**U.S. Patent Application Publication (a.k.a., Pre-Grant Publication or PGPub)**

**Cooperative Patent Classification Master Classification File (PGPub-CPC-MCF)**

# Last Updated August 2018

The U.S. PGPub-CPC-MCF contains CPC classification information for all Utility patent applications published by the U.S. Patent and Trademark Office (USPTO). It is updated monthly and available for free download from USPTO website <https://bulkdata.uspto.gov/data/patent/classification/cpc/>

It can also be searched at no charge on the USPTO website: <http://www.uspto.gov/web/patents/classification/>

More information about available USPTO electronic information products (EIP): <http://www.uspto.gov/learning-and-resources/electronic-bulk-data-products>

Each month there is one folder of XML data and one folder of text data created with the cut-off date of the last day of the month in the folder name. The contents in XML format and text format are the same other than the XML tagging.

**US\_PGPub\_CPC\_MCF\_XML\_yyyy-mm-dd.zip (currently includes 1 folder of over 100 xml files)**

**US\_PGPub\_CPC\_MCF\_Text\_yyyy-mm-dd.zip (currently includes 1 folder of over 100 text files)**

# There are currently over 100 xml files. The number of files will grow as more U.S. Patent Applications (just non-provisional Utilities) are published. Each file contains no more than 50,000 patent application publication records. Patent application publications started March 15, 2001.

 US\_PGPub\_CPC\_MCF\_20010000001.xml contains publication numbers between 1 and 49999 in 2001.

 US\_PGPub\_CPC\_MCF\_20010050000.xml contains publication numbers between 50000 and 99999 in 2001.

 US\_PGPub\_CPC\_MCF\_20020000001.xml contains publication numbers between 1 and 49999 in 2002.

.

.

.

US\_PGPub\_CPC\_MCF\_20180000001.xml contains publication numbers range between 1 and 49999 in 2018.

US\_PGPub\_CPC\_MCF\_20180050000.xml contains publication numbers range between 50000 and 99999 in 2018.

US\_PGPub\_CPC\_MCF\_20180100000.xml contains publication numbers range between 100000 and 149999 in 2018.

The records in each file are sorted first by patent application publication number ascending and kind code. For the same patent application publication number and kind code, the records are sorted by symbol position (F - First or L - Later); Among Later records, they were sorted by classification symbol and combination sets. The Later records not in combination set are sorted by classification value (I - Invention or A - Additional), then by classification symbol order ascending. In a combination set, the records are sorted by group number and rank number.

## XML Schema and Data Sample

The schema files .xsd are included in **US\_PGPub\_CPC\_MCF\_XML\_yyyy-mm-dd.zip**

|  |  |
| --- | --- |
|  | Main schema for CPC MCF |
|  | Common namespace components from WIPO ST.96 |
|  | Patent namespace components from WIPO ST.96 |

The root element of the XML schema for PGPub\_XML is uspat:CPCMasterClassificationFile with multiple uspat:CPCMasterClassificationRecord. Each record is for one PGPub number with one kind code. In the root element, two attributes @publicationStartNumber and @publicationEndNumber were populated with the actual start and end PGPub number in the file.

Here is an example of CPCMasterClassificationRecord of PGPub number 20150100086.

NOTE: Due to ongoing reclassification projects, the CPC symbols in the examples may not reflect the current CPC data.

<uspat:CPCMasterClassificationRecord>

 <pat:ApplicationIdentification>

 <com:IPOfficeCode>US</com:IPOfficeCode>

 <com:ApplicationNumber>

 <com:ApplicationNumberText>14394804</com:ApplicationNumberText>

 </com:ApplicationNumber>

 </pat:ApplicationIdentification>

 <pat:PatentPublicationIdentification>

 <com:IPOfficeCode>US</com:IPOfficeCode>

 <pat:PublicationNumber>20150100086</pat:PublicationNumber>

 <com:PatentDocumentKindCode>A1</com:PatentDocumentKindCode>

 <com:PublicationDate>2015-04-09</com:PublicationDate>

 </pat:PatentPublicationIdentification>

 <pat:CPCClassificationBag>

 <pat:MainCPC>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>17</pat:MainGroup>

 <pat:Subgroup>105</pat:Subgroup>

 <com:SymbolPositionCode>F</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:MainCPC>

 <pat:FurtherCPC>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>B</pat:Subclass>

 <pat:MainGroup>17</pat:MainGroup>

 <pat:Subgroup>06166</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>27</pat:MainGroup>

 <pat:Subgroup>18</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>27</pat:MainGroup>

 <pat:Subgroup>505</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>27</pat:MainGroup>

 <pat:Subgroup>58</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>31</pat:MainGroup>

 <pat:Subgroup>128</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>31</pat:MainGroup>

 <pat:Subgroup>143</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>31</pat:MainGroup>

 <pat:Subgroup>148</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 <pat:CPCCombinationSet>

 <pat:CPCGroupNumber>1</pat:CPCGroupNumber>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>1</pat:CPCRankNumber>

 <pat:CPCClassification>

<pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>27</pat:MainGroup>

 <pat:Subgroup>18</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>2</pat:CPCRankNumber>

 <pat:CPCClassification>

<pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>C</pat:CPCSection>

 <pat:Class>08</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>67</pat:MainGroup>

 <pat:Subgroup>04</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 </pat:CPCCombinationSet>

 <pat:CPCCombinationSet>

 <pat:CPCGroupNumber>2</pat:CPCGroupNumber>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>1</pat:CPCRankNumber>

 <pat:CPCClassification>

 <pat:ClassificationVersionDate>2013-01- 01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>31</pat:MainGroup>

 <pat:Subgroup>128</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>2</pat:CPCRankNumber>

 <pat:CPCClassification>

<pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>C</pat:CPCSection>

 <pat:Class>08</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>67</pat:MainGroup>

 <pat:Subgroup>04</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 </pat:CPCCombinationSet>

 <pat:CPCCombinationSet>

 <pat:CPCGroupNumber>3</pat:CPCGroupNumber>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>1</pat:CPCRankNumber>

 <pat:CPCClassification>

<pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>A</pat:CPCSection>

 <pat:Class>61</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>17</pat:MainGroup>

 <pat:Subgroup>105</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 <pat:CPCCombinationRank>

 <pat:CPCRankNumber>2</pat:CPCRankNumber>

 <pat:CPCClassification>

<pat:ClassificationVersionDate>2013-01-01</pat:ClassificationVersionDate>

 <pat:CPCSection>C</pat:CPCSection>

 <pat:Class>08</pat:Class>

 <pat:Subclass>L</pat:Subclass>

 <pat:MainGroup>67</pat:MainGroup>

 <pat:Subgroup>04</pat:Subgroup>

 <com:SymbolPositionCode>L</com:SymbolPositionCode>

 <pat:CPCClassificationValueCode>I</pat:CPCClassificationValueCode>

 </pat:CPCClassification>

 </pat:CPCCombinationRank>

 </pat:CPCCombinationSet>

 </pat:FurtherCPC>

 </pat:CPCClassificationBag>

</uspat:CPCMasterClassificationRecord>

## Table 1. CPCClassification element content model

|  |  |
| --- | --- |
| **<CPCClassification>** | The <CPCClassification> element defines one complete CPC Classification symbol. |
| **<ClassificationVersionDate>** | The <ClassificationVersionDate> element will occur one time within the <CPCClassification>element and contain an 8-position numeric date in the format YYYY-MM-DD identifying the classification publication date and terminated by a </ClassificationVersionDate> end tag. |
| **</ClassificationVersionDate>** | End tag of ClassificationVersionDate |
| **<CPCSection>** | The <CPCSection> element will occur one time within the <CPCClassification>element and contain a 1-position alphabetic (uppercase) – possible value can be “A through H” and terminated by a </CPCSection> end tag.The section is the highest hierarchical level within the classification scheme and as such it represents the whole body of knowledge which may be regarded as proper to the field of Classification. |
| **</CPCSection>** | End tag of CPCSection |
| **<Class>** | The <Class> element will occur one time within the < CPCClassification >element and contain a -2-position numeric class-type attribute and terminated by a </Class> end tag.The code denotes the second level subdivision of the classification scheme and as such it is a further breakdown of the section's broad technical fields into high level subject matter. |
| **</Class>** | End tag of CPC Class |
| **<Subclass>** | The <Subclass> element will occur one time within < CPCClassification > element and contain a1-position alphabetic (uppercase) – possible value can be “A through Z” and terminated by a </Subclass> end tag.The code denotes the third level subdivision of the classification scheme and as such it is a further breakdown of subject matter into more novel subject matter. |
| **</Subclass>** | End tag of CPC Subclass |
| **<MainGroup>** | The <MainGroup> element will occur one time within the < CPCClassification >element and contain a 1 to 4positions numeric and terminated by a </MainGroup> end tag.The code denotes the fourth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. |
| **</MainGroup>** | End tag of CPC MainGroup |
| **<Subgroup>** | The <Subgroup> element will occur one time within the < CPCClassification >element and contain a 2 to 6 positions numeric and terminated by a </Subgroup> end tag.The code denotes the fifth level subdivision of the classification scheme and as such is a further breakdown of the novel subject matter. |
| **</Subgroup>** | End tag of CPC Subgroup |
| **<SymbolPositionCode>** | The <SymbolPositionCode> element will occur one time within the <CPCClassification >element and contain 1-position alphabetic (uppercase) – “F” defining “first” for the sole or first “invention information” CPC, or “L” defining “later” for any second and succeeding “invention information” CPC and for any “non-invention information” CPC. And, terminated by a </SymbolPositionCode> end tag.The code that specifies the position of the classification symbol. |
| **</SymbolPositionCode>** | End tag of SymbolPositionCode |
| **<ClassificationValueCode>** | The <ClassificationValueCode> element will occur one time within the < CPCClassification>element and contain a1-position alphabetic (uppercase) – “I” defining “invention information” or “A” defining “Additional information”. And, terminated by a </ClassificationValueCode> end tag.The code that distinguishes between invention information (invention) and additional information (non-invention/additional), when describing a classification symbol on a document. |
| **</ClassificationValueCode>** | End tag of ClassificationValueCode |
| **<ActionDate/>** | ActionDate element is not used in US CPC. |
| **<GeneratingOfficeCode/>** | GeneratingOfficeCode is not used in US CPC. |
| **</CPCClassification>** | End tag of CPCClassification |

## Table 2. CPCClassificationBag

|  |  |
| --- | --- |
| **<CPCClassificationBag>** | The <CPCClassificationBag>element occurs one time within the <MasterClassificationRecord>element and contains the MainCPC (CPCClassification), a FurtherCPC element with one or more CPCClassification element and/or CPCCombinationSet. It is terminated by the </CPCClassificationBag>end tag. |
| **<MainCPC>** | The <MainCPC>element is mandatory and will occur one time within the <CPCClassificationBag>element and contain the Main CPC Classification and terminated by the </MainCPC>end tag. |
| **<CPCClassification/>** | One CPCClassification element under MainCPC. See Table 1 above. |
| **</MainCPC>** | End tag of MainCPC |
| **<FurtherCPC>** | The <FurtherCPC>element is optional and will one or more CPCClassification element and an optional CPCCombinationSet with one or more CPCClassification element. And terminated by the </FurtherCPC>end tag. |
| **<CPCClassification/>** | See Table 1 above. |
| **<CPCCombinationSet>** | A combination set is a group of CPC symbols that have one base class and one or more subsequent ranked symbols that are linked together to convey special classification information. |
| **<CPCGroupNumber>** | The <CPCGroupMumber> element will occur one time within each <CPCCombinationSet>element and contain a numeric value that is used to identify a group of symbols, when allocating a combination set of symbols to a patent document. And, terminated by a </CPCGroupNumber> end tag. |
| **</CPCGroupNumber>** | End CPCGroupNumber tag |
| **<CPCCombinationRank>** | The <CPCCombinationRank> element will occur one time within each <CPCCombinationSet>element and contain a sequential number that is used to identify the rank of a symbol within a combination set. (Order of the symbols is important). And, terminated by a </CPCCombinationRank> end tag. |
| **<CPCRankNumber>** | The <CPCRankNumber>element will occur one time within each <CPCCombinationRank>element and contain a numeric value and terminated by a </CPCRankNumber> end tag. |
| **</CPCRankNumber>** | End tag of CPCRankNumber |
| **<CPCClassification/>** | See Table 1 above. |
| **</CPCCombinationRank>** | End CPCCombinationRank tag |
| **</CPCCombinationSet>** | End CPCCombination tag |
| **</FurtherCPC>** | End FurtherCPC tag |
| **</CPCClassificationBag>** | End CPCClassificaitonBag tag |

## Table 3. CPCMasterClassificationFile

|  |  |
| --- | --- |
| **<CPCMasterClassificationFile>** | <MasterClassificationFile> is a collection of <MasterClassificationRecord>. It is the root element of the document. |
| **@publicationStartNumber** | This attribute lists the start publication number of the CPCMasterClassificationFile |
| **@publicationEndNumber** | This attribute lists the end publication number of the CPCMasterClassificationFile |
| **<CPCMasterClassificationRecord>** | The <CPCMasterClassificationRecord>element is mandatory and will occur one time within the <CPCClassificationBag>element and contain the patent application identification, patent publication identification and the CPCClassificationBag. |
| **<ApplicationIdentification>** | The Application information of the Patent Application |
| **<IPOfficeCode>** | IP Office Code of US patent is always ‘US’  |
| **</IPOfficeCode>** | End tag of IPOfficeCode |
| **<ApplicationNumber>** | Numbers used by IPOs in order to identify each application received. It can contain ApplicationNumberText or WIPO ST.13ApplicationNumber |
| **<ApplicationNumberText>** | This element is the US patent application number. |
| **</ApplicationNumberText>** | End tag of ApplicationNumberText |
| **</ApplicationNumber>** | End tag of ApplicationNumber |
| **</ApplicationIdentification>** | End tag of ApplicationIdentification |
| **<PatentPublicationIdentification>** | The publication information of the patent application |
| **<IPOfficeCode>** | IP Office Code of US patent is always ‘US’  |
| **</IPOfficeCode>** | End tag of IPOfficeCode |
| **<PublicationNumber>** | US Pre-Grant patent application publication number |
| **</PublicationNumber>** | End tag of PublicationNumber |
| **<PatentDocumentKindCode>** | The document kind code of Pre-Grant patent application publication |
| **</PatentDocumentKindCode>** | End tag of PatentDocumentKindCode |
| **PublicationDate** | The Pre-Grant patent application publication date in yyyy-mm-dd date format. |
| **</PublicationDate>** | End tag of PublicationNumber |
| **</PatentPublicationIdentification>** | End tag of PatentPublicationIdenfication |
| **<CPCClassificationBag>** | One <MasterClassifictionRecord> contains one <CPCClassificationBag> element. See Table 2 above for details. |
| **</CPCClassificationBag>** | End tag of CPCClassificationBag |
| **</MasterClassificationRecord>** | End tag of MasterClassificationRecord |
| **</MasterClassificationFile>** | End tag of MasterClassificationFile |

NOTE:

1. To promote data exchange, the XML schema is implementing the World Intellectual Property Office (WIPO) ST. 96 standard (<http://www.wipo.int/standards/en/part_03_standards.html>). XML namespace prefix “uspat” is for US specific components. Prefix “pat” is for ST. 96 Patent namespace and prefix “com” is for ST. 96 Common namespace.

2. In each record, we identify the patent application number if it is available, the Pre-Grant application publication number, kind code, publication date and CPC Classification bag with Main CPC and Further CPCs. The XML content model schema of CPCMasterClassificationRecord is based on WIPO ST.96 standards with the exceptions noted below.

3. MainCPC was changed to allow empty content to accommodate the rare case of a missing first position allocation. The data would be corrected in the next CPC-MCF publication.

4. In Further CPC, the Classifications were sorted by CPCClassification or CPCCombinationSet (with group number and rank number), CPCClassifications was sorted by classification values (I - Invention or A - Additional), then sorted by the symbol sorting order. In combination set, they were sorted by group number and rank number.

**US\_PGPub\_CPC\_MCF\_Text\_yyyy-mm-dd.zip (currently includes 1 folder of over 100 text files)**

# Corresponding to each US\_PGPub\_CPC\_MCF\_XML file, there is a file for the Text version of the US PGPub CPC Master Classification File.

# There are currently over 100 .txt files. The number of files will grow as more U.S. Patent Applications (just non-provisional Utilities) are published. Each file contains no more than 50,000 patent application publication records. Patent application publications started March 15, 2001.

US\_PGPub\_CPC\_MCF\_20010000001.txt contains publication numbers between 1 and 49999 in 2001.

US\_PGPub\_CPC\_MCF\_20010050000.txt contains publication numbers between 50000 and 99999 in 2001.

US\_PGPub\_CPC\_MCF\_20020000001.txt contains publication numbers between 1 and 49999 in 2002.

.

.

.

US\_PGPub\_CPC\_MCF\_20180000001.txt contains publication numbers range between 1 and 49999 in 2018.

US\_PGPub\_CPC\_MCF\_20180050000.txt contains publication numbers range between 50000 and 99999 in 2018.

US\_PGPub\_CPC\_MCF\_20180100000.txt contains publication numbers range between 100000 and 149999 in 2018.

The records are sorted exactly the same way as in XML format. They are sorted first by patent application publication number ascending and kind code. For the same patent application publication number and kind code, the records are sorted by symbol position (F - First or L - Later); Among Later records, they were sorted by classification symbol and combination sets. The Later records not in combination set are sorted by classification value (I - Invention or A - Additional), then by classification symbol order ascending. In a combination set, the records are sorted by group number and rank number.

Text File Example:

*A11439480420150100086A61L 17/105 20130101FI 0 0*

*A11439480420150100086A61B 17/06166 20130101LI 0 0*

*A11439480420150100086A61L 27/18 20130101LI 0 0*

*A11439480420150100086A61L 27/505 20130101LI 0 0*

*A11439480420150100086A61L 27/58 20130101LI 0 0*

*A11439480420150100086A61L 31/128 20130101LI 0 0*

*A11439480420150100086A61L 31/143 20130101LI 0 0*

*A11439480420150100086A61L 31/148 20130101LI 0 0*

*A11439480420150100086A61L 27/18 20130101LI 1 1*

*A11439480420150100086C08L 67/04 20130101LI 1 2*

*A11439480420150100086A61L 31/128 20130101LI 2 1*

*A11439480420150100086C08L 67/04 20130101LI 2 2*

*A11439480420150100086A61L 17/105 20130101LI 3 1*

*A11439480420150100086C08L 67/04 20130101LI 3 2*

Line Interpretation:

***A11439480420150100086C08L 67/04 20130101LI 1 2***

***1234567890123456789012345678901234567890123456789012***

Position [01-02] US Pre-Grant Patent Application publication Document Kind Code, they can be “A1”, “A2”, and “A9”

Position [03-10] 8-digit US Patent Application Number, empty space if not available

Position [11-21] 11-digit US Pre-Grant Application Publication Number

Position [22] CPC Section

Position [23-24] CPC Class

Position [25] CPC Subclass

Position [26-29] Up to 4 digits CPC Main Group (right align)

Position [30] “/” Separator

Position [31-36] Up to 6 digits CPC Subgroup (left align)

Position [37-44] CPC Classification Version Date

Position [45] CPC Symbol Position (“F” or “L”)

Position [46] CPC Classification Value Code (“I” or “A”)

Position [47-49] Up to 3 digits CPC Classification Combination Set Group Number (right align)

Position [50-51] Up to 2 digits CPC Classification Combination Set Rank Number (right align)