The role of device identification in the fight against counterfeit devices

Tyler Smith, GSMA Senior Director
**TAC Primary Data Source**

- Over 200k + Type Allocation Codes
- Over 8 billion devices

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**Type Allocation Code (TAC)**

<table>
<thead>
<tr>
<th>TAC</th>
<th>Reporting Body Identifier</th>
<th>Serial Number</th>
<th>Check Digit</th>
</tr>
</thead>
<tbody>
<tr>
<td>86</td>
<td>916102</td>
<td>991292</td>
<td>0</td>
</tr>
</tbody>
</table>

- **The 8-digit TAC** identifies the brand owner, model and marketing name.
- **The 15-digit IMEI** identifies the individual device when seen on a network.

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**Device Category**

<table>
<thead>
<tr>
<th>Available device attributes / properties</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Device Identification</strong></td>
</tr>
<tr>
<td>Manufacturer, consumer recognised marketing name, model name, brand name, year released</td>
</tr>
<tr>
<td><strong>Hardware Information</strong></td>
</tr>
<tr>
<td>Device type (M2M device, Tablet, Smartphone, Watch, etc.), screen size, chipset, CPU, clock speed, RAM, VoLTE enabled, IoT endpoint, IoT enabler, IoT controller</td>
</tr>
<tr>
<td><strong>Operating System</strong></td>
</tr>
<tr>
<td>OS name and minimum OS version (e.g. Android 8, iOS 11, etc.)</td>
</tr>
<tr>
<td><strong>Network Protocols</strong></td>
</tr>
<tr>
<td>2G, 3G, 4G, 5G, LTE Category, VoLTE, VoWiFi</td>
</tr>
<tr>
<td><strong>Browser</strong></td>
</tr>
<tr>
<td>Name, version, rendering engine, etc.</td>
</tr>
<tr>
<td><strong>HTML5</strong></td>
</tr>
<tr>
<td>CSS, HTML5 properties</td>
</tr>
<tr>
<td><strong>Multimedia</strong></td>
</tr>
<tr>
<td>Streaming, Audio, Video codecs, Bluetooth</td>
</tr>
</tbody>
</table>
GSMA Device Information services

GSMA Device Database

- 10,000+ device models launched every year
- 10,000+ device models in the database
- 1 global source of device manufacturers

- 2G-5G manufacturer and model identification
- Uplink/downlink MIMO and QAM band performance
- Operating system identification

GSMA Device Map

- 150+ curated device capabilities
- 20+ IoT device-type classifications
- Mapped over GSMA TAC Data

- 2G-5G manufacturer and model identification
- Uplink/downlink MIMO and QAM band performance
- Consumer IoT vs M2M device monitoring
- Chipset and browser HTTP protocol

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## How Government entities benefit from GSMA data

### Stakeholders
- Customs
- Law Enforcement
- Regulators
- Investigators
- National Law Institutes

### Typical use cases
- Validate the device information you have or have been provided is correct
- Device is compliant with global standards, legitimate TAC / IMEI
- Device homologation schemes
- Customs assessment
- Identification of core purpose or use case of a mobile device
Service Delivery

- Secure end point connection
  - Daily updates
  - Automation of file retrieval
  - Delta reporting

- General Web Portal Access

- Currently scoping API delivery for tighter and more seamless integrations

- Please report invalid or non-compliant TAC to GSMA for remediation efforts via GSMA TAC Challenge process

TAC Challenge