

TAC Allocation Process for India

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1 History of TAC Allocation

The IMEI number allocations were originally administered and funded by a number of national authorities as part of the type approval of mobile devices. In 1999, the type approval regime was abolished as a European regulatory obligation and this required industry to establish an alternative device certification program and a means to allocate identifiers to mobile devices. In April 2000 the GSMA was asked by industry stakeholders to assume responsibility for allocating IMEI number ranges, and Type Allocation Codes, to mobile device manufacturers.

The GSMA was formally appointed by the industry as the Global Decimal Administrator (GDA) in 2004 with responsibility for:

- Appointing regional bodies to allocate TAC/IMEI ranges
- Maintaining lists of allocated TACs/IMEIs
- Distributing lists of allocated ranges via IMEI Database
- Provide expertise and advice on allocations

The GSMA is the only appointed allocation authority for both 3GPP and 3GPP/3GPP2 compliant devices. The TIA can only allocate TAC for 3GPP/3GPP2 compliant devices only.

2 Introduction

This document outlines the principles applicable to the allocation of International Mobile Equipment Identity (IMEI) numbers within India and should be read in association with TS.06 IMEI Allocation and Approval Process. The following areas which differ from TS.06 are covered:

- Manufacturer registration requirements
- Allocation process for TAC/IMEI

3 The Requirement for a Local Reporting Body in India

The Indian telecommunications industry is one of the fastest growing in the world. India is the second largest telecom provider worldwide. The impressive growth seen to date, and future potential, has attracted a lot of business interest from within India and internationally.

The advantages of mobile technology have been utilized to provide benefits and convenience to the masses, however mobile technology is being used by those engaged in criminal and terrorist activities as well. These unlawful developments have prompted the security agencies and government authorities to proactively monitor the importation of handsets entering the Indian market to control the use of mobile devices by only permitting network access to devices that contain legitimately allocated International Mobile Equipment Identity (IMEI)

A Reporting Body from outside India, such as the GSMA appointed UK based British Approvals Board for Telecommunications (BABT), are limited in terms of their ability to authenticate and verify organizations applying for TACs due to a lack of access and knowledge pertaining to appropriate documentation and other relevant information supporting the Type Allocation Code (TAC) applications in the country.

The presence of a local independent Reporting Body in India is necessary to ensure appropriate checks are carried out in relation to applications from local manufacturers and brand owners for IMEI number ranges. A strong verification process must be implemented to ensure consistency which will provide support to the growing number of brand owners and manufacturers in India.

TAC Allocation Process for India

India has been faced with a range of security threats and attacks and has been a target for various terrorists and anti-government forces which have led to a compromise in national security.

The increasing influx of mobile device imports into the country without valid IMEIs is a source of major concern to the law enforcement and security agencies in terms of their ability to track offenders. The misuse of IMEI numbers in mobile devices is increasingly leading to law enforcement agencies looking to the industry for assistance.

In recent years, local Indian mobile device brand owners have been importing mobile devices into India in large quantities without having an adequate understanding of the importance of IMEI integrity. Many of the local brand owners do not have the expertise or contacts to assist them with the process of obtaining genuine IMEI numbers to be implanted in the legitimate mobile devices that they place in the market.

GSMA recognizes India as a nation in which the demands of genuine local mobile companies should be supported. It is of paramount importance to have an independent local presence which can validate the authenticity of requests for IMEI number ranges and provide guidance to the manufacturers and state agencies as needed.

3.1 Definition of Acronyms

Acronyms	Description
3G	3rd Generation Networks
3GPP	3rd Generation Partnership Project
3GPP2	3rd Generation Partnership Project 2
CEIR	Central Equipment Identity Register
EIR	Equipment Identity Register
GHA	Global Hexadecimal Administrator
IMEI	International Mobile Equipment Identity
LTE	Long-term Evolution, also known as 4G
M2M	Machine to Machine
ME	Mobile Equipment
MEID	Mobile Equipment Identifier
NFC	Near Field Communication
OS	Operating System
PC	Personal Computer
RAT	Radio Access Technology
SMS	Short Message Service
TAC	Type Allocation Code
TIA	Telecommunications Industry Association
UE	User Equipment
UMTS	Universal Mobile Telecommunications System
(U)SIM	Universal Subscriber Identity Module

Acronyms	Description
WLAN	Wireless Local Area Network

4 International Mobile Equipment Identity (IMEI)

The International Mobile Equipment Identity number (IMEI) uniquely identifies an individual mobile device. The IMEI is unique to every ME and thereby provides a means for controlling access to GSM networks based on the ME model or individual units.

The “IMEI” consists of a number of fields totalling 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 remaining serial number field is under the control of the Type Allocation Holder.

For the IMEI format prior to 01/01/03 please refer to TS.06 Annex D and the IMEI format valid from 01/01/03 please refer to TS.06 section 5

5 Reference Documents

Document Number	Title
3GPP2 SC.R4001-0	Global Wireless Equipment Numbering Administration Procedures document regarding Multi RAT (Radio Access Technology)
3GPP2 SC.R4002-0	GHA Global Hexadecimal Administrator Assignment Guidelines and Procedures
3GPP TS 02.07	Mobile Station (MS) Features
3GPP TS 02.09	Security aspects
3GPP TS 02.16	International Mobile Station Equipment Identities (IMEI)
3GPP TS 02.30	Man-machine Interface (MMI) of the Mobile Station (MS)
3GPP TS 03.03	Numbering, Addressing and Identification
3GPP TS 04.08	Mobile radio interface layer 3 specification
3GPP TS 22.016	International Mobile station Equipment Identities (IMEI)
3GPP TS 23.003	Numbering, addressing and identification
CTIA PTCRB NAPRD03	Overview of PTCRB Mobile/User Type Certification (includes IMEI control sections)
ISO/IEC 7812	Identification of issuers
RFC2119	http://www.ietf.org/rfc/rfc2119.txt
TS.06	GSMA PRD IMEI Allocation and Approval Process
TS.30	GSMA PRD TAC/IMEI Database application forms
TS.37	GSMA PRD Requirements for Multi SIM Devices
SGP.21	GSMA PRD Remote SIM Provisioning Architecture
SGP.22	GSMA PRD Remote SIM Provisioning Technical Specification

6 TAC (IMEI) Usage Rules

The following requirements must be adhered to:

a) Each ME Model must have its own TAC. One ME Model will have one or more TAC
b) Modular Equipment may use an interchangeable transceiver module to allow it to operate in alternative GSM bands. Such equipment is to treat each transceiver module as a separate ME. This means that each transceiver equipment module would be subject to Type Allocation and be allocated a separate IMEI/TAC. The IMEI shall not be duplicated in separate transceiver equipment.
c) Requirements for a device containing multiple transceivers:

- If a device contains two or more transceivers, each transceiver must be separately identified on networks.
- If two or more transceivers within the same device are identical (e.g. same chipset, same frequency bands, same control software), then each transceiver can use the same TAC, but different IMEI.
- If the transceivers are different (e.g. different chipset, different frequency bands, different control software), then the transceivers must have different TACs.

d) A single transceiver may be connected to one or several UICCs/eUICCs. If only one (U)SIM on one of the connected UICCs/eUICCs can be used to connect to the network at any time then only one IMEI is required. If more than one (U)SIM can be connected at the same time to a transceiver, for example in Stand-by Mode, the transceiver shall have multiple, unique IMEIs so that all (U)SIMs, that are connected at the same time, will use a separate, unique IMEI.
e) For devices with:

    - Multiple SIMs which are all Active at the same time (have simultaneous connections to the network) each SIM must use a separate, unique IMEI.
    - Multiple SIMs where some SIM(s) are in Standby Mode (only listening on the network) each SIM must use a separate, unique IMEI
    - Multiple SIMs which are all Passive (only one can connect to the network at any time and the connection is switched between the SIM) only one IMEI is required to be allocated to the transceiver.

f) If the transceivers are different (e.g. different chipset, different frequency bands, different control software), then the transceivers must have a different TAC, and the SIM(s) associated with that transceiver would have an IMEI from the same TAC.

Each transceiver shall have enough unique IMEIs so that all (U)SIMs that are connected at the same time can use separate, unique IMEIs

g) All TAC (IMEI) numbers allocated by the Reporting Bodies are stored in the GSMA IMEI Database. The database is used to populate the White List which is used by network operators. For confidentiality reasons, access to the IMEI Database is restricted. A type allocation holder registered in the IMEI Database can request a list of those TAC (IMEI) numbers allocated to them. Network operators can access all of the IMEI data for the purposes of monitoring IMEI numbers on their networks.
h) Before applying for a TAC (IMEI) number, the applicant company must first be registered with a reporting body. Evidence must be provided with the application to ensure:

- That the applicant (i.e. Brand Owner) is a legitimate organization and is selling a product that is designed to connect to and function on the telecoms network,
- For modem manufacturers, the manufacturer must request the TAC as these modems may go into many different devices. In all other cases it should be the Brand Owner who requests the TAC.

i) The following Equipment Types are listed on the TAC application form:-

- Mobile / Feature Phone - A device supporting basic personal communication services, e.g. voice call and SMS. (Not strictly limited to basic services, but not a device that would fall within the definition of a Smartphone).
- Smartphone - A device with a large display, predominantly with touch screen technology, fast processor and memory in the GB range. A fully-featured OS / platform that provides voice and data communications capabilities, enables personalisation of the device by the user and in addition supports installation and maintenance of mobile applications downloadable from an application store.
- Tablet - A device with a display of minimum 5 inches in size, slate-type form factor, touch screen, providing data communications and/or voice capabilities, fully-featured OS providing connection to an application store through which the user can personalise the device's functionality and services.
-
- Dongle - A device which can be inserted in a laptop or other computer to provide cellular network connectivity.
- Modem - A device designed for embedding in other equipment to provide cellular connection functionality.

- WLAN Router - A device that performs advanced routing functionalities and uses the cellular network as Wide Area Network interface.
- IoT Device - A device, whose main function is to allow objects to be accessed, sensed and/or controlled remotely across existing mobile network infrastructures.
- Wearable - A body worn mobile device that connects to the 3GPP cellular network directly with its own eUICC or UICC.

In addition it may have none, some or all of the following:

i. A touch screen display
ii. Other forms of interaction such as hard or soft buttons
iii. Voice controls
iv. Sensors built in or connected to the device
v. An OS, which provides voice and/or data communications capabilities on the 3GPP mobile network
vi. Other technologies like Wi-Fi, Bluetooth
vii. Enables personalization of the device by the user
viii. Supports installation and maintenance of applications, e.g. downloadable content from an application store.

Examples of "Wearable" devices:

i. Smartwatch
ii. Heart Monitor
iii. Blood Pressure Monitor
iv. Blood Pulse monitor
v. Animal Monitoring

vi. Body (Arm, Leg, Chest) Sports Monitor

- Mobile Test Platform: (Used for Test TAC Only) - A device that provides cellular connectivity for hardware and software development testing.

j) If the Equipment Type is listed on the TAC form as “Modem”, “Dongle” or “WLAN Router” then the device operating system, will be automatically checked as “None”..

k) Each application is made on a per model basis. The brand name, model name and marketing name need to be provided to identify the model.

l) The number of TAC numbers requested per application should be enough to cover a three month production run. One TAC number equates to 1 million IMEI numbers.

m) Any amendment to an existing TAC record must be made via the GSMA IMEI Database using the “Edit TAC” function.

n) Some manufacturers produce special test mobile equipment. This type of equipment can harm network integrity if used in the wrong manner. Consequently, network operators need to be able to identify such equipment. The following guidelines apply.

- Where the equipment is based on an existing ME:

  - A separate TAC code should be assigned to the Test ME to distinguish it from the Type Accredited mobile equipment.
  - Alternatively, a Test IMEI could be allocated to this type of ME if it is supplied to operators for test purposes only and not available commercially.

- Each Test ME’s IMEI shall conform to the IMEI Integrity and Security provisions in TS.06 Section 7.

o) Where GSM equipment is capable of operating in multiple modes the following guidelines apply.

- The Reporting Body shall inform the GSMA of the multimode capability of the ME and indicate the capable modes.
- Where the standards permit, the same IMEI shall be used for each mode of operation. Where the standards do not permit the use of IMEI then an IMEI shall be allocated specifically to the GSM part and any applicable identification to the non-GSM part/s.
- Where physically detachable modular techniques are utilised to provide the transceiver capability, then each transceiver module shall be treated as a separate ME. Therefore separate IMEI/TAC allocations are required if an IMEI is applicable to each module.

p) Colour variants of the same model. If different models of the same device vary in the colour of the exterior body only, then the same TAC can be used for all models. No other cosmetic variants are allowed under this exception

7 GSMA Responsibilities

Within the context of this document, the GSMA shall have the following responsibilities.

- Appoint Reporting Bodies
- Coordinate the allocation of the Reporting Body Identifier.
- Maintain a list of Type Allocated GSM Mobile Equipment and IMEI allocations by Reporting Bodies containing details of TACs, manufacturers, models and band/mode capability for all IMEIs allocated by Reporting Bodies.
- Ensure integrity of IMEI Database white, black and grey list information and update white list with new IMEI allocations according to the conditions of section 10.

- Ensure integrity of IMEI Database processes.
- Maintain a list of contacts for issuing test IMEIs.
- Document and maintain the procedures to be followed by Reporting Bodies for notification of allocated IMEI.
- Provide expertise and advice on Allocation and IMEI issues where appropriate.

8 TAC Details Challenge Process

See TS.06 TAC Allocation Process

9 Reporting Body Responsibilities

Within the context of this document the Reporting Bodies shall have the following responsibilities with respect to IMEI and Type Allocation:

- Ensure that the requirements for Type Allocation as outlined in section 6.0 are satisfied.
- Allocate IMEI TAC codes for mobile equipment within their jurisdiction as required.
- Coordinate with other Reporting Bodies where the equipment requiring Type Allocation is under the jurisdiction of more than one Reporting Body.
- Reporting Bodies must allocate the TAC from within the GSMA IMEI Database however if this is not possible then they must inform the GSMA of new TAC allocations providing the following information:

    - TAC
    - Brand Name, Marketing Name and Model Name
    - Manufacturer
    - Frequency Bands supported by the devices
    - Designation Type
    - Allocation Date
    - Radio Interface
    - Operating System
    - Support for NFC (Y/N)
    - Support for Bluetooth (Y/N)
    - Support for WLAN (Y/N)
    - Any additional information to the Type Allocation status.

If this information is not already in the GSMA IMEI Database then it must be provided to the GSMA as soon as possible after granting TAC to avoid delays in connecting the equipment to networks using an Excel template supplied by the GSMA this can be obtained by contacting imeihelpdesk@gsma.com

10 Type Allocation Holder Responsibilities (Brand Owner / Manufacturer)

Within the context of this document Type Allocation holders have the following responsibilities:

- Comply with the relevant Type Allocation requirements.
- Complete all information requested in the GSMA IMEI Database concerning company registration and TAC requests.
- Ensure IMEIs are securely implemented and their integrity can be relied on.
- Consider recommendations to increment SVN for new software in ME.
- Apply to relevant bodies for Test IMEIs when required.

- Gain permission from operators to use test ME where required.

11 TAC / IMEI Allocation

The process in India involves three stages for issuing TAC/IMEI numbers to the Type Allocation holder.

11.1 Manufacturer Registration Requirements

Stage 1 - Registration and Verification

The Mobile Equipment (ME) brand owner and/or manufacturer will be required to complete the necessary details in the IMEI Registration Form and send the form to the Reporting Body, along with the required scanned copies of documents (*duly notarized*) applicable to the status of the applicant company.

The brand owner will also be required to send photocopies of the government issued documents (marked as GD) listed below to the reporting body (*duly notarized*).

11.2 Documents Required for Registration

Pvt. Ltd / Ltd Company	Proprietorship Firm	Partnership
☐ Certificate of Incorporation (GD) ☐ IEC certificate (GD) ☐ Brand Registration Certificate (GD) ☐ Photographs of the Director(s) with contact details on the letter head ☐ PAN & TAN(GD) ☐ Forms 5, 18, 32 (As applicable) (GD) ☐ MOA & MOU and Articles (GD) ☐ Service Tax (GD) ☐ VAT/CST Certificate.(GD) ☐ Last 06 months Bank Detail ☐ Bank verification Certificate(*template* enclosed) ☐ Shipment Details ☐ Declaration on letter head of the documents submitted ☐ ISO9001:2000 quality system Certification (GD) ☐ Brand Registration Certificate Number (GD) ☐ GSMA Terms & Conditions – Signed	☐ IEC certificate (GD) ☐ Brand Registration Certificate (GD) ☐ Photograph of the Proprietor with contact details on the letter head ☐ Service Tax, Sales Tax Certificate (GD) ☐ PAN & TAN(GD) ☐ Last 06 months Bank Detail ☐ Bank verification Certificate(template enclosed) ☐ Shipment Details ☐ Declaration on letter head of the documents submitted ☐ ISO9001:2000 quality system Certification (GD) ☐ Brand Registration Certificate Number (GD) ☐ GSMA Terms & Conditions – Signed	☐ IEC certificate (GD) ☐ Brand Registration Certificate (GD) ☐ Photograph of the Partners with contact details on the letter head ☐ Service Tax, Sales Tax Certificate (GD) ☐ PAN & TAN(GD) ☐ Partnership Deed (GD) ☐ Last 06 months Bank Detail ☐ Bank verification Certificate(*template* enclosed) ☐ Shipment Details ☐ Declaration on company letter head of the documents submitted ☐ ISO9001:2000 quality system Certification (GD) ☐ Brand Registration Certificate Number (GD) ☐ GSMA Terms & Conditions – Signed

11.3 Verification Process

11.3.1 Online Verification

The received documents will be checked against various government owned websites and online resources to ensure the authenticity of the TAC applicant company and the verification of the company principals.

11.3.2 Physical Verification

The Reporting Body may also choose to visit the TAC applicant company's office to verify the place of business, photograph the location and verify the company's legal standing / government registrations.

It is estimated that the entire verification process takes approximately 14 working days.

Stage 2 - Taxation Requirements

The GSMA levies an administration charge for the allocation of TACs, as detailed in the Terms & Conditions. The Indian authorities require companies registered in India to pay tax on the charges collected, this tax must be added to the charges detailed in the Terms & Conditions.

After verification is confirmed, the approved TAC applicant must confirm the quantity of TACs required. An invoice is generated and sent to the TAC applicant.

12 TAC/IMEI Allocation Process

12.1 TAC Allocation Documentation

The TAC applicant is required by the GSMA to complete and sign three documents

- Technical Specifications Form,
- Manufacturers Agreement
- A Non-Disclosure Agreement

12.2 Technical Specification Form

All fields must be completed in the specifications form for each model the TAC applicant requires TACs for.

12.3 Manufacturer Agreement

TAC applicants are required to produce and submit the formal agreement on Rs.100/ stamp paper (duly notarized) and have it signed by a company Director and stamped with the company seal.

12.4 Non-Disclosure Agreement

TAC applicants are required to have the Non-Disclosure Agreement signed by a company director and stamped with the company seal.

Two originals of the Manufacturer and Non-Disclosure agreements must be sent to the Reporting Body after which a copy of each will be countersigned and returned to the TAC applicant.

Stage 3 - Payment

After submitting the necessary documentation and after it has been checked and verified by the Reporting Body, the TAC applicant must pay the appropriate TAC Allocation Charges as mandated by the GSMA. The TAC applicant is free to choose a Charging Group based on its TAC requirements.

On confirming the charges an invoice will be generated and sent to the TAC applicant. On receipt of payment of the invoice the Reporting Body can begin issuing TACs to the value of the paid invoice.

13 Reporting Body in India

The GSMA reporting body in India is MSAI:-

AB Mobile Standards Alliance India Pvt. Ltd
205-206, P.P Towers,
Netaji Subhash Place,
Pitampura
Delhi-110034, India

Mr. Ashwani Budhiraja
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Tel: +91 958 279 7972

Mr. Ashok Budhiraja
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Ms Bhawna Kumari
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14 References

Please find the complete information on the documentation requirements and sample documents for downloading at www.msai.in/manufacturer.html

Document Management

Document History

Version	Date	Brief Description of Change	Approval Authority	Editor / Company
1.0	28th October 2010	New PRD (DG 16).	DAG#74 & EMC #87	P. Gosden / GSMA
1.1	2nd December 2010	Document number changed from DG.16 to TS.16 Document owner changed from DG to TSG	TS01	P. Gosden / GSMA
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