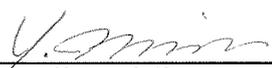
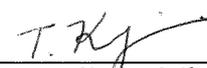


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Auftraggeber: <i>Client:</i>		KYOCERA Document Solutions Inc. 1-2-28 Tamatsukuri, Chuo-ku ,Osaka-shi,Osaka,540-8585 Japan		
Gegenstand der Prüfung: <i>Test item:</i>		Facsimile Kit for MFP		
Bezeichnung: <i>Identification:</i>	FAX System(X)	Serien-Nr.: <i>Serial No.:</i>	Prototype	
Wareneingangs-Nr.: <i>Receipt No.:</i>	PT0214042255-1-1	Eingangsdatum: <i>Date of receipt:</i>	2013-10-28	
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>		
Prüfört: <i>Testing location:</i>	TÜV Rheinland Japan Ltd. 4-25-2, Kita-Yamata, Tsuzuki-ku, Yokohama 224-0021, Japan			
Prüfgrundlage: <i>Test specification:</i>	TBR 21 January 1998			
Prüfergebnis: <i>Test Result:</i>	Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specification(s).</i>			
Prüflaboratorium: <i>Testing Laboratory:</i>	TÜV Rheinland Japan Ltd. 4-25-2, Kita-Yamata, Tsuzuki-ku, Yokohama 224-0021, Japan Phone:+81-45-914-0239 Fax:+81-45-914-3347 e-mail: telecom-lab@jpn.tuv.com			
geprüft/ tested by:		kontrolliert/ reviewed by:		
2013-11-07, Y.Miura 		2013-11-07, T.Kuriyama 		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	
			Name/Stellung <i>Name/Position</i>	
			Unterschrift <i>Signature</i>	
Sonstiges/ Other Aspects:				
Clause4.7.1 is applied without the 60mA current limit.				
Accredited Testing Laboratory under the terms of ISO 17025				
D-PL-12059-01-03				
 DAkKS Deutsche Akkreditierungsstelle				
* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested				
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>				

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Climatic conditions during testing

Temperature: 23 - 25 °C
Air pressure: 1000 - 1020 hPa
Humidity: 40 - 50 %

Appliance documentation

Hardware: -
Software: -
User manual: FAX System(X) Fax functions
Circuit diagram: FAX PCB(1/2-2/2)

Test system configuration

Hardware: FAX System(X)
Software: 001.400

- During testing feeding conditions according to TBR21 where applied
- Relaxation of feeding condition was applied: 3200Ω replaced by 2800Ω where applicable
- Relaxation of feeding condition was applied: 2800Ω replaced by 2300Ω where applicable

Ref.	Condition	Status	Support (Y / N)	Comment
C.1.	Is the TE controlled by external device for origination and/or the reception of a call?	If Yes then M else N	No	
C.2.	Is the TE intended to have a connection to earth?	If Yes then M else N	Yes	Main
C.3.	Is the TE intended to be in loop state?	If Yes then M else N	Yes	Communication state
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	Yes	
C.9.	Is the TE intended for use in receiving mode?	If Yes then M else N	Yes	
C.10.	Is the TE intended for use in transmitting mode?	If Yes then M else N	Yes	
C.11.	Is the TE intended for making internally generated automatically repeated call attempts?	If Yes then M else N	Yes	
C.12.	Is the TE intended for automatically controlled signalling tone duration?	If Yes then M else N	Yes	
C.13.	Is the TE intended for automatically controlled signalling pause duration?	If Yes then M else N	Yes	

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Measurement equipment list

Measurement instrument	Identification	Measurement accuracy / Standard
Automatic Measurement System AMS from ESP-Telekom	TL-9000	
Outband Receiver and Ringer Amplifier ARE1000 from ESP-Telekom	TL-9001	
International Feeding Bridge ISB1000 from ESP-Telekom	TL-9002	
Digital Multimeter Fluke	TL-9108	
Oscilloscope Tektronix TDS210	TL-9008	
Tastköpfe I / II / Voltage Probe I / II	TL-9036, TL-9037	
Connector Box	TL-9010	
Resistor Box	TL-9011	
Reference Impedance Zref-quer TBR21, Type28	TL-9020, TL-9021	
Reference Impedance Zref-längs TBR21, Type 29	TL-9022	
Reference Impedance 150 Ohm crosswise, Type 50	TL-9033	

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Measurement uncertainties

	Measuring	Measurement Uncertainty	k=2
4.4	Test methods		
4.4.1	DC resistance in quiescent state	DC Voltage : ±0.81V Current : ±1.5 µA	
4.4.2.1	Impedance of ringing devices	Impedance : ±54 Ω	
4.4.2.2	Transient response	Time : ±0.12 ms Current : ±0.28 mA	
4.4.2.3	DC current during ringing	DC Voltage : ±0.55 V DC Current : ±0.094 mA	
4.4.3/4.7.4.1	Longitudinal conversion loss	Impedance unbalance: ±1.1 dB	
4.4.4	Resistance to earth	Resistance : ±0.19 MΩ	
4.5	Ringing signal detector sensitivity	Voltage _{RMS} : ±0.28 V	
4.6	Transition from quiescent to loop state		
4.6.1	Acceptance of breaks	Time : ±5.8 µs Current : ±0.17 mA	
4.6.2	Loop current characteristics	Time : ±5.8 µs Current : ±0.17 mA	
4.7	General loop steady state requirements		
4.7.1.1	DC characteristics	Voltage:±0.06V Current : ±0.82 mA	
4.7.2	Return loss	Return loss : ±0.36 dB	
	Impedance Z (f)	Impedance : ±35 Ω	
4.7.3.1	Maximum mean sending level	Level : ±1.0 dB	
4.7.3.2	Maximum instantaneous voltage	Level:±0.28V	
4.7.3.3	Maximum voltage in 10Hz bandwidth	30Hz-200Hz: Level:±2.1dB 200Hz-4.3kHz: Level:±1.6dB	
4.7.3.4	Sending level above 4.3kHz	Level : ±2.1 dB	
4.7.4.1	Longitudinal conversion loss	LCL:±1.2dB	
4.7.4.2	Output Signal Balance	Level : ±0.28dB	
4.7.5	Resistance to earth	Resistance : ±120 kΩ	
4.8	Call attempt		
4.8.1.1/4.8.1.2	Dialing with / without dialtone detection	Time : ±0.24 ms	
4.8.2	DTMF signaling		
4.8.2.1/4.8.2.2	DTMF levels and frequencies	Frequency : ±0.33 Hz Voltage : ±5.2 mV	
4.8.2.3	DTMF unwanted frequencies auto	Level : ± 1dB	
4.8.2.4/4.8.2.5	DTMF Tone/Pause duration	Time : ±0.27 ms Voltage : ±3.7 mV	
4.9	Transition from loop to quiescent state	Time : ±8.2µs Current _(10mA) : ±0.12 mA Current _(0.5mA) : ±0.006 mA	

Summary Report

4 Requirement					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.1 General Requirement Declaration of the manufacturer or supplier	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-
4.2 Physical characteristics of the connection to the PSTN Visual inspection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

4.3 Requirements under all conditions					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.3.1 Independence of Polarity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-

4.4 General requirements in quiescent state																									
Requirements	N/A	N/T	fail	Pass	Appendix A																				
4.4.1 DC resistance Measurement results: <table border="0"> <tr> <td>U_{DC}</td> <td>I_{max} (Normal)</td> <td>R_{TE}</td> <td>I_{max} (Inverse)</td> <td>R_{TE}</td> </tr> <tr> <td>25 V</td> <td>< 2.5 μA</td> <td>> 10 MΩ</td> <td>< 2.5 μA</td> <td>> 10 MΩ</td> </tr> <tr> <td>50 V</td> <td>< 5.0 μA</td> <td>> 10 MΩ</td> <td>< 5.0 μA</td> <td>> 10 MΩ</td> </tr> <tr> <td>100V</td> <td>< 10.0 μA</td> <td>> 10 MΩ</td> <td>< 10.0 μA</td> <td>> 10 MΩ</td> </tr> </table>	U_{DC}	I_{max} (Normal)	R_{TE}	I_{max} (Inverse)	R_{TE}	25 V	< 2.5 μA	> 10 M Ω	< 2.5 μA	> 10 M Ω	50 V	< 5.0 μA	> 10 M Ω	< 5.0 μA	> 10 M Ω	100V	< 10.0 μA	> 10 M Ω	< 10.0 μA	> 10 M Ω	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1
U_{DC}	I_{max} (Normal)	R_{TE}	I_{max} (Inverse)	R_{TE}																					
25 V	< 2.5 μA	> 10 M Ω	< 2.5 μA	> 10 M Ω																					
50 V	< 5.0 μA	> 10 M Ω	< 5.0 μA	> 10 M Ω																					
100V	< 10.0 μA	> 10 M Ω	< 10.0 μA	> 10 M Ω																					
4.4.2.1 Characteristics of TE for ringing signals - Impedance Measurement results: <table border="0"> <tr> <td>f</td> <td>Z_{TE}</td> </tr> <tr> <td>25 Hz</td> <td>>200 kΩ</td> </tr> <tr> <td>50 Hz</td> <td>165.9 kΩ</td> </tr> </table>	f	Z_{TE}	25 Hz	>200 k Ω	50 Hz	165.9 k Ω	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2														
f	Z_{TE}																								
25 Hz	>200 k Ω																								
50 Hz	165.9 k Ω																								
4.4.2.2 Characteristics of TE for ringing signals - Transient response	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3																				
4.4.2.3 Characteristics of TE for ringing signals - DC current Measurement results: <table border="0"> <tr> <td>f</td> <td>I_{DC} (Normal)</td> <td>I_{DC} (Inverse)</td> </tr> <tr> <td>25 Hz</td> <td>< 0.06 mA</td> <td>< 0.06 mA</td> </tr> <tr> <td>50 Hz</td> <td>< 0.06 mA</td> <td>< 0.06 mA</td> </tr> </table>	f	I_{DC} (Normal)	I_{DC} (Inverse)	25 Hz	< 0.06 mA	< 0.06 mA	50 Hz	< 0.06 mA	< 0.06 mA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	4-5											
f	I_{DC} (Normal)	I_{DC} (Inverse)																							
25 Hz	< 0.06 mA	< 0.06 mA																							
50 Hz	< 0.06 mA	< 0.06 mA																							

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Requirements	N/A	N/T	fail	Pass	Appendix A
4.4.3 Impedance unbalance about earth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6-7
4.4.4 Resistance to earth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8
Measurement results:					
Wire	U	I	R		
1	100 V	< 2 μ A	> 50 M Ω		
2	100 V	< 2 μ A	> 50 M Ω		

4.5 Ringing signal detector sensitivity					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.5 Ringing signal detector sensitivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	9
Measurement results:					
f					
25 Hz	1s on / 5s off	Ringing signal detected:	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	
50 Hz	1s on / 5s off	Ringing signal detected:	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	

4.6 Transition from quiescent to loop state					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.6.1 Acceptance of breaks in the loop in a call attempt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10-11
4.6.2 Loop current characteristics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	12-17

4.7 General loop steady state requirements					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.7.1 DC characteristics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	18-19
4.7.2 Impedance					
200 Hz - 4000 Hz : Return loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	20-23
200 Hz - 300 Hz : Inductive component of impedance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	24-27
4.7.3.1 Sending level limitations - Mean sending level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	28-32
4.7.3.2 Sending level limitations - Instantaneous voltage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	28-34
4.7.3.3 Sending level limitations - Voltage level in a 10 Hz bandwidth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	35-39
4.7.3.4 Sending level limitations - Sending level above 4,3 kHz	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	40-46
4.7.4.1 Impedance unbalance about earth - Longitudinal Conversion Loss	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	47-48
4.7.4.2 Impedance unbalance about earth - Output Signal Balance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	49-53

4.7 General loop steady state requirements					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.7.5 Resistance to earth Measurement results: Wire U I R 1 100 V < 2 µA > 50 MΩ 2 100 V < 2 µA > 50 MΩ	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	54

4.8 Call attempt					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.8.1.1 Automatic dialling - Dialling without dial tone detection Measurement results: Start dialling after <input checked="" type="checkbox"/> Fixed 3.31 s <input type="checkbox"/> Adjustable s - s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	55
4.8.1.2 Automatic dialling - Dialling with dial tone detection Measurement results: Start dialling after f level Test 1 - Start dialling Test 2 - Start dialling 300 Hz -0.7 dBV 0.54 s 0.93 s 300 Hz -35.7 dBV 0.53 s 0.95 s 500 Hz -35.7 dBV 0.53 s 0.95 s 500 Hz -0.7 dBV 0.54 s 0.96 s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	56-57

Requirements	N/A	N/T	fail	Pass	Appendix A
4.8.2.1 DTMF signalling - Frequency combinations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	58-59
4.8.2.2.1 DTMF signalling - Signalling levels - Absolute levels	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	58-59
4.8.2.2.2 DTMF signalling - Signalling levels - Level difference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	58-59
4.8.2.3 DTMF signalling - Unwanted frequency components	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	60-61
4.8.2.4 DTMF signalling - Tone duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	62-65
4.8.2.5 DTMF signalling - Pause duration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	62-65
4.8.3 Automatically repeated call attempts Measuring result: Time interval between two call attempts : 120.25 s Number of repeated call attempts : 15 times	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	66

4.9 Transition from loop to quiescent state					
Requirements	N/A	N/T	fail	Pass	Appendix A
4.9 Transition from loop to quiescent state Measuring result: $I_f < 0.5 \text{ mA}$ after 0 ms Automatic re-seizure for a new call $I_f < 0.5 \text{ mA}$ for 1.5 s	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	67

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Anlage A
Appendix A

Messergebnisse
Measuring results

Protocol for DC resistance quiescent condition

TBR21 - 4.4.1 DC resistance in quiescent state

```

=====
Model No.      : FAX System(X)
TEUT           : Facsimile Kit for MFP  Gain (internal) : +20.0 dB
Number of TEUT: 214042256
Manufacturer   : KYOCERA DS Inc.
Date          : 1.11.13
Time          : 17:12.20

Data set       : TBR21-4.4.1
Requirement    : The current drawn by the TE shall not exceed that which would
                  be drawn by a 1 MOhm resistor replacing the TE.

Remark        : -
    
```

Verdict : PASS

Vt [V]	Rt [Ohm]	Polarity	R1< [MOhm]	R [MOhm]			
25.0	1000	Normal	1.0	> 10	<	2.5	uA
25.0	1000	Inverted	1.0	> 10	<	2.5	uA
50.0	1000	Normal	1.0	> 10	<	5.0	uA
50.0	1000	Inverted	1.0	> 10	<	5.0	uA
100.0	1000	Normal	1.0	> 10	<	10.0	uA
100.0	1000	Inverted	1.0	> 10	<	10.0	uA

Protocol for Impedance of ringing devices

TBR21-4.4.2.1 Impedance of ringing devices

=====
Model No. : FAX System(X) Feeding voltage : 50.0 V
TEUT : Facsimile Kit for MFP Feeding resistor: 2050.0 Ohm
Number of TEUT: 214042256
Manufacturer : KYOCERA DS Inc.
Date : 1.11.13
Time : 17:18.02

Data set : TBR21-4.4.2.1
Requirement : The impedance Z of the TE at frequencies of 25 Hz and 50 Hz shall not be less than 4.0 ... 999.0 kOhmwhen tested at 30 V rms.

Remark : -

Verdict : PASS

f Hz	Ute V	Z kΩ
25	30.0	> 200
50	30.0	165.9

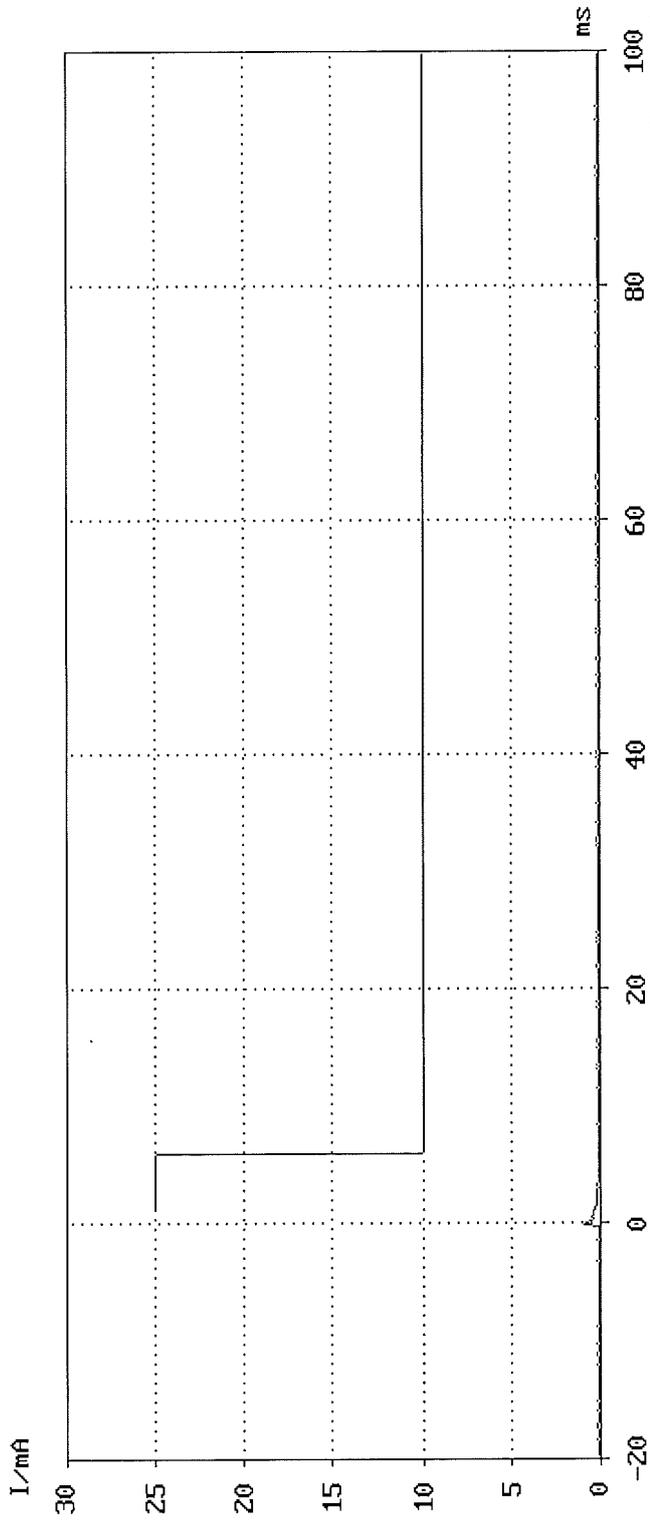
TBR21 - 4.4.2.2 Transient response

Model No. : FAX System(X) Feeding voltage : 60.0 V
 TEUT : Facsimile Kit for M200 Current limitation: 80.0 mA
 Number of TEUT: 214042256 Polarity : Normal
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 200.0 Ohm
 Date : 1.11.13 Requirement : Current curve
 Time : 17:19.46 shall be <= limit curve
 Remark : - Data set : TBR21-4.4.2.2

Trigger : OK
 I [mA]: 0.5
 Event : 1. pos. Edge
 Delay [ms]: - 20
 Sample [ms]: 0.2

Mask violations : 0

Verdict : PASS



Protocol for DC current during ringing

TBR21 - 4.4.2.3 DC current during ringing state

=====
Model No. : FAX System(X) Feeding voltage : 60.0 V
TEUT : Facsimile Kit for MFP Feeding resistor: 850 Ohm
Number of TEUT: 214042256 Polarity : Normal
Manufacturer : KYOCERA DS Inc.
Date : 1.11.13
Time : 17:21.29

Data set : TBR21-4.4.2.3
Requirement : The resulting DC current during the ringing signal shall
be less 0.60 mA.

Remark : -

Verdict : PASS

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

Protocol for DC current during ringing

TBR21 - 4.4.2.3 DC current during ringing state

=====
Model No. : FAX System(X) Feeding voltage : 60.0 V
TEUT : Facsimile Kit for MFP Feeding resistor: 850 Ohm
Number of TEUT: 214042256 Polarity : Inverted
Manufacturer : KYOCERA DS Inc.
Date : 5.11.13
Time : 13:35.57

Data set : TBR21-4.4.2.3
Requirement : The resulting DC current during the ringing signal shall
be less 0.60 mA.

Remark : -

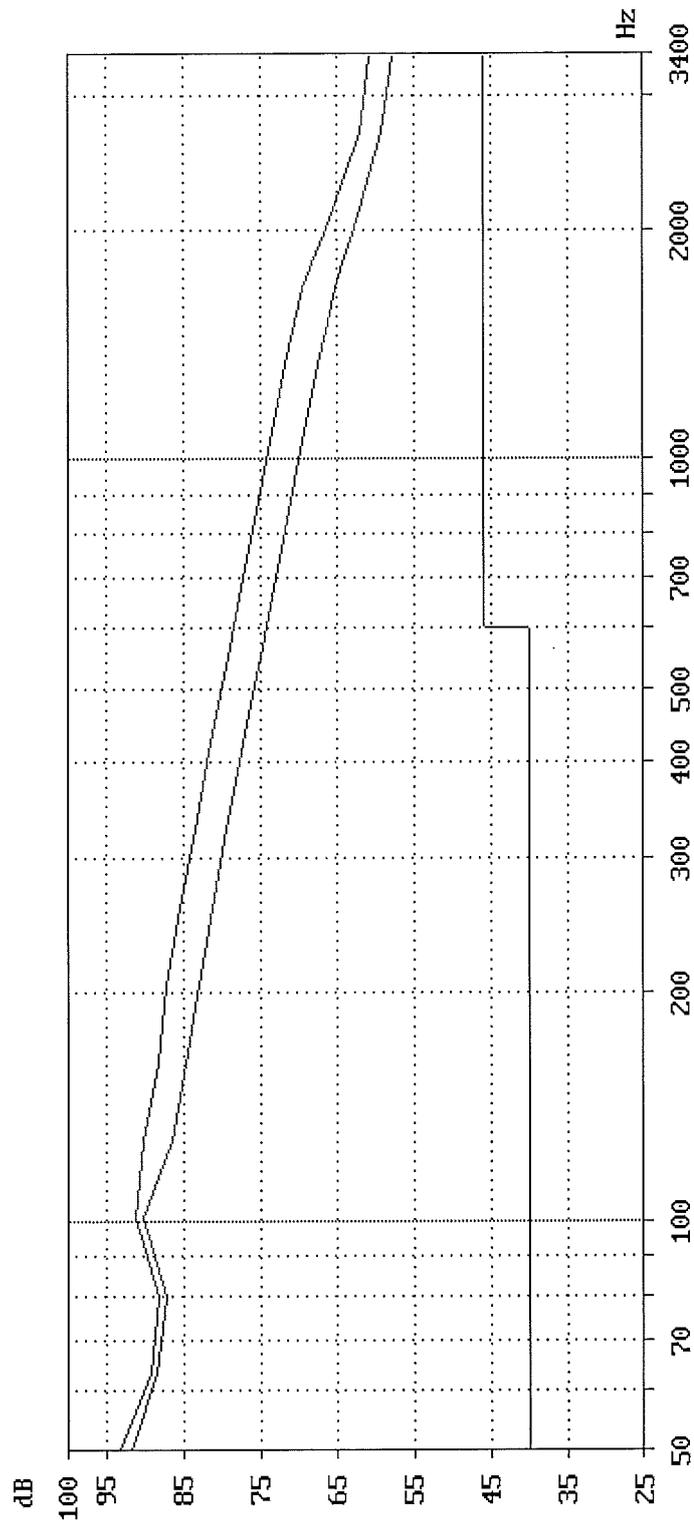
Verdict : PASS

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

TBR21 - 4.4.3 Impedance unbalance about earth
in quiescent state

Comission : 214042256
 Printing time : 1.11.13 17:24.09
 Graph 1 _____
 Graph 2 _____

Requirement : Result curve
 shall be \geq limit curve



Longitudinal conversion loss
Commission : 214042256

Printing time : 1.11.13 17:24.09

Graph 1

Graph 2

Model No.	FAX System(X)	FAX System(X)
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP
Number of TEUT	214042256	214042256
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.
Date	1.11.13	1.11.13
Time	17:22.51	17:23.15
Feeding Voltage	50.0 V	50.0 V
Current Limitation	80.0 mA	80.0 mA
Polarity	Normal	Inverted
Feeding resistor	230 Ohm	230 Ohm
Data set	TBR21-4.4.3	TBR21-4.4.3
Feeding Bridge	TBR21	TBR21
Level	+0.0 dB(0.775 V)	+0.0 dB(0.775 V)
Call setup	outgoing	outgoing
Verdict	PASS	PASS
Remark	-	-

Protocol for Resistance to earth

TBR21 - 4.4.4 Resistance to earth in quiescent state

```

=====
Model No.      : FAX System(X)
TEUT          : Facsimile Kit for MFP Feeding bridge : TBR21
Number of TEUT: 214042256
Manufacturer   : KYOCERA DS Inc.
Date          : 1.11.13
Time          : 17:24.35
Data Set      : TBR21-4.4.4
    
```

Requirement : If a connection to earth is intended, the DC resistance between each line terminal of TE and earth shall be not less than 10 MOhm.
("E" means the socket "Plane" on the front side of the ARE1000.)

Remark : -

Verdict : PASS

Uf V	Rf Ω	Polarity	Ut V	Rt Ω	Measure	Limit MΩ	Current uA	Resistance MΩ
50.0	230	Normal	100.0	10000	b - E	10	< 2.0	> 50
50.0	230	Normal	-100.0	10000	b - E	10	< 2.0	> 50
50.0	230	Normal	100.0	10000	a - E	10	< 2.0	> 50
50.0	230	Normal	-100.0	10000	a - E	10	< 2.0	> 50
50.0	230	Inverted	100.0	10000	b - E	10	< 2.0	> 50
50.0	230	Inverted	-100.0	10000	b - E	10	< 2.0	> 50
50.0	230	Inverted	100.0	10000	a - E	10	< 2.0	> 50
50.0	230	Inverted	-100.0	10000	a - E	10	< 2.0	> 50

Protocol for Automatic answering function Auto

TBR21 - 4.5 Ringing signal detector sensitivity (Automatic answering)

```

=====
Model No.      : FAX System(X)      Feeding voltage  : 50.0 V
TEUT          : Facsimile Kit for MFP Current limitation: 40.0 mA
Number of TEUT: 214042256          Polarity         : Normal
Manufacturer   : KYOCERA DS Inc.    Feeding resistor : 850.0 Ohm
Date          : 1.11.13             Trigger Event    : 1. pos. Edge
Time          : 17:28.39            Gain (internal)  : -30.0 dB
    
```

Data set : TBR21-4.5
 Requirement : The TE shall be able to respond to ringing signals of 30 Vrms at 25 Hz and 50 Hz with a cadence of 1 s ON and 5 s OFF, superimposed on a 50 VDC feeding voltage.

Remark : -

Verdict : PASS

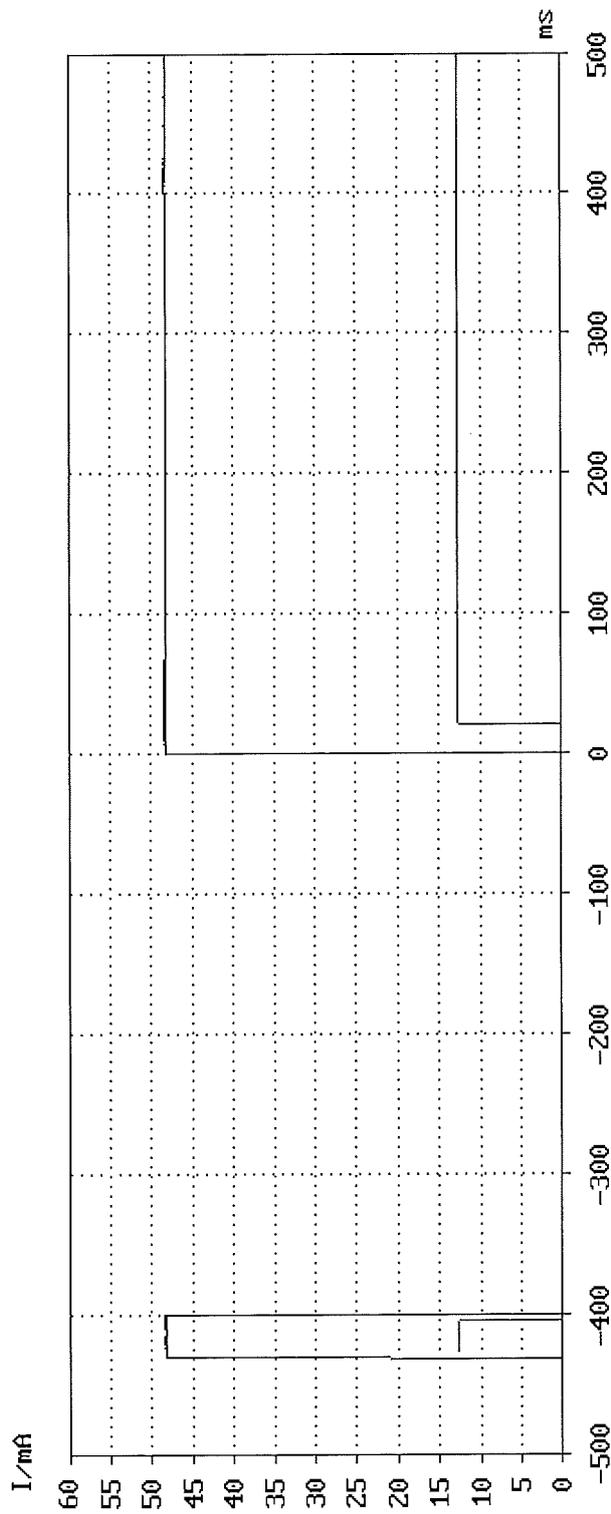
Cycles	Frequency Hz	Ute V	1.Pulse ms	Pulse ms	Pause ms	Answering s
13	25.0	30.0	1000	1000	5000	6.99
13	50.0	30.0	1000	1000	5000	7.02

TBR21 - 4.6.1 Acceptance of breaks in the loop state after 30ms feeding

Model No. : FAX System(X)	Feeding voltage : 50.0 V	Trigger : OK
TEUT : Facsimile Kit for FAXarity	I [mA]: 13 mA	
Number of TEUT: 214042256	Feeding resistor : 850.0 Ohm	Event : 2. pos. Edge
Manufacturer : KYOCERA DS Inc.	Break in the loop: after 30 ms for 400 ms	
Date : 1.11.13	Requirement : Current curve	Delay [ms]: - 500
Time : 17:31.10	shall be >= limit curve	Sample [ms]: 0.2
Remark : -	Data set : TBR21-4.6.1 30ms	

Verdict : PASS

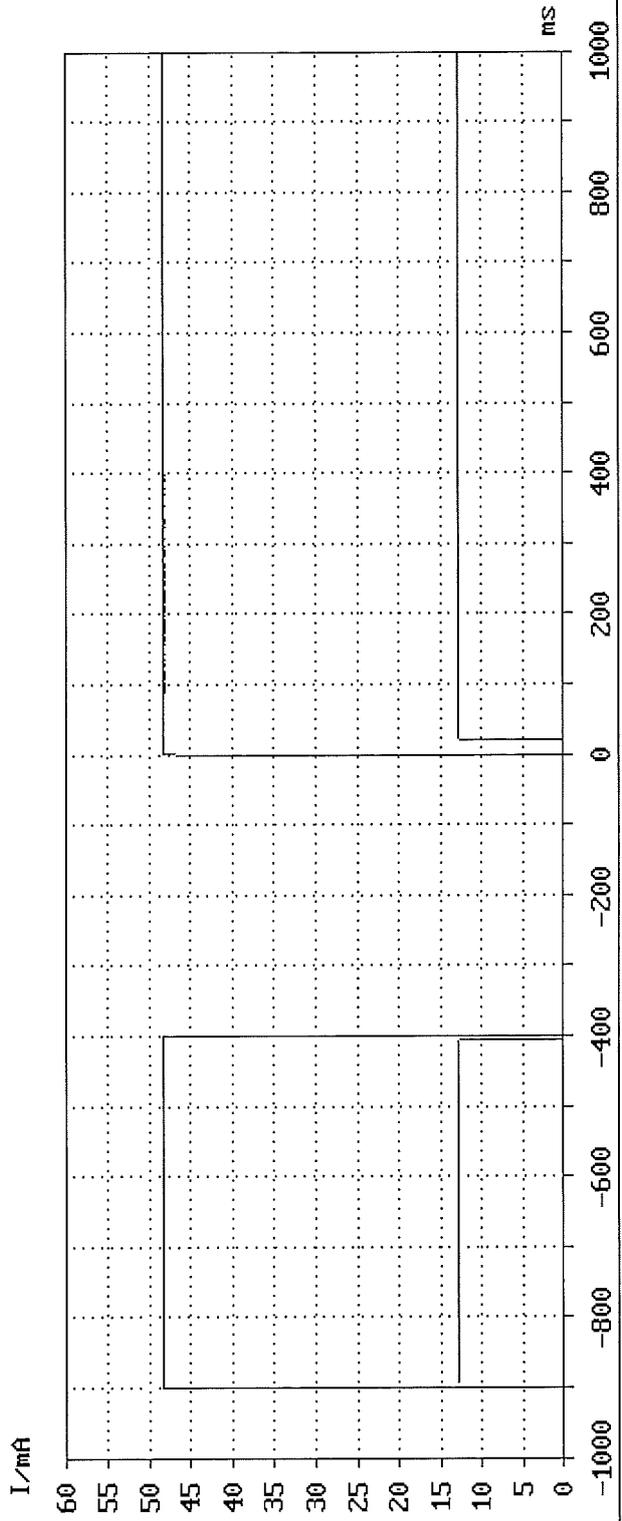
Mask violations : 0.0 ms



TBR21 - 4.6.1 Acceptance of breaks in the loop state after 500ms feeding

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for FAXarity I [mA]: 13 mA
 Number of TEUT: 214042256 Feeding resistor : 850.0 Ohm Event : 2. pos. Edge
 Manufacturer : KYOCERA DS Inc. Break in the loop: after 500 ms for 400 ms
 Date : 1.11.13 Requirement : Current curve Delay [ms]: - 1000
 Time : 17:32.34 shall be >= limit curve Sample [ms]: 0.2
 Remark : - Data set : TBR21-4.6.1 500ms

Mask violations : 0.0 ms Verdict : PASS

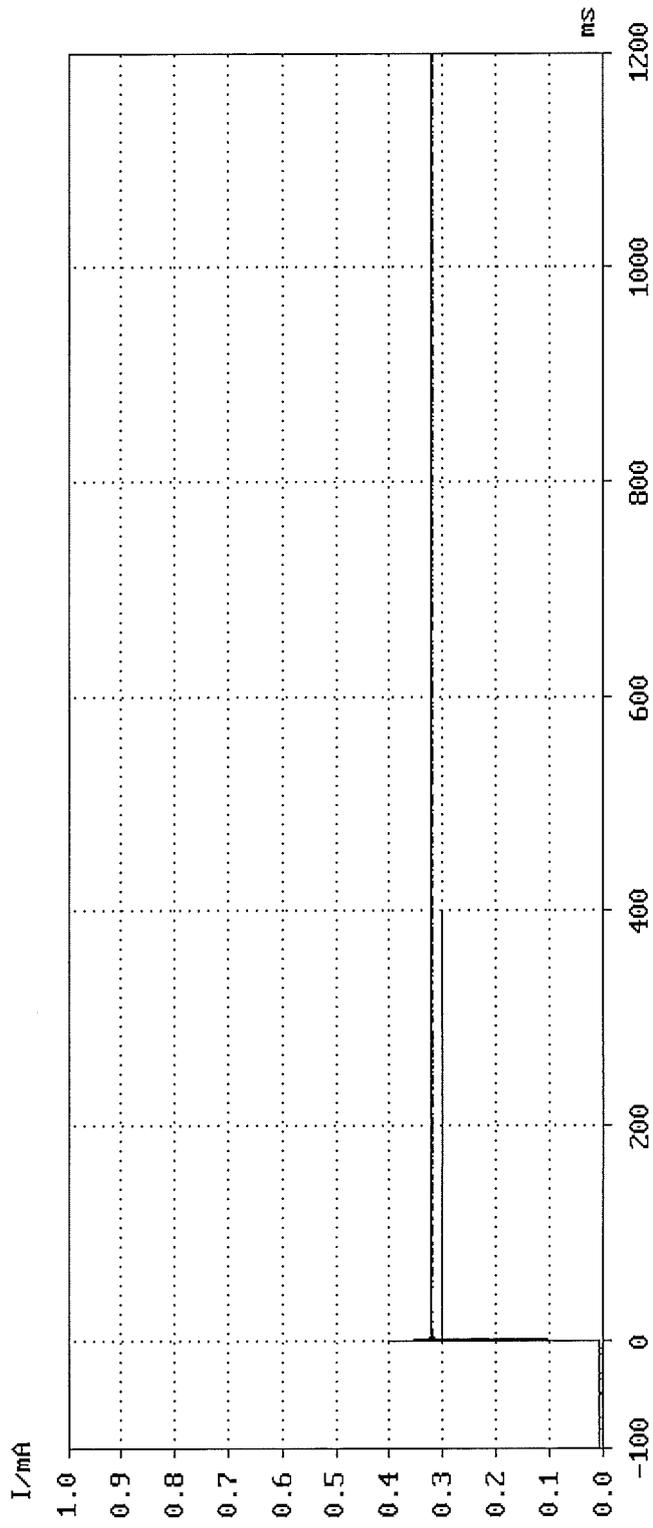


TBR21-4.6.2 Loop current characteristics

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for NIPPON Limitation: 100.0 mA I [mA]: 0.1
 Number of TEUT: 214042256 Polarity : Normal Event : 1. pos. Edge
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 150000.0 Ohm Delay [ms]: - 100
 Date : 1.11.13 Requirement: Current curve Sample [ms]: 0.2
 Time : 17:34.21 shall fulfil values of table 3 Limit td : 7.0 ms
 Remark : - Data set : TBR21-4.6.2 150k

Verdict : PASS

Tolerance mask violat: 0.0 ms

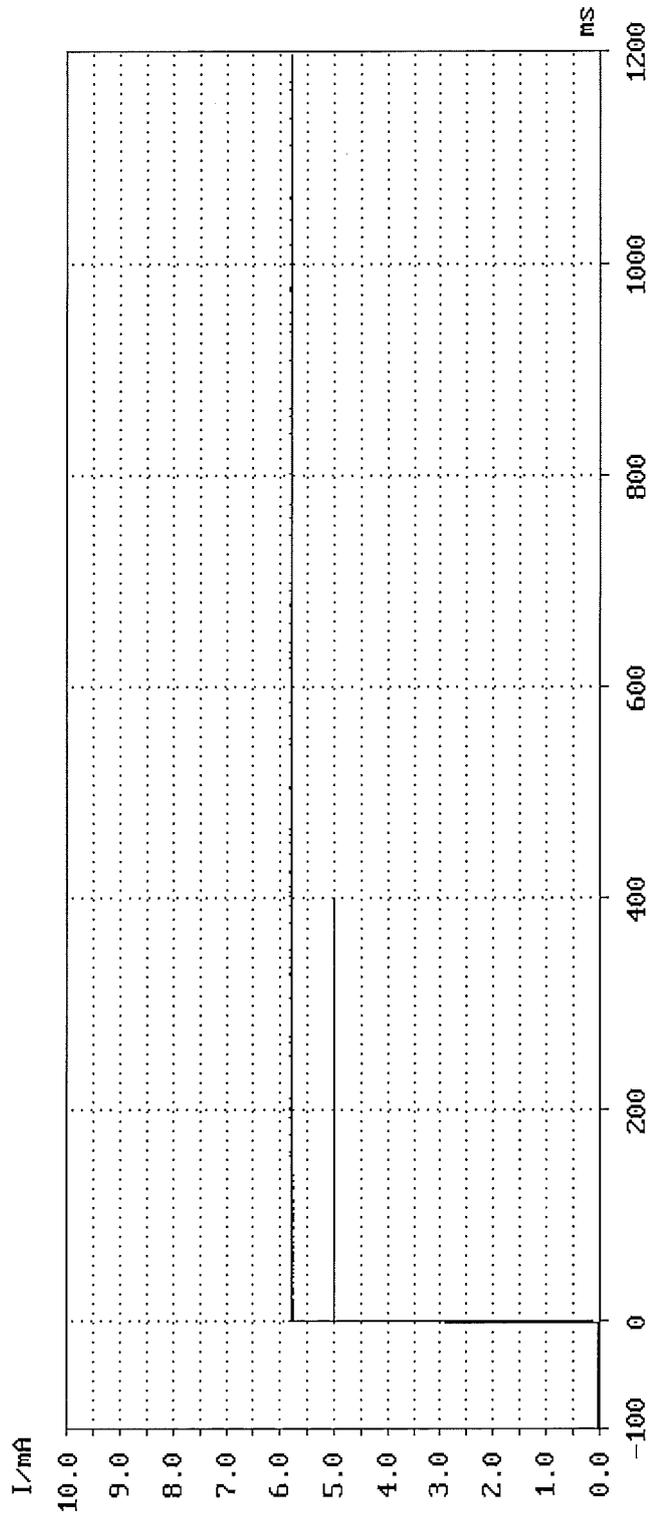


TBR21 - 4.6.2 Loop current characteristics

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for MFB-100 Current limitation: 100.0 mA I [mA]: 0.1
 Number of TEUT: 214042256 Polarity : Normal Event : 1. pos. Edge
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 8000.0 Ohm Delay [ms]: - 100
 Date : 1.11.13 Requirement: Current curve Sample [ms]: 0.2
 Time : 17:38.19 shall fulfil values of table 3 Limit td : 7.0 ms
 Remark : - Data set : TBR21-4.6.2 8k

Verdict : PASS

Tolerance mask violat.: 0.0 ms

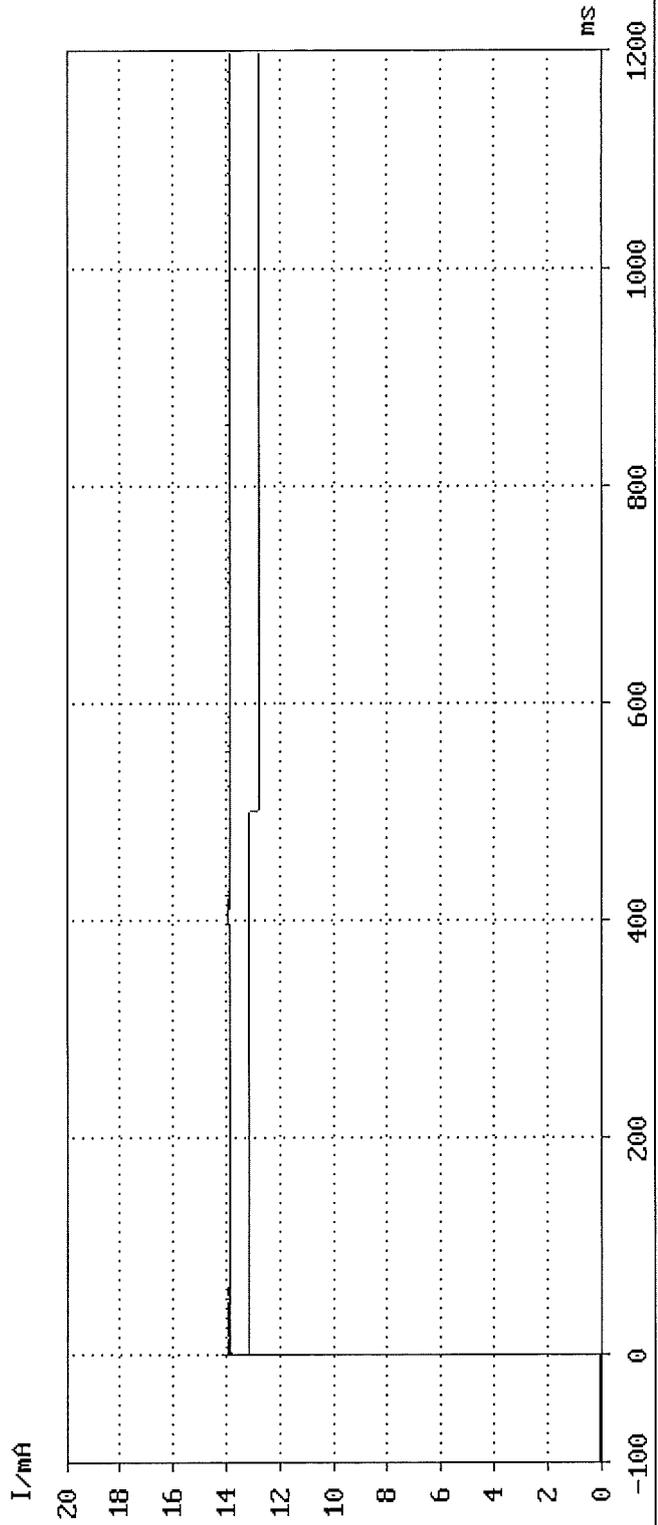


TBR21 - 4.6.2 Loop current characteristics

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Trigger	: OK
TEUT	: Facsimile Kit for MFB	Current limitation	: 100.0 mA	I	[mA]: 0.1
Number of TEUT	: 214042256	Polarity	: Normal	Event	: 1. pos. Edge
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 3200.0 Ohm	Delay [ms]	: - 100
Date	: 1.11.13	Requirement	: Current curve	Sample [ms]	: 0.2
Time	: 17:39.40	shall fulfil values of table 4	Limit td	: 7.0 ms	
Remark	: -	Data set	: TBR21-4.6.2 3k2		

Tolerance mask violat.: 0.0 ms

Verdict : PASS

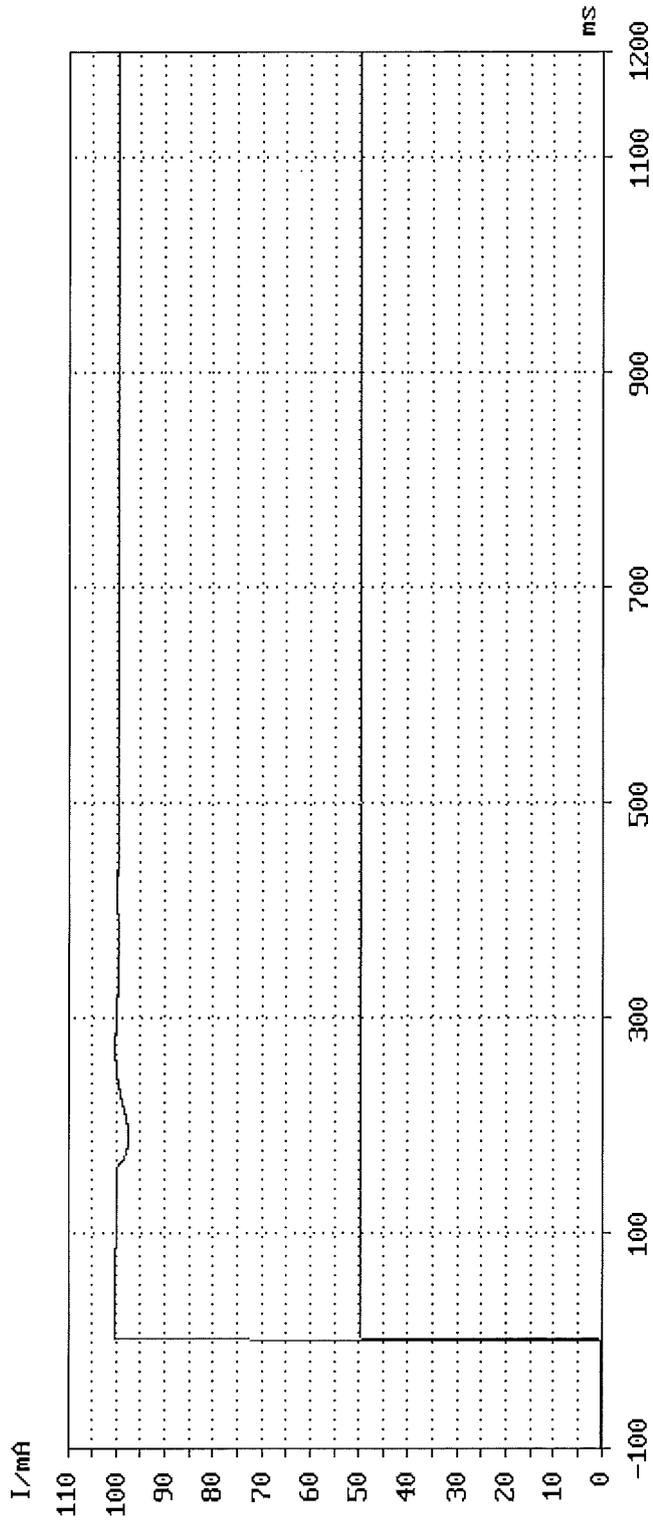


TBR21 - 4.6.2 Loop current characteristics

Model No. : FAX System(X)	Feeding voltage : 50.0 V	Trigger : OK
TEUT : Facsimile Kit for M&P	Current limitation: 100.0 mA	I [mA]: 0.1
Number of TEUT: 214042256	Polarity : Normal	Event : 1. pos. Edge
Manufacturer : KYOCERA DS Inc.	Feeding resistor : 230.0 Ohm	Delay [ms]: - 100
Date : 1.11.13	Requirement: Current curve	Sample [ms]: 0.2
Time : 17:41.01	shall fulfil values of table 4	Limit td : 7.0 ms
Remark : -	Data set : TBR21-4.6.2 230	

Tolerance mask violat.: 0.0 ms

Verdict : PASS

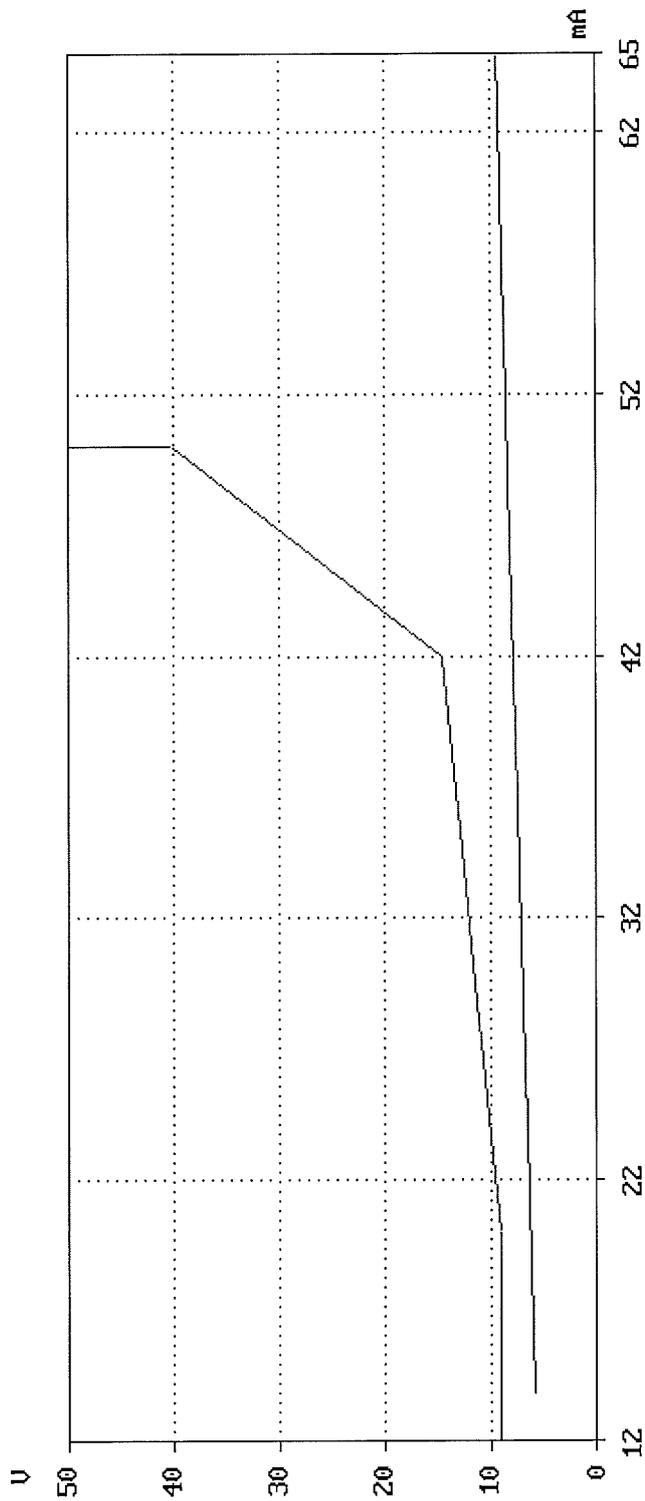


TBR21 - 4.7.1 DC characteristics

Model No. : FAX System(X) Feeding voltage : 50.0 V
 TEUT : Facsimile Kit for Settling Time : 3.0 sec
 Number of TEUT: 214042256 Feeding : 230/850/2050/3200 Ohm normal/inverted
 Manufacturer : KYOCERA DS Inc. Requirement : The DC characteristics shall not exceed the limits
 Date : 5.11.13
 Time : 9:27.05 Data set : TBR-21 Except 60mA N
 Remark : -

Mask violations: 0

Verdict : PASS

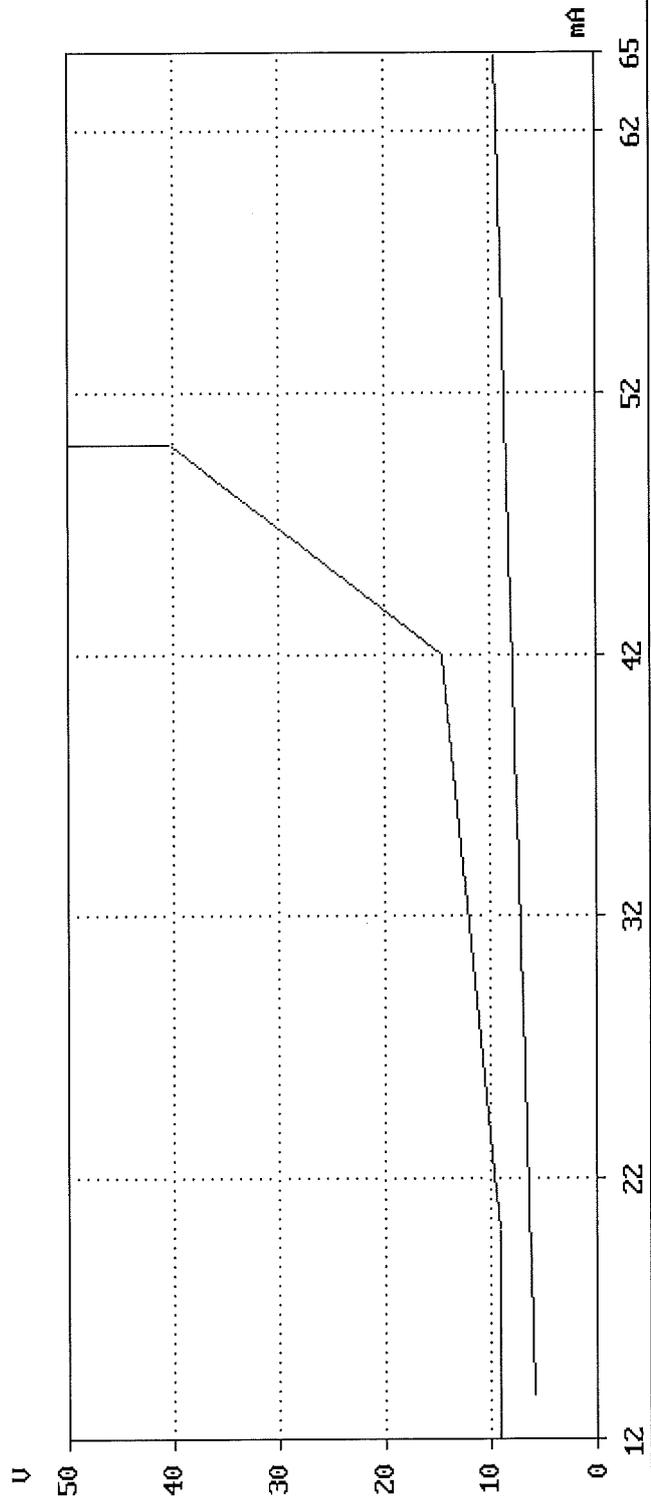


TBR21 - 4.7.1 DC characteristics

Model No. : FAX System(X) Feeding voltage : 50.0 V
 TEUT : Facsimile Kit for M Settling Time : 3.0 sec
 Number of TEUT: 214042256 Feeding : 230/850/2050/3200 Ohm normal/inverted
 Manufacturer : KYOCERA DS Inc. Requirement : The DC characteristics
 Date : 5.11.13 shall not exceed the limits
 Time : 9:33.14 Data set : TBR-21 Except 60mA I
 Remark : -

Mask violations: 0

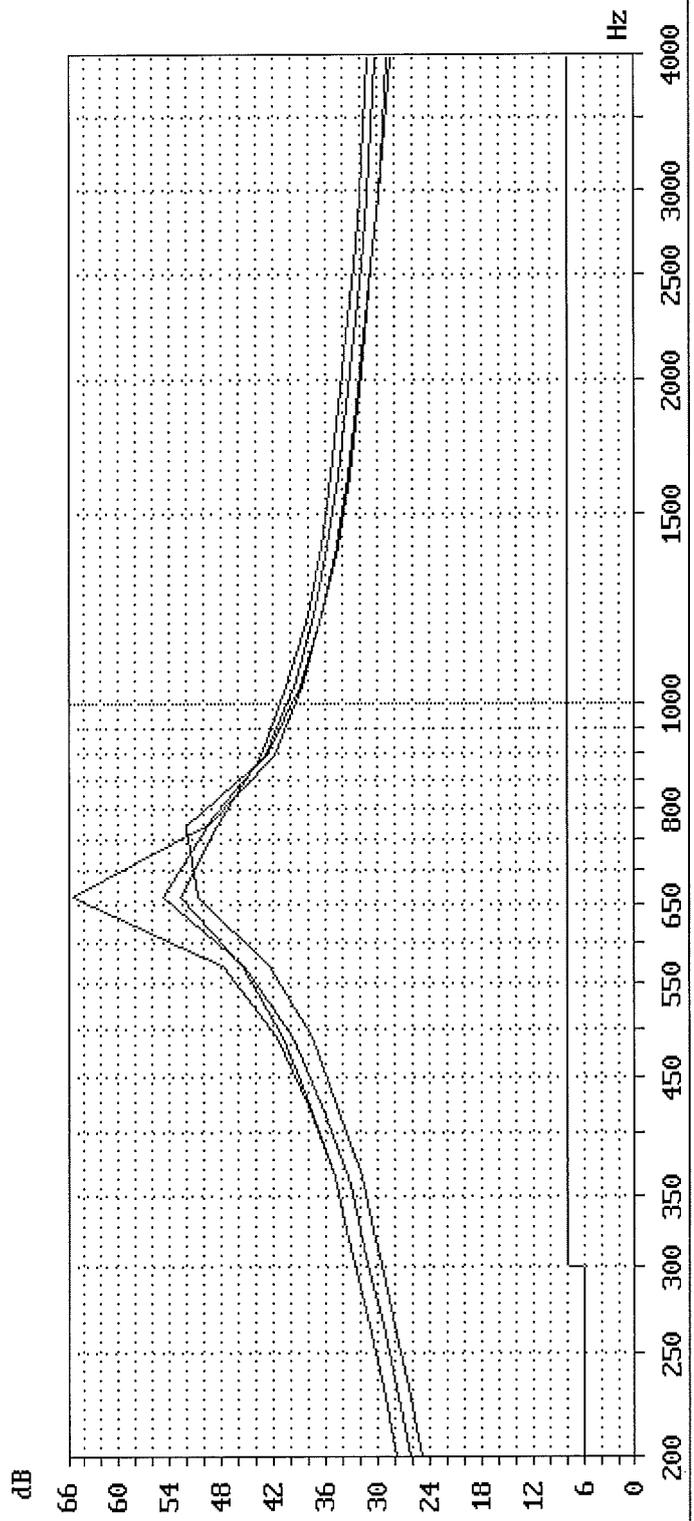
Verdict : PASS



TBR21 - 4.7.2 Impedance - Return loss

Comission : 214042256
Printing time : 5.11.13 9:36.44
Graph 1 _____
Graph 2 _____
Graph 3 _____
Graph 4 _____

Requirement : The result curve shall not be less than the limits

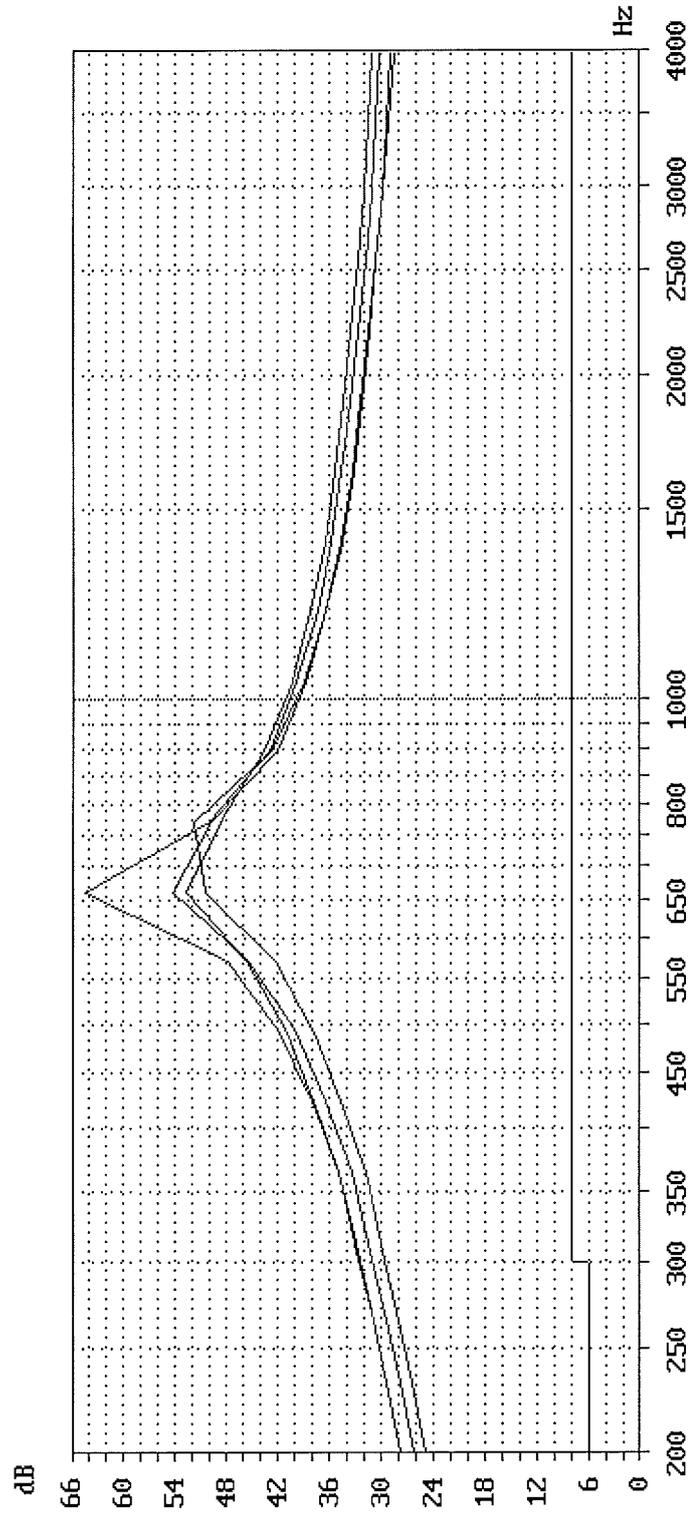


Return loss Commission : 214042256		Printing time : 5.11.13 9:36.44	
Graph 1		Graph 2	
Model No.	FAX System(X)	FAX System(X)	
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP	
Number of TEUT	214042256	214042256	
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.	
Date	5.11.13	5.11.13	
Time	9:34.02	9:34.32	
Feeding Voltage	50.0 V	50.0 V	
Current Limitation	80.0 mA	80.0 mA	
Polarity	Normal	Normal	
Feeding Resistor	230 Ω	850 Ω	
Data set	TBR21-4.7.2 N	TBR21-4.7.2 N	
Feeding bridge	TBR21	TBR21	
Level	-10.0 dBV	-10.0 dBV	
Ref.-imp. Zr	Zr TBR21	Zr TBR21	
Call setup	outgoing	outgoing	
Verdict	PASS	PASS	
Remark	-	-	
Graph 3		Graph 4	
Model No.	FAX System(X)	FAX System(X)	
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP	
Number of TEUT	214042256	214042256	
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.	
Date	5.11.13	5.11.13	
Time	9:35.02	9:35.32	
Feeding Voltage	50.0 V	50.0 V	
Current Limitation	80.0 mA	80.0 mA	
Polarity	Normal	Normal	
Feeding Resistor	2050 Ω	3200 Ω	
Data set	TBR21-4.7.2 N	TBR21-4.7.2 N	
Feeding bridge	TBR21	TBR21	
Level	-10.0 dBV	-10.0 dBV	
Ref.-imp. Zr	Zr TBR21	Zr TBR21	
Call setup	outgoing	outgoing	
Verdict	PASS	PASS	
Remark	-	-	

TBR21 - 4.7.2 Impedance - Return loss

Comission : 214042256
 Printing time : 5.11.13 9:39.52
 Graph 1 _____
 Graph 2 _____
 Graph 3 _____
 Graph 4 _____

Requirement : The result curve shall not be less than the limits

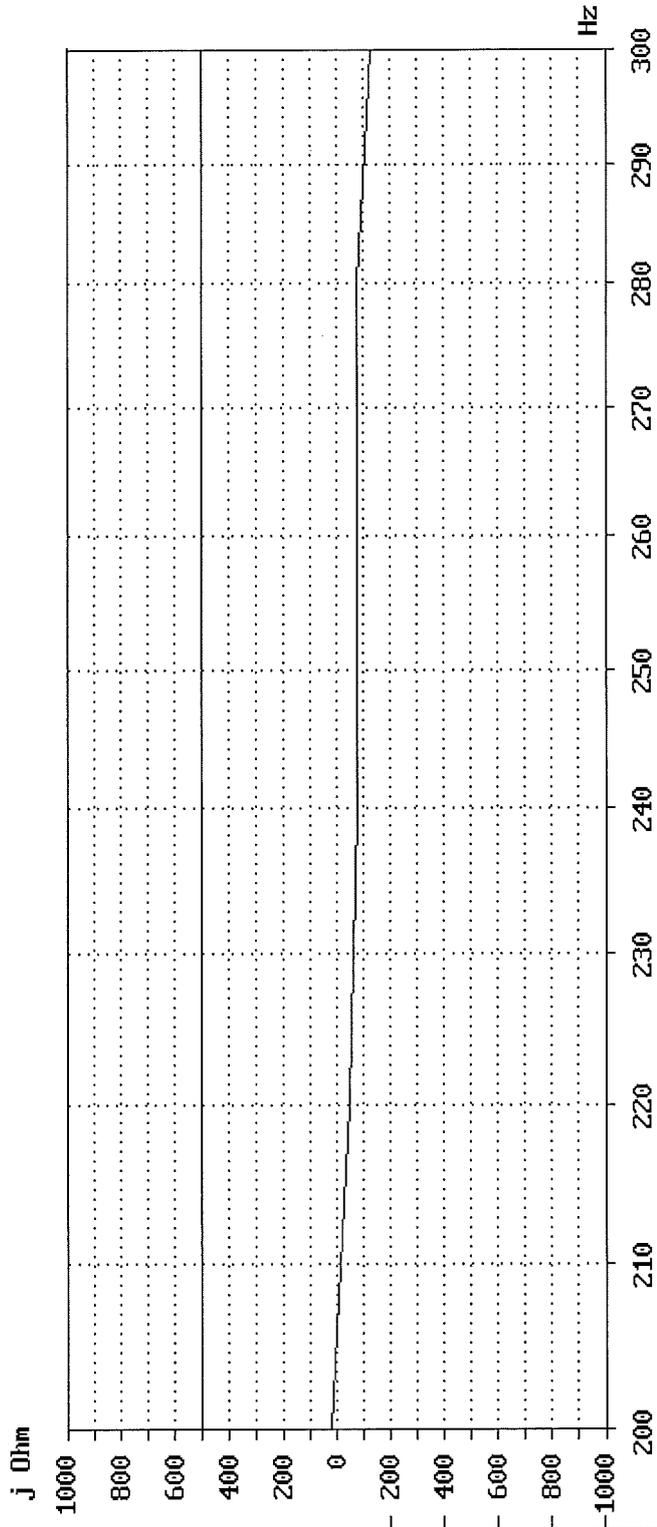


Return loss Comission : 214042256		Printing time : 5.11.13 9:39.52	
Graph 1		Graph 2	
Model No.	FAX System(X)	FAX System(X)	
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP	
Number of TEUT	214042256	214042256	
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.	
Date	5.11.13	5.11.13	
Time	9:37.31	9:38.01	
Feeding Voltage	50.0 V	50.0 V	
Current Limitation	80.0 mA	80.0 mA	
Polarity	Inverted	Inverted	
Feeding Resistor	230 Ω	850 Ω	
Data set	TBR21-4.7.2 I	TBR21-4.7.2 I	
Feeding bridge	TBR21	TBR21	
Level	-10.0 dBV	-10.0 dBV	
Ref.-imp. Zr	Zr TBR21	Zr TBR21	
Call setup	outgoing	outgoing	
Verdict	PASS	PASS	
Remark	-	-	
Graph 3		Graph 4	
Model No.	FAX System(X)	FAX System(X)	
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP	
Number of TEUT	214042256	214042256	
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.	
Date	5.11.13	5.11.13	
Time	9:38.32	9:39.02	
Feeding Voltage	50.0 V	50.0 V	
Current Limitation	80.0 mA	80.0 mA	
Polarity	Inverted	Inverted	
Feeding Resistor	2050 Ω	3200 Ω	
Data set	TBR21-4.7.2 I	TBR21-4.7.2 I	
Feeding bridge	TBR21	TBR21	
Level	-10.0 dBV	-10.0 dBV	
Ref.-imp. Zr	Zr TBR21	Zr TBR21	
Call setup	outgoing	outgoing	
Verdict	PASS	PASS	
Remark	-	-	

TBR21 - 4.7.2 Impedance - inductive component of impedance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge: TBR21 Lf=5H
 TEUT : Facsimile Kit for MBR Level : -10.0 dBV
 Number of TEUT: 214042256 Call setup : outgoing
 Manufacturer : KYOCERA DS Inc. Polarity : Normal Display : Reactance
 Date : 5.11.13 Feeding resistor : 230.0 Ohm Requirement : The result curve
 Time : 9:41.07 shall not be less the limits
 Remark : - Data set : TBR21-4.7.2 230 N

Mask violations : 0 Verdict : PASS



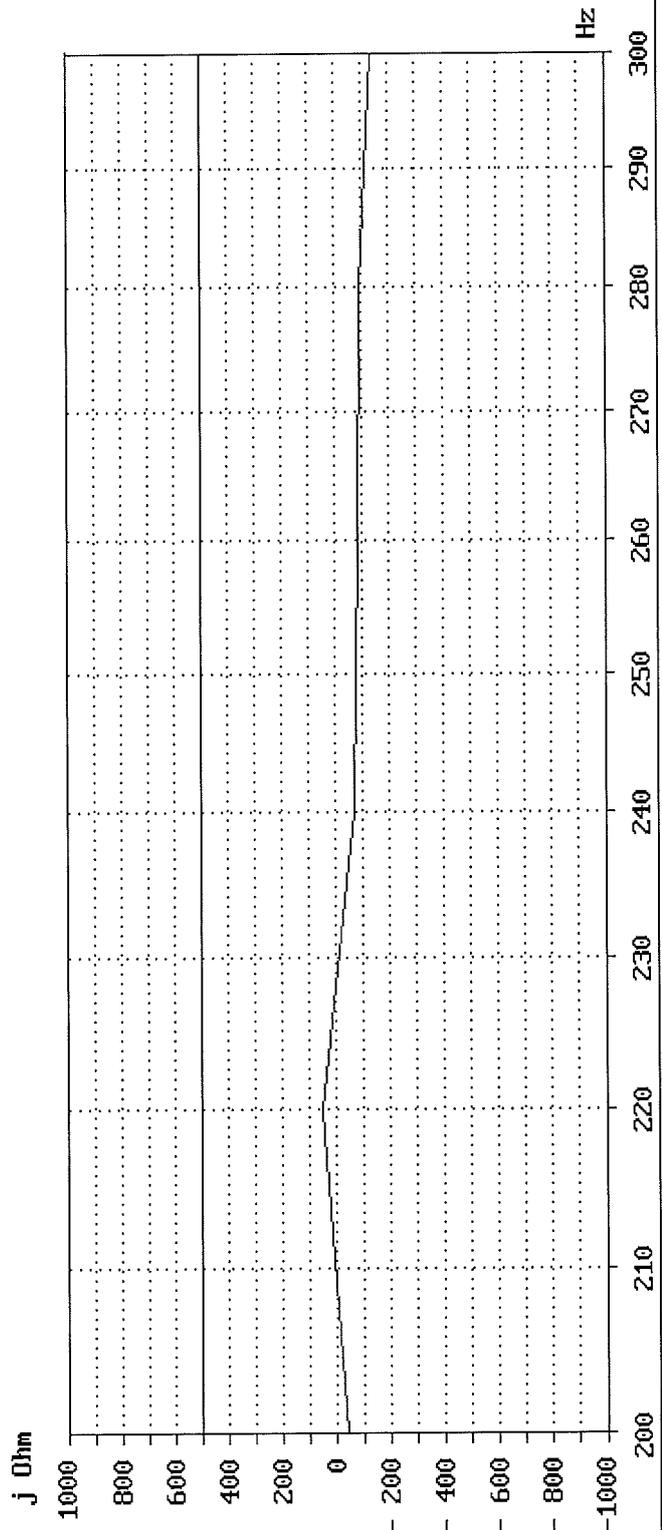
TBR21 - 4.7.2 Impedance - inductive component of impedance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge: TBR21
 TEUT : Facsimile Kit for MURR Current limitation: 80.0 mA Level : -10.0 dBV
 Number of TEUT: 214042256 Polarity : Inverted Call setup : outgoing
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 850.0 Ohm Display : Reactance
 Date : 5.11.13 Requirement : The result curve shall not be less the limits
 Time : 9:43.46 Data set : TBR21-4.7.2 850 I

Remark : -

Mask violations : 0

Verdict : PASS



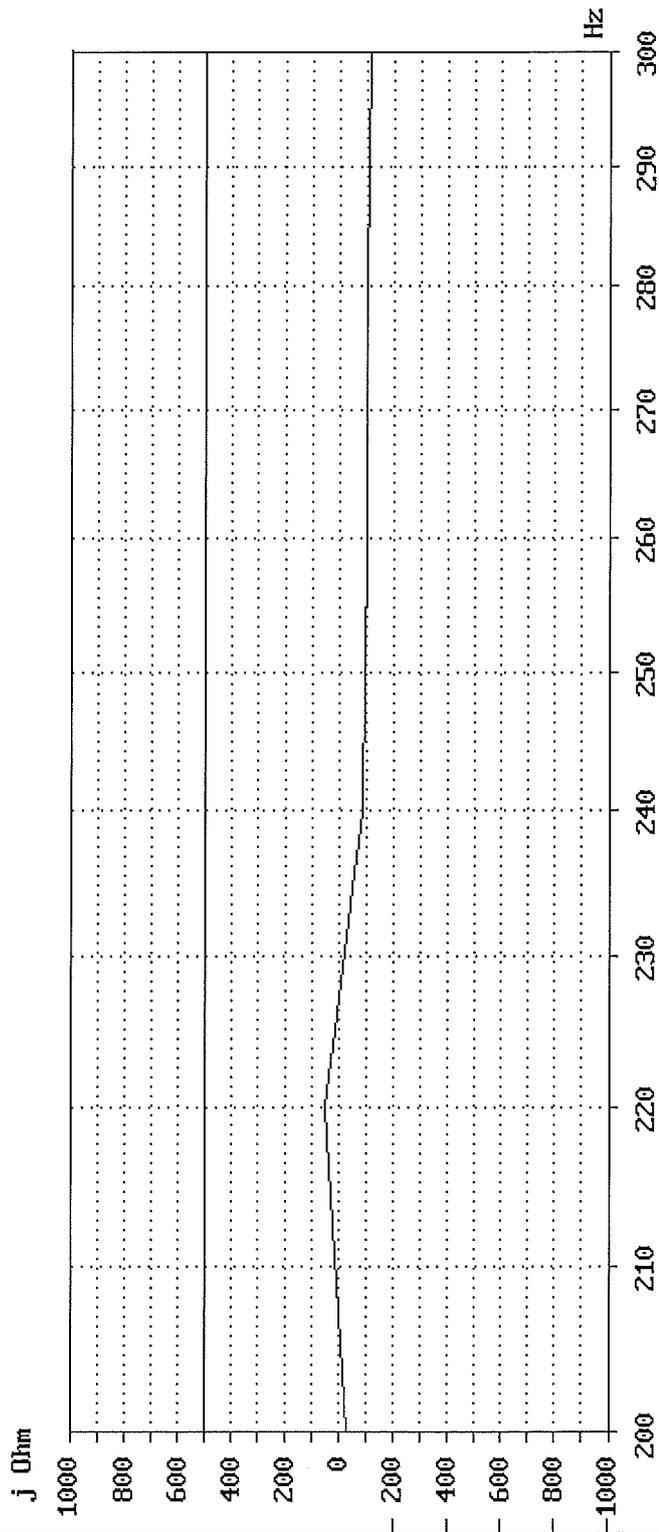
TBR21 - 4.7.2 Impedance - inductive component of impedance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge: TBR21
 TEUT : Facsimile Kit for MURRANT limitation: 80.0 mA Level : -10.0 dBV
 Number of TEUT: 214042256 Polarity : Normal Call setup : outgoing
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 2050.0 Ohm Display : Reactance
 Date : 5.11.13 Requirement : The result curve shall not be less the limits
 Time : 9:46.37 Data set : TBR21-4.7.2 2050 N

Remark : -

Mask violations : 0

Verdict : PASS



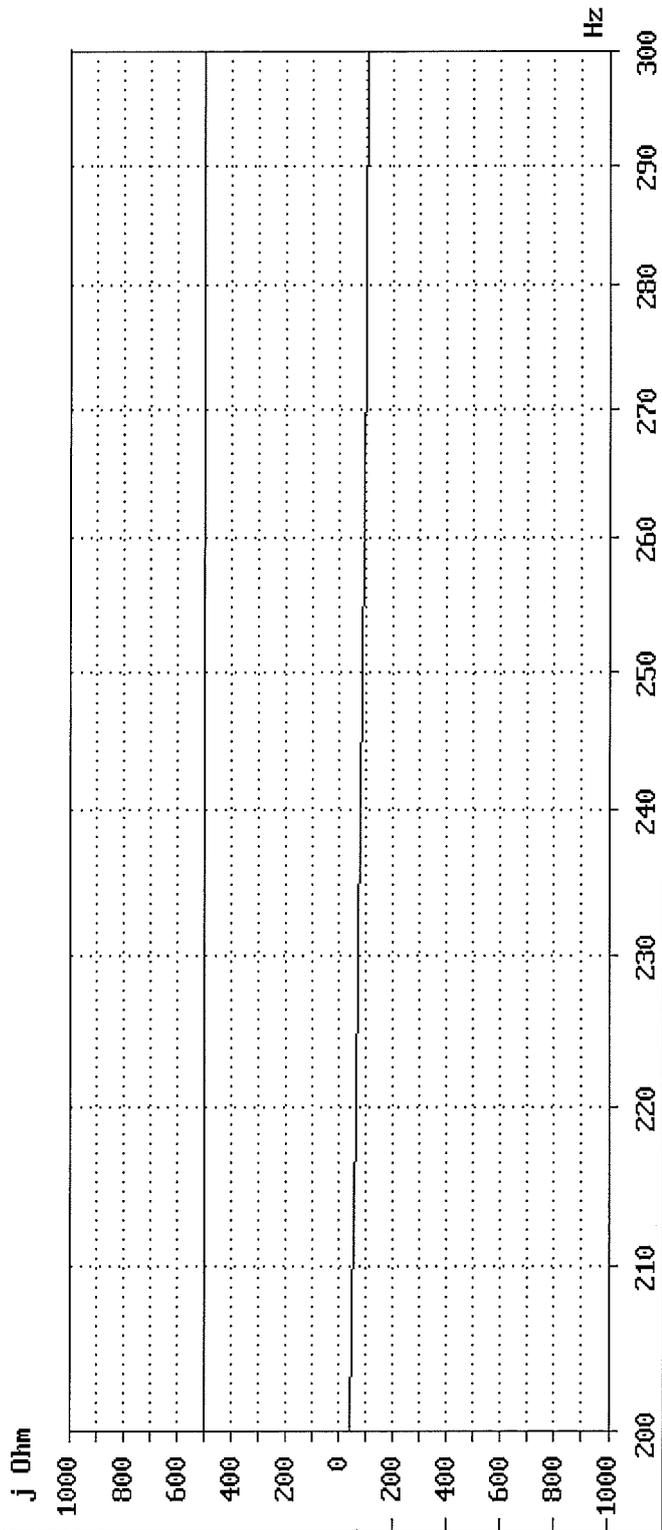
TBR21 - 4.7.2 Impedance - inductive component of impedance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge: TBR21
 TEUT : Facsimile Kit for FAX Current limitation: 80.0 mA Level : -10.0 dBV
 Number of TEUT: 214042256 Polarity : Inverted Call setup : outgoing
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 3200.0 Ohm Display : Reactance
 Date : 5.11.13 Requirement : The result curve shall not be less the limits
 Time : 9:49.06 Data set : TBR21-4.7.2 3200 I

Remark : -

Mask violations : 0

Verdict : PASS



Protocol for Maximum mean sending level

TBR21-4.7.3.1 Mean sending level / TBR21-4.7.3.2 Instantaneous voltage

```
=====
Model No.      : FAX System(X)      Feeding voltage   : 50 V
TEUT           : Facsimile Kit for MFP Current limitation: 80 mA
Number of TEUT: 214042256          Polarity          : Normal
Manufacturer   : KYOCERA DS Inc.    Feeding resistor  : 230 Ω
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 10 msec
Time          : 9:51.23             Receiver impedance: Zr TBR21
                                           Receiver filter   : BP 200-3800 Hz
                                           Call setup       : outgoing
                                           Gain (internal)  : -6.0 dB
=====
```

Data set : TBR21-4.7.3.1 230 N
Requirement : The mean sending level shall not be greater than -9.7 dBV
The instantaneous voltage shall not exceed 5.0 Vpp.

Comm. Signal : V.34 33600bps Instantaneous Volt: 1.44 Vpp

Verdict : PASS

Mean level
dBV

- 12.5

Protocol for Maximum mean sending level

TBR21-4.7.3.1 Mean sending level / TBR21-4.7.3.2 Instantaneous voltage

```
=====
Model No.      : FAX System(X)      Feeding voltage   : 50 V
TEUT           : Facsimile Kit for MFP Current limitation: 80 mA
Number of TEUT: 214042256          Polarity          : Inverted
Manufacturer    : KYOCERA DS Inc.    Feeding resistor  : 230 Ω
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 10 msec
Time           : 10:02.40           Receiver impedance: Zr TBR21
                                           Receiver filter   : BP 200-3800 Hz
                                           Call setup       : outgoing
                                           Gain (internal)  : -6.0 dB
=====
```

Data set : TBR21-4.7.3.1 230 I
Requirement : The mean sending level shall not be greater than -9.7 dBV
The instantaneous voltage shall not exceed 5.0 Vpp.

Comm. Signal : V.17 14400bps Instantaneous Volt: 1.33 Vpp

Verdict : PASS

Mean level
dBV

- 11.9

Protocol for Maximum mean sending level

TBR21-4.7.3.1 Mean sending level / TBR21-4.7.3.2 Instantaneous voltage

```
=====
Model No.      : FAX System(X)      Feeding voltage   : 50 V
TEUT           : Facsimile Kit for MFP Current limitation: 80 mA
Number of TEUT : 214042256          Polarity          : Normal
Manufacturer   : KYOCERA DS Inc.    Feeding resistor  : 3200 Ω
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 10 msec
Time           : 10:14.22           Receiver impedanc: Zr TBR21
                                           Receiver filter  : BP 200-3800 Hz
                                           Call setup      : outgoing
                                           Gain (internal) : -6.0 dB
=====
```

Data set : TBR21-4.7.3.1 3200 N
Requirement : The mean sending level shall not be greater than -9.7 dBV
The instantaneous voltage shall not exceed 5.0 Vpp.

Comm. Signal : V.29 9600bps Instantaneous Volt: 1.35 Vpp
Verdict : PASS

Mean level
dBV

- 12.1

Protocol for Maximum mean sending level

TBR21-4.7.3.1 Mean sending level / TBR21-4.7.3.2 Instantaneous voltage

=====

Model No.	: FAX System(X)	Feeding voltage	: 50 V
TEUT	: Facsimile Kit for MFP	Current limitation	: 80 mA
Number of TEUT	: 214042256	Polarity	: Inverted
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 3200 Ω
Date	: 5.11.13	Trigger lev./delay	: -12.0 dBV 10 msec
Time	: 10:25.58	Receiver impedance	: Zr TBR21
		Receiver filter	: BP 200-3800 Hz
		Call setup	: outgoing
		Gain (internal)	: -6.0 dB

Data set : TBR21-4.7.3.1 3200 I
Requirement : The mean sending level shall not be greater than -9.7 dBV
The instantaneous voltage shall not exceed 5.0 Vpp.

Comm. Signal : V.27ter 4800bps Instantaneous Volt: 0.97 Vpp

Verdict : PASS

Mean level
dBV

- 11.9

Protocol for Maximum mean sending level

TBR21-4.7.3.1 Mean sending level / TBR21-4.7.3.2 Instantaneous voltage

```
=====
Model No.      : FAX System(X)      Feeding voltage   : 50 V
TEUT           : Facsimile Kit for MFP Current limitation: 80 mA
Number of TEUT: 214042256          Polarity          : Normal
Manufacturer   : KYOCERA DS Inc.    Feeding resistor  : 230 Ω
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 10 msec
Time           : 10:37.09           Receiver impedance: Zr TBR21
                                           Receiver filter   : BP 200-3800 Hz
                                           Call setup       : outgoing
                                           Gain (internal)  : -6.0 dB
=====
```

Data set : TBR21-4.7.3.1 230 N
Requirement : The mean sending level shall not be greater than -9.7 dBV
The instantaneous voltage shall not exceed 5.0 Vpp.

Comm. Signal : V.21 300bps Instantaneous Volt: 0.76 Vpp

Verdict : PASS

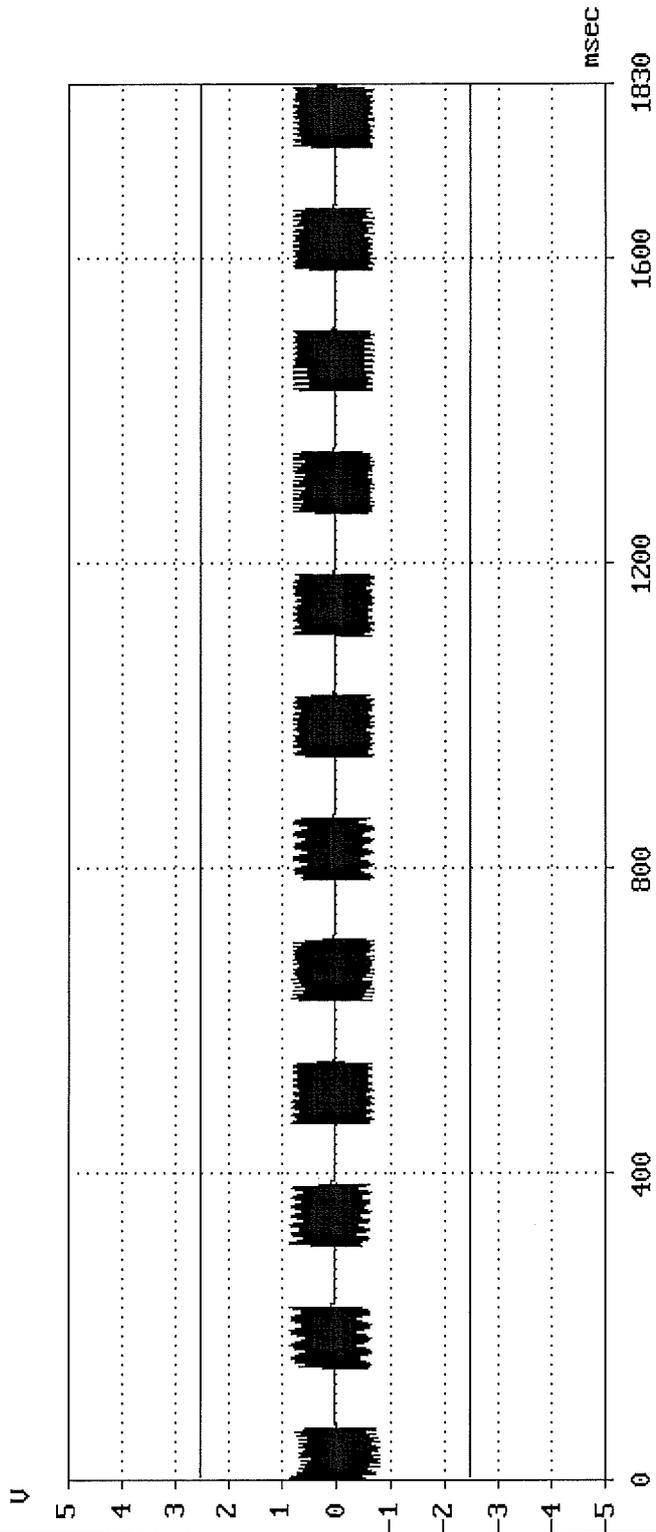
Mean level
dBV

- 12.1

TBR21 - 4.7.3.2 Instantaneous voltage during DTMF signalling

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge : TBR21
 TEUT : Facsimile Kit for FAXarity Trigger : OK
 Number of TEUT: 214042256 Feeding resistor: 230.0 Ohm Trigger level : -12 dBV min. 1
 Manufacturer : KYOCERA DS Inc. Receiver imped. : Zr TBR21 Gain (internal): -12.0 dB
 Date : 5.11.13 Requirement: The results shall Filter : BP 200-3800 Hz
 Time : 10:49.43 be <= 5.0 Vpp for 0.0 msec Dialtone : yes
 Remark : - Data set : TBR21-4.7.3.2 DTMF 230 N

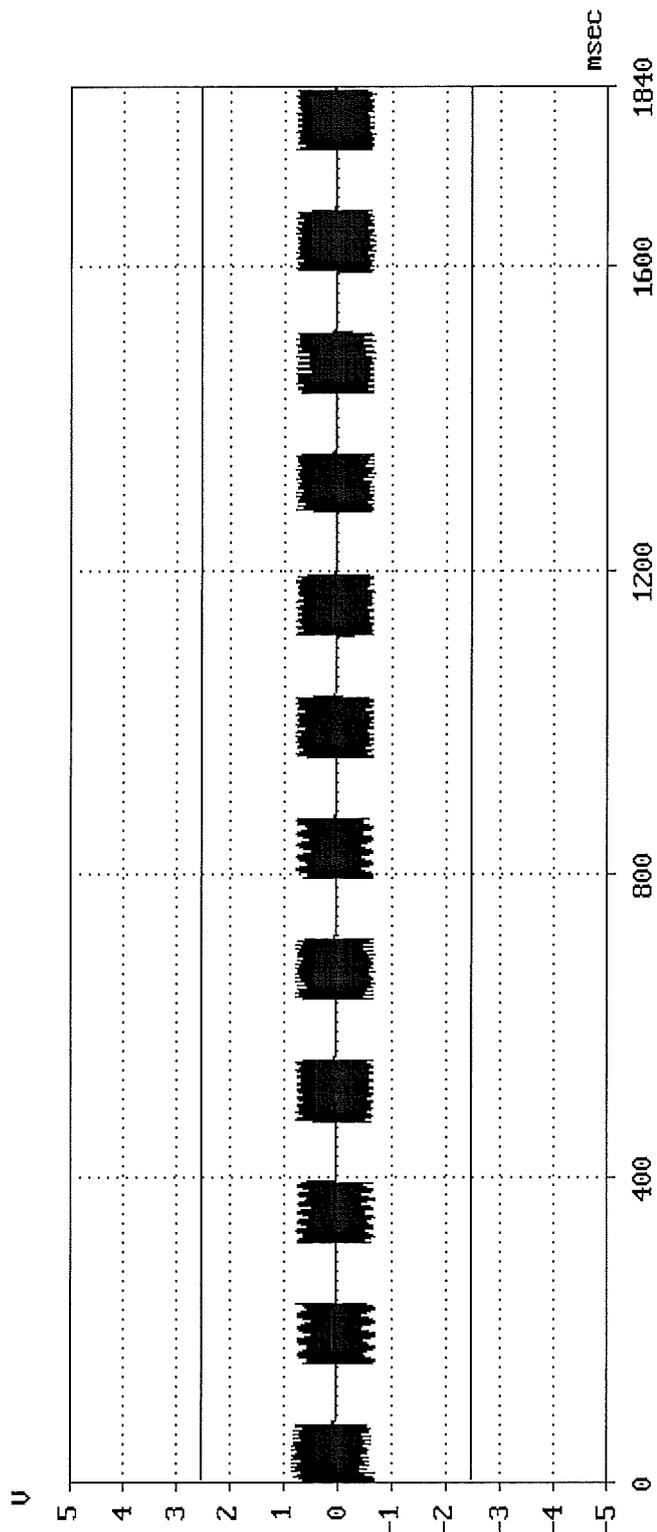
Mask violation : 0 Verdict : PASS



TBR21 - 4.7.3.2 Instantaneous voltage during DTMF signalling

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding bridge : TBR21
 TEUT : Facsimile Kit for clarity Inverted Trigger : OK
 Number of TEUT: 214042256 Feeding resistor: 3200.0 Ohm Trigger level : -12 dBu min. 1
 Manufacturer : KYOCERA DS Inc. Receiver imped. : Zr TBR21 Gain (internal): -12.0 dB
 Date : 5.11.13 Requirement: The results shall Filter : BP 200-3800 Hz
 Time : 10:55.04 be <= 5.0 Vpp for 0.0 msec Dialtone : yes
 Remark : - Data set : TBR21-4.7.3.2 DTMF 3200 I

Mask violation : 0 Verdict : PASS



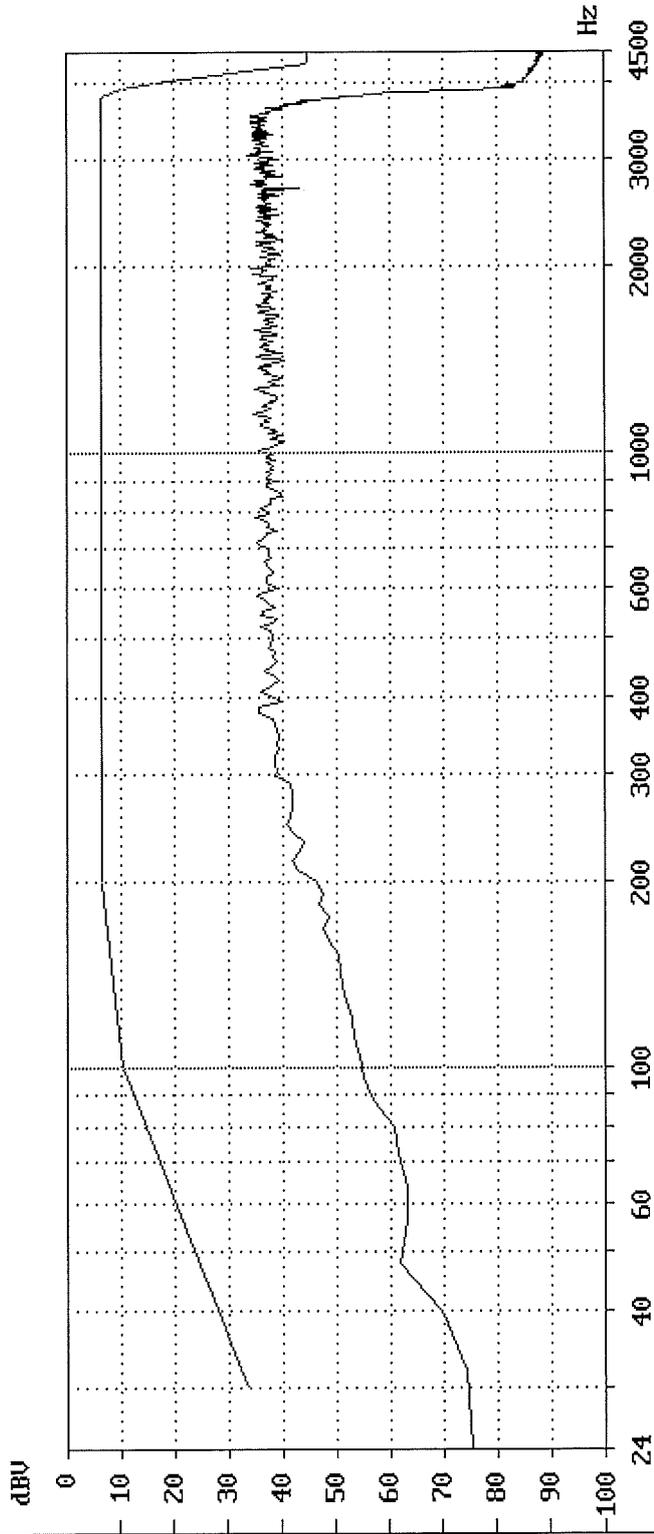
TBR21 - 4.7.3.3 Sending level in a 10 Hz bandwidth

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding bridge	: TBR21
TEUT	: Facsimile Kit for M&P	Current limitation	: 80.0 mA	Max. Level	: - 33.7 dBV
Number of TEUT	: 214042256	Polarity	: Normal	Frequency	: 3053 Hz
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 230.0 Ohm	Rx impedance	: Zr TBR21
Date	: 5.11.13	Requirement	: The voltage shall not exceed the limits	Call setup	: outgoing
Time	: 9:53.43	Data set	: TBR21-4.7.3.3 230 N		

Remark : U.34 33600bps

Mask violation: 0

Verdict : PASS



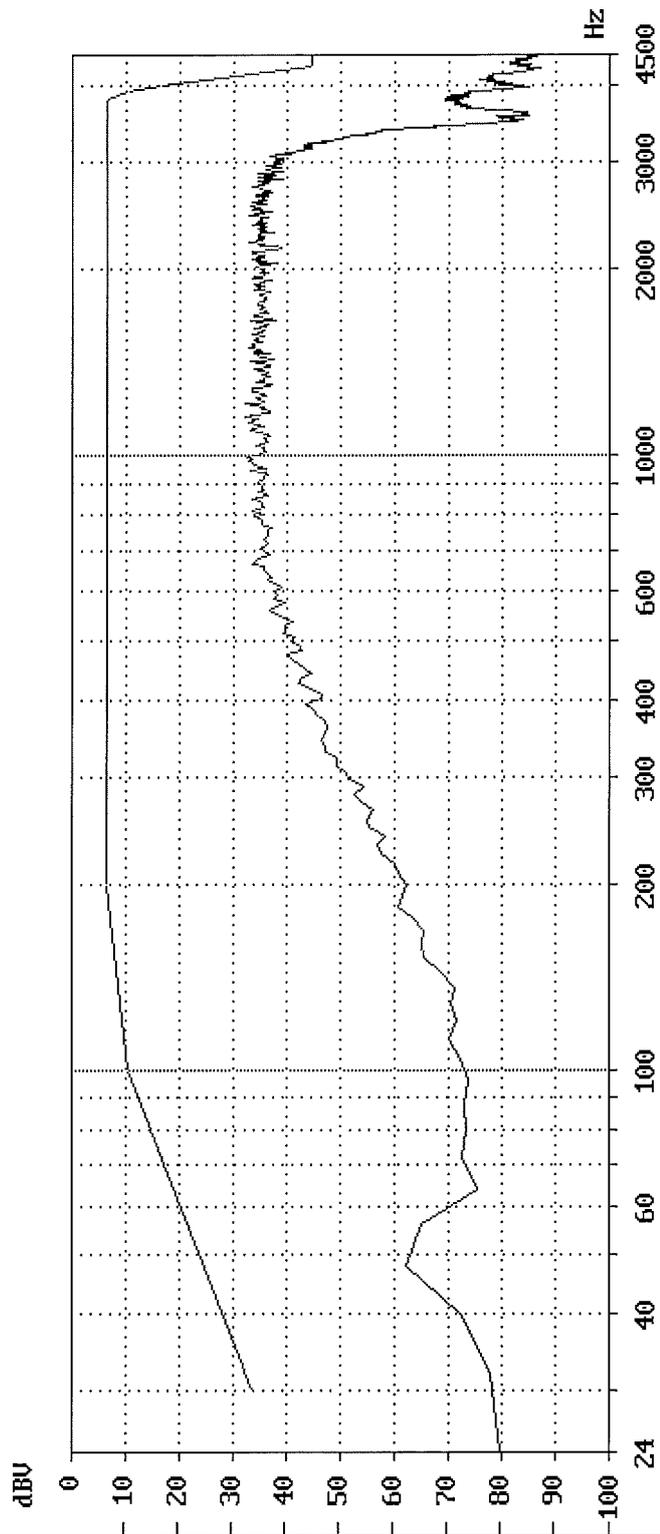
TBR21 - 4.7.3.3 Sending level in a 10 Hz bandwidth

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding bridge:	TBR21
TEUT	: Facsimile Kit for	Maximum limitation:	: 80.0 mA	Max. Level	: - 32.2 dBV
Number of TEUT:	214042256	Polarity	: Inverted	Frequency	: 1210 Hz
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 230.0 Ohm	Rx impedance	: Zr TBR21
Date	: 5.11.13	Requirement:	The voltage shall not exceed the limits		
Time	: 10:05.01	Data set	: TBR21-4.7.3.3 230 I		

Remark : U.17 14400bps

Mask violation: 0

Verdict : PASS



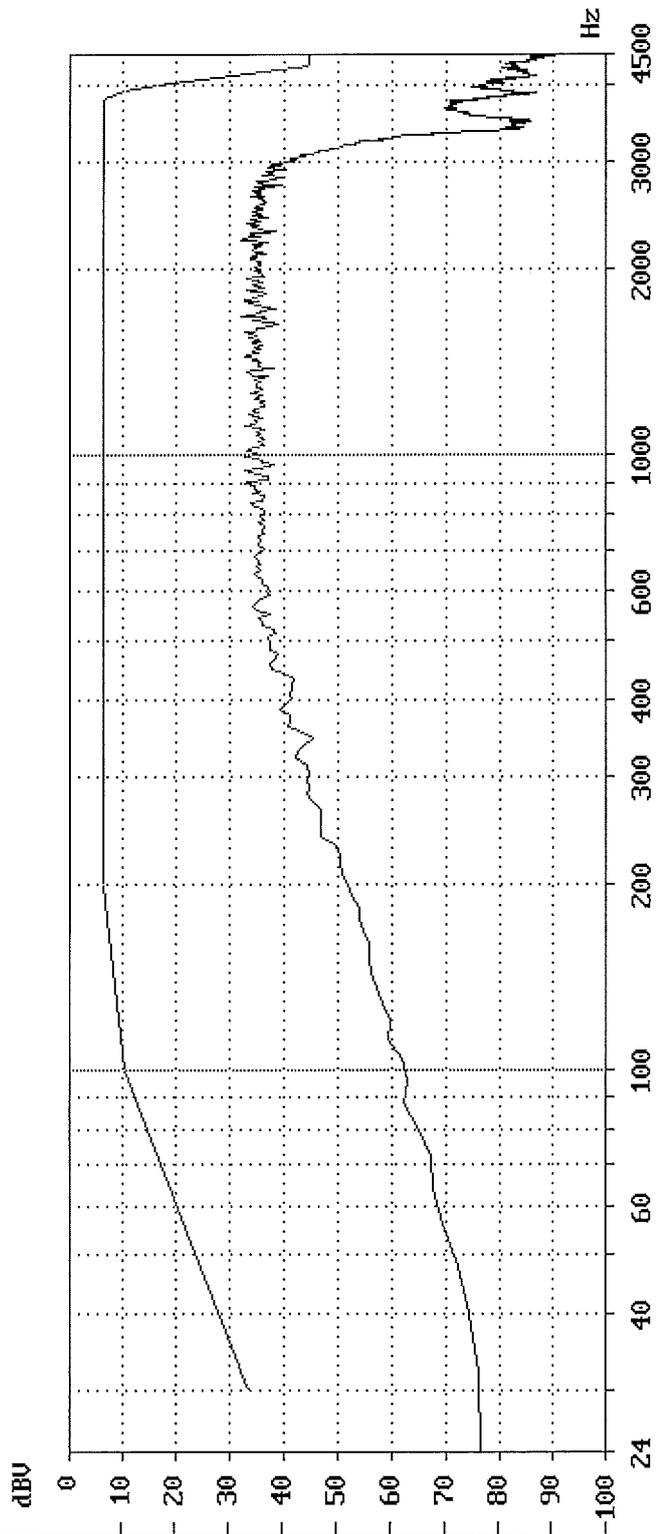
TBR21 - 4.7.3.3 Sending level in a 10 Hz bandwidth

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding bridge	: TBR21
TEUT	: Facsimile Kit for M	Current limitation	: 80.0 mA	Max. Level	: - 32.3 dBV
Number of TEUT	: 214042256	Polarity	: Normal	Frequency	: 1683 Hz
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 3200.0 Ohm	Rx impedance	: Zr TBR21
Date	: 5.11.13	Requirement	: The voltage shall not exceed the limits	Call setup	: outgoing
Time	: 10:15.46	Data set	: TBR21-4.7.3.3 3200 N		

Remark : 0.29 9600bps

Mask violation: 0

Verdict : PASS

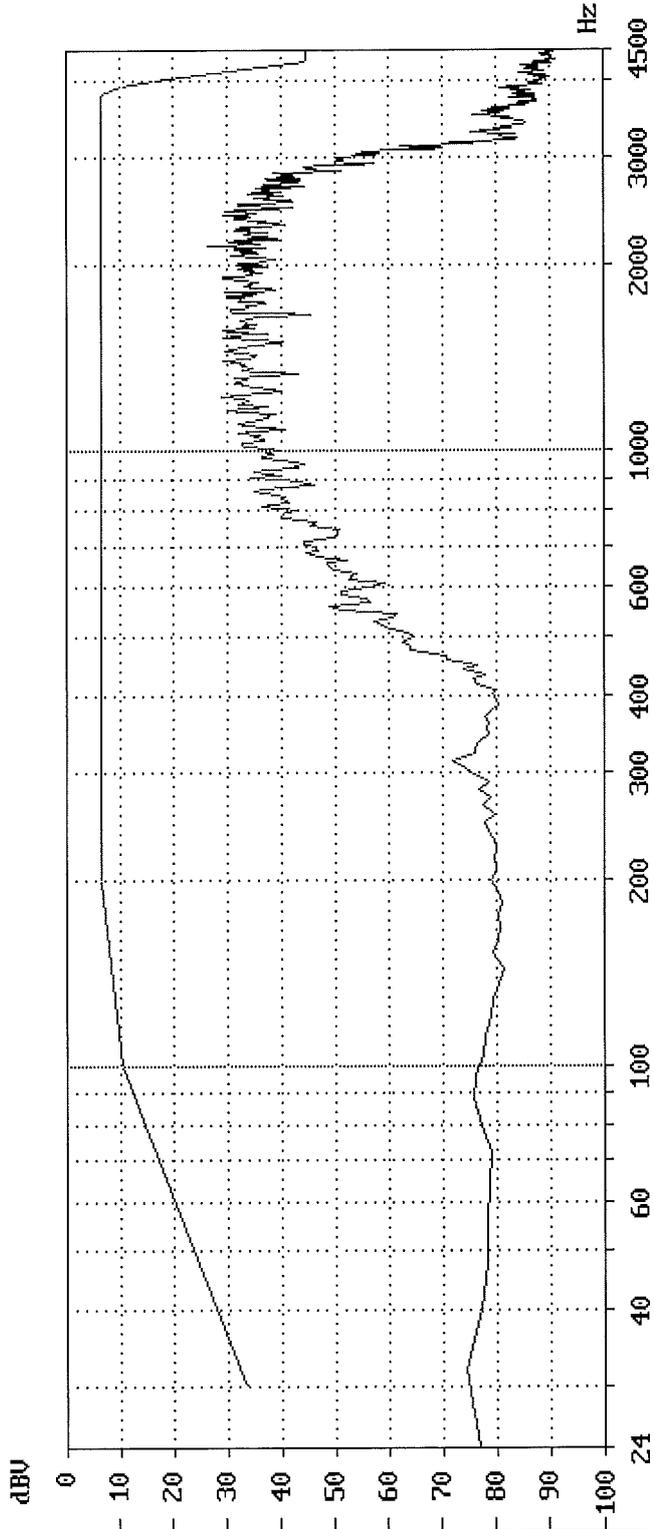


TBR21 - 4.7.3.3 Sending level in a 10 Hz bandwidth

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding bridge	: TBR21
TEUT	: Facsimile Kit for MBR	Current limitation	: 80.0 mA	Max. Level	: - 26.5 dBV
Number of TEUT	: 214042256	Polarity	: Inverted	Frequency	: 2155 Hz
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 3200.0 Ohm	Rx impedance	: Zr TBR21
Date	: 5.11.13	Requirement	: The voltage shall not exceed the limits	Call setup	: outgoing
Time	: 10:27.21				
Remark	: V.27ter 4800bps	Data set	: TBR21-4.7.3.3 3200 I		

Verdict : PASS

Mask violation: 0

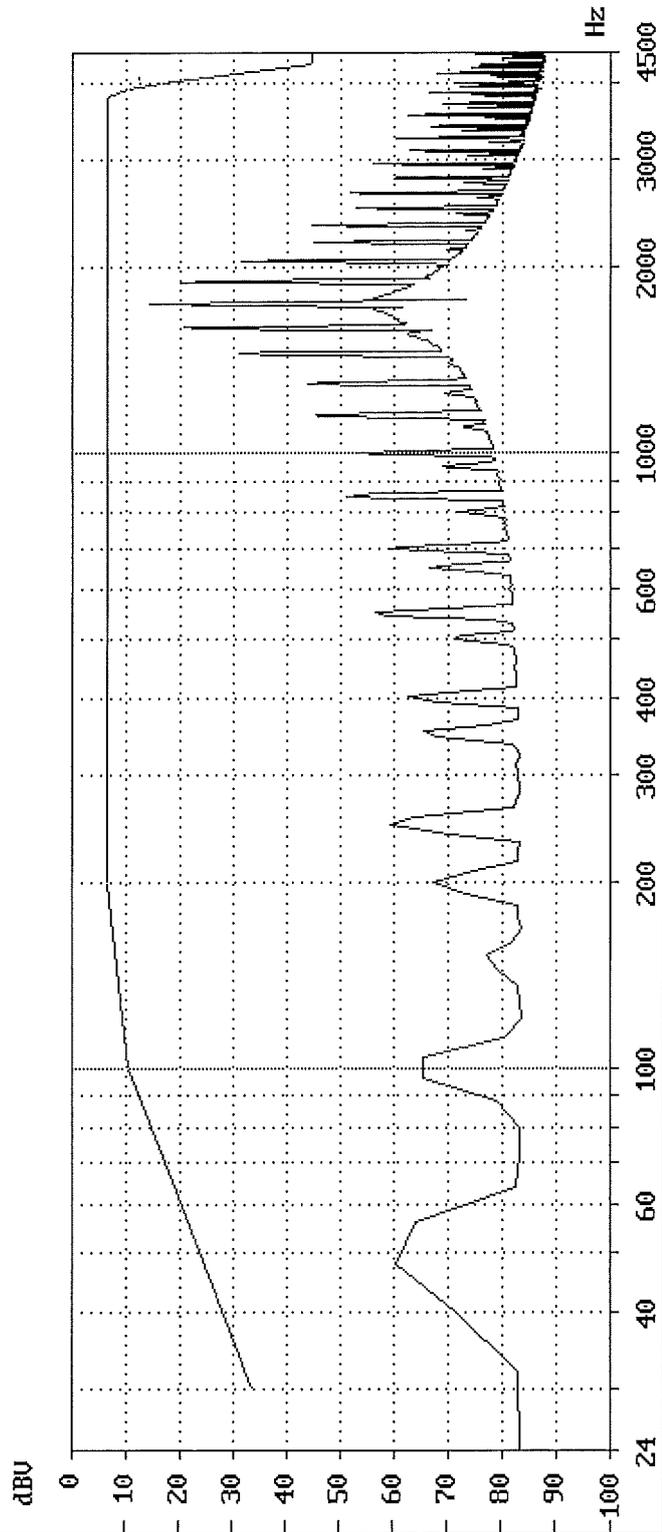


TBR21 - 4.7.3.3 Sending level in a 10 Hz bandwidth

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding bridge:	TBR21
TEUT	: Facsimile Kit for M	Max. Level	: - 14.6 dBV		
Number of TEUT:	214042256	Polarity	: Normal	Frequency	: 1747 Hz
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 230.0 Ohm	Rx impedance	: 2r TBR21
Date	: 5.11.13	Requirement:	The voltage	Call setup	: outgoing
Time	: 10:38.55	shall not exceed the limits			
Remark	: U.21 300bps	Data set	: TBR21-4.7.3.3 230 N		

Verdict : PASS

Mask violation: 0



Protocol for Maximum sending levels DTMF Auto

TBR21 - 4.7.3.4.1 Sending level above 4.3 kHz during DTMF dialling

```

=====
Model No.       : FAX System(X)           Feeding voltage   : 50.0 V
TEUT            : Facsimile Kit for MFP   Current limitation: 80.0 mA
Number of TEUT  : 214042256              Polarity          : Normal
Manufacturer    : KYOCERA DS Inc.        Feeding Resistor  : 230.0 Ohm
Date           : 5.11.13                 Dial tone         : Yes
Time           : 11:02.59                 Receiver impedance: Zr TBR21
    
```

```

Data set       : TBR21-4.7.3.4.1 230 N
Requirement    : 4.3kHz < f < 20kHz: < -35.7dBV
                20kHz < f < 200kHz: < -40.7dBV
    
```

Remark : -

Verdict : PASS

Frequency range kHz	Dial No.	Level dBV	Freq. kHz	Level dBV	Freq. kHz	Level dBV	Freq. kHz
4.3	20.0	357	4.32	- 73.9	4.32	- 71.0	4.37
20.0	30.0	357	20.86	- 84.4	21.39	- 83.9	20.04
30.0	40.0	357	40.0	- 76.2	40.0	- 75.5	40.0
40.0	50.0	357	46.44	- 90.6	44.47	- 89.8	46.25
50.0	60.0	357	55.81	- 85.6	53.55	- 87.4	54.90
60.0	70.0	357	66.05	- 91.3	66.05	- 91.9	65.28
70.0	80.0	357	71.15	- 91.8	71.53	- 92.5	70.67
80.0	90.0	357	81.15	- 92.0	80.38	- 93.7	82.45
90.0	100.0	357	92.93	- 93.1	90.33	- 96.2	99.56
100.0	110.0	357	105.91	- 97.1	103.31	- 96.6	106.29
110.0	120.0	357	117.26	- 96.2	115.52	- 97.7	115.96
120.0	130.0	357	121.01	- 97.6	123.79	- 95.8	126.77
130.0	140.0	357	132.35	- 98.6	137.35	- 96.8	138.65
140.0	150.0	357	143.94	- 98.7	149.61	- 98.4	143.70
150.0	160.0	357	156.05	- 98.8	158.12	-100.5	155.33
160.0	170.0	357	169.08	-100.1	165.91	- 98.6	169.61
170.0	180.0	357	172.40	-101.7	175.19	-100.2	174.61
180.0	190.0	357	185.91	- 98.6	189.90	-101.4	180.86
190.0	200.0	357	196.10	-100.7	190.24	-100.5	192.01

Protocol for Maximum sending levels DTMF Auto

TBR21 - 4.7.3.4.1 Sending level above 4.3 kHz during DTMF dialling

```

=====
Model No.      : FAX System(X)      Feeding voltage   : 50.0 V
TEUT          : Facsimile Kit for MFP Current limitation: 80.0 mA
Number of TEUT: 214042256          Polarity          : Inverted
Manufacturer   : KYOCERA DS Inc.    Feeding Resistor  : 3200.0 Ohm
Date          : 5.11.13            Dial tone         : Yes
Time          : 11:07.56            Receiver impedance: Zr TBR21
    
```

```

Data set      : TBR21-4.7.3.4.1 3200 I
Requirement   : 4.3kHz < f < 20kHz: < -35.7dBV
                20kHz < f < 200kHz: < -40.7dBV
    
```

Remark : -

Verdict : PASS

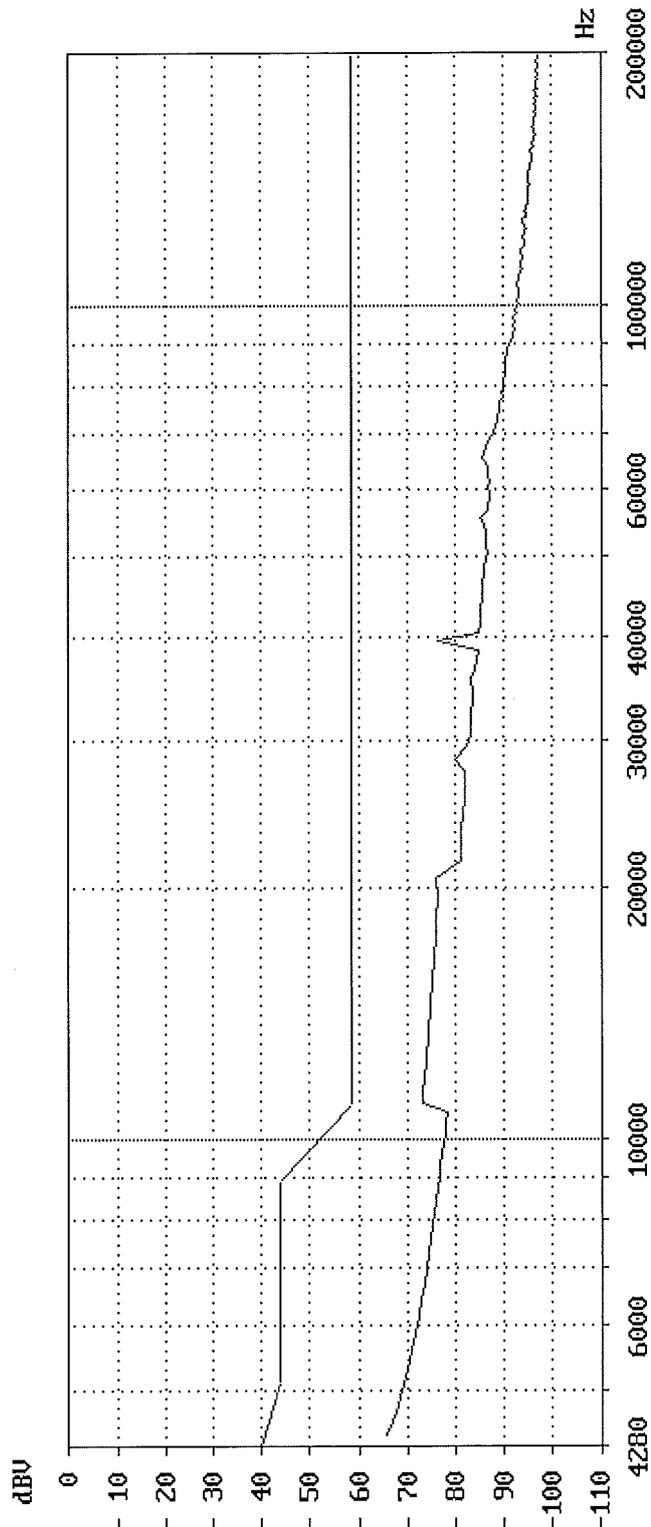
Frequency range kHz	Dial No.	Level dBV	Freq. kHz	Level dBV	Freq. kHz	Level dBV	Freq. kHz
4.3	20.0	570	4.32	- 68.4	4.32	- 66.1	4.32
20.0	30.0	570	20.19	- 85.6	20.76	- 83.1	20.04
30.0	40.0	570	40.0	- 76.1	40.0	- 75.7	40.0
40.0	50.0	570	42.69	- 88.8	47.16	- 91.6	45.28
50.0	60.0	570	55.81	- 82.6	53.55	- 85.7	55.86
60.0	70.0	570	69.23	- 92.6	67.45	- 89.4	65.19
70.0	80.0	570	74.80	- 92.4	75.19	- 92.7	71.34
80.0	90.0	570	80.24	- 89.0	80.38	- 92.1	80.24
90.0	100.0	570	91.77	- 96.9	90.04	- 93.3	97.11
100.0	110.0	570	101.77	- 96.0	102.16	- 97.4	106.63
110.0	120.0	570	111.44	- 97.6	113.41	- 98.0	115.76
120.0	130.0	570	122.11	- 97.7	129.18	- 98.6	122.16
130.0	140.0	570	133.60	- 99.7	134.95	- 98.8	132.06
140.0	150.0	570	140.76	- 99.4	145.86	- 98.9	144.76
150.0	160.0	570	156.10	-100.9	153.02	-100.0	154.90
160.0	170.0	570	160.96	-101.0	168.46	-100.9	164.23
170.0	180.0	570	178.70	-101.4	174.23	-100.1	179.47
180.0	190.0	570	184.32	-102.3	184.76	-102.2	186.53
190.0	200.0	570	195.09	-101.5	191.87	-103.6	194.47

TBR21 - 4.7.3.4.2 Sending level above 4.3 kHz during communication

Model No. : FAX System(X) Feeding voltage : 50.0 V Max. Level : - 71.4 dBV
 TEUT : Facsimile Kit for FAXarity : Normal at Frequency: 4279 Hz
 Number of TEUT: 214042256 Feeding Resistor: 230.0 Ohm Max. Level : - 64.7 dBV
 Manufacturer : KYOCERA DS Inc. Feeding Bridge : TBR21 Frequency : 4279 Hz
 Date : 5.11.13 Requirement : The voltage level Rx impedance: 2r TBR21
 Time : 10:00.12 shall not exceed the limits
 Signal : U.34 33600bps Data set : TBR21-4.7.3.4.2 230 N
 Remark : -

Verdict : PASS

Mask violations: 0

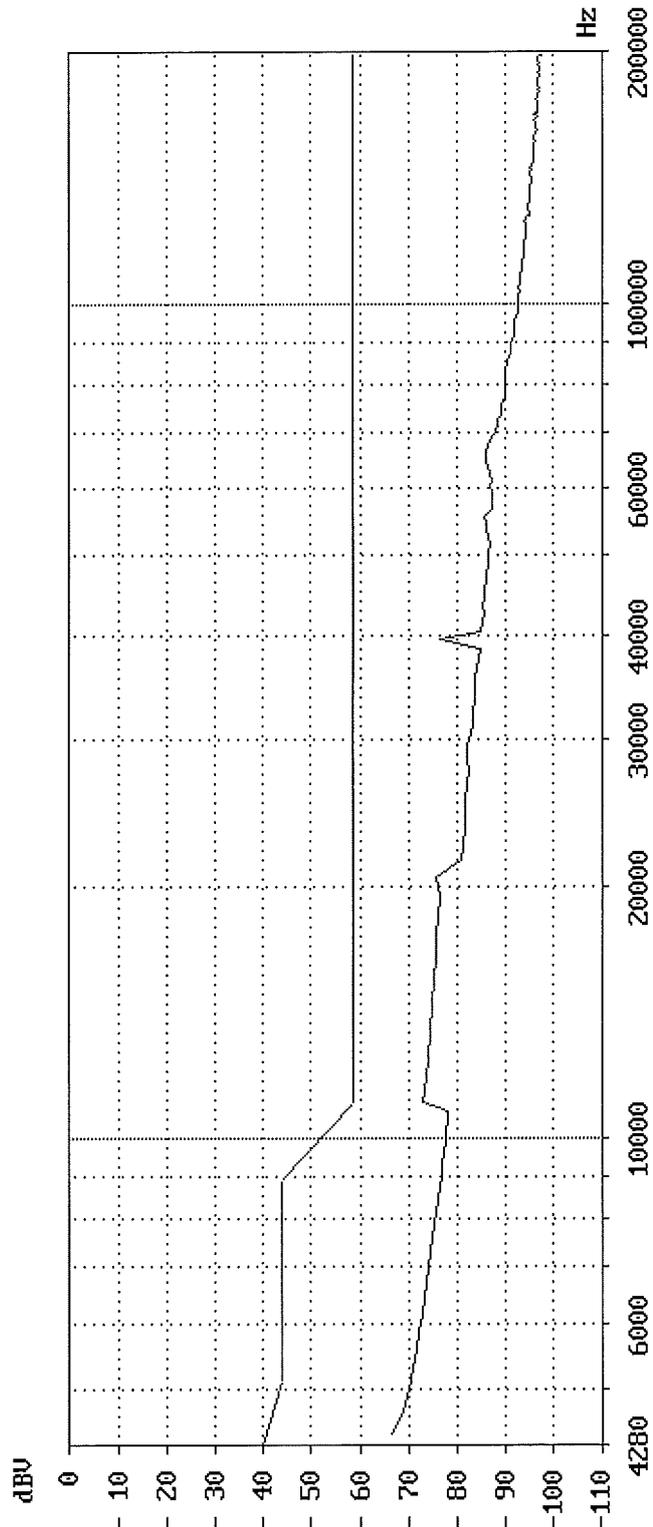


TBR21 - 4.7.3.4.2 Sending level above 4.3 kHz during communication

Model No. : FAX System(X) Feeding voltage : 50.0 V Max. Level : - 71.8 dBV
 TEUT : Facsimile Kit for FAXarity at Frequency: 4375 Hz
 Number of TEUT: 214042256 Feeding Resistor: 230.0 Ohm Max. Level : - 65.0 dBV
 Manufacturer : KYOCERA DS Inc. Feeding Bridge : TBR21 Frequency : 4279 Hz
 Date : 5.11.13 Requirement : The voltage level Rx impedance: Zr TBR21
 Time : 10:12.09 shall not exceed the limits
 Signal : U.17 14400bps Data set : TBR21-4.7.3.4.2 230 I
 Remark : -

Verdict : PASS

Mask violations: 0

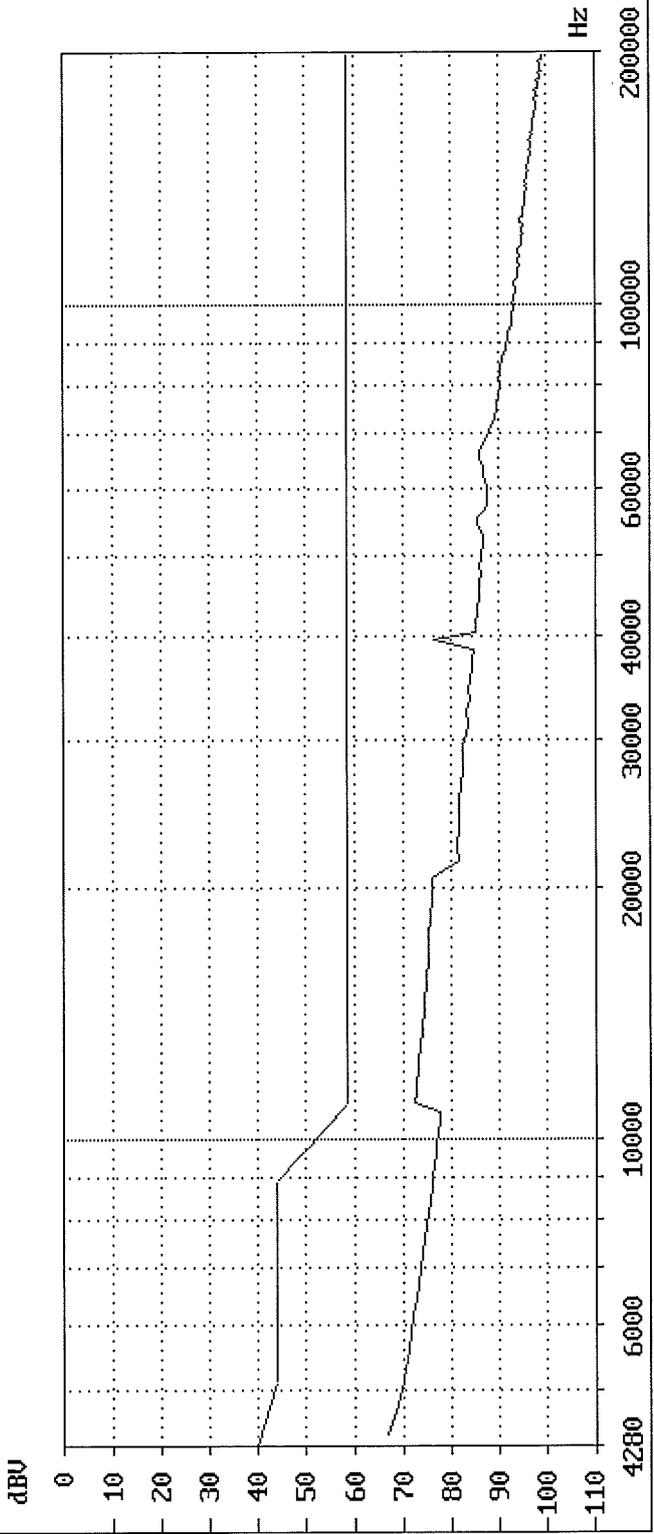


TBR21 - 4.7.3.4.2 Sending level above 4.3 kHz during communication

Model No. : FAX System(X) Feeding voltage : 50.0 V Max. Level : - 71.4 dBV
 TEUT : Facsimile Kit for FAXarity at Frequency: 4279 Hz
 Number of TEUT: 214042256 Feeding Resistor: 3200.0 Ohm Max. Level : - 65.7 dBV
 Manufacturer : KYOCERA DS Inc. Feeding Bridge : TBR21 Frequency : 4279 Hz
 Date : 5.11.13 Requirement : The voltage level Rx impedance: Zr TBR21
 Time : 10:22.31 shall not exceed the limits
 Signal : U.29 9600bps Data set : TBR21-4.7.3.4.2 3200 N
 Remark : -

Mask violations: 0

Verdict : PASS

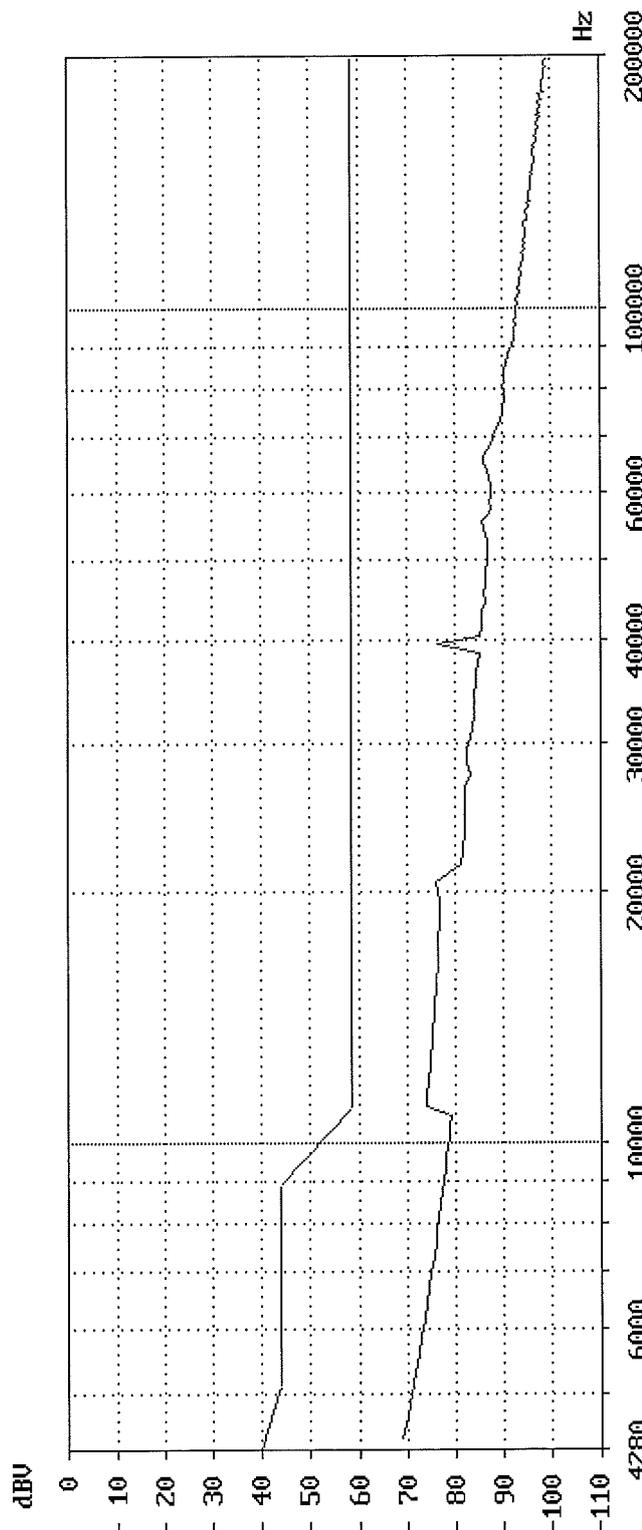


TBR21 - 4.7.3.4.2 Sending level above 4.3 kHz during communication

Model No. : FAX System(X) Feeding voltage : 50.0 V Max. Level : - 74.9 dBV
 TEUT : Facsimile Kit for FAXarity : Inverted at Frequency: 4279 Hz
 Number of TEUT: 214042256 Feeding Resistor: 3200.0 Ohm Max. Level : - 68.1 dBV
 Manufacturer : KYOCERA DS Inc. Feeding Bridge : TBR21 Frequency : 4279 Hz
 Date : 5.11.13 Requirement : The voltage level Rx impedance: 2r TBR21
 Time : 10:33.48 shall not exceed the limits
 Signal : V.27ter 4800bps Data set : TBR21-4.7.3.4.2 3200 I
 Remark : -

Mask violations: 0

Verdict : PASS

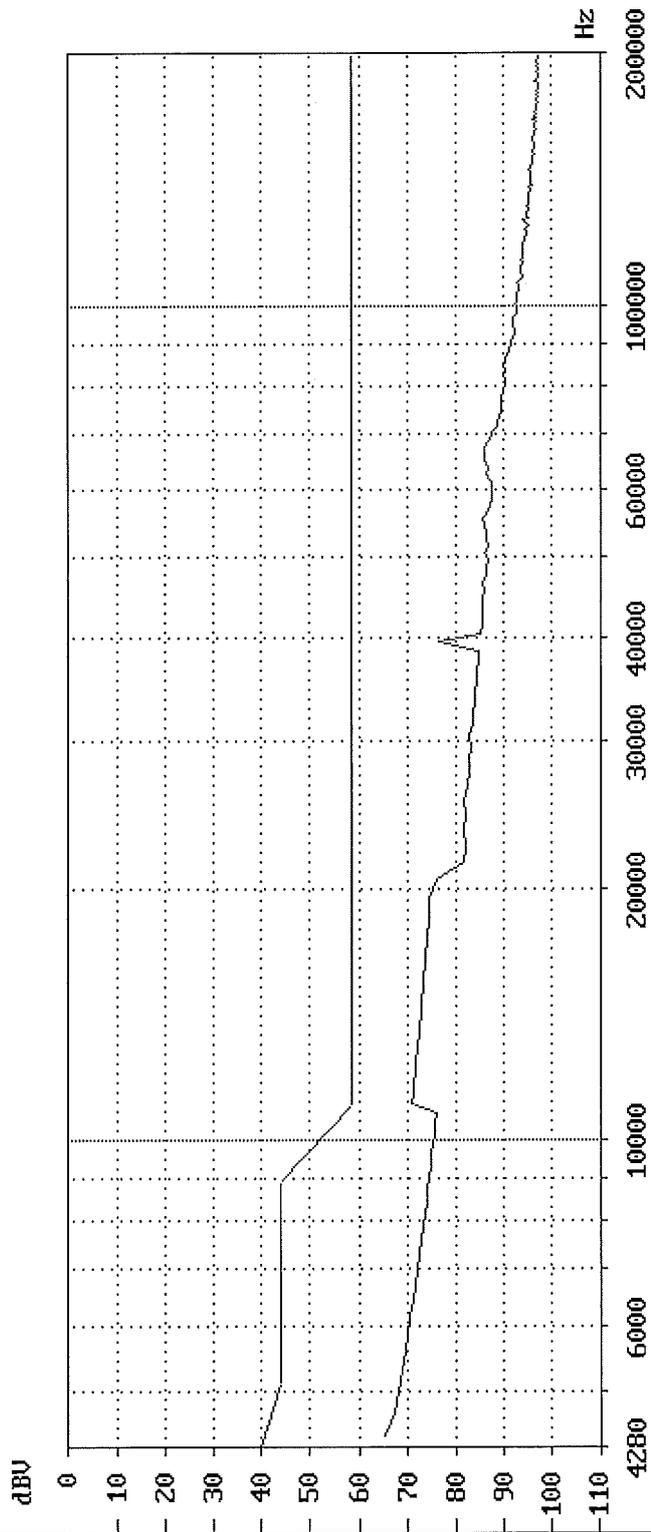


TBR21 - 4.7.3.4.2 Sending level above 4.3 kHz during communication

Model No. : FAX System(X) Feeding voltage : 50.0 V Max. Level : - 70.5 dBV
 TEUT : Facsimile Kit for FAX Polarity : Normal at Frequency: 4279 Hz
 Number of TEUT: 214042256 Feeding Resistor: 230.0 Ohm Max. Level : - 63.4 dBV
 Manufacturer : KYOCERA DS Inc. Feeding Bridge : TBR21 Frequency : 4279 Hz
 Date : 5.11.13 Requirement : The voltage level Rx impedance: 2r TBR21
 Time : 10:45.42 shall not exceed the limits
 Signal : U.21 300bps Data set : TBR21-4.7.3.4.2 230 N
 Remark : -

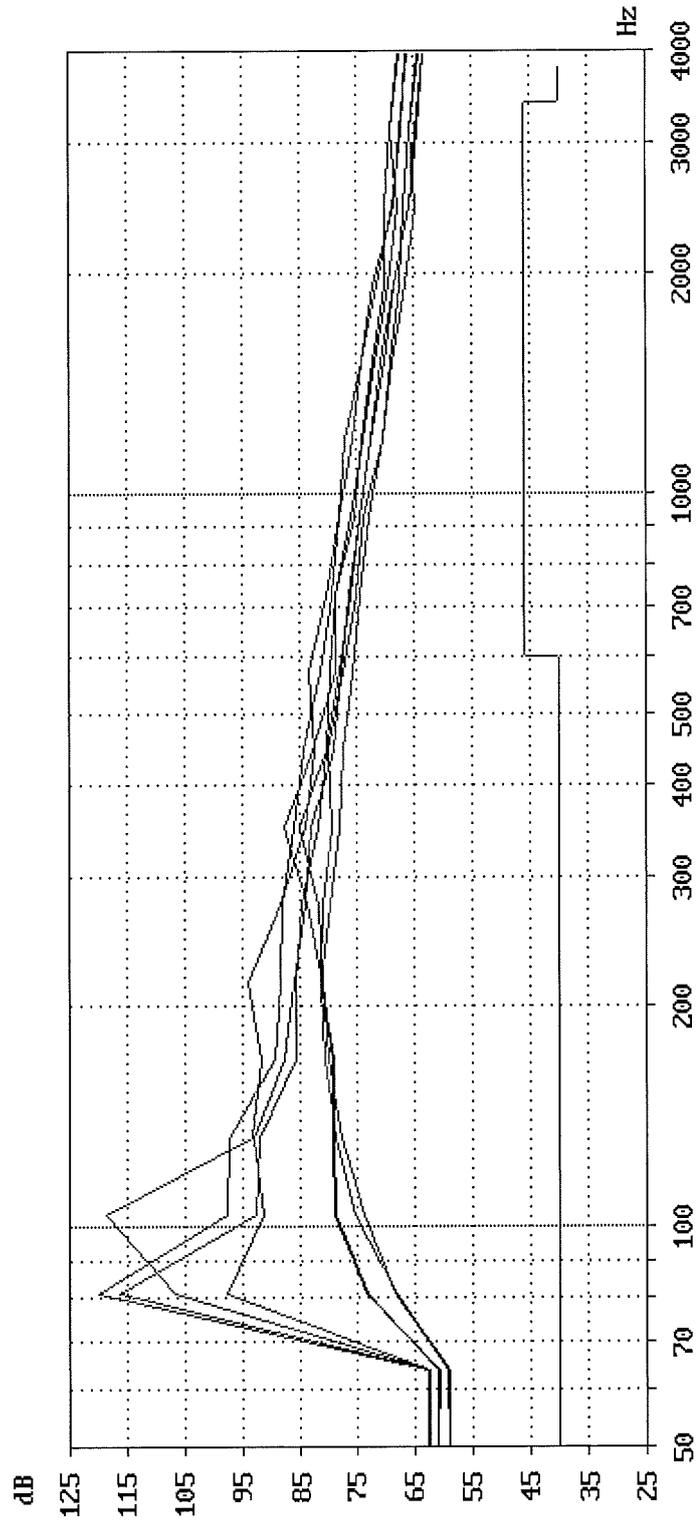
Mask violations: 0

Verdict : PASS



TBR21 - 4.7.4.1 Longitudinal Conversion Loss
in loop state

Comission : 214042256
 Printing time : 5.11.13 11:02.27
 Graph 1 _____
 Graph 2 _____
 Graph 3 _____
 Graph 4 _____
 Graph 5 _____
 Graph 6 _____
 Graph 7 _____
 Graph 8 _____



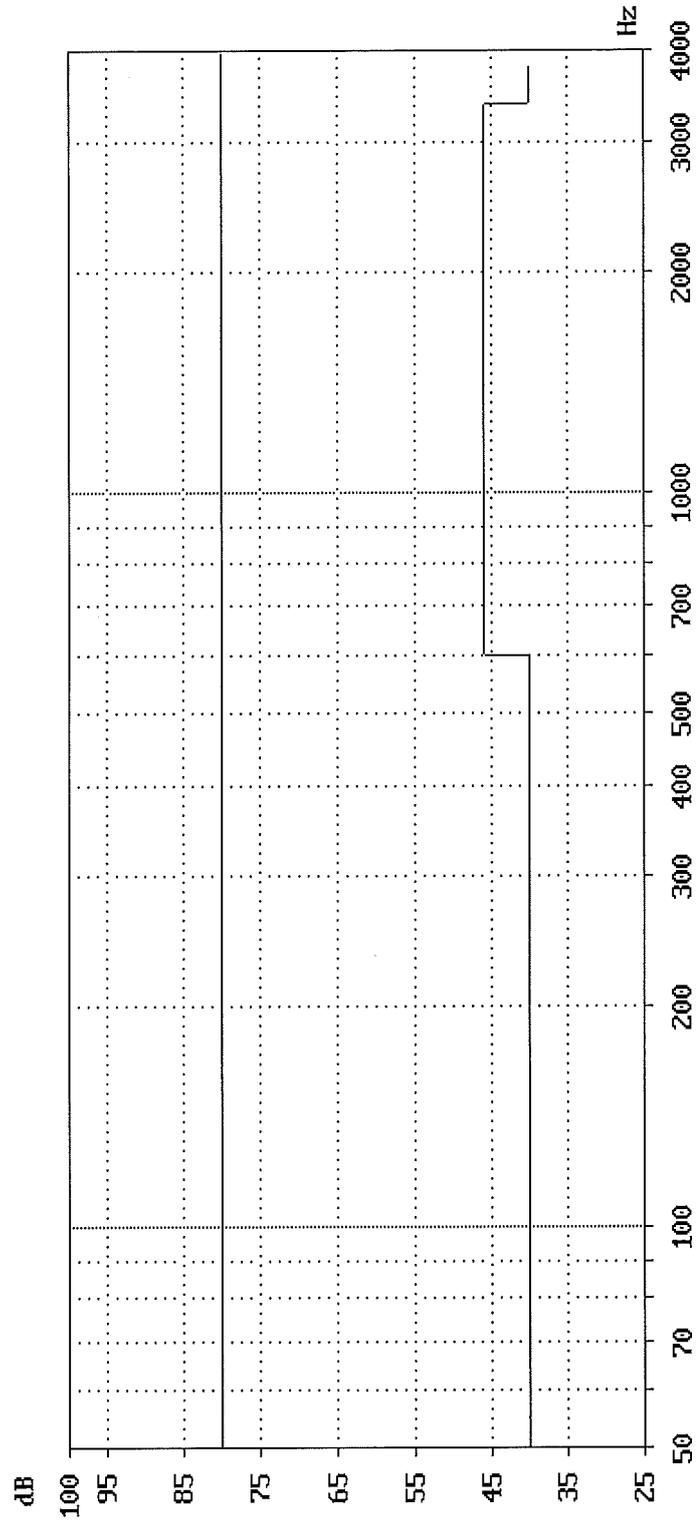
Longitudinal conversion loss Comission : 214042256		Printing time : 5.11.13 11:02.27
Graph 1		Graph 2
Model No.	FAX System(X)	FAX System(X)
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP
Number of TEUT	214042256	214042256
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.
Date	5.11.13	5.11.13
Time	10:59.19	10:59.39
Feeding voltage	50.0 V	50.0 V
Polarity	Normal	Inverted
Feeding resistor	230 Ohm	230 Ohm
Feeding Bridge	TBR21	TBR21
Data set	TBR21-4.7.4.1	TBR21-4.7.4.1
Level	+0.0 dB(0.775 V)	+0.0 dB(0.775 V)
Call setup	outgoing	outgoing
Verdict	PASS	PASS
Remark	-	-
Graph 3		Graph 4
Model No.	FAX System(X)	FAX System(X)
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP
Number of TEUT	214042256	214042256
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.
Date	5.11.13	5.11.13
Time	10:59.59	11:00.17
Feeding voltage	50.0 V	50.0 V
Polarity	Normal	Inverted
Feeding resistor	850 Ohm	850 Ohm
Feeding Bridge	TBR21	TBR21
Data set	TBR21-4.7.4.1	TBR21-4.7.4.1
Level	+0.0 dB(0.775 V)	+0.0 dB(0.775 V)
Call setup	outgoing	outgoing
Verdict	PASS	PASS
Remark	-	-
Graph 5		Graph 6
Model No.	FAX System(X)	FAX System(X)
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP
Number of TEUT	214042256	214042256
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.
Date	5.11.13	5.11.13
Time	11:00.36	11:00.55
Feeding voltage	50.0 V	50.0 V
Polarity	Normal	Inverted
Feeding resistor	2050 Ohm	2050 Ohm
Feeding Bridge	TBR21	TBR21
Data set	TBR21-4.7.4.1	TBR21-4.7.4.1
Level	+0.0 dB(0.775 V)	+0.0 dB(0.775 V)
Call setup	outgoing	outgoing
Verdict	PASS	PASS
Remark	-	-
Graph 7		Graph 8
Model No.	FAX System(X)	FAX System(X)
TEUT	Facsimile Kit for MFP	Facsimile Kit for MFP
Number of TEUT	214042256	214042256
Manufacturer	KYOCERA DS Inc.	KYOCERA DS Inc.
Date	5.11.13	5.11.13
Time	11:01.13	11:01.32
Feeding voltage	50.0 V	50.0 V
Polarity	Normal	Inverted
Feeding resistor	3200 Ohm	3200 Ohm
Feeding Bridge	TBR21	TBR21
Data set	TBR21-4.7.4.1	TBR21-4.7.4.1
Level	+0.0 dB(0.775 V)	+0.0 dB(0.775 V)
Call setup	outgoing	outgoing
Verdict	PASS	PASS
Remark	-	-

TBR21 - 4.7.4.2 Output Signal Balance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding Bridge: TBR21
 TEUT : Facsimile Kit for MFBRENT limitation: 80.0 mA Mask violation: 0
 Number of TEUT: 214042256 Polarity : Normal Min. level Uo : -70.0 dBV
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 230.0 Ohm Call setup : outgoing
 Date : 5.11.13 Requirement : The curve of results shall be greater than the limits
 Time : 10:00.54 Data set : TBR21-4.7.4.2 230 N

Remark : U.34 33600bps

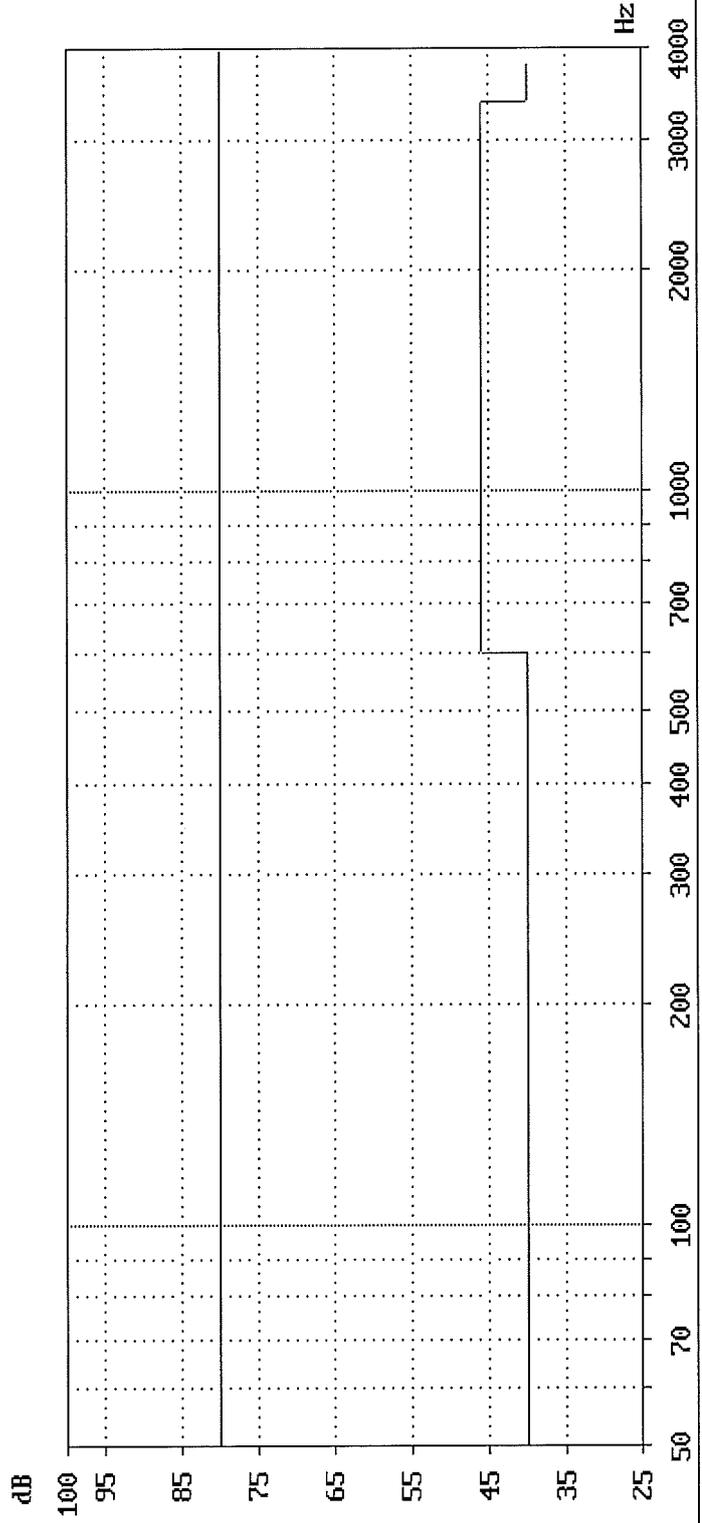
Verdict : PASS



TBR21 - 4.7.4.2 Output Signal Balance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding Bridge: TBR21
 TEUT : Facsimile Kit for MFB Mask violation: 0
 Number of TEUT: 214042256 Polarity : Inverted Min. level Uo : -70.0 dBV
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 850.0 Ohm Call setup : outgoing
 Date : 5.11.13 Requirement : The curve of results
 Time : 10:12.48 shall be greater than the limits
 Remark : U.17 14400bps Data set : TBR21-4.7.4.2 850 I

Verdict : PASS

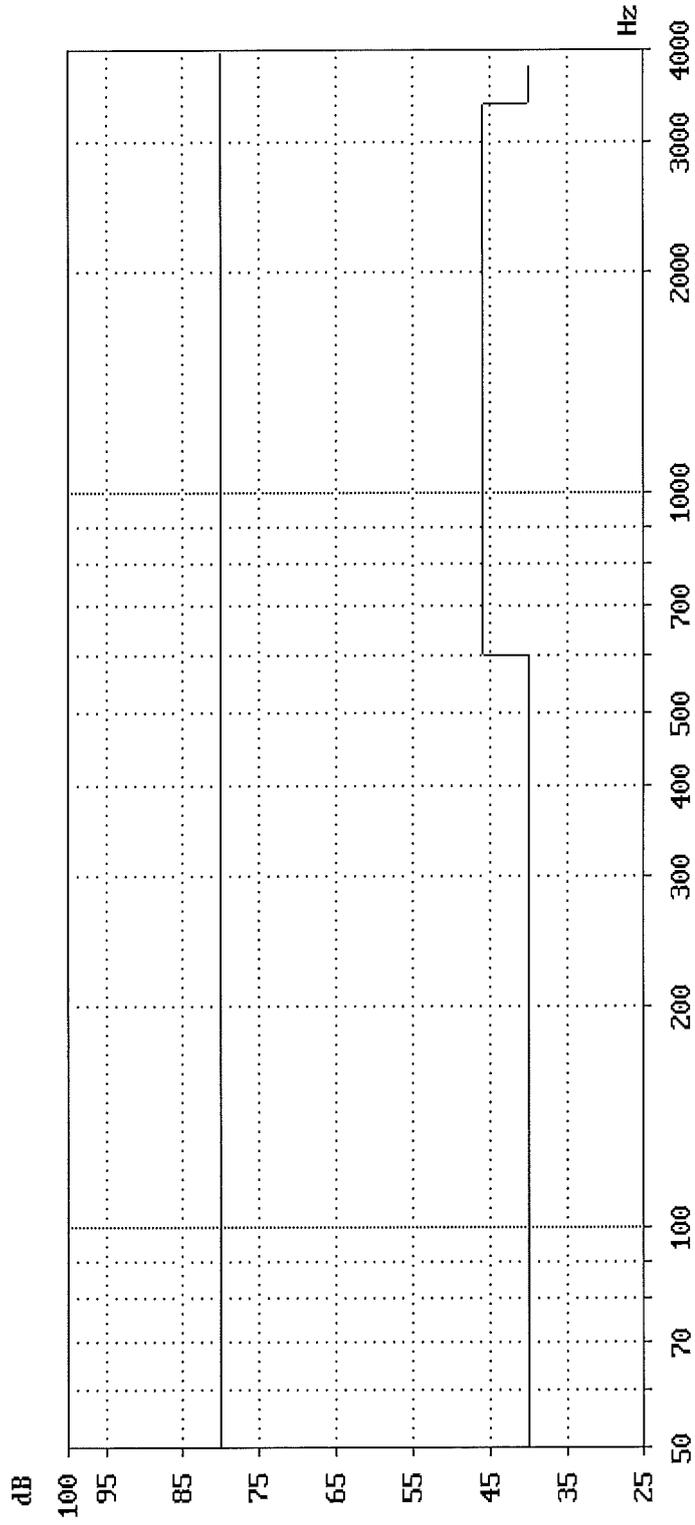


TBR21 - 4.7.4.2 Output Signal Balance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding Bridge: TBR21
 TEUT : Facsimile Kit for M00rent limitation: 80.0 mA Mask violation: 0
 Number of TEUT: 214042256 Polarity : Normal Min. level Uo : -70.0 dBV
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 2050.0 Ohm Call setup : outgoing
 Date : 5.11.13 Requirement : The curve of results shall be greater than the limits
 Time : 10:23.35 Data set : TBR21-4.7.4.2 2050 N

Remark : U.29 9600bps

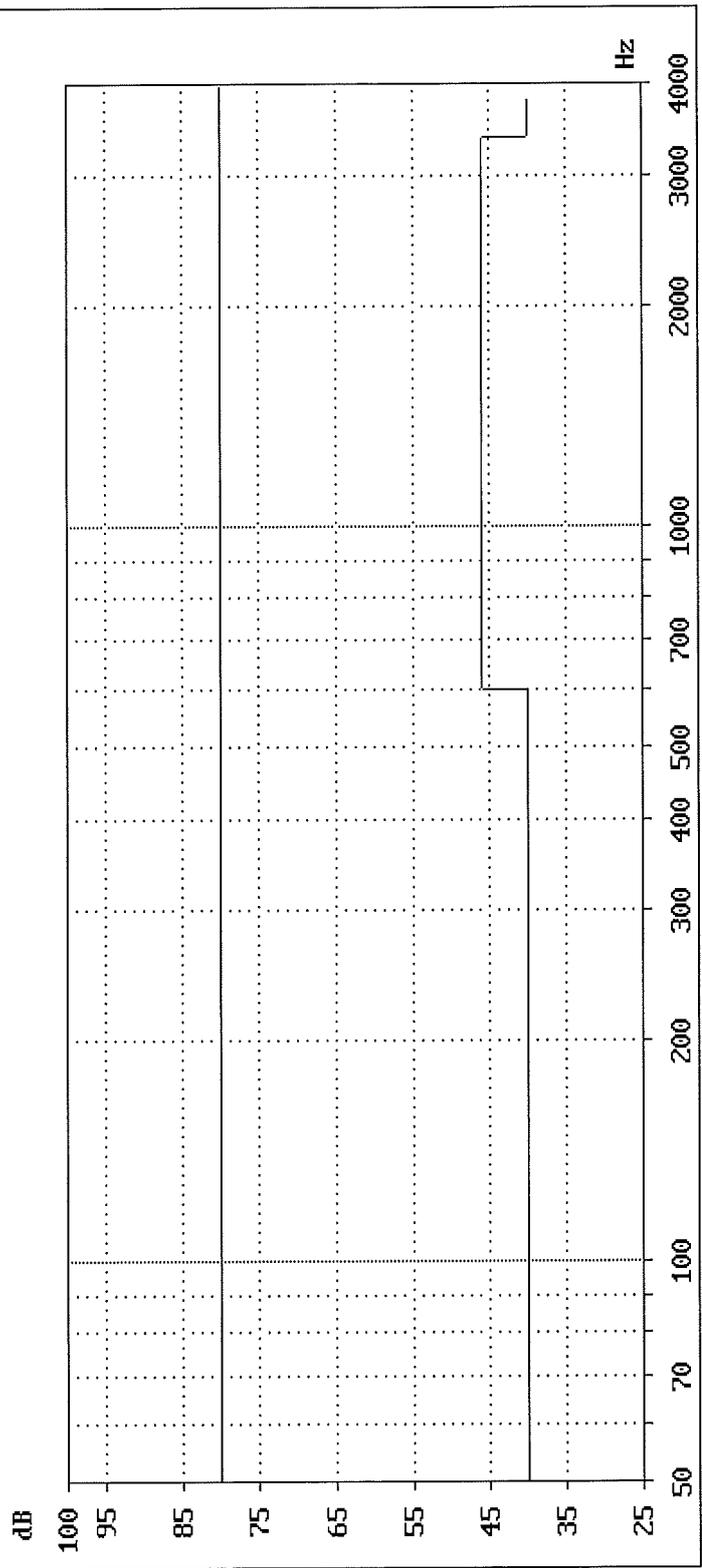
Verdict : PASS



TBR21 - 4.7.4.2 Output Signal Balance

Model No. : FAX System(X) Feeding voltage : 50.0 V Feeding Bridge: TBR21
 TEUT : Facsimile Kit for MOPREnt limitation: 80.0 mA Mask violation: 0
 Number of TEUT: 214042256 Polarity : Inverted Min. level Uo : -70.0 dBV
 Manufacturer : KYOCERA DS Inc. Feeding resistor : 3200.0 Ohm Call setup : outgoing
 Date : 5.11.13 Requirement : The curve of results shall be greater than the limits
 Time : 10:35.23 Data set : TBR21-4.7.4.2 3200 I

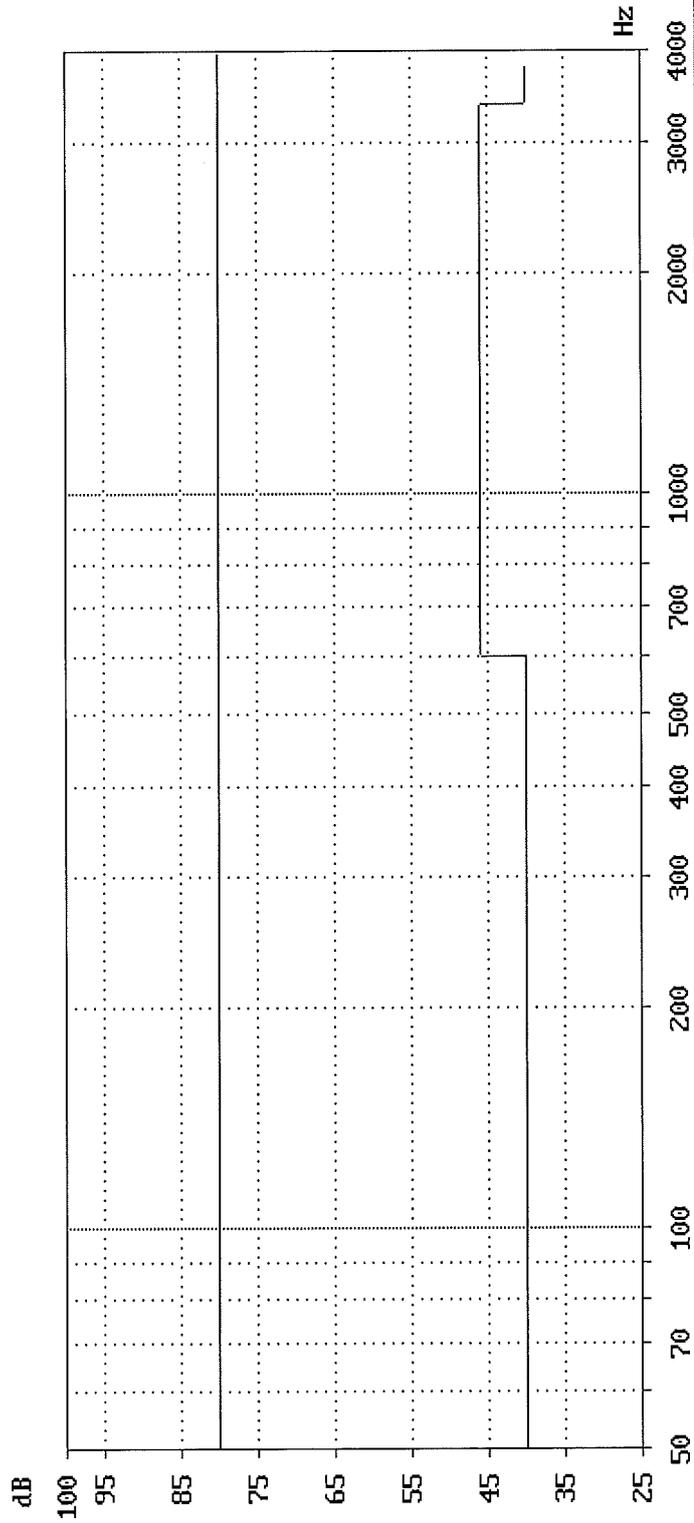
Remark : U.27ter 4800bps Verdict : PASS



TBR21 - 4.7.4.2 Output Signal Balance

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Feeding Bridge:	TBR21
TEUT	: Facsimile Kit for	Mask violation:	: 0		
Number of TEUT:	214042256	Polarity	: Normal	Min. level	Uo : -70.0 dBV
Manufacturer	: KYOCERA DS Inc.	Feeding resistor	: 230.0 Ohm	Call setup	: outgoing
Date	: 5.11.13	Requirement	: The curve of results shall be greater than the limits		
Time	: 10:47.18	Data set	: TBR21-4.7.4.2 230 N		

Remark : U.21 300bps Verdict : PASS



Protocol for Resistance to earth

TBR21 - 4.7.5 Resistance to earth in loop state

Model No. : FAX System(X)
 TEUT : Facsimile Kit for MFP Feeding bridge : TBR21
 Number of TEUT: 214042256 Current limit. : 60.0 mA
 Manufacturer : KYOCERA DS Inc.
 Date : 5.11.13
 Time : 11:13.19

Data Set : TBR21-4.7.5

Requirement : If a connection to earth is intended, the DC resistance between each line terminal of TE and earth shall be not less than 1 MOhm.
 ("E" means the socket "Plane" on the front side of the ARE1000.)

Remark : -

Verdict : PASS

Uf V	Rf Ω	Polarity	Ut V	Rt Ω	Measure	Limit MΩ	Current uA	Resistance MΩ
50.0	230	Normal	100.0	10000	b - E	1	< 2.0	> 50
50.0	230	Normal	-100.0	10000	b - E	1	< 2.0	> 50
50.0	230	Normal	100.0	10000	a - E	1	< 2.0	> 50
50.0	230	Normal	-100.0	10000	a - E	1	< 2.0	> 50
50.0	230	Inverted	100.0	10000	b - E	1	< 2.0	> 50
50.0	230	Inverted	-100.0	10000	b - E	1	< 2.0	> 50
50.0	230	Inverted	100.0	10000	a - E	1	< 2.0	> 50
50.0	230	Inverted	-100.0	10000	a - E	1	< 2.0	> 50

Protocol for Automatic dialling

TBR21 - 4.8.1.1 Dialling without dial tone detection
=====

Model No. : FAX System(X) Feeding voltage : 50.0 V
TEUT : Facsimile Kit for MFP Polarity : Normal
Number of TEUT: 214042256 Feeding resistor : 850.0 Ohm
Manufacturer : KYOCERA DS Inc. Feeding bridge : TBR21
Date : 5.11.13 Receiver impedance: Zr TBR21
Time : 11:24.40 Gain (internal) : +0.0 dB

Data set : TBR21-4.8.1.1
Requirement : The TE shall start dialling in the limits of 2.7 s ... 8.0s

Remark : -

Verdict : PASS

Frequency Hz	Level dBV	T seize s	T dial s	Dialled
No dial tone		3.31	-	123?

Protocol for Automatic dialling

TBR21-4.8.1.2 Dialling with dial tone detection - Continuous dial tone -

```

=====
Model No.       : FAX System(X)           Feeding voltage   : 50.0 V
TEUT            : Facsimile Kit for MFP   Polarity          : Normal
Number of TEUT : 214042256               Feeding resistor  : 850.0 Ohm
Manufacturer    : KYOCERA DS Inc.        Feeding bridge    : TBR21
Date           : 5.11.13                 Receiver impedance: Zr TBR21
Time           : 11:26.04                Gain (internal)   : +0.0 dB
    
```

Data set : TBR21-4.8.1.2 continuous
 Requirement : The TE shall start dialling in the limits of 0.0 s ... 8.0s

Remark : -

Verdict : PASS

Frequency Hz	Level dBV	T seize s	T dial s	Dialled
300	- 0.7	3.51	0.54	123?
300	-35.7	3.50	0.53	123?
500	-35.7	3.50	0.53	123?
500	- 0.7	3.51	0.54	123?

Protocol for Automatic dialling

TBR21 - 4.8.1.2 Dialling with dial tone detection - cadenced dial tone -
 =====

Model No. : FAX System(X) Feeding voltage : 50.0 V
 TEUT : Facsimile Kit for MFP Polarity : Normal
 Number of TEUT: 214042256 Feeding resistor : 850.0 Ohm
 Manufacturer : KYOCERA DS Inc. Feeding bridge : TBR21
 Date : 5.11.13 Receiver impedance: Zr TBR21
 Time : 11:28.44 Gain (internal) : +0.0 dB

Data set : TBR21-4.8.1.2 cadenced
 Requirement : The TE shall start dialling in the limits of 0.0 s ... 8.0s

Remark : -

Verdict : PASS

Frequency Hz	Level dBV	T seize s	T dial s	Dialled
300	- 0.7	3.90	0.93	123?
300	-35.7	3.92	0.95	123?
500	-35.7	3.92	0.95	123?
500	- 0.7	3.93	0.96	123?

Protocol for DTMF Levels and Frequencies Auto

TBR21 - 4.8.2.1 / 2 DTMF-Signalling frequencies and levels

```

=====
Model No.      : FAX System(X)      Feeding voltage   : 50.0 V
TEUT           : Facsimile Kit for MFP  Current limitation: 80.0 mA
Number of TEUT: 214042256          Polarity          : Normal
Manufacturer   : KYOCERA DS Inc.    Feeding resistor  : 230.0 Ohm
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 0 msec
Time           : 11:32.35           Receiver impedance: Zr TBR21
                                           Gain (internal)   : +0.0 dB
    
```

```

Data set       : TBR21-4.8.2.1/2 230 N
Requirement    : The dial signal shall be in the following limits:
                  Limits of level f low      : -13.0 ... -8.5
                  Limits of level f high     : -11.5 ... -7.0
                  Limits Preemphasis        : 1.0 ... 4.0 dB
                  (Limit Frequency deviation: 1.5 % )
    
```

```

Remark        : -
Verdict       : PASS
    
```

F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 12.52	1209.0	+ 0.0	- 11.08	- 8.73	1.44	1
697.0	+ 0.0	- 12.51	1336.0	+ 0.0	- 11.09	- 8.73	1.42	2
697.0	+ 0.0	- 12.51	1477.0	+ 0.0	- 11.16	- 8.77	1.35	3
770.1	+ 0.0	- 12.56	1209.0	+ 0.0	- 11.09	- 8.75	1.47	4
770.1	+ 0.0	- 12.56	1336.0	+ 0.0	- 11.09	- 8.75	1.47	5
770.1	+ 0.0	- 12.56	1477.0	+ 0.0	- 11.16	- 8.79	1.4	6
852.0	+ 0.0	- 12.6	1209.0	+ 0.0	- 11.09	- 8.77	1.51	7
852.0	+ 0.0	- 12.6	1336.0	+ 0.0	- 11.1	- 8.78	1.5	8
852.0	+ 0.0	- 12.6	1477.0	+ 0.0	- 11.16	- 8.81	1.44	9
941.0	+ 0.0	- 12.61	1209.0	+ 0.0	- 11.08	- 8.77	1.53	*
941.0	+ 0.0	- 12.62	1336.0	+ 0.0	- 11.09	- 8.78	1.53	0
941.0	+ 0.0	- 12.62	1477.0	+ 0.0	- 11.16	- 8.82	1.46	#

Protocol for DTMF Levels and Frequencies Auto

TBR21 - 4.8.2.1 / 2 DTMF-Signalling frequencies and levels

```

=====
Model No.      : FAX System(X)      Feeding voltage   : 50.0 V
TEUT          : Facsimile Kit for MFP  Current limitation: 80.0 mA
Number of TEUT: 214042256          Polarity          : Inverted
Manufacturer   : KYOCERA DS Inc.    Feeding resistor  : 3200.0 Ohm
Date          : 5.11.13             Trigger lev./delay: -12.0 dBV 0 msec
Time         : 11:33.45             Receiver impedance: Zr TBR21
                                           Gain (internal)  : +0.0 dB
    
```

```

Data set      : TBR21-4.8.2.1/2 3200 I
Requirement   : The dial signal shall be in the following limits:
                Limits of level f low      : -13.0 ... -8.5
                Limits of level f high     : -11.5 ... -7.0
                Limits Preemphasis        : 1.0 ... 4.0 dB
                (Limit Frequency deviation: 1.5 % )
    
```

Remark : - Verdict : PASS

F.lo Hz	Dev. %	P.lo dBV	F.hi Hz	Dev. %	P.hi dBV	P.tot dBV	Preemp. dB	Digit
697.0	+ 0.0	- 12.55	1209.0	+ 0.0	- 11.12	- 8.77	1.43	1
697.0	+ 0.0	- 12.55	1336.0	+ 0.0	- 11.14	- 8.78	1.41	2
697.0	+ 0.0	- 12.55	1477.0	+ 0.0	- 11.2	- 8.81	1.35	3
770.1	+ 0.0	- 12.6	1209.0	+ 0.0	- 11.12	- 8.79	1.48	4
770.1	+ 0.0	- 12.6	1336.0	+ 0.0	- 11.14	- 8.8	1.46	5
770.1	+ 0.0	- 12.6	1477.0	+ 0.0	- 11.2	- 8.83	1.4	6
852.0	+ 0.0	- 12.64	1209.0	+ 0.0	- 11.12	- 8.8	1.52	7
852.0	+ 0.0	- 12.64	1336.0	+ 0.0	- 11.14	- 8.82	1.5	8
852.0	+ 0.0	- 12.63	1477.0	+ 0.0	- 11.2	- 8.85	1.43	9
941.0	+ 0.0	- 12.66	1209.0	+ 0.0	- 11.12	- 8.81	1.54	*
941.0	+ 0.0	- 12.65	1336.0	+ 0.0	- 11.13	- 8.81	1.52	0
941.0	+ 0.0	- 12.65	1477.0	+ 0.0	- 11.2	- 8.85	1.45	#

Protocol for DTMF unwanted frequencies Auto

TBR21 - 4.8.2.3 DTMF-Unwanted frequency components

=====
Model No. : FAX System(X) Feeding voltage : 50.0 V
TEUT : Facsimile Kit for MFP Current limitation: 80.0 mA
Number of TEUT: 214042256 Polarity : Normal
Manufacturer : KYOCERA DS Inc. Feeding resistor : 230.0 Ohm
Date : 5.11.13 Trigger lev./delay: -12.0 dBV 40 msec
Time : 11:36.22 Receiver impedance: Zr TBR21
Gain (internal) : +6.0 dB

Data set : TBR21-4.8.2.3 230 N
Requirement : The loss shall be at least 20.0 dB
with selected digits 3570

Remark : -

Verdict : PASS

p low dBV	p total dBV	Loss dB	Digit
- 12.5	- 8.9	31 dB	3
- 12.5	- 8.8	30 dB	5
- 12.8	- 8.9	25 dB	7
- 12.6	- 8.9	29 dB	0

Protocol for DTMF unwanted frequencies Auto

TBR21 - 4.8.2.3 DTMF-Unwanted frequency components

```

=====
Model No.      : FAX System(X)      Feeding voltage  : 50.0 V
TEUT           : Facsimile Kit for MFP  Current limitation: 80.0 mA
Number of TEUT: 214042256          Polarity         : Inverted
Manufacturer   : KYOCERA DS Inc.    Feeding resistor : 3200.0 Ohm
Date           : 5.11.13            Trigger lev./delay: -12.0 dBV 40 msec
Time           : 11:37.03           Receiver impedance: Zr TBR21
                                           Gain (internal)  : +6.0 dB
    
```

```

Data set       : TBR21-4.8.2.3 3200 I
Requirement    : The loss shall be at least 20.0 dB
                  with selected digits 3570
    
```

Remark : -

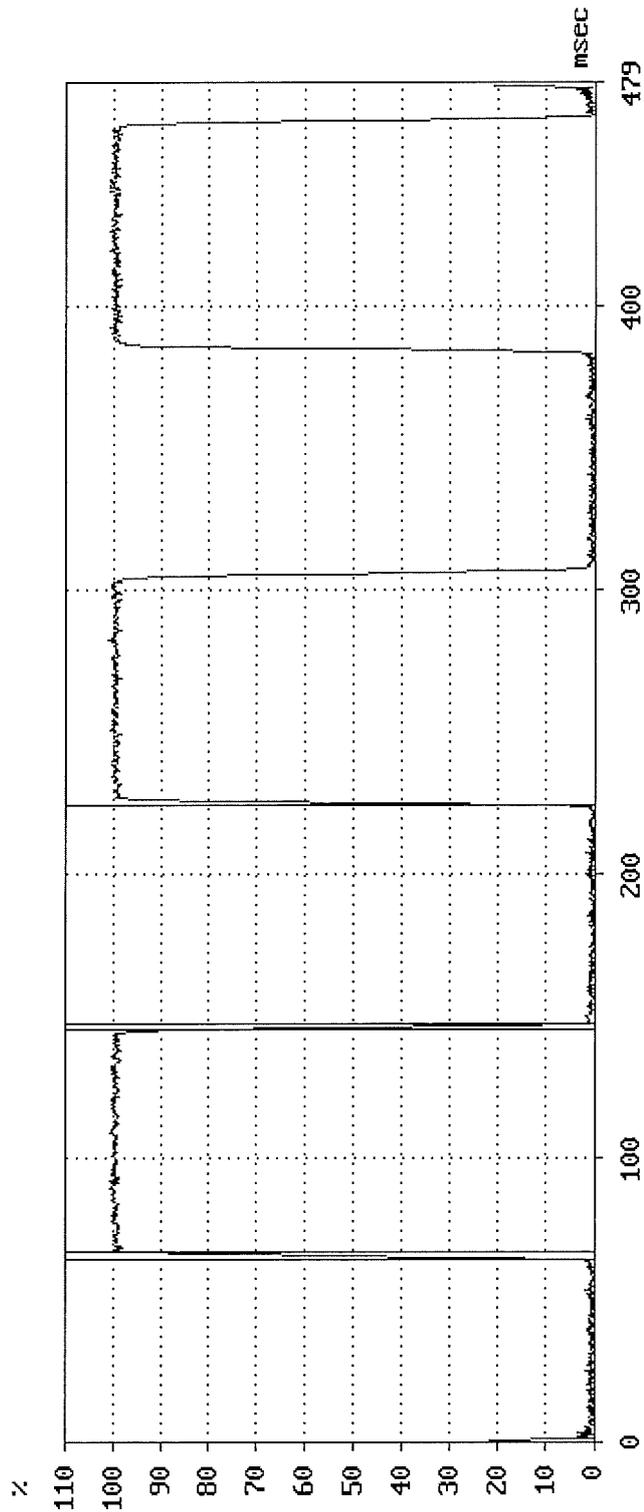
Verdict : PASS

p low dBV	p total dBV	Loss dB	Digit
- 12.5	- 9.0	31 dB	3
- 12.6	- 8.9	30 dB	5
- 12.9	- 9.0	25 dB	7
- 12.7	- 9.0	29 dB	0

TBR21 - 4.8.2.4/5 DTMF-Tone and Pause duration

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for FAXarity Level : -60 dBV
 Number of TEUT: 214042256 Feeding resistor: 850.0 Ohm (of Pause) (-40.0 dBV)
 Manufacturer : KYOCERA DS Inc. Feeding bridge : TBR21 tr : 2 ms (99.0 ms)
 Date : 5.11.13 Requirement: The limits tf : 2 ms (99.0 ms)
 Time : 11:40.43 are given in the brackets tp : 77 ms (65.0 ... 6500.0 m
 Data set : TBR21-4.8.2.4/5 digit 3 Frequency group : upper ts : 81 ms (65.0 ... 9999.0 m
 Remark : - Rx impedance: Zr TBR21

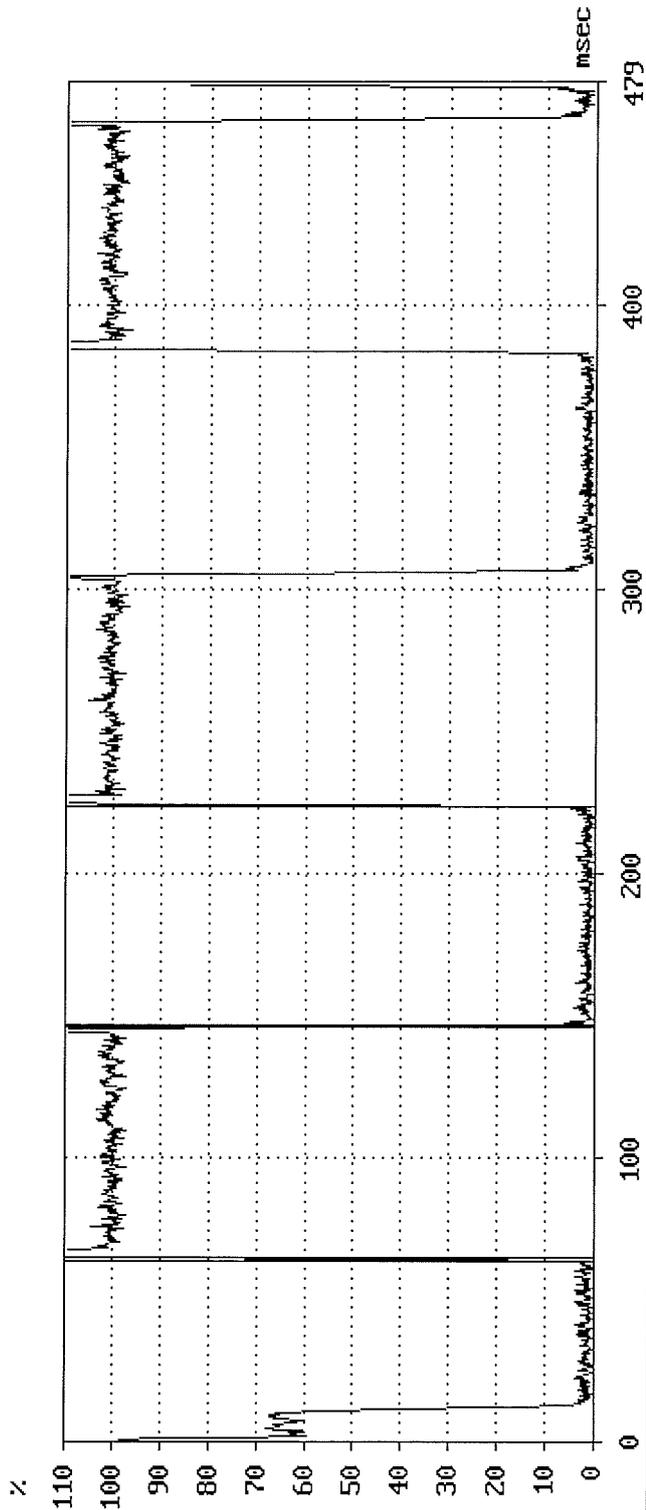
Verdict : PASS



TBR21 - 4.8.2.4/5 DTMF-Tone and Pause duration

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for FAX Clarity : Normal Level : -62 dBV
 Number of TEUT: 214042256 Feeding resistor: 850.0 Ohm (of Pause) (-30.0 dBV)
 Manufacturer : KYOCERA DS Inc. Feeding bridge : TBR21 tr : 1 ms (99.0 ms)
 Date : 5.11.13 Requirement: The limits tf : 1 ms (99.0 ms)
 Time : 11:43.06 are given in the brackets tp : 77 ms (65.0 ... 6500.0 m
 Data set : TBR21-4.8.2.4/5 digit 7 Frequency group : lower ts : 82 ms (65.0 ... 9999.0 m
 Remark : - Rx impedance: Zr TBR21

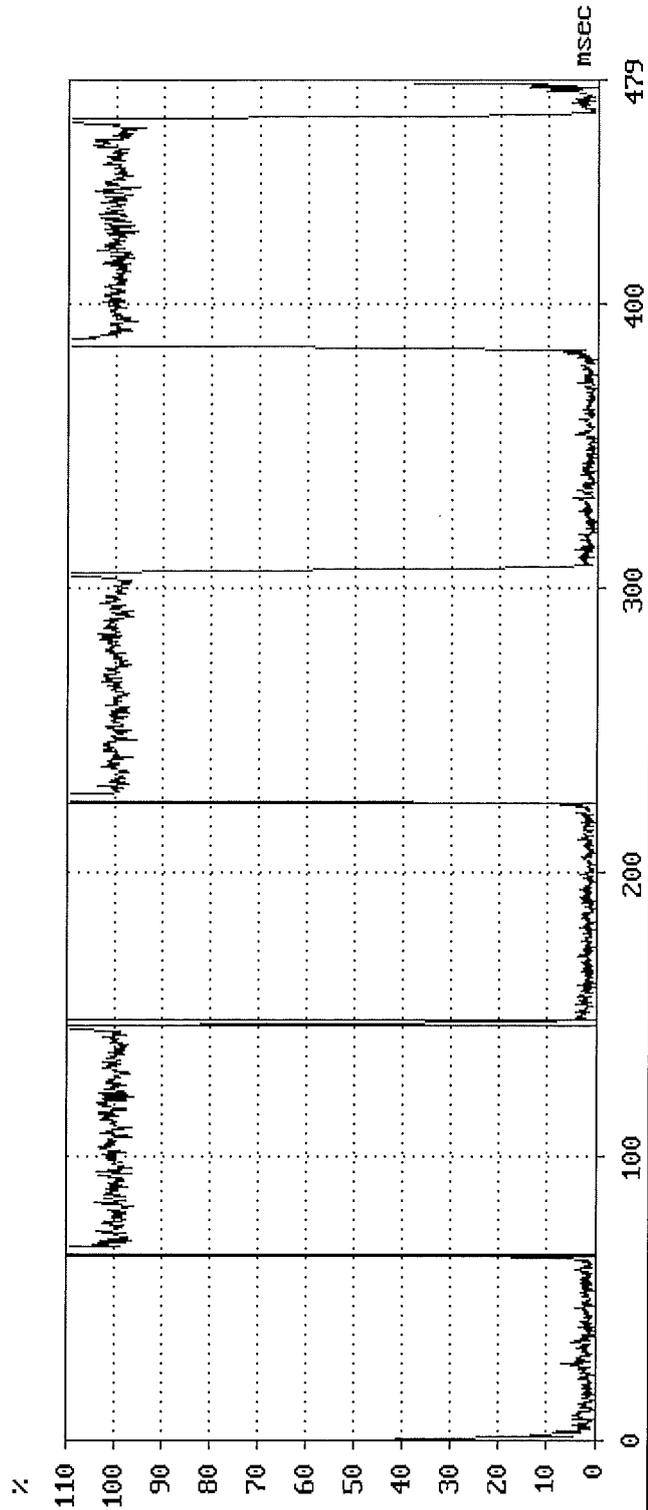
Verdict : PASS



TBR21 - 4.8.2.4/5 DTMF-Tone and Pause duration

Model No. : FAX System(X) Feeding voltage : 50.0 V Trigger : OK
 TEUT : Facsimile Kit for FAX Clarity : Normal Level : -63 dBV
 Number of TEUT: 214042256 Feeding resistor: 850.0 Ohm (of Pause) (-40.0 dBV)
 Manufacturer : KYOCERA DS Inc. Feeding bridge : TBR21 tr : 1 ms (99.0 ms)
 Date : 5.11.13 Requirement: The limits tf : 2 ms (99.0 ms)
 Time : 11:44.17 are given in the brackets tp : 77 ms (65.0 ... 6500.0 m
 Data set : TBR21-4.8.2.4/5 digit 0 Frequency group : upper ts : 82 ms (65.0 ... 9999.0 m
 Remark : - Rx impedance: Zr TBR21

Verdict : PASS



Protocol for Automatically repeated call attempts

TBR21 - 4.8.3 Automatically repeated call attempts

```

=====
Model No.       : FAX System(X)      Feeding voltage  : 50.0 V
TEUT            : Facsimile Kit for MFP  Polarity         : Normal
Number of TEUT : 214042256          Feeding resistor : 850.0 Ohm
Manufacturer    : KYOCERA DS Inc.    Feeding bridge   : TBR21
Date           : 5.11.13             Receiver impedance: Zr TBR21
Time           : 13:03.06            Gain (internal)  : +0.0 dB
    
```

```

Data set       : TBR21 - 4.8.3 A
Requirement    : The TE shall not initiate a call attempts less than
                  5 s after the termination of the previous call attempt.
    
```

Remark : PASS

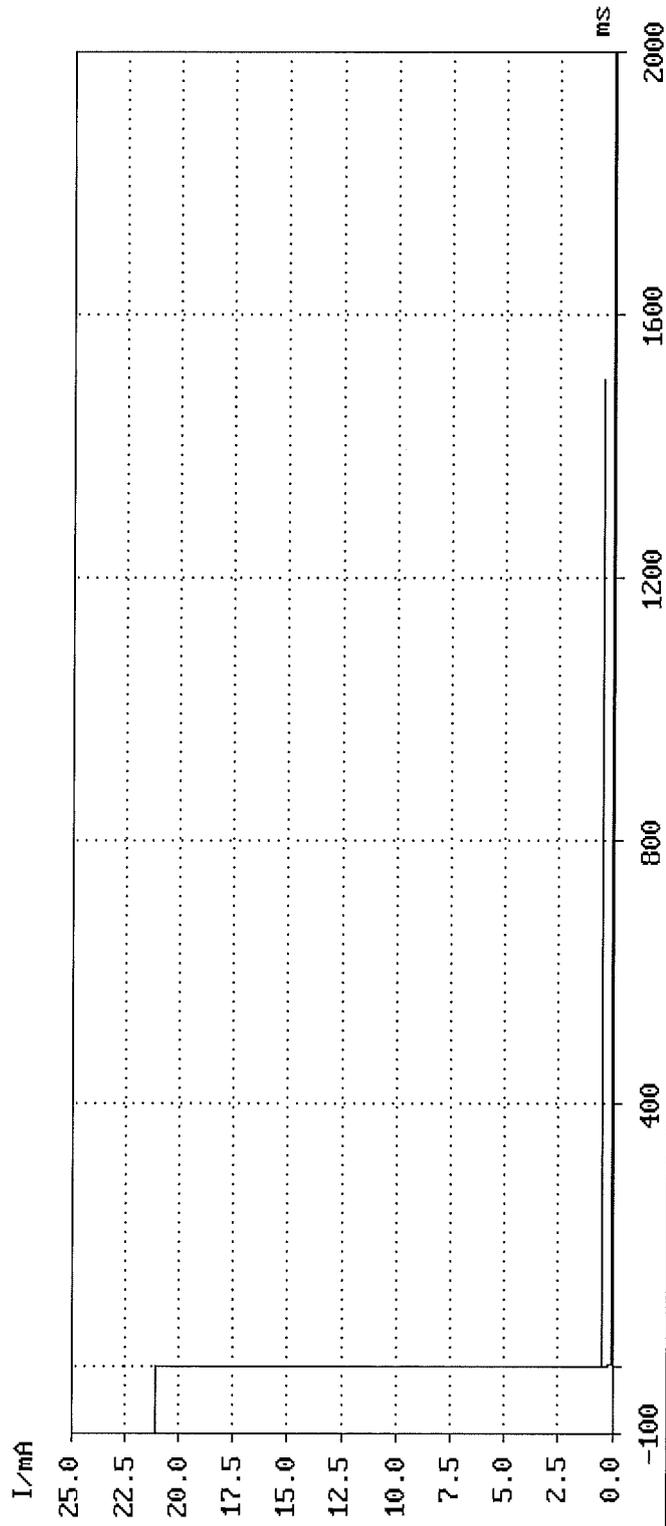
Call No.	Call expected	Call received	Network tone	Limit [s]	Condition established	tq [s]
1	1	1?	BusyTone	0	Quiescent	9.75
2	1	1?	BusyTone	5	Quiescent	120.30
3	1	1?	BusyTone	5	Quiescent	120.40
4	1	1?	BusyTone	5	Quiescent	120.35
5	1	1?	BusyTone	5	Quiescent	120.35
6	1	1?	BusyTone	5	Quiescent	120.35
7	1	1?	BusyTone	5	Quiescent	120.25
8	1	1?	BusyTone	5	Quiescent	120.35
9	1	1?	BusyTone	5	Quiescent	120.35
10	1	1?	BusyTone	5	Quiescent	120.35
11	1	1?	BusyTone	5	Quiescent	120.35
12	1	1?	BusyTone	5	Quiescent	121.35
13	1	1?	BusyTone	5	Quiescent	120.40
14	1	1?	BusyTone	5	Quiescent	120.40
15	1	1?	BusyTone	5	Quiescent	120.30

TBR21 - 4.9 Transition from loop to quiescent state

Model No.	: FAX System(X)	Feeding voltage	: 50.0 V	Trigger	: OK
TEUT	: Facsimile Kit for FAXarity	Normality	: Normal	I [mA]	: 10.0
Number of TEUT	: 214042256	Drop resistor	: 2050.0 Ohm	Event	: 1. neg. Edge
Manufacturer	: KYOCERA DS Inc.			Delay [ms]	: - 100
Date	: 5.11.13	Requirement	: The current shall drop not later than 20 ms	Sample [ms]	: 0.2
Time	: 11:45.23				
Remark	: -				
		Data set	: TBR21-4.9		

Transient times : 0.0 ms

Verdict : PASS



Prüfbericht - Nr.:

12030966 001

Test Report No.:

Anlage B
Appendix B

Produktbeschreibung
Description of Equipment

Fax functions

Type.....Optional FAX kit
CompatibilityG3
Communication lineSubscriber telephone line
Transmission time.....4 seconds or less (33600 bps, MMR, ITU-T A4 #1 chart)
Transmission speed.....33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/
4800/2400 bps
Coding scheme.....MMR/MR/MH
Error correction.....ECM
Original sizeMax. width: 11"/297 mm
Max. length: 17"/431.8mm
Automatic document feedMax. 50 sheets
Scanner resolution.....Horizontal × Vertical
200 × 100 dpi Normal (8 dot/mm × 3.85 line/mm)
200 × 200 dpi Fine (8 dot/mm × 7.7 line/mm)
200 × 400 dpi Super fine (8 dot/mm × 15.4 line/mm)

Printing resolution.....600 × 600 dpi
Gradations256 shades (Error diffusion)
One-Touch key.....32 keys
Multi-Station transmission.....Max. 100 destinations
Substitute memory reception300 sheets or more (when using ITU-T A4 #1)
Image memory capacity.....4 MB (standard) (for incoming faxed originals)
Report outputSent result report, FAX RX result report, Activity report, Status page

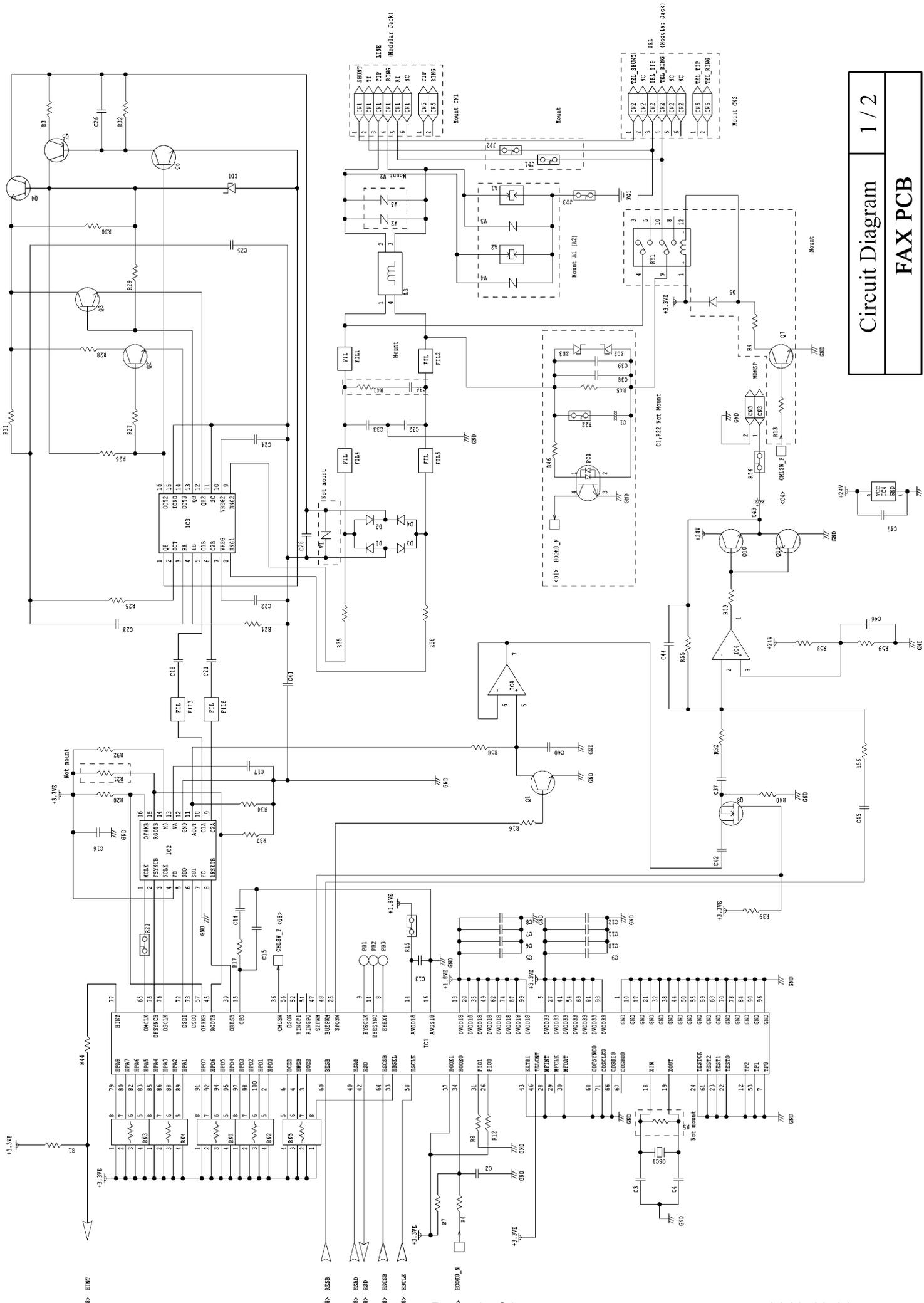
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12030966 001

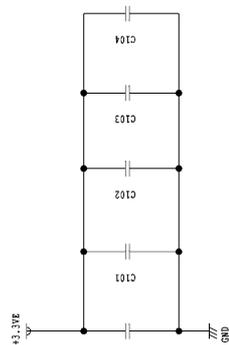
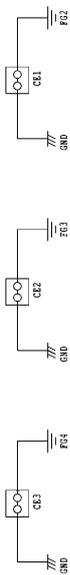
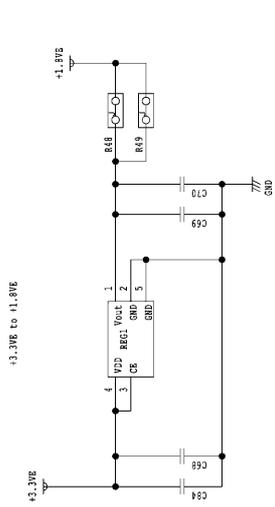
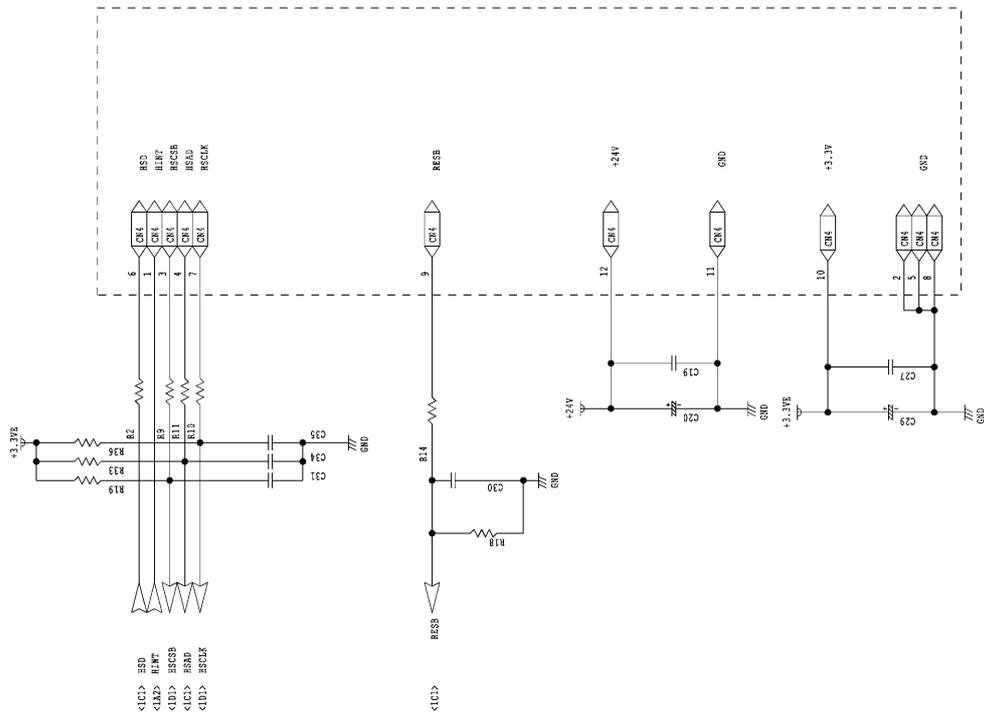
Test Report No.:

Anlage C
Appendix C

Schaltpläne
Circuit diagrams



1 / 2
Circuit Diagram
FAX PCB



Prüfbericht - Nr.:

12030966 001

Test Report No.:

Anlage D
Appendix D

Fotos
Photographs

Host Front View



Host Rear View



NCU board up view



NCU board back view

