

TAC 003  
ISSUE 1  
MARCH 2012

**TYPE ACCEPTANCE CRITERIA FOR  
REPEATER EQUIPMENT FOR USE IN  
THE THIRD GENERATION (3G) MOBILE  
COMMUNICATIONS SERVICES EMPLOYING  
CDMA DIRECT SPREAD (UTRA FDD) AND  
OPERATING IN THE 850 MHz BAND**



**TELECOMMUNICATIONS AUTHORITY  
HONG KONG**

## 1. SCOPE

This document sets out the technical criteria for type acceptance of Repeater Equipment (hereafter referred to as “the equipment”) for use in the 3G Mobile Communications Services employing CDMA Direct Spread (UTRA FDD) and operating in the 850 MHz band.

It should be noted that, in addition to fulfilling the equipment certification requirement, the putting into use of the certified equipment by an operator is also subject to an appropriate licence and other necessary authorization, including but not limited to the grant of right to use any frequencies within the frequency bands specified in clause 2 below, as well as other requirements in the relevant licence and the Telecommunications Ordinance (Cap 106) and its subsidiary legislations as may be amended from time to time.

## 2. OPERATING FREQUENCIES

The frequency bands for the equipment are as follows -

Downlink	Uplink
877.5 - 882.5 MHz	832.5 - 837.5 MHz

## 3. TECHNICAL REQUIREMENTS

The equipment shall meet the following technical requirements -

- (a) the requirements as specified in the standard EN 301 908-1 V4.2.1 titled “Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirement, covering the essential requirements of article 3.2 of the R&TTE Directive” or later versions published by the European Telecommunications Standards Institute (ETSI); and
- (b) the requirements as specified in the specification TS 25.143 V8.3.0 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; UTRA repeater conformance testing” or later versions published by the Third Generation Partnership Project (3GPP) in respect of the following characteristics -

Note: The clause numbers indicated below refer to those of the 3GPP TS 25.143 specification.

1. Out of band emission (clause 9.1), as follows -
  - 1.1 General operating band unwanted emissions (clause 9.1.2.1, category B limits)
  - 1.2 Operating band emission mask requirements (clause 9.1.2.5)
  - 1.3 Protection of BS receiver in the operating band (clause 9.1.3.1)
2. Spurious emissions (clause 9.2), as follows -
  - 2.1 Spurious emission (category B) (clause 9.2.2.2)
  - 2.2 Co-existence with other systems in the same geographical area (clause 9.2.2.4)
  - 2.3 Co-existence with UTRA-TDD and/or E-UTRA TDD operation in the same geographical area (clause 9.2.2.7.1)
3. Maximum output power (clause 6.1.5)
4. Input intermodulation (clause 11.5), as follows -
  - 4.1 Mandatory requirement (clause 11.5.1)
  - 4.2 Co-existence with other systems (clause 11.5.3)
5. Out of band gain (clause 8.5)
6. Adjacent channel rejection ratio (clause 13.4.3)
7. Output intermodulation (clause 12.5, requirements of items 1 and 2 above shall be fulfilled)

#### **4. EVALUATION REQUIREMENTS**

The equipment shall comply with the operating frequencies and the technical requirements as specified in clauses 2 and 3 respectively. Compliance of the equipment with the technical requirements shall be evaluated in accordance with the procedures specified in the respective ETSI standard and 3GPP specification as given in clause 3.

#### **5. REFERENCE**

- (a) EN 301 908-1 V4.2.1 “Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS), Repeaters and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT-2000, introduction and common requirement, covering the essential requirements of article 3.2 of the R&TTE Directive” or later versions published by the ETSI
- (b) TS 25.143 V8.3.0 titled “3rd Generation Partnership Project; Technical Specification Group Radio Access Network; UTRA repeater conformance testing” or later versions published by the 3GPP

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