

APPLICATION		REVISIONS			APPROVALS	
NEXT ASSY	PROJECT NO.	ECN NO.	REV	DESCRIPTION	DATE	APPROVED
		---	1.13	SPECIFICATION RELEASE	5/6/2015	
			1.14	UPDATE SPECIFICATION	6/30/2015	
			1.15	UPDATE SPECIFICATION	7/20/2015	
			1.16	UPDATE SPECIFICATION	8/19/2015	
			1.17	UPDATE SPECIFICATION	9/4/2015	


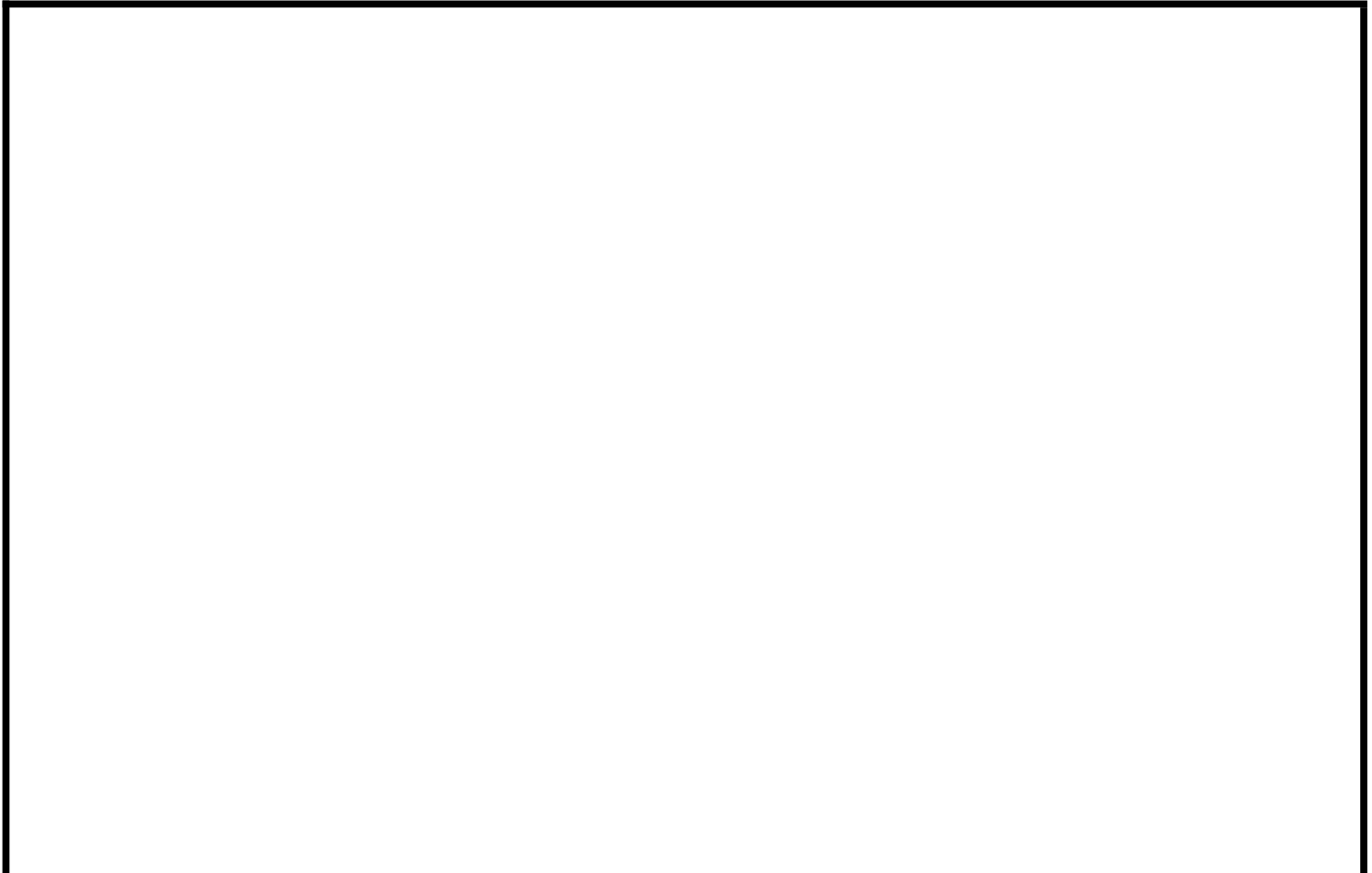
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	CHECKED					
	DSGN ENGR	NAM NGUYEN	2/12/15			
	ENG					
	MFG					
	PROCUREMENT					
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES [MILLIMETERS]. TOLERANCES ARE:	QA			SIZE A	DRAWING NO.	REV 1.17
FRACTIONS DECIMALS ANGLES	LEGAL					
± 1/32 XX ± .02 ±1° [0.5] .XXX ± .010 [0.25]	AGENCY					
DO NOT SCALE DRAWING			SUPPLEMENTS: EF,PDF		SHEET 1 OF 15	

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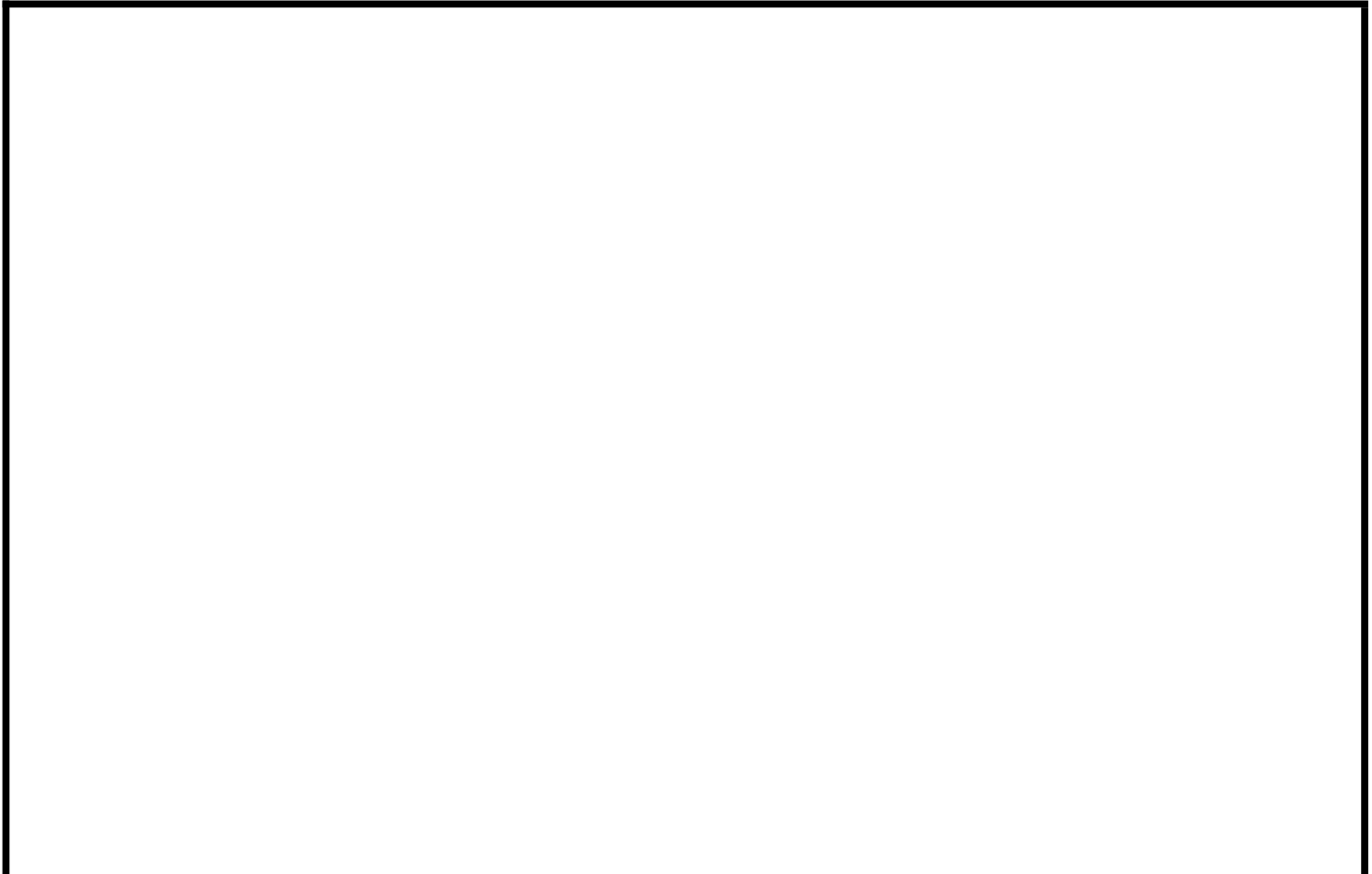
APPENDIX A 13

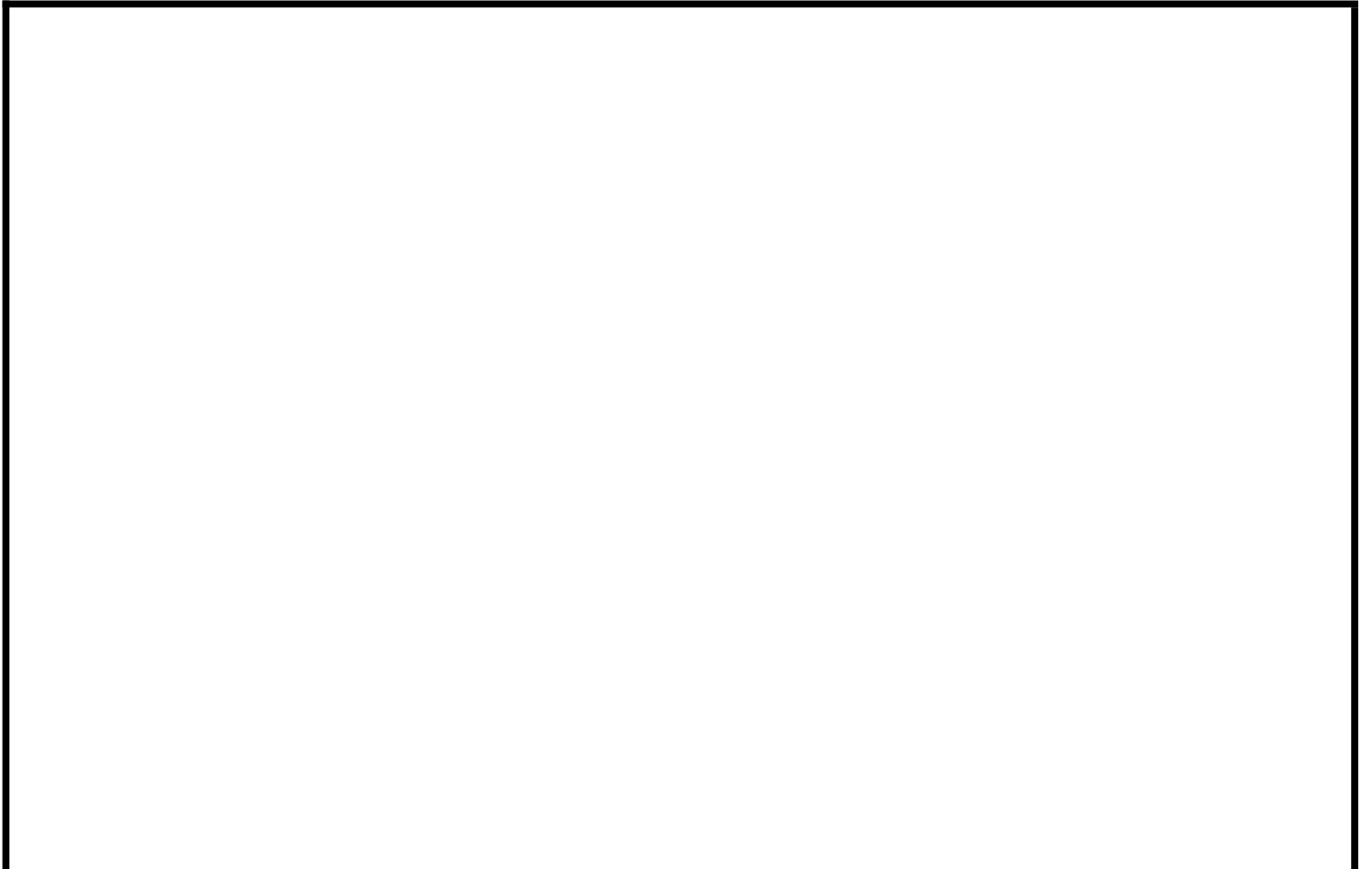


REVISION HISTORY

Revision	Date	Author	Description
1.10	2/13/15	Nam Nguyen	<ul style="list-style-type: none">• Official release
1.11	4/9/15	Nam Nguyen	<ul style="list-style-type: none">• Dimension change 167.2mm x 90.2mm
1.12	4/16/15	Nam Nguyen	<ul style="list-style-type: none">• Add support for AiO Stand base.• Add different support for DC plug for Standalone and AiO stand base.

1.13	5/5/2015	Nam Nguyen	<ul style="list-style-type: none"> • Add new part number for power adaptor with 1.5M cable • Update GP file • Update material, color for top and bottom cover.
1.14	6/22/2015	Nam Nguyen	<ul style="list-style-type: none"> • Delete Switch • Delete Audible • Change LED from Bi-Color to Single Color • Update LED behavior table • Update GP file (BOLT_GB_DB_15-0618) • Update color and material
1.15	7/20/2015	Nam Nguyen	<ul style="list-style-type: none"> • Add update FW function via Micro USB • LED brightness luminance = 100 nits • Ambient operation temp: 35 deg C and 10 degree C delta temperature for module (45 degree C Max) • ESD 8KV contact and 15 KV Air
1.16	8/19/2015	Nam Nguyen	<ul style="list-style-type: none"> • Update LED table behavior • Update Pulsing and Flashing duty cycle. • Update Tick mark on the Bolt design
1.17	9/4/2015	Nam Nguyen	<ul style="list-style-type: none"> • Update ID GP file • Update Top and Bottom cover material and color





1. **SCOPE**

This specification defines the requirements for a tri-mode (Qi, PMA, A4WP class 2) wireless charging module for charging a single phone or phablet of up to 6 inch diagonal screen length. The OEM need to provide the complete wireless charging solution and required certifications. This module will be standalone module or integrated to AiO stand base. The standalone module will have cover around the electronic, coil, and shielding. For AiO stand base, only the electronic, coil, and shield.

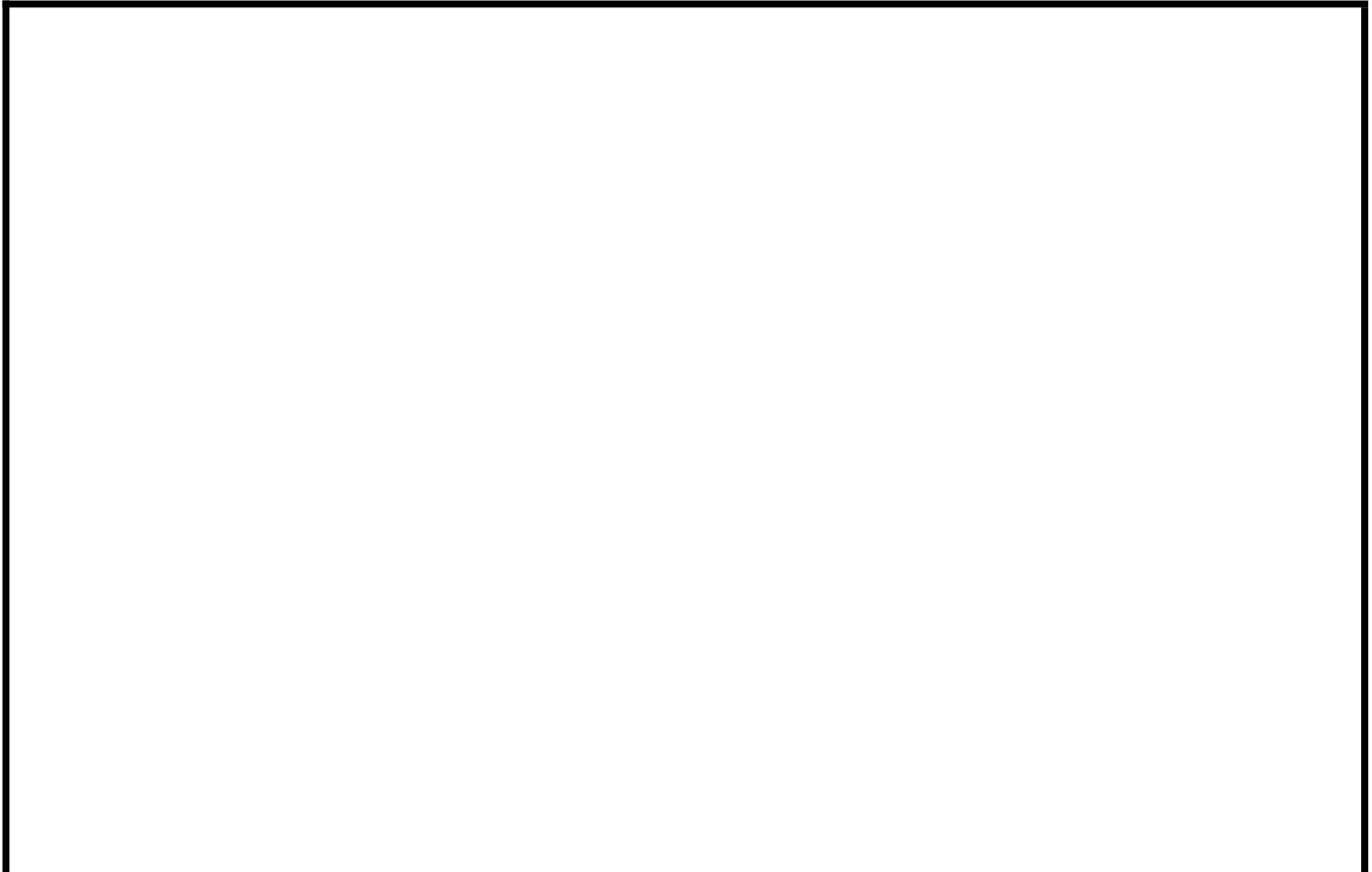
2. **ORDER OF PRECEDENCE**

In the event of a conflict between this specification and references cited herein, the order of precedence shall be this specification, then any reference documents, and finally any appendices.

3. **DESIGN FOR ENVIRONMENTAL REQUIREMENTS (GENERAL PRODUCT REQUIREMENTS)**

This section defines requirements that are applicable to all products and product components. Individual components specifications may amend or append requirements to this base set as part of their component-specific requirements, but otherwise these requirements are applicable in all cases.

Specifications referenced within this section form a part of this specification to the extent specified herein. Unless otherwise indicated, the document is of the issue in effect on the date of invitation to bid or request for proposal.



3.1.1 Environmental Design Requirements

- 3.1.1.1 The following embedded document contains environmental requirements that the product must incorporate into its design to meet both regulated and HP-voluntary initiatives. Any deviation from these requirements will cause this product to not be in compliance with the standards that HP enforces to maintain its responsibility to the environment.



Environmental
System Specification

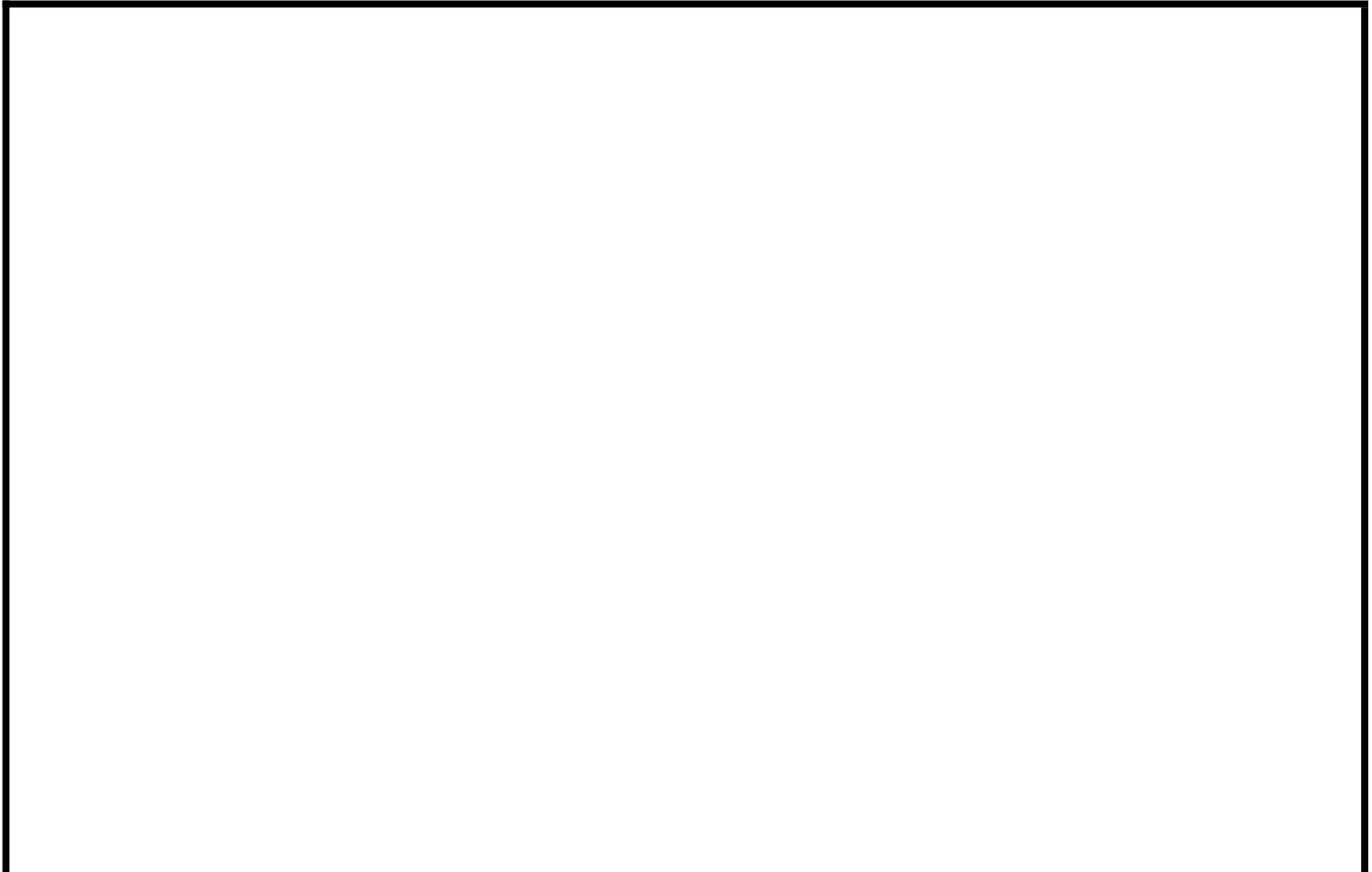
3.1.2 Accessibility

3.1.2.1 SECTION 508 ACCESSIBILITY - US

- The system must comply with the section 508 Accessibility - US requirements. Please reference: <http://www.section508.gov/index.cfm?FuseAction=content&ID=12>

3.1.2.2 CVAA

- The system (modules) must comply with the Twenty-First Century Communications and Video Accessibility Act (CVAA) via completion of the HP CVAA worksheet available from the Accessibility & Aging Program Office at ability@hp.com for each module that includes accessibility considerations. (ie. keyboards, VOIP software, electronic messaging, video conferencing (ACS))

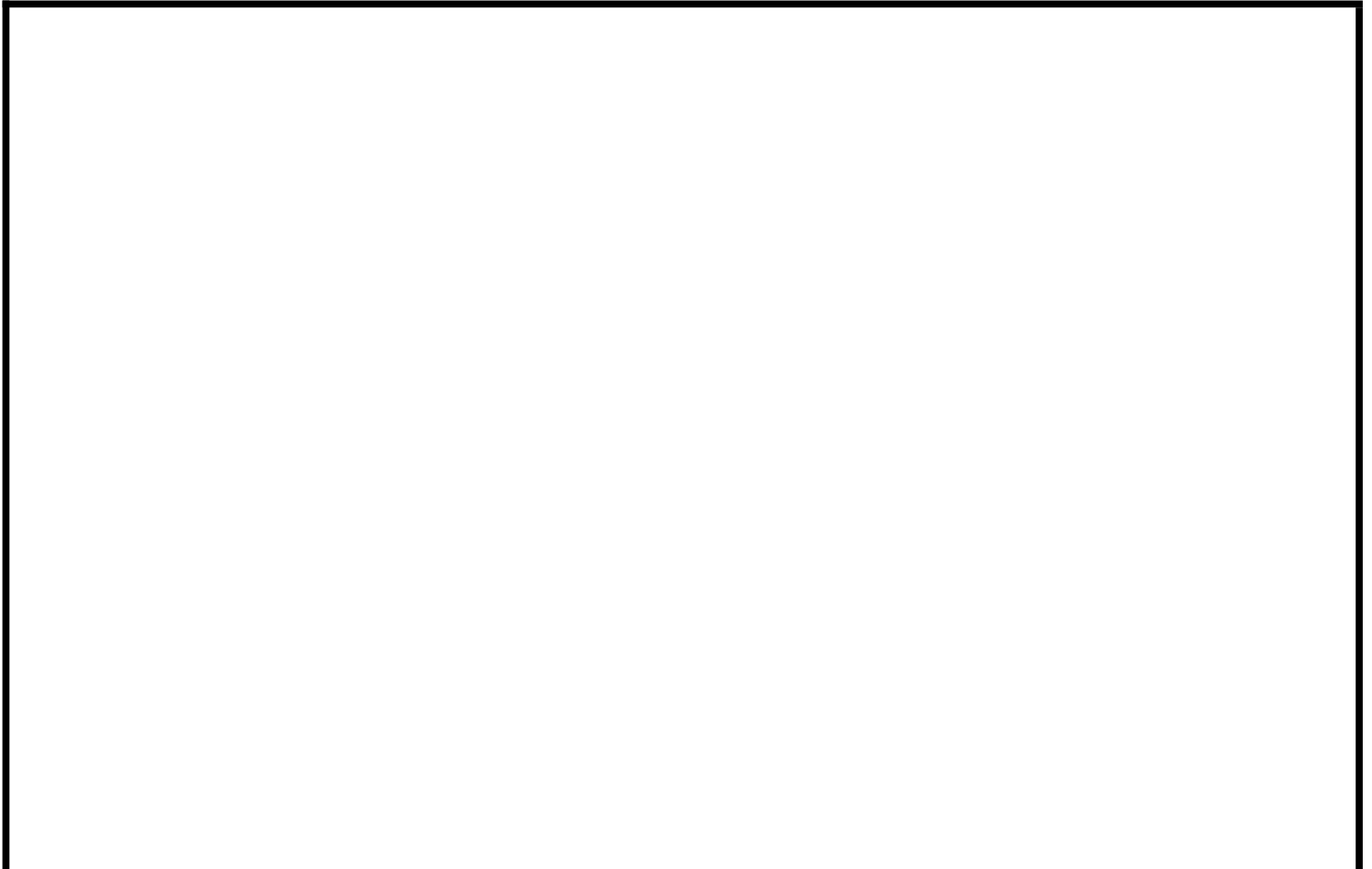


4. GENERAL EXPECTATIONS

- a) All documents shall be provided in electronic form in industry standard formats such as Adobe Acrobat PDF, Microsoft Excel, etc. unless otherwise indicated. Adobe Acrobat documents should be searchable and generated from an electronic document—not from a document which was scanned.
- b) Any performance related discussions shall be between HP/wireless charge suppliers only.
- c) Measurement/simulation data shall be provided to HP only.
- d) Mechanical related information (e.g. 3D drawing, cable/connector definition/type, etc) shall be provided by ODM.
- e) ODM supplier's SOP documentations shall be available upon request.
- f) Schedule/sample quantity shall be provided by ODM.
- g) Additional expectations are described in the HPPA documents.

5. HP PART NUMBER

HP's 6-3 part number for webcam = TBD.



6. WIRELESS CHARGE DESIGN REQUIREMENTS

HP reserves the right to modify the design requirements with advance notice.

6.1 WIRELESS DESIGN

- Technology: Tri Mode (Qi, PMA, and A4WP Class 2)
- Power: Qi & PMA 5W delivered to receiving device;
A4WP Class 2 10W delivered to receiving device.
- X-Y Dimension: 167.2mm x 90.2mm (of charging surface and electronic)
- Thickness: As thin as possible.
- Cable routing for standalone: Cable recess plug under the body of the module
- Cable routing for AiO stand: Cable will plug to the DC plug at the side of the AiO stand base.
- Firmware update: To maintain the up to date interoperability of the wireless device
Unit need to be able to update FW via Micro USB port.
- LED Status: Need to provide LED to show status. Bi-Color (White and Amber)
- Input Power: 12V
- Header for LED: 2 or 3 pin header for single color (White)
- DC Plug: DC Plug down for (Standalone Module)
DC plug with extension cable to the edge of the AiO base.
- Operation temperature: 35 degree C ambient and 10 degree C delta temperature for the
module means 45 degree C max.
- ESD: 8 kV contact and 15 kV Air.

- Certification: ODM need to obtain all applicable regulatory certifications for A4WP and PAM standards body certifications
- Location of Certification Logo: TBD
- Icon/Logo: Top icon location for centering the device (Final icon TBD)

6.1.1 Power Adaptor

See spec 794797-A

-WAE009-022G2 => 1.5 mm DC cable

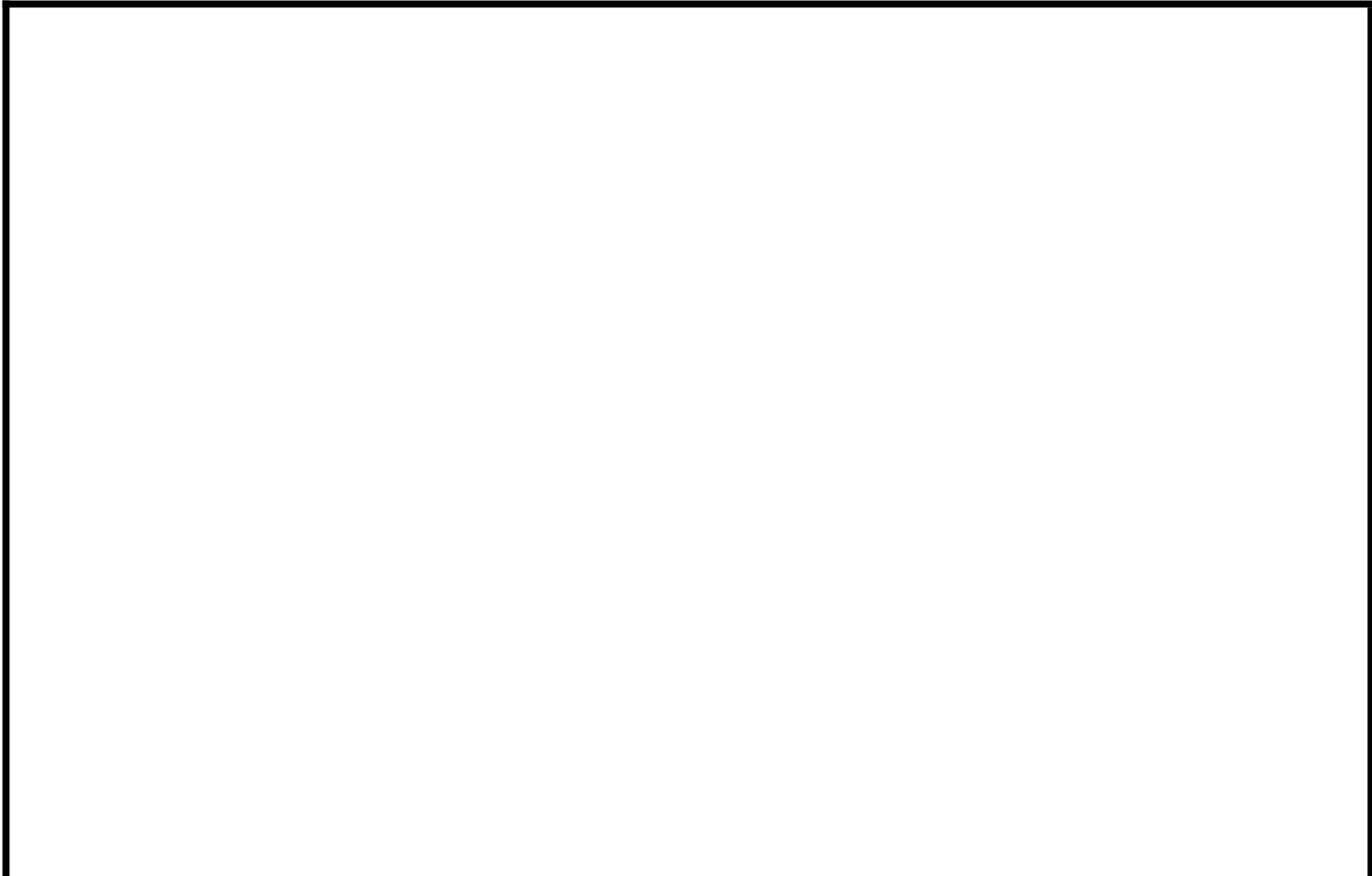
6.1.2 LED Behavior (preliminary)

- LED luminance: 100 nits.
- Flashing: 50% duty cycle
- Pulsing: 10% duty cycle at 1Hz

LED Status	LED
Unplugged/Off	Off
On/Ready (=Charge complete)	Solid White
Charging	Solid Amber
Error condition	Flash Amber
FW Update in process	Pulsing White

6.1.3 Mechanical

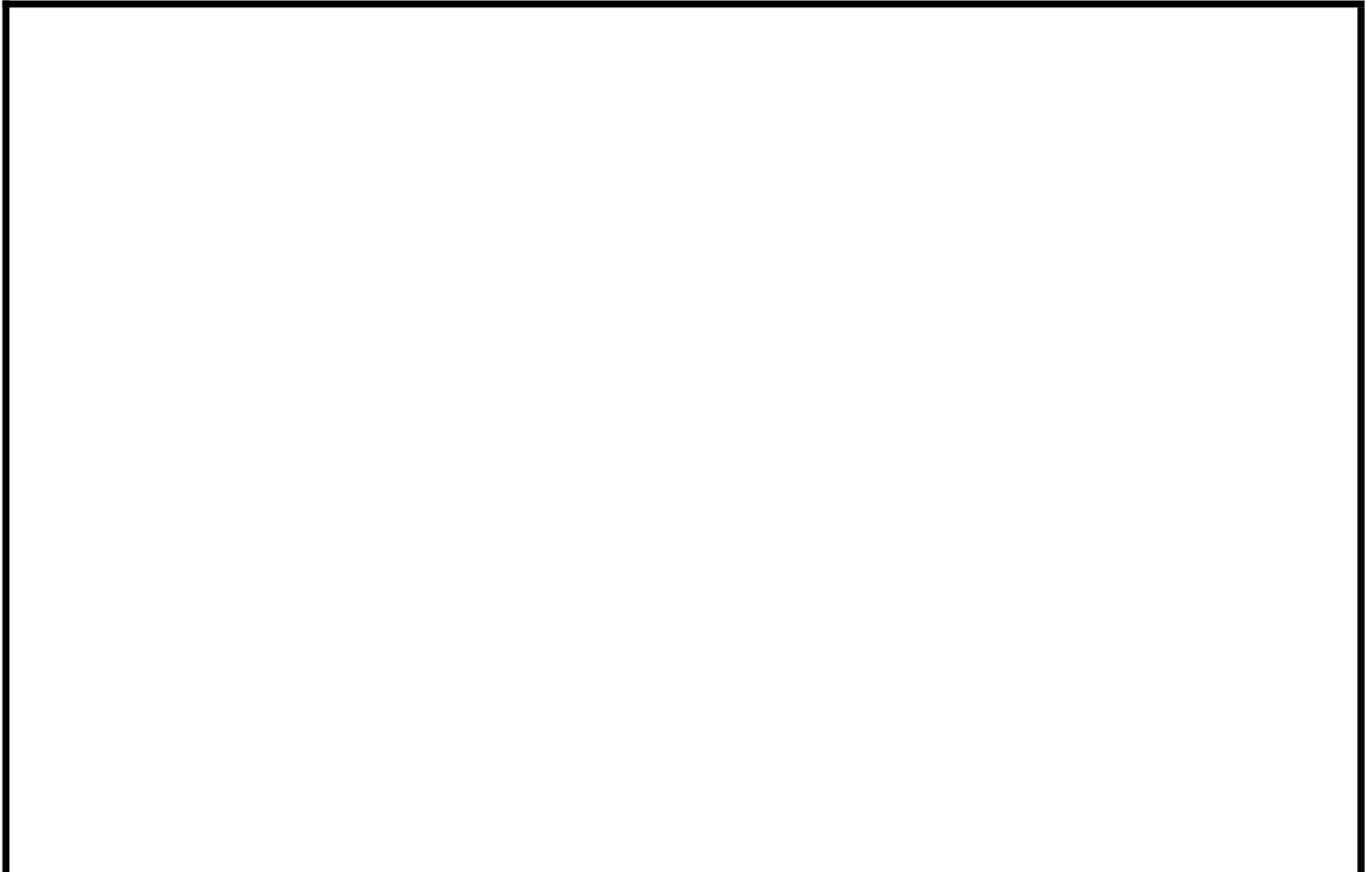
- Top Cover:
 - Material = Plastic – PC/ABS + 15% talc
 - Plastic Color = Jack Black
 - Finish = MT11000
 - Surface = Paint
 - Paint Base Coat = Sparkling Black UV
 - Paint Top Coat = Soft touch clear UV
- Bottom

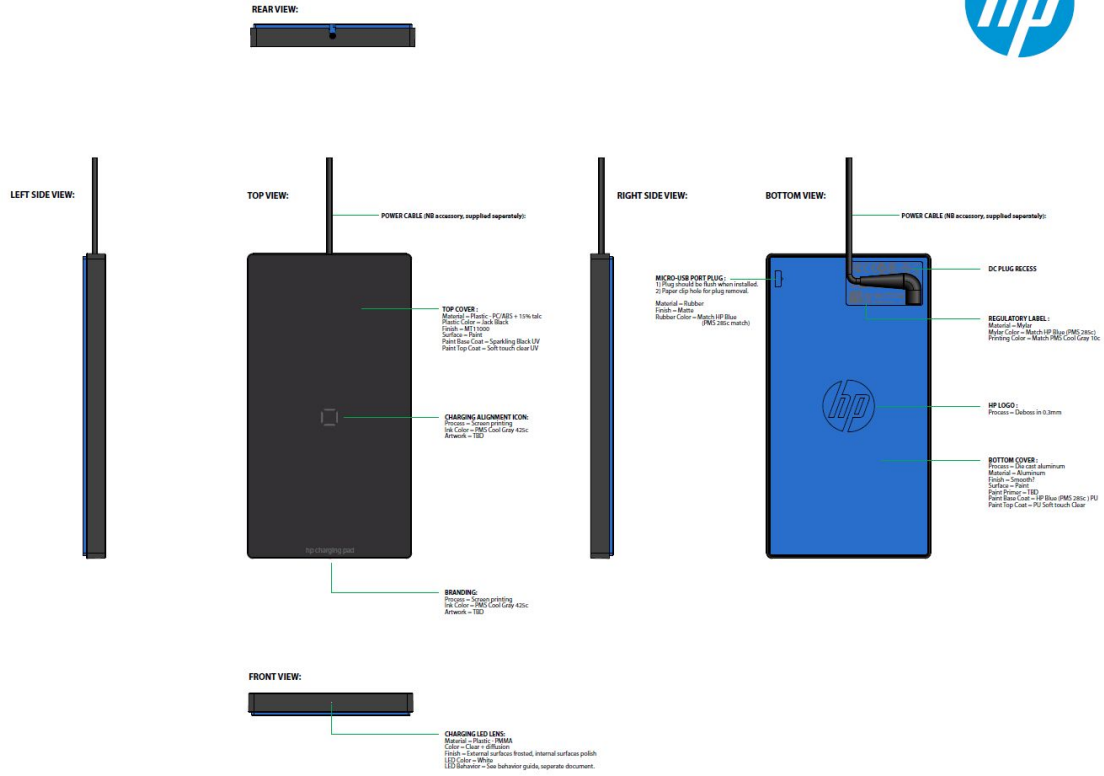


- Rubber feet
 - Process = Die cast aluminum
 - Material = Aluminum
 - Finish = Smooth
 - Surface = Paint
 - Paint Primer = TBD
 - Paint Base Coat = HP Blue (PM285c) PU
 - Paint Top Coat = PU Soft touch Clear

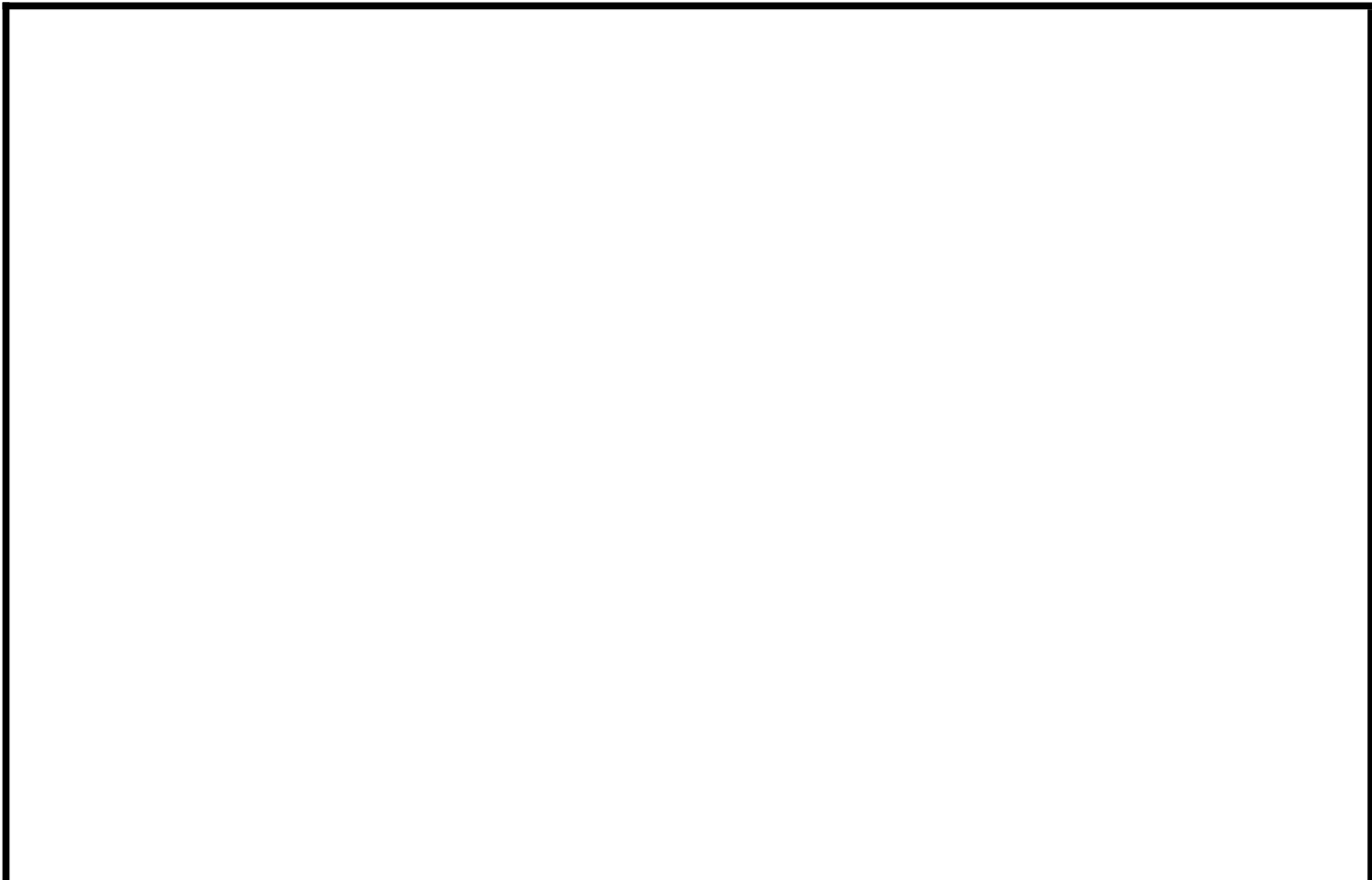
6.1.4 GP (Graphic Plan) File

BOLT_GP_SI_15-0827





7. QUALITY ASSURANCE PROVISIONS



Unless otherwise specified in the contract or purchase order, the supplier shall be responsible for the quality of the part as it is delivered to HP. The supplier shall be responsible for having controlled processes to ensure product is in total compliance with this specification. Failing lots shall be subject to return or other supplier-corrective action.

In addition to visual inspections, the following minimal tests shall be performed on every finished goods (100%) before shipping to HP/ODM sites/factories.

8. CHANGE NOTICE

During development or after tooling release, any design or process changes initiated by ODM supplier shall be communicated to HP through email and approved by HP prior to implementation. The supplier must provide adequate samples and reports to allow HP to verify the change.

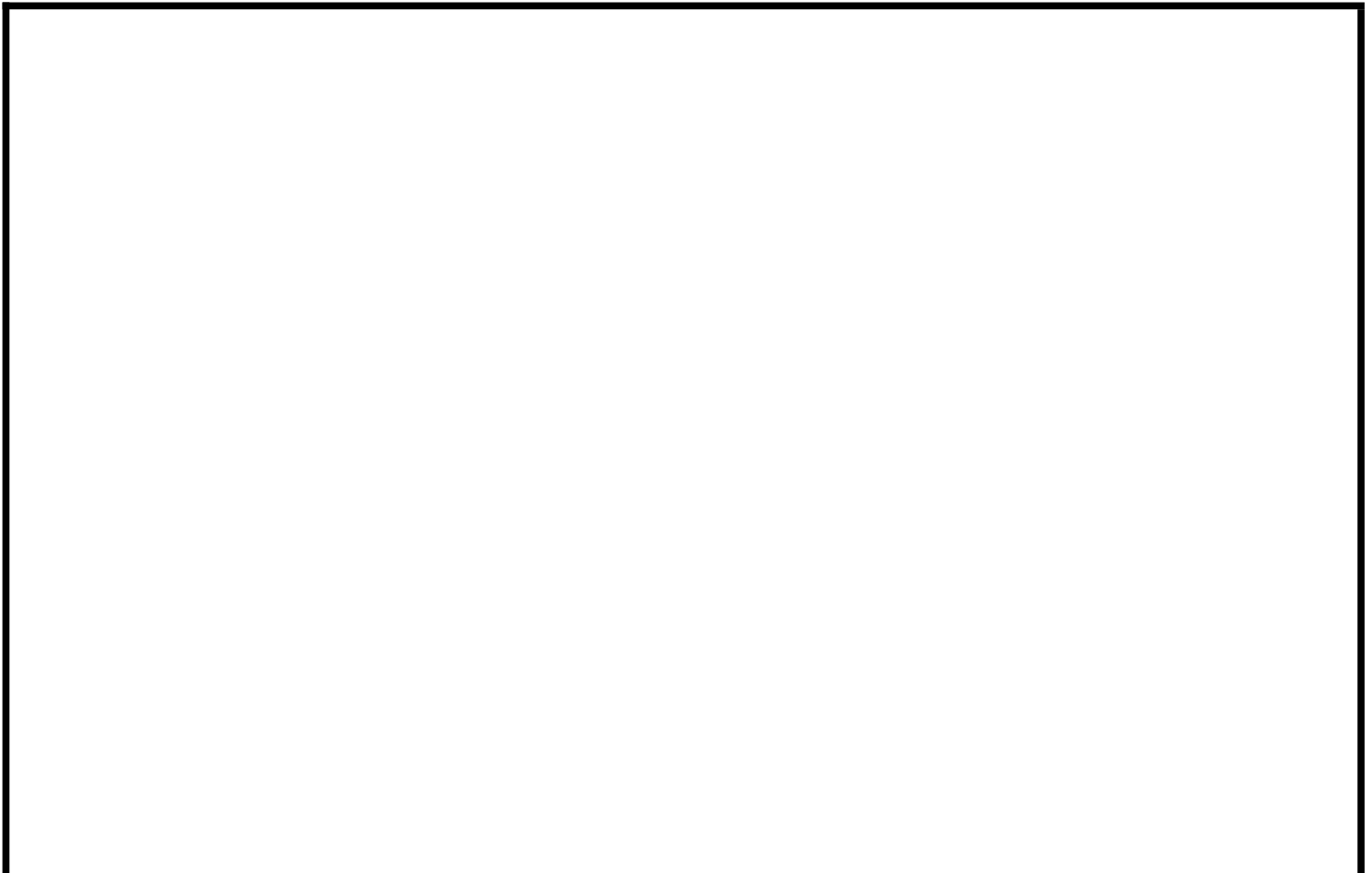
9. PACKAGING/SHIPPING

Packaging shall sufficient to protect against damage or loss during shipment from the supplier to destination specified in the purchase order. Packaging, identification, and palletization shall be in accordance with HP Document 109893 (Appendix A).

It shall be clearly marked with Supplier part number, HP part number, and a Revision number.

APPENDIX A

HP SUPPLIER PACKAGING/MATERIAL HANDLING SPECIFICATION





109893_AC_001.pdf

NOTE: The USB port is just only for engineering purposes in the factory and cannot not be used by the end-user.

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body.

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help
- This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.

