analyzer
 Software: --
 Version: --
Date (or period) of Testing: 4-May-2006 to 7-Jun-2006
Test conditions
 Ambient Temperature: + 15° C to + 35° C **YES**
 Relative Humidity: 5% to 85% **YES**
 Air Pressure: 86 kPa to 106 kPa **YES**
 Local Power Characteristics: ± 5 % of the rated voltage, ± 4% of the rated frequency
Conformance Log reference: See Annex C to this TCTR
Retention Period of Log Reference(s): 10 years

1.6. LIMITS AND RESERVATIONS

The test result presented in this test report apply only to the items of terminal equipment tested, identified as the particular IUT declared in Section 1.2 of this TCTR, for the functionality described in the relevant Implementation Conformance Statement (ICS) as presented for test on date(s) declared in Section 1.2, and configured as declared in the relevant Implementation Extra Information for Testing (IXIT). No part of this report may be reproduced or quoted out of the context and shall not be reproduced except in full without the written approval of the Test Laboratory.

1.7. COMMENTS

2. IUT CONFORMANCE STATUS

This TE has been shown by conformance assessment conform to the specified standard.

3. STATIC CONFORMANCE SUMMARY

The ICS for the IUT is consistent with the static conformance requirements in the specified standard.

4. DYNAMIC CONFORMANCE SUMMARY

The test campaign did not reveal errors in the IUT.

A summary of the test results is shown in the following table.

Passed:	YES
Failed:	NO
Inconclusive:	NO

5. STATIC CONFORMANCE REVIEW REPORT

There were no errors in the static conformance test.

6. TEST CAMPAIGN REPORT

This section records for each test purpose/test case referenced by the test specification for this requirement, the outcome of test campaign. This information is recorded in tables. The key to the information stated in the tables is as follows:

This section records for each test purpose/test case referenced by the test specification for this requirement, the outcome of test campaign. This information is recorded in tables. The key to the information stated in the tables is as follows:

ATS Ref. For Method:		The corresponding Abstract Test Case identifiers referred to ETSI ES 203 021-1,2,3 Annex A.
Selected:		Indicates whether a test case has been selected for execution against the IUT identified in section 1.2 according to the analysis of the information in the ICS and IXIT.
	✓	Test selected according to the ICS and IXIT and Static Attachment Requirement as defined in ETSI ES 203 021-1,2,3
	✗	Test not selected according to the ICS and IXIT and Static Attachment Requirement as defined in ETSI ES 203 021-1,2,3
		Indicates whether or not the test was run to completion. Permitted entries in this column are as follows:
	Y	Test was run to completion;
	N	Test not run;
	AE	Test not run due to Abstract Test Case error or withdrawn from ATS;
	EE	Test not run due to Executable Test Case error or withdrawn from ETS;
	AT	Abnormal Test Case termination occurred;
	NI	Test not implemented in the Means of Testing used for the conformance assessment (see 1.2).
Verdict:	PASS FAIL INC	Records the verdict (PASS, FAIL, INConclusive) assigned to each test case run to completion, as defined in ISO 9646 Part 1.
Observations:		Provides a reference to additional information relevant to the test presented in section 7

Table 6.1 ETSI ES 203 021-1 GENERAL REQUIREMENTS

Nr.	Test Description	ETSI ES 203 021-1	Annex A of ETSI ES 203 021-1	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Physical characteristics of the connection to the TN. Declaration about the conditions met by external devices so as to enable the user to ensure that their use does not cause the TE to fail to meet the essential requirements	4.2		×			

Table 6.2 ETSI ES 203 021-1 PHYSICAL CHARACTERISTICS OF THE CONNECTION TO THE PSTN

Nr.	Test Description	ETSI ES 203 021-1	Annex A of ETSI ES 203 021-1	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	PSTN. The TE provides a plug connector or as a socket that is capable of connecting with a miniature 6-position socket as specified in TIA/EIA/IS-968 (1) clause (b)	4.2.1		✓	Y	PASS	
2	Leased lines with analogue 2-wire interfaces (A2O and A2S)	4.2.2		×			
3	Leased line with analogue 4-wire interfaces (A4O and A4S)	4.2.3		×			
4	Overvoltage	4.3		×			
5	Safety	4.4		×			
6	EMC	4.5		×			

Table 6.3 ETSI ES 203 021-2 Basic transmission and protection of the network from harm

Nr.	Test Description	ETSI ES 203 021-2	Annex A of ETSI ES 203 021-2	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Impedance unbalance about earth of the TE in quiescent state. Positive polarity	4.1.1	A.4.1.1	✓	Y	PASS	
2	Impedance unbalance about earth of the TE in quiescent state. Negative polarity	4.1.1	A.4.1.1	✓	Y	PASS	
3	Impedance unbalance about earth (longitudinal conversion loss) of the TE in loop state. 400 Ω	4.1.2.1	A.4.1.2.1	✓	Y	PASS	
4	Impedance unbalance about earth (longitudinal conversion loss) of the TE in loop state. 850 Ω	4.1.2.1	A.4.1.2.1	✓	Y	PASS	
5	Impedance unbalance about earth (longitudinal conversion loss) of the TE in loop state. 2050 Ω	4.1.2.1	A.4.1.2.1	✓	Y	PASS	
6	Impedance unbalance about earth (longitudinal conversion loss) of the TE in loop state. 2300 Ω	4.1.2.1	A.4.1.2.1	×			
7	Impedance unbalance about earth (longitudinal conversion loss) of the TE in loop state. 2800 Ω	4.1.2.1	A.4.1.2.1	✓	Y	PASS	
8	Output Signal Balance of the TE in loop state. 400 Ω. Positive polarity. Voice Function	4.1.2.2	A. 4.1.2.2	✓	Y	PASS	
9	Output Signal Balance of the TE in loop state. 850 Ω. Negative polarity. Voice Function	4.1.2.2	A. 4.1.2.2	✓	Y	PASS	
10	Output Signal Balance of the TE in loop state. 2050 Ω. Positive polarity. Voice Function	4.1.2.2	A. 4.1.2.2	✓	Y	PASS	
11	Output Signal Balance of the TE in loop state. 2300 Ω. Negative polarity. Voice Function	4.1.2.2	A. 4.1.2.2	×			
12	Output Signal Balance of the TE in loop state. 2800 Ω. Negative polarity. Voice Function	4.1.2.2	A. 4.1.2.2	✓	Y	PASS	
13	Mean sending level. Idc>18 mA. Voice Function	4.2.1	A.4.2.1	×			
14	Mean sending level. Positive polarity. Voice Function	4.2.1	A.4.2.1	✓	Y	PASS	

15	Mean sending level. Negative polarity. Voice Function	4.2.1	A.4.2.1	✓	Y	PASS	
16	Instantaneous voltage of the TE when sending a representative combinations of its declared output capabilities. Idc>18 mA. Voice Function	4.2.2	A.4.2.2	×			
17	Instantaneous voltage of the TE when sending a representative combinations of its declared output capabilities. Positive polarity. Voice Function	4.2.2	A.4.2.2	✓	Y	PASS	
18	Instantaneous voltage of the TE when sending a representative combinations of its declared output capabilities. Negative polarity. Voice Function	4.2.2	A.4.2.2	✓	Y	PASS	
19	Instantaneous voltage of the TE during DTMF signalling. Idc>18 mA	4.2.2	A.4.2.2	×			
20	Instantaneous voltage of the TE during DTMF signalling. Positive polarity	4.2.2	A.4.2.2	✓	Y	PASS	
21	Instantaneous voltage of the TE during DTMF signalling. Negative polarity	4.2.2	A.4.2.2	✓	Y	PASS	
22	Sending level in a 10 Hz bandwidth of the TE when sending a representative combinations of its declared output capabilities. Positive polarity. Idc>18 mA 2300 Ω	4.2.3	A.4.2.3	×			
23	Sending level in a 10 Hz bandwidth of the TE when sending a representative combinations of its declared output capabilities. Positive polarity. 2800 Ω	4.2.3	A.4.2.3	×			
24	Sending level in a 10 Hz bandwidth of the TE when sending a representative combinations of its declared output capabilities. Negative polarity. 400 Ω	4.2.3	A.4.2.3	×			
25	Sending levels between 4,3 kHz and 200 kHz during DTMF signalling. Positive polarity. Idc>18 mA 2300 Ω. Digit '3' & '5'.	4.2.4	A4.2.4	×			
26	Sending levels between 4,3 kHz and 200 kHz during DTMF signalling. Negative polarity. 400 Ω. Digit '7' & '0'.	4.2.4	A4.2.4	✓	Y	PASS	
27	Sending levels between 4,3 kHz and 200 kHz during DTMF signalling. Poistive polarity 2800 Ω. Digit '3' & '5'.	4.2.4	A4.2.4	✓	Y	PASS	

28	Sending levels between 4,3 kHz and 200 kHz when sending a representative combinations of its declared output capabilities. Negative polarity. Idc>18 mA 2300 Ω. Voice Function	4.2.4	A4.2.4	×			
29	Sending levels between 4,3 kHz and 200 kHz when sending a representative combinations of its declared output capabilities. Positive polarity. 400 Ω. Voice Function	4.2.4	A4.2.4	✓	Y	PASS	
30	Sending levels between 4,3 kHz and 200 kHz when sending a representative combinations of its declared output capabilities. Negative polarity. 2800 Ω. Voice Function	4.2.4	A4.2.4	✓	Y	PASS	
31	Sending level from 200KHz to 30 MHz. Positive polarity. 400 Ω	4.2.5	A4.2.5	✓	Y	PASS	
32	Sending level from 200KHz to 30 MHz. Negative polarity. 2800 Ω	4.2.5	A4.2.5	✓	Y	PASS	
33	Power feeding limitations	4.3	A4.3	✓	Y	PASS	
34	Automatically repeated call attempts	4.4	A4.4	×			

Table 6.4 ETSI ES 203 021-3 GENERAL REQUIREMENTS IN QUIESCENT STATE

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	DC resistance of the TE in quiescent state	4.4.1	A.4.4.1	✓	Y	PASS	
2	Impedance of the TE for ringing signals	4.4.2.1	A.4.4.2.1	✓	Y	PASS	
3	Transient Response of the TE in quiescent state	4.4.2.2	A.4.4.2.2	✓	Y	PASS	
4	DC current of the ringing current	4.4.2.3	A.4.4.2.3	✓	Y	PASS	
5	Resistance to earth of the TE in quiescent state. Terminal a and earth	4.4.3	A4.4.3	×			
6	Resistance to earth of the TE in quiescent state. Terminal b and earth	4.4.3	A4.4.3	×			
7	Impedance (Not require for TE intended to be connected as single terminal to an NTP.)	4.4.4	A4.4.4	✓	Y	PASS	

Table 6.5 ETSI ES 203 021-3 RINGING SIGNAL DETECTOR SENSITIVITY

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Ringling signal detector sensitivity	4.5	A.4.5	✓	Y	PASS	

Table 6.6 ETSI ES 203 021-3 TRANSITION FROM QUIESCENT TO LOOP STATE

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Acceptance of breaks in the loop in a call attempt. Test 1	4.6.1	A.4.6.1	✓	Y	PASS	
2	Acceptance of breaks in the loop in a call attempt. Test 2	4.6.1	A.4.6.1	✓	Y	PASS	
3	Loop current characteristics. 150 K Ω	4.6.2	A.4.6.2	✓	Y	PASS	
4	Loop current characteristics. 36 K Ω	4.6.2	A.4.6.2	✓	Y	PASS	
5	Loop current characteristics. 24 K Ω	4.6.2	A.4.6.2	✓	Y	PASS	
6	Loop current characteristics. 8 K Ω	4.6.2	A.4.6.2	✓	Y	PASS	
7	Loop current characteristics. 2300 Ω	4.6.2	A.4.6.2	×			
8	Loop current characteristics. 2800 Ω	4.6.2	A.4.6.2	✓	Y	PASS	
9	Loop current characteristics. 400 Ω	4.6.2	A.4.6.2	✓	Y	PASS	
10	Ring Trip	4.6.3	A4.6.3	✓	Y	PASS	
11	On-Hook to Off-Hook transition with ringing without DC	4.6.4	A4.6.4	✓	Y	PASS	

Table 6.7 ETSI ES 203 021-3 GENERAL LOOP STATE REQUIREMENTS

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Loop Steady-state DC characteristics. $I_{dc} > 18$ mA	4.7.1	A.4.7.1	×			
2	Loop Steady-state DC characteristics	4.7.1	A.4.7.1	✓	Y	PASS	
3	Impedance of the TE in relation to the reference impedance Z_R (Return Loss). 400 Ω . Negative polarity	4.7.2	A.4.7.2	✓	Y	PASS	
4	Impedance of the TE in relation to the reference impedance Z_R (Return Loss). 850 Ω . Positive polarity	4.7.2	A.4.7.2	✓	Y	PASS	
5	Impedance of the TE in relation to the reference impedance Z_R (Return Loss). 2050 Ω . Negative polarity	4.7.2	A.4.7.2	✓	Y	PASS	
6	Impedance of the TE in relation to the reference impedance Z_R (Return Loss). 2300 Ω . Positive polarity	4.7.2	A.4.7.2	×			
7	Impedance of the TE in relation to the reference impedance Z_R (Return Loss). 2800 Ω . Positive polarity	4.7.2	A.4.7.2	✓	Y	PASS	
8	Impedance of the TE (200Hz to 300Hz measurement) in relation to the reference impedance Z_R (Return Loss). 400 Ω . Negative polarity	4.7.2	A.4.7.2	✓	Y	PASS	
9	Impedance of the TE (200Hz to 300Hz measurement) in relation to the reference impedance Z_R (Return Loss). 850 Ω . Positive polarity	4.7.2	A.4.7.2	✓	Y	PASS	
10	Impedance of the TE (200Hz to 300Hz measurement) in relation to the reference impedance Z_R (Return Loss). 2050 Ω . Negative polarity	4.7.2	A.4.7.2	✓	Y	PASS	
11	Impedance of the TE (200Hz to 300Hz measurement) in relation to the reference impedance Z_R (Return Loss). 2300 Ω . Positive polarity	4.7.2	A.4.7.2	×			
12	Impedance of the TE (200Hz to 300Hz measurement) in relation to the reference impedance Z_R (Return Loss). 2800 Ω . Positive polarity	4.7.2	A.4.7.2	✓	Y	PASS	
13	Resistance to earth of the TE in loop state. Terminal a and earth	4.7.3	A.4.7.3	✓	Y	PASS	

14	Resistance to earth of the TE in loop state. Terminal b and earth	4.7.3	A.4.7.3	✓	Y	PASS	
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Table 6.8 ETSI ES 203 021-3 CALL ATTEMPT

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Dialling without dial tone detection	4.8.1.1	A.4.8.1.1	✓	Y	PASS	
2	Dialling with dial tone detection	4.8.1.2	A.4.8.1.2	×			
3	Frequency combinations sent by the TE during DTMF signalling	4.8.2.1	A.4.8.2.1	✓	Y	PASS	
4	Signalling Levels of the DTMF tones sent by the TE during DTMF signalling. 400 Ω. Negative polarity	4.8.2.2	A.4.8.2.2	✓	Y	PASS	
5	Signalling Levels of the DTMF tones sent by the TE during DTMF signalling. 2300 Ω. Positive polarity	4.8.2.2	A.4.8.2.2	×			
6	Signalling Levels of the DTMF tones sent by the TE during DTMF signalling. 2800 Ω. Positive polarity.	4.8.2.2	A.4.8.2.2	✓	Y	PASS	
7	Unwanted frequency components of the TE when transmitting DTMF tones. 400 Ω. Negative polarity	4.8.2.3	A.4.8.2.3	✓	Y	PASS	
8	Unwanted frequency components of the TE when transmitting DTMF tones. Idc>18 mA. 2300 Ω. Positive polarity	4.8.2.3	A.4.8.2.3	×			
9	Unwanted frequency components of the TE when transmitting DTMF tones. 2800 Ω. Positive polarity.	4.8.2.3	A.4.8.2.3	✓	Y	PASS	
10	Duration of the DTMF tone sent by the TE during DTMF signalling	4.8.2.4	A.4.8.2.4	✓	Y	PASS	
11	Duration of the DTMF pause sent by the TE during DTMF signalling	4.8.2.5	A.4.8.2.5	✓	Y	PASS	
12	Loop disconnect dialling	4.8.3	A.4.8.3	×			
13	Register recall	4.8.4	A.4.8.4	×			
14	Call attempt on a low voltage line	4.8.5	A.4.8.5	✓	Y	PASS	

Table 6.9 ETSI ES 203 021-3 TRANSITION FROM LOOP TO QUIESCENT STATE

Nr.	Test Description	ETSI ES 203 021-3	Annex A of ETSI ES 203 021-3	Sel. ?	Run ?	Verdict	Obs. refer to Sec. 7
1	Transition from loop to quiescent state	4.9	A.4.9	✓	Y	PASS	

7. OBSERVATIONS

8. TEST ACCURACY

The values for expanded measurement uncertainty are in accordance with ADLNB Guidance Notes on Measurement Uncertainty, Reference ADLNB/GN/WG2/1 tables A.1 - A.5.

ANNEX A

IMPLEMENTATION CONFORMANCE STATEMENT (ICS)

ETSI ES 203 021-1 Condition table

Reference	Condition	Status	Support	Comments
C.1	Is the intended for use on the PSTN?	If YES then M else N	YES	
C.2	Is the TE intended for 2 wire analogue leased lines (A2 and A2S) ?	If YES then O.1 else N	YES	
C.3	Is the TE intended for 4-wire analogue leased lines (A40 and A4S) ?	If YES then O.2 else N	NO	

ETSI ES 203 021-2 Condition table

Reference	Condition	Status	Support	Comments
C.1	Is the TE intended for 2 wire analogue leased lines?	If YES then M else N	YES	
C.2	Is the TE intended for 4-wire analogue leased lines?	If YES then M else N	NO	
C.3	Is the TE intended the connection to the PSTN?	If YES then M else N	YES	
C.4	Is the TE intended to have a connection to earth?	If YES then M else N	NO	
C.5	Is the TE intended to be in loop state?	If YES then M else N	YES	
C.6	Is the TE intended for call answer?	If YES then M else N	YES	
C.7	Is the TE intended for call set-up?	If YES then M else N	YES	
C.8	Is the TE intended for dialling with DTMF?	If YES then M else N	YES	
C.9	Is the TE intended for automatic dialling with dial tone detection?	If YES then M else N	NO	
C.10	Is the TE intended fo use in receiving mode?	If YES then M else N	YES	
C.11	Is the TE intended for use in transmitting mode?	If YES then M else N	YES	
C.12	Is the TE only intnended to function on lines on lines that provide more than 18mA of line current?	If YES then M else N	NO	The test resistance of 2800 Ω shall be replaced by 2300 Ω
C.13	Is the TE intended for making internally generated automatically repeated call attempts	If YES then M else N	NO	

ETSI ES 203 021-3 Condition table

Reference	Condition	Status	Support	Comments
C.1	Is the TE intended to interwork on a low voltage line?	If YES then M else N	YES	
C.2	Is the TE intended to have a connection to earth?	If YES then M else N	NO	
C.3	Is the TE intended to be in loop state?	If YES then M else N	YES	
C.4	Is the TE intended for call answer?	If YES then M else N	YES	
C.5	Is the TE intended for call set-up?	If YES then M else N	YES	
C.6	Is the TE intended for dialling with DTMF?	If YES then M else N	YES	
C.7	Is the TE intended for automatic dialling without dial tone detection?	If YES then M else N	YES	
C.8	Is the TE intended for automatic dialling with dial tone detection?	If YES then M else N	NO	
C.9	Is the TE intended for automatically controlled signalling tone duration?	If YES then M else N	YES	
C.10	Is the TE intended for automatically controlled signalling pause tone duration?	If YES then M else N	YES	
C.11	Is the TE only intended to function on lines that provide more than 18mA of line current?	If YES then M else N	NO	The test resistance of 2800 Ω shall be replaced by 2300 Ω
C.12	Is the TE intended for Pulse Dialling?	If YES then M else N	NO	
C.13	Is the TE intended for Register Recall?	If YES then M else N	NO	
C.14	Is the TE able to go off-hook during a ringing pulse?	If YES then M else N	YES	

ANNEX B

IMPLEMENTATION EXTRA INFORMATION FOR TESTING (IXIT)

No.	Item Questions	Description
IX.1	Specify the earth point(s)	
IX.2	Describe the procedure(s) to disable, if possible, the dial tone detector	
IX.3	Does the EUT implement all the DTMF digits	
IX.4	Should the EUT be reset before repeating a test with a different feeding condition	
IX.5	Describe the procedure(s) to control the duration of the DTMF signal	
IX.6	Describe the procedure(s) to disable and enable the auto answering facility	
IX.7	Describe the procedure(s) to adjust the duration of the time interval between two internally generated automatically repeated call attempts	
IX.8	Describe the procedure(s) to adjust the output level to cause the EUT to send its maximum level	
IX.9	If the origination or reception of call by the EUT is invoked, or otherwise controlled by other equipment external to the EUT, declare the conditions that need to be met by such external devices to enable the user to ensure that their use does not cause the EUT to fail to meet the essential requirements	
IX.10	Describe the modulations supported by the EUT including discrete tone frequencies	

ANNEX C

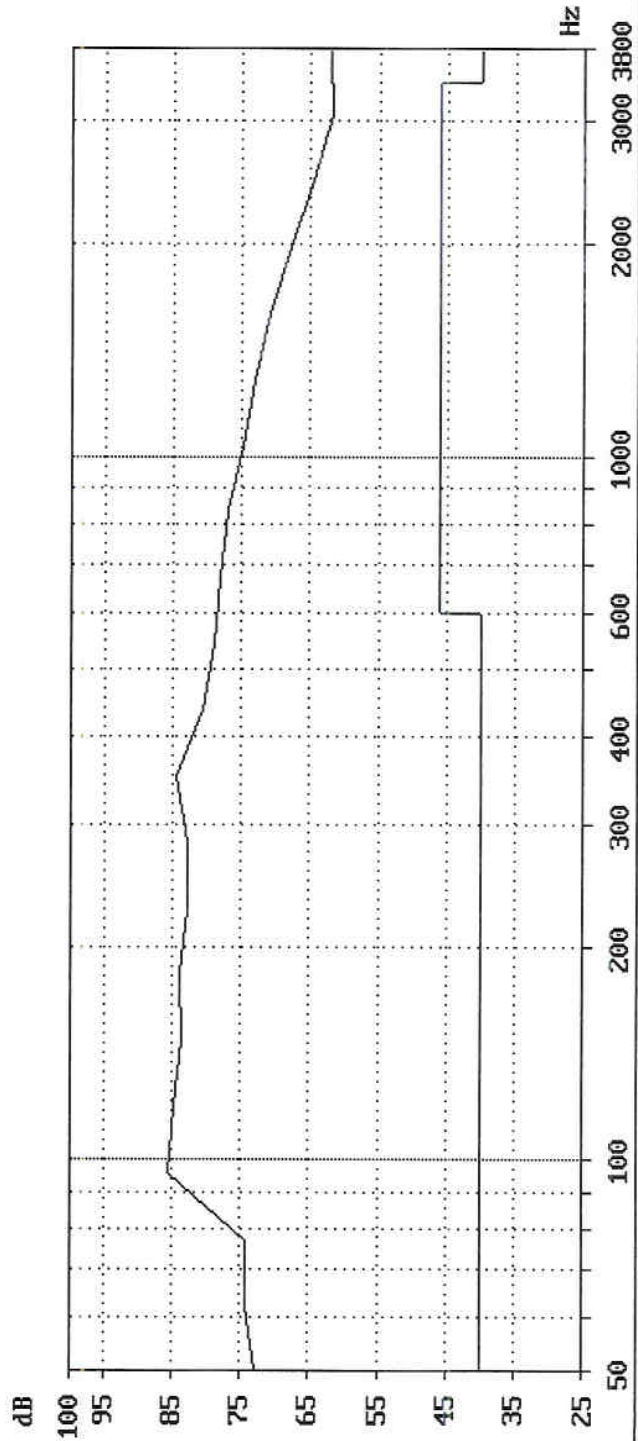
TEST RESULTS

ETSI ES 203 021-2

4.1.1 Impedance unbalance about earth Quiescent state

Test Job	: 60.860.6.106.01	Current Limitation	: 60.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Bridge	: TBR 21
Operator	: -	Feeding resistor	: 400 Ohm
Date	: 7.06.06	Polarity	: Normal
Time	: 15:13.57	Generator level	: +0.0 dB(0.775 V)
Remark	: -		

Tol.mask violations: 0
Verdict : PASS

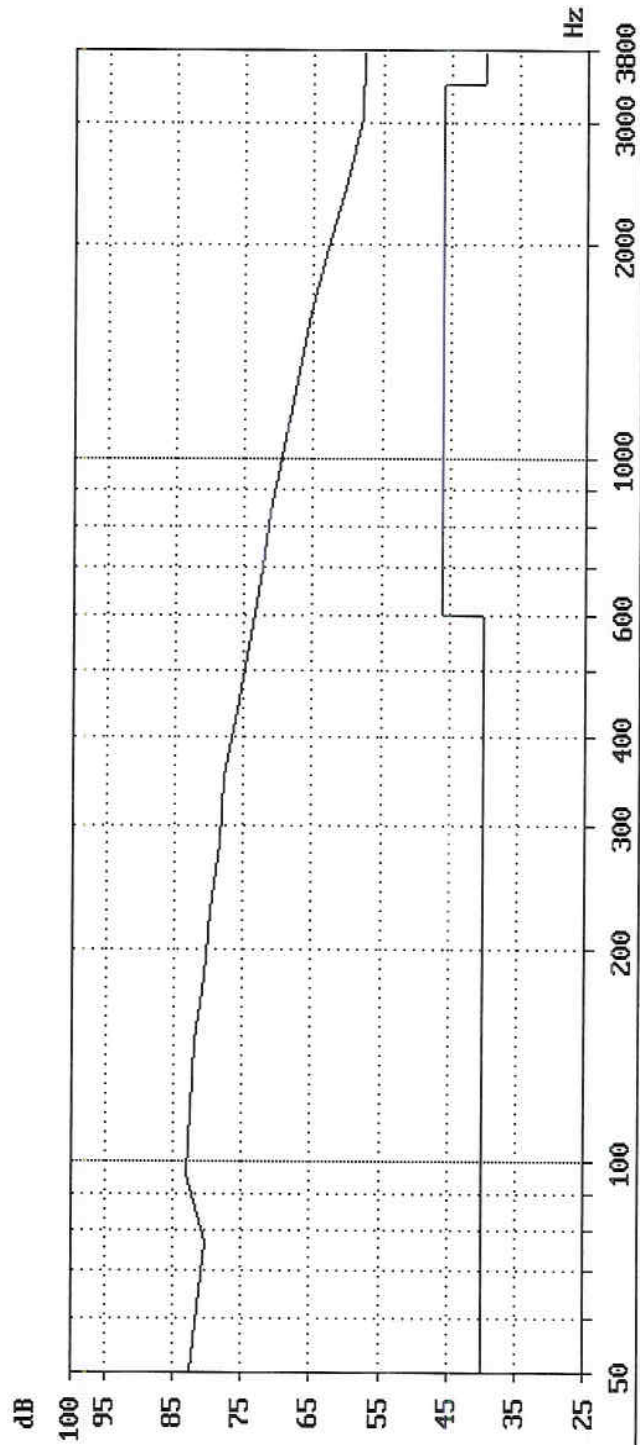


ETSI ES 203 021-2

4.1.1 Impedance unbalance about earth Quiescent state

Test Job	: 60.860.6.106.01	Current Limitation	: 60.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Bridge	: TBR 21
Operator	: -	Feeding resistor	: 400 Ohm
Date	: 7.06.06	Polarity	: Inverted
Time	: 15:14.46	Generator level	: +0.0 dB(0.775 V)
Remark	: -		

Tol.mask violations: 0
 Verdict : PASS

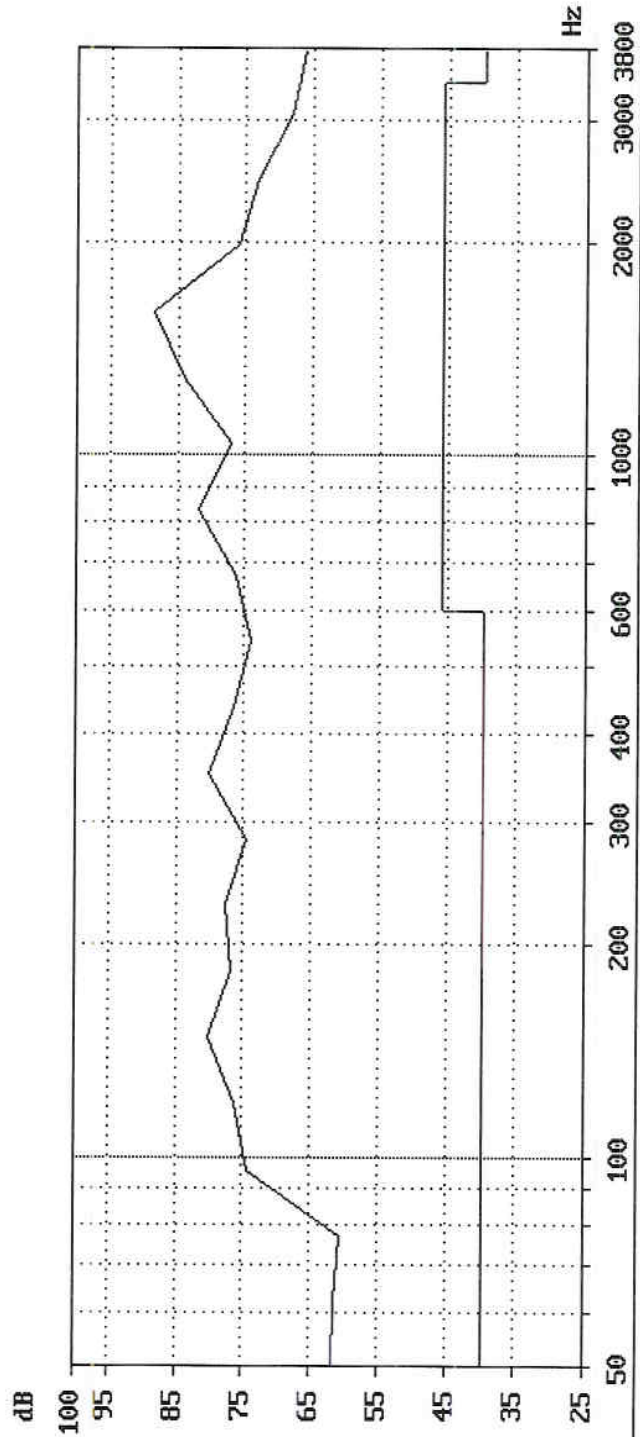


ETSI ES 203 021-2

4.1.2.1 Longitudinal Conversion Loss (Loop Steady State)

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:19.05
 Remark : -
 Current Limitation : 60.0 mA
 Feeding Voltage : 50.0 V
 Feeding Bridge : TBR 21
 Feeding resistor : 400 Ohm
 Polarity : Normal
 Generator level : +0.0 dB(0.775 V)

Tol.mask violations: 0
 Verdict : PASS

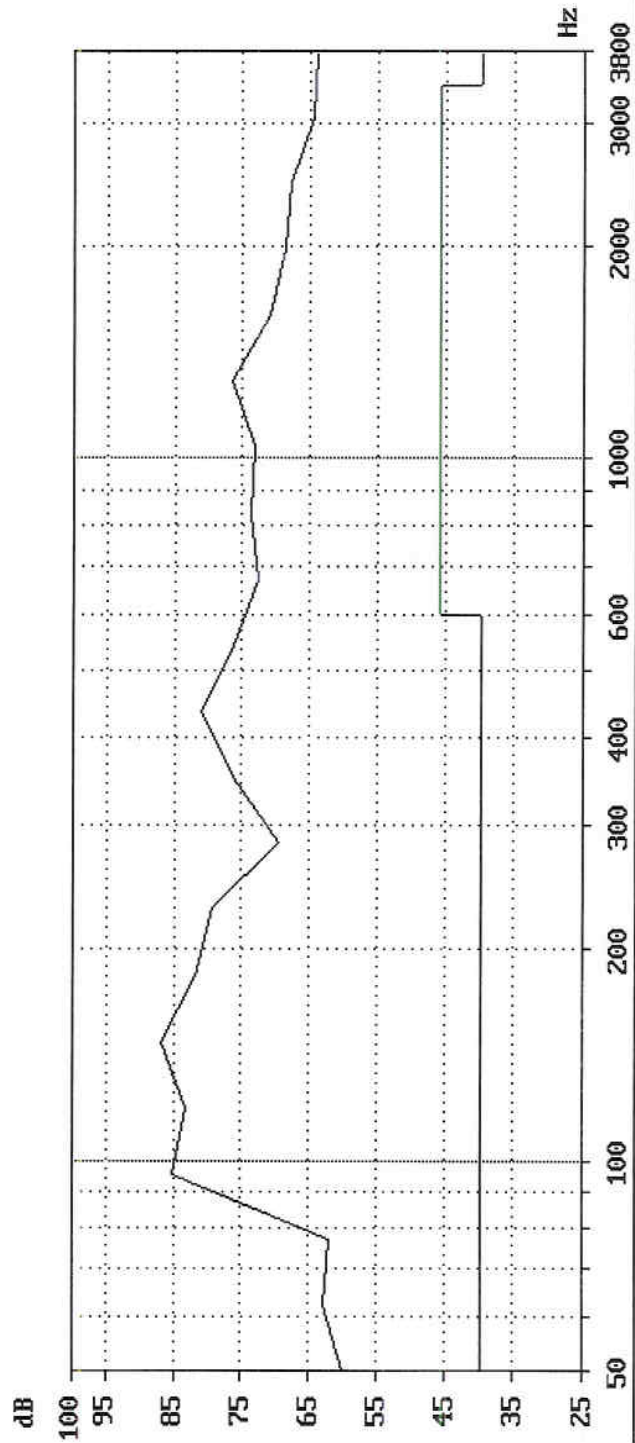


ETSI ES 203 021-2

4.1.2.1 Longitudinal Conversion Loss (Loop Steady State)

Test Job	: 60.860.6.106.01	Current Limitation	: 60.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Bridge	: TBR 21
Operator	: -	Feeding resistor	: 850 Ohm
Date	: 7.06.06	Polarity	: Inverted
Time	: 15:19.57	Generator level	: +0.0 dB(0.775 V)
Remark	: -		

Tol.mask violations: 0
Verdict : PASS

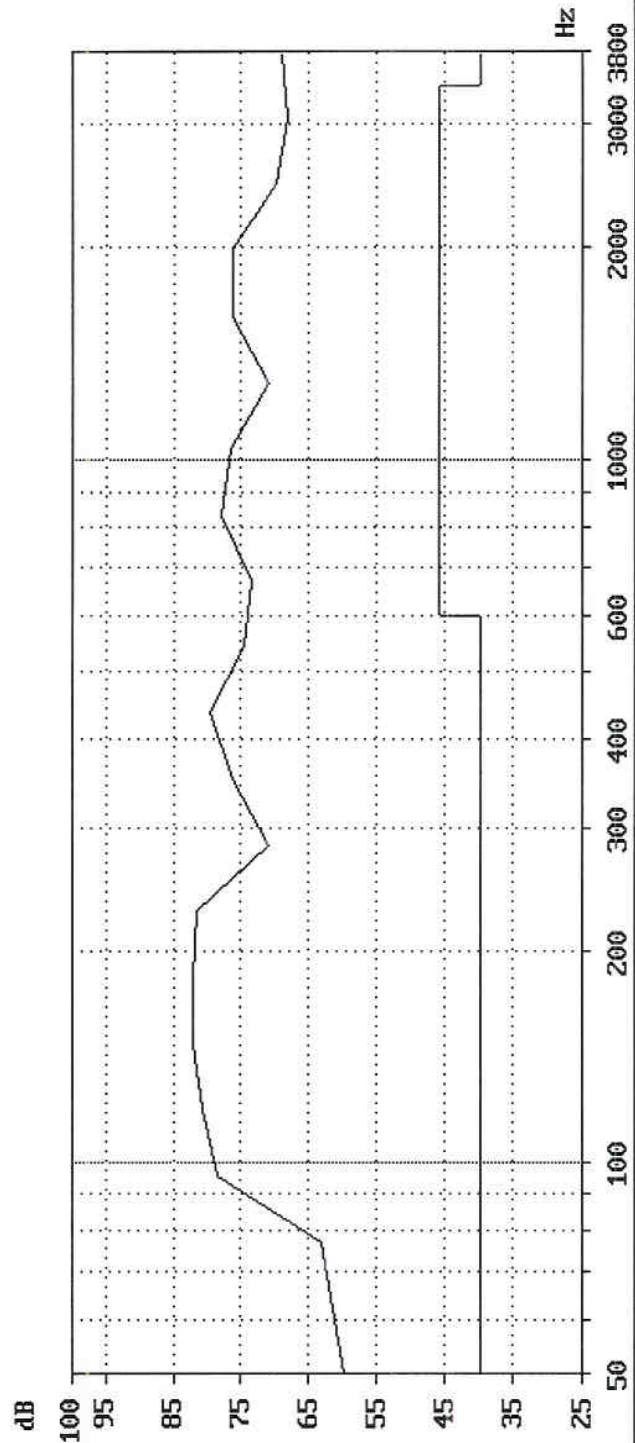


ETSI ES 203 021-2

4.1.2.1 Longitudinal Conversion Loss (Loop Steady State)

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:20.45
 Remark : -
 Current Limitation : 60.0 mA
 Feeding Voltage : 50.0 V
 Feeding Bridge : TBR 21
 Feeding resistor : 2050 Ohm
 Polarity : Normal
 Generator level : +0.0 dB(0.775 V)

Tol.mask violations: 0
 Verdict : PASS

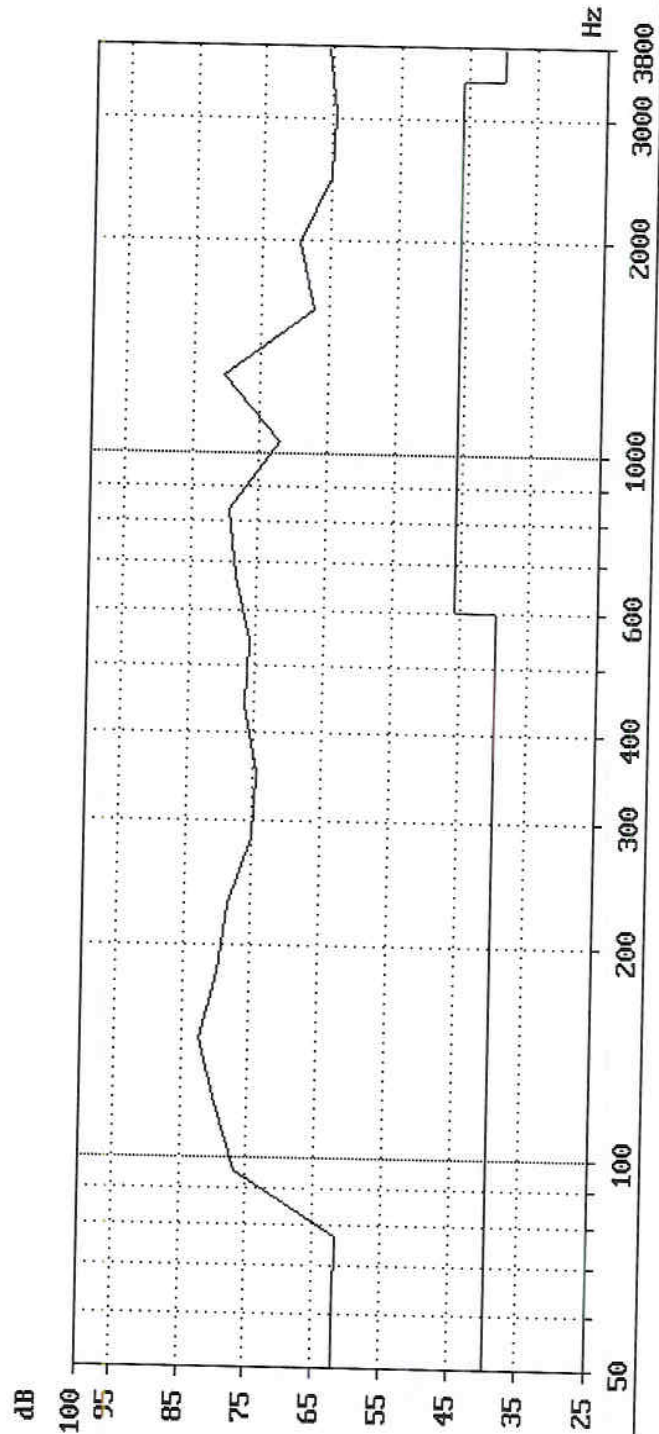


ETSI ES 203 021-2

4.1.2.1 Longitudinal Conversion Loss (Loop Steady State)

Test Job	: 60.860.6.106.01	Current Limitation	: 60.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Bridge	: TBR 21
Operator	: -	Feeding resistor	: 2800 Ohm
Date	: 7.06.06	Polarity	: Inverted
Time	: 15:21.33	Generator level	: +0.0 dB(0.775 V)
Remark	: -		

Tol.mask violations: 0
 Verdict : PASS

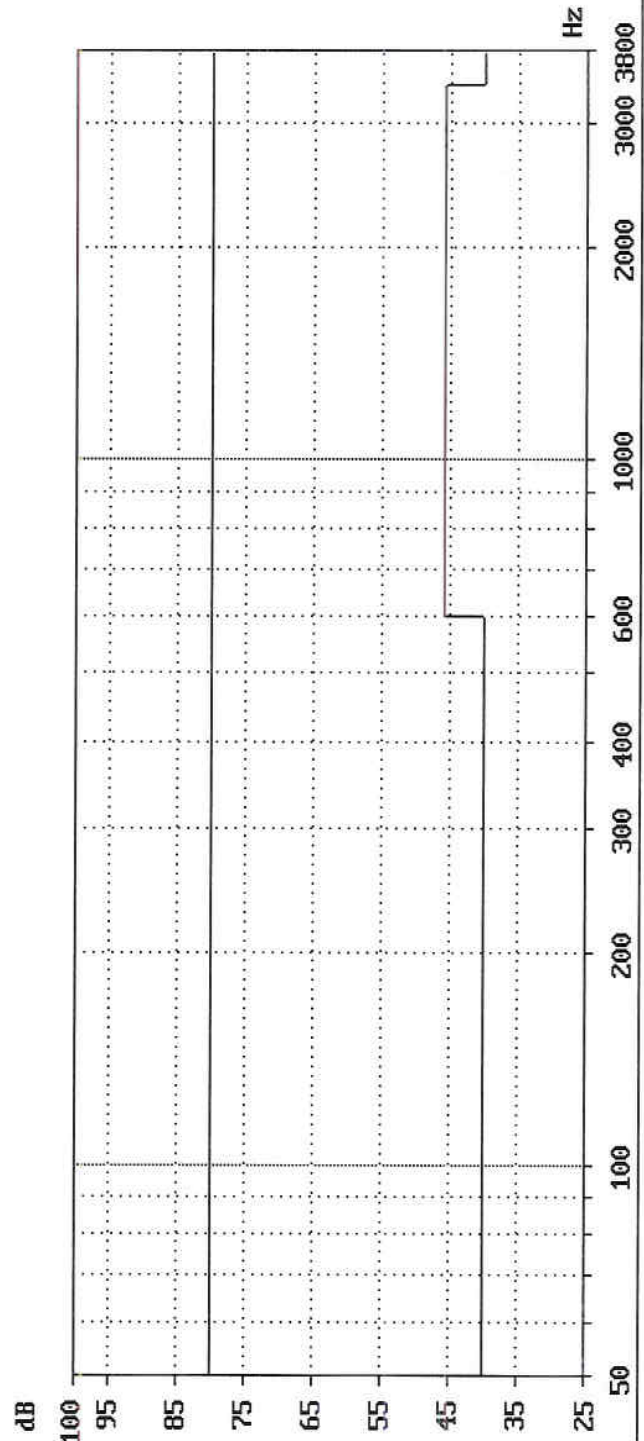


ETSI ES 203 021-2

4.1.2.2 Output Signal Balance

Test Job	: 60.860.6.106.01	Current Limitation	: 100.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Bridge	: TBR Z1
Operator	: -	Feeding resistor	: 2800.0 Ohm
Date	: 7.06.06	Polarity	: Inverted
Time	: 15:22.55	Generator level	: +0.0 dB(0.775 V)
Remark	: -		

Tol.mask violations: 0
 Verdict : PASS



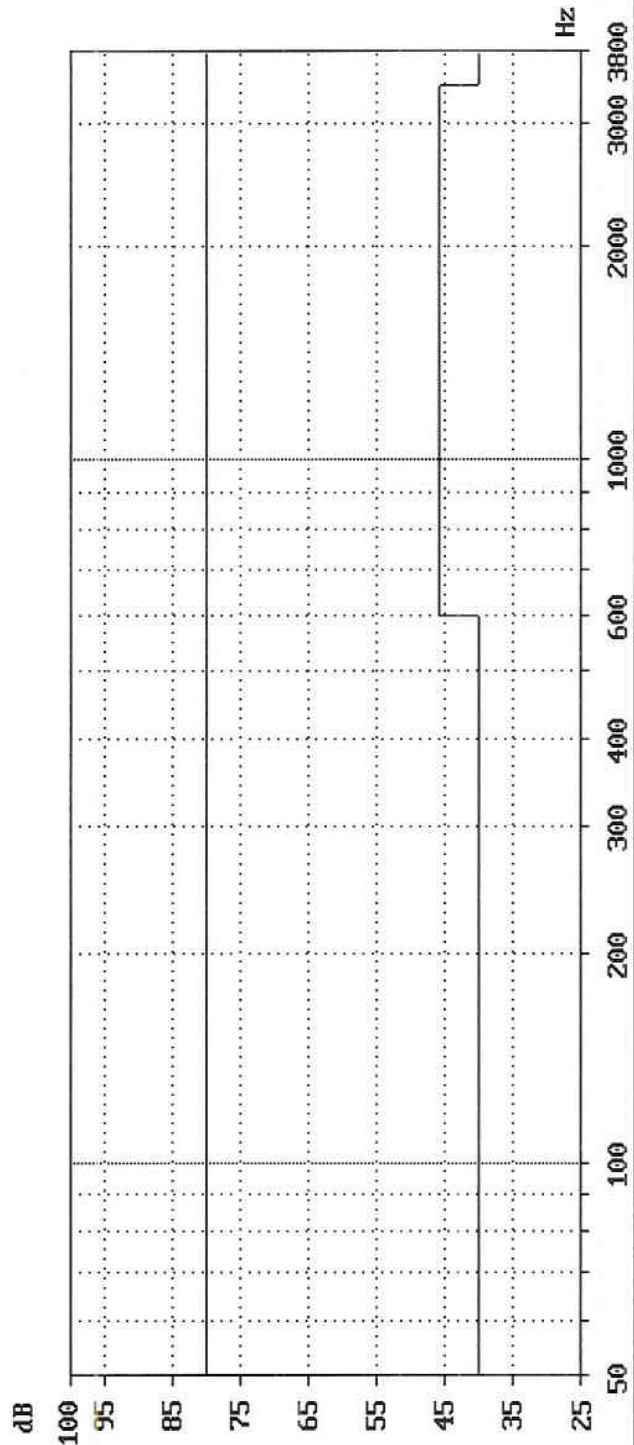
ETSI ES 203 021-2

4.1.2.2 Output Signal Balance

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:23.57
 Remark : -

Current Limitation : 100.0 mA
 Feeding Voltage : 50.0 V
 Feeding Bridge : TBR 21
 Feeding resistor : 2050.0 Ohm
 Polarity : Normal
 Generator level : +0.0 dB(0.775 V)

Tol.mask violations: 0
 Verdict : PASS



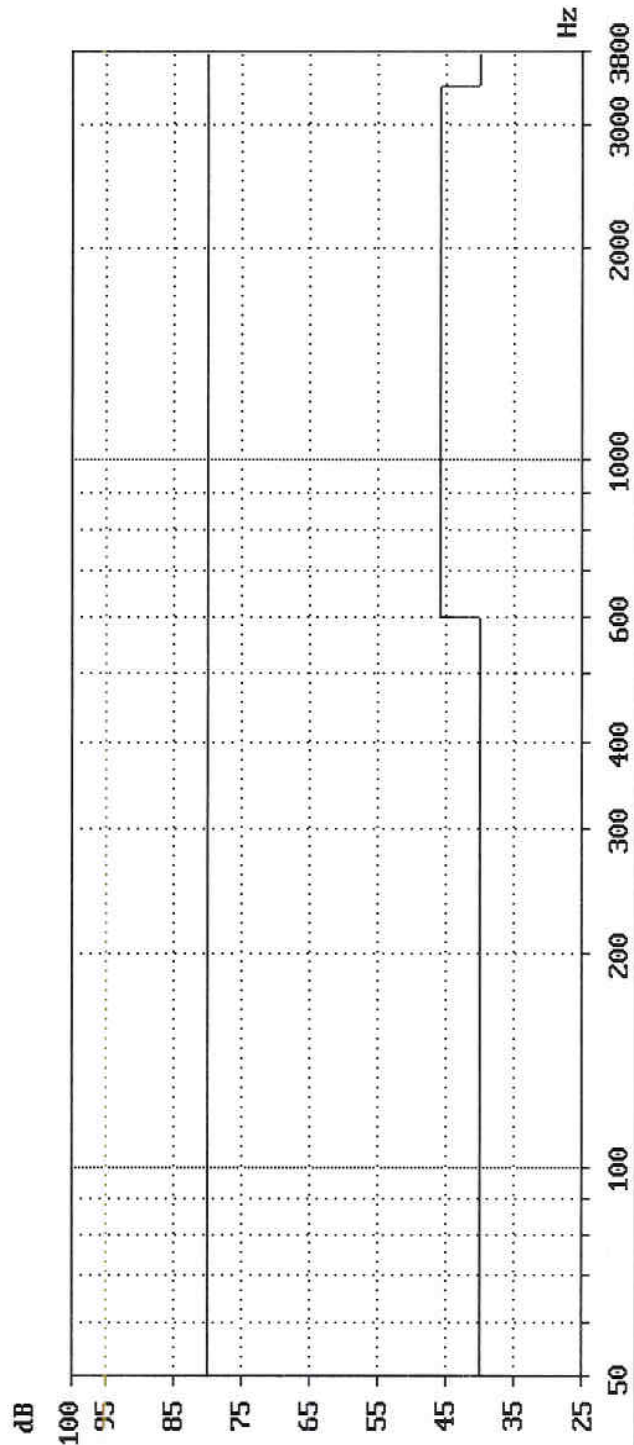
ETSI ES 203 021-2

4.1.2.2 Output Signal Balance

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:24.59
 Remark : -

Current Limitation : 100.0 mA
 Feeding Voltage : 50.0 V
 Feeding Bridge : TBR 21
 Feeding resistor : 850.0 Ohm
 Polarity : Inverted
 Generator level : +0.0 dB(0.775 V)

Tol.mask violations: 0
 Verdict : PASS

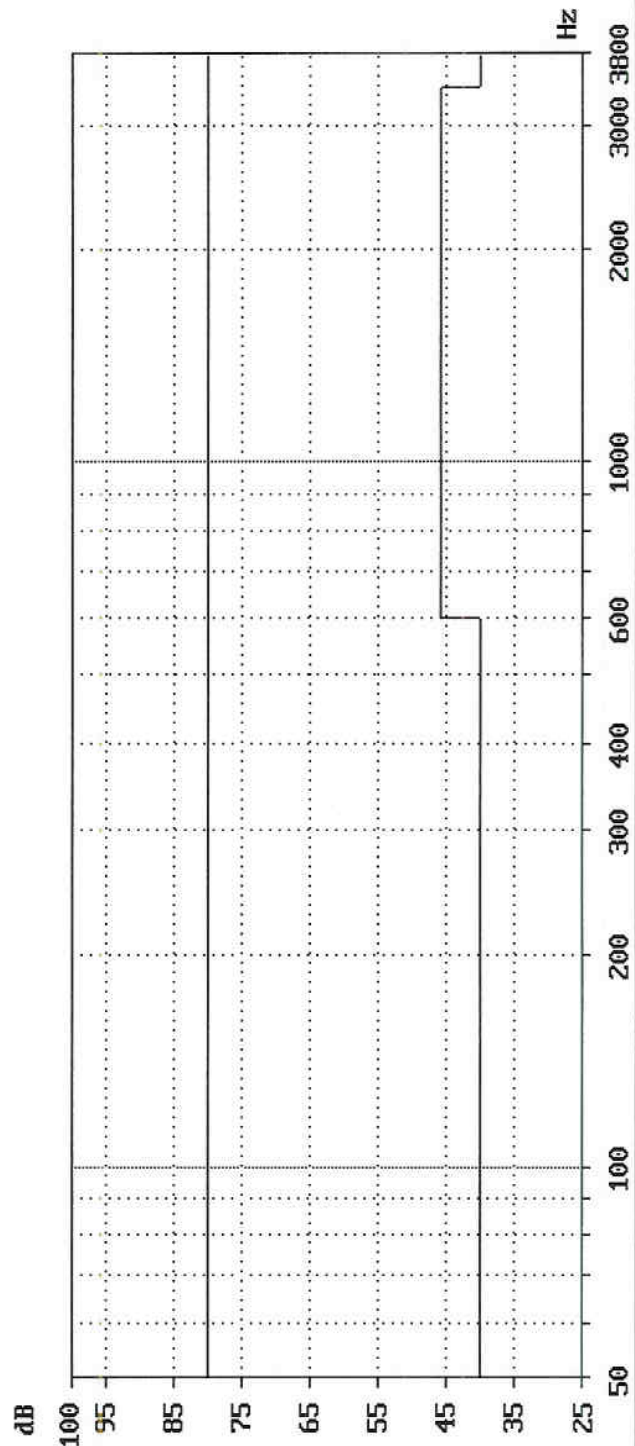


ETSI ES Z03 021-2

4.1.2.2 Output Signal Balance

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:26.06
 Remark : -
 Current Limitation : 100.0 mA
 Feeding Voltage : 50.0 V
 Feeding Bridge : TBR 21
 Feeding resistor : 400.0 Ohm
 Polarity : Normal
 Generator level : +0.0 dB(0.775 V)

Tol.mask violations: 0
 Verdict : PASS



Protocol for Maximum mean sending level

Maximum mean sending level

ETSI ES 203 021-2

4.2.1 Mean Sending Level

Date	: 7.06.06	Feeding Voltage	: 50 V
Time	: 15:30.26	Feeding Resistor	: 2800 Ω
Operator	: -	Polarity	: Inverted
Test Job	: 60.860.6.106.01	Receiver Impedance	: Zr TBR21
TEUT	: H-315	Measurement Time	: 30.0 sec
Manufacturer:	-	Receiver Filter	: BP 200-3800 Hz
Remark	: -		

Limit : -9.7 dBV

Verdict : PASS

Mean level
dBV

Voice - 13.1

Protocol for Maximum mean sending level

Maximum mean sending level

ETSI ES 203 021-2

4.2.1 Mean Sending Level

Date	: 7.06.06	Feeding Voltage	: 50 V
Time	: 15:32.08	Feeding Resistor	: 400 Ω
Operator	: -	Polarity	: Normal
Test Job	: 60.860.6.106.01	Receiver Impedance	: Zr TBR21
TEUT	: H-315	Measurement Time	: 30.0 sec
Manufacturer:	-	Receiver Filter	: BP 200-3800 Hz
Remark	: -		
Limit	: -9.7 dBV		
Verdict	: PASS		

Mean level
dBV

Voice - 12.8

DTMF instantaneous voltage

ETSI ES 203 021-2 4.2.2

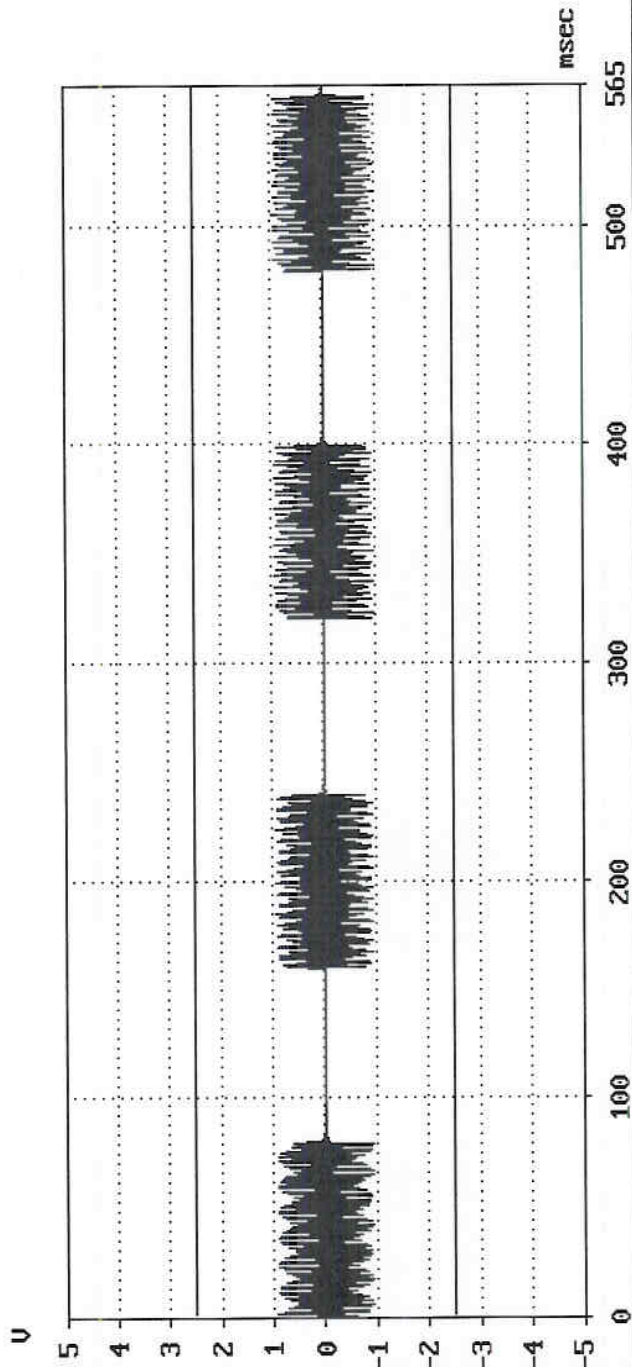
Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:59.30

Mask violations : 0
 Measured voltage : OK
 Temporary Voltage : 5.0 Vpp for 0.0 msec
 Feeding Voltage : 50.0 V
 Polarity : Inverted
 Feeding Resistor : 2800.0 Ohm

Remark : -

Trigger : OK
 User Operation : DTMF

Verdict : PASS



DTMF instantaneous voltage

ETSI ES 203 021-2 4.2.2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 7.06.06

Time : 16:02.22

Mask violations : 0

Measured voltage : OK

Temporary Voltage : 5.0 Vpp for 0.0 msec

Feeding Voltage : 50.0 V

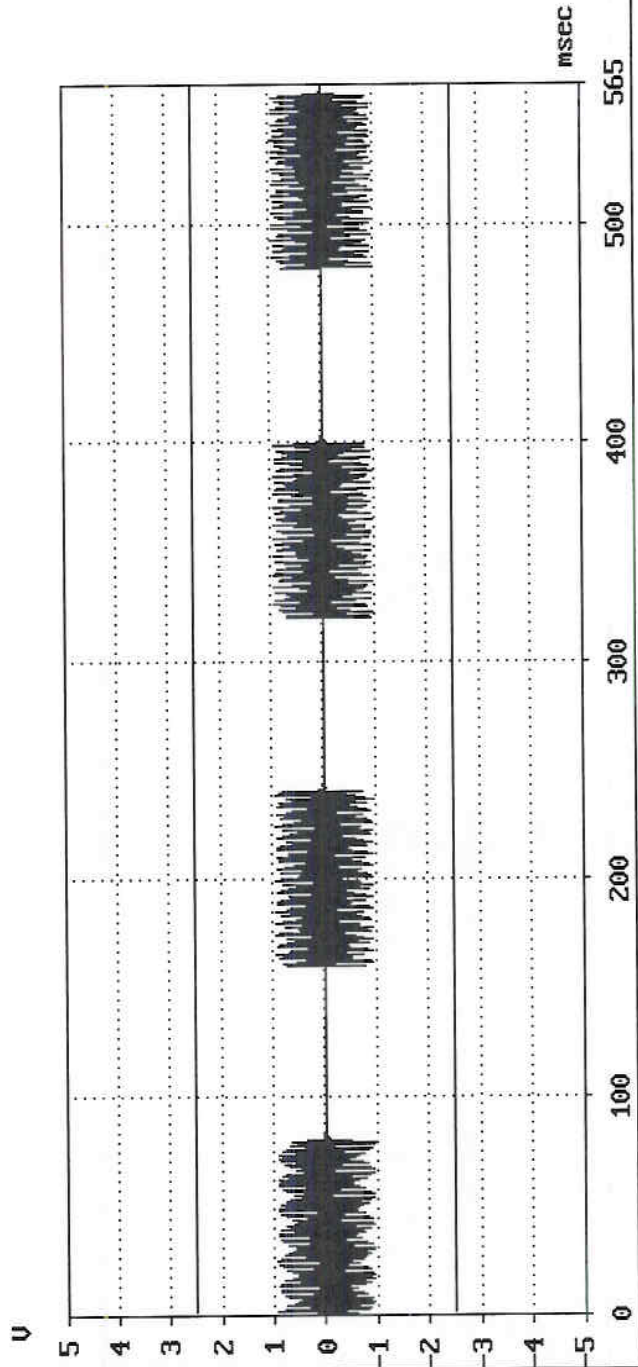
Polarity : Normal

Feeding Resistor : 400.0 Ohm

Remark : -

Trigger : OK

Verdict : PASS
User Operation : DTMF



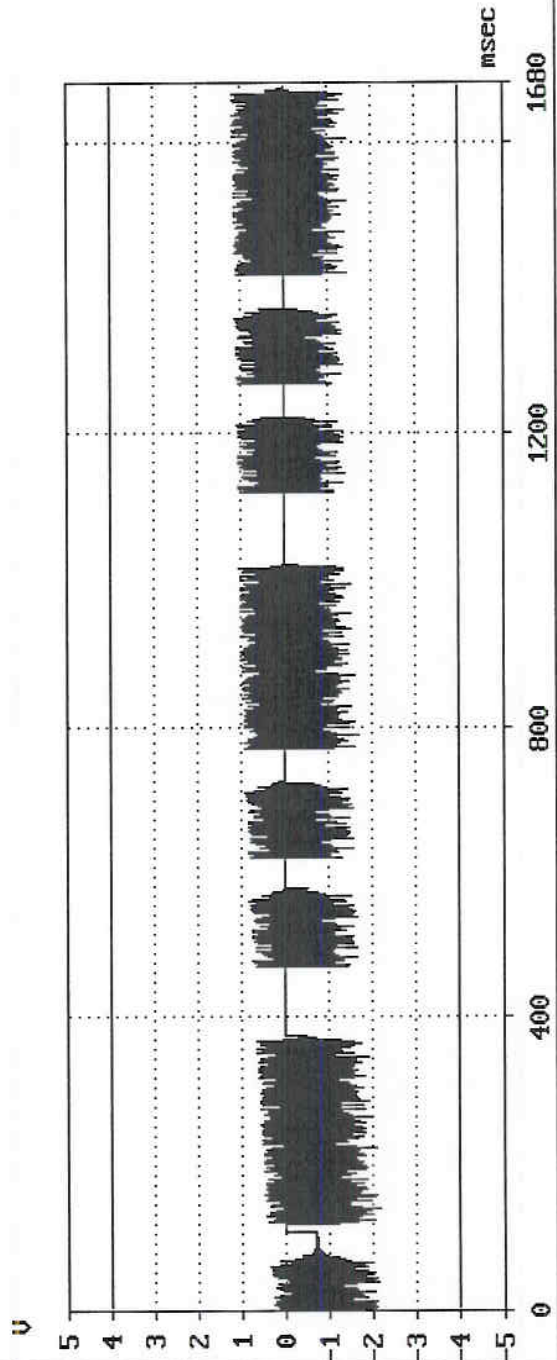
ETSI ES 203 021-2

4.2.2 Instantaneous voltage

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:35.13
 Mask violations : 0
 Measured voltage : OK
 Temporary Voltage : 8.0 Vpp for 0.0 msec
 Feeding Voltage : 50.0 V
 Polarity : Normal
 Feeding resistor : 2800.0 Ohm

Remark : -
 Trigger : OK
 User Operation : Voice

Verdict : PASS



ETSI ES 203 021-2
4.2.2 Instantaneous voltage

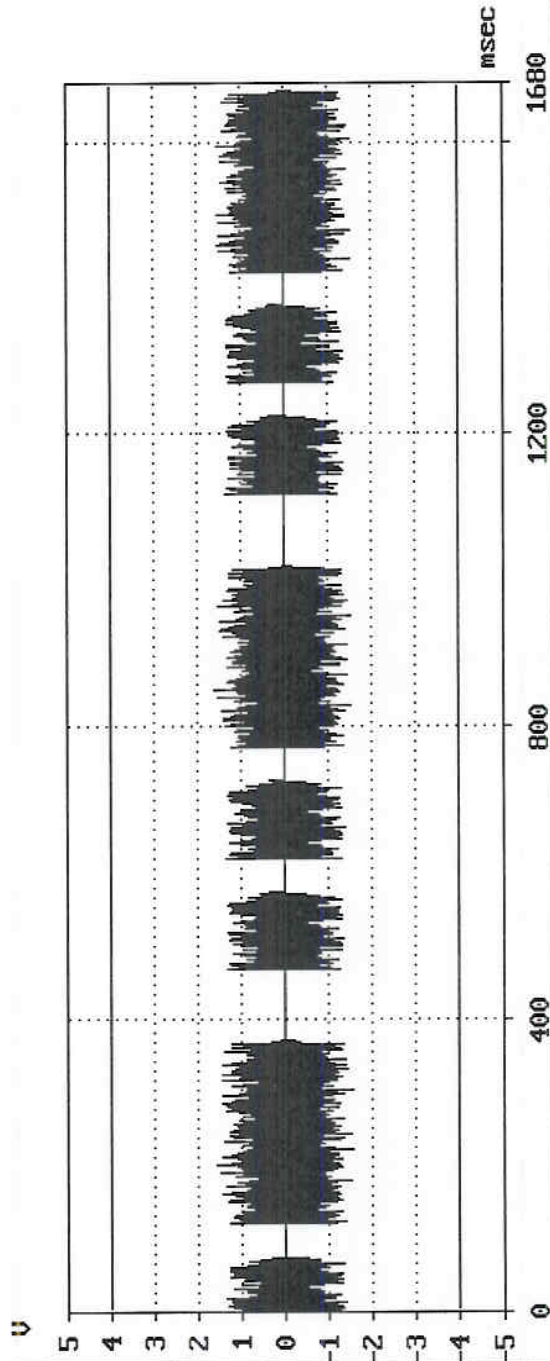
Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:40.23

Mask violations : 0
 Measured voltage : OK
 Temporary Voltage : 8.0 Vpp for 0.0 msec
 Feeding Voltage : 50.0 V
 Polarity : Inverted
 Feeding resistor : 400.0 Ohm

Remark : -

Trigger : OK
 User Operation : Voice

Verdict : PASS



Protocol for Maximum sending levels DTMF Auto

Maximum sending levels DTMF Auto

ETSI ES 203 021-2 4.2.4 Sending Level between 4.3 kHz and 200 KHz DTMF

Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 16:04.38	Feeding voltage	: 50.0 V
Operator	: -	Current limitation	: 100.0 mA
Test Job	: 60.860.6.106.01	Feeding resistor	: 2800.0 Ohm
TEUT	: H-315	Polarity	: Normal
Manufacturer:	-	Verdict	: PASS
Remark	: -		

Frequency range kHz	Dial No.	Level dBV	Freq. kHz	Level dBV	Freq. kHz	Level dBV	Freq. kHz
4.3	20.0	70	- 64.5	6.77	- 65.9	4.32	
20.0	40.0	70	- 72.3	30.0	- 72.3	30.0	
40.0	60.0	70	- 84.1	47.88	- 85.2	47.88	
60.0	80.0	70	- 97.1	71.29	- 96.9	70.86	
80.0	100.0	70	- 85.5	95.81	- 85.2	95.81	
100.0	120.0	70	- 94.1	107.01	- 98.5	114.08	
120.0	140.0	70	- 99.5	128.60	- 98.1	134.27	
140.0	160.0	70	- 82.0	143.70	- 82.1	143.70	
160.0	180.0	70	-101.4	165.86	-100.1	167.64	
180.0	200.0	70	- 78.2	191.63	- 78.3	191.63	

Protocol for Maximum sending levels DTMF Auto

Maximum sending levels DTMF Auto

ETSI ES 203 021-2 4.2.4 Sending Level between 4.3 kHz and 200 KHz DTMF

Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 16:07.54	Feeding voltage	: 50.0 V
Operator	: -	Current limitation	: 100.0 mA
Test Job	: 60.860.6.106.01	Feeding resistor	: 400.0 Ohm
TEUT	: H-315	Polarity	: Inverted
Manufacturer:	-	Verdict	: PASS
Remark	: -		

Frequency range kHz	Dial No.	Level dBV	Freq. kHz	Level dBV	Freq. kHz	Level dBV	Freq. kHz
4.3	20.0	35	- 71.3	6.49	- 78.8	4.47	
20.0	40.0	35	- 72.4	30.0	- 72.4	30.0	
40.0	60.0	35	- 86.6	47.88	- 86.9	47.88	
60.0	80.0	35	- 97.4	66.82	-100.5	65.91	
80.0	100.0	35	- 86.3	95.81	- 85.8	95.81	
100.0	120.0	35	- 97.6	107.30	- 93.2	105.19	
120.0	140.0	35	- 98.5	130.19	- 97.8	134.32	
140.0	160.0	35	- 83.2	143.70	- 83.2	143.70	
160.0	180.0	35	-105.6	167.83	-106.8	166.53	
180.0	200.0	35	- 79.5	191.63	- 79.5	191.63	

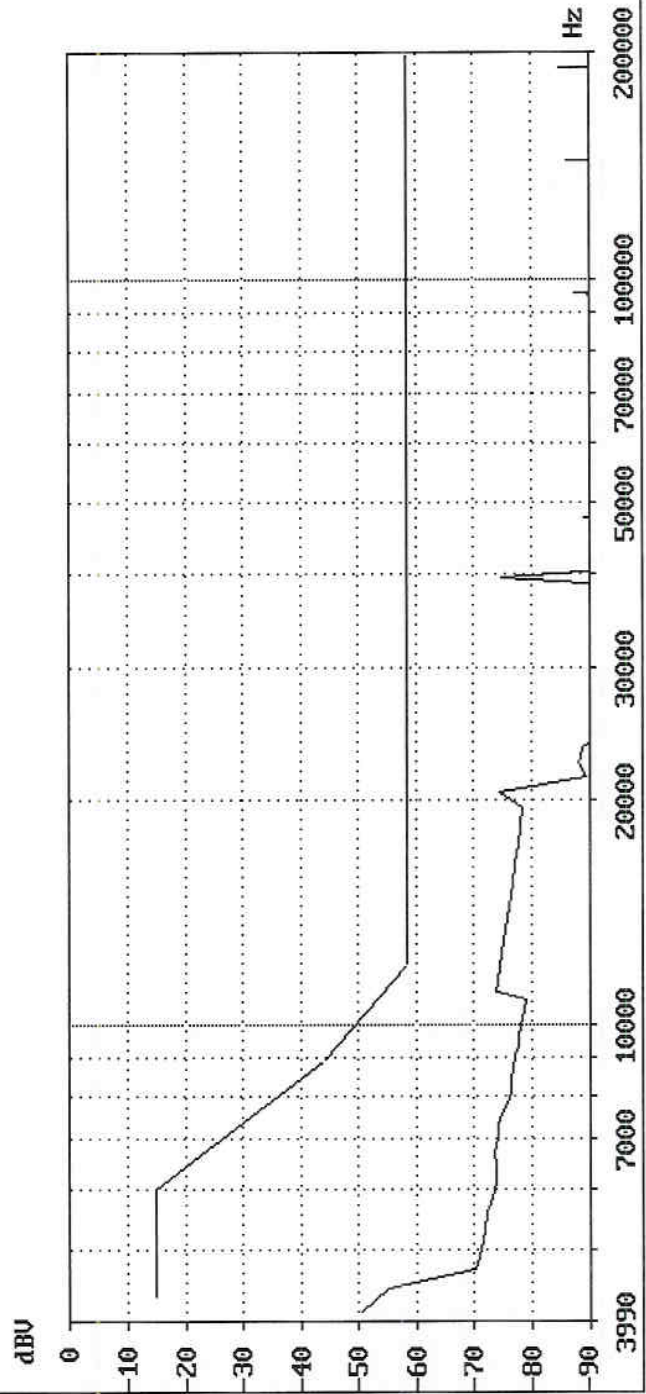
ETSI ES 203 021-2 4.2.4 Sending Level between 4.3 kHz and 200 kHz

Communication State

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:48.56
 Remark : -

Mask violations : 0 Verdict : PASS

Max. Level (single component) : -53.9 dBu
 Frequency : 4231 Hz
 Max. Level : -47.7 dBu
 Frequency : 3990 Hz
 Feeding Bridge : TBR 21
 Feeding voltage : 50.0 V
 Feeding resistor : 2800.0 Ohm
 Polarity : Inverted



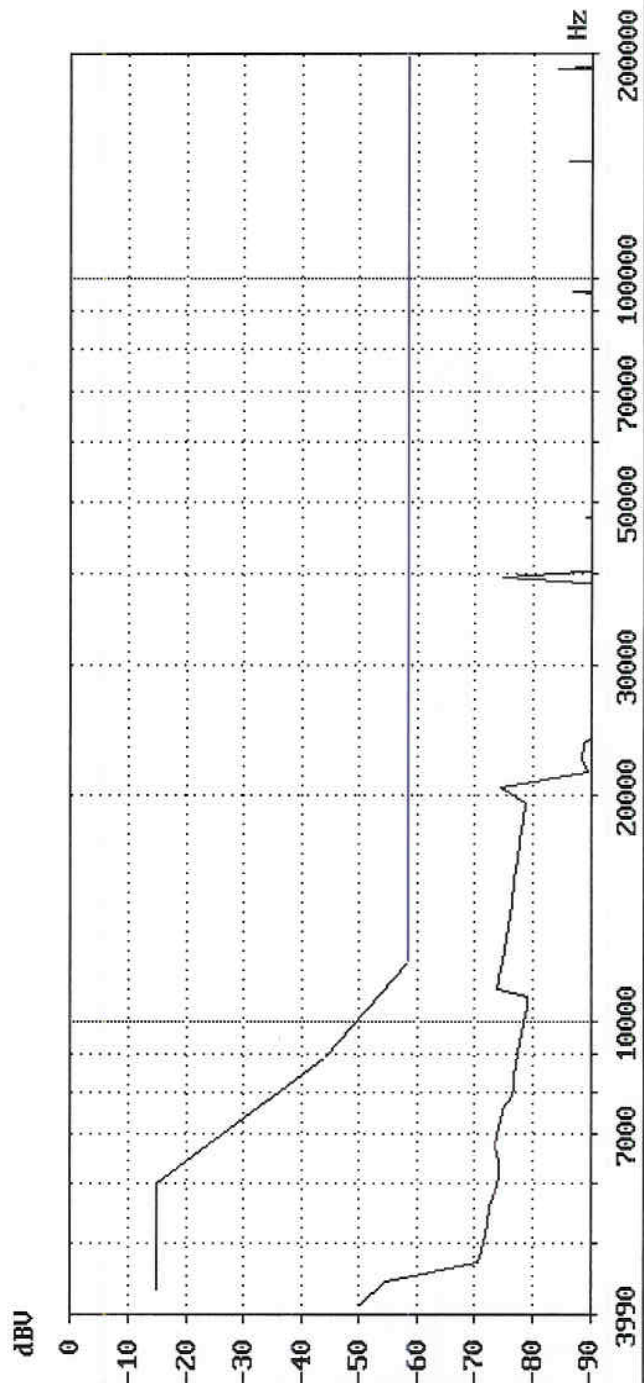
ETSI ES 203 021-2 4.2.4 Sending Level between 4.3 kHz and 200 KHz

Communication State

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 15:53.34
 Remark : -

Mask violations : 0 Verdict : PASS

Max. Level (single component) : -53.8 dBV
 Frequency : 4231 Hz
 Max. Level : -47.0 dBV
 Frequency : 3990 Hz
 Feeding Bridge : TBR 21
 Feeding voltage : 50.0 V
 Feeding resistor : 400.0 Ohm
 Polarity : Normal



ETSI ES 203 021-2

4.2.5 Sending level from 200 KHz to 30 MHz

Date : 24 May 2006

Time : 10:22:29 AM

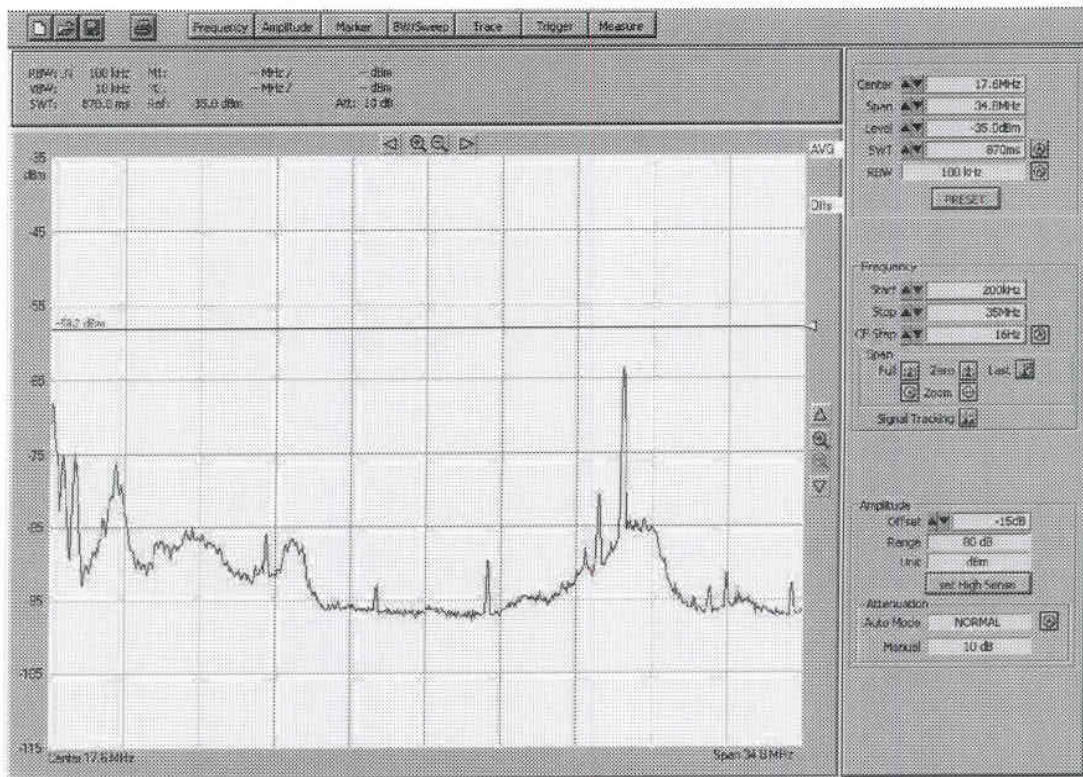
Test Job : 60.860.6.106.01

Test Item : H-315

Feeding Voltage: 50V

Feeding Resistor: 2800 ohm

Polarity: Inverted



ETSI ES 203 021-2

4.2.5 Sending level from 200 KHz to 30 MHz

Date : 24 May 2006

Time : 10:23:03 AM

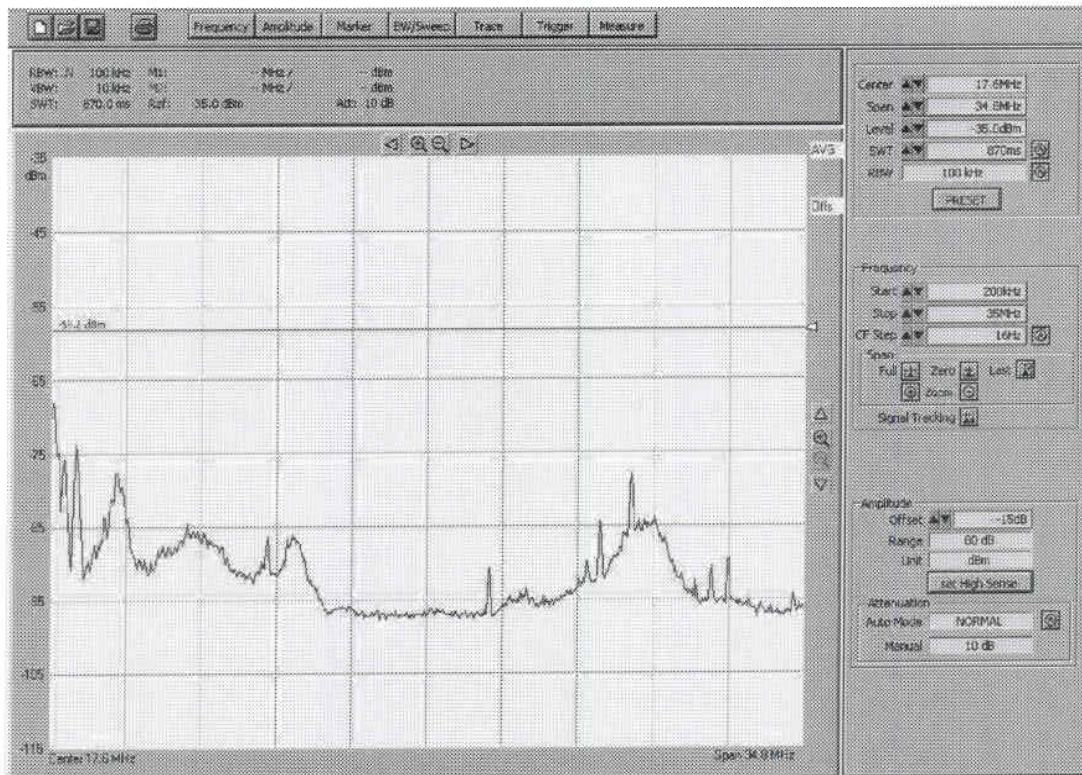
Test Job : 60.860.6.106.01

Test Item : H-315

Feeding Voltage: 50V

Feeding Resistor: 400 ohm

Polarity: Normal



Protocol for Power feeding			
POWER FEEDING LIMITATIONS			
ETSI ES 203 021-2 4.3			
Date	: 7.06.06	Gain	: +20.0 dB
Time	: 15:53.52	Load resistor	: 300.0 Ohm
Operator	: -	Waiting period	: 5.0 sec
Commission	: 60.860.6.106.01		
TEUT	: H-315		
Manufacturer	: -		
Parameter set	: ES 203 021-2 4.3		
Verdict	: PASS		
		Current	
		A	
	DC	+ 0.00	mA

Protocol for DC resistance quiescent condition

ETSI ES 203 021-3 4.4.1 DC resistance

Date	: 7.06.06	Current limitation	: 40.0 mA
Time	: 14:19.19	Gain	: +20.0 dB
Operator	: -	Waiting period	: 30.0 sec
Commission	: 60.860.6.106.01	Verdict	: PASS
TEUT	: H-315		
Manufacturer	: -		

Remark : -

Vt [V]	Rt [Ohm]	Polarity	Limit R > [MOhm]	R [MOhm]	I [A]
25.0	1000	Normal	1.0	> 10	< 2.5 uA
50.0	1000	Normal	1.0	> 10	< 5.0 uA
100.0	1000	Normal	1.0	> 10	< 10.0 uA
25.0	1000	Inverted	1.0	> 10	< 2.5 uA
50.0	1000	Inverted	1.0	> 10	< 5.0 uA
100.0	1000	Inverted	1.0	> 10	< 10.0 uA

Protocol for Impedance of ringing devices

ETSI ES 203 021-3 4.4.2.1 Impedance

Date	: 7.06.06	Feeding voltage	: 50.0 V
Time	: 14:23.14	Polarity	: Normal
Operator	: -	Load resistor	: 2050.0 Ohm
Test Job	: 60.860.6.106.01	Max. voltage U0	: 90.0 V
TEUT	: H-315		
Remark	: -		

Limits		Verdict	: PASS
Z	: 4.0 ... 999.0 kOhm		

f Hz	Ute V	Z kΩ
25	30.0	> 200
50	30.0	> 200

Protocol for Impedance of ringing devices

ETSI ES 203 021-3 4.4.2.1 Impedance

Date	: 7.06.06	Feeding voltage	: 50.0 V
Time	: 14:24.29	Polarity	: Inverted
Operator	: -	Load resistor	: 2050.0 Ohm
Test Job	: 60.860.6.106.01	Max. voltage U0	: 90.0 V
TEUT	: H-315		
Remark	: -		

Limits		Verdict	: PASS
Z	: 4.0 ... 999.0 kOhm		

f	Ute	Z
Hz	V	kΩ

25	30.0	> 200
50	30.0	> 200

Protocol for Impedance of ringing devices

ETSI ES 203 021-3 4.4.2.1 Impedance

Date	: 7.06.06	Feeding voltage	: 0.0 V
Time	: 14:25.51	Polarity	: Normal
Operator	: -	Load resistor	: 2050.0 Ohm
Test Job	: 60.860.6.106.01	Max. voltage U0	: 90.0 V
TEUT	: H-315		
Remark	: -		

Limits		Verdict	: PASS
Z	: 4.0 ... 999.0 kOhm		

f	Ute	Z
Hz	V	kΩ
25	30.0	> 200
50	30.0	> 200

Transient response

ETSI ES 203 021-3 4.4.2.2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 7.06.06

Time : 14:27.28

Remark : -

Mask violations : 0

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 60.0 V

Drop resistor : 200.0 Ohm

Polarity : Normal

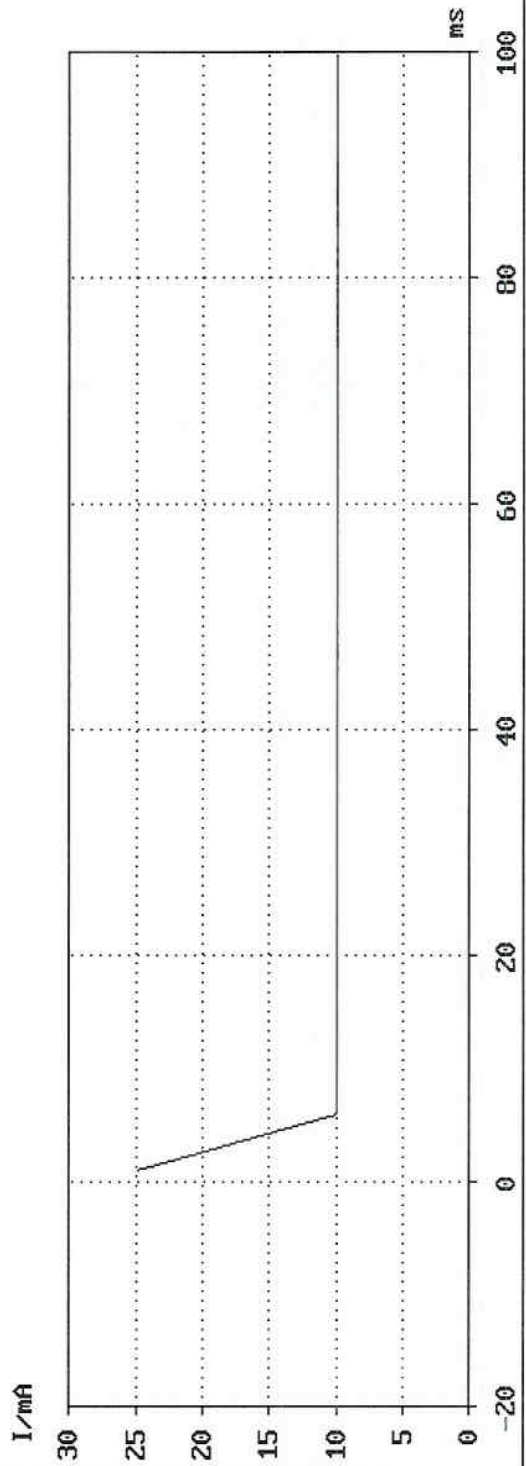
Trigger : OK

I [mA] : 0.0

Event : 1. pos. Edge

Delay [ms] : - 20

Sample Int. [ms] : 1.0



Transient response

ETSI ES 203 021-3 4.4.2.2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 7.06.06

Time : 14:28.00

Remark : -

Mask violations : 0

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 60.0 V

Drop resistor : 200.0 Ohm

Polarity : Inverted

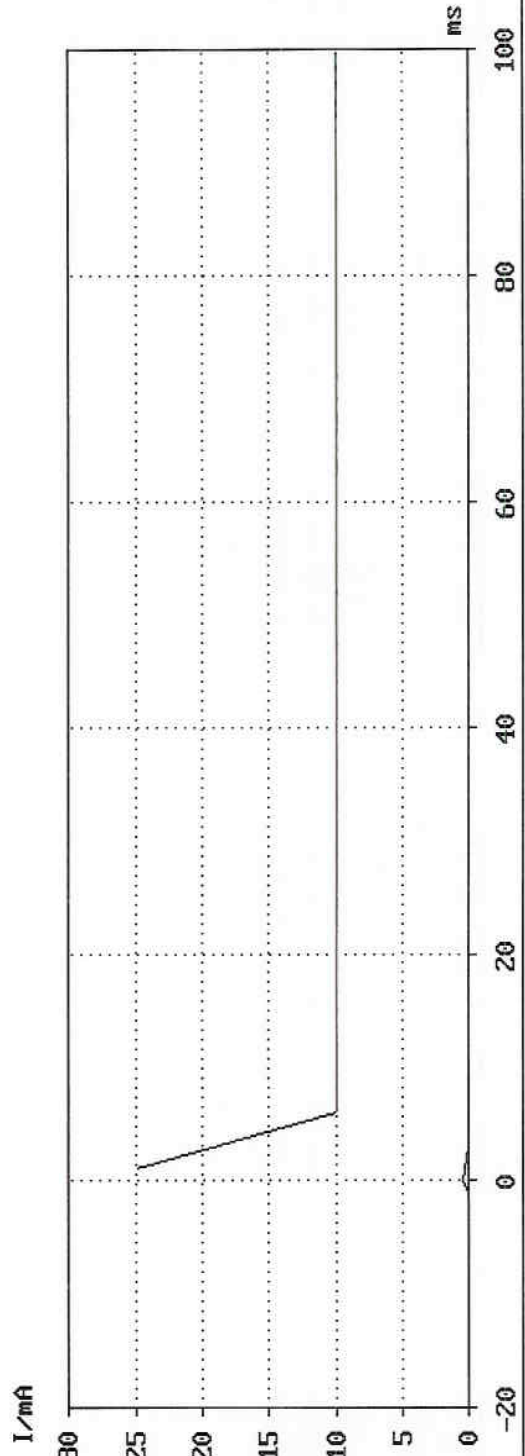
Trigger : OK

I [mA] : 0.0

Event : 1. pos. Edge

Delay [ms] : - 20

Sample Int. [ms] : 1.0



Protocol for DC current during ringing

ETSI ES 203 021-3 4.4.2.3 DC Current

Date	: 7.06.06	DC voltage	: 60.0 V
Time	: 14:28.17	Polarity	: Normal
Operator	: -	Drop Resistor	: 850.0 Ohm
Test Job	: 60.860.6.106.01	Gain	: +20.0 dB
TEUT	: H-315	Measure after	: 0.4 sec
Remark	: -		

Limit I< : 0.60 mA
 Verdict : PASS

f	Uac	R	I
Hz	V	kΩ	mA
25	90.0	> 1Meg	< 0.06
50	90.0	> 1Meg	< 0.06

Protocol for DC current during ringing

ETSI ES 203 021-3 4.4.2.3 DC Current

Date	: 7.06.06	DC voltage	: 60.0 V
Time	: 14:29.01	Polarity	: Inverted
Operator	: -	Drop Resistor	: 850.0 Ohm
Test Job	: 60.860.6.106.01	Gain	: +20.0 dB
TEUT	: H-315	Measure after	: 0.4 sec
Remark	: -		

Limit I< : 0.60 mA
 Verdict : PASS

f	Uac	R	I
Hz	V	kΩ	mA
25	90.0	> 1Meg	< 0.06
50	90.0	> 1Meg	< 0.06

Protocol for DC current during ringing

ETSI ES 203 021-3 4.4.2.3 DC Current

Date	: 7.06.06	DC voltage	: 0.0 V
Time	: 14:29.45	Polarity	: Normal
Operator	: -	Drop Resistor	: 850.0 Ohm
Test Job	: 60.860.6.106.01	Gain	: +20.0 dB
TEUT	: H-315	Measure after	: 0.4 sec
Remark	: -		

Limit I< : 0.60 mA
 Verdict : PASS

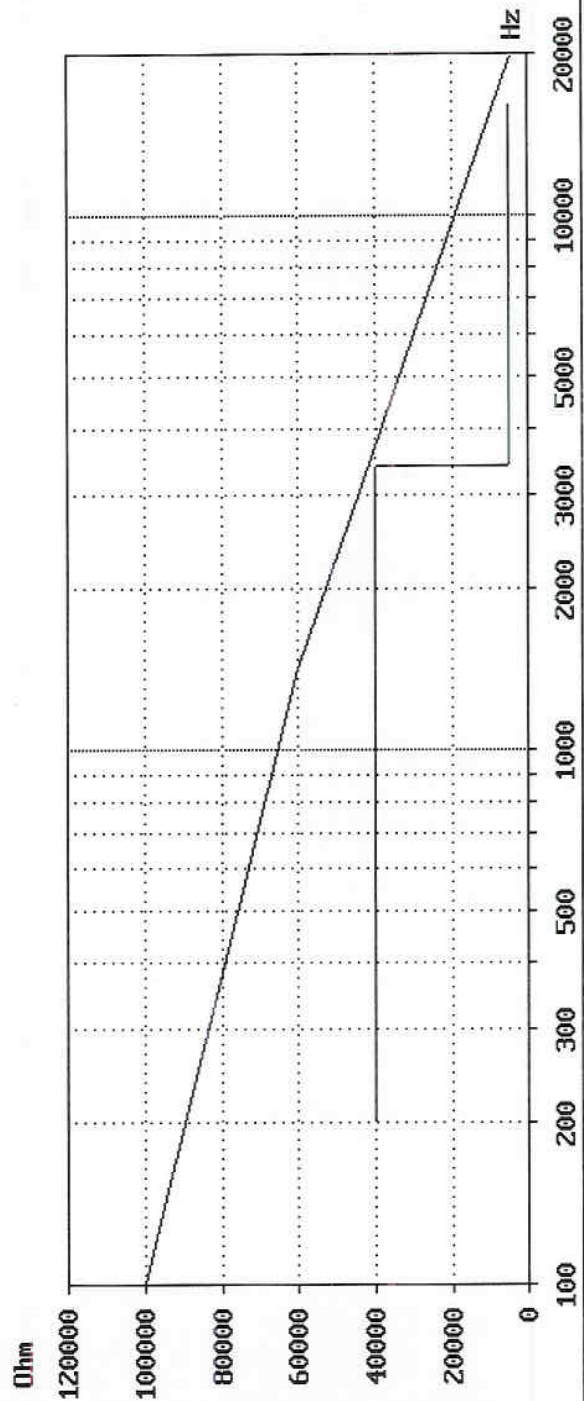
f	Uac	R	I
Hz	V	kΩ	mA
25	90.0	> 1Meg	< 0.00
50	90.0	> 1Meg	< 0.00

Impedance in quiescent state

ETSI ES 203 021-03 4.4.4 Impedance

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 14:12.12
 Current Limitation : 100.0 mA
 Feeding Voltage : 9.0 V
 Dropping Resistor : 0.0 Ohm
 Polarity : Normal
 Level : +0.0 dBV

Remark : -
 Mask violations : 0
 Verdict : PASS



Protocol for Ringing signal detector sensitivity

ETSI ES 203 021-3

4.5 Ring Signal detector sensitivity

Date	: 15.05.06	Feeding Voltage	: 50.0 V
Time	: 13:55.19	Dropping Resis. Rv	: 850.0 Ohm
Operator	: -	Polarity	: Normal
Commission	: 60.860.6.106.01	Limit	: 75.0 dB(A)
TEUT	: H-315	Time Constant	: Fast
Manufacturer	: -		

Remark : -
Verdict : PASS

Detect signal: Yes; Max. delay 8 s

Cycles	Frequency [Hz]	Ute [V]	1. Puls [ms]	Puls [ms]	Pause [ms]	Detect after [s]
13	25.0	30.0	1000	1000	5000	6.34
13	50.0	30.0	1000	1000	5000	1.76

Protocol for Ringing signal detector sensitivity

ETSI ES 203 021-3

4.5 Ring Signal detector sensitivity

Date	: 7.06.06	Feeding Voltage	: 0.0 V
Time	: 16:19.27	Dropping Resis. Rv	: 850.0 Ohm
Operator	: -	Polarity	: Inverted
Commission	: 60.860.6.106.01	Limit	: 75.0 dB(A)
TEUT	: H-315	Time Constant	: Fast
Manufacturer	: -		

Remark : -
Verdict : PASS

Detect signal: Yes; Max. delay 8 s

Cycles	Frequency [Hz]	Ute [V]	1. Puls [ms]	Puls [ms]	Pause [ms]	Detect after [s]
13	25.0	30.0	1000	1000	5000	7.34
13	50.0	30.0	1000	1000	5000	2.20

Acceptance of breaks in the loop

Test Job : 60.860.6.106.01 Current limit : 100.0 mA
 TEUT : H-315 Feeding voltage : 50.0 V
 Manufacturer : - Feeding interruption: after 30 ms for 400 ms
 Operator : - Drop resistor : 850.0 Ohm
 Date : 15.05.06 Polarity : Inverted

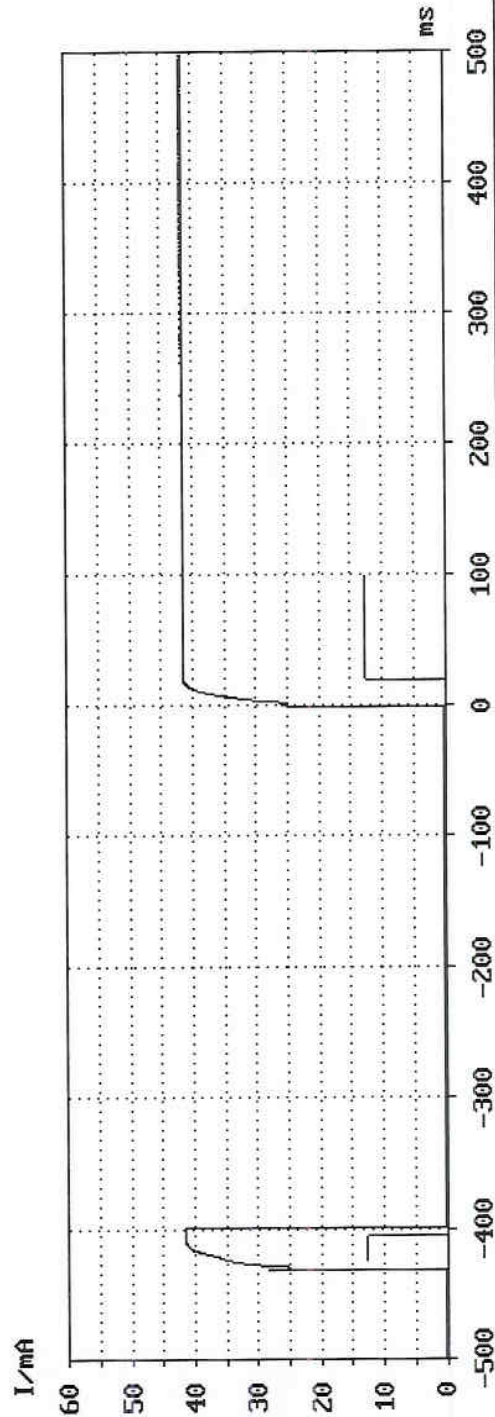
Time : 13:57.10
 Parameter set : ETSI ES 203 021-3 4.6.1 test 1
 Remark : -

Trigger : OK

I [mA] : 12.8 mA
 Event : 2. pos. Edge
 Delay [ms] : - 500
 Sample Int. [ms] : 0.2

Verdict : PASS

Transient times : 0.0 ms



Acceptance of breaks in the loop

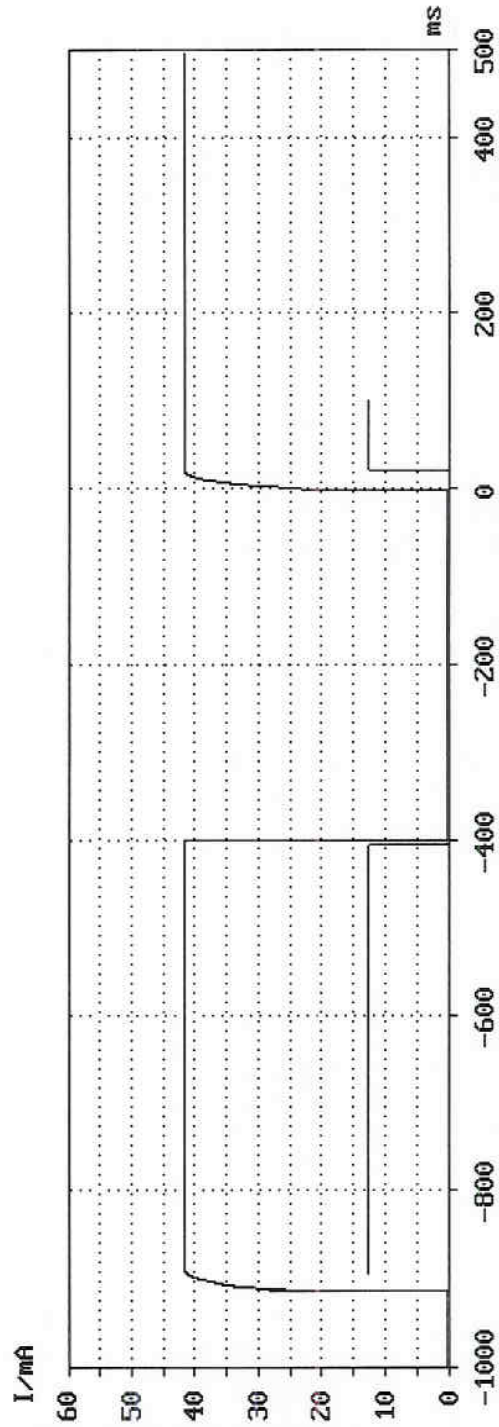
Test Job : 60.860.6.106.01 Current limit : 100.0 mA
 TEUT : H-315 Feeding voltage : 50.0 V
 Manufacturer : - Feeding interruption: after 500 ms for 400 ms
 Operator : - Drop resistor : 850.0 Ohm
 Date : 7.06.06 Polarity : Normal

Parameter set : ETSI ES 203 021-3 4.6.1 test 2
 Remark : -

Trigger : OK

I [mA] : 12.8 mA
 Event : 2. pos. Edge
 Delay [ms] : - 1000
 Sample Int. [ms] : 0.2

Verdict : PASS
 Transient times : 0.0 ms



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:09.15

Remark : -

t0 : 0.0 ms

t01 : 0.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 150000.0 Ohm

Polarity : Normal

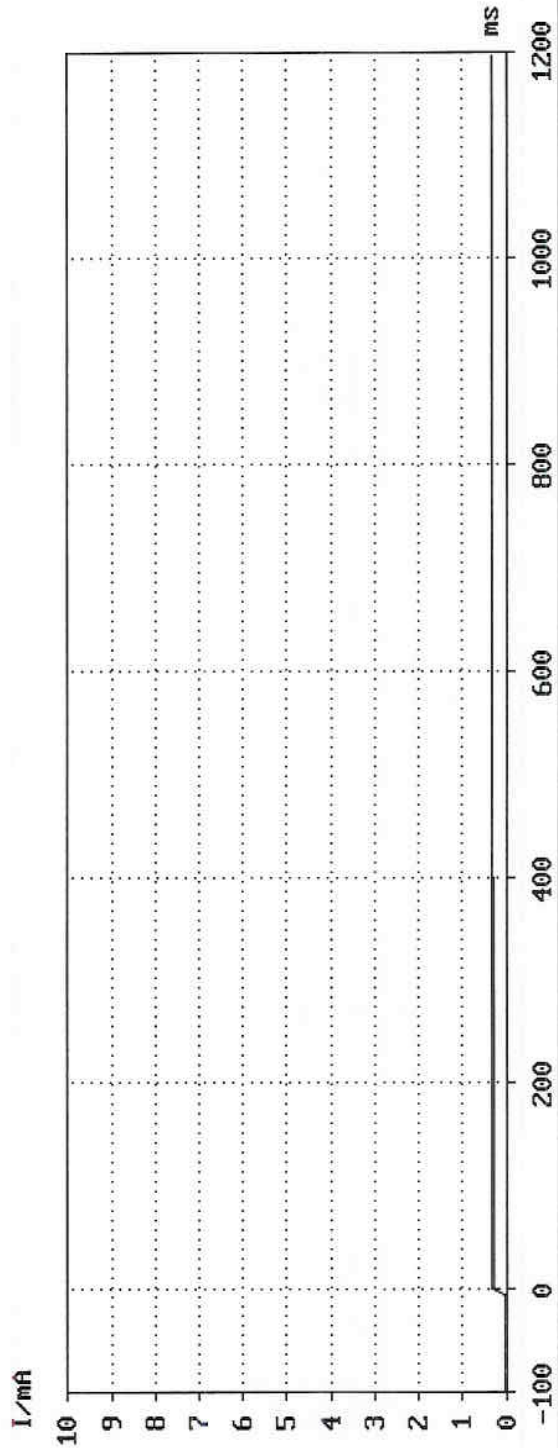
Trigger : OK

I [mA] : 0.1

Event : 1. pos. Edge

Delay [ms] : - 100

Sample Int. [ms] : 5.0



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:09.53

Remark : -

t0 : 0.0 ms

t01 : 0.0 ms

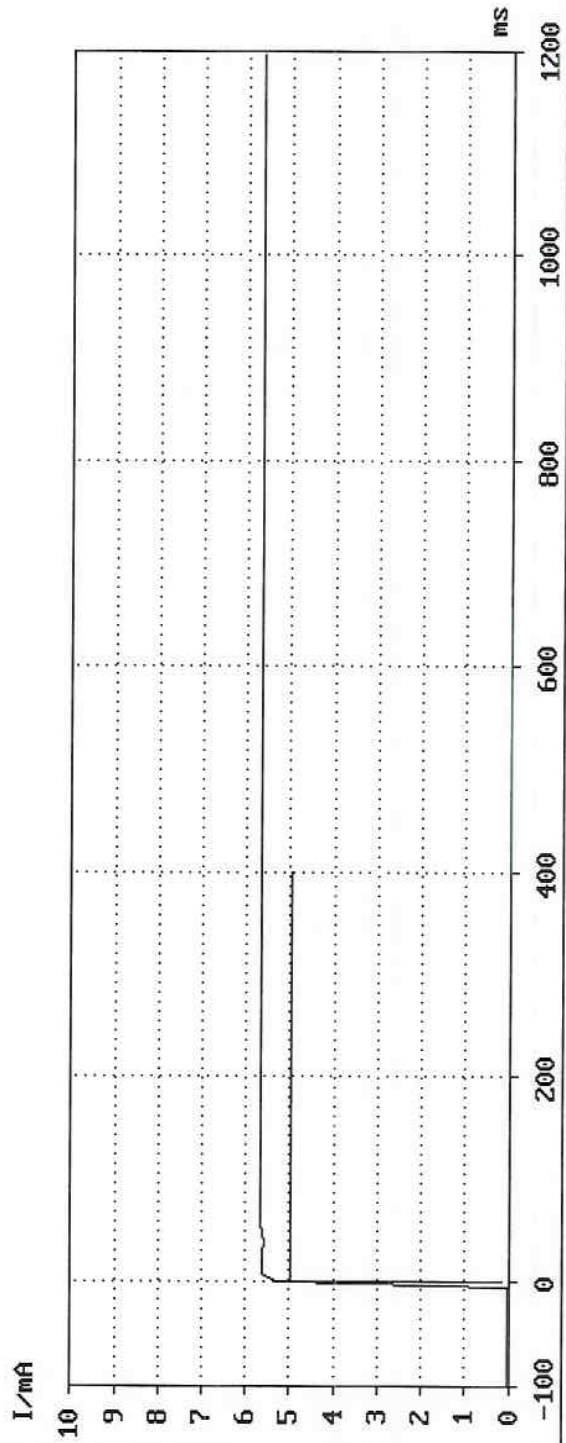
Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA
 Feeding voltage : 50.0 V
 Drop resistor : 8000.0 Ohm
 Polarity : Normal

Trigger : OK

I [mA] : 0.1
 Event : 1. pos. Edge
 Delay [ms] : - 100
 Sample Int. [ms] : 5.0



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:11.21

Remark : -

t0 : 0.0 ms

t01 : 1.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 36000.0 Ohm

Polarity : Normal

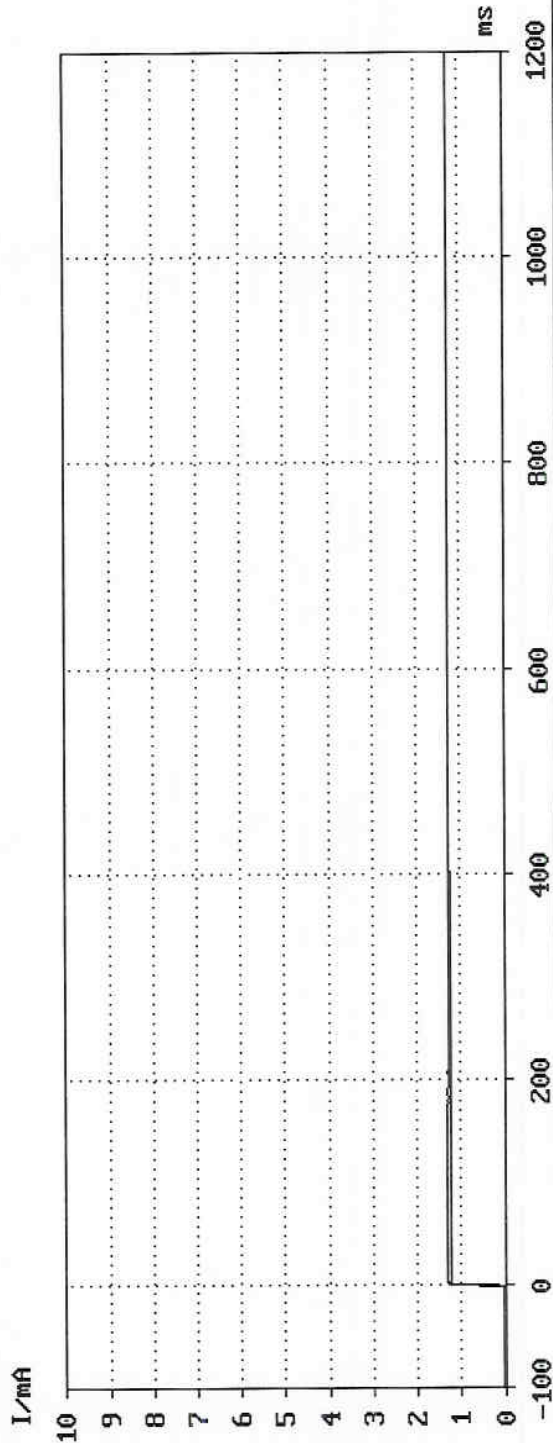
Trigger : OK

I [mA] : 0.1

Event : 1. pos. Edge

Delay [ms] : - 100

Sample Int. [ms] : 1.0



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 2

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:10.36

Remark : -

t0 : 0.0 ms

t01 : 1.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 24000.0 Ohm

Polarity : Normal

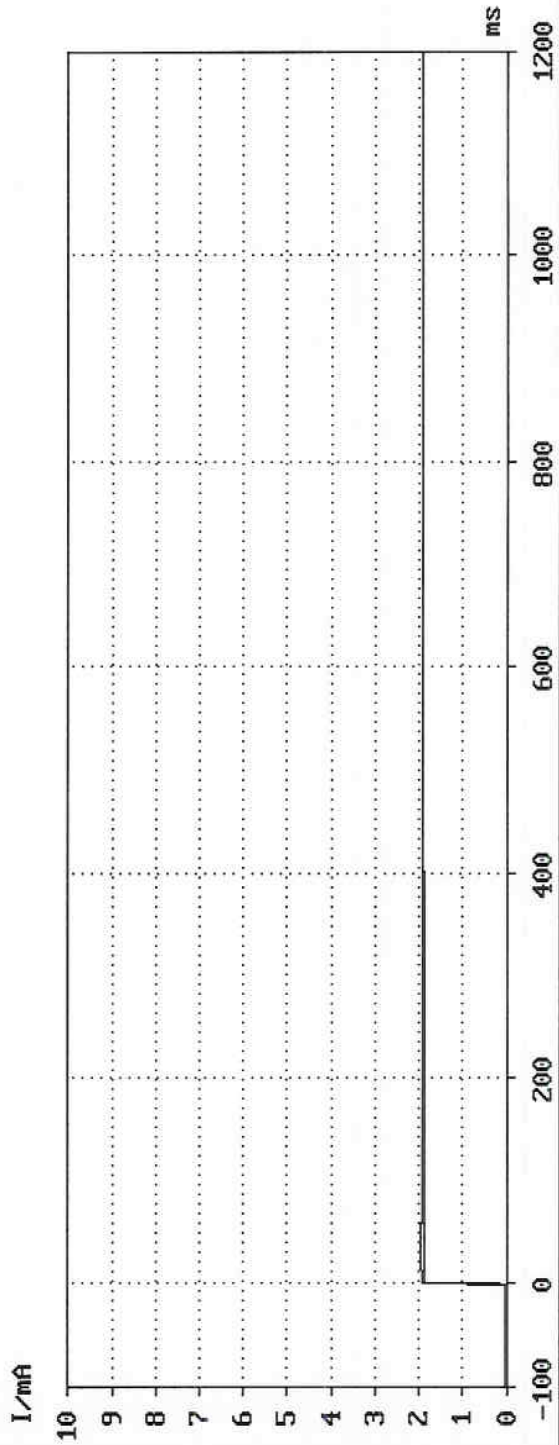
Trigger : OK

I [mA] : 0.1

Event : 1. pos. Edge

Delay [ms] : - 100

Sample Int. [ms] : 1.0



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 3

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:12.03

Remark : -

t0 : 0.0 ms

t01 : 0.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 400.0 Ohm

Polarity : Normal

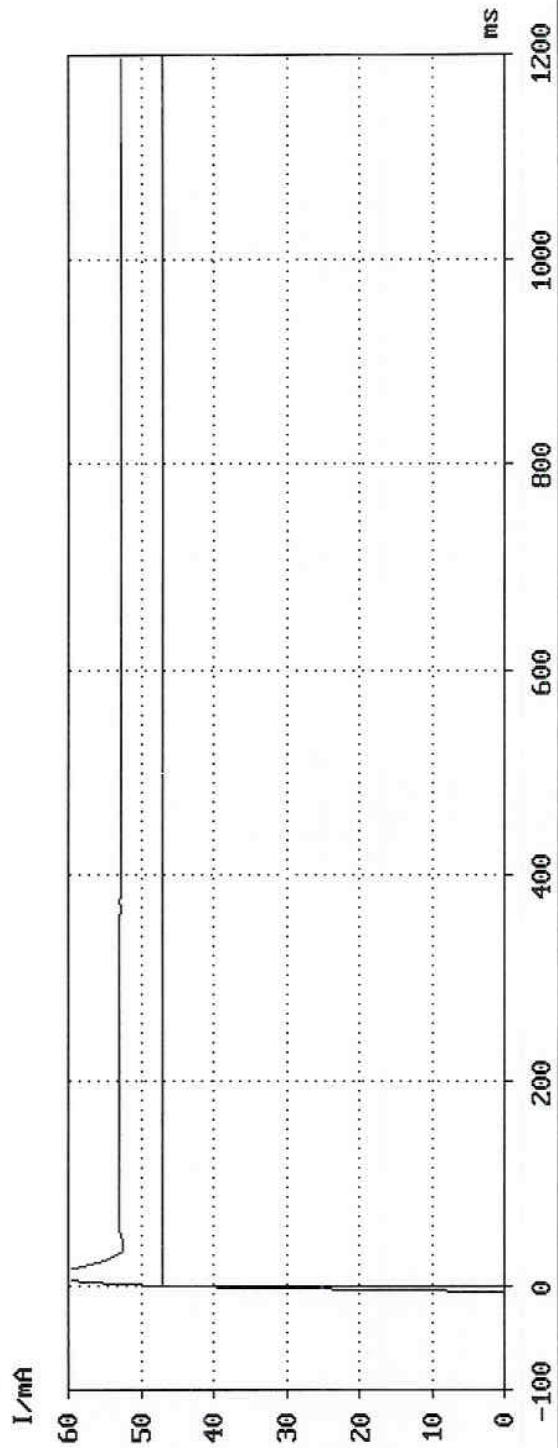
Trigger : OK

I [mA] : 0.1

Event : 1. pos. Edge

Delay [ms] : ~ 100

Sample Int. [ms] : 5.0



Transition quiescent to loop current

ETSI ES 203 021-3 4.6.2 Loop Current Characteristics Table 3

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:29.18

Remark : -

t0 : 0.0 ms

t01 : 18.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 2800.0 Ohm

Polarity : Normal

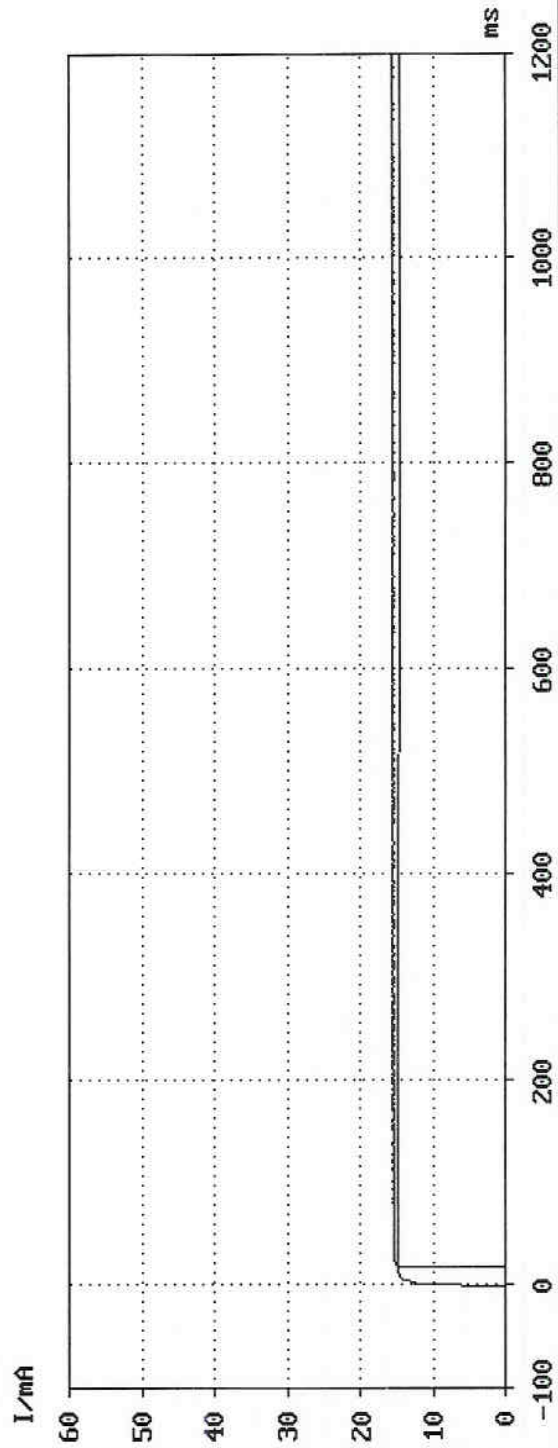
Trigger : OK

I [mA] : 0.1

Event : 1. pos. Edge

Delay [ms] : - 100

Sample Int. [ms] : 1.0



ETSI ES 203 021-3 4.6.3 Ring Trip

4.6.4 On Hook to Off Hook transition with ringing without DC

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 15.05.06
 Time : 14:30.11
 Remark : -
 t1 : 0 ms
 t2 : 40 ms

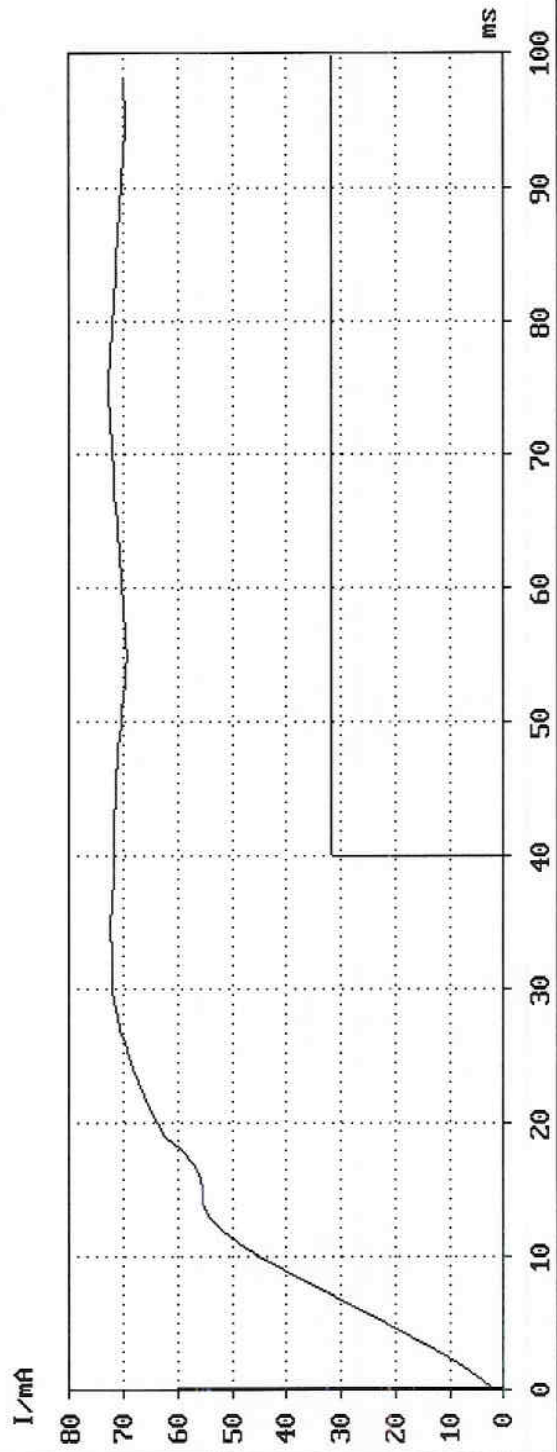
TEST SPECIFICATION: 25 Hz Ring

Verdict : PASS

Current limitation: 100.0 mA
 Feeding voltage : 50.0 V
 Drop resistor : 800.0 Ohm

Trigger : OK

Ring Trip Limit I > 36 mA
 I [mA] : 40.0
 Event : 1. pos. Edge
 Delay [ms]: - 40
 Sample Int. [ms]: 1.0



ETSI ES 203 021-3 4.6.3 Ring Trip

4.6.4 On Hook to Off Hook transition with ringing without DC

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:31.53

Remark : -

t1 : 0 ms

t2 : 40 ms

TEST SPECIFICATION: 50 Hz Ring

Verdict : **PASS**

Current limitation: 100.0 mA
Feeding voltage : 50.0 V
Drop resistor : 800.0 Ohm

Trigger : OK

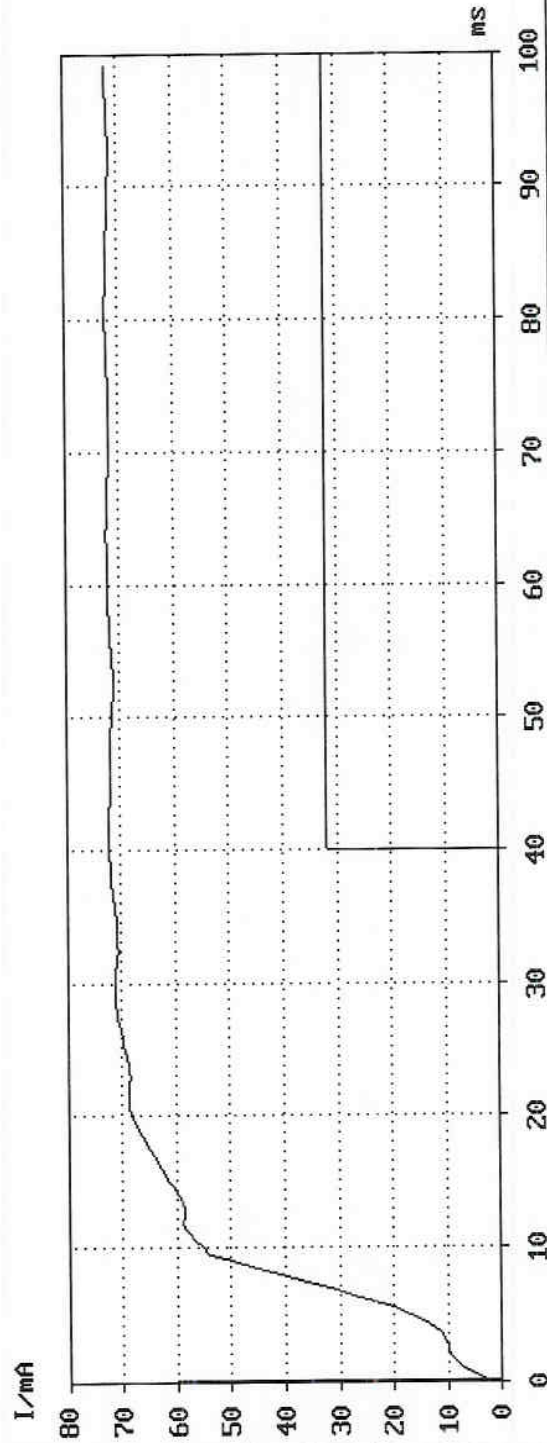
Ring Trip Limit I > 36 mA

I [mA] : 40.0

Event : 1. pos. Edge

Delay [ms] : - 40

Sample Int. [ms] : 0.5



DC characteristics

ETSI ES 203 021-3 4.7.1

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 14:36.15

Remark : -

Feeding voltage : 50.0 V

Feed current/limit: 100.0 mA

Feeding Bridge : TBR 21

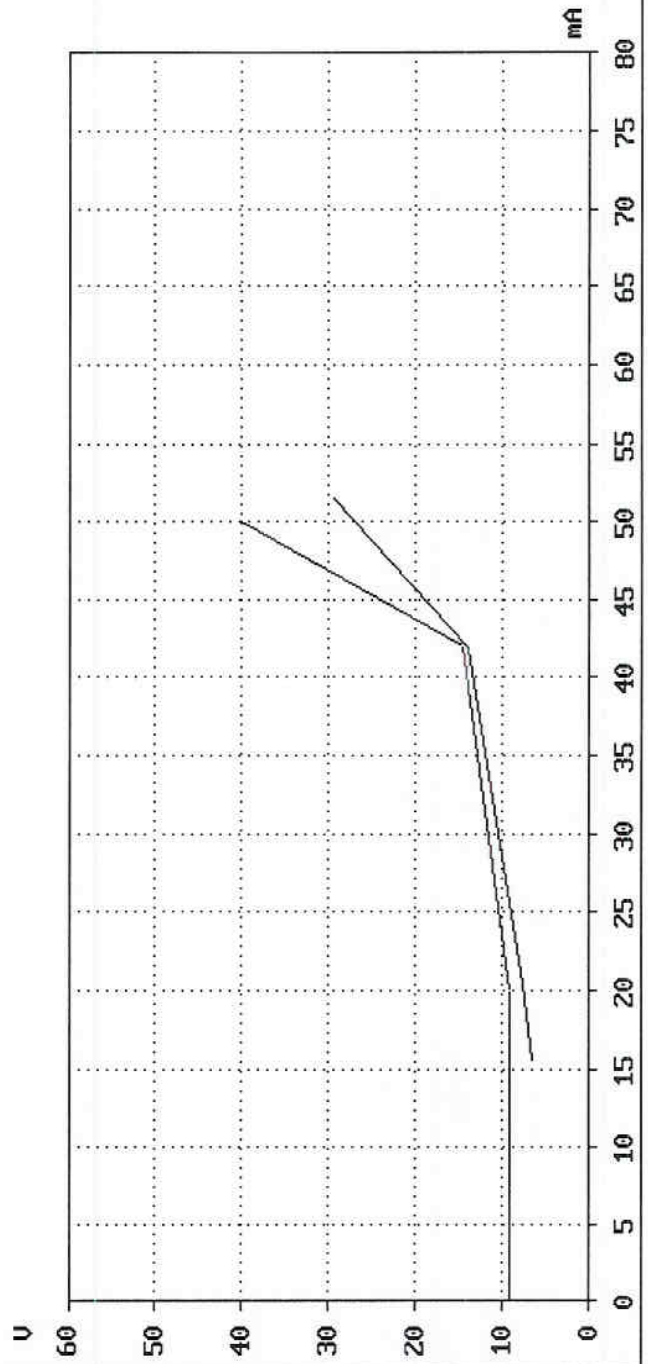
Measurement Time : 0.2 sec

Settling Time : 3.0 sec

Mask violations: 0

Verdict : PASS

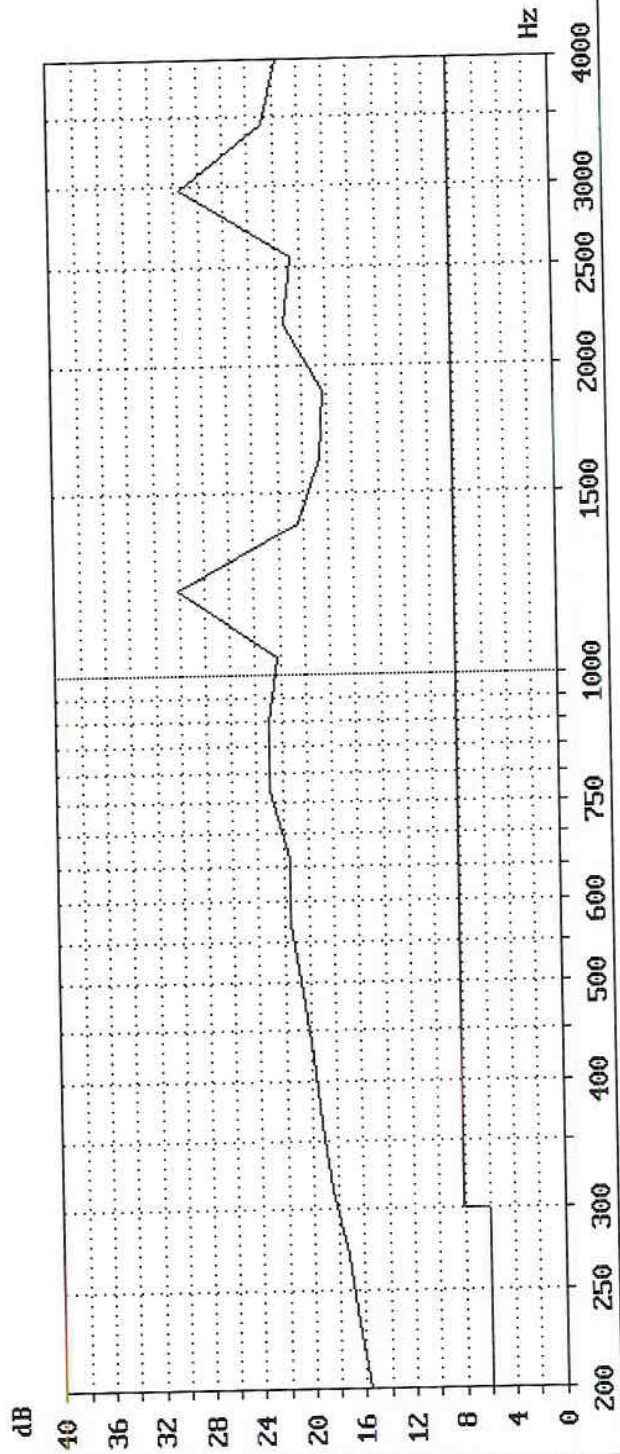
Trigger : OK



ESTI ES 203 021-3 4.7.2 Impedance

Test Job	: 60.860.6.106.01	Current Limitation	: 65.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 2800 Ω
Operator	: -	Polarity	: Normal
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:35.03	Level	: -10.0 dBV
Remark	: -	Ref. impedance Zr	: Zr TBR21

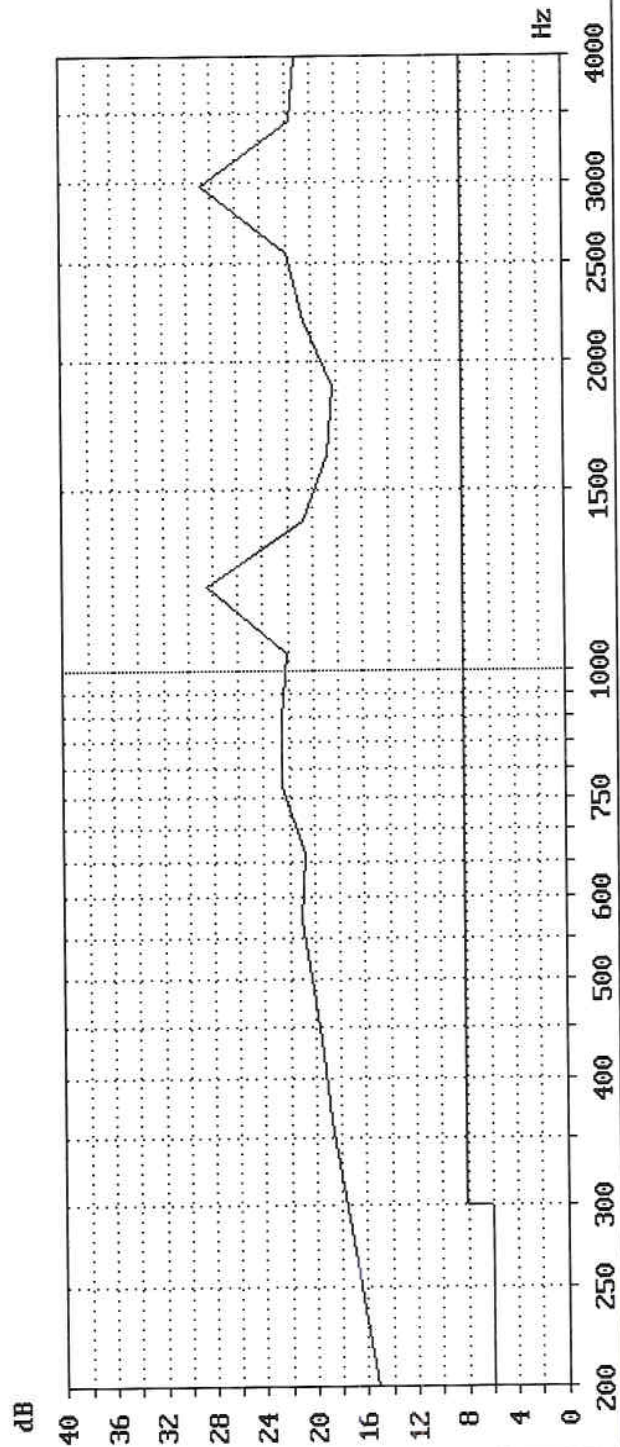
Tol.mask violations: 0
Verdict : PASS



ESTI ES 203 021-3 4.7.2 Impedance

Test Job	: 60.860.6.106.01	Current Limitation	: 65.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 2050 Ω
Operator	: -	Polarity	: Inverted
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:35.53	Level	: -10.0 dBV
Remark	: -	Ref. impedance Zr	: Zr TBR21

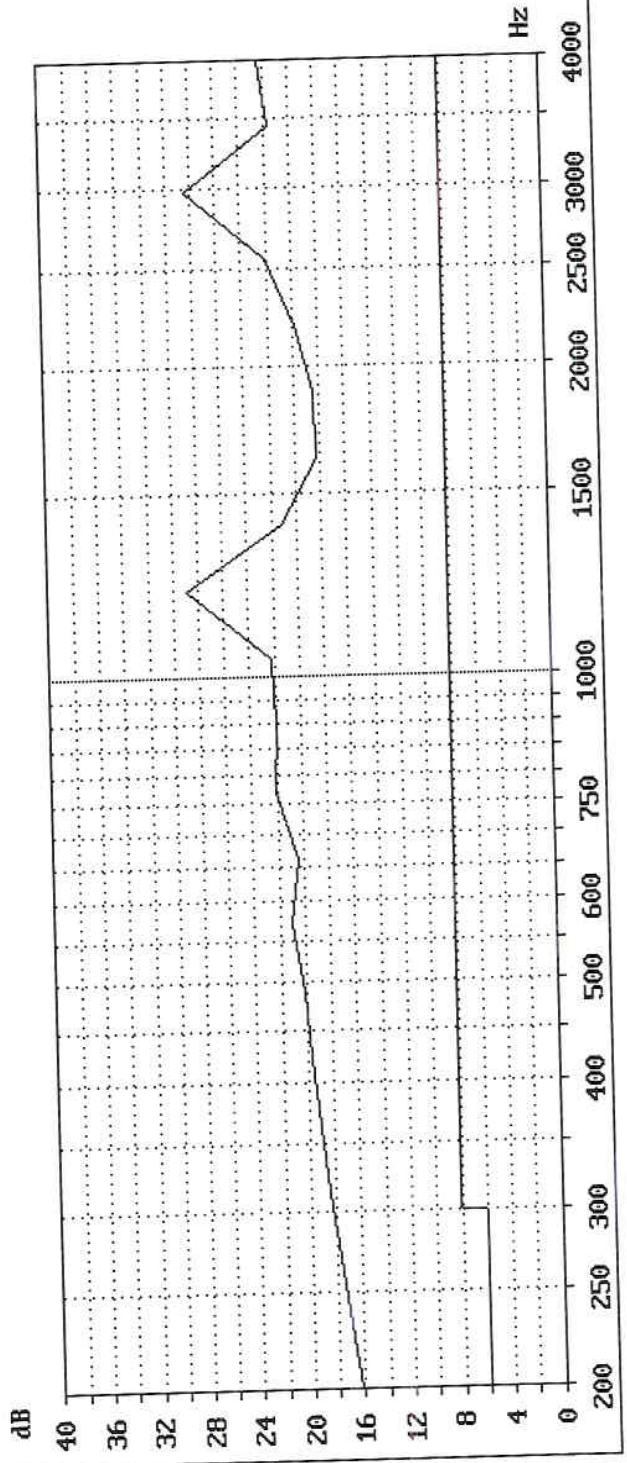
Tol.mask violations: 0
 Verdict : PASS



ESTI ES 203 021-3 4.7.2 Impedance

Test Job	: 60.860.6.106.01	Current Limitation	: 65.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 850 Ω
Operator	: -	Polarity	: Normal
Date	: 7.06.06	Feeding Bridge	: TBR Z1
Time	: 14:36.43	Level	: -10.0 dBV
		Ref. impedance Zr	: Zr TBRZ1

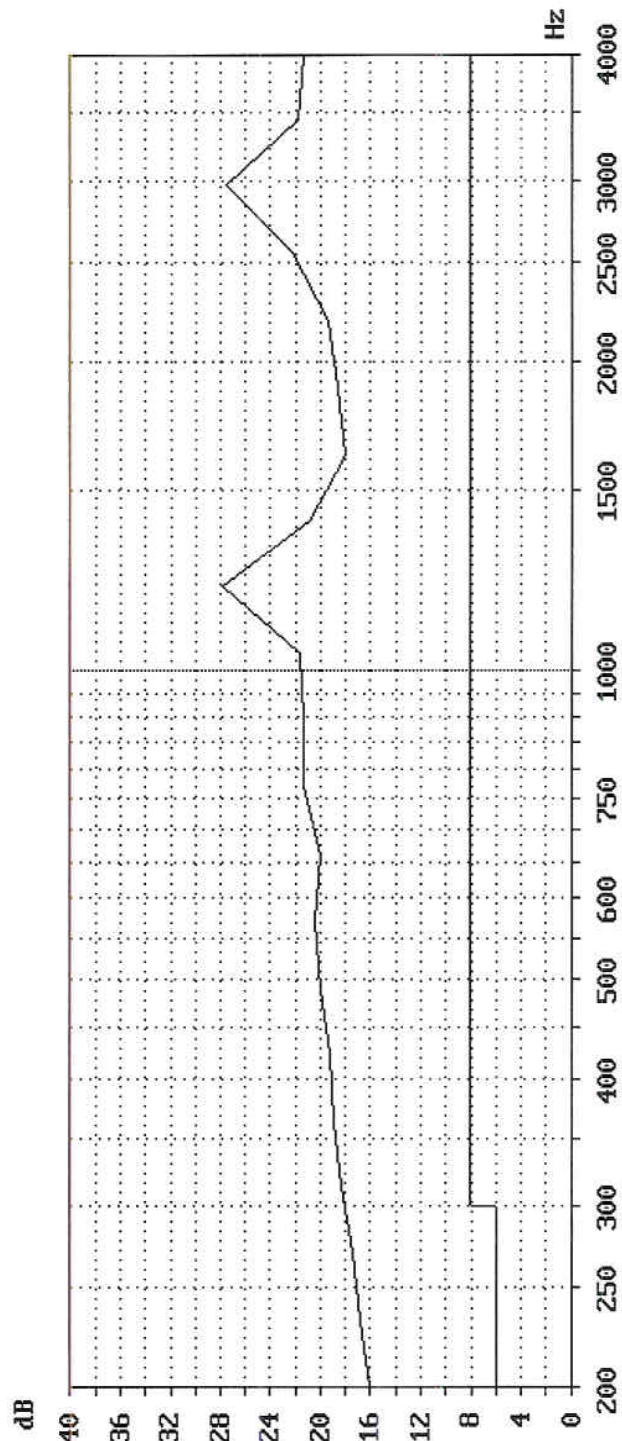
Remark : -
 Tol.mask violations: 0
 Verdict : PASS



ESTI ES 203 021-3 4.7.2 Impedance

Test Job	: 60.860.6.106.01	Current Limitation	: 65.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 400 Ω
Operator	: -	Polarity	: Inverted
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:37.38	Level	: -10.0 dBV
Remark	: -	Ref. impedance Zr	: Zr TBR21

Tol.mask violations: 0
 Verdict : PASS

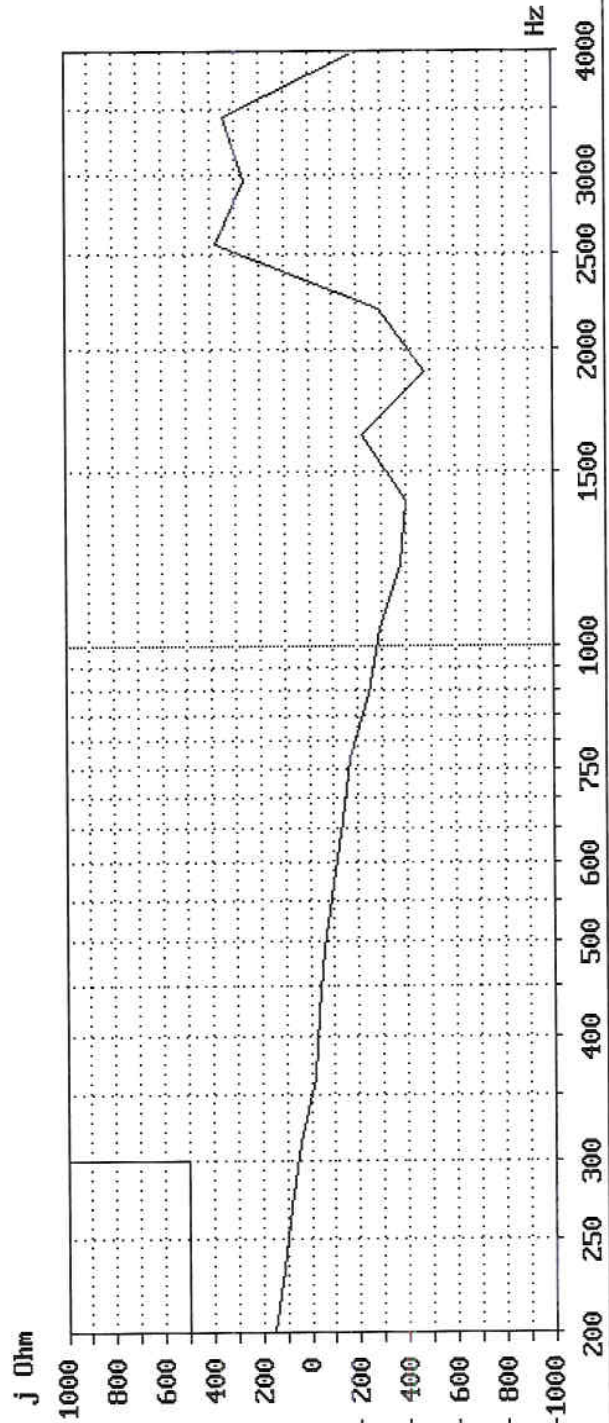


ETSI ES 203 021-3 4.7.2 Impedance

200 Hz to 300 Hz Measurement

Test Job	: 60.860.6.106.01	Current Limitation	: 100.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 2800.0 Ohm
Operator	: -	Polarity	: Normal
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:38.37	Level	: -10.0 dBV
Remark	: -	Display	: Reactance

Mask violations : 0
 Verdict : PASS

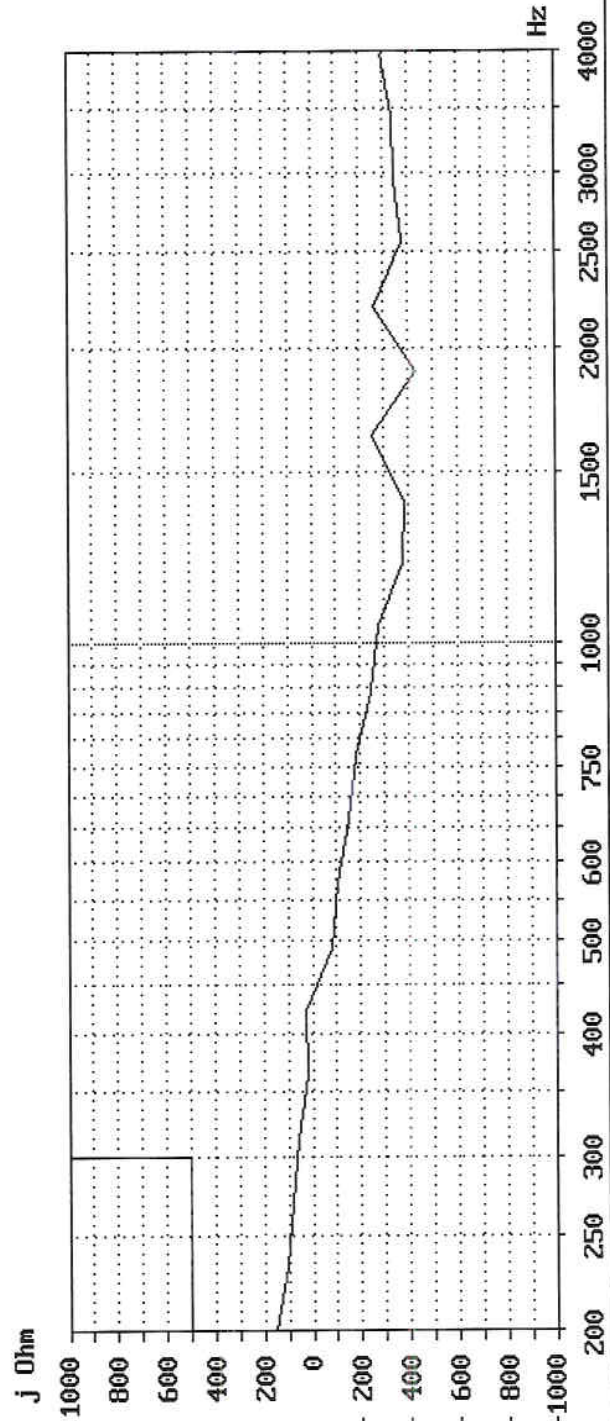


ETSI ES 203 021-3 4.7.2 Impedance

200 Hz to 300 Hz Measurement

Test Job	: 60.860.6.106.01	Current Limitation	: 100.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 2050.0 Ohm
Operator	: -	Polarity	: Inverted
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:46.00	Level	: -10.0 dBu
		Display	: Reactance

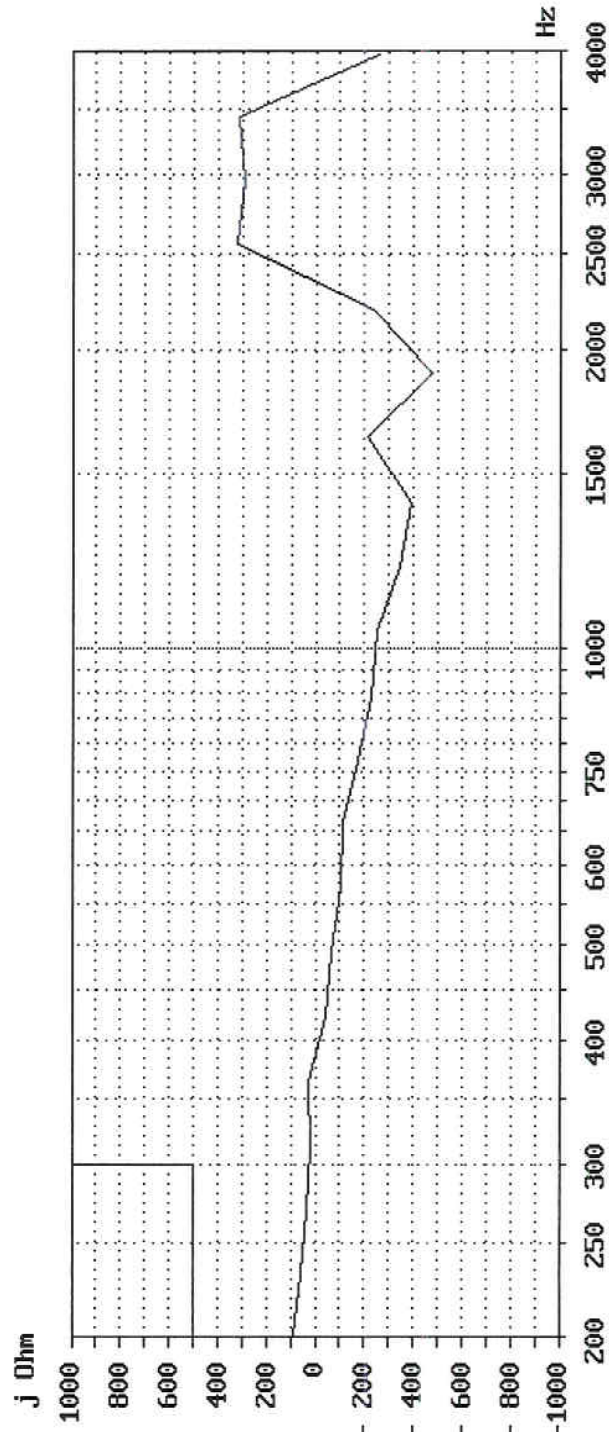
Remark : -
 Mask violations : 0
 Verdict : PASS



ETSI ES 203 021-3 4.7.2 Impedance 200 Hz to 300 Hz Measurement

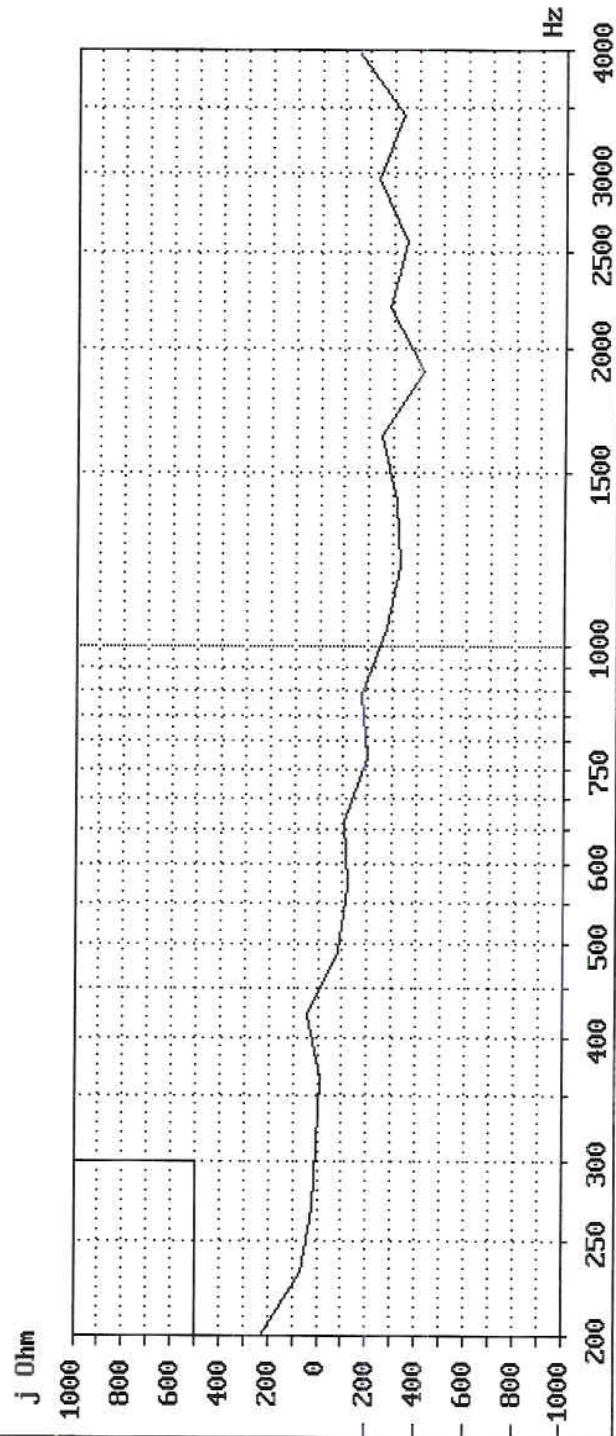
Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 7.06.06
 Time : 14:52.27
 Current Limitation : 100.0 mA
 Feeding Voltage : 50.0 V
 Feeding Resistor : 850.0 Ohm
 Polarity : Normal
 Feeding Bridge : TBR 21
 Level : -10.0 dBV
 Display : Reactance

Remark : -
 Mask violations : 0
 Verdict : PASS



ETSI ES 203 021-3 4.7.2 Impedance 200 Hz to 300 Hz Measurement

Test Job	: 60.860.6.106.01	Current Limitation	: 100.0 mA
TEUT	: H-315	Feeding Voltage	: 50.0 V
Manufacturer	: -	Feeding Resistor	: 400.0 Ohm
Operator	: -	Polarity	: Inverted
Date	: 7.06.06	Feeding Bridge	: TBR 21
Time	: 14:58.55	Level	: -10.0 dBV
Remark	: -	Display	: Reactance
Mask violations	: 0		
Verdict	: PASS		



Protocol for Resistance to earth

ETSI ES 203 021-3 4.7.3 Loop State

Date : 7.06.06 Feeding bridge : TBR 21
 Time : 15:05.20 Waiting Period : 30.0 sec
 Operator : -
 Test Job : 60.860.6.106.01
 TEUT : H-315 Verdict : PASS

Remark : -

Uf V	Rf Ω	Polarity	Ut V	Rt Ω	Measure	Limit M Ω	Current uA	Resistance M Ω
50.0	400	Normal	100.0	10000	a - E	1	< 2.0	> 50
50.0	400	Inverted	100.0	10000	b - E	1	< 2.0	> 50
50.0	400	Inverted	-100.0	10000	a - E	1	< 2.0	> 50
50.0	400	Normal	-100.0	10000	b - E	1	< 2.0	> 50

Protocol for Resistance to earth		
ETSI ES 203 021-3 4.7.3 Loop State		
Date	: 7.06.06	Feeding bridge : TBR 21
Time	: 15:08.33	Waiting Period : 30.0 sec
Operator	: -	
Test Job	: 60.860.6.106.01	
TEUT	: H-315	Verdict : PASS
Remark	: -	
	Resistance	Limit
	MΩ	MΩ
Rp	15.43	1.0
Rn	16.07	1.0

Protocol for Automatic dialling

Automatic dialling

ETSI ES 203 021-3 4.8.1.1

Dialling Without Dial tone detection

Date	: 15.05.06	Current limitation	: 100.0 mA
Time	: 13:36.59	Feeding voltage	: 50.0 V
Operator	: -	Polarity	: Normal
Test Job	: 60.860.6.106.01	Feeding bridge	: TBR 21
TEUT	: H-315	Feeding resistor	: 850.0 Ohm
Manufacturer:	-	Trigger level/hold	: -12.0 dBV 0 msec
		Receiver impedance	: Zr TBR21

Remark : -

Limit	: 2.7 s ... 8.0s	Emit dial tone	: No
Verdict	: PASS	after	: - ms

Frequency Hz	Level dBV	T seize s	T dial s	Dialled
No dial tone		3.09	-	123

Protocol for DTMF Levels and Frequencies Auto

DTMF Levels and Frequencies Auto

ETSI ES 203 021-3 4.8.2.2.1/2

Date	: 15.05.06	Feeding bridge	: TBR 21
Time	: 13:33.16	Feeding Voltage	: 50.0 V
Operator	: -	Feeding resistor	: 400.0 Ohm
Test Job	: 60.860.6.106.01	Polarity	: Inverted
TEUT	: H-315	Triggerlevel/delay	: -9.0 dBV 10 msec
Manufacturer:	-	Receiver Impedance	: Zr TBR21

Remark : -

Limits fu : -13.0 ... -8.5 Verdict : PASS
 Limits fo : -11.5 ... -7.0
 Limits Preemphasis : 1.0 ... 4.0 dB
 Limit Frequency deviation : 1.5 %

F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 10.94	1209.0	+ 0.0	- 8.81	- 6.74	2.13	1
697.0	+ 0.0	- 10.94	1336.0	+ 0.0	- 9.04	- 6.88	1.9	2
697.0	+ 0.0	- 10.93	1477.0	+ 0.0	- 9.3	- 7.03	1.63	3
770.0	+ 0.0	- 10.94	1209.0	+ 0.0	- 8.81	- 6.74	2.13	4
770.0	+ 0.0	- 10.94	1336.0	+ 0.0	- 9.04	- 6.88	1.9	5
770.0	+ 0.0	- 10.94	1477.0	+ 0.0	- 9.3	- 7.03	1.64	6
852.0	+ 0.0	- 10.98	1209.0	+ 0.0	- 8.8	- 6.74	2.18	7
852.0	+ 0.0	- 10.98	1336.0	+ 0.0	- 9.02	- 6.88	1.96	8
852.0	+ 0.0	- 10.97	1477.0	+ 0.0	- 9.29	- 7.04	1.68	9
941.0	+ 0.0	- 11.05	1209.0	+ 0.0	- 8.79	- 6.76	2.26	*
941.0	+ 0.0	- 11.05	1336.0	+ 0.0	- 9.01	- 6.9	2.04	0
941.0	+ 0.0	- 11.05	1477.0	+ 0.0	- 9.28	- 7.07	1.77	#

Protocol for DTMF Levels and Frequencies Auto

DTMF Levels and Frequencies Auto

ETSI ES 203 021-3 4.8.2.1 Frequency Combination

Date : 15.05.06 Feeding bridge : TBR 21
 Time : 13:35.41 Feeding Voltage : 50.0 V
 Operator : - Feeding resistor : 850.0 Ohm
 Test Job : 60.860.6.106.01 Polarity : Normal
 TEUT : H-315 Triggerlevel/delay : -9.0 dBV 10 msec
 Manufacturer: - Receiver Impedance : Zr TBR21

Remark : -

Limit Frequency deviation : 1.5 %

F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 10.93	1209.0	+ 0.0	- 8.8	- 6.73	2.13	1
697.0	+ 0.0	- 10.92	1336.0	+ 0.0	- 9.03	- 6.86	1.89	2
697.0	+ 0.0	- 10.92	1477.0	+ 0.0	- 9.29	- 7.02	1.63	3
770.0	+ 0.0	- 10.93	1209.0	+ 0.0	- 8.8	- 6.73	2.13	4
770.0	+ 0.0	- 10.93	1336.0	+ 0.0	- 9.02	- 6.86	1.91	5
770.0	+ 0.0	- 10.93	1477.0	+ 0.0	- 9.29	- 7.02	1.64	6
852.0	+ 0.0	- 10.97	1209.0	+ 0.0	- 8.79	- 6.73	2.18	7
852.0	+ 0.0	- 10.97	1336.0	+ 0.0	- 9.02	- 6.88	1.95	8
852.0	+ 0.0	- 10.97	1477.0	+ 0.0	- 9.29	- 7.04	1.68	9
941.0	+ 0.0	- 11.06	1209.0	+ 0.0	- 8.8	- 6.77	2.26	*
941.0	+ 0.0	- 11.05	1336.0	+ 0.0	- 9.02	- 6.91	2.03	0
941.0	+ 0.0	- 11.05	1477.0	+ 0.0	- 9.28	- 7.07	1.77	#

Protocol for DTMF unwanted frequencies Auto

DTMF unwanted frequencies Auto

ETSI ES 203 021-3 4.8.2.3 Unwanted Frequency components

Date : 15.05.06
 Time : 13:37.47
 Operator : -
 Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer: -
 Remark : -
 Limit : 20.0 dB
 Verdict : PASS

Feeding voltage : 50.0 V
 Polarity : Normal
 Feeding resistor : 2800.0 Ohm
 Feeding bridge : TBR 21
 Trigger level/hold : -9.0 dBV 1 msec
 Receiver impedance : Zr TBR21
 Network tone : no tone

p low dBV	p total dBV	Loss dB	Digit
- 11.2	- 7.4	30 dB	3
- 11.2	- 7.3	30 dB	5
- 11.5	- 7.2	24 dB	7
- 11.3	- 7.3	29 dB	0

Protocol for DTMF unwanted frequencies Auto			
DTMF unwanted frequencies Auto			
ETSI ES 203 021-3 4.8.2.3 Unwanted Frequency components			
Date	: 15.05.06	Feeding voltage	: 50.0 V
Time	: 13:42.01	Polarity	: Inverted
Operator	: -	Feeding resistor	: 400.0 Ohm
Test Job	: 60.860.6.106.01	Feeding bridge	: TBR 21
TEUT	: H-315	Trigger level/hold	: -9.0 dBV 1 msec
Manufacturer:	-	Receiver impedance	: Zr TBR21
Remark	: -		
Limit	: 20.0 dB	Network tone	: no tone
Verdict	: PASS		
p low dBV	p total dBV	Loss dB	Digit
- 10.9	- 7.1	30 dB	3
- 10.9	- 7.0	30 dB	5
- 11.2	- 6.9	24 dB	7
- 11.1	- 7.0	29 dB	0

Protocol for DTMF Levels and Frequencies Auto

DTMF Levels and Frequencies Auto

ETSI ES 203 021-3 4.8.2.2.1/2

Date	: 15.05.06	Feeding bridge	: TBR 21
Time	: 13:31.34	Feeding Voltage	: 50.0 V
Operator	: -	Feeding resistor	: 2800.0 Ohm
Test Job	: 60.860.6.106.01	Polarity	: Normal
TEUT	: H-315	Triggerlevel/delay	: -9.0 dBV 10 msec
Manufacturer:	-	Receiver Impedance	: Zr TBR21

Remark : -

Limits fu : -13.0 ... -8.5 Verdict : PASS
 Limits fo : -11.5 ... -7.0
 Limits Preemphasis : 1.0 ... 4.0 dB
 Limit Frequency deviation : 1.5 %

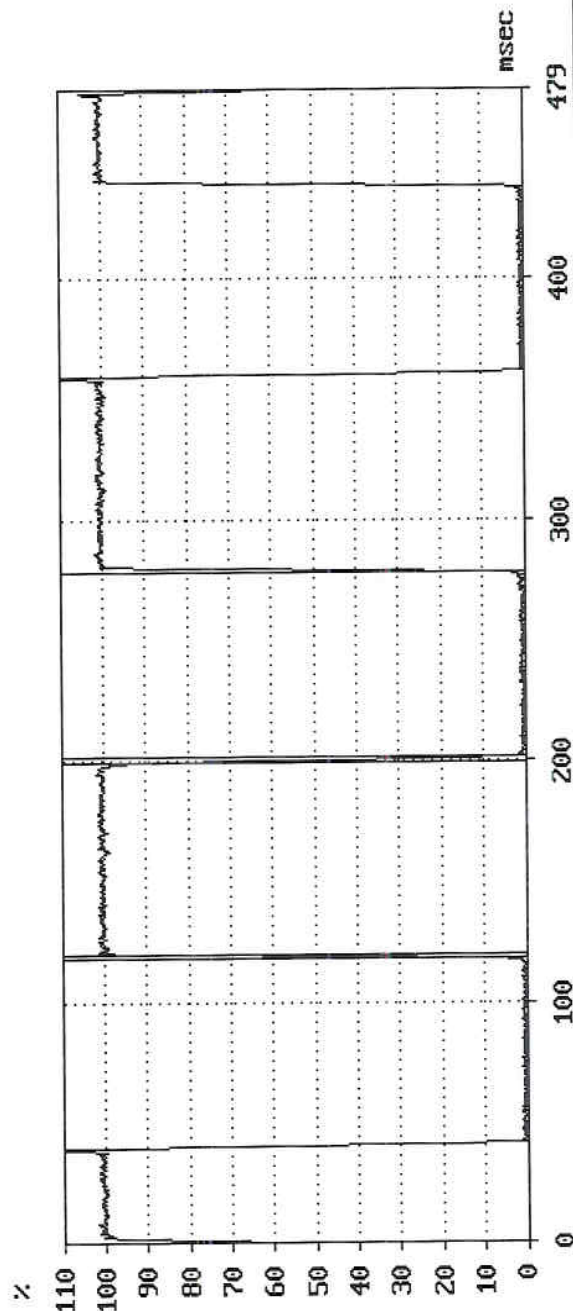
F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 11.21	1209.0	+ 0.0	- 9.12	- 7.03	2.09	1
697.0	+ 0.0	- 11.21	1336.0	+ 0.0	- 9.35	- 7.17	1.86	2
697.0	+ 0.0	- 11.21	1477.0	+ 0.0	- 9.62	- 7.33	1.59	3
770.0	+ 0.0	- 11.22	1209.0	+ 0.0	- 9.12	- 7.03	2.1	4
770.0	+ 0.0	- 11.22	1336.0	+ 0.0	- 9.34	- 7.17	1.88	5
770.0	+ 0.0	- 11.22	1477.0	+ 0.0	- 9.62	- 7.34	1.6	6
852.0	+ 0.0	- 11.27	1209.0	+ 0.0	- 9.11	- 7.05	2.16	7
852.0	+ 0.0	- 11.27	1336.0	+ 0.0	- 9.34	- 7.19	1.93	8
852.0	+ 0.0	- 11.27	1477.0	+ 0.0	- 9.62	- 7.36	1.65	9
941.0	+ 0.0	- 11.36	1209.0	+ 0.0	- 9.11	- 7.08	2.25	*
941.0	+ 0.0	- 11.36	1336.0	+ 0.0	- 9.34	- 7.22	2.02	0
941.0	+ 0.0	- 11.36	1477.0	+ 0.0	- 9.61	- 7.39	1.75	#

DTMF Tone/Pause duration

ETSI ES 203 021-3 4.8.2.4 / 4.8.2.5

Test Job	: 60.860.6.106.01	Level (Pause)	: -60 dBV (-40.0 dBV)
TEUT	: H-315	tp	: 77 ms (65.0 ... 6500.0 ms)
Manufacturer	: -	ts	: 81 ms (65.0 ... 100.0 ms)
Operator	: -	Rec. Impedance	: Zr TBR21
Date	: 15.05.06	Frequency group	: upper
Time	: 13:51.56	Feeding voltage	: 50.0 V
		Feeding resistor	: 850.0 Ohm
		Feeding bridge	: TBR 21
		Polarity	: Normal

Remark : -
 Trigger : OK
 Verdict : PASS

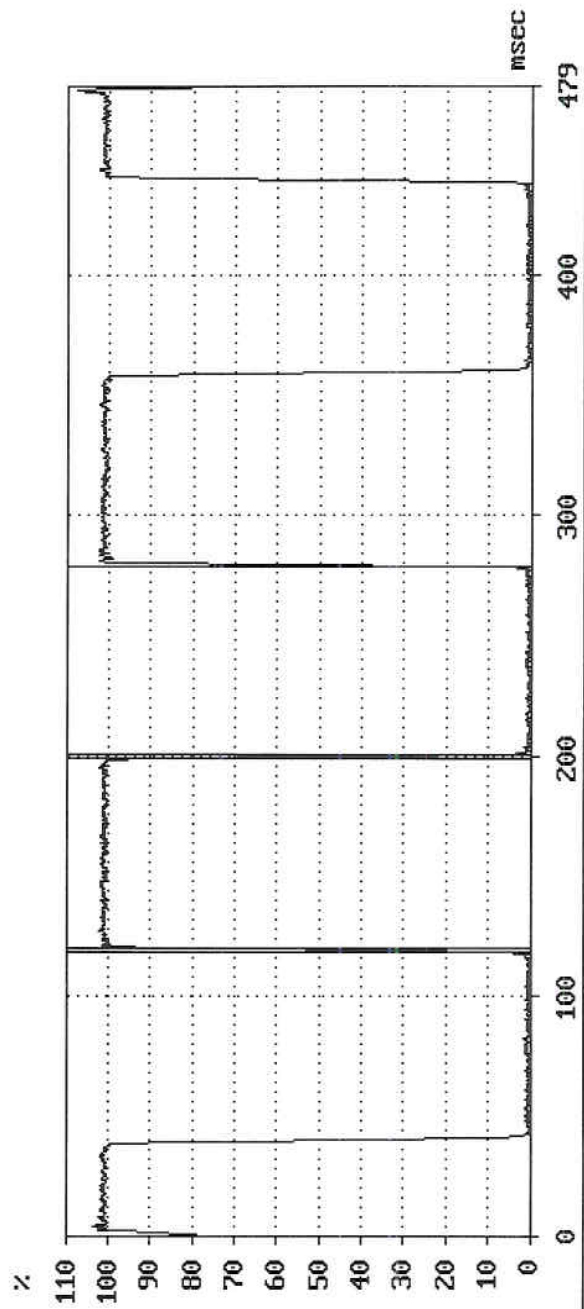


DTMF Tone/Pause duration

ETSI ES 203 021-3 4.8.2.4 / 4.8.2.5

Test Job : 60.860.6.106.01
 TEUT : H-315
 Manufacturer : -
 Operator : -
 Date : 15.05.06
 Time : 13:53.32
 Level (Pause) : -63 dBV (-40.0 dBV)
 tp : 78 ms (65.0 ... 6500.0 ms)
 ts : 81 ms (65.0 ... 100.0 ms)
 Rec. Impedance : Zr TBR21
 Frequency group : upper
 Feeding voltage : 50.0 V
 Feeding resistor : 850.0 Ohm
 Feeding bridge : TBR 21
 Polarity : Inverted

Remark : -
 Trigger : OK
 Verdict : PASS



Protocol for DTMF Levels and Frequencies Auto

DTMF Levels and Frequencies Auto

ETSI ES 203 021-3

4.8.5 Call Attempt on a low voltage line

Date : 15.05.06 Feeding bridge : TBR 21
 Time : 13:34.17 Feeding Voltage : 38.0 V
 Operator : - Feeding resistor : 750.0 Ohm
 Test Job : 60.860.6.106.01 Polarity : Normal
 TEUT : H-315 Triggerlevel/delay : -9.0 dBV 10 msec
 Manufacturer: - Receiver Impedance : Zr TBR21

Remark : -

Limits fu : -13.0 ... -8.5 Verdict : PASS
 Limits fo : -11.5 ... -7.0
 Limits Preemphasis : 1.0 ... 4.0 dB
 Limit Frequency deviation : 1.5 %

F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 10.91	1209.0	+ 0.0	- 8.78	- 6.71	2.13	1
697.0	+ 0.0	- 10.91	1336.0	+ 0.0	- 9.01	- 6.85	1.9	2
697.0	+ 0.0	- 10.91	1477.0	+ 0.0	- 9.27	- 7.0	1.64	3
770.0	+ 0.0	- 10.91	1209.0	+ 0.0	- 8.78	- 6.71	2.13	4
770.0	+ 0.0	- 10.91	1336.0	+ 0.0	- 9.01	- 6.85	1.9	5
770.0	+ 0.0	- 10.91	1477.0	+ 0.0	- 9.27	- 7.0	1.64	6
852.0	+ 0.0	- 10.96	1209.0	+ 0.0	- 8.77	- 6.72	2.19	7
852.0	+ 0.0	- 10.96	1336.0	+ 0.0	- 9.0	- 6.86	1.96	8
852.0	+ 0.0	- 10.95	1477.0	+ 0.0	- 9.27	- 7.02	1.68	9
941.0	+ 0.0	- 11.04	1209.0	+ 0.0	- 8.78	- 6.75	2.26	*
941.0	+ 0.0	- 11.04	1336.0	+ 0.0	- 9.0	- 6.89	2.04	0
941.0	+ 0.0	- 11.03	1477.0	+ 0.0	- 9.27	- 7.05	1.76	#

Transition loop to quiescent state

ETSI ES 203 021-3 4.9

Test Job : 60.860.6.106.01

TEUT : H-315

Manufacturer : -

Operator : -

Date : 15.05.06

Time : 13:54.34

Remark : -

t0 : 0.0 ms

t01 : 0.0 ms

Transient times : 0.0 ms

Verdict : PASS

Current limitation: 100.0 mA

Feeding voltage : 50.0 V

Drop resistor : 2050.0 Ohm

Polarity : Normal

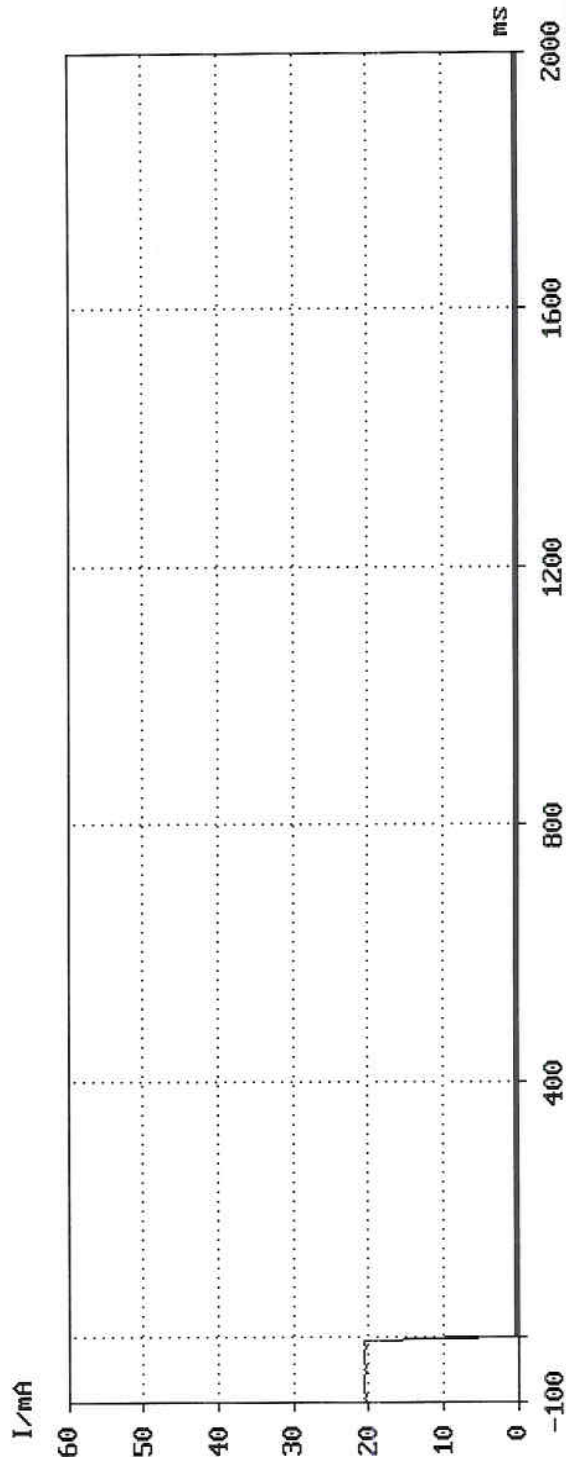
Trigger : OK

I [mA] : 10.0

Event : 1. neg. Edge

Delay [ms] : - 100

Sample Int. [ms] : 5.0



ANNEX D

CONSTRUCTION DATA FORM

S/N (SMD/MI)	DESCRIPTION	NEW PART NO.	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS
1	MILCC COG 8.2PF 50V 0.25PF 0402	210-34R8250-C01	0402	0402	1	C7	
2	MILCC NPO 10PF 50V 5% 0402	210-3010050-J01	0402	0402	4	C15,C34,C51,C91	
3	MILCC NPO 22PF 50V 5% 0402	210-3020050-J01	0402	0402	2	C23,C24	
4	RES VARIST 175VRMS	211-601812-050	RADIAL - 5mm	RADIAL - 5mm	1	C77	
5	MILCC XTR 1000PF 50V 10% 0402	210-3110250-K01	402	402	5	C43,C80,C82,C87,C98	
6	MILCC XTR 10NF 25V 10% 0402	210-3110325-K01	402	402	1	C9	
7	MILCC XTR 68NF 10V 10% 0402	210-3168310-K01	402	402	2	C37,C85	
8	MILCC XTR 0.1UF 16V 10% 0402	210-3110416-K01	0402	0402	20	C2,C5,C6,C12,C13,C14,C17,C18,C20,C21	
9	MILCC XTR 15NF 25V 10% 0402	210-3115255-K01	0402	0402	1	C36	
10	MILCC Y5V 220NF 10V +80-20% 0402	210-3322410-Z01	0402	0402	1	C29	
11	CAP ELEC 100UF 6.3V 20% 6.3X5	210-210707-042	RADIAL - 2.5mm	RADIAL - 2.5mm	1	EC9	
12	MILCC Y5V 1UF 10V +80-20% 0603	210-3310510-Z02	0603	0603	1	C16	
13	ELE 10UF 16V 20% 4X7 2.5MM	210-210616-042	RADIAL - 2.5MM	RADIAL - 2.5MM	2	EC5,EC8	
14	ELE STD 47UF 16V 20% 4X7 2.5MM	210-2047016-M40	RADIAL - 2.5MM	RADIAL - 2.5MM	3	EC1,EC2,EC4	
15	CAP ELEC 470UF 16V 20% 8X12	210-247716-032	RADIAL - 3.5mm	RADIAL - 3.5mm	1	EC7	
16	FILM MKMS 0.01UF 250V 20% 5MM 2.5X6.5X7.2	210-8710322-M41	RADIAL - 5mm	RADIAL - 5mm	2	C69,C70	
17	FILM MKMS 0.022UF 250V 20% 5MM 3.5X7.5X7.2	210-8722385-M41	RADIAL - 5mm	RADIAL - 5mm	2	C52,C54	
18	ELE 100UF 16V 20% 5X11 2.5MM	210-2110716-M40	RADIAL - 2.5MM	RADIAL - 2.5MM	1	EC6	

S/N (SMD/MI)	DESCRIPTION	NEW PART NO.	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS
19	RES CF 0 OHM 1/16W 5% 0402	211-000007-045	402	402	4	R12,R102,R105,R126	
20	RES CF 1 OHM 1/16W 5% 0402	211-001007-045	402	402	2	R28,R97	
21	RES CF 14 OHM 1/16W 1% 0402	211-014007-041	402	402	1	R63	
22	RES CF 51 OHM 1/16W 1% 1206	211-051004-121	1206	1206	1	R128	
23	RES CF 56 OHM 1/16W 5% 1206	211-056004-125	1206	1206	2	R113,R114	
24	RES CF 150 OHM 1/16W 5% 0402	211-015017-045	402	402	1	R40	
25	RES CF 680 OHM 2W 5% AXIAL	211-068015-005	AXIAL	AXIAL	1	R79	
26	RES CF 820 OHM 1/16W 5% 0402	211-082017-045	402	402	1	R99	
27	RES CF 330 OHM 1/16W 5% 0402	211-033017-045	402	402	3	R22,R39,R133	
28	RES CF 560 OHM 1/16W 5% 0402	211-056017-045	402	402	1	R41	
29	RES CF 1K OHM 1/16W 5% 0402	211-010027-045	402	402	5	R24,R44,R45,R71,R125	
30	RES CF 1.2K OHM 1/16W 5% 0402	211-012027-045	402	402	1	R70	
31	RES CF 1.5K OHM 1/16W 5% 0402	211-015027-045	402	402	1	R130	
32	RES CF 2.2K OHM 1/16W 5% 0402	211-022027-045	402	402	2	R124,R127	
33	RES CF 2.4K OHM 1/16W 5% 0402	211-024027-045	402	402	1	R122	
34	RES CF 2.8K OHM 1/16W 1% 0402	211-027027-041	402	402	1	R84	
35	RES CF 3.3K OHM 1/16W 5% 0402	211-033027-045	402	402	2	R9,R38	
36	RES CF 3.9K OHM 1/16W 5% 0402	211-039027-045	402	402	1	R29	
37	RES CF 4.7K OHM 1/16W 5% 0402	211-047027-045	402	402	5	R4,R5,R27,R36,R123	
38	RES CF 5.1K OHM 1/16W 5% 0402	211-051027-045	402	402	1	R51	
39	RES CF 6.8K OHM 1/16W 5% 0402	211-068027-045	402	402	1	R48	
40	RES CF 8.2K OHM 1/16W 5% 0402	211-082027-045	402	402	2	R14,R37	
41	RES CF 10K OHM 1/16W 5% 0402	211-010037-045	402	402	7	R10,R93,R95,R104,R129,R131,R132	
42	RES CF 33K OHM 1/16W 5% 0402	211-033037-045	402	402	2	R76,R82	
43	RES CF 47K OHM 1/16W 5% 0402	211-047037-045	402	402	2	R17,R75,R77	
44	RES CF 15K OHM 1/16W 5% 0402	211-015037-045	402	402	3	R6,R11,R35	
45	RES CF 22K OHM 1/16W 5% 0402	211-022037-045	402	402	1	R34	
46	RES CF 100K OHM 1/16W 5% 0402	211-010047-045	402	402	1	R108	
47	RES CF 120K OHM 1/16W 5% 0402	211-012047-045	402	402	1	R67	
48	RES CF 150K OHM 1/16W 5% 0402	211-015047-045	402	402	1	R33	
49	RES CF 390K OHM 1/16W 5% 0402	211-039047-045	402	402	1	R62	

S/N (SMD/MI)	DESCRIPTION	NEW PART NO.	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS
50	TRANS PNP BC607 SOT23	213-100013-030	SOT23	SOT23	4	Q1,Q2,Q7,Q20	
51	TRANS NPN BC817 SOT23	213-101014-030	SOT23	SOT23	3	Q3,Q4,Q9	
52	TRANS NPN MMBTA42 SOT23	213-101105-030	SOT23	SOT23	1	Q15	
53	TRANS PNP KSP94 TO92	213-100202-050	TO92	TO92	2	Q17,Q19	
54	TRANS PNP CMPTA92 SOT23	213-100079-030	SOT23	SOT23	1	Q11	
55	TRANS PNP MFS862 TO92	213-100177-050	TO92	TO92	1	Q5	

B A B T

AZTECH SYSTEMS LTD
R&D DEPARTMENT
BILL OF MATERIALS FOR 0.3 H315-S1 B/S PCBA

PROJECT CODE : 268-805058-B00
 REVISION : 0.3
 CHANGE NOTE (CN) : 0
 DATE : 28-Sep-2005

S/N (SMD/MI)	DESCRIPTION	NEW PART NO.	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS	UL
56	SMD DIODE S/ARR FDLL4448 MELF SOD80	213-201254-080	SOD80	SOD80	7	D16, D17, D18, D19, D20, D21, D22		
57	MI DIODE PWR 1N4004 DO41	213-203111-120	DO41 (PTH)	DO41 (PTH)	8	D8, D9, D10, D11, D12, D13, D14, D15		
ICs								
58	SMD EEPROM 24LC64 MICROCHIP SOIC8	219-007169-005	SOIC8	SOIC8	1	U2		
59	MI IC LM317 REG TO220	221-029406-930	TO220	TO220	1	U5		
60	SMD IC BB CONTR PCDB0703HL PHILIPS LQFP64	221-0360169-210	LQFP64	LQFP64	1	U3		
SOCKET								
61	MI JACK DC PWR TK18-001 TAI CHUNG	215-071009-030	PTH	PTH	1	J2		
62	MI JACK TEL 6P4C CHUNG YI	215-120055-004	PTH	PTH	1	J3		
63	MI BUZZER DB DBT105GFPN	225-080229-019			1	BZ1		
MISC COMPONENT / ITEMS								
64	SMD PCB 4.72"X6.61"X0.047" H315-S1 B/S 2L 4-IN-1	250-830103-203			1	4-IN-1 PANEL		UL
65	SMD M1100 RF MODULE PCBA	268-805008-000	SMD	SMD	1	U4		
66	MI IND 1000UH 5% 50MA RADIAL	212-010250J-510	RADIAL - 3.5mm	RADIAL - 3.5mm	2	L3, L4		
67	MI XTAL 13.824 MHZ 20PPM 22PF LP	218-1130222-030	HC49/S (LP)	HC49/S (LP)	1	Y1		
68	MI CER Y5F 1000PF 250V 10% 7.5MM	210-1510228-K43	RADIAL - 7.5mm	RADIAL - 7.5mm	1	RV4		
TOTAL NUMBER OF COMPONENTS					149			

Engineer: Zou Shui Ping
 Checked By: _____
 Date: 28-Sep-2005
 Approved By: Liu Zong Chang
 Date: 28-Sep-05
 Procurement: _____
 Date: _____

Schematic: H315-S1 B/S (268-805058-B00) REV 0.3

AZTECH SYSTEMS LTD
R & D DEPARTMENT
BILL OF MATERIALS FOR 0.3 H315-S1 H/S PCBA

Project Code : 268-805058-H00
Revision No : 0.3
Change Note (CN) : 0

Date : 9-May-2006

S/N (SMD / MI) DESCRIPTION PART NO PACKAGE PCB FOOTPRINT QTY LOCATION REMARKS

CAPACITORS

1	SMT	MLCC NPO 7PF 50V 0.5P 0402	210-3007050-D01	0402	6	C18,C19,C26,C27,C2,C7	
2	SMT	MLCC NPO 10PF 50V 5% 0402	210-3010050-J01	0402	1	C31	
3	SMT	MLCC NPO 20PF 50V 5% 0402	210-3020050-J01	0402	2	C22,C30	
4	SMT	MLCC NPO 22PF 50V 5% 0402	210-3022050-J01	0402	1	C33	
5	SMT	MLCC X7R 10NF 25V 10% 0402	210-3110325-K01	0402	2	C28,C35	
6	SMT	MLCC X7R 68NF 10V 10% 0402	210-3168310-K01	0402	1	C32	
7	SMT	MLCC Y5V 0.1UF 16V +80-20% 0402	210-3310416-Z01	0402	20	C4,C5,C11,C14,C21,C24,C25,C29,C34,C36,C38,C40,C41,C43,C44,C46,C47,C49,C50,C9	
8	SMT	MLCC Y5V 220NF 10V +80-20% 0402	210-3322410-Z01	0402	1	C16	
9	SMT	MLCC Y5V 1UF 6.3V +80%-20% 0402	210-3310562-Z01	0402	2	C1,C45	
10	SMT	MLCC X5R 4.7UF 6.3V 10% 0603	210-3547562-K02	0603	1	C42	
11	MI	ELE 22UF 16V 20% 4X7 2.5MM	210-222616-042	RADIAL - 2.5MM	1	C10	
12	MI	ELE 33UF 16V 20% 6.3X7 2.5MM	210-233616-042	RADIAL - 2.5MM	1	C20	
13	MI	CAP ELEC 47UF 16V 20% 5X7	210-247616-512	RADIAL - 2.5MM	4	C37,C39,C13,C8	
14	MI	CAP ELEC 220UF 6.3V 20% 6.3X7	210-222707-042	RADIAL - 2.5MM	1	C48	

RESISTORS

15	SMT	RES CF 0.1 OHM 1/16W 1% 0402	211-000107-041	0402	2	R37,R40	
16	SMT	RES CF 0 OHM 1/16W 5% 0402	211-000007-045	0402	5	R7,R14,R24,R26,R1	
17	SMT	RES CF 1 OHM 1/10W 1% 0603	211-001000-061	0603	1	R9	
18	SMT	RES CF 1 OHM 1/10W 5% 0603	211-001000-065	0603	1	R29	
19	SMT	RES CF 10 OHM 1/16W 5% 0402	211-010007-045	0402	2	R16,R18	
20	SMT	RES CF 10 OHM 1/16W 5% 0603	211-010007-065	0603	1	R21	
21	SMT	RES CF 39 OHM 1/10W 1% 0805	211-039000-081	0805	1	R28	
22	SMT	RES CF 82 OHM 1/16W 5% 0402	211-082007-045	0402	1	R13	
23	SMT	RES CF 1K OHM 1/16W 5% 0402	211-010027-045	0402	6	R2,R5,R17,R23,R36,R34	
24	SMT	RES CF 2.2K OHM 1/16W 5% 0402	211-022027-045	0402	3	R6,R15,R32	
25	SMT	RES CF 4.7K OHM 1/16W 5% 0402	211-047027-045	0402	5	R3,R4,R8,R33,R43	
26	SMT	RES CF 10K OHM 1/16W 5% 0402	211-0100037-041	0402	2	R10,R25	
27	SMT	RES CF 15K OHM 1/16W 5% 0402	211-015037-045	0402	1	R42	
28	SMT	RES CF 20K OHM 1/16W 5% 0402	211-020037-045	0402	1	R38	
29	SMT	RES CF 47K OHM 1/16W 5% 0402	211-047037-045	0402	6	R11,R19,R20,R22,R39,R41	
30	SMT	RES CF 100K OHM 1/16W 5% 0402	211-010047-045	0402	4	R12,R27,R31,R44	

DIODES/TRANSISTORS

31	SMT	TRANS PNP BC807_SOT23	213-100013-030	SOT23	3	Q3,Q7,Q8	
32	SMT	TRANS NPN BC817_SOT23	213-101014-030	SOT23	4	Q1,Q2,Q6,Q4	

B A B T

AZTECH SYSTEMS LTD
R & D DEPARTMENT
BILL OF MATERIALS FOR 0.3 H315-S1 H/S PCBA

Project Code : 268-805058-H00
Revision No : 0.3
Change Note (CN) : 0

Date : 9-May-2006

S/N	(SMD / MI)	DESCRIPTION	PART NO	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS
33	SMT	TRANS NMOSFET BSH103 SOT23	213-104176-030	SOT23	SOT23	1	Q5	
34	SMT	DIODE S/ARR FDLL4448 MELF	213-201254-080	SOD80	SOD80	1	D4	
35	SMT	DIODE SHTKT SMALL SOGNAL BARRIER BAS85	213-205308-260	SOD80	SOD80	2	D1, D3	
36	SMT	DIODE ZR BZV55-C3V3 SOD80	213-200340-260	SOD80	SOD80	1	D11	
ICS								
37	SMT	EEPROM 24C32 SOIC8	219-9204015-005	SOIC8	SOIC8	1	IC1	
38	SMT	IC BB CONTR PCD80721HL PHILIPS LQFP80	221-0380207-210	LQFP80	LQFP80	1	IC2	
39	SMT	IC AP1521 DC/DC CONV SOT23-5L	221-0010240-100	SOT23-5L	SOT23-5L	1	U1	
MISC COMPONENT / ITEMS								
40	SMT	IND 22UH 20% 1.23A SMD LEAD-FREE	212-022012M-000	SMD	SMD	1	L2	
41	SMT	IND 22UH 10% 470MA 1008	212-022047K-040	1008	1008	1	L1	
42	SMT	JACK ST AUD SP EJP028062-13-1	215-070044-050	SMD	SMD	1	J1	
43	MI	XTAL 13.824 MHZ 20PPM 22PF LP	218-1130222-030	DIP	DIP	1	Y1	
44	SMT	LED blue WS1608BSC-04LC SMD 0603	224-022A92-505	603	603	8	D5, D6, D7, D8, D9, D10, D12, D13	
45	SMT	PCB 6.2205"x4.6813"x0.039" H315-S1 H/S 2L 4-IN-1	250-832105-203			1	4-IN-1 PANEL	
46	SMT	ORCHID RF MODULE PCBA	268-805008-000	SMD	SMD	1	CON1	
47	MI	COND MICROPHONE KT6027(c)-58-POF	R12-A15001-A00	DIP	DIP	1	M1	

TOTAL NUMBER OF COMPONENTS 116

Engineer : Zou Shui Ping Checked By : _____ Approved By : Liu Zong Chang
Date : 9-May-2006 Date : _____ Date : 9-May-2006

Schematic: H315-S1 H/S PCBA(268-805058-H00) REV:0.3
Block Diagram: H315-S1 H/S PCBA (268-805058-H00) REV:0.1



AZTECH SYSTEMS LTD
R&D DEPARTMENT
BILL OF MATERIALS FOR 0.2 SDA200 PCB

PROJECT CODE :268-805062-000
REVISION : 0.2
CHANGE NOTE (CN) : 0

Date :7-Dec-05

S/N	(SMD/MI)	DESCRIPTION	PART_NO	PACKAGE	PCB FOOTPRINT	QTY	LOCATION	REMARKS	UL
CAPACITORS									
1	SMD	MLCC NPO 10PF 50V 5% 0402	210-3010050-J01	0402	0402	1	C4		
2	SMD	MLCC NPO 18PF 50V 5% 0402	210-3018050-J01	0402	0402	2	C2,C3		
3	SMD	MLCC NPO 20PF 50V 5% 0402	010-3020050-J01	0402	0402	2	C28,C25		
4	SMD	MLCC X7R 470PF 50V 10% 0402	210-3147150-K01	0402	0402	1	C22		
5	SMD	MLCC Y5V 0.1UF 16V +80-20% 0402	210-3310416-Z01	0402	0402	20	C1,C7,C8,C10,C14,C17,C19,C21,C24,C26, C29,C30,C31,C32,C35,C36,C37,C38,C41,C43		
6	SMD	MLCC X7R 0.47UF 16V 10% 0603	210-3147416-K02	0603	0603	1	C12		
7	SMD	MLCC X5R 1UF 6.3V 10% 0402	210-3510562-K01	0402	0402	1	C27		
8	SMD	MLCC X5R 2.2UF 6.3V 10% 0603	210-3522562-K02	0603	0603	1	C18		
9	SMD	MLCC X5R 2.2UF 6.3V 10% 0805	210-3522562-K03	0805	0805	1	C42		
10	SMD	MLCC X7R 4.7UF 6.3V 10% 0805	210-3148562-K03	0805	0805	2	C16,C11		
11	MI	ELE 10UF 50V 20% 4X7 2.5MM	210-210650-042	RADIAL-2.5mm	RADIAL-2.5mm	5	C9,C15,C20,C23,C39		
12	MI	ELE STD 47UF 16V 20% 4X7 2.5MM	210-2047016-M40	RADIAL-2.5mm	RADIAL-2.5mm	3	C13,C34,C40		
RESISTORS									
13	SMD	RES CF 0 OHM 1/16W 5% 0402	211-000007-045	0402	0402	2	L9,R54		
14	SMD	RES CF 1 OHM 1/16W 5% 0402	211-001007-045	0402	0402	1	R52		
15	SMD	RES CF 10 OHM 1/16W 5% 0402	211-010007-045	0402	0402	3	R45,R60,R53		
16	SMD	RES CF 22 OHM 1/16W 5% 0402	211-022007-045	0402	0402	2	R33,R34		
17	SMD	RES CF 100 OHM 1/16W 5% 0402	211-010017-045	0402	0402	2	R43,R44		
18	SMD	RES CF 1K OHM 1/16W 5% 0402	211-010027-045	0402	0402	4	R3,R27,R48,R49		
19	SMD	RES CF 1.5K OHM 1/16W 5% 0402	211-015027-045	0402	0402	1	R35		
20	SMD	RES CF 2.0K OHM 1/16W 5% 0402	211-020027-045	0402	0402	1	R17		
21	SMD	RES CF 3.3K OHM 1/16W 5% 0402	211-033027-045	0402	0402	2	R28,R59		
22	SMD	RES CF 3.9K OHM 1/16W 5% 0402	211-039027-045	0402	0402	1	R21		
23	SMD	RES CF 4.7K OHM 1/16W 5% 0402	211-047027-045	0402	0402	2	R46,R14		
24	SMD	RES CF 6.8K OHM 1/16W 5% 0402	211-068027-045	0402	0402	1	R60		
25	SMD	RES CF 10K OHM 1/16W 5% 0402	211-010037-045	0402	0402	3	R31,R36,R47		
26	SMD	RES CF 100K OHM 1/16W 5% 0402	211-010047-045	0402	0402	25	R1,R4,R6,R9,R10,R12,R19,R20,R23,R24 R16,R25,R26,R29,R30,R37,R38,R39,R40,R41 R42,R55,R56,R57,R58		
27	SMD	RES CF 1M OHM 1/16W 5% 0402	211-010057-045	0402	0402	1	R32		
DIODES/TRANSISTORS									
28	SMD	DIODE SHTKY SMALL SIGNAL BARRIER BAS85	213-205308-260	SOD80	SOD80	2	D1,D3		

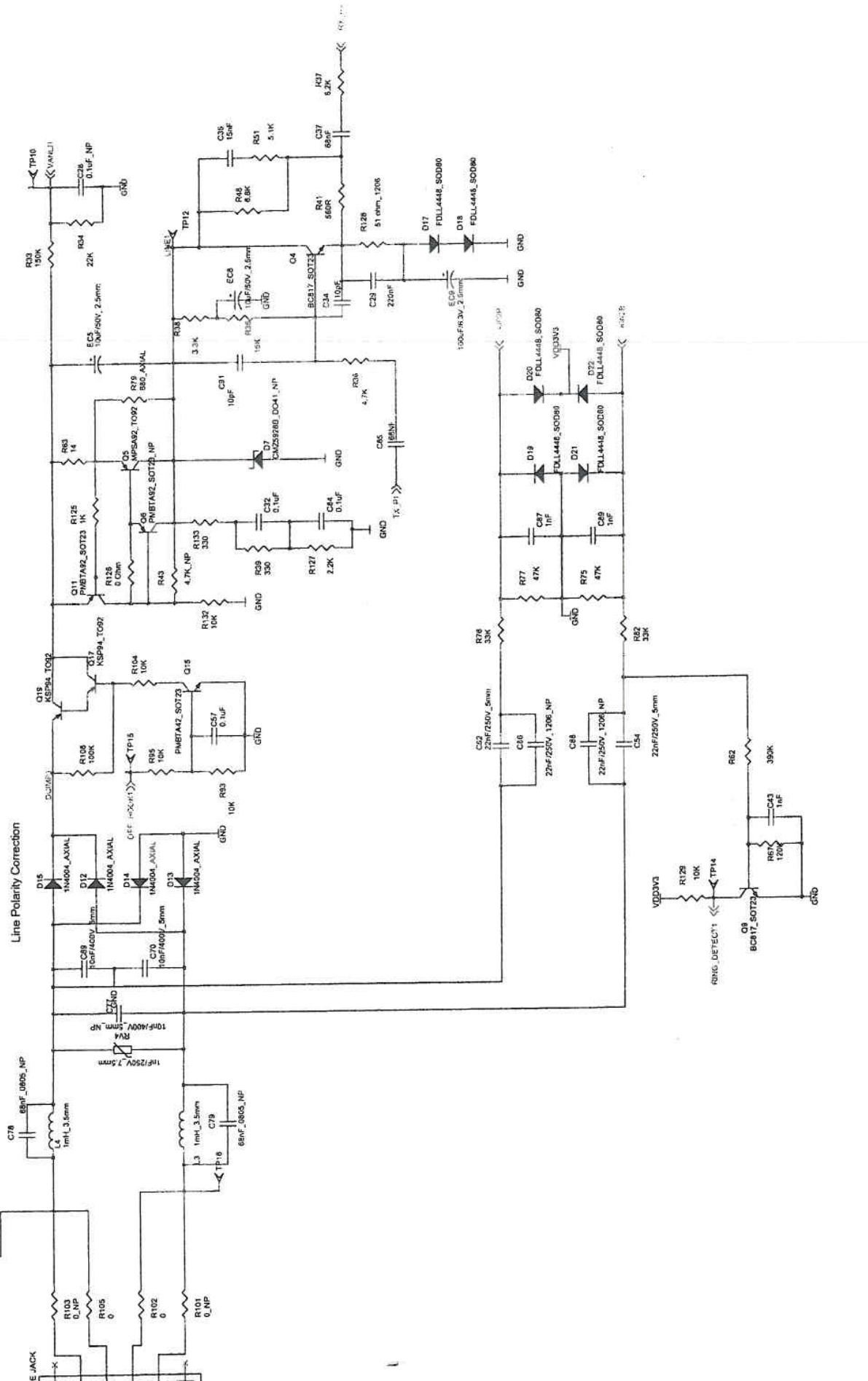
29	SMD	TRANS MOSFET SI2301BDS-T1-E3 SOT-23	213-105216-030	SOT23	SOT23	1	Q1
30	SMD	TRANS PNP BC807 SOT23	213-100013-030	SOT23	SOT23	2	Q2,Q3
ICS							
31	SMD	IC USB AUDIO CONTROLLER SM11220ACF LQFP48	221-0660265-210	LQFP48	LQFP48	1	IC1
32	SMD	IC BB CONTR PCDB0705HL PHILIPS HVQFN88	221-0380290-790	HVQFN88	HVQFN88	1	IC2
33	SMD	EEPROM AT93C46 2.7V ATMEL SOIC8	219-9300020-005	SOIC8	SOIC8	1	IC3
34	SMD	EEPROM 24LC08B MICROCHIP SOIC8	219-007178-005	SOIC8	SOIC8	1	IC4
35	SMD	IC VOLT REG XC6203E332FR-3.3V SOT-223	221-0050275-110	SOT223	SOT223	1	IC5
MISC COMPONENT / ITEMS							
36	MI	CONN USB A TYPE 4PIN SINGLE PORT PLUG SMD	215-000129-031			1	JP1
37	SMD	F/BEAD 22 OHM 100MHZ 300MA SMD	212-1220100-309	0402	0402	8	L1,L2,L3,L4,L5,L6,L7,L8
39	MI	XTAL 6 MHZ 30PPM 18PF LP	218-1060318-080	HC49/S (LP)	HC49/S (LP)	1	Y1
40	MI	XTAL 13.824 MHZ 20PPM 22PF LP	218-1130222-030	HC49/S (LP)	HC49/S (LP)	1	Y2
41	SMD	LED RED RY-SP192UHR24-5M SMD0603	224-0291100-005	0603	0603	1	D2
42	SMD	ORCHID RF MODULE PCBA	268-805008-000	Module	Module	1	CON1
43	SMD	PCB 4.468"X4.424"X0.047" SDA200 4L 8-IN-1	250-852126-402			1	8-IN-1

TOTAL NUMBER OF COMPONENTS	115
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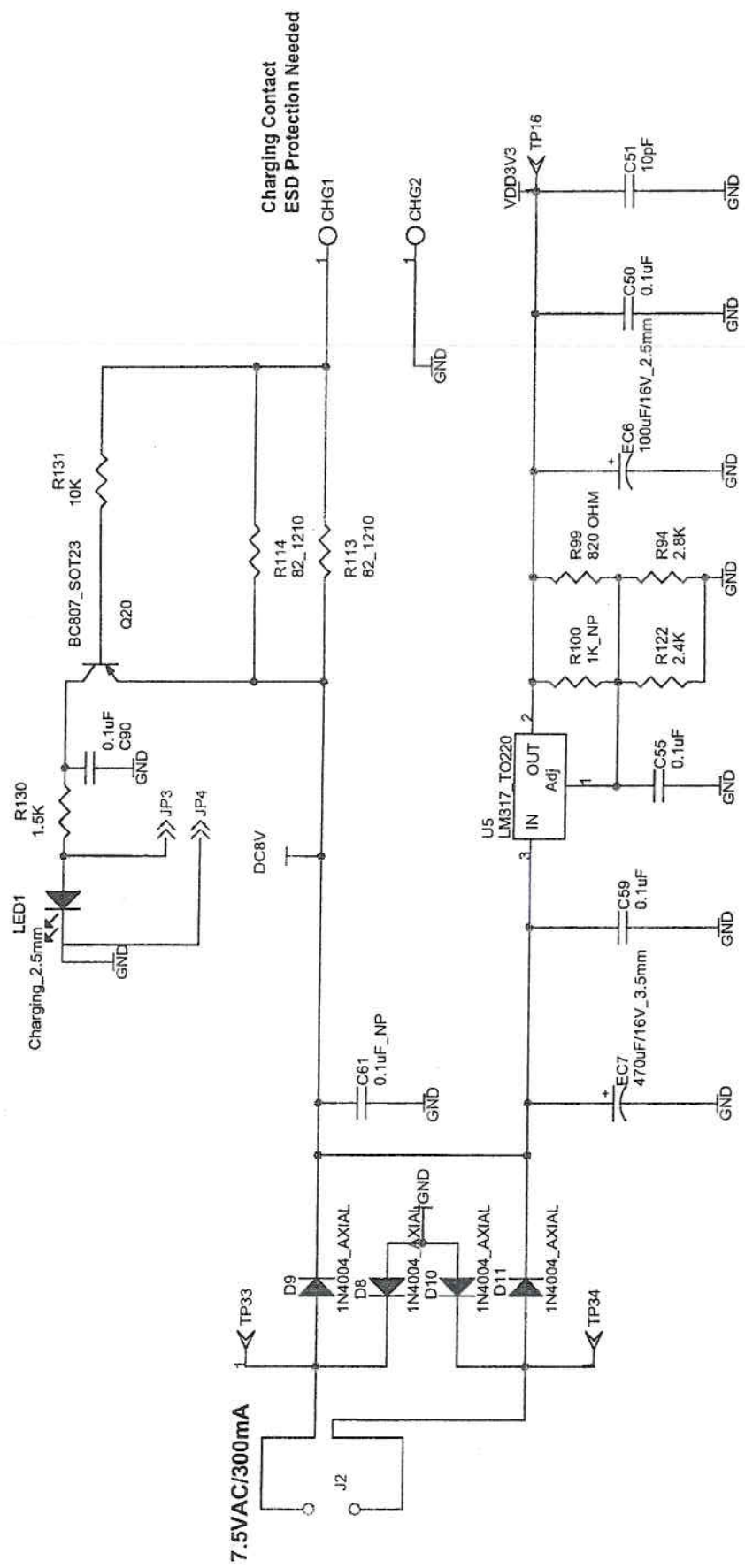
Prepared By: Qi Jian Ying Checked By: Liu Zong Chang Approved By: Liu Zong Chang Procurement

Date: _____ Date: _____ Date: _____

Schematic: SDA200 (268-805062-000) Rev: 0.2



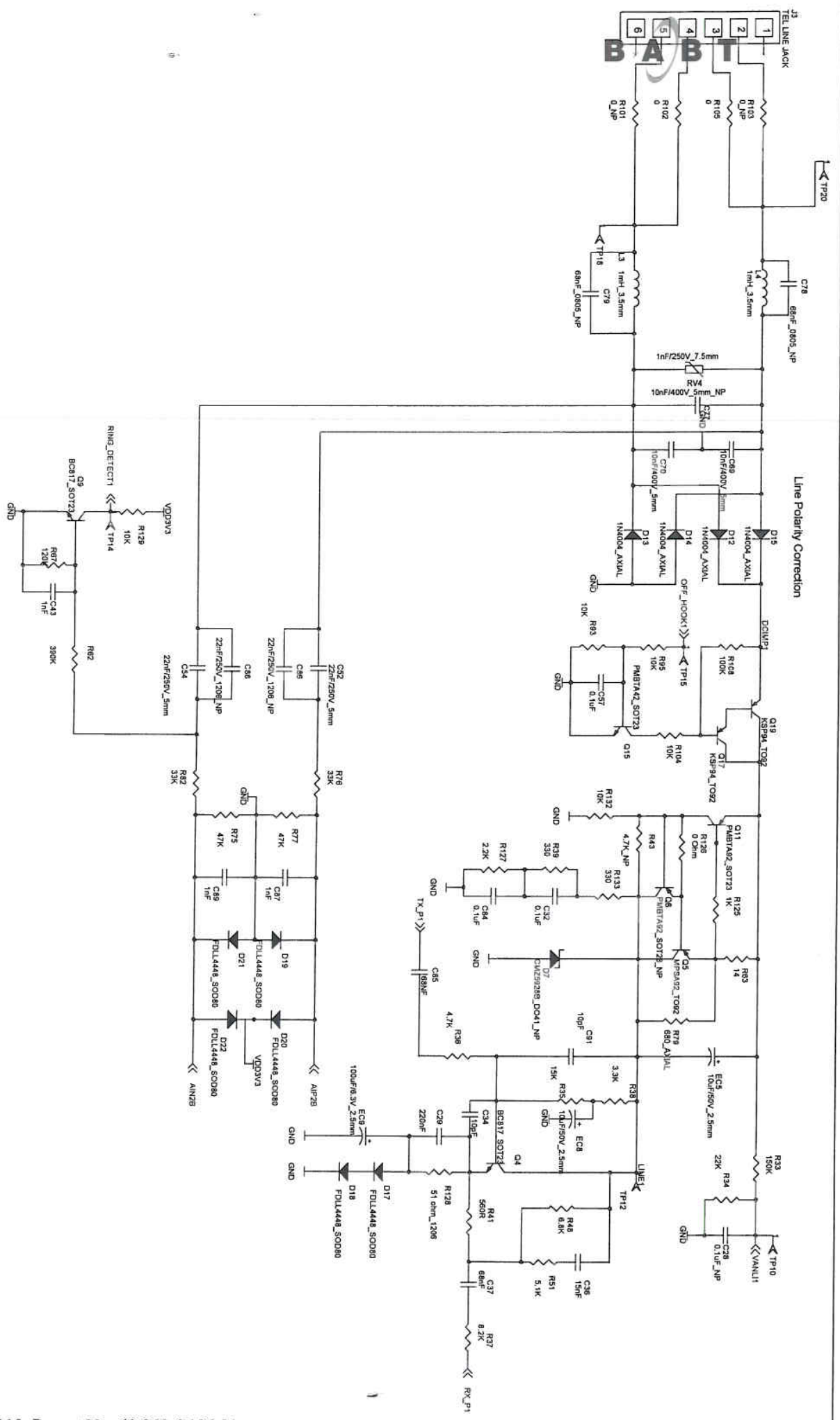
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Signature:	Zou Shui Ping
Document Number	A3
Date:	28/09/2005
Signature:	Liu Zong Cheng
Document Number	2
Date:	28/09/2005
Revision	0.2
Drawn:	Zou Shui Ping
Approved:	Liu Zong Cheng
Signature:	
Date:	
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Date:	
Revision	



Charging Contact
ESD Protection Needed

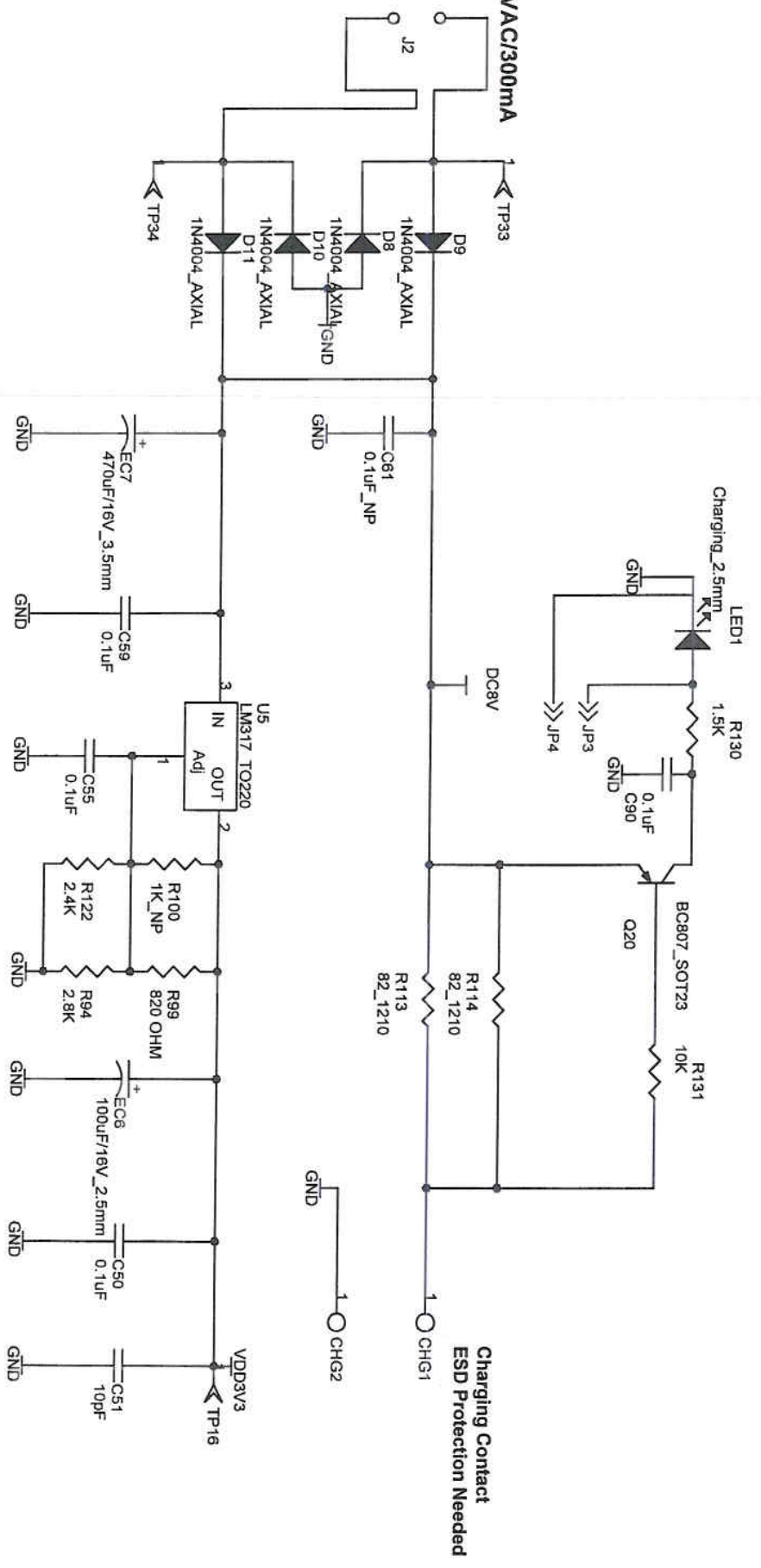
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Approved:	Liu Zong Chang	Document Number:	<Doc>
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		Date:	Wednesday, September 28, 2005
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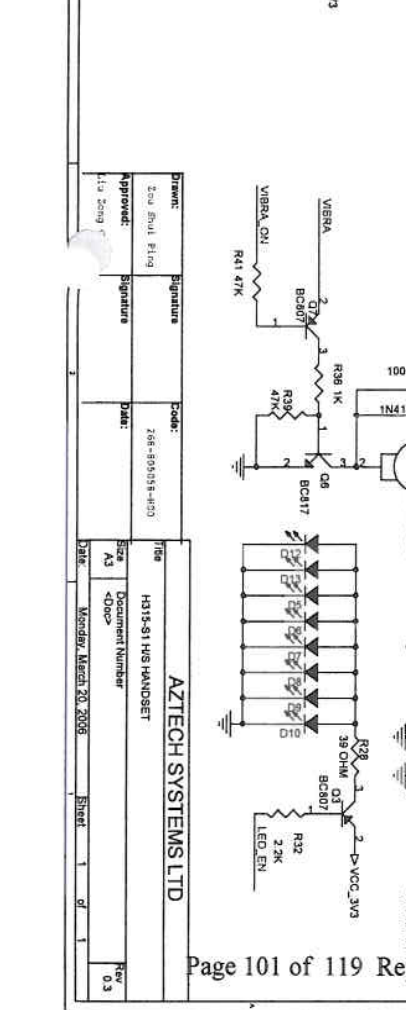
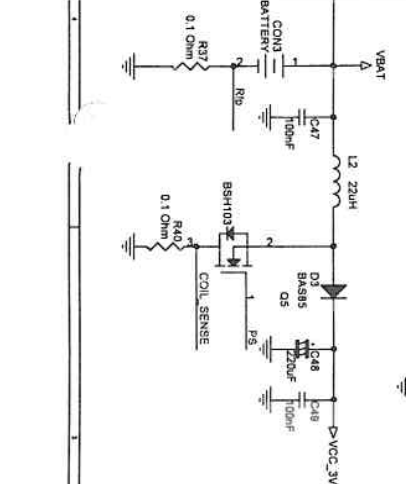
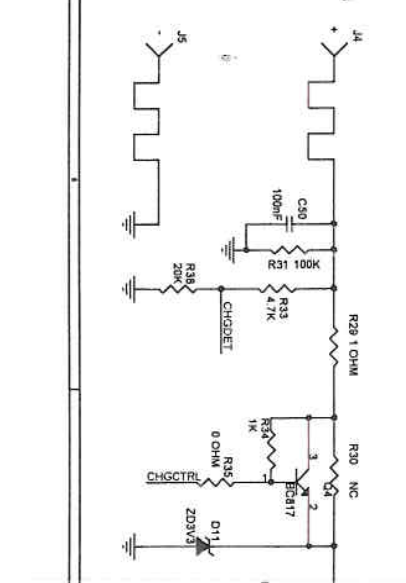
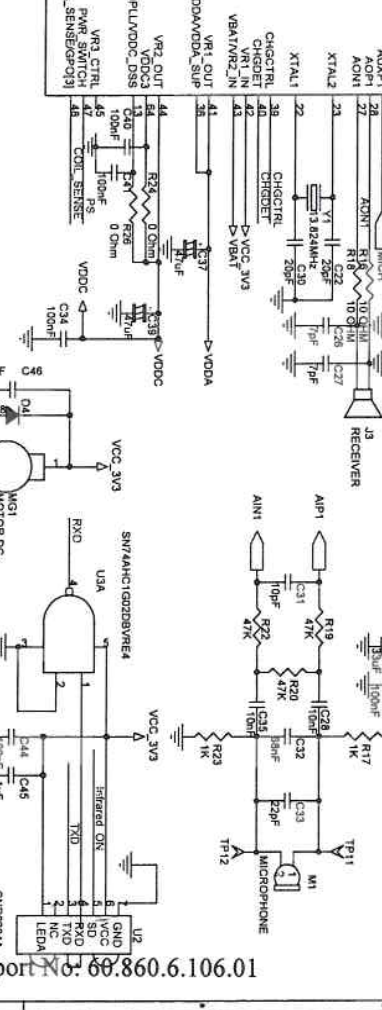
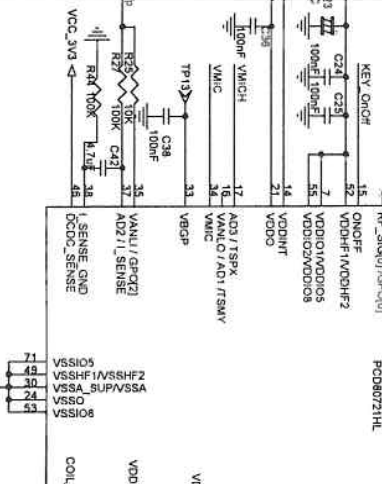
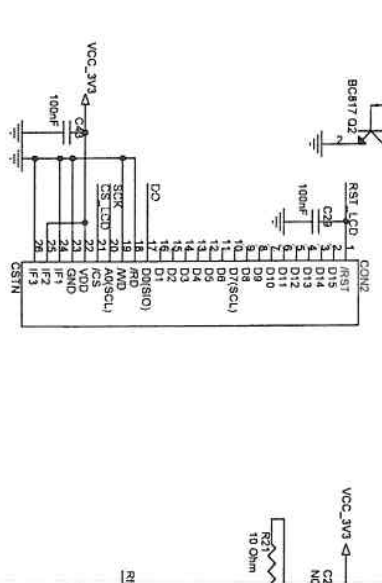
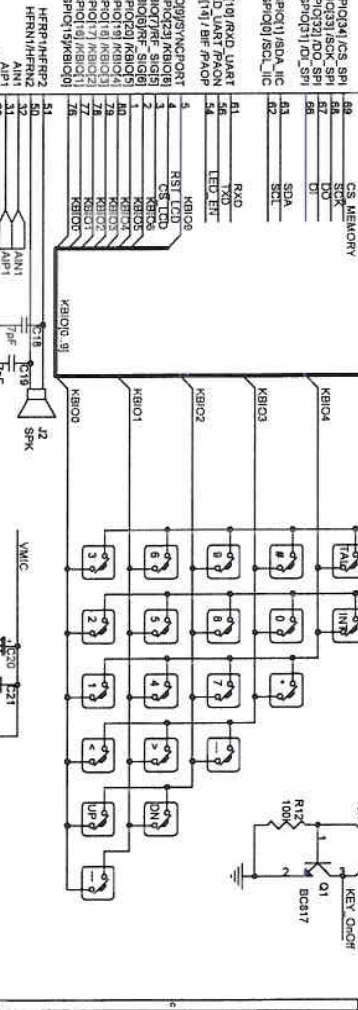
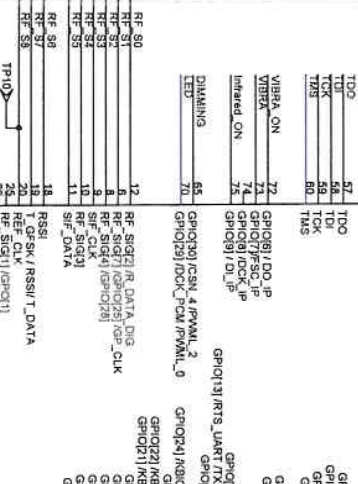
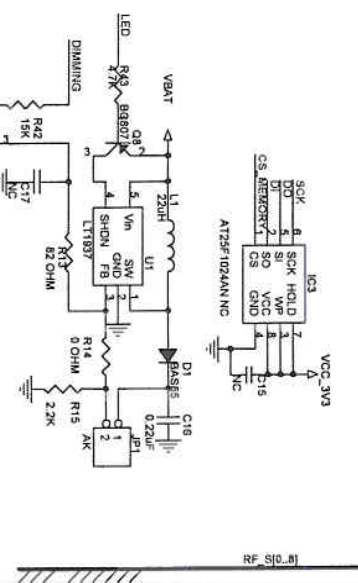
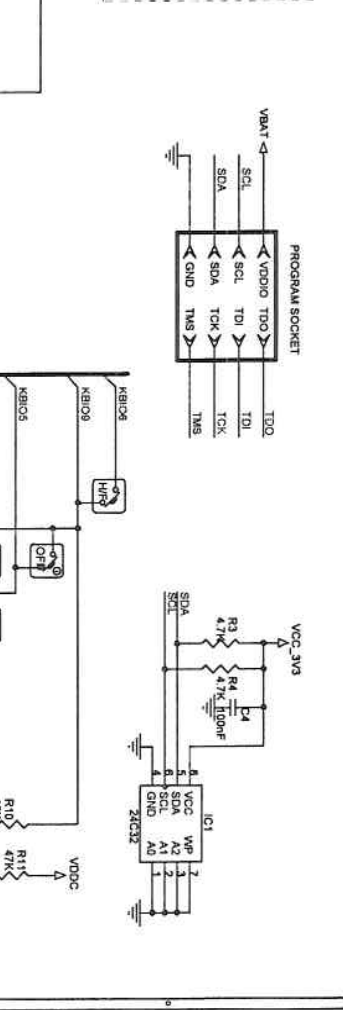
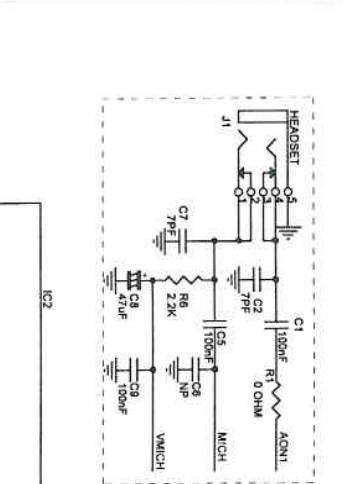
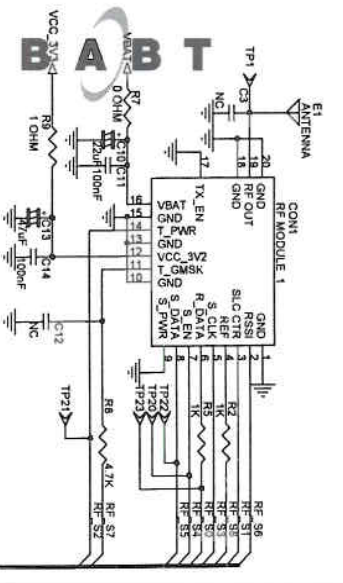


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7.5VAC/300mA



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Approved:	Liu Zong Chang	Signature	Date:		Size	A
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Page 101 of 119 Report No: 60.860.6.106.01

AZITECH SYSTEMS LTD

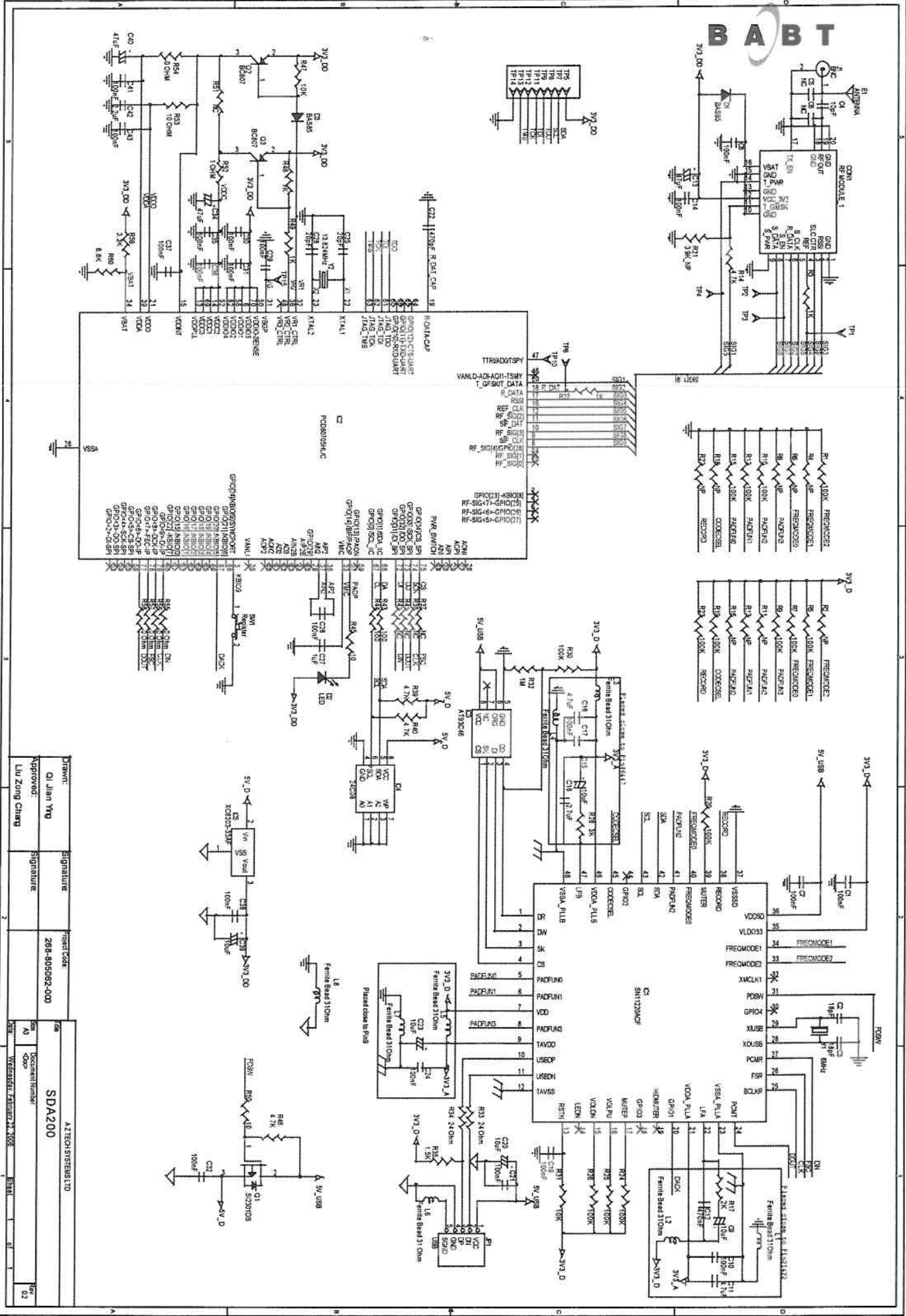
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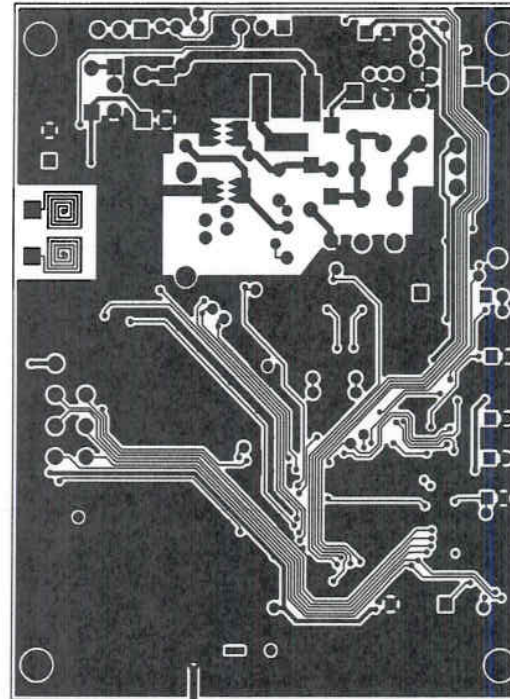
Monday, March 20, 2006

Sheet 1 of 1

Rev: 0.3

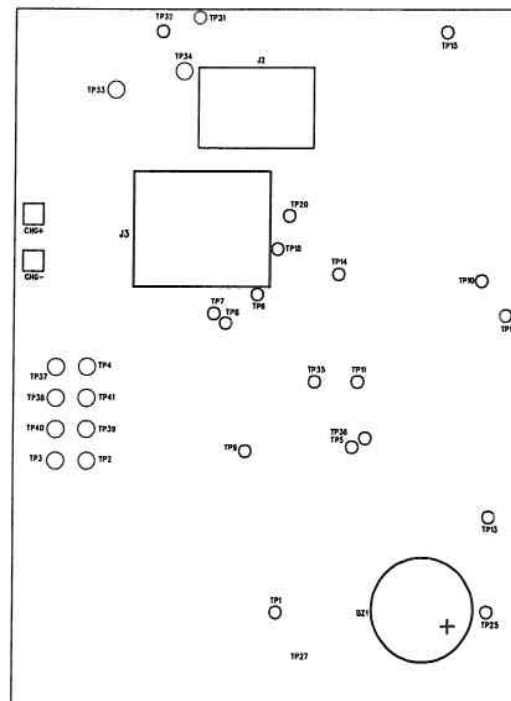


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Qi Jian Yu	Signature	266-805062-000	SDA200
Approved:	Signature		Docu. Rev.
Liu Zong Chang	Signature		02
		AZTECH SYSTEMS LTD	
		DATE: 2008/02/22	



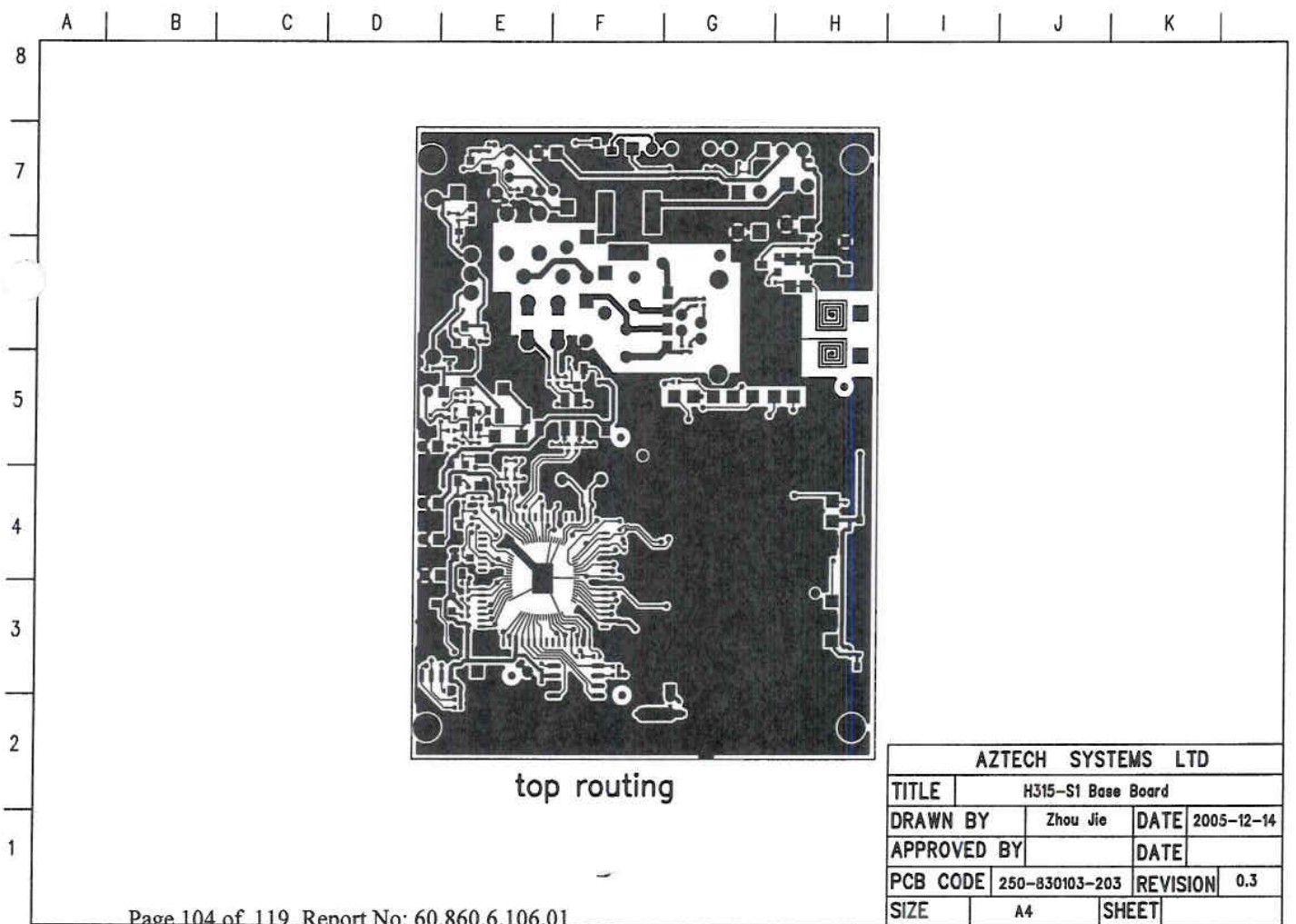
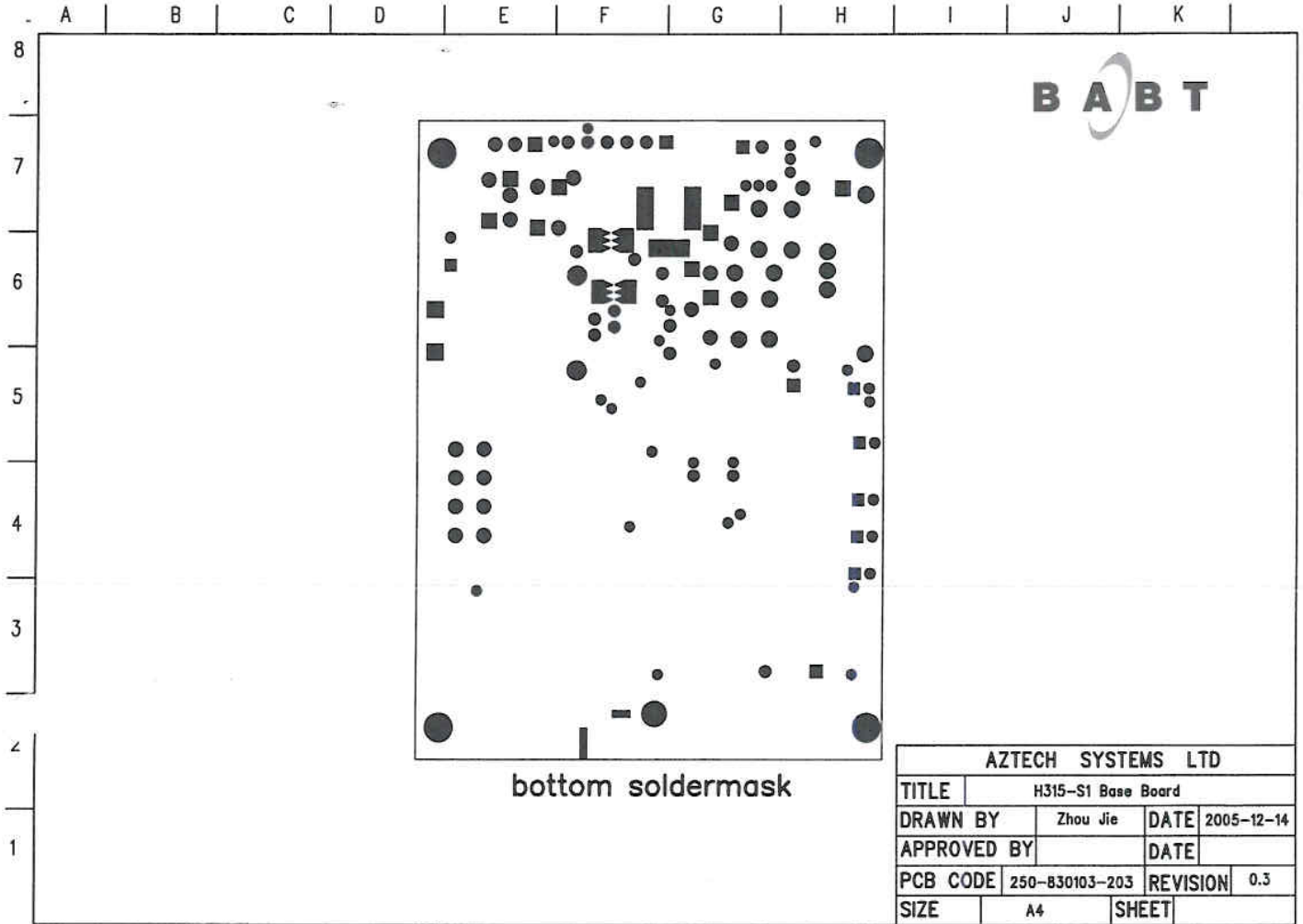
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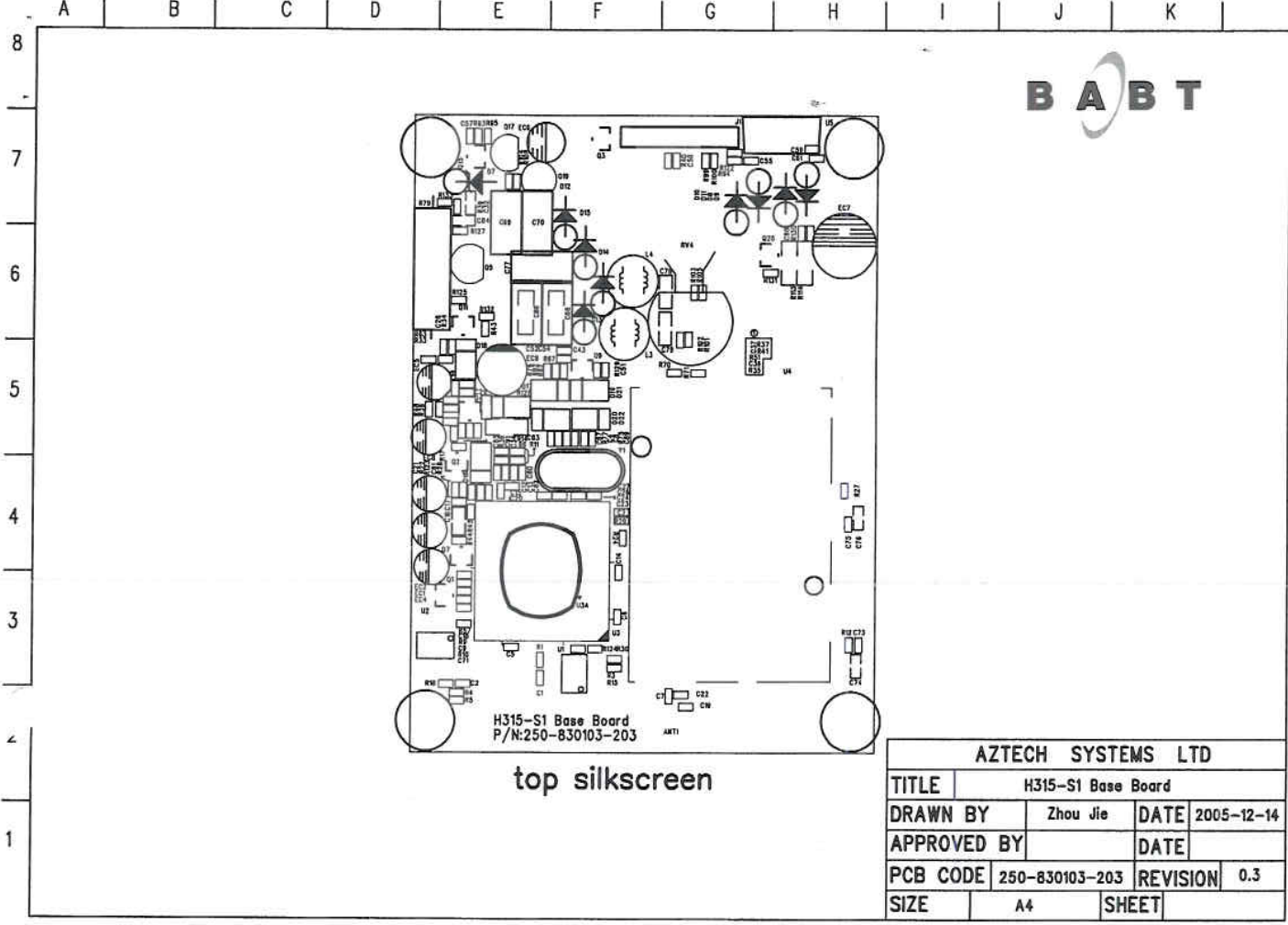
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DRAWN BY	Zhou Jie	DATE	2005-12-14
APPROVED BY		DATE	
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SIZE	A4	SHEET	



bottom silkscreen

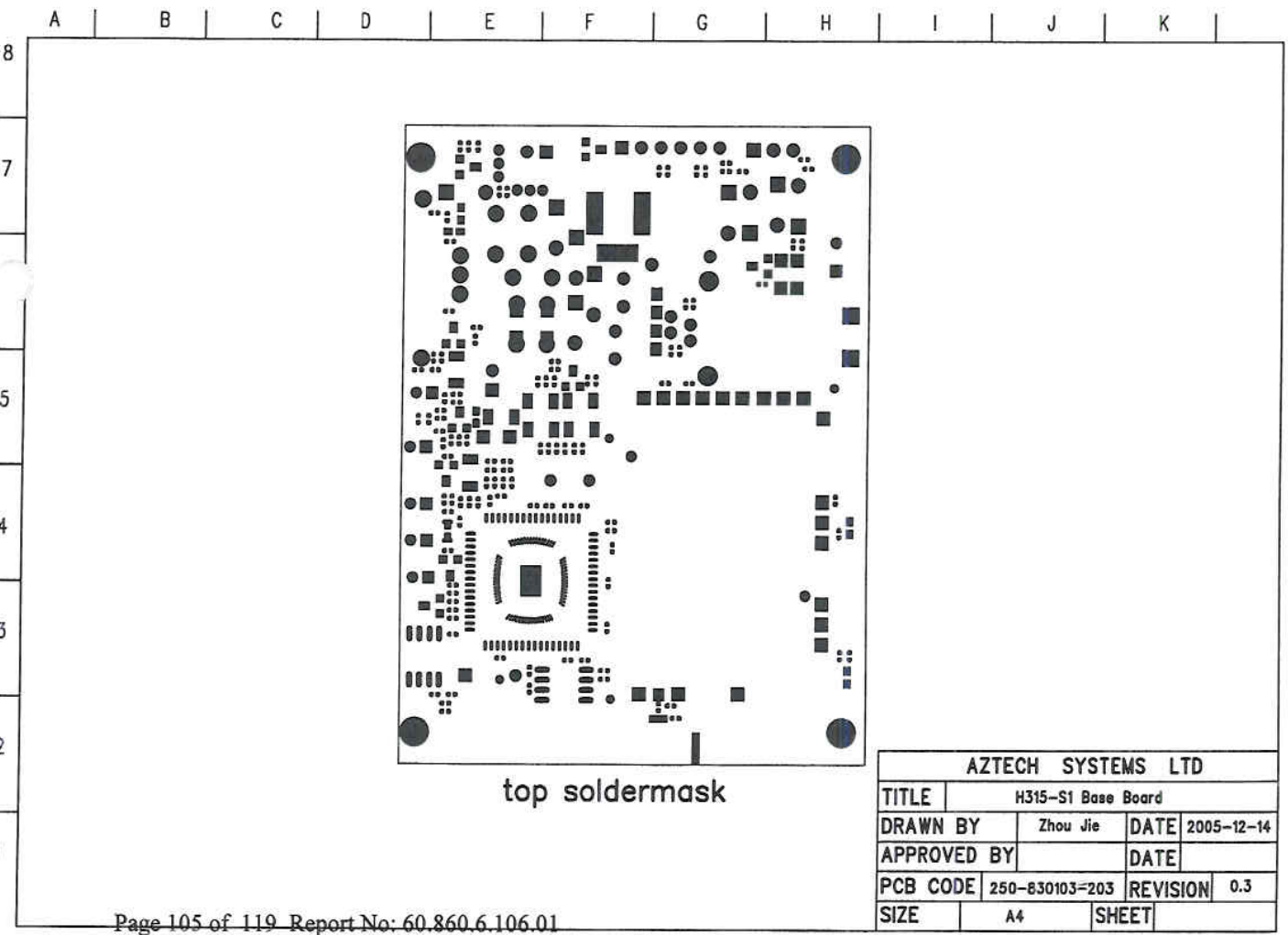
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DRAWN BY	Zhou Jie	DATE	2005-12-14
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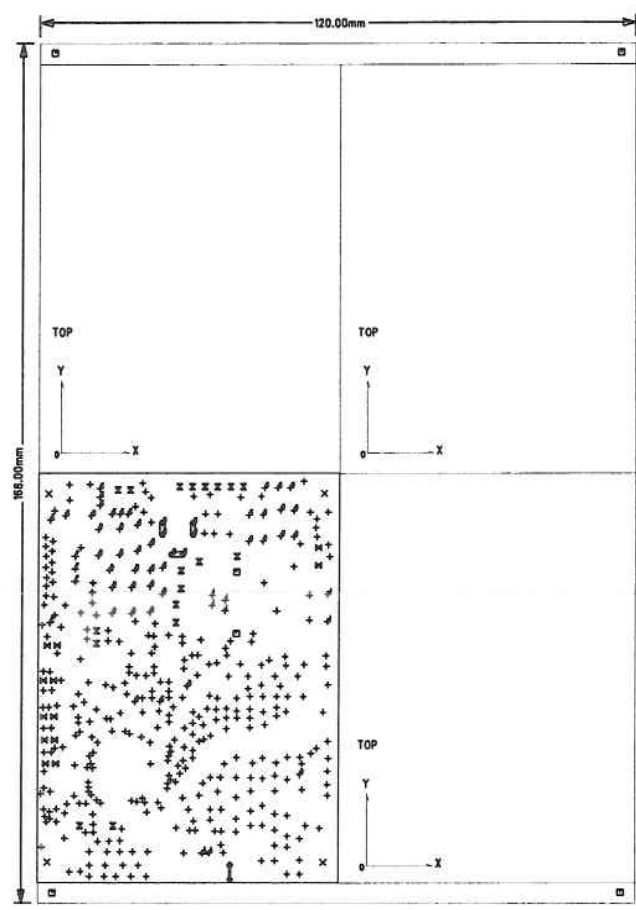
top silkscreen

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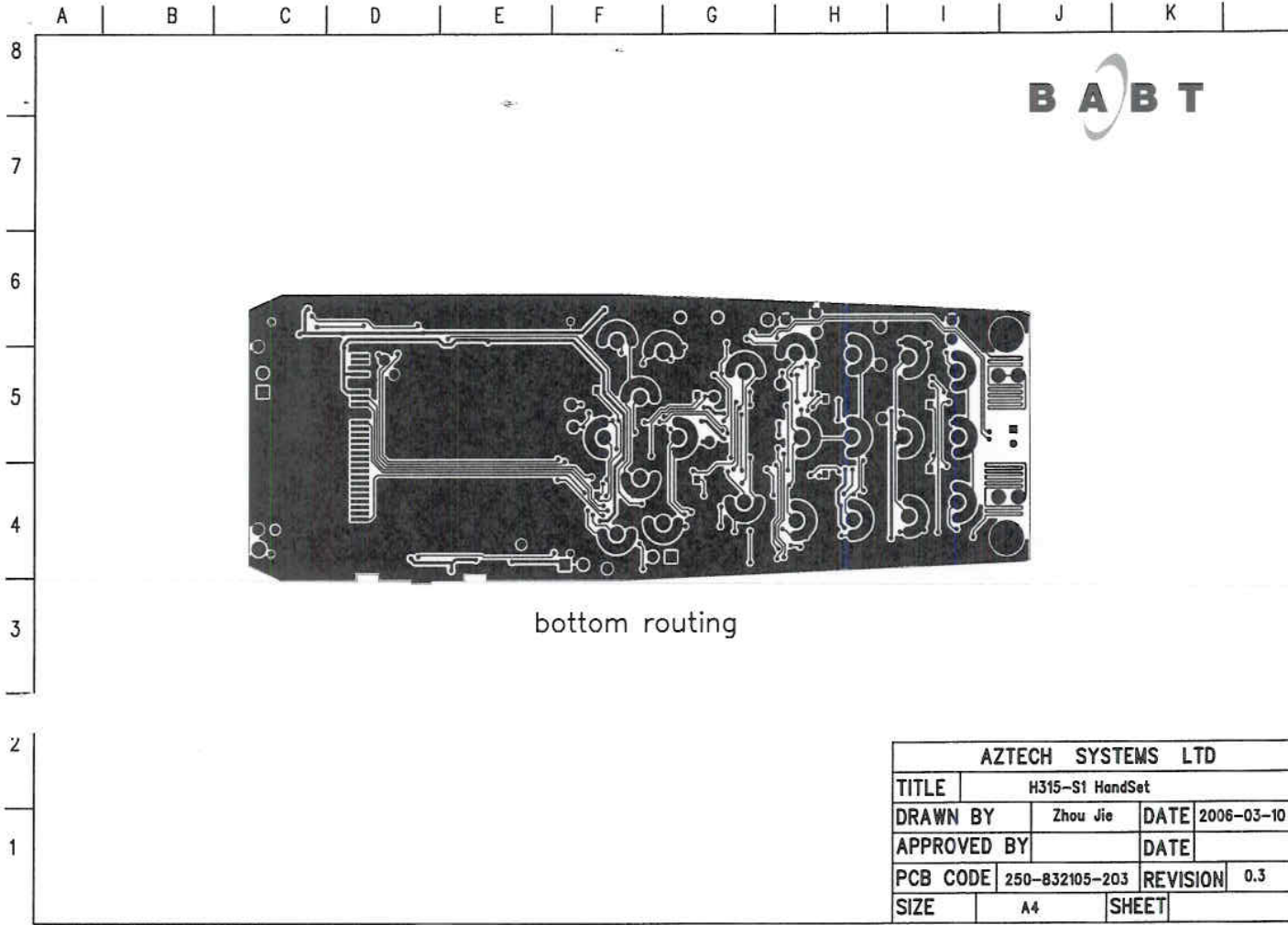
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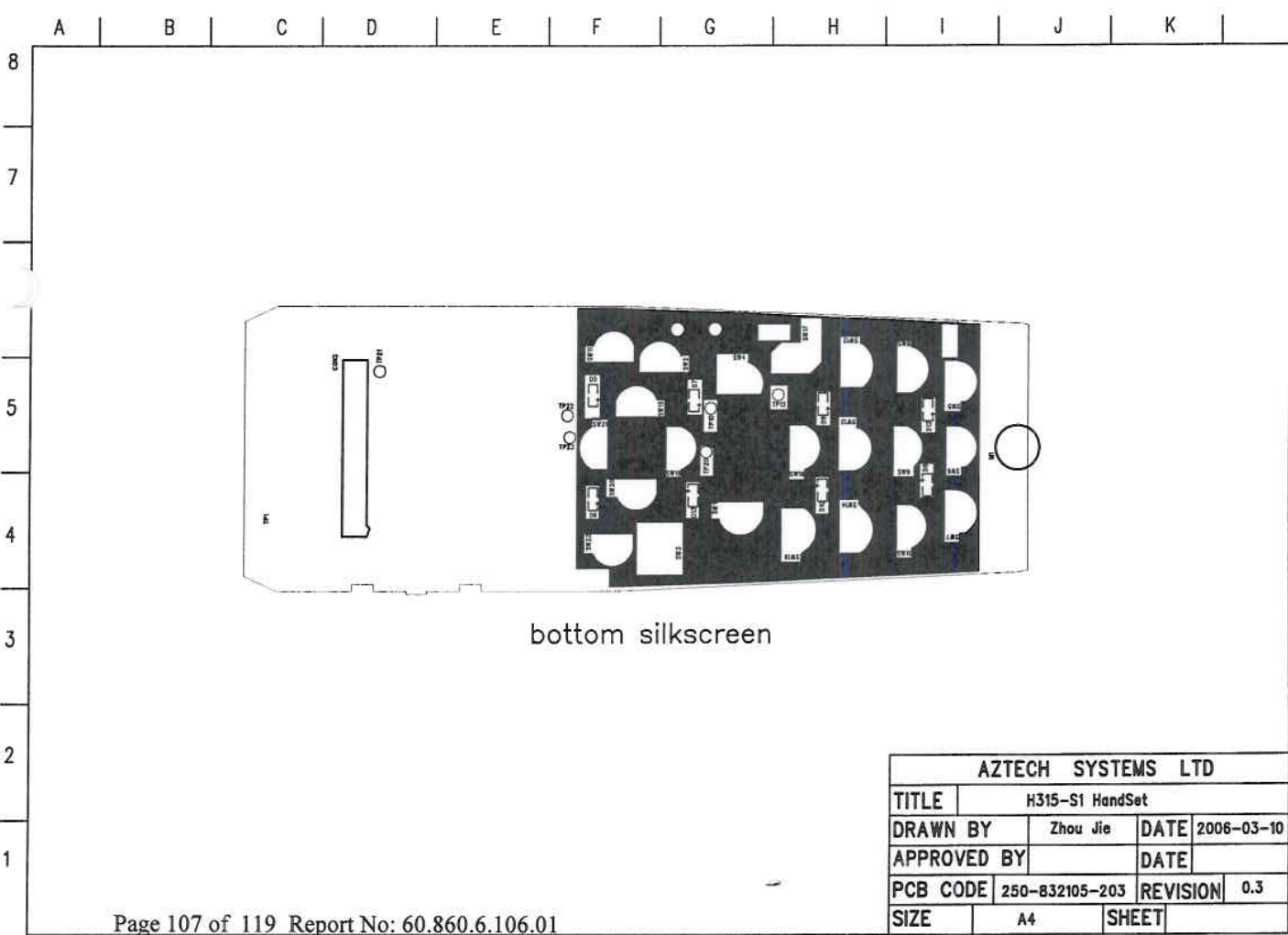
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0.4 x 3.2	1	⊙	YES	+/-0.0
0.800	10	⊗	YES	+/-0.0
0.762	12	⊗	YES	+/-0.0
0.4 x 1.7	1	⊕	YES	+/-0.0
L27	2	⊕	NO	+/-0.0
0.0	2	⊕	YES	+/-0.0
L1	10	⊕	YES	+/-0.0
L307	2	⊕	YES	+/-0.0
0.914	3	⊕	YES	+/-0.0
L04M	21	⊕	YES	+/-0.0
1 x 3.2	3	⊕	YES	+/-0.0
0.800	4	⊕	YES	+/-0.0
1	2	⊕	YES	+/-0.0
0.7	8	⊕	YES	+/-0.0

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APPROVED BY		DATE	
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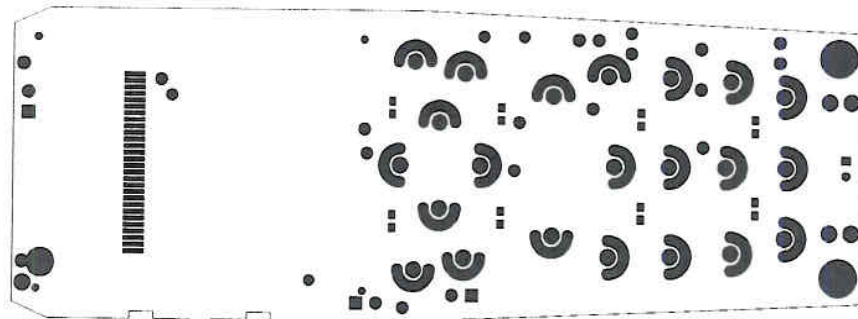
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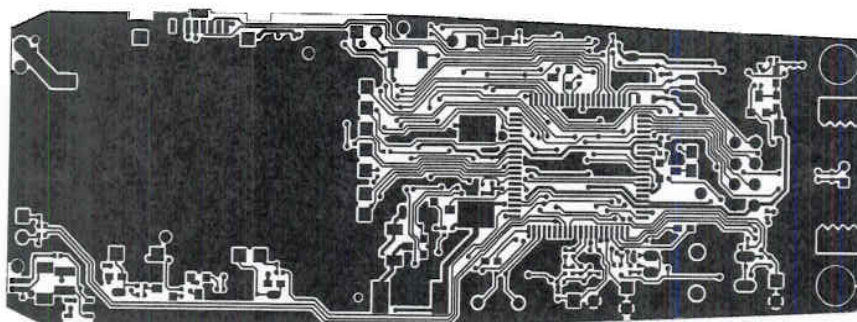
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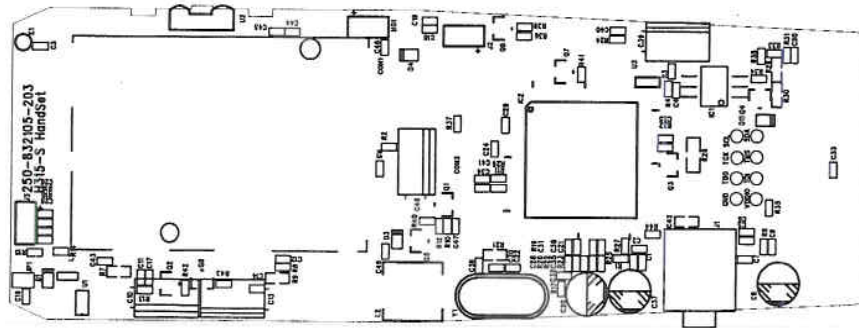
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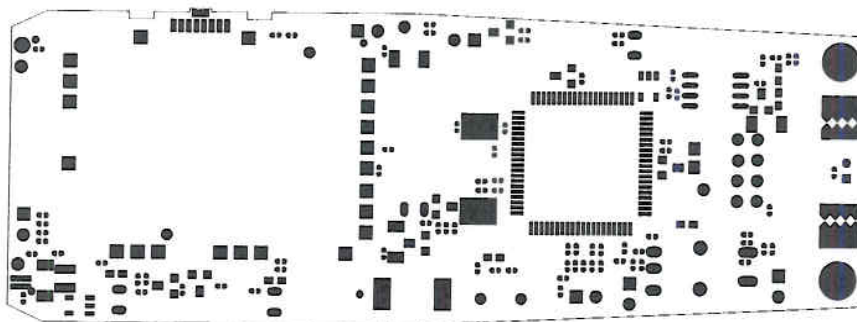
top routing

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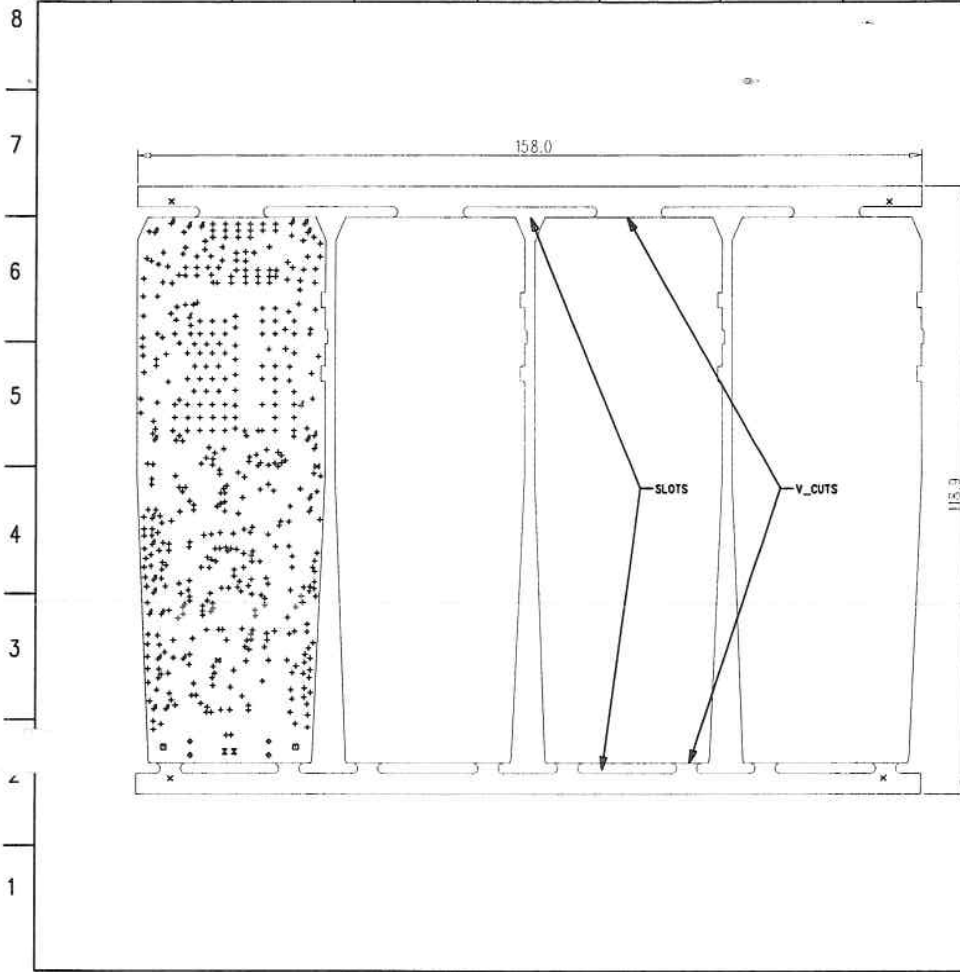
top silkscreen

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APPROVED BY		DATE	
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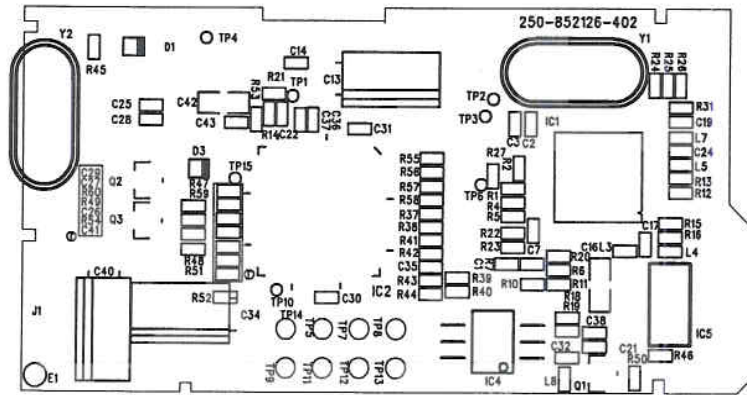
top soldermask

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APPROVED BY		DATE	
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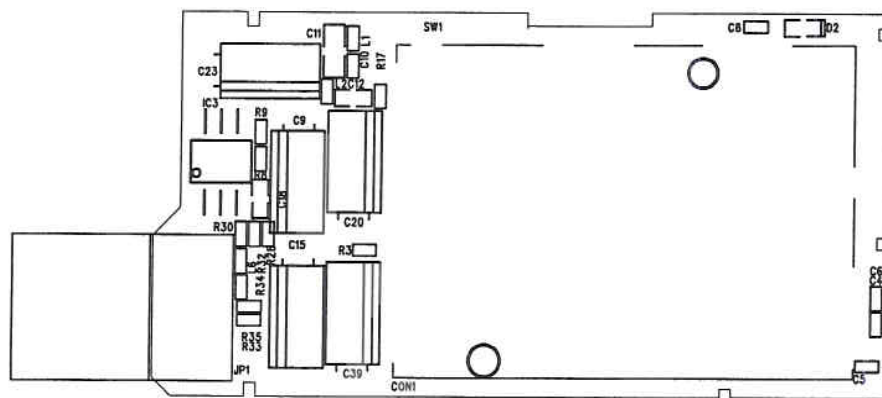
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4.7	2	□	NO	IPC
1.8	4	◇	YES	IPC
0.5	2	⊗	YES	IPC
1.5	2	⊠	YES	IPC
1.6	2	+ ^A	YES	IPC
0.889	6	+ ^B	YES	IPC
0.9	2	+ ^C	YES	IPC
0.9	4	+ ^D	NO	IPC
0.9906	6	+ ^E	YES	IPC
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1.2	1	+ ^H	YES	IPC

AZTECH SYSTEMS LTD			
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DRAWN BY	Zhou Jie	DATE	2006-03-10
APPROVED BY		DATE	
PCB CODE	250-832105-203	REVISION	0.3
SIZE	A4	SHEET	



bottom silkscreen

AZTECH SYSTEMS LTD			
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DRAWN BY	Zhou jie	DATE	2006-02-22
APPROVED BY		DATE	
PCB CODE	250-852126-402	REVISION	0.2
SIZE	A4	SHEET	



top silkscreen

AZTECH SYSTEMS LTD			
TITLE	SDA200		
DRAWN BY	Zhou jie	DATE	2006-02-22
APPROVED BY		DATE	
PCB CODE	250-852126-402	REVISION	0.2
SIZE	A4	SHEET	

ANNEX E

TE PHOTOGRAPH

Project no. : 60/860.6.106/01
Description : H-315
Date : June 15, 2006



Front View

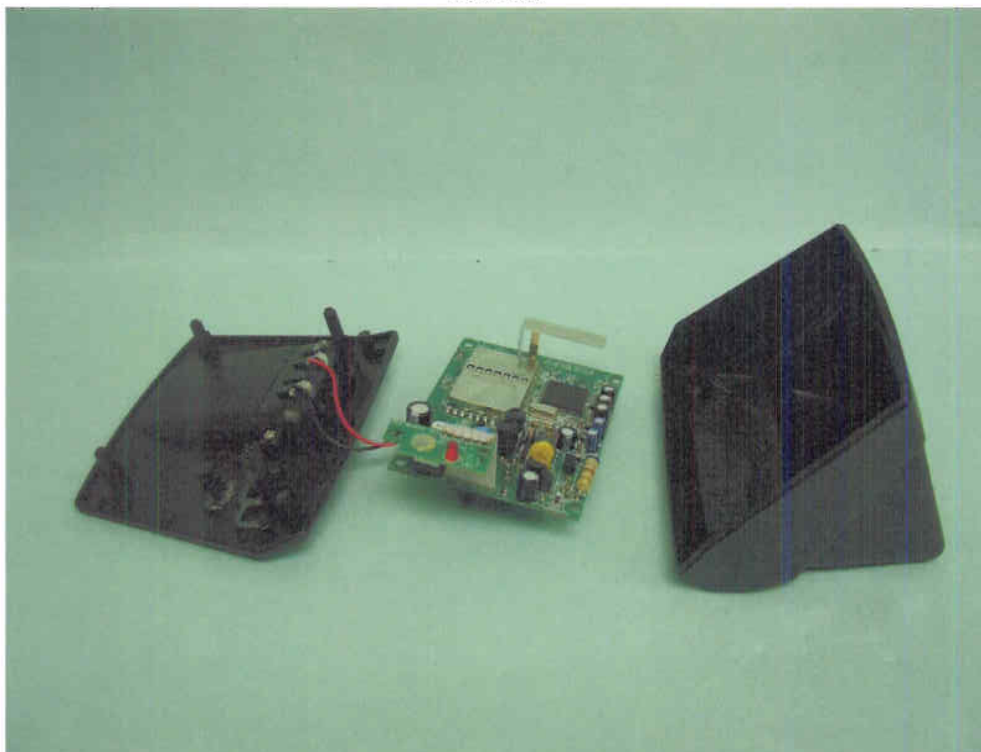


Front View

Project no. : 60/860.6.106/01
Description : H-315
Date : June 15, 2006



Rear View

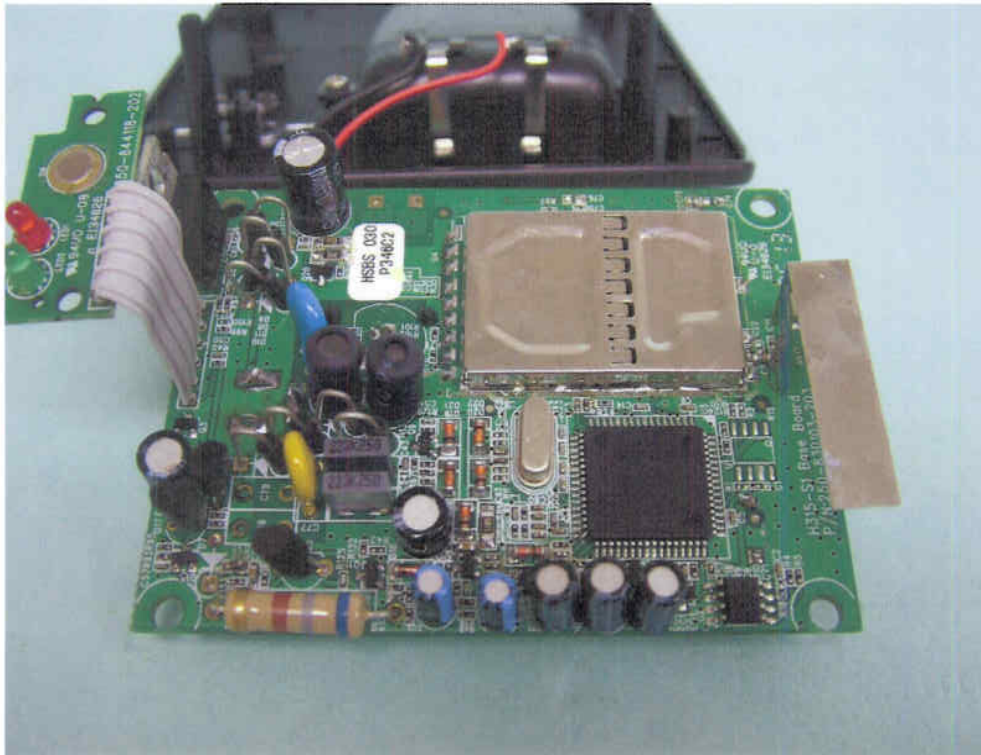


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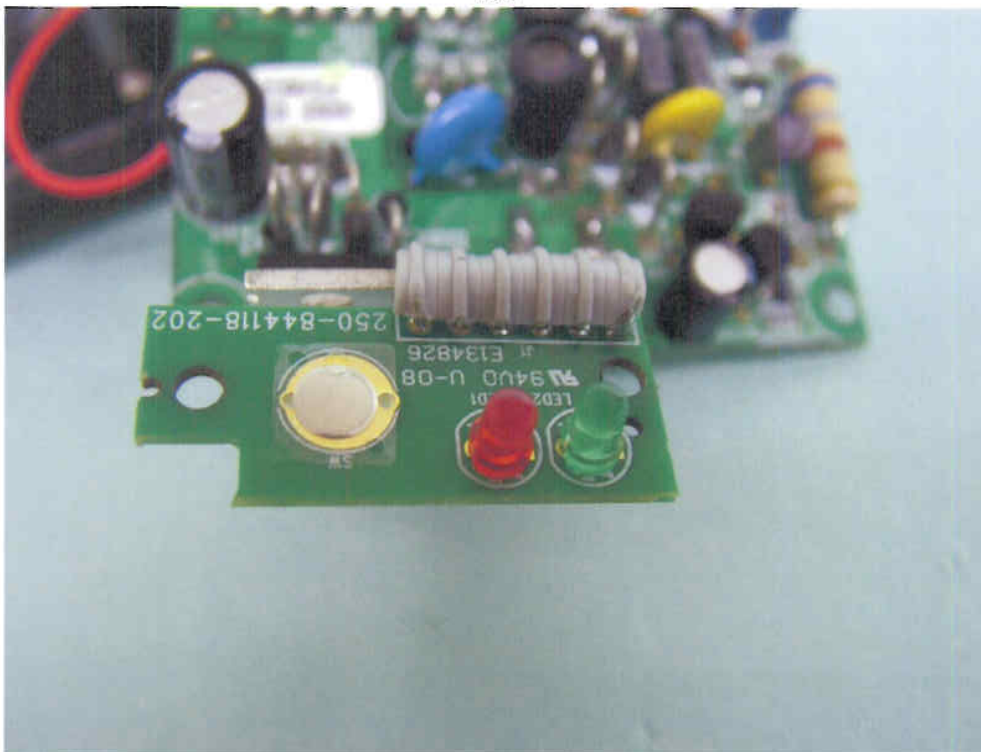
Project no. : 60/860.6.106/01

Description : H-315

Date : June 15, 2006



PCB

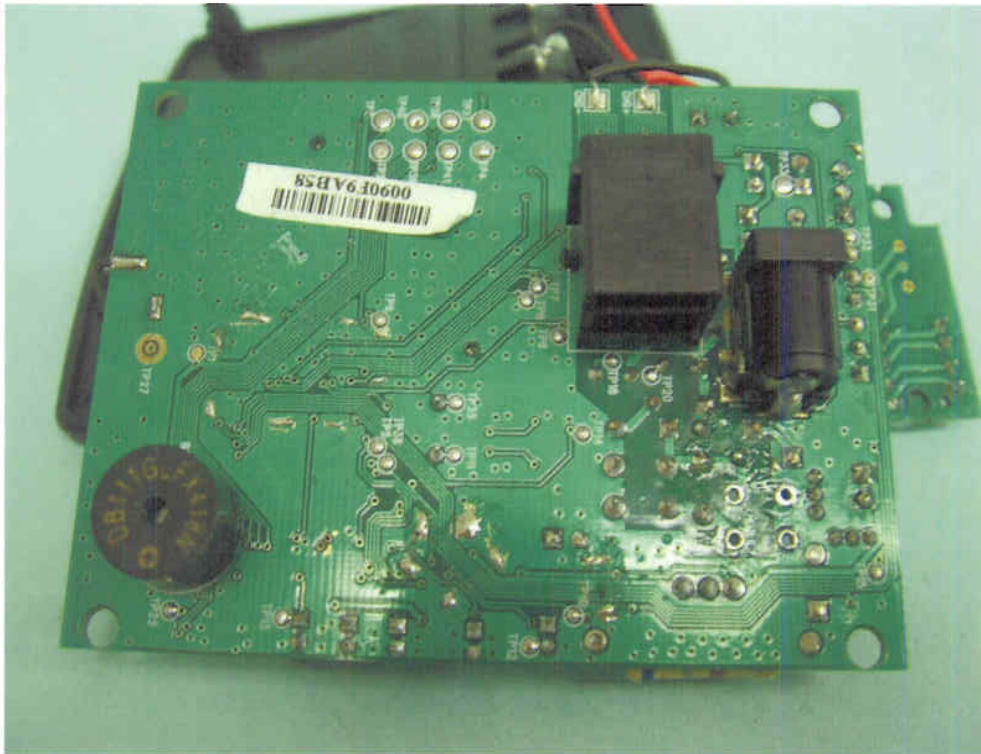


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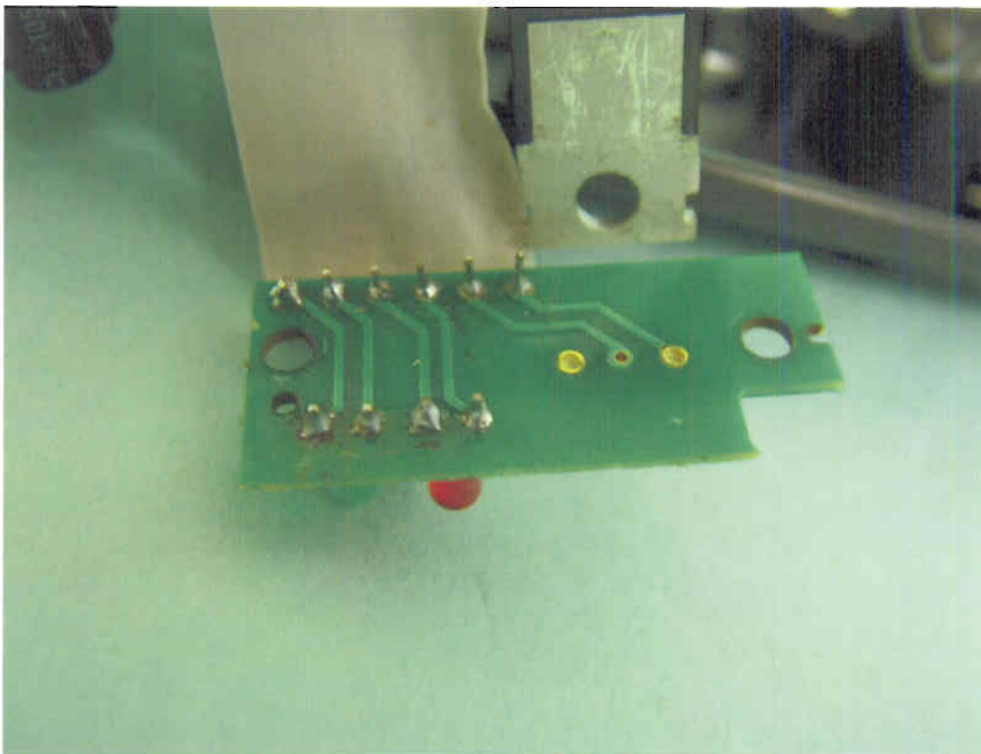
Project no. : 60/860.6.106/01

Description : H-315

Date : June 15, 2006



PCB



PCB

Project no. : 60/860.6.106/01

Description : H-315

Date : June 15, 2006



H/S Front View

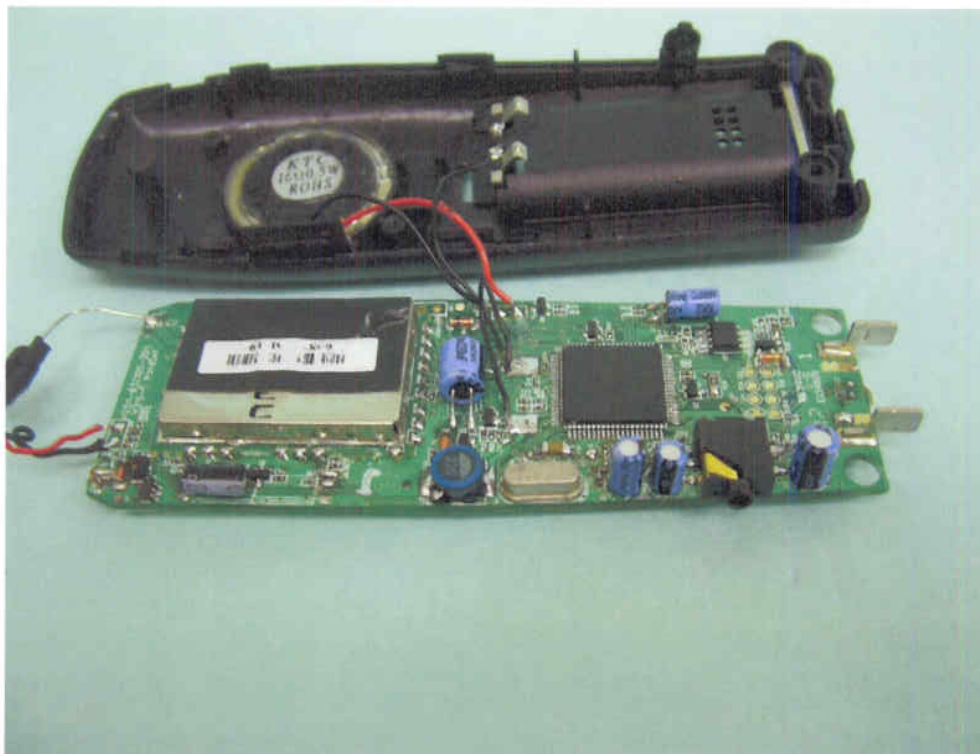


H/S Rear View

Project no. : 60/860.6.106/01
Description : H-315
Date : June 15, 2006



PCB



PCB

Project no. : 60/860.6.106/01
Description : H-315
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