1.0 Reference and Address			
Report Number	191202948SHA-003	Original Issued: 2-Jan-2020	Revised: None
Standard(s)	ENERGY STAR® Program Requirements for Displays Version 8.0		

Applicant	Top Victory Electronics (Taiwan) Co.,Ltd.	Manufacturer	TPV Electronics(Fujian) Co., Ltd
Address	10F.,No.230,Liancheng Rd. Zhonghe City. Taipei Country 23553	Address	Rongqiao Economic and Technological Development Zone, Fuqing City, Fujian Province
Country	Taiwan	Country	P.R.China
Contact	David.Cheng	Contact	Winter.Feng
Phone	+886-2-82261668-2375	Phone	+86-591-85285555
FAX	+886-2-82261668-2375	FAX	+86-591-85285447
Email	David.cheng@tpv-tech.com	Email	winter.feng@tpv-tech.com
Manufacturer 2	TPV Display Technology (Beihai) Co.,Ltd	Manufacturer 3	TPV Display Technology (China) Co., Ltd.
Address	China Electronic Beihai Industry Park,Northeast of the Crossing between Taiwan Road and Jilin Road Beihai City,Guangxi	Address	No.106 Jinghai 3 Rd., BDA, Beijing City
Country	China	Country	China
Contact	Yin Tao	Contact	Nancy.Shang
Phone	18277949678	Phone	86(10)64326699-8312
FAX	86-779-2232270	FAX	NA
Email	yin.tao@tpv-tech.com	Email	lijia.shang@tpv-tech.com
Manufacturer 4	L&T Display Technology (Fujian) Ltd.	Manufacturer 5	TPV Display Technology(Wuhan)Co.,Ltd
Address	Optoelectronic Park, Rongqiao Economic and Technological Development Zone,Fuqing City,Fujian	Address	Unique No.11 Zhuankou Development District of Economic Technological Development Zone Wuhan
Country	China	Country	China
Contact	Shan Xu	Contact	Zhe.Zhou
Phone	86(591)8651-5556	Phone	86(27)-6884 3822
FAX	86(591)8651-5556	FAX	86(27)-6884 3822
Email	shan.xu@lntdisplayfj.com	Email	zhe.zhou@tpv-tech.com

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2.0 Product Description					
Product	Display (LCD Monitor)				
Brand Name	AOC				
Description	The product covered by this report is a Display (LCD Monitor)				
Models	24E1Q(24E1);24P1(24P1);24P1/GR(24P1);24P1U(24P1);X24P1(24P1);24P1U/GR(24P1);X24P1/GR(24P1);24P1E/NB(24P1)				
Model Similarity	Model Name: 24E1Q; 24P1; 24P1/GR; 24P1U; X24P1; 24P1U/GR; X24P1/GR;24P1E/NB Model Number: 24E1;24P1 24E1: Non-pivot type 24P1: Pivot type				
Ratings	100-240Vac, 50/60Hz, 1.5A				
Other Ratings	NA				
Date Available	04/25/2018	Market Availability	Yes	OEM	TPV Electronics(Fujian) Co. Ltd
Major Markets	Canada,Japan,Taiwan,United States				
Trans Type	Initial Certification: Model Meets ENERGY STAR Requirements				
Notes	NA				
Additional Model Details (Optional)	Model Name and Number	Identifying Information			
Original Certificate Actual Issued Date for Model Tested (Only Applies to Revised Reports)					NA

3.0 Product Photographs

Photo 1 - 24E1 External view (Front)

Photo 2 - 24E1 External view (Back)

3.0 Product Photographs

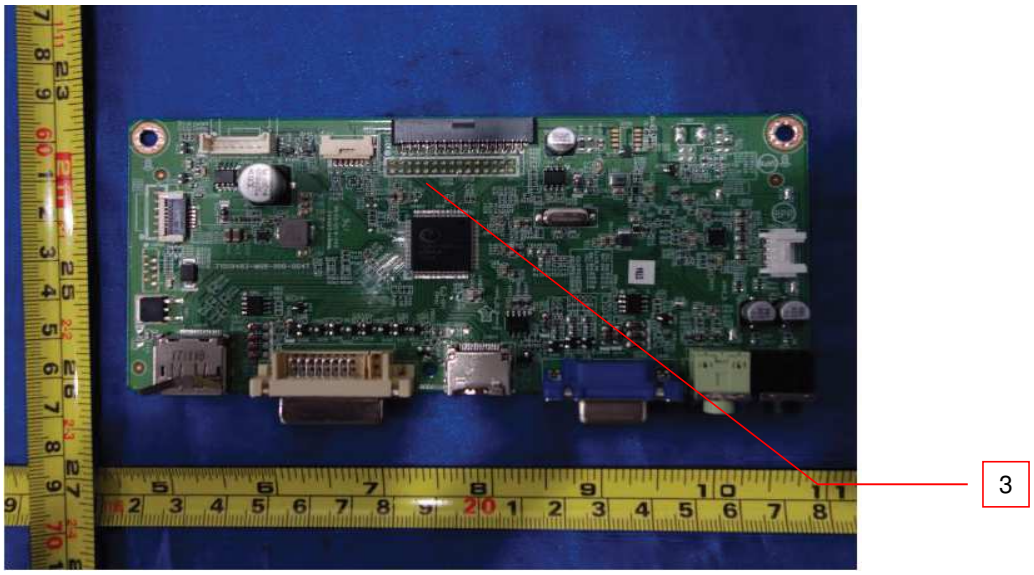
Photo 3 - 24P1 External view (Front)

Photo 4 - 24P1 External view (Back)

3.0 Product Photographs

Photo 5 - Main board (TPV / 715G9496)

Photo 6 - Main board (TPV / 715G9483)



3.0 Product Photographs

Photo 7 - Power board (TPV / 715G7300)

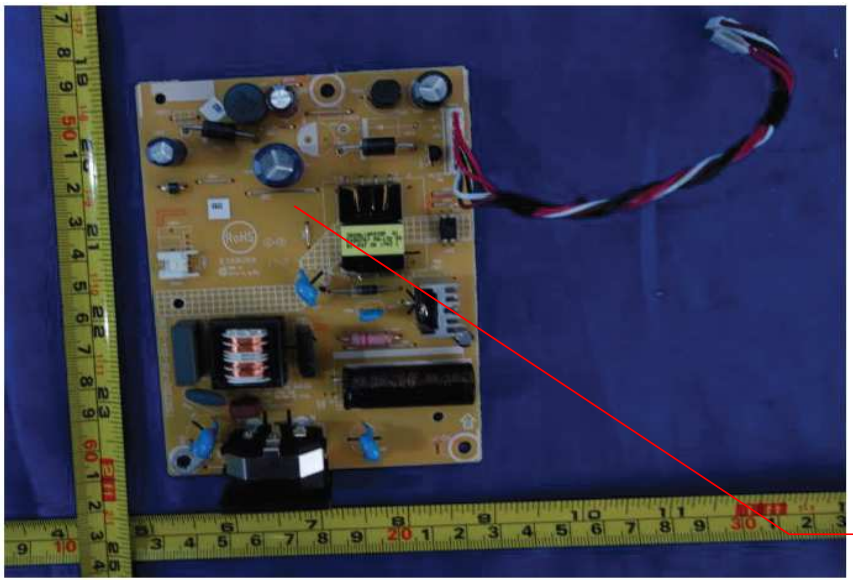
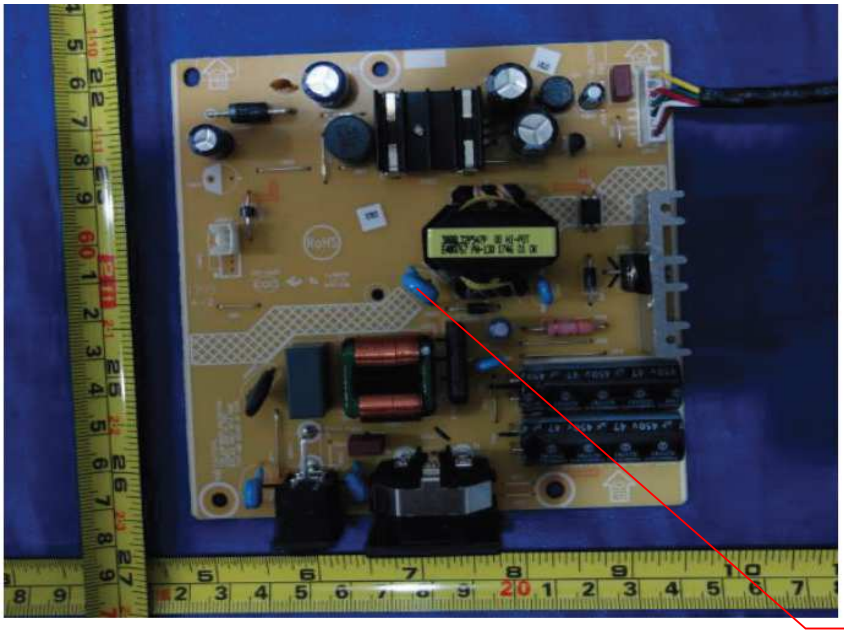


Photo 8 - Power board (TPV / 715G7610)



4.0 Critical Components

Photo #	Item no.[1]	Name	Manufacturer/ trademark[2]	Type / model[2]	Technical data and securement means	Mark(s) of conformity [3]
1	1	LCD panel	TPV	TPM238WF1	23.8inch,TFT type,with LED backlight	NR
5	2	Main Board	TPV	715G9496	I/P: AC100-240V, 50/60Hz, 1.5A; O/P: max.19V, 2.5A 715G9496 is tested as a representation.	NR
6	3			715G9483		NR
7	4	Power Board	TPV	715G7300	I/P: 100-240Vac, 50/60Hz, 1.5A; O/P: max.19Vdc, 2.5A	NR
8	5		TPV	715G7610	I/P: 100-240Vac, 50/60Hz, 1.5A; O/P: max.19Vdc, 2.5A 715G7610 is tested as a representation.	NR

NOTES:

1) Not all item numbers are indicated (called out) in the photos, as their location is obvious.

2) “Various“ means any type, from any manufacturer that complies with the "Technical data and securement means" and meets the "Mark(s) of conformity" can be used.

3) Indicates specific marks to be verified, which assures the agreed level of surveillance for the component. "NR" - indicates: a) Unlisted and only visual examination is necessary or b) marks are not required to be verified.

5.0 Critical Unlisted CEC Components
Periodic Evaluation of Critical Unlisted Components by the Intertek Component Evaluation Centers (CEC) is not required under the INTERTEK ENERGY STAR Program.

6.0 Critical Features
Critical Features/Components - An essential part, material, subassembly, system, software, or accessory of a product that has a direct bearing on the product's conformance to applicable requirements of the ENERGY STAR® Program Requirements. Listed Component - A component part, which has been previously Listed or Certified by an accredited Certification Organization with no restrictions and is used in the intended application within its ratings. Recognized Component - A component part, which has been previously evaluated by an accredited certification body with restrictions and must be evaluated as part of the basic product considering the restrictions as specified by the Conditions of Acceptability. Unlisted Component - A part that has not been previously evaluated to the appropriate designated component standard. It may also be a Listed or Recognized component that is being used outside of its evaluated Listing or component recognition.
Construction Details - For specific construction details, reference should be made to the photographs and descriptions. All dimensions are approximate unless specified as exact or within a tolerance. In addition to the specific construction details described in this Report, the following general requirements also apply.
1. Product Safety Compliance - NA
2. EMI Compliance - NA
3. Schematics - NA
4. Installation, Operating and Safety Instructions - Instructions for installation and use of this product are provided by the manufacturer. Refer to Illustration No.1-2 for details.
5. Package Markings - NA
6. Warranty Information - NA
7. Marking Label - Refer to Illustration No.3.for details.

7.0 Illustrations

Illustration 1 - Installation, Operating and Safety Instructions

Safety

National Conventions

The following subsections describe notational conventions used in this document.

Notes, Cautions, and Warnings

Throughout this guide, blocks of text may be accompanied by an icon and printed in bold type or in italic type. These blocks are notes, cautions, and warnings, and they are used as follows:

NOTE: A NOTE indicates important information that helps you make better use of your computer system.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates the potential for bodily harm and tells you how to avoid the problem. Some warnings may appear in alternate formats and may be unaccompanied by an icon. In such cases, the specific presentation of the warning is mandated by regulatory authority.

3

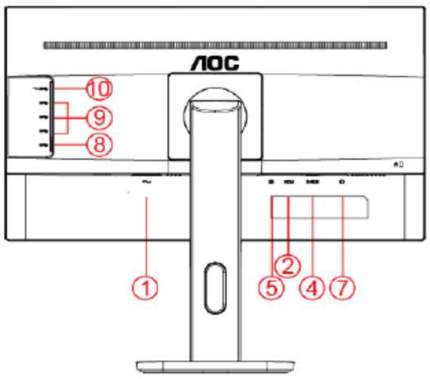
7.0 Illustrations

Illustration 2 - Installation, Operating and Safety Instructions (Continued)

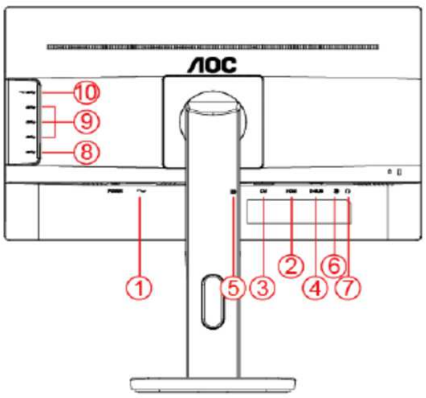
Connecting the Monitor

Cable Connections In Back of Monitor and Computer:

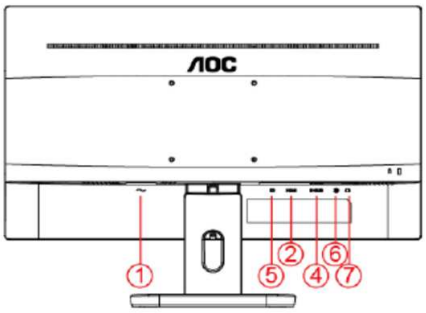
24P1U



24P1/X24P1



24E1Q



1 Power
2 HDMI
3 DVI
4 Analog (D-Sub 15-Pin VGA cable)
5 DP
6 Audio in
7 Earphone out
8 USB upstream
9 USB downstream
10 USB charging

12

7.0 Illustrations

Illustration 3 -Marking Label

8.0 Test Summary					
Evaluation Period	1/2/2020-1/2/2020			Project No.	191202948SHA
Sample Rec. Date	20-Dec-2019	Condition	Prototype	Sample ID.	0191220-97-088
Test Location	Intertek Testing Services Shanghai Limited EPA ID(1105997) Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China				
Test Procedure	Testing Lab			Test type	Qualification

Determination of the result includes consideration of measurement uncertainty from the test equipment and methods. The product was tested as indicated below with results in conformance to the relevant test criteria.

The following requirements were evaluated:

Required Submittal Information	Submittal Data
Model Name and/or Number tested	24P1U(24P1)
Date tested	01/02/2020
Serial number of Unit tested	1 sample
ENERGY_STAR_Specification_Version*	8.0
Product_Type*	Monitor
Tiled_Display_System	
Maximum_Tiled_Configuration	
Panel_Type*	Other
Other_Panel_Type	TFT LCD
Diagonal_Screen_Size_in*	23.8
Screen_Area_sq_in*	242.18
Display_Contrast_Ratio*	1000
Native_Vertical_Resolution_lines*	1920
Native_Horizontal_Resolution_lines*	1080
Total_Native_Resolution_megapixels*	2.1
Native_Pixel_Density_Dp_pixels_sq_in*	8562
As_Tested_Screen_Refresh_Rate_Hz*	60
Maximum_Screen_Refresh_Rate_Hz*	75
Enhanced_Performance_Criteria*	No
Color_Gamut	
Reported_Contrast_Ratio_at_85_deg_Left_Horiz_Viewing_Angle	
Reported_Contrast_Ratio_at_85_deg_Right_Horiz_Viewing_Angle	
High_Dynamic_Range_HDR*	N/A
Other_Available_Interfaces	
Other_Features	
Signal_Interface*	DisplayPort 1.2
Other_Interface	
USB_C_with_Power_Delivery_Supported*	No
Maximum_Power_Delivery_W	
Other_Power_Source	
Does_Model_Have_a_Forced_Menu_at_Initial_Start_up*	No
Maximum_Measured_Luminance_cd_m_2*	346
Maximum_Reported_Luminance_cd_m_2*	250
As_shipped_Luminance_cd_m_2	287
As_tested_Luminance_cd_m_2*	200
On_Mode_Power_at_12_Lux_at_115_Volts_W	
On_Mode_Power_at_300_Lux_at_115_Volts_W	
Measured_On_Mode_Power_at_115_Volts_W	13.68
Reported_On_Mode_Power_at_115_Volts_W	13.68
Maximum_On_Mode_Power_Limit_for_Signage_Certification_W	
Measured_Sleep_Mode_Power_at_115_Volts_W	0.22
Reported_Sleep_Mode_Power_at_115_Volts_W	0.22
Measured_Disconnected_Sleep_Mode_Power_at_115_Volts_W	0.22
Maximum_Sleep_Mode_Power_Limit_for_Signage_Certification_W	
Number_of_Sleep_Modes_in_Addition_to_Default_Sleep_Mode*	0
Other_Mechanism_for_Automatically_Entering_Sleep_or_Off_Mode	
Default_Delay_Time_to_Sleep_min	5
Measured_Off_Mode_Power_at_115_Volts_W	0.14
Reported_Off_Mode_Power_at_115_Volts_W	0.14
Measured_Total_Energy_Consumption_at_115_Volts_kWh	43.2

8.0 Test Summary	
Reported_Total_Energy_Consumption_at_115_Volts_kWh	43.2
Max_Total_Energy_Consumption_Limit_for_Monitor_kWh	45.73
On_Mode_Power_at_12_Lux_at_230_Volts_W	
On_Mode_Power_at_300_Lux_at_230_Volts_W	
Measured_On_Mode_Power_at_230_Volts_W	13.7
Measured_Sleep_Mode_Power_at_230_Volts_W	0.28
Measured_Disconnected_Sleep_Mode_Power_at_230_Volts_W	0.28
Measured_Off_Mode_Power_at_230_Volts_W	0.2
Measured_Total_Energy_Consumption_at_230_Volts_kWh	43.6
True_Power_Factor_PF_During_On_Mode_Testing_at_115_Volts_W	0.5
True_Power_Factor_PF_During_On_Mode_Testing_at_230_Volts_W	0.42
Color_Spaces_Supported*	sRGB
Available_Signal_or_Data_Interfaces*	Display,HDMI,VGA,USB
Model_Features*	Built-In Speakers
Features_Enabled_in_Default_On_Mode*	Built-In Speakers
Features_Enabled_in_Default_Sleep_Mode*	None
Wireless_Technologies_Supported*	None
Ethernet_Supported*	None
Power_Source*	Ac to dc internal power supply
Mechanism_for_Automatically_Entering_Sleep_or_Off_Mode*	Display Power Management Signaling
On_Mode_Power_at_12_Lux_at_100_Volts_50Hz_W	
On_Mode_Power_at_300_Lux_at_100_Volts_50Hz_W	
Measured_On_Mode_Power_at_100_Volts_50Hz_W	13.71
Measured_Sleep_Mode_Power_at_100_Volts_50Hz_W	0.21
Measured_Disconnected_Sleep_Mode_Power_at_100_Volts_50Hz_W	0.21
Measured_Off_Mode_Power_at_100_Volts_50Hz_W	0.14
Measured_Total_Energy_Consumption_at_100_Volts_50Hz_kWh	43.23
On_Mode_Power_at_12_Lux_at_100_Volts_60Hz_W	
On_Mode_Power_at_300_Lux_at_100_Volts_60Hz_W	
Measured_On_Mode_Power_at_100_Volts_60Hz_W	13.73
Measured_Sleep_Mode_Power_at_100_Volts_60Hz_W	0.21
Measured_Disconnected_Sleep_Mode_Power_at_100_Volts_60Hz_W	0.21
Measured_Off_Mode_Power_at_100_Volts_60Hz_W	0.14
Measured_Total_Energy_Consumption_at_100_Volts_60Hz_kWh	43.29

8.1 Signatures

A representative sample of the product covered by this report has been evaluated and found to comply with the applicable requirements of the standards indicated in Section 1.0.

Completed by:	Eli Shui	Reviewed by:	Carl Dong
Title:	Engineer	Title:	Engineer
Signature:		Signature:	

9.0 Correlation Page For Multiple Listings			
The following products, which are identical to those identified in this report except for model number and Company name.			
BASIC LISTEE	Top Victory Electronics (Taiwan) Co., Ltd.		
Address	10F.,No.230,Liancheng Rd. Zhonghe City. Taipei Country 23553		
Country	Taiwan	EPA ID	1065104
Product	Display (LCD Monitor)		
Contact	David.Cheng		
Phone	+886-2-82261668-2375		
FAX	+886-2-82261668-2375		
Email	David.cheng@tpv-tech.com		

MULTIPLE LISTEE 1	None			
Address				
Country		EPA ID		
Contact				
Phone				
FAX				
Email				
Brand Name				
Date Available		Market Availability		OEM
Major Markets				
Trans Type				
Notes				
ASSOCIATED MANUFACTURER				
Address				
Country				

MULTIPLE LISTEE 1 MODELS		BASIC LISTEE MODELS
Additional Model Details (Optional)	Model Name and Number	Identifying Information

MULTIPLE LISTEE 2	None			
Address				
Country		EPA ID		
Contact				
Phone				
FAX				
Email				
Brand Name				
Date Available		Market Availability		OEM
Major Markets				
Trans Type				
Notes				
ASSOCIATED MANUFACTURER				
Address				
Country				

MULTIPLE LISTEE 2 MODELS		BASIC LISTEE MODELS
Additional Model Details (Optional)	Model Name and Number	Identifying Information

10.0 General Information

The Applicant has agreed to produce products in accordance with the requirements of this report and to maintain compliance with all ENERGY STAR Product Specification requirements.

Changes to Product Design / Alternate Components

As part of this agreement, the Applicant also has agreed to notify Intertek and to request authorization prior to making any changes to the product (including but not limited to using alternate parts, components or materials) which may effect compliance with the ENERGY STAR Product Specification. Those parts, components or materials identified as critical have been listed in Section 4.0 of this report.

Product Surveillance

Under this Program, market surveillance is conducted on an annual basis. For each Product Type defined in the EPA ENERGY STAR Program, Intertek will select 10% of those certified products for Verification Testing in accordance with the requirements of the EPA ENERGY STAR Product Specification.

The primary source for products under Verification Testing will be the retail market. Applicants whose products are selected for Verification Testing are required to provide a list of locations where the product might be obtained. The Applicant is responsible for the cost of procurement and the Verification Tests. Should products not be readily available on the retail market, the Applicant is required to provide access to distribution warehouses to allow selection of those products. Should the product not be available on the retail market or if procurement from the retail market is not feasible, then alternate arrangements for Verification Testing will be made by the Intertek Certification Body.

As a general rule under the Verification Testing requirements, the products must achieve energy values within 5% of the required Tier Limit.

Compliance with ENERGY STAR Product Specifications under Verification Testing

Products found non-compliant with ENERGY STAR Product Specification under Verification Testing, will be reported to the EPA within 48 hours and the product removed from the ENERGY STAR Program. If it is determined during Verification Testing that changes have been made to product design or critical components, the Certification Body may increase Verification Testing frequency of those products.

10.1 Evaluation of Unlisted Components

Because Unlisted Components are uncontrolled, and they do not fall under a third party follow up program, Intertek may require these components to be tested and/or evaluated at least once annually, more often for certain components, as part of the independent certification process. The Unlisted Components in Section 5.0 require testing and/or evaluation as indicated.

Note to Intertek Follow Up Inspector: The Component Evaluation Center, CEC, will notify you in writing when these components must be selected and sent to the CEC for re-evaluation

Ship the samples to:
Intertek Testing Services Shanghai Limited
ETL Component Evaluation Center
Building No. 86, 1198 Qinzhou Road (North)
Shanghai 200233, China
Attn: Ms. Angela Han
Sample Disposition: Due to the destructive nature of the testing, all samples will be discarded at the conclusion of testing unless, the manufacturer specifically requests the return of the samples. The request for return must accompany the initial component shipment.

11.0 Manufacturing and Production Tests

Manufacturing and Production tests are not required under the INTERTEK ENERGY STAR Program. However, Intertek encourages the use of such ongoing product testing to ensure compliance with the EPA ENERGY STAR Product Specifications.

12.0 Revision Summary				
The following changes are in compliance with the declaration of Section 8.1:				
Date/ Proj # Site ID	Project Handler/ Reviewer	Section	Item	Description of Change
				None