

MediaTek® Pump Express™ / Pump Express™ Plus

UL Webinar, May 6th, 2015

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Today's Speaker & Facilitator

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Notes for Attendees

- 為使研討會順利進行，所有參加者是靜音狀態，即只能聽到講者及主持人聲音，但不能發聲。
- 參加者可利用右下角的聊天對話盒隨時提出問題。
- 我們將盡力在答問環節回答所有問題。
- 當離開研討會，系統會自動彈出一份簡短問卷調查，歡迎對有關研討會作出意見或留下跟進問題。
- 研討會完結後，我們會分享今天的內容及錄音以便閣下重溫。
- 感謝您的出席，現在研討會正式開始。





Source: <http://www.gov.taipei>

Source: <http://chinese.engadget.com>



Charging Services in Taipei MRT

- Nice to have your own fast charging adaptor to **cut charging time!**

Agenda



Pump Express / Pump Express Plus Program **Testing and Certification Program** **Regulations**

Pump Express / Pump Express Plus Program



The Pump Express / Pump Express Plus Program is managed by MediaTek, MTK.

- It is based on an exclusive technology developed by MediaTek
- **MTK TA Interface Release**
 - TA: Travel Adaptor
 - Pump Express: Decrease output voltages that are lower than 5 V
 - Pump Express Plus: Increase output voltages that are higher than 5 V
- MediaTek controls usage of the Pump Express / Pump Express Plus Brand, Logotype and Icon

Technical Landscape



Next generation charging technology – Fast charging technology

- Pump Express
 - Charging battery to 100%: Charge time reduced by 40%

- Pump Express Plus
 - Charging battery to 100%: Charge time reduced by 60%
 - Charging 2A at 12V = 24W
 - Charging more than 24W when outputting greater charging current

Logotypes



- Logotypes
 - MediaTek Gold Icon with Grey Wordmark
 - Black Icon and Wordmark

- Pump Express Logotype
 - 5 / 4.8 / 4.6 / 4.4 / 4.2 / 4.0 / 3.8 / 3.6 V



- Pump Express Plus Logotype
 - 5 / 7 / 9 / 12 V



- Place on
 - Product
 - Print media, online display media, video and broadcast media

Icons

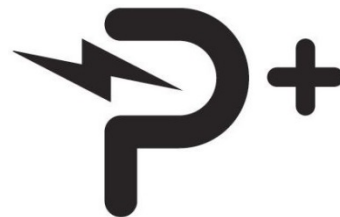


- Icons
 - Black
 - Could be used when the available space doesn't allow for a wide exposure

- Pump Express Icon



- Pump Express Plus Icon



- Refer to **Brand Guidelines**

Agenda



Pump Express / Pump Express Plus Program
Testing and Certification Program
Regulations

Role of UL



Underwriters Laboratories (UL) is the sole Test Lab and Certification Body for the MediaTek Pump Express / Pump Express Plus Program.

- We are pleased that MediaTek has stated that UL is the ideal partner and given everyone in the ecosystem the confidence that their devices have been properly tested and certified by UL.



Testing and Certification Program



The Pump Express Plus fast charging protocol enables communication between the smart phone and the adapter.

- The fast charging protocol is that the smart phone sends commands to the controller within the adapter to increase the output voltage of the adapter above the default output, 5V, for optimizing charging time.
- Path to ensure good user experience
 - Plug and Play ease of use
 - Don't cause problems with traditional devices

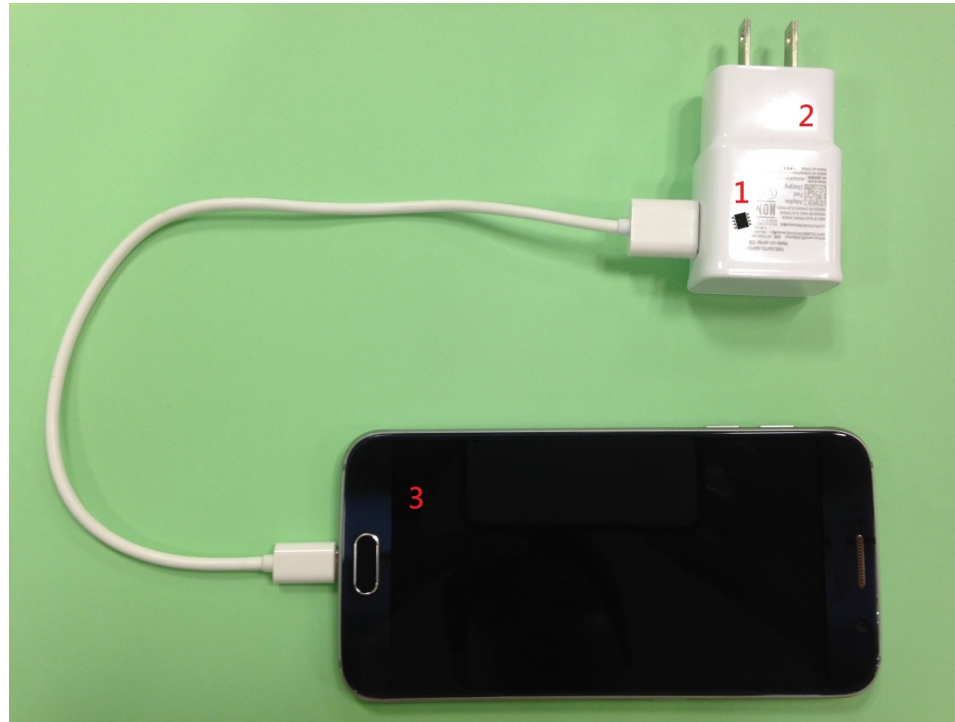
Testing and Certification Program



The Testing and Certification Program applies to Pump Express / Pump Express Plus enabled devices that supply the power.

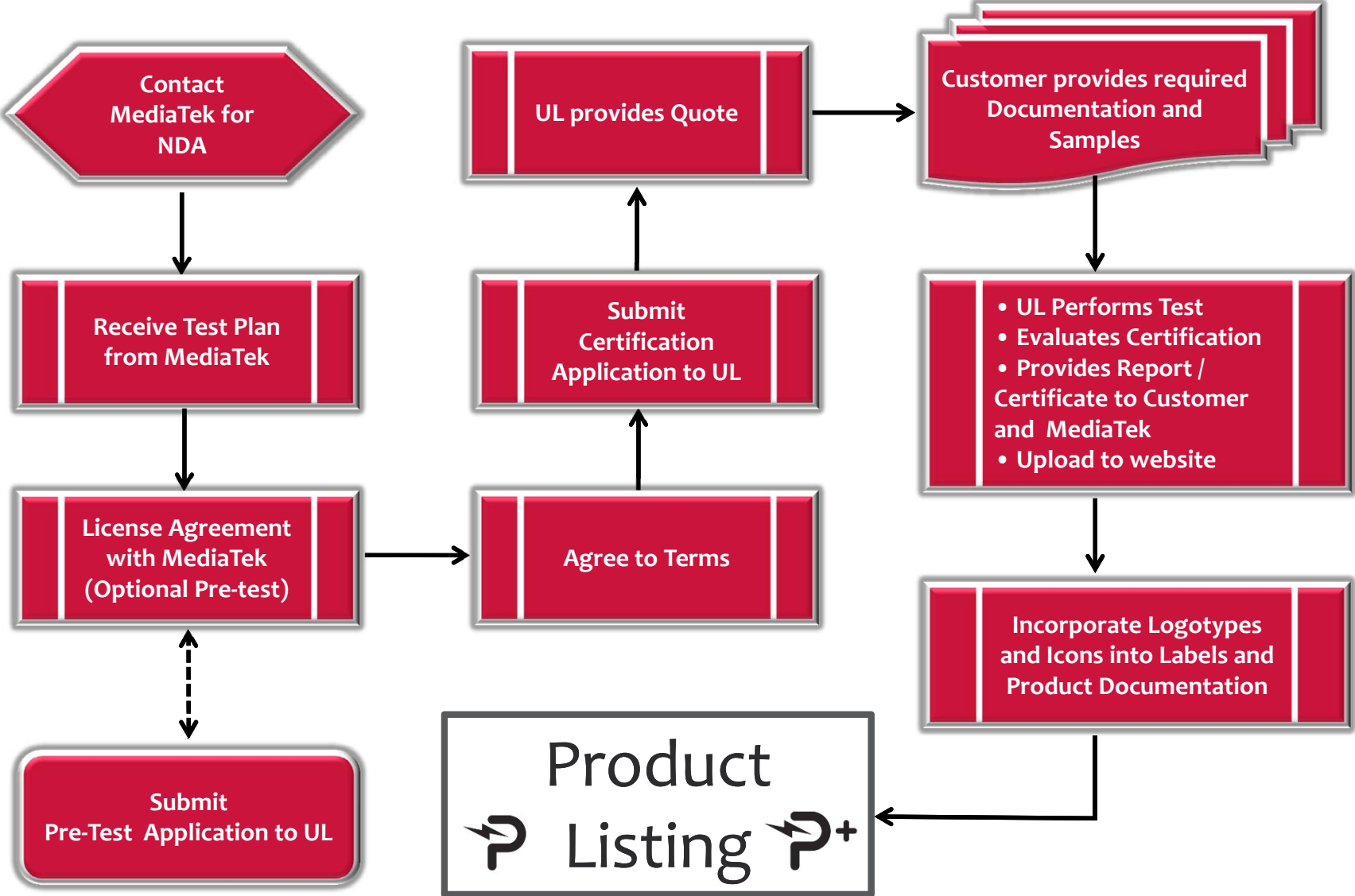
- Typically AC wall chargers and 12 VDC car chargers
- Could be power banks and notebook computers
- Testing and Certification services available in
 - Taipei, Taiwan
 - Additional sites as market demands

Testing and Certification Program



- Power Output
 - 1 >>> Chipset (Controller) within Charger: **Strongly Recommended**
 - 2 >>> Charger: **Required**
- Power Input
 - 3 >>> Chipset within Smart Phone or Smart Phone: Controlled by MediaTek

Submission and Certification Process



Submission and Certification Process



- Contact MediaTek
 - Non-Disclosure Agreement
 - License Agreement
 - Brand Guidelines
- Early enough to meet your product launch date
 - Consider lead times for configuring Logotypes and Icons
- Provide two samples for testing
 - One is intact and the other one is unenclosed

Submission and Certification Process



- Documentation for Chipsets, Reference Designs and Modules
 - Datasheet or similar
 - Webpage link of Chipsets, Reference Designs and Modules
 - For Reference Designs and Modules: Identify the IC chip that works with fast charging protocol

- Documentation for End Products
 - Datasheet or similar
 - Webpage link of End Products
 - Identify the IC chip that works with fast charging protocol
 - BoM (Bill of Materials)
 - Circuit
 - PCB layout
 - Label
 - Drawing of dimension and location of Logotypes/Icons

Submission and Certification Process



Pump Express Tests

- Voltage Communication Protocol (Delta Voltage)
- Voltage Communication Protocol
- Watchdog Timer of Current Plug-out Detection
- Output Short

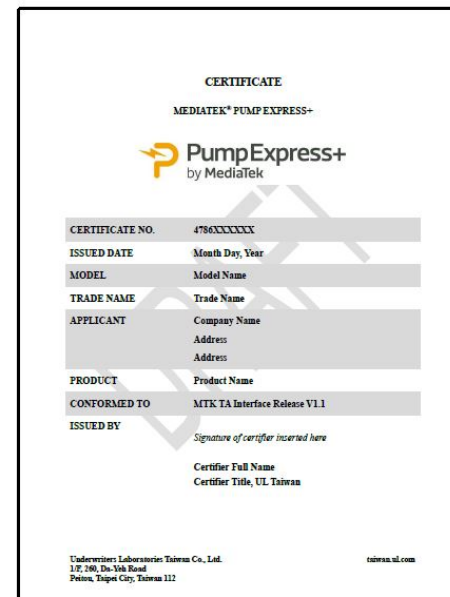
Pump Express Plus Tests

- Voltage Communication Protocol
- Output Voltage Switch Settle Time
- Watchdog Timer of Current Plug-out Detection
- Current Plug-out Discharge Time
- Output Short
- Voltage Communication Protocol Negative

Submission and Certification Process



- Websites
 - MediaTek has a link to the UL web page
<http://www.mediatek.com/en/features/power-management/pump-express/>
 - UL has a link to the MTK web page. Will maintain the list of approved products
<http://industries.ul.com/blog/mtk-peplus>



After Certification, On the Market



Maintaining the Pump Express / Pump Express Plus Certification

- No Factory Inspections
- No Expiration Date
 - As long as you continue to meet the technical requirements, License Agreement and Brand Guidelines
 - As long as you don't modify the product design

Agenda



Pump Express / Pump Express Plus Program
Testing and Certification Program
Regulations

Regulations



Devices that incorporate the Pump Express / Pump Express Plus technology are subject to other requirements

- Global
 - Product Safety
 - EMC

- Country-specific / Region-specific
 - Energy Efficiency
 - Environmental

Regulations



In addition to Pump Express / Pump Express Plus Testing and Certification

- UL can also provide Product Safety, EMC, Energy Efficiency, Responsible Sourcing, Environmental and other related testing and certification services
- Of course, all these services can be bundled
 - Make one-stop shopping as easy as possible

Q & A



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THANK YOU.

