

ETSI/TC SMG

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Types of Mobile Stations

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1. Reason for changes

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Title: TYPES OF MOBILE STATIONS

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0. SCOPE

The purpose of this Recommendation is to describe typical attributes of different types of Mobile Stations.

Manufacturers and customers may choose any appropriate combination of these attributes in order to fulfil their need while utilizing the services offered through a GSM PLMN. This is not an exhaustive list of attributes or types of Mobile Station. Type approval of Mobile Stations is addressed in Recommendation GSM 11.10.

1. DEFINITION

A GSM Mobile Station (MS) is an equipment intended to access a set of GSM PLMN telecommunications services. Services may be accessed while the equipment, capable of surface movement within the GSM system area, is in motion or during halts at unspecified points. For the avoidance of doubt, services shall not be accessed from aircraft.

2. GENERAL

The term Mobile Station is taken to mean equipment necessary to access GSM PLMN telecommunication services. It includes the mobile termination and also may include Terminal Equipments and Terminal Adaptors. Some of the characteristics of the configuration in use at any time will be reflected in the Mobile Station Class Mark (see GSM Recommendation 02.18). A Mobile Station is characterised by a set of attributes defined in Section 3.

3. MOBILE STATION ATTRIBUTES

The list of Mobile Station attributes is as follows :

- MS service access configuration ;
- MS access capability ;
- Modes of Use.

3.1. MS service access configuration

Service access configuration must suit the requirements of the customer and will depend on the combination of tele-, bearer and supplementary services to be used. The actual configuration will depend on the manufacturers' implementation and may comprise a single unit or a mobile termination unit with additional terminal equipment and/or terminal adaptors.

3.2. MS access capability

The Mobile Station access capability is defined in GSM Recommendation 04.03 Channel Structures and Access Capability, and describes the limitation put on the simultaneous provision at a given time of tele- or bearer services.

3.3. Modes of use

The following values are applicable for this attribute :

3.3.1. Vehicle - mounted stations

This is an equipment which is mounted in a vehicle and in which the antenna is physically mounted to the outside of the vehicle. Vehicles include cars, motorcycles, trucks, buses, trains and ships, on internal or coastal waterways.

3.3.2. Portable stations

This is an equipment which may be hand - carried and where the antenna is not physically attached to the portion of the equipment containing the mobile termination. Portable stations may support all power levels required in the system.

Portable stations can be vehicle mounted and are usually composed of a portable plug-in unit and vehicle mounted adaptor. Portable stations may have the characteristics of vehicle-mounted stations when mounted in a vehicle and meet the characteristics of portable stations when not mounted in a vehicle.

When configured as a vehicle-mounted station with a powerbooster the MS shall meet all the characteristics of a vehicle-mounted station.

3.3.3. Hand-held stations

This is an equipment which is hand carried or worn on the person and where the antenna may be physically attached to the portion of the equipment containing the mobile termination.

Hand-held stations are intended to be easily carried by a person and should have the following characteristics :

- (i) the total weight is less than 0.8 kg
- (ii) the volume is less than 900 cm
- (iii) the power source is expected to provide at least 1 hour of call duration or 10 hours in the state of being able to set up or receive calls.

Hand-held stations can be vehicle mounted and usually comprise of a standard hand-held station plugged into an interface in a vehicle. This will provide battery charging and externally

mounted antenna connections, and may also provide hands-free and/or data operation. It may be possible to boost the power to that of a vehicle mounted station. In this case, the MS shall meet all the characteristics of a vehicle-mounted station.

3.3.4. Other considerations

General considerations of Mode of Use, Coverage Area for any particular service may be determined by the value of the Mode of Use attribute e.g. a portable station not supporting the higher power levels in the system may have a smaller coverage area than a vehicle-mounted station supporting all power levels in the system.

4. MOBILE STATION OUTPUT AND POWER CONTROL

GSM MS are categorized into four classes according to their nominal peak power as defined in 05.05. The nominal peak power for each of these classes is as follows :

Class 1	20 watts	Vehicle and Portable
Class 2	8 watts	Portable and Vehicle
Class 3	5 watts	Hand-held
Class 4	2 watts	Hand-held
Class 5	0.8 watts	Hand-held

Mobile stations must be capable of reducing transmitter output power in steps of 2 dB on command from a base station. See GSM Rec. 05.05.

5. CONFIGURATION POSSIBILITIES

Any given configuration will be a combination of attributes mentioned in Section 3 above and may include additional features e.g. payphones.