



# REPORT INTERTEK / ETL SEMKO

3933 US ROUTE 11, CORTLAND, NEW YORK 13045  
Phone Number: 1-800-345-3851 Fax Number: 607-758-3648

PROJECT NO.: 3088139-311

DATE: December 16, 2005

REPORT NO.: 3088139-CRT-001R-Sum

## RENDERED TO:

SUPERIOR ESSEX, Inc  
150 Interstate North Parkway  
Atlanta, GA 30339

**TEST:** Performance testing of the cabling configurations as defined in and to the requirements of TIA-568-B.2-10 draft 2.0, Transmission Performance Specification for 4 Pair 100  $\Omega$  Augmented Category 6 Cabling.

**STATEMENT OF LIMITATIONS:** At the client's request, the purpose of this report is to provide electrical performance data on the test sample. It is not valid to use this report for any other purpose.

## STANDARDS USED:

ASTM D4566-98, dated December 10, 1998, Standard Test Methods for Electrical Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable

TIA-568-B.2-10 draft 2.0, Transmission Performance Specifications for 4 Pair, 100  $\Omega$  Augmented Category 6 Cabling, dated June 2005.

**AUTHORIZATION:** The project was authorized by, Ms. Gayle Watson, representing the client, SUPERIOR ESSEX, Inc.

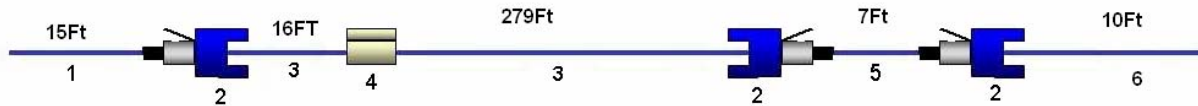
**DATE OF TEST:** December 3, 2005

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An independent organization testing for safety, performance, and certification.

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**SAMPLE DESCRIPTION:** Channel (4 Connector)



<u>Component ID</u>	<u>Manufacturer</u>	<u>Part Number</u>	<u>Description</u>
1	Leviton	6210G-15W	Equipment Cord
2	Leviton	6110G	Work Station Jack
3	SUPERIOR ESSEX	6A-272-2B	CMP Horizontal Cable
4	Leviton	41AB6-1F4	110 Block
5	Leviton	6210G-07W	Cross Connect
6	Leviton	6210G-10W	Closet End

The sample was received on November 18, 2005 and was in good condition. All samples were supplied by the client.

**EQUIPMENT LIST:** The following equipment was employed in conducting the tests.

<u>Equipment Used</u>	<u>Model Number</u>	<u>Serial Number</u>	<u>Control Number</u>	<u>Calibration Date</u>
Hewlett Packard Automatic Cable Test System	HP46152A	3903U01003	E356	03/04/05

**Equipment**

The testing was performed using a Hewlett Packard 46152A Automatic Cable Test System. The system was calibrated using a full 2 port calibration with 801 linearly spaced data points, 100 Hz I/F bandwidth and a 10-second sweep time.

**Measurements**

For the cabling configurations previously described, Attenuation, Near End Cross Talk, Far End Cross Talk and Return Loss were measured in accordance with ASTM D4566.

**Requirements**

Attenuation, Near End Cross Talk, Power Sum NEXT, Alien Power Sum Next, Alien Power Equal Level Far End Cross Talk, Equal Level Far End Cross Talk (ELFEXT), Power Sum ELFEXT, Return Loss, Propagation Delay and Delay Skew were tested to the requirements of TIA-568-B.2-10 Draft 2.0

**Results**

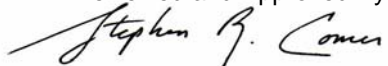
See appendix A for test Result.


**Conclusion:**

The channel, as previously described and supplied by the client, were tested in accordance with the procedures contained herein, and did comply with the indicated applicable transmission requirements. The testing was performed at Intertek ETL SEMKO located in Cortland, New York.

These procedures and requirements were taken from the standards referred to on page 1.

Reviewed and Approved By:

  
 Stephen R. Comer  
 Laboratory Supervisor  
 Global Cabling Products Testing

  
 Dean Beverley  
 Technician  
 Global Cabling Products Testing

**APPENDIX A**

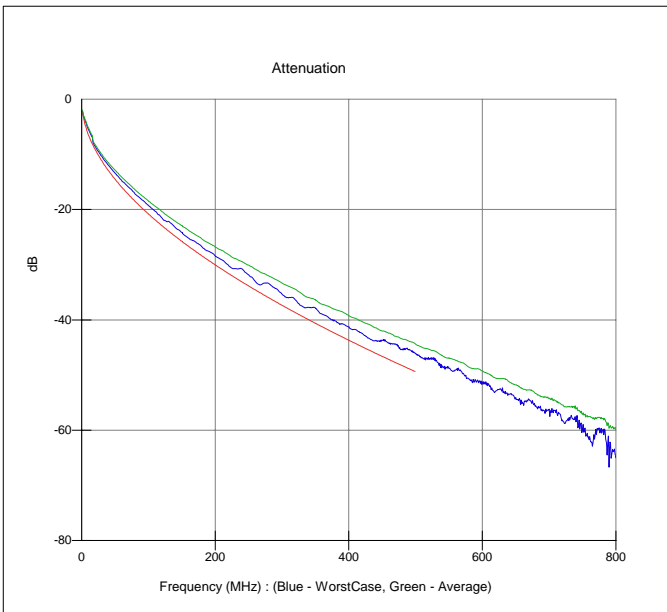
Test Results

Any data reported above 500 MHz is for indication only.

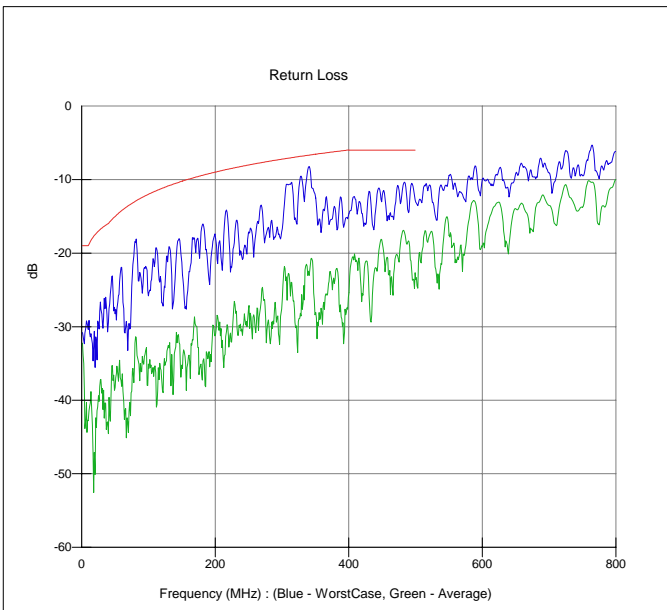


## Summary

<b>Client</b>	SUPERIOR ESSEX	<b>Report No</b>	3088139-CRT-003
<b>Specification</b>	TIA 568B2-10 - Augmented Cat 6 Draft 2_0 500Mhz (Channel)		
<b>Part No</b>	6A-272-2B	<b>Length</b>	105
<b>Test Started</b>	12/19/2005 9:46:14 AM	<b>Temperature</b>	20 °C
<b>Description</b>	worst case of three separate channel tests		
<b>Technician</b>	Dean Beverley	<b>Test Status:</b>	Complies



Attenuation			
Freq	Worst Case	Average	Spec
1.	2.2	2.0	2.2
4.	3.4	3.2	4.1
8.	4.9	4.6	5.7
10.	5.4	5.2	6.4
16.	6.9	6.6	8.1
20.	8.6	8.2	9.1
25.	9.5	9.1	10.2
31.25	10.6	10.2	11.4
62.5	15.0	14.4	16.3
100.	19.3	18.5	20.8
250.	31.8	30.1	33.8
500.	46.1	44.4	49.4
800.	65.0	59.9	

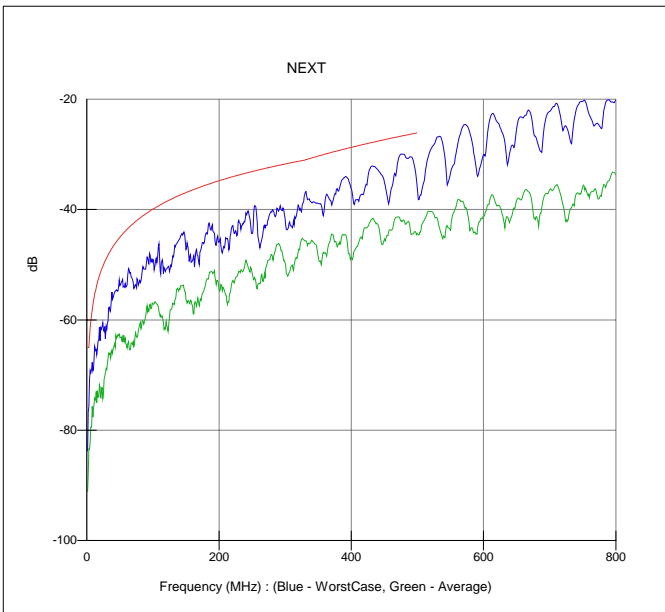


Return Loss			
Freq	Worst Case	Average	Spec
1.	30.8	32.2	19.0
4.	32.3	38.8	19.0
8.	29.5	44.4	19.0
10.	30.4	42.8	19.0
16.	32.4	43.4	18.0
20.	35.4	49.9	17.5
25.	29.6	39.4	17.0
31.25	30.0	39.2	16.5
62.5	28.1	39.6	14.0
100.	25.8	35.2	12.0
250.	17.2	27.4	8.0
500.	13.0	23.3	6.0
800.	6.2	10.0	

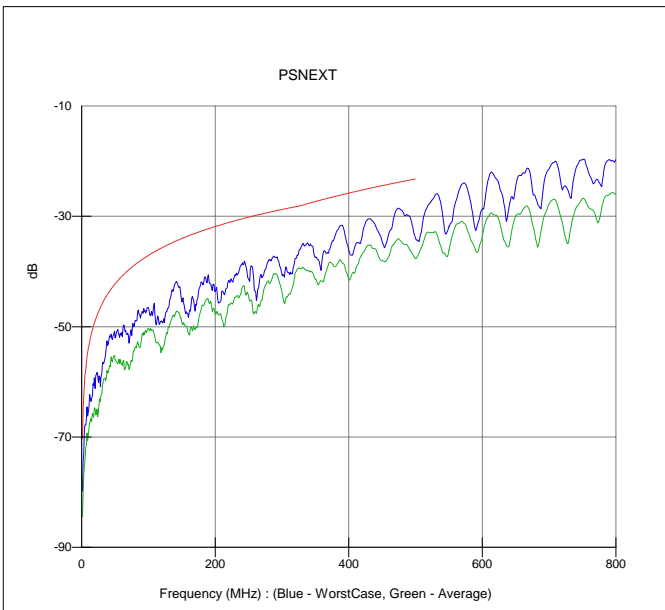


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<b>Specification</b>	TIA 568B2-10 - Augmented Cat 6 Draft 2_0 500Mhz (Channel)		
<b>Part No</b>	6A-272-2B	<b>Length</b>	105
<b>Test Started</b>	12/19/2005 9:46:14 AM	<b>Temperature</b>	20 °C
<b>Description</b>	worst case of three separate channel tests		
<b>Technician</b>	Dean Beverley	<b>Test Status:</b>	Complies



NEXT			
Freq	Worst Case	Average	Spec
1.	83.8	91.2	65.0
4.	70.9	83.5	63.0
8.	67.7	75.7	58.2
10.	68.8	76.1	56.6
16.	65.4	72.9	53.2
20.	63.7	72.3	51.6
25.	61.8	73.3	50.0
31.25	60.8	67.6	48.4
62.5	51.2	64.1	43.4
100.	49.1	57.1	39.9
250.	44.5	51.6	33.1
500.	36.4	44.4	26.1
800.	20.1	33.7	

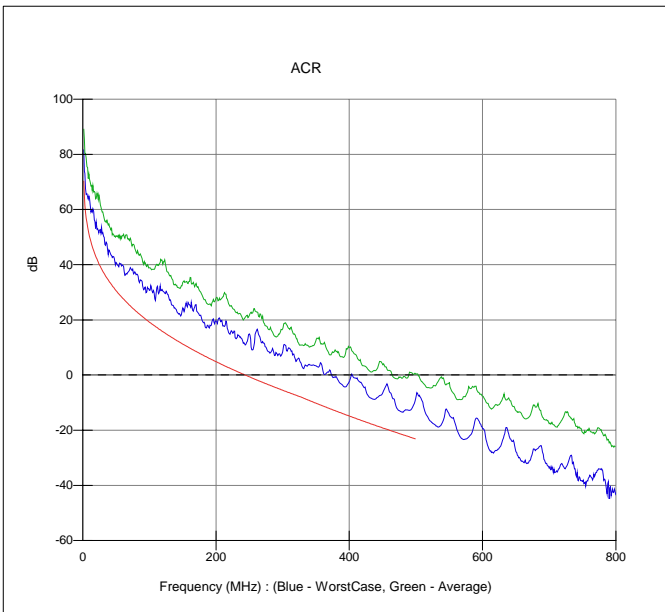


PSNEXT			
Freq	Worst Case	Average	Spec
1.	79.8	84.5	70.3
4.	68.8	75.3	60.5
8.	64.5	69.3	55.6
10.	65.6	69.8	54.0
16.	62.6	65.7	50.6
20.	61.2	64.9	49.0
25.	60.2	65.3	47.3
31.25	56.6	60.5	45.7
62.5	49.9	56.2	40.6
100.	46.6	50.3	37.1
250.	41.4	44.5	30.2
500.	34.0	37.6	23.2
800.	19.7	26.0	

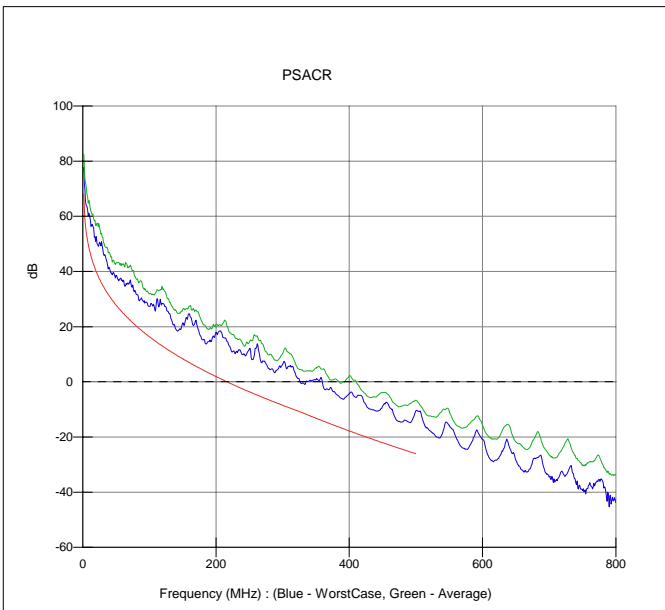


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<b>Part No</b>	6A-272-2B	<b>Temperature</b>	20 °C
<b>Test Started</b>	12/19/2005 9:46:14 AM	<b>Description</b>	worst case of three separate channel tests
<b>Technician</b>	Dean Beverley	<b>Test Status:</b>	Complies



ACR			
Freq	Worst Case	Average	Spec
1.	81.8	89.3	70.5
4.	67.5	80.3	59.0
8.	63.7	71.2	52.4
10.	64.0	71.0	50.2
16.	59.3	66.3	45.1
20.	55.4	64.2	42.6
25.	52.6	64.3	39.9
31.25	50.5	57.5	37.0
62.5	36.7	49.8	27.1
100.	30.7	38.9	19.2
250.	14.9	21.8	-0.7
500.	-8.0	0.4	-23.2
800.	-43.6	-25.8	

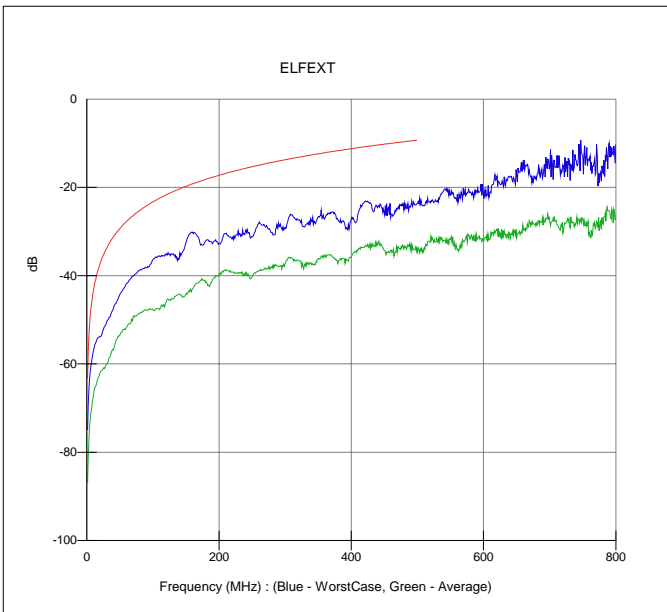


PSACR			
Freq	Worst Case	Average	Spec
1.	77.7	82.5	68.1
4.	65.4	72.1	56.5
8.	60.3	64.7	49.9
10.	60.2	64.6	47.6
16.	55.7	59.1	42.5
20.	52.6	56.7	39.9
25.	50.7	56.1	37.2
31.25	46.0	50.3	34.3
62.5	34.9	41.7	24.3
100.	27.3	31.9	16.3
250.	12.0	14.4	-3.6
500.	-10.5	-6.7	-26.0
800.	-43.9	-33.9	

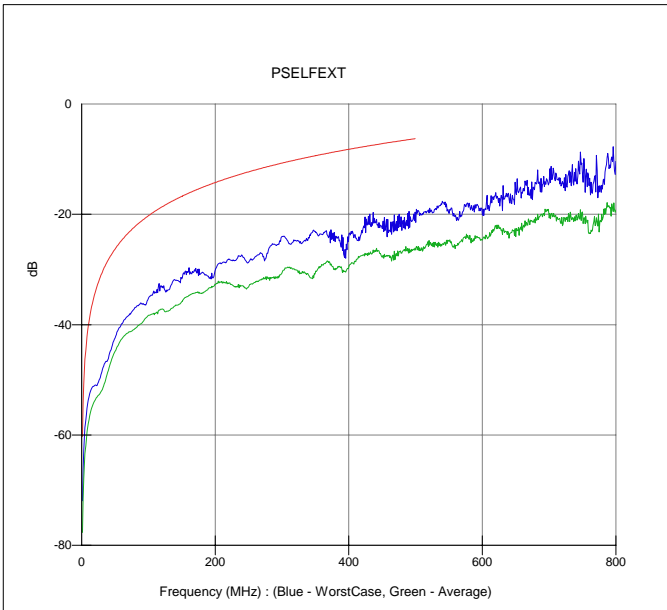


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<b>Specification</b>	TIA 568B2-10 - Augmented Cat 6 Draft 2_0 500Mhz (Channel)		
<b>Part No</b>	6A-272-2B	<b>Length</b>	105
<b>Test Started</b>	12/19/2005 9:46:14 AM	<b>Temperature</b>	20 °C
<b>Description</b>	worst case of three separate channel tests		
<b>Technician</b>	Dean Beverley	<b>Test Status:</b>	Complies



ELFEXT			
Freq	Worst Case	Average	Spec
1.	75.0	86.9	63.3
4.	63.5	74.4	51.2
8.	58.5	68.6	45.2
10.	56.9	66.9	43.3
16.	54.3	63.7	39.2
20.	53.8	62.0	37.2
25.	52.2	61.0	35.3
31.25	50.1	59.7	33.4
62.5	41.4	51.0	27.3
100.	36.3	47.7	23.3
250.	31.7	40.2	15.3
500.	23.6	34.3	9.3
800.	10.2	26.1	

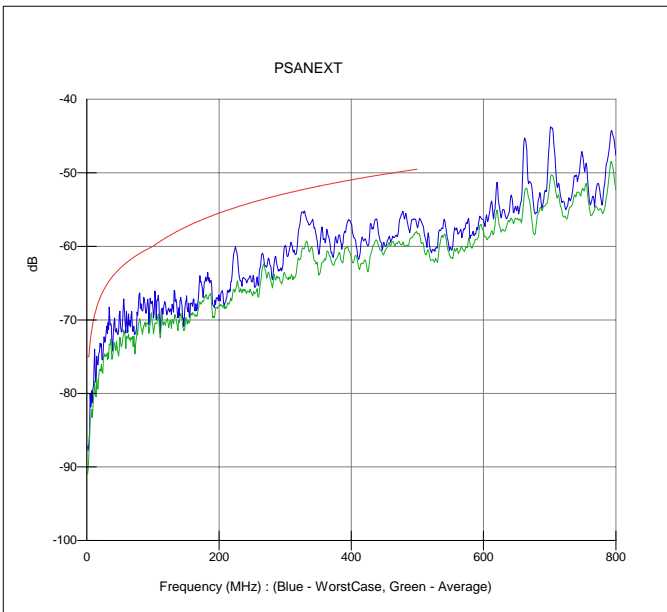


PSELFEXT			
Freq	Worst Case	Average	Spec
1.	71.9	77.7	60.3
4.	60.4	65.3	48.2
8.	55.2	59.6	42.2
10.	53.6	58.0	40.3
16.	51.3	54.8	36.2
20.	51.0	53.7	34.2
25.	50.4	52.8	32.3
31.25	48.0	51.6	30.4
62.5	39.4	42.2	24.3
100.	35.2	38.3	20.3
250.	28.7	33.1	12.3
500.	21.2	26.3	6.3
800.	10.3	19.2	

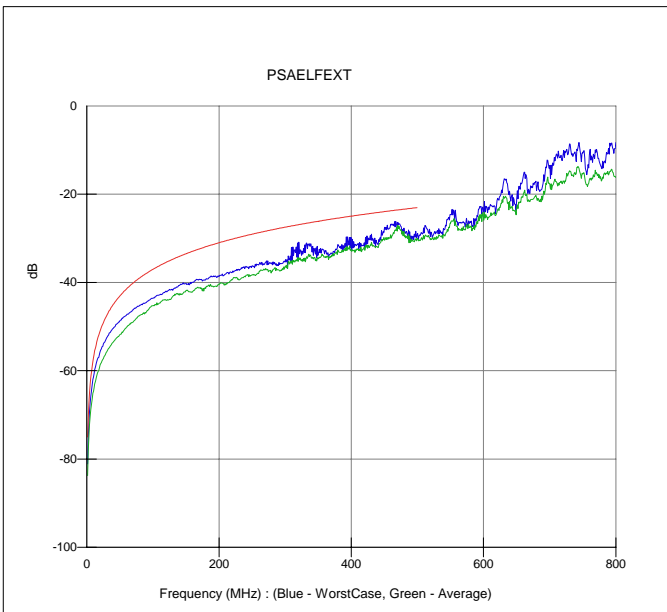


## Summary

<b>Client</b>	SUPERIOR ESSEX	<b>Report No</b>	3088139-CRT-001
<b>Specification</b>	TIA 568B2-10 - Augmented Cat 6 Draft 2_0 500Mhz (Channel)		
<b>Part No</b>	6A-272-2B	<b>Length</b>	100
<b>Test Started</b>	12/6/2005 4:15:30 PM	<b>Temperature</b>	22 °C
<b>Description</b>	Worst Case of victim Channel Test		
<b>Technician</b>	Dean Beverley	<b>Test Status:</b>	Complies



PSANEXT			
Freq	Worst Case	Average	Spec
1.	87.1	91.0	75.0
4.	85.4	86.5	74.0
8.	81.3	83.3	71.0
10.	78.9	80.6	70.0
16.	76.0	79.4	68.0
20.	73.2	76.7	67.0
25.	73.6	75.2	66.0
31.25	71.4	75.1	65.1
62.5	70.3	72.2	62.0
100.	68.5	71.0	60.0
250.	64.8	66.6	54.0
500.	57.4	58.2	49.5
800.	47.7	52.4	



PSAELFEXT			
Freq	Worst Case	Average	Spec
1.	81.1	83.8	75.0
4.	69.2	72.1	65.0
8.	63.1	66.3	58.9
10.	61.4	64.6	57.0
16.	57.4	60.6	52.9
20.	55.7	58.7	51.0
25.	53.9	57.2	49.0
31.25	52.2	55.3	47.1
62.5	47.2	49.8	41.1
100.	43.6	45.3	37.0
250.	36.2	38.3	29.0
500.	29.0	30.1	23.0
800.	8.3	16.3	