



TAC Allocation Process for China

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TAF

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1 INTRODUCTION

1.1 The Requirement for a Local Reporting Body in China

The Chinese telecommunications industry is the fastest growing in the world. China is currently the largest telecom market in the world and the impressive growth seen to date, allied with the remaining potential for significant growth, has attracted a range of new Chinese manufacturers and suppliers into the mobile device market.

The advantages of mobile technology have not only been utilised to provide societal benefits and convenience but have also been used by those engaged in criminal and terrorist activities. These developments have prompted the security agencies and government authorities in some countries to proactively monitor the importation of handsets and to control the use of mobile devices by only permitting network access to devices that contain legitimately allocated IMEIs.

To underpin the efforts of security forces around the world to control devices that can access publicly licensed mobile networks it is critical that mobile devices produced in, and exported from, China contain valid IMEIs that have been allocated by a GSMA appointed Reporting Body that is an integral part of the industry established global TAC allocation ecosystem. In turn, it is required that appropriate checks and verifications are carried out to ensure that TACs and IMEI number ranges are only allocated to legitimate manufacturers and brand owners entitled to apply for and receive these important numbering resources. A strong verification process, such as that defined in this document, must be implemented and followed to ensure TAC and IMEI ranges are allocated in a consistent manner that meets the needs of the local Chinese and global markets.

GSMA recognises China as a nation that has a significant role to play in the production and export of mobile devices. The purpose of this document is to define the process by which TACs are allocated to Chinese device manufacturers by a local Reporting Body that can validate the authenticity of requests for TACs and provide guidance and support to the manufacturers as needed.

2 WHAT ARE TAC AND IMEI?

2.1 International Mobile Equipment Identity (IMEI)

The International Mobile Equipment Identity (IMEI) number uniquely identifies an individual mobile station. The IMEI is unique to every device and thereby provides a means for controlling access to GSM networks based on ME types or individual units. The IMEI consists of a number of fields totaling 15 digits. All digits have the range of 0 to 9 coded as binary coded decimal. Values outside this range are not permitted. Some of the fields in the IMEI are under the control of the Reporting Body. The remainder is under the control of the Type Allocation Holder and further details can be obtained in [TS.06](#).

2.1.1 IMEI Format Valid from 01/01/03

For the IMEI format prior to 01/01/03 please refer to [TS.06](#) Appendix D. The IMEI format valid from 01/01/03 is as shown below:

TAC	Serial No	Check Digit
NNXXXX YY	ZZZZZZ	A

The meaning of the acronyms for the IMEI format from 01/01/03 is as follows:

TAC	Type Allocation Code
NN	Reporting Body Identifier
XXXXYY	ME Type Identifier defined by Reporting Body
ZZZZZZ	Allocated by Reporting Body but assigned per ME by the manufacturer
A	Check digit, defined as a function of all other IMEI digits

2.1.2 Type Allocation Code - 8 Digits

The Type Allocation Code (TAC), formerly known as the Type Approval Code, for the type of the Mobile Equipment (ME). It consists of two parts. The first part (NN) defines the Reporting Body allocating the TAC and the second part (XXXXYY) defines the ME type.

The following allocation principles apply:

- Each ME Type shall have a unique TAC code or set of TAC codes.
- More than one TAC may be allocated to an ME Type. This may be done to permit the production of more than 1 million units or to distinguish between market variations.
- The TAC code shall uniquely identify an ME Type.
- Where there is more than one Type Allocation Holder for an ME Type then the TAC code shall be different.

2.1.3 Reporting Body Identifier (NN) – 2 Digits

The first two digits of the TAC are the Reporting Body Identifier. These digits indicate which Reporting Body issued the IMEI. The GSM Association shall coordinate the allocation of the

first 2 digits to the Reporting Bodies. In the case of China the designation of the local Reporting Body is 86.

The following allocation principles apply:

- The GSM Association shall coordinate the allocation of the Reporting Body Identifier.
- The Reporting Body Identifier shall uniquely identify the Reporting Body.
- If for some reason the same Reporting Body Identifier must be used then the first digit of the ME Type Identifier will also be used to define the Reporting Body.
- The GSM Association shall coordinate the allocation to the Reporting Body of the range of values of the first digit of the ME Type Identifier. This range shall be contiguous. This approach is to be avoided if at all possible.

2.1.4 ME Type Identifier (XXXXYY) – 6 Digits

The following 6 digits of the TAC are under the control of the Reporting Body. These 6 digits together with the Reporting Body 2 digit identifier uniquely identify each ME Type. The Valid Range is 000000 – 999999.

The following allocation principles apply:

- Every ME Type shall have a unique TAC or set of TACs. A TAC may not be associated with more than one ME Type. An ME Type may have more than one TAC.
- Major changes to the ME Build Level shall require a new ME Type Identifier (TAC). Major changes to ME Build Level would normally include the addition of new features or changes that modify the performance of the ME Type. Minor changes to the ME Build Level that do not change the performance of the ME require no new ME Type Identifier (TAC). The Reporting Body shall determine what constitutes a major or minor change to the ME Build Level.
- The ME Type Identifier should be allocated sequentially wherever possible. Gaps in the ME type range are to be avoided if possible.
 - During the interim changeover period of 01/01/03 – 31/3/04 the least significant two digits (YY) were set at 00.
 - During the interim changeover period of 01/01/03 – 31/3/04, the top four digits (XXXX) allocated by any reporting body were allocated sequentially, for example the TAC code allocated following NN123400 would be NN123500. From 1/4/04 the least significant two digits (YY) are incremented sequentially.
- Multiband or Multimode ME shall only have one TAC and therefore one IMEI. Where more than one Reporting Body is involved in the allocation of the IMEI, coordination is required between the Reporting Bodies to ensure that all requirements have been met before the IMEI is allocated.

2.1.5 Serial Number (ZZZZZZ) - 6 Digits

The serial number (SNR) is used to uniquely identify each individual ME of a particular ME Type. The number range is allocated by the Reporting Body but assigned to individual mobile stations by the manufacturer. The Valid Range is 000000 – 999999

The following allocation principles apply.

- Each ME of each ME Type must have a unique Serial Number (SNR) for a given TAC code.
- SNR shall be allocated sequentially wherever possible.

- In special circumstances (i.e. low volume product), the Reporting Body may allocate a partial range to be used for the serial number.

2.1.6 Check Digit – 1 Digit

The Check Digit shall be calculated according to Luhn formula (ISO/IEC 7812). (See 3GPP TS 22.016) The Check Digit is a function of all other digits in the IMEI. The Software Version Number (SVN) of a mobile is not included in the calculation. The purpose of the Check Digit is to help guard against the possibility of incorrect entries to the CEIR and EIR equipment. The presentation of Check Digit (CD) both electronically and in printed form on the label and packaging is very important. Logistics (using bar-code reader) and EIR/CEIR administration cannot use the CD unless it is printed outside of the packaging, and on the ME IMEI/Type Accreditation label.

2.1.7 IMEISV

The network can also request the IMEISV from Phase 2 (or later) ME. The SVN is described in 3GPP TS 22.016.

3 WHAT IS A REPORTING BODY

Within the context of this document the Reporting Body exclusively appointed by GSMA in its role as Global Decimal Administrator shall have the following responsibilities with respect to IMEI and Type Allocation.

- Ensure that the requirements for Type Allocation are satisfied.
- Allocate IMEI TAC codes for mobile equipment within their jurisdiction. Allocation of a specific Serial Number Range is optional.
- Allocate an 8 digit TAC in line with the guidelines in this document.
- Coordinate with other Reporting Bodies where the equipment requiring Type Allocation is under the jurisdiction of more than one Reporting Body.
- Inform the GSM Association via the IMEI Helpdesk (imeihelpdesk@gsm.org) of new Type Allocations and IMEI allocations providing the following information
 1. TAC & Serial number range (if allocated)
 2. Model type and Marketing name
 3. Manufacturer/IMEI Holder
 4. Software/Hardware Version Type Allocated
 5. GSM phase/release of the product
 6. Band/Mode information
 7. Date of Type Allocation
 8. Any additional information to the Type Allocation status.

This should be done as soon as possible after granting Type Allocation to avoid delays in connecting equipment to networks. Such reporting may be subject to the permission of the manufacturers concerned.

4 PROCESS TO OBTAIN A TAC / IMEI NUMBER RANGE IN CHINA

The process involves three stages for issuing IMEI numbers to the Manufacturer / Brand Owner i.e. registration, verification and TAC allocation.

4.1 Registration

The Mobile Equipment (ME) Brand Owner / Manufacturer will be required to fill in the necessary details on the Manufacturer Registration Form (all fields mandatory). The registration form can be completed in the GSMA IMEI db (<http://imeidb.gsm.org/imei/login.jsp>) in English or Chinese.

The form, once completed in the GSMA IMEI Database, will be automatically sent to TAF for verification.

4.1.1 Documents Required for Registration

Pvt. Ltd / Ltd Company / Partnerships
<input type="checkbox"/> Enterprise business license (GD)
<input type="checkbox"/> Company Registration Number (GD)
<input type="checkbox"/> The Enterprise Type (GD)
<input type="checkbox"/> Registered capital (GD)
<input type="checkbox"/> Scope of business (GD)
<input type="checkbox"/> Results of the annual check-ups (GD)
<input type="checkbox"/> ISO9001:2000 quality system Certification number
<input type="checkbox"/> Brand Registration Certificate (GD)
<input type="checkbox"/> GSMA Manufacturers Terms and Conditions (signed and dated)

The brand Owner will also be required to send photocopies of the Government issued documents (marked as GD) listed above to TAF.

4.2 Verification Process:

The documentation sent to TAF will be cross checked against various government owned websites and online resources to ensure the authenticity of the TAC applicant company and principals can be verified. (The State Administration for Industry & Commerce (SAIC) of the People's Republic of China, for example.) Once the verification process is completed the submitted documents should be retained in their original form by TAF and made available to GSMA on request.

It is estimated that the entire verification process takes approximately 5 working days.

4.3 Manufacturer/Brand Owner Approval:

After all the documentation has been verified and is correct the manufacturer will be supplied with a User Name & Password so that they can request a TAC from the GSMA IMEI Database.

5 TAC ALLOCATION PROCESS

The GSMA Database supports the English and Chinese languages to ensure that Chinese manufacturers have the option to apply for TACs in their preferred language. In all cases, requests to register to apply for TACs, and TAC applications will be submitted via the IMEI Database and all applications will be directed to TAF where the device manufacturer registers China as the country of its headquarters.

All TAC applications from Chinese manufacturers will follow the automated process outlined below, which will ensure that all applications are input to the IMEI Database and the TACs allocated from there, thereby preserving a single global repository of TAC data. The process is as follows:

- Log in to the GSMA IMEI db, following the link below, using the Manufacturer ID & Password.
- Complete the application form in English, or Chinese according to the choice of each manufacturer, and push the submit button
- The application form will be sent to TAF for verification & TAC allocation. The manufacturer / Brand Owner will be sent an email notifying them of the TAC they have been allocated.
- The manufacturer should check the details on the notification email and contact TAF if any details need to be corrected / changed.
- Link to the GSMA IMEI db - <http://imeidb.gsm.org/imei/login.jsp>

6 REPORTING BODY IN CHINA

The GSMA reporting body in China is TAF:

Postal Address No 28 Xinijekouwaidajie Street,
 Beijing,
 China.

Phone Number: +86-10-82051447

Fax Number: +86-10-82053375

Contact Person: Meng Xiangdong (孟祥东)、Peng Zhen (彭臻)

Email address: imei@taf.org.cn

7 REFERENCES

Please find the complete information on the documentation requirements and sample documents for downloading at:

3GPP 22.016 - <http://www.3gpp.org/ftp/Specs/html-info/22016.htm>

ISO/IEC 7812 -

http://www.iso.org/iso/iso_catalogue/catalogue_ics/catalogue_detail_ics.htm?csnumber=31443&ICS1=35&ICS2=240&ICS3=15

TS.06 TAC IMEI Allocation and Approval Guidelines -

http://www.gsmworld.com/newsroom/document-library/technical_documents.htm

TS.17 TAC IMEI Allocation Process for China -

http://www.gsmworld.com/newsroom/document-library/technical_documents.htm

8 DOCUMENT MANAGEMENT

Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
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