

ATTACHMENT D
ELECTRICAL TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility

ELECTROSTATIC DISRUPTION

WYLE LABORATORIES, INC.
Huntsville Facility

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01

Start Date: 8-29-2013

Customer: ES&S (page 1 of 2)

Temperature: 22.4°F

Humidity: 56%

EUT: 4500

Measurement Point: See Test Points Below

Model No.: DS200

Interference Signal: See Applied Signal

Serial No.:

Frequency Range: N/A

Test Title: Electrostatic Disruption

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
TP001: Vertical Coupling Plane	✓		+2, 4, 8	Contact	10	Each Side of EUT
TP002: DS200 USB Well Keyhole	✓		+2, 4, 8	Contact	10	Engineering has changed TP002 to TP001
TP003: DS200 Front Keyhole	✓		+2, 4, 8	Contact	10	
TP004: Metal Ballot Box Front Upper Right Keyhole	✓		+2, 4, 8	Contact	10	
TP005: Metal Ballot Box Front Lower Right Keyhole	✓		+2, 4, 8	Contact	10	
TP006: Metal Ballot Box Top Right-Rear Keyhole	✓		+2, 4, 8	Contact	10	
TP007: Metal Ballot Box Right Ballot Box Door Keyhole	✓		+2, 4, 8	Contact	10	
TP008: Metal Ballot Box Above Right Ballot Door	✓		+2, 4, 8	Contact	10	
TP009: Metal Ballot Box Front Above the Auxiliary Slot	✓		+2, 4, 8	Contact	10	
TP010: Metal Ballot Box Back Upper Center	✓		+2, 4, 8	Contact	10	
TP011: Metal Ballot Box Above Left Ballot Box Door	✓		+2, 4, 8	Contact	10	
TP012: Metal Ballot Box Left Ballot Box Door Keyhole	✓		+2, 4, 8	Contact	10	
TP013: DS200 Modem Door Keyhole	✓		+2, 4, 8	Contact	10	
TP014: DS200 Track Cover Left Rear	✓		+2, 4, 8, 15	Air	10	
TP015: DS200 Track Cover Left Front	✓		+2, 4, 8, 15	Air	10	
TP016: DS200 Track Cover Right Front	✓		+2, 4, 8, 15	Air	10	
TP017: DS200 Track Cover Right Rear	✓		+2, 4, 8, 15	Air	10	
TP018: DS200 Ballot Track Front Center	✓		+2, 4, 8, 15	Air	10	
TP019: DS200 Screen Frame Front-face Left Top Corner Interior	✓		+2, 4, 8, 15	Air	10	

Notice of Anomaly: 0

Tested By: [Signature] Date: 08/29/2013

Witness: _____

Approved: [Signature] Date: 08/29/2013

W11-1433, Rev. Dec. 2004

WYLE LABORATORIES, INC.
 Huntsville Facility



DATA SHEET

Job No.: T71013.01

Start Date: 8-29-2013

Humidity: 56%

Customer: ES&S (Page 2 of 2)

Temperature: 22.4F

EUT: 4500

Measurement Point: See Test Points Below

Model No.: DS200

Interference Signal: See Applied Signal

Serial No.:

Frequency Range: N/A

Test Title: Electrostatic Disruption

Test Points	Meets Limit		Applied Level (kV)	Discharge Type	Times Tested	Comments
	Yes	No				
TP020: DS200 Screen Frame Front-face Left Top Corner Exterior	✓		+2, 4, 8, 15	Air	10	
TP021: DS200 Screen Frame Front-face Top-Span	✓		+2, 4, 8, 15	Air	10	
TP022: DS200 Screen Frame Front-face Top Right Corner	✓		+2, 4, 8, 15	Air	10	
TP023: DS200 Screen Top Right Corner	✓		+2, 4, 8, 15	Air	10	
TP024: DS200 Screen Top Right-Center	✓		+2, 4, 8, 15	Air	10	
TP025: DS200 Screen Top Left-Center	✓		+2, 4, 8, 15	Air	10	
TP026: DS200 Screen Top Left-Corner	✓		+2, 4, 8, 15	Air	10	
TP027: DS200 Screen Middle Left Side	✓		+2, 4, 8, 15	Air	10	
TP028: DS200 Screen Middle Left-Center	✓		+2, 4, 8, 15	Air	10	
TP029: DS200 Screen Middle Right-Corner	✓		+2, 4, 8, 15	Air	10	
TP030: DS200 Screen Middle Right Side	✓		+2, 4, 8, 15	Air	10	
TP031: DS200 Screen Lower Right-Corner	✓		+2, 4, 8, 15	Air	10	
TP032: DS200 Screen Lower Middle-Right	✓		+2, 4, 8, 15	Air	10	
TP033: DS200 Screen Lower Left-Corner	✓		+2, 4, 8, 15	Air	10	
TP034: DS200 USD Door Rear	✓		+2, 4, 8, 15	Air	10	
TP035: DS200 Screen Frame Left-face	✓		+2, 4, 8, 15	Air	10	
TP036: DS200 Modem Door Rear	✓		+2, 4, 8, 15	Air	10	
TP037: DS200 Rear Cover Front-Center	✓		+2, 4, 8, 15	Air	10	
TP038: DS200 Rear Cover Right-Facet	✓		+2, 4, 8, 15	Air	10	
TP039: DS200 Rear Cover Back	✓		+2, 4, 8, 15	Air	10	

Notice of Anomaly: 0

Tested By: [Signature] Date: 08/29/2013

Witness: _____

Approved: [Signature] Date: 08/29/2013

WLT-1433, Rev. Dec. 2004

Technician
Project Engineer

WYLE LABORATORIES, INC.
 Huntsville Facility

ELECTRICAL POWER DISTURBANCE TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility

California Instruments Corp.
Data entry mode: Absolute

No.	Type	Time (s)	Volt
1	V Step	60.000	120.0
2	V Step	0.020	84.0
3	V Step	60.000	120.0
4	V Step	0.100	48.0
5	V Step	60.000	120.0
6	V Step	1.000	48.0
7	V Step	60.000	120.0
8	V Step	5.000	6.0
9	V Step	60.000	120.0
10	V Step	1.000	102.0
11	V Step	60.000	120.0
12	V Step	1.000	138.0
13	V Step	60.000	120.0
14	V Step	14400.000	129.0
15	V Step	60.000	120.0
16	V Step	14400.000	105.0
17	V Step	60.000	120.0
18	Empty		

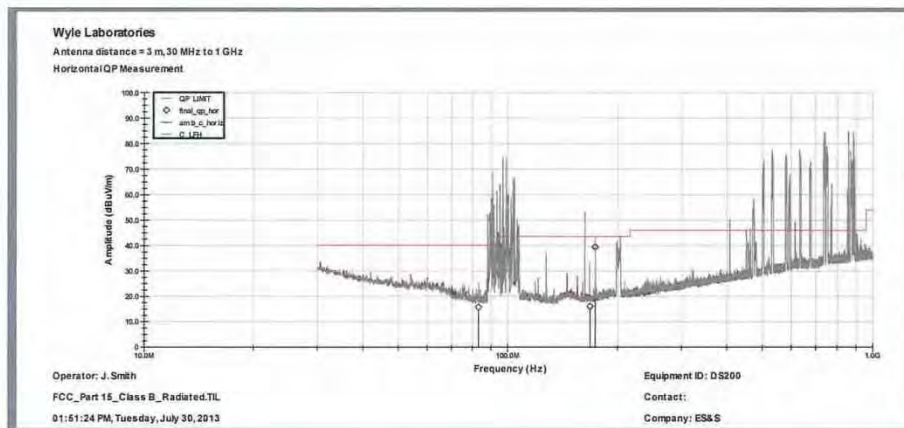
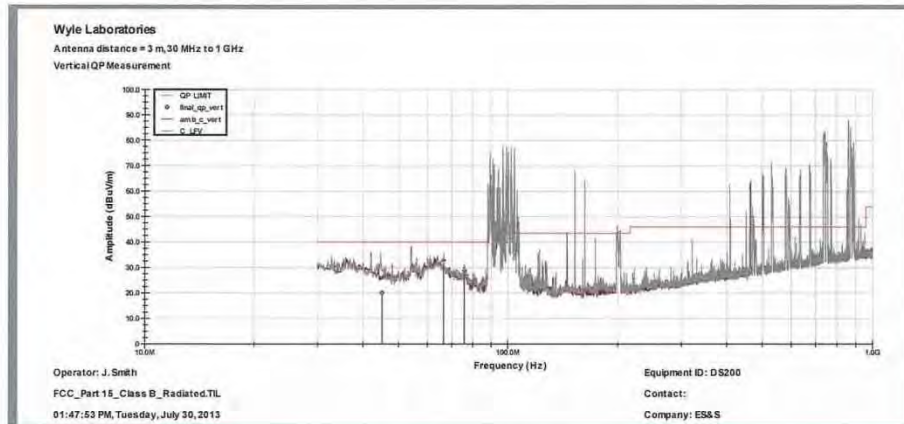
Transient List: <NEW>
Printed on: Friday, July 26, 2013 9:50:02 AM

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ELECTROMAGNETIC EMISSIONS: RADIATED EMISSIONS TEST DATA

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Huntsville Facility

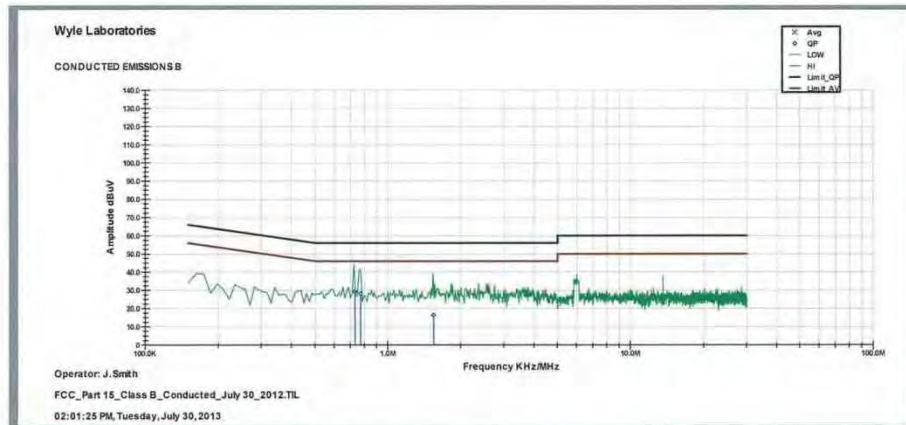
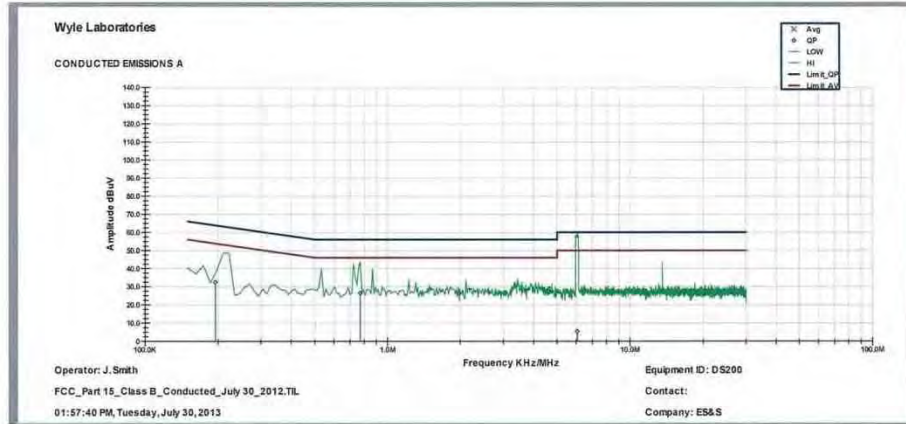
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ELECTROMAGNETIC EMISSIONS: CONDUCTED EMISSIONS TEST DATA

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ELECTROMAGNETIC SUSCEPTIBILITY TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01

Start Date: 23 Aug 13

Customer: ES&S Temperature: 21.7° C Humidity: 49.9%
EUT: DS200 Measurement Point: EUT @ All Four Sides
Model No.: DS200 Interference Signal: 1Khz @ 80% AM
Serial No.: DS0313350009 Frequency Range: 80MHz to 1Ghz

Test Title: EN 61000-4-3 (Electromagnetic Susceptibility)

Test Frequency ()kHz (X)MHz ()GHz	Meets Limit		Susceptibility Threshold Level		Maximum Signal Applied	Comments
	Yes	No	()A ()V ()kV ()dBμA ()dBμV	(X))V/m ()Vrms ()dBμV/m ()dBμT		
80	X		>10	10		Vertical and Horizontal
↓	↓		↓	↓		↓
1,000	X		>10	10		Vertical and Horizontal

Notice of Anomaly: _____

Witness: _____

Tested By: [Signature] Date: 8/23/13

Approved: [Signature] Date: 08/23/2013
Project Engineer

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WYLE LABORATORIES, INC.
Huntsville Facility

ELECTRICAL FAST TRANSIENT TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01



Start Date: 24 Jul 13

Customer:	ES&S	Temperature:	21.7° C	Humidity:	50.1%
EUT:	DS200	Measurement Point:	See Comments Below		
Model No.:	DS200	Interference Signal:	Test Signal Applied @ 5/50nS		
Serial No.:	DS0313350009	Frequency Range:	See Test Frequencies Below		

Test Title: EN 61000-4-4 (Electrical Fast Transient)

Test Frequency (X)kHz (Y)MHz (Z)GHz	Meets Limit		Susceptibility Threshold Level	Maximum Signal Applied	Comments
	Yes	No	()A ()V (X)kV ()V/m ()Vrms ()dBµA ()dBµV ()dBµV/m ()dBµT		
.060	X		>1	1	Line to Neutral
.060	↓		↓	↓	Line to Ground
.060	X		>1	1	Neutral to Ground

Notice of Anomaly: _____
 Witness: _____

Tested By:  Date: 7/24/13
 Approved:  Date: 07/24/2013
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W11-1-022_R13, Dec. 2004

LIGHTNING SURGE TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01

Start Date: 22 Jul 13

Customer: ES&S Temperature: 21.9° C Humidity: 53.6%
 EUT: DS200 Measurement Point: See Comments Below
 Model No.: DS200 Interference Signal: Test Signal Applied @ 1.2/50uS
 Serial No.: DS0313350009 Frequency Range: See Test Frequencies Below

Test Title: EN 61000-4-5 (Lightning Surge Test)

Test Frequency (X)kHz ()MHz ()GHz	Meets Limit		Susceptibility Threshold Level		Maximum Signal Applied		Comments
	Yes	No	()A ()V (X)kV ()dBuA ()dBuV	()V/m ()Vrms ()dBuV/m ()dBpT	()V/m ()Vrms ()dBuV/m ()dBpT	()V/m ()Vrms ()dBuV/m ()dBpT	
.060	X		>.5	.5			Line to Neutral @ 0°, 90°, 180°, and 270°
.060	↓		↓	↓			Line to Ground @ 0°, 90°, 180°, and 270°
.060	X		>.5	.5			Neutral to Ground @ 0°, 90°, 180°, and 270°
.060	X		>1	1			Line to Neutral @ 0°, 90°, 180°, and 270°
.060	↓		↓	↓			Line to Ground @ 0°, 90°, 180°, and 270°
.060	X		>1	1			Neutral to Ground @ 0°, 90°, 180°, and 270°
.060	X		>2	2			Line to Neutral @ 0°, 90°, 180°, and 270°
.060	↓		↓	↓			Line to Ground @ 0°, 90°, 180°, and 270°
.060	X		>2	2			Neutral to Ground @ 0°, 90°, 180°, and 270°

Notice of Anomaly: NOA: 1 & 2

Witness: [Signature] 07/22/2013

Tested By: [Signature] Date: 07/22/13

Approved: [Signature] Date: 07/22/2013

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WYLE LABORATORIES, INC.
 Huntsville Facility

CONDUCTED RF IMMUNITY TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01
 Start Date: 29 Jul 13

Customer: ES&S Temperature: 22.4° C Humidity: 44.5%
 EUT: DS200 Measurement Point: See Comments Below
 Model No.: DS200 Interference Signal: 1Khz @ 80% AM
 Serial No.: DS0313350009 Frequency Range: 150Khz to 80Mhz

Test Title EN 61000-4-6 (Conducted RF Immunity)

Test Frequency ()kHz (X)MHz ()GHz	Meets Limit		Susceptibility Threshold Level		Maximum Signal Applied ()A (X)V ()kV ()V/m ()Vrms ()dBµA ()dBµV ()dBµV/m ()dBpT	Comments
	Yes	No	()A (X)V ()kV	()V/m ()Vrms		
.150	X		>10	10		AC Input
↓	↓		↓	↓		↓
.80	X		>10	10		AC Input

Notice of Anomaly: ∅

Witness: N/A

Tested By: [Signature] Date: 07/29/13
 Technician
 Approved: [Signature] Date: 07/29/2013
 Project Engineer
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W15-1413, Rev. Dec. 2004

MAGNETIC FIELDS IMMUNITY TEST DATA

WYLE LABORATORIES, INC.
Huntsville Facility



DATA SHEET

Job No.: T71013.01

Start Date: 29 Jul 13

Customer: ES&S Temperature: 22.1° C Humidity: 49.9%
 EUT: DS200 Measurement Point: See Comments Below
 Model No.: DS200 Interference Signal: CW for a Period of 5 Minutes
 Serial No.: DS0313350009 Frequency Range: See Test Frequencies Below

Test Title EN 61000-4-8 (Magnetic Field Immunity)

Test Frequency (X)kHz ()MHz ()GHz	Meets Limit		Susceptibility Threshold Level				Maximum Signal Applied		Comments
	Yes	No	(X)A ()dBµA	(Y)V ()dBµV	(Z)V/m ()dBµV/m	()Vrms ()dBµT	()A/m	()T	
.060	X		>30 A/m				30 A/m		EUT on X, Y, and Z Axis

Notice of Anomaly:
 Witness: N/A

Tested By: [Signature] Date: 07/29/13
Technician
 Approved: [Signature] Date: 07/29/2013
Project Engineer
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WH-1432, Rev. Dec. 2009